

# IBOX-103-2L2C



- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



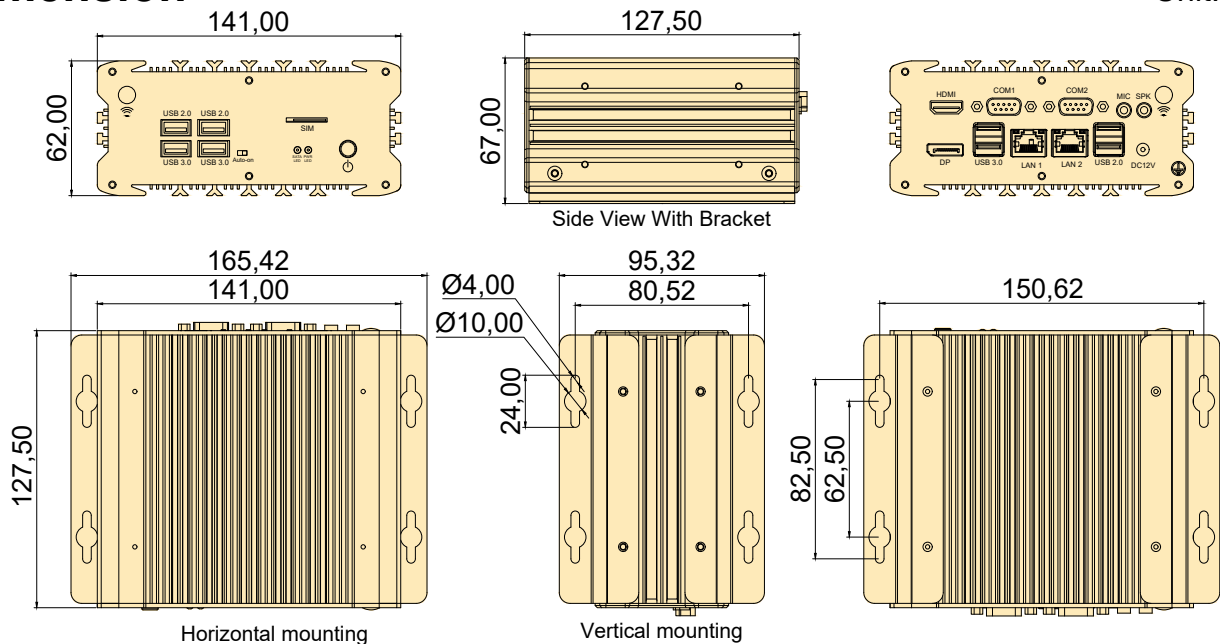
The actual appearance is subject to the final configuration.

## Specifications

|                          |                                                                                     |                                                                                                                           |                        |                        |                        |
|--------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|------------------------|
| MODEL                    | IBOX-103-2L2C                                                                       |                                                                                                                           |                        |                        |                        |
| Supported OS             | Win 7, Win 8, Win 10, Linux (Ubuntu, Dibian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                           |                        |                        |                        |
| CPU                      | Model                                                                               | Intel® Core™ I5-6200U                                                                                                     | Intel® Core™ I5-8265U  | Intel® Celeron® 5205U  | Intel® Core™ I5-10210U |
| RAM                      | Type & No.                                                                          | 1* DDR4 SO-DIMM Socket                                                                                                    | 2* DDR4 SO-DIMM Socket | 2* DDR4 SO-DIMM Socket | 2* DDR4 SO-DIMM Socket |
|                          | Frequency                                                                           | 2133 MHz                                                                                                                  | 2400 MHz               | 2400 MHz               | 2666 MHz               |
|                          | Capacity                                                                            | Up to 32GB                                                                                                                | Up to 32GB             | Up to 64GB             | Up to 64GB             |
| Storage Devices          | SATA                                                                                | 1* 2.5" SATA3.0 Bay on board (6Gb/s)                                                                                      |                        |                        |                        |
|                          | M.2                                                                                 | 1* M.2 2280 M-key slot (SATA3.0 only)                                                                                     |                        |                        |                        |
| I/O INTERFACE            | COM                                                                                 | 2* RS232/485, DB9 connector                                                                                               |                        |                        |                        |
|                          | Ethernet                                                                            | 2* Intel i211 GbE LAN                                                                                                     | 2* RTL 8111H GbE LAN   |                        |                        |
|                          | USB                                                                                 | 4* USB 2.0; 4* USB 3.0                                                                                                    |                        |                        |                        |
|                          | Video                                                                               | 1* DP, support 4096x2304@60Hz, it can be changed to HDMI port, support 4096x2304@24Hz;<br>1* HDMI, support 4096x2304@24Hz |                        |                        |                        |
|                          | Audio                                                                               | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                           |                        |                        |                        |
|                          | SIM                                                                                 | 1* External SIM card slot connected to Mini-PCle                                                                          |                        |                        |                        |
|                          | Power supply                                                                        | 12V DC; 1* DC Jack (5.5* 2.5mm)                                                                                           |                        |                        |                        |
|                          | Other                                                                               | 1* Auto-On Switch                                                                                                         |                        |                        |                        |
| Extended Capabilities    | Additional Internal Interface                                                       | 1* Full Size Mini-PCle with SIM card slot (PCIe+USB2.0);<br>1* M.2 2230 E-key slot (PCIe+USB2.0, support WiFi+BT)         |                        |                        |                        |
| Environment              | Operating Temperature                                                               | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                             |                        |                        |                        |
|                          | Storage Temperature                                                                 | -40 ~ 85 °C (-40~185 °F)                                                                                                  |                        |                        |                        |
|                          | Relative Humidity                                                                   | 40 °C @ 95%, Non-Condensing                                                                                               |                        |                        |                        |
| Physical Characteristics | Dimensions                                                                          | 141* 62* 127.5mm (W* H* D)                                                                                                |                        |                        |                        |
|                          | Net Weight                                                                          | 1.2 KG                                                                                                                    |                        |                        |                        |
| Regulation               | EMC                                                                                 | CE/FCC Class B, CCC                                                                                                       |                        |                        |                        |
|                          | Safety                                                                              | CE-LVD, RoHS, CCC                                                                                                         |                        |                        |                        |

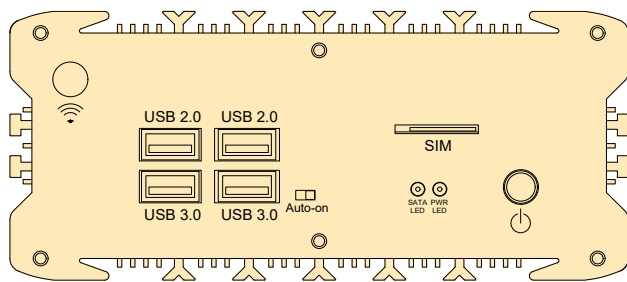
## Dimension

Unit:mm

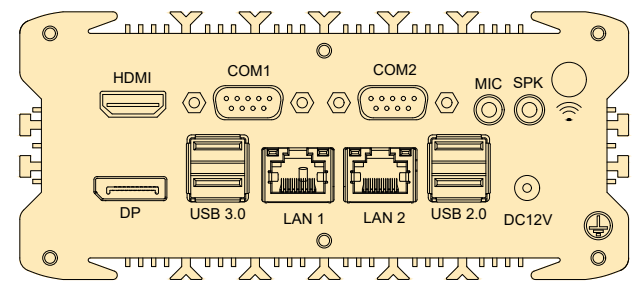


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Socket | 2.5" SATA3.0 Bay | M.2 2280<br>M-key SATA Slot | M.2 2230<br>E-key slot | Full Size<br>Mini-PCle | RS232/ RS485 | GbE LAN                   |              |
|----------------|------------------|-----------------------------|------------------------|------------------------|--------------|---------------------------|--------------|
| 1 or 2         | 1                | 1                           | 1                      | 1                      | 2            | 2                         |              |
| USB 2.0        | USB 3.0          | HDMI                        | DP                     | MIC                    | SPK          | External<br>SIM Card Slot | Power Supply |
| 4              | 4                | 1                           | 1                      | 1                      | 1            | 1                         | DC 12V       |

## Processors Info & Available List

| CPU                    | Code Name    | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                   | TDP | Memory Types | Integrated Graphics     |
|------------------------|--------------|-------------|---------------|---------------------|----------------|-------------------------|-----|--------------|-------------------------|
| Intel® Core™ i5-6200U  | Skylake      | 2           | 4             | 2.80 GHz            | 2.30 GHz       | 3 MB Intel® Smart Cache | 15W | DDR4         | Intel® HD Graphics 520  |
| Intel® Core™ i5-8265U  | Whiskey Lake | 4           | 8             | 3.90 GHz            | 1.60 GHz       | 6 MB Intel® Smart Cache | 15W | DDR4         | Intel® UHD Graphics 620 |
| Intel® Celeron® 5205U  | Comet Lake   | 2           | 2             | -                   | 1.90 GHz       | 2 MB                    | 15W | DDR4         | Intel® UHD Graphics     |
| Intel® Core™ i5-10210U | Comet Lake   | 4           | 8             | 4.20 GHz            | 1.60 GHz       | 6 MB Intel® Smart Cache | 15W | DDR4         | Intel® UHD Graphics 620 |

All products and company name listed are trademarks or trade names of their respective companies.

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-103-2L2C Unit      | 1   |
| AC-to-DC Adapter        | 1   |
| Wall mounting bracket   | 2   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| VESA mount kits                   | -   |
| DIN Rail mount kits               | -   |

## Optional accessories or internal modules for unit

| Optional Items              | Max Qty | Description                                       |
|-----------------------------|---------|---------------------------------------------------|
| AI Acceleration Card        | 1       | 13 TOPS, Connected by Mini-PCIe interface         |
| 4G Module                   | 1       | Connected by Mini-PCIe interface                  |
| WiFi Module without AP mode | 1       | Connected by Mini-PCIe interface or M.2 interface |
| WiFi Module with AP mode    | 1       | Connected by Mini-PCIe interface                  |
| Dual channel CAN-Bus Module | 1       | Connected by Mini-PCIe interface                  |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-103-2L2C-J4125



- Full aluminum alloy anti-interference structure
- Modular parts with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



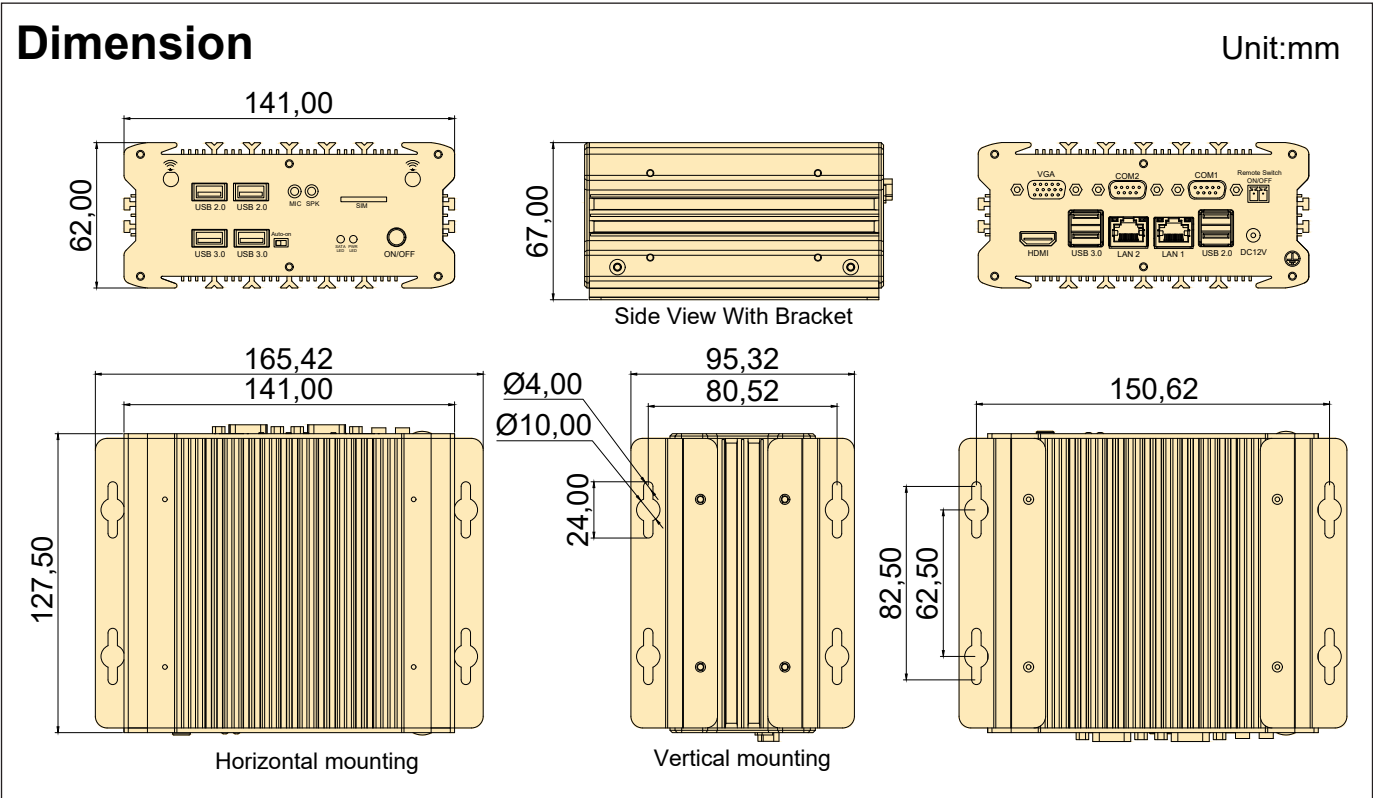
The actual appearance is subject to the final configuration.

## Specifications

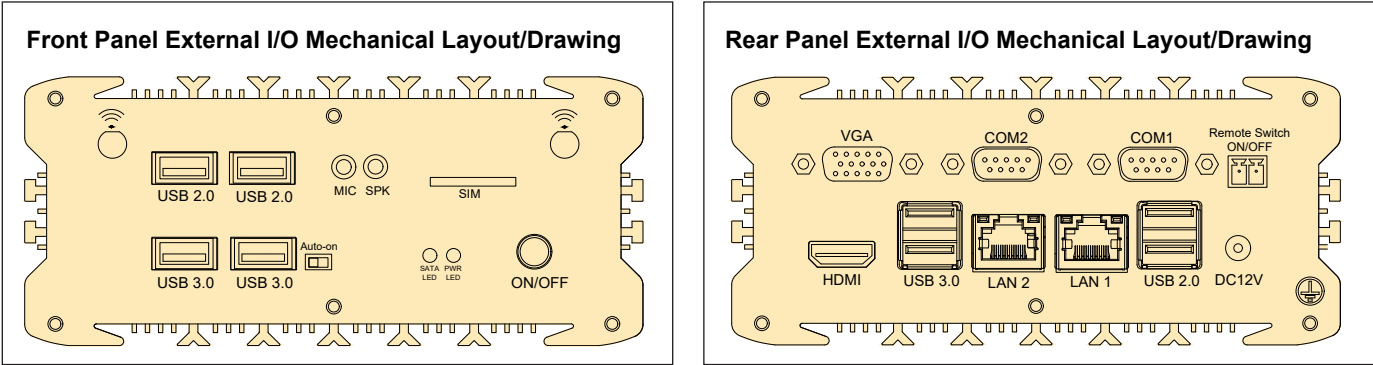
| MODEL                    | Option A&B                                                                                    | IBOX-103-2L2C-J4125A                                                                                                                              | IBOX-103-2L2C-J4125B                                                                                              |
|--------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Supported OS             | Win 7, Win 8, Win 10, Win11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT    |                                                                                                                                                   |                                                                                                                   |
| CPU                      | Intel® Celeron® J4125, 4 Cores, 4 Threading, Burst Fre. 2.70 GHz, Base Fre. 2.00 GHz, TDP 10W |                                                                                                                                                   |                                                                                                                   |
| RAM                      | SO-DIMM                                                                                       | 1* DDR4 SO-DIMM Socket, Dual-channel 2400 MHz, Up to 8GB                                                                                          |                                                                                                                   |
| Storage Devices          | M.2                                                                                           | 1* M.2 2280 M-key slot, support SATA3.0 SSD                                                                                                       |                                                                                                                   |
|                          | SATA/ mSATA                                                                                   | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                 | 1* 2.5" SATA3.0 Bay on board (6Gb/s)                                                                              |
| I/O INTERFACE            | COM                                                                                           | 2* RS232/485, DB9 connector;<br>Connected to Mini-PCle, support CANbus                                                                            | 2* RS232/ RS485, DB9 connectors                                                                                   |
|                          | Ethernet                                                                                      | 2* RTL8111H GbE Network, support network wake-up/PXE function                                                                                     |                                                                                                                   |
|                          | USB                                                                                           | 4* USB 3.0; 4* USB 2.0                                                                                                                            |                                                                                                                   |
|                          | Video                                                                                         | 1* HDMI, support 4096x2304@24Hz;<br>1* VGA, support 1920x1200@60Hz;                                                                               | 2* HDMI, support 4096x2304@24Hz;                                                                                  |
|                          | Audio                                                                                         | 1* LINE out+1* MIC in;<br>With 7.1 channels HD Audio Codec Realtek ALC897                                                                         | 1* LINE out+1* MIC in;<br>With 5.1 channels HD Audio Codec Realtek ALC662                                         |
|                          | SIM                                                                                           | 1* External SIM card slot connected to Mini-PCle & M.2 B-key slot                                                                                 | 1* External SIM card slot connected to Mini-PCle                                                                  |
|                          | Power supply                                                                                  | 12V DC; 1* DC Jack (5.5* 2.5mm)                                                                                                                   |                                                                                                                   |
|                          | Other                                                                                         | 1* Remote Switch Terminal (2-Pin, 3.81mm); 1* Auto-On Switch                                                                                      |                                                                                                                   |
| Extended Capabilities    | Additional Internal Interface                                                                 | 1* Full Size Mini-PCle (PCle+USB2.0); [1]<br>1* M.2 3052 B-key slot (PCle+USB2.0); [2]<br>MiniPCle and M.2 are connected to a same SIM card slot. | 1* Full Size Mini-PCle with SIM card slot (PCle+USB2.0);<br>1* M.2 2230 E-key Slot (PCle+USB2.0, support WiFi+BT) |
|                          |                                                                                               |                                                                                                                                                   |                                                                                                                   |
| Environment              | Operating Temperature                                                                         | -10 ~ 50 °C w/ 0.7m/s Airflow                                                                                                                     |                                                                                                                   |
|                          | Storage Temperature                                                                           | -40 ~ 85 °C (-40~185 °F)                                                                                                                          |                                                                                                                   |
|                          | Relative Humidity                                                                             | 40 °C @ 95%, Non-Condensing                                                                                                                       |                                                                                                                   |
| Physical Characteristics | Dimensions                                                                                    | 141* 62* 127.5 mm (W* H* D)                                                                                                                       |                                                                                                                   |
|                          | Net Weight                                                                                    | 1.35 KG                                                                                                                                           |                                                                                                                   |
| Regulation               | EMC                                                                                           | CE/FCC Class B, CCC                                                                                                                               |                                                                                                                   |
|                          | Safety                                                                                        | CE-LVD, RoHS, CCC                                                                                                                                 |                                                                                                                   |

[1][2]: The PCIe and USB signals of M.2 B-key are shared with the PCIe and USB signals of MiniPCle, these two expansion slots cannot use the same signals at the same time.





The actual appearance and dimensions are subject to the final configuration



Ordering Information-IBOX-103-2L2C-J4125A

| SO-DIMM Socket | M.2 2280 M-key Slot | mSATA Slot | M.2 3052 B-key Slot | Full Size Mini-PCle     | RS232/ RS485   | GbE LAN           | USB 2.0      | USB 3.0 |
|----------------|---------------------|------------|---------------------|-------------------------|----------------|-------------------|--------------|---------|
| 1              | 1                   | 1          | 1                   | 1                       | 2              | 2                 | 2            | 4       |
| VGA            | HDMI                | LineOut    | MicIn               | Remote Switch Connector | Auto-On Switch | External SIM Slot | Power Supply |         |
| 1              | 1                   | 1          | 1                   | 1                       | 1              | 1                 | DC 12V       |         |

Ordering Information-IBOX-103-2L2C-J4125B

| SO-DIMM Socket | M.2 2280 M-key Slot | 2.5 inch SATA3.0 Bay | Full Size Mini-PCle | M.2 2230 E-key slot | RS232/ RS485                     | GbE LAN        |                        |              |
|----------------|---------------------|----------------------|---------------------|---------------------|----------------------------------|----------------|------------------------|--------------|
| 1              | 1                   | 1                    | 1                   | 1                   | 2                                | 2              |                        |              |
| USB 2.0        | USB 3.0             | HDMI                 | LineOut             | MicIn               | Internal Remote Switch Connector | Auto-On Switch | External SIM Card Slot | Power Supply |
| 2              | 4                   | 2                    | 1                   | 1                   | 1                                | 1              | 1                      | DC 12V       |

Processors Info & Available List

| CPU                   | Code Name   | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache | TDP | Memory Types | Integrated Graphics     |
|-----------------------|-------------|-------------|---------------|---------------------|----------------|-------|-----|--------------|-------------------------|
| Intel® Celeron® J4125 | Gemini Lake | 4           | 4             | -                   | 2.00 GHz       | 4 MB  | 10W | DDR4         | Intel® UHD Graphics 600 |

All products and company name listed are trademarks or trade names of their respective companies.

Packing list

Options for default items

| Deaault Items            | Qty | Optional Items                    | Qty |
|--------------------------|-----|-----------------------------------|-----|
| IBOX-103-2L2C-J4125 Unit | 1   | Power cable 3-pin 150cm, USA type | -   |
| AC-to-DC Adapter         | 1   | Power cable 3-pin 150cm, EU type  | -   |
| Wall mounting bracket    | 2   | Power cable 3-pin 150cm, UK type  | -   |
| Power cable 3-pin 150cm  | 1   | VESA mount kits                   | -   |
|                          |     | DIN Rail mount kits               | -   |

Optional accessories or internal modules for unit

| Optional Items              | Max Qty | Description                                       |
|-----------------------------|---------|---------------------------------------------------|
| AI Acceleration Card        | 1       | 13 TOPS, Connected by Mini-PCle interface         |
| 5G Module                   | 1       | Connected by M.2 interface                        |
| 4G Module                   | 1       | Connected by Mini-PCle interface                  |
| WiFi Module without AP mode | 1       | Connected by Mini-PCle interface or M.2 interface |
| WiFi Module with AP mode    | 1       | Connected by Mini-PCle interface                  |
| Dual channel CAN-Bus Module | 1       | Connected by Mini-PCle interface                  |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-103-2L3C



- Full aluminum alloy anti-interference structure
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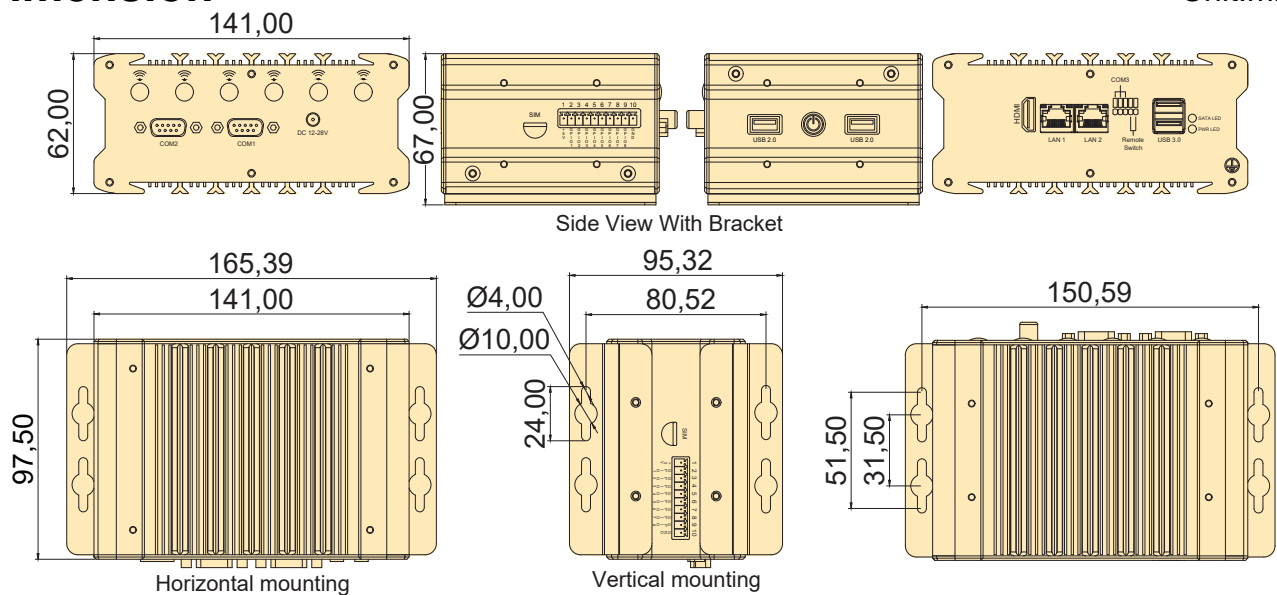
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## Specifications

|                                 |                                                                                            |                                                                                                                                                                  |                           |                                          |
|---------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------|
| <b>Model</b>                    | IBOX-103-2L3C                                                                              |                                                                                                                                                                  |                           |                                          |
| <b>Supported OS</b>             | Win 7, Win 8, Win 10, Win11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                  |                           |                                          |
| <b>CPU</b>                      | Series/ Model                                                                              | Intel® Core™ 11th Gen. CPU<br>Intel® Celeron® 6305E                                                                                                              | Intel® Core™ 8th Gen. CPU | Intel® Celeron® J1900                    |
|                                 | TDP                                                                                        | 28W default, 12W/15W BIOS optional                                                                                                                               | 15W Base, 25W Max         | 10W Max                                  |
| <b>RAM</b>                      | SO-DIMM                                                                                    | 1* DDR4 SO-DIMM Socket                                                                                                                                           | 1* DDR4 SO-DIMM Socket    | 1* DDR3L SO-DIMM Socket                  |
|                                 | Frequency                                                                                  | 3200MHz                                                                                                                                                          | 2133/2400MHz              | 1600MHz                                  |
|                                 | Capacity                                                                                   | Up to 32GB                                                                                                                                                       | Up to 16GB                | Up to 8GB                                |
| <b>Storage Devices</b>          | M.2                                                                                        | 1* M.2 (NGFF) 2242 B-key Slot (SATA3.0)                                                                                                                          |                           | 1* M.2 (NGFF) 2242 B-key Slot, (SATA2.0) |
| <b>I/O Interface</b>            | COM                                                                                        | 2* RS232/485 with Select Jumper (COM1/2, full lanes, DB9);<br>1* RS232/485 with Select Jumper (COM3, 2 lanes, 5-Pin, 2.54mm, Terminal Block, with PWR-ON signal) |                           |                                          |
|                                 | Ethernet                                                                                   | 1* Intel i211+1* Intel i219 GbE LAN                                                                                                                              |                           | 2* Intel i210 GbE LAN                    |
|                                 | USB                                                                                        | 2* USB3.0+2*USB2.0                                                                                                                                               |                           | 1*USB3.0+3*USB2.0                        |
|                                 | Video                                                                                      | 1* HDMI, 4096x2304@60Hz;                                                                                                                                         | 1* HDMI, 4096x2304@24Hz   | 1* HDMI, 1920x1080@60Hz                  |
|                                 | Audio                                                                                      | 1* Audio Header (Line-out + MIC); With 7.1 channel HD Audio Codec Realtek ALC897                                                                                 |                           |                                          |
|                                 | SIM                                                                                        | 1* External SIM card slot connected to M.2 B-key slot                                                                                                            |                           |                                          |
|                                 | Power supply                                                                               | 12V-28 DC; 1* DC Threaded Jack (5.5* 2.5mm)                                                                                                                      |                           |                                          |
|                                 | Other                                                                                      | 1* 8-bit GPIO, Terminal Block (10-Pin, 3.5mm), 4-Inputs/4-Outputs, 0-5V Input Range;<br>1* Remote Switch Terminal (5-Pin, 2.54mm, with COM3)                     |                           |                                          |
| <b>Extended Capabilities</b>    | Additional Internal Interface                                                              | 1* M.2 3042/3052 B-key Slot with 1* Nano SIM Card Slot (PCIe+USB2.0, support 4G/5G, default 4G, 3042)<br>1* M.2 2230 E-key Slot (PCIe+USB2.0, support WiFi+BT)   |                           |                                          |
| <b>Environment</b>              | Operating Temperature                                                                      | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                    |                           |                                          |
|                                 | Storage Temperature                                                                        | -40 ~ 85 °C (-40~185 °F)                                                                                                                                         |                           |                                          |
|                                 | Relative Humidity                                                                          | 40 °C @ 95%, Non-Condensing                                                                                                                                      |                           |                                          |
| <b>Physical Characteristics</b> | Dimensions                                                                                 | 141* 62* 97.5 mm (W* H* D)                                                                                                                                       |                           |                                          |
|                                 | Net Weight                                                                                 | 1.2 KG                                                                                                                                                           |                           |                                          |
| <b>Regulation</b>               | EMC                                                                                        | CE/FCC Class B, CCC                                                                                                                                              |                           |                                          |
|                                 | Safety                                                                                     | CE-LVD, RoHS, CCC                                                                                                                                                |                           |                                          |

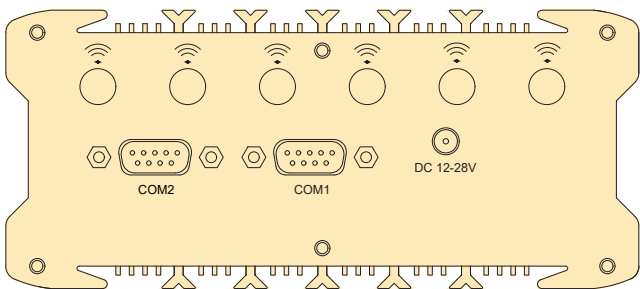
Dimension

Unit:mm

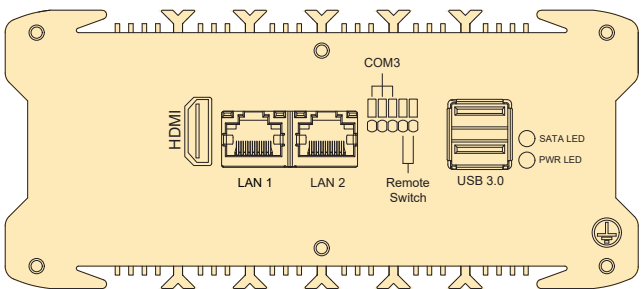


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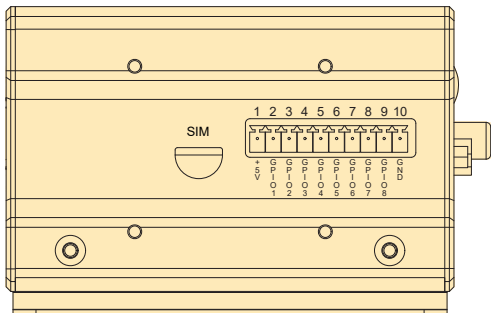
Front Panel External I/O Mechanical Layout/Drawing



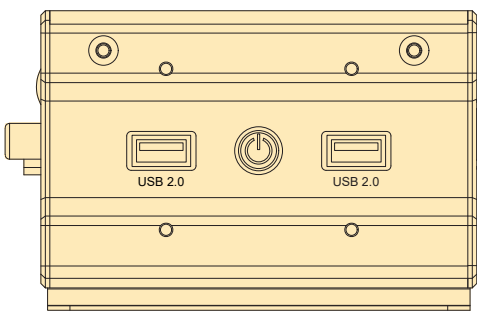
Rear Panel External I/O Mechanical Layout/Drawing



Left Panel External I/O Mechanical Layout/Drawing



Right Panel External I/O Mechanical Layout/Drawing



Ordering Information

| SO-DIMM Socket | M.2 2280 B-key Slot | M.2 2230 E-Key Slot | RS232/ RS485 | GbE LAN | USB 2.0 | USB 3.0 | HDMI | External SIM Slot | 8-bit GPIO | Remote Switch | Power Supply |
|----------------|---------------------|---------------------|--------------|---------|---------|---------|------|-------------------|------------|---------------|--------------|
| 1              | 1                   | 1                   | 3            | 2       | 2       | 2       | 1    | 1                 | 1          | 1             | DC 12~28V    |

## Processors Info &amp; Available List

| CPU                    | Code Name    | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP    | Memory Types | Integrated Graphics            |
|------------------------|--------------|-------------|---------------|---------------------|----------------|--------------------------|--------|--------------|--------------------------------|
| Intel® Celeron® 6305E  | Tiger Lake   | 2           | 2             | -                   | 1.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics            |
| Intel® Core™ i3-1115G4 | Tiger Lake   | 2           | 4             | 4.10 GHz            | 1.70 GHz       | 4 MB Intel® Smart Cache  | 12-28W | DDR4         | Intel® Iris Xe Graphics; 48Eus |
| Intel® Core™ i5-1135G7 | Tiger Lake   | 4           | 8             | 4.20 GHz            | 2.40 GHz       | 8 MB Intel® Smart Cache  | 12-28W | DDR4         | Intel® Iris Xe Graphics; 80Eus |
| Intel® Core™ i7-1165G7 | Tiger Lake   | 4           | 8             | 4.70 GHz            | 2.80 GHz       | 12 MB Intel® Smart Cache | 12-28W | DDR4         | Intel® Iris Xe Graphics; 96Eus |
| Intel® Core™ i3-8145U  | Whiskey Lake | 2           | 4             | 3.90 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-8265U  | Whiskey Lake | 4           | 8             | 3.90 GHz            | 1.60 GHz       | 6 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i7-8565U  | Whiskey Lake | 4           | 8             | 4.60 GHz            | 1.80 GHz       | 8 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Celeron® J1900  | Bay Trail    | 4           | 4             | -                   | 2.00 GHz       | 2 MB L2 Cache            | 10W    | DDR3         | Intel® HD Graphics             |

- When the devices work with 11th Gen. Intel® Core™ processors, it should be working with external fan kit.
- All products and company name listed are trademarks or trade names of their respective companies.

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-103-2L3C Unit      | 1   |
| AC-to-DC Adapter        | 1   |
| Wall mounting bracket   | 2   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                     | Qty |
|------------------------------------|-----|
| Power cable 3-pin 150cm, USA type  | -   |
| Power cable 3-pin 150cm, EU type   | -   |
| Power cable 3-pin 150cm, UK type   | -   |
| VESA mount kits                    | -   |
| DIN Rail mount kits                | -   |
| External Fan Kit For 11th Gen. CPU | -   |

## Optional accessories or internal modules for unit

| Optional Items              | Max Qty | Description                |
|-----------------------------|---------|----------------------------|
| 4G Module                   | 1       | Connected by M.2 interface |
| 5G Module                   | 1       | Connected by M.2 interface |
| WiFi Module without AP mode | 1       | Connected by M.2 interface |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-103-4L2C-J4125



- Full aluminum alloy anti-interference structure
- Modular parts with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
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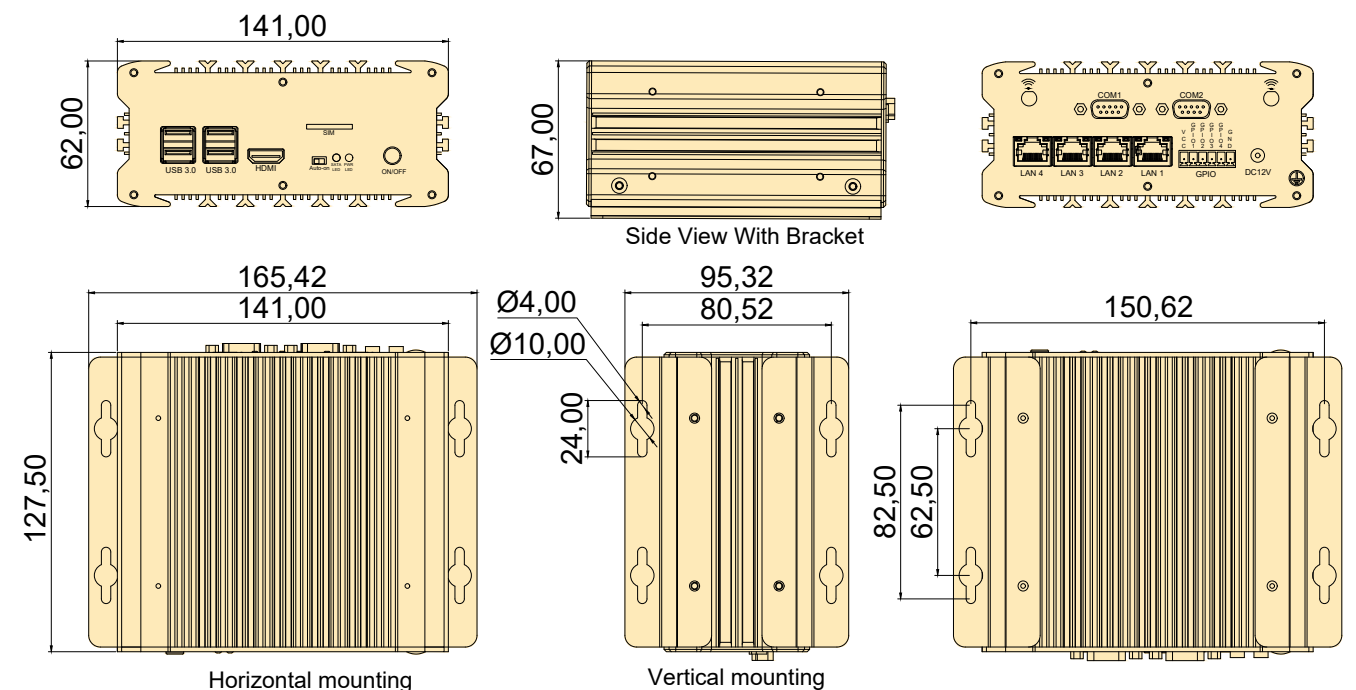
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## Specifications

|                                 |                                                                                             |                                                                                                                   |
|---------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>MODEL</b>                    | IBOX-103-4L2C-J4125                                                                         |                                                                                                                   |
| <b>Supported OS</b>             | Win 7, Win 8, Win 10, Win11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT  |                                                                                                                   |
| <b>CPU</b>                      | Intel® Celeron® J4125, 4 Cores, 4 Threads, Burst Fre. 2.70 GHz, Base Fre. 2.00 GHz, TDP 10W |                                                                                                                   |
| <b>RAM</b>                      | SO-DIMM                                                                                     | 1* DDR4 SO-DIMM Socket, Dual-channel 2400 MHz, up to 8GB                                                          |
| <b>Storage Devices</b>          | SATA                                                                                        | 1* 2.5" SATA3.0 Bay on board (6Gb/s)                                                                              |
|                                 | MSATA                                                                                       | 1* mSATA3.0 slot on board (6Gb/s)                                                                                 |
| <b>I/O INTERFACE</b>            | COM                                                                                         | 2* DB9 COM ports, COM1 support RS232+COM2 support RS232/485                                                       |
|                                 | Ethernet                                                                                    | 4* Intel® I225V 2.5G GbE LAN, support network wake-up/PXE function                                                |
|                                 | USB                                                                                         | 4* USB 3.0                                                                                                        |
|                                 | Video                                                                                       | 1* HDMI, support 4096x2304@24Hz                                                                                   |
|                                 | SIM                                                                                         | 1* External SIM card slot connected to Mini-PCle                                                                  |
|                                 | Power supply                                                                                | 12V DC; 1* DC Jack (5.5* 2.5mm)                                                                                   |
|                                 | Other                                                                                       | 1* 4-bit GPIO, Terminal Block (6-Pin, 3.81mm), 4-Inputs/4-Outputs, 0-5V Input Range; 1* Auto-On Switch            |
| <b>Extended Capabilities</b>    | Additional Internal Interface                                                               | 1* Full Size Mini-PCle with SIM card slot (PCIe+USB2.0);<br>1* M.2 2230 E-key Slot (PCIe+USB2.0, support WiFi+BT) |
| <b>Environment</b>              | Operating Temperature                                                                       | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                     |
|                                 | Storage Temperature                                                                         | -40 ~ 85 °C (-40~185 °F)                                                                                          |
|                                 | Relative Humidity                                                                           | 40 °C @ 95%, Non-Condensing                                                                                       |
| <b>Physical Characteristics</b> | Dimensions                                                                                  | 141* 62* 127.5 mm (W* H* D)                                                                                       |
|                                 | Net Weight                                                                                  | 1.2 KG                                                                                                            |
| <b>Regulation</b>               | EMC                                                                                         | CE/FCC Class B, CCC                                                                                               |
|                                 | Safety                                                                                      | CE-LVD, RoHS, CCC                                                                                                 |

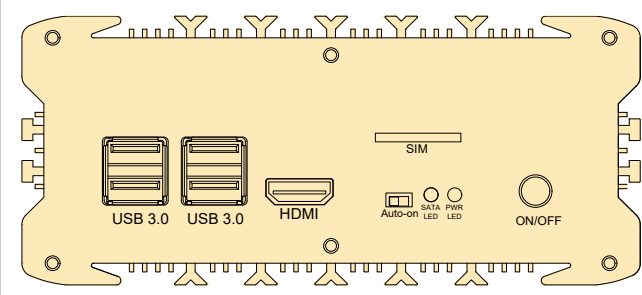
## Dimension

Unit:mm

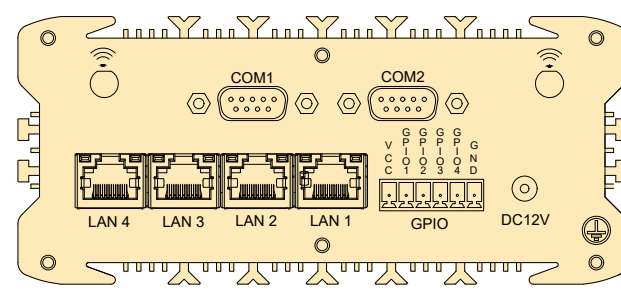


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Socket | mSATA Slot     | 2.5" SATA3.0 Bay       | Full Size Mini-PCle | M.2 2230 E-key Slot | RS232 | RS232/RS485 | GbE LAN | USB 3.0 |
|----------------|----------------|------------------------|---------------------|---------------------|-------|-------------|---------|---------|
| 1              | 1              | 1                      | 1                   | 1                   | 1     | 1           | 4       | 4       |
| HDMI           | Auto-On Switch | External SIM Card Slot | 4-bit GPIO          | Power Supply        |       |             |         |         |
| 1              | 1              | 1                      | 1                   | DC 12V              |       |             |         |         |

## Processors Info & Available List

| CPU                   | Code Name   | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache | TDP | Memory Types | Integrated Graphics     |
|-----------------------|-------------|-------------|---------------|---------------------|----------------|-------|-----|--------------|-------------------------|
| Intel® Celeron® J4125 | Gemini Lake | 4           | 4             | -                   | 2.00 GHz       | 4 MB  | 10W | DDR4         | Intel® UHD Graphics 600 |

All products and company name listed are trademarks or trade names of their respective companies.



## Packing list

| Default Items            | Qty |
|--------------------------|-----|
| IBOX-103-4L2C-J4125 Unit | 1   |
| AC-to-DC Adapter         | 1   |
| Wall mounting bracket    | 2   |
| Power cable 3-pin 150cm  | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| VESA mount kits                   | -   |
| DIN Rail mount kits               | -   |

## Optional accessories or internal modules for unit

| Optional Items              | Max Qty | Description                                       |
|-----------------------------|---------|---------------------------------------------------|
| AI Acceleration Card        | 1       | 13 TOPS, Connected by Mini-PCIe interface         |
| 4G Module                   | 1       | Connected by Mini-PCIe interface                  |
| WiFi Module without AP mode | 1       | Connected by Mini-PCIe interface or M.2 interface |
| WiFi Module with AP mode    | 1       | Connected by Mini-PCIe interface                  |
| Dual channel CAN-Bus Module | 1       | Connected by Mini-PCIe interface                  |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

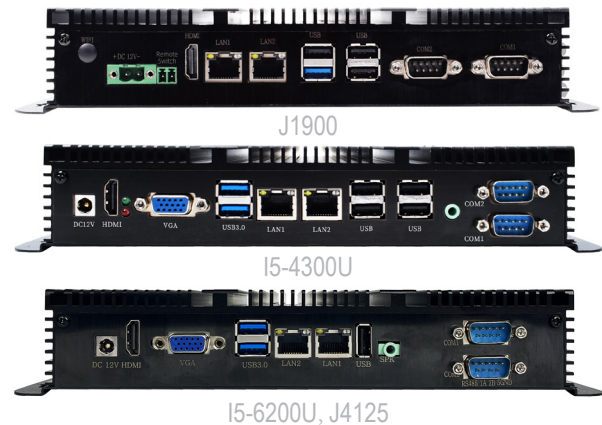
# IBOX-104V2-2L6C



- Ultra-thin design, 44mm height, Ideal for applications where product size is critical;
- Single board design with rich I/O expansion, support diversity and rapid customization;
- Multiple configurations available to suit different application;
- Full sealed design with aluminum alloy cooling enclosure, dustproof, anti-vibration and anti-interference;
- Low power consumption design, more suitable for simple applications;
- Supports VESA & Wall mounting to fit different applications;



The actual appearance is subject to the final configuration.

