

Edge AI Computer

RV2-T1FM / X1FM

210 mm x 176 mm x 117 mm

Reach I9

I9-13900H/HE/HK

MXM GPU



Reach to i9-13900H/HK/HE



RV2-X1FM

RV2-T1FM

Features

- ✓ 3x LAN with 2x PoE+ support, RV2-X1FM with M12 connectors
- ✓ 4x RS232/422/485, 2x RS232
- ✓ 6x USB (2x USB3.2 Gen2 , 1x USB3.0)
- ✓ 1x Mic In/Line Out
- ✓ 4 Channel isolated DI, 4 Channel isolated DO
- ✓ 2x Display (DP+DVI-D)
- ✓ 2x M.2 2280 SATAIII , support Raid 0/1
- ✓ 1x M.2 2242/3052 B key with SIM for 4G/5G/LTE
- ✓ 1x Full Size Mini-PCle with SIM for 4G/5G/LTE/WIFI
- ✓ 3x M.2 Key E Type 2230 for WIFI/BT/GPS
- ✓ Optional for 2x M.2 Key M Type 2280 (PCIE x4 GEN4) especially for AI Card or NVME SSD
- ✓ Wide voltage 6~48V DC input,
- ✓ 1x DC Output Voltage 12V
- ✓ Ignition /remote power control

SPECIFICATION

Product Name	RugCon Series , RV2-T1FM (RJ45 LAN) / RV2-X1FM (M12)
Generation	Intel® 13th/ 12th-Gen Core™ i9 / i7 /i5 (H_45W)
Memory	Max. Capacity : 64GB DDR5 with 2x SO-DIMM
Display	2x Display : 1x Display Port (4096*2304@60Hz) , 1x DVI (1920*1200@60Hz)
LAN	1x 2.5 GbE with TSN support , 2x 2.5GbE , M12 X-coded connector for LAN Ports (RV2-X1F) Optional for 2 PoE power supply , 802.11 af/at mode
CAN	N/A
COM	1x Isolated RS232/422/485 (COM5) , 3x RS232/422/485 (COM 1/4/6), 2x RS232 (COM 2/3)
USB	2x USB 3.2 Gen2 / 1x USB3.0 / 3x USB 2.0,
Audio	1x 3.5mm jack for Mic-In and Line-out
DIO	4 Channel isolated DI, 4 Channel isolated DO
Storage	2x M.2 2280 M key (SATA III) , support Raid 0/1
Internal Expansion	1x M.2 2242/3052 B key with SIM slot supporting 4G/5G/LTE 1x Full Size Mini-PCle with SIM slot supporting 4G/5G/LTE 3x M.2 Key E Type 2230 for BT/GPS 1x M.2 Key M Type 2280 (PCIE x4 GEN4) when using H series CPU, for NVME SSD or M.2 Card
MXM Expansion	Support TYPE A : 82 x 70 mm , TYPE B : 82 x 105 mm MXM GPU Module
Mechanical	Dimension : 210.6 (W) x 176 (D) x 116 (H), Weight : 2.9 Kg , Mounting : Wall Mount
Temperature	Operating :Standard : -25° C~70 °C , Extended Option : -40° C~85 °C Storage Temperature : -40°C to 85°C
Humidity	10% to 90% , non-condensing
Power	1x 3-pin pluggable terminal block for 6~48V DC Input 200V/1ms Surge Protection, Reverse-Voltage, Over-Voltage, Under-Voltage, Over-Current Protection 1x Power Button 1x 4-pin pluggable terminal block for Ignition/Remote 1x 2-pin pluggable terminal block for 12V DC output
Vibration / Shock	Vibration test according to MIL-STD-810H, Method 514.8, Category 4 Shock test according to MIL-STD-810H, Method 516.8, Procedure I
EMC	CE/FCC Class A , according to EN 55032 & EN 55035, E-Mark / EN50155 / EN45545-2 by request

1. Intel® Core I 12th/13th
i9 / i7 / i5 (45W), Ultra 9 (45W)

2. 3 RJ45 LAN
1x 2.5 GbE with TSN support, 2x GbE
Optional 2 Power Over Ethernet Supply, 802.11 a/b/g/n mode

