



Product Name: Magnetic Mount Whip Antenna

Part Number: MW-1B-A-C01

Feature:

- Covering LTE full Bands, 698-960MHz, 1710-3800MHz
- Magnetic Mount
- Connector: SMA Male

Application:

- IoT Device Application
- Smart Community Application
- Smart Home - Connected Enterprise



Magnetic Mount Whip Antenna

MODEL: MW-1B-A-C01

WI-RD-D-186 V1.1

I. Specifications:

Category		LTE Specifications						
Application Band	LTE 700	GSM 850/900	DCS	PCS	UMTS1	LTE2600	5G NR Band	
Frequency (MHz)	698 ~ 824	824 ~ 960	1710 ~ 1880	1850 ~ 1990	1920 ~ 2170	2300 ~ 2690	3300 ~ 3800	
Efficiency (%)								
Free Space	30cm	29.58	35.37	19.05	51.12	48.00	28.84	44.66
	1m	28.77	34.30	18.28	49.00	45.87	27.29	41.96
	2m	26.24	30.99	15.92	42.57	39.42	22.70	34.11
	3m	23.93	27.99	13.87	36.98	33.87	18.88	27.73
	5m	19.90	22.84	10.52	27.91	25.01	13.06	18.32
On the 30*30cm Ground Plane	30cm	40.23	70.24	21.22	49.23	44.75	30.61	45.93
	1m	39.13	68.13	20.36	47.19	42.76	28.96	43.16
	2m	35.69	61.54	17.73	41.00	36.75	24.09	35.09
	3m	32.55	55.59	15.44	35.62	31.58	20.04	28.52
	5m	27.07	45.36	11.72	26.88	23.32	13.86	18.84
Average Gain (dBi)								
Free Space	30cm	-5.29	-4.51	-7.20	-2.91	-3.19	-5.40	-3.50
	1m	-5.41	-4.65	-7.38	-3.10	-3.39	-5.64	-3.77
	2m	-5.81	-5.09	-7.98	-3.71	-4.04	-6.44	-4.67
	3m	-6.21	-5.53	-8.58	-4.32	-4.70	-7.24	-5.57
	5m	-7.01	-6.41	-9.78	-5.54	-6.02	-8.84	-7.37
On the 30*30cm Ground Plane	30cm	-3.95	-1.53	-6.73	-3.08	-3.49	-5.14	-3.38
	1m	-4.07	-1.67	-6.91	-3.26	-3.69	-5.38	-3.65
	2m	-4.47	-2.11	-7.51	-3.87	-4.35	-6.18	-4.55
	3m	-4.87	-2.55	-8.11	-4.48	-5.01	-6.98	-5.45

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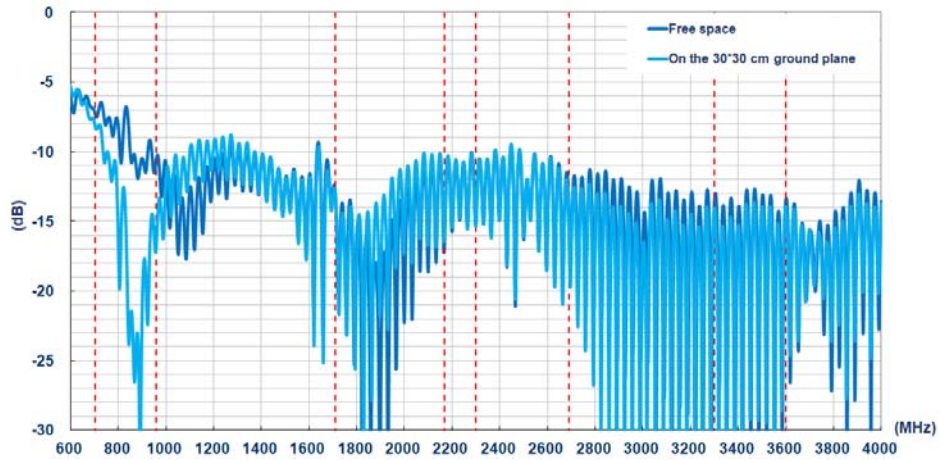


	5m	-5.67	-3.43	-9.31	-5.71	-6.32	-8.58	-7.25
Peak Gain (dBi)								
Free Space	30cm	0.16	1.69	0.02	3.11	3.11	0.48	1.96
	1m	0.04	1.54	-0.16	2.90	2.90	0.24	1.69
	2m	-0.36	1.04	-0.76	2.30	2.30	-0.56	0.79
	3m	-0.76	0.54	-1.36	1.70	1.70	-1.36	-0.11
	5m	-1.56	-0.46	-2.56	0.50	0.50	-2.96	-1.91
On the 30*30cm Ground Plane	30cm	1.93	4.08	2.24	3.00	3.00	2.26	5.67
	1m	1.81	3.93	2.06	2.79	2.79	2.02	5.40
	2m	1.41	3.43	1.46	2.10	2.10	1.22	4.50
	3m	1.01	2.93	0.86	1.50	1.50	0.42	3.60
	5m	0.21	1.93	-0.34	0.30	0.30	-1.18	1.80
Impedance	50 Ω							
V.S.W.R	< 3							
Return Loss (dB)	< -6							
Test Condition	30 x 30 cm (Ground Plane)							
Polarization	Linear							
Physical Properties								
Dimension	116 (L) mm, φ29.5 mm Base							
Cable & Length	RG174_1 meter							
Connector	SMA Male							
Environmental Conditions								
Operating Temperature	-40 ~ +85 °C							
Storage Temperature	-40 ~ +85 °C							
Relative Humidity	95% non-condensing							



