



COMMITTED TO CUSTOMER SUCCESS



Think Big,
Think IoV

2021 Mobile Computing Solutions Product Selection Guide

www.nexcom.com



IOT Solutions
Alliance

Our Product Portfolio

Product Series

- AI Edge Telematics Solution
- Vehicle Telematics Computer
- Railway Computer
- Vehicle Mount Computer
- Modular Vehicle Computer System
- Vehicle Mount Display
- In-Vehicle Networking



VTC Series

In-Vehicle Computer

- General purpose, high-performance telematics computer
- 5G/LTE, Wi-Fi, BT, CAN/OBD, GPS + DR, POE, and multi-SIM integration
- IP protection
- NEXCOM proprietary power management
- AI applications with add-on GPU card
- Backup battery



VMC Series

Rugged Vehicle Terminal

- Driver's operational display
- Designed for outdoor applications
- Full IP65 certification
- IK08-rated screens
- Vibration-, shock-, dust-, and water-resistant
- 5G/LTE, Wi-Fi, CAN/OBD, GPS + DR



MVS Series

Modular Vehicle Computer Systems

- Modular CPU board + I/O board + expandable I/O board
- Flexible integration of LTE, Wi-Fi, BT, POE, and other I/Os
- Easy customization of different I/O interfaces, with quick respins for faster time-to-market



nROK Series

Railway Computer

- Fanless and rugged design
- 5G/LTE, Wi-Fi, BT, CAN/OBD, GPS + DR, POE, and multi-SIM integration
- Optional isolated 24~110VDC power input
- AI applications with add-on GPU cards
- EN50155 & EN45545 certifications



ATC Series

Advanced Telematics Computer w/ GPU

- Designed for AI applications: ANPR, video analytics, and autonomous driving
- Selected NVIDIA GPU, Google TPU, and Intel VPU add-ons
- 5G/LTE, Wi-Fi, BT, CAN/OBD, GPS + DR, PoE, and multi-SIM integration



PoE and 10G LAN Solutions

- 2 to 8 PoE ports for entry-level to high-end VTC/MVS/ATC/nROK models
- Designed for video surveillance, ANPR, and video analytics applications
- 802.3af/at compliance with RJ45 or M12 connector (D, A, X-coded)
- Mobile PoE switches and cards



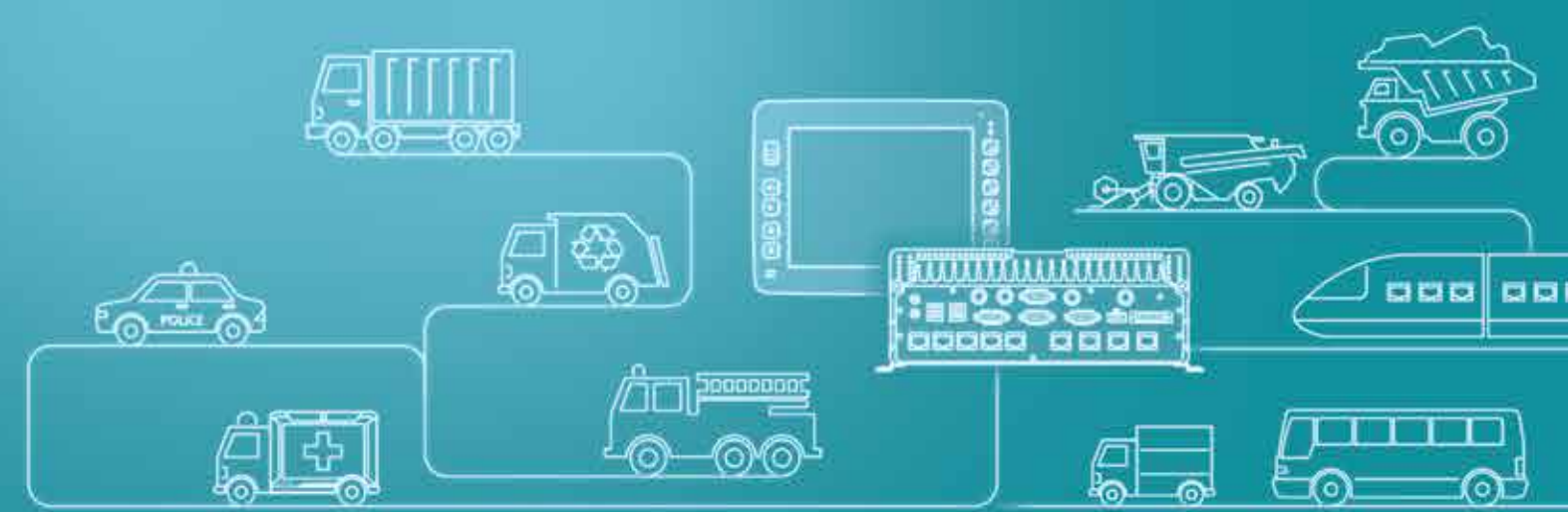
IP Solutions

- IP65~IP67 protection against water and dust
- Compact and robust design to withstand tough environments
- Reliability and longevity for critical applications



Our Core Competence -

Building a Foundation for Interconnected IoV and Value-Added Innovation



Computing Design Capability

Computing power drives vehicle applications, which is why NEXCOM offers a wide range of computing platforms to meet different vehicle needs

- RISC platform (NXP i.MX6, i.MX8, Rockchip)
- Intel Atom® platform (Baytrail, Apollo Lake, Elkhart Lake)
- Intel® Core™ i platform (Core i 8th, 9th, 12th Gen)
- Intel® high-end Xeon® platform

Specialization in AI Technology

- Specialize in NVIDIA® (PCIe x 16), Intel® Movidius™ (MXM, PCIe x 4, mini-PCIe) and Google Coral (M.2, mini-PCIe) AI accelerators
- Support partners to drive deeper customer engagement in AI + mobile edge computing applications
- Provide edge processing and AI capabilities to software partners/developers to innovate and create new business models

RF Communication Expansion

For the array of wireless usage cases, NEXCOM specializes in RF communication expansion, providing a comprehensive series of proprietary mini-PCIe/M.2 modules that, when incorporated in NEXCOM's Mobile Computing Solution platforms, allow users maximum flexibility in optimizing vehicle configurations

- GNSS (RTK, Dead reckoning)
- DSRC/C-V2X, LoRa
- NB-IoT, 4G LTE, 5G NR
- Wi-Fi 6

Premium Design

Over 20 years of experience in designing rugged devices and over 10 in vehicle/railway computers

Reliability Quality

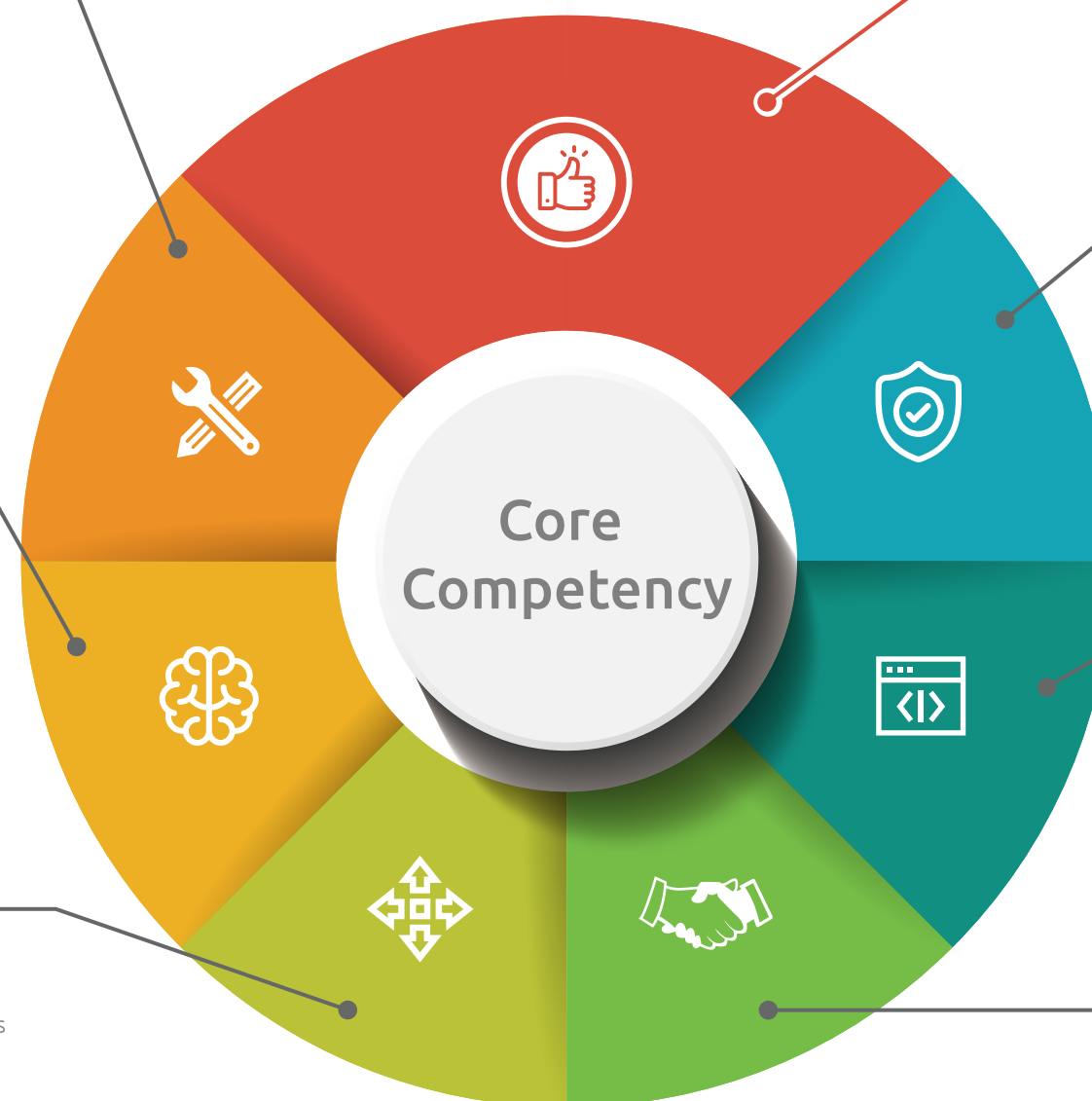
- Fanless design and IP67 protection for extreme environmental conditions
- IK08 impact resistance rating on external mechanics
- Meets CISPR25 standard
- Vehicle (E-Mark) and railway (EN50155, EN45545) certifications
- CE EMC (Electromagnetic Compatibility) and FCC conducted and radiated emissions certifications
- Increasingly more certifications (Safety, RED, LVD, MIL-STD-810, etc.)

Software Solutions

- SDK (API, programming guide, demo AP) support for Linux, Android and Windows OS
- BSP (bootloader, kernel driver, OS (Android, Yocto, Ubuntu))
- MCU (customized MCU for small quantities)
- BIOS (customized BIOS for small quantities)
- Secure System Development (TPM, Secure Boot, Boot Guard)

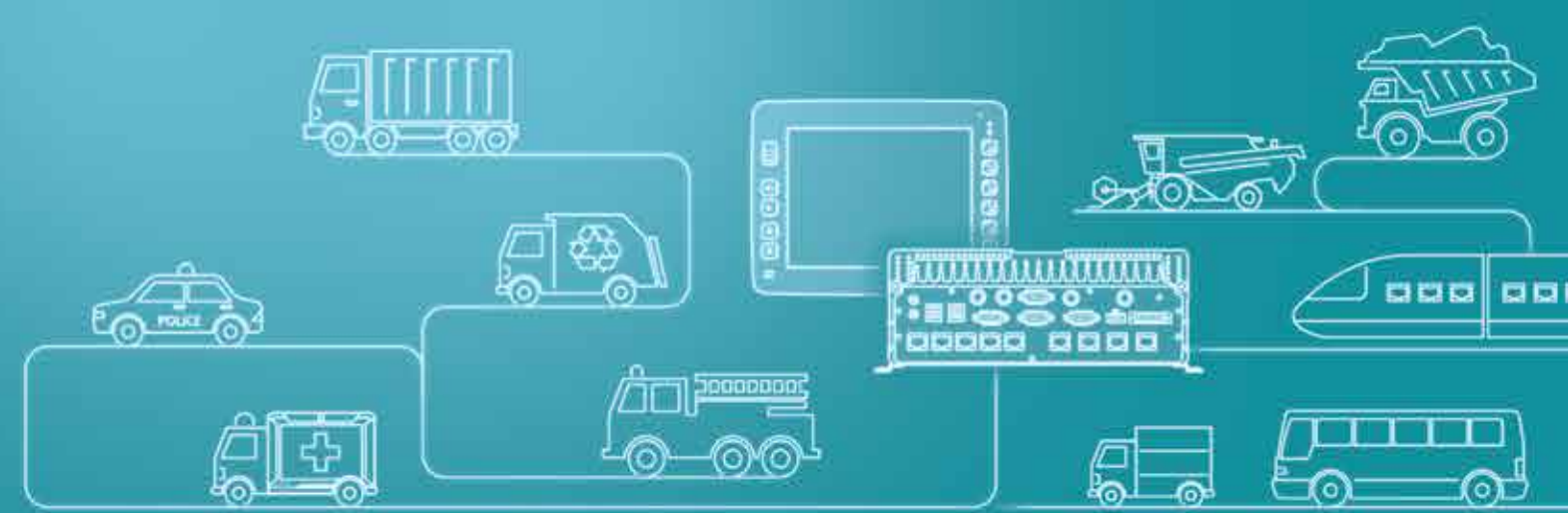
OEM/ODM Services

- Over 20 years of experience in industrial-grade computer design and manufacturing
- Seasoned design capabilities in customizing system and software integration
- Certificated, 100%-owned manufacturing facilities in Taiwan
- Expertise in mobile transport technologies, with vertical domain know-how
- Acceptance of small to medium quantities, with fast time-to-market delivery



Core Competency : Premium Design

For Rugged Devices and Vehicle/Railway Computers



Uninterrupted Power Means Uninterrupted Operations

External Battery

Intelligent and rechargeable battery kit provides uninterrupted power and capacity information via RS-232 and SMBus interface



Internal Battery

Optional intelligent and rechargeable internal battery provides uninterrupted power for 10 to 15 minutes



Internal SuperCap

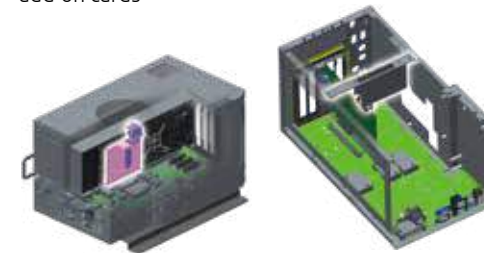
Built-in supercap for 3-second protection against temporary voltage dips



Sturdy System for Securing Cards While Driving

Fixture Design for GPU and PCIe Cards

- Avoids vibration issues, absorbing 2.0g at 5 to 500Hz (SSD + graphics card)
- Supports a variety of graphic cards and PCIe add-on cards



Damping Bracket

- Optional damping bracket enhances anti-vibration capabilities for HDD, GPU, and PCIe cards
- Absorbs 1.6g at 5 to 500Hz (HDD + graphics card)



Smart and Effective Cooling System

Smart Fan

- Power efficient: RPM adjusts to temperature changes
- Quiet: lower speeds at lower temperatures
- Convenient: easy setup in BIOS
- Highly reliable: longer lifetime



Heat Pipe and Heatsink

- More efficient thermal conductivity with copper pipe
- Better heat dissipation with heatsink dedicated to high-temperature components



Diverse Camera Input Interface for Video Capture

PoE Port

- PoE 802.3af/at, max. 25W per port
- Choice of M12 X-coded or RJ45
- Independent 10/100/1000 Mbps
- LAN and power isolation avoids LOM system damage from transient surges



Fakra with MIPI Port

- Supports MIPI camera input with FAKRA, 1080p60 2M pixel
- SerDes V-by-One technology
- Uncompressed video data over 15m
- Transmission of up to 1.2Gbps per CSI-2 data lane



CVBS Port

- Supports mini-PCIe capture module and analog camera with H.264 compression
- HD capture solution
 - Video input for 1 × SDI, 1 × HDMI, 1 × DVI-I, 1 × YPbPr
 - Video format for 3G-SDI, HD-SDI, SD-SDI
- SD capture solution
 - Video input for CVBS
 - Video format for NTSC, PAL



Strong Ingress Protection: IP65/IP67

Dustproof and Water Resistant

- Protects against dust and water from cleaning or accidents
- Mechanical casings prevent intrusion and accidental contact
- Inhibits deterioration and damage due to moisture and atmospheric contaminants



Internet of Vehicles (IoV) -

Creating a Fully-encompassing Car Ecosystem Through IoV Innovation

Build Your Next-Gen Mobile Computing Solutions



Enable smart transportation and traffic infrastructure with AI inference



Connect to next-gen wireless 5G NR, Wi-Fi 6, DSRC/C-V2X network technologies



Perform intelligent surveillance with event prediction and detection

AI Edge Computing
AI Vision for Inspection/People Counting



AI Edge Computing
Autonomous Driving/ADAS



First Response
AI for ANPR & Facial Recognition



Smart Public Transit
Infotainment & PIS



Smart Public Transit
Intelligent Video Surveillance



Smart Public Transit
Infotainment & PIS



AI Edge Computing
AI Traffic Control & Magement



Material Handling
Positioning Management



Logistics
Fleet Management



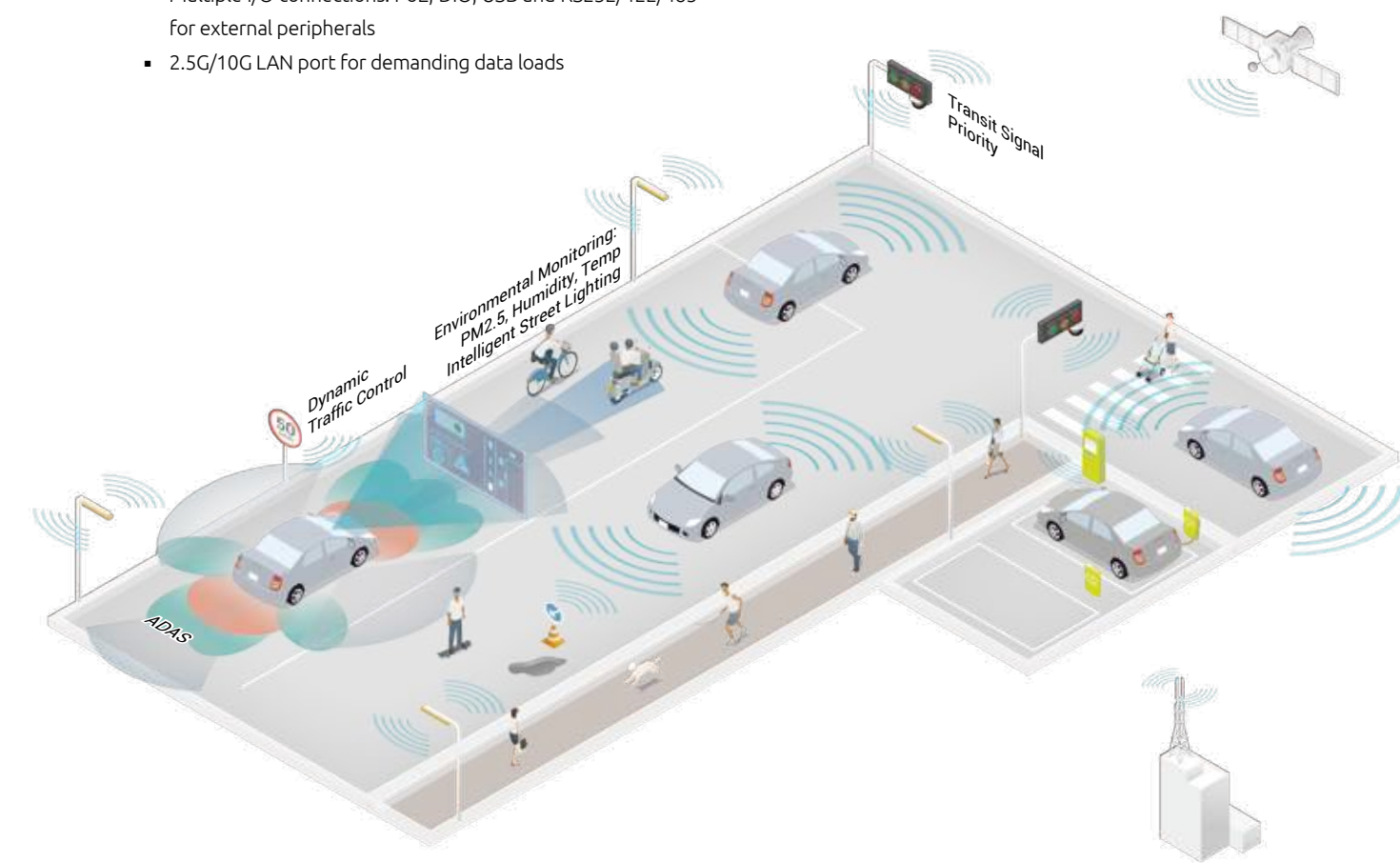
Autonomous Driving -

Deep Learning Makes Autonomous Driving Perceptive and Practical



NEXCOM's Solutions

- Intel® Core™ 8th/9th, 12th Gen. processor with high performance
- Wide selection of GPU engines from NVIDIA's GeForce GTX10/RTX20/RTX30 series, Intel® Movidius™, and Google Coral
- GPU acceleration via MXM (Mobile PCI Express Module) and PCIe x16 cards, specially designed for mobile applications
- Multiple I/O connections: PoE, DIO, USB and RS232/422/485 for external peripherals
- 2.5G/10G LAN port for demanding data loads
- RAID 0, 1, 5 and 10 increase data security and integrity
- Global navigation satellite system (GNSS) and WWAN connections for accurate vehicular positioning



