VTC 7270

Main Features

- Powered by 12/13th Gen Intel® Core™ i with DDR5, excellent memory bandwidth, lower latency
- Rich I/Os, 2 x 2.5GbE, 1 x GbE, 6 x USB 3.2, 2 x CAN FD & 4 x Serials, (optional: w/ 4 extra 2.5 GbE PoE)
- 2 x 2.5" SSD, 1 x NVMe ultra-speed SSD for data integrity
- Up to 4 WWAN/WLAN combinations for mobile router applications

- Up to two Hailo AI accelerator (26TOPS workload each) computing power as optional
- 9~36V DC-IN with ignition control & OCP/OVP
- Wide range operating temperature of -35°C~70°C (fanless@35W CPU)
- Military standard for anti-vibration/shock
- CE/FCC, UKCA, Emark Certified

Product Overview

The VTC 7270 is an AI-powered in-vehicle telematics computer featured with 12/13th Gen Intel® Core™ i processor to perform 30% more computing power than its predecessor. Its 10-year lifespan support can fulfill any in-vehicle applications such as fleet management, logistics/AMR, ITS, constructions, ANPR, and security surveillance of public transportation, and more.

With its compact, rugged, and fanless design, the VTC 7270 can be widely installed in limited space, withstand harsh environments, and significantly reduce maintenance costs for 24/7 operating time. Additionally, the VTC 7270 features various peripherals, including 2.5GbE, 6 USB 3.2, 2 isolation CAN FD, 4 serial ports, NVMe storage, 5 extension slots, triple displays, and a wide-range 9~36VDC with IGN control, making it a sophisticated AI-aided telemetric computer.

To work as the edge AI, the user can install LTE/5G modems, Wi-Fi 5/6 modules, and one or two Hailo AI accelerators (26TOPS) to deploy AI services collaborating with cloud SaaS. Moreover, the VTC 7270 can operate in harsh environments with temperatures ranging from -35°C to 70°C and comply with MIL-STD-810H military standards for vibration and shock resistance. For regulation compliance, the VTC 7270 complies with CE/FCC classA, UKCA, and Emark (E13).

Specifications

CPU
- 12/13th Gen Intel® Core™ i, Intel® R680E chipset
- Graphics:
  - Intel® UHD Graphics 770, 1.55GHz
  - Max resolution: 4096 x 2160@60Hz (HDMI)
  - DirectX: 12, OpenGL: 4.5

Memory (optional)
- 2 x SO-DIMM, DDR5-4800MHz
- ECC & dual-channel support

Storage
- 2 x 2.5" SSD (15mm height, removable)
- 1 x M.2 2280 Key M (PCIe 4.0 x4), NVMe SSD in default, Hailo AI card (optional)

Expansion Slots
- 1 x mini-PCIe slot (PCIe 3.0, SATA 3.0, USB 2.0), Wi-Fi (default), optional for mSATA
- 1 x mPCIe slot (USB 3.2, PCIe 3.0, SATA 3.0), SIMs support, LTE modem (default), optional for Wi-Fi/mSATA by DIP S/W setting
- 1 x M.2 3042/50/52 Key B socket (USB 3.2/2.0), SIMs support for LTE/5G modem
- 1 x M.2 2230 Key E socket (PCIe 3.0 x 2 & USB 2.0), Wi-Fi (default), Hailo AI card in option

Display
- 1 x HDMI 2.0a/b, up to 3840 x 2160@60Hz
- 1 x VGA, up to 1920 x 1200@60Hz; 1 x DP, 4096x2304@60Hz

2.5GbE
- 2-port independent 2.5GbE, RJ45 connector
  - 9Kbyte Jumbo frame
  - PTP (IEEE 1588) support
  - Controller: Intel® I226-IT
- Additional 4-port 2.5GbE PoE+, PSE 60W in max (options)

GbE/MGT
- 1-port independent GbE, RJ45 connector
  - vPro (iAMT)
  - 9KB Jumbo frame
  - PTP (IEEE 1588) support
  - Wake-up function (WoL)
  - Boot from PXE (Legacy & UEFI)

