

# SPECIFICATION

## FXP14 Hexa Band Cellular Antenna

Part No. : **FXP14.09.0100A**

Product Name : FXP14 Hexa-Band Cellular Antenna  
850/900/1700/1800/1900/2100MHz

Feature : MMCX(M)RA Connector  
100mm Cable  
70\*20\*0.1 mm  
RoHS Compliant



## 1. OVERVIEW

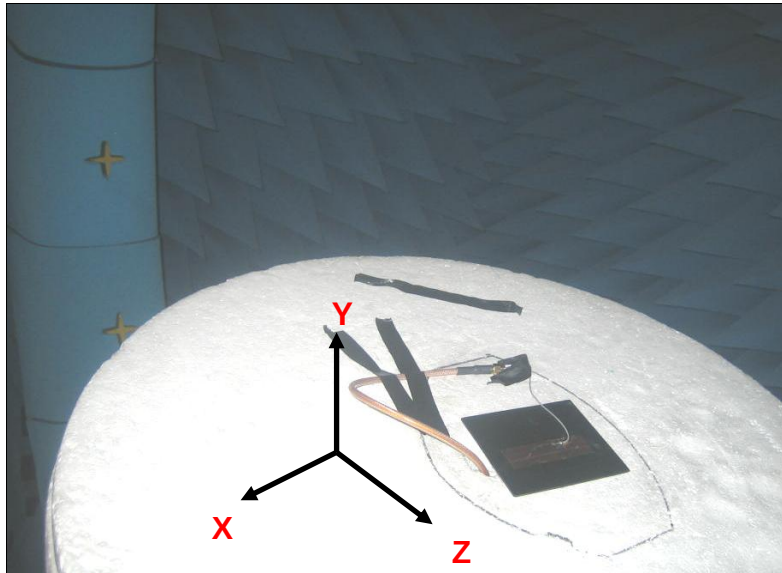
The Taoglas FXP14 Hexa Band Cellular Antenna covers all world-wide bands (850 / 900 / 1700 / 1800 / 1900 / 2100 MHz). These cellular bands are used for different technologies in different countries such as GSM / CDMA / DCS / PCS / WCDMA / UMTS/ HSPA / GPRS / EDGE / 3G. The antenna has been designed in a flexible material with a rectangular form-factor and cable connection for an easy installation. The antenna works on different plastic materials and thickness. We have selected a piece of ABS with 2 mm of thickness as a baseline for testing.

## 2. . ANTENNA CHARACTERISTICS

| Parameter              | Hexa Band Cellular Antenna |     |      |      |      |      |
|------------------------|----------------------------|-----|------|------|------|------|
| Cellular Band (MHz)    | 850                        | 900 | 1700 | 1800 | 1900 | 2100 |
| Return Loss (dB)       | -7                         | -12 | -8   | -9   | -9   | -8   |
| Efficiency (%)         | 52                         | 55  | 60   | 60   | 62   | 65   |
| Gain (dBi)             | 2                          | 1.5 | 3    | 2.5  | 2    | 2.5  |
| Impedance              | 50 Ohms                    |     |      |      |      |      |
| VSWR                   | $\leq 2.5:1$               |     |      |      |      |      |
| Polarization           | Linear                     |     |      |      |      |      |
| Power Handled          | 5 W                        |     |      |      |      |      |
| Operation Temperature  | -40 °C ~ +85 °C            |     |      |      |      |      |
| Storage Temperature    | -40 °C ~ +85 °C            |     |      |      |      |      |
| Dimensions             | 70 X 20 X 0.1 mm           |     |      |      |      |      |
| Weight                 | 1.5 g                      |     |      |      |      |      |
| Connector              | MMCX(M)RA                  |     |      |      |      |      |
| Cable Standard         | Mini-Coax 1.13 mm          |     |      |      |      |      |
| Cable Length and color | 105mm, Black               |     |      |      |      |      |
| RoHS Compliant         | Yes                        |     |      |      |      |      |
| Adhesive               | 3M 467                     |     |      |      |      |      |

