SPECIFICATION

Part No.	:	**G30.B.108111.wm**
Product Name	:	Olympian Direct Mount Ultra Wide-Band LTE/Cellular/CDMA Antenna For 2G/3G/4G Applications LTE/GSM/CDMA/DCS/PCS/WCDMA/UMTS /HSDPA/GPRS/EDGE/IMT 698 to 960MHz and 1710 to 2700MHz
Features	:	Heavy duty screw mount UV and vandal resistant ABS housing and thread. L- shaped bracket IP67 compliant Standard is 1M RG-316 SMA(M) Cables and Connectors Customizable RoHS Compliant

1. Introduction

This G30.wm, wall mounted G30 Olympian antenna is a high performance screw mount wide-band cellular antenna with stainless steel L-bracket to allow it to be mounted on a wall or panel. Omni-directional high gain and high efficiency across all bands ensures constant reception and transmission. This is vital for today's high data bandwidth applications in video and mobile broadband.

Durable UV resistant ABS housing is resistant to vandalism and direct attack. At only 48mm in height it is small enough to mount unobtrusively in most locations. This antenna is mounted on metal and plastic structures and is locked from the inside of the structure by a nut. Adhesive foam at the base provides a watertight seal to the mounting structure. High quality waterproof and corrosion resistant Teflon jacket RG316 is used for the cable.

Two of these G30 separated at distance from each other are ideal for the latest LTE MIMO spatial diversity applications.

Customized cable length and connectors are available. Taoglas recommend a minimum cable length of 70mm when used on a ground plane to achieve an efficiency of greater than 40% in the 900MHz band and greater than 60% in the 1800MHz band. For longer cable lengths and if 700MHz band is required, it is necessary to use the MA740 Pantheon for 2G/3G/4G or the MA741 2g/3G/4G MIMO Pantheon.

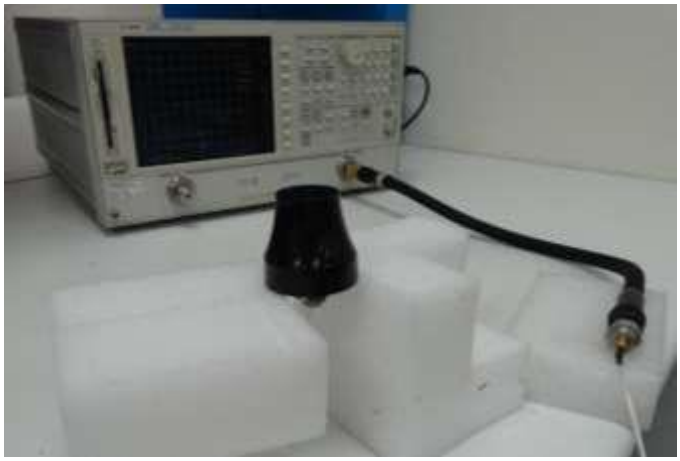
2. Specification

ELECTRICAL			
STANDARD	2G / 3G / 4G		
Operation Frequency(MHz)	698~960MHz	1710~2170MHz	2500~2800MHz
Peak Gain(dB)			
On 30*30cm metal with 1 meters cable length	1.2	3.2	2.5
On L-shaped bracket with 1 meters cable length	0.77	2.32	-0.01
On L-shaped bracket with 3 meters cable length	-1.08	-1.23	-2.71
On L-shaped bracket with 5 meters cable length	-3.04	-4.06	-6.82
Average Gain(dB)			
On 30*30cm metal with 1 meters cable length	-4.5	-2.5	-4.5
On L-shaped bracket with 1 meters cable length	-3.29	-2.95	-4.58
On L-shaped bracket with 3 meters cable length	-5.26	-5.88	-8.30
On L-shaped bracket with 5 meters cable length	-7.35	-8.17	-11.16
Efficiency (%)			
On 30*30cm metal with 1 meters cable length	40	55	40
On L-shaped bracket with 1 meters cable length	47.40	51.32	34.96
On L-shaped bracket with 3 meters cable length	31.27	26.04	14.91
On L-shaped bracket with 5 meters cable length	18.82	15.35	7.67
VSWR	< 3		
Impedance	< 50ohm		
Polarization	Linear		
Radiation Pattern	Omni-directional		
Max Input Power	5 W		
MECHANICAL			
Dimensions (mm)	Height=48mm and Diameter=50mm		
Cable	RG316		
Casing	UV Resistant ABS		

Base and Thread	Nickel plated Copper
Connector	SMA(M) Fully Customizable
Nut	Nut M12
Sealant	Rubber Stopper
Weight	66g
Recommended Torque	2.94N·m
Max Torque	3.92N·m
ENVIRONMENTAL RATINGS	
Protection	IP67 Waterproof
Corrosion	5% NACI for 96hrs- Nickel plated steel base and thread
Temperature Range	-40°C to +85°C
Thermal Shock	100 cycles -40 C to +885 C
Humidity	Non-condensing 65 C 95% RH
Shock (Drop Test)	1m drop on concrete 6 axes
Cable Pull	8Kgf(* 1 meters)

3. Antenna Characteristics

3.1 Testing setup



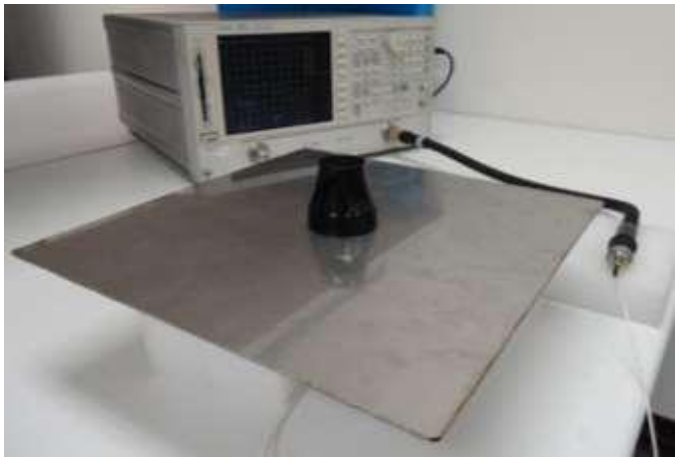


Figure1. Measurement Setup of G30 Antenna in Free Space, 30cmx30cm metal plate and

L-shaped frame.

