



Z-COM, Inc.

5F, No. 8 Hsin-Ann Road

Hsinchu Science Park

Hsinchu 300, TAIWAN

Tel : 886-3-5777364

Fax : 886-3-5773359

Antenna Measurement Report

Model	AS240		
Antenna Brand	ZCOM		
Antenna Part number	70-A00085-YPN		
Antenna Description	PIFA PCB Antenna2.4GHz/5GHz		
Produced by	王耀庭	Published Date	2021/12/30
Tested by	王耀庭	Test Date	2021/12/13
Revised by	姜志炫	Revised Date	2022/12/08



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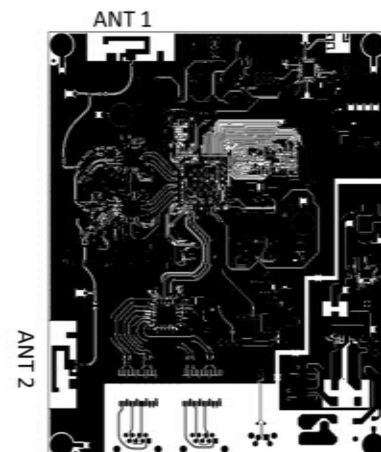
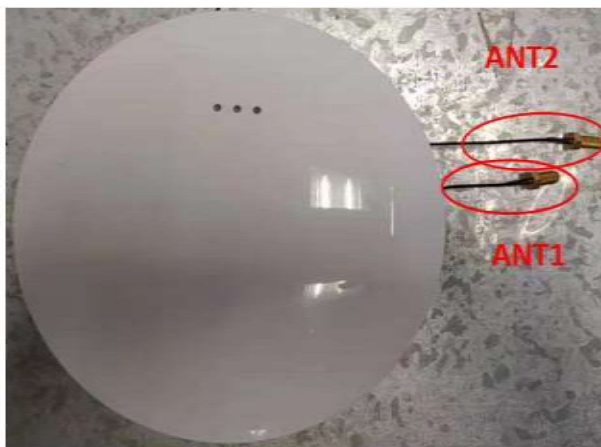
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1. Antenna General Data

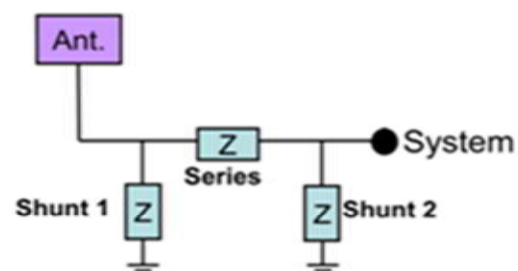
Product Name	PIFA PCB Antenna 2.4GHz/5GHz
Part Number	70-A00085-YPN
Frequency	2.4 – 2.5GHz / 5 – 6 GHz
Polarization	Linear
Operating Temperature	-40°C to 85°C
Impedance with matching	50 Ω
Antenna Type	PIFA PCB
Dimensions	26.5 x 9.0 x 1.6 [mm]

Mechanical Description

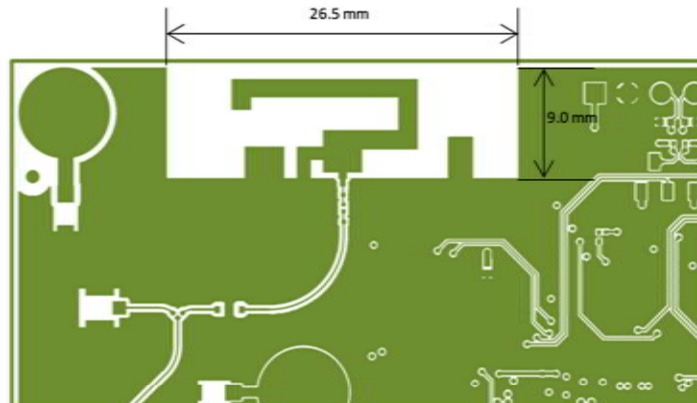


	Location	description	Vendor
ANT1	Shunt1	0.4pF	Walsin
	Shunt2	0.4pF	Walsin
	Series	1.4nH	MURATA

	Location	description	Vendor
ANT2	Shunt1	0.4pF	Walsin
	Shunt2	0.4pF	Walsin
	Series	1.4nH	MURATA



