



PRODUCTS SPECIFICATION

Version1.1

BW1352-PCIE 规格书

BW1352-PCIE Specification

IEEE 802.11a/b/g/n/ac 2T2R Wi-Fi Module

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深圳市中易腾达科技股份有限公司

Iton Technology Corp.

广东省深圳市龙岗区黄阁北路天安数码新城 4 栋 A 座 1302

Add.: Room 1302, Block A, Building 4, Huangge Road, Longgang District, Shenzhen City, Guangdong Province, China



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1. Overview

GENERAL DESCRIPTION

The BW1352-PCIE is a dual-band (2.4 GHz and 5 GHz) IEEE 802.11ac Draft 2×2 compliant MAC/PHY/Radio module. The device enables the development of PCIe™ 802.11ac Draft WLAN client and router subsystem solutions for all WLAN markets that can take advantage of the extremely high throughput and extended range of the Broadcom® MIMO solution. With MIMO, information is sent and received over two antennas simultaneously using the same frequency band, thus providing greater range and increasing throughput while maintaining compatibility with legacy IEEE 802.11a/b/g/n devices.

The BW1352-PCIE supports the IEEE 802.11ac draft standard, which provides increased data rates in the 5 GHz band. The BW1352-PCIE architecture, with its fully integrated dual-band 2.4 GHz-band radio transceiver supports 2×2 antennas for data rates up to 867 Mbps. State-of-the-art security is provided by industry standardized system support for WPA , WPA2(802.11i) and hardware accelerated AES encryption/decryption coupled with TKIP and IEEE 802.1X support. Embedded hardware acceleration enables increased system performance and significant reduction in host-CPU utilization in both client and access point configurations. The BW1352-PCIE also supports the widely accepted and deployed Broadcom WPS for ease-of-use wireless secured networks.

2.Block Diagram

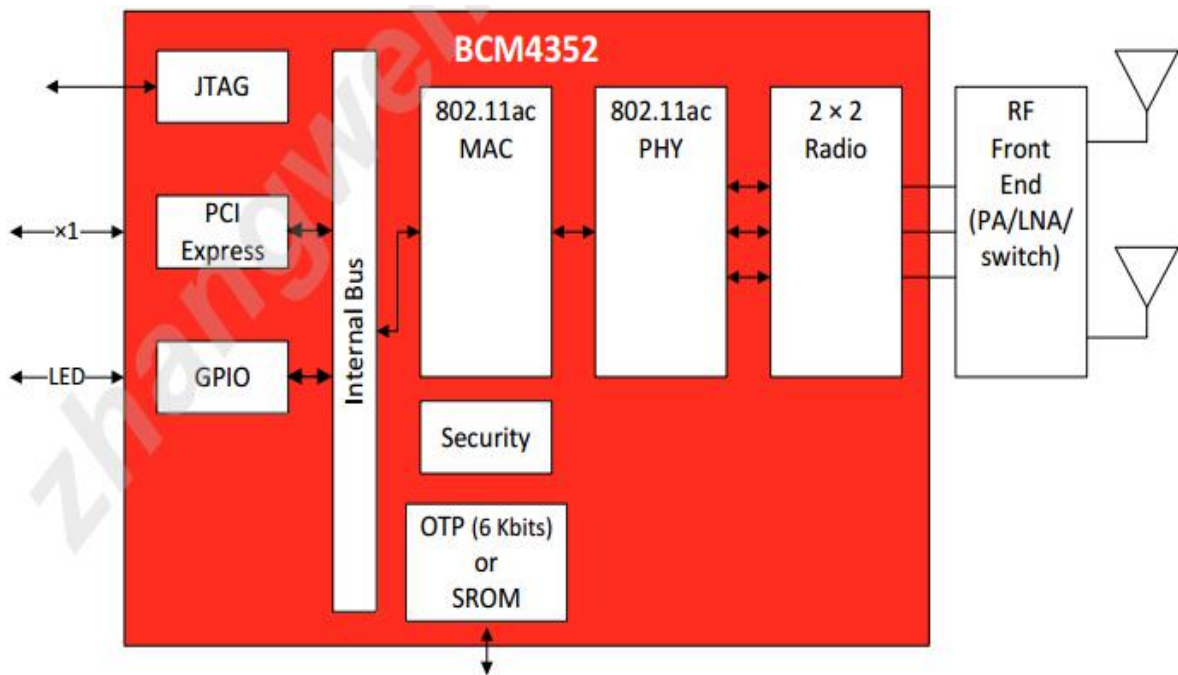
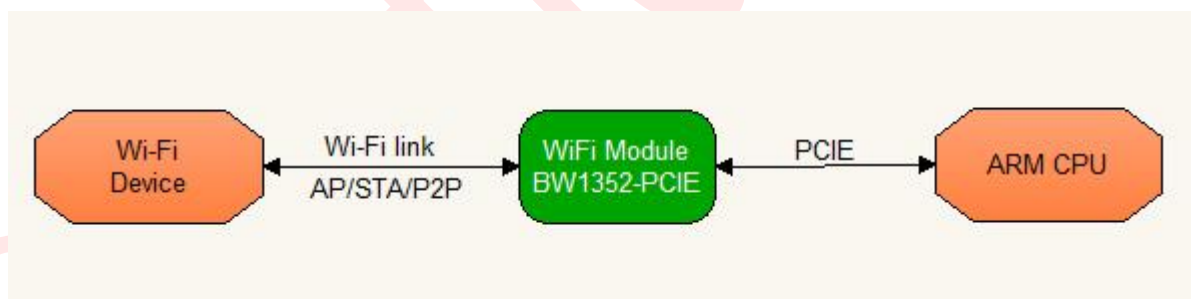