Recommended Models



ATC 8010

- AI Inference, In-Vehicle, Fanless Computer with Intel® Core™ 8th Gen. CPU + Intel® Movidius™ Myriad™ X MA2485 VPU
- Customized NVIDIA® MXM GPU (up to RTX2080)
 - Up to 8 independent GbE PoE+



VTC 7251-7C4

- Fanless In-Vehicle Computer, Intel® Core™ i7-8700T
- 1 x LAN + 4 x independent PoE supported
 - 4 x mini-PCIe + 1 x M.2 Key B expansion slots



ATC 3200

- AIoT Gateway & In-Vehicle Fanless Computer with built-in NVIDIA® Jetson™ TX2 SoM
- Supports 4-CH MIPI SerDes (VBO) cameras (up to 25m cable reach)
 - 2 x GbE (PoE+), CANBus, console



ATC 8110

- AI Powered In-Vehicle Computer, Intel® Coffee Lake S/Refresh
- Add-on NVIDIA graphics card up to RTX3090 (350W)
 - MIL-STD-810G for anti-vibration/shock to protect graphics card

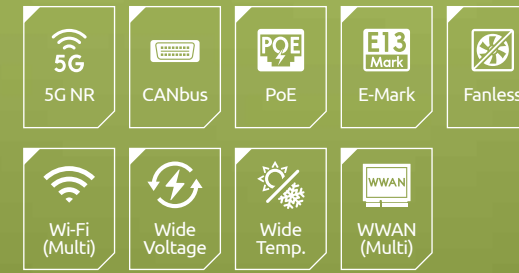
Precision Agriculture Application Requirements

- Flexible design fulfills various AI recognition performance requirements
- Extended connectivity with different peripherals such as MIPI/IP/GigE cameras, light detection and ranging (LiDAR), and radar
- Low-latency signal transmission and rapid cloud computing access
- Built-in NVIDIA® Jetson™ TX2/Xavier NX SOM, up to 21TOPS compute
- Waterproof/dustproof & fanless design for OHV (off highway vehicle) applications
- Rugged design with add-on, built-in GPU module or SoM to sustain vibration and shock for OHV applications
- Precise tracking/positioning through GNSS, RTK, and WWAN



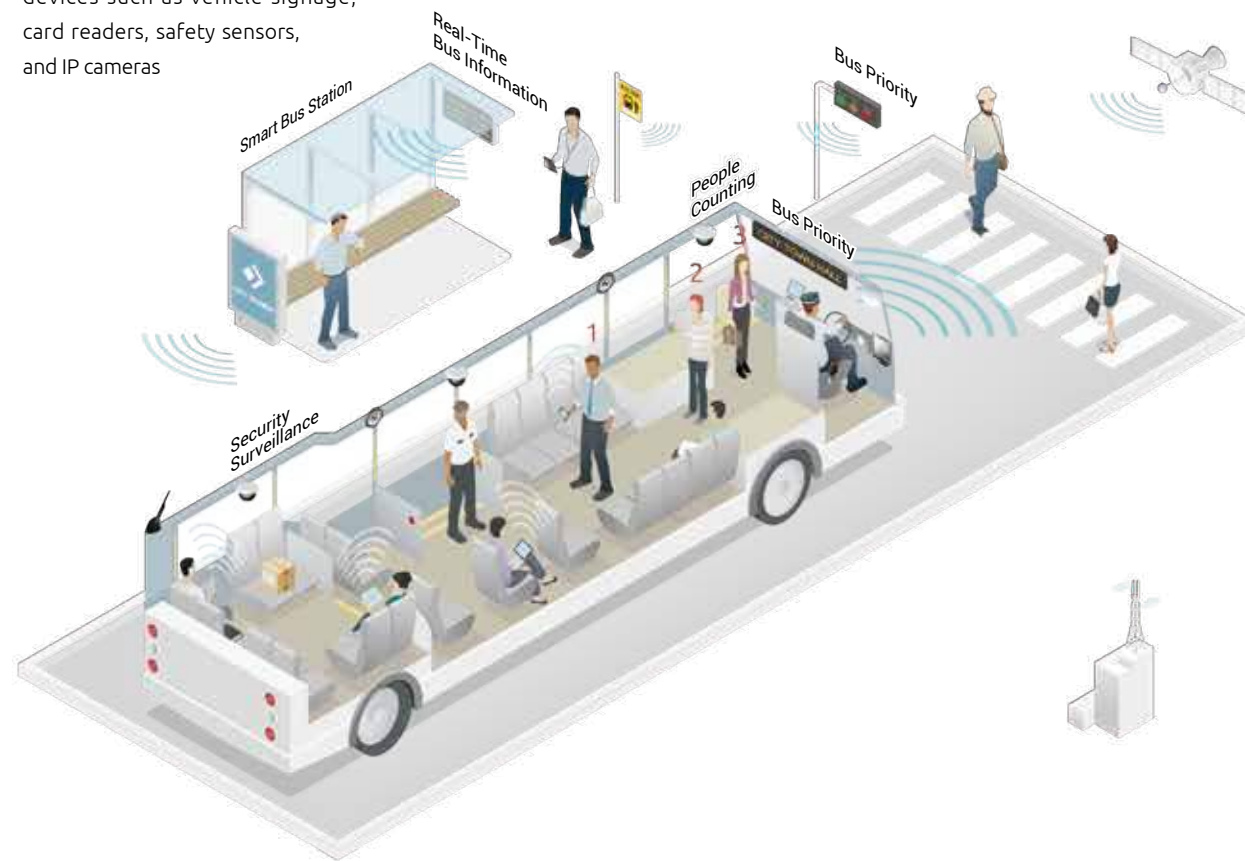
Smart Public Bus Transit -

Take a Ride to a Safe, Green, Fun, and Comfortable Tomorrow



NEXCOM's Solutions

- PC-based, in-vehicle NVRs for real-time surveillance, with live view, recording, and playback features
- Built-in global navigation satellite system (GNSS) with dead reckoning (DR) function for continuous route tracking from remote locations
- Built-in communication ports connect devices such as vehicle signage, card readers, safety sensors, and IP cameras
- Powerful face detection technology enables passenger counting for better management: adjust departure frequency, assign better bus routes, and compute revenue forecasts
- Multiple Wi-Fi and cellular modules, each with multiple SIM slots, act as mobile routers to provide uninterrupted Internet service via various ISPs



Recommended Models



VTC 1021-C2K

- Fanless In-Vehicle Computer, Intel Atom® Quad Core x5-E3940
- 2 x LAN + 2 x independent PoE supported
 - 3 x Expansion slots for various applications



VTC 6220-BK

- Fanless In-Vehicle Computer, Intel Atom® Quad Core x7-E3950
- 2 x WWAN modules + 4 x SIM cards supported
 - VGA/HDMI (ultraONE+ up to 10m or LVDS, by request)



VTC 6221

- Fanless In-Vehicle Computer, Intel Atom® Quad Core x7-E3950714
- 3 x mini-PCle + 2 x M.2 Key B expansion slots
 - 2 x LTE/5G modules supported



VTC 7251-7C4

- Fanless In-Vehicle Computer, Intel® Core™ i7-8700T
- 1 x LAN + 4 x independent PoE supported
 - 4 x mini-PCle + 1 x M.2 Key B expansion slots

eBus Application Requirements

- IoT cloud services allow real-transmission of bus information to command centers, stations, and passenger mobile applications
- Wi-Fi 6 high-speed connection improves passengers' video streaming, social media, and online shopping experiences
- PoE cameras can first capture external images, then combine with Movidius VPU and OpenVINO to perform pedestrian detection and issue collision warnings
- GNSS/DR module can obtain vehicle location whenever needed to ensure vehicle is on course
- Rich I/Os connect to other devices, such as people counters, door sensors, and ticketing machines
- Multi-display (VGA, HDMI) can provide driver monitoring and passenger infotainment



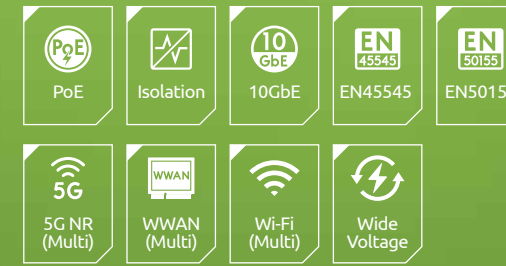
Pedestrian detection

PoE camera for safety

Wi-Fi hot spot

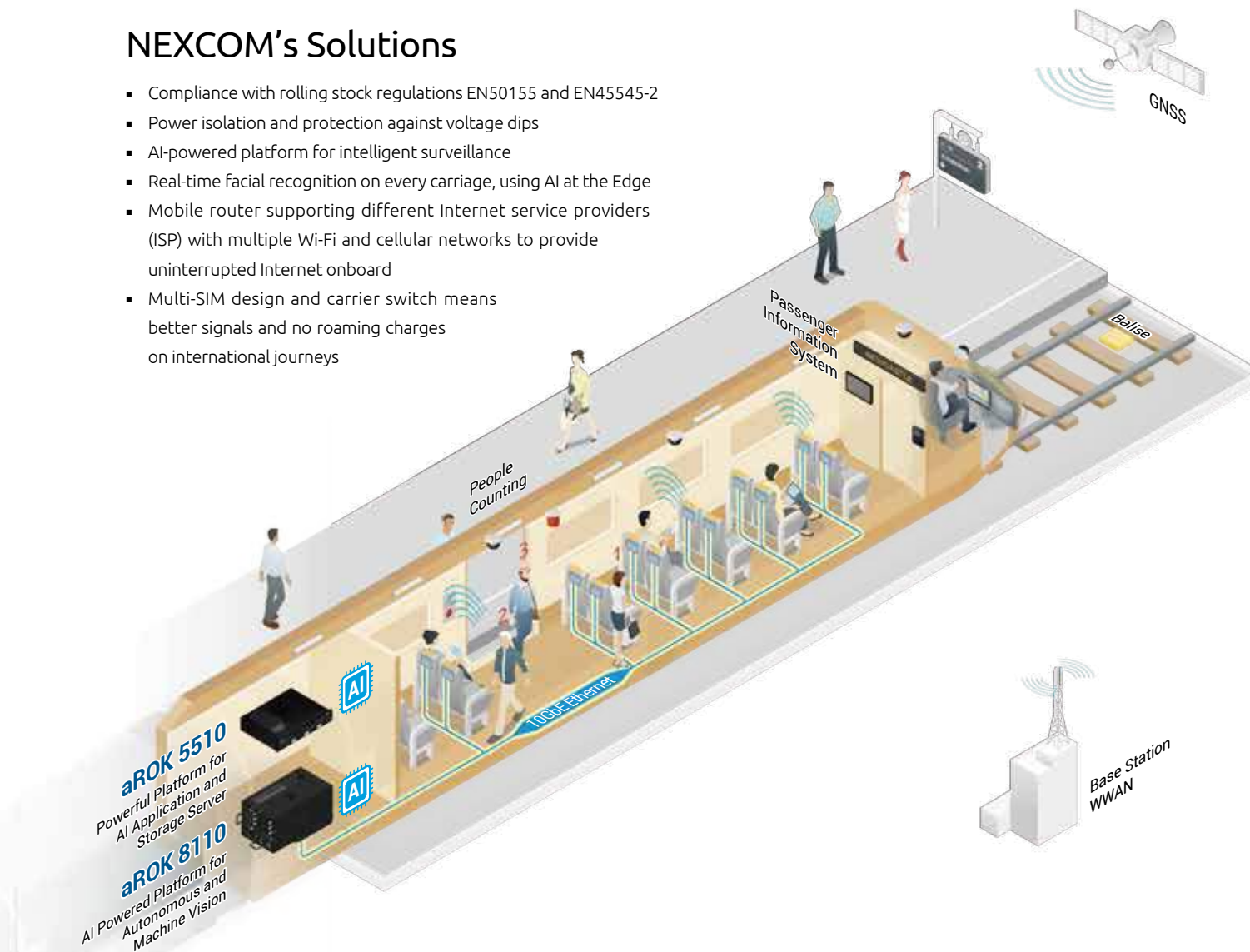
Smart Public Rail Transit -

Telematics for Transportation Security and Efficiency, Plus Passenger Satisfaction



NEXCOM's Solutions

- Compliance with rolling stock regulations EN50155 and EN45545-2
- Power isolation and protection against voltage dips
- AI-powered platform for intelligent surveillance
- Real-time facial recognition on every carriage, using AI at the Edge
- Mobile router supporting different Internet service providers (ISP) with multiple Wi-Fi and cellular networks to provide uninterrupted Internet onboard
- Multi-SIM design and carrier switch means better signals and no roaming charges on international journeys



Recommended Models



nROK 6221

Fanless Rolling Stock Computer, Intel Atom® x7-E3950

- 3 x mini-PCIe + 2 x M.2 socket expansion
- 2 x LTE/5G module supported



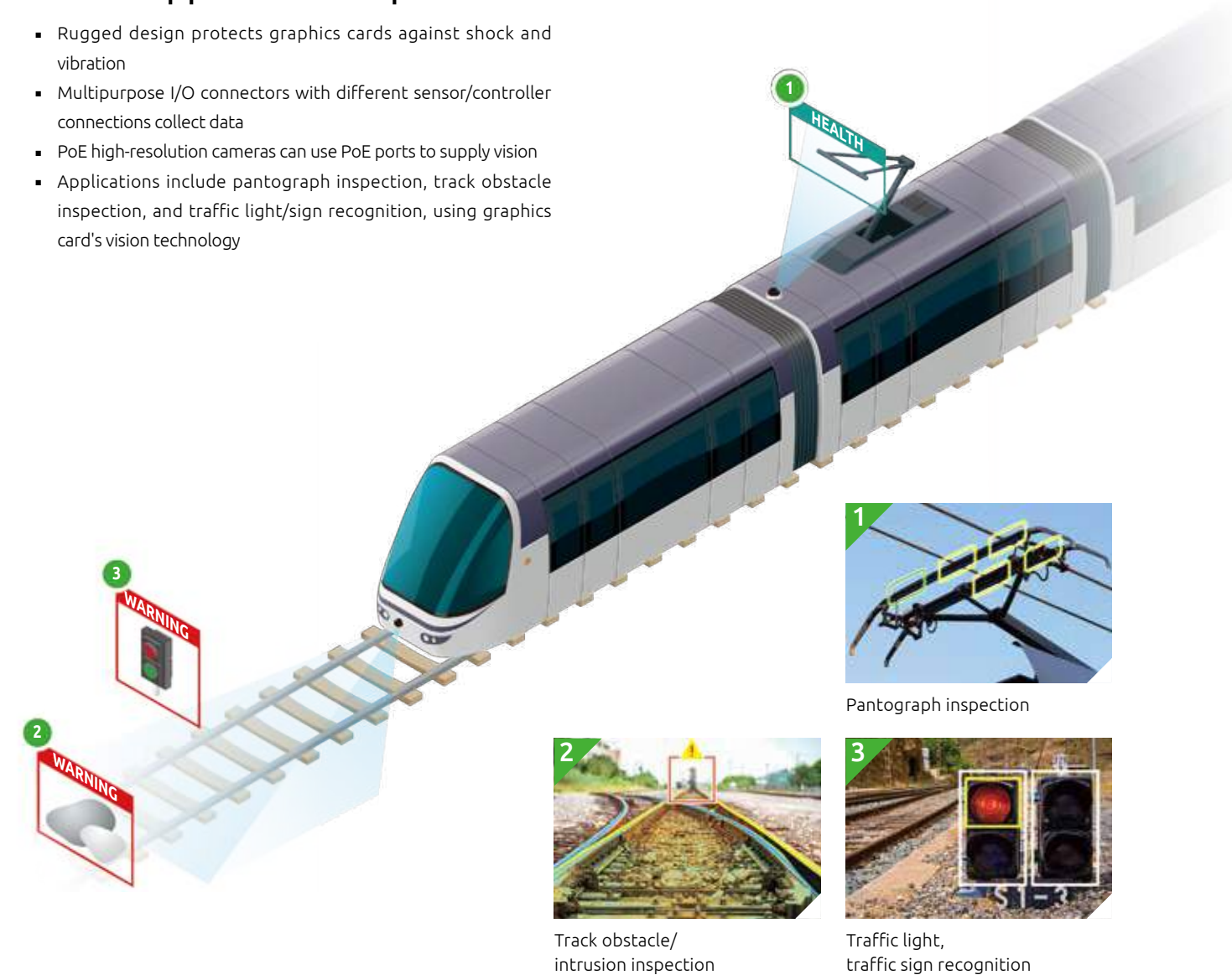
nROK 7251-7A

Fanless Rolling Stock Computer, Intel® Core™ i7-9700TE

- 3 x mini-PCIe + 2 x M.2 Key B slots
- 2 x external SSD/HDD and 2 x mSATA for RAID 0, 1

Vision Application Requirements

- Rugged design protects graphics cards against shock and vibration
- Multipurpose I/O connectors with different sensor/controller connections collect data
- PoE high-resolution cameras can use PoE ports to supply vision
- Applications include pantograph inspection, track obstacle inspection, and traffic light/sign recognition, using graphics card's vision technology



aROK 5510

Powerful Platform for AI Applications, Storage Server, Intel® Core™/Xeon® CPU

- Graphics card supports 3 x mini-PCIe + 3 x M.2 socket expansion
- 6 x external SSD and 1 x PCIe 3.0 x4 NVMe 1.3 SSD supported



aROK 8110

AI Powered for Autonomous and Machine Vision Platform, Intel® Core™/Xeon® CPU

- 4 x PCIe 3.0 slots for discrete graphics/inference/frame grabber cards
- 4 x external storage for 2.5" SSD/M.2/U.2 NVMe SSD

Public Works -

Playing the Key Roles of Enriching the Community and Enhancing the Quality of Life



NEXCOM's Solutions

- The most diverse line of vehicle computers, powered by Intel® processors to quickly handle strenuous tasks
- GNSS tracking and WLAN/WWAN communication with multi-SIM capabilities
- Built-in communication ports, such as USB, COM, GPIO, CANBus, and mini-PCIe, connect peripherals and acquire relevant data
- Extended operating temperature range: -40°C to 70°C
- Rugged design, compact size, and IP65/67 protection for reliable operation in extreme and outdoor environments
- Optional backup battery ensures consistent operation when power supply is unstable
- ultraONE+ technology supports 10-meter video transmission over a single cable



