



Product Name: Magnetic Mount Whip Antenna

Part Number: MW-2B-A-C01

Feature:

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

Application:

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



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Magnetic Mount Whip Antenna

MODEL: MW-2B-A-C01

WI-RD-D-187 V1.1

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I. Specifications:

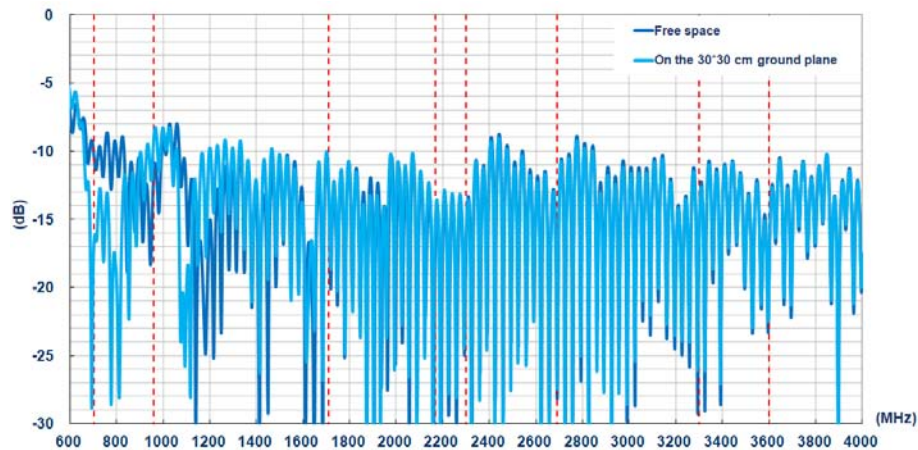
Category		LTE Specifications						
Application Band		LTE 700	GSM 850/900	DCS	PCS	UMTS1	LTE2600	5G NR Band
Frequency (MHz)		698 ~ 824	824 ~ 960	1710 ~ 1880	1850 ~ 1990	1920 ~ 2170	2300 ~ 2690	3300 ~ 3800
Efficiency (%)								
Free Space	30cm	36.98	59.88	42.30	44.15	39.10	23.47	26.17
	1m	35.97	58.08	40.58	42.32	37.36	22.20	24.60
	2m	32.81	52.46	35.35	36.77	32.11	18.47	19.99
	3m	29.92	47.39	30.78	31.94	27.59	15.36	16.25
	5m	24.89	38.67	23.35	24.11	20.37	10.63	10.74
On the 30*30cm Ground Plane	30cm	60.48	54.25	41.02	47.99	40.26	27.57	27.73
	1m	58.83	52.62	39.36	46.00	38.47	26.09	26.05
	2m	53.66	47.53	34.28	39.96	33.06	21.70	21.18
	3m	48.93	42.94	29.85	34.72	28.41	18.05	17.21
	5m	40.70	35.03	22.65	26.20	20.98	12.49	11.37
Average Gain (dBi)								
Free Space	30cm	-4.32	-2.23	-3.74	-3.55	-4.08	-6.30	-5.82
	1m	-4.44	-2.36	-3.92	-3.73	-4.28	-6.54	-6.09
	2m	-4.84	-2.80	-4.52	-4.35	-4.93	-7.34	-6.99
	3m	-5.24	-3.24	-5.12	-4.96	-5.59	-8.14	-7.89
	5m	-6.04	-4.13	-6.32	-6.18	-6.91	-9.74	-9.69
On the 30*30cm Ground Plane	30cm	-2.18	-2.66	-3.87	-3.19	-3.95	-5.60	-5.57
	1m	-2.30	-2.79	-4.05	-3.37	-4.15	-5.84	-5.84
	2m	-2.70	-3.23	-4.65	-3.98	-4.81	-6.64	-6.74
	3m	-3.10	-3.67	-5.25	-4.59	-5.47	-7.44	-7.64

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	5m	-3.90	-4.56	-6.45	-5.82	-6.78	-9.04	-9.44
Peak Gain (dBi)								
Free Space	30cm	1.60	5.09	2.34	3.36	3.36	3.33	2.81
	1m	1.48	4.94	2.16	3.18	3.18	3.09	2.54
	2m	1.08	4.44	1.56	2.58	2.58	2.29	1.64
	3m	0.68	3.94	0.96	1.98	1.98	1.49	0.74
	5m	-0.12	2.94	-0.24	0.78	0.78	-0.11	-1.06
On the 30*30cm Ground Plane	30cm	3.11	2.13	3.52	3.69	3.69	3.86	3.15
	1m	2.99	1.98	3.34	3.51	3.51	3.62	2.88
	2m	2.59	1.48	2.74	2.91	2.91	2.82	1.98
	3m	2.19	0.98	2.14	2.31	2.31	2.02	1.08
	5m	1.39	-0.01	0.94	1.11	1.11	0.42	-0.72
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		288(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						

