SPECIFICATION

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

VERSION	DATE	PAGE	DESCRIPTION	CENTRE	APPROVED
A	04/07/2009	All	Antenna Specifications	San Diego	Ruben F. Cuadras

I. OVERVIEW

The Taoglas FXP14 Hepta-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.

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 ºC ~ +85 ºC					
Storage Temperature	-40 ºC ~ +85 ºC					
Dimensions	70 X 20 X 0.1 mm					
Weight	1.5 g					
Connector	MHFII (U.FL Compatible)					
Cable Standard	Mini-Coax 1.13 mm					
Cable Length and color	100 mm, Black					
RoHS Compliant	Yes					
Adhesive	3M 467					
Parameter	**GPS Antenna**					
Frequency (MHz)	1575.42					
Return Loss (dB)	-7					
Efficiency (%)	50%					
Gain (dBi)	2.2					
Radiation Pattern	Omni-directional properties					

III. TEST SET UP

A Satimo SG24 3D Scan System with Anechoic Chamber.

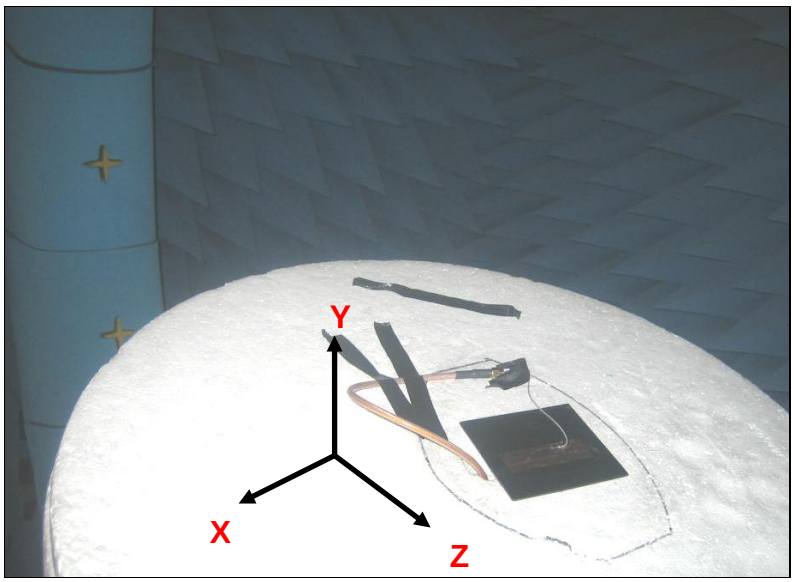

Figure 1. Satimo System.

