

Specification

Part No. : **PCS.26.A**

Product Name : Low Profile LTE/Cellular 2G/3G/4G
SMD Dielectric Antenna
GSM / CDMA / DCS / PCS / WCDMA /
UMTS /HSDPA / GPRS / EDGE
617~960MHz/1710~2690MHz

Features : High Efficiency Multi-Band SMD antenna
Low profile: 54.6*13*3mm
RoHS Compliant



1. Introduction

The PCS.26.A is a low-profile SMD LTE/cellular 2G/3G/4G embedded antenna designed for direct SMD mount on a device PCB. It provides high efficiency in a very small form factor, at 54.6*13*3mm. Its rectangular shape and very small size make it very easy to integrate. Packaged in tape and reel, it can be mounted via pick and place to reflow solder directly on the edge of the PCB board. The antenna is a great match for lower cost LTE/cellular applications, particularly in the telematics and automotive sector.

This antenna is recommended for use with longer ground-plane lengths of 100mm or more for maximum efficiency. Some tuning can be performed on this antenna to help optimize to the device environment. Contact your regional Taoglas sales office for support.

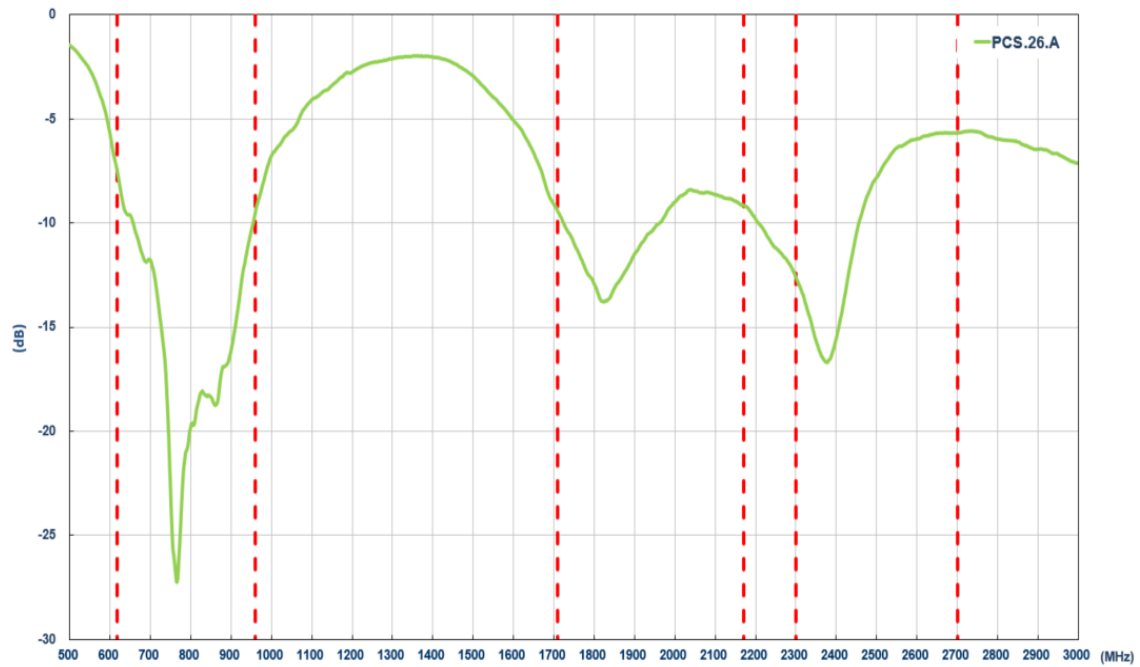
2. Specification Table

Electrical								
Frequency (MHz)	617~698	698~806	824~894	880~960	1710~1880	1850~1990	1920~2170	2300~2690
Peak Gain (dBi)*	3.67	2.54	3.53	3.75	4.58	3.99	4.26	3.86
Average Gain (dBi)*	-1.19	-1.31	-0.98	-0.70	-1.43	-2.36	-2.41	-2.62
Efficiency (%)*	75.99	73.95	79.82	85.16	71.96	58.03	57.36	54.72
Return Loss (dB)*	<-7			<-7				<-6
Polarization	Linear							
Impedance	50 Ω							
Maximum Input Power	5W							
MECHANICAL								
Antenna Dimensions	54.6mm x 13mm x 3mm							
Material	FR4							
Soldering Type	SMT through Reflow							
ENVIRONMENTAL								
Operation Temperature	-40°C ~ +85°C							
Storage Temperature	-40°C ~ +85°C							

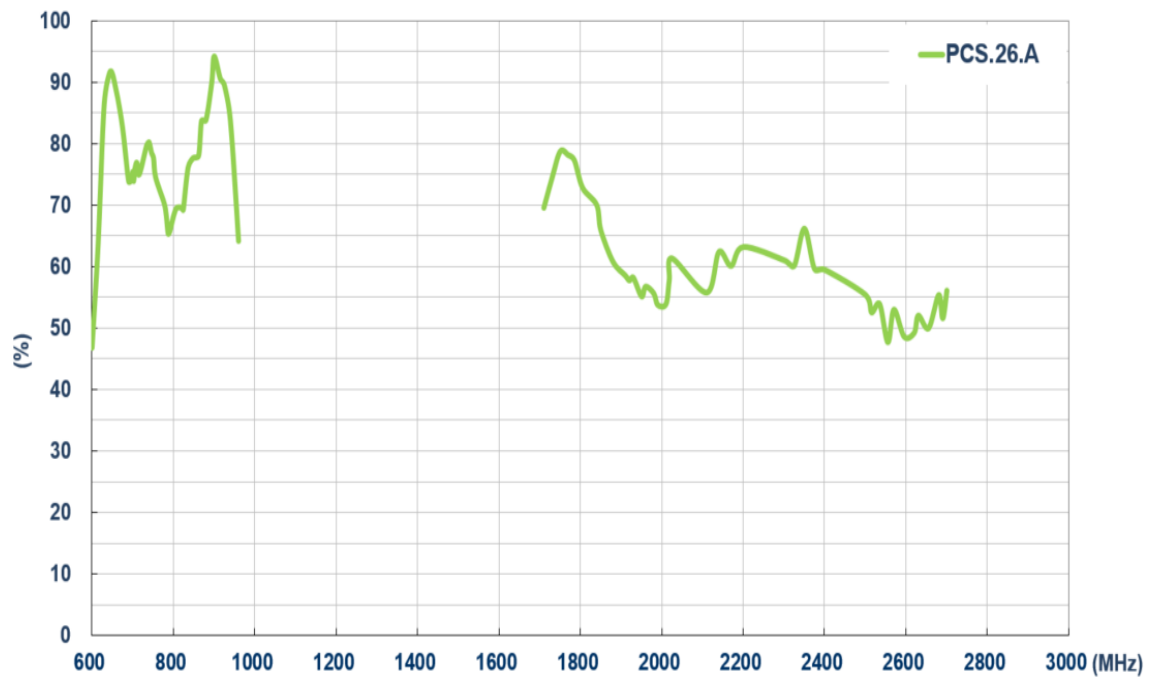
* All measurements were SMT on 178*55.6mm EVB board.