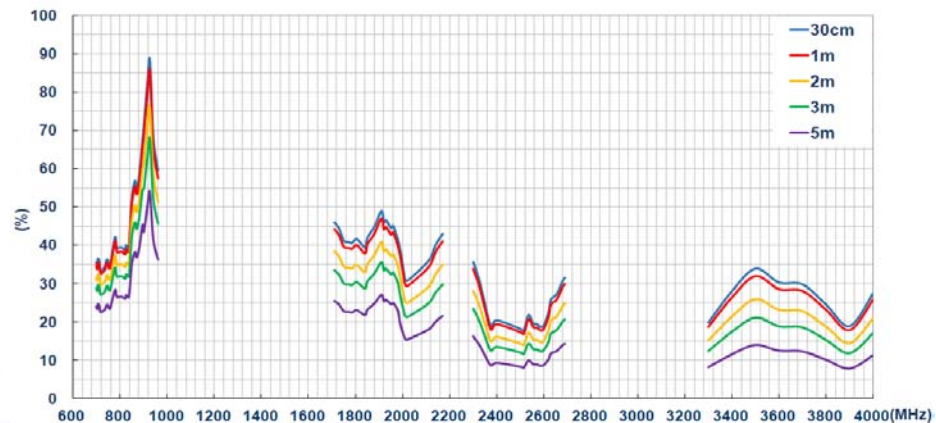
II. Antenna Technical Parameters:

S11-parameters (dB)

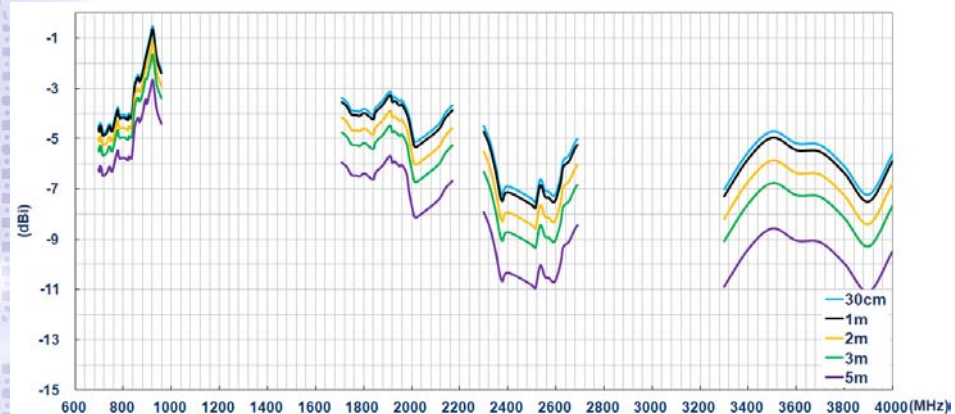


Free Space

Efficiency (%)

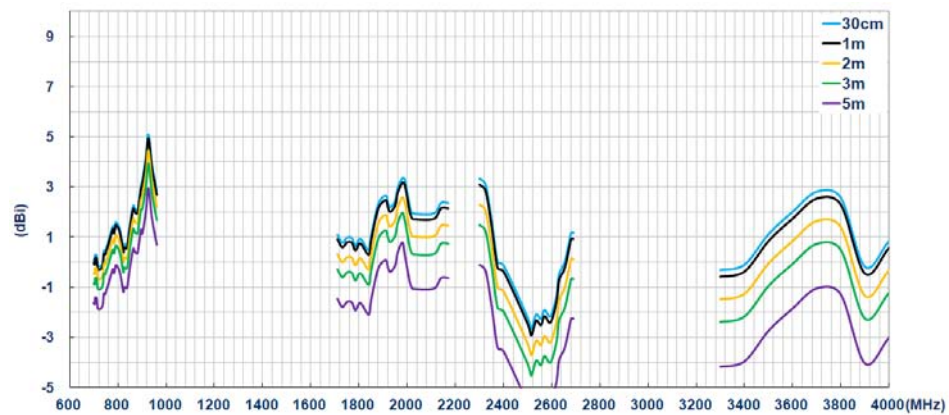


Average Gain (dBi)



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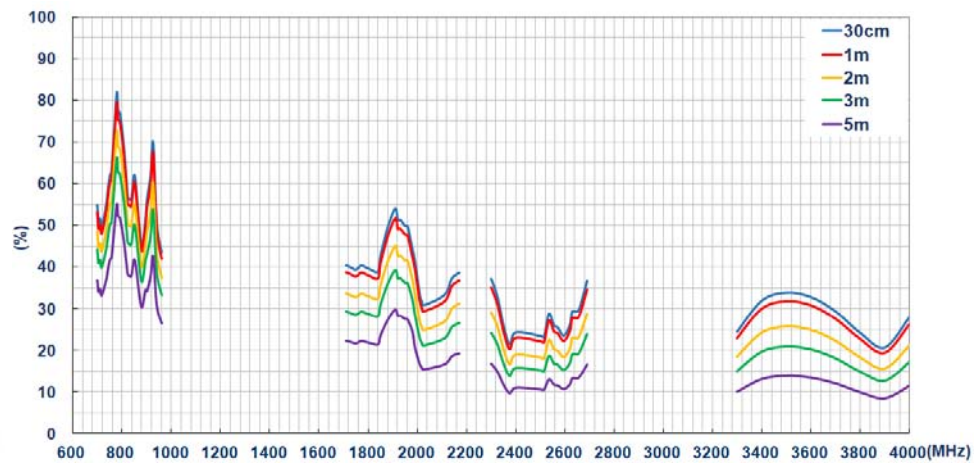
Peak Gain (dBi)



