



Shenzhen unity wireless technology co., ltd

Address: Room 1002/1012, Building 7E, Evergrande Fashion Valley, Dalang, Longhua District, Shenzhen, China

Phone: 0755-23285621

Fax: 0755-23285621

Specification

Customer: Guang li

Project: RD018

Number: ZC3216ANT2450-ZC02

Product: **Ceramic Antenna**

Date: 2025. 12. 16

R & D	MD:	signature:
	RF:	

Customer

Department	Engineering:	signature :
	Purchasing:	

Catalog

Cover	1
Index	2
Product Parameter	3~4
Reliability testing	5
Package specification	6
Test Report For RD018	7~8

1. Introduction:

The Microwave Multi-Layer Ceramic Antenna is designed to be used in WLAN、Bluetooth、PHS、Multiple-band Mobile phone antenna, etc and compact size SMD chip design. Applicable Frequency Range: 2400-2500MHz.

2. Electrical Characteristics:

Part Number	ZC3216ANT2450-ZC02
Central Frequency	2450 MHz
Band Width	100MHz Typ
V.S.W.R	≤ 2.0
Impedance	50 ohm
Polarization	Linear
Azimuth Beam Width	Omni-directional

3. Dependability Test:

Temperature range: 25°C +/- 5°C

Relative Humidity range: 55-75% RH

Operating Temperature range: -40°C~+85°C

Storage Temperature range: -40°C~+85°C

3.1 Vibration resist:

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X, Y and Z directions.

3.2 Drop Shock:

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after dropping onto the hard wooden board from the height of 100cm for 3 times each facet of the 3 dimensions of the device.

6.3 Solder heat proof:

The device should be satisfied after preheating at 120°C~150°C for 120 seconds and dipping in soldering Sn at 255°C+10°C for 5 ± 0.5 seconds, or electric iron 300°C-10°C for 3 ± 0.5 seconds, without damage.

6.4 Tensile Strength of Terminal:

The device should not be broken after tensile force of 1.0kg is slowly applied to pull a lead pin of the fixed device in the lead axis direction for 10 ± 1 seconds.

6.5 Bending Resist Test:

Weld the product to the center part of the PCB with the thickness 1.6 ± 0.2 mm as the illustration shows, and keep exerting force arrow-ward on it at speed of 1mm/S, and hold for 5 ± 1 S at the position of 1.5mm bending distance, so far, any peeling off of the product metal coating should not be detected.

6.6 Moisture Proof:

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the temperature $60 \pm 2^\circ\text{C}$ and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under normal condition.

6.7 High Temperature Endurance

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to temperature $85 \pm 5^\circ\text{C}$ for 96 ± 2 hours and 1~2 hours recovery time under normal temperature.

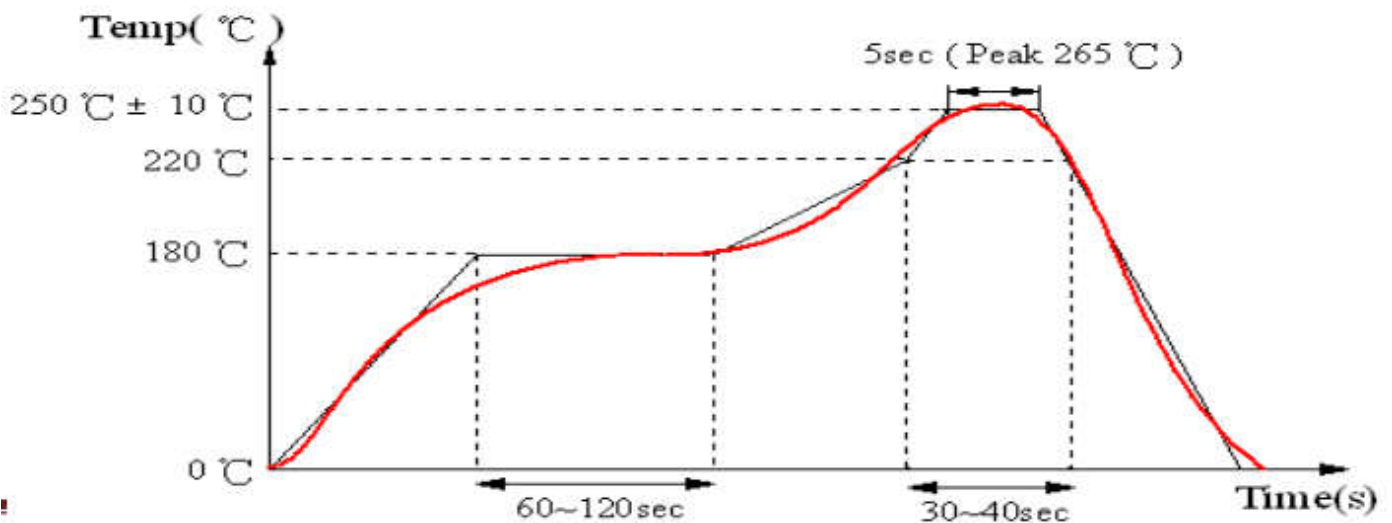
6.8 Low Temperature Endurance:

The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the temperature $-40^\circ\text{C} \pm 5^\circ\text{C}$ for 96 ± 2 hours and to 2 hours recovery time under normal temperature.

6.9 Temperature Cycle Test:

The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the low temperature -40°C and high temperature $+85^\circ\text{C}$ for 30 ± 2 min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

4. Reflow Soldering Standard Condition:



5. Packaging and Dimensions

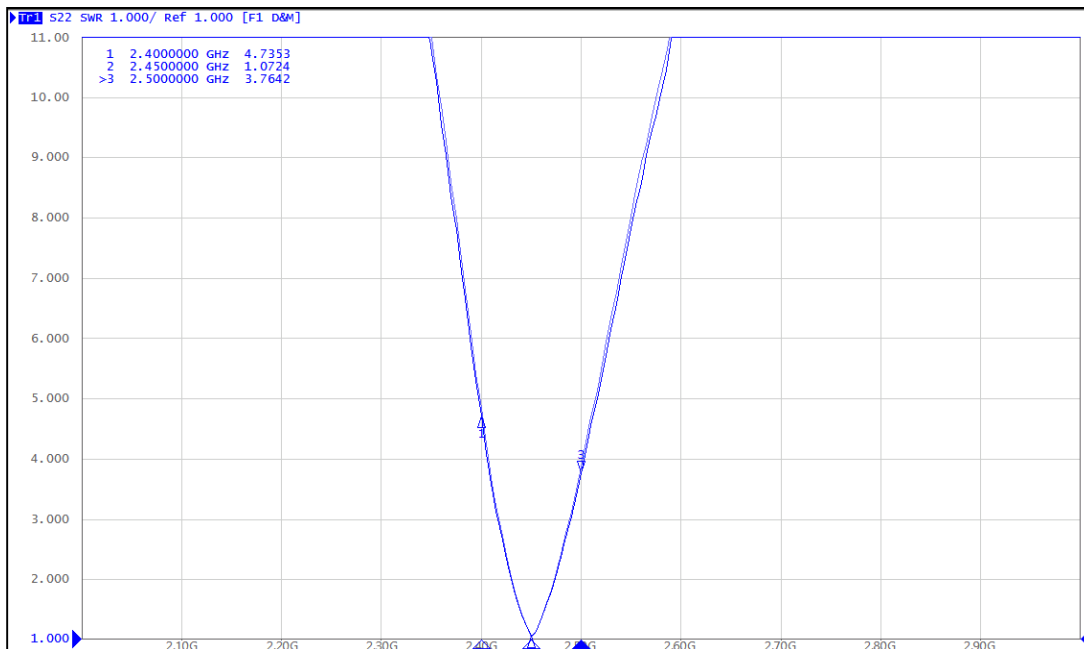
Remarks for Package: Reserve a length of 150~200mm for the trailer of the carrier and 250~300 mm for the leader of the carrier and further 250mm of cover tape at the leading part of the carrier.

Test Report For RD018(SW01)

1. Matching Network:

E1	E2	E3
1PF	6.2NH	0.5NH

2. Standing Wave:



3. Efficiency and Gain:

Freq (MHz)	Effi (%)	Gain (dBi)
2400	12.27	-4.65
2410	15.1	-3.81
2420	15.67	-3.61
2430	17	-3.19
2440	18.88	-2.65
2450	19.45	-2.54
2460	18.03	-2.8
2470	16.52	-3.1
2480	16.16	-3.18
2490	14.47	-3.68
2500	14.18	-3.82

4. Radiation Pattern:

