SPECIFICATION

Patent Pending

FXP.810 2.4/4.9-6GHz Dual-band Dipole Antenna

Part No.	:	FXP.810.07.0100C
Product Name	:	FXP.810 Freedom WIFI 2.4/4.9-6GHz Series Dipole Antenna
Feature	:	Very High Efficiency Ground-plane Independent IPEX MHF1 Connector (U.FL compatible) 1.37mm Diameter Micro Cable - 100 mm 31mm*31mm*0.1 mm RoHS Compliant

Introduction

The FXP810 has a peak gain of 1.5dBi at 2.4GHz and efficiencies of 60-70%, increasing to 5dBi and 80-90% along bands 4.9GHz to 6GHz.

At 31*31*0.1mm in size this antenna is uniquely valuable for small tag type mobile devices in that it can slip between the battery and the main PCB ground of small devices to get increased performance from the ground coupling effect. Only the top 6.5mm radiating element needs to protrude out from the side of the main board, allowing such devices to have the highest possible performance at smallest possible dimensions, it accomplishes this because it does not need clearance or footprint space on the device board itself that all on-board chip, loop and patch antennas need.

I. Specification

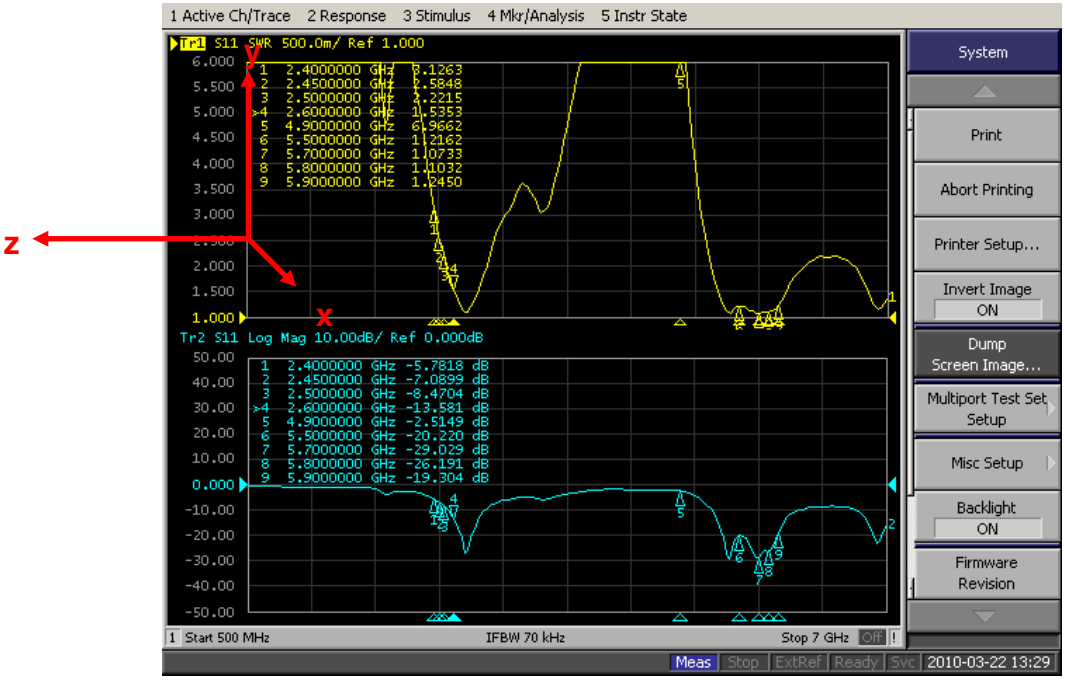
ELECTRICAL		
Frequency	2.4 ~ 2.5GHz,	4.9 ~ 5.8GHz
Peak Gain (free space)	1.5dBi	5.1dBi
Peak Gain (on plastic*)	2.4dBi	5.0dBi
Average Gain (free space)	-2.6dBi	-1.1dBi
Average Gain (on plastic)	-1.2dBi	-0.8dBI
Efficiency (free space)	56%	78%
Efficiency (on plastic)	76%	84%
VSWR	≦1.7 : 1	
Impedance	50 Ohms	
Polarization	Linear	
Radiation Pattern	Omni	
Input Power	2W max.	
MECHANICAL		
Dimensions	31mm*31mm*0.1mm	
Antenna Body Material	Polymer	
Cable	Gray 100mm 1.37 co-axial	
Connector	IPEX MHFI	
ENVIRONMENTAL		
Temperature Range	-40℃ to 85℃	
Humidity	Non-condensing 65℃ 95% RH	

