



BDW330DL-00UF1 Chip

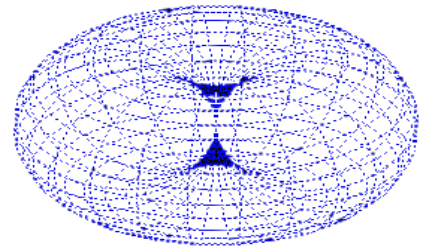
Engineer : Betty

Report date : 2024/12/13 REV.03



Executive Summary

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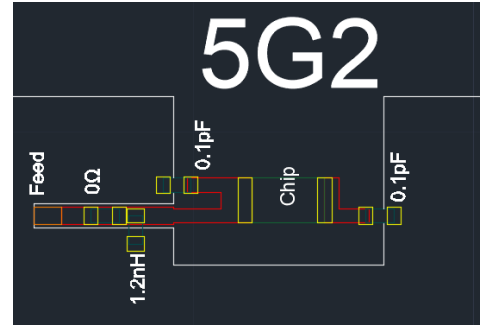
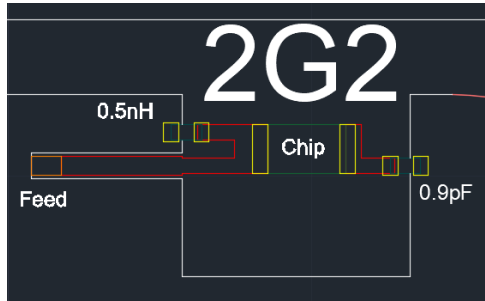
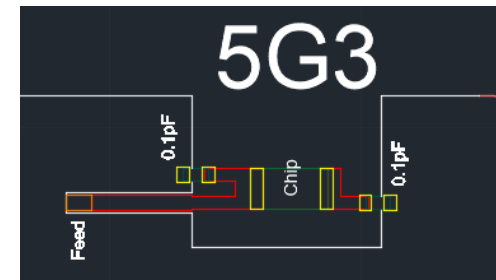
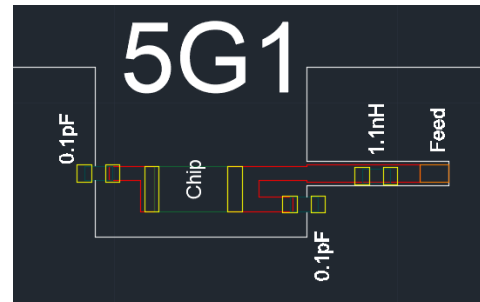
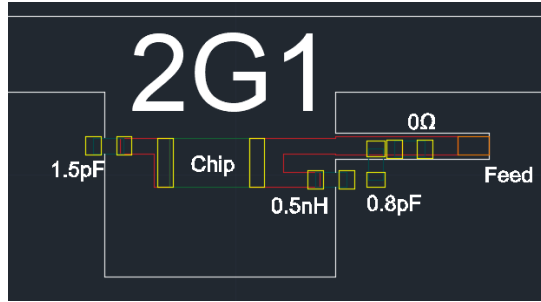
Revision History

Revision	Date	Engineer	Description
01	2024/10/24	Betty	New Release
02	2024/10/25	Betty	CHIP Antenna Simulation
03	2024/12/13	Betty	Check CHIP Antenna Performance for DUT

