



SKY-13-TORH

COM Express Type 6 Carrier Board



Key Feature

- COM Express Type 6, Support 13th Raptor Lake-H Processor
- MXM Type 3.1 Support NVIDIA® Quadro® and GeForce® GPUs
- Support MXM RTX 5000 Ada (9728 CUDA, 16GB RAM)
- PCI/104 Express Expansion Slot for Modular Open Structure
- Multi-Expansion Slots include Dual Mini PCIe Express Slots, 1 x M.2 Slot
- 2x DP, 1x LVDS, 4x COM, 6x USB, 2x Mini PCIe, 2x SATA
- Extreme Temperature Support -40 to 85°C
- 9V~36V DC-IN

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. SK513 feature a range of Intel processors, up to the latest Intel Core series. SK513 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, SK513 are built to suit a wide range of computing applications from signal processing to unmanned vehicles and more.

Specifications

System

COM Express CPU	Intel® Core™ i7-13800HRE 45W Raptor Lake, 13 th Gen, 14C, Freq. 2.5/5.0GHz, 24MB cache
Options (Type 6)	Intel® Core™ i7-13800HE 45W Raptor Lake, 13 th Gen, 14C, Freq. 2.5/5.0GHz, 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
COM Express Compatibility	COM Express® Type 6

Expansion

MiniPCIe Expansion	2x Full-size mini PCIe (1 with mSATA supported)
M.2 Expansion	1x 2280 M-key (SATA only)
PCIe/104 Expansion	4x PCIe x1 、 1x PCIe x4 、 5x USB 2.0 、 1x LPC 、 1x SPI
SATAIII	2x SATAIII

Display

Display Port	2x Display Port outputs from COM Express®
VGA	1x output from COM Express®, 1 x output from GPU
LVDS	1x dual channel 18/24bit LVDS
DVI	1x

Ethernet

Ethernet	2x 10/100/1000 Ethernet Ports
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I/O

USB	4x USB 3.0, 2x USB 2.0
COM Port	4x RS232/422/485
Audio	1x Line-out, 1x Mic-In
SATA Power	2x SATA
DI/DO	4x DI/ 4x DO
FAN Power	1x CPU FAN + 1x MXM FAN
Battery	1x Battery Header

Power System

Input Power_SYS	9V~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 Environment

