

SPECIFICATION

Part No. : GW20.54.0180A.k m

Product Name : 2.4GHz/ 5.8GHz cable length 180mm Dipole Antenna

Features : IPEX MHF4L Connector
Terminal
TPEE Housing
1.13 Coaxial cable length 180mm
Custom Cables and Connectors Available
RoHS Compliant



1. Introduction

The GW.20 dipole mount antenna is ideal for 2.4~2.5GHz and 5.8GHz wireless applications such as Bluetooth and Wireless LAN. The antenna structure is designed for robust handling and the housing is made with TPEE giving superior environmental reliability and a quality finish.

Many module manufacturers specify peak gain limits for any antennas that are to be connected to that module. Those peak gain limits are based on free-space conditions. In practice, the peak gain of an antenna tested in free-space can degrade by at least 1 or 2dBi when installed. So ideally you should go for a slightly higher peak gain antenna than mentioned on the module specification to compensate for this effect, giving you better performance.

Upon testing of any of our antennas with your device and a selection of appropriate layout, integration technique, or cable, Taoglas can make sure any of our antennas' peak gain will be below the peak gain limits. Taoglas can then issue a specification and/or report for the selected antenna in your device that will clearly show it complying with the peak gain limits, so you can be assured you are meeting regulatory requirements for that module.

Choosing a Taoglas antenna with a higher peak gain than what is specified by the module manufacturer and enlisting our help will ensure you are getting the best performance possible without exceeding the peak gain limits.

2. Specification

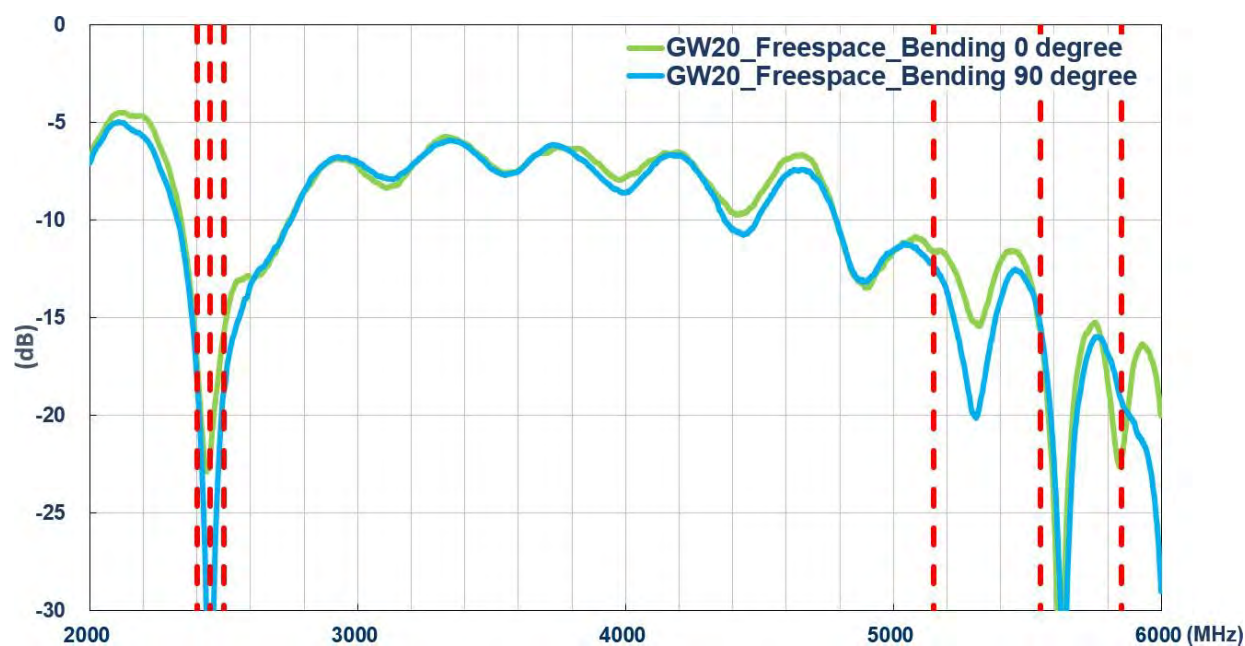
2.4 / 5.8GHz Antenna									
Frequency (MHz)	Antenna Bending	Peak Gain(dBi)			Average Gain(dBi)				Efficiency (%)
		H-Pol.	V-Pol.	3D Total	H-Pol.	V-Pol.	Total	3D Gain	
2400	0°	1.26	-8.54	1.7	-0.16	-15.43	-0.05	-1.49	70.92
	90°	-3.05	1.29	1.97	-11.03	-0.39	0.08	-1.38	72.7
2450	0°	1.11	-9.05	1.72	-0.22	-15.81	-0.07	-1.47	71.12
	90°	-3.87	1.66	2.01	-11.56	0.30	0.66	-1.09	77.7
2500	0°	0.86	-8.4	1.84	-0.59	-16.41	-0.44	-1.62	68.79
	90°	-5.65	2.04	2.47	-12.29	0.82	1.09	-0.72	84.6
5150	0°	0.13	-9.43	0.61	-1.68	-13.91	-1.41	-2.61	54.7
	90°	-6.05	1.4	2.01	-13.12	-1.04	-0.69	-2.60	54.84
5350	0°	0.55	-11.1	0.66	-0.24	-17.08	-0.13	-2.7	53.66
	90°	-7.71	0.77	1.07	-13.66	-0.7	-0.42	-2.85	51.83
5470	0°	0.41	-12.19	0.51	-0.47	-17.7	-0.38	-2.89	51.39
	90°	-7.14	1.77	1.84	-13.61	-0.17	0.09	-2.7	53.76
5550	0°	0.74	-11.04	1.09	-0.35	-16.77	-0.24	-2.45	56.75
	90°	-5.48	2.55	2.62	-12.85	-0.07	0.22	-2.38	57.72
5725	0°	0.09	-6.15	2.17	-2.2	-12.09	-1.7	-2.89	51.39
	90°	-5.57	1.2	1.75	-12.72	-1.56	-1.12	-2.74	53.26
5850	0°	-0.31	-5.89	1.62	-2.24	-11.28	-1.67	-3.13	48.59
	90°	-5.93	0.32	1.04	-13.23	-1.43	-1.06	-2.88	51.45
Impedance Polarization		50 Ω Vertical							

MECHANICAL	
Dimensions	Phi 7.8*105 mm
Cable	180mm 1.13 Coaxial
Connector	IPEX MHF4L
Casing	PBT+PC
Weight	9 g
ENVIRONMENTAL	
Temperature Range	-40°C to +85°C
Thermal Shock	30 cycles -40°C to +85°C

