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USER MANUAL

VAB-600

Pico-ITX Cortex-A9 Board

1.04-12192014-172500

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- ☐ All cautions and warnings on the equipment should be noted.
- ☐ Keep this equipment away from humidity.
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- ☐ Make sure the voltage of the power source and adjust properly 110/220V before connecting the equipment to the power inlet.
- ☐ Place the power cord in such a way that people cannot step on it.
- ☐ Always unplug the power cord before inserting any add-on card or module.
- ☐ If any of the following situations arises, get the equipment checked by authorized service personnel:
  - The power cord or plug is damaged.
  - Liquid has penetrated into the equipment.
  - The equipment has been exposed to moisture.
  - The equipment has not worked well or you cannot get it work according to User's Manual.
  - The equipment has dropped and damaged.
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- ☐ Do not leave this equipment in direct sunlight.
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- ☐ Do not place anything over the power cord.
- ☐ Do not cover the ventilation holes. The openings on the enclosure protect the equipment from overheating

Box Contents

VAB-600

- ☐ 1 x VAB-600 embedded board (with WM8950 Cortex-A9 processor)
- ☐ 1 x DC-In cable
- ☐ 1 x Front Panel cable
- ☐ 1 x Front Audio cable
- ☐ 1 x COM connector cable
- ☐ 1 x USB cable (for optional WLAN USB module)

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1. Product Overview

VIA VAB-600 is an ultra compact Pico-ITX and highly integrated ARM based board measuring 10 cm x 7.2 cm. Powered by 800MHz WM8950 Cortex-A9 single-core processor, with built-in 3D/2D graphics engine and video multi-standard decoder. It is also compatible with Android 4.0 and Linux Kernel 3.0.8 operating systems, and provides an impressive rear and onboard I/O in a compact form factor.

The ultra compact VAB-600 mainboard is optimized for both performance and power to meet the high end demands of advanced industrial, in-vehicle and multimedia applications while offering extremely low power consumption. It suits with various domain applications such as Tablet PC, Industrial PC, Digital Signage, Thin Client and etc.

1.1. Key Features

- Powered by WM8950 Cortex A9 Single-Core 800MHz processor
- Integrated graphics processing (GPU) for 3D/2D graphics acceleration
- Compatible with Android 4.0 and Linux Kernel 3.0.8 operating system
- Small form factor and low power design
- Fanless and ultra low power consumption
- Accept wide range of DC power input (12V ~ 24V)
- 4GB onboard eMMC Flash memory
- Onboard DVO (Digital Video Output) for TTL or LVDS display
- Support 4-wire resistive touch screen interface connector
- Support Mini Card expansion slot for USB connectivity 3G module

- Support SIM card slot for 3G SIM card (used for 3G module without built-in SIM card slot)
- Support Micro SD Card slot for expandable storage
- Support RJ-45 LAN (Fast Ethernet), Mini HDMI and Mini USB 2.0 ports

1.2. Product Specifications

- **Processor**
  - WonderMedia (WM8950) Cortex-A9 Single-Core 800MHz
- **System Memory**
  - Onboard 1GB DDR3 SDRAM 1066
- **Graphics**
  - Built-in 2D/3D Graphics Engine to support OpenGL® ES2.0
  - Built-in Video Multi-standard Decoder to support MPEG2 MP@HL, H.264 BP/MP/HP@L4.0, VC-1 SP/MP/AP, VP8 and JPEG/MJPEG Decoding
- **Flash Storage**
  - Onboard 512KB SPI Flash ROM for Boot Load
  - Onboard 4GB eMMC Flash memory
- **Ethernet**
  - VIA VT6113 10/100 base-TX PHY Chip
- **Audio**
  - VIA VT1603A I2S Audio Codec
- **WiFi module**
  - Optional VIA VNT9271B6050 WLAN module (shared with one USB port)
- **Onboard I/O Connectors**
  - 1 x DVO connector for TTL or LVDS display (corresponding daughter card is required)
  - 2 x COM connectors (supports Tx/Rx)
  - 1 x Micro SD card slot
  - 1 x RTC Battery connector
  - 1 x USB 2.0 connector (for wireless LAN USB module)
  - 1 x SPI connector (for programming SPI flash ROM)
  - 1 x Mini Card expansion slot (for USB connectivity 3G module)
  - 1 x SIM card slot (used for 3G module without built-in SIM card slot)
  - 1 x Key PAD connector
  - 1 x CIR connector
  - 1 x Front Audio pin header
  - 1 x Front Panel pin header

- 1 x 4-Wire Resistive Touch Screen connector (through VT1603A)
- 1 x GPIO and I²C pin header (for one I²C pair and eight GPIOs)
- 1 x +12V ~ +24V DC-In onboard connector
- 1 x Battery charger connector with Smart Battery function (manufacturing option)

- **Back Panel I/O**
  - 2 x Mini USB 2.0 (Type AB) ports
  - 1 x Mini HDMI port (Type C)
  - 1 x RJ-45 LAN port (Fast Ethernet)
  - 1 x DC-In jack (+12V ~ +24V)

- **Supported Operating System**
  - Android 4.0
  - Linux Kernel 3.0.8

- **Operating Conditions**
  - **Operating Temperature**
    - 0°C up to 60°C (with heat spreader)
  - **Operating Humidity**
    - 0% ~ 95% (relative humidity; non-condensing)
  - **Storage Temperature Conditions**
    - -20°C up to 70°C @ 90%

- **Form Factor**
  - Pico-ITX
  - 10 cm x 7.2 cm

- **Compliance**
  - CE
  - FCC

Note:

1. As the operating temperature provided in the specifications is a result of the test performed in VIA's chamber, a number of variables can influence this result. Please note that the working temperature may vary depending on the actual situation and environment. It is highly suggested to execute a solid testing and take all the variables into consideration when building the system. Please ensure that the system runs well under the operating temperature in terms of application.
2. Please note that the lifespan of the onboard eMMC memory chip may vary depending on the amount of access. More frequent and larger data access on eMMC memory makes its lifespan shorter. Therefore, it is highly recommended to use a replaceable external storage (e.g., Micro SD card) for large data access.

