



MW08

Antenna Test Report

Senao Networks, Inc.

Customer	Emplus
Project	MW08
Project Description	2.4G antenna *4 5G antenna *4 ScanRadio*1
Date	2023/04/19
Prepared by	Cell
Report Version	A01

- **Purpose**

Antenna verification for MW08 device, result as following.

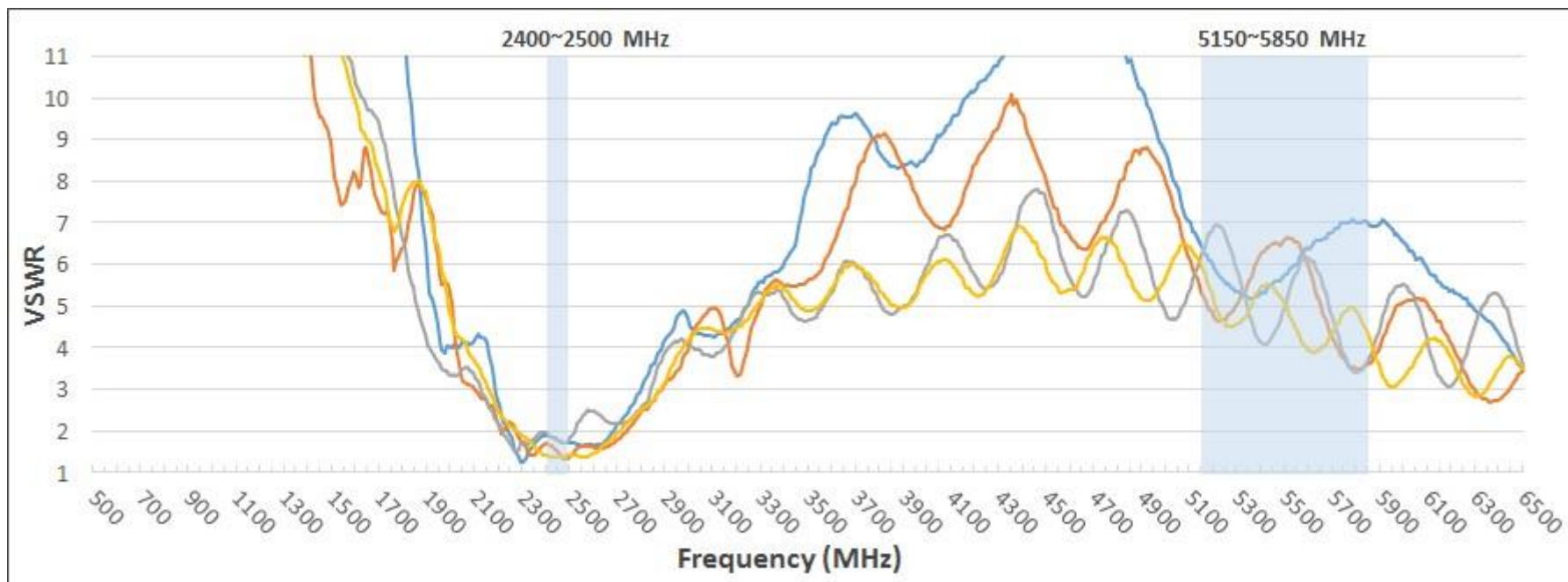
- **Agenda**

- Model name
- VSWR & Isolation
- Radiation Pattern
- Efficiency and Gain

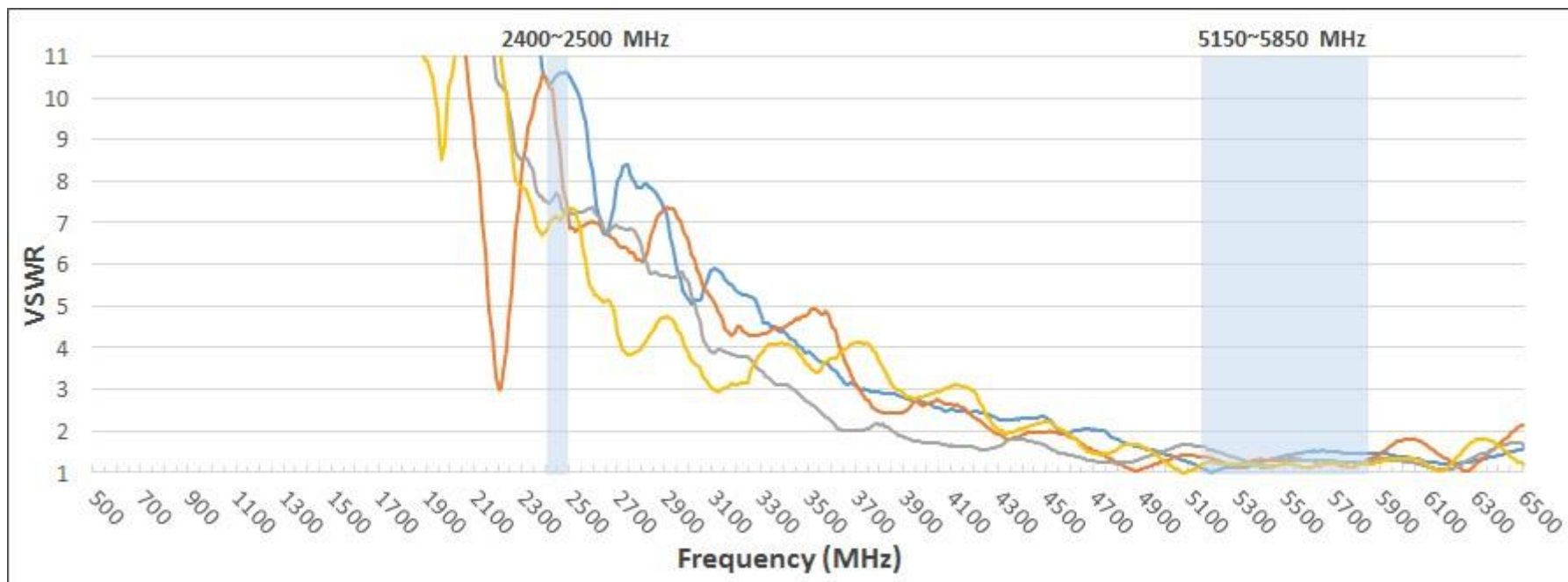
Antenna	Model name
2G3	5718A0514300
2G1	5718A0515300
2G0	5718A0516300
2G2	5718A0517300
5G0	5718A0518300
5G1	5718A0522300
5G3	5718A0520300
5G2	5718A0521300
BLE	5718A0524300
Scanning	5718A0601300

Manufactory : Senao Networks, Inc.

