

KTC

HG-P1 Screen Cast Device - Antenna Debugging Report V2 (DVT)

**Electrical Department
20250923**

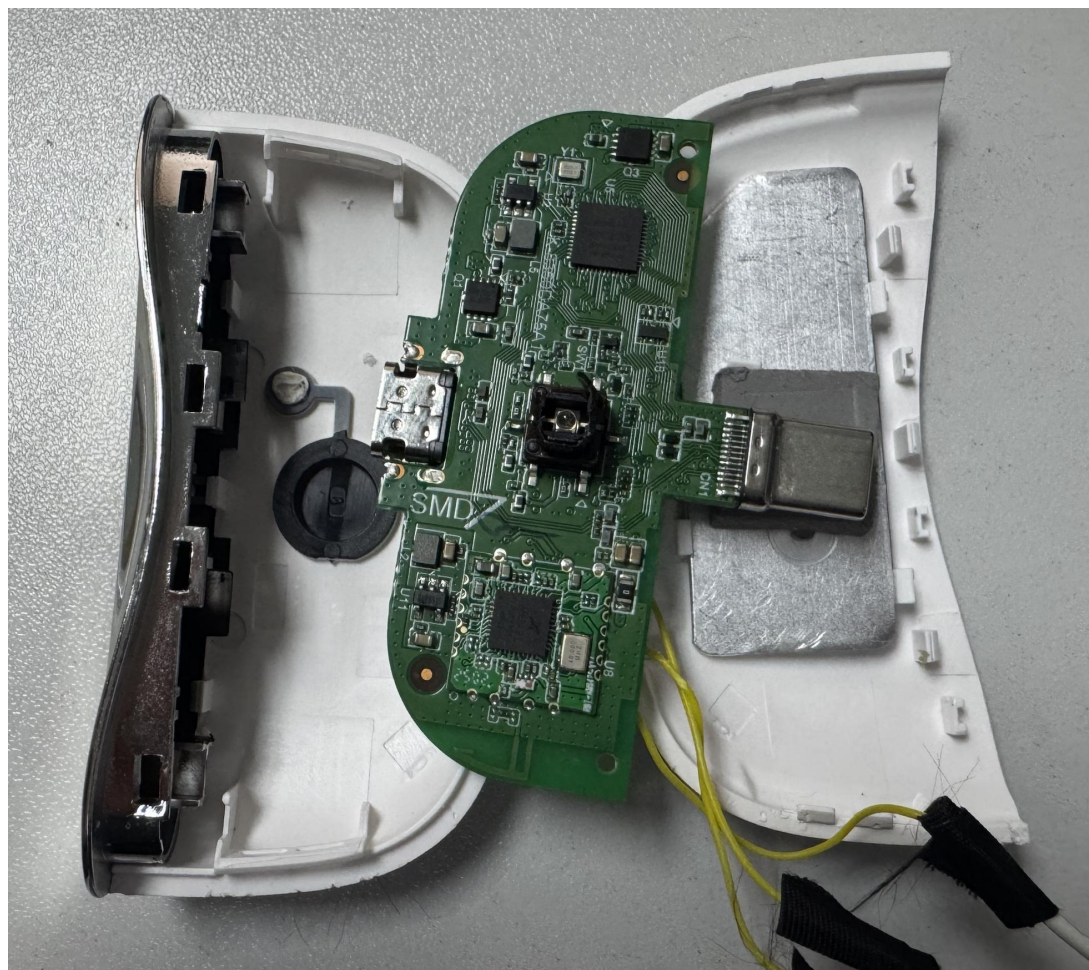
I System Environment & Antennas

II Antenna Performance

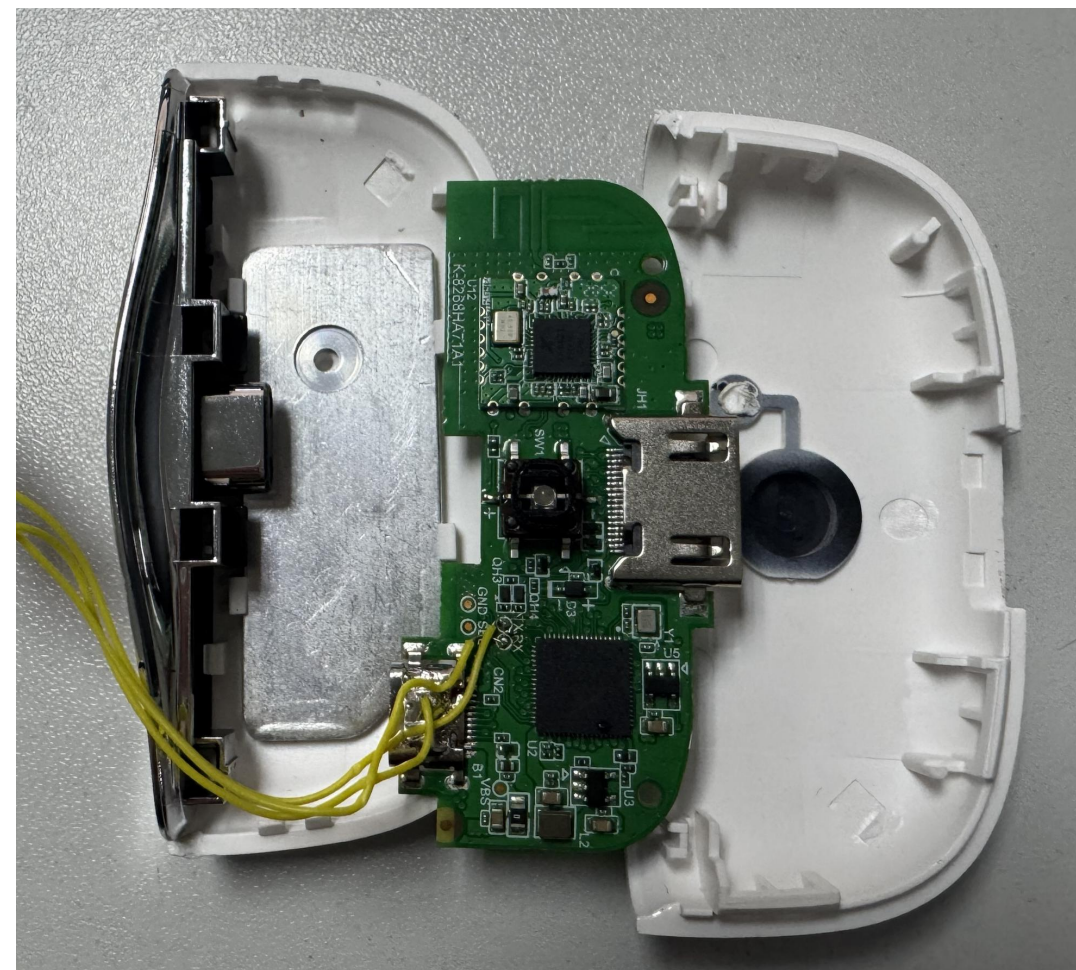
III Summary

I System Environment & Antennas

