VTC 1040/1040-C2

Intel Atom® x7213RE Processor
Fanless In-Vehicle Computer





Main Features

- Compact and fanless design
- 1 x Built-in CAN FD
- u-blox NEO-M9N onboard
- 4 x SIM card for WWAN modules
- Smart power management with ignition on/off delay via software control and low voltage protection
- 2 x PoE 802.3af/at, up to total 30W (VTC 1040-C2)
- Certified by CE, FCC, and E13 mark

Product Overview

The VTC 1040 features next-generation Intel Atom® x7213RE processor, with powerful graphic and multimedia enhancement. It offers an onboard CAN FD for vehicle diagnostics & driver behavior management, an advanced GNSS receiver supporting GPS+QZSS/GLONASS/Galileo/Beidou, and an optional dead reckoning. Moreover, for connectivity, it provides WLAN (Wi-Fi 5/6/6E) and WWAN (LTE/5G NR) wireless data. In consideration for convenience, there are four nano-SIMs with an external access design, allowing users to easily access the nano-SIM cards. With a rugged, fanless, and compact enclosure, this fanless computer can be easily installed.

The VTC 1040-C2 provides dual IEEE 802.3af/at PoE functions and is suited for most PoE devices. This includes connecting with wireless access points and IP cameras. Furthermore, an additional DC 12V output can be provided for external display via easy power wire arrangement. The VTC 1040/1040-C2 is a flexible in-vehicle fanless computer that meets the various demands for telematics applications, such as wireless gateway, infotainment, fleet management, dispatching system, AI edge computing, and mobile video surveillance.

Specifications

Processor
- Intel Atom® x7213RE processor, TDP 9W

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

Storage
- 1 x mSATA (occupies one Mini PCIe slot)
- 1 x 2.5" SATA 3.0 SSD (9.5mm)

Expansion Slot
- 1 x Mini PCIe slot (USB 2.0, PCIe 3.0/SATA 3.0)
  - BIOS selectable (USB 2.0 only) for LTE
- 1 x M.2 Key B 3042/3050/3052 (USB 2.0, USB 3.2 Gen 2)
  - Support an LTE/5G NR module with 2 x external nano-SIM
- 1 x M.2 Key E 2230 (USB 2.0, PCIe 3.0) for a Wi-Fi module

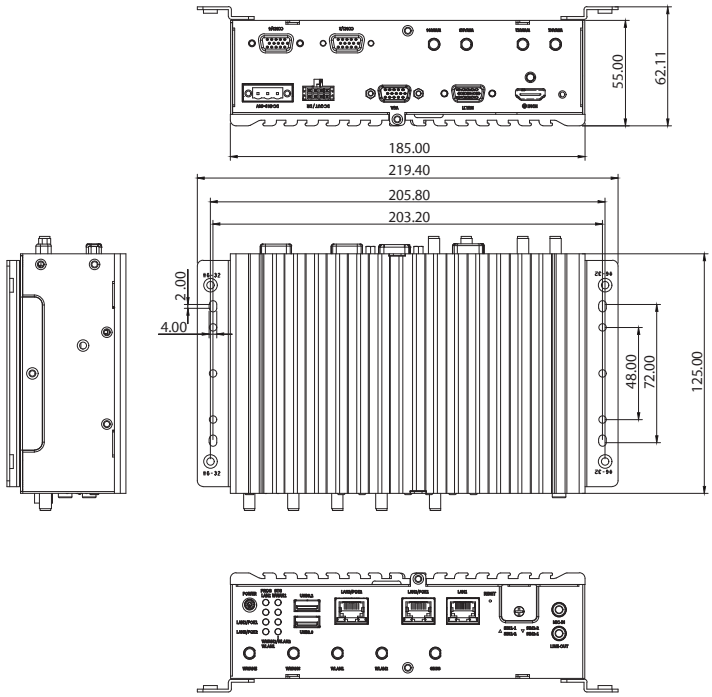
Sensor
- 1 x u-blox NEO-M9N onboard
  - Support GPS+QZSS/GLONASS/Galileo/BeiDou
- Built-in 3D accelerometer and 3D gyroscope