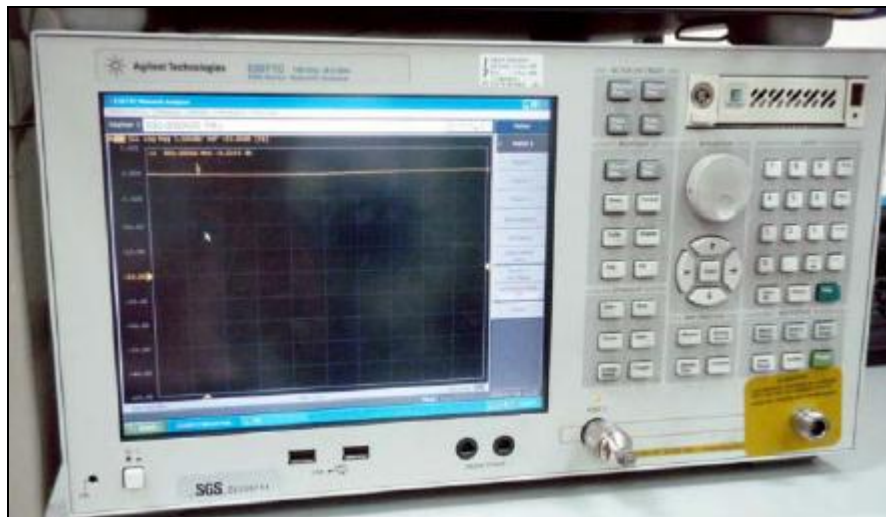
### 3. TEST SET UP

A Satimo SG24 3D Scan System with Anechoic Chamber.



**Figure 1.** Satimo System.

Agilent 5071C Vector Network Analyzer.

