TAOGLAS®

Datasheet

Part No:
PC104.07.0165C

Description:

Wideband 700-6000MHz PCB Antenna with Cable and connector

Features:

700-6000MHz 5G/4G PCB Antenna
High Efficiency
164.9mm Ø1.37 coaxial cable with I-PEX® connector
80mm*20.8mm*1mm
With 3M adhesive, easy stick on client enclosure
CE Certified
RoHS and REACH Compliant

1. Introduction

This The high efficiency PC104 is a 700-6000MHz PCB antenna. It has a slim-line design to allow for convenient installation inside the customer device. Omni-directional gain across all bands ensures constant reception and transmission.

With its unique dipole design, the PC104 has exceptional industry performance characteristics considering its very low profile at 2.4mm and has a compact size 80mm*20mm. It is suitable for clients that appreciate highest performance with lower price.

Typical applications include:

- Remote Monitoring
- Industrial IoT
- Medical Devices

This antenna has 3M adhesive on the back, and is tuned and designed to be mounted on 2mm thickness plastic (not on metal). Cable lengths and connectors are fully customizable. However for good efficiency performance the shortest cable length should not be less than 100mm, for requirements with shorter cable lengths the alternative product FXP14 can be used.

Cables and connectors are fully customizable, for further information please contact your regional Taoglas customer support team.

2. Specifications

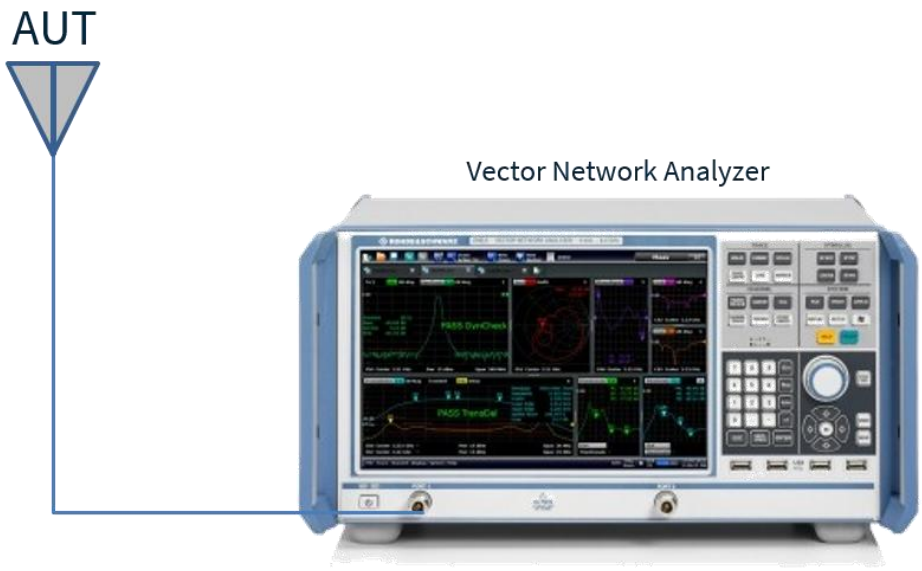
LTE Electrical								
Band	**Frequency (MHz)**	**Efficiency (%)**	**Average Gain (dB)**	**Peak Gain (dBi)**	**Impedance**	**Polarization**	**Radiation Pattern**	**Max. input power**
5GNR/4G Band71	617-698	13.7	-8.65	-2.96	50 Ω	Linear	Omni	2W
4G/3G Band 12,13,14,17,28,29	698-824	29.5	-5.30	2.24				
4G/3G/NB-IoT/Cat M Band 5,8,18,19,20,26,27	824-960	44.0	-3.56	2.80				
5GNR/4G Band 21,32,74,75,76	1427-1518	13.4	-8.73	-0.70				
4G/3G Band 1,2,3,4,9,23,25,35,39,66	1710-2200	74.3	-1.29	3.31				
4G/3G Band 7,30,38,40,41	2300-2690	50.6	-2.96	1.90				
5GNR Band 77	3300-4200	67.1	-1.73	5.60				
5GNR Band 78	3300-3800	67.7	-1.70	5.60				
5GNR Band 79	4400-5000	63.2	-1.99	5.42				
LTE5200/Wi-Fi5800	5150-5925	26.4	-5.79	3.64				

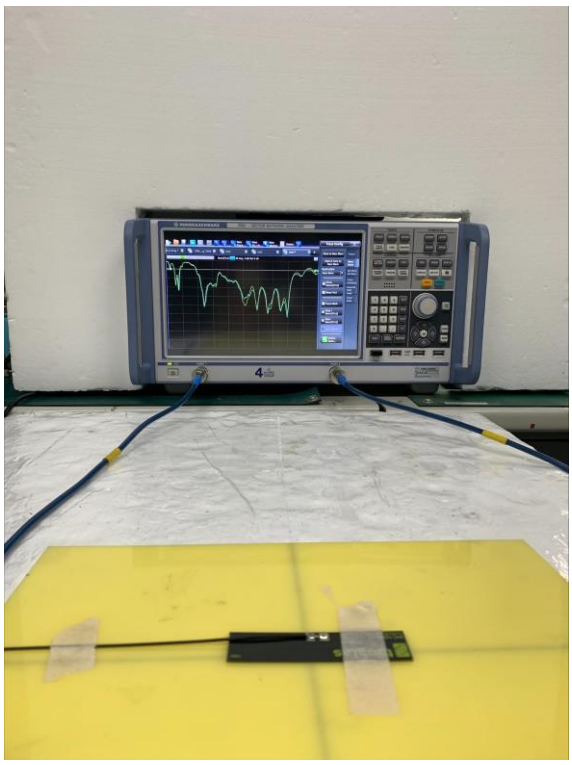
Mechanical	
Dimensions	80mm x 20mm x 1mm
Material	FR4
Cable type	Φ1.37 Coaxial Cable
Cable length	164.9mm
Connector type	I-PEX MHF® I U.FL compatible
Adhesive	3M 467