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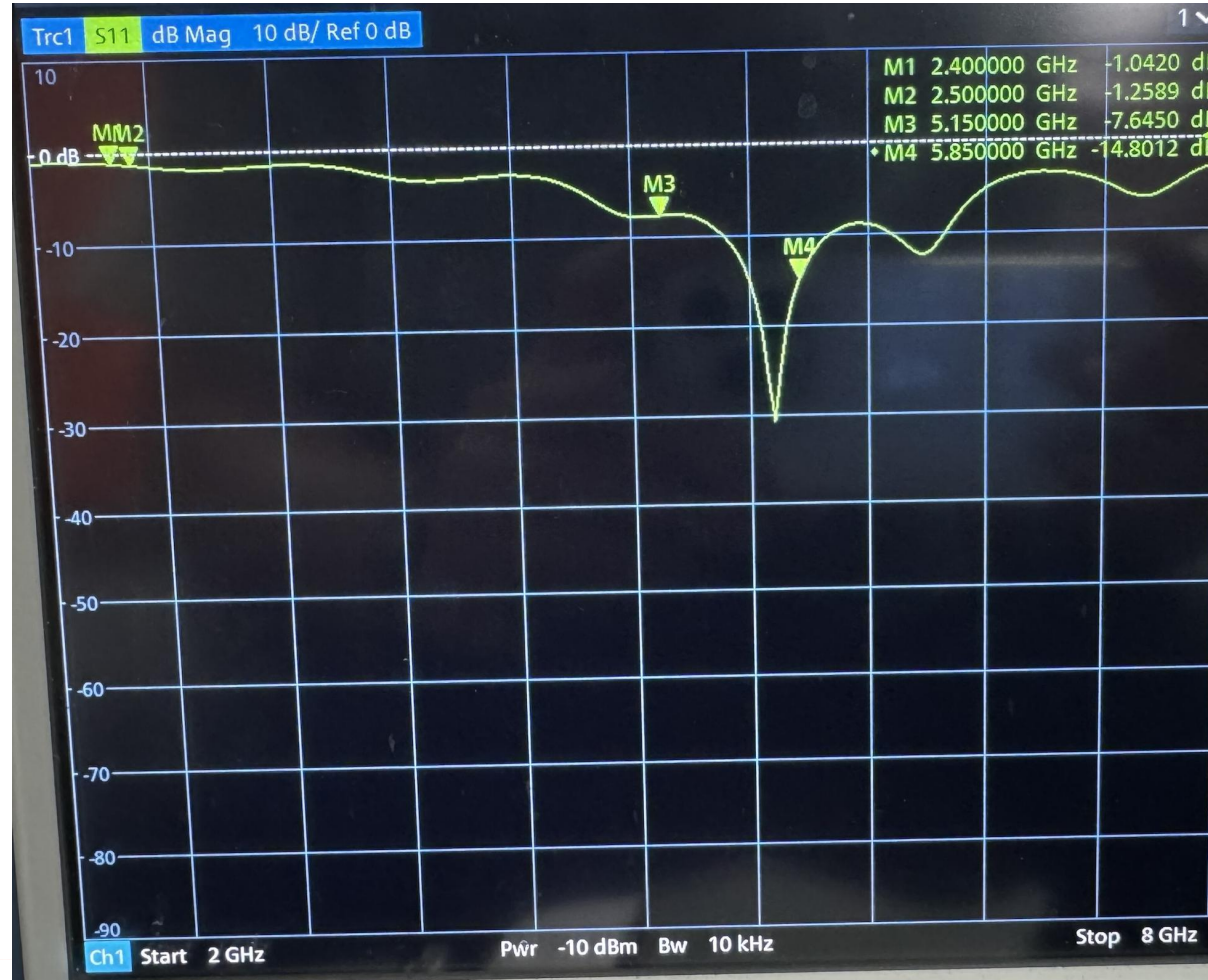
Transmitter



Receiver

II Antenna Performance - Passive S11 - Tx

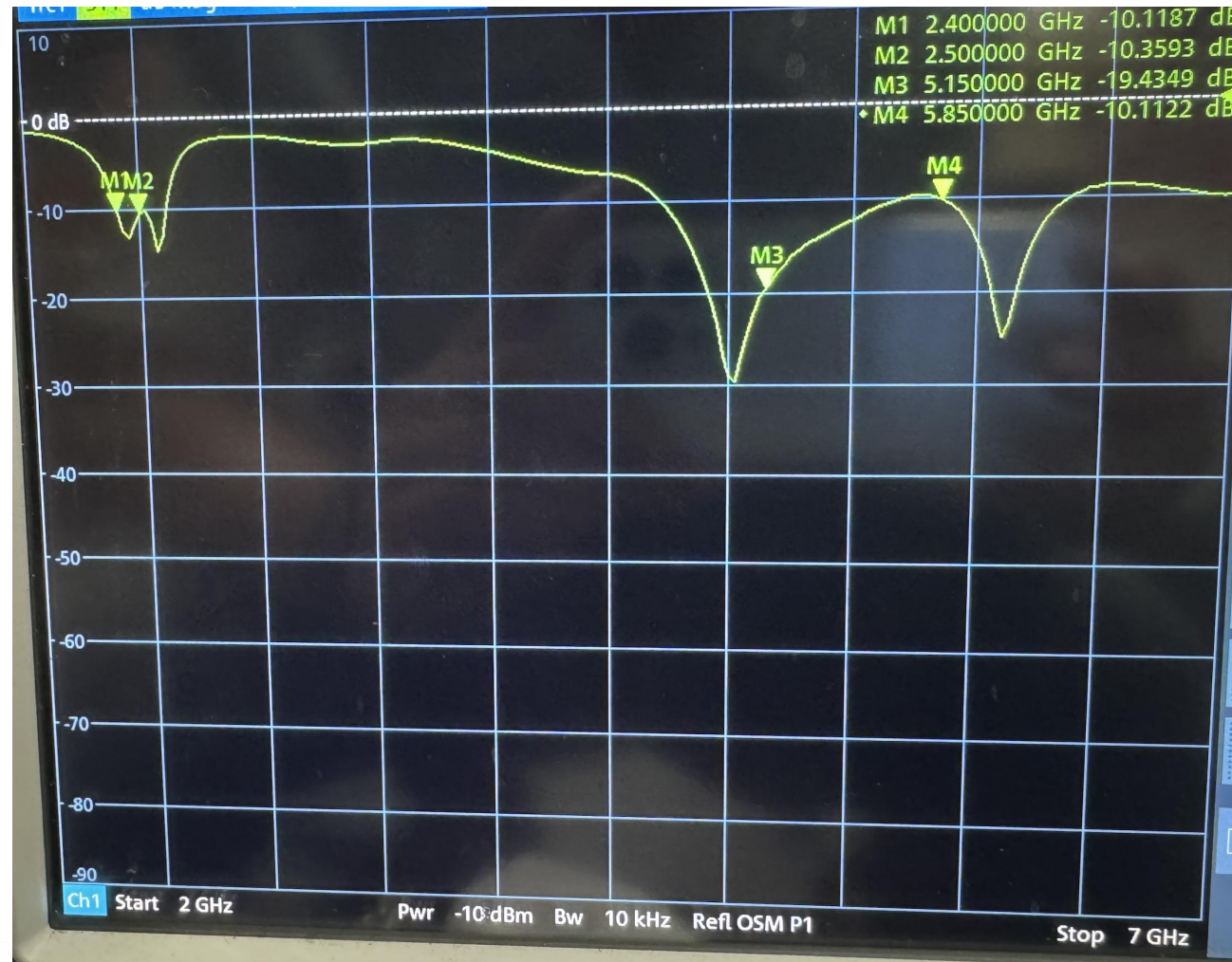
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S11

