VTC 6231-IP

Intel Atom® x7433RE Fanless In-Vehicle Computer
with E Mark Conformity

Main Features

- Intel Atom® processor quad core x7433RE, 1.5GHz
- Eight SIM cards + four WWAN modules support
- Built-in u-blox-M9N GPS
- Built-in CAN FD
- 1 x External storage (compatible with 15mm disk)
- E mark conformity
- 3 x M.2 + 2 x mPCIe socket expansion
- Wide voltage input 9~36 VDC
- Two video outputs, one VGA and one HDMI
- 1 x Mic-in, 1 x Line-out, 1 x Line-In
- Full IP66 protection

Product Overview

VTC 6231-IP, based on Intel Atom® quad core processor x7433RE, is specifically comply with stringent E mark standard in rugged, fanless and compact mechanism. VTC 6231-IP provides complete communication capability between vehicle and computer with build-in CAN FD interface. VTC 6231-IP features rich WLAN and WWAN wireless connectivity. With dual SIM cards per modem support, VTC 6231-IP allows eight SIM cards backup each other for a better connectivity quality by software. In addition, eight SIM cards and four WWAN modules architecture can increase the bandwidth for a faster data transmission speed. Equipped with intelligent power management, VTC 6231-IP can be waked on by ignition, RTC timer or SMS message remotely. By integrating the variety of I/O ports and 2 x mini-PCIe, 3 x M.2 sockets expansibility, up to dual screens via VGA and HDMI connections, also compliant with IP66 rating, VTC 6231-IP keeps the flexibility to meet the demand for different vehicle applications, such as infotainment, dispatching system, cellular/wireless network connectivity, and video surveillance. The design of mini-PCIe slots x 2 can solve the potential request from the market when needed.

Specifications

CPU
- Intel Atom® processor x7433RE, 1.5GHz, 9W, 4 core

Memory
- 1 x 262-pin DDR5 SO-DIMM socket support 4800MHz up to 16GB. default 8GB

Video Output
- 1 x VGA up to 1920 x 1200 @60Hz
- 1 x HDMI 2.0 up to 4096 x 2160 @60Hz

Storage
- 1 x 2.5" SATA 3.0 external SSD (compatible with 15mm drive)
- 1 x mSATA (occupy one mPCIe slot)

Expansion
- 2 x M.2 3042/3050/3052 Key B socket (USB 2.0, USB 3.2 Gen 2) for LTE/5G NR module with 2 x external Nano-SIM
- 1 x Full size mini-PCIe socket (USB 2.0, SATA, PCIe 3.0) for mSATA (default), BIOS select (USB 2.0) for LTE with 2 x external Nano-SIM, BOM option (USB 2.0, PCIe 3.0) for WLAN
- 1 x M.2 2230 Key E (PCIe 3.0 x 1, USB 2.0), BOM optional mPCIe (PCIe 3.0 x 1, USB2.0) for Hailo module
- 1 x Full size mini-PCIe socket (USB 2.0, PCIe 3.0) for WiFi, BOM option M.2 3042/3050/3052 Key B socket (USB 2.0, USB 3.2 Gen 2) for LTE/5G NR module with 2 x external Nano-SIM

GNSS and On Board Sensor
- 1 x Default u-blox NEO-M9N GNSS module for GPS/Glonass/QZSS/ Galileo/Beidou
- Optional M9V modules with dead reckoning available
- G Sensor (3-axis, 10-bit resolution)

