

AN1603

**Multilayer Chip Antenna for 400~800MHz
Wireless Communication**

Multilayer Chip Antenna

◆ Features

- Miniaturized size 16(L)X03(W)X02(H)
- Light weight and low profile
- Omni-directional in azimuth

◆ Applications

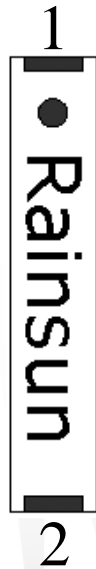
- 400~800MHz wireless communications
- Modules
- Other 400~800MHz Wireless Application



Specifications

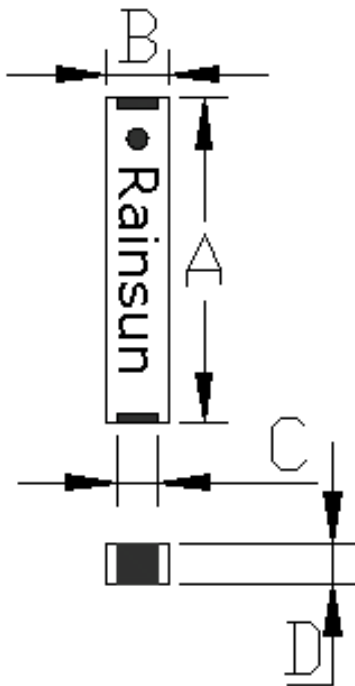
Center frequency	430MHz
Peak gain	0.5dBi
Operation temperature	-40 ~ +85 °C
Storage temperature	-40 ~ +85 °C
VSWR	2.0 (Max)
Input Impedance	50 Ohm
Power handling	3W (Max)
Bandwidth	10MHz
Azimuth beamwidth	Omni-directional
Polarization	Linear

Pin configuration



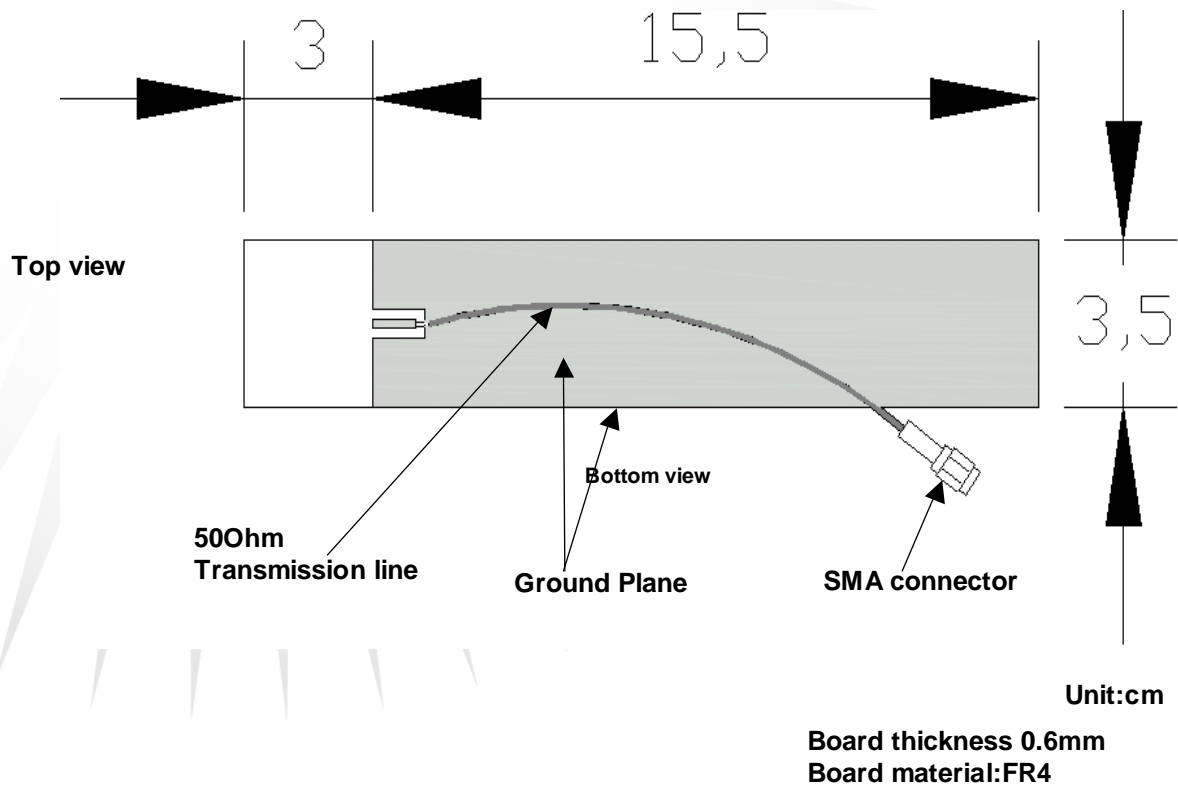
Pin No	Pin assignment
1	Feed termination
2	Solder termination