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

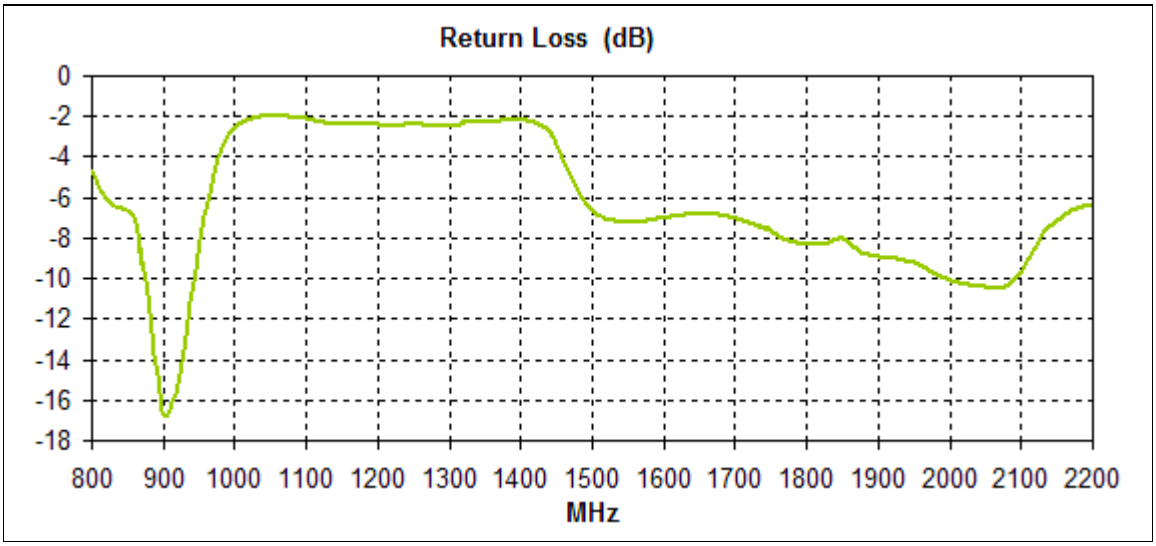

Figure 3. Return Loss for the FXP14 Antenna.

B. Gain Data

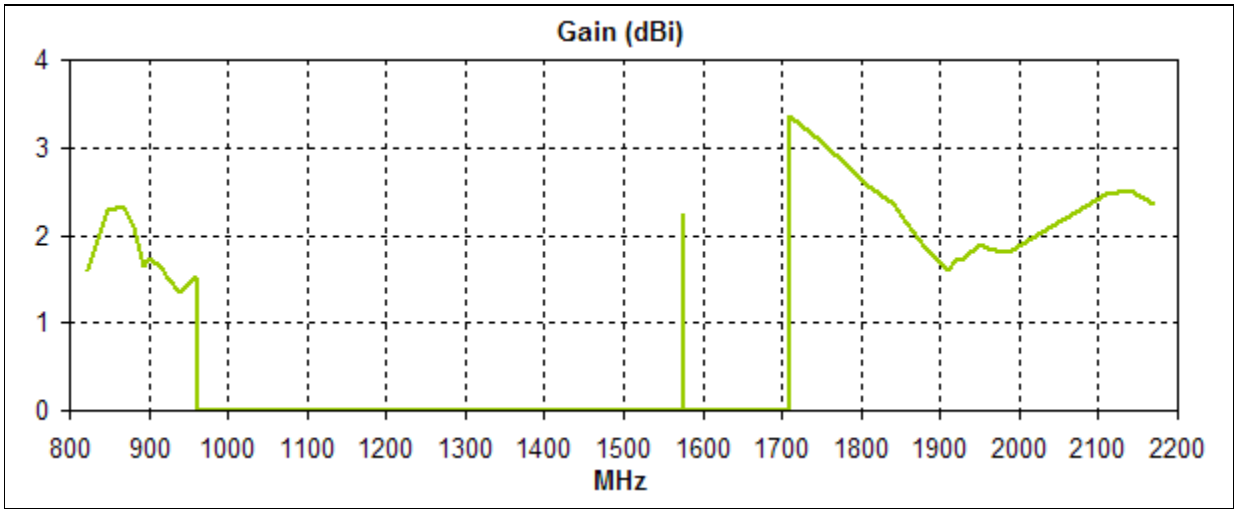

Figure 4. Gain for the FXP14 Antenna.

