



7S6300

Antenna Test Report

Senao Networks, Inc.

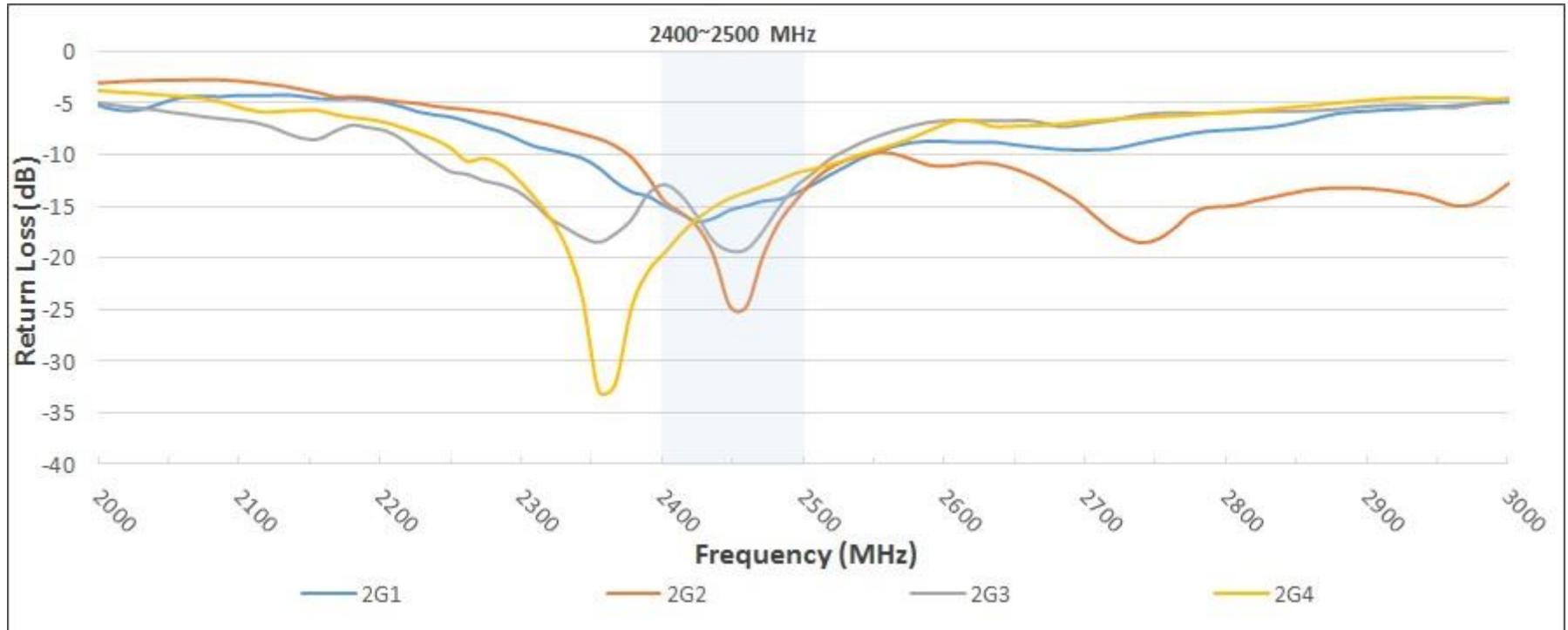
Customer	EnGenius
Project	7S6300
Project Description	2.4G antenna *4 5G antenna *4 6G antenna *4
Date	2023/08/11
Prepared by	Kenny
Checked	Tony
Report Version	A01

- **Purpose**

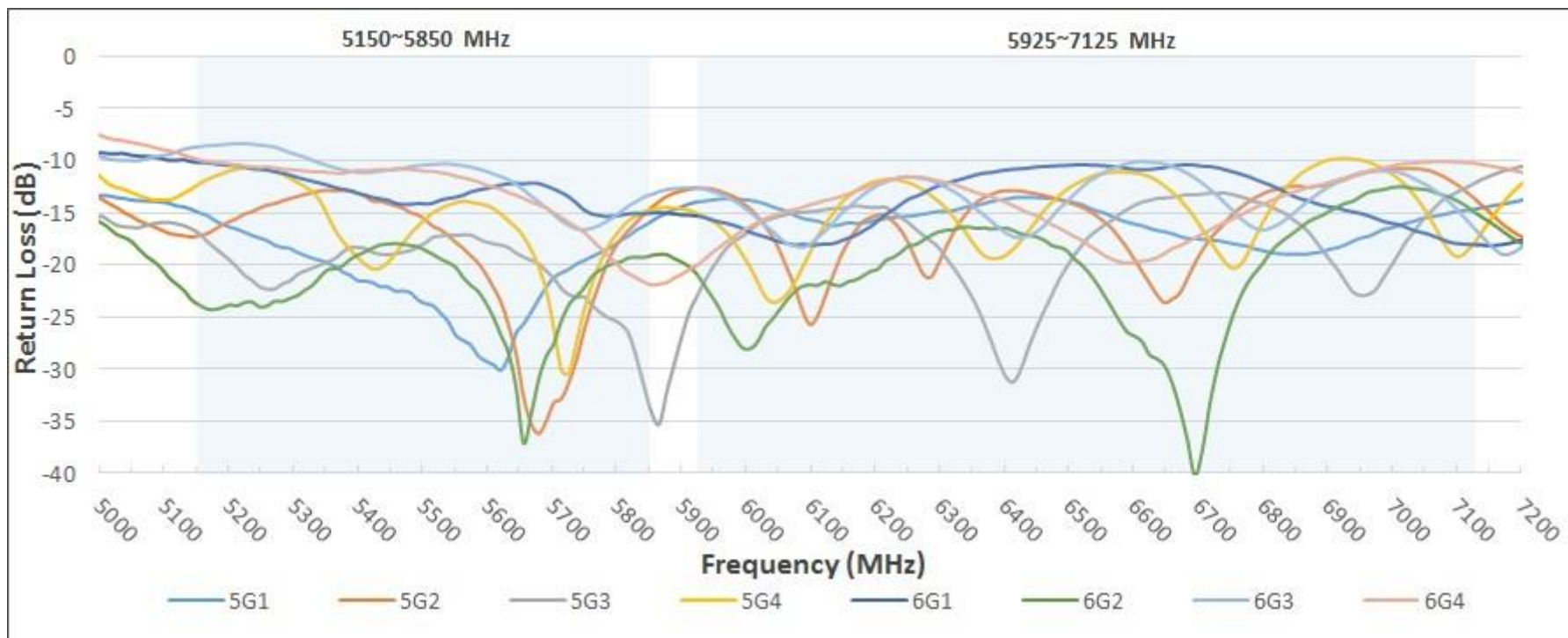
Antenna verification for 7S6300 device, result as following.

