

# Honest Technology Co., LTD.

## HT-WiFi B02

### IEEE 802.11a/b/g/n 2T2R WLAN Module With USB2.0 Interface

- a. That module is limited to OEM installation ONLY.
- b. That module is limited to installation in mobile or fixed applications, according to Part 2.1091(b).
- c. That separate approval is required for all other operating configurations, including portable configurations
- d. The OEM integrator is responsible for ensuring that the end-user has no manual instructions to remove or install module.
- e. The module is limited to installation in mobile or fixed applications install module.

Note: with respect to Part 2.1093 and different antenna configurations.

## Datasheet

2014-12-10

## A. General Description

HT-WiFi B02 is a WLAN 11 a/b/g/n USB module (2.4G & 5.2G & 5.8G), which fully supports the features and functional compliance of IEEE 802.11 a/b/g/n standards. It supports up to 300Mbps high-speed wireless network connections. It is designed to provide excellent performance with low power Consumption and enhance the advantages of robust system and cost-effective. It is targeted at competitive superior performance, better power Management applications.

## B. Features

### General

- 4-pins  $\Phi$  2.0 mm Pin, Total Size 60.4mm x 20mm
- IEEE 802.11a/b/g/n compatible WLAN
- Support MIMO: 2T2R
- Complete 802.11a/b/g/n solution for 2.4GHz, 5.2G band and 5.8G band
- 150Mbps receive PHY rate and 150Mbps transmit PHY rate using 20MHz bandwidth
- 300Mbps receive PHY rate and 300Mbps transmit PHY rate using 40MHz bandwidth
- Compatible with 802.11a/b/g/n specification
- Backward compatible with 802.11b/g devices while operating in 802.11n mode

### Host Interface

- Complies with USB Specification Revision 2.0

### Standards Supported

- IEEE 802.11b/g/n compatible WLAN
- IEEE 802.11e QoS Enhancement (WMM)
- IEEE 802.11h TPC, Spectrum Measurement
- 802.11i (WPA, WPA2). Open, shared key, and pair-wise key authentication services
- Support Wifi station, SoftAP (2.4G, 5.2G, 5.8G)

### Standards General Specification

**Table 1. Standards General Specification**

Model Name	HT-WiFi B02
Product Description	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Dongle
WLAN Standard	IEEE 802.11a/b/g/n WiFi Compliant
Host Interface	USB 2.0
Major Chipset	Broadcom BCM43236KMLG
Dimension	61mm X 20mm X 9mm [Including DIP(2*4) Connector]
Operating Conditions	
Voltage	5V +/-10%
Temperature	Operating: 0~65°C
	Storage: -20~85°C
Electrical Specifications	
Frequency Range	2.4 GHz ISM band (Ch1~Ch11 the table <sup>1</sup> )
	5GHz U-NII band (Please see the table <sup>2</sup> )

Modulation	802.11a/g/n:OFDM			
	802.11b:CCK (11, 5.5Mbps), DQPSK (2Mbps), DBPSK (1Mbps)			
Output Power	2.4 GHz			
	802.11b:16dBm +/-2dBm		@EVM ≦ -9dB	
	802.11g:15dBm +/-2dBm		@EVM ≦ -25dB	
	802.11n:14dBm +/-2dBm		HT20	@EVM ≦ -28dB
	802.11n:14dBm +/-2dBm		HT40	@EVM ≦ -28dB
	5GHz			
	802.11a:20dBm +/-2dBm		@EVM ≦ -25dB	
Antenna Interface	PCB Antenna (NC)			
	U.F.L RF-Connector(0~6GHz)			
Antenna Reference	Antennas with 5 dBi peak gain			
	Impedance: 50 ohm;			
	Bandwidth: 300MHz			
	VSWR: < 2.0			
	Polarization: Linear			
	Band: 2.4~5 GHz			
	Radiation Efficiency: >50%			
Receive Sensitivity	2.4 GHz			
	11Mbps:-76dBm (max)		@8%PER	11b
	54Mbps:-70dBm (max)		@10%PER	11g
	MCS7:-64dBm (max)		@10%PER	HT20 11n
	MCS7:-61dBm (max)		@10%PER	HT40 11n
	5GHz			
	54Mbps:-70dBm (max)		@10%PER	11a
Data Rates	802.11b: 1, 2, 5.5, 11Mbps			
	802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54Mbps			
	802.11n: MCS 0~15 up to 300Mbps			
Operating System Compatibility	Windows Vista 32-and 64-bit and Windows XP			
	Linux and VxWorks for access point and router applications			

