SPECIFICATION

Model No.	:	**SGP.25D**
Part No.	:	**SGP.1575.25.4.D.02**
Product Name	:	**GPS SMT Patch Antenna**
Features		25mm*25mm*4mm 1575MHz Centre Frequency Patent Pending RoHS ✔ Halogen Free Compliant

Photo :





1. Introduction

This ceramic GPS patch antenna is based on smart ***XtremeGain™*** technology. It is mounted via SMT process and has been tuned as the optimal solution for the ublox C16-G25Q GSM/GPS Integrated reference Design.

The C16-G25Q GSM/GPS reference design is a complete and integrated solution for telematics applications such as fleet management, asset tracking, road pricing, and security/surveillance. It demonstrates the integration of u-blox' NEO-5Q GPS receiver with a LEON-G200 GPRS/GSM module. This 100% SMD solution uses SMT passive GPS (Taoglas SGP.25D) and GSM antenna (Taoglas PA.25A) and an on-board SIM Chip with activated phone number (SIM holder optional for mechanical (SIM).

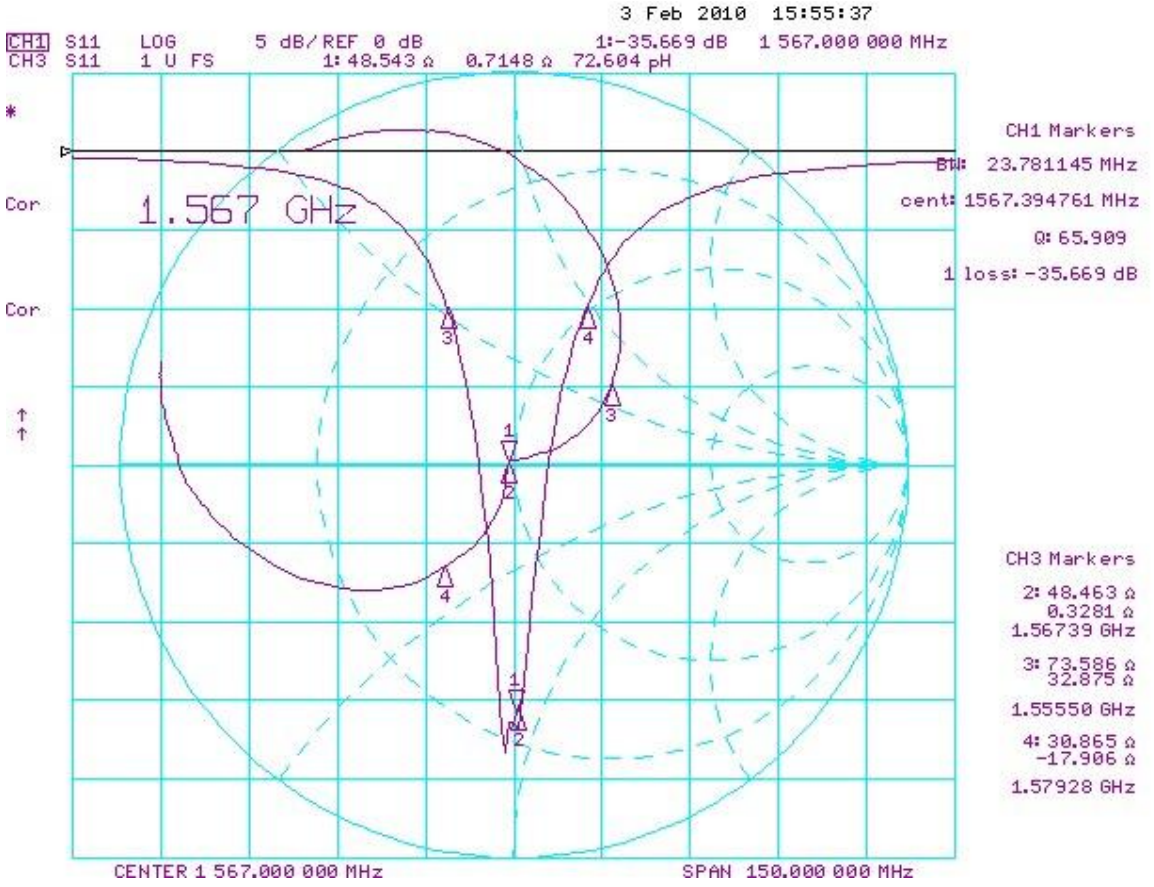
On the test fixture of 63.2 x 50.03 mm (GND Plane) the antenna has a centre frequency of 1567MHz ± 3MHz