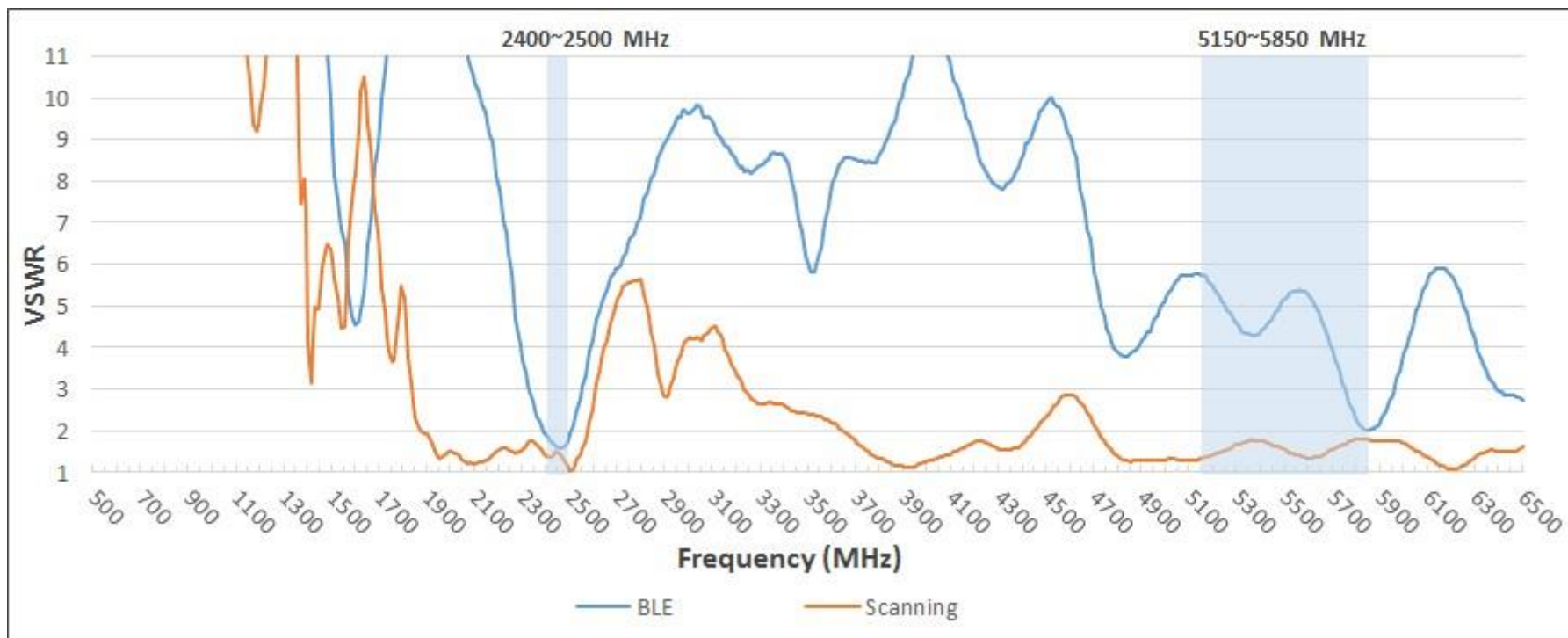
Add : No.500, Fuxing 3rd Rd., Guishan Dist., Taoyuan City 333001, Taiwan



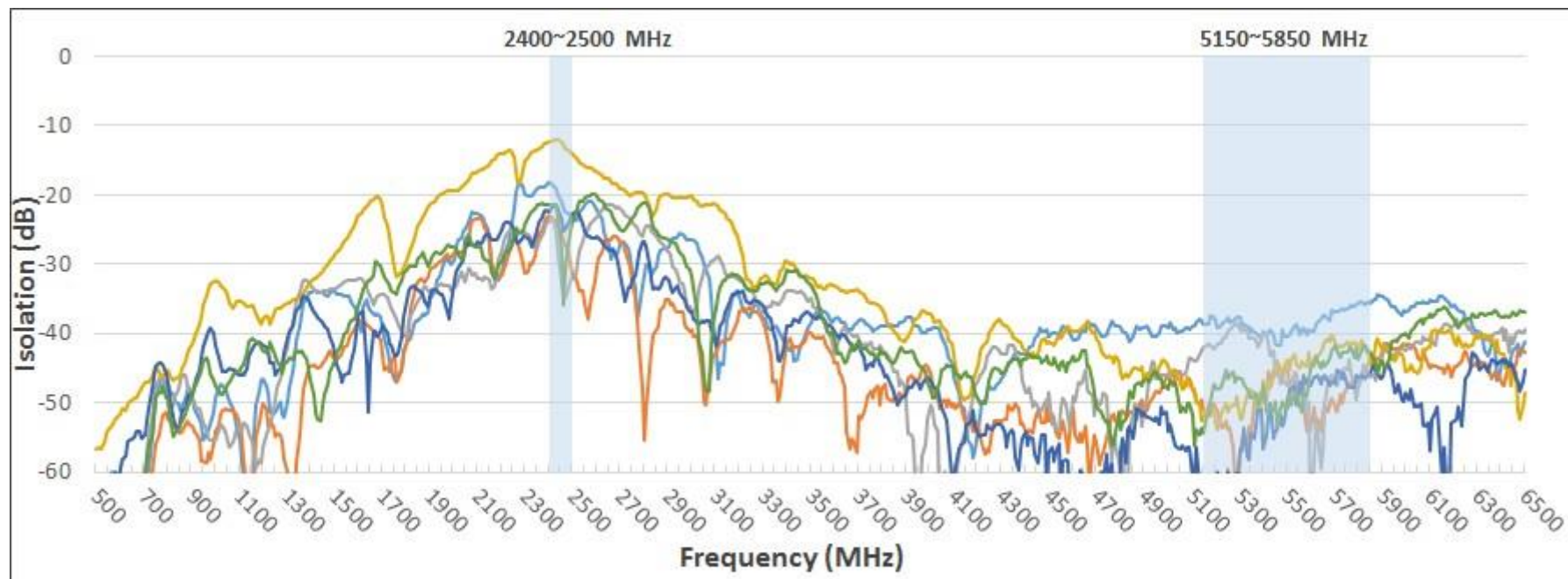
VSWR				
Freq. (MHz)	2G3	2G1	2G0	2G2
2400	1.88	1.69	1.95	1.40
2450	1.77	1.47	1.76	1.39
2500	1.73	1.40	1.82	1.42



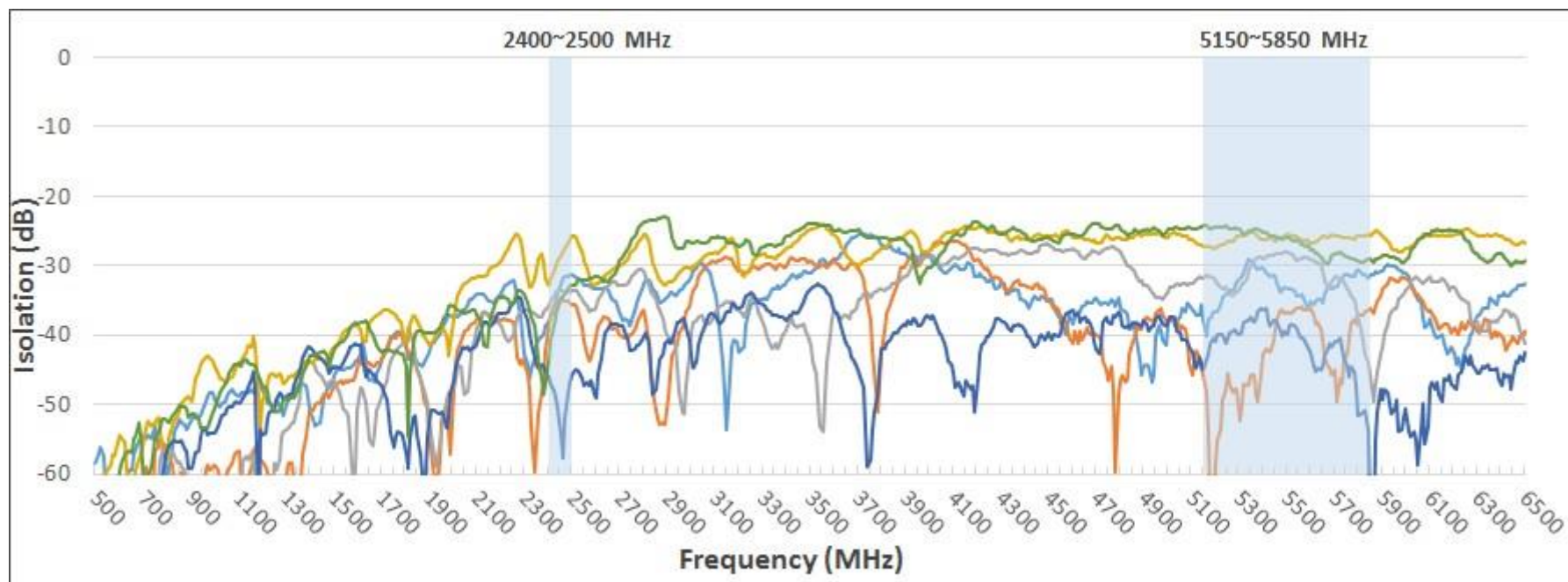
Freq. (MHz)	VSWR			
	5G0	5G1	5G3	5G2
5150	1.39	1.38	1.20	1.64
5500	1.13	1.31	1.06	1.21
5850	1.47	1.32	1.12	1.13



