

FXP14.07.0100A

Specification

Part No.	**FXP14.07.0100A**
Product Name	**FXP14 Hexa-Band Cellular Antenna with GPS** 850/900/1700/1800/1900/2100MHz and 1575.42MHz
Feature	IPEX MHFI Connector (U.FL compatible) 100mm Cable 70*20*0.1 mm RoHS Compliant

1. Introduction

The Taoglas FXP14 Wide-Band Cellular Antenna with GPS covers all world-wide bands (850 / 900 / 1700 / 1800 / 1900 / 2100 and 1575.42 MHz). These cellular bands are used for different technologies in different countries such as GSM / CDMA / DCS / PCS / WCDMA / UMTS/ HSPA / GPRS / EDGE / 3G plus GPS.

This antenna is ideal for use with cellular modules with Assisted GPS functionality on board where only one antenna connection is available.

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 plastics and thickness. We have selected a piece of 2 mm ABS for testing.

2. Specifications

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	5W					
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	MHFI (U.FL Compatible)					
Cable Standard	Mini-Coax 1.13 mm					
Cable Length and color	100mm, Black					
RoHS Compliant	Yes					
Adhesive	3M 467					

Parameter	GPS
Frequency	1575.42MHz
Return Loss (db)	-7
Efficiency	50%
Gain (dBi)	2.2
Radiation Pattern	Omni-Directional

3. Test Set Up

A Satimo SG24 3D Scan System with Anechoic Chamber

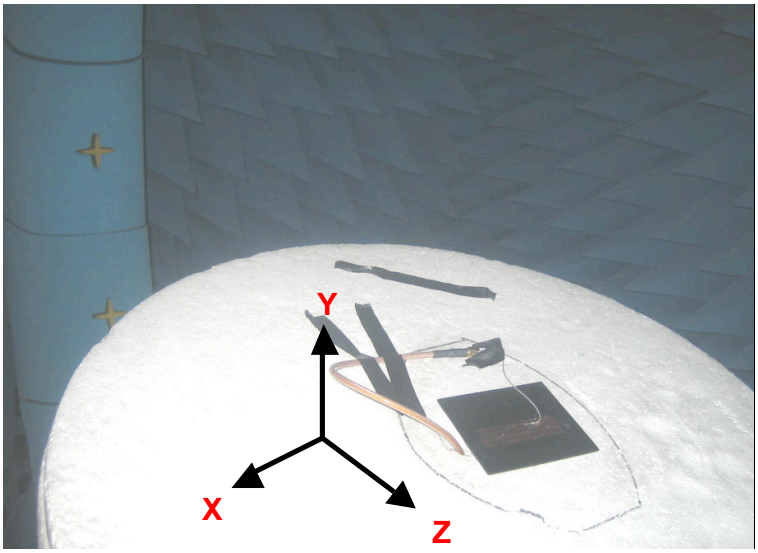


Figure 1. Satimo System.

Agilent 5071C Vector Network Analyzer

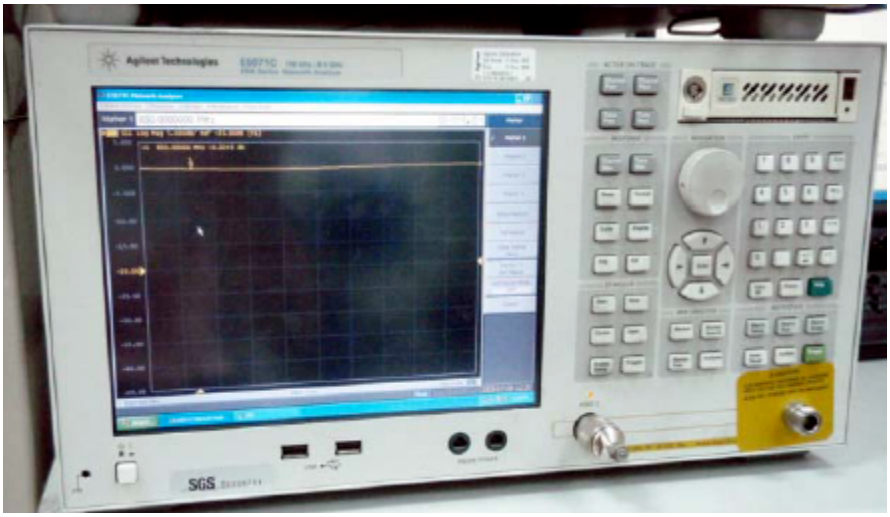


Figure 2. Network Analyzer.

