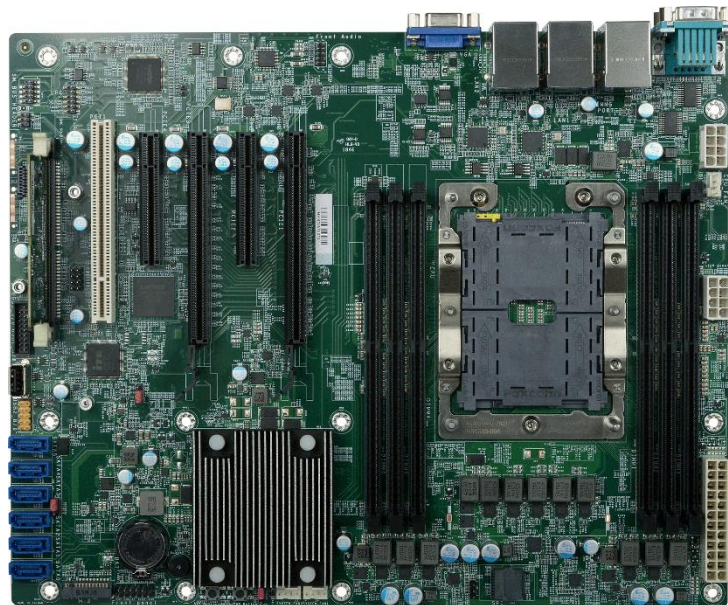


MBU4161

Industrial Motherboard Series



MBU4161

PRODUCT HIGHLIGHTS

- ▶ 1st/2nd Gen Intel® Xeon® Scalable Family with Intel® C621
- ▶ 6 DDR4 RDIMM up to 192GB
- ▶ Multiple expansion: 2 PCIe x16, 2 PCIe x8, 1 PCI, 1 M.2
- ▶ Rich I/O: 2 Intel GbE, 1 dedicated IPMI LAN, 2 COM, 6 SATA 3, 5 USB 2.0, 6 USB 3.1 Gen
- ▶ 15-Year CPU Life Cycle Support Until Q2' 34 (Based on Intel IOTG Roadmap)