Environmental	
Temperature Range	-40°C ~ +85°C

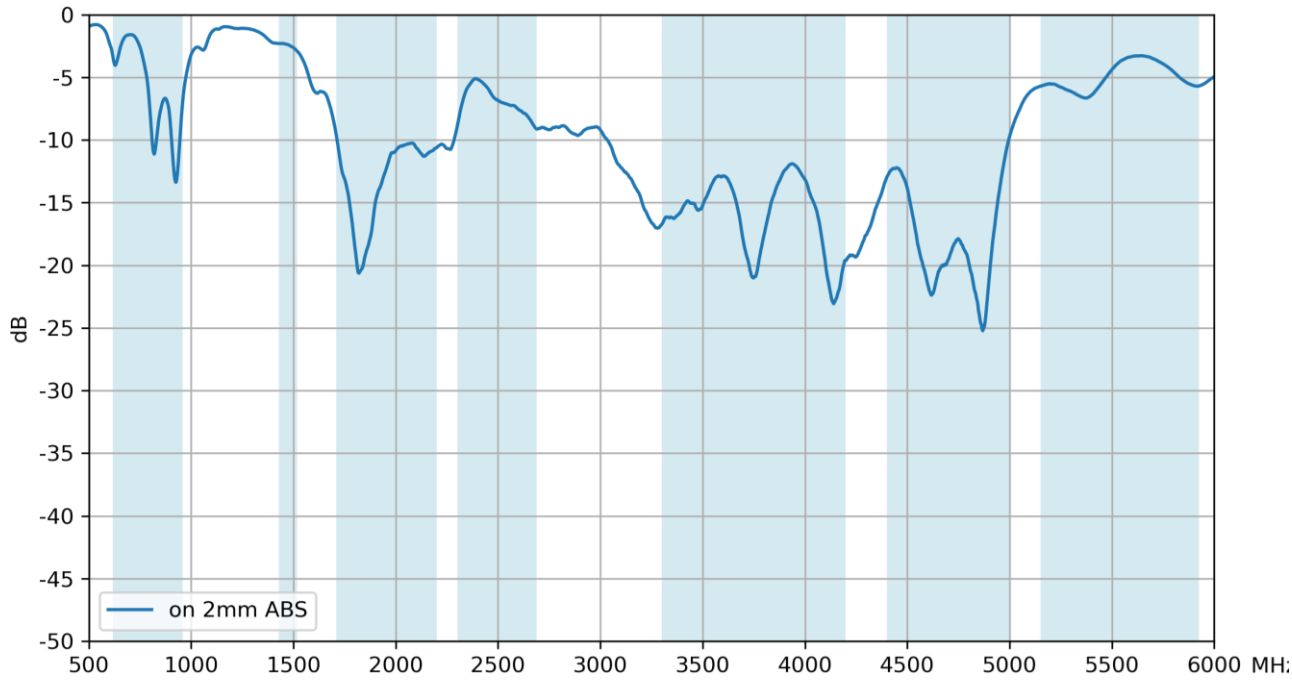
3. Antenna Characteristics

3.1 Test Setup

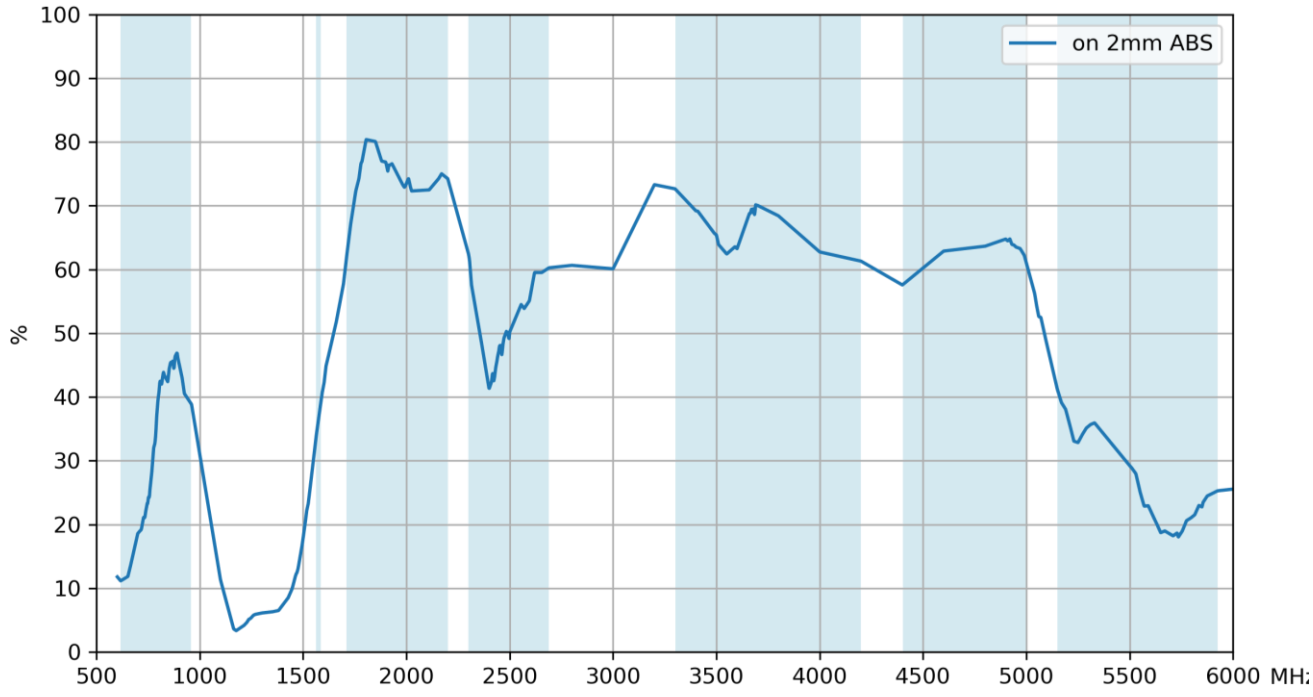




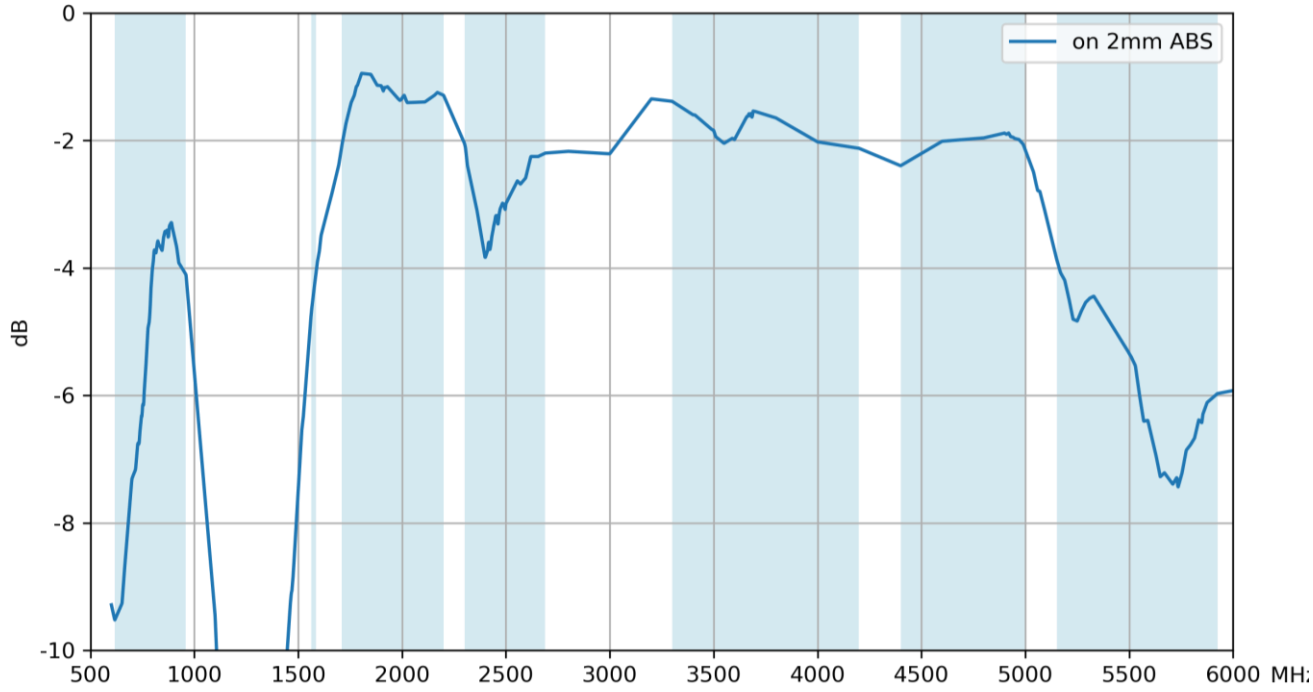
3.2 Return Loss



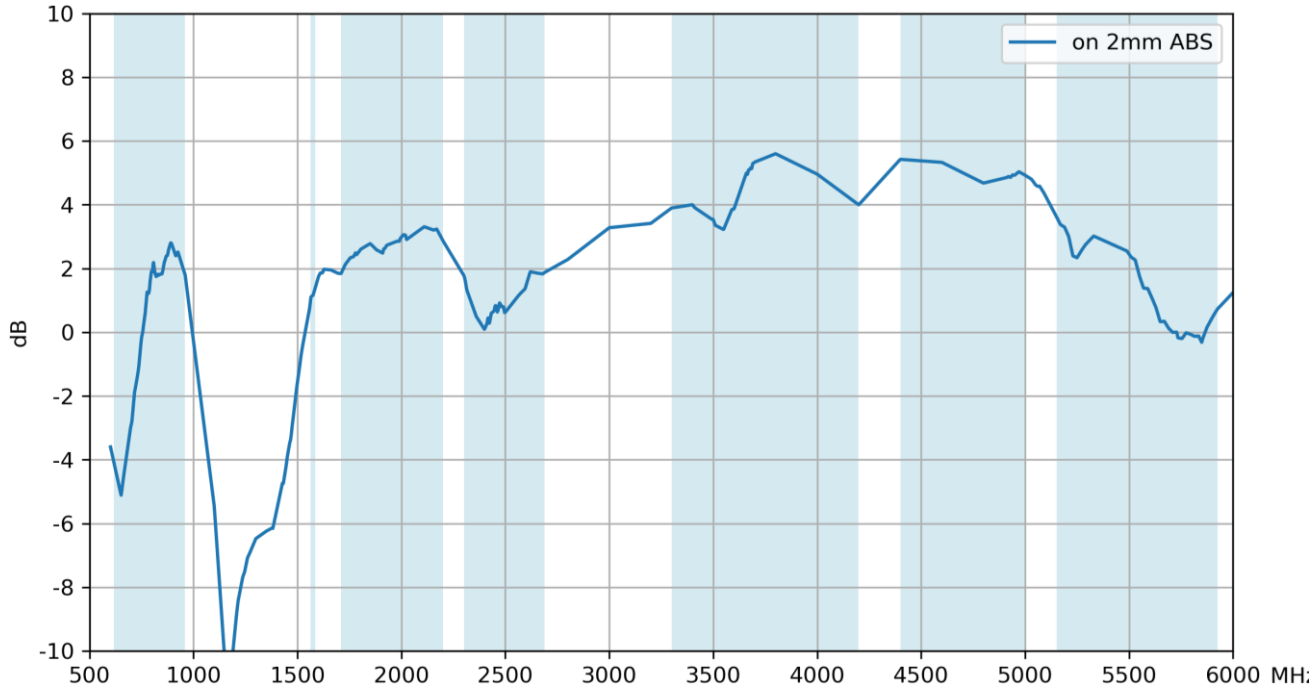
