SIGNAL PLUS

Datasheet

5G Omni Antenna

Part NO:
WZ5XXSMAJ143

Features:

- 600-6000MHz
- Covers 5G/4G Bands
- Typical 50%+Efficiency and 3dBi +Peak Gain
- Dipole Terminal Antenna
- 90° Termination with SMA(M) Connector

1. Introduction

The WZ5XXSMAJ143 is a Wideband Dipole 5G/4G Antenna – is primarily designed for use with 5G/4G modules, routers and devices that require the highest possible efficiency and peak gain to deliver best in class throughput on all major cellular bands worldwide between 600MHz and 6GHz.

This fixed 90 degree, connector mount, dipole antenna is primarily designed for use with 5G/4G modules and devices that require the highest possible efficiency and peak gain in order to deliver best-in-class throughput.

Typical Applications include:
- Routers and Gateways
- Remote Monitoring
- Access Points
- Charging Pile
- Camera

With very high efficiency on every cellular band globally it is an ideal solution for any device requiring high, reliable performance. It is also guaranteed to meet any type approval or carrier certification requirements from a RF standpoint.

This patented antenna is available in White and Black versions. It is also available with swivel 90 degrees and straight connectors.

For further information please contact Signal Plus customer support team.

2. Specification

Electrical									
Band	Frequency (MHz)	Measurement	Efficiency (%)	Average Gain (dB)	Peak Gain (dB)	Impedance	Polarization	Radiation Pattern	Max. input power
5GNR/4G Band 5,8,12,13,14,17, 18,20,26,27,28, 29,71	617-960	In Free Space	50.8%	-2.95	2.46	50 Ω	Linear	Omni	2W
4G/3G Band 1,2,3,4,9,23,25, 35,39,66	1710-2200	In Free Space	71.1%	-1.49	3.23				
4G/3G Band 40	2300-2400	In Free Space	71.7%	-1.4	3.44				
Wi-Fi 2400	2400-2500	In Free Space	68.8%	-1.63	3.3				
4G/3G Band 7,38,41	2490-2690	In Free Space	67.5%	-1.65	4.16				
5GNR/4G Band 22,42,43,48,77,78	3300-3800	In Free Space	77.6%	-1.1	5.1				
LTE5200/ Wi-Fi 5800	5150-5925	In Free Space	62.6%	-2.03	4.68				

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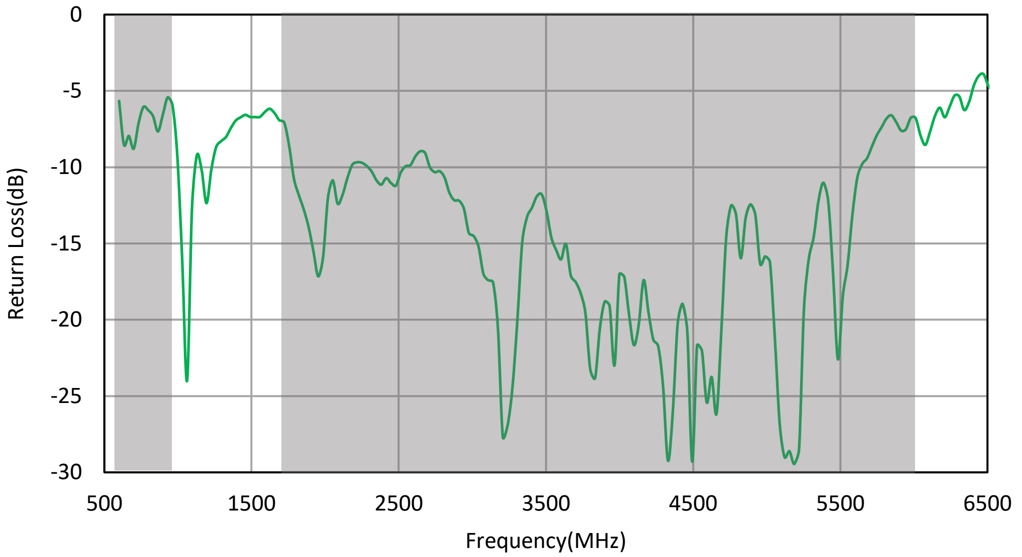
5G/4G Bands			
Band Number	5GNR / FR1 / LTE / LTE-Advanced / WCDMA / HSPA / HSPA+ / TD-SCDMA		
	Uplink	Downlink	In Free space
B1	1920 to 1980	2110 to 2170	✓
B2	1850 to 1910	1930 to 1990	✓
B3	1710 to 1785	1805 to 1880	✓
B4	1710 to 1755	2110 to 2155	✓
B5	824 to 849	869 to 894	✓
B7	2500 to 2570	2620 to 2690	✓
B8	880 to 915	925 to 960	✓
B9*	1749.9 to 1784.9	1844.9 to 1879.9	✓
B12	699 to 716	729 to 746	✓
B13	777 to 787	746 to 756	✓
B14	788 to 798	758 to 768	✓
B17	704 to 716	734 to 746	✓
B18	815 to 830	860 to 875	✓
B19	830 to 845	875 to 890	✓
B20	832 to 862	791 to 821	✓
B22*	3410 to 3490	3510 to 3590	✓
B23*	2000 to 2020	2180 to 2200	✓
B24	1626.5 to 1660.5	1525 to 1559	✓
B25	1850 to 1915	1930 to 1995	✓
B26	814 to 849	859 to 894	✓
B27*	807 to 824	852 to 869	✓
B28	703 to 748	758 to 803	✓
B29	717to 728		✓
B30	2305 to 2315	2350 to 2360	✓
B31	452.5 to 457.5	462.5 to 467.5	✓
B34	2010 to 2025		✓
B35	1850 to 1910		✓
B36	1930 to 1990		✓
B37	1910 to 1930		✓
B38	2570 to 2620		✓
B39	1880 to 1920		✓
B40	2300 to 2400		✓
B41	2496 to 2690		✓
B42	3400 to 3600		✓
B43	3600 to 3800		✓
B46	5150 to 5925		✓
B47	5855 to 5925		✓
B48	3550 to 3700		✓
B49	3550 to 3700		✓
B52	3300 to 3400		✓
B53	2483.5 to 2495		✓
B65	1920 to 2010	2110 to 2200	✓
B66	1710 to 1780	2110 to 2200	✓
B68	698 to 728	753 to 783	✓
B69	2570 to 2620		✓
B70	1695 to 1710	1995 to 2020	✓
B71	663 to 698	617 to 652	✓
B77	3300 to 4200		✓
B78	3300 to 3800		✓
B79	4400 to 5000		✓
B85	698 to 716	728 to 746	✓