1.3. Layout Diagram

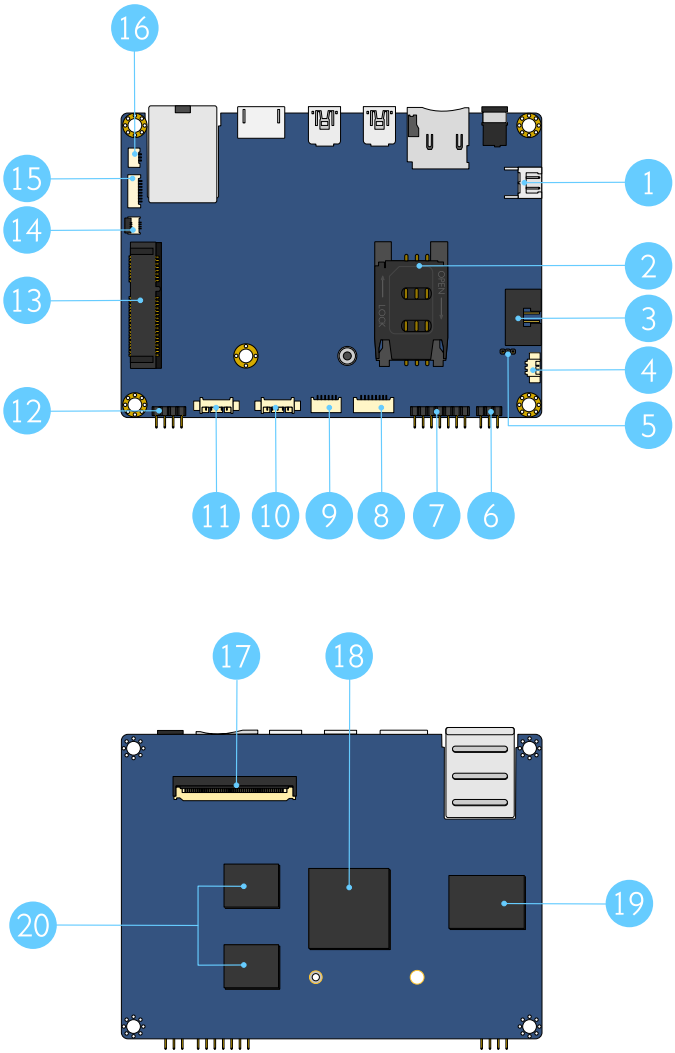
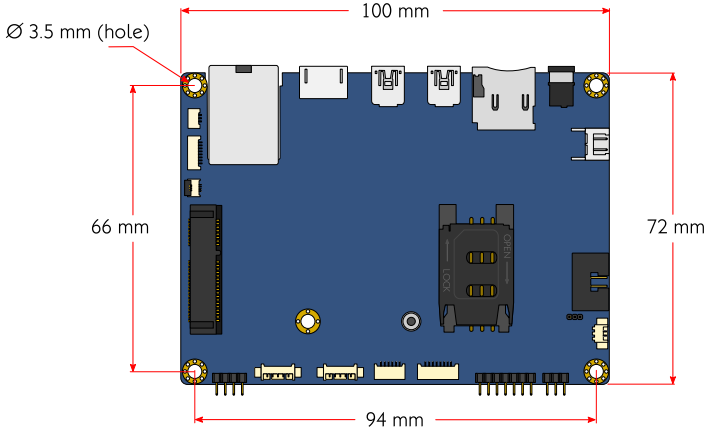


Figure 1: Layout diagram of VAB-600 mainboard (top and bottom view)

Item	Description
1	PWR2: DC-In connector
2	SIM1: SIM card slot (used for 3G module without built-in SIM card slot)
3	CN3: Battery Charger connector (optional)
4	BAT1: RTC Battery connector
5	JM3: Power On Select jumper
6	CN7: Front Panel pin header
7	CN9: GPIO/I²C pin header
8	SPI1: SPI Interface connector
9	CN11: USB connector (for WLAN USB module)
10	COM2: COM connector 2
11	COM1: COM connector 1
12	CN8: Front Audio pin header
13	CN2: Mini Card expansion slot (for USB connectivity 3G module)
14	TS1: 4-Wire Resistive Touch Screen connector
15	KPAD1: Key PAD connector
16	CN1: CIR connector
17	CN13: Digital Video Output (DVO) connector
18	VM8950 Cortex A9 Single Core processor
19	4GB eMMC Flash memory
20	1GB DDR3 1066 DRAM memory