3.3 Efficiency



3.4 Average Gain

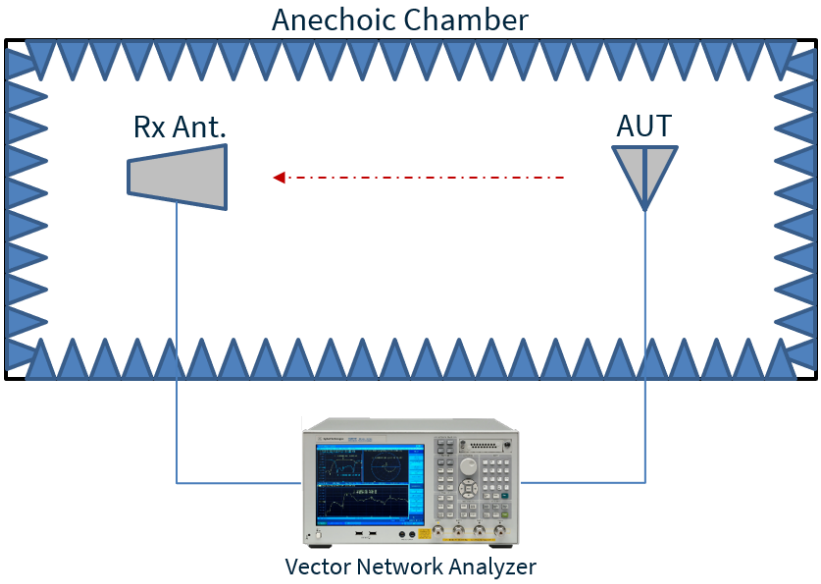


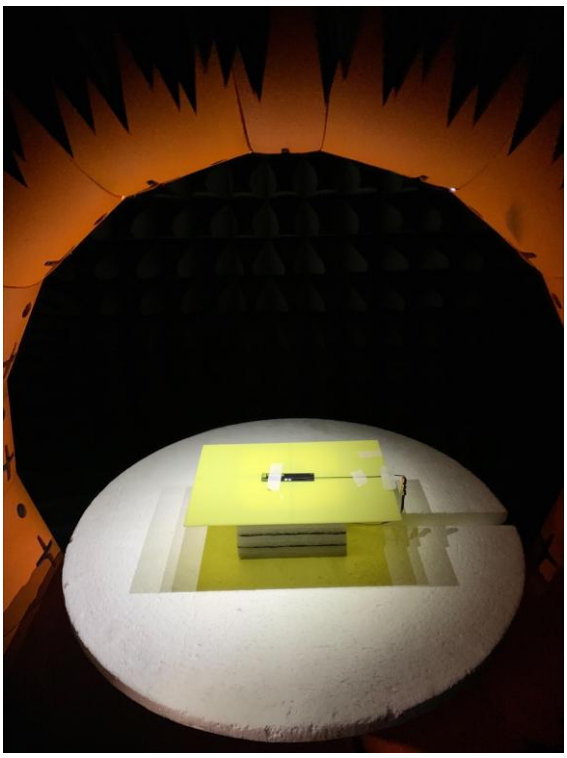
3.5 Peak Gain



4. Radiation Patterns

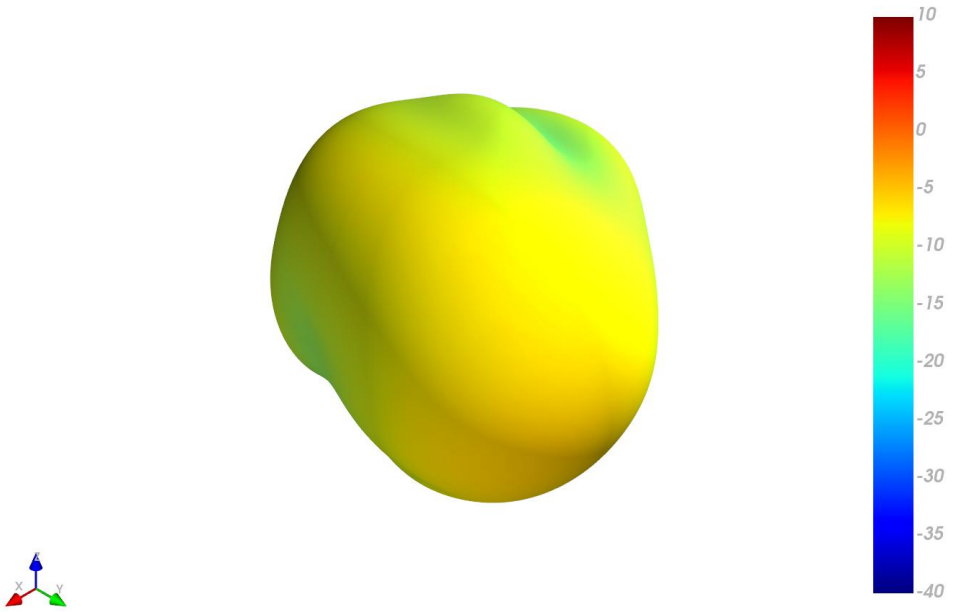
4.1 Test Setup





4.2 3D and 2D Radiation Patterns

652MHz



