

# 承 认 书

## SPECIFICATION FOR APPROVAL

客 户 名 称

CUSTOMER NAME:

产 品 名 称

PRODUCT NAME: 2.4G 4dBi PCB Ceramic antenna  
(21B00174A)

客 户 料 号

CUSTOMER P/N:

亿瑞 料号

YR P/N: 21B00174A REV: A

|              |                                                                                     |                       |
|--------------|-------------------------------------------------------------------------------------|-----------------------|
|              | MANUFACTURER<br>SIGNATURE                                                           | CUSTOMER<br>SIGNATURE |
| CHECKED BY:  |  |                       |
| APPROVED BY: |                                                                                     |                       |
| DATE:        |                                                                                     |                       |
|              | 2022/12/21                                                                          |                       |

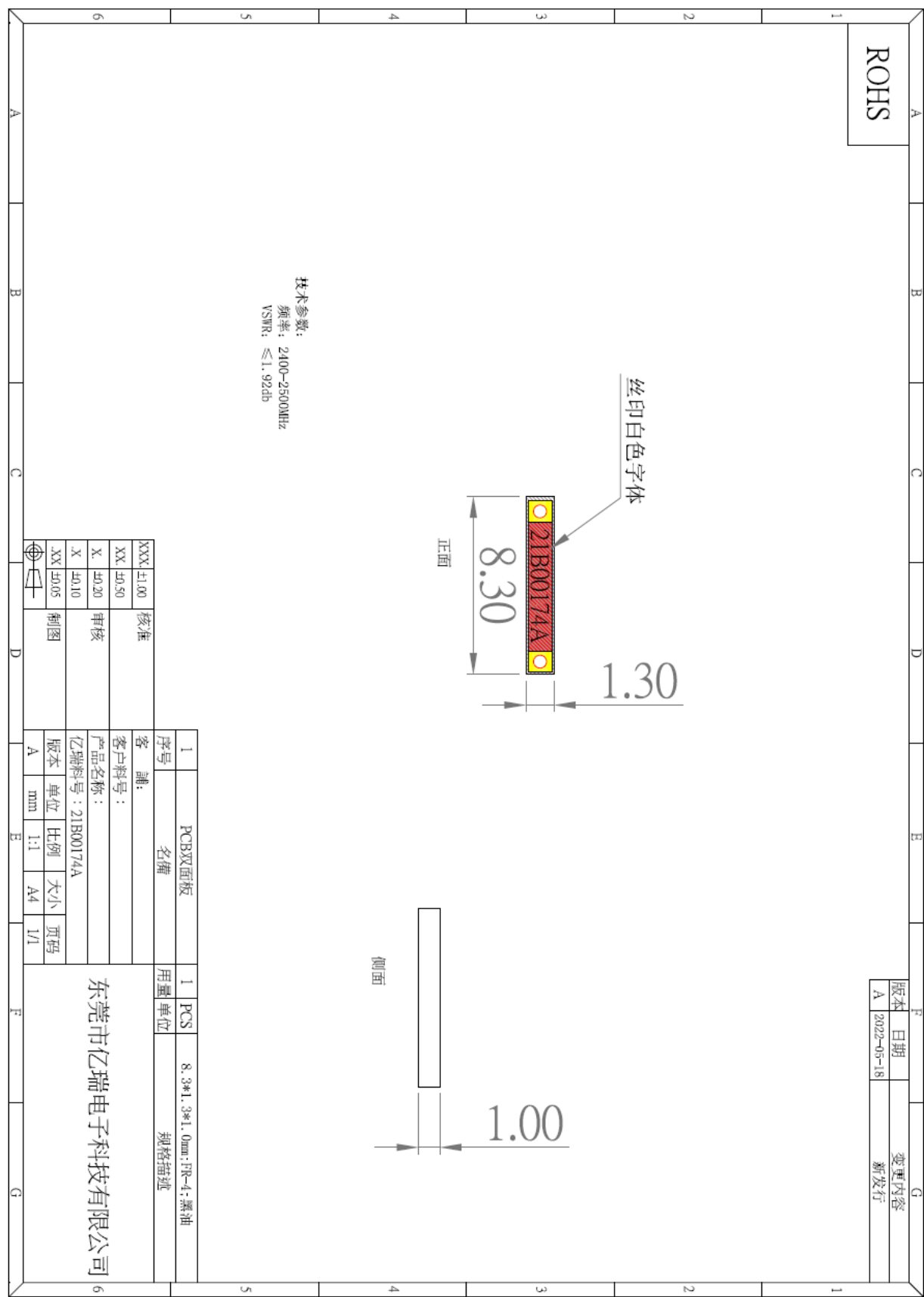
## ***Contents***

| <b><i>Item</i></b> | <b><i>Description</i></b>             |
|--------------------|---------------------------------------|
| 1.-----            | Main technical parameters of products |
| 2.-----            | Structure diagram                     |
| 3.-----            | Test environment                      |
| 4. -----           | ---- Test report                      |
| 5. -----           | ----- Packaging                       |

# 1. Main technical parameters of products

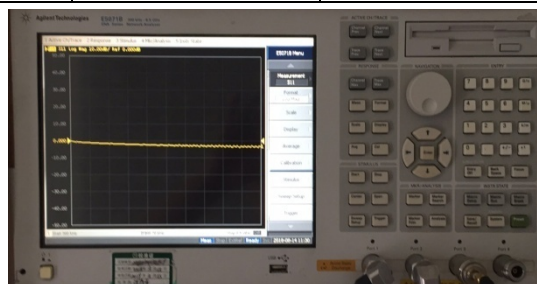
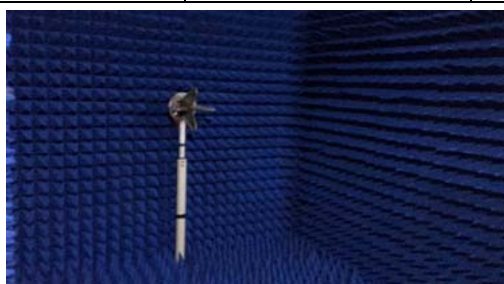
