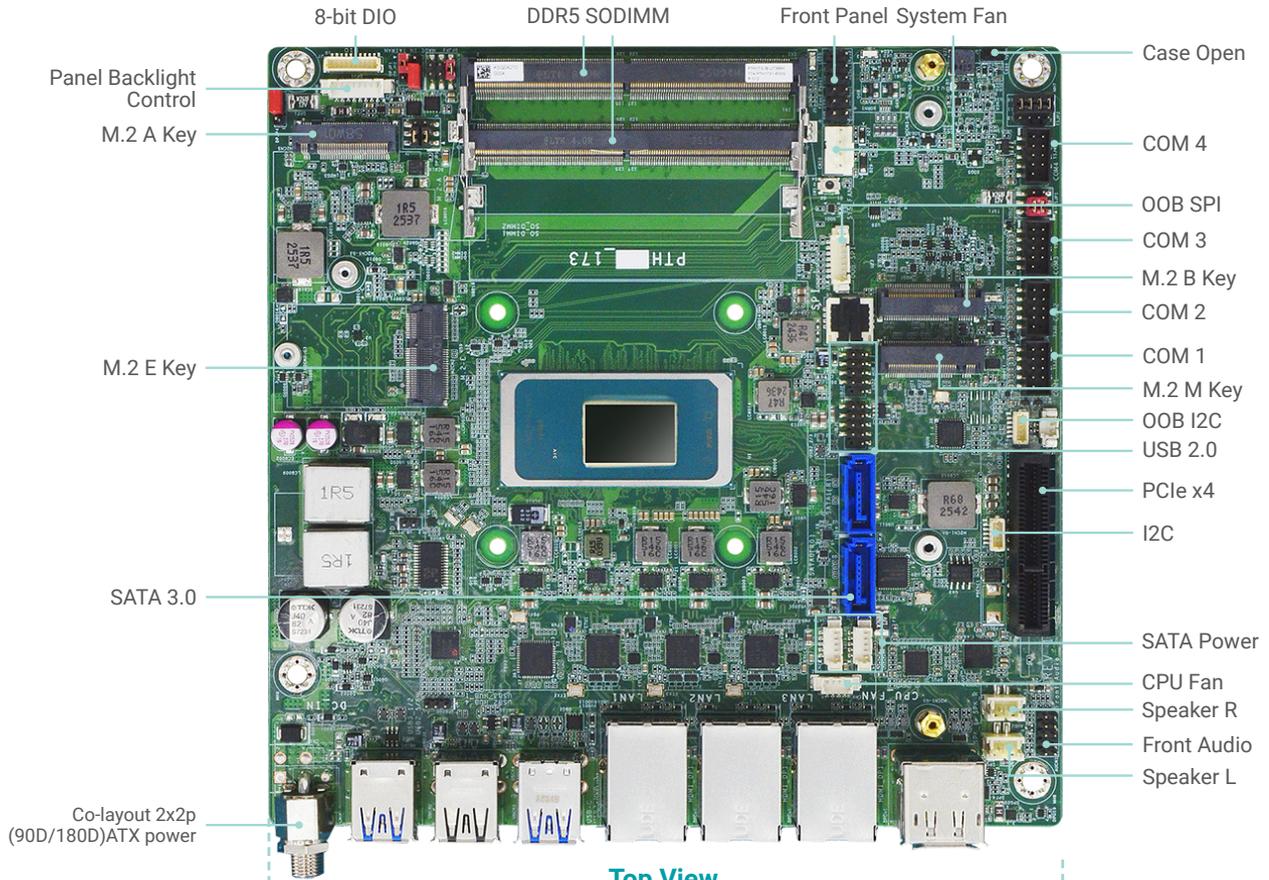


# PTH171/PTH173

Inter Panther Lake H  
Mini-ITX



Top View



## KEY FEATURES



### DDR5

2 DDR5 6400/7200MHz SODIMM up to 128GB



### 4K High Resolution

Supports 4K/ 2K resolution



### Quad Displays

HDMI, DP, USB Type C (DP alt-mode/USB3.2 Gen2 /PD 15W), M2A-Display (optional)



