

# Rugged Edge AI GPU System

## PE3100G

Rugged edge AI computer supporting NVIDIA® or Intel® MXM GPU and 13<sup>th</sup> Gen Intel® Core™ processor

### Features

- Support NVIDIA® Ampere/Ada Lovelace or Intel® Arc™ A-series MXM GPU, for varied edge AI computing
- Supports MXM 3.1 Type A and Type B form factor GPU module, up to 125 W
- 13<sup>th</sup> Gen Intel® Core™ (Raptor Lake-P, H) 45W CPU, up to 64GB DDR5 4800 SDRAM
- Patented system architecture and thermal design to ensure -20°C to 60°C fanless operation with 60W MXM GPU module.\*
- 3x 2.5 GbE and 1x GbE ports with PoE+ support
- 1x M.2 M key (NVMe), 1x M.2 B key (4G/ 5G NR), 1x M.2 E key (WiFi 6)
- 8-48V wide range DC input with built-in Ignition power control
- MIL-STD-810H and withstand 5 Grms vibration



\*R.O.C Patent No. M638395

### Specifications

<b>System</b>	CPU	Intel® Core® i7-13800HRE	Intel® Core® i5-13600HRE
	TDP	45W	45W
	# of Cores	14	12
	P Core Base Freq.	2.5	2.7
	Max Turbo Freq.	5.0	4.8
	Graphics	Intel® Iris® Xe Graphics eligible	
	Memory	2x SO-DIMM, up to 64GB DDR5 SDRAM (two SODIMM slots)	
	AMT	Supports Intel® vPro / AMT	
	TPM	Supports dTPM 2.0	
<b>I/O Interface</b>	Display	2x HDMI 1.4, supports up to 4096 x 2304 @ 30Hz 2x DP ++, supports up to 4096 x 2304 @ 60Hz 4x DP <sup>[1]</sup> , supports 4K @ 60Hz	
	Ethernet	1x Intel®I219-LM (1 GbE), RJ45 with screw-lock <sup>[2]</sup> 3x Intel®I226-IT (2.5 GbE), RJ45 with screw-lock <sup>[2]</sup>	
	USB	3x USB 3.2 Gen2 x1 (10 Gbps) , with screw-lock 1x USB 2.0, with screw-lock	
	Audio	Mic-in and Line-out	
	DIO	4x DI, 4x DO support isolation, 2 x 8 terminal block (optional)	
	COM	2x COM: RS-232/422/485, DB9 2x COM: RS-232, DB9 (internal COM3/ COM4)* 2 ports for CAN Bus module (COM3/ COM4)* *Optional and either one	
<b>LED Indicator</b>	LED	LED Indicators x4 (by on-board SMD shows PWR/ storage/ watch dog/ ignition)	
<b>Storage Interface</b>	2.5" SATA	2x hot-swappable SATA port for 2.5" HDD/ SSD installation, supporting RAID 0/ 1	
	M.2 NVMe	1x M.2 2280 M key NVMe socket (PCIe Gen4 x4) for NVMe SSD	
<b>Expansion</b>	Mini PCIe	1x Mini PCIe socket, full size, support cellular module	
	M.2 E Key	1x M.2 2230 E-key for selected WiFi module (WiFi5/ WiFi6)	
	M.2 B Key	1x M.2 3042/3052 B-Key with SIM slot support 5G/ 4G module	
	MXM	PCIe x8 slot@Gen4 ; Support MXM 3.1 type A (82x 70 mm) and MXM 3.1 type B (82 x 105mm) <sup>[3]</sup>	
<b>Power</b>	System Power	1x 3 pin pluggable terminal block for 8-48V DC input 1x Power button; 1x Reset power button Built-in ignition power control, header for remote power button	
	Power Supply	330W (Optional) ; 480W (Optional)	
<b>Mechanical</b>	Mounting	Desktop Mount / Wall Mount	
	Dimension	240 x 230 x 125.7 mm wo external fan kit; 240 x 230 x 180 mm w/ external fan kit <sup>[3]</sup>	
	Weight	8.2 kg wo external Fan Kit; 8.7 kg w/ external fan kit <sup>[3]</sup>	
<b>Environment</b>	Operating Temp.	-20 °C to 60 °C <sup>[4]</sup>	
	Storage Temp.	-40 °C to 85 °C	
	Relative Humidity	10 to 95% (non-condensing)	
	EMC	CE/FCC Class A <sup>[5]</sup> , according to EN 55032 & EN 55035, IC, BSMI,UKCA	
	Safety	CB,CE-LVD,BSMI	
	Vibration	Operating: MIL-STD 810H Method 514.8, Category 4 & 5Grms, 5-500 Hz, 3 Axes	
	Shock	Operating: MIL-STD 810H Method 516.8, Procedure I, Table 516.6-II; 20 G	
Green	GA (RoHS)		

