Product Specification

XW604B10

IEEE802.11b/g/n 1T1R USB Module

Version: 1.0

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www.xavi.com.tw

World Headquarter
9F, No. 129 Hsing Te Road, Sanchung City
Taipei Hsien 241, Taiwan, R.O.C
Tel: +886-2-29957953 Fax: +886-2-29957954

Europe Branch Office
Oehleckering 6b 22419 Hamburg
Germany
TEL: +49-40-514400
FAX: +49-40-514400-69

China Subsidiary
Room 401, Floor 4, #608 ZhaoJiaBang Road
Shanghai 20031, China
Tel: +86-21-64318800 Fax: +86-21-64317885

USA Branch Office
53 Parker Irvine ,
CA 92618, USA
Tel: +1-949-3800928
FL Office: +1-954-3060659

Release History

DATE	REV	Description of Change
2009/11/26	1.0	Initial release

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IEEE802.11b/g/n 1T1R USB Module

1 Introduction

XB604B10 is an integrated the Ralink RT3070 single-chip 2.4GHz IEEE802.11b/g/n 1T1R MAC/Baseband/Radio with USB2.0 interface. ***XW604B10*** fully complies with IEEE802.11n and IEEE802.11b/g feature rich wireless connectivity at high standards, delivers reliable, cost-effective, throughput from an extended distance.

2 Features

- Interoperable with IEEE802.11b/g/n WLAN.
- Reverse direction grant data flow and frame aggregation.
- Support 65 Mbps for 20MHz and 150Mbps for 40MHz channel operations.
- Wireless multimedia enhancements quality of service support (QoS).
- Legacy and high throughput modes.
- Multiple BSSID support.
- WEP 64/128, WPA, WPA2, TKIP, and AES hardware encryption.
- USB 2.0 compliant.
- Cisco CCX support.
- Low power with advanced power management.
- Support for Bluetooth coexistence.
- Operating systems – Windows XP 32/64, 2000, Vista 32/64, Linux, Macintosh.

3 Module Photo

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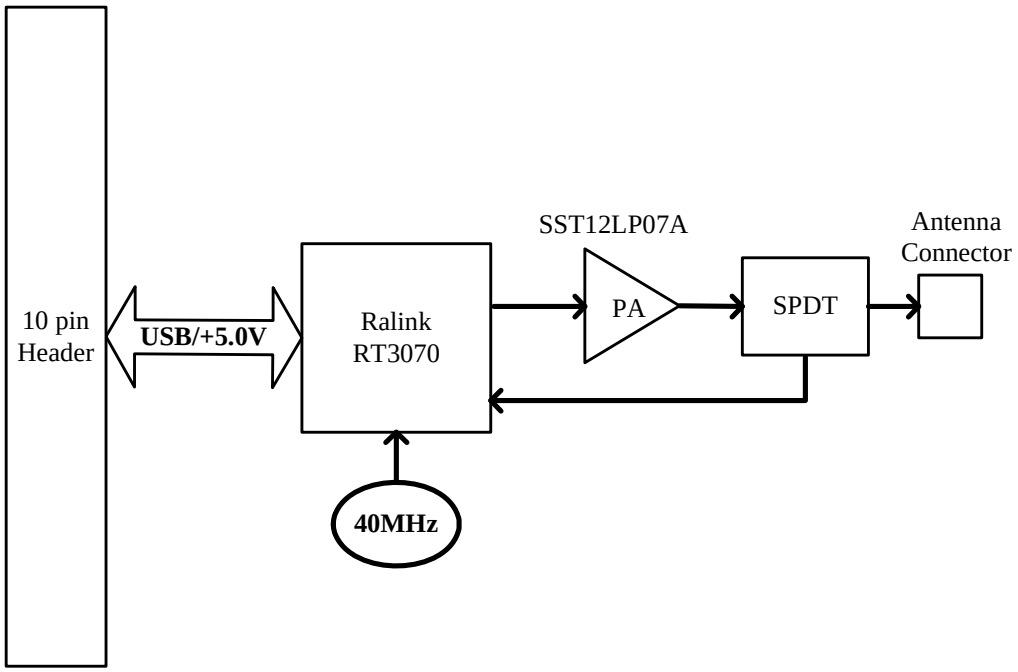
4 Block Diagram



5 General Specifications

■ **Module Name**		
• XW604B10, Wi-Fi Module		
■ **Product Specification**		
• WLAN Standard	IEEE 802.11b/g/n, 1T1R	
• Host interface	USB2.0 compatible	
• Major Chipset	Ralink RT3070	
• PID	7030	Product ID. Ralink defined
• VID	8F14	Vendor ID. Ralink defined
• RID	0101	Revision ID. Ralink defined

