Innovation For Surfing

欧智通科技

Fn-Link

8274B-PR

WiFi Dual-band 2X2 11ac +
Bluetooth V4.2

User Manual

Revision History

Version	Date	Description	Draft	Approved
1.0	2016-12-07	Preliminary	Colin	William Tan
1.1	2016-12-15	Modified the module physical dimensions	Colin	William Tan
1.2	2017-01-19	Change reference design	Colin	William Tan
1.3	2017-02-14	Modified RF specification	Colin	William Tan
1.4	2017-10-19	Add physical pictures	Longer	William Tan
1.5	2017-12-08	Add tolerance of dimension	Longer	William Tan

CONTENTS

1. Introduction

Fn-Link Technology would like to announce a low-cost and low-power consumption module which has all of the WiFi and Bluetooth functionalities. The highly integrated module makes the possibilities of web browsing, VoIP, Bluetooth headsets applications. With seamless roaming capabilities and advanced security, also could interact with different vendors' 802.11a/b/g/n/ac 2x2 Access Points in the wireless LAN.

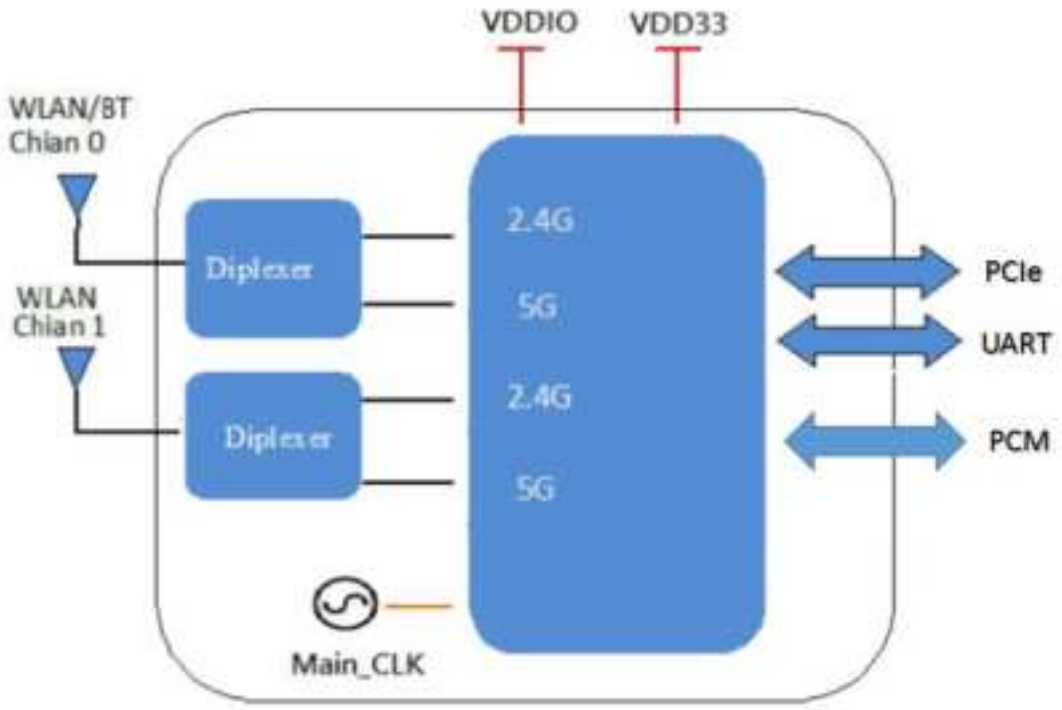
The wireless module complies with IEEE 802.11 a/b/g/n/ac 2x2 MIMO standard and it can achieve up to a speed of 867Mbps with dual stream in 802.11n to connect the wireless LAN. The integrated module provides PCI-e interface for WiFi, UART / PCM interface for Bluetooth.

This compact module is a total solution for a combination of WiFi and Bluetooth V4.2 technologies. The module is specifically developed for all portable devices.

2. Features

- Highly integrated wireless local area network(WLAN) system-on-chip (SOC) for 5 GHZ 802.11ac, or 2.4G/5G 802.11n WLAN applications.
- Dual-stream spatial multiplexing up to 867 Mbps data rate.
- Supports 20/40MHz at 2.4GHz and supports 20/40/80MHz at 5GHz
- Supports low power PCI-e interface for WLAN and UART/PCM interface for Bluetooth.
- Supports Bluetooth V4.2+HS, BLE and be backwards compatible with Bluetooth 1.2, 2.X+ enhance data rate.
- Supports WLAN-Bluetooth coexistence and ISM-LTE coexistence.
- Supports Bluetooth for class1 and class2 power level transmissions without requiring an external PA.
- BT host digital interface:
  - HCI UART (up to 4 Mbps)
  - PCM for audio data

A simplified block diagram of the module is depicted in the figure below.



3. General Specification

3.1 General Specification

Model Name	8274B-PR
Product Description	Support WiFi/Bluetooth functionalities
Dimension	L x W x H: 15 x 13 x 1.9 (typical) mm
WiFi Interface	Support PCI-e
BT Interface	UART / PCM
Operating temperature	-30°C to 85°C
Storage temperature	-40°C to 125°C
SW	V1.0
HW	V1.0

3.1.1 Recommended Operating Rating

	Min.	Typ.	Max.	Unit
Operating Temperature	-30	25	85	deg.C
VDD	3.15	3.3	3.65	V
VDDIO	1.7	1.8 or 3.3	3.65	V

4. WiFi RF Specification

4.1 2.4GHz RF Specification

Feature	Description
WLAN Standard	IEEE 802.11b/g/n/ WiFi compliant
Frequency Range	2.400 GHz ~ 2.483.5GHz (2.4 GHz ISM Band)
Number of Channels	2.4GHz：Ch1 ~ Ch13
Output Power	802.11b /CCK : EVM ≤ -9dB Power ≤ 18.0dBm
	802.11g /64-QAM(R=3/4): EVM ≤ -25dB Power ≤ 17.5dBm
	802.11n /64-QAM(R=5/6): EVM ≤ -28dB Power ≤ 16.5dBm
SISO Receive Sensitivity (11b,20MHz) @8% PER	- 1Mbps PER @ -92 dBm, typical
	- 2Mbps PER @ -90 dBm, typical
	- 5.5Mbps PER @ -87 dBm, typical
	- 11Mbps PER @ -85 dBm, typical
SISO Receive Sensitivity (11g,20MHz) @10% PER	- 6Mbps PER @ -89 dBm, typical
	- 9Mbps PER @ -88 dBm, typical
	- 12Mbps PER @ -87 dBm, typical
	- 18Mbps PER @ -84 dBm, typical
	- 24Mbps PER @ -81 dBm, typical
	- 36Mbps PER @ -78 dBm, typical
	- 48Mbps PER @ -73 dBm, typical
	- 54Mbps PER @ -71 dBm, typical
MIMO Receive Sensitivity (11g,20MHz) @10% PER	- 6Mbps PER @ -91 dBm, typical
	- 9Mbps PER @ -90 dBm, typical
	- 12Mbps PER @ -89 dBm, typical
	- 18Mbps PER @ -87 dBm, typical
	- 24Mbps PER @ -84 dBm, typical
	- 36Mbps PER @ -81 dBm, typical
	- 48Mbps PER @ -76 dBm, typical
	- 54Mbps PER @ -74 dBm, typical
SISO Receive Sensitivity (11n,20MHz) @10% PER	- MCS=0 PER @ -89 dBm, typical
	- MCS=1 PER @ -86 dBm, typical
	- MCS=2 PER @ -84 dBm, typical
	- MCS=3 PER @ -80 dBm, typical

