VIA Product Guide 2016-2017

we connect

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Enabling Hyperconnected Experiences

VIA connects you to boundless opportunities for innovation in our hyperconnected world!

With our unrivaled range of market-leading embedded boards, systems, and hardware and software customization services, we provide a comprehensive set of building blocks for an unlimited variety of Enterprise IoT applications – from HMI, automation, and signage to energy management, transportation, and retail. Our holistic approach covers the entire life cycle, from defining initial requirements to longevity support, enabling you to accelerate Enterprise IoT development and deployment cycles and maximize your return on investment.

To meet the growing demand for seamless connected experiences driven by the rapid proliferation of the smart phone, we have also developed the new VIA Mobile360 platform that allows you to leverage the versatility and economies of scale of the mobile ecosystem to create innovative new smart devices and usage scenarios across a diverse range of industries and applications.

Whether it's an ultra-low-power industrial controller system or a smart intercom system, we have a wealth of experience and expertise in crafting customized solutions that meet your exact requirements and enable you to open up exciting new markets.

VIA Enterprise IoT

VIA provides a comprehensive range of solutions that enable you to create the backbone of your Enterprise IoT ecosystem, including M2M gateways and HMI systems. These solutions can be tailor-made to meet your unique objectives and requirements for a broad spectrum of applications including industrial automation, signage, energy management, transportation, and retail.

Our flexible approach to Enterprise IoT solution development covers all the key steps in the product or project life cycle, from helping you to define your initial requirements to rigorous testing to ensure the systems conform to the most demanding standards such as IP-65. Our extensive in-house silicon, board, and system design expertise enables us to provide optimized solutions that deliver the appropriate blend of low power consumption, performance, and connectivity for the target design application.

We also offer an extensive range of low power, compact, and ruggedized Enterprise IoT systems with proven reliability and performance. Multiple hardware customization options are available, including graphics, video, and processor performance and power optimization, the integration of compatible wireless and I/O connectivity modules, extended temperature ranges, and ruggedization.

In addition to Linux and Android solution packs for ARM SoC boards and systems, we also provide a variety of easy-to-use SDKs and services for specialist Enterprise IoT applications, including the VIA Smart ETK (Embedded Tool Kit), and have extensive experience and expertise in developing software solutions for a wide variety of vertical domains such as digital signage, infotainment, and industrial automation.

VIA Mobile360

VIA Mobile360 includes a growing number of platforms that we have designed from the ground up to accelerate the development of a new generation of innovative smart devices that open up a myriad of new connected applications, services, and experiences by enabling seamless interactions with the smart phone.

Leveraging the huge economies of scale of the mobile ecosystem and the easy availability of components such as sensors that it affords, VIA Mobile360 platforms provide a flexible and cost-effective solution for building devices as diverse as smart intercom systems for apartment buildings, smart lockers for picking up and dropping off packages, smart queue management systems for post offices, and smart wireless display systems for showing presentations and videos in corporate meeting rooms.

Available in a variety of board, starter kit, and system formats, VIA Mobile360 platforms provide a fast and scalable Path2Production for smart devices targeted at new market opportunities. A comprehensive range of services covering all stages of the development process, including rapid system prototyping, application development, hardware and software customization, and pre-production testing and diagnostics, minimizes development costs and speeds up time to market.

Smart New Horizons

In our hyperconnected world, the growing demand for seamless immersive experiences is creating unlimited new opportunities across a broad spectrum of enterprise, transportation, retail, and home environments.

VIA is dedicated to enabling our customers to take advantage of these new opportunities by providing cutting-edge turnkey solutions that leverage the most advanced cloud, big data, IoT, M2M, and beacon technologies to facilitate the development and deployment of the richest sensory experience for a diverse range of applications.

Enterprise IoT

VIA provides a comprehensive range of solutions that enable the development of the backbone of your Enterprise IoT ecosystem, including M2M gateways, HMI systems, industrial automation controllers, energy management systems, and signage displays.

VIA Enterprise IoT solutions can be custom-crafted to meet your specific requirements across a broad range of intelligent data capture, monitoring, processing, communication, and display applications that boost productivity, save energy, and reduce costs.

Smart Industrial Automation

Technology advances have blurred the boundaries between the digital and physical worlds, giving rise to the next great industrial revolution, known variously as the Industrial Internet of Things or Industry 4.0. As a result, today's factories require the combination of intelligent, interconnected systems backed by cloud services and big data analysis to drive efficiency, flexibility and responsiveness.

VIA Enterprise IoT solutions are helping to shape the smart factory of the future with our market-leading range of industrial automation systems with rich multimedia and HMI capabilities, easy-to-use touch screen operation, and ruggedized low power designs that can operate in even the most extreme environments.

Smart Energy Management Systems

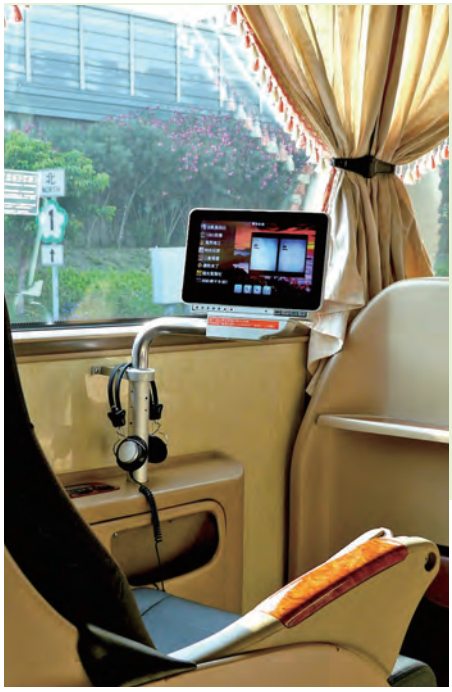
Minimizing energy consumption has never been more important for business – not just to cut costs but also to reduce its carbon footprint. VIA is enabling enterprises to achieve these objectives with our ruggedized VIA AMOS Series systems that can be deployed to monitor and control energy consumption in the toughest indoor and outdoor conditions.

With their ultra-reliable operation, low power consumption, and multiple customization options, VIA AMOS Series systems have already been installed in wind farms and solar farms in some of the remotest regions of the world – further helping to reduce the environmental impact of business by maximizing energy production using renewable resources.

Smart Transportation

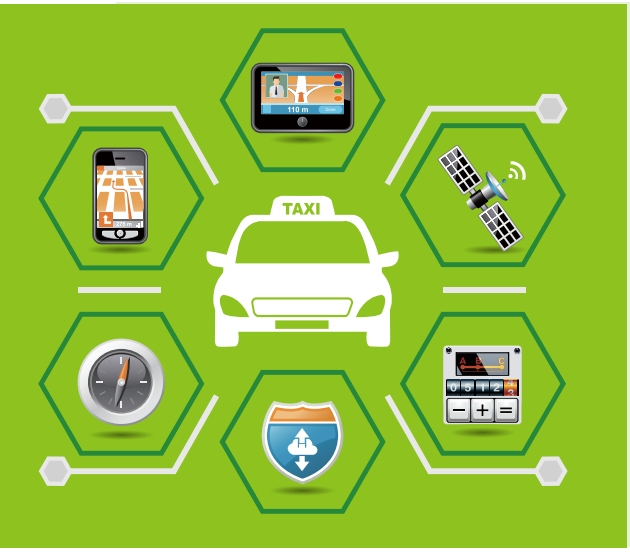
Passenger expectations for increased comfort and convenience are rapidly reshaping the landscape across all modes of transportation, providing both challenges and opportunities for providers to enhance customer satisfaction, build loyalty, and stand out from the competition.

VIA has developed a wide range of innovative solutions which provide proven, flexible platforms for the development of new applications and services that will increase operational efficiency, boost passenger loyalty, and generate new revenue streams for players in the transportation industry.



VIA BLISS Platform

The Android-based VIA BLISS (Bus Line In-Seat System) Platform provides a seamless end-to-end solution to ensure passengers remain in-touch, informed and entertained throughout their journey. With its scalable design and flexible development environment, the platform also provides operators with the potential to further boost their competitiveness and generate additional revenue streams by creating new applications and services such as destination experience programs in partnership with leading hotels, restaurants, museums, and entertainment venues.



Smart Taxi

The VIA AMOS-825 has been designed from the ground up to provide a flexible and ultra-rugged system for enabling smart taxi applications and services such as navigation, route tracking, driver notifications, passenger pickups, and electronic payments that not only increase customer satisfaction but also enhance driver productivity and safety. Already deployed by one of the leading taxi companies in Japan, the system provides the reliability and scalability required by operators worldwide to boost their competitiveness against disruptive new entrants into the market.

Smart Real-Time 360° Video Monitoring and Recording

VIA Mobile360 Surround View delivers real-time in-vehicle monitoring and recording for up to eight individual HD camera streams to provide the most effective solution for driver monitoring, safety, and vehicle tracking. It utilizes VIA Multi-Stitch technology to seamlessly combine the camera feeds on the fly to create an encompassing real-time spherical view of a vehicle's surroundings that can be viewed locally or remotely. With its sophisticated 3D imaging algorithms, the technology not only ensures sharp and clear panoramic images but also supports dynamic multidirectional monitoring around the vehicle from an almost unlimited range of easily-configurable perspectives, including birds-eye view, front-view, rear-view, and side-view.

Smart Home

The rapid emergence of the IoT combined with the proliferation of mobile devices and wireless connectivity is accelerating demand for a myriad of smart home devices and applications for remotely controlling heating, lighting and video monitoring systems.

We are leveraging our market-leading low-power system development expertise and advanced wireless integration capabilities to create a growing number of reliable turnkey platforms and systems that can be easily customized for a wide variety of home automation and security applications that deliver increased convenience, comfort, energy efficiency, and safety benefits for consumers. These include the VIA Alegro 100 multi-protocol home gateway device with support for Bluetooth, Wi-Fi, ZigBee, Z-Wave, and KNX-RF, as well as smart intercom, smart doorbell, and smart lock platforms.

Smart Retail

The world of brick and mortar retail is currently going through one of the most fundamentally disruptive changes imaginable as it seeks to leverage new wireless and beacon technologies to create richer and more personalized services that meet the needs of today's demanding consumer.

Beyond our wide range of digital signage and video wall platforms, VIA is developing innovative new platforms that integrate our VIA AirTalk wireless communication suite of technologies to create engaging new experiences that will change the face of retail.

Breeze Center Taipei

VIA has collaborated with Breeze Center in the fashion district of Taipei to create the shopping mall of the future by installing a rich mix of high-impact video walls and digital signboards in high-traffic areas throughout its four floors to deliver dynamic content at the right time and in the right location to maximize engagement with shoppers.

With its integration of VIA AirTalk beacon technology, the signage system also opens up interesting opportunities to further strengthen engagement with consumers by delivering product and promotional information directly to their smart phones and enabling them to, for example, book movie tickets and make restaurant reservations from their device.

Customization Services

Path2Production

VIA delivers the smoothest Path2Production for solution providers. From product concept through to physical product, customers can leverage our unrivaled range of platforms, systems, software, and customization services to create tailor-made, reliable, fully-integrated turnkey systems and solutions.

Hardware Customization: x86 or ARM, the Choice is Yours

Many products in the VIA portfolio employ a modular design strategy that gives our customers the freedom to easily customize and modify existing designs, using fewer resources to bring innovative new devices to market ahead of their competitors. From low-power, feature-rich small form factor boards to complete turnkey solutions, VIA provides all the building blocks that embedded designers need to innovate reliable, low power, high-performance x86 systems or new smart devices that unleash the scalability and performance of the ARM architecture to deliver compelling new connected experiences for users.

Software Customization: Android, Linux or Windows, the Choice is Yours

With our proven Android, Linux and Windows software development and customization capabilities, advanced system integration expertise, and rich customer support experience, VIA can provide a complete set of turnkey services enabling developers not only to minimize product development costs and times but also to speed overall time-to-market. VIA also offers a variety of easy-to-use SDKs and services for specialist applications and markets, including the VIA Smart ETK.

Smart Connections

Today's connected world is opening up a whole new spectrum of business opportunities which leverage the IoT, M2M, big data, and the cloud for creating innovative smart experiences. At the core of this is the smart integration of services and features to forge new connections and scenarios which tightly weave the digital fabric into all aspects of our lives.

VIA is developing flexible services and solutions which not only make it easy for customers to manage the deployment and remote management of systems and devices across cloud-based networks in transportation, retail, and industrial applications, but also facilitate the creation of innovative new wireless broadcasting applications and services that enhance engagement with mobile devices.

VIA Device Management System (DMS)

To ensure there is not a moment of downtime, VIA provides a flexible range of services for enabling remote system management, diagnostics, and monitoring across a cloud-based network using the VIA DMS to ensure 24/7 operation of mission critical tasks. VIA can provide a full backend setup or quickly integrate the DMS services into an existing system depending on customer requirements.

VIA DMS Features

Remote System Health Monitoring tracks the operating status of each system and its key components, including the processor, DRAM, storage capacity utilization, and network connectivity speed and can be configured to react when, for example, a device reaches its storage threshold.

Remote System Control powers each system on or off, adjusts its screen brightness and audio volume, and boots the system at a pre-specified time using its Wake on LAN (WOL) or Real Time Clock (RTC) features. In addition, the screen snapshot feature makes it possible to check if applications are running correctly at any time.

Remote System Update enables the operating system and firmware, namely the BIOS or U-Boot, to be easily updated via OTA. Other system files can also be updated or deleted through the VIA DMS.

Application Deployment enables the installation, activation, and update of system applications using the VIA DMS.

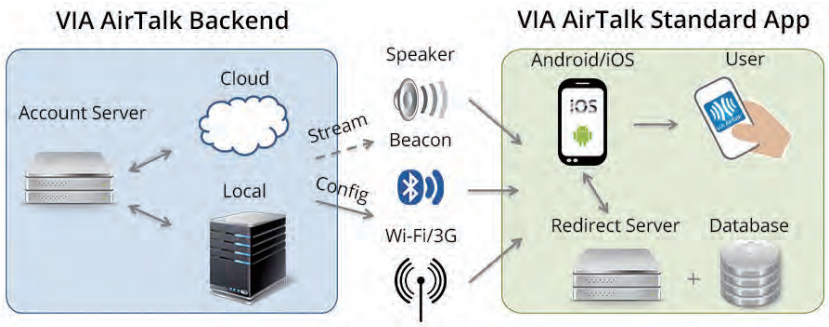
Task Management can be used to schedule specific tasks for each system such as playing a certain video file at a pre-arranged time.

VIA AirTalk™

VIA AirTalk Wireless Connectivity Suite Services

VIA AirTalk comprises a suite of wireless broadcasting technologies including sonic sensing, Bluetooth LE, Wi-Fi, and 3G, which enables the creation of location-specific networks in restaurants, stores, museums and galleries, transportation hubs, and other spaces that deliver tailored information to a user's mobile device, opening up exciting new opportunities to liven up experiences with new kinds of interaction and participation.

We offer turnkey app design, content integration and management services that integrate VIA AirTalk wireless technologies to enhance interaction with mobile devices. Customers can also integrate VIA AirTalk with their existing apps by using an SDK package provided by VIA, as well as take advantage of our in-house software development expertise to improve consumer experiences and engagement.



VIA Enterprise IoT ARM Solutions

From low-power, feature-rich small form factor boards to complete turnkey solutions, VIA provides all the building blocks that embedded designers need to create innovative new devices that unleash the scalability and performance of the ARM architecture and deliver compelling new connected experiences for users.

Combining the most comprehensive line of ARM boards and systems in the industry with proven Android and Linux software customization capabilities, advanced system integration expertise, and rich customer support experience, VIA not only provides designers with the fastest and most convenient path2production for ARM embedded devices but also enables them to take full advantage of the myriad of exciting new opportunities emerging on the market.

ARM® POWERED

VIA Enterprise IoT ARM Boards

With our comprehensive range of small form factor boards based on market- leading VIA and NXP SoCs, VIA provides an unrivaled choice of ultra-reliable and highly-integrated ARM platforms optimized to meet the power, performance, and feature requirements for even the most demanding industrial, signage, HMI, M2M, consumer, and other embedded and Enterprise IoT applications.

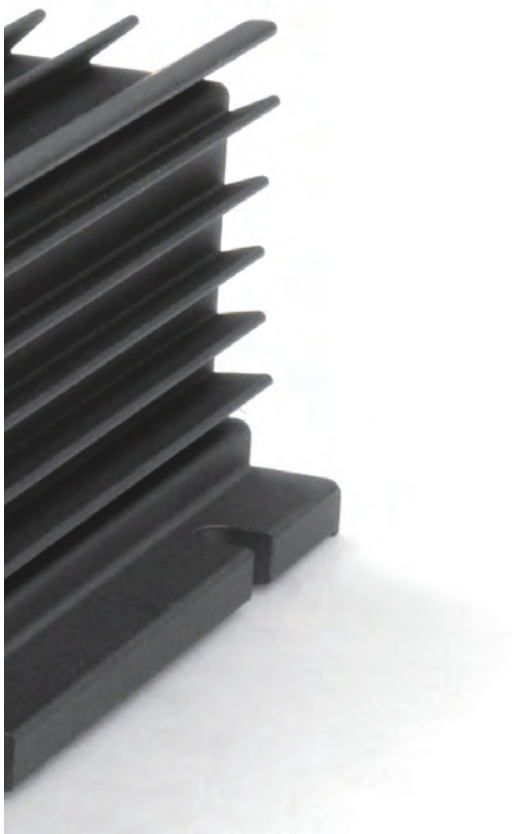
Available in a variety of ultra-compact form factors, including the Pico-ITX, the boards combine rich I/O connectivity with exceedingly low power consumption, wide temperature ranges, and advanced multicore processing performance. Built to the highest standards of reliability, the boards also come with up to 7+ years of longevity to support customers with long product life cycles.

To ensure optimum flexibility for software customization and application development, VIA ARM boards feature a choice of solution packs for Linux and Android, including the VIA Smart ETK. A comprehensive range of hardware and software engineering services are also available to speed up product development cycles.

VIA AMOS Series Industrial Fanless Systems

Featuring a choice of multicore NXP ARM Cortex SoC platforms in compact, fanless, and dust-proof chassis designs, VIA AMOS Series systems provide ultra-powerful and ultra-reliable solutions for a wide variety of industrial M2M and HMI applications, ranging from headless control and sensor systems to highly-integrated controllers and advanced display systems.

In addition to a rich set of I/O and connectivity features and advanced graphics performance, VIA AMOS Series systems are easily expandable and can be customized for a diverse range of embedded applications. The systems are also very low power and support a wide temperature range, making them ideal for the most extreme operating environments.



VIA ARTiGO Series Fanless Enterprise IoT Systems

VIA ARTiGO Series systems include ultra-reliable and ultra-compact solutions for a variety of Enterprise IoT and M2M gateway and smart automation control applications that require low-power computing and extensive I/O, and high-speed connectivity to enable flexible integration with the enterprise network and the cloud.

VIA ALTA DS Series Android Digital Signage Systems

VIA ALTA DS Series systems provide a choice of single-screen and dual-screen all-in-one Android solutions for managing dynamic displays in cost-sensitive, high-volume segments where high-performance video and connectivity are paramount for enhanced customer engagement. Applications range from kiosks, POS systems, and menu boards to TVOIP, cloud streaming, and Digital Out of Home (DOOH) advertising across a broad spectrum of retail, hospitality, education, and entertainment environments.

In addition to a standard Android image, VIA ALTA DS Series systems feature a Signage Starter Kit that provides a set of APIs for the Android application to access services provided by the VIA ALTA DS Series hardware and the Android system itself, serving to speed up development time.

Customers can also leverage innovative digital signage applications provided by VIA Digital Signage ISV program partners to create customized solutions for their markets.

VIA Viega Semi-Ruggedized Android Tablet

The VIA Viega is an enterprise-grade 10.1" Android tablet with IP65 rating that has been designed to meet the MIL-STD 810G standard. Sporting a durable yet stylish design that is water-resistant and rugged enough to withstand even the most demanding environments, the VIA Viega delivers exceptional multimedia performance and long battery life. It also comes with a rich set of I/O and connectivity features including Wi-Fi, GPS, Bluetooth 4.0, NFC, optional 3G, and legacy I/O ports, as well as an optional docking station.

A wide range of software customization services is also available, including DMS and security applications.

VIA ARM Software Packages and Customization Services

VIA offers a growing range of software packages and services to enable developers to customize ARM systems and devices using Android or Linux. In addition to Android and Linux Board Support Packages (BSP), we provide a variety of easy-to-use SDKs and services for specialist applications and markets, including the VIA Smart ETK, and have extensive experience and expertise in developing software solutions for a wide variety of vertical domains such as digital signage, infotainment, and industrial automation.

VIA Android Software Solution Packs and Customization Services:

VIA provides a wide range of software solution packages and customization services to facilitate the development of Android embedded systems and devices:

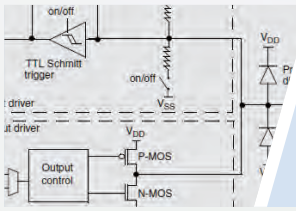
- **Applications:** These include the customization of system applications such as the launcher (e.g. no lock screen for embedded apps), system bar (e.g. ability to be set as transparent), and settings menu (e.g. additional network configurations).
- **Kernel & Framework:** These include security (e.g. storage media/user data encryption & secure channel), kernel drivers for special devices, and daemons/services (NFS, Telnet, Modbus, etc) for improved manageability.
- **System Management:** These include watchdog, remote monitoring, remote power on/off, auto wake-up/power off, and silencing the OS and application updates using the VIA Smart ETK.
- **Embedded I/O:** This includes enabling support for legacy I/O, such as GPIO, RS-232, and CAN bus, using the VIA Smart ETK.

VIA Android Smart ETK

The VIA Android Smart ETK includes a set of APIs that enable the Android application to access I/O and manageability services provided by the system hardware that are not supported in the Android framework. The VIA Smart ETK is also bundled with Smart ETK Demo, which is easy to install and has a user friendly GUI for demonstrating the various functions of VIA ARM platforms. Both the VIA Smart ETK and Smart ETK Demo are easy-to-use tools that help to shorten development time and speed up time to market.

Watchdog

This provides an API which allows the user to set a timer to ensure proper operation and help the applications/system to recover from a dead circle or breakdown. When it is set, the system will automatically reboot if no "feeding dog" signal is received.



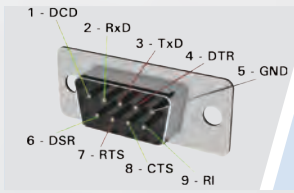
System Power Off / Reboot

This provides APIs that allow the user to use an Android application to schedule when the system should power off as well as set periodic reboots to ensure maximum performance is maintained.

RTC Wake-Up

This provides an auto power on feature by setting the Remote Time Clock (RTC) auto wake-up timer. The RTC supports three auto wake-up modes:

- Wake-up on a specified hour and minute every day
- Wake-up on a specified day/ hour/ minute every week
- Wake-up on a specified day/ hour/ minute every month



Legacy I/O Support

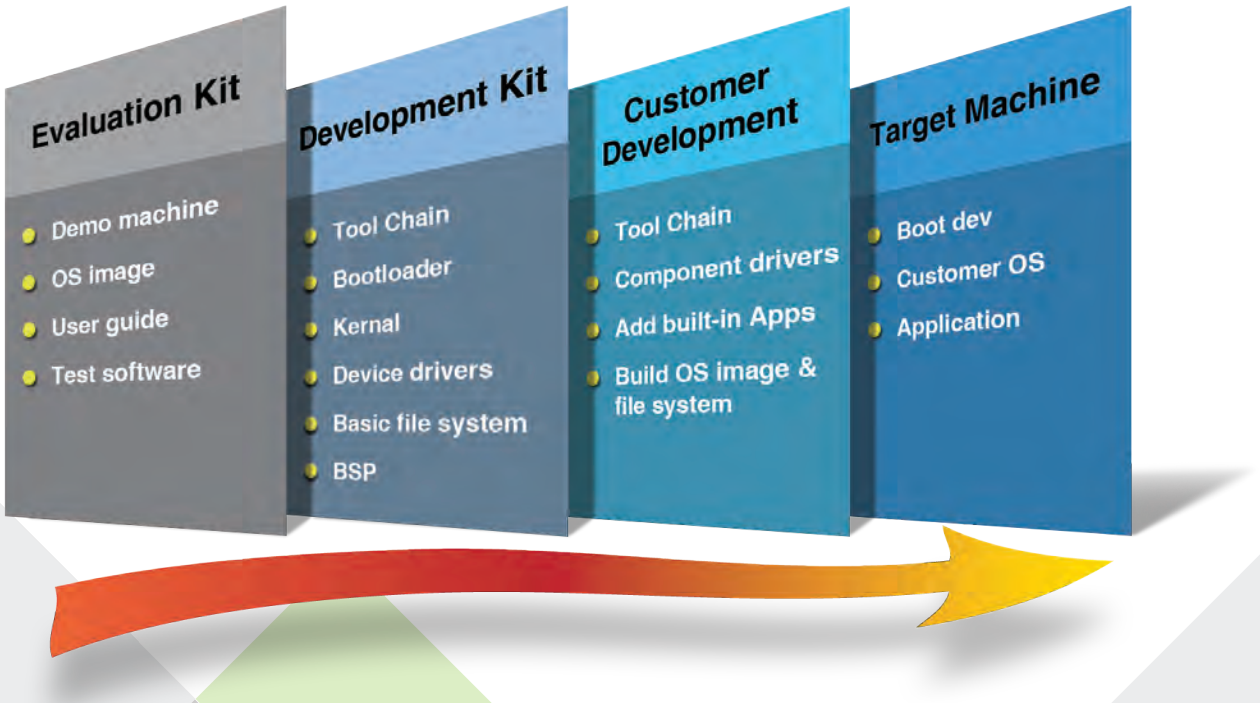
The VIA Smart ETK enables legacy I/O support such as RS-232, by opening up GPIO, I^2C, and CAN bus ports to the application.

ARM Software Support Phases

VIA offers a full range of support services at all stages of the software development process, including a variety of software evaluation kits to give developers the opportunity to test compatibility and functionality with their software.

Once a project is underway, VIA provides development kits as well as general technical support, including bug fixes and customer and customization services based on specific customer needs. VIA can also offer application-specific device drivers and programming tools for support in the development phase, as well as certified drivers to meet various safety integrity levels (SIL) and IEC. Well-structured support for middleware and application level development as well as a full range of OS interface support, including both Linux and Android, ensures a smooth software development path and faster time to market.

Android Software Support Stages



ARM Turnkey Services

With our comprehensive line of ARM boards and systems, proven Android and Linux software development and customization capabilities, advanced system integration expertise, and rich customer support experience, VIA can provide a complete set of ARM turnkey services enabling developers not only to minimize product development costs and times but also to bring innovative new devices to market ahead of their competitors.

Key Applications

Combining ultra-reliable, feature-rich platforms and systems with flexible software and hardware customization services, VIA ARM Solutions provide the fast track to creating market-leading products for a myriad of embedded applications ranging from telecommunications, medical and healthcare, home automation, and industrial automation, to a new generation of consumer embedded devices, such as digital signage systems, media controllers, in-vehicle entertainment systems, and connected TVs.

VIA ARM Boards

ARM Single-Boards

- VAB-1000
- VAB-822
- VAB-821
- VAB-820
- VAB-800
- VAB-600

ARM Qseven™ Modules

- QSM-8Q60

Mobile360 Starter Kits

- VTS-8588
- ENT-610M

ARM Single-Boards

Quick Guide

Model	VAB-1000	VAB-822 NEW	VAB-821 NEW
Processor	1.0GHz VIA Elite E1000 Cortex-A9 dual-core SoC	1.0GHz NXP i.MX 6DualLite Cortex-A9 dual-core SoC	1.0GHz NXP i.MX 6DualLite Cortex-A9 dual-core SoC
Graphics	3 integrated, independent 3D/2D and video hardware graphics accelerators	2 integrated, independent 3D/2D hardware graphics accelerators	3 integrated, independent 3D/2D and video hardware graphics accelerators
System Memory	2GB DDR3 SDRAM onboard	1GB DDR3 SDRAM onboard	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory 1 SATA connector Micro SD card slot	8GB eMMC Flash memory Micro SD card slot	4GB eMMC Flash memory Micro SD card slot
Audio	Stereo codec	Low power stereo codec	Low power stereo codec
Display I/O	1 Mini HDMI 1 Dual-CH LVDS	1 HDMI 1 Dual-CH LVDS	1 HDMI 1 Dual-CH LVDS
USB	2 USB 2.0 1 Mini USB 2.0	7 USB 2.0	3 USB 2.0 1 UBS 2.0 OTG
LAN	1 Gigabit Ethernet	1 10/100Mbps Ethernet	1 Gigabit Ethernet
COM	2 (TX/RX)	4 (two TX/RX) 2 RS-485 (TX/RX)	2 UART
Digital I/O	4 GPIO	N/A	8 GPIO
Expansion I/O	1 miniPCIe	N/A	1 miniPCIe 1 BT.1120 capture port
Extension Cards	VAB-1000-T I/O card VAB-1000-L LVDS card	N/A	N/A
Power Supply	12V DC-in	12V DC-in	12V DC-in
Operating System	Android 4.4.2	Android 4.4.2	Android 4.4.2 Linux kernel 3.10.17
Operating Temperature	0°C ~ 60°C	-20°C ~ 70°C	-20°C ~ 60°C
Form Factor	Pico-ITX (10cm x 7.2cm, 3.9" x 2.8")	(22.5cm x 12cm, 8.8" x 4.7")	Pico-ITX (10cm x 7.2cm, 3.9" x 2.8")
Optional Accessories	EMIO-1533 USB Wi-Fi EMIO-1541 miniPCIe Wi-Fi EMIO-2550 miniPCIe 3G	N/A	EMIO-1533 USB Wi-Fi EMIO-1541 miniPCIe Wi-Fi EMIO-2550 miniPCIe 3G
Applications	Digital signage, Digital media applications	Industrial automation, M2M, Smart lockers	Digital signage, HMI applications

ARM Single-Boards

Quick Guide

Model	VAB-820	VAB-800	VAB-600
Processor	1.0GHz NXP i.MX 6Quad Cortex-A9 quad-core SoC	800MHz NXP iMX537 Cortex-A8 SoC	800MHz VIA WM8950 Cortex-A9 SoC
Graphics	3 integrated, independent 3D/2D and video hardware graphics accelerators	2 integrated, independent 3D/2D hardware graphics accelerators	2 integrated, independent 3D/2D hardware graphics accelerators
System Memory	1GB DDR3 SDRAM onboard	1GB DDR3 SDRAM onboard	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory Micro SD card slot	4GB eMMC Flash memory 1 SATA connector Micro SD card slot	4GB eMMC Flash memory Micro SD card slot
Audio	Low power stereo codec	Low power stereo codec	Stereo codec
Display I/O	1 HDMI 1 Dual-CH LVDS	1 Mini HDMI 1 VGA 2 Single-CH LVDS	1 Mini HDMI 1 Dual-CH LVDS (with VAB-600-D) 1 TTL (with VAB-600-C)
USB	4 USB 2.0 1 USB 2.0 OTG	4 USB 2.0 1 USB 2.0 device port	1 USB 2.0 2 Mini USB 2.0
LAN	1 Gigabit Ethernet	1 10/100Mbps Ethernet	1 10/100Mbps Ethernet
COM	2 (one TX/RX)	2 (one TX/RX)	2 (TX/RX)
Digital I/O	8 GPIO	8 GPIO	8 GPIO
CAN bus	2	2	N/A
Expansion I/O	1 miniPCIe	N/A	1 miniPCIe slot (USB only)
Extension Cards	N/A	N/A	VAB-600-A I/O card VAB-600-B for 4 COM ports VAB-600-C TTL converter VAB-600-D LVDS converter
Power Supply	12V DC-in	5V DC-in	12V ~ 24V DC-in
Operating System	Android 4.4.2 Linux kernel 3.10.17	Android 2.3 Linux kernel 2.6.35 WEC7	Android 4.0.3 Linux kernel 3.0.8
Operating Temperature	-20°C ~ 70°C	0°C ~ 60°C -40°C ~ 85°C (optional)	0°C ~ 60°C
Form Factor	Pico-ITX (10cm x 7.2cm, 3.9" x 2.8")	Pico-ITX (10cm x 7.2cm, 3.9" x 2.8")	Pico-ITX (10cm x 7.2cm, 3.9" x 2.8")
Optional Accessories	EMIO-1533 USB Wi-Fi EMIO-1541 miniPCIe Wi-Fi EMIO-2550 miniPCIe 3G	EMIO-1533 USB Wi-Fi	EMIO-1533 USB Wi-Fi EMIO-2550 mniPCIe 3G
Applications	Industrial automation, M2M, Transportation	Digital signage, M2M, Industrial automation	Smart display, POS, Kiosk, M2M

VIA

VAB-1000

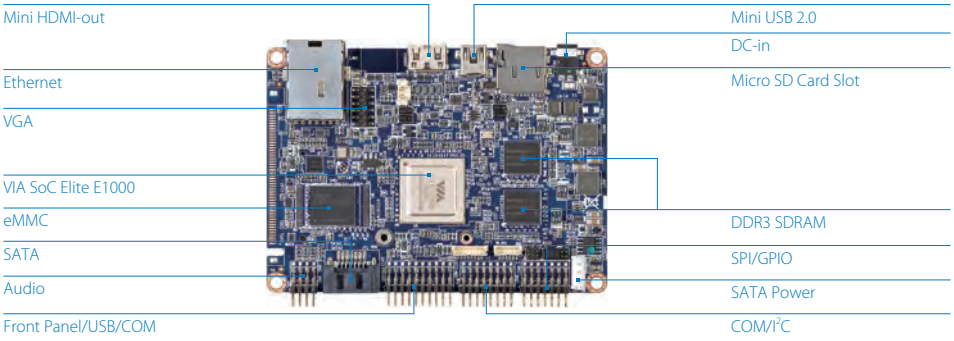
Advanced graphics and video capabilities with a rich I/O feature set for interactive multimedia applications

Features

- Compact 10cm x 7.2cm Pico-ITX form factor
- 1.0GHz VIA Elite E1000 Cortex-A9 dual-core SoC
- Dual display support including full HD content and dual channel LVDS
- Graphics powerhouse
- Android software solution pack available

CE FC

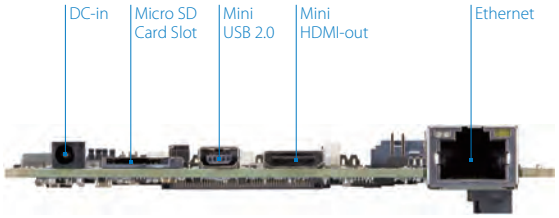
Board Placement



Specifications

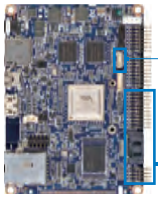
Model Name	VAB-1000
Processor	1.0GHz VIA Elite E1000 Cortex-A9 dual-core SoC
System Memory	2GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory 1 SATA connector
Graphics	3 integrated, independent 3D/2D and video processing units Graphics engine supporting OpenGL® ES 3.0 hardware acceleration Supports MPEG-2, VC-1and H.264 video decoding up to 1080p
LAN	Realtek RTL8111G Gigabit Ethernet controller
Audio	Wolfson WM8960 Audio Codec
HDMI	Integrated HDMI 1.4 transmitter
Expansion I/O	1 miniPCIe slot
Onboard I/O	1 SATA connector 1 SATA power connector with +12V/+5V select jumper for SSD 1 USB pin header for Wi-Fi module 1 Dual-channel 18/24-bit LVDS panel connector 1 Front panel pin header for 2 USB 2.0 ports, 1 COM (TX/RX) port, power-on and 2 activity LED indicators 1 Miscellaneous pin header for 2 COM (TX/RX) ports and 3 I^2C 1 Miscellaneous pin header for Digtal I/O (4 GPIO) 1 JTAG pin header (for debugging) 1 SPI Flash pin header 1 Audio pin header for Line-in, Line-out, Mic-in 1 miniPCIe slot
Front Panel I/O (with VAB-1000-T)	2 USB 2.0 ports 3 Audio jacks: Line-in, Line-out and Mic-in 1 Power on/off button with built-in LED 1 SSD activity LED indicator 1 USB/COM LED indicator
Back Panel I/O	1 Mini USB 2.0 port 1 Mini HDMI 1 Gigabit Ethernet port 1 Micro SD card slot 1 DC-in jack
Power Supply	12V DC-in
Operating System	Android 4.4.2
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	Pico-ITX (10cm x 7.2cm, 3.9" x 2.8")
Compliance	CE, FCC

Back Panel I/O



VAB-1000-L
LVDS converter card

Accessories



EMIO-1533 USB Wi-Fi Module
802.11b/g/n standards

VAB-1000-T
I/O card for Line-in/Line-out/ Mic-in, 2 USB 2.0, 2 activity LEDs, Power button

EMIO-2550 3G HSPA/UMTS Mobile Broadband Module

EMIO-1541 miniPCIe Wi-Fi Module
802.11b/g/n standards

Ordering Information

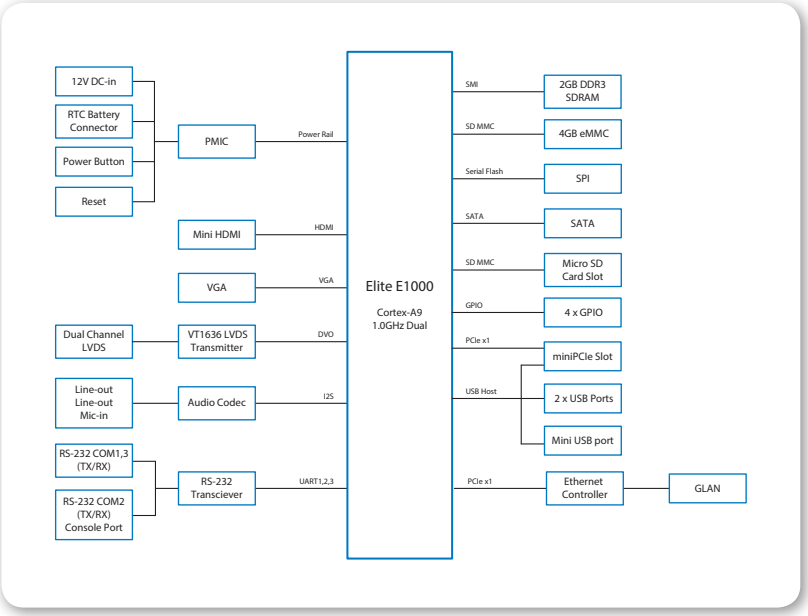
Part Number	CPU Frequency	Description
10GBL100200A0	VIA Elite E1000 Cortex-A9 dual-core SoC @ 1.0GHz	Pico-ITX board with 1.0GHz VIA Elite E1000 Cortex-A9 SoC, 4GB eMMC, 2GB DDR3 SDRAM, Mini HDMI, LVDS, 2 USB 2.0, Mini USB 2.0, COM, Gigabit Ethernet, Micro SD card slot, miniPCIe slot, 12V DC-in (Packed with VAB-1000-T I/O card)

Optional Accessories

I/O Expansion Cards	
Part Number	**Description**
10GBN00000020	VAB-1000-L LVDS converter card
10GBQ00000020	VAB-1000-T I/O card for Line-in, Line-out, Mic-in, 2 USB 2.0 ports, 2 activity LEDs, Power button

Wireless Modules	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit
EMIO-1541-00A1	VNT9485 IEEE 802.11 b/g/n miniPCIe Wi-Fi module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS and SIM card slot (*Note: GPS function is not currently supported for VAB-1000)

Block Diagram



Packing List

Items
VAB-1000 board
VAB-1000-T I/O card
Screw pack for miniPCIe card
Console cable

ARM-based HMI Soltuion

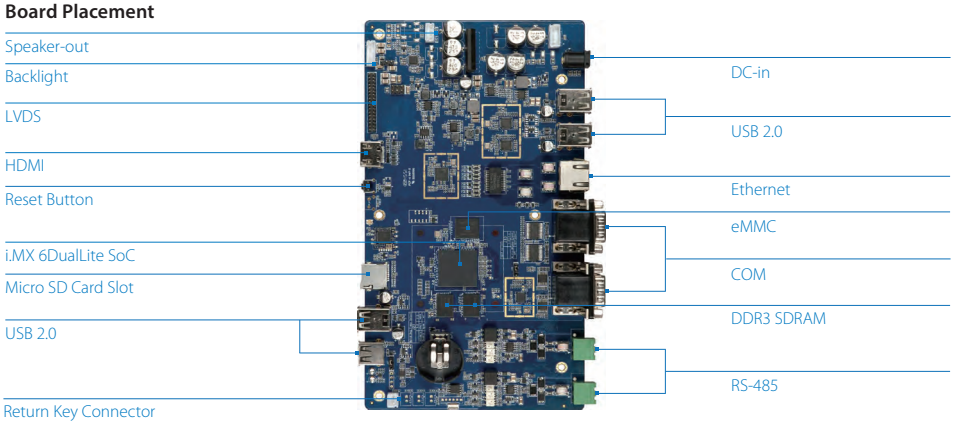
NEW

VIA

VAB-822

Dual-Lite platform with multiple COM ports for industrial applications

Board Placement



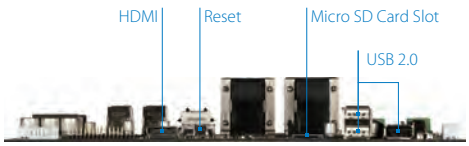
Features

- 1.0GHz NXP i.MX 6Dual Lite Cortex-A9 SoC
- Wide operating temperature range -20°C ~ 70°C
- Surge and ESD protection
- 4 RS-232 ports and 2 RS-485 ports
- 5W audio amplifier