- **Agenda**

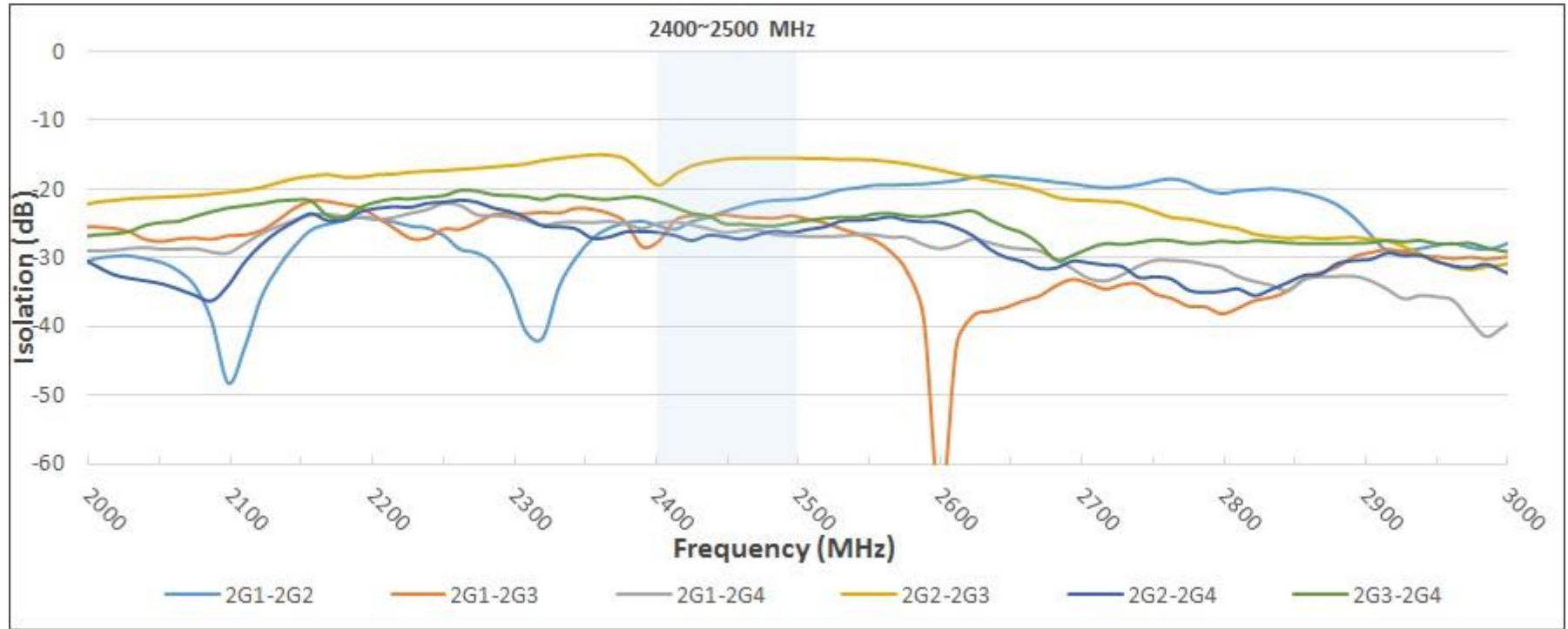
- Placement and Specification
- Return Loss & Isolation
- Radiation Pattern
- Combine Pattern
- Efficiency and Gain



