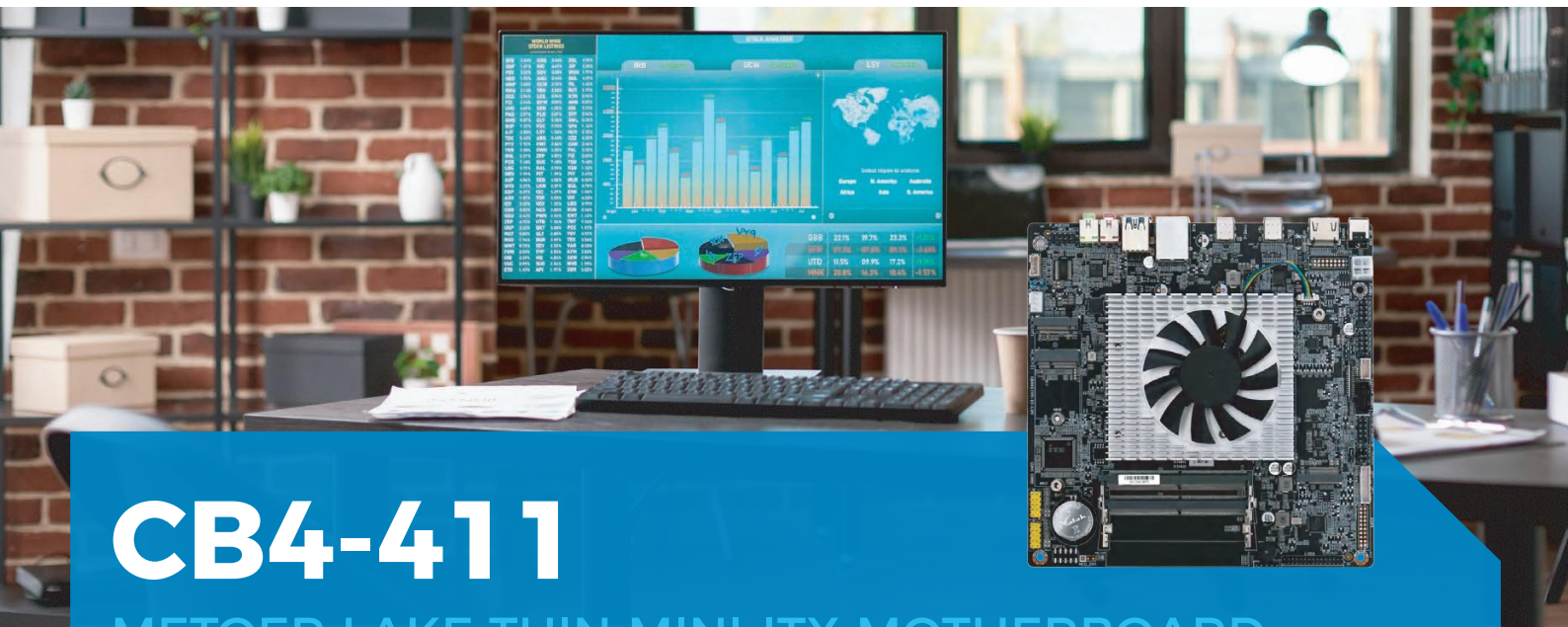




# CB4-411

## METOEER LAKE THIN MINI-ITX MOTHERBOARD



Intel® Meteor Lake  
Core Ultra processors



Intel® AI Boost NPU  
Max frequency 1.4 GHz



1 x HDMI2.0 (4096 x 2160 @60 Hz)  
1 x LVDS (1920 x 1200 @60 Hz)  
1 x Thunderbolt4 (7680 x 4320 @60 Hz)



Support Wi-Fi/BT module  
Support Wi-Fi 7



Thin Mini-ITX form-factor  
170 mm x 170 mm (6.69" x 6.69")

