

AN0835

Multilayer Chip Antenna for 2.4GHz Wireless Communication

AN0835 Multilayer Chip Antenna

◆ Features

- Miniaturized size 8.0(L)x3.5(W)x1.0(H)
- Light weight and low profile
- Omni-directional in azimuth

◆ Applications

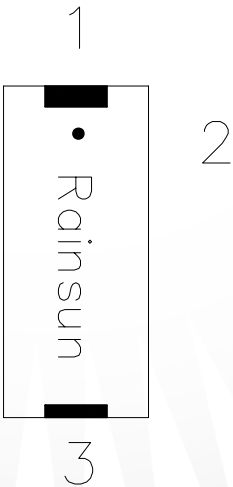
- 2.4GHz wireless communications
- Modules
- Bluetooth
- 802.11b
- Other 2.4GHz Wireless Application



Specifications

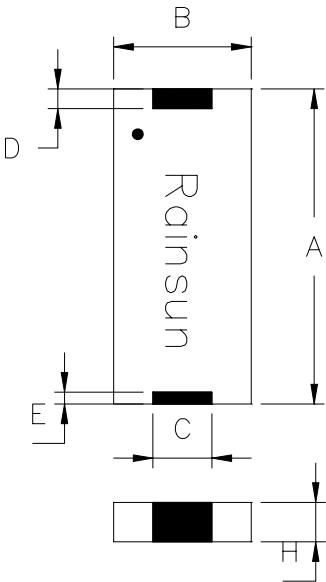
Center frequency	2.45GHz
Peak gain	1dBi
Operation temperature	-40 ~ +85 °C
Storage temperature	-40 ~ +85 °C
VSWR	2.0 (Max)
Input Impedance	50 Ohm
Power handling	3W (Max)
Bandwidth	180MHz
Azimuth beamwidth	Omni-directional
Polarization	Linear

Pin configuration



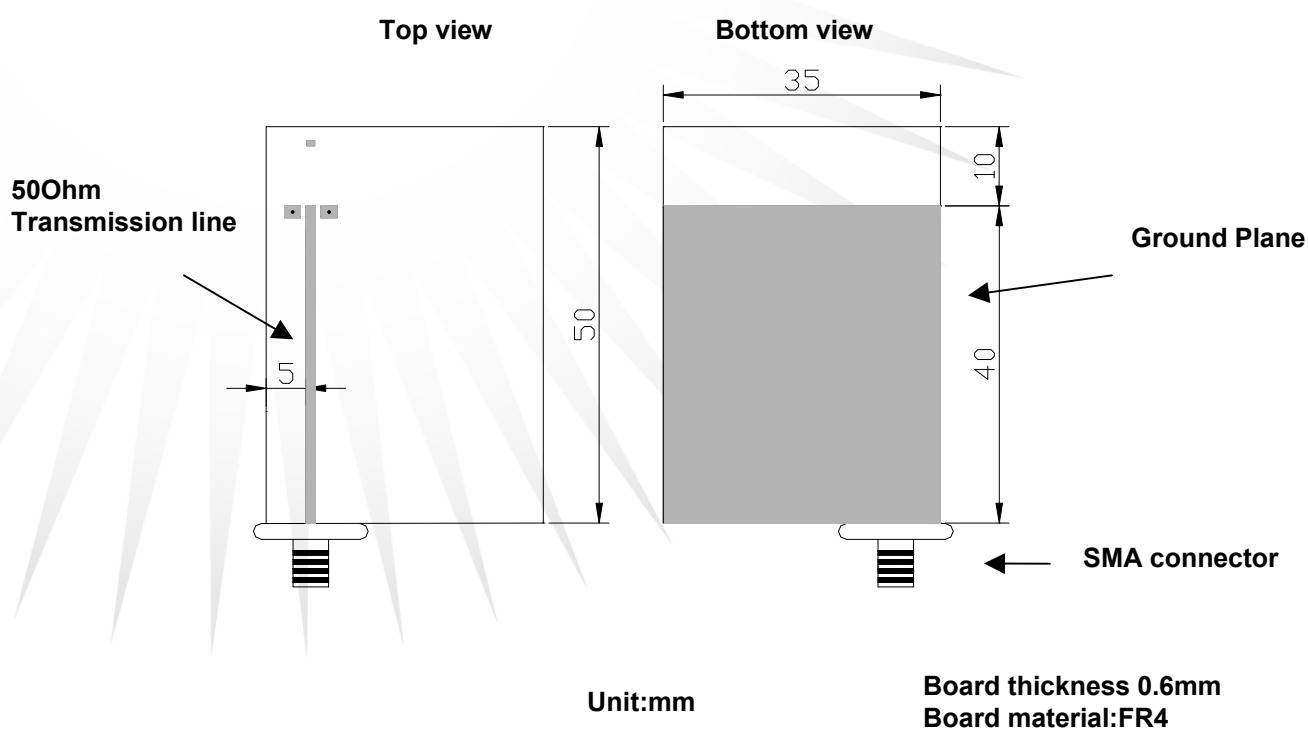
Pin No	Pin assignment
1	Feed termination
2	Feed point mark
3	Solder termination