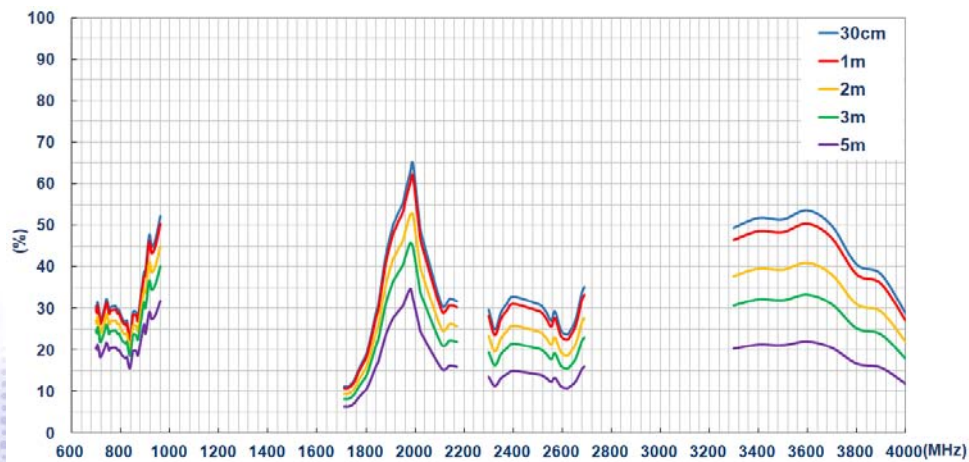
II. Antenna Technical Parameters:

S11-parameters (dB)

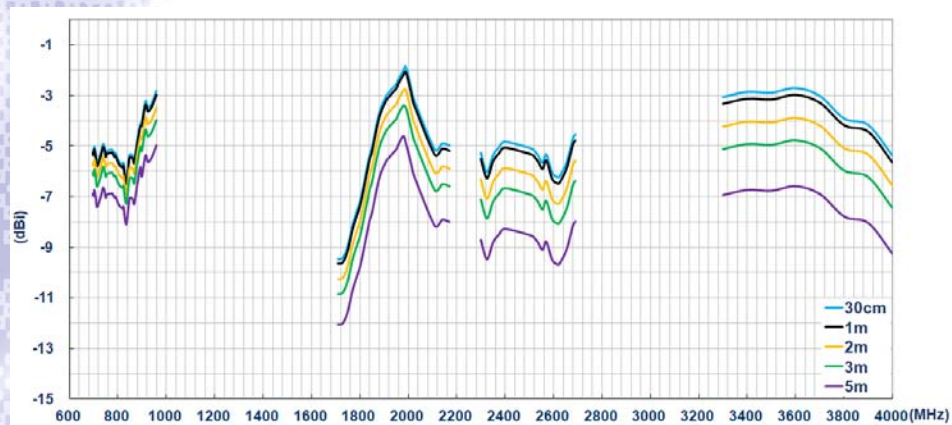


Free Space

Efficiency (%)



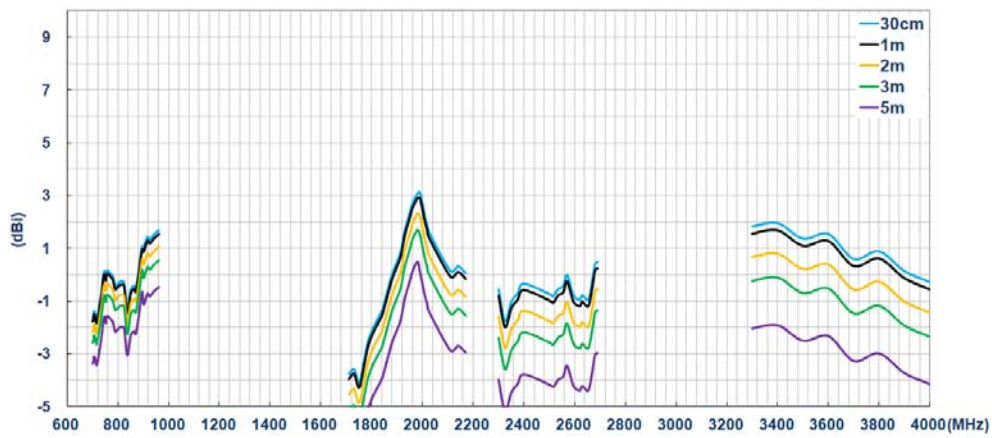
Average Gain (dBi)



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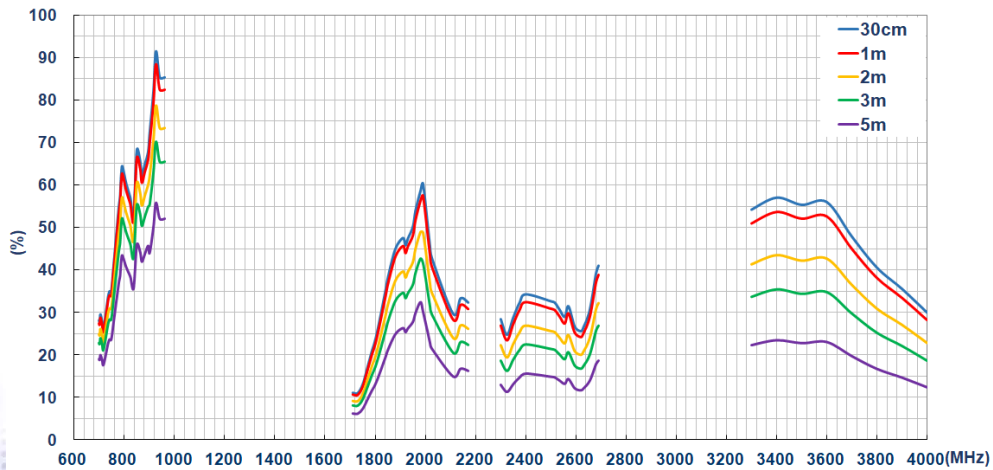