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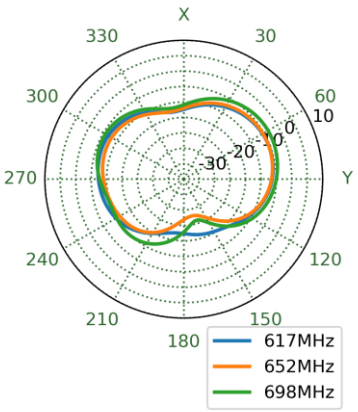
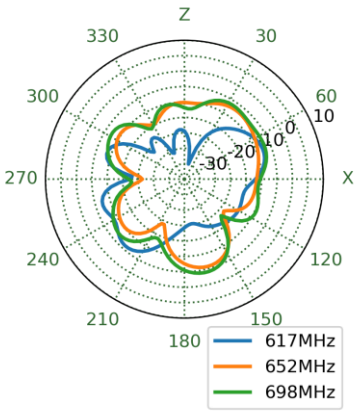
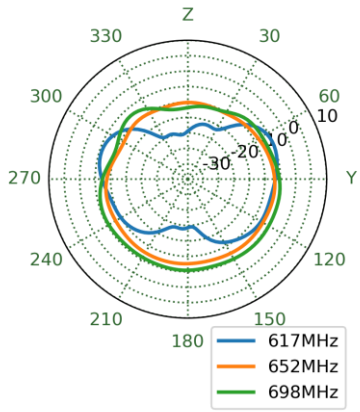
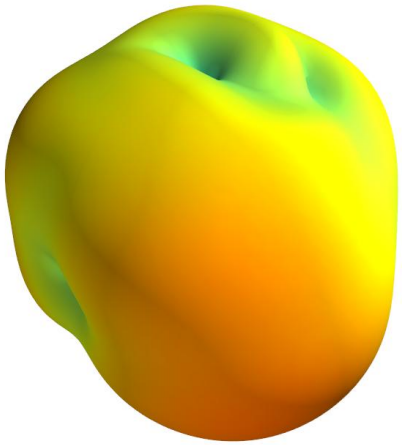
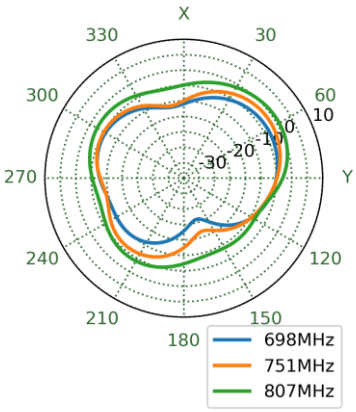
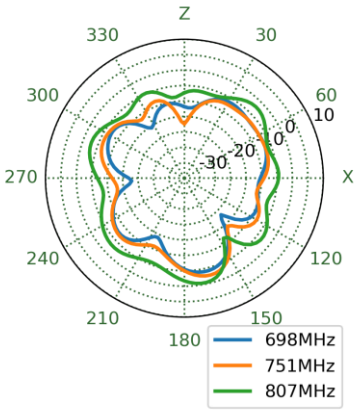
		

