

Intelligent Transportation Systems
Certified Fanless Computer



Product Selection Book

- EDGE AI GPU COMPUTING
- IN-VEHICLE COMPUTING
- EMBEDDED COMPUTING
- VIDEO SURVEILLANCE

About SINTRONES

Your Trusted Partner - In-Vehicle Computer

SINTRONES is a world-renowned and ISO 9001 & IRIS ISO/TS 22163 certified company of in-vehicle computing system products. We are dedicated to provide our customers with high quality system products that meet international traffic standards certification, including EN50121, EN50155, E-Mark, IEC60945, IACS E10, DNV and MIL-810.

Our team has years of product design and sales experiences in X86 platforms as well as vertical system integration of applications. Our in-vehicle computing products were awarded several patents in many countries across the world. With reliable and powerful engineering ability in R&D, SINTRONES provides stable and high-quality product solutions align with customers' short and long-term needs. We are proud of the passion, agility, and professional efficient service we offer.

SINTRONES in-vehicle computing solutions aim to complement our customers' success. We thoroughly integrate internal and external resources of sales, R&D, product planning and marketing to truly perform professional, high-quality and simultaneous services and create maximal value for our customers with best C/P ratio products. SINTRONES in-vehicle computing solutions have been widely adopted and approved by many well-known international brands and companies in industries.



IRIS ISO/TS 22163



ISO9001 2015

Why SINTRONES?

Intelligent Transportation System



Technologies

Design Feature



Delay Time
On / Off



Power Ignition /
Power Management



Fanless Design



CPU + GPU Design



Design for Wide
Range DC Input
+9~48VDC
77~137VDC



Build-in UPS



IP65 Standard



Vibration & Shock



Extended Temp. :
-40~70°C

Integrated Capability



5G / 4G



Wifi



GPS



EMark



EN50155



IEC 60945

Certification

Patent Certificate

Build-in UPS



• M447854

Automatic SIM Card Detection



• M592609

Thermal Cooling



• M565941

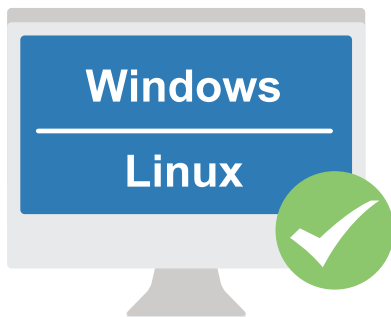
SinSmart software Utility

SinSmart is an SINTRONES exclusive software tool design to simplify information and provide an easy to access between SINTRONES's products and the customer software.

SinSmart provides a quick software interfaces for users easy to make connectivity and software design function including:



- PoE management
- Build-In UPS of battery management
- GPIO management
- Watch Dog Management
- System temperature monitoring
- SIM card switchable



For Windows and Linux



One Click Management



Can be Access via WLAN or WWAN

GPS Dead Reckoning and G-Sensor

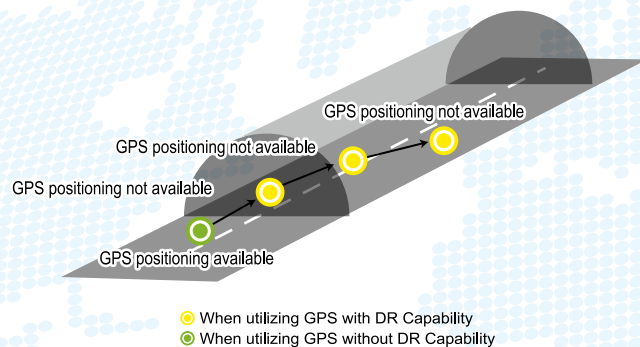


Fig 1. Positioning while GPS signals are lost

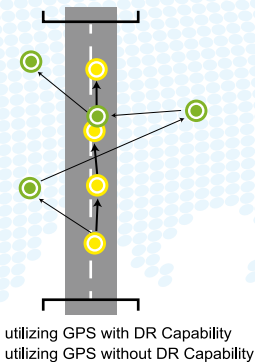
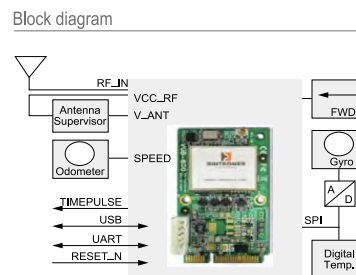
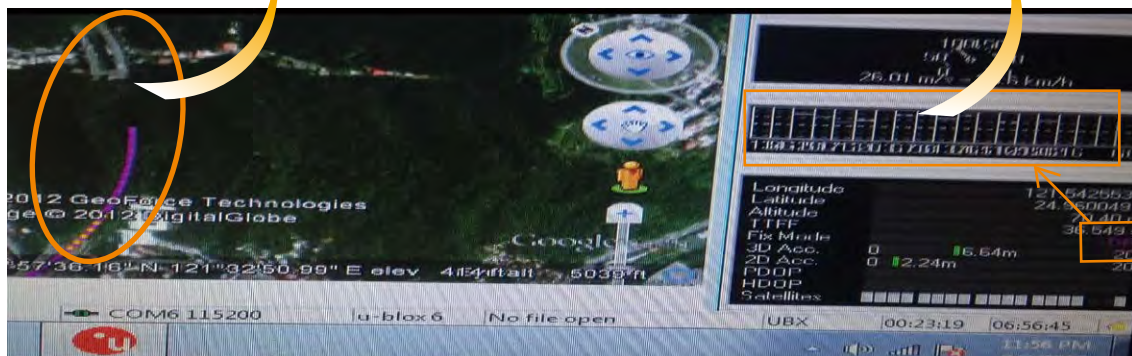


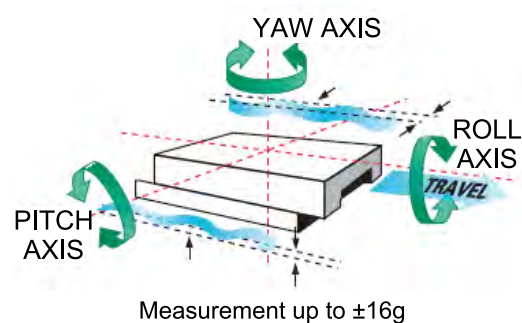
Fig 2. Positioning while under multipath propagation



No GPS Signal



GPS Dead Reckoning Navigation with Gyro sensor provides 100% coverage with continuous position fixes even in tunnels still working well. 3-axis accelerometer G-sensor provides Auto SOS for driving safety and recording Driver behavior. GPS Antenna can be supported auto detection.



Edge AI GPU Computing Solution enabling flexibility: EBOX-7000

SINTRONES, one of the global leaders in computing technology in vehicles, announces the launch of the new EBOX-7000 Edge AI GPU Computing. The new EBOX-7000 Edge AI GPU Computing is suitable for various factory automation and Industrial Internet of Things (IIoT) control system in large-scale processes such as mining and manufacturing. It is powered by Intel 9th Gen Core i7/ Intel 8th Gen Core i7/i5/i3 CPU with 6 x RJ45 GbE (optional 4 x PoE Max. 100W). EBOX-7000 features two LTE SIM Card Sockets with automatic SIM Card detection (Taiwan Patent No. M592609). It supports both 5G and LTE standard for wireless network performance. Furthermore, the users can simply remove the HDD and use it as a portable hard drive with USB port and power connector. No additional converter needed.

EBOX-7000 provides PCIe card expansion including a riser card w/ 1 x PCIe x16 slot (1 x PCIe 3.0 x16 interface) and optional riser card w/ 2 x PCIe x16 slot (2 x PCIe 3.0 x8 interface). Both riser cards can be up to 185mm length total 90W~150W PCIe cards. It is expandable with Nvidia Tesla Card, Nvidia GPU card, Nvme card, image capture card and I/O card. Furthermore, EBOX-7000 can be used in edge AI enhancements, intelligent video analytics AI Video analysis, IIoT, traffic management and machine vision.

EBOX-7000 features TPM 2.0 and memory 2 x DDR4 2400/2666 MHz SO-DIMM up to 64GB. In addition, the environmental tolerance continually maintains a wide range of operating temperatures (-40°C ~ 70°C) allowing it to operate in extreme and rugged environment conditions.

Another highlight of EBOX-7000 is the SINTRONES self-developed technology SINSmart – it provides reliable monitoring of network-connected remote power control devices, Power over Ethernet (PoE) switches and UPS for power management. It has remote monitoring of voltage, UPS delay setup and Digital, IO/WDT/System temperature control. This feature supports edge computing with reliable remote connectivity. Furthermore, it has automatic recovery short circuit protection and vehicle power ignition for variety vehicles. Includes an optional battery backup kit (SINTRONES patented technology), for continuous operations, providing an extra 10 minutes after power drain or failure of the main power source to increase the reliability of the system.

DATA: 959236135.6968

**Edge AI GPU Computing Solution
enabling flexibility**

Intel® Core™ 9th-Gen Processor 8-Cores

**NVIDIA
TESLA**

AI Surveillance

Smart Factory

Machine Vision

5G

5G

UPS

PoE

Expansion

EBOX-7000

8

AIoT and Smart Cities AI GPU Fanless Computing Solution: ABOX-5210G

SINTRONES, one of the global leaders in computing technology in vehicles, announces the launch of the new ABOX-5210G. The new ABOX-5210G Fanless Computer are powered by AI GPU computing, Intel Gen 10 Core i9, with NVIDIA GPU technology. The new series incorporates numerous unique features to support AIoT (AI and IoT) on Smart Cities and IIoT(Intelligent IoT) on Transportation.

The new ABOX-5210G Fanless Computers are powered by Intel Gen 10 Core i9 and NVIDIA® GeForce with up to GTX 1060 GPU supporting 1280 CUDA Cores. It can provide high computing performance, rapidly manipulating and altering memory to accelerate the creation of images by harnessing the power of the graphics processing unit (GPU). The new ABOX-5210G was engineered using dual hot swappable SATA Storage RAID 0,1,5. As for the expansion, it has two Full Mini-PCIe Slots, one M.2 A-E Key 2230 slot, and one M.2 B Key 3042 for two SIM Card Sockets for LTE.

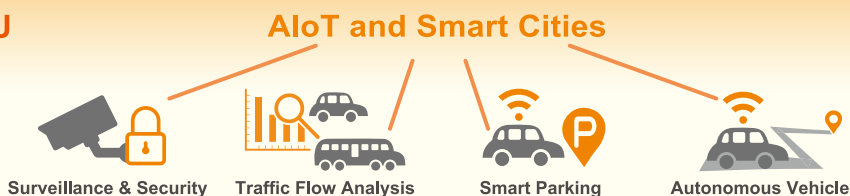
ABOX-5210G Fanless Computers can be used in AIoT and Smart Cities solutions, assisting systems in detecting objects, performing basic classification, and alerting drivers. It can support various applications, such as surveillance & security, traffic flow analysis, smart parking, autonomous vehicle operations, and rolling stock.

ABOX-5210G Fanless Computers can also be utilized in IIoT and Transportation solutions. It provides the foundation to build an operating system, such as a fleet management system, to oversee all fleet performance and maintenance. This increases productivity and helps businesses run as smoothly as possible. Another use of ABOX-5210G Fanless Computers is building passenger information systems for public transport services. Highlights of ABOX-5210G Fanless Computers include the ability to process deep learning operations with NVIDIA GPU technology and support end-to-end deep learning solutions. This plays a vital role in managing autonomous vehicles and factory automation.

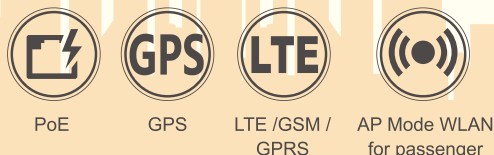
Like its predecessor, ABOX-5210G Fanless Computers have an optional internal battery kit capable of operating for up to 10 minutes (SINTRONE patented technology), 9-48VDC Input, and wide range of operating temperatures (-40°C ~ 70°C) allowing it to operate in extreme and rugged environment conditions.



Intel Gen 10 Core i9 + NVIDIA GPU



IIoT and Transportation



Certified Railway Computing Solution: VBOX-3620-M12X



SINTRONES has introduced the EN50155 certified VBOX-3620-M12X Intel Gen6 Core i7 CPU 2.6GHz (up to 3.4GHz) with HD 520 GPU On-Board Computer. The VBOX-3620-M12X On-Board Computer features triple independent display (2 x DP Port / VGA) outputs that can play Full HD video, 2 x RS-232/422/485, 2 x RS-232 w/ isolation (auto direction control), 3 x Intel LAN ports (Can be used M12 connectors), and 2 x USB 3.0 & 2 x USB 2.0 hosts and wide range 9-36V DC input with power ignition control and power off delay time.

The VBOX-3620-M12X includes 2 x SIM card sockets, 1 x M.2 slot, 3 x Mini-PCIe slots for additional LTE, Wi-Fi, Bluetooth, GPS and 4~8 channels D1 video capture input for mobile surveillance on buses & trains.

The VBOX-3620-M12X On-Board Computer is ideal for mobile digital video recorder (Mobile DVR), mobile digital signage (MDS) and railway applications.