Dimensions

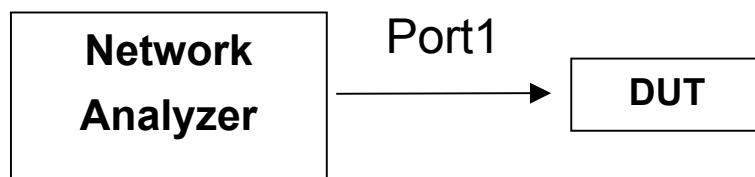


symbol	Dimensions(mm)
A	8.0±0.1
B	3.5±0.1
C	1.5±0.02
D	0.5±0.02
E	0.3±0.02
H	1.0 ±0.1

Recommend Test Board Pattern



Testing Block



Measurement



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

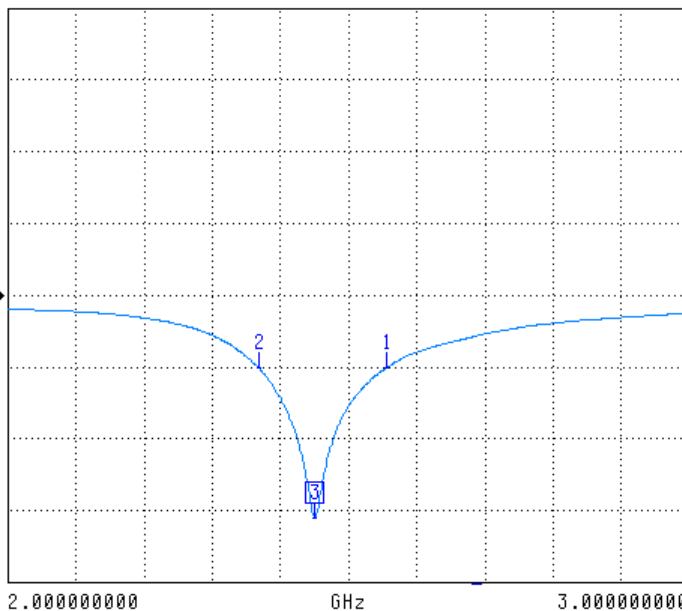
VNA calibrate with 1 path reflection only calibration sequence on test board feed point. The test board layout as recommend dimension.

Measured Antenna patterns

Return loss

S22 REVERSE REFLECTION

LOG MAGNITUDE REF=0.000 dB 10.000 dB/DIV



CH 4 - S22
REFERENCE PLANE
0.0000 mm

MARKER 3
2.451250000 GHz
-31.099 dB

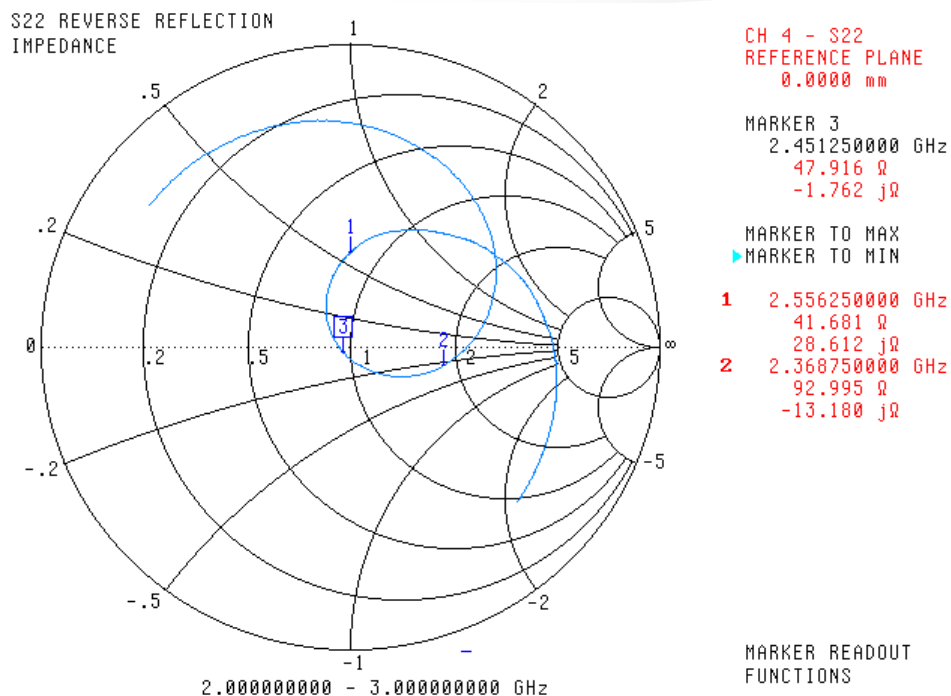
MARKER TO MAX
▶ MARKER TO MIN

1 2.556250000 GHz
-10.166 dB

2 2.368750000 GHz
-10.085 dB

MARKER READOUT
FUNCTIONS

Smith Chart



2.45 GHz H-Plane

2.45 GHz E-Plane