2. Specification

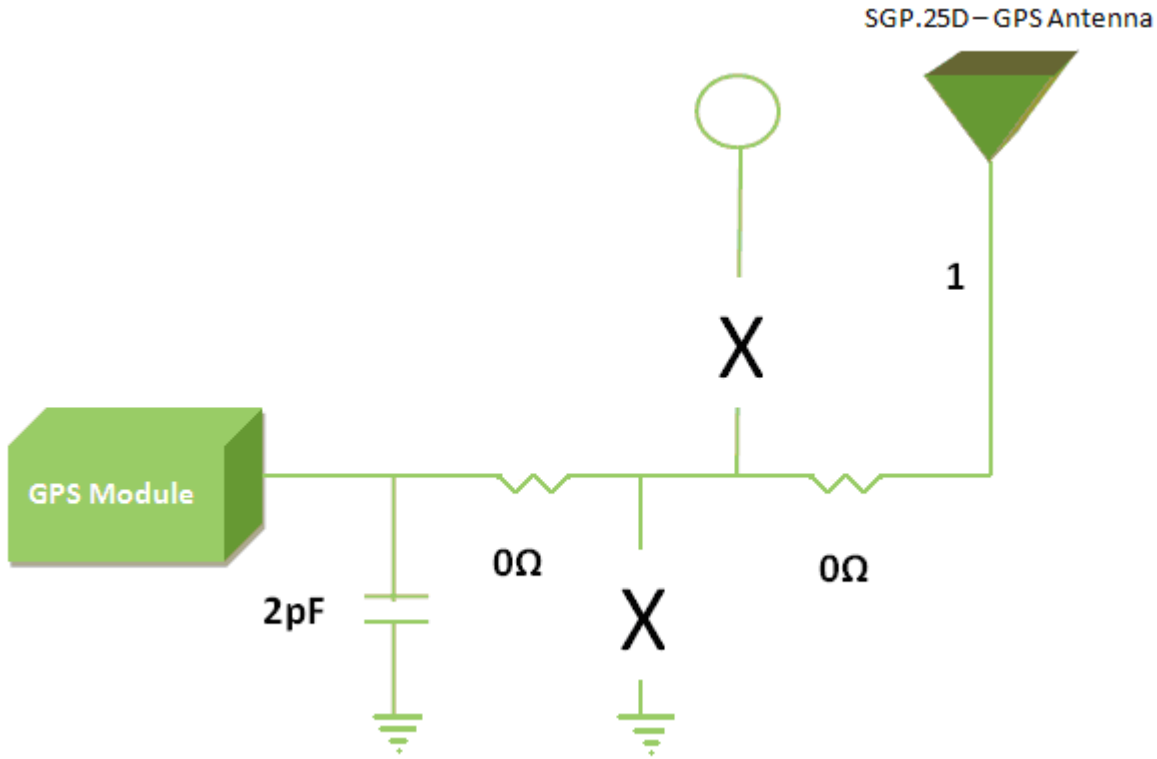
No	Parameter	Specification	
1	Range of Receiving Frequency	1575MHz +/- 1.023MHz	
2	Bandwidth	22 MHz min with Return Loss <-10dB	
3	VSWR	1.5 max	
4	Gain at Zenith	+1.0 dBic typ.	
5	Axial ratio	4.0 dB Max.	
6	Impedance	50 Ω	
7	Polarization	Right Hand Circular Polarization	
8	Frequency Temperature Coefficient	0 ± 20 ppm/ ºC max	@ -40ºC to +85ºC
9	Operating Temperature	-40ºC to +85ºC	

