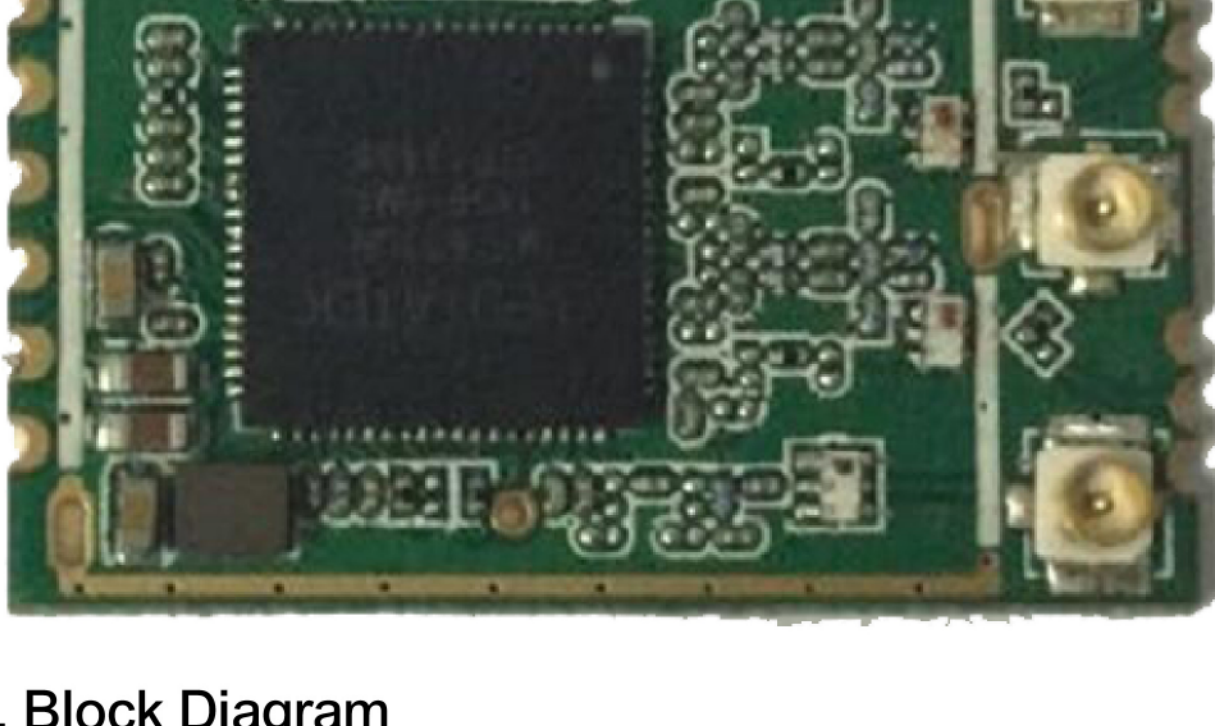


1. Features

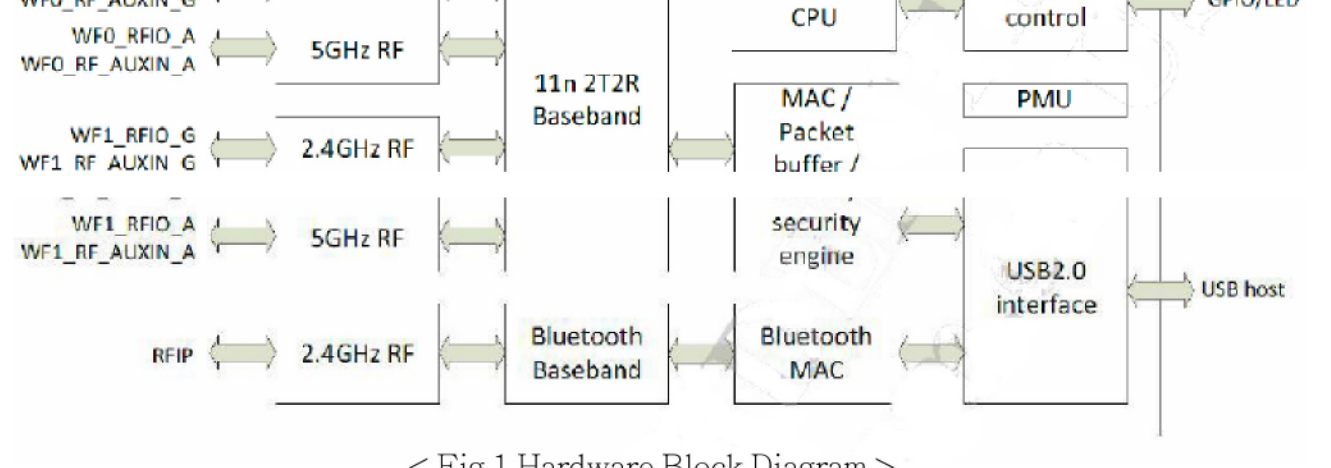
- IS-7632MA1 is the small size and low power module for IEEE 802.11a/b/g/n wireless LAN. AB-MT7632MA1 is based on MT 7632 solution. IEEE 802.11 a/b/g/n Dual Band WLAN infrastructure Size : 27mmx17.7mmx2.4mm
- 2.4GHz & 5GHz internal PA
- Two stream spatial multiplexing up to 867/300Mbps ANT (2T2R)
- Use on-chip OTP (One-Time Programmable)
- MT7632 USB 2.0
- USB/Bluetooth V4.0 Low energy (LE)
- Supports drivers for Windows Vista, 2000, WIN7, WIN8, Linux
- Security : WPA,WPA2,AES (TKIP) ,IEEE 802.1X
- Application: DTV, DVR, HD DVD Player, Blue-ray Disk Player, STB
- 工作溫度: -20° C - 70° C
- 工作溫度：10% - 90% RH 無凝結;

