



# 承认书

## Specification For Approval

范罗士商业机械(苏州)有限公司  
范罗士办公用品(苏州)有限公司

品名规格

DESCRIPTION

LTE antenna mode (Remote)

料号

PART NO

902408

版本

VERSION

A00

日期

DATE

2023/06/09

何路阳 2023.06.09

APPROVED 赵志 6/9/23

# YIC ATIFLTE Series 4G/LTE Flexible PCB Internal Antennas

(Remote Display)

## Antenna's basic Info

| Brand | Antenna        | FOP PN# | MPN#            | FPC/Flex Size (mm*mm) | Cable Length (mm) |
|-------|----------------|---------|-----------------|-----------------------|-------------------|
| YIC   | 4G/LTE antenna | 902408  | ATIFLTE-5717-80 | 56.59x16.53           | 80                |

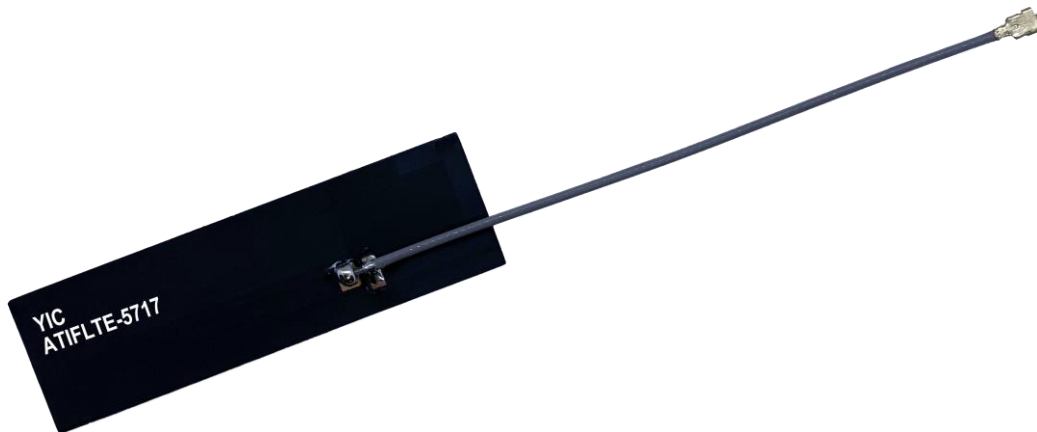
## Requirements (Based upon the used module)

| Module        | Applicant                         | Model   | FCC/IC ID                                                              | The Antenna Requirements from the LTE Module's FCC/IC ID certificate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|-----------------------------------|---------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4G&LTE Module | Quectel Wireless Solution Co.,Ltd | EC25-AF | <b>FCC ID:</b><br>XMR201909EC25AFX<br><b>IC ID:</b> 10224A-2019EC25AFX | <p>3.A label with the following statements must be attached to the host end product: This device contains FCC ID: 10224A-2019EC25AFX.</p> <p>4.To comply with FCC regulations limiting both maximum RF output power and human exposure to RF radiation, maximum antenna gain (including cable loss) must not exceed:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> WCDMA B2/LTE B2: &lt;8dBi</li> <li><input type="checkbox"/> WCDMA B4/LTE B4/B66: &lt;5dBi</li> <li><input type="checkbox"/> WCDMA B5/LTE B5: &lt;6.1dBi</li> <li><input type="checkbox"/> LTE B5: &lt;9.4dBi</li> <li><input type="checkbox"/> LTE B12: &lt;8.73dBi</li> <li><input type="checkbox"/> LTE B13: &lt;9.17dBi</li> <li><input type="checkbox"/> LTE B14: &lt;9.26dBi</li> <li><input type="checkbox"/> LTE B 71: &lt;8.55dBi</li> </ul> <p>5. This module must not transmit simultaneously with any other antenna or transmitter</p> |

