WiFi Pattern Antenna Datasheet

REV 1.2

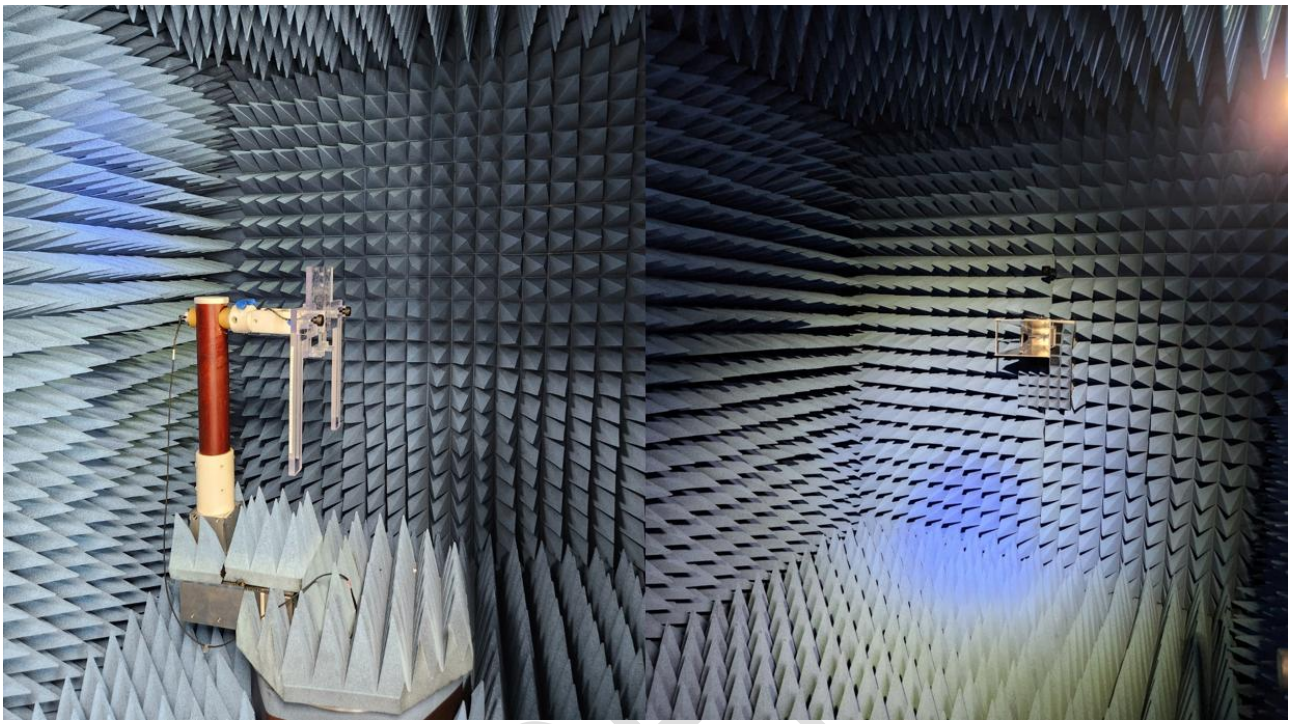
Model: ccNC Basic

Frequency
2412 ~ 2472MHz
5180 ~ 5825MHz

Table of Contents

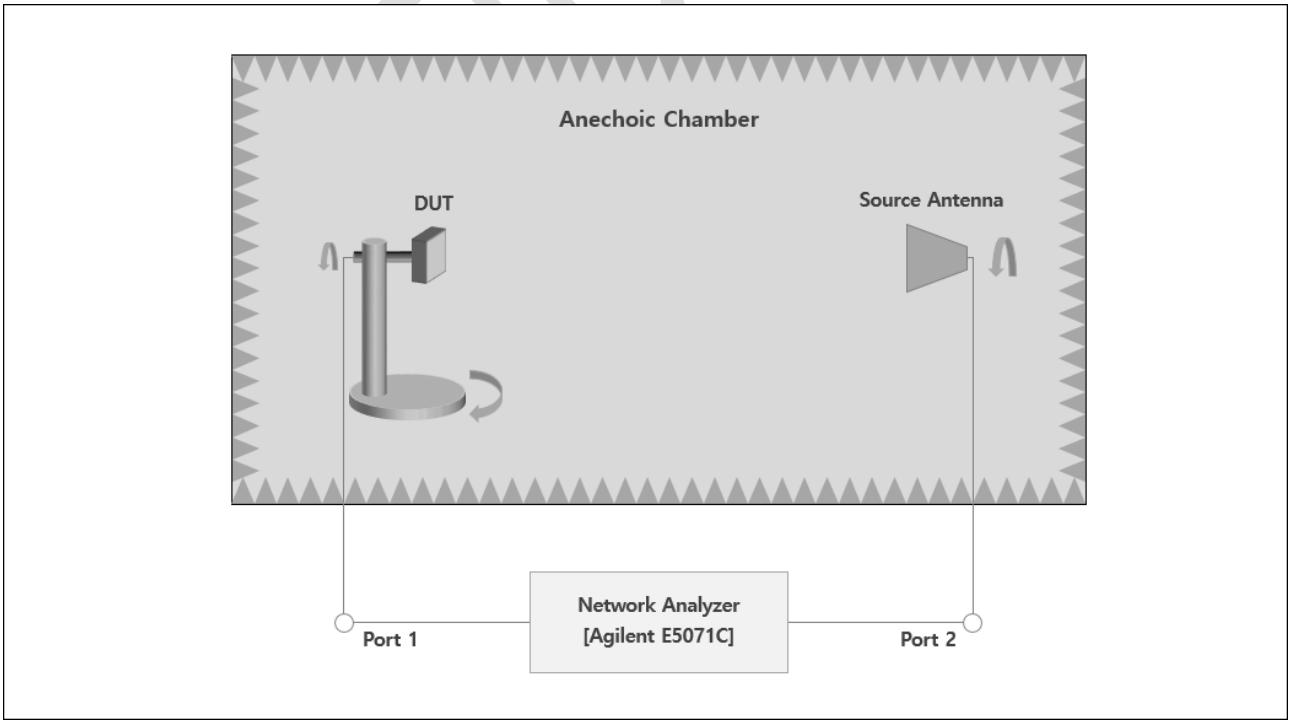
1 Test Environment and Method