Dimensions



symbol	Dimensions(mm)
A	16±0.1
B	03±0.1
C	02±0.02
D	02±0.02

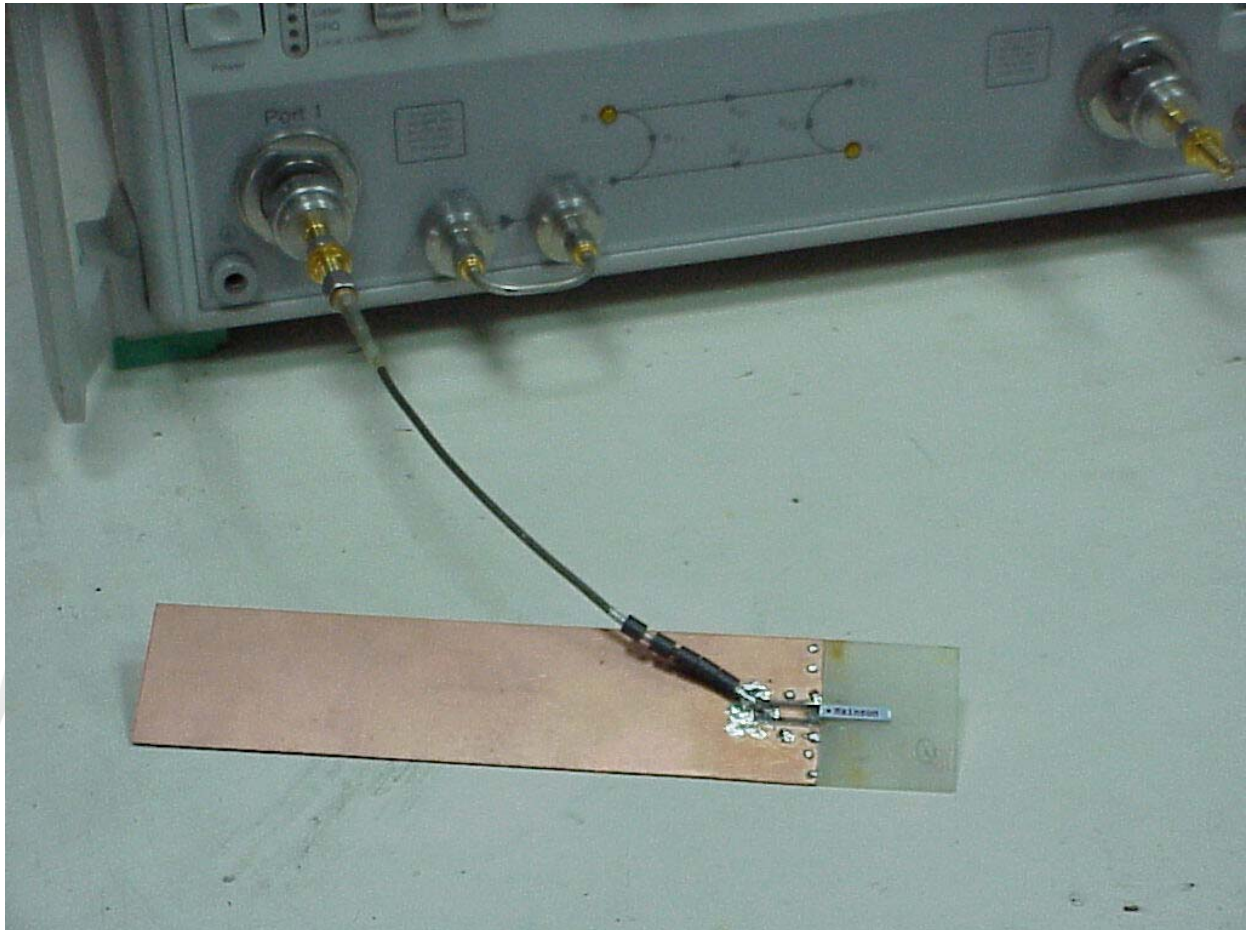
Recommend Test Board Pattern



Testing Block



Measurement



