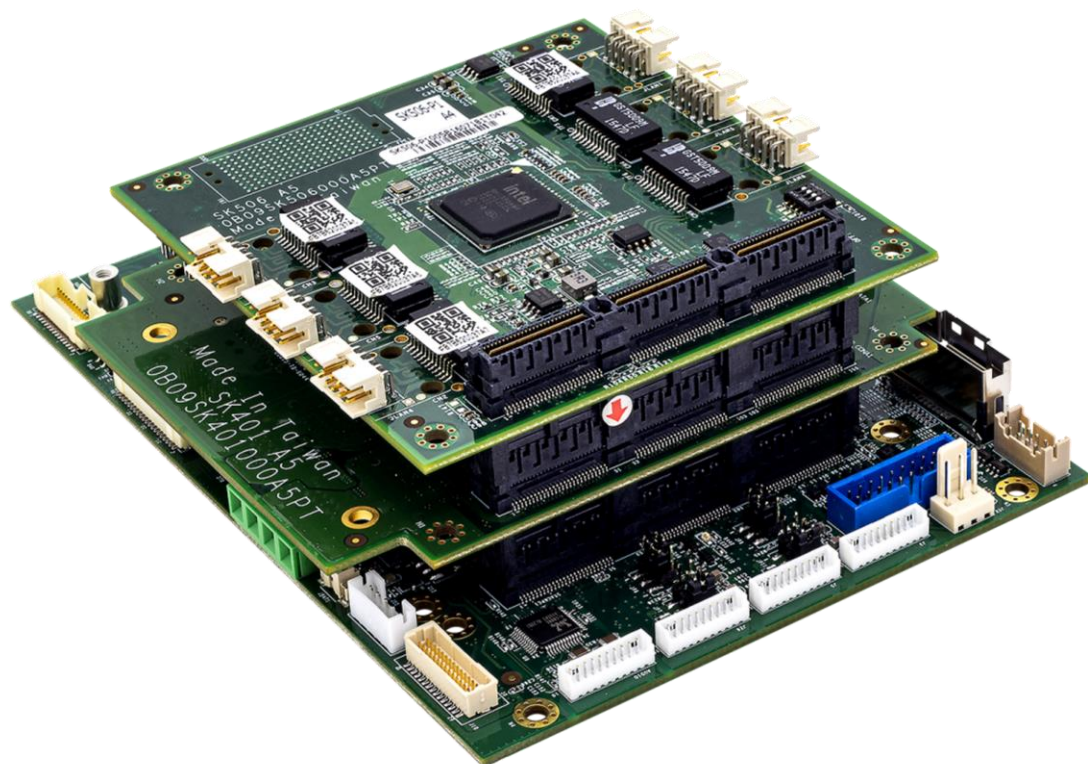




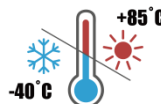
PCIe104-TH

PCIe/104 Processing Unit

Intel 11th Tiger Lake (H)



- **PCIe/104 Express Type2 Slot for Open Modular Architecture**
- **Standard MXM Type 3.1 Support NVIDIA QUADRO®GPU MXM A4500 (16GB GDDR6, 5,888 CUDA Cores)**
- **Intel 11th Tiger Lake-H Xeon® / Core-I Processor (8C, 16T , 4.7GHz, 24MB Cache, TDP 45W)**
- **Multi-Expansions include Dual Mini PCIe Express Slots**
- **GPU can be targeted for 4 Mini Display port outputs**
- **Extreme Temperature Support -40 to 85°C**



Specifications

System

CPU Options	Intel® Core™ i7-11850HE 45W Tiger Lake 11th Gen, 8C , Freq. 2.6 /4.7 GHz, 24MB cache
	Intel® Xeon® W-11865MLE 25W Tiger Lake 11th Gen, 8C , Freq. 1.5 /4.5 GHz, 24MB cache
	Intel® Xeon® W-11865MRE 45W Tiger Lake 11th Gen, 8C , Freq. 2.1 /4.7 GHz, 24MB cache
GPU Options	NVIDIA® Ampere RTX A1000, 35W, 4GB GDDR6, 2,048 CUDA Cores
	NVIDIA® Ampere RTX A2000, 36W/80W, 8GB GDDR6, 2,560 CUDA Cores
	NVIDIA® Ampere RTX A4500, 80W/130W, 16GB GDDR6, 5,888 CUDA Cores
PCH	QM580E (with i7-11850HE)
	RM590E (with W-11865MLE & W-11865MRE)
Memory	DDR4 3200MHz SO-DIMM up to 96GB
On Board NVMe SSD	64GB (Only W-11865MRE SKU)
MXM Carrier	SK231