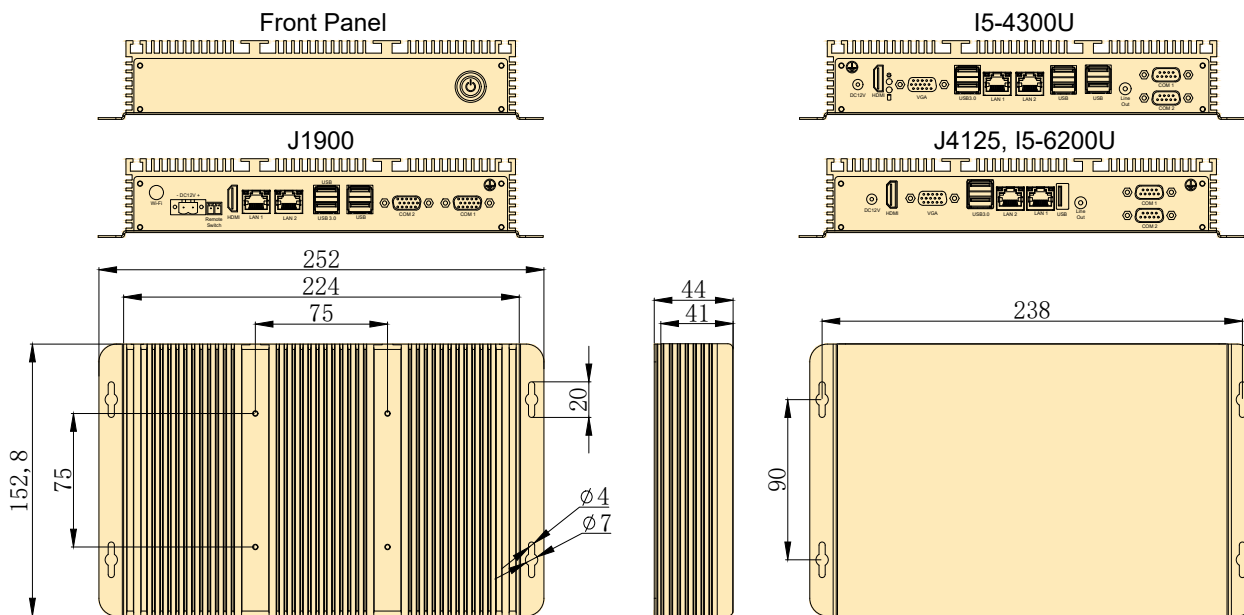


## Specifications

|                          |                                                                                            |                                                                                                                |                                                                                                                   |                                                               |                                                                   |
|--------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------|
| Model                    | IBOX-104V2-2L6C                                                                            |                                                                                                                |                                                                                                                   |                                                               |                                                                   |
| Supported OS             | Win 7, Win 8, Win 10, Win11, Linux (Ubuntu, Dibian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                |                                                                                                                   |                                                               |                                                                   |
| CPU                      | Model                                                                                      | Intel® Celeron® J1900                                                                                          | Intel® Core™ I5-4300U                                                                                             | Intel® Core™ I5-6200U                                         | Intel® Celeron® J4125                                             |
| RAM                      | Type&Qty                                                                                   | 1* SO-DIMM Socket                                                                                              | 1* SO-DIMM Socket                                                                                                 | 1* SO-DIMM Socket                                             | 1* SO-DIMM Socket                                                 |
|                          | Frequency                                                                                  | DDR3L-1333 MHz                                                                                                 | DDR3L-1333/1600 MHz                                                                                               | DDR4 2133 MHz                                                 | DDR4 2400 MHz                                                     |
|                          | Capacity                                                                                   | Up to 8GB                                                                                                      | Up to 8GB                                                                                                         | Up to 32GB                                                    | Up to 8GB                                                         |
| Storage                  | MSATA                                                                                      | 1* mSATA2.0 slot on board (3Gb/s)                                                                              | 1* mSATA3.0 slot on board (6Gb/s)                                                                                 |                                                               |                                                                   |
| I/O INTERFACE            | COM                                                                                        | 2* RS232/485 (COM1-2, DB9)<br>4* RS232 (COM3-6, Header)                                                        | 1* RS232/422/485 (COM2)<br>1* RS232/485 (COM3)<br>4* RS232 (COM1/4/5/6)<br>All headers                            | 2* RS232/485 (COM1/3)<br>4* RS232 (COM2/4/5/6)<br>All headers | 2* RS232/422/485 (COM2/3)<br>4* RS232 (COM1/4/5/6)<br>All headers |
|                          | Ethernet                                                                                   | 2* Realtek 8111H GbE LAN                                                                                       | 2* Intel® i211 GbE LAN                                                                                            | 2* Intel® i211 GbE LAN                                        | 2* Realtek 8111H GbE LAN                                          |
|                          | USB                                                                                        | 3* USB2.0, 1* USB3.0<br>5* USB2.0 Headers                                                                      | 4* USB2.0, 2* USB3.0<br>2* USB2.0 Headers                                                                         | 1* USB2.0, 2* USB3.0<br>4* USB2.0 Headers                     | 1* USB2.0, 2* USB3.0<br>4* USB2.0 Headers                         |
|                          | Video                                                                                      | 1* HDMI, 1920x1200@60Hz<br>1* VGA header                                                                       | 1* HDMI, 3280x2000@60Hz<br>1* VGA, 1920x1200@60Hz                                                                 | 1* HDMI, 4096x2304@24Hz<br>1* VGA, 1920x1200@60Hz             | 1* HDMI, 4096x2160@30Hz<br>1* VGA, 1920x1200@60Hz                 |
|                          | Audio                                                                                      | 1*SPK header; With 5.1 channels<br>HD Audio Codec Realtek ALC662                                               | 1* SPK; With 5.1 channels HD<br>Audio Codec Realtek ALC662                                                        | 1* SPK; With 2 channels USB<br>Audio Codec HS-100B            | 1* SPK; With 5.1 channels HD<br>Audio Codec Realtek ALC662        |
|                          | SIM                                                                                        | 1* Built-in SIM card slot connected to Mini-PCle                                                               |                                                                                                                   |                                                               |                                                                   |
|                          | Power Supply                                                                               | 12V DC; 1* Terminal Block (2-Pin, 5.08mm);<br>Optional 9-30V DC PWR module with Terminal Block (2-Pin, 5.08mm) | 12V DC; 1* DC Jack (5.5* 2.5mm);<br>Optional 9-30V DC PWR module with Terminal Block (2-Pin, 5.08mm)              |                                                               |                                                                   |
|                          | Other                                                                                      | 1* 8-bit GPIO header;<br>1* Remote SwitchTerminal (2-Pin, 3.81mm)                                              | 1* 8-bit GPIO header;<br>Optional: 1* Terminal Block (4-Pin, 3.81mm Pitch) with Remote Switch and Power Indicator |                                                               |                                                                   |
| Extended Capabilities    | Additional Internal Interface                                                              | 1* Full Size Mini-PCle with SIM card slot (PCIe+USB2.0)                                                        |                                                                                                                   |                                                               |                                                                   |
| Environment              | Operating Temperature                                                                      | -10 ~ 50 °C w/ 0.7m/s Airflow                                                                                  |                                                                                                                   |                                                               |                                                                   |
|                          | Storage Temperature                                                                        | -40 ~ 85 °C (-40~185 °F)                                                                                       |                                                                                                                   |                                                               |                                                                   |
|                          | Relative Humidity                                                                          | 40 °C @ 95%, Non-Condensing                                                                                    |                                                                                                                   |                                                               |                                                                   |
| Physical Characteristics | Dimensions                                                                                 | 250* 44* 153 mm (W* H* D) (It has a higher version with 49mm solution)                                         |                                                                                                                   |                                                               |                                                                   |
|                          | Net Weight                                                                                 | 1.5 KG                                                                                                         |                                                                                                                   |                                                               |                                                                   |
| Regulation               | EMC                                                                                        | CE/FCC Class B, CCC                                                                                            |                                                                                                                   |                                                               |                                                                   |
|                          | Safety                                                                                     | CE-LVD, RoHS, CCC                                                                                              |                                                                                                                   |                                                               |                                                                   |

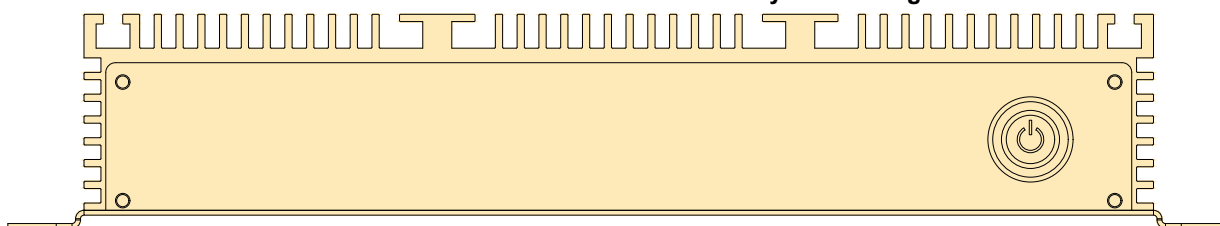
## Dimension

Unit:mm

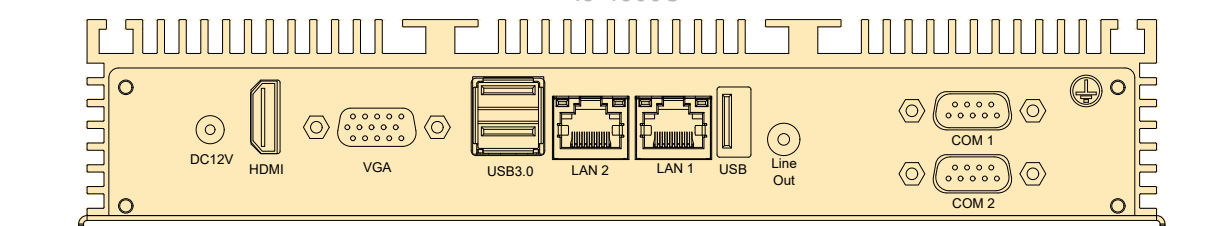
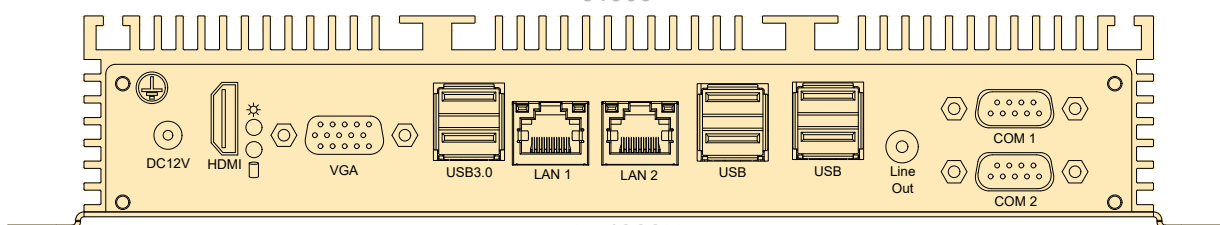
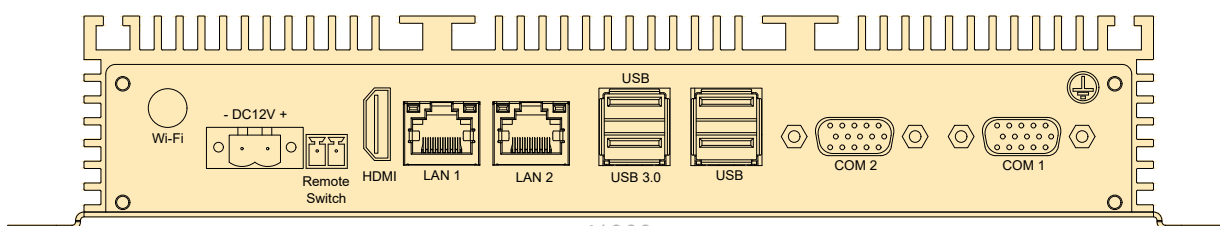


The actual appearance and dimensions are subject to the final configuration

## Front Panel External I/O Mechanical Layout/Drawing



## Rear Panel External I/O Mechanical Layout/Drawing



## Processors Info &amp; Available List

| CPU                   | Code Name   | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                   | TDP | Memory Types | Integrated Graphics     |
|-----------------------|-------------|-------------|---------------|---------------------|----------------|-------------------------|-----|--------------|-------------------------|
| Intel® Celeron® J1900 | Bay Trail   | 4           | 4             | -                   | 2.00 GHz       | 2 MB L2 Cache           | 10W | DDR3         | Intel® HD Graphics      |
| Intel® Core™ i5-4300U | Haswell     | 2           | 4             | 2.90 GHz            | 1.90 GHz       | 3 MB Intel® Smart Cache | 15W | DDR3         | Intel® HD Graphics 4400 |
| Intel® Core™ i5-6200U | Skylake     | 2           | 4             | 2.80 GHz            | 2.30 GHz       | 3 MB Intel® Smart Cache | 15W | DDR4         | Intel® HD Graphics 4400 |
| Intel® Celeron® J4125 | Gemini Lake | 4           | 4             | -                   | 2.00 GHz       | 4 MB                    | 10W | DDR4         | Intel® UHD Graphics 600 |

All products and company name listed are trademarks or trade names of their respective companies.

## Ordering Information

| CPU                   | SO-DIMM Socket | mSATA | Mini PCIe | COM Interface | GbE LAN | USB 2.0 | USB 3.0 | Internal USB 2.0 Headers | HDMI | VGA       | SPK | SIM Card Slot | 8-bit GPIO Header | Power Supply |
|-----------------------|----------------|-------|-----------|---------------|---------|---------|---------|--------------------------|------|-----------|-----|---------------|-------------------|--------------|
| Intel® Celeron® J1900 | 1*DDR3L        | 1     | 1         | 6             | 2       | 3       | 1       | 5                        | 1    | 1* Header | -   | 1             | 1                 | DC 12V       |
| Intel® Core™ i5-4300U | 1*DDR3L        | 1     | 1         | 6             | 2       | 4       | 2       | 2                        | 1    | 1         | 1   | 1             | 1                 | DC 12V       |
| Intel® Core™ i5-6200U | 1*DDR4         | 1     | 1         | 6             | 2       | 1       | 2       | 4                        | 1    | 1         | 1   | 1             | 1                 | DC 12V       |
| Intel® Celeron® J4125 | 1*DDR4         | 1     | 1         | 6             | 2       | 1       | 2       | 4                        | 1    | 1         | 1   | 1             | 1                 | DC 12V       |

!! Note: Custom available for this unit, the actual data is subject to the final configuration

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-104V2-2L6C Unit    | 1   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| VESA mount kits                   | -   |

## Optional accessories or internal modules for unit

| Optional Items               | Max Qty | Description                                                                             |
|------------------------------|---------|-----------------------------------------------------------------------------------------|
| DC9-30V TO DC 12V PWR module | 1       | Phoenix Terminal connector, Power supply voltage conversion module, connected by header |
| Isolated 8-bit GPIO, 9-26V   | 1       | Phoenix Terminal connector, connected by jumper                                         |
| Isolated RS-232              | 6       | DB9 or Phoenix Terminal connector, connected by header                                  |
| Isolated 8-bit GPIO, 9-24V   | 1       | Phoenix Terminal connector, connected by header                                         |
| 4G Module                    | 1       | Connected by Mini-PCIe interface                                                        |
| WiFi Module without AP mode  | 1       | Connected by Mini-PCIe interface                                                        |
| WiFi Module with AP mode     | 1       | Connected by Mini-PCIe interface                                                        |
| Dual channel CAN-Bus Module  | 1       | Connected by Mini-PCIe interface                                                        |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-104V2-2L6C-11TH



- Ultra-thin design, 44mm height, max optional 55mm height;
- 15W TDP default, BIOS optional with 12W/28W TDP;
- Rich I/O expansion slot, support up to 3\* M.2 to expand 4G/WiFi/AI accelerator or high speed harddrive;
- Full sealed design with aluminum alloy cooling enclosure, dustproof, anti-vibration and anti-interference;
- Supports VESA & Wall mounting to fit different applications;
- Optional super slim internal fan cooling system when the TDP is 28W.



The actual appearance is subject to the final configuration.

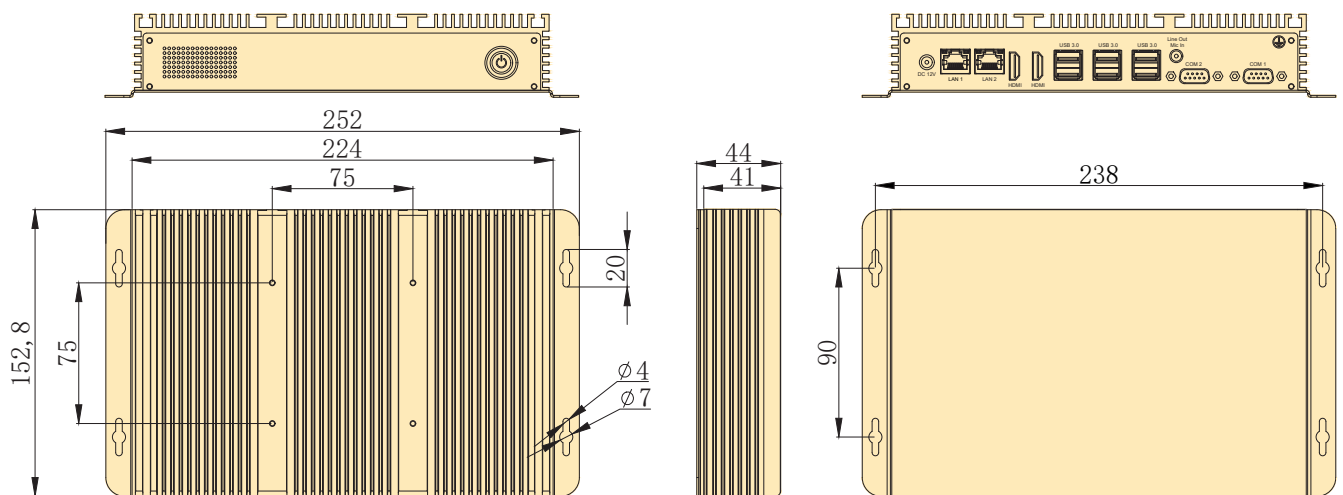
## Specifications

|                                 |                                                                 |                                                                                                                                                                                                                                    |                                                |                                            |                                            |
|---------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------|--------------------------------------------|
| <b>Model</b>                    | IBOX-104V2-2L6C-11TH                                            |                                                                                                                                                                                                                                    |                                                |                                            |                                            |
| <b>Supported OS</b>             | Win 10, Win 10 IoT, Linux (Ubuntu, Dibiian, Kali, CentOS, etc.) |                                                                                                                                                                                                                                    |                                                |                                            |                                            |
| <b>CPU</b>                      | CPU Model                                                       | Intel® Core™ i7-1165G7                                                                                                                                                                                                             | Intel® Core™ i5-1135G7                         | Intel® Core™ i3-1115G4                     | Intel® Celeron® 6305E                      |
|                                 | Graphic                                                         | Intel® Iris® Xe Graphics, Up to 96 EUs, 1.3Ghz                                                                                                                                                                                     | Intel® Iris® Xe Graphics, Up to 80 EUs, 1.3Ghz | Intel® UHD Graphics, up to 48 EUs, 1.25Ghz | Intel® UHD Graphics, up to 48 EUs, 1.25Ghz |
|                                 | TDP                                                             | 15W by default, 12/ 28W optional                                                                                                                                                                                                   |                                                |                                            |                                            |
| <b>RAM</b>                      | SO-DIMM                                                         | 2* non-ECC SO-DIMM Socket, support DDR4-3200 MHz, up to 64GB                                                                                                                                                                       |                                                |                                            |                                            |
| <b>Storage</b>                  | M.2                                                             | 1* M.2 (NGFF) 2280 M-key Slot, SATA3.0 by default, support PCIe4 Gen.4 NVMe SSD                                                                                                                                                    |                                                |                                            |                                            |
|                                 | SATA                                                            | 1* SATA3.0 7P Connector (6Gb/s), with 1 * SATA Power Header [1]                                                                                                                                                                    |                                                |                                            |                                            |
| <b>I/O INTERFACE</b>            | COM                                                             | 3* RS232 (COM1/2/3, Header, Full lanes)<br>2* RS232/TTL (COM4/5, Header, 3 lanes); 1* RS232/RS485/TTL (COM6, Header, 3 lanes)<br>(COM4/5/6 RS232/TTL sel by res, support RS232 by default. COM4/5/6 must be used at the same mode) |                                                |                                            |                                            |
|                                 | Ethernet                                                        | 2* Intel® GbE LAN (10/100/1000 Mbps, RJ45)                                                                                                                                                                                         |                                                |                                            |                                            |
|                                 | USB                                                             | 6* USB3.0; 4 * USB2.0 Internal Headers                                                                                                                                                                                             |                                                |                                            |                                            |
|                                 | Video                                                           | 2* HDMI(TYPE-A), max resolution up to 4096*2160@30Hz                                                                                                                                                                               |                                                |                                            |                                            |
|                                 | Audio                                                           | 1 * Line-Out + MIC 2in1 3.5mm Jack; With 7.1 channel HD Audio Codec Realtek ALC897; 1 * Amplifier Header                                                                                                                           |                                                |                                            |                                            |
|                                 | SIM                                                             | 1* Built-in nano-SIM Card Slot connected to M.2 B-key slot                                                                                                                                                                         |                                                |                                            |                                            |
|                                 | Power Supply                                                    | 12V DC; 1* DC Threaded Jack (5.5* 2.5mm)<br>Optional 9-30V DC PWR module with Terminal Block (2-Pin, 5.08mm)                                                                                                                       |                                                |                                            |                                            |
|                                 | Other                                                           | 1* 8-bit GPIO header with 4 inputs and 4 outputs, Input voltage range: 0-5V;                                                                                                                                                       |                                                |                                            |                                            |
| <b>Extended Capabilities</b>    | Additional Internal Interface                                   | 1* M.2 (NGFF) E-key Slot (PCIe+USB2.0, Support WiFi+BT, 2230)<br>1* M.2 (NGFF) B-key Slot (PCIe/USB3.0+USB2.0, Support 5G+4G/3G, with 1* nano-SIM Card Slot, 3052)                                                                 |                                                |                                            |                                            |
|                                 | Functionality Extension                                         | COM, LAN, USB, CAN BUS, Wi-Fi, 4G                                                                                                                                                                                                  |                                                |                                            |                                            |
| <b>Environment</b>              | Operating Temperature                                           | -10 ~ 50 °C w/ 0.7m/s Airflow                                                                                                                                                                                                      |                                                |                                            |                                            |
|                                 | Storage Temperature                                             | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                                                           |                                                |                                            |                                            |
|                                 | Relative Humidity                                               | 40 °C @ 95%, Non-Condensing                                                                                                                                                                                                        |                                                |                                            |                                            |
| <b>Physical Characteristics</b> | Dimensions                                                      | 250* 44* 153 mm (W* H* D) (It has a higher version with 49mm shell)                                                                                                                                                                |                                                |                                            |                                            |
|                                 | Net Weight                                                      | 1.5 KG                                                                                                                                                                                                                             |                                                |                                            |                                            |
| <b>Regulation</b>               | EMC                                                             | CE/FCC Class B, CCC                                                                                                                                                                                                                |                                                |                                            |                                            |
|                                 | Safety                                                          | CE-LVD, RoHS, CCC                                                                                                                                                                                                                  |                                                |                                            |                                            |

[1]: If the SATA 3.0 SSD is needed, the 55mm height shell is required necessary because of the compact installation space

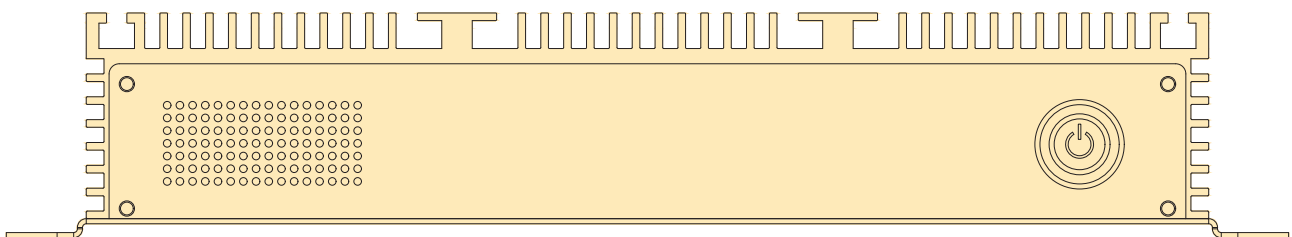
## Dimension

Unit:mm

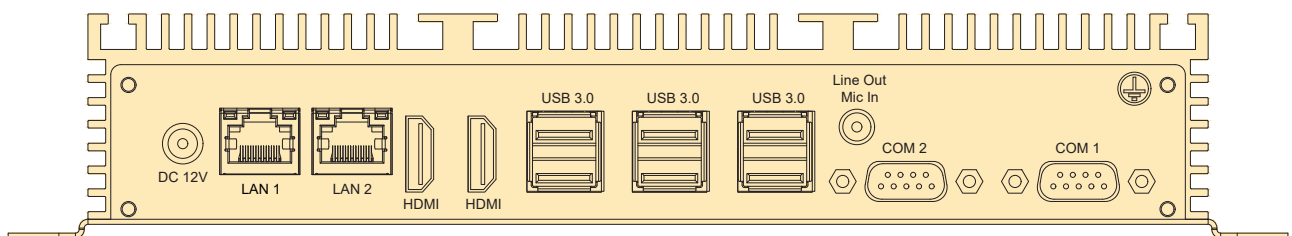


The actual appearance and dimensions are subject to the final configuration

## Front Panel External I/O Mechanical Layout/Drawing



## Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Slot | M.2 2280 M-key Slot | SATA Connector | M.2 2230 E-key Slot | M.2 3052 B-key Slot | COM headers        | GbE LAN      |
|--------------|---------------------|----------------|---------------------|---------------------|--------------------|--------------|
| 2            | 1                   | 1              | 1                   | 1                   | 6                  | 2            |
| USB 3.0 Port | USB 2.0 Headers     | HDMI           | Line Out + Mic In   | Amplifier Header    | Nano-SIM Card Slot | Power Supply |
| 6            | 4                   | 2              | 1                   | 1                   | 1                  | DC 12V       |

!! Note: Custom available for this unit, the actual data is subject to the final configuration

## Processors Info &amp; Available List

| CPU                    | Code Name  | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP    | Memory Types | Integrated Graphics            |
|------------------------|------------|-------------|---------------|---------------------|----------------|--------------------------|--------|--------------|--------------------------------|
| Intel® Core™ i7-1165G7 | Tiger Lake | 4           | 8             | 4.70 GHz            | 2.80 GHz       | 12 MB Intel® Smart Cache | 12-28W | DDR4         | Intel® Iris Xe Graphics; 96Eus |
| Intel® Core™ i5-1135G7 | Tiger Lake | 4           | 8             | 4.20 GHz            | 2.40 GHz       | 8 MB Intel® Smart Cache  | 12-28W | DDR4         | Intel® Iris Xe Graphics; 80Eus |
| Intel® Core™ i3-1115G4 | Tiger Lake | 2           | 4             | 4.10 GHz            | 1.70 GHz       | 4 MB Intel® Smart Cache  | 12-28W | DDR4         | Intel® Iris Xe Graphics; 48Eus |
| Intel® Celeron® 6305E  | Tiger Lake | 2           | 2             | -                   | 1.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel UHD Graphics             |

All products and company name listed are trademarks or trade names of their respective companies.

## Packing list

| Default Items             | Qty |
|---------------------------|-----|
| IBOX-104V2-2L6C-11TH Unit | 1   |
| AC-to-DC Adapter          | 1   |
| Power cable 3-pin 150cm   | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| 55 mm height shell                | -   |
| VESA mount kits                   | -   |
| Internal fan kit                  | -   |

## Optional accessories or internal modules for unit

| Optional Items               | Max Qty | Description                                                                             |
|------------------------------|---------|-----------------------------------------------------------------------------------------|
| DC9-30V TO DC-12V PWR module | 1       | Phoenix Terminal connector, Power supply voltage conversion module, connected by header |
| Isolated 8-bit GPIO, 9-26V   | 1       | Phoenix Terminal connector, connected by jumper                                         |
| Isolated RS-232              | 6       | DB9 or Phoenix Terminal connector, connected by header                                  |
| Isolated 8-bit GPIO, 9-24V   | 1       | Phoenix Terminal connector, connected by header                                         |
| 4G Module                    | 1       | Connected by M.2 interface                                                              |
| 5G Module                    | 1       | Connected by M.2 interface                                                              |
| WiFi Module without AP mode  | 1       | Connected by M.2 interface                                                              |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.



# IBOX-104V2-4L6C



- Ultra-thin design, 44mm height, Ideal for applications where product size is critical;
- Single board design with rich I/O expansion, support diversity and rapid customization;
- Multiple configurations available to suit different application;
- Full sealed design with aluminum alloy cooling enclosure, dustproof, anti-vibration and anti-interference;
- Low power consumption design, more suitable for simple applications;
- Supports VESA & Wall mounting to fit different applications;



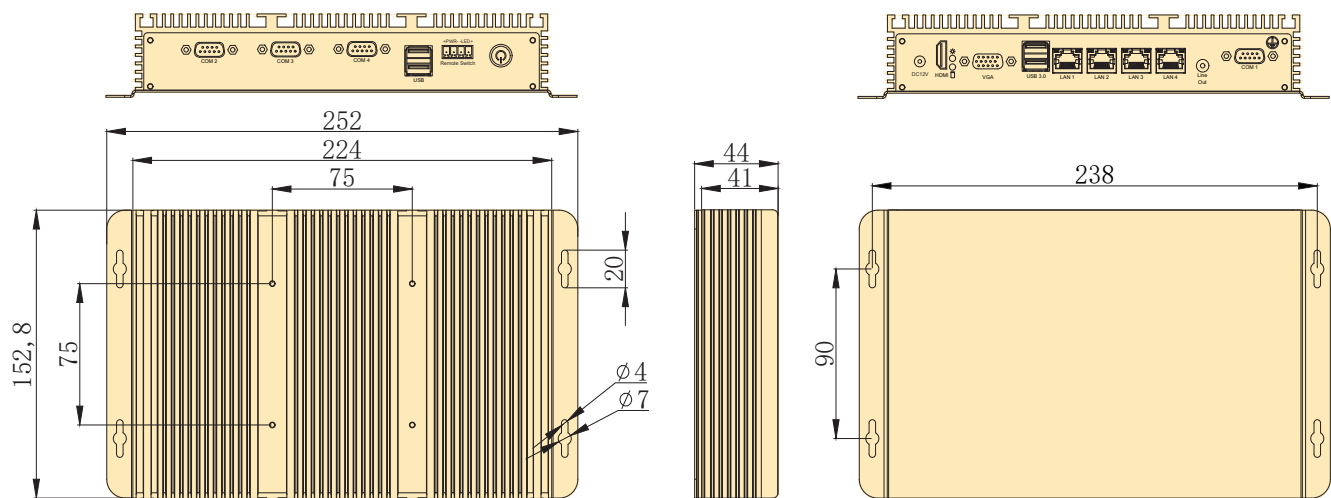
The actual appearance is subject to the final configuration.

## Specifications

|                          |                                                                                            |                                                                                                                                                          |                                                                     |
|--------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Model                    | IBOX-104V2-4L6C                                                                            |                                                                                                                                                          |                                                                     |
| Supported OS             | Win 7, Win 8, Win 10, Win11, Linux (Ubuntu, Dibian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                          |                                                                     |
| CPU                      | Processors Info.                                                                           | Intel® Core™ I5-4300U, Dual-core, 1.90 GHz                                                                                                               | Intel® Core™ I7-4600U, Dual-core, 2.10 GHz                          |
| RAM                      | SO-DIMM                                                                                    | 1* SO-DIMM Socket, DDR3L-1333/1600 MHz, Up to 8GB                                                                                                        |                                                                     |
| Storage                  | MSATA                                                                                      | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                        |                                                                     |
| I/O INTERFACE            | COM                                                                                        | 1* RS232/422/485 header (COM2); 1* RS232/485 header (COM3); 4* RS232 header (COM1/4/5/6);                                                                |                                                                     |
|                          | Ethernet                                                                                   | 4* Intel® i211 GbE LAN, support network wake-up/PXE function                                                                                             |                                                                     |
|                          | USB                                                                                        | 2* USB2.0; 2* USB3.0; 2* USB 2.0 header                                                                                                                  |                                                                     |
|                          | Video                                                                                      | 1* HDMI, support 3280x2000@60Hz;<br>1* VGA, support 1920x1200@60Hz;                                                                                      | 1* HDMI, support 3200x2000@60Hz;<br>1* VGA, support 1920x1200@60Hz; |
|                          | Audio                                                                                      | 1* Line out; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                             | 1* Line out; With 5.1 channels HD Audio Codec Realtek ALC662        |
|                          | SIM                                                                                        | 1* Built-in SIM card slot connected to Mini-PCle                                                                                                         |                                                                     |
|                          | Power Supply                                                                               | 12V DC; 1* DC Jack (5.5* 2.5mm);<br>Optional 9-30V DC PWR module with Terminal Block (2-Pin, 5.08mm)                                                     |                                                                     |
|                          | Other                                                                                      | 1* Terminal Block (4-Pin, 3.81mm) with Remote Switch and Power Indicator<br>1* 8-bit GPIO header with 4 inputs and 4 outputs, Input voltage range: 0-5V; |                                                                     |
| Extended Capabilities    | Additional Internal Interface                                                              | 1* Full Size Mini-PCle with SIM card slot (PCle+USB2.0, support Wi-Fi+BT/ 4G)                                                                            |                                                                     |
| Environment              | Operating Temperature                                                                      | -10 ~ 50 °C w/ 0.7m/s Airflow                                                                                                                            |                                                                     |
|                          | Storage Temperature                                                                        | -40 ~ 85 °C (-40~185 °F)                                                                                                                                 |                                                                     |
|                          | Relative Humidity                                                                          | 40 °C @ 95%, Non-Condensing                                                                                                                              |                                                                     |
| Physical Characteristics | Dimensions                                                                                 | 250* 44* 153 mm (W* H* D) (It has a higher version with 49mm solution)                                                                                   |                                                                     |
|                          | Net Weight                                                                                 | 1.5 KG                                                                                                                                                   |                                                                     |
| Regulation               | EMC                                                                                        | CE/FCC Class B, CCC                                                                                                                                      |                                                                     |
|                          | Safety                                                                                     | CE-LVD, RoHS, CCC                                                                                                                                        |                                                                     |

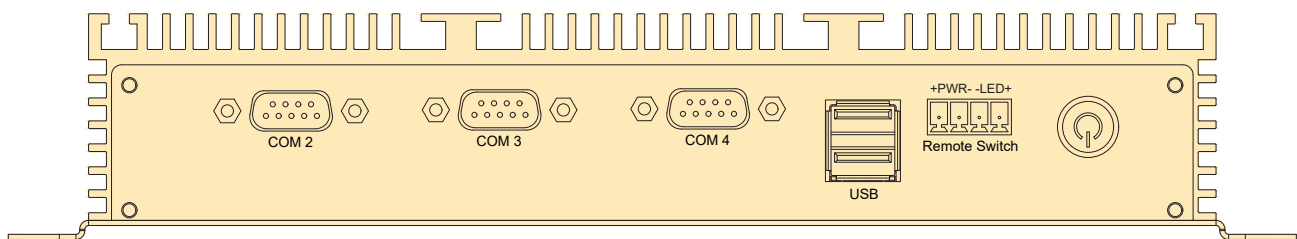
## Dimension

Unit:mm

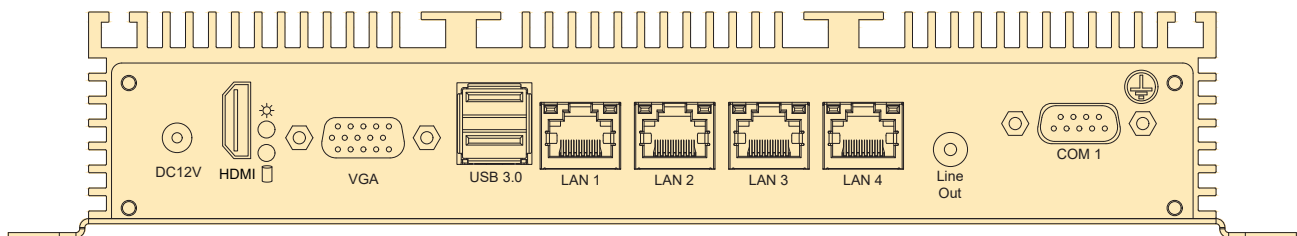


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Socket | mSATA3.0 Slot | Full Size Mini-PCle | COM headers | GbE LAN  |               |              |
|----------------|---------------|---------------------|-------------|----------|---------------|--------------|
| 1              | 1             | 1                   | 6           | 4        |               |              |
| USB 2.0        | USB 3.0       | HDMI                | VGA         | Line Out | SIM Card Slot | Power Supply |
| 2              | 2             | 1                   | 1           | 1        | 1             | DC 12V       |

!! Note: Custom available for this unit, the actual data is subject to the final configuration

## Processors Info & Available List

| CPU                   | Code Name | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                   | TDP | Memory Types | Integrated Graphics     |
|-----------------------|-----------|-------------|---------------|---------------------|----------------|-------------------------|-----|--------------|-------------------------|
| Intel® Core™ i5-4300U | Haswell   | 2           | 4             | 2.90 GHz            | 1.90 GHz       | 3 MB Intel® Smart Cache | 15W | DDR3         | Intel® HD Graphics 4400 |
| Intel® Core™ i7-4600U | Haswell   | 2           | 4             | 3.30 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache | 15W | DDR3         | Intel® HD Graphics 4400 |

All products and company name listed are trademarks or trade names of their respective companies.

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-104V2-4L6C Unit    | 1   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| VESA mount kits                   | -   |

## Optional accessories or internal modules for unit

| Optional Items               | Max Qty | Description                                                                             |
|------------------------------|---------|-----------------------------------------------------------------------------------------|
| DC9-30V TO DC 12V PWR module | 1       | Phoenix Terminal connector, Power supply voltage conversion module, connected by header |
| Isolated 8-bit GPIO, 9-26V   | 1       | Phoenix Terminal connector, connected by jumper                                         |
| Isolated RS-232              | 6       | DB9 or Phoenix Terminal connector, connected by header                                  |
| Isolated RS-422              | 1       | DB9 or Phoenix Terminal connector, connected by header                                  |
| Isolated RS-485              | 2       | DB9 or Phoenix Terminal connector, connected by header                                  |
| Isolated 8-bit GPIO, 9-24V   | 1       | Phoenix Terminal connector, connected by header                                         |
| 4G Module                    | 1       | Connected by Mini-PCle interface                                                        |
| WiFi Module without AP mode  | 1       | Connected by Mini-PCle interface                                                        |
| WiFi Module with AP mode     | 1       | Connected by Mini-PCle interface                                                        |
| Dual channel CAN-Bus Module  | 1       | Connected by Mini-PCle interface                                                        |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-105-4L2C2P



- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces
- Multiple mounting options available



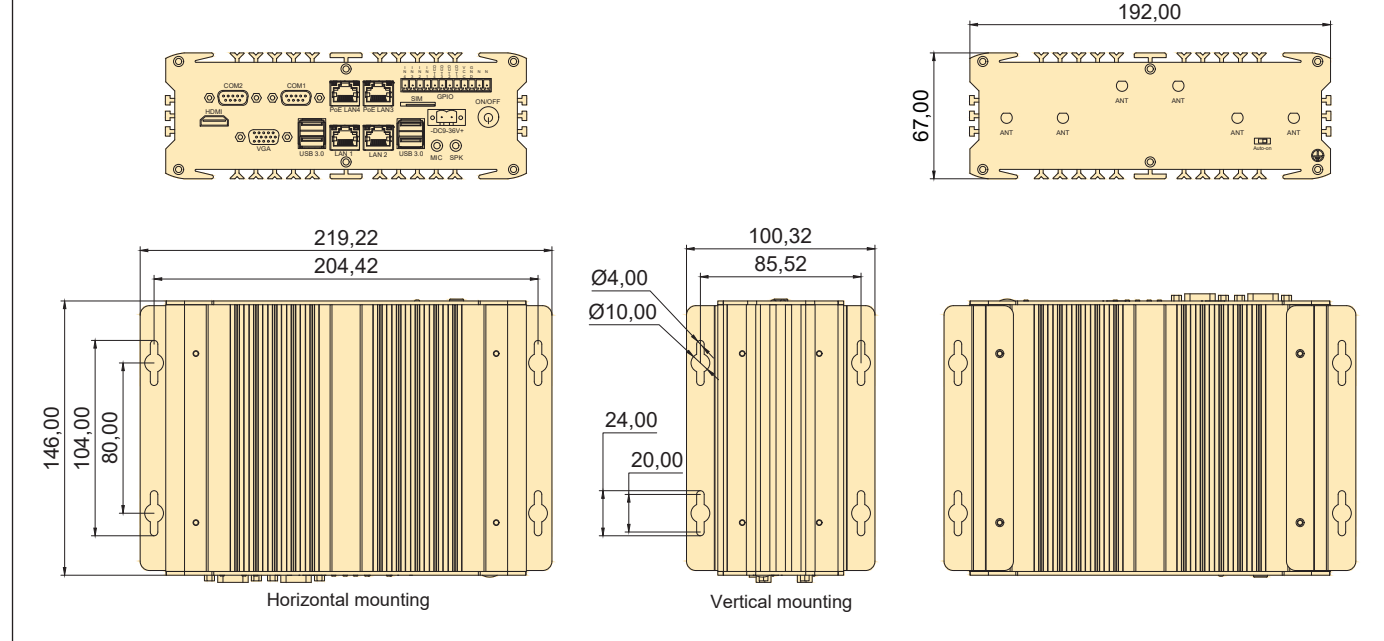
The actual appearance is subject to the final configuration.

