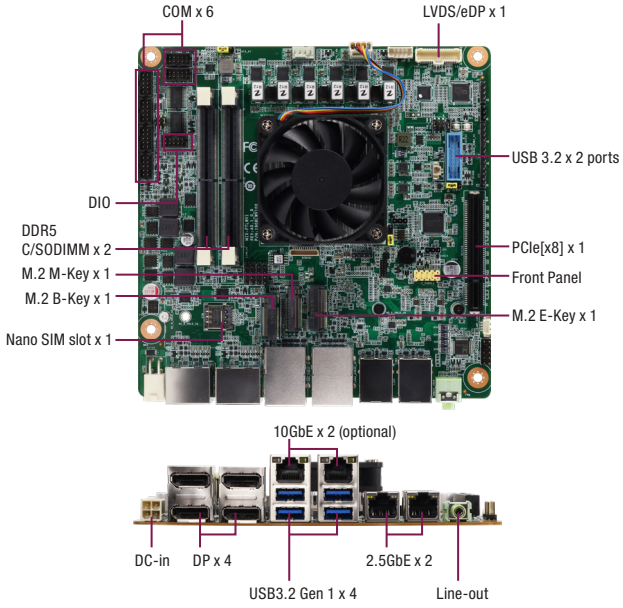
MIX-PTLWV1 PRELIMINARY

Mini-ITX with Intel® Core™ Ultra Series 3 Processors



Features

- Intel® Core™ Ultra Series 3 Processors, TDP 15~25W
- DDR5 C/SO-DIMM x 2, Max. 128GB
- PCIe Gen5 [x8] x 1 (Dependent on CPU SKU; 19–24V DC-in only)
- Up to LAN x 4 (10GbE x 2 + 2.5GbE x 2)
- M.2-1A 2280 M-Key x 1
- M.2 2230 E-Key x 1, M.2 3042/52 B-Key x 1 with SIM socket
- 12V~24V DC-in power

PCI Express · Gigo LAN · HDMI · DP Port · USB 3.2 Gen 1 · USB 2.0

Specifications

System	
Processor	Intel® Core™ Ultra Series 3 Processors, TDP 15~25W
Chipset	—
Memory	DDR5 C/SO-DIMM x 2, 6400 MHz, 1DPC, Max. 128GB
I/O Chipset	Nuvoton NCT6126D
Ethernet	Intel® Ethernet Controller I226-LM, 2.5GbE x 1 Intel® Ethernet Controller I226-V, 2.5GbE x 1 Intel® Ethernet Controller E610-XAT2, 10GbE x 2 (by BOM optional)
Audio	Realtek® ALC897
TPM	TPM 2.0 onboard
Expansion Slots	PCIe Gen5 [x8] x 1 (Dependent on CPU SKU; 19–24V DC-in only) M.2 2230 E-Key x 1 (PCIe 4.0 [x1]/USB 2.0/CNVi) M.2 3042/3052 B-Key x 1 (PCIe [x1]/USB 3.2 Gen 1) with Nano SIM Socket (Default 3052 by BOM optional)
BIOS	256Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan, SYS Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S4, S5
Graphics	
Graphics Chipset	Intel® Arc™ B390 GPU/Intel® Graphics (depend on CPU SKU)
Graphics Multi Display	Quad Display
VGA	—
DVI	—
HDMI	—
Display Port	DP 1.4, up to 4096 x 2160 @60Hz
LVDS	Up to 1920 x 1080 @60Hz, Dual Channel 18/24 bit
eDP	Up to 1920 x 1080 @ 60Hz via BIOS setting (4-ch, co-layout LVDS optional by BOM)
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12–24V DC input (±5%); H484 CPU SKU: 19–24V DC input (±5%) only
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) (Operational humidity: 60°C @90% RH Non-Condensing)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Certificate	CE & FCC (Class A)