Peak Gain (dBi)

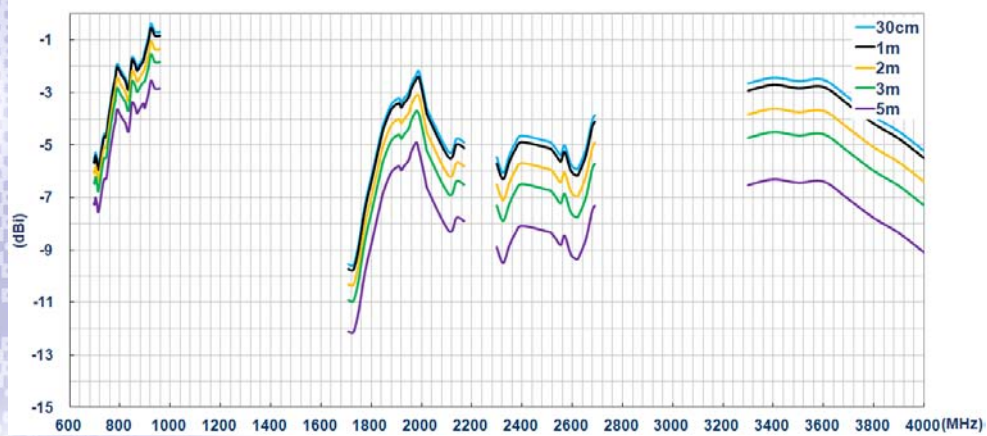


On the 30*30cm Ground Plane

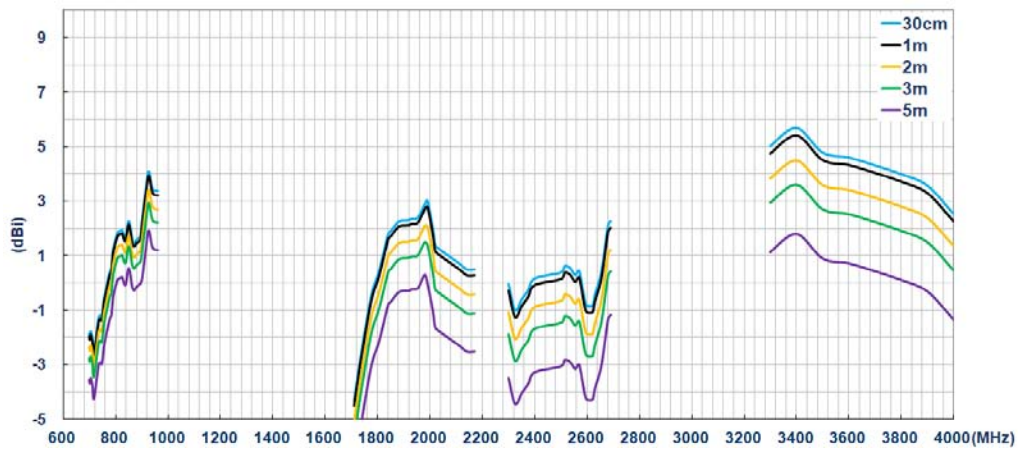
Efficiency (%)



Average Gain (dBi)



Peak Gain (dBi)

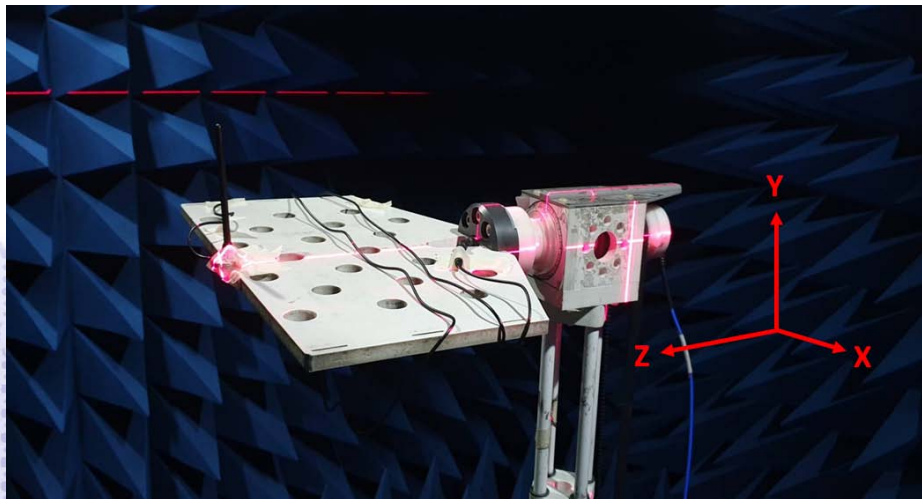


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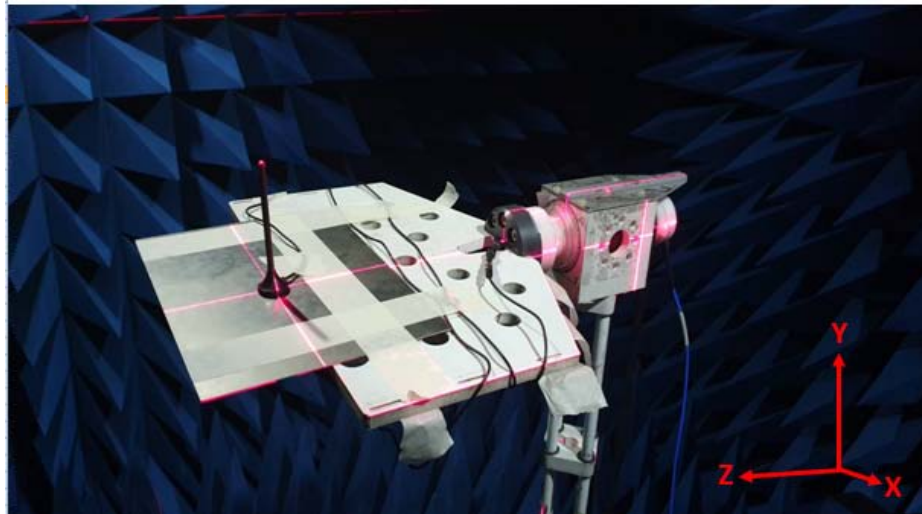
III. Antenna Radiation Pattern Measurement:

