Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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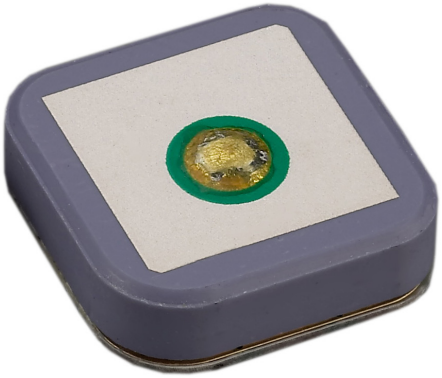
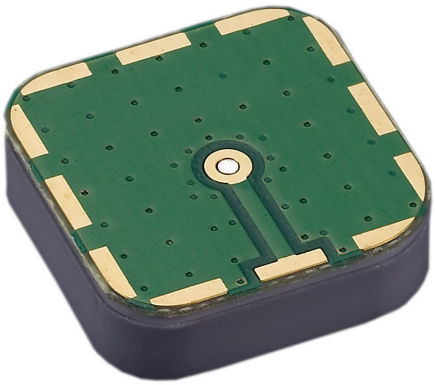




SGP.15a

Specification

Part No.	**SGP.1575.15.4.A.02**
Product Name	GPS SMT Patch Antenna
Features	15mm*15mm*4.5mm 1575MHz Centre Frequency Patent Pending RoHS Compliant

1. Introduction

This ceramic GPS patch antenna is based on smart **XtremeGain™** technology. It is mounted via SMT process and has been selected as optimal solution for the 45x45mm ground plane.

2. Specification

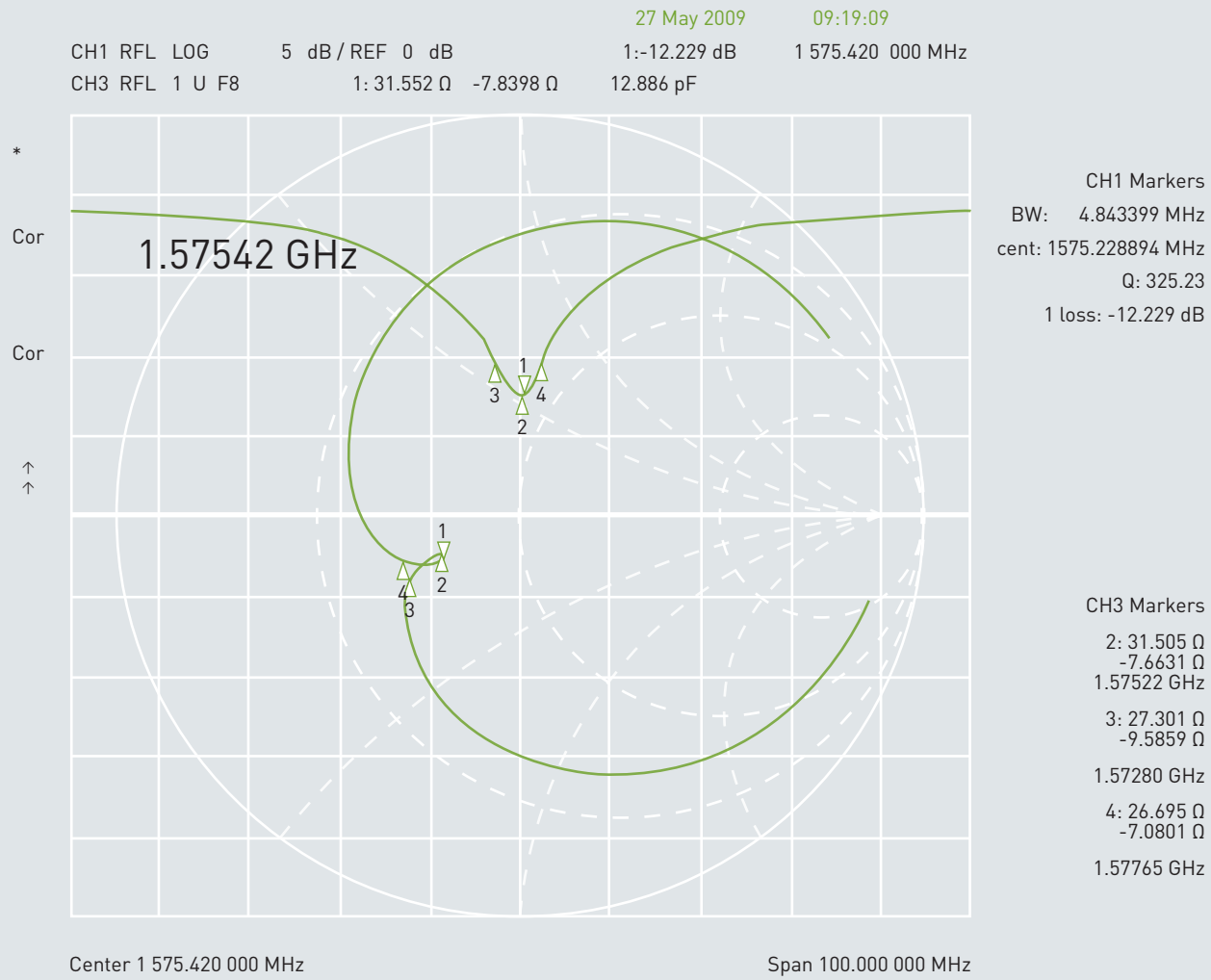
Original Patch Specification tested on 45mm ground plane