2. Antenna Dimensions



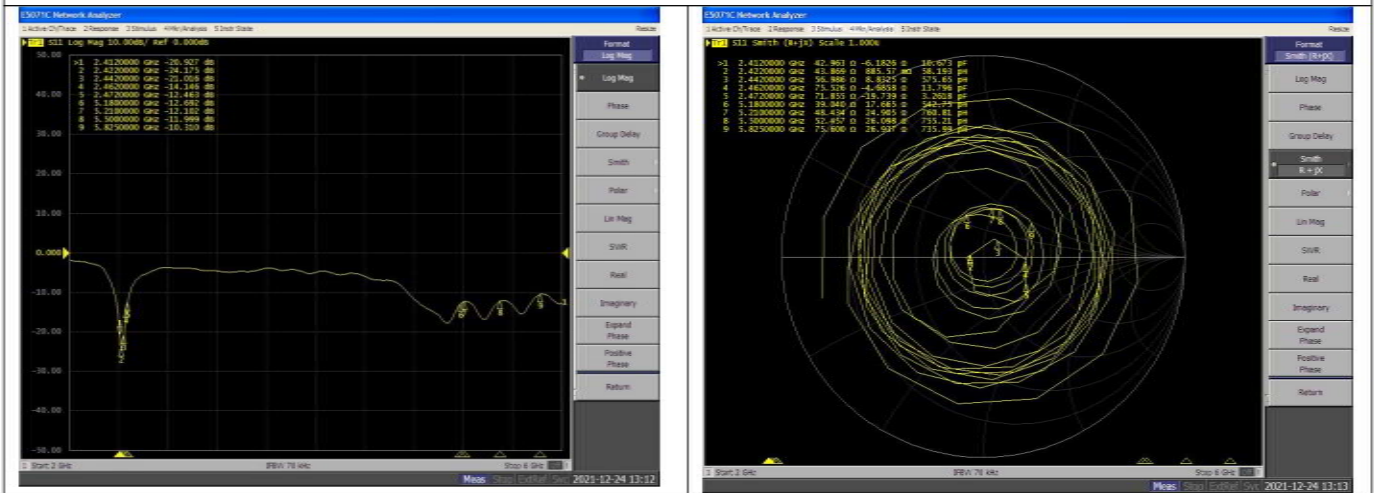
L	W	H
Length	Width	Height
26.5	9.0	1.6

Dimensions in mm

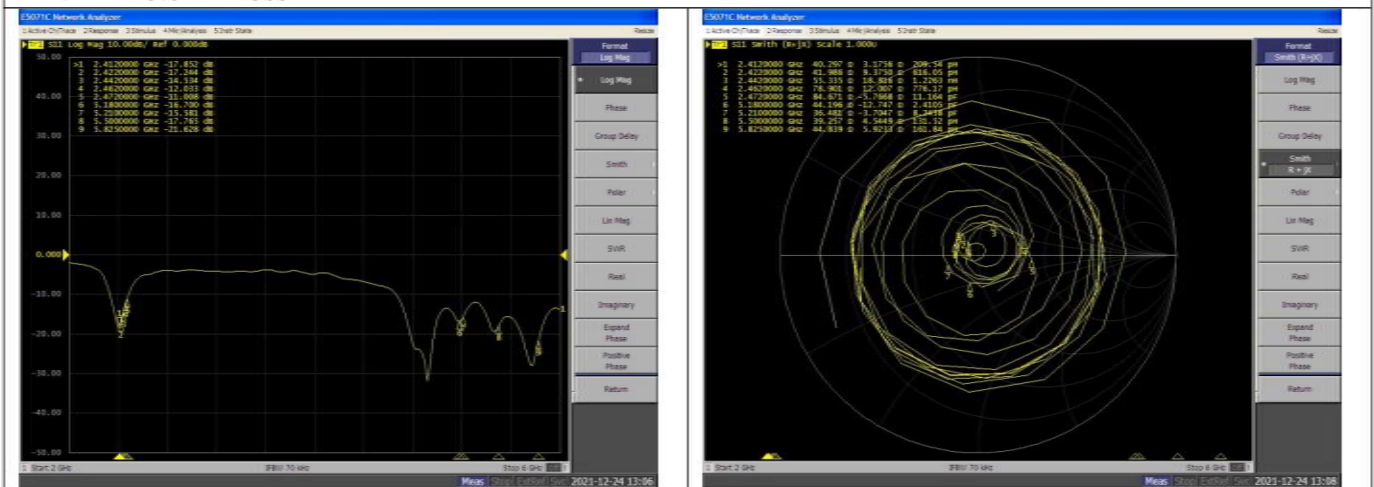
3. Antenna Return Loss and Isolation

3.1 Return Loss

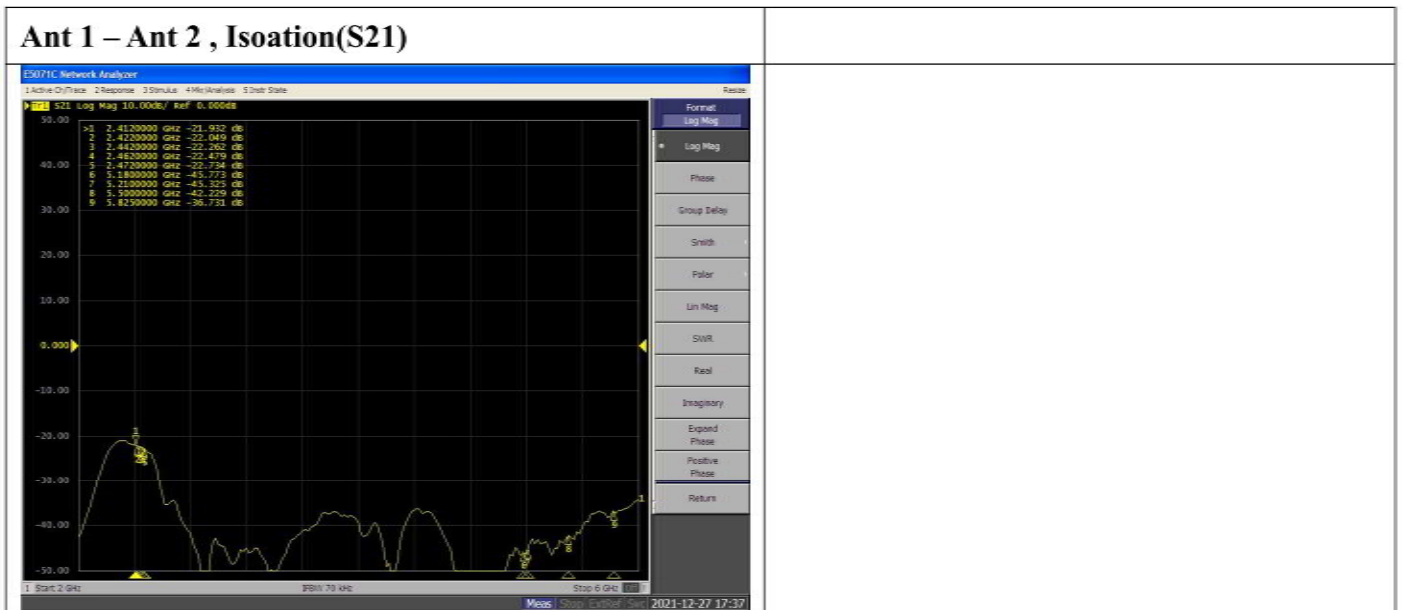
Ant 1 - Return Loss



Ant 2 - Return Loss



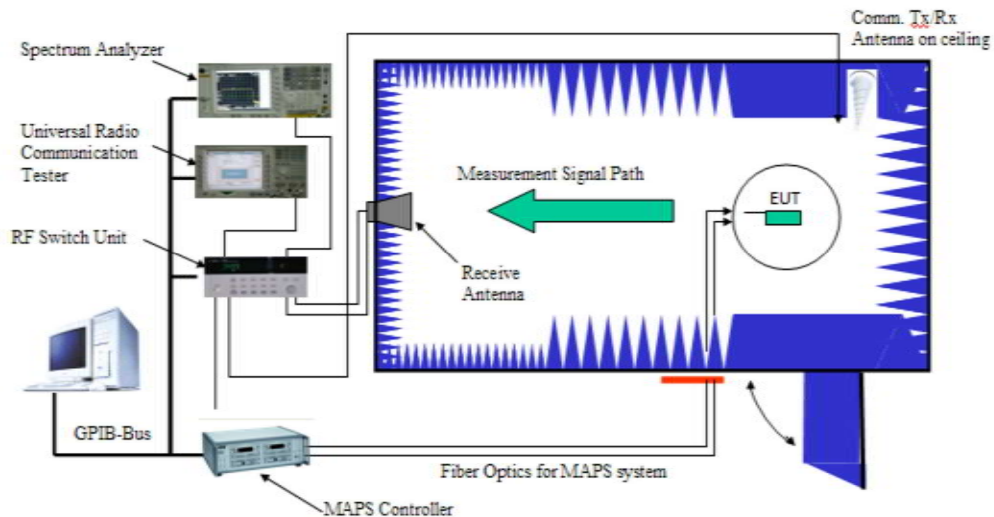
3.2 Isoation(S21)



4. Test Setup

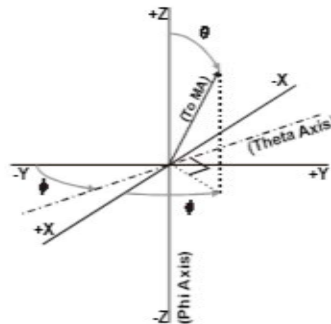
4.1 Test Configuration

The Great-Circle-cut method is used to measure values of the antenna 3D gain of EUT in OTA qualified anechoic chamber. The Equipment Under Test (EUT) geometry centre vertical projection at the centre of platform, the distance from EUT to the measurement antenna is 5 meter.