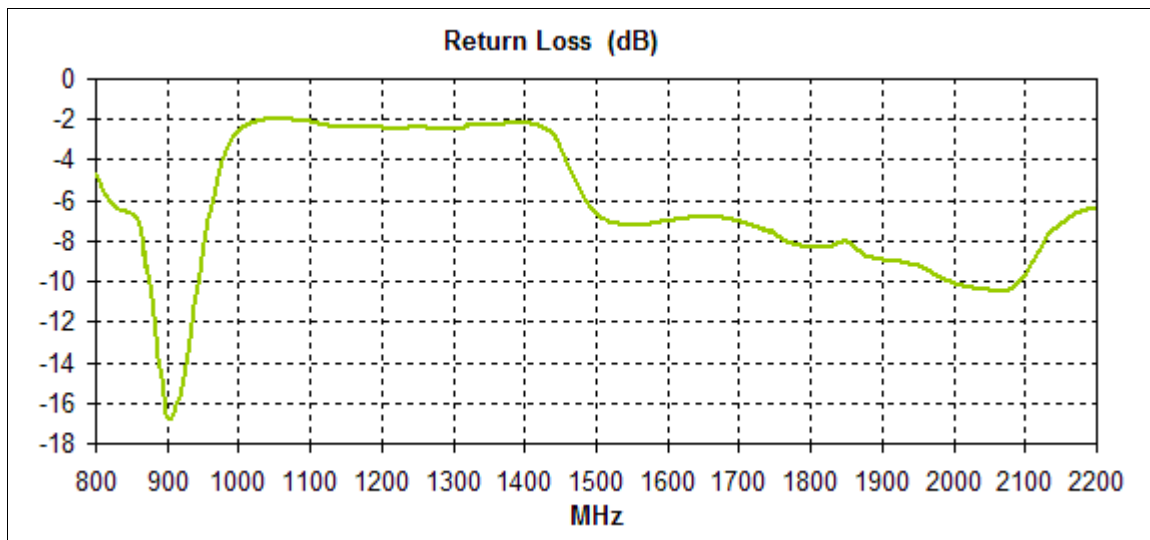


**Figure 2.** Network Analyzer.

## 4. ANTENNA PARAMETERS

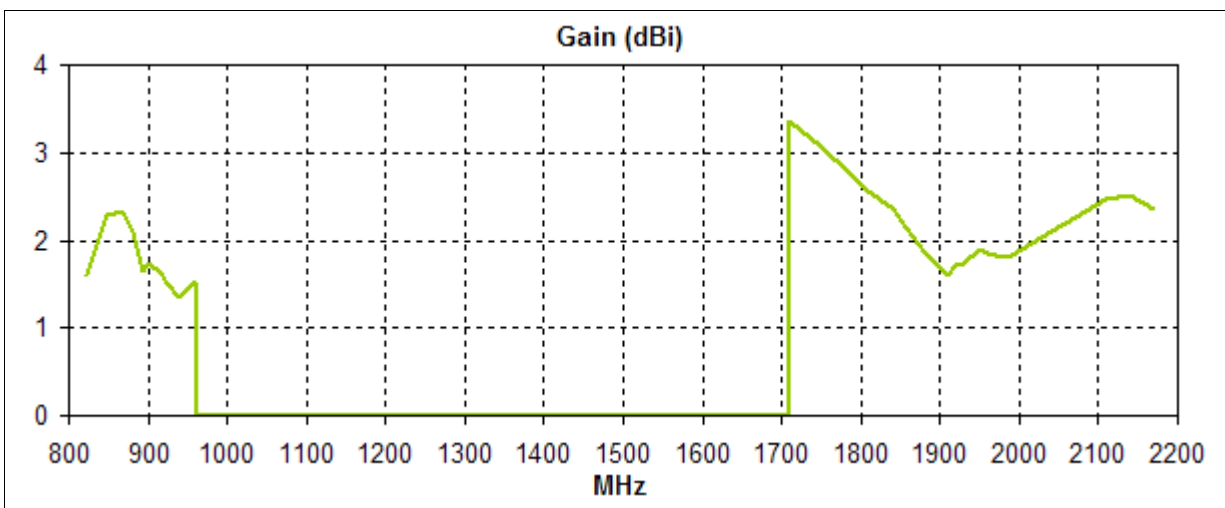
The next antenna parameter graphs like Return Loss were measured in the Agilent 5071C Vector Network Analyzer. The Gain, Efficiency and Radiation Patterns were measured in the reliable Satimo 3D Scan System.

### 4.1 Return Loss Data



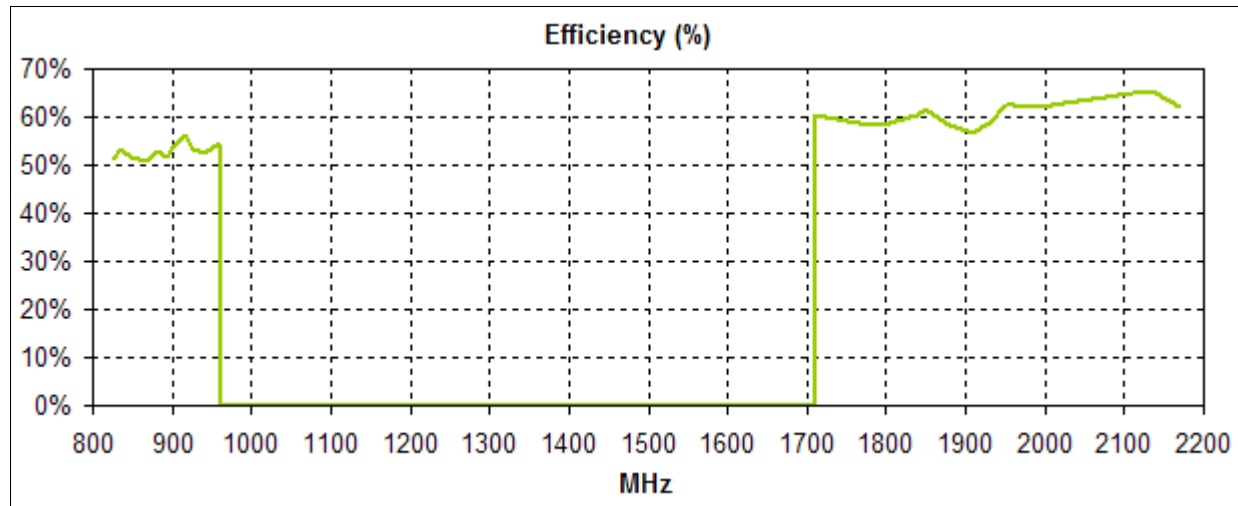
**Figure 3.** Return Loss for the FXP14 Antenna.

### 4.2 Gain Data



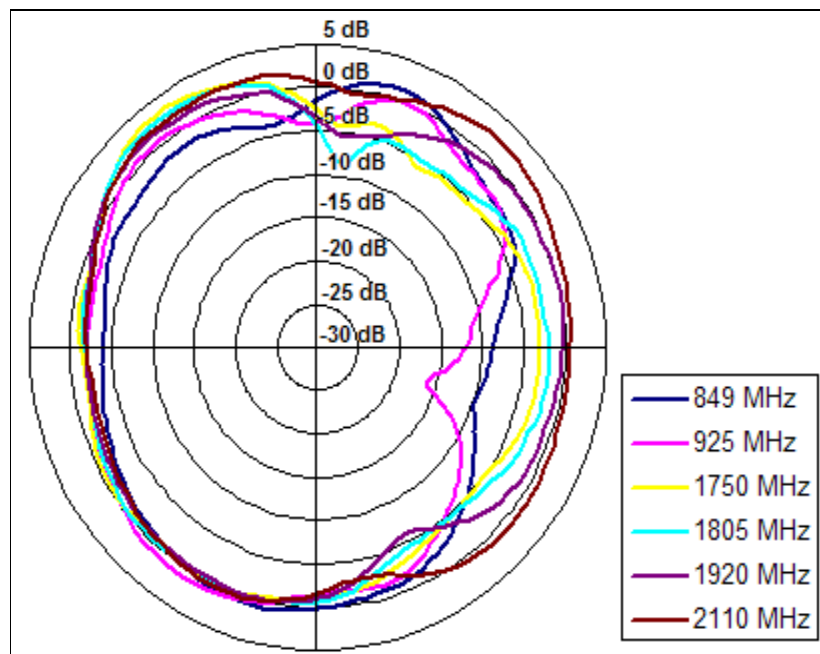
**Figure 4.** Gain for the FXP14 Antenna.