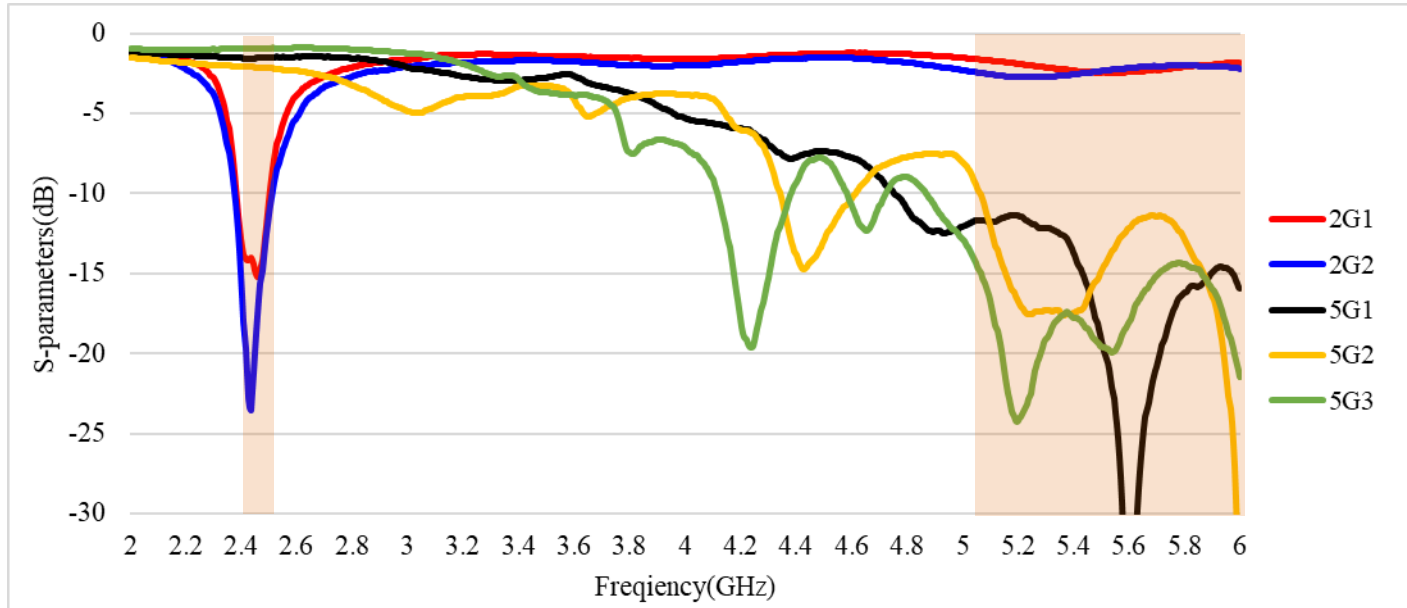
Antenna Specification

Item	2G1	2G2	5G1	5G2	5G3
Operating Frequency (MHz)	2400-2500	2400-2500	5150-5850	5150-5850	5150-5850
Return Loss	10 dB	10 dB	10 dB	10 dB	10 dB
Peak Gain	1.72 dBi	2.04 dBi	3.39 dBi	3.04 dBi	3.54 dBi
V.S.W.R	2 : 1	2 : 1	2 : 1	2 : 1	2 : 1
Efficiency	50 %(Max.)	52 %(Max.)	59 %(Max.)	55 %(Max.)	59 %(Max.)