3. 2x M.2 2280 SSD
M.2 2280 M key, SATA III, Raid 0/1 protection

4. M.2 Expansion for 5G/4G/LTE/WIFI / GPS
1x M.2 2242/3052 B key with SIM slot supporting 4G/5G/LTE
1x Full Size Mini-PCIe with SIM slot supporting 4G/5G/LTE
3x M.2 Key E Type 2230 for BT/GPS

5. Power Module 180W or 300W
6~48V DC INPUT & 12V DC OUTPUT
Ignition & Remote Power Control
Surge Protection, Reverse-Voltage, Over-Voltage, Under-Voltage, Over-Current Protection

6. 2 Display
1x DVI (1920*1200@60Hz),
1x DP (4096*2304@60Hz)

7. 6 USB
2x USB 3.2 Gen2 / 1x USB3.0 /
3x USB 2.0,

8. 6 COM
4x RS232/422/485 . 2x RS232

9. 4x DI & 4x DO (Isolation)

10. 1x M.2 2280 (PCIE x4) for AI Accelerating card or NVME SSD
Supported by equipped with H series CPU

RugCon RV2-T1FM
210 mm x 176 mm x 116 mm



TYPEA / TYPEB

AI

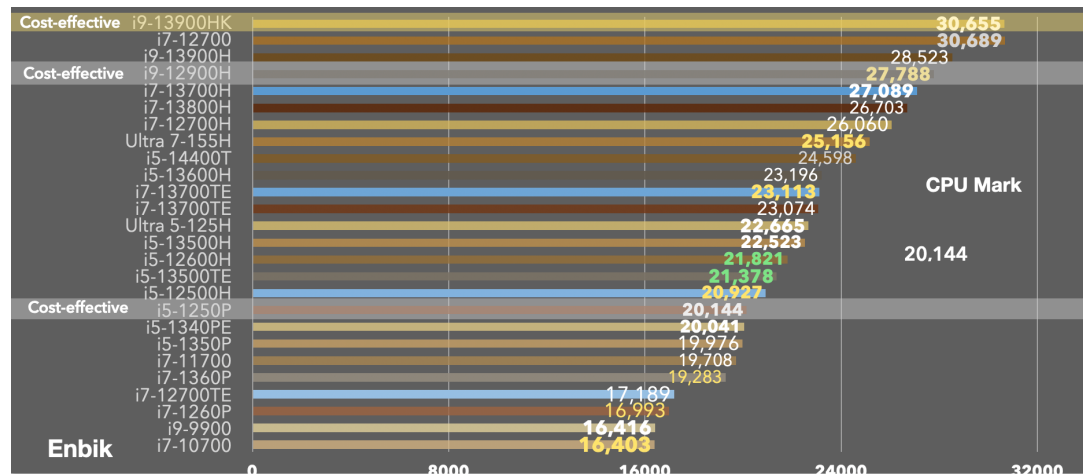
Edge AI Computing BOX
MXM GPU

M12 X-code Connectors for LAN Ports

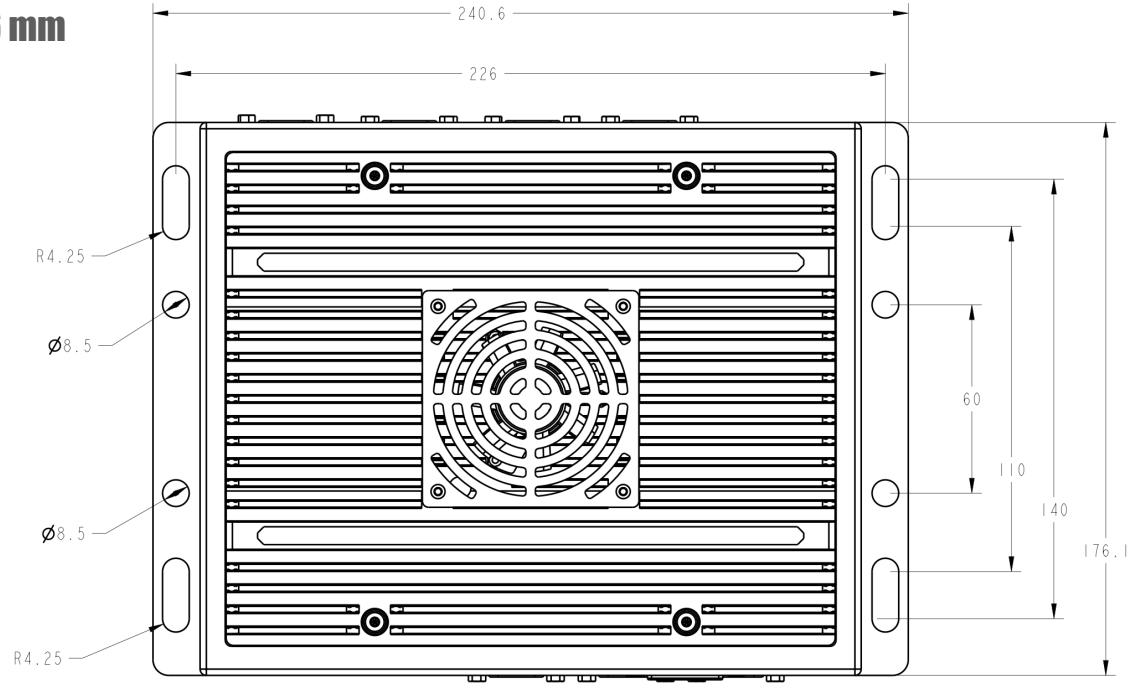
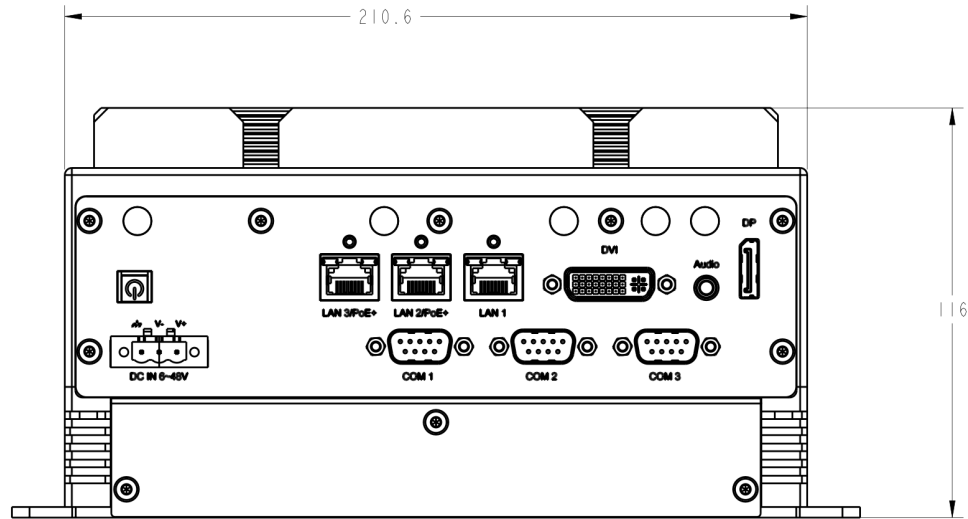
10. RugCon RV2-X1FM



Performance



Dimension : Compact Size : 210 mm x 176 mm x 116 mm



CPU Support :

Intel 12th CPU Support List

12th Gen Intel® Core™ mobile processors (formerly Alder Lake-P)

CPU Module **Description**

i9-12900H Intel® Core™ i9-12900H processor with 6 P-cores and 8 E-cores up to 5.0GHz | 24MB Intel® Smart Cache | Intel® Iris® Xe Graphics architecture with 96 EUs | Intel® code name Alder Lake-P (H-Series,45W)

i7-12700H Intel® Core™ i7-12700H processor with 6 P-cores and 8 E-cores up to 4.7GHz | 24MB Intel® Smart Cache | Intel® Iris® Xe Graphics architecture with 96 EUs | Intel® code name Alder Lake-P (H-Series,45W)

i5-12600H Intel® Core™ i5-12600H processor with 4 P-cores and 8 E-cores up to 4.5GHz | 18MB Intel® Smart Cache | Intel® Iris® Xe Graphics architecture with 80 EUs | Intel® code name Alder Lake-P (H-Series,45W)

Intel 13th CPU Support List

13th Gen Intel® Core™ mobile processors (formerly Raptor Lake-P)