1.1 Test Environment



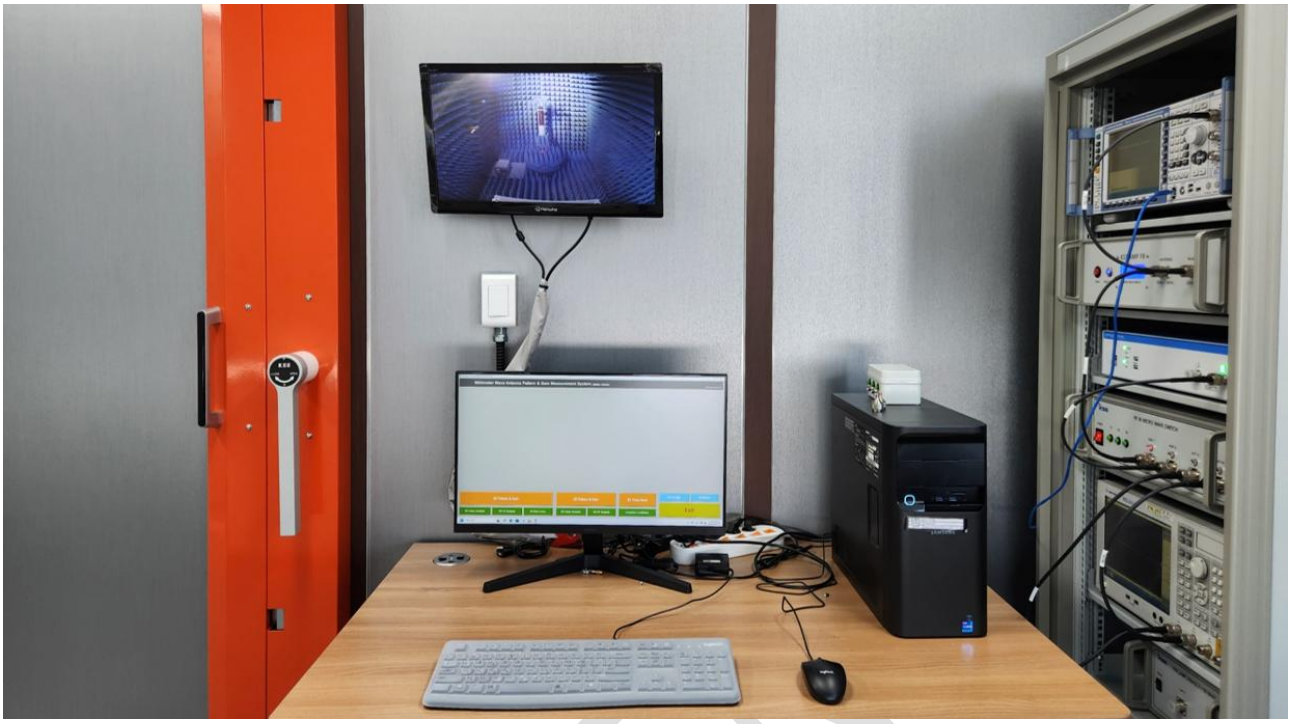
[Anechoic Chamber]

1.2 Test Method



[Anechoic chamber Configuration]

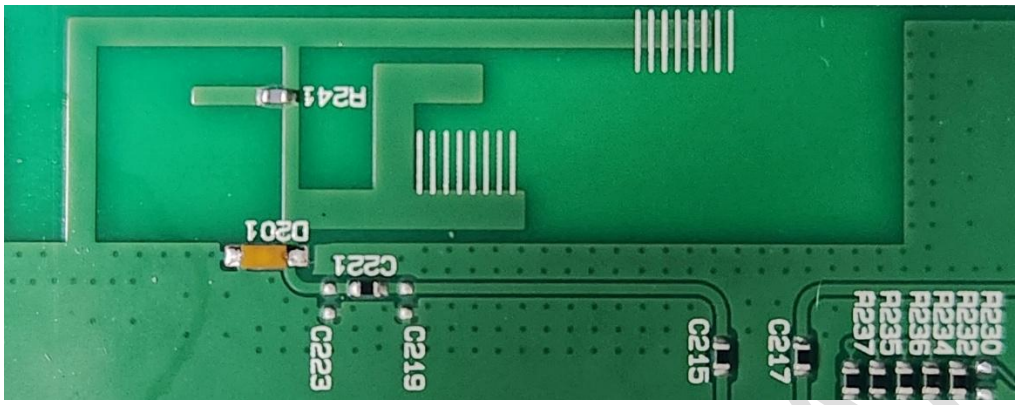
1.3 Test Equipment



[Test Tool and Equipment setting]

[Test Equipment]

