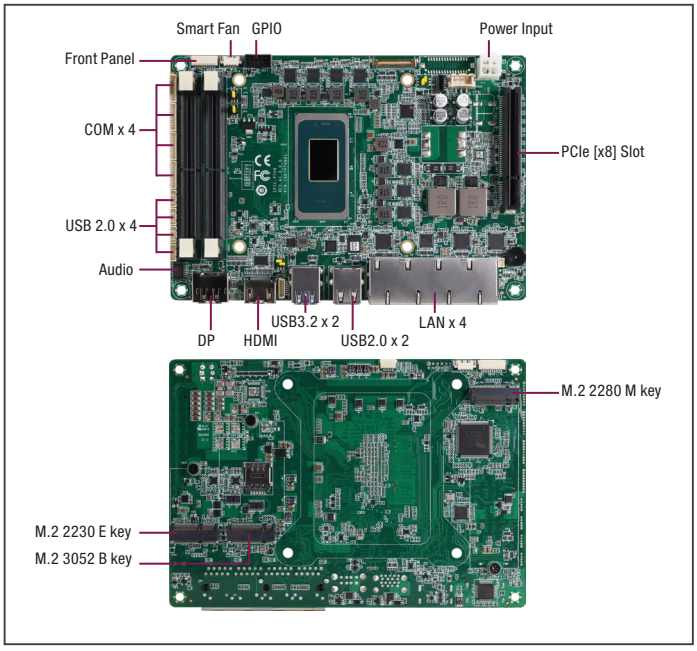
EPIC-PTH9

4" EPIC Board with Intel® Core™ Ultra Series 3 Processors



Features

- Intel® Core™ Ultra Series 3 processors, up to 65W
- Intel Graphic Engine 4Xe/12Xe, up to 180 TOPs
- DDR5 SODIMM 7200 x 2, up to 128GB
- Triple Display: LVDS / eDP (Optional) + HDMI 2.1 + DP 2.1
- 2.5GbE x 3, GbE x 1
- USB 3.2 Gen 2 x 2, USB 2.0 x 6
- M.2 M-Key , M.2 B-Key, M.2 E-Key
- PCIe 5.0 [x8] Slot x 1
- COM x 4 , GPIO 8-bit , TPM 2.0, DC 9Vin - 24Vin

Specifications

System	
Form Factor	4" EPIC Board
CPU	Intel® Core™ Ultra Series 3 processors: Intel® Core™ Ultra X7 Processor 358H (16C/16T, up to 4.8 GHz, 25W) Intel® Core™ Ultra 7 Processor 356H (16C/16T, up to 4.7 GHz, 25W) Intel® Core Ultra 5 325 (8C/8T, max 4.5GHz ,25W) Intel® Core Ultra 9 386H (16C/16T, max 4.9GHz ,25W)
Chipset	Integrated with Intel® SoC
Memory Type	DDR5 7200, Dual Channel SODIMM x 2, Max 128GB (Non ECC)
BIOS	UEFI
Wake On Lan	Yes
Watchdog Timer	255 Levels
Security	TPM 2.0
RTC Battery	Lithium Battery 3V/240mAh
Dimension	4.53" x 6.50" (115mm x 165mm)
OS Support	Windows 11 (64-bit) Ubuntu 26.04 kernel 7.0.0-14 generic
Power	
Power Requirement	9V – 24V (Optional: 12V)
Power Supply Type	AT/ATX (Default: AT)
Connector	4-pin ATX Connector
Power Consumption	Intel® Core™ Ultra X7 Processor 358H, DDR5 32GB, 8.23A @+12V (Typical) Intel® Core™ Ultra X7 Processor 358H, DDR5 32GB, 9.32A @+12V (Max)
Display	
Controller	Intel® Graphics (Intel® Core™ Ultra 9 Processor 386H / Intel® Core™ Ultra 7 Processor 356H)] Intel® Arc™ B390 GPU (Intel® Core™ Ultra X9 Processor 388H / Intel® Core™ Ultra X7 Processor 358H)
LVDS/eDP	LVDS x 1, Dual-Channel 18/24-bit, up to 1920 x 1080 eDP x 1, up to 3840 x 2160 (Optional)
Display Interface	HDMI 2.1 x 1, up to 3840 x 2160 @60Hz DP 2.1 x 1, up to 3840 x 2160 @60Hz
Multiple Display	Up to 3 Simultaneous Displays
Audio	
CODEC	Realtek ALC897
Audio Interface	Line-In / Line-Out / Mic
Speaker	—
External I/O	
Ethernet	Intel® Ethernet Connection I219, 1GbE RJ-45 x 1 (PXE support x 1) Intel® Ethernet Controller I226, 2.5GbE RJ-45 x 3 (PXE support x 1)
USB	USB2.0 x 2 USB3.2 Gen2 x 2
Serial Port	—
Video	DP 2.1 x 1 HDMI 2.1 x 1
Internal I/O	
USB	USB 2.0 x 4
Serial Port	COM 1 & COM 2 (RS-232/422/485, supports 5V/12V/RI) COM 3 & COM 4 (RS-232 only, supports RI only)
Video	LVDS x 1, Dual-Channel 18/24-bit, up to 1920 x 1080 eDP x 1, up to 3840 x 2160 (Optional)
SATA	—
Audio	Audio Header x 1
DIO/GPIO	GPIO 8-bit
SMBus/I2C	SMBus / I2C / Timed GPIO (Default: SMBus, change by BOM)
Touch	—
Fan	4-pin Smart Fan x 2
SIM	Nano SIM x 1
Front Panel	Power Button, Reset Button, Power LED, Buzzer
Others	—
Expansion	
Mini PCI-E/mSATA	—
M.2	M.2 3052 B-Key x 1 (PCIe 4.0 [x1] + USB 3.0 / PCIe 4.0 [x2] x 1) Default: PCIe 4.0 [x1] + USB 3.0, change by BOM M.2 2280 M-Key x 1 (PCIe 4.0 [x4]) M.2 2230 E-Key x 1 (PCIe 4.0 [x1] + USB 2.0)
Others	PCIe 5.0 [x8] Slot x 1 (support by Intel® Core™ Ultra 7 Processor 356H CPU only)
Environment & Certification	
Operating Temperature	-4°F – 158°F (-20°C – 70°C)
Storage Temperature	-40°F – 185°F (-40°C – 85°C)
Operating Humidity	0% – 90% relative humidity, non-condensing
MTBF (Hours)	860,096
EMC	CE/FCC Class A

