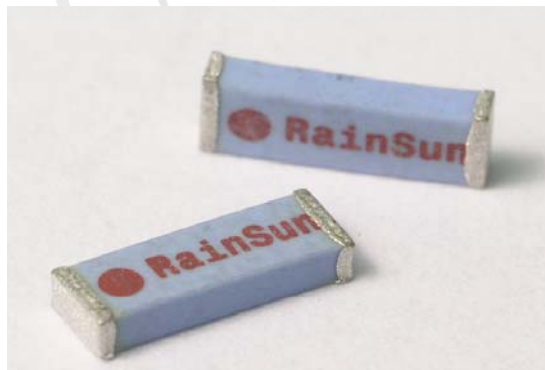


# AN6520

## Multilayer Chip Antenna for 2.4GHz Wireless Communication



# AN6520 Multilayer Chip Antenna

## ◆ Features

- Light weight and low profile 6.5mm(L)X2.2mm(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

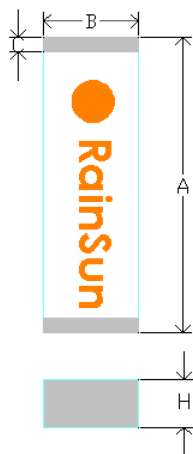
Center frequency	2.45GHz
Peak gain	0.5dBi
Operation temperature	-40 ~ +85 °C
Storage temperature	-40 ~ +85 °C
VSWR	2.0 (max)
Input Impedance	50 Ohm
Power handling	3W (max)
Bandwidth	200MHz
Azimuth beamwidth	Omni-directional
Polarization	Linear

## Pin configuration



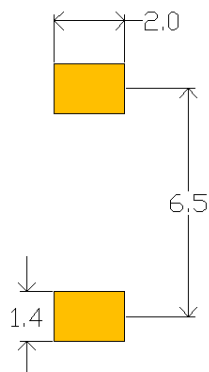
Pin No	Pin assignment
1	Feed termination
2	Feed point mark
3	Solder termination

## Dimensions



Symbol	Dimensions(mm)
A	$6.50 \pm 0.10$
B	$2.20 \pm 0.10$
C	$0.30 \pm 0.05$
H	$1.00 \pm 0.20$

## PCB foot printer



## Recommended Test Board Pattern

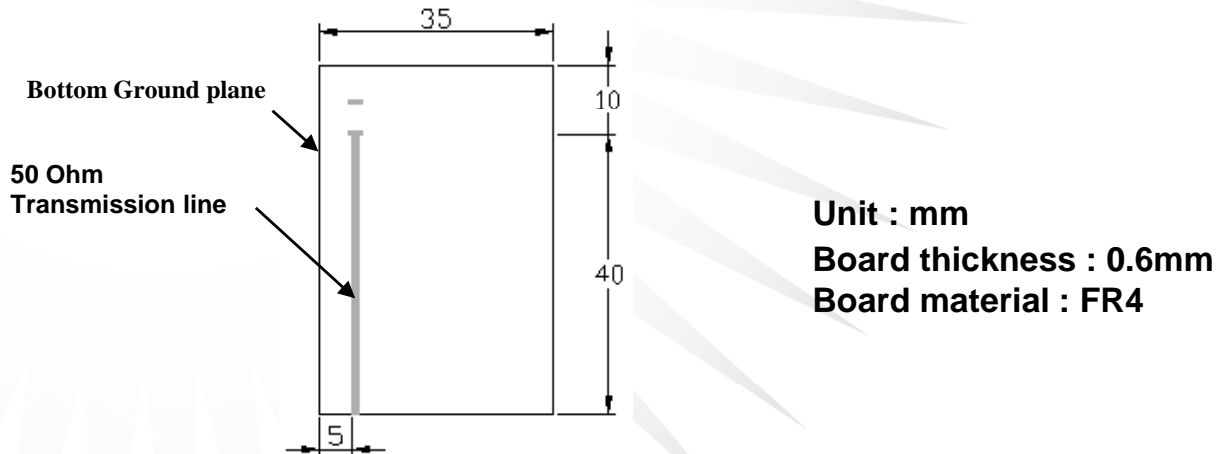
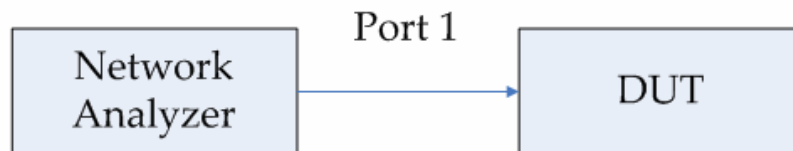