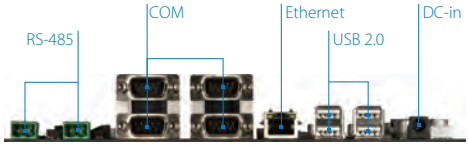
Specifications

Model Name	VAB-822
Processor	1.0GHz NXP i.MX 6DualLite Cortex-A9 dual-core SoC
System Memory	1GB DDR3 SDRAM onboard
Storage	8GB eMMC Flash memory
Boot Loader	4MB SPI Flash ROM
Graphics	Vivante GC880 2 Independent, integrated 3D/2D graphics processing units Graphics engines support OpenGL®ES 2.0, OpenVG 1.1 hardware acceleration Support MPEG-2, VC-1 video decoding up to 1080p
LAN	Micrel KSZ9031RNX Gigabit Ethernet Transceiver with RGMII support
Audio	NXP SGTL5000 low power stereo codec
HDMI	Integrated HDMI 1.4 Transmitter
USB	SMSC USB2514 USB 2.0 High Speed 4-port hub controller
Onboard I/O	1 Dual-channel 18/24 bit LVDS panel connector 1 LCD power select pin-header 1 Backlight control connector 1 Back light power select pin-header 1 Speaker-out connector with 5W amp 1 Return key connector 1 Watchdog enable/disable jumper 1 RTC battery slot
Front Panel I/O	3 USB 2.0 ports 1 HDMI port 1 Micro SD card slot 1 Reset button
Back Panel I/O	4 USB 2.0 ports 2 2-pole Phoenix RS-485 ports (TX/RX) 4 COM ports (supports two TX/RX and two 8-wire DTE mode) 1 10/100Mbps Ethernet port 1 DC-in connector
Power Supply	12V DC-in
Operating System	Android 4.4
Watchdog Timer	Integrated watchdog timer supports two comparison points. Each comparison point can interrupt ARM core, 2nd comparison point capable of generating external interrupts on WDOG line
Operating Temperature	-20°C ~ 70°C
Operating Humidity	5 ~ 95% @ 45°C (non-condensing)
Storage Temperature	-20°C ~ 70°C
Form Factor	22.5cm x 12cm (8.8" x 4.7")

Front Panel External I/O



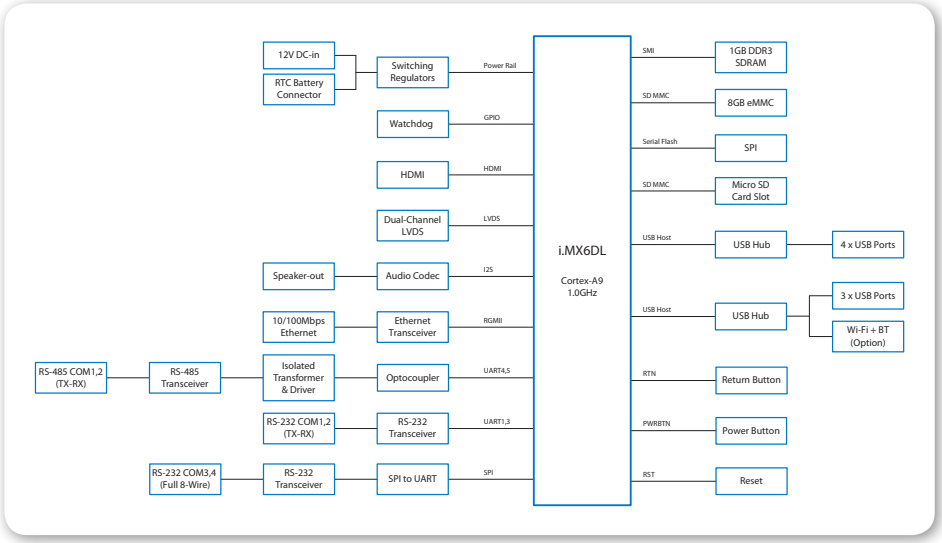
Rear Panel External I/O



Ordering Information

Part Number	System Built-in CPU	Description
10GGU10D00020	NXP i.MX 6DualLite Cortex-A9 @ 1.0GHz	Embedded Android board with 1.0GHz NXP i.MX 6DualLite Cortex-A9 SoC with1GB DDR3 SDRAM, 8GB eMMC, HDMI, 7 USB 2.0, 4 COM, 2 2-pole Phoenix RS-485, 10/100Mbps Ethernet, Micro SD card slot, 12V DC-in

Dimensions



Packing List

Items
VAB-822 board

ARM-based Pico-ITX Series

NEW

VIA

VAB-821

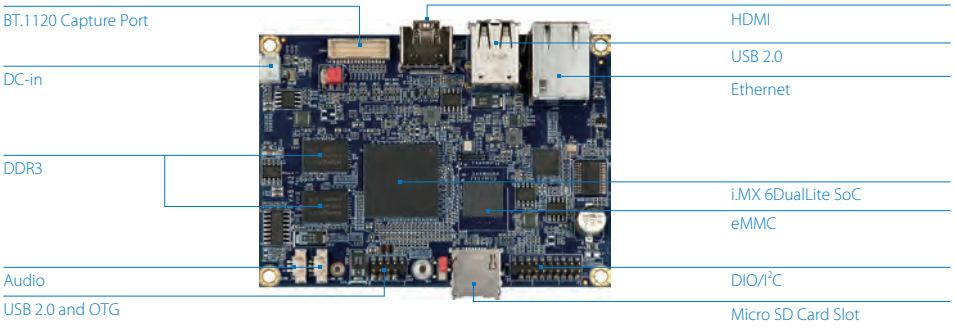
Low power Dual-Lite platform with HDTV signal input for a wide range of digital signage and HMI applications

Features

- Compact 10cm x 7.2cm Pico-ITX form factor
- 1.0GHz NXP i.MX 6DualLite Cortex-A9 dual-core SoC
- Flawless HD video performance up to 1080p
- Wide operating temperature range, -20°C ~ 60°C
- Android and Linux solution packs available

CE FC

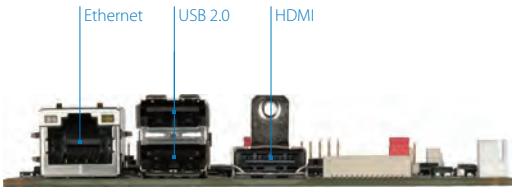
Board Placement



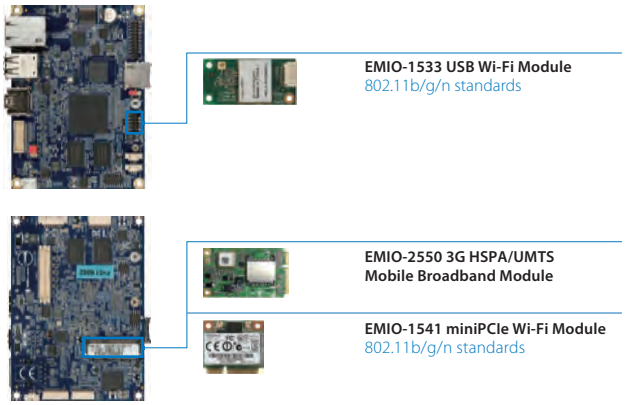
Specifications

Model Name	VAB-821
Processor	1.0GHz NXP i.MX 6DualLite Cortex-A9 dual-core SoC
System Memory	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory
Boot Loader	4MB SPI Flash ROM
Graphics	Vivante GC2000 GPU 3 integrated, independent 3D/2D and video graphics processing units Graphics engine supporting OpenGL® ES 2.0, OpenCL and OpenVG™ 1.1 hardware accleration Supports MPEG-2, VC-1and H.264 video decoding up to 1080p Supports SD encoding
LAN	Micrel KSZ9031RNX Gigabit Ethernet transceiver with RGMII support
Audio	NXP SGTL5000 low power stereo codec
HDMI	Integrated HDMI 1.4 transmitter
USB	SMSC USB2514 USB 2.0 high speed 4-port hub controller
Expansion I/O	1 miniPCIe slot
Onboard I/O	1 USB 2.0 host port, and 1 USB 2.0 OTG port pin header 2 UART (1 pin header, 1 console port connector) 1 Dual-channel 18/24-bit LVDS panel connector 1 Miscellaneous pin header for 1 I^2C pair, 1 Digital I/O (4 GPI + 4 GPO), system reset button and LEDs for power/WPAN/Wi-Fi/WWAN 1 BT.1120 Capture port: 16 bits supported 2 Power pin headers (support optional PD power board) 1 Boot Flash select pin header (for SPI or micro SD) 1 Front audio pin header for Line-in, Line-out 1 RTC battery connector 1 DC-in connector 1 miniPCIe slot (supports multiple connections and buses including JTAG)
Front Panel I/O	1 Micro SD card slot
Back Panel I/O	2 USB 2.0 ports 1 HDMI port 1 Gigabit Ethernet port (supports optional IEEE 802.3 at type 2)
Power Supply	12V DC-in
Operating System	Android 4.4.2, Linux kernel 3.10.17
Watchdog Timer	Integrated watchdog timer supports two comparison points. Each comparison point can interrupt ARM core, 2nd comparison point capable of generating external interrupts on WDOG line
Operating Temperature	-20°C ~ 60°C (3G & Wi-Fi not included)
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	Pico-ITX (10cm x 7.2cm, 3.9" x 2.8")

Back Panel I/O



Accessories



EMIO-1533 USB Wi-Fi Module
802.11b/g/n standards

EMIO-2550 3G HSPA/UMTS Mobile Broadband Module

EMIO-1541 miniPCIe Wi-Fi Module
802.11b/g/n standards

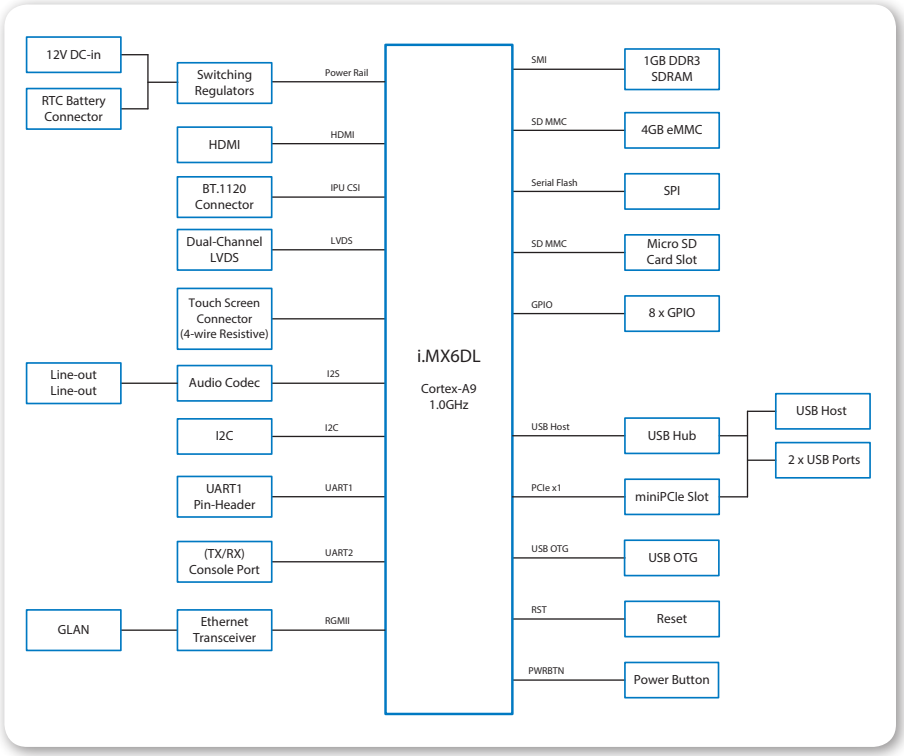
Ordering Information

Part Number	SoC Frequency	Description
15GGM107000-10	NXP i.MX 6DualLite Cortex-A9 dual-core SoC @ 1.0GHz	Pico-ITX board with 1.0GHz NXP i.MX 6DualLite Cortex-A9 SoC, 4GB eMMC, 4MB SPI Flash ROM, 1GB DDR3 SDRAM, HDMI, LVDS, 3 USB 2.0, OTG USB 2.0, 2 UART, Gigabit Ethernet, Capture port, Micro SD card slot, miniPCIe slot, 12V DC-in

Optional Accessories

Wireless Modules	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit
EMIO-1541-00A1	VNT9485 IEEE 802.11 b/g/n miniPCIe Wi-Fi module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS and SIM card slot

Block Diagram



Packing List

Items
DC power cable
Console cable
Audio cable
USB cable

VIA

VAB-820

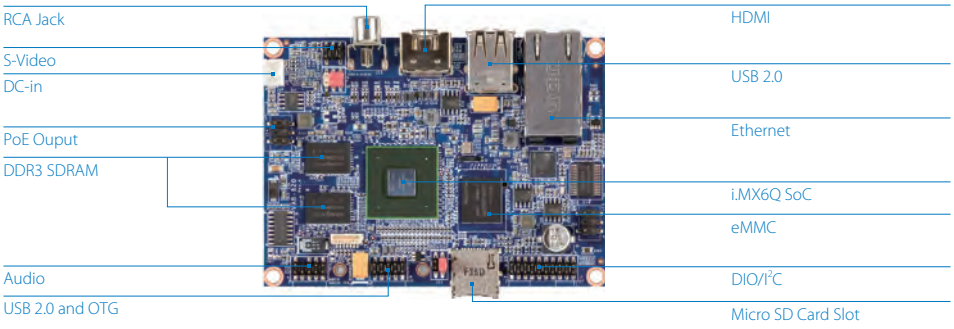
Low power quad-core platform with advanced multimedia capabilities for a wide variety of industrial applications

Features

- Compact 10cm x 7.2cm Pico-ITX form factor
- 1.0GHz NXP i.MX 6Quad Cortex-A9 quad-core SoC
- Flawless HD video performance up to 1080p
- Wide operating temperature range, -20°C ~ 70°C
- Linux and Android solution packs available

CE FC

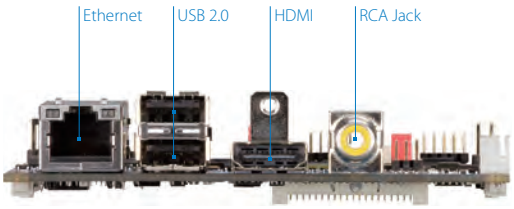
Board Placement



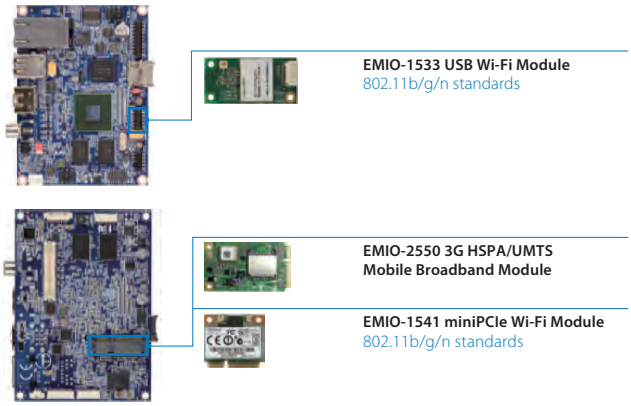
Specifications

Model Name	VAB-820
Processor	1.0GHz NXP i.MX 6Quad Cortex-A9 quad-core SoC
System Memory	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory
Boot Loader	4MB SPI Flash ROM
Graphics	Vivante GC2000 GPU 3 integrated, independent 3D/2D and video graphics processing units Graphics engine supporting OpenGL® ES 2.0, OpenCL and OpenVG™ 1.1 hardware accleration Supports MPEG-2, VC-1and H.264 video decoding up to 1080p Supports SD encoding
LAN	Micrel KSZ9031RNX Gigabit Ethernet transceiver with RGMII support
Audio	NXP SGTL5000 low power stereo codec
HDMI	Integrated HDMI 1.4 transmitter
USB	SMSC USB2514 USB 2.0 high speed 4-port hub controller
Expansion I/O	1 miniPCIe slot
Onboard I/O	1 USB 2.0 host port, and 1 USB2.0 OTG port pin header 1 COM port connector with power supply (supports 8-wire DTE mode) 1 COM/CAN port connector with power supply (supports 1 RS-232 (TX/RX) and 2 FlexCAN TX/RX ports) 1 Dual-channel 18/24-bit LVDS panel connector 1 Miscellaneous pin header for 1 I²C pair, 1 Digital I/O (4 GPI + 4 GPO), system reset button and LEDs for power/WPAN/Wi-Fi/WWAN 1 RTC battery connector 1 MIPI CSI-2 connector (supports 2 data lanes) 1 SPI master pin header (supports 2 SPI slave devices) 1 S-video input pin header 2 Power pin headers (support optional PD power board) 1 Boot Flash select pin header (for SPI or micro SD) 1 Front audio pin header for Line-in, Line-out, Mic-in 1 DC-in connector 1 miniPCIe slot (supports multiple connections and buses including JTAG)
Front Panel I/O	1 Micro SD card slot
Back Panel I/O	2 USB 2.0 ports 1 HDMI port 1 Composite input RCA jack 1 Gigabit Ethernet port (supports optional IEEE 802.3 at type 2)
Power Supply	12V DC-in
Operating System	Android 4.4.2, Linux kernel 3.10
Watchdog Timer	Integrated watchdog timer supports two comparison points. Each comparison point can interrupt ARM core, 2nd comparison point capable of generating external interrupts on WDOG line
Operating Temperature	-20°C ~ 70°C (3G & WiFi not included)
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	Pico-ITX (10cm x 7.2cm, 3.9" x 2.8")
Compliance	CE, FCC

Back Panel I/O



Accessories



EMIO-1533 USB Wi-Fi Module
802.11b/g/n standards

EMIO-2550 3G HSPA/UMTS Mobile Broadband Module

EMIO-1541 miniPCIe Wi-Fi Module
802.11b/g/n standards

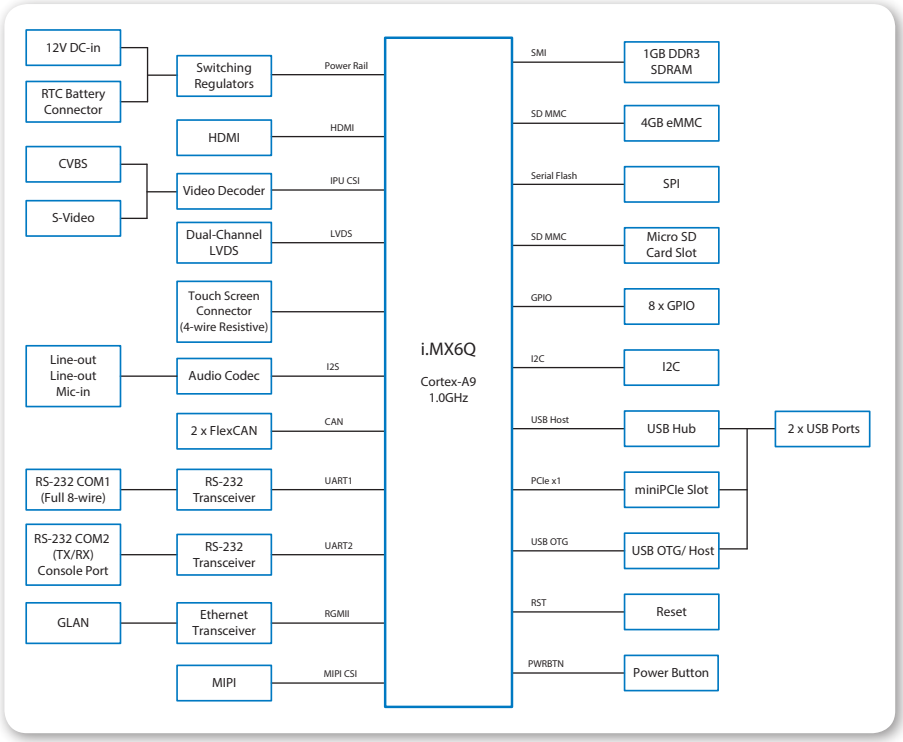
Ordering Information

Part Number	SoC Frequency	Description
10GBF105000A0	NXP i.MX 6Quad Cortex-A9 quad-core SoC @ 1.0GHz	Pico-ITX board with 1.0GHz NXP i.MX 6Quad Cortex-A9 SoC, 4GB eMMC, 4MB SPI Flash ROM, 1GB DDR3 SDRAM, HDMI, LVDS, 4 USB 2.0, OTG USB 2.0, COM, Gigabit Ethernet, S-video, Micro SD card slot, miniPCIe slot, 2 CAN bus, 12V DC-in

Optional Accessories

Wireless Modules	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit
EMIO-1541-00A1	VNT9485 IEEE 802.11 b/g/n miniPCIe Wi-Fi module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS and SIM card slot

Block Diagram



Packing List

Items
VAB-820 board
DC power cable
Console cable
Audio cable
USB cable

VIA

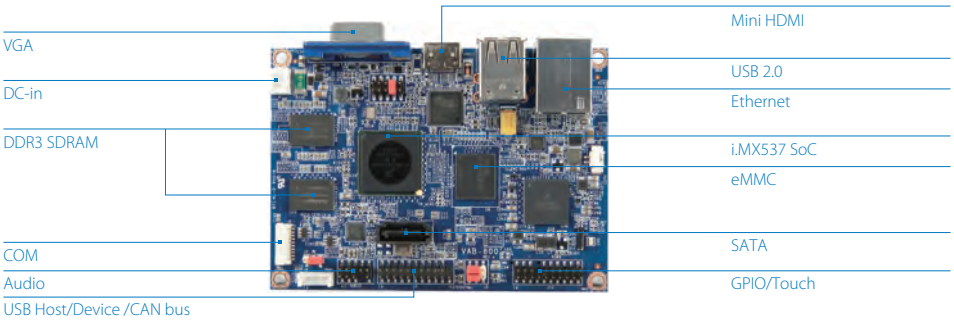
VAB-800

Ultra-reliable low power platform for in-vehicle, surveillance, and industrial applications

Features

- Compact 10cm x 7.2cm Pico-ITX form factor
- 800MHz NXP i.MX537 Cortex-A8 SoC
- Supports two single-channel 18/24-bit LVDS
- Supports dual CAN bus and dual COM ports
- Wide operating temperature range, -40°C ~ 85°C
- Android, Linux, and WEC7 solution packs available

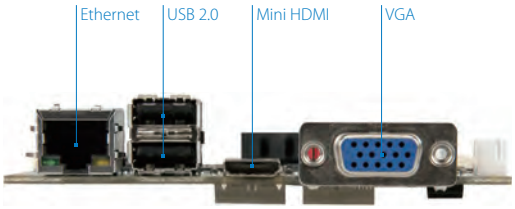
Board Placement



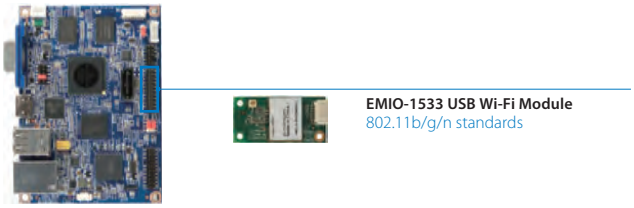
Specifications

Model Name	VAB-800
Processor	800MHz NXP i.MX537 Cortex-A8 SoC
System Memory	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory 1 SATA connector
Graphics	AMD Z430 GPU 2 integrated, independent 3D/2D graphics processing units Graphics engine supporting OpenGL® ES 2.0 and OpenVG™ 1.1 hardware acceleration Supports MPEG-2, VC-1 and H.264 video decoding up to 1080p
LAN	SMSC LAN8720A 10/100 PHY transceiver with HP Auto-MDIX support
Audio	NXP SGTL5000 low power stereo codec
HDMI	Silicon image SiI9024A HDMI transmitter
USB	SMSC USB2514 USB 2.0 high speed 4-port hub controllers
CAN	TI SN65HVD1050 EMC optimized CAN transceiver
Onboard I/O	1 SATA connector with voltage select jumper for DOM 1 SATA power supply connector for 2.5" HDD/SSD 1 Miscellaneous pin header for 2 USB 2.0 ports, 1 USB device port, 2 CAN bus ports, system power-on and reset 2 COM port connectors with power supply (one supports 8-wire DCE mode, another supports 2-wire for debug) 1 Miscellaneous pin header for 4-wire resistive touch screen interface, I^2C and Digital I/O (4 GPI + 4 GPO) 2 Single-channel 18/24-bit LVDS panel connectors 1 Micro SD card slot 1 RTC battery connector 1 JTAG pin header (for debugging) 1 Boot Flash select pin header for eMMC or Micro SD 1 Front audio pin header for Line-in, Line-out, Mic-in 1 DC-in connector
Back Panel I/O	2 USB 2.0 ports 1 Mini HDMI port 1 VGA port 1 10/100Mbps Ethernet port
Power Supply	5V DC-in
Operating System	Android 2.3, Linux kernel 2.6.35, WEC7
Watchdog Timer	Integrated watchdog timer supports two comparison points. Each comparison point can interrupt ARM core, 2nd comparison point capable of generating external interrupts on WDOG line
Operating Temperature	Commercial grade: 0°C to 60°C Industrial grade: -40°C to 85°C (optional)
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	Pico-ITX (10cm x 7.2cm, 3.9" x 2.8")
Compliance	CE, FCC

Back Panel I/O



Accessories



EMIO-1533 USB Wi-Fi Module
802.11b/g/n standards

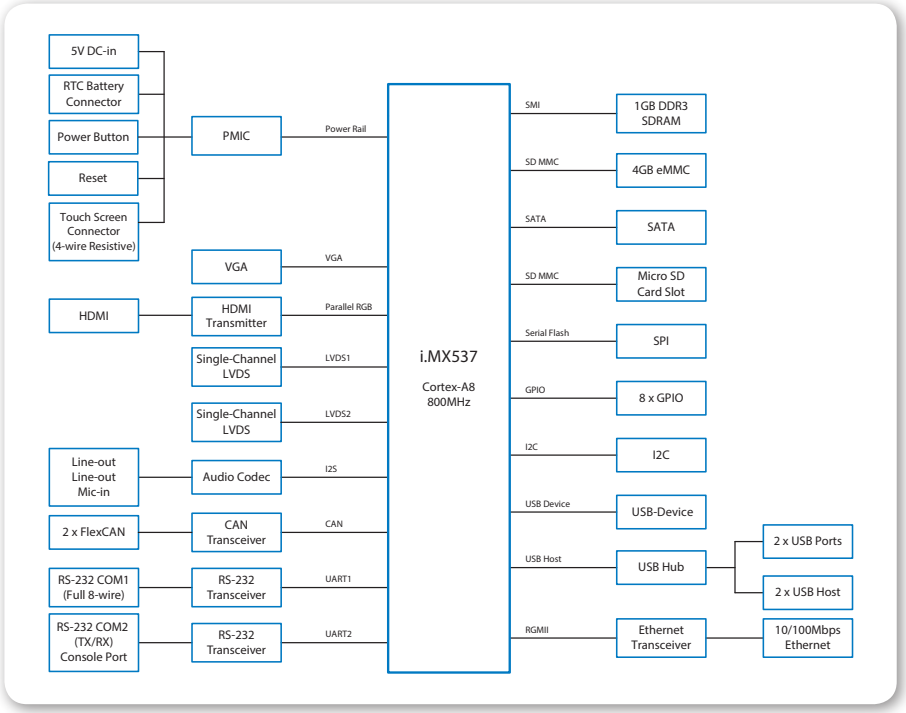
Ordering Information

Part Number	SoC Frequency	Description
Commercial grade: 10GZ9084000A0	NXP iMX537 Cortex-A8 SoC @ 800MHz	Pico-ITX board with 800MHz NXP Cortex-A8 SoC, 4GB eMMC, 1GB DDR3 SDRAM, Mini HDMI, VGA, 2 LVDS, 5 USB 2.0, 2 COM, 10/100Mbps Ethernet, SATA, 2 CAN bus, 5V DC-in
Industrial grade: 10GZ9084400A0	NXP iMX537 Cortex-A8 SoC @ 800MHz	Pico-ITX Board with 800MHz NXP Cortex-A8 SoC, 4GB eMMC, 1GB DDR3 SDRAM, Mini HDMI, VGA, 2 LVDS, 5 USB 2.0, 2 COM, 10/100Mbps Ethernet, SATA, 2 CAN bus, 5V DC-in

Optional Accessories

Wireless Modules	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit

Block Diagram



Packing List

Items
VAB-800 board
DC power cable
Console cable
Audio cable
USB cable

VIA

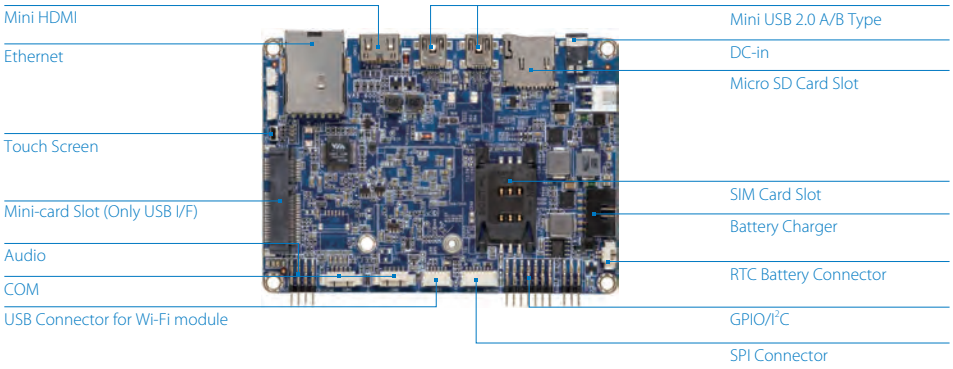
VAB-600

Flexible low-power platform for a broad range of interactive multimedia applications

Features

- Compact 10cm x 7.2cm Pico-ITX form factor
- 800MHz VIA Cortex-A9 SoC
- Support for two COM ports (TX/RX)
- Optional Wi-Fi module
- Android and Linux software solution packs available

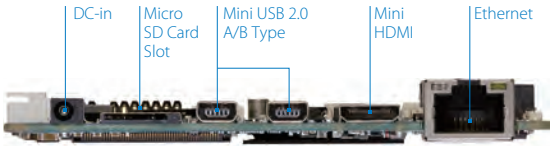
Board Placement



Specifications

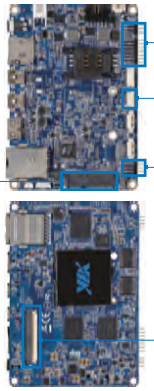
Model Name	VAB-600
Processor	800MHz VIA Cortex-A9 SoC
System Memory	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory
Boot Loader	512KB SPI Flash ROM
Graphics	Mali-400 SP GPU 2 integrated, independent 3D/2D graphics processing units Graphics engine supporting OpenGL® ES 2.0 hardware acceleration Supports MPEG-2, VC-1and H.264 video decoding up to 1080p
LAN	VIA VT6113 10/100 base-TX PHY chip
Audio	VIA VT1603A I2S Audio Codec
HDMI	Integrated HDMI 1.4 transmitter
Expansion I/O	1 miniPCIe slot (supports USB 2.0 connectivity for optional 3G module)
Onboard I/O	1 USB 2.0 connector 1 DVO connector for TTL or LVDS display (corresponding daughter card required) 2 COM port connectors (TX/RX) 1 Miscellaneous pin header for 1 I^2C pair and 1 DIO (4 GPI + 4 GPO) 1 SIM card slot (supports 3G module without built-in SIM card slot) 1 RTC battery pin header 1 Keypad connector 1 CIR connector 1 SPI Flash pin header 1 Front panel pin header for system power-on, reset and power LED 1 4-wire resistive touch screen FPC connector (through VT1603A) 1 Front audio pin header for Line-out, Mic-in 1 DC-in connector 1 Battery charger connector with smart battery function (manufacturing option) 1 miniPCIe slot (supports USB 2.0 connectivity for optional 3G module)
Back Panel I/O	2 Mini USB 2.0 ports 1 Mini HDMI port 1 10/100Mbps Ethernet port 1 Micro SD card slot 1 DC-in jack
Power Supply	12V ~ 24V DC-in
Operating System	Android 4.0.3, Linux kernel 3.0.8
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	Pico-ITX (10cm x 7.2cm, 3.9" x 2.8")
Compliance	CE, FCC

Back Panel I/O



EMIO-2550 3G HSPA/UMTS Mobile Broadband Module

Accessories



VAB-600-A
I/O card for Line-out/Mic-in, 2 USB 2.0, power button

EMIO-1533 USB Wi-Fi Module
802.11b/g/n standards

VAB-600-B
Additional 4 COM ports

VAB-600-C
TTL converter card

VAB-600-D
LVDS converter card

Ordering Information

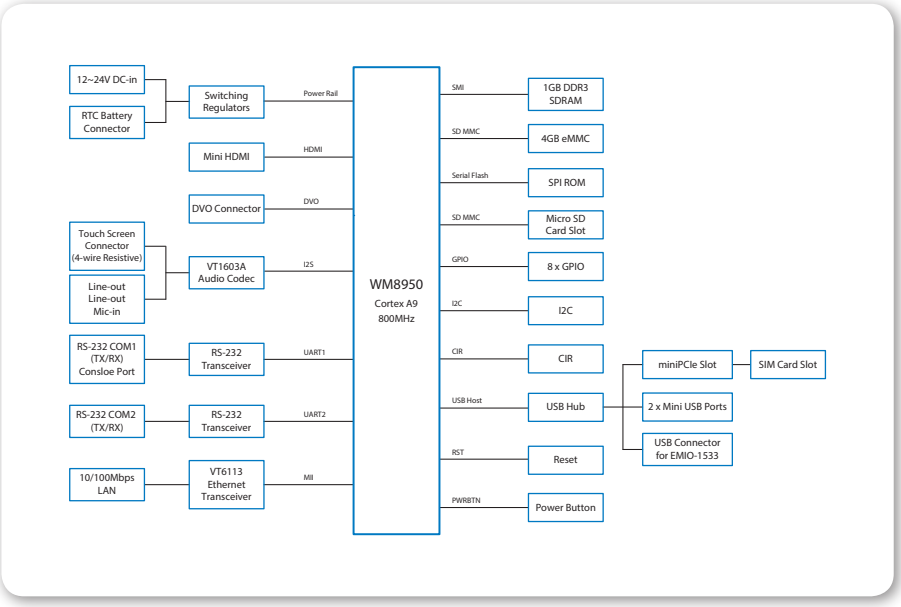
Part Number	SoC Frequency	Description
10GAU082000A0	VIA Cortex-A9 SoC @ 800MHz	Pico-ITX board with 800MHz VIA Cortex-A9 SoC, 4GB eMMC, 512KB SPI Flash ROM, 1GB DDR3 SDRAM, Mini HDMI, 2 Mini USB 2.0, 2 COM, 10/100Mbps Ethernet, Micro SD card slot, miniPCIe slot, 12 ~ 24V DC-in

Optional Accessories

I/O Expansion Cards	
Part Number	**Description**
10GAX00000020	VAB-600-A I/O card for Line-out, Mic-in, 2 USB 2.0 ports, Power button
10GAZ00000020	VAB-600-B I/O card for additional 4 COM ports
10GBC00000020	VAB-600-C TTL converter card
10GBD00000020	VAB-600-D Dual-CH LVDS converter card

Wireless Modules	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit
EMIO-2550-01A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS

Block Diagram



Packing List

Items
VAB-600 board
DC power cable
Front panel cable
Audio cable
COM cable
USB cable

Items for Starter Kit
VAB-600 board
AC-to-DC adpater
DC power cable
VAB-600-A I/O card
VAB-600-D I/O card
Keypad cable
GPIO/I^{2}C cable
Front panel cable
Audio cable
COM cable
USB cable
USB cable for USB Wi-Fi module
7" LVDS panel with cable (optional)

ARM QSeven™ Modules

Quick Guide

Model	QSM-8Q60 NEW
Processor	NXP i.MX 6DualLite Cortex-A9 dual-core SoC
Graphics	2 integrated, independent 3D/2D hardware graphics accelerators
System Memory	2GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory 1 Micro SD card slot
Audio	I2S Audio Interface
Display I/O	1 HDMI 1 Dual-CH LVDS
USB	4 USB 2.0 1 USB OTG
LAN	1 Gigabit Ethernet
COM	3 (TX/RX)
CAN bus	2
Expansion I/O	1 PCIe X 1
Power Supply	15~24V DC-in
Operating System	Linux 3.10.53
Operating Temperature	-20°C ~ 70°C
Optional Accessories	QSMDB2 evaluation carrier board EMIO-1541 miniPCIe Wi-Fi EMIO-2550 miniPCIe 3G
Applications	Industrial automation

Qseven™ Modules

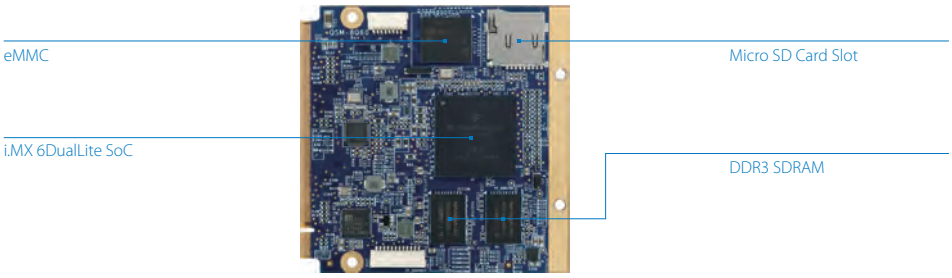
NEW

VIA

QSM-8Q60

Qseven™ ARM module with NXP i.MX 6DualLite Cortex-A9 SoC for industrial automation applications

Board Placement



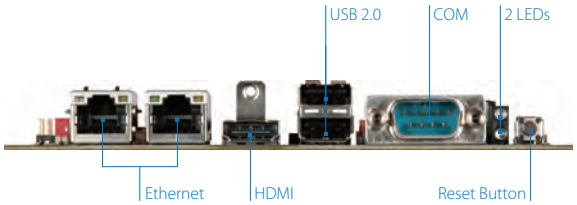
Features

- NXP i.MX 6DualLite Cortex-A9 SoC
- Qseven™ Rev. 2.0 compliant
- Wide operating temperature range: -20°C ~ 70°C
- 3.5" form factor carrier options
- 7-year longevity support

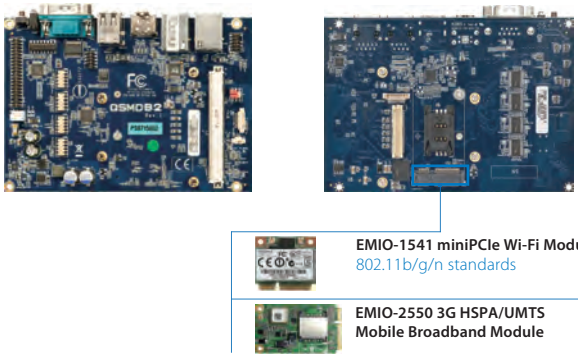
Specifications

Model Name	**QSM-8Q60**
Processor	NXP i.MX 6DualLite Cortex-A9 dual-core SoC
System Memory	2GB DDR3 SDRAM
Storage	4GB eMMC Flash memory
Boot Loader	4MB SPI Flash ROM
Graphics	Vivante GC880 2 Independent, integrated 3D/2D and graphics processing units Graphics engines support OpenGL®ES 2.0, OpenVG 1.1 hardware acceleration Support MPEG-2, VC-1 video decoding up to 1080p
LAN	Micrel KSZ9031RNX Gigabit Ethernet Transceiver with RGMII support
Audio	I2S Audio Interface
HDMI	Integrated HDMI 1.4 Transmitter
USB	SMSC USB2514 USB 2.0 High Speed 4-port hub controller
Supported Expansion I/O	1 PCIe x1
Supported I/O	4 USB 2.0 ports 1 USB OTG client 1 HDMI port 1 Dual-channel 18/24-bit LVDS panel connector 1 PWM 3 COM (TX/RX) ports 1 Gigabit Ethernet port 2 CAN bus 1 I2S 1 SPI 1 SDIO 3 I^2C
Onboard I/O	1 Micro SD card slot
Operating System	Linux Kernel 3.10.53
Operating Temperature	-20°C ~ 70°C
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	7.0cm x 7.0cm (2.76" x 2.76")
Compliance	Qseven™ Rev. 2.0 module

Carrier Board Front Panel I/O



Carrier Board (QSMDB2)



EMIO-1541 miniPCIe Wi-Fi Module
802.11b/g/n standards

EMIO-2550 3G HSPA/UMTS Mobile Broadband Module

* The carrier board is only for evaluation purposes.