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

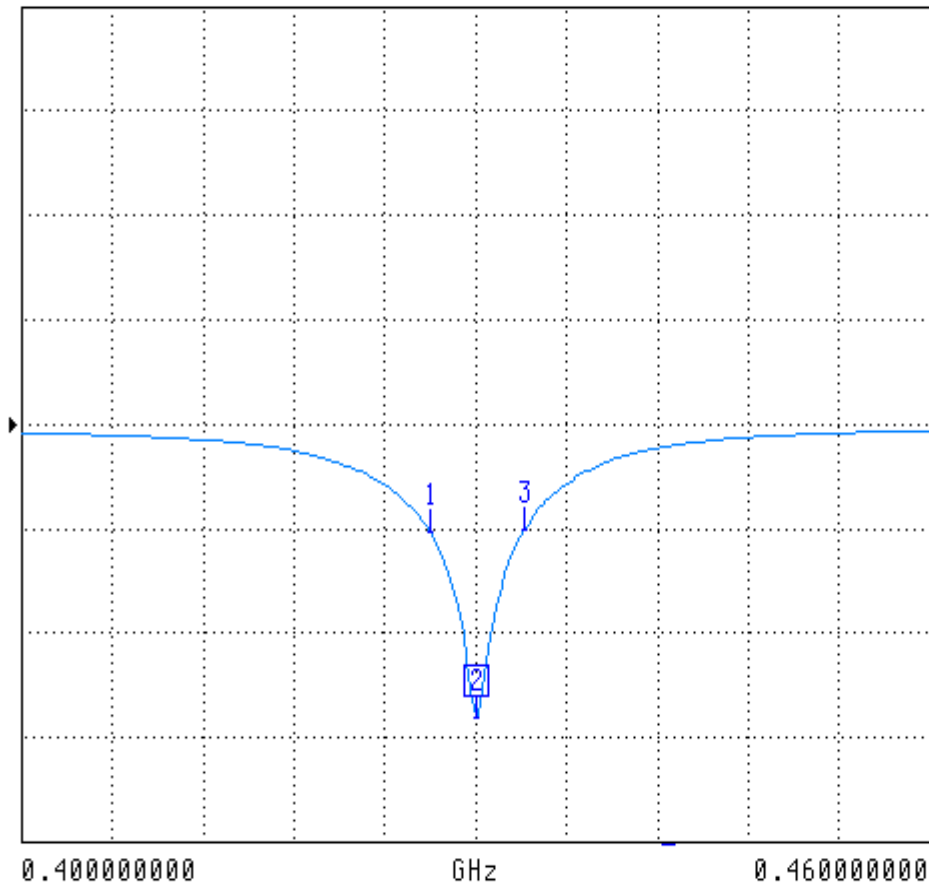
VNA calibrate with 1 path reflection only calibration sequence on test board feed point. The test board layout as recommend dimension.