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

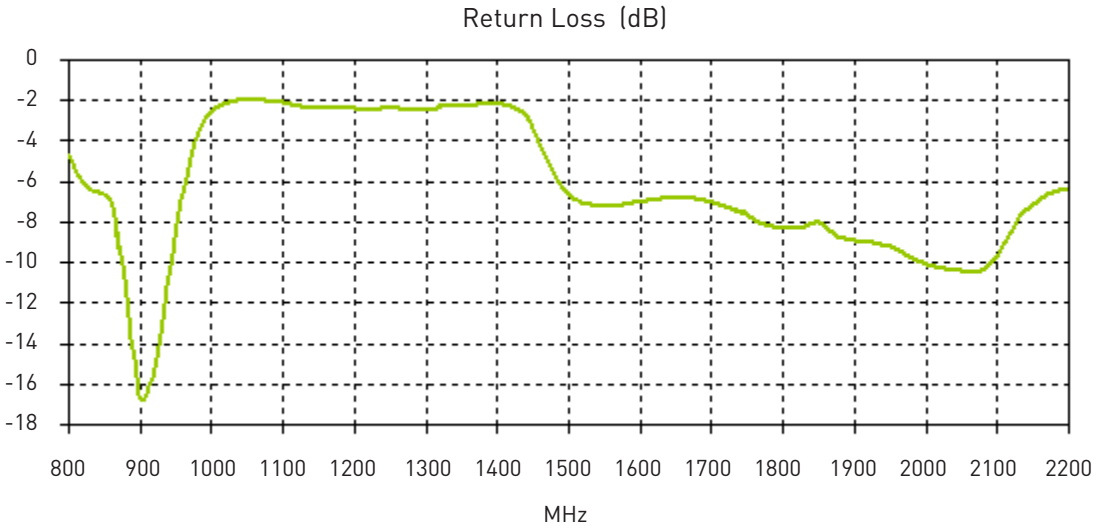


Figure 3. Return Loss for the FXP14 Antenna.

4.2 Gain Data

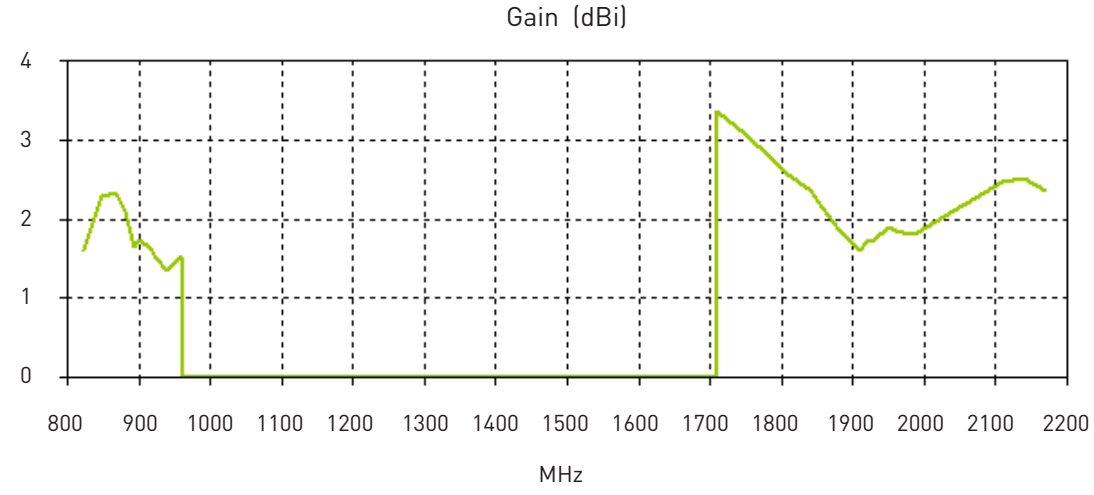


Figure 4. Gain for the FXP14 Antenna.