3. Antenna Characteristics

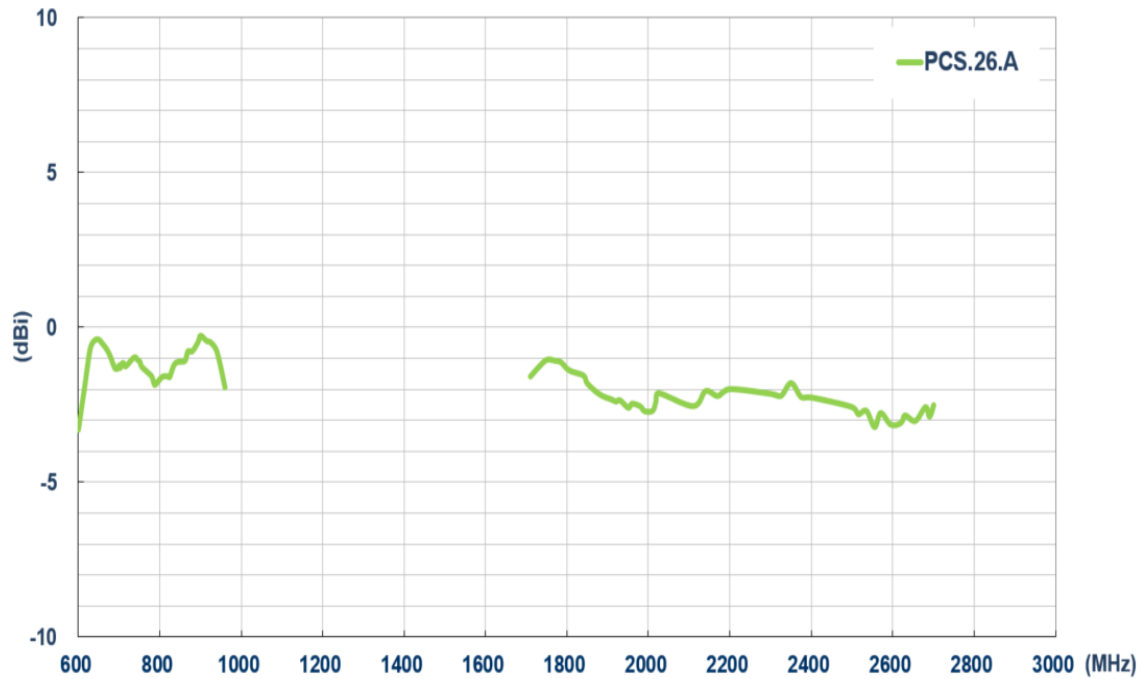
3.1. Return Loss



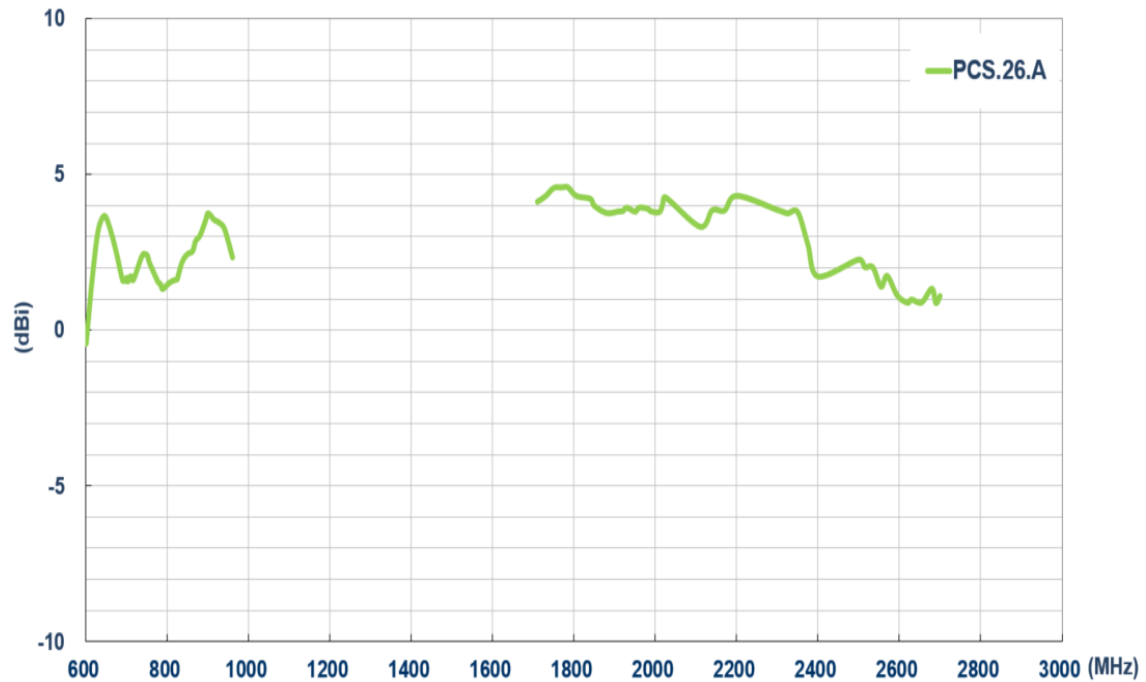
3.2. Efficiency



3.3. Average Gain

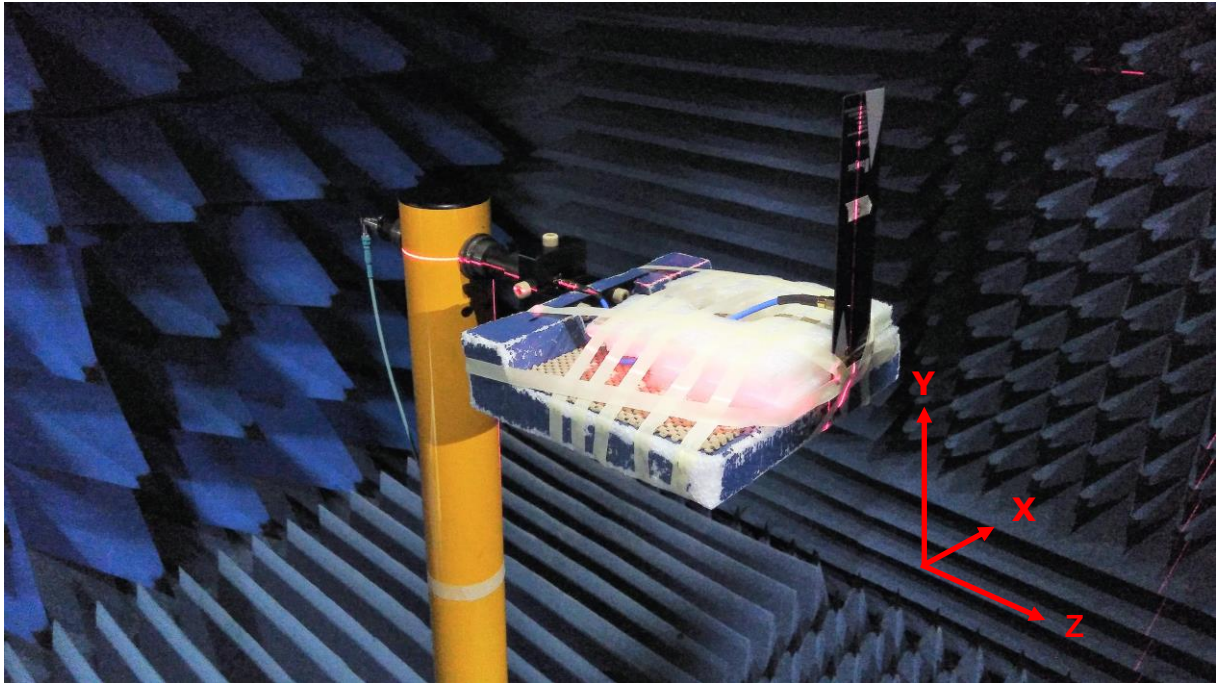


3.4. Peak Gain

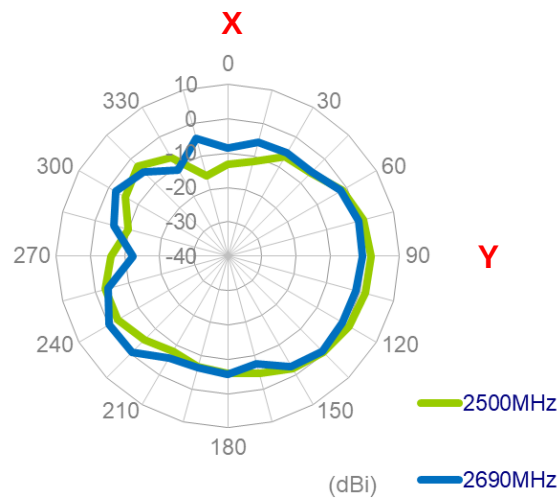