	- MCS=4	PER @ -77 dBm, typical
	- MCS=5	PER @ -72 dBm, typical
	- MCS=6	PER @ -71 dBm, typical
	- MCS=7	PER @ -69 dBm, typical
MIMO Receive Sensitivity (11n,20MHz) @10% PER	- MCS=0	PER @ -90 dBm, typical
	- MCS=1	PER @ -89 dBm, typical
	- MCS=2	PER @ -87 dBm, typical
	- MCS=3	PER @ -84 dBm, typical
	- MCS=4	PER @ -80 dBm, typical
	- MCS=5	PER @ -75 dBm, typical
	- MCS=6	PER @ -73 dBm, typical
	- MCS=7	PER @ -72 dBm, typical
	- MCS=8	PER @ -87 dBm, typical
	- MCS=15	PER @ -68 dBm, typical
Maximum Input Level	802.11b : -10 dBm	
	802.11g/n : -20 dBm	
Antenna Reference	External	

4.2 5GHz RF Specification

Conditions : VBAT=3.6V ; VDDIO=3.3V ; Temp:25°C

Feature	Description
WLAN Standard	IEEE 802.11a/n 2x2, WiFi compliant
Frequency Range	5.150 GHz ~ 5.250 GHz and 5.725 ~ 5.850 GHz
Number of Channels	5.0GHz：Please see the table[1]
Output Power	802.11a /54Mbps : ≤ 12 dBm @ EVM ≤ -25dB
	802.11n /MCS7 : ≤ 12 dBm @ EVM ≤ -28dB
	802.11ac /MCS9 : ≤ 12 dBm @ EVM ≤ -32dB
SISO Receive Sensitivity (11a,20MHz) @10% PER	- 6Mbps PER @ -88 dBm, typical
	- 9Mbps PER @ -87 dBm, typical
	- 12Mbps PER @ -86 dBm, typical
	- 18Mbps PER @ -83 dBm, typical
	- 24Mbps PER @ -80 dBm, typical
	- 36Mbps PER @ -77 dBm, typical
	- 48Mbps PER @ -72 dBm, typical
	- 54Mbps PER @ -70 dBm, typical
MIMO Receive Sensitivity (11a,20MHz) @10% PER	- 6Mbps PER @ -90 dBm, typical
	- 9Mbps PER @ -89 dBm, typical
	- 12Mbps PER @ -88 dBm, typical
	- 18Mbps PER @ -86 dBm, typical
	- 24Mbps PER @ -83 dBm, typical
	- 36Mbps PER @ -80 dBm, typical
	- 48Mbps PER @ -75 dBm, typical
	- 54Mbps PER @ -71 dBm, typical
SISO Receive Sensitivity (11n,20MHz) @10% PER	- MCS=0 PER @ -88 dBm, typical
	- MCS=1 PER @ -85 dBm, typical
	- MCS=2 PER @ -83 dBm, typical
	- MCS=3 PER @ -80 dBm, typical
	- MCS=4 PER @ -76 dBm, typical
	- MCS=5 PER @ -71 dBm, typical
	- MCS=6 PER @ -70 dBm, typical
	- MCS=7 PER @ -68 dBm, typical
MIMO Receive Sensitivity (11n,20MHz) @10% PER	- MCS=0 PER @ -89 dBm, typical
	- MCS=1 PER @ -88 dBm, typical
	- MCS=2 PER @ -86 dBm, typical
	- MCS=3 PER @ -83 dBm, typical

	- MCS=4 PER @ -79 dBm, typical
	- MCS=5 PER @ -74 dBm, typical
	- MCS=6 PER @ -73 dBm, typical
	- MCS=7 PER @ -71 dBm, typical
	- MCS=8 PER @ -88 dBm, typical
	- MCS=15 PER @ -68 dBm, typical
SISO Receive Sensitivity (11n,40MHz) @10% PER	- MCS=0 PER @ -85 dBm, typical
	- MCS=1 PER @ -82 dBm, typical
	- MCS=2 PER @ -80 dBm, typical
	- MCS=3 PER @ -77 dBm, typical
	- MCS=4 PER @ -73 dBm, typical
	- MCS=5 PER @ -69 dBm, typical
	- MCS=6 PER @ -68 dBm, typical
	- MCS=7 PER @ -67 dBm, typical
MIMO Receive Sensitivity (11n,40MHz) @10% PER	- MCS=0 PER @ -87 dBm, typical
	- MCS=1 PER @ -85 dBm, typical
	- MCS=2 PER @ -83 dBm, typical
	- MCS=3 PER @ -80 dBm, typical
	- MCS=4 PER @ -76 dBm, typical
	- MCS=5 PER @ -72 dBm, typical
	- MCS=6 PER @ -70 dBm, typical
	- MCS=7 PER @ -69 dBm, typical
	- MCS=8 PER @ -85 dBm, typical
	- MCS=15 PER @ -66 dBm, typical
SISO Receive Sensitivity (11ac,20MHz) @10% PER	- MCS=0, NSS1 PER @ -86 dBm, typical
	- MCS=1, NSS1 PER @ -84 dBm, typical
	- MCS=2, NSS1 PER @ -82 dBm, typical
	- MCS=3, NSS1 PER @ -79 dBm, typical
	- MCS=4, NSS1 PER @ -75 dBm, typical
	- MCS=5, NSS1 PER @ -70 dBm, typical
	- MCS=6, NSS1 PER @ -69 dBm, typical
	- MCS=7, NSS1 PER @ -68 dBm, typical
	- MCS=8, NSS1 PER @ -67 dBm, typical
MIMO Receive Sensitivity (11ac,20MHz) @10% PER	- MCS=0, NSS1 PER @ -88 dBm, typical
	- MCS=1, NSS1 PER @ -87 dBm, typical
	- MCS=2, NSS1 PER @ -85 dBm, typical
	- MCS=3, NSS1 PER @ -82 dBm, typical