3.2 Return Loss

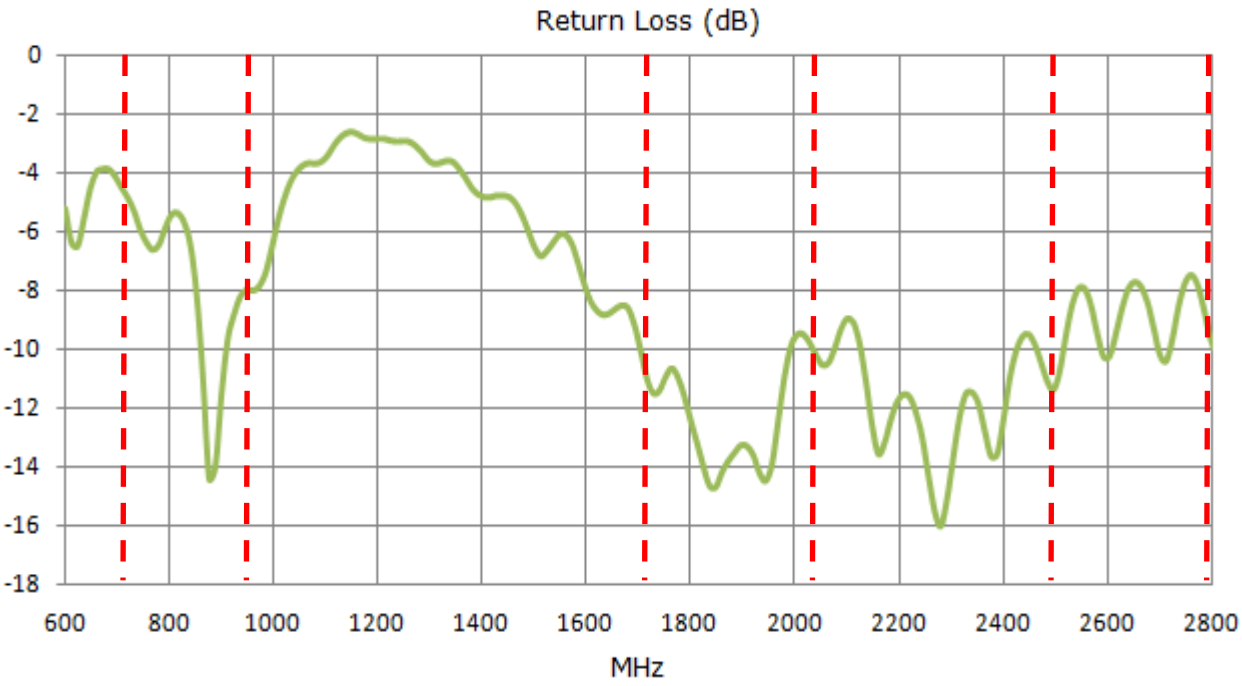


Figure2. In Free Space with 1 meters cable length

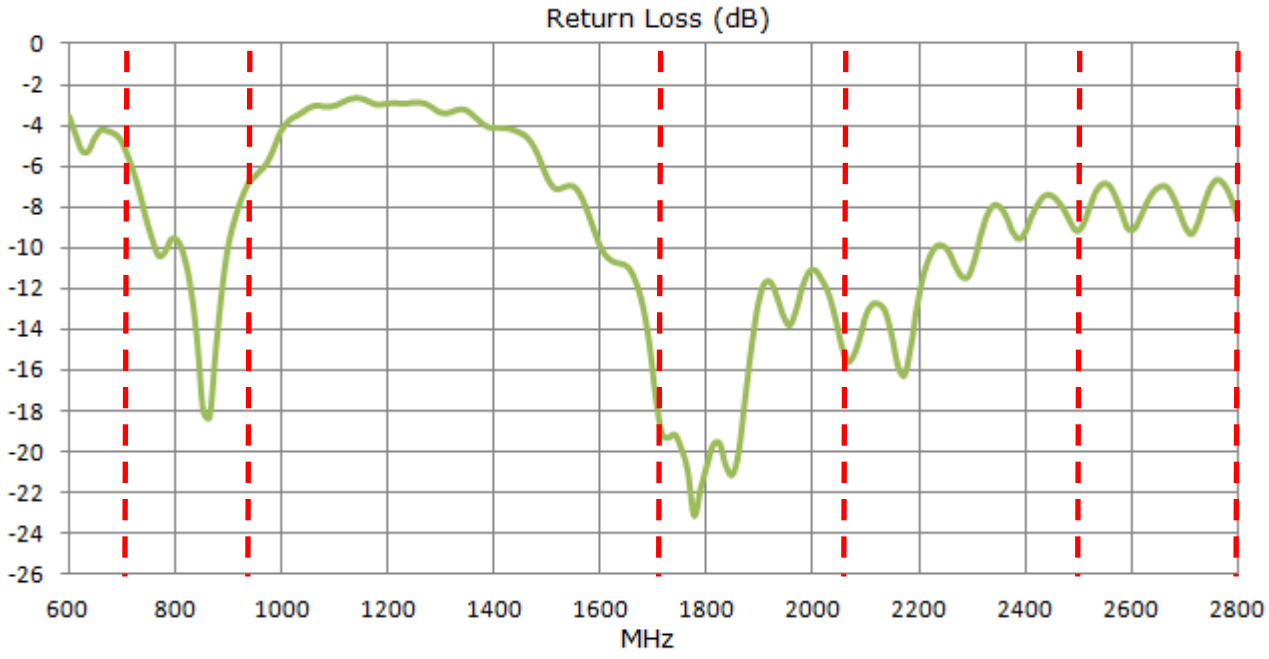


Figure3. On 30x30cm metal with 1 meters cable length

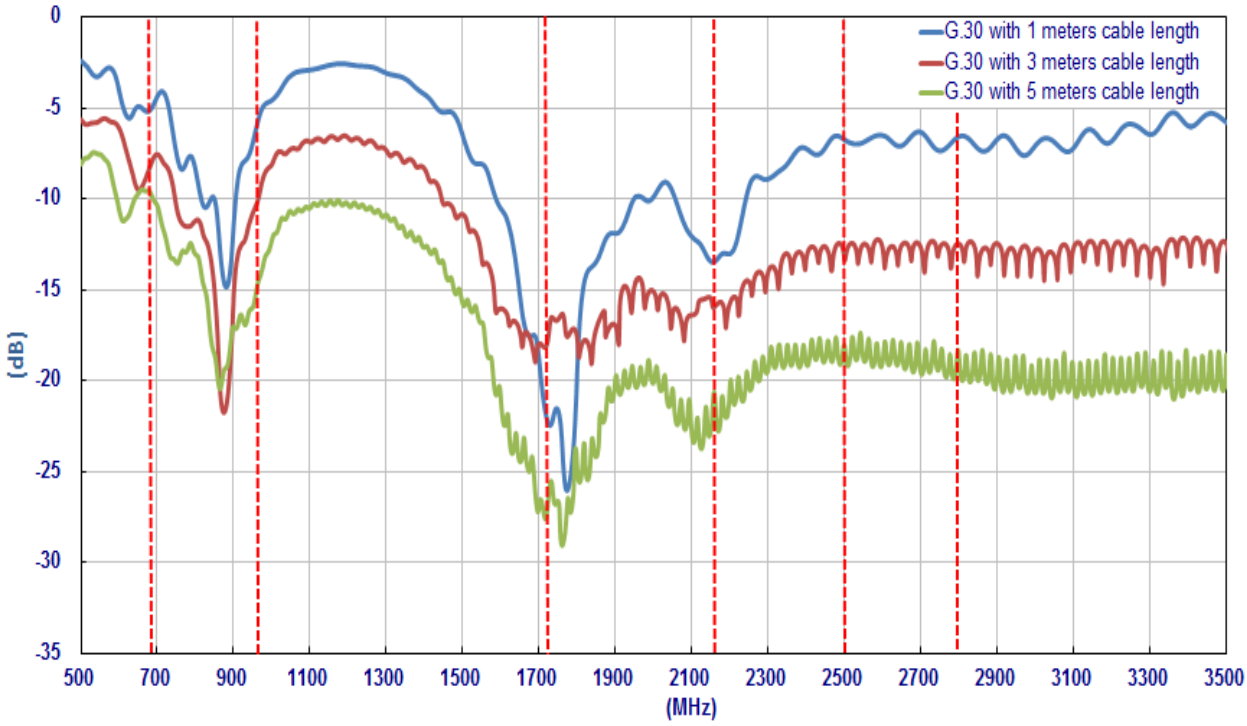


Figure4. On L-shaped bracket

3.3 Peak Gain

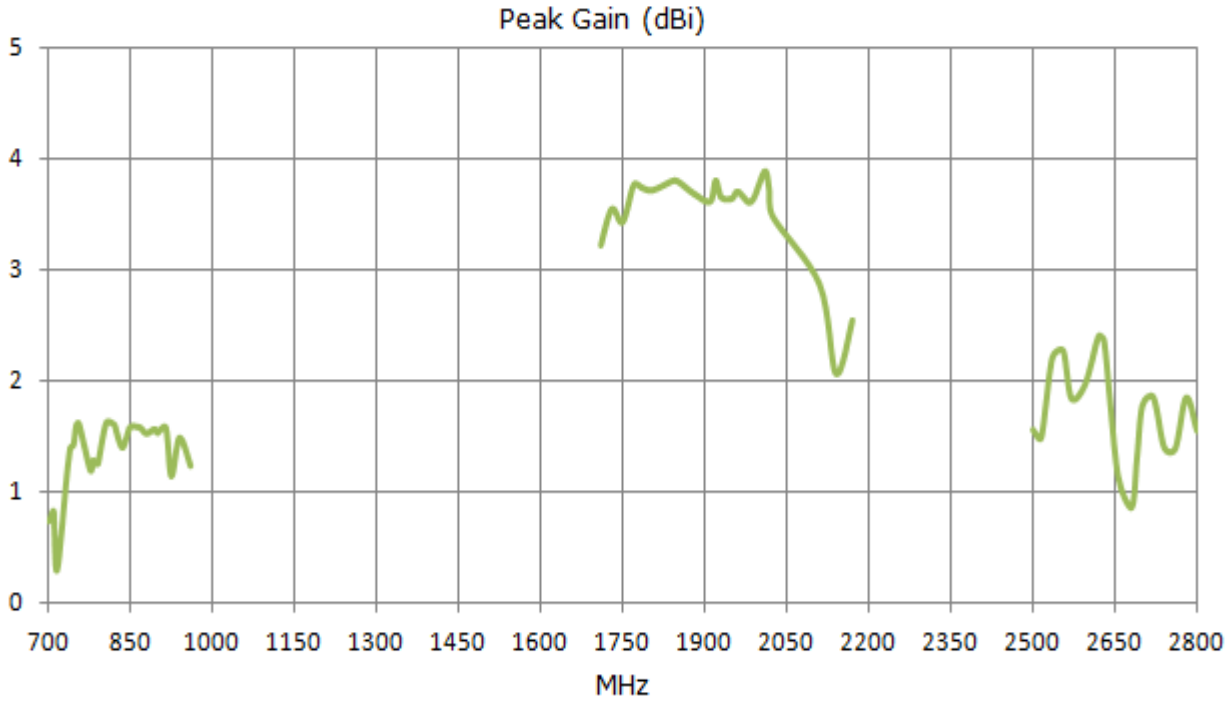


Figure5. In Free Space with 1 meters cable length

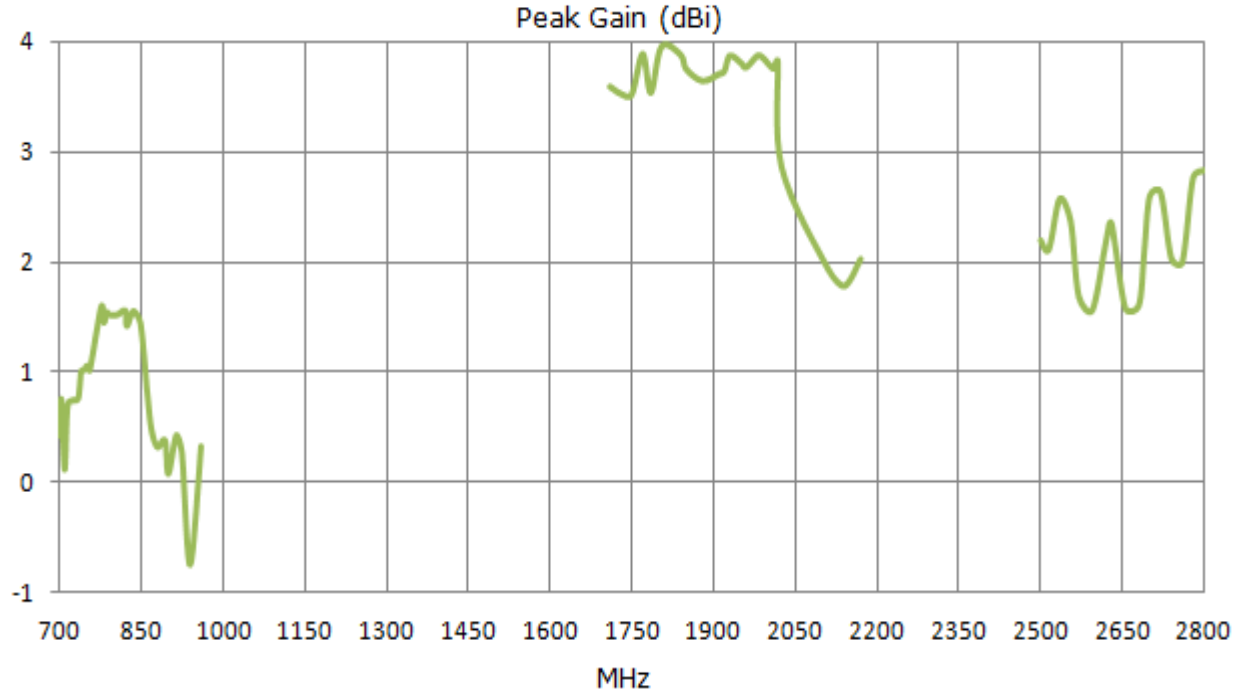


Figure6. On 30x30cm metal with 1 meters cable length

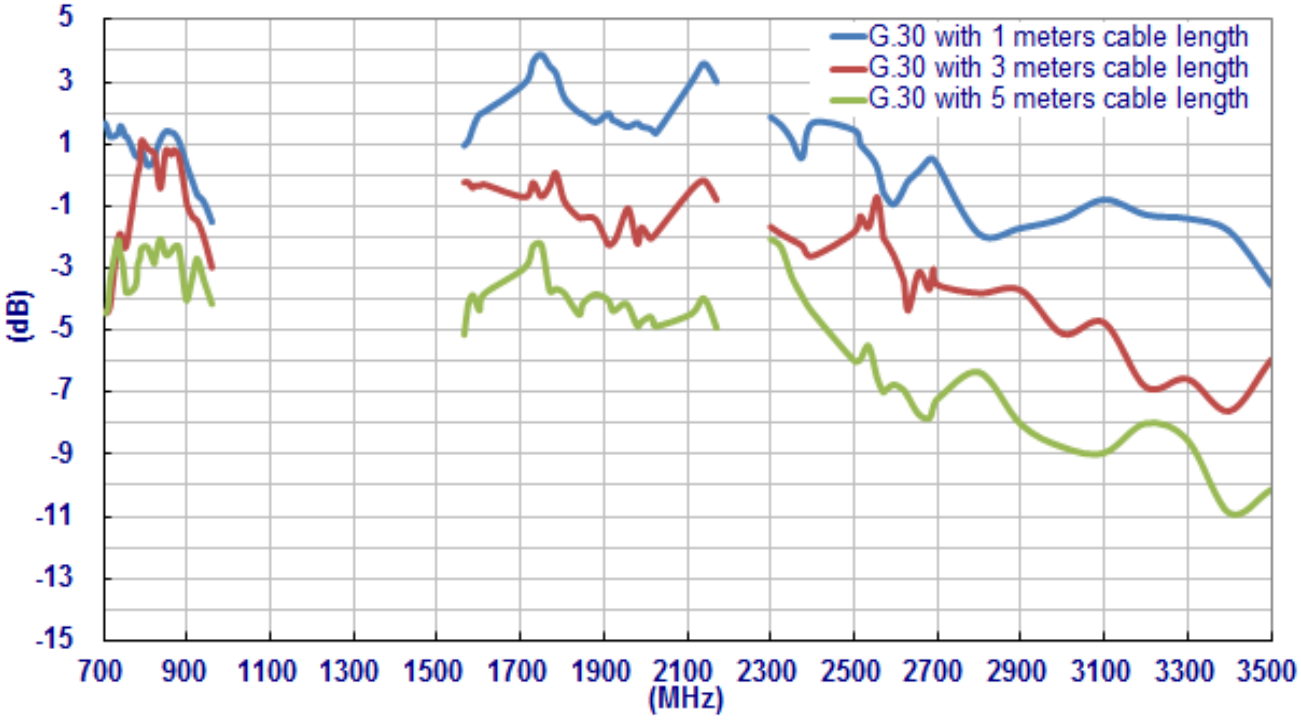


Figure7. On L-shaped bracket

3.4 Efficiency

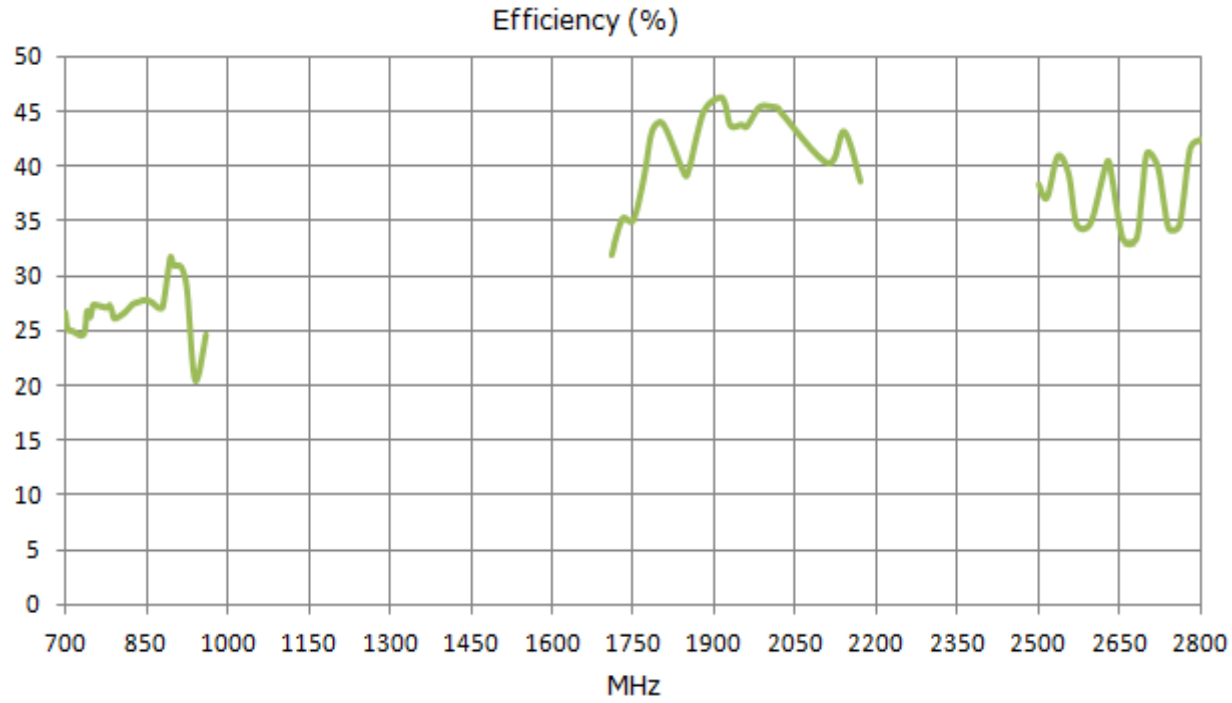


Figure8. In Free Space with 1 meters cable length

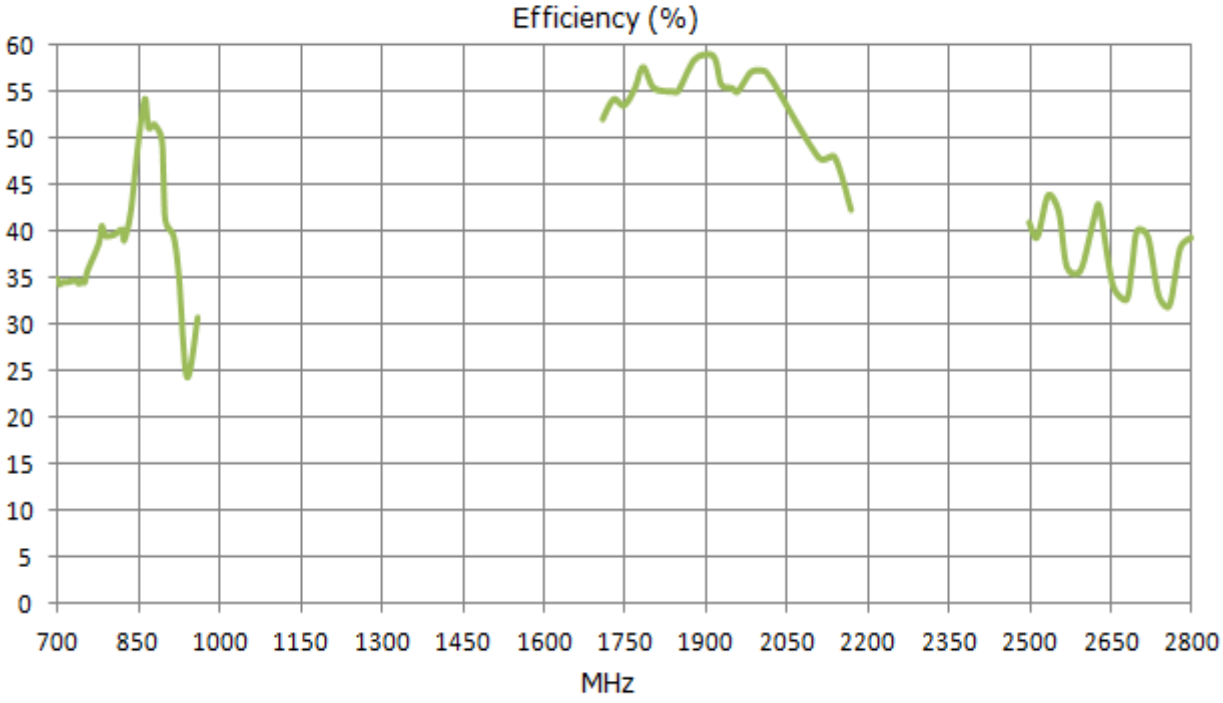


Figure9. On 30x30cm metal with 1 meters cable length

