F30

Military Airborne Modular Computer By PCIe/104

Intel® 9th Gen Xeon Processor with Nvidia

MXM-GPU

STAR LAKE

9th Coffee Lake - H

NVIDIA GEFORCE RTX

MIL-STD 461

MIL-STD 810

- Intel®Xeon E-2276ML (12M Cache, 2.0 GHz, up to 4.20 GHz, 6-cores, 12 threads) ;Option : Intel®Xeon E-2276ME (12M Cache, 2.8 GHz, up to 4.50 GHz, 6-cores, 12 threads)
- NVIDIA®RTX A2000 MXM GPU
- Modular rugged chassis with stackable PCIe/104 I/O card expansion.
- IP65 sealed chassis with Amphenol DTL-38999 connectors
- Extreme rugged temperature : -40°C to 70°C
- 28V DC MIL-STD-461/1275 Power supply with Voltage transient protections/EMI_EMC conditions
- MIL-STD-810 Thermal Shock, Vibration, Humidity

ATR (Air Transport Rack) is a standard that specifies form fit and function of enclosures designed to protect the main internal system. This military enclosure must meet EMI / EMC requirements to prevent noise interference, provide lightning protection and be isolated from small particle contaminants. So, it can be deployed in unmanned aerial vehicles, fighters, and helicopters. To satisfy diverse conditions, ATR chassis are available in different sizes—1/2, 3/4 and Full ATR sizes. Based on 3/4 ATR size, StackRack launches a new Rugged Airborne Mission Computer F30.

As a modular mission computer, F30 features a build in EBX OXY5741A SBC powered by Intel 9th XEON E-2276ML(6 Cores, Max Turbo up to 4.2GHz). Fusing NVIDIA RTX A2000 MXM with 2 x LAN, 4 x USB and 2 x COM for device connects ability and conbine Military Standard 18V~36V DC-IN power module), F1-30 is an optimum choice for high performance computing, demanding graphics applications, GPU-accelerated data processing, yet ruggedized enough for harsh environments.
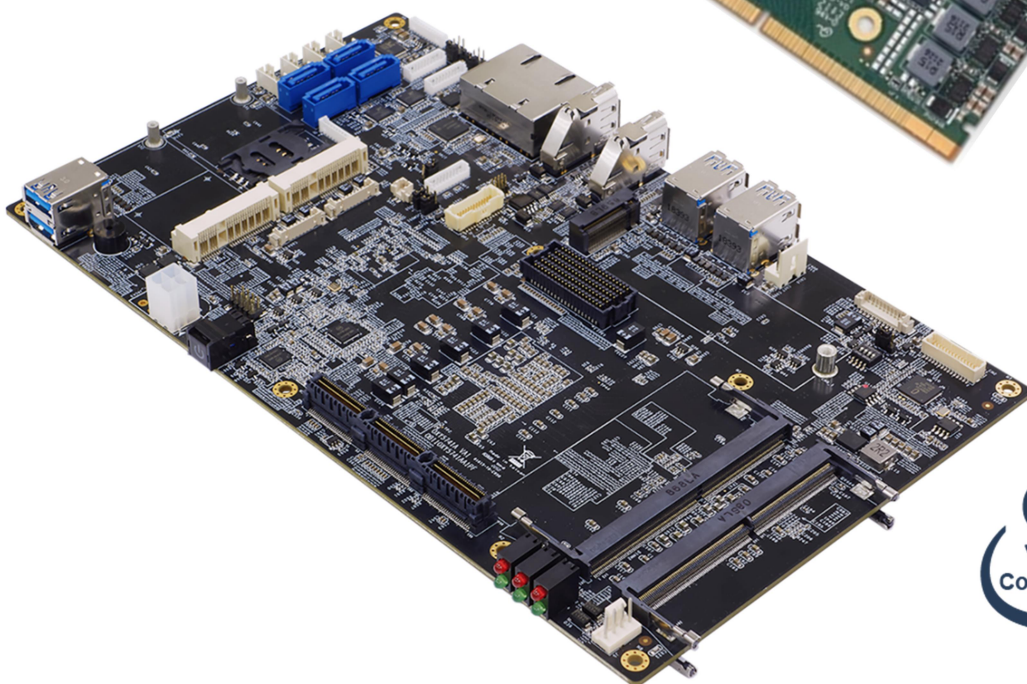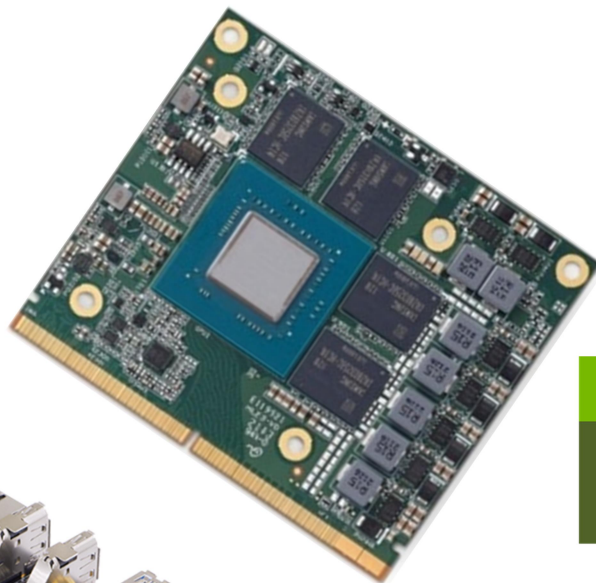
How to extend dense GPU ?