Table 1: Layout diagram description table of VAB-600 mainboard

1.4. Product Dimensions



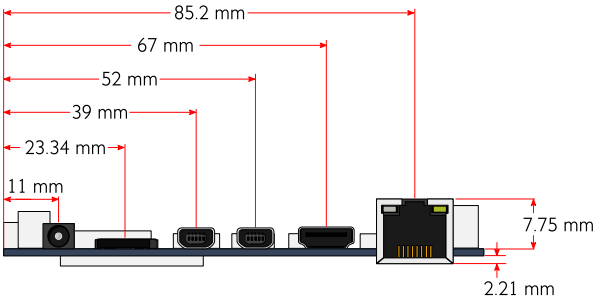


Figure 2: Mounting holes and dimensions of the VAB-600

1.5. Height Distribution

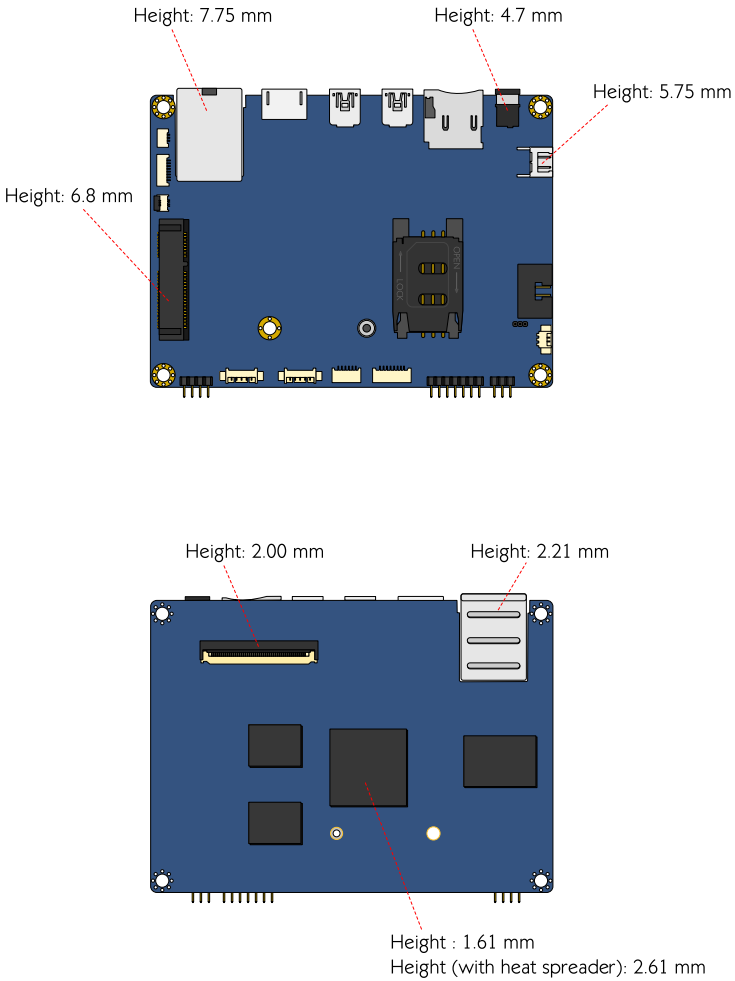


Figure 3: Height distribution of VAB-600 mainboard (top and bottom side)

2. I/O Interface

The VIA VAB-600 has a wide selection of interfaces integrated into the board. It includes a selection of frequently used ports as part of the external I/O coastline.

2.1. External I/O Ports

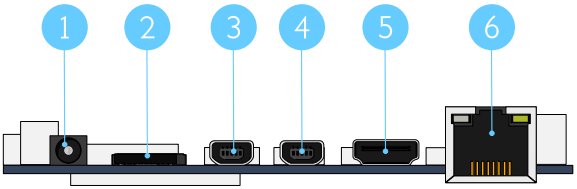


Figure 4: External rear I/O ports

Item	Description
1	CN12: DC-In jack
2	SD1: Micro SD card slot
3	USB2: Mini USB 2.0 port 2 (type AB port)
4	USB2: Mini USB 2.0 port 1 (type AB port)
5	HDMI1: Mini HDMI® port
6	LAN1: RJ-45 (Fast Ethernet) LAN port

Table 2: Layout diagram description table of external rear I/O ports

2.1.1. DC-In Jack

The mainboard comes with a coaxial power connector on the real I/O panel adjacent to the Micro SD slot. The power connector carriers +12V_{DC} ~ +24V_{DC} external power input. The specifications and pinout of the power connector are shown below.

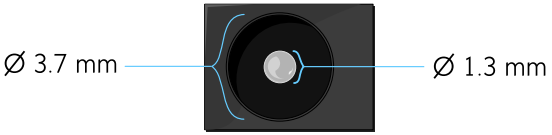


Figure 5: DC-In jack diagram

Physical Specifications	
Outer Diameter	3.7 mm
Inner Diameter	1.3 mm
Barrel Depth	8.25 mm
Electrical Specifications	
Input Voltage	+12V ~ +24V

Table 3: DC-In jack specifications

2.2. Micro SD Card Slot

The Micro SD card slot is located on the rear I/O panel, it offers expandable storage.

Figure 6: Micro SD Card slot diagram

Pin	Signal
1	SD0DATA2
2	SD0DATA3
3	SD0CMD
4	VDD (3.3V)
5	SD0CLK
6	GND
7	SD0DATA0
8	SD0DATA1
9	SD0_CD

Table 4: Micro SD Card slot pinout

2.2.1. Mini USB 2.0 Port

There are two integrated Mini USB 2.0 ports located on the rear I/O panel. The Mini USB 2.0 interface port gives complete Plug and Play and hot swap capabilities for external devices and it complies with USB UHCI, rev. 2.0. Each Mini USB port uses the USB Type AB receptacle port connector. The pinout of the typical Mini USB port is shown below.

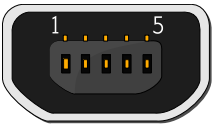


Figure 7: Mini USB port diagram

USB1		USB2	
Pin	Signal	Pin	Signal
1	VCC (+5V)	1	VCC (+5V)
2	USBH1-	2	USBH2-
3	USBH1+	3	USBH2+
4	ID (GND)	4	ID (GND)
5	GND	5	GND

Table 5: Mini USB 2.0 port pinout

2.2.2. Mini HDMI® Port

The integrated 19-pin Mini HDMI port uses an HDMI Type C receptacle connector as defined in the HDMI® specification. The Mini HDMI port is for connecting to HDMI® displays. The pinout of the Mini HDMI port is shown below.

Figure 8: Mini HDMI® port diagram

Pin	Signal	Pin	Signal
1	GND	2	LCD1DO2+
3	LCD1DO2-	4	GND
5	LCD1DO1+	6	LCD1DO1-
7	GND	8	LCD1DO0+
9	LCD1DO0-	10	GND
11	LCD1CLK+	12	LCD1CLK-
13	GND	14	HDMI_CECIN
15	DDCSCL	16	DDCSDA
17	-	18	VCC_5V
19	HPD		

Table 6: Mini HDMI® port pinout

2.2.3. RJ-45 LAN port (Fast Ethernet)

The integrated 8-pin Fast Ethernet port is using an 8 Position 8 Contact (8P8C) receptacle connector (commonly referred to as RJ-45). The Fast Ethernet ports are controlled by VIA VT6113 10/100 Base-TX PHY chip controller. The pinout of the Fast Ethernet port is shown below.

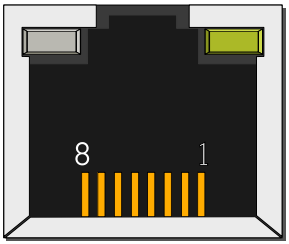


Figure 9: Fast Ethernet port diagram

Pin	Signal
1	TD+
2	TD-
3	RD+
4	REGOUT
5	REGOUT
6	RD-
7	GND
8	GND

Table 7: Fast Ethernet port pinout

The RJ-45 port has two individual LED indicators located on the front side to show its Active/Link status and Speed status.

	Link LED (Left LED on RJ-45 connector)	Active LED (Right LED on RJ-45 connector)
Link Off	Off	Off
Speed_10Mbit	The LED is always On in dark color	Flash in Yellow or Orange color
Speed_100Mbit	The LED is always On in Red color	Flash in Yellow or Orange color

Table 8: Fast Ethernet LED color definition

2.3. Onboard Connectors

2.3.1. DC-In Connector

The mainboard has an onboard DC-In 2-pin power connector to connect the DC-In power cable. The DC-In power connector is an optional power connector in addition to the DC-In jack on the rear IO panel. This provides two methods for delivering $+12V_{DC}$ ~ $+24V_{DC}$ to the mainboard. The pinout of the DC-In connector is shown below.