* On ABS Plastic 4mm

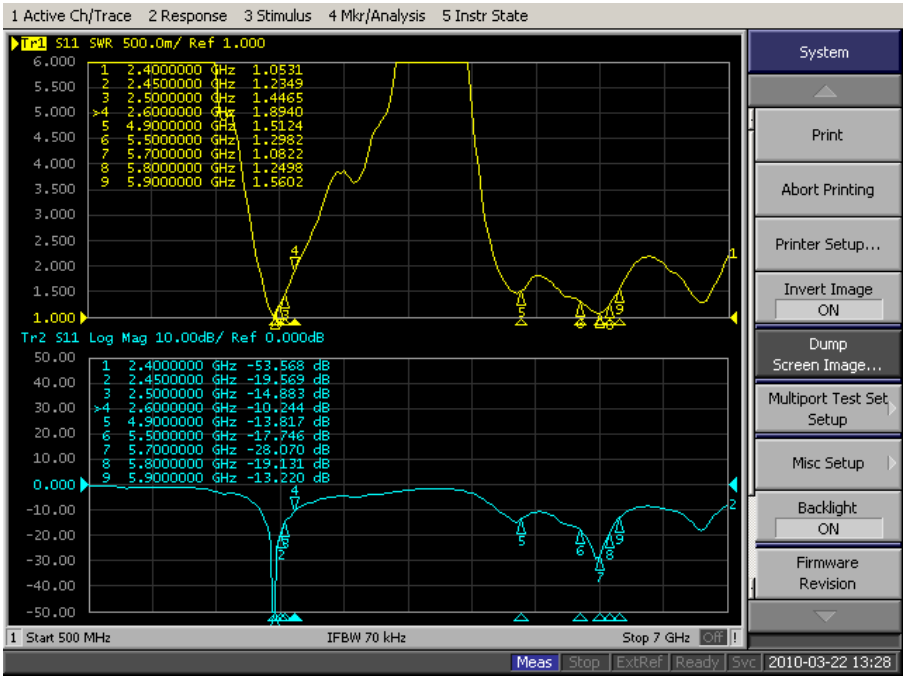
II. Electrical Property

II.1.S11 Measurement

Free Space:

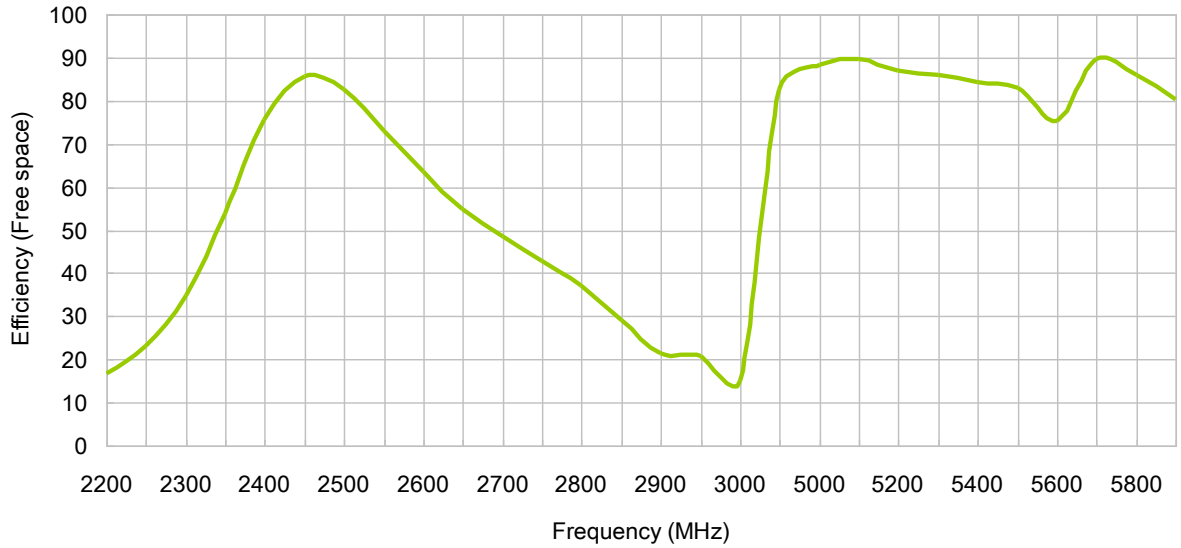


Plastic 1.5mm:



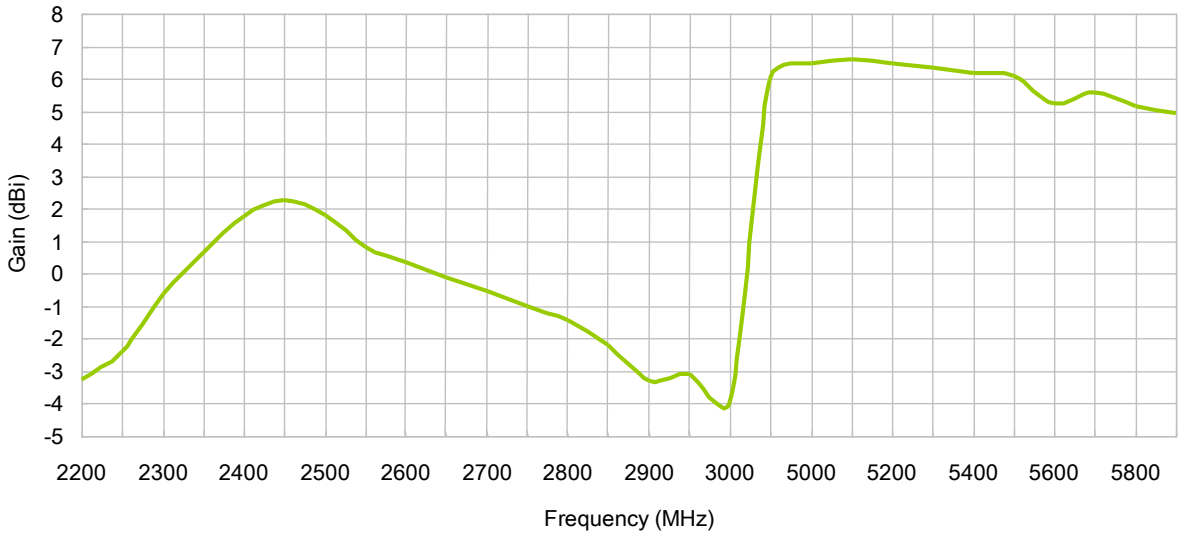
II.2. Efficiency

FXP. 810

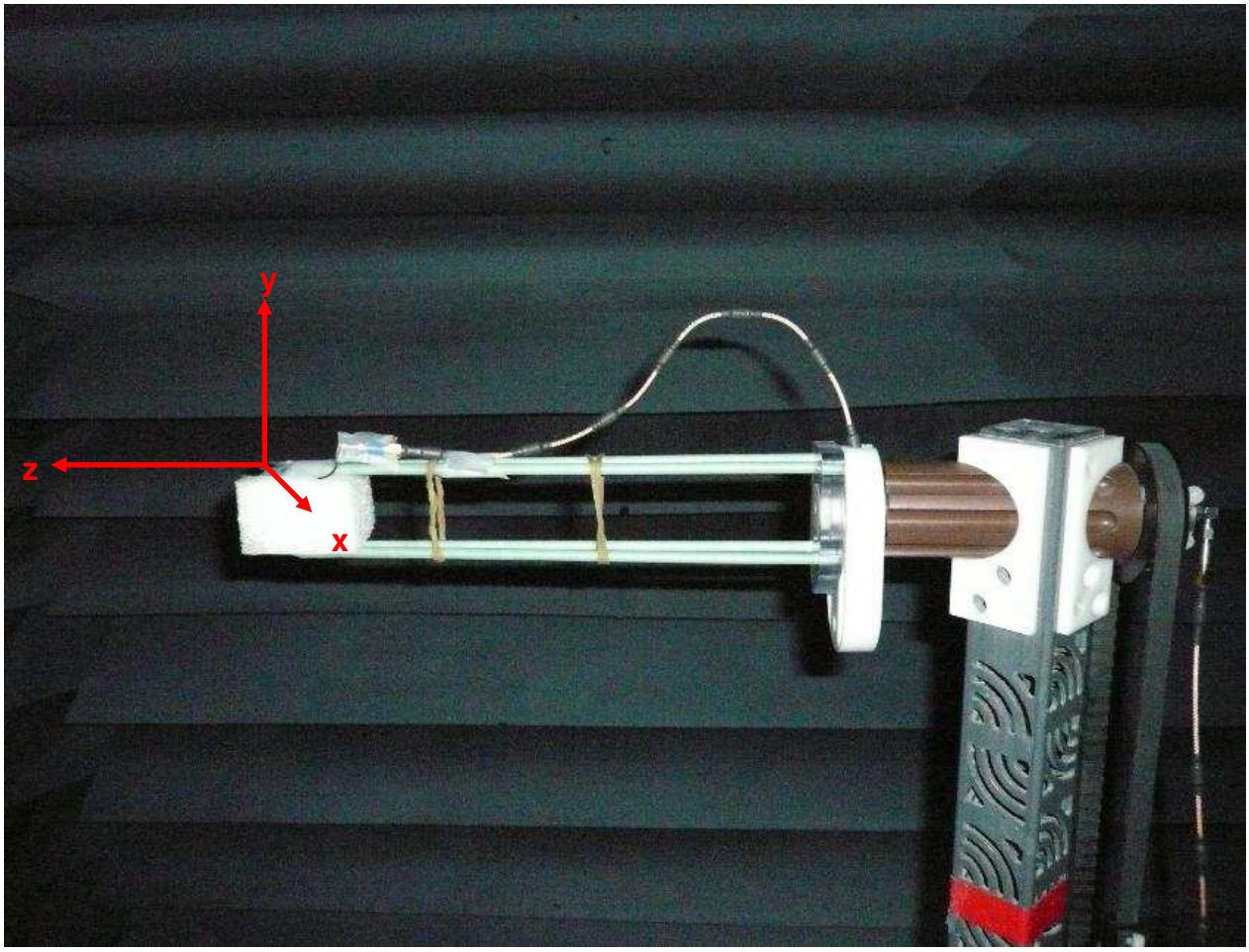


II.3. Gain

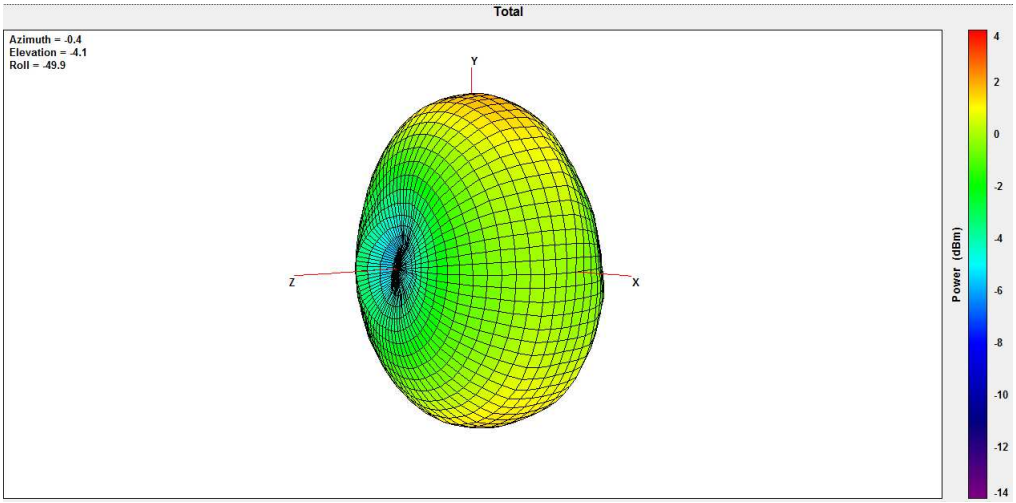
FXP. 810



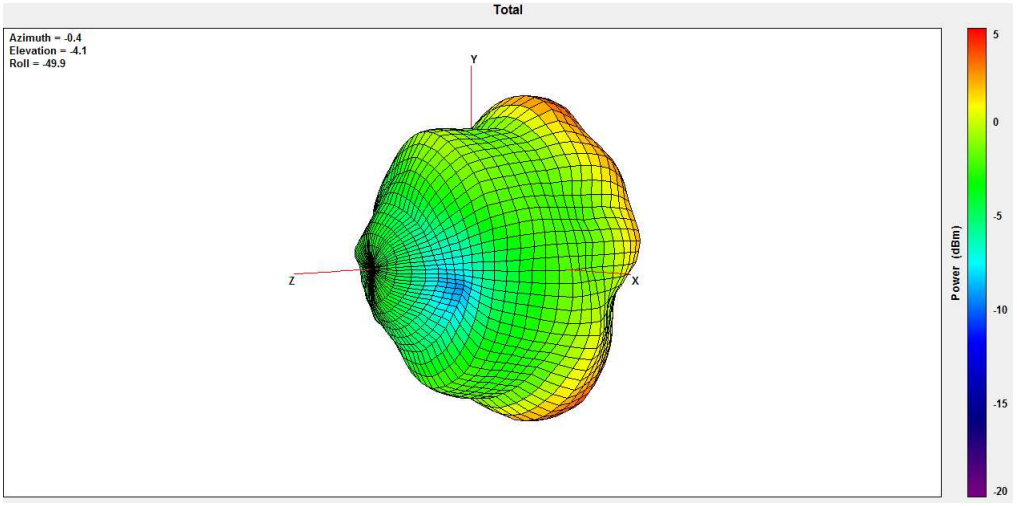
II.4. Radiation Pattern