II Antenna Performance - Passive S11 - Rx

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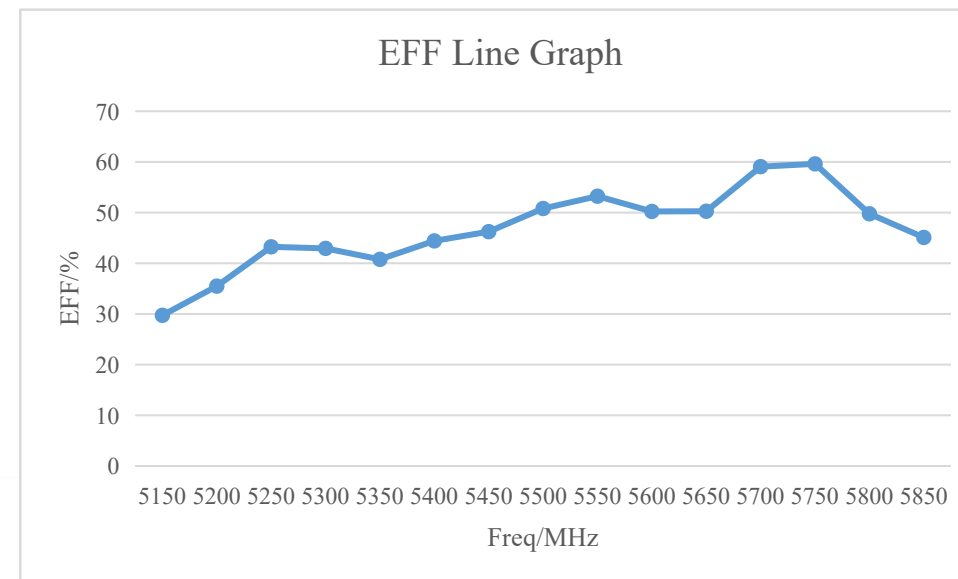
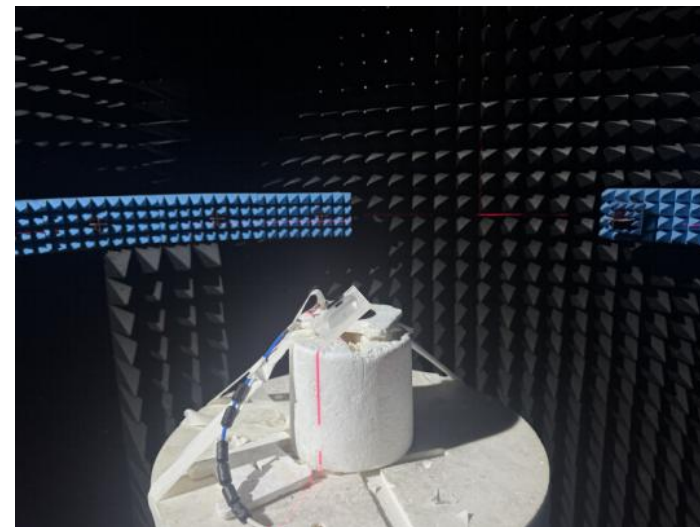


S11

II Antenna Performance - Passive EFF - Tx

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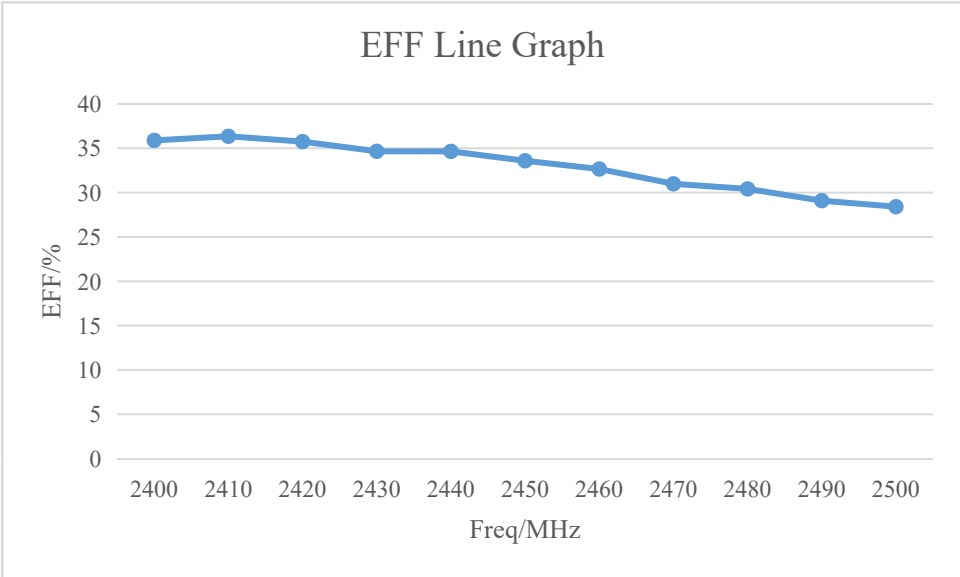
Freq	Effi	Effi	Gain
(MHz)	(dB)	(%)	(dBi)
5150	-5.27	29.73	0.54
5200	-4.5	35.49	1.02
5250	-3.64	43.25	2.07
5300	-3.67	42.94	1.91
5350	-3.9	40.78	1.5
5400	-3.52	44.42	1.58
5450	-3.35	46.24	1.48
5500	-2.94	50.81	2.1
5550	-2.74	53.24	2.14
5600	-2.99	50.23	1.85
5650	-2.99	50.27	1.66
5700	-2.29	59.07	2.13
5750	-2.25	59.62	1.96
5800	-3.03	49.77	1.15
5850	-3.46	45.1	0.25
AVG	-3.37	46.73	1.56