	- MCS=4, NSS1 PER @ -78 dBm, typical
	- MCS=5, NSS1 PER @ -73 dBm, typical
	- MCS=6, NSS1 PER @ -72 dBm, typical
	- MCS=7, NSS1 PER @ -71 dBm, typical
	- MCS=8, NSS1 PER @ -67 dBm, typical
	- MCS=0, NSS2 PER @ -87 dBm, typical
	- MCS=8, NSS2 PER @ -67 dBm, typical
SISO Receive Sensitivity (11ac,40MHz) @10% PER	- MCS=0, NSS1 PER @ -84 dBm, typical
	- MCS=1, NSS1 PER @ -81 dBm, typical
	- MCS=2, NSS1 PER @ -79 dBm, typical
	- MCS=3, NSS1 PER @ -76 dBm, typical
	- MCS=4, NSS1 PER @ -73 dBm, typical
	- MCS=5, NSS1 PER @ -68 dBm, typical
	- MCS=6, NSS1 PER @ -67 dBm, typical
	- MCS=7, NSS1 PER @ -66 dBm, typical
	- MCS=8, NSS1 PER @ -64 dBm, typical
	- MCS=9, NSS1 PER @ -62 dBm, typical
MIMO Receive Sensitivity (11ac,40MHz) @10% PER	- MCS=0, NSS1 PER @ -86 dBm, typical
	- MCS=1, NSS1 PER @ -84 dBm, typical
	- MCS=2, NSS1 PER @ -82 dBm, typical
	- MCS=3, NSS1 PER @ -79 dBm, typical
	- MCS=4, NSS1 PER @ -76 dBm, typical
	- MCS=5, NSS1 PER @ -71 dBm, typical
	- MCS=6, NSS1 PER @ -70 dBm, typical
	- MCS=7, NSS1 PER @ -69 dBm, typical
	- MCS=8, NSS1 PER @ -67 dBm, typical
	- MCS=9, NSS1 PER @ -65 dBm, typical
	- MCS=0, NSS2 PER @ -83 dBm, typical
	- MCS=9, NSS2 PER @ -62 dBm, typical
SISO Receive Sensitivity (11ac,80MHz) @10% PER	- MCS=0, NSS1 PER @ -81 dBm, typical
	- MCS=1, NSS1 PER @ -78 dBm, typical
	- MCS=2, NSS1 PER @ -76 dBm, typical
	- MCS=3, NSS1 PER @ -72 dBm, typical
	- MCS=4, NSS1 PER @ -69 dBm, typical
	- MCS=5, NSS1 PER @ -66 dBm, typical
	- MCS=6, NSS1 PER @ -64 dBm, typical
	- MCS=7, NSS1 PER @ -59 dBm, typical

	- MCS=8, NSS1 PER @ -58 dBm, typical
	- MCS=9, NSS1 PER @ -56 dBm, typical
MIMO Receive Sensitivity (11ac,80MHz) @10% PER	- MCS=0, NSS1 PER @ -82 dBm, typical
	- MCS=1, NSS1 PER @ -81 dBm, typical
	- MCS=2, NSS1 PER @ -79 dBm, typical
	- MCS=3, NSS1 PER @ -75 dBm, typical
	- MCS=4, NSS1 PER @ -72 dBm, typical
	- MCS=5, NSS1 PER @ -69 dBm, typical
	- MCS=6, NSS1 PER @ -67 dBm, typical
	- MCS=7, NSS1 PER @ -65 dBm, typical
	- MCS=8, NSS1 PER @ -61 dBm, typical
	- MCS=9, NSS1 PER @ -60 dBm, typical
	- MCS=0, NSS2 PER @ -80 dBm, typical
	- MCS=9, NSS2 PER @ -59 dBm, typical
Maximum Input Level	802.11a/n : -30 dBm
Antenna Reference	External

[1]5GHz Channel table

Band (GHz)	Operating Channel Numbers	Channel center frequencies(MHz)
5.15GHz~5.25GHz	36	5180
	38	5190
	40	5200
	42	5210
	44	5220
	46	5230
	48	5240
5.725GHz~5.825GHz	149	5745
	151	5755
	153	5765
	155	5775
	157	5785
	159	5790
	161	5805
	165	5825

5. Bluetooth Specification

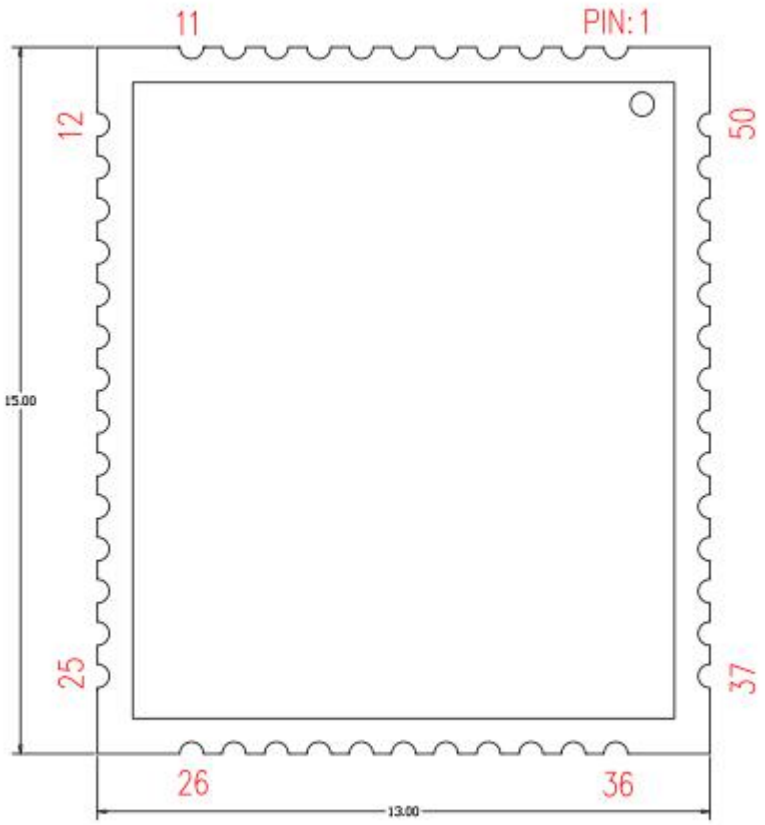
5.1 Bluetooth Specification

Feature	Description		
General Specification			
Bluetooth Standard	Bluetooth V4.2 of 1, 2 and 3 Mbps.		
Host Interface	UART		
Antenna Reference	External		
Frequency Band	2402 MHz ~ 2480 MHz		
Number of Channels	79 channels		
Modulation	FHSS, GFSK, DPSK, DQPSK		
RF Specification			
	Min.	**Typical.**	**Max.**
Output Power (Class 1.5)		≤ 6dBm	
Output Power (Class 2)			
Sensitivity @ BER=0.1% for GFSK (1Mbps)		-92 dBm	
Sensitivity @ BER=0.01% for π/4-DQPSK (2Mbps)		-92 dBm	
Sensitivity @ BER=0.01% for 8DPSK (3Mbps)		-85 dBm	
Maximum Input Level	GFSK (1Mbps):-20dBm		
	π/4-DQPSK (2Mbps) :-20dBm		
	8DPSK (3Mbps) :-20dBm		