Expansion

MiniPCIe Expansion	1x Full-size mini PCIe 1
	1x Full-size mini PCIe 2 support m-SATA
PCIe/104 Expansion(Type1)	2x PCIe x4 ; 4x PCIe x1
M.2	1x M.2 2280, PCIe x4
SlimSAS	1x SlimSAS 8i connector

Storage

SATAIII	1x SATAIII
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Display

Mini DP	4x Mini Display Port outputs from GPU
VGA	1x VGA from GPU(option)
LVDS	1x Dual channel 18/24bit LVDS

Ethernet

Ethernet	Intel® I226-LM GbE LAN (10/100/1000Mbit /2.5G) Ethernet ports
Ethernet	GbE LAN from CPU module

I/O

USB	2x USB 3.0
	2x USB2.0
COM Port	2x RS232/422/485
DIO	4x DI/ 4x DO
eSPI	1x 10Pin
Audio	1x Line-out, 1x Mic-In

Power System

Input Power	9V~36V DC-IN 12V DC-IN for CPU FAN
Input Power by MXM carrier board	12V DC-IN for GPU FAN

Mechanical and Environment

Dimensions	146mm x 110mm
Operating Temperature	0°C to 55°C -40°C to 85°C (By Option)
Storage Temperature	-40 to 85°C
Relative Humidity	10% to 90%, non-condensing