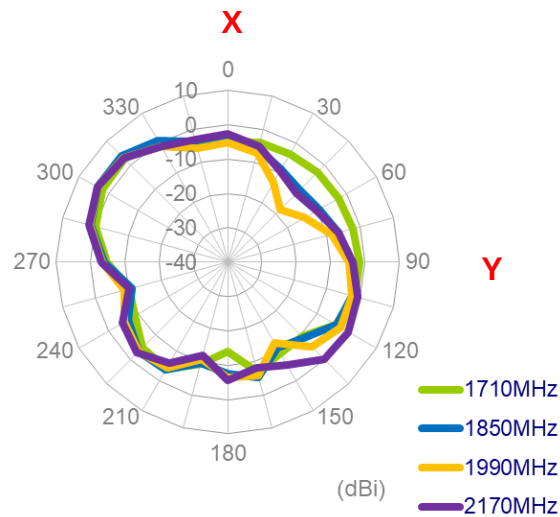
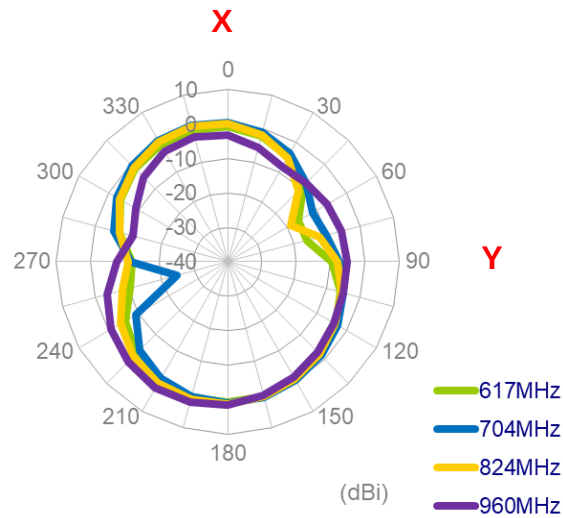


4. Radiation Patterns

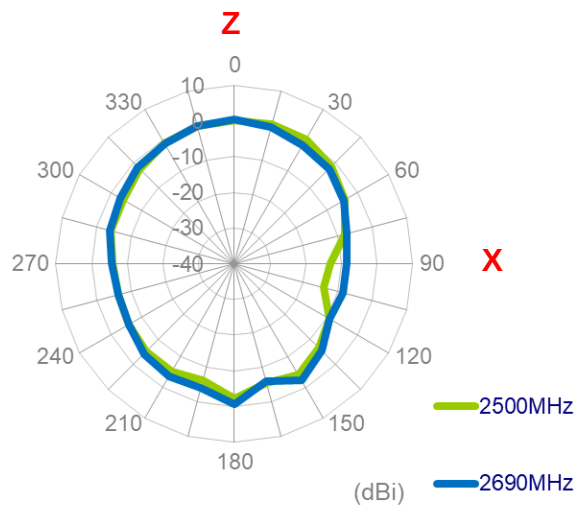
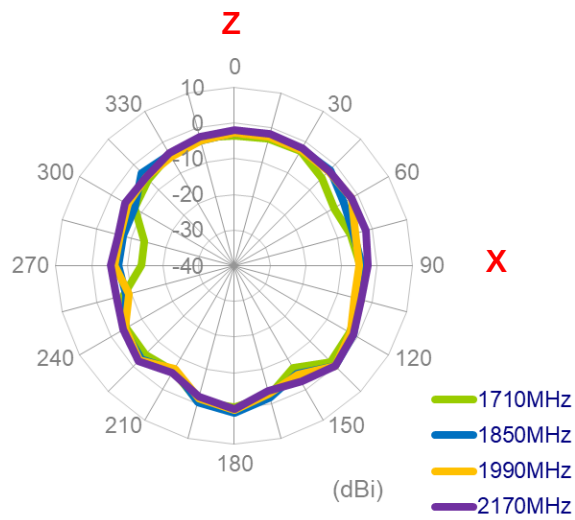
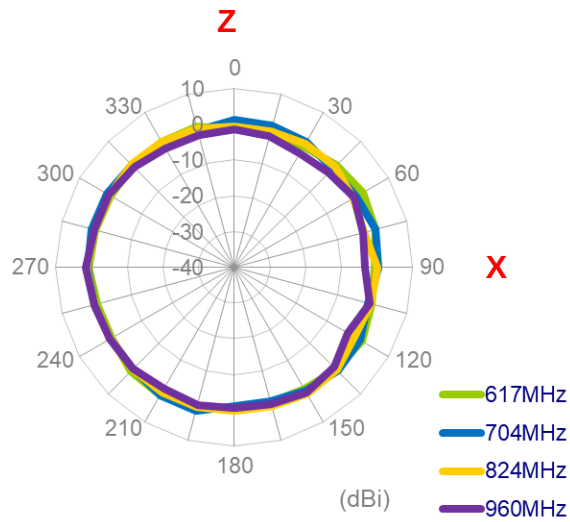
4.1. Test Set up