Specifications

Model Name	QSMDB2
Audio	NXP SGTL5000 low power stereo codec
Onboard I/O	1 Dual-channel 18/24-bit LVDS panel connector 1 LVDS inverter connector 1 Touch panel connector 6 COM port pin headers (4 for RS-232/422/485, 2 for TX/RX only) 32 GPIO (16 GPI +16 GPO) pin headers 1 CAN bus connector (supports 2 CAN bus) 1 Audio pin header for Line-in, Line-out, Mic-in 1 I^2C pin header 1 SIM card slot 1 miniPCIe slot 1 DC-in connector
Front Panel I/O	2 USB 2.0 ports 1 HDMI port 1 COM port (TX/RX for debug) 1 Gigabit Ethernet port 1 10/100Mbps Ethernet port 2 Power & Wi-Fi activity LEDs 1 Reset Button
Power Supply	15~24V DC-in
Operating Temperature	-20°C ~ 70°C
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	3.5" Form Factor 14.6cm x 10.2cm (5.75" x 4.01")

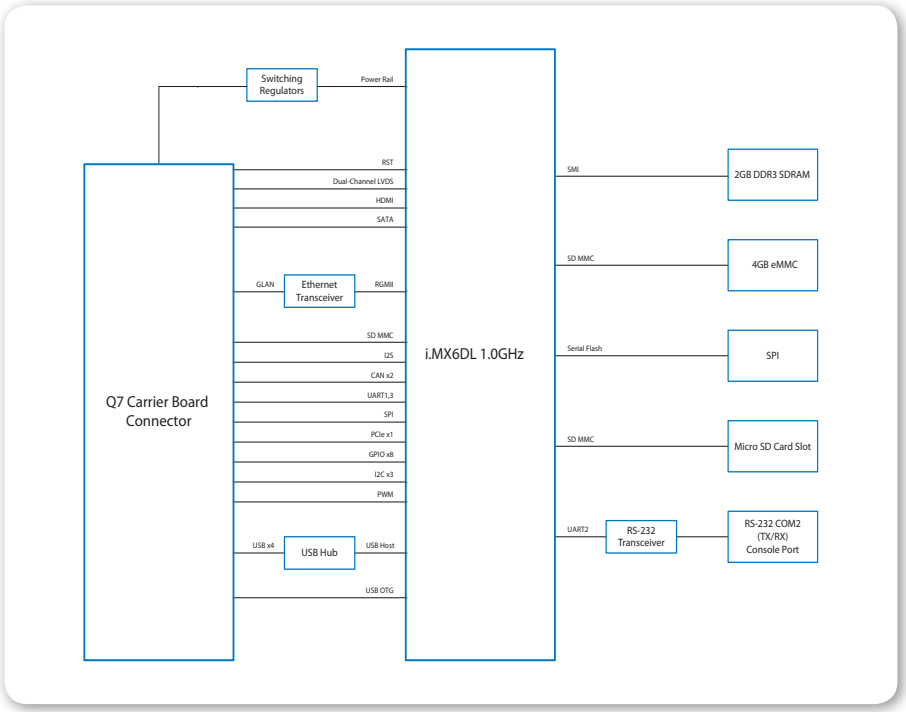
Ordering Information

Model Name	SoC Frequency	Description
15GEC107000-10	NXP i.MX 6DualLite Cortex-A9 dual-core SoC @ 1.0GHz	Qseven™ module with 1.0GHz NXP i.MX 6DualLite Cortex-A9, 4GB eMMC, 4MB SPI ROM, 2GB DDR3 SDRAM, HDMI, 4 USB 2.0, 1 USB OTG client, LVDS, 3 COM (TX/RX), Gigabit Ethernet, 10/100Mbps Ethernet, 2 CAN bus, PCIe x1, Micro SD card slot
15GFL000000-10	N/A	QSM-8Q60 evaluation carrier board with CAN bus cable and DC power cable

Optional Accessories

Wireless Modules	
Part Number	**Description**
00GO27100BU2B0D0	VNT9271BU0DB IEEE 802.11b/g/n USB Wi-Fi dongle
EMIO-1541-00A1	VNT9485 IEEE 802.11 b/g/n miniPCIe Wi-Fi module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS and SIM card slot

Block Diagram



Mobile360 Starter Kits

Quick Guide

Model	VTS-8588	ENT-610M
Processor	1.0GHz VIA Cortex-A9 dual-core SoC	1.0GHz VIA Cortex-A9 dual-core SoC
Graphics	2 integrated, independent 3D/2D graphics processing units	2 integrated, independent 3D/2D graphics processing units
System Memory	1GB DDR3 SDRAM onboard	512MB DDR3 SDRAM onboard
Storage	8GB eMMC Flash memory Micro SD card slot	4GB eMMC Flash memory Micro SD card slot
Audio	N/A	Low power stereo codec
Display I/O	1 Dual-channel LVDS connector 1 PWM LVDS backlight control connector	1 Single-Channel 18/24-bit LVDS connector 1 PCAP touch screen connector
USB	2 USB 2.0	1 USB 2.0
LAN	1 10/100Mbps Ethernet (with 48V PoE)	1 10/100Mbps Ethernet
COM	1 TX/RX	N/A
Digital I/O	4 GPIO	2 GPIO connectors for system buttons
Power Supply	12V DC-in	9~36V DC-in
Operating System	Linux kernel 3.4.5	Android 4.2
Operating Temperature	0°C ~ 45°C	0°C ~ 45°C
Form Factor	14cm x 11.5cm (5.51" x 4.52")	17.5cm x 12.0cm (6.87" x 4.72")
LCD Panel	17" LVDS LCD panel (1280x1024)	10.1" LVDS LCD panel (1024x600) 10.1" Projective capacitive touch screen
Applications	All-in-one displays, digital signage	In-vehicle infotainment, digital signage

VIA

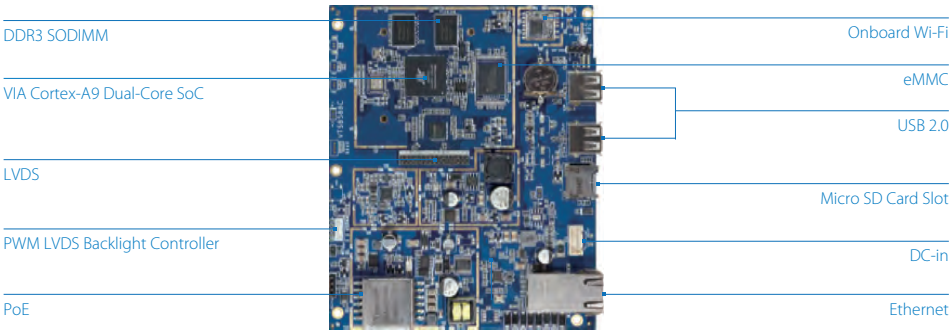
VTS-8588

All-in-one panel display starter kit for HMI digital signage applications

Features

- 1.0GHz VIA Cortex-A9 dual-core SoC
- 10/100Mbps Ethernet with PoE support
- HTML5 Support
- Onboard Wi-Fi support
- Optional 17" panel for quick time to market designs

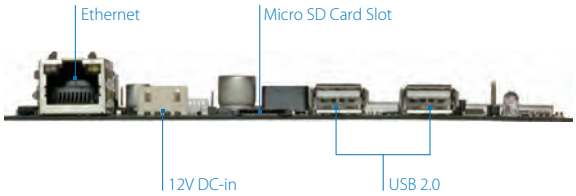
Board Placement



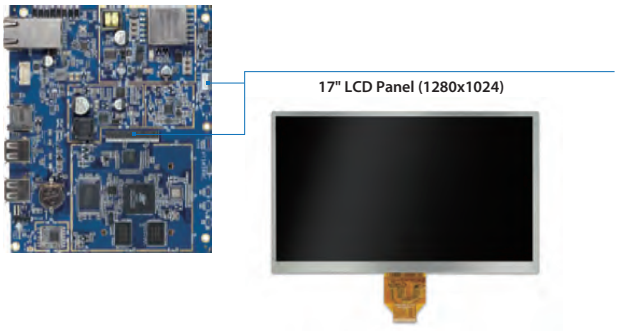
Specifications

	VTS-8588
Processor	1.0GHz VIA Cortex-A9 dual-core SoC
System Memory	1GB DDR3 SDRAM
Storage	8GB eMMC Flash memory
Boot Loader	512KB SPI Flash ROM
Graphics	Mali-400 dual processor GPU 2 integrated, independent 3D/2D graphics processing units Graphics engine supporting OpenGL® ES 2.0 hardware acceleration Supports MPEG-2 and H.264 video decoding up to 1080p
LAN	Realtek RTL8152B 10/100Mbps Ethernet controller
Wi-Fi	Realtek RTL8189ES SDIO onboard Wi-Fi module
Onboard I/O	1 Dual-channel LVDS connector 1 PWM LVDS backlight control connector 1 COM (TX/RX) Console connector 4 GPIO 1 DC-in connector
Rear I/O	2 USB 2.0 ports 1 10/100Mbps Ethernet port with 48V PoE 1 Micro SD card slot
Operating System	Linux kernel 3.4.5
Power Supply	12V DC-in
Operating Temperature	0°C ~ 45°C
Operating Humidity	0% ~ 90% (relative humidity; non-condensing)
Form Factor	14cm x 11.5cm (5.51" x 4.52")

Back Panel I/O



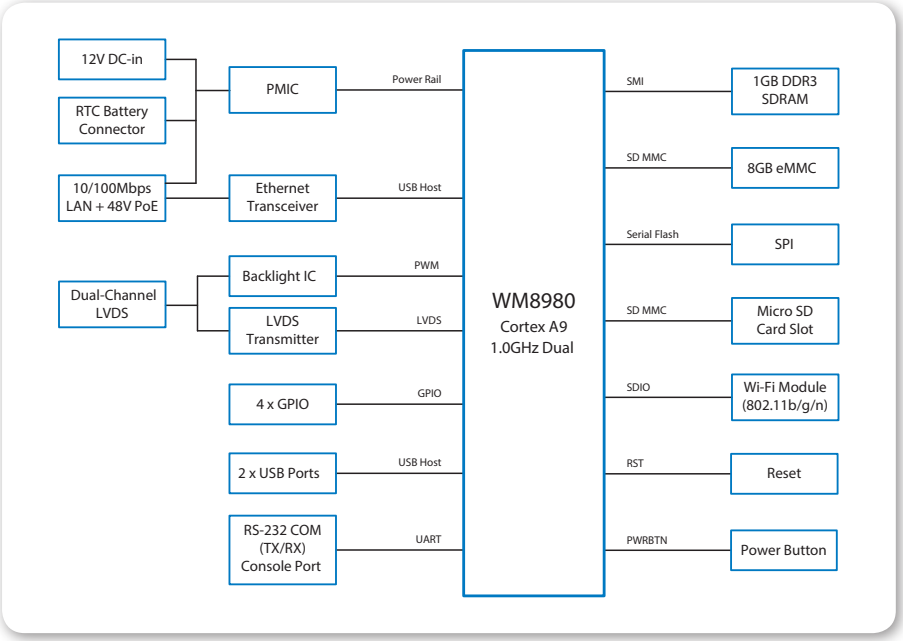
Accessories



Ordering Information

Part Number	CPU Frequency	Description
00GFJ10600020	VIA Cortex-A9 dual-core SoC @ 1.0GHz	VTS-8588 board with 1.0GHz VIA Cortex-A9 SoC, 8GB eMMC, 512KB SPI Flash ROM, 1GB DDR3 SDRAM, LVDS, 2 USB 2.0, 4 GPIO, 10/100Mbps Ethernet with PoE, onboard Wi-Fi, Micro SD card slot, 12V DC-in
99G47-020501	N/A	17" LVDS LCD panel (1280x1024)

Block Diagram



Packing List

Items
VTS-8588 board
AC-to-DC power adapter
DC power cable
US plug
LVDS cable
Backlight cable

VIA

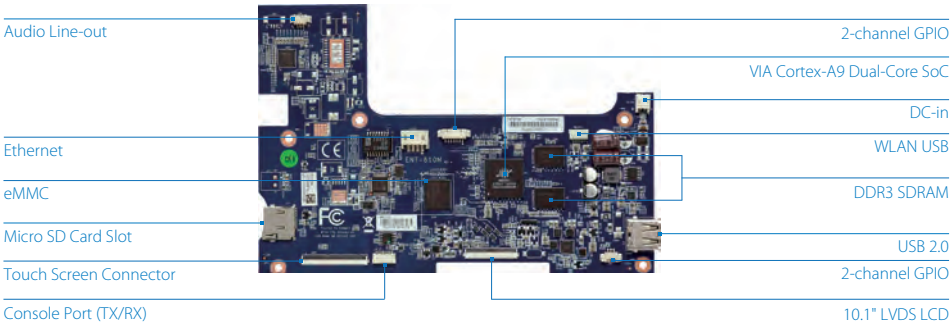
ENT-610M

All-in-one touch panel starter kit for In-vehicle infotainment and digital signage applications

Features

- 1.0GHz VIA Cortex-A9 dual-core SoC
- Wide input voltage range supporting 9~36V DC-in
- Lockable connectors
- Optional Wi-Fi support
- Optional 10.1" projective capacitive touch screen support

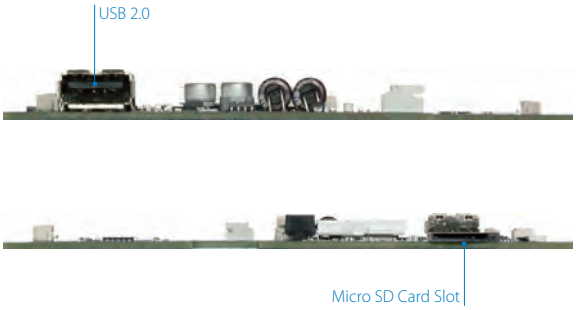
Board Placement



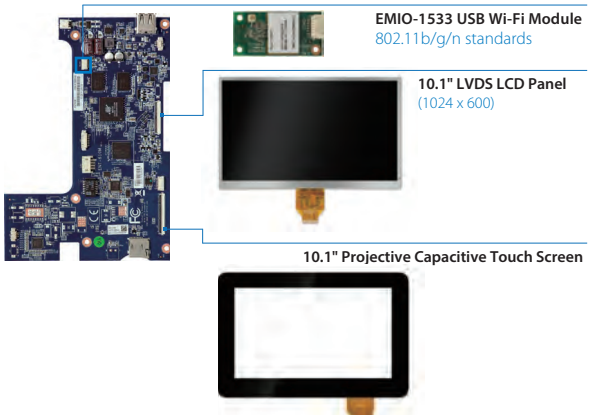
Specifications

	ENT-610M
Processor	1.0GHz VIA Cortex-A9 dual-core SoC
System Memory	512MB DDR3 SDRAM
Storage	4GB eMMC Flash memory
Boot Loader	4MB SPI Flash ROM
Graphics	Mali-400 dual processor GPU 2 integrated, independent 3D/2D graphics processing units Graphics engine supporting OpenGL® ES 2.0 hardware acceleration Supports MPEG-2, VC-1 and H.264 video decoding up to 1080p
LAN	ASIX AX88772CLF USB to 10/100Mbps Ethernet controller
Audio	VIA VT1603 SPI Audio Codec
Touch Screen	ZEITEC ZET6223WTA Projective capacitive touch screen controller
Onboard I/O	1 USB connector for optional USB Wi-Fi module 1 Single-Channel 18/24-bit LVDS panel connector 1 PCAP touch screen connector 2 GPIO connectors for system buttons 1 10/100Mbps Ethernet connector 1 Audio connector (supports Line-out) 1 DC-in connector
External I/O	1 USB 2.0 port 1 Micro SD card slot
Operating System	Android 4.2
Power Supply	9~36V DC-in
Operating Temperature	0°C ~ 45°C
Operating Humidity	0% ~ 90% (relative humidity; non-condensing)
Form Factor	17.5cm x 12.0cm (6.87" x 4.72")

External Panel I/O



Accessories

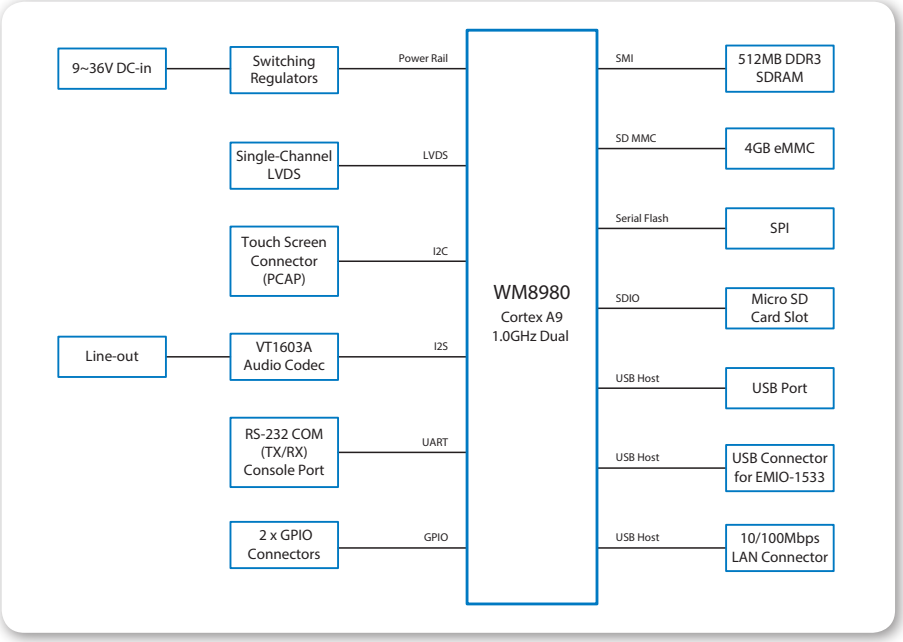


Ordering Information

Part Number	CPU Frequency	Description
10GCX12630020	VIA Cortex-A9 SoC @ 1.0GHz	ENT-610M board with 1.0GHz VIA Cortex-A9 SoC, 4GB eMMC, 512KB SPI Flash ROM, 512MB DDR3 SDRAM, LVDS, Touch screen connector, USB 2.0, 10/100Mbps Ethernet, Micro SD card slot, 9 ~ 36V DC-in
99-47-02033A	N/A	10.1" LVDS LCD panel (1024x600)
99-47-030072	N/A	10.1" Projective capacitive touch screen

Wireless Modules	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit

Block Diagram



Packing List

Items
ENT-610M board
DC power cable
Ethernet/DC Power/Audio converter board
Ethernet/DC power cable
LVDS cable
Touch screen cable
Audio cable

VIA ARM Systems

- Alegro 100
- ALTA DS 2
- ALTA DS
- AMOS-825
- AMOS-820
- AMOS-800
- ARTiGO A900
- ARTiGO A820
- ARTiGO A600
- Viega Tablet

ARM Systems

Quick Guide

	Home Gateway Solutions	Android Signage Solutions	
Model	**Alegro 100** NEW	**ALTA DS 2**	**ALTA DS**
Processor	800MHz VIA Cortex-A9 SoC	1.0GHz VIA Elite E1000 Cortex-A9 dual-core SoC	800MHz VIA Cortex-A9 SoC
Graphics	N/A	3 integrated, independent 3D/2D and video hardware graphics accelerators	2 integrated, independent 3D/2D hardware graphics accelerators
System Memory	512MB DDR3 SDRAM onboard	2GB DDR3 SDRAM onboard	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory	4GB eMMC Flash memroy 1 SD card slot Supports 1 2.5" SATA HDD/SSD (optional)	4GB eMMC Flash memory 1 SD card slot
Audio	N/A	Stereo codec	Stereo codec
Display I/O	N/A	2 HDMI (1 optional)	1 HDMI 1 VGA (optional)
USB	1 USB 2.0	2 USB 2.0 2 Mini USB 2.0	4 USB 2.0
LAN	1 10/100Mbps Ethernet	1 Gigabit Ethernet	1 10/100Mbps Ethernet
KNX-TP	1 KNX transceiver	N/A	N/A
KNX-RF	1 KNX-RF module	N/A	N/A
ZigBee	1 ZigBee controller	N/A	N/A
Z-Wave	1 Z-Wave module	N/A	N/A
Power Supply	12 ~ 24V DC-in	12V DC-in	12V DC-in
Operating System	Android 4.0, Linux kernel 3.0.8	Android 4.4.2	Android 4.0.3
Operating Temperature	0°C ~ 50°C	0°C ~ 40°C	0°C ~ 40°C
Optional Accessories	N/A	VNT9271 USB Wi-Fi donlge VESA mount cradle	VNT9271 USB Wi-Fi dongle VESA mount cradle
Applications	Multi-protocol wireless router for home & building automation	Digital signage	Digital signage

ARM Systems

Quick Guide

	Industrial Solutions		
Model	**AMOS-825** NEW	**AMOS-820**	**AMOS-800**
Processor	1.0GHz NXP i.MX 6Quad Cortex-A9 quad-core SoC	1.0GHz NXP i.MX 6Quad Cortex-A9 quad-core SoC	800MHz NXP i.MX537 Cortex-A8 SoC
Graphics	3 integrated, independent 3D/2D and video hardware graphics accelerators	3 integrated, independent 3D/2D and video hardware graphics accelerators	2 integrated, independent3D/2D hardware graphics accelerators
System Memory	1GB DDR3 SDRAM onboard	1GB DDR3 SDRAM onboard	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory 1 Micro SD card slot	4GB eMMC Flash memory 1 Micro SD card slot	4GB eMMC Flash memory 1 Micro SD card slot
Audio	Low power stereo codec	Low power stereo codec	Low power stereo codec
Display I/O	LVDS	1 HDMI 1 Composite video-in	1 HDMI 1 VGA
USB	2 USB 2.0 1 Micro USB 2.0 OTG	3 USB 2.0 1 Micro USB 2.0 OTG	3 USB 2.0
LAN	1 Gigabit Ethernet	1 Gigabit Ethernet	1 10/100Mbps Ethernet
COM	1 (TX/RX)	2 (one TX/RX)	2 (one TX/RX)
Digital I/O	NA	8 (4 GPI + 4 GPO)	8 (4 GPI + 4 GPO)
CAN bus	1	2	1
Expansion I/O	1 miniPCIe slot	1 miniPCIe slot	N/A
Power Supply	12V DC-in	12V DC-in	5V DC-in
Operating System	Android 4.4.2	Android 4.4.2 Linux kernel 3.10.17	Android 2.3 Linux kernel 2.6.35 WEC7
Operating Temperature	-20°C ~ 70°C	-20°C ~ 65°C	-40°C ~ 80°C
Optional Accessories	N/A	VNT9271 USB Wi-Fi dongle EMIO-1541 miniPCIe Wi-Fi EMIO-2550 miniPCIe 3G	VNT9271 USB Wi-Fi dongle EMIO-1533 USB Wi-Fi
Applications	Industrial automation, M2M, Transportation	Industrial automation, M2M, Transportation	Digital signage, Industrial automation, M2M

ARM Systems

Quick Guide

	Enterprise IoT Solutions			Mobile Solutions
Model	**ARTiGO A900**	**ARTiGO A820** NEW	**ARTiGO A600** NEW	**Viega Tablet**
Processor	1.0GHz VIA Elite E1000 Cortex-A9 dual-core SoC	1.0GHz NXP i.MX 6DualLite Cortex-A9 dual-core SoC	800MHz VIA Cortex-A9 SoC	1.2GHz VIA Cortex-A9 dual-core SoC
Graphics	3 integrated, independent 3D/2D and video hardware graphics accelerators	2 integrated, independent 3D/2D hardware graphics accelerators	2 integrated, independent 3D/2D hardware graphics accelerators	2 integrated, independent 3D/2D hardware graphics accelerators
System Memory	2GB DDR3 SDRAM onboard	1GB DDR3 SDRAM onboard	1GB DDR3 SDRAM onboard	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory 1 mSATA slot	4GB eMMC Flash memory 1 Micro SD Card slot	4GB eMMC Flash memory 1 Micro SD card slot	16G eMMC Flash memory 1 Micro SD card slot
Audio	Stereo codec	N/A	Stereo codec	Headphone jack
Display I/O	1 Mini HDMI	1 Mini HDMI	1 Mini HDMI	1 Micro HDMI
USB	3 USB 2.0 1 Mini USB 2.0	3 USB 2.0	2 Mini USB 2.0	2 Micro USB 2.0
LAN	1 Gigabit Ethernet	1 Gigabit Ethernet 1 10/100Mbps Ethernet	1 10/100Mbps Ethernet	N/A
COM	1 (RS232/485)	1 (RS232/485)	4 (3-pole Phoenix RS-485) 1 (RS232)	1 (optional)
Digital I/O	4 (2 GPI + 2 GPO)	8 (4 GPI + 4 GPO)	4 (2 GPI + 2 GPO)	N/A
Expansion I/O	1 miniPCIe slot	1 miniPCIe slot	1 miniPCIe slot (USB only)	3G WCDMA (optional) SIM card slot
Power Supply	12V DC-in	12V DC-in	12~24V DC-in	12V DC-in
Operating System	Android 4.4.2	Linux Kernel 3.0.35	Linux Kernel 3.0.8	Android 4.4.2
Operating Temperature	-5°C ~ 50°C	0°C ~ 50°C	-5°C ~ 50°C	-10°C ~ 50°C
Optional Accessories	N/A	VNT9271 USB Wi-Fi dongle EMIO-1541 miniPCIe Wi-Fi EMIO-2550 miniPCIe 3G	EMIO-1533 USB Wi-Fi EMIO-2550 miniPCIe 3G	1 Docking stand for battery charger, magnetic swipe reader and headset (optional)
Applications	Digital signage, Digital media applications	M2M, Industiral IoT applications	Home & building automation, HMI	Digital signage, POS, IPC

Home Gateway Solutions

NEW

VIA

Alegro 100

Multi-protocol home gateway device

Features

- 800MHz VIA Cortex-A9 SoC
- Multi-protocol wireless connectivity including Wi-Fi, Bluetooth, ZigBee, Z-Wave, and KNX-RF
- Supports Ethernet and KNX-TP connectivity
- High performance external antennas
- Cross protocol wireless home router for multi-device management

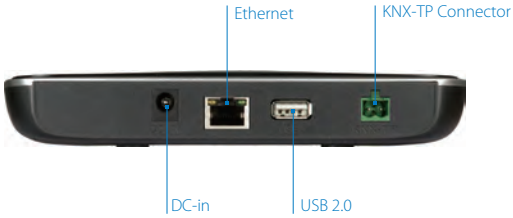
Specifications

Model Name	Alegro 100
Processor	800MHz VIA Cortex-A9 SoC
System Memory	512MB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory
Boot Loader	512KB SPI Flash ROM
LAN	VIA VT6113 10/100 base-TX PHY chip
KNX-TP	Siemens KNX EIB TP-UART2 KNX transiver
KNX-RF	Radiocrafts RC1180-KNX2 KNX-RF module
ZigBee	Silicon Labs EM3581 ZigBee controller
Z-Wave	Sigma Designs ZM5304 Z-Wave module
Front Panel I/O	1 Power on/off button & power indicator LED
Back Panel I/O	1 USB 2.0 ports 1 10/100Mbps Ethernet port 1 KNX-TP connector 1 DC-in jack 4 Antennas
Power Supply	12 ~ 24V DC-in
Operating System	Android 4.0, Linux kernel 3.0.8
Mechanical Construction	Plastic chassis
Mounting	Built-in wall mountable holes Optional VESA mounting bracket (75mm x 75mm) Optional DIN Rail kit
Operating Temperature	0°C ~ 50°C
Operating Humidity	0% ~ 90% @ 40°C (non-condensing)
Storage Temperature	-20°C ~70°C
Dimensions	171.4mm(W) x 28.4mm(H) x 114.7mm(D) (6.73" x 1.1" x 4.51")
Weight	TBD
Compliance	CE, FCC

CE FC

Front Panel I/O

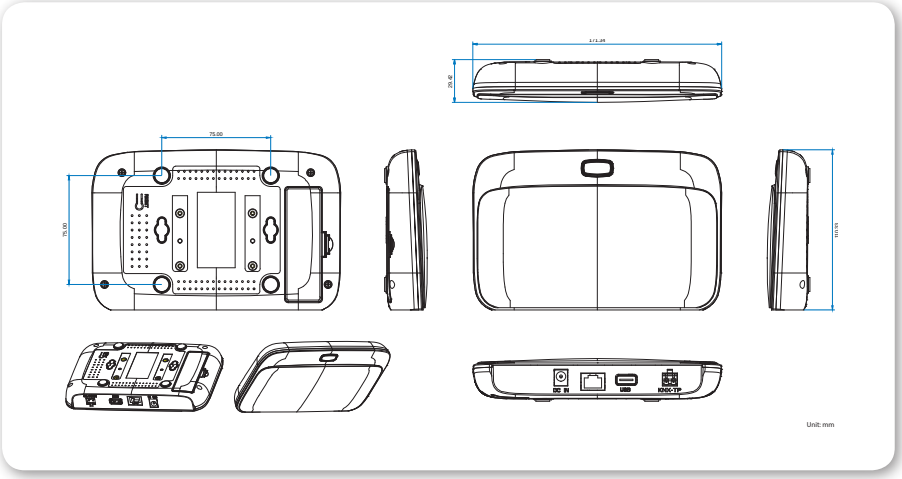
Back Panel I/O



Ordering Information

Part Number	SoC Frequency	Description
ALG-100-1S08A1	800MHz VIA Cortex-A9 SoC	Cross protocol Wi-Fi, Bluetooth, ZigBee, Z-Wave, KNX-RF, KNX-TP Wireless router with 800MHz VIA Cortex-A9 Soc with USB 2.0 port, 10/100Mbps Ethernet, KNX-TP connector, 12-24V DC-in

Dimensions



Packing List

Items
VIA Alegro router
AC-to-DC adapter

VIA

ALTA DS 2

Fanless ultra-compact dual-screen Android digital signage system

Features

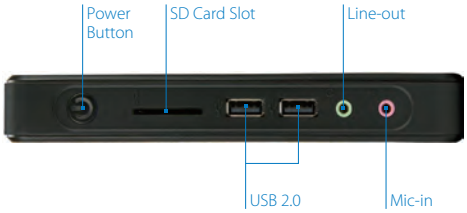
- High-performance 1.0GHz VIA Elite E1000 Cortex-A9 dual-core SoC
- Designed for Android operating system
- Dual-screen support with optional second HDMI port
- Extended & independent screen content support
- Android software solution pack and signage starter kit available

Specifications

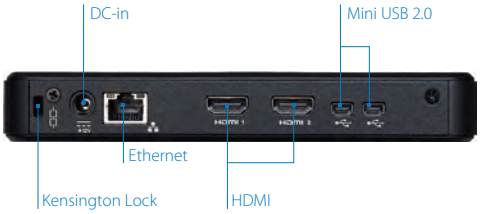
Model Name	ALTA DS 2
Processor	1.0GHz VIA Elite E1000 Cortex-A9 dual-core SoC
System Memory	2GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory Up to 16GB eMMC (optional) Supports 1 2.5" SATA HDD/SSD (Project-based only)
Boot Loader	4MB SPI Flash ROM
Graphics	3 integrated, independent 3D/2D and video processing units Graphics engine supporting OpenGL® ES 3.0 hardware acceleration Supports MPEG-2, VC-1 and H.264 video decoding up to 1080p
LAN	Realtek RTL8111G-CG
Audio	Wolfson WM8960 Audio Codec
HDMI	Integrated HDMI 1.4 transmitter 2nd from ADV7511
Front Panel I/O	2 USB 2.0 ports 1 SD card slot 2 Audio jacks: Line-out and Mic-in (shared with CIR, optional) 1 Power on/off button & power indicator LED
Back Panel I/O	2 Mini USB 2.0 ports (optional) - 1 for Wi-Fi - 1 for UART1 TX/RX 2 HDMI ports (1 optional) 1 Gigabit Ethernet port 1 DC-in jack
Power Supply	12V DC-in (typical: 5.12W)
Operating System	Android 4.4.2
Operating Temperature	0°C ~ 40°C
Operating Humidity	0% ~ 90% @ 40°C (non-condensing)
Storage Temperature	-20°C ~ 70°C
Dimensions	175mm(H) x 25mm (H) x118(D) (6.88" x 0.98" x 4.64")
Weight	0.555kg (1.22lbs)
Compliance	CE, FCC

CE FC

Front Panel I/O



Back Panel External I/O



Ordering Information

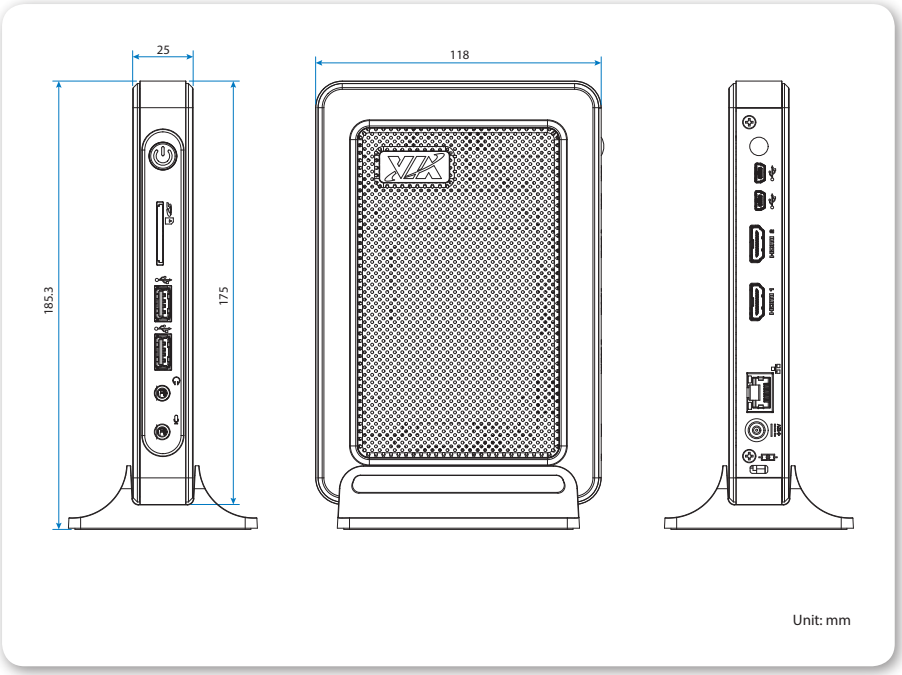
Part Number	SoC Frequency	Description
VT60800014003-T	VIA Elite E1000 Cortex-A9 dual-core SoC @ 1.0GHz	Android signage system with 1.0GHz VIA Elite E1000 Cortex-A9 SoC, 2GB DDR3 RAM, 4GB eMMC, 2 HDMI ports, 2 USB 2.0 ports, 2 Mini USB 2.0 ports, SD card slot, Gigabit Ethernet, Stand holder, US power cord, 12V DC-in

Optional Accessories

Wireless Accessories	
Part Number	**Description**
00GO27100BU2B0D0	VNT9271BU0DB IEEE 802.11b/g/n USB Wi-Fi dongle

Mounting Options	
Part Number	**Description**
VT6076-C0000A1	VESA mount cradle

Dimensions



Packing List

Items
ALTA DS 2 system
AC-to-DC adapter
Power cord (USA type)
Stand holder

VIA

ALTA DS

Fanless ultra-compact Android digital signage system

Features

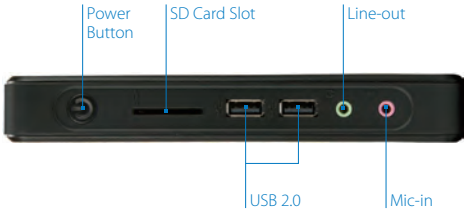
- All-in-one system with ready to load software
- Designed for Android operating system
- Hardware acceleration of the most demanding video formats for resolutions up to 1080p
- HDMI and VGA (optional) ports
- Android software solution pack and signage starter kit available

Specifications

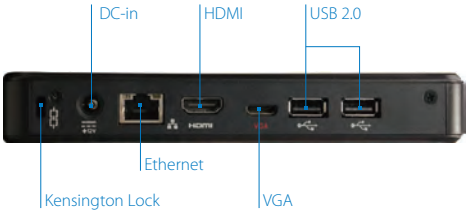
Model Name	ALTA DS
Processor	800MHz VIA Cortex-A9 SoC
System Memory	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory Up to 16GB eMMC (optional)
Boot Loader	512KB SPI Flash ROM onboard
Graphics	Mali-400 SP GPU 2 integrated, independent 3D/2D graphics processing units Graphics engine supporting OpenGL® ES 2.0 hardware acceleration Supports MPEG-2, VC-1 and H.264 video decoding up to 1080p
LAN	VIA VT6113 10/100 Base-TX PHY chip
Audio	VT1603A I2S audio Internal speaker (optional)
HDMI	Integrated HDMI 1.4 transmitter
Front Panel I/O	2 USB 2.0 ports 1 SD card slot 2 Audio jacks: Line-out and Mic-in 1 Power on/off switch
Back Panel I/O	2 USB 2.0 ports (optional) - 1 port for Wi-Fi - 1 port for UART1 TX/RX 1 HDMI port 1 VGA port (optional) 1 10/100Mbps Ethernet port 1 DC-in jack
Power Supply	12V DC-in (typical: 3.35W)
Operating System	Android 4.0.3
Operating Temperature	0°C ~ 40°C
Operating Humidity	0% ~ 80% @ 40°C (non-condensing)
Storage Temperature	-20°C ~ 70°C
Dimensions	175mm(H) x 25mm (H) x118(D) (6.88" x 0.98" x 4.64")
Weight	0.46kg (1.01lbs)
Compliance	CE/FCC

CE FC

Front Panel External I/O



Rear Panel External I/O



Ordering Information

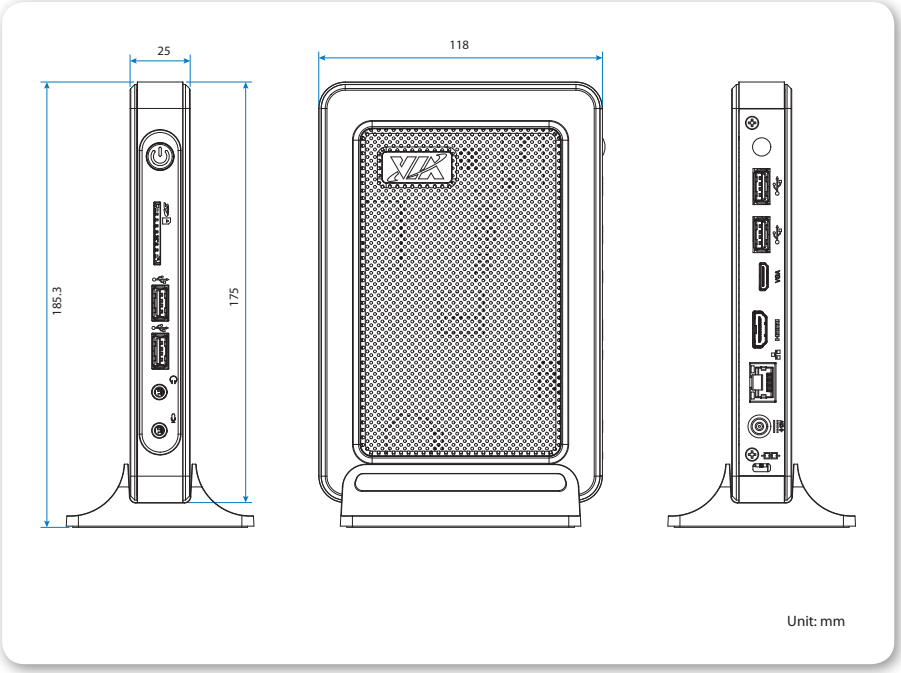
Part Number	SoC Frequency	Description
VT60780013001-T	VIA Cortex-A9 SoC @ 800MHz	Android signage system with 800MHz VIA Cortex-A9 SoC, 1GB DDR3 RAM, 4GB eMMC, HDMI, 4 USB 2.0, SD card slot, 10/100Mbps Ethernet, Stand holder, US power cord, 12V DC-in

Optional Accessories

Wireless Accessories	
Part Number	**Description**
00GO27100BU2B0D0	VNT9271BU0DB IEEE 802.11b/g/n USB Wi-Fi dongle