Parameter	Specification	Notes
Range of Receiving Frequency	1575.42 ± 1.023MHz	
Center Frequency	1575.42 ± 3MHz	With 45*45mm ground plane
Bandwidth	6MHz min	
Return Loss	≤-10 dB	
VSWR	1.5 max	
Gain at Zenith	+1.0 dBic typ.	
Axial Ratio	3.0 dB max	
Polarization	RHCP	
Impedance	50 Ohms	
Frequency Temperature Coefficient (Tf)	0 ± 20ppm / °C	-40°C to +85°C
Operating Temperature	-40°C to +85°C	

****Changes in user groundplane and environment will offset centre frequency**

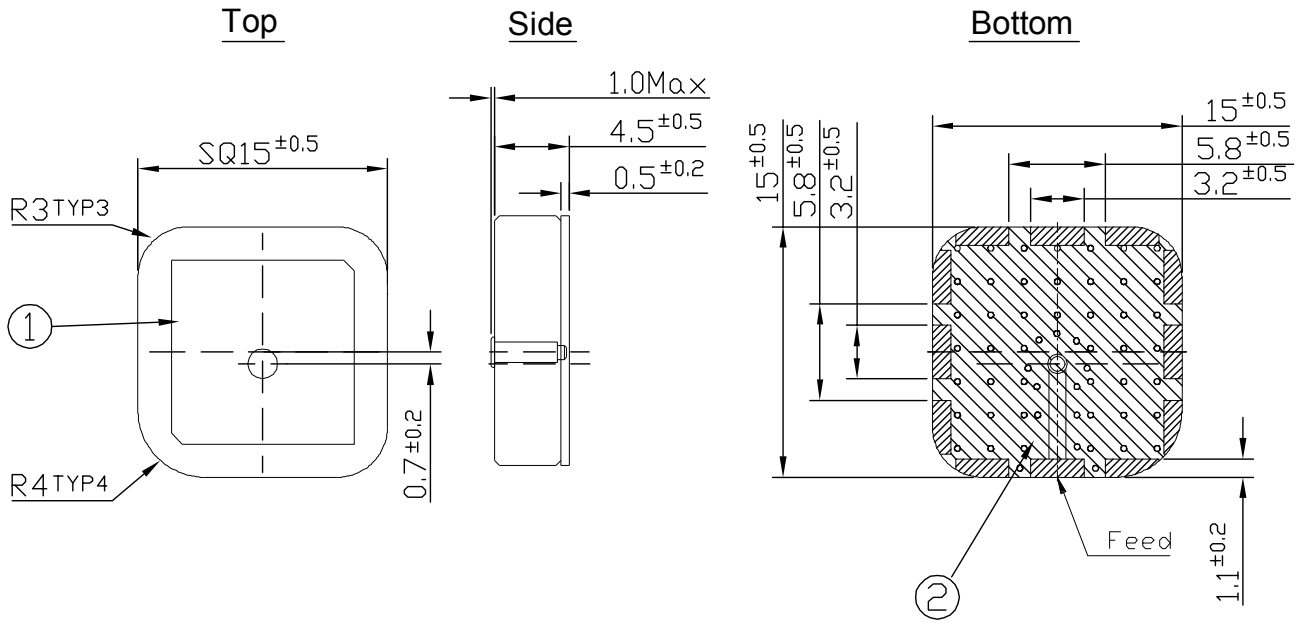