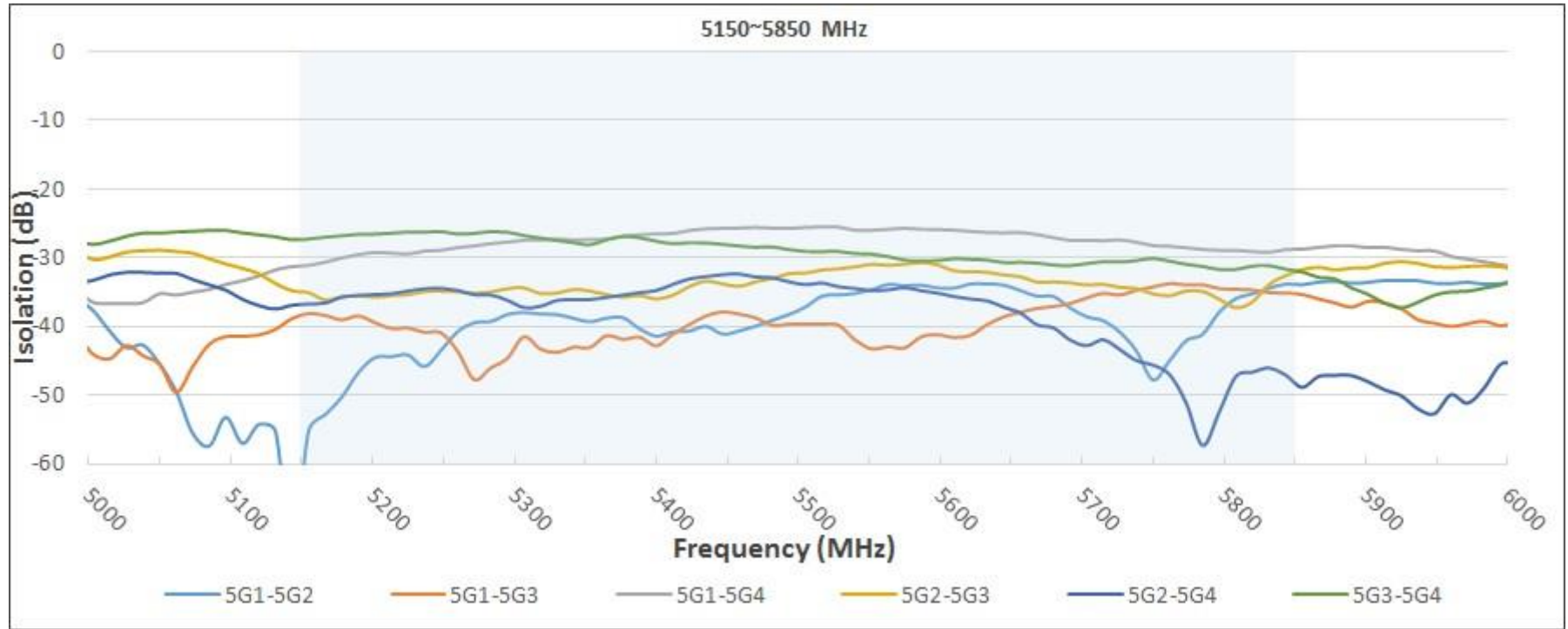
Return Loss				
Freq. (MHz)	2G1	2G2	2G3	2G4
2400	-14.96	-14.52	-12.91	-19.54
2450	-15.35	-24.73	-19.33	-14.22
2500	-13.72	-14.43	-13.08	-11.79



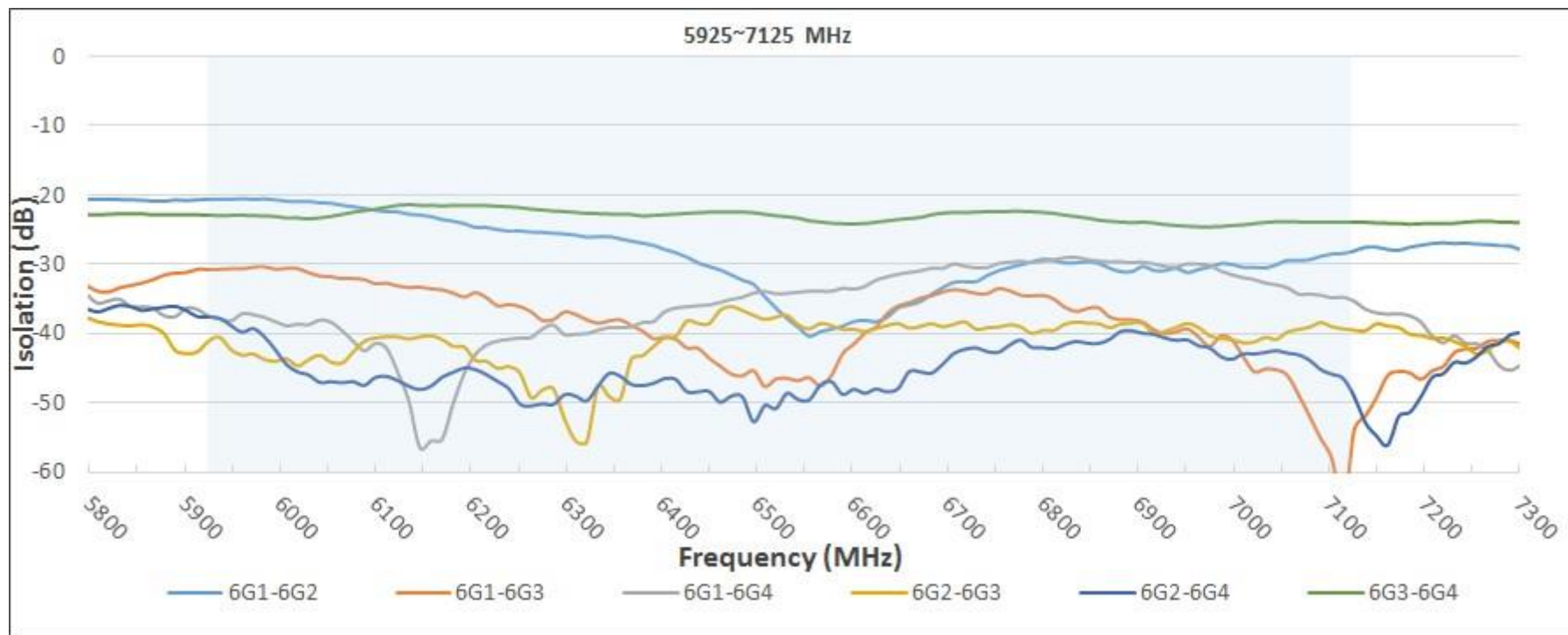
Return Loss								
Freq. (MHz)	5G1	5G2	5G3	5G4	6G1	6G2	6G3	6G4
5150	-15.01	-17.19	-17.00	-12.23	-10.20	-23.85	-8.66	-9.94
5500	-23.72	-15.69	-17.89	-15.58	-14.16	-18.63	-10.41	-11.03
5850	-15.79	-14.46	-34.29	-14.65	-15.03	-19.09	-13.24	-21.94
5925	-13.96	-12.64	-23.00	-15.06	-15.31	-20.92	-12.62	-20.04
6500	-13.90	-13.95	-20.22	-12.77	-10.46	-18.62	-13.97	-16.86
7125	-14.67	-13.56	-12.23	-17.97	-18.07	-14.90	-16.46	-10.25