Measured Antenna patterns

Return loss

S11 FORWARD REFLECTION

LOG MAGNITUDE REF=0.000 dB 10.000 dB/DIV



CH 1 - S11
REFERENCE PLANE
0.0000 mm

MARKER 2
0.430000000 GHz
-28.181 dB

MARKER TO MAX
▶ MARKER TO MIN

1 0.427000000 GHz
-10.351 dB

3 0.433250000 GHz
-10.216 dB

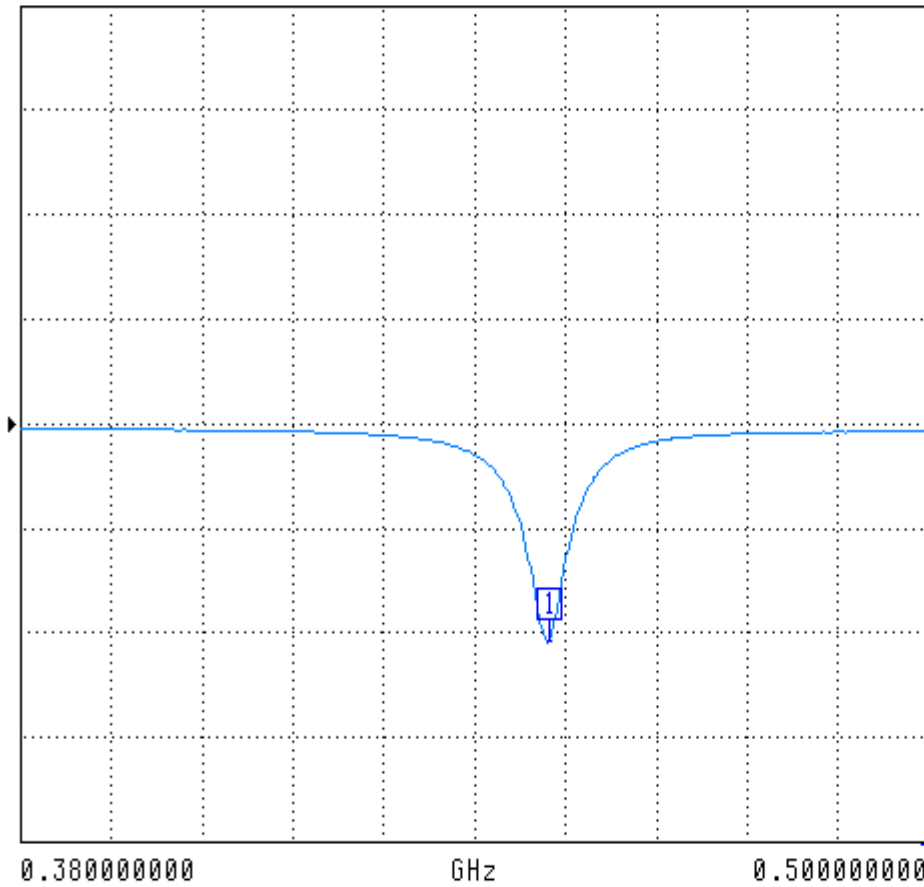
MARKER READOUT
FUNCTIONS

Measured Antenna patterns

Return loss

S11 FORWARD REFLECTION

LOG MAGNITUDE REF=0.000 dB 5.000 dB/DIV



CH 1 - S11
REFERENCE PLANE
0.0000 mm

▶ MARKER 1
0.450000000 GHz
-10.405 dB

MARKER TO MAX
MARKER TO MIN

MARKER READOUT
FUNCTIONS