6. Pin Assignments

6.1 Pin Outline

< TOP VIEW >



6.2 Pin Definition

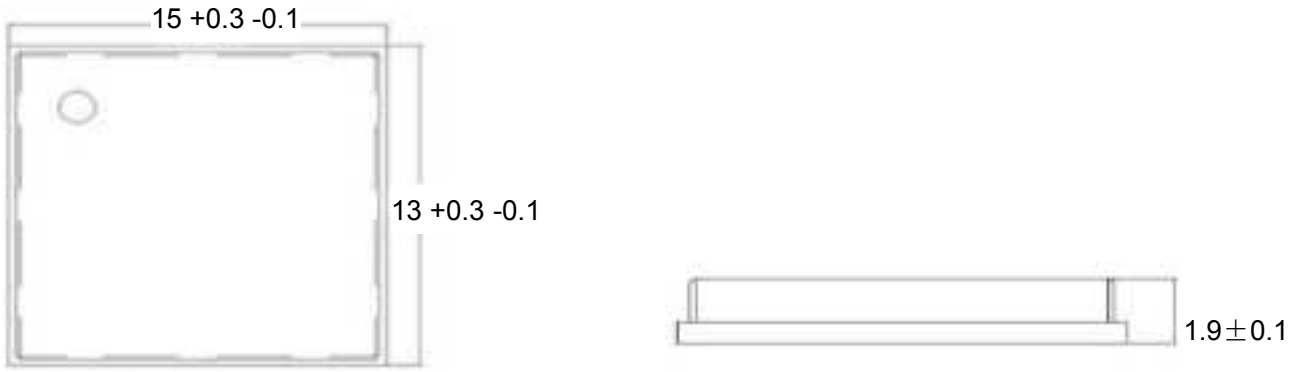
NO	Name	Type	Description	Voltage
1、2	GND	—	Ground connections	0V
3	WL_BT_ANT0	—	WL_BT_ANT0 RF output	
4~8	GND	—	Ground connections	0V
9	ANT1	P	ANT1 RD output	
10、11	GND	—	Ground connections	0V
12	PCM_OUT	O	PCM Data output	VDDIO
13	PCM_CLK	I/O	PCM clock	VDDIO
14	PCM_IN	I	PCM data input	VDDIO
15	PCM_SYNC	I/O	PCM sync signal	VDDIO
16	GND	—	Ground connections	0V
17	PCIE_WAKE_L	O	PCI-e wake up host, open drain, active low.	VDDIO

18	PCIE_CLKREQ_L	O	PCI-e reference clock request signal, open drain, active low .	VDDIO
19	PCIE_RST_L	PD	PCI-e reset module, internal weak pull down.	VDDIO
20	WL_EN	PD	WLAN enable signal, active high.	VDDIO
21	UART_CTS	I	Bluetooth UART interface	VDDIO
22	UART_TXD	O	Bluetooth UART interface	VDDIO
23	UART_RXD	I	Bluetooth UART interface	VDDIO
24	UART_RTS	O	Bluetooth UART interface	VDDIO
25	GND	—	Ground connections	0V
26	BT_USB_DM/NC	—	No connection	
27	BT_USB_DP/NC	—	No connection	
28	GND	—	Ground connections	0V
29	PCIE_REFCLK_N	I	PCI-E CLK Difference -	
30	PCIE_REFCLK_P	I	PCI-E CLK Difference +	
31	GND	—	Ground connections	0V
32	PCIE_TX_N	O	PCI-E Data Out Difference -	
33	PCIE_TX_P	O	PCI-E Data Out Difference +	
34	GND	—	Ground connections	0V
35	PCIE_RX_N	I	PCI-E Data IN Difference -	
36	PCIE_RX_P	I	PCI-E Data IN Difference +	
37	GND	—	Ground connections	0V
38	VDDIO	—	External power source input for VDDIO domain	3.3V/1.8V
39	GND	—	Ground connections	0V
40	AVDD33_WL	P	Main power source input	3.3V
41	AVDD33_WL	P	Main power source input	3.3V
42	GND	—	Ground connections	0V
43	HOST_WAKEUP_BT	I	Host wake up Bluetooth, active high.	VDDIO
44	BT_WAKEUP_HOST	O	Bluetooth wake up host signal, active high.	VDDIO
45	BT_EN	PD	Bluetooth enable signal, active high.	VDDIO
46	GND	—	Ground connections	0V
47	32.768KHz_IN	I	External sleep clock input(32.768kHz) .	
48	GND	—	Ground connections	0V
49	BT_ANT/NC		Bluetooth Antenna (no connection for optional)	
50	GND	—	Ground connections	0V
51~56	GNDP	—	Ground connections	0V