4.2 Test Measurement

Spherical coordinate system, Theta is from 0-180 degrees. Phi is from 0-360 degrees. Rotate the EUT and record the Data. The Step of rotation is 15 degrees. (EMQuest EMQ-220 Antenna Measurement Software)

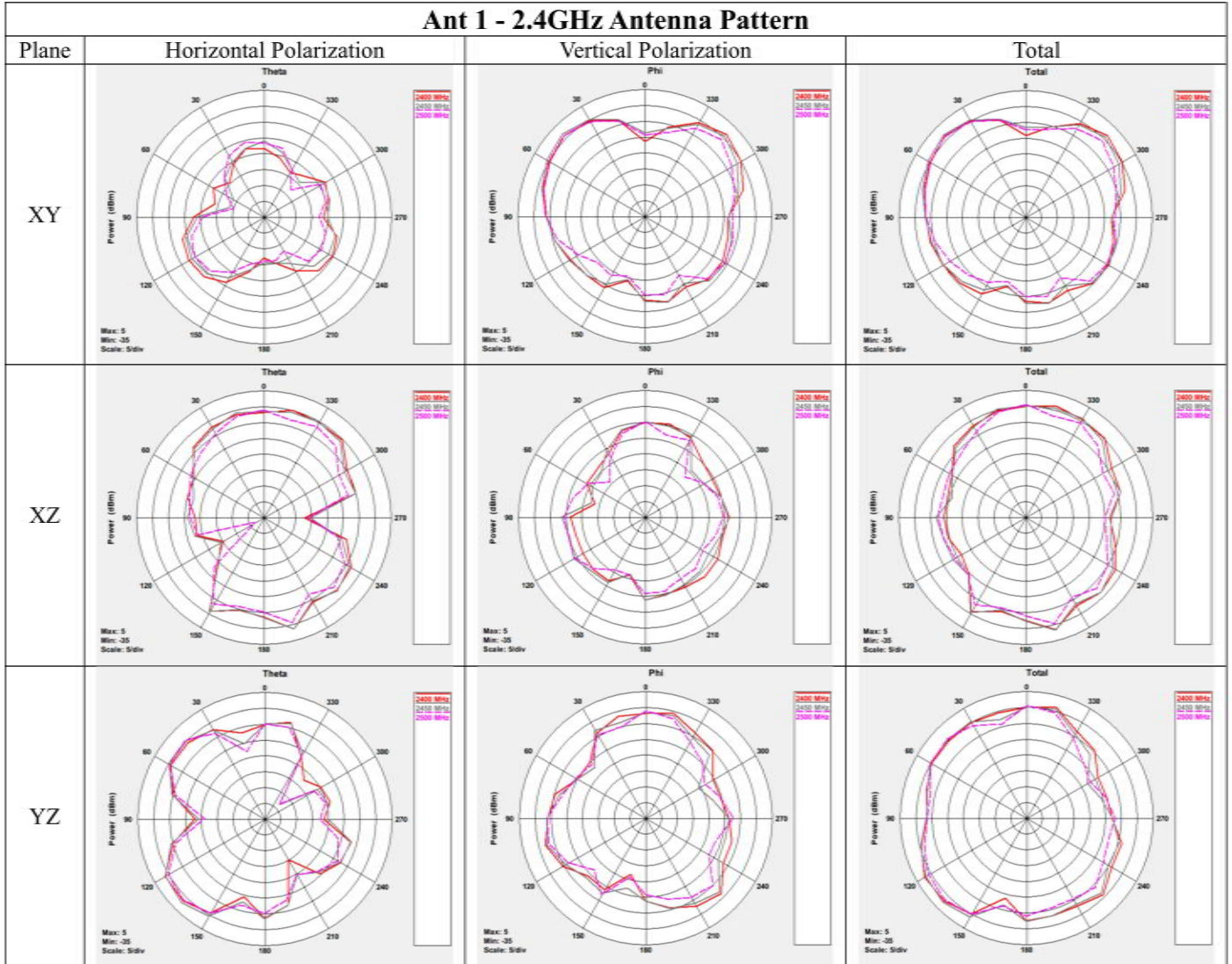


4.3 Test Equipment List

Type of Equipment	Model Number	SN	Manufacture	Calibration Date	Expiration Time
Network Analyzer	E5071B	MY48360960	Aglient	2021-05-20	2022-05-19
Quad-Ridge Horn Antenna 700 MHz – 10 GHz	3164-08	00062745	ETS	2021-05-20	2022-05-19
MAPS Controller	7006	00059957	ETS	2021-05-20	2022-05-19
Switch Control System	7001	MY42001152	ETS	2021-05-20	2022-05-19