| 主要技术指标           |                                   | Main technical specifications |                                   |
|------------------|-----------------------------------|-------------------------------|-----------------------------------|
| 频率范围<br>(MHZ)    | 2400~2500                         | Frequency Range<br>(MHZ)      | 2400~2500                         |
| 特性阻抗( $\Omega$ ) | 50 $\pm$ 10                       | Impedance( $\Omega$ )         | 50 $\pm$ 10                       |
| 峰值增益(dBi)        | 4                                 | Peak Gain(dBi)                | 4                                 |
| 输出电压<br>驻波比      | $\leq 1.92$                       | VSWR                          | $\leq 1.92$                       |
| 最大功率             | 1W                                | Admitted Power                | 1W                                |
| 极化方式             | 线极化                               | Polarization                  | Line,Vertical                     |
| 连接方式             | SMT                               | Connector Type                | SMT                               |
| 物理性能             |                                   | Physical Properties           |                                   |
| 天线本体材料           | PCB+陶瓷                            | Antenna Base                  | PCB+ Ceramics                     |
| 工作温度             | -20 $^{\circ}$ C~+70 $^{\circ}$ C | Operating Temp                | -20 $^{\circ}$ C~+70 $^{\circ}$ C |
| 保存温度             | -20 $^{\circ}$ C~+70 $^{\circ}$ C | Storage Temp                  | -20 $^{\circ}$ C~+70 $^{\circ}$ C |