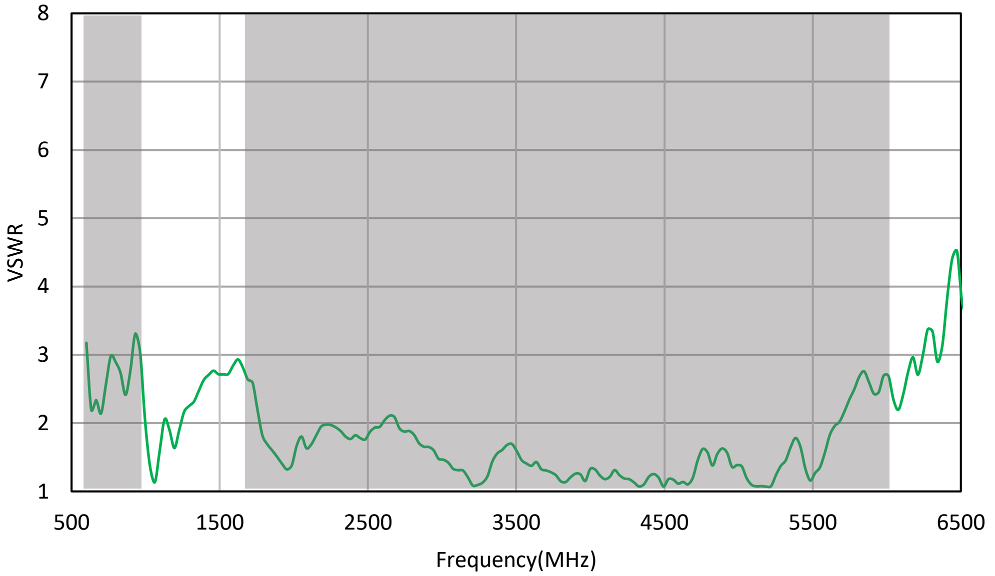
Mechanical	
Antenna Dimensions	156.5 × 32.1mm
Casing Material	ABS
Antenna Color	Black
Connector Type	SMA Male
Net Weight	32g
Flammability Rating	UL-94
Waterproof Rating	IP65
Environmental	
Operating Temperature	-35℃ to 70℃
Storage Temperature	-35℃ to 65℃
Relative Humidity	Non-condensing 65°C 95% RH
Salt Spray Test	48H
RoHS Compliant	Yes
REACH Compliant	Yes
Packaging	
Packaging Type	PE Bag
Packaging Size	340*340*200mm