- PCIe / 104 Type II & FPE
  Powered by Xeon E-2276ML and PCH-CM246,
  PCIe/104 type II & FPE bring PCIe x 4 or
  PCIe x 16 bus to GPU and ruggedised,
  such as SK220 carrier module to extend
  the RTX A2000
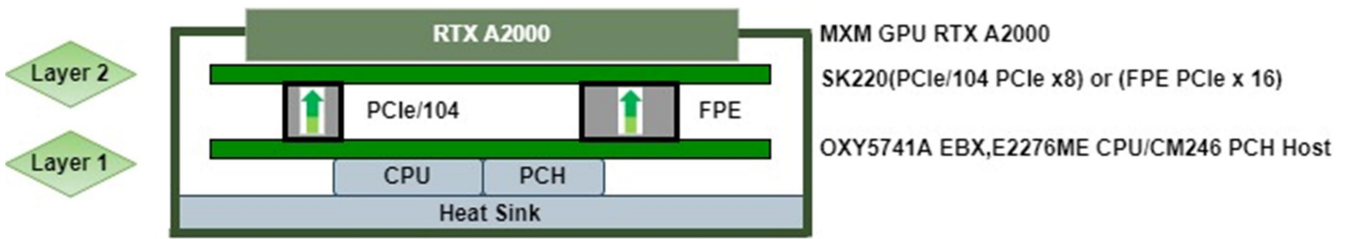

MIL-STD-1275/704 Power Supply

F30 is designed with MIL-STD-1275/704, protecting against vehicle/aircrafts voltage surges, spikes and transients, and even electromagnetic interference. This characteristic is well suited for the strictest military requirement and delivers optimal performance in harsh conditions.

SK711, the power board adopted by F30, supports input range from 18V to 36V. Compliant with MIL-STD 1275/461, SK711 performs as an ideal converter module for severe environment. The Cosel Hi-Rel DC/DC CONVERTER also provides ,Output Over Current Protection (OCP), Output Overvoltage Protection (OVP) and Over Temperature Protection (OTP) to made stability and safety. Module Compliance with MIL-STD-461C/D/E Standards. Furthermore, with parallel design, two SK711 combining can generate power of 300W, supporting prominent system performance.