Train PC Application
VBOX-3620-M12X

- Alert System
- Announcement System
- 4~8ch Video Input Camera
- Passenger 22" Display for Digital Signage
- LED message board
- Dual Ethernet for Video Streaming & Diagnosis
- Isolation I/O Port
- Battery backup
- GPS
- LTE
- Bluetooth
- WLAN
- Smart Power Management 9~36V DC Input



Bus PC Application

- 4-8ch Video Input Camera
- Card Reader
- RFID Reader
- Passenger 22" Display for Digital Signage
- Driver 7" Touch Display
- Dual Ethernet for Video Streaming & Diagnosis
- Door Sensor
- LED message board

- Battery backup
- GPS
- 5G / LTE
- Bluetooth
- WLAN
- Smart Power Management 9-48V DC Input

Ambulance PC Application

- 4-8ch Video Input Camera
- Data Backup
- USB Driver
- Passenger 22" Display for Digital Signage
- Driver 7" Touch Display
- Dual Ethernet for Video Streaming & Diagnosis
- Can Bus
- LED message board

- Battery backup
- GPS
- 5G / LTE
- Bluetooth
- WLAN
- Smart Power Management

Police Car PC Application

- 4-8ch PoE Camera
- Radar
- Fingerprint Reader
- Driver Display Touch Screen
- Light Bar

- In-Car Microphone
- GPS
- 5G / LTE
- Bluetooth
- WLAN
- Vehicle Sensors for trip record

Autonomous Vehicles PC Application

- 4-8ch PoE Camera
- Announcement System
- Sounder
- Passenger 32-42" Display
- Passenger 42" Display
- 1 x Ethernet for Update Software

- Battery backup
- GPS
- 5G / LTE
- AP Mode WLAN for passenger
- Smart Power Management



Model Name	EBOX-7000	ABOX-5210	ABOX-5200
CPU	Intel GEN 8/9	Intel GEN 10	Intel GEN 8
Chipset	Intel Q370	Intel Q470E / W480E	Intel Q370
Graphics	Intel UHD Graphics 630	Intel UHD Graphics 630	Intel UHD Graphics 630
Memory	Up to 64GB DDR4 2666/2400	Up to 64GB DDR4 2933/2666	Up to 64GB DDR4 2666/2400
Expansion Graphics	N/A	Optional GTX-1650 / GTX-1060	Optional GTX-1050TI / GTX-1060
Video Output	1 x DVI-D / 1 x HDMI / 1.4b 1 x Display Port 1.2	3 x Display Port 1.2 2 x HDMI 2.0b (Expansion Graphics)	3 x Display Port 1.2 4 x HDMI 2.0b (Expansion Graphics)
SATA HDD	2 x 2.5" HDD/SSD with Key lock	2 x 2.5" HDD/SSD	2 x 2.5" HDD/SSD
mSATA	N/A	N/A	1
Ethernet	1 x GbE by Intel I219 (RJ45) 5 x GbE by Intel I210 (RJ45)	1 x GbE by Intel I219 (RJ45) 9 x GbE by Intel I210 (RJ45) (Optional port 3~10 with M12 type connectors)	1 x GbE by Intel I219 (RJ45) 9 x GbE by Intel I210 (RJ45)
PoE	Optional (Port 3~6, IEEE 802.3at)	Optional (Port 3~6, IEEE 802.3at)	Optional (Port 3~6, IEEE 802.3at)
Audio	1 x Line-in / 1 x Line-out / 1 x Mic-in	1 x Line-in / 1 x Line-out / 1 x Mic-in	1 x Line-in / 1 x Line-out / 1 x Mic-in
Serial Port	4 x RS-232/422/485	3 x RS-232/422/485 1 x RS-232/422/485 (Internal)	3 x RS-232/422/485 1 x RS-232/422/485 (Internal)
Digital I/O	8 x DI + 4 x DO	8 x DI + 4 x DO	8 x DI + 4 x DO
USB 3.2 Gen 1x1	4	4	4
USB 2.0	2 (Internal)	2 (Internal)	2 (Internal)
TPM 2.0	1	1	1
M.2 (M key)	1 (size 2280 SATA signal)	1 (size 2280 SATA signal)	N/A
M.2 (A-E key)	1 (size 2230)	1 (size 2230)	1 (size 2230)
M.2 (B key)	1 (size 3042)	1 (size 3042)	N/A
Mini PCIe	2 (Full size PCIe + USB signals)	1 (Full size USB signal) 2 (Full size PCIe + USB signals)	1 (Full size USB signal) 2 (Full size PCIe + USB signals)
Expansion PCIe	1 x PCIe x16 slot @GEN3 16-lanes PCIe signals or 2 x PCIe x16 slot @GEN3 8-lanes PCIe signals	N/A	N/A
SIM Card Socket	2	2	2
Battery backup	Optional	Optional	Optional
Remote Button	1	N/A	N/A
Ignition Control	Auto Start	Auto Start	Auto Start
Power Management	Vehicle power ignition for variety vehicle	Vehicle power ignition for variety vehicle	Vehicle power ignition for variety vehicle
Power Input	DC 9~48V	DC 9~48V	DC 9~48V
Operating Temp.	-40 ~ 70°C	-40 ~ 70°C	-40 ~ 70°C
Certification	CE, FCC Class A	CE, FCC Class A, E13, EN50155	CE, FCC Class A, E13
Dimensions	260 x 250 x 137 mm	260 x 250 x 95 mm	260 x 250 x 95 mm
Page Number	P.14-15	P.16-17	P.24-25



Model Name	VBOX-3611-IP65	VBOX-3611-4L	VBOX-3620-M12X
CPU	Intel GEN 6	Intel GEN 6	Intel GEN 6
Chipset	N/A	N/A	N/A
Graphics	Intel UHD Graphics 520	Intel UHD Graphics 520	Intel UHD Graphics 520
Memory	Up to 32GB DDR4 2133	Up to 32GB DDR4 2133	Up to 32GB DDR4 2133
Expansion Graphics	N/A	N/A	N/A
Video Output	1 x DVI-I	1 x VGA / 1 x DVI-D / 1 x Display Port	1 x VGA 2 x Display Port
SATA HDD	1 x 2.5" HDD/SSD	2 x 2.5" HDD/SSD 1 x SATA DOM	2 x 2.5" HDD/SSD 1 x SATA DOM
mSATA	N/A	N/A	N/A
Ethernet	1 x GbE by Intel I219 (M12 A-code) 3 x GbE by Intel I210 (M12 A-code)	1 x GbE by Intel I219 (RJ45) 3 x GbE by Intel I210 (RJ45) (Optional port 1~4 with M12 type connectors)	1 x GbE by Intel I219 (M12 X-code) 2 x GbE by Intel I210 (M12 X-code)
PoE	Port 2~4, IEEE 802.3af	N/A	N/A
Audio	1 x Line-in / 1 x Line-out / 1 x Mic-in	1 x Line-out / 1 x Mic-in 1 x Line-in (Internal)	1 x Line-out / 1 x Mic-in
Serial Port	2 x RS-232/422/485 2 x RS-232/422/485 (Internal)	3 x RS-232/422/485 1 x RS-232/422/485 (Internal)	4 x RS-232/422/485 w/isolation
Digital I/O	4 x DI + 4 x DO	4 x DI + 4 x DO	8 x DI + 4 x DO w/isolation
Analog I/O	2 AI	N/A	N/A
USB 3.2 Gen 1x1	N/A	4	2
USB 2.0	4 (M12 A-code)	2 (Internal)	2 (Internal)
TPM 2.0	1	1	1
M.2 (M key)	1 (size 2280 SATA signal)	N/A	N/A
M.2 (A-E key)	1 (size 2230)	1 (size 2230)	1 (size 2230)
M.2 (B key)	N/A	N/A	N/A
Mini PCIe	1 (Full size USB signal) 2 (Full size PCIe + USB signals)	1 (Full size USB signal) 2 (Full size PCIe + USB signals)	1 (Full size USB signal) 2 (Full size PCIe + USB signals)
SIM Card Socket	2	2	2
Battery backup	Optional	Optional	Optional
Remote Button	N/A	N/A	1
Ignition Control	Auto Start	Auto Start	Auto Start
Power Management	Vehicle power ignition for variety vehicle	Vehicle power ignition for variety vehicle	Vehicle power ignition for variety vehicle
Power Input	DC 9~48V	DC 9~48V	DC 9~36V w/isolation
Operating Temp.	-40 ~ 70°C	-40 ~ 70°C	-40 ~ 70°C
Certification	CE, FCC Class A, E-13, EN50155, EN45545-2 (R25)	CE, FCC Class A, E13, EN50155, EN45545-2 (R25)	CE, FCC Class A, E13, EN50155, EN45545-2 (R25)
Dimensions	250 x 155 x 55 mm	250 x 150 x 55 mm	250 x 150 x 55 mm
Page Number	P.38-39	P.36-37	P.34-35



EBOX-7000

Taiwan Patent No. M447854, M592609, M601447

Intel 9th Gen Core i7/ Intel 8th Gen Core i7/i5/i3 CPU w/ 6 x RJ45 GbE (optional 4 x PoE Max. 100W) / 4 x COM / 1 x DP/ 1 x HDMI/ 1 x DVI-I/ 4 x USB 3.2 Gen 1x1/ 9-48V Edge AI GPU Computing

Features

- Intel 9th Gen Core i7/ Intel 8th Gen Core i7/i5/i3
- 1 x PCIe 3.0 x16 Interface Expansion (optional 2 x PCIe 3.0 x8 Interface)
- 6 x RJ45 GbE (optional 4 x PoE Max. 100W)
- 8 x DI, 4 x DO and 2 x RS-232/422/485
- 1 x DP + 1 x HDMI + 1 x DVI-D (Single Link w/o Analog Video)
- Dual Hot Swappable SATA Storage RAID 0,1,5
- 9-48V DC Input and Operating Temp.: -40~70°C
- TPM 2.0



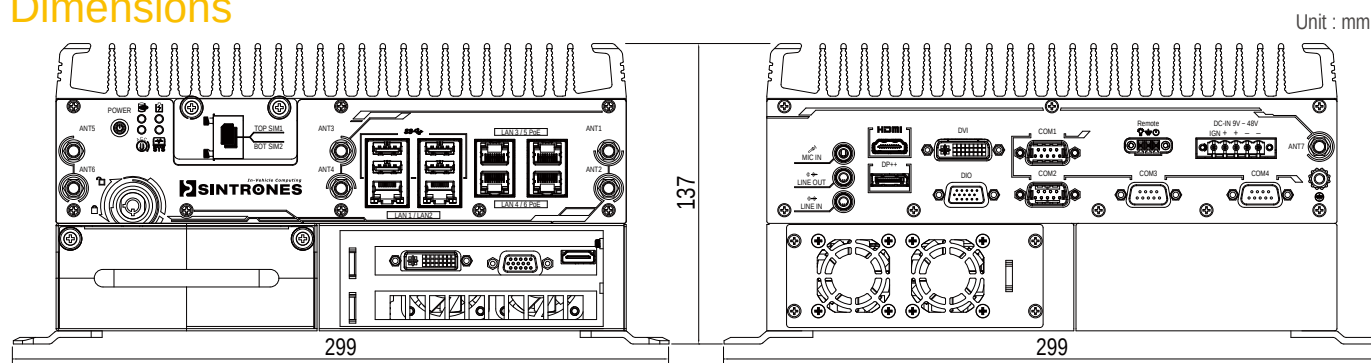
Please Scan The QR Code For More Information

Introduction

The EBOX-7000 Edge Computing is suitable for various factory automation and Industrial Internet of Things (IIoT) control system in large-scale processes such as mining and manufacturing. It is powered by Intel 9th Gen Core i7/ Intel 8th Gen Core i7/i5/i3 CPU with 6 x RJ45 GbE (optional 4 x PoE Max. 100W).

EBOX-7000 features TPM 2.0 and memory 2 x DDR4 2400/2666 MHz SO-DIMM up to 64GB. Furthermore, the environmental tolerance continually maintains a wide range of operating temperatures (-40 ~ 70 °C). In addition, it provides Intel® UHD Graphics 630 with max resolution (HDMI): 4096x2304@24Hz.

Dimensions



Specifications

System	
CPU	Intel Gen9 Core i7-9700TE (12M Cache 1.8GHz up to 3.8GHz) Intel Gen8 Core i7-8700T (12M Cache 2.4GHz up to 4.0GHz) Intel Gen8 Core i5-8500T (9M Cache 2.1GHz up to 3.5GHz) Intel Gen8 Core i3-8100T (6M Cache 3.1GHz) Intel Gen8 Celeron G4900T (2M Cache 2.9GHz)
Memory	2 x DDR4 2400/2666 MHz SO-DIMM up to 64GB
LAN Chipset	5 x Intel i210-AT and 1 x i219 (iAMT9.5 w/ i5, i7 only) Gb/s Ethernet Controllers Onboard Support PXE and WOL
Watchdog	1 ~ 255 Level Reset
TPM	2.0
I/O	
Serial Port	4 x RS 232/422/485 (Auto Direction Control)
USB Port	4 x USB 3.2 Gen 1x1 Ports
LAN	6 x RJ45 GbE (optional 4 x PoE Max. 100W)
Video Port	1 x DP + 1 x HDMI + 1 x DVI-D (Single Link w/o Analog Video)
DIO Port	8 x DI (5~48VDC) and 4 x DO (5VDC, 100mA)
Audio	1 x Line-out, 1 x Line-in and 1 x Mic-in
Expansion Bus	Riser card w/ 1 x PCIe x16 slot (1 x PCIe 3.0 x16 interface w/ 1 x ATX 6 Pin Power Output) Optional riser card w/ 2 x PCIe x16 slot (2 x PCIe 3.0 x8 interface w/ 1 x ATX 6 Pin Power Output) *Supports up to 185mm in length and 112mm in height PCIe cards *Maximum power supply from PCIe slot and ATX 6 pin combined @ 150W when DC power source is above 15V *DC 15V or above power source is suggested when graphics cards are installed 2 x Full Mini-PCIe Slots 1x M.2 A-E Key 2230 slot, 1 x M.2 B Key 3042 slot w/ 2 x SIM Card Sockets for WWAN Patent No. : M592609 - Automatic SIM Card Detection
Graphics	
CPU Built-in Graphics	Intel® UHD Graphics 630 for i7/i5/i3, Intel® UHD Graphics 610 for G5900T Max Resolution (DP1.2) : 4096x2304@60Hz, (HDMI1.4b) : 4096x2304@24Hz

Software

Operating System	Win 10, Ubuntu 18.04 64bit
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Environmental

Operating Temp.	-40°C ~ 70°C, with SSD and ambient w/ air flow 0.6m/s (System only, not including PCIe cards) -20°C ~ 60°C with BAT-5200-E1 Battery Kit *Operating temp. spec of PCIe cards installed affects overall system operating temp. spec
Storage Temp.	-40°C ~ 80°C
Relative Humidity	10% RH ~ 90% RH (non-condensing)
Certifications	CE, FCC Class A, RoHS (Self declaration)

Storage

Type	Hot Swappable 2 x 2.5" Drive Bay for SATA Type HDD/SSD RAID 0, 1, 5 w/ External Accessibility via USB 3.2 Gen 1x1 when removed Patent No. : M601447 - Removeable Storage Device 1 x M.2 M key 2280 slot supports NVMe and SATA SSD *Thermal heatsink is required for M.2 storage. Please contact sales window for more information.
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Power Requirement