5. Result of 2D Pattern

Ant 1 - 2.4GHz Antenna Pattern



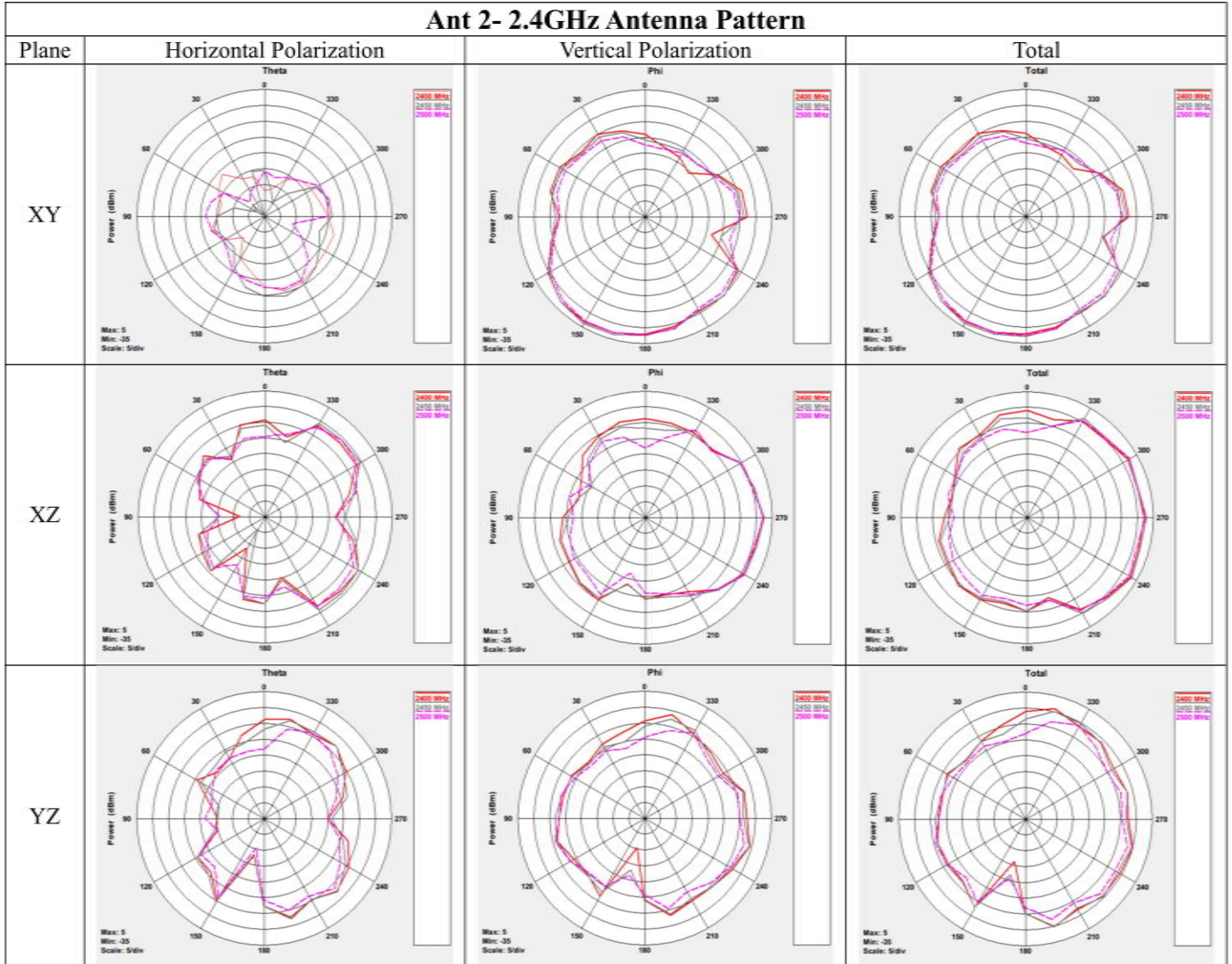


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Ant 2- 2.4GHz Antenna Pattern



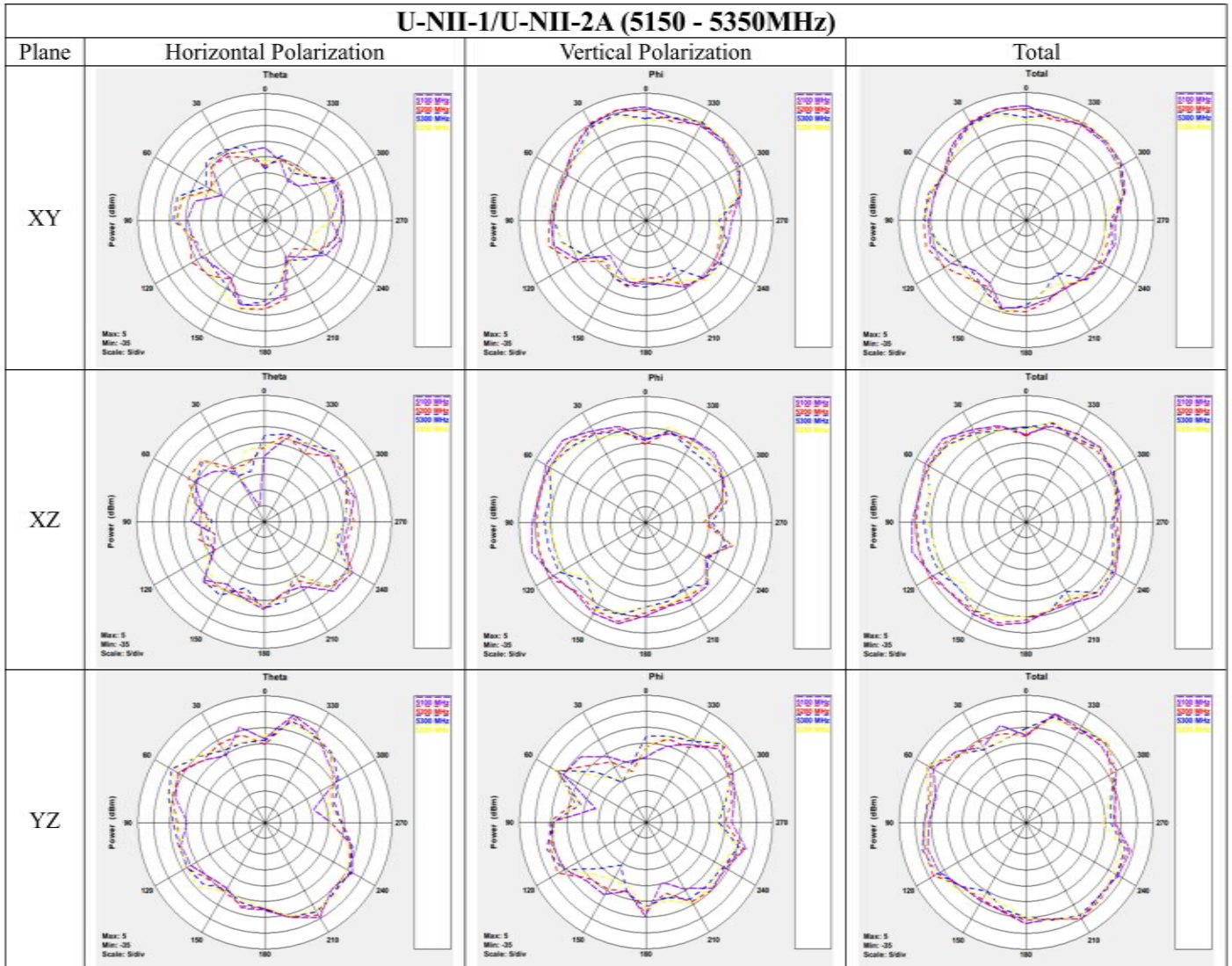


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Ant 1 - 5GHz Antenna Pattern - U-NII-1/U-NII-2A (5150 - 5350MHz)



