

APPROVAL SHEET

Customer: _____

Customer P/N: _____

Description: USB WIFI +Bluetooth dongle

Part No.: 802.11N 150M and Bluetooth 2.1+EDR

Customer Approval	Checked By	Issued By

USB WIFI +Bluetooth dongle

A .WIFI PART

1. Introduction

The RT5370 is a cost-effective, highly integrated USB Wi-Fi single chip containing an 802.11n MAC and baseband, a 2.4 GHz RF, PA, LNA and T/R switch on a single die. It supports a 150 Mbps PHY data rate and fully complies with 802.11b/g/n specifications, providing feature-rich wireless connectivity at high standards, and delivering reliable throughput from an extended distance. Optimized RF architecture and baseband algorithms provide superb performance with low power consumption.

Product Features

- **1T1R 2.4 GHz with 150 Mbps PHY data rate**
- **USB2.0 interface**
- **CMOS single chip with RF (PA, LNA, T/R SW, and diversity SW), Baseband, and MAC integration**
- **QoS: WMM & WMM-PS support**
- **Multiple BSSID support**
- **Uses digital CMOS technology exclusively, minimizing power consumption and cost while maximizing reliability**
- **Extended tuning range for worldwide use Dynamic Frequency Selection/Transmit Power Control (DFS/TPC) for international operation**
- **Cisco CCX 5.0 support**
- **Connect without wires at speeds up to 150Mbps**

- **Based on IEEE 802.11 b/g/n DRAFT standard wireless protocol-Wi-Fi certified.**
- **Compatible with the increasing number of Public Access facilities.**
 - **Low Power usage with Advanced Power Management**
- **Maximum likelihood Decoding support**
- **Security: WEP/TKIP/AES/WPA/WPA2/WAPI**

Application

- Personal computer
- Laptop computer
- TV over IP (IPTV)
- Voice over IP(VoIP)
- Higher data rate wireless broadband access
- Network and online gaming
- Audio and video streaming and transfer
- PC file and application sharing

3. General Specifications

Model Name	
Product Description	USB 2.0 802.11N Wireless 150M
WLAN Standard	IEEE 802.11 b/g/n ,Wi-Fi compliant
Host Interface	USB 2.0
Major Chipset	Ralink RT5370L
Operating Conditions	
Voltage	USB 5V
Temperature	-10~70℃
Humidity Non-Operating	90% RH non-condensing (12 months among 0~40℃)
Electrical Specification	
Frequency Range	2.4~2.4835GHZ
Spread Spectrum	DSSS
Transmission Distance	300m(The transmission speed may vary according to the environment)
Data Rate	11b:1/2/5.5/11Mbps 11g:6/9/12/24/36/48/54Mbps
Transmit power	15dbm
Data security	64/128/152bitWEP,WPA/WPA2,WPA-PSK/WPA2-PSK(TKIP /AES)
Receiver Sensitivity	150M:-68dbm@10%PER
	135M: -68dbm@10%PER
	54M:-68dbm@10%PER
	11M:-83dbm@10%PER
	6M:-86dbm@10%PER
	1M:-90dbm@10%PER
Environment	Storage Temperature:-40~70℃(-40°F ~158°F)
	Relative humidity:10%-90%

	Non-condensing
	Storage Humidity:5%~95%
	Non-condensing
Modulation Type	OFDM/CCK/16-QAM/64-QAM
Operating System	Window XP,XP-64 Windows7, 32/64,WIN 2000,Vista

4. Power Consumption

Mode	Status	Current (mA) @5V	Note
QA	Idle	89	
	RX	117	54Mbps,CH1
		117	MCS15, 20MHz,CH1
		137	MCS15, 40 MHz,CH3
	TX	173	11Mbps @ 17dBm,CH1
		155	54Mbps @ 13.9dBm, 11g,CH1
		155	MCS7, 20MHz,14dB,CH1
		166	MCS7, 40MHz,CH7
OS	LINK(S0)	102(20M)/120(40M)	
	RX	113	20MHz
		144	40 MHz
	TX	148	20MHz
		152	40 MHz
	SUSPEND	2	
	UNCONFIGURED	59	
	POWER SAVE MODE	52	DTIM=100ms
47		DTIM=300ms	
RADIO OFF	52		

B. BLUETOOTH PART

FEATURES

- *Bluetooth 2.1 compliant with enhanced data rate support
- *Class 2 capable with built-in PA
- *Programmable output power control meets Class1, Class2 or Class3 requirements
- *Supports H4DS and WCS
- *Use supply voltages up to 5.5V
- *Internal OR gate TCXO control
- *Fractional-N synthesizer supports frequency references from 12 MHz to 40 MHz
- *Automatic frequency detection for standard crystal and TCXO values
- *Lower power consumption
- *Supports mobile and PC applications without external memory

5. SPECIFICATIONS

5.1 General Specification

ITEMS	SPECIFICATION
Supply Voltage	USB Interface Level VDD: 5V+/-0.1V
Carrier Frequency	2402MHz to 2480MHz
Modulation Method	GFSK, 1Mbps, 0.5BT Gaussian
Data Rate (MAX)	1M Asynchronous: 723.2/57.6kbps Synchronous: 433.9kbps
	2M Asynchronous: 1448.4/115.2kbps Synchronous: 864.7kbps
	3M Asynchronous: 2178.1/177.1kbps ynchronous: 1306.9kbps
Transmission Power	-.4dBm to +2 dBm; Power control 6 stage
Hopping	1600hops/sec, 1MHz channel space
Receiving Signal Range	-.88dBm to -20 dBm