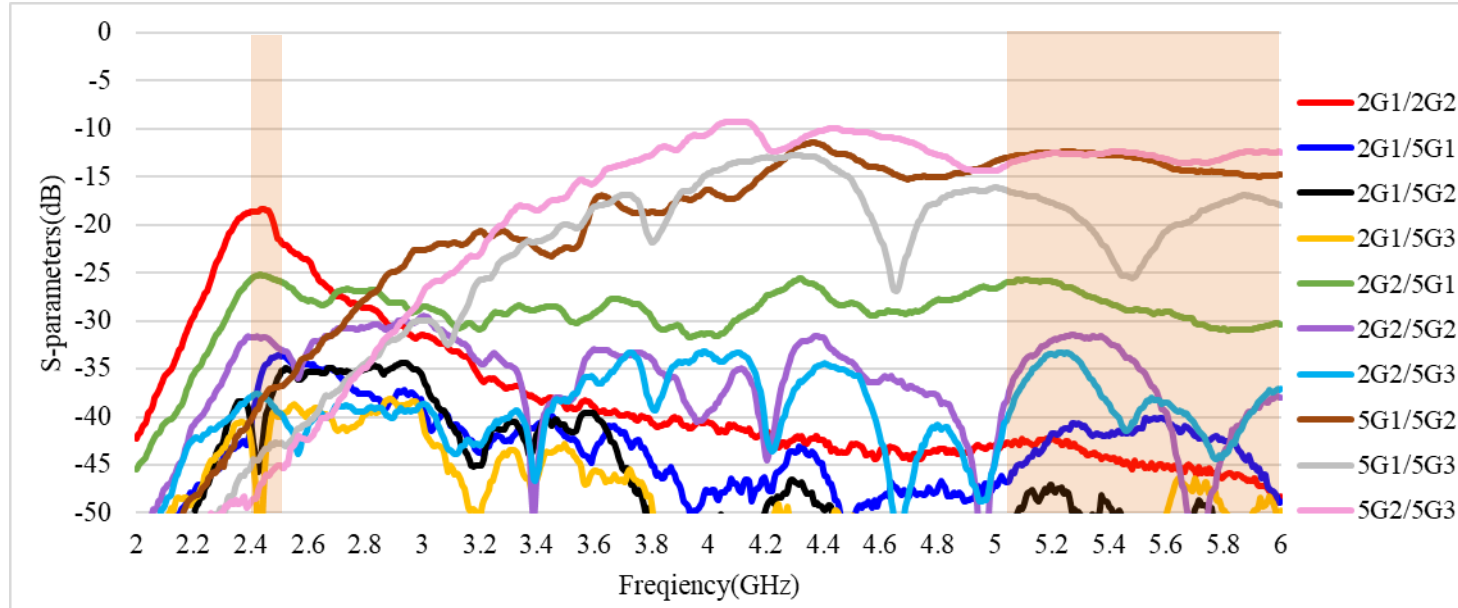
Antenna Placement



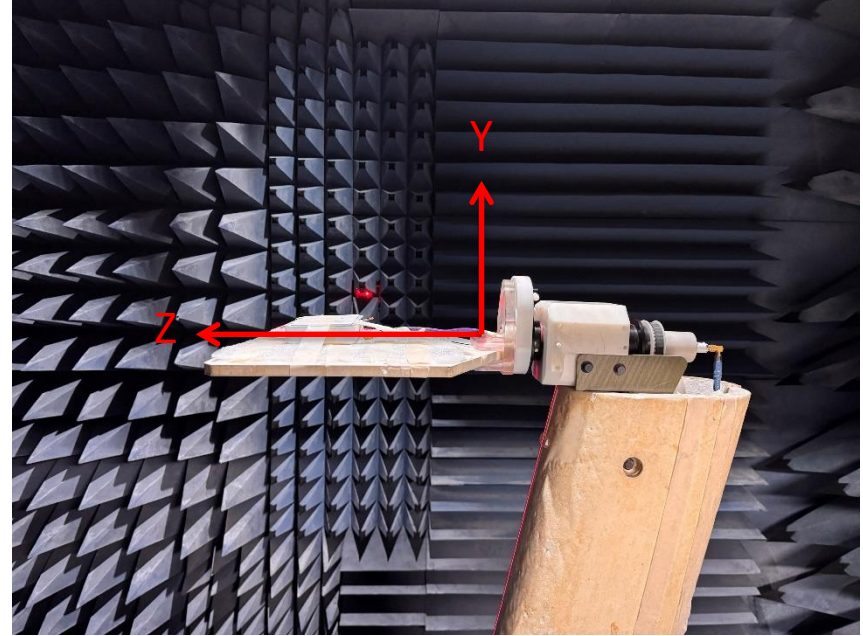
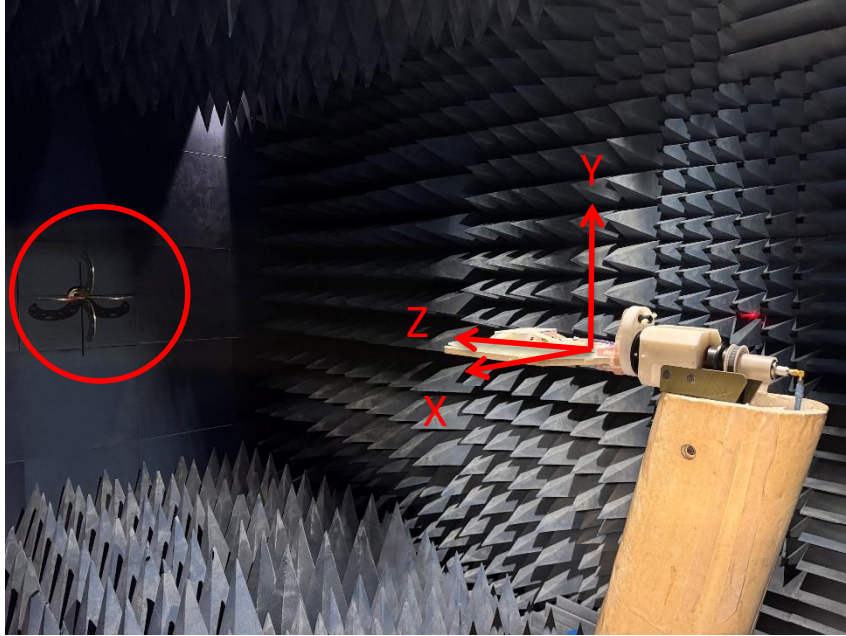
S-Parameter Result



