EVBUM2682/D

QHS842-DS2-GEVK Evaluation Board User's Manual

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EVAL BOARD USER'S MANUAL

Overview

QHS842−DS2−GEVK is Dual RGMII hardware reference module for Quantenna QT3840BD chipset. This module can be integrated with different Residential GW SoCs to provide up to 1.7 Gbps PHY/Data Link Speed in 80 MHz mode. It consists of one 11ac digital baseband chip and one 4 chain 5 Ghz/2.4 GHz RFIC with Skyworks SKY85809 dual−band FEM.

Description

The QT3840BD chipset supports the 802.11ac/n/a standards and 4 streams in 4x4 MU−MIMO configuration. Each FEM can be configured as 5 GHz or 2.4 GHz. QHS842−DS2−GEVK has dual RGMII ports, which 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/2.4 GHz RFIC
- DDR2/DDR3 Memory Support
- 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: 5 GHz/2.4 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)

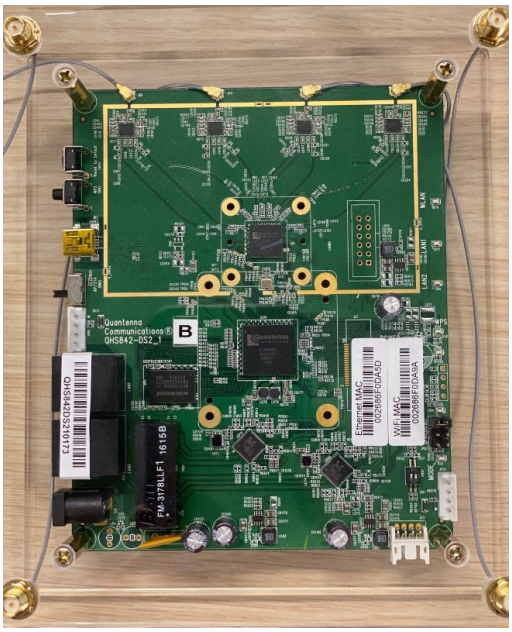

Figure 1. QHS842−DS2−GEVK Photo

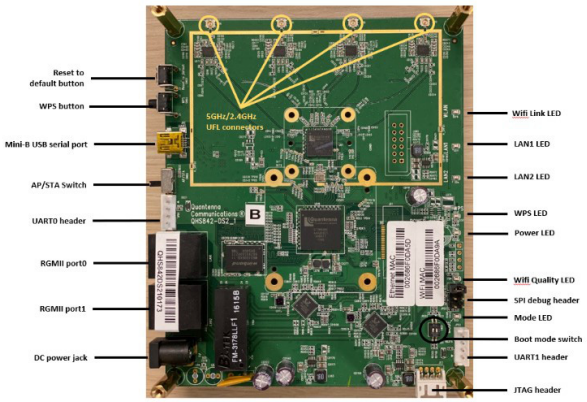

Figure 2. QHS842−DS2−GEVK Photo and Description

APPLICATIONS INFORMATION

Power Configuration

QHS842−DS2−GEVK is designed to be powered externally. The external power supply should be 5 V DC. When the board is powered on, the power LED will be steady green.

Reset to Default Button

Reserved (Reset to default Button).

WPS Button

Reserved (WPS Button).

AP/STA Switch

Reserved (AP/STA Switch)

RGMII Port 1/2

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

Mini−B USB Serial Port

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)

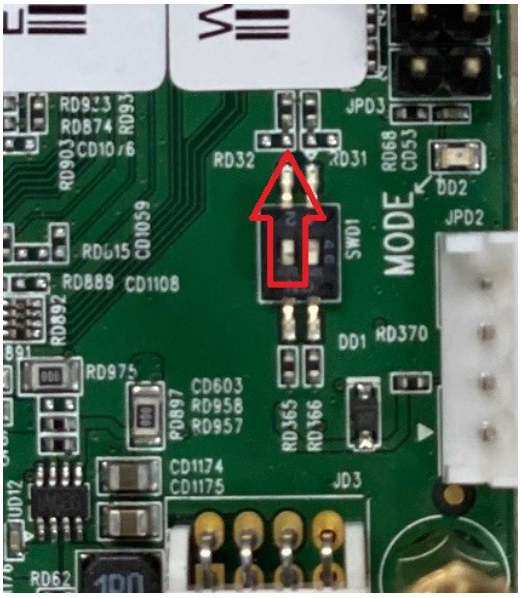

Figure 3. Default Setting (SPI−0)

Figure 4. Bootm Setting

BOARD POWER UP

LED Indication When QHS842−DS2−GEVK Powers Up

Figure 5. LED Indication When QHS842−DS2−GEVK Powers Up

Console Display When QHS842−DS2−GEVK Successfully Boots Up

When QHS842−DS2−GEVK successfully boots up, it will show “quantenna #”.

