

# MD1705

## Multilayer Chip Antenna for Extra Wide Band (Preliminary Information)

## MD1705 Multilayer Chip Antenna

### ◆ Features

- Size : 17.0mm(L)X5.0mm(W)X1.63mm(H)
  - Light weight and low profile
  - Omni-directional in azimuth
- Lead (Pb) Free

### ◆ Applications

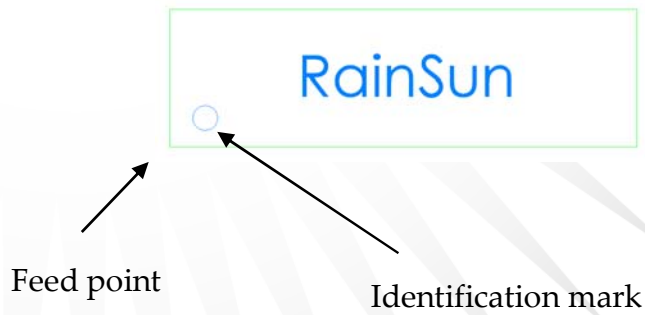
- Broad Band wireless communications

### Specifications

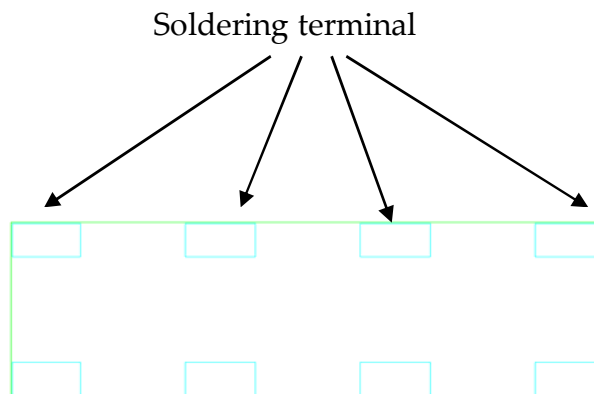
Frequency range	800~2100MHz
Peak gain	1 dBi
Operation temperature	-40 ~ +85 °C
Storage temperature	-40 ~ +100 °C
VSWR	2.5 (Max)
Input Impedance	50 Ohm
Power handling	5W (Max)
Bandwidth	1300 MHz (typ.)
Azimuth beam width	Omni-directional
Polarization	Linear
Soldering pad	Natural tin

# Pin configuration

Top view

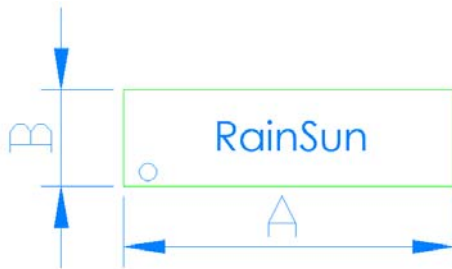


Bottom view

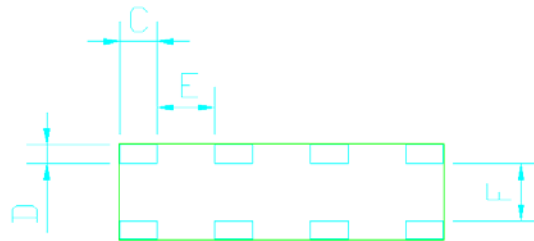


# Dimensions

Top view

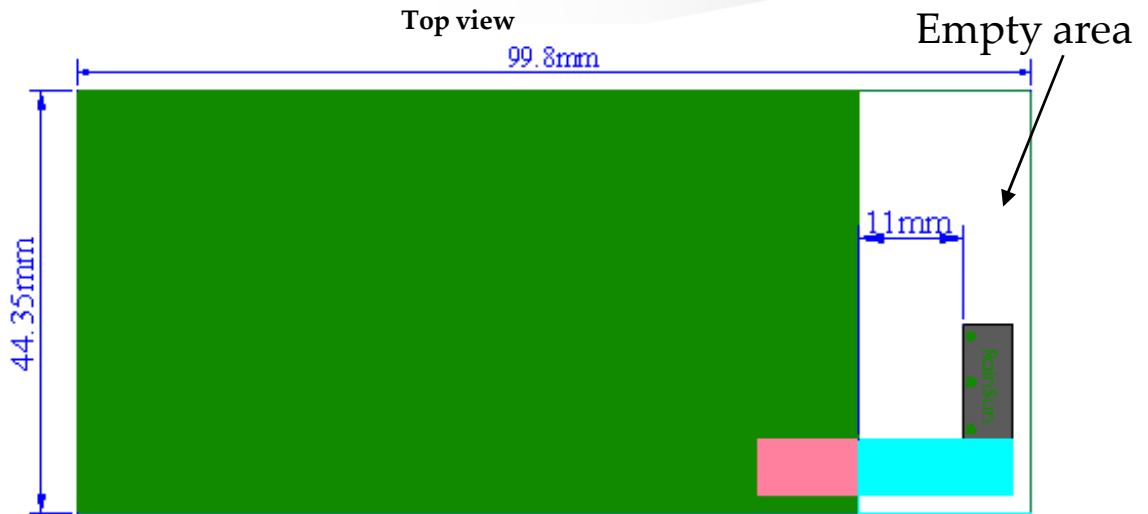


Bottom view



Symbol	Dimensions (mm)
A	$17.0 \pm 0.1$
B	$5.0 \pm 0.1$
C	$2 \pm 0.1$
D	$1 \pm 0.1$
E	$3 \pm 0.1$
F	$3 \pm 0.1$