### 4G/LTE Flexible PCB Internal Antennas

Product Number : ATIFLTE-5717-80

#### 1. Picture

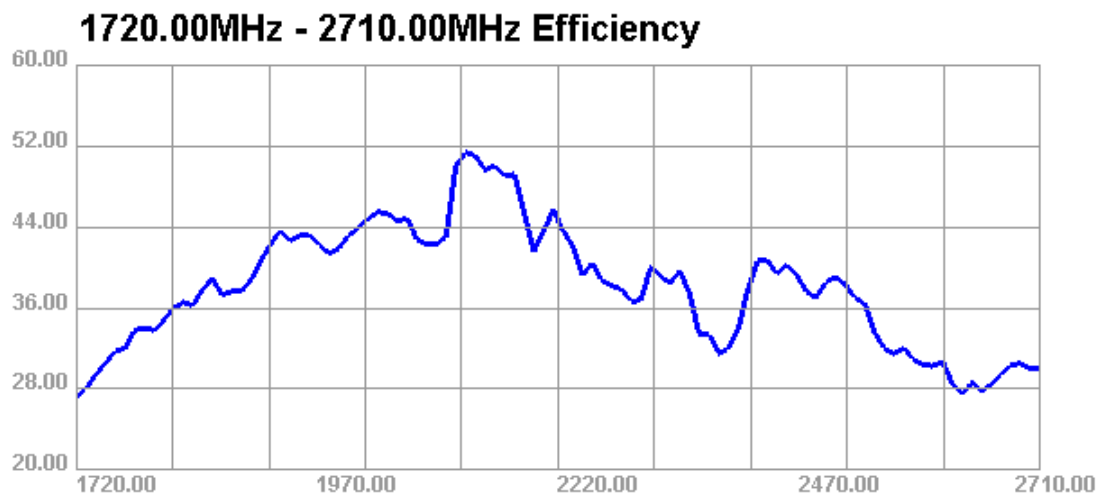
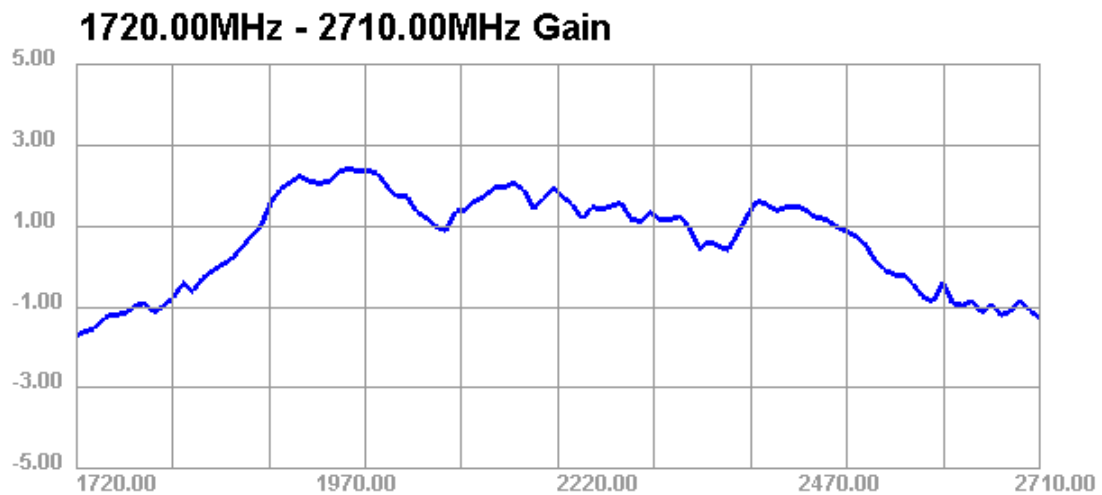


### 2. Electrical Characteristics

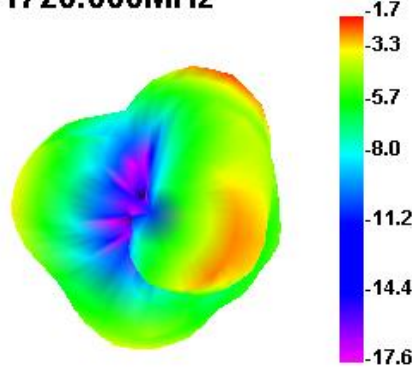
| Item          |                          | Specifications                         |
|---------------|--------------------------|----------------------------------------|
| Antenna       | Frequency Range          | 650 ~800 / 810 ~ 980 /1700 ~ 2690 MHz  |
|               | Polarization             | Linear                                 |
|               | Gain                     | 2dB                                    |
|               | V.S.W.R                  | <2. 5                                  |
|               | Impedance                | 50 $\Omega$                            |
|               | Dimension                | 56.59 * 16.53 mm                       |
| Mechanical    | Cable                    | RF1.13 or others                       |
|               | Connector                | IPEX                                   |
|               | Mounting Method          | Embedded                               |
| Environmental | Operating Temperature    | -40°C~+85°C                            |
|               | Vibration                | 10 to 55Hz with 1.5mm amplitude 2hours |
|               | Environmentally Friendly | ROHS Compliant                         |