Figure 1: Functional Block Diagram

3.Application Diagram



4. FEATURE

Wi-Fi Key Feature

- IEEE 802.11ac Draft compliant
- BCM4352 2x2 solution;
- 2.4G/5G dual band single radio,support 802.11a/b/g/n/ac;
- Support 20MHz、 40MHz、 80MHz bandwidth;
- Support 256QAM modulation;
- MIMO 2*2 technology,antenna port data rate up to 867Gbps;
- PCI-e interface,2 U.FL RF connector;
- Compact size with PCBA dimension of 50.80mm*29.85mm ;
- Operation temperature : 0~70 degrees C;

5.WLAN Product Specification

Dimension	29.85mm*50.8mm*3.39mm
Chip-set	BCM4352
Standard	IEEE802.11ac;IEEE802.11n;IEEE802.11g;IEEE802.11b; IEEE802.11a;
Modulation Type	OFDM(CCK/16-QAM/64-QAM/ 256 QAM)
Frequency Range	2.400 GHz ~ 2.497 GHz/4.900 GHz ~ 5.845 GHz
Interface	Support PCI Express
Spread Spectrum	DSSS
Transmission Distance	Indoor up to 100m, outdoor up to 300m(limited in an environment)
Data Security	64/128 bit WEP, WPA/WPA2, WPA-PSK/WPA2-PSK(TKIP/AES)