2. Ordering Information

Model	Description
IS-7632MA1	Wi-Fi Module, 2T2R雙頻+BT



3. Block Diagram



< Fig.1 Hardware Block Diagram >

4. Absolute Maximum Ratings

Caution : The specifications in Table 1 define levels at which permanent damage to the device can occur. Function operation is not guaranteed under these conditions. Operating at absolute maximum conditions for extend periods can adversely affect the

long-term reliability of the device.

Parameter	Min	Max	Unit
Storage Temperature	-10	+80℃	℃
Storage Humidity (40℃	-	90%	%

< Table 1 Absolute Maximum Ratings > . Other conditions

- 1) Do not use or store modules in the corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are contained. Also, avoid exposure to moisture.
- 2) Store the modules where the temperature and relative humidity do not exceed 5 to 40℃ and 20 to 60%.
- 3) Assemble the modules within 6 months.
Check the soldering ability in case of 6 months over.

5. Operating Conditions

Parameter	Min	Typ	Max	Unit
Operating	0	-	100	℃
Operating Humidity	-	-	130	%
Supply Voltage	VDD_3.3V	2.7	3.3	4.0 Vdc

6. Standard Test Conditions

The Test for electrical specification shall be performed under the following condition unless otherwise specified.

- 1). Ambient condition
Temperature :25℃ ± 5℃
Humidity:65% ± 5% R.H.
- 2). Power supply voltages
3.3V (±5%) input power at the Module
- 3). Current consumption over recommended range of supply voltage and operating conditions is like below.
When it ’ s tested, it must be supplied more than 2 times of maximal current.

7. Electrical Specifications

1) DC Characteristics

Current Consumption	Min.	Typ.	Max.	Unit
TX Mode (MCS7)	-	240	-	mA
Idle and Associated state - 160 -	-	160	-	
Radio disabled state	-	20	-	

2) RF Characteristics for IEEE802.11b (11Mbps mode unless otherwise specified)

Items	Contents			
Specification	IEEE802. 11b			
Mode	DSSS/CCK			
Channel frequency	2400 ~ 2483 MHz			
Data rate	1, 2, 5, 5, 11Mbps			
TX Characteristics	Min.	Typ.	Max.	Unit
Power Level	16	17	18	dBm
Spectrum Mask				
1 st side lobes (to fc ±11MHz)	-	-43	-30	dBc
2 nd side lobes (to fc ±22MHz)	-	-58	-50	dBc
Modulation Accuracy (EVM)	-	30	30	%
Power On/Off ramp	-	0.5	2.0	Usec
Freq. Tolerance	-15	-	15	ppm
Chip Clock Freq. Tolerance	-15	-	15	ppm
RX Characteristics	Min.	Typ.	Max.	Unit
Minimum Input Level Sens (FER ≤ 8%)	-	-88	-76	dBm
Maximum Input Level (FER ≤ 8%)	-10	-	-	dBm

3) RF Characteristics for IEEE802.11g (54Mbps mode unless otherwise specified)