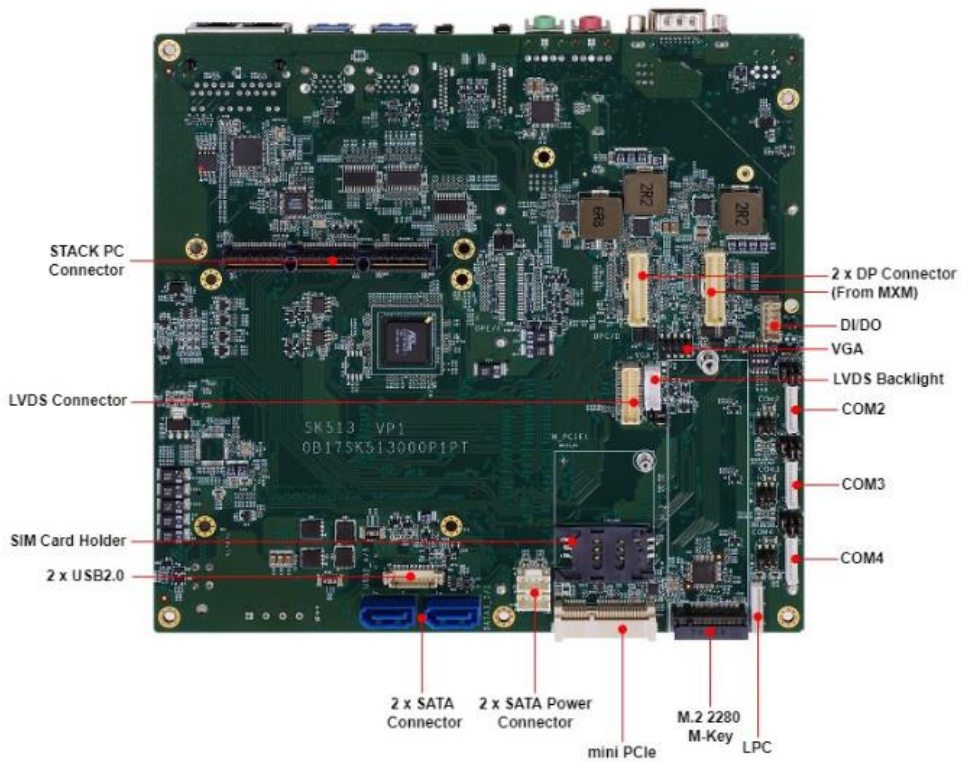
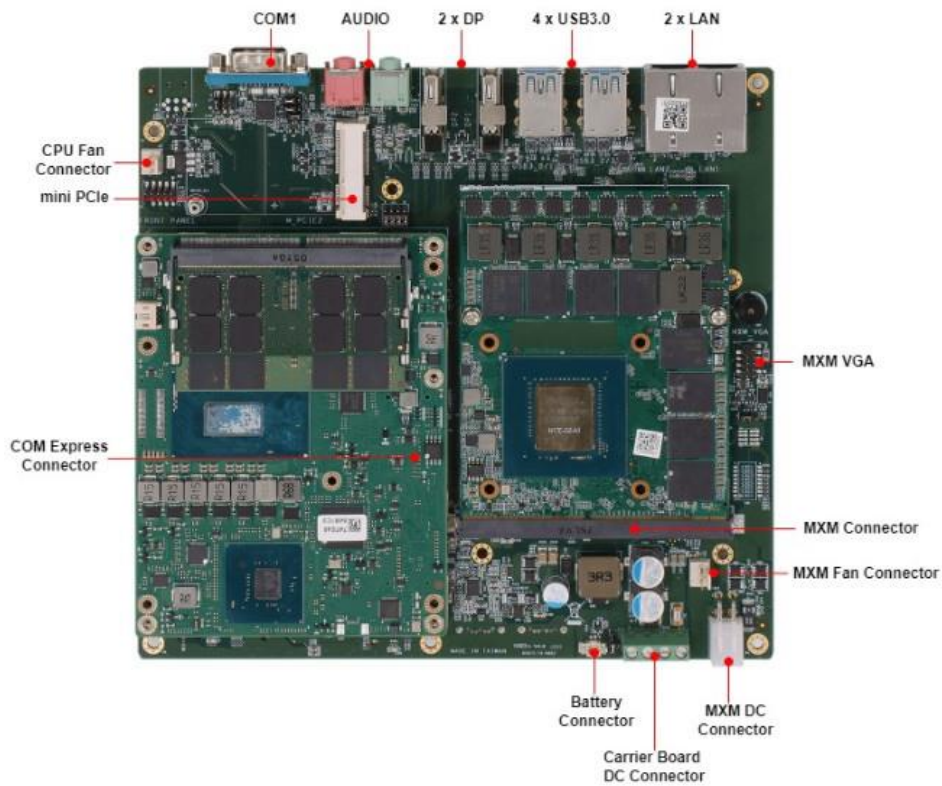
Dimensions	190mm x 185mm
Operating Temp.	-40°C to 85°C
Storage Temp.	-40°C to 85°C
Relative Humidity	10% to 90%, non-condensing