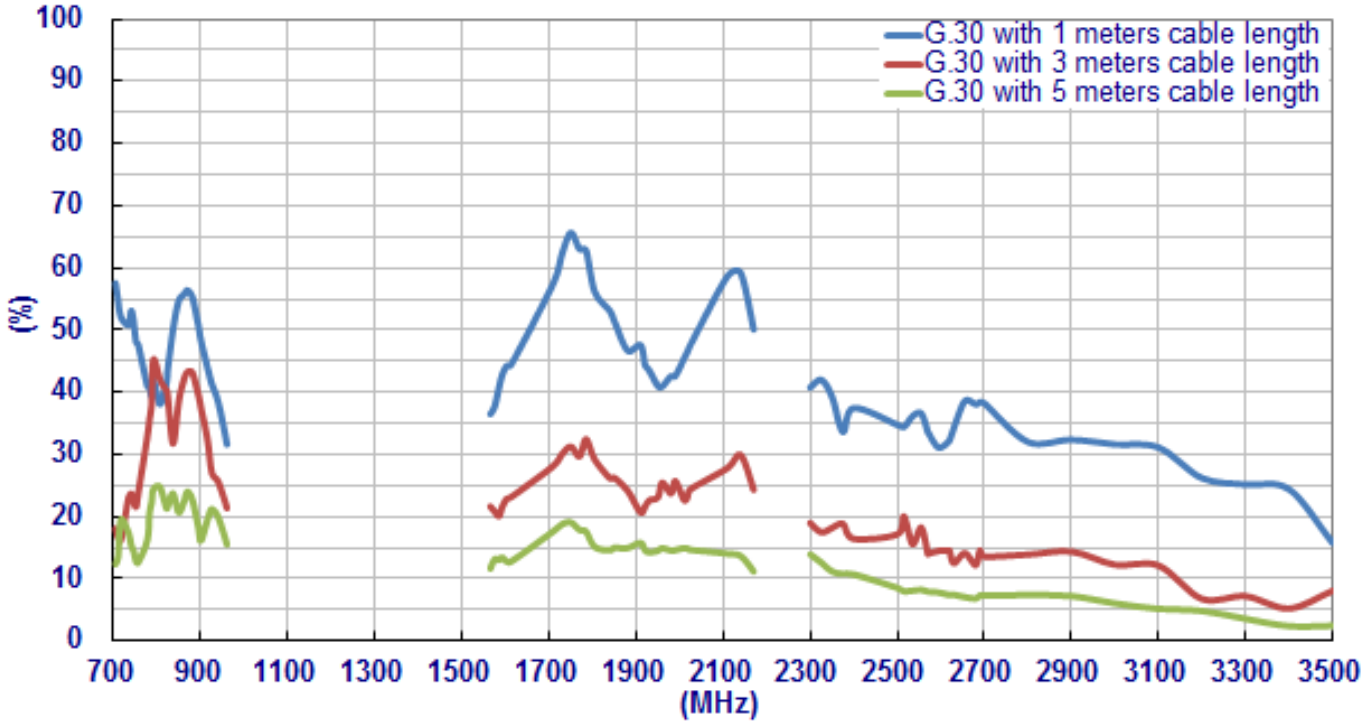


Figure10. On L-shaped bracket

3.5 Average Gain

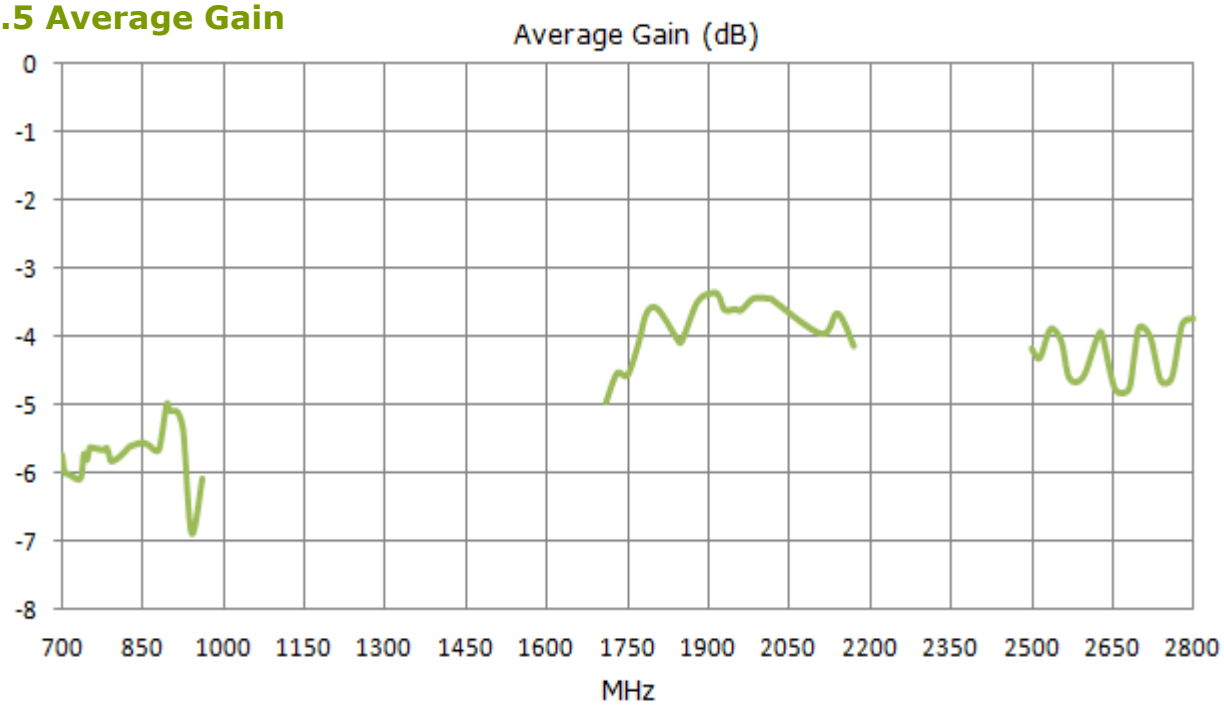


Figure11. In Free Space with 1 meters cable length

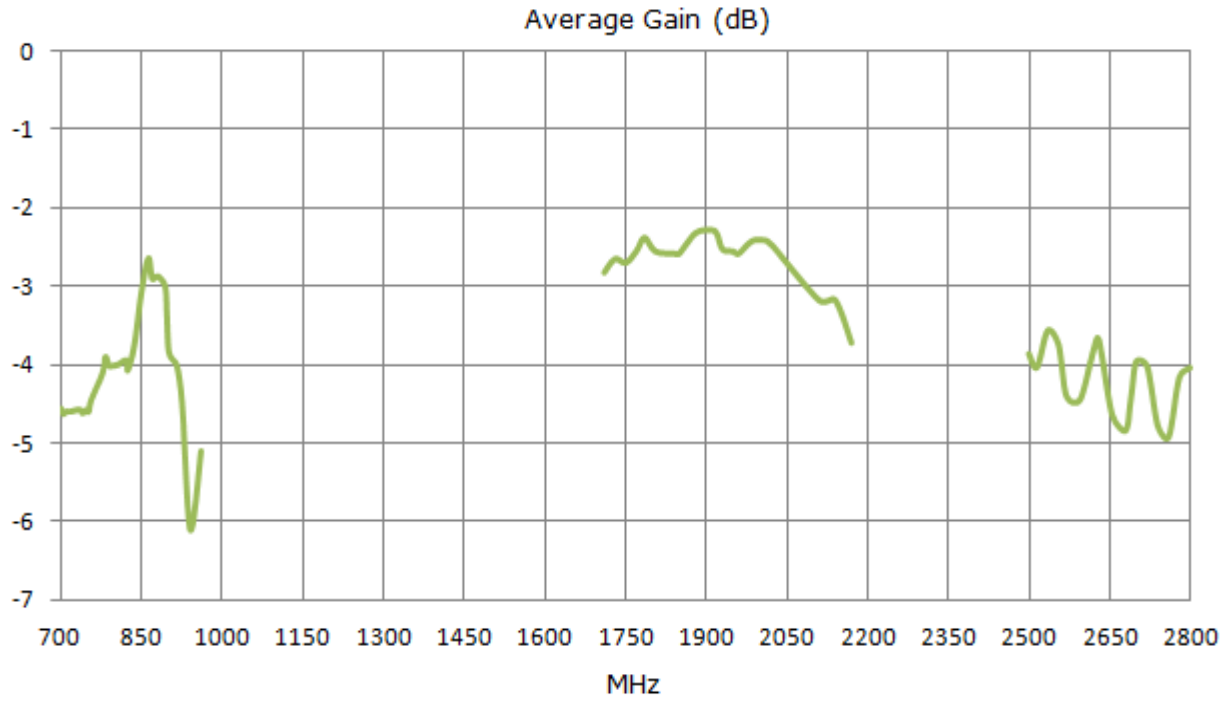


Figure12. On 30x30cm metal with 1 meters cable length

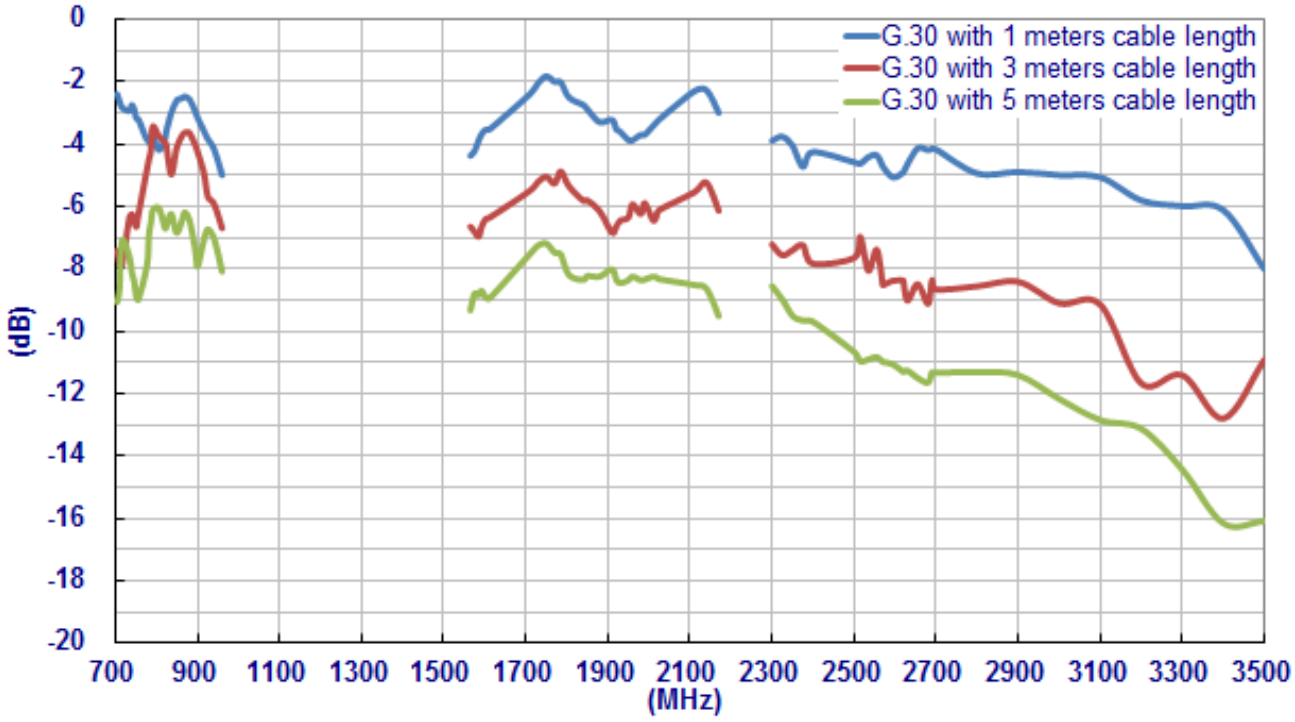
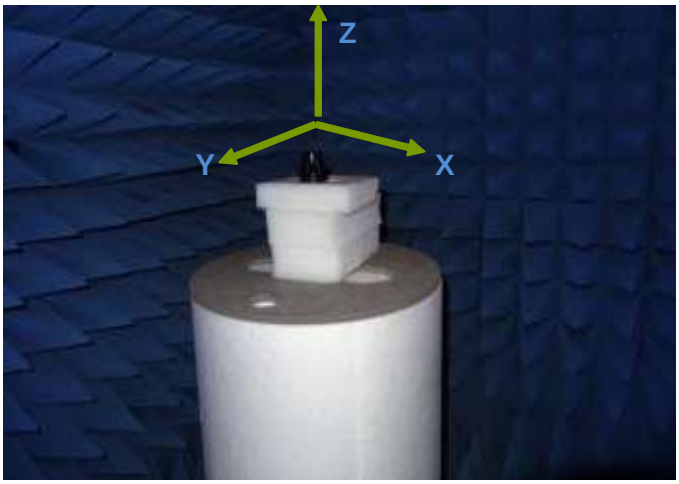


Figure13. On L-shaped bracket

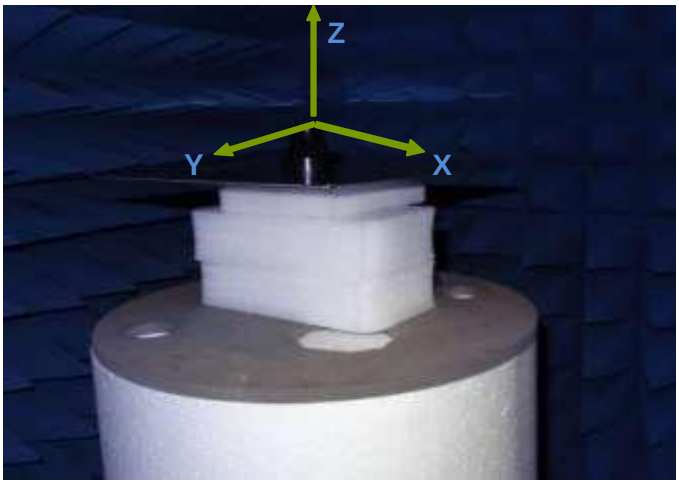
4. Antenna Radiation Patterns

4.1 Antenna setup

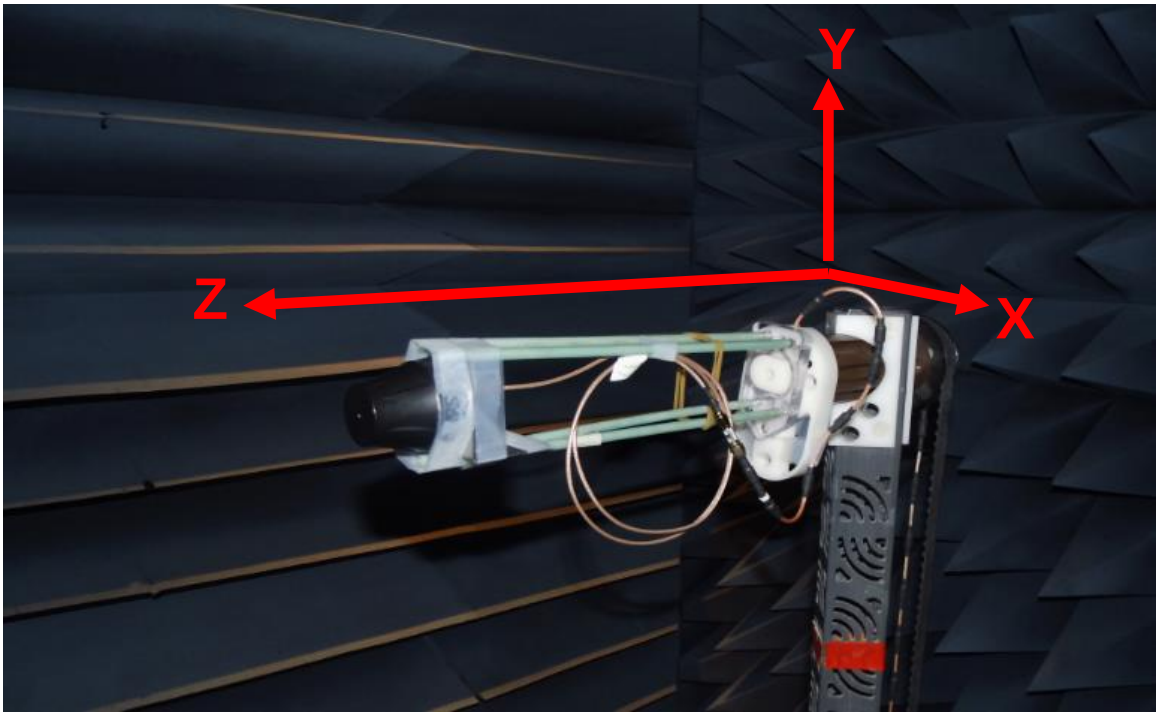
The antenna radiation pattern measured setup as shown the below,



(A)



(B)



(C)

Figure14. Antenna radiation pattern measured setup

4.2 Antenna radiation patterns

In free space , Figure 14(A) as reference (dB)

