

ARM-based Pico-ITX Series

VIA
VAB-800

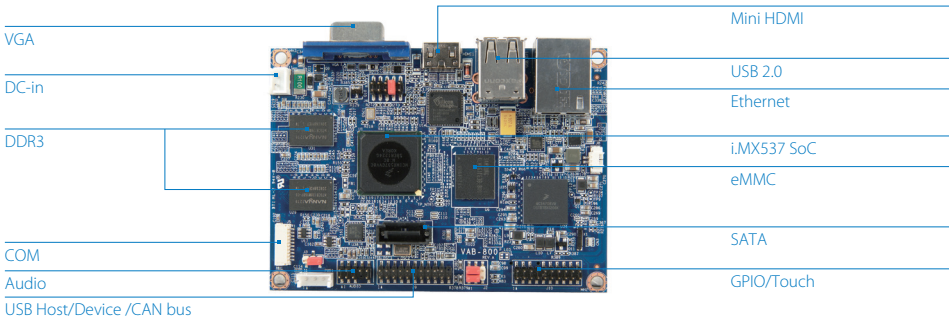
Ultra-reliable low power platform for in-vehicle, surveillance, and industrial applications

Features

- Compact 10cm x 7.2cm Pico-ITX form factor
- 800MHz Freescale 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



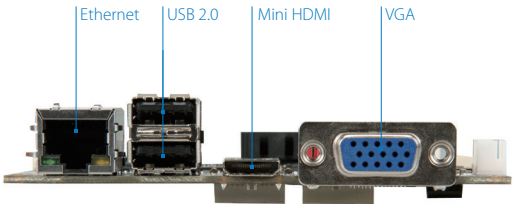
Board Placement



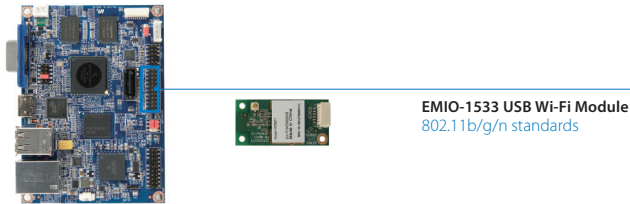
Specifications

Model Name	VAB-800
Processor	800MHz Freescale 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	Freescale SGTL5000 low power stereo codec
HDMI	Silicon image Sil9024A 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 ² C 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 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 10/100M Ethernet port
Watch Dog Timer	Integrated watch dog timer supports two comparison points. Each comparison point can interrupt ARM core, 2nd comparison point capable of generating external interrupts on WDOG line
Power Supply	5V DC-in
Operating System	Android 2.3, Linux kernel 2.6.35, WEC7
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")

Back Panel I/O



Accessories



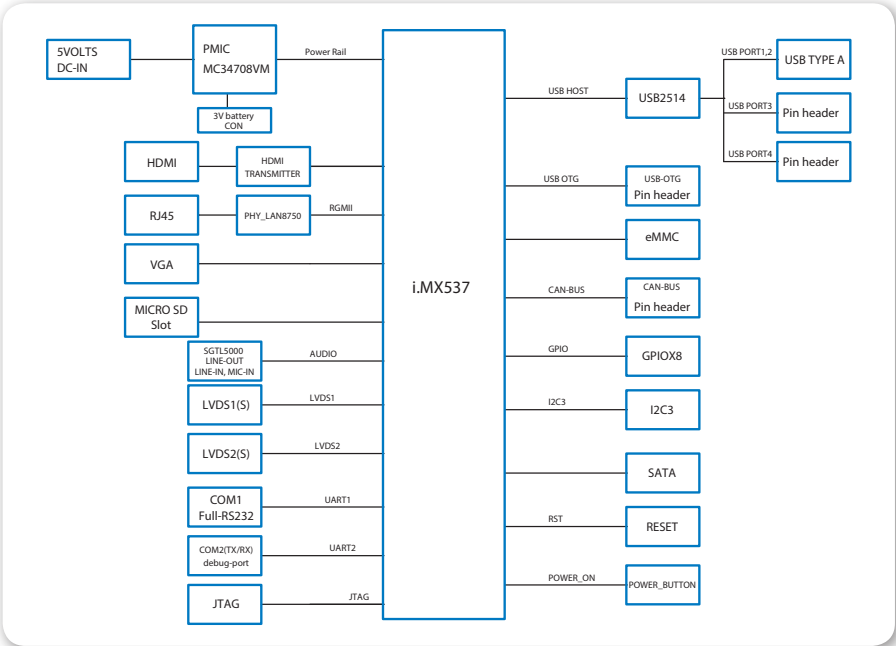
Ordering Information

Part Number	SoC Frequency	Description
Commercial grade: 10GZ9084000A0	Freescale™ iMX537 Cortex-A8 SoC @ 800MHz	Pico-ITX board with 800MHz Freescale™ 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	Freescale™ iMX537 Cortex-A8 SoC @ 800MHz	Pico-ITX Board with 800MHz Freescale™ 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
DC power cable
Debug COM cable
Audio cable
2-port USB cable