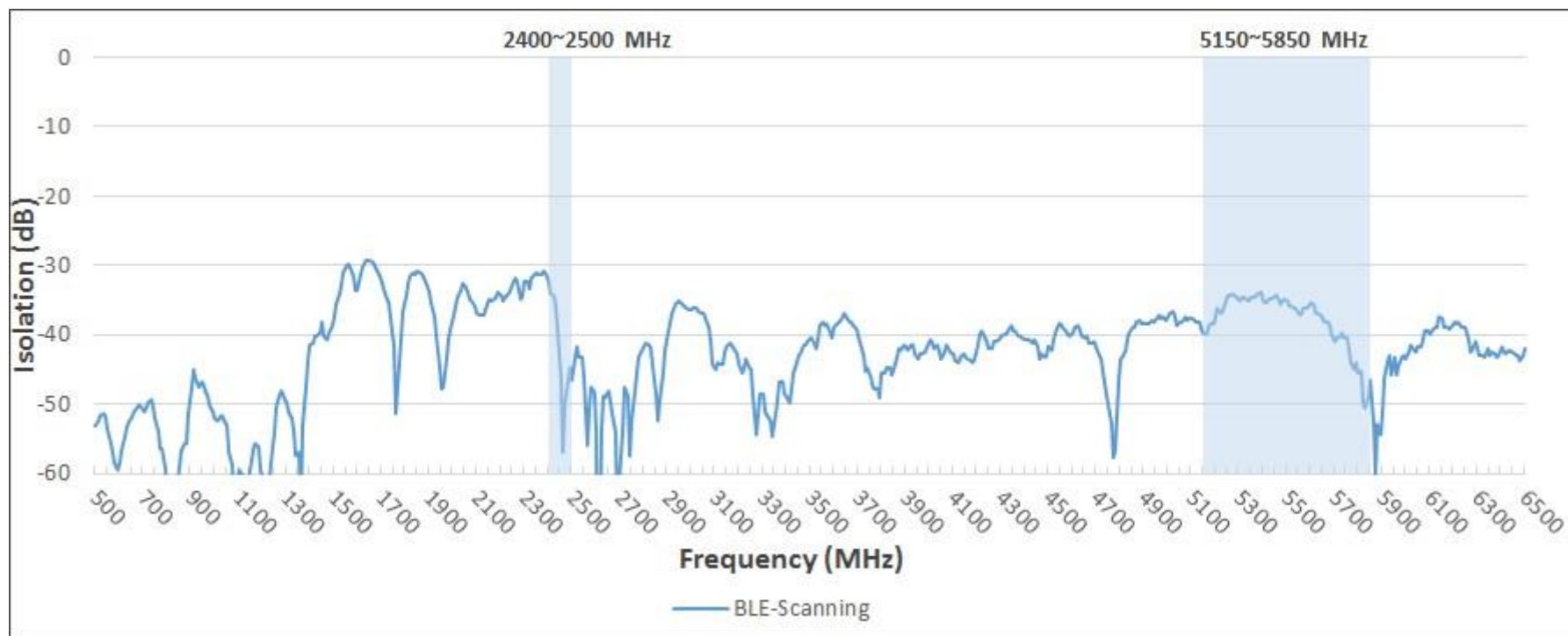
VSWR		
Freq. (MHz)	BLE	Scanning
2400	1.87	1.39
2450	1.60	1.47
2500	1.93	1.03
5150		1.34
5500		1.53
5850		1.78



Freq. (MHz)	Isolation					
	2G3-2G1	2G3-2G0	2G3-2G2	2G1-2G0	2G1-2G2	2G0-2G2
2400	-18.17	-22.96	-23.65	-12.42	-22.39	-21.42
2450	-21.05	-25.51	-32.70	-12.40	-23.54	-28.34
2500	-23.44	-31.51	-32.13	-14.15	-22.82	-23.80

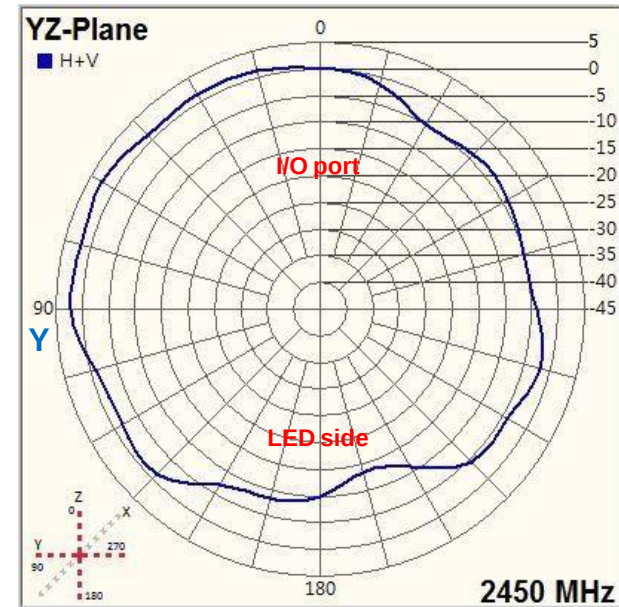
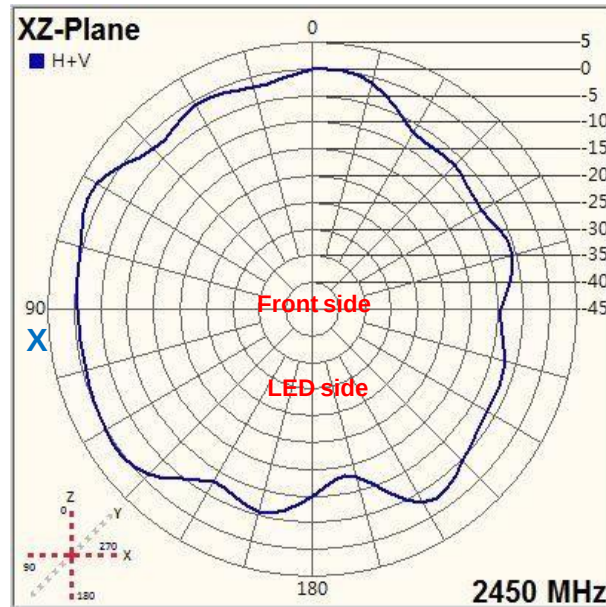
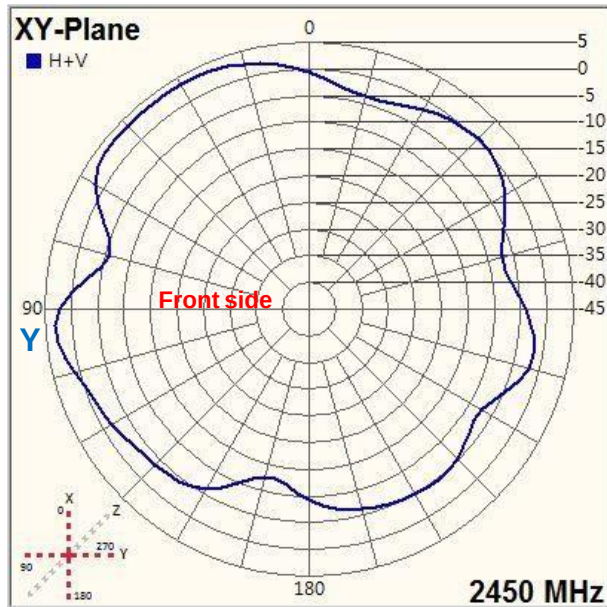