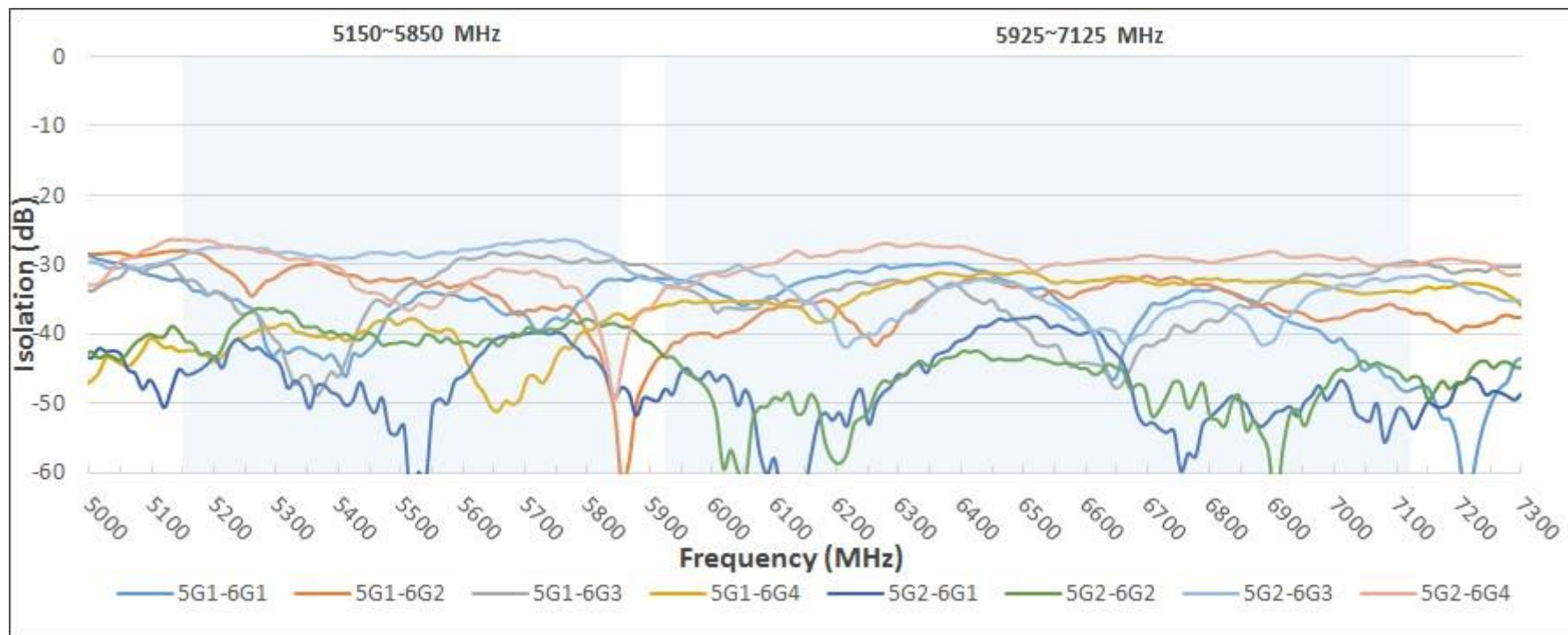
Freq. (MHz)	Isolation					
	2G1-2G2	2G1-2G3	2G1-2G4	2G2-2G3	2G2-2G4	2G3-2G4
2400	-25.38	-27.61	-24.98	-19.48	-26.34	-21.87
2450	-23.25	-23.74	-26.36	-15.69	-26.96	-25.09
2500	-21.57	-23.90	-26.82	-15.53	-26.37	-24.99