II Antenna Performance - Passive EFF - Rx

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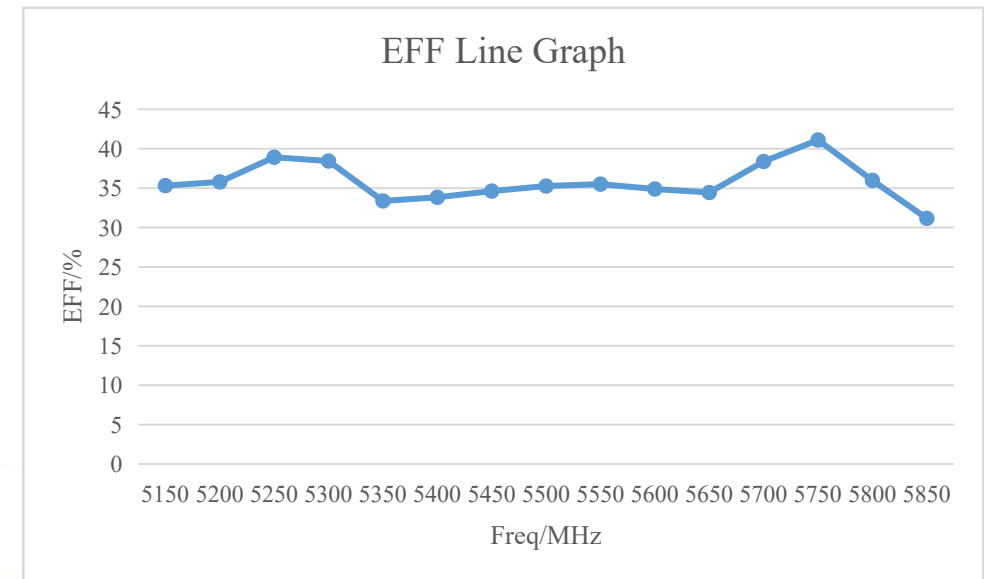
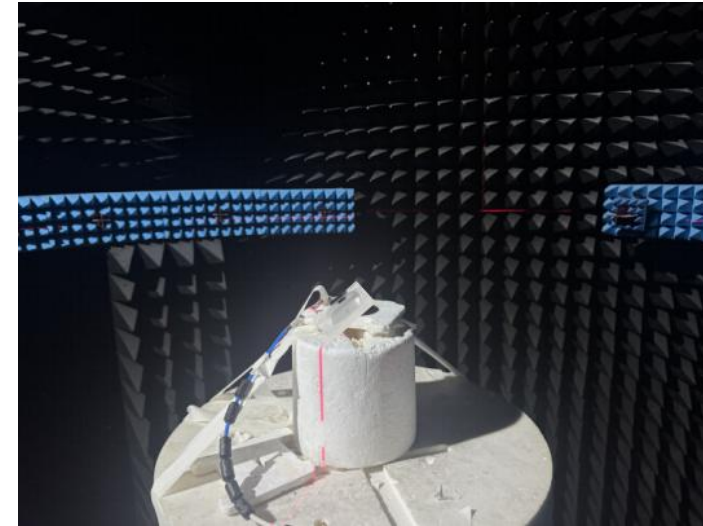
Freq	Effi	Effi	Gain
(MHz)	(dB)	(%)	(dBi)
2400	-4.45	35.89	3.24
2410	-4.39	36.35	3.02
2420	-4.47	35.75	3.01
2430	-4.6	34.66	3.48
2440	-4.6	34.65	4.18
2450	-4.74	33.59	4.29
2460	-4.86	32.66	3.93
2470	-5.09	30.99	3.19
2480	-5.17	30.42	3.01
2490	-5.36	29.09	3.01
2500	-5.47	28.41	3.26
AVG	-4.84	32.95	3.42



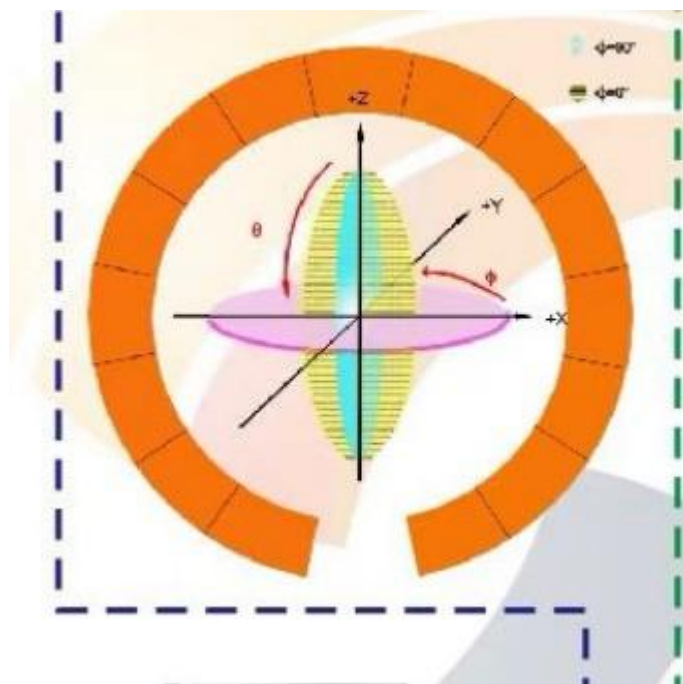
II Antenna Performance - Passive EFF - Rx

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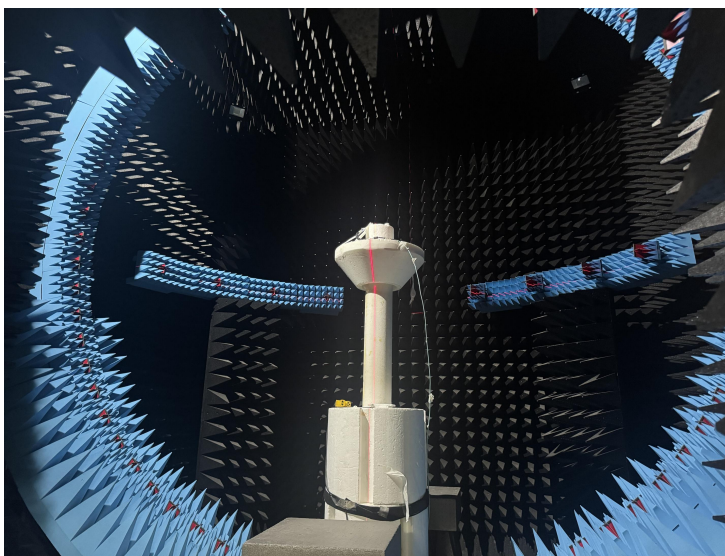
Freq	Effi	Effi	Gain
(MHz)	(dB)	(%)	(dBi)
5150	-4.52	35.32	0.59
5200	-4.46	35.79	0.74
5250	-4.1	38.92	1.58
5300	-4.15	38.44	1.63
5350	-4.77	33.38	1.18
5400	-4.71	33.84	1.35
5450	-4.61	34.63	1.75
5500	-4.53	35.27	2.07
5550	-4.5	35.51	2.38
5600	-4.57	34.89	2.61
5650	-4.63	34.45	1.86
5700	-4.16	38.38	2.73
5750	-3.86	41.11	2.85
5800	-4.44	35.98	1.98
5850	-5.06	31.17	0.83
AVG	-4.47	35.81	1.74



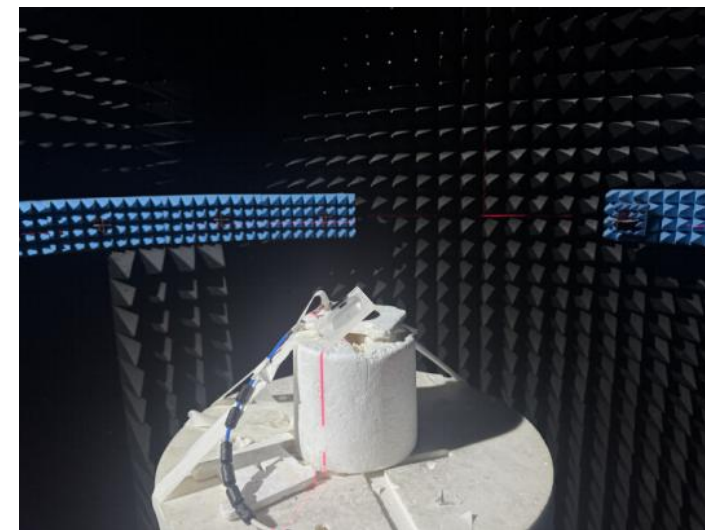
II Antenna Performance - Passive Pattern - Chamber **KTC** Coordinates & Positions