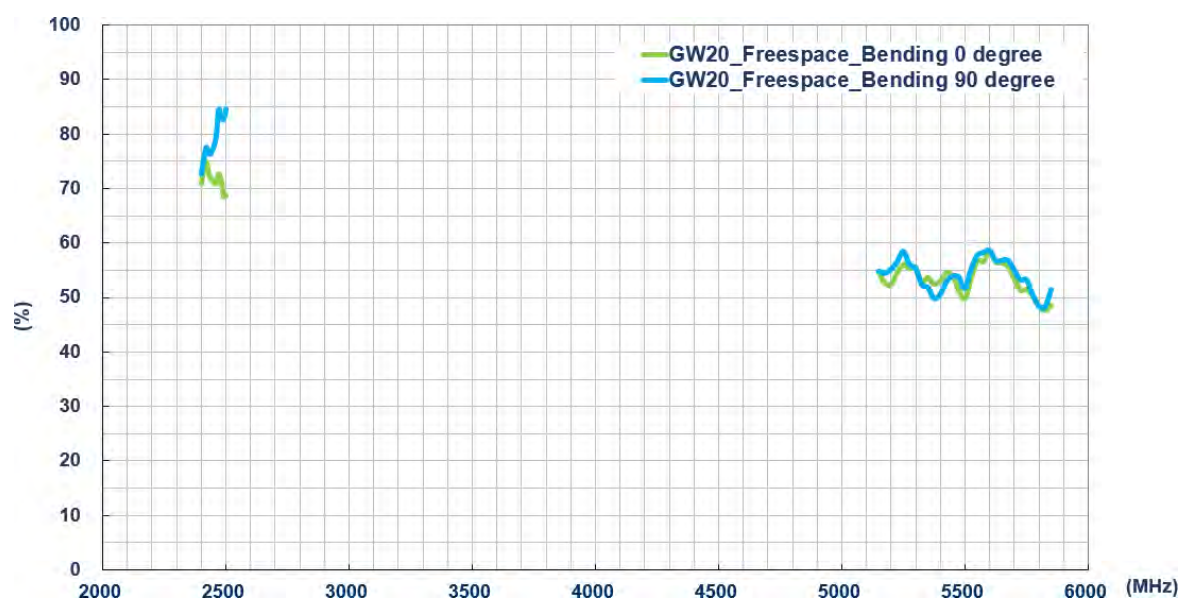
3. Antenna Characteristics

3.1. 2.4/ 5.8GHz Antennas

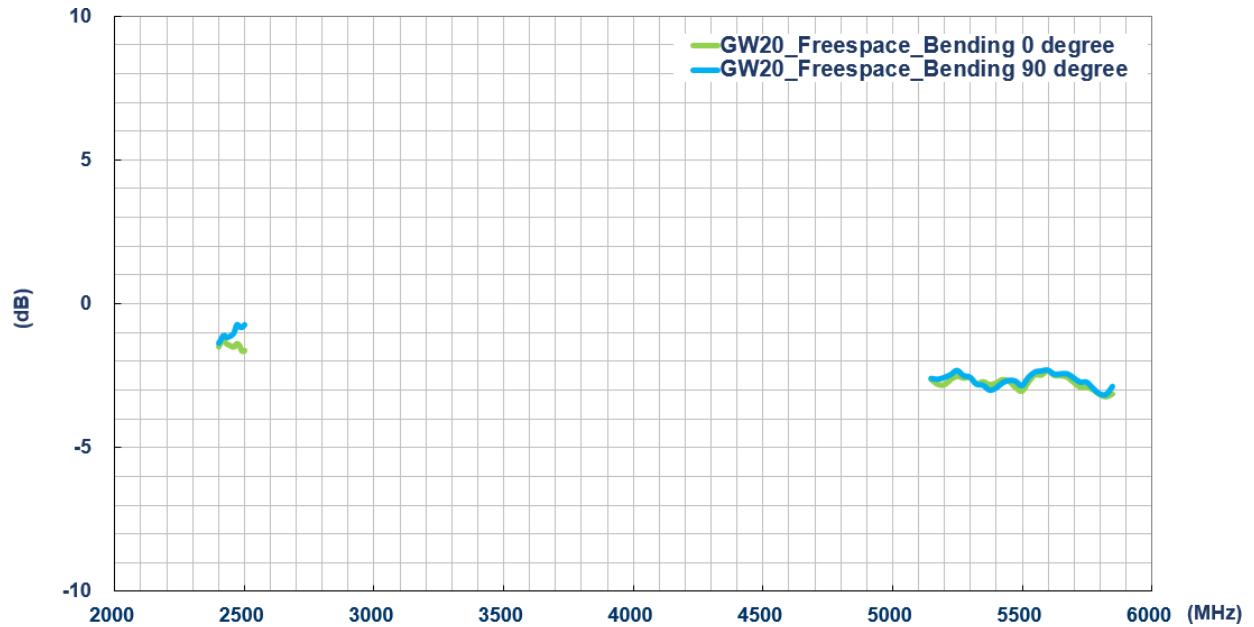
3.1.1. Return Loss – 2.4/ 5.8GHz



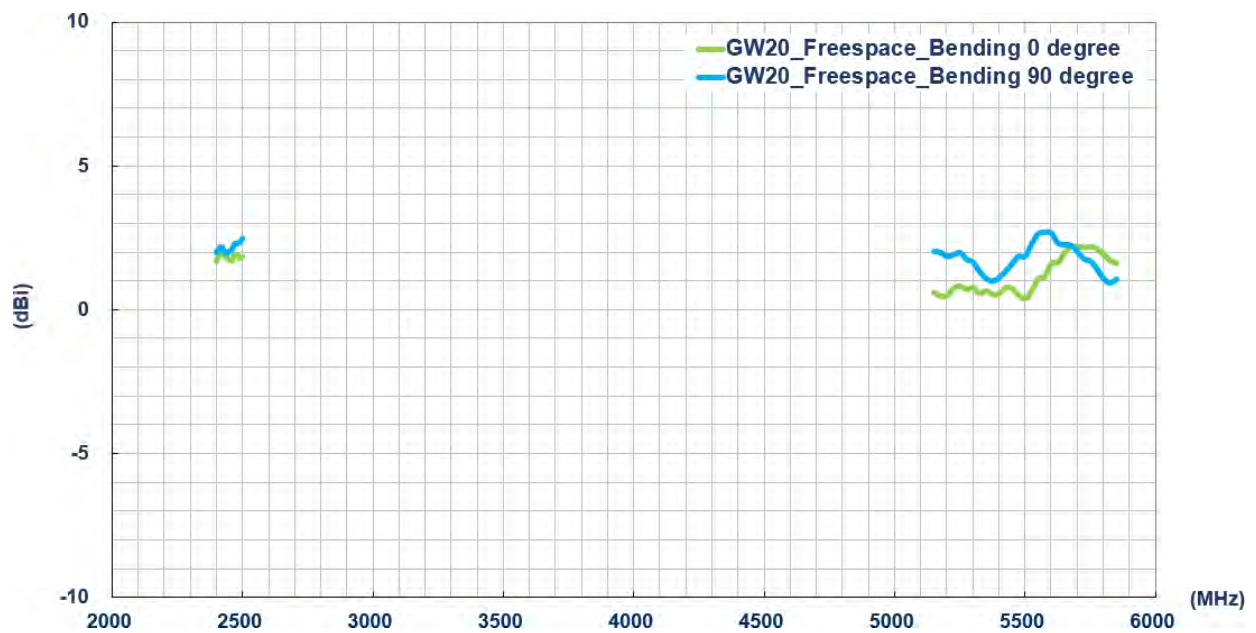
3.1.2. Efficiency – 2.4/ 5.8GHz



3.1.3. Average Gain – 2.4 / 5.8GHz



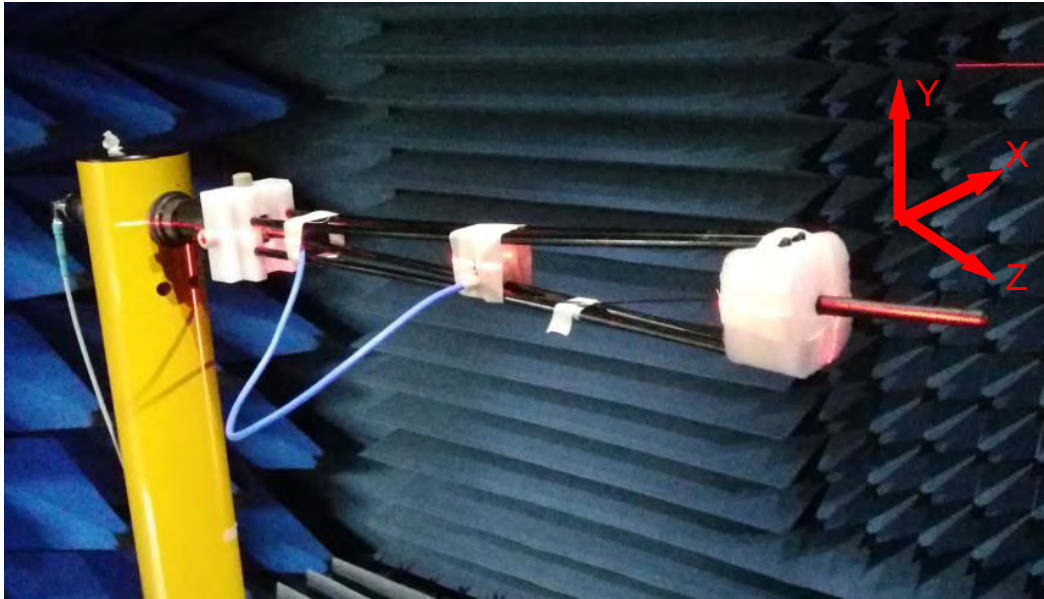
3.1.4. Peak Gain – 2.4 / 5.8GHz



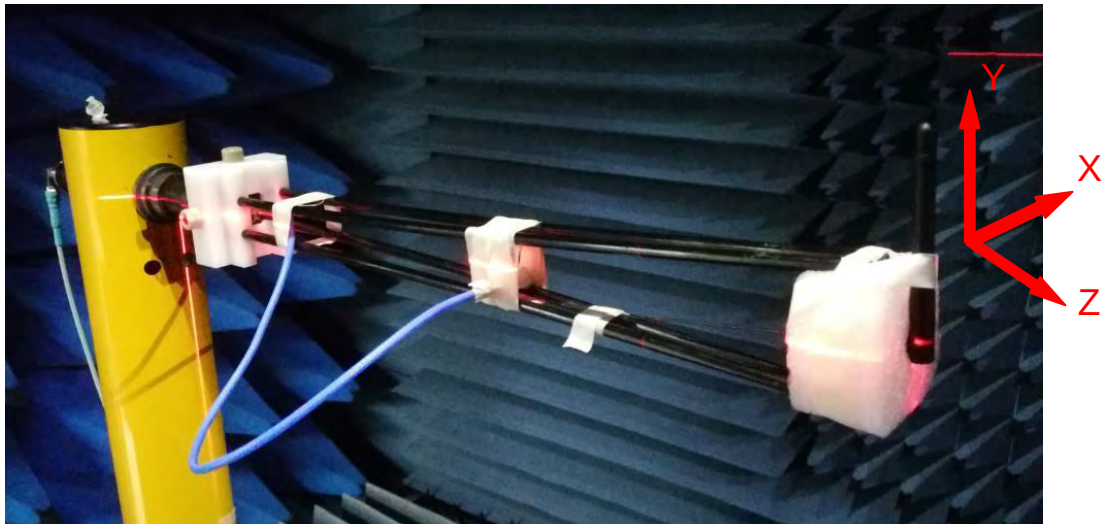
4. Antenna Radiation Patterns

4.1 Antenna Setup

Bending 0 degree



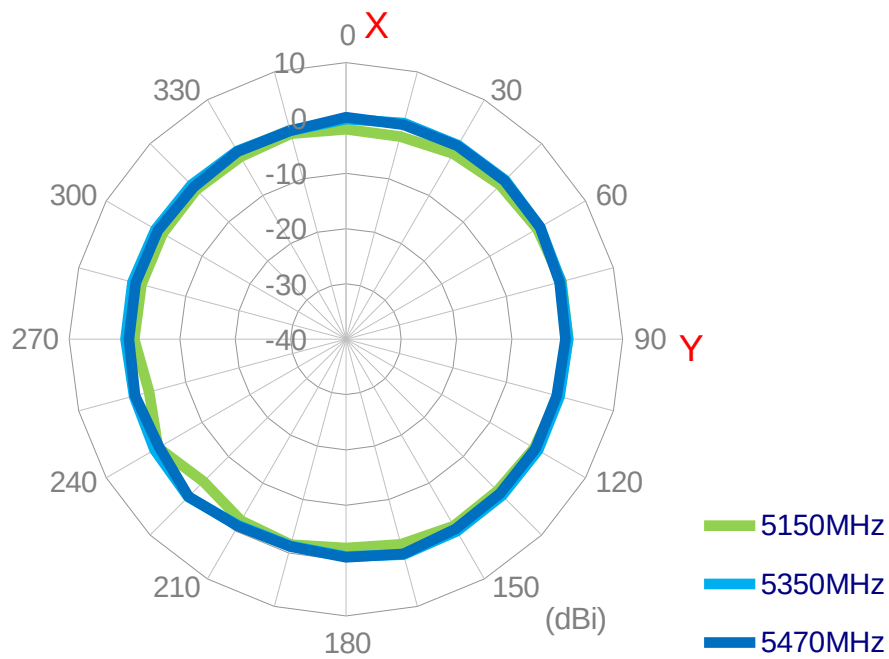
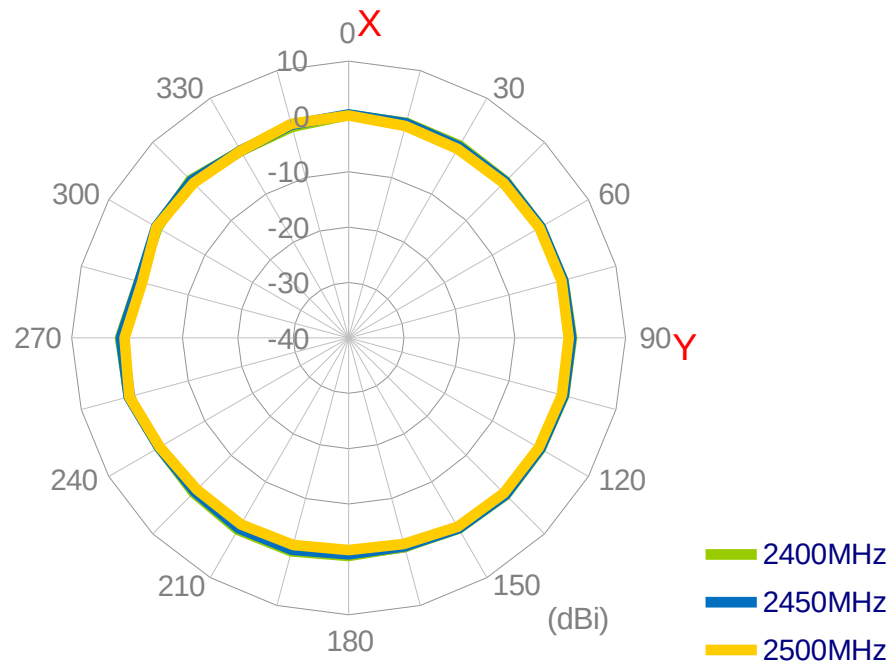
Bending 90 degree

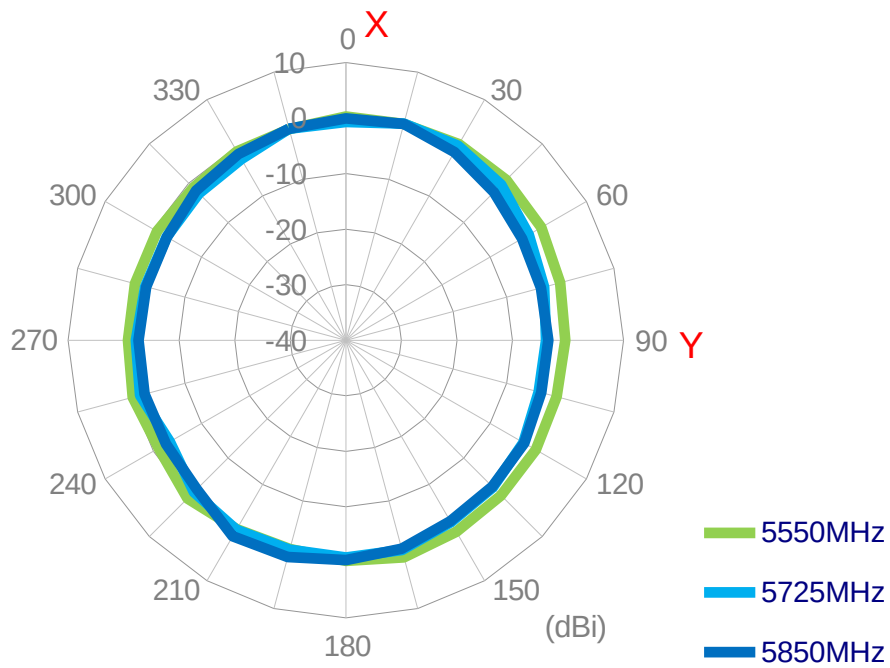


4.2 2D Radiation Patterns

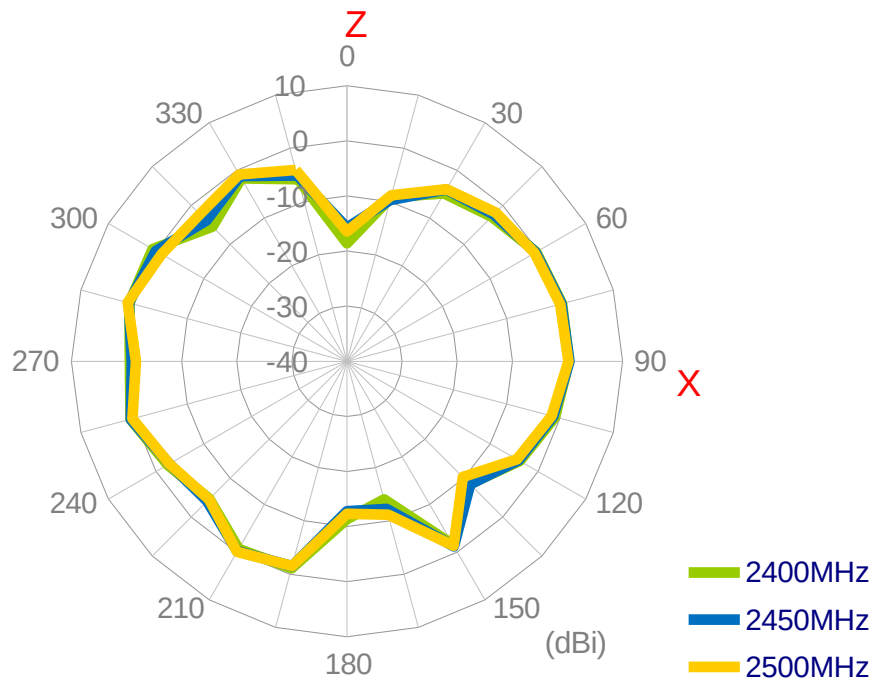
4.2.1 2.4 / 5.8GHz_Bending 0 degree

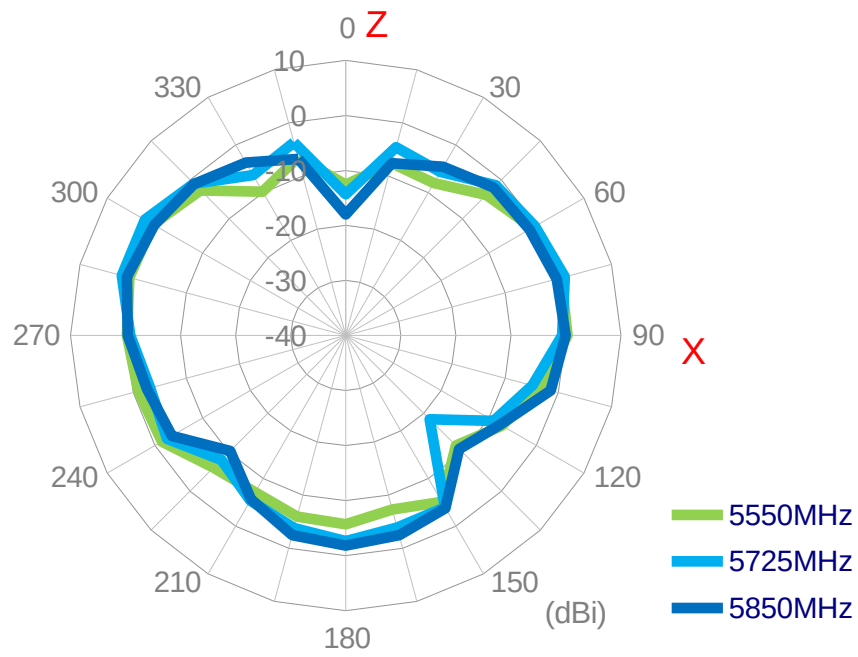
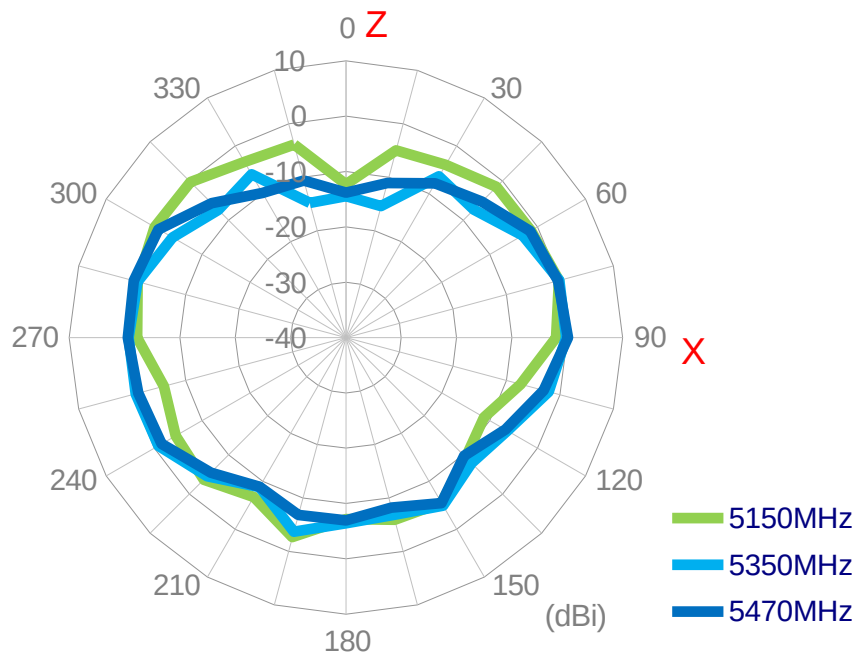
XY Plane