CPU Module **Description**

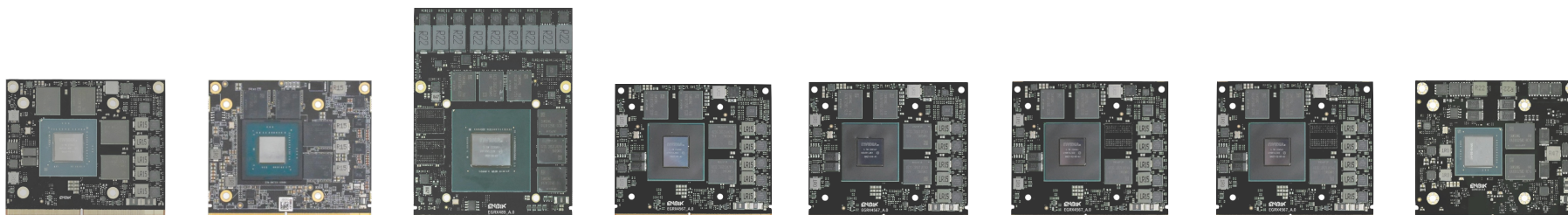
i9-13900HK Intel® Core™ i9-13900HK processor with 6 P-cores and 8 E-cores up to 5.4GHz | 24MB Intel® Smart Cache | Intel® Iris® Xe Graphics architecture with 96 EUs | Intel® code name Raptor Lake-P (H-Series,45W)

i7-13800H Intel® Core™ i7-13800H processor with 6 P-cores and 8 E-cores up to 5.2GHz | 24MB Intel® Smart Cache | Intel® Iris® Xe Graphics architecture with 96 EUs | Intel® code name Raptor Lake-P (H-Series,45W)

i5-13600H Intel® Core™ i5-13600H processor with 4 P-cores and 8 E-cores up to 4.8GHz | 18MB Intel® Smart Cache | Intel® Iris® Xe Graphics architecture with 80 EUs | Intel® code name Raptor Lake-P (H-Series,45W)

Note : We also supply embedded CPU version , so if you need HE(45W) , please contact our sales channel .

Select the artificial intelligence capability to be installed



Product Name	EGMA2008P50	EGMR2008P56	EGRX4812P80	EGRX4708P65	EGRX4608P60	EGRX4506P65	EGRX4506P35	EGMX554P35
AI Chip	A2000-8G	RTX2000-8G	RTX4080-12G	RTX4070-8G	RTX4060-8G	RTX4050-6G	RTX4050-6G	MX550-4G
Generation	Ampere	Ada Generation	Ada Generation	Ada Generation	Ada Generation	Ada Generation	Ada Generation	Turing
Chip Clock	1087MHz(Boost 1552MHz)	1635MHz(Boost 2115MHz)	795MHz (Boost 1350MHz)	735MHz (Boost 1230MHz)	1140MHz (Boost 1470MHz)	1140MHz (Boost 1605MHz)	1140MHz (Boost 1605MHz)	1260MHz (Boost 1500MHz)
Memory	GDDR6 8 GB 128bit	GDDR6 8GB 128bit	12GB GDDR6 192bit	8GB GDDR6 128bit	8GB GDDR6 128bit	6GB GDDR6 96bit	6GB GDDR6 96bit	4GB GDDR6 64bit
Memory Clock	1375 MHz	1250 MHz	2250 MHz	2000 MHz	2000 MHz	2000 MHz	2000 MHz	1500 MHz
Memory Bandwidth	176.0 GB/s	256.0 GB/s	432.0 GB/s	256.0 GB/s	256.0 GB/s	192.0 GB/s	192.0 GB/s	96 GB/s
Single Precision	8.958 TFLOPS	14.176 TFLOPS	30 TFLOPS	15.71 TFLOPS	12.22 TFLOPS	11.835 TFLOPS	8.218 TFLOPS	4.5 TFLOPS
TOPS	-	232	542	321	232	194	194	-
CUDA	2560	3072	7424	4608	3072	2560	2560	1024
Tensor Core	80	96	232	144	96	80	80	32
RT core	20	24	80	36	24	20	20	16
TGP	50W	56.5W	80W	65W	60W	65W	35W	35W
Dimension	TYPE A : 82 x 70 mm	TYPE A : 82 x 70 mm	TYPE B : 82 x 105 mm	TYPE A : 82 x 70 mm	TYPE A : 82 x 70 mm	TYPE A : 82 x 70 mm	TYPE A : 82 x 70 mm	TYPE A : 82 x 70 mm