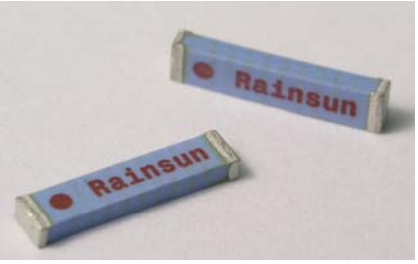
AN9520

Multilayer Chip Antenna for

2.4GHz Wireless Communication



AN9520 Multilayer Chip Antenna

◆ Features

- Light weight and low profile 9.5mm(L)X2.1mm(W)X1.0mm(H)
- Omni-directional in azimuth

Lead (Pb) Free

◆ Applications

- 2.4GHz wireless communications
- 2.4GHz Modules
- Bluetooth System

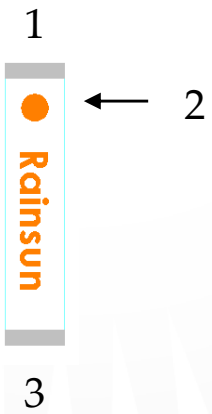
802.11b/g Wireless LAN System

Specifications

Center frequency	2.45GHz
Peak gain	1.5dBi
Operation temperature	-40 ~ +85 ˚C
Storage temperature	-40 ~ +85 ˚C
VSWR	2.0 (max)
Input Impedance	50 Ohm
Power handling	3W (max)
Bandwidth	200MHz
Azimuth beamwidth	Omni-directional
Polarization	Linear

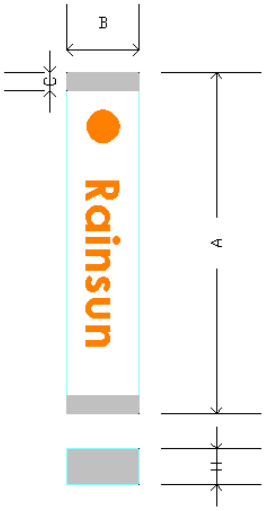
Pin configuration

Top view



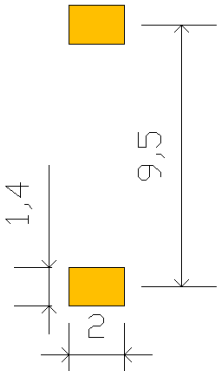
Pin No	Pin assignment
1	Feed termination
2	Feed point mark
3	Solder termination

Dimensions



Symbol	Dimensions(mm)
A	9.50 ± 0.10
B	2.10 ± 0.10
C	0.65 ± 0.05
H	1.00 ± 0.20

PCB foot printer



Recommended Test Board Pattern

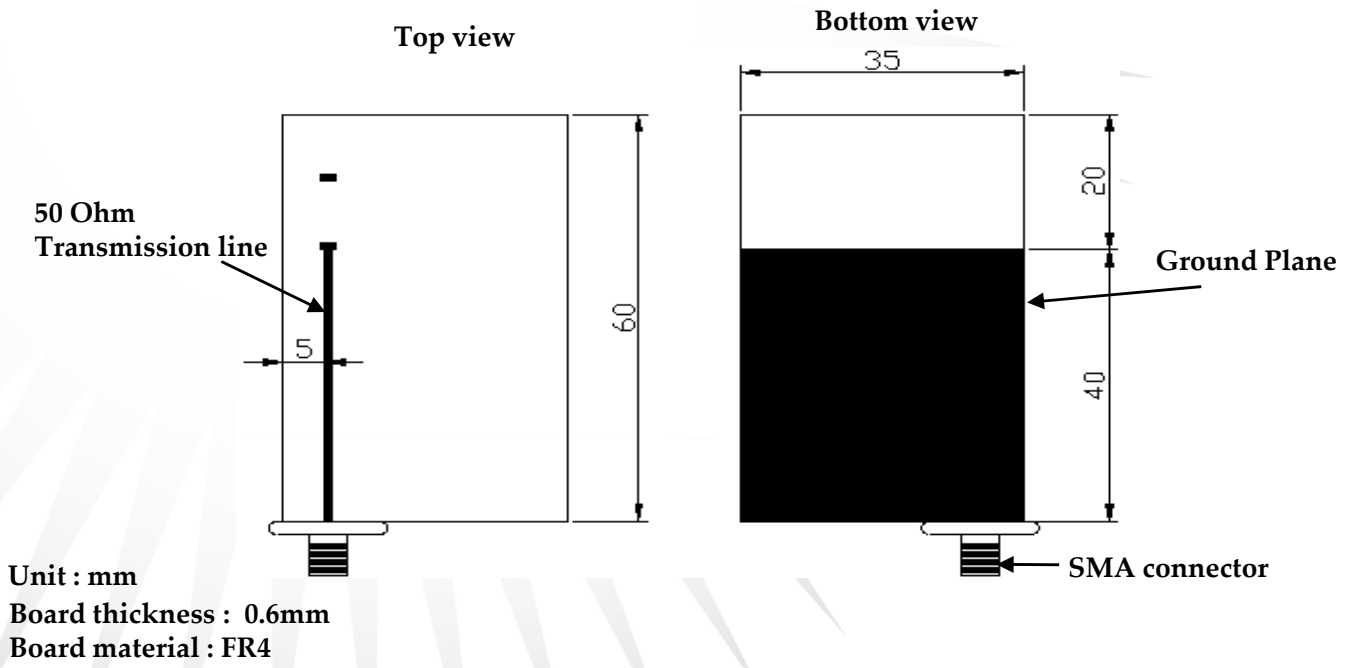
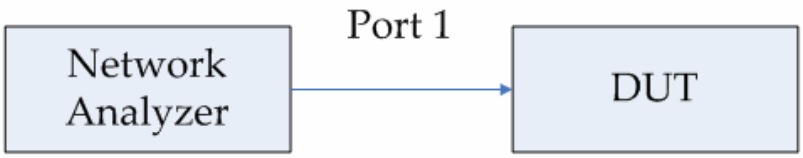


