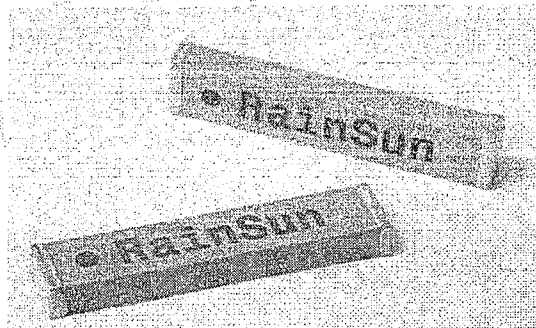


# AN1603-433

## Multilayer Chip Antenna for 433MHz Wireless Communication



## AN1603 Multilayer Chip Antenna

### ◆ Features

- Light weight and low profile 16.0mm(L)X3.1mm(W)X1.65mm(H)
- Omni-directional in azimuth
- Lead (Pb) Free

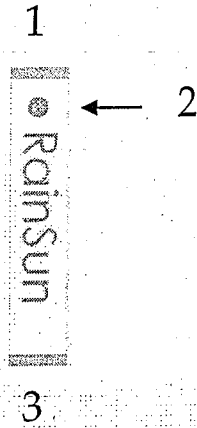
### ◆ Applications

- 433MHz wireless communications
- 433MHz Modules
- Other ISM band 420MHz~660MHz Wireless Application

## Specifications

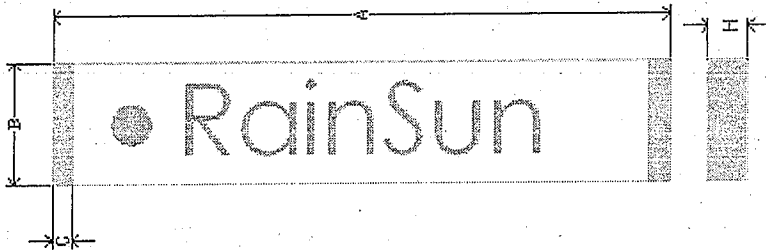
Center frequency	433MHz
Peak gain	0.5dBi
Operation temperature	-40 ~ +85 °C
Storage temperature	-40 ~ +85 °C
VSWR	2.0 (Max)
Input Impedance	50 Ohm
Power handling	3W (Max)
Bandwidth	8MHz
Azimuth beamwidth	Omni-directional
Polarization	Linear

## Pin configuration



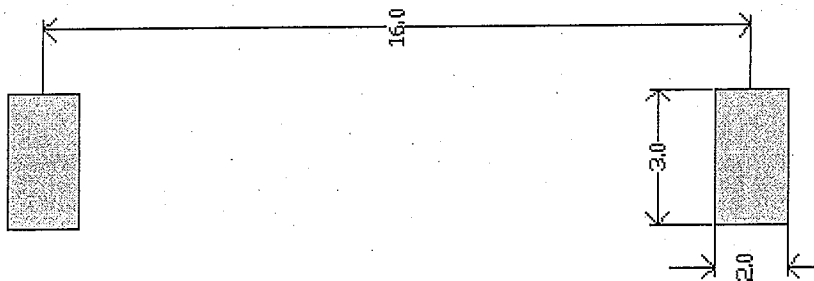
Pin No	Pin assignment
1	Feed termination
2	Feed point mark
3	Solder termination