Recommended Models



VMC 2020

- 8" Rugged Vehicle Mount Computer, Intel Atom® Quad x7-E3950
- 1280 x 720 resolution, sunlight readable (1000 nits), PCAP touch screen
 - IP65 water-resistant and IK08 external damage protection ratings



VTC 1911-IPK

- Fanless In-Vehicle Computer, Intel Atom® Single Core E3915
- Telematics IoT gateway with super slim and ruggedized design
 - IP67 water- and dust-resistant rating



VTC 6220-BK

- Fanless In-Vehicle Computer, Intel Atom® Quad Core x7-E3950
- 1 x M.2 Key B & 1 x mini-PCIe for WWAN module + 2 x mini-PCIe for various applications
 - Dual externally accessible 2.5" SSD trays



VTC 7252-7C4IP

- Fanless In-Vehicle Computer, Intel® Core™ i7-9700TE
- 2 x LAN + 4 x independent PoE supported
 - IP65 water- and dust-resistant rating

Garbage Truck Application Requirements

- Fuel savings and reduction of empty runs
- Connection with a variety of sensors for secure operation and control
- Robust design for outdoor and off-road environments
- Compact size to fit limited spaces in cabins
- Precise and real-time vehicle location via AVL technology
- Uninterrupted power for system stability
- Easy wiring installation and maintenance
- IP65 rating means machine reliability and resistance in harsh environments



Savings in waste disposal costs



Capacity optimization



Empty run reductions



Anti-vibration military standard, IP65 rating, and easy maintenance

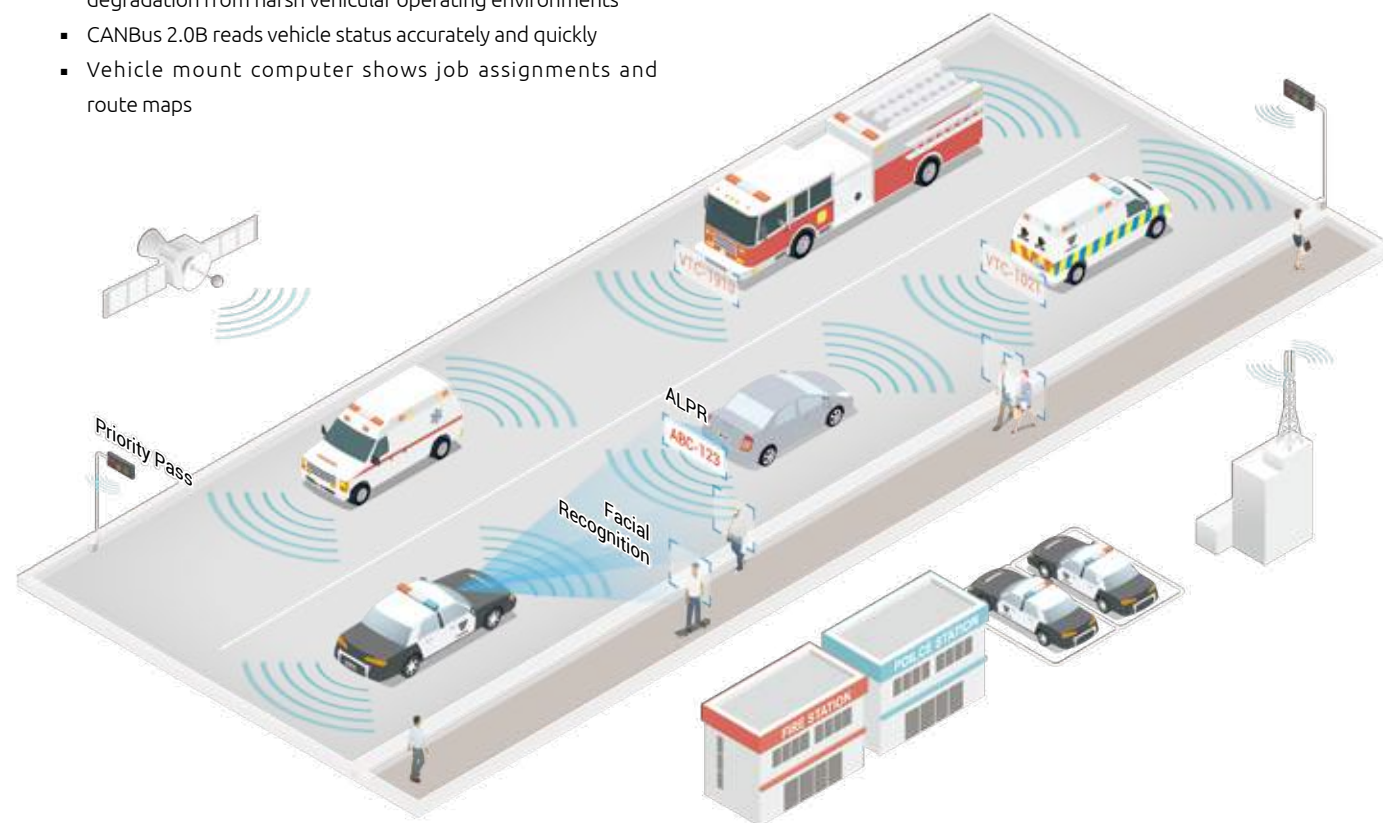
First Response Vehicles -

Trusted Crime Fighting and Emergency Services at Any Time



NEXCOM's Solutions

- 360-degree view from up to 8 IP cameras over PoE ports
- Fast automatic license plate recognition (ALPR) and face detection is powered by Intel® Core™ i 8th, 9th and 12th Gen high-performance processors and NVIDIA GeForce® RTX 30xx and 16xx/10xx series graphics cards
- ultraONE+ technology resolves cabling issues and video signal degradation from harsh vehicular operating environments
- CANBus 2.0B reads vehicle status accurately and quickly
- Vehicle mount computer shows job assignments and route maps
- Supports multiple telecom carriers (3G/LTE and 5G) to guarantee communication and data transmission between vehicle and control center
- Backup battery ensures uninterrupted system operation
- Supports IEEE 802.3 af/at PoE for IP cameras and other PD devices



Recommended Models



VTC 7251-7C4

Fanless In-Vehicle Computer, Intel® Core™ i7-8700T

- 1 x LAN + 4 x independent PoE supported, total 60W
- 4 x mini-PCIe slots + 1 x M.2 Key B expansion



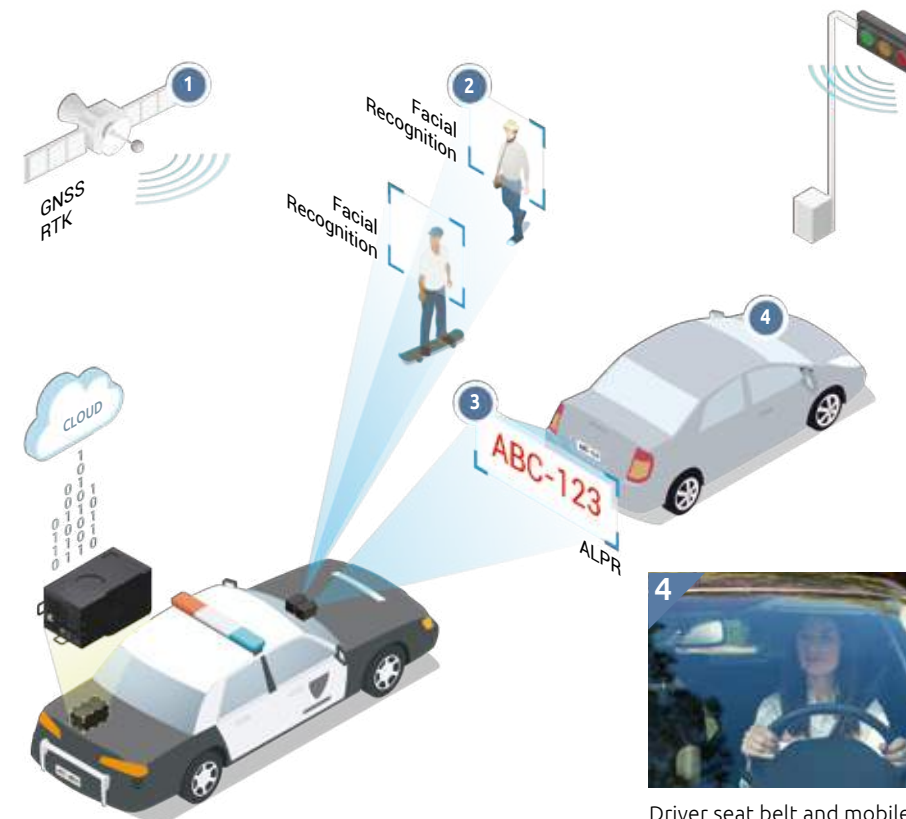
VTC 6222-C4S

In-Vehicle Computer, Intel Atom® Quad Core E3950

- 1 x LAN + 4 x PoE supported
- 1 x RS232 (Full), 1 x RS232 (Tx/Rx), 1 x RS422/485

Smart AI Patrol Application Requirements

- Ability to aggregate video feeds from multiple IP cameras
- High AI performance for sophisticated image processing (facial recognition, ANPR)
- Real-time surveillance on multiple video displays
- Easy system installation to fit limited spaces in vehicles
- Real-time vehicle status monitoring
- Rapid emergency dispatches with most optimal route
- Quick and trusted communication with emergency and control center
- Uninterrupted power supply to systems
- Display and system integration with simplified cabling for large trucks
- All-in-one PoE design lowers total cost of ownership (TCO) and facilitates maintenance
- High-speed storage available for high-speed multi-cam needs



Rapid emergency dispatch and real-time monitoring



Facial recognition technology helps identify suspects



Driver seat belt and mobile phone use detections



Support for speed violation detection and ANPR technologies



ATC 8010

Powerful Intelligent Platform, Intel® Core™ 8th Gen. CPU + NVIDIA® MXM GPU, supporting up to 8 x GbE PoE+

- Customized NVIDIA® MXM GPU (up to RTX2080)
- Up to 8 independent GbE PoE+



ATC 8110

AI Powered In-Vehicle Computer, Intel® Coffee Lake S/Refresh

- Add-on NVIDIA graphics card up to RTX3090 (350W)
- MIL-STD-810G for anti-vibration/shock to protect graphics card

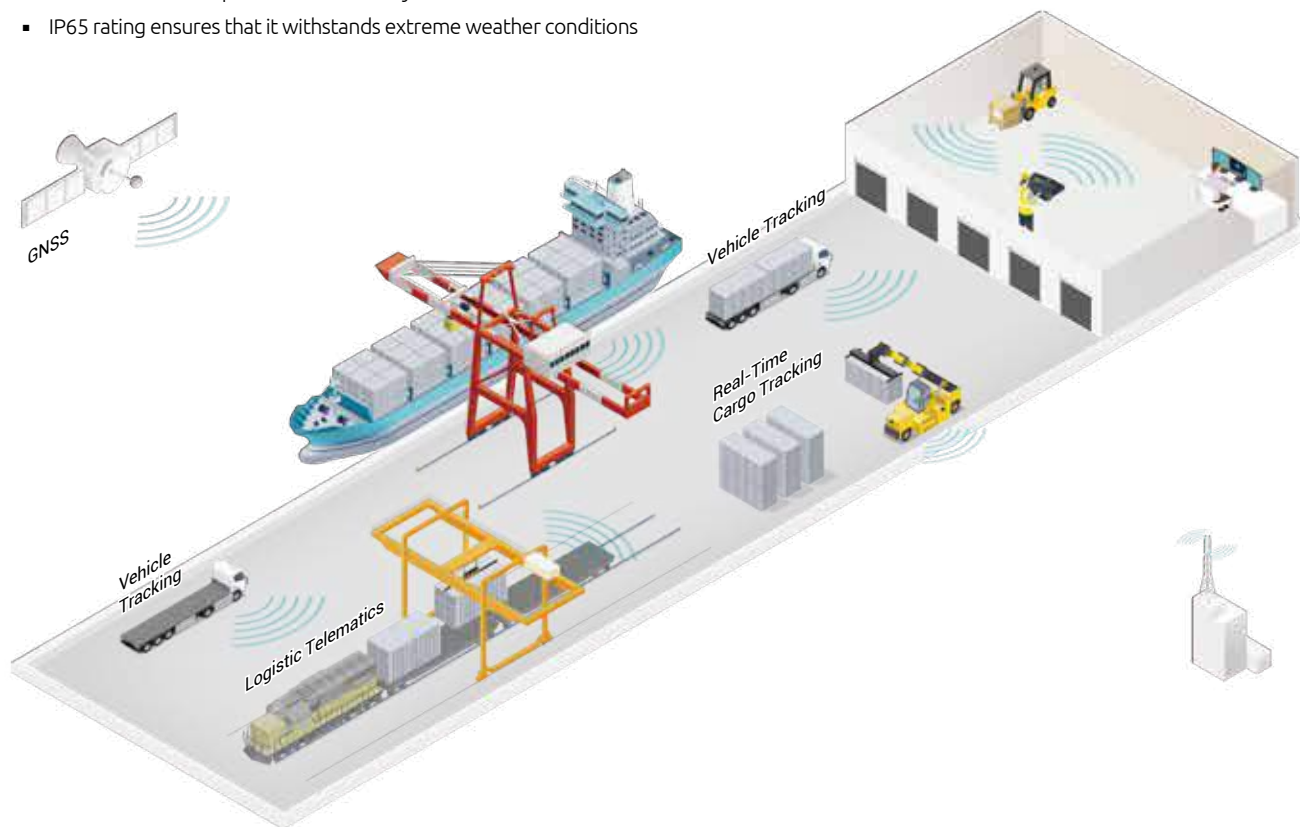
Port Management & Warehouse -

Around-The-Clock, Reliable Delivery:
Your Trust is Our Commitment



NEXCOM's Solutions

- High-brightness LCD touchscreen panel for sunlight readability
- Global navigation satellite system for precise and real-time vehicle location
- Vehicle status updates via the CANBus 2.0B, OBD II, and SAE J1708/J1939 interface
- Aluminum die casting housing protects against any large fluctuations in temperature or humidity
- IP65 rating ensures that it withstands extreme weather conditions
- Wide-range power input (9V~60V) fits different vehicles' UPS batteries
- Built-in backup battery ensures protection of data critical to operations
- Built-in communication modules connects analog or IP cameras and other peripherals



Recommended Models



VMC 1100

7" All-In-One Vehicle Computer, Intel Atom® E3825

- 800 x 480 resolution, 4-wire resistive, anti-glare touch screen
- RFID and F1~F5 function keys



VMC 220/2020

8" Rugged Vehicle Computer, NXP i.MX 8M Quad/Intel Atom® x7-E3950

- 1280 x 720 resolution, sunlight readable (1000 nits), PCAP touch screen
- IP65 water-resistant and IK08 external damage protection ratings



VMC 3020

10.4" Rugged Vehicle Mount Computer, Intel Atom® x5-E3930

- 1024 x 768 resolution, sunlight readable (1200 nits), 5-wire resistive touch screen
- Front panel IP65 water-resistant
- 9V~60V DC power in



VMC 4020

12.1" Rugged Vehicle Mount Computer, Intel Atom® x7-E3950

- 1024 x 768 resolution, sunlight readable (1200 nits), 5-wire resistive touch screen
- IP65 water-resistant rating (VMC 4020-4A1)
- 9V~60V DC power in

Forklift Application Requirements

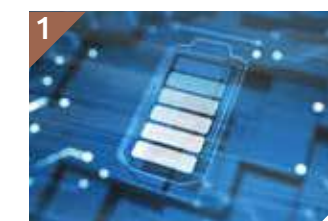
- IP65 rating ensures lower risk of water/dust damaging interior electronic parts
- Sunlight readability (high brightness over 1000 nits) enhances display visibility
- IK08/09 vandal-proof rating: reduces injuries and RMA costs, while prolonging lifetime
- Backup battery for approx. 15 min. of operation when forklift battery needs to be replaced



Functionality despite rain or humidity



External damage protection



Uninterruptible power supply



Sunlight readability

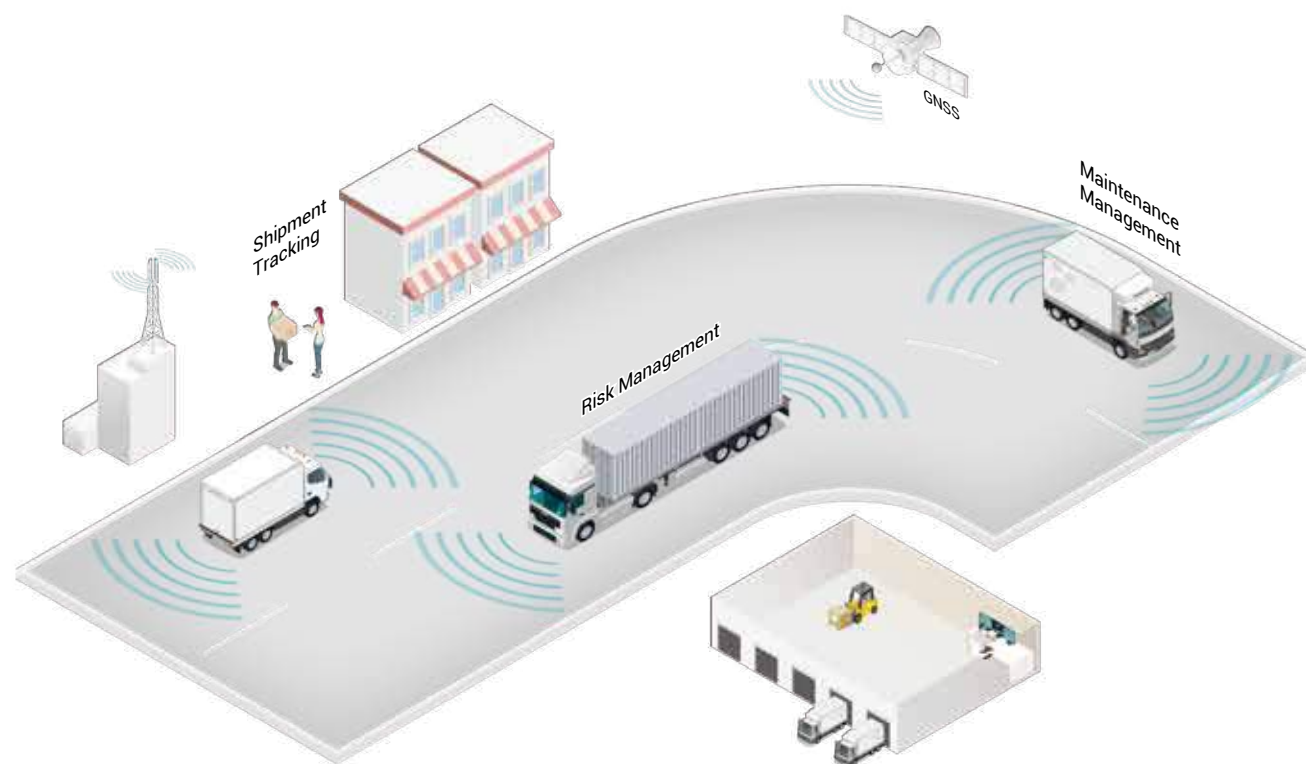
Fleet Management -

Improving Driver Safety, Saving Energy, and Increasing Overall Fleet Efficiency



NEXCOM's Solutions

- Powered by Intel® processors to quickly handle strenuous tasks
- Supports various displays: VGA, HDMI, ultraONE+
- Supports GNSS and WLAN/WWAN modules for tracking and communication
- Built-in communication ports, such as USB, COM, GPIO, and CANBus, connect peripherals and acquire vehicle data
- Rugged design and IP65 protection for reliable operations in extreme and outdoor environments
- Alternative power source with optional backup battery ensures uninterrupted data storage and transmission, regardless of vehicular power instability
- Powerful CVBS design for blind spot monitoring and collision avoidance
- SIM card switching for better signals and no roaming charges on international journeys



