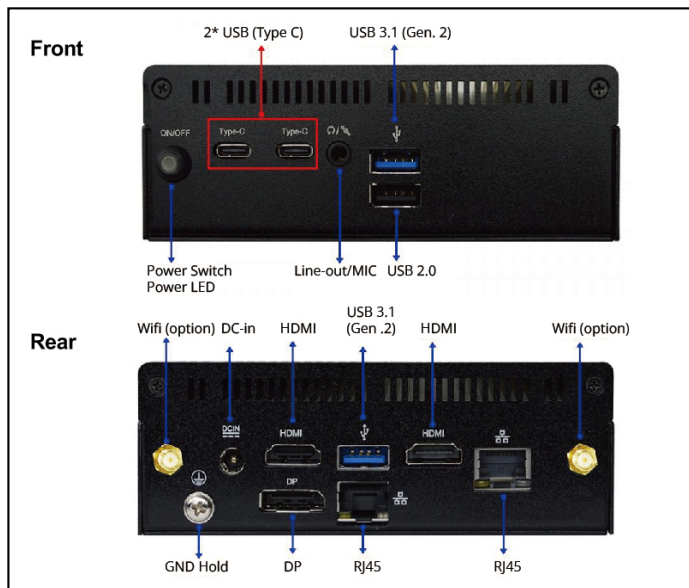


Compact Fanless Embedded system with Intel® J6412 SoC processor supporting Wide temperature operation from -20°C to 60°C



## Features

- **Powered by Intel® J6412 SoC Processor (Elkhart Lake)**
- **Triple Display Support:** 2 x HDMI and 1 x DP for flexible and high-quality visuals
- **Dual 2.5GbE Ethernet Ports:** High-speed and reliable networking
- **Comprehensive I/O:** 2 x USB 3.2 Gen2, 2 x USB 3.2 Gen2 Type-C, and 1 x USB 2.0
- **Optional Features:** TPM module and onboard eMMC for customizable configurations
- **Compact Fanless Design with Wall-Mount Compatibility:** Optimized for Space-Saving

## Packing List

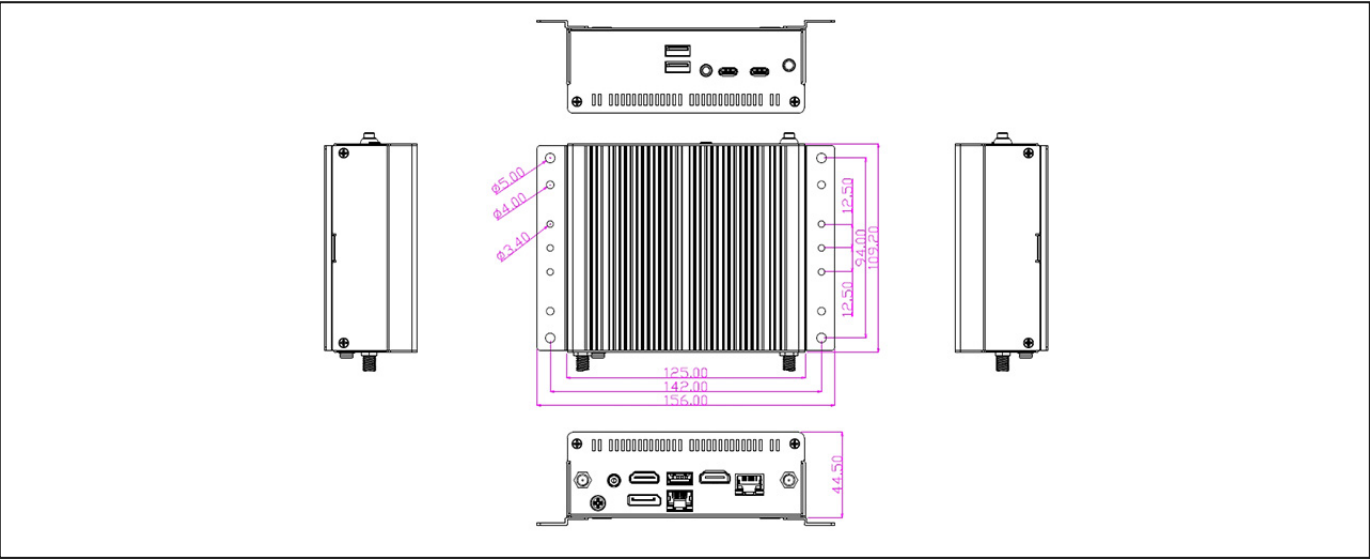
| PART NUMBER                       | DESCRIPTION                                            | QTY |
|-----------------------------------|--------------------------------------------------------|-----|
| HBFBU03 Series                    | HBFBU03 Series                                         | 1   |
| HCSFBMWM01B-F                     | FB Wall Mount                                          | 1   |
| L01AS050-F                        | Adapter DC12V_40W                                      | 1   |
| Change according to shipping area | Power Cord                                             | 1   |
| LCSCHBJC3XX-F                     | JBC3XX Barebone Screw Pack                             | 1   |
| J05-ANT-GX57245-F                 | Antenna 2G4/5G 2.8dBi GX572450001SM (Wifi Series only) | 1   |

