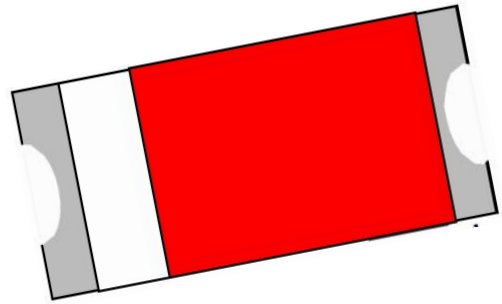


## 2.4GHz 5221 Chip Antenna: RANT5221F245M02

### 1. Applications

WLAN, 802.11b/g, Bluetooth, WLAN, etc...



### 2. Features

SMD, high reliability, ultra Impact, Omni-directional...

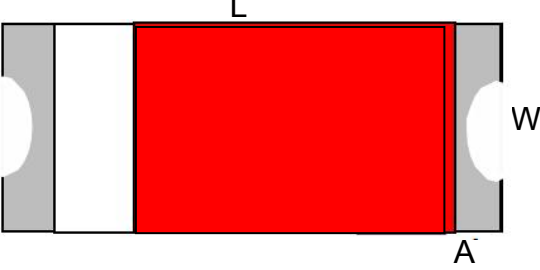
### 3. Part Number Information

RANT   5221   F   245   M   02  
(A)   (B)   (C)   (D)   (E)   (F)

(A)Product Type	Chip Antenna
(B) Size Code	5.0x2.0mm(±0.2mm)
(C) Material	High K material
(D) Frequency	2.4 ~ 2.5GHz
(E) Feeding mode	PIFA & Single Feeding
(F) Antenna type	Type=02

Shenzhen Li Tongchuang Technology Co., Ltd  
深圳市宝安区银田街道银田路4号宝安智谷D栋409

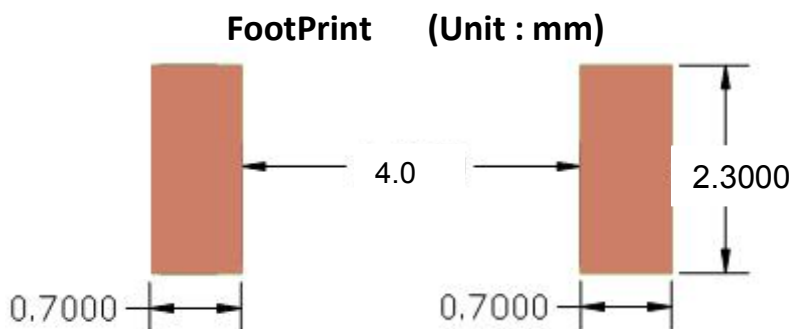
#### 4. Dimension

Figure	Symbol	Dimension (mm)
	L	5.00 ± 0.20
	W	2.00 ± 0.30
	T	1.0 ± 0.30
	A	0.50 ± 0.20

#### 5. Electrical Specification

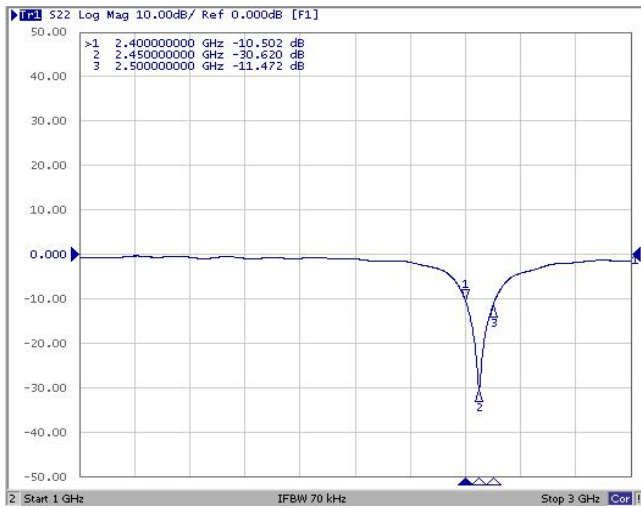
Specification		
Part Number	RANT 5221 F245 M02	
Central Frequency	2450	MHz
Bandwidth	120 (Min.)	MHz
Return Loss	-10 (Max)	dB
Peak Gain	3.59	dBi
Impedance	50	Ohm
Operating Temperature	-40 ~ +85	°C
Maximum Power	4	W
Resistance to Soldering Heats	10 ( @ 260°C )	sec.
Polarization	Linear	
Azimuth Beamwidth	Omni-directional	
Termination	Sn (Leadless)	