Items	Contents			
Specification	IEEE802. 11g			
Mode	OFDM			
Channel frequency	2400 ~ 2483 MHz			
Data rate	6, 9, 12, 18, 24, 36, 48, 54Mbps			
TX Characteristics	Min.	Typ.	Max.	Unit
Power Level	14	15	16	dBm
Spectrum Mask				
at fc ±11MHz	-	-32	-20	dBc
at fc ±20MHz	-	-43	-28	dBc
at fc ≥ ± 30MHz	-	-48	-40	dBc
Constellation Error (EVM)	-	-34	-25	dB
Freq. Tolerance	-15	-	15	ppm
Chip Clock Freq. Tolerance	-15	-	15	ppm
TX Characteristics	Min.	Typ.	Max.	Unit
Minimum Input Level Sens. (PER ≤ 10%)	-	-75	-	ppm
Maximum Input Level (PER ≤ 10%)	-20	-	-	ppm

4) RF Characteristics for IEEE802.11n (MCS7 mode unless otherwise specified)

Items	Contents			
Specification	IEEE802. 11n - 5GHz			
Mode	OFDM			
Channel frequency	5150~5650MHz, 5725 ~ 5850 MHz			
Data rate	6513195263952585, 65Mbps,			
TX Characteristics	Min.	Typ.	Max.	Unit
Power Level	11	12	13	dBm
Spectrum Mask				
at fc ±11MHz	-	-32	-20	dBc
at fc ±20MHz	-	-35	-28	dBc
at fc ≥ ± 30MHz	-	-45	- 40	dBc
Constellation Error (EVM)	-	- 32	- 28	dB
Freq. Tolerance	-15	-	15	ppm
Chip Clock Freq. Tolerance	-15	-	15	ppm
RX Characteristics	Min.	Typ.	Max.	Unit
Minimum Input Level Sens. (HT20,PER ≤ 10%)	-	-71	-64	ppm
Minimum Input Level Sens. (HT40,PER ≤ 10%)	-30	- 68	-61	ppm
Maximum Input Level (PER ≤ 10%)	-30	-	-	ppm

8. Bluetooth Specification

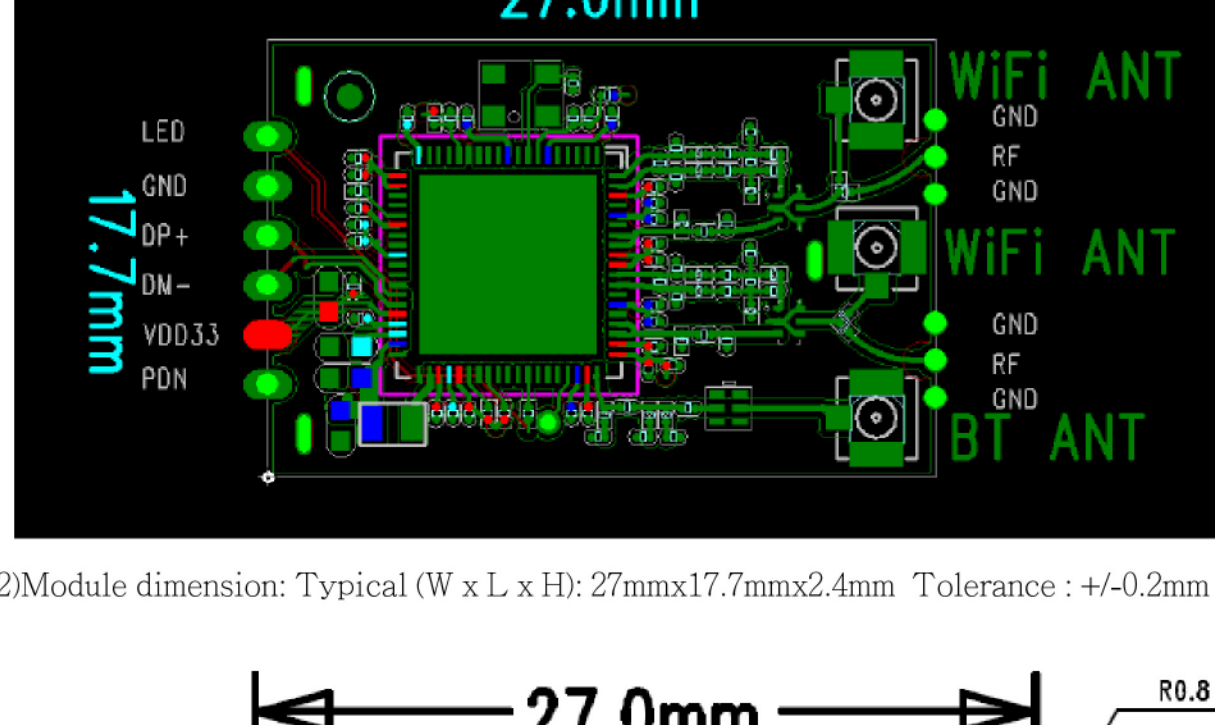
Bluetooth Specification Conditions : VBAT=3.3V ; Temp:25° C	
Feature	Description
<i>General Specification</i>	
Bluetooth Standard	Bluetooth V 4.0 of 1.2 and 3 Mbps.
Host Interface	USB