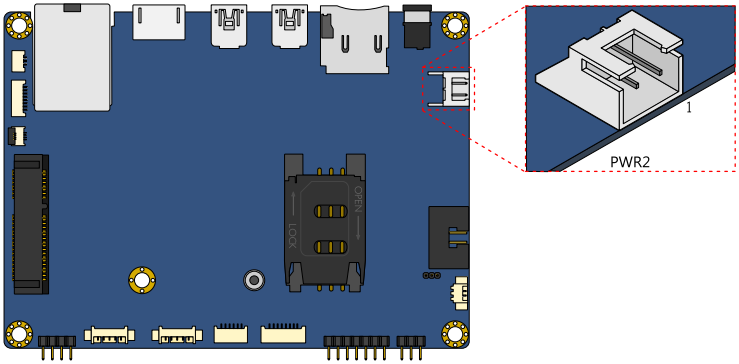


Figure 10: DC-In connector diagram

Pin	Signal
1	GND
2	$+12V_{DC}$ ~ $+24V_{DC}$

Table 9: DC-In connector pinout

2.3.2. SIM Card Slot

The mainboard is equipped with a SIM card slot located on the top side of the board which can support a 3G SIM card. Using the SIM card slot on VAB-600 requires a 3G module installed in the Mini Card expansion slot to enable the 3G function, otherwise the SIM card slot is disabled. The SIM card slot is designed only for 3G module without built-in SIM card slot on it. The SIM card slot is labeled as "SIM1". The pinout of the slot is shown below.

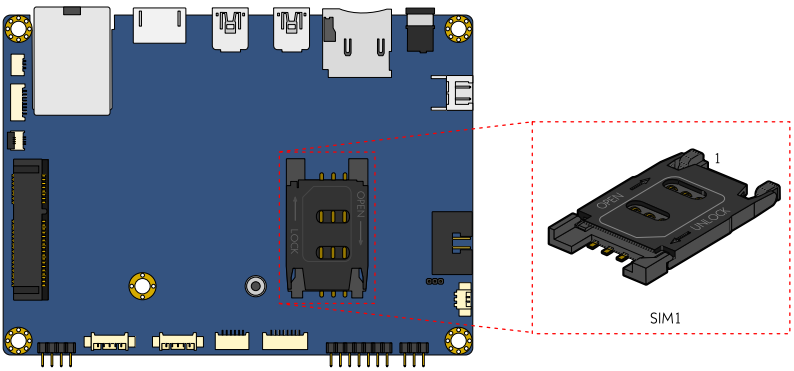


Figure 11: SIM card slot diagram

Pin	Signal
1	USIM_VCC
2	USIM_RST
3	USIM_CLK
4	-
5	GND
6	USIM_VPPSIM
7	USIM_DATA

Table 10: SIM card slot pinout

2.3.3. Battery Charger Connector (Optional)

The mainboard is equipped with an onboard battery charger connector used for connecting the external cable for charging a rechargeable battery. The battery charger connector is labeled as "CN3". The connector pinout is shown below.

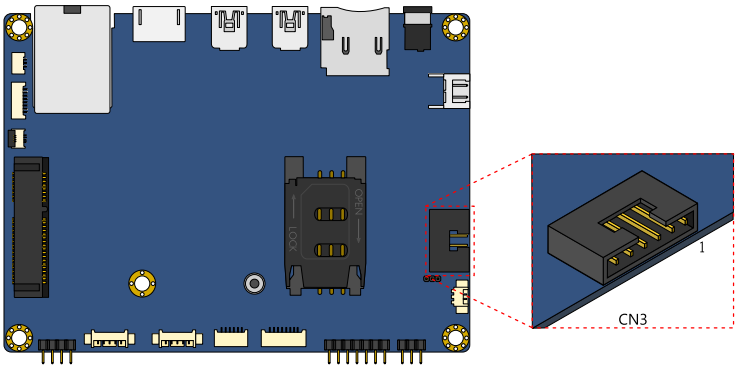


Figure 12: Battery Charger connector diagram

Pin	Signal
1	Voltage detect
2	I2C0SCL
3	I2C0SDA
4	GND
5	Temperature Detect

Table 11: Battery Charger pinout

2.3.4. RTC Battery Connector

The mainboard is equipped with an onboard RTC battery connector used for connecting the external cable battery that provides power to the 32.768KHz crystal oscillator for Real Time Clock (RTC). The RTC battery connector is labeled as "BAT1". The connector pinout is shown below.

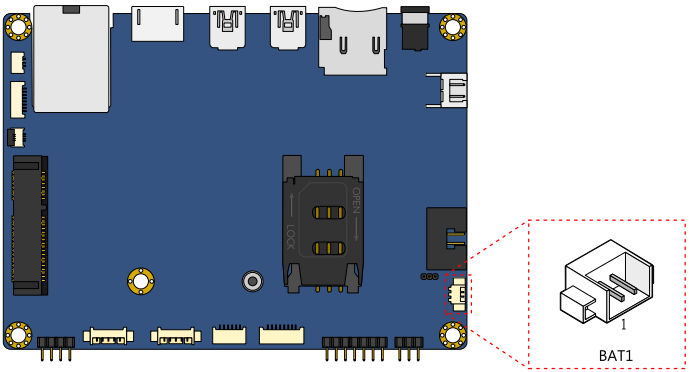


Figure 13: RTC Battery connector diagram

Pin	Signal
1	+VBAT
2	GND

Table 12: RTC Battery connector pinout

2.3.5. Front Panel Pin Header

The front panel pin header block consists of 6 pins. It provides access to the system power LED, power switch and shut down switch. The front panel pin header is labeled as "CN7". The pinout of the pin header is shown below

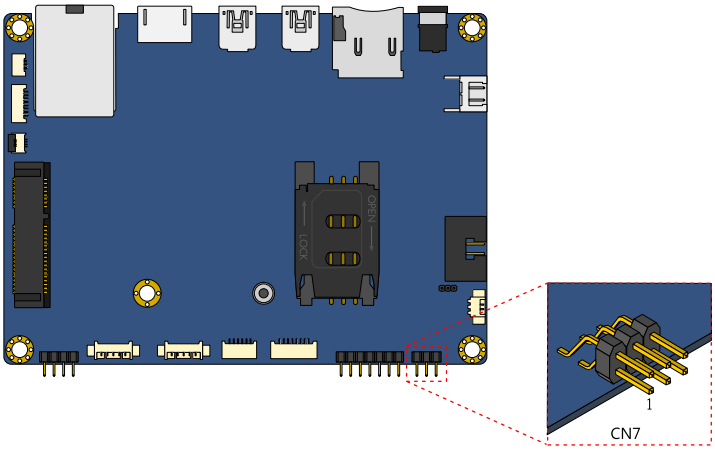


Figure 14: Front Panel pin header diagram

Pin	Signal	Pin	Signal
1	PWR_LED	2	GND
3	PWRBTN-	4	GND
5	RESET1	6	GND

Table 13: Front Panel pin header pinout

Note:

Although the signal name for pin#5 is "RESET1", its function is "shut down".