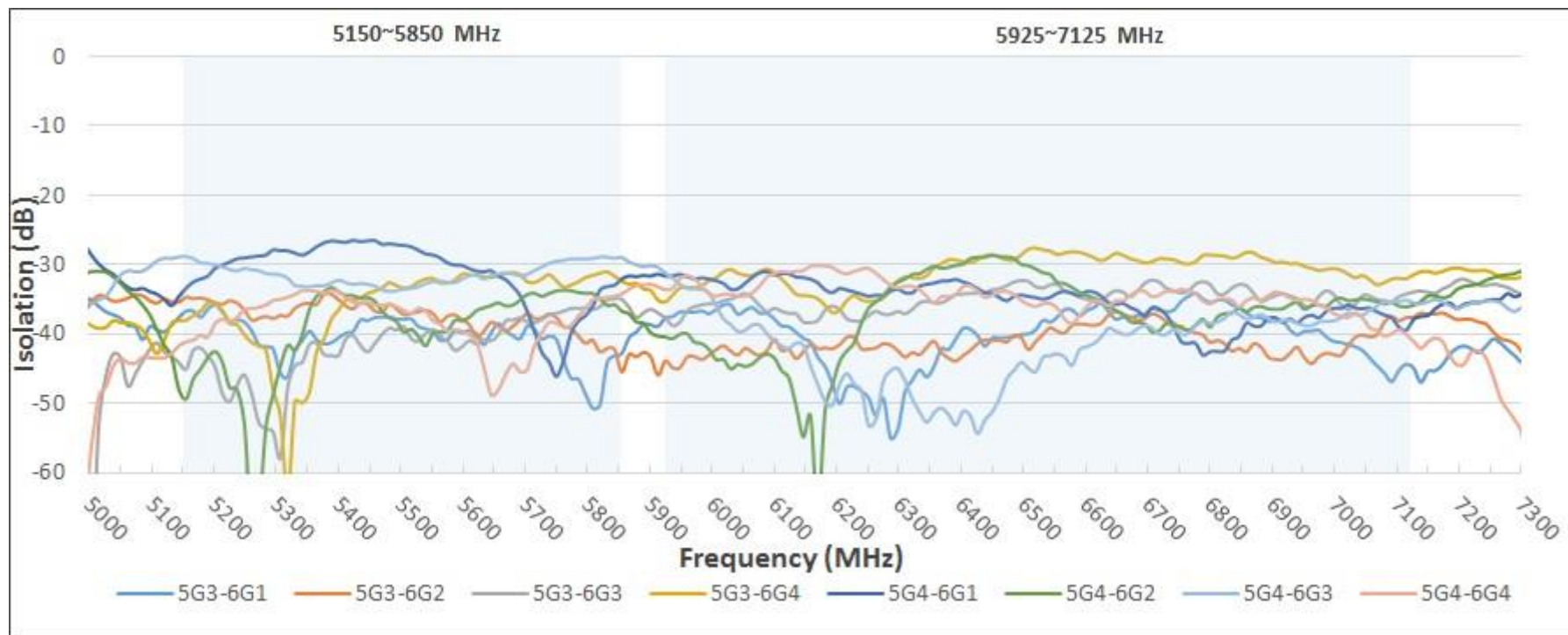
Isolation						
Freq. (MHz)	5G1-5G2	5G1-5G3	5G1-5G4	5G2-5G3	5G2-5G4	5G3-5G4
5150	-55.18	-38.14	-31.13	-35.10	-36.76	-27.30
5500	-37.20	-39.66	-25.61	-32.25	-33.94	-29.10
5850	-33.94	-35.35	-28.77	-31.76	-48.86	-32.08



Isolation						
Freq. (MHz)	6G1-6G2	6G1-6G3	6G1-6G4	6G2-6G3	6G2-6G4	6G3-6G4
5925	-20.62	-30.79	-37.48	-41.12	-37.63	-22.95
6500	-32.93	-45.38	-34.18	-37.39	-52.77	-22.60
7125	-28.08	-53.82	-35.38	-39.52	-49.15	-23.97