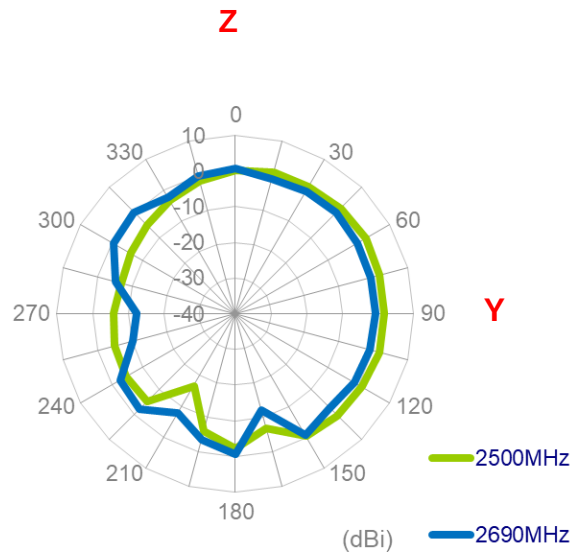
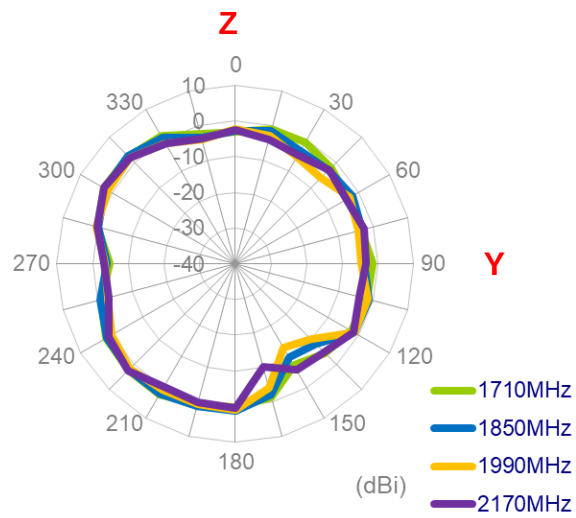
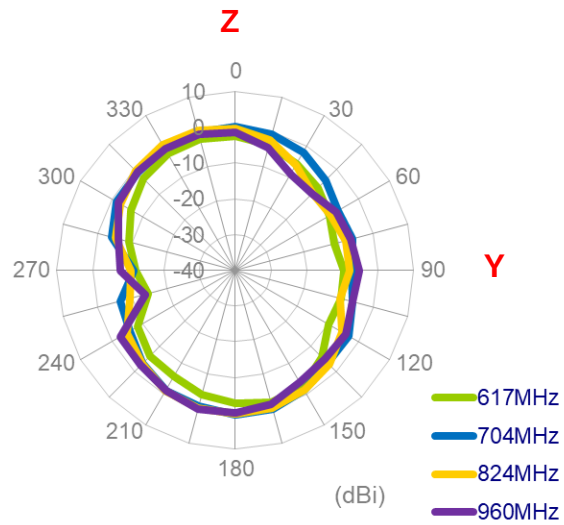
4.2. XY Plane