Chamber Coordinates



DUT Relative Position in Chamber

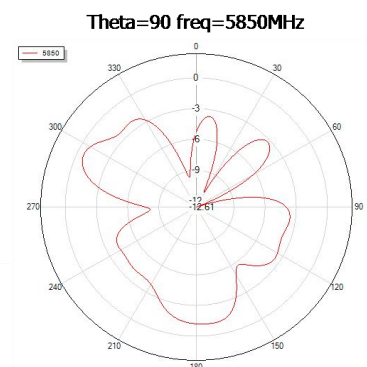
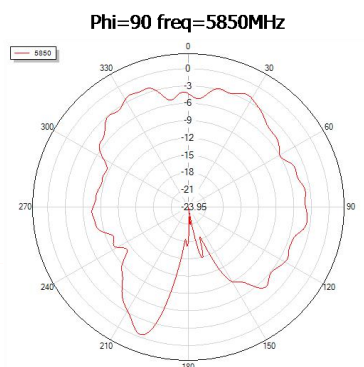
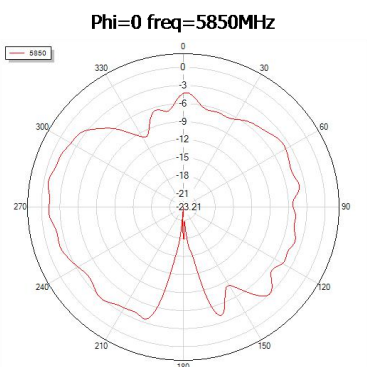
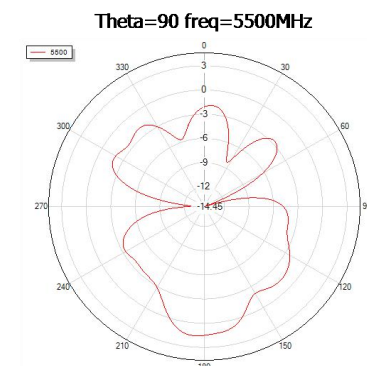
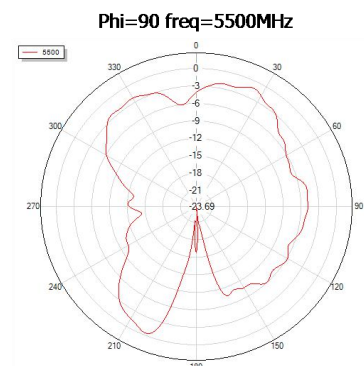
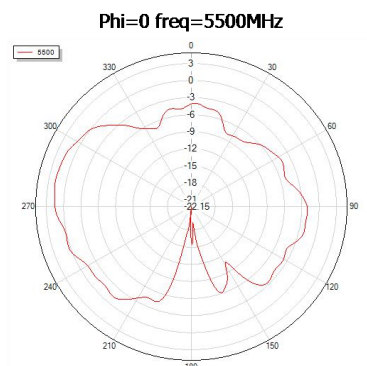
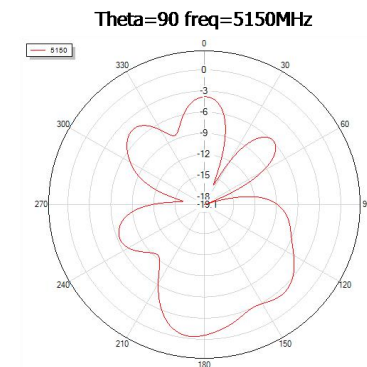
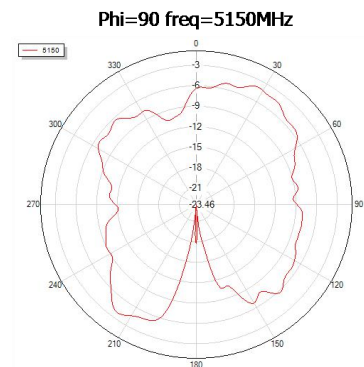
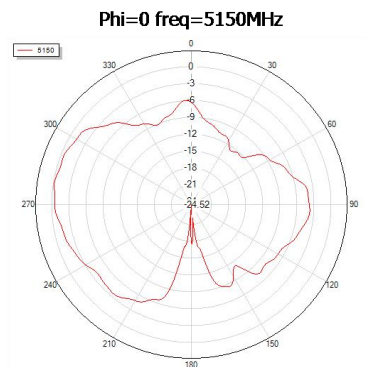


Device Antenna Position

II Antenna Performance - Passive 1D Pattern - Tx

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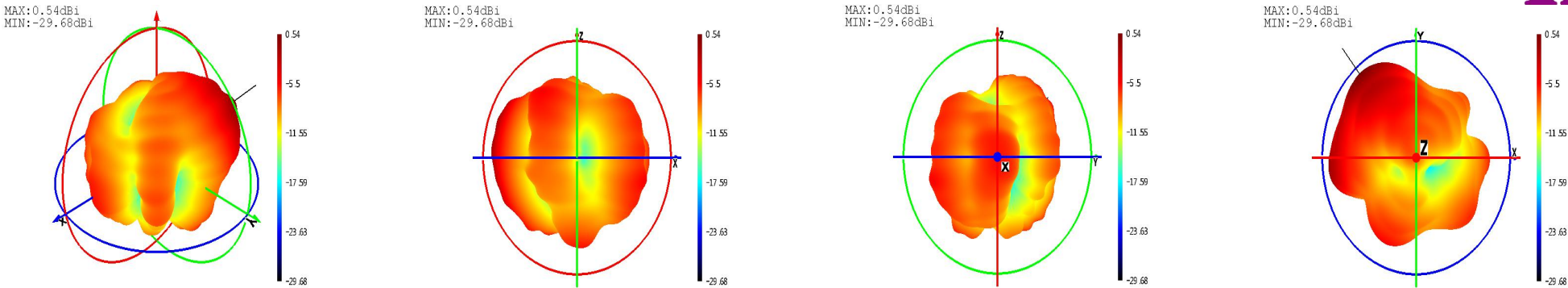
5G



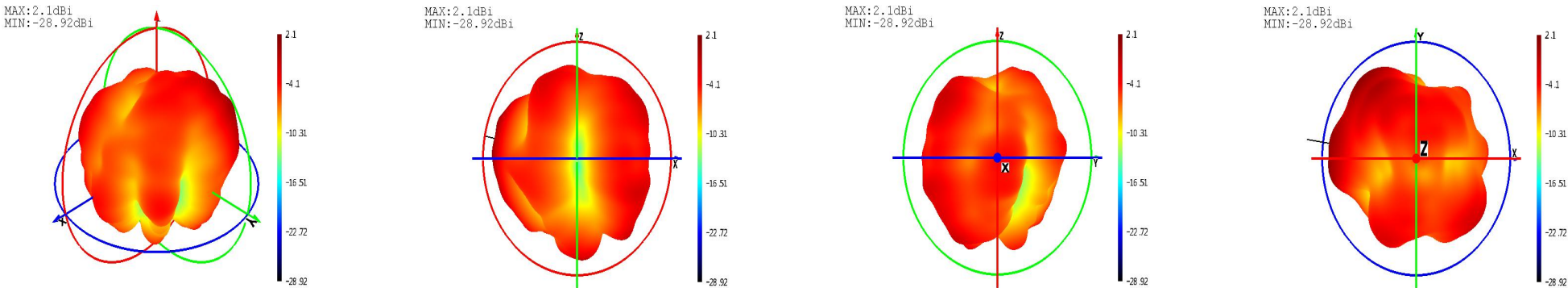
II Antenna Performance - Passive 3D Pattern - Tx