Isolation Result



Chamber Measurement Photo



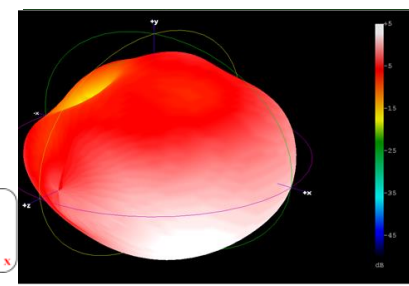
Peak Gain 、 Efficiency Result

Frequency (GHz)	2G1		2G2	
	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)
2.4	0.8	40	1.95	47
2.41	1.14	44	2.01	50
2.42	1.29	47	2.04	52
2.43	1.63	49	1.48	49
2.44	1.72	49	1.34	50
2.45	1.6	50	1.14	49
2.46	1.6	49	1.02	48
2.47	1.56	48	1.24	50
2.48	0.99	44	1.11	47
2.49	0.94	41	1.4	49
2.5	0.67	41	1.39	49

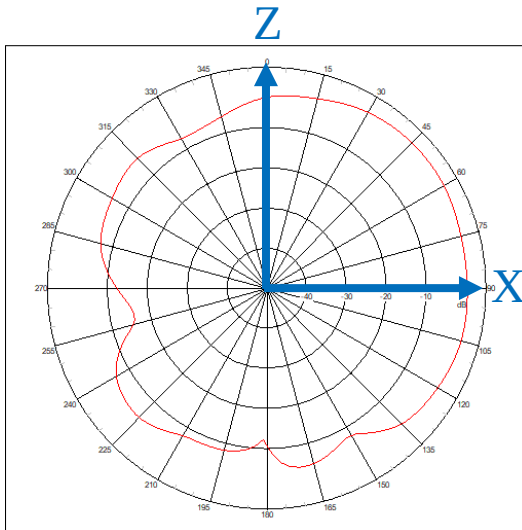
Frequency (GHz)	5G1		5G2		5G3	
	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)
5.15	2.07	49	2.76	49	2.8	49
5.25	2.29	49	3.04	52	3.24	50
5.35	2.61	52	2.65	52	3.47	51
5.47	2.79	50	2.2	49	2.94	49
5.6	3.39	55	2.41	50	2.34	57
5.725	3	57	2.99	55	2.83	58
5.785	3.07	58	2.71	52	3.54	59
5.85	2.87	59	2.55	54	3.26	55

