

MD1506

Multilayer Chip Antenna for Extra Wide Band (Preliminary Information)

MD1506-12N Multilayer Chip Antenna

◆ Features

- Size : 14.7mm(L)X6.5mm(W)X1.6mm(H)
 - Light weight and low profile
 - Omni-directional in azimuth
- Lead (Pb) Free

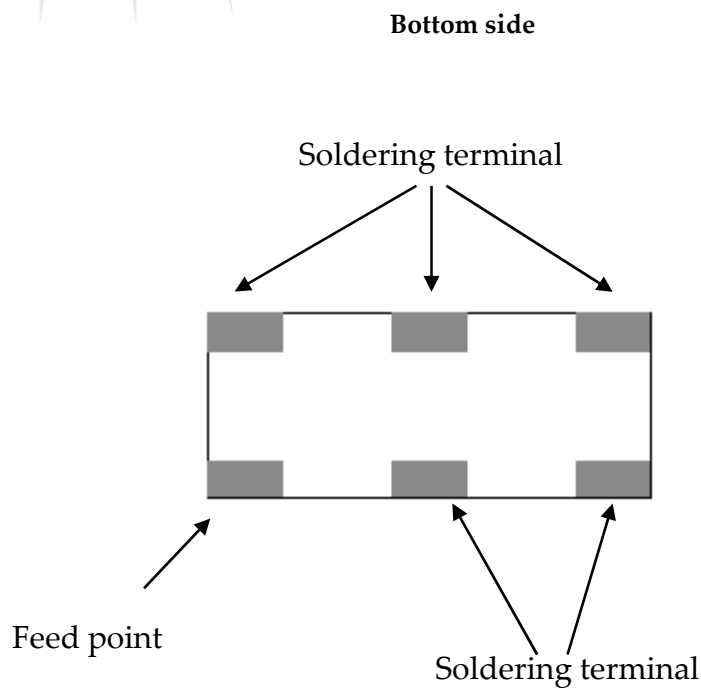
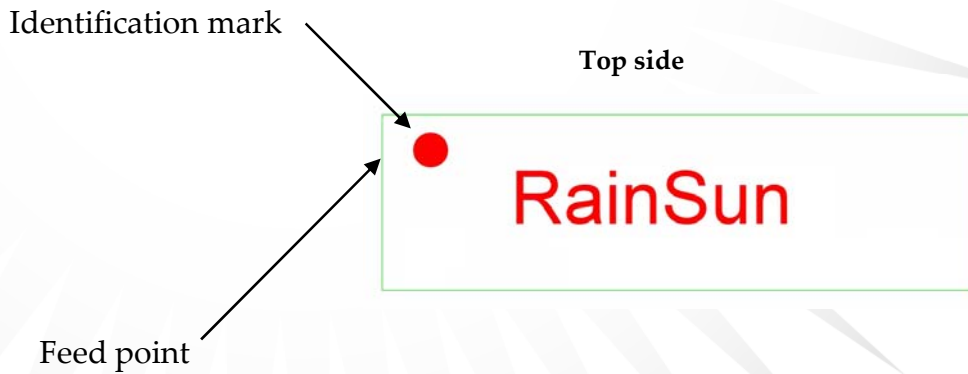
◆ Applications

- Broad Band wireless communications
- GSM/DCS of 890-960, 1710-1880 MHz
- CDMA/PCS of 825-894, 1820-1990 MHz

Specifications

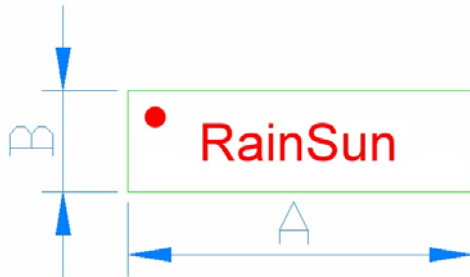
Frequency range	820~1950MHz
Peak gain	-0.3 dBi
Operation temperature	-40 ~ +85 °C
Storage temperature	-40 ~ +100 °C
VSWR	2.5 (Max)
Input Impedance	50 Ohm
Power handling	5W (Max)
Bandwidth	1130MHz (typ.)
Azimuth beam width	Omni-directional
Polarization	Linear
Soldering pad	Natural tin