## Dimensions

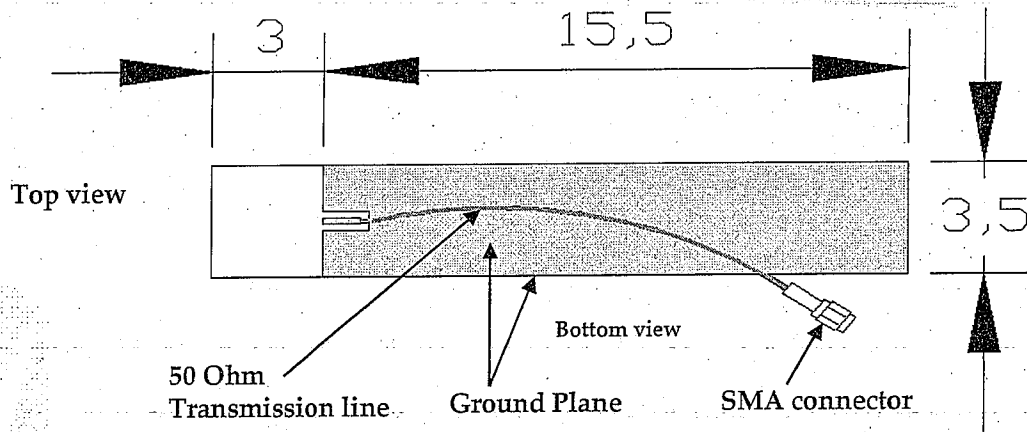


Symbol	Dimensions (mm)
A	$16.00 \pm 0.10$
B	$3.10 \pm 0.10$
C	$0.60 \pm 0.05$
H	$1.65 \pm 0.20$

## PCB foot printer



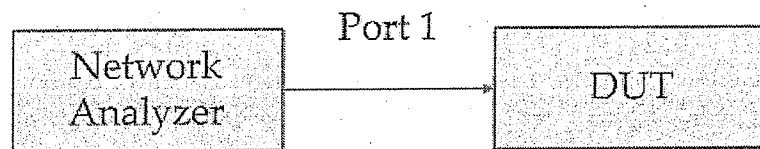
## Recommended Test Board Pattern



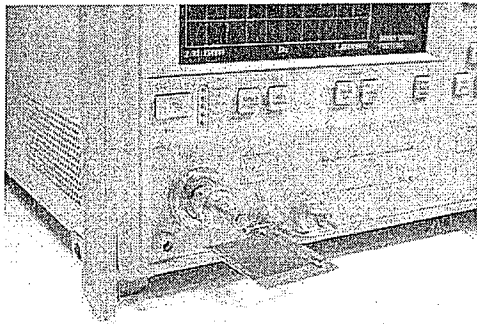
Unit : cm  
 Board thickness : 0.6mm  
 Board material : FR4

Fig-1

## Testing Setup



## Measurement



### Testing Instrument:

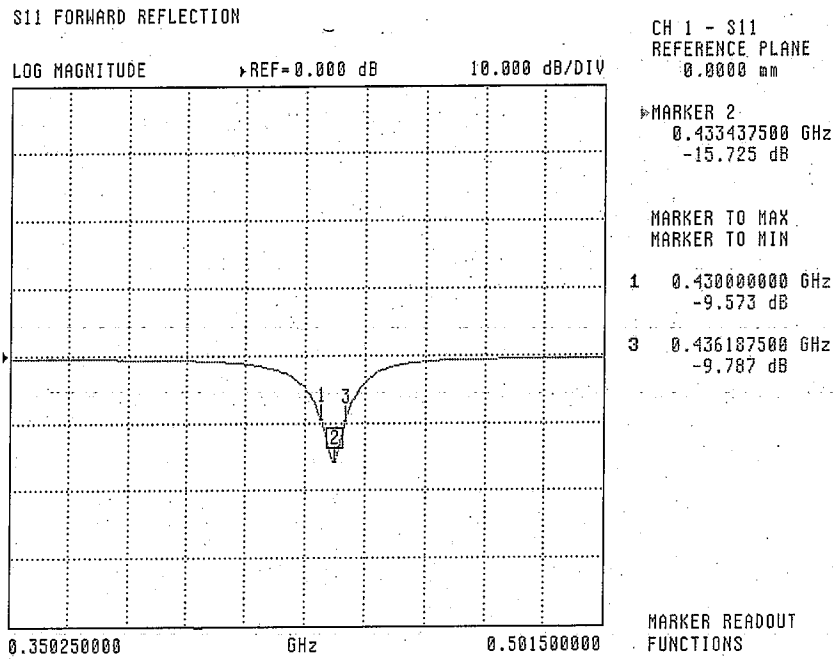
Anritsu 37369C VNA (Vector Network Analyzer)