Isolation						
Freq. (MHz)	5G0-5G1	5G0-5G3	5G0-5G2	5G1-5G3	5G1-5G2	5G3-5G2
5150	-38.01	-45.90	-31.76	-27.40	-45.11	-24.34
5500	-33.28	-36.76	-28.12	-25.39	-40.03	-26.09
5850	-31.30	-36.11	-45.84	-25.74	-69.13	-29.17

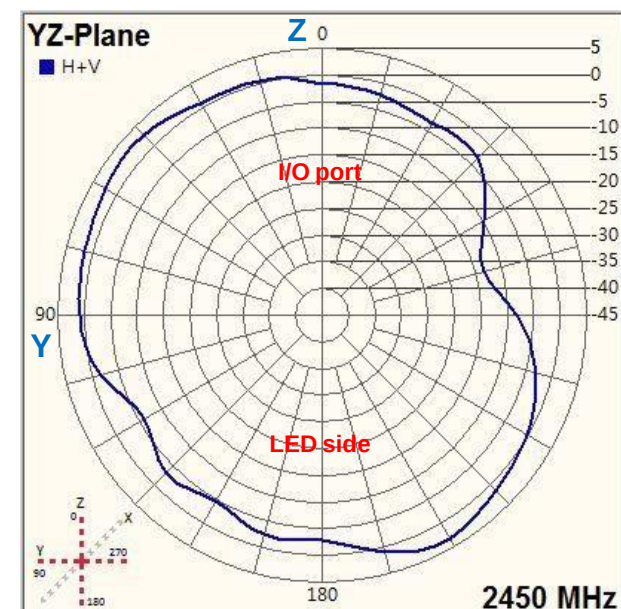
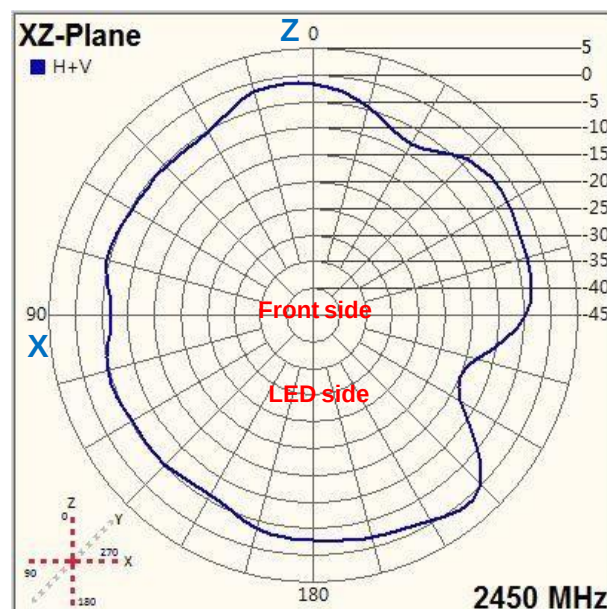
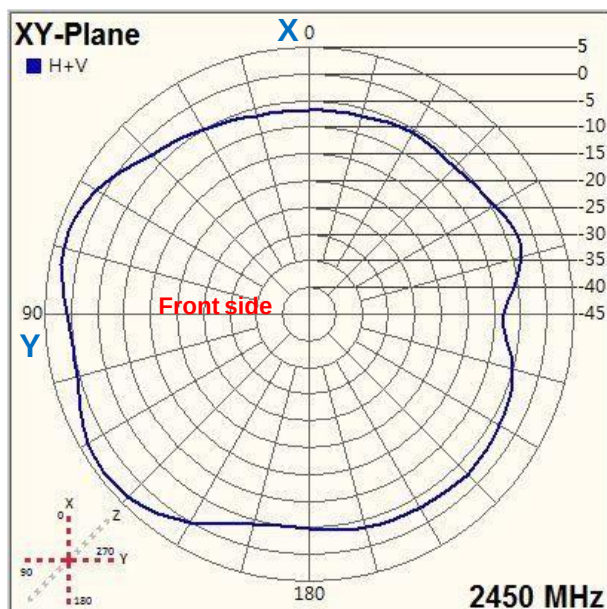


Isolation	
Freq. (MHz)	BLE-Scanning
2400	-32.42
2450	-46.47
2500	-46.67
5150	-39.76
5500	-35.21
5850	-46.44

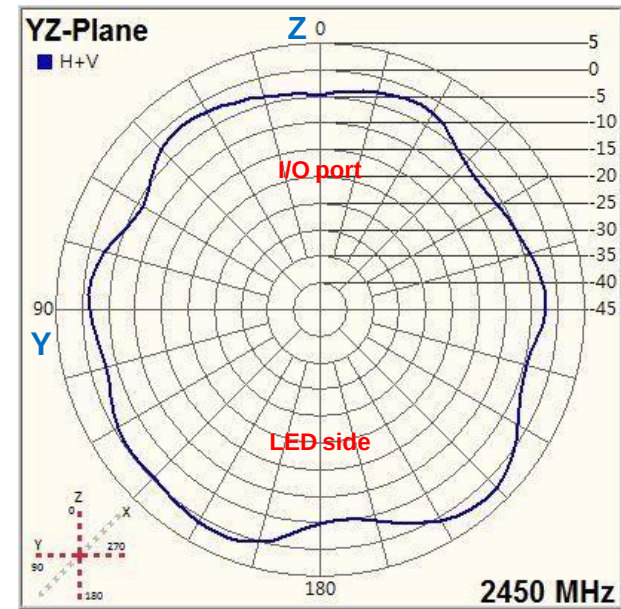
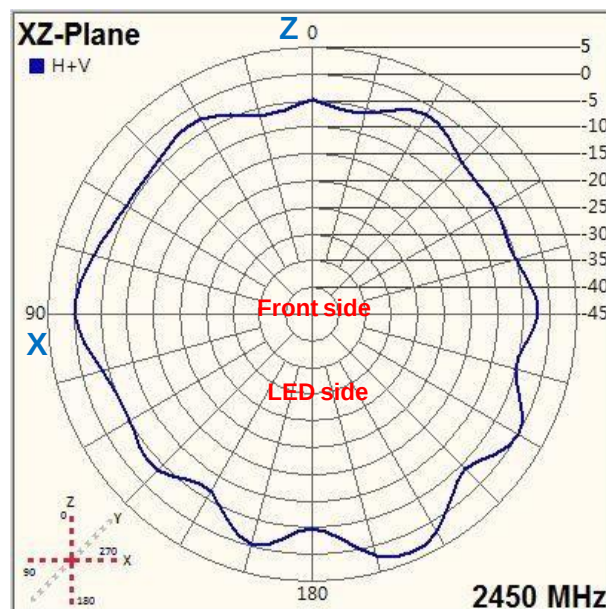
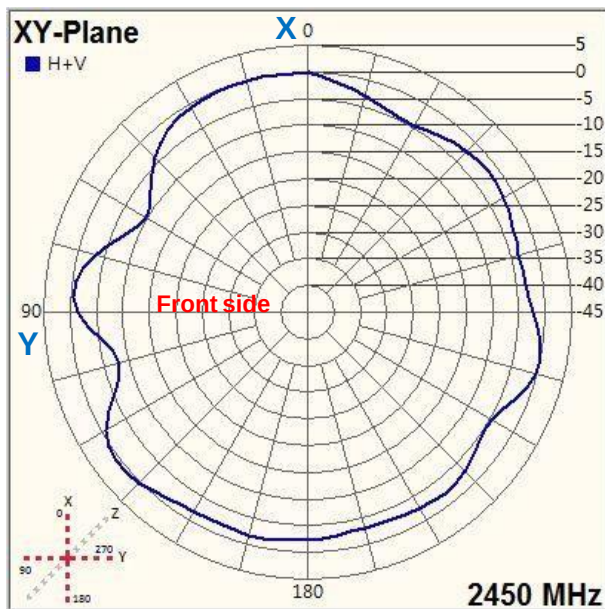
2D Radiation Pattern – 2G0 @ 2.45GHz