Pin configuration

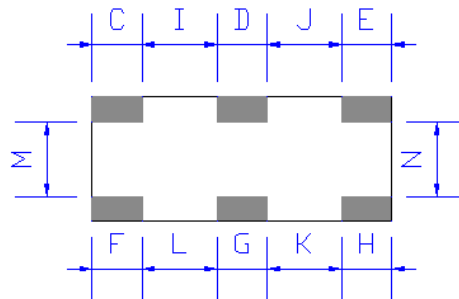


Dimensions

Top view

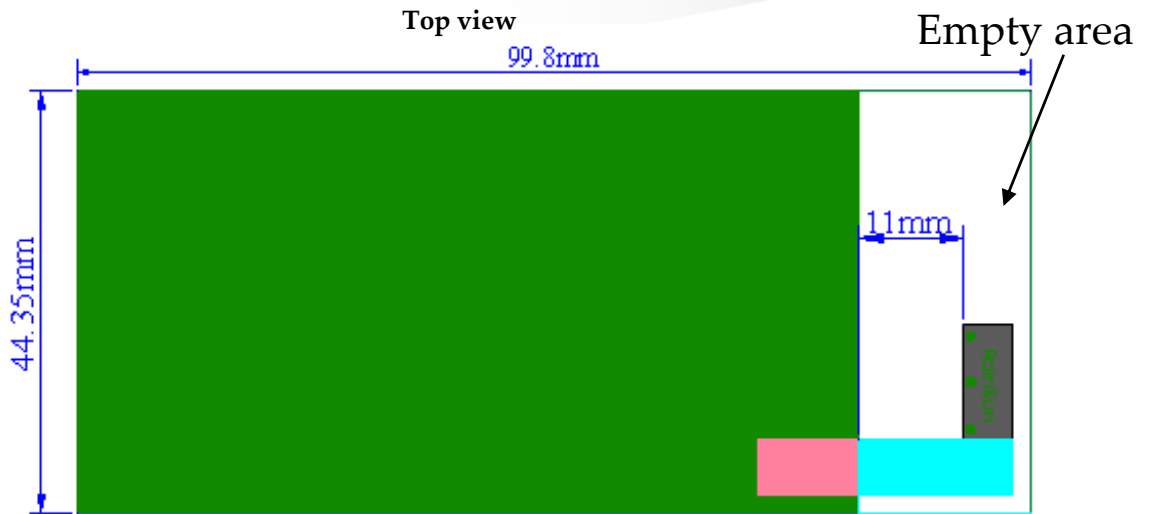


Bottom view



Symbol	Dimensions (mm)
A	14.7 ± 0.3
B	6.0 ± 0.1
C	3.8 ± 0.1
D	3.1 ± 0.1
E	3.8 ± 0.1
F	3.8 ± 0.1
G	3.1 ± 0.1
H	3.8 ± 0.1
I	2.0 ± 0.1
J	2.0 ± 0.1
K	1.9 ± 0.1
L	1.9 ± 0.1
M	1.8 ± 0.1
N	1.8 ± 0.1

Recommended Test Board Pattern

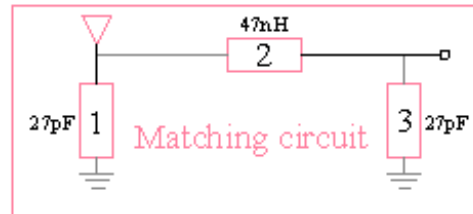


- GND plane
- Matching circuit
- 50 Ohm feeding line

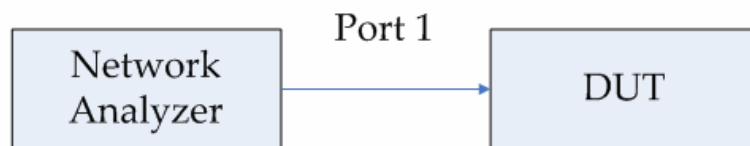
Unit : mm

Board thickness : 0.8mm
Board material : FR4

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.

