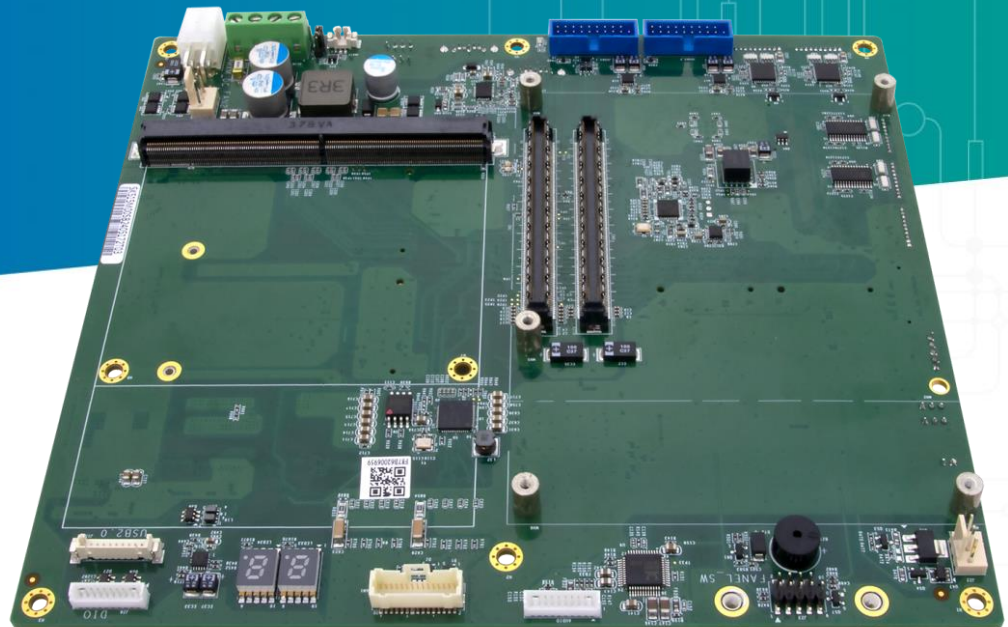


COM Express® Type 6 Carrier Board

+ MXM Graphics System +2x M.2 M-Key



Key Feature

- COM Express Type 6 Support 13th Raptor Lake-H,
- Standard MXM Type 3.1 Support NVIDIA® GTX® / RTX® GPU
- Multi-Expansion Slots include Dual Mini PCIe Express Slots, Dual M.2 2280 M-key Slot
- Extreme Temperature Support -40°C to 85°C
- GPU can be targeted for 2 Display port outputs

Instructions

COM Express, a computer-on-module (COM) form factor, is a highly integrated and compact PC that can be used in a design application much like an integrated circuit component. The COM Express Module integrates core CPU and memory functionality, the common I/O of a PC/AT, USB, audio, graphics (PEG), and Ethernet.

SK515M feature a range of Intel processors, up to the latest Intel Core series. SK515M are built to operate in harsh environmental conditions, the operating temperatures as low as -40°C to as hot as 85°C. From low power consumption to high performance processing power, SK515M are built to suit a wide range of computing applications from signal processing to unmanned vehicles and more.

Revision

Date	Description	Remark
2024/6/14	Initial version	

Appearance



Specifications

System

COM Express CPU	Intel® Core™ Ultra 7 Processor 165H, 20-45W, Meteor Lake 14th Gen, 14+2C, Freq. 0.9/1.4 Max. 5.0 GHz, 24MB cache
Options(Type6)	Intel® Core™ Ultra 7 Processor 155H, 20-45W, Meteor Lake 14th Gen, 14+2C, Freq. 0.9/1.4 Max. 4.8 GHz, 24MB cache Intel® Core™ Ultra 5 Processor 125H, 20-45W, Meteor Lake 14th Gen, 12+2C, Freq. 0.7/1.2 Max. 4.5 GHz, 18MB cache Intel® Core™ i7-13800HRE 45W Raptor Lake 13th Gen, 14C , Freq. 2.5 /5.0 GHz, 24MB cache Intel® Core™ i7-13800HE 45W Raptor Lake 13th Gen, 14C , Freq. 2.5 /5.0 GHz, 24MB cache
GPU Module	NVIDIA® Ampere RTX A2000, 80W, 8GB GDDR6, 2,560 CUDA Cores
Options	NVIDIA® Ampere RTX A4500, 80W/130W, 16GB GDDR6, 5,888 CUDA Cores NVIDIA® Ada Lovelace RTX 3500 Ada, 115W, 12GB GDDR6, 5,120 CUDA Cores NVIDIA® Ada Lovelace RTX 5000 Ada, 115W, 16GB GDDR6, 9,728 CUDA Cores
Compatibility	COM Express® TYPE 6