2.3.6. GPIO and I²C Pin Header

The GPIO and I²C combination pin header block labeled as "CN9" is used for connecting the I²C device, and eight General Purpose Input and Output. The pinout of the combination pin header is shown below.

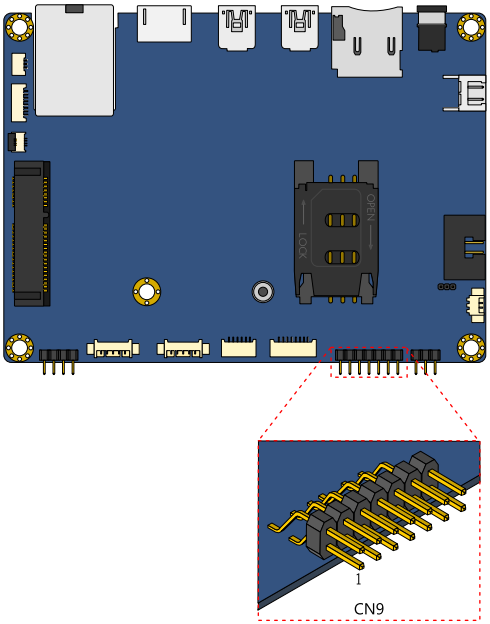


Figure 15: GPIO and I²C pin header diagram

Pin	Signal	Pin	Signal
1	VCC33	2	VCC_5V
3	GND	4	VSUS33
5	GPI20_CH	6	GPIO24_CH
7	GPIO21	8	GPIO25
9	GPIO_22	10	GPIO_26
11	GPIO_23	12	GPIO_27
13	I2C0SDA	14	I2C0SCL

Table 14: GPIO and I²C pin header pinout

2.3.7. SPI Flash Connector

The mainboard has one 8-pin SPI flash connector. By connecting to the SPI BIOS programming fixture, the SPI (Serial Peripheral Interface) flash connector can update the SPI flash ROM. The connector is labeled as "SPI1". The pinout of the connector is shown below.

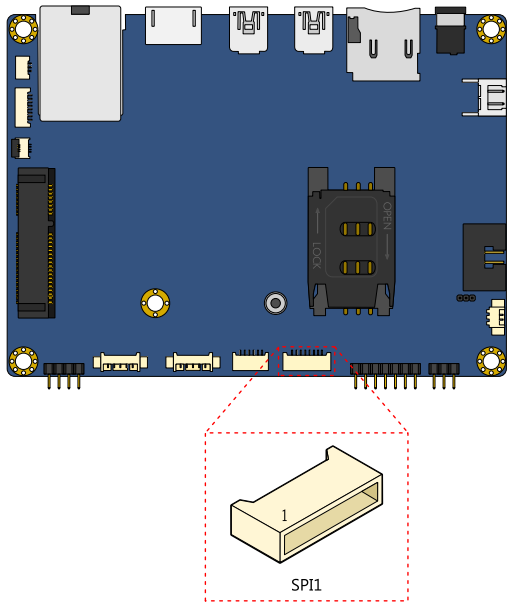


Figure 16: SPI Flash connector diagram

Pin	Signal
1	-
2	SFCS1 (Reserved)
3	SFDO
4	SFDI
5	SFCLK
6	SFCS0-
7	GND
8	VPROG_SP1 (3.3V)

Table 15: SPI Flash connector pinout

2.3.8. USB Connector

The mainboard includes one onboard USB connector designed for connecting the wireless LAN USB module. The connector is labeled as "CN11". The pinout of the connector is shown below.

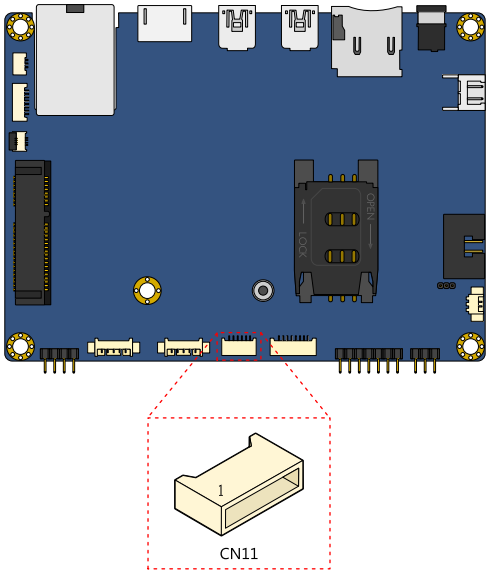


Figure 17: USB connector diagram

Pin	Signal
1	+5V
2	USBH3-
3	USBH3+
4	GND
5	USB_WIFI_LED
6	GPIO_4

Table 16: USB connector pinout

2.3.9. COM Connector

There are two onboard COM connectors on the top side of the mainboard. The COM connectors labeled as "COM1" and "COM2" are used to attach additional COM port that supports Tx/Rx. The pinout of the COM connectors are shown below.