Mounting Options	
Part Number	**Description**
VT6076-C0000A1	VESA mount cradle

Dimensions



Packing List

Items
ALTA DS system
AC-to-DC adapter
Power cord (USA type)
Stand holder

NEW

VIA

AMOS-825

Fanless ultra-compact quad-core ARM system ruggedized for demanding transportation environments

Features

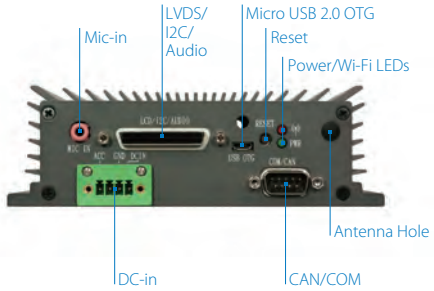
- 1.0GHz NXP i.MX 6Quad Cortex-A9 quad-core SoC
- Wide operating temperature range, 0°C ~ 60°C
- Legacy I/O support including dual CAN bus, COM, and GPIO
- Android solution pack available

Specifications

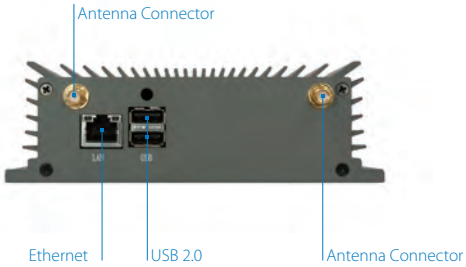
Model Name	AMOS-825
Processor	1.0GHz NXP i.MX 6Quad Cortex-A9 SoC
System Memory	1GB DDR3 SDRAM onboard
Storage	16GB eMMC Flash memory
Boot Loader	4MB SPI Flash ROM
Graphics	Vivante GC2000 GPU 3 independent, integrated 3D/2D and video graphics processing units Graphics engine supporting OpenGL® ES 2.0, OpenCL and OpenVG™ 1.1 hardware accleration Supports MPEG-2, VC-1 and H.264 video decoding up to 1080p Supports SD encoding
LAN	Micrel KSZ9031RNX Gigabit Ethernet transceiver with RGMII support
Wi-Fi/Bluetooth/GPS	IEEE 802.11BGN 1T1R & BT4.0 combo USB module MAX-7 u-blox 7 GPS/GNSS module
Audio	NXP SGTL5000 low power stereo codec
USB	SMSC USB2514 USB 2.0 high speed 4-port hub controllers
CAN	TI SN65HVD1050 EMC optimized CAN transceiver
Expansion I/O	1 miniPCIe slot
Front Panel I/O	1 Micro USB 2.0 OTG port 1 9-pin D-sub connector (supports 1 CAN Bus and 1 COM TX/RX for debug) 1 SCSI 50-pin D-sub connector (Backlight power, Dual-channel LVDS, 4 GPIO, I2C, Line out and MIC-in) 1 MIC-in 1 Reset button 1 Power & WPAN/WWAN/WLAN LED 1 Antenna hole 1 4-pole Phoenix DC jack
Back Panel I/O	2 USB 2.0 ports 1 Gigabit Ethernet port 2 Antenna connectors for Wi-Fi/BT and GPS
Power Supply	9 ~ 36V DC-in (typical: 7W)
Operating System	Android 4.4.2
Watchdog Timer	Integrated watchdog timer supports two comparison points. Each comparison point can interrupt ARM core, 2nd comparison point capable of generating external interrupts on WDOG line.
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 90% @ 45° C (non-condensing)
Vibration Loading during Operation	With onboard eMMC 7Grms, IEC 60068-2-64, random, 5 ~ 500Hz, 1hr/axis
Shock During Operation	With onboard eMMC 70G, IEC 60068-2-27, half size, 11ms duration

CE FC

Front Panel External I/O



Back Panel External I/O



7" Projective Capacitive Touch Monitor

Specifications

Model Name	AMOS-825
Bottom Opening Covers	Open window with removable door plate to access Micro SD and miniPCIe slots
Dimensions	150.5mm(W) x 48.1mm(H) x 103.3mm(D) (5.9" x 1.9" x 4.1")
Weight	0.673kg (1.48lbs)
Compliance	CE, FCC

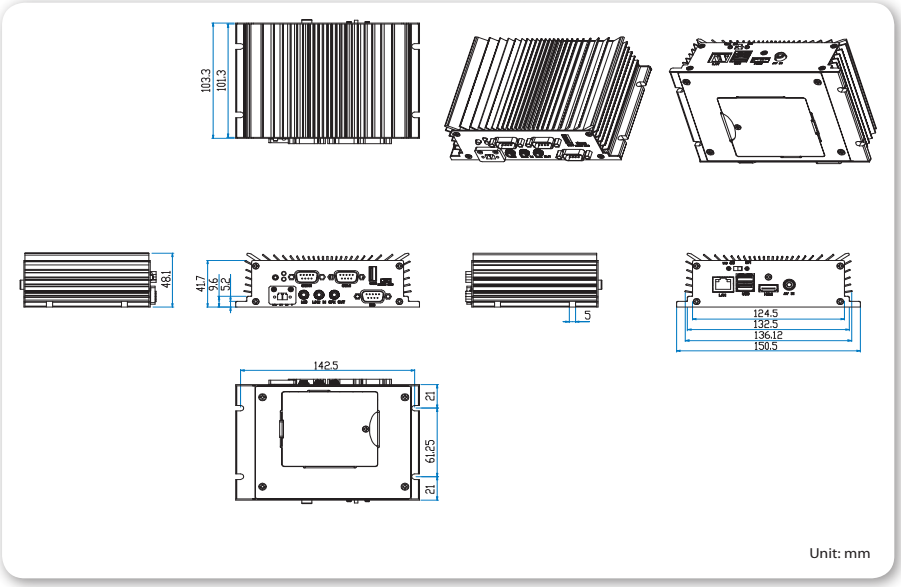
Ordering Information

Part Number	SoC Frequency	Description
AMOS-825-1Q10A1	NXP i.MX 6Quad Cortex-A9 quad-core SoC @ 1.0GHz	Fanless embedded system with 1.0GHz NXP i.MX 6Quad Cortex-A9 SoC, 12GB DDR3 RAM, 16GB eMMC, 4MB SPI Flash ROM, 2 USB 2.0, Micro USB 2.0 OTG port, CAN bus, COM, SCSI 50-pin D-sub connector, GPIO, Gigabit Ethernet, miniPCIe slot, Micro SD card slot, 9~36V DC-in

Optional Accessories

Part Number	Description
99G73-010229	7" Projective capacitive touch monitor (800x480, -20°C ~ 70°C)

Dimensions



Packing List

Items
AMOS-825 system
Phoenix plug to DC jack
COM/CAN conversion cable
SCSI 50-pin connector cable
Screw pack for mounting
Rubber feet pack

VIA

AMOS-820

Fanless ultra-compact quad-core ARM system ruggedized for extreme environments

Features

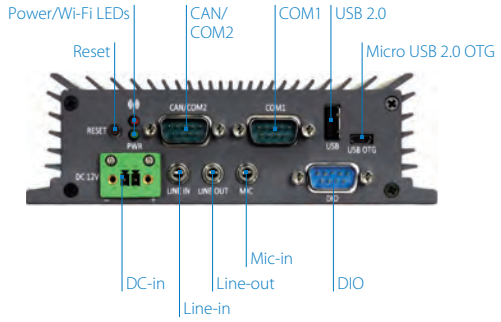
- 1.0GHz NXP i.MX 6Quad Cortex-A9 quad-core SoC
- Power over Ethernet (PoE) option
- Wide operating temperature range, -20°C ~ 65°C
- Legacy I/O support including dual CAN bus, dual COM, and GPIO
- Android and Linux solution packs available

Specifications

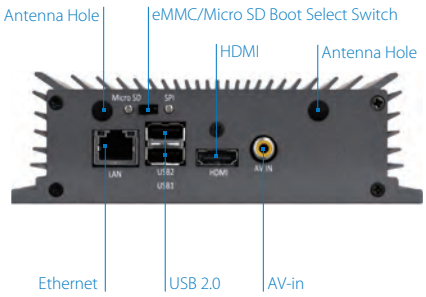
Model Name	AMOS-820
Processor	1.0GHz NXP i.MX 6Quad Cortex-A9 SoC
System Memory	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory
Boot Loader	4MB SPI Flash ROM
Graphics	Vivante GC2000 GPU 3 independent, integrated 3D/2D and video graphics processing units Graphics engine supporting OpenGL® ES 2.0, OpenCL and OpenVG™ 1.1 hardware accleration Supports MPEG-2, VC-1 and H.264 video decoding up to 1080p Supports SD encoding
LAN	Micrel KSZ9031RNX Gigabit Ethernet transceiver with RGMII support
Audio	NXP SGTL5000 low power stereo codec
HDMI	Integrated HDMI 1.4 transmitter
USB	SMSC USB2514 USB 2.0 high speed 4-port hub controllers
CAN	TI SN65HVD1050 EMC optimized CAN transceiver
Expansion I/O	1 miniPCIe slot
Front Panel I/O	1 USB 2.0 port 1 Micro USB 2.0 type B port supports OTG 1 COM (TX/RX) / 2 CAN bus ports (supports CAN Protocol specification Version 2.0 B) 1 COM port supports 8-wire DTE mode 1 DIO port supports 8 GPIO (4 GPI + 4 GPO) 3 Audio jacks: Line-in, Line-out and Mic-in 1 Reset button 1 Power & WWAN/Wi-Fi LED 1 2-pole Phoenix DC jack
Back Panel I/O	2 USB 2.0 ports 1 HDMI port 1 Composite RCA jack 1 Gigabit Ethernet port (supports optional IEEE802.3 at type 2) 1 Micro SD/SPI boot switch 2 Antenna Holes for 3G/Wi-Fi
Power Supply	12V DC-in (typical: 7W)
Operating System	Android 4.4.2, Linux Kernel 3.10.17
Watchdog Timer	Integrated watchdog timer supports two comparison points. Each comparison point can interrupt ARM core, 2nd comparison point capable of generating external interrupts on WDOG line.
Operating Temperature	-20°C ~ 65°C (3G & Wi-Fi not included) (AMOS-820-1Q10A1) -20°C ~ 60°C (3G & Wi-Fi not included) (AMOS-820-2Q10A1)
Operating Humidity	0% ~ 90% @ 45° C (non-condensing)
Vibration Loading during Operation	With onboard eMMC 7Grms, IEC 60068-2-64, random, 5 ~ 500Hz, 1hr/axis
Shock During Operation	With onboard eMMC 70G, IEC 60068-2-27, half size, 11ms duration
PoE Function	Supports IEEE802.3 at compliant (type2) PD (AMOS-820-2Q10A1)

CE FC

Front Panel External I/O



Back Panel External I/O



Specifications

Model Name	**AMOS-820**
Bottom Opening Covers	Open window with removable door plate to access Micro SD and miniPCIe slots
Dimensions	150.5mm(W) x 48.1mm(H) x 103.3mm(D) (5.9" x 1.9" x 4.1")
Weight	0.673kg (1.48lbs)
Compliance	CE, FCC

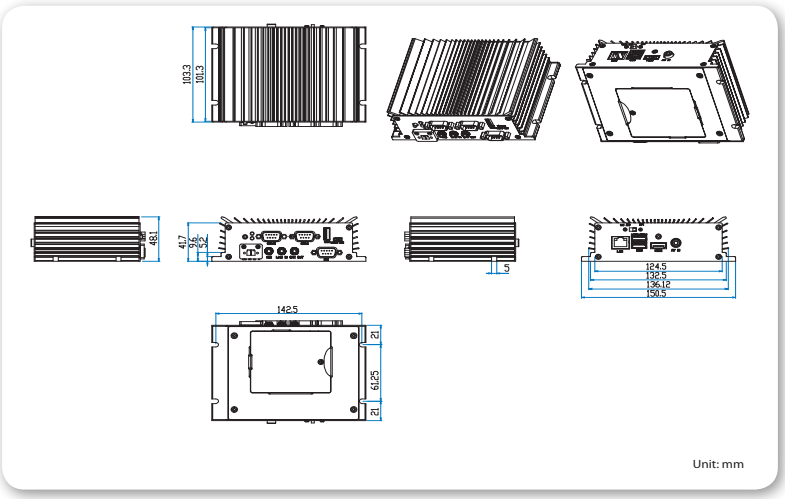
Ordering Information

Part Number	SoC Frequency	Description
AMOS-820-1Q10A1	NXP i.MX 6Quad Cortex-A9 quad-core SoC @ 1.0GHz	Fanless embedded system with 1.0GHz NXP i.MX 6Quad Cortex-A9 SoC, 1GB DDR3 RAM, 4GB eMMC, 512KB SPI Flash ROM, HDMI, 3 USB 2.0, Micro USB 2.0 OTG port, 2 CAN bus, 2 COM, GPIO, Gigabit Ethernet, miniPCIe slot, RCA-in, 12V DC-in
AMOS-820-2Q10A1	NXP i.MX 6Quad Cortex-A9 quad-core SoC @ 1.0GHz	Fanless embedded system with 1.0GHz NXP i.MX 6Quad Cortex-A9 SoC, 1GB DDR3 RAM, 4GB eMMC, 512KB SPI Flash ROM, HDMI, 3 USB 2.0, Micro USB 2.0 OTG port, 2 CAN bus, 2 COM, GPIO, Gigabit Ethernet, miniPCIe slot, RCA-in, PoE function, 12V DC-in

Optional Accessories

Wireless Accessories	
Part Number	**Description**
00GO27100BU2B0D0	VNT9271BU0DB IEEE 802.11b/g/n USB Wi-Fi dongle
EMIO-1541-00A1	VNT9485 IEEE 802.11 b/g/n miniPCIe Wi-Fi module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS and SIM card slot

Dimensions



Packing List

Items
AMOS-820 system
Phoenix plug to DC jack
COM/CAN conversion cable
Screw pack for miniPCIe card
Screw pack for mounting
Rubber feet pack

VIA

AMOS-800

Fanless ultra-compact ARM-based system for industrial environments

Features

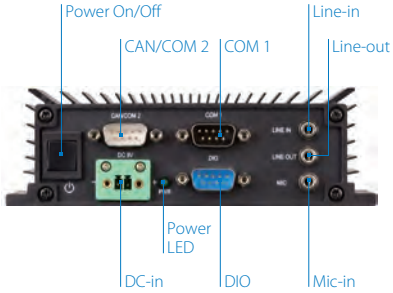
- 800MHz NXP i.MX537 Cortex-A8 SoC
- Wide operating temperature range, -40°C ~ 80°C
- Legacy I/O support
- Supports 8-bit GPIO and CAN bus
- Android, Linux, and WEC7 solution packs available

Specifications

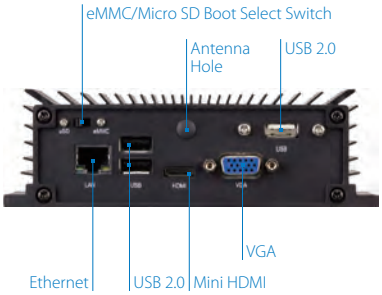
Model Name	AMOS-800
Processor	800MHz NXP i.MX537 Cortex-A8 SoC
System Memory	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory
Graphics	AMD Z430 GPU 2 integrated, independent 3D/2D graphics processing units Graphics engine supporting OpenGL® ES 2.0 and OpenVG™ 1.1 hardware acceleration Supports MPEG-2, VC-1and H.264 video decoding up to 1080p
LAN	SMSC LAN8720A 10/100 PHY transceiver with HP Auto-MDIX support
Audio	NXP SGTL5000 low power stereo codec
HDMI	Silicon image SiI9024A HDMI transmitter
USB	SMSC USB2514 USB 2.0 high speed 4-port hub controllers
CAN	TI SN65HVD1050 EMC optimized CAN transceiver
Front Panel I/O	1 COM port (TX/RX) 1 COM (TX/RX) / CAN bus port (supports CAN Protocol specification Version 2.0 B) 1 DIO port supports 8-bit GPIO (4 GPI + 4 GPO) 3 Audio jacks: Line-in, Line-out, Mic-in 1 2-pole Phoenix DC jack 1 Power on/off button 1 Power LED
Back Panel I/O	3 USB 2.0 ports 1 Mini HDMI port 1 VGA port 1 10/100Mbps Ethernet port 1 Micro SD/eMMC boot switch 1 Antenna hole for Wi-Fi
Power Supply	5V DC-in (typical: 3.1W)
Operating System	Android 2.3, Linux Kernel 2.6.35, WES7
Watchdog Timer	Integrated watchdog timer supports two comparison points. Each comparison point can interrupt ARM core, 2nd comparison point capable of generating external interrupts on WDOG line
Operating Temperature	Extended temperature -40°C ~ 80°C (VGA display)
Operating Humidity	0% ~ 90% @ 45° C (non-condensing)
Vibration Loading during Operation	With onboard eMMC 5Grms, IEC 60068-2-64, random, 5 ~ 500Hz, 1hr/axis
Shock During Operation	With onboard eMMC 50G, IEC 60068-2-27, half size, 11ms duration
Bottom Opening Covers	Open window with removable plate to access Micro SD slot
Dimensions	150mm(W) x 45mm(H) x 108mm(D) (5.9" x 1.8" x 4.25")
Weight	0.778kg (1.71lbs)
Compliance	CE, FCC

CE FC

Front Panel External I/O



Back Panel External I/O



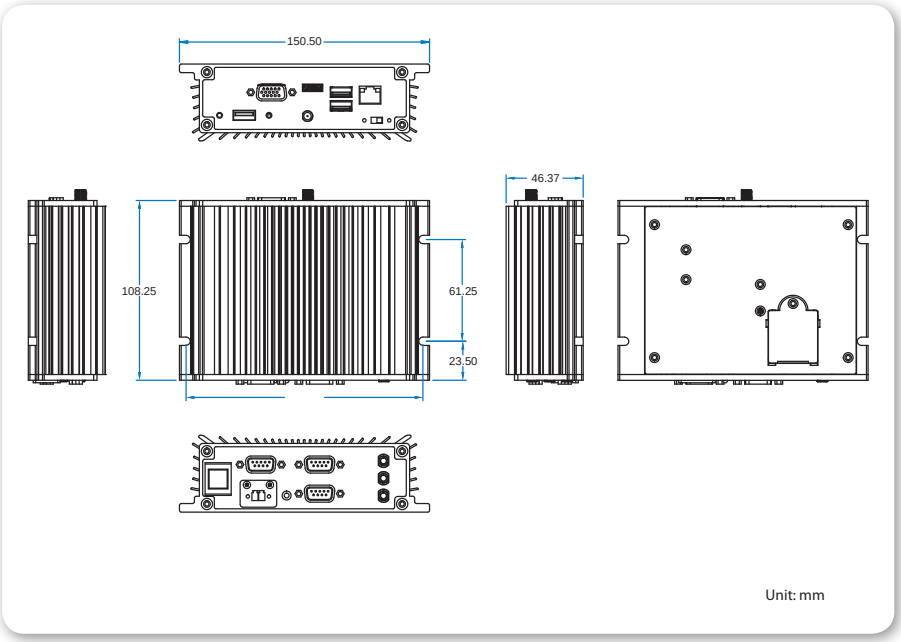
Ordering Information

Part Number	SoC Frequency	Description
AMOS-800-1S08A1	NXP i.MX537 Cortex-A8 SoC @ 800MHz	Fanless embedded system with 800MHz NXP i.MX537 Cortex-A8 SoC, 1GB DDR3 SDRAM, 4GB eMMC, Mini HDMI, VGA, 3 USB 2.0, 10/100Mbps Ethernet, Micro SD card slot, COM, COM/CAN bus, DIO, 5V DC-in

Optional Accessories

Wireless Accessories	
Part Number	**Description**
00GO27100BU2B0D0	VNT9271BU0DB IEEE 802.11b/g/n USB Wi-Fi dongle
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit

Dimensions



Packing List

Items
AMOS-800 system
AC-to-DC adapter
Phoenix plug to DC jack
Console cable
Screw pack for mounting
Rubber feet pack

VIA

ARTiGO A900

Fanless ultra-compact Android system for interactive kiosk, digital signage, home automation, HMI, and other IoT applications

Features

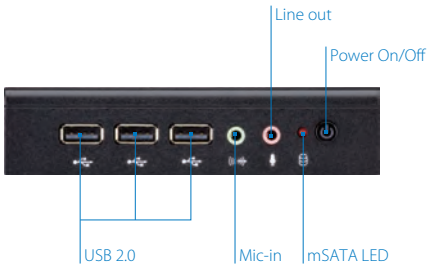
- High-performance 1.0GHz VIA Elite E1000 Cortex-A9 dual-core SoC
- Advanced 3D/2D graphics and video engine with Open GL ES 3.0 hardware acceleration support
- Mini HDMI-out port
- Rich I/O connectivity, including COM, Digital I/O, and USB 2.0 ports
- Android 4.4.2 BSP with VIA Smart ETK

CE FC

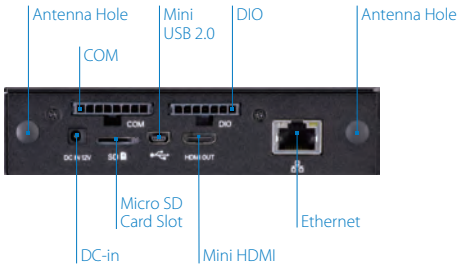
Specifications

Model Name	ARTiGO A900
Processor	1.0GHz VIA Elite E1000 Cortex-A9 dual-core SoC
System Memory	2GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory 1 mSATA slot
Graphics	3 integrated, independent 3D/2D and video processing units Graphics engine supporting OpenGL® ES 3.0 hardware acceleration Supports MPEG-2, VC-1and H.264 video decoding up to 1080p
LAN	Realtek RTL8111G PCIe Gigabit Ethernet controller (WOL support)
Audio	Wolfson WM8960 Audio Codec
HDMI	Integrated HDMI 1.4 transmitter
Expansion I/O	1 miniPCIe slot
Front Panel I/O	3 USB 2.0 ports 2 Audio jacks: Line-out and Mic-in 1 Power on/off button with built-in LED 1 Red LED for mSATA status
Back Panel I/O	1 Mini USB 2.0 port 1 Mini HDMI port 1 7-pin DIO connector supports 4-bit GPIO (2 GPI +2 GPO) 1 8-pin COM connector (RS232/485) 1 Gigabit Ethernet port 1 Micro SD card slot 2 Antenna holes for 3G/Wi-Fi (manufacturing option) 1 DC-in jack
Bottom Panel I/O	1 miniPCIe slot 1 mSATA slot
Power Supply	12V DC-in (typical: 5W)
Operating System	Android 4.4.2
Operating Temperature	-5°C ~ 50°C
Operating Humidity	0% ~ 90% @ 45° C (non-condensing)
Vibration Loading during Operation	With onboard eMMC and mSATA 5Grms, IEC60068-2-64, random, 5~500Hz, 1hr/axis
Shock during Operation	With onboard eMMC and mSATA 50G, IEC60068-2-27, half size, 11ms duration
Dimensions	125mm(W) x 30mm(H) x 125mm(D) (4.92" x 1.18" x 4.92")
Weight	0.525kg (1.15lbs)
Mounting	VESA mount (100mm x 100mm) (optional)
Mechanical Construction	Aluminum top cover Metal chassis housing
Compliance	CE/FCC/CCC

Front Panel External I/O



Back Panel External I/O



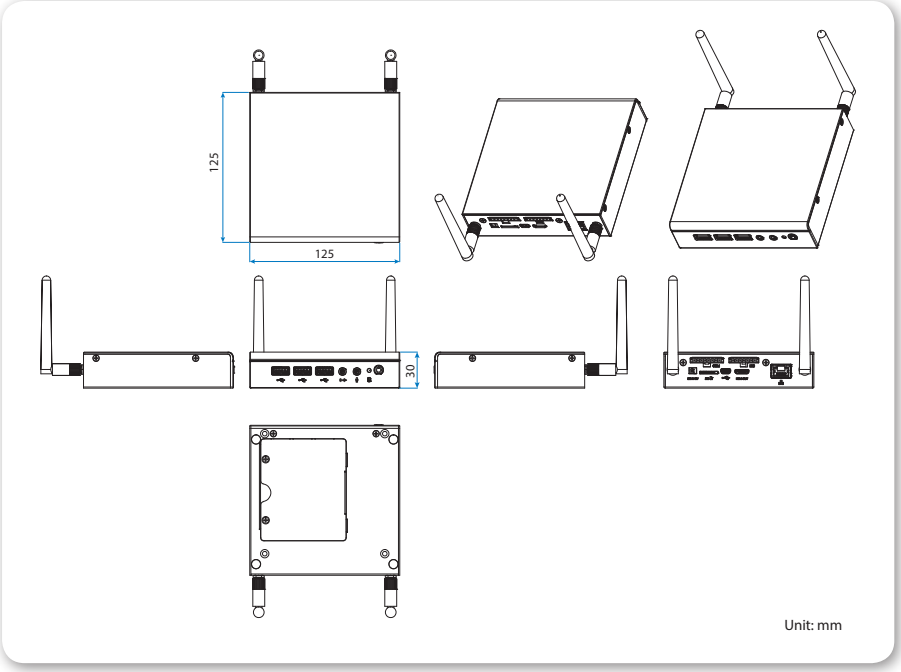
Ordering Information

Part Number	SoC Frequency	Description
ATG-A900-1D10A1	VIA Elite E1000 Cortex-A9 dual-core SoC @ 1.0GHz	Android System with 1.0GHz VIA Elite E1000 Cortex-A9 SoC, 2GB DDR3 RAM, 4GB eMMC, Mini HDMI, 3 USB 2.0, Mini USB 2.0, COM, GPIO, Gigabit Ethernet, Micro SD card slot, miniPCIe slot, mSATA connector, 12V DC-in

Optional Accessories

Wireless Accessories	
Part Number	**Description**
00GO27100BU2B0D0	VNT9271BU0DB IEEE 802.11b/g/n USB Wi-Fi dongle
EMIO-1541-00A1	VNT9485 IEEE 802.11 b/g/n miniPCIe Wi-Fi module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS and SIM card slot (*Note: GPS function is not currently supported for ARTiGO A900)

Dimensions



Packing List

Items
ARTiGO A900 system
AC-to-DC adapter
Power cord (USA type)
Console cable
DIO cable
Jumper cap pack
Rubber feet pack

Enterprise IoT Systems

NEW

VIA

ARTiGO A820

Fanless low-profile gateway system with dual Ethernet and wireless connectivity options for enterprise IoT and M2M applications

Features

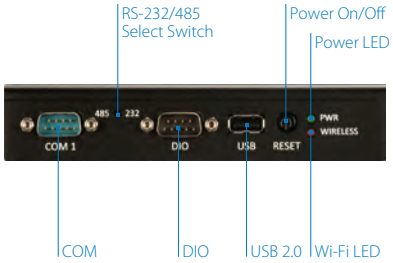
- Fanless and ultra slim low profile (only 3cm height)
- Powered by NXP i.MX 6DualLite Cortex-A9
- Supports integrated graphics processing (GPU) for 3D/2D graphics acceleration
- Dual Ethernet support and wireless connectivity options available
- Linux BSP and customization services available

Specifications

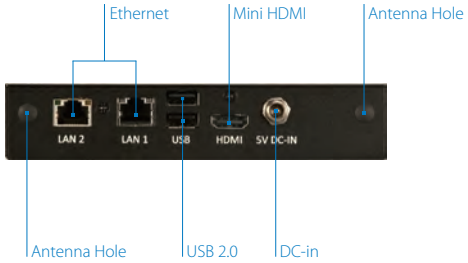
Model Name	ARTiGO A820
Processor	1.0GHz NXP i.MX 6DualLite dual-core Cortex-A9 SoC
System Memory	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory Micro SD Card
Graphics	Vivante GC880 2 Independent, integrated 3D/2D graphics processing units Graphics engine support OpenGL® ES 2.0, OpenVG 1.1 hardware acceleration Support MPEG-2, VC-1 video decoding up to 1080p
LAN	Micrel KSZ9031RNX Gigabit Ethernet Transceiver with RGMII support ASIX AX88772 USB2.0 to 10/100Mbps Fast Ethernet Controller
HDMI	Integrated HDMI 1.4 transmitter
USB	SMSC USB2514 USB 2.0 High Speed 4-port hub controller
Expansion I/O	1 miniPCIe slot
Front Panel I/O	1 USB 2.0 port 1 DIO port supports 8 GPIO (4 GPI+4 GPO) 1 COM port for RS232/RS485 supports 8-wire DTE mode with isolation feature 1 RS232/485 select switch for COM port 1 Reset button 1 Power & Wi-Fi LED
Back Panel I/O	1 HDMI port 2 USB 2.0 ports 1 Gigabit Ethernet port 1 10/100Mbps Ethernet port 2 Antenna holes for 3G/Wi-Fi 1 DC-in jack
Bottom Panel I/O	1 miniPCIe slot 1 Micro SD card slot 1 Micro SD/SPI boot switch
Power Supply	5V DC-in (Typical: 6.7W)
Operating System	Linux Kernel 3.0.35
Watchdog Timer	Integrated watchdog timer supports two comparison points. Each comparison point can interrupt ARM core, 2nd comparison point capable of generating external interrupts on WDOG line
Operating Temperature	0°C to 50°C
Operating Humidity	0% ~ 90% @ 45°C (non-condensing)
Storage Temperature	-10°C ~60°C @ 90% (non-condensing)
Vibration Loading During Operation	With onboard eMMC 5Grms, IEC 60068-2-64, random, 5 ~ 500Hz, 1hr/axis
Shock During Operation	With onboard eMMC 50G, IEC 60068-2-27, half size, 11ms duration
Dimensions	150mm(W) x 30mm(H) x 125.5mm(D) (5.91" x 1.18" x 4.94")
Weight	0.566kg (1.25lbs)
Mounting	VESA Mount (100mm x 100mm) (Optional)

CE FC

Front Panel External I/O



Back Panel External I/O



Specifications

Model Name	ARTiGO A820
Mechanical Construction	Aluminum top cover Metal chassis housing
Compliance	CE/FCC

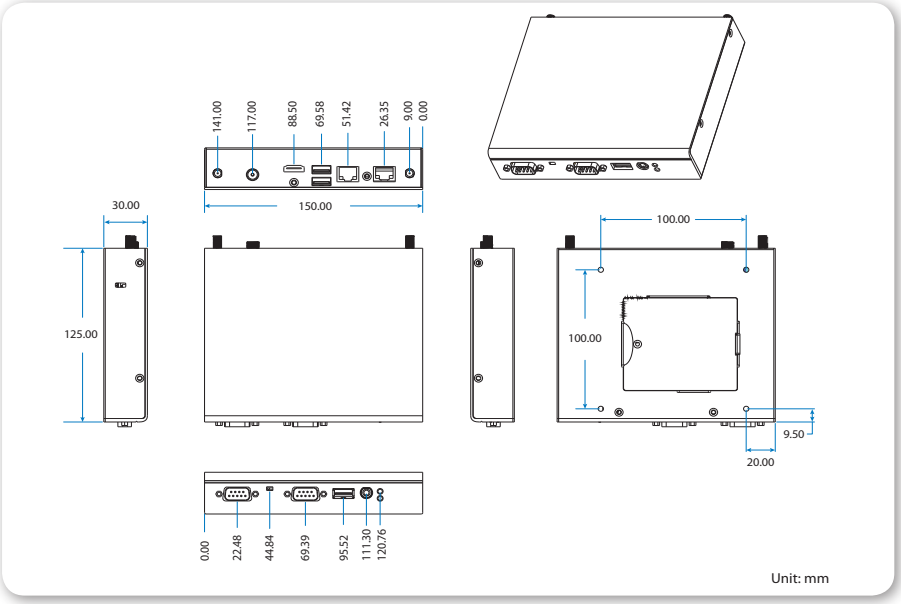
Ordering Information

Part Number	SoC Frequency	Description
ATG-A820-3D10A1	NXP i.MX 6DualLite Cortex-A9 dual-core SoC @ 1.0GHz	Fanless embedded system with 1.0GHz NXP i.MX 6DualLite Cortex-A9 Soc, 1GB DDR3 RAM, 4GB EMMC, Mini HDMI, 3 USB 2.0, COM, DIO, Gigabit Ethernet,10/100Mbps Ethernet, Micro SD card slot, miniPCIe slot, 5V DC-in

Optional Accessories

Wireless Accessories	
Part Number	**Description**
00GO27100BU2B0OD0	VNT9271BU0DB IEEE 802.11 b/g/n USB Wi-Fi dongle
EMIO-1541-00A1	VNT9485 IEEE 802.11 b/g/n miniPCIe Wi-Fi module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS Mobile brodband full size miniPCIe module with GPS and SIM card slot

Dimensions



Packing List

Items
ARTiGO A820 system
AC-to-DC adapter
Power cord (USA type)
Console cable
Screw pack for miniPCIe card
Rubber feet pack

Enterprise IoT Systems

NEW

VIA

ARTiGO A600

Fanless ultra-compact system with rich connectivity options for enterprise IoT and M2M applications

Features

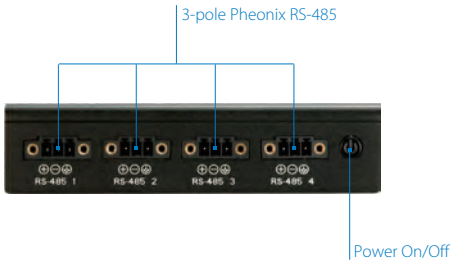
- 800MHz VIA Cortex-A9 SoC
- Advanced 3D/2D graphics and video engine
- Rich I/O connectivity, 4 3-pole Pheonix RS-485 ports with full 3.75KV isolation
- Optional Wi-Fi support
- Linux BSP and customization services available

Specifications

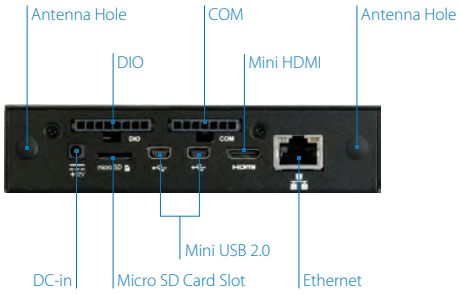
Model Name	ARTiGO A600
Processor	800MHz VIA Cortex-A9 SoC
System Memory	1GB DDR3 SDRAM onboard
Storage	4GB eMMC Flash memory
Boot Loader	512KB SPI Flash ROM
Graphics	Mali-400 SP GPU 2 integrated, independent 3D/2D graphics processing units Graphics engine supporting OpenGL® ES 2.0 hardware acceleration Supports MPEG-2, VC-1and H.264 video decoding up to 1080p
LAN	VIA VT6113 10/100 base-TX PHY chip
Audio	VIA VT1603A I2S Audio Codec
HDMI	Integrated HDMI 1.4 transmitter
Expansion I/O	1 miniPCIe slot (USB only)
Front Panel I/O	4 3-pole Phoenix RS-485 ports 1 Power on/off button
Back Panel I/O	2 Mini USB 2.0 ports 1 Mini HDMI port 1 8-pin DIO connector supports 8-bit GPIO (4 GPI + 4 GPO) 1 7-pin COM connector (TX/RX and Debug) 1 10/100Mbps Ethernet port 1 Micro SD card slot 2 Antenna holes for 3G/Wi-Fi 1 DC-in jack
Power Supply	12~24V DC-in
Operating System	Linux Kernel 3.0.8
Operating Temperature	-5°C ~ 50°C
Operating Humidity	0% ~ 90% @ 45°C (non-condensing)
Dimensions	125mm(W) x 125mm(D) x 30mm(H) (4.92" x 4.92" x 1.18")
Weight	0.48Kg (1.058lbs)
Mounting	VESA mount (100mm x 100mm) (optional)
Mechanical Construction	Aluminum top cover Metal chassis housing
Compliance	CE/FCC

CE FC

Front Panel External I/O



Back Panel External I/O



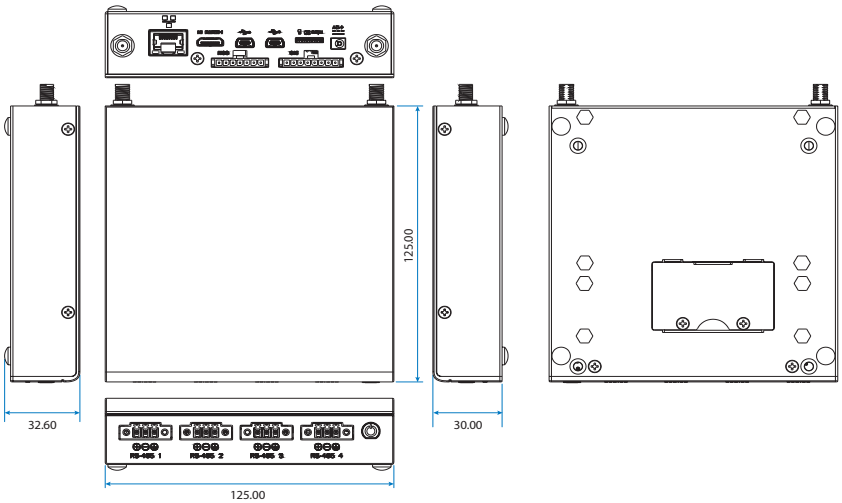
Ordering Information

Part Number	SoC Frequency	Description
ATG-A600-1S08A1	VIA Cortex-A9 SoC @ 800MHz	Fanless embedded system with 800MHz VIA Cortex-A9 SoC, 1GB DDR3 RAM, 4GB eMMC, Mini HDMI, 2 Mini USB 2.0, 4 3-pole Pheonix RS-485, COM, DIO, 10/100Mbps Ethernet, Micro SD card slot, miniPCIe slot, 12~24V DC-in

Optional Accessories

Wireless Accessories	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11/b/g/n USB Wi-Fi module with assembly kit
EMIO-2550-01A1	3.75G HSPA/UMTS Mobile brodband full size miniPCIe module with GPS *Note: GPS function is not currently supported for ARTiGO A600)

Dimensions



Unit: mm

Packing List

Items
ARTiGO A600 system
AC-to-DC adapter
Console cable
3-pole female terminal block

VIA

Viega Tablet

Semi-ruggedized embedded Android 10.1" tablet with IP65 rating and long battery life

Features

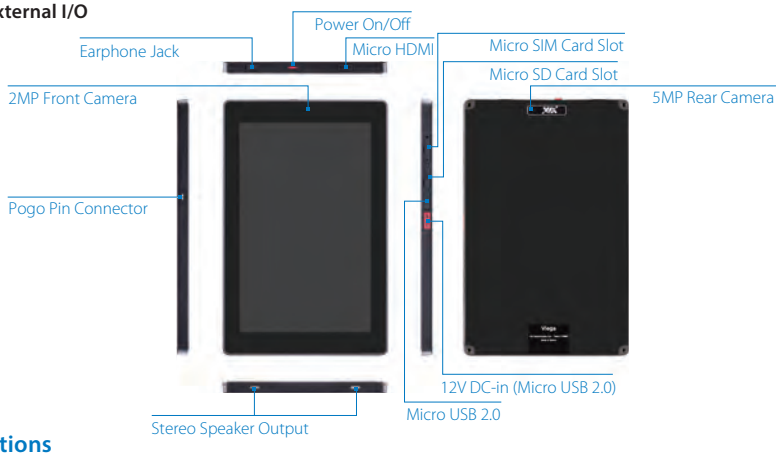
- High-performance VIA Cortex-A9 dual-core SoC
- Ruggedized design to meet MIL-STD 810G and IP65 water resistance standards
- Corner guards for anti-vibration and shock protection
- Customized Android software development
- Long-life polymer battery pack with up to 6 hours runtime

Specifications

Model Name	Viega Tablet
Processor	1.2GHz VIA Cortex-A9 dual-core SoC
System Memory	1GB DDR3 SDRAM onboard
Storage	16GB eMMC Flash memory
Boot Loader	512KB SPI Flash ROM
Graphics	ARM Mali-400 DP GPU 2 integrated, independent 3D/2D graphics processing units Graphics engine supporting OpenGL® ES 2.0 hardware acceleration Supports MPEG-2, VC1, H.264 and VP8 video decoding up to 1080p
Sensors	ALS and PS support G sensor E compass
Connectivity	Wi-Fi 802.11b/g/n Bluetooth 4.0 NFC Type 1/2/3/4 GPS support (optional) 3G WCDMA up to 2100MHz (optional)
Audio	Headphone Jack Internal stereo speaker and microphone
Camera	2M Front camera 5M Rear camera with auto focus support (optional)
Speaker	1.5W stereo speaker inside
I/O Ports	2 Micro USB 2.0 ports - 1 for USB - 1 for 12V DC-in / COM / Earphone jack 1 Micro HDMI 1 2MP front camera 1 5MP rear camera with auto focus support (optional) 1 Micro SIM card slot 1 Micro SD card slot 1 Stereo speaker inside 1 Power on/off button 1 Pogo pin connector
Display	10.1" LCD with LED backlight panel 1280x800 resolution Display active area: 217mm x 136mm
Power Supply	Battery pack support @ DC 7.4V Charge by AC adapter with 12V DC-in or docking station Max runtime: 6hrs Max sleep time: 9hrs Max suspend time: 14 days (optional feature)
Operating System	Android 4.4.2
Operating Temperature	-10°C ~ 50°C
Relative Humidity	5% ~ 95% @ 40°C (non-condensing)
Storage Temperature	-20°C ~ 70°C

CE FC

All Sides External I/O



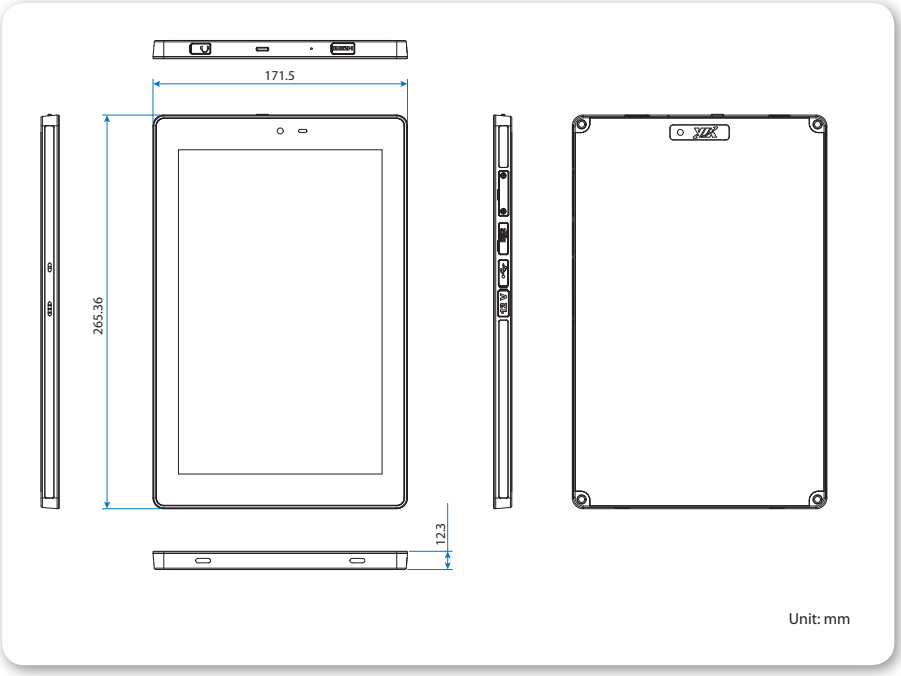
Specifications

Model Name	Viega Tablet
Dimensions	265mm(W) x 12mm(H) x 171mm(D) (10.4" x 0.47" x 6.73")
Weight	0.75kg (1.65lbs)
Docking Station	1 Docking stand with Pogo pin interface for battery charger, Magnetic Swipe Reader (MSR) and handset (optional)
Compliance	CE, FCC

Ordering Information

Part Number	SoC Frequency	Description
VT60810013001-T	VIA Cortex-A9 dual-core SoC @ 1.2GHz	10.1" tablet with 1.2GHz VIA Cortex-A9 SoC, 1GB DDR3 RAM, 16GB eMMC, 2MP front camera, Micro HDMI, 2 Micro USB 2.0, Micro SIM card slot, Micro SD card slot, built-in Wi-Fi
VT60810013003-T	VIA Cortex-A9 dual-core SoC @ 1.2GHz	10.1" tablet with 1.2GHz VIA Cortex-A9 SoC, 1GB DDR3 RAM, 16GB eMMC, 2MP front camera, 5MP rear camera, Micro HDMI, 2 Micro USB 2.0, Micro SIM card slot, Micro SD card slot, Built-in Wi-Fi, GPS and 3G module

Dimensions



Packing List

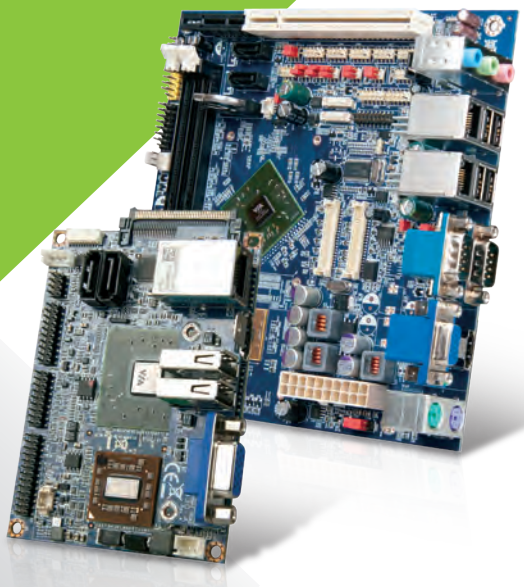
Items
10.1" Viega tablet
AC-to-DC adapter
DC power cable
Power cord (US)
Micro HDMI to HDMI adapter
Micro USB to USB cable
4 Corner guard protectors

VIA Enterprise IoT x86 Solutions

VIA provides all the building blocks that designers need to build reliable, low- power, high-performance x86 systems for a diverse range of embedded and Enterprise IoT applications, including digital signage, transportation, and industrial automation.