## Specifications

| SYSTEM                      |                                                                                                                                           |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| MB FORM FACTOR              | NUC                                                                                                                                       |
| CPU                         | Onboard Intel® Celeron® Processor J6412 (Formerly Elkhart Lake, TDP 10W)<br>For additional compatible CPUs, please contact regional sales |
| CHIPSET                     | Intel® SoC                                                                                                                                |
| MEMORY                      | 1 x DDR4 3200MHz, Single Channel SO-DIMM, up to 32GB                                                                                      |
| BIOS                        | AMI Flash ROM                                                                                                                             |
| WATCHDOG TIMER              | 255 Levels                                                                                                                                |
| SECURITY                    | TPM2.0 (Optional)                                                                                                                         |
| OS SUPPORT                  | Windows® 11 (64bit)<br>Windows® 10 (64bit)<br>Linux                                                                                       |
| POWER                       |                                                                                                                                           |
| POWER REQUIREMENT           | DC-in 12V<br>40W Adapter: AC90-240V, DC12V/3.3A                                                                                           |
| POWER ON MODE               | AT / ATX                                                                                                                                  |
| DISPLAY                     |                                                                                                                                           |
| GPU                         | Intel® HD Graphics, shared memory                                                                                                         |
| DP                          | 1 x DP (Max Resolution: 4096 x 2160@60Hz)                                                                                                 |
| HDMI                        | 2 x HDMI 2.0 (Max Resolution: 4096 x 2160@60Hz)                                                                                           |
| MULTIPLE DISPLAY            | Support 3 Displays                                                                                                                        |
| LAN                         |                                                                                                                                           |
| ETHERNET                    | 2 x RJ45 for Intel® I226-V 2.5GbE                                                                                                         |
| SYSTEM I/O                  |                                                                                                                                           |
| REAR PANEL I/O              | 2 x RJ45<br>1 x DP<br>1 x DC-in<br>2 x HDMI<br>1 x USB 3.1 (Gen 2)<br>2 x WIFI Antenna Holes<br>1 x GND Hold                              |
| FRONT PANEL I/O             | 1 x Power Button<br>1 x Power LED<br>2 x USB 3.1 Gen 2 Type C<br>1 x Combo Audio (Line out & Mic)<br>1 x USB 2.0<br>1 x USB 3.1 (Gen 2)   |
| STORAGE                     |                                                                                                                                           |
| eMMC                        | Onboard 64GB eMMC 5.1 (optional)                                                                                                          |
| EXPANSION                   |                                                                                                                                           |
| M.2                         | 1 x M-Key 2260/2280 (PCIe 3.0 x2/SATA) Support NVMe<br>1 x E-Key 2230 (USB 2.0/PCIe 3.0 x1)                                               |
| MECHANICAL                  |                                                                                                                                           |
| MOUNTING                    | Wall Mount                                                                                                                                |
| DIMENSIONS (W x D x H)      | 125.0 (W) x 109.2 (D) x 44.5 (H) mm                                                                                                       |
| ENVIRONMENT & CERTIFICATION |                                                                                                                                           |
| SHOCK                       | 15G, 11ms duration                                                                                                                        |
| VIBRATION                   | 1 Grms/ 5~ 500Hz/ Operation                                                                                                               |
| OPERATING TEMPERATURE       | -20°C ~ 60°C (-4°F ~ 140°F)                                                                                                               |
| STORAGE TEMPERATURE         | -40°C ~ 85°C (-40°F ~ 185°F)                                                                                                              |
| OPERATING HUMIDITY          | 10 ~ 95% @ 40°C, Non-condensing                                                                                                           |
| CERTIFICATION               | CE/FCC Class A<br>LVD                                                                                                                     |
| ESG DECLARATION             | EU RoHS<br>China RoHS<br>ErP                                                                                                              |