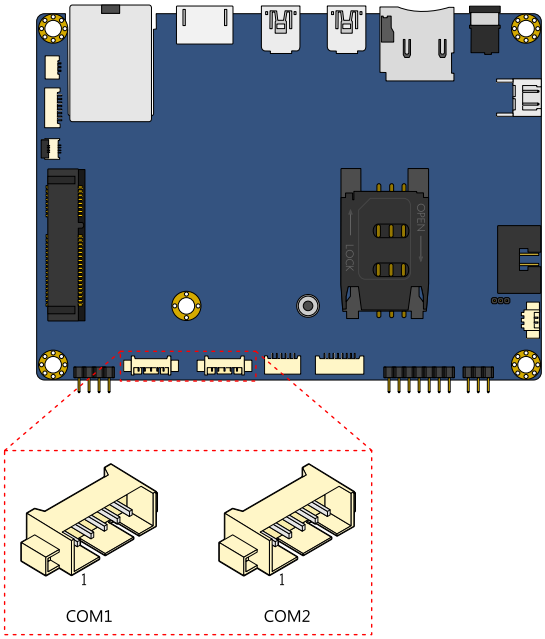


Figure 18: COM connector diagram

COM1		COM2	
Pin	Signal	Pin	Signal
1	TXD0	1	TXD2
2	RXD0	2	RXD2
3	GND	3	GND
4	N/A	4	N/A
5	N/A	5	N/A

Table 17: COM connector pinout

2.3.10. Front Audio Pin Header

The mainboard has a front audio pin header for connecting the Line-Out and Mic-In jacks. The pin header is labeled as "CN8". The pinout of the pin header is shown below.

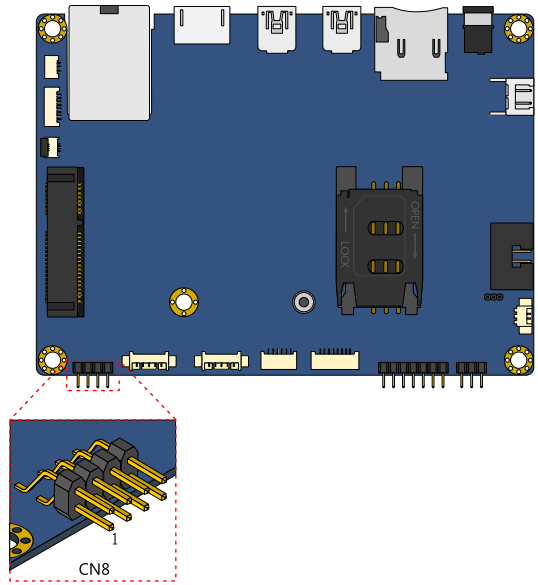


Figure 19: Front audio pin header diagram

Pin	Signal	Pin	Signal
1	N/A	2	GND
3	N/A	4	MICIN1
5	LINEOUT_R	6	MICIN2
7	LINEOUT_L	8	HP_DET

Table 18: Front audio pin header pinout

2.3.11. Mini Card Slot

The VAB-600 mainboard is equipped with a Mini card expansion slot labeled as "CN2". The Mini card slot is used to attach the USB connectivity 3G module to provide 3G function. The pinout of the slot is shown below.

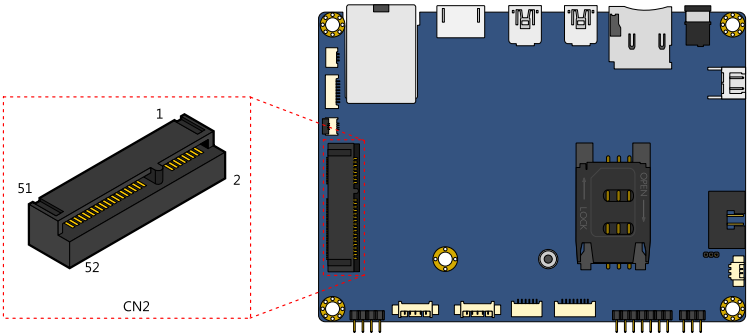


Figure 20: Mini Card slot diagram

Pin	Signal	Pin	Signal
1	-	2	VSUS33
3	-	4	GND
5	-	6	+1.5V
7	-	8	USIM_VCC
9	GND	10	USIM_DATA
11	-	12	USIM_CLK
13	-	14	USIM_RST
15	GND	16	USIM_VPP
17	-	18	GND
19	-	20	-W_DISABLE_1
21	GND	22	-PEX1_RST
23	-	24	VSUS33
25	-	26	GND
27	GND	28	+1.5V
29	GND	30	I2C0SCL
31	-	32	I2C0SDA
33	-	34	GND
35	GND	36	USBHD_0-
37	GND	38	USBHD_0+
39	VSUS33	40	GND

41	VSUS33	42	LED_WWAN1-
43	GND	44	LED_WLAN1-
45	-	46	LED_WPAN1-
47	-	48	+1.5V
49	-	50	GND
51	-	52	VSUS33

Table 19: Mini Card slot pinout

2.3.12. 4-Wire Resistive Touch Screen Connector

The mainboard is equipped with a touch screen connector for connecting the 4-wire resistive touch panel. The touch screen connector is labeled as "TS1". The pinout of the connector is shown below.

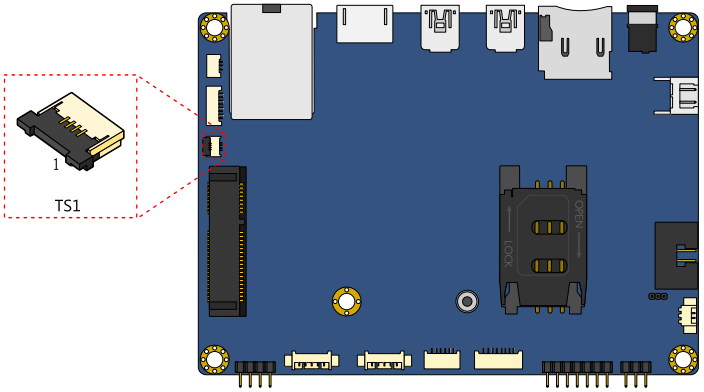


Figure 21: 4-Wire Resistive Touch Screen connector diagram

Pin	Signal
1	TPXP
2	TPYP
3	TPXM
4	TPYM

Table 20: 4-Wire Resistive Touch Screen connector pinout

2.3.13. Key PAD Connector

The mainboard is equipped with a Key PAD connector for connecting the keypad device. The connector is labeled as "KPAD1". The pinout of the connector is shown below.