3. Electrical Specifications

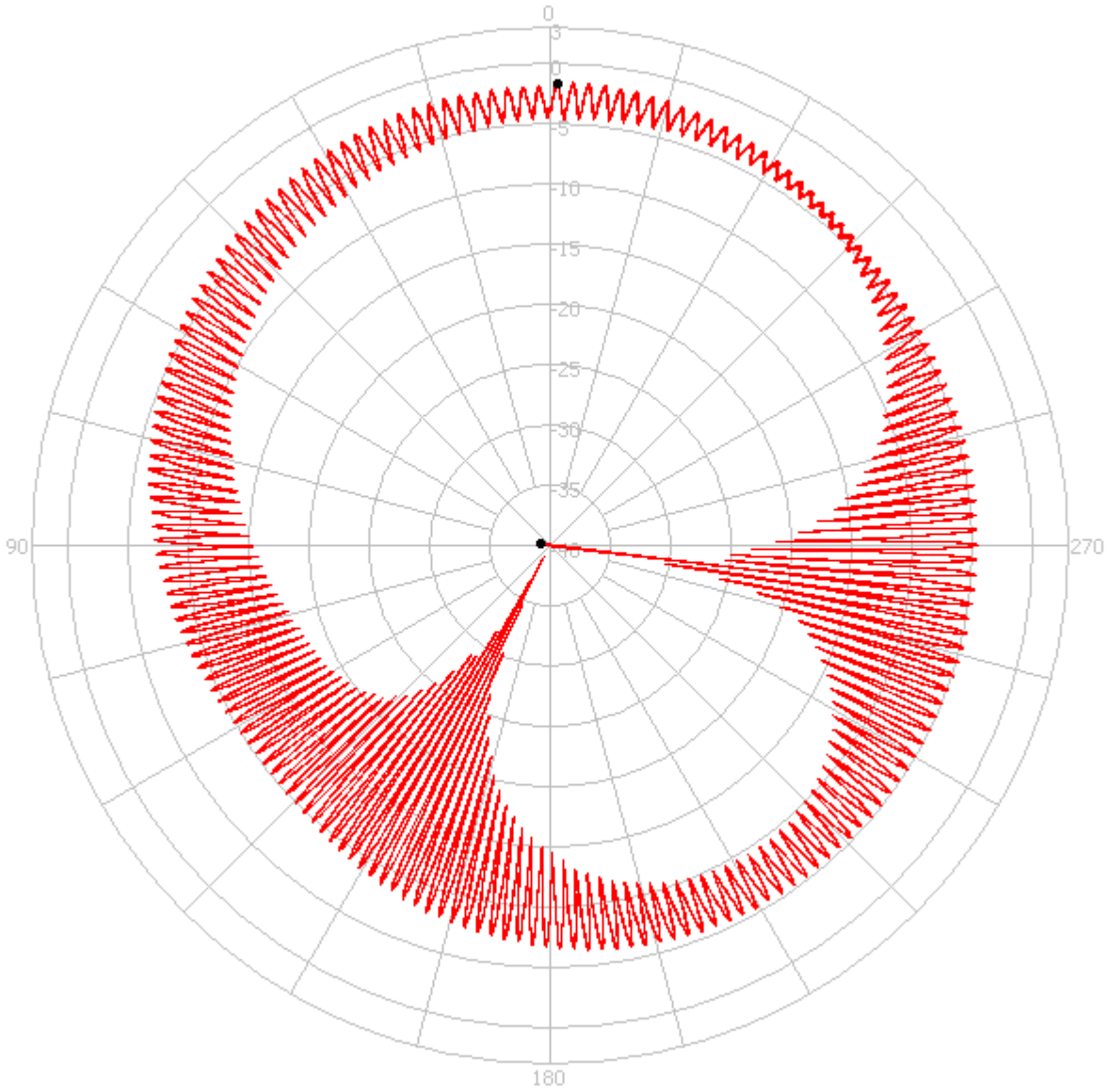
3.1 Return Loss, SWR, Impedance (For Ublox C16-G25Q Reference Design)