Dimension

Unit: mm



Ordering Information

| PART NUMBER           | HBFBU03-6412-B-A1                 | HBFBU03I-6412-B-A1                | HBFBU03-6412-E-A1                 | HBFBU03I-6412-E-A1                | HBFBU03-6412-T-A1                 | HBFBU03I-6412-T-A1                |
|-----------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| CPU                   | Intel® Celeron® J6412             | Intel® Celeron® J6412             | Intel® Celeron® J6412             | Intel® Celeron® J6412             | Intel® Celeron® J6412             | Intel® Celeron® J6412             |
| SECURITY              |                                   |                                   |                                   |                                   | TPM                               | TPM                               |
| POWER REQUIREMENT     | DC-in 12V                         | DC-in 12V                         | DC-in 12V                         | DC-in 12V                         | DC-in 12V                         | DC-in 12V                         |
| GPU                   | Intel® HD Graphics, shared memory | Intel® HD Graphics, shared memory | Intel® HD Graphics, shared memory | Intel® HD Graphics, shared memory | Intel® HD Graphics, shared memory | Intel® HD Graphics, shared memory |
| DP                    | 1 x DP                            | 1 x DP                            | 1 x DP                            | 1 x DP                            | 1 x DP                            | 1 x DP                            |
| HDMI                  | 2 x HDMI                          | 2 x HDMI                          | 2 x HDMI                          | 2 x HDMI                          | 2 x HDMI                          | 2 x HDMI                          |
| MULTIPLE DISPLAY      | Support 3 Displays                | Support 3 Displays                | Support 3 Displays                | Support 3 Displays                | Support 3 Displays                | Support 3 Displays                |
| ETHERNET              | 2 x 2.5GbE                        | 2 x 2.5GbE                        | 2 x 2.5GbE                        | 2 x 2.5GbE                        | 2 x 2.5GbE                        | 2 x 2.5GbE                        |
| I/O                   | 2 x USB 3.2 Gen 2                 | 2 x USB 3.2 Gen 2                 | 2 x USB 3.2 Gen 2                 | 2 x USB 3.2 Gen 2                 | 2 x USB 3.2 Gen 2                 | 2 x USB 3.2 Gen 2                 |
| I/O                   | 2 x USB 3.1 Gen 2 Type C          | 2 x USB 3.1 Gen 2 Type C          | 2 x USB 3.1 Gen 2 Type C          | 2 x USB 3.1 Gen 2 Type C          | 2 x USB 3.1 Gen 2 Type C          | 2 x USB 3.1 Gen 2 Type C          |
| I/O                   | 1 x USB 2.0                       | 1 x USB 2.0                       | 1 x USB 2.0                       | 1 x USB 2.0                       | 1 x USB 2.0                       | 1 x USB 2.0                       |
| I/O                   | 1 x Audio (Line-out, MIC)         | 1 x Audio (Line-out, MIC)         | 1 x Audio (Line-out, MIC)         | 1 x Audio (Line-out, MIC)         | 1 x Audio (Line-out, MIC)         | 1 x Audio (Line-out, MIC)         |
| I/O                   | 1 x Power Button                  | 1 x Power Button                  | 1 x Power Button                  | 1 x Power Button                  | 1 x Power Button                  | 1 x Power Button                  |
| I/O                   | 1 x Power LED                     | 1 x Power LED                     | 1 x Power LED                     | 1 x Power LED                     | 1 x Power LED                     | 1 x Power LED                     |
| I/O                   | 1 x DC Jack                       | 1 x DC Jack                       | 1 x DC Jack                       | 1 x DC Jack                       | 1 x DC Jack                       | 1 x DC Jack                       |
| I/O                   | 2 x SMA                           | 2 x SMA                           | 2 x SMA                           | 2 x SMA                           | 2 x SMA                           | 2 x SMA                           |
| I/O                   | 1 x GND Hold                      | 1 x GND Hold                      | 1 x GND Hold                      | 1 x GND Hold                      | 1 x GND Hold                      | 1 x GND Hold                      |
| eMMC                  |                                   |                                   | eMMC 64GB                         | eMMC 64GB                         | eMMC 64GB                         | eMMC 64GB                         |
| M.2                   | 1 x M-Key 2260/2280               | 1 x M-Key 2260/2280               | 1 x M-Key 2260/2280               | 1 x M-Key 2260/2280               | 1 x M-Key 2260/2280               | 1 x M-Key 2260/2280               |
| M.2                   | 1 x E-Key 2230                    | 1 x E-Key 2230                    | 1 x E-Key 2230                    | 1 x E-Key 2230                    | 1 x E-Key 2230                    | 1 x E-Key 2230                    |
| OTHER                 |                                   | WiFi                              |                                   | WiFi                              |                                   | WiFi                              |
| OPERATING TEMPERATURE | -20°C ~ 60°C (-4°F ~ 140°F)       | -20°C ~ 60°C (-4°F ~ 140°F)       | -20°C ~ 60°C (-4°F ~ 140°F)       | -20°C ~ 60°C (-4°F ~ 140°F)       | -20°C ~ 60°C (-4°F ~ 140°F)       | -20°C ~ 60°C (-4°F ~ 140°F)       |