



## Main Features

- Powered by 12/13th Gen Intel® Core™ i with DDR5, excellent memory bandwidth, lower latency
- Rich I/Os, 4/8 x 2.5GbE PoE+, 1 x GbE, 6 x USB 3.2, 2 x CAN FD & 4 x Serials
- Up to 4 WWAN/WLAN combinations for mobile router applications
- 2 x 2.5" SSD, 1 x NVMe ultra-speed SSD for data integrity
- Up to two Hailo AI accelerator (26TOPS workload each) as optional
- 9~36V DC-IN with ignition control & OCP/OVP
- Wide range operating temperature of -40°C~65°C (fanless@35W CPU)
- Military standard for anti-vibration/shock
- CE/FCC, UKCA, Emark Certified

## Product Overview

The VTC 7270-C4/C8 is an AI-powered in-vehicle telematics computer featured with Intel® 12/13th Gen 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-C4/C8 can be widely installed in limited space, withstand harsh environments, and significantly reduce maintenance costs for 24/7 operating time. Additionally, the VTC 7270-C4/C8 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-C4/C8 can operate in harsh environments with temperatures ranging from -40°C to 65°C and comply with MIL-STD-810H military standards for vibration and shock resistance. For regulation compliance, the VTC 7270-C4/C8 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 in default, Hailo card in option

### Expansion Slots

- 1 x mPCIe slot (PCIe 3.0, SATA 3.0, USB 2.0), Wi-Fi in default, optional for mSATA module
- 1 x mPCIe slot (USB 3.2, PCIe 3.0, SATA 3.0), SIMs support, LTE (default), Wi-Fi/mSATA in option 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 3030 Key E socket (PCIe 3.0 x 2 & USB 2.0), Wi-Fi (default), Hailo card (option)

### Display

- 1 x HDMI 2.0a/b, up to 3840x2160@60Hz
- 1 x VGA, up to 1920x1200@60Hz; 1 x DP, 4096x2304@60Hz

### 2.5GbE PoE+

- 4-port independent 2.5GbE, RJ45 connector
  - IEEE 802.3af/at, total 60W

- 9Kbyte Jumbo frame
- PTP (IEEE 1588) support
- Controller: Intel® I226-IT
- Additional 4-port 2.5GbE PoE, 60W, VTC 7270-C8

### GbE/MGT

- 1-port independent GbE, RJ45 connector
  - vPro (iAMT) support (option)
  - 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

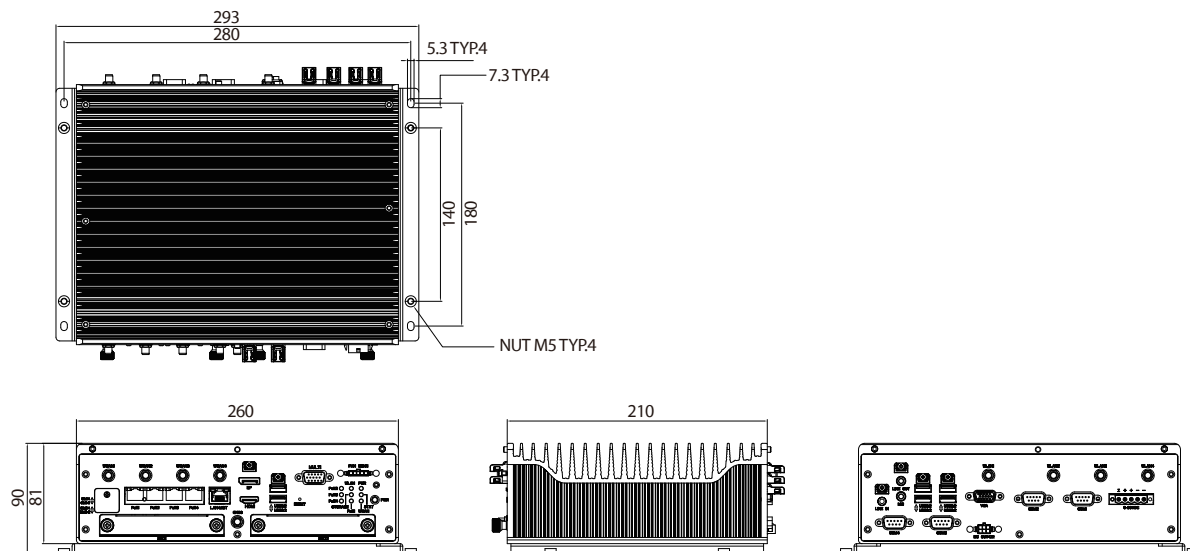
### Audio & DC-OUT

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

### MEMS Sensor

- 3D accelerometer and 3D gyroscope, ST LSM6DSLTR

## Dimension Drawing



### DI/DO (isolation)

- 4-bit input
  - Source: 9~36VDC (12V@1.1mA/24V@2.2mA)
  - External: 0~33VDC pull-high, high/low level 3.3 – 33/0 - 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, 2.5KV isolated
- IEC 61000-4-2 Electrostatic Discharge (ESD):  $\pm 4\text{KV}/8\text{KV}$  (contact/air)

### GNSS

- u-blox NEO-M9N GNSS module for GPS/Glonass/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 USB 3.2 Type A
- 1 x HDMI, 1 x DP
- Fan power connector
- 4 x 2.5GbE PoE (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
- 5-pin Phoenix for 9~36VDC-in
- 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: -40°C~60°C/65°C (35W CPU, fanless, 120W/60W PoE)
- Operating temperatures: -40°C~60°C/65°C (65W CPU, w/ fan, 120W/60W PoE)
- 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	Freq.	TDP
Intel® Core™ i9-12900E/12900TE	16c	3.2/2.1GHz	60W/35W
Intel® Core™ i7-12700E/12700TE	12c	3.0/1.9GHz	65W/35W
Intel® Core™ i5-12500E/12500TE	6c	2.1/1.4GHz	65W/35W
Intel® Core™ i3-12100E/12100TE	4c	2.3/1.1GHz	65W/35W
SO-DIMM DDR5-4800MHZ-DIMM DDR5-4800MH			
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-C4 (P/N: 10V00727001X0)**  
12/13th Gen Intel® Core™, 4 x 2.5GbE PoE+, 1 x GbE, 6 x USB 3.2, 4 x Serials, 2 x 2.5"SSD, 2 x CAN FD, 9~36VDC/IGN
- VTC 7270-C8 (P/N: 10V00727002X0)**  
12/13th Gen Intel® Core™, 8 x 2.5GbE PoE+, 1 x GbE, 6 x USB 3.2, 4 x Serials, 2 x 2.5"SSD, 2 x CAN FD, 9~36VDC/IGN