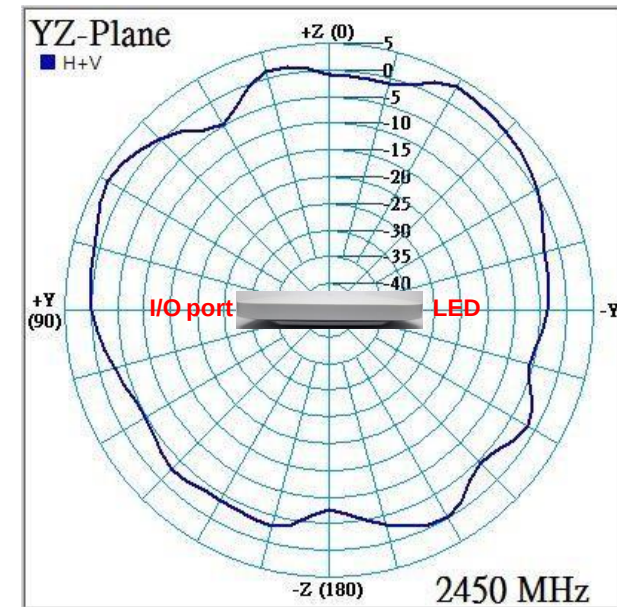
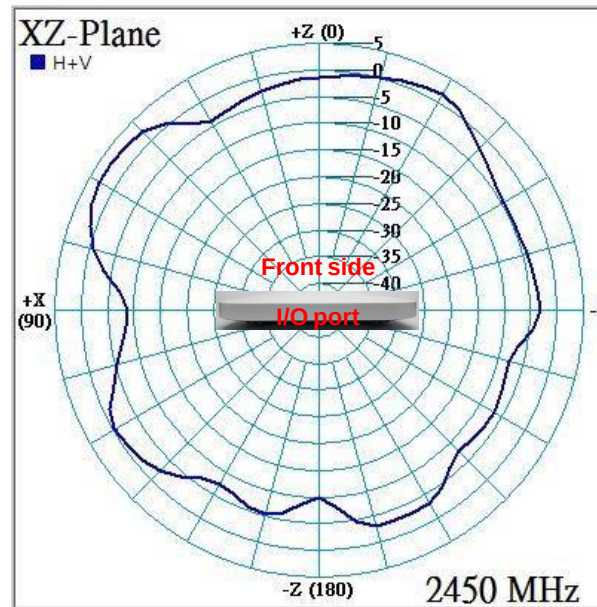
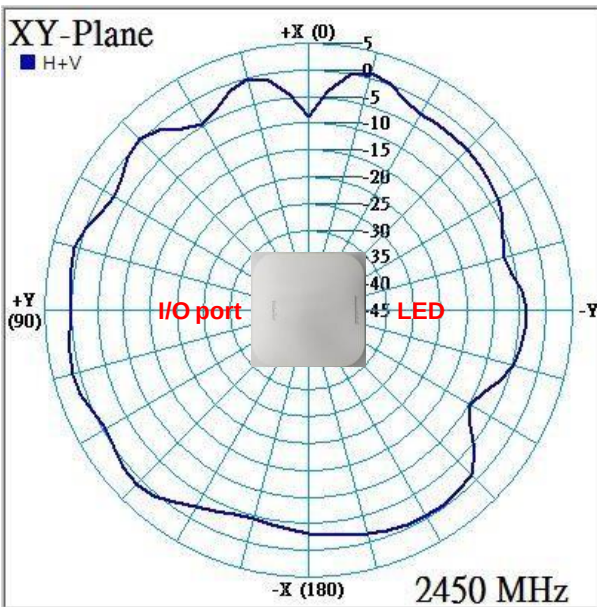
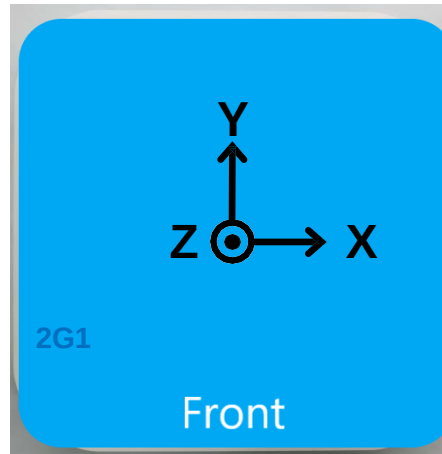
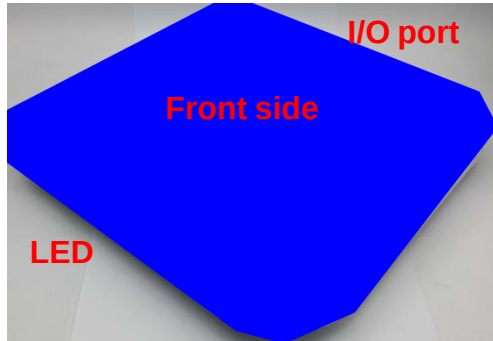


Freq. (MHz)	Isolation							
	5G1-6G1	5G1-6G2	5G1-6G3	5G1-6G4	5G2-6G1	5G2-6G2	5G2-6G3	5G2-6G4
5150	-32.71	-27.97	-32.29	-42.44	-45.91	-41.14	-28.48	-26.41
5500	-35.88	-32.18	-33.59	-38.20	-53.21	-41.13	-28.24	-36.38
5850	-32.14	-61.19	-29.69	-37.25	-47.72	-39.00	-30.09	-44.67
5925	-32.12	-42.92	-31.54	-35.75	-47.92	-43.37	-32.99	-33.40
6500	-33.20	-33.21	-38.90	-31.06	-37.80	-43.71	-33.02	-29.60
7125	-47.95	-37.07	-29.60	-33.98	-53.67	-46.14	-31.80	-30.19

