VTC 6231

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





Main Features

- Intel Atom® x7433RE processor, TDP 9W
- Eight SIM cards + four WWAN modules support
- Built-in u-blox M9N GPS
- Built-in CAN FD
- 1 x External storage (compatible with 9mm disk)
- E-mark conformity
- 3 x M.2 + 2 x Mini PCIe slot expansion
- Wide voltage input DC 9V~36V
- Three video outputs: one VGA, one HDMI®, and one DP
- 1 x Mic in, 1 x Line out, 1 x Line In

Product Overview

The VTC 6231, based on Intel Atom® quad-core processor x7433RE, is specifically comply with stringent E-mark standard in rugged, fanless, and compact mechanism. The VTC 6231 provides complete communication capability between vehicle and computer with build-in CAN FD interface. The VTC 6231 features rich WLAN and WWAN wireless connectivity. With dual SIM cards per modem support, the VTC 6231 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, the VTC 6231 can be waked on by ignition, RTC timer or SMS message remotely. By integrating the variety of I/O ports and dual Mini PCIe slots, three M.2 slots expansibility, up to three screens via VGA, HDMI®, and DP connections, the VTC 6231 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 dual Mini PCIe slots can solve the potential request from the market when needed.

Specifications

Processor
- Intel Atom® x7433RE processor, TDP 9W

Memory
- 1 x DDR5 4800 SO-DIMM, up to 32GB, default 8GB

Display Interface
- 1 x VGA, up to 1920x1200@60Hz
- 1 x HDMI® 2.0, up to 4096x2160@60Hz
- 1 x DP, up to 4096x2160@60Hz

Storage
- 1 x 2.5" SATA 3.0 external SSD (compatible with 9mm drive)
- 1 x mSATA (occupies one Mini PCIe slot)

Expansion Slot
- 2 x M.2 Key B 3042/3050/3052 (USB 2.0, USB 3.2 Gen 2)
  - Support LTE/5G NR modules with 2 x external nano-SIM
- 1 x Full-size Mini PCIe slot (USB 2.0, SATA, PCIe 3.0)
  - Support mSATA (default), BOM option (USB 2.0) for LTE with 2 x external nano-SIM
  - BOM option (USB 2.0, PCIe 3.0) for WLAN, LAN2 will be disabled
- 1 x M.2 Key E 2230 (PCIe 3.0 x1, USB 2.0)
  - BOM optional Mini PCIe (PCIe 3.0 x1, USB 2.0) for Hailo module
- 1 x Full-size Mini PCIe slot (USB 2.0, PCIe 3.0)
  - Support a Wi-Fi module
  - BOM optional M.2 Key B 3042/3050/3052 (USB 2.0, USB 3.2 Gen 2) for an LTE/5G NR module with 2 x external nano-SIM

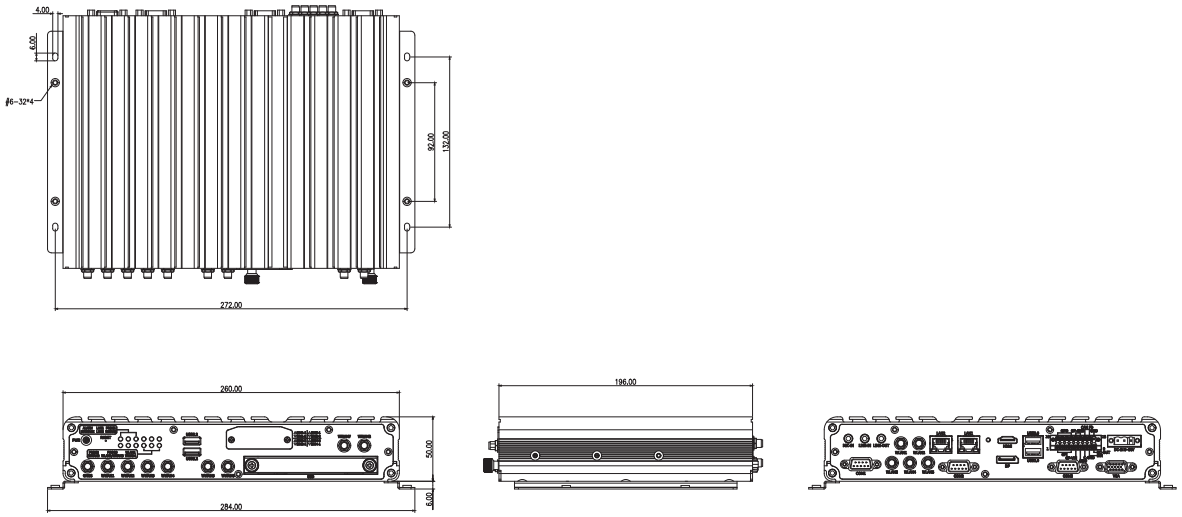
Sensor
- 1 x Default u-blox NEO-M9N GNSS module for GPS/GLONASS/ QZSS/ Galileo/Beidou
- Optional M9V modules with dead reckoning available
- G Sensor (3-axis, 10-bit resolution)

System Capabilities
- TPM 2.0: Infineon SLB 9670VQ2.0

I/O Interface Front
- 12 x LED indicator (including 3 x programmable LED)
- 8 x Externally accessible nano-SIM card slot with cover
- 1 x 2.5" SATA 3.0 SSD tray (removable, 9mm)
- 1 x Reset button
- 1 x Power button
- 2 x USB 3.2 Gen 2, Type-A
- 9 x SMA antenna

I/O Interface Rear
- 1 x 3-pin terminal block for DC 9V~36V power input
- 2 x USB 2.0, Type-A
- 2 x 2.5GbE RJ45 port, Intel® I226-IT
- 1 x Mic in, 1 x Line out, 1 x Line in
- 1 x VGA, 1 x HDMI® 2.0, 1 x DP
- 2 x COM port (DB9, COM1, COM2), supports selectable RS-232 (full)/422/485
- 5 x SMA antenna
- 1 x COM port (DB9, COM3), supports RS-232 (full)

Dimension Drawing



- 1 x 18-pin terminal block
  - 1 x CAN FD (isolated)
  - 4 x DI
  - 4 x DO
  - 1 x GNSS speed/direction
  - DC 12V/2A output
  - GND

Power Management
- DC 9V~36V power input
- 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 11
- Windows 10, 64bit
- Linux 4.x

Mechanical
- Dimensions: 260mm (W) x 196mm (D) x 50mm (H) (10.24" x 7.71" x 1.97")
- Weight: 2.5kg

Environment
- Temperature:
  - -40°C~70°C (w/ industrial SSD) with air flow
  - Storage temperature: -40°C~85°C
- Relative humidity: 10%~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

Certifications
- CE
- FCC Class A
- E13 mark

Ordering Information

- **VTC 6231 (P/N: 10V00623100X0)**
  Intel Atom® x7433RE processor, 8GB DDR5 SO-DIMM, DC 9V~36V input, 1 x VGA, 1 x HDMI®, 1 x DP, 2 x LAN, 2 x Selectable RS-232 (full)/422/485, 1 x RS-232 (full), 8 x GPIO, 2 x USB 3.2, 2 x USB 2.0

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