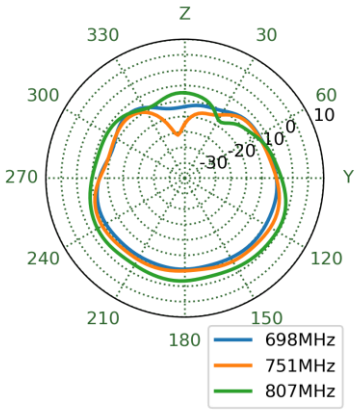
751MHz



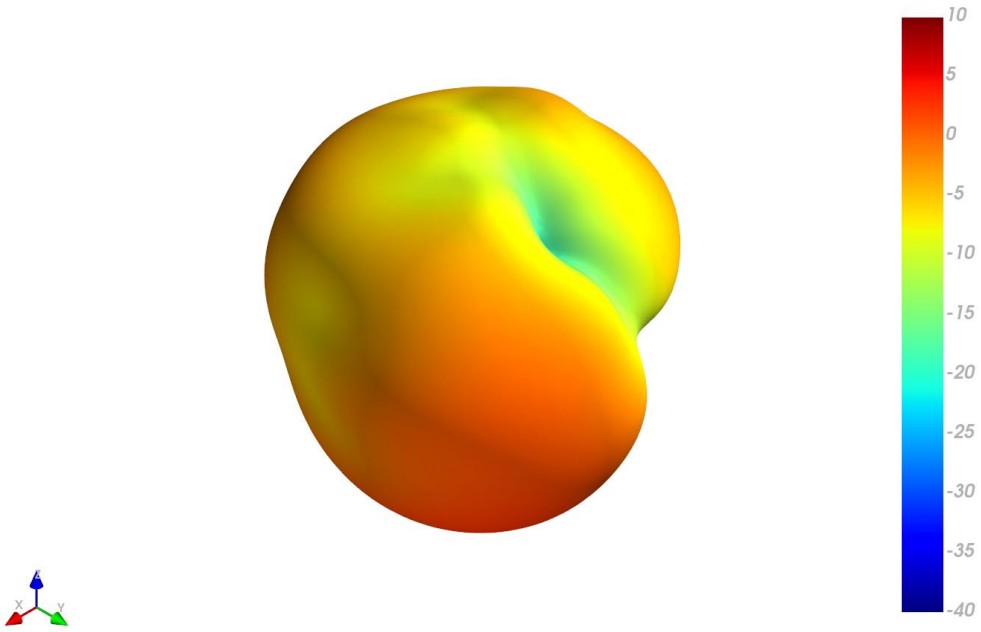
XY Plane	XZ Plane	YZ Plane



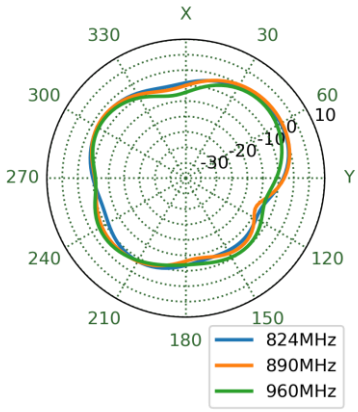


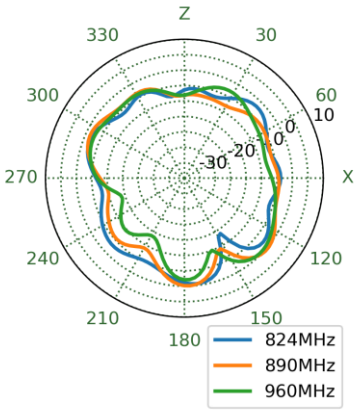


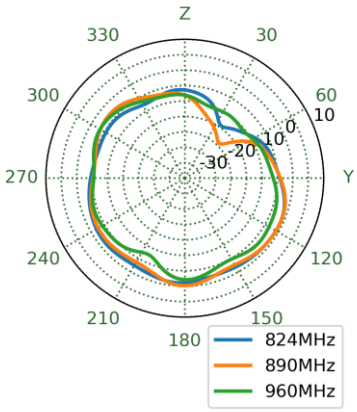
890MHz



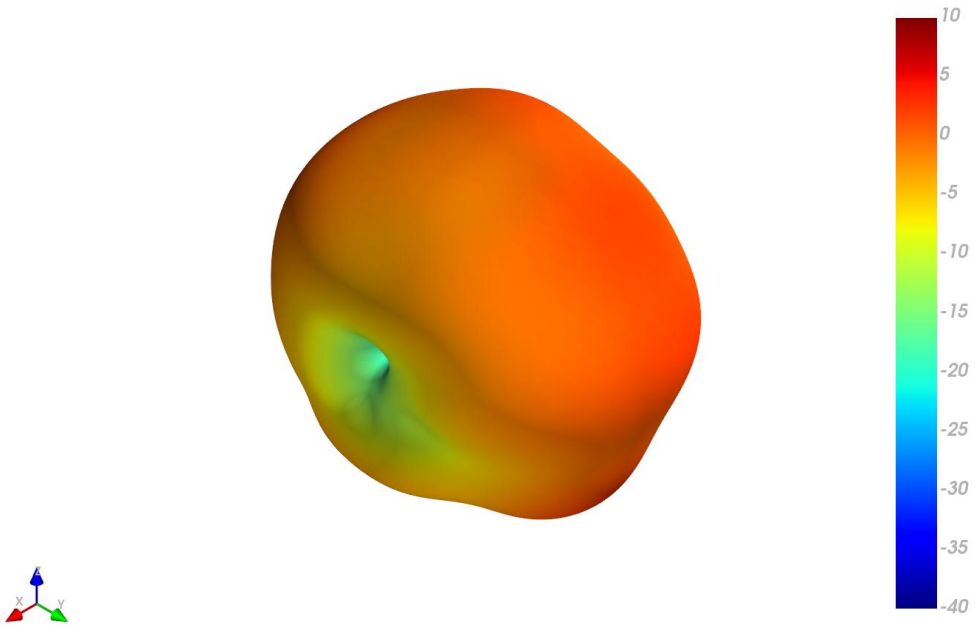
XY Plane	XZ Plane	YZ Plane



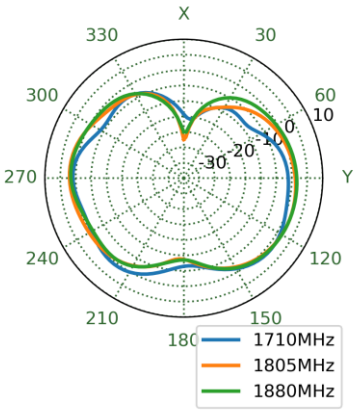


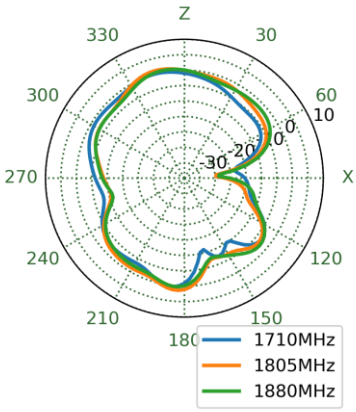


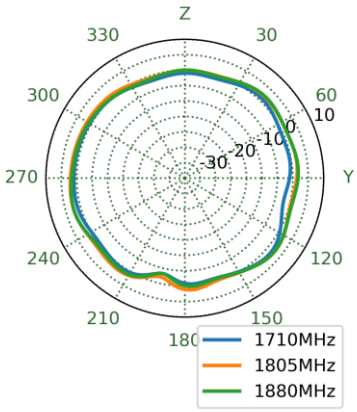
1805MHz



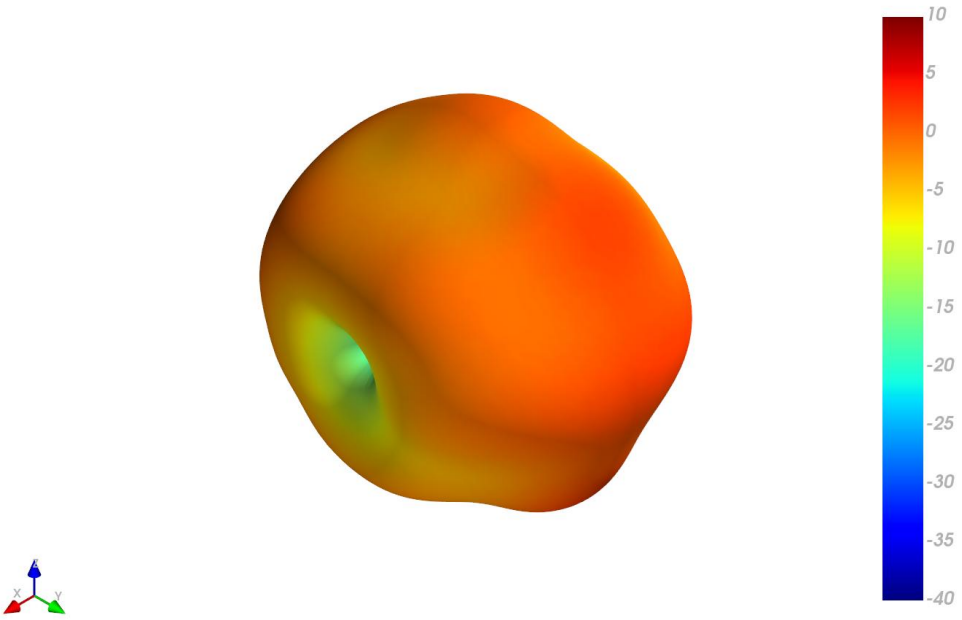
XY Plane	XZ Plane	YZ Plane



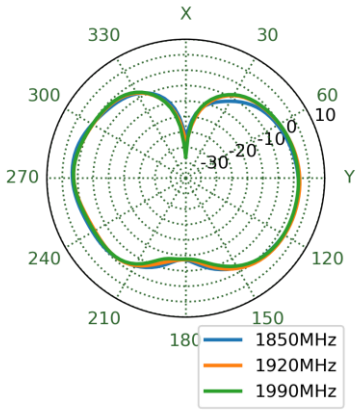


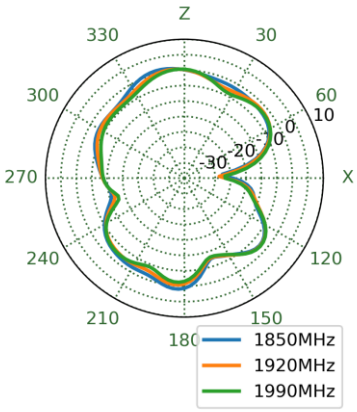


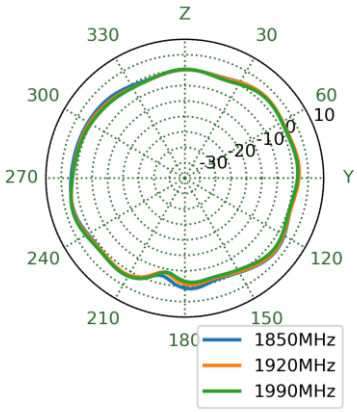
1920MHz



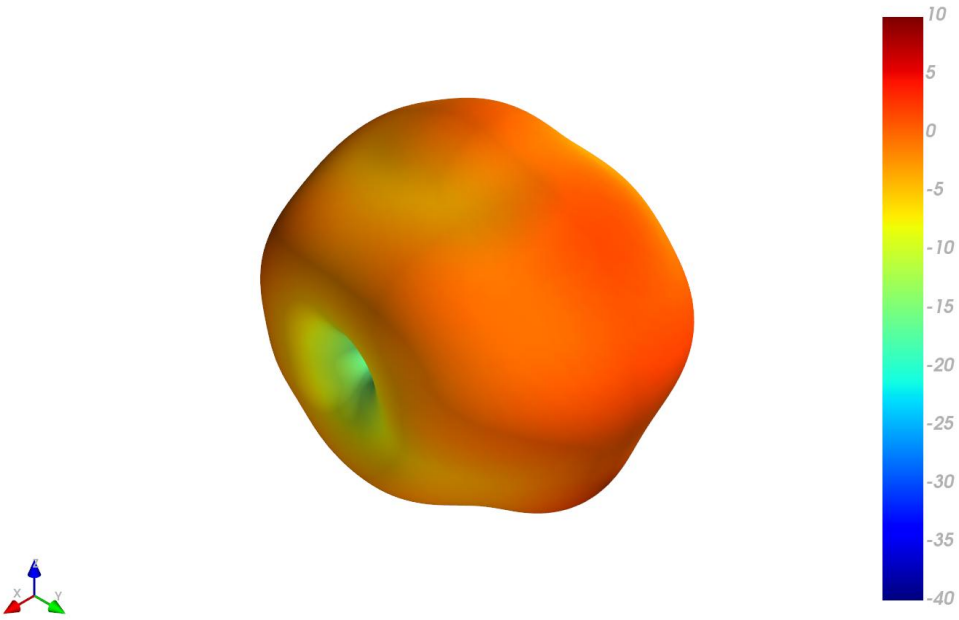
XY Plane	XZ Plane	YZ Plane



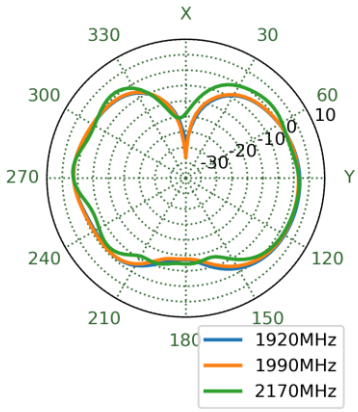


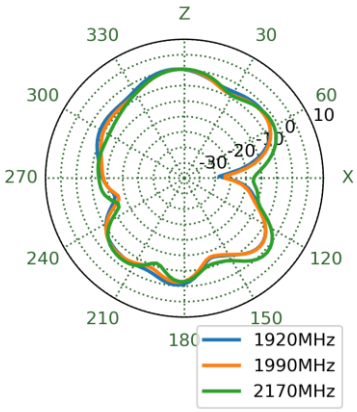


