How to Do Chip Antenna Layout
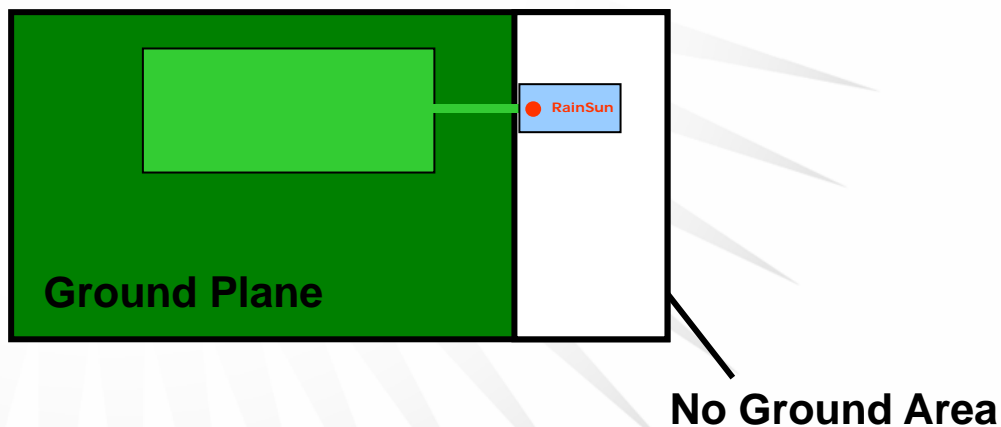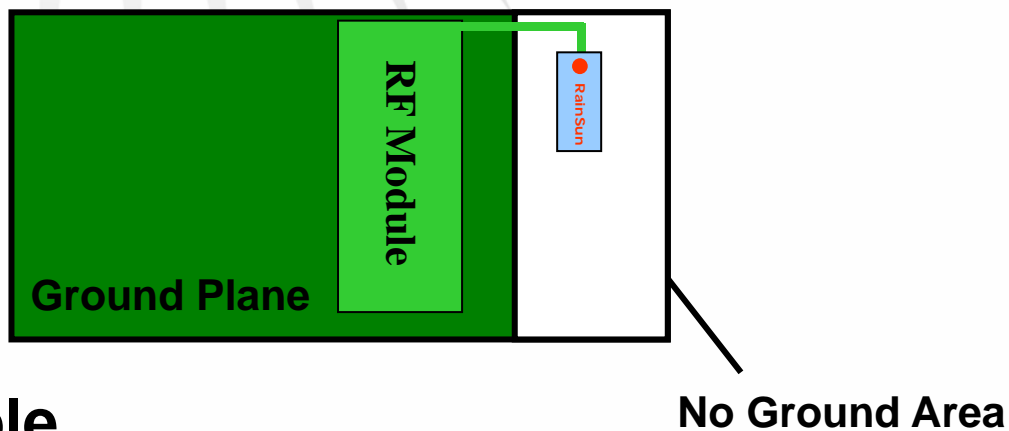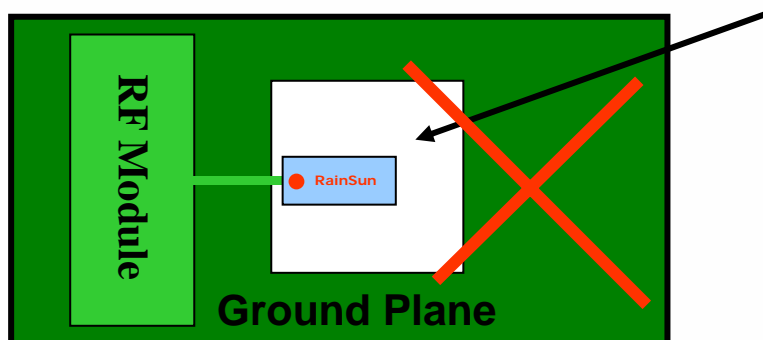
Please consider the position of antenna and PCB ground layer
Recommended Antenna Position – PCB Corner