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On the 30*30cm Ground Plane

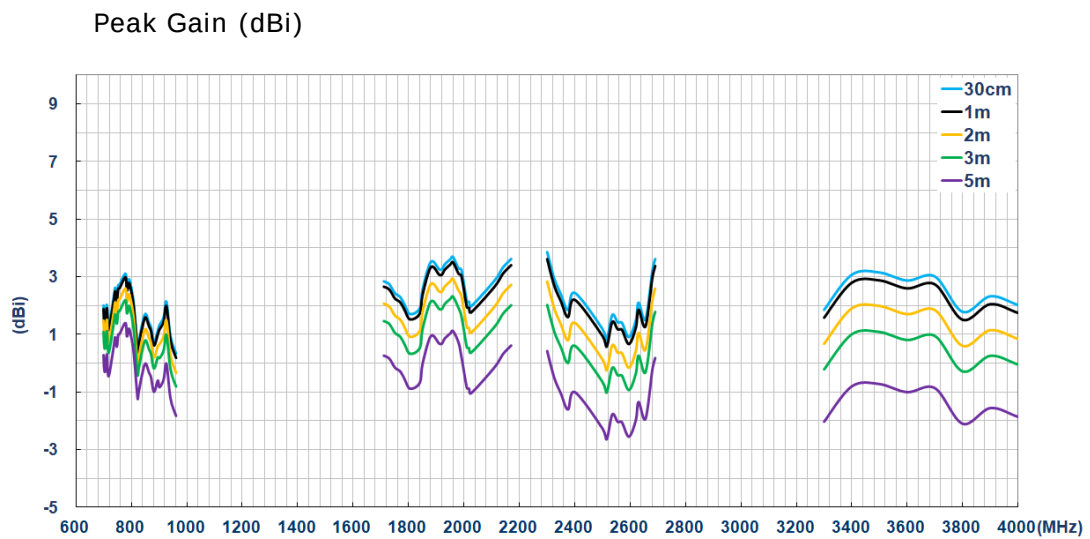
Efficiency (%)



Average Gain (dBi)



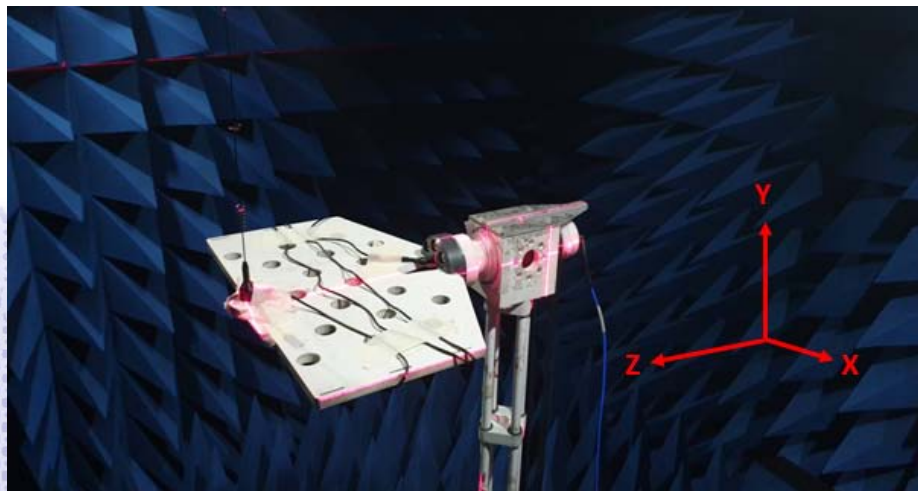
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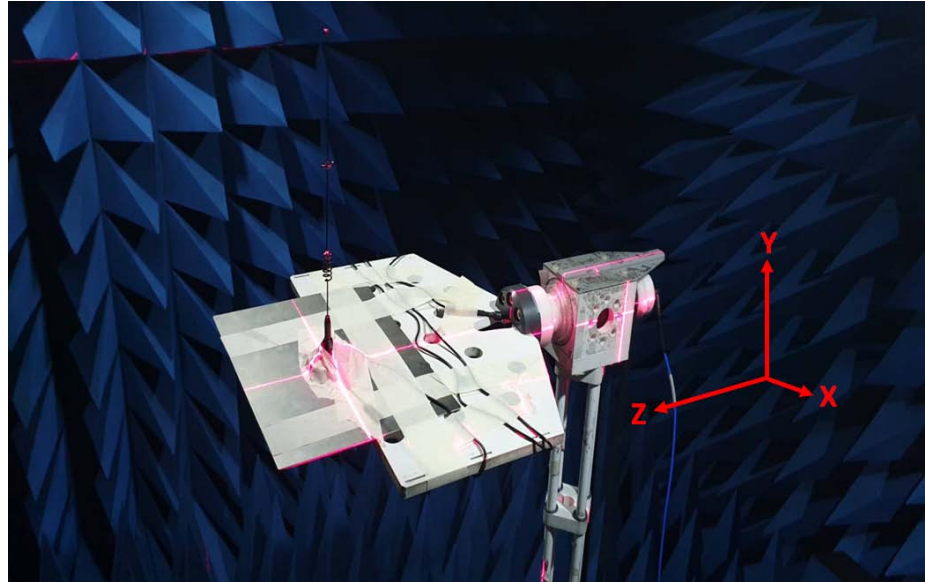
III. Antenna Radiation Pattern Measurement:

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

Free Space



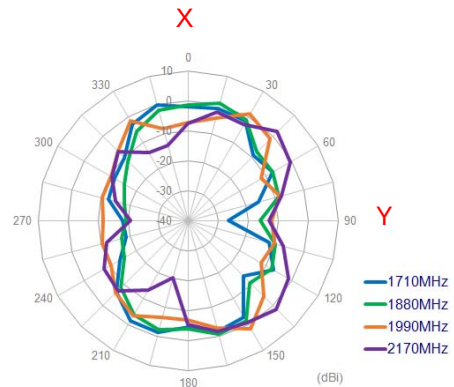
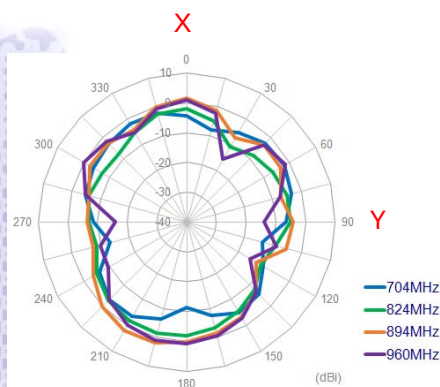
On the 30*30cm Ground Plane



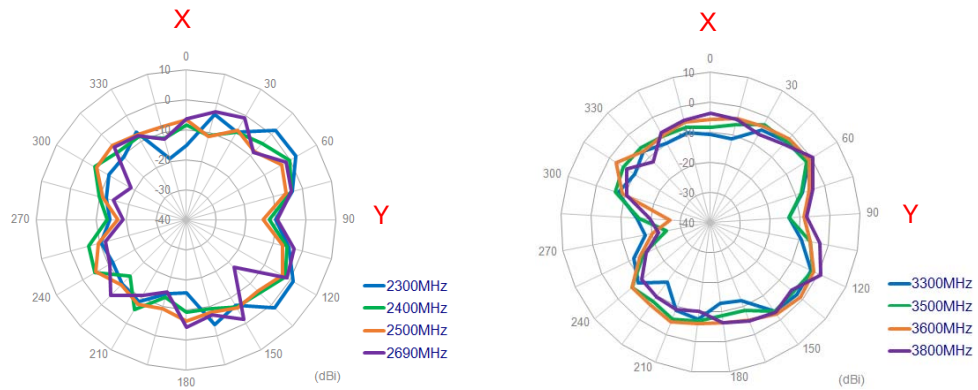
IV. 2D Radiation Pattern:

Free Space

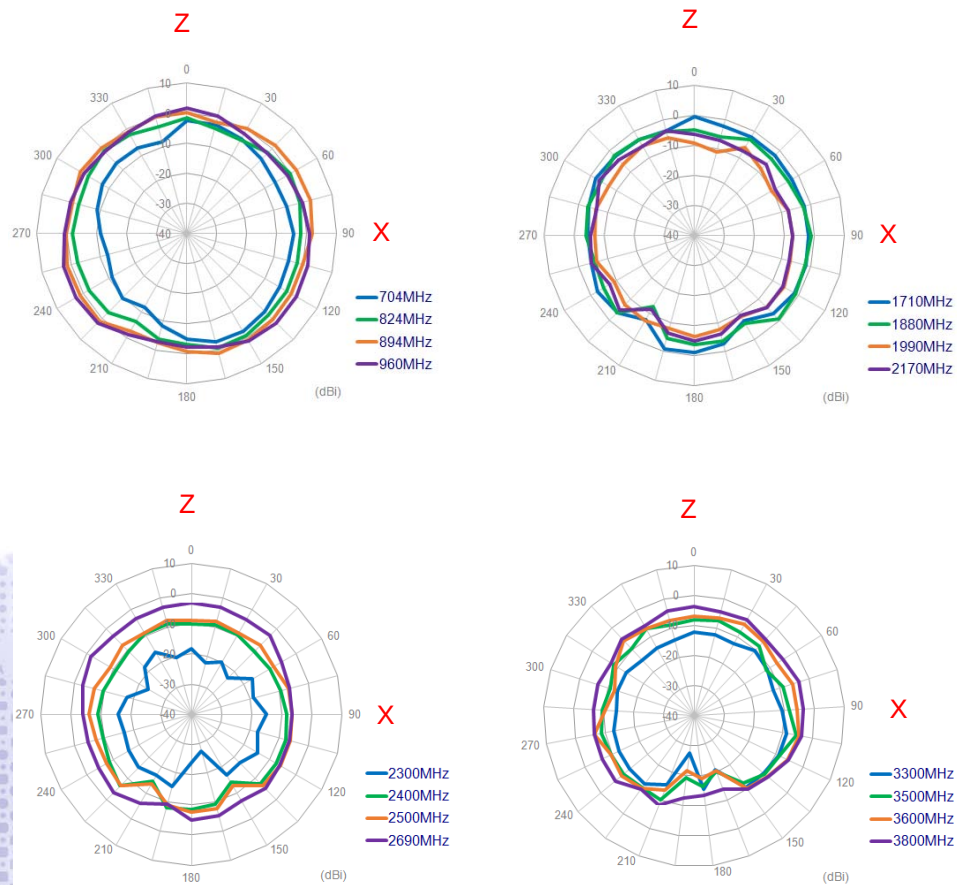
X-Y plane



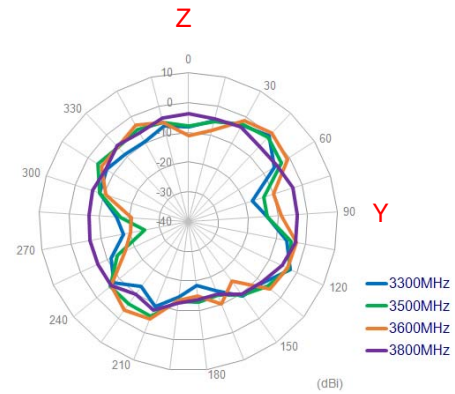
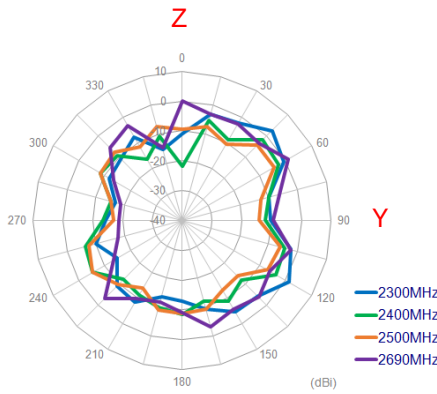
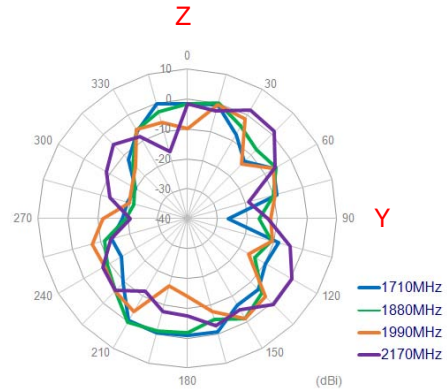
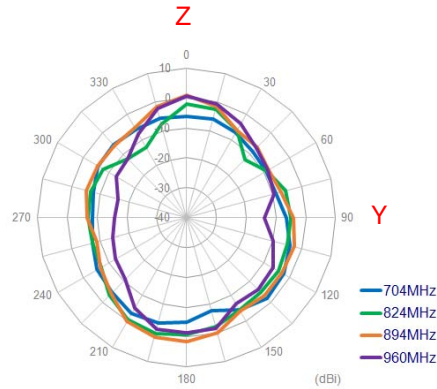
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X-Z plane

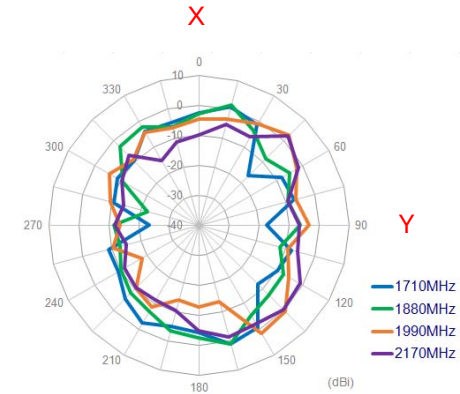
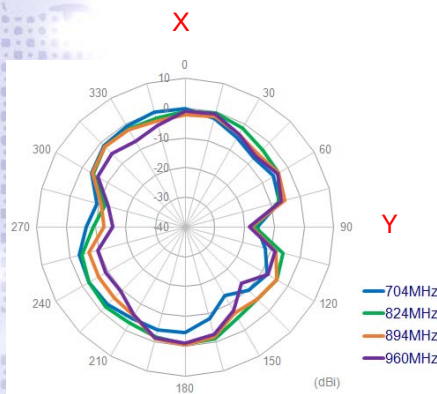