## Specifications

|                          |                                                                                            |                                                                                                                                                                           |                                                                                                                     |                                                                                                                               |
|--------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Model                    | IBOX-105-4L2C2P                                                                            |                                                                                                                                                                           |                                                                                                                     |                                                                                                                               |
| Supported OS             | Win 7, Win 8, Win 10, Win11, Linux (Ubuntu, Dibian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                           |                                                                                                                     |                                                                                                                               |
| CPU                      | Series/ Model                                                                              | 4th~5th Gen. Intel® Core™ Processor                                                                                                                                       | 6th~8th Gen. Intel® Core™ Processor<br>Intel® Celeron® 3865U/ 5205U                                                 | 11th Gen. Intel® Core™ Processor<br>Intel® Celeron® 6305E                                                                     |
|                          | TDP                                                                                        | Up to 15W                                                                                                                                                                 | Up to 15W                                                                                                           | Up to 28W                                                                                                                     |
| RAM                      | Type & Qty                                                                                 | 1* SO-DIMM Socket                                                                                                                                                         | 2* SO-DIMM Socket                                                                                                   | 2* SO-DIMM Socket                                                                                                             |
|                          | Frequency                                                                                  | DDR3L-1333/1600 MHz                                                                                                                                                       | DDR4-2133/2400 MHz                                                                                                  | DDR4-3200 MHz                                                                                                                 |
|                          | Capacity                                                                                   | Up to 8GB                                                                                                                                                                 | Up to 32GB                                                                                                          | Up to 64GB                                                                                                                    |
| Storage Device           | SATA                                                                                       | 1* 2.5" SATA3.0 Bay on board (6Gb/s)                                                                                                                                      |                                                                                                                     |                                                                                                                               |
|                          | MSATA                                                                                      | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                         |                                                                                                                     |                                                                                                                               |
| I/O Interface            | COM                                                                                        | 2* Isolated COM with TVS protection (COM1-2, DB9 connectors, support RS232/485, switchable by BIOS)<br>2* COM headers on board (COM3-4, support RS232, shared with GPIO); |                                                                                                                     |                                                                                                                               |
|                          | Ethernt with PoE                                                                           | 2* 1.0 GbE PoE LAN, Intel i211, support IEEE802.3af (RJ45/ M12 connector optional)                                                                                        |                                                                                                                     |                                                                                                                               |
|                          | Ethernt without PoE                                                                        | 2* 1.0 GbE LAN, Intel i211/i210, RJ45 only<br>(Only Intel i3-5020U is working with intel i210 GbE LAN)                                                                    |                                                                                                                     | 2* 2.5 GbE LAN, Intel i225, RJ45                                                                                              |
|                          | USB                                                                                        | 2* USB3.0; 2* USB2.0;<br>1* Internal USB 2.0; 2* USB2.0 header                                                                                                            | 4* USB3.0;<br>1* Internal USB 2.0; 2* USB2.0 header                                                                 | 2* USB3.0; 2* USB2.0;<br>1* Internal USB2.0; 2* USB2.0 header                                                                 |
|                          | Video                                                                                      | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz;                                                                                                       | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz;                                                 | 1* HDMI, Support 4096x2304@60Hz;<br>1* VGA, Support 1920x1200@60Hz;                                                           |
|                          | Audio                                                                                      | 1* MIC, 1* SPK; With 5.1 channels HD Audio<br>Codec Realtek ALC662                                                                                                        | 1* MIC, 1* SPK; With 5.1 channels HD<br>Audio Codec Realtek ALC662                                                  | 1* MIC, 1* SPK; With 7.1 channels HD<br>Audio Codec Realtek ALC897                                                            |
|                          | SIM                                                                                        | 1* External SIM card slot connected to<br>M.2 B-key slot;                                                                                                                 | 1* External SIM card slot connected to M.2 B-key slot;<br>Support optional 2nd SIM card slot connected to Mini-PCIe |                                                                                                                               |
|                          | Power Supply                                                                               | 9-36V DC; 1* Terminal Block (2-Pin, 5.08mm)                                                                                                                               |                                                                                                                     |                                                                                                                               |
|                          | Other                                                                                      | 1* 8-bit GPIO (4-Inputs/4-Outputs, 0-5V Input Range) and 1* Remote Switch on Terminal Block (12-Pin, 3.81mm).<br>1* Auto-On Switch                                        |                                                                                                                     |                                                                                                                               |
|                          | Extended Capabilities                                                                      | Additional Internal Interface                                                                                                                                             | 1* M.2 2230 E-key Slot (PCIe+USB2.0);<br>1* M.2 3052 B-key with SIM card slot (USB 3.0)                             | 1* Full Size Mini-PCIe (PCIe+USB2.0); 1* M.2 2230 E-key Slot (PCIe+USB2.0);<br>1* M.2 3052 B-key with SIM card slot (USB 3.0) |
| Environment              | Operating Temperature                                                                      | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                             |                                                                                                                     |                                                                                                                               |
|                          | Storage Temperature                                                                        | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                  |                                                                                                                     |                                                                                                                               |
|                          | Relative Humidity                                                                          | 40 °C @ 95%, Non-Condensing                                                                                                                                               |                                                                                                                     |                                                                                                                               |
| Physical Characteristics | Dimensions                                                                                 | 192* 72* 143 mm (W* H* D)                                                                                                                                                 |                                                                                                                     |                                                                                                                               |
|                          | Net Weight                                                                                 | 2.5 KG (The actual weight is subject to the final configuration)                                                                                                          |                                                                                                                     |                                                                                                                               |
| Regulation               | EMC                                                                                        | CE/FCC Class B, CCC                                                                                                                                                       |                                                                                                                     |                                                                                                                               |
|                          | Safety                                                                                     | CE-LVD, RoHS, CCC                                                                                                                                                         |                                                                                                                     |                                                                                                                               |

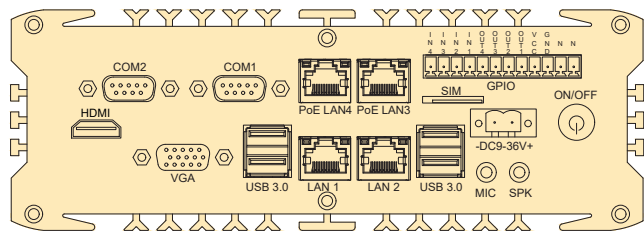
Dimension

Unit:mm

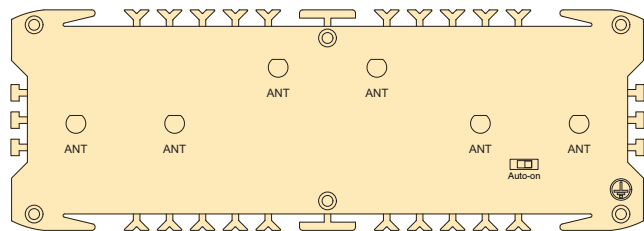


The actual appearance and dimensions are subject to the final configuration

Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

| SO-DIMM Socket                                                                                                          | 2.5" SATA3.0 Bay | mSATA3.0 Slot  | M.2 3052 B-key Slot | M.2 2230 E-key Slot | Full Size Mini-PCle | RS232/485 | COM Headers | GbE POE LAN            | GbE LAN      |
|-------------------------------------------------------------------------------------------------------------------------|------------------|----------------|---------------------|---------------------|---------------------|-----------|-------------|------------------------|--------------|
| 1 or 2                                                                                                                  | 1                | 1              | 1                   | 1                   | 0 or 1              | 2         | 2           | 2                      | 2            |
| !! Note: The Mini-PCle is not available when the device is equipped with 4th~5th Gen. Intel® Core™ & Celeron® processor |                  |                |                     |                     |                     |           |             |                        |              |
| USB 3.0                                                                                                                 | Internal USB 2.0 | USB 2.0 Header | HDMI                | VGA                 | MicIn               | LineOut   | 8-bit GPIO  | External SIM Card Slot | Power Supply |
| 4                                                                                                                       | 1                | 2              | 1                   | 1                   | 1                   | 1         | 1           | 1                      | DC 9-36V     |

Packing list

| Deafult Items           | Qty |
|-------------------------|-----|
| IBOX-105-4L2C2P Unit    | 1   |
| AC-to-DC Adapter        | 1   |
| Wall mounting bracket   | 2   |
| Power cable 3-pin 150cm | 1   |

Options for default items

| Optional Items                          | Qty |
|-----------------------------------------|-----|
| Power cable 3-pin 150cm, USA type       | -   |
| Power cable 3-pin 150cm, EU type        | -   |
| Power cable 3-pin 150cm, UK type        | -   |
| VESA mount kits                         | -   |
| DIN Rail mount kits                     | -   |
| External Fan Kit For 11th Gen. Solution | -   |

## Processors Info &amp; Available List

| CPU                    | Code Name    | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP    | Memory Types | Integrated Graphics            |
|------------------------|--------------|-------------|---------------|---------------------|----------------|--------------------------|--------|--------------|--------------------------------|
| Intel® Core™ i5-4300U  | Haswell      | 2           | 4             | 2.90 GHz            | 1.90 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 4400        |
| Intel® Core™ i7-4600U  | Haswell      | 2           | 4             | 3.30 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 4400        |
| Intel® Core™ i3-5020U  | Broadwell    | 2           | 4             | -                   | 2.20 GHz       | 3 MB                     | 15W    | DDR3         | Intel® HD Graphics 5500        |
| Intel® Celeron® 3865U  | Kaby Lake    | 2           | 2             | -                   | 1.80 GHz       | 2 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 610         |
| Intel® Celeron® 5205U  | Comet Lake   | 2           | 2             | -                   | 1.90 GHz       | 2 MB                     | 15W    | DDR4         | Intel UHD Graphics             |
| Intel® Core™ i5-6360U  | Skylake      | 2           | 4             | 3.10 GHz            | 2.00 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i7-6650U  | Skylake      | 2           | 4             | 3.40 GHz            | 2.20 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i5-7200U  | Kaby Lake    | 2           | 4             | 3.10 GHz            | 2.50 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i5-7360U  | Kaby Lake    | 2           | 4             | 3.60 GHz            | 2.30 GHz       | 4 MB                     | 15W    | DDR4         | Intel® Iris Plus Graphics 640  |
| Intel® Core™ i7-7600U  | Kaby Lake    | 2           | 4             | 3.90 GHz            | 2.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i3-8145U  | Whiskey Lake | 2           | 4             | 3.90 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-8265U  | Whiskey Lake | 4           | 8             | 3.90 GHz            | 1.60 GHz       | 6 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i7-8565U  | Whiskey Lake | 4           | 8             | 4.60 GHz            | 1.80 GHz       | 8 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Celeron® 6305E  | Tiger Lake   | 2           | 2             | -                   | 1.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel UHD Graphics             |
| Intel® Core™ i5-1135G7 | Tiger Lake   | 4           | 8             | 4.20 GHz            | 2.40 GHz       | 8 MB Intel® Smart Cache  | 12-28W | DDR4         | Intel® Iris Xe Graphics; 80Eus |
| Intel® Core™ i7-1165G7 | Tiger Lake   | 4           | 8             | 4.70 GHz            | 2.80 GHz       | 12 MB Intel® Smart Cache | 12-28W | DDR4         | Intel® Iris Xe Graphics; 96Eus |

All products and company name listed are trademarks or trade names of their respective companies.

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                                   |
|-------------------------------------------------|---------|-----------------------------------------------------------------------------------------------|
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by non-standard M.2 interface                           |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| Isolated RS-232                                 | 2       | DB9 or Phoenix Terminal connector, connected by header                                        |
| Non-Isolated RS-232                             | 2       | DB9 or Phoenix Terminal connector, connected by header                                        |
| RS-422 With Surge Protection                    | 2       | DB9 or Phoenix Terminal connector, connected by header, with additional RS232 TO RS422 Module |
| RS-485 With Surge Protection                    | 2       | DB9 or Phoenix Terminal connector, connected by header                                        |
| 4G Module                                       | 1       | Connected by M.2 or Mini-PCIe interface                                                       |
| 5G Module                                       | 1       | Connected by M.2 interface                                                                    |
| WiFi Module without AP mode                     | 1       | Connected by M.2 interface or Mini-PCIe interface                                             |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCIe interface                                                              |
| Dual channel CAN-Bus Module                     | 1       | Connected by Mini-PCIe interface                                                              |
| Ignition Switch Module                          | 1       | Phoenix Terminal connector, connected by internal power switch and 4-pin ATX power connector  |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.



# IBOX-105-6C2L



- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces
- Multiple mounting options available



The actual appearance is subject to the final configuration.

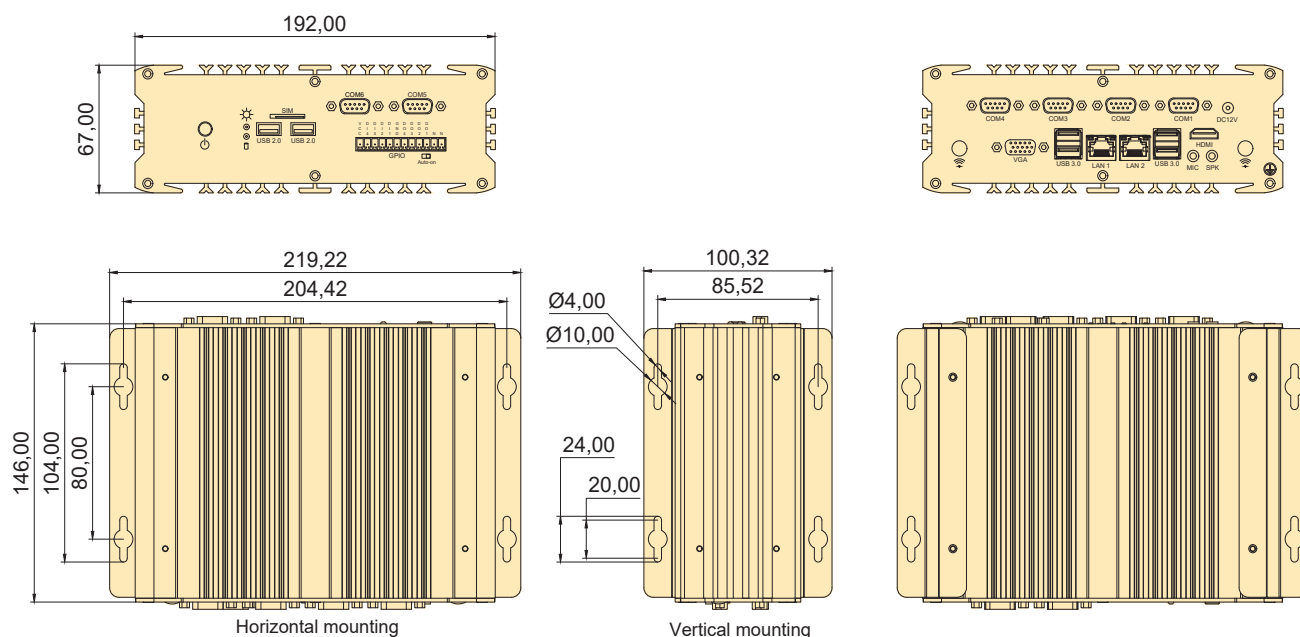
## Specifications

|                          |                                                                                            |                                                                                                                                                    |                                                                     |                                                                     |
|--------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|
| Model                    | IBOX-105-6C2L                                                                              |                                                                                                                                                    |                                                                     |                                                                     |
| Supported OS             | Win 7, Win 8, Win 10, Win11, Linux (Ubuntu, Dibian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                    |                                                                     |                                                                     |
| CPU                      | Series/ Model                                                                              | 4th~5th Gen. Intel® Core™ Processor<br>Intel® Celeron® J1900                                                                                       | 6th~8th Gen. Intel® Core™ Processor<br>Intel® Celeron® 3865U/ 5205U | 11th Gen. Intel® Core™ Processor<br>Intel® Celeron® 6305E           |
|                          | TDP                                                                                        | Up to 15W                                                                                                                                          | Up to 15W                                                           | Up to 28W                                                           |
| RAM                      | Type & Qty                                                                                 | 1* SO-DIMM Socket                                                                                                                                  | 2* SO-DIMM Socket                                                   | 2* SO-DIMM Socket                                                   |
|                          | Frequency                                                                                  | DDR3L-1333/1600 MHz                                                                                                                                | DDR4-2133/2400 MHz                                                  | DDR4-3200 MHz                                                       |
|                          | Capacity                                                                                   | Up to 8GB                                                                                                                                          | Up to 32GB                                                          | Up to 64GB                                                          |
| Storage Device           | M.2                                                                                        | Not available                                                                                                                                      | 1* M.2 2280 M-key slot, Support SATA/ PCIe4 Gen.3 NVMe SSD          |                                                                     |
|                          | SATA                                                                                       | 1* 2.5" SATA3.0 Bay on board (6Gb/s); (Intel® Celeron® J1900 supports SATA2.0, 3Gb/s)                                                              |                                                                     |                                                                     |
|                          | MSATA                                                                                      | 1* mSATA3.0 slot on board (6Gb/s); (Intel® Celeron® J1900 supports mSATA2.0, 3Gb/s)                                                                |                                                                     |                                                                     |
| I/O Interface            | COM                                                                                        | 4* RS232 (COM1-4, DB9 connector); 2* RS232/485 (COM5-6, DB9 connector, switchable by jumper)                                                       |                                                                     |                                                                     |
|                          | Ethernet                                                                                   | 2* 1.0 GbE LAN, Intel i211/i210, RJ45 only<br>(Only Intel® Core™ i3-5020U is working with intel i210 GbE LAN)                                      |                                                                     | 2* 2.5 GbE LAN, Intel i225, RJ45                                    |
|                          | USB                                                                                        | 2* USB3.0; 4* USB2.0; 1* Internal USB2.0;<br>(Intel® Celeron® J1900:<br>1*USB3.0+5*USB2.0+1* Internal USB2.0)                                      | 4* USB3.0; 2* USB2.0;<br>1* Internal USB 2.0                        | 2* USB3.0; 4* USB2.0;<br>1* Internal USB2.0;                        |
|                          | Video                                                                                      | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz;                                                                                | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz; | 1* HDMI, Support 4096x2304@60Hz;<br>1* VGA, Support 1920x1200@60Hz; |
|                          | Audio                                                                                      | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                    | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662     | 1* MIC, 1* SPK; With 7.1 channels HD Audio Codec Realtek ALC897     |
|                          | SIM                                                                                        | 1* External SIM card slot connected to Mini-PCIe (PCIe+USB2.0)                                                                                     |                                                                     |                                                                     |
|                          | Power Supply                                                                               | 12V DC; 1* DC Jack (5.5* 2.5mm)                                                                                                                    |                                                                     |                                                                     |
|                          | Others                                                                                     | 1* 8-bit GPIO (4-Inputs/4-Outputs, 0-5V Input Range) and 1* Remote Switch on Terminal Block (12-Pin, 3.81mm).<br>1* Auto-On Switch; 1* PS/2 header |                                                                     |                                                                     |
| Extended Capabilities    | Additional Internal Interface                                                              | 1* Full Size Mini-PCIe with SIM card slot                                                                                                          |                                                                     |                                                                     |
| Environment              | Operating Temperature                                                                      | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                      |                                                                     |                                                                     |
|                          | Storage Temperature                                                                        | -40 ~ 85 °C (-40~185 °F)                                                                                                                           |                                                                     |                                                                     |
|                          | Relative Humidity                                                                          | 40 °C @ 95%, Non-Condensing                                                                                                                        |                                                                     |                                                                     |
| Physical Characteristics | Dimensions                                                                                 | 192* 67* 146 mm (W* H* D)                                                                                                                          |                                                                     |                                                                     |
|                          | Net Weight                                                                                 | 2.05 KG                                                                                                                                            |                                                                     |                                                                     |
| Regulation               | EMC                                                                                        | CE/FCC Class B, CCC                                                                                                                                |                                                                     |                                                                     |
|                          | Safety                                                                                     | CE-LVD, RoHS, CCC                                                                                                                                  |                                                                     |                                                                     |



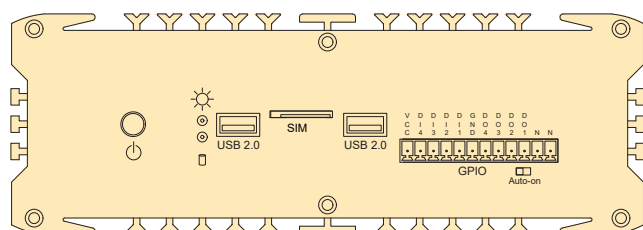
## Dimension

Unit:mm

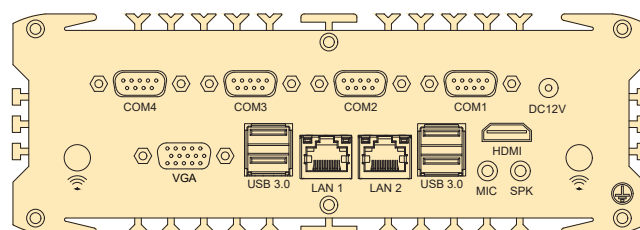


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Socket | 2.5" SATA Bay | mSATA Slot | M.2 2280 M-key Slot | Full Size Mini-PCIe | RS232 | RS232/485 | GbE LAN | USB2.0      | USB3.0      | Internal USB2.0 |
|----------------|---------------|------------|---------------------|---------------------|-------|-----------|---------|-------------|-------------|-----------------|
| 1 or 2         | 1             | 1          | 0 or 1              | 0 or 1              | 4     | 2         | 2       | 2 or 4 or 5 | 4 or 2 or 1 | 1               |

!! Note: The Mini-PCIe is not available when the device is equipped with 4th~5th Gen. Intel® Core™ & Celeron® processor

| HDMI | VGA | MIC | SPK | PS/2 | External SIM Card Slot | 8-bit GPIO | Auto On Switch | Power Supply |
|------|-----|-----|-----|------|------------------------|------------|----------------|--------------|
| 1    | 1   | 1   | 1   | 1    | 1                      | 1          | 1              | DC 12V       |

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-105-6C2L Unit      | 1   |
| AC-to-DC Adapter        | 1   |
| Wall mounting bracket   | 2   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                          | Qty |
|-----------------------------------------|-----|
| Power cable 3-pin 150cm, USA type       | -   |
| Power cable 3-pin 150cm, EU type        | -   |
| Power cable 3-pin 150cm, UK type        | -   |
| VESA mount kits                         | -   |
| DIN Rail mount kits                     | -   |
| External Fan Kit For 11th Gen. Solution | -   |

## Processors Info &amp; Available List

| CPU                    | Code Name    | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP    | Memory Types | Integrated Graphics            |
|------------------------|--------------|-------------|---------------|---------------------|----------------|--------------------------|--------|--------------|--------------------------------|
| Intel® Celeron® J1900  | Bay Trail    | 4           | 4             | -                   | 2.00 GHz       | 2 MB L2 Cache            | 10W    | DDR3         | Intel® HD Graphics             |
| Intel® Core™ i5-4300U  | Haswell      | 2           | 4             | 2.90 GHz            | 1.90 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 4400        |
| Intel® Core™ i7-4600U  | Haswell      | 2           | 4             | 3.30 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 4400        |
| Intel® Core™ i3-5020U  | Broadwell    | 2           | 4             | -                   | 2.20 GHz       | 3 MB                     | 15W    | DDR3         | Intel® HD Graphics 5500        |
| Intel® Celeron® 3865U  | Kaby Lake    | 2           | 2             | -                   | 1.80 GHz       | 2 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 610         |
| Intel® Celeron® 5205U  | Comet Lake   | 2           | 2             | -                   | 1.90 GHz       | 2 MB                     | 15W    | DDR4         | Intel UHD Graphics             |
| Intel® Core™ i5-6360U  | Skylake      | 2           | 4             | 3.10 GHz            | 2.00 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i7-6650U  | Skylake      | 2           | 4             | 3.40 GHz            | 2.20 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i5-7200U  | Kaby Lake    | 2           | 4             | 3.10 GHz            | 2.50 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i5-7360U  | Kaby Lake    | 2           | 4             | 3.60 GHz            | 2.30 GHz       | 4 MB                     | 15W    | DDR4         | Intel® Iris Plus Graphics 640  |
| Intel® Core™ i7-7600U  | Kaby Lake    | 2           | 4             | 3.90 GHz            | 2.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i3-8145U  | Whiskey Lake | 2           | 4             | 3.90 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-8265U  | Whiskey Lake | 4           | 8             | 3.90 GHz            | 1.60 GHz       | 6 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i7-8565U  | Whiskey Lake | 4           | 8             | 4.60 GHz            | 1.80 GHz       | 8 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Celeron® 6305E  | Tiger Lake   | 2           | 2             | -                   | 1.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel UHD Graphics             |
| Intel® Core™ i5-1135G7 | Tiger Lake   | 4           | 8             | 4.20 GHz            | 2.40 GHz       | 8 MB Intel® Smart Cache  | 12-28W | DDR4         | Intel® Iris Xe Graphics; 80Eus |
| Intel® Core™ i7-1165G7 | Tiger Lake   | 4           | 8             | 4.70 GHz            | 2.80 GHz       | 12 MB Intel® Smart Cache | 12-28W | DDR4         | Intel® Iris Xe Graphics; 96Eus |

All products and company name listed are trademarks or trade names of their respective companies.

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                         |
|-------------------------------------------------|---------|-------------------------------------------------------------------------------------|
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by non-standard M.2 interface                 |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| 4G Module                                       | 1       | Connected by Mini-PCIe interface                                                    |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCIe interface                                                    |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCIe interface                                                    |
| Dual channel CAN-Bus Module                     | 1       | Connected by Mini-PCIe interface or M.2 Interface                                   |
| Single GbE PoE LAN Module                       | 1       | Connected by Mini-PCIe interface                                                    |
| Dual GbE PoE LAN Module                         | 1       | Connected by M.2 Interface                                                          |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-105-6L2C



- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces
- Multiple mounting options available



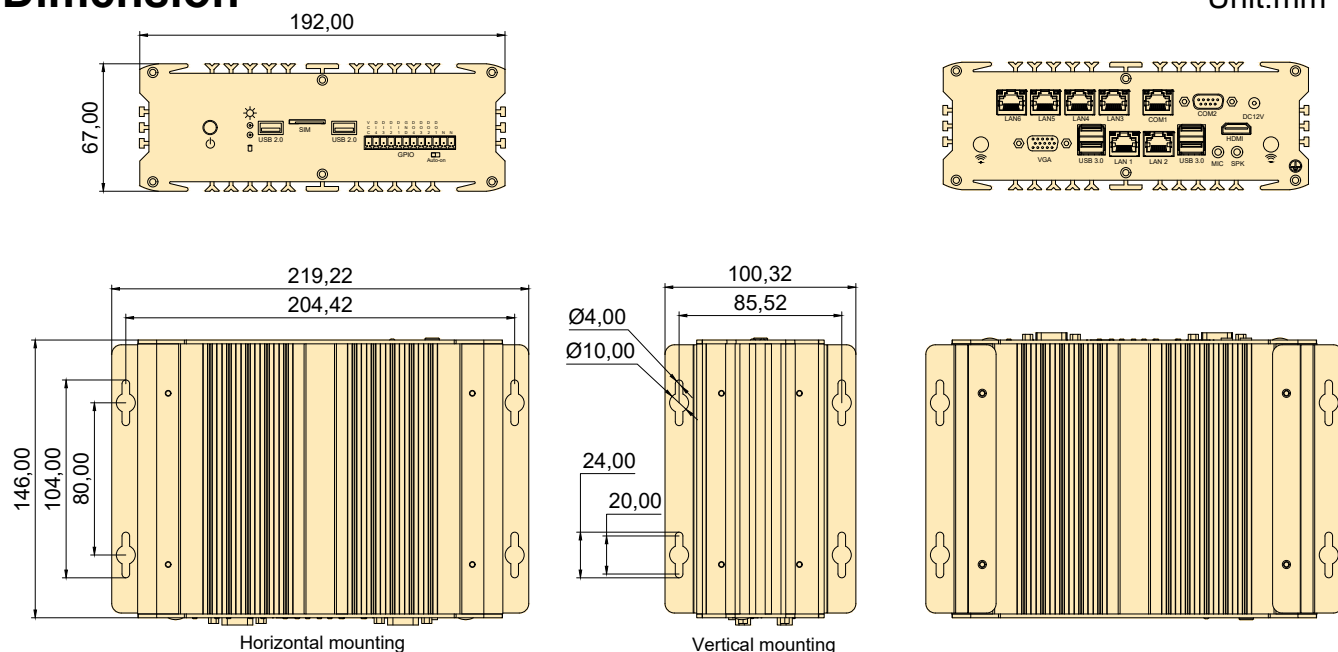
The actual appearance is subject to the final configuration.

## Specifications

|                                 |                                                                                            |                                                                                                                                                    |                                                                     |                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------|
| <b>Model</b>                    | IBOX-105-6L2C                                                                              |                                                                                                                                                    |                                                                     |                                                                      |
| <b>Supported OS</b>             | Win 7, Win 8, Win 10, Win11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                    |                                                                     |                                                                      |
| <b>CPU</b>                      | Series/ Model                                                                              | 4th~5th Gen. Intel® Core™ Processor                                                                                                                | 6th~8th Gen. Intel® Core™ Processor<br>Intel® Celeron® 3865U/ 5205U | 11th Gen. Intel® Core™ Processor<br>Intel® Celeron® 6305E            |
|                                 | TDP                                                                                        | Up to 15W                                                                                                                                          | Up to 15W                                                           | Up to 28W                                                            |
| <b>RAM</b>                      | Type & Qty                                                                                 | 1* SO-DIMM Socket                                                                                                                                  | 2* SO-DIMM Socket                                                   | 2* SO-DIMM Socket                                                    |
|                                 | Frequency                                                                                  | DDR3L-1333/1600 MHz                                                                                                                                | DDR4-2133/2400 MHz                                                  | DDR4-3200 MHz                                                        |
|                                 | Capacity                                                                                   | Up to 8GB                                                                                                                                          | Up to 32GB                                                          | Up to 64GB                                                           |
| <b>Storage Device</b>           | SATA                                                                                       | 1* 2.5" SATA3.0 Bay on board (6Gb/s)                                                                                                               |                                                                     |                                                                      |
|                                 | MSATA                                                                                      | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                  |                                                                     |                                                                      |
| <b>I/O Interface</b>            | COM                                                                                        | 1* RS232, RJ45 connector (COM1); 1* RS232/485, DB9 connector (COM2, support RS232/485, switchable by jumper)                                       |                                                                     |                                                                      |
|                                 | Ethernet                                                                                   | 6* 1.0 GbE LAN, Intel i211, RJ45 only<br>(Intel® Core™ i3-5020U is working with 2* Intel i210+ 4* Intel i211)                                      |                                                                     | 2* 2.5 GbE LAN, Intel i225, RJ45<br>4* 1.0 GbE LAN, Intel i211, RJ45 |
|                                 | USB                                                                                        | 2* USB3.0; 4* USB2.0;<br>1* Internal USB2.0;                                                                                                       | 4* USB3.0; 2* USB2.0<br>1* Internal USB 2.0                         | 2* USB3.0; 4* USB2.0;<br>1* Internal USB2.0;                         |
|                                 | Video                                                                                      | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz;                                                                                | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz; | 1* HDMI, Support 4096x2304@60Hz;<br>1* VGA, Support 1920x1200@60Hz;  |
|                                 | Audio                                                                                      | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                    | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662     | 1* MIC, 1* SPK; With 7.1 channels HD Audio Codec Realtek ALC897      |
|                                 | SIM                                                                                        | 1* External SIM card slot connected to Mini-PCIe                                                                                                   |                                                                     |                                                                      |
|                                 | Power Supply                                                                               | 12V DC; 1* DC Jack (5.5* 2.5mm)                                                                                                                    |                                                                     |                                                                      |
|                                 | Others                                                                                     | 1* 8-bit GPIO (4-Inputs/4-Outputs, 0-5V Input Range) and 1* Remote Switch on Terminal Block (12-Pin, 3.81mm).<br>1* Auto-On Switch; 1* PS/2 header |                                                                     |                                                                      |
|                                 | Extended Capabilities                                                                      | Additional Internal Interface<br>1* Full Size Mini-PCIe with SIM card slot; (PCIe+USB2.0, PCIe signal is shared with a LAN port)                   |                                                                     |                                                                      |
| <b>Environment</b>              | Operating Temperature                                                                      | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                      |                                                                     |                                                                      |
|                                 | Storage Temperature                                                                        | -40 ~ 85 °C (-40~185 °F)                                                                                                                           |                                                                     |                                                                      |
|                                 | Relative Humidity                                                                          | 40 °C @ 95%, Non-Condensing                                                                                                                        |                                                                     |                                                                      |
| <b>Physical Characteristics</b> | Dimensions                                                                                 | 192* 67* 146 mm (W* H* D)                                                                                                                          |                                                                     |                                                                      |
|                                 | Net Weight                                                                                 | 2.05 KG                                                                                                                                            |                                                                     |                                                                      |
| <b>Regulation</b>               | EMC                                                                                        | CE/FCC Class B, CCC                                                                                                                                |                                                                     |                                                                      |
|                                 | Safety                                                                                     | CE-LVD, RoHS, CCC                                                                                                                                  |                                                                     |                                                                      |

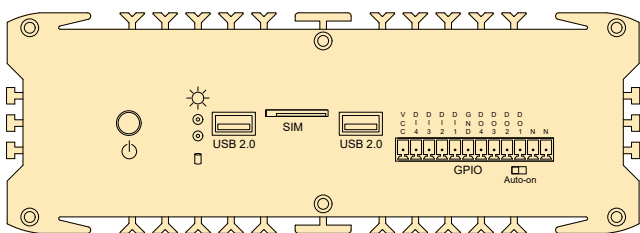
## Dimension

Unit:mm

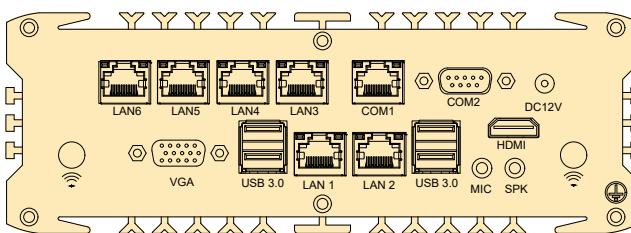


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Socket | 2.5" SATA Bay | mSATA Slot | Full Size Mini-PCIe | RS232 (RJ45) | RS232/485 (DB9)        | GbE LAN    | USB2.0         | USB3.0       | Internal USB2.0 |
|----------------|---------------|------------|---------------------|--------------|------------------------|------------|----------------|--------------|-----------------|
| 1 or 2         | 1             | 1          | 0 or 1              | 1            | 1                      | 6          | 2 or 4         | 4 or 2       | 1               |
| HDMI           | VGA           | MIC        | SPK                 | PS/2         | External SIM Card Slot | 8-bit GPIO | Auto On Switch | Power Supply |                 |
| 1              | 1             | 1          | 1                   | 1            | 1                      | 1          | 1              | DC 12V       |                 |

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-105-6L2C Unit      | 1   |
| AC-to-DC Adapter        | 1   |
| Wall mounting bracket   | 2   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                          | Qty |
|-----------------------------------------|-----|
| Power cable 3-pin 150cm, USA type       | -   |
| Power cable 3-pin 150cm, EU type        | -   |
| Power cable 3-pin 150cm, UK type        | -   |
| VESA mount kits                         | -   |
| DIN Rail mount kits                     | -   |
| External Fan Kit For 11th Gen. Solution | -   |

## Processors Info &amp; Available List

| CPU                    | Code Name    | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP    | Memory Types | Integrated Graphics            |
|------------------------|--------------|-------------|---------------|---------------------|----------------|--------------------------|--------|--------------|--------------------------------|
| Intel® Core™ i5-4300U  | Haswell      | 2           | 4             | 2.90 GHz            | 1.90 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 4400        |
| Intel® Core™ i7-4600U  | Haswell      | 2           | 4             | 3.30 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 4400        |
| Intel® Core™ i3-5020U  | Broadwell    | 2           | 4             | -                   | 2.20 GHz       | 3 MB                     | 15W    | DDR3         | Intel® HD Graphics 5500        |
| Intel® Celeron® 3865U  | Kaby Lake    | 2           | 2             | -                   | 1.80 GHz       | 2 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 610         |
| Intel® Celeron® 5205U  | Comet Lake   | 2           | 2             | -                   | 1.90 GHz       | 2 MB                     | 15W    | DDR4         | Intel UHD Graphics             |
| Intel® Core™ i5-6360U  | Skylake      | 2           | 4             | 3.10 GHz            | 2.00 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i7-6650U  | Skylake      | 2           | 4             | 3.40 GHz            | 2.20 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i5-7200U  | Kaby Lake    | 2           | 4             | 3.10 GHz            | 2.50 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i5-7360U  | Kaby Lake    | 2           | 4             | 3.60 GHz            | 2.30 GHz       | 4 MB                     | 15W    | DDR4         | Intel® Iris Plus Graphics 640  |
| Intel® Core™ i7-7600U  | Kaby Lake    | 2           | 4             | 3.90 GHz            | 2.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i3-8145U  | Whiskey Lake | 2           | 4             | 3.90 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-8265U  | Whiskey Lake | 4           | 8             | 3.90 GHz            | 1.60 GHz       | 6 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i7-8565U  | Whiskey Lake | 4           | 8             | 4.60 GHz            | 1.80 GHz       | 8 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Celeron® 6305E  | Tiger Lake   | 2           | 2             | -                   | 1.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel UHD Graphics             |
| Intel® Core™ i5-1135G7 | Tiger Lake   | 4           | 8             | 4.20 GHz            | 2.40 GHz       | 8 MB Intel® Smart Cache  | 12-28W | DDR4         | Intel® Iris Xe Graphics; 80Eus |
| Intel® Core™ i7-1165G7 | Tiger Lake   | 4           | 8             | 4.70 GHz            | 2.80 GHz       | 12 MB Intel® Smart Cache | 12-28W | DDR4         | Intel® Iris Xe Graphics; 96Eus |

All products and company name listed are trademarks or trade names of their respective companies.

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                         |
|-------------------------------------------------|---------|-------------------------------------------------------------------------------------|
| AI Acceleration Card                            | 1       | 13 TOPS, Connected by Mini-PCIe interface                                           |
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by non-standard M.2 interface                 |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| 4G Module                                       | 1       | Connected by Mini-PCIe interface                                                    |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCIe interface                                                    |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCIe interface                                                    |
| Dual channel CAN-Bus Module                     | 1       | Connected by Mini-PCIe interface or M.2 Interface                                   |
| Single GbE PoE LAN Module                       | 1       | Connected by Mini-PCIe interface                                                    |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-105V2-2L4C



- Isolated serial with strong anti-interference capability
- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces
- Multiple mounting options available



The actual appearance is subject to the final configuration.

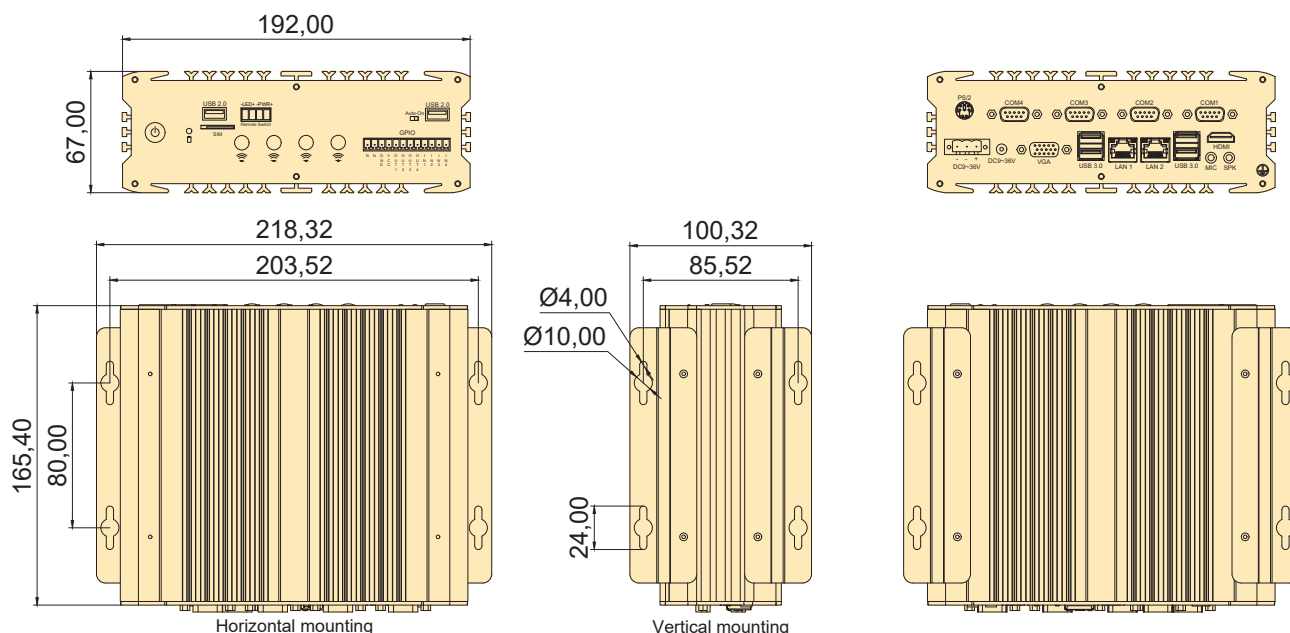
## Specifications

|                          |                                                                                            |                                                                                                                                                                                                        |                                                                                                                     |                                                                     |
|--------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Model                    | IBOX-105V2-2L4C                                                                            |                                                                                                                                                                                                        |                                                                                                                     |                                                                     |
| Supported OS             | Win 7, Win 8, Win 10, Win11, Linux (Ubuntu, Dibian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                                                        |                                                                                                                     |                                                                     |
| CPU                      | Series/ Model                                                                              | 4th~5th Gen. Intel® Core™ Processor<br>Intel® Celeron® J1900                                                                                                                                           | 6th~8th Gen. Intel® Core™ Processor<br>Intel® Celeron® 3865U/ 5205U                                                 | 11th Gen. Intel® Core™ Processor<br>Intel® Celeron® 6305E           |
|                          | TDP                                                                                        | Up to 15W                                                                                                                                                                                              | Up to 15W                                                                                                           | Up to 28W                                                           |
| RAM                      | Type & Qty                                                                                 | 1* SO-DIMM Socket                                                                                                                                                                                      | 2* SO-DIMM Socket                                                                                                   | 2* SO-DIMM Socket                                                   |
|                          | Frequency                                                                                  | DDR3L-1333/1600 MHz                                                                                                                                                                                    | DDR4-2133/2400 MHz                                                                                                  | DDR4-3200 MHz                                                       |
|                          | Capacity                                                                                   | Up to 8GB                                                                                                                                                                                              | Up to 32GB                                                                                                          | Up to 64GB                                                          |
| Storage Device           | SATA                                                                                       | 1* 2.5" SATA3.0 Bay on board (6Gb/s); (Intel® Celeron® J1900 supports SATA2.0, 3Gb/s)                                                                                                                  |                                                                                                                     |                                                                     |
|                          | MSATA                                                                                      | 1* mSATA3.0 slot on board (6Gb/s); (Intel® Celeron® J1900 supports mSATA2.0, 3Gb/s)                                                                                                                    |                                                                                                                     |                                                                     |
| I/O Interface            | COM                                                                                        | 4* Isolated DB9 COM Ports with ESD/EFT/Surge protection (COM1-4, support RS232/485, switchable by jumper);<br>2* Internal COM headers on board (COM5-6, RS232)                                         |                                                                                                                     |                                                                     |
|                          | Ethernet                                                                                   | 2* 1.0 GbE LAN, Intel i211/i210, RJ45 only<br>(Only Intel® Core™ i3-5020U is working with intel i210 GbE LAN)                                                                                          |                                                                                                                     | 2* 2.5 GbE LAN, Intel i225, RJ45                                    |
|                          | USB                                                                                        | 2* USB3.0; 4* USB2.0; 1* Internal USB2.0;<br>(Intel® Celeron® J1900: 1* USB3.0+5* USB2.0+1* Internal USB2.0)                                                                                           | 4* USB3.0; 2* USB2.0;<br>1* Internal USB 2.0                                                                        | 2* USB3.0; 4* USB2.0;<br>1* Internal USB2.0;                        |
|                          | Video                                                                                      | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz;                                                                                                                                    | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz;                                                 | 1* HDMI, Support 4096x2304@60Hz;<br>1* VGA, Support 1920x1200@60Hz; |
|                          | Audio                                                                                      | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                                        | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                     | 1* MIC, 1* SPK; With 7.1 channels HD Audio Codec Realtek ALC897     |
|                          | SIM                                                                                        | 1* External SIM card slot connected to M.2 B-key slot                                                                                                                                                  | 1* External SIM card slot connected to M.2 B-key slot;<br>Support optional 2nd SIM card slot connected to Mini-PCIe |                                                                     |
|                          | Power Supply                                                                               | 9-36V DC; 1* Terminal Block (3-Pin, 5.08mm), 1* DC Jack (5.5* 2.5mm)                                                                                                                                   |                                                                                                                     |                                                                     |
|                          | Others                                                                                     | 1* 8-bit GPIO, Terminal Block (12-Pin, 3.81mm), 4-Inputs/4-Outputs, 0-5V Input Range;<br>1* Terminal Block (4-Pin, 3.81mm Pitch) with Remote Switch and Power Indicator;<br>1* Auto-On Switch; 1* PS/2 |                                                                                                                     |                                                                     |
| Extended Capabilities    | Additional Internal Interface                                                              | 1* M.2 3052 B-key slot connected to SIM card slot (PCIe+USB2.0, the USB2.0 signal is shared with one of USB2.0 on front panel)                                                                         |                                                                                                                     |                                                                     |
|                          |                                                                                            | -                                                                                                                                                                                                      | 1* Full Size Mini-PCIe (PCIe+USB2.0);                                                                               |                                                                     |
| Environment              | Operating Temperature                                                                      | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                                          |                                                                                                                     |                                                                     |
|                          | Storage Temperature                                                                        | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                               |                                                                                                                     |                                                                     |
|                          | Relative Humidity                                                                          | 40 °C @ 95%, Non-Condensing                                                                                                                                                                            |                                                                                                                     |                                                                     |
| Physical Characteristics | Dimensions                                                                                 | 192* 67* 165.43 mm (W* H* D)                                                                                                                                                                           |                                                                                                                     |                                                                     |
|                          | Net Weight                                                                                 | 2.5 KG                                                                                                                                                                                                 |                                                                                                                     |                                                                     |
| Regulation               | EMC                                                                                        | CE/FCC Class B, CCC                                                                                                                                                                                    |                                                                                                                     |                                                                     |
|                          | Safety                                                                                     | CE-LVD, RoHS, CCC                                                                                                                                                                                      |                                                                                                                     |                                                                     |



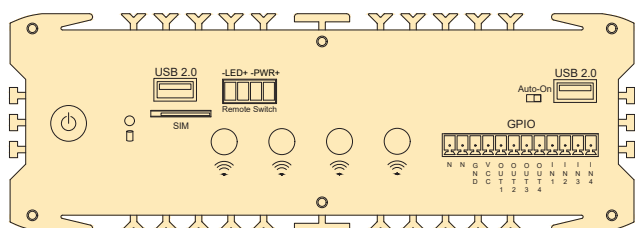
## Dimension

Unit:mm

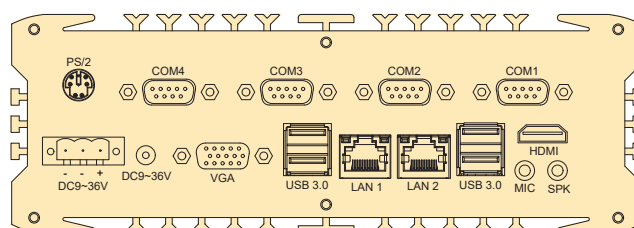


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Socket | 2.5" SATA3.0 Bay | mSATA3.0 Slot | M.2 3052 B-key Slot | Full Size Mini-PCle | Isolated RS232/RS485 | Internal COM | GbE LAN | USB2.0      | USB3.0      | Internal USB2.0 |
|----------------|------------------|---------------|---------------------|---------------------|----------------------|--------------|---------|-------------|-------------|-----------------|
| 1 or 2         | 1                | 1             | 1                   | 0 or 1              | 4                    | 2            | 2       | 2 or 4 or 5 | 4 or 2 or 1 | 1               |

!! Note: The Mini-PCle is not available when the device is equipped with 4th~5th Gen. Intel® Core™ & Celeron® J/3000 series processor

| HDMI | VGA | MicIn | LineOut | PS/2 | External SIM Card Slot | 8-bit GPIO | Remote Switch Terminal | Power Supply |
|------|-----|-------|---------|------|------------------------|------------|------------------------|--------------|
| 1    | 1   | 1     | 1       | 1    | 1                      | 1          | 1                      | DC 9-36V     |

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-105V2-2L4C Unit    | 1   |
| Wall mounting bracket   | 2   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                          | Qty |
|-----------------------------------------|-----|
| Power cable 3-pin 150cm, USA type       | -   |
| Power cable 3-pin 150cm, EU type        | -   |
| Power cable 3-pin 150cm, UK type        | -   |
| VESA mount kits                         | -   |
| DIN Rail mount kits                     | -   |
| External Fan Kit For 11th Gen. Solution | -   |



## Processors Info &amp; Available List

| CPU                    | Code Name    | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP    | Memory Types | Integrated Graphics            |
|------------------------|--------------|-------------|---------------|---------------------|----------------|--------------------------|--------|--------------|--------------------------------|
| Intel® Celeron® J1900  | Bay Trail    | 4           | 4             | -                   | 2.00 GHz       | 2 MB L2 Cache            | 10W    | DDR3         | Intel® HD Graphics             |
| Intel® Core™ i5-4300U  | Haswell      | 2           | 4             | 2.90 GHz            | 1.90 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 4400        |
| Intel® Core™ i7-4600U  | Haswell      | 2           | 4             | 3.30 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 4400        |
| Intel® Core™ i3-5020U  | Broadwell    | 2           | 4             | -                   | 2.20 GHz       | 3 MB                     | 15W    | DDR3         | Intel® HD Graphics 5500        |
| Intel® Celeron® 3865U  | Kaby Lake    | 2           | 2             | -                   | 1.80 GHz       | 2 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 610         |
| Intel® Celeron® 5205U  | Comet Lake   | 2           | 2             | -                   | 1.90 GHz       | 2 MB                     | 15W    | DDR4         | Intel UHD Graphics             |
| Intel® Core™ i5-6360U  | Skylake      | 2           | 4             | 3.10 GHz            | 2.00 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i7-6650U  | Skylake      | 2           | 4             | 3.40 GHz            | 2.20 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i5-7200U  | Kaby Lake    | 2           | 4             | 3.10 GHz            | 2.50 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i5-7360U  | Kaby Lake    | 2           | 4             | 3.60 GHz            | 2.30 GHz       | 4 MB                     | 15W    | DDR4         | Intel® Iris Plus Graphics 640  |
| Intel® Core™ i7-7600U  | Kaby Lake    | 2           | 4             | 3.90 GHz            | 2.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i3-8145U  | Whiskey Lake | 2           | 4             | 3.90 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-8265U  | Whiskey Lake | 4           | 8             | 3.90 GHz            | 1.60 GHz       | 6 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i7-8565U  | Whiskey Lake | 4           | 8             | 4.60 GHz            | 1.80 GHz       | 8 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Celeron® 6305E  | Tiger Lake   | 2           | 2             | -                   | 1.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel UHD Graphics             |
| Intel® Core™ i5-1135G7 | Tiger Lake   | 4           | 8             | 4.20 GHz            | 2.40 GHz       | 8 MB Intel® Smart Cache  | 12-28W | DDR4         | Intel® Iris Xe Graphics; 80Eus |
| Intel® Core™ i7-1165G7 | Tiger Lake   | 4           | 8             | 4.70 GHz            | 2.80 GHz       | 12 MB Intel® Smart Cache | 12-28W | DDR4         | Intel® Iris Xe Graphics; 96Eus |

All products and company name listed are trademarks or trade names of their respective companies.