Fig-1

## Testing Setup



## Measurement



### Testing Instrument:

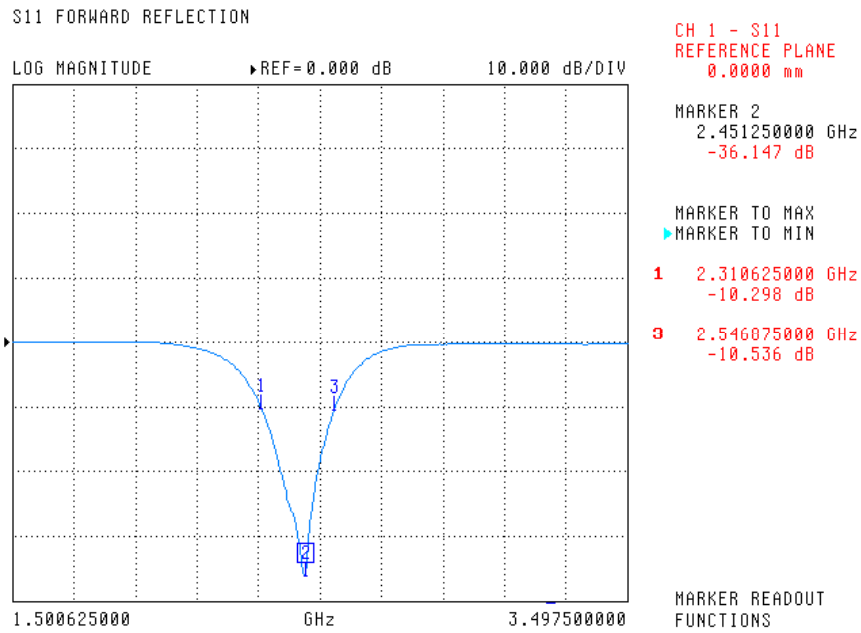
Anritsu 37369C VNA (Vector Network Analyzer)

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

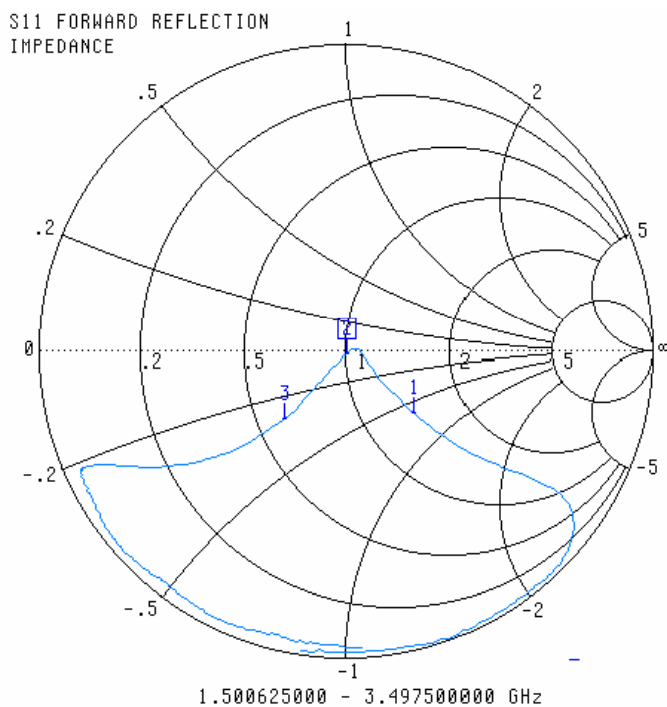
The test board dimension and its layout is the same as Fig-1.

