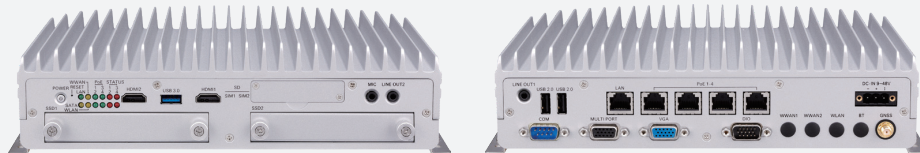# VTC 6222-GCIoT

Google Cloud AI Edge In-Vehicle Solution
with Intel Atom® E3950

Main Features

- Built-in Google Edge TPU ML accelerator coprocessor
- Intel Atom® processor quad core E3950, up to 2.0GHz
- 4 x PoE (802.3af/at, max. 60W)
- Built-in u-blox-M8N GPS
- Built-in CAN Bus 2.0B
- Three video outputs, one VGA and two HDMI

- E Mark conformity
- 3 x mini-PCIe socket expansion
- Dual external storage (compatible with 15mm disk)
- 1 x USB DOM to run OS
- 1 x SD card for exporting and backing up data

Product Overview

VTC 6222-GCIoT, based on Intel Atom® quad core processor E3950 (up to 2.0GHz), is specifically comply with stringent E mark standard in rugged, fanless and compact mechanism. VTC 6222-GCIoT provides complete communication capability between vehicle and computer with build-in CAN BUS 2.0B interface. Equipped with intelligent power management, VTC 6222-GCIoT can be waked on by ignition, RTC timer or SMS message remotely. VTC 6222-GCIoT supports 4 x 802.3at/3af (max. 60W) PoE ports to connect with IP cameras. The design of 2.5" removable SSD and SD memory card helps to access storage easily. VTC 6222-GCIoT keeps the flexibility to meet the demand for video surveillance in vehicle application.

Specifications

CPU
- Intel Atom® processor quad core E3950, up to 2.0GHz, 12W, 4 core

Memory
- 1 x 204-pin DDR3L SO-DIMM socket support 1866MHz up to 8GB. Default 4GB

Google Edge TPU (Coral ML Accelerator Card)
- Hardware interface: mini-PCIe (half size)
- Serial interface: PCIe Gen2 x1
- Performance: 4TOPS @2Watt
- Operating voltage: 3.3V +/- 10 %
- Dimensions: 30mm x 26.8mm x 2.5 mm

Video Output
- Chipset Intel® HD graphics 505
- 2 x HDMI 1.4b up to 4096 x 2160 @30Hz
- 1 x VGA up to 1920 x 1200 @60Hz

Storage
- 2 x 2.5" SSD/HDD SATA 3.0 (compatible with 15mm drive)
- 1 x SD memory card 3.0 (externally accessible)
- 1x USB EDC for USB DOM

Expansion
- 1 x Full size mini-PCIe socket (USB 2.0), BOM optional M.2 Key B (USB2.0 + USB 3.0) with 2 x external SIM
- 1 x Full size mini-PCIe socket (USB 2.0 + PCIe 2.0)
- 1 x Half size mini-PCIe socket (USB 2.0 + PCIe 2.0)

GNSS and On Board Sensor
- 1 x Default U-blox NEO-M8N GNSS for GPS/Glonass/QZSS/Galileo/Beidou
- G Sensor (3-axis, 10-bit resolution)
- TPM 2.0 (optional)