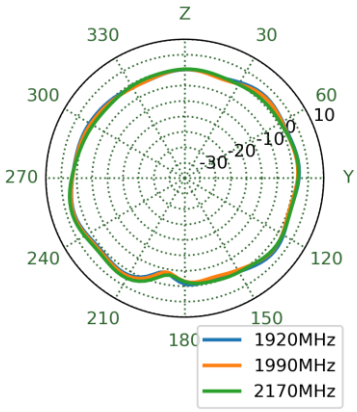
1990MHz



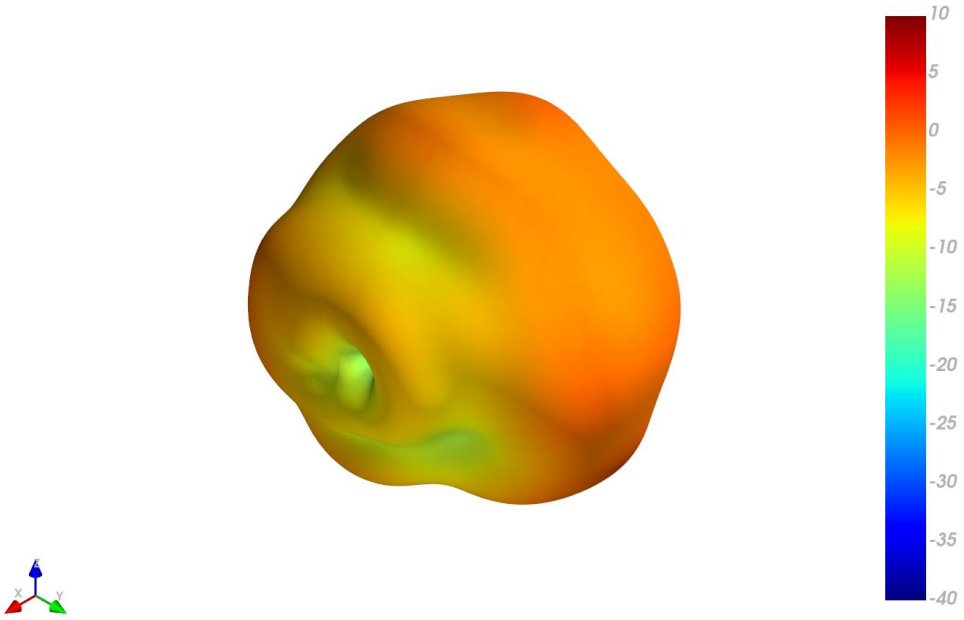
XY Plane	XZ Plane	YZ Plane



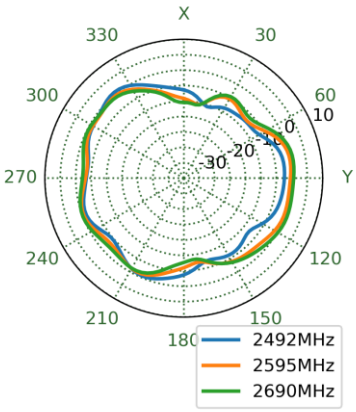


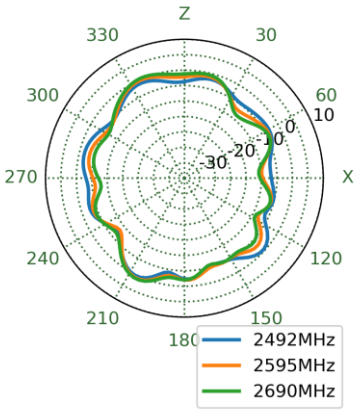


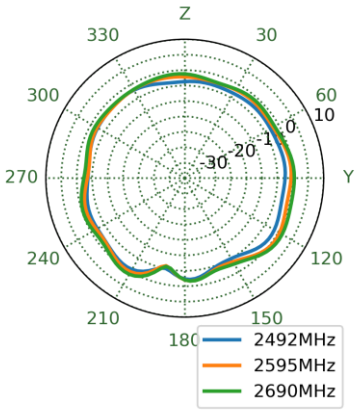
2595MHz



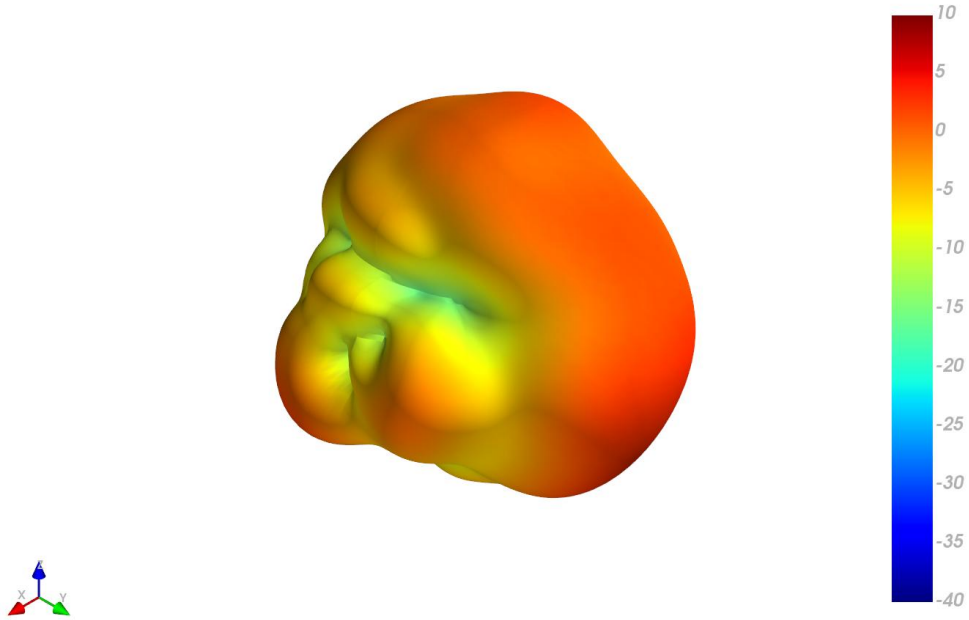
XY Plane	XZ Plane	YZ Plane



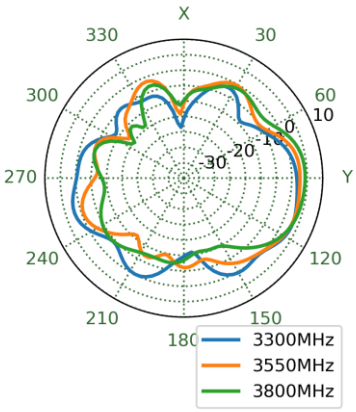


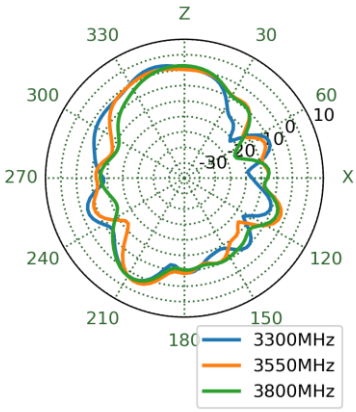


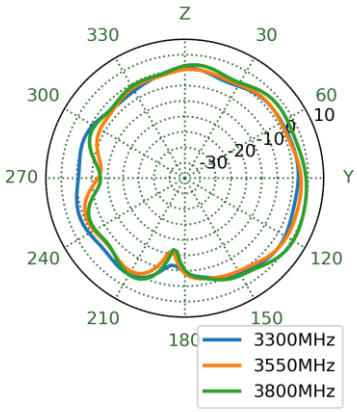
3550MHz



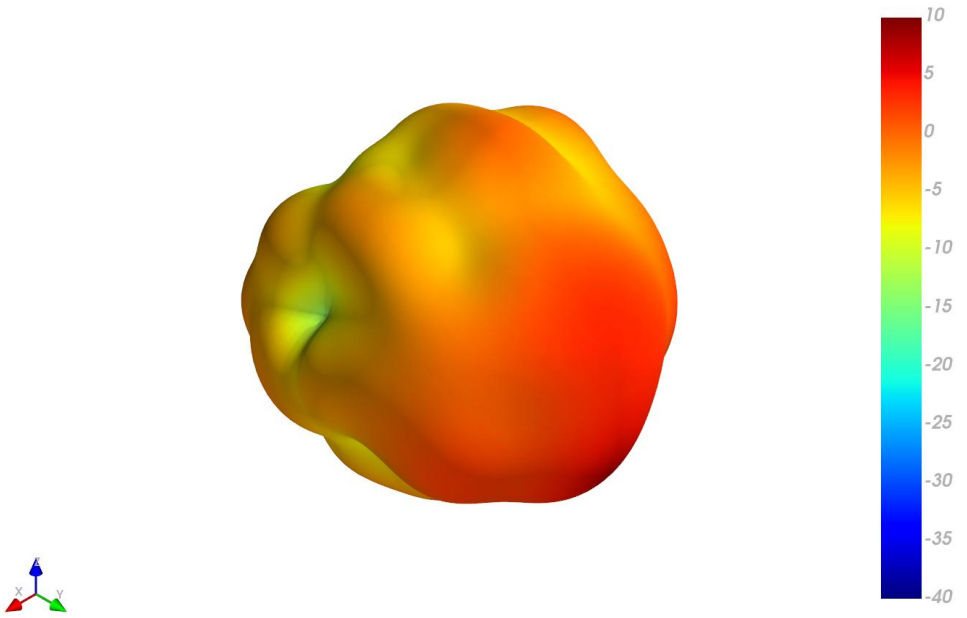
XY Plane	XZ Plane	YZ Plane



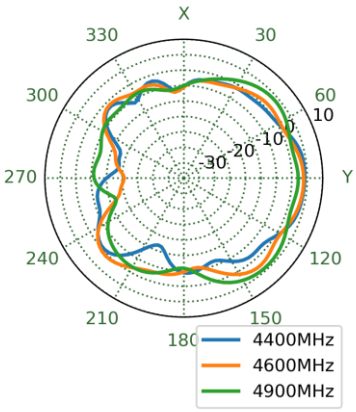


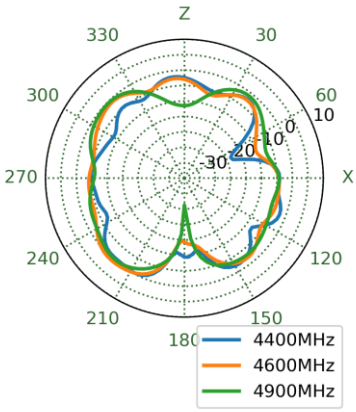


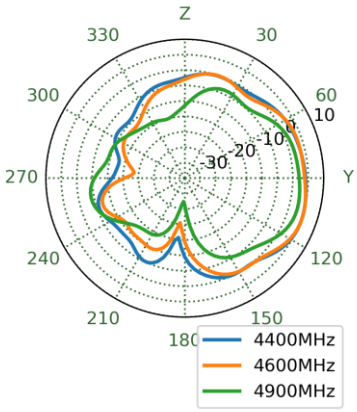
4600MHz



XY Plane	XZ Plane	YZ Plane





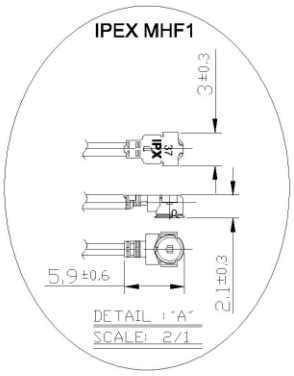


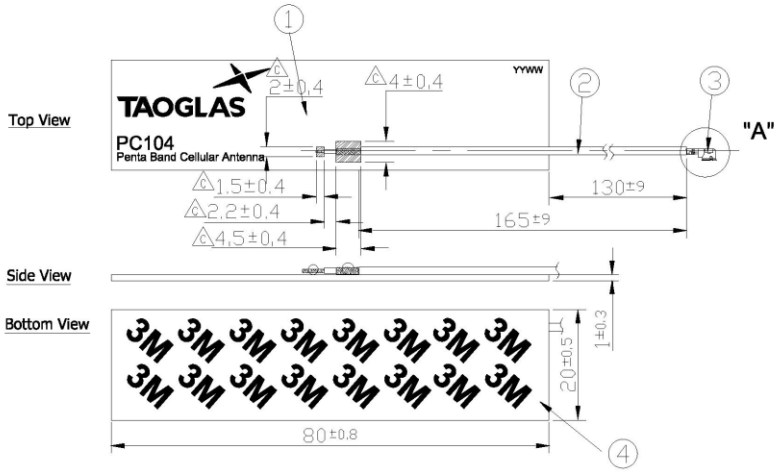
5. Mechanical Drawing (Units: mm)