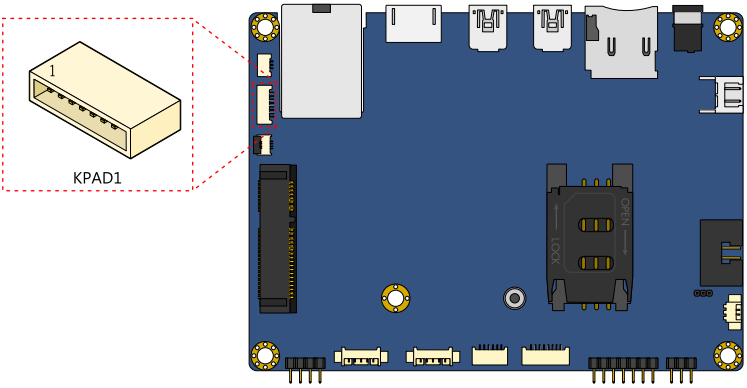


Figure 22: Key PAD Connector diagram

Pin	Signal
1	VCC33
2	KPADROW0
3	KPADROW1
4	KPADROW2
5	KPADROW3
6	KPADROW4
7	GND

Table 21: Key PAD connector pinout

2.3.14. CIR Connector

The mainboard provides a CIR (Consumer Infrared Receiver) connector on the top side of the board. The CIR connector is used to connect the infrared receiver module to enable infrared wireless interface. The pinout of the CIR connector is shown below.

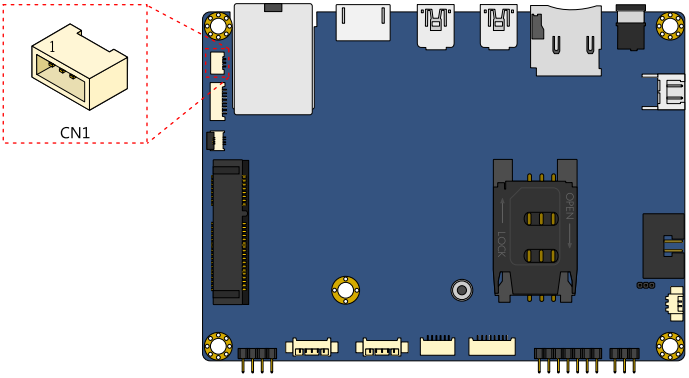


Figure 23: CIR connector diagram

Pin	Signal
1	VSUS33
2	GND
3	CIR

Table 22: CIR connector pinout

2.3.15. DVO Connector

The DVO (Digital Video Output) connector works as an interface for multi-display devices. This connector allows the mainboad to connect an additional daughter card which is required for a certain display such as TTL or LVDS display. The DVO connector is labeled as "CN13". The pinout of the connector is shown below.

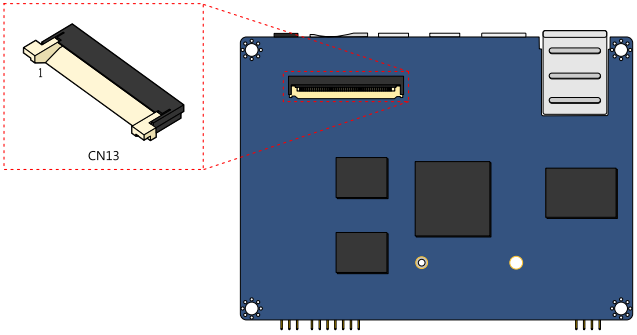


Figure 24: DVO connector diagram

Pin	Signal	Pin	Signal
1	VCC33	26	LD15
2	VCC33	27	GND
3	VCC33	28	LD16
4	5VIN	29	LD17
5	5VIN	30	LD18
6	5VIN	31	LD19
7	VIN (DC-In/Battery)	32	LD20
8	VIN (DC-In/Battery)	33	LD21
9	GND	34	LD22
10	LD00	35	LD23
11	LD01	36	GND
12	LD02	37	DVP1CLK+
13	LD03	38	GND
14	LD04	39	DVPHS
15	LD05	40	DVPVS
16	LD06	41	DVPDE
17	LD07	42	PWMOUT0
18	GND	43	TTL_RST-

19	LD08	44	I2C0SCL
20	LD09	45	I2C0SDA
21	LD10	46	DVO_CLK
22	LD11	47	DVO_DATA
23	LD12	48	LVDSENBL
24	LD13	49	LVDSENVDD
25	LD14	50	GND

Table 23: DVO connector pinout

Caution:
Please DO NOT plug/unplug a DVO flex cable to /from a DVO connector (CN13) when the system is powered-ON or running.

3. Jumper

3.1. Power On Select Jumper

The Power On Select jumper is used to enable or disable the auto power On function when plug-in the power adaptor. The jumper is labeled as "JM3". The jumper settings are shown below.

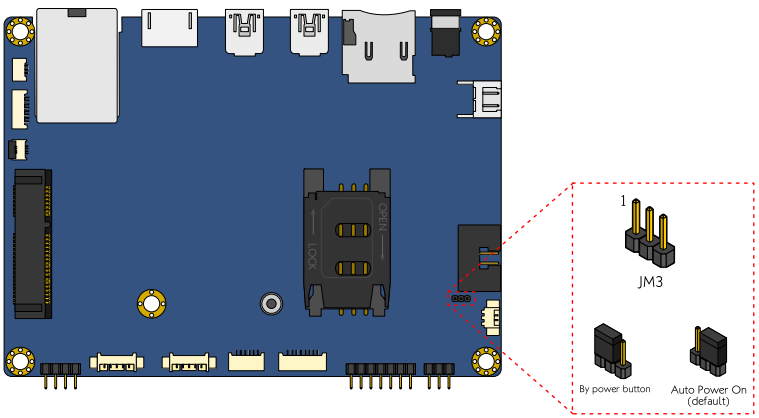


Figure 25: Power On select jumper

Settings	Pin 1	Pin 2	Pin 3
Auto Power On (default)	Open	Close	Close
By power button	Close	Close	Open

Table 24: Power On select jumper settings

4. Hardware Installation

4.1. Installing 3G Module on Mini Card Slot

Step 1

Align the notch of 3G module with the notch on Mini Card slot. Then insert the 3G module into the Mini Card slot at 20 degree angle.

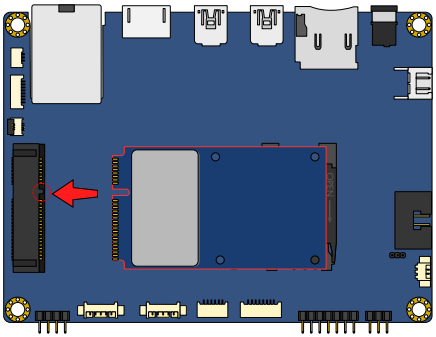


Figure 26: Inserting 3G module

Step 2

Gently push down the rear side of the 3G module until the two screw holes on the module have been aligned and seated on the mounting holes of the board. Then secure the 3G module with two 6mm screws.