LAN and Power over Ethernet
- 4-Port LAN, 10/100/1000 Mbps I210-IT GbE, PoE 802.3af/at, max. 60W
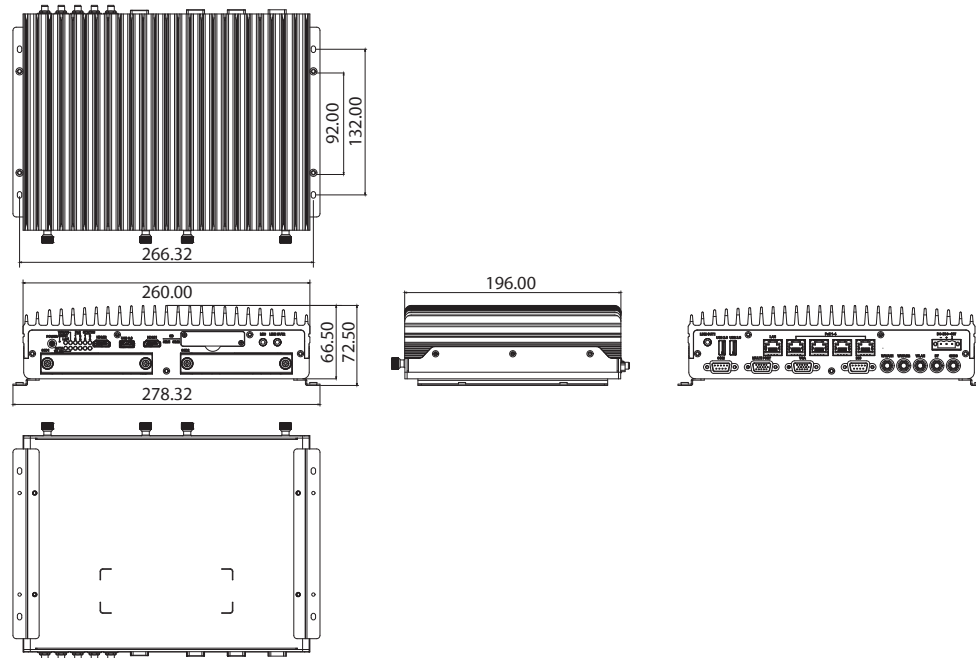- 1-Port LAN, 10/100/1000 Mbps I210-IT GbE

I/O Interface-Front
- 12 x LED indicators (including 3 x programmable LED)
- 2 x Externally accessible SIM card socket with cover
- 2 x 2.5" removable SSD tray
- 1 x Externally accessible SD card socket with cover
- 1 x Reset button
- 1 x Power button

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Dimension Drawing

- 1 x USB 3.0 type A (5V/0.9A)
- 2 x HDMI 1.4b
- 1 x Mic-in, 1 x Line-out

I/O Interface-Rear
- 1 x 3-pin terminal block for 9V~48V DC
- 1 x RJ45 10/100/1000 Mbps
- 4 x PoE 802.3af/at (max. 60W)
- 1 x VGA
- 1 x DB9 full RS-232
- 4 x SMA antenna
- 2 x USB 2.0 type A (5V/0.5A)
- 1 x Line-out
- 1 x DB15 (DIO)
  - 4 x DI with isolation
  - 4 x DO with isolation
  - Vin, GND for GPIO
- 1 x DB15 (MULTI PORT)
  - 1 x RS422/RS485
  - 1 x RS232 (TX/RX)
  - 1 x CAN 2.0B
  - 1 x 12VDC, 2A output (Vout, GND)

Power Management
- Power input 9~48 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
- Debian Linux and other variants

Dimensions
- 260mm (W) x 196mm (D) x 66.5mm (H)

Weight
- 3.2kg

Environment
- Operating temperatures: -20°C~60°C (w/ Google Edge TPU & industrial SSD) with air flow
- Storage temperatures: -40°C to 80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (SSD)
  - Operating: MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure
  - Storage: MIL-STD-810G, Method 514.6, Category 24, minimum integrity test
- Shock (SSD)
  - Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=40g
  - Non-operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

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

Ordering Information

- **VTC 6222-GCIoT (P/N: TBD)**
  Intel Atom® processor E3950 up to 2.0GHz CPU, 4GB DDR3L SO-DIMM, Google Edge TPU, DC input 9~48 VDC, 1 x VGA, 2 x HDMI, 1 x LAN, 4 x PoE, 2 x RS-232, 1 x RS-422/485, 8 x GPIO, 1 x USB 3.0, 2 x USB 2.0

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

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Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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