

QTP840-TB1-GEVK Evaluation Board User's Manual

Introduction

QTP840-TB1-GEVK is dual RGMII test board for Quantenna® Wi-Fi® module. QTP840-TB1-GEVK has Quantenna QT3840BC on board, which communicates with Wi-Fi chipset through PCIe interface via mPCIe connector.

Description

The QT3840BC chipset has two RGMII and one PCIe interface. On QTP840-TB1-GEVK test board, QT3840BC chipset communicates with Quantenna Wi-Fi module chipset through PCIe via mPCIe connector. The dual RGMII ports support 1 Gbps/100 Mbps/10 Mbps separately.

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)



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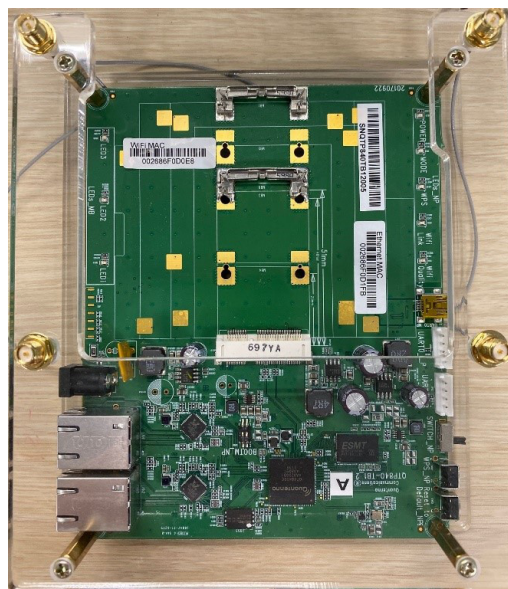


Figure 1. QTP840-TB1-GEVK Photo

EVBUM2689/D

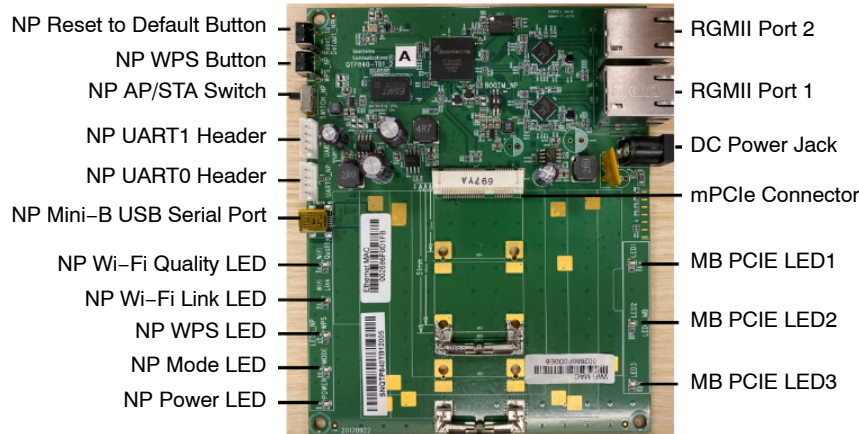


Figure 2. QTP840-TB1-GEVK Description

APPLICATIONS INFORMATION

Power Configuration

QTP840-TB1-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)

Reserved (Reset to default Button).

WPS Button (NP)

Reserved (WPS Button).

AP/STA Switch (NP)

Reserved (AP/STA Switch)

RGMII Port 1/2

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

Mini-B USB Serial Port (NP)

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) |

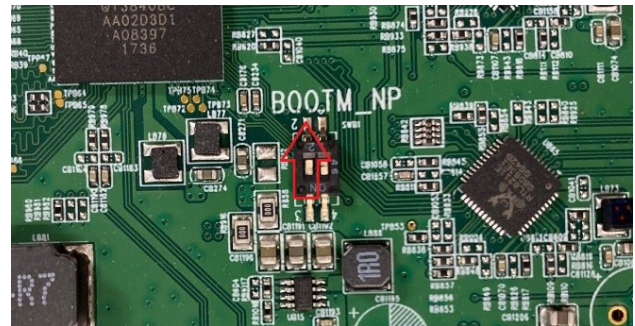


Figure 3. Default Setting (SPI-0)