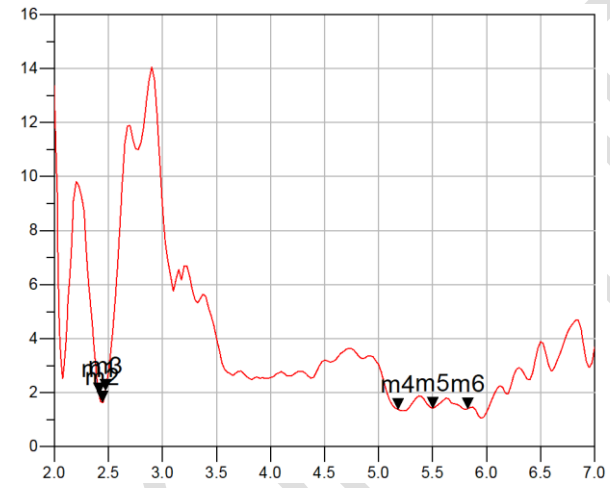
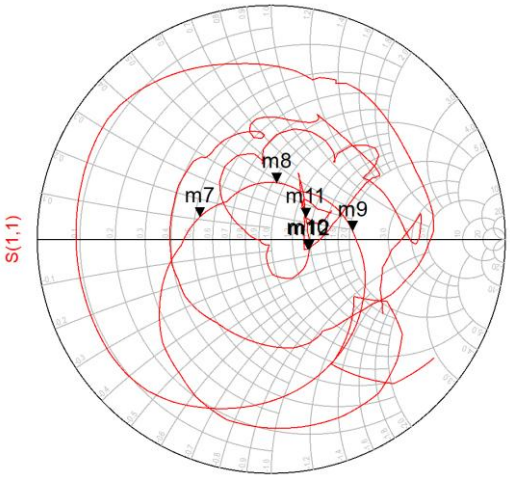
2 Antenna Information



[ccNC Basic WLAN 2.4G & 5G Antenna]

3 Antenna Electrical Characteristics

3.1 VSWR

VSWR	Smith Chart
	

m1. 2.412 GHz / 1.940
m2. 2.442 GHz / 1.640
m3. 2.472 GHz / 2.074
m4. 5.180 GHz / 1.383
m5. 5.500 GHz / 1.442
m6. 5.825 GHz / 1.404

m7. 2.412 GHz / 26.2+j5.55
m8. 2.442 GHz / 46.5+j23.85
m9. 2.472 GHz / 102.8+j8.55
m10. 5.180 GHz / 68.1-j5.75
m11. 5.500 GHz / 65.95+j12.6
m12. 5.825 GHz / 68.95-j6.5

3.2 Antenna Peak Gain Table

Band (GHz)	Frequency (MHz)	Peak Gain (dBi)		
		Vertical	Horizontal	Total
2.412 ~ 2.472	2442	1.3	2.1	3.3
5.150 ~ 5.250	5200	5.6	2.6	5.7
5.250 ~ 5.350	5325	5.9	3.8	6.0
5.470 ~ 5.725	5595	3.1	3.9	4.6
5.725 ~ 5.825	5775	2.7	3.0	3.6

3.3 Antenna Passive Radiation test result

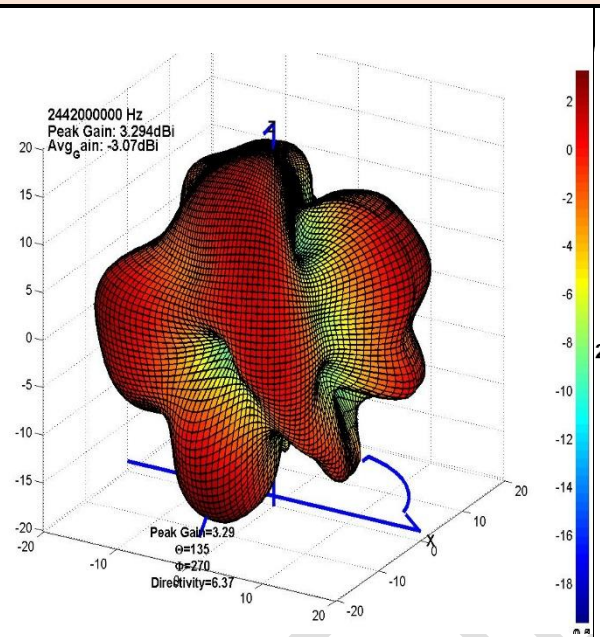
Freq. [MHz]	Eff. [%]	3D Gain				H (θ=90)			E1 (φ=0)			E2 (φ=90)		
		Avg. [dBi]	Peak [dBi]	θ [Deg]	φ [Deg]	Avg. [dBi]	Peak [dBi]	φ [Deg]	Avg. [dBi]	Peak [dBi]	θ [Deg]	Avg. [dBi]	Peak [dBi]	θ [Deg]
2412	48.9	-3.1	3.3	135	90	-3.18	1.95	120	-3.39	1.63	290	-2.93	3.20	130
2442	49.3	-3.1	3.3	135	90	-2.88	2.08	44	-3.45	1.42	288	-2.64	3.11	130
2472	37.5	-4.3	2.4	135	90	-4.33	0.80	56	-4.84	-0.24	288	-3.20	2.39	130
5150	50.4	-3.0	5.4	30	120	-5.64	-0.07	294	-3.35	3.02	356	-0.87	5.33	34
5175	51.0	-2.9	5.5	30	105	-5.45	0.34	296	-3.49	2.71	356	-0.68	5.40	36
5200	52.7	-2.9	5.7	30	105	-5.25	0.66	296	-3.62	2.38	354	-0.43	5.40	36
5225	52.8	-2.8	5.8	30	120	-5.25	0.44	296	-3.88	1.87	354	-0.37	5.09	38
5250	54.0	-2.7	5.7	30	120	-5.30	0.12	296	-3.93	1.90	50	-0.20	4.95	38
5275	54.0	-2.7	5.7	30	120	-5.48	-0.09	296	-4.00	2.16	356	0.00	5.01	38
5300	53.6	-2.7	5.7	30	120	-5.64	-0.15	296	-3.89	3.01	356	0.27	5.40	30
5325	55.5	-2.7	6.0	30	105	-5.48	0.14	296	-3.52	3.72	356	0.59	6.04	30
5350	54.0	-2.7	5.7	30	105	-5.38	0.28	298	-3.51	3.40	356	0.33	5.95	32
5470	48.6	-3.1	3.2	45	270	-6.03	-2.44	306	-3.57	1.91	340	-1.02	3.41	322
5495	48.8	-3.1	3.8	30	120	-6.76	-3.75	240	-3.39	2.68	32	-1.18	3.33	322
5520	53.8	-2.7	4.5	30	120	-6.82	-4.06	240	-2.88	3.83	32	-0.99	3.66	28
5545	55.1	-2.6	4.5	30	120	-6.72	-3.86	200	-2.71	4.35	34	-1.21	3.64	28
5570	54.5	-2.6	4.5	45	30	-6.31	-3.44	200	-2.74	4.43	34	-1.68	3.27	26
5595	55.5	-2.6	4.6	45	30	-5.63	-2.63	144	-2.66	4.43	34	-2.03	2.91	26
5620	50.5	-3.0	4.1	45	30	-5.53	-2.20	300	-3.14	3.69	34	-2.87	1.68	26
5645	44.5	-3.5	3.4	15	135	-5.82	-1.82	302	-3.97	2.49	34	-3.53	1.16	218
5670	46.7	-3.3	3.6	15	135	-5.45	-0.45	306	-3.95	2.34	36	-3.11	1.85	216
5695	44.1	-3.6	3.1	30	120	-5.47	-0.24	306	-4.02	1.62	36	-3.63	1.61	216
5720	45.2	-3.4	3.1	30	120	-5.31	-0.33	306	-3.73	1.46	36	-3.75	1.67	216
5725	45.5	-3.4	3.1	30	120	-5.30	-0.37	306	-3.68	1.46	36	-3.74	1.72	216
5750	44.2	-3.5	2.8	30	165	-5.56	-0.55	304	-3.65	1.41	36	-3.91	2.00	218
5775	46.9	-3.2	3.6	30	165	-5.42	-0.77	304	-3.03	2.92	330	-3.52	3.50	220
5800	44.9	-3.5	3.5	30	165	-6.18	-0.69	306	-3.28	2.03	330	-3.75	3.01	218
5825	43.1	-3.7	3.3	30	165	-5.66	-0.27	304	-3.32	1.78	330	-3.63	2.83	218