Combining a wide selection of low-power, feature-rich small form factor boards and rugged and reliable fanless small form factor systems with an extensive suite of software and hardware customization capabilities and longevity support, VIA enables developers to create innovative new solutions based on the x86 architecture.

VIA Enterprise IoT x86 Boards



VIA offers a wide variety of highly-integrated, low-power x86 boards featuring the new VIA Eden® X4 and VIA QuadCore E-Series processors. Available in a choice of Mini-ITX and Pico-ITX form factors, VIA x86 boards combine powerful multicore processing with rich multimedia, connectivity, and I/O features to provide all the necessary functionality and performance for even the most demanding embedded system design applications.

Built to the most exacting quality standards, VIA x86 boards are ultra-reliable and feature guaranteed longevity of up to seven years. To ensure that they can operate in even the most challenging environments, the boards also support extended temperature ranges.

With their rich feature sets, low power consumption, and cutting-edge functionality and performance, VIA x86 boards are ideal for a myriad of embedded design applications, including digital signage, industrial automation, healthcare, HMI, thin clients, and transportation. Customers can also take advantage of the extensive hardware and software customization services provided by VIA to create truly differentiated products for their target markets.

VIA Enterprise IoT Computer-on-Module Solutions

The modular design philosophy of VIA x86 COM Express® and ETX® form factors provides customers with the freedom to easily customize and modify existing designs in order to create innovative new devices using significantly faster design cycles and fewer resources.

VIA COM Express® Modules

VIA COM Express® modules provide scalable solutions for high-level embedded applications and support system expansion and application-specific customization. Designed to combine low power consumption with advanced multimedia performance, VIA COM Express® modules are targeted at industrial PCs and large OEM customers focused on dynamic application segments, including gaming, healthcare, military, transportation, and industrial automation. They are available in a choice of Basic, Mini, and Compact standards.

Customers can utilize a proprietary multi-I/O carrier board for evaluation purposes or take advantage of the rich design experience and expertise of VIA to develop a customized carrier board.

VIA ETX Module

VIA ETX is a highly-integrated embedded multimedia module with native ISA/PCI support for legacy expansion cards and applications. Powered by a VIA multicore processor, the VIA ETX module offers industry-leading performance, high display resolutions of up to 2560 x 1600 on VGA interface, and 12/24-bit dual-channel LVDS panel support.

VIA Enterprise IoT x86 Systems

VIA offers an unmatched selection of robust, small form factor x86 systems targeted at a wide range of embedded applications and environments, including industrial automation, digital signage, retail, hospitality, transportation, home, and entertainment.

VIA Enterprise IoT x86 systems combine ultra-low power consumption and fanless design implementations with advanced computing, graphics, and video performance. They also cover a broad spectrum of feature sets, including rich I/O connectivity, and offer flexible expansion options in order to meet the diverse needs of the embedded market.

VIA Enterprise IoT x86 systems are designed and manufactured to the highest standards of quality and reliability, and include a range of ruggedized, dust-proof chassis. They also support extended temperature ranges in order to operate in even the most demanding environments and are backed up with guaranteed longevity in order to support embedded product life cycles.

To ensure a rapid development path for embedded developers, VIA Enterprise IoT x86 systems can be integrated with a growing number of software support packages for Windows, Windows Embedded, and Linux. A comprehensive range of customization and technical support services to assist customers in taking their products to market is also available.

VIA AMOS-3000 Series Industrial Fanless Systems

Integrating a choice of low power processors, including the latest VIA Eden X4 processor, into compact, fanless, and dust-proof chassis designs, VIA AMOS 3000 Series fanless systems provide ultra-powerful and ultra-reliable solutions for a wide variety of embedded and Enterprise IoT segments including medical, healthcare, industrial and building automation, digital signage, kiosk, POI/POS, gaming and surveillance applications.

With their unique modular design and rich I/O features, VIA AMOS 3000 Series fanless systems offer multiple opportunities for customization as well as being quick and easy to assemble. They are also extremely low power and support a wide temperature range, which makes them an ideal solution for even the most demanding operating environments.

VIA ARTiGO Series Systems

Leveraging the compact design of the VIA Pico-ITX boards, VIA ARTiGO Series small form factor systems provide a growing selection of slim, low profile solutions for a wide range of high-performance Enterprise IoT and embedded applications, including thin clients and fanless multi-display digital signage systems.

Combining advanced multimedia capabilities such as 1080p HD video support with high-performance VIA Eden X4 processors, VIA ARTiGO Series systems pack a rich set of connectivity and I/O features into a range of attractive ultra-compact chassis that are small enough to fit into almost any environment. In addition to being compatible with a wide range of Windows, Windows Embedded, and Linux operating systems, they are also ultra-reliable and deliver high levels of energy efficiency. For digital signage applications VIA ARTiGO Series systems also support VIA MagicView®, a powerful and flexible content management platform for designing, distributing and displaying digital signage content.

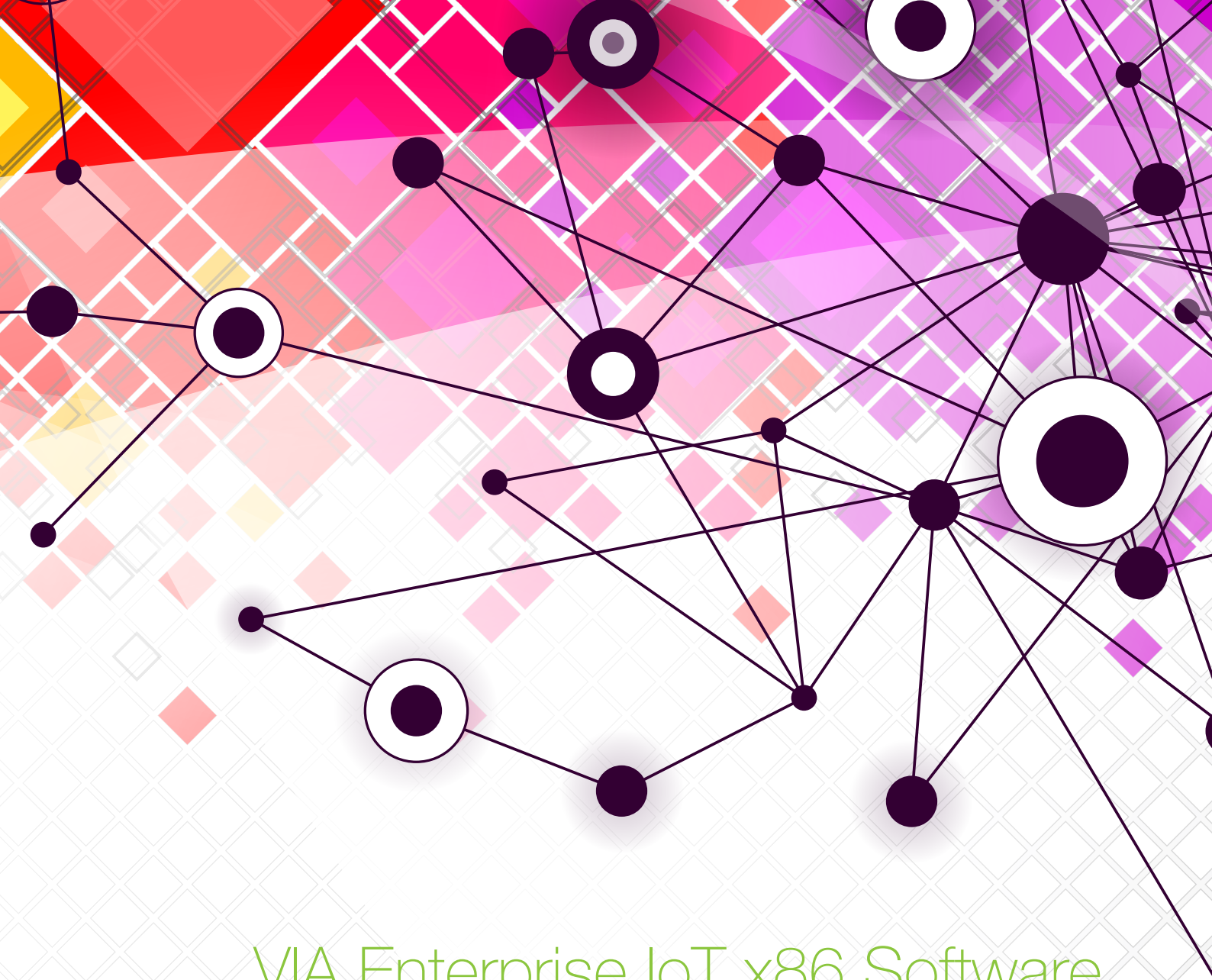
VIA VIPRO Series Panel PC

The VIA VIPRO VP7910 is an embedded panel computer, featuring the latest VIA Eden X4 processor, with a 10.4" TFT LCD resistive touch or p-cap screen that provides the ideal solution for applications that require low power consumption and fanless, noise-free operation with multiple I/O ports.

With its durable fanless design and advanced computing, multimedia, and connectivity features, the VIA VIPRO VP7910 Fanless Panel PC is suitable for a wide variety of embedded, multimedia, and industrial HMI applications including factory automation systems, precision machinery, production process control, terminal information systems, entertainment management systems, and car park automation systems.

VIA EMIO Wireless Modules

VIA EMIO Wireless modules are designed for easy integration with selected VIA Enterprise IoT x86 systems and are compatible with global IEEE 802.11b/g/n standards.



VIA Enterprise IoT x86 Software Development Packages and Customization Services

VIA offers a wide range of software packages and services to enable developers to customize x86 systems and devices using Linux and Windows, including display, networking, and audio driver support and the VIA Smart ETK.

VIA Smart ETK

The VIA Smart ETK provides an application programming interface (API) that simplifies system development on VIA x86 platforms. The VIA Smart ETK is also bundled with Smart ETK Demo, which is easy to install and has a user-friendly GUI for demonstrating the various functions of VIA x86 platforms. Both the VIA Smart ETK and Smart ETK Demo are easy-to-use tools that help to shorten development time and speed up time to market.

VIA Vehicle Power Control

VIA Vehicle Power Control delivers transportation customers an easy-to-use solution that helps prevent damage from power spikes and ensures better battery management. In addition to providing a protocol for power on/off delay, maintenance power on/off time, IGN off notification and other functions, it is also bundled with demo utility.

VIA StrongBox SDK

VIA provides an easy-to-use virtual disk encryption solution called StrongBox SDK which utilizes the VIA ACE hardware security engine integrated inside VIA x86 processors. StrongBox helps avoid data leaks with minimal impact on performance, and provides an application programming interface (API) that makes it easy for system developers using VIA Enterprise IoT x86 platforms to carry out further development. The VIA StrongBox SDK implements many basic functions, such as creating/ deleting image files, mounting/dismounting devices, and locking/ unlocking devices. VIA StrongBox is a virtual disk encryption application based on the VIA StrongBox SDK and can be downloaded for free from the VIA website.

VIA ACE-CNX for NAS Disk Encryption

VIA ACE-CNX provides top level data protection for NAS disk encryption utilizing the AES-256 standard. It also leverages the advanced capabilities of the VIA ACE hardware security engine integrated in VIA x86 processors to minimize the impact on overall system performance.

VIA x86 Boards

Pico-ITX

- EPIA-E900 (Pico-ITXe)
- EPIA-P910
- EPIA-P900

Mini-ITX

- EPIA-M920
- EPIA-M910
- VB7009

Computer-on-Module

- COMe-9X90
- COMe-8X92
- COMe-8X90
- ETX-8X90-10GR
- ETX-8X90

Pico-ITX

Quick Guide

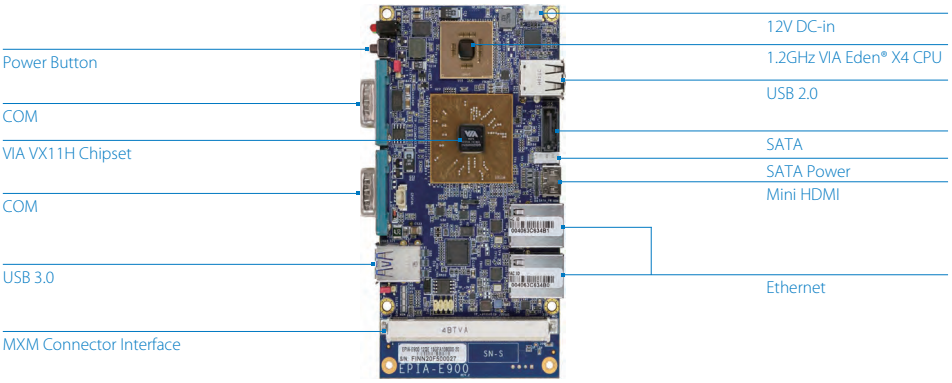
Model	EPIA-E900 (Pico-ITXe)	EPIA-P910	EPIA-P900
Processor	1.2GHz VIA Eden® X4	1.2GHz VIA Eden® X4	1.0GHz VIA Eden® X2
Chipset	VX11H MSP	VIA VX11H MSP	VIA VX900H MSP
Graphics	Integrated VIA Chrome® 640 DX11 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration	Integrated VIA Chrome® 640 DX11 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
System Memory	1 DDR3 1333 SDRAM (SODIMM) (Max. 8GB)	1 DDR3 1333 SDRAM (SODIMM) (Max. 8GB)	1 DDR3 800/1066 SDRAM (SODIMM) (Max. 4GB)
Storage	1 SATA connector	2 SATA connectors	2 SATA connectors
Audio	HD	HD	HD
Display I/O	1 Mini HDMI	1 Mini HDMI 1 VGA 1 Single-CH LVDS	1 HDMI 1 VGA 1 Single-CH LVDS
USB	2 USB 3.0 2 USB 2.0	2 USB 3.0 6 USB 2.0	8 USB 2.0
LAN	2 Gigabit Ethernet	1 Gigabit Ethernet	1 Gigabit Ethernet
COM	2 COM	N/A	N/A
Digital I/O	N/A	1	1
Expansion I/O	MXM connector for 1 PCIe x4, 4 USB 2.0, 1 Single-CH LVDS	Proprietary connector for 3 PCIe x1, 3 USB	Proprietary connector for 2 PCIe x1, 1 USB
Power Supply	12V DC-in	12V DC-in	12V DC-in
Operating System	Windows 8.1/8/7, WES7, Linux	Windows 10/8.1/8/7, WES 7, Linux	Windows 7, WES 7, Windows CE, Linux
Operating Temperature	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C
Optional Accessories	EMIO-1533 USB Wi-Fi	P910-A (3 audio jacks/2 USB 2.0) EMIO-1533 USB Wi-Fi LPC-01/02/04	EMIO-1533 USB Wi-Fi LPC-01/02/04

VIA

EPIA-E900

Highly-integrated low-power platform with rich multimedia and I/O capabilities

Board Placement



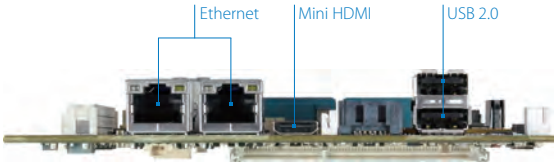
Features

- Compact 13.8cm x 7.2cm Pico-ITXe form factor
- Fanless 1.2GHz VIA Eden® X4 Processor
- DX11 graphics with MPEG-2/ WMV9/VC1/H.264 decoding acceleration
- Multiple expansion options
- Supports one Mini HDMI

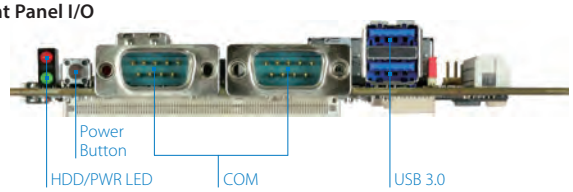
Specifications

Model Name	EPIA-E900-12QE
Processor	1.2GHz VIA Eden® X4 (Fanless)
Chipset	VIA VX11H Media System Processor
BIOS	AMI Aptio UEFI BIOS, 32Mbit Flash memory
System Memory	1 DDR3 1333 SODIMM socket Up to 8GB memory size
Storage	1 SATA connector
Graphics	Integrated Chrome® 640 DX11 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
LAN	2 Realtek RTL8111G PCIe Gigabit Ethernet controllers
Audio	Through MXM support
Super I/O	Fintek F81801U-1
Expansion I/O	MXM connector interface
MXM Connector Interface	1 SATA port 4 USB 2.0 ports 1 Display Port or HDMI port 1 Single channel 18/24-bit LVDS panel connector 1 COM port (from VX11) 1 DVP port 1 LPC 1 SMBus 1 SPI 1 Digital I/O (3GPI + 3GPO) 1 HD Audio (codec required) 1 System fan 1 PCIe x4
Onboard I/O	1 SATA connector 1 SATA power connector 1 USB pin header (supports EMIO-1533 Wi-Fi module) 1 Smart Fan pin header for CPU 1 DC-in connector
Front Panel I/O	2 USB 3.0 ports 2 COM ports 1 HDD LED 1 Power LED 1 Power button
Back Panel I/O	2 USB 2.0 ports 1 Mini HDMI port 2 Gigabit Ethernet ports
Power Supply	12V DC-in
Operating System	Windows 10/8.1/8/7, WES 7, Linux
System Monitoring & Management	Wake-on-LAN, Keyboard Power-on, Timer Power-on, System power management, AC power failure recovery, Watchdog Timer
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (non-condensing)

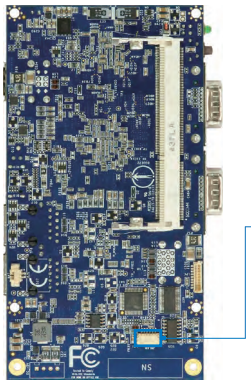
Back Panel I/O



Front Panel I/O



Accessories



EMIO-1533 USB Wi-Fi Module
802.11b/g/n standards

Specifications

Model Name	**EPIA-E900-12QE**
Form Factor	Pico-ITXe (13.8cm x 7.2cm, 5.4" x 2.8")
Compliance	CE/FCC

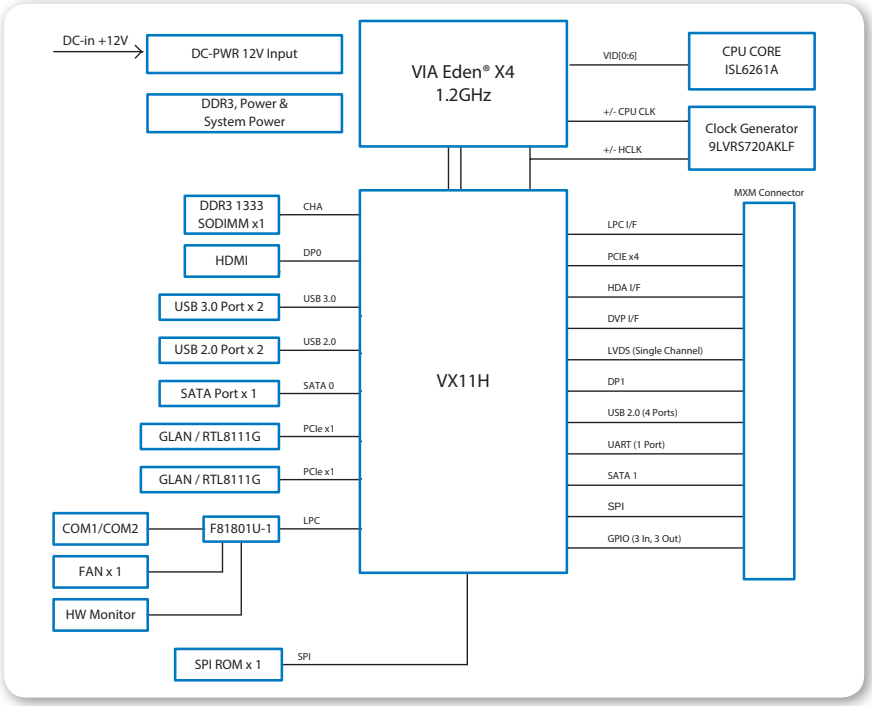
Ordering Information

Model Name	CPU Frequency	Description
EPIA-E900-12QE	VIA Eden® X4 @ 1.2GHz	Pico-ITXe Board with 1.2GHz VIA Eden® X4 CPU, Mini HDMI, 2 USB 3.0, 2 USB 2.0, 2 COM, 2 Gigabit Ethernet, 1 SATA, 12V DC-in

Optional Accessories

Wireless Modules	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit

Block Diagram



Packing List

Items
EPIA-E900 board
DC power cable
SATA cable
SATA power cable

Pico-ITX Series

VIA

EPIA-P910

Highly-integrated low-power platform with rich multimedia and I/O capabilities

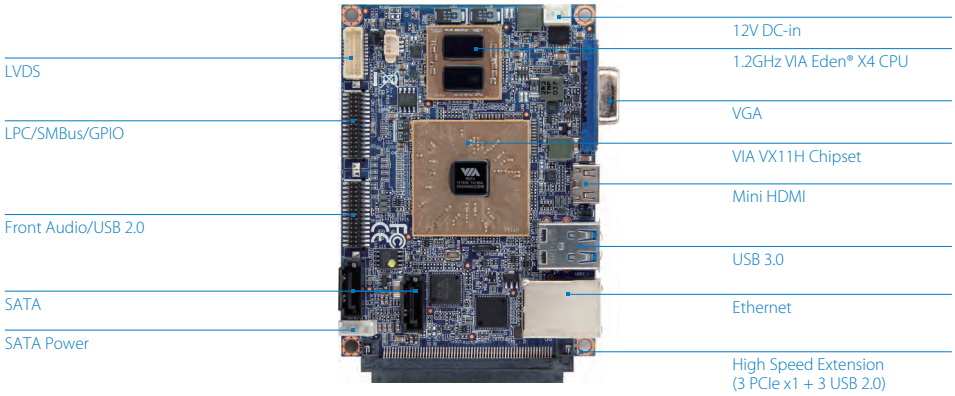
Features

- Compact 10cm x 7.2cm Pico-ITX form factor
- Fanless 1.2GHz VIA Eden® X4 Processor
- DX11 graphics with MPEG-2/ WMV9/VC1/H.264 decoding acceleration
- Multiple expansion options through MXM connector
- Supports one Mini HDMI and one VGA port

TAIWAN EXCELLENCE 2013

CE FC

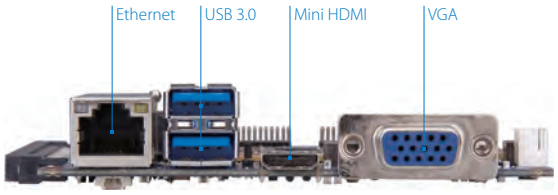
Board Placement



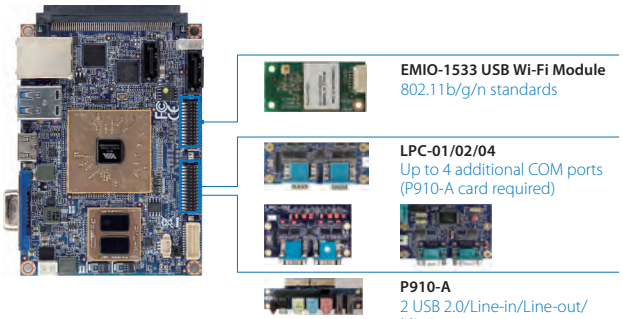
Specifications

Model Name	EPIA-P910-12QE
Processor	1.2GHz VIA Eden® X4 (Fanless)
Chipset	VIA VX11H Media System Processor
BIOS	AMI Aptio UEFI BIOS, 32Mbit Flash memory
System Memory	1 DDR3 1333 SODIMM socket Up to 8GB memory size
Storage	2 SATA connectors
Graphics	Integrated Chrome® 640 DX11 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
LAN	1 VIA VT6130 PCIe Gigabit Ethernet controller
Audio	VIA VT2021 High Definition Audio Codec
Super I/O	Fintek F81801U-I
Expansion I/O	3 PCIe x1 + 3 USB 2.0 (through high speed extension)
Onboard I/O	2 SATA connectors 1 SATA power connector 1 USB 2.0 pin header for 3 ports 1 Single-channel 18/24-bit LVDS panel connector 1 LPC pin header 1 SMBus pin header 1 Digital I/O pin header (4 GPI + 4 GPO) 1 Audio pin header for Line-in, Line-out, Mic-in 1 Smart Fan pin header for CPU 1 Backlight control for panel 1 DC-in connector 3 PCIe x1 + 3 USB 2.0 ports (through high speed extension)
Back Panel I/O	2 USB 3.0 ports 1 Mini HDMI port 1 VGA port 1 Gigabit Ethernet port
Power Supply	12V DC-in
Operating System	Windows 10/8.1/8/7, WES 7, Linux
System Monitoring & Management	Wake-on-LAN, Keyboard Power-on, Timer Power-on, System power management, AC power failure recovery, Watchdog Timer
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	Pico-ITX (10cm x 7.2cm, 3.9" x 2.8")
Compliance	CE/FCC

Back Panel I/O



Accessories



Ordering Information

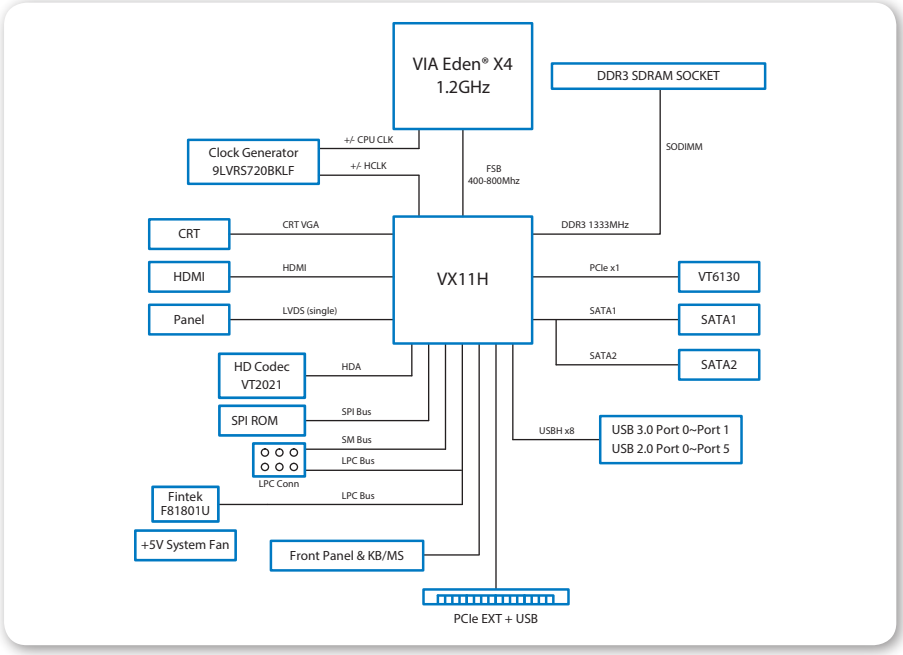
Model Name	CPU Frequency	Description
EPIA-P910-12QE	VIA Eden® X4 @ 1.2GHz	Pico-ITX Board with 1.2GHz VIA Eden® X4 CPU, Mini HDMI, VGA, LVDS, 2 USB 3.0, 6 USB 2.0, Gigabit Ethernet, 2 SATA, 12V DC-in

Optional Accessories

I/O Expansion Cards	
Part Number	**Description**
EPIA-P910-A	Front I/O card with 2 LEDs, 1 power button, 3 audio jacks and 2 USB 2.0
LPC-01	Expansion module for four COM ports
LPC-02	Expansion module for four COM ports (5V or 12V)
LPC-04	Expansion module for two or four COM ports (5V or 12V)

Wireless Modules	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit

Block Diagram



Packing List

Items
EPIA-P910 board
DC power cable
SATA cable
SATA power cable

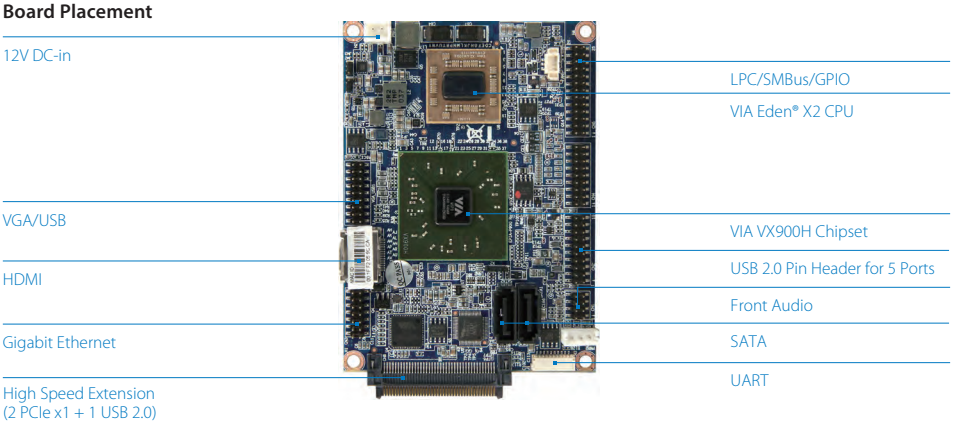
Pico-ITX Series

VIA

EPIA-P900

Ultra-compact low-power platform with advanced multimedia capabilities

Board Placement



Features

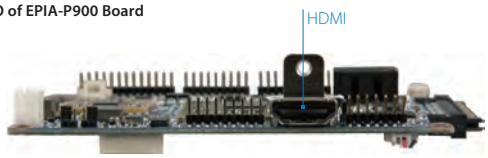
- Compact 10cm x 7.2cm Pico-ITX form factor
- 1.0GHz VIA Eden® X2 Processor
- DX9 graphics with MPEG-2/ WMV9/VC1/H.264 decoding acceleration
- Multiple expansion options
- Supports one HDMI and one VGA port

Specifications

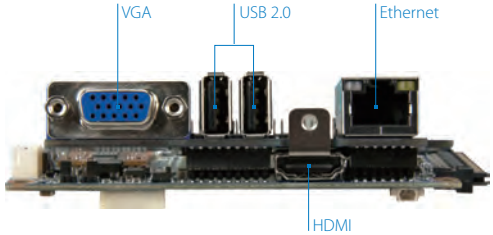
Model Name	EPIA-P900-10
Processor	1.0GHz VIA Eden® X2
Chipset	VIA VX900H Media System Processor
BIOS	AMI BIOS, 8Mbit Flash memory
System Memory	1 DDR3 800/1066 SODIMM socket Up to 4GB memory size
Storage	2 SATA connectors
Graphics	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
LAN	1 VIA VT6130 PCIe Gigabit Ethernet controller
Audio	VIA VT2021 High Definition Audio Codec
Super I/O	Fintek F81801U-I
Expansion I/O	2 PCIe x1 + 1 USB 2.0 (through high speed extension)
Onboard I/O	2 SATA connectors 1 SATA power connector 1 USB pin header for 5 ports 1 Single-channel 24-bit LVDS panel connector 1 LPC pin header 1 SMBus pin header 1 Digital I/O pin header (4 GPI + 4 GPO) 1 Audio pin header for Line-out, Mic-in 1 Ethernet pin header 1 Smart Fan pin header for system 2 UART port pin-headers 1 Backlight control for panel 1 DC-in connector 2 PCIe x1 + 1 USB 2.0 port (through high speed extension)
Back Panel I/O	2 USB 2.0 ports 1 HDMI port 1 VGA port 1 Gigabit Ethernet port
Power Supply	12V DC-in
Operating System	Windows 7, WES 7, Windows CE, Linux
System Monitoring & Management	Wake-on LAN, Keyboard Power-on, Timer Power-on, System power management, AC power failure recovery, Watchdog Timer
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	Pico-ITX (10cm x 7.2cm, 3.9" x 2.8")
Compliance	CE/FCC

Back Panel I/O

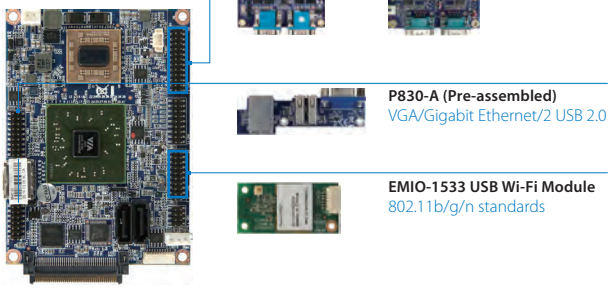
I/O of EPIA-P900 Board



I/O of EPIA-P900 Board with P830-A



Accessories



Ordering Information

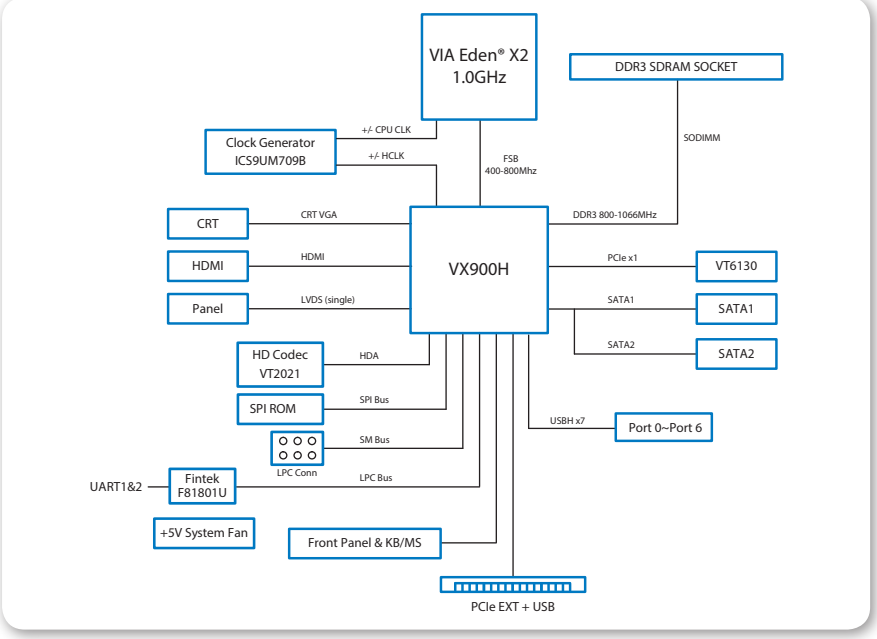
Model Name	CPU Frequency	Description
EPIA-P900-10	VIA Eden® X2 @ 1.0GHz	Pico-ITX board with 1.0GHz VIA Eden® X2 CPU, HDMI, VGA, LVDS, 8 USB 2.0, Gigabit Ethernet, 2 SATA,12V DC-in, Pre-assembled P830-A I/O card

Optional Accessories

I/O Expansion Cards	
Part Number	**Description**
LPC-01	Expansion module for four COM ports
LPC-02	Expansion module for four COM ports (5V or 12V)
LPC-04	Expansion module for two or four COM ports (5V or 12V)

Wireless Modules	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit

Block Diagram



Packing List

Items
EPIA-P900 board
P830-A I/O card (pre-assembled)
DC power cable
SATA cable
SATA power cable