# Recommended Test Board Pattern

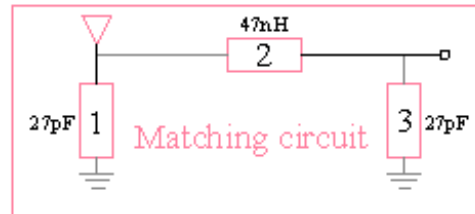


- GND plane
- Matching circuit
- 50 Ohm feeding line

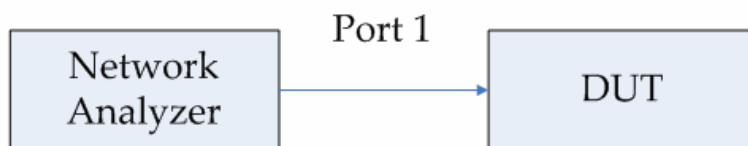
Unit : mm

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.

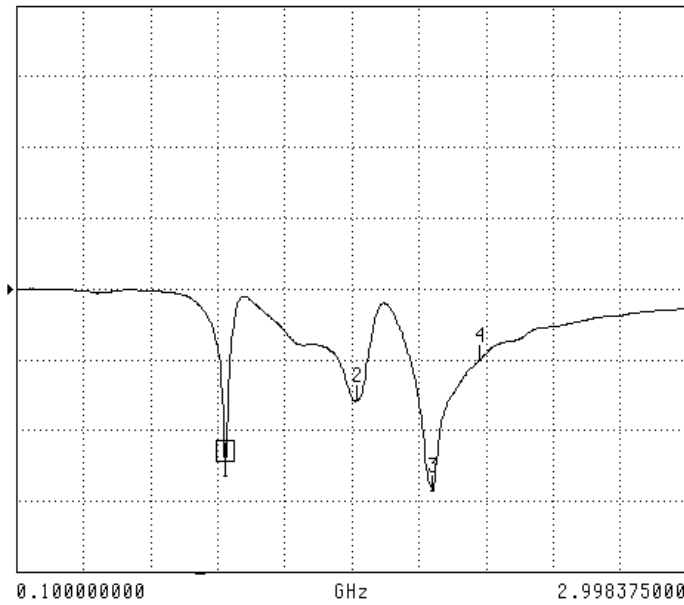
The test board dimension and it's layout is the same as Fig-1.

# Typical Electrical Characteristics

## Return loss

S11 FORWARD REFLECTION

LOG MAGNITUDE      REF=0.000 dB      10.000 dB/DIV



CH 1 - S11  
 REFERENCE PLANE  
 0.0000 mm

MARKER 1  
 1.003437500 GHz  
 -26.470 dB

MARKER TO MAX  
 MARKER TO MIN

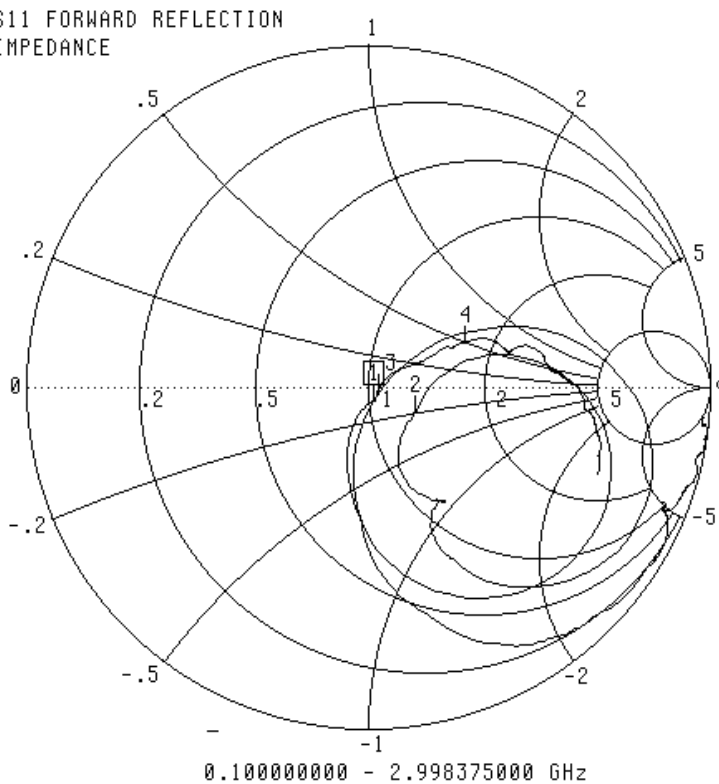
2 1.571312500 GHz  
 -15.852 dB

3 1.899500000 GHz  
 -28.509 dB

4 2.102312500 GHz  
 -10.127 dB

MARKER READOUT  
 FUNCTIONS

S11 FORWARD REFLECTION  
 IMPEDANCE



CH 1 - S11  
 REFERENCE PLANE  
 0.0000 mm

MARKER 1  
 1.003437500 GHz  
 51.730 Ω  
 -4.515 jΩ

MARKER TO MAX  
 MARKER TO MIN

2 1.571312500 GHz  
 65.462 Ω  
 -10.503 jΩ

3 1.899500000 GHz  
 53.446 Ω  
 -1.792 jΩ

4 2.102312500 GHz  
 85.346 Ω  
 24.220 jΩ

MARKER READOUT  
 FUNCTIONS