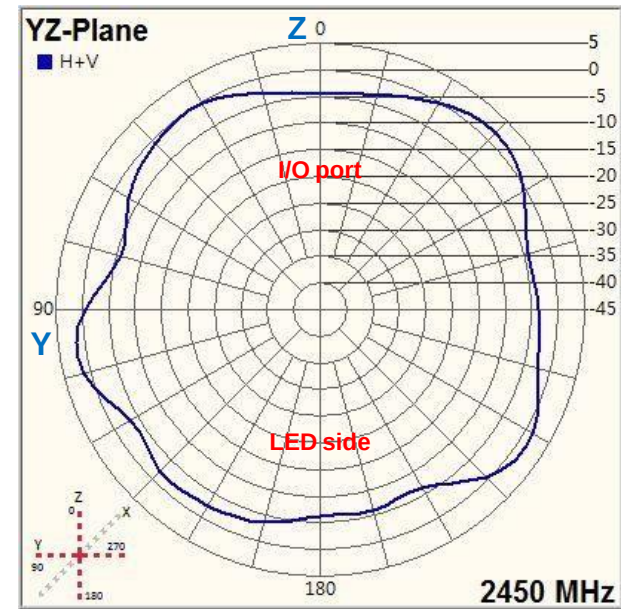
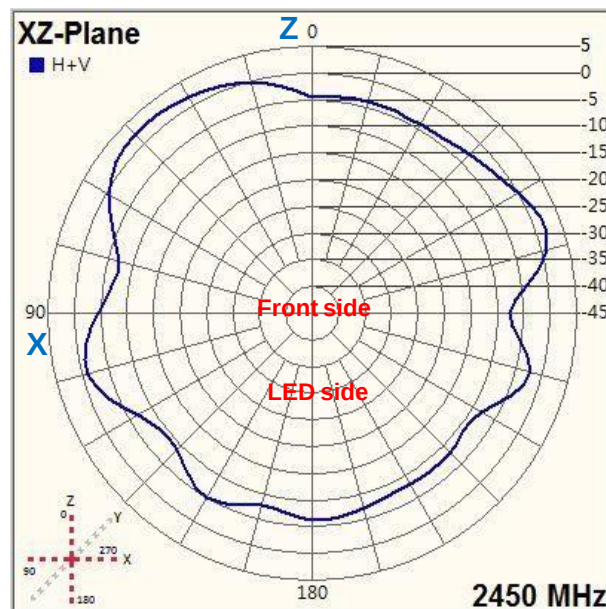
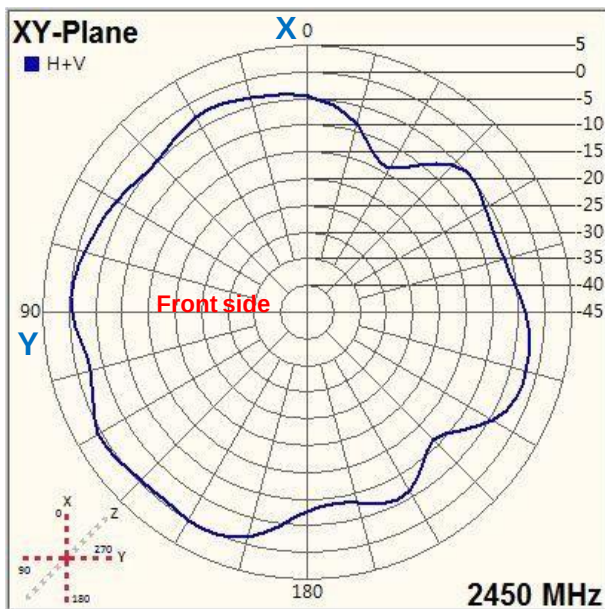
2D Radiation Pattern – 2G1 @ 2.45GHz



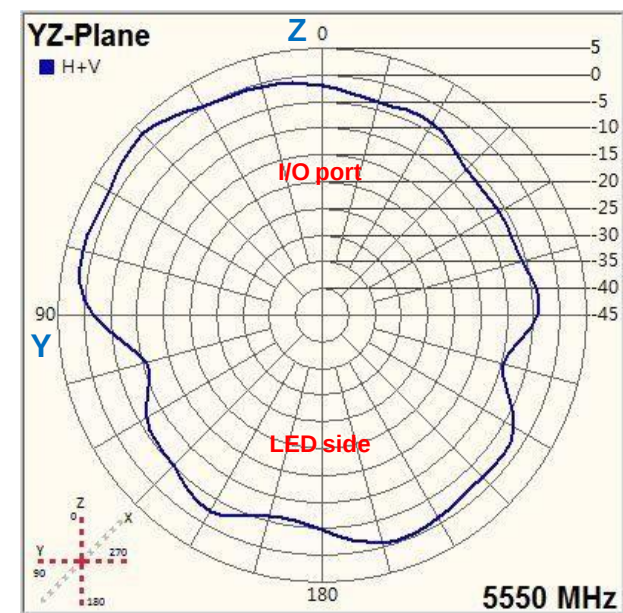
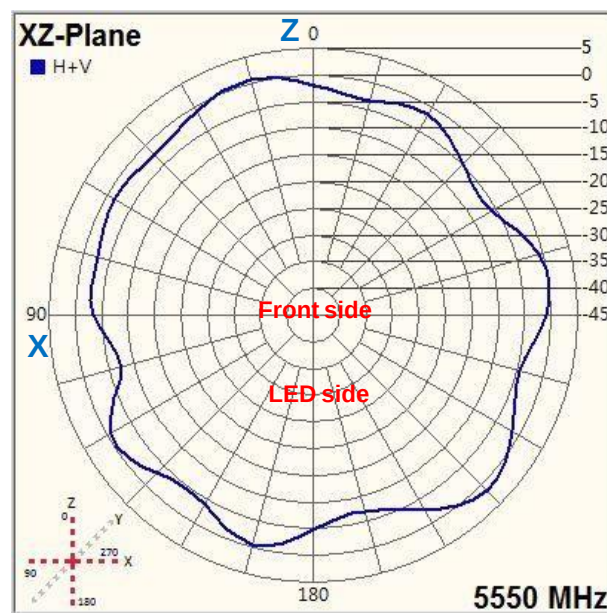
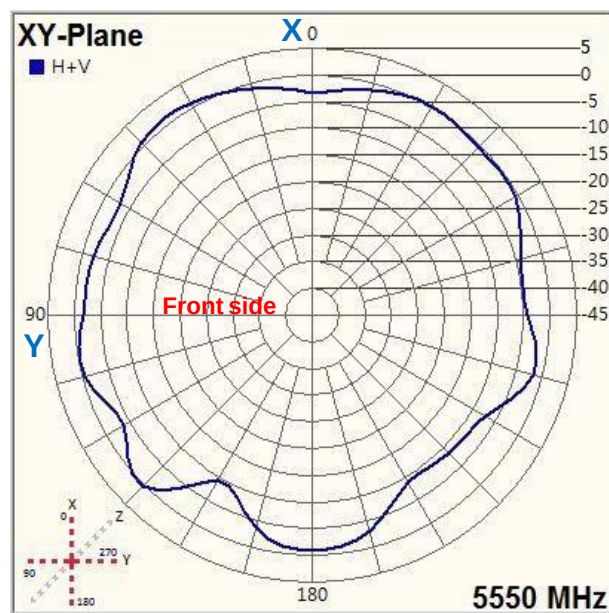
2D Radiation Pattern – 2G2 @ 2.45GHz