Mini-ITX

Quick Guide

Model	EPIA-M920	EPIA-M910	VB7009
Processor	2.0GHz VIA QuadCore E-Series 1.6GHz VIA Eden® X4 1.0GHz VIA Eden® X2	1.2GHz VIA QuadCore E-Series 1.6GHz VIA Nano® X2 E-Series 1.0GHz VIA Eden X2	1.2GHz VIA Eden® X4 1.6GHz VIA C7®-D 1.0GHz VIA C7®
Chipset	VIA VX11H MSP	VIA VX900 MSP	VIA VX900 MSP
Graphics	Integrated VIA Chrome® 640 DX11 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
System Memory	2 DDR3 1333 SDRAM (SODIMM) (Max. 16GB)	2 DDR3 1066 SDRAM (DIMM) (Max. 8GB)	1 DDR3 1066 SDRAM (DIMM) (Max. 4GB)
Storage	2 SATA connectors	2 SATA connectors	2 SATA connectors
Audio	HD	HD	HD
Display I/O	2 HDMI 1 VGA 1 Single-CH LVDS 1 Dual-CH LVDS	1 HDMI 1 VGA 1 Single-CH LVDS 1 Dual-CH LVDS	1 VGA 1 Dual-CH LVDS
USB	3 USB 3.0 6 USB 2.0	8 USB 2.0	8 USB 2.0
LAN	2 Gigabit Ethernet	2 Gigabit Ethernet	2 Gigabit Ethernet
COM	4 (3 pin headers)	8 (6 pin headers)	6 (5 pin headers, 2 are optional)
Digital I/O	1	2	1
Expansion I/O	1 PCIe x4	1 PCIe x1 1 PCI	1 PCI
Power Supply	ATX connector	ATX connector 12V DC-in	ATX connector
Operating System	Windows 10/8.1/8/7, WES 7, Linux, POSReady 7	Windows 7, WES 7, Windows CE, Linux, POSReady 7	Windows 7, WES 7, Windows CE, Linux, POSReady 7
Operating Temperature	0°C ~ 60 °C	0°C ~ 60°C	0°C ~ 60°C
Optional Accessories	EMIO-1533 USB Wi-Fi LPC-01/02/04 PWB-M120	EMIO-1533 USB Wi-Fi LPC-01/02/04 PWB-M120 PCIE-03 EXT-PCI	EMIO-1533 USB Wi-Fi LPC-01/02/04 PWB-M120 EXT-PCI

Mini-ITX Series

NEW

VIA

EPIA-M920

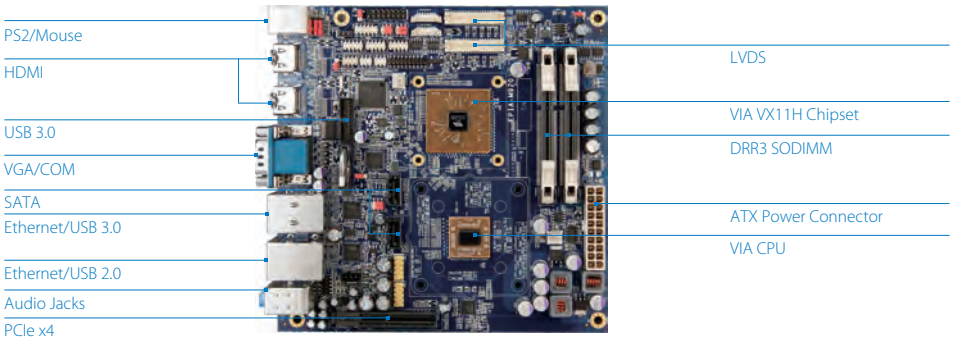
Highly-integrated low-power platform with rich feature set and multimedia capabilities

Features

- Compact 17cm x 17cm Mini-ITX form factor
- Fanless 1.6GHz VIA Eden® X4 and 1.0GHz VIA Eden® X2 processor options
- Dual Gigabit Ethernet
- DX11 graphics with MPEG-2/ WMV9/VC1/H.264 decoding acceleration
- Rich feature set

CE FC

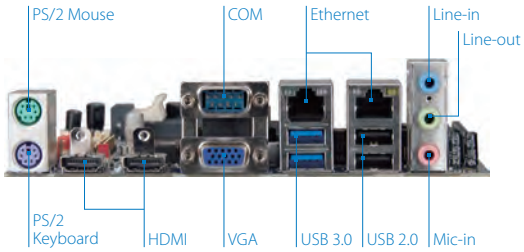
Board Placement



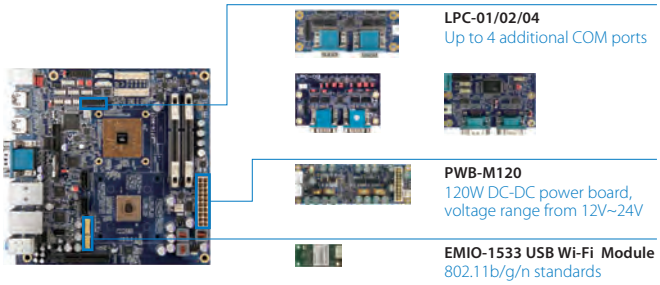
Specifications

Model Name	EPIA-M920-20Q	EPIA-M920-16QE	EPIA-M920-10E
Processor	2.0GHz VIA QuadCore E-Series (with Fan)	1.6GHz VIA Eden® X4 (Fanless)	1.0GHz VIA Eden® X2 (Fanless)
Chipset	VIA VX11H Media System Processor		
BIOS	AMI Aptio UEFI BIOS, 4MB Flash memory		
System Memory	2 DDR3 1333 SODIMM slots Up to 8GB memory per slot		
Storage	2 SATA connectors		
Graphics	Integrated Chrome® 640 DX11 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration		
LAN	Realtek RTL8111G		VT6130
Audio	VIA VT2021 High Definition Audio Codec		
Super I/O	Fintek F71869E		
Expansion I/O	1 PCIe x4 slot		
Onboard I/O	2 SATA connectors 2 SATA DOM power selectors 1 USB 3.0 pin header for 1 port 2 USB 2.0 pin headers for 4 ports 1 Dual channel 18/24-bit LVDS panel connector 1 Single channel 18/24-bit LVDS panel connector 3 COM port pin headers (powered with selectable 5V/12V) 1 LPC pin header 1 SMBus pin header 1 S/PDIF-out connector 1 Digital I/O pin header (4 GPI + 4 GPO) 1 Front audio pin header for Line-out, Mic-in 2 Smart Fan pin headers for CPU and system 2 Backlight control connectors for inverter power and brightness control 1 SD card (SDHC/SDXC) pin header 1 ATX power connector 1 PCIe x4 slot		
Back Panel I/O	2 USB 3.0 ports 2 USB 2.0 ports 2 HDMI ports 1 VGA port 1 COM (powered with selectable 5V/12V) 2 Gigabit Ethernet ports 3 Audio jacks: Line-in, Line-out, and Mic-in 2 PS/2 keyboard/mouse ports		
Power Supply	ATX power connector		
Operating System	Windows 10/8.1/8/7, WES 7, Linux, POSReady 7		
System Monitoring & Management	Wake-on-LAN, Keyboard Power-on, Timer Power-on, System power management, AC power failure recovery, Watchdog Timer		
Operating Temperature	0°C ~ 60°C		
Operating Humidity	0% ~ 95% (non-condensing)		
Form Factor	Mini-ITX (17cm x 17cm, 6.7" x 6.7")		
Compliance	CE/FCC		

Back Panel I/O



Accessories



Ordering Information

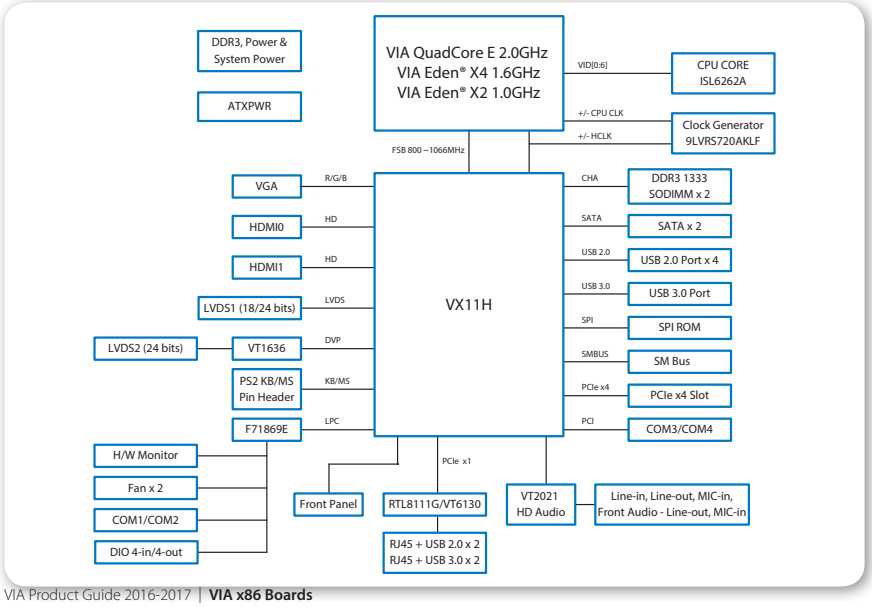
Model Name	CPU Frequency	Description
EPIA-M920-20Q	VIA QuadCore E-Series @ 2.0GHz	Mini-ITX board with 2.0GHz VIA QuadCore E-Series CPU with 2 HDMI, VGA, 2 LVDS, 3 USB 3.0, 6 USB 2.0, 4 COM, 2 Gigabit Ethernet, 2 SATA, PCIe x4 slot, ATX power connector
EPIA-M920-16QE	VIA Eden® X4 @ 1.6GHz	Mini-ITX board with 1.6GHz VIA Eden® X4 CPU with 2 HDMI, VGA, 2 LVDS, 3 USB 3.0, 6 USB 2.0, 4 COM, 2 Gigabit Ethernet, 2 SATA, PCIe x4 slot, ATX power connector
EPIA-M920-10E	VIA Eden® X2 @ 1.0GHz	Mini-ITX board with 1.0GHz VIA Eden® X2 CPU with 2 HDMI, VGA, 2 LVDS, 3 USB 3.0, 6 USB 2.0, 4 COM, 2 Gigabit Ethernet, 2 SATA, PCIe x4 slot, ATX power connector

Optional Accessories

I/O Expansion Cards	
Part Number	**Description**
LPC-01	Expansion module for four COM ports
LPC-02	Expansion module for four COM ports (5V or 12V)
LPC-04	Expansion module for two or four COM ports (5V or 12V)
PWB-M120	120W DC-DC power board, voltage range from 12V~24V

Wireless Modules	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit

Block Diagram



Packing List

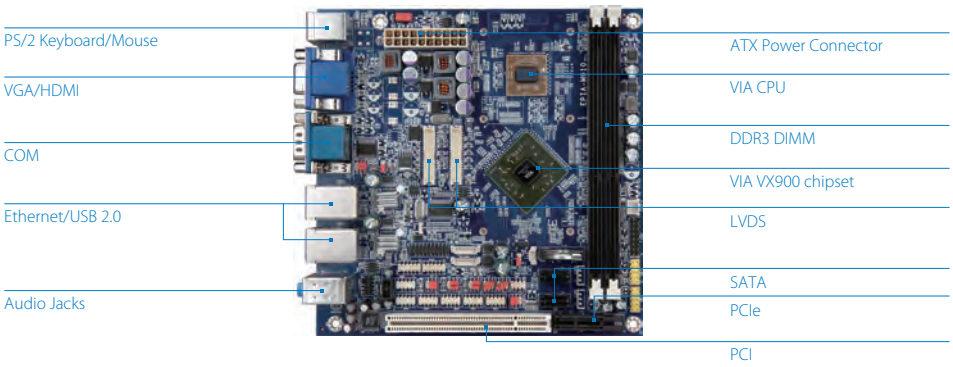
Items
EPIA-M920 board
SATA cable
I/O bracket

VIA

EPIA-M910

Highly-integrated Mini-ITX board with rich feature set and multiple expansion options

Board Placement



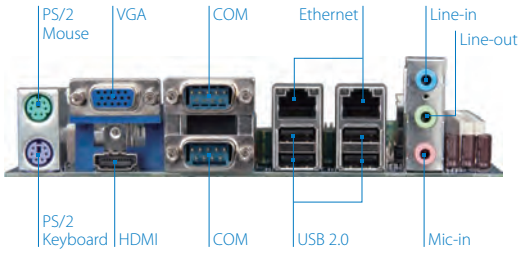
Features

- Compact 17cm x 17cm Mini-ITX form factor
- 1.2GHz VIA QuadCore E-Series/1.6GHz VIA Nano® X2 E-Series processor
- Fanless 1.0GHz VIA Eden® X2 processor option
- DX9 graphics with MPEG-2/ WMV9/VC1/H.264 decoding acceleration
- Rich feature set

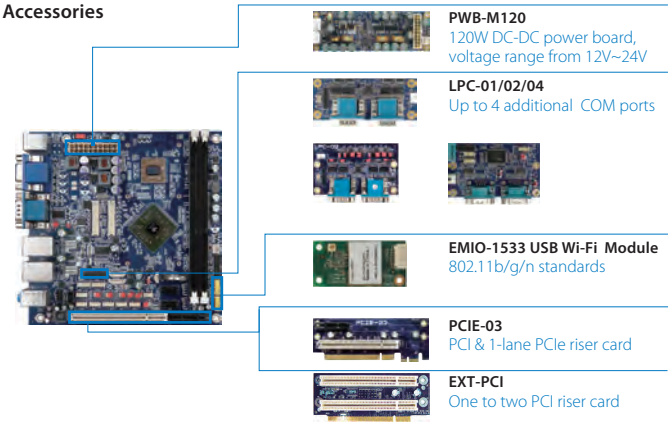
Specifications

Model Name	EPIA-M910-12Q/PQ	EPIA-M910-16/P	EPIA-M910-10E/PE
Processor	1.2GHz VIA QuadCore E-Series (with fan)	1.6GHz VIA Nano® X2 E-Series (with fan)	1.0GHz VIA Eden® X2 (fanless)
Chipset	VIA VX900 Media System Processor		
BIOS	AMI BIOS, 8Mbit Flash memory		
System Memory	2 DDR3 1066 DIMM sockets Up to 4GB memory size per slot		
Storage	2 SATA connectors		
Graphics	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration		
LAN	2 VIA VT6130 PCIe Gigabit Ethernet controllers		
Audio	VIA VT2021 High Definition Audio Codec		
Super I/O	Fintek F81865F-I + F81801		
Expansion I/O	1 PCI slot 1 PCIe x1 slot		
Onboard I/O	2 SATA connectors 2 SATA power connectors (DC-in SKU), 2 SATA DOM power selectors 2 USB 2.0 pin headers for 4 ports 1 Dual-channel 18/24-bit LVDS panel connector 1 Single-channel 18/24-bit LVDS panel connector 6 COM port pin headers (powered with selectable 5V/12V) 1 LPC pin header 1 SMBus pin header 1 S/PDIF-out connector 2 Digital I/O pin headers (8 GPI + 8 GPO) 1 Front audio pin header for Line-out, Mic-in 2 Smart Fan pin headers for CPU and system 1 ATX or DC-in power connector 1 PCI slot 1 PCIe x1 slot		
Back Panel I/O	4 USB ports 1 HDMI port 1 VGA port 2 COM ports (powered with selectable 5V/12V) 2 Gigabit Ethernet ports 3 Audio jacks: Line-in, Line-out and Mic-in 2 PS/2 keyboard/mouse ports		
Power Supply	ATX power connector or 12V DC-in		
Operating System	Windows 7, WES 7, Windows CE, Linux, POSReady 7		
System Monitoring & Management	Wake-on-LAN, Keyboard Power-on, Timer Power-on, System power management, AC power failure recovery, Watchdog Timer		
Operating Temperature	0°C ~ 60°C		
Operating Humidity	0% ~ 95% (non-condensing)		
Form Factor	Mini-ITX (17cm x 17cm, 6.7" x 6.7")		
Compliance	CE/FCC		

Back Panel I/O



Accessories



Ordering Information

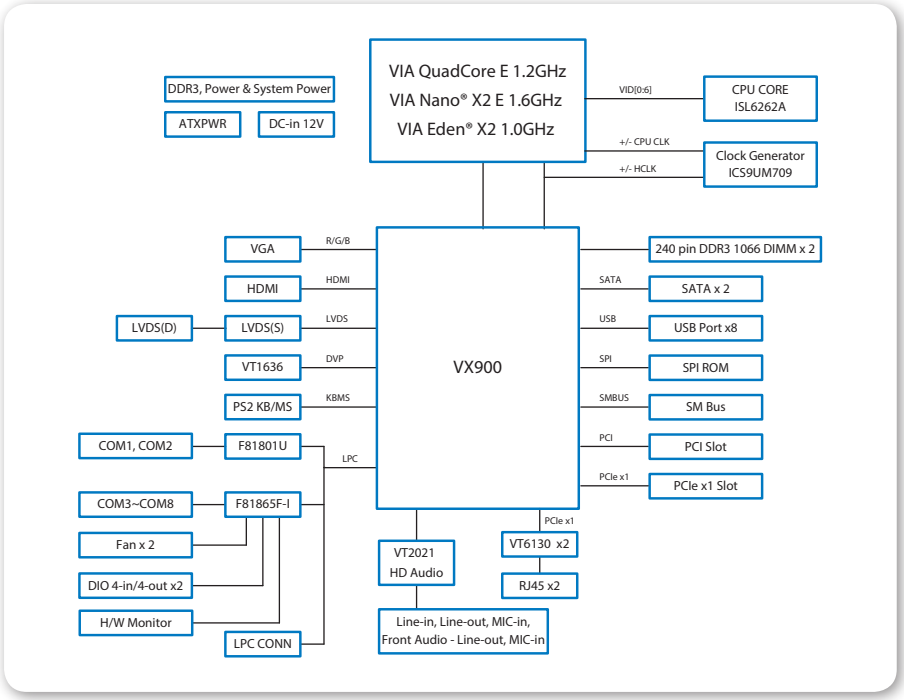
Model Name	CPU Frequency	Description
EPIA-M910-12Q	VIA QuadCore E-Series @ 1.2GHz	Mini-ITX Board with 1.2GHz VIA QuadCore E-Series CPU with HDMI, VGA, 2 LVDS, 8 USB 2.0, 8 COM, 2 Gigabit Ethernet, 2 SATA, PCI slot, PCIe x1 slot, ATX power connector
EPIA-M910-12PQ	VIA QuadCore E-Series @ 1.2GHz	Mini-ITX Board with 1.2GHz VIA QuadCore E-Series CPU with HDMI, VGA, 2 LVDS, 8 USB 2.0, 8 COM, 2 Gigabit Ethernet, 2 SATA, PCI slot, PCIe x1 slot, 12V DC-in
EPIA-M910-16	VIA Nano® X2 E-Series @ 1.6GHz	Mini-ITX Board with 1.6GHz VIA Nano® X2 E-Series CPU with HDMI, VGA, 2 LVDS, 8 USB 2.0, 8 COM, 2 Gigabit Ethernet, 2 SATA, PCI slot, PCIe x1 slot, ATX power connector
EPIA-M910-16P	VIA Nano® X2 E-Series @ 1.6GHz	Mini-ITX Board with 1.6GHz VIA Nano® X2 E-Series CPU with HDMI, VGA, 2 LVDS, 8 USB 2.0, 8 COM, 2 Gigabit Ethernet, 2 SATA, PCI slot, PCIe x1 slot, 12V DC-in
EPIA-M910-10E	VIA Eden® X2 @ 1.0GHz	Mini-ITX Board with 1.0GHz VIA Eden® X2 CPU with HDMI, VGA, 2 LVDS, 8 USB 2.0, 8 COM, 2 Gigabit Ethernet, 2 SATA, PCI slot, PCIe x1 slot ATX power connector
EPIA-M910-10PE	VIA Eden® X2 @ 1.0GHz	Mini-ITX Board with 1.0GHz VIA Eden® X2 CPU, with HDMI, VGA, 2 LVDS, 8 COM, 8 USB 2.0, 2 Gigabit Ethernet, 2 SATA, PCI slot, PCIe x1 slot, 12V DC-in

Optional Accessories

I/O Expansion Cards	
Part Number	**Description**
LPC-01	Expansion module for four COM ports
LPC-02	Expansion module for four COM ports (5V or 12V)
LPC-04	Expansion module for two or four COM ports (5V or 12V)
PWB-M120	120W DC-DC power board, voltage range from 12V~24V
PCIE-03	PCI & 1-lane PCIe riser card
EXT-PCI	One to two PCI riser card

Wireless Modules	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit

Block Diagram



Packing List

Items
EPIA-M910 board
SATA cable
SATA power cable (for DC-in sku only)
DC power cable (for DC-in sku only)
I/O bracket

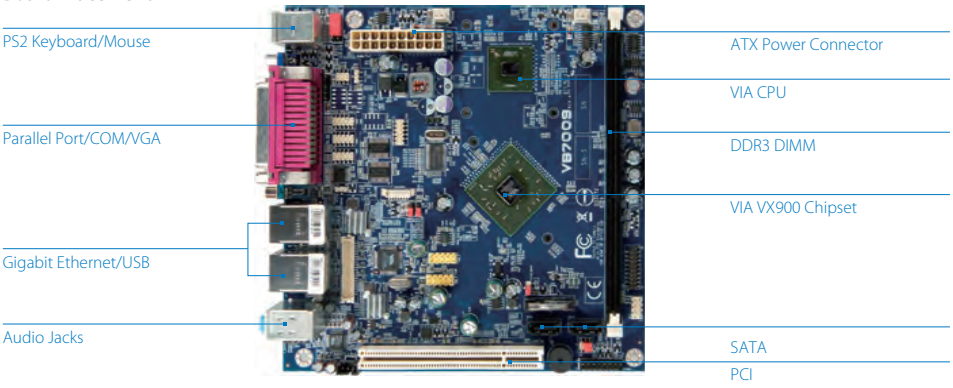
Mini-ITX Series

VIA

VB7009

Flexible Mini-ITX board with advanced multimedia, I/O, and connectivity features

Board Placement



Features

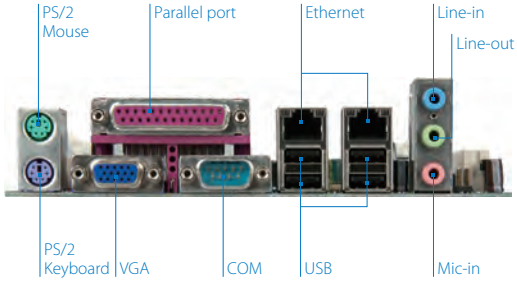
- Compact 17cm x 17cm Mini-ITX form factor
- Choice of VIA Eden® X4, VIA C7®-D, and VIA C7® processors
- DX9 graphics with MPEG-2/ WMV9/VC1/H.264 decoding acceleration
- Rich I/O and connectivity features
- Supports up to six onboard COM ports

CE FC

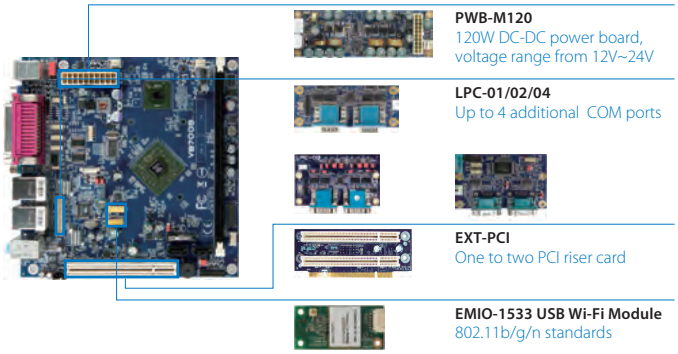
Specifications

Model Name	VB7009-12QCE	VB7009-16	VB7009-10E
Processor	1.2GHz VIA Eden® X4 (Fanless)	1.6GHz VIA C7®-D (with fan)	1.0GHz VIA C7® (Fanless)
Chipset	VIA VX900 Media System Processor		
BIOS	AMI BIOS, 8Mbit Flash memory		
System Memory	1 DDR3 1066 DIMM slot Up to 4GB memory size		
Storage	2 SATA connectors		
Graphics	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration		
LAN	2 VIA VT6130 PCIe Gigabit Ethernet controllers		
Audio	VIA VT1708S High Definition Audio Codec		
Super I/O	Fintek F81865F-I		
Expansion I/O	1 PCI slot		
Onboard I/O	2 SATA connectors 2 USB 2.0 pin headers for 4 ports 1 Dual-channel 18/24 bit LVDS panel connector 1 LVDS panel power selector (5V/3.3V) 1 LVDS inverter pin header 1 LVDS inverter power selector (5V/12V) 5 COM port pin headers 2 optional (powered with selectable 5V/12V) 1 LPC pin header 1 SMBus pin header 1 S/PDIF-out connector 1 Digital I/O pin header (4 GPI + 4 GPO) 1 Front audio pin header for Line-out, Mic-in 2 Smart Fan pin headers for CPU and system 1 ATX power connector 1 PCI slot		
Back Panel I/O	4 USB 2.0 ports 1 VGA port 1 COM port 1 Parallel port 2 Gigabit Ethernet ports 3 Audio jacks: Line-in, Line-out, and Mic-in 2 PS/2 keyboard/mouse ports		
Power Supply	ATX power connector		
Operating System	Windows 7, WES 7, Windows CE, Linux, POSReady 7		
System Monitoring & Management	AC power failure recovery, RTC timer to power on, Wake-on LAN, Wake-on keyboard, Wake-on mouse		
Operating Temperature	0°C ~ 60°C		
Operating Humidity	0% ~ 95% (non-condensing)		
Form Factor	Mini-ITX (17cm x 17cm, 6.7" x 6.7")		
Compliance	CE/FCC		

Back Panel I/O



Accessories



Ordering Information

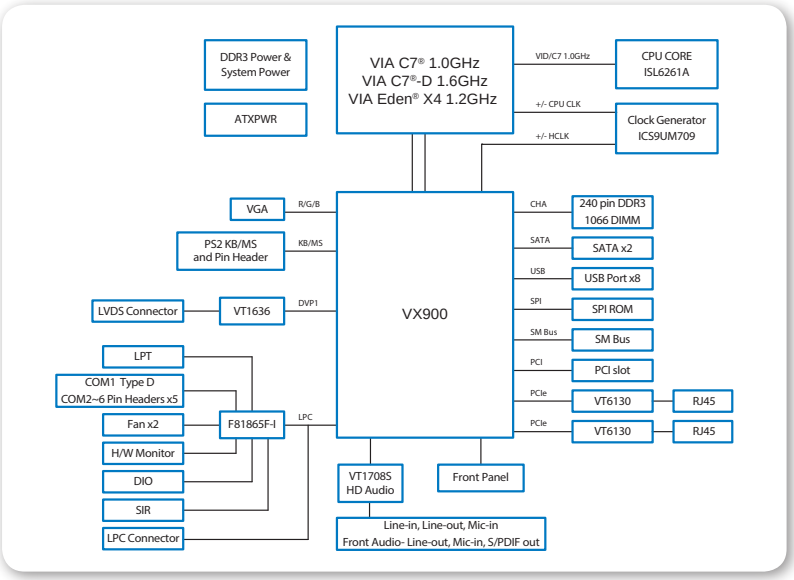
Model Name	CPU Frequency	Description
VB7009-12QCE	VIA Eden® X4 @ 1.2GHz	Mini-ITX Board with 1.2GHz VIA Eden® X4 E-Series CPU with VGA, LVDS, 8 USB 2.0, 6 COM, 2 Gigabit Ethernet, 2 SATA, PCI slot, ATX connector
VB7009-16	VIA C7®-D @ 1.6GHz	Mini-ITX Board with 1.6GHz VIA C7®-D CPU with VGA, LVDS,8 USB 2.0, 4 COM, 2 Gigabit Ethernet, 2 SATA, PCI slot, ATX connector
VB7009-10E	VIA C7® @ 1.0GHz	Mini-ITX Board with 1.0GHz VIA C7® CPU with VGA, LVDS, 8 USB 2.0, 4 COM, 2 Gigabit Ethernet, 2 SATA, PCI slot, ATX connector

Optional Accessories

I/O Expansion Cards	
Part Number	**Description**
LPC-01	Expansion module for four COM ports
LPC-02	Expansion module for four COM ports (5V or 12V)
LPC-04	Expansion module for two or four COM ports (5V or 12V)
PWB-M120	120W DC-DC power board, voltage range from 12V~24V
EXT-PCI	One to two PCI riser card

Wireless Modules	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit

Block Diagram



Packing List

Items
VB7009 board
SATA cable
I/O bracket

COM Express

Quick Guide

Model	COMe-9X90	COMe-8X92	COMe-8X90
Form Factor	Basic, Type 6	Compact, Type 6	Basic, Type 6
Processor	1.2GHz VIA Nano® X2 E-Series	1.2GHz VIA Nano® X2 E-Series	1.2GHz VIA Nano® X2 E-Series
Chipset	VIA VX11H MSP	VIA VX900H MSP	VIA VX900H MSP
Graphics	Integrated VIA Chrome® 640 DX11 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
System Memory	2 DDR3 1333 SODIMM (Max.16GB)	1 DDR3 1066 SODIMM (Max. 4GB)	2 DDR3 1066 SODIMM (Max. 8GB)
Storage	2 SATA	2 SATA	2 SATA
Audio	HD	HD	HD
Display I/O	2 HDMI (shared with DP) 2 DisplayPort 1 Dual-CH LVDS	1 HDMI 1 DisplayPort 1 Single-CH LVDS	1 HDMI 1 DisplayPort 1 Single-CH LVDS
USB	2 USB 3.0 6 USB 2.0	4 USB 3.0 4 USB 2.0	4 USB 3.0 4 USB 2.0
LAN	1 Gigabit Ethernet	1 Gigabit Ethernet	1 Gigabit Ethernet
COM	2 (TX/RX)	2 (TX/RX)	2 (TX/RX)
Digital I/O	8 (4 GPI + 4 GPO)	8 (4 GPI + 4 GPO)	8 (4 GPI + 4 GPO)
Expansion I/O	4 1-lane PCIe	1 4-lane PCIe 1 1-lane PCIe	1 4-lane PCIe 1 1-lane PCIe
Power Supply	ATX connector	ATX connector	ATX connector
Operating System	Windows 7/8, WES 7, Linux	Windows 7, WES 7, Windows CE, Linux	Windows 7, WES 7, Windows CE, Linux
Operating Temperature	0°C ~ 60°C	0°C ~ 50°C	0°C ~ 60°C
Carrier Board	COMEDB4	COMEDB2	COMEDB2

ETX

Quick Guide

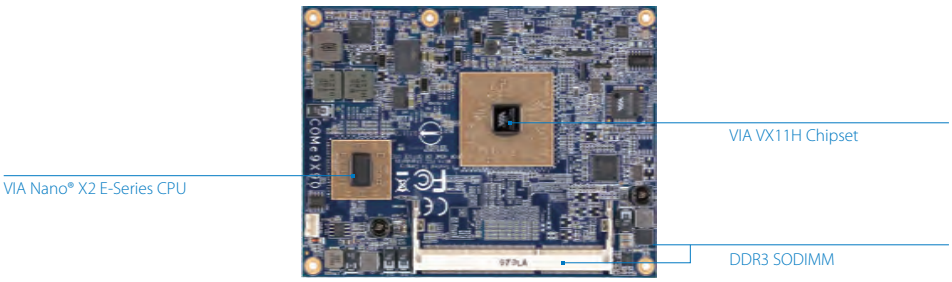
Model	ETX-8X90-10GR	ETX-8X90
Form Factor	Compact, ETX 3.02	Compact, ETX 3.02
Processor	1.06GHz VIA Eden® X1	1.2GHz VIA Nano® X2 E-Series
Chipset	VIA VX900 MSP	VIA VX900 MSP
Graphics	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
System Memory	1 DDR3 1066 SDRAM (SODIMM) (Max. 4GB)	1 DDR3 1066 SDRAM (SODIMM) (Max. 4GB)
Storage	1 SATA 1 IDE (2nd optional)	1 SATA 2 IDE
Audio	Stereo	Stereo
Display I/O	1 Dual-CH LVDS	1 Dual-CH LVDS
USB	4 USB 2.0 2 Mini USB 2.0	4 USB 2.0 2 Mini USB 2.0
LAN	1 10/100 Mbps Ethernet	1 10/100 Mbps Ethernet
COM	2 (TX/RX)	2 (TX/RX)
Digital I/O	8 (4 GPI + 4 GPO)	8 (4 GPI + 4 GPO)
Expansion I/O	2 PCI 1 ISA	2 PCI 1 ISA
Power Supply	ATX connector	ATX connector
Operating System	Windows 7, WES 7, Windows CE, Linux	Windows 7, WES 7, Windows CE, Linux
Operating Temperature	0°C ~ 60°C	0°C ~ 60°C
Carrier Board	ETXDB1	ETXDB1

VIA

COMe-9X90

COM Express Module with Type 6 pin-outs and Basic Form Factor

Board Placement



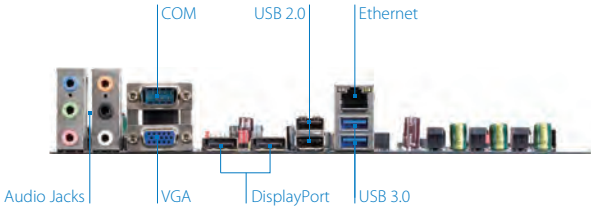
Features

- 1.2GHz VIA Nano® X2 E-Series processor
- Supports up to 16GB 1333 DDR3 SDRAM
- DX11 graphics with MPEG-2/ WMV9/VC1/H.264 decoding acceleration
- Supports 18/24-bit dual-channel LVDS panel, two DisplayPort ports, or two HDMI ports
- Supports two USB 3.0 and six USB 2.0 ports

Specifications

Model Name	COMe-9X90
Processor	1.2GHz VIA Nano® X2 E-Series
Chipset	VIA VX11H Media System Processor
BIOS	AMI Aptio UEFI BIOS, 32Mbit Flash memory
System Memory	2 DDR3 1333 SODIMM slots Up to 8GB memory size per slot
Storage	2 SATA
Graphics	Integrated VIA Chrome®640 DX11 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
LAN	RealTek RTL8111G PCIe Gigabit Ethernet controller
Audio	1 HD audio digital interface
Supported Expansion I/O	4 PCIe x1
Suppported I/O	2 USB 3.0 6 USB 2.0 Up to 2 HDMI or 2 DisplayPort 1 VGA 1 Dual channel 18/24-bit LVDS panel (VIA VT1636) 2 COM (TX/RX) 1 Gigabit Ethernet 1 LPC 1 SMBus 1 SPI 1 SDIO/GPIO 1 I^2C
Operating System	Windows 7/ 8, WES 7, Linux
System Monitoring & Management	CPU temperature reading, CPU fan speed reading, System voltage monitoring, Watchdog Timer, Wake-on-LAN, System power management, AC power failure recovery
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	9.5cm x 12.5cm (3.73" x 4.92")
Compliance	COM Express® type 6, basic module

Carrier Board Back Panel I/O



Carrier Board (COMEDB4)

* The carrier board is only for evaluation purposes.

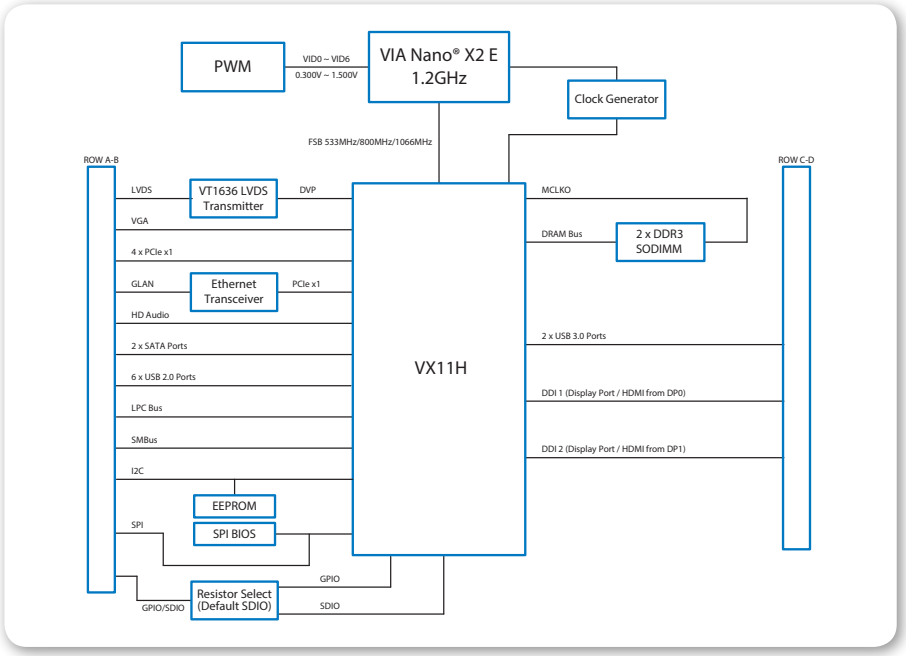
Specifications

Model Name	COMEDB4
Audio	VIA VT2021 High Definition Audio Codec
Super I/O	Fintek F71869 LPC Super I/O
Onboard I/O	2 SATA connectors 2 USB 2.0 pin headers for 4 ports 1 Dual-channel 18/24-bit LVDS panel connector 1 COM port pin header (powered with selectable 5V/12V) 1 LPT pin header 1 LPC pin header 1 SMBus pin header 1 SPI connector 1 Digital I/O (4 GPI + 4 GPO) pin header 1 Front audio pin header for Line-out, Mic-in 2 Smart Fan connectors for CPU and system 1 I^2C pin header 1 BIOS select pin header for select module/carrier board SPI BIOS 1 ATX power connector and 1 AUX power connector (for ATX mode), or only 1 AUX power connector (for AT mode) 3 PCIe x1 1 miniPCIe 1 Reset Switch 1 Power button
Front Panel I/O	1 SD card slot
Rear Panel I/O	2 USB 3.0 ports 2 USB 2.0 ports 2 DisplayPort 1 VGA port 1 COM port 1 Gigabit Ethernet port 6 Audio jacks (support multi-channel audio outputs)
Power Supply	ATX power connector or 12V DC-in
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	Micro-ATX (25.4cm x 24.4cm, 10" x 9.6")
COM Express Module Type	Supports basic/compact form factor type 6

Ordering Information

Model Name	CPU Frequency	Description
COMe-9X90	VIA Nano® X2 E-Series @ 1.2GHz	COM Express Module with 1.2GHz VIA Nano® X2 E-Series CPU with 2 HDMI or 2 DisplayPort, VGA, LVDS, 2 USB 3.0, 6 USB 2.0, Gigabit Ethernet, 2 SATA, 4 PCIe x1, ATX power connector
COMEDB4	N/A	COMe-9X90 evaluation carrier board
99G42-01380A	N/A	Heatsink with fan for COMe-9X90

Block Diagram

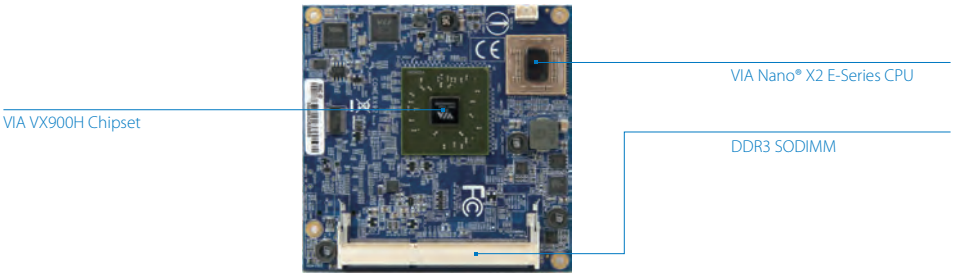


VIA

COMe-8X92

COM Express Module with Type 6 pin-outs and Compact Form Factor

Board Placement



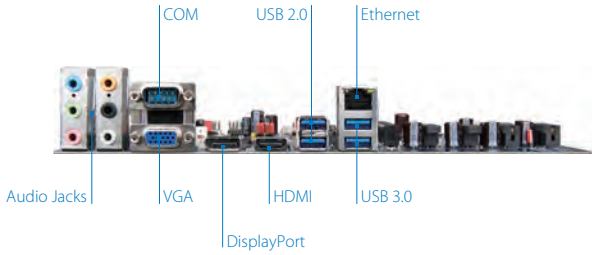
Features

- 1.2GHz VIA Nano® X2 E-Series processor
- Supports up to 4GB 1066 DDR3 SDRAM
- DX9 graphics with MPEG-2/ WMV9/VC1/H.264 decoding acceleration
- Display interface for VGA, 18/24-bit single-channel LVDS panel, one DisplayPort, and one HDMI port
- Supports four USB 3.0 and four USB 2.0 ports

Specifications

Model Name	COMe-8X92
Processor	1.2GHz VIA Nano® X2 E-Series
Chipset	VIA VX900H Media System Processor
BIOS	AMI BIOS, 4/8Mbit Flash memory
System Memory	1 DDR3 1066 SODIMM slot Up to 4GB memory size
Storage	2 SATA
Graphics	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
LAN	VIA VT6130 Gigabit Ethernet controller
Audio	1 HD audio digital interface
Supported Expansion I/O	1 PCIe x4 1 PCIe x1
Supported I/O	4 USB 3.0 4 USB 2.0 1 HDMI 1 DisplayPort 1 VGA 1 Single-channel 18/24-bit LVDS panel 2 COM (TX/RX) 1 Gigabit Ethernet 1 Digital video output for external HDMI/LVDS/DVI transmitter or TV encoder 1 LPC 1 SMBus 1 SPI 1 SDIO/GPIO 1 I^2C
Operating System	Windows 7, WES 7, Windows CE, Linux
System Monitoring & Management	CPU temperature reading, CPU fan speed reading, System voltage monitoring, Watchdog Timer, Wake-on-LAN, System power management, AC power failure recovery
Operating Temperature	0°C ~ 50°C
Storage Temperature	-40°C ~ 70°C
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	9.5cm x 9.5cm (3.73" x 3.73")
Compliance	COM Express® type 6, compact module

Carrier Board Back Panel I/O



Carrier Board (COMEDB2)

* The carrier board is only for evaluation purposes.