Display

Display Port	2x Display Port outputs from GPU
VGA	1x output from COM Express
LVDS	1x Dual channel 18/24-bit LVDS
DVI	1x output from COM Express

Expansion

mini PCIe	2x Full-size Mini PCIe (with SIM card slot)
M.2	2x 2280 M key (both PCIe x4 from PEG)
SATA	2x SATAIII

Ethernet

Ethernet	2x 10/100/1000mb/2.5G Ethernet Ports(One from CPU module)
----------	---

Interface

USB	4x USB 3.0 + 2x USB2.0
Serial Pot	2x RS232(COM1,2) + 2x RS232/422/485(Com3,4)
Audio	1x MIC-in, 1x Line-out
SATA Power	2x SATA Power
DI/DO	1x DI/DO (4in / 4out)

FAN Power	1x CPU FAN
	1x MXM FAN
Battery	1x Battery Header

Power System

Input Power: SYS	9~36V (4P Terminal Block)
Input Power: MXM	12V (ATX 4P)
Power Consumption	Varies per COM Express /MXM with different CPU and GPU models
RTC Battery	3V CR2032

Mechanical and Environmental

Dimension	170mm x 190 mm
Operating Temp	-40°C to 85°C
Storage Temp	-40°C to 85°C
Relative Humidity	10% to 90%, non-condensing

Standard Compliance

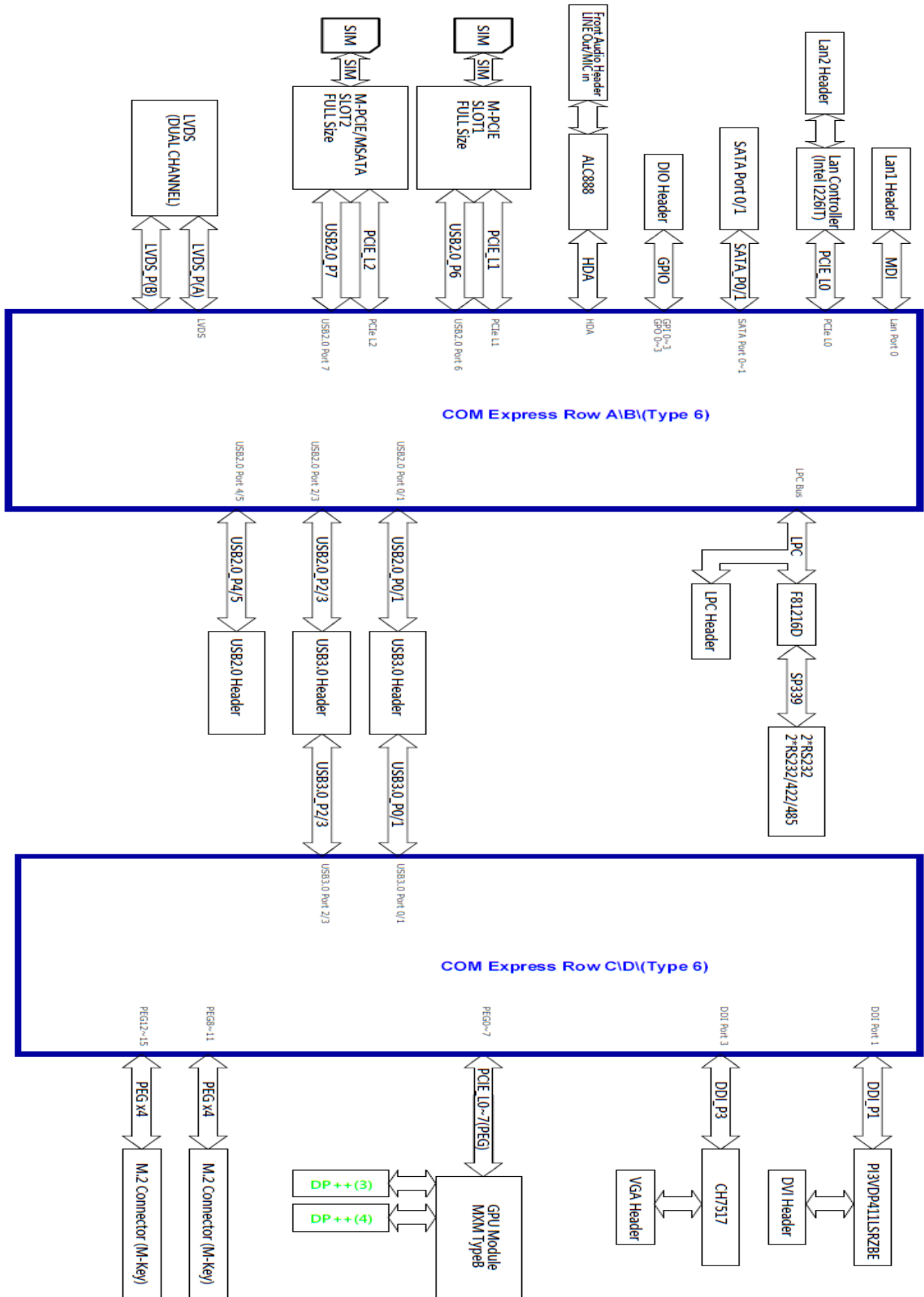
Standard Compliance	CE/FCC
---------------------	--------