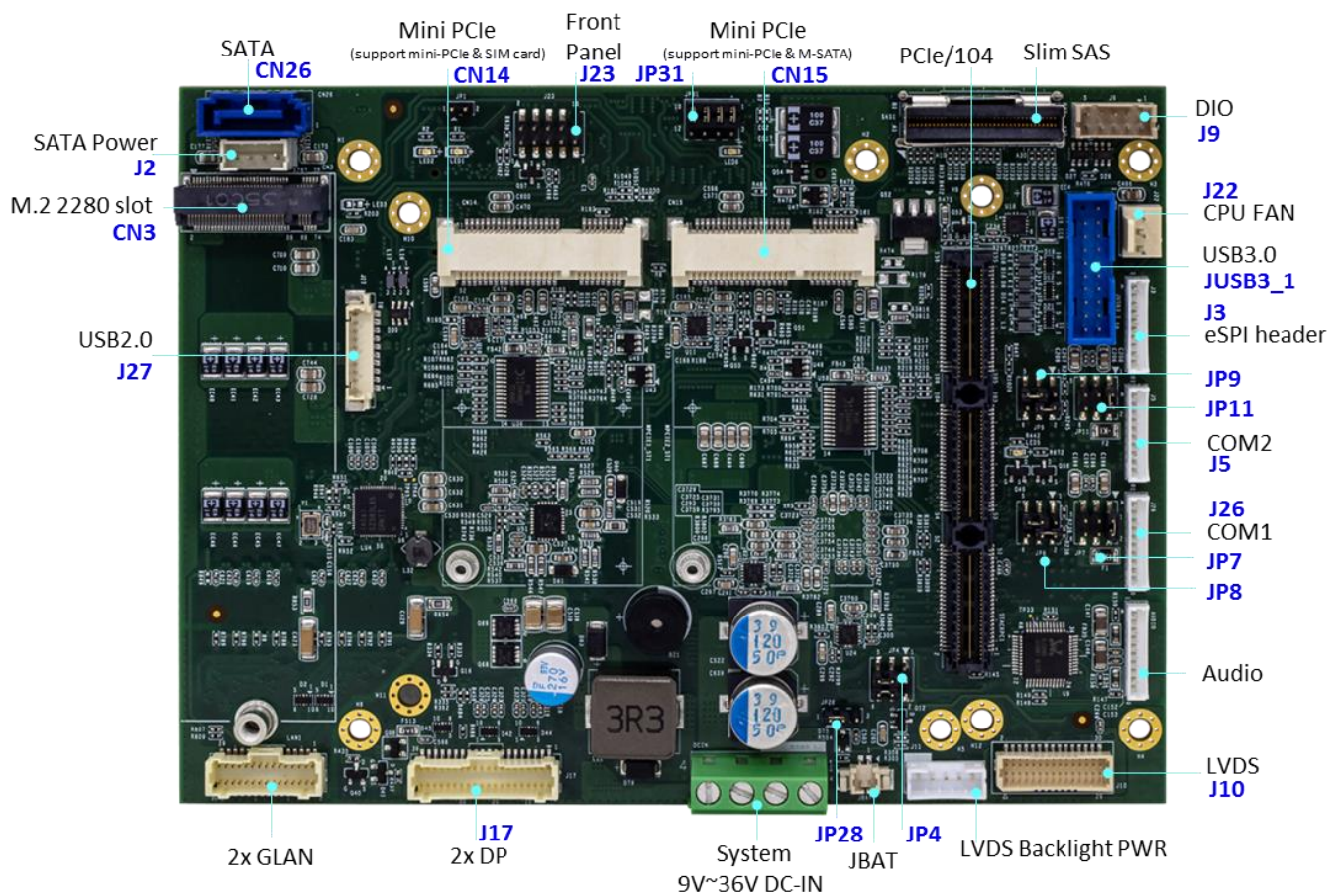
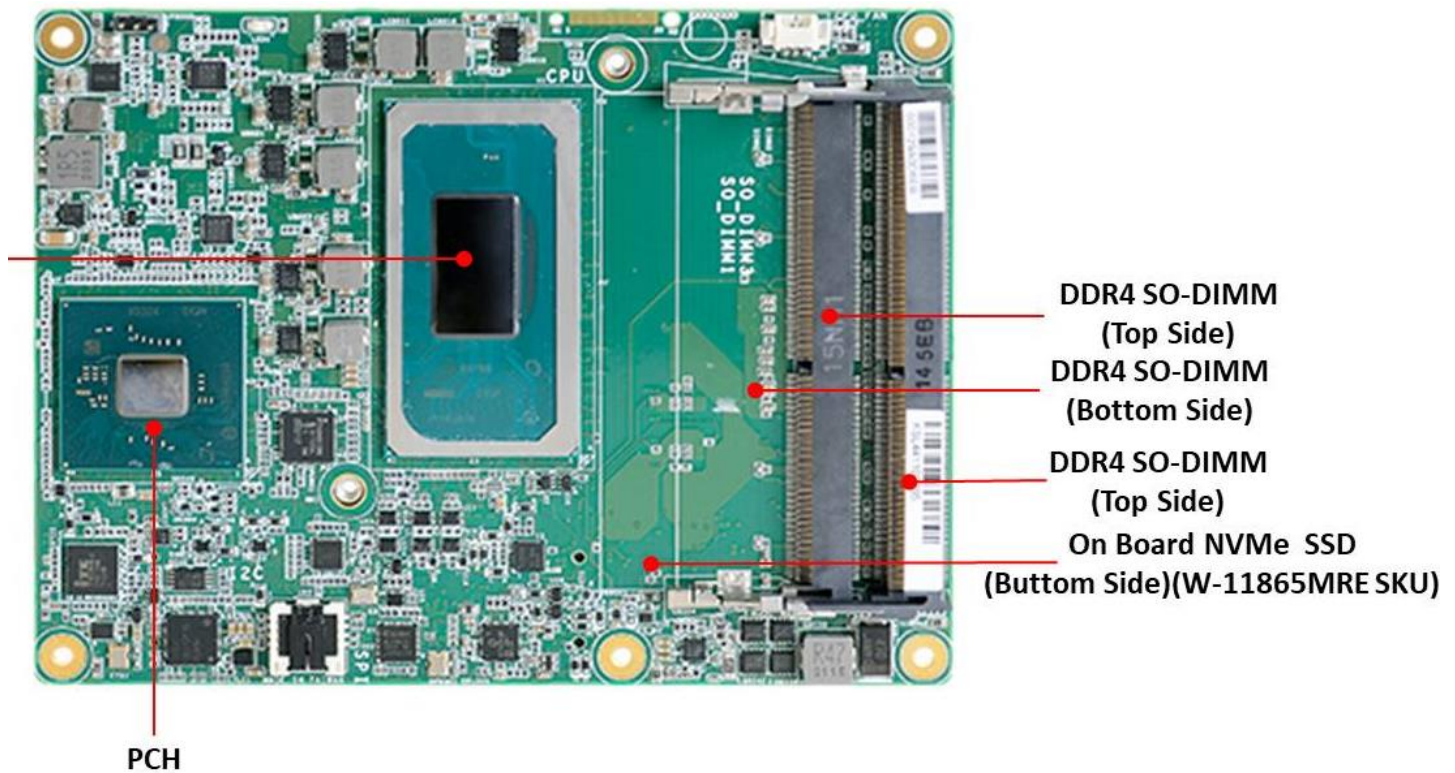
Standard Compliance