#### 6. PCB

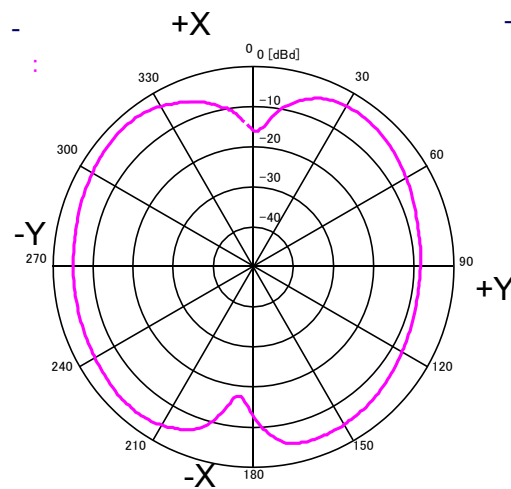
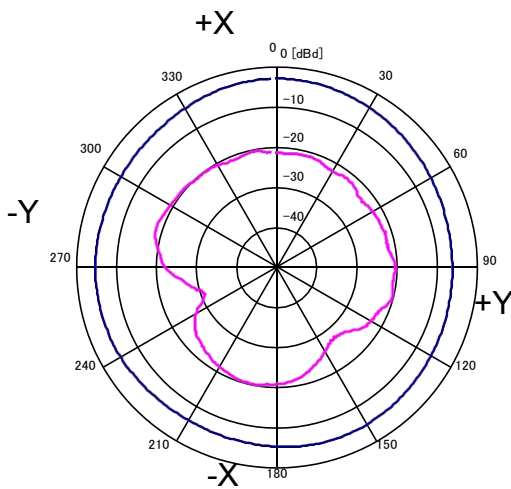
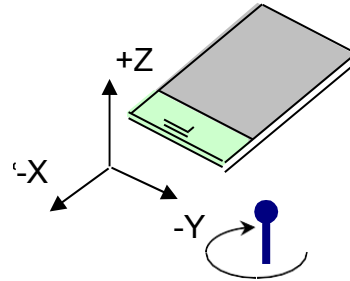
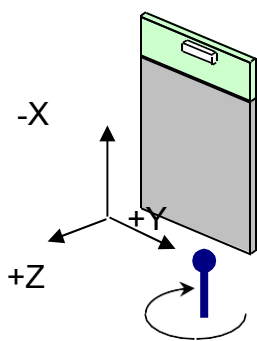