MIL-STD-461E	• CE102 basic,curve,10kHz-30MHz • RE102-4,(1.5MHz)-30MHz-5GHz • RS103,80MHz-GHz
EN55011 EN55032 CISPR32	Class A • Contact Discharge Level 4(8Kv) • Air Discharge Level 4(15Kv)
IEC61000-4-2	• Contact Discharge Level 4(8Kv) • Air Discharge Level 4(15Kv)
IEC61000-4-3	• 12V/m: (80 MHz~1.0 GHz) • 36V/m: (1.4~2.0GHz) • 1.2V/m: (2.0~2.7GHz) • 80% Amplitude modulated
IEC61000-4-4	• Level 4(4 KV) • Repetition Rate:5KHz and 100 KHz
IEC61000-4-5	• Line to Line : Level 4(2KV) • Line to Earth : Level 4(4KV)

Thermal Solution – Conductive Cooling

A solid material that can effectively conduct the heat is used to move the heat to the system enclosure and dissipated to the external surroundings. The machined copper cooling plates matching the component layout are placed between each layer ; heat is carried away to the edges where a Wedge-Lock mechanism secures inside the chassis, coming up with a thermal interface.
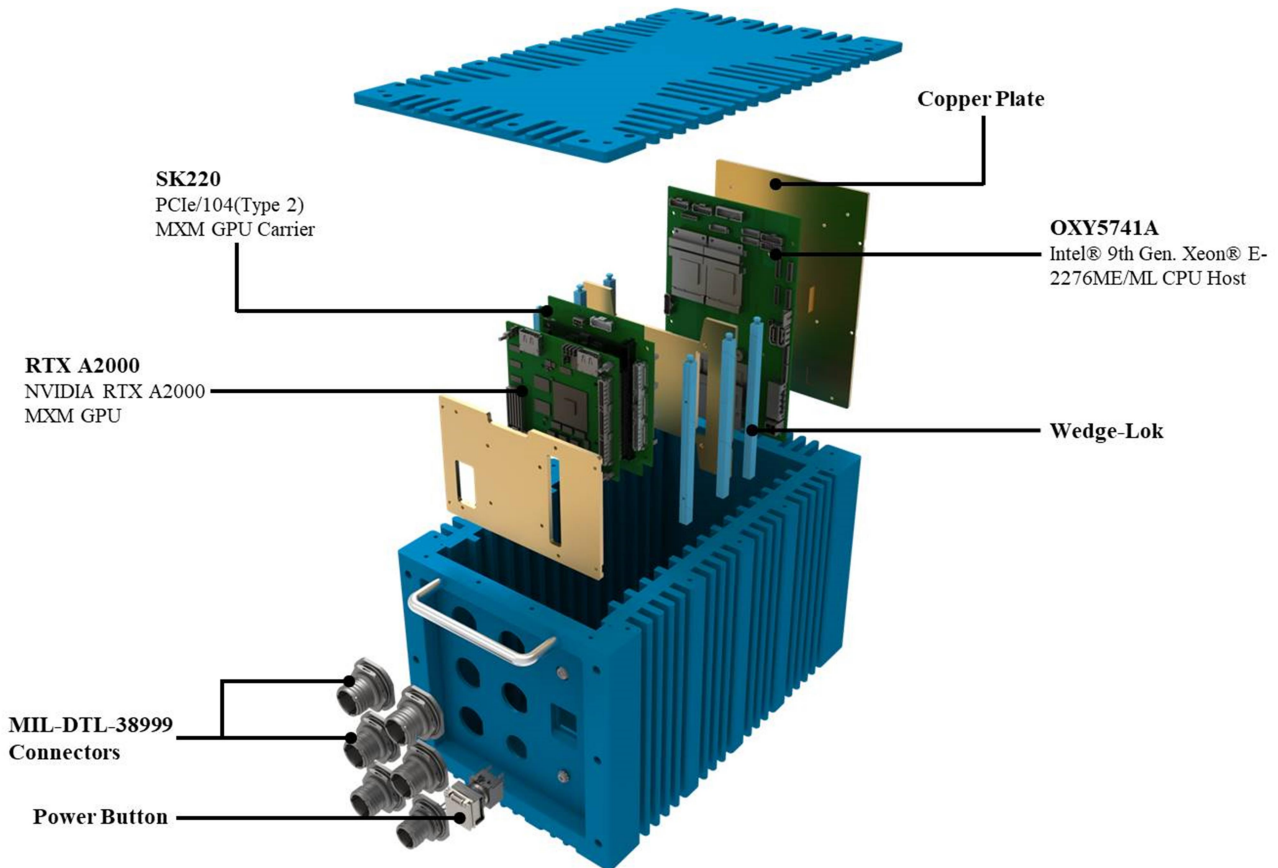
Specifications