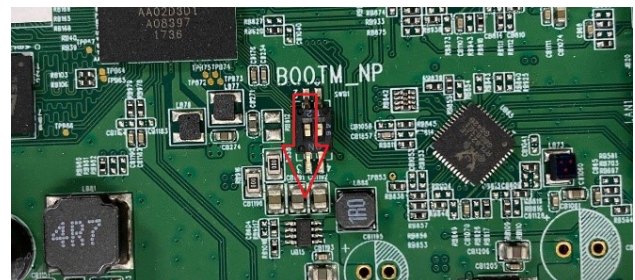


Figure 4. Bootm Setting

BOARD POWER UP

LED Indication When QTP840-TB1-GEVK Powers Up

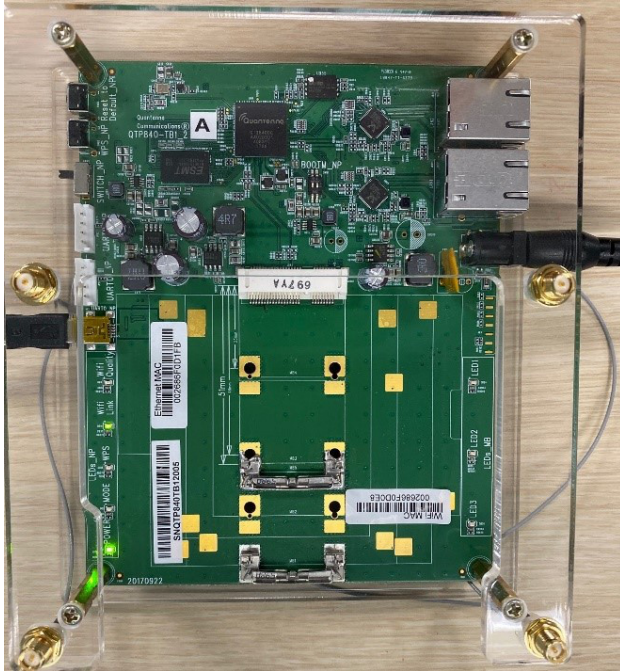


Figure 5. LED Indication When QTP840-TB1-GEVK Powers Up

Console Display When QTP840-TB1-GEVK Successfully Boots Up

When QTP840-TB1-GEVK successfully boots up, it will show “quantenna #”.

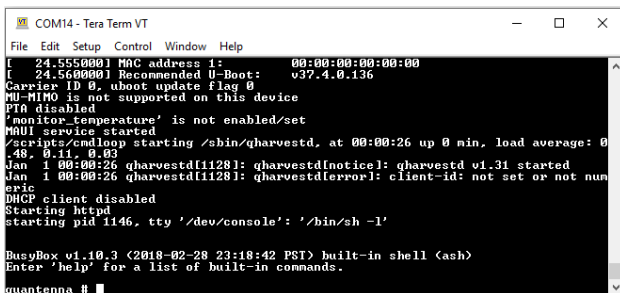


Figure 6. QTP840-TB1-GEVK Successfully Boots Up

Web GUI

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

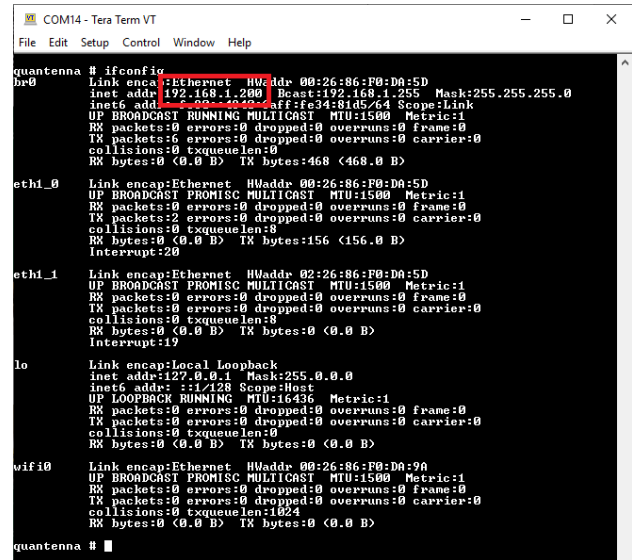
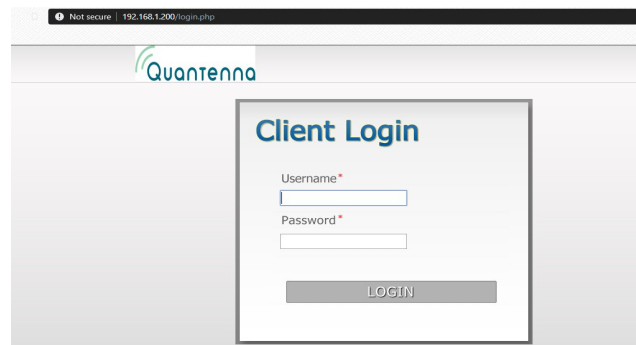


Figure 7. Default IP Address



Web GUI username: super
password: super

Figure 8. Web GUI Username and Password

Telnet

QTP840-TB1-GEVK could also be accessed through telnet. Use board IP address and the login username is “root”.

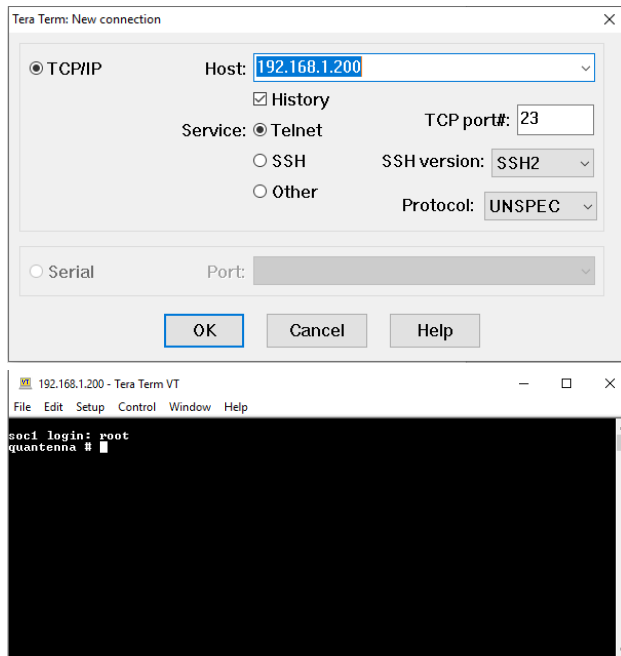


Figure 9. Access Through Telnet

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