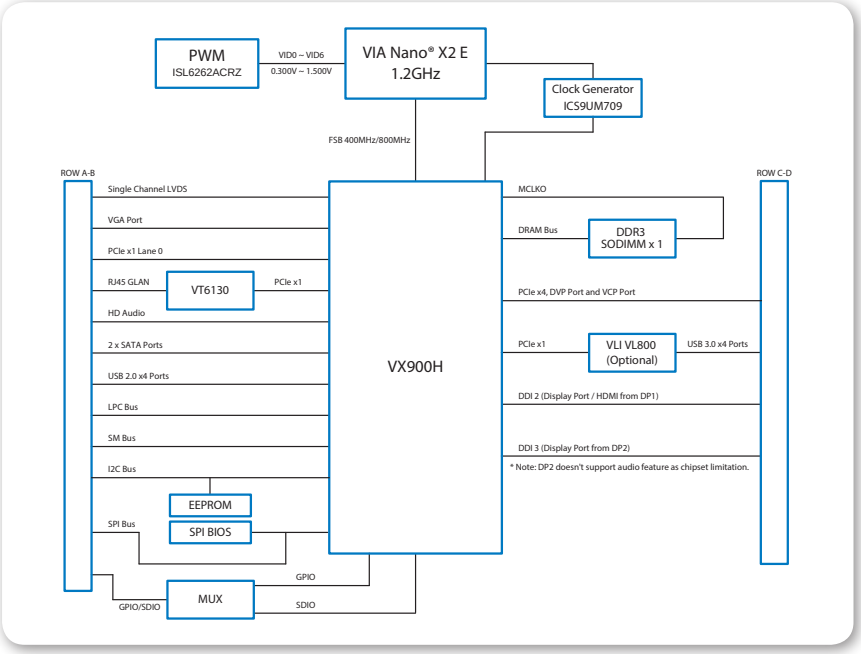
Specifications

Model Name	COMEDB2
Audio	VIA VT2021 High Definition Audio Codec
Super I/O	VIA VT1211 LPC super I/O
Onboard I/O	2 SATA connectors 2 USB 2.0 pin headers for 4 ports 1 Single-channel 18/24-bit LVDS panel connector 1 COM port pin header (powered by selectable 5V/12V) 1 LPC pin header 1 SMBus pin header 1 SPI connector 1 DIgital I/O (4 GPI +4 GPO) pin header 1 Front Audio pin header for Line-out, Mic-in 2 Smart Fan connectors for CPU and system 1 I^2C pin header 1 FIR pin header 2 BIOS type select pin headers for select LPC/SPI BIOS 2 BIOS select pin headers for select module/carrier board BIOS 1 ATX power connector and 1 AUX power connector 1 PCIe x16 (supports 4-lane) slot for PEG 2 PCIe x1 1 miniPCIe socket 1 Reversed PCIe x4 slot for DVP 1 Reserved PCIe x4 slot for VCP 1 Reset Switch 1 Power Button
Front Panel I/O	1 SD card slot
Rear Panel I/O	4 USB 3.0 ports 1 HDMI port 1 DisplayPort port 1 VGA port 1 COM port 1 Gigabit Ethernet port 6 Audio jacks (supports multi-channel audio outputs)
Power Supply	ATX power connector
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	Micro-ATX (24.4cm x 24.4cm, 9.6" x 9.6")
COM Express Module Type	Supports basic/compact form factor type 6

Ordering Information

Model Name	CPU Frequency	Description
COMe-8X92	VIA Nano® X2 E-Series @ 1.2GHz	COM Express Module with 1.2GHz VIA Nano® X2 E-Series CPU with HDMI, DisplayPort, VGA, LVDS, 4 USB 3.0, 4 USB 2.0, Gigabit Ethernet, 2 SATA, 1 PCIe x4, 1 PCI1 x1, ATX power connector
COMEDB2	N/A	COMe-8X92 evaluation carrier board
99G42-01376A	N/A	Fansink for COMe-8X92
99G42-013886	N/A	Heat spreader for COMe-8X92
STK-C8X92-00A0	VIA Nano® X2 E-Series @ 1.2GHz	COMe-8X92 starter kit
STK-C8X92-01A0	VIA Nano® X2 E-Series @ 1.2GHz	COMe-8X92 starter kit with panel

Block Diagram



Packing List (Starter Kit)

Items for STK-C8X92-00A0
COMe-8X92 module
COMEDB2 carrier board
SATA cable
USB cable
COM cable
LPT cable

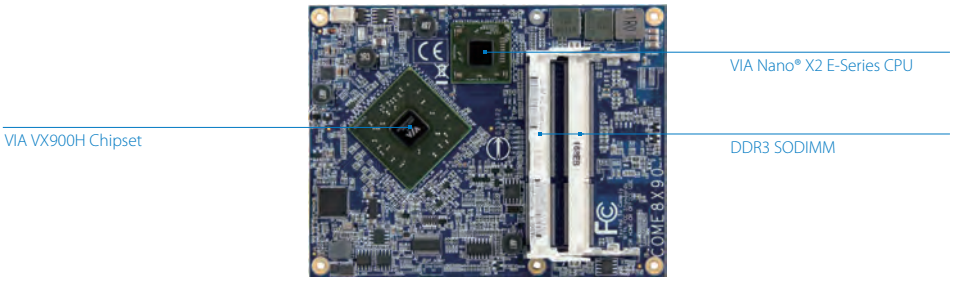
Items for STK-C8X92-01A0
COMe-8X92 module
COMEDB2 carrier board
SATA cable
USB cable
COM cable
LPT cable
LVDS cable
Inverter cable
12.1" LCM

VIA

COMe-8X90

COM Express Module with Type 6 pin-outs and Basic Form Factor

Board Placement



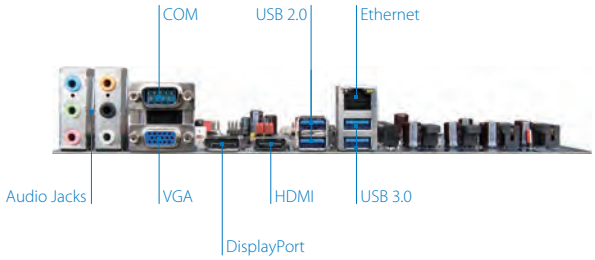
Features

- 1.2GHz VIA Nano™ X2 E-Series processor
- Supports up to 8GB 1066 DDR3 SDRAM
- DX9 graphics with MPEG-2/ WMV9/VC1/H.264 decoding acceleration
- Display interface for VGA, 18/24-bit single-channel LVDS panel, one DisplayPort, and one HDMI port
- Supports four USB 3.0 and four USB 2.0 ports

Specifications

Model Name	COMe-8X90
Processor	1.2GHz VIA Nano® X2 E-Series
Chipset	VIA VX900H Media System Processor
BIOS	AMI BIOS, 4/8Mbit Flash memory
System Memory	2 DDR3 1066 SODIMM slots Up to 4GB memory size per slot
Storage	2 SATA
Graphics	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
LAN	VIA VT6130 Gigabit Ethernet controller or Realtek RTL8111G PCIe Gigabit Ethernet controller
Audio	1 HD audio digital interface
Supported Expansion I/O	1 PCIe x4 1 PCIe x1
Supported I/O	4 USB 3.0 4 USB 2.0 1 HDMI 1 DisplayPort 1 VGA 1 Single-channel 18/24-bit LVDS panel 2 COM (TX/RX) 1 Gigabit Ethernet 1 Digital video output for external HDMI/LVDS/DVI transmitter or TV encoder 1 LPC 1 SMBus 1 SPI 1 SDIO/GPIO 1 I^2C
Operating System	Windows 7, WES 7, Windows CE, Linux
System Monitoring & Management	CPU temperature reading, CPU fan speed reading, System voltage monitoring, Watchdog Timer, Wake-on-LAN, System power management, AC power failure recovery
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (relative humidity; non-condensing)
Form Factor	12.5cm x 9.5cm (4.92" x 3.73")
Compliance	COM Express® type 6, basic module

Carrier Board Back Panel I/O



Carrier Board (COMEDB2)

* The carrier board is only for evaluation purposes.

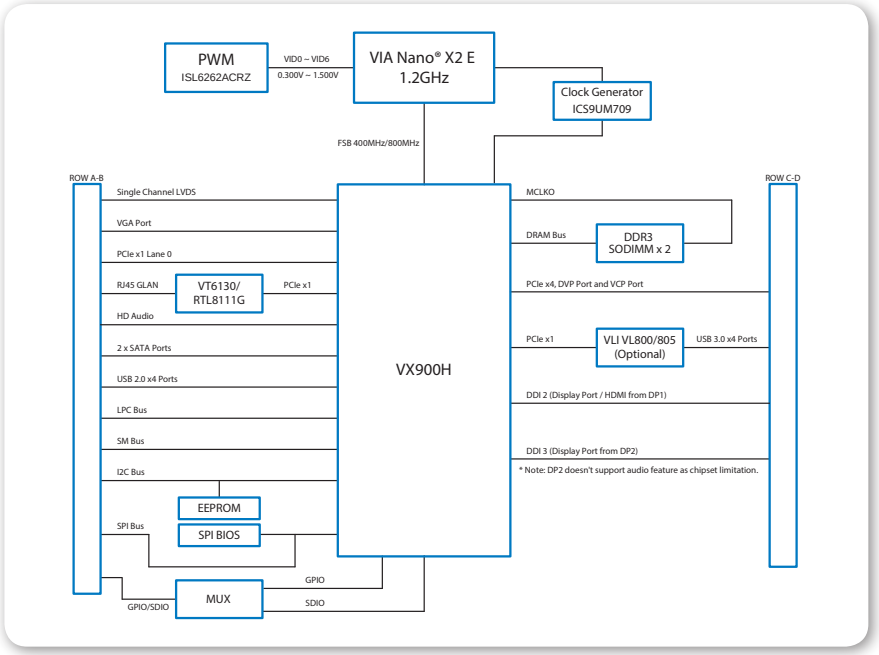
Specifications

Model Name	COMEDB2
Audio	VIA VT2021High Definition Audio Codec
Super I/O	VIA VT1211 LPC super I/O
Onboard I/O	2 SATA connectors 2 USB 2.0 pin headers for 4 ports 1 Single-channel 18/24-bit LVDS panel connector 1 COM port pin header (powered by selectable 5V/12V) 1 LPT pin header 1 LPC pin header 1 SMBus pin header 1 S/PDIF-out connector 1 Digital I/O (4 GPI + 4 GPO) pin header 1 Front Audio pin header for Line-out, Mic-in 2 Smart Fan connectors for CPU fan and system 1 I^2C pin header 1 FIR pin header 2 BIOS type select pin headers for select LPC/SPI BIOS 2 BIOS select pin headers for select module/carrier board BIOS 1 ATX power connector and 1 AUX power connector 1 PCIe x16 (supports 4-lane) slot for PEG 2 PCIe x1 1 MiniPCIe slot 1 Reversed PCIe x4 slot for DVP 1 Reserved PCIe x4 slot for VCP 1 Reset switch 1 Power button
Front Panel I/O	1 SD card slot
Rear Panel I/O	4 USB 3.0 ports 1 HDMI port 1 DisplayPort 1 VGA port 1 COM port 1 Gigabit Ethernet port 6 Audio jacks (supports multi-channel audio outputs)
Power Supply	ATX power connector
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% relative humidity
Form Factor	Micro-ATX (24.4cm x 24.4cm, 9.6" x 9.6")
COM Express Module Type	Supports COM Express™ type 6

Ordering Information

Model Name	CPU Frequency	Description
COMe-8X90	VIA Nano® X2 E-Series @ 1.2GHz	COM Express module with 1.2GHz VIA Nano® X2 E-Series CPU with HDMI, DisplayPort, VGA, LVDS, 4 USB 3.0, 4 USB 2.0, Gigabit Ethernet, 2 SATA, 2 PCIe, ATX power connector
COMEDB2	N/A	COMe-8X90 evaluation carrier board
99G42-013056	N/A	Fansink for COMe-8X90
99G42-013876	N/A	Heat spreader for COMe-8X90
STK-C8X90-00A0	VIA Nano® X2 E-Series @ 1.2GHz	COMe-8X90 starter kit
STK-C8X90-01A0	VIA Nano® X2 E-Series @ 1.2GHz	COMe-8X90 starter kit with Panel

Block Diagram



Packing List (Starter Kit)

Items for STK-C8X90-00A0
COMe-8X90 module
COMEDB2 carrier board
SATA cable
USB cable
COM cable
LPT cable

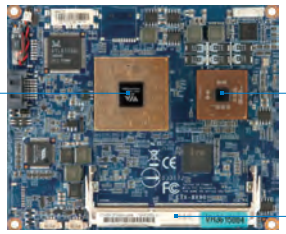
Items for STK-C8X90-01A0
COMe-8X90 module
COMEDB2 carrier board
SATA cable
USB cable
COM cable
LPT cable
LVDS cable
Inverter cable
12.1" LCM

VIA

ETX-8X90-10GR

ETX® Module with high-performance multimedia capabilities

Board Placement



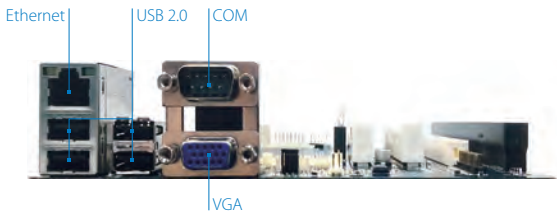
Features

- 1.06GHz VIA Eden® X1 processor
- Supports up to 4GB 1066 DDR3 SDRAM
- DX9 graphics with MPEG-2/ WMV9/VC1/H.264 decoding acceleration
- Display interface for VGA, supporting resolutions of up to 2048 x 1536, and one 18/24-bit dual-channel LVDS panel
- Supports four USB 2.0 ports

Specifications

Model Name	ETX-8X90-10GR
Processor	1.06GHz VIA Eden® X1
Chipset	VIA VX900 Media System Processor
BIOS	AMI BIOS, 8Mbit Flash memory
System Memory	1 DDR3 1066 SODIMM slot Up to 4GB memory size
Storage	1 SATA 1 IDE (2nd optional)
Graphics	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
LAN	Realtek RTL8139DL 10/100M Ethernet controller
Audio	1 HD audio digital interface
Super I/O	Fintek F71869ED
Supported Expansion I/O	2 PCI
Left Panel I/O	1 SATA connector 2 Mini USB 2.0 (optional) 1 Micro SD card slot (optional) 1 Audio pin header for Line-in, Line-out, Mic-in
Supported I/O	4 USB 2.0 ports 1 VGA 1 Dual-channel 18-bit/24-bit LVDS panel 2 COM 1 10/100M Ethernet 2 IDE (master mode only) (1 optional) 1 SMbus 1 I^2C 1 ISA (no DMA transfer support)
Operating System	Windows 7, Windows XP, WES 7, Windows CE 6.0, Linux
Power Mode	AT mode supported
System Monitoring & Management	CPU temperature reading, CPU fan speed reading, System voltage monitoring, Watchdog Timer, Wake-on-LAN, System power management, AC power failure recovery
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	9.5cm x 11.4cm (3.7" x 4.45")
Compliance	ETX 3.0 (*2nd IDE optional)

Carrier Board Back Panel I/O



Carrier Board (ETXDB1)

* The carrier board is only for evaluation purpose.

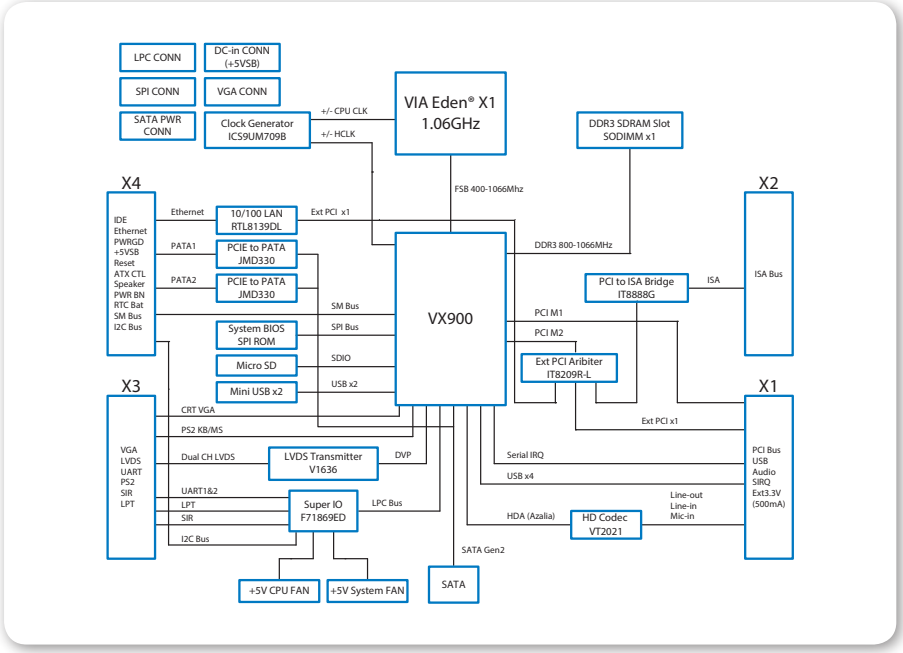
Specifications

Model Name	ETXDB1
Super I/O	Fintek F71869ED
Onboard I/O	1 ISA connector (compatible with ISA ETX 3.0) 2 IDE connectors (master mode only) *Support for 2nd depends on module configuration 1 COM port pin headers 1 LPT connector 1 Dual-channel 18/24-bit LVDS panel connector 1 Audio pin header for Line-out, Mic-in 1 SMbus pin header 1 I^2C pin header 1 Backlight voltage selects pin header 1 SIR pin header 1 RTC external battery holder 1 ATX power connector 2 PCI slots (compatible with PCI 2.3, 32bit/33Mhz)
Rear Panel I/O	4 USB 2.0 ports 1 VGA port 1 COM port 1 10/100Mbps Ethernet connector
Power Supply	ATX power connector
Operating Temperature	0°C ~ 60°C
Operating Humidty	0% ~ 95% (non-condensing)
Form Factor	Mini-ITX (17cm x 17cm, 6.7" x 6.7")

Ordering Information

Model Name	CPU Frequency	Description
ETX-8X90-10GR	1.06GHz VIA Eden® X1	ETX-8X90-10GR module with 1.06GHz VIA Eden® X1 CPU with VGA, LVDS, 4 USB 2.0, COM, 10/100Mbps Ethernet, SATA, IDE, 2 PCI, ATX power connector
ETXDB1	N/A	ETX-8X90-10GR evaluation carrier board
99G42-01473Q	N/A	Heatsink for ETX-8X90-10GR
TBC	N/A	Heat spreader for ETX-8X90-10GR

Block Diagram

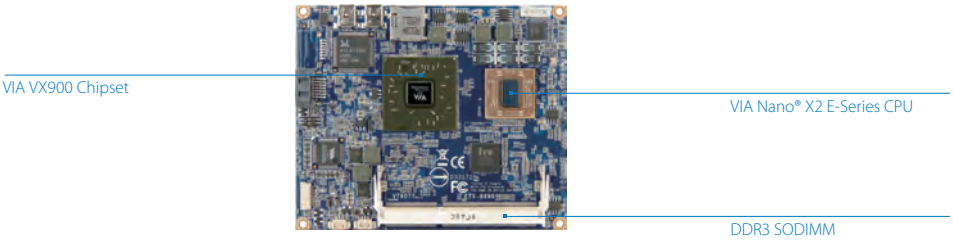


VIA

ETX-8X90

ETX® Module with high-performance multimedia capabilities

Board Placement



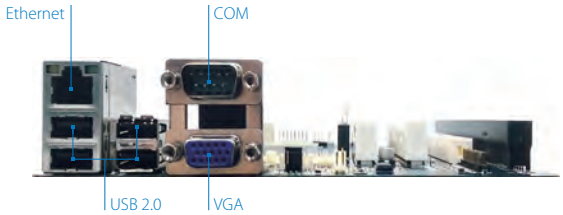
Features

- 1.2GHz VIA Nano® X2 E-Series processor
- Supports up to 4GB 1066 DDR3 SDRAM
- DX9 graphics with MPEG-2/ WMV9/VC1/H.264 decoding acceleration
- Display interface for VGA, supporting resolutions of up to 2048 x 1536, and one 18/24-bit dual-channel LVDS panel
- Supports four USB 2.0 and two mini USB ports

Specifications

Model Name	ETX-8X90
Processor	1.2GHz VIA Nano® X2 E-Series
Chipset	VIA VX900 Media System Processor
BIOS	AMI BIOS, 8Mbit Flash memory
System Memory	1 DDR3 1066 SODIMM slot Up to 4GB memory size
Storage	Up to 2 SATA or 2 EIDE (master mode only)
Graphics	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
LAN	Realtek RTL8139DL 10/100M Ethernet controller
Audio	1 HD audio digital interface
Super I/O	Fintek F71869ED
Supported Expansion I/O	2 PCI
Left Panel I/O	2 SATA connectors (1 optional) 2 Mini USB 2.0 1 Micro SD card slot 1 Audio pin header for Line-in, Line-out, Mic-in
Supported I/O	4 USB 2.0 ports 1 VGA 1 Dual-channel 18-bit/24-bit LVDS panel 2 COM 1 10/100M Ethernet 2 IDE (master mode only) 1 SMbus 1 I^2C 1 ISA (not support DMA transfer)
Operating System	Windows 7, WES 7, Windows CE, Linux
System Monitoring & Management	CPU temperature reading, CPU fan speed reading, System voltage monitoring, Watchdog Timer, Wake-on-LAN, System power management, AC power failure recovery
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	11.4cm x 9.5cm (4.45" x 3.7")
Compliance	ETX 3.02, compact module

Carrier Board Back Panel I/O



Carrier Board (ETXDB1)

* The carrier board is only for evaluation purpose.

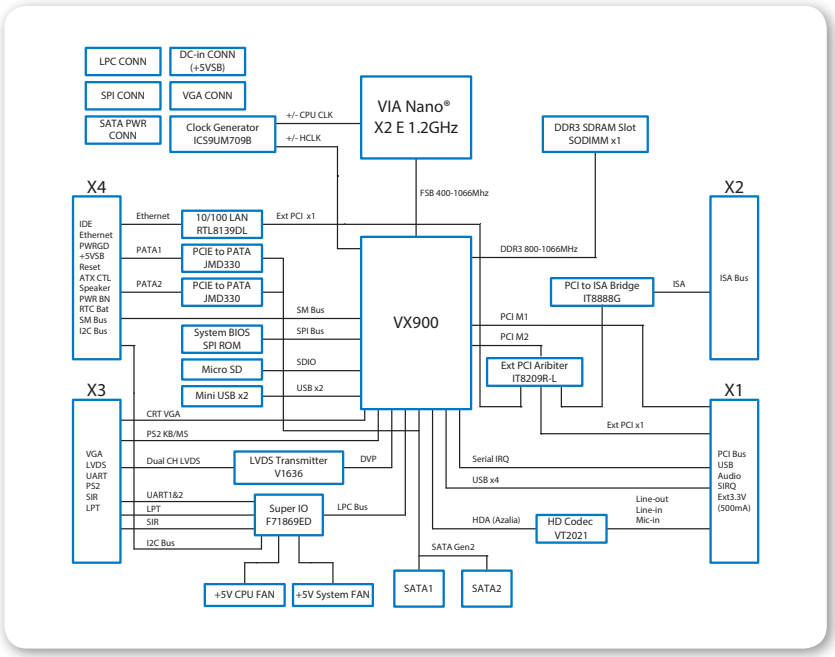
Specifications

Model Name	ETXDB1
Super I/O	Fintek F71869ED
Onboard I/O	1 ISA connector (compatible with ISA ETX 3.0) 2 EIDE connectors (master mode only) 1 COM port pin headers 1 LPT connector 1 Dual-channel 18/24-bit LVDS panel connector 1 Audio pin header for Line-out, Mic-in 1 SMbus pin header 1 I^2C pin header 1 Backlight voltage selects pin header 1 SIR pin header 1 RTC external battery holder 1 ATX power connector 2 PCI slots (compatible with PCI 2.3, 32bit/33Mhz)
Rear Panel I/O	4 USB 2.0 ports 1 VGA port 1 COM port 1 10/100Mbps Ethernet connector
Power Supply	ATX power connector
Operating Temperature	0°C ~ 60°C
Operating Humidty	0% ~ 95% (non-condensing)
Form Factor	Mini-ITX (17cm x 17cm, 6.7" x 6.7")

Ordering Information

Model Name	CPU Frequency	Description
ETX-8X90	1.2GHz VIA Nano® X2 E-Series	ETX Board with 1.2GHz VIA Nano® X2 E-Series CPU with VGA, LVDS, 4 USB 2.0, 2 Mini USB 2.0, COM, 10/100Mbps Ethernet, SATA, 2 IDE, 2 PCI, Micro SD card slot, ATX power connector
ETXDB1	N/A	ETX-8X90 evaluation carrier board
99G42-01381Q	N/A	Heatsink with fan for ETX-8X90
99G42-01413Q	N/A	Heat spreader for ETX-8X90
STK-E8X90-00A0	1.2GHz VIA Nano® X2 E-Series	ETX-8X90 starter kit
STK-E8X90-01A0	1.2GHz VIA Nano® X2 E-Series	ETX-8X90 starter kit with Panel

Block Diagram



Packing List (Starter Kit)

Items for STK-E8X90-00A0
ETX-8X90 ETX module board
ETXDB1 ETX carrier board
SATA cable
PATA cable
KB/MS cable
COM cable
LPT cable

Items for STK-E8X90-01A0
ETX-8X90 module
ETXDB1 carrier board
SATA cable
PATA cable
KB/MS cable
COM cable
LPT cable
LVDS cable
Inverter cable
12.1" LCM

VIA x86 Systems

- AMOS-3005
- AMOS-3003
- AMOS-3002
- ARTiGO A1300
- ARTIGO A1250
- VIPRO VP7910

x86 Systems

Quick Guide

	Industrial		
Model	**AMOS-3005**	**AMOS-3003**	**AMOS-3002**
Processor	1.2GHz VIA Eden® X4	1.2GHz VIA Nano® X2 E-Series	1.0GHz VIA Eden® X2
Chipset	VIA VX11 MSP	VIA VX11H MSP	VIA VX900H MSP
Graphics	Integrated VIA Chrome® 640 DX11 3D/2D graphics with MPEG2, WMV9, VC1 and H.264 video decoding acceleration	Integrated VIA Chrome® 640 DX11 3D/2D graphics with MPEG2, WMV9, VC1 and H.264 video decoding acceleration	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
System Memory	1 DDR3 1333 SDRAM (SODIMM) (Max. 8GB)	1 DDR3 1333 SDRAM (SODIMM) (Max. 8GB)	1 DDR3 1066 SDRAM (SODIMM) (Max. 4GB)
Storage	1 mSATA slot	Supports 1 2.5" SATA 2.5" HDD/SSD 1 mSATA slot	Supports 1 CFast Flash drive Supports 1 2.5" SATA HDD/SSD (Hard drive bay optional)
Audio	HD	HD	HD
Display I/O	1 HDMI 1 VGA	1 Mini HDMI 1 VGA	1 HDMI 1 VGA
USB	2 USB 3.0 2 USB 2.0	2 USB 3.0 2 USB 2.0	6 USB 2.0
LAN	2 Gigabit Ethernet	2 Gigabit Ethernet	2 Gigabit Ethernet
COM	2	3	2
Digital I/O	1	1	1
Expansion I/O	1 miniPCIe 1 SIM slot	2 miniPCIe	1 miniPCIe
Power Supply	9V ~ 36V DC-in	9V ~ 30V DC-in	12V DC-in
Operating System	Windows 10/8.1/8/7, WES 7, Linux	Windows 7, WES 7, Linux	Windows 7, WES 7, Linux
Operating Temperature	-20°C ~ 60°C (with qualified indsutrial grade mSATA)	-10°C ~ 60°C (SSD); 0°C ~ 45°C (HDD)	-20°C ~ 60°C
Optional Accessories	EMIO-1533 USB Wi-Fi EMIO-1541 miniPCIe Wi-Fi EMIO-2550 miniPCIe 3G	EMIO-1533 USB Wi-Fi EMIO-2550 miniPCIe 3G	EMIO-1541 miniPCIe Wi-Fi EMIO-2550 miniPCIe 3G

x86 Systems

Quick Guide

	Smart Clients		Panel PC
Model	**ARTiGO A1300**	**ARTiGO A1250**	**VIPRO VP7910**
Processor	VIA QuadCore E-Series	1.2GHz VIA Eden® X4	1.2GHz VIA Eden® X4 1.6GHz VIA Eden® X4
Chipset	VIA VX11PH MSP	VIA VX11H MSP	VIA VX11H MSP
Graphics	Integrated VIA Chrome® 640 DX11 3D/2D graphics with MPEG2, WMV9, VC1 and H.264 video decoding acceleration	Integrated VIA Chrome® 640 DX11 3D/2D graphics with MPEG2, WMV9, VC1 and H.264 video decoding acceleration	Integrated VIA Chrome® 640 DX11 3D/2D graphics with MPEG2, WMV9, VC1 and H.264 video decoding acceleration
System Memory	1 DDR3 1066/1333 SODIMM socket (Max. 8GB)	1 DDR3 1066/1333 SODIMM socket (Max. 8GB)	Built-in 2GB DDR3 1333SDRAM (SODIMM) (Max. 8GB)
Storage	Supports 1 2.5" SATA HDD/SSD 1 mSATA slot	Supports 1 2.5" SATA HDD/SSD	Supports 1 2.5" SATA 2.5" HDD/SSD 1 mSATA slot
Audio	HD	HD	HD
Display I/O	2 HDMI	1 Mini HDMI 1 VGA	1 Mini HDMI 1 VGA
USB	2 USB 3.0 2 USB 2.0	2 USB 3.0 2 USB 2.0	2 USB 3.0 2 USB 2.0
LAN	1 Gigabit Ethernet	1 Gigabit Ethernet	2 Gigabit Ethernet
COM	1	N/A	3
Digital I/O	1	N/A	1
Expansion I/O	1 miniPCIe slot 1 SIM card slot	N/A	2 miniPCIe
Power Supply	12V DC-in	12V DC-in	9V ~ 32V DC-in
Operating System	Windows 8/7, WES 7, Linux	Windows 10/8/7, WES 7, Linux	Windows 10/8/7, WES 7, Linux,
Operating Temperature	0°C ~ 45°C	0°C ~ 40°C	-10°C ~ 50°C
Optional Accessories	EMIO-1533 USB Wi-Fi EMIO-2550 MiniPCIe 3G	EMIO-1533 USB Wi-Fi	EMIO-1541 minPCIe Wi-Fi EMIO-2550 miniPCIe 3G

VIA

AMOS-3005

Ultra-compact fanless system for embedded industrial applications ideally suited for demanding environments

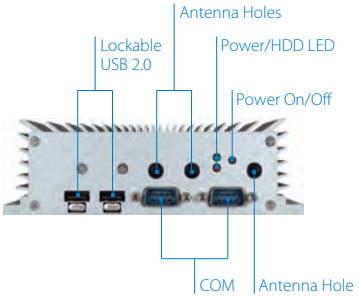
Features

- Ultra compact, ruggedized form factor with multiple wall/DIN Rail/VESA mounting solutions
- High-performance fanless 1.2GHz VIA Eden® X4 processor
- DX11 graphics with MPEG-2/WMV9/VC1/H.264 decoding acceleration
- Rich I/O feature set including lockable USB, RS-232/422/485, and GPIO
- Support for dual independent VGA + HDMI displays

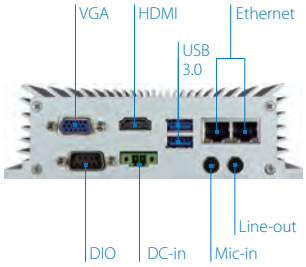
Specifications

Model Name	AMOS-3005
Processor	1.2GHz VIA Eden® X4
Chipset	VIA VX11 Media System Processor
BIOS	AMI BIOS, 32Mbit Flash memory
System Power Management	Wake-on LAN, keyboard power-on, timer power-on, system power management, AC power failure recovery, Watchdog Timer control
System Memory	1 DDR3 1333 SDRAM SODIMM socket Up to 8GB memory size
Storage	Supports 1 mSATA slot
Graphics	Integrated Chrome® 640 DX11 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding accelerator
Audio	VIA VT2021 High Definition Audio Codec
Display I/O	1 HDMI port 1 VGA port supporting VGA resolutions up to 2048 x 1536 pixels Dual independent VGA + HDMI display at different resolutions, pixel depths, and refresh rates
USB	2 USB 3.0 ports, 2 USB 2.0 ports (lockable USB ports for secure connections)
LAN	2 Realtek RTL8111G PCIe Gigabit Ethernet controllers
COM	Fintek F71869ED
Expansion I/O	1 miniPCIe slot 1 SIM slot
Front Panel I/O	2 Lockable USB 2.0 ports 2 COM ports for RS-232/422/485 1 Power on/off button 1 Red LED for HDD activity 1 Green LED for power status 3 Antenna holes for 3G/Wi-Fi
Back Panel I/O	2 USB 3.0 ports 1 HDMI port 1 VGA port 2 Gigabit Ethernet ports 1 DIO port for 8-bit GPIO 2 Audio jacks: Line-out and Mic-in 1 2-pole Phoenix DC jack
Power Supply	9 ~ 36V DC-in (typical: 19W)
Operating System	Windows 10/8.1/8/7, WES 7, Linux
Watchdog Timer	System reset; programmable 1-255 sec
Mechanical Construction	Aluminum top chassis housing Metal chassis housing Dual removable front & rear metal face plate
Mounting	Wall/DIN Rail/VESA mountable
Dimensions	150.5mm(W) x 48.1mm(H) x 109.8mm(D) (5.93" x 1.89" x 4.32")
Weight	1.4kg (3.08lbs)

Front Panel External I/O



Back Panel External I/O



Specifications

Model Name	AMOS-3005
Operating Temperature	-20°C ~ 60°C with qualified indsutrial grade mSATA
Storage Temperature	-20°C ~ 70°C
Operating Humidity	0% ~ 95% (relative humidity; non-condensing)
Vibration Loading During Operation	With mSATA Flash Drive: 5Grms, IEC 60068-2-64, random, 5 ~ 500Hz, 1hr/axis
Shock During Operation	With mSATA Flash Drive: 50G, IEC 60068-2-27, half size, 11ms duration
Compliance	CE/FCC

Ordering Information

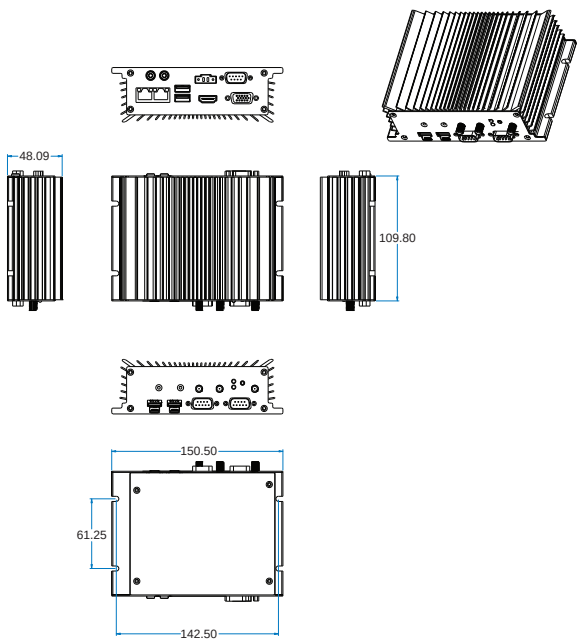
Part Number	CPU Frequency	Description
AMOS-3005-1Q12A1	VIA Eden® X4 @ 1.2GHz	1.2GHz VIA Eden® X4 CPU based fanless embedded system with HDMI, VGA, 2 USB 3.0, 2 Lockable USB 2.0 , 2 COM, DIO, 2 Gigabit Ethernet, 9 ~ 36V DC-in power

Optional Accessories

External AC-to-DC Adapter and Power Cord	
Part Number	**Description**
99G63-020316	AC-to-DC adapter, 2-pole Phoenix connector, DC 12V/5A, 60W
99G33-02032C	Power cord, 180cm, USA type
99G33-02033C	Power cord, 180cm, Europe type
99G33-02034C	Power cord with PSE mark, 180cm for Japan market

Wireless Accessories	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit
EMIO-1541-00A1	VNT9485 IEEE 802.11 b/g/n miniPCIe Wi-Fi module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS and SIM card slot

Dimensions



Unit: mm

Packing List

Items
AMOS-3005 system
Phoenix plug to DC jack
Screw pack for mounting
Screw pack for Mini PCIe card
Rubber feet pack
Thermal pad for mSATA module
Thermal grease (0.5cc syringe)

VIA

AMOS-3003

Compact fanless embedded system ruggedized for extreme environments

Features

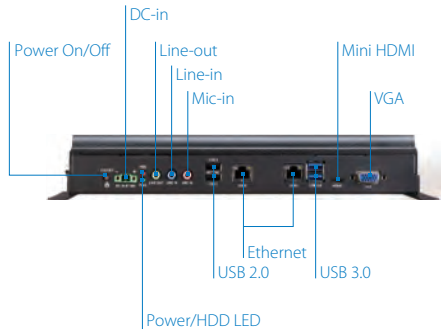
- 1.2GHz VIA Nano® X2 E-Series dual-core processor
- Wide input voltage range supporting 9V~30V DC-in
- Dual Gigabit Ethernet, optional Wi-Fi and dual 3G SIM card support
- Legacy I/O support including COM and GPIO
- Support for dual independent VGA + HDMI displays

Specifications

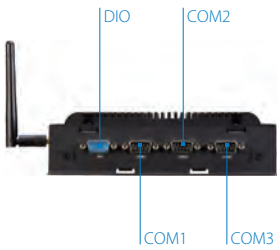
Model Name	AMOS-3003
Processor	1.2GHz VIA Nano® X2 E-Series CPU
Chipset	VIA VX11H Media System Processor
BIOS	AMI Aptio UEFI BIOS, 32Mbit Flash memory
System Power Management	ACPI 3.0 compliant, Wake-on LAN, keyboard power-on, timer power-on, system power management, AC power failure recovery, Watchdog Timer control
System Memory	1 DDR3 1333 SODIMM socket Up to 8GB memory size
Storage	Supports 1 2.5" SATA HDD/SSD 1 mSATA slot
Graphics	Integrated VIA Chrome® 640 DX11 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
Audio	VIA VT2021 High Definition Audio Codec
Display I/O	1 Mini HDMI port 1 VGA port supporting VGA resolutions up to 2048 x 1536 pixels Dual independent VGA + HDMI display at different resolutions, pixel depths, and refresh rates
USB	2 USB 3.0 ports and 3 USB 2.0 host ports
LAN	VIA VT6130 PCIe Gigabit Ethernet controller Realtek RTL8111G PCIe Gigabit Ethernet controller Supports Wake On LAN (WOL) Supports Preboot Execution Environment (PXE) 11x5-pin header reserved to support VIA EMIO-1533 USB Wi-Fi module
COM	Fintek F81865
Expansion I/O	2 miniPCIe slots (supports 2 SIM slots) Supports optional Wi-Fi/3G modules Supports 3 external antenna for Wi-Fi, 3G module, and GPS module
Back Panel I/O	2 USB 3.0 ports 2 USB 2.0 ports 1 Mini HDMI port 1 VGA port 2 Gigabit Ethernet ports 3 Audio jacks: Line-out, Line-in and Mic-in 1 Power on/off button 1 Red LED for HDD activity 1 Green LED for power status 1 2-pole Phoenix DC jack
Left Panel I/O	1 DIO port for 8-bit GPIO 3 COM ports for RS-232/422/485 (powered by selectable 5V/12V)
Power Supply	9V ~ 30V DC-in (typical: 27W) Supports over voltage protection, over current protection, under voltage protection
Operating System	Windows 7, WES 7, Linux
Watchdog Timer	System reset; programmable 1-255 sec
Mechanical Construction	Aluminum mixed with heavy-duty steel with heat pipe embedded Aluminum top cover mixed with copper heat-pipe