2. Structure diagram:

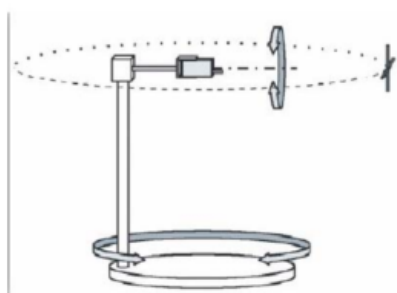


### 3. Test environment

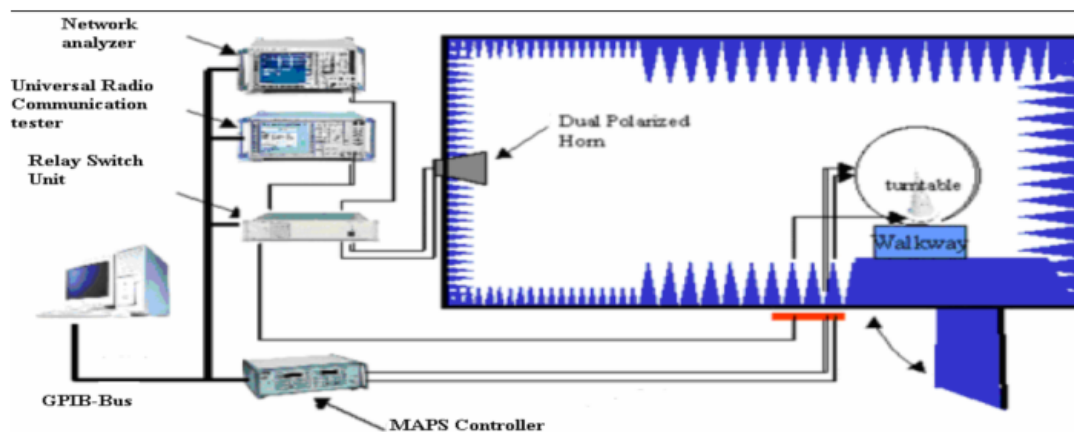
| /       | Test items                               | Equipment     |                     |               |
|---------|------------------------------------------|---------------|---------------------|---------------|
|         |                                          | Equipment     | Model No            | Manufacturers |
| S11     | 1. Return loss<br>2.VSWR                 | Analyzers     | E5071B              | Agilent       |
|         |                                          | Coaxial Cable | RG316               | YiRui         |
| Testing | 1. 2D、3DRaditation<br>Pattern            | OTA           | ETS 5*3*3(3D)       | Guang Ping    |
|         |                                          | Analyzers     | E5071B              | Agilent       |
|         | 2. Antenna gain<br>3. Antenna efficiency | PC Console    | Win 7               | ASUS          |
|         |                                          | OTA           | ETS;Far Field probe | Guang Ping    |
|         |                                          | 3D turntable  | $\phi 1*1*1.5(3D)$  | Guang Ping    |



