

In-Vehicle Computing

# Nuvo-2510VTC

## Intel® Atom™ Bay Trail In-Vehicle Fanless Computer with 2x IEEE 802.3at PoE+ Ports



### Features

- Intel® Atom™ Bay Trail E3845 quad-core processor
- Dual mPCIe and USIM sockets for 3G, LTE, WLAN, BT or GPS modules
- Dual storage with 1x mSATA and 1x SATA
- Intelligent ignition power control
- 1x CAN bus port with compliance to CAN 2.0A and CAN 2.0B
- 8 to 35VDC wide-range DC input
- Operating temperature from -25° to 70°C
- Patented damping bracket\* increases stability with HDD

### Introduction

Nuvo-2510VTC is an in-vehicle fanless computer with Intel® Atom™ E3845 quad-core processor. Equipped with 2 IEEE 802.3at Gigabit Ethernet ports, Nuvo-2510VTC is capable of directly driving 25W GigE and PoE IP cameras with a single standard CAT-5e. Along with intelligent ignition power control and built-in CAN bus, Nuvo-2510VTC is ideal for light-weight mobile applications, such as mobile NVR and mobile APNR. Designed for in-vehicle applications, Nuvo-2510VTC supports wide-range DC input, and thus can be directly powered by 12VDC or 24VDC vehicle battery. It features intelligent ignition power control with selectable on and off delay and battery voltage monitoring. Nuvo-2510VTC also supports one built-in CAN bus port with compliance to CAN 2.0A and CAN 2.0B. The CAN bus is the foundation of many different kinds of vehicles protocols. Nuvo-2510VTC provides 2 PoE+ Gigabit Ethernet ports and 1 USB3.0 port for industry cameras and IP cameras. Besides, 4 serial ports and 3 USB2.0 ports are available. For mobile applications which require data transmission, Nuvo-2510VTC is possible to install two 3G/4G modules with USIMs in its 2 mini PCI Express (mPCIe) sockets. Nuvo-2510VTC is ideal for your versatile in-vehicle applications.

### Product Highlights

#### High Value Fanless Computer

Equipped with Intel® Bay Trail quad-core processor, Nuvo-2510VTC shows much higher performance than previous Atom D2550 computers. This provides adequate computing power for many light-weight applications with reasonable cost. With TDP, thermal design power, of the on-board processor is only 10W, as well as the wide range DC input, Nuvo-2510VTC is also good for battery-powered applications. Moreover, many value-added features, such as shock-absorbing mounting, ignition power control, wide operating temperature, wide-range DC input, are designed in. Whether for in-vehicle or general purpose applications, Nuvo-2510VTC is really a high value industrial fanless computer.

#### Built-in CAN Bus Port

CAN bus is a vehicle bus standard allowing the in-vehicle devices to communicate with each other without a host, and is widely used in different vehicles nowadays. Nuvo-2510VTC provides built-in CAN bus port. The built-in CAN bus supports the bit rate up to 1Mbps and both CAN2.0A and CAN2.0B. These two frame formats forms the Data Link Layer and Physical Layer of many CAN-based HLP, Higher Layer Protocols, such as ISO TP, J1939 and OBD. The built-in CAN bus is provided with SDK facilitating sending and receiving CAN bus messages with configurable CAN bus identifier. By assigning different identifier and data byte, Nuvo-2510VTC is possible to handle different CAN-base HLPs.



#### Ignition Control and Voltage Monitoring

The DC input of Nuvo-2510VTC ranges from 8V to 35V. Besides of AC-DC power supplies for general purpose usages, both 12VDC and 24VDC vehicle batteries can directly power Nuvo-2510VTC for in-vehicle applications. The built-in micro-controller turns on and off the system with a selectable delay correlated with the vehicle ignition signal. Nuvo-2510VTC also monitors the battery voltage power and turns itself off in case of low voltage.

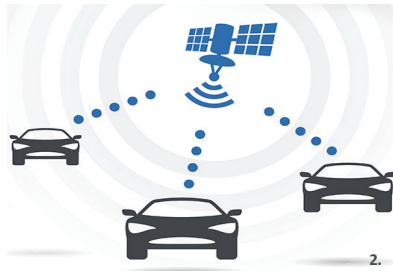


#### 2x IEEE 802.3at PoE+ Ports

Nuvo-2510VTC integrates 2 Gigabit PoE+ PSE ports compliant with IEEE 802.3at standard. Each port can deliver power up to 25.5W and simultaneously transfer data up to 1000 Mb/s over a single CAT-5e/CAT-6 cable. The built-in PoE+ ports support per-port on/off. The per-port on/off feature allows you to reset the connected PoE PD devices. The highly integrated design, moreover, allows Nuvo-2510VTC to effectively manage the heat which PoE circuit generates and consequently makes Nuvo-2510VTC a very stable fanless computer equipped with PoE+ PSE ports.

\* R.O.C Patent No.M491752

## Applications



- 1. Mobile NVR
- 2. In-Vehicle infotainment
- 3. Fleet Management System
- 4. Mobile ANPR

## Specifications

System Core		Expansion Bus	
Processor	Intel® Atom™ Bay Trail E3845 quad-core processor (1.91 GHz, 2M cache)	Mini PCI-E	1x full-sized mini PCI Express socket with USIM socket (PCIe + USB) 1x full-sized mini PCI Express socket with external USIM socket (USB)
Graphics	Integrated Intel® HD Graphics	<b>Power Supply</b>	
Memory	1x 204-pin SO-DIMM socket, up to 8GB DDR3L 1333MHz SDRAM	DC Input	8~35V DC
<b>Front Panel I/O Interface</b>		<b>Mechanical</b>	
PoE Port	2x IEEE 802.3at (25.5W) Gigabit Ethernet ports by Intel I210	Dimension	205 mm (W) x 146 mm (D) x 44 mm (H)
Video Port	1x DB-15 connector for analog RGB, supporting 2560 x 1600 resolution	Weight	1.9 kg (including one 2.5" HDD and DDR3 SO-DIMM)
Serial Port	2x software-programmable RS-232/422/485 (COM1 & COM2)	Mounting	Patented shock-absorbing wall-mounting (standard) or DIN-Rail mounting (optional)
USB	1x USB 3.0 port and 3x USB 2.0 ports	<b>Environmental</b>	
Power Input	1x 3-pin pluggable terminal block for ignition signal and DC input	Operating Temperature	-25°C ~ 70°C with SSD, 100% CPU loading **/*** -10°C ~ 50°C with HDD, 100% CPU loading **/***
<b>Back Panel I/O Interface</b>		Storage Temperature	-40°C ~ 85°C
Video Port	1x DVI-I connector with DVI-D output, supporting 2560 x 1600 resolution	Humidity	10%~90% , non-condensing
Audio	1x Mic-in, 1x Speaker-out	Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes(w/ SSD, according to IEC60068-2-64)
Series Port	2x RS-232 (COM3 & COM4)	Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
CAN Bus	1x DB-9 connector for CAN Bus communications	Certification	E-Mark for vehicle applications (To Be Certified) CE/FCC Class A, according to EN 55022 & EN 55024
<b>Storage Interface</b>		** The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neosys Technology	
SATA HDD	1x Internal SATA port for 2.5" HDD/SSD installation	*** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.	
mSATA	1x internal half-sized mSATA (SATA + USB)		

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## Order Information

### Nuvo-2510VTC

Intel® Atom™ Bay Trail E3845 In-Vehicle Fanless Computer with 2x IEEE 802.3at PoE+ Ports

**60W AC/DC power adapter with 12V, 5A DC output**

**Option of DIN-rail mounting kit**



## 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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