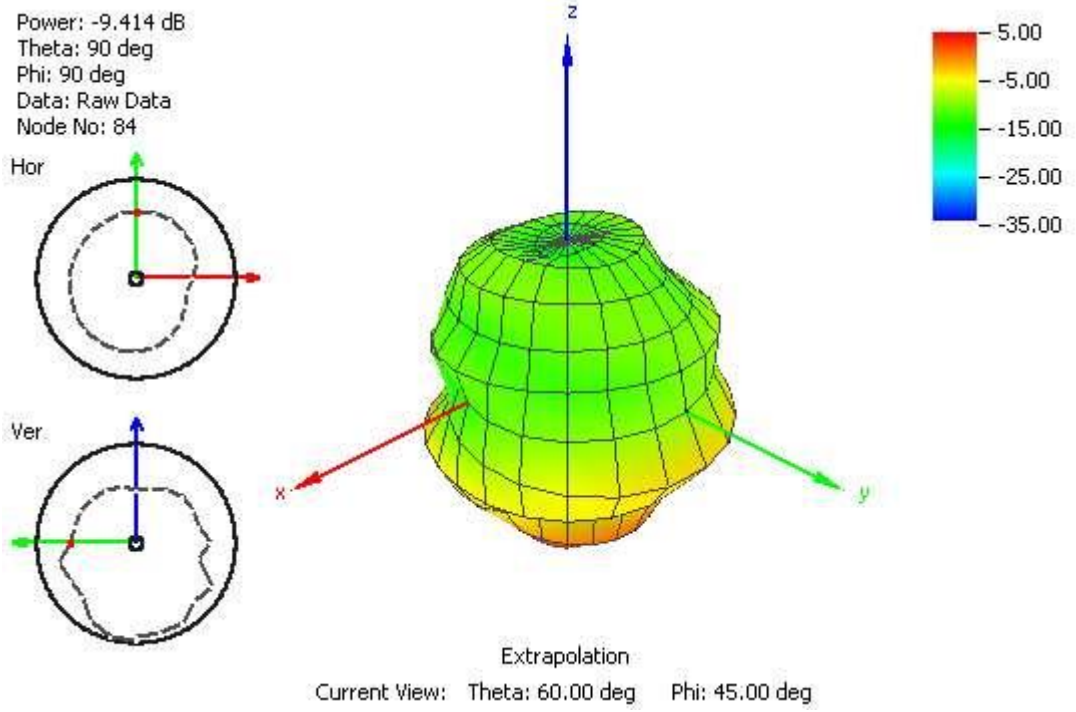


Figure15. Radiation Pattern at 751 MHz of G30 Antenna with 1 meters cable length

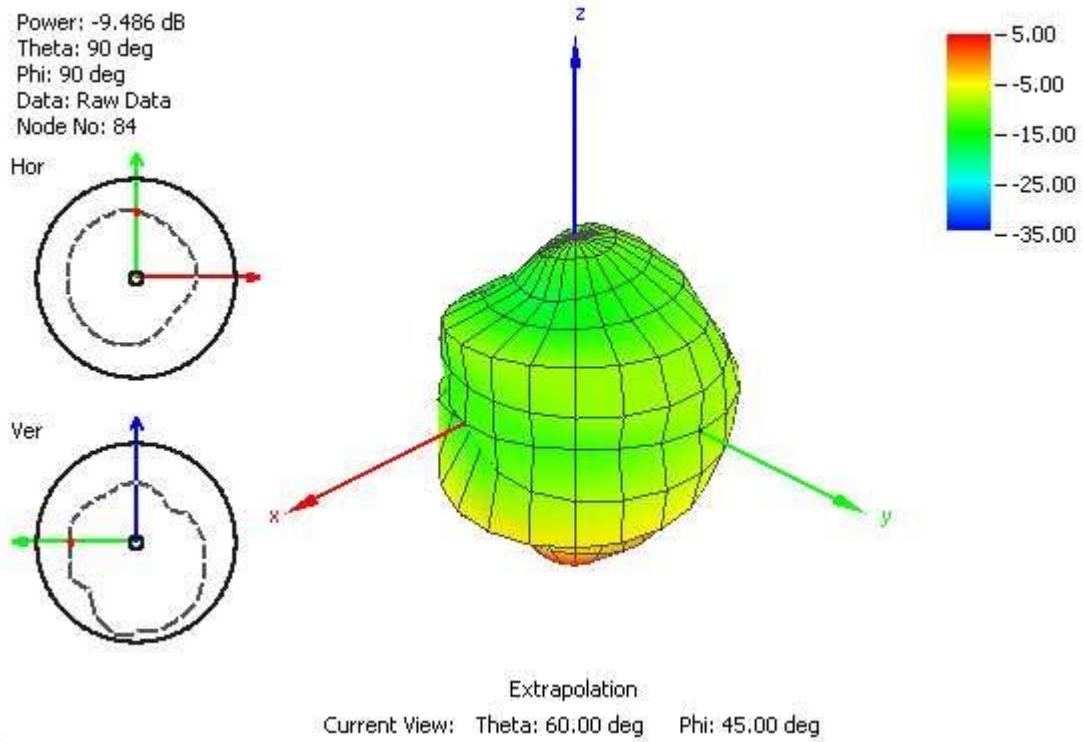


Figure16. Radiation Pattern at 849 MHz of G30 Antenna with 1 meters cable length

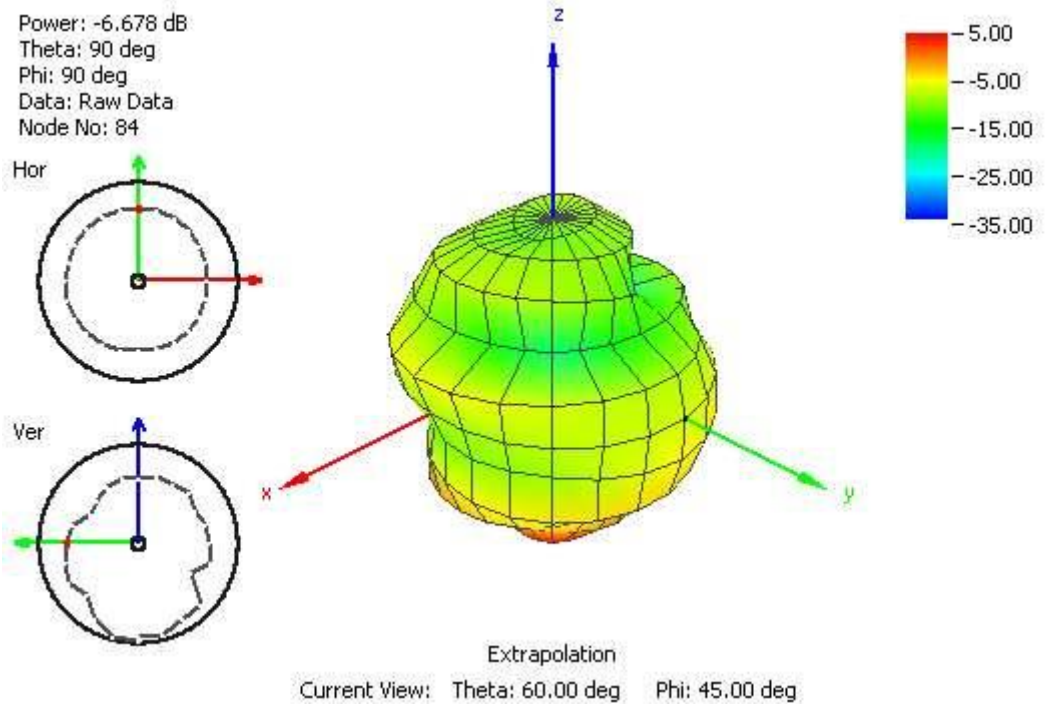


Figure17. Radiation Pattern at 915 MHz of G30 Antenna with 1 meters cable length

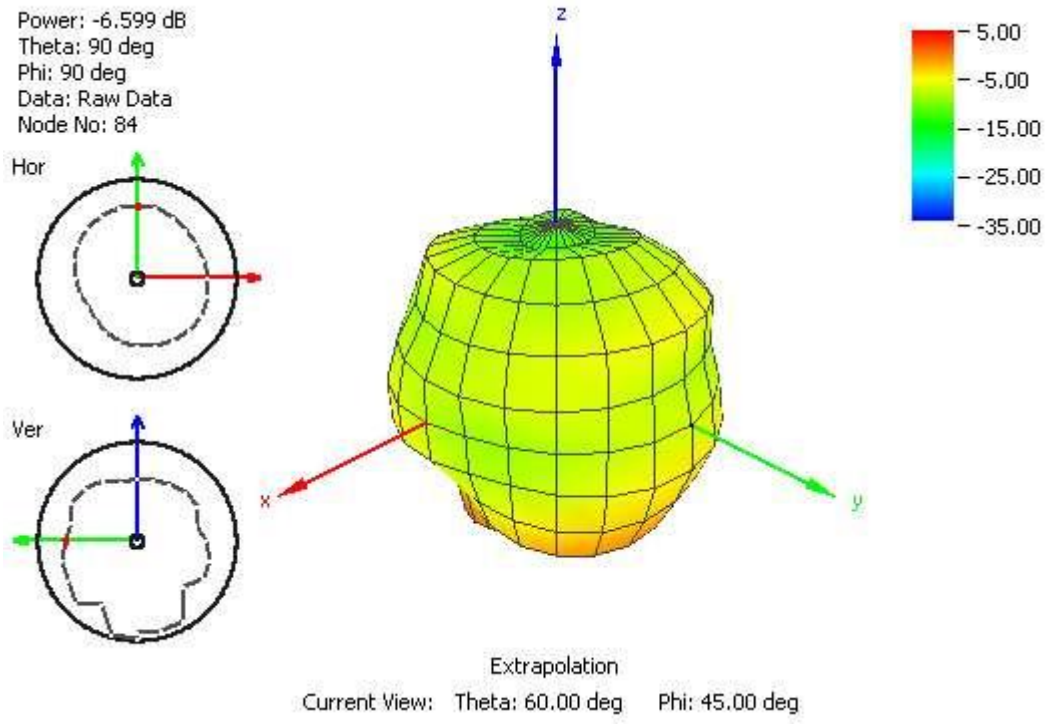


Figure18. Radiation Pattern at 1710 MHz of G30 Antenna with 1 meters cable length

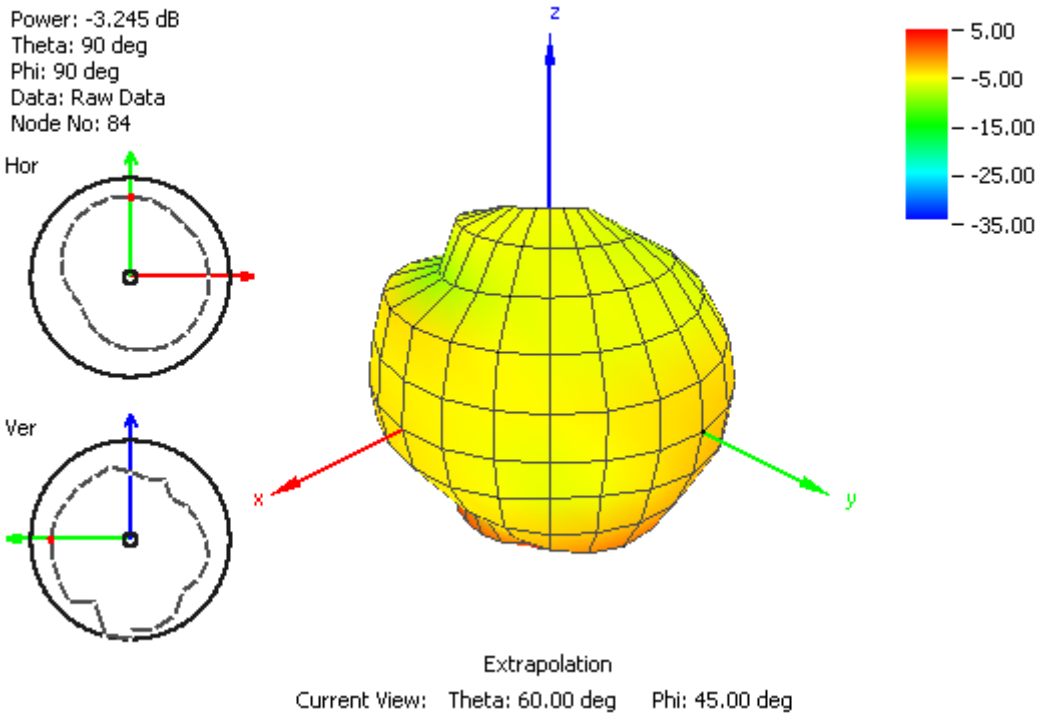


Figure19. Radiation Pattern at 1805 MHz of G30 Antenna with 1 meters cable length

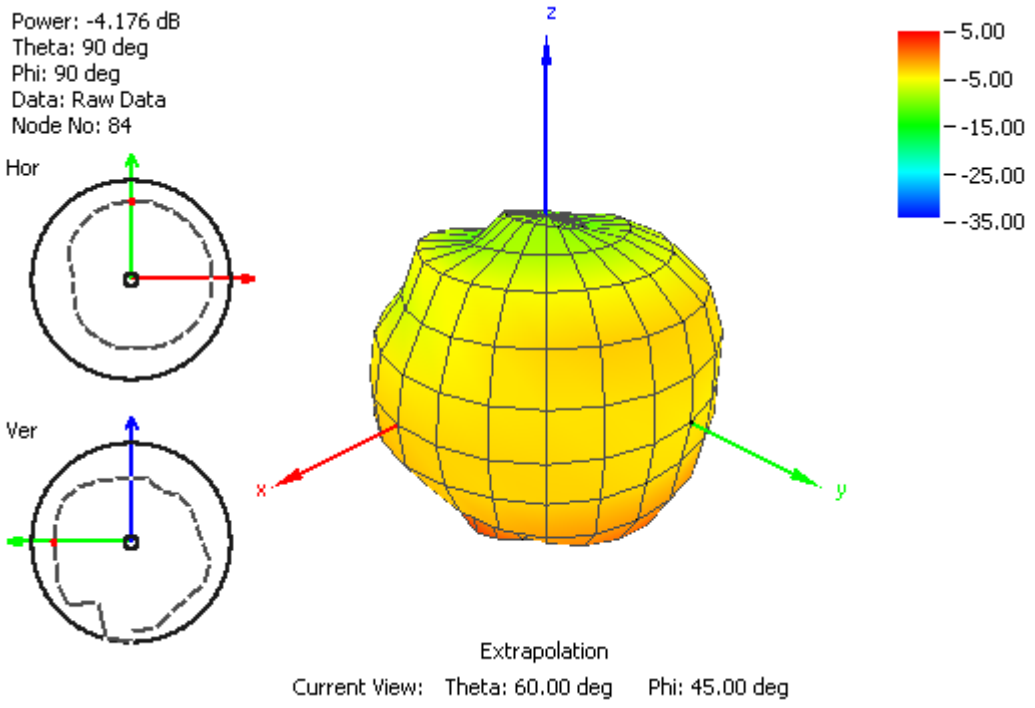


Figure20. Radiation Pattern at 1910 MHz of G30 Antenna with 1 meters cable length