<b>Others</b>	Watch dog timer	Supported
	OS	Windows® 11 IoT Enterprise (64-bit) Windows® 10 IoT Enterprise (64-bit) Linux by Project support

[1] The DP ports are available only when a compatible MXM GPU module is installed, with the number of usable ports determined by the module's specifications.

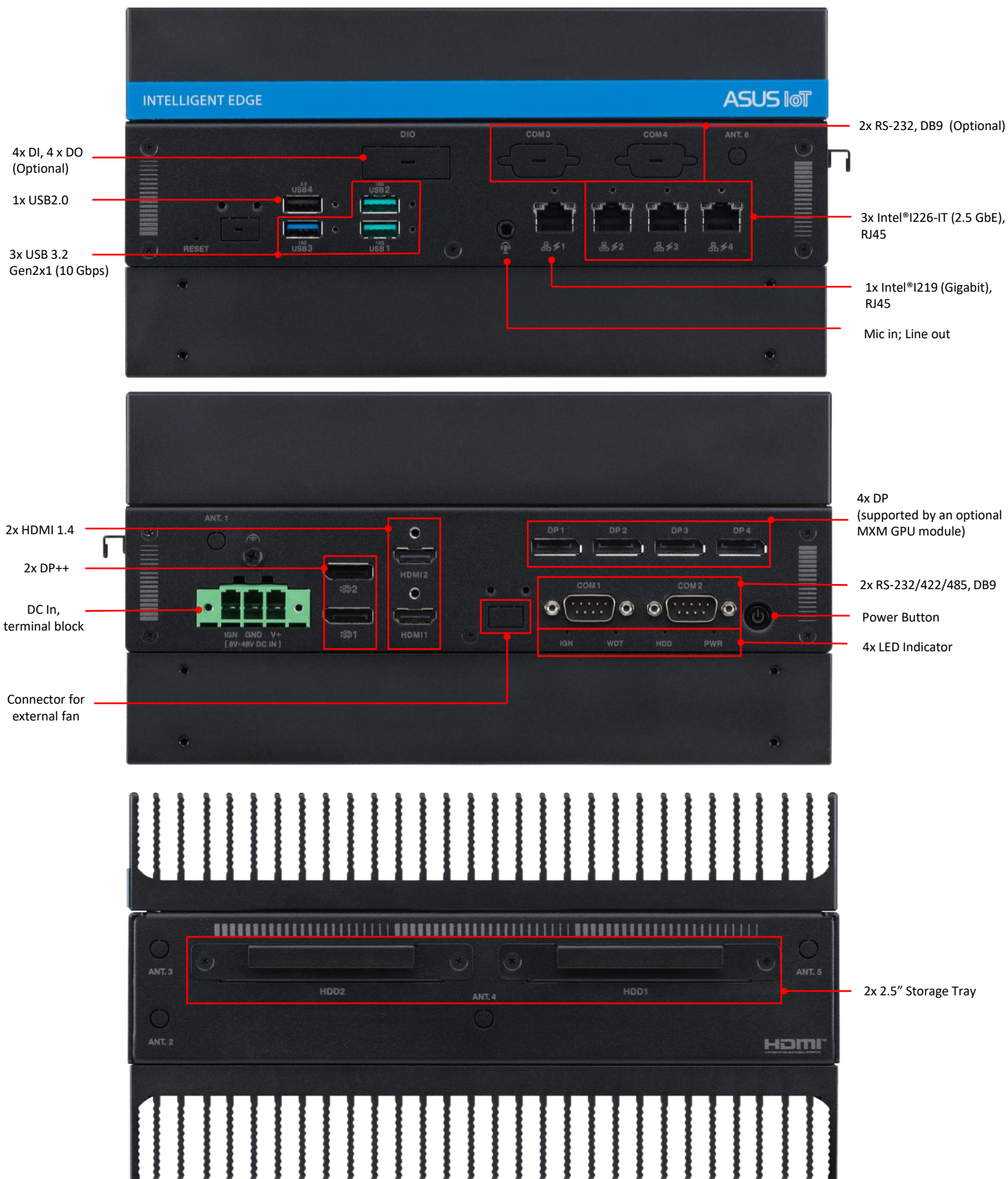
[2] The four ethernet ports support IEEE 802.3at PoE+ PSE; 100W total power budget.