USB
- 6 x USB 3.2 Gen 2:
  - Host Type-A connector
  - 5V@900mA each
  - Up to 10Gbit/s link speed & compliance with USB 2.0 (LS/FS/HS link speed)

Serial Port
- 2 x Full RS232/422/485
- 2 x Full RS232
- RS232 working voltage, +- 9V, baud rate up to 115.2kb/s
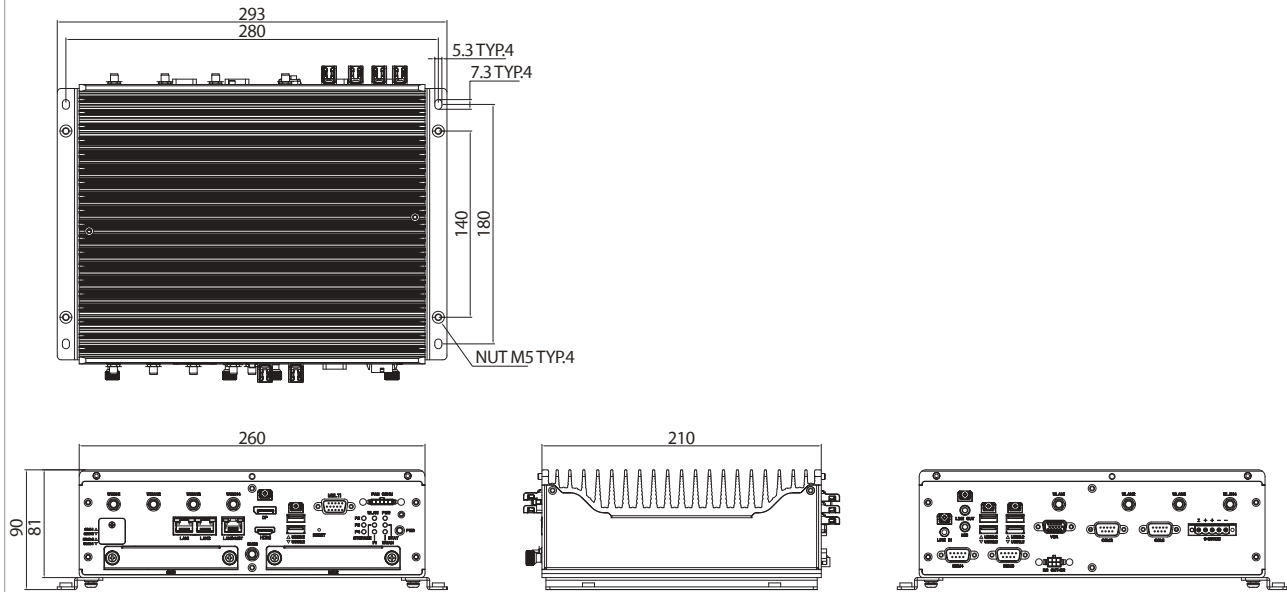- 2-wire/4-wire RS-485 (Baud rate: 300~115.2Kbps)

Security
- TPM 2.0: Infineon SLB9670VQ2.0 FW7.62

Audio & DC-OUT
- Line-out, unbalance stereo, left & right channel
- Line-in & MIC-in, stereo
- DC-OUT: 12VDC@2A

Dimension Drawing

MEMS Sensor
- 3D accelerometer and 3D gyroscope, ST LSM6DSLTR

DI/DO
- 4-bit input
  - Source: 9~36VDC (12V@1.1mA/24V@2.2mA)
  - External: 0~33VDC pull-high, high-level, 3.3 - 33 VDC; low-level, 0 - 2 VDC
- 4-bit output
  - Source: 9~36VDC (nominal 35mA@24V)
  - External: 5~27VDC pull-high, sink current w/ 220mA for each bit, 500mA max (@25C)
- Source or external can be selected by DIP S/W (default: source type)