4 Radiation Pattern

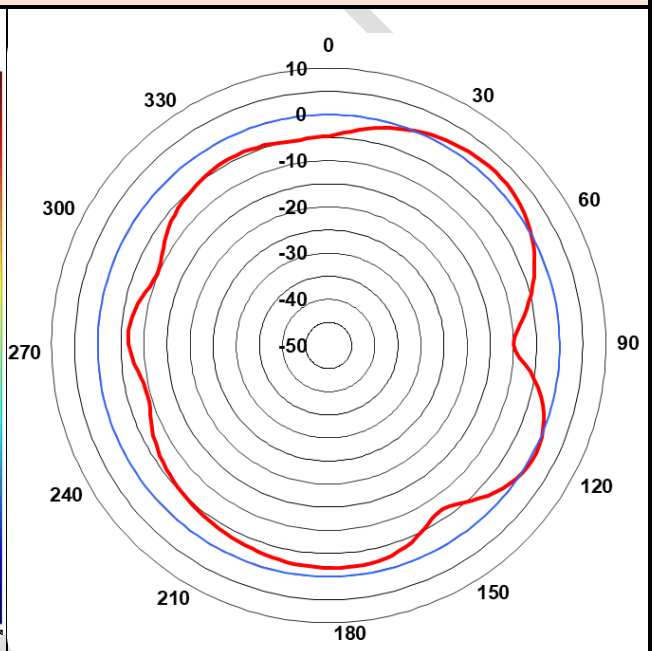
4.1 Pattern @ 2442 MHz

Frequency (MHz)	Peak Gain (dBi)		
	Vertical	Horizontal	Total
2442	1.3	2.1	3.3

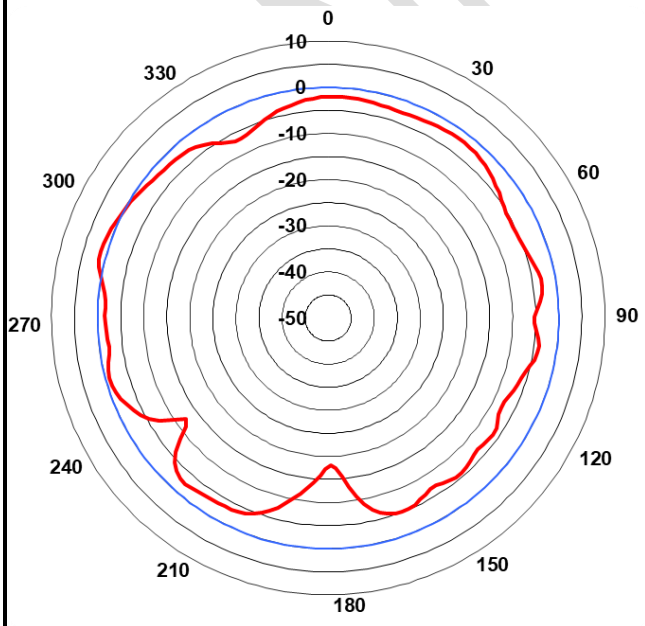
3D & 2D Pattern



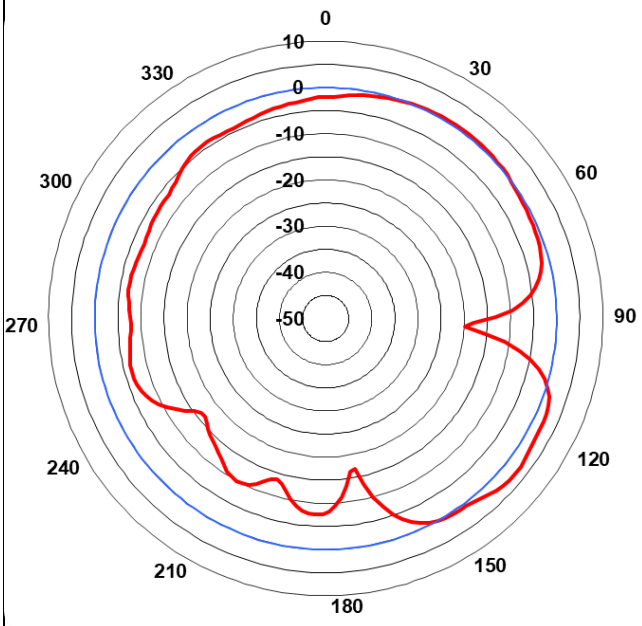
3D



H (θ=90)