Power Input	9V - 48V DC Power Input
Power Protection	Automatics Recovery Short Circuit Protection
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by BIOS and Software
Battery (UPS)	Internal Battery Kit for 10 Mins Operating (Optional and cannot be installed with PoE module) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery

Mechanical

Construction	Aluminum Alloy
Mounting	Wall-mount
Weight	7600g (Barebone)
Dimensions	260(L) x 250(W) x 137(H) mm

Ordering Information

Part Number	EBOX-7000xyy-zz (x= P= w/PoE, x= Empty= w/o PoE, yy= E1= w/1 x PCIe x16 interface, yy= E2= w/2 x PCIe 3.0 x8 interface, zz= i7R= i7-9700TE, zz= i7= i7-8700T, zz= i5= i5-8500T, zz= i3= i3-8100T, zz= C1= G4900T)
Description	Intel 9th Gen Core i7/ Intel 8th Gen Core i7/i5/i3 CPU w/ 6 x RJ45 GbE (optional 4 x PoE Max. 100W) / 4 x COM / 1 x DP/ 1 x HDMI/ 1 x DVI-I/ 4 x USB 3.2 Gen 1x1/ 9-48V Edge AI GPU Computing
State of Origin	Made in Taiwan

Optional Accessories

DRAM	DDR4-2933 MHz SO-DIMM, 4GB~32GB, 0~70°C/-40~85°C	Modem	M.2 3042 B key 5G<E module
SSD	M.2 2280 B-M key NVMe TLC -40~85°C 64GB~1TB w/ Heatsink M.2 2280 B-M key SATA TLC -40~85°C 64GB~1TB w/ Heatsink 2.5 inch SATA TLC -40~85°C 64GB~2TB	GPS	MiniPCIe GPS module
PCIe Graphics Card	GTX 1650 4GB GDDR5 w/ 1 x DP1.4a, 1x HDMI2.0b, and 1x DVI-D Dual Link	CANBUS	MiniPCIe CANBUS module
Wifi	M.2 2230 A-E key 802.3 a/b/g/n/ac	Battery backup kit	BAT-5200-E1 Battery Kit, 5200m/h, -30~60°C, discharge -20~60°C, operating about 10 mins
		External cable	280W/24V power adapter
		Power adapter	N/A

ABOX-5210

Taiwan Patent No. M447854, M565941, M592609

Intel Gen 10th 10 Cores Xeon, i9 CPU w/ 10 x GbE (Optional 8 x PoE)/ 3 x COM/ 3 x DP/ 4 x USB 3.2 Gen 1x1/ 9-48V Input AI GPU Computing

Features

- Intel GEN 10th 10 Cores Xeon W-1290TE / i9-10900TE
- 8 x DI, and 4 x DO and 3 x RS-232/422/485
- 1 x M.2 B key, 1 x M.2 A-E key & 3 x MiniPCle expansion slots
- Dual Hot Swappable SATA Storage RAID 0,1,5
- 9-48V DC Input and Operating Temp.: -40~70°C
- 10 x GbE RJ45 (Optional 8 x PoE and 8 x M12 X coded connectors)
- Rolling Stock EN 50155 and EN 50121-3-2 certified



POE



GPS



Wireless



Wide Range



Delay Time

Introduction

The ABOX-5210 is powered by Intel Gen 10th 10 Cores Xeon W-1290TE / i9-10900TE Fanless Box Computer. It provides high computing performance on graphic processing by harnessing the power of its graphics processing unit (GPU). ABOX-5210 has 8 GPI, 4 GPO DIO ports and 3 RS-232/422/485 serial ports with 10 GbE RJ45 LAN ports (Optional 8 PoE and 8 M12 connectors). It features the Dual Hot Swappable SATA Storage RAID 0,1,5, which allows more flexibility for hardware maintenance and expansion.

ABOX-5210 can be adapted to various industrial requirements, including: Smart Solutions, Surveillance Systems, and Visual Management. Furthermore, the environmental tolerance continually maintains a wide range of operating temperatures (-40°C ~ 70°C).

Specifications

System	
CPU	Intel Gen10 Xeon W-1290TE (20M Cache 2.0GHz up to 4.6GHz)*
	Intel Gen10 Core i9-10900TE (20M Cache 2.0GHz up to 4.5GHz)
	Intel Gen10 Core i7-10700TE (16M Cache 2.0GHz up to 4.4GHz)
	Intel Gen10 Core i5-10500TE (12M Cache 2.3GHz up to 3.7GHz)
	Intel Gen10 Core i3-10100TE (6M Cache 2.3GHz up to 3.6GHz)
	Intel Gen10 Core G5900TE (4M Cache 3.0GHz)
	* Use only with Intel W480E
Chipset	Q470E / W480E
Memory	2 x DDR4 2666/2933 MHz SO-DIMM up to 64GB (Optional ECC support with Xeon W-1290TE)
LAN Chipset	9 x Intel i210-AT and 1 x i219LM (iAMT9.5 w/ i5, i7 only) Gb/s Ethernet Controllers onboard Support PXE and WOL
Watchdog	1 ~ 255 Level Reset
TPM	2.0
I/O	
Serial Port	3 x RS 232/422/485 (option additional 1 x RS 232/422/485)
USB Port	4 x USB 3.2 Gen 1x1 Ports
LAN	10 x RJ45 Ports for GbE (Optional 8 with M12 X coded connectors and 8 x PoE total Max.120W)
Video Port	3 x DP (Intel built-in GPU)
DIO Port	8 x DI (5~48VDC) and 4 x DO (5VDC, 100mA)
Audio	1 x Line-out, 1 x Line-in and 1 x Mic-in
Expansion Bus	2 x Full Mini-PCle Slots and 1 x Full Mini-PCle Slot w/ USB interface only for WWAN sharing 2 x SIM Card Sockets with M.2 B Key 3042 slot
	1x M.2 A-E Key 2230 slot, 1 x M.2 B Key 3042 slot w/ 2 x SIM Card Sockets for WWAN Patent No. : M592609 - Automatic SIM Card Detection

Storage	
Type	2 x 2.5" Drive Bay for SATA Type HDD/SSD RAID 0, 1, 5 1 x M.2 M key 2280 slot supports NVMe and SATA SSD *thermal heatsink is required for M.2 storage. Please contact sales window for more information.
Graphics	
CPU Built-in Graphics	Intel® UHD Graphics 630 for z9/i9/i7/i5/i3, Intel® UHD Graphics 610 for G5900TE Max Resolution (DP1.2) : 4096x2304@60Hz
Environmental	
Operating Temp.	-40°C ~ 70°C w/0.6 m/s airflow Patent No. : M565941 - Thermal Cooling
Storage Temp.	-40°C ~ 80°C
Relative Humidity	10% RH ~ 90% RH (non-condensing)
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD
Certifications	CE, FCC Class A, E13, EN50155
Power Requirement	
Power Input	9V - 48V DC Power Input
Power Protection	Automatics Recovery Short Circuit Protection
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by BIOS and Software
Battery Backup (Option)	Internal Battery Kit for 10 Mins Operating (P/N: BAT-5200 kit, Operating Temp. -20 ~ 60°C) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery

ABOX-5210G

Taiwan Patent No. M447854, M565941, M592609

Intel Gen 10th 10 Cores Xeon, i9 CPU w/ 10 x GbE (Optional 8 x PoE)/ 3 x COM/ 3 x DP/ 2 x HDMI/ 4 x USB 3.2 Gen 1x1/
NVIDIA® GeForce GTX GPU/ 9-48V Input AI GPU Computing

Features

- Intel GEN 10th 10 Cores Xeon W-1290TE / i9-10900TE
- NVIDIA® GeForce GPU GTX-1650/ GTX-1060
- Support up to 1280 CUDA Cores
- 8 x DI, and 4 x DO and 3 x RS-232/422/485
- 1 x M.2 B key, 1 x M.2 A-E key & 3 x MiniPCle expansion slots
- Dual Hot Swappable SATA Storage RAID 0,1,5
- 9-48V DC Input and Operating Temp.: -40~70°C
- 10 x GbE RJ45 (Optional 8 x PoE and 8 x M12 X coded connectors)
- Rolling Stock EN 50155 and EN 50121-3-2 certified



Introduction

The ABOX-5210G is powered by Intel Gen 10th 10 Cores Xeon, i9 CPU w/ 10 x GbE with NVIDIA GeForce GTX GPU AI GPU Computing. It can provide high computing performance on graphic processing by harnessing the power of its graphics processing unit (GPU). ABOX-5210G features the Dual Hot Swappable SATA Storage RAID 0,1,5, which allows more flexibility for hardware maintenance and expansion.

ABOX-5210G offers the best solution for customers and it can be adapted to various industrial requirements, including: Smart Solutions (Smart Patrol, Smart Factory Automation Control System), Surveillance Systems (Bus Surveillance Fleet Management, Outdoor Video Surveillance System), and Visual Management (Automatic License Plate Recognition, Vision Control System, Mining Machines).

Specifications

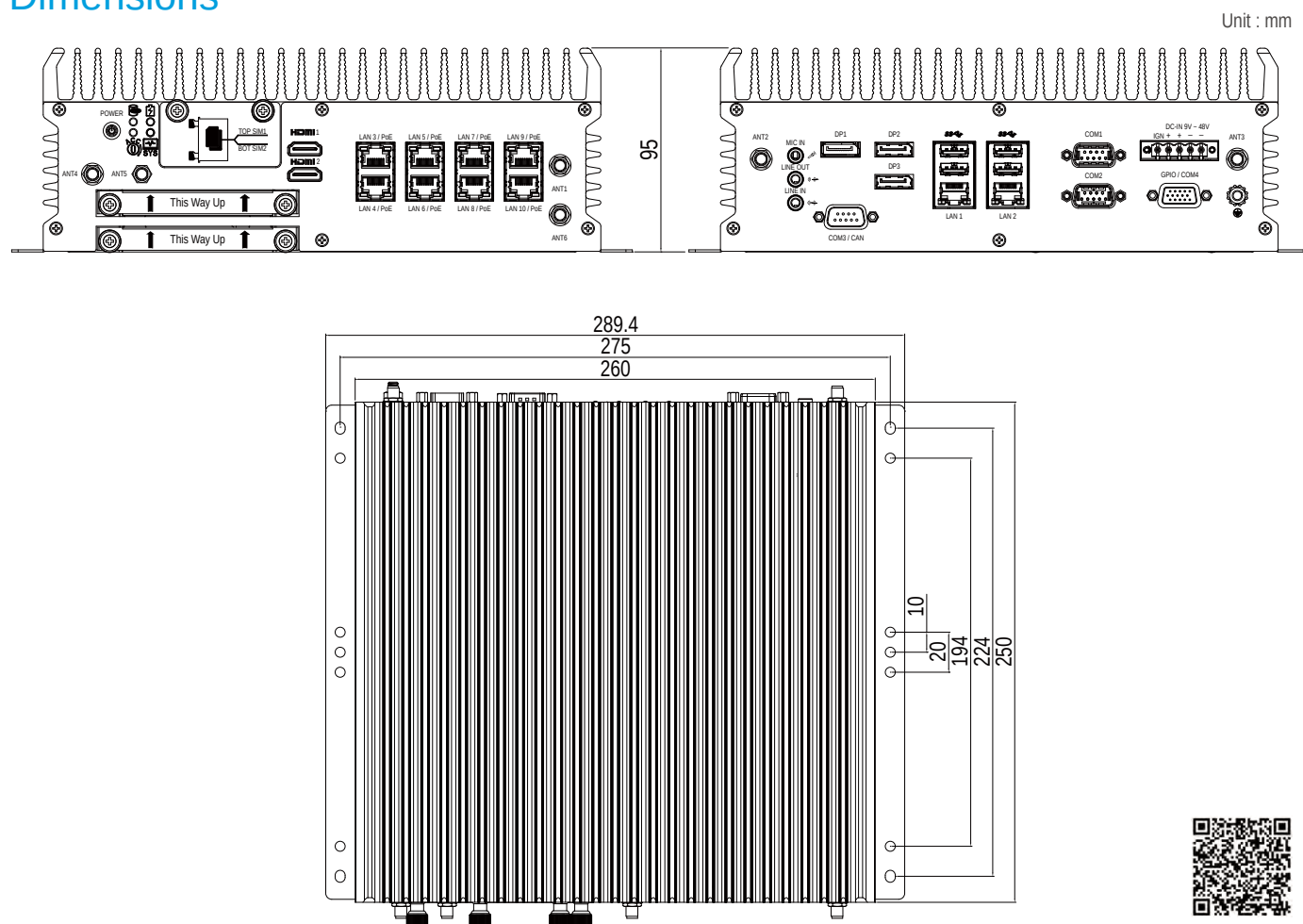
System	
CPU	Intel Gen10 Xeon W-1290TE (20M Cache 2.0GHz up to 4.6GHz)*
	Intel Gen10 Core i9-10900TE (20M Cache 2.0GHz up to 4.5GHz)
	Intel Gen10 Core i7-10700TE (16M Cache 2.0GHz up to 4.4GHz)
	Intel Gen10 Core i5-10500TE (12M Cache 2.3GHz up to 3.7GHz)
	Intel Gen10 Core i3-10100TE (6M Cache 2.3GHz up to 3.6GHz)
	Intel Gen10 Core G5900TE (4M Cache 3.0GHz)
	<i>* Use only with Intel W480E</i>
Chipset	Q470E / W480E
Memory	2 x DDR4 2666/2933 MHz SO-DIMM up to 64GB (Optional ECC support with Xeon W-1290TE)
LAN Chipset	9 x Intel i210-AT and 1 x i219LM (iAMT9.5 w/ i5, i7 only) Gb/s Ethernet Controllers Onboard Support PXE and WOL
Watchdog	1 ~ 255 Level Reset
TPM	2.0
I/O	
Serial Port	3 x RS 232/422/485 (option additional 1 x RS 232/422/485)
USB Port	4 x USB 3.2 Gen 1x1 Ports
LAN	10 x RJ45 Ports for GbE (Optional 8 with M12 X coded connectors and 8 x PoE total Max.120W)
Video Port	3 x DP (Intel built-in GPU), 2 x HDMI Ports (MXM graphics)
DIO Port	8 x DI (5~48VDC) and 4 x DO (5VDC, 100mA)
Audio	1 x Line-out, 1 x Line-in and 1 x Mic-in
Expansion Bus	2 x Full Mini-PCle Slots and 1 x Full Mini-PCle Slot w/ USB interface only for WWAN sharing 2 x SIM Card Sockets with M.2 B Key 3042 slot
	1x M.2 A-E Key 2230 slot, 1 x M.2 B Key 3042 slot w/ 2 x SIM Card Sockets for WWAN Patent No. : M592609 - Automatic SIM Card Detection

