EVBUM2692/D

QTM840-TB2-GEVK Evaluation Board User's Manual

ON Semiconductor®

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EVAL BOARD USER'S MANUAL

Introduction

QTM840−TB2−GEVK is single RGMII test board for Quantenna® Wi−Fi® module. QTM840−TB2−GEVK has Quantenna QT3840BC on board, which communicates with Wi−Fi chipset through RGMII interface via mPCIe connector.

Description

The QT3840BC chipset supports dual RGMII, one RGMII interface is used to communicate with Quantenna Wi−Fi module chipset, the other one is designed as standard RGMII port, which supports 1 Gbps/100 Mbps/10 Mbps.

I/O Interfaces and Features

- Explicit and Implicit Digital Transmit Beamforming
- Advanced MIMO Features STBC and Channel State Aware Link Management for Sustained Link Robustness
- Two ARC−based Network Processors with Hardware Assist to Manage Multiple Simultaneous
- 802.11a/n/ac Connections
- DSP Engine to Hardware Accelerate Aggregation, De−aggregation, and Packet Re−ordering
- MU−MIMO Support
- SuperDFS Support
- Expanded Support for 128 Users
- LDPC Support
- Works with Quantenna 4x4 5 GHz RFIC (QT2518B)
- DDR2/DDR3 Memory Support
- PCIe Gen2.0 with Embedded DMA
- Standards: 802.11ac/n/a
  802.11i (WEP, WPA/WPA2, RADIUS)
  802.11d
  802.11e (WMM, WMM−PS)
  802.11w
  802.11h
  802.11k
- Operating Frequencies: 4.9−5.85 GHz
- Maximum Data Rate (per Stream) − Rates are for 256 QAM Operation
  - 80 MHz: 1.7 Gbps (433.33 Mbps)
  - 40 MHz: 800 Mbps (200 Mbps)
  - 20 MHz: 346.8 Mbps (86.7 Mbps)

Figure 1. QTM840−TB2−GEVK Photo

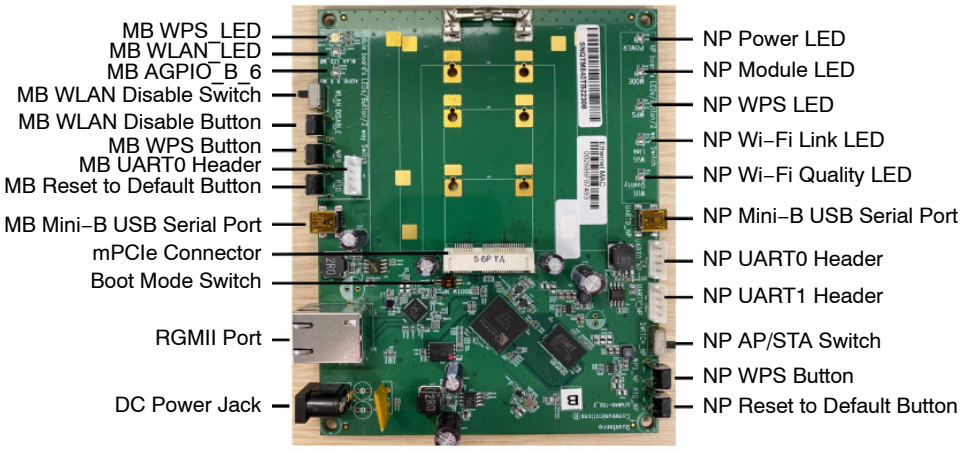


Figure 2. QTM840−TB2−GEVK Description

APPLICATIONS INFORMATION

Power Configuration

QTM840−TB2−GEVK is designed to be powered externally. The external power supply should be 12 V DC. When the board is powered on, the power LED will be steady green.

Reset to Default Button (NP/MB)

Reserved (Reset to Default Button).

WPS Button (NP/MB)

Reserved (WPS Button).

AP/STA Switch (NP)

Reserved (AP/STA Switch).

WLAN Disable Button

Reserved (WLAN Disable Switch).

WLAN Disable Switch

Reserved (WLAN Disable Switch).

RGMII Port

RGMII supports 1 Gbps/100 Mbps/10 Mbps UTP speed.

Mini−B USB Serial Port (NP/MB)

The Serial port is mainly used for debug purpose.

Table 1. SERIAL PORT SETTING

Baud Rate	115200
Data	8 bit
Parity	None
Stop	1 bit
Flow Control	None

Boot Mode Switch

Boot mode switch controls serial port mode.

Table 2. BOOT MODE SWITCH DEFINITION

State	Definition
00	bootm
10	SPI−0 (Default)

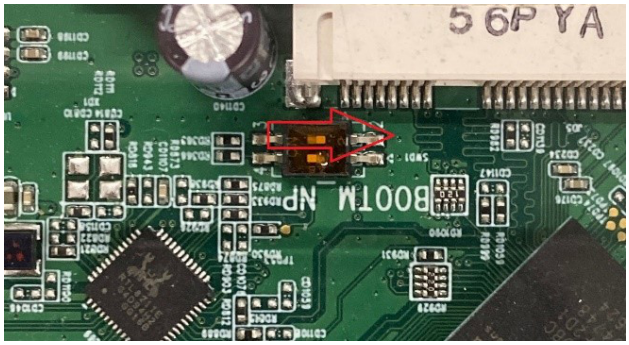


Figure 3. Default Setting (SPI−0)