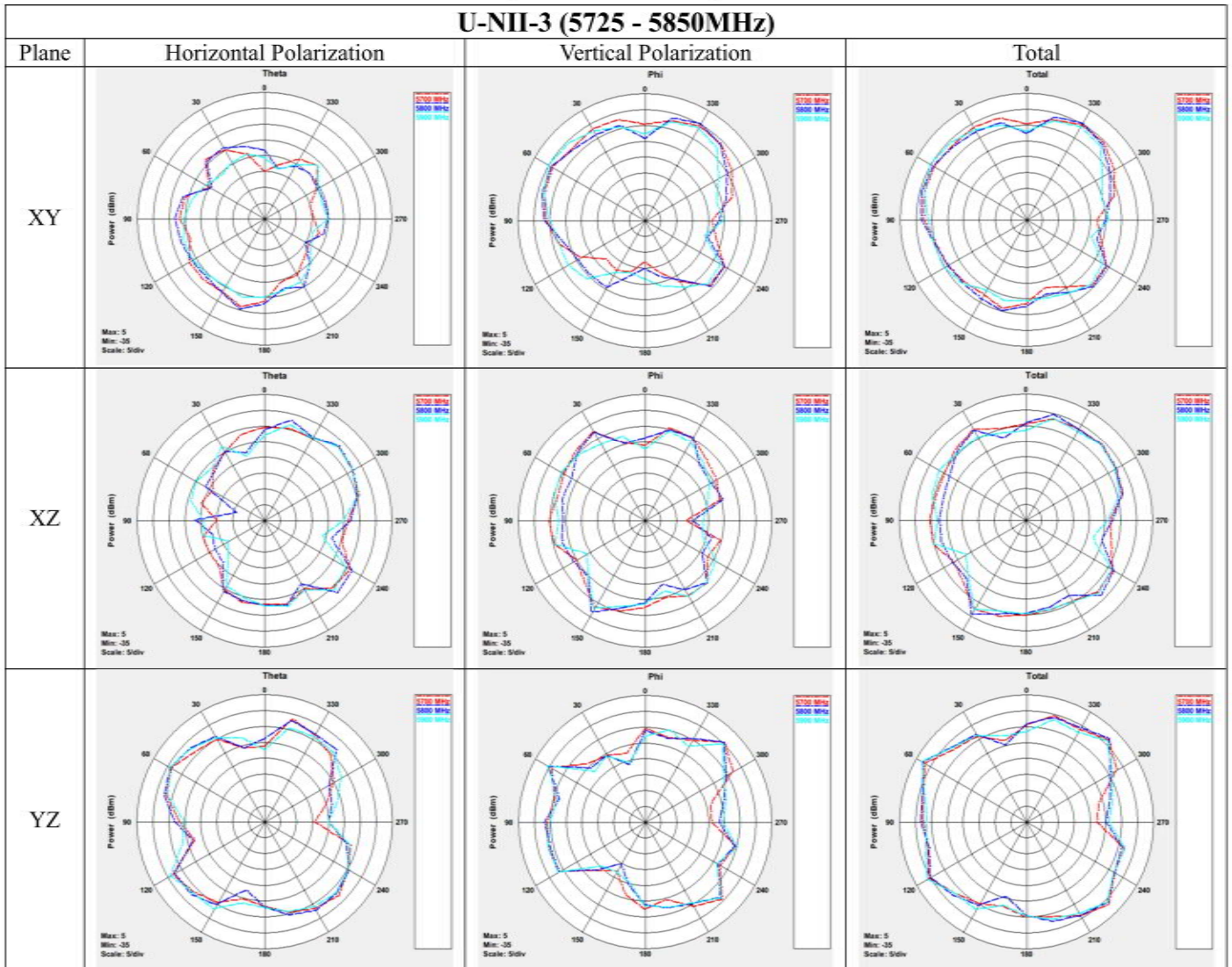


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Ant 1 - 5GHz Antenna Pattern - U-NII-3 (5725 - 5850MHz)