E1 (φ=0)

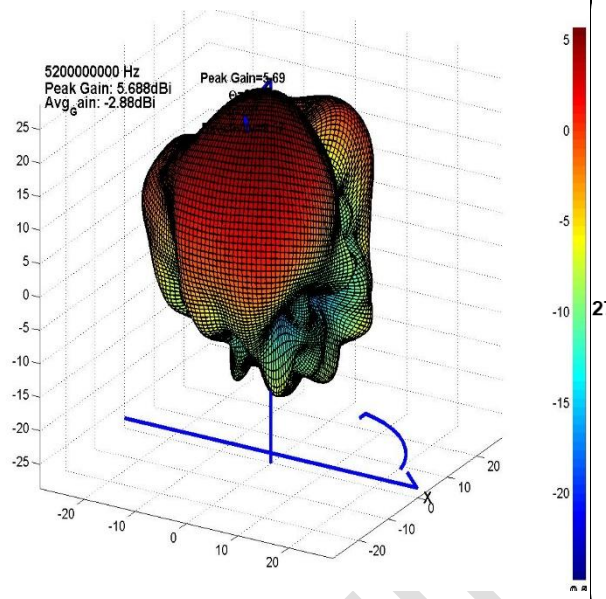


E2 (φ=90)

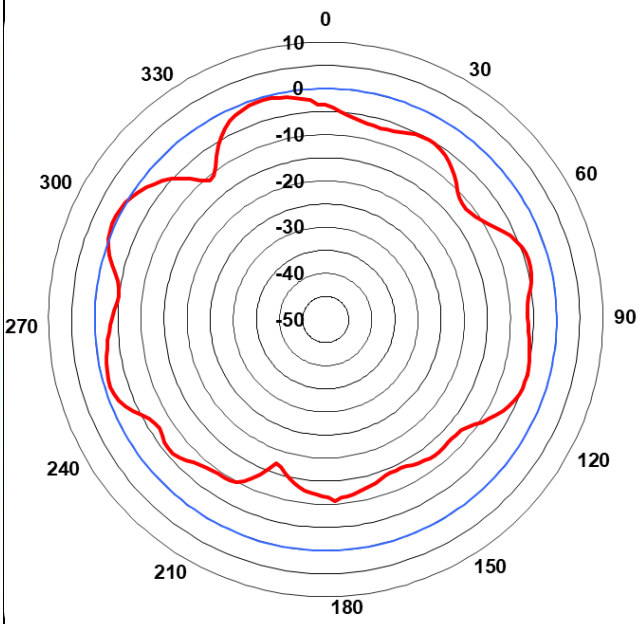
4.2 Pattern @ 5200 MHz

Frequency (MHz)	Peak Gain (dBi)		
	Vertical	Horizontal	Total
5200	5.6	2.6	5.7

3D & 2D Pattern



3D



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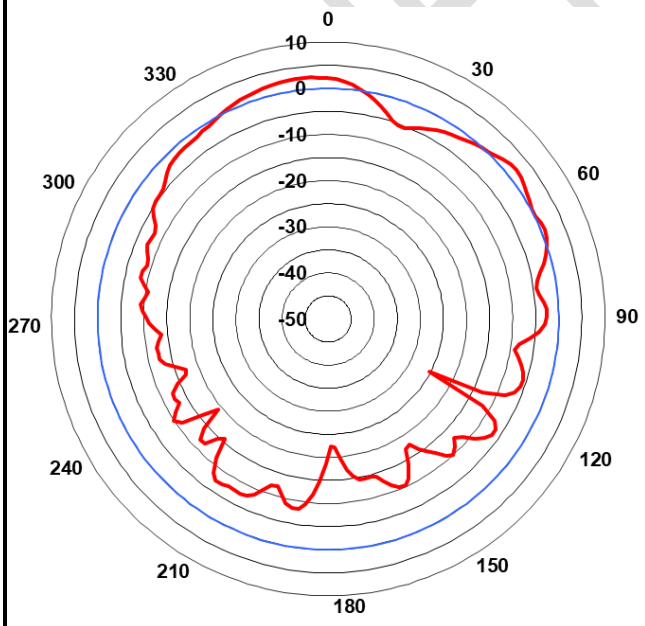
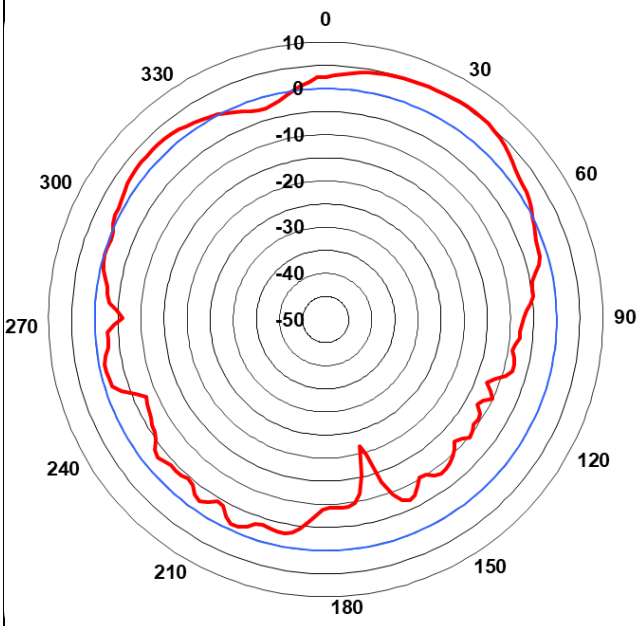