KTC

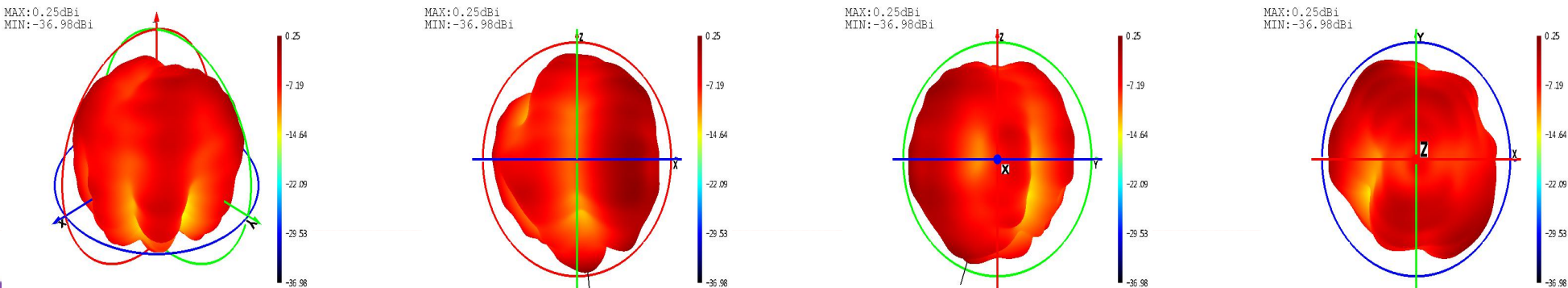
5.15G



5.5G



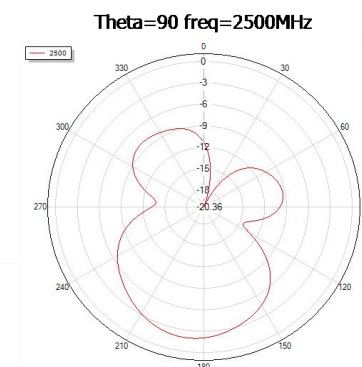
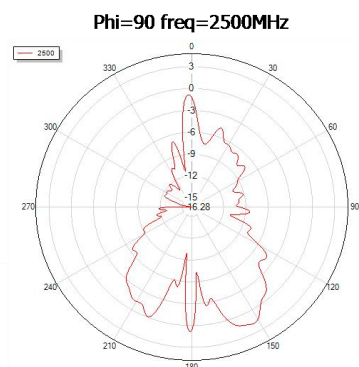
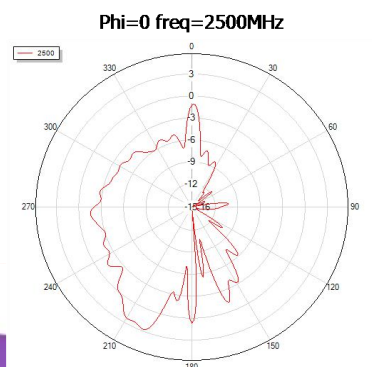
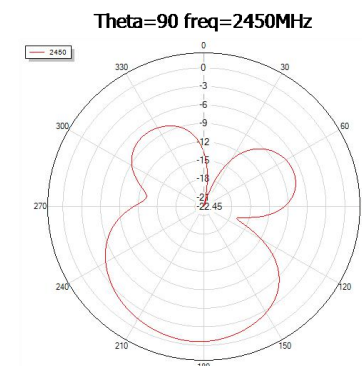
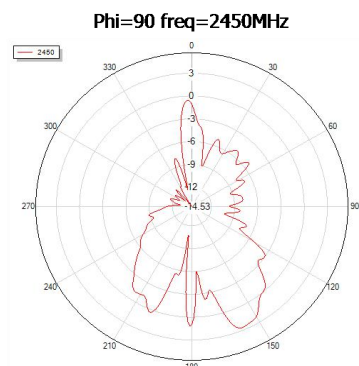
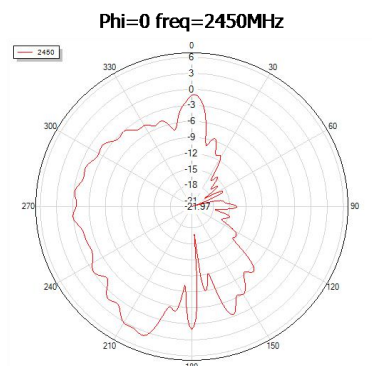
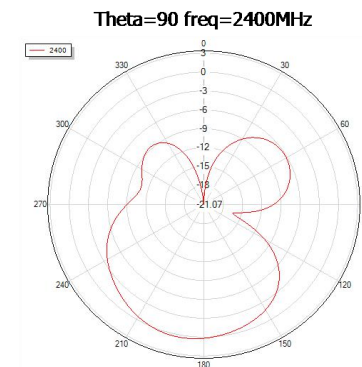
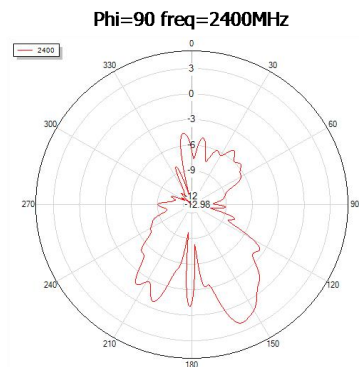
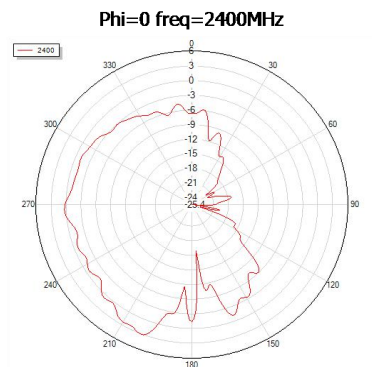
5.85G