Fig-1

Testing Setup



Measurement

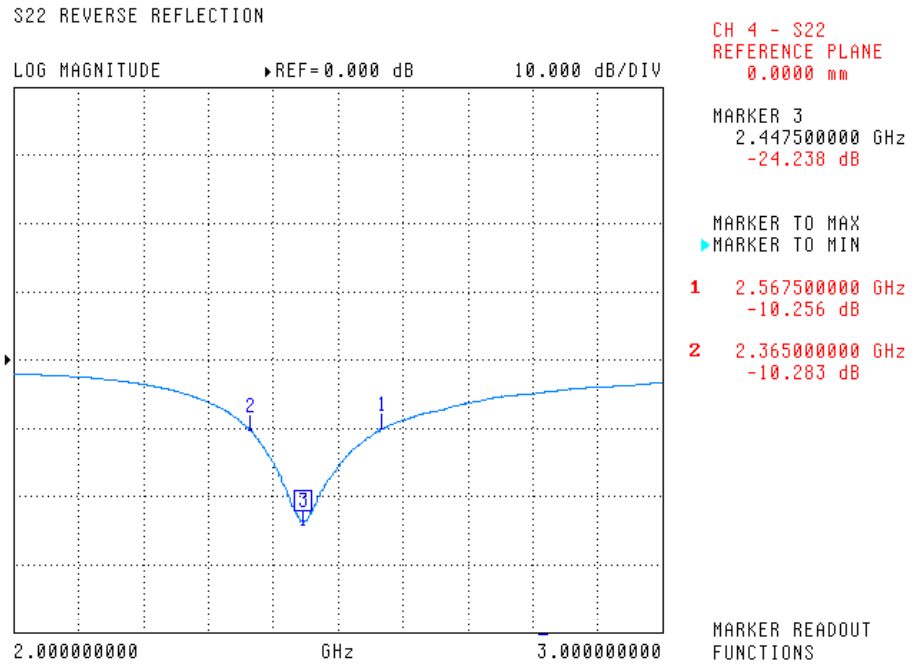
Testing Instrument:
Anritsu 37369C VNA(Vector Network Analyzer)

VNA calibrate with 1 path reflection only calibration sequence on test board feed point.

