

CyberTAN

Product Specification

WU260-AM

2.4/5GHz Draft 802.11n 2x2 MIMO WLAN USB Module

Preliminary

Release 0.4

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1. Revision History

Date	Release	Author	Description
Nov 27th, 2008	0.1	Bryan Chou	First Release
Jan 21th, 2009	0.2	Bryan Chou	Pg3, Modulation revised Pg4, Compliant Approvals revised
Mar 27, 2009	0.3	JC Liou	Performance validation
Aug 5 , 2009	0.4	Selina liaw	Adding package label

2. Related Documents

Date	Author	Document
	IEEE.org	Draft IEEE 802.11n specification

3. Introduction

The WU260 is a Draft IEEE802.11n-compatible USB module in a 2x2 MIMO configuration and operating in the 2.4 and 5GHz ISM band. This module allows an embedded host to use its USB 1.1 or 2.0 interface to connect to a Draft IEEE802.11n compatible access point at unprecedented speeds.

The WU260 USB module is based on Broadcom's BCM4323 65nm chipset. It provides greater than 100Mbps real world throughput using high-speed spatial multiplexing modes. Configuration and testing of this module must be done on the host via Broadcom provided software tools..

4. Features

- USB v2.0 compatible.
- Board-to-Board connector to the host PCB's needs.
- Backward compatible with USB v1.1.
- Draft IEEE 802.11n version 2.0 compatible.
- Backward compatible with IEEE 802.11b/g standards.
- Wire-free access to networked resources from anywhere beyond the TV.
- Delivers data rate up to 300 Mbps.
- 802.11n: Dynamically shifts among 130, 117, 104, 78, 52, 39, 26 and 13Mbps in a 20MHz bandwidth and 270, 243, 216, 162, 108, 81, 54 and 27Mbps in a 40MHz bandwidth, based on signal strength, for maximum availability and reliability of connection.
- 802.11a/g: Dynamically shifts among 54, 48, 36, 24, 18, 12, 9 and 6 Mbps network speed, based on signal strength, for maximum availability and reliability of connection.
- 802.11b: Dynamically shifts among 11M, 5.5M, 2M, and 1 Mbps network speed, based on signal strength, for maximum availability and reliability of connection.
- Uses 2.4 and 5GHz frequency band, which complies with worldwide non-license bands.
- Ensures great security by providing the 64/128 bits Wired Equivalent Privacy (WEP) and WiFi Protected Access Protected Access (WPA) defined in the IEEE standard.

5. Specification

Specifications	
Product Name	802.11a/b/g/n Wireless LAN Module
Interface	USB ver 2.0 compatible ROHS 4P header
Network Standards	Draft IEEE802.11n and 11a/b/g -compliant
Data Rate	11b/g: 54, 48, 36, 24, 18, 12, 9, 6, 11, 5.5, 2,1 Mbps 11n: 20MHz BW: 130, 117, 104, 78, 52, 39, 26, and 13Mbps 40MHz BW: 270, 243, 216, 162, 108, 81, 54, and 27Mbps
Modulation	802.11a/g/n---- OFDM 802.11b---- CCK (11Mbps, 5.5Mbps), QPSK (2Mbps), BPSK (1Mbps)
Technique	Direct Sequence Spread Spectrum(802.11b)
Network Architecture	Infrastructure and ad hoc
Operating Frequency	2.4G 11b/g/n: 2.412 ~ 2.462 GHz: North America 5G 11a/n: 5.15 ~ 5.35GHz/ 5.47 ~ 5.825 GHz: North America UNII
Operating Channels	11b: 1~11 for America 2.4GHz 11g/n: 1~11 for America 5GHz 11a/n: 36-64, 100-161 North America
RF Output Power	16dBm +/- 1.5dBm (2.4GHz, 11Mbps, CCK) 13.5Bm +/- 1.5dBm (2.4GHz, 54Mbps, OFDM) 13.5dBm +/- 1.5dBm (5GHz, 54Mbps, OFDM) 13.5dBm +/- 1.5dBm (2.4GHz, 11n) 13.5dBm +/- 1.5dBm (5GHz, 11n, 20MHz BW) 12.5dBm +/- 1.5dBm (5GHz, 11n, 40MHz BW)
Antenna	Hirose U.FL connector * 2
LED Indicators	N/A
Coverage Area	Indoor: 20M@54Mbps, 35M@24Mbps, 60M@6Mbps, 100M@11Mbps

Receive Sensitivity	-84 dBm @ 11M (CCK, 10% PER) -70 dBm @ 54M (2RX 11g OFDM, 10% PER) -70 dBm @ 54M (2RX 11a OFDM, 10% PER) -64 dBm @ 130Mbps (2.4GHz, 2RX 11n OFDM with 20MHz BW, 10% PER) -62 dBm @ 130Mbps (5GHz, 2RX 11n OFDM with 20MHz BW, 10% PER) -62 dBm @ 270Mbps (2.4GHz, 2RX 11n OFDM with 40MHz BW, 10% PER) -60 dBm @ 270Mbps (5GHz, 2RX 11n OFDM with 40MHz BW, 10% PER)
Power Consumption	TX Power consumption: < 700 mA RX Power consumption: < 460 mA
Operating Temperature	0 to 60 °C
Humidity	20% to 95% Non-condensing
Dimensions (mm)	(W) 37mm × (L) 50mm × (H) 1.1mm
Weight (g)	6.8 g
Voltage	5.0V

6. Drivers Release Plan

	Driver Release time	Utility Tools Release time
Windows 2000		
Windows XP		
Linux		
VxWorks		

7. Compliant Approvals

7.1 Compliant Approvals

FCC Part 15 Class B, C & E

7.2 Compliant PTT approvals

Supported by customer request: USA

8. Packaging Specifications

The following items will be required for the complete packaging of the WU260-AM USB module:

Item	Comments
WU260 USB module	YES
Protective bag	Bubble bag
Carton	Bulk packing
QIG	N/A
CD-ROM	N/A

9. Warranty

One year limited warranty.

9.1 Warning statement

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator &

your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Operations in the 5.15-5.25GHz band are restricted to indoor usage only

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

This device is intended only for OEM integrators under the following conditions:

The antenna must be installed such that 20 cm is maintained between the antenna and users, and

The transmitter module may not be co-located with any other transmitter or antenna,

For all products market in US, OEM has to limit the operation channels in CH1 to CH11 for 2.4G band by supplied firmware programming tool. OEM shall not supply any tool or info to the end-user regarding to Regulatory Domain change.

As long as 3 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: “Contains FCC ID: MDZSV422XVT-WL”.

Manual Information To the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user’s manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.