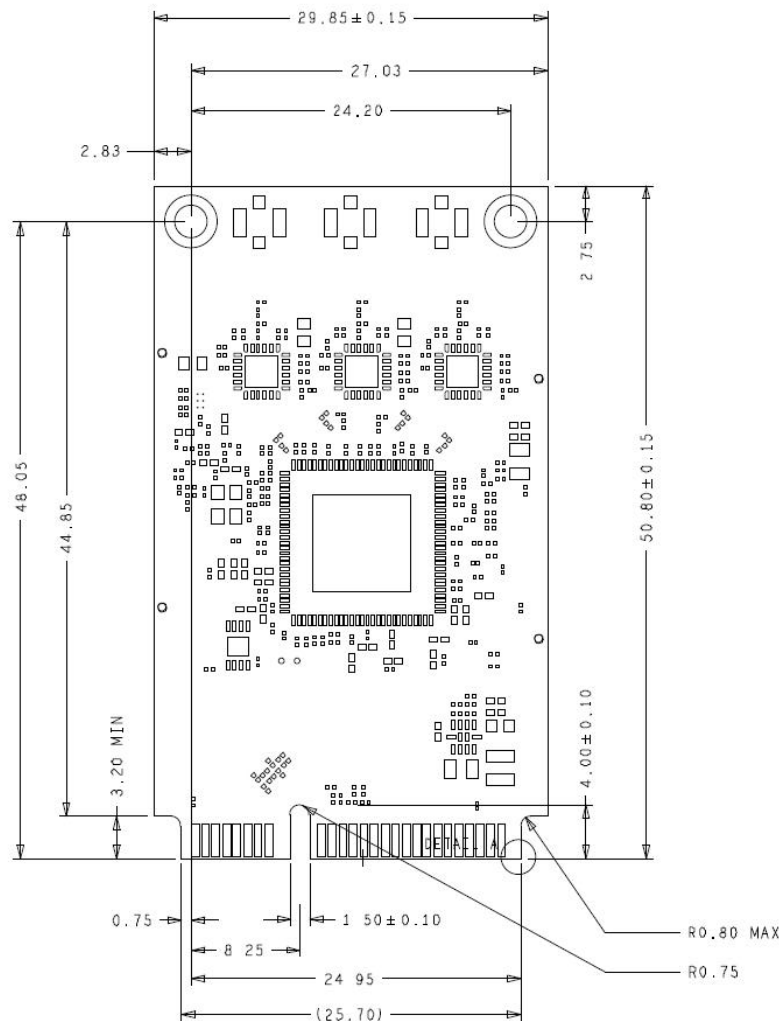
Transmit Power	2.4G[11g: 15±2dBm, 11b:17±2dBm, 11n HT20 : 14±2dBm, 11n HT40 :14±2dBm] 5G[11a:12±2dBm 11n HT20:12±2dBm, 11n HT40:12±2dBm 11ac HT80 11±2dBm]
Rx Sensitivity	867Mbps:-57dBm@10% PER 300Mbps:-68dBm@10% PER 135Mbps:-68dBm@10% PER 54Mbps:-74dBm@10% PER 11Mbps:-89dBm@8% PER
Data Rate	Support 802.11ac 80MHz Max. 867Mbps/780Mbps(400GI/800GI)
Operating Temperature	0°C ~ 70°C
Storage Temperature	-40°C ~ 125°C
Relative humidity	10%~90%
Antenna	external PF
Operation System	windows XP32/64,Vista 32/64, Win7 32/64, Linux, Mac
Operation Voltage	DC 3.3V

6.Size Of Module Graph

6.1 Physical Map



6.2 Machine Size Map And Pin Definition



Pin	Name	Description	Typical
1	WAKE_L	Wake Up	OUTPUT
2	VCC +3.3V	+3.3V Power supply	VCC_3.3V
3	COEX1	NC	
4	GND	Ground	GND
5	COEX2	NC	
6	+1.5V	NC	
7	CLKREQ_L	Connect to pin95 of BCM4360, reference clock request	OUTPUT
8	UIM_PWR	NC	
9	GND	Ground	GND
10	UIM_DATA	NC	
11	REFCLK-	Differential reference clock	INPUT
12	UIM_CLK	NC	