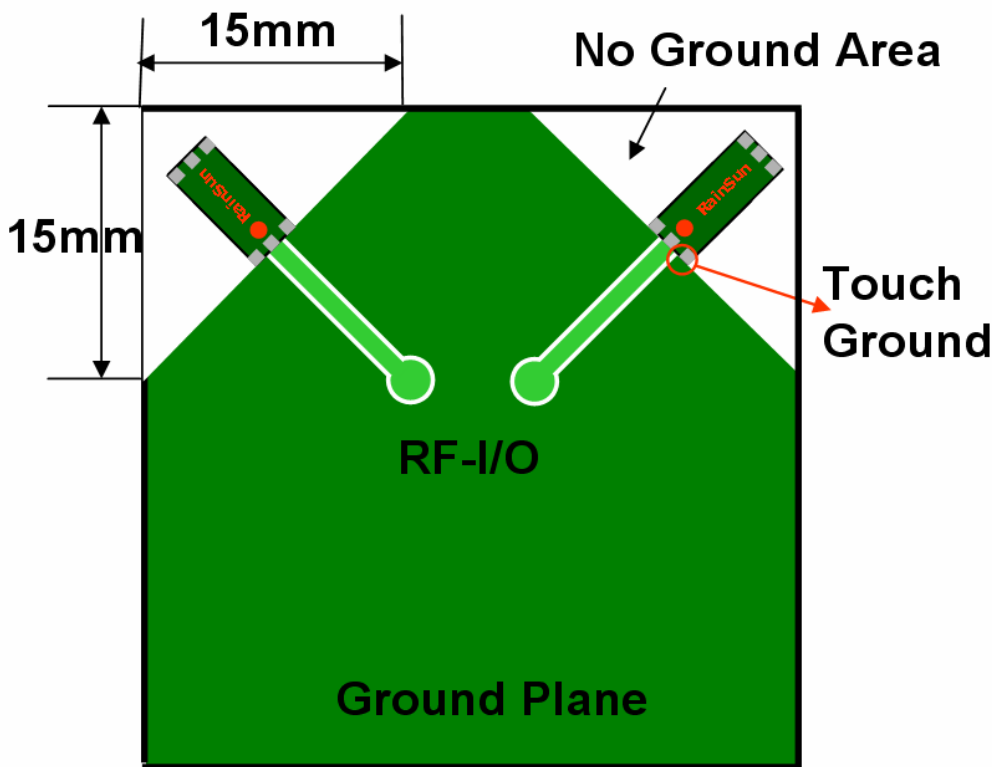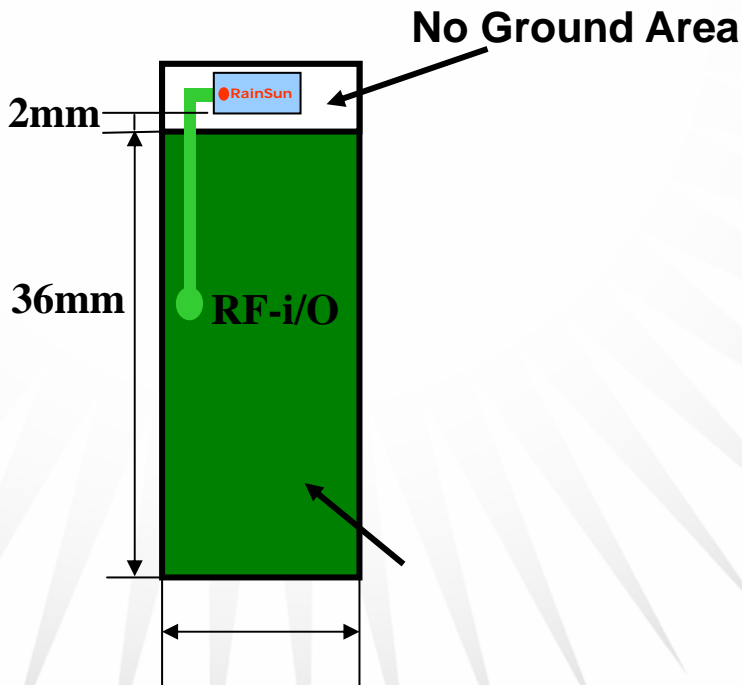**No Ground Area**