• Dimensions					
		Minimum	Typical	Maximum	Unit
	Length		65		mm
	Width		20		mm
	Height		TBD		mm
	Weight		TBD		g
• Antenna Connector	Single antenna				
■ **Operating Condition**					
		Minimum	Typical	Maximum	Unit
• Voltage	DC	3.15	3.3	3.45	V
• Temperature		-10		70	°C
• Storage temperature		-20		70	°C
• Humidity Non-Operating		5		80	%
■ **Electrical Specification**					
• Frequency Range	2400 – 2472MHz				
• Modulation	BPSK, QPSK, 16QAM, 64QAM, DBPSK, DQPSK, and CCK				
• Output power					
		Minimum	Typical	Maximum	Unit
802.11b Mode	11MHz	15.5	17	18	dBm
802.11g Mode	54MHz	12.5	14	15	dBm
802.11n Mode	HT20-MCS7	11.5	13	14	dBm
802.11n Mode	HT40-MCS7	11.5	13	14	dBm
• Receiver Sensitivity					
		Minimum	Typical	Maximum	Unit
802.11b Mode	11Mbps			-83	dBm
802.11g Mode	54Mbps			-65	dBm
802.11n Mode	HT20 MCS7			-64	dBm
802.11n Mode	HT40 MCS7			-61	dBm
• Data Rate					
		Minimum	Typical	Maximum	Unit
802.11b CCK Mode		11, 5.5, 2, 1			Mbps
802.11g OFDM Mode		54, 48, 36, 24, 18, 12, 9, 6			Mbps
802.11n HT20 Mode	800ns GI	65, 58.5, 52, 39, 26, 19.5, 13, 6.5			Mbps
802.11n HT20 Mode	400ns GI	72.2, 65, 57.8, 43.3, 28.9, 21.7, 14.4, 7.2			Mbps

802.11n HT40 Mode	800ns GI	135, 121.5, 108, 81, 54, 40.5, 27, 13.5	Mbps
802.11n HT40 Mode	400ns GI	150, 135, 120, 90, 60, 45, 30, 15	Mbps
■ **Operation Range**			
• Open Space	TBD		
• Indoor	TBD		
■ **Security**			
• WEP, TKIP, and AES hardware encryption			
■ **Operating System Compatibility**			
• Windows XP 32/64			
• Windows Vista 32/64			
• Windows 7 32/64			

6 Absolute Maximum Rating

■ Maximum I/O supply voltage	+3.6	V
■ Maximum RF input level (reference to 50Ohm)	+10	dBm

7 Power Consumption

Item	Description	Current (3.3V) (mA)
Continue TX	B mode 1Mbps	232
Continue TX	B mode 11Mbps	233
Continue TX	G mode 6Mbps	239
Continue TX	G mode 54Mbps	209
Continue TX	N mode HT20 MCS0	240
Continue TX	N mode HT20 MCS7	208
Continue TX	N modeHT40 MCS0	248
Continue TX	N modeHT40 MCS7	220
Continue RX	B mode 1Mbps	138
Continue RX	B mode 11Mbps	138
Continue RX	G mode 6Mbps	138
Continue RX	G mode 54Mbps	138
Continue RX	N mode HT20 MCS0	138
Continue RX	N mode HT20 MCS7	138
Continue RX	N modeHT40 MCS0	161
Continue RX	N modeHT40 MCS7	161
Idle	Associated with AP	N/A
Idle	Unassociated with AP	N/A
Radio off	Hotkey turn off WiFi radio	N/A
Driver disable	Disable DUT on device Mgmt	53

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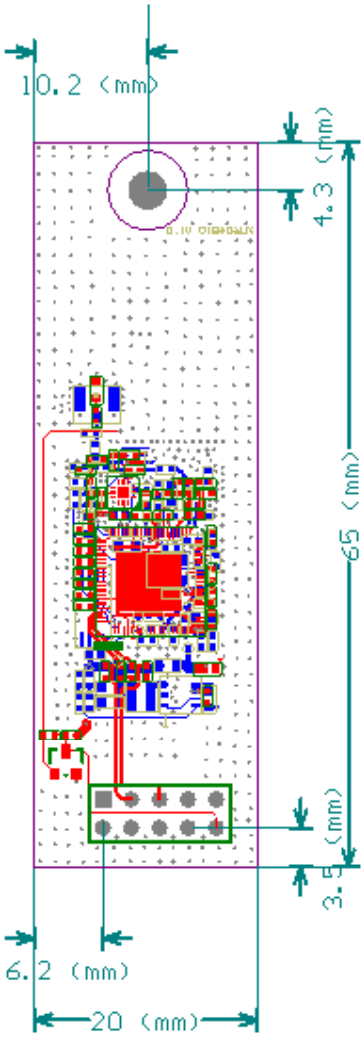
8 Mechanical Dimensions

The I-PEX connecter is on the bottom side of the PCB.



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9 Connector Pin-out Definitions

Pin	Definition	Type	Radio
1	VBUS	P	USB +5V power supply.
2	GND	P	Ground.
3	UDM	IO	USB data minus
4	GND	P	Ground.
5	UDP	IO	USB data plus
6	GND	P	Ground.
7	GND	P	Ground.
8	GND	P	Ground.
9	NC		No connect.
10	ACT	O	LED indicator.

INFORMATION TO USER

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.

REGULATION INFORMATION

The WLAN 11n USB Client Adaptor must be installed and used in strict accordance with the manufacturer's instructions. This device complies with the following radio frequency and safety standards.

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.
(2) This device must accept any interference received, including interference that may cause undesired operation.

FCC RF Radiation Exposure Statement:

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

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Your device contains a low power transmitter. When device is transmitted it sends out Radio Frequency (RF) signal. Use only with supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations.

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

If the label of the module wouldn't be visible after integration in a device, the label of the device must include "contains FCC ID: RYU-XW604B10 "