C. Efficiency Data

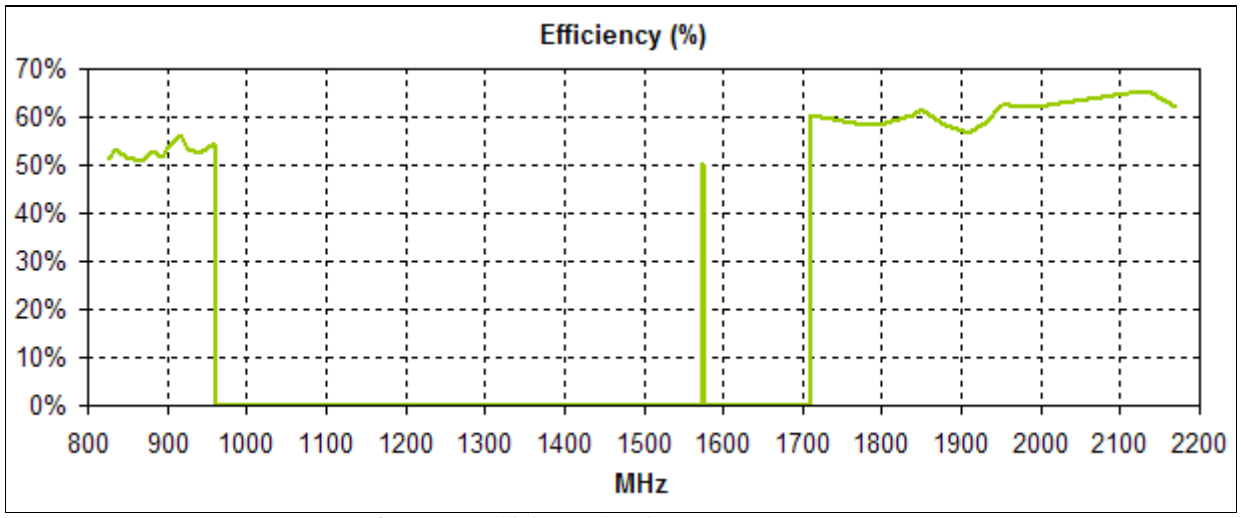

Figure 5. Efficiency for the FXP14 Antenna.

D. Radiation Pattern Data.

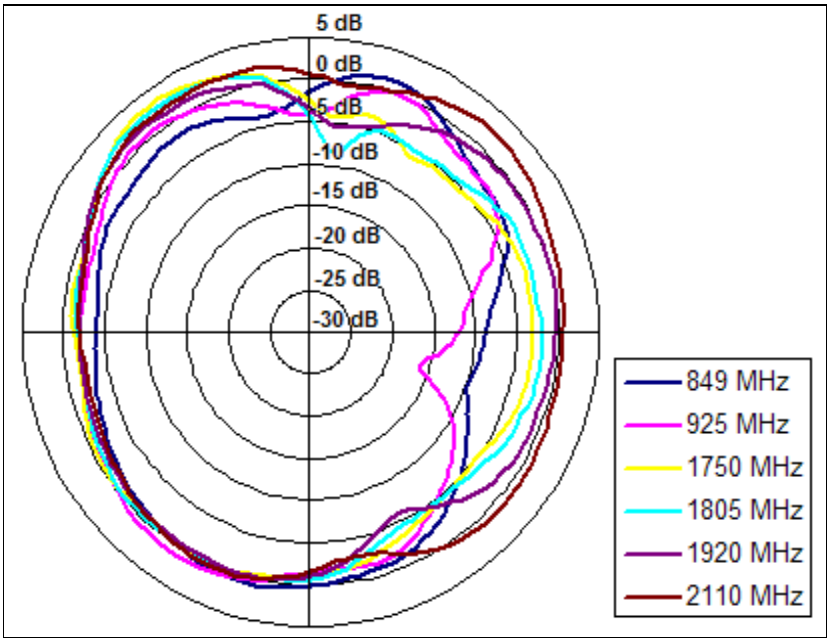

Figure 6. Radiation pattern XZ Plane, Figure 1 as reference (dB).