TECHNICAL INFORMATION

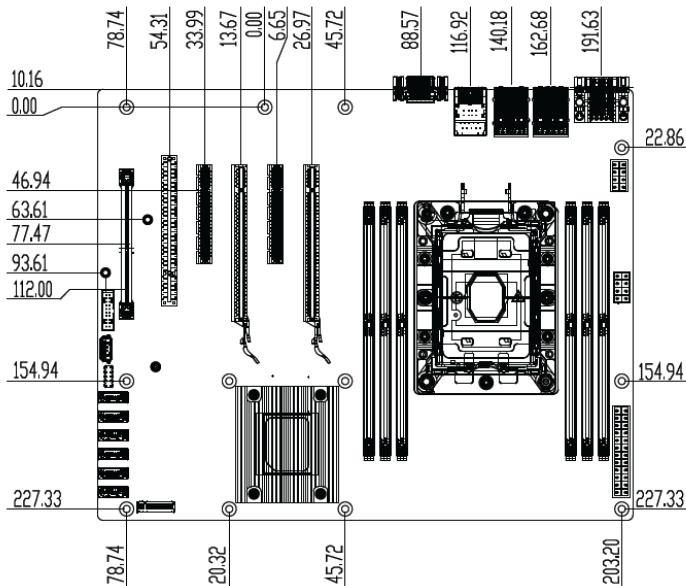
SYSTEM	PROCESSOR	1st Generation Intel® Xeon® Scalable Processor Family, LGA 3647 Socket: Intel® Xeon® Platinum 8160T (24 Cores, 27.5M Cache, up to 3.7 GHz); 150W Intel® Xeon® Gold 6138T (20 Cores, 27.5M Cache, up to 3.7 GHz); 125W Intel® Xeon® Gold 6138 (20 Cores, 27.5M Cache, up to 3.7 GHz); 125W Intel® Xeon® Gold 6130T (16 Cores, 22M Cache, up to 3.7 GHz); 125W Intel® Xeon® Gold 6130 (16 Cores, 22M Cache, up to 3.7 GHz); 125W Intel® Xeon® Gold 6126T (12 Cores, 19.25M Cache, up to 3.7 GHz); 125W Intel® Xeon® Gold 6126 (12 Cores, 19.25M Cache, up to 3.7 GHz); 125W Intel® Xeon® Gold 5120T (14 Cores, 19.25M Cache, up to 3.2 GHz); 105W Intel® Xeon® Gold 5119T (14 Cores, 19.25M Cache, up to 3.2 GHz); 85W Intel® Xeon® Gold 5118 (12 Cores, 16.5M Cache, up to 3.2 GHz); 105W Intel® Xeon® Silver 4116T (12 Cores, 16.5M Cache, up to 3.0 GHz); 85W Intel® Xeon® Silver 4116 (12 Cores, 16.5M Cache, up to 3.0 GHz); 85W Intel® Xeon® Silver 4114T (10 Cores, 13.75M Cache, up to 3.0 GHz); 85W Intel® Xeon® Silver 4110 (8 Cores, 11M Cache, up to 3.0 GHz); 85W Intel® Xeon® Silver 4109T (8 Cores, 11M Cache, up to 3.0 GHz); 70W Intel® Xeon® Bronze 3106 (8 Cores, 11M Cache, 1.7 GHz); 85W 2nd Generation Intel® Xeon® Scalable Processor Family, LGA 3647 Socket: Intel® Xeon® Gold 6252N (24 Cores, 35.75M Cache, up to 3.6 GHz); 150W Intel® Xeon® Gold 6238T (22 Cores, 30.25M Cache, up to 3.7 GHz); 125W Intel® Xeon® Gold 6230T (20 Cores, 27.5M Cache, up to 3.9 GHz); 125W Intel® Xeon® Gold 6230N (20 Cores, 27.5M Cache, up to 3.5 GHz); 125W Intel® Xeon® Gold 6230 (20 Cores, 27.5M Cache, up to 3.9 GHz); 125W Intel® Xeon® Gold 6226 (12 Cores, 19.25M Cache, up to 3.7 GHz); 125W Intel® Xeon® Gold 5220T (18 Cores, 24.75M Cache, up to 3.9 GHz); 105W Intel® Xeon® Gold 5218T (16 Cores, 22M Cache, up to 3.8 GHz); 105W Intel® Xeon® Gold 5218N (16 Cores, 22M Cache, up to 3.7 GHz); 110W Intel® Xeon® Gold 5215 (10 Cores, 13.75M Cache, up to 3.4 GHz); 85W Intel® Xeon® Silver 4216 (16 Cores, 22M Cache, up to 3.2 GHz); 100W Intel® Xeon® Silver 4215 (8 Cores, 11M Cache, up to 3.5 GHz); 85W Intel® Xeon® Silver 4214 (12 Cores, 16.5M Cache, up to 3.2 GHz); 85W Intel® Xeon® Silver 4210 (10 Cores, 13.75M Cache, up to 3.2 GHz); 85W Intel® Xeon® Silver 4209 (8 Cores, 11M Cache, up to 3.2 GHz); 70W
	CHIPSET	Intel® C621 Chipset
	MEMORY	Six 288-pin RDIMM up to 192GB Single Channel DDR4 up to 2933MHz
	BIOS	Insyde SPI 128Mbit
GRAPHICS	CONTROLLER	1 x VGA (only with optional IPMI add-on module)

► TECHNICAL INFORMATION (CONTINUED)