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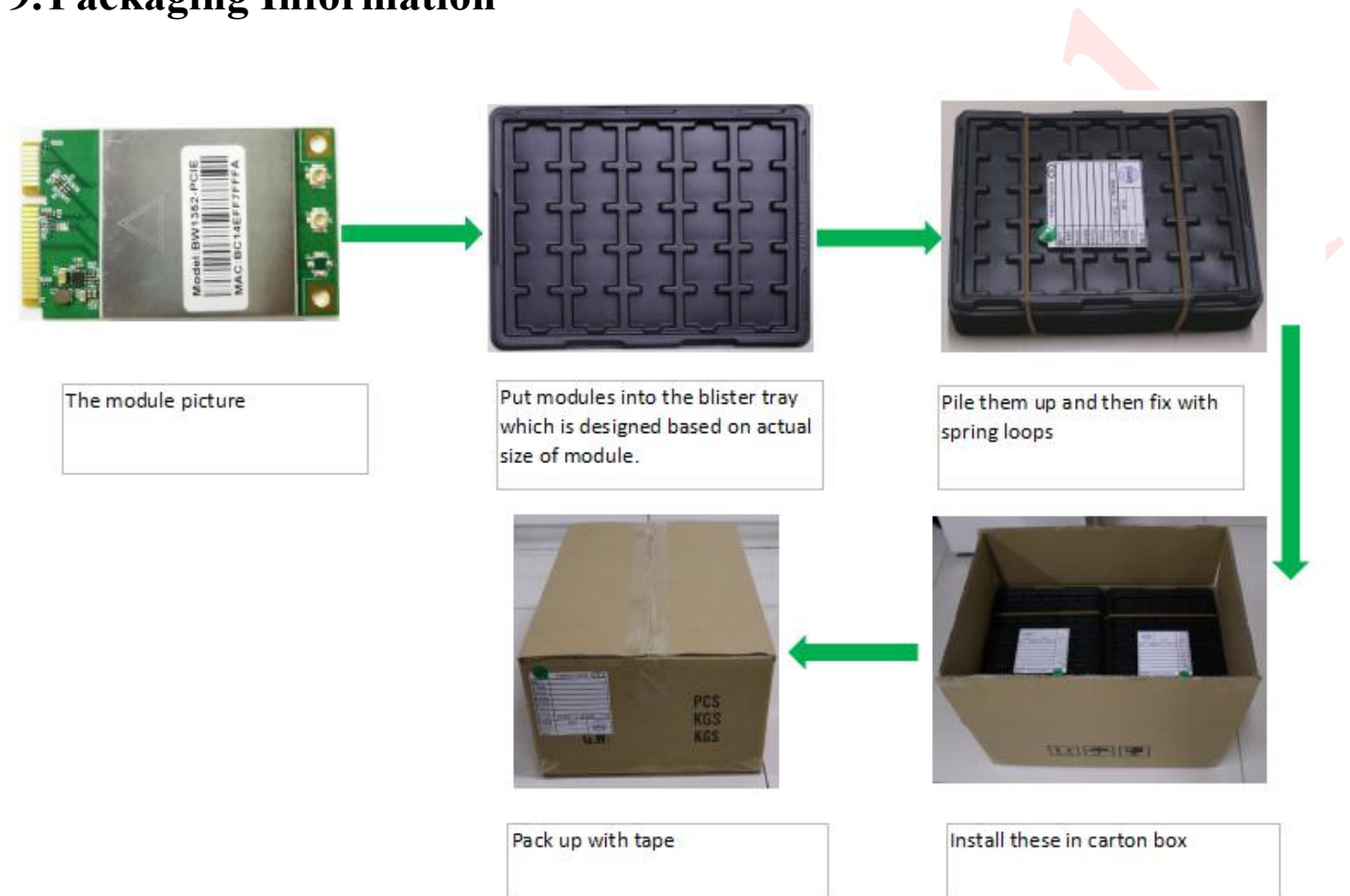
BW1352-PCIE

13	REFCLK+	Differential reference clock	INPUT
14	UIM_RESET	NC	
15	GND	Ground	GND
16	UIM_VPP	NC	
17	UIM_C8	NC	
18	GND	Ground	GND
19	UIM_C4	NC	
20	W_DISABLE#	Connect to pin92 of BCM4360,RF disable	OUTPUT
21	GND	Ground	GND
22	RESET_L	PCI express fundamental reset	OUTPUT
23	PERn0	Differential receive	INPUT
24	3.3VAUX	+3.3V Power supply	VCC_3.3V
25	PERp0	Differential receive	INPUT
26	GND	Ground	GND
27	GND	Ground	GND
28	1.5V	NC	
29	GND	Ground	GND
30	SMB_CLK	NC	
31	PETn0	Differential transmit	OUTPUT
32	SMB_DATA	NC	
33	PETp0	Differential transmit	OUTPUT
34	GND	Ground	GND
35	GND	Ground	GND
36	USB_D-	NC	
37	GND	Ground	GND
38	USB_D+	NC	
39	VCC +3.3V	+3.3V Power supply	VCC_3.3V
40	GND	Ground	GND
41	VCC +3.3V	+3.3V Power supply	VCC_3.3V
42	LED_WWAN_L	NC	
43	GND	Ground	GND
44	LED_WLAN_L	Connect to GPIO 0(pin 69 of BCM4360)	I/O
45	RSVD_45	NC	
46	LED_WPAN_L	NC	
47	RSVD_47	Connect to GPIO 5(pin 85 of BCM4360)	I/O
48	1.5V	NC	
49	RSVD_49	NC	
50	GND	Ground	GND
51	RSVD_51	NC	
52	VCC +3.3V	+3.3V Power supply	VCC_3.3V

8.Process Parameters

TBD

9.Packaging Information



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.

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.

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 Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter. The module must be installed in Module.

This End equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

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

The final end product must be labeled in a visible area with the following:

“Contains FCC ID:VYVBW1352-PCIE” .

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.