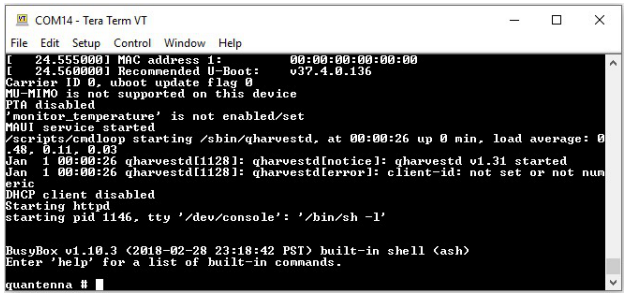

Figure 6. QHS842−DS2−GEVK Successfully Boots Up

Web GUI

QHS842−DS2−GEVK default IP address is 192.168.1.200.

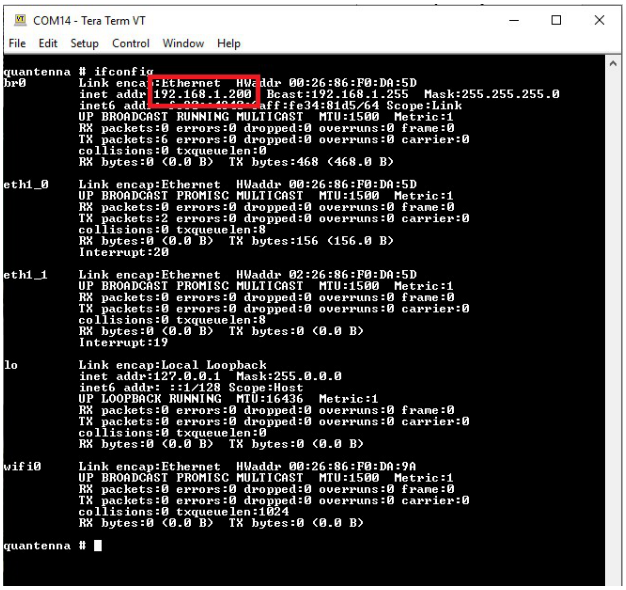

Figure 7. Default IP Address

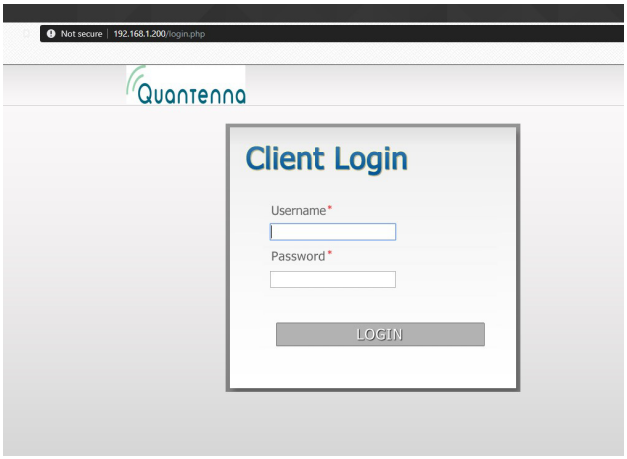

Figure 8. Web GUI Username and Password

Web GUI username: super
password: super

Telnet

QHS842−DS2−GEVK could also be accessed through telnet. Use board IP address and the login username is “root”.

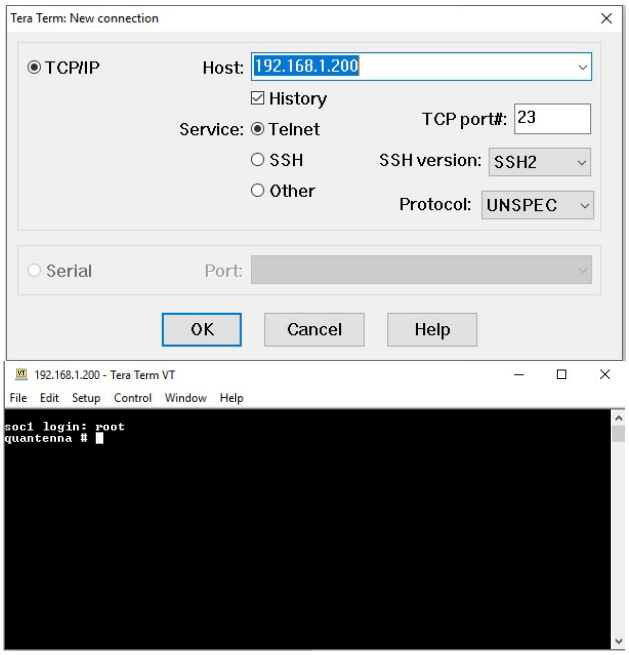

Figure 9. Access Through Telnet

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