# Typical Electrical Characteristics

## Return loss



## Smith Chart

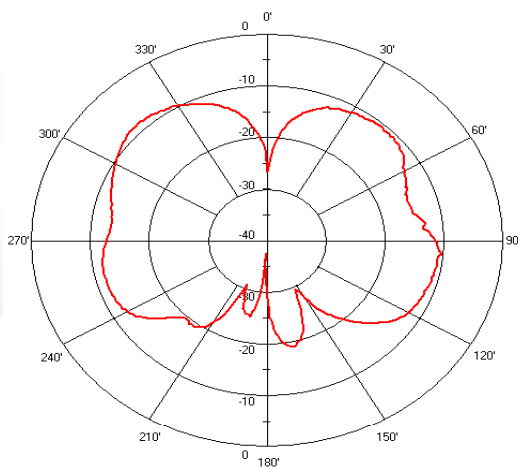


### Marker data:

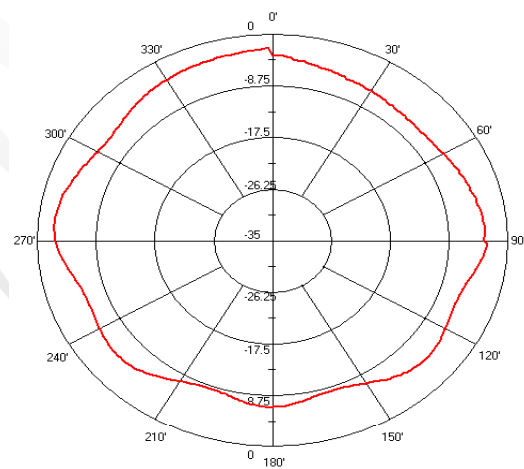
- 1 : f=2.310 GHz
- 2 : f=2.451 GHz
- 3 : f=2.546 GHz

