ARM-based Pico-ITX Series

VIA

VAB-600

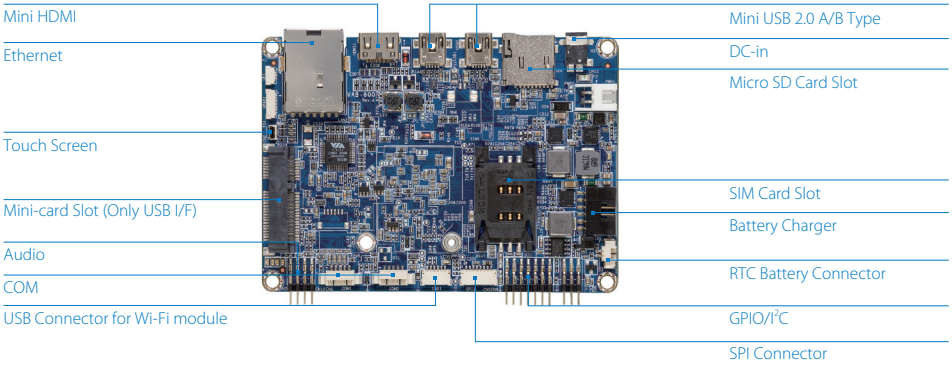
Flexible low-power platform for a broad range of interactive multimedia applications

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

CE FC

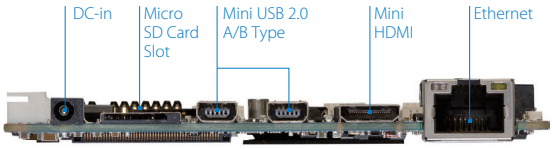
Board Placement



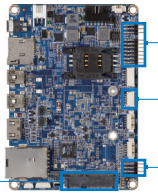
Specifications

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, VC1 and 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 DVO connector for TTL or LVDS display (corresponding daughter card required) 1 4-wire resistive touch screen FPC connector (through VT1603A) 1 USB 2.0 connector 2 COM port connectors (TX/RX) 1 Miscellaneous pin header for 1 I^2C pair and 1 DIO (4 GPI + 4 GPO) 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 Front audio pin header for Line-out, Mic-in 1 RTC battery pin header 1 Battery charger connector with smart battery function (manufacturing option) 1 DC-in connector 1 SIM card slot (supports 3G module without built-in SIM card slot) 1 miniPCIe slot (supports USB 2.0 connectivity for optional 3G module)
Back Panel I/O	1 Mini HDMI port 2 Mini USB 2.0 ports 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
VIA Smart ETK	RTC wake-up, Watchdog timer, GPIO, 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





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

EMIO-5531 USB Wi-Fi + BT Module
802.11b/g/n standards
Bluetooth 2.1 + EDR specification





VAB-600-B
Additional 4 COM ports



VAB-600-C
TTL converter card



VAB-600-D
LVDS converter card



EMIO-2550 3G HSPA/UMTS Mobile Broadband Module



EMIO-2531 miniPCIe Wi-Fi + BT Module
802.11b/g/n standards
Bluetooth 2.1 + EDR specification

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, miniPCIe slot, Micro SD card slot, 12 ~ 24V DC-in

Optional Accessories

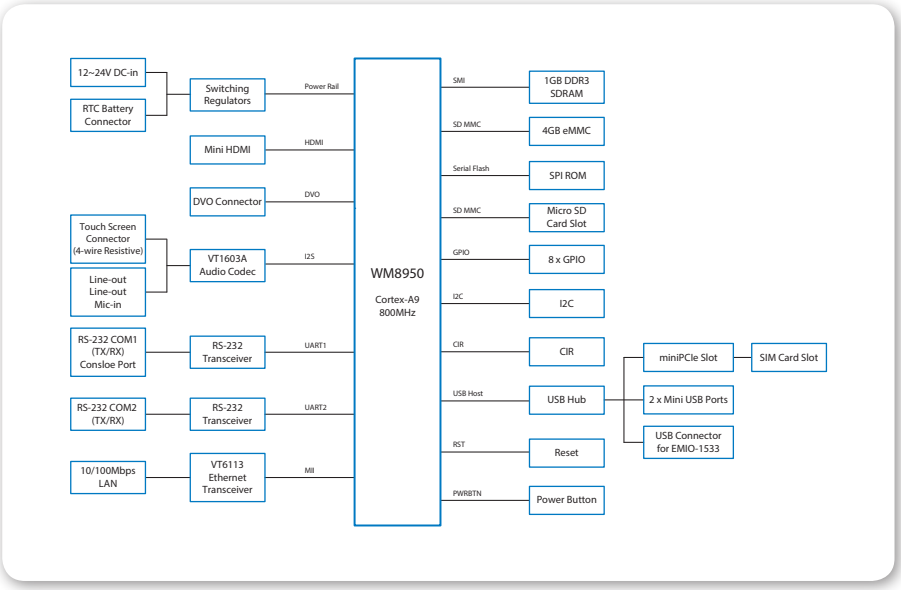
I/O Expansion Cards

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 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-5531-00A1	VAB-820-W IEEE 802.11 b/g/n USB Wi-Fi & Bluetooth module with assembly kit and antenna
EMIO-2531-00A1	VAB-820-W-M IEEE 802.11 b/g/n miniPCIe Wi-Fi & Bluetooth module with assembly kit and antenna
EMIO-2550-01A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with assembly kit and antenna

Block Diagram



Packing List

Items
VAB-600 board
DC power cable
Front panel cable
Audio cable
COM cable
USB cable for USB Wi-Fi module