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                                   |
|-------------------------------------------------|---------|-----------------------------------------------------------------------------------------------|
| Isolated RS-232                                 | 2       | DB9 or Phoenix Terminal connector, connected by header                                        |
| Non-Isolated RS-232                             | 2       | DB9 or Phoenix Terminal connector, connected by header                                        |
| RS-422 With Surge Protection                    | 2       | DB9 or Phoenix Terminal connector, connected by header, with additional RS232 TO RS422 Module |
| RS-485 With Surge Protection                    | 2       | DB9 or Phoenix Terminal connector, connected by header, with additional RS232 TO RS485 Module |
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by non-standard M.2 interface                           |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| 4G Module                                       | 1       | Connected by M.2 or Mini-PCIe interface                                                       |
| 5G Module                                       | 1       | Connected by M.2 interface                                                                    |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCIe interface                                                              |
| Dual Channel CANBus Module                      | 1       | Connected by Mini-PCIe interface                                                              |
| Ignition Switch Module                          | 1       | Phoenix Terminal connector, connected by internal power switch and 4-pin ATX power connector  |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-105V2-6L4C4P



- Isolated serial with strong anti-interference capability
- Multi PoE Gigabit LAN support protocol IEEE802.3af
- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces
- Multiple mounting options available



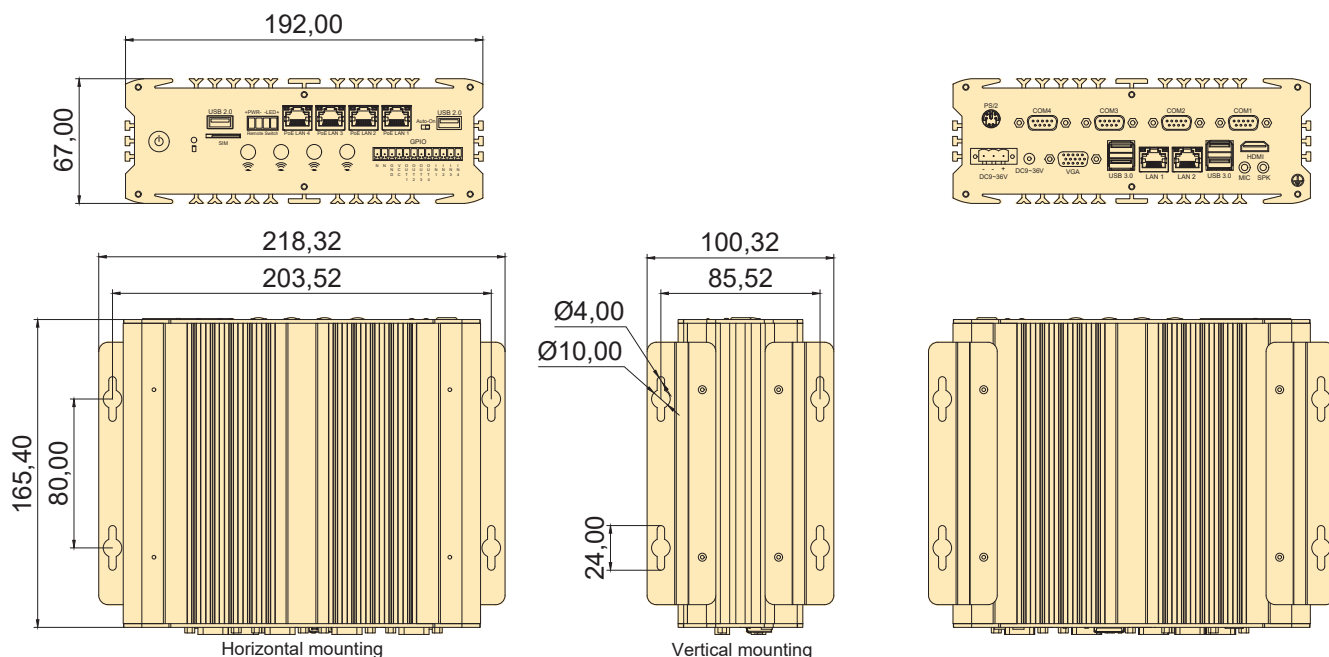
The actual appearance is subject to the final configuration.

## Specifications

|                          |                                                                                            |                                                                                                                                                                                                        |                                                                                                                     |                                                                     |
|--------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Model                    | IBOX-105V2-6L4C4P                                                                          |                                                                                                                                                                                                        |                                                                                                                     |                                                                     |
| Supported OS             | Win 7, Win 8, Win 10, Win11, Linux (Ubuntu, Dibian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                                                        |                                                                                                                     |                                                                     |
| CPU                      | Series/ Model                                                                              | 4th~5th Gen. Intel® Core™ Processor                                                                                                                                                                    | 6th~8th Gen. Intel® Core™ Processor<br>Intel® Celeron® 3865U/ 5205U                                                 | 11th Gen. Intel® Core™ Processor<br>Intel® Celeron® 6305E           |
|                          | TDP                                                                                        | Up to 15W                                                                                                                                                                                              | Up to 15W                                                                                                           | Up to 28W                                                           |
| RAM                      | Type & Qty                                                                                 | 1* SO-DIMM Socket                                                                                                                                                                                      | 2* SO-DIMM Socket                                                                                                   | 2* SO-DIMM Socket                                                   |
|                          | Frequency                                                                                  | DDR3L-1333/1600 MHz                                                                                                                                                                                    | DDR4-2133/2400 MHz                                                                                                  | DDR4-3200 MHz                                                       |
|                          | Capacity                                                                                   | Up to 8GB                                                                                                                                                                                              | Up to 32GB                                                                                                          | Up to 64GB                                                          |
| Storage Device           | SATA                                                                                       | 1* 2.5" SATA3.0 Bay on board (6Gb/s)                                                                                                                                                                   |                                                                                                                     |                                                                     |
|                          | MSATA                                                                                      | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                                      |                                                                                                                     |                                                                     |
| I/O Interface            | COM                                                                                        | 4* Isolated DB9 COM Ports with ESD/EFT/Surge protection (COM1-4, support RS232/485, switchable by jumper);<br>2* Internal COM headers on board (COM5-6, RS232)                                         |                                                                                                                     |                                                                     |
|                          | Ethernet with PoE                                                                          | 4* 1.0 GbE PoE LAN, Intel i211, support IEEE802.3af                                                                                                                                                    |                                                                                                                     |                                                                     |
|                          | Ethernet without PoE                                                                       | 2* 1.0 GbE LAN, Intel i211/i210, RJ45 only<br>(Only Intel® Core™ i3-5020U is working with intel i210 GbE LAN)                                                                                          |                                                                                                                     | 2* 2.5 GbE LAN, Intel i225, RJ45                                    |
|                          | USB                                                                                        | 2* USB3.0; 4* USB2.0;<br>1* Internal USB2.0                                                                                                                                                            | 4* USB3.0; 2* USB2.0<br>1* Internal USB 2.0                                                                         | 2* USB3.0; 4* USB2.0;<br>1* Internal USB2.0                         |
|                          | Video                                                                                      | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz;                                                                                                                                    | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz;                                                 | 1* HDMI, Support 4096x2304@60Hz;<br>1* VGA, Support 1920x1200@60Hz; |
|                          | Audio                                                                                      | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                                        | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                     | 1* MIC, 1* SPK; With 7.1 channels HD Audio Codec Realtek ALC897     |
|                          | SIM                                                                                        | 1* External SIM card slot connected to M.2 B-key slot                                                                                                                                                  | 1* External SIM card slot connected to M.2 B-key slot;<br>Support optional 2nd SIM card slot connected to Mini-PCIe |                                                                     |
|                          | Power Supply                                                                               | 9-36V DC; 1* Terminal Block (3-Pin, 5.08mm), 1* DC Jack (5.5* 2.5mm)                                                                                                                                   |                                                                                                                     |                                                                     |
|                          | Others                                                                                     | 1* 8-bit GPIO, Terminal Block (12-Pin, 3.81mm), 4-Inputs/4-Outputs, 0-5V Input Range;<br>1* Terminal Block (4-Pin, 3.81mm Pitch) with Remote Switch and Power Indicator;<br>1* Auto-On Switch; 1* PS/2 |                                                                                                                     |                                                                     |
| Extended Capabilities    | Additional Internal Interface                                                              | 1* M.2 3052 B-key slot connected to SIM card slot (PCIe+USB2.0, the USB2.0 signal is shared with one of USB2.0 on front panel)                                                                         |                                                                                                                     |                                                                     |
|                          |                                                                                            | -                                                                                                                                                                                                      | 1* Full Size Mini-PCIe (PCIe+USB2.0);                                                                               |                                                                     |
| Environment              | Operating Temperature                                                                      | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                                          |                                                                                                                     |                                                                     |
|                          | Storage Temperature                                                                        | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                               |                                                                                                                     |                                                                     |
|                          | Relative Humidity                                                                          | 40 °C @ 95%, Non-Condensing                                                                                                                                                                            |                                                                                                                     |                                                                     |
| Physical Characteristics | Dimensions                                                                                 | 192* 67* 165.43 mm (W* H* D)                                                                                                                                                                           |                                                                                                                     |                                                                     |
|                          | Net Weight                                                                                 | 2.5 KG (The actual weight is subject to the final configuration)                                                                                                                                       |                                                                                                                     |                                                                     |
| Regulation               | EMC                                                                                        | CE/FCC Class B, CCC                                                                                                                                                                                    |                                                                                                                     |                                                                     |
|                          | Safety                                                                                     | CE-LVD, RoHS, CCC                                                                                                                                                                                      |                                                                                                                     |                                                                     |

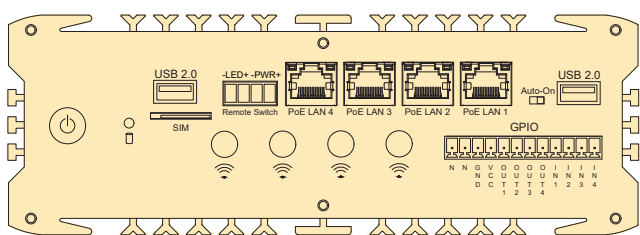
## Dimension

Unit:mm

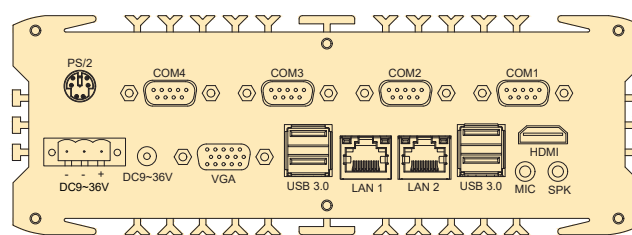


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Socket | 2.5" SATA3.0 Bay | mSATA3.0 Slot | M.2 3052 B-key Slot | Full Size Mini-PCle | Isolated RS232/RS485 | Internal COM | GbE LAN | USB2.0 | USB3.0 | Internal USB2.0 |
|----------------|------------------|---------------|---------------------|---------------------|----------------------|--------------|---------|--------|--------|-----------------|
| 1 or 2         | 1                | 1             | 1                   | 0 or 1              | 4                    | 2            | 2       | 2 or 4 | 4 or 2 | 1               |

!! Note: The Mini-PCle is not available when the device is equipped with 4th~5th Gen. Intel® Core™ & Celeron® processor

| HDMI | VGA | MicIn | LineOut | PS/2 | External SIM Card Slot | 8-bit GPIO | Remote Switch Terminal | Power Supply |
|------|-----|-------|---------|------|------------------------|------------|------------------------|--------------|
| 1    | 1   | 1     | 1       | 1    | 1                      | 1          | 1                      | DC 9-36V     |

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-105V2-6L4C4P Unit  | 1   |
| Wall mounting bracket   | 2   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                          | Qty |
|-----------------------------------------|-----|
| Power cable 3-pin 150cm, USA type       | -   |
| Power cable 3-pin 150cm, EU type        | -   |
| Power cable 3-pin 150cm, UK type        | -   |
| VESA mount kits                         | -   |
| DIN Rail mount kits                     | -   |
| External Fan Kit For 11th Gen. Solution | -   |

## Processors Info &amp; Available List

| CPU                    | Code Name    | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP    | Memory Types | Integrated Graphics            |
|------------------------|--------------|-------------|---------------|---------------------|----------------|--------------------------|--------|--------------|--------------------------------|
| Intel® Core™ i5-4300U  | Haswell      | 2           | 4             | 2.90 GHz            | 1.90 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 4400        |
| Intel® Core™ i7-4600U  | Haswell      | 2           | 4             | 3.30 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 4400        |
| Intel® Core™ i3-5020U  | Broadwell    | 2           | 4             | -                   | 2.20 GHz       | 3 MB                     | 15W    | DDR3         | Intel® HD Graphics 5500        |
| Intel® Celeron® 3865U  | Kaby Lake    | 2           | 2             | -                   | 1.80 GHz       | 2 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 610         |
| Intel® Celeron® 5205U  | Comet Lake   | 2           | 2             | -                   | 1.90 GHz       | 2 MB                     | 15W    | DDR4         | Intel UHD Graphics             |
| Intel® Core™ i5-6360U  | Skylake      | 2           | 4             | 3.10 GHz            | 2.00 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i7-6650U  | Skylake      | 2           | 4             | 3.40 GHz            | 2.20 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i5-7200U  | Kaby Lake    | 2           | 4             | 3.10 GHz            | 2.50 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i5-7360U  | Kaby Lake    | 2           | 4             | 3.60 GHz            | 2.30 GHz       | 4 MB                     | 15W    | DDR4         | Intel® Iris Plus Graphics 640  |
| Intel® Core™ i7-7600U  | Kaby Lake    | 2           | 4             | 3.90 GHz            | 2.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i3-8145U  | Whiskey Lake | 2           | 4             | 3.90 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-8265U  | Whiskey Lake | 4           | 8             | 3.90 GHz            | 1.60 GHz       | 6 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i7-8565U  | Whiskey Lake | 4           | 8             | 4.60 GHz            | 1.80 GHz       | 8 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Celeron® 6305E  | Tiger Lake   | 2           | 2             | -                   | 1.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel UHD Graphics             |
| Intel® Core™ i5-1135G7 | Tiger Lake   | 4           | 8             | 4.20 GHz            | 2.40 GHz       | 8 MB Intel® Smart Cache  | 12-28W | DDR4         | Intel® Iris Xe Graphics; 80Eus |
| Intel® Core™ i7-1165G7 | Tiger Lake   | 4           | 8             | 4.70 GHz            | 2.80 GHz       | 12 MB Intel® Smart Cache | 12-28W | DDR4         | Intel® Iris Xe Graphics; 96Eus |

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## Optional accessories or internal modules for unit

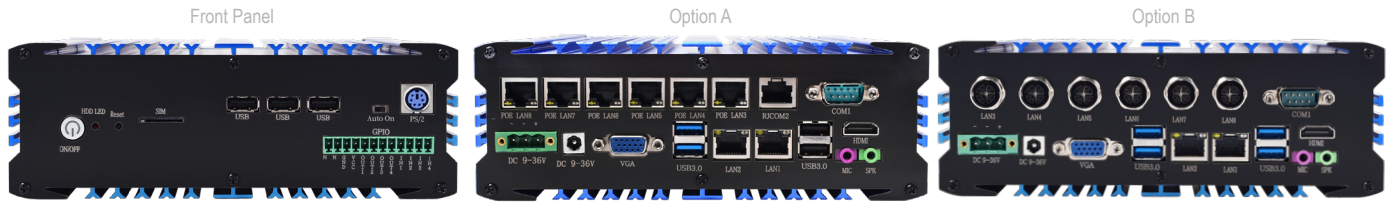
| Optional Items                                  | Max Qty | Description                                                                                  |
|-------------------------------------------------|---------|----------------------------------------------------------------------------------------------|
| AI Acceleration Card                            | 1       | 13 TOPS, Connected by Mini-PCIe interface                                                    |
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by non-standard M.2 interface                          |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| 4G Module                                       | 1       | Connected by M.2 or Mini-PCIe interface                                                      |
| 5G Module                                       | 1       | Connected by M.2 interface                                                                   |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCIe interface or Internal USB                                             |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCIe interface                                                             |
| Dual channel CAN-Bus Module                     | 1       | Connected by Mini-PCIe interface                                                             |
| Ignition Switch Module                          | 1       | Phoenix Terminal connector, connected by internal power switch and 4-pin ATX power connector |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-105V3-8L2C6P



- Multi GbE LAN offer the high-speed data transferring ability
- Modular parts design with strong scalability
- Full aluminum alloy anti-interference structure
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



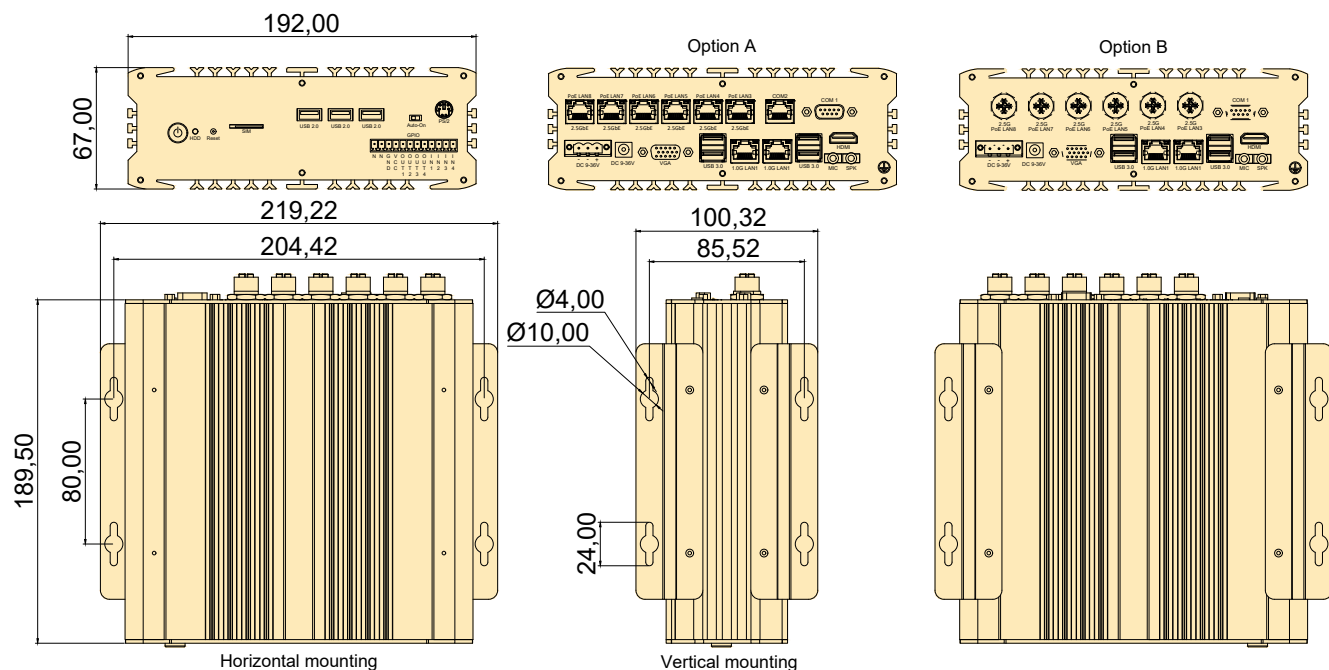
The actual appearance is subject to the final configuration.

## Specifications

|                                 |                                                                                                     |                                                                                                                                                                                        |                                                                     |
|---------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b>Model</b>                    | IBOX-105V3-8L2C6P (Option A, With 6* RJ45 PoE LAN; Option B, With 6* M12 PoE LAN)                   |                                                                                                                                                                                        |                                                                     |
| <b>Supported OS</b>             | Win7 x64, Win 10 (Version 1809 and above), Win 11, Linux (Kernel 5.16 and above); WES 7; Win 10 IoT |                                                                                                                                                                                        |                                                                     |
| <b>CPU</b>                      | Series/ Model                                                                                       | 8th Gen. Intel® Core™ Processor                                                                                                                                                        | 11th Gen. Intel® Core™ Processor                                    |
|                                 | TDP                                                                                                 | Up to 15W                                                                                                                                                                              | Up to 28W                                                           |
| <b>RAM</b>                      | Type & Qty                                                                                          | 2* SO-DIMM Socket                                                                                                                                                                      | 2* SO-DIMM Socket                                                   |
|                                 | Frequency                                                                                           | DDR4-2133/2400 MHz                                                                                                                                                                     | DDR4-3200 MHz                                                       |
|                                 | Capacity                                                                                            | Up to 32GB                                                                                                                                                                             | Up to 64GB                                                          |
| <b>Storage Device</b>           | SATA                                                                                                | 1* 2.5" SATA3.0 Bay on board (6Gb/s)                                                                                                                                                   |                                                                     |
|                                 | MSATA                                                                                               | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                      |                                                                     |
| <b>I/O Interface</b>            | COM                                                                                                 | Option A: 1* RS232/485 with RJ45 connector, 1* RS232/485 with DB9 connector, switchable by jumper;<br>Option B: 1* RS232/485 with DB9 connector, switchable by jumper, 1* RS232 header |                                                                     |
|                                 | Ethernet with PoE                                                                                   | 6* Intel® i226 GbE PoE LAN (Optional RJ45/M12 Connector);                                                                                                                              |                                                                     |
|                                 | Ethernet without PoE                                                                                | 2* 1.0 GbE LAN, Intel i211, RJ45                                                                                                                                                       | 2* 2.5 GbE LAN, Intel i225, RJ45                                    |
|                                 | USB                                                                                                 | 4* USB3.0; 3* USB2.0; 1* Internal USB 2.0                                                                                                                                              |                                                                     |
|                                 | Video                                                                                               | 1* HDMI, support 4096x2304@24Hz;<br>1* VGA, support 1920x1200@60Hz;                                                                                                                    | 1* HDMI, Support 4096x2304@60Hz;<br>1* VGA, Support 1920x1200@60Hz; |
|                                 | Audio                                                                                               | 1* MIC, 1* SPK;<br>With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                     | 1* MIC, 1* SPK;<br>With 7.1 channel HD Audio Codec Realtek ALC897   |
|                                 | SIM                                                                                                 | 1* External SIM card slot connected to Mini-PCIe                                                                                                                                       |                                                                     |
|                                 | Power Supply                                                                                        | 9-36V DC; 1* Terminal Block (3-Pin, 5.08mm), 1* DC Jack (5.5* 2.5mm)                                                                                                                   |                                                                     |
|                                 | Others                                                                                              | 1* 8-bit GPIO (4-Inputs/4-Outputs, 0-5V Input Range) and 1* Remote Switch on Terminal Block (12-Pin, 3.81mm);<br>1* Auto-On Switch; 1* PS/2 for Keyboard & Mouse;                      |                                                                     |
| <b>Extended Capabilities</b>    | Additional Internal Interface                                                                       | 1* Full Size Mini-PCIe with SIM card slot; (PCIe+USB2.0, PCIe signal is shared with 1*LAN)                                                                                             |                                                                     |
| <b>Environment</b>              | Operating Temperature                                                                               | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                          |                                                                     |
|                                 | Storage Temperature                                                                                 | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                               |                                                                     |
|                                 | Relative Humidity                                                                                   | 40 °C @ 95%, Non-Condensing                                                                                                                                                            |                                                                     |
| <b>Physical Characteristics</b> | Dimensions                                                                                          | 192* 67* 189.5 mm (W* H* D)                                                                                                                                                            |                                                                     |
|                                 | Net Weight                                                                                          | 2.5 KG (The actual weight is subject to the final configuration)                                                                                                                       |                                                                     |
| <b>Regulation</b>               | EMC                                                                                                 | CE/FCC Class B, CCC                                                                                                                                                                    |                                                                     |
|                                 | Safety                                                                                              | CE-LVD, RoHS, CCC                                                                                                                                                                      |                                                                     |

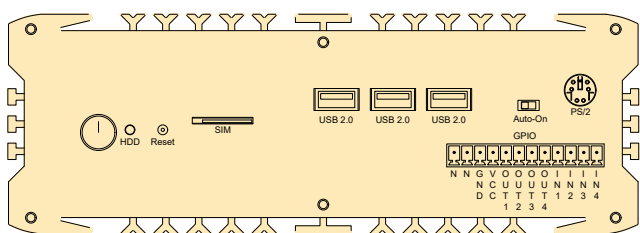
## Dimension

Unit:mm

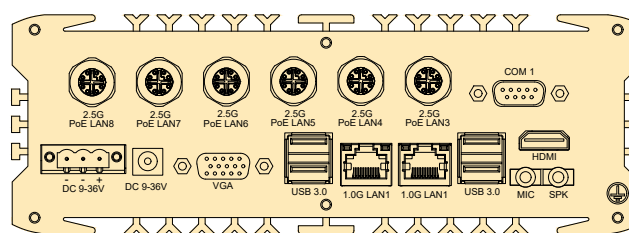


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Slot | 2.5" SATA3.0 Bay | mSATA3.0 Slot | Full Size Mini-PCle | COM    | 2.5GbE PoE LAN         | 1.0GbE LAN | USB 3.0                | USB 2.0      | Internal USB2.0 |
|--------------|------------------|---------------|---------------------|--------|------------------------|------------|------------------------|--------------|-----------------|
| 2            | 1                | 1             | 1                   | 1 or 2 | 6                      | 2          | 4                      | 3            | 1               |
| HDMI         | VGA              | Mic           | SPK                 | PS/2   | External SIM Card Slot | 8-bit GPIO | Remote Switch Terminal | Power Supply |                 |
| 1            | 1                | 1             | 1                   | 1      | 1                      | 1          | 1                      | DC 9-36V     |                 |

## Processors Info & Available List

| CPU                    | Code Name    | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP    | Memory Types | Integrated Graphics            |
|------------------------|--------------|-------------|---------------|---------------------|----------------|--------------------------|--------|--------------|--------------------------------|
| Intel® Core™ i3-8145U  | Whiskey Lake | 2           | 4             | 3.90 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-8265U  | Whiskey Lake | 4           | 8             | 3.90 GHz            | 1.60 GHz       | 6 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i7-8565U  | Whiskey Lake | 4           | 8             | 4.60 GHz            | 1.80 GHz       | 8 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-1135G7 | Tiger Lake   | 4           | 8             | 4.20 GHz            | 2.40 GHz       | 8 MB Intel® Smart Cache  | 12-28W | DDR4         | Intel® Iris Xe Graphics; 80Eus |
| Intel® Core™ i7-1165G7 | Tiger Lake   | 4           | 8             | 4.70 GHz            | 2.80 GHz       | 12 MB Intel® Smart Cache | 12-28W | DDR4         | Intel® Iris Xe Graphics; 96Eus |

All products and company name listed are trademarks or trade names of their respective companies.



## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-105V3-8L2C6P Unit  | 1   |
| Wall mounting bracket   | 2   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                          | Qty |
|-----------------------------------------|-----|
| Power cable 3-pin 150cm, USA type       | -   |
| Power cable 3-pin 150cm, EU type        | -   |
| Power cable 3-pin 150cm, UK type        | -   |
| VESA mount kits                         | -   |
| DIN Rail mount kits                     | -   |
| External Fan Kit For 11th Gen. Solution | -   |

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                         |
|-------------------------------------------------|---------|-------------------------------------------------------------------------------------|
| AI Acceleration Card                            | 1       | 13 TOPS, Connected by Mini-PCIe interface                                           |
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by non-standard M.2 interface                 |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| 4G Module                                       | 1       | Connected by Mini-PCIe interface                                                    |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCIe interface or Internal USB                                    |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCIe interface                                                    |
| Dual channel CAN-Bus Module                     | 1       | Connected by Mini-PCIe interface                                                    |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.



# IBOX-106V2-6C2L-1P



- Single board design with rich I/O expansion, support diversity and rapid customization
- Support max 6\* isolated RS232 serial ports and 8\* USB ports
- Wide voltage power supply are supported
- Full sealed design with aluminum alloy cooling enclosure, dustproof, anti-vibration and anti-interference;
- Both of M.2 & Mini-PCIe expansion card are supported
- Support PCI/ PCIe2.0 x16 expansion card



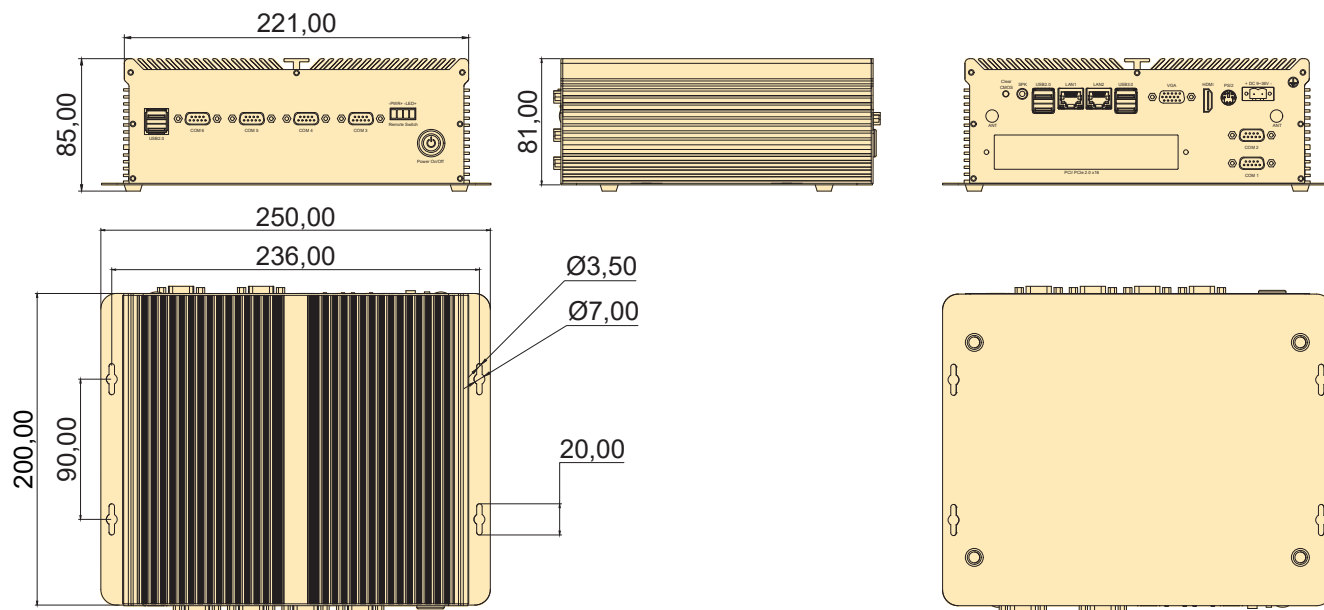
The actual appearance is subject to the final configuration.

## Specifications

|                                 |                                                                                               |                                                                                                                                                                                          |
|---------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Model</b>                    | IBOX-106V2-6C2L-1P                                                                            |                                                                                                                                                                                          |
| <b>Supported OS</b>             | Win XP, Win 7, Win 8, Win 10, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT   |                                                                                                                                                                                          |
| <b>CPU</b>                      | Intel® Core™ i5-3317U, Dual cores, 4 Threads, Base Fre. 1.70GHz, Turbo Fre. 2.60 GHz, TDP 17W |                                                                                                                                                                                          |
| <b>RAM</b>                      | SO-DIMM                                                                                       | 1* SO-DIMM Socket, DDR3L-1333/1600 MHz, Up to 8GB                                                                                                                                        |
| <b>Storage Device</b>           | SATA                                                                                          | 1* 2.5" SATA 2.0 Bay on board (3Gb/s); 1* SATA 2.0 connector on board (3Gb/s)                                                                                                            |
|                                 | MSATA                                                                                         | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                        |
| <b>I/O Interface</b>            | COM                                                                                           | 1* RS232/422/485 (COM1); 1* RS232/485 (COM2); 4* RS232 (COM3-6)                                                                                                                          |
|                                 | Ethernet                                                                                      | 2* GbE LAN, Realtek RTL8111H, support Wake on Network/PXE                                                                                                                                |
|                                 | USB                                                                                           | 2* USB 3.0, 4* USB 2.0; 2* USB2.0 headers                                                                                                                                                |
|                                 | Video                                                                                         | 1* HDMI, support 3840x2160@30Hz;<br>1* VGA, support 1920x1200@60Hz;                                                                                                                      |
|                                 | Audio                                                                                         | 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                                  |
|                                 | Power Supply                                                                                  | 9-36V DC; 1* Terminal Block (2-Pin, 5.08mm)                                                                                                                                              |
|                                 | SIM Card Slot                                                                                 | 1* Internal SIM Card Slot connected to M.2 B-key Slot                                                                                                                                    |
|                                 | Other                                                                                         | 1* Terminal Block (4-Pin, 3.81mm Pitch) with Remote Switch and Power Indicator;<br>1* PS/2 for Keyboard/Mouse; 1* 8-bit GPIO header                                                      |
| <b>Extended Capabilities</b>    | Additional Internal Interface                                                                 | 1* PCIe2.0 x16 or 1* PCI;<br>1* M.2 3052 B-key slot with SIM card slot; (PCIe+USB3.0)<br>1* Full size Mini-PCIe (PCIe/USB2.0); Support optional 2nd SIM card slot connected to Mini-PCIe |
| <b>Environment</b>              | Operating Temperature                                                                         | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                            |
|                                 | Storage Temperature                                                                           | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                 |
|                                 | Relative Humidity                                                                             | 40 °C @ 95%, Non-Condensing                                                                                                                                                              |
| <b>Physical Characteristics</b> | Dimensions                                                                                    | 250*85*200 mm (W* H* D)                                                                                                                                                                  |
|                                 | Net Weight                                                                                    | 2.65 KG                                                                                                                                                                                  |
| <b>Regulation</b>               | EMC                                                                                           | CE/FCC Class B, CCC                                                                                                                                                                      |
|                                 | Safety                                                                                        | CE-LVD, RoHS, CCC                                                                                                                                                                        |

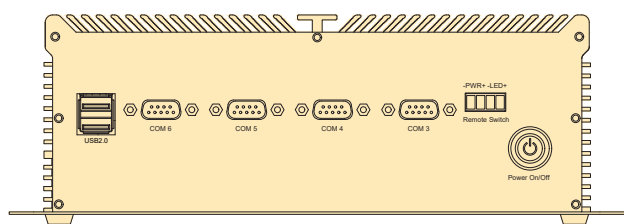
## Dimension

Unit:mm

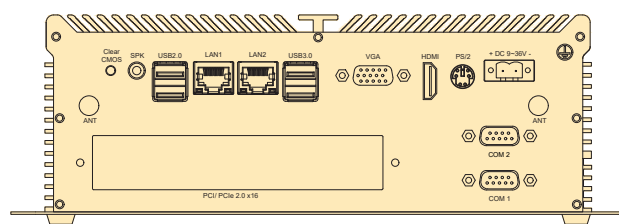


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Socket | mSATA3.0 Slot | 2.5" SATA2.0 Slot | M.2 B-key slot | PCI/ PCIe 2.0 Expansion Slot | Full Size Mini-PCIe        | COM Port headers | GbE LAN                |                |              |
|----------------|---------------|-------------------|----------------|------------------------------|----------------------------|------------------|------------------------|----------------|--------------|
| 1              | 1             | 2                 | 1              | 1                            | 1                          | 6                | 2                      |                |              |
| USB3.0         | USB2.0        | USB2.0 Header     | HDMI           | VGA                          | MicIn/ LineOut 2 in 1 Jack | PS/2             | Internal SIM card Slot | Auto-on Switch | Power Supply |
| 2              | 4             | 2                 | 1              | 1                            | 1                          | 1                | 1                      | 1              | DC 9-36V     |

## Processors Info.

| CPU                   | Code Name  | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                   | TDP  | Memory Types | Integrated Graphics     |
|-----------------------|------------|-------------|---------------|---------------------|----------------|-------------------------|------|--------------|-------------------------|
| Intel® Core™ i5-3317U | Ivy Bridge | 2           | 4             | 2.60 GHz            | 1.70 GHz       | 3 MB Intel® Smart Cache | 17 W | DDR3         | Intel® HD Graphics 4000 |

All products and company name listed are trademarks or trade names of their respective companies.

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-106V2-6C2L-1P Unit | 1   |
| Wall mounting bracket   | 2   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |

## Optional accessories or internal modules for unit

| Optional Items              | Max Qty | Description                                                                                |
|-----------------------------|---------|--------------------------------------------------------------------------------------------|
| Isolated 8-bit GPIO, 9-26V  | 1       | Phoenix Terminal connector, connected by jumper                                            |
| Isolated RS-232             | 2       | DB9 or Phoenix Terminal connector, connected by header; (Existing COM1/2 will be replaced) |
| 4G Module                   | 1       | Connected by M.2 B-key interface or Mini-PCle interface by adaptor card with SIM card slot |
| 5G Module                   | 1       | Connected by M.2 B-key interface                                                           |
| WiFi Module without AP mode | 1       | Connected by Mini-PCle interface                                                           |
| WiFi Module with AP mode    | 1       | Connected by Mini-PCle interface                                                           |
| Dual channel CAN-Bus Module | 1       | Connected by Mini-PCle interface                                                           |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-106PLUS-2L4C-1P



- Max six integrated isolated RS232/485 with strong anti-interference capability and stability
- Cable-free design for better vibration resistance
- Modular parts design with strong scalability
- Full sealed fanless design, with aluminum alloy cooling enclosure, dustproof, anti-vibration and anti-interference;
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



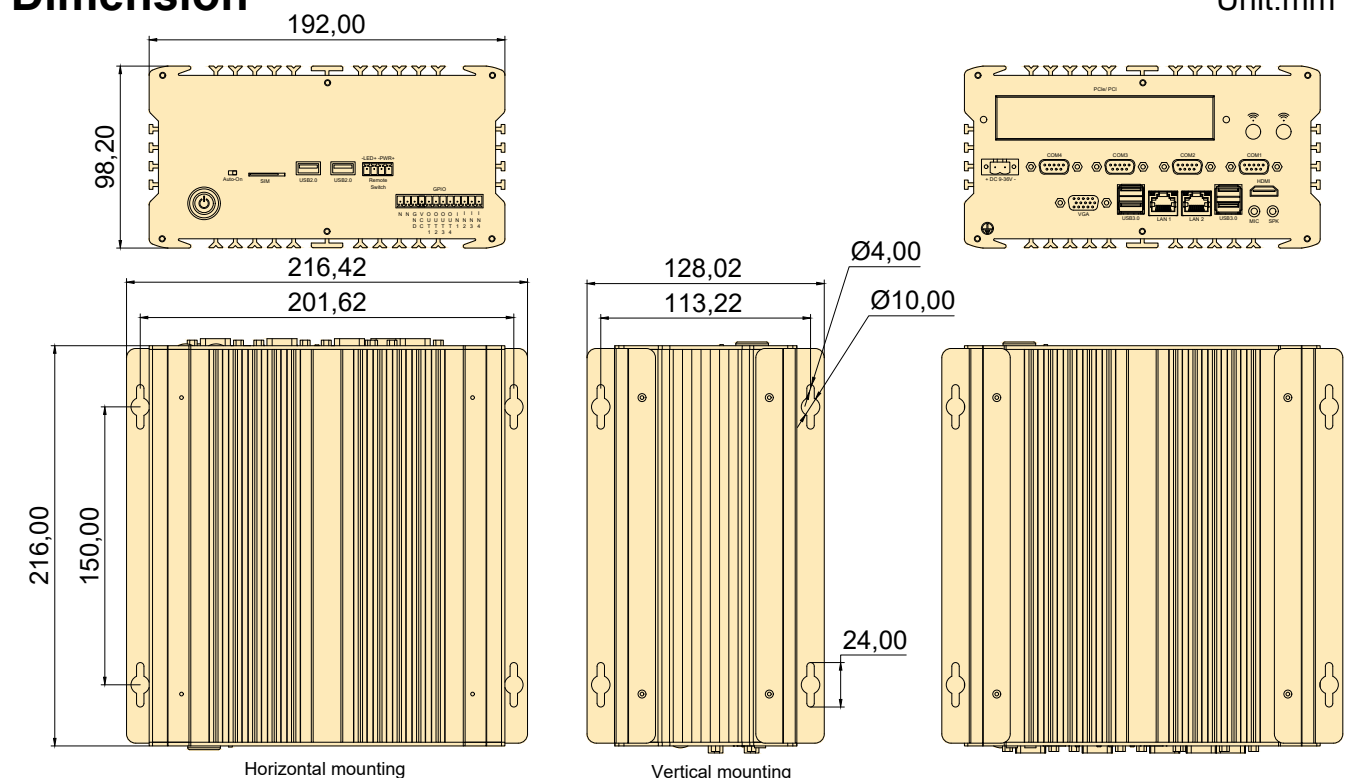
The actual appearance is subject to the final configuration.