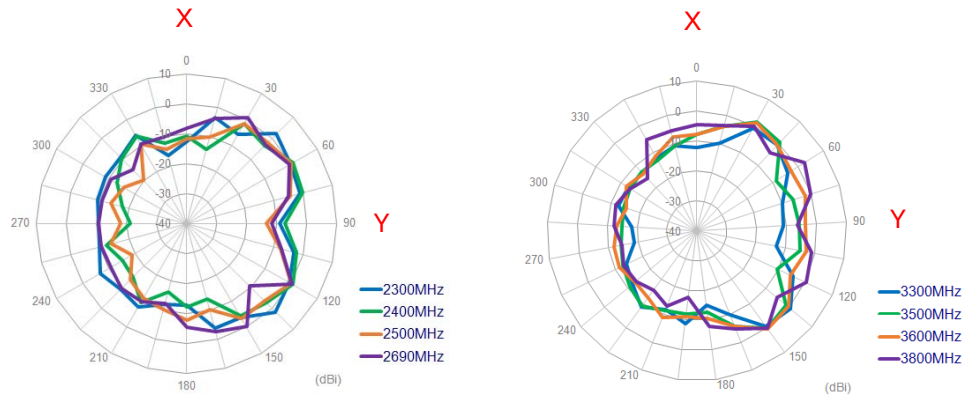
Y-Z plane



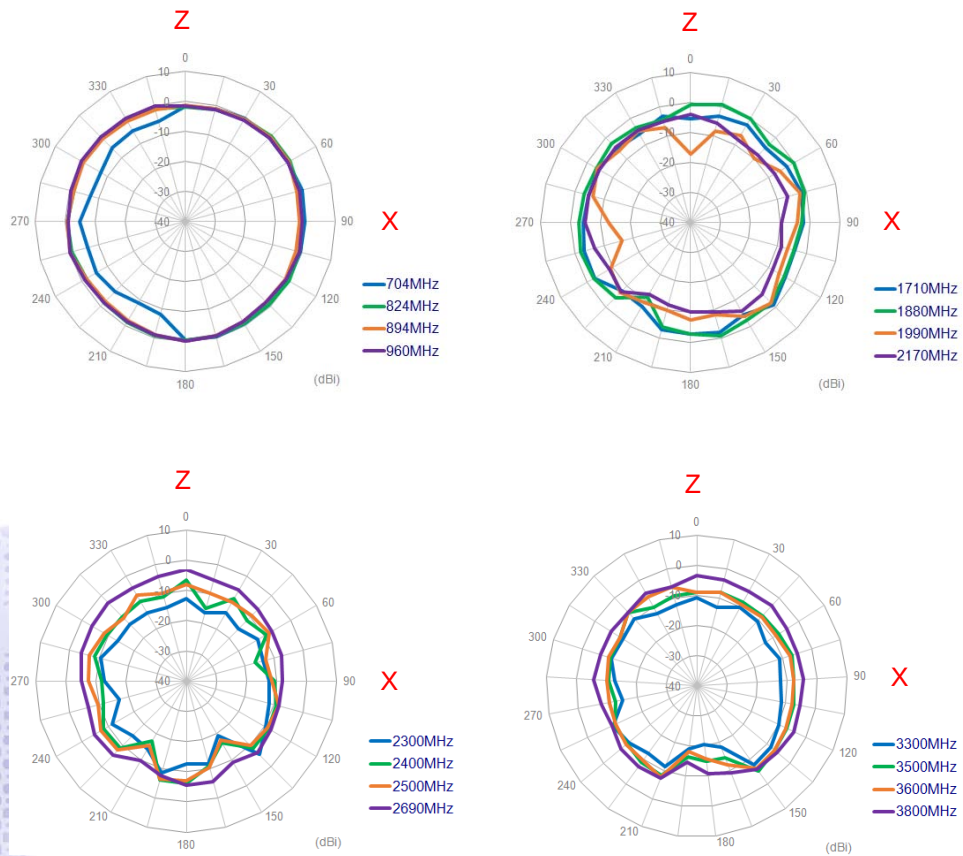
On the 30*30cm Ground Plane

X-Y plane

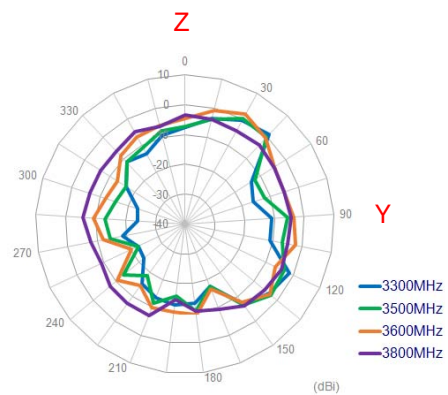
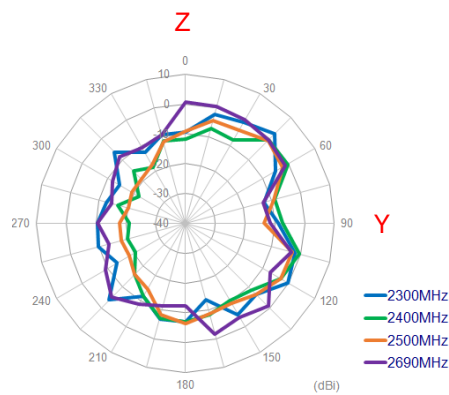
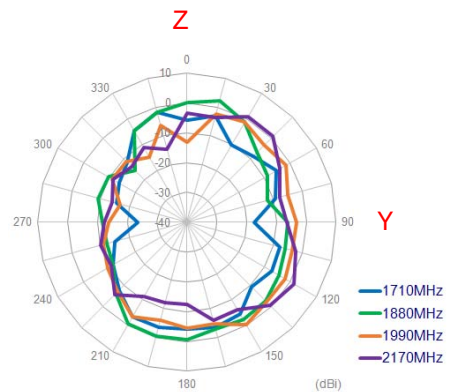
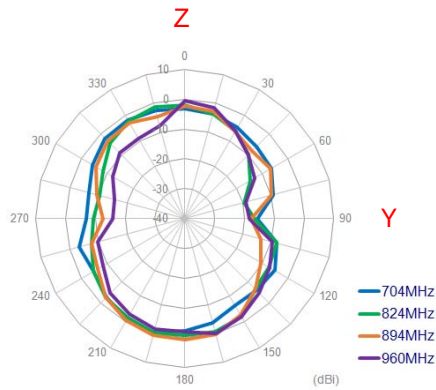