4.3 Efficiency Data

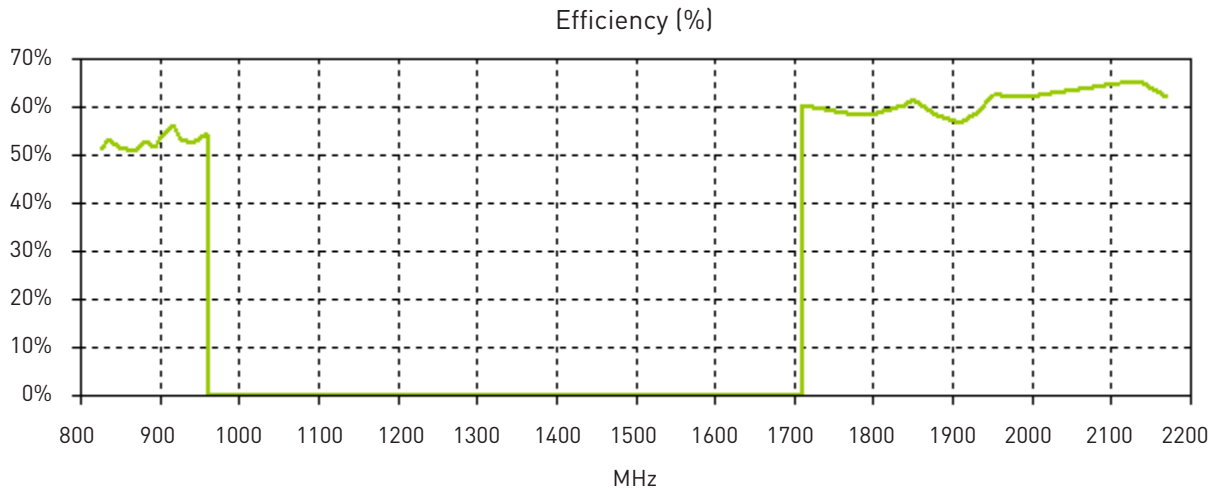


Figure 5. Efficiency for the FXP14 Antenna.

4.4 Radiation Pattern Data

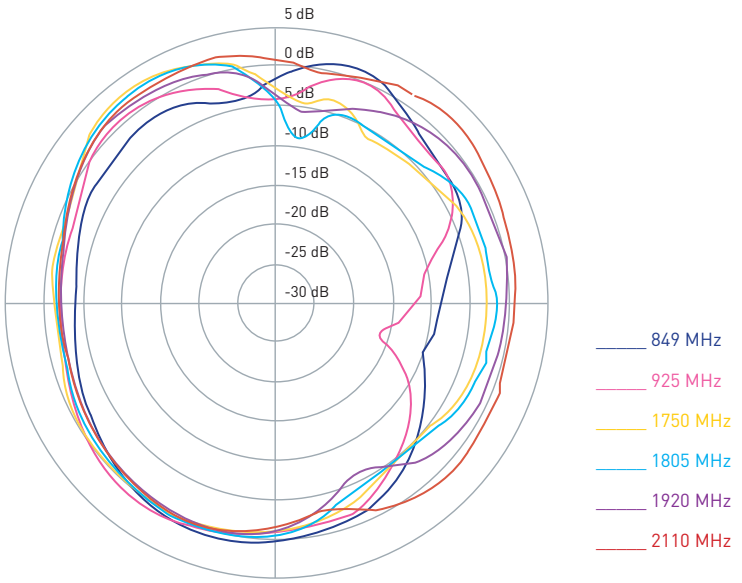


Figure 6. Radiation pattern XZ Plane, Figure 1 as reference (dB)

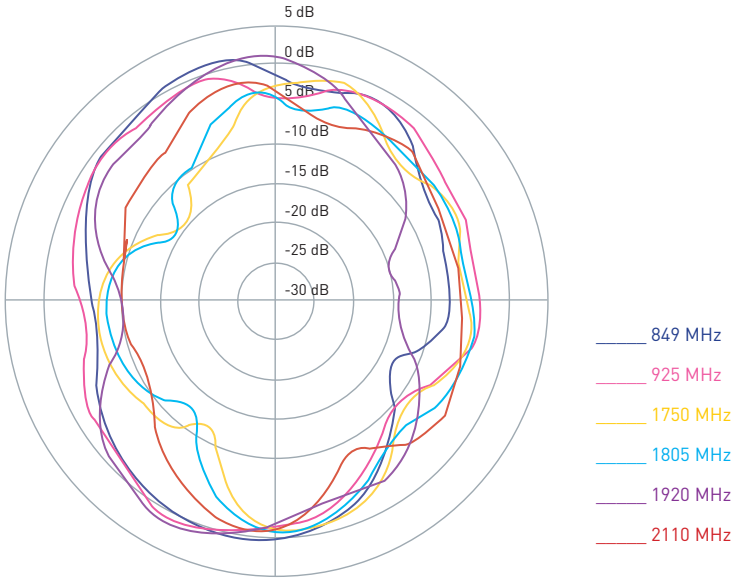


Figure 7. Radiation pattern YZ Plane, Figure 1 as reference (dB)