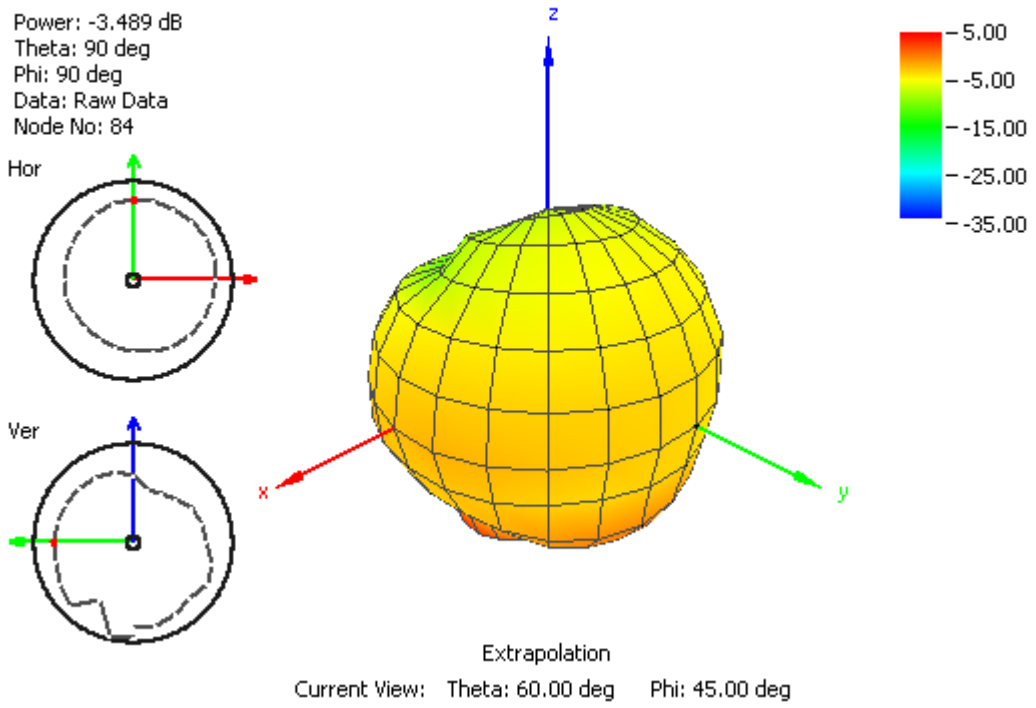


Figure21. Radiation Pattern at 1990 MHz of G30 Antenna with 1 meters cable length

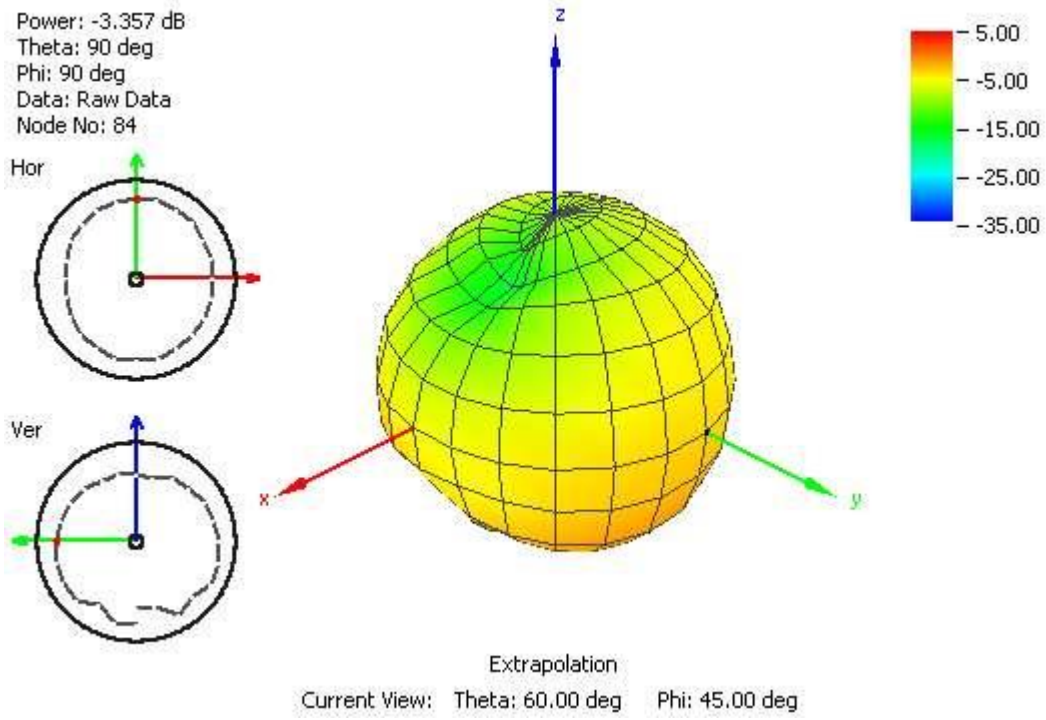


Figure22. Radiation Pattern at 2100 MHz of G30 Antenna with 1 meters cable length

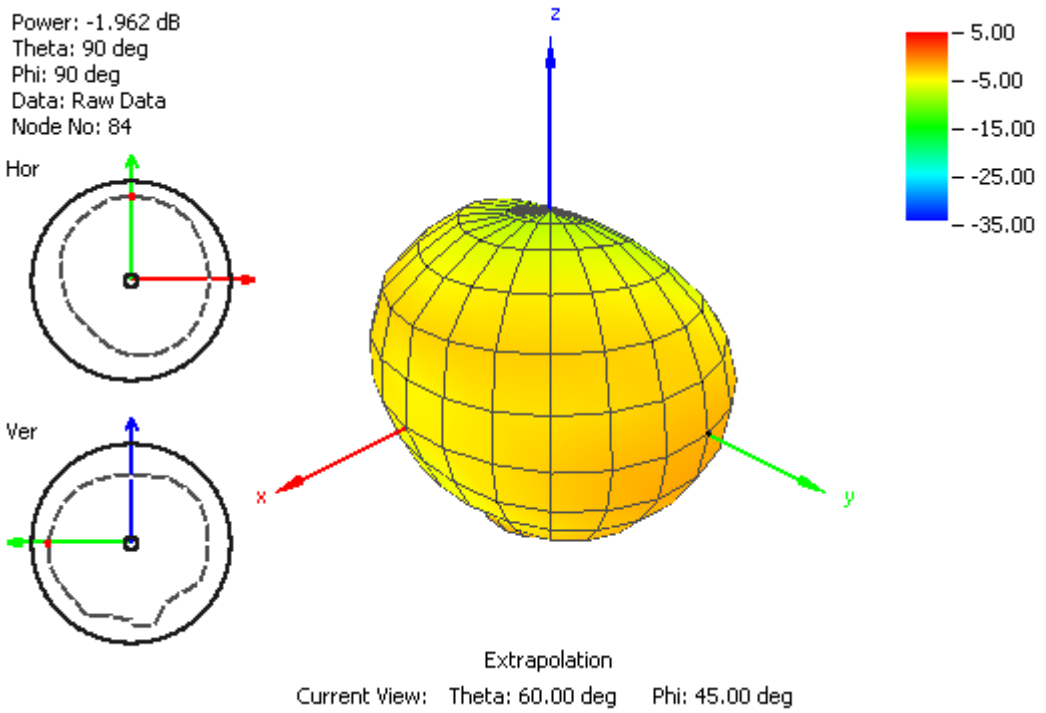


Figure23. Radiation Pattern at 2600 MHz of G30 Antenna with 1 meters cable length

On 30X30cm metal Figure 14(B) as reference (dB)

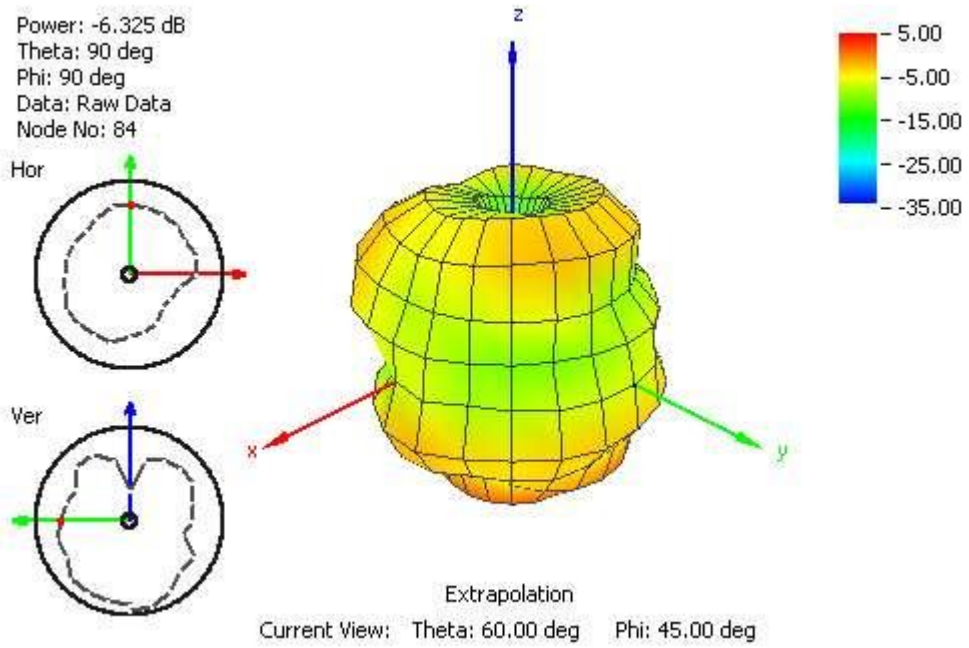


Figure24. Radiation Pattern at 751 MHz of G30 Antenna with 1 meters cable length

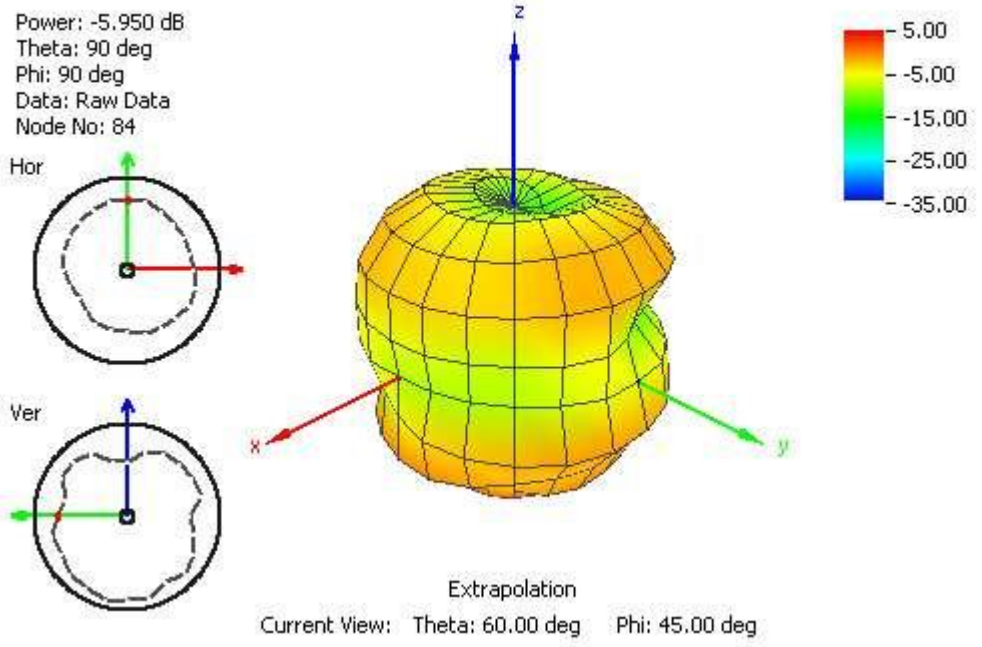


Figure25. Radiation Pattern at 849 MHz of G30 Antenna with 1 meters cable length

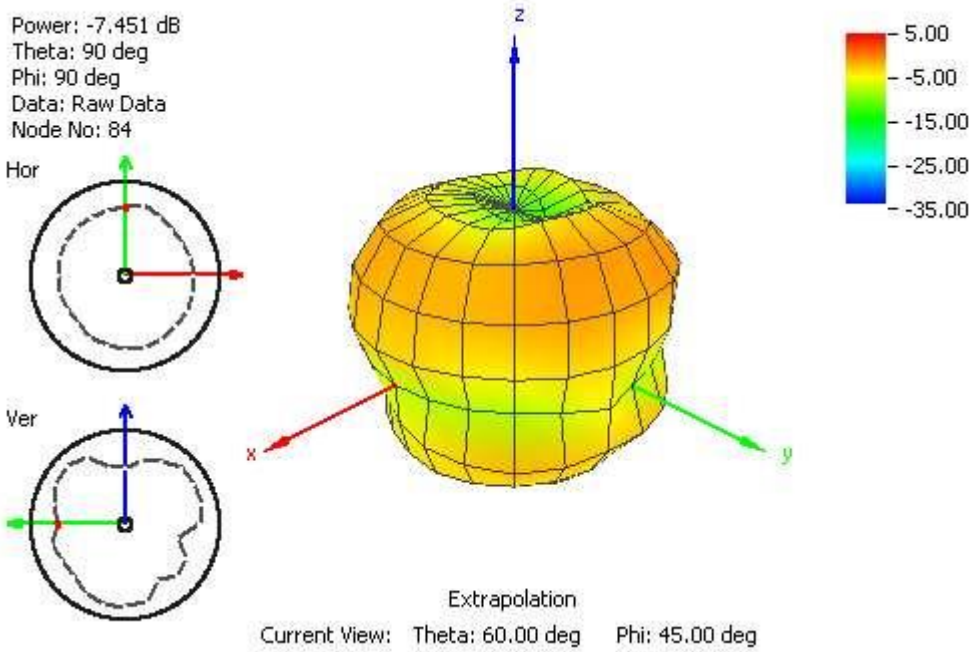


Figure26. Radiation Pattern at 915 MHz of G30 Antenna with 1 meters cable length

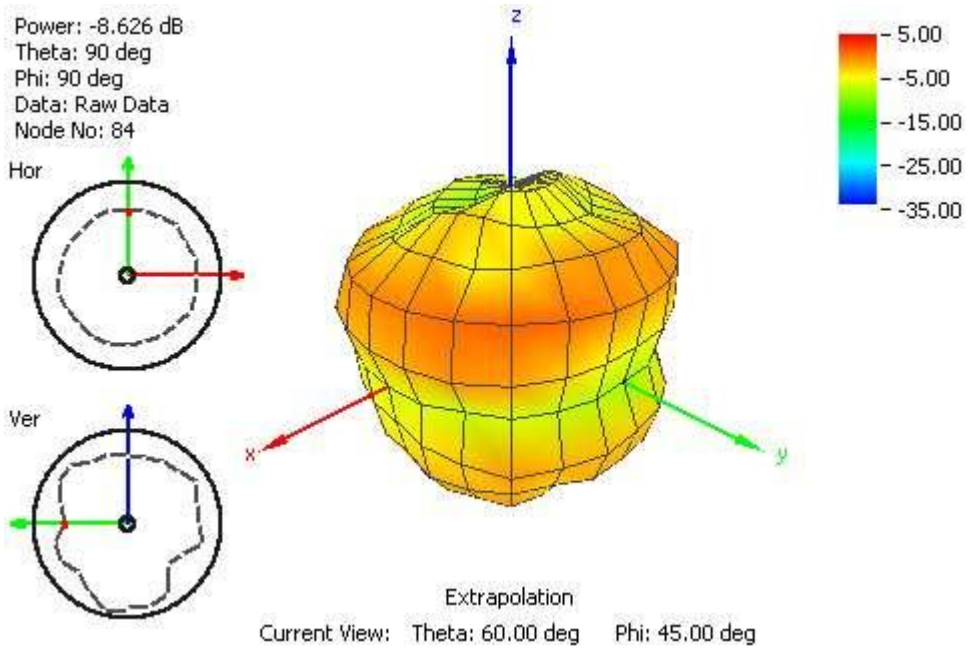


Figure27. Radiation Pattern at 1710 MHz of G30 Antenna with 1 meters cable length