7. Dimensions

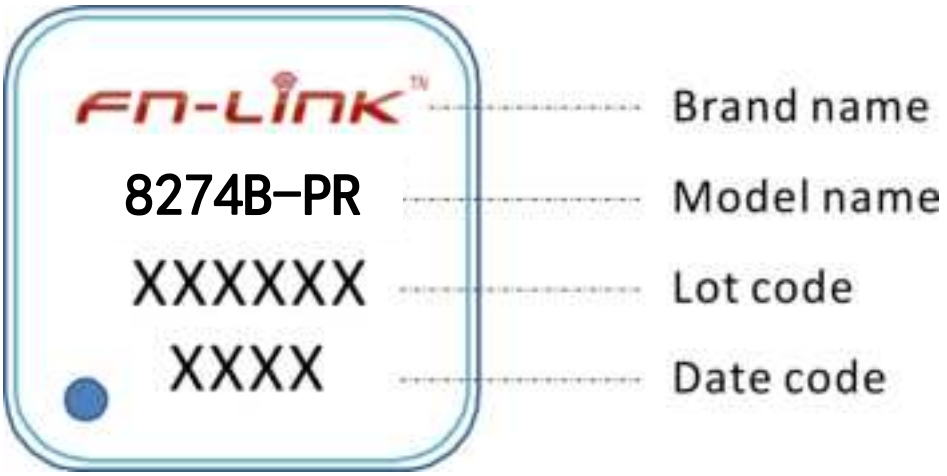
7.1 Physical Outline

（Unit: mm）



Marking Description

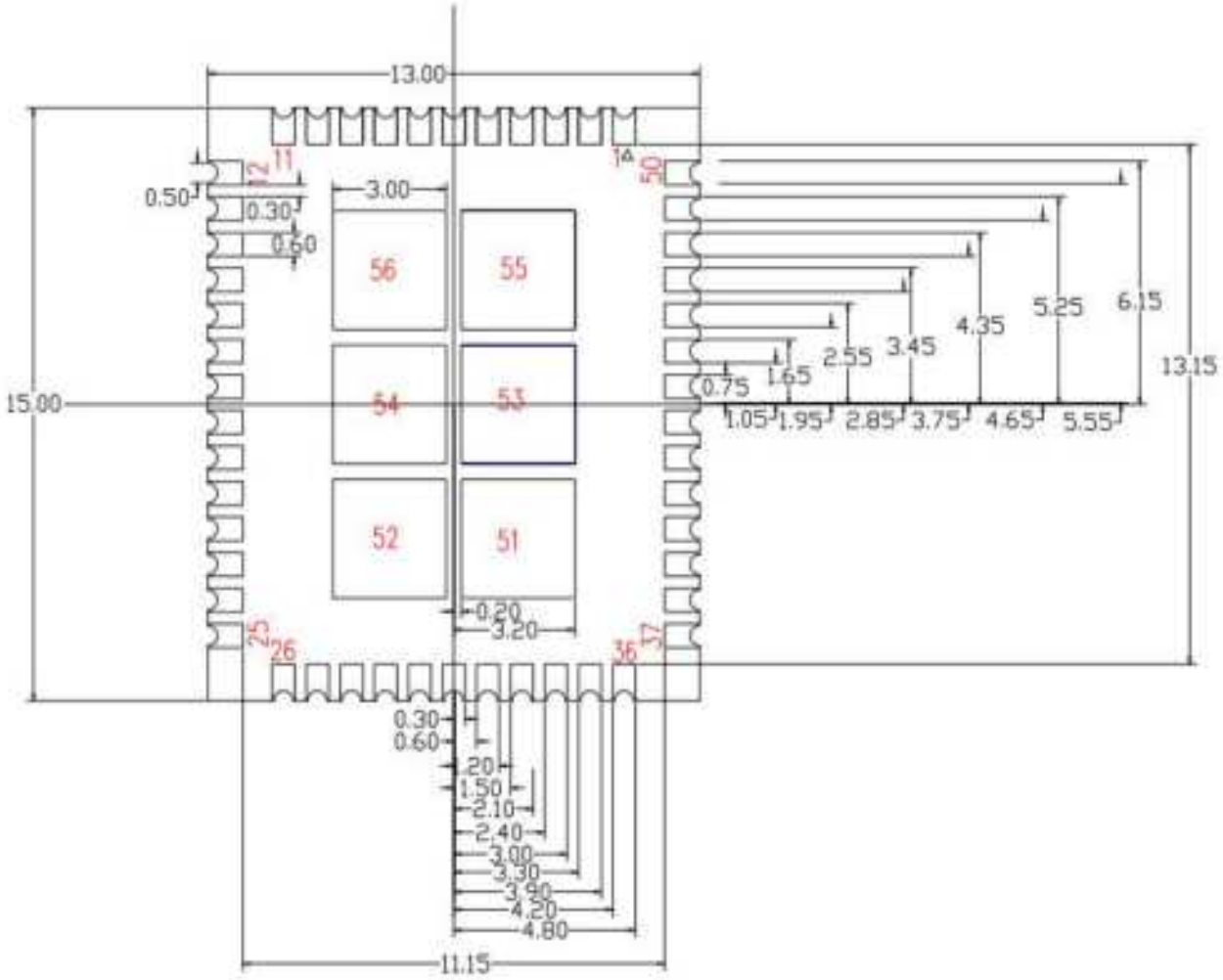
< TOP VIEW >



Module Physical Dimensions

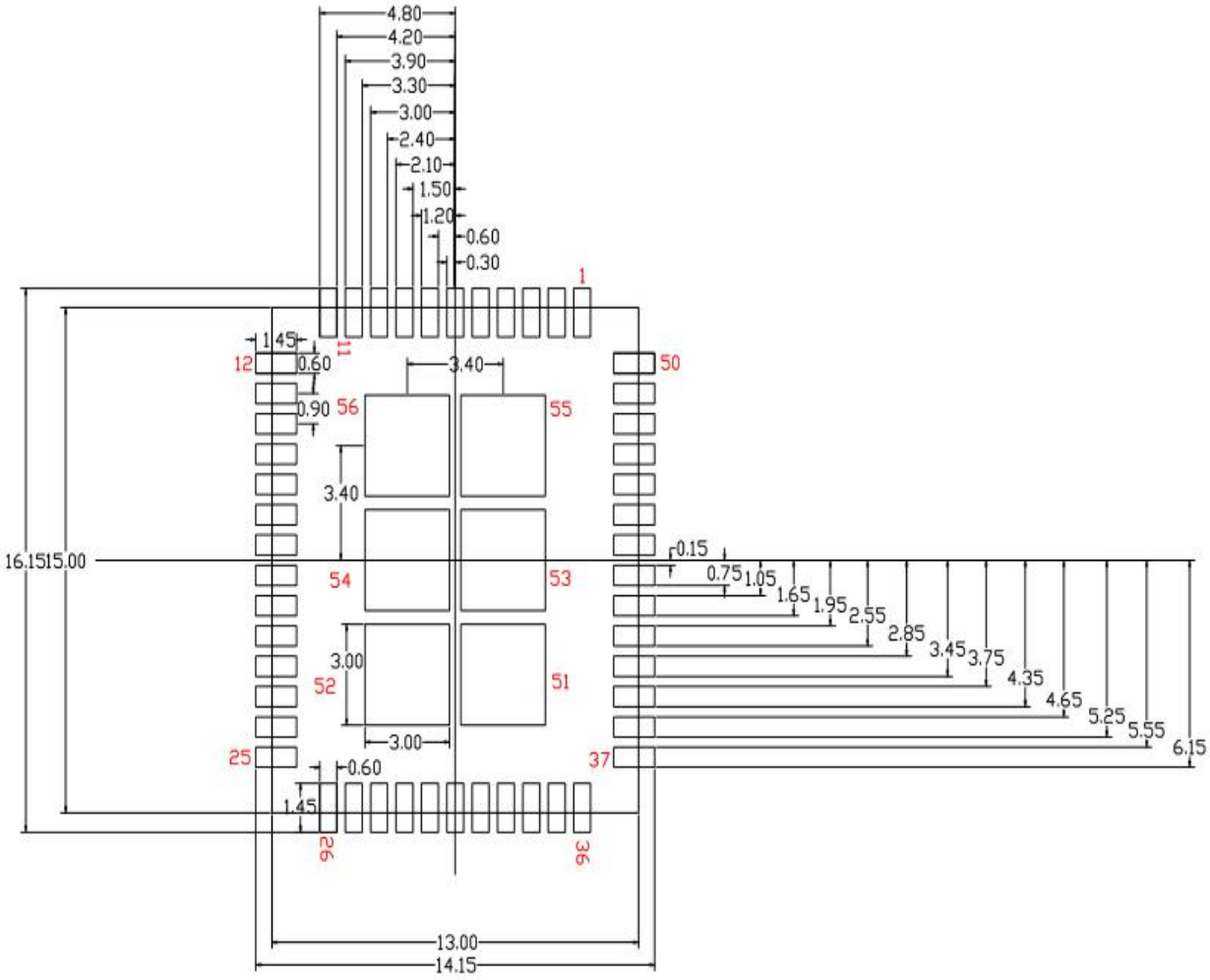
(Unit: mm)

