ARM-based Pico-ITX Series

VIA

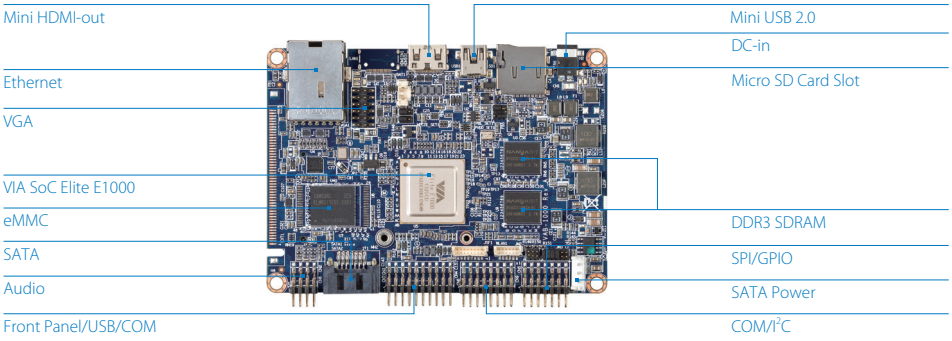
VAB-1000

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

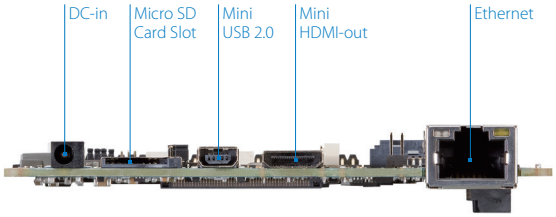
Board Placement



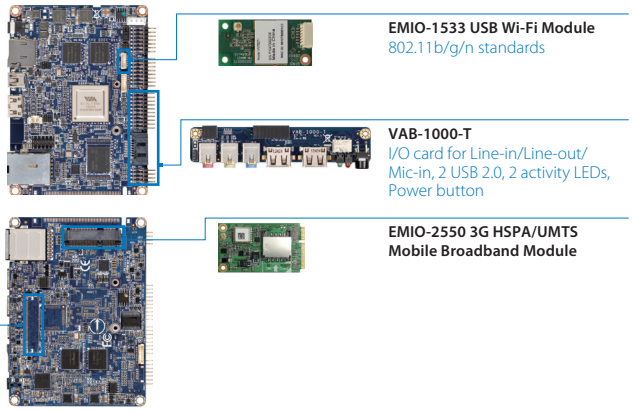
Specifications

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, VC1 and 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 Dual-channel 18/24-bit LVDS panel connector 1 USB pin header for Wi-Fi module 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 HDMI 1 Mini USB 2.0 port 1 Gigabit Ethernet port 1 Micro SD card slot 1 DC-in jack
Power Supply	12V DC-in
Operating System	Android 4.4.2
VIA Smart ETK	Restart, Suspend, Watchdog timer, Wake On LAN, GPIO, I^2C, UART
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



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

VAB-1000-L
LVDS converter card

Ordering Information

Part Number	CPU Frequency	Description
10GBL100400A0	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, miniPCIe slot, Micro SD card slot, 12V DC-in (Packed with VAB-1000-T I/O card)

Optional Accessories

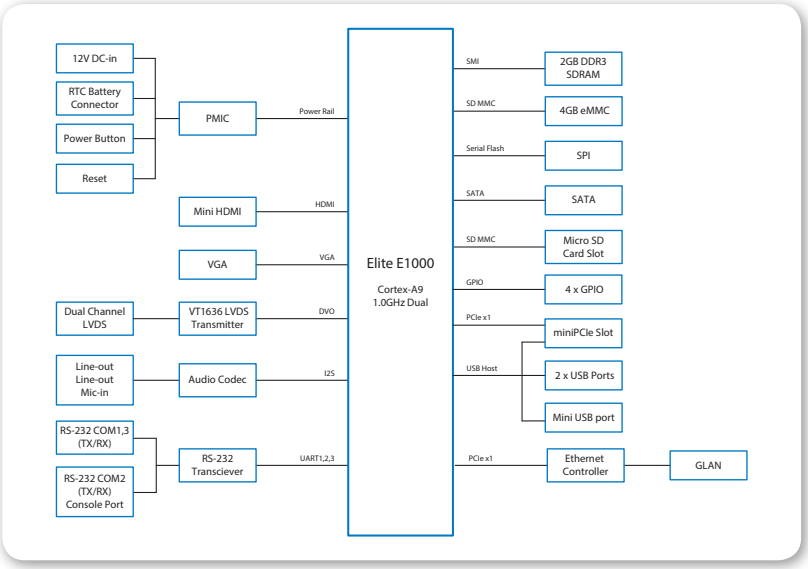
I/O Expansion Cards

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 Accessories

Part Number	Description
00GO27100BU2B0D0	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi dongle
EMIO-1533-00A2	VNT9271 IEEE 802.11 b/g/n USB Wi-Fi module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS, SIM card slot, assembly kit and antenna (*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