3. Electrical Specifications

3.1 Return Loss, SWR, Impedance, measured on the test fixture



4. Mechanical Specifications

4.1 Dimensions and Drawing

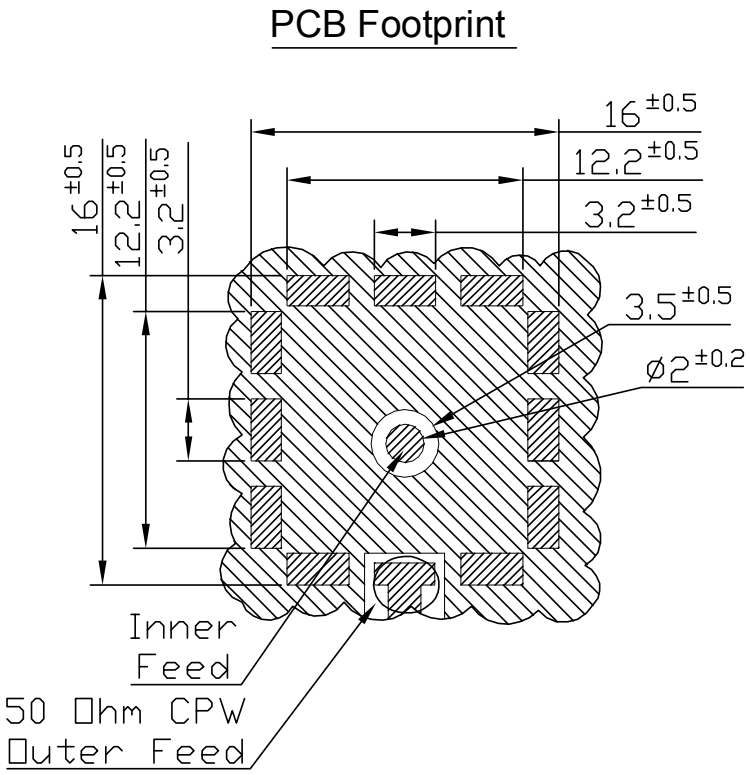


NOTE:

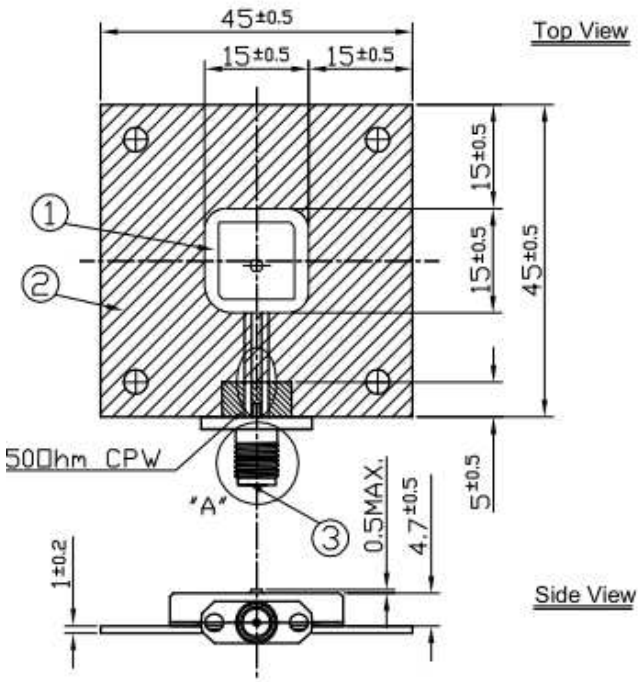
1. Solder mask.
2. Area to be soldered.
3. Clearance area.
4. Dimension of 50 Ohm CPW dependent on individual board.
5. Must be soldered to complete antenna feed connection.