### 4.3 Efficiency Data

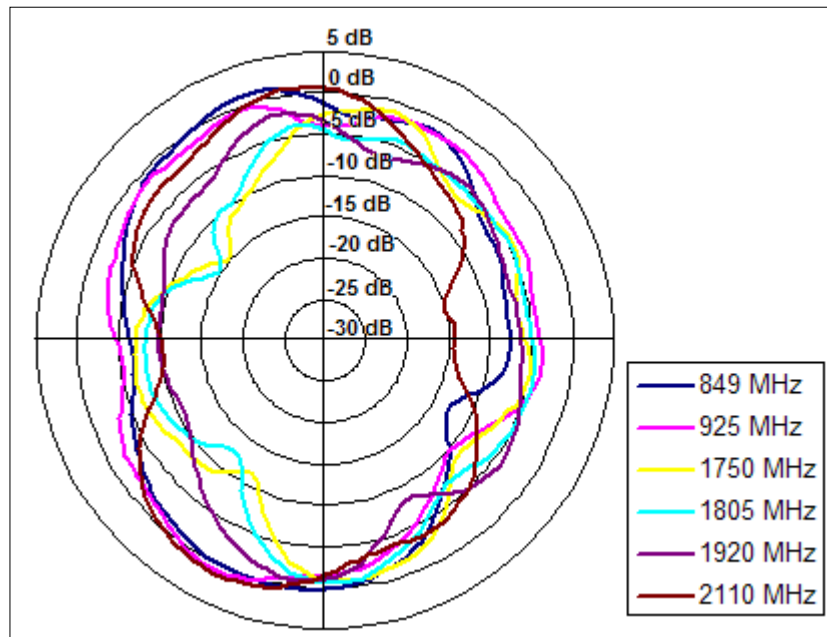


**Figure 5.** Efficiency for the FXP14 Antenna.

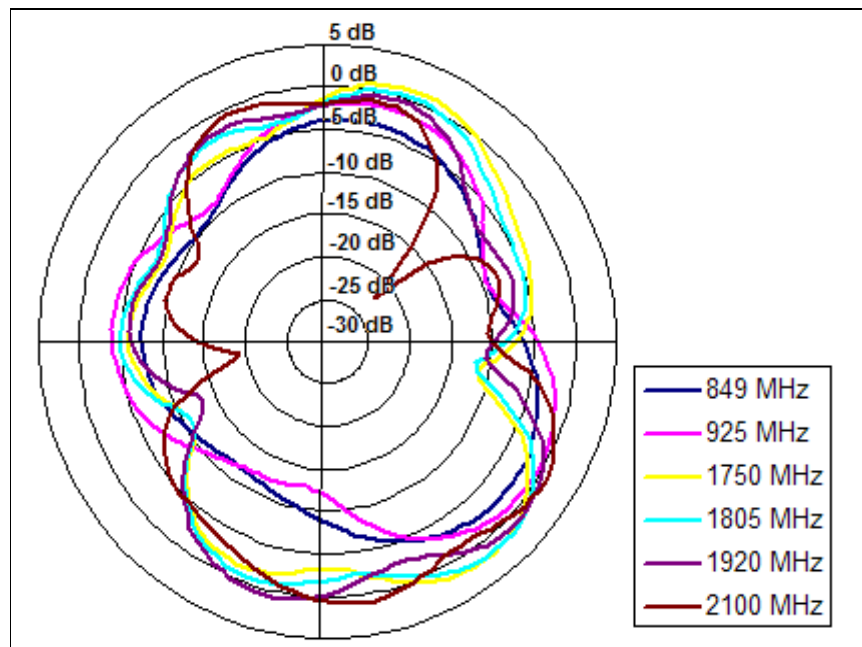
### 4.4 Radiation Pattern Data.