### CPU

|                             |                                                                            |
|-----------------------------|----------------------------------------------------------------------------|
| <b>CPU</b>                  | Intel® Core™ Ultra 5 processor 125H<br>Intel® Core™ Ultra 7 processor 155H |
| <b>Frequency</b>            | 4.50 GHz /4.80 GHz                                                         |
| <b>Chipset</b>              | SoC                                                                        |
| <b>Processing Units</b>     | 14 Cores /16 Cores                                                         |
| <b>TDP</b>                  | 28 W /28 W                                                                 |
| <b>NPU</b>                  | Intel AI Boost, 1.4 GHz                                                    |
| <b>Frameworks Supported</b> | OpenVINO™, WindowsML, DirectML, ONNX RT, WebGPU                            |

### System

|                              |                                                                                                            |
|------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>GPU</b>                   | Intel® Arc™ graphics                                                                                       |
| <b>Graphic Engine</b>        | DirectX 12.2, OpenGL 4.6, OpenCL 3.0, H.264 /H.265 / AV1 Hardware Encode /Decode, VP9 Bitstream & Decoding |
| <b>System Memory</b>         | Up to 96 GB, 2 x SO-DIMM DDR5-5600 MHz                                                                     |
| <b>Storage</b>               | 1 x M-Key M.2 (2280) PCIe5.0 X4 for SSD<br>1 x M-Key M.2 (2280) PCIe4.0 X4 for SSD<br>1 x 2.5" SATAIII     |
| <b>TPM</b>                   | Optional: TPM2.0                                                                                           |
| <b>Watchdog Timer</b>        | Yes                                                                                                        |
| <b>Auto Power On</b>         | Yes                                                                                                        |
| <b>RTC</b>                   | Set up independently every day, a week as a cycle                                                          |
| <b>Power Requirement</b>     | DC-IN, 12 V / 19 V                                                                                         |
| <b>Dimensions</b>            | 170 mm x 170 mm (6.69" x 6.69")                                                                            |
| <b>Operating system</b>      | Windows 10 (64bit) /Windows 11 (64bit)<br>Linux Ubuntu (64bit)                                             |
| <b>Operating Temperature</b> | 0°C ~60°C (32°F~140°F) @0.7m/s Air Flow                                                                    |
| <b>Storage Temperature</b>   | -20°C ~75°C (-4°F~167°F)                                                                                   |
| <b>Humidity</b>              | 5% ~95% @ 45°C (non-condensing)                                                                            |

### Network

|                           |                                                                           |
|---------------------------|---------------------------------------------------------------------------|
| <b>Network Controller</b> | 1 x Intel i226-V Gigabit Ethernet                                         |
| <b>Wi-Fi/BT</b>           | 1 x E-Key M.2 (2230) for Wi-Fi/BT<br>Support Wi-Fi 5, Wi-Fi 6/6E, Wi-Fi 7 |
| <b>Mobile Network</b>     | NA                                                                        |