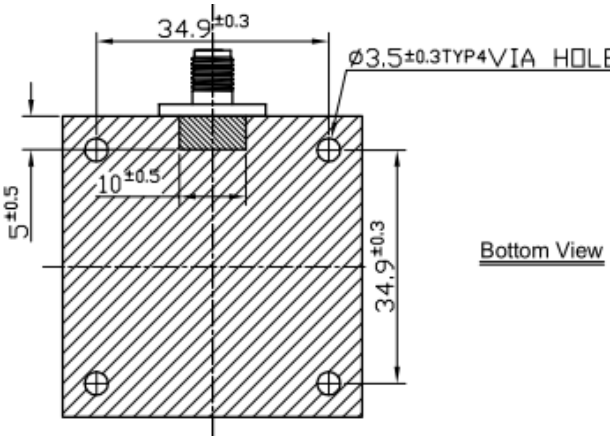
	Name	Part No.	Material	Finish	Quantity
1	SGP.15 Patch 15x15x4	SGP.15	Ceramic	Clear	1
2	SGP.15 PCB		FR4 0.5t	Green	1

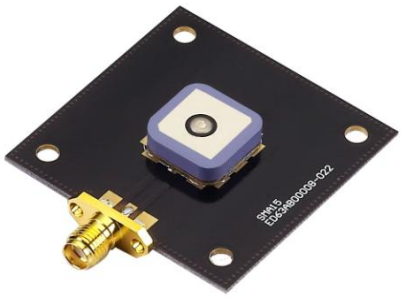
4.2 Antenna footprint

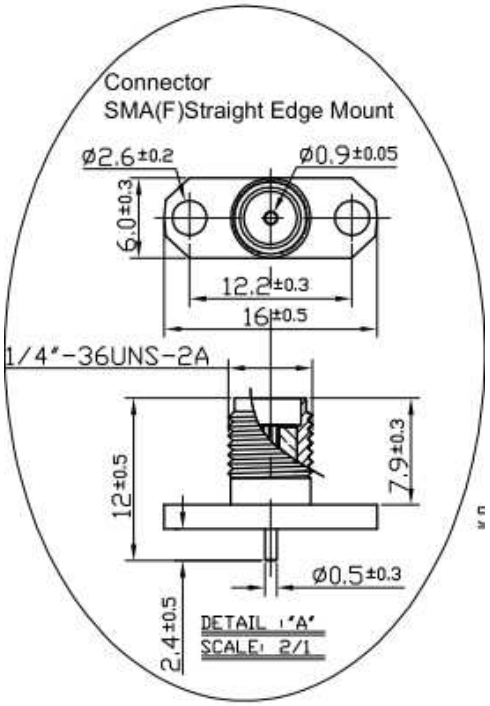


4.3 Test Jig and Dimension





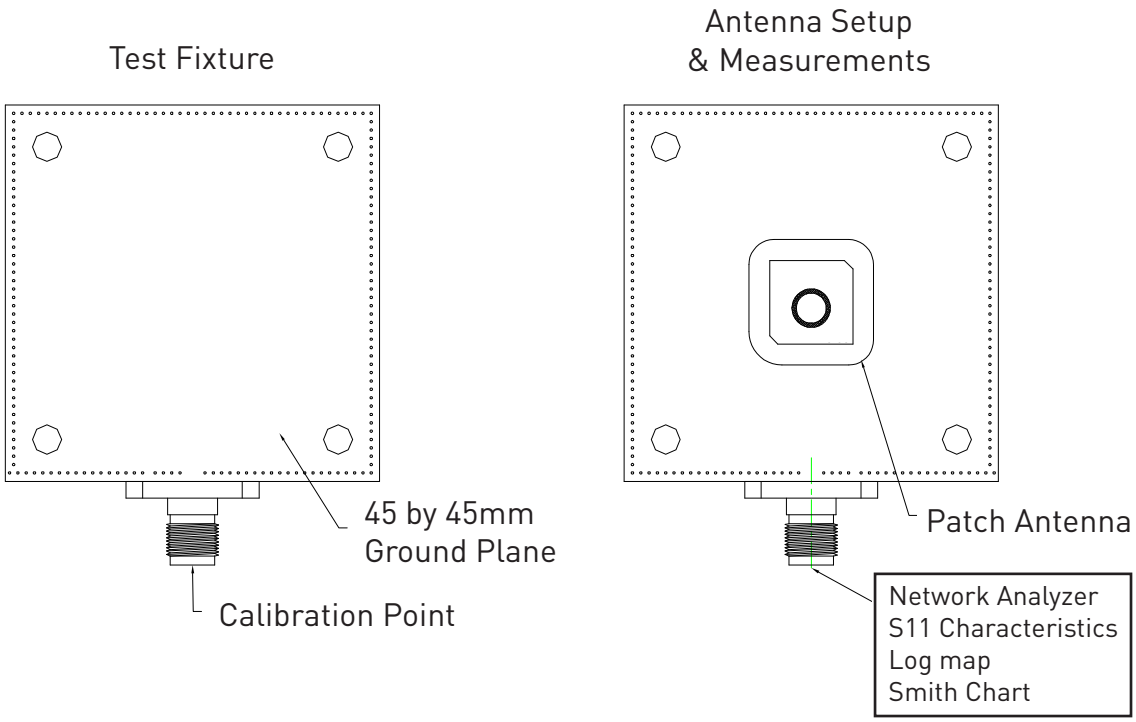




NOTE:
1. Solder Mask (Black)
2. Solder Area

	Name	P/N	Material	Finish	Qty