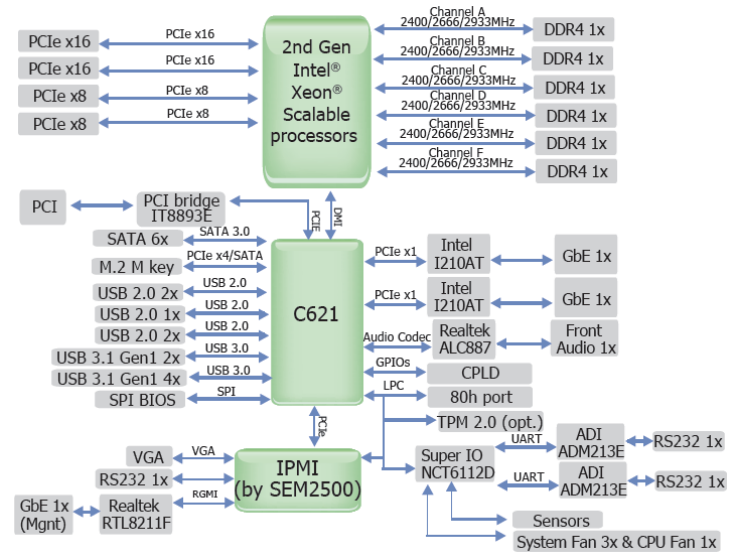
EXPANSION	INTERFACE	2 x PCIe x16 (Gen 3) 2 x PCIe x8 (Gen 3) 1 x PCI 1 x DDR4 SO-DIMM for SEM2500/2510 (opt.) 1 x M.2 M key 2280 (SATA/PCIe Gen3 x4 NVMe)
AUDIO	AUDIO CODEC	ALC887
ETHERNET	CONTROLLER	2 x Intel® I210AT PCIe (10/100/1000Mbps) IPMI: 1 x RTL8211F (only with optional IPMI add-on module)
REAR I/O	ETHERNET	2 x GbE (RJ-45) 1 x dedicated IPMI LAN (only with optional IPMI add-on module)
	SERIAL	N/A
	USB	4 x USB 3.1 (Gen1) 2 x USB 2.0 stack
	PS/2	N/A
	DISPLAY	1 x VGA (only with optional IPMI add-on module)
	AUDIO	N/A
INTERNAL I/O	SERIAL	2 x RS-232 (DB-9)
	USB	2x USB 2.0 header (2x USB 2.0) 1x USB 2.0 vertical Type A 1x USB 3.1 Gen1 header (2x USB 3.1 gen1)
	AUDIO	N/A
	SATA	6 x SATA 3.0 RAID 0/1/5/10
	DIO	N/A
	LPC	N/A
	SMBUS	1 x SMBus
	OUTPUT & INTERVAL	System Reset, Programmable via Software from 1 to 255 Seconds
	SECURITY TPM	TPM2.0 (opt., MOQ required)
	TYPE	ATX
	CONNECTOR	8-pin ATX 12V power 24-pin ATX power
	CONSUMPTION	Typical: 5120T: 3.3V @ 0.42A (1.386Watt); 5V @ 2.33A (11.65Watt); 12V @ 2.34A (28.08Watt) Max.: 5120T: 3.3V @ 0.43A (1.419Watt); 5V @ 2.4A (12.0Watt); 12V @ 12.51A (150.12Watt)
	RTC BATTERY	CR2032 Coin Cell
OS SUPPORT		Windows 10 IoT Enterprise LTSB RS5 (64-bit) Windows Server 2012R2 Windows Server 2016 Linux
ENVIRONMENT	TEMPERATURE	Operating: 0 to 60°C Storage: -40 to 85°C
	HUMIDITY	Operating: 5 to 90% RH, Non-condensing Storage: 5 to 90% RH, Non-condensing
	MTBF	493,780 hrs @ 25°C; 290,407 hrs @ 45°C ; 187,006 hrs @ 60°C Calculation Model: Telcordia Issue 4 Environment: GB, GC - Ground Benign, Controlled
MECHANICAL	DIMENSIONS	ATX Form Factor 305mm (12") x 244mm (9.6")
	HEIGHT	PCB: 1.6mm Top Side: 37.34mm
CERTIFICATIONS		CE, FCC, RoHS

MBU4161

MECHANICAL DRAWING

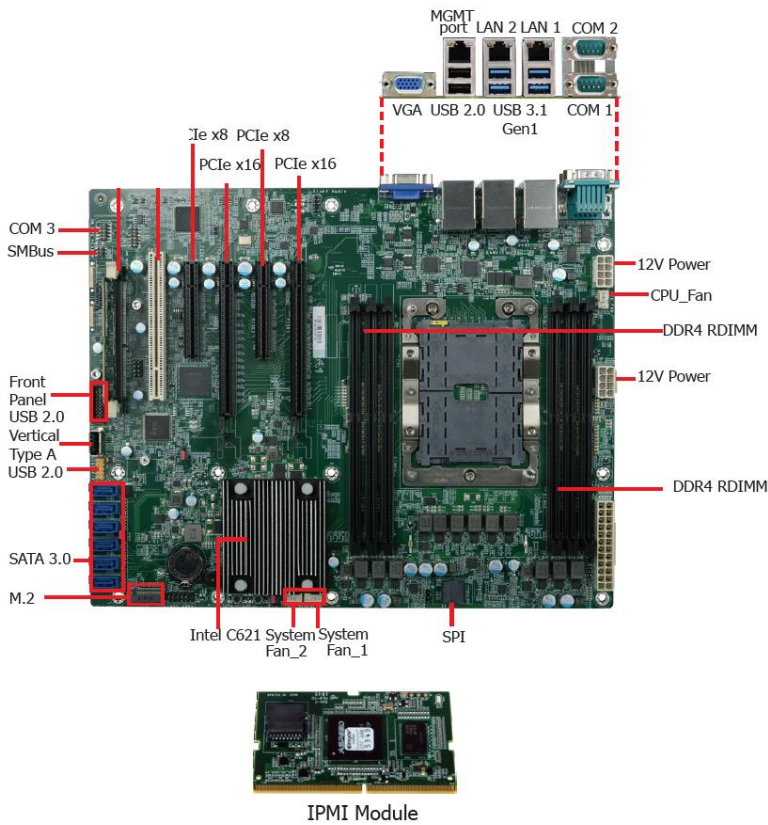


BLOCK DIAGRAM



VGA port on MBU4174 only

MOTHERBOARD LAYOUT



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