## Specifications

|                          |                                                                                            |                                                                                                                                                                                            |                                                                     |                                                                     |                                  |
|--------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------|
| Model                    | IBOX-106PLUS-2L4C-1P                                                                       |                                                                                                                                                                                            |                                                                     |                                                                     |                                  |
| Supported OS             | Win 7, Win 8, Win 10, Win11, Linux (Ubuntu, Dibian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                                            |                                                                     |                                                                     |                                  |
| CPU                      | Series/ Model                                                                              | 4th~5th Gen. Intel® Core™ Processor                                                                                                                                                        | 6th~8th Gen. Intel® Core™ Processor<br>Intel® Celeron® 3865U        |                                                                     | 11th Gen. Intel® Core™ Processor |
|                          | TDP                                                                                        | Up to 15W                                                                                                                                                                                  | Up to 15W                                                           |                                                                     | Up to 28W                        |
| RAM                      | Type & Qty                                                                                 | 1* SO-DIMM Socket                                                                                                                                                                          | 2* SO-DIMM Socket                                                   |                                                                     | 2* SO-DIMM Socket                |
|                          | Frequency                                                                                  | DDR3L-1333/1600 MHz                                                                                                                                                                        | DDR4-2133/2400 MHz                                                  |                                                                     | DDR4-3200 MHz                    |
|                          | Capacity                                                                                   | Up to 8GB                                                                                                                                                                                  | Up to 32GB                                                          |                                                                     | Up to 64GB                       |
| Storage Device           | SATA                                                                                       | 1* 2.5" SATA3.0 Bay on board (6Gb/s)                                                                                                                                                       |                                                                     |                                                                     |                                  |
|                          | MSATA                                                                                      | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                          |                                                                     |                                                                     |                                  |
| I/O Interface            | COM                                                                                        | 4* Isolated DB9 COM Ports with ESD/EFT/Surge protection (COM1-4, support RS232/485, switchable by jumper);<br>2* Internal COM headers on board (COM5-6, RS232)                             |                                                                     |                                                                     |                                  |
|                          | Ethernet                                                                                   | 2* 1.0 GbE LAN, Intel i211/i210, RJ45 only<br>(Only Intel® Core™ i3-5020U is working with intel i210 GbE LAN)                                                                              |                                                                     |                                                                     | 2* 2.5 GbE LAN, Intel i225, RJ45 |
|                          | USB                                                                                        | 2* USB3.0; 4* USB2.0; 1* Internal USB2.0                                                                                                                                                   | 4* USB3.0; 2* USB2.0; 1* Internal USB 2.0                           | 2* USB3.0; 4* USB2.0; 1* Internal USB2.0                            |                                  |
|                          | Video                                                                                      | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz;                                                                                                                        | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz; | 1* HDMI, Support 4096x2304@60Hz;<br>1* VGA, Support 1920x1200@60Hz; |                                  |
|                          | Audio                                                                                      | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                            | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662     | 1* MIC, 1* SPK; With 7.1 channels HD Audio Codec Realtek ALC897     |                                  |
|                          | SIM                                                                                        | 1* External SIM card slot connected to Mini-PCle                                                                                                                                           |                                                                     |                                                                     |                                  |
|                          | Power Supply                                                                               | 9-36V DC; 1* Terminal Block (2-Pin, 5.08mm)                                                                                                                                                |                                                                     |                                                                     |                                  |
|                          | Others                                                                                     | 1* 8-bit GPIO, Terminal Block (12-Pin, 3.81mm), 4-Inputs/4-Outputs, 0-5V Input Range;<br>1* Terminal Block (4-Pin, 3.81mm Pitch) with Remote Switch and Power Indicator; 1* Auto-On Switch |                                                                     |                                                                     |                                  |
| Extended Capabilities    | PCIe                                                                                       | 1* PCIe2.0 x2 with x4 socket or 1* PCI                                                                                                                                                     | 1* PCIe3.0 x4 or 1* PCI                                             |                                                                     |                                  |
|                          | Mini-PCle                                                                                  | 1* Full Size Mini-PCle (PCIe+USB2.0) with SIM card slot                                                                                                                                    |                                                                     |                                                                     |                                  |
| Environment              | Operating Temperature                                                                      | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                              |                                                                     |                                                                     |                                  |
|                          | Storage Temperature                                                                        | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                   |                                                                     |                                                                     |                                  |
|                          | Relative Humidity                                                                          | 40 °C @ 95%, Non-Condensing                                                                                                                                                                |                                                                     |                                                                     |                                  |
| Physical Characteristics | Dimensions                                                                                 | 192* 98.2* 216 mm (W* H* D)                                                                                                                                                                |                                                                     |                                                                     |                                  |
|                          | Net Weight                                                                                 | 2.85 KG (The actual weight is subject to the final configuration)                                                                                                                          |                                                                     |                                                                     |                                  |
| Regulation               | EMC                                                                                        | CE/FCC Class B, CCC                                                                                                                                                                        |                                                                     |                                                                     |                                  |
|                          | Safety                                                                                     | CE-LVD, RoHS, CCC                                                                                                                                                                          |                                                                     |                                                                     |                                  |

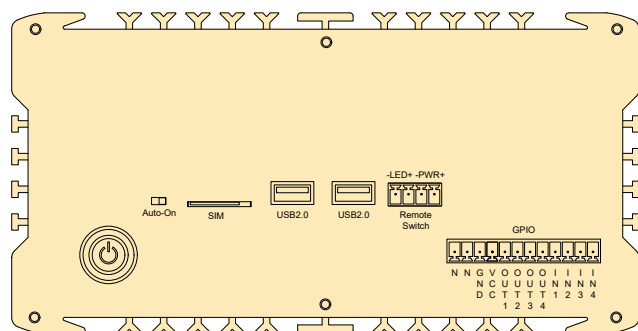
## Dimension

Unit:mm

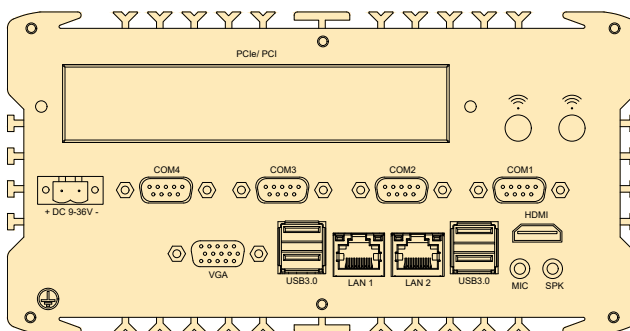


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Slot |        | 2.5" SATA3.0 Bay |      | mSATA3.0 Slot |     | PCIe or PCI Expansion Slot |                        | Full Size Mini-PCIe |  | Isolated RS232/485 DB9 COM Port |  | RS232 Header |  | GbE LAN |  |
|--------------|--------|------------------|------|---------------|-----|----------------------------|------------------------|---------------------|--|---------------------------------|--|--------------|--|---------|--|
| 1 or 2       |        | 1                |      | 1             |     | 1                          |                        | 1                   |  | 4                               |  | 2            |  | 2       |  |
| USB3.0       | USB2.0 | Internal USB2.0  | HDMI | VGA           | Mic | SPK                        | External SIM Card Slot | 8-bit GPIO          |  | Remote Switch Terminal          |  | Power Supply |  |         |  |
| 2 or 4       | 4 or 2 | 1                | 1    | 1             | 1   | 1                          | 1                      | 1                   |  | 1                               |  | DC 9-36V     |  |         |  |

## Packing list

| Default Items             | Qty |
|---------------------------|-----|
| IBOX-106PLUS-2L4C-1P Unit | 1   |
| Wall mounting bracket     | 2   |
| AC-to-DC Adapter          | 1   |
| Power cable 3-pin 150cm   | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |

## Processors Info &amp; Available List

| CPU                    | Code Name    | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP    | Memory Types | Integrated Graphics            |
|------------------------|--------------|-------------|---------------|---------------------|----------------|--------------------------|--------|--------------|--------------------------------|
| Intel® Core™ i3-5020U  | Broadwell    | 2           | 4             | -                   | 2.20 GHz       | 3 MB                     | 15W    | DDR3         | Intel® HD Graphics 5500        |
| Intel® Core™ i5-4300U  | Haswell      | 2           | 4             | 2.90 GHz            | 1.90 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 4400        |
| Intel® Celeron® 3865U  | Kaby Lake    | 2           | 2             |                     | 1.80 GHz       | 2 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 610         |
| Intel® Core™ i5-6360U  | Skylake      | 2           | 4             | 3.10 GHz            | 2.00 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i7-6650U  | Skylake      | 2           | 4             | 3.40 GHz            | 2.20 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i5-7200U  | Kaby Lake    | 2           | 4             | 3.10 GHz            | 2.50 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i7-7600U  | Kaby Lake    | 2           | 4             | 3.90 GHz            | 2.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i3-8145U  | Whiskey Lake | 2           | 4             | 3.90 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-8265U  | Whiskey Lake | 4           | 8             | 3.90 GHz            | 1.60 GHz       | 6 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i7-8565U  | Whiskey Lake | 4           | 8             | 4.60 GHz            | 1.80 GHz       | 8 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-1135G7 | Tiger Lake   | 4           | 8             | 4.20 GHz            | 2.40 GHz       | 8 MB Intel® Smart Cache  | 12-28W | DDR4         | Intel® Iris Xe Graphics; 80Eus |
| Intel® Core™ i7-1165G7 | Tiger Lake   | 4           | 8             | 4.70 GHz            | 2.80 GHz       | 12 MB Intel® Smart Cache | 12-28W | DDR4         | Intel® Iris Xe Graphics; 96Eus |

All products and company name listed are trademarks or trade names of their respective companies.

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                                   |
|-------------------------------------------------|---------|-----------------------------------------------------------------------------------------------|
| Isolated RS-232                                 | 2       | DB9 or Phoenix Terminal connector, connected by header                                        |
| Non-Isolated RS-232                             | 2       | DB9 or Phoenix Terminal connector, connected by header                                        |
| RS-422 With Surge Protection                    | 2       | DB9 or Phoenix Terminal connector, connected by header, with additional RS232 TO RS422 Module |
| RS-485 With Surge Protection                    | 2       | DB9 or Phoenix Terminal connector, connected by header, with additional RS232 TO RS485 Module |
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by non-standard M.2 interface                           |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| 4G Module                                       | 1       | Connected by Mini-PCIe interface                                                              |
| WiFi Module                                     | 1       | Connected by Mini-PCIe interface or internal USB interface                                    |
| Dual Channel CANBus Module                      | 1       | Connected by Mini-PCIe interface                                                              |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-107-2L4C-2P



- Max six intergrated isolated RS232/485 with strong anti-interference capability and stability
- Cable-free design for better vibration resistance
- Modular parts design with strong scalability
- Full sealed fanless design, with aluminum alloy cooling enclosure, dustproof, anti-vibration and anti-interference;
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



The actual appearance is subject to the final configuration.

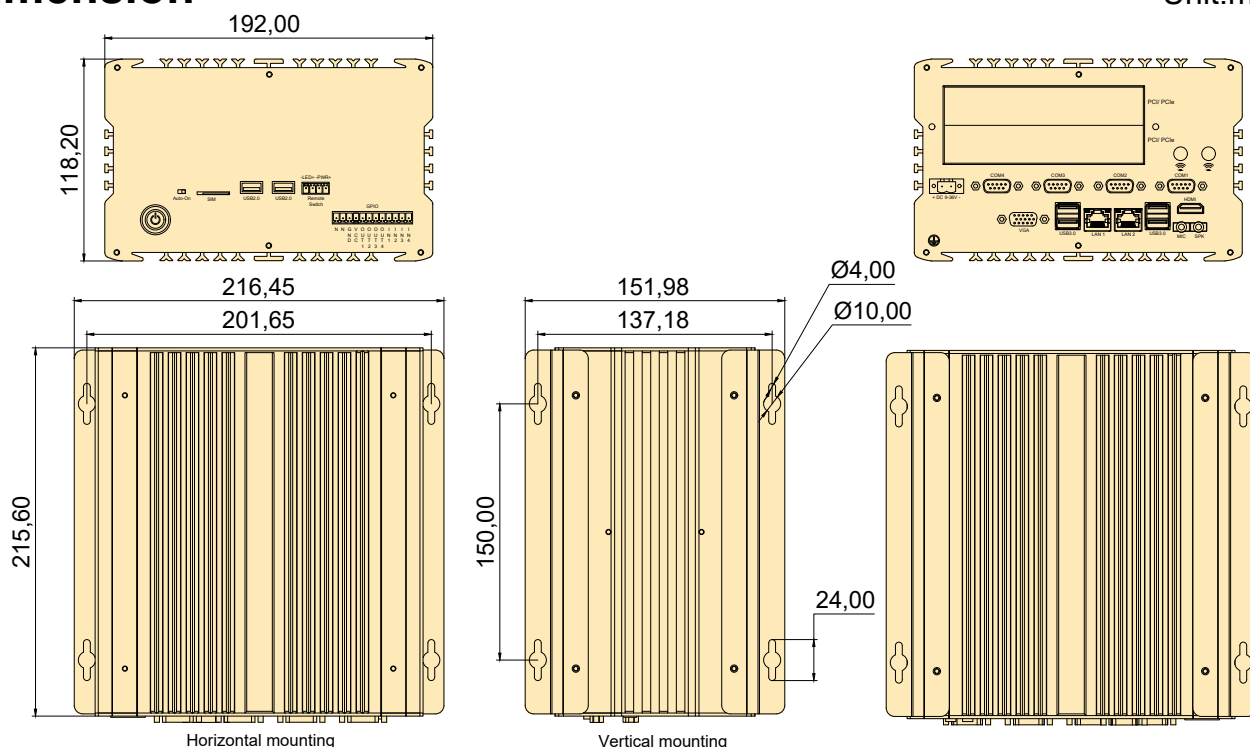
## Specifications

|                                 |                                                                                            |                                                                                                                                                                                            |                                                                          |                                                                     |
|---------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b>Model</b>                    | IBOX-107-2L4C-2P                                                                           |                                                                                                                                                                                            |                                                                          |                                                                     |
| <b>Supported OS</b>             | Win 7, Win 8, Win 10, Win11, Linux (Ubuntu, Dibian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                                            |                                                                          |                                                                     |
| <b>CPU</b>                      | Series/ Model                                                                              | 4th~5th Gen. Intel® Core™ Processor                                                                                                                                                        | 6th~8th Gen. Intel® Core™ Processor<br>Intel® Celeron® 3865U             | 11th Gen. Intel® Core™ Processor                                    |
|                                 | TDP                                                                                        | Up to 15W                                                                                                                                                                                  | Up to 15W                                                                | Up to 28W                                                           |
| <b>RAM</b>                      | Type & Qty                                                                                 | 1* SO-DIMM Socket                                                                                                                                                                          | 2* SO-DIMM Socket                                                        | 2* SO-DIMM Socket                                                   |
|                                 | Frequency                                                                                  | DDR3L-1333/1600 MHz                                                                                                                                                                        | DDR4-2133/2400 MHz                                                       | DDR4-3200 MHz                                                       |
|                                 | Capacity                                                                                   | Up to 8GB                                                                                                                                                                                  | Up to 32GB                                                               | Up to 64GB                                                          |
| <b>Storage Device</b>           | SATA                                                                                       | 1* 2.5" SATA3.0 Bay on board (6Gb/s)                                                                                                                                                       |                                                                          |                                                                     |
|                                 | MSATA                                                                                      | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                          |                                                                          |                                                                     |
| <b>I/O Interface</b>            | COM                                                                                        | 4* Isolated DB9 COM Ports with ESD/EFT/Surge protection (COM1-4, support RS232/485, switchable by jumper);<br>2* Internal COM headers on board (COM5-6, RS232)                             |                                                                          |                                                                     |
|                                 | Ethernet                                                                                   | 2* 1.0 GbE LAN, Intel i211/i210, RJ45 only<br>(Only Intel® Core™ i3-5020U is working with intel i210 GbE LAN)                                                                              |                                                                          | 2* 2.5 GbE LAN, Intel i225, RJ45                                    |
|                                 | USB                                                                                        | 2* USB3.0; 4* USB2.0; 1* Internal USB2.0                                                                                                                                                   | 4* USB3.0; 2* USB2.0; 1* Internal USB 2.0                                | 2* USB3.0; 4* USB2.0; 1* Internal USB2.0                            |
|                                 | Video                                                                                      | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz;                                                                                                                        | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz;      | 1* HDMI, Support 4096x2304@60Hz;<br>1* VGA, Support 1920x1200@60Hz; |
|                                 | Audio                                                                                      | 1* MIC, 1* SPK; With 5.1 channels HD<br>Audio Codec Realtek ALC662                                                                                                                         | 1* MIC, 1* SPK; With 5.1 channels HD<br>Audio Codec Realtek ALC662       | 1* MIC, 1* SPK; With 7.1 channels HD<br>Audio Codec Realtek ALC897  |
|                                 | SIM                                                                                        | 1* External SIM card slot connected to Mini-PCIe                                                                                                                                           |                                                                          |                                                                     |
|                                 | Power Supply                                                                               | 9-36V DC; 1* Terminal Block (2-Pin, 5.08mm)                                                                                                                                                |                                                                          |                                                                     |
|                                 | Others                                                                                     | 1* 8-bit GPIO, Terminal Block (12-Pin, 3.81mm), 4-Inputs/4-Outputs, 0-5V Input Range;<br>1* Terminal Block (4-Pin, 3.81mm Pitch) with Remote Switch and Power Indicator; 1* Auto-On Switch |                                                                          |                                                                     |
|                                 |                                                                                            |                                                                                                                                                                                            |                                                                          |                                                                     |
| <b>Extended Capabilities</b>    | PCIe                                                                                       | 1* PCIe2.0 x1 with x4 socket + 1* PCI;<br>Or 1* PCIe2.0 x1 + 1*PCIe2.0 x1;<br>Or 2* PCI                                                                                                    | 1* PCIe3.0 x4 + 1* PCI;<br>Or 1* PCIe3.0 x4 + 1*PCIe3.0 x1;<br>Or 2* PCI |                                                                     |
|                                 | Mini-PCIe                                                                                  | 1* Full Size Mini-PCIe (PCIe+USB2.0) with SIM card slot                                                                                                                                    |                                                                          |                                                                     |
| <b>Environment</b>              | Operating Temperature                                                                      | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                              |                                                                          |                                                                     |
|                                 | Storage Temperature                                                                        | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                   |                                                                          |                                                                     |
|                                 | Relative Humidity                                                                          | 40 °C @ 95%, Non-Condensing                                                                                                                                                                |                                                                          |                                                                     |
| <b>Physical Characteristics</b> | Dimensions                                                                                 | 192* 118.2* 215.6 mm (W* H* D)                                                                                                                                                             |                                                                          |                                                                     |
|                                 | Net Weight                                                                                 | 2.85 KG (The actual weight is subject to the final configuration)                                                                                                                          |                                                                          |                                                                     |
| <b>Regulation</b>               | EMC                                                                                        | CE/FCC Class B, CCC                                                                                                                                                                        |                                                                          |                                                                     |
|                                 | Safety                                                                                     | CE-LVD, RoHS, CCC                                                                                                                                                                          |                                                                          |                                                                     |



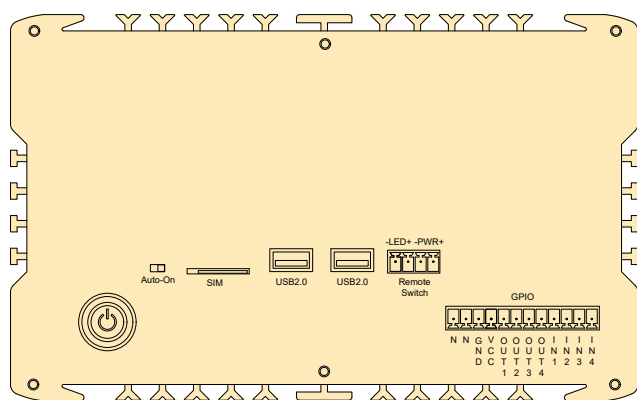
## Dimension

Unit:mm

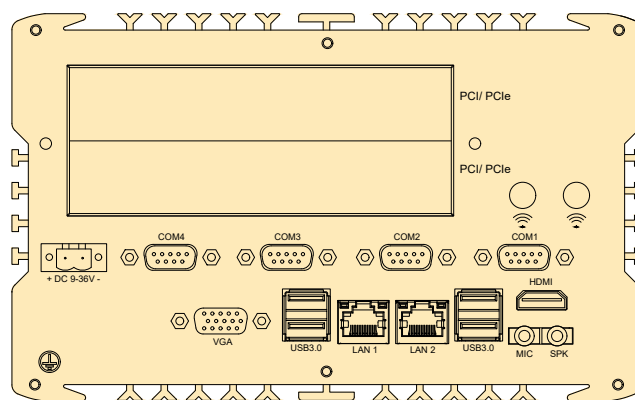


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Slot |        | 2.5" SATA3.0 Bay |      | mSATA3.0 Slot |     | PCIe or PCI Expansion Slot |                        | Full Size Mini-PCIe |                        | Isolated RS232/485 DB9 COM Port |  | RS232 Header |  | GbE LAN |  |
|--------------|--------|------------------|------|---------------|-----|----------------------------|------------------------|---------------------|------------------------|---------------------------------|--|--------------|--|---------|--|
| 1 or 2       |        | 1                |      | 1             |     | 2                          |                        | 1                   |                        | 4                               |  | 2            |  | 2       |  |
| USB3.0       | USB2.0 | Internal USB2.0  | HDMI | VGA           | Mic | SPK                        | External SIM Card Slot | 8-bit GPIO          | Remote Switch Terminal | Power Supply                    |  |              |  |         |  |
| 2 or 4       | 4 or 2 | 1                | 1    | 1             | 1   | 1                          | 1                      | 1                   | 1                      | DC 9-36V                        |  |              |  |         |  |

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-107-2L4C-2P Unit   | 1   |
| Wall mounting bracket   | 2   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |

## Processors Info & Available List

| CPU                    | Code Name    | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP    | Memory Types | Integrated Graphics            |
|------------------------|--------------|-------------|---------------|---------------------|----------------|--------------------------|--------|--------------|--------------------------------|
| Intel® Core™ i3-5020U  | Broadwell    | 2           | 4             | -                   | 2.20 GHz       | 3 MB                     | 15W    | DDR3         | Intel® HD Graphics 5500        |
| Intel® Core™ i5-4300U  | Haswell      | 2           | 4             | 2.90 GHz            | 1.90 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 4400        |
| Intel® Celeron® 3865U  | Kaby Lake    | 2           | 2             |                     | 1.80 GHz       | 2 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 610         |
| Intel® Core™ i5-6360U  | Skylake      | 2           | 4             | 3.10 GHz            | 2.00 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i7-6650U  | Skylake      | 2           | 4             | 3.40 GHz            | 2.20 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i5-7200U  | Kaby Lake    | 2           | 4             | 3.10 GHz            | 2.50 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i7-7600U  | Kaby Lake    | 2           | 4             | 3.90 GHz            | 2.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i3-8145U  | Whiskey Lake | 2           | 4             | 3.90 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-8265U  | Whiskey Lake | 4           | 8             | 3.90 GHz            | 1.60 GHz       | 6 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i7-8565U  | Whiskey Lake | 4           | 8             | 4.60 GHz            | 1.80 GHz       | 8 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-1135G7 | Tiger Lake   | 4           | 8             | 4.20 GHz            | 2.40 GHz       | 8 MB Intel® Smart Cache  | 12-28W | DDR4         | Intel® Iris Xe Graphics; 80Eus |
| Intel® Core™ i7-1165G7 | Tiger Lake   | 4           | 8             | 4.70 GHz            | 2.80 GHz       | 12 MB Intel® Smart Cache | 12-28W | DDR4         | Intel® Iris Xe Graphics; 96Eus |

All products and company name listed are trademarks or trade names of their respective companies.

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                                   |
|-------------------------------------------------|---------|-----------------------------------------------------------------------------------------------|
| Isolated RS-232                                 | 2       | DB9 or Phoenix Terminal connector, connected by header                                        |
| Non-Isolated RS-232                             | 2       | DB9 or Phoenix Terminal connector, connected by header                                        |
| RS-422 With Surge Protection                    | 2       | DB9 or Phoenix Terminal connector, connected by header, with additional RS232 TO RS422 Module |
| RS-485 With Surge Protection                    | 2       | DB9 or Phoenix Terminal connector, connected by header, with additional RS232 TO RS485 Module |
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by non-standard M.2 interface                           |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| 4G Module                                       | 1       | Connected by Mini-PCIe interface                                                              |
| WiFi Module                                     | 1       | Connected by Mini-PCIe interface or internal USB interface                                    |
| Dual Channel CANBus Module                      | 1       | Connected by Mini-PCIe interface                                                              |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-108-2L4C-3P



- Max six integrated isolated RS232/485 with strong anti-interference capability and stability
- Cable-free design for better vibration resistance
- Modular parts design with strong scalability
- Full sealed fanless design, with aluminum alloy cooling enclosure, dustproof, anti-vibration and anti-interference;
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



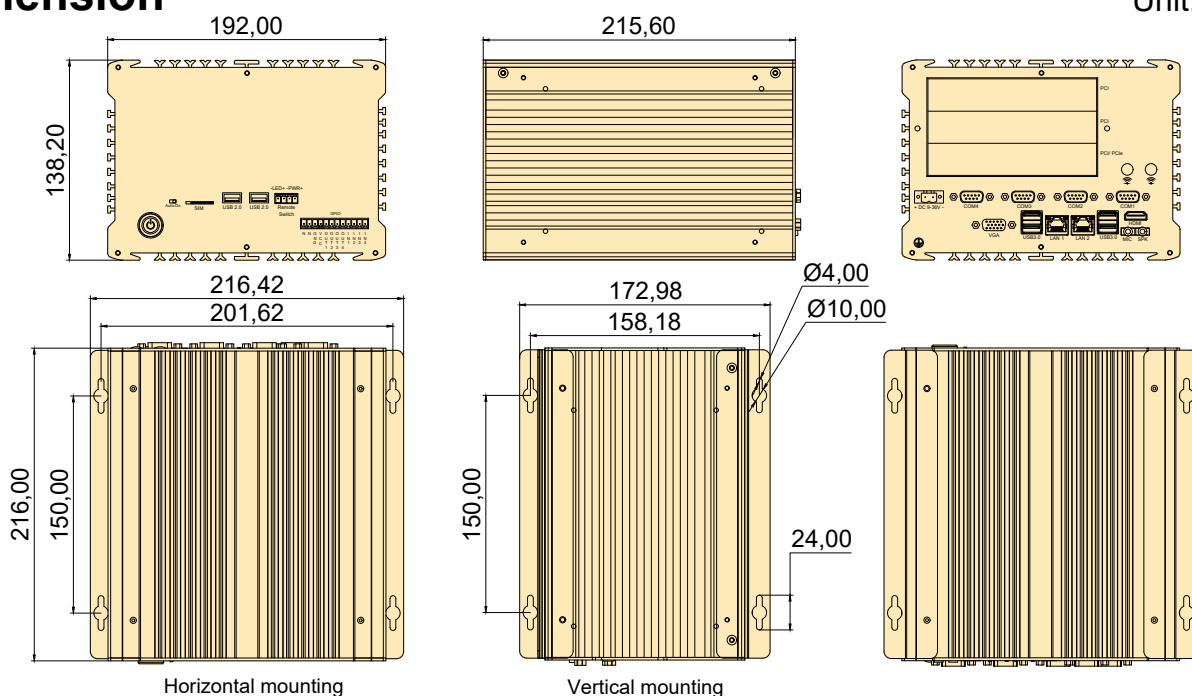
The actual appearance is subject to the final configuration.

## Specifications

|                          |                                                                                             |                                                                                                                                                                                            |                                                                     |                                                                     |
|--------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|
| Model                    | IBOX-108-2L4C-3P                                                                            |                                                                                                                                                                                            |                                                                     |                                                                     |
| Supported OS             | Win 7, Win 8, Win 10, Win 11, Linux (Ubuntu, Dibian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                                            |                                                                     |                                                                     |
| CPU                      | Series/ Model                                                                               | 4th~5th Gen. Intel® Core™ Processor                                                                                                                                                        | 6th~8th Gen. Intel® Core™ Processor<br>Intel® Celeron® 3865U        | 11th Gen. Intel® Core™ Processor                                    |
|                          | TDP                                                                                         | Up to 15W                                                                                                                                                                                  | Up to 15W                                                           | Up to 28W                                                           |
| RAM                      | Type & Qty                                                                                  | 1* SO-DIMM Socket                                                                                                                                                                          | 2* SO-DIMM Socket                                                   | 2* SO-DIMM Socket                                                   |
|                          | Frequency                                                                                   | DDR3L-1333/1600 MHz                                                                                                                                                                        | DDR4-2133/2400 MHz                                                  | DDR4-3200 MHz                                                       |
|                          | Capacity                                                                                    | Up to 8GB                                                                                                                                                                                  | Up to 32GB                                                          | Up to 64GB                                                          |
| Storage Device           | SATA                                                                                        | 1* 2.5" SATA3.0 Bay on board (6Gb/s)                                                                                                                                                       |                                                                     |                                                                     |
|                          | MSATA                                                                                       | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                          |                                                                     |                                                                     |
| I/O Interface            | COM                                                                                         | 4* Isolated DB9 COM Ports with ESD/EFT/Surge protection (COM1-4, support RS232/485, switchable by jumper);<br>2* Internal COM headers on board (COM5-6, RS232)                             |                                                                     |                                                                     |
|                          | Ethernet                                                                                    | 2* 1.0 GbE LAN, Intel i211/i210, RJ45 only<br>(Only Intel® Core™ i3-5020U is working with intel i210 GbE LAN)                                                                              |                                                                     | 2* 2.5 GbE LAN, Intel i225, RJ45                                    |
|                          | USB                                                                                         | 2* USB3.0; 4* USB2.0; 1* Internal USB2.0                                                                                                                                                   | 4* USB3.0; 2* USB2.0; 1* Internal USB 2.0                           | 2* USB3.0; 4* USB2.0; 1* Internal USB2.0                            |
|                          | Video                                                                                       | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz;                                                                                                                        | 1* HDMI, Support 4096x2304@24Hz;<br>1* VGA, Support 1920x1200@60Hz; | 1* HDMI, Support 4096x2304@60Hz;<br>1* VGA, Support 1920x1200@60Hz; |
|                          | Audio                                                                                       | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                            | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662     | 1* MIC, 1* SPK; With 7.1 channels HD Audio Codec Realtek ALC897     |
|                          | SIM                                                                                         | 1* External SIM card slot connected to Mini-PCle                                                                                                                                           |                                                                     |                                                                     |
|                          | Power Supply                                                                                | 9-36V DC; 1* Terminal Block (2-Pin, 5.08mm)                                                                                                                                                |                                                                     |                                                                     |
|                          | Others                                                                                      | 1* 8-bit GPIO, Terminal Block (12-Pin, 3.81mm), 4-Inputs/4-Outputs, 0-5V Input Range;<br>1* Terminal Block (4-Pin, 3.81mm Pitch) with Remote Switch and Power Indicator; 1* Auto-On Switch |                                                                     |                                                                     |
| Extended Capabilities    | PCIe                                                                                        | 1* PCIe2.0 x1 with x4 socket+ 2* PCI;<br>Or 3* PCI                                                                                                                                         | 1* PCIe3.0 x4 + 2* PCI;<br>Or 3* PCI                                |                                                                     |
|                          | Mini-PCle                                                                                   | 1* Full Size Mini-PCle (PCIe+USB2.0) with SIM card slot                                                                                                                                    |                                                                     |                                                                     |
| Environment              | Operating Temperature                                                                       | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                              |                                                                     |                                                                     |
|                          | Storage Temperature                                                                         | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                   |                                                                     |                                                                     |
|                          | Relative Humidity                                                                           | 40 °C @ 95%, Non-Condensing                                                                                                                                                                |                                                                     |                                                                     |
| Physical Characteristics | Dimensions                                                                                  | 192* 138.2* 215.6 mm (W* H* D)                                                                                                                                                             |                                                                     |                                                                     |
|                          | Net Weight                                                                                  | 2.85 KG (The actual weight is subject to the final configuration)                                                                                                                          |                                                                     |                                                                     |
| Regulation               | EMC                                                                                         | CE/FCC Class B, CCC                                                                                                                                                                        |                                                                     |                                                                     |
|                          | Safety                                                                                      | CE-LVD, RoHS, CCC                                                                                                                                                                          |                                                                     |                                                                     |

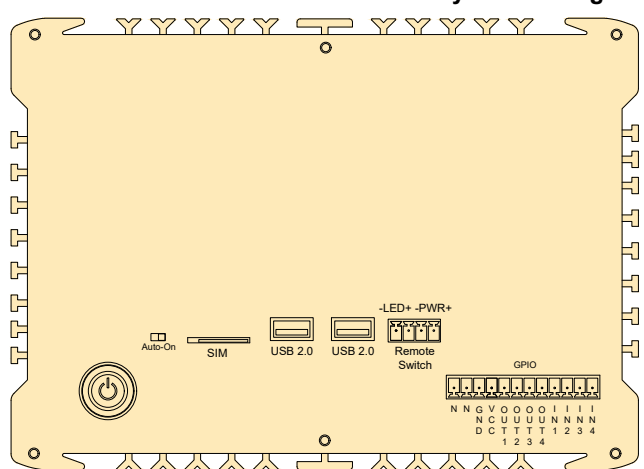
## Dimension

Unit:mm

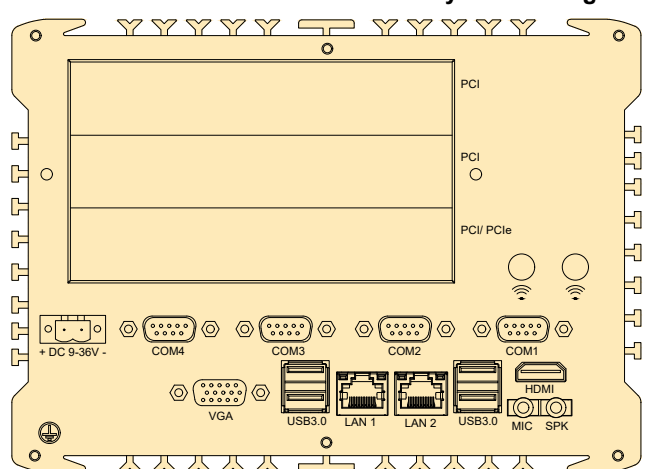


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Slot |        | 2.5" SATA3.0 Bay |      | mSATA3.0 Slot | PCIe or PCI Expansion Slot |     | Full Size Mini-PCIe    | Isolated RS232/485 DB9 COM Port | RS232 Header           | GbE LAN      |
|--------------|--------|------------------|------|---------------|----------------------------|-----|------------------------|---------------------------------|------------------------|--------------|
| 1 or 2       |        | 1                |      | 1             | 3                          |     | 1                      | 4                               | 2                      | 2            |
| USB3.0       | USB2.0 | Internal USB2.0  | HDMI | VGA           | Mic                        | SPK | External SIM Card Slot | 8-bit GPIO                      | Remote Switch Terminal | Power Supply |
| 2 or 4       | 4 or 2 | 1                | 1    | 1             | 1                          | 1   | 1                      | 1                               | 1                      | DC 9-36V     |

## Packing list

| Deafult Items           | Qty |
|-------------------------|-----|
| IBOX-108-2L4C-3P Unit   | 1   |
| Wall mounting bracket   | 2   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |

## Processors Info &amp; Available List

| CPU                    | Code Name    | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP    | Memory Types | Integrated Graphics            |
|------------------------|--------------|-------------|---------------|---------------------|----------------|--------------------------|--------|--------------|--------------------------------|
| Intel® Core™ i3-5020U  | Broadwell    | 2           | 4             | -                   | 2.20 GHz       | 3 MB                     | 15W    | DDR3         | Intel® HD Graphics 5500        |
| Intel® Core™ i5-4300U  | Haswell      | 2           | 4             | 2.90 GHz            | 1.90 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 4400        |
| Intel® Celeron® 3865U  | Kaby Lake    | 2           | 2             |                     | 1.80 GHz       | 2 MB Intel® Smart Cache  | 15W    | DDR3         | Intel® HD Graphics 610         |
| Intel® Core™ i5-6360U  | Skylake      | 2           | 4             | 3.10 GHz            | 2.00 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i7-6650U  | Skylake      | 2           | 4             | 3.40 GHz            | 2.20 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® Iris® Graphics 540      |
| Intel® Core™ i5-7200U  | Kaby Lake    | 2           | 4             | 3.10 GHz            | 2.50 GHz       | 3 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i7-7600U  | Kaby Lake    | 2           | 4             | 3.90 GHz            | 2.80 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® HD Graphics 620         |
| Intel® Core™ i3-8145U  | Whiskey Lake | 2           | 4             | 3.90 GHz            | 2.10 GHz       | 4 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-8265U  | Whiskey Lake | 4           | 8             | 3.90 GHz            | 1.60 GHz       | 6 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i7-8565U  | Whiskey Lake | 4           | 8             | 4.60 GHz            | 1.80 GHz       | 8 MB Intel® Smart Cache  | 15W    | DDR4         | Intel® UHD Graphics 620        |
| Intel® Core™ i5-1135G7 | Tiger Lake   | 4           | 8             | 4.20 GHz            | 2.40 GHz       | 8 MB Intel® Smart Cache  | 12-28W | DDR4         | Intel® Iris Xe Graphics; 80Eus |
| Intel® Core™ i7-1165G7 | Tiger Lake   | 4           | 8             | 4.70 GHz            | 2.80 GHz       | 12 MB Intel® Smart Cache | 12-28W | DDR4         | Intel® Iris Xe Graphics; 96Eus |

All products and company name listed are trademarks or trade names of their respective companies.

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                                   |
|-------------------------------------------------|---------|-----------------------------------------------------------------------------------------------|
| Isolated RS-232                                 | 2       | DB9 or Phoenix Terminal connector, connected by header                                        |
| Non-Isolated RS-232                             | 2       | DB9 or Phoenix Terminal connector, connected by header                                        |
| RS-422 With Surge Protection                    | 2       | DB9 or Phoenix Terminal connector, connected by header, with additional RS232 TO RS422 Module |
| RS-485 With Surge Protection                    | 2       | DB9 or Phoenix Terminal connector, connected by header, with additional RS232 TO RS485 Module |
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by non-standard M.2 interface                           |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface           |
| 4G Module                                       | 1       | Connected by Mini-PCIe interface                                                              |
| WiFi Module                                     | 1       | Connected by Mini-PCIe interface or internal USB interface                                    |
| Dual Channel CANBus Module                      | 1       | Connected by Mini-PCIe interface                                                              |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-601-9L2C4P



- Equipped with desktop-class high-performance CPU
- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



The actual appearance is subject to the final configuration.

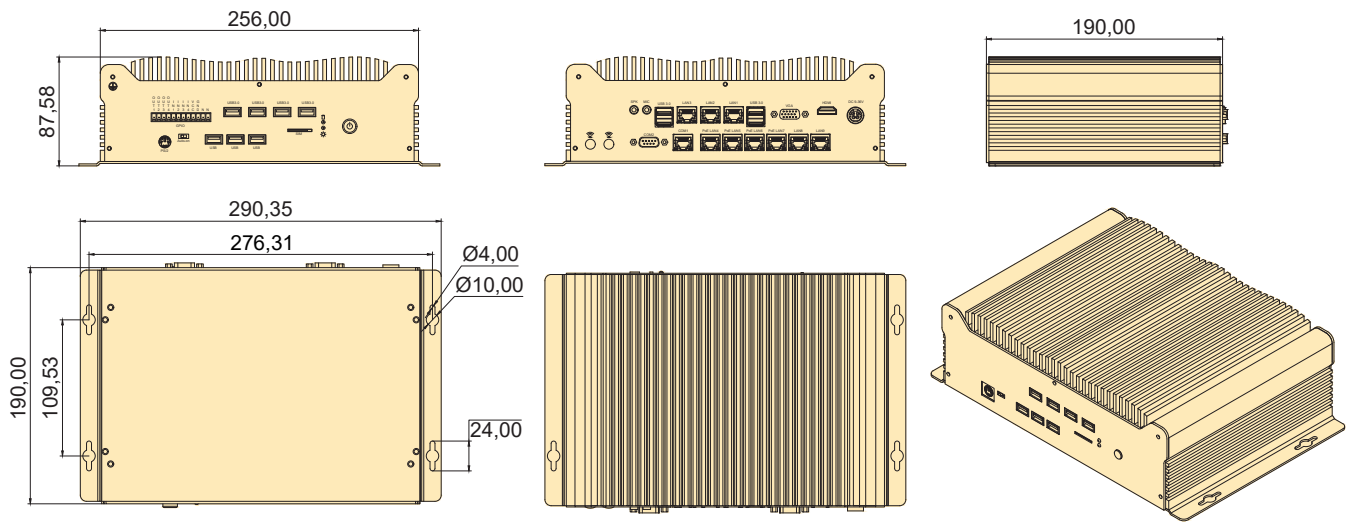
## Specifications

|                                 |                                                                                            |                                                                                                                                                                                          |                                 |                                                                          |
|---------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------|
| <b>Model</b>                    | IBOX-601-9L2C4P                                                                            |                                                                                                                                                                                          |                                 |                                                                          |
| <b>Supported OS</b>             | Win 7, Win 8, Win 10, Win 11, Linux (Ubuntu, Dbian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                                          |                                 |                                                                          |
| <b>Chipset</b>                  | Intel® Z370 Chipset                                                                        |                                                                                                                                                                                          |                                 |                                                                          |
| <b>CPU</b>                      | Processor Socket                                                                           | Intel® Desktop Processors Socket LGA1151                                                                                                                                                 |                                 |                                                                          |
|                                 | Series                                                                                     | 6th Gen. Intel® Core™ Processor                                                                                                                                                          | Intel® Celeron® G4900 Processor | 7th-9th Gen. Intel® Core™ Processor                                      |
|                                 | TDP                                                                                        | Up to 65W                                                                                                                                                                                | 54W                             | Up to 65W                                                                |
|                                 | Graphic                                                                                    | Intel® HD Graphics 530                                                                                                                                                                   | Intel® UHD Graphics 610         | 7th Gen: Intel® HD Graphics 630<br>8th/ 9th Gen: Intel® UHD Graphics 630 |
| <b>RAM</b>                      | Type&Qty                                                                                   | 2* SO-DIMM Socket                                                                                                                                                                        | 2* SO-DIMM Socket               | 2* SO-DIMM Socket                                                        |
|                                 | Frequency                                                                                  | DDR4-1866/2133 MHz                                                                                                                                                                       | DDR4-2400 MHz                   | DDR4-2400/2666 MHz                                                       |
|                                 | Capacity                                                                                   | Up to 32GB                                                                                                                                                                               | Up to 32GB                      | Up to 32GB                                                               |
| <b>Storage Device</b>           | SATA                                                                                       | 1* 2.5" SATA3.0 Bay on board (6Gb/s); 3* SATA3.0 connectors (6Gb/s), Support RAID (0/1/5)                                                                                                |                                 |                                                                          |
|                                 | MSATA                                                                                      | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                        |                                 |                                                                          |
|                                 | M.2                                                                                        | 1* M.2 (NGFF) 2280 M-key slot, support PCIe4 Gen.3 NVMe/ SATA3.0 SSD                                                                                                                     |                                 |                                                                          |
| <b>I/O Interface</b>            | COM                                                                                        | 1* RS232/485 with RJ45 connector, 1* RS232/485 with DB9 connector, switchable by jumper                                                                                                  |                                 |                                                                          |
|                                 | Ethernet                                                                                   | 4* Intel® i211 GbE PoE LAN, RJ45 connector;<br>5* Intel® i211 GbE LAN, RJ45 connector (One of GbE LAN is shared with Mini-PCle's PCIe signal)                                            |                                 |                                                                          |
|                                 | USB                                                                                        | 8* USB 3.0; 3* USB2.0; 1* Internal USB2.0                                                                                                                                                |                                 |                                                                          |
|                                 | Video                                                                                      | 1* HDMI, Support 4096x2304@24Hz, (Optional 1* DP, Support 4096 x 2304@60Hz);<br>1* VGA, Support 1920x1200@60Hz;                                                                          |                                 |                                                                          |
|                                 | Audio                                                                                      | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                          |                                 |                                                                          |
|                                 | SIM                                                                                        | 1* External SIM card slot connected to Mini-PCle                                                                                                                                         |                                 |                                                                          |
|                                 | Power Supply                                                                               | 9V-36V DC; 1* 4-Pin DC Power Jack (Circular DIN Connectors, Full-Shield)                                                                                                                 |                                 |                                                                          |
|                                 | Other                                                                                      | 1* 8-bit GPIO (4-Inputs/4-Outputs, 0-5V Input Range) and 1* Remote Switch on Terminal Block (12-Pin, 3.81mm).<br>1* PS/2 for keyboard/ mouse; 1* Auto-On Switch; 1* TPM header (2*8-pin) |                                 |                                                                          |
| <b>Extended Capabilities</b>    | Additional Internal Interface                                                              | 1* Full Size Mini-PCle with SIM card slot; (PCIe+USB2.0, PCIe signal is shared with a LAN port);<br>1* M.2 2230 E-key Slot (PCIe+USB2.0, support WiFi+BT)                                |                                 |                                                                          |
| <b>Environment</b>              | Operating Temperature                                                                      | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                            |                                 |                                                                          |
|                                 | Storage Temperature                                                                        | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                 |                                 |                                                                          |
|                                 | Relative Humidity                                                                          | 40 °C @ 95%, Non-Condensing                                                                                                                                                              |                                 |                                                                          |
| <b>Physical Characteristics</b> | Dimensions                                                                                 | 290.35* 87.58* 186 mm (W* H* D)                                                                                                                                                          |                                 |                                                                          |
|                                 | Net Weight                                                                                 | 3.9 KG                                                                                                                                                                                   |                                 |                                                                          |
| <b>Regulation</b>               | EMC                                                                                        | CE/FCC Class B, CCC                                                                                                                                                                      |                                 |                                                                          |
|                                 | Safety                                                                                     | CE-LVD, RoHS, CCC                                                                                                                                                                        |                                 |                                                                          |



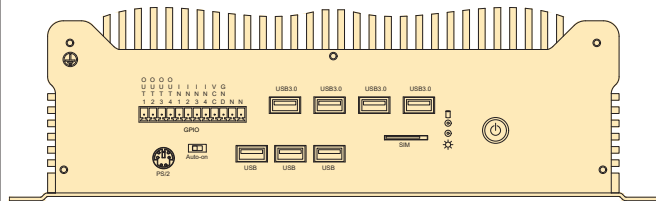
## Dimension

Unit:mm

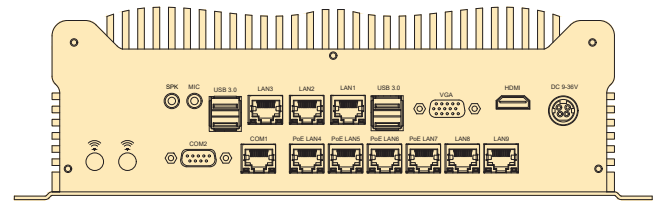


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Socket |  | M.2 2280 M-key Slot |  | mSATA3.0 Slot   |  | SATA3.0 Connector |  | Full Size Mini-PCle |  | M.2 2230 E-key Slot |  | COM |  | PoE GbE LAN            |  | GbE LAN |  |            |  |                |  |              |  |
|----------------|--|---------------------|--|-----------------|--|-------------------|--|---------------------|--|---------------------|--|-----|--|------------------------|--|---------|--|------------|--|----------------|--|--------------|--|
| 2              |  | 1                   |  | 1               |  | 4                 |  | 1                   |  | 1                   |  | 2   |  | 4                      |  | 5       |  |            |  |                |  |              |  |
| USB 2.0        |  | USB 3.0             |  | Internal USB2.0 |  | HDMI Or DP        |  | VGA                 |  | MIC                 |  | SPK |  | External SIM Card Slot |  | PS/2    |  | 8-bit GPIO |  | Auto-On Switch |  | Power Supply |  |
| 3              |  | 8                   |  | 1               |  | 1                 |  | 1                   |  | 1                   |  | 1   |  | 1                      |  | 1       |  | 1          |  | 1              |  | DC 9-36V     |  |

## Processors Info & Available List

| CPU                   | Code Name   | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP  | Memory Types | Integrated Graphics     |
|-----------------------|-------------|-------------|---------------|---------------------|----------------|--------------------------|------|--------------|-------------------------|
| Intel® Core™ i3-6100  | Skylake     | 2           | 4             | -                   | 3.70 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i5-6500  | Skylake     | 4           | 4             | 3.60 GHz            | 3.20 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i7-6700  | Skylake     | 4           | 8             | 4.00 GHz            | 3.40 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Celeron® G4900 | Coffee Lake | 2           | 2             | -                   | 3.10 GHz       | 2 MB Intel® Smart Cache  | 54 W | DDR4         | Intel® UHD Graphics 610 |
| Intel® Core™ i3-7100  | Kaby Lake   | 2           | 4             | -                   | 3.90 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i5-7400  | Kaby Lake   | 2           | 4             | 3.50 GHz            | 3.00 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i7-7700  | Kaby Lake   | 4           | 8             | 4.20 GHz            | 3.60 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i3-8100  | Coffee Lake | 4           | 4             | -                   | 3.60 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-8500  | Coffee Lake | 6           | 6             | 4.10 GHz            | 3.00 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-8700  | Coffee Lake | 6           | 12            | 4.60 GHz            | 3.20 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i3-9300  | Coffee Lake | 4           | 4             | 4.30 GHz            | 3.70 GHz       | 8 MB Intel® Smart Cache  | 62 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-9400  | Coffee Lake | 6           | 6             | 4.10 GHz            | 2.90 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-9700  | Coffee Lake | 8           | 8             | 4.70 GHz            | 3.00 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i9-9900  | Coffee Lake | 8           | 16            | 5.00 GHz            | 3.10 GHz       | 16 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |

All products and company name listed are trademarks or trade names of their respective companies.