The antenna radiation patterns were measured in certified Anechoic Chamber. The measurement setup as below,

Free Space



On the 30*30cm Ground Plane

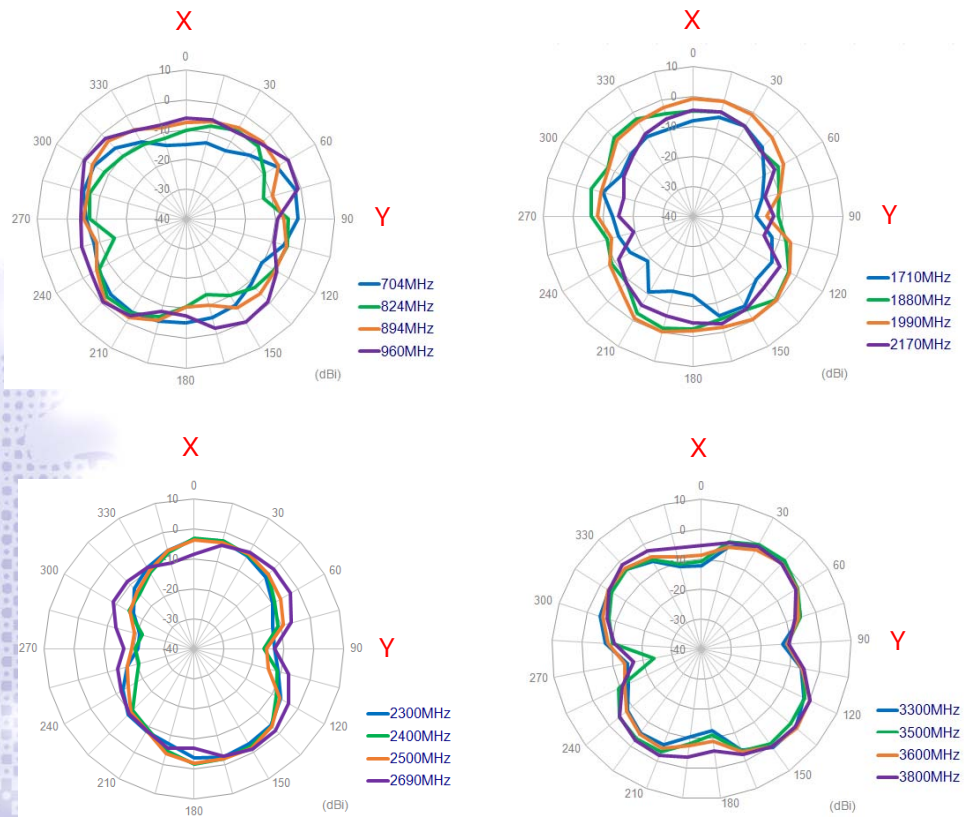


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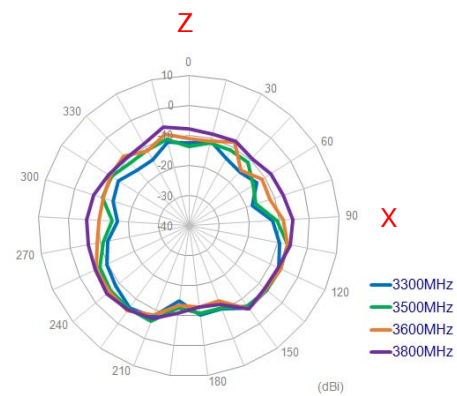
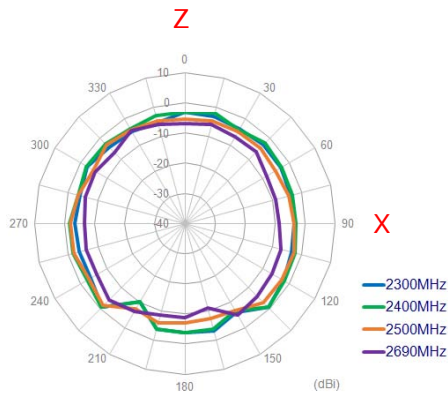
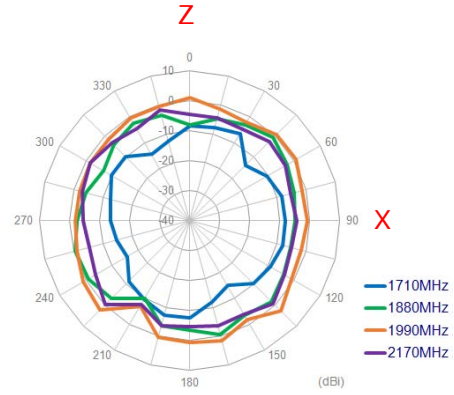
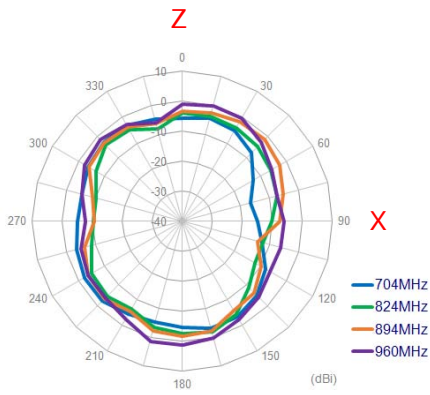
IV. 2D Radiation Pattern:

Free Space

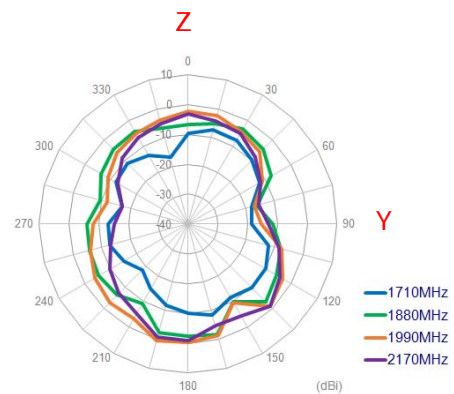
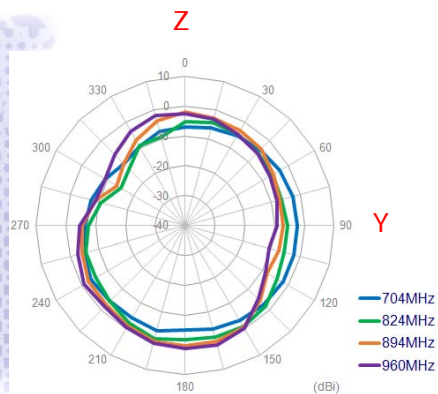
X-Y plane



X-Z plane

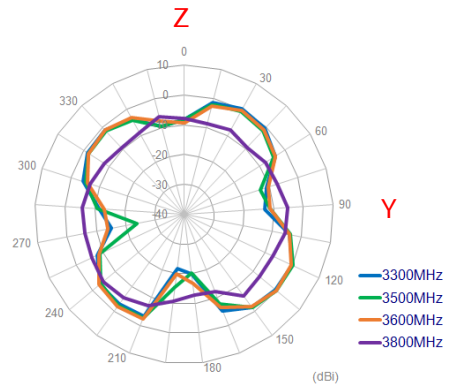
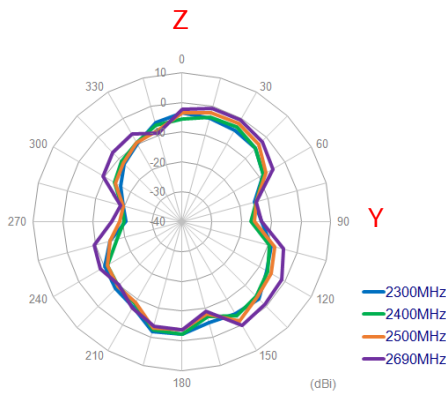


Y-Z plane



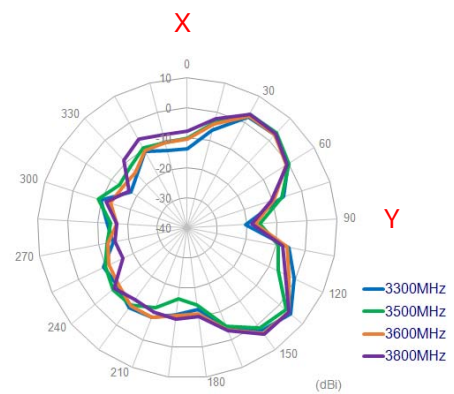
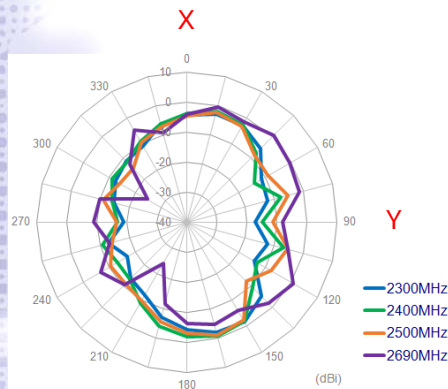
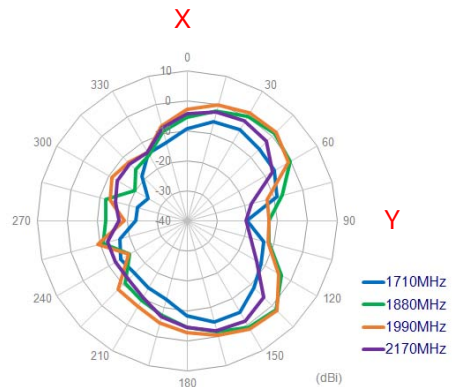
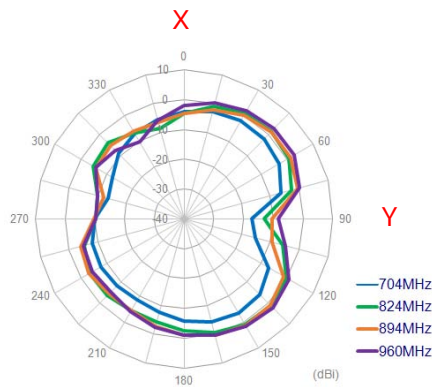
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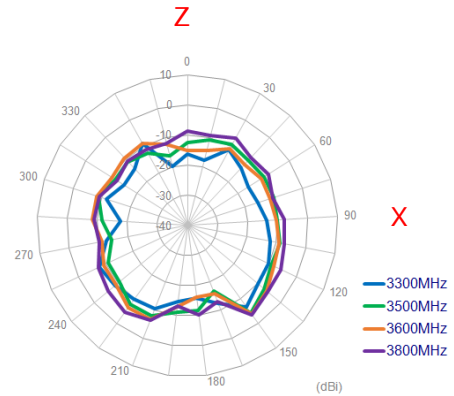
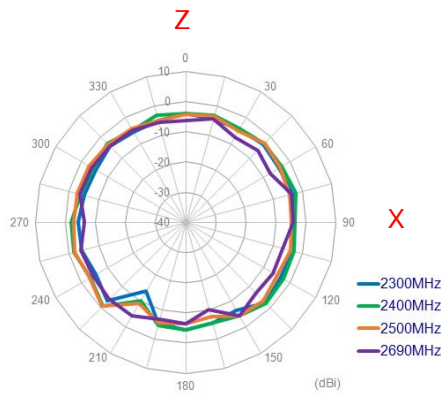
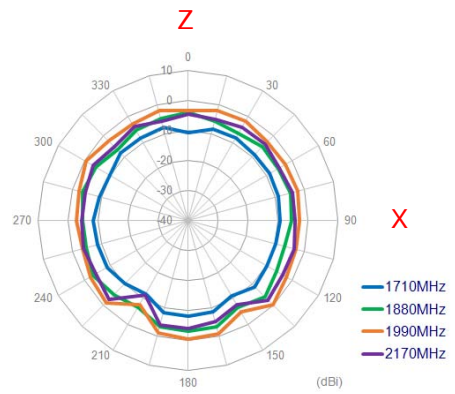
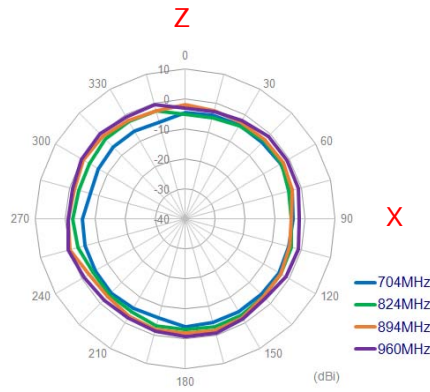