Recommended Models



VTC 1910

Fanless In-Vehicle Computer, Intel Atom® Single Core E3915

- Telematics IoT gateway, super slim and ruggedized design
- Dual SIM cards for WWAN modules



VMC 220/2020

8" Rugged Vehicle Mount Computer, NXP i.MX 8M Quad/Intel Atom® x7-E3950

- 1280 x 720 resolution, sunlight readable (1000 nits), PCAP touch screen
- IP65 water-resistant and IK08 external damage protection ratings



VTC 1021-BK

Fanless In-Vehicle Computer, Intel Atom® Quad Core x5-E3940

- 3 x Expansion slots for various applications
- Built-in U-blox M8N, CANBus 2.0B, 3 x DI, 3 x DO



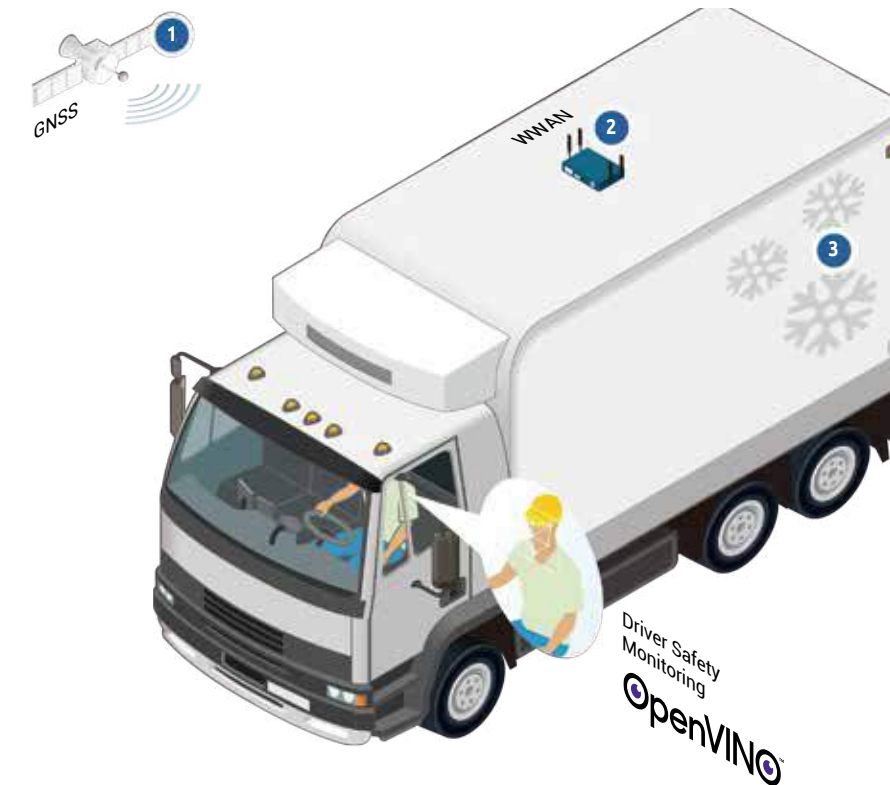
VTC 1020

Fanless In-Vehicle Computer, Intel Atom® Quad Core x5-E3930

- VGA and HDMI for dual display
- 5 x RS232 + 2 x RS485

Cold Chain Logistics Application Requirements

- Real time 5G telematics easily connects all vehicles and command center
- GNSS/RD module can obtain vehicle location whenever needed to ensure that the vehicle is on course, as well as for more efficient scheduling
- CANBus function obtains car information such as internal vehicle speeds and fuel volume for better eco-driving
- PoE cameras can first capture images, then combine with Movidius VPU and OpenVINO to perform driver safety monitoring
- Uninterrupted monitoring of temperature and humidity-controlled sensors, followed by data uploads to the cloud



GNSS/DR guides route tracking



5G telematics for fleet communication



Cold chain monitoring

Raw Material Management -

Born Tough to Increase Efficiency and Productivity



NEXCOM's Solutions

- Powered by Intel® processors to quickly handle strenuous tasks
- High-brightness LCD touchscreen panel, with reduced reflection
- Global navigation satellite system (GPS/Glonass/Galileo/BeiDou) with RTK for accurate vehicle positioning
- Rugged design and IP65 protection for reliable operation in extreme and outdoor environments
- Built-in communication ports, such as USB, COM, GPIO, and CANBus, connect peripherals and acquire vehicle data
- AI applications, including object and driver behavior detection, prevent accidents

Mining Application Requirements

- Rugged IP65 design prevents dust and water ingress
- PoE cameras can first capture external images, then combine with Movidius™ VPU and OpenVINO™ to perform AI applications, such as intrusion detection to avoid car collisions and face detection to identify driver fatigue
- GNSS RTK module can obtain vehicle location whenever needed to ensure vehicle is on course, as well as to reduce risk of theft
- DSRC/C-V2X module can communicate with nearby construction vehicles and signs at any time to achieve path prediction and consequently avoid the possibility of collisions
- RFID detection can protect heavy trucks from being driven arbitrarily



Recommended Models



VMC 1100

7" All-In-One Vehicle Computer, Intel Atom® E3825

- 800x480 resolution with 4-wire resistive, anti-glare touch screen
- Operating temperature: -20°C~60°C



VMC 2020

8" Rugged Vehicle Mount Computer, Intel Atom® x7-E3950

- 1280 x 720 resolution, sunlight readable (1000 nits), PCAP touch screen
- IP65 water-resistant and IK08 external damage protection ratings



VTC 7252-7C4IP

Fanless In-Vehicle Computer, Intel® Core™ i7-9700TE

- 2 x LAN + 4 x independent PoE supported
- IP65 water- and dust-resistant rating



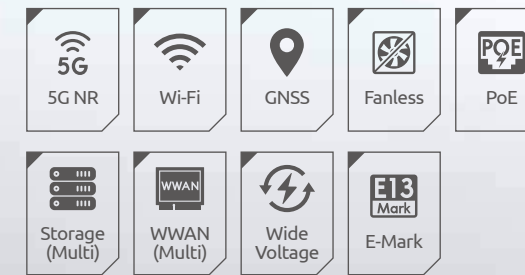
VTC 1021-BK

Fanless In-Vehicle Computer, Intel Atom® Quad Core x5-E3940

- 3 x expansion slots for various applications
- Built-in U-blox M8N, CANBus 2.0B, 3 x DI, 3 x DO

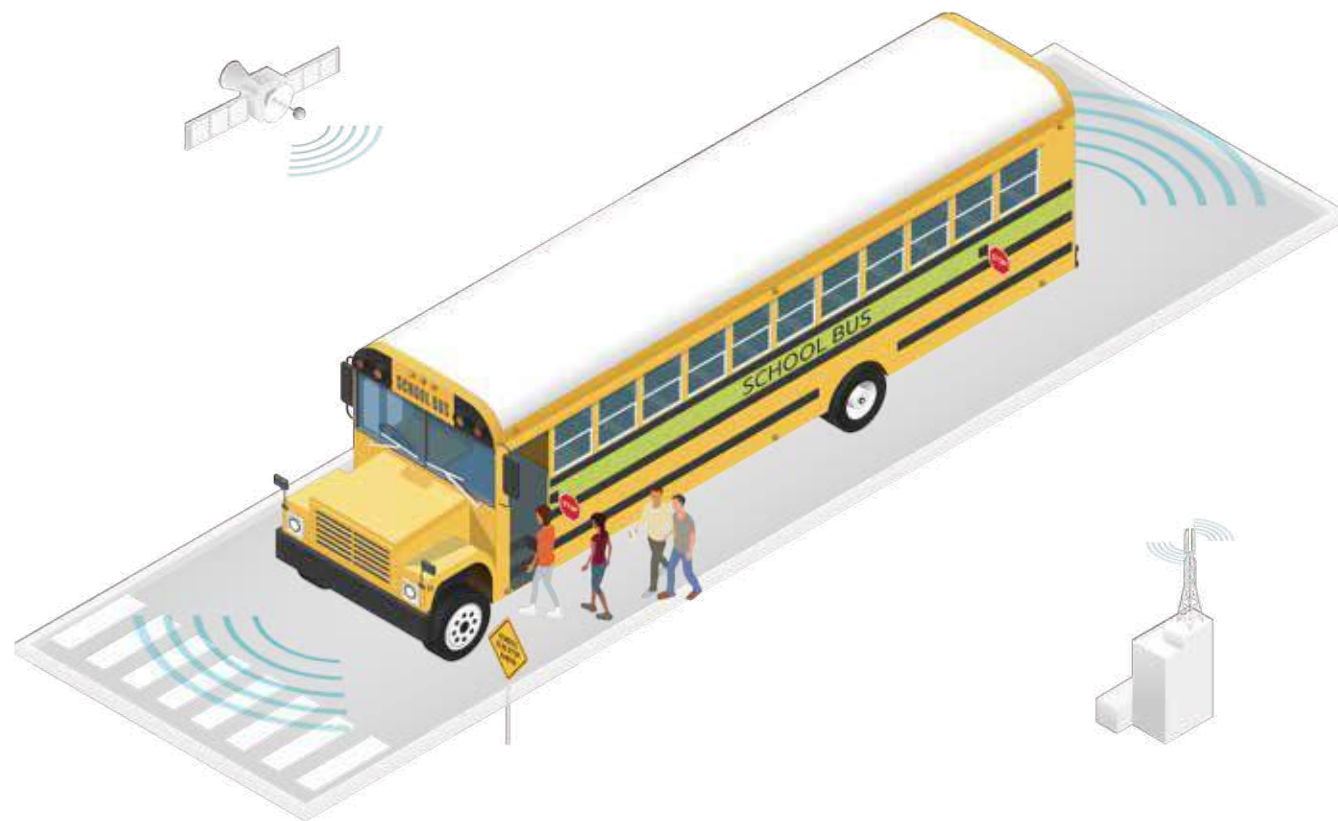
Video Surveillance -

Enhance Mobile Security:
Watch, Analyze, and React in Real Time



NEXCOM's Solutions

- Connections to high-resolution IP cameras with PoE to capture clear images
- In-vehicle computer with GPU acceleration to analyze multiple video sources
- Industrial-grade vehicle displays for seamless video output
- Supports multiple WWAN networks with multiple SIMs, for reliable video transmission and remote monitoring



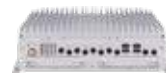
Recommended Models



VTC 6222-C4S

Fanless In-Vehicle Computer, Intel Atom® Quad Core x7-E3950

- 1 x LAN + 4 x PoE supported
- 2 x External 2.5" SATA 3.0 SSD, 1 x External SD



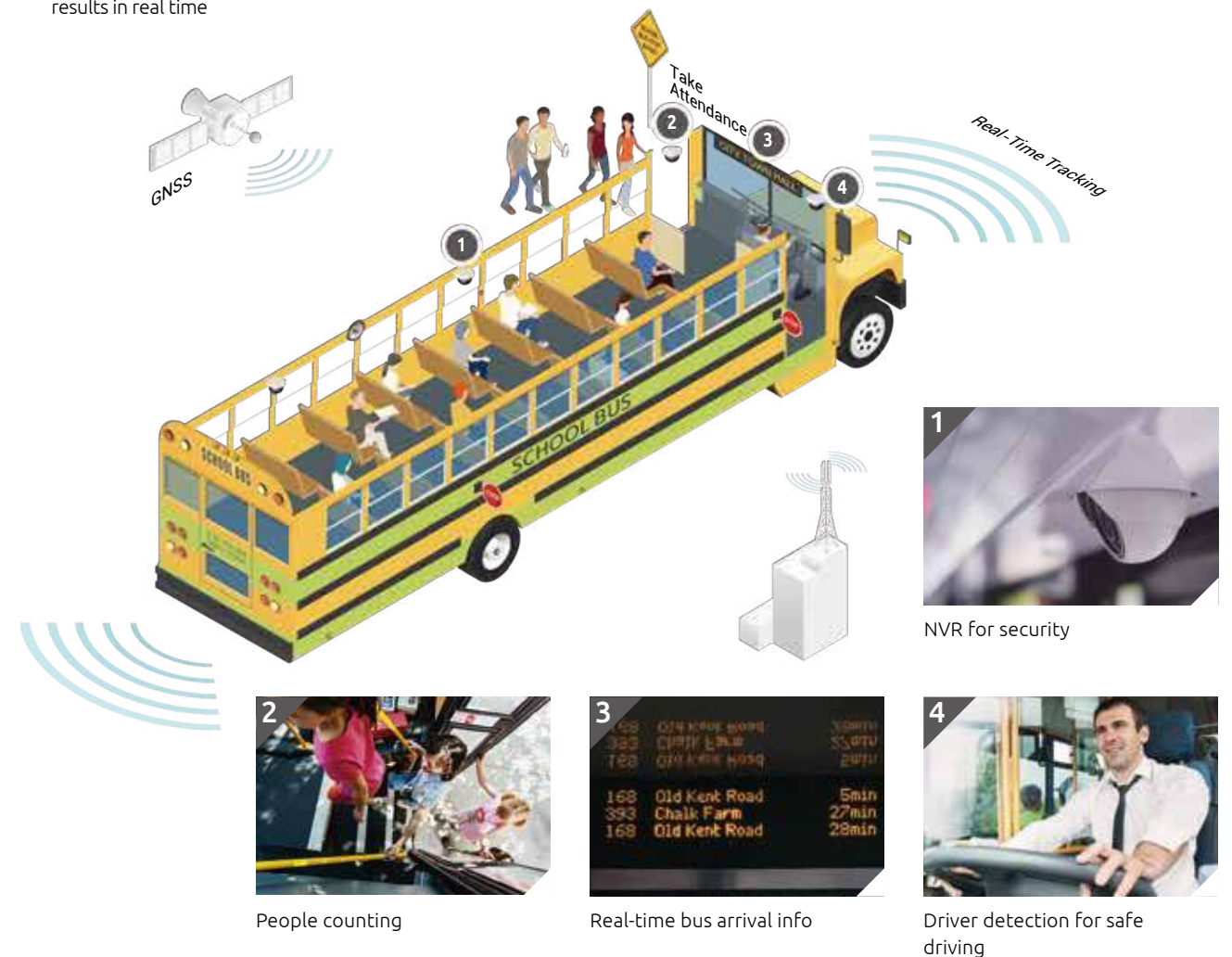
VTC 7250-7C8

Fanless In-Vehicle Computer, Intel® Core™ i7-8700T

- 1 x LAN + 8 x independent PoE supported
- 2 x External 2.5" SATA 3.0 SSD supported

Smart Bus Application Requirements

- Clear images, detailed information, and solid quality
- Extended compute-intensive analysis capabilities
- Rugged vehicle display shows captured images and video analytics results in real time
- Wireless communication with high bandwidth for video transmission
- Rugged and ample storage capacity



nROK 6222-AC4S

Fanless 4-CH PoE Rolling Stock Computer, Intel Atom® x7-E3950

- 4 x M12 X-coded PoE (802.3af/at, max. 60W) + 3 x mini-PCIe expansion sockets
- Dual external storage (compatible with 15mm disk)



nROK 7251-7C4

Fanless 4-CH PoE Rolling Stock Computer, Intel® Core™ i7-9700TE

- 1 x LAN + 4 x independent PoE supported
- 3 x mini-PCIe and 2 x M.2 Key B slots

2021 New Products



aROK 5510

Advanced Rolling Stock Computer
for Video Server and AI Applications

- Intel® Core™ 8/9th Gen./Xeon® Coffee Lake-S platform
- 6 x External SATA 3.0 2.5" SSD with RAID 0, 1, 5, 10 supported
- Discrete PCIe x16 graphics card (100W) supported
- 8 x SIM cards + 4 x WWAN modules supported
- 1 x M.2 2280/2242/2260 Key M, NVMe SSD (PCIe 3.0 x4)
- DC 24/110V with isolation



aROK 8110

Advanced Rolling Stock Computer
for AI Applications

- Intel® Core™ 8/9th Gen./Xeon® Coffee Lake-S platform
- 1 x PCIe 3.0 x16 slot and 3 x PCIe 3.0 x4 slot
- Dedicated fixture design for discrete graphic card and PCIe cards
- 4 x External 2.5" SATA 3.0 SSD/HDD (15mm height) with RAID 0/1/5/10 supported
- 24/36VDC power input
- CE, FCC, EN 50155 class OT4 conformity



ATC 3200

Advanced Telematics Computer
for AI Applications

- NVIDIA® Jetson™ TX2 SOM
- 2 x 10/100/1000 Mbps, PoE 802.3af/at, total 30W
- Optional 4-CH MIPI SerDes input for MIPI cameras
- 1 x mini-PCIe socket (PCIe 2.0 + USB 2.0)
- 1 x M.2 3042/3052 Key B (USB 3.0/2.0) for LTE/5G
- 9~36V DC-in with IGN control
- CE, FCC, E mark



VTC 7252-7C4IP

IP65 Fanless In-Vehicle Computer
for Video Surveillance Applications

- Intel® Coffee Lake-S Refresh Desktop, i7-9700TE, 35W, 8 core
- IP65-rated rugged design
- 4 x 10/100/1000 Mbps, PoE 802.3af/at, total 60W
- 1 x M.2 3042/3052 Key B (USB 2.0, USB 3.1) for LTE/5G
- 2 x mini-PCIe (USB 2.0, PCIe 3.0/SATA 3.0) and 1 x mini-PCIe (USB 2.0, PCIe 3.0)
- CE, FCC, E mark



nROK 7251-7A

Fanless Rolling Stock Computer

- Intel® Coffee Lake-S Refresh Desktop, i7-9700TE, 35W, 8 Core
- 2 x mini-PCIe (USB 2.0, PCIe 3.0/SATA 3.0) and 1 x mini-PCIe (USB 2.0) for LTE
- 2 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.1 Gen2) for LTE/5G
- 2 x 2.5" SATA 3.0 SSD (removable, 15mm)
- 24VDC power input
- CE, FCC, EN 50155 class OT4 conformity



nROK 7251-7C4

Fanless Rolling Stock Computer
for Video Surveillance Applications

- Intel® Coffee Lake-S Refresh Desktop, i7-9700TE, 35W, 8 Core
- 4 x 10/100/1000 Mbps M12 X-coded, PoE 802.3af/at, total 60W
- 2 x mini-PCIe (USB 2.0, PCIe 3.0/SATA 3.0) and 1 x mini-PCIe (USB 2.0) for LTE
- 2 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.1 Gen2) for LTE/5G
- 24VDC power input
- CE, FCC, EN 50155 class OT4 conformity



nROK 7252-WI2-C8S

Fanless Rolling Stock Computer
for Video Surveillance Applications

- Intel® Core™ 8/9th Gen./Xeon® Coffee Lake-S platform
- 8 x 10/100/1000 Mbps M12 X-coded, PoE 802.3af/at, total 60W
- 6 x SIM cards + 3 x WWAN modules supported
- Wide power voltage input: 24, 36, 48, 72, 96 and 110VDC with isolation
- Up to 3-second protection against temporary voltage dips
- CE, FCC, EN 50155 class OT4 conformity



VMC 2020-PC1

IP65 Rugged Vehicle Mount Computer

- 8" HD IPS TFT LCD with projected capacitive touch
- Brightness: 1000 cd/m² (typical). Contrast ratio: 1000:1 (typical)
- Intel Atom® x7-E3950, 4 Core, 2.0GHz
- IP65-rated and IK08-rated rugged design
- Back-up battery & RFID module (optional)
- Wide range power input: 9V ~ 60VDC
- CE, FCC, E mark, IK08