II Antenna Performance - Passive 1D Pattern - Rx

KTC

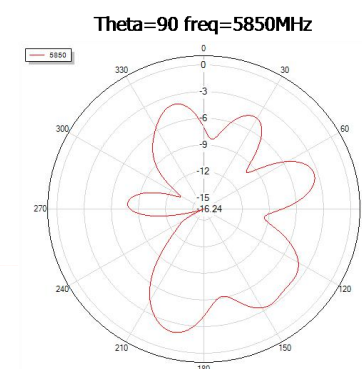
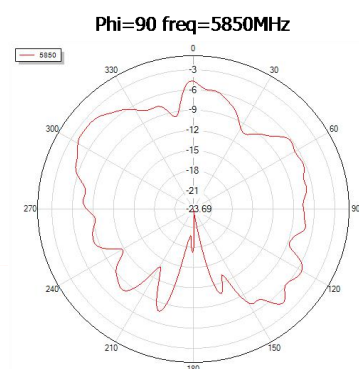
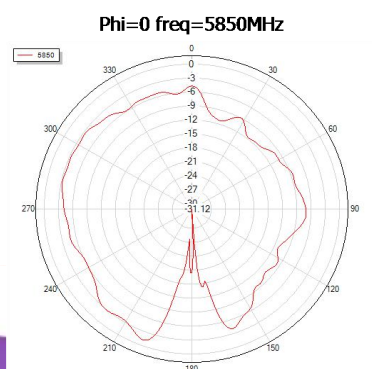
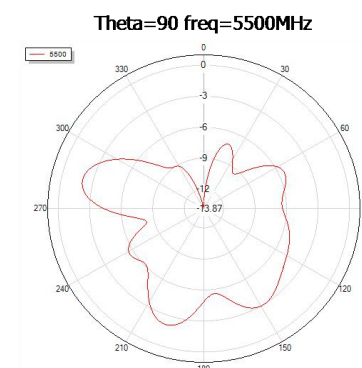
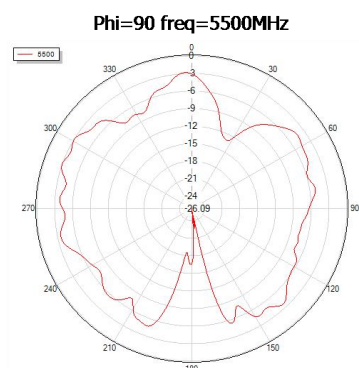
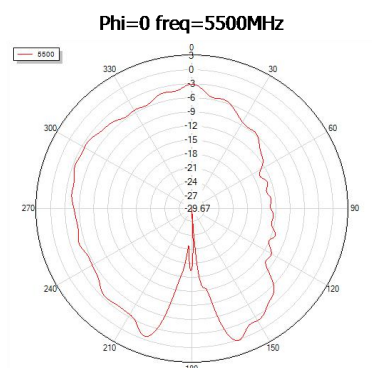
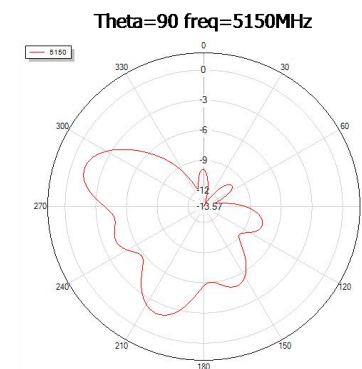
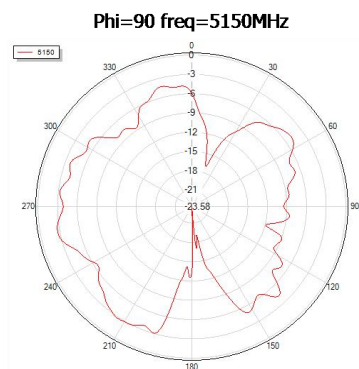
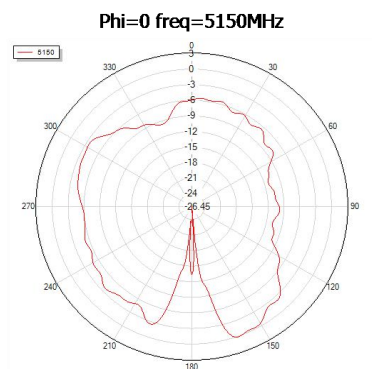
2.4G



II Antenna Performance - Passive 1D Pattern - Rx

KTC

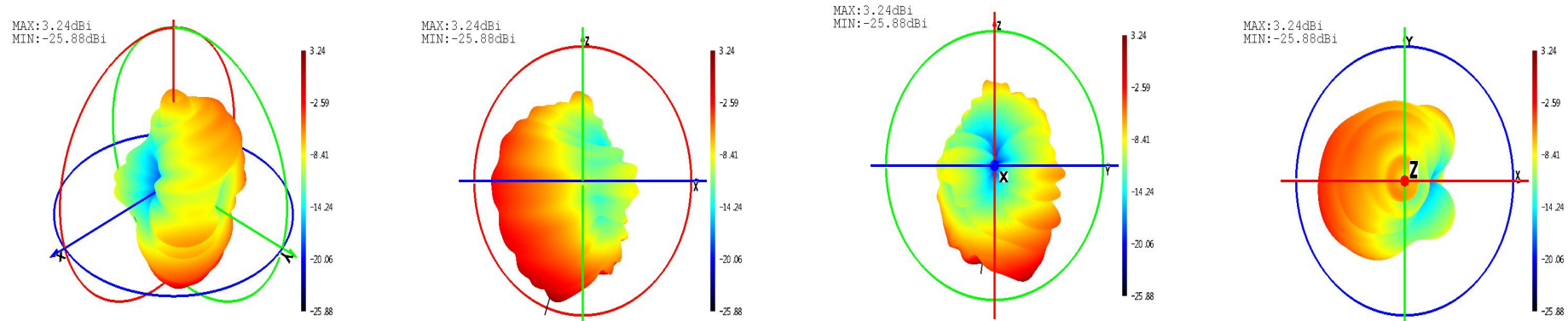
5G



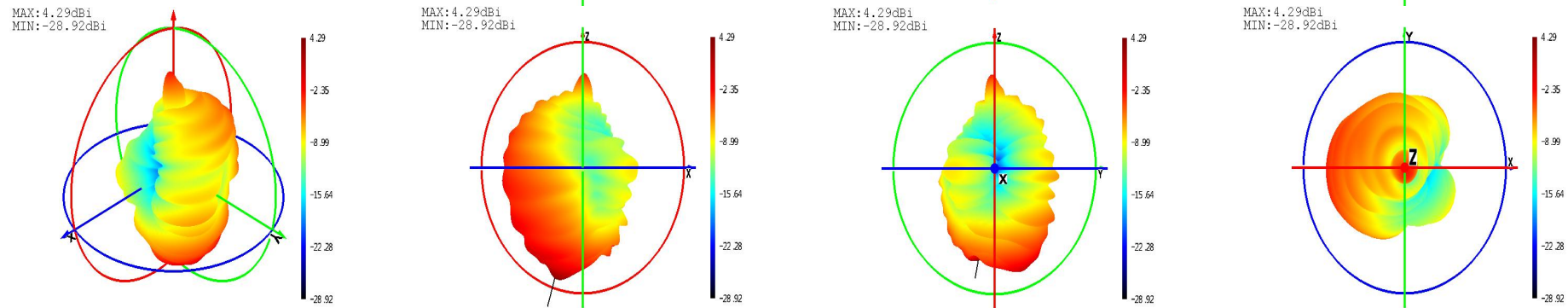
II Antenna Performance - Passive 3D Pattern - Rx

