

# 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

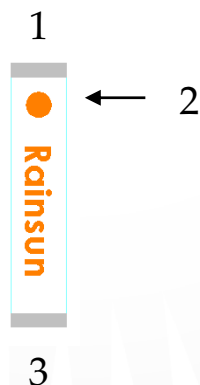
- 2.4GHz wireless communications
  - 2.4GHz Modules
  - Bluetooth System
- 802.11b/g Wireless LAN System

## 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

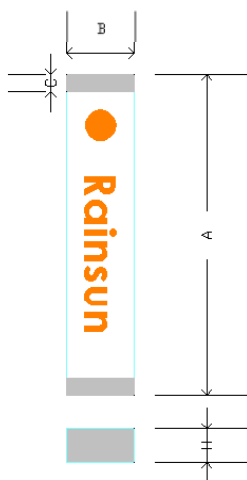
## Pin configuration

Top view



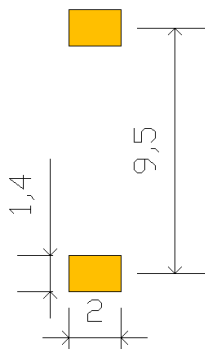
Pin No	Pin assignment
1	Feed termination
2	Feed point mark
3	Solder termination

## Dimensions

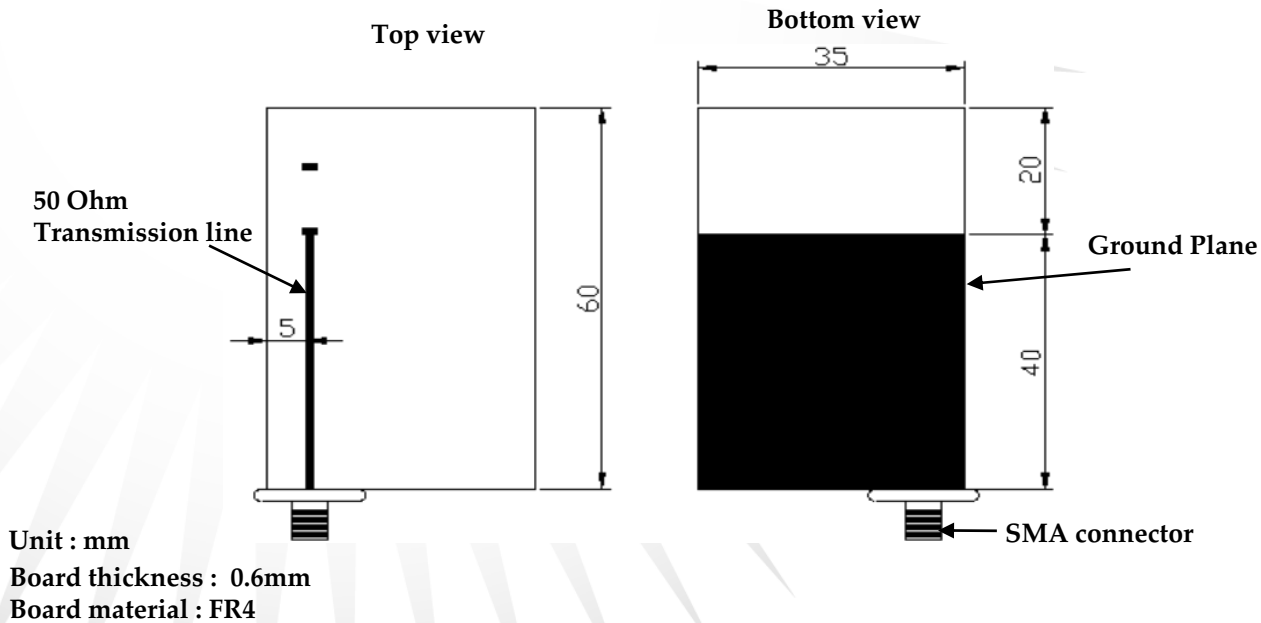


Symbol	Dimensions(mm)
A	$9.50 \pm 0.10$
B	$2.10 \pm 0.10$
C	$0.65 \pm 0.05$
H	$1.00 \pm 0.20$

