

APPROVE SHEET

Customer Name:

Product Name: USB Wireless Module

Factory Model Number: TOP-S5 / 4M02

Customer Model Number:

Made By	Check By	Approved By Customer	Date
Zhang Yanhua	Wang Bin		

**IEEE 802.11 a/b/g/n
300Mbps WiFi Module**

Product Specifications

Version: 1.0

2013-12-18

1. Introduction

The WLAN module supporting IEEE 802.11a/b/g/n standards with 7-pin or 4-pin connector supporting USB2.0 interface. This is a small form factor and low cost compact WLAN module designed for the wireless connectivity. This module operates in 2.4GHz and 5GHz dual band frequency , it applies a highly integrated MAC/BBP and RF/PA/LNA single chip RT5572 with 300Mbps PHY rate supporting. It fully complies with IEEE802.11n draft 3.0 and IEEE802.11a/b/g feature.

2. Features

- 20MHz/40MHz bandwidth, support 2T2R mode in 2.4GHz and 5GHz .
- 802.11a: 6, 9, 12, 24, 36, 48, 54Mbps; 802.11b: 1, 2, 5.5, 11Mbps; 802.11g: 6, 9, 12, 24, 36, 48, 54Mbps ; 802.11n: Support PHY rate up to 300Mbps.
- Support Soft-AP; QoS-WMM, WMM-PS; WiFi Direct;
- WPS pin, LED indicates WiFi link & activity;
- Multiple BSSID support; Power management.

3. Product Information

3.1 Specification (Typical Value):

Main Chipset	Ralink RT5572N
Operation Frequency	2412~2483.5MHz,4.915~5.825GHz (Different country adopts different frequency)
Protocols	802.11b: CCK, QPSK, BPSK, 802.11a/g/n: OFDM
Antennas	Two outputs to two dual band external antennas
Security	WEP 64/128, WPA/WPA2/WAPI, TKIP/AES; WPS/WPS2:PIN,PBC
Typical Transmit Power (Antenna feed point)	802.11b (CCK) 11Mbps: 17+/-1dBm
	802.11g (OFDM) 54Mbps: 15+/-1dBm
	802.11a (OFDM) 54Mbps: 11+/-1.5dBm
	802.11n (HT20@MCS7), 13+/-1dBm; (HT40@MCS7),12+/-1dBm
Receive Sensitivity (Antenna feed point)	802.11b: -88+/-1dBm; 802.11g: -73+/-1dBm
	802.11n (HT20), -71+/-1dBm; 802.11n (HT40), -68+/-1dBm
	802.11a: -70+/-1dBm
Operating Voltage/current	5.0VDC \pm 5% ; <350mA @802.11n,HT40 ; 5.0VDC \pm 5% ; <450mA @802.11a,HT40 ;
Host interface	USB 2.0
Interface	4-pin, 2.0mm pitch pin header
Dimensions/Weight	48x18mm / 3.6g