Storage	
Type	2 x 2.5" Drive Bay for SATA Type HDD/SSD RAID 0, 1, 5 1 x M.2 M key 2280 slot supports NVMe and SATA SSD *thermal heatsink is required for M.2 storage. Please contact sales window for more information.
Graphics	
CPU Built-in Graphics	Intel® UHD Graphics 630 for z9/i9/i7/i5/i3, Intel® UHD Graphics 610 for G5900TE Max Resolution (DP 1.2) : 4096 x 2340 @ 60Hz
MXM Graphics	NVIDIA® GeForce GTX 1060 GPU (1280 CUDA Cores) w/6GB GDDR5 Max Resolution (HDMI 2.0b) : 4096 x 2160 @ 60Hz
	(Optional) NVIDIA® GeForce GTX 1650 GPU (896 CUDA Cores) w/4GB GDDR5 Max Resolution (HDMI 2.0b) : 4096 x 2160 @ 60Hz
Environmental	
Operating Temp.	-40°C ~ 70°C w/ GTX 1650 (-40°C ~ 60°C w/GTX 1060) w/0.6 m/s airflow Patent No. : M565941 - Thermal Cooling
Storage Temp.	-40°C ~ 80°C
Relative Humidity	10% RH – 90% RH (non-condensing)
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD
Certifications	CE, FCC Class A, E13, EN50155
Power Requirement	
Power Input	9V - 48V DC Power Input
Power Protection	Automatics Recovery Short Circuit Protection
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by BIOS and Software
Battery Backup (Option)	Internal Battery Kit for 10 Mins Operating (P/N: BAT-5200 kit, Operating Temp. -20 ~ 60°C) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery

Specifications

Mechanical	
Construction	Aluminum Alloy
Mounting	Wall-mount
Weight	5300g (Barebone)
Dimensions	260(L) x 250(W) x 95(H) mm

Dimensions



Please Scan The QR Code For More Information

Ordering Information

Part Number	ABOX-5210xyy-zz (x= P= w/PoE, x= Empty= w/o PoE, yy=GB=GTX 1650, yy=G4=GTX 1060, zz=Z9= W-1290TE, zz= i9= i9-10900TE, zz= i7= i7-10700TE, zz= i5= i5-10500TE, zz= i3= i3-10100TE, zz= C1= G5900TE)
Description	Intel Gen 10th 10 Cores Xeon, i9 CPU w/ 10 x GbE (Optional 8 x PoE)/3 x COM/ 3 x DP/ 2 x HDMI/4 x USB 3.2 Gen 1x1/ NVIDIA® GeForce GTX GPU/ 9-48V Input AI GPU Computing
State of Origin	Made in Taiwan

Optional Accessories

DRAM	DDR4-2933 MHz SO-DIMM, 4GB~32GB, 0~70°C/-40~85°C
SSD	M.2 2280 B-M key NVMe TLC -40~85°C 64GB~1TB w/ Heatsink M.2 2280 B-M key SATA TLC -40~85°C 64GB~1TB w/ Heatsink 2.5 inch SATA TLC -40~85°C 64GB~2TB
Wifi	M.2 2230 A-E key 802.3 a/b/g/n/ac
Modem	M.2 3042 B key 5G<E module
GPS	MiniPCIe GPS module
CANBUS	MiniPCIe CANBUS module
Battery backup kit	BAT-5200 Battery Kit, 5200m/h, -30~60°C, discharge -20~60°C, operating about 10 mins
Power adaptor	AC/DC 220W/24V or 280W/24V power adaptor

ABOX-5210-M12X

Taiwan Patent No. M447854, M565941, M592609

Intel Gen 10th 10 Cores Xeon, i9 CPU w/ 10 x GbE (2 x RJ45 and 8 x M12 X Coded Connectors)/ 3 x COM/ 3 x DP/ 4 x USB 3.2 Gen 1x1/ 9-48V Input AI GPU Computing

Features

- Intel GEN 10th 10 Cores Xeon W-1290TE / i9-10900TE
- 8 x DI, and 4 x DO and 3 x RS-232/422/485
- 1 x M.2 B key, 1 x M.2 A-E key & 3 x MiniPCIe expansion slots
- Dual Hot Swappable SATA Storage RAID 0,1,5
- 9-48V DC Input and Operating Temp.: -40~70°C
- 2 x RJ45 Ports and 8 x M12 X Coded Connectors for GbE
- Rolling Stock EN 50155 and EN 50121-3-2 certified



POE



GPS



Wireless



Wide Range



Delay Time

Introduction

The ABOX-5210(G)-M12X is powered by Intel GEN 10th 10 Cores Xeon W-1290TE / i9-10900TE AI GPU Computing. Specifically designed for railway rolling stock applications, it guarantees reliable performance, withstanding environmental disturbances such as severe shock and vibration in railway vehicle applications. ABOX-5210(G)-M12X features 8 x M12 X Coded Connectors for GbE and certified Rolling Stock EN50155 & EN 50121-3-2 that cater to rolling stock's application including traffic safety systems, passenger information systems, broadcasting systems as well as surveillance systems and more. Furthermore, with the new Intel Gen 10 Comet Lake and NVIDIA® GeForce GTX 1650 or GTX 1060 technology's outstanding performance, ABOX-5210(G)-M12X can effectively support smart public transit systems, offering solutions to enhance the operational efficiency of railways and railway station management.

Specifications

System	
CPU	Intel Gen10 Xeon W-1290TE (20M Cache 2.0GHz up to 4.6GHz)*
	Intel Gen10 Core i9-10900TE (20M Cache 2.0GHz up to 4.5GHz)
	Intel Gen10 Core i7-10700TE (16M Cache 2.0GHz up to 4.4GHz)
	Intel Gen10 Core i5-10500TE (12M Cache 2.3GHz up to 3.7GHz)
	Intel Gen10 Core i3-10100TE (6M Cache 2.3GHz up to 3.6GHz)
	Intel Gen10 Core G5900TE (4M Cache 3.0GHz)
	* Use only with Intel W480E
Chipset	Q470E / W480E
Memory	2 x DDR4 2666/2933 MHz SO-DIMM up to 64GB (Optional ECC support with Xeon W-1290TE)
LAN Chipset	9 x Intel i210-AT and 1 x i219LM (iAMT9.5 w/ i5, i7 only) Gb/s Ethernet Controllers Onboard Support PXE and WOL
Watchdog	1 ~ 255 Level Reset
TPM	2.0
I/O	
Serial Port	3 x RS 232/422/485 (option additional 1 x RS 232/422/485)
USB Port	4 x USB 3.2 Gen 1x1 Ports
LAN	2 x RJ45 Ports and 8 x M12 X coded connectors for GbE (Optional 8 x PoE total Max.120W)
Video Port	3 x DP
DIO Port	8 x DI (5~48VDC) and 4 x DO (5VDC, 100mA)
Audio	1 x Line-out, 1 x Line-in and 1 x Mic-in
Expansion Bus	2 x Full Mini-PCIe Slots, 1 x Mini-PCIe w/ USB interface only for WWAN sharing 2 x SIM Card Sockets with M.2 B Key 3042 slot, 1x M.2 A-E Key 2230 slot, 1 x M.2 B Key 3042 slot w/ 2 x SIM Card Sockets for WWAN Patent No. : M592609 - Automatic SIM Card Detection
Graphics	
CPU Built-in Graphics	Intel® UHD Graphics 630
	Max Resolution (DP1.2) : 4096x2304@60Hz

Storage	
Type	2 x 2.5" Drive Bay for SATA Type HDD/SSD RAID 0, 1, 5 1 x M.2 M key 2280 slot supports NVMe and SATA SSD * Thermal heatsink is required for M.2 storage. Please contact sales window for more information.
Environmental	
Operating Temp.	-40°C ~ 70°C w/0.6 m/S airflow Patent No. : M565941 - Thermal Cooling
Storage Temp.	-40°C ~ 80°C
Relative Humidity	10% RH ~ 90% RH (non-condensing)
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD
Certifications	CE, FCC Class A, E13, EN50155
Power Requirement	
Power Input	9V - 48V DC Power Input
Power Protection	Automatics Recovery Short Circuit Protection
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by BIOS and Software
Battery Backup (Option)	Internal Battery Kit for 10 Mins Operating (P/N: BAT-5200 kit, Operating Temp. -20 ~ 60°C) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery
Mechanical	
Construction	Aluminum Alloy
Mounting	Wall-mount
Weight	5300g (Barebone)
Dimensions	260(L) x 250(W) x 95(H) mm

ABOX-5210G-M12X

Taiwan Patent No. M447854, M565941, M592609

Intel Gen 10th 10 Cores Xeon, i9 CPU w/ 10 x GbE (2 x RJ45 and 8 x M12 X Coded Connectors)/ 3 x COM/ 3 x DP/ 2 x HDMI/ 4 x USB 3.2 Gen 1x1/ NVIDIA® GeForce GTX GPU/ 9-48V Input AI GPU Computing

Features

- Intel GEN 10th 10 Cores Xeon W-1290TE / i9-10900TE
- NVIDIA® GeForce GTX GPU
- 8 x DI, and 4 x DO and 3 x RS-232/422/485
- 1 x M.2 B key, 1 x M.2 A-E key & 3 x MiniPCIe expansion slots
- Dual Hot Swappable SATA Storage RAID 0,1,5
- 9-48V DC Input and Operating Temp.: -40~70°C
- 2 x RJ45 Ports and 8 x M12 X Coded Connectors for GbE (Optional 8 x PoE)
- Rolling Stock EN 50155 and EN 50121-3-2 certified



POE



GPS



Wireless



Wide Range



Delay Time

Introduction

The ABOX-5210(G)-M12X is powered by Intel GEN 10th 10 Cores Xeon W-1290TE / i9-10900TE AI GPU Computing. Specifically designed for railway rolling stock applications, it guarantees reliable performance, withstanding environmental disturbances such as severe shock and vibration in railway vehicle applications. ABOX-5210(G)-M12X features 8 x M12 X Coded Connectors for GbE and certified Rolling Stock EN50155 & EN 50121-3-2 that cater to rolling stock's application including traffic safety systems, passenger information systems, broadcasting systems as well as surveillance systems and more. Furthermore, with the new Intel Gen 10 Comet Lake and NVIDIA® GeForce GTX 1650 or GTX 1060 technology's outstanding performance, ABOX-5210(G)-M12X can effectively support smart public transit systems, offering solutions to enhance the operational efficiency of railways and railway station management.

Specifications

System	
CPU	Intel Gen10 Xeon W-1290TE (20M Cache 2.0GHz up to 4.6GHz)*
	Intel Gen10 Core i9-10900TE (20M Cache 2.0GHz up to 4.5GHz)
	Intel Gen10 Core i7-10700TE (16M Cache 2.0GHz up to 4.4GHz)
	Intel Gen10 Core i5-10500TE (12M Cache 2.3GHz up to 3.7GHz)
	Intel Gen10 Core i3-10100TE (6M Cache 2.3GHz up to 3.6GHz)
Chipset	Q470E / W480E
Memory	2 x DDR4 2666/2933 MHz SO-DIMM up to 64GB (Optional ECC support with Xeon W-1290TE)
LAN Chipset	9 x Intel i210-AT and 1 x i219LM (iAMT9.5 w/ i5, i7 only) Gb/s Ethernet Controllers Onboard Support PXE and WOL
Watchdog	1 ~ 255 Level Reset
TPM	2.0
I/O	
Serial Port	3 x RS 232/422/485 (option additional 1 x RS 232/422/485)
USB Port	4 x USB 3.2 Gen 1x1 Ports
LAN	2 x RJ45 Ports and 8 x M12 X coded connectors for GbE (Optional with 8 x PoE total Max.120W)
Video Port	3 x DP, 2 x HDMI Ports from NVIDIA® GeForce GTX GPU
DIO Port	8 x DI (5~48VDC) and 4 x DO (5VDC, 100mA)
Audio	1 x Line-out, 1 x Line-in and 1 x Mic-in
Expansion Bus	2 x Full Mini-PCIe Slots, 1 x Mini-PCIe w/ USB interface only for WWAN sharing 2 x SIM Card Sockets with M.2 B Key 3042 slot, 1 x M.2 A-E Key 2230 slot, 1 x M.2 B Key 3042 slot w/ 2 x SIM Card Sockets for WWAN Patent No. : M592609 - Automatic SIM Card Detection

Storage	
Type	2 x 2.5" Drive Bay for SATA Type HDD/SSD RAID 0, 1, 5 1 x M.2 M key 2280 slot supports NVMe and SATA SSD * Thermal heatsink is required for M.2 storage. Please contact sales window for more information.
Graphics	
CPU Built-in Graphics	Intel® UHD Graphics 630 Max Resolution (DP1.2) : 4096x2304@60Hz
MXM Graphics	NVIDIA® GeForce GTX 1060 GPU (1280 CUDA Cores) w/6GB GDDR5, Max Resolution (HDMI 2.0b) : 4096 x 2160 @ 60Hz (Optional) NVIDIA® GeForce GTX 1650 GPU (896 CUDA Cores) w/4GB GDDR5, Max Resolution (HDMI 2.0b) : 4096 x 2160 @ 60Hz
Environmental	
Operating Temp.	-40°C ~ 70°C w/0.6 m/s airflow Patent No. : M565941 - Thermal Cooling
Storage Temp.	-40°C ~ 80°C
Relative Humidity	10% RH ~ 90% RH (non-condensing)
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD
Certifications	CE, FCC Class A, E13, EN50155
Power Requirement	
Power Input	9V - 48V DC Power Input
Power Protection	Automatics Recovery Short Circuit Protection
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by BIOS and Software
Battery Backup (Option)	Internal Battery Kit for 10 Mins Operating (P/N: BAT-5200 kit, Operating Temp. -20 ~ 60°C) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery

ABOX-5200

Taiwan Patent No. M447854

Intel 8th Gen Core i7/i5/i3 CPU w/ 10 x GbE (Optional for M12 connector and 8 x PoE total Max. 100W)/ 3 x COM/ 3 x DP/ 4 x USB 3.0/ 9-48V Input AI GPU Computing

Features

- Intel 8th Gen Core i7/i5/i3
- 10 x GbE LAN (Optional for M12 connector and 8 x PoE total Max. 100W)
- 8 x GPI, 4 x GPO and 3 x RS-232/422/485
- 3 x Display Ports
- Dual Hot Swappable SATA Storage RAID 0,1,5
- 9-48V DC Input and Operating Temp.: -40~70°C
- TPM 2.0



Introduction

The ABOX-5200 is powered by Intel Coffee Lake 8th Gen Core i7/i5/i3 CPU with 10 x GbE/ 3 x COM/ 3 x DP/ 4 x USB 3.0/ 9-48V Fanless Box Computer. It can provide high computing performance on graphic processing by harnessing the power of its graphics processing unit (GPU). ABOX-5200 fanless box computers feature the Dual Hot Swappable SATA Storage RAID 0,1,5, which allows more flexibility for hardware maintenance and expansion.