System Capabilities
- TPM 2.0: Infineon SLB 9672VU2.0

I/O Interface Front
- 1 x Power button with LED
- 1 x Reset button
- 8 x LED for WWAN, Wi-Fi, storage, LAN, and PoE
- 4 x nano-SIM slot with cover
- VTC 1040:
  - 3 x 2.5GbE RJ45 port with LED
- VTC 1040-C2:
  - 1 x 2.5GbE RJ45 port with LED
  - 2 x 2.5GbE RJ45 PoE port, 802.3af/at, up to total 30W
- 1 x Mic in, 1 x Line out
- 1 x USB 3.2, 1 x USB 2.0
- 1 x SMA connector for GNSS
- 2 x RP-SMA connector hole for WLAN
- 2 x SMA connector hole for WWAN

I/O Interface Rear
- 1 x 3-pin terminal block for DC 9V~36V power input
- 1 x VGA, up to 1920x1200@60Hz
- 1 x HDMI® 1.4b, up to 3840x2160@30Hz
- 1 x COM port (DB15 female, COM1/2)
  - 1 x RS-232 (full)/422/485
  - 1 x RS-232 Tx/Rx
- 1 x COM port (DB15 female, COM3/4)
  - 1 x RS-232 (full)/422/485
  - 1 x RS-232 Tx/Rx
- 1 x MULTI port (DB15 female)
  - 1 x CAN FD (w/ isolation)
  - 4 x DI, 4 x DO

Dimension Drawing



- 1 x 8-pin (4x2) connector
  - DC 12V/2A output
  - Reset button
  - Power button
  - GPS 1PPS
  - GPS DIR
  - GPS ODO
- 4 x SMA connector hole for WWAN

Operating System

- Windows 11
- Windows 10, 64bit
- Linux 4.x

Mechanical

- Dimensions: 185mm (W) x 125mm (D) x 55mm (H)
- Weight: 1.2kg

Environment

- Temperature:
  - Operating temperature (VTC 1040): -40°C~70°C (w/ industrial SSD) with air flow
  - Operating temperature (VTC 1040-C2): -40°C~60°C (w/ industrial SSD) with air flow
  - Storage temperature: -40°C~85°C
- Humidity: IEC 60068-2-78 (Damp heat steady state test, 40°C/95%/48Hrs)
- Vibration:
  - IEC 60068-2-64, 2G
  - Operating: MIL-STD-810H, 514.8C Procedure 1, Category 4
  - Storage: MIL-STD-810H, 514.8E Procedure 1, Category 24
- Shock
  - MIL-STD-810H, 516.8 Procedure I, trucks and semi-trailers=40g
  - Crash hazard: Procedure V, ground equipment=75g

Certifications

- CE
- FCC Class A
- E13 mark

Ordering Information

- **VTC 1040 (P/N: 10V00104000X0)**
  Intel Atom® x7213RE processor, 8GB DDR5 SO-DIMM, u-blox M9N GPS onboard, 1 x VGA, 1 x HDMI®, 3 x LAN, 2 x RS-232 (full)/422/485, 2 x RS-232 (Tx/Rx), 1 x CAN FD, 4 x DI, 4 x DO, 1 x USB 3.2, 1 x USB 2.0, 1 x Mic in, 1 x Line out
- **VTC 1040-C2 (P/N: 10V00104001X0)**
  Intel Atom® x7213RE processor, 8GB DDR5 SO-DIMM, u-blox M9N GPS onboard, 1 x VGA, 1 x HDMI®, 1 x LAN, 2 x PoE, 2 x RS-232 (full)/422/485, 2 x RS-232 (Tx/Rx), 1 x CAN FD, 4 x DI, 4 x DO, 1 x USB 3.2, 1 x USB 2.0, 1 x Mic in, 1 x Line out

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