

SINTRONES

In-Vehicle Computing

VBOX-3123-R2312

AMD Ryzen™ Embedded R2312 w/ 1x DVI-D / 2x HDMI® / 2x GbE / 4x COM / DC 9~60V In-Vehicle Computer



**Taiwan Patent
No. M447854**

- AMD Ryzen™ Embedded R2312 2C/4T Processor
- Dual HDMI® supports resolution specified in HDMI® 2.0b
- 1 x M.2 2280 M Key supports NVMe or SATA SSD
- 1 x M.2 3042/52 B Key supports USB 3.2 for WWAN w/ Dual SIM
- 1 x M.2 2230 E Key supports PCIe and USB 2.0 for Wi-Fi/BT
- 9 – 60VDC Wide Power Input

Specifications

System

- Processor**
- AMD Ryzen™ Embedded R2312 2C/4T Processor
- Graphics**
- CPU Built-in Graphics AMD Radeon™ Graphics
- Memory**
- 1 x SO-DIMM DDR4-2400 up to 32GB (ECC Support with ECC DRAM)
- Network**
- 2 x I210-AT
- Security**
- TPM 2.0
- Watchdog**
- System power on/off 1 ~ 255 min setting by BIOS

Interface

- Ethernet**
- 2 x GbE RJ45 port
- USB**
- 2 x USB 3.2 Gen 2 (10Gbps) and 2 x USB 2.0
- Video**
- 1 x DVI-D *Only supports Single-Link DVI-D cables
 - 2 x HDMI® supports 4K@60Hz as specified in HDMI 2.0b
- Audio**
- 1 x Line-out and 1 x Mic-in
- DIO**
- 4 x DI (9~60V) / 4 x DO (5V / 100mA)
 - 2 x Analog Input (0~60V w/0.5V accuracy)
- Serial Port**
- 4 x RS-232/422/485 (COM4 is optional with CANBUS)

Internal Expansion

- M.2**
- 1 x M.2 3042/52 B Key supports USB 3.2 for WWAN w/ Dual SIM
 - 1 x M.2 2230 E Key supports PCIe and USB 2.0 for Wi-Fi/BT
- mPCIe**
- 2 x mPCIe Full-size slot support USB 2.0

Storage

- Type**
- 1 x M.2 2280 M Key supports NVMe or SATA SSD
 - 1 x 2.5" SATA SSD

Software

- Operating System Support**
- Windows 10 IoT Enterprise 64bit LTSC
 - Windows 11 IoT Enterprise 64bit LTSC
 - Ubuntu 20.04 LTS 64bit

Environmental

- Operating Temp.**
- -40°C ~ 60°C, with SSD, ambient w/ air flow 0.6m/s (for barebone system)
- Storage Temp.**
- -40°C ~ 80°C
- Relative Humidity**
- 10 ~ 90% @ 40°C (non-condensing)
- Vibration (with SSD)**
- MIL-STD-810G, Method 514.6, Procedure I, Category 4 with SSD
- Shock (with SSD)**
- MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD

Certification / Standard

- CE, FCC Class A, UKCA, E-Mark

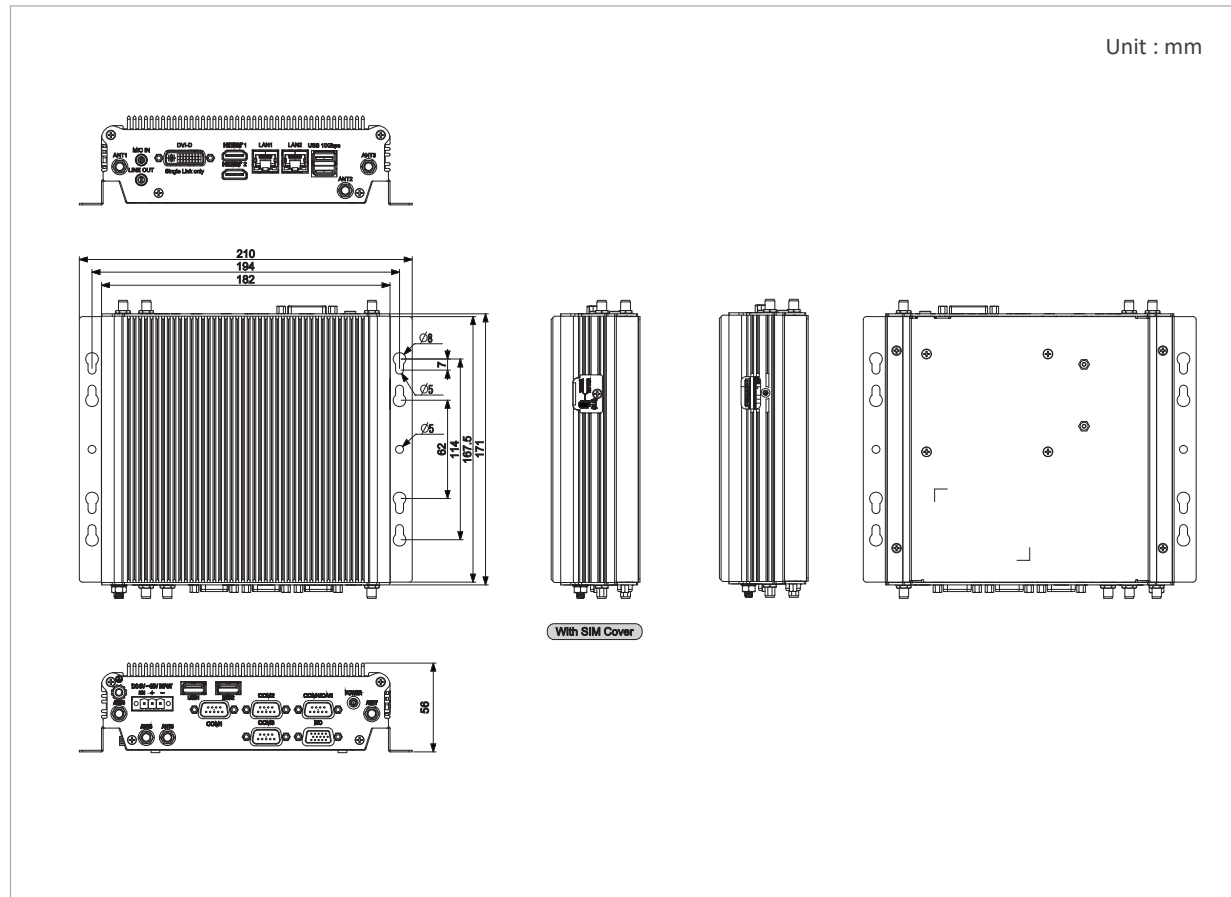
Power

- Power Input**
- DC 9 – 60V Input
- Power Protection**
- Over voltage and reverse polarity protection
- Power Management**
- Ignition Management for Variety Vehicle
- Battery (UPS)**
- Internal backup battery Kit for about 10 mins operating
 - * UPS backup time varies depending on actual overall system power consumption.
 - * Operating temperature will be 0°C~55°C with the battery kit.
 - Patent No. : M447854 – Build-in Battery

Mechanical

- Construction**
- Aluminum Alloy
- Mounting**
- Wall-mount
- Weight**
- 1.8 kg
- Dimensions**
- 210 (L) x 171 (W) x 56 (H) mm

Dimensions



Ordering Information

Model Number	VBOX-3123-R2312
Description	AMD Ryzen™ Embedded R2312 w/ 1x DVI-D / 2x HDMI® / 2x GbE / 4x COM / DC 9~60V In-Vehicle Computer
State of Origin	Made in Taiwan

Optional Accessories

Memory	DDR4-2400/2666/3200 SO-DIMM, 8GB~32GB, -40~85°C (ECC Option Available)
SSD	M.2 2280 M Key NVMe TLC -40~85°C 512GB~2TB M.2 2280 M Key SATA TLC -40~85°C 128GB~2TB 2.5 inch SATA TLC -40~85°C 128GB~2TB
Wi-Fi	M.2 2230 Key A+E Wi-Fi 6 + Bluetooth 5.2 module
WWAN	M.2 3042/52 5G/LTE modem with Thermal Kit
GPS	mPCIe GPS module
CAN Bus	mPCIe CAN Bus module
Battery (UPS)	2350mAh 3S1P Battery kit (0°C ~55°C for Discharge)

All specifications are subject to change without notice.

Assured Systems

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