Industrial AI Edge Telematics Computer

Model					
	ATC 8010-7A	ATC 8010-7B	ATC 8010-7DF	ATC 8110	ATC 8110-F
CPU	Intel® Core™ i7-8700T, 6 Core, 2.4GHz			Intel® Coffee Lake S/ Refresh Core™/Xeon®	
Chipset	Intel® Q370			Intel® C246	
Fan/Fanless	Fanless			Fanless	Fan (fan-kit pre-installed)
Memory	2 x DDR4 2400 SO-DIMM, 4GB + 4GB (default) up to 32GB + 32GB			2 x DDR4 2400/2666 SO-DIMM, up to 32GB + 32GB	
Storage	2 x 2.5" SATA 3.0 SSD (removable, 15mm)			3 x 2.5" SATA 3.0 SSD/HDD (removable, 15mm) or 2 x 2.5" SATA 3.0 SSD/ HDD + 1 x 2.5" U.2/ NVMe M.2 2280	
Second Storage	2 x mSATA (occupied mini-PCIe socket)			1 x CFast (external accessible)	
GPU/VPU/TPU Coprocessor	NVIDIA® GTX® 1050Ti MXM Module	Intel® Movidius™ MXM Module	NVIDIA® GTX® 1080 MXM Module	Intel® UHD Graphics 630, option for 3-slot width PCIe 3.0 x16 lane for optional NVIDIA Graphics card (350W)	
Video Out	1 x VGA, 5 x HDMI, 1 x ultraONE+	1 x VGA, 1 x ultraONE+	1 x VGA, 5 x HDMI, 1 x ultraONE+	1 x VGA, 1 x HDMI	
Audio	1 x Mic-in, 1 x Line-out			1 x Mic-in, 1 x Line-out	
Ethernet	1 x Intel® 10/100/1000			2 x Intel® 10/100/1000	
PoE	8 x Independent Intel® 10/100/1000 (w/ 802.3at/af). Total 60W			Up to 2 x GE64/74 card (option), each card with 4 x Intel® GbE (w/ 802.3at/af). Total 60W	
USB	6 x USB 3.1 (Gen2)			5 x USB 3.1 (Gen2), 1 x USB2.0	
COM	2 x RS232 (Full), 1 x RS232 (Full)/422/485			4 x RS232 (Full)/422/485	
DIO	4 x DI, 4 x DO			4 x DI (w/ isolation) 4 x DO (w/ isolation)	
CAN	1 x CANBus 2.0B (w/ isolation)			1 x CANBus 2.0B (w/ isolation)	
DC Output	12V (2A)			12V (2A)	
SIM Socket	3 (eSIM BOM optional)			4 (eSIM BOM optional)	
WWAN	2			2	
mini-PCIe Socket	1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 3.0/SATA 3.0) 1 x (USB 2.0, PCIe 3.0/SATA 3.0)			1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 2.0)	
M.2 Socket	1 x M.2 3042 Key B (USB 2.0, USB 3.1) for LTE/5G			1 x M.2 3042/3052 Key B (USB2.0, USB 3.0) for LTE/5G. Optional GE74 card w/ 2 x M.2 2280 Key M NVMe (USB 2.0, PCIe 3.0 x2) 1 x PCIe x16, 1 x PCIe x4 + propriotary, 1 x PCIe x4	
Expansion PCIe Slot	N/A			N/A	
GNSS	VIOB-GPS-02 module (u-blox NEO-M8N)			VIOB-GPS-02 module (u-blox NEO-M8N)	
Power Input	DC 9V to 36V			DC 9V to 36V	
Ignition Control	Yes, w/ 8 level delay time setting			Yes, w/ 8 level delay time setting	
Power Management	Low voltage protection & configuration via software			Low voltage protection & configuration via software	
Ingress Protection	N/A			N/A	
MIPI Interface	N/A			N/A	
Certification	CE, FCC Class A, E13			CE, FCC Class A, E13	
OS	Win 10, Linux (Kernel 4.x)			Win 10, Linux (Kernel 4.x)	
Dimensions (mm)	260 x 259.7 x 90.1			207.4 x 176 x 350 (w/ fan kit)	
Operating Temperature	-30°C to 60°C			-30°C to 60°C	

					
MVS 2623-CGIoT	aROK 5510	aROK 8110	ATC 3200	ATC 3530-IP7-4M	ATC 3530-IP7-4C
Intel Atom® x7-E3950, 4 Core, 2.0GHz	Intel® Coffee Lake S/ Refresh Core™/Xeon®	Intel® Coffee Lake S/ Refresh Core™/Xeon®	NVIDIA Tegra X2 2 Core NVIDIA Denver2 and 4 Core ARM A57	NVIDIA Xavier NX 3 x 2 Core Carmel CPU@1.9GHz	
N/A	Intel® C246	Intel® C246	N/A	N/A	
Fanless	Fan (fan-kit pre-installed)	Fan (fan-kit pre-installed)	Fanless	Fanless	
1 x DDR3L 1600 SO-DIMM, 4GB (default) up to 8GB	4 x DDR4 2666 SO-DIMM, 4GB + 4GB (default) up to 32GB + 32GB + 32GB + 32GB	2 x DDR4 2666 SO-DIMM, 4GB + 4GB (default) up to 32GB + 32GB 4 x 2.5" SATA 3.0 SSD/ HDD (15mm height), or 3 x 2.5" SATA 3.0 SSD/ HDD + 2 x M.2 2280/2242/2260 Key M NVMe SSD (PCIe 3.0 x2), or 3 x 2.5" SATA 3.0 SSD/HDD + 1 x U.2 NVMe SSD (PCIe 3.0 x2)	Onboard LPDDR4 1600MHz 8GB	Onboard LPDDR4 1600MHz 8GB	
2 x 2.5" SATA 3.0 SSD/ HDD (removable, 9.5mm)	6 x 2.5"" SATA SSD (removable, 9.5mm)		32GB eMMC	16GB eMMC	
N/A	1 x mSATA. 1 x M.2 2280/2242/2260 Key M NVMe SSD (PCIe 3.0 x4).1 x Removable SD 3.0	1 x CFast (external accessible)	1 x Removable SD 3.0	1 x Removable SD 4.0	
Google Edge TPU Coral card	One PCIe 3.0 x16 lane for optional NVIDIA Graphics card (100W)	One PCIe 3.0 x16 lane for optional NVIDIA Graphics card	NVIDIA Pascal 256-core integrated GPU @1.2GHz	NVIDIA Volta 384-core, 48 tensor-core integrated GPU @1.1GHz	
1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI	1 x HDMI	1 x HDMI	
2 x Mic-in, 2 x Line-out	1 x Mic-in, 2 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	N/A	
2 x Intel® 10/100/1000	2 x Intel® 10/100/1000 (M12). 2 x 10GbESFP+ card (optional)	2 x Intel® 10/100/1000 (M12)	2 x Independent Intel® 10/100/1000 (802.3af/at). Total 30W	2 x GbE (M12)	1 x GbE (M12)
8 x GbE in switching (802.3af). Total 60W	4 x M12 GbE independent (802.3at/af). Total 60W (optional)	Up to 3 x GEM640 card (optional), each card with 4 x M12 Intel® GbE (w/802.3at/af). Total 60W+60W+60W	1 x M12 with 2 x USB 2.0 signal, 3 x USB 3.1 (Gen2), 1 x USB 2.0	Option for PoE (w/ 802.3af/at). Total 30W	4 x GbE (802.3at/af, M12). Total 30W
2 x USB 3.0, 1 x USB 2.0	1 x M12 with 2 x USB 2.0 signal, 4 x USB 3.1	2 x USB 2.0 signal, 3 x USB 3.1 (Gen2), 1 x USB 2.0	2 x USB 3.0, 1 x USB 2.0, 1 x OTG, 1 x Console	2 x USB 3.0, 1 x OTG, 1 x Console	
2 x RS232 (Full), 1 x RS232 (Full)/422/485	2 x RS-232 (Full), RS232 (Full)/422/485. (w/ isolation)	4 x RS232 (Full)/422/485. (w/ isolation)	2 x RS232 (Tx, Rx)/ 422/485	2 x RS232 (Tx, Rx)	
8 x Programmable GPIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	4 x DI, 4 x DO (w/ isolation)	4 x DI, 4 x DO (w/ isolation)	4 x DI (w/ isolation) 4 x DO (w/ isolation)	4 x DI (w/ isolation, option) 4 x DO (w/ isolation, option)	
1 x CANBus 2.0B	1 x CANBus 2.0B (w/ isolation)	1 x CANBus 2.0B (w/ isolation)	2 x CANBus 2.0B (w/ isolation)	1 x CANBus 2.0B (w/ isolation)	
12V (2A)	N/A	N/A	12V(2A) & 5V(1A)	N/A	
3	8 (BOM option up to 10, eSIM BOM optional)	4 (eSIM BOM optional)	2	2	
2	4 (BOM option up to 5) 1 x (USB 2.0, PCIe 3.0) 1 x (USB 2.0, PCIe 3.0). BOM option to 1 x mini-PCIe (USB 2.0) for LTE 1 x (USB 2.0) for LTE. BOM option to 1 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.1 Gen1) for LTE/5G	1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE. BOM option to 1 x M.2 3042 Key B (USB 2.0) for LTE	1 x (USB 2.0, PCIe 2.0)	1 x (USB 2.0, PCIe 3.0)	
1 x (USB 2.0, PCIe 2.0) for LTE 1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 2.0)	3 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.1 Gen2) for LTE/5G	1 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.1 Gen2) for LTE/5G	1 x M.2 3042/3052 Key B (USB2.0, USB3.0) for LTE/5G	1 x M.2 3042/3052 Key B (USB2.0, USB3.0) for LTE/5G	
N/A	PCIe x16	1 x PCIe x16, 3 x PCIe x4	N/A	N/A	
VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	
DC 9V to 36V	DC 24/110V (w/ isolation)	DC 24/36V (w/o isolation)	DC 9V to 36V	DC 9V to 36V	
Yes, w/ 8 level delay time setting					
Low voltage protection & configuration via software					
N/A	N/A	N/A	IP50	IP67	
N/A	N/A	N/A	4 (VBO), 1080p30@15m	4 (VBO), 1080p30@15m	
CE, FCC Class A, E13	CE, FCC Class A, EN50155	CE, FCC Class A, EN50155	CE, FCC Class A, E13	CE, FCC Class A, E13	
Debian Linux and other variants	Win 10, Linux (Kernel 4.x)	Win 10, Linux (Kernel 4.x)	JetPack 4.4 BSP	JetPack 4.5 BSP	
260 x 196 x 79.6	483 x 400 x 95	215 x 205 x 385	w/ Ubuntu 18.04 (L4T)	w/ Ubuntu 18.04 (L4T)	
-30°C to 60°C	-40°C to 70°C (OT4)	-40°C to 70°C (OT4)	180 x 156 x 60	213 x 167 x 58.8 (w/ mount bracket)	
(w/o internal back up battery)	-40°C to 70°C (OT4)	-40°C to 70°C (OT4)	-30°C to 70°C	-30°C to 70°C	

Vehicle Telematics Computer

Model					
	VTC 1910-S	VTC 1911-IPK	VTC 1011-C2K	VTC 1011-C2VK	VTC 1020
CPU	Intel Atom® E3815, 1 Core, 1.46GHz	Intel Atom® E3815, 1 Core, 1.46GHz	Intel Atom® E3825, 2 Core, 1.33GHz	Intel Atom® E3825, 2 Core, 1.33GHz	Intel Atom® x5-E3930, 2 Core, 1.8GHz
Chipset	N/A	N/A	N/A	N/A	N/A
Memory	1 x DDR3L 1600 SO-DIMM, 2GB (default) up to 8GB	1 x DDR3L 1600 SO-DIMM, 2GB (default) up to 8GB	1 x DDR3L 1600 SO-DIMM, 2GB (default) up to 8GB	1 x DDR3L 1600 SO-DIMM, 2GB (default) up to 8GB	1 x DDR3L 1866 SO-DIMM, 4GB (default) up to 8GB
Storage	1 x SATA 2.0 mSATA	1 x SATA 2.0 mSATA	1 x 2.5" SATA 2.0 SSD (9.5mm)	1 x 2.5" SATA 2.0 SSD (9.5mm)	1 x 2.5" SATA 3.0 SSD (9.5mm)
Second Storage	1 x SATA DOM	1 x 2.5" SSD (9.5mm) or 1 x SATA DOM	1 x mSATA (occupied mPCIe socket)	1 x mSATA (occupied mPCIe socket)	1 x mSATA (occupied mPCIe socket)
Video Out	1 x VGA	1 x VGA, 1 x HDMI (optional)	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI or 1 x ultraONE+	1 x VGA, 1 x HDMI
Audio	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out
Ethernet	1 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000 (exclusion with PoE)	2 x Intel® 10/100/1000 (exclusion with PoE)	1 x Intel® 10/100/1000
PoE	N/A	N/A	2 x Intel® 10/100/1000 (w/ 802.3at/af). Total 30W	2 x Intel® 10/100/1000 (w/ 802.3at/af). Total 30W	N/A
USB	1 x USB 3.0, 1 x USB 2.0	1 x USB 2.0	2 x USB 2.0	2 x USB 2.0	2 x USB 3.0
COM	2 x RS232 (Tx, Rx), 1 x RS485	2 x RS232 (Tx, Rx), 1 x RS485	2 x RS232 (Full), 1 x RS232 (Tx, Rx)/RS422/485	2 x RS232 (Full), 1 x RS232 (Tx, Rx)/RS422/485	5 x RS232 (Tx, Rx), 2 x RS485
DIO	3 x DI, 3 x DO	3 x DI, 3 x DO	4 x DI, 4 x DO	4 x DI, 4 x DO	5 x Programmable DIO
CAN	1 x CANBus 2.0B	1 x CANBus 2.0B	1 x CANBus 2.0B	1 x CANBus 2.0B	1 x CANBus 2.0B
DC Output	N/A	N/A	12V (2A)	12V (2A)	12V (2A)
SMBus	N/A	N/A	1	1	1
SIM Socket	2	2	2	2	1
WWAN	1	1	1	1	1
mini-PCIe Socket	1 x (PCIe 2.0/SATA 2.0) 1 x (USB 2.0) for LTE	1 x (USB 2.0, PCIe 2.0/SATA 2.0) 1 x (USB 2.0) for LTE	1 x (USB 2.0, PCIe 2.0/SATA 2.0) 1 x (USB 2.0) for LTE	1 x (USB 2.0, PCIe 2.0/SATA 2.0) 1 x (USB 2.0) for LTE	1 x (USB 2.0, PCIe 2.0/SATA 3.0) 1 x (USB 2.0) for LTE
M.2 Socket	N/A	N/A	N/A	N/A	N/A
GNSS	Onboard u-blox NEO-M8N	Onboard u-blox NEO-M8N	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)
Power Input	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
Internal Back Up Battery	N/A	N/A	N/A	N/A	N/A
Ingress Protection	N/A	IP67	N/A	N/A	N/A
Certification	CE, FCC Class A, E13	CE, FCC Class A, E13, EN50155	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13
OS	Win 10, Win 8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10, Win 8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10, Win 8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10, Win 8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10, Linux (Kernel 4.x)
Dimensions (mm)	130 x 120 x 35	185 x 167 x 56.5	185 x 150.9 x 45	185 x 150.9 x 45	185 x 120 x 45
Operating Temperature	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C (LAN mode) -40°C to 60°C (PoE mode)	-40°C to 70°C (LAN mode) -40°C to 60°C (PoE mode)	-40°C to 70°C

											
VTC 1020-PA		VTC 1010		VTC1021-BK		VTC1021-C2K		VTC 6210-BK		VTC 6210-VR4	
Intel Atom® x5-E3930, 2 Core, 1.8GHz		Intel Atom® E3827, 2 Core, 1.75GHz		Intel Atom® x5-E3940, 4 Core, 1.8GHz		Intel Atom® x5-E3940, 4 Core, 1.8GHz		Intel Atom® E3845, 4 Core, 1.91GHz		Intel Atom® E3845, 4 Core, 1.91GHz	
N/A		N/A		N/A		N/A		N/A		N/A	
1 x DDR3L 1866 SO-DIMM, 4GB (default) up to 8GB		1 x DDR3L 1600 SO-DIMM, 2GB (default) up to 8GB		1 x DDR3L 1866 SO-DIMM, 4GB (default) up to 8GB		1 x DDR3L 1866 SO-DIMM, 4GB (default) up to 8GB		1 x DDR3L 1333 SO-DIMM, 2GB (default) up to 8GB		1 x DDR3L 1333 SO-DIMM, 2GB (default) up to 8GB	
1 x 2.5" SATA 3.0 SSD (15mm)		1 x 2.5" SATA 2.0 SSD (9.5mm)		1 x 2.5" SATA 3.0 SSD (9.5mm)		1 x 2.5" SATA 3.0 SSD (9.5mm)		1 x 2.5" SATA 2.0 SSD/HDD (removable, 9.5mm)		1 x 2.5" SATA 2.0 SSD/HDD (removable, 9.5mm)	
1 x mSATA (occupied mPCIe socket)		1 x SD (external accessible)		1 x mSATA (occupied mPCIe socket)		1 x mSATA (occupied mPCIe socket)		1 x CFast (external accessible)		1 x CFast (external accessible)	
1 x VAG, 1 x HDMI, 1 x LVDS		1 x VGA, 1 x DP		1 x VGA, 1 x HDMI		1 x VGA, 1 x HDMI		1 x VGA, 1 x DP		VGA, DP, 4 x (Video-in + Audio-in)	
1 x Mic-in, 3 x Line-out (selectable)		2 x Mic-in, 2 x Line-out		1 x Mic-in, 1 x Line-out		1 x Mic-in, 1 x Line-out		2 x Mic-in, 2 x Line-out		2 x Mic-in, 2 x Line-out	
1 x Intel® 10/100/1000		1 x Intel® 10/100/1000		2 x Intel® 10/100/1000		2 x Intel® 10/100/1000		2 x Intel® 10/100/1000		2 x Intel® 10/100/1000	
N/A		N/A		N/A		2 x Intel® 10/100/1000 (w/ 802.3at/af). Total 60W		N/A		N/A	
2 x USB 3.0		1 x USB 3.0, 2 x USB 2.0		1 x USB 3.0, 2 x USB 2.0		1 x USB 3.0, 2 x USB 2.0		1 x USB 3.0, 2 x USB 2.0		1 x USB 3.0, 2 x USB 2.0	
5 x RS232 (Tx, Rx), 2 x RS485		2 x RS232 (Full), 1 x RS422/485		1 x RS232 (Full), 1 x RS232 (Tx, Rx), 1 x RS422/485		1 x RS232 (full), 1 x RS232 (Tx, Rx), 1 x RS422/485		2 x RS232 (Full), 1 x RS422/485		1 x RS232 (Full), 1 x RS422/485	
5 x Programmable DIO		6 x Programmable DIO		3 x DI, 3 x DO		3 x DI, 3 x DO		8 x Programmable PC GPIO, 2 x MCU-DI, 2 x MCU-DO		8 x Programmable PC GPIO, 2 x MCU-DI, 2 x MCU-DO	
1 x CANBus 2.0B		1 x CANBus 2.0B		1 x CANBus 2.0B		1 x CANBus 2.0B		1 x CANBus 2.0B		1 x CAN Bus 2.0B	
12V (2A)		12V (1A)		12V (2A)		12V (2A)		12V (2A)		12V (2A)	
1		N/A		1		1		1		1	
1		2		2		2		3		3	
1		2		1		1		2		2	
1 x (USB 2.0, PCIe 2.0/SATA 3.0) 1 x (USB 2.0) for LTE		2 x (USB 2.0, PCIe 2.0) 1 x (PCIe 2.0/SATA 2.0) 1 x (USB 2.0) for LTE		1 x (USB 2.0, PCIe 2.0/SATA 3.0) 1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE		1 x (USB 2.0, PCIe 2.0/SATA 3.0) 1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE		2 x (USB 2.0, PCIe 2.0) 2 x (USB 2.0) for LTE		2 x (USB 2.0, PCIe 2.0) 2 x (USB 2.0) for LTE	
N/A		N/A		N/A		N/A		N/A		N/A	
VIOB-GPS-02 module (u-blox NEO-M8N)		VIOB-GPS-02 module (u-blox NEO-M8N)		Onboard u-blox NEO-M8N		Onboard u-blox NEO-M8N		VIOB-GPS-02 module (u-blox NEO-M8N)		VIOB-GPS-02 module (u-blox NEO-M8N)	
DC 9V to 36V		DC 9V to 36V		DC 9V to 36V		DC 9V to 36V		DC 9V to 36V		DC 9V to 36V	
Yes, w/ 8 level delay time setting		Yes, w/ 8 level delay time setting		Yes, w/ 8 level delay time setting		Yes, w/ 8 level delay time setting		Yes, w/ 8 level delay time setting		Yes, w/ 8 level delay time setting	
Low voltage protection & configuration via software		Low voltage protection & configuration via software		Low voltage protection & configuration via software		Low voltage protection & configuration via software		Low voltage protection & configuration via software		Low voltage protection & configuration via software	
N/A		N/A		Optional		N/A		N/A		N/A	
N/A		N/A		N/A		N/A		N/A		N/A	
CE, FCC Class A, E13		CE, FCC Class B, E13		CE, FCC Class A, E13		CE, FCC Class A, E13		CE, FCC Class B, E13		CE, FCC Class B, E13	
Win 10, Linux (Kernel 4.x)		Win 10, Win 8, Win 7, WES 7, Linux (Kernel 4.x)		Win 10, Linux (Kernel 4.x)		Win 10, Linux (Kernel 4.x)		Win 10, Win 8, Win 7, WES 7, Linux (Kernel 4.x)		Win 10, Win 8, Win 7, WES 7, Linux (Kernel 4.x)	
185 x 120 x 50		180 x 180 x 50		180 x 180 x 50		180 x 180 x 50		260 x 176 x 50		260 x 176 x 50	
-40°C to 70°C		-30°C to 70°C		-40°C to 70°C		-40°C to 70°C		-30°C to 70°C		-30°C to 70°C	