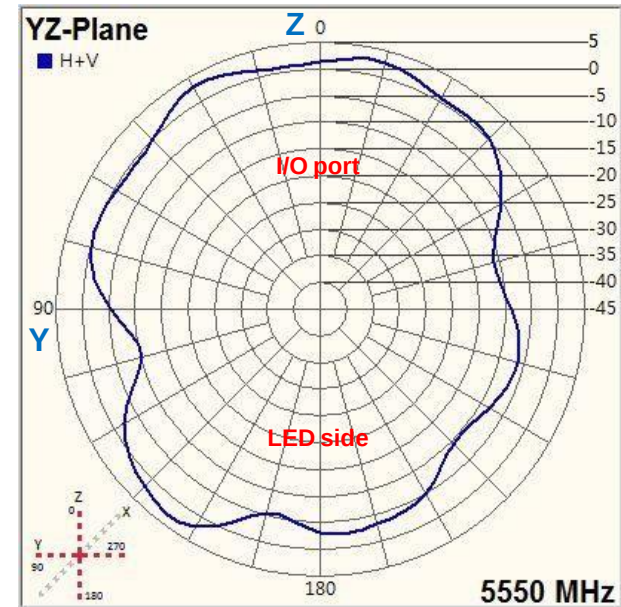
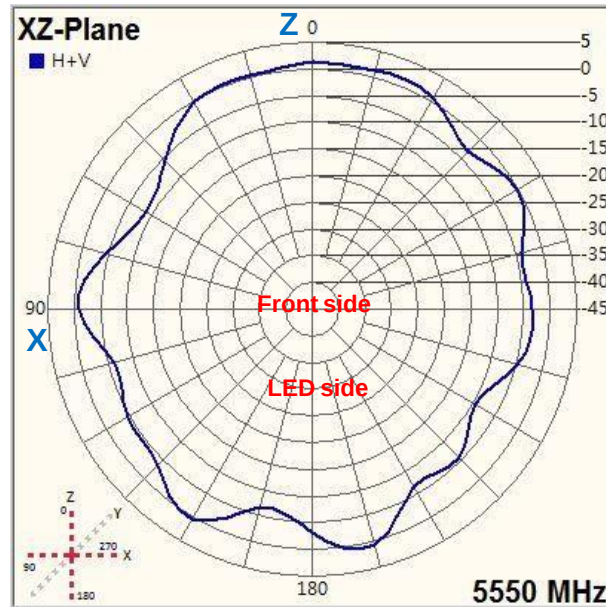
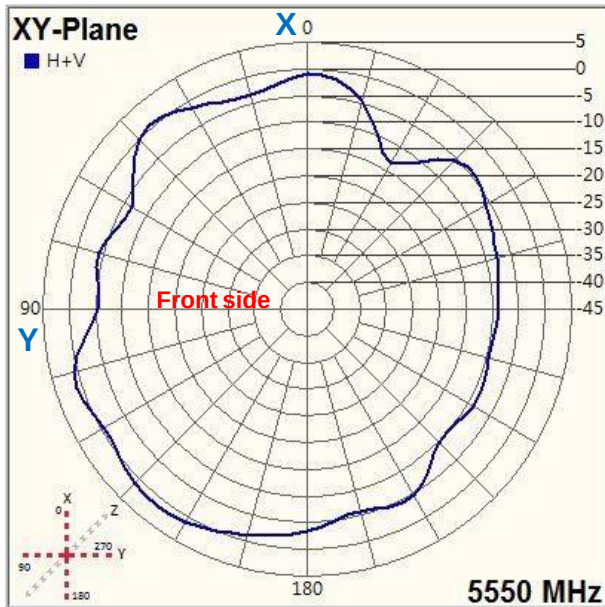
2D Radiation Pattern – 2G3 @ 2.45GHz



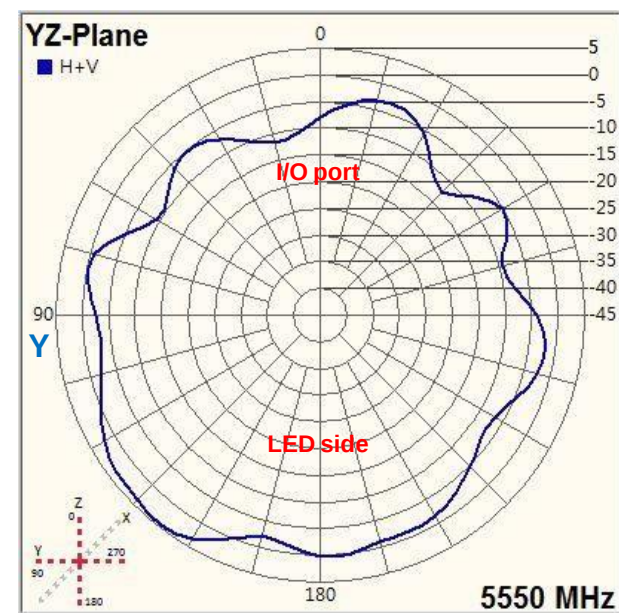
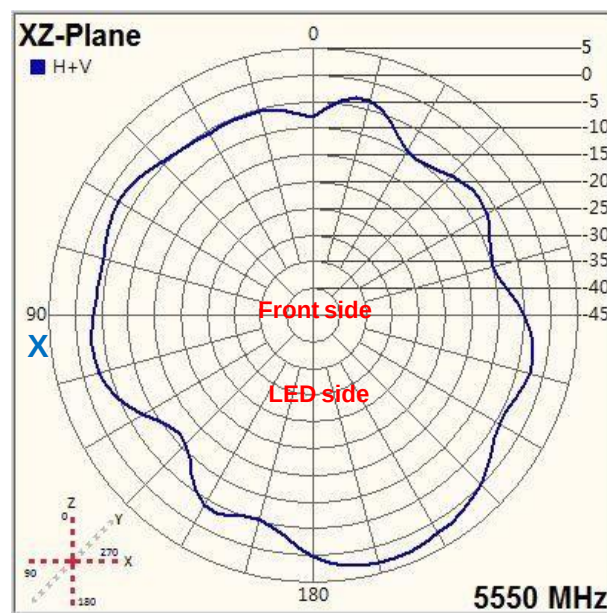
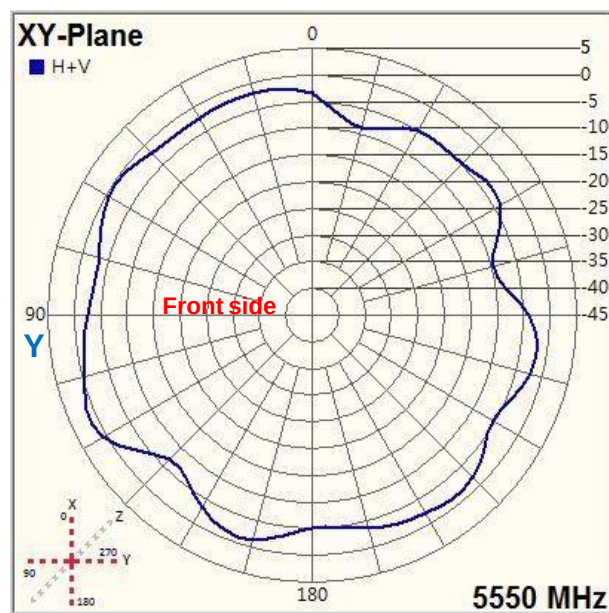
2D Radiation Pattern – 5G0 @ 5.55GHz