Antenna Reference	Small antennas with 0~2 dBi peak gain
Frequency Band	2.400 GHz ~ 2483.5 GHz
Number of Channels	79 channels
Modulation	FHSS, GFSK, DPSK, DQPSK

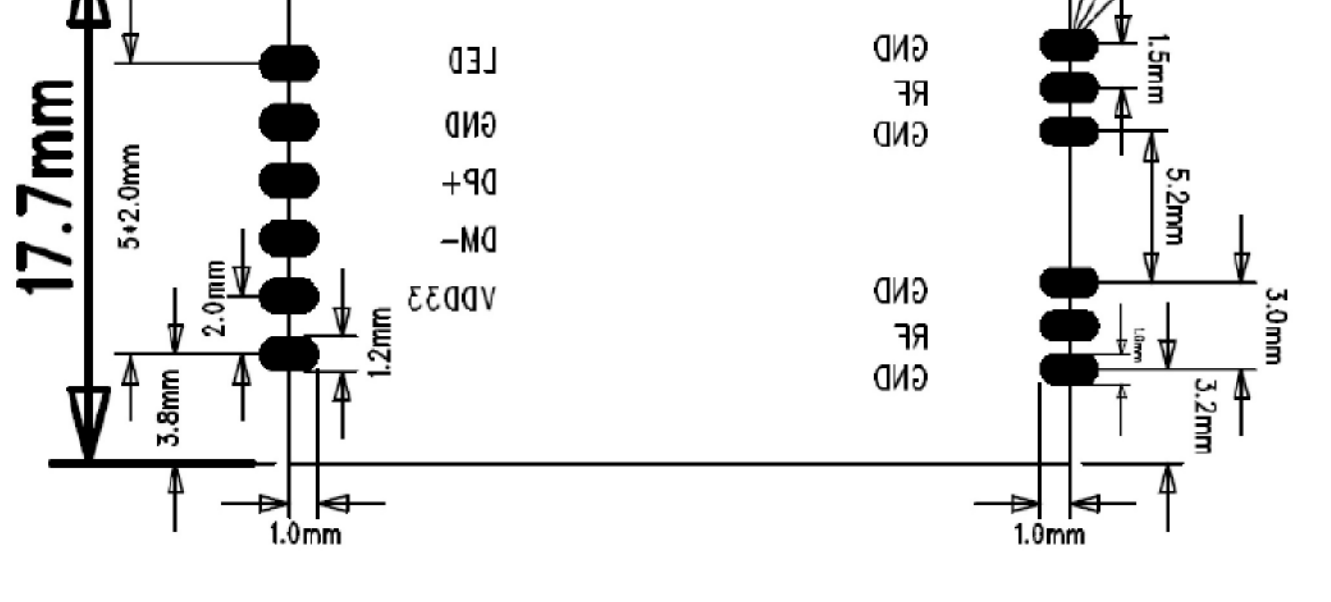
	Min.	Typical.	Max.
Output Power (Class 1.5)		10	
Output Power (Class 2)		2	
Sensitivity @ BER=0.1% for GFSK (1Mbps)		-86	
Sensitivity @ BER=0.01% for π /4-DQPSK (2Mbps)		-86	
Sensitivity @ BER=0.01% for 8DPSK (3Mbps)		-80	
Maximum Input Level	GFSK (1Mbps) :-20dBm π /4-DQPSK (2Mbps) :-20dBm 8DPSK (3Mbps) :-20dBm		

9. Pin Description

9.1)The definition of product Pin :