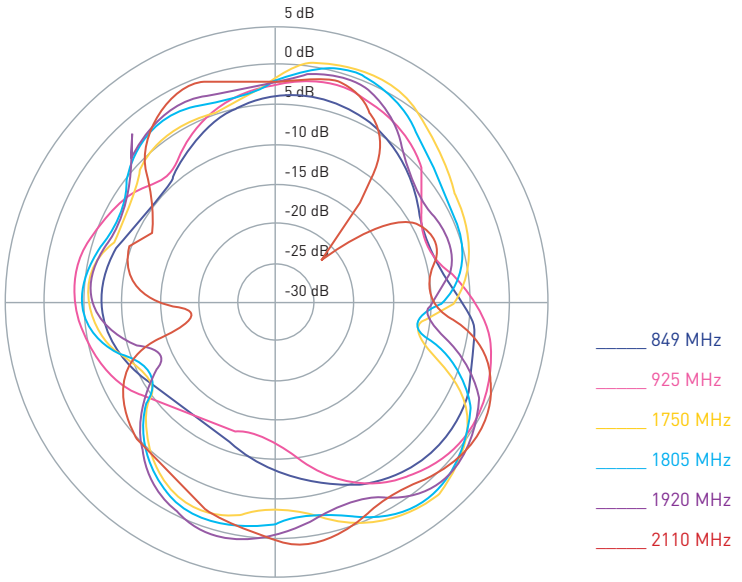


Figure 8. Radiation pattern XY plane, Figure 1 as reference (dB)

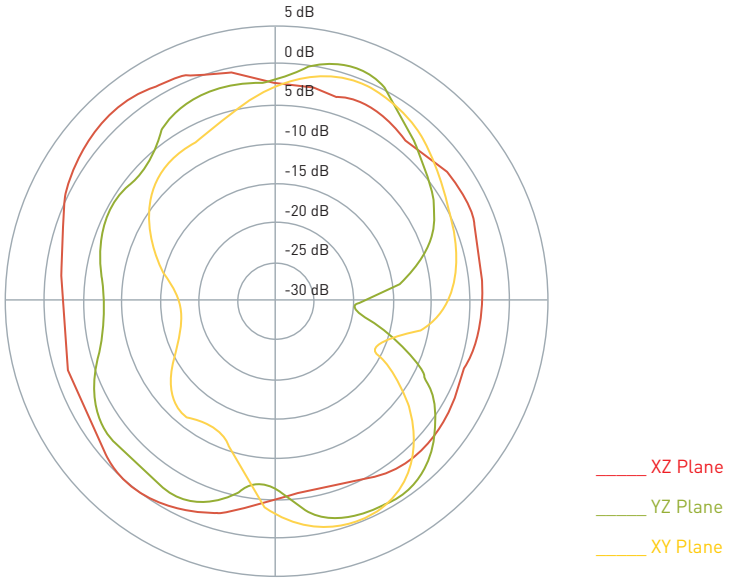


Figure 9. Radiation pattern for GPS at 1575.42 MHz, Figure 1 as reference.