# 7. Measurement Results

## Return Loss



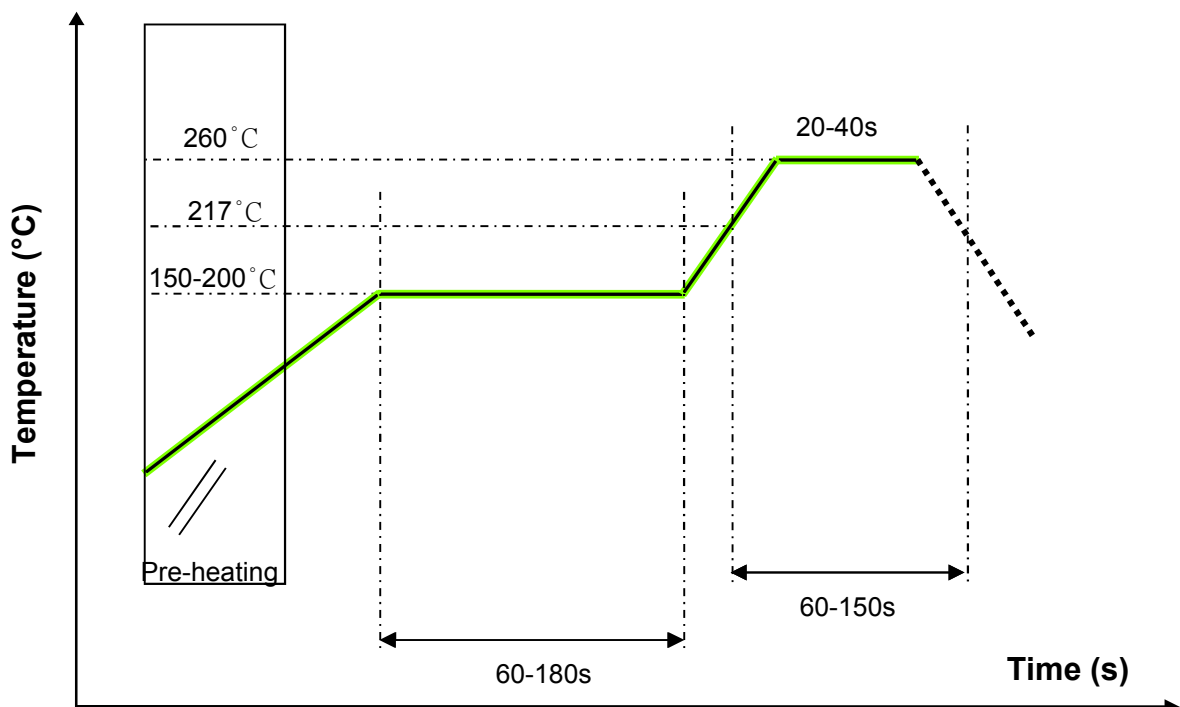
## 7.2 Radiation Pattern



## 8. Reliability and Test Conditions

Test item	Test condition / Test method	Specification
Solderability JIS C 0050-4.6 JESD22-B102D	*Solder bath temperature: $235 \pm 5^{\circ}\text{C}$ *Immersion time : $2 \pm 0.5$ sec Solder : Sn3Ag0.5Cu for lead-free	At least 95% of a surface of each terminal electrode must be covered by fresh solder.
Leaching (Resistance to dissolution of metallization) IEC 60068-2-58	*Solder bath temperature: $260 \pm 5^{\circ}\text{C}$ *Leaching immersion time: $30 \pm 0.5$ sec Solder : SN63A	Loss of metallization on the edges of each electrode shall not exceed 25%.
Bending test JIS C 0051- 7.4.1	The middle part of substrate shall be pressurized by means of the pressurizing rod at a rate of about 1 mm/s per second until the deflection becomes 1mm/s and then pressure shall be maintained for $5 \pm 1$ sec. Measurement to be made after keeping at room temperature for $24 \pm 2$ hours	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within $-40 \sim 85^{\circ}\text{C}$ .
Resistance to soldering heat JIS C 0050-5.4	*Preheating temperature : $120 \sim 150^{\circ}\text{C}$ , 1 minute. *Solder temperature: $270 \pm 5^{\circ}\text{C}$ *Immersion time : $10 \pm 1$ sec Solder : Sn3Ag0.5Cu for lead-free Measurement to be made after keeping at room temperature for $24 \pm 2$ hrs	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within $-40 \sim 85^{\circ}\text{C}$ . Loss of metallization on the edges of each electrode shall not exceed 25%.

## 9. Soldering and Mounting

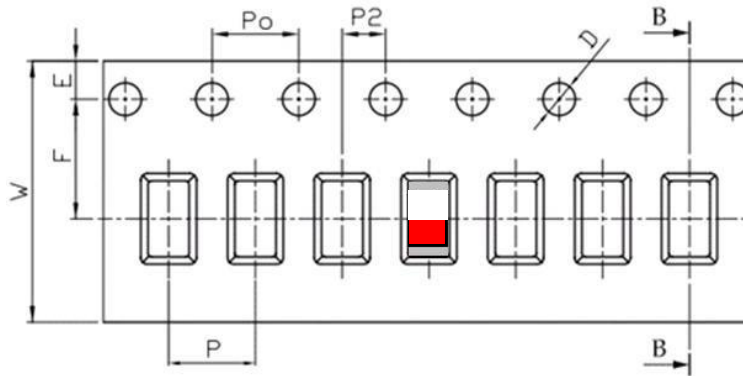


## 12. Packing

(1) Quantity/Reel: 2000 pcs/Reel

(2) Plastic tape:

a. Tape Drawing



b. Tape Dimensions (unit: mm)

Feature	Specifications	Tolerances
W	12.00	±0.30
P	4.00	±0.10
E	1.75	±0.10
F	5.50	±0.10
P2	2.00	±0.10
D	1.50	+0.10 -0.00
P0	4.00	±0.10
10P0	40.00	±0.20

c. Reel Drawing