Suitable

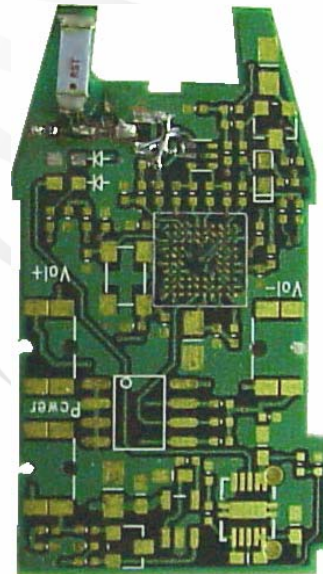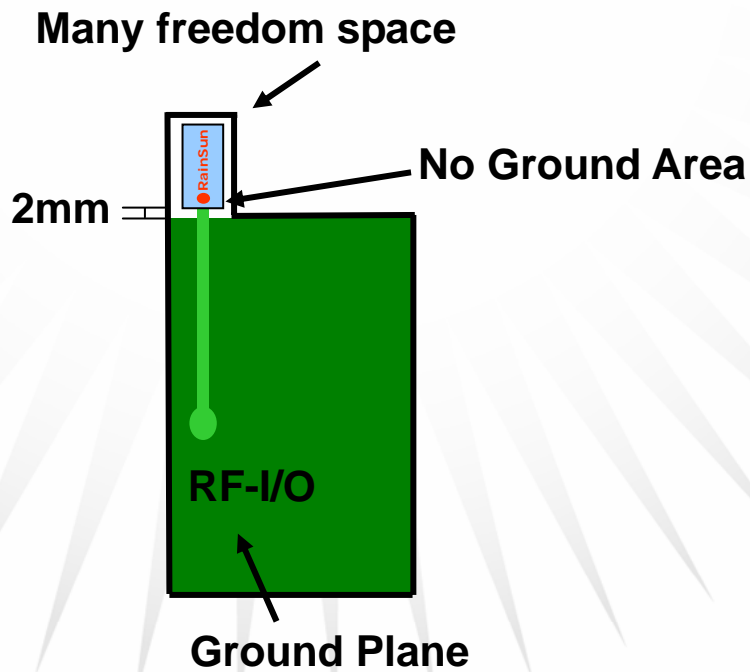
No Ground Area