3. Antenna Characteristics

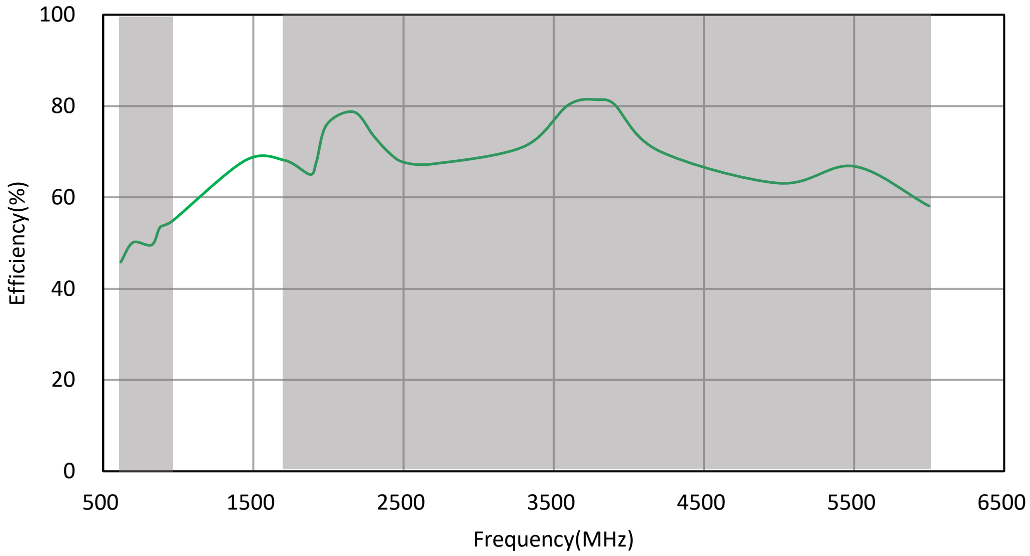
3.1 Return Loss



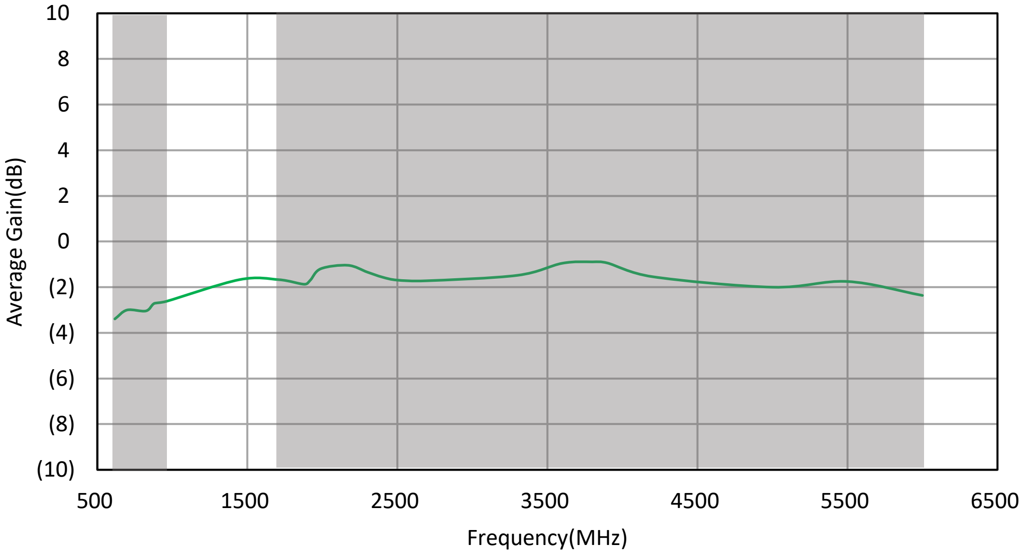
3.2 VSWR



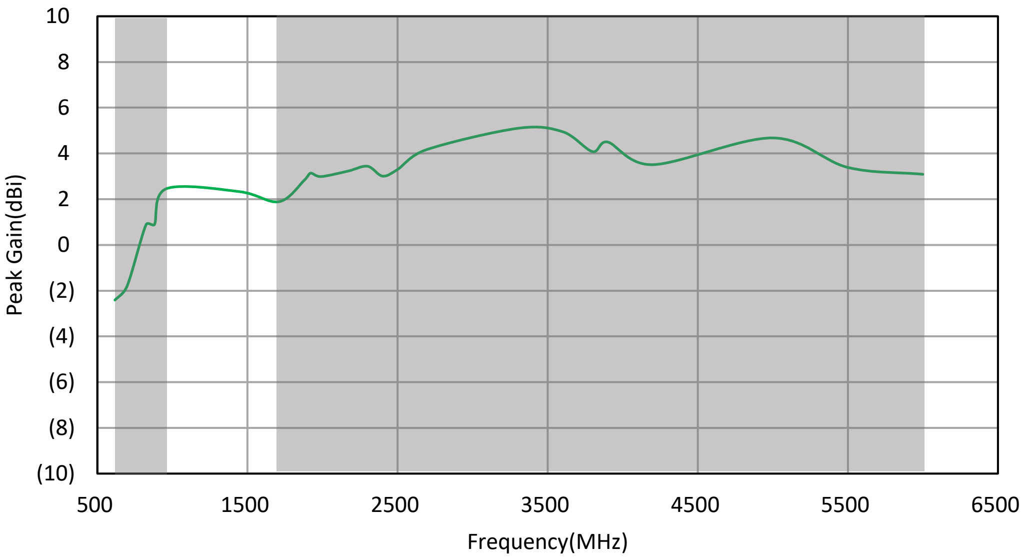
3.3 Efficiency



3.4 Average Gain



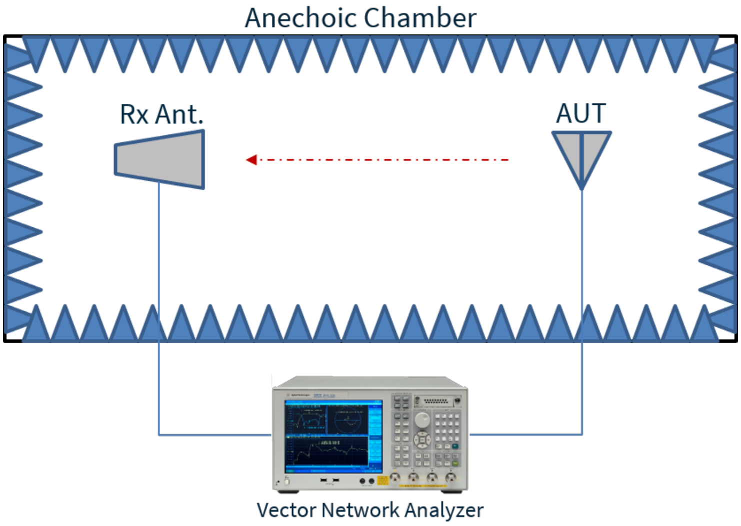
3.5 Peak Gain

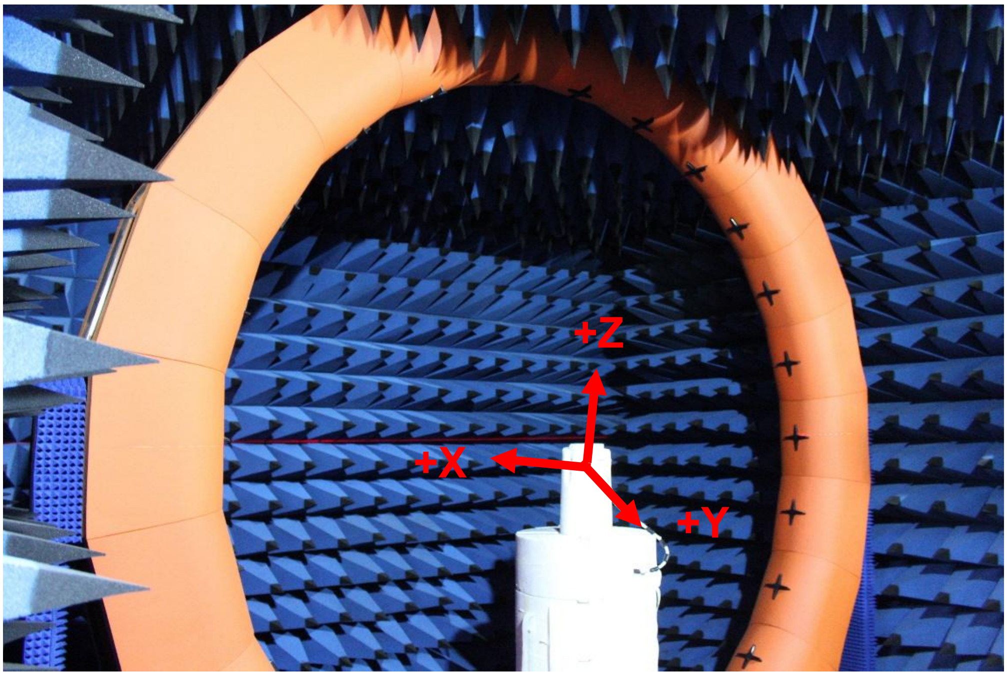


Peak Gain(dBi)
10
8
6
4
2
0
(2)
(4)
(6)
(8)
(10)
500
1500
2500
3500
4500
5500
6500
Frequency(MHz)