### Multiple Expansion

1 PCIe Gen5 x4, 1 M.2 M Key, 1 M.2 B Key, 1 M.2 E Key, 1 M.2 A Key



### Rich I/O

Up to 3 2.5GbE LAN, 4 USB 3.2, 1 USB Type C, 5 USB 2.0, 2 SATA 3.0, 4 COM

# SPECIFICATION

| Model Name     |                   | PTH171   | PTH173  |
|----------------|-------------------|--|---|
| SYSTEM         | Processor         | <b>Inter Panther Lake H processor, TDP up to 25W</b><br>Intel® Core™ Ultra 9 388H (H484-12XeET, vPro)<br>Intel® Core™ Ultra 7 368H (H484-12XeET, vPro)<br>Intel® Core™ Ultra 7 358H (H484-12XeET)<br>Intel® Core™ Ultra 5 338H (H484-12XeET, vPro)<br>Intel® Core™ Ultra 9 386H (H484-4XeET, vPro)<br>Intel® Core™ Ultra 7 366H (H484-4XeET, vPro)<br>Intel® Core™ Ultra 7 356H (484-4XeET)<br>Intel® Core™ Ultra 5 336H (444-4XeET, vPro)<br>Intel® Core™ Ultra 7 365 (404-4XeET, vPro)<br>Intel® Core™ Ultra 7 355 (404-4XeET)<br>Intel® Core™ Ultra 5 335 (404-4XeET, vPro)<br>Intel® Core™ Ultra 5 325 (404-4XeET) |   |
|                | Memory            | 2x 262-pin SODIMM up to 128GB<br>Dual-channel SODIMM DDR5 up to 6400 MHz (H404)/7200 MHz (H484)  | 2x 262-pin SODIMM up to 128GB<br>Dual-channel SODIMM DDR5 up to 6400 MHz (H404)/7200 MHz (H484)   |
|                | BIOS              | AMI SPI 256Mbit  | AMI SPI 256Mbit   |
| GRAPHICS       | Controller        | Intel® Arc Xe3   | Intel® Arc Xe3  |
|                | Display           | 1 x HDMI<br>1 x DP++<br><b>HDMI:</b> resolution up to 4096x2160 @60Hz<br><b>DP:</b> resolution up to 4096x2304 @60Hz<br><b>USB Type C (DP alt-mode/USB3.2 Gen2/PD 15W):</b> resolution up to 4096x2304 @60Hz (HBR2)  | 1 x HDMI<br>1 x DP++<br><b>HDMI:</b> resolution up to 4096x2160 @60Hz<br><b>DP:</b> resolution up to 4096x2304 @60Hz<br><b>USB Type C (DP alt-mode/USB3.2 Gen2/PD 15W):</b> resolution up to 4096x2304 @60Hz (HBR2) |
|                | Quad Displays     | HDMI + DP + USB Type C (DP alt-mode/USB3.2 Gen2/PD 15W) + M2A-Display (optional)   | HDMI + DP + USB Type C (DP alt-mode/USB3.2 Gen2/PD 15W) + M2A-Display (optional)  |
| EXPANSION      | Interface         | 1 x PCIe Gen 5 x4 slot   | 1 x PCIe Gen 5 x4 slot  |
|                |                   | 1 x M.2 2242/2280 M Key (PCIe Gen4x4, SATA3 opt. selected by BIOS, support NVMe )  | 1 x M.2 2242/2280 M Key (PCIe Gen4x4, SATA3 opt. selected by BIOS, support NVMe )   |
|                |                   | 1 x M.2 2242/3042/3052 B Key (PCIe Gen4x1 shared with M.2 A key by request, USB3.2 Gen2, USB2.0, SIM)  | 1 x M.2 2242/3042/3052 B Key (PCIe Gen4x1 shared with M.2 A key by request, USB3.2 Gen2, USB2.0, SIM)   |
|                |                   | 1 x M.2 2230 E Key (PCIe Gen4x1 and USB2.0, support Intel® CNVi,WIFI7)   | 1 x M.2 2230 E Key (PCIe Gen4x1 and USB2.0, support Intel® CNVi,WIFI7)  |