On the 30*30cm Ground Plane

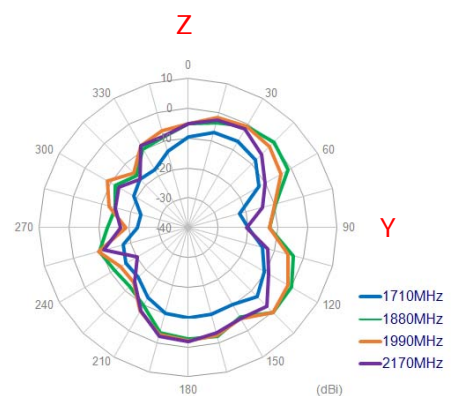
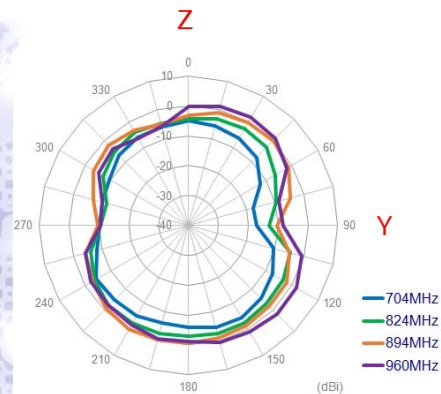
X-Y plane



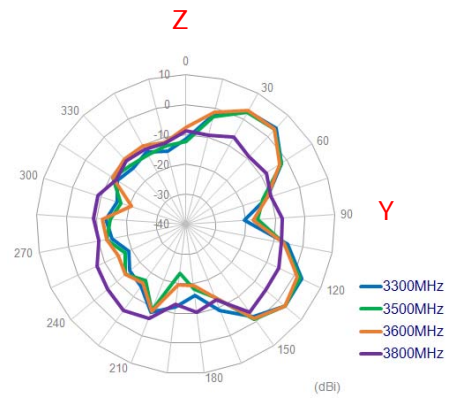
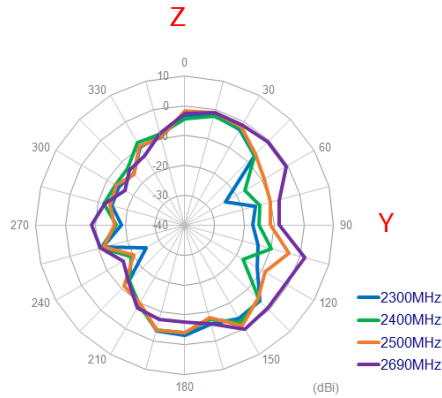
X-Z plane