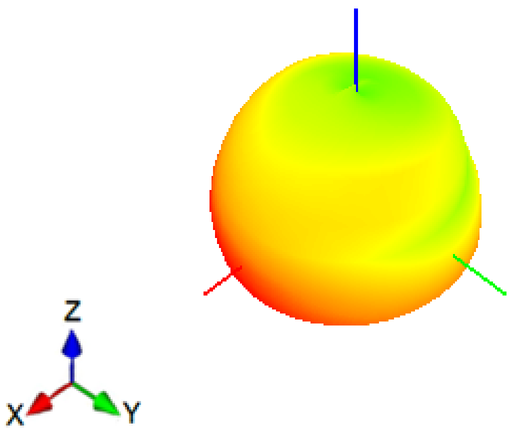
4. Radiation Patterns

4.1 Teat Setup

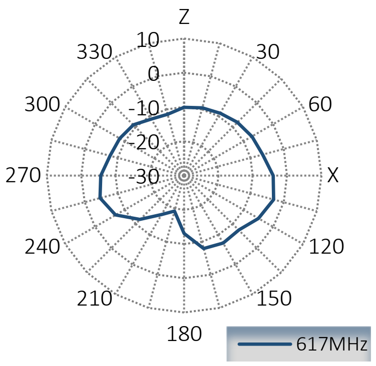




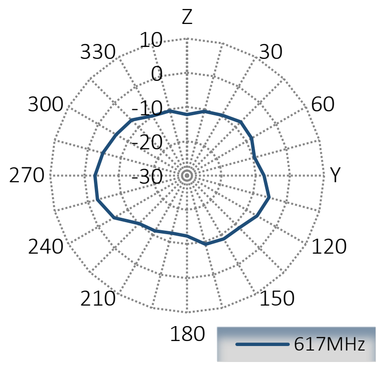
4.2 Free Space – Patterns at 617 MHz



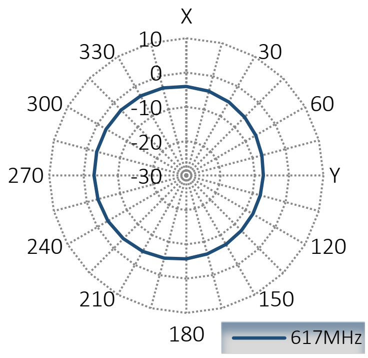
XZ Plane



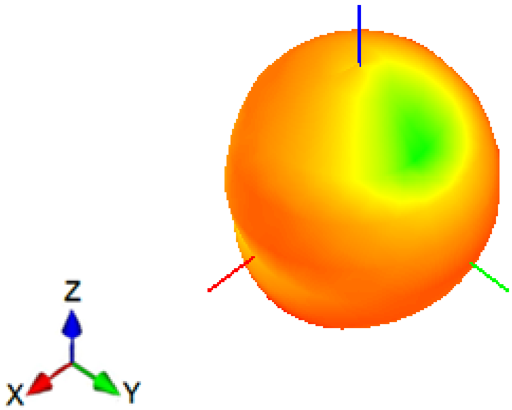
YZ Plane



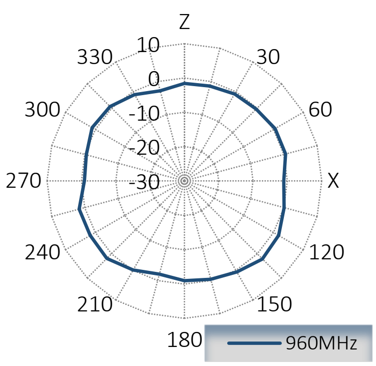
XY Plane

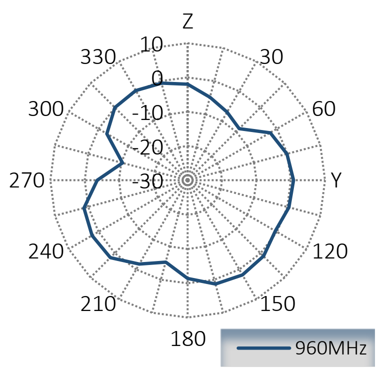


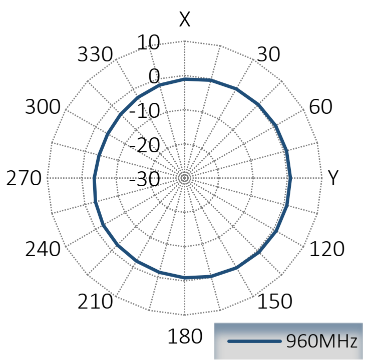
4.3 Free Space – Patterns at 960 MHz



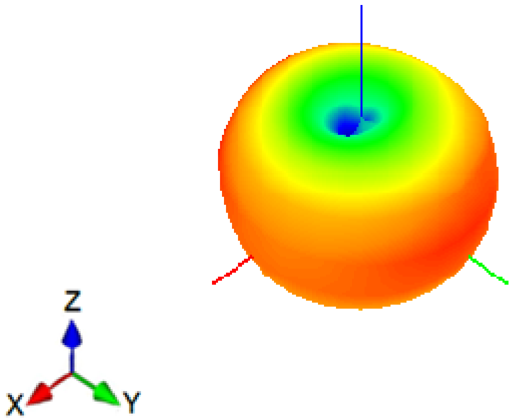
XZ Plane	YZ Plane	XY Plane

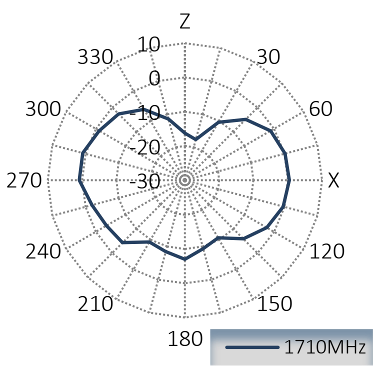
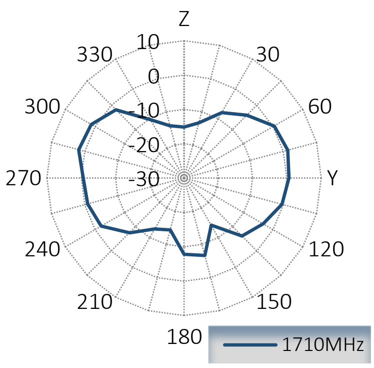
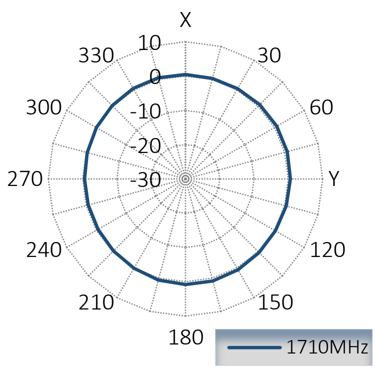