3.2 Matching Circuit

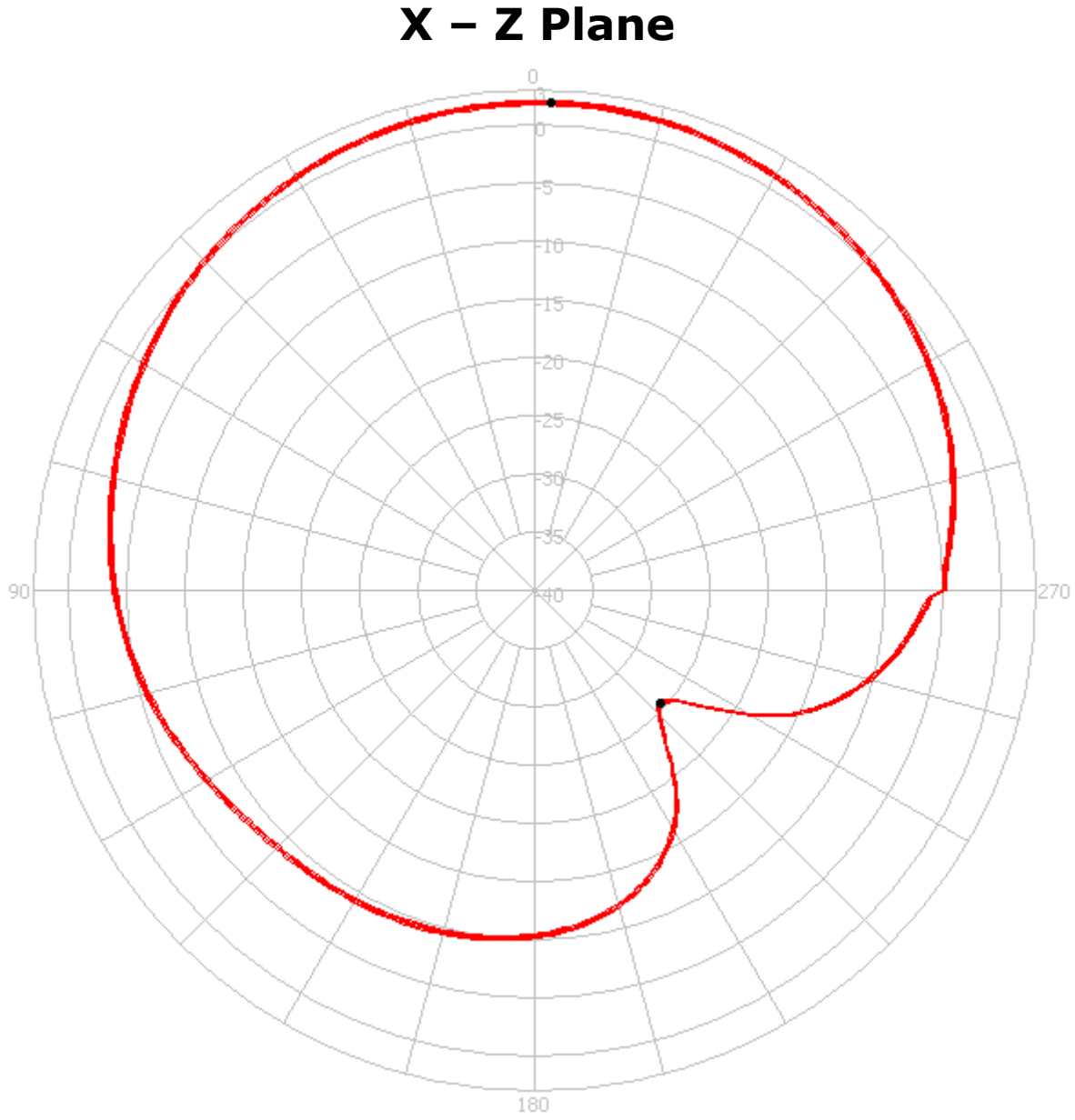


3.3 Axial Ratio



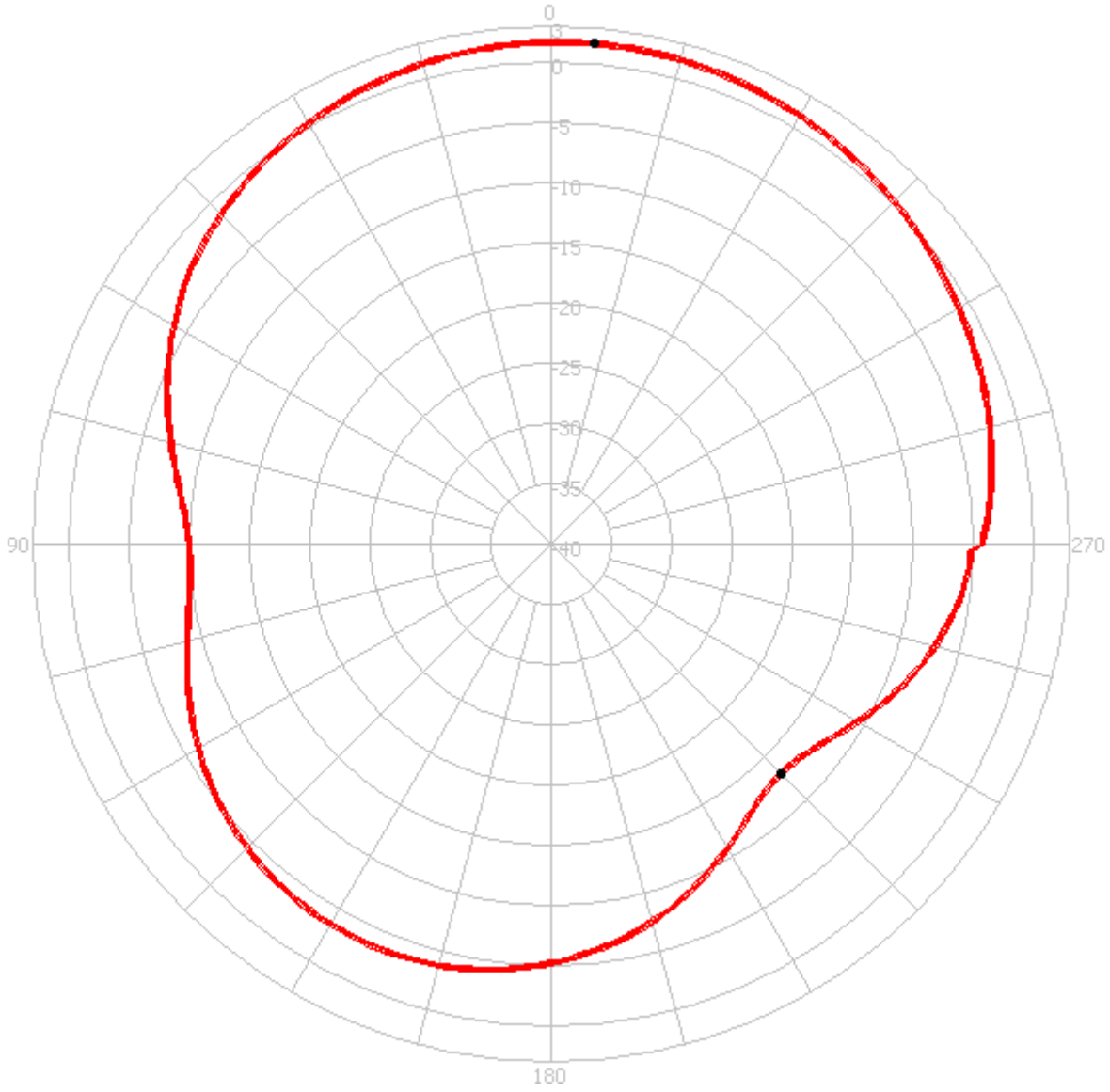
Test Mode	Freq (MHz)	Max Gain (dBi)	Min Gain (dBi)	Avg Gain (dBi)	Source Polar.
Axial Ratio	1575.42	-1.67 / 359.10	-40.80 / 263.03	-6.46	CP

3.4 Cut plane patterns



Test Mode	Freq (MHz)	Max Gain (dBi)	Min Gain (dBi)	Avg Gain (dBi)	Source Polar.
XZ	1575.42	-1.92 / 358	-25.43 / 228	-2.49	RHCP