### 3. Testing of Gain, Efficiency & Radiation Pattern

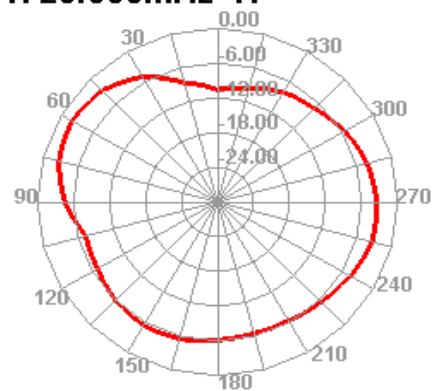
#### 3.1 1720.00MHz – 2710.00MHz



1720.000MHz



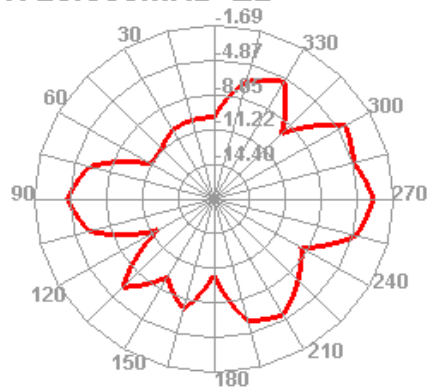
1720.000MHz H



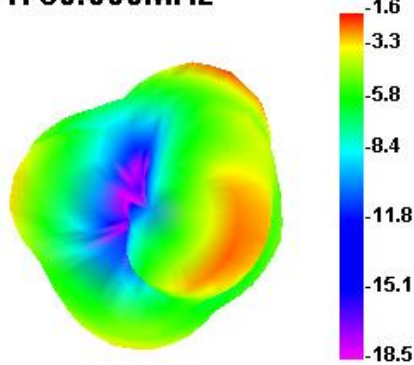
1720.000MHz E1



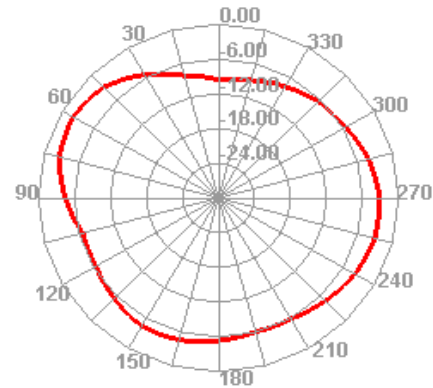
1720.000MHz E2



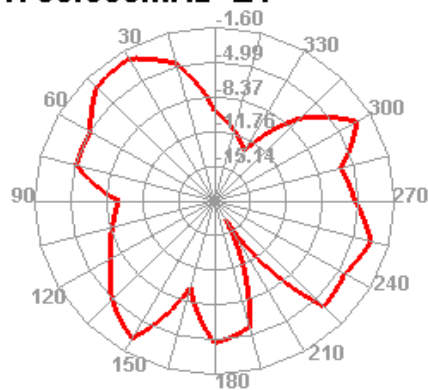
1730.000MHz



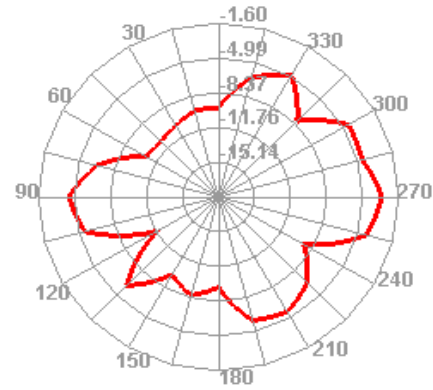
1730.000MHz H