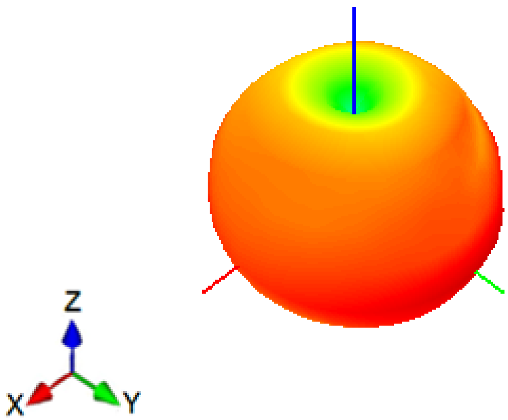


4.4 Free Space – Patterns at 1710 MHz

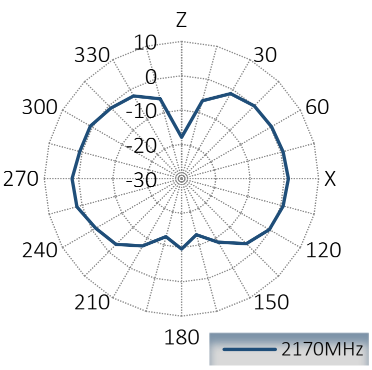


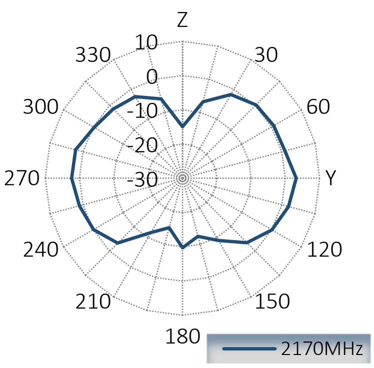
XZ Plane	YZ Plane	XY Plane
		

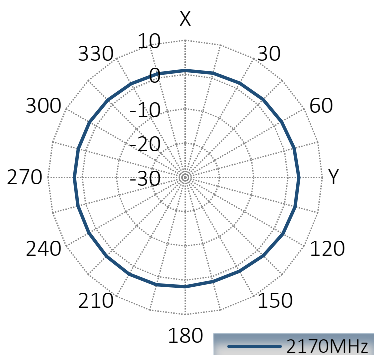
4.5 Free Space – Patterns at 2170 MHz



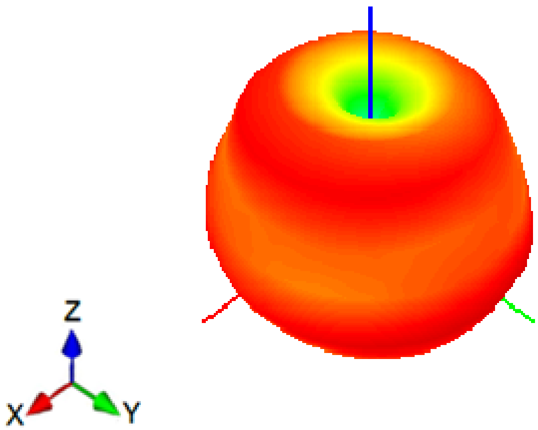
XZ Plane	YZ Plane	XY Plane



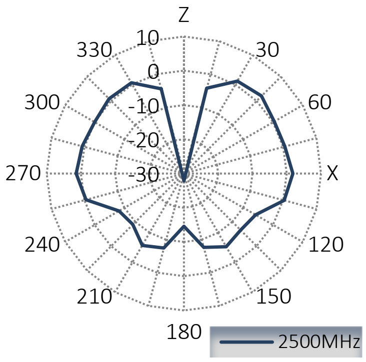


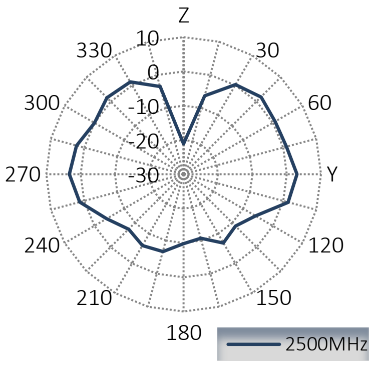


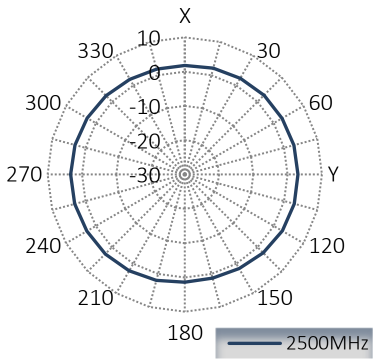
4.6 Free Space – Patterns at 2500 MHz



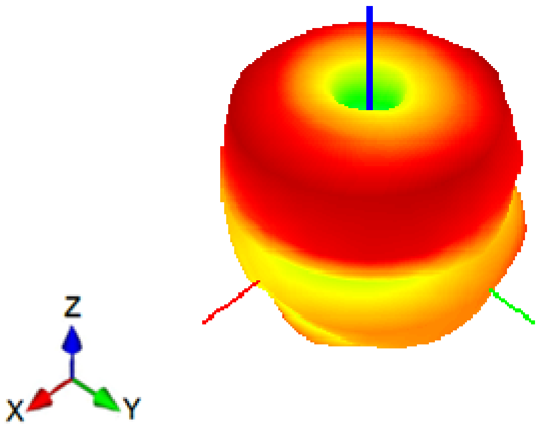