Suitable

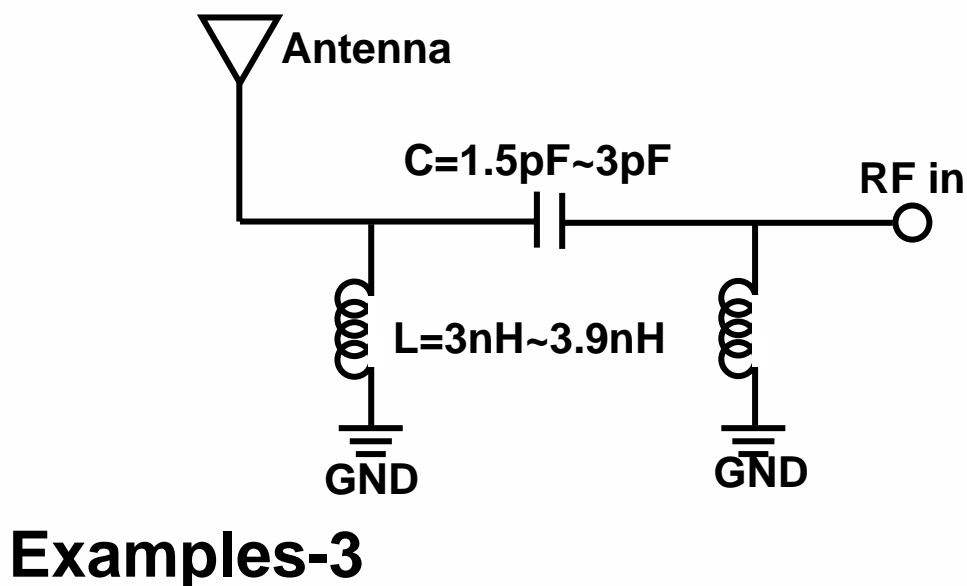## Unsuitable for radiation reason
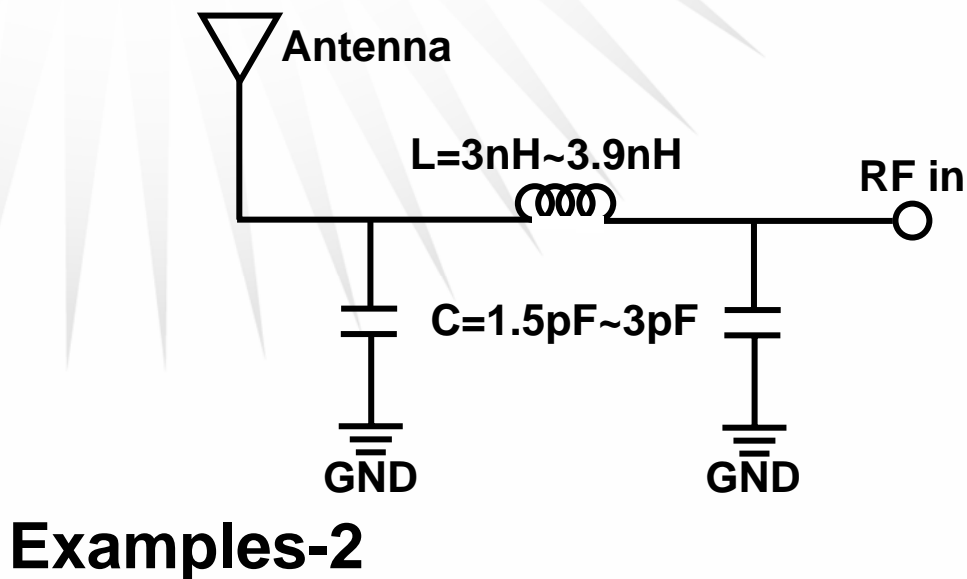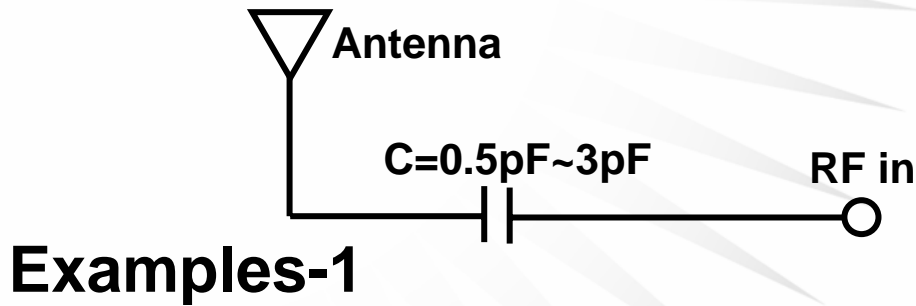
Antenna Series Layout Reference