SYSTEM

CPU	Intel®Xeon E-2276ML (12M Cache, 2.0 GHz, up to 4.20 GHz, 6-cores, 12 threads) ;Option : Intel®Xeon E-2276ME (12M Cache, 2.8 GHz, up to 4.50 GHz, 6-cores, 12 threads)
Memory type	4 x DDR4 SO-DIMM 2666MHz up to 128GB
GPU	NVIDIA Quadro RTX A2000, MXM Type (12GB-GDDR6, CUDA 3,328)

STORAGE

Storage(1)	1 x M.2 (M-key, type:2280, SATA/PCIe 3.0x4 NVMe)

Storage(2)	Support up to 4x SATAIII (RAID 0,1,5) SSD backup storage

I/O

X1	2 x DP with D38999
X2	2 x DP with D38999
X3	4 x COM with D38999
X4	2 x LAN with D38999
X5	2 x USB3.0 with D38999
Power	1 x DC-IN with D38999
Power Button	1 x Waterproof Button with Backlight
Connector(Option)	M12 Type

Mechanical

Housing	Aluminum
Weight	16 Kg (35.24 lb)
Ingress Protection	IP65
Dimension (W x H x D)	190 x 260 x 325 mm

Power Requirement

Input Voltage	DC-IN 18V~36V, 300W Military Standard Power Module

Environment

Operation Temp.	-40°C to +70°C
Storage Temp.	-40°C to +85°C
Relative Humidity	5% to 95%, non-condensing
Ingress Protection	Designed for compliance with IP65, MIL-STD-810

Test Standard

EMI/EMC	Designed to meet MIL-STD-461
Temperture	Designed to meet MIL-STD-810
Vibration & Shock	Designed to meet MIL-STD-810

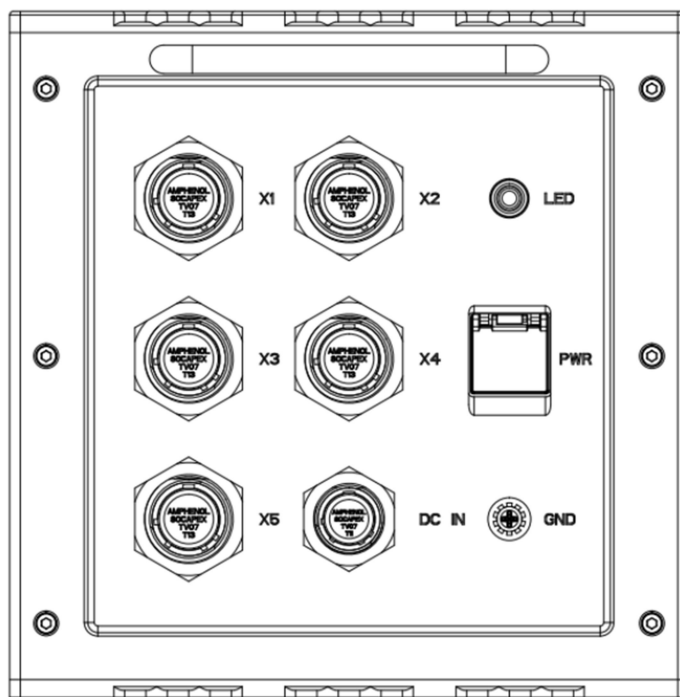## Stackable Module

SK220	Graphic module with NVIDIA RTX A2000 GPU supports four DP output

Dimension

325mm

260mm

190mm

APPERANCE

X1   X2   LED

X3   X4   PWR

X5   DC IN   GND

AMPHENOL SOCAPEX TV07 T19

Ordering Information

Spec \ Model	F30-D38	F30-M12
CPU	Intel®Xeon E-2276ML(25W) Option : Intel®Xeon E-2276ME	
RAM	4 x DDR4 2666MHz up to 128GB	
GPU	NVIDIA RTX A2000 MXM Type	
DP	4	
COM	4	
LAN	2	
USB3.0	2	
Power	DC-IN 18V~36V , 300W	
Operation Temp	-40 to +70°C	
Connector Type	D38999	M12