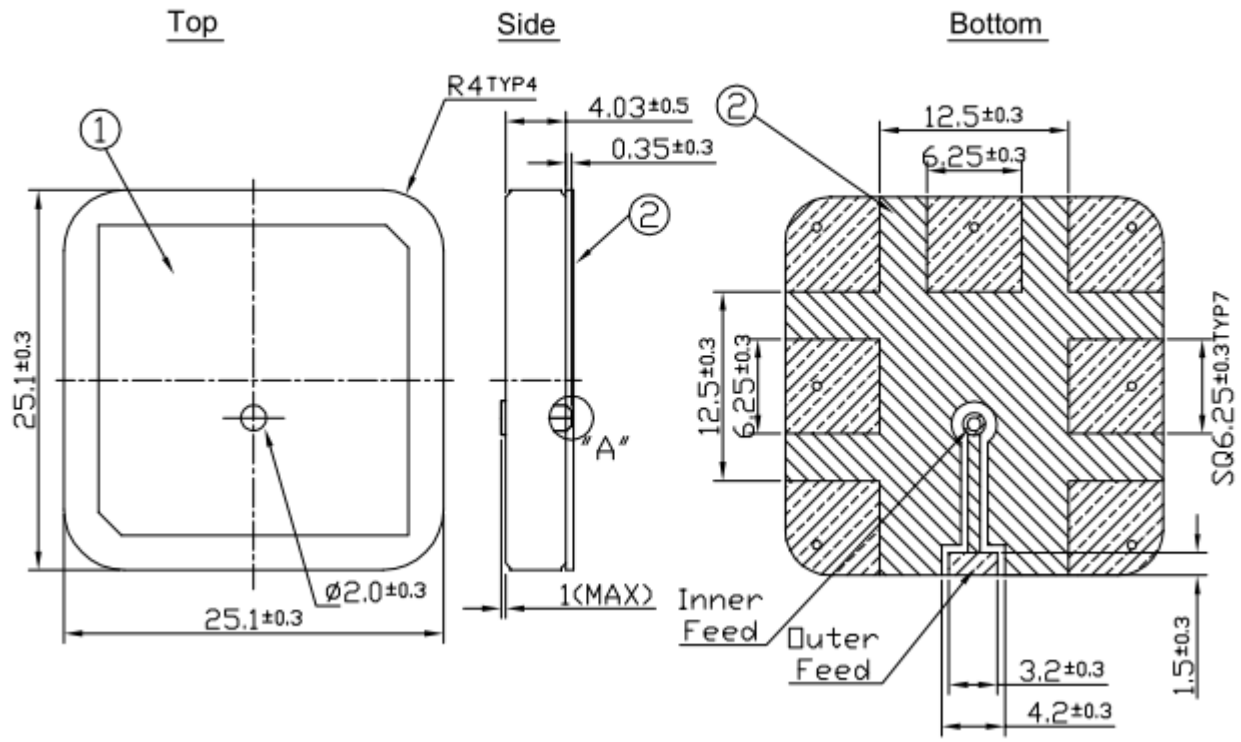
Y – Z Plane



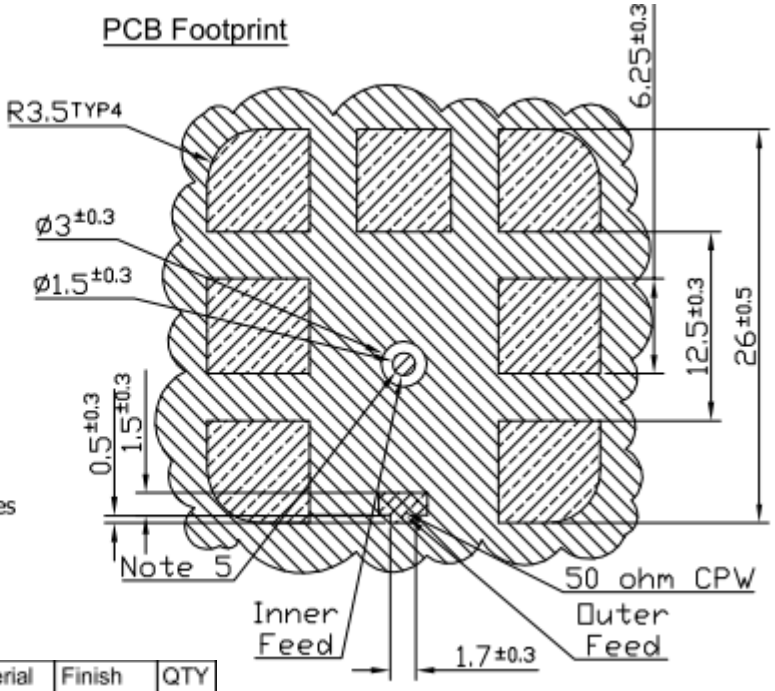
Test Mode	Freq (MHz)	Max Gain (dBi)	Min Gain (dBi)	Avg Gain (dBi)	Source Polar.
YZ	1575.42	-1.71 / 355	-13.07 / 225	-2.53	RHCP