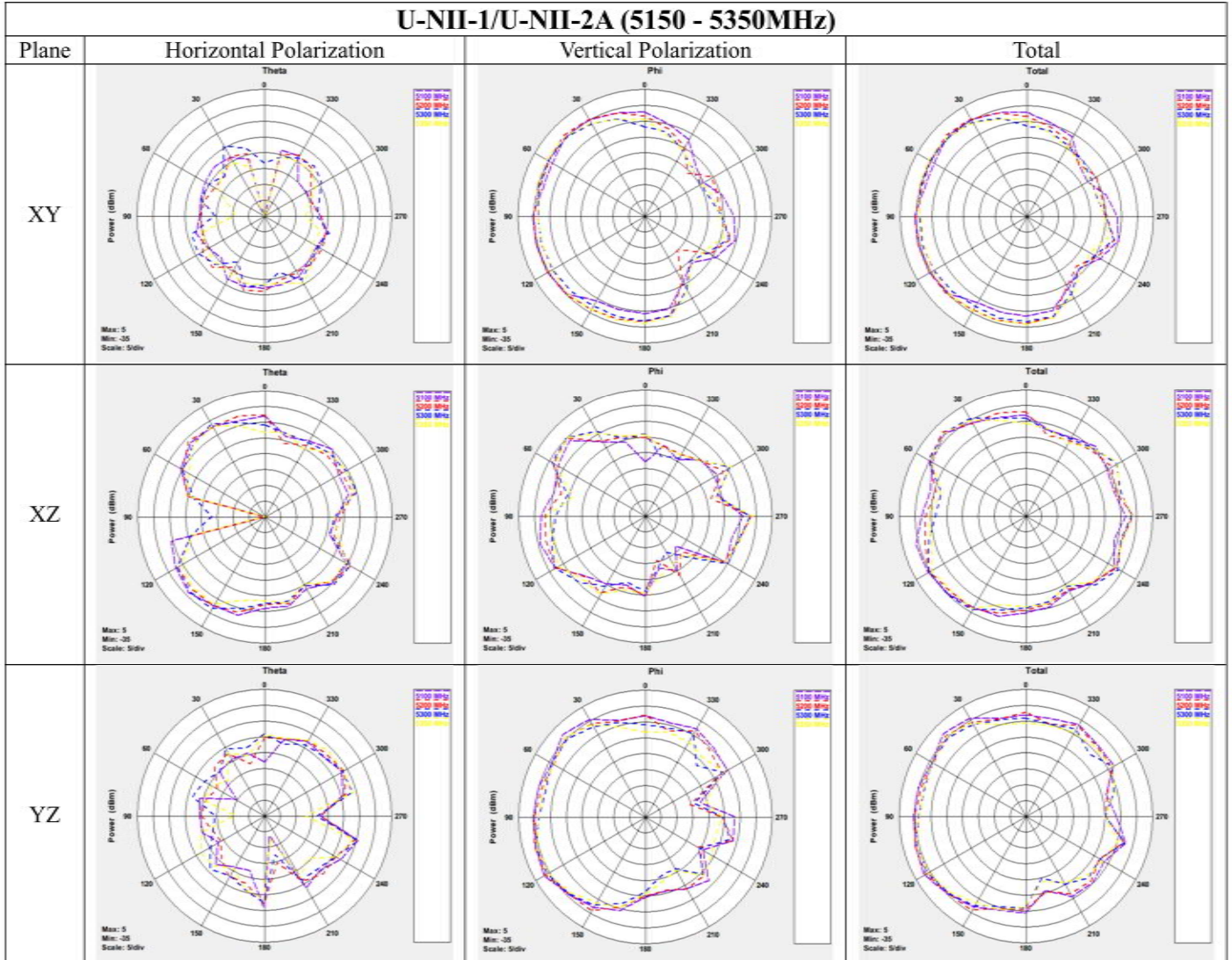


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Ant 2 - 5GHz Antenna Pattern - U-NII-1/U-NII-2A (5150 - 5350MHz)