!! Note: For more interface configuration or available processors, please consult the sales.

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## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-601-9L2C4P Unit    | 1   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| Swappable hard-drive bracket kit  | -   |

## Optional accessories or internal modules for unit

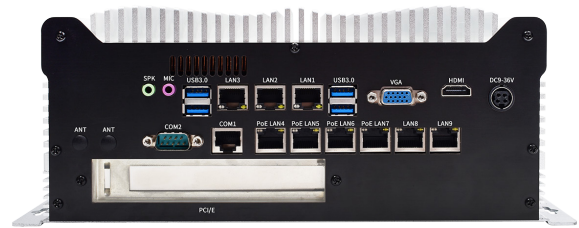
| Optional Items                                  | Max Qty | Description                                                                                  |
|-------------------------------------------------|---------|----------------------------------------------------------------------------------------------|
| Isolated 8-bit GPIO, 9-24V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| 4G Module                                       | 1       | Connected by Mini-PCle interface                                                             |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCle interface, M.2 interface or internal USB interface                    |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCle interface                                                             |
| Dual channel CAN-Bus Module                     | 2       | Connected by Mini-PCle or M.2 interface                                                      |
| Ignition Switch Module                          | 1       | Phoenix Terminal connector, connected by internal power switch and 4-pin ATX power connector |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-601-9L2C4P-1P



- Equipped with desktop-class high-performance CPU
- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



The actual appearance is subject to the final configuration.

## Specifications

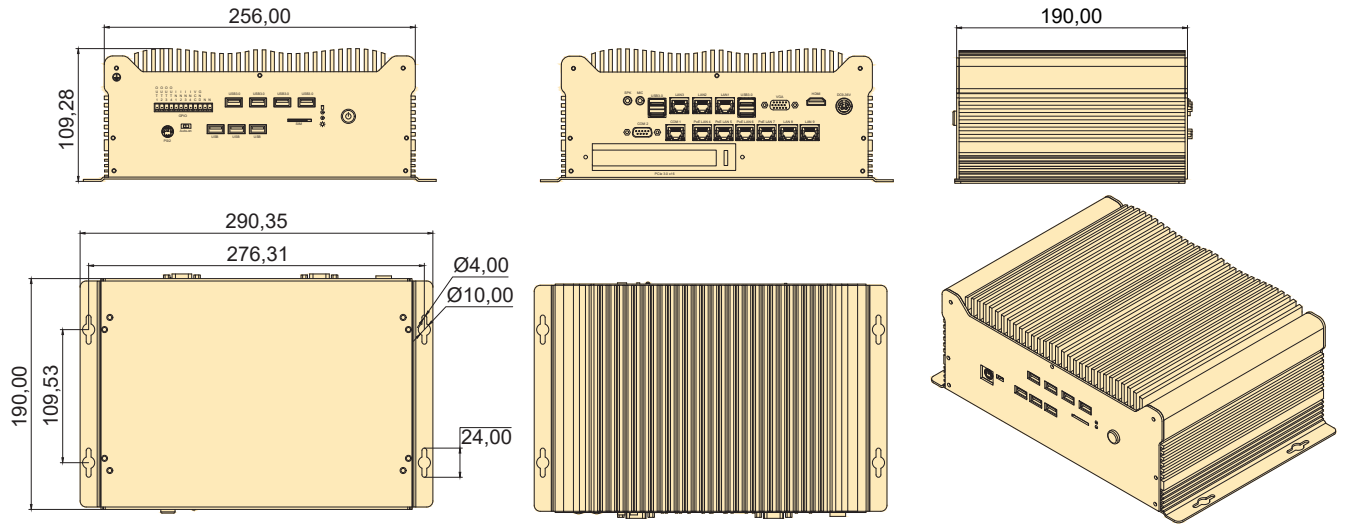
|                                 |                                                                                             |                                                                                                                                                                                          |                                 |                                                                          |
|---------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------|
| <b>Model</b>                    | IBOX-601-9L2C4P-1P                                                                          |                                                                                                                                                                                          |                                 |                                                                          |
| <b>Supported OS</b>             | Win 7, Win 8, Win 10, Win 11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                                          |                                 |                                                                          |
| <b>Chipset</b>                  | Intel® Z370 Chipset                                                                         |                                                                                                                                                                                          |                                 |                                                                          |
| <b>CPU</b>                      | Processor Socket                                                                            | Intel® Desktop Processors Socket LGA1151                                                                                                                                                 |                                 |                                                                          |
|                                 | Series                                                                                      | 6th Gen. Intel® Core™ Processor                                                                                                                                                          | Intel® Celeron® G4900 Processor | 7th-9th Gen. Intel® Core™ Processor                                      |
|                                 | TDP                                                                                         | Up to 65W                                                                                                                                                                                | 54W                             | Up to 65W                                                                |
|                                 | Graphic                                                                                     | Intel® HD Graphics 530                                                                                                                                                                   | Intel® UHD Graphics 610         | 7th Gen: Intel® HD Graphics 630<br>8th/ 9th Gen: Intel® UHD Graphics 630 |
| <b>RAM</b>                      | Type&Qty                                                                                    | 2* SO-DIMM Socket                                                                                                                                                                        | 2* SO-DIMM Socket               | 2* SO-DIMM Socket                                                        |
|                                 | Frequency                                                                                   | DDR4-1866/2133 MHz                                                                                                                                                                       | DDR4-2400 MHz                   | DDR4-2400/2666 MHz                                                       |
|                                 | Capacity                                                                                    | Up to 32GB                                                                                                                                                                               | Up to 32GB                      | Up to 32GB                                                               |
| <b>Storage Device</b>           | SATA                                                                                        | 1* 2.5" SATA3.0 Bay on board (6Gb/s); 3* SATA3.0 connectors (6Gb/s), Support RAID (0/1/5)                                                                                                |                                 |                                                                          |
|                                 | MSATA                                                                                       | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                        |                                 |                                                                          |
|                                 | M.2                                                                                         | 1* M.2 (NGFF) 2280 M-key slot, support PCIe4 Gen.3 NVMe/ SATA3.0 SSD                                                                                                                     |                                 |                                                                          |
| <b>I/O Interface</b>            | COM                                                                                         | 1* RS232/485 with RJ45 connector, 1* RS232/485 with DB9 connector, switchable by jumper                                                                                                  |                                 |                                                                          |
|                                 | Ethernet                                                                                    | 4* Intel® i211 GbE PoE LAN, RJ45 connector;<br>5* Intel® i211 GbE LAN, RJ45 connector (One of GbE LAN is shared with Mini-PCIe's PCIe signal)                                            |                                 |                                                                          |
|                                 | USB                                                                                         | 8* USB 3.0; 3* USB2.0; 1* Internal USB2.0                                                                                                                                                |                                 |                                                                          |
|                                 | Video                                                                                       | 1* HDMI, Support 4096x2304@24Hz, (Optional 1* DP, Support 4096 x 2304@60Hz);<br>1* VGA, Support 1920x1200@60Hz;                                                                          |                                 |                                                                          |
|                                 | Audio                                                                                       | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                          |                                 |                                                                          |
|                                 | SIM                                                                                         | 1* External SIM card slot connected to Mini-PCIe                                                                                                                                         |                                 |                                                                          |
|                                 | Power Supply                                                                                | 9V-36V DC; 1* 4-Pin DC Power Jack (Circular DIN Connectors, Full-Shield)                                                                                                                 |                                 |                                                                          |
|                                 | Other                                                                                       | 1* 8-bit GPIO (4-Inputs/4-Outputs, 0-5V Input Range) and 1* Remote Switch on Terminal Block (12-Pin, 3.81mm).<br>1* PS/2 for keyboard/ mouse; 1* Auto-On Switch; 1* TPM header (2*8-pin) |                                 |                                                                          |
| <b>Extended Capabilities</b>    | Additional Internal Interface                                                               | 1* PCIe3.0 x16 Slot;<br>1* Full Size Mini-PCIe with SIM card slot; (PCIe+USB2.0, PCIe signal is shared with a LAN port);<br>1* M.2 2230 E-key Slot (PCIe+USB2.0, support WiFi+BT)        |                                 |                                                                          |
|                                 |                                                                                             |                                                                                                                                                                                          |                                 |                                                                          |
| <b>Environment</b>              | Operating Temperature                                                                       | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                            |                                 |                                                                          |
|                                 | Storage Temperature                                                                         | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                 |                                 |                                                                          |
|                                 | Relative Humidity                                                                           | 40 °C @ 95%, Non-Condensing                                                                                                                                                              |                                 |                                                                          |
| <b>Physical Characteristics</b> | Dimensions                                                                                  | 290.35* 109.28* 186 mm (W* H* D)                                                                                                                                                         |                                 |                                                                          |
|                                 | Net Weight                                                                                  | 4.25 KG                                                                                                                                                                                  |                                 |                                                                          |
| <b>Regulation</b>               | EMC                                                                                         | CE/FCC Class B, CCC                                                                                                                                                                      |                                 |                                                                          |
|                                 | Safety                                                                                      | CE-LVD, RoHS, CCC                                                                                                                                                                        |                                 |                                                                          |

# Industrial PC

# IBOX-601-9L2C4P-1P

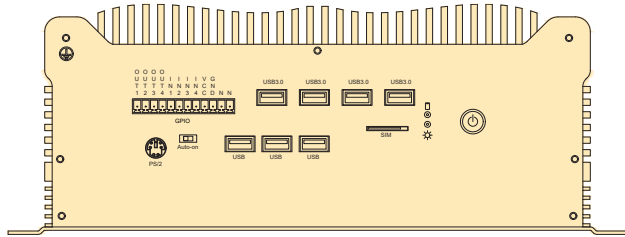
# Dimension

Unit:mm

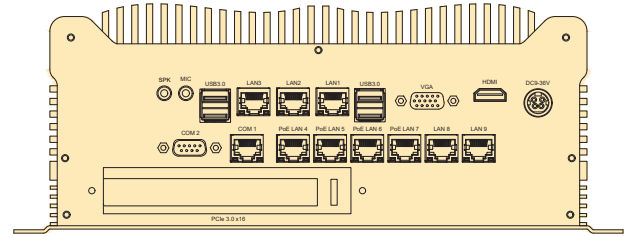


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

[illegible]

## Processors Info & Available List

| CPU                   | Code Name   | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP  | Memory Types | Integrated Graphics     |
|-----------------------|-------------|-------------|---------------|---------------------|----------------|--------------------------|------|--------------|-------------------------|
| Intel® Core™ i3-6100  | Skylake     | 2           | 4             | -                   | 3.70 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i5-6500  | Skylake     | 4           | 4             | 3.60 GHz            | 3.20 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i7-6700  | Skylake     | 4           | 8             | 4.00 GHz            | 3.40 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Celeron® G4900 | Coffee Lake | 2           | 2             | -                   | 3.10 GHz       | 2 MB Intel® Smart Cache  | 54 W | DDR4         | Intel® UHD Graphics 610 |
| Intel® Core™ i3-7100  | Kaby Lake   | 2           | 4             | -                   | 3.90 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i5-7400  | Kaby Lake   | 2           | 4             | 3.50 GHz            | 3.00 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i7-7700  | Kaby Lake   | 4           | 8             | 4.20 GHz            | 3.60 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i3-8100  | Coffee Lake | 4           | 4             | -                   | 3.60 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-8500  | Coffee Lake | 6           | 6             | 4.10 GHz            | 3.00 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-8700  | Coffee Lake | 6           | 12            | 4.60 GHz            | 3.20 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i3-9300  | Coffee Lake | 4           | 4             | 4.30 GHz            | 3.70 GHz       | 8 MB Intel® Smart Cache  | 62 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-9400  | Coffee Lake | 6           | 6             | 4.10 GHz            | 2.90 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-9700  | Coffee Lake | 8           | 8             | 4.70 GHz            | 3.00 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i9-9900  | Coffee Lake | 8           | 16            | 5.00 GHz            | 3.10 GHz       | 16 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |

All products and company name listed are trademarks or trade names of their respective companies.

!! Note: For more interface configuration or available processors, please consult the sales.

*DON'T HESITATE TO CONTACT US*

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-601-9L2C4P-1P Unit | 1   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| Swappable hard-drive bracket kit  | -   |

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                                  |
|-------------------------------------------------|---------|----------------------------------------------------------------------------------------------|
| Isolated 8-bit GPIO, 9-24V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| 4G Module                                       | 1       | Connected by Mini-PCle interface                                                             |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCle interface, M.2 interface or internal USB interface                    |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCle interface                                                             |
| Dual channel CAN-Bus Module                     | 2       | Connected by Mini-PCle or M.2 interface                                                      |
| Dual/ Quad channel CAN-Bus Module               | 1       | Connected by PCIe Interface                                                                  |
| Quad GbE PoE LAN Module                         | 1       | Connected by PCIe Interface                                                                  |
| Ignition Switch Module                          | 1       | Phoenix Terminal connector, connected by internal power switch and 4-pin ATX power connector |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-601-9L2C6P



- Equipped with desktop-class high-performance CPU
- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



Front Panel



Option A



Option B

The actual appearance is subject to the final configuration.

## Specifications

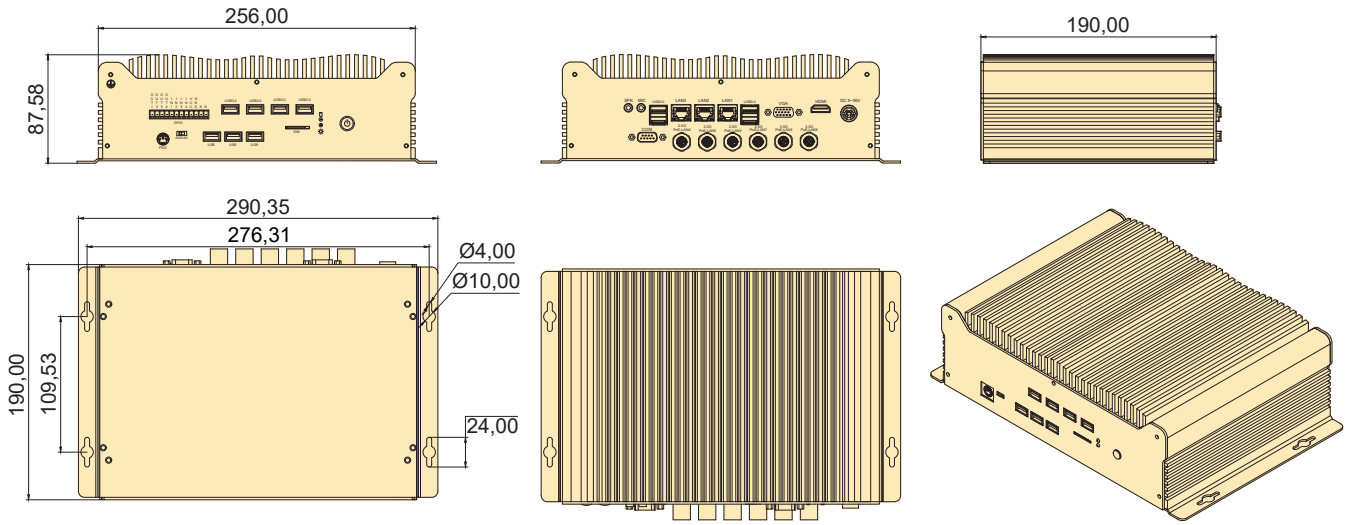
|                                 |                                                                                             |                                                                                                                                                                                                                                                                                       |                                 |                                                                          |
|---------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------|
| <b>Model</b>                    | IBOX-601-9L2C6P                                                                             |                                                                                                                                                                                                                                                                                       |                                 |                                                                          |
| <b>Supported OS</b>             | Win 7, Win 8, Win 10, Win 11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                                                                                                                                       |                                 |                                                                          |
| <b>Chipset</b>                  | Intel® Z370 Chipset                                                                         |                                                                                                                                                                                                                                                                                       |                                 |                                                                          |
| <b>CPU</b>                      | Processor Socket                                                                            | Intel® Desktop Processors Socket LGA1151                                                                                                                                                                                                                                              |                                 |                                                                          |
|                                 | Series                                                                                      | 6th Gen. Intel® Core™ Processor                                                                                                                                                                                                                                                       | Intel® Celeron® G4900 Processor | 7th-9th Gen. Intel® Core™ Processor                                      |
|                                 | TDP                                                                                         | Up to 65W                                                                                                                                                                                                                                                                             | 54W                             | Up to 65W                                                                |
|                                 | Graphic                                                                                     | Intel® HD Graphics 530                                                                                                                                                                                                                                                                | Intel® UHD Graphics 610         | 7th Gen: Intel® HD Graphics 630<br>8th/ 9th Gen: Intel® UHD Graphics 630 |
| <b>RAM</b>                      | Type&Qty                                                                                    | 2* SO-DIMM Socket                                                                                                                                                                                                                                                                     | 2* SO-DIMM Socket               | 2* SO-DIMM Socket                                                        |
|                                 | Frequency                                                                                   | DDR4-1866/2133 MHz                                                                                                                                                                                                                                                                    | DDR4-2400 MHz                   | DDR4-2400/2666 MHz                                                       |
|                                 | Capacity                                                                                    | Up to 32GB                                                                                                                                                                                                                                                                            | Up to 32GB                      | Up to 32GB                                                               |
| <b>Storage Device</b>           | SATA                                                                                        | 1* 2.5" SATA3.0 Bay on board (6Gb/s); 3* SATA3.0 connectors (6Gb/s), Support RAID (0/1/5)                                                                                                                                                                                             |                                 |                                                                          |
|                                 | MSATA                                                                                       | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                                                                                                                     |                                 |                                                                          |
|                                 | M.2                                                                                         | 1* M.2 (NGFF) 2280 M-key slot, support PCIe4 Gen.3 NVMe/ SATA3.0 SSD                                                                                                                                                                                                                  |                                 |                                                                          |
| <b>I/O Interface</b>            | COM                                                                                         | 1* RS232/485 with RJ45 connector, 1* RS232/485 with DB9 connector, switchable by jumper                                                                                                                                                                                               |                                 |                                                                          |
|                                 | Ethernet                                                                                    | (Option A&B) 3* Intel® i211 GbE LAN, RJ45 connector;<br>(Option A) 6* Intel® i226 GbE LAN, RJ45 connector (One of Poe GbE LAN is shared with Mini-PCle's PCIe signal)<br>(Option B) 6* Intel® i226 GbE LAN, M12 connector (One of Poe GbE LAN is shared with Mini-PCle's PCIe signal) |                                 |                                                                          |
|                                 | USB                                                                                         | 8* USB 3.0; 3* USB2.0; 1* Internal USB2.0                                                                                                                                                                                                                                             |                                 |                                                                          |
|                                 | Video                                                                                       | 1* HDMI, Support 4096x2304@24Hz, (Optional 1* DP, Support 4096 x 2304@60Hz);<br>1* VGA, Support 1920x1200@60Hz;                                                                                                                                                                       |                                 |                                                                          |
|                                 | Audio                                                                                       | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                                                                                                                       |                                 |                                                                          |
|                                 | SIM                                                                                         | 1* External SIM card slot connected to Mini-PCle                                                                                                                                                                                                                                      |                                 |                                                                          |
|                                 | Power Supply                                                                                | 9V-36V DC; 1* 4-Pin DC Power Jack (Circular DIN Connectors, Full-Shield)                                                                                                                                                                                                              |                                 |                                                                          |
|                                 | Other                                                                                       | 1* 8-bit GPIO (4-Inputs/4-Outputs, 0-5V Input Range) and 1* Remote Switch on Terminal Block (12-Pin, 3.81mm).<br>1* PS/2 for keyboard/ mouse; 1* Auto-On Switch; 1* TPM header (2*8-pin)                                                                                              |                                 |                                                                          |
|                                 | Extended Capabilities                                                                       | Additional Internal Interface<br>1* Full Size Mini-PCle with SIM card slot; (PCIe+USB2.0, PCIe signal is shared with a LAN port);<br>1* M.2 2230 E-key Slot (PCIe+USB2.0, support WiFi+BT)                                                                                            |                                 |                                                                          |
| <b>Environment</b>              | Operating Temperature                                                                       | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                                                                                                                         |                                 |                                                                          |
|                                 | Storage Temperature                                                                         | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                                                                                                              |                                 |                                                                          |
|                                 | Relative Humidity                                                                           | 40 °C @ 95%, Non-Condensing                                                                                                                                                                                                                                                           |                                 |                                                                          |
| <b>Physical Characteristics</b> | Dimensions                                                                                  | 290.35* 87.58* 186 mm (W* H* D)                                                                                                                                                                                                                                                       |                                 |                                                                          |
|                                 | Net Weight                                                                                  | 3.9 KG                                                                                                                                                                                                                                                                                |                                 |                                                                          |
| <b>Regulation</b>               | EMC                                                                                         | CE/FCC Class B, CCC                                                                                                                                                                                                                                                                   |                                 |                                                                          |
|                                 | Safety                                                                                      | CE-LVD, RoHS, CCC                                                                                                                                                                                                                                                                     |                                 |                                                                          |

# Industrial PC

# IBOX-601-9L2C6P

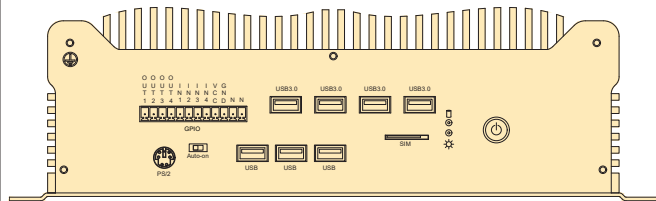
# Dimension

Unit:mm

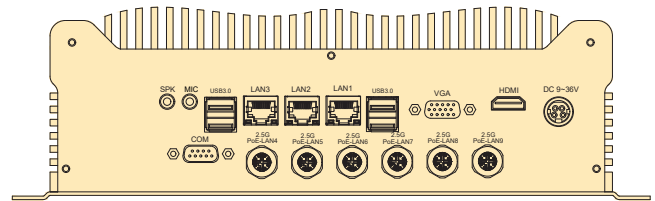


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM<br>Socket |         | M.2 2280<br>M-key Slot |               | mSATA3.0<br>Slot |     | SATA3.0<br>Connector |                           | Full Size<br>Mini-PCle |      | M.2 2230<br>E-key Slot |            | COM |                   | 1.0 GbE LAN |              | PoE<br>2.5 GbE LAN |  |
|-------------------|---------|------------------------|---------------|------------------|-----|----------------------|---------------------------|------------------------|------|------------------------|------------|-----|-------------------|-------------|--------------|--------------------|--|
| 2                 |         | 1                      |               | 1                |     | 4                    |                           | 1                      |      | 1                      |            | 2   |                   | 3           |              | 6                  |  |
| USB 2.0           | USB 3.0 | Internal<br>USB2.0     | HDMI<br>Or DP | VGA              | MIC | SPK                  | External<br>SIM Card Slot |                        | PS/2 |                        | 8-bit GPIO |     | Auto-On<br>Switch |             | Power Supply |                    |  |
| 3                 | 8       | 1                      | 1             | 1                | 1   | 1                    | 1                         |                        | 1    |                        | 1          |     | 1                 |             | DC 9-36V     |                    |  |

## Processors Info & Available List

| CPU                   | Code Name   | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP  | Memory Types | Integrated Graphics     |
|-----------------------|-------------|-------------|---------------|---------------------|----------------|--------------------------|------|--------------|-------------------------|
| Intel® Core™ i3-6100  | Skylake     | 2           | 4             | -                   | 3.70 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i5-6500  | Skylake     | 4           | 4             | 3.60 GHz            | 3.20 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i7-6700  | Skylake     | 4           | 8             | 4.00 GHz            | 3.40 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Celeron® G4900 | Coffee Lake | 2           | 2             | -                   | 3.10 GHz       | 2 MB Intel® Smart Cache  | 54 W | DDR4         | Intel® UHD Graphics 610 |
| Intel® Core™ i3-7100  | Kaby Lake   | 2           | 4             | -                   | 3.90 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i5-7400  | Kaby Lake   | 2           | 4             | 3.50 GHz            | 3.00 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i7-7700  | Kaby Lake   | 4           | 8             | 4.20 GHz            | 3.60 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i3-8100  | Coffee Lake | 4           | 4             | -                   | 3.60 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-8500  | Coffee Lake | 6           | 6             | 4.10 GHz            | 3.00 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-8700  | Coffee Lake | 6           | 12            | 4.60 GHz            | 3.20 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i3-9300  | Coffee Lake | 4           | 4             | 4.30 GHz            | 3.70 GHz       | 8 MB Intel® Smart Cache  | 62 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-9400  | Coffee Lake | 6           | 6             | 4.10 GHz            | 2.90 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-9700  | Coffee Lake | 8           | 8             | 4.70 GHz            | 3.00 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i9-9900  | Coffee Lake | 8           | 16            | 5.00 GHz            | 3.10 GHz       | 16 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |

All products and company name listed are trademarks or trade names of their respective companies.

!! Note: For more interface configuration or available processors, please consult the sales.

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## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-601-9L2C6P Unit    | 1   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| Swappable hard-drive bracket kit  | -   |

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                                  |
|-------------------------------------------------|---------|----------------------------------------------------------------------------------------------|
| Isolated 8-bit GPIO, 9-24V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| 4G Module                                       | 1       | Connected by Mini-PCle interface                                                             |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCle interface, M.2 interface or internal USB interface                    |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCle interface                                                             |
| Dual channel CAN-Bus Module                     | 2       | Connected by Mini-PCle or M.2 interface                                                      |
| Ignition Switch Module                          | 1       | Phoenix Terminal connector, connected by internal power switch and 4-pin ATX power connector |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.



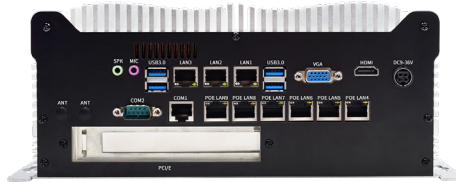
# IBOX-601-9L2C6P-1P



- Equipped with desktop-class high-performance CPU
- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



Front Panel



Option A



Option B

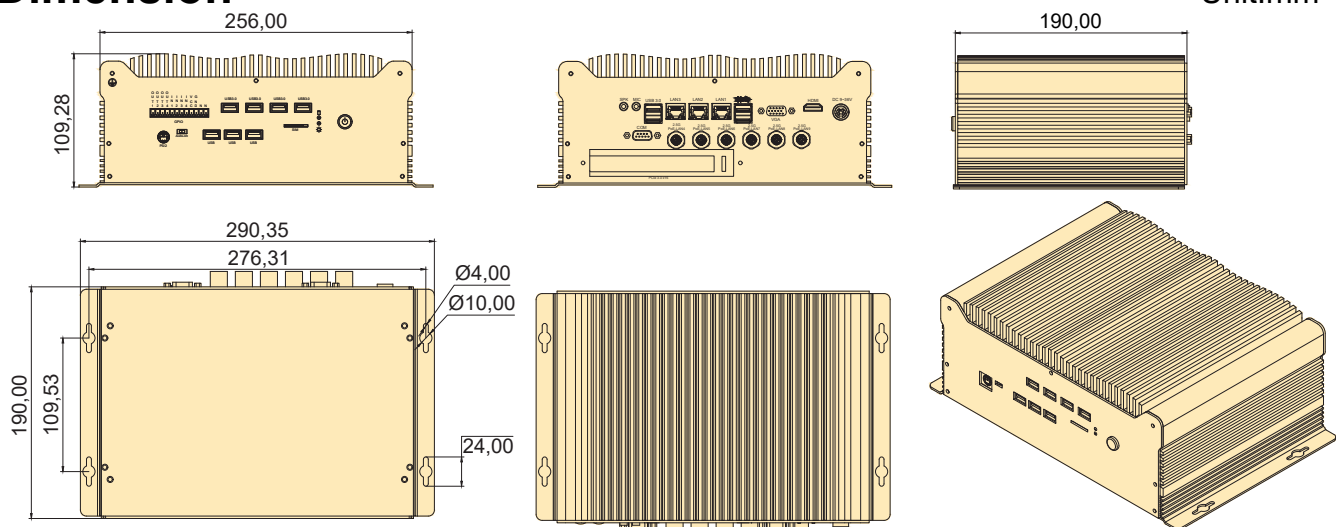
The actual appearance is subject to the final configuration.

## Specifications

|                          |                                                                                             |                                                                                                                                                                                                                                                                                       |                                 |                                                                          |
|--------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------|
| Model                    | IBOX-601-9L2C6P-1P                                                                          |                                                                                                                                                                                                                                                                                       |                                 |                                                                          |
| Supported OS             | Win 7, Win 8, Win 10, Win 11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                                                                                                                                       |                                 |                                                                          |
| Chipset                  | Intel® Z370 Chipset                                                                         |                                                                                                                                                                                                                                                                                       |                                 |                                                                          |
| CPU                      | Processor Socket                                                                            | Intel® Desktop Processors Socket LGA1151                                                                                                                                                                                                                                              |                                 |                                                                          |
|                          | Series                                                                                      | 6th Gen. Intel® Core™ Processor                                                                                                                                                                                                                                                       | Intel® Celeron® G4900 Processor | 7th-9th Gen. Intel® Core™ Processor                                      |
|                          | TDP                                                                                         | Up to 65W                                                                                                                                                                                                                                                                             | 54W                             | Up to 65W                                                                |
|                          | Graphic                                                                                     | Intel® HD Graphics 530                                                                                                                                                                                                                                                                | Intel® UHD Graphics 610         | 7th Gen: Intel® HD Graphics 630<br>8th/ 9th Gen: Intel® UHD Graphics 630 |
| RAM                      | Type&Qty                                                                                    | 2* SO-DIMM Socket                                                                                                                                                                                                                                                                     | 2* SO-DIMM Socket               | 2* SO-DIMM Socket                                                        |
|                          | Frequency                                                                                   | DDR4-1866/2133 MHz                                                                                                                                                                                                                                                                    | DDR4-2400 MHz                   | DDR4-2400/2666 MHz                                                       |
|                          | Capacity                                                                                    | Up to 32GB                                                                                                                                                                                                                                                                            | Up to 32GB                      | Up to 32GB                                                               |
| Storage Device           | SATA                                                                                        | 1* 2.5" SATA3.0 Bay on board (6Gb/s); 3* SATA3.0 connectors (6Gb/s), Support RAID (0/1/5)                                                                                                                                                                                             |                                 |                                                                          |
|                          | MSATA                                                                                       | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                                                                                                                     |                                 |                                                                          |
|                          | M.2                                                                                         | 1* M.2 (NGFF) 2280 M-key slot, support PCIe4 Gen.3 NVMe/ SATA3.0 SSD                                                                                                                                                                                                                  |                                 |                                                                          |
| I/O Interface            | COM                                                                                         | 1* RS232/485 with RJ45 connector, 1* RS232/485 with DB9 connector, switchable by jumper                                                                                                                                                                                               |                                 |                                                                          |
|                          | Ethernet                                                                                    | (Option A&B) 3* Intel® i211 GbE LAN, RJ45 connector;<br>(Option A) 6* Intel® i226 GbE LAN, RJ45 connector (One of Poe GbE LAN is shared with Mini-PCIe's PCIe signal)<br>(Option B) 6* Intel® i226 GbE LAN, M12 connector (One of Poe GbE LAN is shared with Mini-PCIe's PCIe signal) |                                 |                                                                          |
|                          | USB                                                                                         | 8* USB 3.0; 3* USB2.0; 1* Internal USB2.0                                                                                                                                                                                                                                             |                                 |                                                                          |
|                          | Video                                                                                       | 1* HDMI, Support 4096x2304@24Hz, (Optional 1* DP, Support 4096 x 2304@60Hz);<br>1* VGA, Support 1920x1200@60Hz;                                                                                                                                                                       |                                 |                                                                          |
|                          | Audio                                                                                       | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                                                                                                                       |                                 |                                                                          |
|                          | SIM                                                                                         | 1* External SIM card slot connected to Mini-PCIe                                                                                                                                                                                                                                      |                                 |                                                                          |
|                          | Power Supply                                                                                | 9V-36V DC; 1* 4-Pin DC Power Jack (Circular DIN Connectors, Full-Shield)                                                                                                                                                                                                              |                                 |                                                                          |
|                          | Other                                                                                       | 1* 8-bit GPIO (4-Inputs/4-Outputs, 0-5V Input Range) and 1* Remote Switch on Terminal Block (12-Pin, 3.81mm).<br>1* PS/2 for keyboard/ mouse; 1* Auto-On Switch; 1* TPM header (2*8-pin)                                                                                              |                                 |                                                                          |
| Extended Capabilities    | Additional Internal Interface                                                               | 1* PCIe3.0 x16 Slot;<br>1* Full Size Mini-PCIe with SIM card slot; (PCIe+USB2.0, PCIe signal is shared with a LAN port);<br>1* M.2 2230 E-key Slot (PCIe+USB2.0, support WiFi+BT)                                                                                                     |                                 |                                                                          |
| Environment              | Operating Temperature                                                                       | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                                                                                                                         |                                 |                                                                          |
|                          | Storage Temperature                                                                         | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                                                                                                              |                                 |                                                                          |
|                          | Relative Humidity                                                                           | 40 °C @ 95%, Non-Condensing                                                                                                                                                                                                                                                           |                                 |                                                                          |
| Physical Characteristics | Dimensions                                                                                  | 290.35* 109.28* 186 mm (W* H* D)                                                                                                                                                                                                                                                      |                                 |                                                                          |
|                          | Net Weight                                                                                  | 4.25 KG                                                                                                                                                                                                                                                                               |                                 |                                                                          |
| Regulation               | EMC                                                                                         | CE/FCC Class B, CCC                                                                                                                                                                                                                                                                   |                                 |                                                                          |
|                          | Safety                                                                                      | CE-LVD, RoHS, CCC                                                                                                                                                                                                                                                                     |                                 |                                                                          |

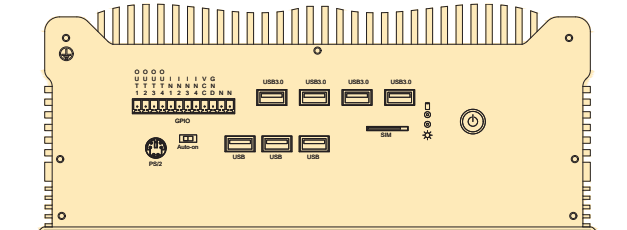
## Dimension

Unit:mm

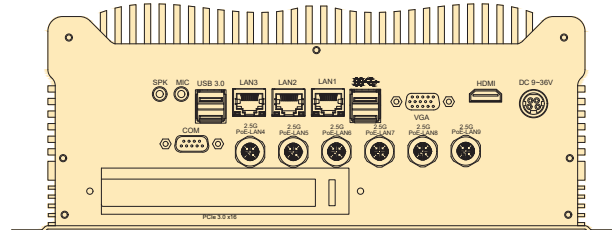


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM<br>Socket | M.2 2280<br>M-key Slot | mSATA3.0<br>Slot   | SATA3.0<br>Connector | PCIe3.0<br>x16 Slot | Full Size<br>Mini-PCIe | M.2 2230<br>E-key Slot | COM                       | 1.0 GbE LAN | PoE<br>2.5 GbE LAN |                   |              |
|-------------------|------------------------|--------------------|----------------------|---------------------|------------------------|------------------------|---------------------------|-------------|--------------------|-------------------|--------------|
| 2                 | 1                      | 1                  | 4                    | 1                   | 1                      | 1                      | 2                         | 3           | 6                  |                   |              |
| USB 2.0           | USB 3.0                | Internal<br>USB2.0 | HDMI<br>Or DP        | VGA                 | MIC                    | SPK                    | External<br>SIM Card Slot | PS/2        | 8-bit GPIO         | Auto-On<br>Switch | Power Supply |
| 3                 | 8                      | 1                  | 1                    | 1                   | 1                      | 1                      | 1                         | 1           | 1                  |                   | DC 9-36V     |

## Processors Info & Available List

| CPU                   | Code Name   | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP  | Memory Types | Integrated Graphics     |
|-----------------------|-------------|-------------|---------------|---------------------|----------------|--------------------------|------|--------------|-------------------------|
| Intel® Core™ i3-6100  | Skylake     | 2           | 4             | -                   | 3.70 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i5-6500  | Skylake     | 4           | 4             | 3.60 GHz            | 3.20 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i7-6700  | Skylake     | 4           | 8             | 4.00 GHz            | 3.40 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Celeron™ G4900 | Coffee Lake | 2           | 2             | -                   | 3.10 GHz       | 2 MB Intel® Smart Cache  | 54 W | DDR4         | Intel® UHD Graphics 610 |
| Intel® Core™ i3-7100  | Kaby Lake   | 2           | 4             | -                   | 3.90 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i5-7400  | Kaby Lake   | 2           | 4             | 3.50 GHz            | 3.00 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i7-7700  | Kaby Lake   | 4           | 8             | 4.20 GHz            | 3.60 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i3-8100  | Coffee Lake | 4           | 4             | -                   | 3.60 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-8500  | Coffee Lake | 6           | 6             | 4.10 GHz            | 3.00 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-8700  | Coffee Lake | 6           | 12            | 4.60 GHz            | 3.20 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i3-9300  | Coffee Lake | 4           | 4             | 4.30 GHz            | 3.70 GHz       | 8 MB Intel® Smart Cache  | 62 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-9400  | Coffee Lake | 6           | 6             | 4.10 GHz            | 2.90 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-9700  | Coffee Lake | 8           | 8             | 4.70 GHz            | 3.00 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i9-9900  | Coffee Lake | 8           | 16            | 5.00 GHz            | 3.10 GHz       | 16 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |

All products and company name listed are trademarks or trade names of their respective companies.

!! Note: For more interface configuration or available processors, please consult the sales.

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## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-601-9L2C6P-1P Unit | 1   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| Swappable hard-drive bracket kit  | -   |

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                                  |
|-------------------------------------------------|---------|----------------------------------------------------------------------------------------------|
| Isolated 8-bit GPIO, 9-24V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| 4G Module                                       | 1       | Connected by Mini-PCle interface                                                             |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCle interface, M.2 interface or internal USB interface                    |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCle interface                                                             |
| Dual channel CAN-Bus Module                     | 2       | Connected by Mini-PCle or M.2 interface                                                      |
| Dual/Quad channel CAN-Bus Module                | 1       | Connected by PCle Interface                                                                  |
| Quad GbE PoE LAN Module                         | 1       | Connected by PCle Interface                                                                  |
| Ignition Switch Module                          | 1       | Phoenix Terminal connector, connected by internal power switch and 4-pin ATX power connector |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-602-5C3L



- Equipped with desktop-class high-performance CPU
- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



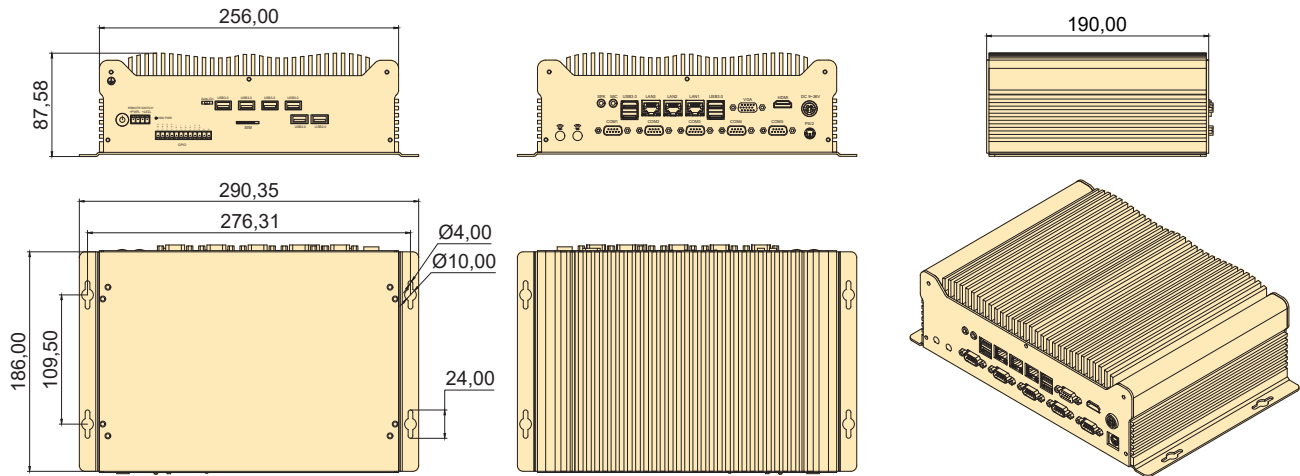
The actual appearance is subject to the final configuration.