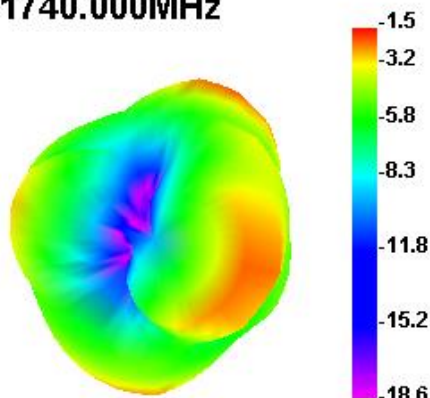
1730.000MHz E1



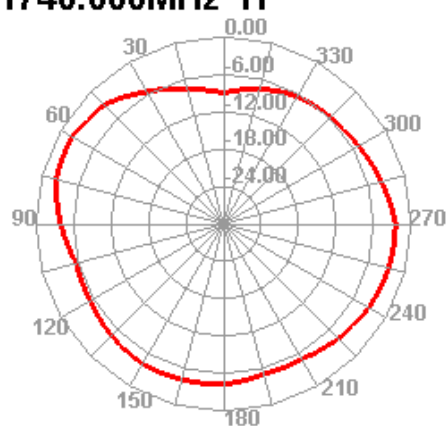
1730.000MHz E2



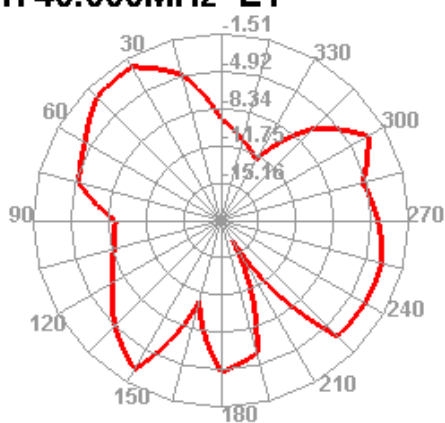
1740.000MHz



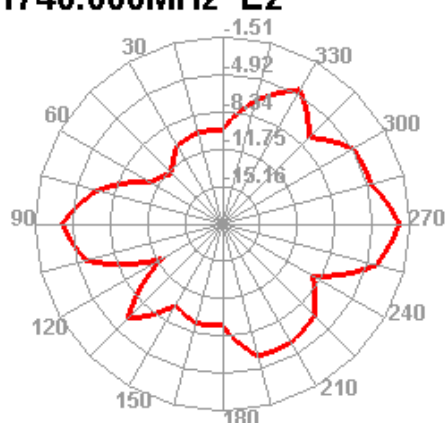
1740.000MHz H



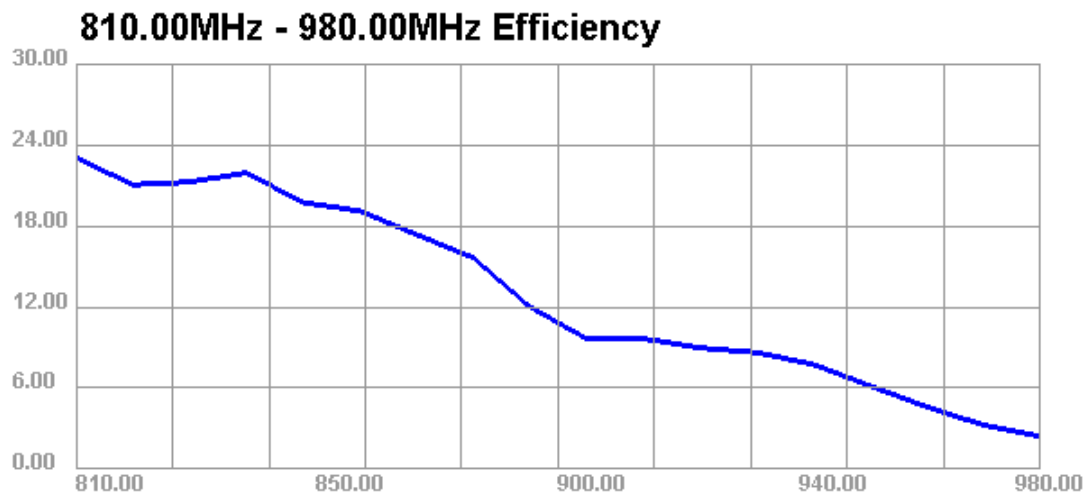
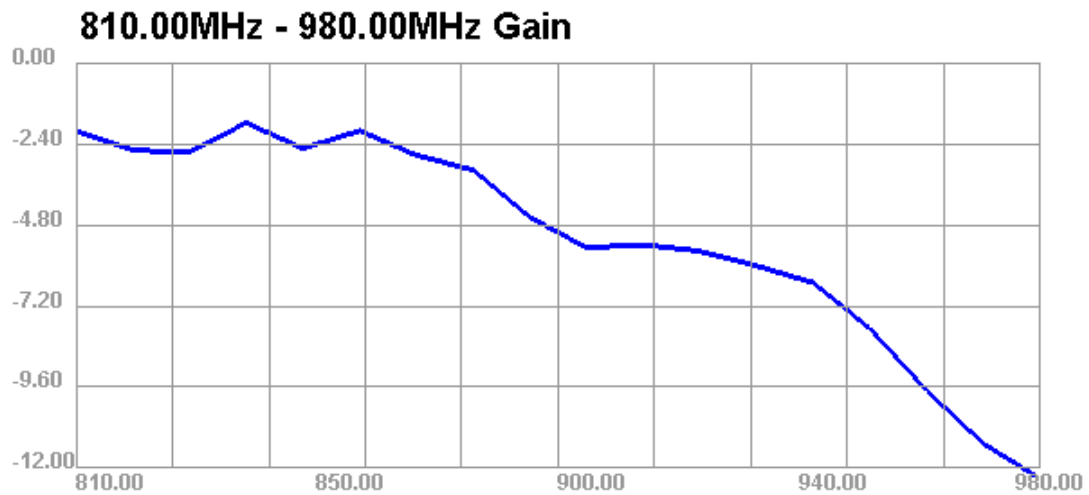
1740.000MHz E1



1740.000MHz E2

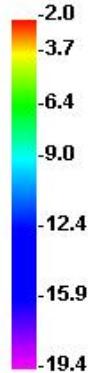
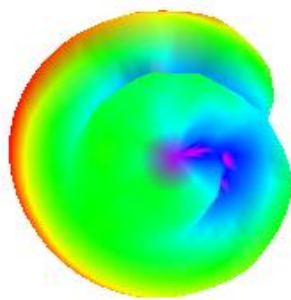