Standard Compliance

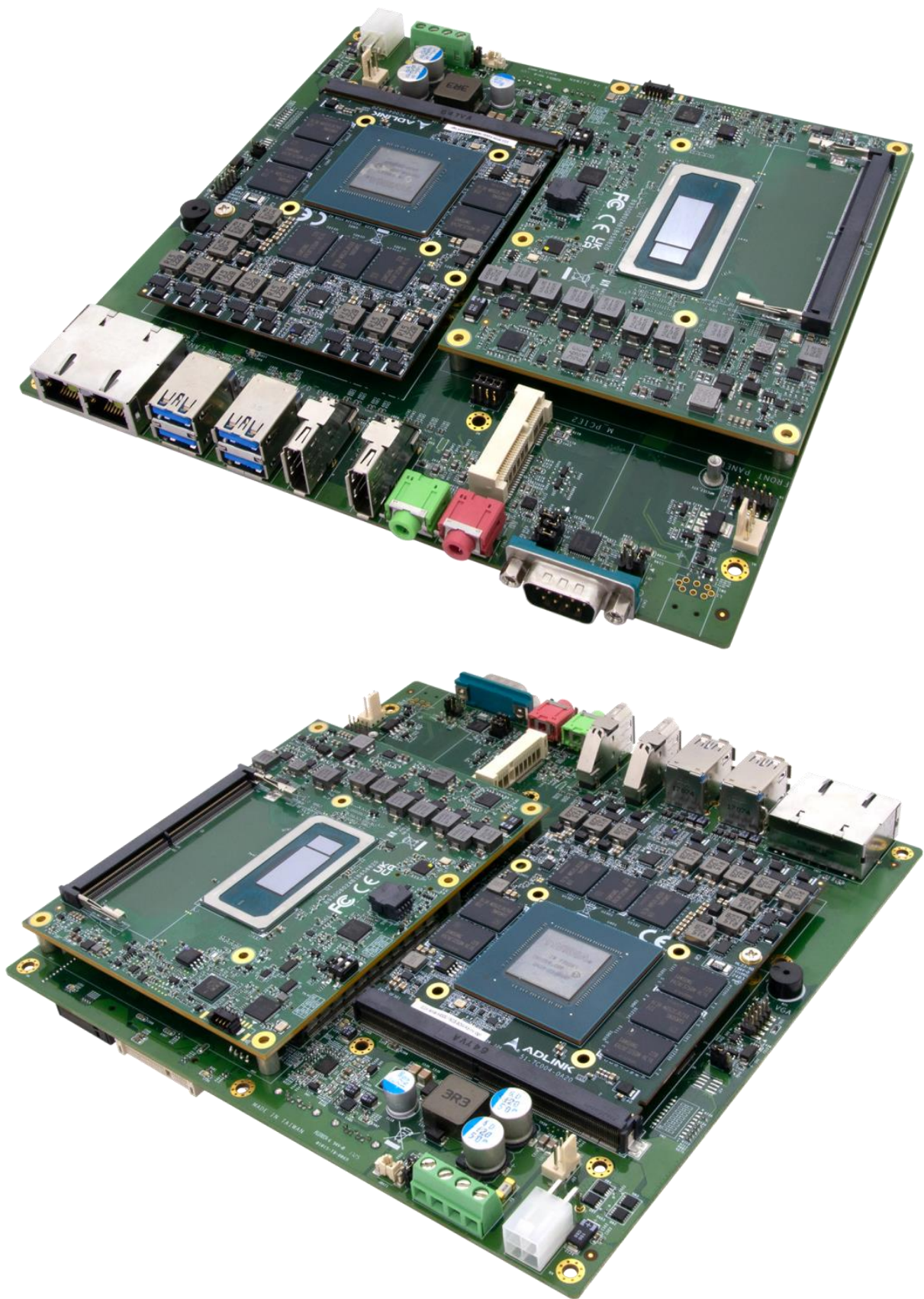
Standard Compliance	CE/FCC
OS Support	Windows®10 64bit, Linux(Support by request)

