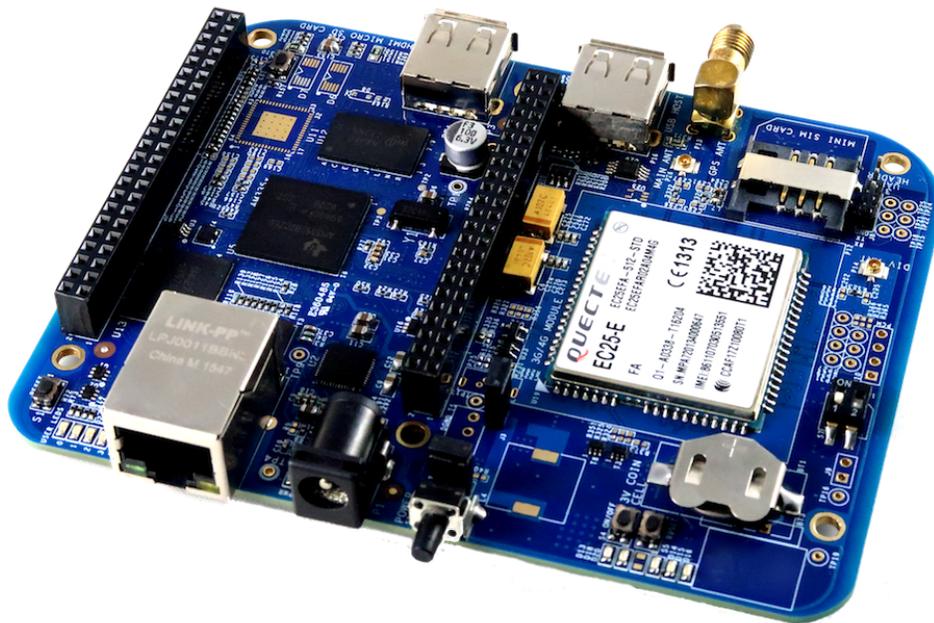




VIBEQ-3GUC20/4GEC25 Series

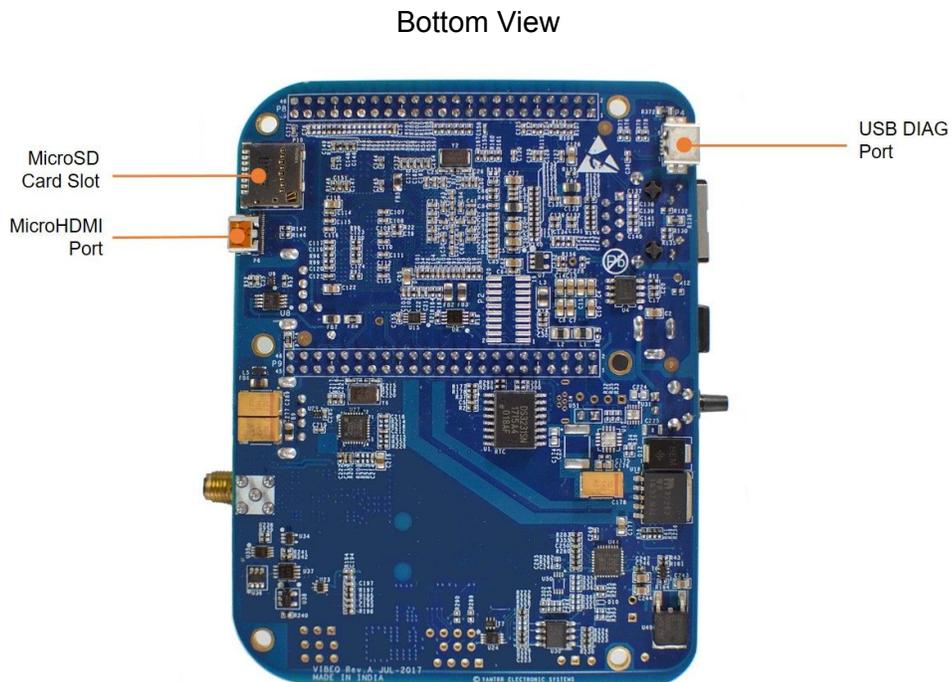
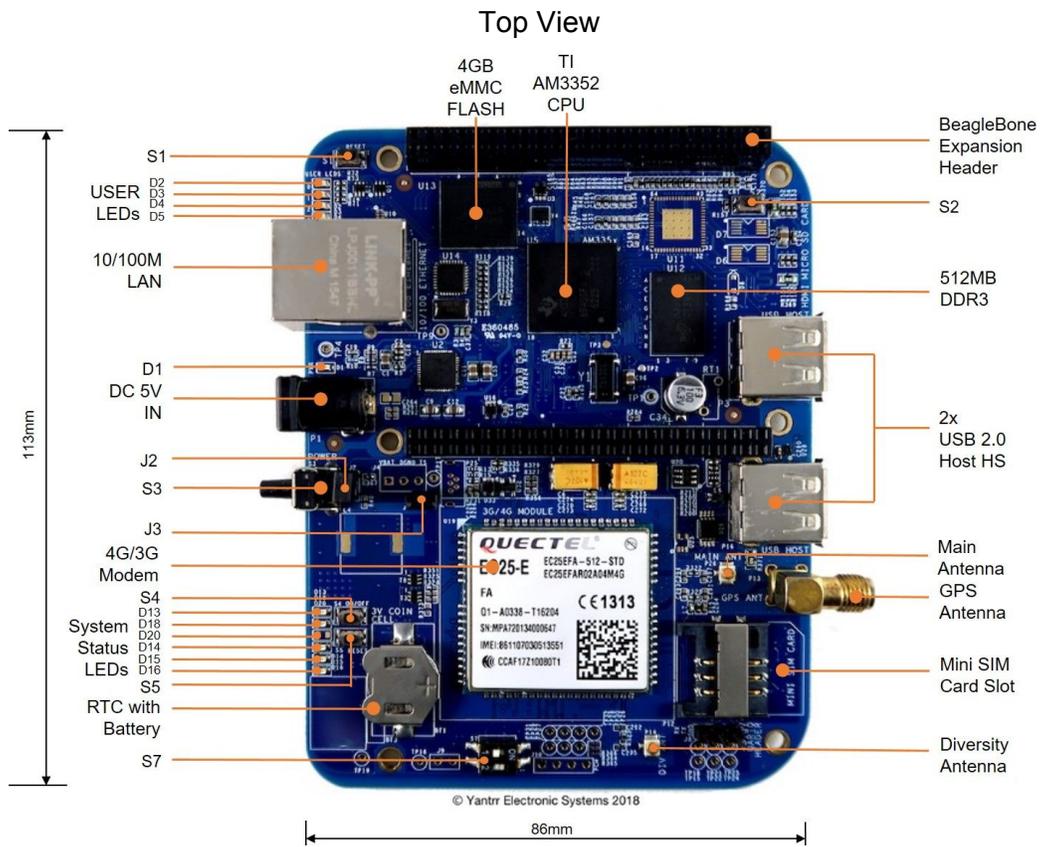
Quick Start Guide



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New Delhi, 110091
INDIA

Board Layout:



Specifications:

CPU SYSTEM	
Processor	TI Sitara™ ARM® Cortex®-A8 AM3352 (up to 1GHz), On-Chip 64KB Shared SRAM, 32KB Data Cache, 32KB L1 Cache, On-Chip 256 KB L2 Cache
SDRAM Memory	512MB DDR3L 800MHz
Flash Storage	4GB, 8 bit Embedded MMC
Real Time Clock	+/- 2ppm accuracy, Automatic calendar compensated up to year 2100, battery backed, +/- 3°C accurate temperature sensor output
Debug Support	CPU console connection through USB device port
Power source	5V, 4A DC Jack (Battery-backed option available)
Indicators	1-Board power, 1-Modem Power, 1-Modem Data, 1-GPS, 1-GPS Fix, 4- User programmable LEDs
USB	2x USB2.0 host ports, Type A socket, 500mA LS/FS/HS
LAN	10/100M, shielded RJ45
User Input Buttons	Reset, Boot, Power, Modem Reset, Modem On/Off, GPS Reset
I/O Interfaces	2x SPI, 2x I2C, 5x UART, 2x CANBus 7xAin (1.8V max), McASP0, GPIOs (69 max), MMC1, MMC2, LCD 24 bit, GPMC
Video Interface	Micro HDMI (optional)
Compatibility	Compatible with other BeagleBone industrial capes such as CANBus, RS232, RS485 and most of the LCD capes