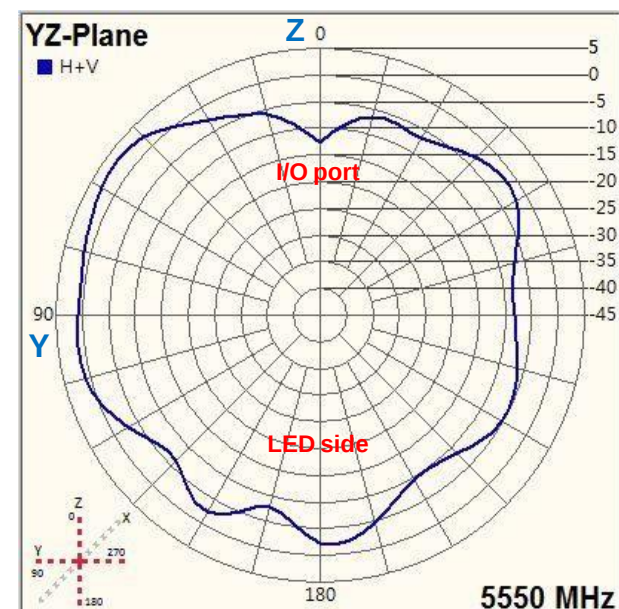
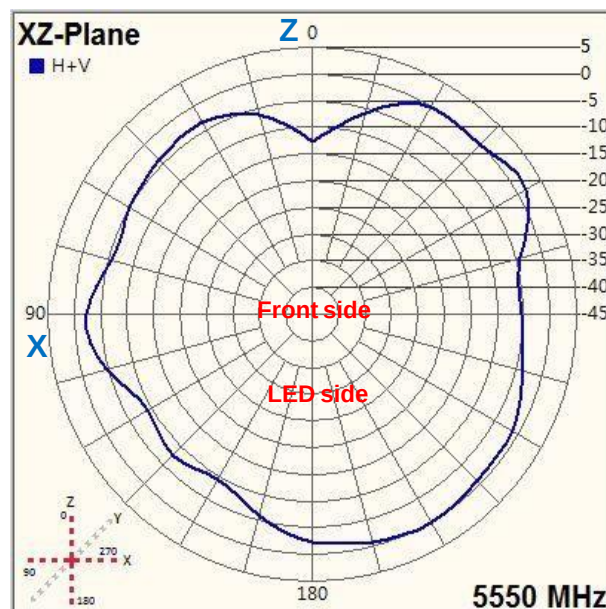
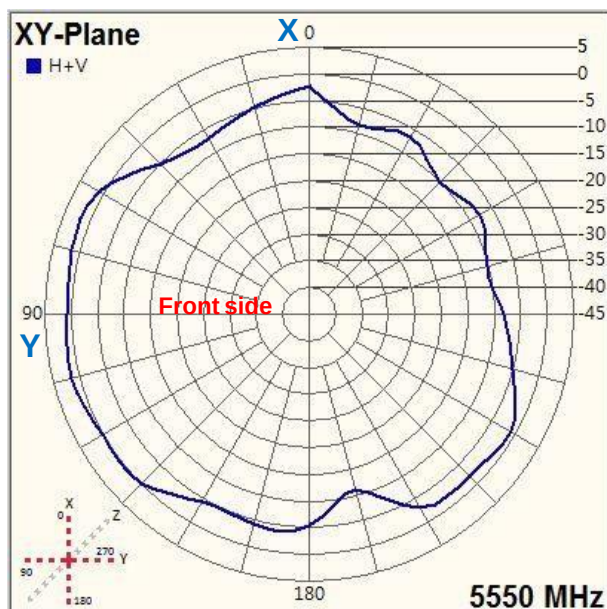
2D Radiation Pattern – 5G1 @ 5.55GHz



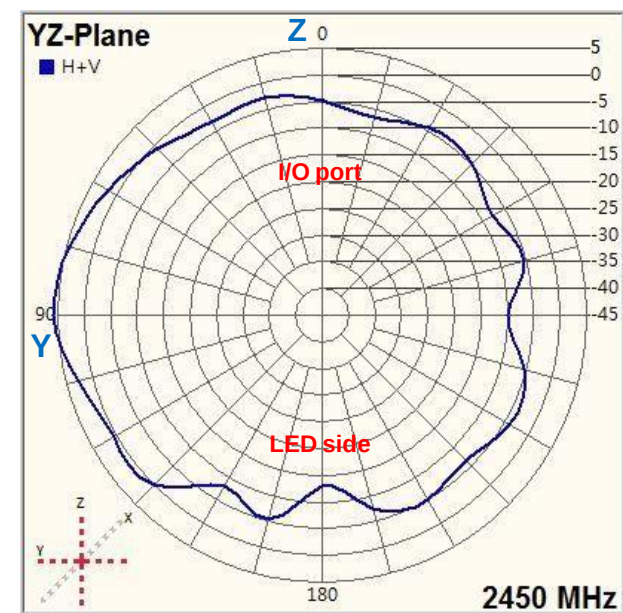
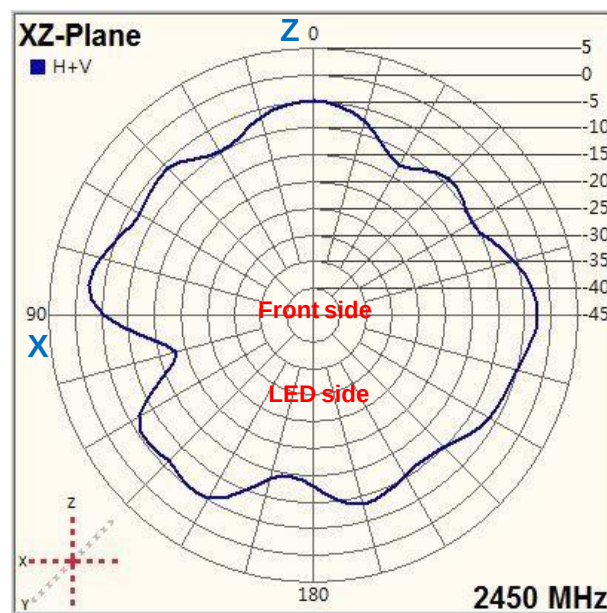
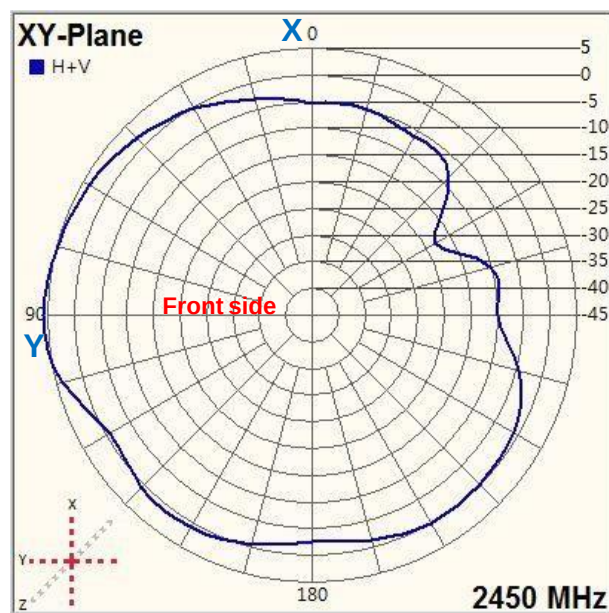
2D Radiation Pattern – 5G2 @ 5.55GHz



