EVBUM2678/D

QBOX840-5S7-GEVK User's Manual

Overview

QBOX840–5S7–GEVK is a Dual RGMII repeater with Quantenna[®] QT3840BD chipset. This repeater can 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 RFIC.

Description

QBOX840-5S7-GEVK supports the 802.11ac/n/a standards and 4 streams in 4x4 MU-MIMO configuration. QBOX840-5S7-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
- 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. QBOX840-5S7-GEVK Photo

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Figure 2. QBOX840-5S7-GEVK Side Photo

APPLICATIONS INFORMATION

Power Configuration

QBOX840–5S7–GEVK use 5 V DC power supply. When the board is powered on, the power LED will be steady green.

Reset to Default Button

Reserved (Reset to default Button).

WPS Button

By pressing WPS button, associate with other Wi– $\mathrm{Fi}^{\circledast}$ devices.

AP/STA Switch

Switch between Access Point and Station mode.

LAN port 0/1

LAN 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

BOARD POWER UP

LED Indication When QBOX840-5S7-GEVK Powers Up



Figure 3. Console Display When QBOX840-5S7-GEVK Successfully Boots Up

When QBOX840–5S7–GEVK successfully boots up, it will show "quantenna #".

COM14 - Tera Term VT File Edit Setup Control Window Help		-		×
Carrier ID 0, uboot update flag 0 MU-MIMO is not supported on this dev PTA disabled	v37.4.0.136 ice			
′nonitor_temperature' is not enabled MAUI service started ∕scripts/cmdloop starting ∕sbin/qhar .48, 0.11, 0.03 Jan 1 00:00:26 qharvestd[1128]: qha Jan 1 00:00:26 qharvestd[1128]: qha	vestd, at 00:00:26 up 0 mi rvestd[notice]: gharvestd	v1.31 sta	arted	
eric DHCP client disabled Starting httpd starting pid 1146, tty '/dev/console	': '/bin/sh -1'			
BusyBox v1.10.3 <2018-02-28 23:18:42 Enter 'help' for a list of built-in guantenna #				

Figure 4. QBOX840–5S7–GEVK Successfully Boots Up

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Telnet

QBOX840–5S7–GEVK could also be accessed through telnet. Use board IP address and the login username is "root".

● TCP/IP	Host:	192.168.1.200			~
	Service:	 ✓ History ● Telnet ○ SSH 	TCP po SSH version:		~
		○ Other	Protocol:	UNSPEC	~
) Serial	Port:				
	ОК	Cancel	Help		
	00 - Tera Term				
e Edit Set	up Control	Window He	lp		
1 login:	root				
c1 login: antenna #	root				

Figure 5. Access Through Telnet

Web GUI

QBOX840-5S7-GEVK default IP address is 192.168.1.200.

Term VT			×
Control Window Help			
fconfig k enca fithernet HV-adr 00:26:86:F0:DA:5D t addr 122.168.1.200 Bcast:192.168.1.255 Ma t6 addr 22.00:40:40-64 Scope:L BROADCAST RUNNING HULIICAST MIU:1500 Metric packets:0 errors:0 dropped:0 overruns:0 frame packets:6 errors:0 dropped:0 overruns:0 carri Disions:0 txqueuelen:0 bytes:0 (20.0 B) TX bytes:468 (468.0 B)	:1 :0	5.0	,
k encap:Ethernet HVaddr 00:26:86:F0:DA:5D BNODDCAST PROHISC MULTICAST MTU:1500 Metric packets:0 errors:0 dropped:0 overruns:0 frame packets:2 errors:0 dropped:0 overruns:0 carri lisions:0 txqueuelen:8 bytes:0 (0.0 B) TX bytes:156 (156.0 B) prrupt:20	:0		
k encap:Ethernet HUaddr 02:26:06:F0:D0:SD BROADCAST PROMISC MULTICAST MTU:1500 Metric packets:0 errors:0 dropped:0 overruns:0 frame packets:0 errors:0 dropped:0 overruns:0 carric lisions:0 txqueuelen:0 bytes:0 (0.0 B) IX bytes:0 <0.0 B) prrupt:19	:0		
k encap:Local Loopback t addri:27.0.01 Mask:255.0.0.0 t6 addr: ::1/128 Scope:Host LOOPBACK RUNNING MTU:16436 Metric:1 packets:0 errors:0 dropped:0 overruns:0 frame packets:0 errors:0 dropped:0 overruns:0 carri Jisions:0 txqueuelen:0 Sytes:0 (20.0 B) TX bytes:0 (0.0 B)			
k encap:Ethernet HWaddr 00:26:86:F0:DA:9A BRODDCRST PROHISC HULIICAST HIV:1500 Metric packets:0 errors:0 dropped:0 overruns:0 frame packets:0 errors:0 dropped:0 overruns:0 carric lisions:0 txqueuelen:1024 bytes:0 (0.0 B) IX bytes:0 (0.0 B)	:0		

Figure 6. Default IP Address

Quanten	na
	Client Login
	Username*
	LOGIN

Figure 7. Web GUI Username and Password

Web GUI	username: super
	password: super

Status

Status shows QBOX840–5S7–GEVK basic information and current mode.

Status	STATUS - DEV	/ICE
Device Wireless Networking	Device Name: Software Version:	Quantenna Wireless Adapter aagrawal_bbic4_main-cl31256
Config Wireless WPS Networking	Uptime: Device Mode:	9min []Access Point (AP) [X] Station (STA)
Tools		Refresh
Log Command Admin Ubootinfo Restore Power		
System		
Upgrade Reboot		

Figure 8. Status – Device

Config

Network setting and device association could be configured at Config part, more detailed settings is showed in *Advanced*.

Quantenna

Device Vireless	CONFIG - WI	RELESS
Networking C onfig	Device Mode:	Station •
Wireless WPS Networking	ESSID: Channel:	Scan AP
Log Command Admin Jbootinfo Restore	PMF: Encryption:	Disabled • NONE-OPEN •
Power System Jpgrade Reboot		

Networking WDS MBSS	Device Mode:	Access Point
Config	ESSID:	Quantenna
Vireless	Broadcast SSID:	æ
WPS MAC Filter	Channel:	Auto Current Channel:132
Networking NDS MBSS 302.11u Hotspot	PMF: Encryption: Passphrase:	Disabled VWPA2-AES Vqtn01234
Tools	Group Key interval(in sec):	0
_og Command Admin Jbootinfo Restore Power		Save Cancel
System Jpgrade Reboot		

Figure 9. Config – Wireless

Tools

Tools are used for QBOX840–5S7–GEVK debug purpose.

Status	TOOLS - 0	COMMA	ND	
Device Wireless Networking WDS MBSS	call_qcsapi 🔻			Send
Config Wireless WPS MAC Filter Networking WDS MBSS 802.11u Hotspot				
Tools				
Log Command Admin Ubootinfo Restore Power				
System Upgrade Reboot				

Figure 10. Tools – Command

System

System is used for QBOX840–5S7–GEVK firmware update and maintenance.

Status	SYSTEM - UPGRADE
Device Wireless Networking WDS MBSS	Choose a file: Choose File No file chosen
Config	Upgrade
Wireless WPS MAC Filter Networking WDS MBSS 802.11u Hotspot	
Tools	
Log Command Admin Ubootinfo Restore Power	
System	
Upgrade Reboot	

Figure 11. System – Upgrade

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