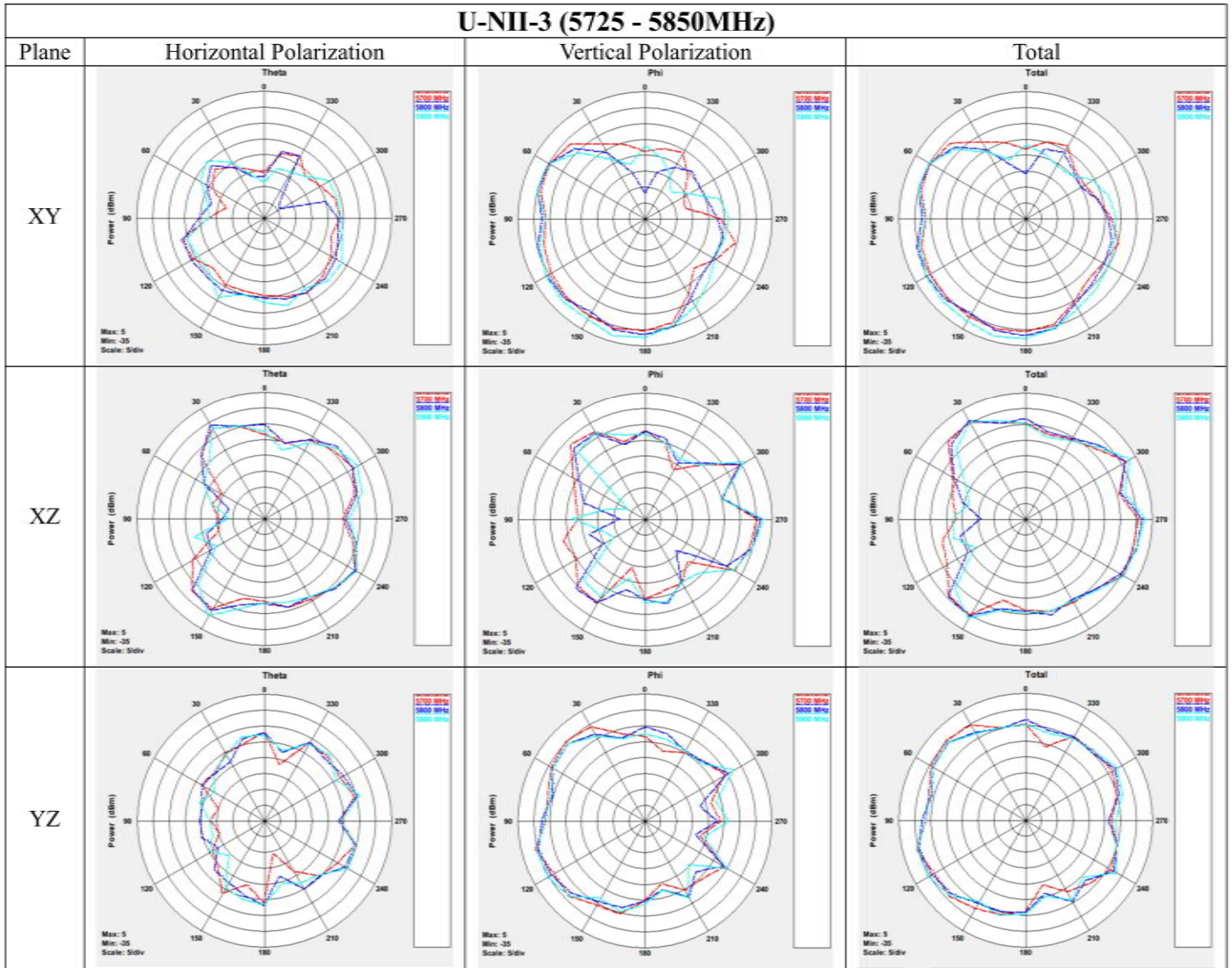


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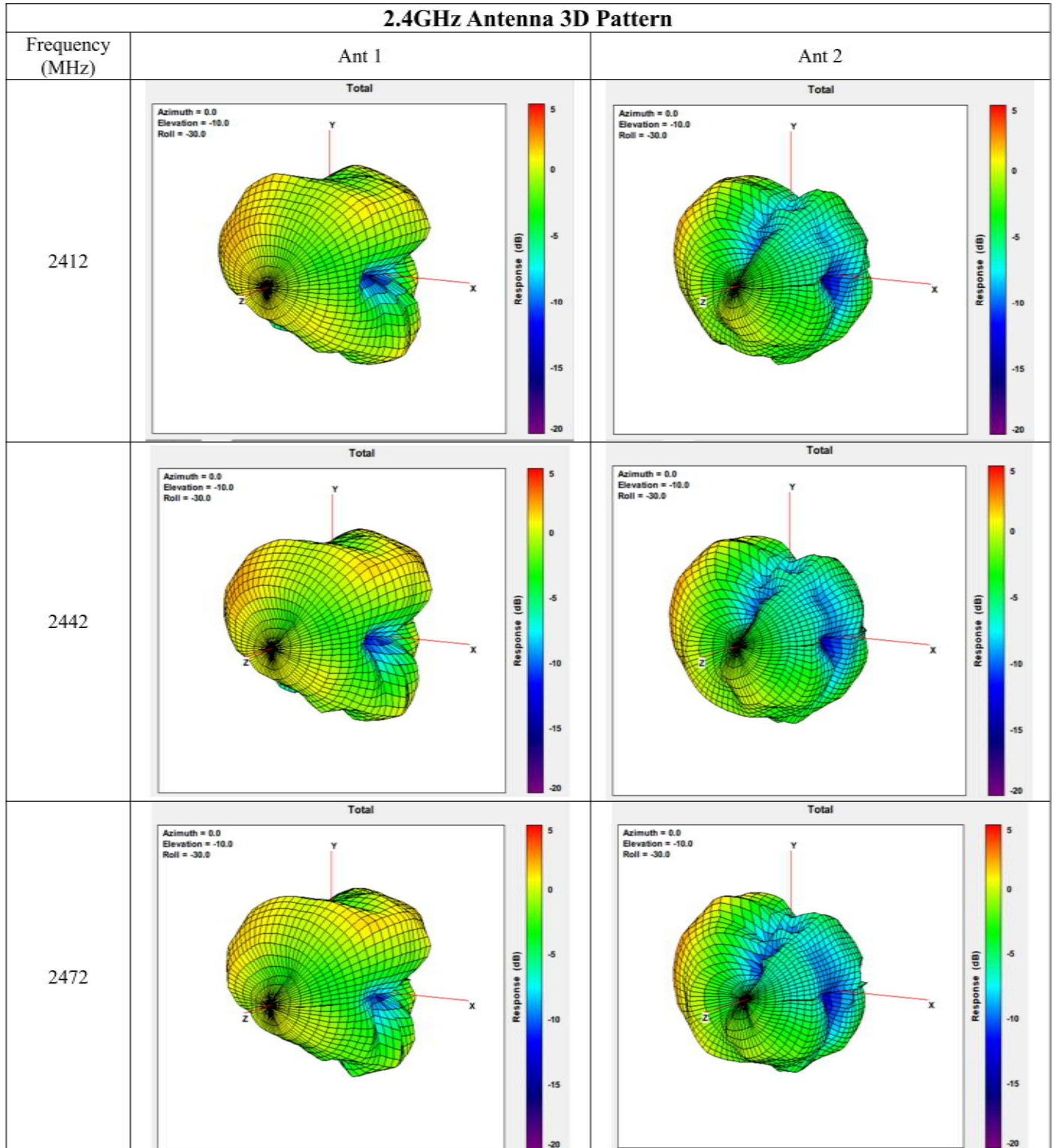
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Ant 2 - 5GHz Antenna Pattern - U-NII-3 (5725 - 5850MHz)



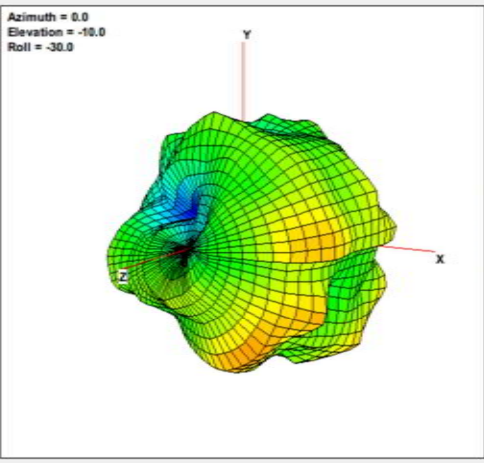
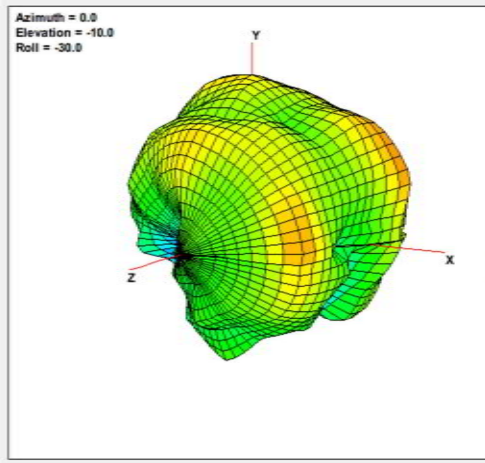
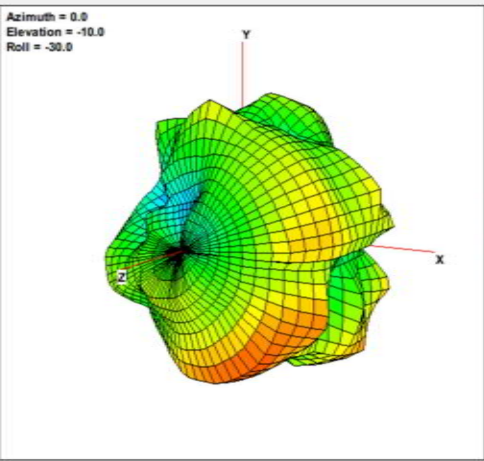
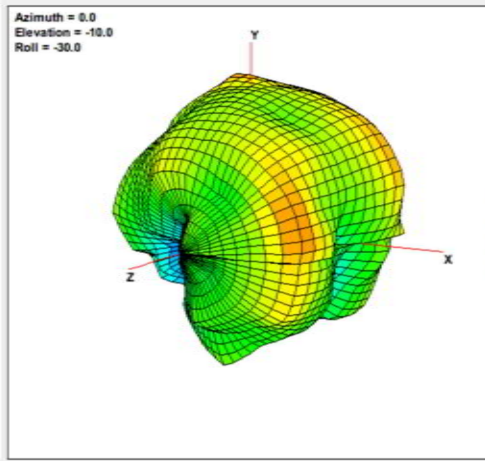
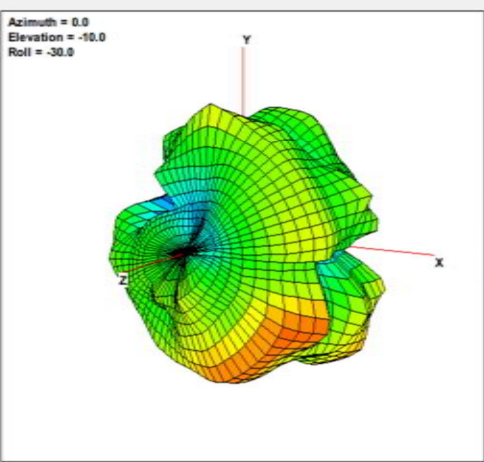
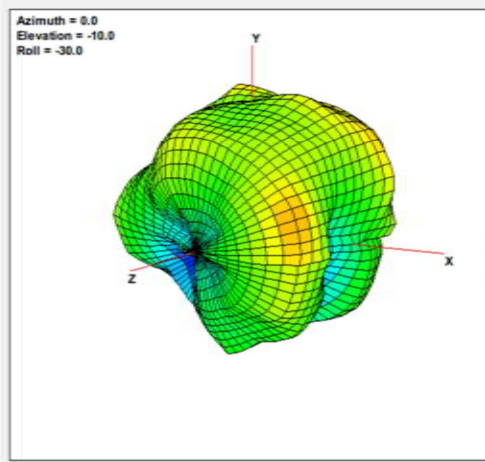
6. Result of 3D Pattern