XZ Plane	YZ Plane	XY Plane



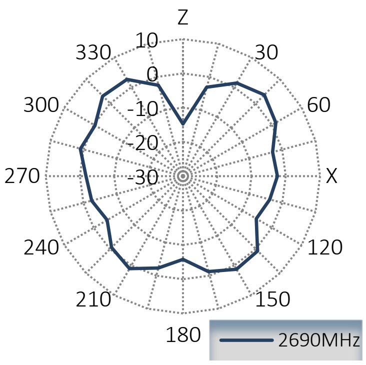


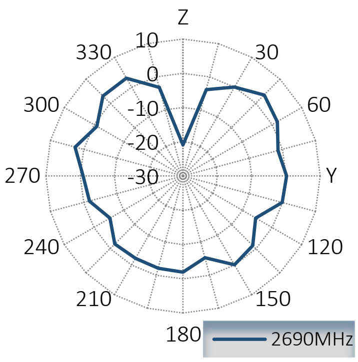


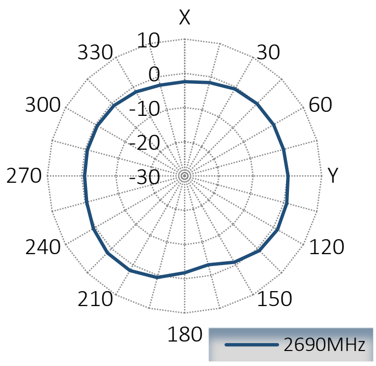
4.7 Free Space – Patterns at 2690 MHz



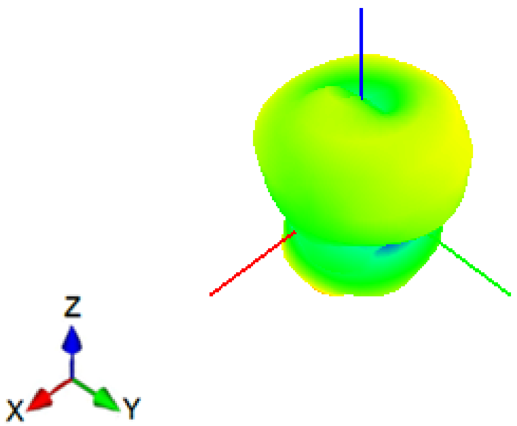
XZ Plane	YZ Plane	XY Plane

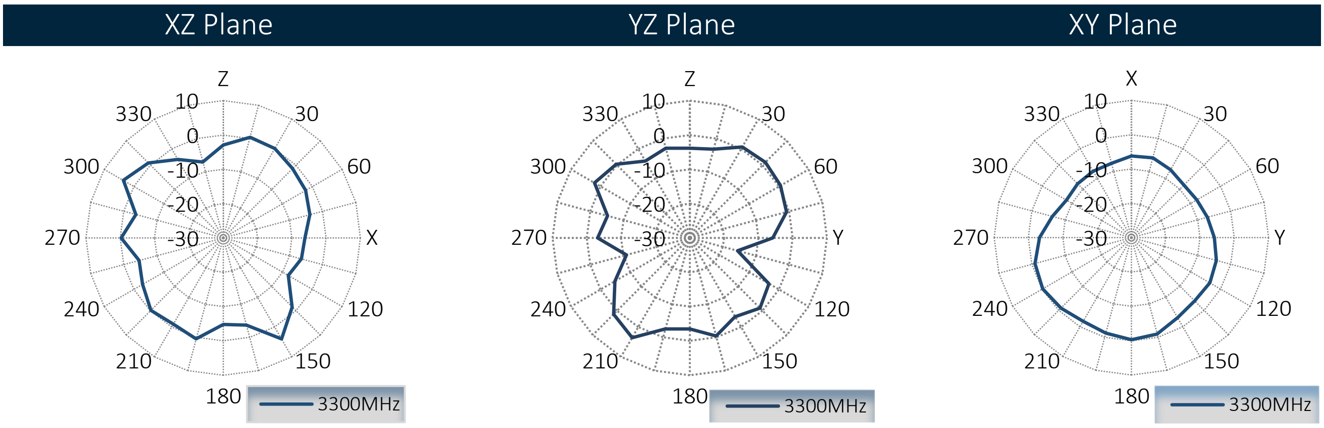




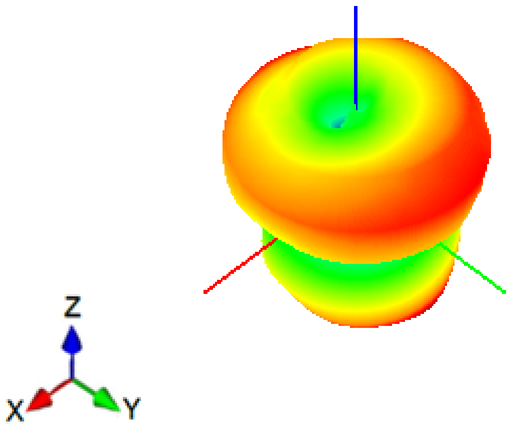


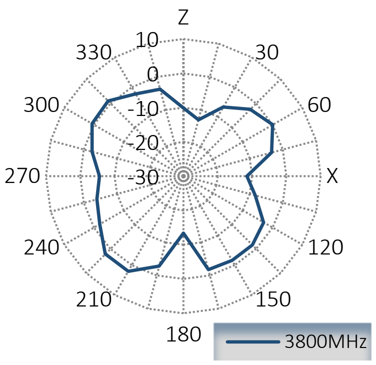
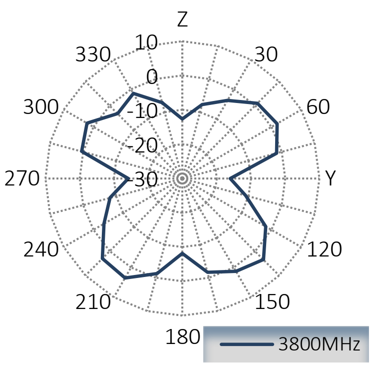
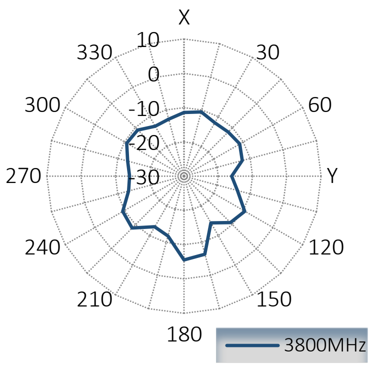
4.8 Free Space – Patterns at 3300 MHz