4.3. XZ Plane

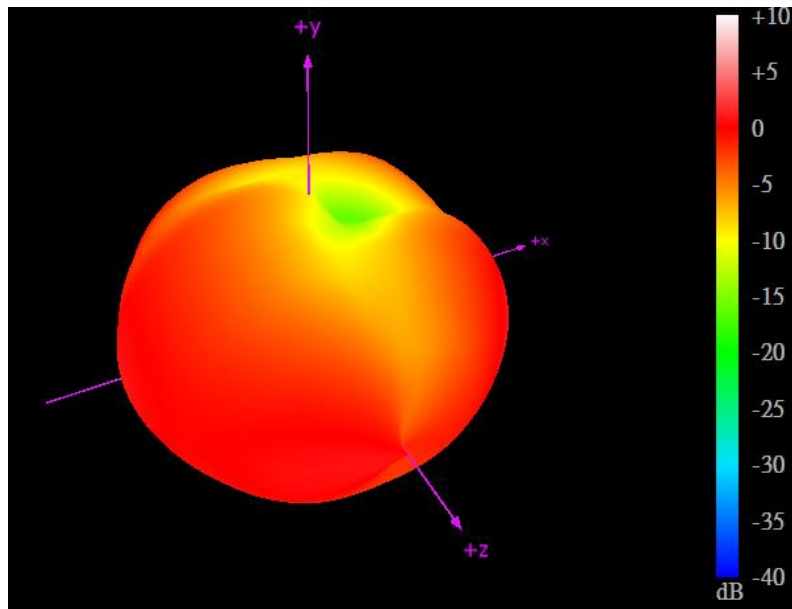


4.4. YZ Plane

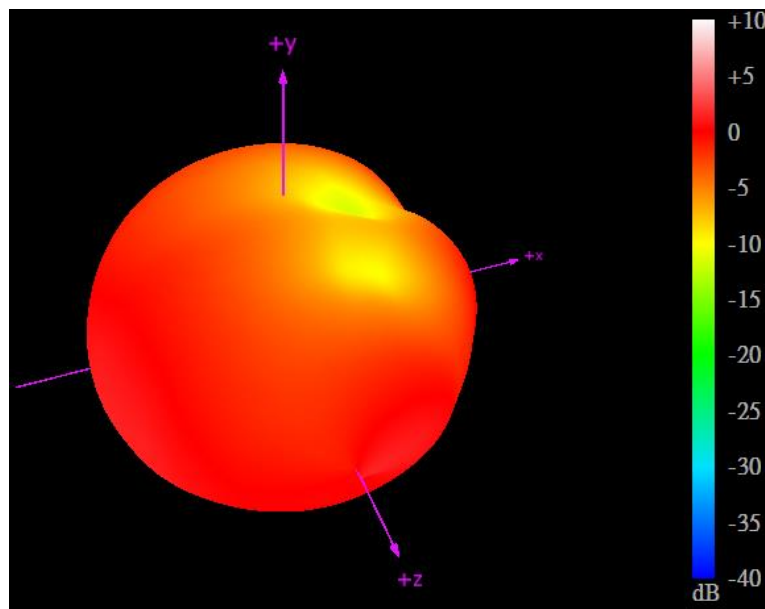


4.5. 3D Radiation Pattern

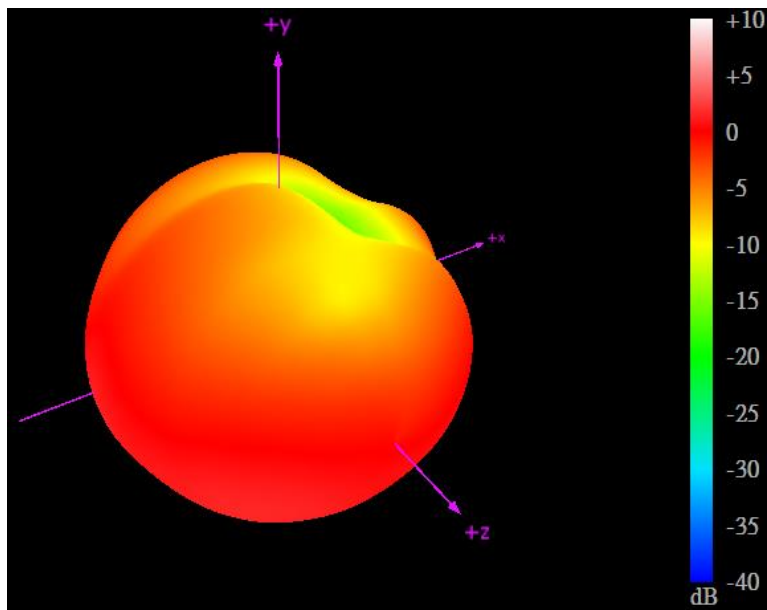
617 MHz



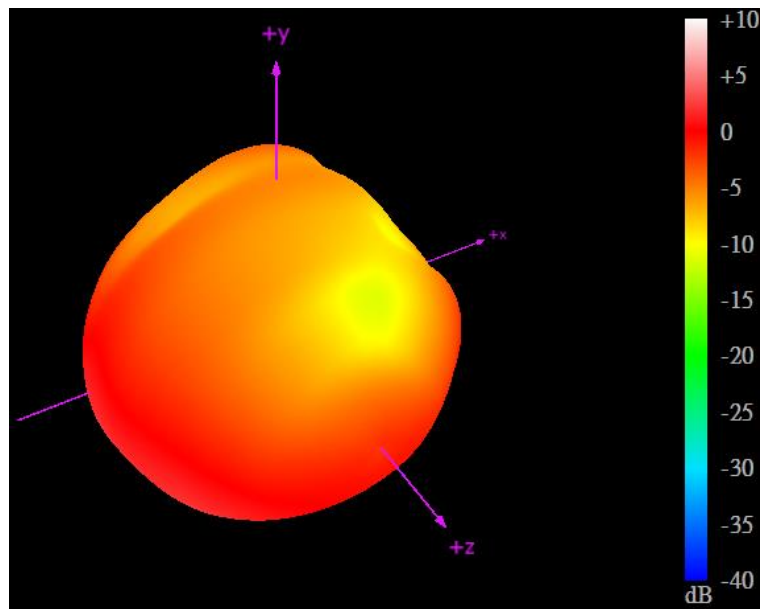
704 MHz



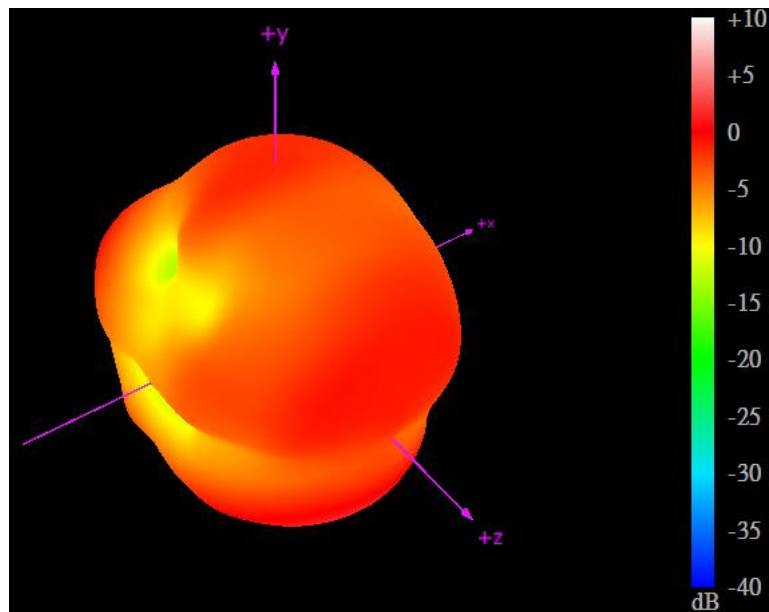
824 MHz



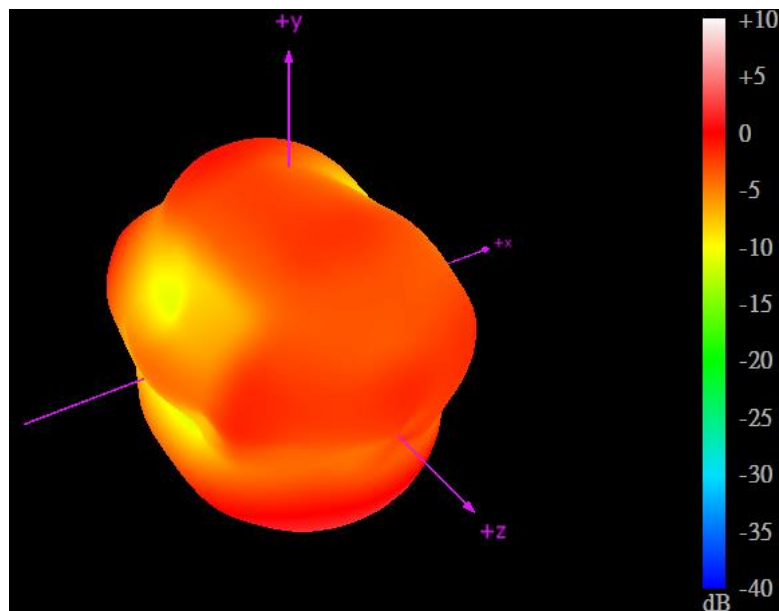
960 MHz



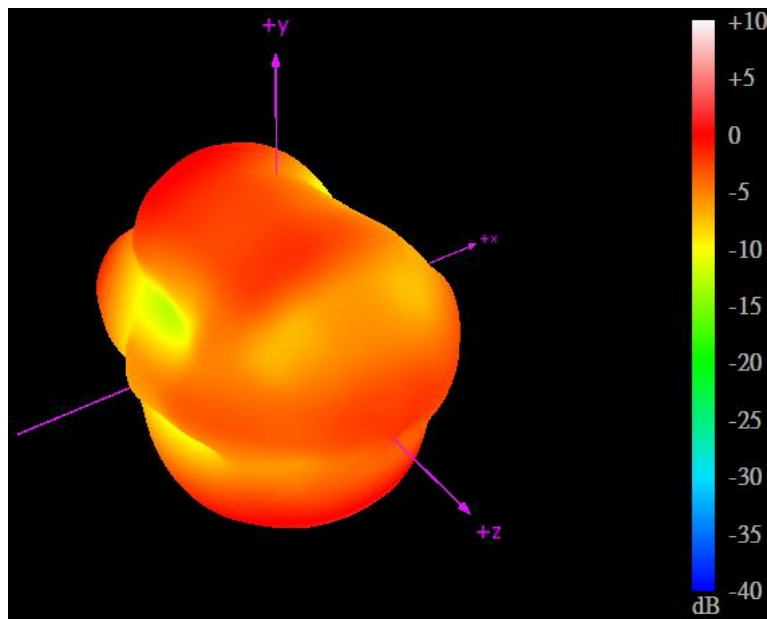
1710 MHz



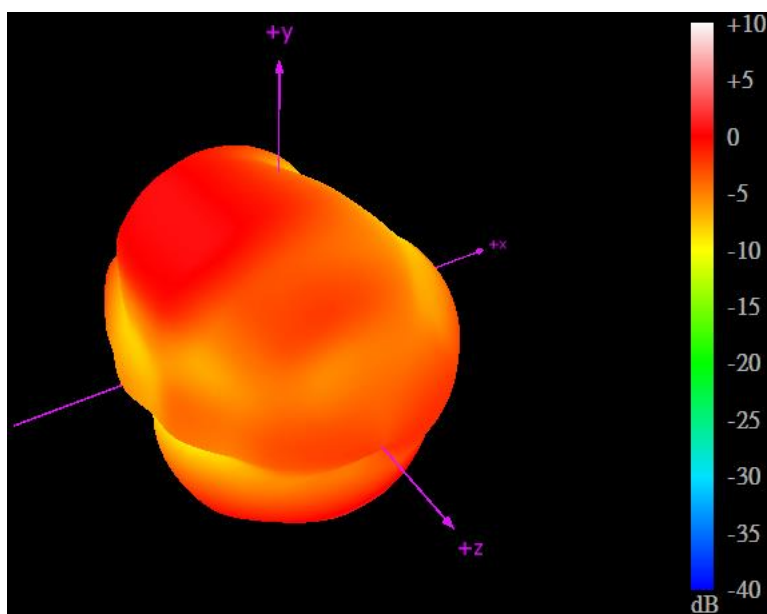
1850 MHz



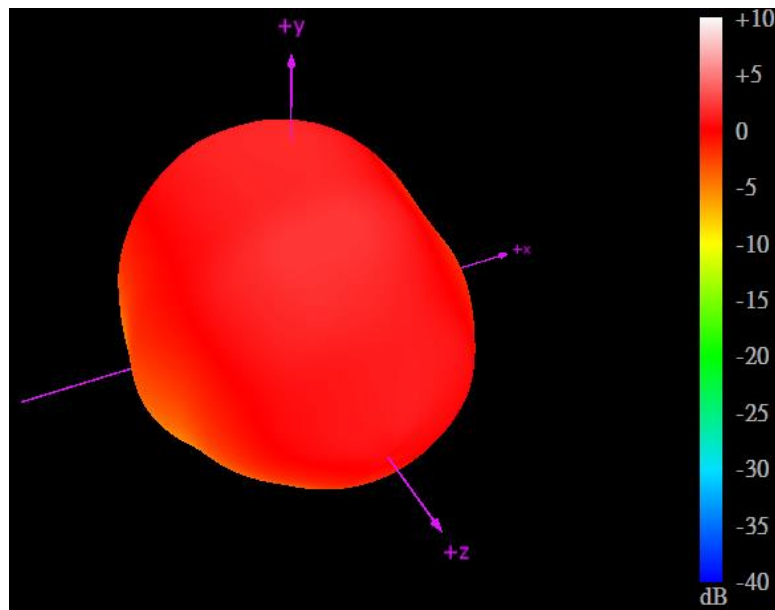
1990 MHz



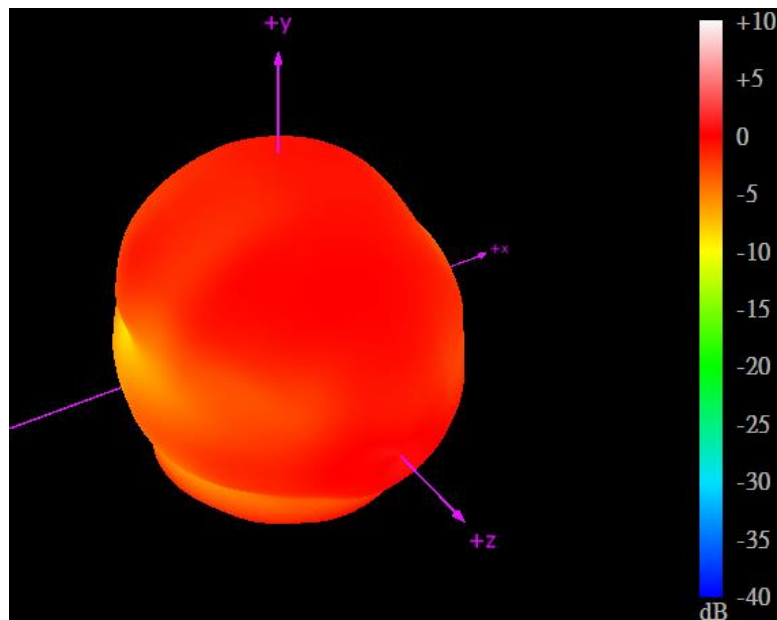
2170 MHz



2550 MHz

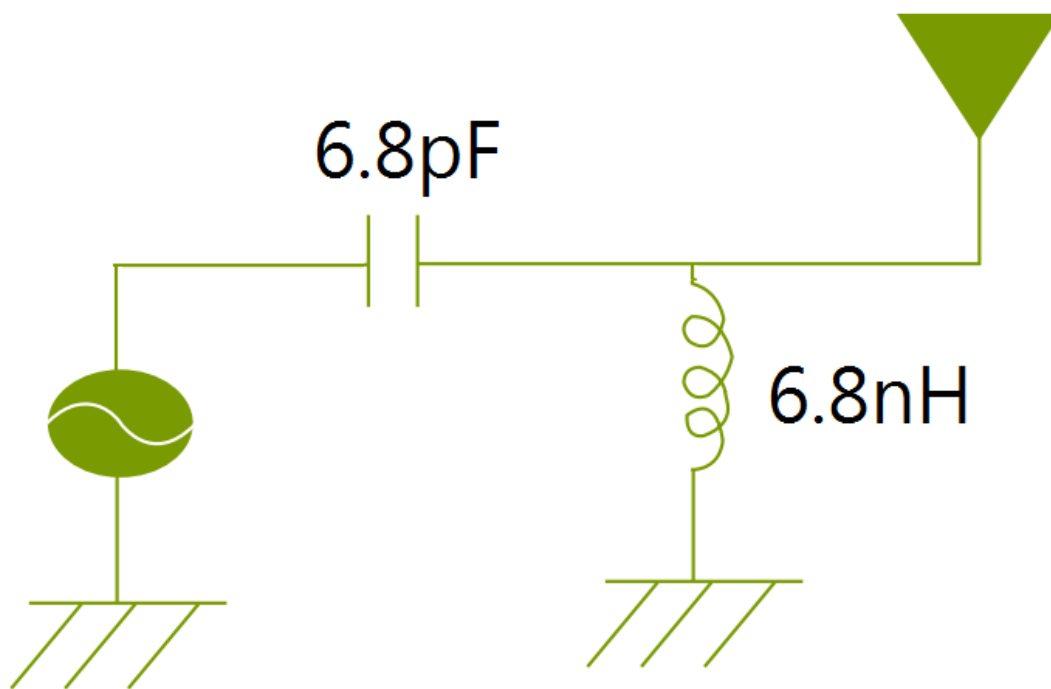


2690 MHz

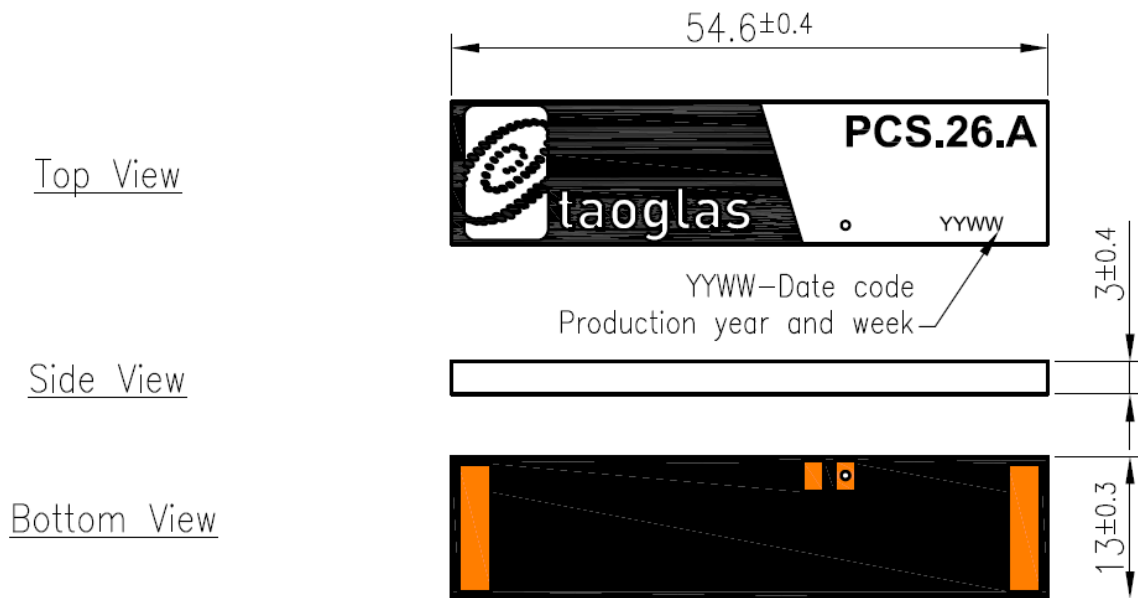