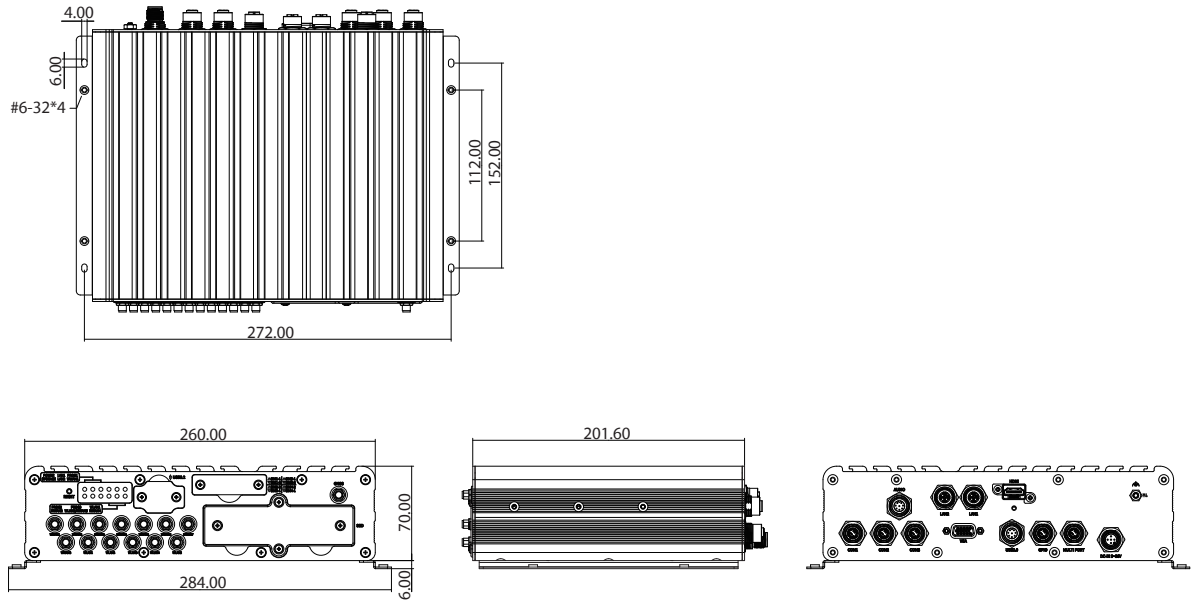
LAN
- 2-Port LAN, 10/100/1000/2500 Mbps I226-IT Ethernet Controller

Security
- TPM 2.0: Infineon SLB9670VQ2.0

I/O Interface-Front
- 12 x LED indicators (including 3 x programmable LED)
- 8 x Externally accessible Nano-SIM card sockets with cover
- 1 x 2.5" SATA 3.0 SSD tray (removable, 15mm)
- 1 x Reset button
- 2 x USB 3.2 (Gen 2) type A
- 14 x SMA antenna

I/O Interface-Rear
- 1 x M12 5-pin A-code DC Input with ignition, 9~36V DC-in + ignition + GND
- 2 x M12 X-coded LAN port, 10/100/1000/2500 Mbps
- 1 x M12 (USB2.0) A-coded with two USB 2.0
- 1 x M12 A-coded (AUDIO) for Mic-in, 1 x Line-out, 1 x Line-In
- 1 x VGA, 1 x HDMI 2.0
- 2 x M12 A-coded (COM1, COM2) for selectable RS232/422/485 Full
- 1 x M12 A-coded (COM3) for RS232 Full
- 1 x M12 A-coded (MULTI PORT)
  - 1 x CAN FD (isolated)
  - 1 x GNSS Speed/Direction
  - 12V/2A DC output
  - GND
- 1 x M12 A-coded (GPIO)
  - 4 x DI
  - 4 x DO
  - GND

Dimension Drawing



Power Management & Software Support
- Power input 9~36 VDC
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level power on/off delay time by software
- Support S3/S4 suspend mode
- 10~255 seconds WDT support, setup by software
- SDK (Windows/Linux) including utility and sample code

Operating System
- Windows 10, 11 (64-bit)
- Linux 4.x

Dimensions
- 260.0mm (W) x 201.6mm (D) x 70.0mm (H) (10.24" x 7.94" x 2.75")

Weight
- 2.8kg

Environment
- Operating temperatures:
  - -40°C to 70°C (w/industrial SSD) with air flow
- Storage temperatures: -40°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration
  - IEC 60068-2-64, 2G for SSD
  - Operating: MIL-STD-810H, 514.8C Procedure 1, Category 4
  - Storage: MIL-STD-810H, 514.8E Procedure 1, Category 24
- Shock
  - Operating: MIL-STD-810H, Method 516.8, Procedure I, functional shock=40g
  - Non-operating: MIL-STD-810H, Method 516.8, Procedure V, crash hazard shock test=75g

Standards/Certifications
- CE
- FCC Class A
- E13 mark
- IP66 Compliance

Ordering Information

- **VTC 6231-IP (P/N: 10V00623101X0)**
  Intel Atom® processor x7433RE CPU, 8GB DDR5 SO-DIMM, DC input 9~36 VDC, 1 x VGA, 1 x HDMI, 2 x LAN, 2 x selectable RS232/422/485 Full, 1 x RS232 Full, 8 x GPIO, 2 x USB 3.2, 2 x USB 2.0, Full IP66 protection

We reserve the right to change specifications and product descriptions at any time without prior notice.

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