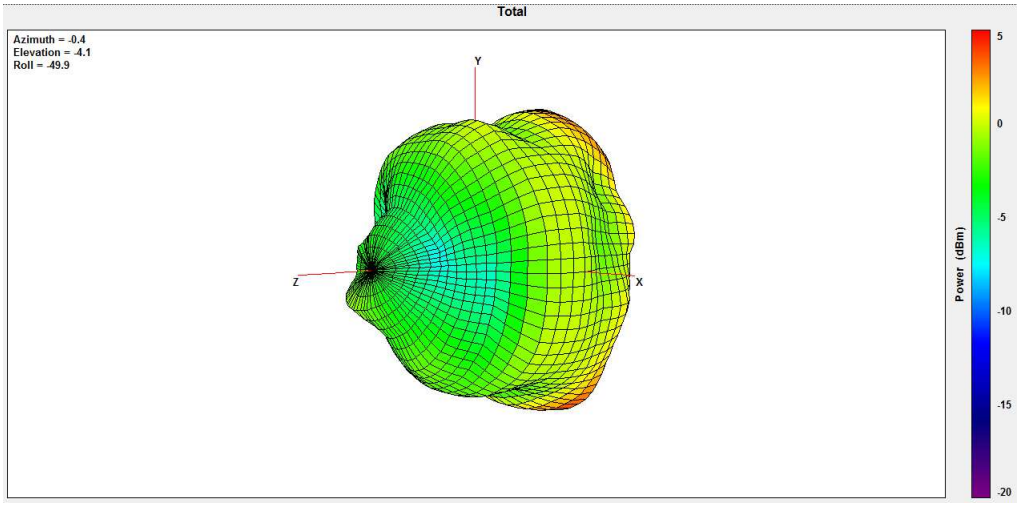
2450 MHz Pattern



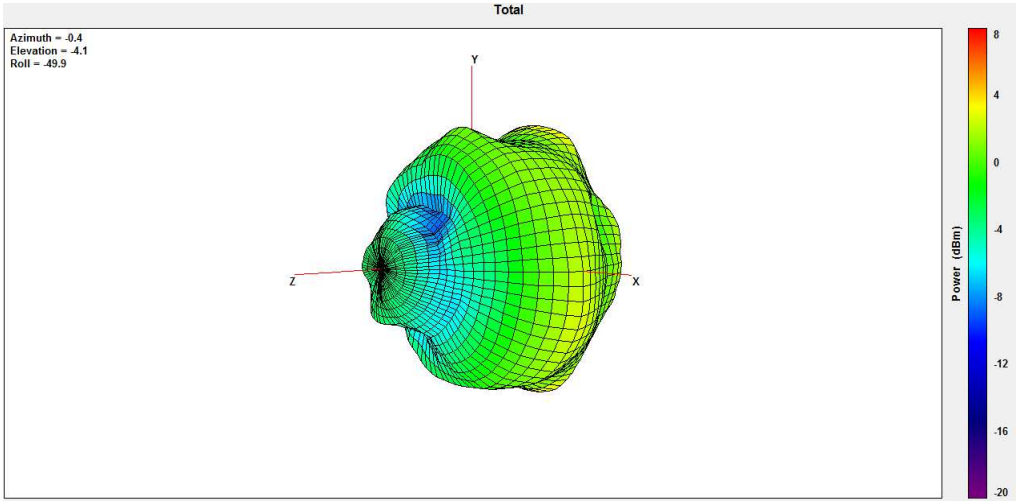
4900 MHz Pattern



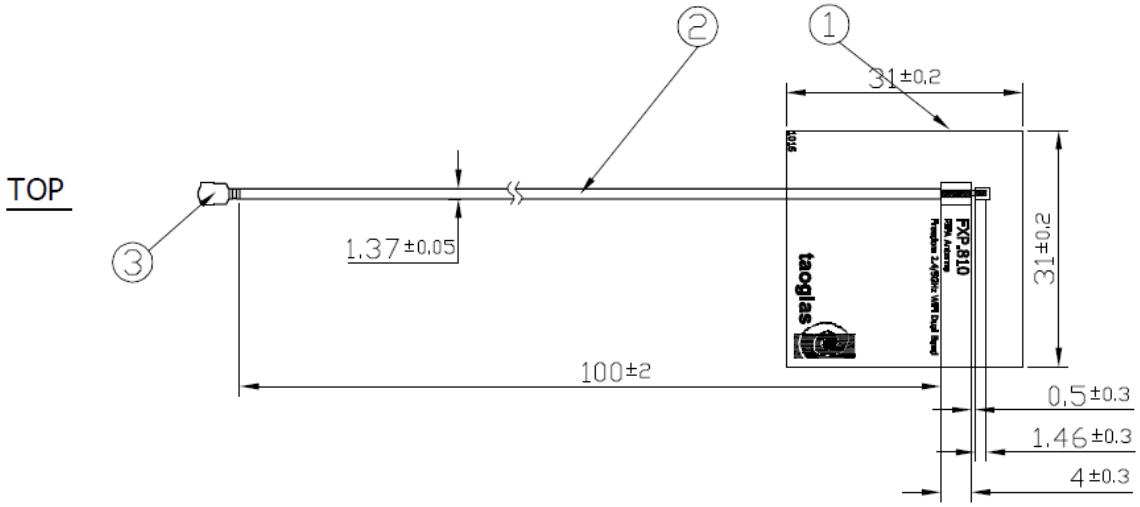
5500 MHz Pattern

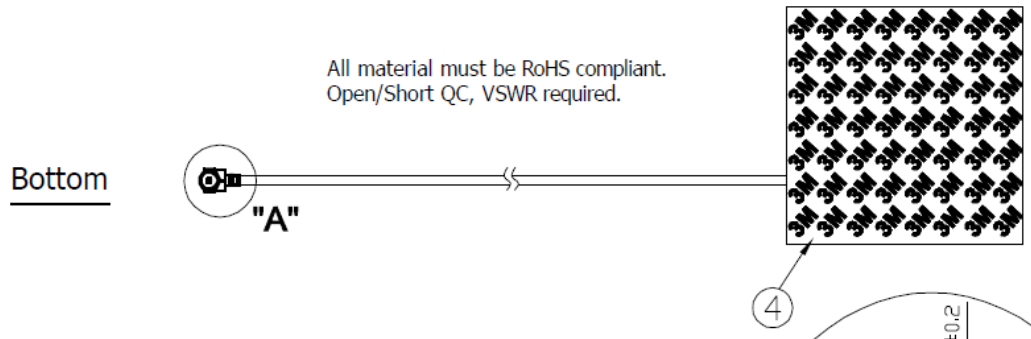


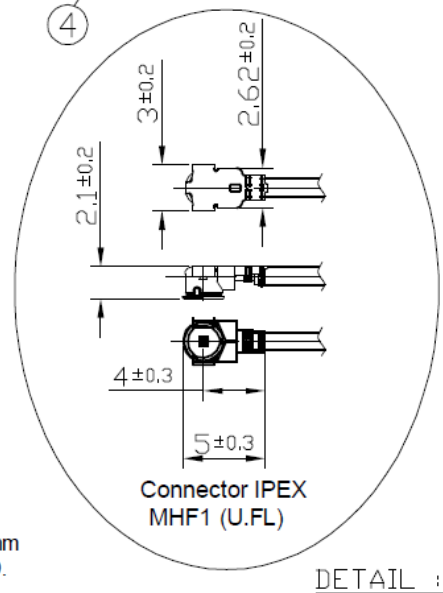
5900 MHz Pattern



III. Mechanical Drawing.







DETAIL : "A"
SCALE: 2/1

	Name	Material	Finish	QTY
1	FXP810 PCB	FPCB 0.1t	Black	1
2	1.37 Mini-Coaxial Cable	FEP	Gray	1
3	IPEX MHF1 (U.FL)	Brass	Gold	1
4	Double-Sided Adhesive	3M 467	Brown Liner	1

NOTES:
1.NO DREGS OR INSUFFICIENT SOLDERING. SOLDER THICKNESS 1 ~1.7mm
2.THE SOLDER MUST BE SMOOTH AND FULL TO THE EDGES OF THE PAD.
THE SOLDER MUST NOT EXTEND OUTSIDE OF THE PAD AREA.
3.THE CONNECTOR POSITION HAS SPECIAL ORIENTATION TO THE PCB AS PER DRAWING.