|                |                   | 1 x M.2 3042/3060 A Key (Standoff 3030)<br>Support M2A Display solution (eDP/LVDS/VGA/DP/HDMI or DVI via optional cable)<br>Support M2A-M21 expansion solution (PCIEx1,USB3/USB2,SIM)  | 1 x M.2 3042/3060 A Key (Standoff 3030)<br>Support M2A Display solution (eDP/LVDS/VGA/DP/HDMI or DVI via optional cable)<br>Support M2A-M21 expansion solution (PCIEx1,USB3/USB2,SIM)                               |
| AUDIO          | Audio Codec       | Realtek ALC888S  | Realtek ALC888S   |
| ETHERNET       | Controller        | <b>LAN1/2:</b> i226V/IT (10/100/1000/2.5G speeds)<br><b>LAN3(vPro):</b> i226LM/IT (10/100/1000/2.5G speeds)  | <b>LAN1/2:</b> i226V/IT (10/100/1000/2.5G speeds)<br><b>LAN3(vPro):</b> i226LM/IT (10/100/1000/2.5G speeds)   |
| REAR I/O       | Ethernet          | Up to 3 x 2.5GHz RJ45<br>(LAN 3 colayout with internal vertical RJ45 by option)  | Up to 3 x 2.5GHz RJ45<br>(LAN 3 colayout with internal vertical RJ45 by option)   |
|                | USB               | 4 x USB 3.2 Gen2 Type A<br>1 x USB 2.0 Type A<br>1 x USB 3.2 Gen 2 Type C<br>(DP alt-mode/USB3.2 Gen 2/PD 15W)   | 4 x USB 3.2 Gen2 Type A<br>1 x USB 2.0 Type A<br>1 x USB 3.2 Gen 2 Type C<br>(DP alt-mode/USB3.2 Gen 2/PD 15W)  |
|                | Display           | 1 x HDMI 2.0<br>1 x DP++   | 1 x HDMI 2.0<br>1 x DP++  |
| INTERNAL I/O   | Serial            | 2 x RS-232/422/485 (2.0mm pitch)<br>1 x RS-232 with power (2.0mm pitch)<br>1 x RS-232 (2.0mm pitch) colay with DIO-4bit or PS/2 (Option)   | 2 x RS-232/422/485 (2.0mm pitch)<br>1 x RS-232 with power (2.0mm pitch)<br>1 x RS-232 (2.0mm pitch) colay with DIO-4bit or PS/2 (Option)  |
|                | USB               | 4 x USB 2.0 (2.0mm pitch)<br>1 x M.2 A key with M2A-M21 supports up to 2 USB3 Gen1 and 4 USB2.0 (Option)   | 4 x USB 2.0 (2.0mm pitch)<br>1 x M.2 A key with M2A-M21 supports up to 2 USB3 Gen1 and 4 USB2.0 (Option)  |
|                | Display           | 1 x M.2 A key, support M2A-Display ( eDP / LVDS / VGA / DP / HDMI or DVI via optional cable)   | 1 x M.2 A key, support M2A-Display ( eDP / LVDS / VGA / DP / HDMI or DVI via optional cable)  |
|                | Audio             | 1 x Line-out/Mic-in<br>2 x 3W speaker header (L/R)   | 1 x Line-out/Mic-in<br>2 x 3W speaker header (L/R)  |
|                | SATA              | 2 x SATA 3.0<br>H484 RAID 0,1,5 supported by Intel VMD<br>H404 RAID 0,1 (shared with M.2 M key)  | 2 x SATA 3.0<br>H484 RAID 0,1,5 supported by Intel VMD<br>H404 RAID 0,1 (shared with M.2 M key)   |
|                | DIO               | 1 x 8-bit DIO  | 1 x 8-bit DIO   |
|                | Case open         | 1 x case open header   | 1 x case open header  |
|                | SMBus             | 1 x SMBus  | 1 x SMBus   |
| WATCHDOG TIMER | Output & Interval | System Reset, Programmable via Software from 1 to 255 Seconds  | System Reset, Programmable via Software from 1 to 255 Seconds   |