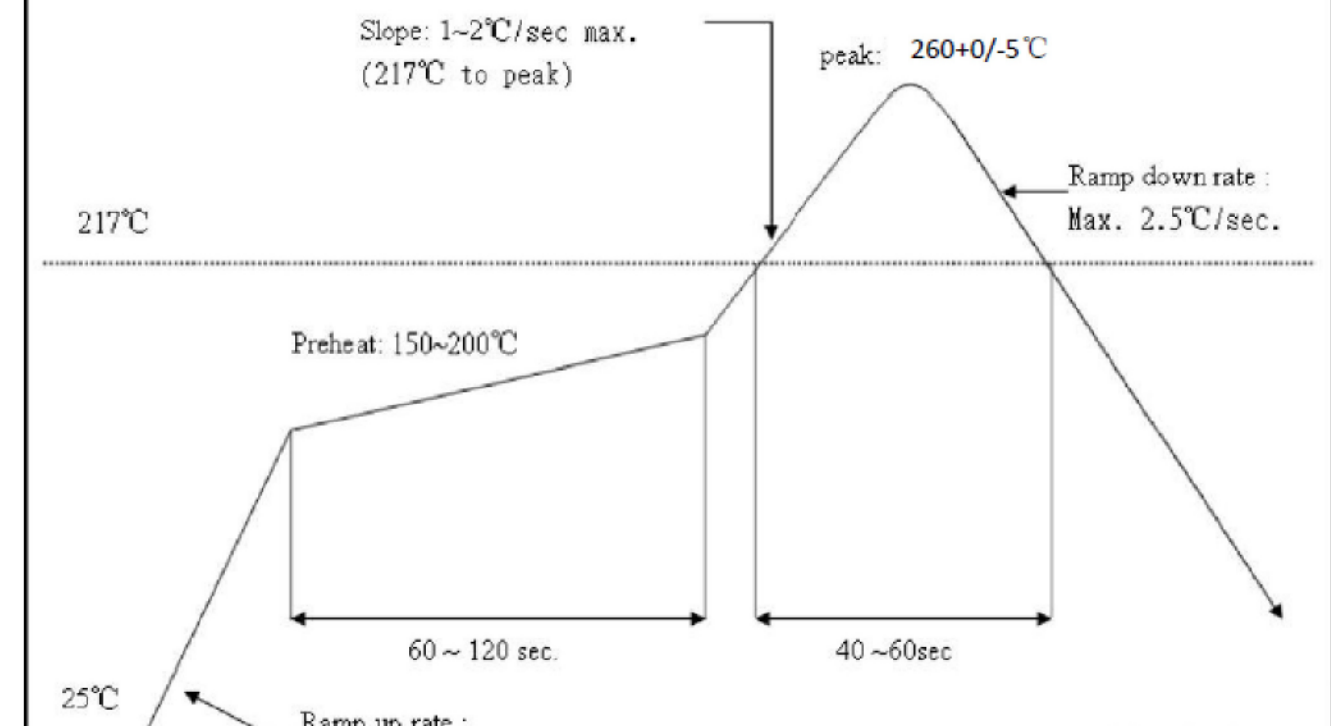


9.2)Module dimension: Typical (W x L x H): 27mmx17.7mmx2.4mm Tolerance : +/-0.2mm



10.產品回流焊接溫度參考曲線圖：

Referred to IPC-A-610E-2010/JEDEC standard : Peak Temperature : ≤ 260° C , 10sec. Max.
Number of Times : ≤ 2 times



貼片WIFI 模組裝機前的建議:

- a) 客戶在開鋼網時一定要將WIFI 模組焊盤的孔開大，請按1 比1再向外擴大0.7Mm 比例來開，厚度按0.12Mm。
- b) WIFI 模組是否需要烘烤，需根據在用戶端的庫存環境和時間長短來定：例如庫存環境溫度在20℃~30℃，濕度≤60%條件下，時間超出6個月以上,在上線貼片前一定要烘烤4小時以上，溫度在120 度+5 度。
- c) 烘烤OK 後建議馬上上線，不要一烘烤OK 後就將全部WIFI 模組拿出烘烤箱。建議每小時貼多少拿多少出來。
- d) 有需要拿WIFI 模時一定不要光著手去拿WIFI 模組，一定要戴上手套及靜電環。
- e) 過爐溫度要根據客戶主機板的大小而定。
- f) 儘量保證WIFI模組過一次回流焊,若需要二次過爐,必須採取防護措施.