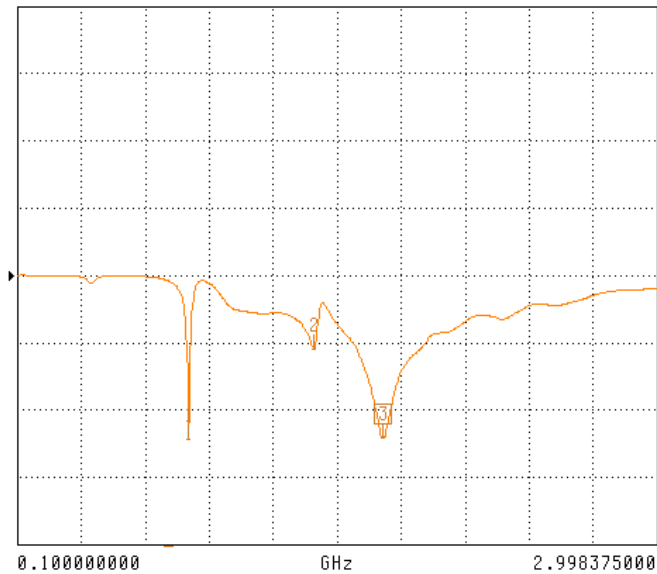
The test board dimension and it's layout is the same as Fig-1.

Typical Electrical Characteristics

Return loss

S11 FORWARD REFLECTION

POWER OUT REF=0.000 dBm 10.000 dB/DIV



CH 1 - S11
0.0000 mm REF
0.000 dB OFFSET
0.00° OFFSET

MARKER 3
1.759375000 GHz
-24.100 dBm

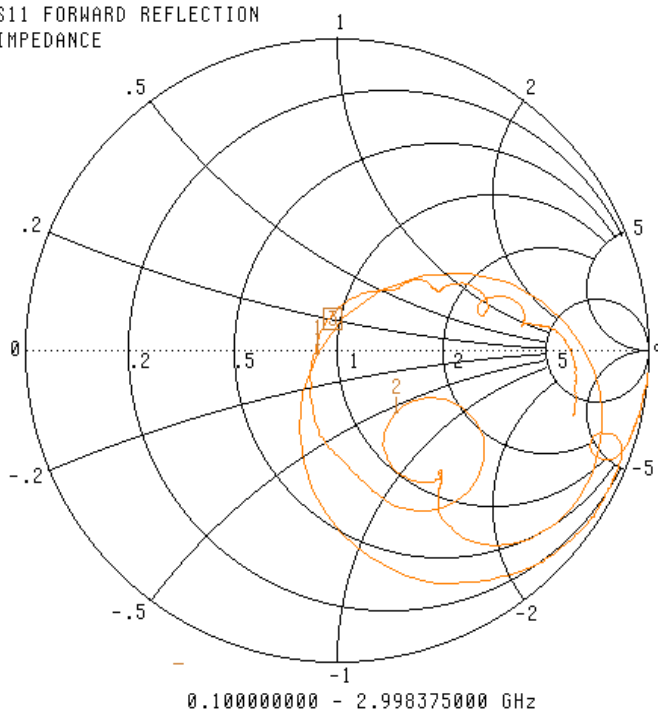
MARKER TO MAX
▶ MARKER TO MIN

- 1 0.878062500 GHz
-24.371 dBm
- 2 1.445937500 GHz
-11.001 dBm

MARKER READOUT
FUNCTIONS

Smith Chart

S11 FORWARD REFLECTION
IMPEDANCE



CH 1 - S11
0.0000 mm REF
0.000 dB OFFSET
0.00° OFFSET

MARKER 3
1.759375000 GHz
44.271 Ω
1.323 $j\Omega$

MARKER TO MAX
▶ MARKER TO MIN

- 1 0.878062500 GHz
44.442 Ω
-1.310 $j\Omega$
- 2 1.445937500 GHz
66.975 Ω
-29.449 $j\Omega$

MARKER READOUT
FUNCTIONS