Vehicle Telematics Computer

Model						
	VTC 6220-BK	VTC 6221	VTC 6222-C4S	VTC 7230	VTC 7240	
CPU	Intel Atom® x7-E3950, 4 Core, 2.0GHz	Intel Atom® x7-E3950, 4 Core, 2.0GHz	Intel Atom® x7-E3950, 4 Core, 2.0GHz	Intel® Core™ i3-5010U, 2 Core, 2.1GHz	Intel® Core™ i7-5650U, 2 Core, 3.1GHz	
Chipset	N/A	N/A	N/A	N/A	N/A	
Memory	1 x DDR3L 1866 SO-DIMM, 4GB (default) up to 8GB	1 x DDR3L 1600 SO-DIMM, 4GB (default) up to 8GB	1 x DDR3L 1866 SO-DIMM, 4GB (default) up to 8GB	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB	
Storage	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	1 x 2.5" SATA 3.0 SSD (removable, 9.5mm)	2 x 2.5" SATA 3.0 SSD (removable, 15mm)	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	
Second Storage	N/A	1 x CFast (external accessible), 1 x mSATA (occupied CFast, BOM optional)	1 x SD (external accessible), 1 x Internal USB DOM	1 x CFast (external accessible)	1 x CFast (external accessible)	
Video Out	1 x VGA, 1 x HDMI, 1 x LVDS (optional), 1 x ultraONE+ (optional)	2 x VGA, 1 x HDMI	1 x VGA, 2 x HDMI	1 x VGA, 1 x DP, 1 x LVDS (internal)	1 x VGA, 1 x DP, 1 x LVDS (internal)	
Audio	2 x Mic-in, 2 x Line-out	1 x Mic-in, 2 x Line-out	1 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	
Ethernet	3 x Intel® 10/100/1000 (2 x LAN exclusion with PoE)	2 x Intel® 10/100/1000, (BOM option up to 3)	1 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	
PoE	2 x Independent Intel® 10/100/1000 (w/ 802.3at/af). Total 30W (BOM optional)	N/A	4 x Intel® 10/100/1000 (w/ 802.3at/af). Total 60W	N/A	N/A	
USB	2 x USB 3.0, 1 x USB 2.0	3 x USB 2.0, 1 x USB 3.0	1 x USB 3.0, 2 x USB 2.0	2 x USB 3.0, 2 x USB 2.0	2 x USB 3.0, 2 x USB 2.0	
COM	2 x RS232 (full), 1 x RS422/485	1 x RS232 (full), 1 x RS232 (Tx, Rx), 1 x RS485	1 x RS232 (full), 1 x RS232 (Tx, Rx), 1 x RS422/485	2 x RS232 (full), 1 x RS232 (full)/422/485	2 x RS232 (full), 1 x RS232 (full)/422/485	
DIO	4 x DI, 4 x DO	4 x DI, 4 x DO	4 x In (w/ isolation), 4 x Out (w/ isolation)	4 x DI, 4 x DO	4 x DI, 4 x DO	
CAN	1 x CANBus 2.0B (w/ isolation)	1 x CANBus 2.0B (w/ isolation)	1 x CANBus 2.0B (w/ isolation)	1 x CANBus 2.0B	1 x CANBus 2.0B	
DC Output	12V (2A)	12V (2A)	12V (2A)	12V (2A)	12V (2A)	
SMBus	1	N/A	N/A	1	1	
SIM Socket	4	6 (BOM option up to 8, eSIM BOM optional)	2 (eSIM BOM optional)	3	3	
WWAN	2	3 (BOM option up to 3)	1	2	2	
mini-PCIe Socket	2 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE. BOM option to 1 x M.2 3042 Key B (USB 2.0, USB 3.0) for LTE/5G	2 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE	2 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE. BOM option to 1 x M.2 3042 Key B (USB 2.0, USB 3.0) LTE/5G supported	3 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE	3 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE	
M.2 Socket	1 x M.2 3042 Key B (USB 2.0, USB 3.0) for LTE/5G	1 x M.2 3042/3052 Key B (USB 2.0, USB 3.0) for LTE/5G 1 x M.2 3042 Key B (USB 2.0, USB 3.0) for LTE/5G	N/A	N/A	N/A	
GNSS	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	u-blox NEO-M8N onboard	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	
Power Input	DC 9V to 36V	DC 9V to 48V	DC 9V to 48V	DC 9V to 36V	DC 9V to 36V	
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	
Internal Back Up Battery	Optional	N/A	N/A	N/A	N/A	
Ingress Protection	N/A	N/A	N/A	N/A	N/A	
Certification	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class B, E13	CE, FCC Class B, E13	
OS	Win 10, Linux (Kernel 4.x)	Win 10, Linux (Kernel 4.x)	Win 10, Linux (Kernel 4.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (Kernel 4.x)	
Dimensions (mm)	260 x 196 x 50	260 x 196 x 50	260 x 196 x 66.5	260 x 206 x 79.5	260 x 206 x 79.5	
Operating Temperature	-40°C to 70°C (w/o internal backup battery)	-40°C to 70°C	-40°C to 70°C	-30°C to 55°C	-30°C to 55°C	

				
VTC 7250-7C8		VTC 7251	VTC 7251-7C4	VTC 7252-7C4IP
Intel® Core™ i7-8700T, 6 Core, 4.0GHz Intel® Q370		Intel® Core™ i7-8700T, 6 Core, 4.0GHz Intel® Q370		Intel® Core™ i7-9700TE, 8 Core, 3.8GHz Intel® C246
2 x DDR4 2666 SO-DIMM, 4GB + 4GB (default) up to 32GB+32GB		2 x DDR4 2666 SO-DIMM, 4GB + 4GB (default) up to 32GB+32GB		2 x DDR4 2666 SO-DIMM, 4GB + 4GB (default) up to 32GB+32GB
2 x 2.5" SATA 3.0 SSD (removable, 15mm)		2 x 2.5" SATA 3.0 SSD (removable, 15mm)		2 x 2.5" SATA 3.0 SSD (15mm)
2 x mSATA 3.0		2 x mSATA 3.0		2 x mSATA 3.0, 1 x CFast (external accessible)
1 x VGA, 1 x HDMI, 1 x ultraONE+		1 x VGA, 1 x HDMI		1 x VGA, 1 x HDMI (optional)
1 x Mic-in, 1 x Line-out		1 x Mic-in, 2 x Line-out		1 x Mic-in, 2 x Line-out
1 x Intel® 10/100/1000		2 x Intel® 10/100/1000		2 x Intel® 10/100/1000
8 x Independent Intel® 10/100/1000 (w/ 802.3at/af). Total 60W		N/A		4 x Independent Intel® 10/100/1000 (w/ 802.3at/af). Total 60W
6 x USB 3.1 (Gen2) 2 x RS232 (full), 1 x RS232 (full)/422/485		6 x USB 3.1 (Gen2) 2 x RS232 (full), 1 x RS232 (full)/422/485		2 x USB 3.1 (Gen2), 2 x USB 2.0 2 x RS232 (full), 1 x RS232 (full)/422/485
4 x DI, 4 x DO		4 x DI, 4 x DO		3 x DI, 3 x DO
1 x CANBus 2.0B (w/ isolation) 12V (2A) N/A		1 x CANBus 2.0B (w/ isolation) 12V (2A) N/A		2 x CANBus 2.0B (w/ isolation) 12V (2A) N/A
3 (eSIM BOM optional)		6 (BOM option up to 8, eSIM BOM optional)		2 (eSIM BOM optional)
2		3 (BOM option up to 4)		1
2 x (USB 2.0, PCIe 3.0/SATA 3.0) 1 x (USB 2.0) for LTE. BOM option to 1 x M.2 3042 Key B (USB 2.0, USB 3.1) for LTE/5G		2 x (USB 2.0, PCIe 3.0/SATA 3.0) 2 x (USB 2.0) for LTE. BOM option to 2 x M.2 3042 Key B (USB 2.0, USB 3.1) for LTE/5G		2 x (USB 2.0, PCIe 3.0/SATA 3.0) 1 x (USB 2.0, PCIe 3.0). BOM option to 1 x M.2 2230 Key E (USB 2.0, 2 x PCIe 3.0) for Dual Edge TPU
1 x M.2 3042 Key B (USB 2.0, USB 3.1) for LTE/5G		1 x M.2 3042/3052 Key B (USB 2.0, USB 3.1) for LTE/5G		1 x M.2 3042/3052 Key B (USB 2.0, USB 3.1) for LTE/5G
VIOB-GPS-02 module (u-blox NEO-M8N) DC 9V to 36V Yes, w/ 8 level delay time setting		VIOB-GPS-02 module (u-blox NEO-M8N) DC 9V to 36V Yes, w/ 8 level delay time setting		VIOB-GPS-02 module (u-blox NEO-M8N) DC 9V to 36V Yes, w/ 8 level delay time setting
Low voltage protection & configuration via software		Low voltage protection & configuration via software		Low voltage protection & configuration via software
N/A		N/A		N/A
N/A		N/A		IP65
CE, FCC Class A, E13		CE, FCC Class A, E13		CE, FCC Class A, E13
Win 10, Linux (Kernel 4.x)		Win 10, Linux (Kernel 4.x)		Win 10, Linux (Kernel 4.x)
260 x 256 x 90.1		260 x 256 x 83.5		260 x 256 x 66.5
-30°C to 60°C		-30°C to 70°C		-30°C to 60°C

Railway Computer

Model					
	nROK 1020-A	VTC 1911-IPK	VTC 6210-R	nROK 6221	nROK 6221-IP
CPU	Intel Atom® x5-E3930, 2 Core, 1.3GHz	Intel Atom® E3815, 1 Core, 1.46GHz	Intel Atom® E3845, 4 Core, 1.91GHz	Intel Atom® x7-E3950, 4 Core, 2.0GHz	Intel Atom® x7-E3950, 4 Core, 2.0GHz
Chipset	N/A	N/A	N/A	N/A	N/A
Memory	1 x DDR3L 1866 SO-DIMM, 4GB (default) up to 8GB	1 x DDR3L 1600 SO-DIMM, 2GB (default) up to 8GB	1 x DDR3L 1600 SO-DIMM, 2GB (default) up to 8GB	1 x DDR3L 1600 SO-DIMM, 4GB (default) up to 8GB	1 x DDR3L 1866 SO-DIMM, 4GB (default) up to 8GB
Storage	1 x 2.5" SATA 3.0 SSD (removable, 9.5mm)	1 x mSATA	1 x 2.5" SATA 2.0 SSD (removable, 9.5mm)	1 x 2.5" SATA 3.0 SSD (removable, 15mm)	1 x 2.5" SATA 3.0 SSD (removable, 15mm)
Second Storage	1 x mSATA (occupied mPCIe socket)	1 x 2.5" SSD (9.5mm) or 1 x SATA DOM	1 x CFast (external accessible)	1 x CFast (external accessible, default) or 1 x mSATA (occupied CFast, BOM optional)	1 x CFast (external accessible, default) or 1 x mSATA (occupied CFast, BOM optional)
Video Out	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI (optional)	1 x VGA, 1 x DP	2 x VGA, 1 x HDMI	2 x VGA
Audio	1 x Mic-in, 1 x Line-out (M12)	1 x Mic-in, 1 x Line-out (DB15)	2 x Mic-in, 2 x Line-out (Phone Jack)	1 x Mic-in, 2 x Line-out (DB9)	1 x Mic-in, 1 x Line-out (M8)
Ethernet	1 x Intel® 10/100/1000 (M12)	2 x Intel® 10/100/1000 (M12)	2 x Intel® 10/100/1000 (M12)	10/100/1000 (M12). (additional 1 x Intel® 10/100/1000 (M12), BOM optional)	10/100/1000 (M12). (additional 1 x Intel® 10/100/1000 (M12), BOM optional)
PoE	N/A	N/A	N/A	N/A	N/A
USB	2 x USB 3.0	1 x USB 2.0	1 x M12 with 2 x USB 2.0 signal, 1 x USB 3.0	1 x M12 with 2 x USB 2.0 signal, 1 x USB 3.0	1 x M12 with 2 x USB 2.0 signal, 1 x USB 3.0
COM	5 x RS232 (Tx, Rx), 2 x RS485	2 x RS232 (Tx, Rx), 1 x RS485	2 x RS232 (Full), 1 x RS422/485. (w/ isolation)	1 x RS232 (Full), 1 x RS232 (Tx, Rx), 1 x RS485. (w/ isolation)	1 x RS232 (Full), 1 x RS232 (Tx, Rx), 1 x RS485. (w/ isolation)
DIO	5 x Programmable DIO	3 x DI, 3 x DO	4 x DI, 4 x DO (w/ isolation)	4 x DI, 4 x DO (w/ isolation)	4 x DI, 4 x DO (w/ isolation)
CAN	1 x CANBus 2.0B	1 x CANBus 2.0B	1 x CANBus 2.0B	1 x CANBus 2.0B (w/ isolation)	1 x CANBus 2.0B (w/ isolation)
DC Output	12V (2A)	N/A	N/A	N/A	N/A
SMBus	1	N/A	N/A	N/A	N/A
SIM Socket	1	2	3	6 (BOM option up to 8, eSIM BOM optional)	6 (BOM option up to 8, eSIM BOM optional)
WWAN	1	1	2	3 (BOM option up to 4)	3 (BOM option up to 4)
mini-PCIe Socket	- 1 x (USB 2.0, PCIe 2.0/SATA 3.0) - 1 x (USB 2.0) for LTE	- 1 x (USB 2.0, PCIe 2.0/SATA 2.0) - 1 x (USB 2.0) for LTE	- 1 x (USB 2.0, PCIe 2.0) - 1 x (USB 2.0, PCIe 2.0) for LTE - 1 x (USB 2.0) for LTE	- 1 x (USB 2.0, PCIe 2.0) - 1 x (USB 2.0, PCIe 2.0). BOM option to 1 x mini-PCIe (USB 2.0) for LTE - 1 x (USB 2.0) for LTE	- 1 x (USB 2.0, PCIe 2.0) - 1 x (USB 2.0, PCIe 2.0). BOM option to 1 x mini-PCIe (USB 2.0) for LTE - 1 x (USB 2.0) for LTE
M.2 Socket	N/A	N/A	N/A	1 x M.2 3042 Key B (USB 2.0, USB 3.0) for LTE/5G 1 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.0) for LTE/5G	1 x M.2 3042 Key B (USB 2.0, USB 3.0) for LTE/5G 1 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.0) for LTE/5G
GNSS	VIOB-GPS-02 module (u-blox NEO-M8N)	Onboard u-blox NEO-M8N	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)
Power Input	DC 24V (w/o isolation)	DC 9V to 36V	DC 24/36V (w/o isolation), 110V (w/ isolation)	DC 24/36V (w/o isolation), DC 24/110V (w/ isolation, optional)	DC 24 (w/ isolation), DC 24/36V (w/o isolation, optional), DC 110V (w/ isolation, optional)
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
Ingress Protection	N/A	IP67	N/A	N/A	IP65
Certification	CE, FCC Class A, EN50155	CE, FCC Class A, E13, EN50155	CE, FCC Class A, EN50155	CE, FCC Class A, EN50155	CE, FCC Class A, EN50155
OS	Win 10 64-bit, Linux (Kernel 4.x)	Win 10, Win 8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10, Win 8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10 64-bit, Linux (Kernel 4.x)	Win 10 64-bit, Linux (Kernel 4.x)
Dimensions (mm)	185 x 120 x 45	185 x 167 x 56.5	260 x 176 x 70	260 x 196 x 70	260 x 198 x 70
Operating Temperature	-40°C to 70°C (OT4)	-40°C to 70°C (OT4)	-40°C to 70°C (OT4)	-40°C to 70°C (OT4)	-40°C to 70°C (OT4)