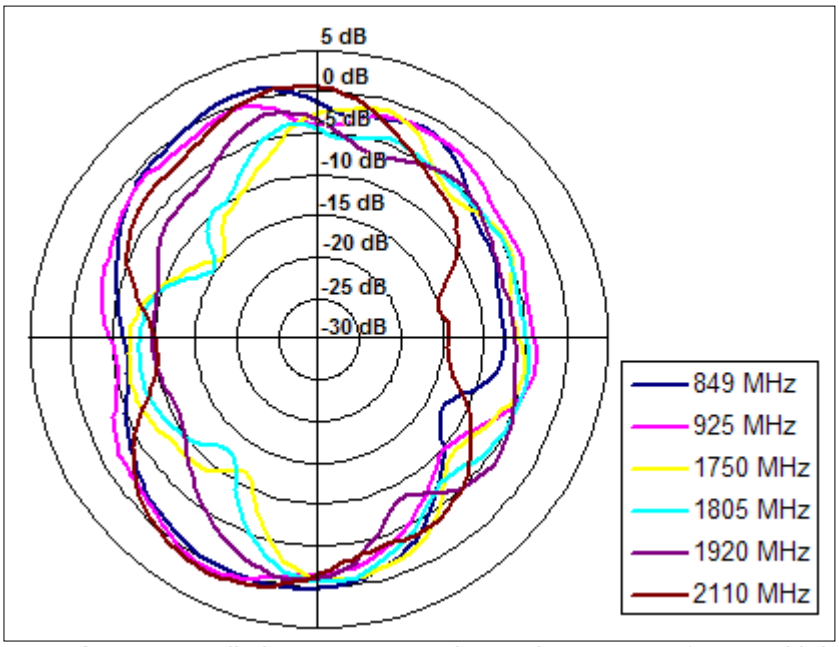

Figure 7. Radiation pattern YZ Plane, Figure 1 as reference (dB).

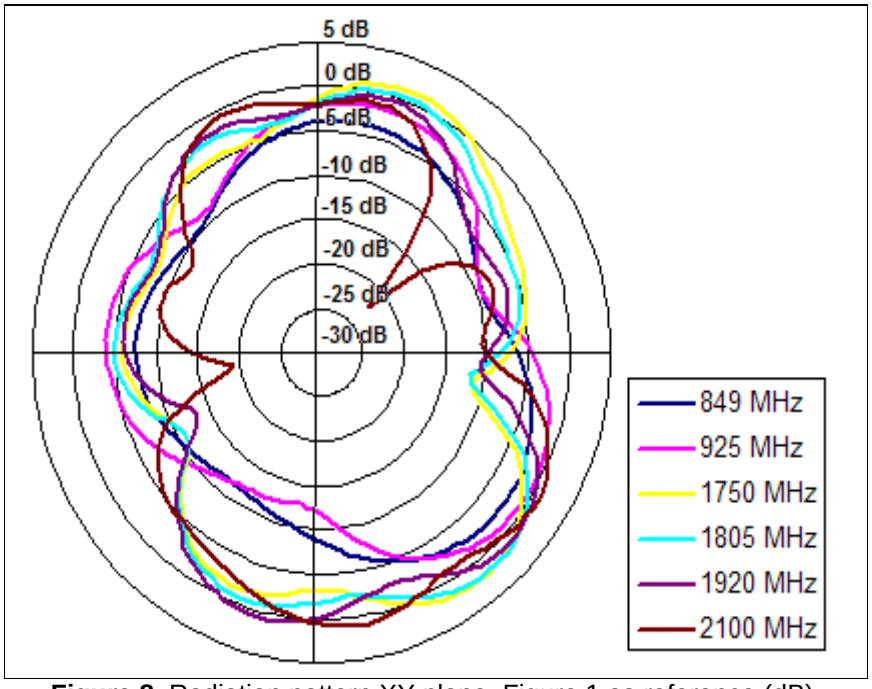

Figure 8. Radiation pattern XY plane, Figure 1 as reference (dB).