### ETS远场暗室测试原理

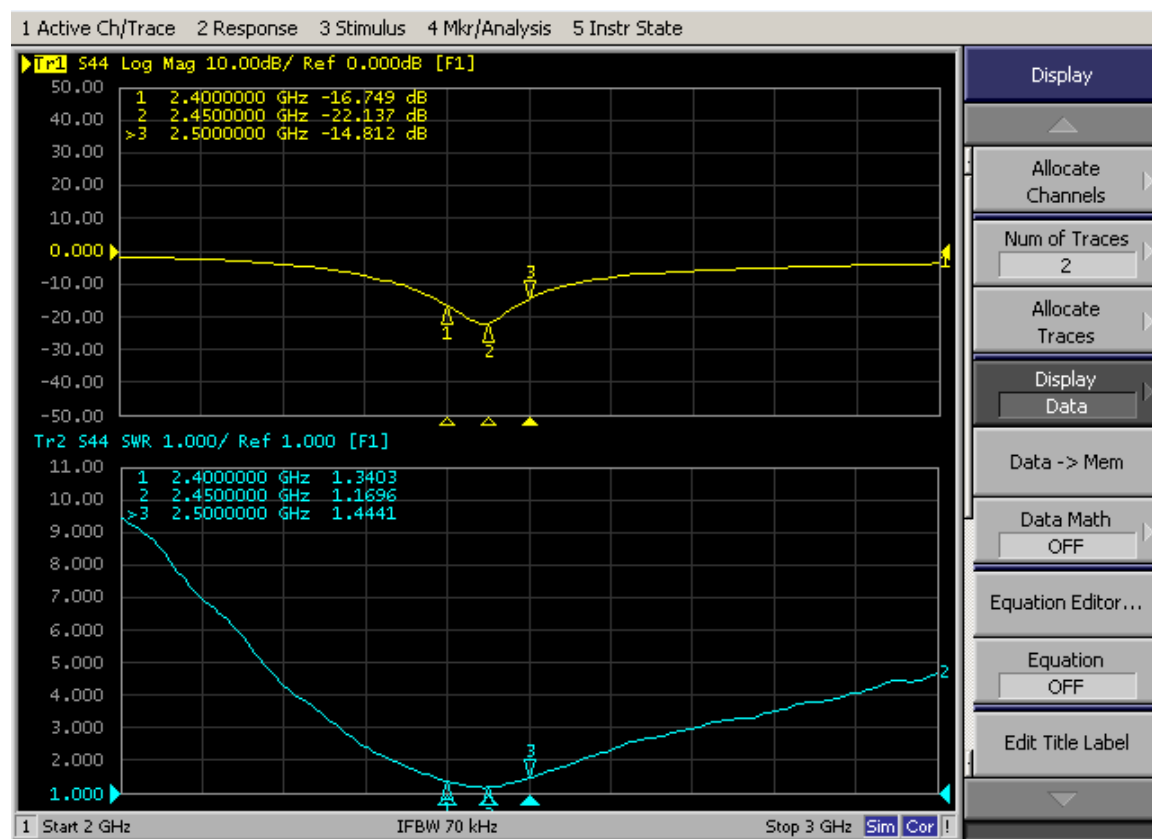


### 3D转台



## 4. Test report

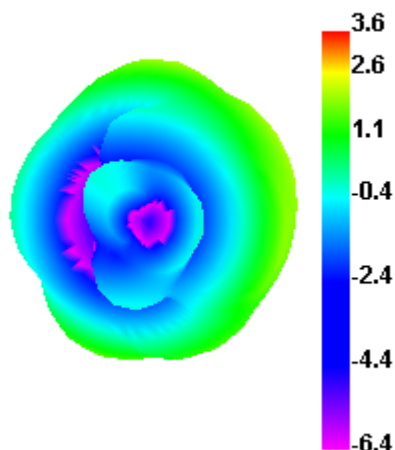
### 3.1. Return loss/VSWR



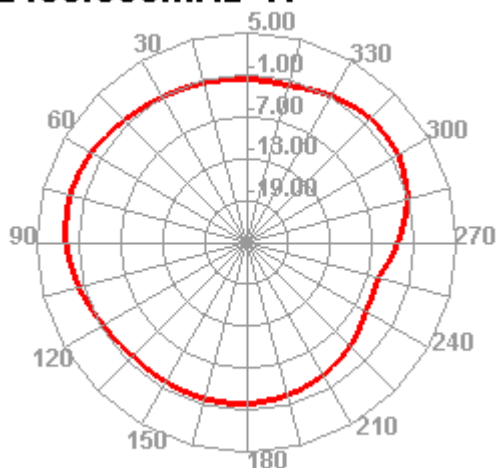
### 3.2. Gain. Efficiency. 2D、3DRaditation Pattern

| Freq<br>(MHz) | Effi<br>(%) | Effi<br>(dB) | Gain<br>(dBi) |
|---------------|-------------|--------------|---------------|
| 2400          | 63.9        | -1.95        | 3.62          |
| 2410          | 59.35       | -2.27        | 3.37          |
| 2420          | 59.22       | -2.28        | 3.5           |
| 2430          | 55.96       | -2.52        | 3.27          |
| 2440          | 60.05       | -2.21        | 3.5           |
| 2450          | 63.4        | -1.98        | 3.65          |
| 2460          | 65.44       | -1.84        | 3.7           |
| 2470          | 67.18       | -1.73        | 3.73          |
| 2480          | 70.11       | -1.54        | 4             |
| 2490          | 67.68       | -1.7         | 3.56          |
| 2500          | 59.99       | -2.22        | 2.94          |