					
nROK 6222-AC4S	nROK 7251-7A	nROK 7251-7C4	nROK 7251-WI-7C4IP	nROK 7252-C8S	nROK 7252-WI2-C8S
Intel Atom® x7-E3950, 4 Core, 2.0GHz N/A	Intel® Core™ i7-9700TE, 8 Core, 3.8GHz Intel® Q370	Intel® Core™ i7-9700TE, 8 Core, 3.8GHz Intel® Q370	Intel® Core™ i7-9700TE, 8 Core, 3.8GHz Intel® Q370	Intel® Coffee Lake S/ Refresh Core™/Xeon® Intel® C246	Intel® Coffee Lake S/ Refresh Core™/Xeon® Intel® C246
1 x DDR3L 1866 SO-DIMM, 4GB (default) up to 8GB 2 x 2.5" SATA 3.0 SSD (removable, 15mm)	2 x DDR4 2666 SO-DIMM, 8GB (default) up to 64GB 2 x 2.5" SATA 3.0 SSD (removable, 15mm)	2 x DDR4 2666 SO-DIMM, 8GB (default) up to 64GB 2 x 2.5" SATA 3.0 SSD (removable, 15mm)	2 x DDR4 2666 SO-DIMM, 8GB (default) up to 64GB 2 x 2.5" SATA 3.0 SSD (removable, 15mm)	2 x DDR4 2666 SO-DIMM, 8GB (default) up to 64GB 4 x 2.5" SATA 3.0 SSD (removable, 15mm)	2 x DDR4 2666 SO-DIMM, 8GB (default) up to 64GB 2 x 2.5" SATA 3.0 SSD (removable, 15mm)
1 x SD (external accessible), 1 x internal USB DOM	2 x mSATA (occupied mPCIe socket)	2 x mSATA (occupied mPCIe socket)	2 x mSATA (occupied mPCIe socket)	2 x mSATA (occupied mPCIe socket) 1 x Removable SD 3.0	2 x mSATA (occupied mPCIe socket) 1 x Removable SD 3.0
1 x VGA, 2 x HDMI	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI	1 x VGA	1 x VGA, 2 x HDMI	1 x VGA, 2 x HDMI
1 x Mic-in, 1 x Line-out (M8)	1 x Mic-in, 1 x Line-out (M8)	1 x Mic-in, 1 x Line-out (M8)	1 x Mic-in, 1 x Line-out (M8)	1 x Mic-in, 2 x Line-out (DB9)	1 x Mic-in, 2 x Line-out (DB9)
1 x Intel® 10/100/1000 (M12)	2 x Intel® 10/100/1000 (M12)	1 x Intel® 10/100/1000 (M12)	1 x Intel® 10/100/1000 (M12)	2 x Intel® 10/100/1000 (M12)	2 x Intel® 10/100/1000 (M12)
4 x M12 (802.3af/at). Total 60W 1 x M12 with 2 x USB 2.0 signal, 1 x USB 3.0 1 x RS232 (Full), 1 x RS232 (Tx, Rx), 1 x RS422/485. (w/ isolation) 4 x DI, 4 x DO (w/ isolation) 1 x CANBus 2.0B (w/ isolation) N/A N/A 2 (eSIM BOM optional) 1	N/A 1 x M12 with 2 x USB 2.0 signal, 4 x USB 3.1 (Gen2) 2 x RS232 (Full), 1 x RS232 (Full)/422/485. (w/ isolation) 4 x DI, 4 x DO (w/ isolation) N/A N/A N/A 6 (BOM option up to 8, eSIM BOM optional) 3 (BOM option up to 4)	4 x M12 (802.3af/at). Total 60W 1 x M12 with 2 x USB 2.0 signal, 4 x USB 3.1 (Gen2) 2 x RS232 (Full), 1 x RS232 (Full)/422/485. (w/ isolation) 4 x DI, 4 x DO (w/ isolation) N/A N/A N/A 6 (BOM option up to 8, eSIM BOM optional) 3 (BOM option up to 4)	4 x M12 (802.3af/at). Total 60W 1 x M12 with 2 x USB 2.0 signal, 4 x USB 3.1 (Gen2) 2 x RS232 (Full), 1 x RS232 (Full)/422/485. (w/ isolation) 4 x DI, 4 x DO (w/ isolation) N/A N/A N/A 6 (BOM option up to 8, eSIM BOM optional) 3 (BOM option up to 4)	8 x M12 (802.3af/at). Total 60W 1 x M12 with 2 x USB 2.0 signal, 4 x USB 3.1 (Gen2) 2 x RS232 (Full), 1 x RS232 (Full)/422/485. (w/ isolation) 4 x DI, 4 x DO (w/ isolation) 1 x CANBus 2.0B (w/ isolation) N/A N/A N/A 6 (BOM option up to 8, eSIM BOM optional) 3 (BOM option up to 4)	8 x M12 (802.3af/at). Total 60W 1 x M12 with 2 x USB 2.0 signal, 4 x USB 3.1 (Gen2) 2 x RS232 (Full), 1 x RS232 (Full)/422/485. (w/ isolation) 4 x DI, 4 x DO (w/ isolation) 1 x CANBus 2.0B (w/ isolation) N/A N/A N/A 6 (BOM option up to 8, eSIM BOM optional) 3 (BOM option up to 4)
- 2 x (USB 2.0, PCIe 2.0) - 1 x (USB 2.0) for LTE. BOM option to 1 x M.2 3042 Key B (USB 2.0, USB 3.0) for LTE/5G	- 1 x (USB 2.0, PCIe 3.0/SATA 3.0) - 1 x (USB 2.0, PCIe 3.0/SATA 3.0). BOM option to 1 x mini-PCIe (USB 2.0) for LTE - 1 x (USB 2.0) for LTE. BOM option to 1 x M.2 3042 Key B (USB 2.0, USB 3.1 Gen2) for LTE/5G			- 1 x (USB 2.0, PCIe 3.0/SATA 3.0) - 1 x (USB 2.0, PCIe 3.0/SATA 3.0). BOM option to 1 x mini-PCIe (USB 2.0) for LTE/5G - 1 x (USB 2.0) for LTE. BOM option to 1 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.1 Gen2) for LTE/5G	- 1 x (USB 2.0, PCIe 3.0/SATA 3.0) - 1 x (USB 2.0, PCIe 3.0/SATA 3.0). BOM option to 1 x mini-PCIe (USB 2.0) for LTE/5G - 1 x (USB 2.0) for LTE. BOM option to 1 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.1 Gen2) for LTE/5G
1 x M.2 3042 Key B (USB 2.0, USB 3.0) for LTE/5G (BOM optional)	2 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.1 Gen2) for LTE/5G	2 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.1 Gen2) for LTE/5G	2 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.1 Gen2) for LTE/5G	2 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.1 Gen2) for LTE/5G	2 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.1 Gen2) for LTE/5G
u-blox NEO-M8N on board	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)
DC 24/36V (w/o isolation) DC 24/110V (w/ isolation, external power kit, optional) Yes, w/ 8 level delay time setting	DC 24V (w/o isolation)	DC 24V (w/o isolation)	DC 24~110V (w/ isolation)	DC 24/36V (w/o isolation)	DC 24~110V (w/ isolation, 3-second protection against temporary voltage dips)
Low voltage protection & configuration via software N/A	Low voltage protection & configuration via software N/A	Low voltage protection & configuration via software N/A	Low voltage protection & configuration via software IP65	Low voltage protection & configuration via software N/A	Low voltage protection & configuration via software N/A
CE, FCC Class A, EN50155	CE, FCC Class A, EN50155	CE, FCC Class A, EN50155	CE, FCC Class A, EN50155	CE, FCC Class A, EN50155	CE, FCC Class A, EN50155
Win 10 64-bit, Linux (Kernel 4.x)	Win 10 64-bit, Linux (Kernel 4.x)	Win 10 64-bit, Linux (Kernel 4.x)	Win 10 64-bit, Linux (Kernel 4.x)	Win 10 64-bit, Linux (Kernel 4.x)	Win 10 64-bit, Linux (Kernel 4.x)
260 x 196 x 66.5	260 x 256 x 84	260 x 256 x 84	260 x 256 x 110	260 x 266 x110	260 x 266 x110
-40°C to 70°C (OT4)	-40°C to 70°C (OT4)	-40°C to 70°C (OT4)	-40°C to 70°C (OT4)	-40°C to 70°C (OT4)	-40°C to 70°C (OT4)

Modular Vehicle Computer System

Model										
	MVS 2620-IPK	MVS 2623-C6SMK	MVS 2623-C8SK	MVS 5600-3BU	MVS 5600-7BU					
CPU	Intel Atom® x7-E3950, 4 Core, 2.0GHz	Intel Atom® x7-E3950, 4 Core, 2.0GHz	Intel Atom® x7-E3950, 4 Core, 2.0GHz	Intel® Core™ i3-6100U, 2 Core, 2.3GHz	Intel® Core™ i7-6600U, 2 Core, 2.6GHz					
Chipset	N/A	N/A	N/A	N/A	N/A					
Memory	1 x DDR3L 1866 SO-DIMM, 4GB (default) up to 8GB	1 x DDR3L 1866 SO-DIMM, 4GB (default) up to 8GB	1 x DDR3L 1866 SO-DIMM, 4GB (default) up to 8GB	2 x DDR3L 1600/1866 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1600/1866 SO-DIMM, 2GB (default) up to 16GB					
Storage	1 x 2.5" SATA 3.0 SSD/HDD	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	1 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	1 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)					
Second Storage	1 x CFast (external accessible)	N/A	N/A	1 x CFast (external accessible)	1 x CFast (external accessible)					
Video Out	1 x VGA	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI					
Audio	1 x Mic-in, 2 x Line-out	2x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out					
Ethernet	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000					
PoE	N/A	6 x GbE in switching (802.3af/at), M12 A-coded, 60W	8 x GbE in switching (802.3af), 60W	N/A	N/A					
USB	3 x USB 2.0	2 x USB 3.0, 1 x USB 2.0	2 x USB 3.0, 1 x USB 2.0	4 x USB 3.0	4 x USB 3.0					
COM	2 x RS232 (Full), 1 x RS232 (Tx/Rx), 2 x RS485	2 x RS232 (Full), 1 x RS232 (Full)/422/485	2 x RS232 (Full), 1 x RS232 (Full)/422/485	2 x RS232 (Full), 1 x RS232 (Full)/422/485	2 x RS232 (Full), 1 x RS232 (Full)/422/485					
DIO	3 x DI (w/ isolation) 3 x DO (w/ isolation)	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency					
CAN	1 x CANBus 2.0B (w/ isolation)	1 x CANBus 2.0B	1 x CANBus 2.0B	1 x CANBus 2.0B	1 x CANBus 2.0B					
DC Output	12V (2A)	12V (2A)	12V (2A)	12V (2A)	12V (2A)					
SMBus	N/A	1	1	1	1					
SIM Socket	3	5	3	3	3					
WWAN	2	3	2	2	2					
mini-PCIe Socket	1 x (USB 2.0, PCIe 2.0) for LTE 1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0)	1 x (USB 2.0, PCIe 2.0) for LTE 1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0)	1 x (USB 2.0, PCIe 2.0) for LTE 1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0)	1 x (USB 2.0, PCIe 2.0) for LTE 1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0)	1 x (USB 2.0, PCIe 2.0) for LTE 1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0)					
M.2 Socket	N/A	1 x M.2 3042 Key B (USB 2.0, USB 3.0) for LTE/5G	N/A	N/A	N/A					
GNSS	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)					
Power Input	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V					
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting					
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software					
Back Up Battery	N/A	Internal (optional)	Internal (optional)	Internal (optional)	Internal (optional)					
Ingress Protection	IP65	N/A	N/A	N/A	N/A					
Certification	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13					
OS	Win 10, Linux (Kernel 4.x)	Win 10, Linux (Kernel 4.x)	Win 10, Linux (Kernel 4.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (Kernel 4.x)					
Dimensions (mm)	260 x 198 x 50	260 x 196 x 79.6	260 x 196 x 79.6	260 x 196 x 66.5	260 x 196 x 66.5					
Operating Temperature	-40°C to 70°C	-40°C to 70°C (w/o internal back up battery)	-40°C to 70°C (w/o internal back up battery)	-30°C to 60°C (w/o internal back up battery)	-30°C to 60°C (w/o internal back up battery)					

											
MVS 5600-3IPK	MVS 5600-7IPK	MVS 5603-3C6SMK	MVS 5603-7C6SMK	MVS 5603-3C8SU	MVS 5603-7C8SU						
Intel® Core™ i3-6100U, 2 Core, 2.3GHz	Intel® Core™ i7-6600U, 2 Core, 2.6GHz	Intel® Core™ i3-6100U, 2 Core, 2.3GHz	Intel® Core™ i7-6600U, 2 Core, 2.6GHz	Intel® Core™ i3-6100U, 2 Core, 2.3GHz	Intel® Core™ i7-6600U, 2 Core, 2.6GHz						
N/A	N/A	N/A	N/A	N/A	N/A						
2 x DDR3L 1600/1866 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB						
1 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	1 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)						
1 x CFast (external accessible)	1 x CFast (external accessible)	1 x CFast (external accessible)	1 x CFast (external accessible)	1 x CFast (external accessible)	1 x CFast (external accessible)						
1 x VGA	1 x VGA	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI						
1 x Mic-in, 2 x Line-out	1 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out						
2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000						
N/A	N/A	6 x GbE in switching (802.3af/at), M12, 60W	6 x GbE in switching (802.3af/at), M12, 60W	8 x GbE in switching (802.3af), 60W	8 x GbE in switching (802.3af), 60W						
1 x USB 3.0, 2 x USB 2.0	1 x USB 3.0, 2 x USB 2.0	4 x USB 3.0	4 x USB 3.0	4 x USB 3.0	4 x USB 3.0						
2 x RS232 (Full), 1 x RS232 (Tx/Rx), 2 x RS485	2 x RS232 (Full), 1 x RS232 (Tx/Rx), 2 x RS485	2 x RS232 (Full), 1 x RS232 (Full)/422/485	2 x RS232 (Full), 1 x RS232 (Full)/422/485	2 x RS232 (Full), 1 x RS232 (Full)/422/485	2 x RS232 (Full), 1 x RS232 (Full)/422/485						
3 x DI (w/ isolation) 3 x DO (w/ isolation)	3 x DI (w/ isolation) 3 x DO (w/ isolation)	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency						
1 x CANBus 2.0B (w/ isolation)	1 x CANBus 2.0B (w/ isolation)	1 x CANBus 2.0B	1 x CANBus 2.0B	1 x CANBus 2.0B	1 x CAN Bus 2.0B						
12V (2A)	12V (2A)	12V (2A)	12V (2A)	12V (2A)	12V (2A)						
N/A	N/A	1	1	1	1						
3	3	5	5	3	3						
2	2	3	3	2	2						
1 x (USB 2.0, PCIe 2.0) for LTE 1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0)	1 x (USB 2.0, PCIe 2.0) for LTE 1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0)	1 x (USB 2.0, PCIe 2.0) for LTE 1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0)	1 x (USB 2.0, PCIe 2.0) for LTE 1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0)	1 x (USB 2.0, PCIe 2.0) for LTE 1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0)	1 x (USB 2.0, PCIe 2.0) for LTE 1 x (USB 2.0) for LTE 1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0)						
N/A	N/A	1 x M.2 Key B (USB 3.0/2.0) for LTE/5G	1 x M.2 Key B (USB 3.0/2.0) for LTE/5G	N/A	N/A						
VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)						
DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V						
Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting						
Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software						
N/A	N/A	Internal (optional)	Internal (optional)	Internal (optional)	Internal (optional)						
IP65	IP65	N/A	N/A	N/A	N/A						
CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13						
Win 10, Win 8, WES 8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (Kernel 4.x)						
260 x 198 x 66.5	260 x 198 x 66.5	260 x 196 x 91	260 x 196 x 91	260 x 196 x 91	260 x 196 x 91						
-30°C to 60°C	-30°C to 60°C	-30°C to 60°C	-30°C to 60°C	-30°C to 60°C	-30°C to 60°C						

Vehicle Mount Computer

Model		 Coming soon		 NEW
	VMC 110/111	VMC 220-PC1	VMC 1100	VMC 2020-PC1
CPU	NXP i.MX6 Dual Lite, 2 Core, 800 MHz	NXP i.MX 8M Quad	Intel Atom® E3825, 2 Core, 1.33GHz	Intel Atom® x7-E3950, 4 Core, 2.0GHz
Chipset	N/A	N/A	N/A	N/A
Memory	1 x 2GB DDR3L onboard	1 x 4GB DDR4 onboard	1 x DDR3L 1600 SO-DIMM, 2GB (default) up to 8GB	1 x DDR3L 1600 SO-DIMM, 4GB (default) up to 8GB
Storage	1 x eMMC 8GB 1 x Micro SD	1 x eMMC 32GB 1 x Micro SD	1 x SATA 3.0 SATA DOM 3.0	1 x eMMC 64GB 1 x mSATA (occupied mini-PCIe socket)
LCD Size	7" TFT LCD	8" TFT LCD	7" TFT LCD	8" TFT LCD
Resolution	1024 x 600	1280 x 720	800 x 480	1280 x 720
Brightness (Typ.)	500cd/m²	1000cd/m²	400cd/m²	1000cd/m²
Contrast Ratio	800:1	1000:1	600:1	1000:1
View Angle	V: 70/75 H: 75/75	V: 85/85 H: 85/85	V: 50/70 H: 70/70	V: 85/85 H: 85/85
Brightness Adjustment	Auto via light sensor	Auto via light sensor	Auto via light sensor	Auto via light sensor
Touch Screen	4-wire resistive, anti-glare	Projected capacitive, anti-glare	4-wire resistive, anti-glare	Projected capacitive, anti-glare
Speaker	2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker
Control Button	F1~ F5 function key 1 x Power button 2 x Brightness/volume control 1 x System reset button	F1~ F4 function key (2 x Brightness/volume control) 1 x Power button 1 x System reset button	F1~ F5 function key 1 x Power button 2 x Brightness/volume control 1 x System reset button	F1~ F4 function key (2 x Brightness/volume control) 1 x Power button 2 x Volume control 1 x System reset button
Video Input	N/A	4 x CVBS	N/A	4 x CVBS (optional)
Audio	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out
Ethernet	1 x Intel® 10/100/1000	1 x Intel® 10/100/1000 (M12)	1 x Intel® 10/100/1000	1 x Intel® 10/100/1000 (M12)
PoE	N/A	N/A	N/A	N/A
USB	3 x USB 2.0	3 x USB 2.0	1 x USB 3.0 2 x USB 2.0	1 x USB 3.0 2 x USB 2.0
COM	1 x RS232 (Full), 1 x RS232 (Tx, Rx)/485	1 x RS232 (Full), 1 x RS232 (Tx, Rx), 1 x RS232 (Tx, Rx)/RS422/RS485	1 x RS232 (Full), 1 x RS232 (Tx, Rx) or 1 x RS485	1 x RS232 (Full), 1 x RS232 (Tx, Rx), 1 x RS232 (Tx, Rx)/RS422/RS485
DIO	3 x DI, 3 x DO	1 x PWM, 1 x Direction, 2 x DI, 2 x DO	2 x PWM, 2 x AI, 2 x DI, 2 x DO	1 x PWM, 1 x Direction, 2 x DI, 2 x DO
CAN	2 x CANBus 2.0B	1 x CANBus 2.0B (w/ isolation)	1 x CANBus 2.0B	1 x CANBus 2.0B (w/ isolation)
SIM Socket	1	2	1	2
WWAN	1	1	1	1
mini-PCIe Socket	1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE	N/A	1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE	1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0, PCIe 2.0/SATA 3.0)
M.2 Socket	N/A	1 x M.2 2230 Key E (PCIe 2.0, SDIO 3.0, UART) 1 x M.2 3042/3050/3052 Key B (USB 3.0) for LTE/5G	N/A	1 x M.2 3042/3050/3052 Key B (USB2.0, USB 3.0) for LTE/5G
GNSS	Onboard u-blox NEO-M8N	VIOB-GPS-02 module (u-blox NEO-M8N)	Onboard u-blox NEO-M8N	VIOB-GPS-02 module (u-blox NEO-M8N)
Power Input	DC 9V to 36V	DC 9V to 60V	DC 9V to 36V	DC 9V to 60V
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
Internal Back Up Battery	N/A	Optional	N/A	Optional
Ingress Protection	Front panel IP54	IP65	Front panel IP54	IP65
Certification	CE, FCC Class B, E13	CE, FCC Class B, E13, IK08	CE, FCC Class B, E13, SAE J1113, SAE J1455, ISO7637-2, EN 60950-1 LVD	CE, FCC Class B, E13, IK08
OS	Android 5.1	Android 10.0, Linux (YOCTO 3.0)	Win 10 64-bit, Win 8, WES8, Win 7, WES 7, Linux (Kernel 4.x)	Win 10 64-bit, Linux (Kernel 4.x)
Mounting	VESA 75	VESA 75	VESA 75	VESA 75
Dimensions (mm)	213 x 145 x 40	250 x 179 x 68	213 x 145 x 50	250 x 179 x 68
Operating Temperature	-20°C to 70°C	-30°C to 70°C	-20°C to 60°C	-30°C to 60°C