5.2. Electrical Characteristics

5.2.1 Receiver RF Specifications

ITEMS	Mode and Conditions	Minimum	Typicalf	Maximum	Unit
Frequency range	-	2042	-	2480	MHz
	GFSK, 0.1%BER, 1 Mbps	-	-86	-84	dBm
RX sensitivityc	pi/4-DQPSK, 0.01%BER 2Mbps	-	-86	-84	dBm
	8-DPSK, 0.01%BER, 3Mbps	-	-82	-80	dBm
Input IP3	-	-16	-	-	dBm
Maximum input	-	-	-	-10	dBm
Interference Performance					
C/I cochannel	GFSK, 0.1%BER	-	-	2	dBm
C/I 1 MHz adjacent channel	GFSK, 0.1%BER	-	-	0	dBm
C/I 2 MHz adjacent channel	GFSK, 0.1%BER	-	-	-30	dBm
C/I 3 MHz adjacent channel	GFSK, 0.1%BER	-	-	-40	dBm
C/I Image channel	GFSK, 0.1%BER	-	-	-9	dBm
C/I 1 MHz adjacent to image channel	GFSK, 0.1%BER	-	-	-20	dBm
C/I cochannel	pi/4-DQPSK, 0.1%BER	-	-	13	dBm
C/I 1 MHz adjacent channel	pi/4-DQPSK, 0.1%BER	-	-	0	dBm
C/I 2 MHz adjacent channel	pi/4-DQPSK, 0.1%BER	-	-	-30	dBm
C/I 3 MHz adjacent channel	8-DPSK, 0.1%BER	-	-	-40	dBm
C/I Image channel	pi/4-DQPSK, 0.1%BER	-	-	-7	dBm
C/I 1 MHz adjacent to image channel	pi/4-DQPSK, 0.1%BER	-	-	-20	dBm
C/I cochannel	8-DPSK, 0.1%BER	-	-	21	dBm
C/I 1 MHz adjacent channel	8-DPSK, 0.1%BER	-	-	5	dBm
C/I 2 MHz adjacent channel	8-DPSK, 0.1%BER	-	-	-25	dBm
C/I 3 MHz adjacent channel	8-DPSK, 0.1%BER	-	-	-33	dBm
C/I Image channel	8-DPSK, 0.1%BER	-	-	0	dBm
C/I 1 MHz adjacent to image channel	8-DPSK, 0.1%BER	-	-	-13	dBm
Out-of-Band Blocking Performance (CW)					
30 MHz to 2000 MHz,	0.1% BER	-	-10	-	dBm
2000 MHz to 2399 MHz	0.1% BER	-	-27	-	dBm
2498 MHz to 3000 MHz	0.1% BER	-	-27	-	dBm
3000 MHz to 12.75 GHz	0.1% BER	-	-10	-	dBm

5.2.2 Transmitter RF Specifications

ITEMS	Mode and Conditions	Minimum	Typicalf	Maximum	Unit
Frequency range	-	2042	-	2480	MHz
Output power - Class 2	-	-2	1	4	dBm
Output power - Class 1, GFSK	-	-	TBD	NC	dBm
Output power - Class 1, EDR	-	-	TBD	NC	dBm

In-Band Spurious Emission

:+/-500 kHz	-	-	-	-20	dBc
1.0 MHz < M - N < 1.5 MHz (EDR only)	-	-	-	-26	dBc
1.5 MHz < M - N < 2.5 MHz (EDR only)	-	-	-	-20	dBc
M - N ≥ 2.5 MHz (EDR only)	-	-	-	-40	dBc

Out-of-Band Spurious Emission

30 MHz to 1 GHz	-	-	-80	-36	dBm
1 GHz to 12.75 GHz	-	-	-	-30	dBm
1.8 GHz to 1.9 GHz	-	-	-80	-47	dBm
5.15 GHz to 5.3 GHz	-	-	-90	-36	dBm

Frequency Drift

DH1 packet	-	-	±20	±25	kHz
DH3 packet	-	-	±20	±40	kHz
DH5 packet	-	-	±20	±40	kHz
Drift rate	-	-	10	20	kHz/50 μs

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [WiFi Modules - 802.11 category](#):

Click to view products by [Adafruit manufacturer](#):

Other Similar products are found below :

[KBPC10/15/2506WP](#) [SX-PCEAN2C-SP](#) [849WM520100E](#) [WIFI-AT2350](#) [7265.NGWG.SW](#) [HDG204-DN-3](#) [FXX-3061-MIX](#) [EMIO-1533-00A2](#) [7265.NGWWB.W](#) [PPC-WL-KIT02-R11](#) [RC-CC2640-B](#) [E70-433T14S](#) [WH-NB73-BA](#) [NF-02-PA](#) [EAR00364](#) [3168.NGWG](#) [MY-WF003U](#) [AX210.NGWG.NV](#) [ESP-15F32Mbit](#) [ESP32-S32Mb](#) [TG-01M](#) [ESP-13](#) [ESP-01F-2M](#) [ESP-01E-2M](#) [ESP-20](#) [ESP32-SL](#) [ESP-12K-PSRAM](#) [ESP-12K-PSRAM-IPEX](#) [ESP-12H](#) [BW18](#) [BW12-16Mb](#) [BW14](#) [BW15](#) [BW16](#) [TG-12F](#) [SIM7600CE-L1S](#) [CB3S\(tjrl\)](#) [CB3S\(hvk9\)](#) [CB3S\(qh6\)](#) [WB2S\(csyd\)](#) [WB3S\(ppty\)](#) [WB3S\(h238\)](#) [WB3S\(uvmz\)](#) [1005869](#) [1012](#) [QCA4004X-BL3B](#) [32-2006-BU](#) [WT51822-S4AT](#) [WT8266-S2](#) [DWM1000](#)