< TOP VIEW >

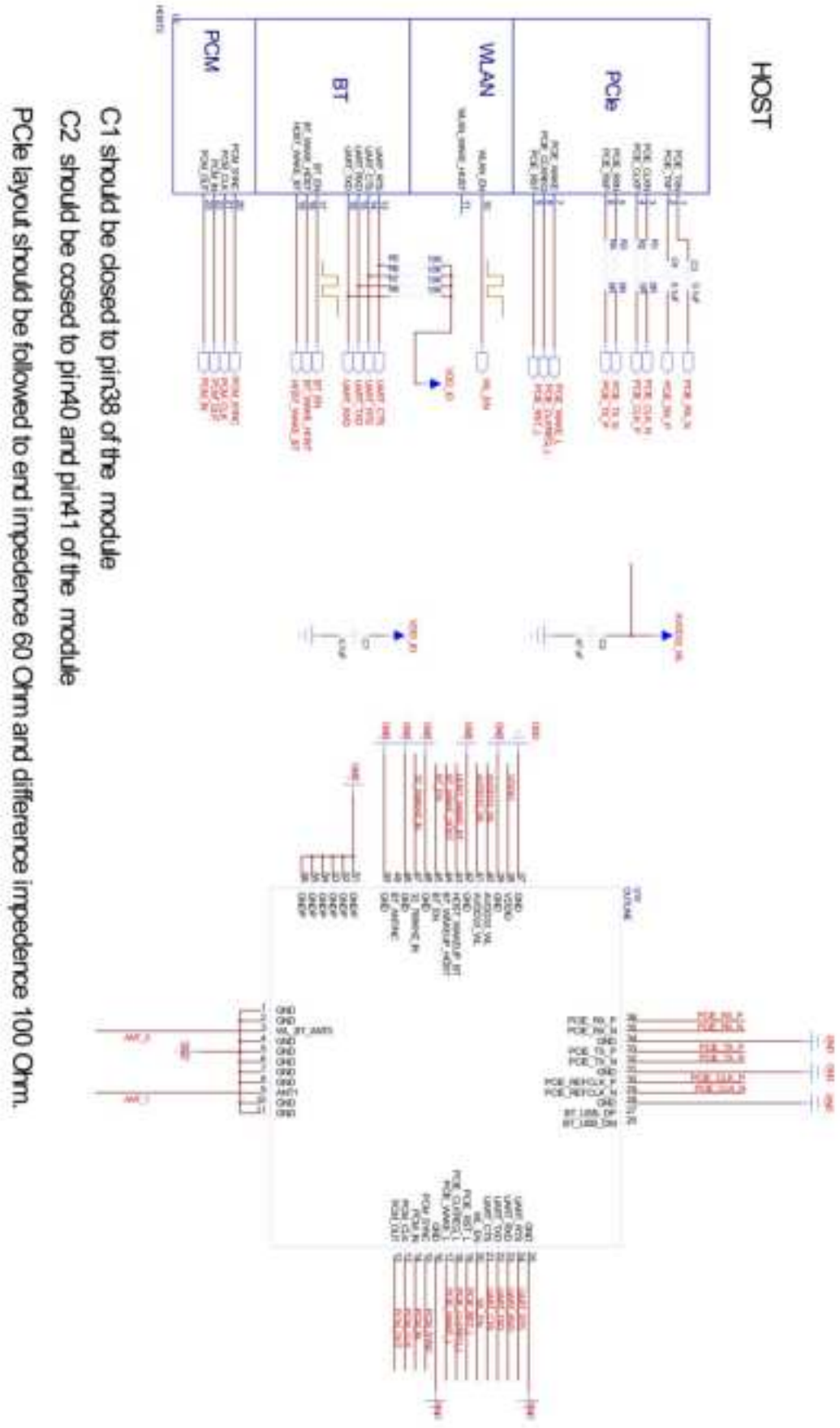


7.2 Layout Recommendation

(Unit: mm)