## Typical Radiation Patterns

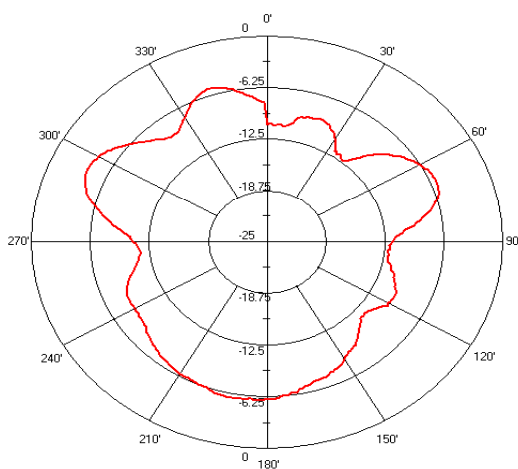
**2.45 GHz H-Plane  
vertical**



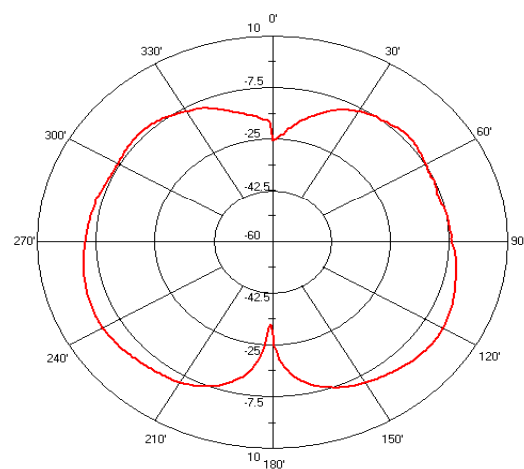
**2.45 GHz H-Plane  
horizontal**



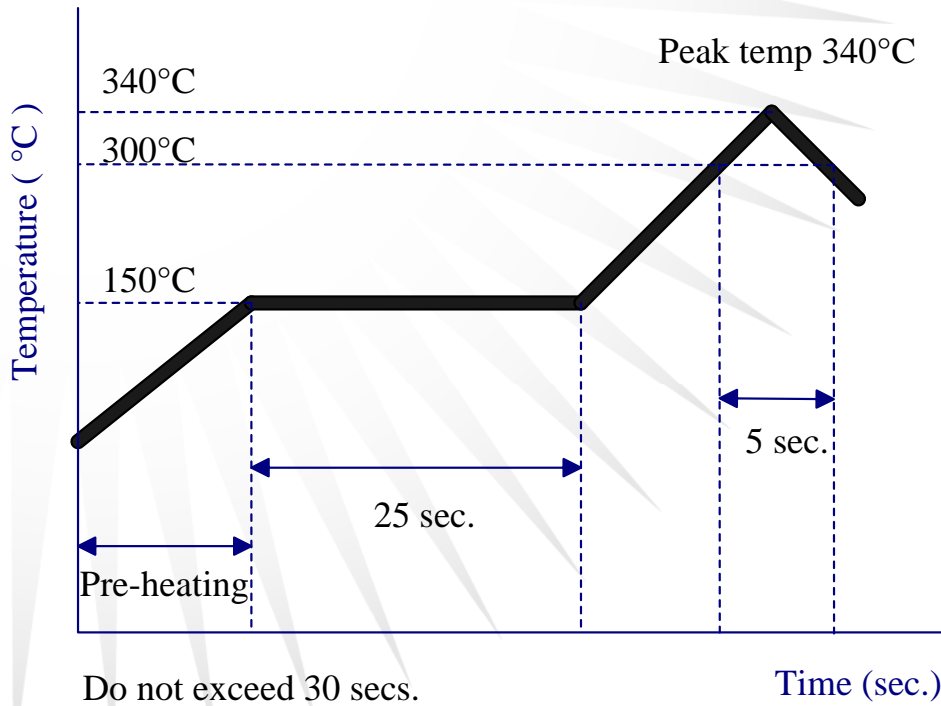
**2.45 GHz E-Plane  
vertical**



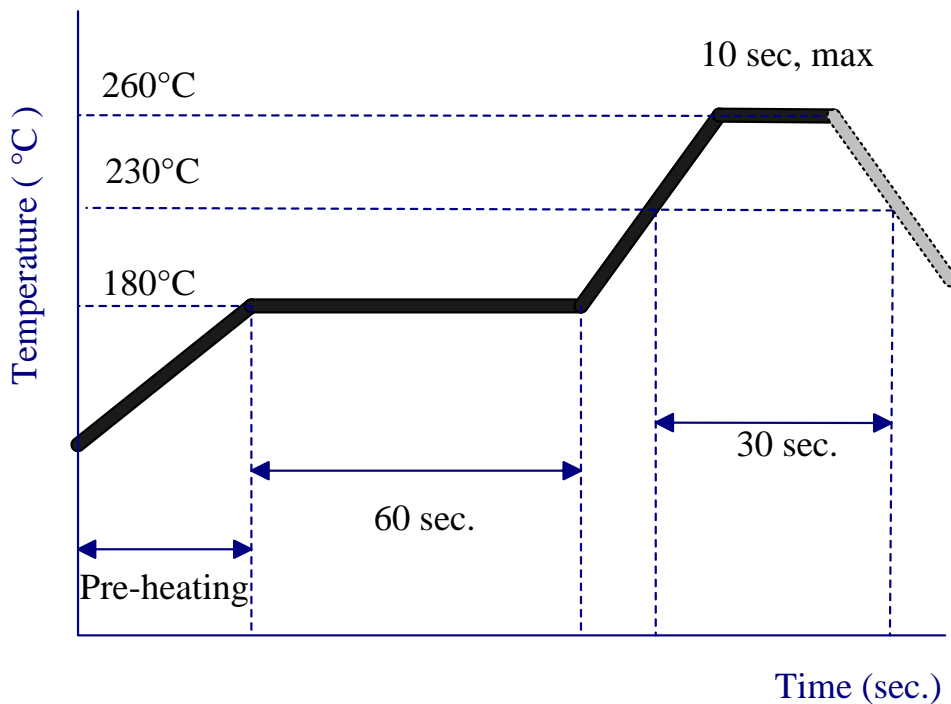
**2.45 GHz E-Plane  
horizontal**



## Typical Soldering Profile for Lead-free Process

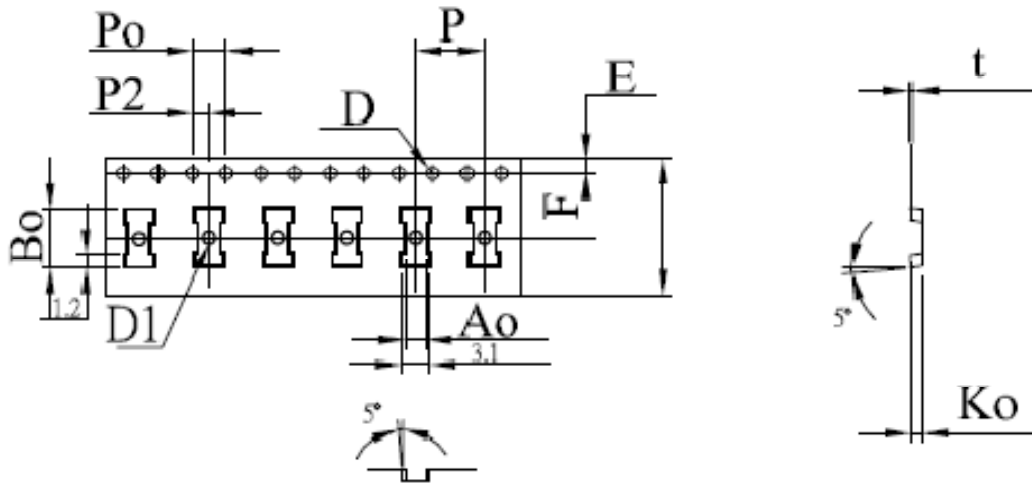


### Reflow Soldering



# Packing

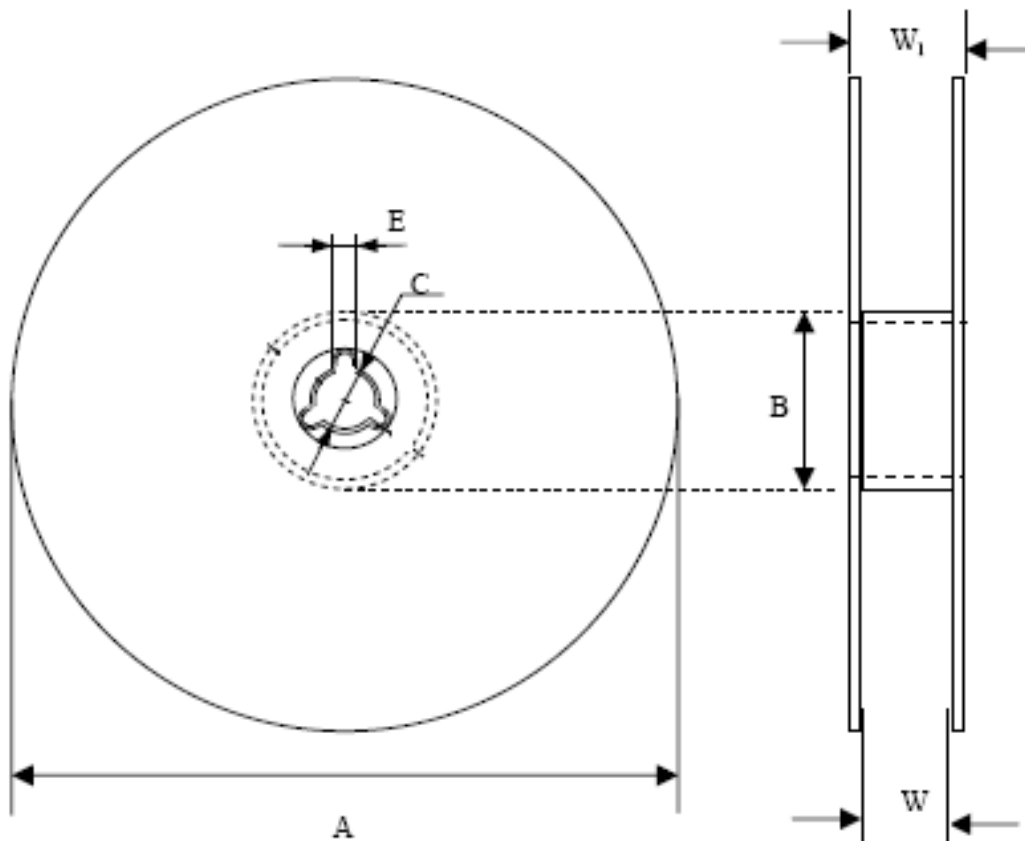
## Blister Tape Specifications



Symbol	Dimension	Tolerance	Unit
W	16.00	$\pm 0.10$	mm
E	1.75	$\pm 0.10$	mm
F	7.50	$\pm 0.10$	mm
D	1.50	+ 0.10 - 0.00	mm
D <sub>1</sub>	1.50	+ 0.25 - 0.00	mm
P <sub>0</sub>	4.00	$\pm 0.10$	mm
P	8.00	$\pm 0.10$	mm
P <sub>2</sub>	2.00	$\pm 0.10$	mm
A <sub>0</sub>	2.30	$\pm 0.10$	mm
B <sub>0</sub>	6.60	$\pm 0.10$	mm
K <sub>0</sub>	1.30	$\pm 0.10$	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±0.2	62±0.5	2.2±0.5	16±0.5	20±0.2