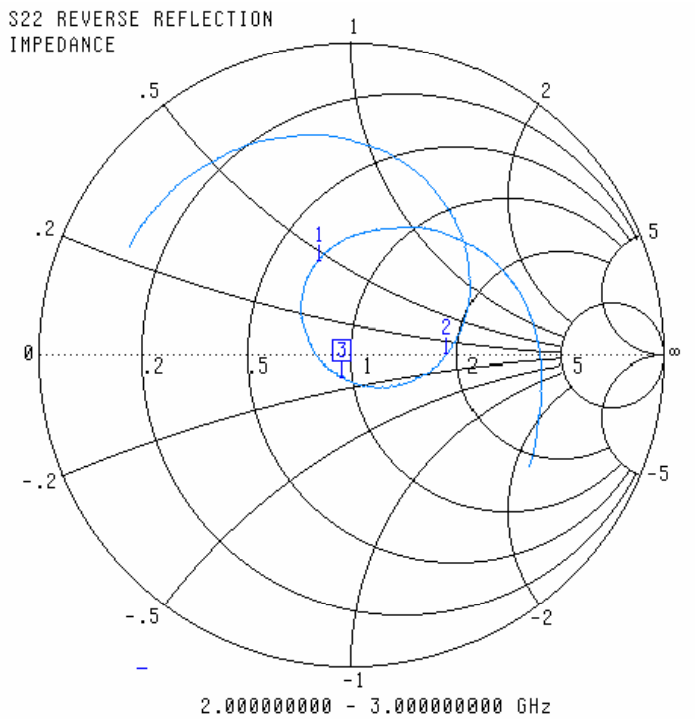
The test board dimension and it's layout is the same as Fig-1.

Typical Electrical Characteristics

Return loss



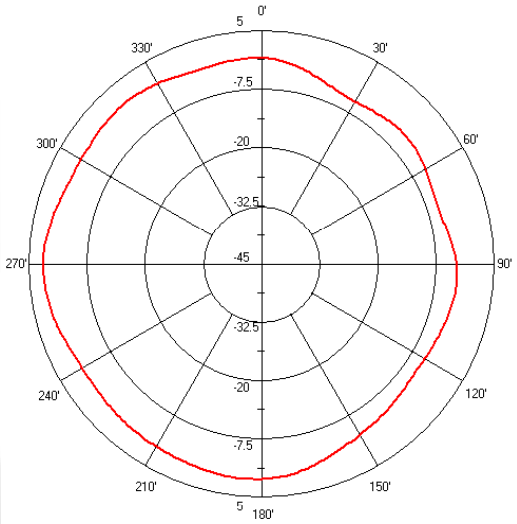
Smith Chart



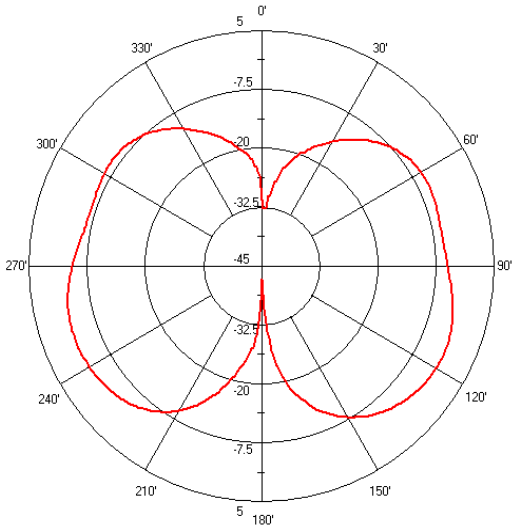
Marker data:
1 : f=2.567 GHz
2 : f=2.365 GHz
3 : f=2.447 GHz