2D/3D Antenna Pattern Result

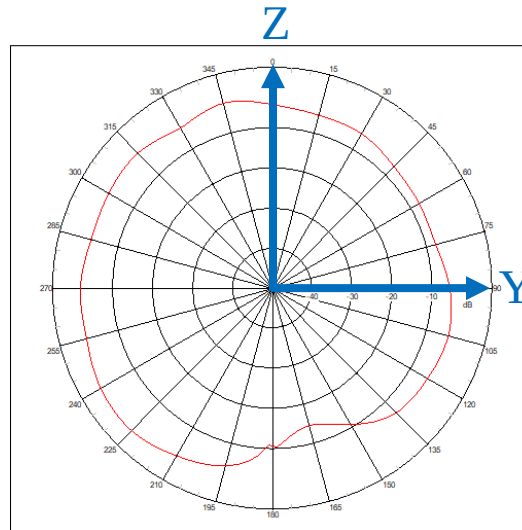
2G1
Frequency : 2450MHz



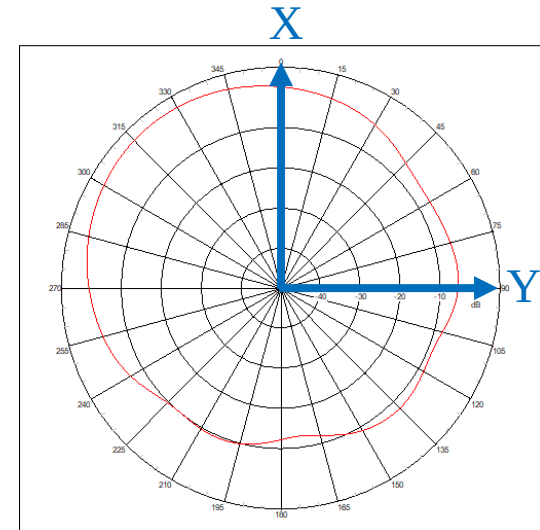
XZ-plane



YZ-plane



XY-plane



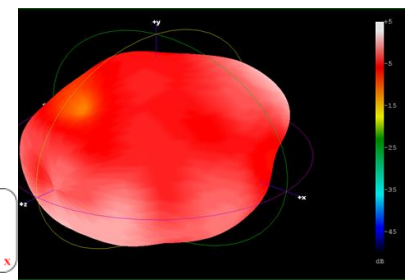
Far-field amplitude limits:

Max: 5 dB

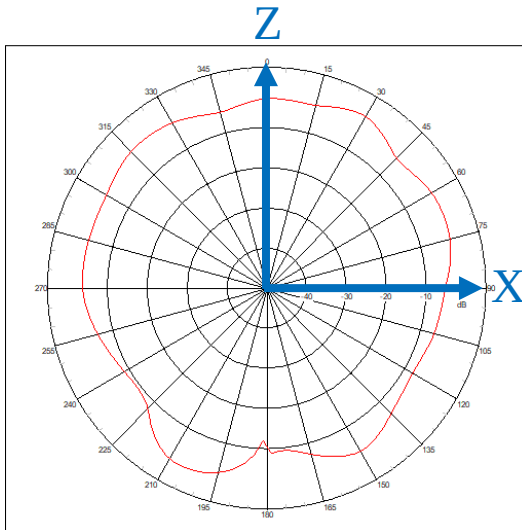
min: -50 dB

2D/3D Antenna Pattern Result

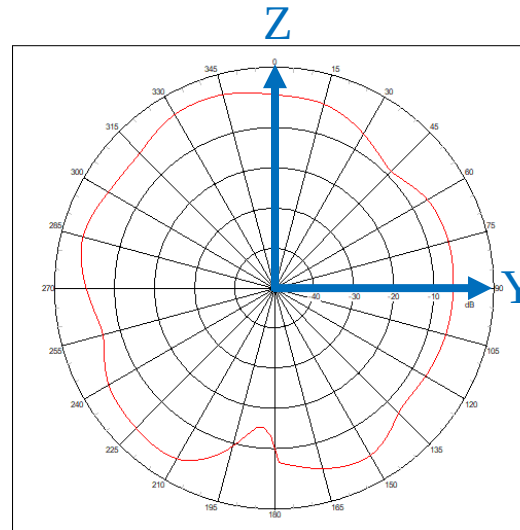
2G2
Frequency : 2450MHz



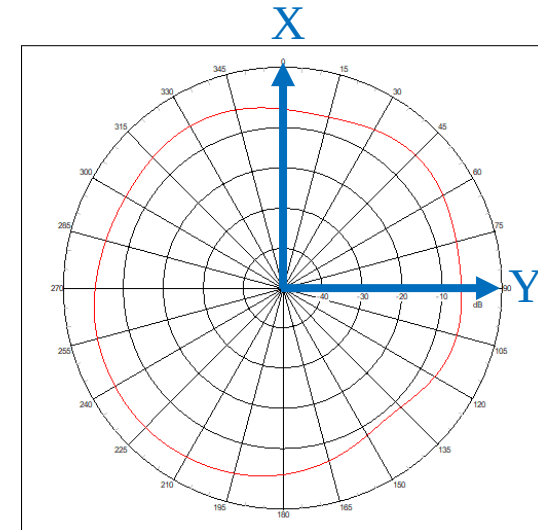
XZ-plane



YZ-plane



XY-plane



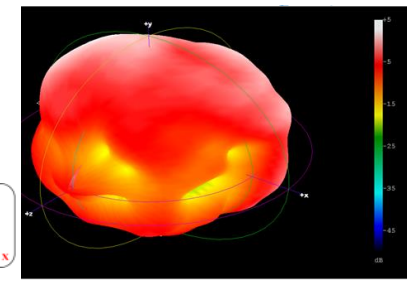
Far-field amplitude limits:

Max: 5 dB

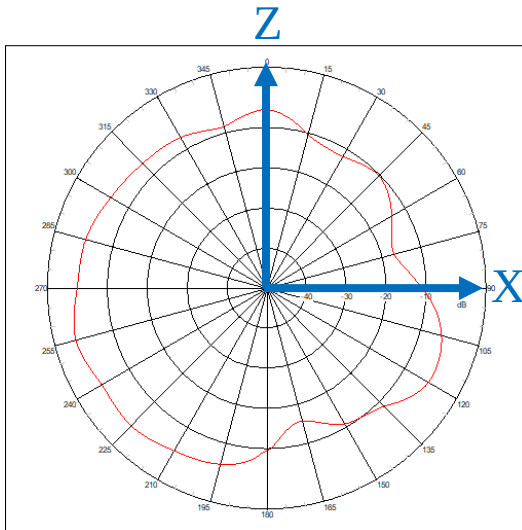
min: -50 dB

2D/3D Antenna Pattern Result

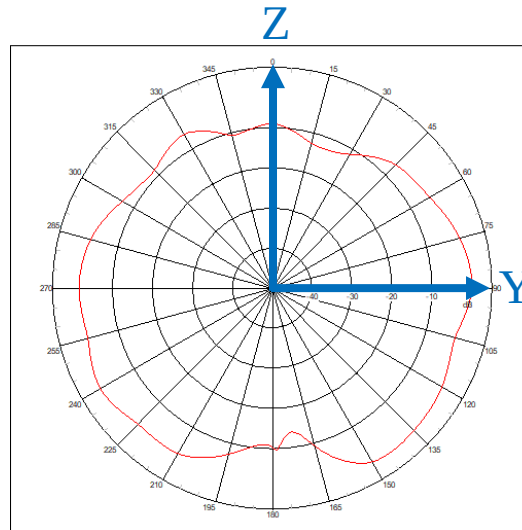
5G1
Frequency : 5600MHz



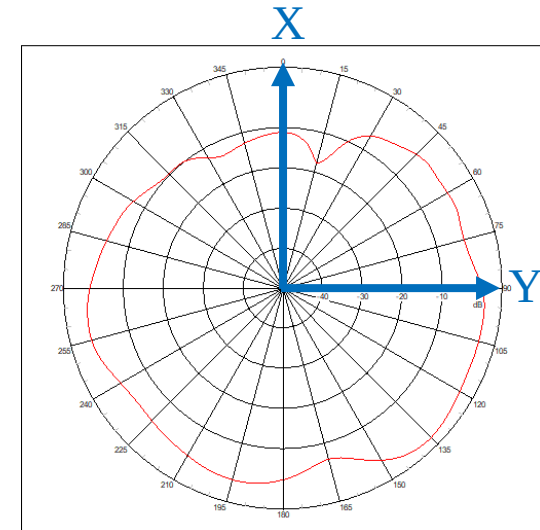
XZ-plane



YZ-plane



XY-plane



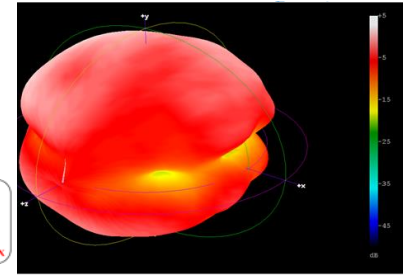
Far-field amplitude limits:

Max: 5 dB

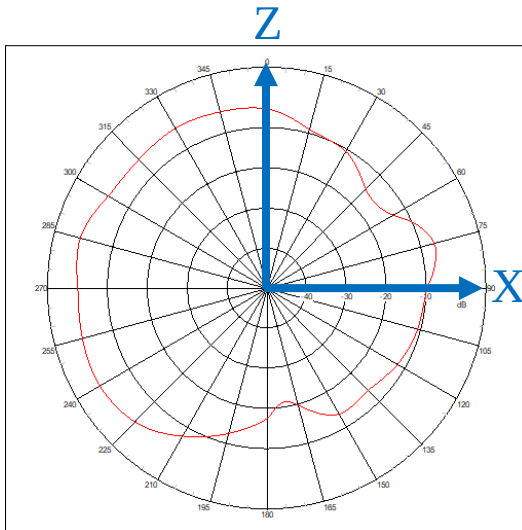
min: -50 dB

2D/3D Antenna Pattern Result

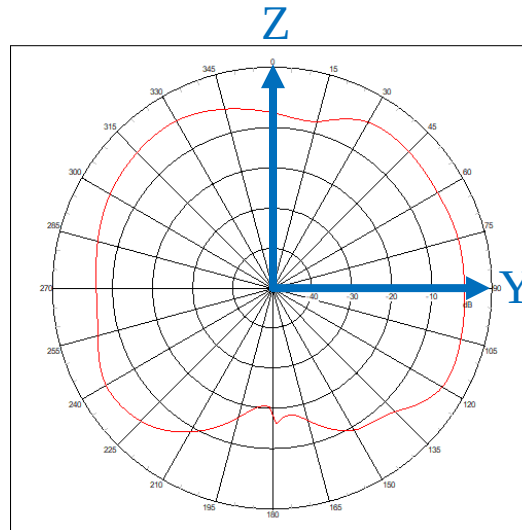
5G2
Frequency : 5600MHz



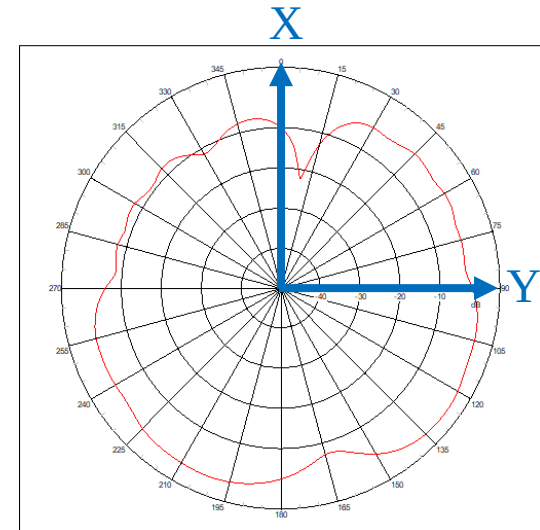
XZ-plane



YZ-plane



XY-plane



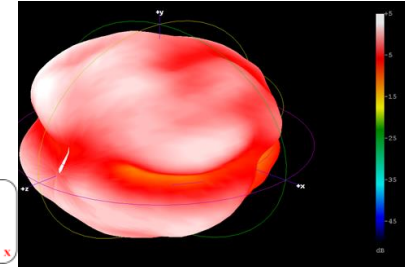
Far-field amplitude limits:

Max: 5 dB

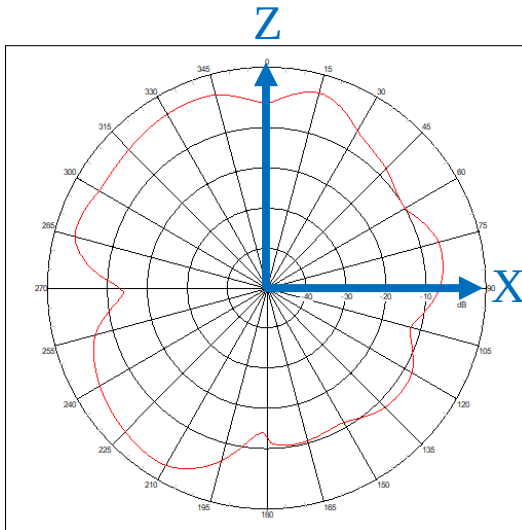
min: -50 dB

2D/3D Antenna Pattern Result

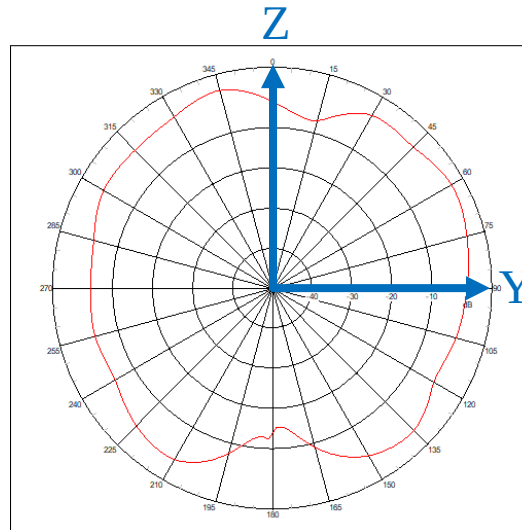
5G3
Frequency : 5600MHz



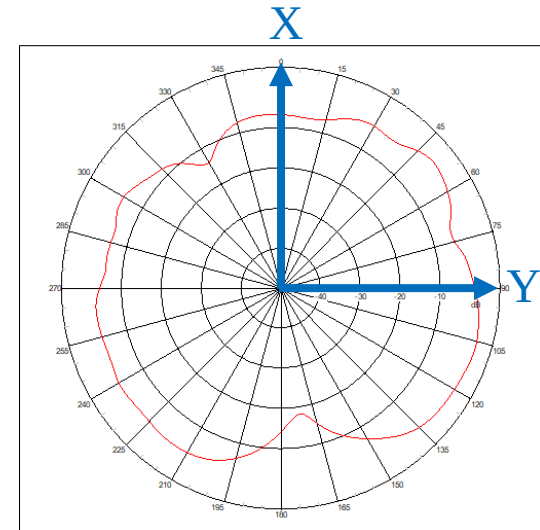
XZ-plane



YZ-plane



XY-plane



Far-field amplitude limits:

Max: 5 dB

min: -50 dB

Conclusion & Recommendations

- 目前CHIP天線特性滿足相對頻段需求。
- Isolation : 2G1 to 2G2 > 18 dB ; 5G to 5G > 12 dB ; 2G to 5G > 25dB 。



創造完美連結

MAKING THE PERFECT CONNECTION

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