

# 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

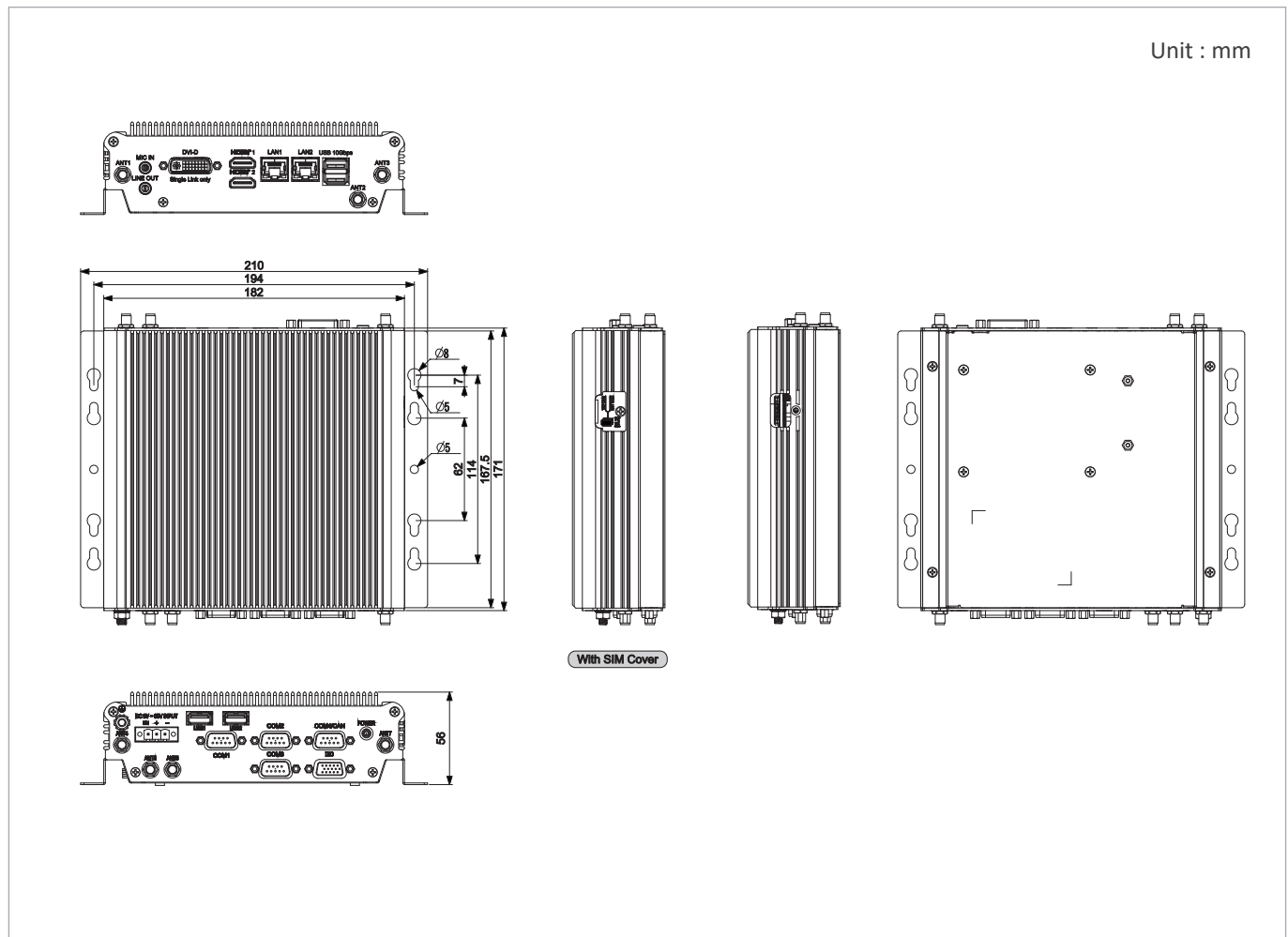
#### Weight

- 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.