1	SGP.15 Patch 15x15x4	SGP.15A	Ceramic	Clear	1
2	FR4 PCB		FR4 1t	Black	1
3	SMA(F)Straight Edge Mount	SMA.F.ST.JACK.PANELM.2H.CM	Brass	Gold	1

4.4 Test Fixture set up and measurements



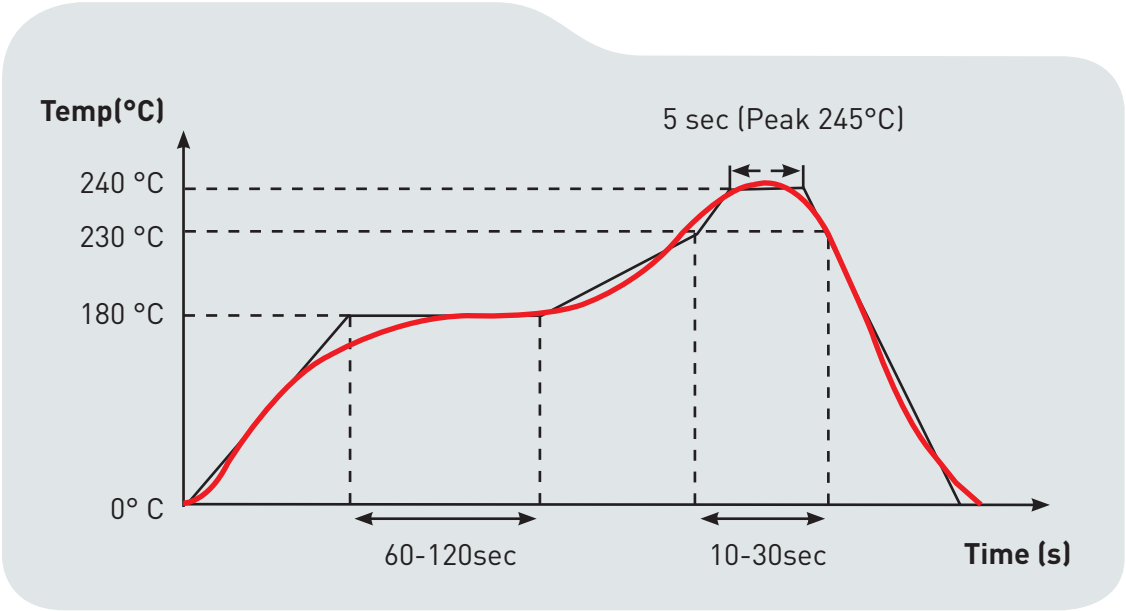
5. Antenna Recommended Soldering Conditions

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



5.3 Reflow 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 pcs / reel / inner carton

5 reels in an outer carton (1000)