3.2 Block Diagram

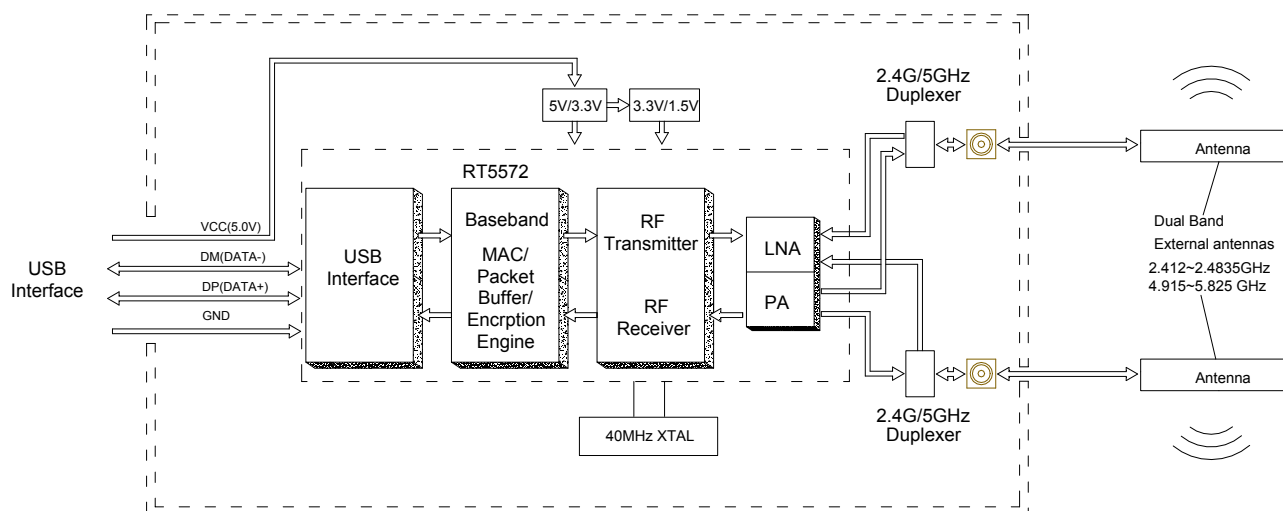


Figure 1: System Block Diagram of 4 pin 5.0V WLAN Module

3.3 Mechanical Information

3.3.1 OUTLINE and Connection Interface (Pictures are for reference only)

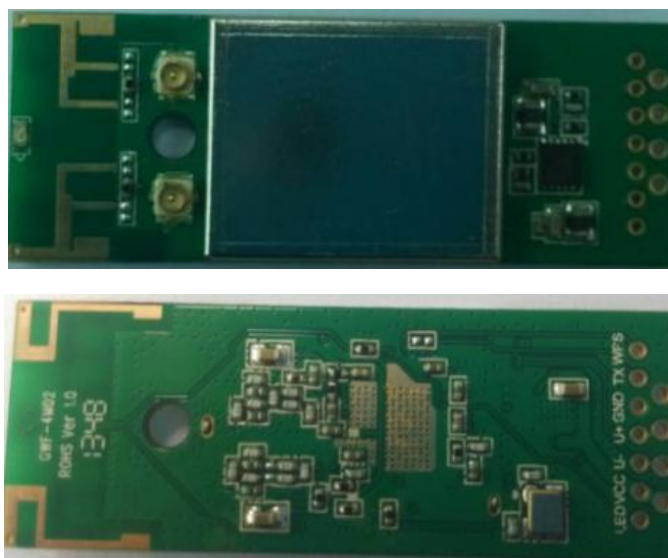


Figure 2: 5.0VDC power input module.