Standard Compliance	CE/FCC
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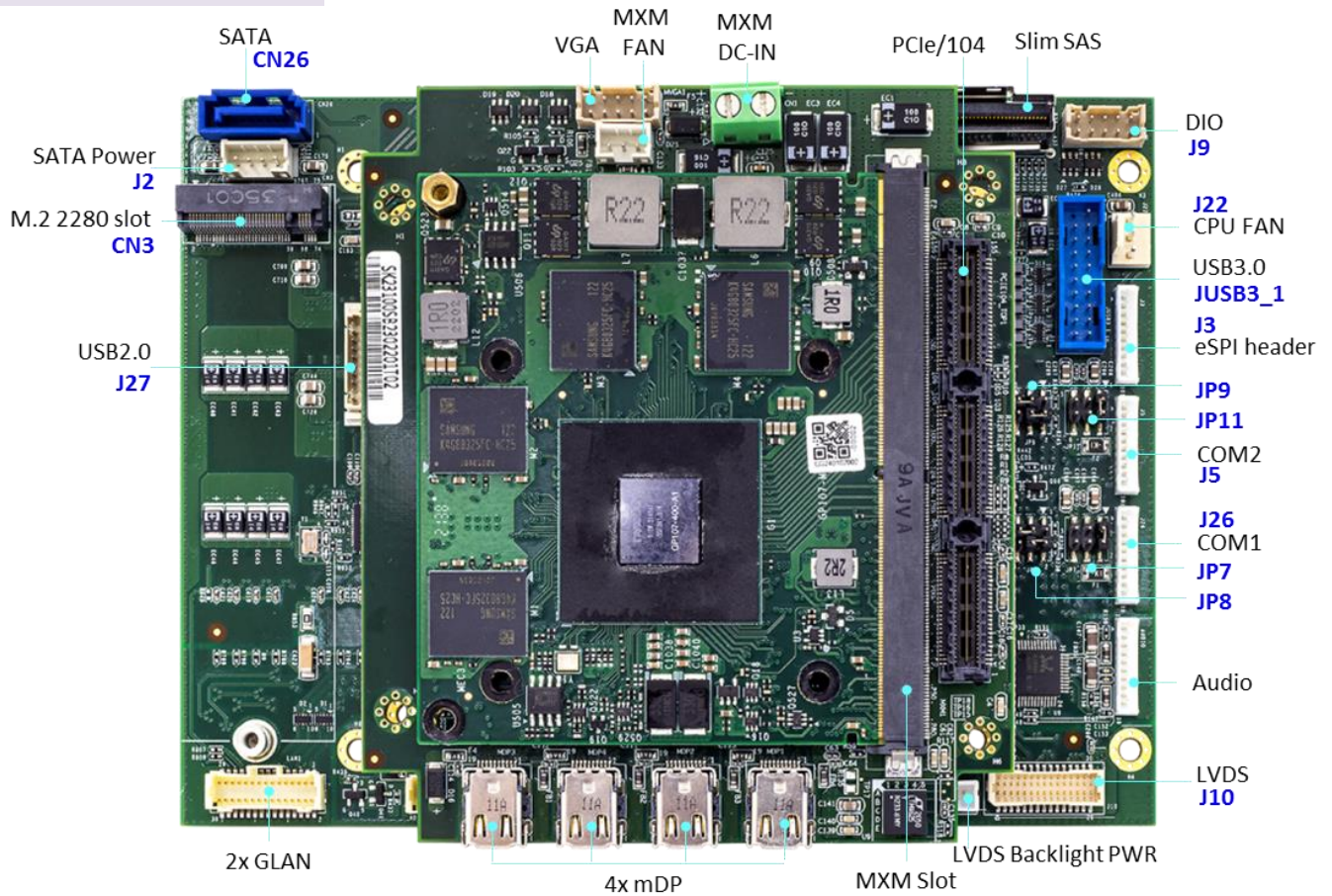
OS