E1 (φ=0)

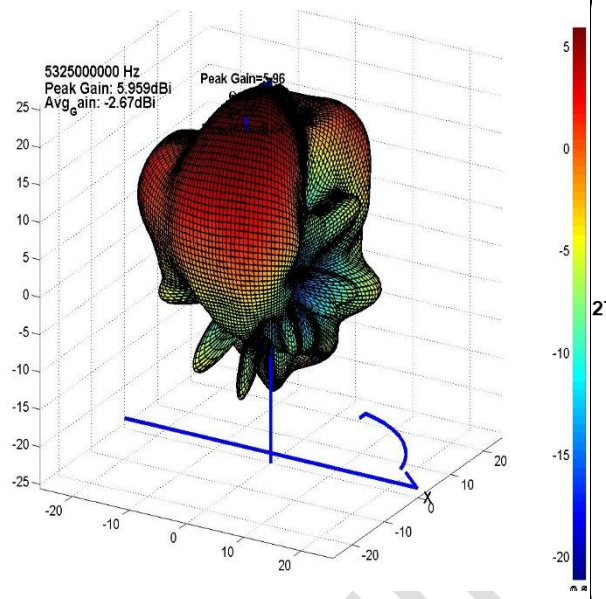


E2 (φ=90)

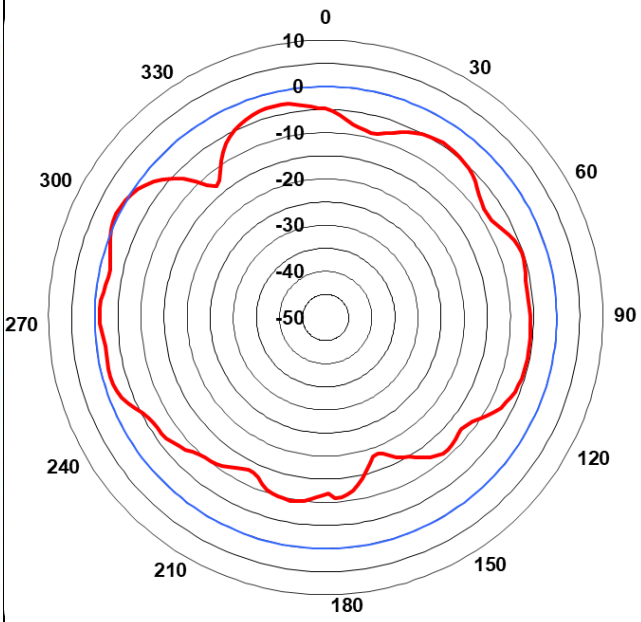
4.3 Pattern @ 5325 MHz

Frequency (MHz)	Peak Gain (dBi)		
	Vertical	Horizontal	Total
5325	5.9	3.8	6.0

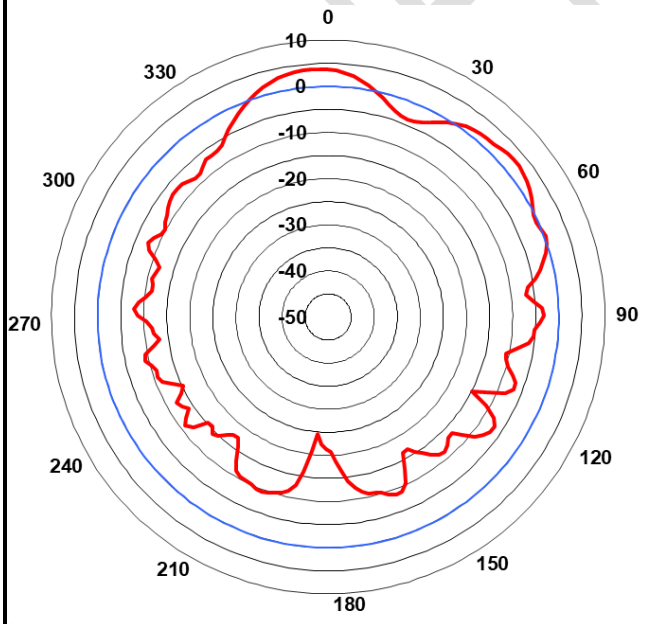
3D & 2D Pattern



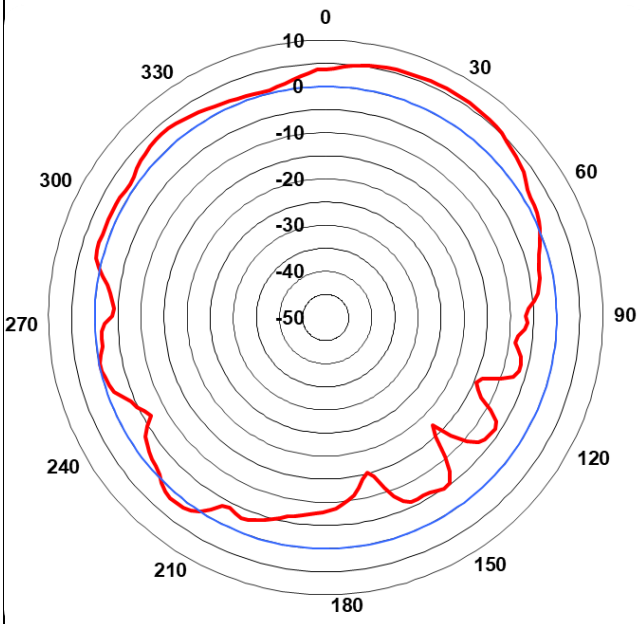
3D



H (θ=90)