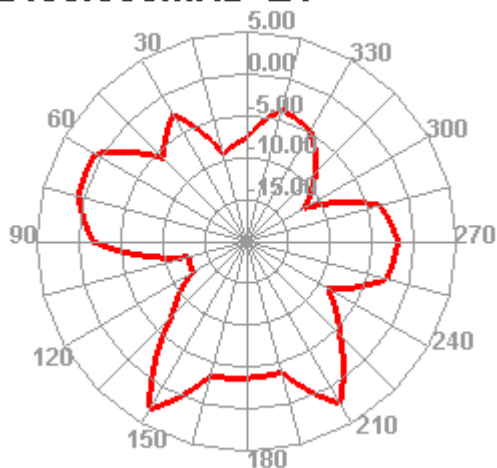
2400.000MHz



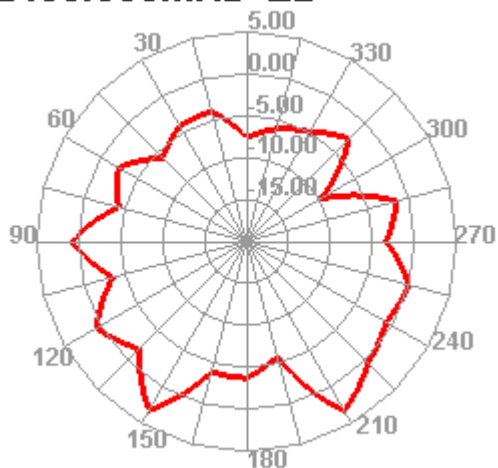
2400.000MHz H



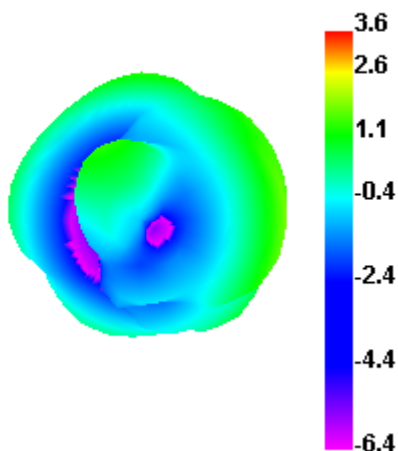
2400.000MHz E1



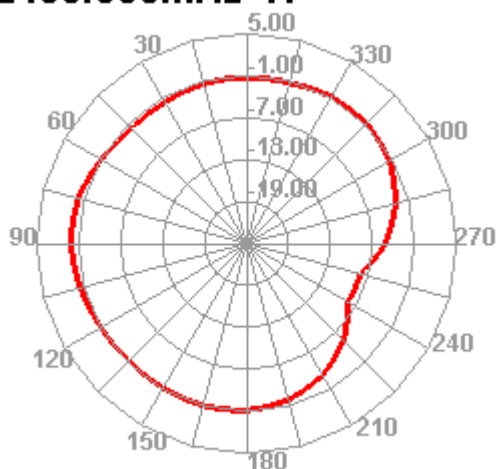
2400.000MHz E2



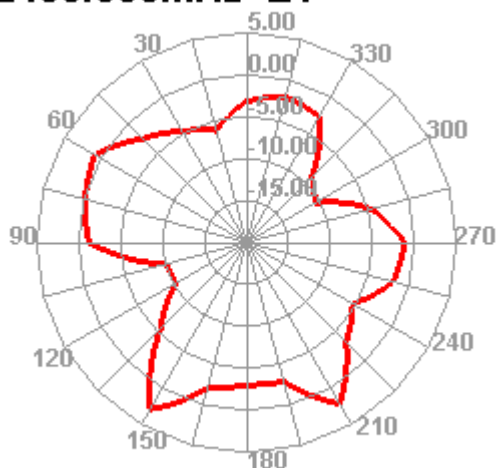
2450.000MHz



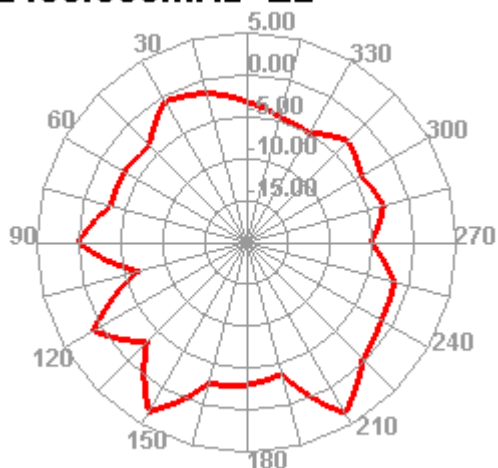