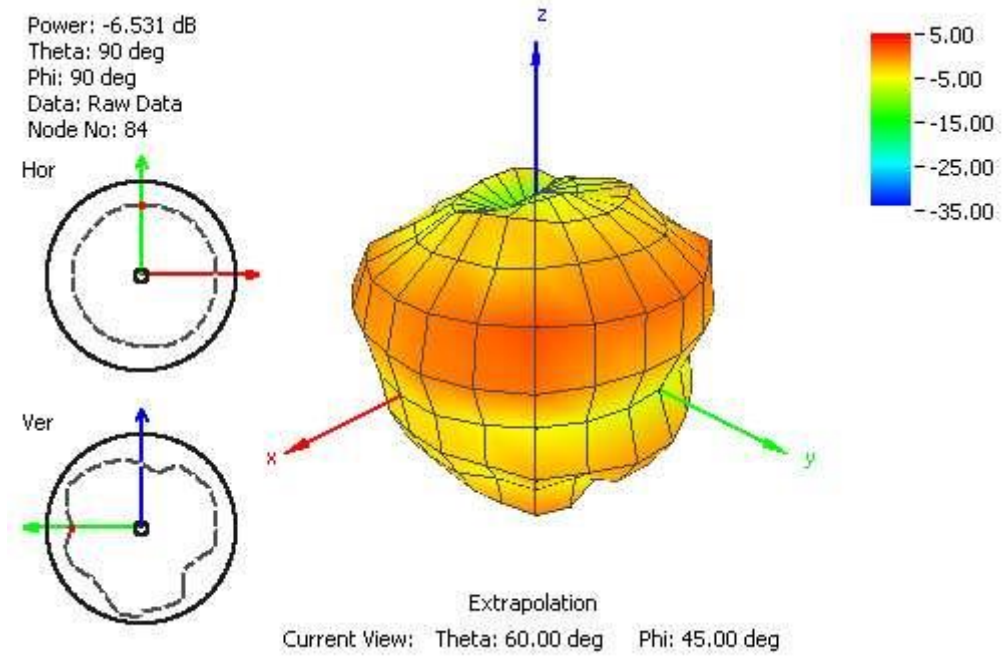


Figure28. Radiation Pattern at 1805 MHz of G30 Antenna with 1 meters cable length

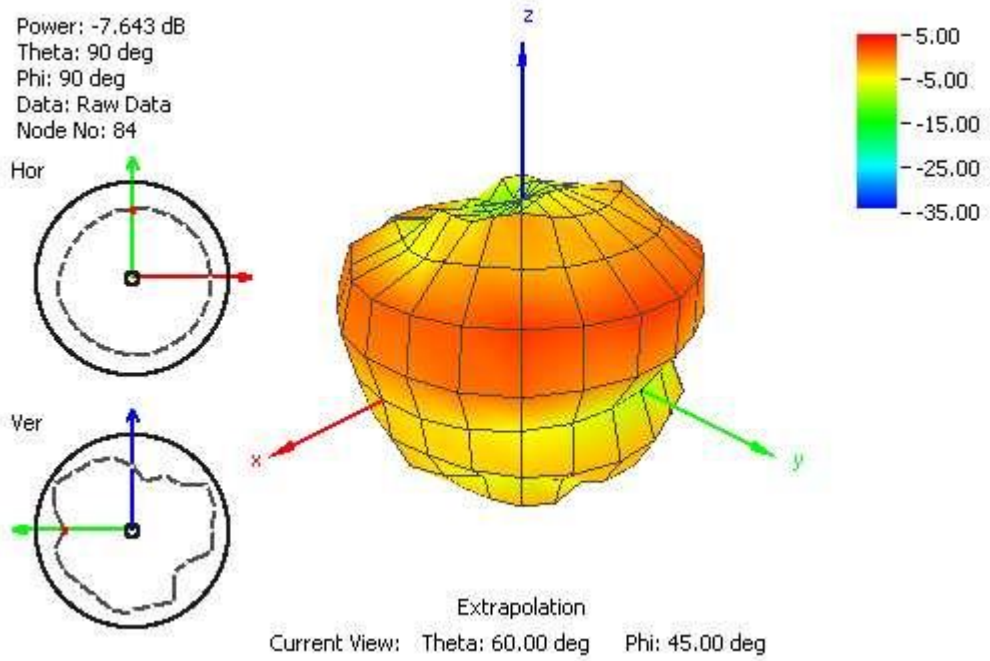


Figure29. Radiation Pattern at 1910 MHz of G30 Antenna with 1 meters cable length

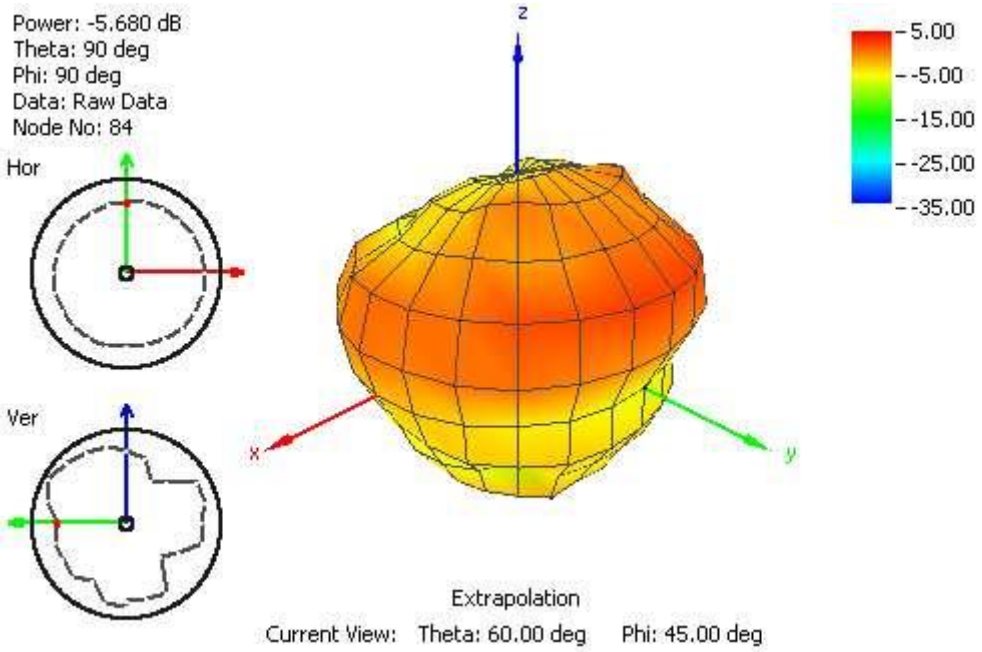


Figure30. Radiation Pattern at 1990 MHz of G30 Antenna with 1 meters cable length

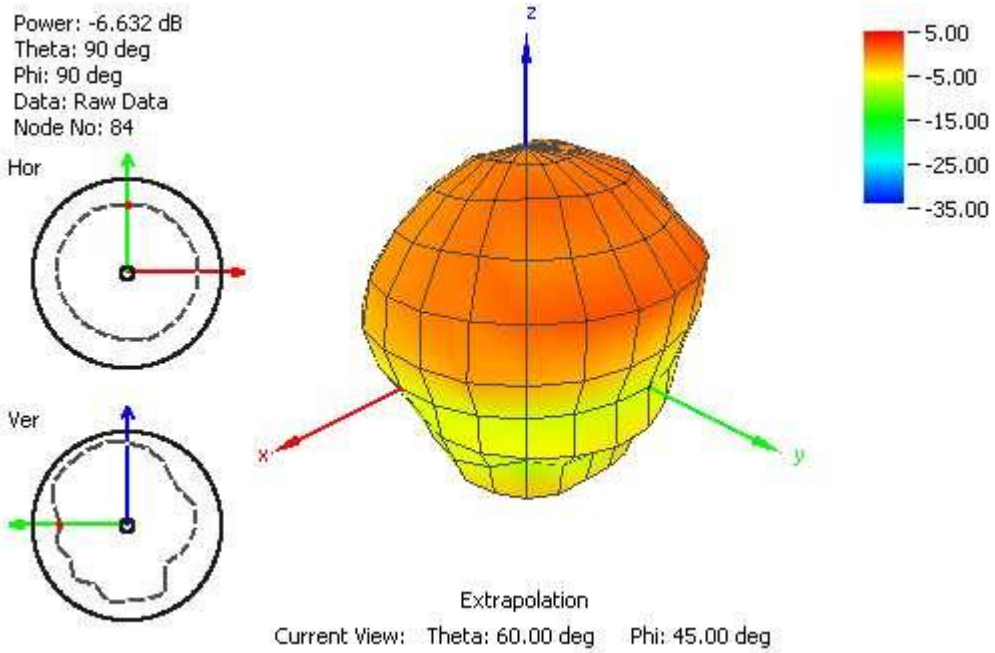


Figure31. Radiation Pattern at 2110 MHz of Antenna with 1 meters cable length

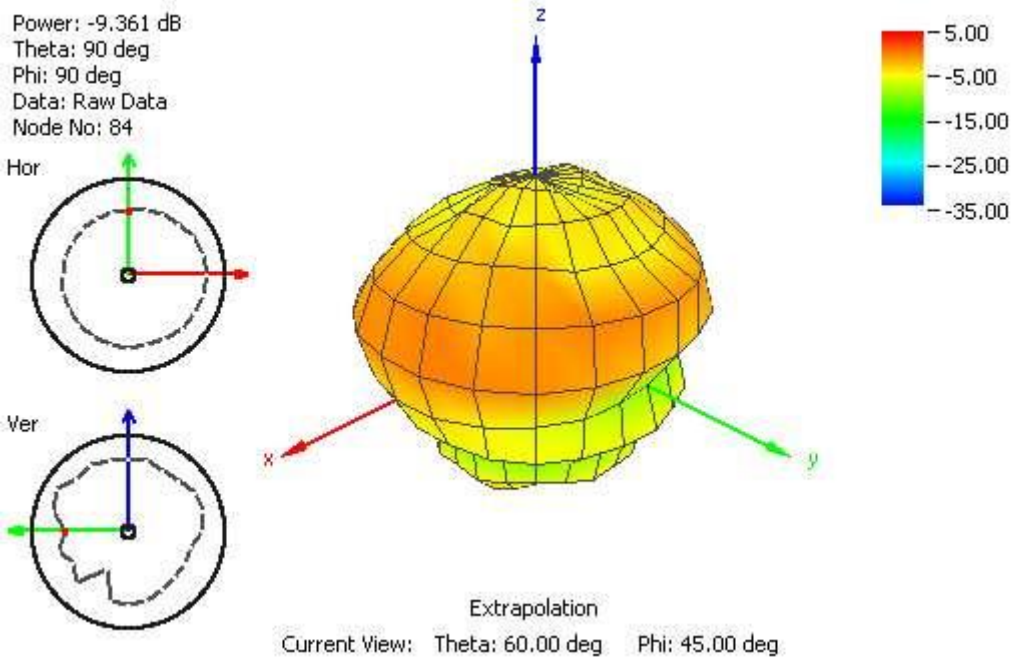


Figure32. Radiation Pattern at 2595 MHz of Antenna with 1 meters cable length

On L-shaped bracket, Figure 14(C) as reference (dB)