[3] If equipped with a Type B MXM GPU module, installation of the optional fan kit is required.

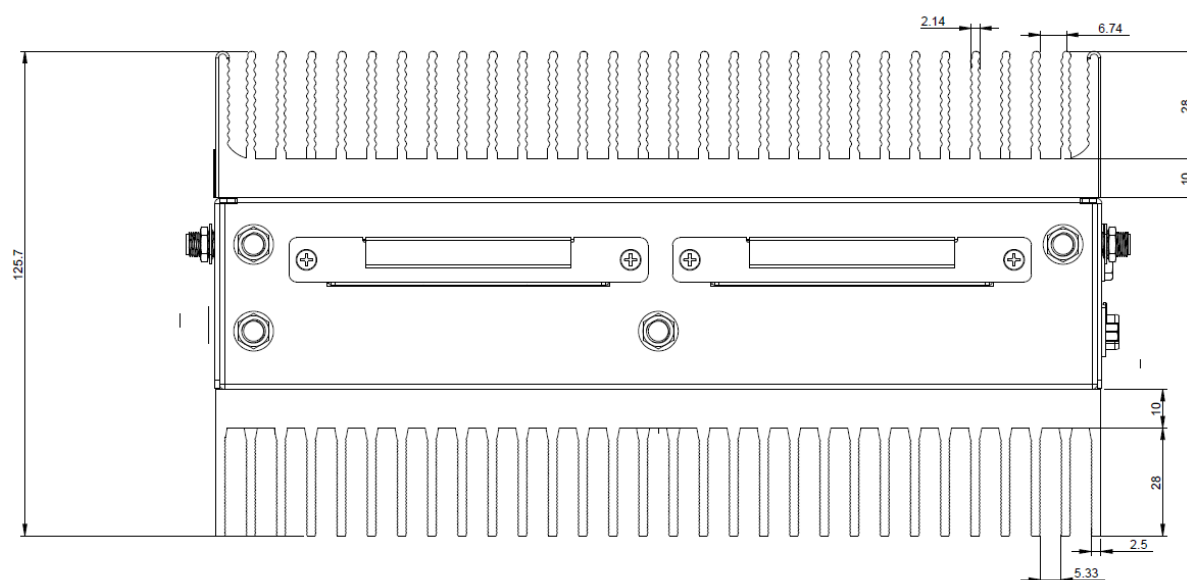
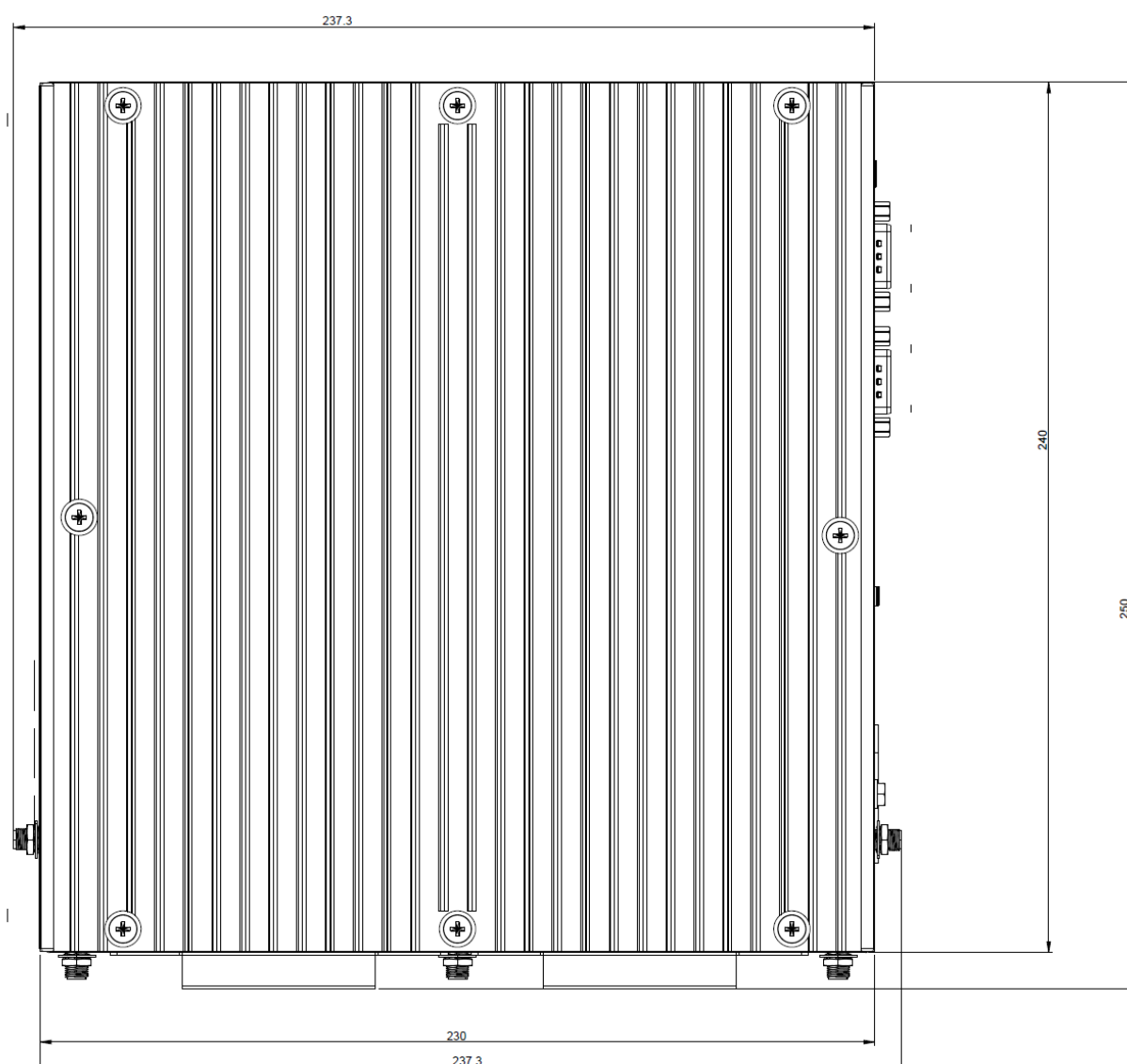
[4] To maintain a maximum power of 125W, 115W, and 80W for the MXM GPU module without throttling, the operating temperature must not exceed 40°C, 45°C, and 55°C, respectively.

[5] The optional non-PoE SKU could comply with Class B requirements.