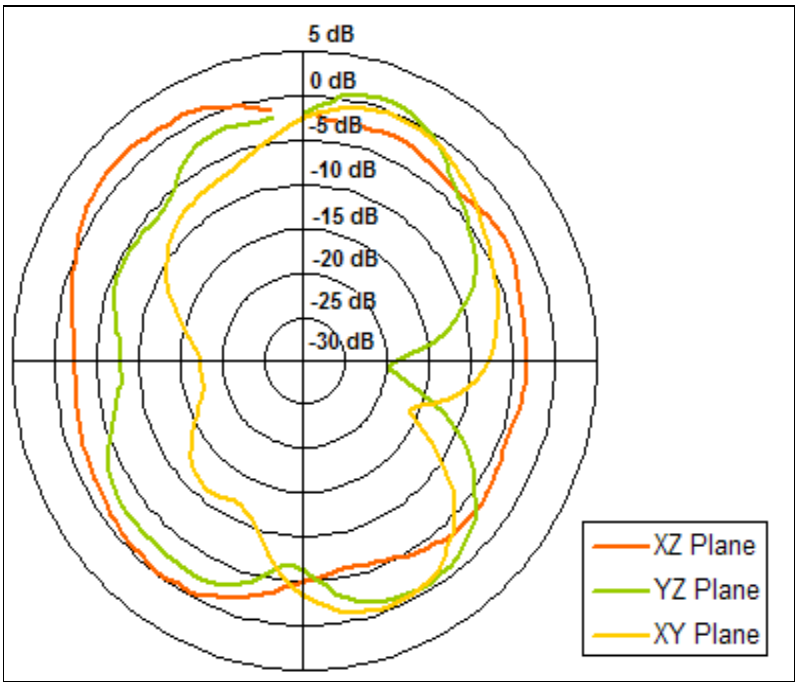

Figure 9. Radiation pattern for GPS at 1575.42 MHz, Figure 1 as reference.

V. MECHANICAL DRAWING

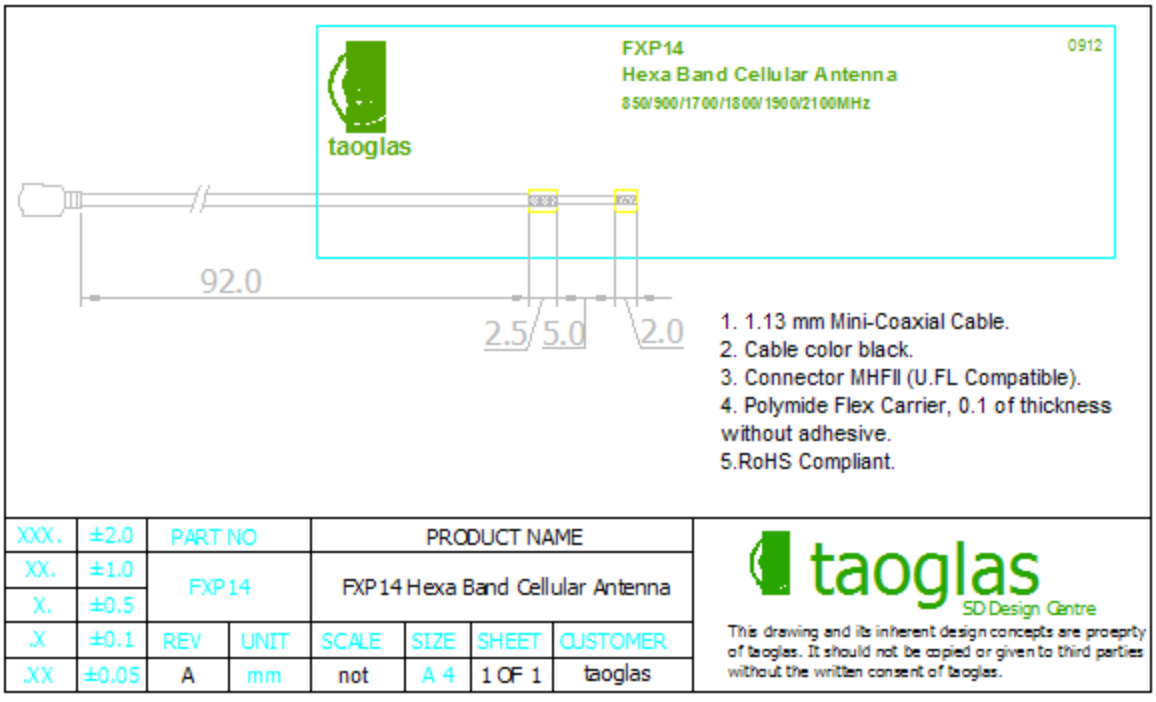

Figure 10. Mechanical Drawing for the FXP14 Antenna.