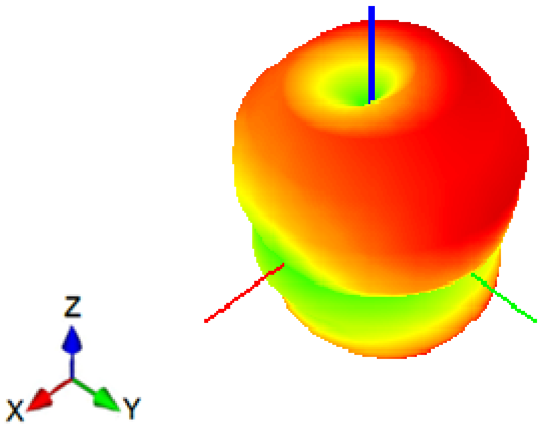


4.9 Free Space – Patterns at 3800 MHz

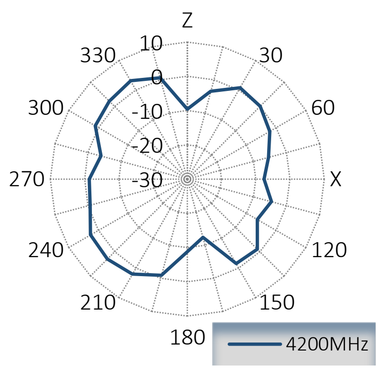


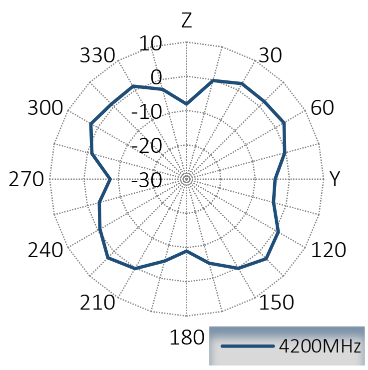
XZ Plane	YZ Plane	XY Plane
		

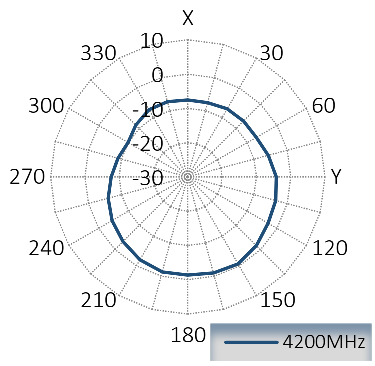
4.10 Free Space – Patterns at 4200 MHz



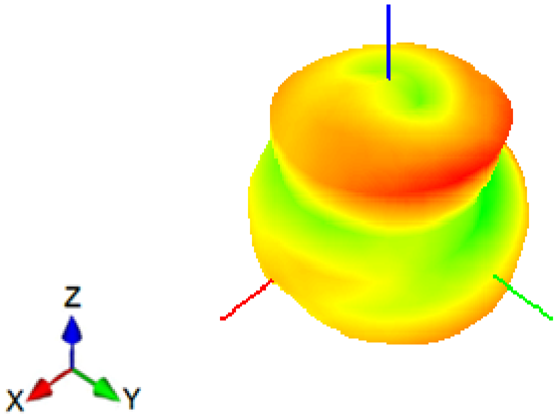
XZ Plane	YZ Plane	XY Plane



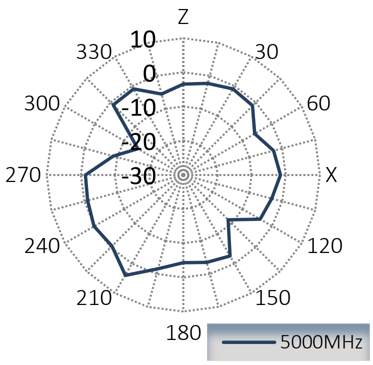


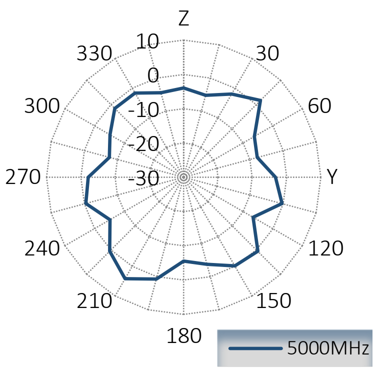


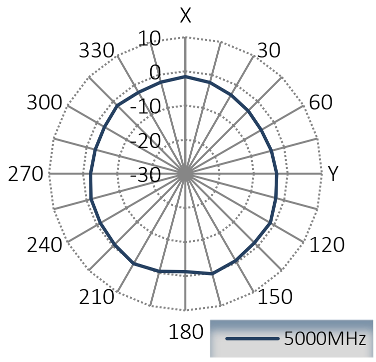
4.11 Free Space – Patterns at 5000 MHz



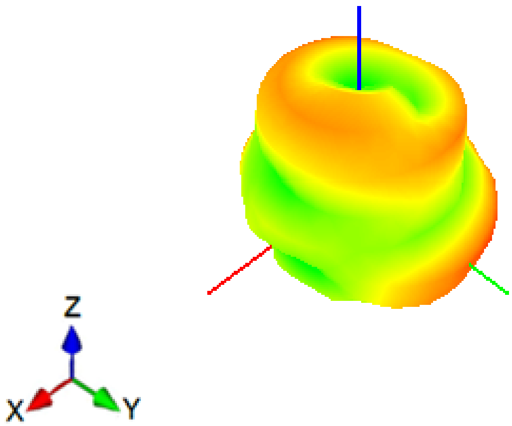
XZ Plane	YZ Plane	XY Plane



