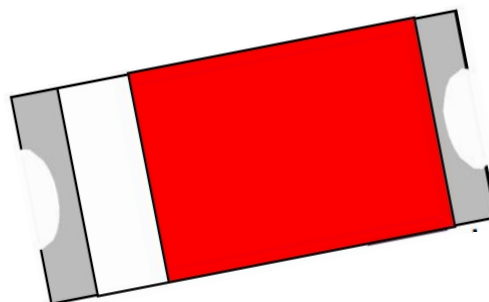


2.4GHz 5221 SMD Antenna: RANT5221F245M02

1. Applications

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



2. Features

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

3. Part Number Information

<u>RANT</u>	<u>5221</u>	<u>F</u>	<u>245</u>	<u>M</u>	<u>02</u>
(A)	(B)	(C)	(D)	(E)	(F)

(A)Product Type	SMD 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	SMD Antenna

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RAIN International Technology Co., Ltd.

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4. 产品尺寸 product size

5020单极天线 5020 Monopole Antenna

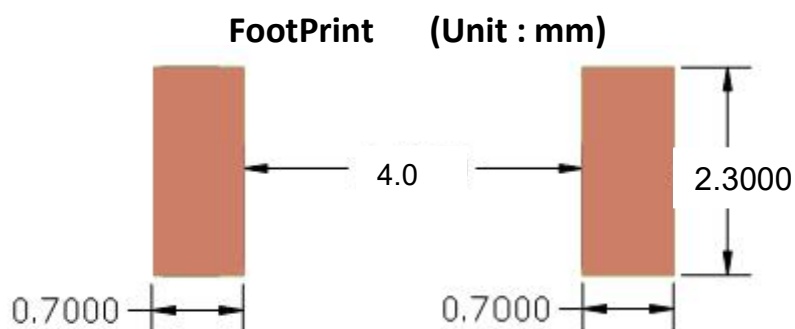


Figure	Symbol	Dimension (mm)
	L (Long)	5.00 ± 0.20
	W (Wide)	2.00 ± 0.30
	T (Thickness)	1.0 ± 0.30
	A (Electrode width)	0.50 ± 0.20

5. Electrical Specification

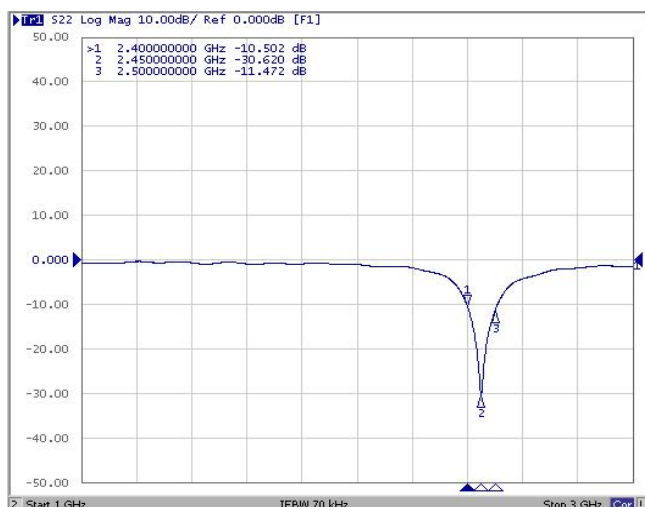
Specification		
Part Number	RANT 5221 F245 M02	
Central Frequency	2450	MHz
Bandwidth	120 (Min.)	MHz
Return Loss	-10 (Max)	dB
Peak Gain	3.59	dBi
Impedance	50	Ohm
Operating Temperature	-40~+85	°C
Maximum Power	4	W
Resistance to Soldering Heats	10 (@ 260°C)	sec.
Polarization	Linear	
Azimuth Beamwidth	Omni-directional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

6. 推荐PCB Recommended PCB

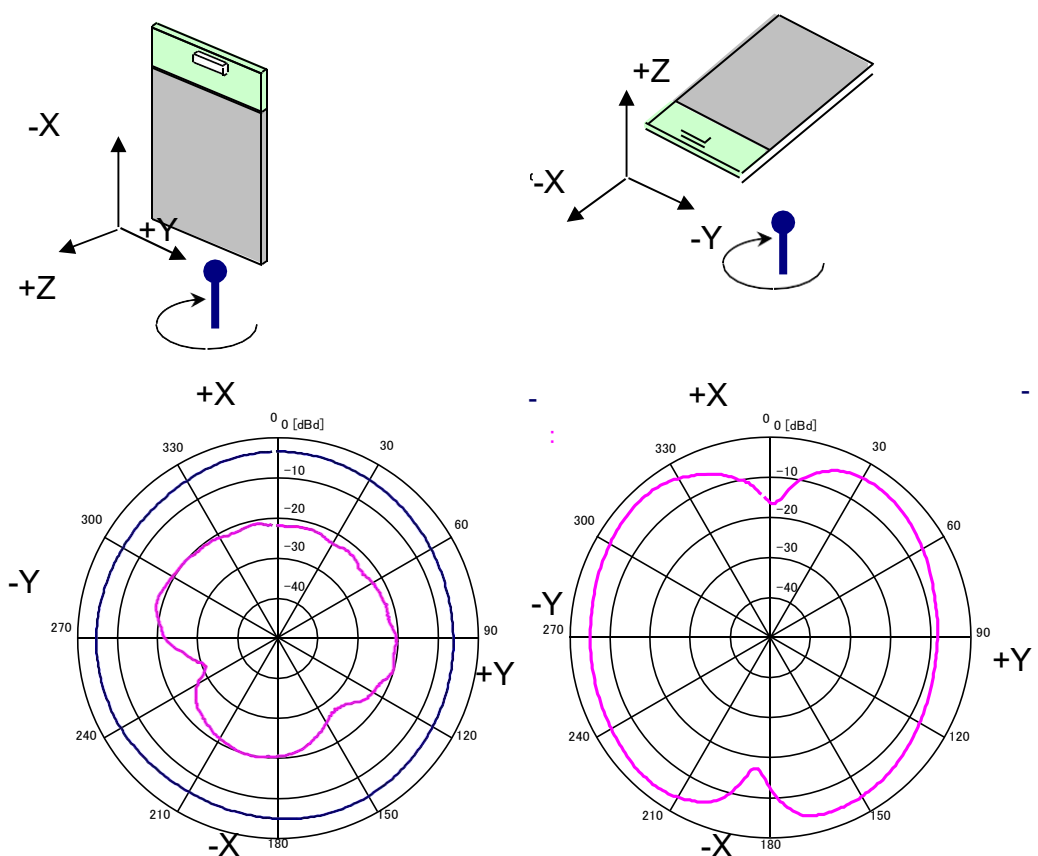


7. Measurement Results

Return Loss



7.2 Radiation Pattern



Note: All low, medium and high channels have been tested. This specification document only presents the test results for the worst channel.

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 ± 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 ± 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 ± 1 sec. Measurement to be made after keeping at room temperature for 24 ± 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 ± 1 sec Solder: Sn3Ag0.5Cu for lead-free Measurement to be made after keeping at room temperature for 24 ± 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

