

QTM942-DS2-GEVK Evaluation Board User's Manual

Introduction

QTM942-DS2-GEVK is RGMII hardware reference module for Quantenna® QT3940BD 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 in receive direction. It consists of one 11ac digital baseband chip and one 4 chain 5 GHz/2.4 GHz RFIC with Skyworks SKY85809 + SKY85811 dual-band FEM.

Description

The QT3940BD chipset is the industry's highest performance 2x4 802.11ac client solution for best coverage. Each FEM can be configured as 5 GHz or 2.4 GHz. QHS942-DS2-GEVK has single RGMII port, which supports 1 Gbps/100 Mbps/10 Mbps.

I/O Interfaces and Features

- 2x4 MIMO Configuration
- Digital Transmit Beamforming: Explicit and Blind (Implicit)
- Advanced MIMO Features STBC and Channel State Aware Link Management for Sustained Link Robustness
- Embedded Aggregation, De-aggregation, and Packet Re-ordering
- MU-MIMO Support for Two Users
- Expanded Support for 128 Users
- LDPC Support
- Works with Quantenna RFIC QT2518B and QT6020B
- DDR2/DDR3 Memory Support
- PCIe Gen2.0 with Embedded DMA
- Two RGMII/MII Interfaces
- 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
 - ◆ 40 MHz: 800 Mbps
 - ◆ 20 MHz: 346.8 Mbps



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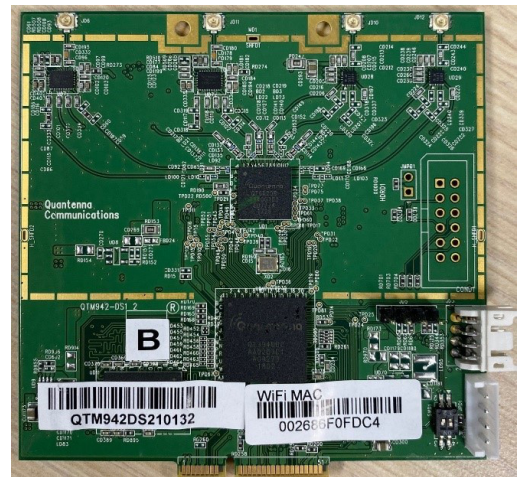


Figure 1. QTM942-DS2-GEVK Photo

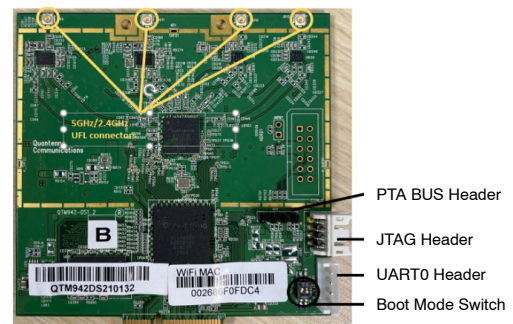


Figure 2. QTM942-DS2-GEVK Description

APPLICATIONS INFORMATION

Power Configuration

QTM942-DS2-GEVK is designed to be powered from mPCIe gold finger. When the board is powered on, the power LED will be steady green.

RGMI I Port

RGMI I supports 1 Gbps/100 Mbps/10 Mbps UTP speed.

UART Header

The UART header is used to connect serial port 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)

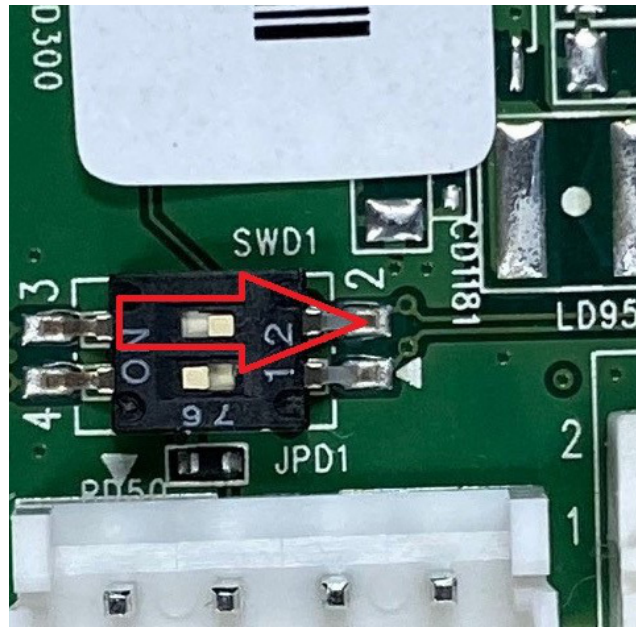


Figure 3. Default Setting (SPI-0)