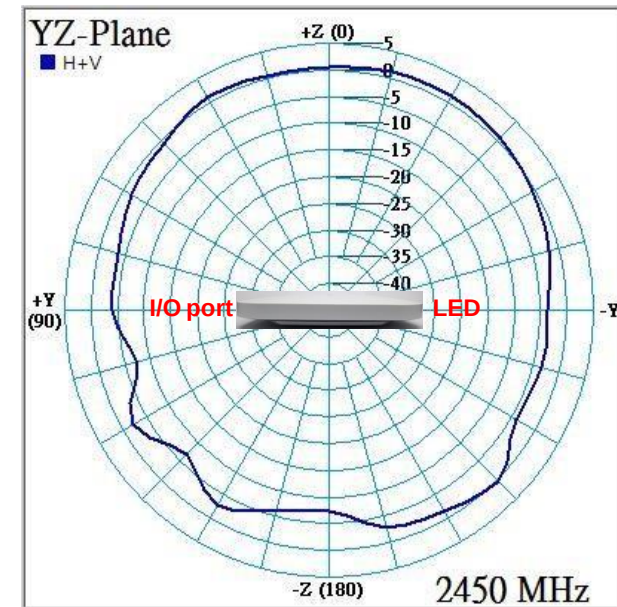
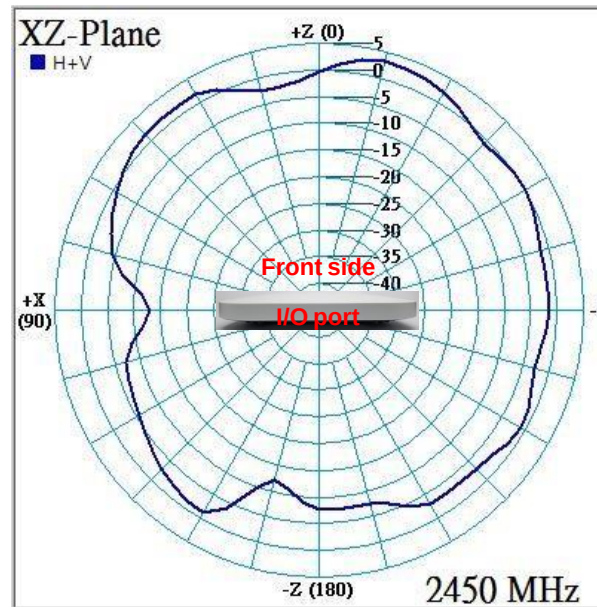
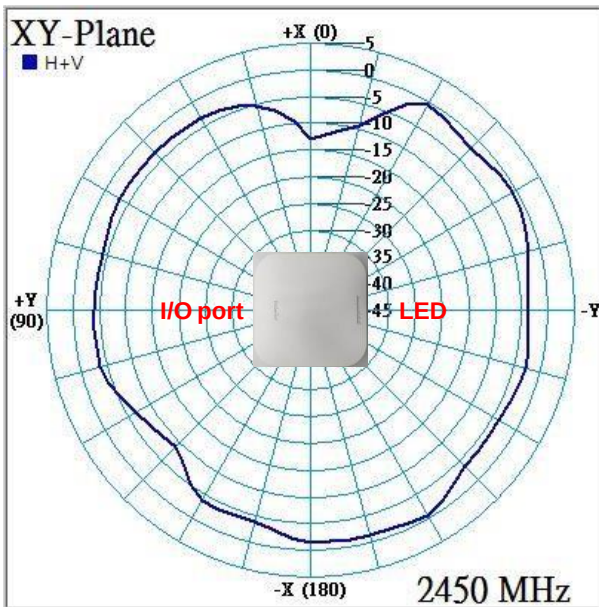
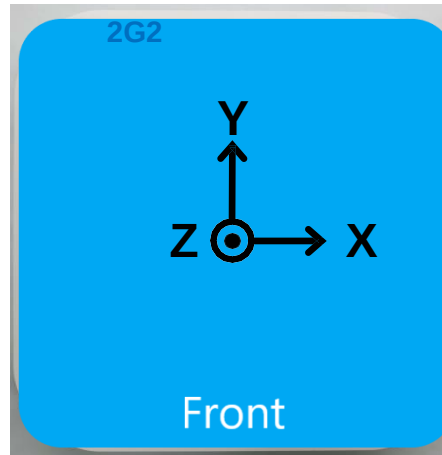
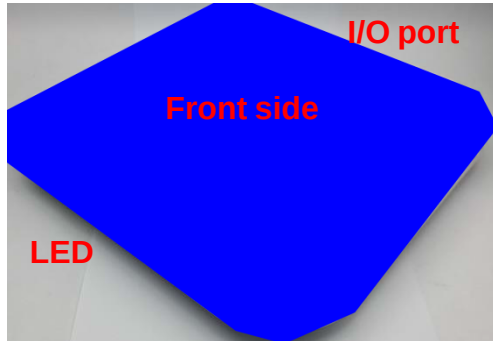


Freq. (MHz)	Isolation							
	5G3-6G1	5G3-6G2	5G3-6G3	5G3-6G4	5G4-6G1	5G4-6G2	5G4-6G3	5G4-6G4
5150	-36.74	-34.72	-45.10	-38.06	-33.44	-49.43	-28.86	-41.17
5500	-37.92	-37.23	-38.99	-33.42	-27.26	-39.81	-33.51	-36.64
5850	-42.83	-45.49	-35.03	-32.40	-32.09	-36.73	-28.99	-34.25
5925	-37.70	-43.91	-37.72	-35.42	-31.72	-40.45	-31.22	-33.65
6500	-40.10	-40.52	-32.31	-28.62	-34.41	-30.00	-44.07	-35.16
7125	-44.90	-37.61	-33.97	-31.48	-37.95	-35.84	-35.53	-41.02