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

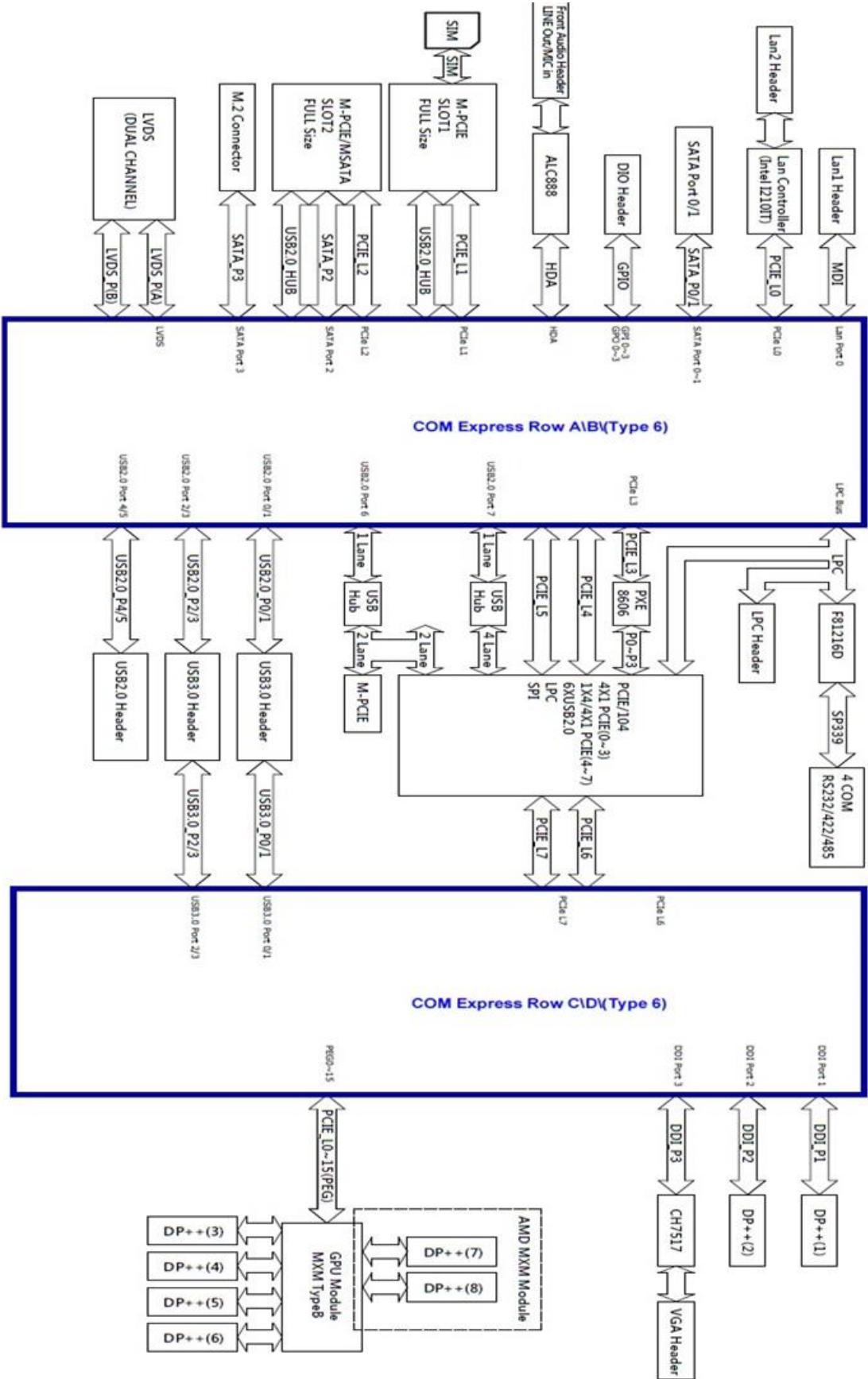
Carrier Board Placement



Appearance



Block Diagram



Ordering Information

CPU/GPU Table

All Operating Temperature meet from 0 to 55°C

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

CPU Products List

CPU(Type6)	SPEC	
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 Products List

GPU	SPEC	
NVIDIA® Ampere RTX A2000	80W	8GB GDDR6, 2,560 CUDA Cores
NVIDIA® Ampere RTX A4500	80W	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

Model No. List

Gen.	Model Name	Configuration
SK513-T6RH	SK513-138HR-50A	CPU Board: i7-13800HRE / MXM GPU: Quadro 5000Ada
	SK513-138HE-50A	CPU Board: i7-13800HE / MXM GPU: Quadro 5000Ada
	SK513-138HR-A45	CPU Board: i7-13800HRE / MXM GPU: Quadro A4500
	SK513-138HE-A45	CPU Board: i7-13800HE / MXM GPU: Quadro A4500