**Figure 6.** Radiation pattern XZ Plane, Figure 1 as reference (dB).

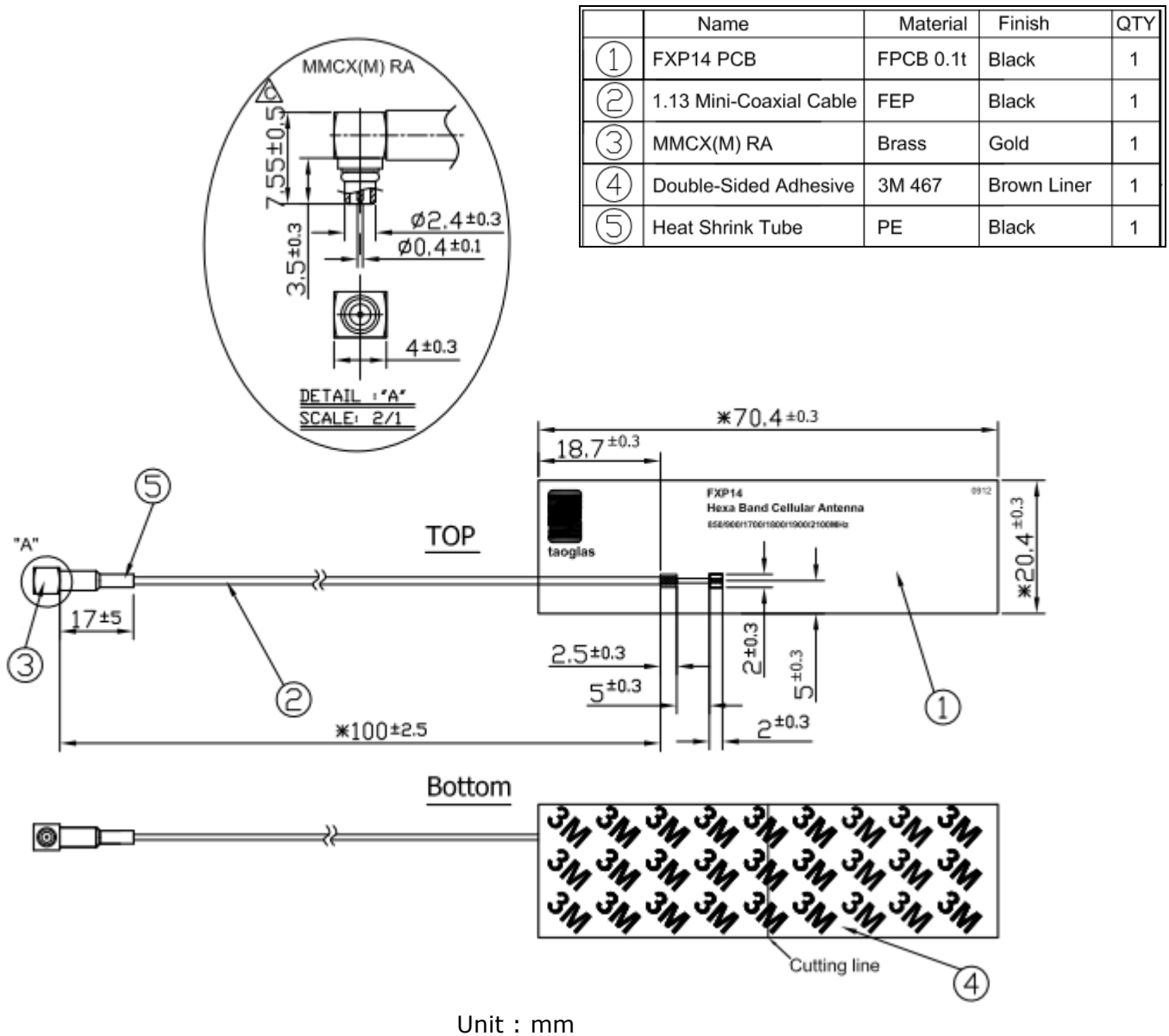


**Figure 7.** Radiation pattern YZ Plane, Figure 1 as reference (dB).



**Figure 8.** Radiation pattern XY plane, Figure 1 as reference (dB).

## 5. MECHANICAL DRAWING



**Figure 9.** Mechanical Drawing for the FXP14 Antenna.