ABOX-5200 offers the best solution for customers and it can be adapted to various industrial requirements, including: Smart solutions (Smart Patrol, Smart Factory Automation Control System), Surveillance system (Bus Surveillance Fleet Management, Outdoor Video Surveillance System), and Visual management (Automatic License Plate Recognition, Vision Control System, Mining Machines).

Specifications

System	
CPU	Intel Gen8 Core i7-8700T (12M Cache 2.4GHz up to 4.0GHz) Intel Gen8 Core i5-8500T (9M Cache 2.1GHz up to 3.5GHz) Intel Gen8 Core i3-8100T (6M Cache 3.1GHz) Intel Gen8 Celeron G4900T (2M Cache 2.9GHz)
Memory	2 x DDR4 2400 MHz SO-DIMM up to 32GB
LAN Chipset	9 x Intel i210-AT and 1 x i219LM (iAMT9.5 w/ i5, i7 only) Gb/s Ethernet Controllers Onboard Support PXE and WOL
Watchdog	1 ~ 255 Level Reset
TPM	2.0
I/O	
Serial Port	3 x RS-232/422/485 (Optional Max 4 x RS-232/422/485)
USB Port	4 x USB 3.0 Ports
LAN	10 x RJ45 Ports for GbE (Optional for M12 connector and 8 x PoE total Max. 100W)
Video Port	3 x DP Ports
DIO Port	8 x GPI and 4 x GPO
Audio	1 x Line-out, 1 x Line-in and 1 x Mic-in
Expansion Bus	3 x Full Mini-PCIe Slots and 1x M.2 A-E Key 2230 slot (2 x SIM Card Sockets for 3G/LTE)
Software	
Operating System	Win 10, Ubuntu 18.04 64bit
Graphics	
Graphics	Intel® UHD Graphics 630
Resolution	Max Resolution (DP) : 4096x2304@60Hz

Environmental	
Operating Temp.	-40°C ~ 70°C, ambient w/ 0.6m/s airflow
Storage Temp.	-40°C ~ 80°C
Relative Humidity	10% RH ~ 90% RH (non-condensing)
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD
Certifications	CE, FCC Class A, E13
Storage	
Type	2 x 2.5" Drive Bay for SATA Type HDD/SSD RAID 0, 1, 5 1 x mSATA
Power Requirement	
Power Input	9V - 48V DC Power Input
Power Protection	Automatics Recovery Short Circuit Protection
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by BIOS and Software
Battery (UPS)	Internal Battery Kit for 10 Mins Operating (optional) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery
Mechanical	
Construction	Aluminum Alloy
Mounting	Wall-mount
Weight	5190g (Barebone)
Dimensions	260(L) x 250(W) x 95(H) mm

ABOX-5200G4

Taiwan Patent No. M565941

Intel Gen 8th 6 Cores i7 CPU w/ 10 x GbE (Optional 8 x PoE)/ 3 x COM/ 3 x DP/ 4 x HDMI/ 4 x USB 3.0/ NVIDIA® GeForce GTX 1060 1280 CUDA cores GPU/ DC 9-48V Input AI GPU Computing

Features

- Intel GEN 8th 6 Cores i7-8700T
- NVIDIA® GeForce GTX 1060 GPU
- Support 1280 CUDA Cores
- 8 x GPI and 4 x GPO and 3 x RS-232/422/485
- Dual Hot Swappable SATA Storage RAID 0,1,5
- 9-48V DC Input and Operating Temp.: -40~60°C
- 10 x GbE LAN (Optional for 8 x PoE)



Introduction

The ABOX-5200G4 is powered by Intel Gen 8th 6 Cores i7 CPU with 10 x GbE (Optional 8 x PoE) and NVIDIA GeForce GTX 1060 1280 CUDA cores GPU/ 9-48V AI GPU Computing. It provides high computing performance to accelerate computational workloads. ABOX-5200G4 include the ability to process deep learning operations with NVIDIA CUDA technology and support end-to-end deep learning solutions, which plays a vital role in managing autonomous vehicles and factory automation. Furthermore, it can assist systems in detecting objects, performing basic classification, and alerting drivers.

ABOX-5200G4 can be implemented to autonomous vehicles and mining machine, mining trucks, as well as driving performance monitoring. It provides advanced intelligent assistance to monitor and track the traffic.

Specifications

System	
CPU	Intel Gen8 Core i7-8700T (12M Cache 2.4GHz up to 4.0GHz) Intel Gen8 Core i5-8500T (9M Cache 2.1GHz up to 3.5GHz) Intel Gen8 Core i3-8100T (6M Cache 3.1GHz) Intel Gen8 Celeron G4900T (2M Cache 2.9GHz)
Memory	2 x DDR4 2133 MHz SO-DIMM up to 32GB
LAN Chipset	9 x Intel i210-AT and 1 x i219LM (iAMT9.5 w/ i5, i7 only) Gb/s Ethernet Controllers Onboard Support PXE and WOL
Watchdog	1 ~ 255 Level Reset
TPM	2.0
I/O	
Serial Port	3 x RS-232/422/485 (Optional Max 4 x RS-232/422/485)
USB Port	4 x USB 3.0 Ports
LAN	10 x RJ45 Ports for GbE (Optional for 8 x PoE total Max.100w)
Video Port	3 x DP, 4 x HDMI Ports
DIO Port	8 x GPI and 4 x GPO
Audio	1 x Line-out, 1 x Line-in and 1 x Mic-in
Expansion Bus	3 x Full Mini-PCle Slots and 1x M.2 A-E Key 2230/3030 slot (2 x SIM Card Sockets for 3G/LTE)
Software	
Operating System	Win 10, Ubuntu 18.04 64bit
Graphics	
Graphics	NVIDIA® GeForce GTX 1060 GPU (1280 CUDA Cores) Support for OpenGL 4.5 and OpenCL™ 1.2 Support for DirectX® 12 (Feature Level 12_0) features, VR Ready
Resolution	Max Resolution (HDMI 2.0b) :4096x2160@60Hz

Environmental	
Operating Temp.	-40°C ~ 60°C, ambient w/ 0.6m/s airflow Patent No. : M565941 - Thermal Cooling
Storage Temp.	-40°C ~ 80°C
Relative Humidity	10% RH – 90% RH (non-condensing)
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD
Certifications	CE, FCC Class A, E13
Storage	
Type	2 x 2.5" Drive Bay for SATA Type HDD/SSD RAID 0, 1, 5 1 x mSATA
Power Requirement	
Power Input	9V - 48V DC Power Input
Power Protection	Automatics Recovery Short Circuit Protection
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by BIOS and Software
Battery (UPS)	Internal Battery Kit for 10 Mins Operating (optional) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery
Mechanical	
Construction	Aluminum Alloy
Mounting	Wall-mount
Weight	5250g (Barebone)
Dimensions	260(L) x 250(W) x 95(H) mm

ABOX-5100

Taiwan Patent No. M447854

AMD Ryzen™ Embedded V1000 Processor w/ 8 x GbE/ 2 x COM/ 4 x DP/ 4 USB 3.0/ 9-48V Input AI GPU Computing

Features

- AMD Ryzen™ Embedded V1000 Platform
- Vega GPU with up to 11 Compute Units and 4 x DP 1.4
- 8 x GPI, 4 x GPO and 3 x RS-232/422/485
- Dual Hot Swappable SATA Storage
- 9-48V DC Input and Operating Temp.: -40~70°C
- 8 x GbE LAN (Optional for 8 x PoE)



Introduction

The ABOX-5100 is powered by AMD Ryzen Embedded V1000 Processor with 8 x GbE/ 2 x COM/ 4 x DP/ 4 x USB 3.0/ 9-48V Fanless Box Computer. ABOX-5100 provide the Dual Hot Swappable SATA Storage RAID 0,1,5, which provides more flexibility for hardware maintenance and expansion. These computers can be operated in extreme weather conditions (operating temperature: -40°C ~ 70 °C) and can be adapted to various industrial requirements such as Smart Patrol, Smart Factory Automation Control System, Surveillance System as well as Visual Management System such as Automatic License Plate Recognition, Mining Machines and Vision Control System.

Specifications

System	
CPU	AMD Ryzen™ V1807B Quad Core Soc (3.3~3.6GHZ)
Memory	2 x DDR4 2400 MHz SO-DIMM up to 32GB
LAN Chipset	Intel i210AT x 2 to LAN Switch Marvell 88E6176-A1 x 2
Watchdog	1 ~ 255 Level Reset
TPM	2.0
I/O	
Serial Port	3 x RS-232/422/485 (Optional Max 4 x RS-232/422/485)
USB Port	4 x USB 3.0 Ports
LAN	8 x RJ45 GbE by 2 x Switch Design (MAC x 2), Optoinal PoE for the 8 Ports 100W max.
Video Port	4 x DP Ports
DIO Port	8 x GPI and 4 x GPO
Audio	1 x Line-out, 1 x Line-in and 1 x Mic-in
Expansion Bus	3 x Full Mini-PCIe Slots and 1x M.2 A-E Key 2230 slot (2 x SIM Card Sockets for 3G/LTE)
Software	
Operating System	Win10 LTSC 1809, Ubuntu 18.04 64bit
Graphics	
Graphics	AMD Next-generation Graphics Core and Multimedia Vega GPU with up to 11 Compute Units H.2651 (10-bit) Decode & (8-bit) Encode, VP9 Decode Up to 4x DisplayPort 1.4
Resolution	Max Resolution (DP) : 4096x2304@60Hz

Environmental	
Operating Temp.	-40°C ~ 70°C * CPU configure at 25W, ambient w/ 0.6m/s airflow
Storage Temp.	-40°C ~ 80°C
Relative Humidity	10% RH ~ 90% RH (non-condensing)
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD
Certifications	CE, FCC Class A, E13
Storage	
Type	2 x 2.5" Drive Bay for SATA Type HDD/SSD
Power Requirement	
Power Input	9V - 48V DC Power Input
Power Protection	Automatics Recovery Short Circuit Protection
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by BIOS and Software
Battery (UPS)	Internal Battery Kit for 10 Mins Operating (optional) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery
Mechanical	
Construction	Aluminum Alloy
Mounting	Wall-mount
Weight	5220g (Barebone)
Dimensions	260(L) x 226(W) x 95(H) mm

ABOX-5100G

Taiwan Patent No. M447854, M565941

AMD Ryzen™ Embedded V1000 Processor w/ 8 x GbE/ 2 x COM/ 4 x DP/ 4 x HDMI/ 4 x USB 3.0/ AMD Radeon™ E9260 GPU/
9-48V Input AI GPU Computing

Features

- AMD Ryzen™ Embedded V1000 Platform
- AMD Embedded Radeon™ E9260 GPU
- 8 x GPI, 4 x GPO and 3 x RS-232/422/485
- Dual Hot Swappable SATA Storage
- 9-48V DC Input and Operating Temp.: -40~60°C
- 8 x GbE LAN (Optional for 8 x PoE)



Introduction

The ABOX-5100G is powered by AMD Ryzen Embedded V1000 Processor with 8 x GbE/ 2 x COM/ 4 x DP/ 4 x HDMI/ 4 x USB 3.0/ AMD Radeon E9260 GPU/ 9-48V AI GPU Computing. ABOX-5100G offers the optimal solution for customers and can readily be adapted to industrial requirements such as Smart solutions (Smart Patrol, Smart Factory Automation Control System), Surveillance system (Bus Surveillance Fleet Management, Outdoor Video Surveillance System) and Visual management (Automatic License Plate Recognition, Vision Control System, Mining Machines).

