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60,000

21,000,000

|           |           |
|-----------|-----------|
| 4,654,520 | 8,078,511 |
| 8,901,705 | 4,346,501 |
| 6,805,210 | 6,688,570 |



# IV320-RS

## Full IP65 Rugged MXM AI Edge Computer



- AI Optimized IP65 Rugged GPU Computer
- Full IP65 sealed enclosure for harsh, wet and dusty environments.
- Design to meet EN50155 Rolling Stock
- Support Intel® 14/13/12th Gen. Raptor Lake-R/S, Alder Lake-S, Core i9/i7
- Up to 128GB DDR5 4400 MHz U-DIMM, non-ECC and ECC
- Support NVIDIA® RTX A4500 (16GB GDDR6, 5,888 CUDA); RTX 5000 Ada (16GB GDDR6, 9,728 CUDA)
- Rugged waterproof M12 connectors
- 2 x 2.5G ; 2 x 10G LAN (Option : 4 x POE , 2 x POE 30W ; 2 x POE 60W)
- IP65 2x 2.5" SATA SSD Easy Swap Tray ; 2 x 2.5" SATA SSD Internal
- Extended Operating Temperature -20°C to +60°C
- MIL-STD-810 Anti Vibration, Shock

# Specifications

## SYSTEM

|                |   |
|----------------|---|
| CPU            | Intel® 14 <sup>th</sup> Raptor Lake-R Core i9-14900T, 24C, 32T, 1.1/5.5GHz, 36M Cache, TDP 35W<br>Intel® 13 <sup>th</sup> Raptor Lake Core i9-13900TE, 24C, 32T, 1.0/5.0GHz, 36M Cache, TDP 35W |
| Memory type    | Up to 128GB UDIMM ECC/Non-ECC DDR5 4400MHz  |
| CHIPSET        | Intel® R680E Chipset  |
| GPU            | NVIDIA® RTX A4500/ RTX 5000 Ada   |
| Expansion Slot | 1 x PCIe 5.0 x 16<br>1 x PCIe4.0 x 4<br>1 x M.2 22110/2280 M-Key PCIe 3.0 x 4<br>2 x M.2 PCIe 4.0 x 4   |

## DISPLAY

|         |                            |
|---------|----------------------------|
| Display | 1 x VGA<br>(option) 1 x DP |
|---------|----------------------------|

## STORAGE

|      |   |
|------|---|
| SATA | 2 x 2.5" SSD, Hot Swappable SSD/HDD slot<br>2 x 2.5" SSD Internal |
| M.2  | 1 x 22110/2280 M key (PCIe 3.0 x 4)                               |

## ETHERNET

|          |   |
|----------|---|
| Ethernet | 2 x 2.5G Ethernet Ports<br>2 x 10G Ethernet Ports |
|----------|---|

## TPM

|     |                |
|-----|----------------|
| TPM | Onboard TPM2.0 |
|-----|----------------|

## FRONT I/O

|        |   |
|--------|---|
| X1     | 1 x VGA (Option 1 x DP)   |
| X2,X3  | (Each) 1 x 10Giga LAN with POE(60W) , M12 waterproof connector  |
| X4,X5  | (Each) 1 x 2.5Giga LAN with POE(30W) , M12 waterproof connector |
| X6     | 1 x USB, with M12 waterproof connector                          |
| X7     | 1 x COM, with M12 waterproof connector                          |
| Switch | 1 x IP65 power button   |
| SSD    | 2 x 2.5" Easy swap SSD Tray                                     |

## REAR I/O

|       |                                       |
|-------|---------------------------------------|
| DC-IN | 12V DC-IN ( Option 48VDC for EN50155) |
|-------|---------------------------------------|

Others                      Antenna(Optional)

**POWER**

Power input                12V DC-IN ( Option 48VDC for EN50155)

**OPERATING SYSTEM**

OS                            Windows® 10 64-bit / Linux (support by request)

**PHYSICAL**

Dimension                 250 x 325 x 100 mm (W x L x H)

Weight                      12KG

Chassis                     Aluminum Alloy

Heatsink                    Heatsink Aluminum Alloy, Corrosion Resistant

**ENVIRONMENTAL**

Green Product             RoHS, WEEE compliance

Operating Temp.         -20°C to +60°C

Storage Temp.            -40°C to +85°C

Relative Humidity        5% to 95%, non-condensing

**MIL-STD-810 SPECIFICATIONS (OPERATING )**

Method 502.5  
Procedure 2                Low Temperature                      -20°C, 4 hours, ±3°C

Method 501.5  
Procedure 2                High Temperature                      +55°C, 4 hours, ±3°C

Method 507.5              Humidity                                85%-95% RH without condensation,  
24 hours/ cycle, conduct 10 cycles.

Method 514.6              Vibration                                5-500Hz, Vertical 2.20Grms, 40mins x 3axis.

Method 516.6              Shock                                      20 Grms, 11ms, 3 axes.