5. Matching Circuits

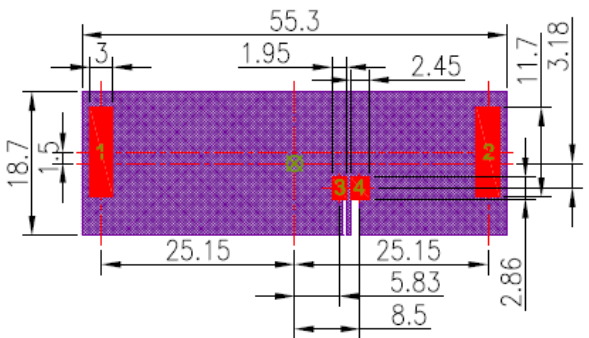
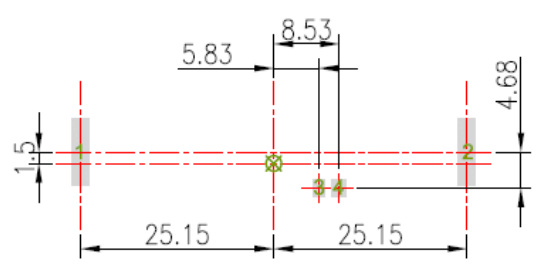
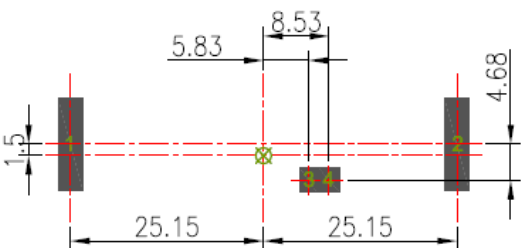
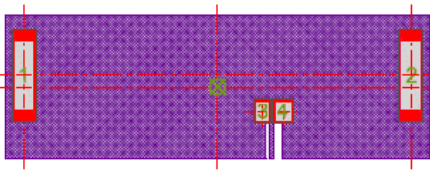
For Standard Evaluation Board: 178mm*55.6mm, includes 100mm ground plane.



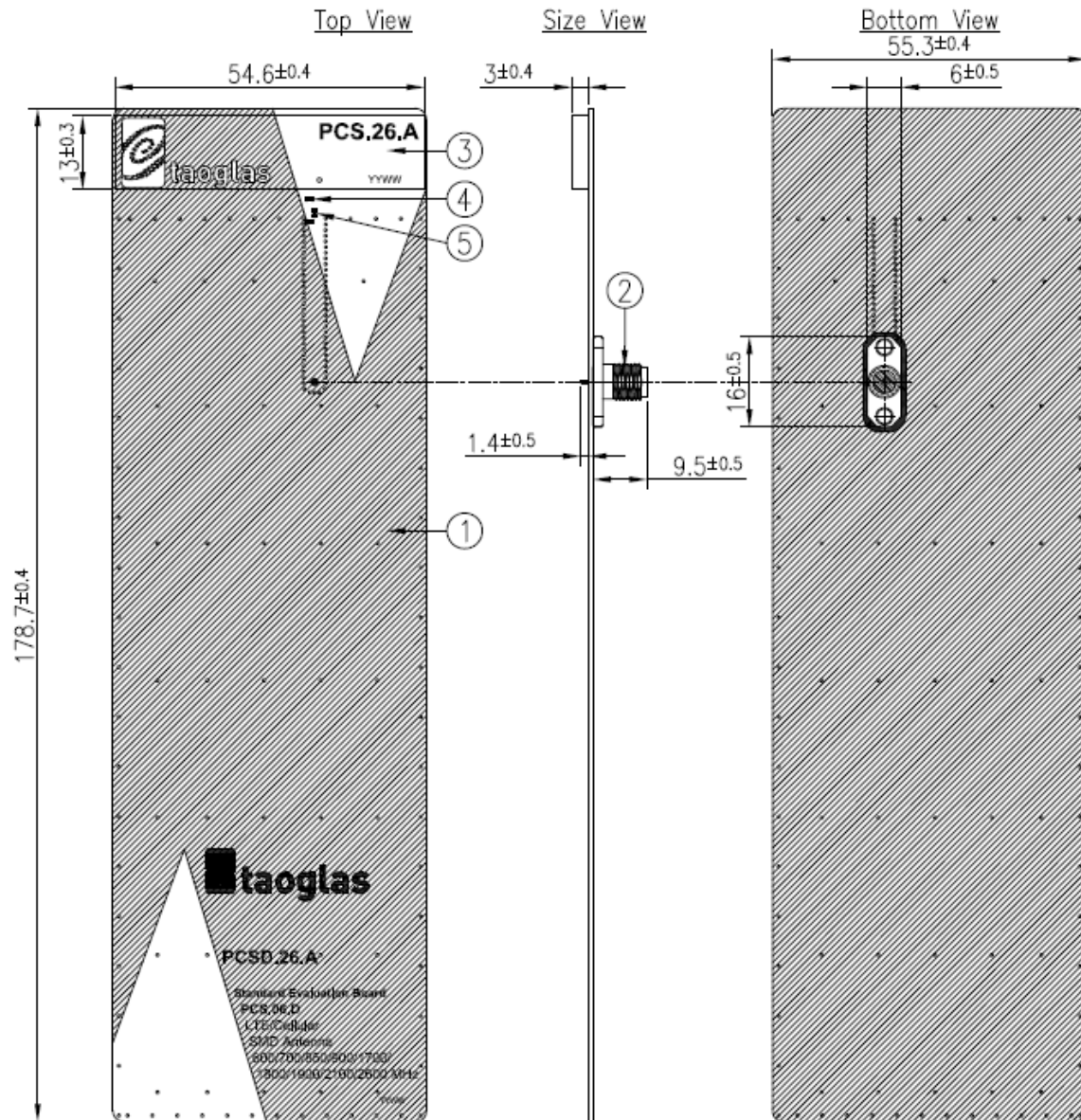
6. Mechanical Drawing (Unit:mm)