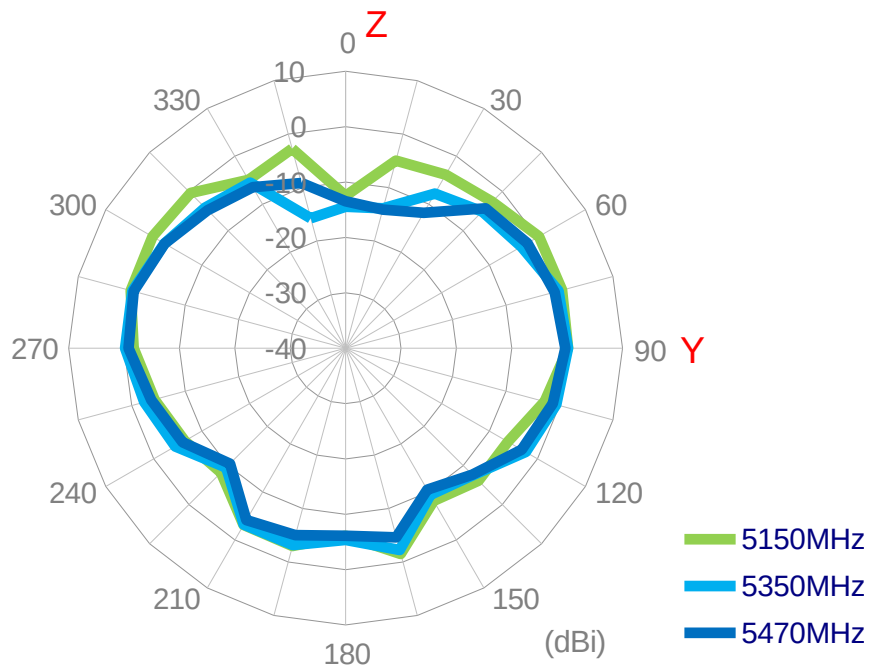
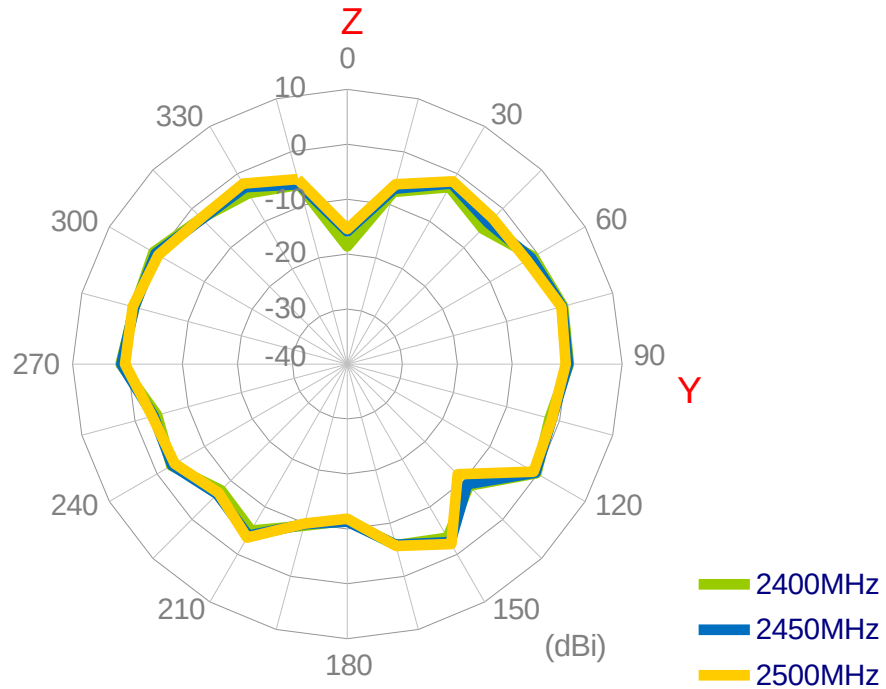


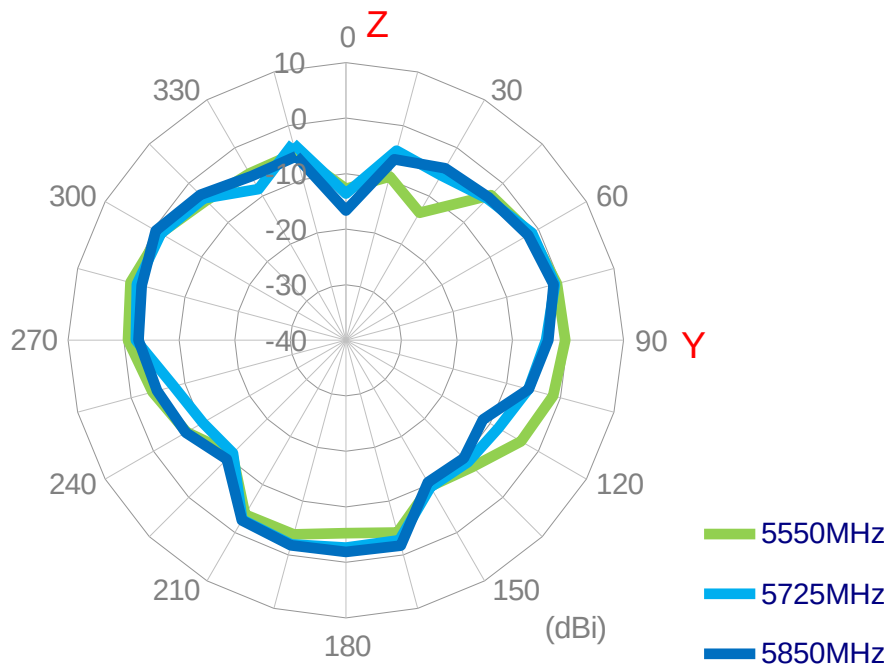
XZ Plane



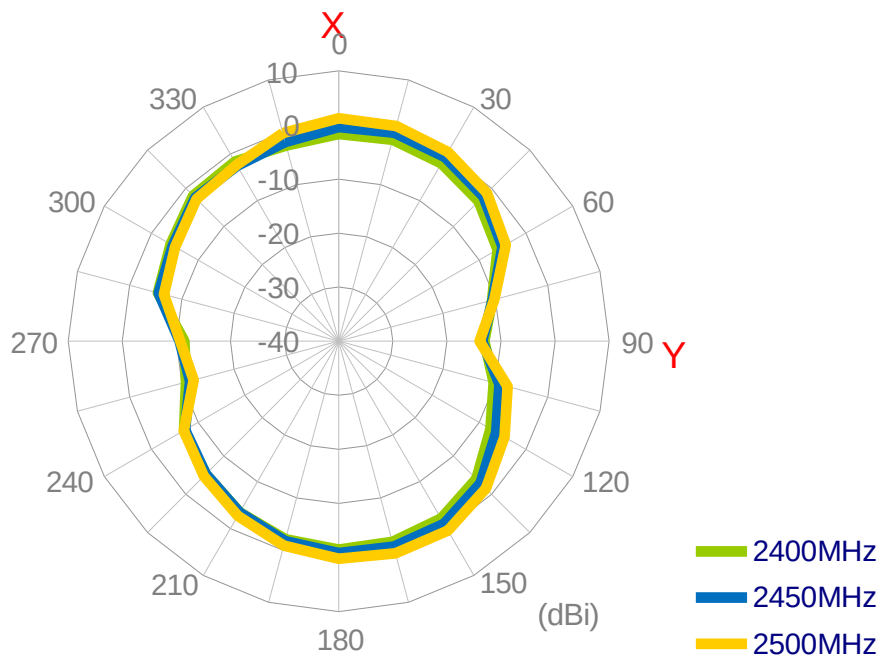


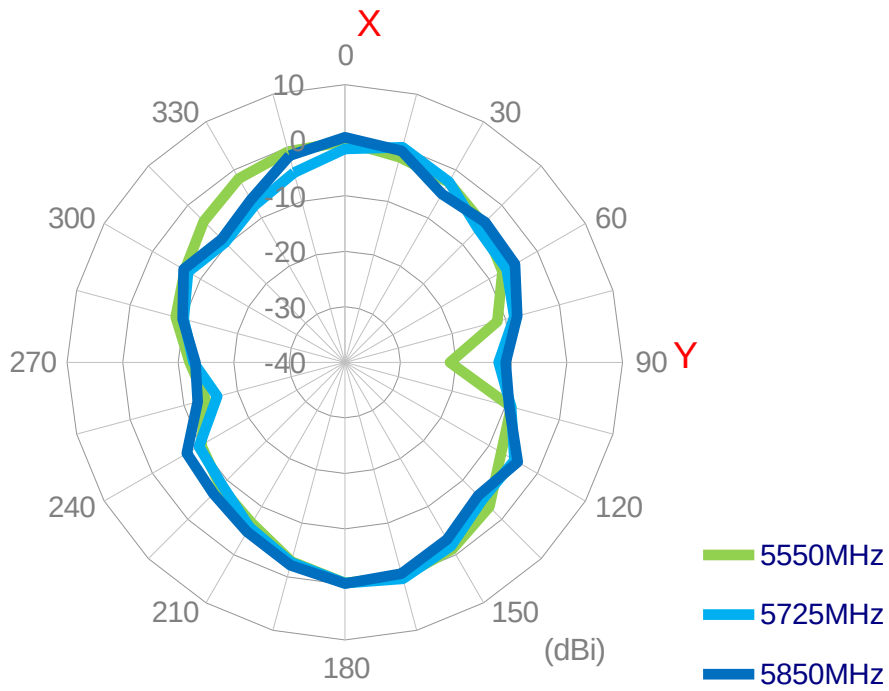
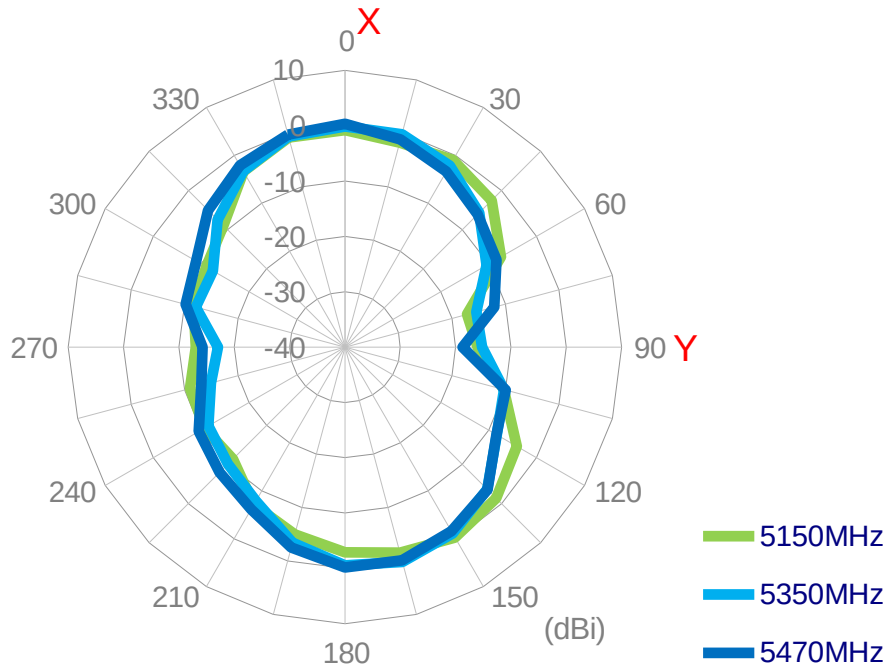
YZ Plane



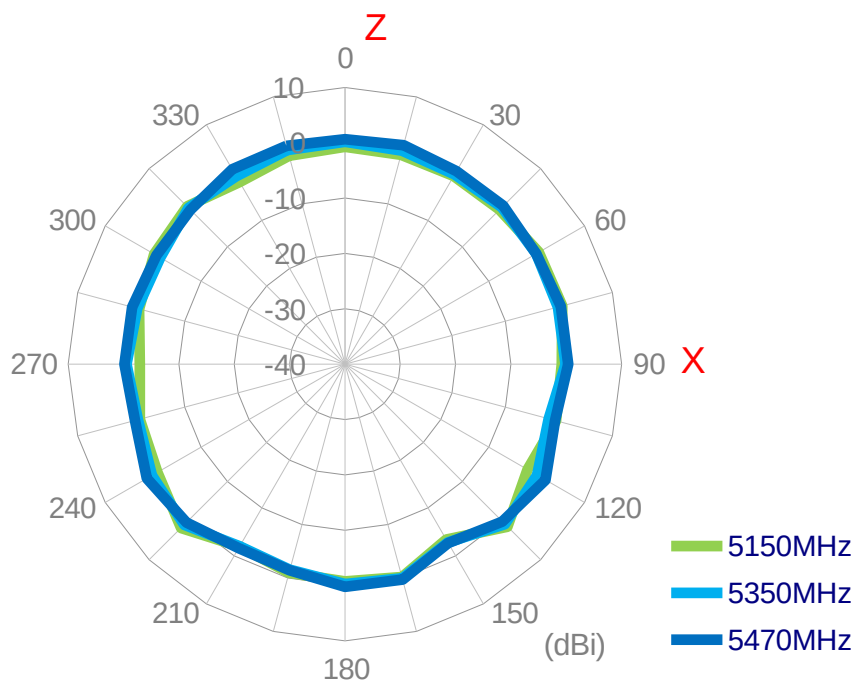
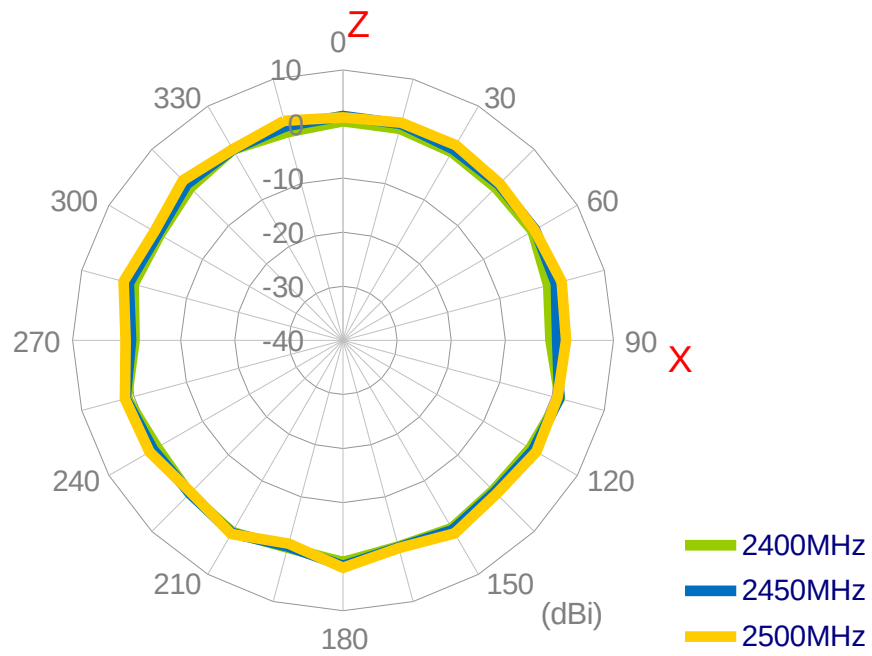