Specifications

System	
CPU	AMD Ryzen™ V1807B Quad Core Soc (3.3~3.6GHZ)
Memory	2 x DDR4 2400 MHz SO-DIMM up to 32GB
LAN Chipset	Intel i210AT x 2 to LAN Switch Marvell 88E6176-A1 x 2
Watchdog	1 ~ 255 Level Reset
TPM	2.0
I/O	
Serial Port	3 x RS-232/422/485 (Optional Max 4 x RS-232/422/485)
USB Port	4 x USB 3.0 Ports
LAN	8 x RJ45 GbE by 2 x Switch Design (MAC x 2), Optional PoE for the 8 Ports 100W max.
Video Port	4 x DP, 4 x HDMI
DIO Port	8 x GPI and 4 x GPO
Audio	1 x Line-out, 1 x Line-in and 1 x Mic-in
Expansion Bus	3 x Full Mini-PCle Slots and 1x M.2 A-E Key 2230 slot (2 x SIM Card Sockets for 3G/LTE)
Software	
Operating System	Win10 LTSC 1809, Ubuntu 18.04 64bit
Graphics	
Graphics	AMD Radeon™ E9260 GPU Support for OpenGL 4.5. and OpenCL™ 2.0. Support for Mantle and AMD LiquidVR™ Support for DirectX® 12 (Feature Level 12_0) features
Resolution	Max Resolution (DP) : 4096x2160@60Hz - AMD CPU Max Resolution (HDMI 2.0b) : 4096x2160@60Hz - GPU E9260

Environmental	
Operating Temp.	-40°C ~ 60°C * CPU configure at 25W, ambient w/ 0.6m/s airflow Patent No. : M565941 - Thermal Cooling
Storage Temp.	-40°C ~ 80°C
Relative Humidity	10% RH – 90% RH (non-condensing)
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD
Certifications	CE, FCC Class A, E13
Storage	
Type	2 x 2.5" Drive Bay for SATA Type HDD/SSD
Power Requirement	
Power Input	9V - 48V DC Power Input
Power Protection	Automatics Recovery Short Circuit Protection
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by BIOS and Software
Battery (UPS)	Internal Battery Kit for 10 Mins Operating (optional) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery
Mechanical	
Construction	Aluminum Alloy
Mounting	Wall-mount
Weight	5220g (Barebone)
Dimensions	260(L) x 226(W) x 95(H) mm

RBOX-1000-M12X

Intel Gen6 Core i7-6600U CPU with Isolated 110VDC Input 6 x GbE with optional PoE
In-Vehicle Computer/ EN50155 Railway Applications

Features

- Intel Core i7-6600U / i5-6300U / i3-6100U
- Wireless support LTE w/ SIM Card, GPS, BT(option)
- 6 x GbE optional PoE
- Isolated wide Input Range 77-137V DC
- Dual Hot Swappable SATA Storage, RAID 0,1,5
- EN50155 Tx temperature and class S2 interruption



POE



GPS



Wireless



Wide Range

Introduction

The RBOX-1000-M12X is powered by Intel Gen6 Core i7-6600U CPU with Isolated 110VDC Input 6 x GbE(optional PoE) In-Vehicle Computer / EN50155 Railway Applications. RBOX-1000-M12X is highly flexible, supporting a wide range of peripherals and connections. It offers Wireless support LTE with SIM Card, GPS, BT(option), isolated wide Input Range 77-137V DC and EN50155 Tx temperature and class S2 interruption.

RBOX-1000-M12X can be operated in extreme weather conditions (operating temperature: -40°C ~ 70 °C) suitable for railway station management and License Plate Identification (LPI). The easy-to-use, intuitive interface makes RBOX-1000-M12X highly suitable for use in public transportation and other applications which require high capacity and simplicity.

Specifications

System

CPU	Intel Gen6 Core i7-6600U 2.6GHz up to 3.4GHz
	Intel Gen6 Core i5-6300U 2.4GHz up to 3GHz
	Intel Gen6 Core i3-6100U 2.3GHz
	Intel Gen6 Dual Core 3955U 2.0GHz
Memory	2 x SO-DIMM DDR4 up to 32GB
LAN Chipset	6 x Intel I210AT
Watchdog	Watchdog Timer Support, Offer 1 – 255 Step

I/O

USB Port	2 x USB 3.0 Ports
LAN	6 x 10/100/1000 Mb/s w/ M12 X-code (optional PoE total 90W max.)
Video Port	1 x HDMI
SIM Card Socket	2 x SIM Card Sockets, supported onboard with eject
Expansion Bus	2 x Mini-card slots (USB Bus only)

Graphics

Graphics	Intel® HD Graphics 520
	DirectX Video Acceleration (DXVA) for Accelerating Video Processing - Full AVC/VC1/MPEG2 HW Decode Supports DirectX 11/10.1/10/9 and OpenGL 4.0
Resolution	Up to 4096 x 2304@60 Hz

Software

Operating System	Win 10, Ubuntu 16.04 64bit
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Environmental

Operating Temp.	-40°C ~ 70°C EN50155 Tx, ambient w/ 0.6m/s airflow
Storage Temp.	-40°C ~ 85°C
Relative Humidity	10% RH – 90% RH (non-condensing)
Vibration Operating	EN 50155 EN61373
Shock	EN 50155 EN61373
Certifications	EN 50155, EN50121-1, EN50121-3-2

Storage

Type	2 x 2.5" Drive Bay for SATA Type HDD/SSD RAID 0, 1, 5 1 x mSATA
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Power Requirement

Power Input	77-137V DC Power Input with Isolation (optional for 24V/ 48V/ 72V)
Power Protection	Automatics Recovery Short Circuit Protection Meet EN50155 Class S2

Mechanical

Construction	Aluminum Alloy
Mounting	1U 19" Rock mount
Weight	2500g
Dimensions	482 x 300 x 44mm

VBOX-3620-M12X

Taiwan Patent No. M447854, M448011

Intel Gen6 Core i7-6600U CPU with Isolated Input 3 x GbE and 1 x iAMT
In-Vehicle Computer/ EN50155 Railway Applications

Features

- Intel Core i7-6600U / i5-6300U / i3-6100U
- Wireless support LTE w/ SIM Card, WLAN, GPS Dead Reckoning, BT(Optional)
- 3 x GbE including 1 with iAMT
- Isolated wide Input Range 9-36V DC
- Max. 8 x SIM card Sockets
- Dual Hot Swappable SATA Storage, RAID 0,1,5
- EN50155 Tx temperature and class S2 interruption
- E-13 Certified



GPS



Wireless



Wide Range



Delay Time

Introduction

The VBOX-3620-M12X is powered by Intel Gen6 Core i7-6600U CPU with Isolated input In-Vehicle Computer. VBOX-3620-M12X provides three GbE, including one with iAMT. It offers wireless support LTE with SIM Card, GPS, and BT (optional). It features smart vehicle power ignition for a variety of vehicles, and it can be adapted to all kinds of vehicle management systems like those with GPS, fleet monitoring systems, and vehicle repairing systems. It can manage a vehicle's internal capabilities to accurately assess and track a vehicle's internal hardware and software states, forward-thinking usage, and all fleet movements.

Specifications

System	
CPU	Intel Gen6 Core i7-6600U 2.6GHz up to 3.4GHz Intel Gen6 Core i5-6300U 2.4GHz up to 3GHz Intel Gen6 Core i3-6100U 2.3GHz Intel Gen6 Dual Core 3955U 2.0GHz
Memory	2 x SO-DIMM DDR4 up to 32GB
LAN Chipset	6 x Intel I210AT
Audio	Realtek ALC662 HD Codec Onboard
Watchdog	Watchdog Timer Support, Offer 1 – 255 Step
I/O	
Serial Port	4 x RS-232/422/485, w/ isolation (Auto Direction Control)
USB Port	2 x USB 3.0 Ports, 2 x USB 2.0 Ports
LAN	3 x 10/100/1000 Mb/s w/ M12 x-code (1 port with iAMT)
Video Port	2 x DP Port, 1 x VGA (Support Triple Independent Display)
DIO Port	8 x GPI and 4 x GPO w/ isolation
Audio	1 x Line-out and 1 x Mic-in (Line-in Optional)
SIM Card Socket	2 x SIM Card Sockets, supported onboard with eject 6 x SIM Card Sockets (Optional order No. SIM-6A)
Expansion Bus	3 x Mini-card slots and 1 x M.2 A-E Key 2230 slot
Graphics	
Graphics	Intel® HD Graphics 520 DirectX Video Acceleration (DXVA) for Accelerating Video Processing - Full AVC/VC1/MPEG2 HW Decode Supports DirectX 11/10.1/10/9 and OpenGL 4.0
Resolution	Up to 4096 x 2304@60 Hz
Software	
Operating System	Win 10, Ubuntu 16.04 64bit

Environmental	
Operating Temp.	-40°C ~ 70°C, ambient w/ 0.6m/s airflow Patent No. : M565941 - Thermal Cooling
Storage Temp.	-40°C ~ 80°C
Relative Humidity	10% RH – 90% RH (non-condensing)
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis EN 50155 EN61373, Operating
Shock	EN 50155 EN61373
Certifications	CE, FCC Class A, EN50155, EN50121, E13, EN45545-2 (R25)
Storage	
Type	2 x 2.5" Drive Bay for SATA Type HDD/SSD RAID 0, 1, 5 1 x SATA DOM
Power Requirement	
Power Input	9V - 36V DC Power Input with Isolation
Power Protection	Automatics Recovery Short Circuit Protection
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by Software and BIOS
Battery (UPS)*	Internal Battery Kit for 10 Mins Operating (Optional) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery *with 6 x SIM card slots option cannot have Battery option
Mechanical	
Construction	Aluminum Alloy
Mounting	Supports Both of Wall-mount/VESA-mount
Weight	1900g
Dimensions	250 x 150 x 55 mm

VBOX-3611-4L

Taiwan Patent No. M447854, M448011

Intel Gen6 Core i7-6600U CPU with 4 x GbE LAN On-Board Computer

Features

- Intel Core i7-6600U
- Wireless support LTE w/ Dual SIM Cards, WLAN, GPS Dead Reckoning, WiFi, BT (Optional)
- 9V - 48V DC Power Input
- Smarter Vehicle Power Ignition for Variety Vehicle
- Dual Hot Swappable SATA Storage, RAID 0, 1, 5
- 1 x CAN Bus 2.0B (Optional)
- E13 and EN50155 certified



GPS



Wireless



Wide Range



Delay Time

Introduction

The VBOX-3611-4L is powered by Intel Gen six Core i7-6600U CPU with four GbE LAN In-Vehicle Computer. It is designed for a wide range of DC power inputs 9V~48V DC which are isolated for power, serial and I/O port. It features an optional CAN Bus 2.0B port and wireless communication technology, offers wireless support LTE with SIM card, WLAN, GPS Dead Reckoning, and BT (Optional). It is E13 and EN50155 certified. VBOX-3611-4L provides four GbE, including one with iAMT. It features smart vehicle power ignition, power management for a variety of vehicles, and it can be adapted to the needs of any vehicle management systems, tracking the trains', cars', or trucks' internal hardware and software states, usage and movement.

Specifications

System	
CPU	Intel Gen6 Core i7-6600U 2.6GHz up to 3.4GHz Intel Gen6 Core i5-6300U 2.4GHz up to 3.0GHz Intel Gen6 Core i3-6100U 2.3GHz Intel Gen6 Dual Core 3955U 2.0GHz
Memory	2 x DDR4 2133 MHz SO-DIMM up to 32GB
Chipset	Intel 6th Generation Core SoC Processor
LAN Chipset	Intel I210-AT Gb/s Ethernet Controllers Onboard Support PXE and WOL
Audio	Realtek ALC662 HD Codec Onboard
Watchdog	Watchdog Timer Support, Offer 1 – 255 Step
TPM	2.0
I/O	
Serial Port	4 x RS-232 (2 with RS-422/485 (Auto Direction Control))
USB Port	4 x USB 3.0 Ports
LAN	4 x RJ45 Ports (optional M12 connector) for GbE (1 port with iAMT)
Video Port	1 x DVI-I*, 1 x VGA and 1 x DP (Support Triple Independent Display)
DIO Port	4 In and 4 Out
Audio	1 x Line-out and 1 x Mic-in (Line-in Optional)
SIM Card Socket	2 x SIM Card Sockets Supported Onboard with eject
Expansion Bus	3 x mini-PCIe cards, 1 x M.2 2230 A-E Key * Use only with Single Link DVI Cables.
Graphics	
Graphics	Intel® HD Graphics 520 DirectX Video Acceleration (DXVA) for Accelerating Video Processing - Full AVC/VC1/MPEG2 HW Decode Supports DirectX 11/10.1/10/9 and OpenGL 4.0
Resolution	Max Resolution (HDMI1.4) : 4096x2304@24Hz Max Resolution (DP) : 4096x2304@60Hz

Software	
Operating System	Win 10, Ubuntu 16.04 64bit
Environmental	
Operating Temp.	-40°C ~ 70°C, ambient w/ 0.6m/s airflow Patent No. : M448011 - Thermal Cooling
Storage Temp.	-40°C ~ 85°C
Relative Humidity	10% RH – 90% RH (non-condensing)
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD
Certifications	CE, FCC Class A, E13, EN50155, EN45545-2 (R25) (The input Negative connects with chassis Ground)
Storage	
Type	2 x 2.5" Drive Bay for SATA Type HDD/SSD RAID 0, 1, 5 1 x SATA DOM
Power Requirement	
Power Input	9V - 48V DC Power Input
Power Protection	Automatics Recovery Short Circuit Protection
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by Software and BIOS
Battery (UPS)	Internal Battery Kit for 10 Mins Operating (Optional) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery
Mechanical	
Construction	Aluminum Alloy
Mounting	Supports Both of Wall-mount/VESA-mount
Weight	2160 g (Barebone)
Dimensions	250 x 150 x 55 mm

VBOX-3611-IP65

Taiwan Patent No. M447854, M448011

Intel Gen6 Core i7-6600U CPU with HD 520 GPU IP65 In-Vehicle Computer

Features

- Intel Core i7-6600U
- Wireless Support LTE, WLAN, GPS, Bluetooth(Optional)
- 9V - 48V DC Power Input
- Smarter Vehicle Power Ignition for Variety Vehicle
- 4 x DI / 4 x DO with Relay 5V / 100mA
- 2 x Analog Input (0-48V)
- IP65 Level for Water and Dust Proof



POE



GPS



Wireless



Wide Range



Delay Time

Introduction

The VBOX-3611-IP65 is powered by Intel Gen6 Core i7-6600U CPU In-Vehicle Computer. With CE, FCC Class A and E-13 certifications, the VBOX-3611-IP65 is designed and manufactured to withstand dust, moisture, and temperature changes. With Intel Gen6 Core i7-6600U CPU and HD 520 GPU, the waterproof, dustproof, snowproof VBOX-3611-IP65 can effectively support vehicles in bad weather and extreme working conditions, such as snowplow, complex excavator and stacker operations. The strong environmental tolerance continually maintains a wide range of operating temperature (-40 ~ 70 °C). With VBOX-3611-IP65, all related vehicles can be powered and easily connected for remote and real-time management.