## PCB foot printer

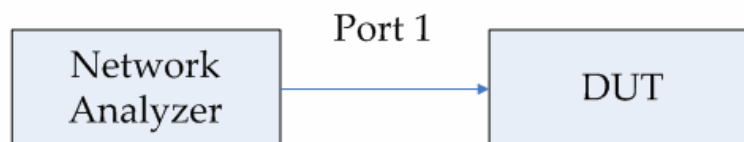


## Recommended Test Board Pattern



**Fig-1**

## Testing Setup



## Measurement



### Testing Instrument:

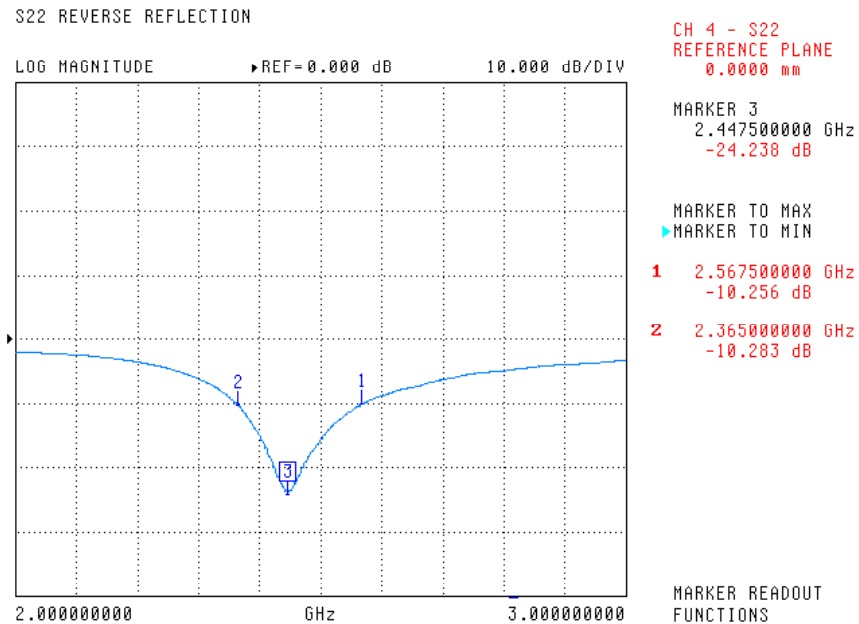
Anritsu 37369C VNA(Vector Network Analyzer)

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

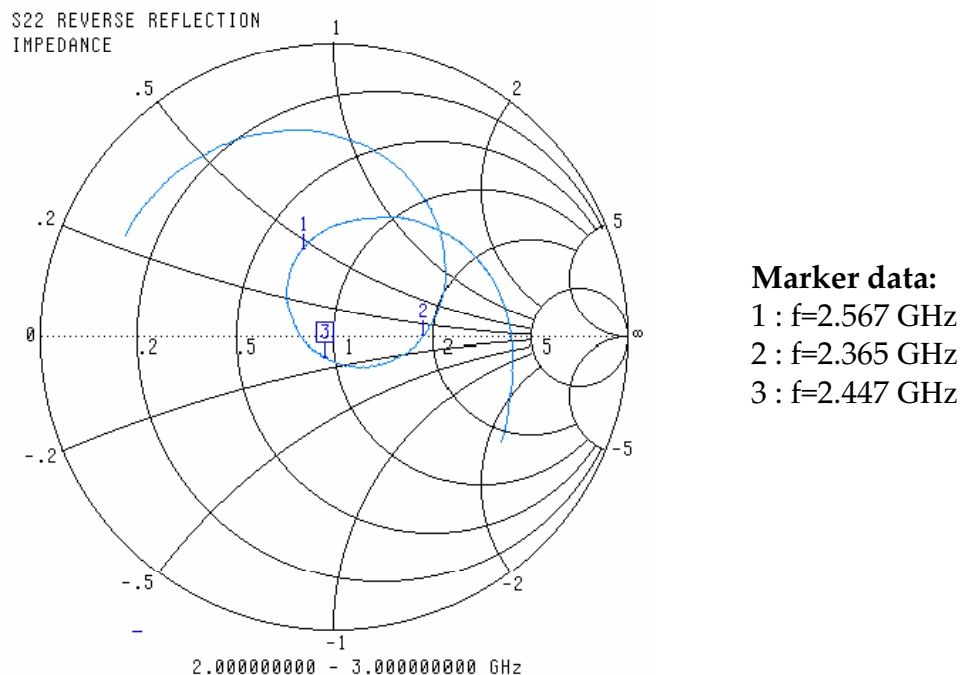
The test board dimension and it's layout is the same as Fig-1.