ISO NO.: EDW-13-8-0031
STATE: RELEASE

NOTES: **NOTES:**
1. No dregs or insufficient soldering. Solder thickness 0.2 ~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.
4. All material must be RoHS compliant.
5. Open/short QC, VSWR required.
6. Soldered area.

REV.	DESCRIPTION	ENG.	APPROVED	DATE
A	INITIAL DESIGN	Sandy	Peter	2013/7/24
B	Change to Taoglas New LOGO.(ECR-18-8-0259)	Bonnie	Aaron	2019/7/19
C	Change solder pad.(E0000112)	Aron	Chozen	2024/9/23





	Name	P/N	Material	Finish	QTY
1	PC104 PCB	100212K010011A	FR4 1t	Black	1
2	1.37 Coaxial Cable	300513A000002A	FEP	Black	1
3	IPEX MHFI	204511G000002A	Brass	Gold	1
4	3M Adhesive	001012K000039A	3M 9448	N/A	1

APPROVED BY:	Chozen
CHECK BY:	Aaron
DRAWN BY:	Aron
DATE:	2024/9/23
UNLESS OTHERWISE SPECIFIED TOLERANCES	××:±0.5 X.±0.3 .X±0.2 .XX±0.1 .×××±0.05
THIRD ANGLE PROJECTION	