5. Drawing

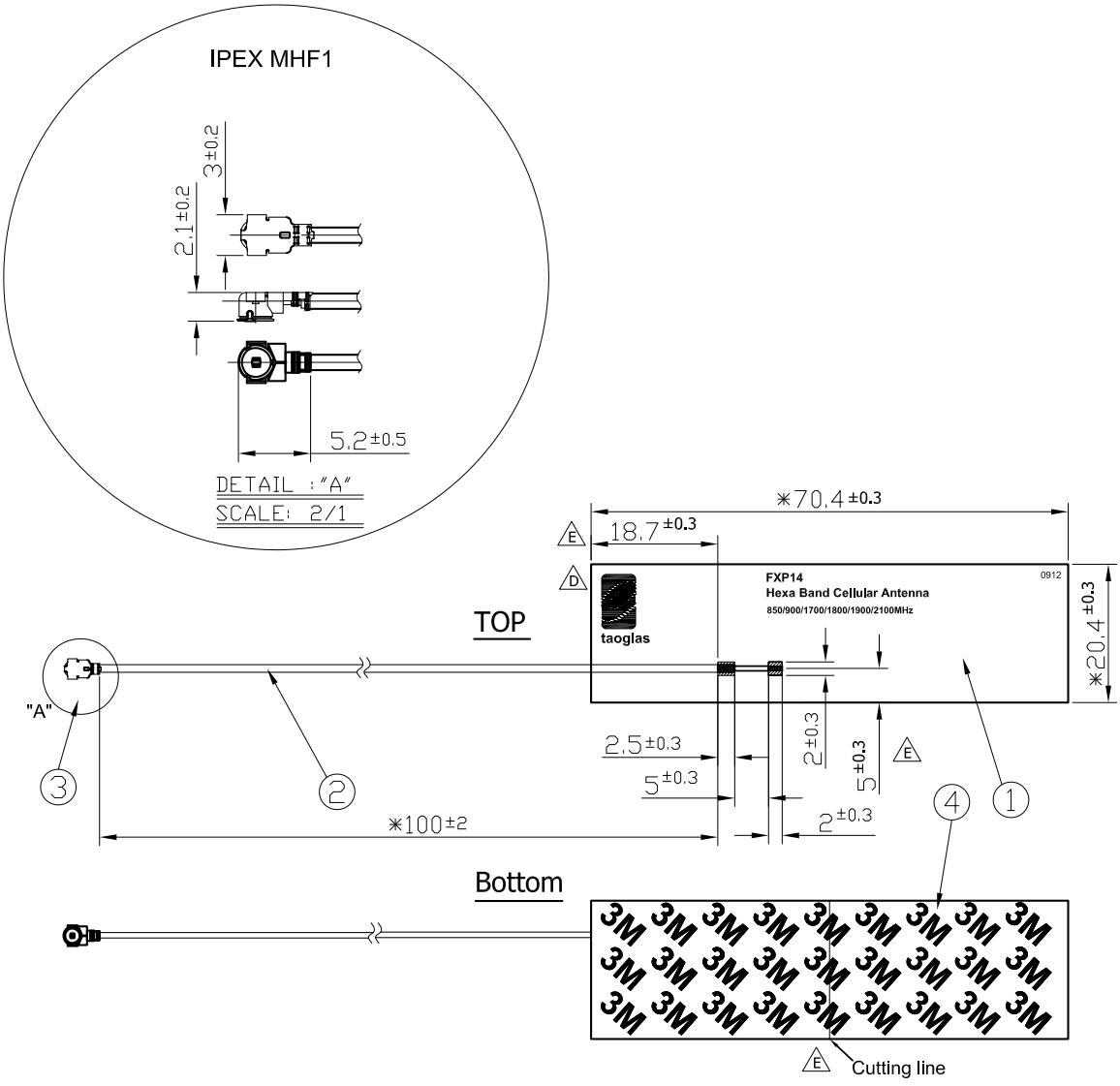
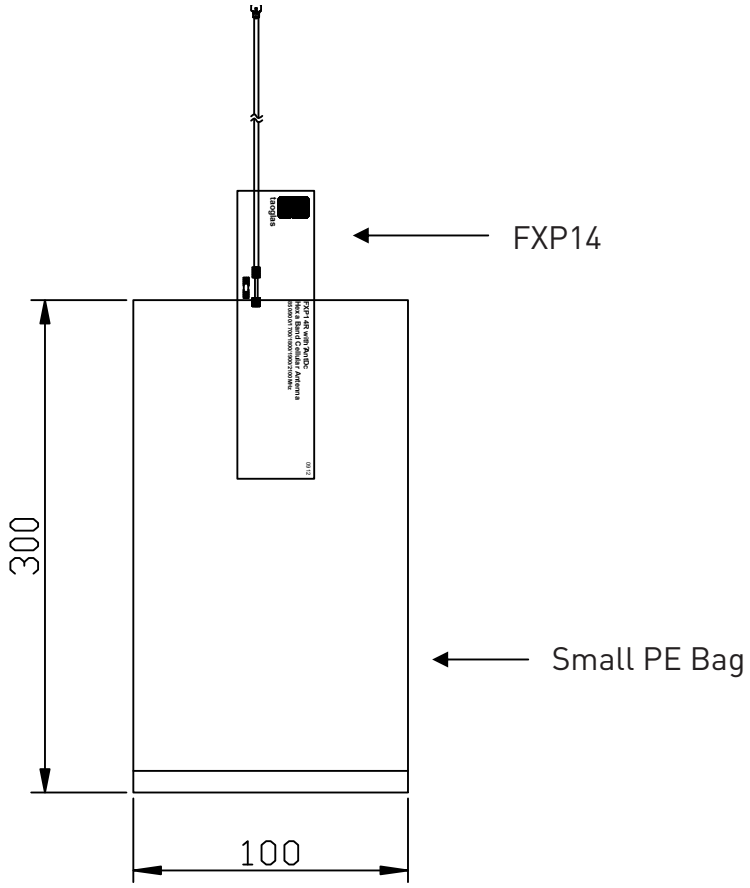


Figure 10. Mechanical Drawing for the FXP14 Antenna

	Name	Material	Finish	QTY
1	FXP14 PCB	FPCB 0.1t	Black	1
2	1.13 Coaxial Cable	FEP	Black	1
3	IPEX MHF1	Brass	Gold	1
4	Double-Sided Adhesive	3M 467	Brown Liner	1

6. Packaging

100pcs antenna per small PE bag



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