No Ground Area

2mm

36mm

RF-i/O

15mm

15mm

No Ground Area

Touch Ground

RF-I/O

Ground Plane

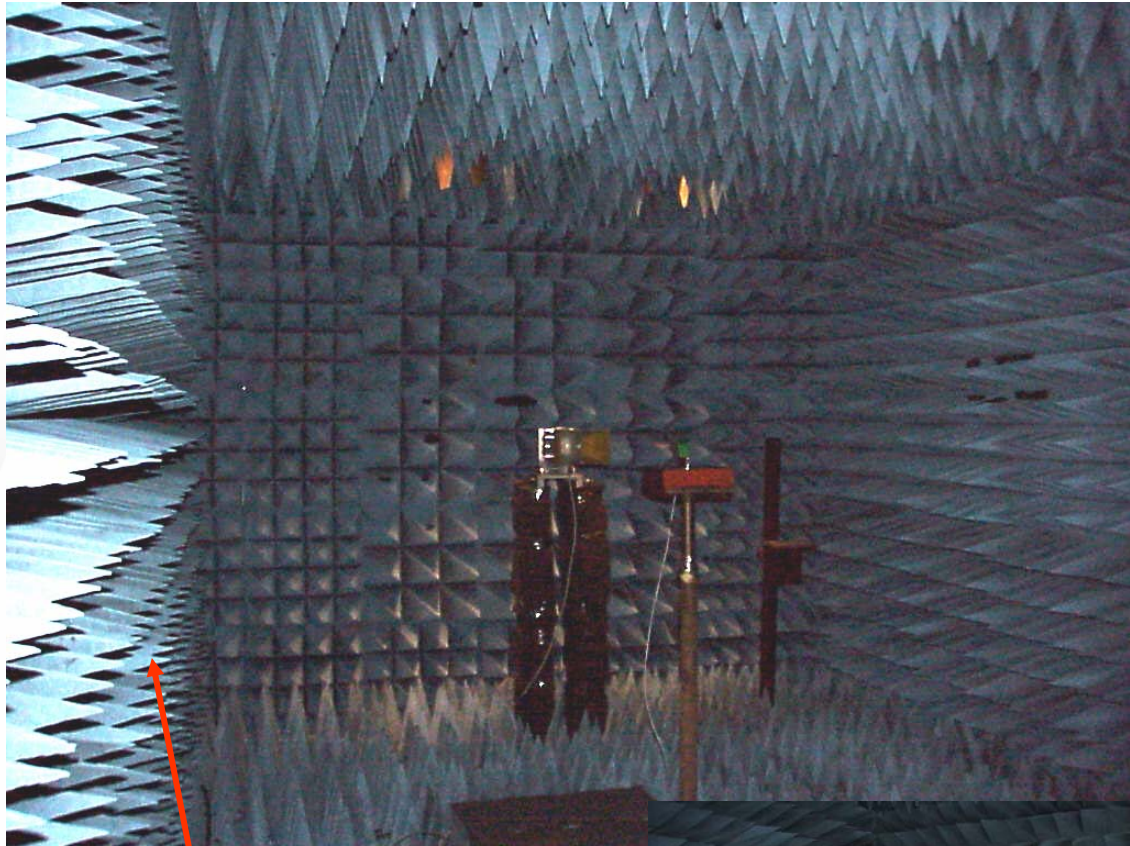**This antenna requires a ground plane**

Antenna Series Layout Reference

Many freedom space

No Ground Area

2mm

RF-I/O

Ground Plane

Antenna Matching Network Example

Antenna

C=0.5pF~3pF

RF in

Examples-1

Antenna

L=3nH~3.9nH