8. Reference Design

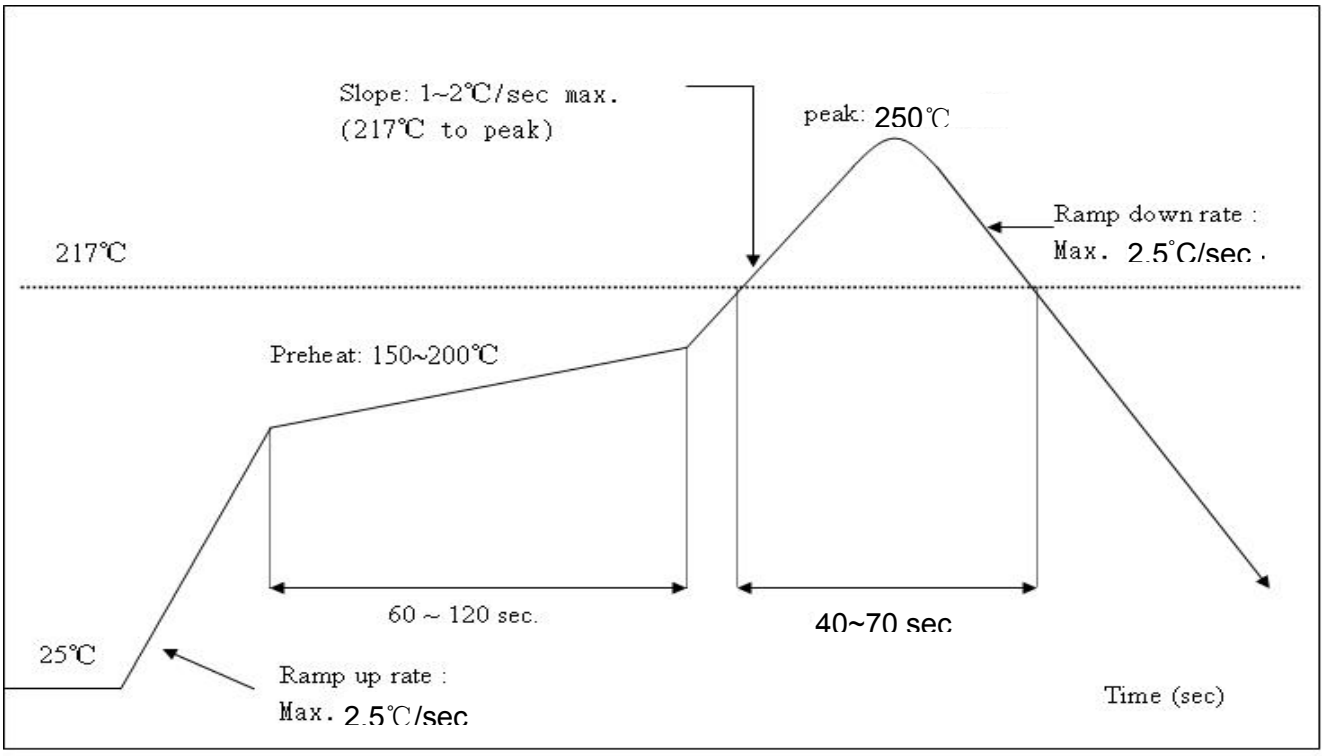


9. Recommended Reflow Profile

Referred to IPC/JEDEC standard.