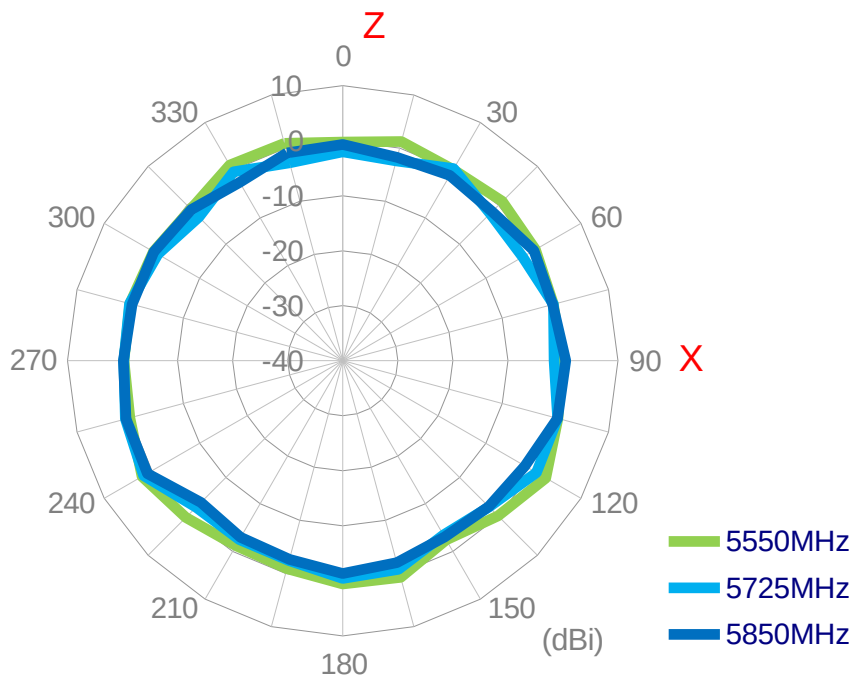
4.2.2 2.4 / 5.8GHz_Bending 90 degree XY Plane



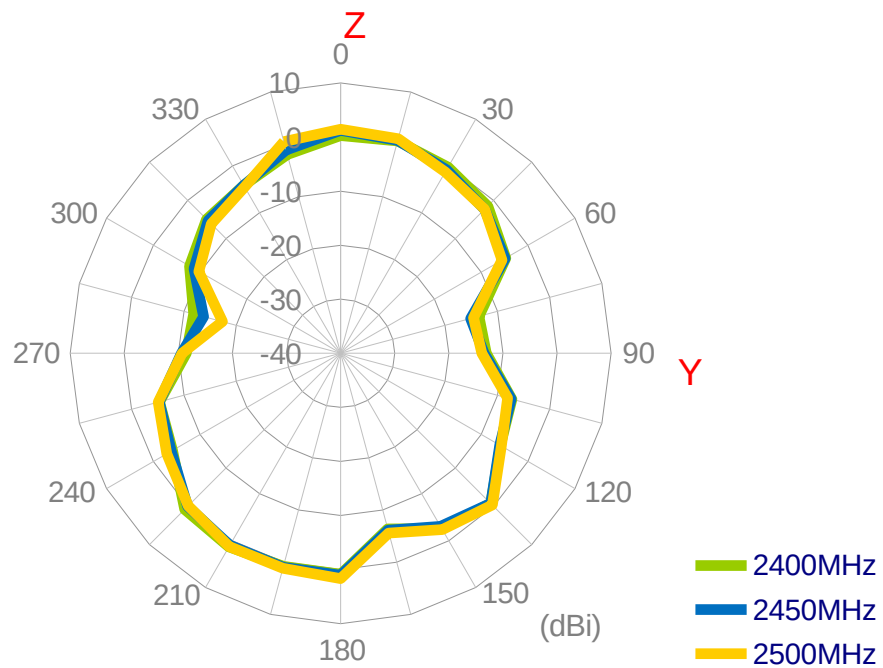


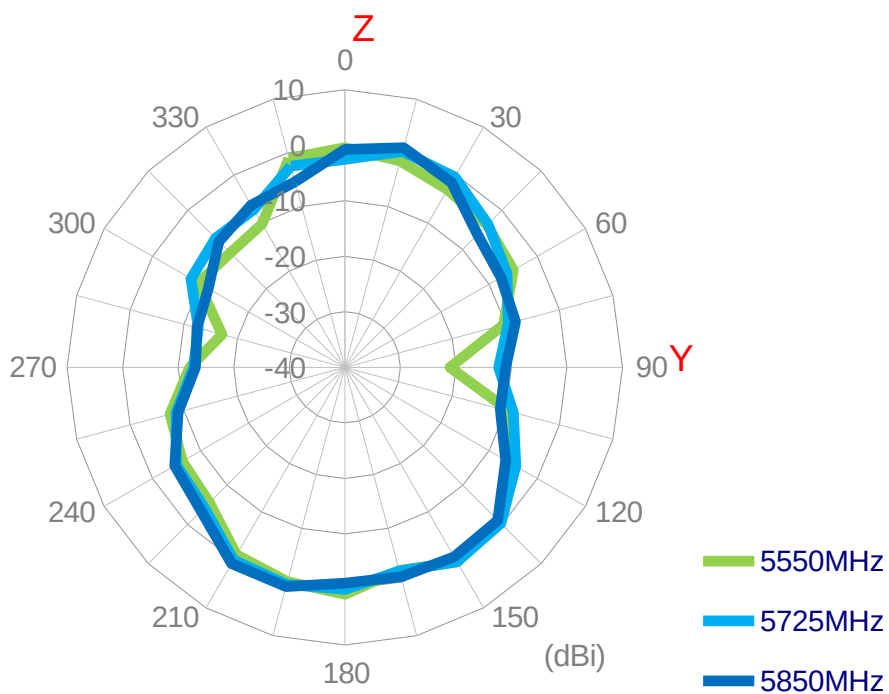
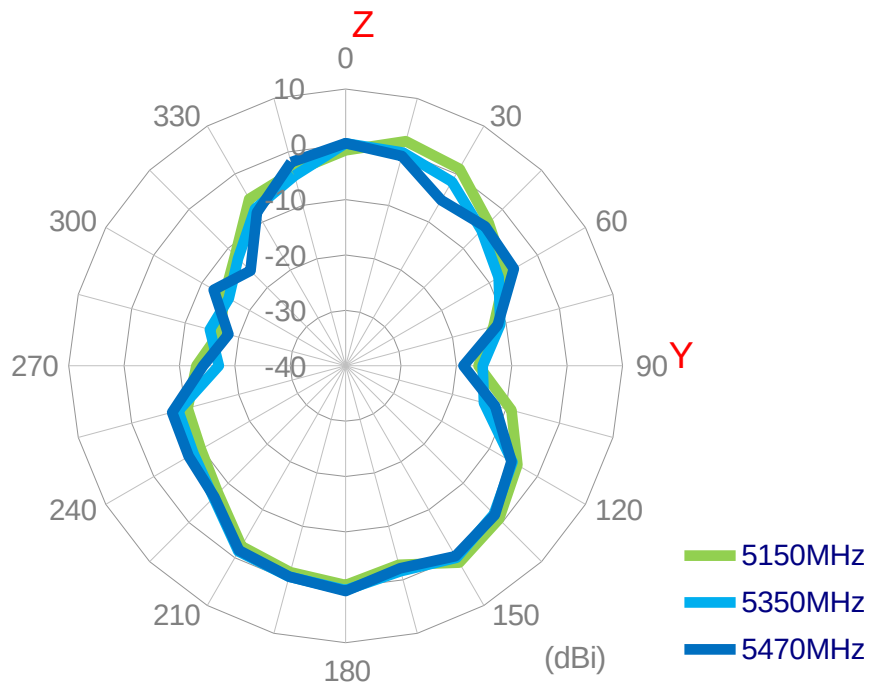
XZ Plane





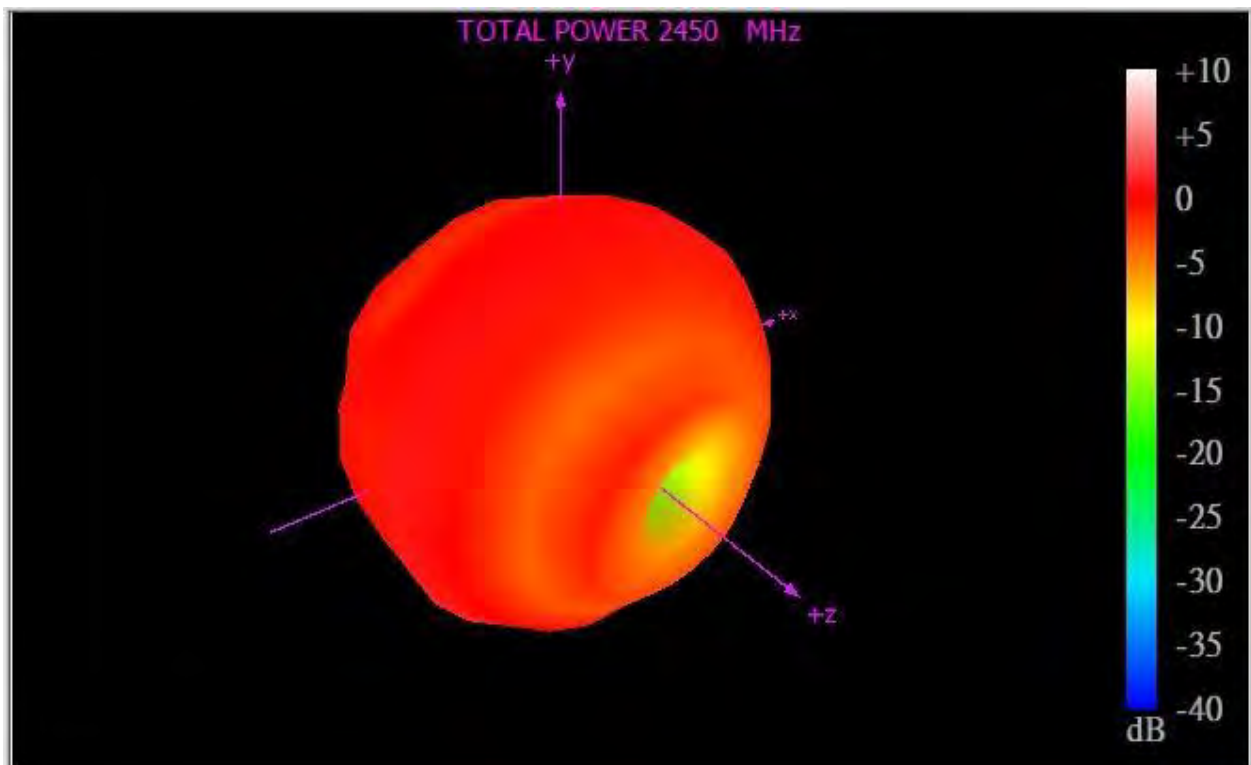
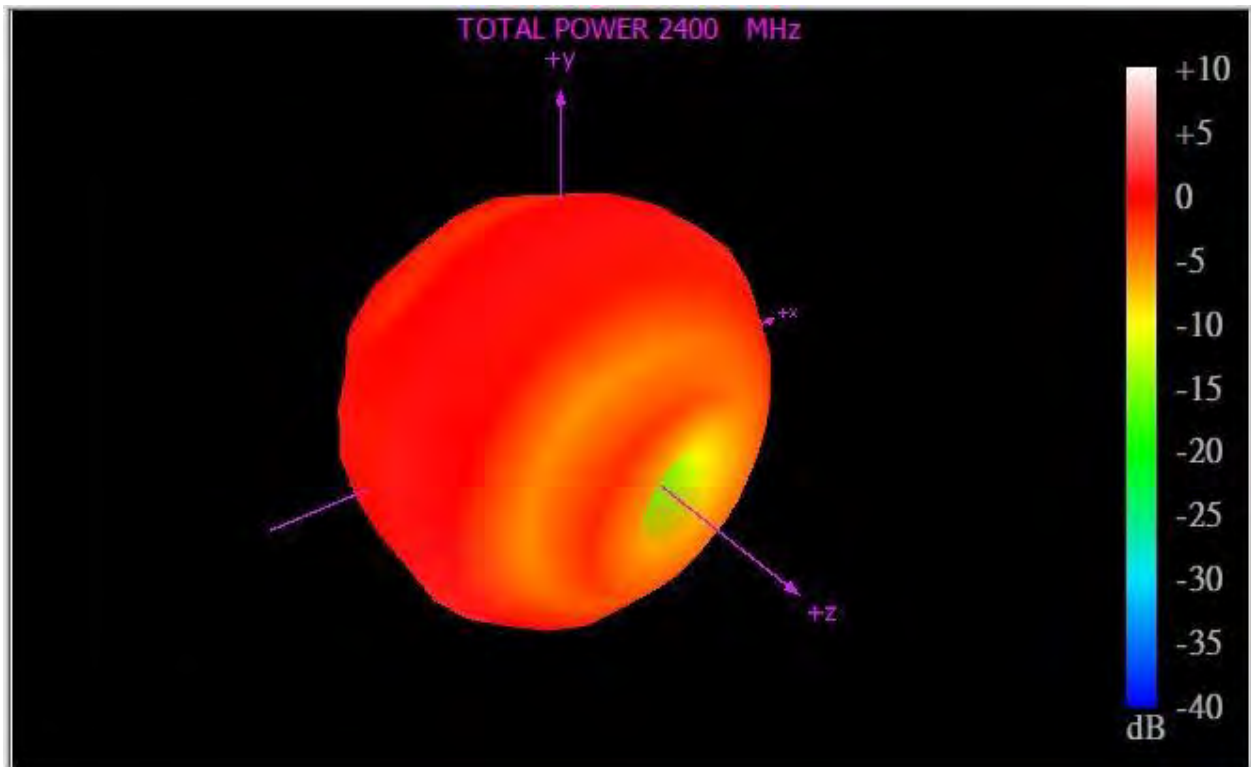
YZ Plane