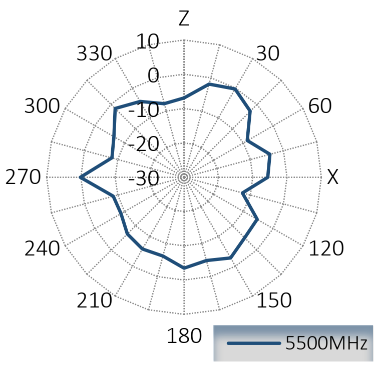


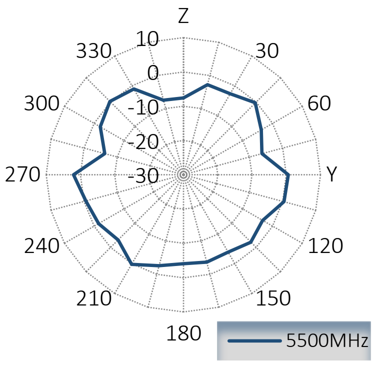


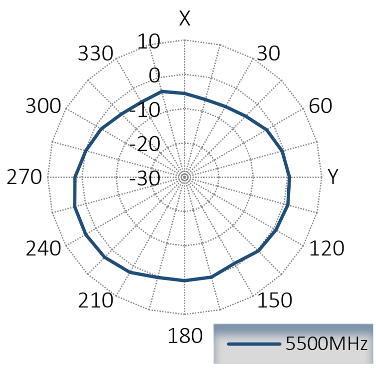
4.12 Free Space – Patterns at 5500 MHz



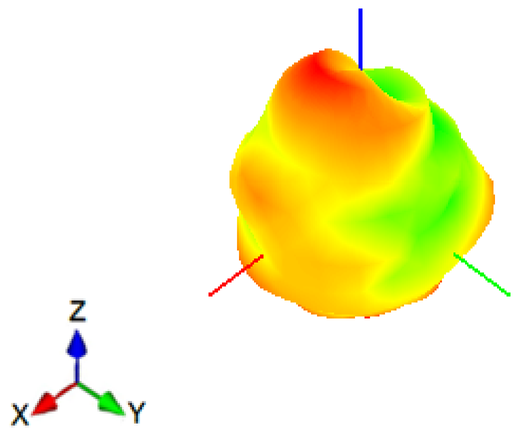
XZ Plane	YZ Plane	XY Plane

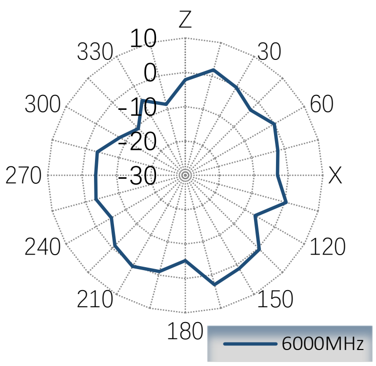
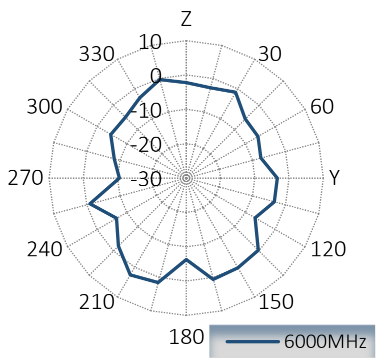
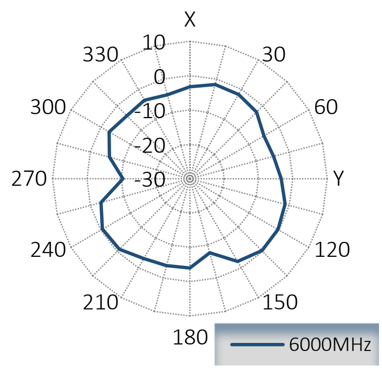




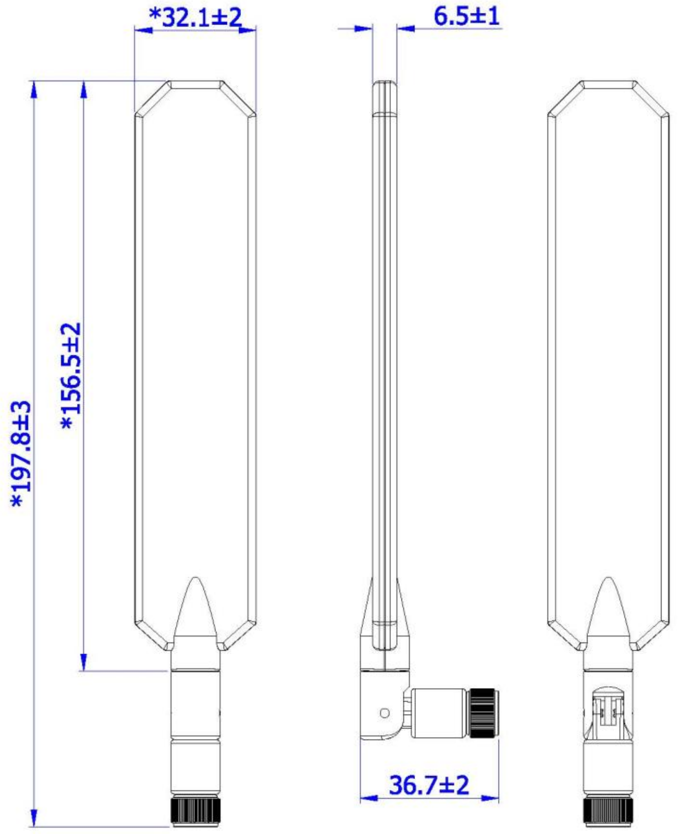


4.13 Free Space – Patterns at 6000 MHz

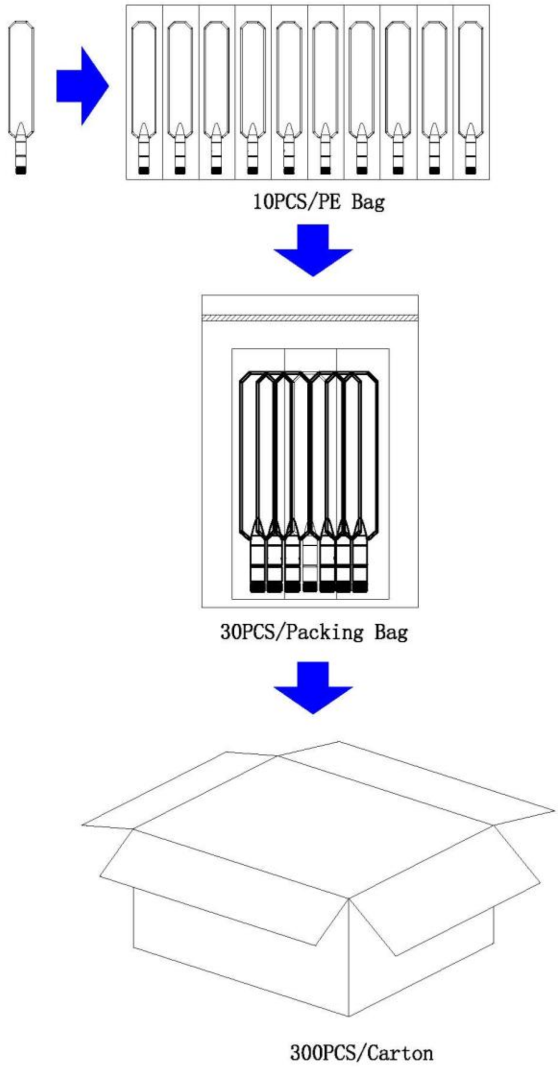


XZ Plane	YZ Plane	XY Plane
		

5. Mechanical Drawing



6. Packaging



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