X-Z plane



Y-Z plane

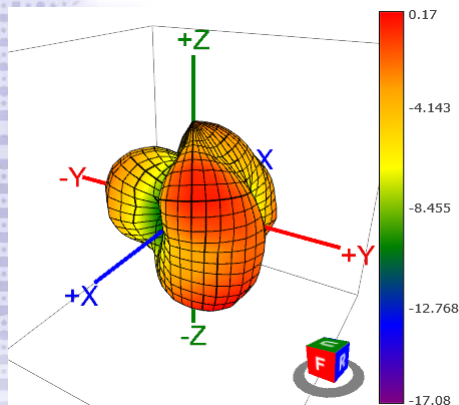


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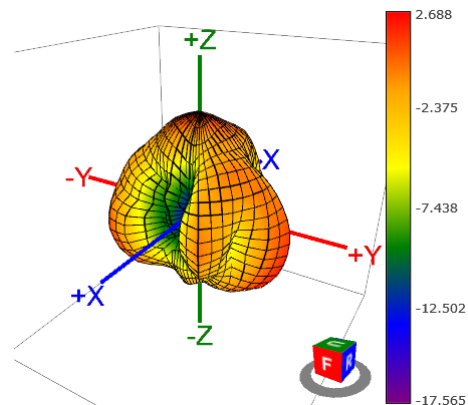
V. 3D Radiation Pattern:

Free Space

704 MHz

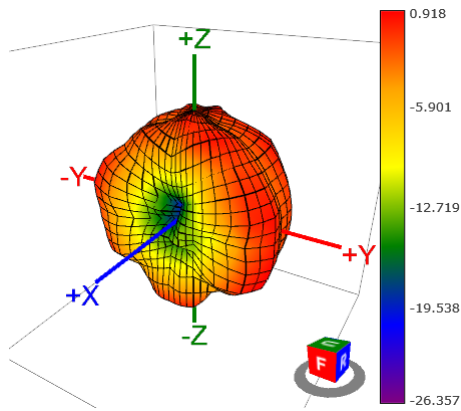


960 MHz

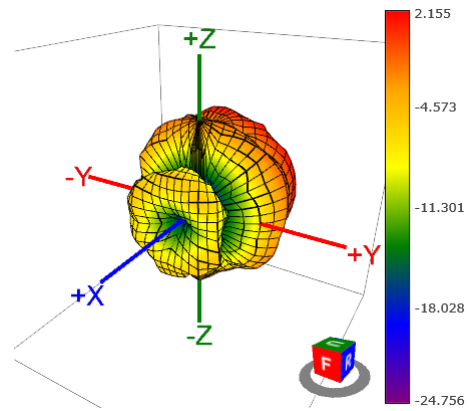


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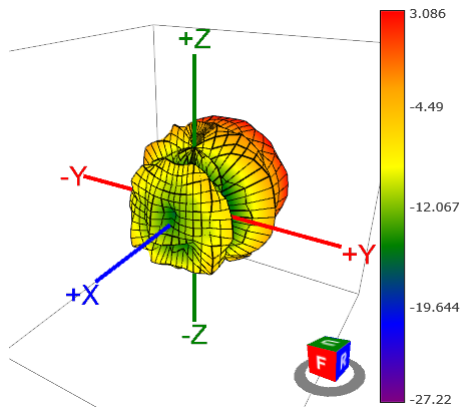
1710 MHz