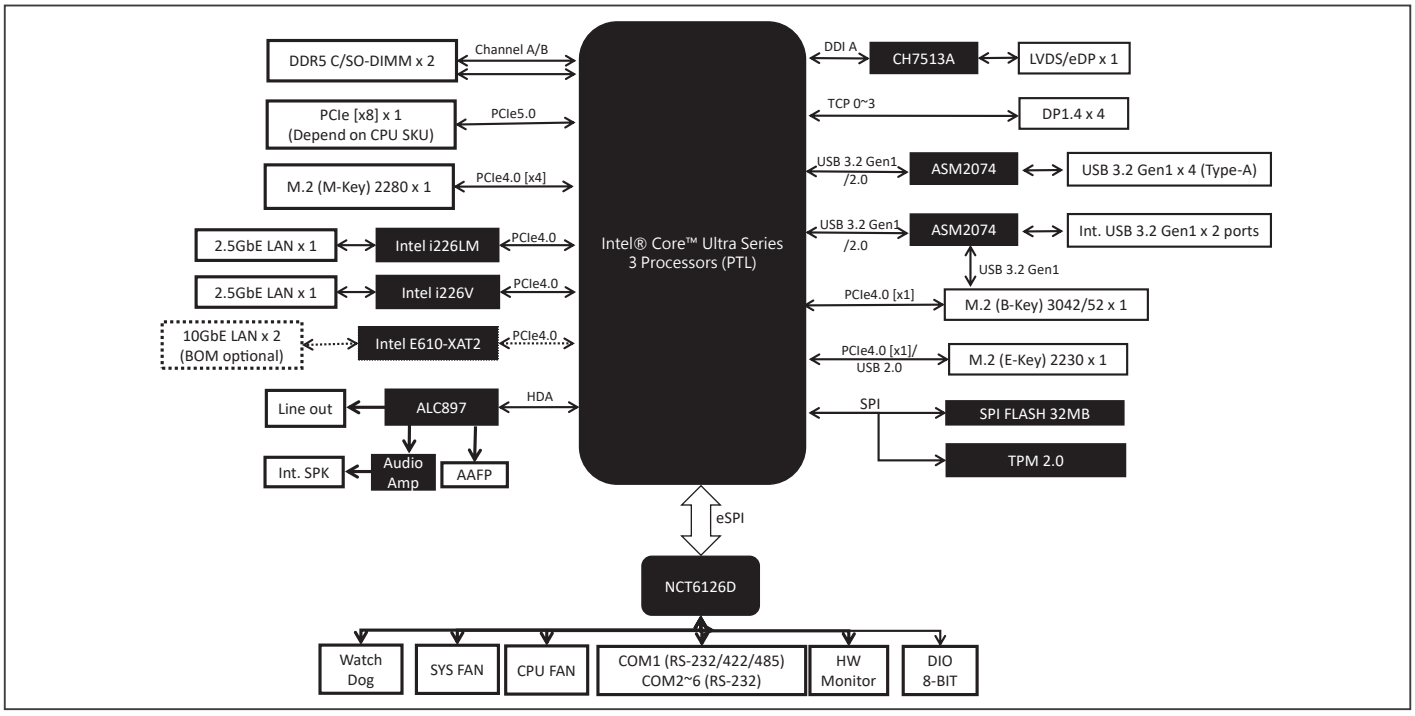
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	0.83 lb (0.376 Kg)
MTBF (Hours)	646,660
Rear Panel I/O Ports	
USB	USB 3.2 Gen 1 x 4 (5Gbps)
Display I/O	DP 1.4 x 4
Audio I/O	Line-out x 1
LAN I/O	RJ-45 LAN x 2, RJ-45 LAN x 2 (by BOM optional)
Serial Port	—
PS/2 Port	—
Others	2x2-Pin Connector x 1
Internal I/O Connectors	
Storage	M.2-1A 2280 M-Key x 1 (PCIe [x4]; Gen 4, NVMe)
USB	USB 3.2 Gen 1 x 2 ports via 2 x 10-pin, 2.0mm header x 1
Display I/O	40-pin LVDS/eDP Connector x 1
Audio I/O	1x4-Pin header x 1, supports 2W/4ohm
Serial Port	RS-232/422/485 Box Header x 1(5V/12V/RI optional), RS-232 Box Header x 5
PS/2 Port	—
Parallel Port	—
DIO	8-bit programmable (4-in/4-out) x 1
FAN	Chassis Fan connectors (4-pin) x 1, CPU Fan connectors (4-pin) x 1
Power	—
Others	Clear CMOS Jumper x 1 Front Panel Header x 1 ATX/AT Mode Select x 1 ME Disable x 1 eDP/LVDS Tcon IC Voltage Select x 1 eDP/LVDS Panel Backlight Voltage Select x 1 (3.3V/5V/12V) LVDS Inverter x 1 AAFPx1
OS	
OS Support	Windows® 11 64-bit, Linux Ubuntu 24.04 / Kernel 6.8