## Specifications

|                          |                                                                                             |                                                                                                                                                                                                                                                    |                                 |                                                                          |
|--------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------|
| Model                    | IBOX-602-5C3L                                                                               |                                                                                                                                                                                                                                                    |                                 |                                                                          |
| Supported OS             | Win 7, Win 8, Win 10, Win 11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                                                                                                    |                                 |                                                                          |
| Chipset                  | Intel® Z370 Chipset                                                                         |                                                                                                                                                                                                                                                    |                                 |                                                                          |
| CPU                      | Processor Socket                                                                            | Intel® Desktop Processors Socket LGA1151                                                                                                                                                                                                           |                                 |                                                                          |
|                          | Series                                                                                      | 6th Gen. Intel® Core™ Processor                                                                                                                                                                                                                    | Intel® Celeron® G4900 Processor | 7th-9th Gen. Intel® Core™ Processor                                      |
|                          | TDP                                                                                         | Up to 65W                                                                                                                                                                                                                                          | 54W                             | Up to 65W                                                                |
|                          | Graphic                                                                                     | Intel® HD Graphics 530                                                                                                                                                                                                                             | Intel® UHD Graphics 610         | 7th Gen: Intel® HD Graphics 630<br>8th/ 9th Gen: Intel® UHD Graphics 630 |
| RAM                      | Type&Qty                                                                                    | 2* SO-DIMM Socket                                                                                                                                                                                                                                  | 2* SO-DIMM Socket               | 2* SO-DIMM Socket                                                        |
|                          | Frequency                                                                                   | DDR4-1866/2133 MHz                                                                                                                                                                                                                                 | DDR4-2400 MHz                   | DDR4-2400/2666 MHz                                                       |
|                          | Capacity                                                                                    | Up to 32GB                                                                                                                                                                                                                                         | Up to 32GB                      | Up to 32GB                                                               |
| Storage Device           | SATA                                                                                        | 1* 2.5" SATA3.0 Bay on board (6Gb/s); 3* SATA3.0 connectors (6Gb/s), Support RAID (0/1/5)                                                                                                                                                          |                                 |                                                                          |
|                          | MSATA                                                                                       | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                                                                                  |                                 |                                                                          |
|                          | M.2                                                                                         | 1* M.2 (NGFF) 2280 M-key slot, support PCIe4 Gen.3 NVMe/ SATA3.0 SSD                                                                                                                                                                               |                                 |                                                                          |
| I/O Interface            | COM                                                                                         | 4* Isolated DB9 COM Ports with ESD/EFT/Surge protection (COM1-4, support RS232/485, switchable by jumper); 1* RS232 with DB9 connector (COM5); 1* RS232 header (COM6)                                                                              |                                 |                                                                          |
|                          | Ethernet                                                                                    | 3* Intel® i211 GbE LAN, RJ45 connector                                                                                                                                                                                                             |                                 |                                                                          |
|                          | USB                                                                                         | 8* USB 3.0; 2* USB2.0; 1* Internal USB2.0                                                                                                                                                                                                          |                                 |                                                                          |
|                          | Video                                                                                       | 1* HDMI, Support 4096x2304@24Hz, (Optional 1* DP, Support 4096 x 2304@60Hz); 1* VGA, Support 1920x1200@60Hz;                                                                                                                                       |                                 |                                                                          |
|                          | Audio                                                                                       | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                                                                                    |                                 |                                                                          |
|                          | SIM                                                                                         | 1* External SIM card slot connected to Mini-PCIe                                                                                                                                                                                                   |                                 |                                                                          |
|                          | Power Supply                                                                                | 9V-36V DC; 1* 4-Pin DC Power Jack (Circular DIN Connectors, Full-Shield)                                                                                                                                                                           |                                 |                                                                          |
|                          | Other                                                                                       | 1* 8-bit GPIO, Terminal Block (12-Pin, 3.81mm), 4-Inputs/4-Outputs, 0-5V Input Range<br>1* Terminal Block (4-Pin, 3.81mm Pitch) with Remote Switch and Power Indicator<br>1* PS/2 for keyboard/ mouse; 1* Auto-On Switch; 1* TPM header (2*10-pin) |                                 |                                                                          |
| Extended Capabilities    | Additional Internal Interface                                                               | 1* Full Size Mini-PCIe with SIM card slot; (PCIe+USB2.0); 1* M.2 2230 E-key Slot (PCIe+USB2.0, support WiFi+BT)                                                                                                                                    |                                 |                                                                          |
| Environment              | Operating Temperature                                                                       | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                                                                                      |                                 |                                                                          |
|                          | Storage Temperature                                                                         | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                                                                           |                                 |                                                                          |
|                          | Relative Humidity                                                                           | 40 °C @ 95%, Non-Condensing                                                                                                                                                                                                                        |                                 |                                                                          |
| Physical Characteristics | Dimensions                                                                                  | 290.35* 87.58* 186 mm (W* H* D)                                                                                                                                                                                                                    |                                 |                                                                          |
|                          | Net Weight                                                                                  | 3.9 KG                                                                                                                                                                                                                                             |                                 |                                                                          |
| Regulation               | EMC                                                                                         | CE/FCC Class B, CCC                                                                                                                                                                                                                                |                                 |                                                                          |
|                          | Safety                                                                                      | CE-LVD, RoHS, CCC                                                                                                                                                                                                                                  |                                 |                                                                          |

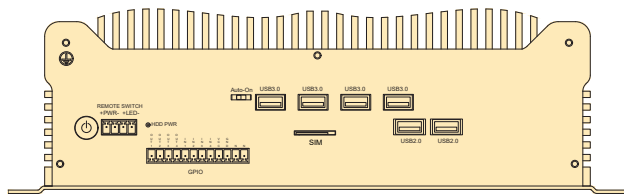
## Dimension

Unit:mm

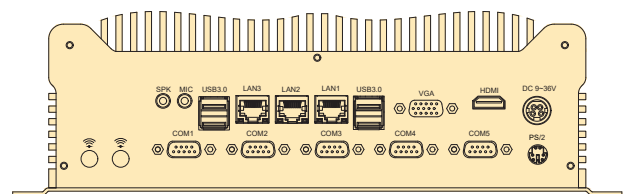


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Socket | M.2 2280 M-key Slot | mSATA3.0 Slot   | SATA3.0 Connector | Full Size Mini-PCle | M.2 2230 E-key Slot | Isolated RS232/ RS485 | Non-Isolated RS232     | RS232 Header | GbE LAN       |            |                |             |
|----------------|---------------------|-----------------|-------------------|---------------------|---------------------|-----------------------|------------------------|--------------|---------------|------------|----------------|-------------|
| 2              | 1                   | 1               | 4                 | 1                   | 1                   | 4                     | 1                      | 1            | 3             |            |                |             |
| USB3.0         | USB2.0              | Internal USB2.0 | HDMI Or DP        | VGA                 | MIC                 | SPK                   | External SIM Card Slot | PS/2         | Remote Switch | 8-bit GPIO | Auto-On Switch | Power Input |
| 8              | 2                   | 1               | 1                 | 1                   | 1                   | 1                     | 1                      | 1            | 1             | 1          | 1              | DC 9-36V    |

## Processors Info & Available List

| CPU                   | Code Name   | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP  | Memory Types | Integrated Graphics     |
|-----------------------|-------------|-------------|---------------|---------------------|----------------|--------------------------|------|--------------|-------------------------|
| Intel® Core™ i3-6100  | Skylake     | 2           | 4             | -                   | 3.70 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i5-6500  | Skylake     | 4           | 4             | 3.60 GHz            | 3.20 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i7-6700  | Skylake     | 4           | 8             | 4.00 GHz            | 3.40 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Celeron® G4900 | Coffee Lake | 2           | 2             | -                   | 3.10 GHz       | 2 MB Intel® Smart Cache  | 54 W | DDR4         | Intel® UHD Graphics 610 |
| Intel® Core™ i3-7100  | Kaby Lake   | 2           | 4             | -                   | 3.90 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i5-7400  | Kaby Lake   | 2           | 4             | 3.50 GHz            | 3.00 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i7-7700  | Kaby Lake   | 4           | 8             | 4.20 GHz            | 3.60 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i3-8100  | Coffee Lake | 4           | 4             | -                   | 3.60 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-8500  | Coffee Lake | 6           | 6             | 4.10 GHz            | 3.00 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-8700  | Coffee Lake | 6           | 12            | 4.60 GHz            | 3.20 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i3-9300  | Coffee Lake | 4           | 4             | 4.30 GHz            | 3.70 GHz       | 8 MB Intel® Smart Cache  | 62 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-9400  | Coffee Lake | 6           | 6             | 4.10 GHz            | 2.90 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-9700  | Coffee Lake | 8           | 8             | 4.70 GHz            | 3.00 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i9-9900  | Coffee Lake | 8           | 16            | 5.00 GHz            | 3.10 GHz       | 16 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |

All products and company name listed are trademarks or trade names of their respective companies.

!! Note: For more interface configuration or available processors, please consult the sales.

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## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-602-5C3L Unit      | 1   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| Swappable hard-drive bracket kit  | -   |

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                         |
|-------------------------------------------------|---------|-------------------------------------------------------------------------------------|
| Isolated RS-232                                 | 1       | DB9 or Phoenix Terminal connector, connected by header                              |
| Non-Isolated RS-232                             | 1       | DB9 or Phoenix Terminal connector, connected by header                              |
| Non-Isolated RS-422                             | 1       | DB9 or Phoenix Terminal connector, connected by header with a transform module      |
| Non-Isolated RS-485                             | 1       | DB9 or Phoenix Terminal connector, connected by header with a transform module      |
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by header                                     |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| 4G Module                                       | 1       | Connected by Mini-PCle interface                                                    |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCle interface, M.2 interface or internal USB interface           |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCle interface                                                    |
| Dual channel CAN-Bus Module                     | 2       | Connected by Mini-PCle or M.2 interface                                             |
| Dual GbE PoE LAN Module                         | 1       | Connected by Mini-PCle Interface                                                    |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.



# IBOX-602-5C3L-1P



- Equipped with desktop-class high-performance CPU
- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



The actual appearance is subject to the final configuration.

## Specifications

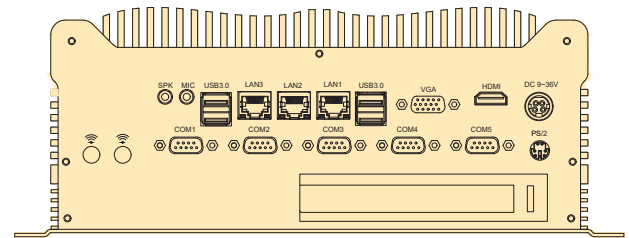
|                                 |                                                                                             |                                                                                                                                                                                                                                                    |                                 |
|---------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| <b>Model</b>                    | IBOX-602-5C3L-1P                                                                            |                                                                                                                                                                                                                                                    |                                 |
| <b>Supported OS</b>             | Win 7, Win 8, Win 10, Win 11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                                                                                                    |                                 |
| <b>Chipset</b>                  | Intel® Z370 Chipset                                                                         |                                                                                                                                                                                                                                                    |                                 |
| <b>CPU</b>                      | Processor Socket                                                                            | Intel® Desktop Processors Socket LGA1151                                                                                                                                                                                                           |                                 |
|                                 | Series                                                                                      | 6th Gen. Intel® Core™ Processor                                                                                                                                                                                                                    | Intel® Celeron® G4900 Processor |
|                                 | TDP                                                                                         | Up to 65W                                                                                                                                                                                                                                          | 54W                             |
|                                 | Graphic                                                                                     | Intel® HD Graphics 530                                                                                                                                                                                                                             | Intel® UHD Graphics 610         |
| <b>RAM</b>                      | Type&Qty                                                                                    | 2* SO-DIMM Socket                                                                                                                                                                                                                                  | 2* SO-DIMM Socket               |
|                                 | Frequency                                                                                   | DDR4-1866/2133 MHz                                                                                                                                                                                                                                 | DDR4-2400 MHz                   |
|                                 | Capacity                                                                                    | Up to 32GB                                                                                                                                                                                                                                         | Up to 32GB                      |
| <b>Storage Device</b>           | SATA                                                                                        | 1* 2.5" SATA3.0 Bay on board (6Gb/s); 3* SATA3.0 connectors (6Gb/s), Support RAID (0/1/5)                                                                                                                                                          |                                 |
|                                 | MSATA                                                                                       | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                                                                                  |                                 |
|                                 | M.2                                                                                         | 1* M.2 (NGFF) 2280 M-key slot, support PCIe4 Gen.3 NVMe/ SATA3.0 SSD                                                                                                                                                                               |                                 |
| <b>I/O Interface</b>            | COM                                                                                         | 4* Isolated DB9 COM Ports with ESD/EFT/Surge protection (COM1-4, support RS232/485, switchable by jumper); 1* RS232 with DB9 connector (COM5); 1* RS232 header (COM6)                                                                              |                                 |
|                                 | Ethernet                                                                                    | 3* Intel® i211 GbE LAN, RJ45 connector                                                                                                                                                                                                             |                                 |
|                                 | USB                                                                                         | 8* USB 3.0; 2* USB2.0; 1* Internal USB2.0                                                                                                                                                                                                          |                                 |
|                                 | Video                                                                                       | 1* HDMI, Support 4096x2304@24Hz, (Optional 1* DP, Support 4096 x 2304@60Hz); 1* VGA, Support 1920x1200@60Hz;                                                                                                                                       |                                 |
|                                 | Audio                                                                                       | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                                                                                    |                                 |
|                                 | SIM                                                                                         | 1* External SIM card slot connected to Mini-PCIe                                                                                                                                                                                                   |                                 |
|                                 | Power Supply                                                                                | 9V-36V DC; 1* 4-Pin DC Power Jack (Circular DIN Connectors, Full-Shield)                                                                                                                                                                           |                                 |
| <b>Extended Capabilities</b>    | Other                                                                                       | 1* 8-bit GPIO, Terminal Block (12-Pin, 3.81mm), 4-Inputs/4-Outputs, 0-5V Input Range<br>1* Terminal Block (4-Pin, 3.81mm Pitch) with Remote Switch and Power Indicator<br>1* PS/2 for keyboard/ mouse; 1* Auto-On Switch; 1* TPM header (2*10-pin) |                                 |
|                                 | Additional Internal Interface                                                               | 1* PCIe3.0 x16 Slot or 1* PCI Slot<br>1* Full Size Mini-PCIe with SIM card slot; (PCIe+USB2.0);<br>1* M.2 2230 E-key Slot (PCIe+USB2.0, support WiFi+BT)                                                                                           |                                 |
| <b>Environment</b>              | Operating Temperature                                                                       | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                                                                                      |                                 |
|                                 | Storage Temperature                                                                         | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                                                                           |                                 |
|                                 | Relative Humidity                                                                           | 40 °C @ 95%, Non-Condensing                                                                                                                                                                                                                        |                                 |
| <b>Physical Characteristics</b> | Dimensions                                                                                  | 290.35* 109.28* 186 mm (W* H* D)                                                                                                                                                                                                                   |                                 |
|                                 | Net Weight                                                                                  | 4.25 KG                                                                                                                                                                                                                                            |                                 |
| <b>Regulation</b>               | EMC                                                                                         | CE/FCC Class B, CCC                                                                                                                                                                                                                                |                                 |
|                                 | Safety                                                                                      | CE-LVD, RoHS, CCC                                                                                                                                                                                                                                  |                                 |



## Unit:mm



### Rear Panel External I/O Mechanical Layout/Drawing

[illegible]

| CPU                   | Code Name   | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP  | Memory Types | Integrated Graphics     |
|-----------------------|-------------|-------------|---------------|---------------------|----------------|--------------------------|------|--------------|-------------------------|
| Intel® Core™ i3-6100  | Skylake     | 2           | 4             | -                   | 3.70 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i5-6500  | Skylake     | 4           | 4             | 3.60 GHz            | 3.20 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i7-6700  | Skylake     | 4           | 8             | 4.00 GHz            | 3.40 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Celeron® G4900 | Coffee Lake | 2           | 2             | -                   | 3.10 GHz       | 2 MB Intel® Smart Cache  | 54 W | DDR4         | Intel® UHD Graphics 610 |
| Intel® Core™ i3-7100  | Kaby Lake   | 2           | 4             | -                   | 3.90 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i5-7400  | Kaby Lake   | 2           | 4             | 3.50 GHz            | 3.00 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i7-7700  | Kaby Lake   | 4           | 8             | 4.20 GHz            | 3.60 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i3-8100  | Coffee Lake | 4           | 4             | -                   | 3.60 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-8500  | Coffee Lake | 6           | 6             | 4.10 GHz            | 3.00 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-8700  | Coffee Lake | 6           | 12            | 4.60 GHz            | 3.20 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i3-9300  | Coffee Lake | 4           | 4             | 4.30 GHz            | 3.70 GHz       | 8 MB Intel® Smart Cache  | 62 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-9400  | Coffee Lake | 6           | 6             | 4.10 GHz            | 2.90 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-9700  | Coffee Lake | 8           | 8             | 4.70 GHz            | 3.00 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i9-9900  | Coffee Lake | 8           | 16            | 5.00 GHz            | 3.10 GHz       | 16 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |

!! Note: For more interface configuration or available processors, please consult the sales.

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-602-5C3L-1P Unit   | 1   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| Swappable hard-drive bracket kit  | -   |

## Optional accessories or internal modules for unit

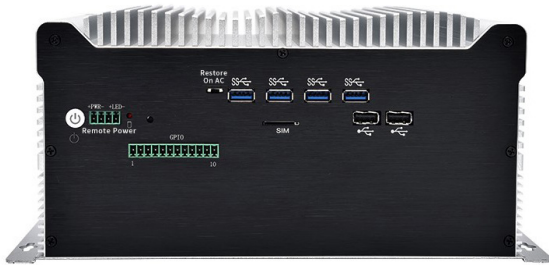
| Optional Items                                  | Max Qty | Description                                                                         |
|-------------------------------------------------|---------|-------------------------------------------------------------------------------------|
| Isolated RS-232                                 | 1       | DB9 or Phoenix Terminal connector, connected by header                              |
| Non-Isolated RS-232                             | 1       | DB9 or Phoenix Terminal connector, connected by header                              |
| Non-Isolated RS-422                             | 1       | DB9 or Phoenix Terminal connector, connected by header with a transform module      |
| Non-Isolated RS-485                             | 1       | DB9 or Phoenix Terminal connector, connected by header with a transform module      |
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by header                                     |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| 4G Module                                       | 1       | Connected by Mini-PCIe interface                                                    |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCIe interface, M.2 interface or internal USB interface           |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCIe interface                                                    |
| Dual channel CAN-Bus Module                     | 2       | Connected by Mini-PCIe or M.2 interface                                             |
| Dual/Quad channel CAN-Bus Module                | 1       | Connected by PCIe Interface                                                         |
| Dual GbE PoE LAN Module                         | 1       | Connected by Mini-PCIe Interface                                                    |
| Quad GbE PoE LAN Module                         | 1       | Connected by PCIe Interface                                                         |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-602-5C3L-2P



- Equipped with desktop-class high-performance CPU
- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



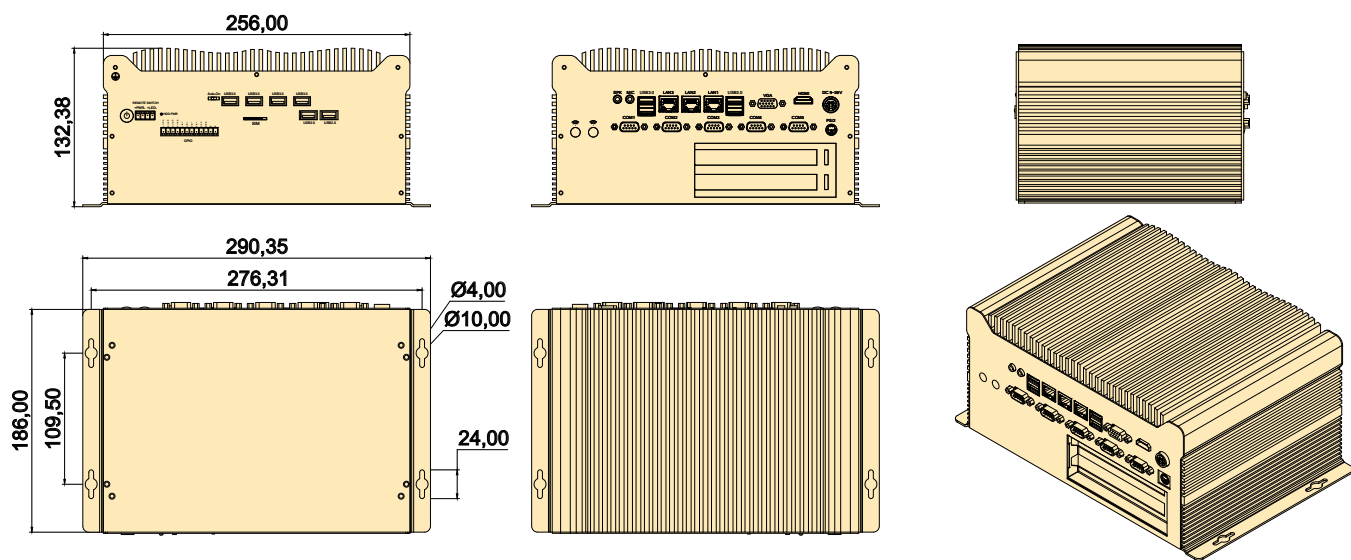
The actual appearance is subject to the final configuration.

## Specifications

|                                 |                                                                                             |                                                                                                                                                                                                                                                    |                                 |                                                                         |
|---------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------------------------------------|
| <b>Model</b>                    | IBOX-602-5C3L-2P                                                                            |                                                                                                                                                                                                                                                    |                                 |                                                                         |
| <b>Supported OS</b>             | Win 7, Win 8, Win 10, Win 11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                                                                                                    |                                 |                                                                         |
| <b>Chipset</b>                  | Intel® Z370 Chipset                                                                         |                                                                                                                                                                                                                                                    |                                 |                                                                         |
| <b>CPU</b>                      | Processor Socket                                                                            | Intel® Desktop Processors Socket LGA1151                                                                                                                                                                                                           |                                 |                                                                         |
|                                 | Series                                                                                      | 6th Gen. Intel® Core™ Processor                                                                                                                                                                                                                    | Intel® Celeron® G4900 Processor | 7th-9th Gen. Intel® Core™ Processor                                     |
|                                 | TDP                                                                                         | Up to 65W                                                                                                                                                                                                                                          | 54W                             | Up to 65W                                                               |
|                                 | Graphic                                                                                     | Intel® HD Graphics 530                                                                                                                                                                                                                             | Intel® UHD Graphics 610         | 7th Gen: Intel® HD Graphics 630<br>8th/9th Gen: Intel® UHD Graphics 630 |
| <b>RAM</b>                      | Type&Qty                                                                                    | 2* SO-DIMM Socket                                                                                                                                                                                                                                  | 2* SO-DIMM Socket               | 2* SO-DIMM Socket                                                       |
|                                 | Frequency                                                                                   | DDR4-1866/2133 MHz                                                                                                                                                                                                                                 | DDR4-2400 MHz                   | DDR4-2400/2666 MHz                                                      |
|                                 | Capacity                                                                                    | Up to 32GB                                                                                                                                                                                                                                         | Up to 32GB                      | Up to 32GB                                                              |
| <b>Storage Device</b>           | SATA                                                                                        | 1* 2.5" SATA3.0 Bay on board (6Gb/s); 3* SATA3.0 connectors (6Gb/s), Support RAID (0/1/5)                                                                                                                                                          |                                 |                                                                         |
|                                 | MSATA                                                                                       | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                                                                                  |                                 |                                                                         |
|                                 | M.2                                                                                         | 1* M.2 (NGFF) 2280 M-key slot, support PCIe4 Gen.3 NVMe/ SATA3.0 SSD                                                                                                                                                                               |                                 |                                                                         |
| <b>I/O Interface</b>            | COM                                                                                         | 4* Isolated DB9 COM Ports with ESD/EFT/Surge protection (COM1-4, support RS232/485, switchable by jumper); 1* RS232 with DB9 connector (COM5); 1* RS232 header (COM6)                                                                              |                                 |                                                                         |
|                                 | Ethernet                                                                                    | 3* Intel® i211 GbE LAN, RJ45 connector                                                                                                                                                                                                             |                                 |                                                                         |
|                                 | USB                                                                                         | 8* USB 3.0; 2* USB2.0; 1* Internal USB2.0                                                                                                                                                                                                          |                                 |                                                                         |
|                                 | Video                                                                                       | 1* HDMI, Support 4096x2304@24Hz, (Optional 1* DP, Support 4096 x 2304@60Hz); 1* VGA, Support 1920x1200@60Hz;                                                                                                                                       |                                 |                                                                         |
|                                 | Audio                                                                                       | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                                                                                    |                                 |                                                                         |
|                                 | SIM                                                                                         | 1* External SIM card slot connected to Mini-PCIe                                                                                                                                                                                                   |                                 |                                                                         |
|                                 | Power Supply                                                                                | 9V-36V DC; 1* 4-Pin DC Power Jack (Circular DIN Connectors, Full-Shield)                                                                                                                                                                           |                                 |                                                                         |
|                                 | Other                                                                                       | 1* 8-bit GPIO, Terminal Block (12-Pin, 3.81mm), 4-Inputs/4-Outputs, 0-5V Input Range<br>1* Terminal Block (4-Pin, 3.81mm Pitch) with Remote Switch and Power Indicator<br>1* PS/2 for keyboard/ mouse; 1* Auto-On Switch; 1* TPM header (2*10-pin) |                                 |                                                                         |
|                                 | Extended Capabilities                                                                       | 1* PCIe x4+1* PCIe x16 or 1* PCI+1* PCIe x4 or 2* PCI or 1* PCIe x1+1* PCIe x4 or 1* PCI+1* PCIe x16; (PCIe Gen.3)<br>1* Full Size Mini-PCIe with SIM card slot; (PCIe+USB2.0);<br>1* M.2 2230 E-key Slot (PCIe+USB2.0, support WiFi+BT)           |                                 |                                                                         |
| <b>Environment</b>              | Operating Temperature                                                                       | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                                                                                      |                                 |                                                                         |
|                                 | Storage Temperature                                                                         | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                                                                           |                                 |                                                                         |
|                                 | Relative Humidity                                                                           | 40 °C @ 95%, Non-Condensing                                                                                                                                                                                                                        |                                 |                                                                         |
| <b>Physical Characteristics</b> | Dimensions                                                                                  | 290.35* 132.38* 186 mm (W* H* D)                                                                                                                                                                                                                   |                                 |                                                                         |
|                                 | Net Weight                                                                                  | 4.55 KG                                                                                                                                                                                                                                            |                                 |                                                                         |
| <b>Regulation</b>               | EMC                                                                                         | CE/FCC Class B, CCC                                                                                                                                                                                                                                |                                 |                                                                         |
|                                 | Safety                                                                                      | CE-LVD, RoHS, CCC                                                                                                                                                                                                                                  |                                 |                                                                         |

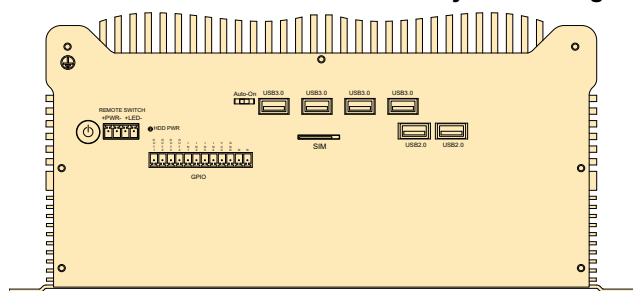
## Dimension

Unit:mm

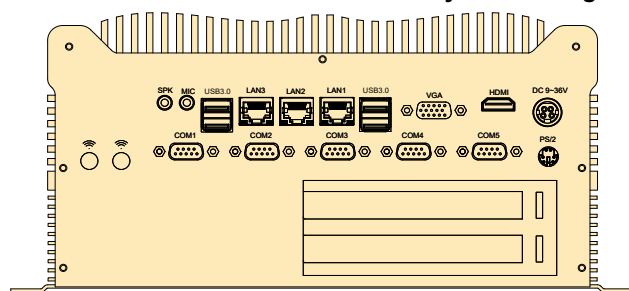


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Socket | M.2 2280 M-key slot | mSATA3.0 Slot   | SATA3.0 Connector | PCIe/PCI Expansion Slot | Full Size Mini-PCIe | M.2 2230 E-key Slot | Isolated RS232/ RS485  | Non-Isolated RS232 | RS232 Header  | GbE LAN    |                |              |
|----------------|---------------------|-----------------|-------------------|-------------------------|---------------------|---------------------|------------------------|--------------------|---------------|------------|----------------|--------------|
| 2              | 1                   | 1               | 4                 | 2                       | 1                   | 1                   | 4                      | 1                  | 1             | 3          |                |              |
| USB3.0         | USB2.0              | Internal USB2.0 | HDMI Or DP        | VGA                     | MIC                 | SPK                 | External SIM Card Slot | PS/2               | Remote Switch | 8-bit GPIO | Auto-On Switch | Power Supply |
| 8              | 2                   | 1               | 1                 | 1                       | 1                   | 1                   | 1                      | 1                  | 1             | 1          | 1              | DC 9-36V     |

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-602-5C3L-2P Unit   | 1   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| Swappable hard-drive bracket kit  | -   |

## Processors Info &amp; Available List

| CPU                   | Code Name   | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP  | Memory Types | Integrated Graphics     |
|-----------------------|-------------|-------------|---------------|---------------------|----------------|--------------------------|------|--------------|-------------------------|
| Intel® Core™ i3-6100  | Skylake     | 2           | 4             | -                   | 3.70 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i5-6500  | Skylake     | 4           | 4             | 3.60 GHz            | 3.20 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i7-6700  | Skylake     | 4           | 8             | 4.00 GHz            | 3.40 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Celeron® G4900 | Coffee Lake | 2           | 2             | -                   | 3.10 GHz       | 2 MB Intel® Smart Cache  | 54 W | DDR4         | Intel® UHD Graphics 610 |
| Intel® Core™ i3-7100  | Kaby Lake   | 2           | 4             | -                   | 3.90 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i5-7400  | Kaby Lake   | 2           | 4             | 3.50 GHz            | 3.00 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i7-7700  | Kaby Lake   | 4           | 8             | 4.20 GHz            | 3.60 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i3-8100  | Coffee Lake | 4           | 4             | -                   | 3.60 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-8500  | Coffee Lake | 6           | 6             | 4.10 GHz            | 3.00 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-8700  | Coffee Lake | 6           | 12            | 4.60 GHz            | 3.20 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i3-9300  | Coffee Lake | 4           | 4             | 4.30 GHz            | 3.70 GHz       | 8 MB Intel® Smart Cache  | 62 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-9400  | Coffee Lake | 6           | 6             | 4.10 GHz            | 2.90 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-9700  | Coffee Lake | 8           | 8             | 4.70 GHz            | 3.00 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i9-9900  | Coffee Lake | 8           | 16            | 5.00 GHz            | 3.10 GHz       | 16 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |

All products and company name listed are trademarks or trade names of their respective companies.

!! Note: For more interface configuration or available processors, please consult the sales.

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                         |
|-------------------------------------------------|---------|-------------------------------------------------------------------------------------|
| Isolated RS-232                                 | 1       | DB9 or Phoenix Terminal connector, connected by header                              |
| Non-Isolated RS-232                             | 1       | DB9 or Phoenix Terminal connector, connected by header                              |
| Non-Isolated RS-422                             | 1       | DB9 or Phoenix Terminal connector, connected by header with a transform module      |
| Non-Isolated RS-485                             | 1       | DB9 or Phoenix Terminal connector, connected by header with a transform module      |
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by header                                     |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| 4G Module                                       | 1       | Connected by Mini-PCIe interface                                                    |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCIe interface, M.2 interface or internal USB interface           |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCIe interface                                                    |
| Dual channel CAN-Bus Module                     | 2       | Connected by Mini-PCIe or M.2 interface                                             |
| Dual/Quad channel CAN-Bus Module                | 1       | Connected by PCIe Interface                                                         |
| Dual GbE PoE LAN Module                         | 1       | Connected by Mini-PCIe Interface                                                    |
| Quad GbE PoE LAN Module                         | 2       | Connected by PCIe Interface                                                         |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-602-5C3L-3P



- Equipped with desktop-class high-performance CPU
- Full aluminum alloy anti-interference structure
- Modular parts design with strong scalability
- Fully enclosed with fanless cooling system
- Cable-free design for better vibration resistance
- Scientific and reasonable interface layout
- Double board design with diverse interfaces



The actual appearance is subject to the final configuration.

## Specifications

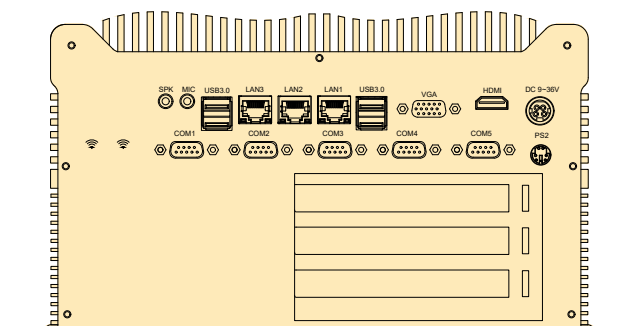
|                          |                                                                                             |                                                                                                                                                                                                                                                    |                                 |
|--------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| Model                    | IBOX-602-5C3L-3P                                                                            |                                                                                                                                                                                                                                                    |                                 |
| Supported OS             | Win 7, Win 8, Win 10, Win 11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                                                                                                    |                                 |
| Chipset                  | Intel® Z370 Chipset                                                                         |                                                                                                                                                                                                                                                    |                                 |
| CPU                      | Processor Socket                                                                            | Intel® Desktop Processors Socket LGA1151                                                                                                                                                                                                           |                                 |
|                          | Series                                                                                      | 6th Gen. Intel® Core™ Processor                                                                                                                                                                                                                    | Intel® Celeron® G4900 Processor |
|                          | TDP                                                                                         | Up to 65W                                                                                                                                                                                                                                          | 54W                             |
|                          | Graphic                                                                                     | Intel® HD Graphics 530                                                                                                                                                                                                                             | Intel® UHD Graphics 610         |
| RAM                      | Type&Qty                                                                                    | 2* SO-DIMM Socket                                                                                                                                                                                                                                  | 2* SO-DIMM Socket               |
|                          | Frequency                                                                                   | DDR4-1866/2133 MHz                                                                                                                                                                                                                                 | DDR4-2400 MHz                   |
|                          | Capacity                                                                                    | Up to 32GB                                                                                                                                                                                                                                         | Up to 32GB                      |
|                          |                                                                                             |                                                                                                                                                                                                                                                    | Up to 32GB                      |
| Storage Device           | SATA                                                                                        | 1* 2.5" SATA3.0 Bay on board (6Gb/s); 3* SATA3.0 connectors (6Gb/s), Support RAID (0/1/5)                                                                                                                                                          |                                 |
|                          | MSATA                                                                                       | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                                                                                                                  |                                 |
|                          | M.2                                                                                         | 1* M.2 (NGFF) 2280 M-key slot, support PCIe4 Gen.3 NVMe/ SATA3.0 SSD                                                                                                                                                                               |                                 |
| I/O Interface            | COM                                                                                         | 4* Isolated DB9 COM Ports with ESD/EFT/Surge protection (COM1-4, support RS232/485, switchable by jumper); 1* RS232 with DB9 connector (COM5); 1* RS232 header (COM6)                                                                              |                                 |
|                          | Ethernet                                                                                    | 3* Intel® i211 GbE LAN, RJ45 connector                                                                                                                                                                                                             |                                 |
|                          | USB                                                                                         | 8* USB 3.0; 2* USB2.0; 1* Internal USB2.0                                                                                                                                                                                                          |                                 |
|                          | Video & Audio                                                                               | 1* HDMI, Support 4096x2304@24Hz, (Optional 1* DP, Support 4096 x 2304@60Hz); 1* VGA, Support 1920x1200@60Hz;                                                                                                                                       |                                 |
|                          | Audio                                                                                       | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                                                                                                                    |                                 |
|                          | SIM                                                                                         | 1* External SIM card slot connected to Mini-PCle                                                                                                                                                                                                   |                                 |
|                          | Power Supply                                                                                | 9V-36V DC; 1* 4-Pin DC Power Jack (Circular DIN Connectors, Full-Shield)                                                                                                                                                                           |                                 |
|                          | Other                                                                                       | 1* 8-bit GPIO, Terminal Block (12-Pin, 3.81mm), 4-Inputs/4-Outputs, 0-5V Input Range<br>1* Terminal Block (4-Pin, 3.81mm Pitch) with Remote Switch and Power Indicator<br>1* PS/2 for keyboard/ mouse; 1* Auto-On Switch; 1* TPM header (2*10-pin) |                                 |
| Extended Capabilities    | Additional Internal Interface                                                               | 1* PCIe x16+2* PCI; 1* PCIe4+2* PCI; 3* PCI; (PCIe Gen.3)<br>1* Full Size Mini-PCle with SIM card slot; (PCIe+USB2.0);<br>1* M.2 2230 E-key Slot (PCIe+USB2.0, support WiFi+BT)                                                                    |                                 |
| Environment              | Operating Temperature                                                                       | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                                                                                      |                                 |
|                          | Storage Temperature                                                                         | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                                                                                           |                                 |
|                          | Relative Humidity                                                                           | 40 °C @ 95%, Non-Condensing                                                                                                                                                                                                                        |                                 |
| Physical Characteristics | Dimensions                                                                                  | 290.35* 152.58* 186 mm (W* H* D)                                                                                                                                                                                                                   |                                 |
|                          | Net Weight                                                                                  | 4.85 KG                                                                                                                                                                                                                                            |                                 |
| Regulation               | EMC                                                                                         | CE/FCC Class B, CCC                                                                                                                                                                                                                                |                                 |
|                          | Safety                                                                                      | CE-LVD, RoHS, CCC                                                                                                                                                                                                                                  |                                 |



## Unit:mm



### Rear Panel External I/O Mechanical Layout/Drawing

[illegible]

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| Swappable hard-drive bracket kit  | -   |



## Processors Info &amp; Available List

| CPU                   | Code Name   | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP  | Memory Types | Integrated Graphics     |
|-----------------------|-------------|-------------|---------------|---------------------|----------------|--------------------------|------|--------------|-------------------------|
| Intel® Core™ i3-6100  | Skylake     | 2           | 4             | -                   | 3.70 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i5-6500  | Skylake     | 4           | 4             | 3.60 GHz            | 3.20 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i7-6700  | Skylake     | 4           | 8             | 4.00 GHz            | 3.40 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Celeron® G4900 | Coffee Lake | 2           | 2             | -                   | 3.10 GHz       | 2 MB Intel® Smart Cache  | 54 W | DDR4         | Intel® UHD Graphics 610 |
| Intel® Core™ i3-7100  | Kaby Lake   | 2           | 4             | -                   | 3.90 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i5-7400  | Kaby Lake   | 2           | 4             | 3.50 GHz            | 3.00 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i7-7700  | Kaby Lake   | 4           | 8             | 4.20 GHz            | 3.60 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i3-8100  | Coffee Lake | 4           | 4             | -                   | 3.60 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-8500  | Coffee Lake | 6           | 6             | 4.10 GHz            | 3.00 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-8700  | Coffee Lake | 6           | 12            | 4.60 GHz            | 3.20 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i3-9300  | Coffee Lake | 4           | 4             | 4.30 GHz            | 3.70 GHz       | 8 MB Intel® Smart Cache  | 62 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-9400  | Coffee Lake | 6           | 6             | 4.10 GHz            | 2.90 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-9700  | Coffee Lake | 8           | 8             | 4.70 GHz            | 3.00 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i9-9900  | Coffee Lake | 8           | 16            | 5.00 GHz            | 3.10 GHz       | 16 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |

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!! Note: For more interface configuration or available processors, please consult the sales.

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                         |
|-------------------------------------------------|---------|-------------------------------------------------------------------------------------|
| Isolated RS-232                                 | 1       | DB9 or Phoenix Terminal connector, connected by header                              |
| Non-Isolated RS-232                             | 1       | DB9 or Phoenix Terminal connector, connected by header                              |
| Non-Isolated RS-422                             | 1       | DB9 or Phoenix Terminal connector, connected by header with a transform module      |
| Non-Isolated RS-485                             | 1       | DB9 or Phoenix Terminal connector, connected by header with a transform module      |
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by header                                     |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface |
| 4G Module                                       | 1       | Connected by Mini-PCle interface                                                    |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCle interface, M.2 interface or internal USB interface           |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCle interface                                                    |
| Dual channel CAN-Bus Module                     | 2       | Connected by Mini-PCle or M.2 interface                                             |
| Dual/Quad channel CAN-Bus Module                | 1       | Connected by PCIe Interface                                                         |
| Dual GbE PoE LAN Module                         | 1       | Connected by Mini-PCle Interface                                                    |
| Quad GbE PoE LAN Module                         | 2       | Connected by PCIe Interface                                                         |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-603-2L4C-1P



- Supports Intel® 10 /11th LGA1200 Socket Comet Lake-S Processor
- Optional equipped with Intel® Q470E chipset to support vPRO
- Aluminum alloy anti-interference enclosed fanless chassis
- Support triple independent displays with 2\* HDIM and 1\* Display port
- Rich IO interface provide versatile expansion
- Original wide voltage support more stable than transform module



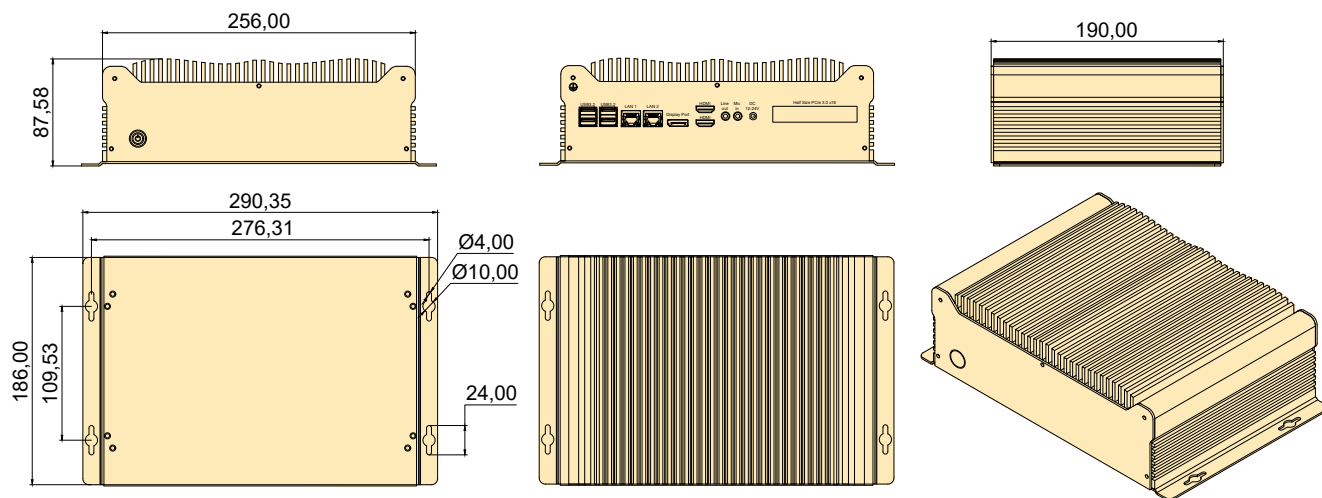
The actual appearance is subject to the final configuration.

## Specifications

|                          |                                                                                             |                                                                                                                                                                            |  |                                            |
|--------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------|
| Model                    | IBOX-603-2L4C-1P                                                                            |                                                                                                                                                                            |  |                                            |
| Supported OS             | Win 7, Win 8, Win 10, Win 11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                                            |  |                                            |
| Chipset                  | Model                                                                                       | Intel® H470 Chipset                                                                                                                                                        |  | Intel® Q470E Chipset                       |
|                          | vPRO Tech                                                                                   | Non-supported                                                                                                                                                              |  | Supported                                  |
| CPU                      | Socket                                                                                      | Intel® Desktop Processors Socket LGA1200                                                                                                                                   |  |                                            |
|                          | Series                                                                                      | 10th/11th Gen. Intel® Core™ i9 / i7/ i5 /i3                                                                                                                                |  | 10th Gen. Intel® Core™ i3                  |
|                          | TDP                                                                                         | Up to 65W                                                                                                                                                                  |  | Up to 65W                                  |
|                          | Graphic                                                                                     | Intel® UHD Graphics 630 for 10th Gen. processor;<br>Intel® UHD Graphics 750 for 11th Gen. processor, 32Eus                                                                 |  |                                            |
| RAM                      | SO-DIMM                                                                                     | 2* Dual-CH DDR4 2933/ 2666 MHz SO-DIMM Socket, Capacity up to 64GB;<br>(Core® i9/ i7 CPUs support DDR4 up to 2933 MHz; Core® i5/ i3 CPUs support DDR4 up to 2666 MHz)      |  |                                            |
| Storage Device           | SATA                                                                                        | 1* SATA3.0 connector (6Gb/s)                                                                                                                                               |  |                                            |
|                          | M.2                                                                                         | 1* M.2 (NGFF) 2280 M-key slot, support PCIe4 Gen.3 NVMe/ SATA3.0 SSD                                                                                                       |  |                                            |
| I/O Interface            | COM                                                                                         | 4* COM headers (COM1/COM2, support RS232/422/485; COM3/COM4, support RS232)                                                                                                |  |                                            |
|                          | Ethernet                                                                                    | 1* Intel i225LM 2.5GbE, 1* Intel i219LM GbE LAN                                                                                                                            |  | 1* Intel i225LM 2.5GbE, 1* Intel i219V GbE |
|                          | USB                                                                                         | 4 * USB3.2 (Gen.2, 6Gb/s) ; 2* USB3.2 header (Gen.1, 5Gb/s) , 4* USB2.0 header (480Mb/s)                                                                                   |  |                                            |
|                          | Video                                                                                       | 2 * HDMI 1.4 (Max Resolution: 4096x2160 @60Hz);<br>1* DP (Max Resolution: 4096x2304 @60Hz);<br>Support Triple Displays                                                     |  |                                            |
|                          | Audio                                                                                       | 1* Mic-in, 1* Line-out; With 5.1 channels HD Audio Codec Realtek ALC662; 1* Audio Header                                                                                   |  |                                            |
|                          | SIM                                                                                         | 1* Internal SIM card slot connected to M.2 B-key slot                                                                                                                      |  |                                            |
|                          | Power Supply                                                                                | 12V-28V DC; 1* DC Jack (5.5* 2.5mm)                                                                                                                                        |  |                                            |
|                          | Other                                                                                       | 1* 8-bit GPIO header with 4 inputs and 4 outputs, Input voltage range: 0-5V;                                                                                               |  |                                            |
| Extended Capabilities    | Additional Internal Interface                                                               | 1* Half Size PCIe16 slot (Suggest the PCIe card less than 25W Power)<br>1* M.2 2230 E-key slot (PCIe+USB2.0, support CNVi)<br>1* M.2 3042/3052 B-key slot (USB3.0/PCIe x1) |  |                                            |
|                          |                                                                                             |                                                                                                                                                                            |  |                                            |
| Environment              | Operating Temperature                                                                       | -10 ~ 60 °C w/ 0.7m/s Airflow                                                                                                                                              |  |                                            |
|                          | Storage Temperature                                                                         | -40 ~ 85 °C (-40~185 °F)                                                                                                                                                   |  |                                            |
|                          | Relative Humidity                                                                           | 40 °C @ 10%~95%, Non-Condensing                                                                                                                                            |  |                                            |
| Physical Characteristics | Dimensions                                                                                  | 290.3* 87.58* 186 mm (W* H* D)                                                                                                                                             |  |                                            |
|                          | Net Weight                                                                                  | 3.9 KG                                                                                                                                                                     |  |                                            |
| Regulation               | EMC                                                                                         | CE/FCC Class B, CCC                                                                                                                                                        |  |                                            |
|                          | Safety                                                                                      | CE-LVD, RoHS, CCC                                                                                                                                                          |  |                                            |

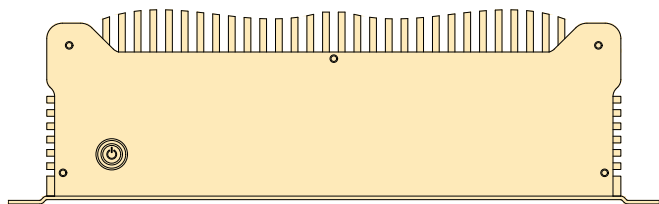
## Dimension

Unit:mm

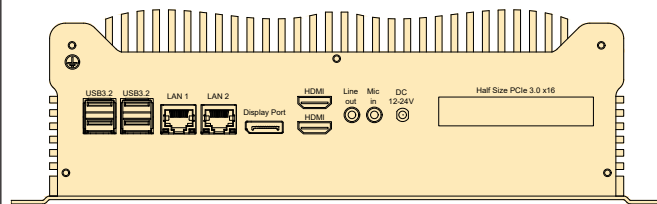


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Socket | M.2 M-key 2280      | SATA           | M.2 2230 E-key Slot | M.2 3042/3052 B-key Slot | Half Size PCIe3.0 x16 | COM                    | 2.5 GbE LAN | 1.0 GbE LAN |              |
|----------------|---------------------|----------------|---------------------|--------------------------|-----------------------|------------------------|-------------|-------------|--------------|
| 2              | 1                   | 1              | 1                   | 1                        | 1                     | 4                      | 1           | 1           |              |
| USB3.2 Gen.2   | USB3.2 Gen.1 Header | USB 3.0 Header | USB 2.0 Header      | HDMI                     | Display Port          | Internal SIM Card Slot | Line Out    | Mic In      | Power Supply |
| 4              | 3                   | 2              | 4                   | 2                        | 1                     | 1                      | 1           | 1           | DC12-28V     |

## Processors Info & Available List

| CPU                    | Code Name   | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP  | Memory Types | Integrated Graphics            |
|------------------------|-------------|-------------|---------------|---------------------|----------------|--------------------------|------|--------------|--------------------------------|
| Intel® Core™ I3-10100T | Comet Lake  | 4           | 8             | 3.80 GHz            | 3.00 GHz       | 6 MB Intel® Smart Cache  | 35 W | DDR4         | Intel® UHD Graphics 630        |
| Intel® Core™ I3-10100  | Comet Lake  | 4           | 8             | 4.30 GHz            | 3.60 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630        |
| Intel® Core™ I5-10500T | Comet Lake  | 6           | 12            | 3.80 GHz            | 2.30 GHz       | 12 MB Intel® Smart Cache | 35 W | DDR4         | Intel® UHD Graphics 630        |
| Intel® Core™ I5-10500  | Comet Lake  | 6           | 12            | 4.50 GHz            | 3.10 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630        |
| Intel® Core™ I5-11500T | Rocket Lake | 6           | 12            | 3.90 GHz            | 1.50 GHz       | 12 MB Intel® Smart Cache | 35 W | DDR4         | Intel® UHD Graphics 750, 32Eus |
| Intel® Core™ I5-11500  | Rocket Lake | 6           | 12            | 4.60 GHz            | 2.70 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 750, 32Eus |
| Intel® Core™ I7-10700T | Comet Lake  | 8           | 16            | 4.50 GHz            | 2.00 GHz       | 16 MB Intel® Smart Cache | 35 W | DDR4         | Intel® UHD Graphics 630        |
| Intel® Core™ I7-10700  | Comet Lake  | 8           | 16            | 4.80 GHz            | 2.90 GHz       | 16 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630        |
| Intel® Core™ I7-11700T | Rocket Lake | 8           | 16            | 4.60 GHz            | 1.40 GHz       | 16 MB Intel® Smart Cache | 35 W | DDR4         | Intel® UHD Graphics 750, 32Eus |
| Intel® Core™ I7-11700  | Rocket Lake | 8           | 16            | 4.90 GHz            | 2.50 GHz       | 16 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 750, 32Eus |

All products and company name listed are trademarks or trade names of their respective companies.

## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-603-2L4C-1P Unit   | 1   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| Swappable Hard-Drive Bracket Kit  | -   |

## Optional accessories or internal modules for unit

| Optional Items                | Max Qty | Description                          |
|-------------------------------|---------|--------------------------------------|
| AI Acceleration Card          | 4       | 26 TOPS, Connected by PCIe interface |
| 4G Module                     | 1       | Connected by M.2 interface           |
| 5G Module                     | 1       | Connected by M.2 interface           |
| WiFi Module without AP mode   | 1       | Connected by M.2 interface           |
| Dual channel CAN-Bus Module   | 4       | Connected by PCIe interface          |
| Fiber Ethernet Expansion Card | 1       | Connected by PCIe interface          |
| Dual GbE PoE LAN Module       | 2       | Connected by M.2 Interface           |
| Quad GbE PoE LAN Module       | 1       | Connected by PCIe Interface          |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-604-5L2C2P



- Rich internal expansion slot for different functions
- 2\* PoE LAN Connector with Intel® i211 chipset
- Swappable HDD Design available, max 4\* 2.5 inch SSD
- Strong customizability for different requirements
- Desktop-class high-performance CPU available
- Full aluminum alloy anti-interference structure
- Double board design with diverse interfaces



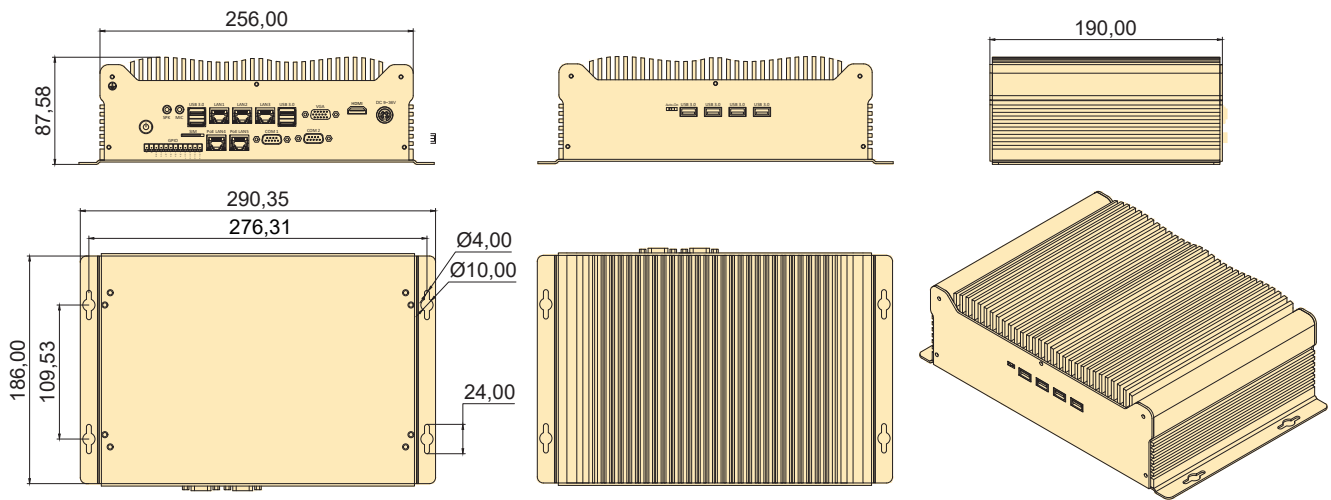
The actual appearance is subject to the final configuration.

## Specifications

|                                 |                                                                                             |                                                                                                                                                              |                                 |                                                                         |
|---------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------------------------------------|
| <b>Model</b>                    | IBOX-604-5L2C2P                                                                             |                                                                                                                                                              |                                 |                                                                         |
| <b>Supported OS</b>             | Win 7, Win 8, Win 10, Win 11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7; Win 10 IoT |                                                                                                                                                              |                                 |                                                                         |
| <b>Chipset</b>                  | Intel® Z370 Chipset                                                                         |                                                                                                                                                              |                                 |                                                                         |
| <b>CPU</b>                      | Processor Socket                                                                            | Intel® Desktop Processors Socket LGA1151                                                                                                                     |                                 |                                                                         |
|                                 | Series                                                                                      | 6th Gen. Intel® Core™ Processor                                                                                                                              | Intel® Celeron® G4900 Processor | 7th-9th Gen. Intel® Core™ Processor                                     |
|                                 | TDP                                                                                         | Up to 65W                                                                                                                                                    | 54W                             | Up to 65W                                                               |
|                                 | Graphic                                                                                     | Intel® HD Graphics 530                                                                                                                                       | Intel® UHD Graphics 610         | 7th Gen: Intel® HD Graphics 630<br>8th/9th Gen: Intel® UHD Graphics 630 |
| <b>RAM</b>                      | Type&Qty                                                                                    | 2* SO-DIMM Socket                                                                                                                                            | 2* SO-DIMM Socket               | 2* SO-DIMM Socket                                                       |
|                                 | Frequency                                                                                   | DDR4-1866/2133 MHz                                                                                                                                           | DDR4-2400 MHz                   | DDR4-2400/2666 MHz                                                      |
|                                 | Capacity                                                                                    | Up to 32GB                                                                                                                                                   | Up to 32GB                      | Up to 32GB                                                              |
| <b>Storage Device</b>           | SATA                                                                                        | 1* 2.5" SATA3.0 Bay on board (6Gb/s); 3* SATA3.0 connectors (6Gb/s), Support RAID (0/1/5)                                                                    |                                 |                                                                         |
|                                 | MSATA                                                                                       | 1* mSATA3.0 slot on board (6Gb/s)                                                                                                                            |                                 |                                                                         |
|                                 | M.2                                                                                         | 1* M.2 (NGFF) 2280 M-key slot, support PCIe4 Gen.3 NVMe/ SATA3.0 SSD                                                                                         |                                 |                                                                         |
| <b>I/O Interface</b>            | COM                                                                                         | 2* Isolated RS232/RS485 with TVS (Switchable by BIOS); 2* RS232 header shared with GPIO                                                                      |                                 |                                                                         |
|                                 | Ethernet                                                                                    | 2* GbE PoE LAN support IEEE802.3af, Intel® i211; (Option A: RJ45 connector; Option B: M12 connector)<br>3* GbE LAN ports, Intel® i211, RJ45 connector        |                                 |                                                                         |
|                                 | USB                                                                                         | 8* USB 3.0; 1* Internal Connector                                                                                                                            |                                 |                                                                         |
|                                 | Video & Audio                                                                               | 1* HDMI, Support 4096x2304@24Hz, (Optional 1* DP, Support 4096 x 2304@60Hz);<br>1* VGA, Support 1920x1200@60Hz;                                              |                                 |                                                                         |
|                                 | Audio                                                                                       | 1* MIC, 1* SPK; With 5.1 channels HD Audio Codec Realtek ALC662                                                                                              |                                 |                                                                         |
|                                 | SIM                                                                                         | 1* External SIM card slot connected to M.2 B-key slot                                                                                                        |                                 |                                                                         |
|                                 | Power Supply                                                                                | 9V-36V DC; 1* 4-Pin DC Power Jack (Circular DIN Connectors, Full-Shield)                                                                                     |                                 |                                                                         |
|                                 | Other                                                                                       | 1* 8-bit GPIO (4-Inputs/4-Outputs, 0-5V Input Range) and 1* Remote Switch on Terminal Block (12-Pin, 3.81mm);<br>1* Auto-On Switch; 1* TPM header (2*10-pin) |                                 |                                                                         |
| <b>Extended Capabilities</b>    | Additional Internal Interface                                                               | 1* M.2 3052 B-key with SIM card slot;(USB3.0)<br>1* M.2 2230 E-key Slot (PCIe+USB2.0, support WiFi+BT);<br>1* Full Size Mini-PCIe (PCIe+USB2.0)              |                                 |                                                                         |
| <b>Environment</b>              | Operating Temperature                                                                       | -10 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                |                                 |                                                                         |
|                                 | Storage Temperature                                                                         | -40 ~ 85 °C (-40~185 °F)                                                                                                                                     |                                 |                                                                         |
|                                 | Relative Humidity                                                                           | 40 °C @ 95%, Non-Condensing                                                                                                                                  |                                 |                                                                         |
| <b>Physical Characteristics</b> | Dimensions                                                                                  | 290.35* 152.58* 186 mm (W* H* D)                                                                                                                             |                                 |                                                                         |
|                                 | Net Weight                                                                                  | 3.9 KG                                                                                                                                                       |                                 |                                                                         |
| <b>Regulation</b>               | EMC                                                                                         | CE/FCC Class B, CCC                                                                                                                                          |                                 |                                                                         |
|                                 | Safety                                                                                      | CE-LVD, RoHS, CCC                                                                                                                                            |                                 |                                                                         |

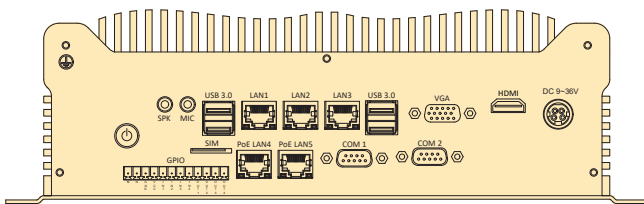
## Dimension

Unit:mm

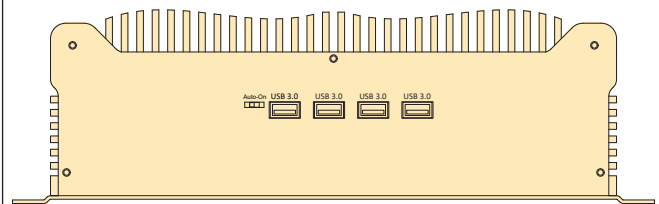


The actual appearance and dimensions are subject to the final configuration

### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| SO-DIMM Socket | M.2 2280 M-key slot | mSATA slot | SATA3.0 Connector | M.2 2230 E-key slot | M.2 3052 B-key slot | Full Size Mini-PCle    | Isolated RS232/RS485 | PoE GbE LAN   | GbE LAN      |
|----------------|---------------------|------------|-------------------|---------------------|---------------------|------------------------|----------------------|---------------|--------------|
| 2              | 1                   | 1          | 4                 | 2                   | 1                   | 1                      | 2                    | 2             | 3            |
| USB 3.0        | Internal USB2.0     | HDMI       | VGA               | Mic In              | SPK                 | External SIM Card Slot | 8-bit GPIO           | Remote Switch | Power Supply |
| 8              | 1                   | 1          | 1                 | 1                   | 1                   | 1                      | 1                    | 1             | DC 9-36V     |

## Processors Info & Available List

| CPU                   | Code Name   | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP  | Memory Types | Integrated Graphics     |
|-----------------------|-------------|-------------|---------------|---------------------|----------------|--------------------------|------|--------------|-------------------------|
| Intel® Core™ i3-6100  | Skylake     | 2           | 4             | -                   | 3.70 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i5-6500  | Skylake     | 4           | 4             | 3.60 GHz            | 3.20 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Core™ i7-6700  | Skylake     | 4           | 8             | 4.00 GHz            | 3.40 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 530  |
| Intel® Celeron® G4900 | Coffee Lake | 2           | 2             | -                   | 3.10 GHz       | 2 MB Intel® Smart Cache  | 54 W | DDR4         | Intel® UHD Graphics 610 |
| Intel® Core™ i3-7100  | Kaby Lake   | 2           | 4             | -                   | 3.90 GHz       | 3 MB Intel® Smart Cache  | 51 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i5-7400  | Kaby Lake   | 2           | 4             | 3.50 GHz            | 3.00 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i7-7700  | Kaby Lake   | 4           | 8             | 4.20 GHz            | 3.60 GHz       | 8 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® HD Graphics 630  |
| Intel® Core™ i3-8100  | Coffee Lake | 4           | 4             | -                   | 3.60 GHz       | 6 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-8500  | Coffee Lake | 6           | 6             | 4.10 GHz            | 3.00 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-8700  | Coffee Lake | 6           | 12            | 4.60 GHz            | 3.20 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i3-9300  | Coffee Lake | 4           | 4             | 4.30 GHz            | 3.70 GHz       | 8 MB Intel® Smart Cache  | 62 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i5-9400  | Coffee Lake | 6           | 6             | 4.10 GHz            | 2.90 GHz       | 9 MB Intel® Smart Cache  | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i7-9700  | Coffee Lake | 8           | 8             | 4.70 GHz            | 3.00 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |
| Intel® Core™ i9-9900  | Coffee Lake | 8           | 16            | 5.00 GHz            | 3.10 GHz       | 16 MB Intel® Smart Cache | 65 W | DDR4         | Intel® UHD Graphics 630 |

All products and company name listed are trademarks or trade names of their respective companies.

!! Note: For more interface configuration or available processors, please consult the sales.

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## Packing list

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-604-5L2C2P Unit    | 1   |
| AC-to-DC Adapter        | 1   |
| Power cable 3-pin 150cm | 1   |

## Options for default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 3-pin 150cm, USA type | -   |
| Power cable 3-pin 150cm, EU type  | -   |
| Power cable 3-pin 150cm, UK type  | -   |
| Swappable hard-drive bracket kit  | -   |

## Optional accessories or internal modules for unit

| Optional Items                                  | Max Qty | Description                                                                                  |
|-------------------------------------------------|---------|----------------------------------------------------------------------------------------------|
| Isolated RS-232                                 | 2       | DB9 or Phoenix Terminal connector, connected by header                                       |
| Non-Isolated RS-232                             | 2       | DB9 or Phoenix Terminal connector, connected by header                                       |
| Non-Isolated RS-422                             | 2       | DB9 or Phoenix Terminal connector, connected by header with a transform module               |
| Non-Isolated RS-485                             | 2       | DB9 or Phoenix Terminal connector, connected by header with a transform module               |
| Isolated 8-bit GPIO, 9-24V                      | 1       | Phoenix Terminal connector, connected by header                                              |
| Isolated 8-bit GPIO with current loading, 9-26V | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 15-bit GPIO, 0-5V                      | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| Isolated 15-bit GPIO with 7-in & 8-out, 12-24V  | 1       | Digital signal, Phoenix Terminal connector, connected by non-standard M.2 interface          |
| 4G Module                                       | 1       | Connected by Mini-PCle or M.2 interface                                                      |
| 5G Module                                       | 1       | Connected by M.2 interface                                                                   |
| WiFi Module without AP mode                     | 1       | Connected by Mini-PCle interface, M.2 interface or internal USB interface                    |
| WiFi Module with AP mode                        | 1       | Connected by Mini-PCle interface                                                             |
| Dual channel CAN-Bus Module                     | 2       | Connected by Mini-PCle or M.2 interface                                                      |
| Dual GbE PoE LAN Module                         | 1       | Connected by Mini-PCle Interface                                                             |
| Ignition Switch Module                          | 1       | Phoenix Terminal connector, connected by internal power switch and 4-pin ATX power connector |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.



# IBOX-007



- Support easily Swappable HDD Design, max 4\* 2.5 inch SSD
- 12th Gen. Intel® Core™ i9/ i7/ i5 /i3 processor, Max. 65W TDPs
- Fully enclosed aluminum alloy anti-interference structure with fanless cooling system
- Modular parts and cable-free design with strong scalability for better vibration resistance
- Scientific and reasonable interface layout
- Modular design with diverse interfaces



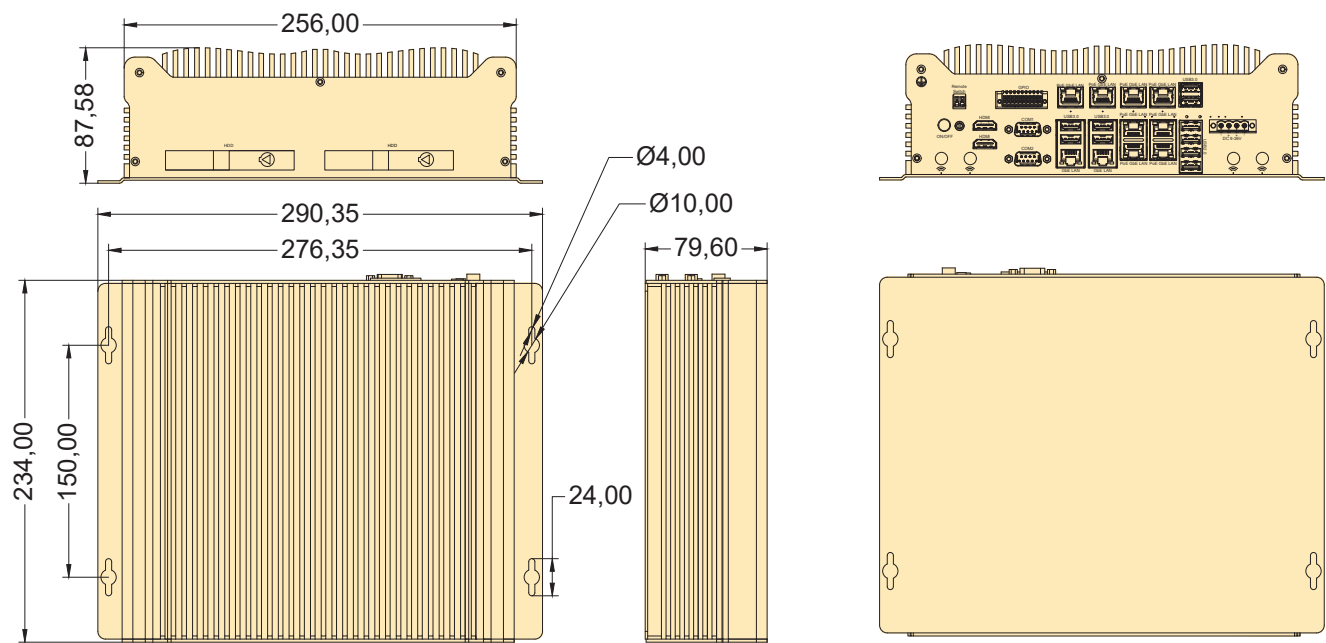
The actual appearance is subject to the final configuration.

## Specifications

|                                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                    |                                                            |
|---------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| <b>Model</b>                    | IBOX-007                                                              |                                                                                                                                                                                                                                                                                                                                                                                    |                                                            |
| <b>Supported OS</b>             | Win 10, Win11, Linux (Ubuntu, Dibian, Kali, CentOS, etc.); Win 10 IoT |                                                                                                                                                                                                                                                                                                                                                                                    |                                                            |
| <b>Chipset</b>                  | Model                                                                 | Intel® Q670 Chipset, Intel® Alder Lake-S, TDP 6W                                                                                                                                                                                                                                                                                                                                   |                                                            |
| <b>CPU</b>                      | Socket                                                                | Intel® Desktop Processors Socket LGA1700                                                                                                                                                                                                                                                                                                                                           |                                                            |
|                                 | Series & TDP                                                          | 12th Gen. Intel® Core™ i3 processor, Max. 65W TDPs                                                                                                                                                                                                                                                                                                                                 | 12th Gen. Intel® Core™ i9/ i7/ i5 processor, Max. 35W TDPs |
|                                 | Graphic                                                               | Intel® UHD Graphics 730, 24 Execution Units                                                                                                                                                                                                                                                                                                                                        | Intel® HD Graphics 770, 32 Execution Units                 |
|                                 | vPRO Tech                                                             | Non-Supported                                                                                                                                                                                                                                                                                                                                                                      | Supported                                                  |
| <b>RAM</b>                      | SO-DIMM                                                               | 2* Dual-CH DDR4 3200 MHz SO-DIMM Socket, Capacity up to 64GB                                                                                                                                                                                                                                                                                                                       |                                                            |
| <b>Storage Device</b>           | M.2                                                                   | 1* M.2 2242/2280 PCIe x4 NVMe SSD (M-key, 2280/2242, Gen3, Support RAID 0/1, From CPU)<br>1* M.2 2280 3052 PCIe x4/SATA (Default M-key PCIe x4, Gen3, Support PCIe x4 NVMe SSD, Support RAID 0/1, SATA signal is colay with one of SATA port., From PCH; Optional B-key with PCIe x4, USB3.0, USB2.0 signal and Sim card slot. USB2.0/Sim card slot is colay with Mini PCIe slot.) |                                                            |
|                                 | SATA                                                                  | 4 * SATA3.0 7P Port, support max 4* swappable SSD design, support RAID 0/1/5/10                                                                                                                                                                                                                                                                                                    |                                                            |
| <b>I/O Interface</b>            | COM                                                                   | 2* COM DB9/M (COM1/2, RS232/RS485/RS422, sel by BIOS); 2* RS232 Header (COM3/4, expanded by I/O Daughter Card)                                                                                                                                                                                                                                                                     |                                                            |
|                                 | Ethernet                                                              | 1* Intel® I219 GBE Ethernet Controller, LAN5, RJ45<br>1* Intel® I210 GBE Ethernet Controller, LAN6, RJ45<br>8* Intel® I210 GBE Ethernet Controller, RJ45, LAN1-4, LAN7-10, support PoE (LAN7-LAN10 are expanded by I/O Daughter Card)                                                                                                                                              |                                                            |
|                                 | USB                                                                   | 4* USB3.0; 4* USB2.0; 1* Internal USB2.0; 2* USB3.0 (These two USB3.0 are expanded by I/O Daughter Card)                                                                                                                                                                                                                                                                           |                                                            |
|                                 | Video                                                                 | 2 * HDMI (TYPE-A), Support 3840*2160@60Hz;                                                                                                                                                                                                                                                                                                                                         |                                                            |
|                                 | Audio                                                                 | 1 * Line-Out + MIC 2in1 Jack; 1 * Front Audio Header (Line-out + MIC)                                                                                                                                                                                                                                                                                                              |                                                            |
|                                 | SIM                                                                   | 1* Internal SIM card slot connected to Mini-PCIe or M.2 B-key slot                                                                                                                                                                                                                                                                                                                 |                                                            |
|                                 | Power Supply                                                          | 9-36V DC; 1* Terminal Block (4-Pin, 5.08mm)                                                                                                                                                                                                                                                                                                                                        |                                                            |
|                                 | Other                                                                 | 1* 8-bit GPIO header (4-Inputs/4-Outputs, 0-5V Input Range, on motherboard);<br>1* 16-bit GPIO on Terminal Block (8-Inputs/8-Outputs, 5-48V Input Range, 10*2Pin, 2.54mm, Expanded by I/O Daughter Card)<br>1* Remote Switch on Terminal Block (2*1Pin, 3.5mm, Expanded by I/O Daughter Card)                                                                                      |                                                            |
| <b>Extended Capabilities</b>    | Additional Internal Interface                                         | 1* Mini-PCIe with SIM Card Slot (PCIe+USB2.0, support WiFi or 4G)                                                                                                                                                                                                                                                                                                                  |                                                            |
| <b>Environment</b>              | Operating Temperature                                                 | -20 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                                                                                                                                                                                                                      |                                                            |
|                                 | Relative Humidity                                                     | 40 °C @ 95%, Non-Condensing                                                                                                                                                                                                                                                                                                                                                        |                                                            |
| <b>Physical Characteristics</b> | Dimensions                                                            | 290.35* 79.6* 234 mm (W* H* D)                                                                                                                                                                                                                                                                                                                                                     |                                                            |
|                                 | Net Weight                                                            | 7 KG                                                                                                                                                                                                                                                                                                                                                                               |                                                            |
| <b>Regulation</b>               | EMC                                                                   | CE/FCC Class B, CCC                                                                                                                                                                                                                                                                                                                                                                |                                                            |
|                                 | Safety                                                                | CE-LVD, RoHS, CCC                                                                                                                                                                                                                                                                                                                                                                  |                                                            |

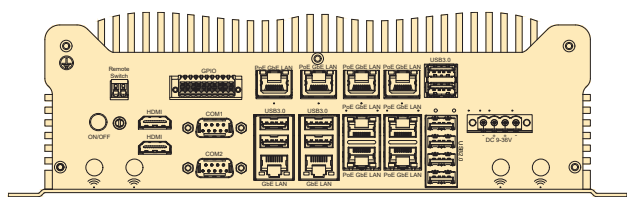
Dimension

Unit:mm

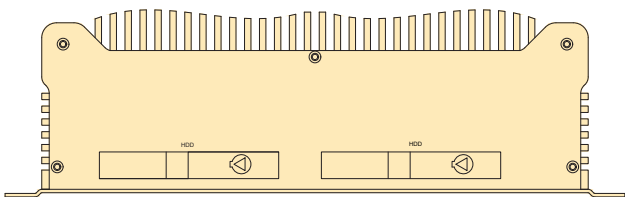


The actual appearance and dimensions are subject to the final configuration

Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

| SO-DIMM Socket | M.2 M-key slot | M.2 B-key slot  | SATA3.0 Connector | Full Size Mini PCIe Slot | RS232/ 422/ 485 DB9 COM Port | GbE LAN           | PoE GbE LAN  |
|----------------|----------------|-----------------|-------------------|--------------------------|------------------------------|-------------------|--------------|
| 2              | 1 or 2         | 0 or 1          | 4                 | 2                        | 2                            | 2                 | 4            |
| USB 3.0        | USB 2.0        | Internal USB2.0 | HDMI              | Audio Jack               | Internal SIM Card Slot       | 8-bit GPIO Header | Power Supply |
| 4              | 4              | 1               | 2                 | 1                        | 1                            | 1                 | DC 9-36V     |

I/O Daughter Card Information

| Model        | MEV EXP-4POE                                                                                                                                     |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Input        | 1* Daughter Card Expand Connector                                                                                                                |
| LAN          | 4* Intel® i210 GbE LAN, RJ45, Support PoE, Max 4* 15.4W (each 15.4W max)                                                                         |
| COM          | 2* RS232 (COM3/4, Wafer)                                                                                                                         |
| USB          | 2* USB3.0 (TYPE-A, Rear IO)                                                                                                                      |
| Other Ports  | 1* Remote Switch on Terminal Block, 2*1 Pin, 3.5mm;<br>1* 16-bit GPIO on Terminal Block (8-Inputs/8-Outputs, 5-48V Input Range, 10*2Pin, 2.54mm) |
| Power Supply | 1 * DC48V POE Power Input ATX 4P Connector                                                                                                       |

## Processors Info.

| CPU                    | Code Name  | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP  | Memory Types | Integrated Graphics           |
|------------------------|------------|-------------|---------------|---------------------|----------------|--------------------------|------|--------------|-------------------------------|
| Intel® Core™ I3-12100T | Alder Lake | 4           | 8             | 4.10 GHz            | 2.20 GHz       | 12 MB Intel® Smart Cache | 35 W | DDR4         | Intel® HD Graphics 730, 24EUs |
| Intel® Core™ I5-12500T | Alder Lake | 6           | 12            | 4.40 GHz            | 2.00 GHz       | 18 MB Intel® Smart Cache | 35 W | DDR4         | Intel® HD Graphics 770, 32EUs |
| Intel® Core™ I7-12700T | Alder Lake | 12          | 20            | 4.70 GHz            | 1.40 GHz       | 25 MB Intel® Smart Cache | 35 W | DDR4         | Intel® HD Graphics 770, 32EUs |
| Intel® Core™ I9-12900T | Alder Lake | 16          | 24            | 4.90 GHz            | 1.40 GHz       | 30 MB Intel® Smart Cache | 35 W | DDR4         | Intel® HD Graphics 770, 32EUs |
| Intel® Core™ I3-12100  | Alder Lake | 4           | 8             | 4.30 GHz            | 3.30 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® HD Graphics 730, 24EUs |

All products and company name listed are trademarks or trade names of their respective companies.

!! Note: For more interface configuration or available processors, please consult the sales.

## Packing List

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-007 Unit           | 1   |
| AC-to-DC Adapter        | 1   |
| Power cable 4-pin 150cm | 1   |

## Options for Default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 4-pin 150cm, USA type | -   |
| Power cable 4-pin 150cm, EU type  | -   |
| Power cable 4-pin 150cm, UK type  | -   |

## Optional accessories or internal modules for unit

| Optional Items              | Max Qty | Description                                                                                        |
|-----------------------------|---------|----------------------------------------------------------------------------------------------------|
| I/O Daughter Card           | 1       | Connected by IO expand slot, offering 4* PoE LAN+1* 16bit GPIO( 5-48V)+1* Remote Switch+ 2* USB3.0 |
| 4G Module                   | 1       | Connected by Mini-PCle or M.2 interface                                                            |
| WiFi Module without AP mode | 1       | Connected by Mini-PCle interface                                                                   |
| WiFi Module with AP mode    | 1       | Connected by Mini-PCle interface                                                                   |
| Dual channel CAN-Bus Module | 2       | Connected by Mini-PCle or M.2 interface                                                            |
| Dual GbE PoE LAN Module     | 3       | Connected by Mini-PCle or M.2 interface                                                            |
| AI Acceleration Card        | 4       | 26 TOPS, Connected by M.2 interface; 13 TOPS, Connected by Mini-PCle interface                     |
| Ignition Switch Module      | 1       | Phoenix Terminal connector, connected by internal power switch and 4-pin ATX power connector       |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.

# IBOX-007PRO



- Support easily Swappable HDD Design, max 4\* 2.5 inch SSD
- 12th Gen. Intel® Core™ i9/ i7/ i5 /i3 processor, Max. 65W TDPs
- Fully enclosed aluminum alloy anti-interference structure with fanless cooling system
- Modular parts and cable-free design with strong scalability for better vibration resistance
- Scientific and reasonable interface layout
- Modular design with diverse interfaces



## Specifications

The actual appearance is subject to the final configuration.

|                                 |                                                                      |                                                                                                                                                                                                                                                                                                                                                                                    |                                                            |
|---------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| <b>Model</b>                    | IBOX-007PRO                                                          |                                                                                                                                                                                                                                                                                                                                                                                    |                                                            |
| <b>Supported OS</b>             | Win 10, Win11, Linux (Ubuntu, Dbian, Kali, CentOS, etc.); Win 10 IoT |                                                                                                                                                                                                                                                                                                                                                                                    |                                                            |
| <b>Chipset</b>                  | Model                                                                | Intel® Q670 Chipset, Intel® Alder Lake-S, TDP 6W                                                                                                                                                                                                                                                                                                                                   |                                                            |
| <b>CPU</b>                      | Socket                                                               | Intel® Desktop Processors Socket LGA1700                                                                                                                                                                                                                                                                                                                                           |                                                            |
|                                 | Series & TDP                                                         | 12th Gen. Intel® Core™ i3 processor, Max. 65W TDPs                                                                                                                                                                                                                                                                                                                                 | 12th Gen. Intel® Core™ i9/ i7/ i5 processor, Max. 35W TDPs |
|                                 | Graphic                                                              | Intel® UHD Graphics 730, 24 Execution Units                                                                                                                                                                                                                                                                                                                                        | Intel® HD Graphics 770, 32 Execution Units                 |
|                                 | vPRO Tech                                                            | Non-Supported                                                                                                                                                                                                                                                                                                                                                                      | Supported                                                  |
| <b>RAM</b>                      | SO-DIMM                                                              | 2* Dual-CH DDR4 3200 MHz SO-DIMM Socket, Capacity up to 64GB;                                                                                                                                                                                                                                                                                                                      |                                                            |
| <b>Storage Device</b>           | M.2                                                                  | 1* M.2 2242/2280 PCIe x4 NVMe SSD (M-key, 2280/2242, Gen3, Support RAID 0/1, From CPU)<br>1* M.2 2280 3052 PCIe x4/SATA (Default M-key PCIe x4, Gen3, Support PCIe x4 NVMe SSD, Support RAID 0/1, SATA signal is colay with one of SATA port., From PCH; Optional B-key with PCIe x4, USB3.0, USB2.0 signal and Sim card slot. USB2.0/Sim card slot is colay with Mini PCIe slot.) |                                                            |
|                                 | SATA                                                                 | 4 * SATA3.0 7P Port, support max 4* swappable SSD design, support RAID 0/1/5/10                                                                                                                                                                                                                                                                                                    |                                                            |
| <b>I/O Interface</b>            | COM                                                                  | 2* COM DB9/M (COM1/2, RS232/RS485/RS422, sel by BIOS); 2* RS232 Header (COM3/4, expanded by I/O Daughter Card)                                                                                                                                                                                                                                                                     |                                                            |
|                                 | Ethernet                                                             | 1* Intel® I219 GBE Ethernet Controller, LAN5, RJ45<br>1* Intel® I210 GBE Ethernet Controller, LAN6, RJ45<br>8* Intel® I210 GBE Ethernet Controller, RJ45, LAN1-4, LAN7-10, support PoE (LAN7-LAN10 are expanded by I/O Daughter Card)                                                                                                                                              |                                                            |
|                                 | USB                                                                  | 4* USB3.0; 4* USB2.0; 1* Internal USB2.0; 2* USB3.0 (These two USB3.0 are expanded by I/O Daughter Card)                                                                                                                                                                                                                                                                           |                                                            |
|                                 | Video                                                                | 2 * HDMI (TYPE-A), Support 3840*2160@60Hz;                                                                                                                                                                                                                                                                                                                                         |                                                            |
|                                 | Audio                                                                | 1 * Line-Out + MIC 2in1 Jack; 1 * Front Audio Header (Line-out + MIC)                                                                                                                                                                                                                                                                                                              |                                                            |
|                                 | SIM                                                                  | 1* Internal SIM card slot connected to Mini-PCIe or M.2 B-key slot                                                                                                                                                                                                                                                                                                                 |                                                            |
|                                 | Power Supply                                                         | 9-36V DC; 1* Terminal Block (4-Pin, 5.08mm)                                                                                                                                                                                                                                                                                                                                        |                                                            |
| <b>Extended Capabilities</b>    | Additional Internal Interface                                        | 1* 8-bit GPIO header (4-Inputs/4-Outputs, 0-5V Input Range, on motherboard);                                                                                                                                                                                                                                                                                                       |                                                            |
|                                 |                                                                      | 1* 16-bit GPIO on Terminal Block (8-Inputs/8-Outputs, 5-48V Input Range, 10*2Pin, 2.54mm, Expanded by I/O Daughter Card)                                                                                                                                                                                                                                                           |                                                            |
|                                 |                                                                      | 1* Remote Switch on Terminal Block (2*1Pin, 3.5mm, Expanded by I/O Daughter Card)                                                                                                                                                                                                                                                                                                  |                                                            |
| <b>Environment</b>              | Operating Temperature                                                | -20 ~ 55 °C w/ 0.7m/s Airflow                                                                                                                                                                                                                                                                                                                                                      |                                                            |
|                                 | Relative Humidity                                                    | 40 °C @ 95%, Non-Condensing                                                                                                                                                                                                                                                                                                                                                        |                                                            |
| <b>Physical Characteristics</b> | Dimensions                                                           | 290.35* 79.6* 234 mm (W* H* D)                                                                                                                                                                                                                                                                                                                                                     |                                                            |
|                                 | Net Weight                                                           | 7 KG                                                                                                                                                                                                                                                                                                                                                                               |                                                            |
| <b>Regulation</b>               | EMC                                                                  | CE/FCC Class B, CCC                                                                                                                                                                                                                                                                                                                                                                |                                                            |
|                                 | Safety                                                               | CE-LVD, RoHS, CCC                                                                                                                                                                                                                                                                                                                                                                  |                                                            |

[1]: PCIe x4 Gen3 by default, PCIe x4 Gen4 by optional

[2]: PCIe x4\_1 can support PCIe x2 or PCIe x4 signal. When PCIe x4 slot support PCIe x4 signal, PCI 1-2 can't be used. (BOM and BIOS Optional)

Technical drawings of the Industrial PC showing front, top, and side views with dimensions.

**Front View:** Shows the front panel with a fan, I/O ports, and dimensions: 292,80 (total height), 190,00 (height to top of fan), 294,00 (width), and 279,20 (width to I/O ports).

**Top View:** Shows the top surface with dimensions: 293,80 (width) and 256,00 (depth).

**Side View:** Shows the side profile with dimensions: 194,50 (height) and 256,00 (depth). The unit is labeled "Industrial PC".

**Isometric View:** Shows the 3D perspective of the unit with dimensions: 24,00 (thickness) and Ø4,00 / Ø10,00 (mounting holes).

[illegible]

| Model        | MEV EXP-4POE                                                                                                             |
|--------------|--------------------------------------------------------------------------------------------------------------------------|
| Input        | 1* Daughter Card Expand Connector                                                                                        |
| LAN          | 4* Intel ® i210 GbE LAN, RJ45, Support PoE, Max 4* 15.4W (each 15.4W max)                                                |
| COM          | 2* RS232 (COM3/4, Wafer)                                                                                                 |
| USB          | 2* USB3.0 (TYPE-A, Rear IO)                                                                                              |
| Other Ports  | 1* Power System On Terminal Block, 2*1 Pin, 3.5mm;<br>1* 16-bit GPIO Terminal Block, 10*2 Pin, 2.54mm, Input Range 5-48V |
| Power Supply | 1 * DC48V POE Power Input ATX 4P Connector                                                                               |

| Model           | MEV EXP-2PCIe2PCI                                                                                                              |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------|
| Input           | 1 * PCIe16 Gold Finger and 1 * PCIe4 Gold Finger                                                                               |
| Expansion Slots | 1* PCIe16+ PCIe4+ 0* PCI (66MHz/33MHz);<br>Or 1* PCIe16+ 1* PCIe2 with x4 slot+ 2* PCI (66MHz/33MHz);<br>BOM and BIOS Optional |
| Others          | 1 * Power On Header                                                                                                            |
| Power Supply    | 1 * DC 9-36V Power Input ATX 6P Connector;<br>1 * DC 12V Power Output ATX 6P Connector                                         |

## Basic Ordering Information

| SO-DIMM<br>Socket | M.2 M-key slot | SATA3.0<br>Connector | Full Size<br>Mini PCIe Slot | RS232/ 422/ 485<br>DB9 COM Port | GbE LAN                   | PoE<br>GbE LAN       |              |
|-------------------|----------------|----------------------|-----------------------------|---------------------------------|---------------------------|----------------------|--------------|
| 2                 | 2              | 4                    | 2                           | 2                               | 2                         | 4                    |              |
| USB 3.0           | USB 2.0        | Internal<br>USB2.0   | HDMI                        | Audio Jack                      | Internal<br>SIM Card Slot | 8-bit GPIO<br>Header | Power Supply |
| 4                 | 4              | 1                    | 2                           | 1                               | 1                         | 1                    | DC 9-36V     |

## Processors Info.

| CPU                    | Code Name  | Total Cores | Total Threads | Max Turbo Frequency | Base Frequency | Cache                    | TDP  | Memory Types | Integrated Graphics           |
|------------------------|------------|-------------|---------------|---------------------|----------------|--------------------------|------|--------------|-------------------------------|
| Intel® Core™ i3-12100T | Alder Lake | 4           | 8             | 4.10 GHz            | 2.20 GHz       | 12 MB Intel® Smart Cache | 35 W | DDR4         | Intel® HD Graphics 730, 24EUs |
| Intel® Core™ i5-12500T | Alder Lake | 6           | 12            | 4.40 GHz            | 2.00 GHz       | 18 MB Intel® Smart Cache | 35 W | DDR4         | Intel® HD Graphics 770, 32EUs |
| Intel® Core™ i7-12700T | Alder Lake | 12          | 20            | 4.70 GHz            | 1.40 GHz       | 25 MB Intel® Smart Cache | 35 W | DDR4         | Intel® HD Graphics 770, 32EUs |
| Intel® Core™ i9-12900T | Alder Lake | 16          | 24            | 4.90 GHz            | 1.40 GHz       | 30 MB Intel® Smart Cache | 35 W | DDR4         | Intel® HD Graphics 770, 32EUs |
| Intel® Core™ i3-12100  | Alder Lake | 4           | 8             | 4.30 GHz            | 3.30 GHz       | 12 MB Intel® Smart Cache | 65 W | DDR4         | Intel® HD Graphics 730, 24EUs |
| Intel® Core™ i5-12500  | Alder Lake | 6           | 12            | 4.60 GHz            | 3.00 GHz       | 18 MB Intel® Smart Cache | 65 W | DDR4         | Intel® HD Graphics 770, 32EUs |
| Intel® Core™ i7-12700  | Alder Lake | 12          | 20            | 4.90 GHz            | 2.10 GHz       | 25 MB Intel® Smart Cache | 65 W | DDR4         | Intel® HD Graphics 770, 32EUs |

All products and company name listed are trademarks or trade names of their respective companies.

!! Note: For more interface configuration or available processors, please consult the sales.

## Packing List

| Default Items           | Qty |
|-------------------------|-----|
| IBOX-007PRO Unit        | 1   |
| AC-to-DC Adapter        | 1   |
| Power cable 4-pin 150cm | 1   |

## Options for Default items

| Optional Items                    | Qty |
|-----------------------------------|-----|
| Power cable 4-pin 150cm, USA type | -   |
| Power cable 4-pin 150cm, EU type  | -   |
| Power cable 4-pin 150cm, UK type  | -   |

## Optional accessories or internal modules for unit

| Optional Items              | Max Qty | Description                                                                                        |
|-----------------------------|---------|----------------------------------------------------------------------------------------------------|
| I/O Daughter Card           | 1       | Connected by IO expand slot, offering 4* PoE LAN+1* 16bit GPIO( 5-48V)+1* Remote Switch+ 2* USB3.0 |
| Expansion Daughter Card     | 1       | Connected by PCIe expand slot, offering 1*PCIe x16 + 1*PCIe x4 + 2*PCI, working with PRO-BASE only |
| 4G Module                   | 1       | Connected by Mini-PCIe or M.2 interface                                                            |
| WiFi Module without AP mode | 1       | Connected by Mini-PCIe interface                                                                   |
| WiFi Module with AP mode    | 1       | Connected by Mini-PCIe interface                                                                   |
| Dual channel CAN-Bus Module | 2       | Connected by Mini-PCIe or M.2 interface                                                            |
| Four channel CAN-Bus Module | 1       | Connected by PCIe interface                                                                        |
| Dual GbE PoE LAN Module     | 3       | Connected by Mini-PCIe or M.2 interface                                                            |
| AI Acceleration Card        | 4       | 26 TOPS, Connected by M.2 interface; 13 TOPS, Connected by Mini-PCIe interface                     |
| Ignition Switch Module      | 1       | Phoenix Terminal connector, connected by internal power switch and 4-pin ATX power connector       |

!! Note: As this product has expansion slots, please consult sales for the specific maximum number of expandable interfaces.