

# **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





## I. 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.

# **II. 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	≤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							



# **III. TEST SET UP**

A Satimo SG24 3D Scan System with Anechoic Chamber.

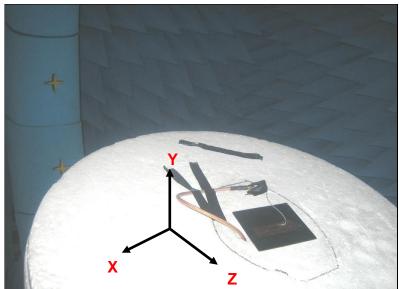


Figure 1. Satimo System.

Agilent 5071C Vector Network Analyzer.

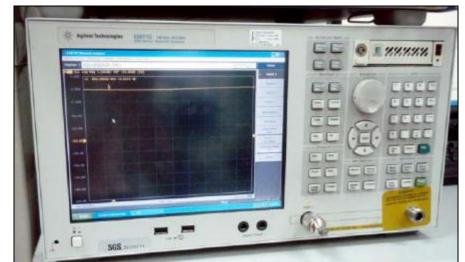


Figure 2. Network Analyzer.



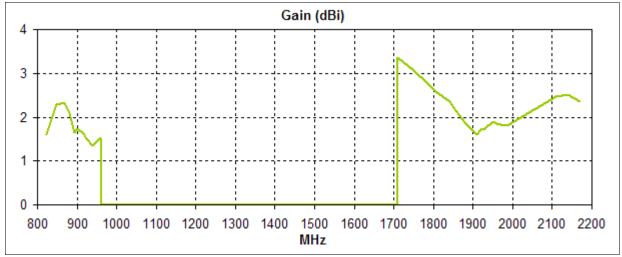
## **IV. ANTENNA PARAMETERS**

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.

#### A. Return Loss Data



Figure 3. Return Loss for the FXP14 Antenna.



#### **B. Gain Data**

Figure 4. Gain for the FXP14 Antenna.



# **C. Efficiency Data**

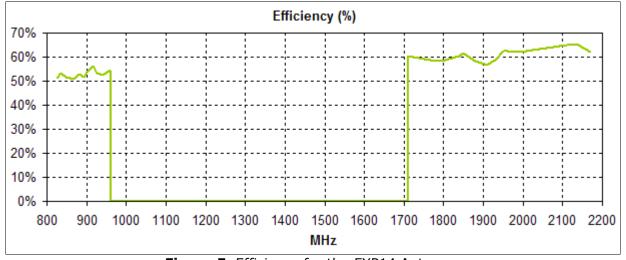
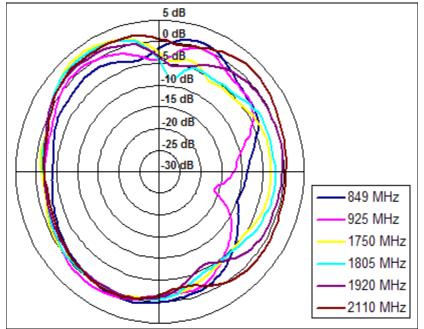


Figure 5. Efficiency for the FXP14 Antenna.

## **D. Radiation Pattern Data**.



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



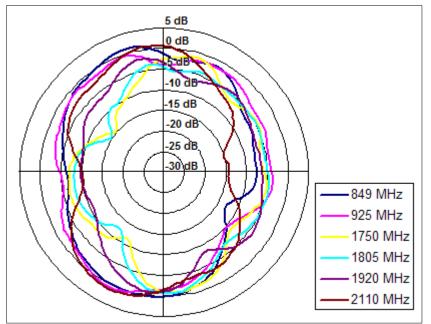


Figure 7. Radiation pattern YZ Plane, Figure 1 as reference (dB).

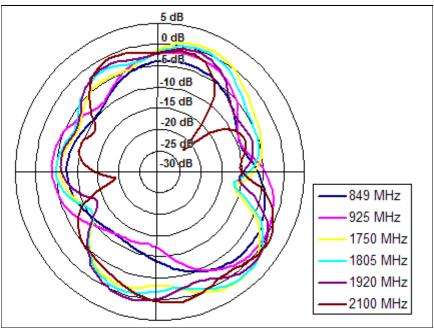
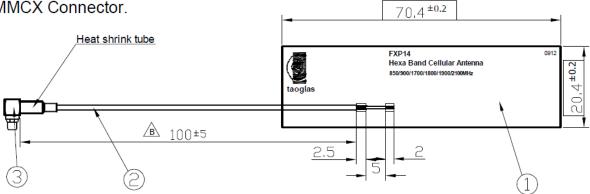


Figure 8. Radiation pattern XY plane, Figure 1 as reference (dB).



# **V. MECHANICAL DRAWING**

1.13 Coaxial Cable Gray MMCX Connector.



	Name	Material	Finish	QTY
1	FXP-14 PCB	FPCB 0.1t	Black	1
$\bigcirc$	1.13 Coaxial Cable	1.13 Cable	Black	1
3	MMCX Connector.	Brass	Gold	1

Unit : mm

Figure 9. Mechanical Drawing for the FXP14 Antenna.