E1 (φ=0)

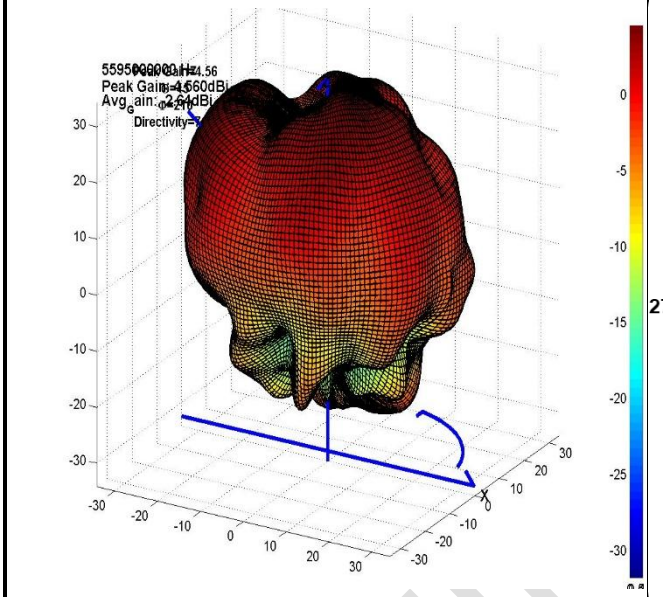


E2 (φ=90)

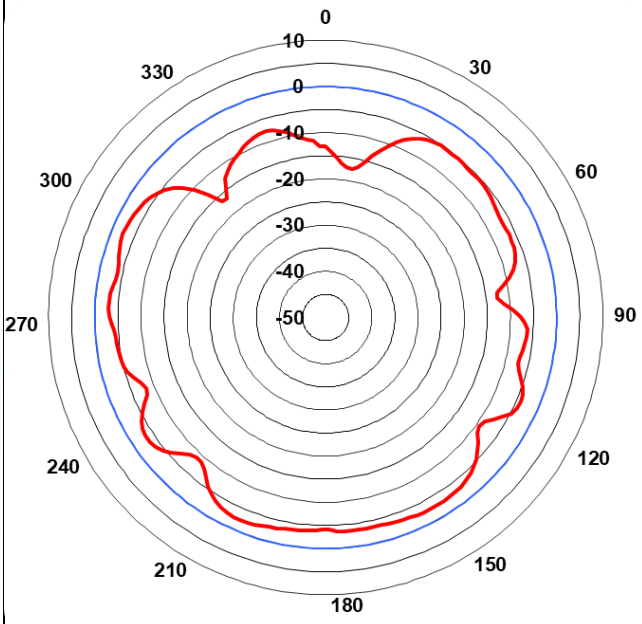
4.4 Pattern @ 5595 MHz

Frequency (MHz)	Peak Gain (dBi)		
	Vertical	Horizontal	Total
5595	3.1	3.9	4.6

3D & 2D Pattern



3D



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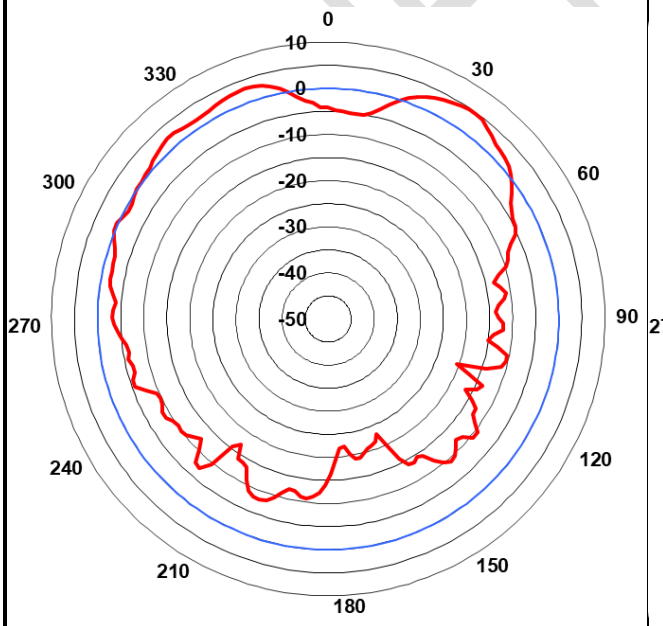
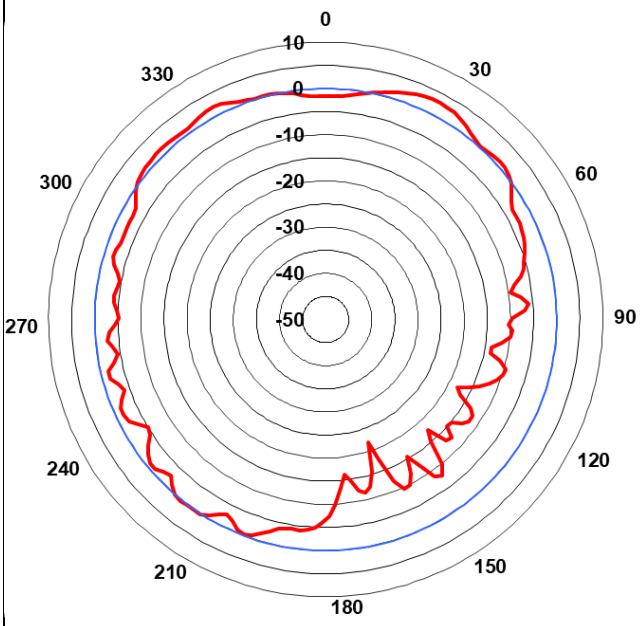


E1 (φ=0)