GNSS System	
Connector	SMA (F)
Receiver	Qualcomm® IZat™ location technology Gen8C Lite (GPS, GLONASS, BeiDou, Galileo and QZSS)

Cellular Modem Options					
	3GUC20-G	4GEC25-E	4GEC25-A	4GEC25-V	4GEC25-AUT, 4GEC25-AU
Network	GSM/GPRS/EDGE/WCDMA/HSPA+	4G/LTE (Fallback to GSM/3G wherever available)			
Bands	UMTS: 800/850/900/1900/2100MHz GSM: 850/900/1800/1900MHz	GSM: B3/B8, WCDMA: B1/B5/B8, FDD-LTE: B1/B3/B5/B7/B8/B20, TDD LTE: B38/B40/B41	WCDMA: B2/B4/B5, FDD-LTE: B2/B4/B12	FDD LTE: B4/B13	(AUT) WCDMA: B1/B5, FDD-LTE: B1/B3/B5/B7/B28 (AU) GSM: B2/B3/B5/B8, WCDMA: B1/ B2/ B5/ B8, FDD-LTE: B1/ B2/ B3/ B4/ B5/ B7/ B8/ B28, TDD LTE: B40
Max Data Rate (DL/UL) Mbps	14.4/5.76	150/50			
Software Interface	PPP, AT command set, USSD, SMS				
SIM Card	Mini SIM				
Antenna Connector	Main and Diversity u.FL sockets				
Modular Approvals	ANATEL/ AT&T/ CE/ FCC/ IC/ JATE/ NBTC/ PTCRB/ RCM/ Rogers/ TELEC	CE/ GCF/ KC/ SKT/ NBTC/ Vodafone/ FAC	FCC/ PTCRB/ IC/ Rogers/ AT&T	FCC/ GCF/ Verizon	RCM/ NCC/ Anatel

Switches:

Switch	Description
S1	Reset switch
S2	Boot switch
S3	Power switch
S4	Modem ON/OFF switch
S5	Modem Reset switch
S7	Cape address switch

Jumpers:

Jumper	Description
J2	Battery connection bypass jumper, for non BATT-UPG configurations this jumper should be closed.
J3	Boost section bypass jumper, for non BATT-UPG configurations this jumper should be closed.

LEDs:

LED	Description
D1	Power LED
D2	User LED 0
D3	User LED 1
D4	User LED 2
D5	User LED 3
D13	Modem Power LED
D14	Modem operation status LED
D15	Modem network activity status LED
D16	Modem network registration mode LED
D18	Cape Side Power LED
D20	Diagnostic status LED

Setting up the system:

1. Place 3V coin cell (provided with VIBEQ) in the holder for RTC.
2. Place a data-enabled mini-SIM in the SIM card slot and connect a GSM antenna to the respective main antenna connector.
3. Ensure that the power jumpers J2 and J3 on VIBEQ are in place and EEPROM address set at 0x54 using DIP switch S7
4. Power up VIBEQ using the 5V/5A DC adapter (provided with VIBEQ).
5. After powering up and bootup, login into VIBEQ by any of the following option :
 - a. Through Diagnostic Port using Mini-USB cable.
 - b. Through Ethernet Cable (at IP 192.168.1.150 for preflashed eMMC images)



Username for root login is **root** and password is **root**. For user login, username is **debian** and password is **tempwd**.

a. Through Diagnostic Port using Mini-USB cable

The diagnostic port (P4 at the back side of USER LEDs) will give debug-console access to VIBEQ. Connect a Mini-USB cable between VIBEQ's diagnostic port and Desktop USB port. Once connected to Desktop system two virtual ports are created on the desktop. Depending on Desktop OS, ports name will be different.