Typical Radiation Patterns

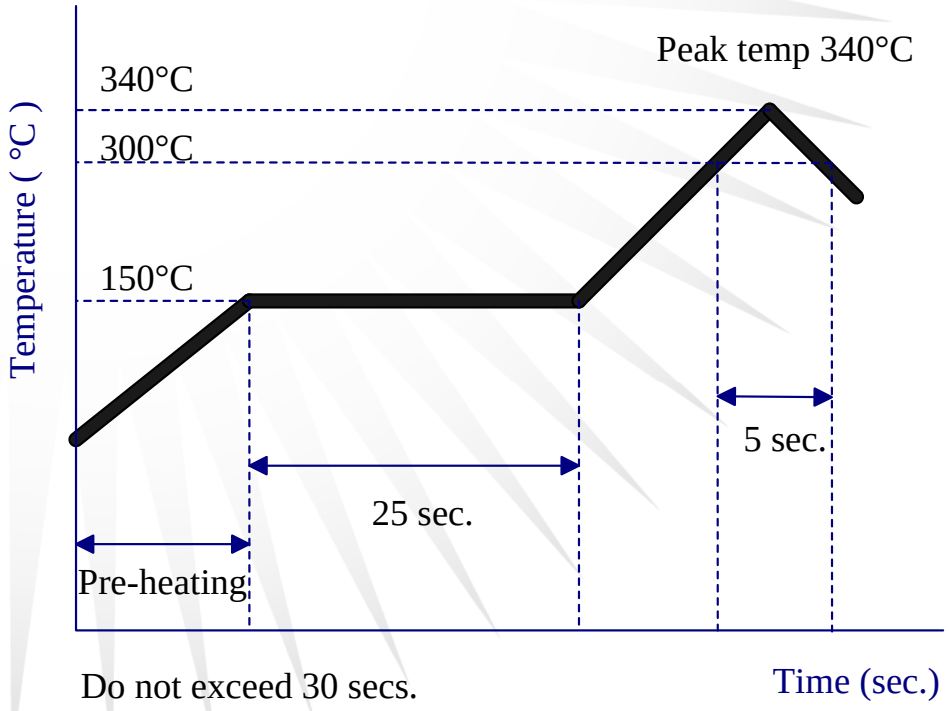
2.45 GHz H-Plane



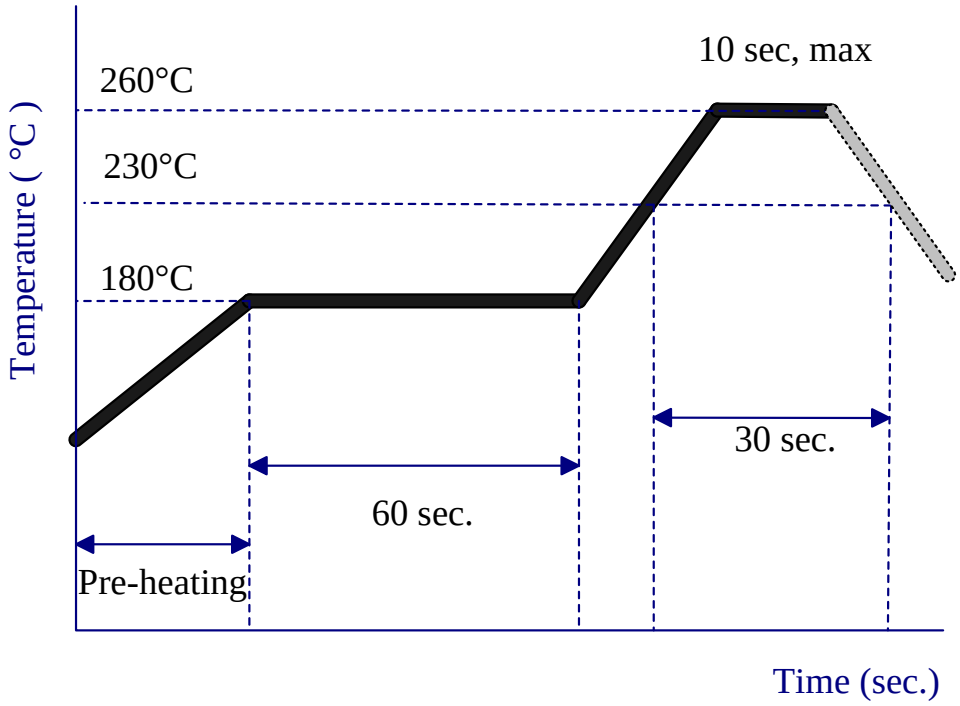
2.45 GHz E-Plane



Typical Soldering Profile for Lead-free Process

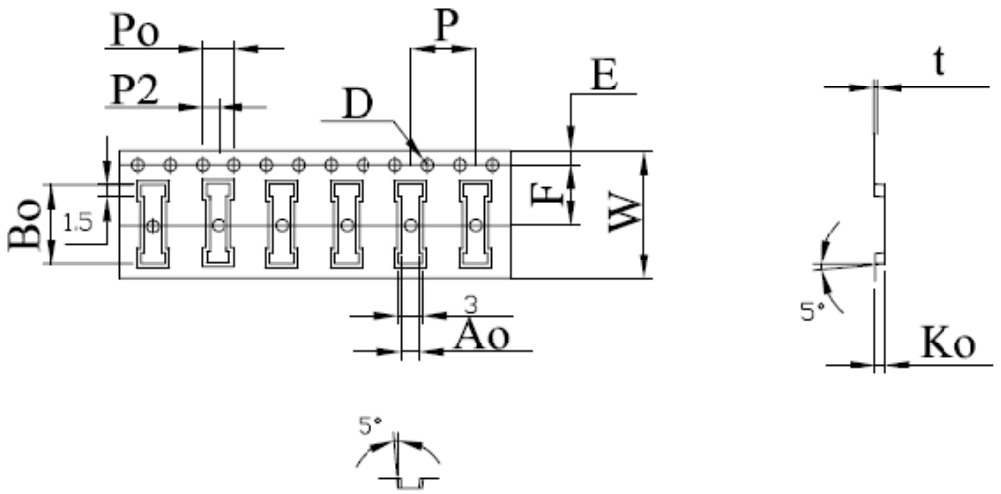


Reflow Soldering



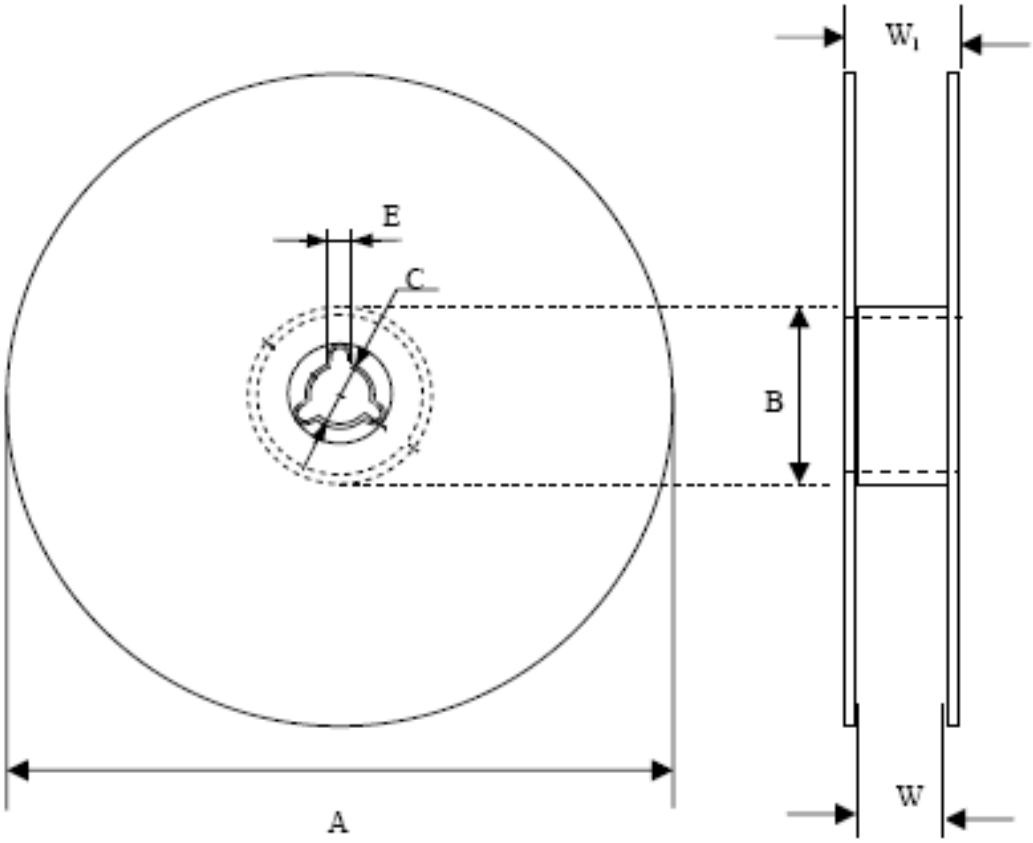
Packing

Blister Tape Specifications



Symbol	Dimension	Tolerance	Unit
W	16.00	± 0.30	mm
E	1.75	± 0.10	mm
F	7.50	± 0.10	mm
D	1.50	+ 0.10 - 0.00	mm
D_1	1.50	+ 0.25 - 0.00	mm
P_0	4.00	± 0.10	mm
P	8.00	± 0.10	mm
P_2	2.00	± 0.10	mm
A_0	2.20	± 0.10	mm
B_0	10.00	± 0.10	mm
K_0	1.20	± 0.10	mm
t	0.30	± 0.05	mm

Reel Specifications



Quantity Per Reel	Tape Width (mm)	A (mm)	C (mm)	B (mm)	E (mm)	W (mm)	W_1 (mm)
1,500	16	180±1	13.0±0.5	62±0.5	2.2±0.5	16±0.5	20±0.2