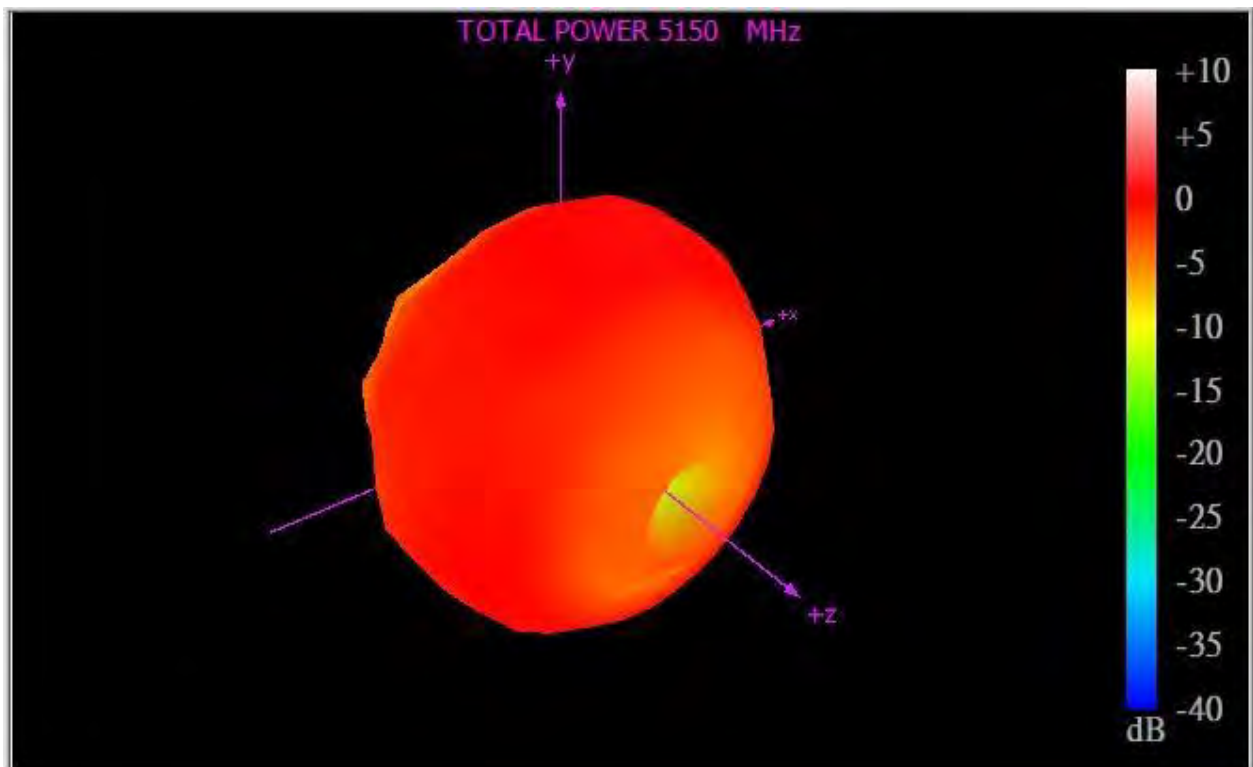
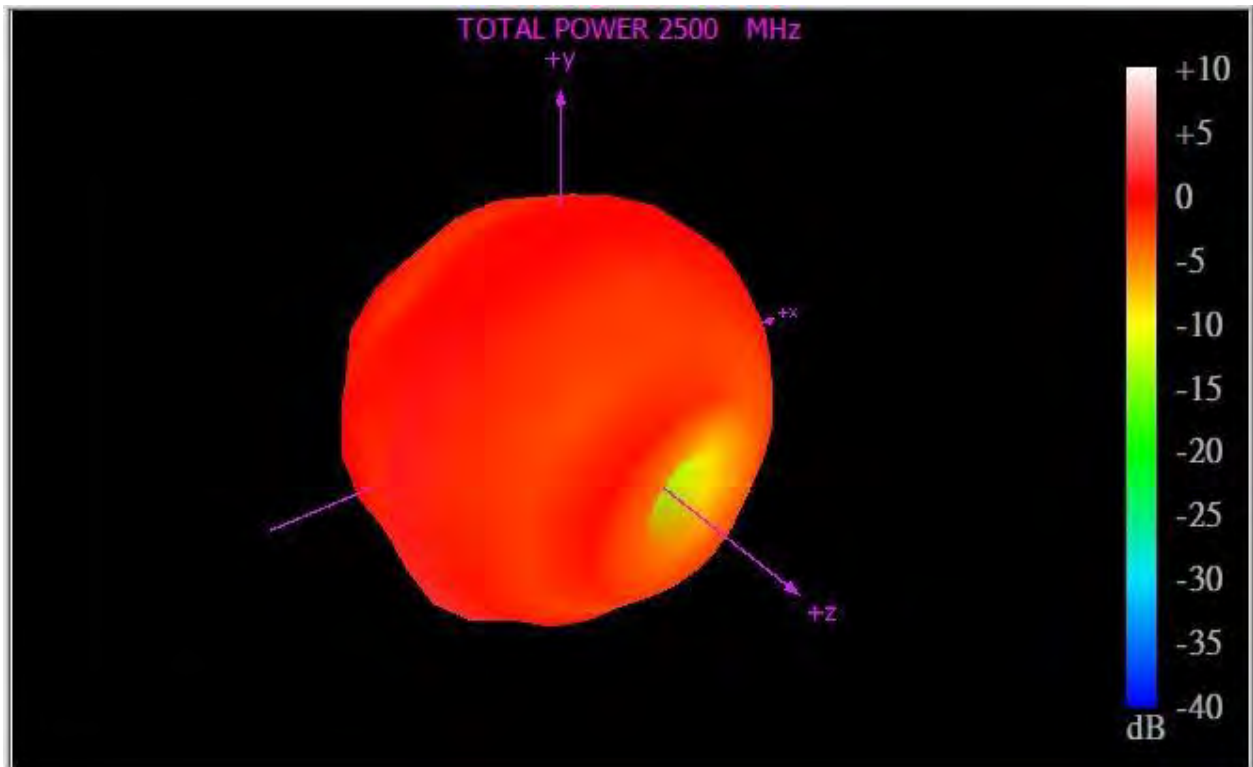


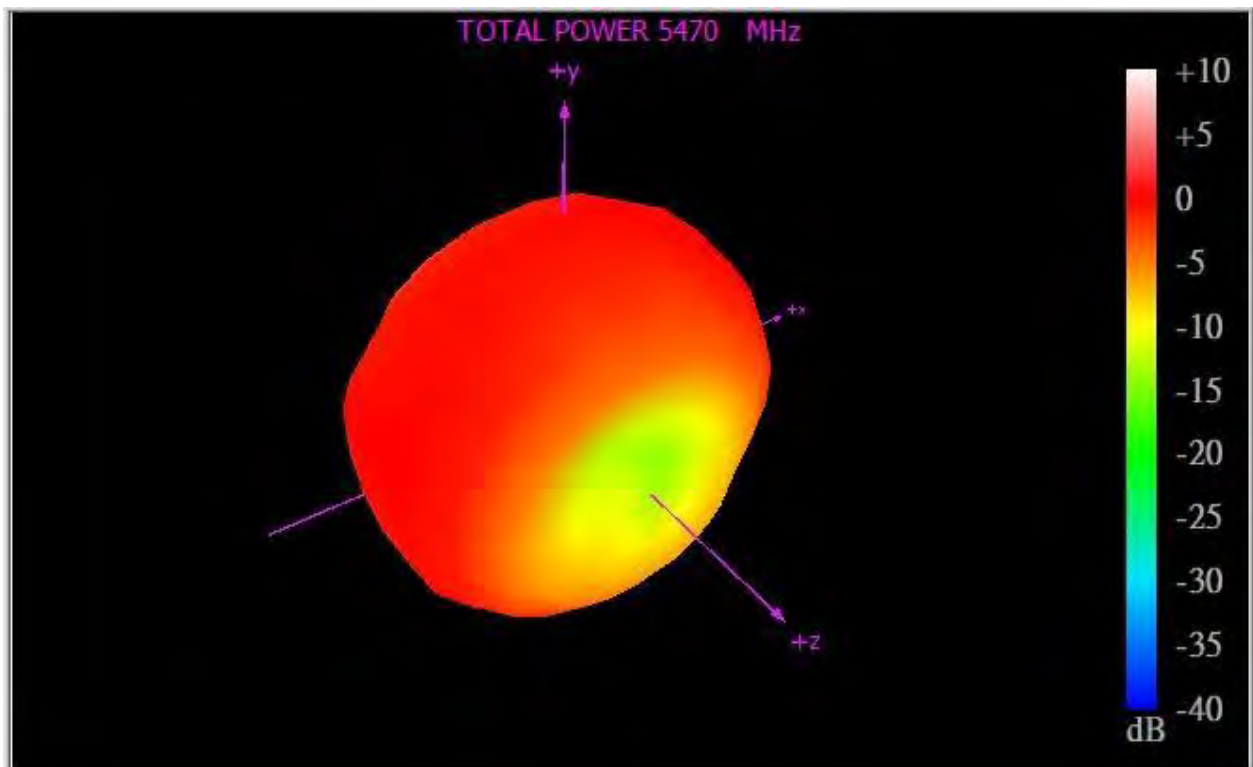
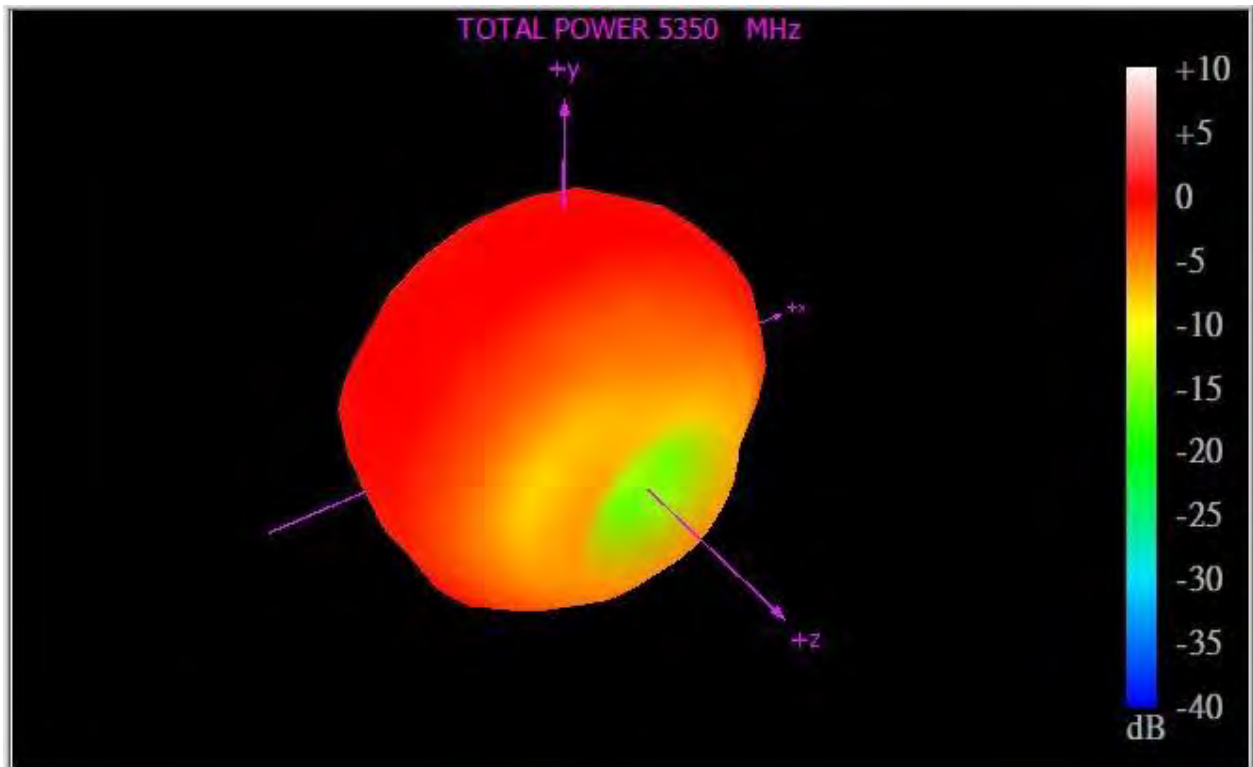