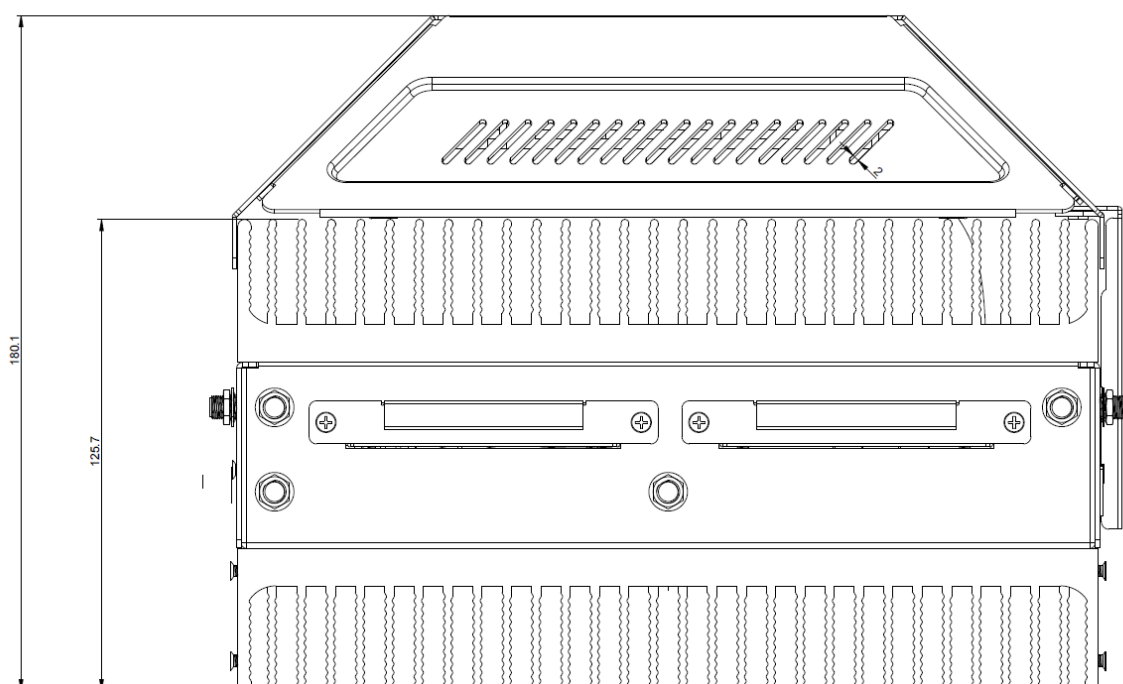
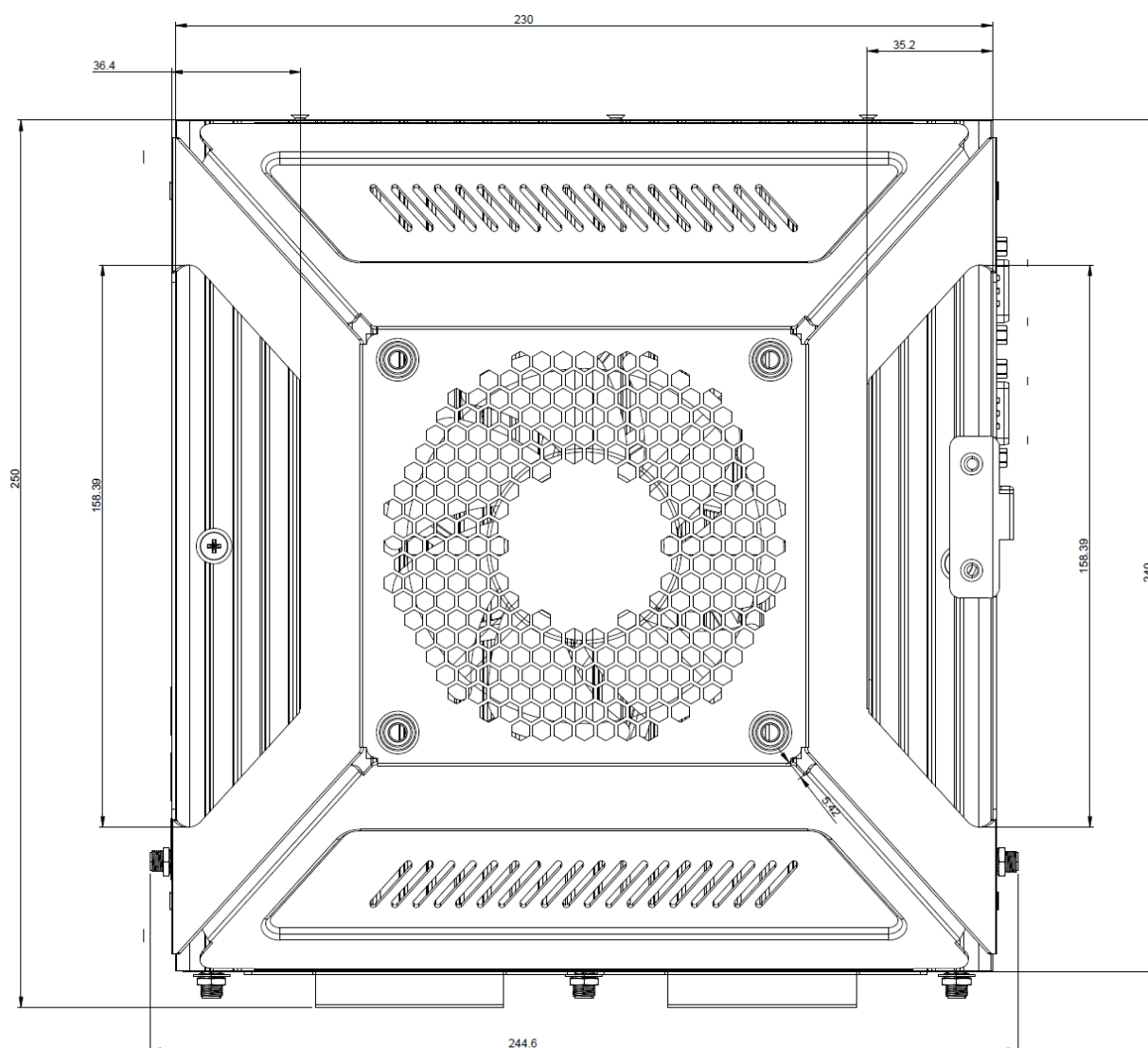
## Appearance