OS Support	Windows®10 64bit Linux(Support by request)
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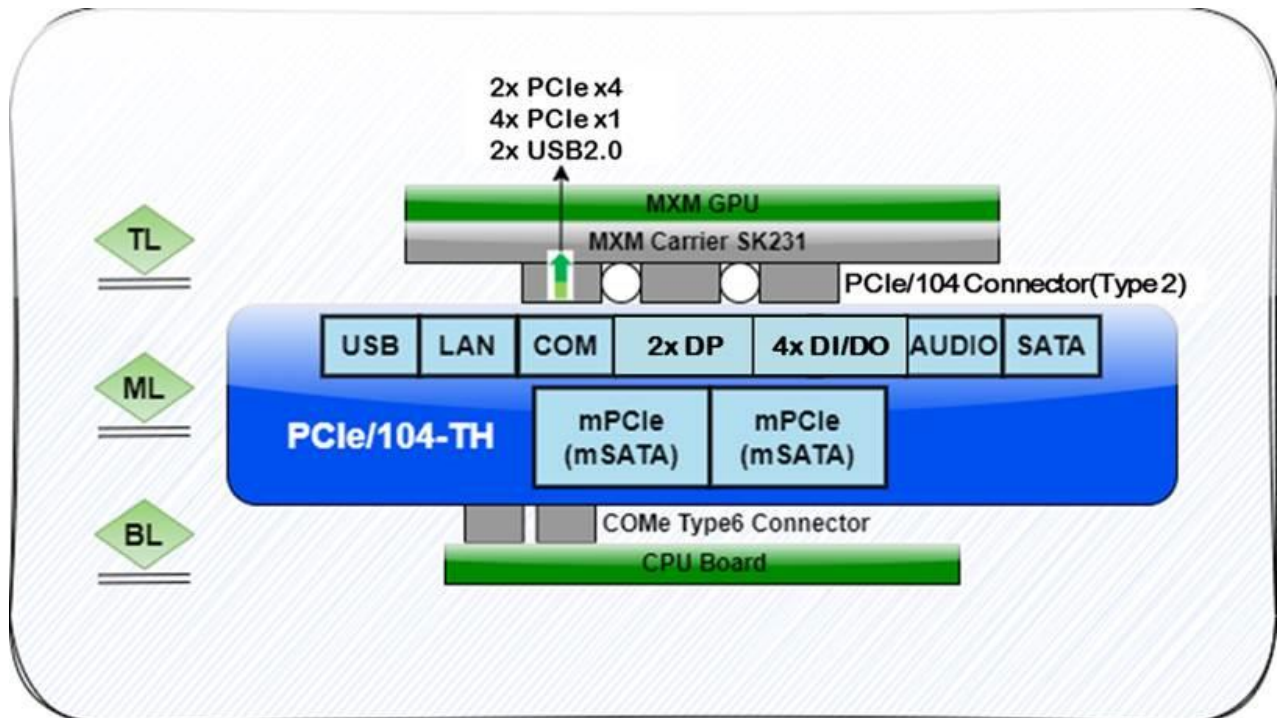
I/O Placement