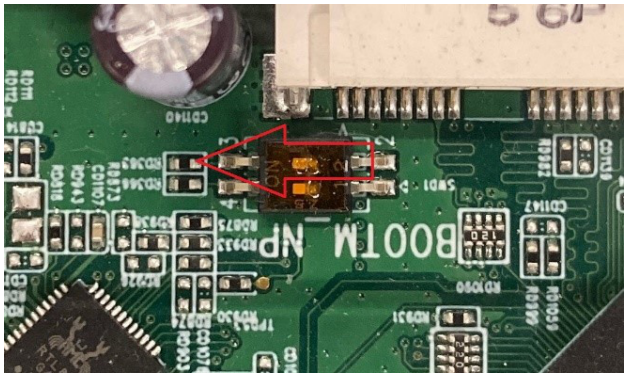


Figure 4. Bootm Setting

BOARD POWER UP

LED Indication When QTM840−TB2−GEVK Powers Up

Figure 5. LED Indication When QTM840−TB2−GEVK Powers Up

Console Display When QTM840−TB2−GEVK Successfully Boots Up

When QTM840−TB2−GEVK successfully boots up, it will show “quantenna #”.

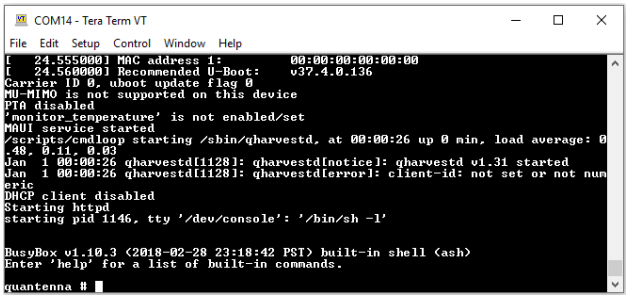


Figure 6. QTM840−TB2−GEVK Successfully Boots Up

Web GUI

QH840−5S7−GEVK default IP address is 192.168.1.200.

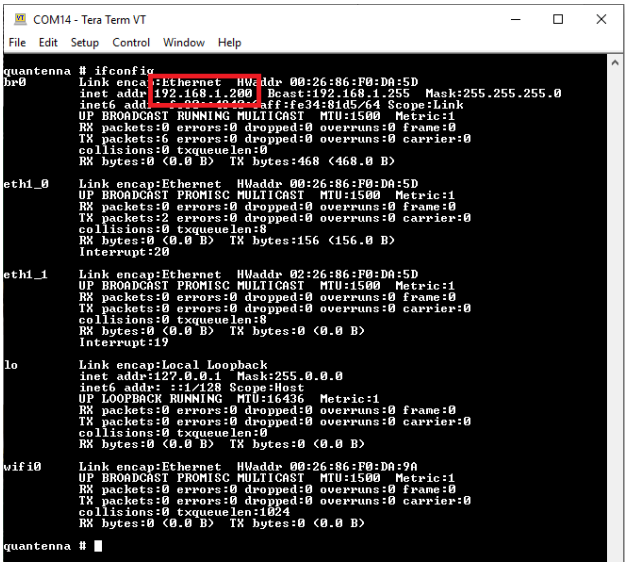
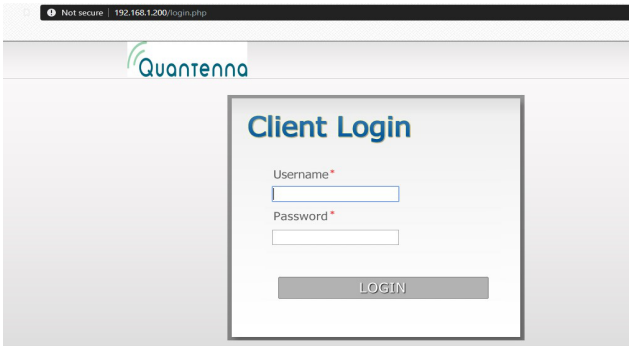


Figure 7. Default IP Address



Web GUI username: super
password: super

Figure 8. Web GUI Username and Password

Telnet

QTM840−TB2−GEVK could also be accessed through telnet. Use board IP address and the login username is “root”.

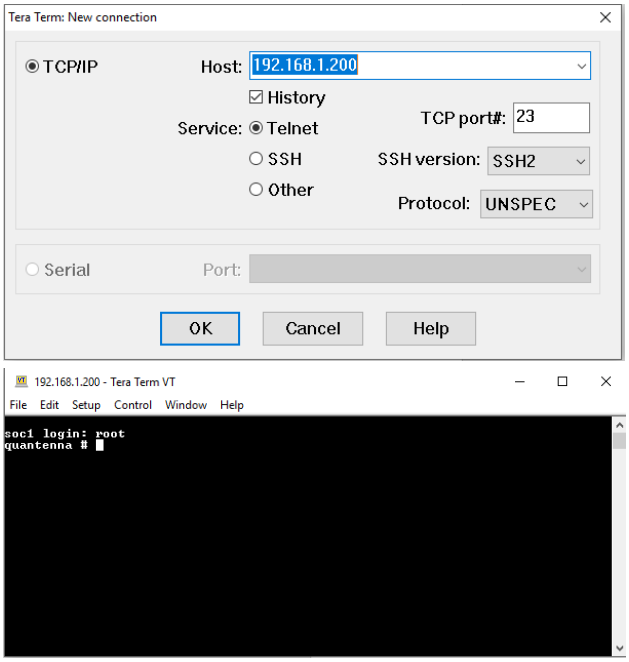


Figure 9. Access Through Telnet

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