### <sup>1</sup> 2.4GHz Channel table

Band (GHz)	Operating Channel Numbers	Channel center frequencies (MHz)
2.4GHz~2484GHz	1	2412
	2	2417
	3	2422
	4	2427
	5	2432
	6	2437
	7	2442
	8	2447
	9	2452
	10	2457
	11	2462

### <sup>2</sup> 5GHz Channel table

Band (GHz)	Operating Channel Numbers	Channel center frequencies (MHz)
5.15GHz~5.25GHz	36	5180
	40	5200
	44	5220
	48	5240
5.725GHz~5.825GHz	149	5745
	153	5765
	157	5785
	161	5805

## C. Application

- Video Transmitter
- Personal digital assistants
- Desktop and laptop personal computers
- Automotive telematics systems
- Computer peripheral devices (USB dongles)

## D. Functional Block Diagram

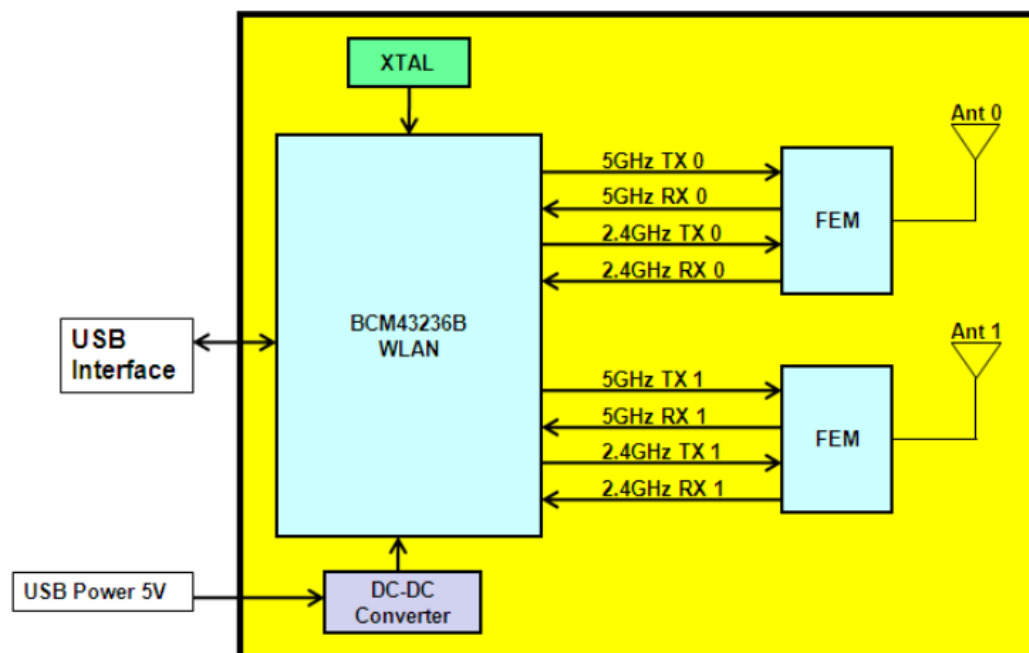


Figure 1: Functional Block Diagram

## E. Pin definition

Table 3. Pin definition

Pin number	Name	Type	Description
1	Power	Power	5V Power input
2	USB_D-	Analog	USB Differential signal
3	USB_D+	Analog	USB Differential signal
4	GND	Power	Ground