**MIL-STD-810 SPECIFICATIONS (NONE-OPERATING)**

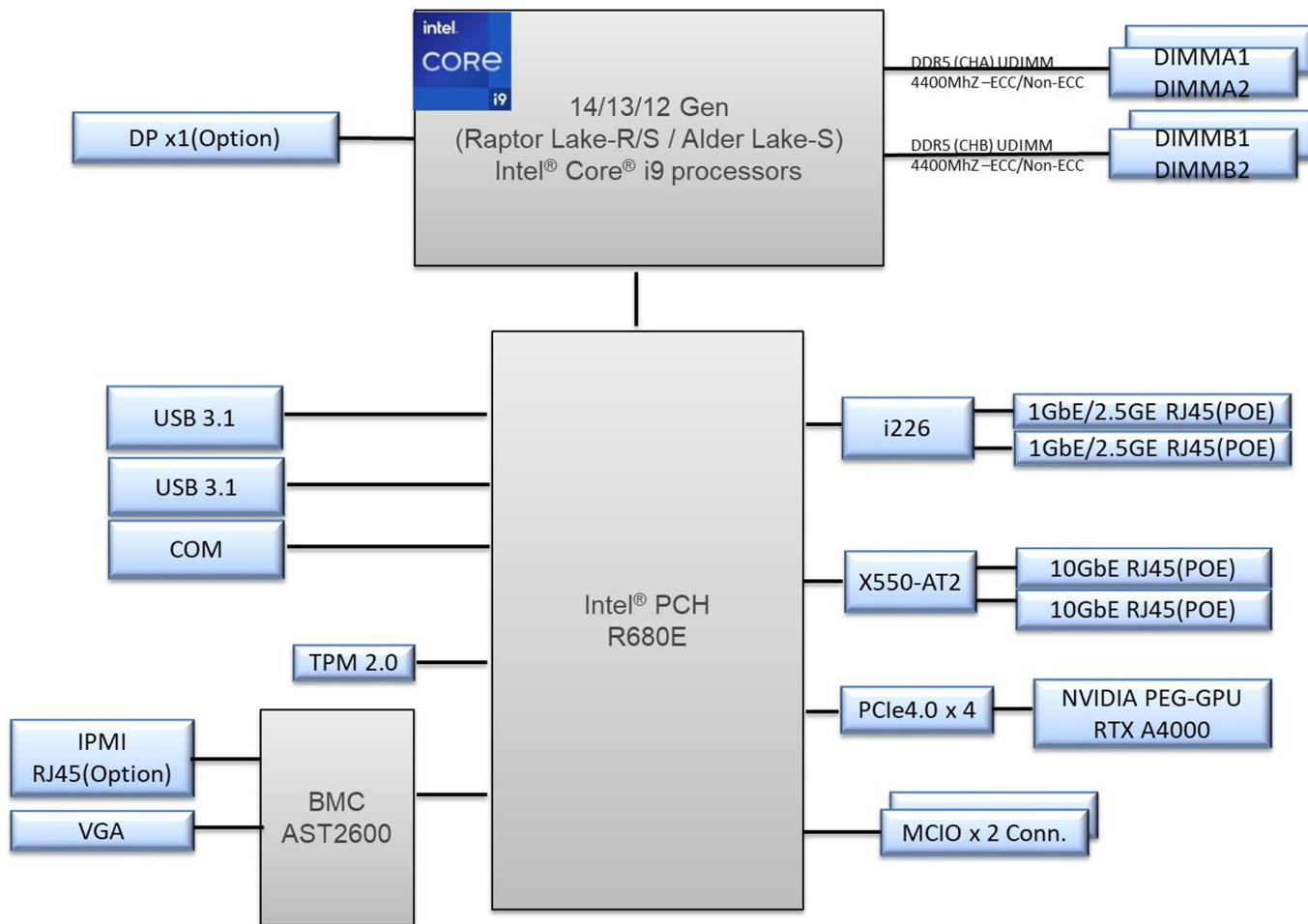
Method 502.5  
Procedure 1                Low Temp. Storage                      33°C, 4 hours, change rate: ≤ 20°C/ Hour  
-15°C, 72hours (By request)

Method 501.5  
Procedure 1                High Temp. Storage                      +71°C, 4 hours, change rate: ≤ 20°C/ Hour  
+63°C, 240 hours (By request)

Method 514.6              Vibration                                5-500Hz, Vertical 2.20Grms, 40mins x 3axis.

Method 516.6              Shock                                      20 Grms, 11ms, 3 axes.

# Block Diagram



# Ordering Information

| Model   | IV320-RS-R45                          | IV320-RS-R20 |
|---------|---------------------------------------|--------------|
| CPU     | i9-14900T                             | i9-13900TE   |
| GPU     | RTX A4500                             | RTX A2000    |
| Memory  | UDIMM DDR5 Up to 128G                 |              |
| Storage | Up to 4 x SATAIII SSD                 |              |
| USB     | 1 x USB                               |              |
| LAN     | 2 x 10G / 2 x 2.5G (Option : 4 x POE) |              |
| COM     | 1 x COM                               |              |
| Power   | 12V DC-IN ( Option 48VDC for EN50155) |              |