4. Mechanical Specifications

4.1 Dimensions and Drawing



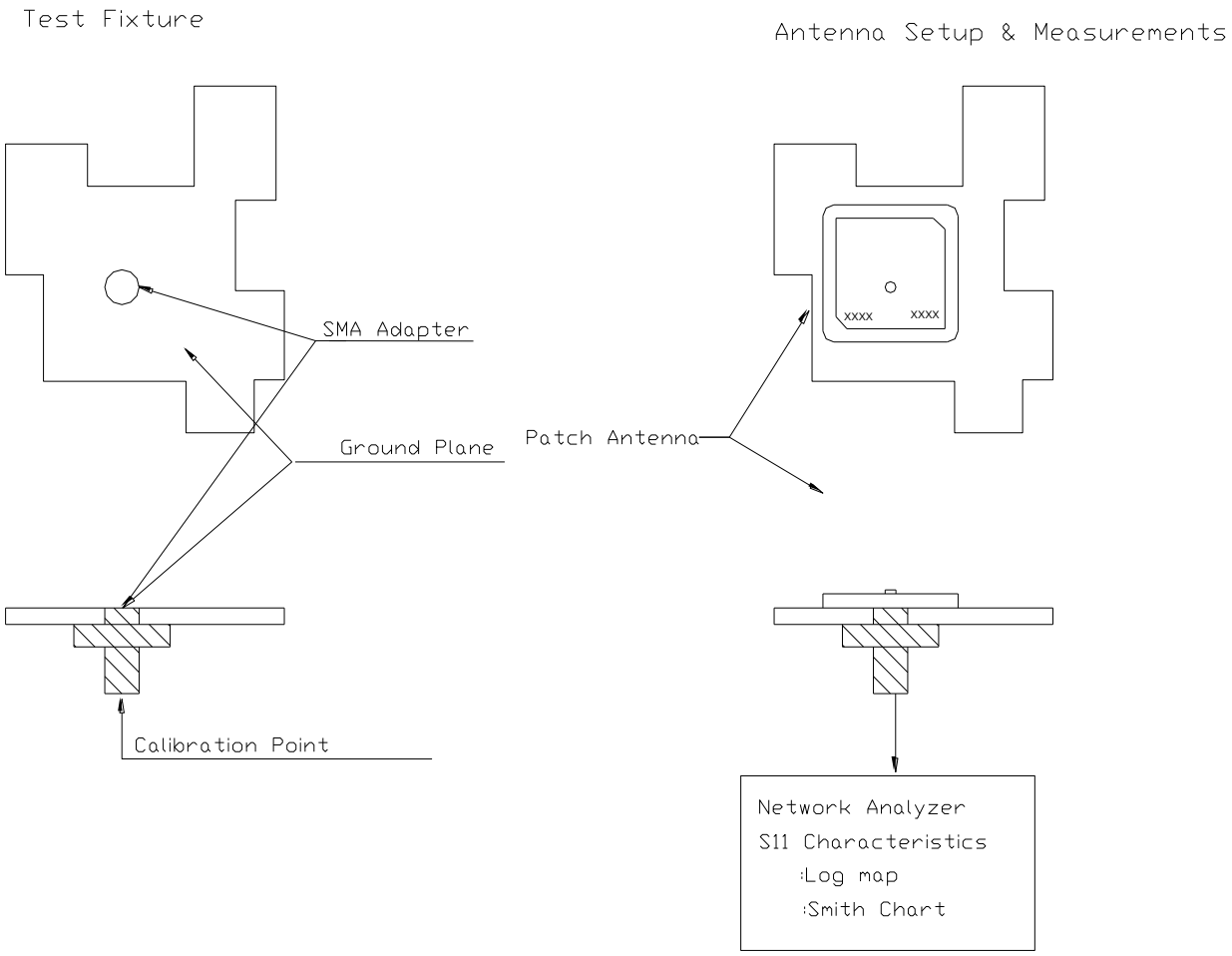




NOTE:
1.Solder mask
2.Area to be soldered
3.Diemension of 50 Ohm CPW dependent on individual board.
4.Matching circuit-capacitor and inductor values dependent on individual environment.
5.Must be soldered to complete antenna feed connection.

	Name	Part no.	Material	Finish	QTY
1	SGP.25 Patch 25x25x4	SGP.25D	Ceramic	Clear	1
2	SGP.25 PCB		FR 0.5t	Green	1

4.2 Test Fixture and Measurements



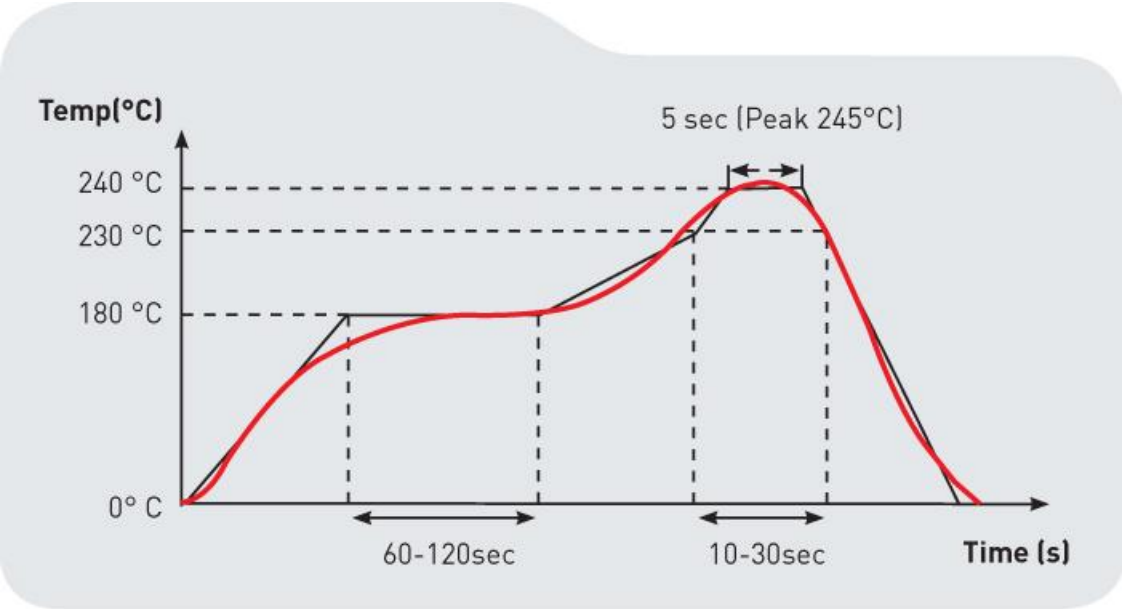
5. Antenna Recommended Soldering Conditions

5.1 Flux, Solder

- Use rosin-based flux. Don't use highly acidic flux with halide content exceeding 0.2wt%(chlorine conversion value).
- Use Sn solder.

5.2 Reflow soldering conditions

- Pre-heating should be in such a way that the temperature difference between solder and product surface is limited to 150℃ max. Cooling into solvent after soldering also should be in such a way that temperature difference is limited to 100℃ max. Unwrought pre-heating may cause cracks on the product, resulting in the deterioration of products quality.



5.3 Reworking with soldering iron

- The following conditions must be strictly followed when using a soldering iron.

Pre-heating	150°, 1 min
Tip temperature	290° max
Soldering iron output	30w max
Soldering time	3 second max

6. Packaging

200 pieces/Reel/Inner carton,

4 reels in outer carton - (800)