CE FC

Back Panel External I/O



Left Panel External I/O



Specifications

Model Name	**AMOS-3003**
Mounting	Built-in wall mountable brackets on system chassis
Dimensions	311m(W) x 50.6mm(H) x 185mm(D) (12.24" x 1.99" x 7.28") (with wall mountable brackets)
Weight	3.5kg (7.7lbs)
Operating Temperature	-10°C ~ 60°C (SSD); 0°C ~ 45°C (HDD)
Storage Temperature	-20°C ~ 70°C
Operating Humidity	10% ~ 90% @ 45°C (non-condensing)
Vibration Loading During Operation	With mSATA or 2.5" SSD: 3Grms, IEC 60068-2-64, random, 5 ~ 500Hz, 1hr/axis
Shock During Operation	With mSATA or 2.5" SSD: 50G, IEC 60068-2-27, half size, 11ms duration
Compliance	CE/FCC

Ordering Information

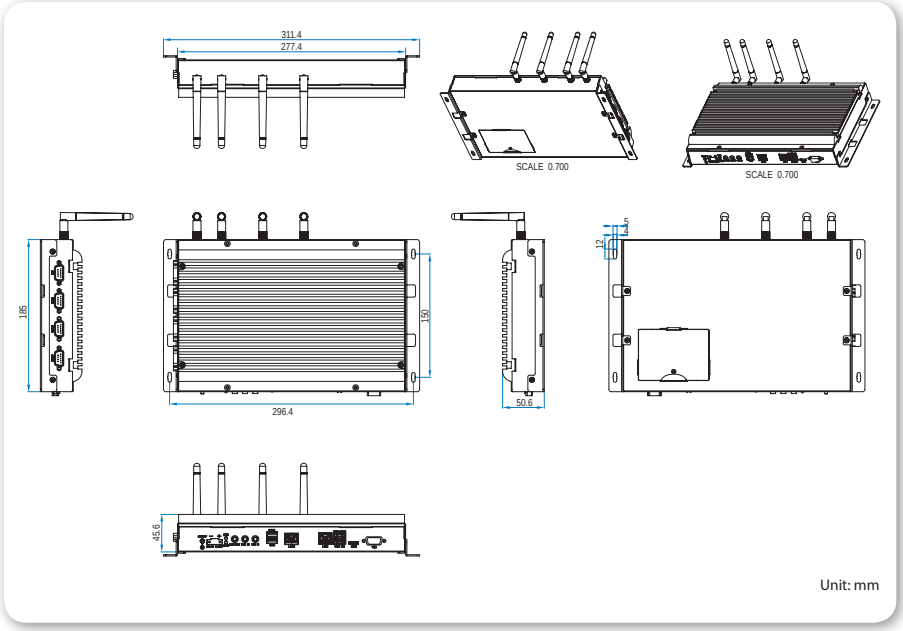
Part Number	CPU Frequency	Description
AMOS-3003-1D12A1	VIA Nano X2 E-Series @ 1.2GHz	1.2GHz VIA Nano X2 E-Series CPU based fanless embedded system with Mini HDMI, VGA, 2 USB 3.0, 2 USB 2.0, 3 COM, DIO, 2 Gigabit Ethernet, SATA, mSATA, 9V ~ 30V DC-in

Optional Accessories

External AC-to-DC Adapter and Power Cord	
Part Number	**Description**
99G63-020316	AC-to-DC Adapter, 2-pole, DC 12V/5A, 60W
99G33-02032C	Power Cord, 180cm, USA type
99G33-02034C	Power Cord with PSE mark, 180cm for Japan market
99G33-02033C	Power Cord, 180cm, Europe type

Wireless Modules	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11b/g/n USB Wi-Fi module with assembly kit
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS and SIM card slot

Dimensions



Unit: mm

Packing List

Items
AMOS-3003 system
Phoenix plug to DC jack
Screw pack for mounting
Screw pack for miniPCIe cards and mSATA module
Screw pack for HDD
Thermal pad for HDD
Thermal pad for mSATA module

VIA

AMOS-3002

Ultra-compact fanless system for embedded industrial applications ideally suited for demanding environments

Features

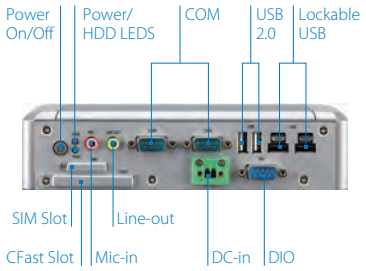
- Ultra compact, ruggedized form factor with multiple wall/table/VESA mounting solutions
- High-performance fanless 1.0GHz VIA Eden® X2 processor
- DX9 graphics with MPEG-2/ WMV9/VC1/H.264 decoding acceleration
- Rich I/O feature set including lockable USB, RS-232/422/485, and GPIO
- Support for dual independent VGA + HDMI displays

CE FC

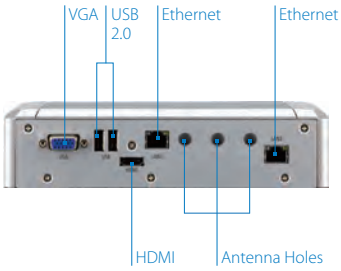
Specifications

Model Name	AMOS-3002
Processor	1.0GHz VIA Eden® X2
Chipset	VIA VX900H Media System Processor
BIOS	AMI BIOS, 8Mbit Flash memory
System Power Management	Wake-on LAN, keyboard power-on, timer power-on, system power management, AC power failure recovery, Watchdog Timer control
System Memory	1 DDR3 1066 SODIMM socket Up to 4GB memory size
Storage	Supports 1 CFast Flash drive Supports 1 2.5" SATA HDD/SSD (AMOS-3002-2D10A1)
Graphics	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
Audio	VIA VT2021 High Definition Audio Codec
Display I/O	1 HDMI port 1 VGA port supporting VGA resolutions up to 1920 x 1200 pixels Dual independent VGA + HDMI display at different resolutions, pixel depths, and refresh rates
USB	6 USB 2.0 ports, including 2 lockable USB ports for secure connections
LAN	VIA VT6130 PCIe Gigabit Ethernet controller
COM	Integrated in VX900H
Expansion I/O	1 miniPCIe slot
Front Panel I/O	1 CFast Flash slot 2 USB 2.0 ports 2 COM ports for 1 RS-232 and 1 RS-232/422/485 1 DIO port for 8-bit GPIO 2 Lockable USB 2.0 ports 2 Audio jacks: Line-in and Mic-out 1 SIM card slot 1 Power on/off button 1 Red LED for HDD activity 1 Green LED for power status 1 2-pole Phoenix DC jack
Back Panel I/O	2 USB 2.0 ports 1 HDMI port 1 VGA port 2 Gigabit Ethernet ports 3 Antenna holes for 3G/Wi-Fi
Power Supply	12V DC-in (typical: 23W)
Operating System	Windows 7, WES 7, Linux
Watchdog Timer	System reset; programmable 1-255 sec
Mechanical Construction	Aluminum top chassis housing Metal chassis housing Dual removable front & rear metal face plate
Mounting	Wall/table/VESA mountable

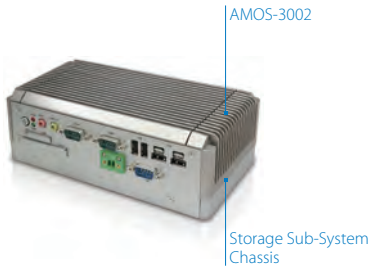
Front Panel Exrternal I/O



Back Panel External I/O



AMOS-3002 and Sub-system Chassis



Specifications

Model Name	AMOS-3002-1D10A1	AMOS-3002-2D10A1
Dimensions	197mm(W) x 49mm(H) x 104mm(D) (7.75" x 1.92" x 4.09")	197mm(W) x 66mm(H) x 104mm(D) (7.75" x 2.59" x 4.09")
Weight	1.4kg (3.08lbs)	1.8kg (4.02lbs)
Operating Temperature	-20°C ~ 60°C 0°C ~ 45°C when system equipped with 2.5" hard disk drive (AMOS-3002-2D10A1)	
Storage Temperature	-20°C ~ 70°C	
Operating Humidity	0% ~ 95% (relative humidity; non-condensing)	
Vibration Loading During Operation	With CFast Flash drive: 5Grms, IEC 60068-2-64, random, 5 ~ 500Hz, 1hr/axis	
Shock During Operation	With CFast Flash drive: 50G, IEC 60068-2-27, half size, 11ms duration	
Compliance	CE/FCC	

Ordering Information

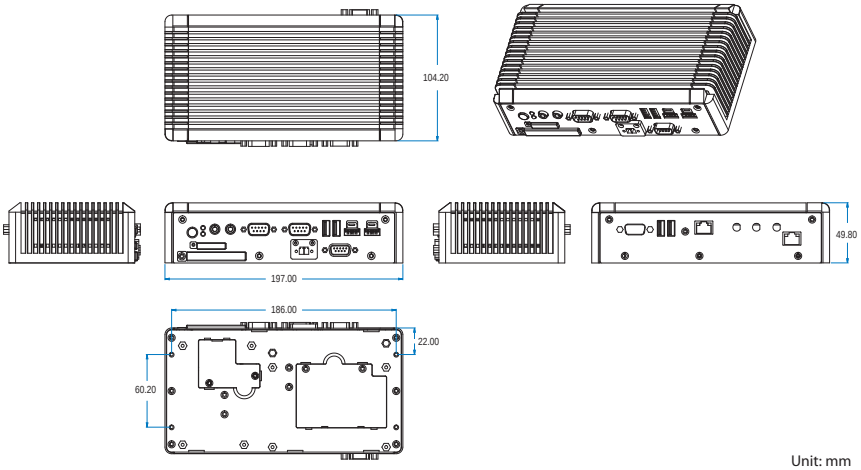
Part Number	CPU Frequency	Description
AMOS-3002-1D10A1	VIA Eden® X2 @ 1.0GHz	1.0GHz VIA Eden® X2 CPU based fanless embedded system with HDMI, VGA, 4 USB 2.0, 2 Lockable USB 2.0 , 2 COM, DIO, 2 Gigabit Ethernet, CFast Flash slot, SIM card slot, miniPCIe slot, 12V DC-in
AMOS-3002-2D10A1	VIA Eden® X2 @ 1.0GHz	1.0GHz VIA Eden® X2 CPU based fanless embedded system with HDMI, VGA, 4 USB 2.0, 2 Lockable USB 2.0, 2 COM, DIO, 2 Gigabit Ethernet, 2.5" SATA HDD/SSD Bay, CFast Flash slot, SIM card slot, miniPCIe slot, 12V DC-in

Optional Accessories

External AC-to-DC Adapter and Power Cord	
Part Number	**Description**
99G63-020316	AC-to-DC adapter, 2-pole Phoenix connector, DC 12V/5A, 60W
99G33-02032C	Power cord, 180cm, USA type
99G33-02033C	Power cord, 180cm, Europe type
99G33-02034C	Power cord with PSE mark, 180cm for Japan market

Wireless Accessories	
Part Number	**Description**
EMIO-1541-00A1	VNT9485 IEEE 802.11 b/g/n miniPCIe Wi-Fi module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS

Dimensions



Packing List

Items
AMOS-3002 system
Phoenix plug to DC jack
Thermal pad for memory
Thermal pad for CFast
VESA bracket
Wall mount bracket
Rubber feet pack

VIA

ARTiGO A1300

Ultra-compact fanless system for mission-critical dual-display signage, HMI, and IoT applications

Features

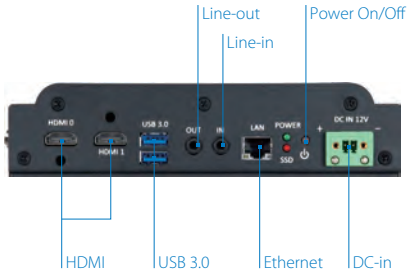
- Two HDMI ports with dual independent display support
- 1.0GHz VIA QuadCore E-Series processor and VX11PH media system processor
- Rich I/O features, inlcuding COM, Digital I/O, USB 2.0, and USB 3.0 ports
- Optional 3G and Wi-Fi modules
- VIA MagicView® content management software available

Specifications

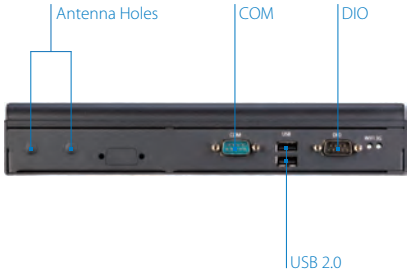
Model Name	ARTiGO A1300
Processor	1.0GHz VIA QuadCore E-Series
Chipset	VIA VX11PH Media System Processor
BIOS	AMI Aptio UEFI BIOS, 32Mbit Flash memory
System Power Management	Timer Power-On ACPI 3.0 compliant
System Memory	1 DDR3 1066/1333 SODIMM socket Up to 8GB memory size
Storage	Supports 1 2.5" SATA SSD/HDD 1 mSATA slot
Graphics	Integrated Chrome® 645/640 DX11 3D/2D graphics with MPEG-2, WMV9, VC-1 and H.264 video decoding acceleration
Audio	VIA VT2021 High Definition Audio Codec
Display I/O	2 HDMI ports supporting resolutions up to 1920 x 1080 pixels Dual independent HDMI displays at different resolutions, pixel depths, and refresh rates
USB	2 USB 3.0 ports and 2 USB 2.0 ports
LAN	Realtek RTL8111G Gigabit Ethernet controller Supports Wake-On-LAN and Boot from LAN (PXE)
COM	Fintek F71869
Expansion I/O	1 miniPCIe slot (PCIe + USB 2.0) 1 SIM card slot
Front Panel I/O	2 USB 3.0 ports 2 HDMI ports 1 Gigabit Ethernet port 2 Audio jacks: Line-in and Line-out 1 Power on/off button 1 Red LED for SSD activity 1 Green LED for power status 1 2-pole Phoenix DC jack
Left Panel I/O	2 USB 2.0 ports 1 COM port for RS-232/422/485 (powered by selectable 5V/12V) 1 DIO port for 8-bit GPIO 1 Blue LED for 3G 1 Blue LED for USB Wi-Fi 2 Antenna holes for 3G/Wi-Fi
Power Supply	12V DC-in (typical: 28W)
Operating System	Windows 8/7, WES 7, Linux
Watchdog Timer	System reset; programmable 1~255 sec
Mechanical Construction	Fanless Aluminum alloy
Mounting	VESA mount
Dimensions	185mm(W) x 44.4mm(H) x 162mm(D) (7.28" x 1.75" x 6.38")
Weight	2.0kg (4.4lbs) (without HDD)

CE FC

Front Panel External I/O



Left Panel External I/O



Specifications

Model Name	ARTiGO A1300
Operating Temperature	0°C ~ 45°C (SSD & mSATA) 0°C ~ 40°C (HDD)
Storage Temperature	-10°C ~ 60°C
Operating Humidity	0% ~ 90% (non-condensing)
Vibration Loading During Operation	With 2.5" SSD IEC 60068-2-64 (5Grms, random, 5 ~ 500Hz, 1hr/axis)
Shock During Operation	With 2.5" SSD IEC 60068-2-27 (50G, half size, 11ms duration)
Compliance	CE/FCC

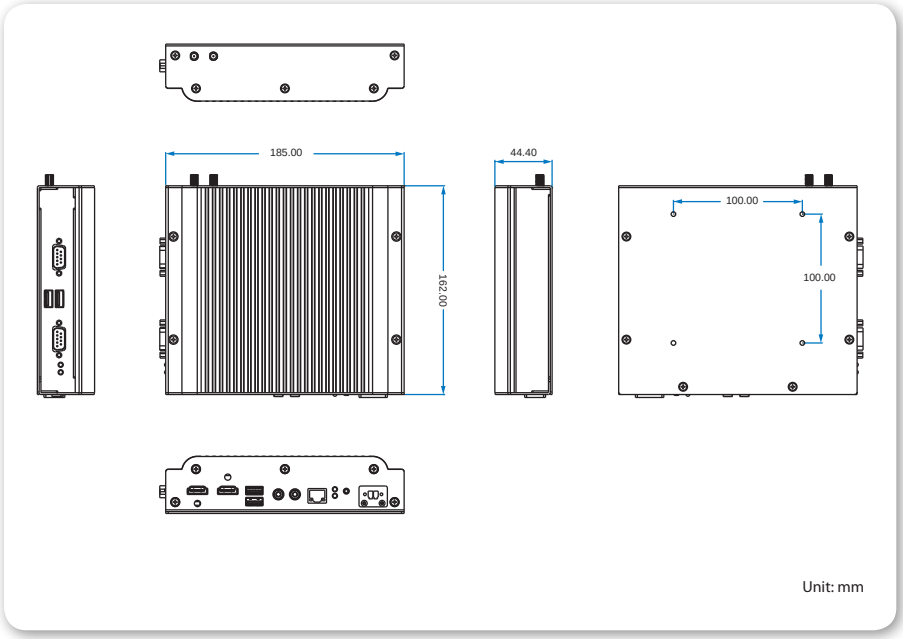
Ordering Information

Part Number	CPU Frequency	Description
ATG-A1300-1Q10A2	VIA QuadCore E-Series @ 1.0GHz	Fanless embedded system with 1.0GHz VIA QuadCore E-Series CPU, 2 HDMI, 2 USB 3.0, 2 USB 2.0, COM, DIO, Gigabit Ethernet, SATA SSD bay, mSATA, SIM card slot, miniPCIe slot, 12V DC-in, US power cord
ATG-A1300-2Q10A2	VIA QuadCore E-Series @ 1.0GHz	Fanless embedded system with 1.0GHz VIA QuadCore E-Series CPU, 2 HDMI, 2 USB 3.0, 2 USB 2.0, COM, DIO, Gigabit Ethernet, SATA SSD bay, mSATA, SIM card slot, miniPCIe slot, 12V DC-in, EU power cord

Optional Accessories

Wireless Accessories	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11b/g/n USB Wi-Fi module with assembly kit
EMIO-2550-01A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS

Dimensions



Packing List

Items
ARTiGO A1300 system
AC-to-DC power adapter
Power cord
HDMI strap holder
SATA power cable
Screw pack for mounting
Screw pack for HDD
Screw pack for miniPCIe card

VIA

ARTiGO A1250

Ultra-slim system for semi-embedded industrial applications for digital signage media player

Features

- 1.2GHz VIA Eden® X4 processor
- DX11 2D/3D graphics with MPEG-2/WMV9/VC1/H.264 decoding acceleration
- VIA MagicView® content management software available
- Support for dual independent VGA + HDMI displays
- DC jack strap holder

TAIWAN EXCELLENCE 2013

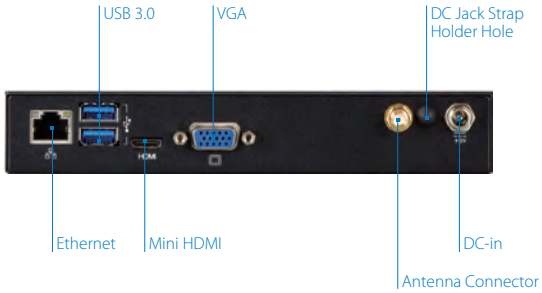
CE FC

Specifications

Model Name	ARTiGO A1250
Processor	1.2GHz VIA Eden® X4
Chipset	VIA VX11H Media System Processor
BIOS	AMI Aptio UEFI BIOS, 32Mbit Flash memory
System Power Management	Timer Power-On ACPI compliant
System Memory	1 DDR3 1066/1333 SODIMM socket Up to 8GB memory size
Storage	Supports 1 2.5" SATA HDD/SSD
Graphics	Integrated Chrome® 640 DX11 3D/2D graphics with MPEG-2, WMV9, VC1and H.264 video decoding acceleration
Audio	VIA VT2021 High Definition Audio Codec
Display I/O	1 Mini HDMI port 1 VGA port supporting VGA resolutions up to 2560 x1600 pixels Dual independent VGA + HDMI display at different resolutions, pixel depths, and refresh rates
USB	2 USB 3.0 ports 2 USB 2.0 ports
LAN	VIA VT6130 PCIe Gigabit Ethernet controller Supports wake-on-LAN and Boot from LAN (PXE)
Front Panel I/O	2 USB 2.0 ports 3 Audio jacks: Line-in, Line-out and Mic-in 1 Power on/off switch 1 Red LED for HDD activity 1 Green LED for power status
Back Panel I/O	2 USB 3.0 ports 1 Mini HDMI port 1 VGA port 1 Gigabit Ethernet port 1 DC strap holder hole 1 Antenna hole reserved to support Wi-Fi 1 DC-in jack
Power Supply	12V DC-in (typical: 30W)
Operating System	Windows 10/8.1/8/7, WES 7, Linux
Watchdog Timer	System reset; programmable 1~255 sec
Mechanical Construction	Aluminum top cover chassis housing Galvanized steel sheet (SECC) body chassis housing Front removable aluminum face plate
Mounting	VESA mount
Dimensions	177mm(W) x 30mm(H) x 125mm(D) (6.96" x 1.18" x 4.92")
Weight	0.68kg (1.49lbs)
Operating Temperature	0°C ~ 40°C
Operating Humidity	0% ~ 90% (non-condensing)
Storage Temperature	-10°C ~ 60°C
Compliance	CE/FCC

Front Panel External I/O

Back Panel External I/O



Ordering Information

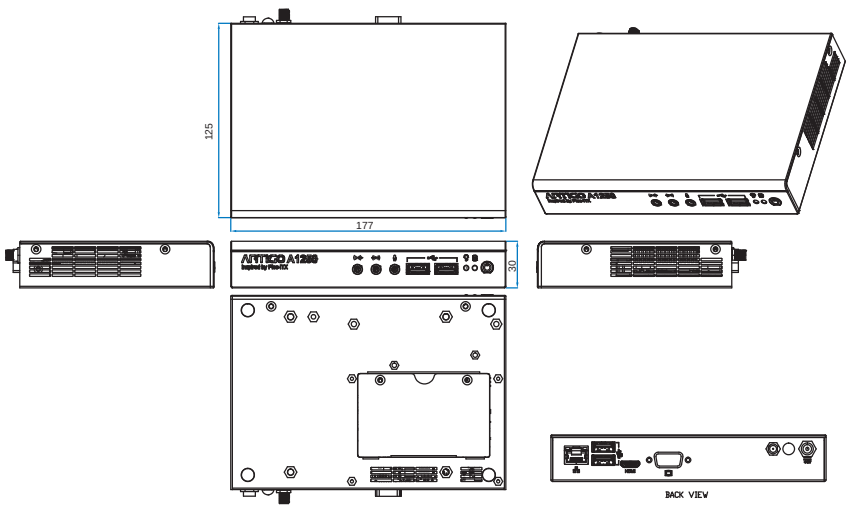
Part Number	CPU Frequency	Description
ATG-A1250-5Q12A3	VIA Eden® X4 @ 1.2GHz	1.2GHz VIA Eden® X4 CPU Based Semi-Embedded System with Mini HDMI, VGA, 2 USB 3.0, 2 USB 2.0, Gigabit Ethernet, SATA, 12V DC-in, US Power Cord
ATG-A1250-6Q12A3	VIA Eden® X4 @ 1.2GHz	1.2GHz VIA Eden® X4 CPU Based Semi-Embedded System with Mini HDMI, VGA, 2 USB 3.0, 2 USB 2.0, Gigabit Ethernet, SATA, 12V DC-in, EU Power Cord
ATG-A1250-7Q12A3	VIA Eden® X4 @ 1.2GHz	1.2GHz VIA Eden® X4 CPU Based Semi-Embedded System with Mini HDMI, VGA, 2 USB 3.0, 2 USB 2.0, Gigabit Ethernet, SATA, 12V DC-in, JP Power Cord
ATG-A1250-8Q12A3	VIA Eden® X4 @ 1.2GHz	1.2GHz VIA Eden® X4 CPU Based Semi-Embedded System with Mini HDMI, VGA, 2 USB 3.0, 2 USB 2.0, Gigabit Ethernet, SATA, 12V DC-in, CN Power Cord

Optional Accessories

Wireless Accessories	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit

Mounting Options	
Part Number	**Description**
99G42-09288E-1	Mechanism kit, wall mount bracket, 116mm x 116mm x 18.4mm

Dimensions



Unit: mm

Packing List

Items
ARTiGO A1250 system
AC-to-DC power adapter
Power cord
DC jack strap holder
SATA cable
Screw pack for HDD

VIA

VIPRO VP7910

Fanless quad-core panel PC with 10.4" resistive or prejective capacitive touch screen

Features

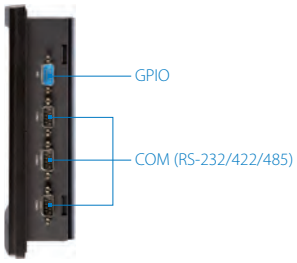
- Fanless VIA Eden® X4 quad-core processor
- Supports 5-wire resistive touch sensor or projective capacitive multi-touch
- Supports one mSATA and one hard disk drive bay
- Supports two minPCIe slots and two SIM card slots for 3G/ Wi-Fi communication
- Front panel IP65 compliant against water and dust

CE FC

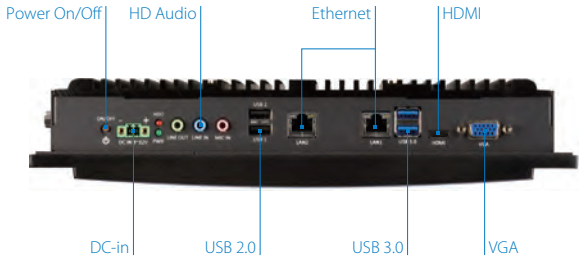
Specifications

Model Name		VP-7910-R1Q12A1	VP-7910-P1Q12A1
Processor		1.2GHz VIA Eden® X4	1.2GHz VIA Eden® X4
Chipset		VIA VX11H Media System Processor	
BIOS		AMI Aptio UEFI BIOS, 32Mbit Flash memory	
System Power Management		ACPI 3.0 compliant, Wake-on LAN, keyboard power-on, timer power-on, system power management, AC power failure recovery, Watchdog Timer control	
System Memory		1 DDR3 SODIMM socket, up to 8GB memory size Pre-assembled 2GB SDRAM	
Storage		Supports 1 2.5" SATA SSD/HDD 1 mSATA slot	
Graphics		Integrated VIA Chrome® 640 DX11 2D/3D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration	
Audio		VIA VT2021 High Definition Audio Codec	
LCD Display	LCD Type	10.4" color TFT LCD	
	LCD MTBF	30,000 hrs	50,000 hrs
	Contrast Ratio	500:1	1400:1
	Luminance (cd/m^2)	230	400
	Viewing Angle (H/V°)	80°(left), 80°(right), 60°(up), 70°(down)	89°(left), 89°(right), 89°(up), 89°(down)
	Pixel Pitch (mm)	0.264 x 0.264	0.2055 x 0.2055
	Max. Colors	16.2M	16.2M
	Max. Resolution	800 x 600	1024 x 768
Touch Screen	Touch Type	5-wire Analog Resistive	Projective Capacitive multi-touch
	Light Transmission	80% ± 3%	≥85%
	Controller	USB interface	USB interface
USB		2 USB 3.0 ports and 2 USB 2.0 host ports	
LAN		VIA VT6130 PCIe Gigabit Ethernet controller Realtek RTL8111G PCIe Gigabit Ethernet controller Supports Wake On LAN (WOL) Supports Preboot Execution Environment (PXE) 1x6 pin connector reserved to support VIA EMIO-1533 USB Wi-Fi module	
COM		Fintek F81865	
Expansion I/O		2 miniPCIe slots (supports 2 SIM slots) Supports 3 external antenna for optional Wi-Fi, 3G, and GPS modules	
Bottom Panel I/O		2 USB 3.0 ports 2 USB 2.0 ports 1 Mini HDMI port 1 VGA port 2 Gigabit Ethernet ports 3 Audio jacks: Line-in, Line-out and Mic-in 1 Power on/off button 1 Red color LED for HDD activity 1 Green color LED for power status 1 2-pole Phoenix DC jack	

Left Panel External I/O



Bottom Panel External I/O



Specifications

Part Number	VP-7910-R1Q12A1	VP-7910-P1Q12A1
Left Panel I/O	1 DIO port for 8-bit GPIO (4 GPI + 4 GPO) 3 COM ports for RS-232/422/485 (powered by selectable 5V/12V)	
Power Supply	9V ~ 32V DC-in (typical 29W) Supports over voltage protection, over current protection, under voltage protection	
Operating System	Windows 10/8.1/8/7, WES 7, Linux	
Watchdog Timer	System reset; programmable 1~255 sec	
Mechanical Construction	Aluminum mixed with heavy-duty steel	
Mounting	Panel mount/Wall/VESA mountable	
Dimensions	205mm(W) x 61mm(H) x 100mm(D) (11.8" x 8" x 2.4")	
Weight	3.6kg (7.9lbs)	
Operating Temperature	-10°C ~ 50°C: with qualified industrial grade DRAM, flash disk drive 0°C ~ 50°C: with default built in DRAM 0°C ~ 45°C: with 2.5" hard disk drive	
Operating Humidity	10% ~ 90% @ 45°C (non-condensing)	
Storage Temperature	-10°C ~ 70°C	
Vibration Loading During Operation	With mSATA flash: 5Grms, IEC 60068-2-64, random, 5 ~ 500Hz, 1hr/axis	
Shock During Operation	With mSATA flash: 50G, IEC 60068-2-27, half size, 11ms duration	
Compliance	CE/FCC	

Ordering Information

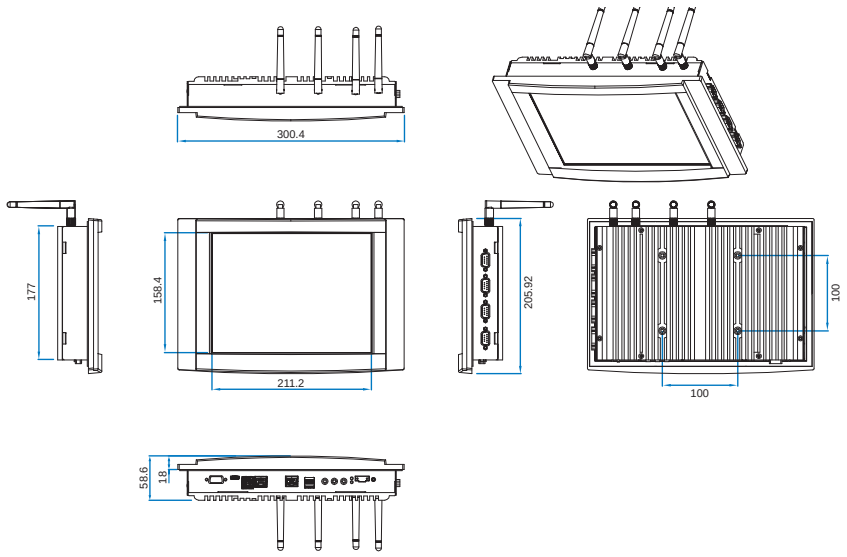
Part Number	CPU Frequency	Description
VP-7910-R1Q12A1	VIA Eden® X4 @ 1.2GHz	1.2GHz VIA Eden® X4 CPU based fanless 10.4" Resistive touch panel system with 800 x 600 LCD, pre-assembled 2GB SDRAM, HDMI, VGA, 2 USB 3.0, 2 USB 2.0, 3 COM, DIO, 2 Gigabit Ethernet, SATA, mSATA, 2 miniPCIe slots, panel mount bracket, 9~32V DC-in
VP-7910-P1Q12A1	VIA Eden® X4 @ 1.2GHz	1.2GHz VIA Eden® X4 CPU based fanless 10.4" Projective Capacitive touch panel system with 1024 x 768 LCD, pre-assembled 2GB SDRAM, HDMI, VGA, 2 USB 3.0, 2 USB 2.0, 3 COM, DIO, 2 Gigabit Ethernet, SATA, mSATA, 2 miniPCIe slots, panel mount bracket, 9~32V DC-in

Optional Accessories

External AC-to-DC Adapter and Power Cord	
Part Number	**Description**
99G63-020316	AC-to-DC adapter, 2-pole Phoenix connector, DC 12V/5A, 60W
99G33-02032C	Power cord, 180cm, USA type
99G33-02033C	Power cord, 180cm, Europe type

Wireless Accesories	
Part Number	**Description**
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit
EMIO-1541-00A1	VNT9485 IEEE 802.11 b/g/n miniPCIe Wi-Fi module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS and SIM card slot

Dimensions



Unit: mm

Packing List

Items
VIPRO VP7910
Phoenix plug to DC jack
Panel mounting bracket
Screw pack for VESA mounitng

VIA Accessories

- x86 Board Accessories
- ARM & x86 Wireless Accessories

Power Boards

PWB-M120

DC to DC Power Board

Packing List

PWB-M120 power board
DC-in module
DC input power cable

Ordering Information

Part Number	Description
10GPWB-M12020	120W DC-DC power board, voltage range from 12V~24V

Features

- **Protection**
  Output Voltage Protection (Over Voltage Protection) OVP
  Output Current Protection (Output Short Protection)
  Output Voltage Protection (Under Voltage Protection) UVP
- **Operating Temperature:** 0 ~ 50°C
- **Operating Humidity:** 0% ~ 95% (non-condensing)
- **Dimensions:** 150mm x 51mm
- **Compatible models:** EPIA-M920, M910, M900, M860, VB7009
- **DC Input**

Input	Minimum	Nominal	Maximum
Voltage	11.4V~22.8V	12V~24V	12.6 V~25.2V
Current		5.42A~10.84A	

- **DC Output Voltage**

Output	Minimum	Nominal	Maximum	Maximum Combined Power
+5V_SB	4.75V	5V	5.25V	
+3.3V	3.14V	3.3V	3.47V	
+5V	4.75V	5V	5.25V	122.2W
+12V	11.4V	12V	12.6V	
Power Good	4.75V	5V	5.25V	

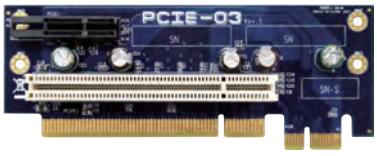
- **DC Output Current**

+5V_SB	+3.3V	+5V	+12V	-12V	Power Good	Maximum Combined Power
2A	6A	6A	5A	200mA	0.1A	122.2W

Expansion Modules

PCIE-03

One PCIe and One PCI Riser Card



Features

- PCI and PCIe riser card to support one 1-lane PCIe slot and one PCI slot
- **Compatible models:** EPIA-M860, M910
- **Dimensions:** 131.58mm x 51.3mm

Packing List

PCIE-03 module

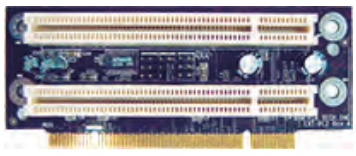
Ordering Information

Part Number	Description
10GU800000020	PCI & 1-lane PCIe riser card

Expansion Modules

EXT-PCI

One to Two PCI Riser Card



Features

- Supports one to two PCI riser card
- **Compatible models:** EPIA-M910, M900, M860, VB7009
- **Dimensions:** 112mm x 46mm

Packing List

EXT-PCI module

Ordering Information

Part Number	Description
10GEXT-PCI101	One to two PCI riser card

Expansion Modules

LPC-04

Expansion Module for Two for Four RS-232/422/485 Ports (5V or 12V)

Features

- Expansion module for two or four COM ports (5V or 12V)
- 4 COM ports (COM1 ~ COM4) are selectable for RS-232/422/485
- Multiple GPIO support
- **Compatible models:** EPIA-P910, P900, M920, M910, VB7009
- **Dimensions:** 100mm x 60mm

Packing List

LPC-04 module (LPC-04R2 or LPC-04R4)
LPC cable (for specific SKU)

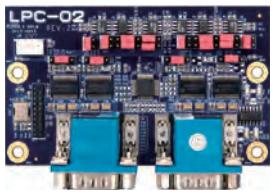
Ordering Information

Part Number	Description
10GZ300030020	LPC-04R2 expansion module for two COM ports (5V or 12V)
10GZ300020020	LPC-04R4 expansion module for four COM ports (5V or 12V)

Expansion Modules

LPC-02

Expansion Module for Two RS-232 Ports and Two RS-232/422/485 Ports (5V or 12V)



Features

- Expansion module for four COM ports (5V or 12V)
- COM1 & COM2 are selectable for RS-232/422/485, and COM3 & COM4 are dedicated for RS-232
- **Compatible models:** EPIA-P910, P900, M920, M910, VB7009
- **Dimensions:** 100mm x 60mm

Packing List

LPC-02 module
LPC cable (for specific SKU)

Ordering Information

Part Number	Description
10GC600010020	Expansion module for four COM ports (5V or 12V)

Expansion Modules

LPC-01

Expansion Module for Four RS-232 Ports (5V or 12V)

Features

- Expansion module for four COM ports (5V or 12V)
- **Compatible models:** EPIA-P910, P900, M920, M910, VB7009
- **Dimensions:** 100mm x 40mm

Optional

LPC Cable

Packing List

LPC-01 module
LPC cable (For specific SKU)

Ordering Information

Part Number	Description
10GLPC0012020	Expansion module for four COM ports (5V or 12V)

Wireless Modules

VNT9271/EMIO-1533

IEEE 802.11b/g/n USB Wi-Fi Module / Dongle

Features

- **Controller chip:** Atheros AR9271
- Compatible with IEEE 802.11b/g/n standards
- Operation at 2.4 ~ 2.5GHz frequency band to meet worldwide regulations
- Supports 802.11e WMM (Wi-Fi multimedia QoS standard)
- Maximum reliability, throughput and connectivity with automatic data rate switching
- Supports infrastructure networks via access point and ad-hoc network via peer-to-peer communication
- Supports WEP, WPA, WPA2 and 802.1X security mode
- Drivers support for Android, Linux, Windows 8.1/8/7
- **Dimensions:** module: 17mm x 35mm; dongle: 16.2mm x 35mm
- **Compatible models:** Supported by both ARM and x86 platforms with USB interface

Ordering Information

Part Number	Description
00GO27100BU2B0D0	VNT9271BU0DB IEEE 802.11b/g/n USB Wi-Fi dongle
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit

Packing List

VNT9271 dongle	EMIO-1533-00A2 USB cable Wi-Fi antenna Wi-Fi antenna cable & screw pack

Wireless Modules

EMIO-1541

IEEE 802.11b/g/n mini PCIe Wi-Fi Module

Features

- **Controller chip:** Atheros AR9485
- Compatible with IEEE 802.11b/g/n standards
- Operation at 2.4 ~ 2,5GHz frequency band to meet worldwide regulations
- Supports 802.11e WMM (Wi-Fi multimedia QoS standard)
- Driver support for Android, Linux, Windows 8/7
- **Dimensions:** 30mm x 26.8mm
- **Compatible models:** Supports both ARM and x86 platforms with miniPCIe interface

Ordering Information

Part Number	Description
EMIO-1541-00A1	VNT9485 IEEE 802.11b/g/n miniPCIe Wi-Fi module with assembly kit and antenna

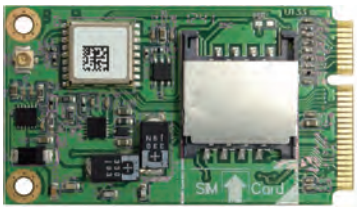
Packing List

EMIO-1541
Wi-Fi antenna
Wi-Fi antenna cable & screw pack
SCrew pack for miniPCIe card

Mobile Broadband Modules

EMIO-2550

3G HSPA/UMTS miniPCIe Mobile Broadband Module



Features

- 3.75G UMTS/HSPA+ module
- Worldwide WCDMA(UMTS 800/850/900/1700/1900/2100 MH) and GPRS/EDGE coverage (GSM 850/900/1800/1900 MHz)
- HSDPA up to 21.1 Mb/s, HSUPA 5.76 Mb/s
- Integration GPS/GNSS and A-GPS module (EMIO-2550-00A1 only)
- Integrated SIM card slot (EMIO-2550-00A1 only)
- Driver support for Android, Linux, Windows 8/7
- **Dimensions:** 30mm x 51mm
- **Compatible models:**
  ARM: AMOS-820, ARTiGO A900, ARTiGO A820, ARTiGO A600, VAB-1000, VAB-820, VAB-821, VAB-600, QSM-8Q60
- **x86:** AMOS-3005, AMOS-3003, AMOS-3002, ARTiGO A1300, VIPRO VP7910

Ordering Information

Part Number	Description
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS and SIM slot
EMIO-2550-01A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module
EMIO-2550-02A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module for DoCoMo (Japan only)
EMIO-2550-03A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module for SoftBank (Japan only)

Packing List

Mobile broadband module
3G antenna
3G antenna cable
Screw pack for miniPCIe card
GPS antenna (only for EMIO-2550-00A1)
GPS antenna cable (only for EMIO-2550-00A1)