## Typical Electrical Characteristics

### Return loss

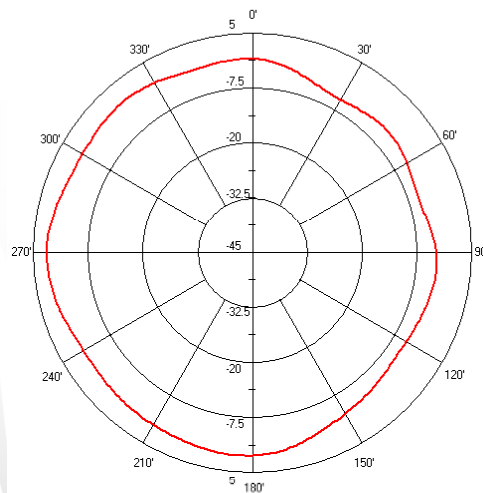


### Smith Chart

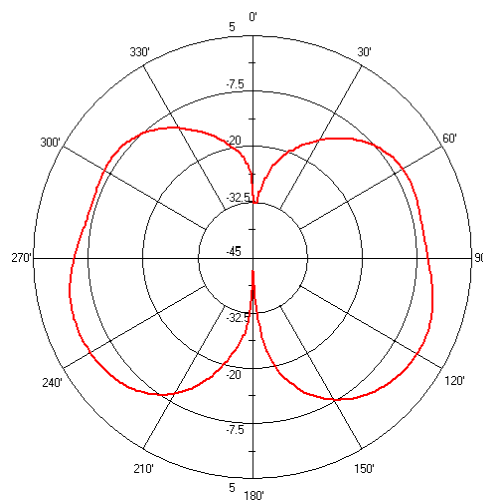


## Typical Radiation Patterns

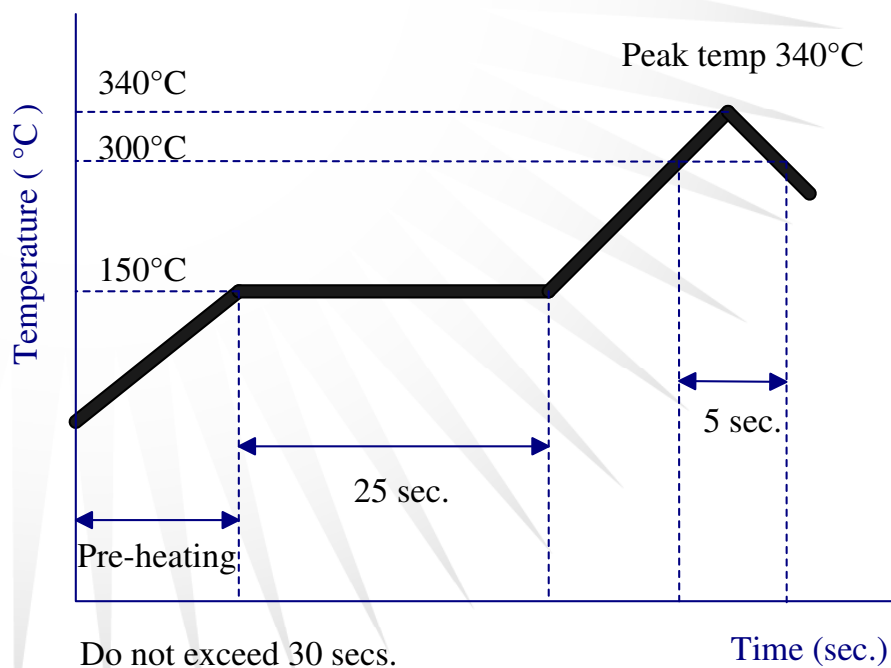
### 2.45 GHz H-Plane



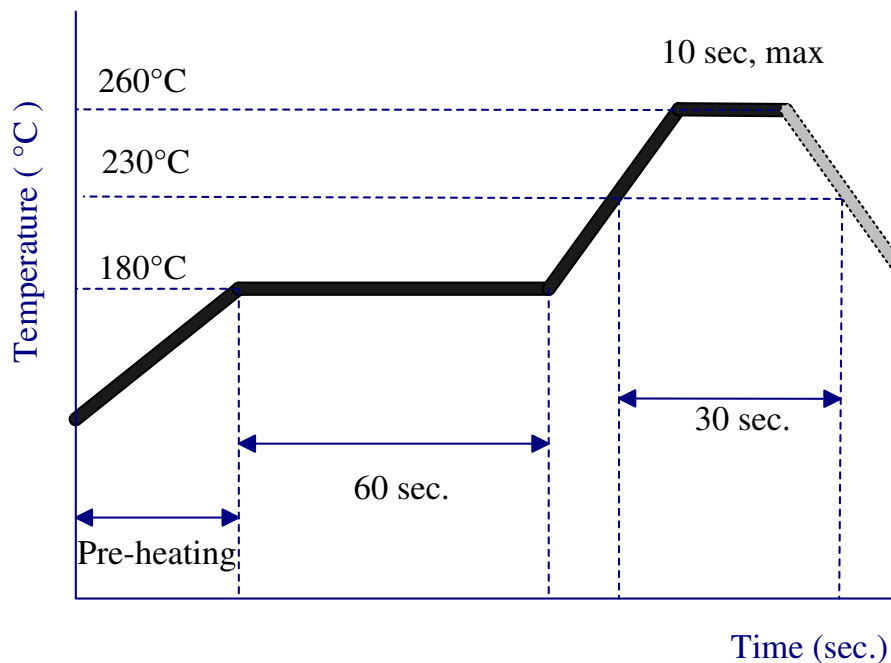