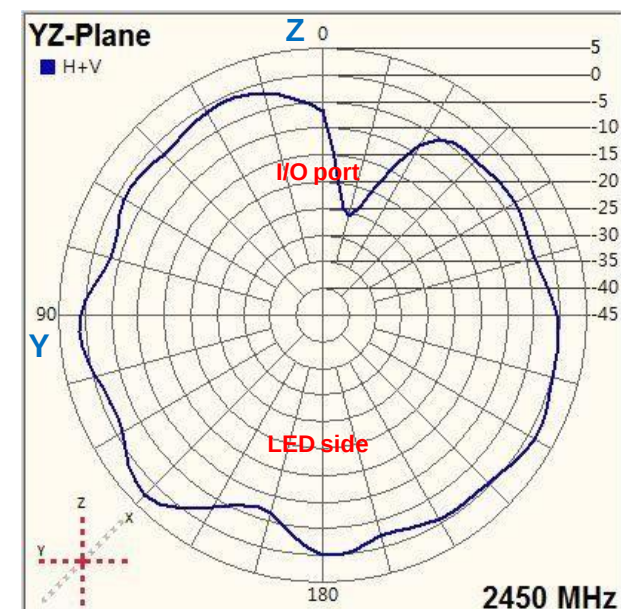
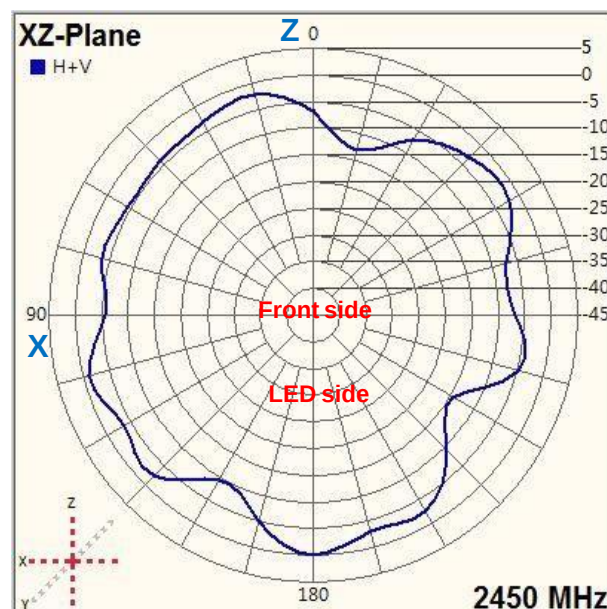
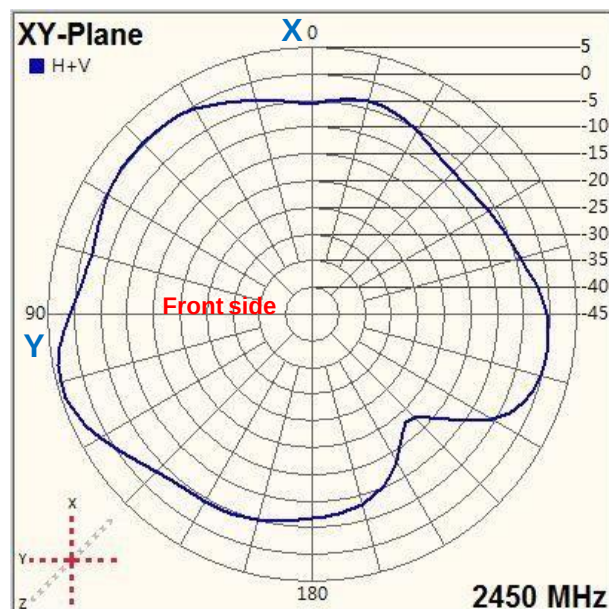
2D Radiation Pattern – 5G3 @ 5.55GHz



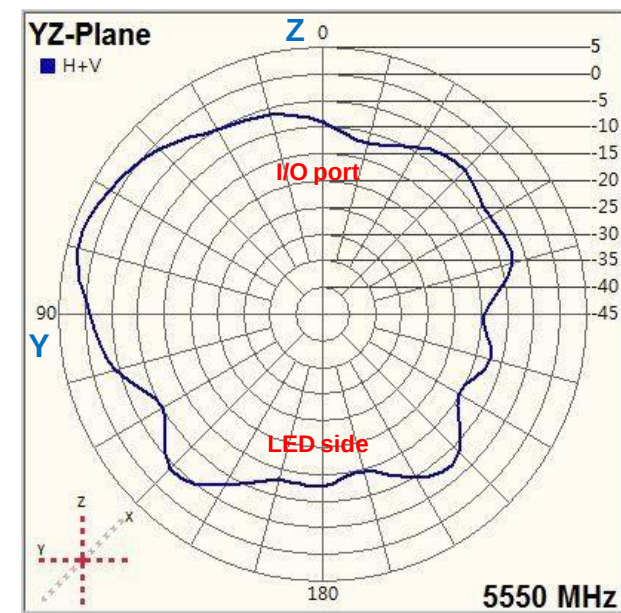
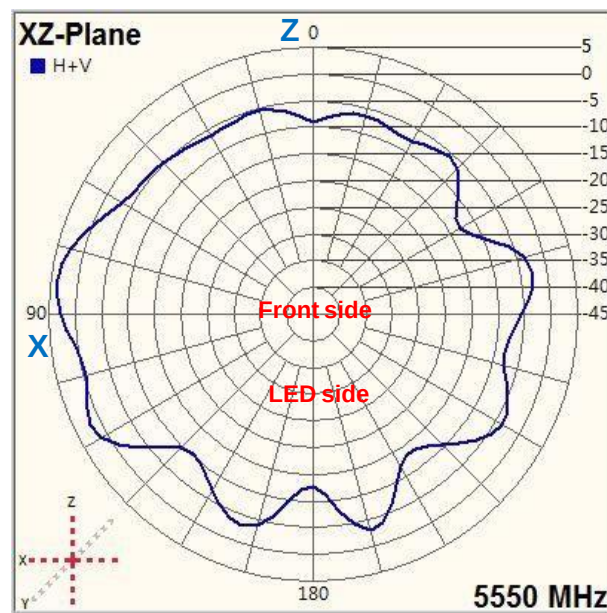
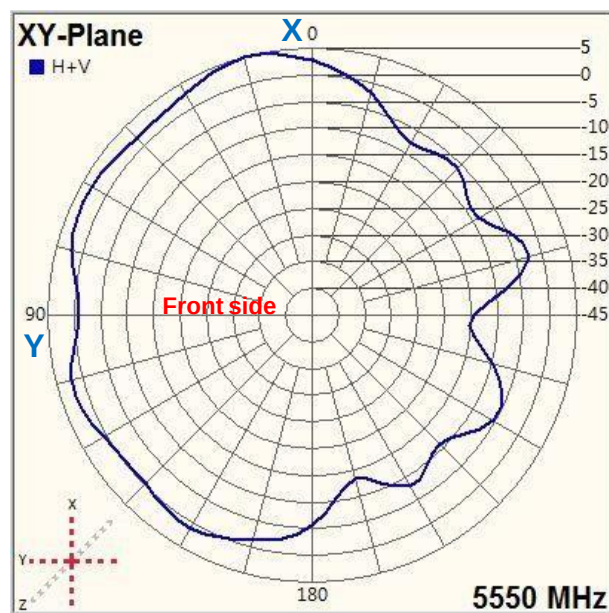
2D Radiation Pattern – BLE @ 2.45GHz



2D Radiation Pattern – Scanning @ 2.45GHz



2D Radiation Pattern – Scanning @ 5.55GHz



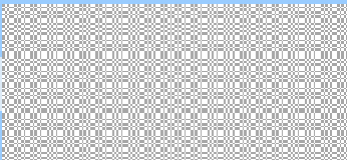
Antenna Efficiency and Gain

Antenna Performance				
Freq. (MHz)	2G3		2G1	
	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)
2400	61.1	2.70	67.7	3.93
2450	63.9	2.87	68.9	4.08
2500	66.4	3.70	76.0	3.59

Antenna Performance				
Freq. (MHz)	5G0		5G1	
	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)
5150	63.9	5.13	62.9	4.26
5500	61.1	4.19	60.5	3.58
5850	60.1	5.19	57.8	3.81

Antenna Performance				
Freq. (MHz)	2G0		2G2	
	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)
2400	63.0	4.12	60.4	3.26
2450	65.0	3.55	65.1	4.73
2500	60.5	3.30	62.3	5.01

Antenna Performance				
Freq. (MHz)	5G3		5G2	
	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)
5150	57.7	4.03	54.0	4.25
5500	58.9	4.02	54.7	5.04
5850	60.6	4.56	50.3	4.00

Antenna Performance				
Freq. (MHz)	BLE		Scanning	
	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)
2400	58.9	5.04	54.3	4.33
2450	61.9	5.90	53.0	4.27
2500	53.1	5.22	63.0	3.50
5150			60.7	6.17
5500			54.6	5.72
5850			52.4	6.17