VTC 6210-R

Intel® Atom™ E3845 Fanless Rolling Stock Computer
with EN50155 Conformity

Microsoft Azure
Certified

Main Features

- Intel® Atom™ processor quad core E3845, 1.91GHz
- Three SIM cards + dual WWAN modules support
- Built-in u-blox-M8 GPS
- Built-in CAN Bus 2.0B
- Wake on RTC/SMS via WWAN moduleWake on RTC/SMS via WWAN module

- EN50155 conformity
- 3 x mini-PCIe socket expansion
- 4 x DI + 4 x DO w/ isolation
- 2 x RS232 + 1 x RS422/485 w/ isolation
- Voice communication via WWAN module
- 3KVDC power isolation protection(VTC6210-RF Only)

Product Overview

VTC 6210-R, based on Intel® Core™ quad core processor E3845 (1.91GHz), is specifically designed for rolling stock environment. It allows VTC 6210-R to comply with stringent EN50155 standard in rugged, fanless and compact mechanism. VTC 6210-R provides complete communication capability between automotive and computer with build-in CAN BUS 2.0B interface. VTC 6210-R features rich PAN, WLAN and WWAN wireless connectivity. With dual SIM cards support, VTC 6210-R allows three SIM cards backup each other for a better connectivity quality by software. In addition, three SIM cards and dual WWAN modules architecture can increase the bandwidth for a faster data transmission speed. Not only data transmission, VTC 6210-R also supports two-way voice communication. Equipped with intelligent power management, VTC 6210-R can be waked on by ignition, RTC timer or SMS message remotely. By integrating the variety of I/O ports and 3 x mini-PCIe sockets expansibility, VTC 6210-R keeps the flexibility to meet the demand for different rolling stock applications, such as infotainment, dispatching system and video surveillance.

Specifications

CPU
- Intel® Atom™ processor quad core E3845, 1.91GHz

Memory
- 1 x 204-pin DDR3L SO-DIMM socket support 1066MHz/1333MHz up to 8GB. Default 2GB

Storage
- 1 x 2.5" SSD/HDD SATA 2.0 (externally accessible, optional lockable storage available)
- 1 x CFast (externally accessible)

Expansion
- 1 x Full size mini-PCIe socket (USB 2.0)
- 1 x Full size mini-PCIe socket (USB 2.0 + PCIe)
- 1 x Full size mini-PCIe socket (USB 2.0 + PCIe)

Function
- 1 x u-blox NEO-M8N module (support GPS/Gloness/QZSS/Galileo/Beidou) or optional module with Reckoning
- Built-In G-sensor

I/O Interface-Front
- 4 x LED for power, storage, WWAN, WLAN
- 2 x Externally accessible SIM card socket (selectable)

- 1 x Phone jack 3.5mm for 1 x Mic-in
- 1 x Phone jack 3.5mm for 1 x Line-out
- 1 x Externally accessible 2.5" SATA 2.0 SSD/HDD tray
- 1 x Externally accessible CFast card socket with cover
- 1 x Reset button
- 1 x Type A USB 3.0 compliant host, supporting system boot up
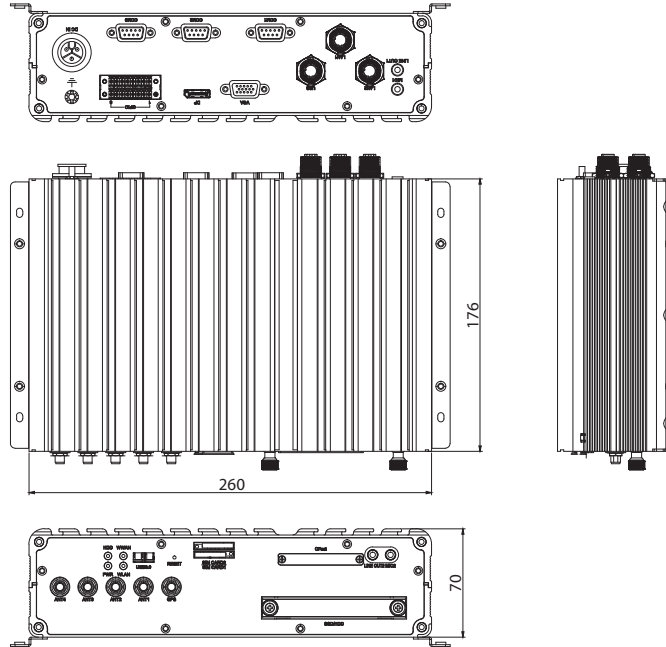- 4 x Antenna hole for WWAN/WLAN/BT
- 1 x Antenna hole for GPS