Packing List

- MIX-PTLWV1
- I/O Shield

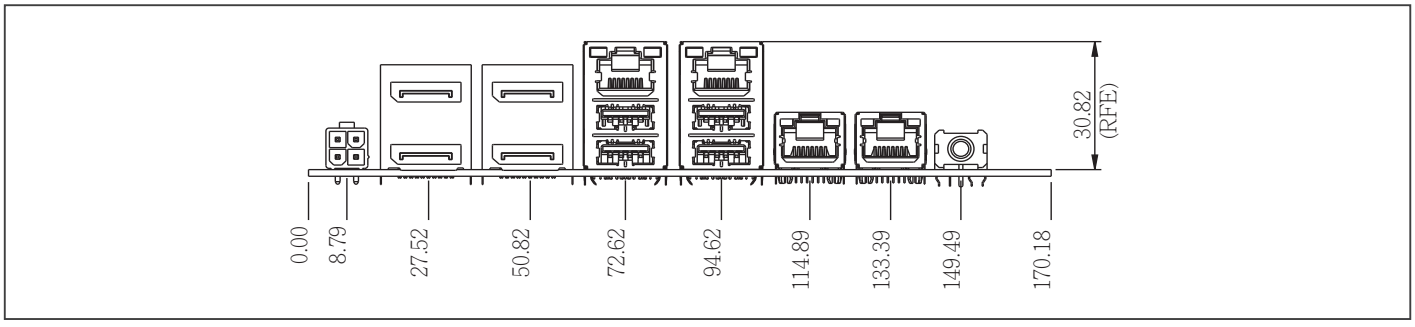
Note: All specifications are subject to change without notice.

Block Diagram



Dimension

Unit: mm



Ordering Information

Part number	CPU	RAM	Fan/ Fanless	Display	LVDS/eDP	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MIX-PTLWV1-A10-325-2L	Intel® Core™ Ultra Series 3	C/SODIMM x 2	Fan	DP1.4 x 4	LVDS x 1	M.2-1A M-Key x 1	2.5GbE LAN x 2	USB 3.2 x 6	5	1	M.2 E-Key x 1 M.2 B-Key x 1 with Nano SIM Slot x 1	DC-in 12V~24V	TPM2.0	0°C ~60°C
MIX-PTLWV1-A10-356H-2L8	Intel® Core™ Ultra Series 3	C/SODIMM x 2	Fan	DP1.4 x 4	LVDS x 1	M.2-1A M-Key x 1	2.5 GbE LAN x2	USB 3.2 x 6	5	1	M.2 E-Key x 1 M.2 B-Key x 1 with Nano SIM Slot x1 PCIe [x8] x 1	DC-in 12V~24V	TPM2.0	0°C ~60°C
MIX-PTLWV1-A10-325-4L	Intel® Core™ Ultra Series 3	C/SODIMM x 2	Fan	DP1.4 x 4	LVDS x 1	M.2-1A M-Key x 1	2.5GbE LAN x 2 10GbE LAN x 2	USB 3.2 x 6	5	1	M.2 E-Key x 1 M.2 B-Key x 1 with Nano SIM Slot x1	DC-in 12V~24V	TPM2.0	0°C ~60°C

Optional Accessories

Part Number	Description
1701100206	(TF)Flat Cable, 9P DB 9P MALE, 10P 2.00mm Pitch Housing, 20cm
1700190450	(TF)USB3.0 Cable.2 PORTS USB3.0.to 19P.w/ bracket.450mm.ASUS