Figure 2: Pin definition (Top View)

## F. Electrical and Thermal Characteristics

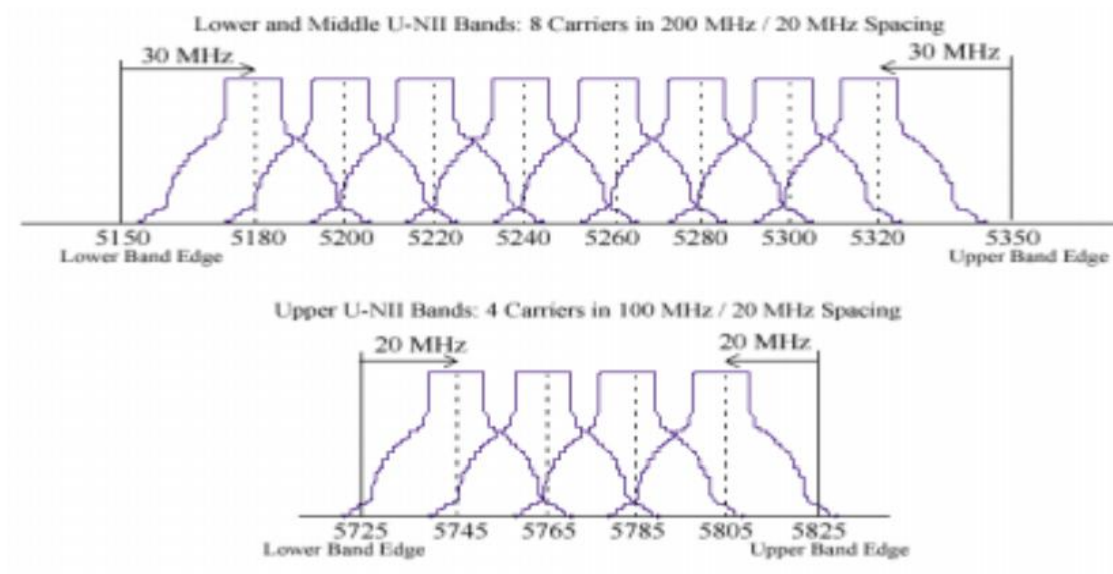


Figure 3: Frequency Test Diagram

## G. Ordering Information

Table 4: Ordering Information			
Part Number	Interface	Operating Temperature Range	MOQ (pcs)
CK-W-B236-UD	USB	0 °C to 65 °C	1000

## H. OEM Labeling Requirements

NOTICE: The OEM must make sure that FCC labeling requirements are met. This includes a clearly visible exterior label on the outside of the final product housing that displays the contents shown in this label.

**MANUFACTURERS NAME**

**BRAND NAME OR TRADE NAME**

**Contains FCC ID:** TJWHTB02

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.

## I. FCC Statement

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.

## J. 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.

## K. Attention

The OEM integrator is still responsible for the FCC compliance requirement of the end product, which integrates this module. Appropriate measurements (e.g. 15 B compliance) and if applicable additional equipment authorizations (e.g. Verification , Doc) of the host device to be addressed by the integrator/manufacturer.

This RF Module does not have an own shielding, so that a Limited Modular Approval (LMA) was granted: This RF module is strictly limited to the integration by the Grantee himself or the dedicated OEM integrators Under the control of the grantee.

Proper measurements of the host device including this RF module (radiated spurious emissions and bandedge) are required to assure compliance with the FCC regulations.

Any other integrator must contact the Grantee to determine necessary compliance measurements and/or additional equipment authorizations (e.g. Class II Permissive Change or New Equipment Authorization) for this configuration.

This RF Module must not be sold to the general public.

**IMPORTANT NOTE:** In the event that these conditions cannot 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 cannot 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. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.