Peak Temperature : <250°C

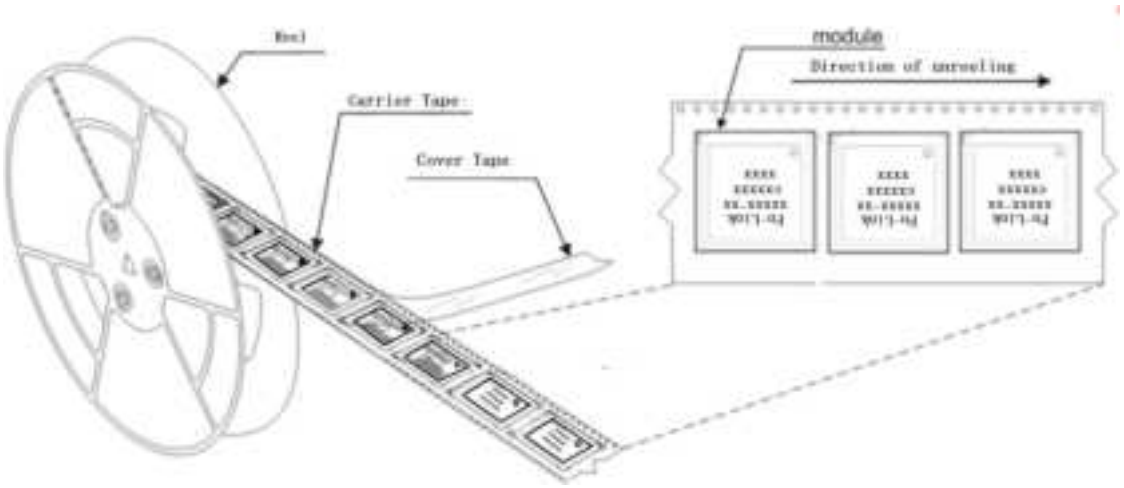
Number of Times : ≤2 times



10. Package Information

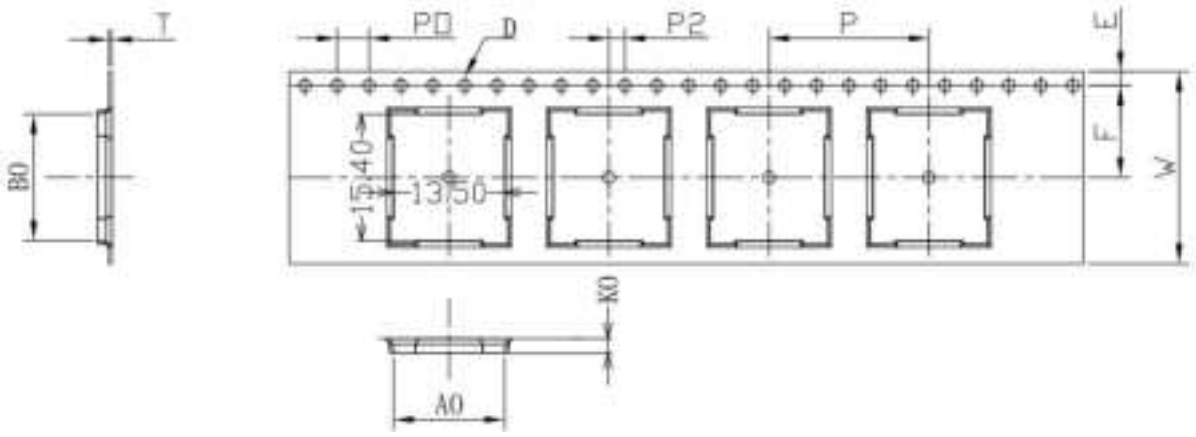
10.1 Reel

A roll of 1500pcs

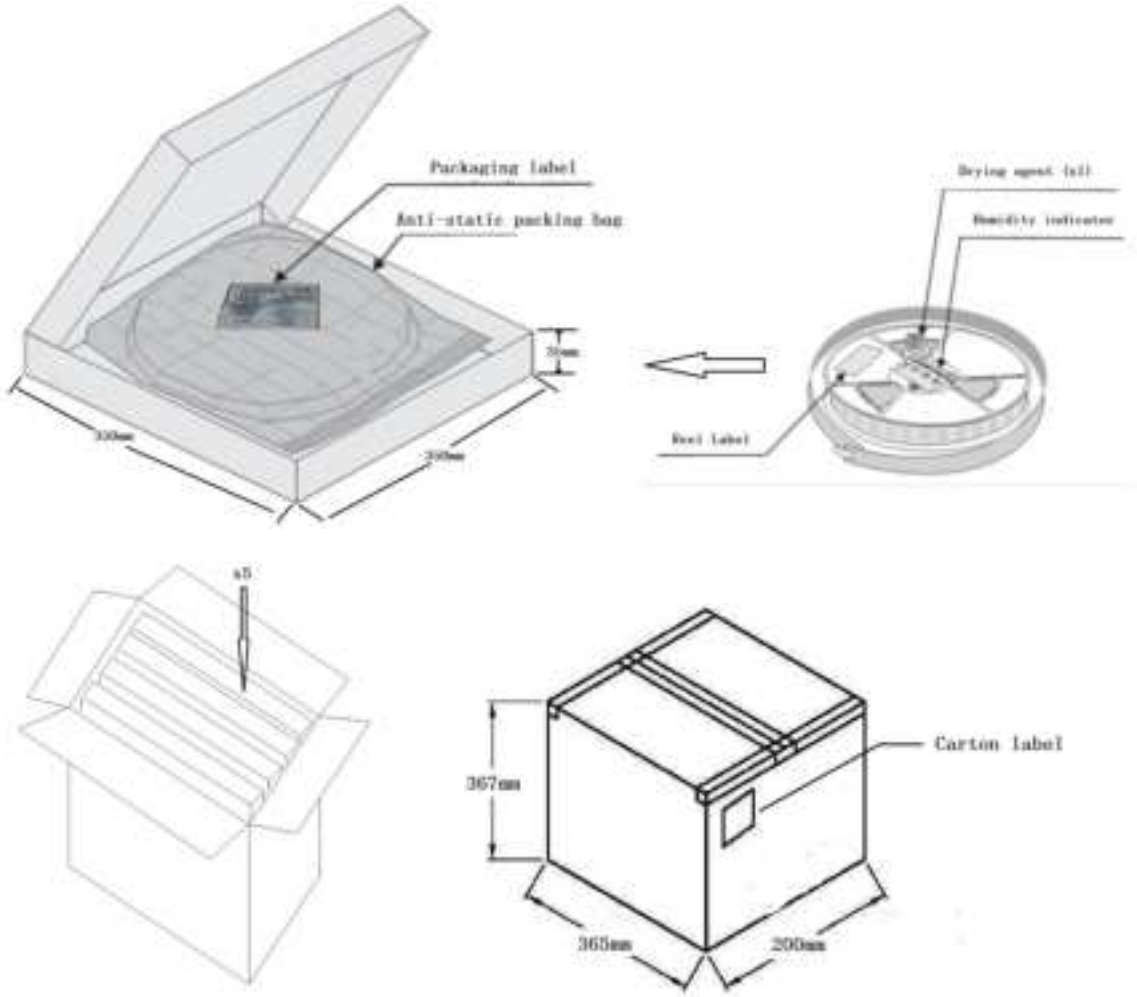


10.2 Carrier Tape Detail

ITEM	W	A0	B0	D	F	E	K0	P0	P2	P	T
DIM	24	13.50	15.40	1.50	11.5	1.75	1.80	4.0	2.0	20.0	0.30
TOLE	+0.3 -0.3	±0.15	±0.15	+0.1 -0.0	±0.1	±0.1	±0.10	±0.1	±0.1	±0.1	±0.05



10.3 Packaging Detail



10.4 Moisture sensitivity

The Modules is a Moisture Sensitive Device level 3, in according with standard IPC/JEDEC J-STD-020, take care
all the relatives requirements for using this kind of components.
Moreover, the customer has to take care of the following conditions:
a) Calculated shelf life in sealed bag: 12 months at <40°C and <90% relative humidity (RH).
b) Environmental condition during the production: 30°C / 60% RH according to IPC/JEDEC J-STD-033A paragraph 5.
c) The maximum time between the opening of the sealed bag and the reflow process must be 168 hours if condition
b) "IPC/JEDEC J-STD-033A paragraph 5.2" is respected
d) Baking is required if conditions b) or c) are not respected
e) Baking is required if the humidity indicator inside the bag indicates 10% RH or more

FCC Statements:

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.

Note: 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 or more 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.

Warning: Changes or modifications to this unit not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

LABELING AND USER INFORMATION REQUIREMENTS OF THE END PRODUCT:
The final end product must be labelled in a visible area with the following "Contains TX FCC ID: 2AATL-8274B-PR" or "Contains Transmitter Module FCC ID: 2AATL-8274B-PR . If the size of the end product is smaller than 8x10cm, then additional FCC part 15.19 statement is required to be available in the users' manual: 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.

A user's manual for the finished product should include one of the following statements:- For a Class A digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

- For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

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 or more 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.

The User's Manual for The finished product should include the following statements:

Any changes or modifications to this equipment not expressly approved by the OEM/Integrator may cause harmful interference and void the user's authority to operate this equipment.

RF Exposure
This device has been evaluated and shown compliant with the FCC RF Exposure limits under fixed exposure conditions (antennas are greater than 20cm from a person’s body) when installed in certain specific OEM configurations.

IC Statements:

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

LABELING AND USER INFORMATION REQUIREMENTS OF THE END PRODUCT:
The Industry Canada certification label of a module shall be clearly visible at all times when installed in the host device, otherwise the host device must be labeled to display the Industry Canada certification number of the module, preceded by the words "Contains transmitter module", or the word "Contains", or similar wording expressing the same meaning, as follows:
Contains IC: 24844-8274BPR
or
Contains transmitter module IC: 24844-8274BPR

User manuals for license-exempt radio apparatus shall contain the following or equivalent notice in a conspicuous location in the user manual or alternatively on the device or both:

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

RF Exposure

This device has been evaluated and shown compliant with the RF exposure requirements listed in RSS-102 - Radio Frequency (RF) Exposure Compliance of Radio communication Apparatus limits under fixed exposure conditions (antennas are greater than 20cm from a person's body) when installed in certain specific OEM configurations.

Cet appareil a été évalué et montré conforme aux exigences d'exposition RF énumérées dans RSS-102 - Exposition aux fréquences radio (RF) Conformité des limites des appareils de communication radio dans des conditions d'exposition fixes (les antennes sont à plus de 20 cm du corps d'une personne) lorsqu'elles sont installées dans certains configurations OEM spécifiques.

General Statements

The module is limited to OEM installation only.

The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module.

This module should be installed and operated with a minimum distance 20cm between the radiator and your body. OEM integrator shall equipped the antenna to compliance with antenna requirement part 15.203& 15.204 and must not be co-located or operating in conjunction with any other antenna or transmitters. And OEM host shall implement a Class II Permissive Change (C2PC) or a new FCC ID to demonstrate complied with FCC standard.

This module is for use with external antennas only, and the antenna is recommended as below:

Ant.	Brand	Model Name	Antenna Type	Connector	Frequency Range (MHz)	Gain (dBi)
1	TAOGLAS	GW.05.0153	Monopole	RP-SMA(M)	2400-2500	2.8
					5150-5850	3.6

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the module.

The OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

This module support Bluetooth 2402-2480MHz & 2.4G WLAN 2412-2462MHz which compliance with part 15.247. And support 5150-5250MHz(Client type) &5745-5850MHz which compliance with part 15.407.