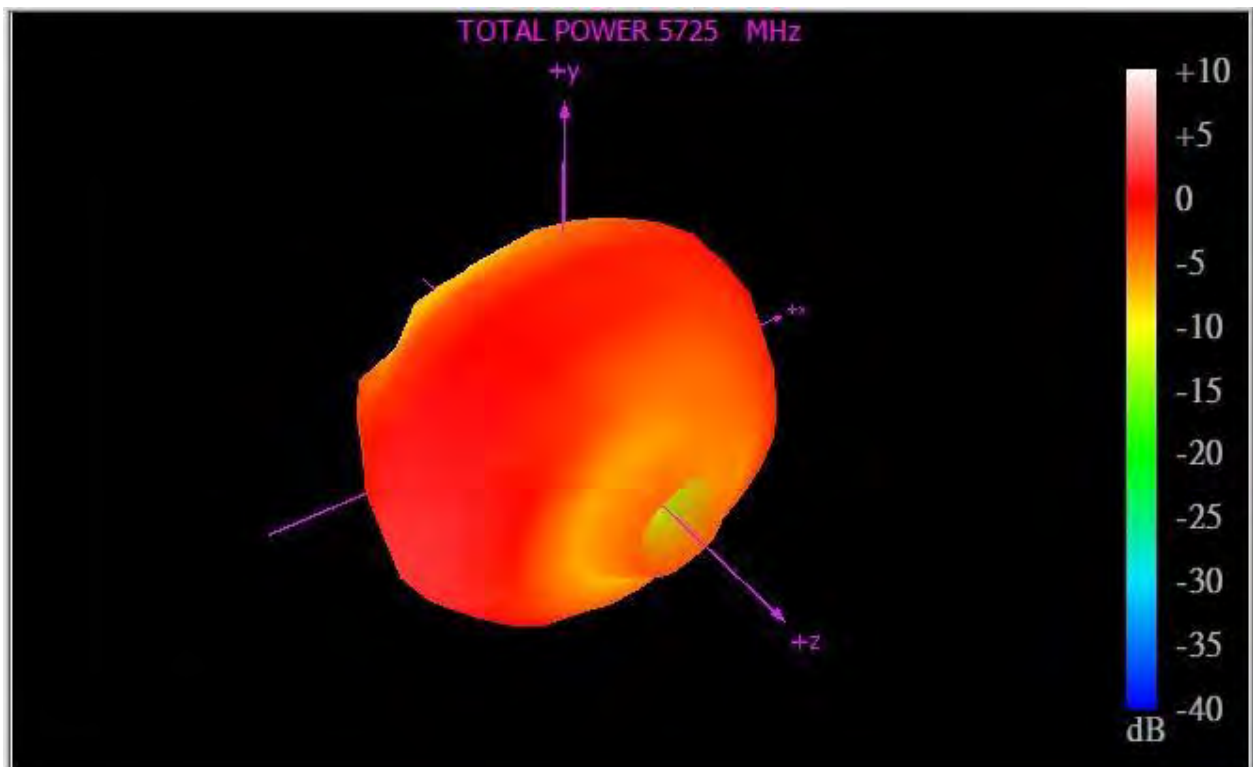
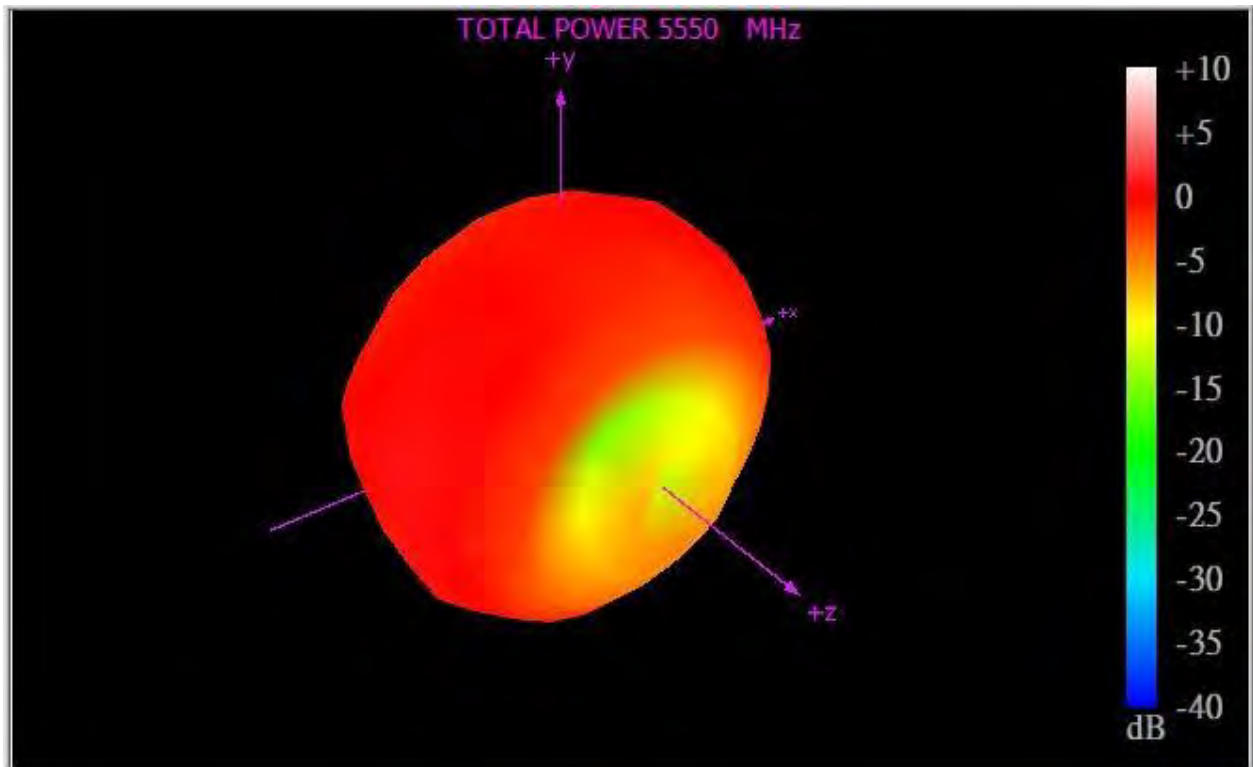
3D Radiation Patterns

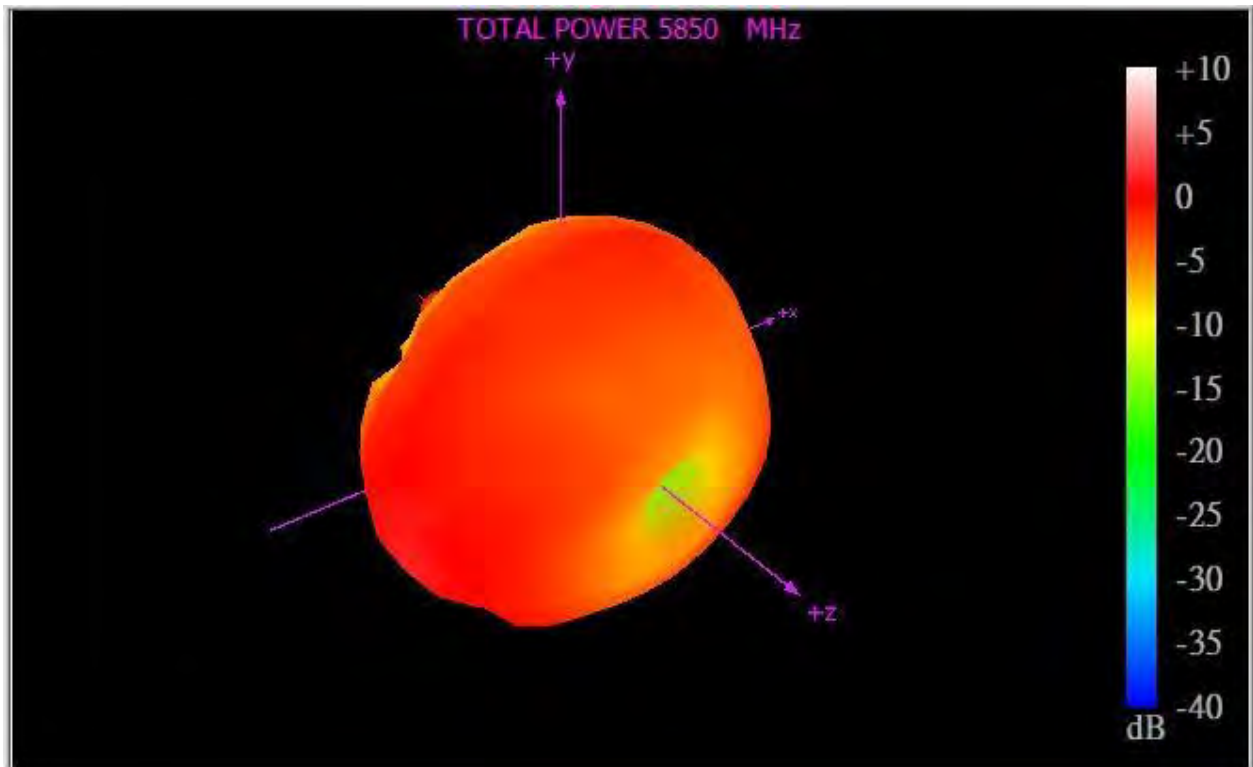
4.2.3 2.4 / 5.8GHz_Bending 0 degree



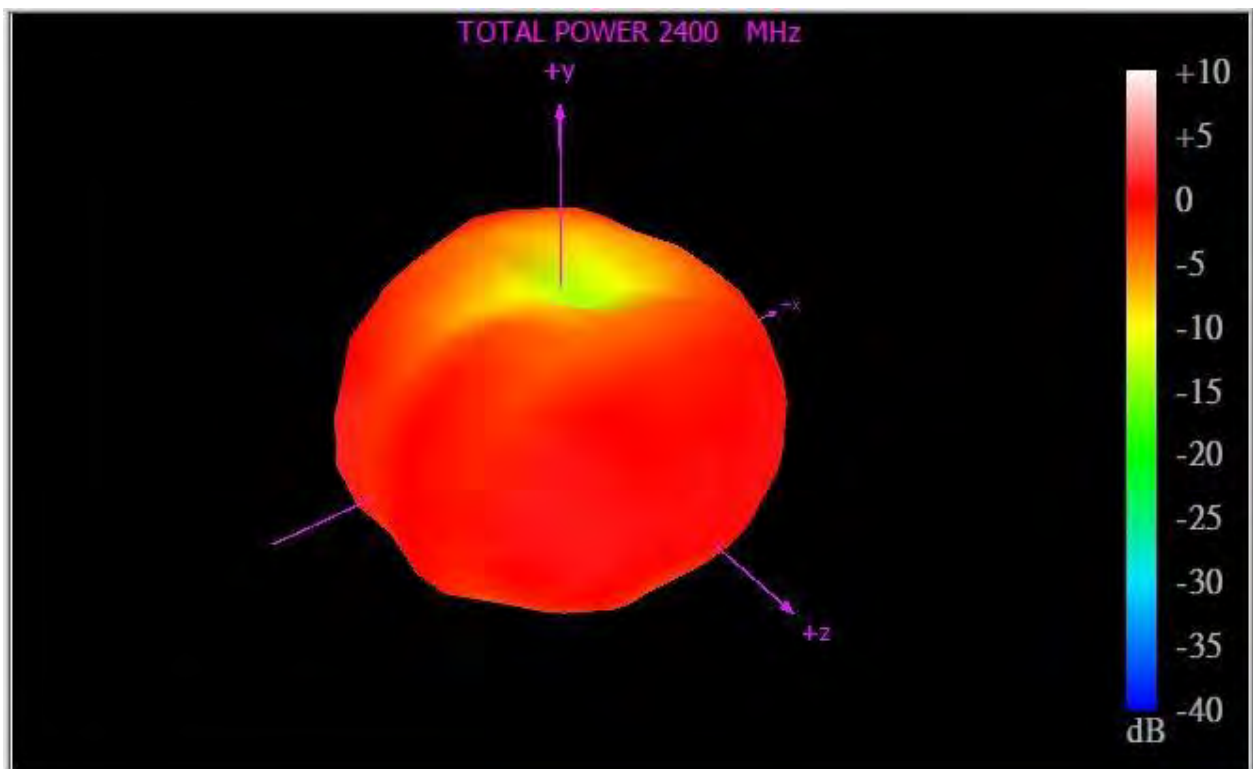


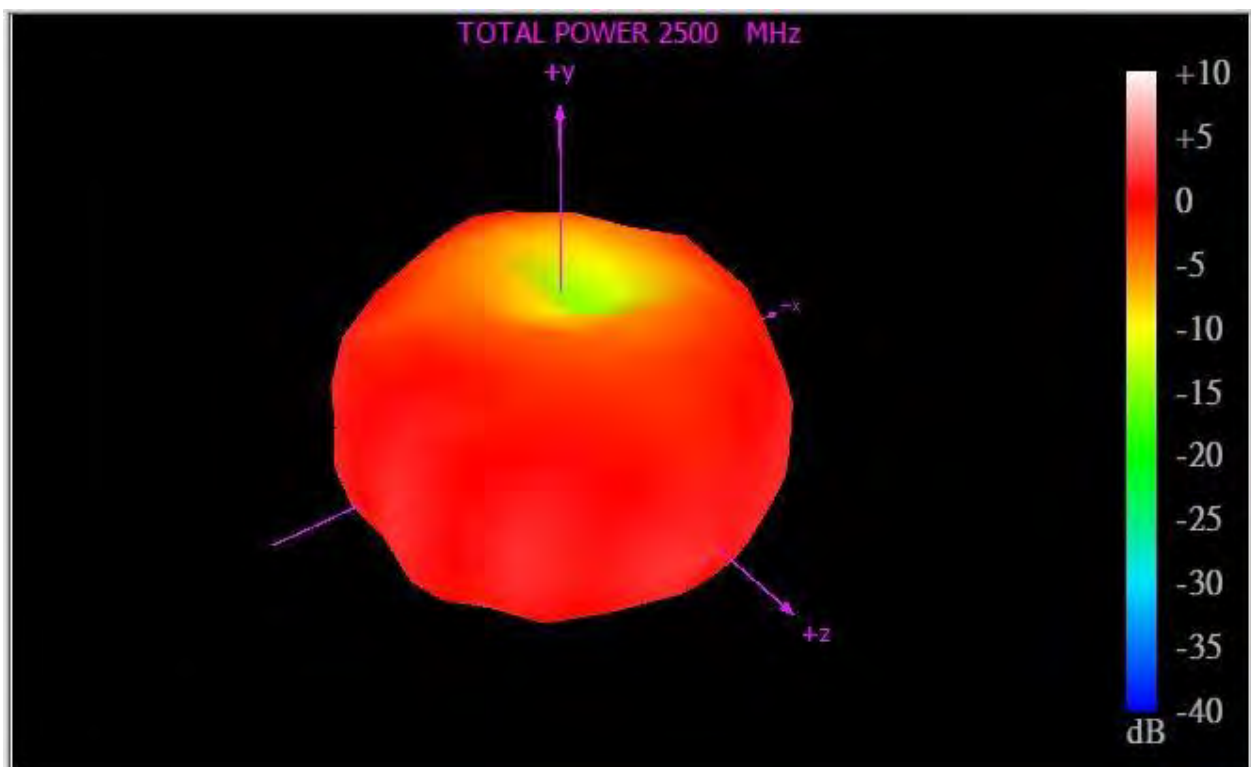
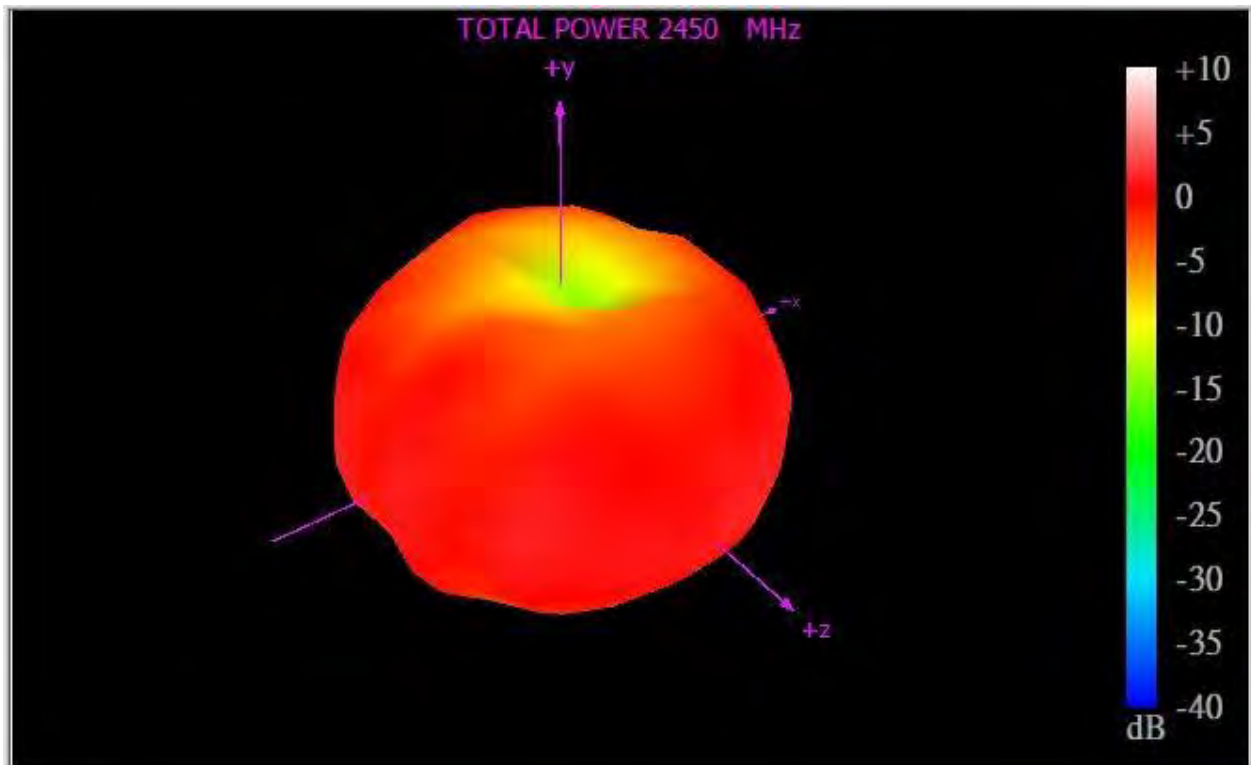