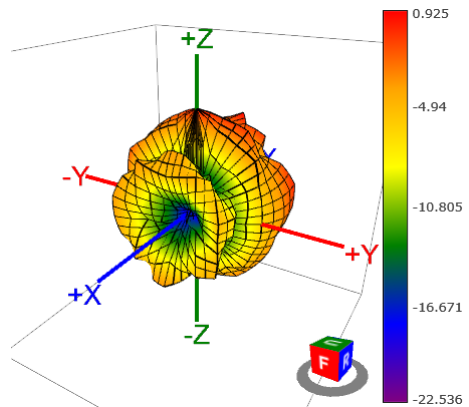
2170 MHz



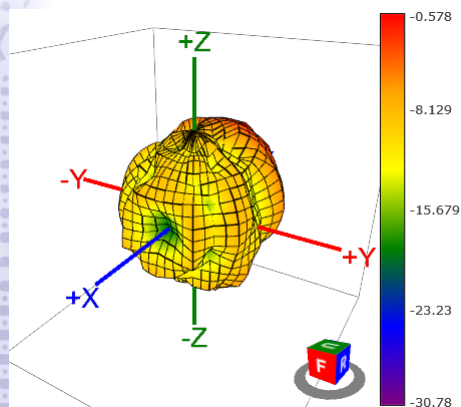
2300 MHz



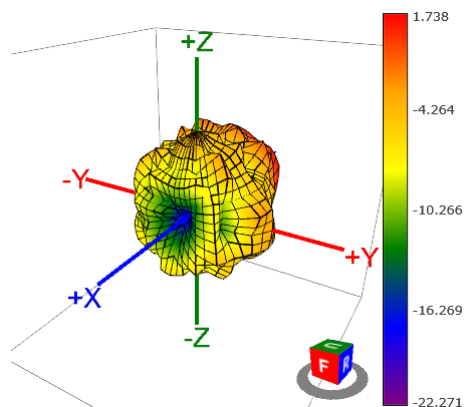
2690 MHz



3300 MHz



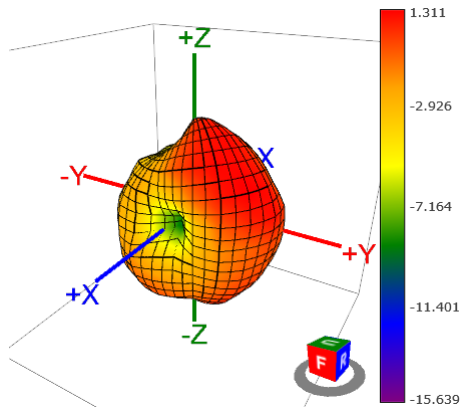
3800 MHz



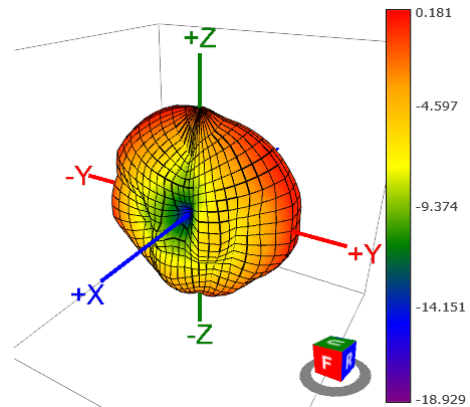
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On the 30*30cm Ground Plane

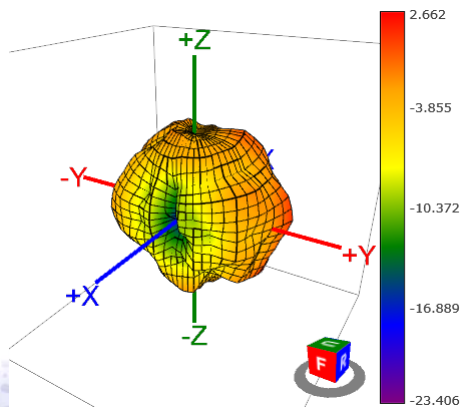
704 MHz



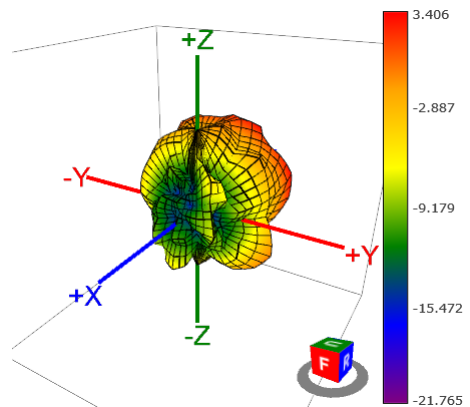
960 MHz



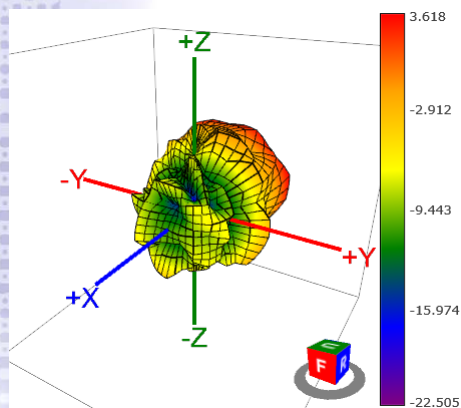
1710 MHz



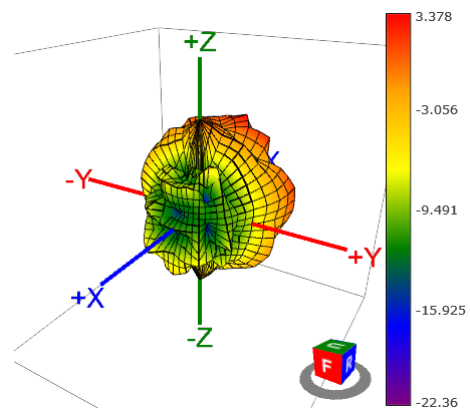
2170 MHz



2300 MHz

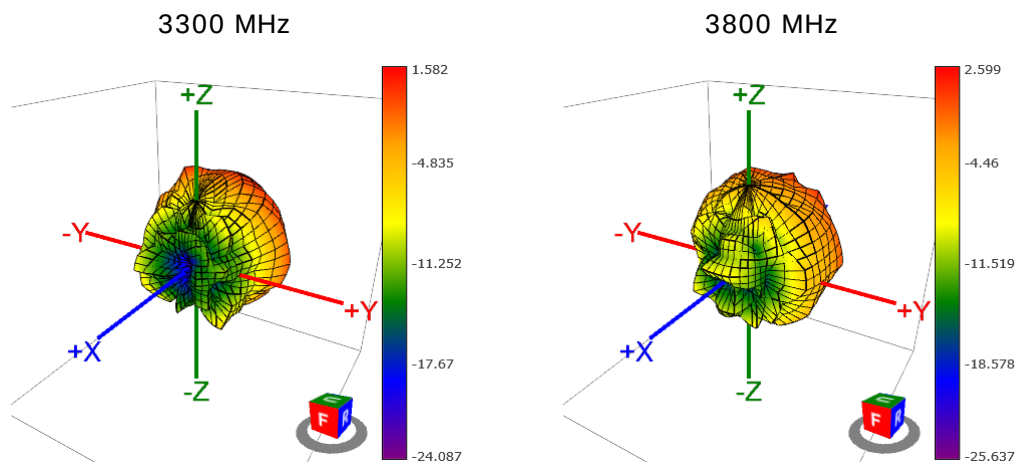


2690 MHz



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VI. Mechanical Drawing (Unit:mm):