TAOGLAS. TW Design Centre

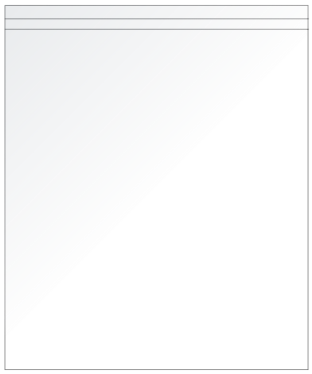
TITLE : Penta-Band Cellular FR4 PCB Antenna with 164.9mm 1.37 IPEX MHFHT

PART NO. : PC104.07.0165C

UNIT: mm | SCALE: 1:1 | PAGES: 1/1 | REV: C

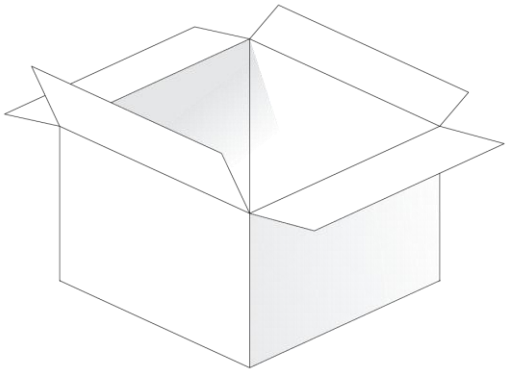
6. Packaging

100pcs PC104.07.0165C per Large PE Bag



2000pcs PC104.07.0165C per Carton

Carton Dimensions: 360*310*160 mm



Changelog for the datasheet

SPE-13-8-012 – PC104.07.165C

Revision: D (Current Version)	
Date:	2025-10-10
Notes:	Updated EDW.
Author:	Paul Liu

Previous Revisions

Revision: C	
Date:	2022-11-02
Notes:	Full datasheet update.
Author:	Gary West

Revision: B	
Date:	2013-06-03
Notes:	Amended the labels on 3.1 Return Loss 3.2 Maximum Gain 3.3 Average Gain 3.4 Efficiency
Author:	Aine Doyle

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