RF in

C=1.5pF~3pF

GND

GND

Examples-2

Antenna

C=1.5pF~3pF

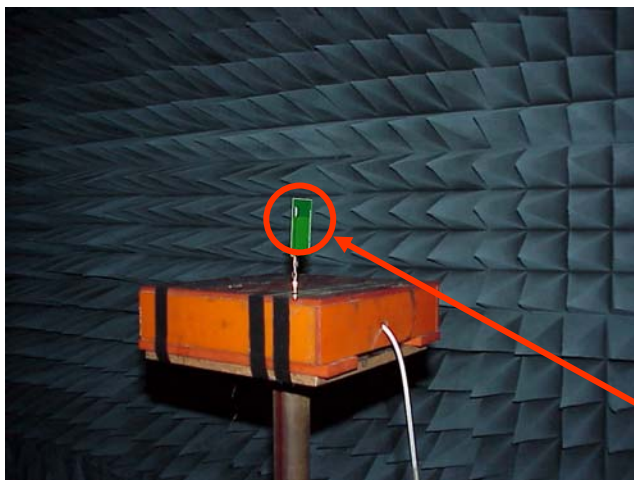**RF in**

L=3nH~3.9nH

GND

GND

Examples-3

Anechoic Chamber

Radiation Pattern Measured Environment
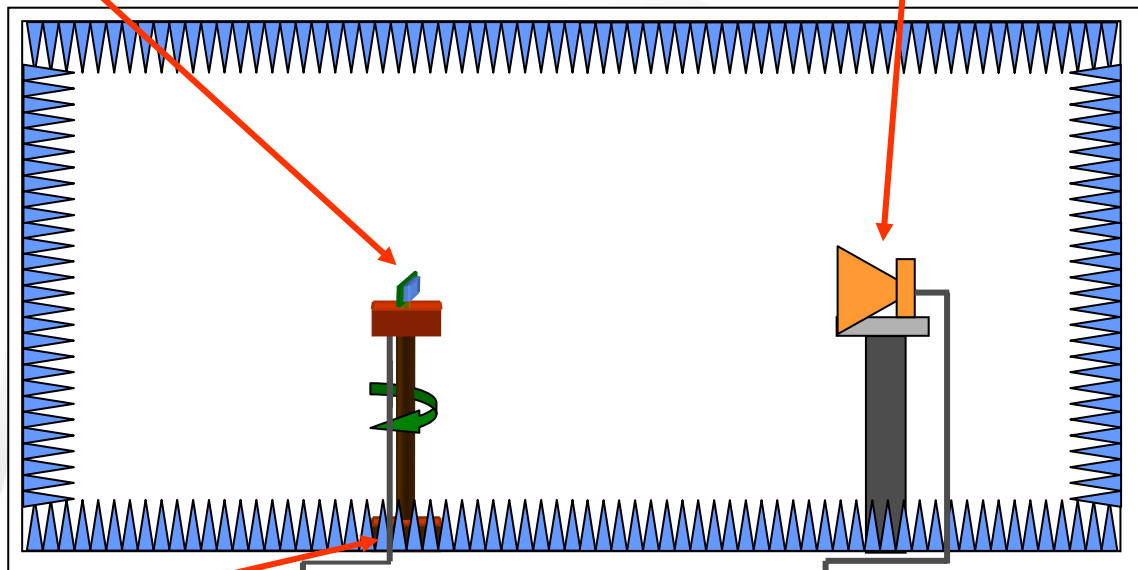

Absorber
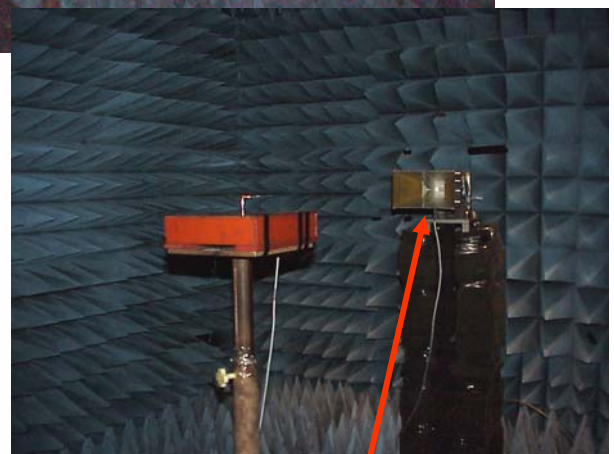
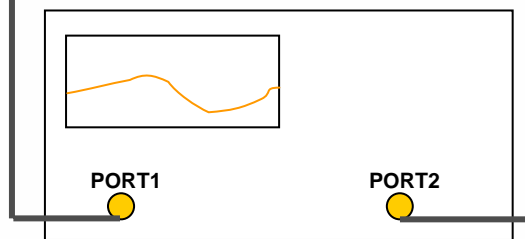**Horn standard Gain antenna**