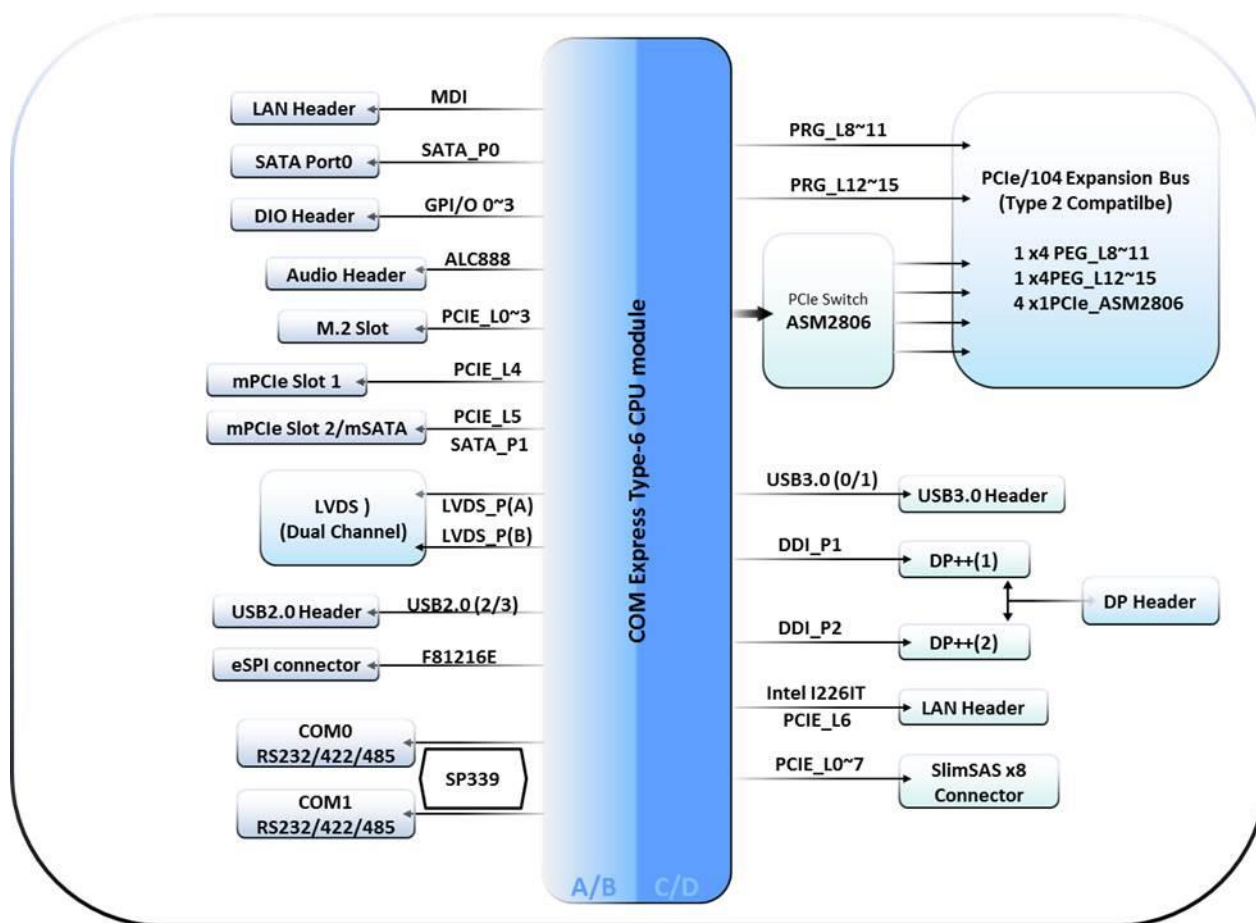
PCIe/104-TH with MXM



Stack Concept



Block Diagram



Ordering Information

Model Name Spec	PCle104-TH01A10	PCle104-TH01A20	PCle104-TH01A45
PCle/104 Form Factor	Type1		
CPU	11 th i7-11850HE(45W)		
PCH	QM580E		
RAM	DDR4 SO-DIMM up to 96GB		
LAN	2x GbE		
GPU	RTX A1000	RTX A2000	RTX A4500
DP	2x DP from CPU 4x mDP from MXM GPU		
LVDS	1x LVDS		
VGA	1x VGA from CPU (Option)		
SATA	1x SATAIII		
COM	2x RS232/422/485		
Power	System : 9V~36V DC-IN GPU : 12V DC-IN		
Operation Temp	0°C to 55°C -40°C to 85°C (By Option)		

Model Name Spec	PCle104-TH02A10	PCle104-TH02A20	PCle104-TH02A45
PCle/104 Form Factor	Type1		
CPU	11 th W-11865MLE(25W)		
PCH	RM590E		
RAM	DDR4 SO-DIMM up to 96GB		
LAN	2 x GbE		
GPU	RTX A1000	RTX A2000	RTX A4500
DP	2x DP from CPU 4x mDP from MXM GPU		
LVDS	1x LVDS		
VGA	1x VGA from CPU (Option)		
SATA	1x SATAIII		
COM	2x RS232/422/485		
Power	System : 9V~36V DC-IN GPU : 12V DC-IN		
Operation Temp	0°C to 55°C -40°C to 85°C (By Option)		

Model Name Spec	PCle104-TH03A10	PCle104-TH03A20	PCle104-TH03A45
PCle/104 Form Factor	Type1		
CPU	11 th W-11865MRE(45W)		
PCH	RM590E		
RAM	DDR4 SO-DIMM up to 96GB		
On Board NVMe SSD	64GB		
LAN	2 x GbE		
GPU	RTX A1000	RTX A2000	RTX A4500
DP	2x DP from CPU 4x mDP from MXM GPU		
LVDS	1x LVDS		
VGA	1x VGA from CPU (Option)		
SATA	1x SATAIII		
COM	2x RS232/422/485		
Power	System : 9V~36V DC-IN GPU : 12V DC-IN		
Operation Temp	0°C to 55°C -40°C to 85°C (By Option)		