### 3.2 810.00MHz – 980.00MHz

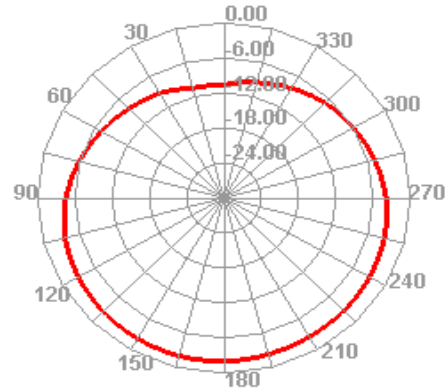




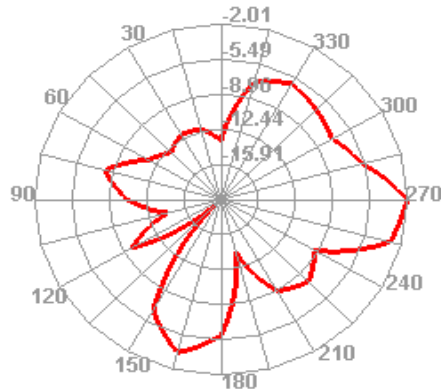
**810.000MHz**



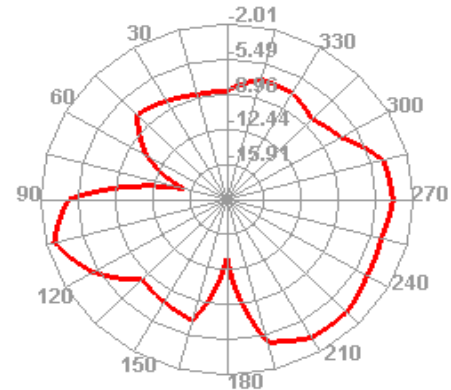
**810.000MHz H**



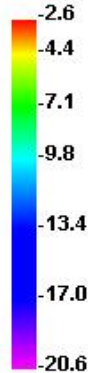
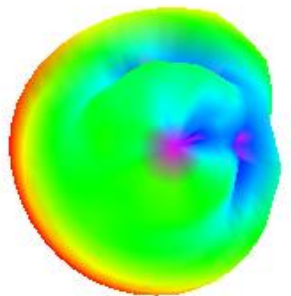
**810.000MHz E1**



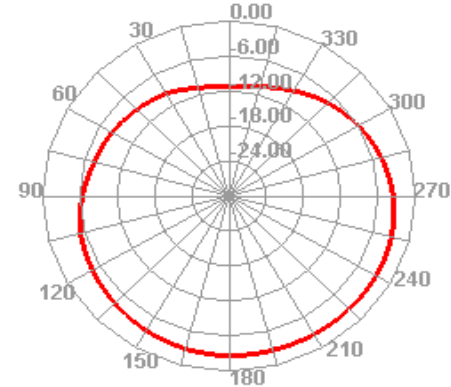
**810.000MHz E2**



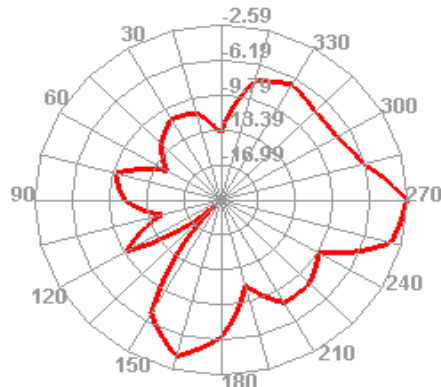
**820.000MHz**



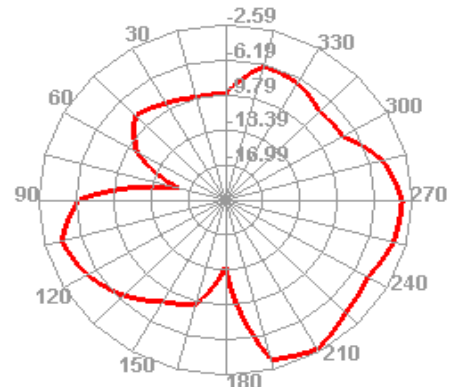
**820.000MHz H**



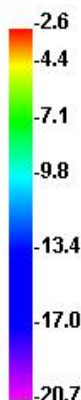
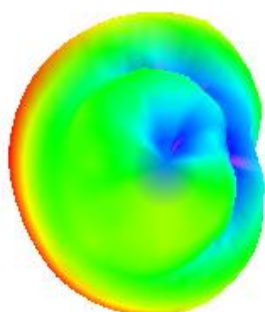
**820.000MHz E1**