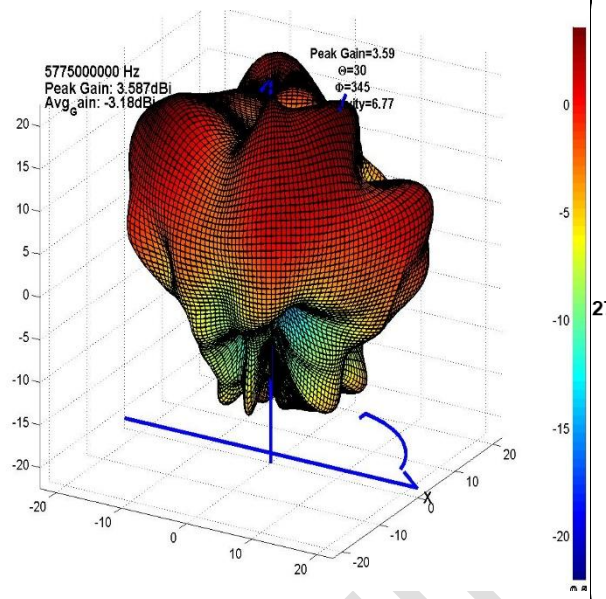


E2 (φ=90)

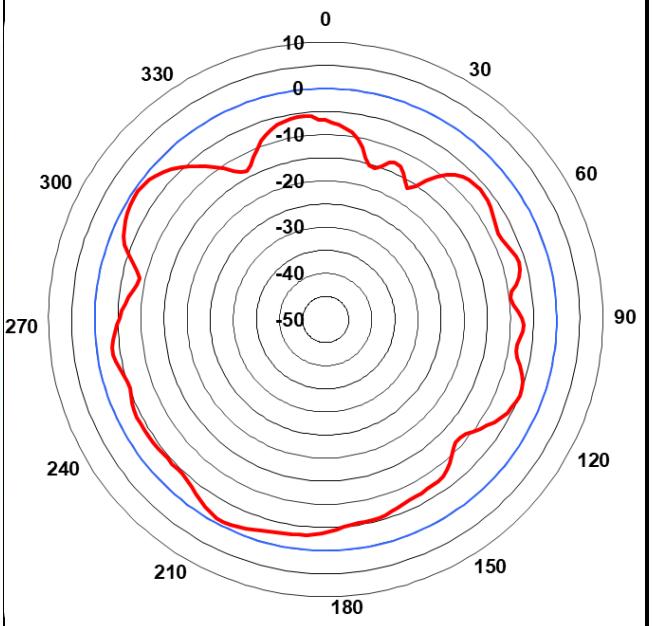
4.5 Pattern @ 5775 MHz

Frequency (MHz)	Peak Gain (dBi)		
	Vertical	Horizontal	Total
5775	2.7	3.0	3.6

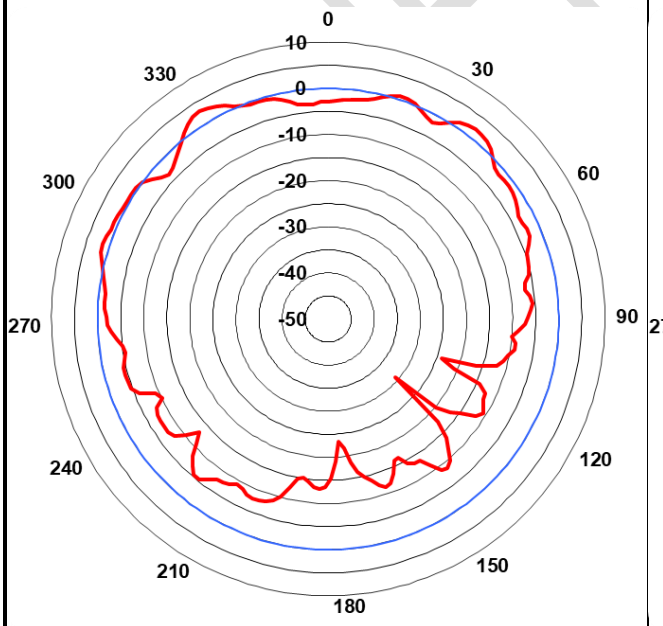
3D & 2D Pattern



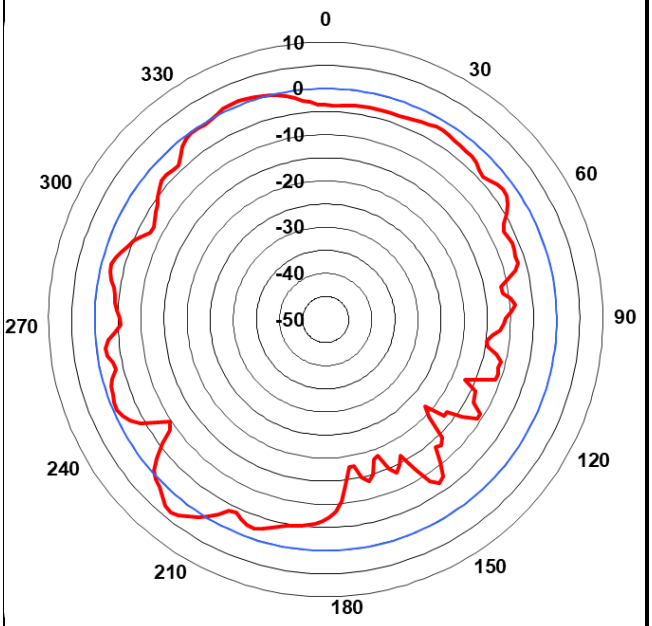
3D



H (θ=90)



E1 (φ=0)



E2 (φ=90)

5 Revision History

Revision	Date	Descriptions
1.0	2025-01-03	Initial Release
1.1	2025-03-25	Updated the measurement results for each frequency band.
1.2	2025-05-02	Added 1. Test Environment and method & 2. Antenna information