### 2.45 GHz E-Plane



## Typical Soldering Profile for Lead-free Process

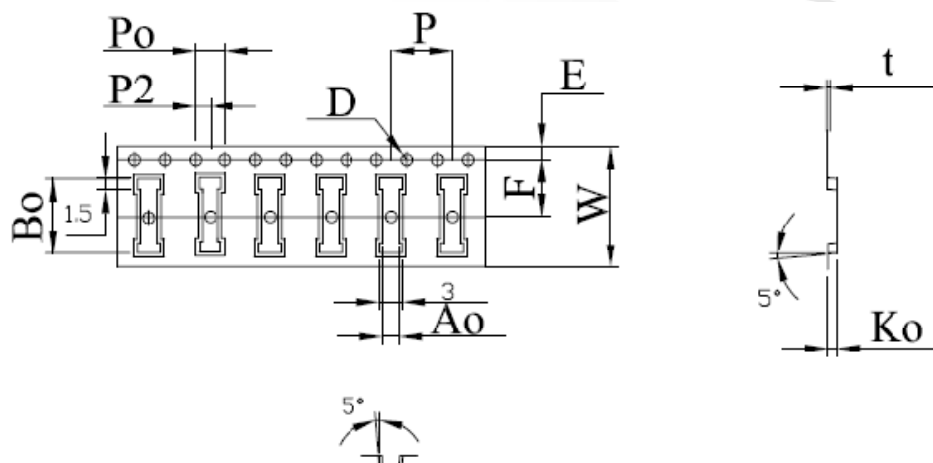


### Reflow Soldering



# Packing

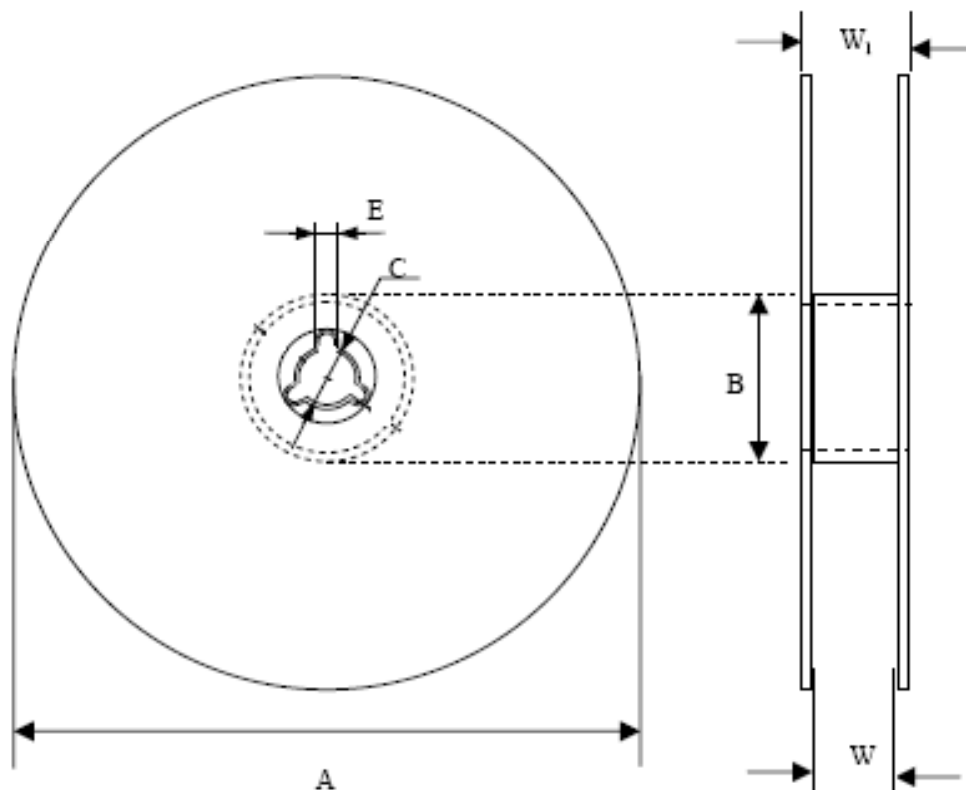
## Blister Tape Specifications



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



## Reel Specifications



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