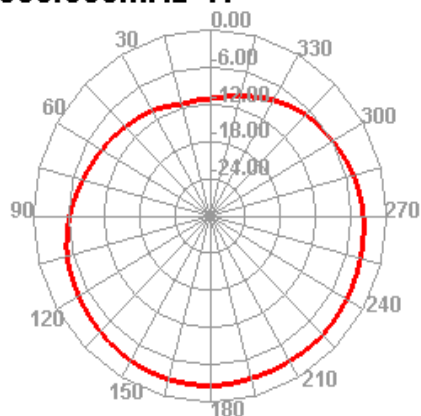
**820.000MHz E2**



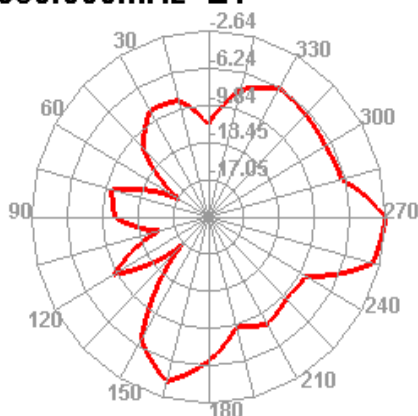
830.000MHz



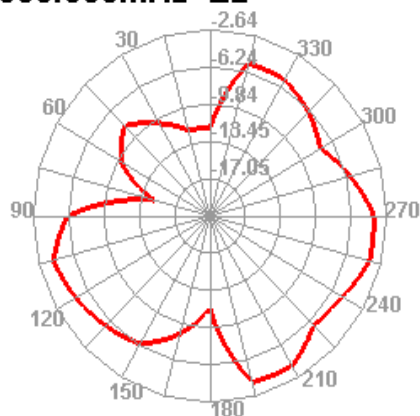
830.000MHz H



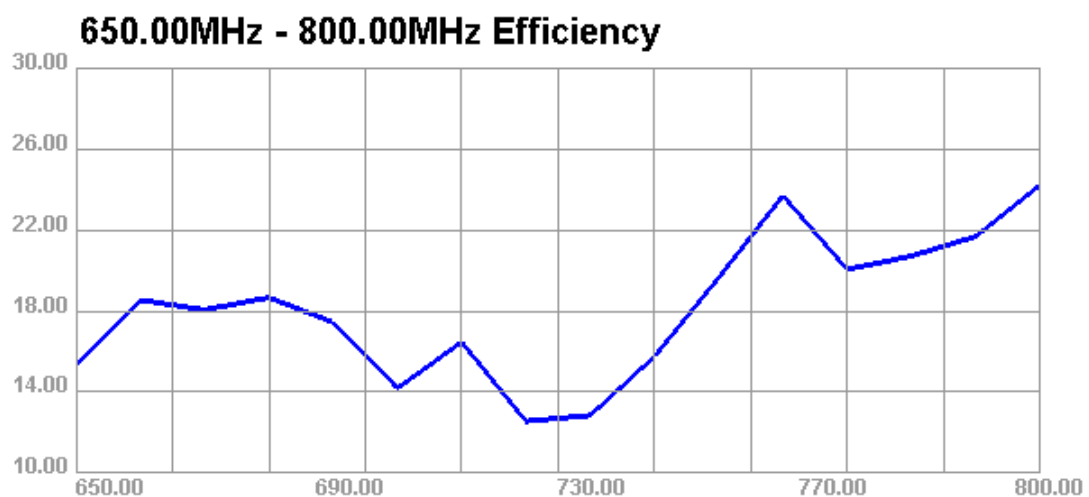
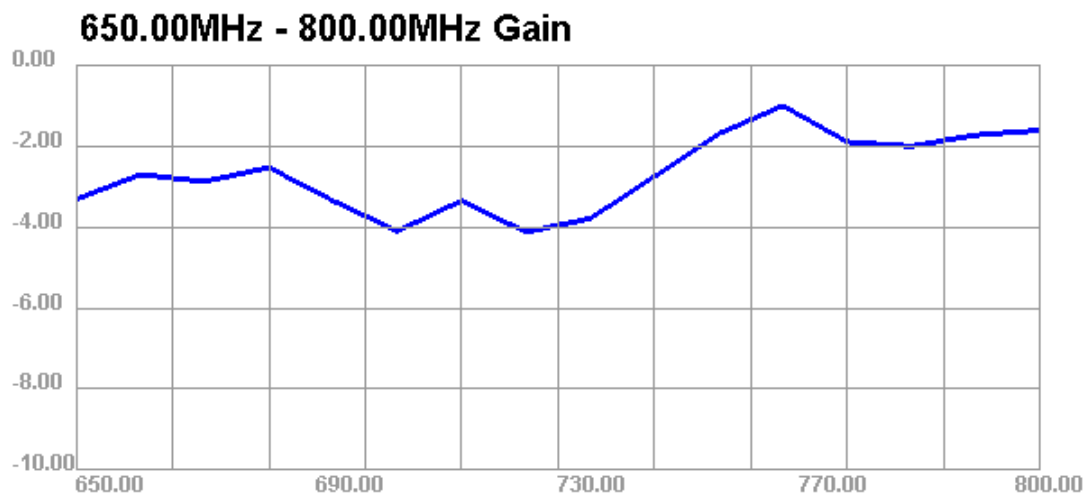
830.000MHz E1