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

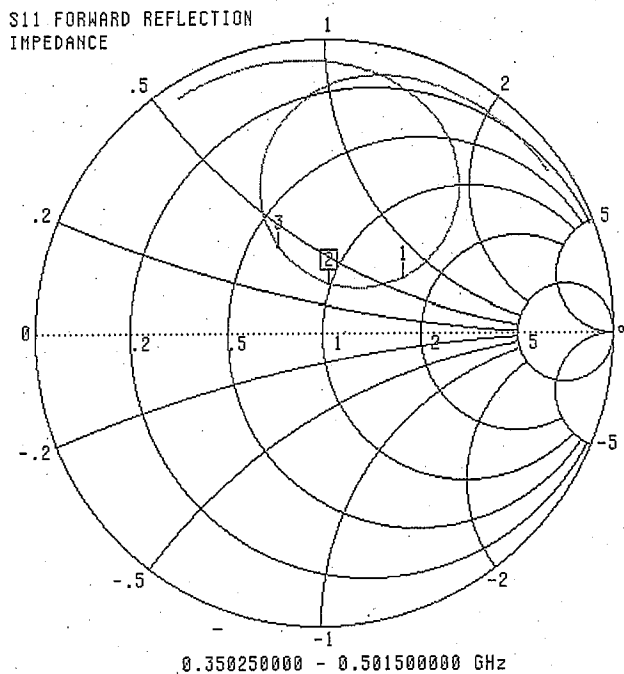
The test board dimension and its layout is the same as recommended Test Board.

# Typical Electrical Characteristics

## Return loss



## 433 MHz Smith Chart

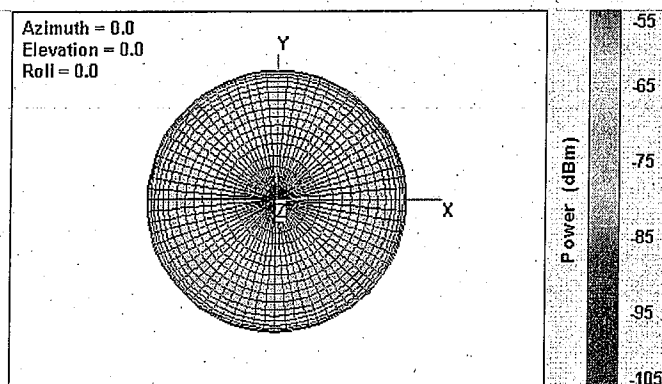


**Marker data:**

- 1 : f=430 MHz
- 2 : f=433 MHz
- 3 : f=436 MHz

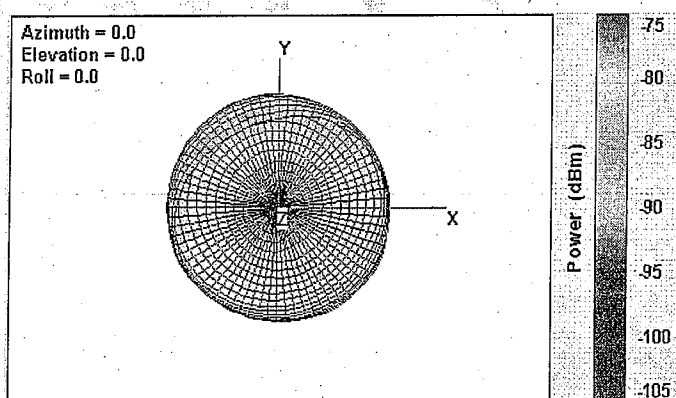
# 3D Pattern

## Theta



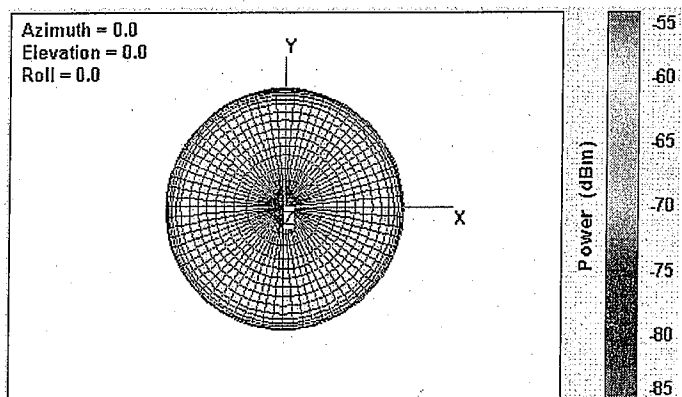
Free-Spec, 433 MHz

## Phi



Free-Spec, 433 MHz

## Total



Free-Spec, 433 MHz