7. Antenna Footprint

FootPrint	
Top Copper Pads 1 and 2 are the same size, Pad 4 should be connected to a 50 ohm transmission line. 	Top Solder Paste Pads 1 and 2 are the same size. 
Top Solder Mask This drawing is a negative of solder mask. Black regions are anti-mask. 	Composite Diagram 
NOTE: 1. Tin Plated area 2. Solder Mask area 3. Copper area 4. Paste area 5. Keepout Region 6. Ground keepout should extend through any inner PCB layers and any side around the antenna to minimize coupling from RF feed to ground, except the side facing system ground. 7. Any vias in pads should be either filled or tented to prevent solder from wicking away from the pad during reflow. 8. The dimension tolerances should follow standard PCB manufacturing guidelines	

8.PCS.26.A on Evaluation Board



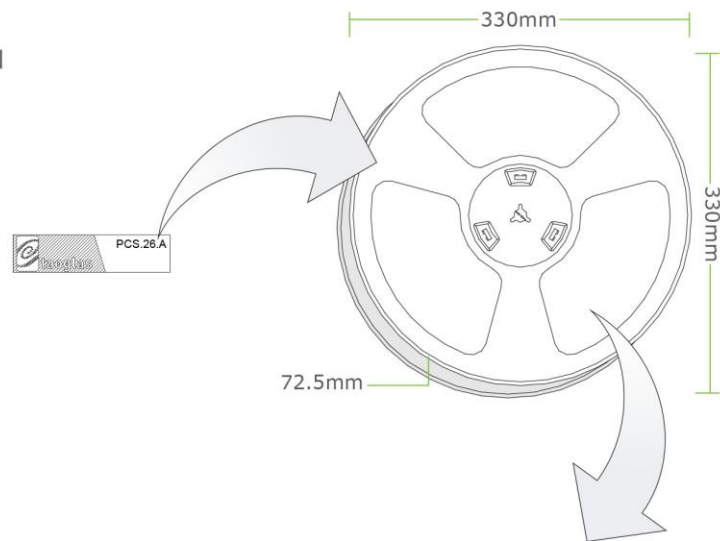
Note:

1. Week Batch Code
 Example: 2013 Week 10=1310
2. Soldered area 
3. Soldermask area(Black) 
4. Logo & Text Ink Printing : White

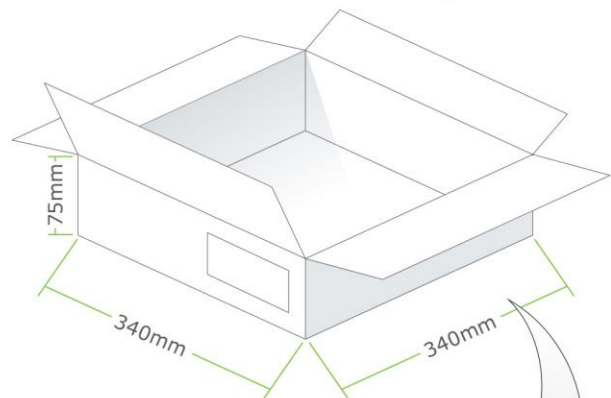
	Name	P/N	Material	Finish	QTY
1	PCSD.26.A EVB PCB	100217F070000A	Composite 0.8t	Black	1
2	SMA(F) ST PCB	200413B000002A	Brass	Au Plated	1
3	PCS.26.A PCB Antenna	100217F060000A	Composite 3t	Black	1
4	6.8nH Inductor (0402)	001517H160000A	Ceramic	N/A	1
5	8.2pF Capacitor (0402)	001517H170000A	Ceramic	N/A	1

9. Packaging

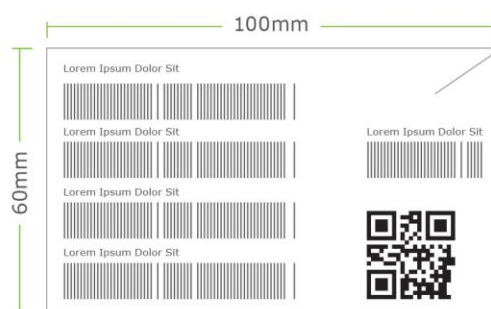
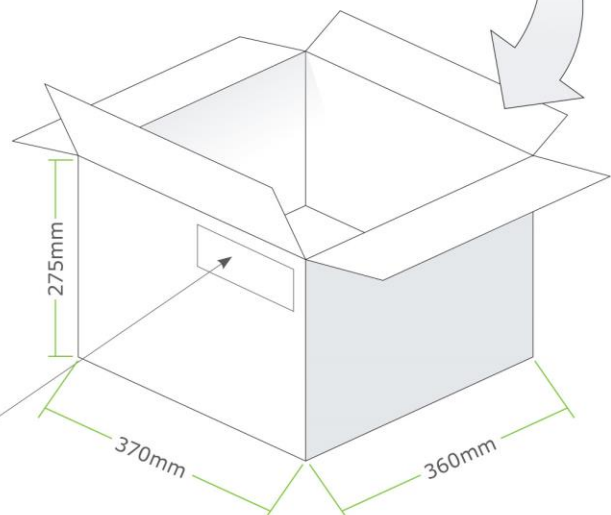
800pcs PCS.26.A per Tape & Reel
 Dimensions - 330*72.5*330mm
 Weight - 3.6Kg



1 Tape & Reel per small box
 Dimensions - 340*340*75mm
 Weight - 3.6Kg



2400 Tape & Reel PCS.26.A per carton
 Dimensions - 370*360*275mm
 Weight - 10.8Kg



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