OS

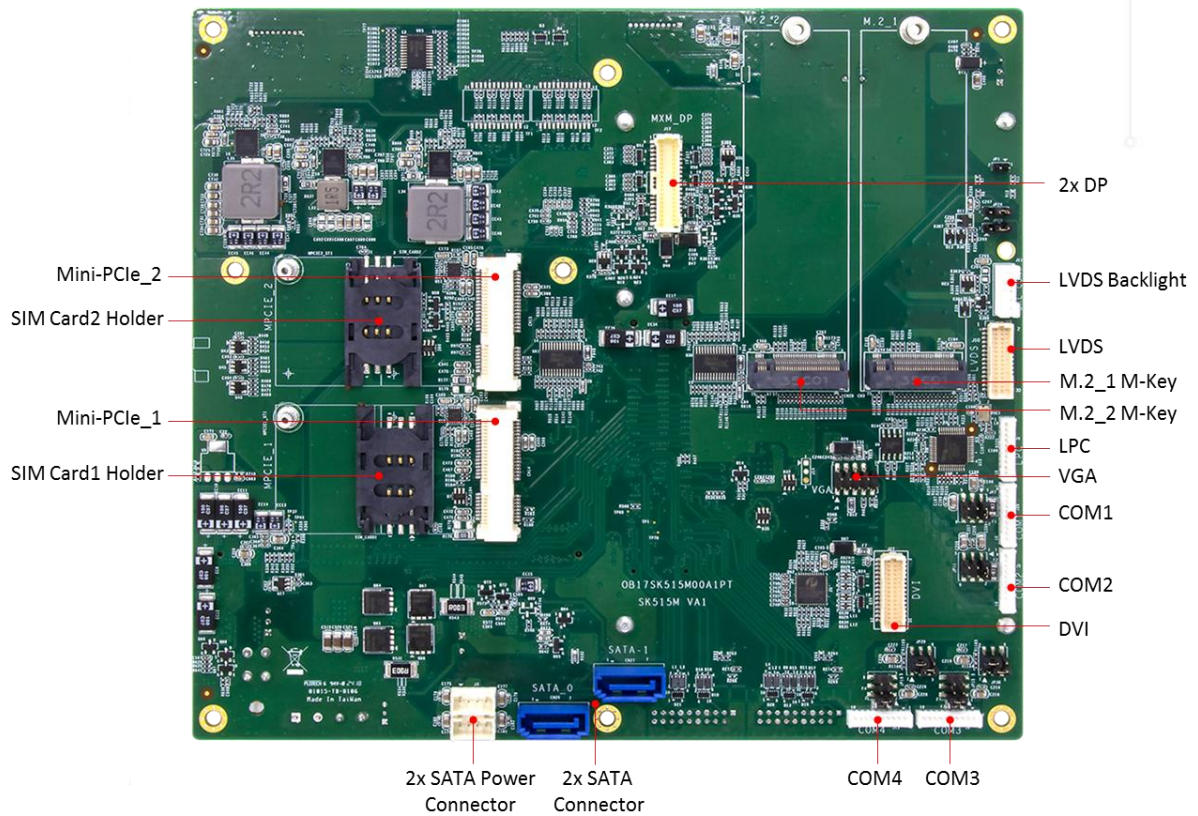
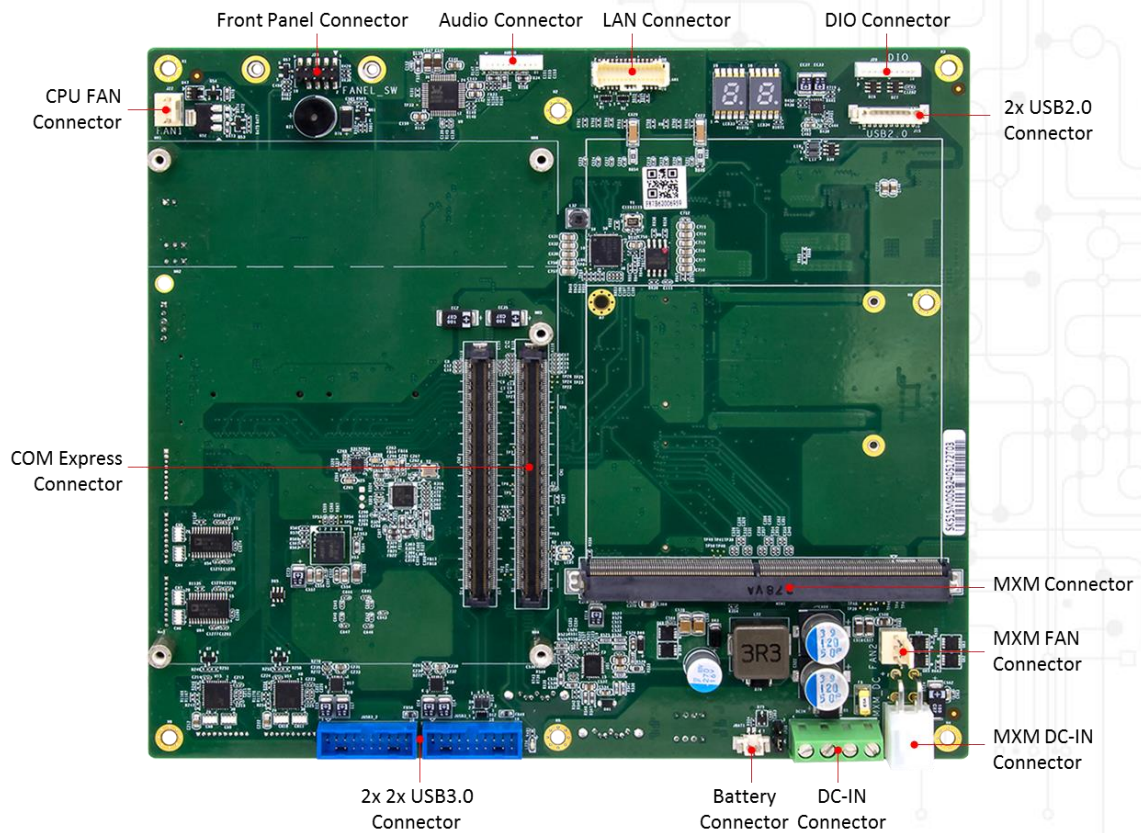
OS Support	Windows®10 64bit, Linux(Support by request)
------------	---