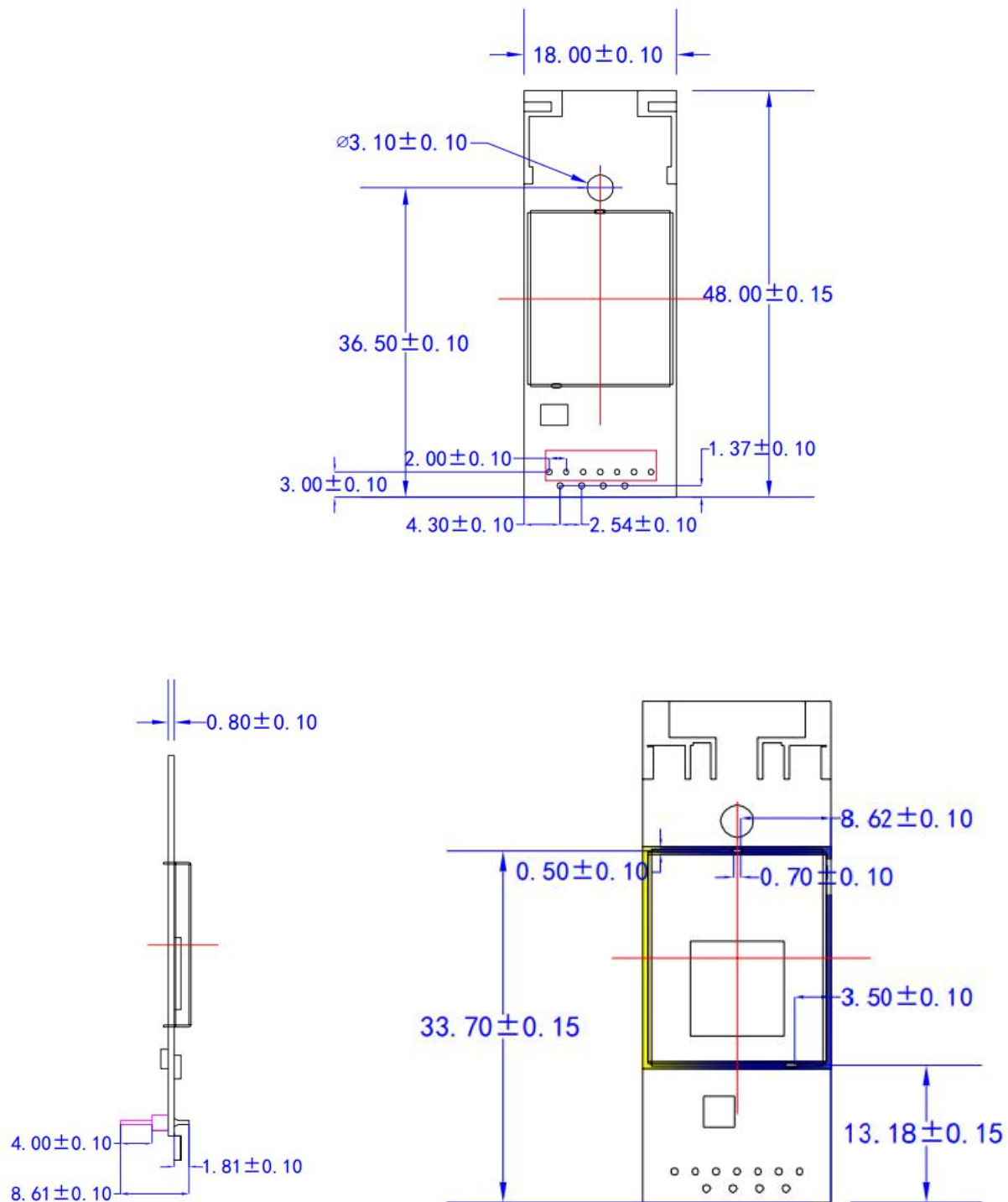


Figure 3: General Dimensions

Pin Definition:

Pin-out	4-pin 2.0mm pitch pin header
1	N/A
2	VCC (5.0VDC)
3	U- (USB data+)
4	U+ (USB data-)
5	GND (Ground)
6	N/A
7	N/A

3.4 RF output Connection Information

If the I-PEX RF connection is selected, a 50 ohm external antenna connects to the module RF output via an I-PEX MHF receptacle (RF connector). (Part No. : 20279-001E-01).

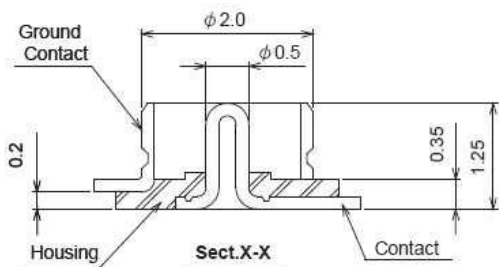


Figure 4:The profile of the I-PEX connector

3.5 Software and system Information

Operation System	CPU Supplier	Driver
Linux 2.4/2.6	ARM, MIPSII	Available
Windows XP/Vista/7/8	X86 Platform	Available
Mac OS X 10.4~10.8	N/A	Available
Android 4.0	N/A	Available

4 Agency Approval

Agency	Approval
FCC Part15	√
CE	√

5 Environment

5.1 Temperature

5.1.1 Operating Temperature

Continuous reliable operation in ambient temperature: -10°C to +50°C.

5.1.2 Storage Temperature

The product is not damaged or degraded when keeping in -20°C to +80°C.

Special Instructions:

- 1. Since the 5.0GHz operating current is High, in order to ensure that products -10 ° C to +50 ° C working properly, must be added the heat sink;*
- 2. If the customer wants to have a better product performance, it is necessary to replace the heat sink thermal performance better (The thicker the larger the area the better the thermal performance).*

5.2 Humidity

5.2.1 Operating Humidity Conditions

The product should be capable of continuous reliable operation when subjected to relative humidity in the range of 20% to 80% (non-condensing) .

5.2.2 Non-Operating Humidity Conditions (including warehouse)

The product should not be damaged or degraded when kept in the place (where relative humidity range is in the range of 20% to 80%) for 36 hours.

shall not be liable for any special, indirect, incidental, or consequential damages, including without limitation, lost revenues or profits.