Packing List

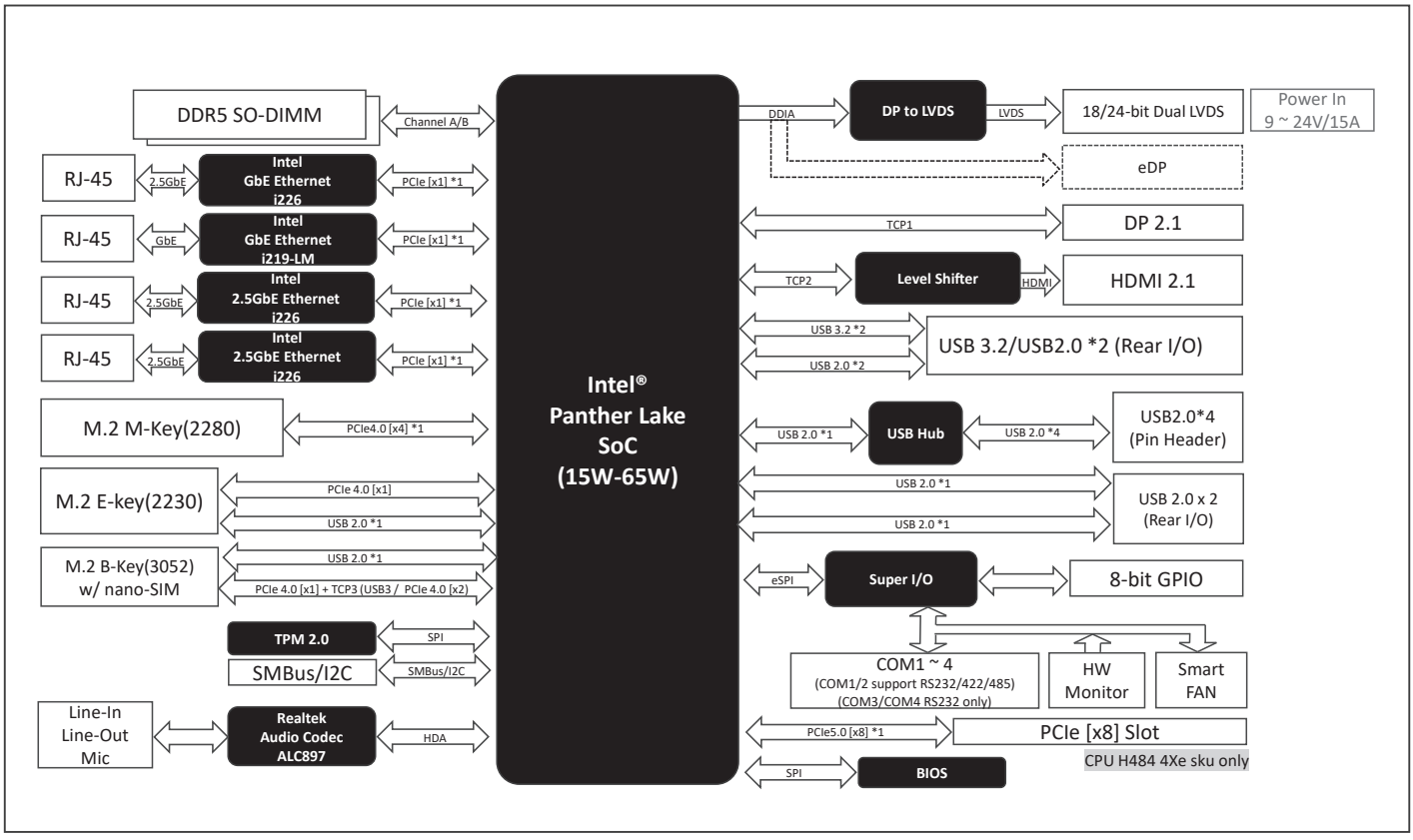
- EPIC-PTH9 x 1
- Screw kit x 1

Optional Accessories

Part Number	Description	QTY
EPIC-PTH9-FAN01	Cooler. 78*78*30.8mm	1
1701090150	COM Port Cable, 15cm	4
1700050207	USB 2.0 Cable, 20cm	4
170X000156	Audio Cable, 25cm	1

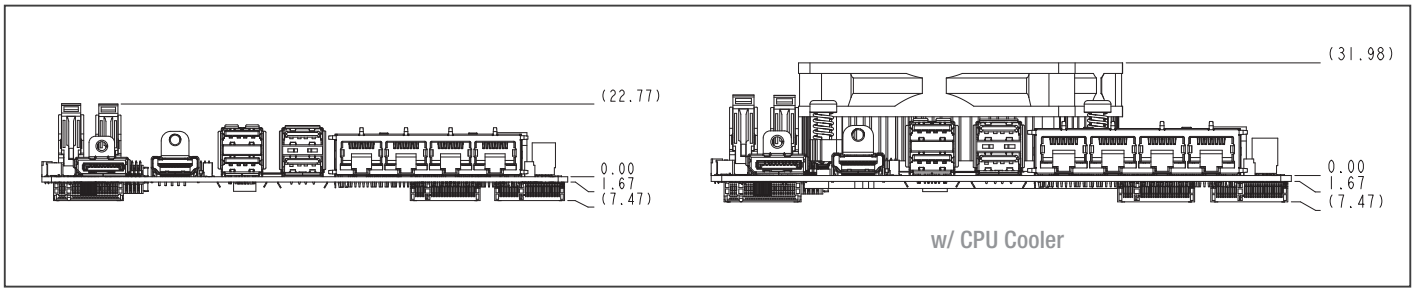
Note: All specifications are subject to change without notice.

Block Diagram



Dimension

Unit: mm



Ordering Information

PART NUMBER	CPU	Memory	Display	Storage	LAN	USB	COM	Expansion	TPM	Power	Operating Temperature	Others
EPIC-PTH9-A10-0001	Intel® Core™ Ultra X7 Processor 358H	DDR5 SODIMM x 2 (Non ECC)	HDMI x 1, DP x 1 LVDS x 1	—	2.5GbE x 3, GbE x 1	USB 3.2 Gen 2 x 2, USB 2.0 x 6	COM RS-232/422/485 x 2 COM RS-232 x 2	M.2 3052 B-Key x 1 M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	TPM 2.0	DC +9Vin to +24Vin	-20°C – 70°C	GPIO 8-bit, Nano SIM x 1 Audio, SMBus
EPIC-PTH9-A10-0002	Intel® Core™ Ultra 7 Processor 356H	DDR5 SODIMM x 2 (Non ECC)	HDMI x 1, DP x 1 LVDS x 1	—	2.5GbE x 3, GbE x 1	USB 3.2 Gen 2 x 2, USB 2.0 x 6	COM RS-232/422/485 x 2 COM RS-232 x 2	M.2 3052 B-Key x 1 M.2 2280 M-Key x 1 M.2 2230 E-Key x 1 PCIe 5.0 [x8] Slot x 1	TPM 2.0	DC +9Vin to +24Vin	-20°C – 70°C	GPIO 8-bit, Nano SIM x 1 Audio, SMBus
EPIC-PTH9-A10-0003	Intel® Core Ultra 5 325	DDR5 SODIMM x 2 (Non ECC)	HDMI x 1, DP x 1 LVDS x 1	—	2.5GbE x 3, GbE x 1	USB 3.2 Gen 2 x 2, USB 2.0 x 6	COM RS-232/422/485 x 2 COM RS-232 x 2	M.2 3052 B-Key x 1 M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	TPM 2.0	DC +9Vin to +24Vin	-20°C – 70°C	GPIO 8-bit, Nano SIM x 1 Audio, SMBus