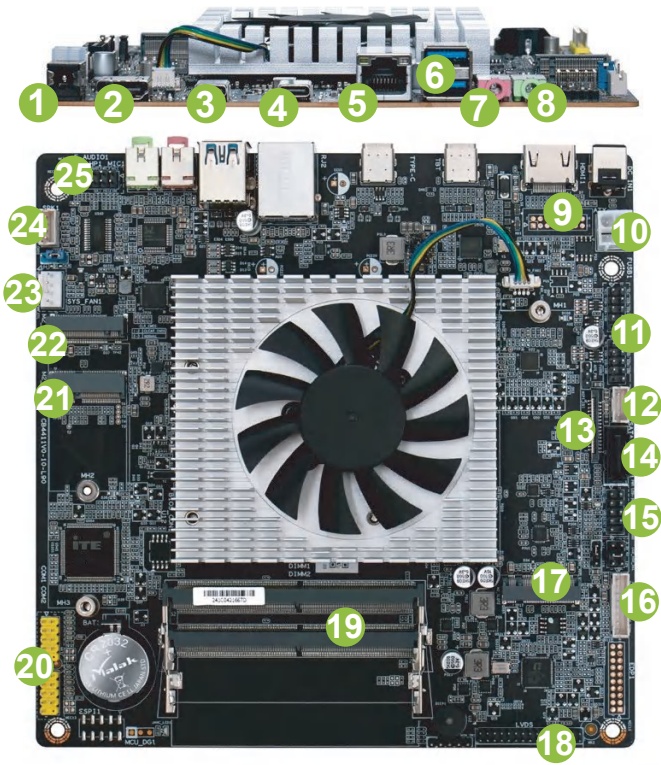
### Rear I/O

|                           |                                                               |
|---------------------------|---------------------------------------------------------------|
| <b>USB</b>                | 1 x USB Type-C3.2 Gen2, 2 x USB3.2 Gen2,<br>1 x Thunderbolt 4 |
| <b>Display Interface</b>  | 1 x HDMI2.0 (Max.4096 x 2160 @60 Hz)                          |
| <b>Audio</b>              | 1 x AUDIO-OUT, 1 x MIC-IN                                     |
| <b>Ethernet Interface</b> | 1 x 2.5 GbE RJ45                                              |

### Internal I/O

|                    |                                                                                                                      |
|--------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>USB</b>         | 4 x USB2.0, signal by 2 x 5pin header                                                                                |
| <b>Display</b>     | 2 x 15pin dual channel 24bit LVDS<br>Optional: 2 x 8pin J_HDMI colay with HDMI                                       |
| <b>Serial port</b> | 2 x RS232, signal by 2 x 5pin header                                                                                 |
| <b>Power</b>       | 1 x 4pin ATX PWR_IN, 1 x 4pin SATA_PWR,                                                                              |
| <b>Audio</b>       | 1 x 2 x 5pin FP_AUDIO, 1 x 4pin SPEAKER                                                                              |
| <b>Others</b>      | 1 x MIPI-CSI<br>1 x 2 x 5pin F_PANEL<br>1 x 3pin CLR_CMOS<br>1 x 8pin INVERTER<br>1 x 4pin SYS_FAN, 1 x 4pin CPU_FAN |

Dimensions and Drawing



| No. | Dimensions        | No. | Dimensions     |
|-----|-------------------|-----|----------------|
| 1   | DC-IN             | 20  | 2*RS232        |
| 2   | HDMI2.0           | 21  | B-KEY M.2 2230 |
| 3   | THUNDERBOLT4      | 22  | M-KEY M.2 2280 |
| 4   | TYPE-C3.2 GEN2    | 23  | SYS_FAN        |
| 5   | RJ45              | 24  | SPK            |
| 6   | 2*USB3.2 GEN2     | 25  | F_AUDIO        |
| 7   | MIC-IN            |     |                |
| 8   | AUDIO-OUT         |     |                |
| 9   | J_HDMI (Optional) |     |                |
| 10  | ATX PWR_IN        |     |                |
| 11  | 2*USB2.0 HEADER   |     |                |
| 12  | SATA_PWR          |     |                |
| 13  | MIPI-CSI          |     |                |
| 14  | SATAIII           |     |                |
| 15  | F_PANEL           |     |                |
| 16  | INVERTER          |     |                |
| 17  | M-KEY M.2 2280    |     |                |
| 18  | LVDS              |     |                |
| 19  | 2*SO-DIMM         |     |                |

Order information

|         |                                     |
|---------|-------------------------------------|
| CB4-411 | Intel® Core™ Ultra 5 processor 125H |
|---------|-------------------------------------|

Optional

|                 |                                                                                                                            |
|-----------------|----------------------------------------------------------------------------------------------------------------------------|
| Wi-Fi/BT module | Intel® Dual Band Wireless-AC 9260, Intel® Dual Band Wireless-AC 9560<br>Intel® Wi-Fi 6 AX200, Intel® Wi-Fi 6E AX210 (Gig+) |
|-----------------|----------------------------------------------------------------------------------------------------------------------------|