## SPECIFICATION

| Model Name                         |                       | PTH171  | PTH173  |
|------------------------------------|-----------------------|---|---|
| <b>SECURITY</b>                    | <b>TPM</b>            | dTPM (default)<br>fTPM (option)   | dTPM (default)<br>fTPM (option)   |
| <b>POWER</b>                       | <b>Type</b>           | Single 12VDC  | Wide Range 12~28VDC   |
|                                    | <b>Connector</b>      | DC-in Jack<br>Right Angle Connector (4-pin) (Option)<br>Straightl Type Connector (4-pin) (Option) | DC-in Jack<br>Right Angle Connector (4-pin) (Option)<br>Straightl Type Connector (4-pin) (Option) |
|                                    | <b>Consumption</b>    | <b>Idle:</b> TBD<br><b>Max:</b> TBD   | <b>Idle:</b> TBD<br><b>Max:</b> TBD   |
|                                    | <b>RTC Battery</b>    | CR2032 Coin Cell  | CR2032 Coin Cell  |
| <b>OS SUPPORT</b>                  | <b>Microsoft</b>      | Windows 11 24H2 LTSC 64-bit   | Windows 11 24H2 LTSC 64-bit   |
|                                    | <b>Linux</b>          | Ubuntu 24.04  | Ubuntu 24.04  |
| <b>ENVIRONMENT</b>                 | <b>Temperature</b>    | <b>Operating:</b> -5 to 65°C, -20 to 70°C<br><b>Storage:</b> -40 to 85°C                          | <b>Operating:</b> -5 to 65°C, -20 to 70°C<br><b>Storage:</b> -40 to 85°C                          |
|                                    | <b>Humidity</b>       | <b>Operating:</b> 5 to 95% RH<br><b>Storage:</b> 5 to 95% RH                                      | <b>Operating:</b> 5 to 95% RH<br><b>Storage:</b> 5 to 95% RH                                      |
| <b>ENVIRONMENT</b>                 | <b>MTBF</b>           | TBD   | TBD   |
| <b>MECHANISM</b>                   | <b>Dimensions</b>     | Mini-ITX Form Factor<br>170mm (6.7") x 170mm (6.7")   | Mini-ITX Form Factor<br>170mm (6.7") x 170mm (6.7")   |
|                                    | <b>Height</b>         | <b>PCB:</b> TBDmm<br><b>Top Side:</b> TBDmm<br><b>Bottom Side:</b> TBDmm                          | <b>PCB:</b> TBDmm<br><b>Top Side:</b> TBDmm<br><b>Bottom Side:</b> TBDmm                          |
| <b>STANDARDS AND CERTIFICATION</b> | <b>Certifications</b> | CE, FCC, RoHS, UKCA   | CE, FCC, RoHS, UKCA   |

## PACKING LIST

|   |                 |
|---|-----------------|
| • 1 PTH171/PTH173 motherboard                                     |                 |
| • 1 COM port cable with bracket<br>(Length: 250mm, 1 x COM ports) | A81-015115-018G |
| • 1 Serial ATA data with power cable<br>(Length: 300mm)           | A81-002144-018G |
| • 4 M.2 screw/standoff  |                 |
| • 1 I/O Shield  |                 |
| - (2 LAN, Regular type)(For Sample)                               | TBD             |
| - (3 LAN, Regular type)(For Sample)                               | TBD             |
| - (2 LAN, Thin type)(For Sample)                                  | TBD             |
| - (3 LAN, Thin type)(For Sample)                                  | TBD             |
| • 1 Cooler  |                 |
| - (Wide/Normal Temp. -Cooler for 25W)                             | TBD (Default)   |