XY Plane

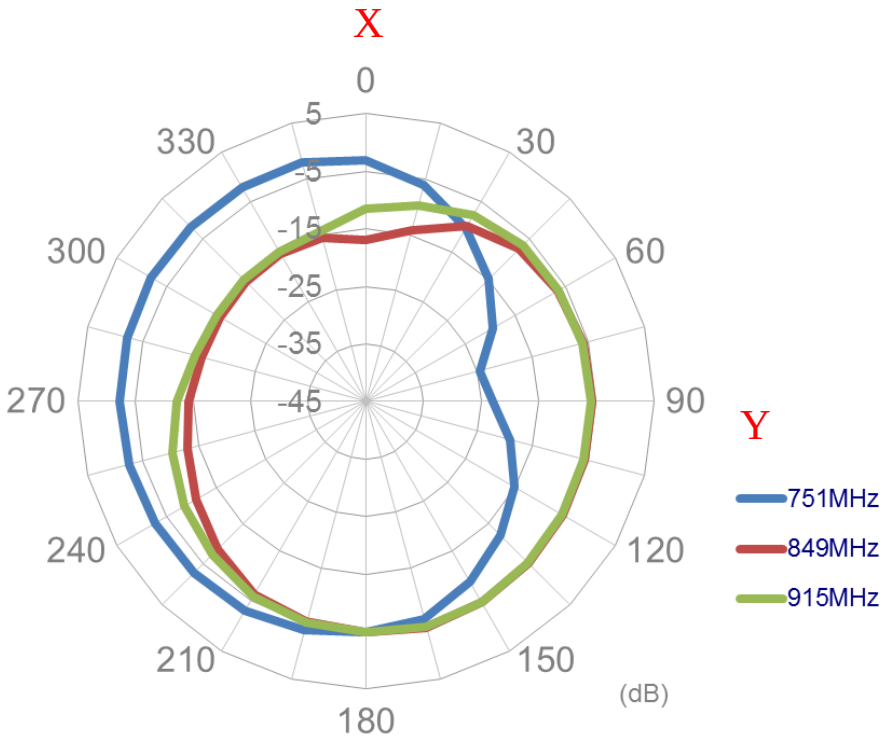


Figure33. The antenna with 1 meters cable length

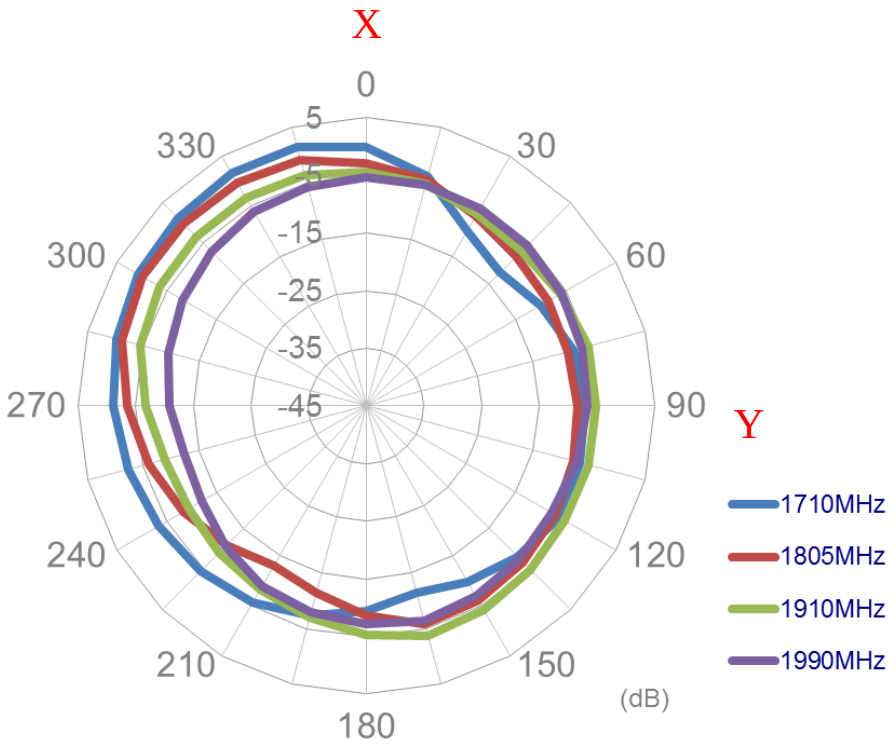


Figure34. The antenna with 1 meters cable length

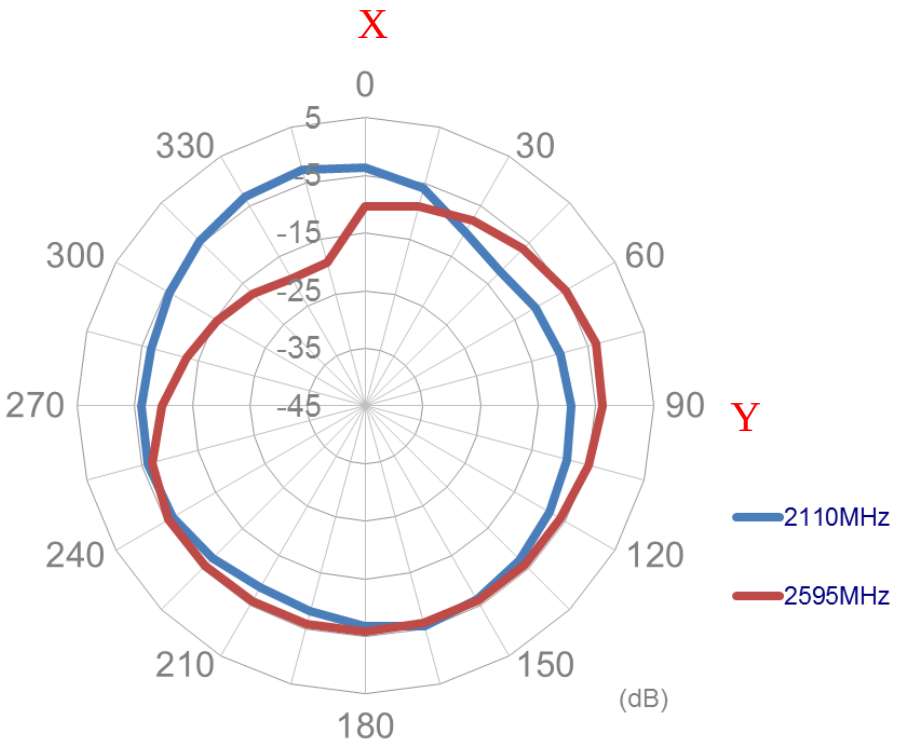


Figure35. The antenna with 1 meters cable length

XZ Plane

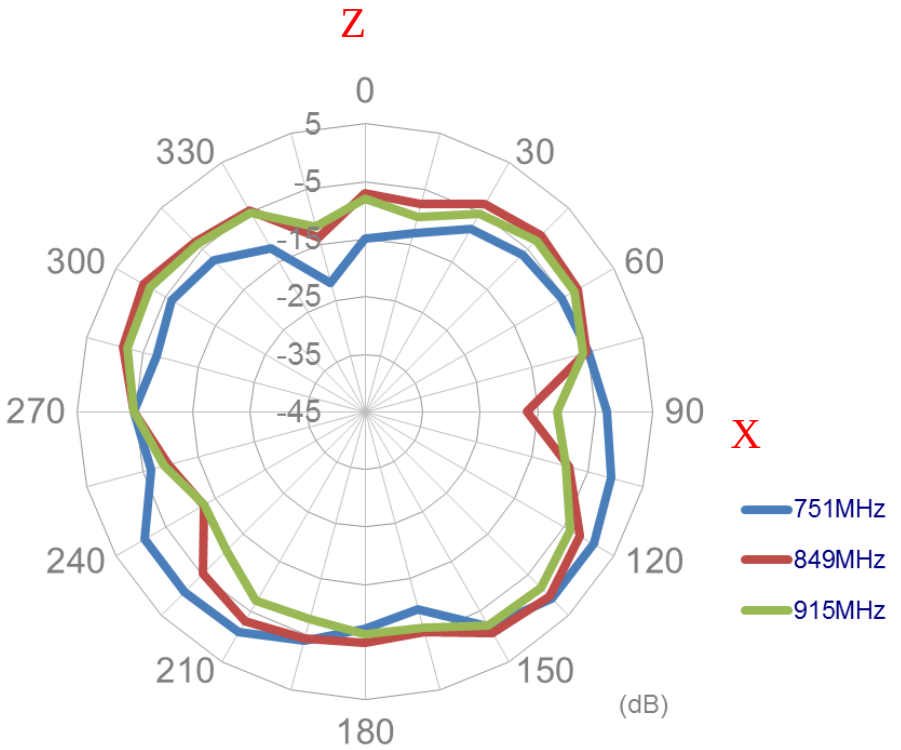


Figure36. The antenna with 1 meters cable length

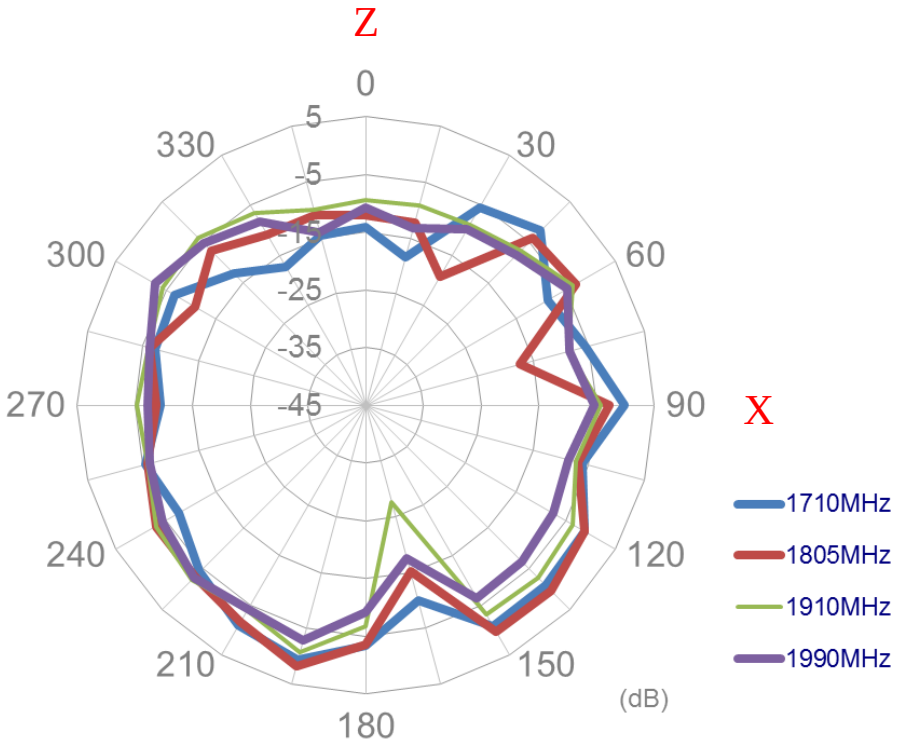


Figure37. The antenna with 1 meters cable length

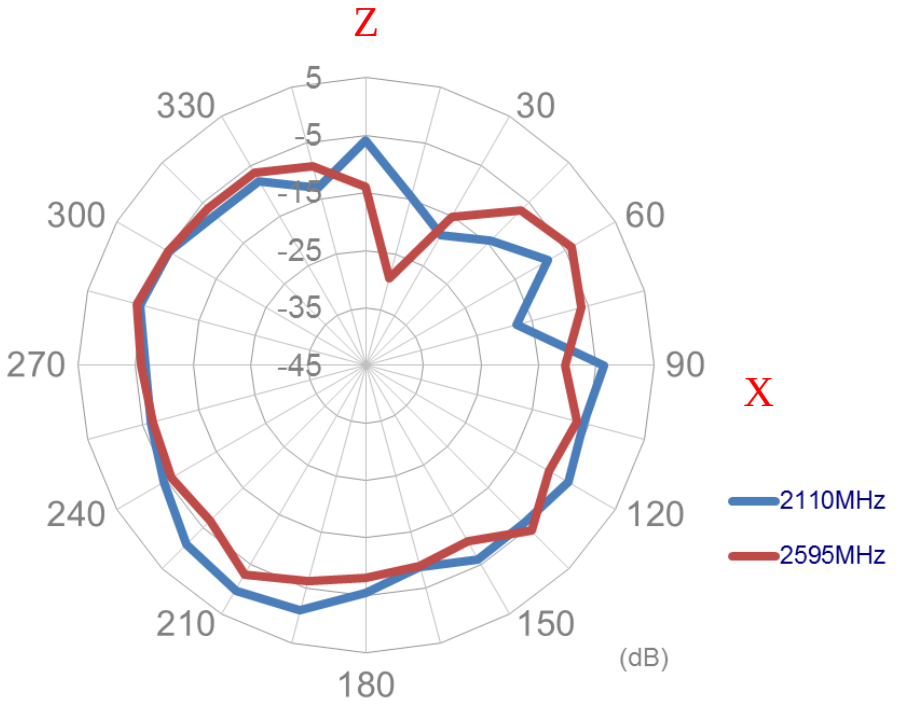


Figure38. The antenna with 1 meters cable length

YZ Plane

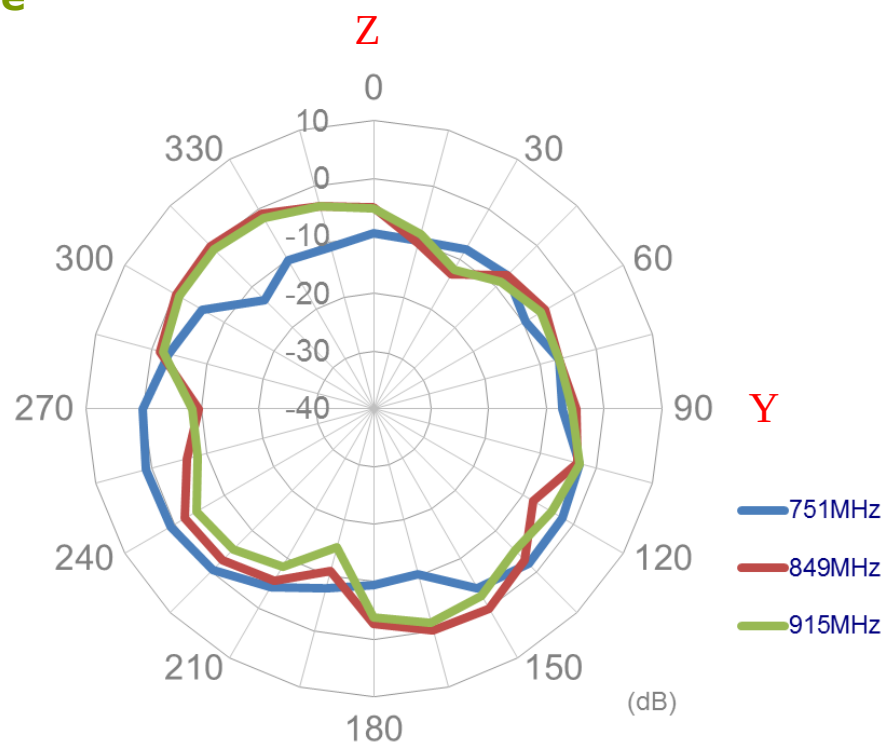


Figure39. The antenna with 1 meters cable length

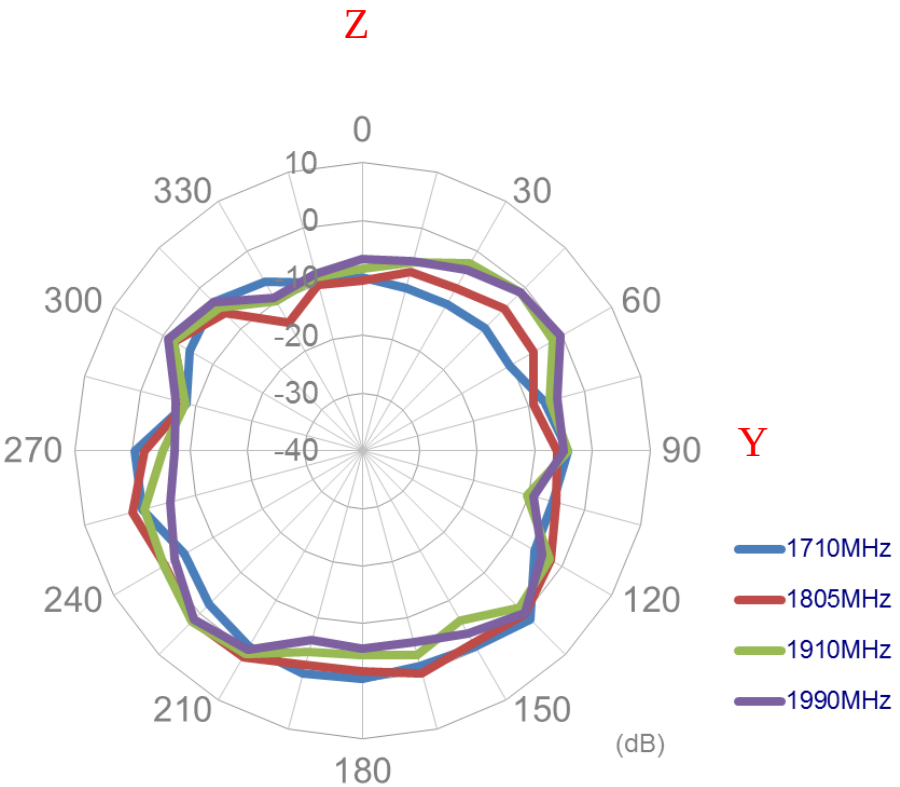


Figure40. The antenna with 1 meters cable length

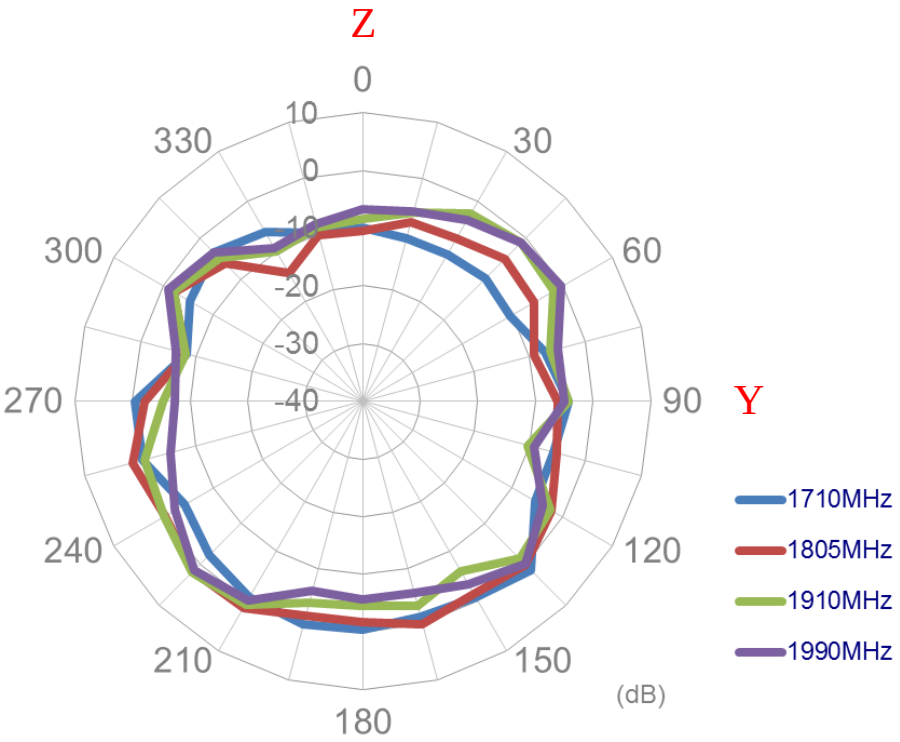
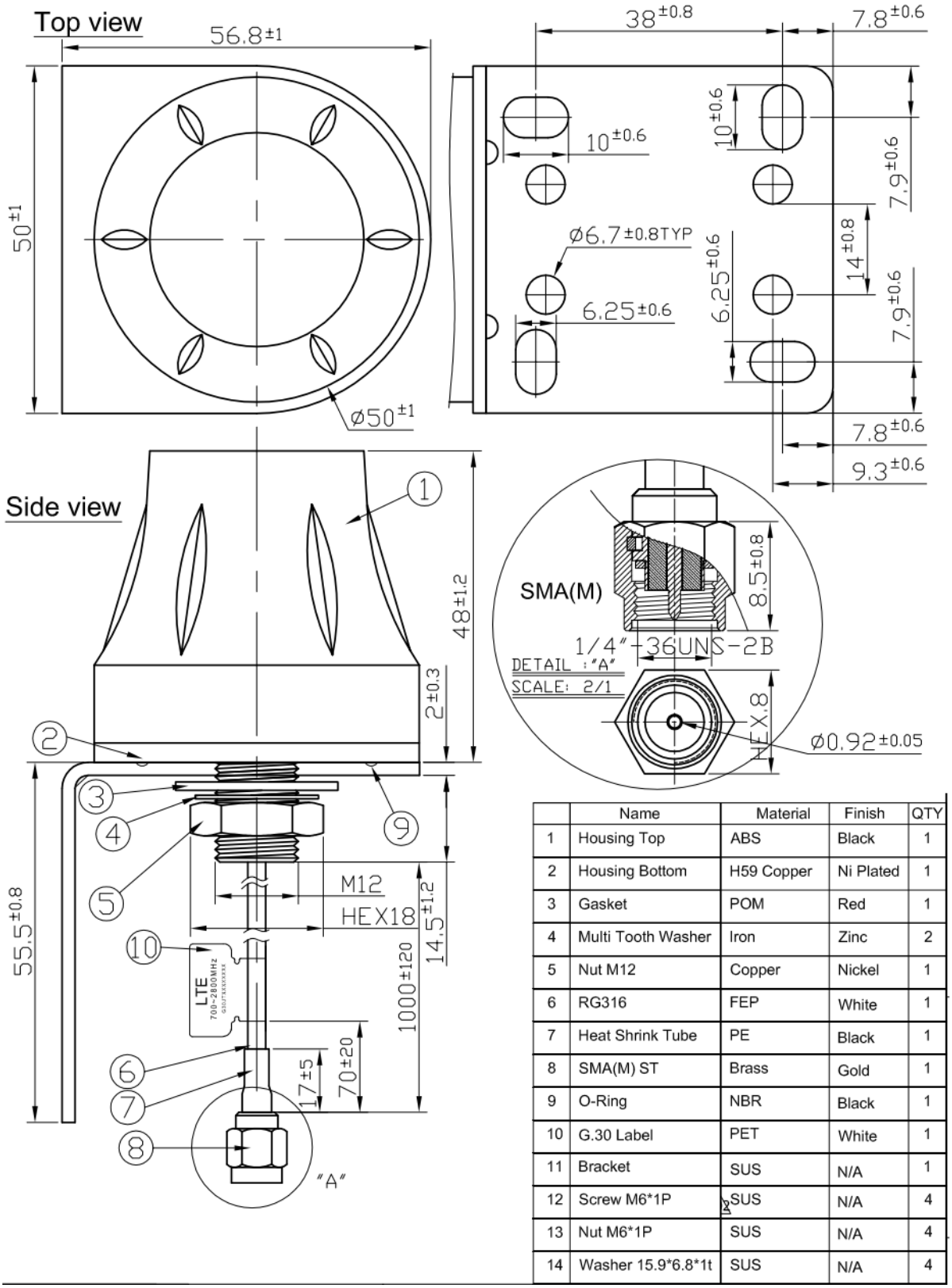


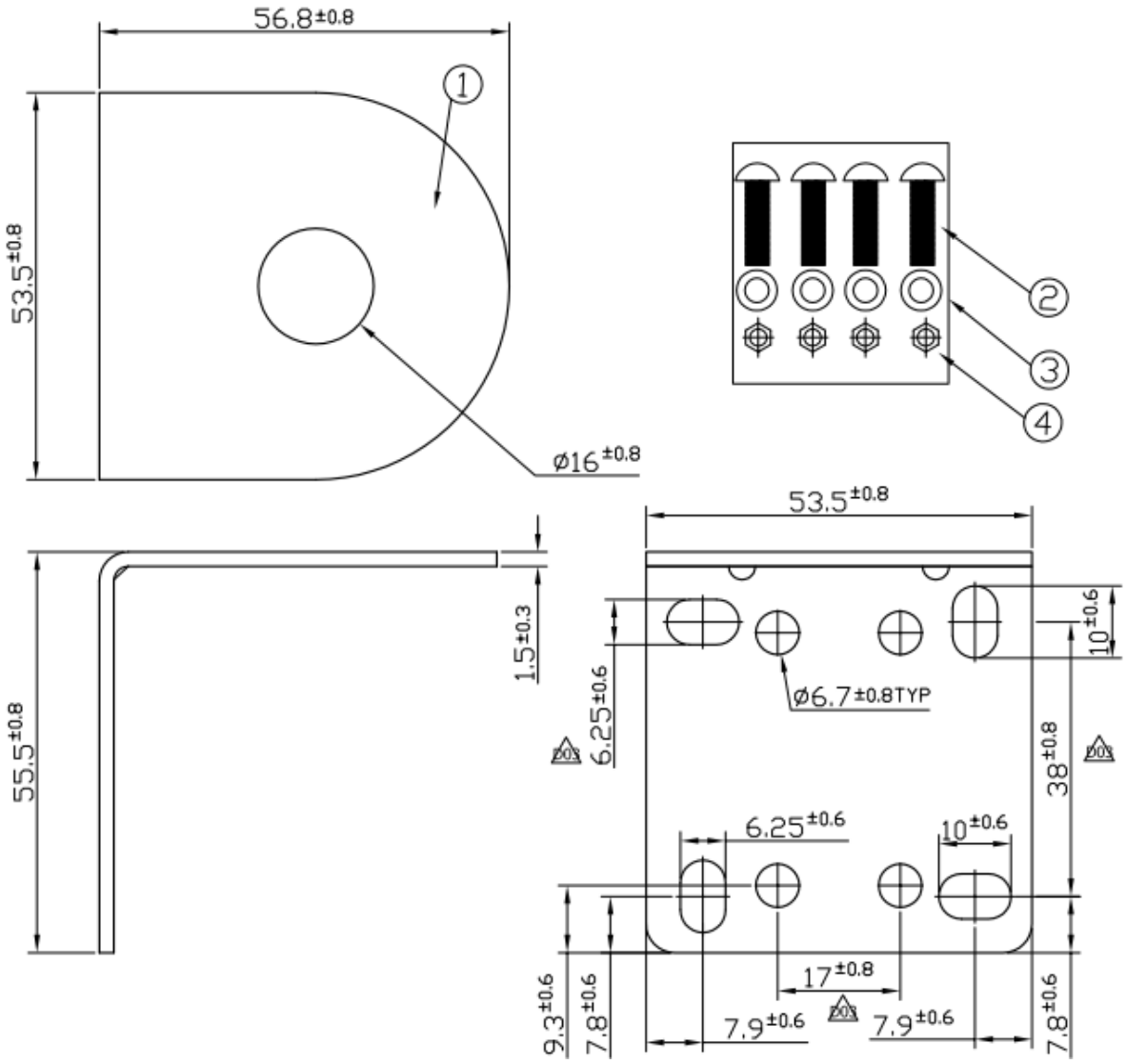
Figure35. The antenna with 1 meters cable length