CAN Bus
- 2 x CAN FD, compatible with CAN2.0A/2.0B
- Up to 5Mb/s in data transmit
- IEC 61000-4-2 Electrostatic Discharge (ESD): ± 4KV/8KV (contact/air)

GNSS
- u-blox NEO-M9N GNSS module for GPS/Gloness/QZSS/Galileo/Beidou
- Optional DR (Dead Reckoning) function, NEO-M9V/M8L

Power Supply
- Nominal voltage: 9~36V
- Cranking voltage: 6V~9V (less than 20 sec)
- OCP & UVP (shut down once exceeding 37V)
- Ignition on/off control & programmable on/off delay timer
- Optional for remote power on/off control

I/O Ports, Front-Plate
- ATX power & reset button
- 9 x LED Indicators
- 4 x Nano SIM slots (SIM1-1, SIM1-2, SIM2-1, SIM2-2)
- 2 x USB3.2 Type A
- 1 x HDMI, 1 x DP
- Fan power connector
- 2 x 2.5GbE (RJ45), 1 x GbE (RJ45)
- 2 x Removable 2.5" SSD bay
- 1 x Multi-port DB15 (4 x DI, 4 x DO, 2 x CAN FD)
- 1 x PR-SMA for GNSS, 2/4 x SMA for LTE/5G ant.

I/O Ports, Rear-Plate
- 2 x RS232 (DB9), 2 x RS232/422/485 (DB9)
- 4 x USB 3.2 type A
- Audio jack for Line-in, Line-out, MIC-in
- 1 x VGA
- 1 x Mini-fit connector (DR signal & DC-OUT)
- 5-pin Phoenix for 9~36VDC-in
- 2/4 x PR-SMA for Wi-Fi ant.

Dimensions & Weight
- 260.0mm x 210.0mm x 81.0mm (w/o mount bracket)
- 293.0mm x 210mm x 90.0mm (w/ mount bracket)
- 5.7kg, 6.8kg (w/ fan kit)

Environment
- Operating temperatures: -35°C~70°C (35W CPU, fanless)
- Operating temperatures: -35°C~70°C (65W CPU, w/ fan)
- Storage temperatures: -40°C~85°C
- Relative humidity: 10%~95% (non-condensing)

Vibration & Shock
- Vibration in operating:
  - MIL-STD-810H, 514.8C Procedure 6, Category 4
  - IEC 60068-2-64: 2.0g@5~500 Hz
- Vibration in storage:
  - MIL-STD-810H, 514.8E Procedure 1, Category 24, 7.7g
- Shock:
  - MIL-STD-810H, 516.8 Procedure I, trucks and semi-trailers=40g
  - Crash hazard: Procedure V, ground equipment=75g

Certifications
- CE approval, FCC Class A, UKCA, E13 Certified

Operating System
- Windows 10 64-bit/ Windows 10 IOT 64-bit, Windows 11
- Linux (Ubuntu 18.04)

Options

CPU			
Model No.	Core	Max Freq.	TDP
Intel® Core™ i9-12900E/12900TE	16c	5.0/4.8GHz	65W/35W
Intel® Core™ i7-12700E/12700TE	12c	4.8/4.6GHz	65W/35W
Intel® Core™ i5-12500E/12500TE	6c	4.5/4.3GHz	65W/35W
Intel® Core™ i3-12100E/12100TE	4c	4.2/4.0GHz	60W/35W
SO-DIMM DDR5-4800MHz			
64GB (in the future)	32GB	16GB	8GB
FAN KIT			
Model No.	Description		P/N
VTK FAN120-01	120mmx120mm 60W heat dissipate		10VK00FAN00X0

Ordering Information

- **VTC 7270 (P/N: 10V00727000X0)**
  12/13th Gen Intel® Core™ i , 2 x 2.5GbE, 1 x GbE, 6 x USB 3.2, 4 x Serials, 2 x 2.5"SSD, 2 x CAN FD, 9~36VDC/IGN