- On Linux, it will create port `/dev/ttyACM0` and `/dev/ttyACM1`. Use `minicom` or similar application for accessing serial port `/dev/ttyACM0` with baud rate of 115200

```
sudo minicom -D /dev/ttyACM0
```

```
yantrr@yantrr-ws2: ~
Welcome to minicom 2.7

OPTIONS: I18n
Compiled on Feb  7 2016, 13:37:27.
Port /dev/ttyACM0, 15:39:21

Press CTRL-A Z for help on special keys

Debian GNU/Linux 8 Yantrr ttyS0
Yantrr Electronic Systems Pvt. Ltd.
VIBEQ Debian Image 2017-06-10

Support/FAQ:
  http://support.zoho.com/portal/yantrr/home
  http://www.yantrr.com/wiki/Main_Page
  http://elinux.org/Beagleboard:BeagleBoneBlack_Debian

default username:password is [debian:tempwd]

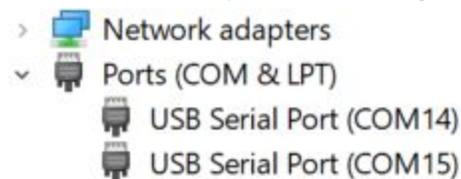
Yantrr login: root
Password:
Last login: Sat Jan  1 00:05:52 UTC 2000 on ttyS0
Linux Yantrr 4.4.68-ti-r110 #8 SMP Fri Mar 23 11:52:42 IST 2018 armv7l

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

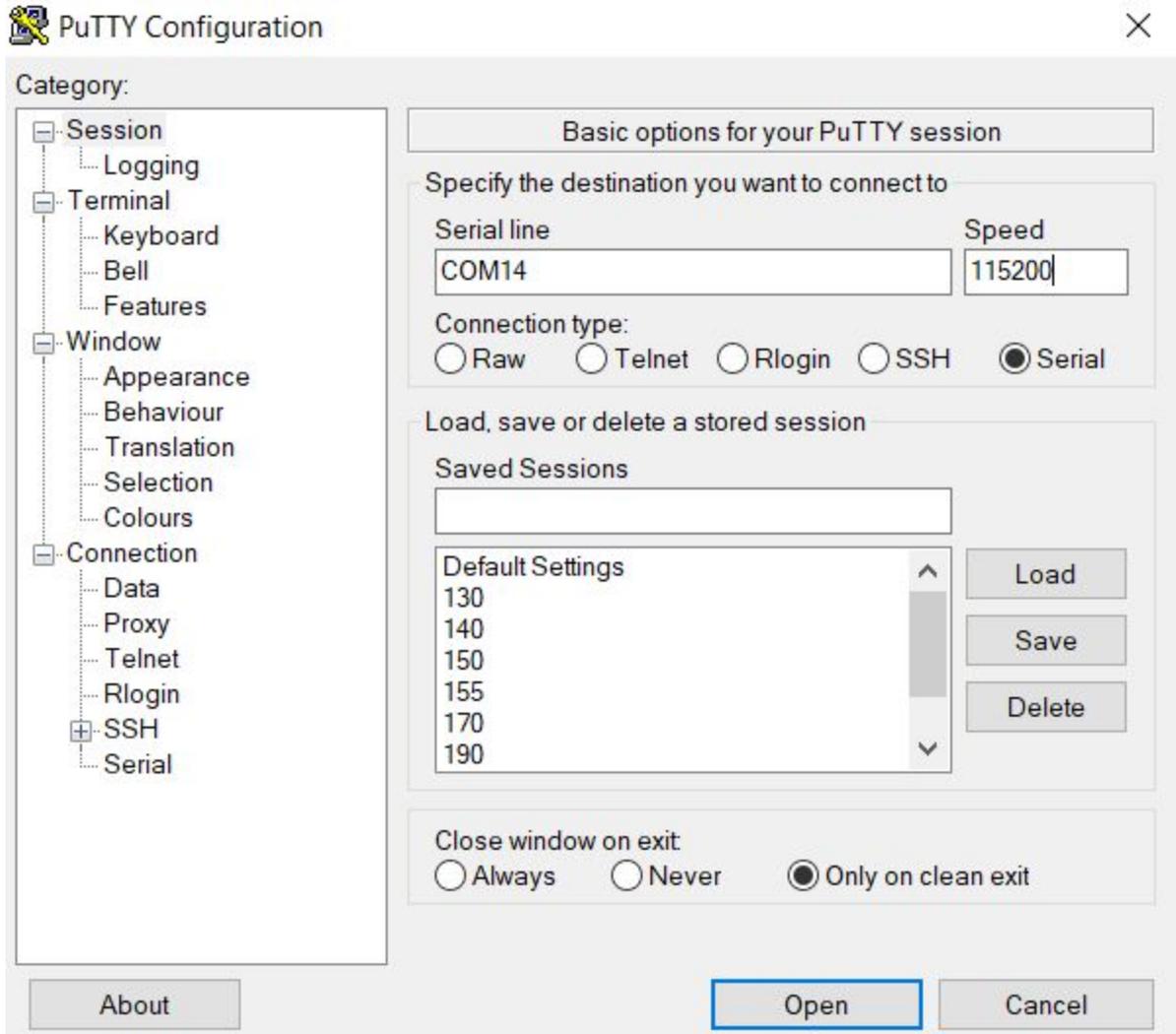
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
root@Yantrr:~#
```