*All specifications and photos are subject to change without notice.

Block Diagram



Connector & Pin Header



Ordering Information

CPU/GPU Table

All Operating Temperature meet from 0°C to +55°C.

Could Customize the Operating Temperature from -40°C to +70°C.

CPU Products List

Type	CPU	Power	SPEC
14 th CPU	Intel® Core™ Ultra 7, 165H	20/45W	Meteor Lake 14 th Gen, 14+2C, Freq. 0.9/1.4 Max. 5.0 GHz, 24MB
14 th CPU	Intel® Core™ Ultra 7, 155H	20/45W	Meteor Lake 14 th Gen, 14+2C, Freq. 0.9/1.4 Max. 4.8 GHz, 24MB
14 th CPU	Intel® Core™ Ultra 5, 125H	20/45W	Meteor Lake 14 th Gen, 12+2C, Freq. 0.7/1.2 Max. 4.5 GHz, 18MB
13 th CPU	Intel® Core™ i7-13800HRE	45W	Raptor Lake 13 th Gen, 14C, Freq. 2.5 /5.0GHz, 24MB cache
13 th CPU	Intel® Core™ i7-13800HE	45W	Raptor Lake 13 th Gen, 14C, Freq. 2.5 /5.0GHz, 24MB cache

GPU Products List

GPU	CUDA Cores	Max power	UL Benchmarks
NVIDIA® Ampere RTX A2000	2,560 CUDA Cores	80W	5952
NVIDIA® Ampere RTX A4500	5,888 CUDA Cores	130W	12835
NVIDIA® Ada Lovelace RTX 3500 Ada,	5,120 CUDA Cores	115W	TBC
NVIDIA® Ada Lovelace RTX 5000 Ada	9,728 CUDA Cores	115W	TBC

Model No. List

COMe Type	Model Name	Configuration
Type6	SK515M-138HR-A45	CPU Board: i7-13800HRE / MXM GPU: Quadro A4500
	SK515M-138HE-A45	CPU Board: i7-13800HE / MXM GPU: Quadro A4500
	SK515M-165H-A45	CPU Board: Ultra 7, 165H / MXM GPU: Quadro A4500
	SK515M-155H-A45	CPU Board: Ultra 7, 155H / MXM GPU: Quadro A4500
	SK515M-125H-A45	CPU Board: Ultra 5, 125H / MXM GPU: Quadro A4500