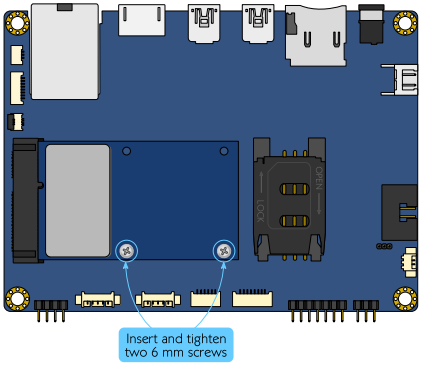


Figure 27: Securing the 3G module

4.2. Inserting 3G SIM Card on SIM Card Slot

The onboard SIM card slot is automatically enabled when the 3G module (without built-in SIM card slot) has been installed in the Mini Card expansion slot.

Step 1

Push back firmly the SIM card slot to unlock and open. Pull up the slot and place the 3G SIM card.

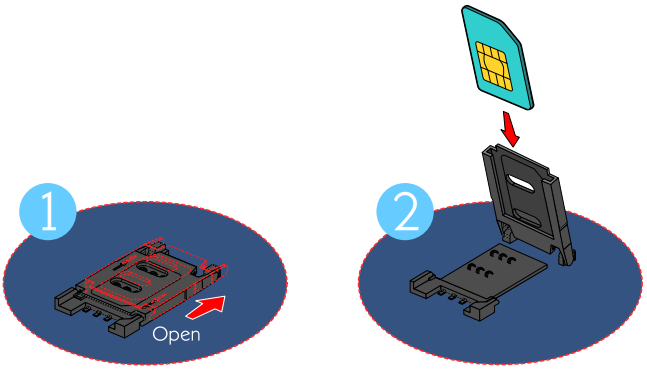


Figure 28: Opening and inserting 3G SIM card

Note:

Ensure the angled corner of the SIM card is placed in the correct way before closing the slot.

Step 2

Gently close the slot by pulling down the slot containing the 3G SIM card, and then carefully lock the SIM slot.

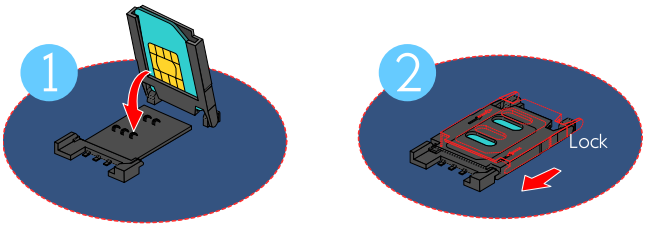


Figure 29: Locking the 3G SIM card slot

5. Driver Installation

5.1. Android Driver Support

The VIA VAB-600 mainboard is compatible with Android 4.0 operating systems. The latest drivers can be downloaded from the VIA Embedded website at www.viaembedded.com.

5.2. Linux Driver Support

The VIA VAB-600 mainboard is highly compatible with Linux Kernel 3.0.8.

Support and drivers are provided through various methods including:

- Drivers provided by VIA
- Using a driver built into a distribution package
- Visiting www.viaembedded.com for the latest updated drivers
- Installing a third party driver

For OEM clients and system integrators developing a product for long term production, other code and resources may also be made available. Contact VIA Embedded to submit a request.

Appendix A. Mating Pin Header and Connector Vendor Lists

The following tables listed the mating pin headers and connectors vendor lists.

A.1. VAB-600 Mainboard

Label	Function	Pins	Vendor	Part No.
CN12	DC-In jack	3	KYOYAKU	KYP-020-06MB
PWR2	DC-In connector	2	NELTRON	2317RJ-02
SD1	Micro SD card slot	9	KTS	C40KDH-081T-12DL
USB 1&2	Mini USB AB Type ports	5	NELTRON	5075ABMR-05-SM-CR
HDMI1	Mini HDMI port	19	FREEPORT	60U019S-354N-A1
LAN1	RJ-45 Fast Ethernet port	8	UDE	RS3-26401D1F
CN1	CIR Receiver Module connector	3	ACES	88460-0301
KPAD1	Key PAD connector	7	ACES	88460-0701
TS1	Touch Screen connector	4	ACES	50500-00441-001
CN2	Mini Card slot	52	DRAGONSTATE	0710A0BA68B
SIM1	SIM Card slot	7	FCI	7111S2015X02LF
CN8	Front Audio pin header	8	PINREX	22W-97-04GB21
COM 1&2	COM connectors	5	ACES	85204-0500L
CN11	USB connector	6	ACES	87213-0600G
SPI1	SPI Flash connector	8	ACES	87213-0800G
CN9	GPIO/I^2C pin header	14	PINREX	22W-97-07GB21
CN7	Front Panel pin header	6	PINREX	22W-97-03GB21
CN3	Battery Charger connector	5	ACES	50299-00501-001
CN13	DVO connector	50	ACES	50501-05040-001
JM3	Power On Select jumper	3	NELTRON	2199SA-03G-301523
BAT1	RTC Battery connector	2	NELTRON	1251R-02-SM1-TR-F5

Table 25: VAB-600 pin header and connector vendor lists

Taiwan Headquarters
1F, 531 Zhong-Zheng Road
Xindian, Taipei, 23148
Taiwan

TEL: 886.2.2218.5452
FAX: 886.2.2218.5453
Email: embedded@via.com.tw

USA
940 Mission Court
Fremont, CA 94539
USA

TEL: 1.510.683.3300
FAX: 1.510.687.4654
Email: embedded@viatech.com

Europe
In den Dauen 6
53117 Bonn
Germany

TEL: 49.228.688565.0
FAX: 49.228.688565.19
Email: embedded@via-tech.eu

China
Tsinghua Science Park Bldg. 7
No. 1 Zongguancun East Road
Haiden District, Beijing, 100084
China

TEL: 86.10.59852288
FAX: 86.10.59852299
Email: embedded@viatech.com.cn

Japan
3-15-7 Ebisu MT Bldg. 6F
Higashi, Shibuya-ku
Tokyo 150-0011
Japan

TEL: 81.3.5466.1637
FAX: 81.3.5466.1638
Email: embedded@viatech.co.jp

Korea
2F, Sangjin Bldg., 417
Dogok Dong, Gangnam-Gu
Seoul 135-854
South Korea

TEL: 82.2.571.2986
FAX: 82.2.571.2987
Email: embedded@via-korea.com