Specifications

System	
CPU	Intel Gen6 Core i7-6600U 2.6GHz up to 3.4GHz Intel Gen6 Core i5-6300U 2.4GHz up to 3.0GHz Intel Gen6 Core i3-6100U 2.3GHz Intel Gen6 Dual Core 3955U 2.0GHz
Memory	2 x DDR4 2133 MHz SO-DIMM up to 32GB
LAN Chipset	1 x Intel I219LM (support iAMT for i5, i7 only) Gigabit Ethernet 3 x Intel I210-AT Gb/s Ethernet Controllers Onboard Support PXE and WOL
Audio	Realtek ALC662 HD Codec Onboard
Watchdog	Watchdog Timer Support, Offer 1 – 255 Step
TPM	2.0
I/O	
Serial Port	2 x RS-232/422/485 (optional max. 4 x RS-232/422/485)
USB Port	4 x USB 2.0 Ports on Front I/O
LAN	4 x M12 A-Code for GbE (3 ports with PoE 802.3af)
Video Port	1 x DVI-I *
DIO Port	4 in and 4 out with Relay 5V / 100mA
AIO Port	2 x Analog Input (Voltage range 0~48VDC, accuracy ±500 mV)
Audio	1 x Line-out, 1 x Mic-in and 1 x Line-in (optional - 1 x Line-out additional)
SIM Card Socket	2 x SIM Card Sockets Supported Onboard
Expansion Bus	3 x Mini-Card Slots and 1 x M.2 A-E Key 2230 slot * Use only with Single Link DVI Cables.
Graphics	
Graphics	Intel® HD Graphics 520 DirectX Video Acceleration (DXVA) for Accelerating Video Processing - Full AVC/VC1/MPEG2 HW Decode Supports DirectX 11/10.1/10/9 and OpenGL 4.0
Resolution	Up to 2560 x 1600 @85Hz

Software	
Operating System	Win 10, Ubuntu 16.04 64bit
Environmental	
Operating Temp.	-40°C ~ 70°C, ambient w/ 0.6m/s airflow Patent No. : M448011 - Thermal Cooling
Storage Temp.	-40°C ~ 80°C
Relative Humidity	10% RH – 90% RH (non-condensing)
IP Rating	IP65
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD
Certifications	CE, FCC Class A, E-13, EN50155, EN45545-2 (R25)
Storage	
Type	1 x 2.5" Drive Bay for SATA Type Hard Disk Drive / SSD 1 x M.2 M key 2280 slot supports SATA SSD
Power Requirement	
Power Input	9V - 48V DC Power Input
Power Protection	Automatics Recovery Short Circuit Protection
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Battery (UPS)	Internal Battery Kit for 10 Mins Operating (Optional) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery
Mechanical	
Construction	Aluminum Alloy
Mounting	Supports Both of Wall-mount/VESA-mount
Weight	1980 g (Barebone)
Dimensions	250 x 155 x 55 mm

VBOX-3611-POEX

Taiwan Patent No. M447854, M448011

Intel Gen6 Core i7-6600U CPU with 4 x POE Ports On-Board Computer

Features

- Intel Core i7-6600U
- Wireless support LTE w/ SIM Card, WLAN, GPS Dead Reckoning, BT (Option)
- 4 x Power Over Ethernet (POE)
- Smarter Vehicle Power Ignition for Variety Vehicle
- Dual Hot Swappable SATA Storage, RAID 0, 1, 5
- 1 x CAN Bus 2.0B (Optional)



POE



GPS



Wireless



Wide Range



Delay Time

Introduction

The VBOX-3611-POEX is powered by Intel Gen 6 Core i7-6600U with 4x POE ports In-Vehicle Computer, wireless support LTE, 3.5G w/ Dual SIM cards (Auto-switch). Additionally, it supports 9V - 36V DC Power Input. It can be operated in extreme weather conditions (Operating temperature: -40°C ~ 70 °C) and is suitable for railway station management and license plate recognition (LPR).

The VBOX-3611-POEX is designed for fleet management, mobile DVR, driver behavior record and in-vehicle digital signage. This technology enables us to offer a new in-vehicle component which can be applied as part of biometric systems and passenger information collection for user authentication purposes.

Specifications

System	
CPU	Intel Gen6 Core i7-6600U 2.6GHz up to 3.4GHz
	Intel Gen6 Core i5-6300U 2.4GHz up to 3.0GHz
	Intel Gen6 Core i3-6100U 2.3GHz
	Intel Gen6 Dual Core 3955U 2.0GHz
Memory	2 x DDR4 2133 MHz SO-DIMM up to 32GB
Chipset	Intel 6th Generation Core SoC Processor
LAN Chipset	Intel I210-AT Gb/s Ethernet Controllers Onboard Support PXE and WOL
Audio	Realtek ALC662 HD Codec Onboard
Watchdog	Watchdog Timer Support, Offer 1 – 255 Step
TPM	2.0
I/O	
Serial Port	3 x RS-232 (2 with RS-422/485 (Optional Max 4 x RS-232/422/485))
USB Port	2 x USB 3.0 Ports, 2 x USB 2.0 Ports
LAN	4 x M12 X-Code for GbE PoE (IEEE802.3af 15.4W per port)
Video Port	1 x DVI-I*, 1 x DP, 1, VGA (Support Triple Independent Display)
DIO Port	4 In and 4 Out
Audio	1 x Line-out and 1 x Mic-in (Line-in Optional)
SIM Card Socket	1 x SIM Card Socket Supported Onboard with eject * Use only with Single Link DVI Cables.
Graphics	
Graphics	Intel® HD Graphics 520
	DirectX Video Acceleration (DXVA) for Accelerating Video Processing - Full AVC/VC1/MPEG2 HW Decode Supports DirectX 11/10.1/10/9 and OpenGL 4.0
Resolution	Max Resolution (HDMI1.4) : 4096x2304@24Hz Max Resolution (DP1.2) : 4096x2304@60Hz

Software	
Operating System	Win 10, Ubuntu 16.04 64bit
Environmental	
Operating Temp.	-40°C ~ 70°C, ambient w/ 0.6m/s airflow Patent No. : M448011 - Thermal Cooling
Storage Temp.	-40°C ~ 80°C
Relative Humidity	10% RH – 90% RH (non-condensing)
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD
Certifications	CE, FCC Class A, E-13
Storage	
Type	2 x 2.5" Drive Bay for SATA Type HDD/SSD RAID 0, 1, 5 1 x mSATA
Power Requirement	
Power Input	9V - 36V DC Power Input
Power Protection	Automatics Recovery Short Circuit Protection
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by Software and BIOS
Battery (UPS)	Internal Battery Kit for 10 Mins Operating (Optional) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery
Mechanical	
Construction	Aluminum Alloy
Mounting	Supports Both of Wall-mount/VESA-mount
Weight	1980 g (Barebone)
Dimensions	250 x 150 x 55 mm

VBOX-3121

Taiwan Patent No. M447854

Features

- Intel Gen 6 Core i7-6600U
- Wireless support LTE, WLAN, GPS, GSM/GPRS, Bluetooth(Optional)
- 9V - 36V DC Power Input
- Smarter Vehicle Power Ignition for Variety Vehicle
- 4 x RS-232/422/485 (for i7 and i5)
- 2 x DI / 2 x DO (12V / 100mA)



POE



GPS



Wireless



Wide Range

Introduction

The VBOX-3121 is powered by Intel Gen 6 i7-6600U with HD Graphic 520/2 x LAN/2 x HDMI/VGA with 3 x RS-232/DC 9-36V Input, and up to 16GB DDR4 SO-DIMM In-Vehicle Computer. It provides high-performing, yet cost-effective, multi-purpose devices for public transportation, police patrol and railway management. Additionally, VBOX-3121 is designed for fleet management, mobile DVR, driver behavior record and in-vehicle digital signage. It can effectively support vehicles in bad weather and extreme working conditions, such as snowplow, train, and stacker operations. Furthermore, there are two options for the case size based on the customers' needs: 250 x 167.6 x 54 mm (for i7 and i5) and 182 x 167.6 x 54mm (for i3 and C1).

Specifications

System	
CPU	Intel Gen 6 Core i7-6600U 2.6GHz up to 3.4GHz Intel Gen 6 Core i5-6300U 2.4GHz up to 3.0GHz Intel Gen 6 Core i3-6100U 2.3GHz Intel Gen 6 Dual Core 3955U 2.0GHz
Memory	1 x DDR4 SO-DIMM up to 16GB
Graphics	Intel HD Graphics
ATA	2 x Serial ATA ports with 6Gb/s HDD Transfer Rate
LAN Chipset	1 x Intel i210-AT Gigabit Ethernet 1 x Intel i219-LM Gigabit Ethernet (LAN 2), support iAMT for i5 & i7
Watchdog	1 ~ 255 level reset
I/O	
Serial Port	4 x RS-232/422/485 (for i7 and i5) 3 x RS-232/422/485 (for i3 and C1)
USB Port	2 x USB 3.0 and 1 x USB 2.0 Ports
LAN	2 x RJ45 Ports for GbE
Video Port	2 x HDMI/ 1 x VGA
GPIO Port	2 In and 2 Out (12V / 100mA)
Audio	Mic-in/Line-out
Expansion Bus	2 x Mini-card Slots (1 with SIM for LTE only), 1 x M.2 A-E Key 2230 Slot
Antenna	4 x SMA-type External Antenna Connectors for LTE / WLAN/ UMTS / GSM / GPRS / GPS / Bluetooth
SIM Card Socket	2 x SIM Card Sockets Supported Onboard with eject
Software	
Operating System	Windows 10, Ubuntu 16.04 64bit

Environmental	
Operating Temp.	-40 ~ 70°C (SSD), ambient w/ 0.6m/s airflow
Storage Temp.	-40 ~ 80°C
Relative Humidity	10% RH ~ 90% RH (non-condensing)
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD
Certifications	CE, FCC Class A, E-13
Storage	
Type	1 x 2.5" Drive Bay for SATA Type Hard Disk Drive/SSD 1 x SATA DOM
Power Requirement	
Power Input	9V - 36V DC Power Input
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by BIOS and Software
Battery (UPS)	Internal Battery Kit for 10 Mins Operating (Optional) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery
Mechanical	
Construction	Aluminum Alloy
Mounting	Wall-mount, VESA-mount, Din Rail Mounting Kit
Weight	1400g (for i3 and C1) 2400g (for i7 and i5)
Dimensions	182 x 167.6 x 54 mm (for i3 and C1) 250 x 167.6 x 54 mm (for i7 and i5)

VBOX-3130

Taiwan Patent No. M447854

Intel Braswell N-Series Atom CPU In-Vehicle Computer with 9~36V DC Input In-Vehicle Computer

Features

- Intel N3710 Quad Core CPU up to 2.56GHz
- Wireless support LTE, WLAN, GPS, Bluetooth(Optional)
- 9V - 36V DC Power Input
- Smarter Vehicle Power Ignition for Variety Vehicle
- 3 x RS-232 (COM1 & COM2 with 232/422/485)
- 2 x DI / 2 x DO (12V / 100mA)



GPS



Wireless



Wide Range



Delay Time

Introduction

The VBOX-3130 is powered by Intel Braswell N-Series Atom CPU In-Vehicle Computer with 9~36V DC Input In-Vehicle Computer. It provides 3 x RS-232 (COM1 & COM2 with RS232/422/485) serial I/O port. VBOX-3130 is designed for fleet management, mobile DVR, driver behavior record and in-vehicle digital signage. It features Smarter Vehicle Power Ignition for a variety of vehicles.

VBOX-3130 can effectively support vehicles in bad weather and extreme working conditions, such as snowplow, train, and stacker operations. Moreover, VBOX 3130 features a power-off control with a delay time set via software (default is 5 minutes).

Specifications

System	
CPU	Intel N3710 Quad Core CPU up to 2.56GHz Intel N3160 Quad Core CPU up to 2.24GHz Intel N3060 Dual Core CPU up to 2.48GHz 1 x DDR3L-1600 SO-DIMM up to 8GB
Memory	1 x DDR4 SO-DIMM up to 16GB
Chipset	N/A
Graphics	Intel HD Graphics
ATA	2 x Serial ATA 2.0 Ports with 6Gb/s HDD transfer Rate
LAN Chipset	2 x Intel i210-AT Gigabit Ethernet
Watchdog	1 ~ 255 level reset
I/O	
Serial Port	3 x RS-232 (COM1 & COM2 with RS-232/422/485 (Optional Max 4 x RS-232/422/485))
USB Port	2 x USB 3.0, 1 x USB 2.0
LAN	2 x RJ45 Ports for GbE
Video Port	1 x HDMI and 1 x DVI-I*
GPIO Port	2 In and 2 Out (12V / 100mA)
Audio	Mic-in/Line-out
Expansion Bus	3 x Mini-card Slots
Antenna	4 x SMA-type External Antenna Connectors for LTE / WLAN / UMTS / GSM / GPRS / GPS / Bluetooth
SIM Card Socket	2 x SIM Card Sockets Supported Onboard with eject * Use only with Single Link DVI Cables.
Software	
Operating System	WES 7, Win 10, Ubuntu 16.04

Environmental	
Operating Temp.	-40 ~ 70°C (SSD), ambient w/ 0.6m/s airflow
Storage Temp.	-40 ~ 80°C
Relative Humidity	10% RH ~ 90% RH (non-condensing)
Vibration (with SSD)	IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis MIL-STD-810G, Method 514.6, Procedure I, Cat.4, Operating
Shock	Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD
Certifications	CE, FCC Class A, EMark Compliance
Storage	
Type	1 x 2.5" Drive Bay for SATA Type Hard Disk Drive/SSD 1 x SATA DOM
Power Requirement	
Power Input	9V - 36V DC Power Input
Power Mgmt.	Vehicle Power Ignition for Variety Vehicle
Power Off Control	Power off Delay Time Setting by BIOS and Software
Battery (UPS)	Internal Battery Kit for 10 Mins Operating (Optional) *UPS backup time varies depending on actual overall system power consumption. Patent No. : M447854 - Build-in Battery
Mechanical	
Construction	Aluminum Alloy
Mounting	Wall-mount, VESA-mount, Din Rail Mounting Kit
Weight	1406 g
Dimensions	182(L) x 167.6(W) x 54(H) mm

VDB-810 Series

Embedded u-blox M8 GPS with (G-Sensor) Mini PCIe Card

Features

- Concurrent Reception of GPS/QZSS, GLONASS, BeiDou
- 72-channel u-blox M8 Engine w/ Over 2 Million Effective Correlators
- -167dBm SuperSense® Acquisition & Tracking Sensitivity
- 10 Hz Position Update Rate
- Standard Mini PCIe V1.2 Full-Mini Card(USB2.0 Interface)
- Time To First Fix (TTFF) : <1 sec
- Operating Temp. : -40°C to 85°C



Specifications

Receiver Type

Chipset	u-blox M8
Frequency	GPS L1 C/A, SBAS L1 C/A, QZSS L1 C/A, GLONASS L1OF, BeiDou B1
Channels	Supports 72 Channels