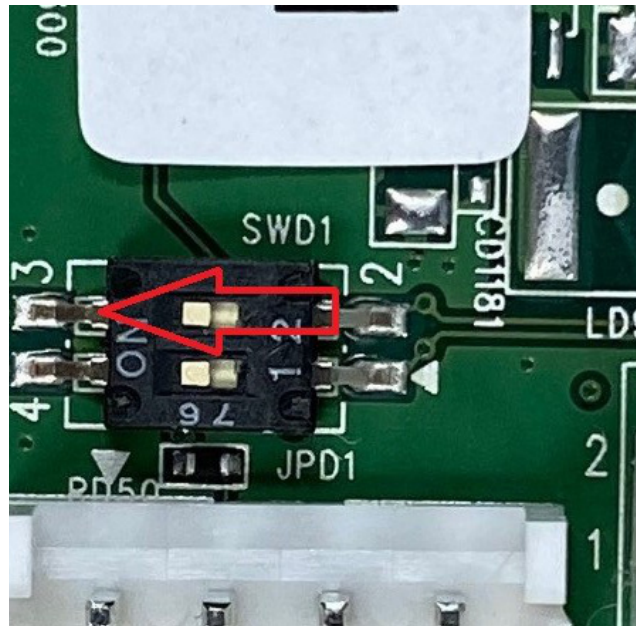


Figure 4. Bootm Setting

BOARD POWER UP

Console Display When QTM942-DS2-GEVK Successfully Boots Up

When QTM942-DS2-GEVK successfully boots up, it will show “quantenna #”.

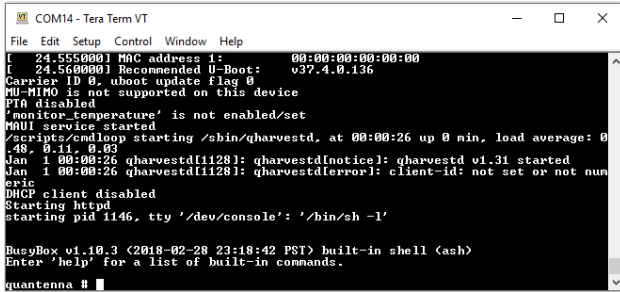


Figure 5. QTM942-DS2-GEVK Successfully Boots Up

Web GUI

QTM942-DS2-GEVK default IP address is 192.168.1.200.

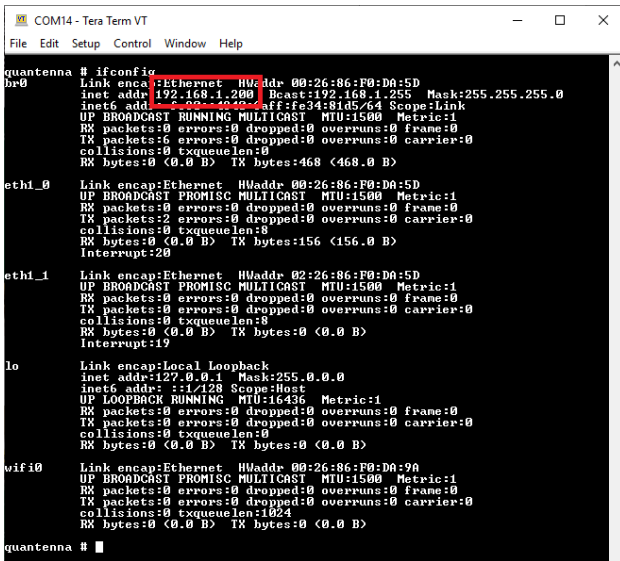
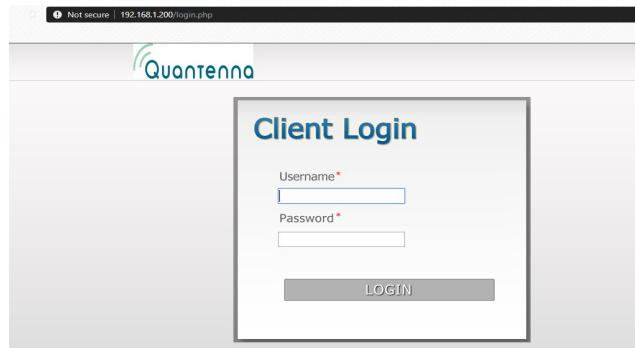


Figure 6. Default IP Address



Web GUI username: super
password: super

Figure 7. Web GUI Username and Password

Telnet

QTP942-DS2-GEVK could also be accessed through telnet. Use board IP address and the login username is “root”.

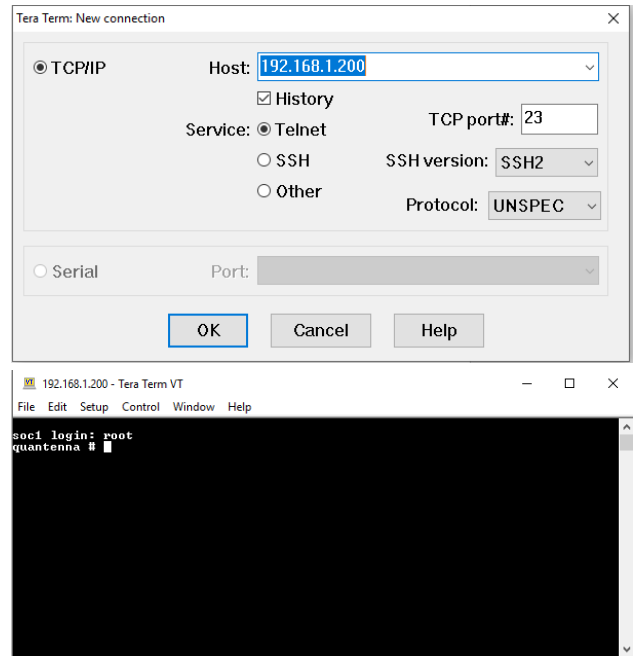


Figure 8. Access Through Telnet

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