2450.000MHz H



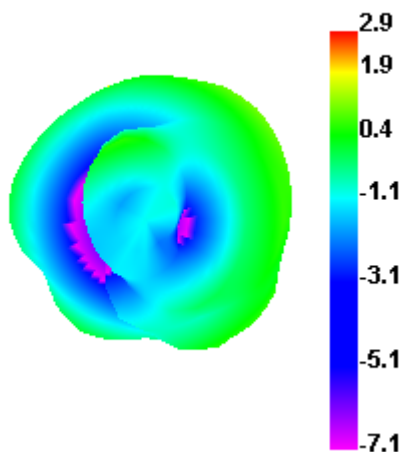
2450.000MHz E1



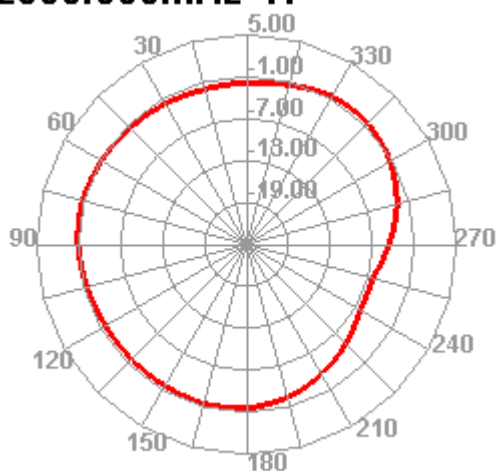
2450.000MHz E2



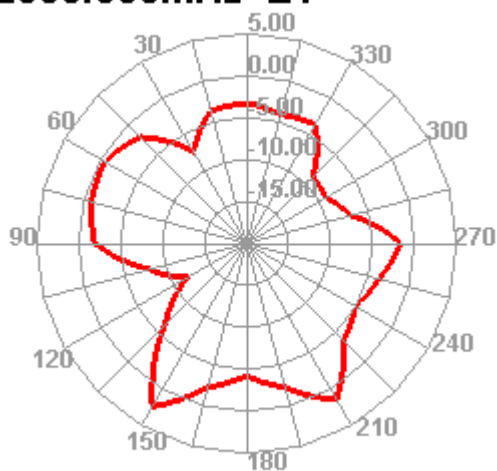
2500.000MHz



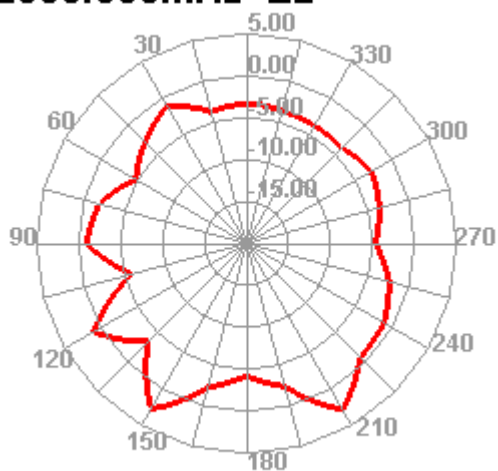
2500.000MHz H



2500.000MHz E1



2500.000MHz E2



5. Packaging

