



539.00 EUR  
incl. 19% VAT, plus [shipping](#)

- Intel Elkhart Lake !
- 2x 4K HDMI !
- WLAN !
- NUVOTON TPM v2.0 !

- Intel® Elkhart Lake Celeron® J and N Series SoC Processor
- Long-Life Embedded Class with Planned Lifecycle Through Q1'2036
- 2 \* DDR4-3200MHz Dual Channel SO-DIMM up to 32GB
- Up to 2 4K HDMI Displays
- 1 \* Intel i225-LM 2.5GbE, 1 \* Intel i211-AT GbE
- Onboard 32GB eMMC, 3 \* M.2 Slots
- ECO-design for EuP/ErP
- Onboard NUVOTON TPM v2.0

|                     |                                                               |                                                                                 |
|---------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------|
| <b>Model Series</b> | <b>FDF04</b>                                                  |                                                                                 |
| <b>Part Number</b>  | <b>HBDF04-6412B (Non-WIFI)</b><br><b>HBDF04i-6412B (WIFI)</b> | <b>HBDF04-6412T (Non-WIFI, TPM 2.0)</b><br><b>HBDF04i-6412T (WIFI, TPM 2.0)</b> |

#### Motherboard Specification

|                 |                                                                                             |
|-----------------|---------------------------------------------------------------------------------------------|
| <b>CPU</b>      | Intel® Celeron J6412, 2.00GHz – 2.60GHz Burst, 4-Core 4-Thread, 10W (Formerly Elkhart Lake) |
| <b>Memory</b>   | 2 x 260-pin Dual Channel DDR4-3200 SO-DIMM up to 32GB Total                                 |
| <b>Graphics</b> | Intel® UHD Graphics for 10th Gen Intel® Processors                                          |
| <b>Audio</b>    | Realtek ALC662 HD Audio                                                                     |
| <b>LAN</b>      | 1 x Intel I225-LM PCIe 2.5GbE<br>1 x Intel I211-AT PCIe Gigabit LAN                         |
| <b>Storage</b>  | 1 x SATA3 6Gb/s<br>1 x M.2 (SATA & PCIe 3.0 x2, M-key, 2242/2280 NVMe)<br>Onboard 32GB eMMC |

|                              |                                                                                                                                                                                                                                                                           |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>WiFi</b>                  | M.2 2230 E-key Open Slot for HBFDF04 Series (Non-WIFI)<br>WiFi + Bluetooth Installed for HBFDF04i Series (WIFI)                                                                                                                                                           |
| <b>SIM</b>                   | M.2 3042 B-key Open Slot (USB bus for 3G/4G Modem)                                                                                                                                                                                                                        |
| <b>TPM</b>                   | Intel fTPM 2.0 (PTT) Trusted Computing Firmware<br>Intel fTPM 2.0 (PTT) Trusted Computing Firmware<br>Onboard NUVOTON TPM v2.0                                                                                                                                            |
| <b>Chassis Specification</b> |                                                                                                                                                                                                                                                                           |
| <b>Enclosure Size</b>        | 193 (W) x 142.4 (D) x 62 (H) mm                                                                                                                                                                                                                                           |
| <b>Storage Bay</b>           | 1 * 2.5" SATA Drive Bay                                                                                                                                                                                                                                                   |
| <b>Front I/O Port</b>        | 1 Power Button<br>1 Reset Button<br>1 Power LED<br>1 HDD LED<br>2 USB 2.0 Ports<br>1 3.5mm Line-out Jack<br>1 3.5mm Mic-in Jack<br>2 Serial Ports (1 * RS232, 1 * RS232/422/485)                                                                                          |
| <b>Rear I/O Port</b>         | 1 3.5mm Line-out & MIC-in Combo Audio Jack<br>1 RJ45 LAN (10/100/1000/2500)<br>1 RJ45 LAN (10/100/1000)<br>3 USB 3.2 Gen 2 (10 Gb/s)<br>3 USB 2.0 Port<br>2 HDMI 2.0b (4096 * 2160 @ 60Hz)<br>2 Antenna Holes<br>1 GND Screw<br>1 +12V – 24V 2.5mm Diameter DC Power Jack |
| <b>Power</b>                 | Adapter : AC_90~240V / DC_12V/60W                                                                                                                                                                                                                                         |
| <b>Environment</b>           | Operating Temperature : 0°C ~ 50°C with air flow<br>Storage Temperature : -25°C ~ 85°C<br>Humidity : 10% ~ 90% RH @40°C (non-condensing)                                                                                                                                  |
| <b>Application</b>           | Digital Signage, POS, Kiosk, Carputer, Industrial PC, Automation, Gaming, Digital Security, Surveillance, Transportation, Medical                                                                                                                                         |
| <b>Certificate</b>           | CE,FCC,ErP For Barebone<br>CE,FCC,TUV,UL,CCC,CB,ErP For Power Adapter                                                                                                                                                                                                     |