Y-Z plane

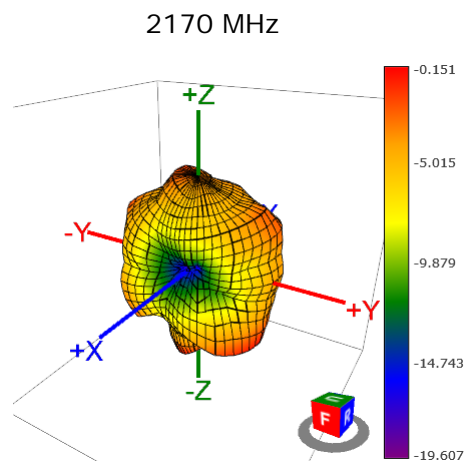
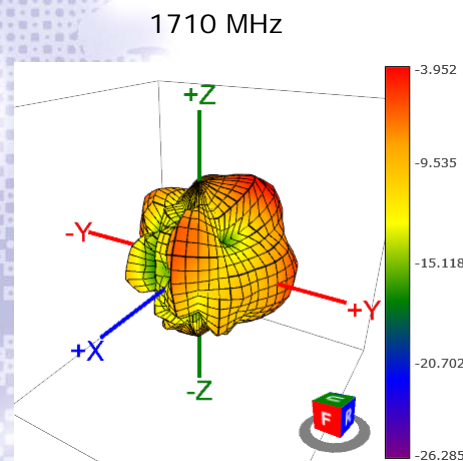
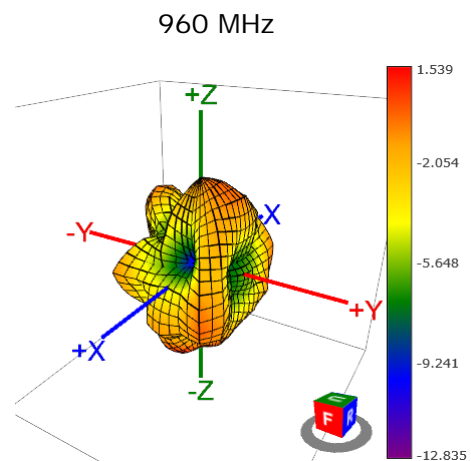
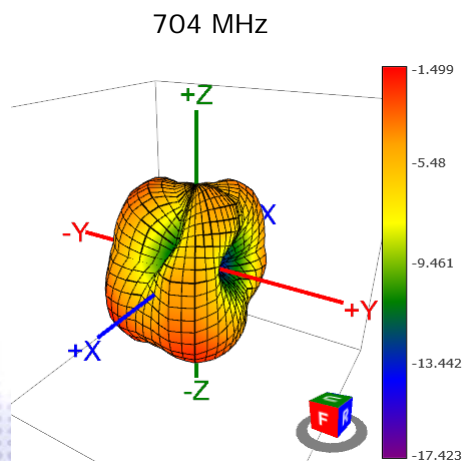


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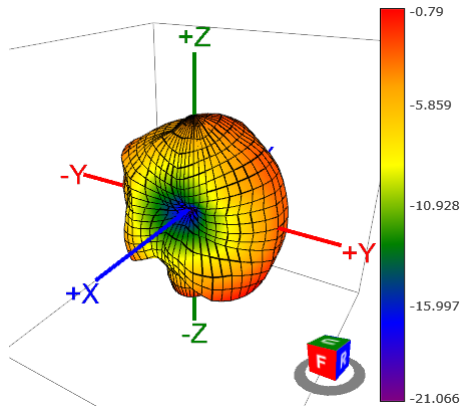