CTRL-A Z for help | 115200 8N1 | NOR | Minicom 2.7 | VT102 | Offline | ttyACM0

- On Windows, first check the serial port names using Windows Device Manager Utility



Here, Diagnostic Port of VIBEQ is accessible on port COM14, now use putty client to access it.



Once login prompt comes, use the above provided username and password to login.

b. Through Ethernet cable

Pre-flashed image on VIBEQ has the fixed IP address as 192.168.1.150 with gateway 192.168.1.1 SSH into the system over ethernet :

```
ssh -l root 192.168.1.150
```

Note: Before powering up ensure correct software image is loaded in VIBEQ



Before proceeding further ensure D1 LED is glowing properly. Make sure that the adapter being used is of proper rating and has been connected properly.



When using the GNSS Section ensure the GPS Antenna is facing open sky for better accuracy and faster time to fix.



Before powering down the system always ensure to Turn OFF the Modem using the PWRKEY turn ON/OFF control pin or using the AT Command *AT+QPOWD*.

Precompiled Firmware Images:

- **Debian MicroSD card Image** : [VIBEQ_4.4_debian8_2303018.img.xz](#)

Useful Links :

<http://www.yantrr.com/wiki/VIBEQ>

http://elinux.org/Beagleboard:BeagleBoneBlack_Debian

<http://www.quectel.com/product/ec25.htm>

<http://www.quectel.com/product/uc20.htm>

FCC Declaration of Conformity:

1. This product has not undergone tests to certify compliance with FCC Rule 15 Part B.
2. This product is provided to the buyers in USA as an engineering sample only for evaluation in the buyer's facilities.
3. This product cannot be further sold in USA or used for any other purpose other than evaluation by the original buyer.
4. Yantr Electronic Systems will not be responsible loss or damage resulting from any use of this product other than as an engineering sample for evaluation purposes.

Still Have Questions or Technical Issues?

Please post your queries in the online helpdesk portal at <http://support.yantrr.com> or email us at support@yantrr.com for any question you might have providing following details:

1. Product model
2. Serial Number
3. Your address, email address and phone contact information
4. Full description of the issue you are facing