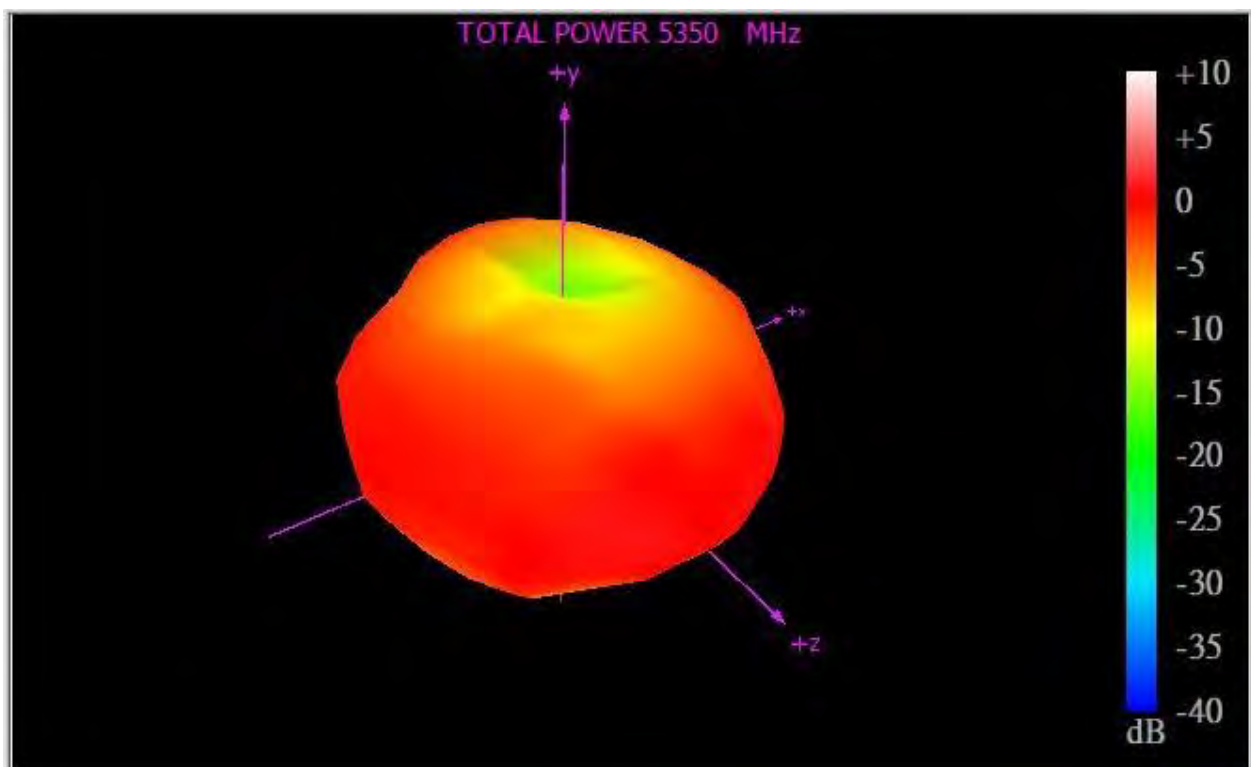
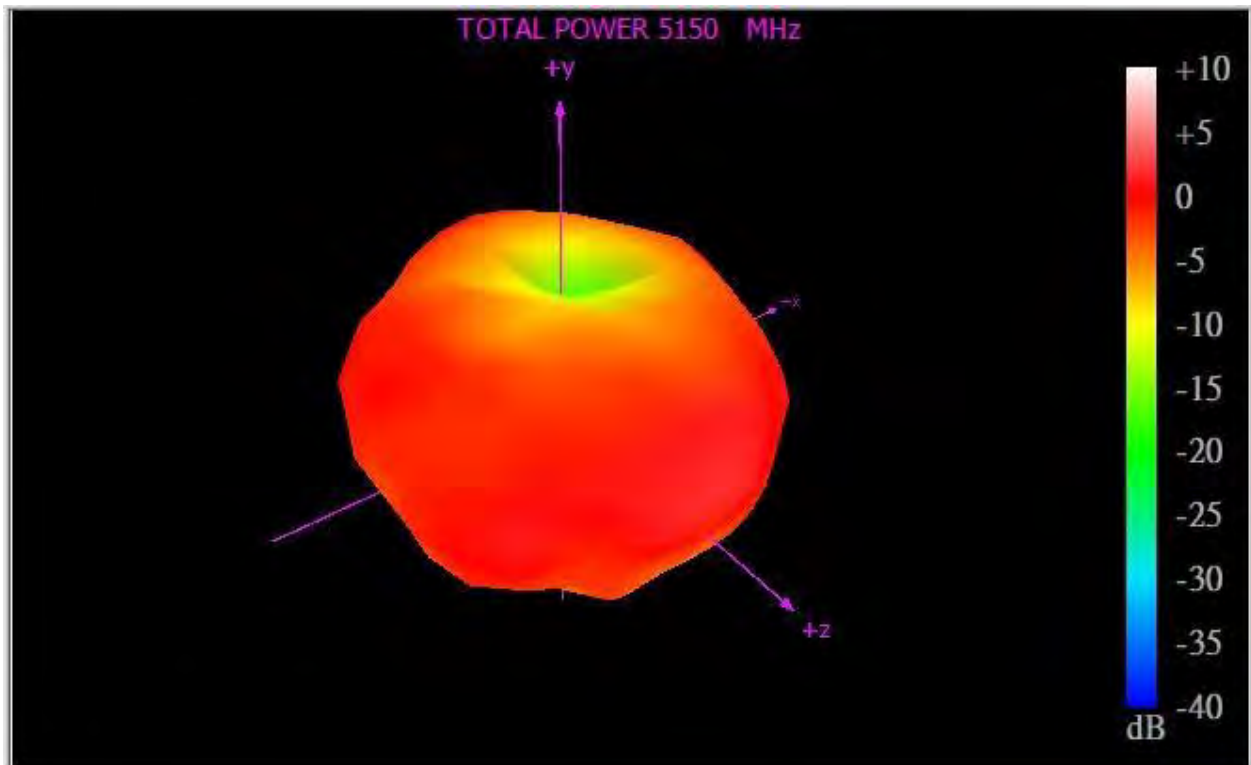


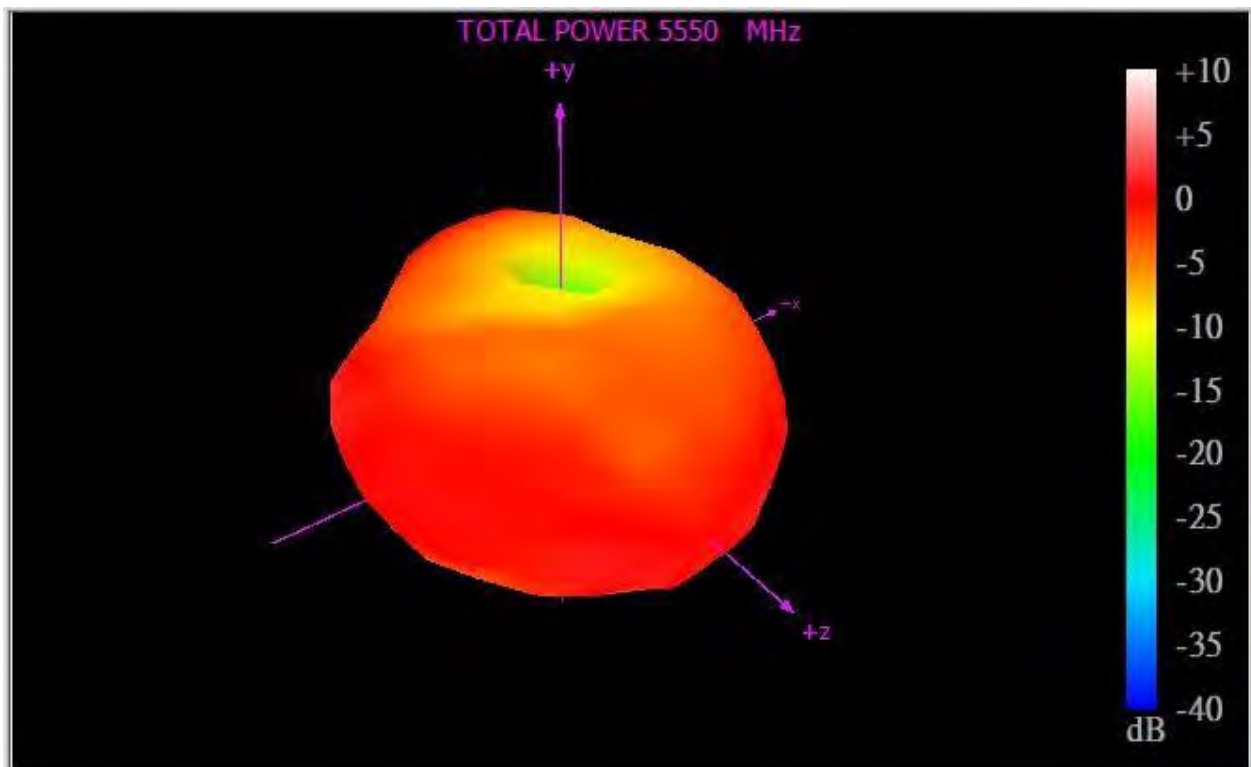
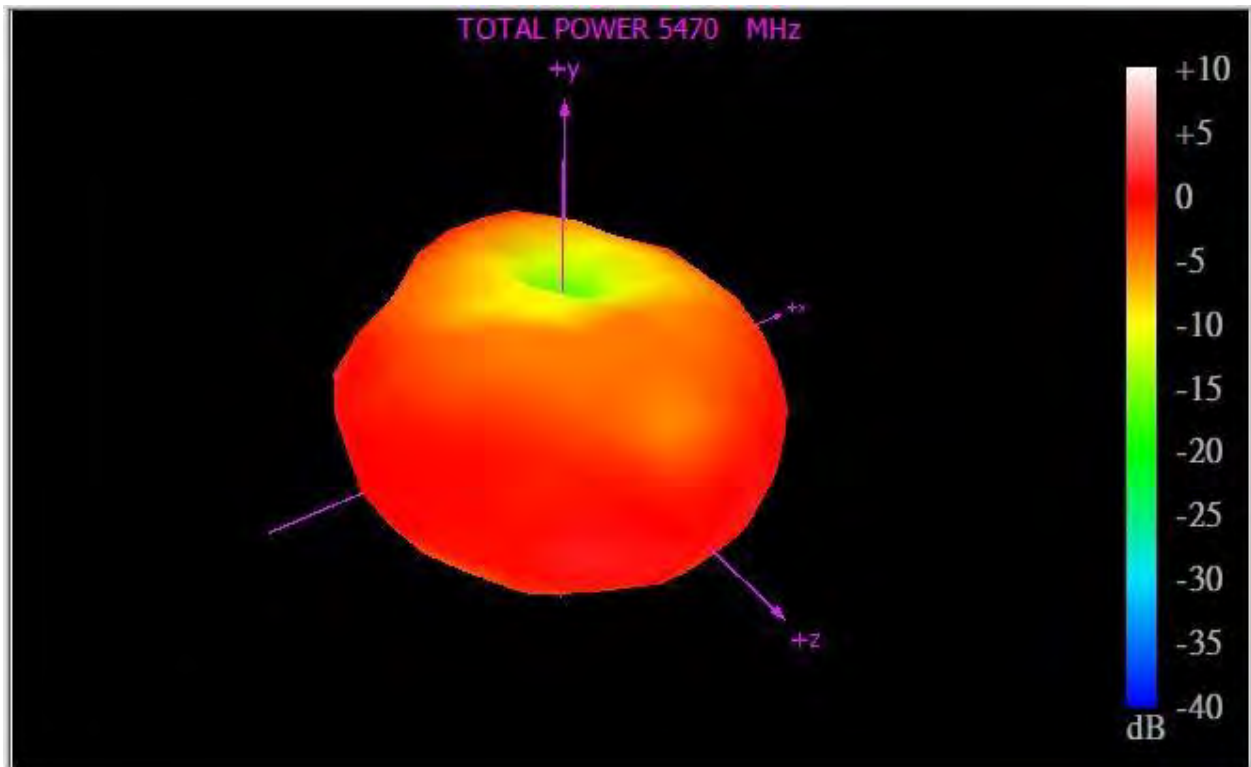