I/O Interface-Rear
- 1 x Circle Type DC Input 9~60 VDC with ignition and typical 19W power consumption
  - 24 VDC(16.8~31.2V), non-isolation
  - 36 VDC(25.2~46.8V), non-isolation
  - 110 VDC(77~143V), w/ 3KVDC isolation
- 1 x M12 with two USB 2.0 compliant host, supporting system boot up
- 2 x M12 10/100/1000 Ethernet
- 1 x Phone jack 3.5mm for 1 x Mic-in
- 1 x Phone jack 3.5mm for 1 x Line-out
- 1 x DB-15 VGA, resolution up to 2560 x 1600 @60Hz
- 1 x DP port, resolution up to 2560 x 1600 @60H
- 2 x DB-9 RS-232 (isolation)

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Dimension Drawing

- 1 x DB-9 RS-422/485 (isolation)
- 1 x 16-pin terminal block
  - 1 x CAN Bus 2.0B (on board)
  - 4 x DI, 4 x DO with isolation
    Input Voltage (internal type): 5 VDC TTL (default)
    Input Voltage (source type): 3~12 VDC (Programmable Digital output or optional isolation)
    Digital output (sink type): 5 VDC TTL (default), max current: 20mA
    Digital output (source type): 3~19 VDC, max current: 150mA

Power Management
- Ignition On/Off control
- Programmable On/Off delay timer
- System wake up event
  Ignition switch
  RTC timer ALARM interrupt
  Cellular MODEM wakeup signal
- System wake up condition
  Wake up event is triggered, and DC input voltage is greater than UVP threshold
  Timer delay is only applicable for Ignition on
- System power down condition
  Soft off, or Ignition off
- Timer delay is only applicable for Ignition off

Operating System
- Windows 8, WES8
- Window 7, WES7
- Linux kernel 3.X

Dimensions
- 260mm (W) x 176mm (D) x 70mm (H) (10.24" x 6.93" x 2.75")
- Weight: 2.5kg

Environment
- Operating temperatures:
  -40°C to 70°C (w/ industrial SSD) with air flow
  -20°C to 50°C (w/ commercial HDD) with air flow
- Storage temperatures: -40°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)
- Shock (SSD/HDD):
  Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=20g
  Non-operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

Standards/Certifications
- CE approval
- FCC Class A
- EN50155 conformity
  - Ambient Temperature EN 50155 TX (-40 ~ 70° C)
  - Shock and Vibration IEC 61373 class B
  - Interruptions of Voltage Supply Class S1,S2
  - Supply Change Over Class C1,C2
  - EMC EN 50121-3-2

Ordering Information

- **VTC 6210-RA (P/N: 10V00621003X0)**
  Intel® Atom™ processor E3845 1.91GHz CPU, 2GB DDR3L SO-DIMM, DC Input 24/36 VDC w/o isolation, VGA/DP output, 2 LAN, 2 x RS-232, 1 x RS-422/485, 4 x GPIO, 3 x USB

- **VTC 6210-RF (P/N: 10V00621005X0)**
  Intel® Atom™ processor E3845 1.91GHz CPU, 2GB DDR3L SO-DIMM, DC Input 110 VDC w/ isolation, VGA/DP output, 2 LAN, 2 x RS-232, 1 x RS-422/485, 4 x GPIO, 3 x USB

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