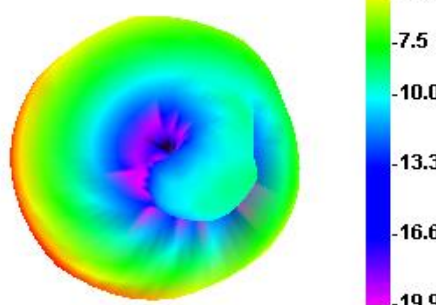
830.000MHz E2



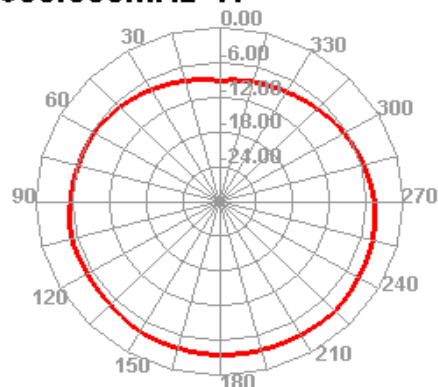
### 3.3 650.00MHz – 800.00MHz



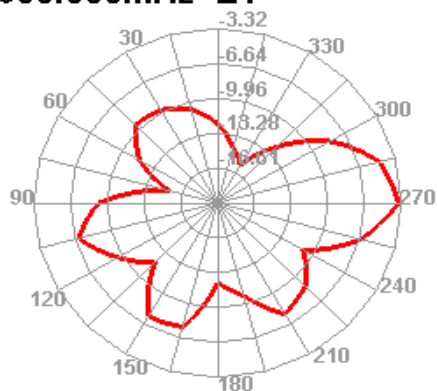
650.000MHz



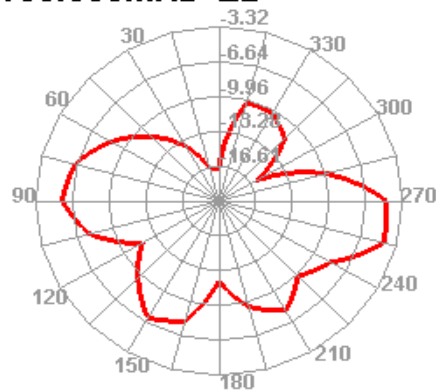
650.000MHz H



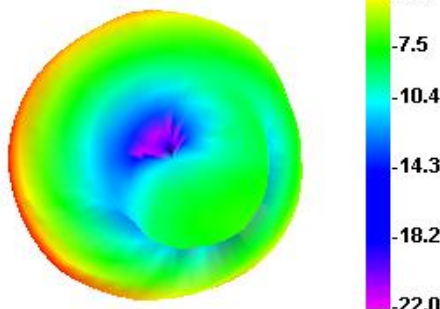
650.000MHz E1



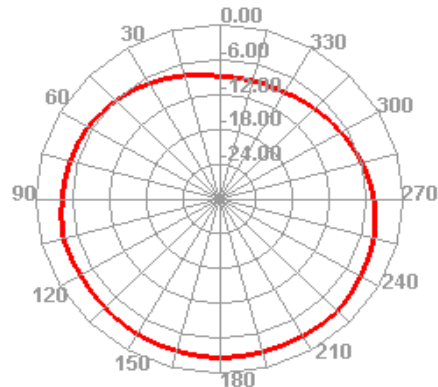
650.000MHz E2



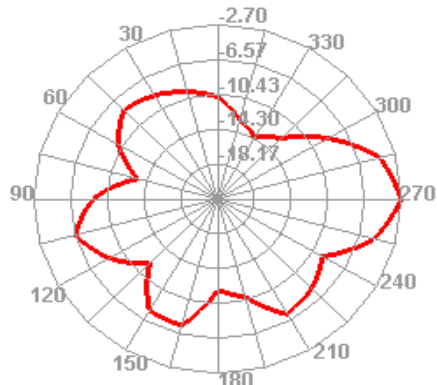
660.000MHz



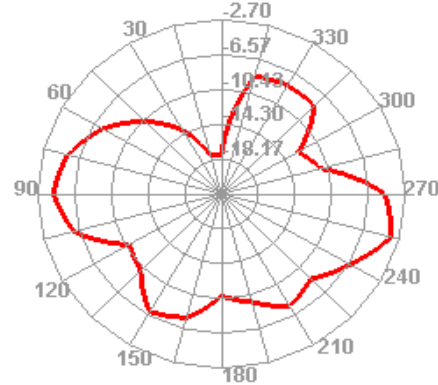
660.000MHz H

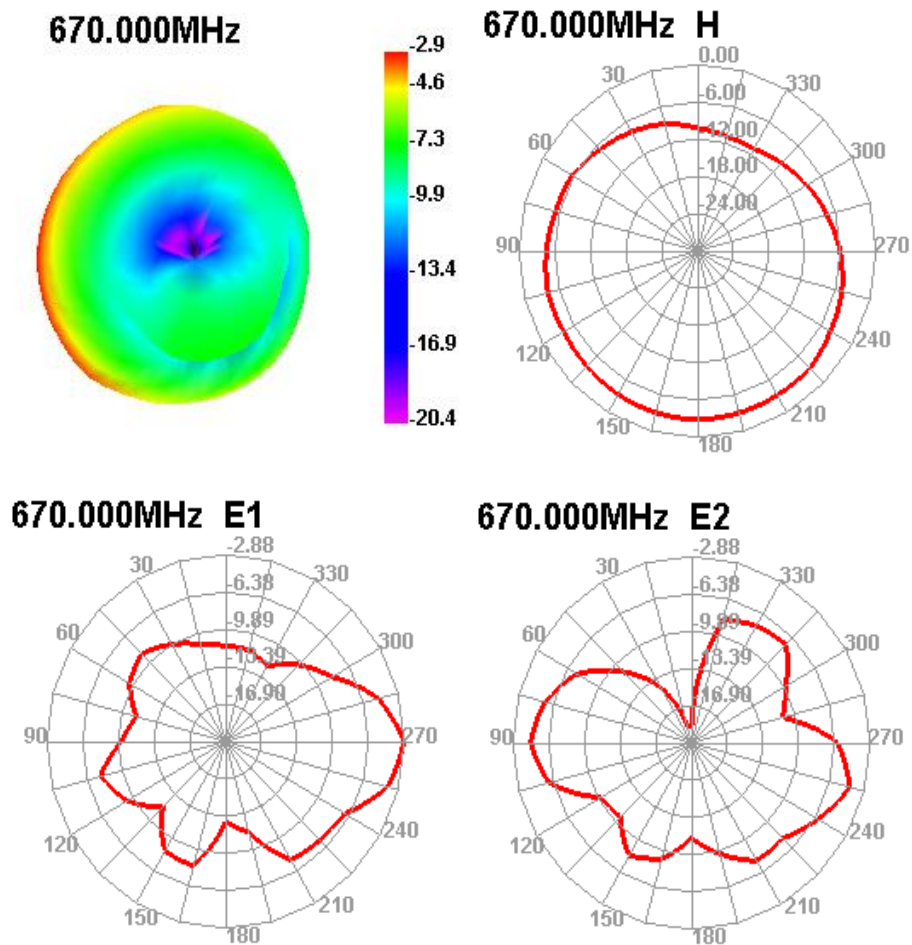


660.000MHz E1

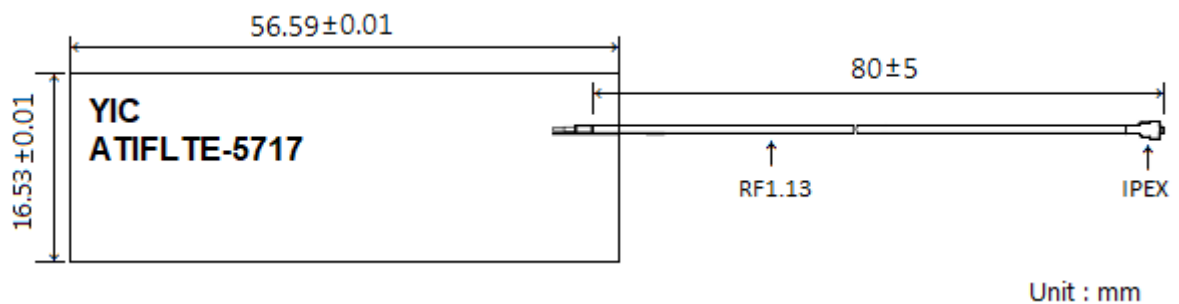


660.000MHz E2





## 4. Drawing



## 5. Characteristics and Reliability Test

| Test Items |                      | Test Condition and Procedure                                                                                                         | Requirements                                                            |
|------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| C1         | S.W.R.               | Set DUT on Network Analyzer; make individual calibration to test                                                                     | Directive DUT specification                                             |
| C2         | Antenna Gain         | Set DUT on Antenna Chamber; make individual calibration to test                                                                      | Directive DUT specification                                             |
| M1         | Vibration            | MIL-STD-202G, 201A<br>Amplitude: 0.03 inch (0.76mm); Freq: 10 to 55 Hz<br>3 directions; 2 hours for each direction                   | 1. No Visual Damage<br>2. Frequency Tol.<= 5%                           |
| M2         | Random Drop          | Height: 1.5 Meter;<br>3 directions; 1 time for each direction                                                                        | 1. No parts separated<br>2. Frequency Tol.<= 5%                         |
| M3         | Solderability        | MIL-STD-202G, 210F, cond. A<br>Solder iron: 350±10°C; Duration: 5 seconds                                                            | 1. Mounted on PCB<br>2. No Visual Damage                                |
| M4         | Terminal-Pull Test   | MIL-STD-202G, 211A, cond. A<br>Holding with individual specification; force applied to axis of terminal                              | 1. Directive DUT specification<br>2. Frequency Tol.<= 5%                |