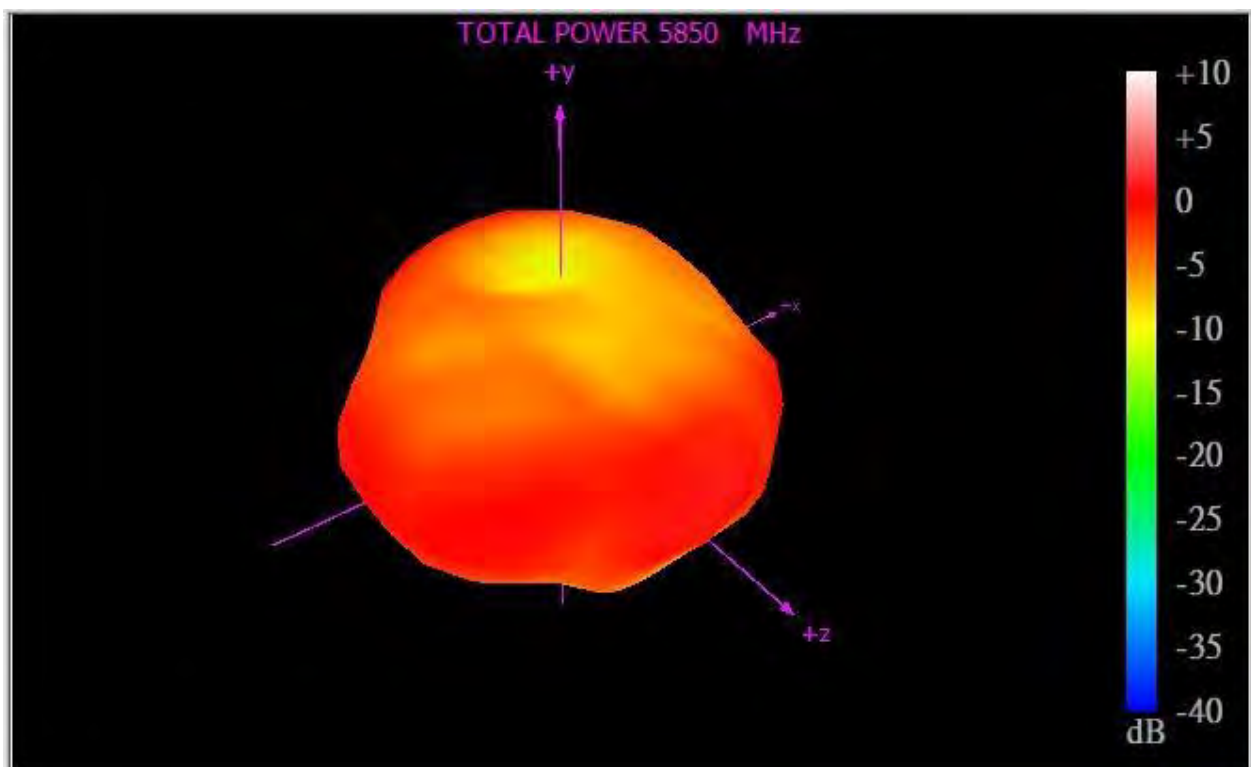
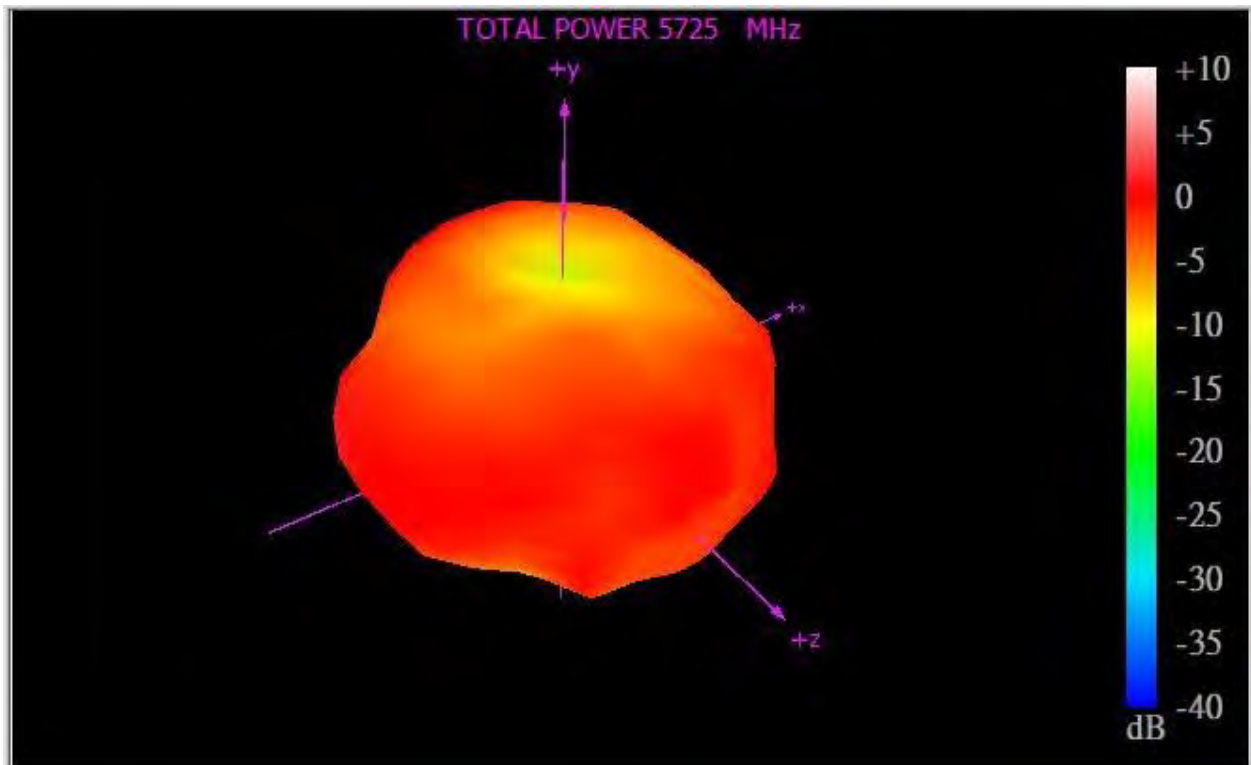
4.2.4 2.4 / 5.8GHz_Bending 90 degree



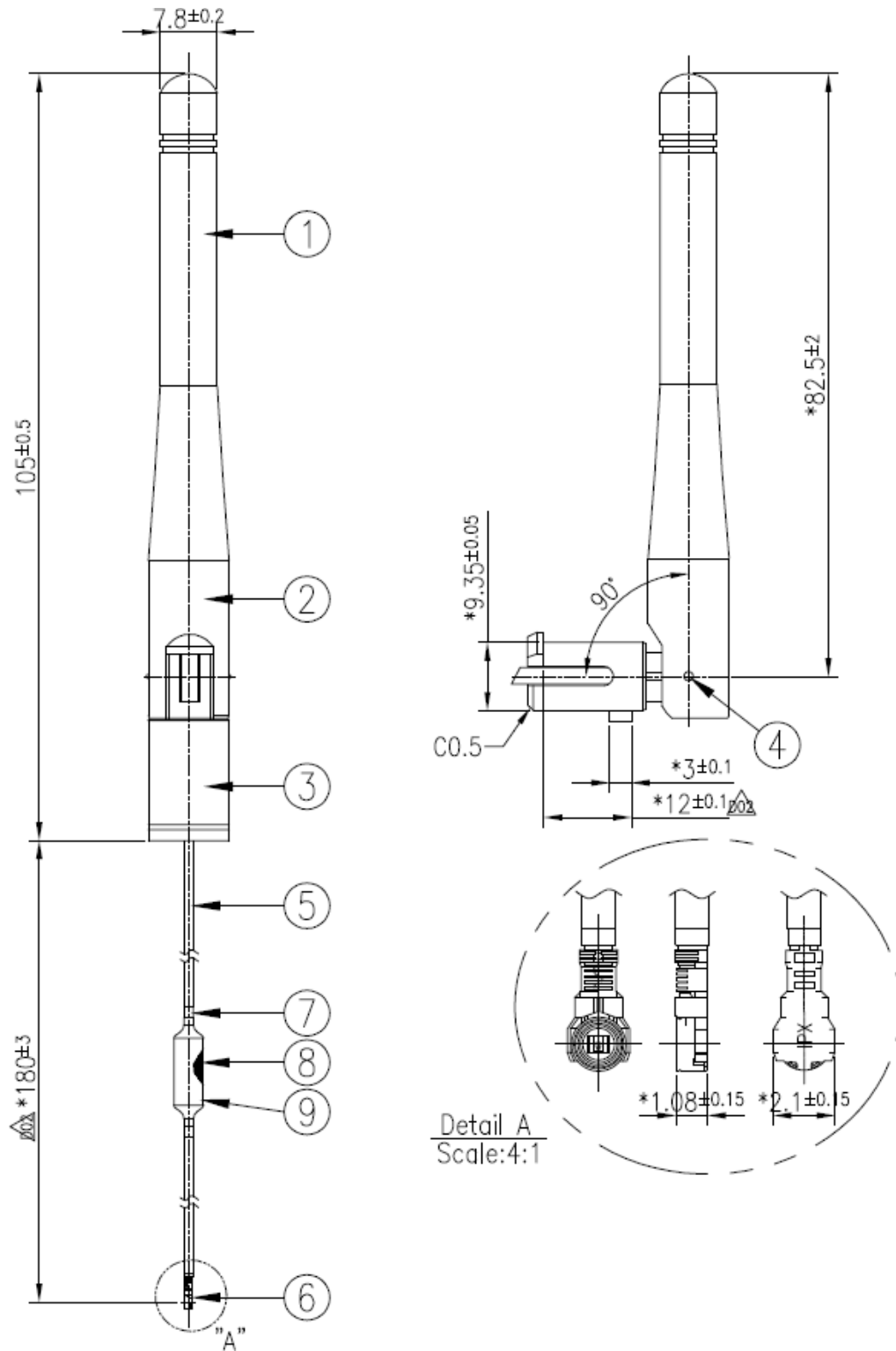






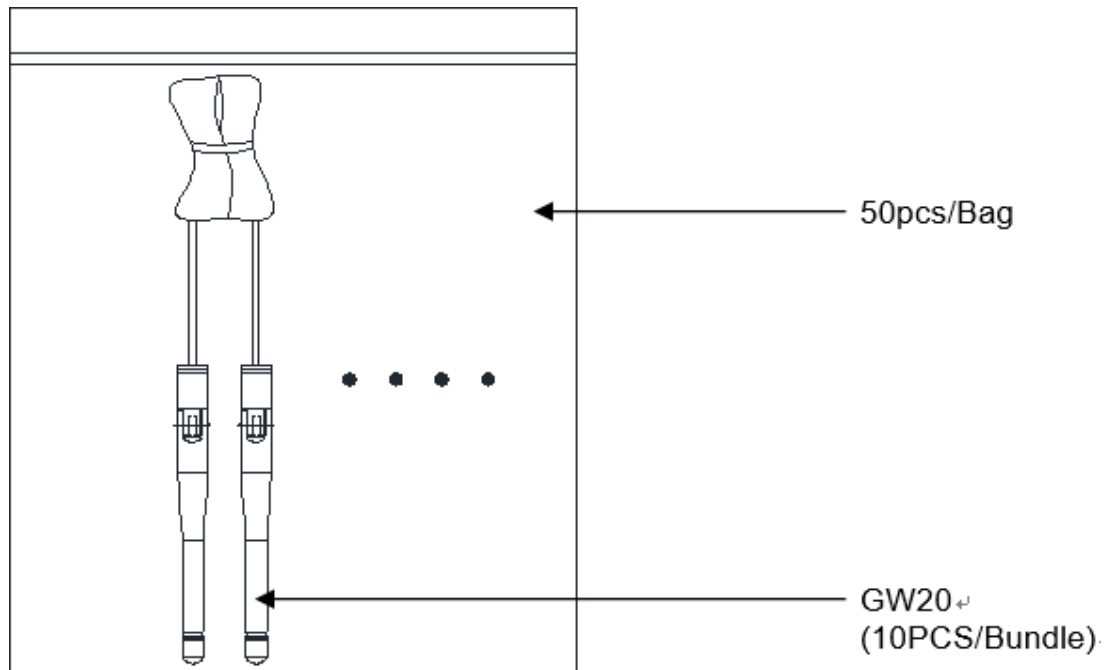


5. Mechanical Drawing (Unit: mm)

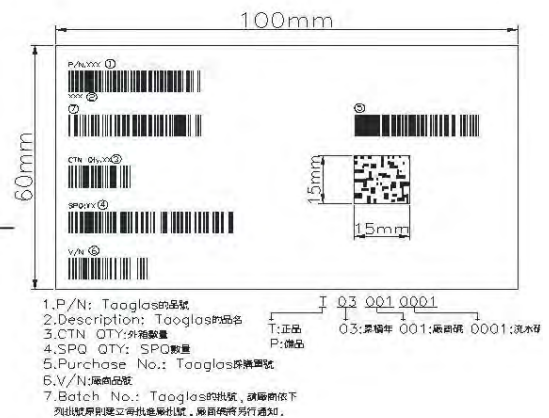


	Name	P/N	Material	Finish	QTY
1	Antenna Cap	000118F00001GA	TPEE	Black	1
2	Upper Base	000118F01001GA	PBT+PC	Black	1
3	Bottem Base	000118F02001GA	PBT+PC	Black	1
4	Rivet	000118F03001GA	PBT+PC	Black	2
5	1.13 Coaxial Cable	300215C020000A	FEP	Black	1
6	IPEX MHF4L (20565-001R-13)	204416G000000A	Brass	Au Plated	1
7	Heat Shrink (Ferrite)	000918F01001GA	PE	Black	2
8	Ferrite Core	000918F01001GA	Ferrite	Natural	1
9	Heat Shrink (Ferrite)	000918F01001GA	PE	Black	1

6. Packaging



1000PCS / Carton
(320*250*230mm)



Name : Taoglas Limited.

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