KTC

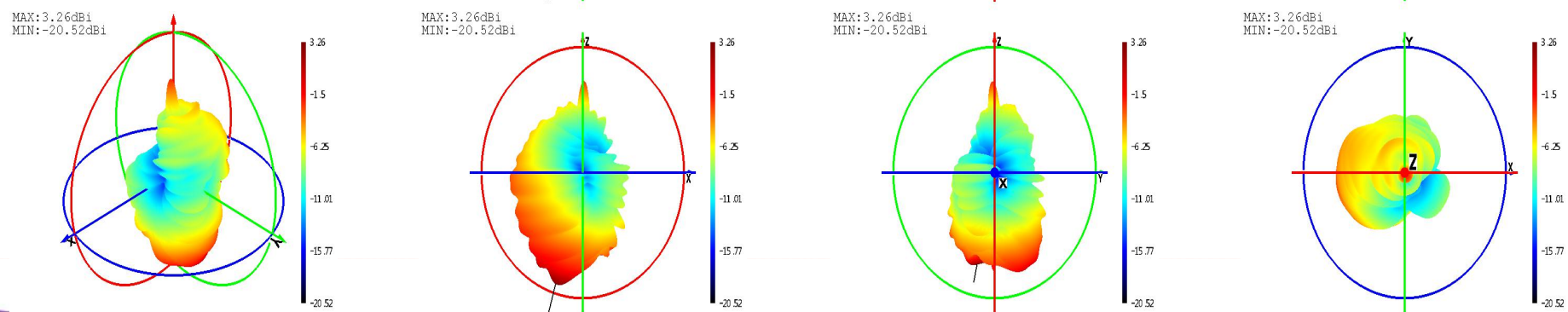
2.4G



2.45G



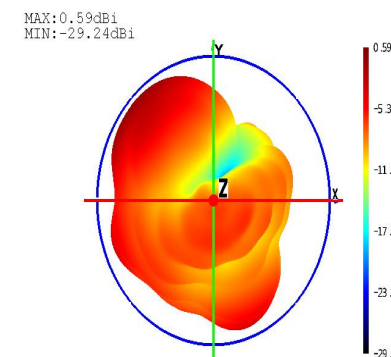
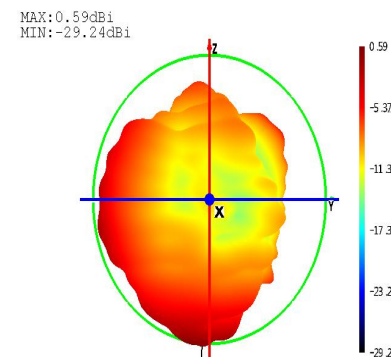
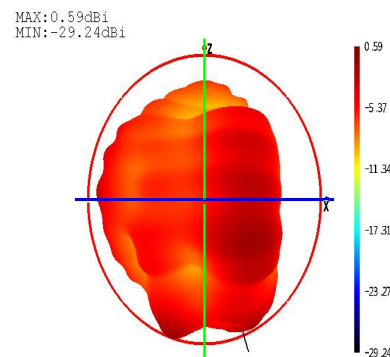
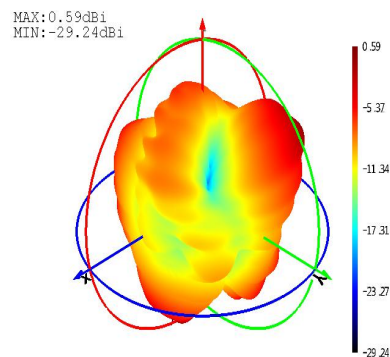
2.5G



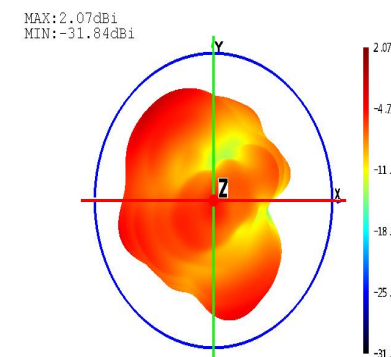
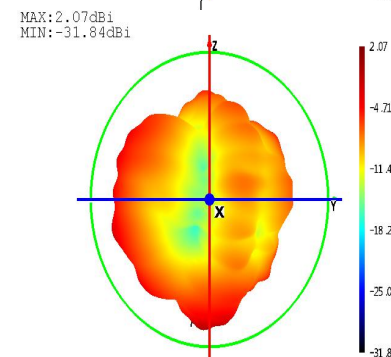
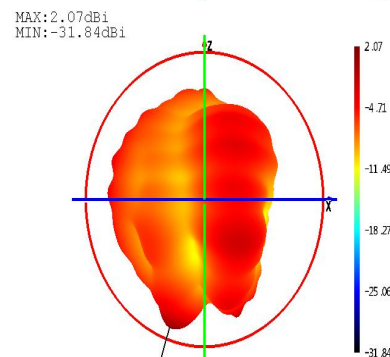
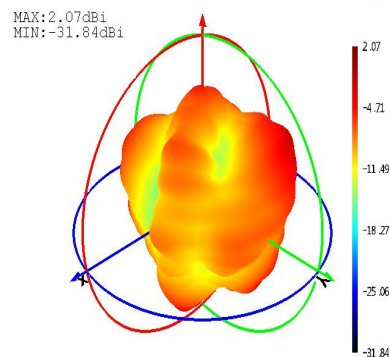
II Antenna Performance - Passive 3D Pattern - Rx

KTC

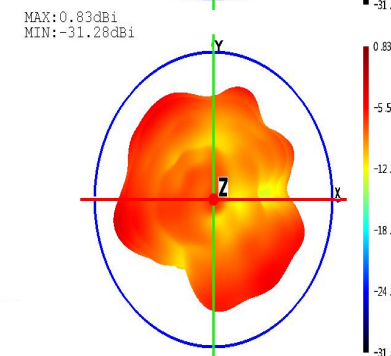
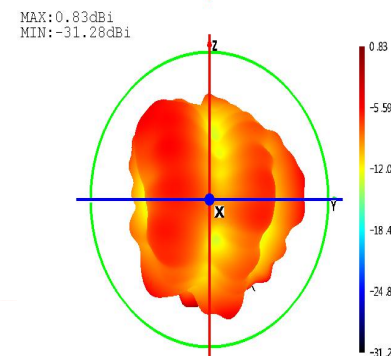
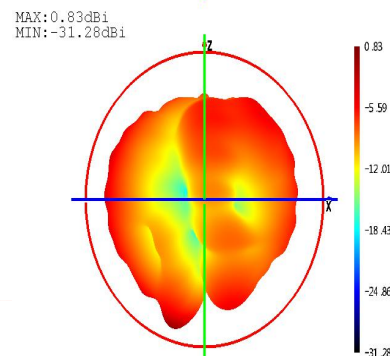
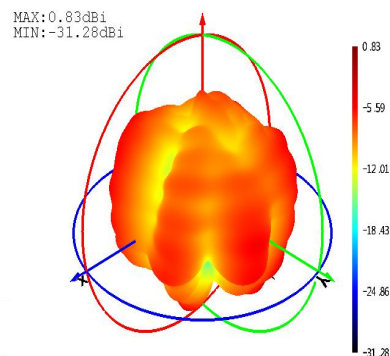
5.15G



5.5G



5.85G



III Summary

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Average efficiency of transmitter antenna at 5 GHz: 46.73%

Average efficiency of receiver antenna at 2.4 GHz: 32.95%

Average efficiency of receiver antenna at 5 GHz: 35.81%