## Dimension (mm)



## Dimension (mm)



## Packing List

Description	Qty
Anti shock & vibration damper for Desktop mount bracket	1 pack (Total 8 pcs)
Desktop mount bracket	1 pcs
Wall mount bracket	1 set
Power terminal block	1 pcs
Screw for MXM module	1 pack
Screw for Desktop mount bracket/ Wall mount bracket/ 2.5" SATA Tray	5 pack

## Optional Accessories

Description	Qty
DIO terminal block	1 pcs
PWR cable with terminal block	1 pcs

## Ordering Information

SKU	DRAM	2.5" STAT	PoE+	Serial Port	USB	mPCIe	M.2 E-key	M.2 M-key	M.2 B-key	MXM	DIO
Intel® Core® i7-13800HRE i5-13600HRE	2	2	4 <sup>1</sup>	4 <sup>2</sup>	4	1*	1*	1*	1*	1 <sup>3</sup>	1 <sup>4</sup>

1. Default onboard PoE+ function; optional for w/o PoE+ function sku.
2. COM3/COM4 is optional and could support CANbus module.
3. Optional for MXM GPU module
4. Optional for DIO

\* For the Wi-Fi/ LTE/5G NR module, please check with your importer or integrator for system-level certification.

- The part number might vary for different regulations and package. Please consult the local sales representative for the exact 90PN.