V. 3D Radiation Pattern:

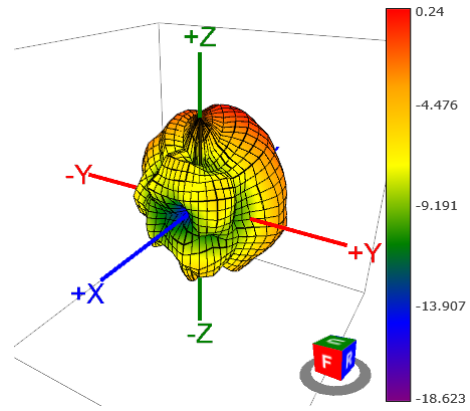
Free Space



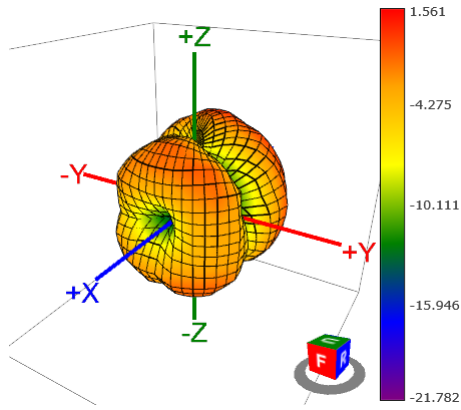
2300 MHz



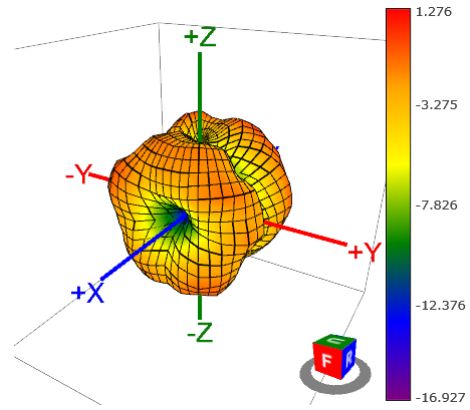
2690 MHz



3300 MHz

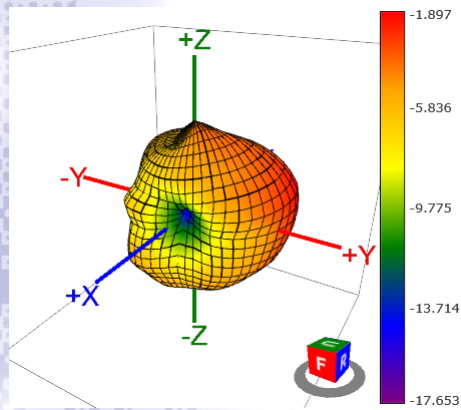


3800 MHz

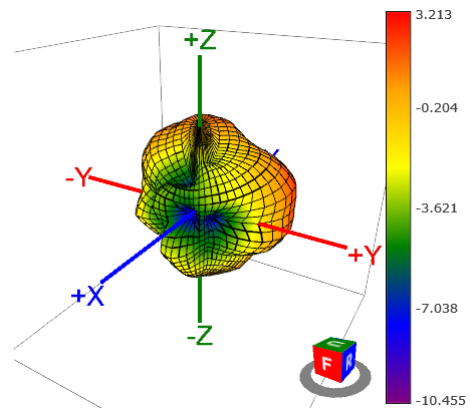


On the 30*30cm Ground Plane

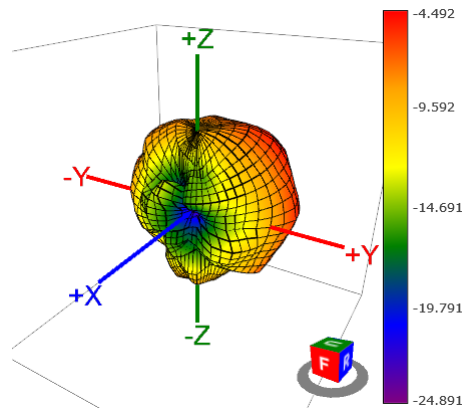
704 MHz



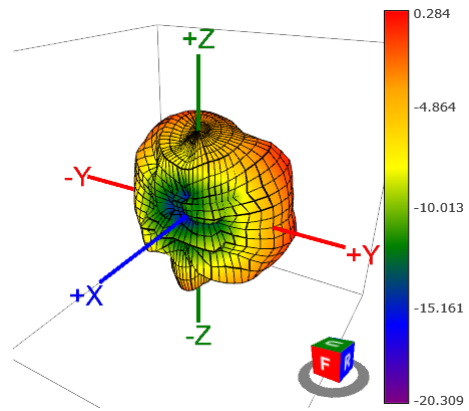
960 MHz



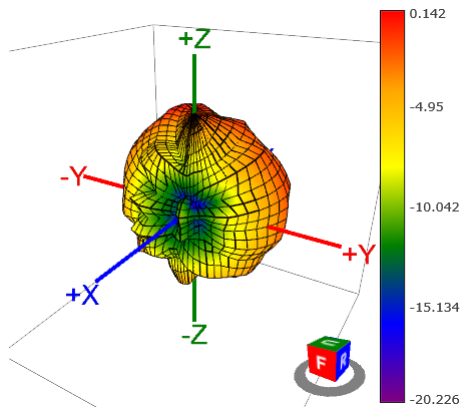
1710 MHz



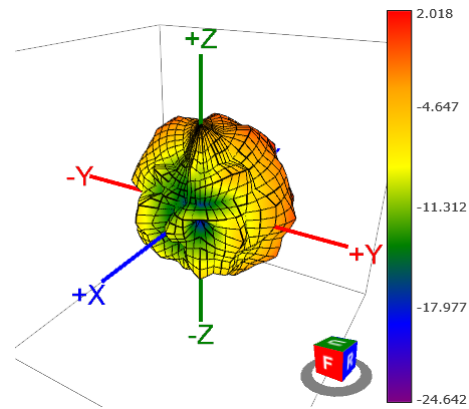
2170 MHz



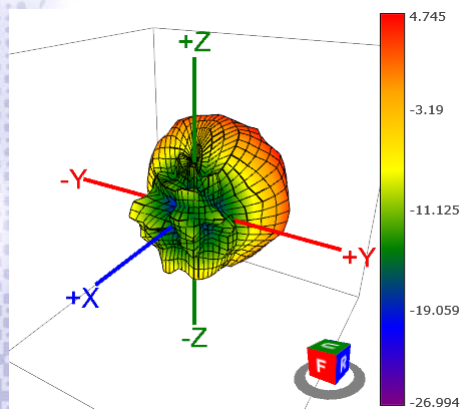
2300 MHz



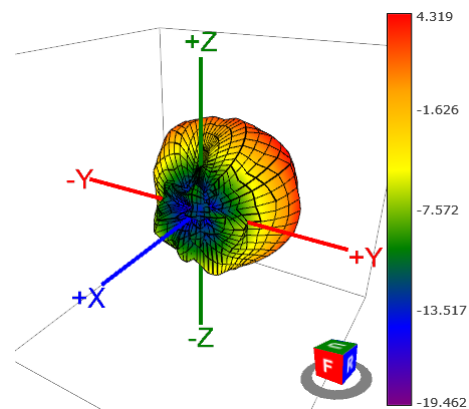
2690 MHz



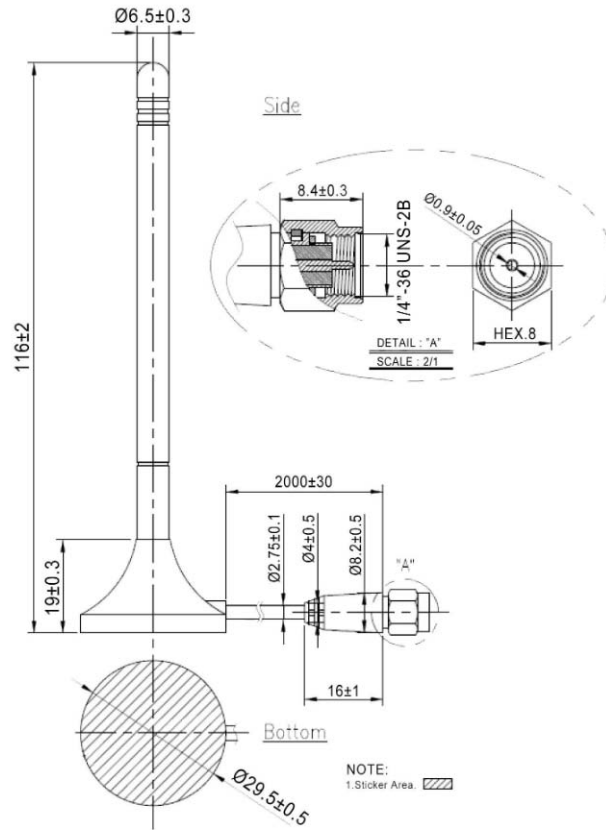
3300 MHz



3800 MHz



VI. Mechanical Drawing (Unit:mm):



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