| M5         | Terminal-Torque Test | MIL-STD-202G, 211A, cond. E<br>Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal | 1. Directive DUT specification<br>2. Frequency Tol.<= 5%                |
| M6         | Dimension            | Inspection of dimension, color, material, package, surface process                                                                   | Directive DUT specification                                             |
| E1         | Salt Spray           | MIL-STD-202G, 101E, cond. B<br>Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%;<br>Time: 48 hours                                       | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E2         | Humidity             | MIL-STD-202G, 103B, cond. B<br>Temp: 40°C; RH: >= 95%; Time: 48 hours                                                                | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E3         | Thermal Shock        | 1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes)<br>Cycles: 24                                                                    | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E4         | Life (High Temp.)    | MIL-STD-202G, 108A, cond. A<br>Temp: 85°C; Time: 96 hours                                                                            | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| R1         | RoHS                 | With Reference to IEC 62321:2008 with flow chart                                                                                     | Directive RoHS 2002/95/EC                                               |
| R2         | PFOS                 | With Reference to USA EPA 3540C:1996 by LC/MS                                                                                        | Directive RoHS 2006/122/EC                                              |
| R3         | PFOA                 | With Reference to USA EPA 3540C:1996 by LC/MS                                                                                        | Directive RoHS 2006/122/EC                                              |

### 6. Note

**6.1 This product specification guarantees the quality of our product as a single unit. Please make sure that your product is evaluated and confirmed against your specifications when our product is mounted to your product.**

**6.2 The product will get free warranty for one year since the date of purchase users operate in the correct way; users will have to pay cost of the materials and maintaining fee out of the condition.**

**6.3 Electrostatic sensitive device.Observe precautions for handling.**