Antenna under

Radiation Pattern Measured

antenna under test

Horn standard Gain antenna
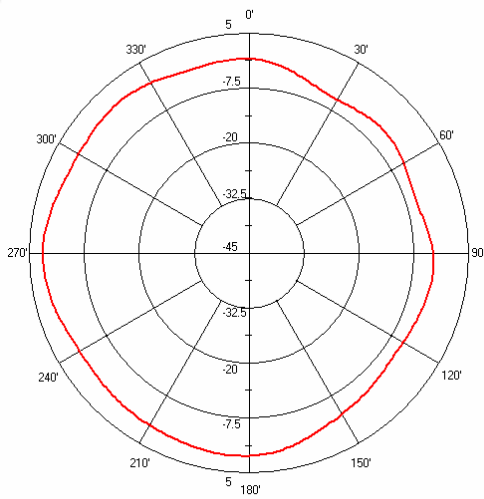
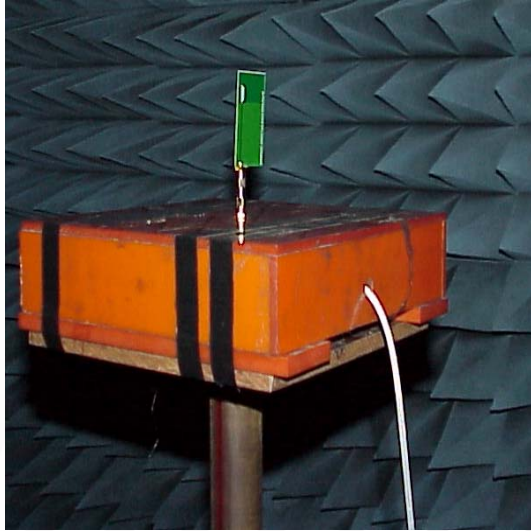Turn table

PORT1   PORT2

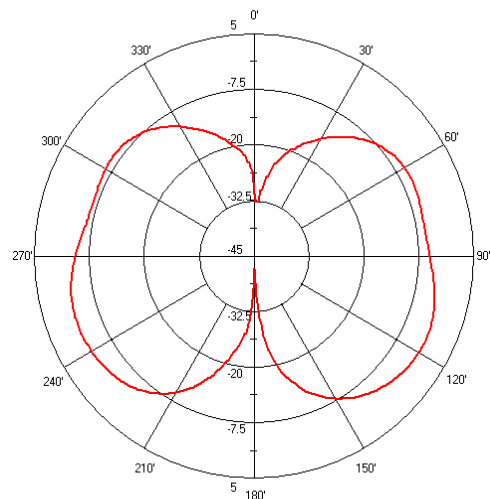NETWORK ANALYZER

Radiation Pattern Measured

H-Plane

E-Plane

Measurement

antenna under test

Testing Instrument: Anritsu 37369C VNA(Vector Network Analyzer)
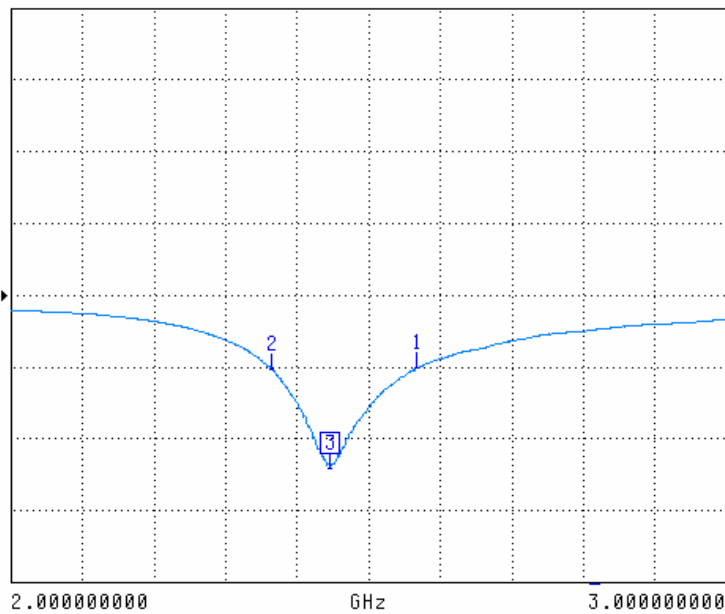
<u>VNA calibrate with 1 path reflection only calibration sequence on test board feed point.</u> The test board layout as recommend dimension.

Measured Antenna patterns

Return loss

Smith Chart