

# VMS-RPPS

## Intel® 12/13th Rugged Fanless Vehicle Telematics System



### Product Features

- Intel® 12/13th Gen PS-series Core i7/i5/i3/Celeron® Processor
- Intel® Iris® Xe/UHD Graphics
- 2-262 Pin SODIMM Socket Max. Up to 64GB DDR5 4800MHz
- 3-Expansion, 1-Full Size Mini PCIe, 1-M.2 Key-E, 1-M.2 Key-B w/ SIM slot
- 3-Storage, 1-M.2 Key-M, 2-2.5" External Drive Bay
- Onboard GPS module, Support RAID 0/1, TPM 2.0, iAMT
- 9~60Vdc Input, with Ignition Control & Vehicle Power Management
- -40C~70C Operating Temperature
- CE, FCC A, E-Mark, ISO7637-2 Certified

### Specification

#### System Information

Processor	Intel® 13th Raptor Lake/12th Alder Lake PS-series Core i7/i5/i3/Celeron® Processor
System Memory	2 x 262-Pin SODIMM Socket Max. Up to 64GB DDR5 4800MHz (non ECC only)
BIOS Information	AMI UEFI BIOS, 256Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor	CPU & System Temperature monitoring Voltage monitoring
RAID	Support RAID 0/1
TPM	TPM 2.0
iAMT	Depends on sku

#### Expansion

M.2	1 x M.2 Key-E 2230 (1 x PCIe1 + USB2.0) supports Wi-Fi & BT Module 1 x M.2 Key-B 3042/3052 (1 x PCIe1 + USB3.2) w/ SIM slot2(external)
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**mPCIe** 1 x Full Size Mini PCIe (1 x PCIe1 + USB2.0) w/ SIM slot2(external)

## Storage

**M.2** 1 x M.2 Key-M 2280 (1 x PCIe4) NVMe

**2.5 Drive Bay** 2 x 2.5" Drive Bay (SATA III, Max. up to 15mm Height Storage), RAID 0/1 supported

## Front I/O

**USB** 2 x USB 2.0

**Power Button** 1 x Push Button for Power on/off w/ LED(Blue)

**Reset Button** 1 x Push Button for Reset in hiding

**COM Port** 1 x RS232/422/485(Jumper + DIP switch), support auto-flow

**LED Indicator**  
1 x LED indicators for Storage (Yellow) - M.2 M-key PCIe Storage  
1 x LED indicators for LTE (Green) - M.2 B-key  
1 x LED indicators for Wi-Fi (Green) - M.2 E-key

**SIM Slot** 2 x SIM Card Slot (External Accessible w/Dust Protection Cover)

**Digital I/O**  
1 x 10-bits GPIO  
(5 x DI (9~60V) and 5 x DO (30V/200mA)), SW control

## Rear I/O

**USB** 2 x USB 3.2 Gen.2

**COM Port** 2 x RS232/422/485(Jumper + DIP switch), support auto-flow (COM2/3 via Cable)

**LAN Port** 4 x RJ-45 (4 x PoE Available for BOM option)

**Audio**  
1 x Line-Out  
1 x Mic-In

**DP** 2 x DP++ 1.4

**HDMI** 2 x HDMI 2.0

**Antenna** 2 x Antenna Mounting w/Dust Protection Cover

## Right I/O

**Antenna** 3 x Antenna Mounting w/Dust Protection Cover

## Left I/O

**Antenna** 3 x Antenna Mounting w/Dust Protection Cover

## GPS

**Chipset** u-blox NEO-M9N GNSS LCC module with Untethered Dead Reckoning and onboard sensors.

**Protocol**

BeiDou, Galileo, GLONASS, GPS / QZSS

**Display****Graphic Chipset** Intel® Iris® Xe Graphics (i7-1265UL/ i5-1245UL)  
Intel® UHD Graphics (i3-1215UL/Celeron® 7305L)**Resolution** HDMI 2.0: Max. resolution 4096 x 2304 @ 60Hz  
DP++ 1.4a: 4096x2304 @ 60Hz (DP to HDMI cable can't support 4K @ 60Hz, Max. up to 1920x1080 (60Hz))**Audio****Audio Codec** Realtek ALC888S co-lay ALC897 (Default: ALC888S)**Ethernet****LAN Chipset** 4 x Intel® I226IT 2.5 Gigabit Ethernet**Specification** 4 x 10/100/1000/2.5G Base-Tx GbE compatible**Power Requirement****Voltage Input Spec.** Typical 12/24/48 Vdc ( +9 ~ 60Vdc )**Voltage Input Connector** 1 x 3-Pin Terminal Block for DC Power Input**ACPI** Single Power ATX Support S0, S3, S4, S5  
ACPI 5.0 Compliant**Power Mode** Vehicle Power Mode (Default Setting)/Industrial PC Power Mode  
AT / ATX mode Switchable Through Jumper**Software Support****OS** Win 10/Win 11/Linux**Certification****Certification Information** CE, FCC Class A, E24 Mark, ISO 7637-2, IP50**Mechanical & Environmental****Operating Temp.** Standard System: -40°C ~ 70°C (-40°F ~ 158°F) with 0.5m/S air flow, extended temperature peripherals (Factory option)  
System with PoE: -40°C ~ 60°C (-40°F ~ 140°F) with 0.5m/S air flow, extended temperature peripherals (Factory option)**Storage Temp.** -30°C ~ 70°C (-22°F ~ 185°F)**Operating Humidity** 5% ~ 90% Relative Humidity, Non-condensing**Dimension (W x L x H)** 239.4 x 160 x 55 mm (TBD)**Weight** 3kg (TBD)

<b>Vibration Test</b>	Operating with SSD : MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure Storage with SSD : MIL-STD-810G, Method 514.6, Category 24, minimum integrity test
<b>Shock Test</b>	Operating with SSD : MIL-STD-810G, Method 516.6, Procedure I, functional shock=20G Non-Operating with SSD : MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75G
<b>Drop Test</b>	Package drop test Reference ISTA 2A, Method : IEC-60068-2-32 Test : Ed Test phase : One corner, three edges, six faces
<b>IP Rating</b>	IP50
<b>Mounting Kit</b>	Wall mount kit (Standard)

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