2.4GHz Antenna 3D Pattern

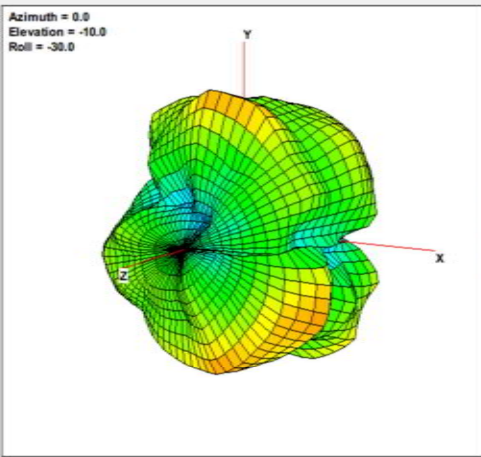
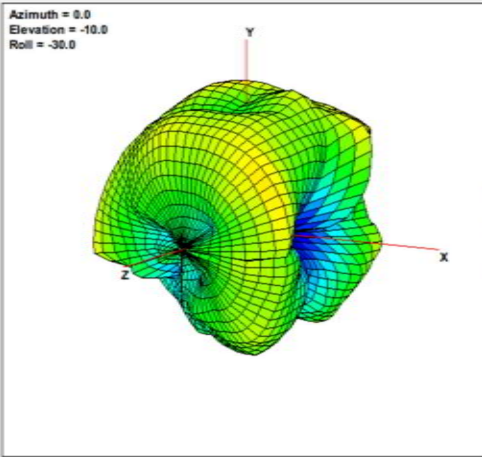
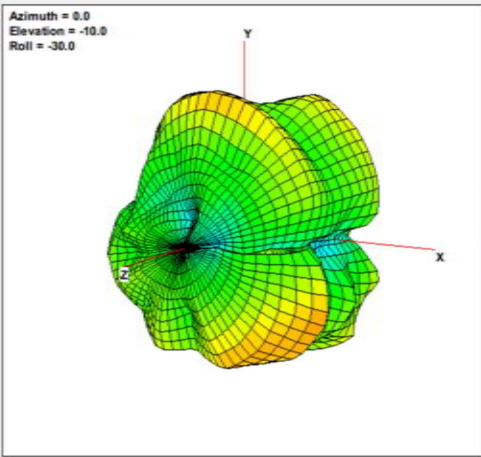
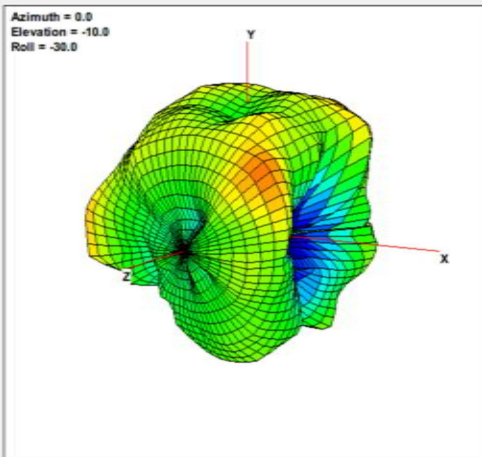


5GHz Antenna 3D Pattern – U-NII-1/U-NII-2A

5GHz Antenna 3D Pattern – U-NII-1/U-NII-2A

Frequency (MHz)	Ant 1	Ant 2
5150	<p>Total</p> <p>Azimuth = 0.0 Elevation = -10.0 Roll = -30.0</p>  <p>Response (dB)</p>	<p>Total</p> <p>Azimuth = 0.0 Elevation = -10.0 Roll = -30.0</p>  <p>Response (dB)</p>
5250	<p>Total</p> <p>Azimuth = 0.0 Elevation = -10.0 Roll = -30.0</p>  <p>Response (dB)</p>	<p>Total</p> <p>Azimuth = 0.0 Elevation = -10.0 Roll = -30.0</p>  <p>Response (dB)</p>
5350	<p>Total</p> <p>Azimuth = 0.0 Elevation = -10.0 Roll = -30.0</p>  <p>Response (dB)</p>	<p>Total</p> <p>Azimuth = 0.0 Elevation = -10.0 Roll = -30.0</p>  <p>Response (dB)</p>

5GHz Antenna 3D Pattern – U-NII-3

5GHz Antenna 3D Pattern –U-NII-3		
Frequency (MHz)	Ant 1	Ant 2
5750	<p>Total</p> <p>Azimuth = 0.0 Elevation = -10.0 Roll = -30.0</p>  <p>Response (dB)</p>	<p>Total</p> <p>Azimuth = 0.0 Elevation = -10.0 Roll = -30.0</p>  <p>Response (dB)</p>
5850	<p>Total</p> <p>Azimuth = 0.0 Elevation = -10.0 Roll = -30.0</p>  <p>Response (dB)</p>	<p>Total</p> <p>Azimuth = 0.0 Elevation = -10.0 Roll = -30.0</p>  <p>Response (dB)</p>

7. Result of Efficiency & Peak Gain

Antenna 1			Antenna 2		
Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)	Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
2400	67.81	2.82	2400	63.81	3.36
2450	65.34	2.85	2450	66.66	3.97
2500	50.14	1.60	2500	56.23	3.29
5100	54.43	2.83	5100	56.73	2.91
5150	52.70	3.12	5150	60.29	3.04
5200	53.08	3.74	5200	56.72	3.19
5250	60.42	3.23	5250	61.87	3.01
5300	51.48	3.74	5300	53.56	2.17
5350	52.68	3.42	5350	52.69	2.71
5450	62.21	4.48	5450	58.38	2.94
5500	62.82	4.33	5500	62.99	3.65
5550	63.70	3.88	5550	63.90	3.43
5600	64.44	4.14	5600	61.69	3.18
5650	59.07	3.68	5650	58.64	3.23
5700	56.96	3.31	5700	61.01	3.34
5750	56.45	2.90	5750	59.35	2.80
5800	57.09	3.29	5800	59.27	2.91
5850	56.04	2.87	5850	64.58	3.33
5900	54.26	3.07	5900	63.56	3.18
5950	60.17	3.13	5950	63.60	2.93
6000	60.06	3.30	6000	68.77	3.07

Appendix A: The EUT Appearance and Test Configuration

1. EUT Appearance