Sensitivity

Tracking & Navigation	-167dBm
Acquisition	-160dBm
Cold Start (Autonomous)	-148dBm

Time to First Fix (TTFF)

Cold Start	26 sec
Warm Start	26 sec
Hot Start	1 sec
Aided Start	2 sec

Accuracy

Horizontal Position	Autonomous : <2.5m CEP, SBAS : <2.0m CEP
Accuracy of Timepulse Signal	RMS 30ns
Max Navigation	99% <60ns
Update Rate	10Hz (GPS&GLONASS), 18Hz (GPS)

Output Message Format

GPS Protocol	NMEA 0183 V4.0, UBX, RTCM2.3
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Dynamic Conditions

Velocity	<500 m/s (972 knots)
Acceleration	<= 4g

Multipath Suppression

Intelligent Multipath Detection and Suppression

G-Sensor (VDB-810G)

3-axis accelerometer

A-GPS

Supports AssistNow® Online and Offline, OMA SUPL Compliant

Environmental

Operating Temp.	-40°C to +85°C, ambient w/ 0.6m/s airflow
Storage Temp.	-40°C to +85°C
Peak Supply Current	Max=150mA
Max Performance	Acquisitionnote2=74mA
Eco Mode	Trackingnote2= 43mA
Power Input	3.3V +/-10% VDC input
Dimensions	51 x 30 (mm)

Ordering Information

Part Number	VDB-810-000
Description	Embedded u-blox M8 GPS Mini PCIe Card
Part Number	VDB-810G-000
Description	Embedded u-blox M8 GPS with G-Sensor Mini PCIe Card
State of Origin	Made in Taiwan



Please Scan The QR Code For More Information

VDM-121-H

Ultra-Grade 12.1" TFT LCD VGA Touch Screen Monitor with Metal Enclosure

Features

- High Resolution of Panel 1024 x 768 Pixels
- High Contrast 700:1
- Industrial Application Panel with Long Product Life Cycle
- One VGA Input
- Resistive Touch
- USB Interface
- VESA Mountable
- Detachable Stand for Wall-mounting Application
- Metal-Enclosure



Specifications

System	
Screen Size	12.1 inch (Diagonal)
Display Resolution	1024(H) x RGB x 768(V)
Interface	Digital
Driver System	TFT Active Matrix
Active Area(mm)	245.76(H) x 184.32(V)
Pixel Pitch (mm)	0.3075 x 0.3075
Color Configuration	R.G.B. Stripe
Backlight unit	LED
Contrast Ratio	700:1
Brightness	1000 nits
View Angle	80/80/80/80/deg.
Recommended	1024 x 768 @60Hz
Power Rating	DC 9-32V
Operating Temp.	-30 to +80, ambient w/ 0.6m/s airflow
Storage Temp.	-30 to +80
Dimension	303 x 223 x 40 mm
Certificate	CE/FCC, RoHS
Accessory	Metal stand x 1, Car Cigarette lighter adapter x 1, All-In-One cable x 1, Remote controller x 1, Touch driver x 1, Users manual x 1, Touch Stylus x 1, Headrest Shroud x 1
Ordering Information	
Part Number	VDM-121-H
Description	Ultra-Grade 12.1" TFT LCD VGA Touch Screen Monitor with Metal Enclosure
State of Origin	Made in Taiwan



Please Scan The QR Code For More Information

VDM-102W

10.2" [16:9] Wide VGA Touch Screen

Features

- 16:9 Wide Screen
- Support Composite/Component/S-video Input
- One VGA Input
- Auto Reversing Function Among Composite/Component/S-video
- Touch Screen (USB Interface)
- Resolution Support: 640 x 480~ 1024 x 768 for VGA Mode
- Auto Power On/Off Function for VGA Mode
- NTSC/PAL/SECAM Auto Switching
- VESA Mounting



Specifications

System	
Display	10.2-inch TFT LCD
Number of Pixels	1,152,000 dots
Back Light	LED
Drive System	Active Martrix
Display Active Area	174.0(H) x 104.4(V) mm
Resolution	800(V) x 3(RGB) x 480(H)
Brightness Rating	400 cd/m2 (850 cd/m2 Optional)
Contrast Ratio	350:1
Viewing Angle	50/70/70/70 deg.
Video Input Systems	NTSC/PAL Auto Switching
Power source	DC 9V ~ 32V
Operating Temp.	-30 to +85°C, ambient w/ 0.6m/s airflow
Storage Temp.	-40 to +85 °C
Audio	1W x 1 Speaker
Power Consumption	1000mA/10W (max)
Monitor Dimension	251.5(W) x 176(H) x 27.5(D) mm
Certificate	CE/FCC,RoHS
Ordering Information	
Part Number	782010201010
Description	10.2" (16:9) Wide VGA Touch Screen
State of Origin	Made in Taiwan



Please Scan The QR Code For More Information

SBOX-2621

Intel Gen6 i7-6600U with HD Graphic 520 / 2 x LAN/ 2 x HDMI/ VGA/ DC 9-36V Fanless Box PC

Features

- Intel Gen 6 Core i7-6600U
- Triple Display Output (2 x HDMI / VGA)
- Dual Gigabit Ethernet
- Wide Range Operating Temp. : -30~60°C
- Ultra Slim, Compact Size and Fanless
- DC 9-36V Power Input



Introduction

The SBOX-2621 is powered by Intel Gen 6 i7-6600U with HD Graphic 520/2 x LAN/2 x HDMI/VGA DC 9-36V, and up to 16GB DDR4 SO-DIMM Fanless Box PC. The Intel's sixth-generation core microarchitecture, "Skylake" is perfect for the application that requires a boost in performance. Also, this SBOX Fanless Box PC can be applied to the fields of industrial automation, digital signage, outdoor video surveillance and automatic guided vehicle (AGV). The solutions can tackle all manner of outdoor digital applications and extreme weather conditions. To add, there are two options for the case size based on the customers' needs: 250 x 167.6 x 54 mm (for i7 and i5) and 182 x 167.6 x 54mm (for i3 and C1).

Specifications

System	
CPU	Intel Gen 6 Core i7-6600U 2.6GHz up to 3.4GHz
	Intel Gen 6 Core i5-6300U 2.4GHz up to 3.0GHz
	Intel Gen 6 Core i3-6100U 2.3GHz
	Intel Gen 6 Dual Core 3955U 2.0GHz
Memory	1 x DDR4 SO-DIMM up to 16GB
Chipset	N/A
Graphics	Intel HD Graphics
ATA	1 x Intel i210-AT Gigabit Ethernet
LAN Chipset	1 x Intel i219-LM Gigabit Ethernet (LAN 2), support iAMT for i5 & i7
Watchdog	1 ~ 255 level reset
I/O	
Serial Port	3 x RS-232/422/485 (for i7 and i5)
	4 x RS-232/422/485 (for i3 and C1)
USB Port	2 x USB 2.0 Ports and 2 x USB 3.0
LAN	2 x RJ45 Ports for GbE
Video Port	2 x HDMI/ 1 x VGA
GPIO Port	4 In and 4 Out GPIO Ports (5V Level)
Audio	Line-Out
Expansion Bus	2 x Mini-Card Slots (1 with SIM for LTE only), 1 x M.2 A-E Key

Software	
Operating System	Windows 10, Ubuntu 16.04 64bit
Environmental	
Operating Temp.	-30 ~ 60°C, ambient w/ 0.6m/s airflow
Storage Temp.	-40 ~ 85°C
Relative Humidity	10% RH – 90% RH (non-condensing)
Power Input	DC 9-36V Input w/ Reverse Polarity OCP and OVP Protection
Storage	
Type	1 x 2.5" Drive Bay for SATA Type Hard Disk Drive/SSD
	1 x SATA DOM
Qualification	
Certifications	CE, FCC Class A
Mechanical	
Construction	Aluminum Alloy
Mounting	Wall-mount, VESA-mount, Din Rail Mounting Kit
Weight	1200g (for i3 and C1)
	2300g (for i7 and i5)
Dimensions	182 x 167.6 x 47 mm (for i3 and C1)
	250 x 167.6 x 54 mm (for i7 and i5)

SBOX-2601

Intel Gen6 i7-6600U with HD Graphic 520 / 2 x LAN/ 2 x HDMI/ VGA/ DC 12V Fanless Box PC

Features

- Intel Gen 6 Core i7-6600U
- Triple Display Output (2 x HDMI / VGA)
- Dual Gigabit Ethernet
- Wide Range Operating Temp. : -30~60°C
- Ultra Slim, Compact Size and Fanless



Introduction

The SBOX-2601 is powered by Intel Gen 6 i7-6600U with HD Graphic 520/2 x LAN/2 x HDMI/VGA/DC 12V, and up to 16GB DDR4 SO-DIMM Fanless Box PC. Intel's sixth-generation core microarchitecture, "Skylake", is perfect solution for the application that requires a boost in performance, such as when streaming multimedia.

SBOX-2601 is designed for outdoor video surveillance, automatic factory, automatic guided vehicle (AGV) and flight information display system (FIDS) in the airports. The solutions can tackle all manner of outdoor digital applications and extreme weather conditions. In addition, the ultra slim (40 mm) compact size makes this series ideally suited for digital signage or kiosks where space is limited.

Specifications

System	
CPU	Intel Gen 6 Core i7-6600U 2.6GHz up to 3.4GHz
	Intel Gen 6 Core i5-6300U 2.4GHz up to 3.0GHz
	Intel Gen 6 Core i3-6100U 2.3GHz
	Intel Gen 6 Dual Core 3955U 2.0GHz
Memory	1 x DDR4 SO-DIMM up to 16GB
Chipset	N/A
Graphics	Intel HD Graphics
ATA	2 x Serial ATA ports with 6Gb/s HDD Transfer Rate
LAN Chipset	1 x Intel i210-AT Gigabit Ethernet
	1 x Intel i219-LM Gigabit Ethernet (LAN 2), support iAMT for i5 & i7
Watchdog	1 ~ 255 level reset
I/O	
Serial Port	3 x RS-232/422/485 (for i7 and i5)
	2 x RS-232/422/485 (for i3 and C1)
USB Port	2 x USB 2.0 Ports and 2 x USB 3.0
LAN	2 x RJ45 Ports for GbE
Video Port	2 x HDMI/ 1 x VGA
GPIO Port	4 In and 4 Out GPIO Ports (5V Level)
Audio	Line-Out / Mic-in
Expansion Bus	1 x Mini-Card Slot, 1 x M.2 A-E Key

Software	
Operating System	Windows 10, Ubuntu 16.04 64bit
Environmental	
Operating Temp.	-30 ~ 60°C, ambient w/ 0.6m/s airflow
Storage Temp.	-40 ~ 85°C
Relative Humidity	10% RH – 90% RH (non-condensing)
Power Input	DC 12V Input
Storage	
Type	1 x 2.5" Drive Bay for SATA Type Hard Disk Drive/SSD 1 x SATA DOM
Qualification	
Certifications	CE, FCC Class A
Mechanical	
Construction	Aluminum Alloy
Mounting	Wall-mount, VESA-mount, Din Rail Mounting Kit
Weight	1200g (Barebone)
Dimensions	182 x 167.6 x 47 mm (for i3 and C1)
	250 x 167.6 x 54 mm (for i7 and i5)

SBOX-2320

Intel Braswell N-series Atom CPU/ 2 x LAN/ HDMI/ DVI/ VGA/ DC 9-36V Fanless Box PC

Features

- Intel Braswell N3060 Atom CPU
- Triple Display Output (DVI / HDMI / VGA)
- Dual Gigabit Ethernet and 2 x RS-232
- Wide Range Operating Temp. : -30~60°C
- Ultra Slim(54mm), Compact Size and Fanless
- DC 9-36V Power Input



Introduction

The SBOX-2320 Fanless Box PC is suitable for various outdoor visual application needs such as video surveillance, automatic factory, automatic guided vehicle (AGV) and flight information display system (FIDS) in the airports. It is powered by Intel Braswell N-Series Atom CPU with 2xLAN/HDMI/DVI/VGA DC 9-36V with Dual Gigabit Ethernet and 2xRS-232 and 1 x DDR3L-1600 SO-DIMM up to 8GB. SBOX-2320 features triple display output (DVI-I/HDMI/VGA). To add, the environmental tolerance continually maintains a wide range of operating temperatures (-30°C ~ 60 °C). The ultra slim (54 mm) compact size makes this series ideally suited for digital signage or kiosks where space is limited.

Specifications

System	
CPU	Intel N3710 Quad Core CPU up to 2.56GHz Intel N3160 Quad Core CPU up to 2.24GHz Intel N3060 Dual Core CPU up to 2.48GHz
Memory	1 x DDR3L-1600 SO-DIMM up to 8GB
Chipset	N/A
Graphics	Intel HD Graphics
ATA	2 x Serial ATA ports with 6Gb/s HDD Transfer Rate
LAN Chipset	2 x Intel i210-AT Gigabit Ethernet
Watchdog	1 ~ 255 Level Reset
I/O	
Serial Port	2 x RS-232/422/485 (Optional Max. 4 x RS-232)
USB Port	2 x USB 2.0 and 2 x USB 3.0 port
LAN	2 x RJ45 Ports for GbE
Video Port	HDMI/DVI/VGA(Through DVI-I *), Max. 3 Display Outputs
GPIO Port	4 In and 4 Out GPIO Ports (5V Level)
Audio	Line-Out
Expansion Bus	3 x Mini-card Slots (1 with SIM for LTE/3G Only)
* Use only with Single Link DVI Cables.	

Software	
Operating System	Windows 10, Ubuntu 16.04 64bit
Environmental	
Operating Temp.	-30 ~ 60°C, ambient w/ 0.6m/s airflow
Storage Temp.	-40 ~ 85°C
Relative Humidity	10% RH – 90% RH (non-condensing)
Power Input	DC 9-36V Input w/ Reverse Polarity OCP and OVP Protection
Storage	
Type	1 x 2.5" Drive Bay for SATA Type Hard Disk Drive/SSD 1 x SATA DOM
Qualification	
Certifications	CE, FCC Class A
Mechanical	
Construction	Aluminum Alloy
Mounting	Wall-mount, VESA-mount, Din Rail Mounting Kit
Weight	1200g (Barebone)
Dimensions	182 x 167.6 x 54 mm

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