			
VMC 3020	VMC 3021	VMC 4020-4A0	VMC 4020-4A1
Intel Atom® x5-E3930, 2 Core, 1.3GHz	Intel Atom® x7-E3950, 4 Core, 2.0GHz	Intel Atom® x7-E3950, 4 Core, 2.0GHz	Intel Atom® x7-E3950, 4 Core, 2.0GHz
N/A	N/A	N/A	N/A
1 x DDR3L 1866 SO-DIMM slot 4GB (default) up to 8GB	1 x DDR3L 1866 SO-DIMM slot 4GB (default) up to 8GB	1 x DDR3L 1866 SO-DIMM slot 4GB (default) up to 8GB	1 x DDR3L 1866 SO-DIMM slot 4GB (default) up to 8GB
1 x CFast 1 x 2.5" SSD bay (9.5mm)	1 x CFast 1 x 2.5" SSD bay (9.5mm)	1 x CFast 1 x 2.5" SSD bay (9.5mm)	1 x CFast 1 x 2.5" SSD bay (9.5mm)
10.4" TFT LCD	10.4" TFT LCD	12.1" TFT LCD	12.1" TFT LCD
1024 x 768	1024 x 768	1024 x 768	1024 x 768
1200cd/m²	1200cd/m²	1200cd/m²	1200cd/m²
900:1	900:1	750:1	750:1
V: 85/85 H: 85/85	V: 85/85 H: 85/85	V: 85/85 H: 85/85	V: 85/85 H: 85/85
Auto via light sensor	Auto via light sensor	Auto via light sensor	Auto via light sensor
5-wire resistive, anti-glare	5-wire resistive, anti-glare	5-wire resistive, anti-glare	5-wire resistive, anti-glare
2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker
1 x Power button 2 x Brightness control 2 x Volume control 5 x Function key 1 x Shift key	1 x Power button 2 x Brightness control 2 x Volume control 5 x Function key 1 x Shift key	1 x Power button 2 x Brightness control 2 x Volume control 5 x Function key 1 x Shift key	1 x Power button 2 x Brightness control 2 x Volume control 5 x Function key 1 x Shift key
N/A	3 x CVBS	3 x CVBS	3 x CVBS
1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out
1 x Intel® 10/100/1000	1 x Intel® 10/100/1000 (M12)	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000 (M12)
N/A	1 x (802.3af/at). Total 30W (optional)	1 x (802.3af/at). Total 30W (optional)	1 x (802.3af/at). Total 30W (optional)
2 x USB 2.0 (5V/1.0A) 1 x Power USB (5V/1.5A, 12V/1.5A)	2 x USB 2.0	2 x USB 2.0	2 x USB 2.0
2 x Powered RS232 (Full, 5V/1.5A, 12V/1.5A)	1 x RS232 (Full)/422/485, 1 x RS232 (Tx, Rx)/422/485	2 x RS232 (Full)/422/485	1 x RS232 (Full)/422/485, 1 x RS232 (Tx, Rx)/422/485
2 x DI, 2 x DO	2 x DI, 2 x DO	1 x DI, 2 x DO	2 x DI, 2 x DO
1 x CANBus 2.0B (w/ isolation)	2 x CANBus 2.0B (w/ isolation)	2 x CANBus 2.0B (w/ isolation)	2 x CANBus 2.0B (w/ isolation)
1	1	2	2
1	1	1	1
1 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE	3 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE	3 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE	3 x (USB 2.0, PCIe 2.0) 1 x (USB 2.0) for LTE
1 x M.2 2230 Key E (USB 2.0, PCIe 2.0, SDIO 3.0, UART)	N/A	N/A	N/A
Optional	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)
DC 9V to 60V	DC 9V to 60V	DC 9V to 60V	DC 9V to 60V
Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
Optional	Optional	Optional	Optional
Front Panel IP65	IP65	Front IP65	IP65
CE, FCC Class B, E13	CE, FCC Class B, E13	CE, FCC Class B, E13	CE, FCC Class B, E13
Win 10 64-bit, Linux (Kernel 4.x) VESA 75/100	Win 10 64-bit, Linux (Kernel 4.x) VESA 75/100	Win 10 64-bit, Linux (Kernel 4.x) VESA 75/100	Win 10 64-bit, Linux (Kernel 4.x) VESA 75/100
290 x 230 x 68	290 x 230 x 68	340 x 262 x 75	340 x 262 x 75
-30°C to 60°C	-30°C to 60°C	-30°C to 60°C	-30°C to 60°C

Vehicle Mount Display

Model			
	VMD 1000	VMD 1001	VMD 2000
LCD Size	7" TFT LCD	7" TFT LCD	8" TFT LCD
Resolution	800 x 480	800 x 480	800 x 600
Brightness (Typ.)	500cd/m²	500cd/m²	400cd/m²
Contrast Ratio	600:1	600:1	500:1
View Angle	V: 60/60 H: 70/70	V: 60/60 H: 70/70	V: 50/70 H: 70/70
Brightness Adjustment	Auto via light sensor	Auto via light sensor	Auto via light sensor
Touch Screen	4-wire resistive, anti-glare	4-wire resistive, anti-glare	4-wire resistive, anti-glare
Speaker	2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker
Camera	N/A	N/A	N/A
Control Button	1 x Monitor power button 2 x Brightness control 2 x Volume control	1 x Monitor power button 2 x Brightness control 2 x Volume control	1 x Monitor power button 2 x Brightness control 2 x Volume control
Video Input	Integrated LVDS CONN (LVDS, USB, 12V)	VGA	Integrated LVDS CONN (LVDS, USB, 12V)
Audio	1 x Mic-in (lateral side) 1 x Mic-out (lateral side) 1 x Line-in (bottom side) 1 x Mic-out (bottom side)	1 x Line-in (lateral side) 1 x Line-out (lateral side)	1 x Line-out (lateral side) 1 x Mic-in (lateral side) 1 x Line-in (bottom side) 1 x Mic-out (bottom side)
USB	1 x USB 2.0	2 x USB 2.0	1 x USB 2.0
Remote Power Button	Remotely power on/off VTC, MVS & ATC	N/A	Remotely power on/off VTC, MVS & ATC
Power Input	DC 12V (via LVDS)	DC 9V to 36V	DC 12V (via LVDS)
Ingress Protection	Front panel IP54	Front panel IP54	Front panel IP54
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B
Mounting	VESA 75	VESA 75	VESA 75
Dimensions (mm)	182 x 138 x 36.3	182 x 138 x 36.3	207 x 173 x 36.7
Operating Temperature	-20°C to 70°C	-20°C to 70°C	-20°C to 60°C

			
VMD 2002	VMD 2003	VMD 3002	VMD 3110
8" TFT LCD	8" TFT LCD	10.4" TFT LCD	10.4" TFT LCD
800 x 600	800 x 600	1024 x 768	1024 x 768
400cd/m²	1000cd/m²	1200cd/m²	1200cd/m²
500:1	500:1	900:1	900:1
V: 50/70 H: 70/70	V: 60/60 H: 70/70	V: 85/85 H: 85/85	V: 85/85 H: 85/85
Auto via light sensor	Auto via light sensor	Auto via light sensor	Auto via light sensor
4-wire resistive, anti-glare	4-wire resistive, anti-glare	Projected capacitive	Projected capacitive
2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker
N/A	N/A	N/A	N/A
1 x Monitor power button 2 x Brightness control 2 x Volume control	1 x Monitor power button 2 x Brightness control 2 x Volume control	1 x Monitor power button 1 x OSD menu 2 x Brightness control 2 x Volume control 1 x Auto config	1 x Monitor power button 1 x OSD menu 2 x Brightness control 2 x Volume control 1 x Auto config
Integrated DVI CONN (VGA, USB, 12V)	ultraONE+, 4 x CVBS	VGA, 4 x CVBS	ultraONE+, 4 x CVBS
1 x Line-out (lateral side) 1 x Mic-in (lateral side) 1 x Line-in (bottom side) 1 x Mic-out (bottom side)	"1 x Line-out (lateral side) 1 x Mic-in (lateral side)"	1 x Line-in	1 x Line-in
1 x USB 2.0	1 x USB 2.0	1 x USB 2.0	1 x USB 2.0
N/A	Remotely power on/off VTC, MVS & ATC	N/A	Remotely power off VTC, MVS & ATC
DC 9V to 36V	DC 24V (via ultraONE+)	DC 9V to 36V	DC 24V (via ultraONE+)
Front panel IP54	Front panel IP54	IP65	IP65
CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B
VESA 75	VESA 75	VESA 75/100	VESA 75/100
207 x 173 x 36.7	207 x 173 x 36.7	256.5 x 202.1 x 31.5	256.5 x 202.1 x 31.5
-20°C to 60°C	-20°C to 60°C	-20°C to 60°C	-20°C to 60°C

Add-On Modules and Devices

Model					
	AIBooster-X1	VIOB-CAN-03	VIOB-CAN-04-RAG	VIOB-CAN-05	VIOB-CAN-06
Description	Intel® Movidius™ MA 2485 x 1	CANBus 2.0B or OBD SAE J1939 module	Dual CANBus 2.0B module	SAE J1708 module	OBD SAE J1939 module
Input I/F	PCIe	UART	USB 2.0	USB 2.0	USB 2.0
Input Connector	mini-PCIe socket	2 x 5-pin wafer	mini-PCIe Socket	mini-PCIe Socket or USB wafer	mini-PCIe Socket or USB wafer
Output I/F	N/A	CANBus 2.0B or OBD SAE J1939	CANBus 2.0B	SAE J1708/J1587/J1922	OBD SAE J939
Output Connector	N/A	2 x 5-pin wafer	6-pin wafer to DB9	3-pin wafer to DB9	3-pin wafer to DB9
Form Factor	Full-size mini-PCIe	Proprietary	Full-size mini-PCIe	Full-size mini-PCIe	Full-size mini-PCIe
Dimensions (mm)	51 x 30	50 x 28	51 x 30	51 x 30	51 x 30
Operating Temperature	-30°C to 70°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Remark	Intel® Movidius™ VPU AI module	* CANBus 2.0B & SAE J1939 selection by switch	-	-	-

Model					
	VIOB-LTE-AD-02	VIOB-LTE-AD-03	VIOB-AE1M-01	VTK-GE64	VIOP-GE74
Description	mini-PCIe to M.2 converter module	M.2 to mini-PCIe converter module	1-port 100Mbps automotive Ethernet module	4-port GbE/GigE PoE PCIe card	4-port GbE/GigE PoE PCIe card
Input I/F	USB 2.0	USB 2.0, USB 3.0	USB 2.0	PCIe 3.0	PCIe 3.0
Input Connector	mini-PCIe	M.2 Key B + M	mini-PCIe or USB wafer	PCIe 3.0 x4	PCIe 3.0 x4 + Proprietary G.F.
Output I/F	M.2 3042 Key B	mini-PCIe	1-pair UTP	4x 10/100/1000Mbps Ethernet	4 x 10/100/1000Mbps Ethernet & 2 x M.2 2280 Key M NVMe storage
Output Connector	M.2 (socket)	mini-PCIe (socket)	4-pin wafer to DB9	4 x RJ45 (M12 in option)	4 x RJ45 (M12 in option)
Form Factor	Full-size mini-PCIe	M.2 3042/3052 Key B + M	Full-size mini-PCIe	PCIe x4 card	PCIe x4 card
Dimensions (mm)	51 x 30	62 x 31	51 x 30	168 x 111 (L x H), 1-slot width	190 x 111 (L x H), 1-slot width
Operating Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-30°C to 85°C	-30°C to 85°C
Remark	* Only for Sierra EM7430/EM7455	* Only for LTE module	* BroadR-reach technology	PSE, 60W in total	PSE, 60W in total

				
VIOB-PA22-01	VIOB-TPMS-01	VIOB-GPS-02	VIOB-GPS-DR02	VIOB-GPS-DR03
2 x Mic-in & 2 x Line-out module	Tire Pressure Monitoring System (TPMS) module	u-blox M8N module	u-blox M8L module	u-blox M8U module
USB 2.0	USB 2.0	UART	UART	UART
mini-PCIe or USB wafer	mini-PCIe Socket or USB wafer	6-pin wafer	6-pin wafer	6-pin wafer
Audio	None	UART	UART	UART
2 x 6-pin wafer to DB9	None	6-pin wafer	6-pin wafer	6-pin wafer
Full-Size mini-PCIe	Full-size mini-PCIe	Proprietary	Proprietary	Proprietary
51 x 30	51 x 30	25.4 x 25.4	25.4 x 25.4	25.4 x 25.4
-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
-	* Tire pressure, temperature and voltage information available. * RF 433MHz	* GNSS support with GPS, GLONASS, Galileo, BeiDou and QZSS	* GNSS support with GPS, GLONASS, Galileo, BeiDou and QZSS * Automotive Dead Reckoning (ADR) * With battery	* GNSS Support with GPS, GLONASS, Galileo, and BeiDou * Untethered Dead Reckoning (UDR) * With battery

				
VTK-GEM640	VTK-62B + VTK-62B1-BK/ VTK-62B2-BK	VTK-RELAY-01	VTK6222-APK/ VTK6222-FPK	VIP 1000-T/ VIP 1000-R
4-port M12 GigE/GbE PoE PCIe card	Smart backup battery kit	Vehicle relay module	External attachable power isolation kit	HDMI over IP Extender
PCIe 3.0	9~36VDC	USB 2.0 or RS-232 (Tx/Rx)	VTK 6222-APK: 24VDC VTK 6222-FPK: 110VDC	VIP 1000-T: HDMI, USB 2.0 VIP 1000-R: 2 x Ethernet
PCIe 3.0 x4	3-pin terminal block	USB type A or DB9	M12 (5-pin)	HDMI, USB type A, RJ45
4 x M12 X-coded 10/100/1000Mbps Ethernet	10~12VDC (from backup battery) 9~36VDC (from vehicle battery) Communication: RS232/SMBus	4 x Relay 4 x DI 4 x DO 1 x Analog input 1 x Frequency input	24VDC	VIP 1000-T: Ethernet VIP 1000-R: HDMI, VGA, USB 2.0, Audio, 12VDC
4 x M12 X-coded	Power: 3-pin terminal block Communication: 2 x 5-pin	Terminal block	M12 (5-pin)	HDMI, USB type A, RJ45, VGA (DB15), 12VDC (2-pin)
PCIe x4 card	Proprietary	Proprietary	Proprietary	Proprietary
168 x 111 (L x H), 1-slot width	(1) 280 (W) x 150 (D) x 42.2 (H) (2) 297.3 (W) x 175 (D) x 39 (H)	126 (W) x 124 (D) x 24 (H)	120 (W) x 198 (D) x 50 (H)	110 x 100 x 31
-30°C to 85°C	Charging: 0°C to 45°C Discharging: 0°C to 55°C	-40°C to 85°C	-40°C to 70°C	VIP 1000-T: -20°C~70°C VIP 1000-R: 0°C~70°C
PSE, 60W in total	Capacity: 8600mAh (Li-Ion) 60W output	It is remotely controlled through USB or RS-232 communication	Only for nROK 6222	Power input: 9~36VDC E Mark

Railway Computer - Panel PC

Coming soon

Model	
	vROK 3030
CPU	Intel Atom® x6414RE, 4 Core, 1.50GHz
Chipset	N/A
Memory	1 x DDR4 266 SO-DIMM, 4GB (default) up to 8GB
Storage	1 x mSATA (occupied mini-PCIe socket) 1 x 2.5" SSD bay (9.5mm)
LCD Size	10.4" TFT LCD
Resolution	1024 x 768
Brightness (Typ.)	1200cd/m²
Contrast Ratio	900:1
View Angle	V: 85/85 H: 85/85
Brightness Adjustment	Auto via light sensor
Touch Screen	Projected capacitive, anti-glare
Speaker	N/A
Control Button	32 Keypads (compliant with UIC 612-01 layout, BOM optional)
Video Input	4 x CVBS
Audio	1 x Line-in, 2 x Line-out (DB9)
Ethernet	2 x Intel® 10/100/1000 (M12)
PoE	Optional
USB	1 x USB 3.1
COM	2 x RS232 (full)/422/485
DIO	4 x DI, 2 x DO (w/ isolation)
CAN	1 x CANBus 2.0B (BOM optional)
SIM Socket	2
WWAN	1
mini-PCIe Socket	1 x (USB 2.0, PCIe 3.0), 1 x (USB 2.0, PCIe 3.0/SATA 3.0)
M.2 Socket	1 x M.2 3042/3050/3052 Key B (USB 2.0, USB 3.1 Gen2) for LTE/5G
GNSS	Optional
Power Input	DC 24/36V (w/o isolation) DC 24/110V (w/ isolation, optional)
Ignition Control	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software
Internal Back Up Battery	N/A
Ingress Protection	Front panel IP65
Certification	CE, FCC Class A, EN50155, EN45545-2
OS	Win 10 64-bit, Linux (Kernel 4.x)
Mounting	VESA 75/100
Dimensions (mm)	310 x 214 x 70
Operating Temperature	-40°C to 70°C (OT4)

Vehicle Network Switch

Model		
	VES30-4S	VES30-8S
Architecture	Unmanaged GbE switch	Unmanaged GbE switch
PoE	4 x Intel® 10/100/1000 (w/ 802.3af). Total 60W	8 x Intel® 10/100/1000 (w/ 802.3af). Total 120W
Ethernet	1 x Intel® 10/100/1000	1 x Intel® 10/100/1000
LED	1 x power indicator 4 x PoE indicator 1 x Low voltage protection indicator	1 x power indicator 8 x PoE indicator 1 x Low voltage protection indicator
Dimensions (mm)	167 x 139.6 x 51.49	167 x 139.6 x 51.49
Ignition Control	Yes	Yes
Power Management	Low voltage protection & power on/off delay time	Low voltage protection & power on/off delay time
Power Input	DC 9V to 36V	DC 9V to 36V
Certification	CE, FCC Class B, E13	CE, FCC Class B, E13
Operating Temperature	-30°C to 70°C	-30°C to 70°C
Operating Temperature	-30°C to 70°C	-30°C to 70°C

About NEXCOM

Reliable Partner for the Intelligent Solutions — Committed to Customer Success

Founded in 1992 and headquartered in Taipei, Taiwan, NEXCOM is committed to being your trustworthy partner in building the intelligent solutions. To surpass customers' expectations, NEXCOM makes the difference by utilizing its decades of industrial computing experience, a highly talented R&D team, and by providing exceptional levels of customer service. With these core strengths, NEXCOM has enabled its customers to win key projects in a diverse range of industries.

With its focus on delivering these core values to better serve customers, NEXCOM integrates its capabilities and operates six global businesses, which are IoT Automation Solutions, Intelligent Video Security, Intelligent Platform @ Smart City, Mobile Computing Solutions, Medical

and Healthcare Informatics, Network and Communication Solutions. This strategic deployment enables NEXCOM to offer time-to-market, time-to-solution products and service without compromising cost.

In addition, the service-to-market business model gives NEXCOM core competence to build a strong world-class service network by providing customized service, global logistics, local access, and real-time support. Operating six subsidiaries, from China, Japan, Taiwan, the United States, to the United Kingdom, NEXCOM is able to better facilitate customers' requirements as well as closely work with global partners in different regions.

Partners should also be assured that NEXCOM's Taiwan based Headquarters and subsidiary offices in China, UK and USA have obtained ISO 9001:2008 Certification.



IAS	IoT Automation Solutions: Industrial Automation & IIoT Execution, Intelligent Edge, Gateway & EWR, Industrial Robot Control, EtherCAT Motion Solutions, Wireless & Embedded Solutions for Industrial IIoT
IDS	Intelligent Video Surveillance: IP Video Surveillance Cameras, Mobile Cameras, ANPR/LPR Network Cameras, Panoramic Cameras, NVR Server Platform
IPS	Intelligent Platform @ Smart City: Smart City, Smart Retail, Digital Signage, Interactive Kiosks, Hospitality, Gateway, AI Edge and ODM Customization Services
MCS	Mobile Computing Solutions: Rugged Vehicular Computers and Equipment, Vehicular Telematics Computers, Railway Computers, In-Vehicle AI
MHI	Medical and Healthcare Informatics: Total Solutions with a Variety of Medical IT Systems
NCS	Network and Communication Solutions: Network Security, HPC, Telecommunications, Storage, SDN/NFV, Industrial Security

Corporate Vision

To become the industrial leader in providing intelligent solutions, NEXCOM utilizes its industry leading technology, localized customer support and worldwide logistics services. This will be achieved by:

- Great team work
- Cooperation with trusted partners
- Growth through innovation

Corporate Mission

- An innovative supplier in vertical application markets
- A quality partner in engineering, manufacturing and services

Business Strategy

Aim to better support the activities of all its partners, NEXCOM divides its sales force into eight dedicated business units to target rapidly expanding vertical markets. This enhances each business unit concentrating on strategic channel accounts and on repeat order business. Moreover, NEXCOM's business units have been set up to serve the requirements of key project accounts, where product ODM and project support are frequently required.

NEXCOM is working with embedded computing solution providers to envision new opportunities for growth. We'll help you deliver reliable vertical solutions, optimized for the next wave of IIoT and Industry 4.0 solutions.

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