5. Drawing



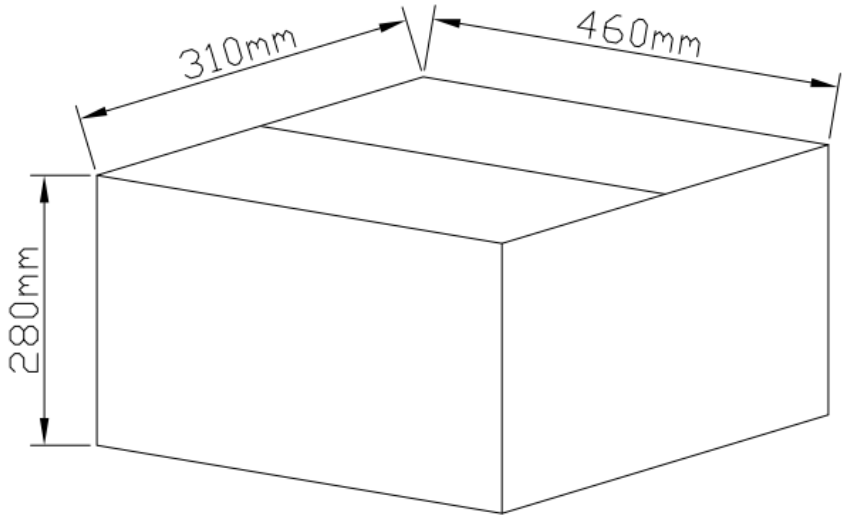
	Name	Material	Finish	QTY
1	Housing Top	ABS	Black	1
2	Housing Bottom	H59 Copper	Ni Plated	1
3	Gasket	POM	Red	1
4	Multi Tooth Washer	Iron	Zinc	2
5	Nut M12	Copper	Nickel	1
6	RG316	FEP	White	1
7	Heat Shrink Tube	PE	Black	1
8	SMA(M) ST	Brass	Gold	1
9	O-Ring	NBR	Black	1
10	G.30 Label	PET	White	1
11	Bracket	SUS	N/A	1
12	Screw M6*1P	SUS	N/A	4
13	Nut M6*1P	SUS	N/A	4
14	Washer 15.9*6.8*1t	SUS	N/A	4

5.1 Bracket Dimensions



	Name	Material	Finish	QTY
1	Bracket	SUS	N/A	1
2	Screw M6*1P	SUS	N/A	4
3	Nut M6*1P	SUS	N/A	4
4	Washer 15.9*6.8*1t	SUS	N/A	4

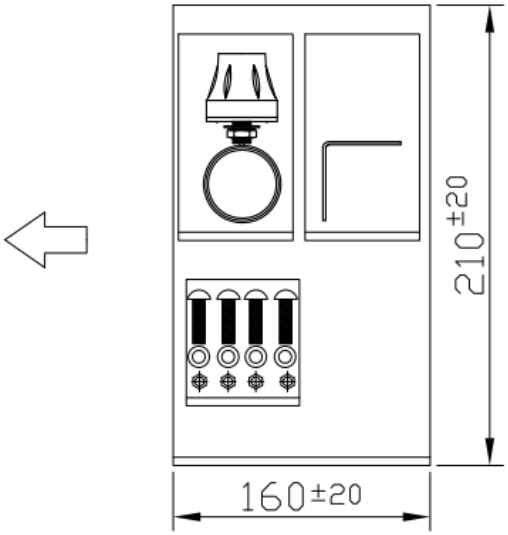
6. Packaging



50 PCS PE Bag/ Carton = 50 PCS Antenna

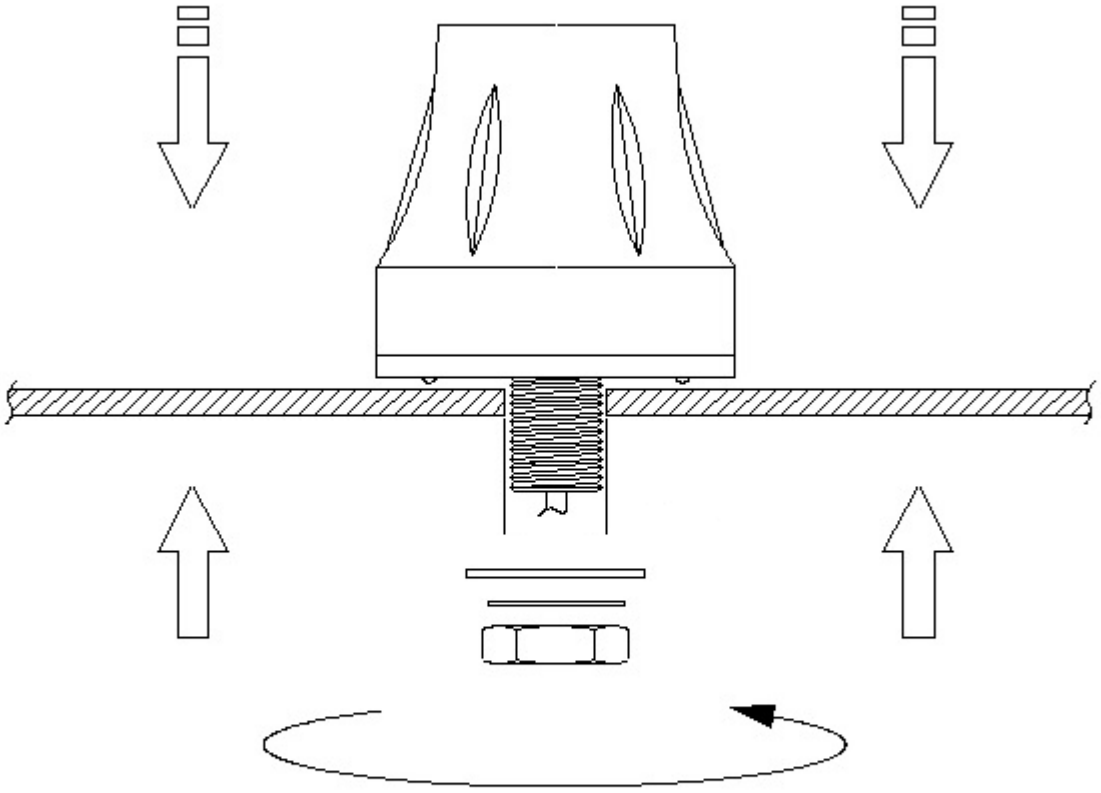
Weight / carton = 9.33 Kg

Package view



1PCS/Small PE Bag
With M6 Screw x4
With M6 Nut x4
With M6 Washer x4
=161g

7. Installation



Recommended torque for mounting is 2.94N·m

Maximum torque for mounting is 3.92N·m