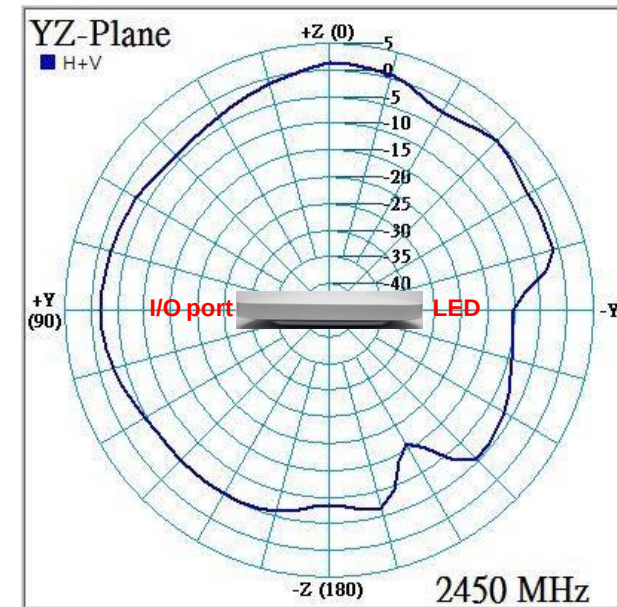
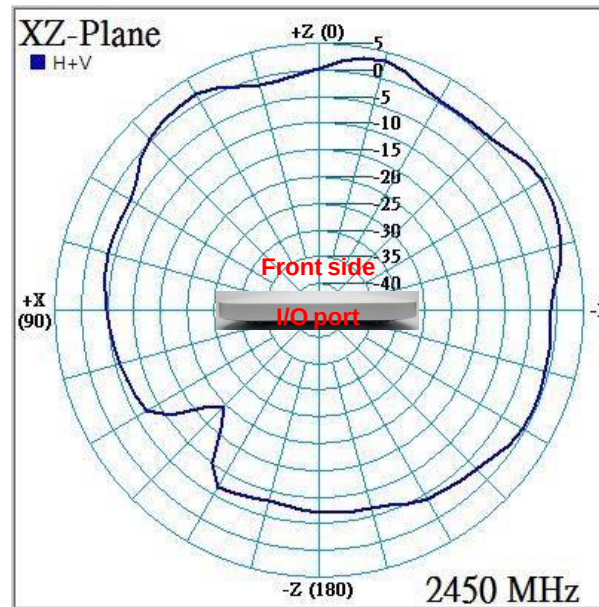
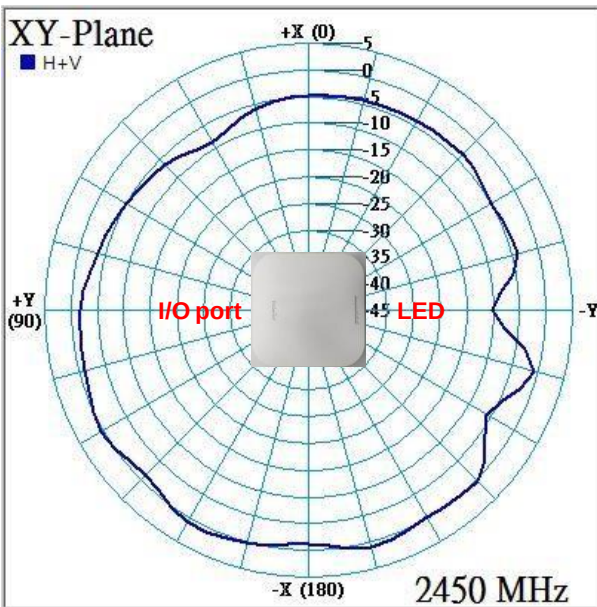
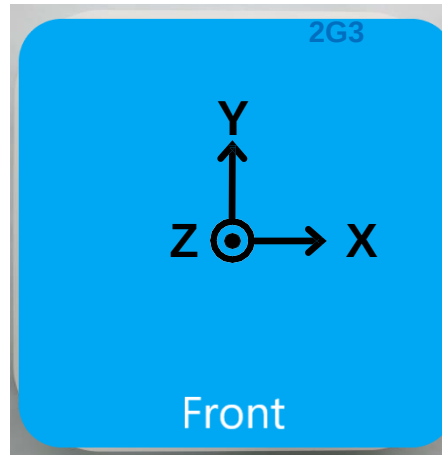
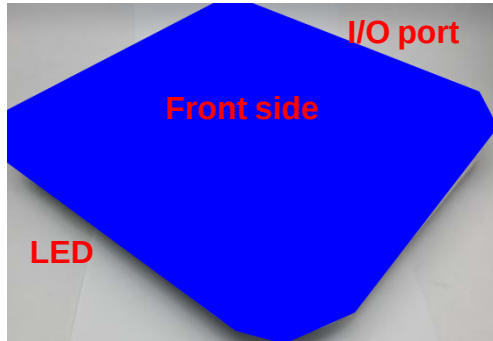
2D Radiation Pattern – 2G1 @ 2.45GHz



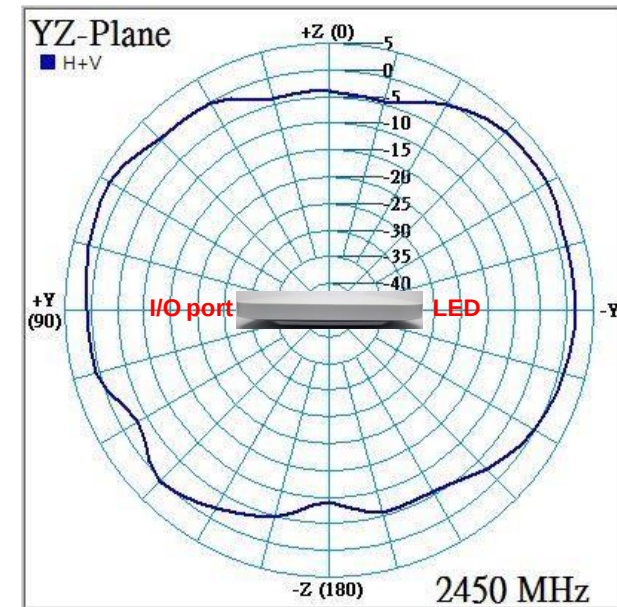
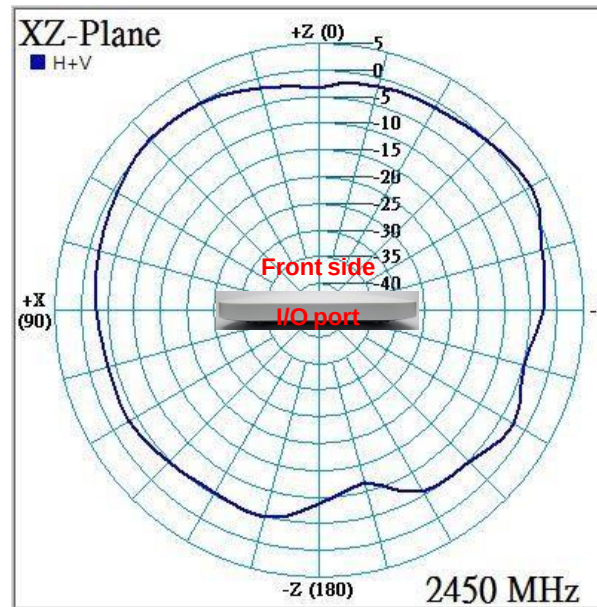
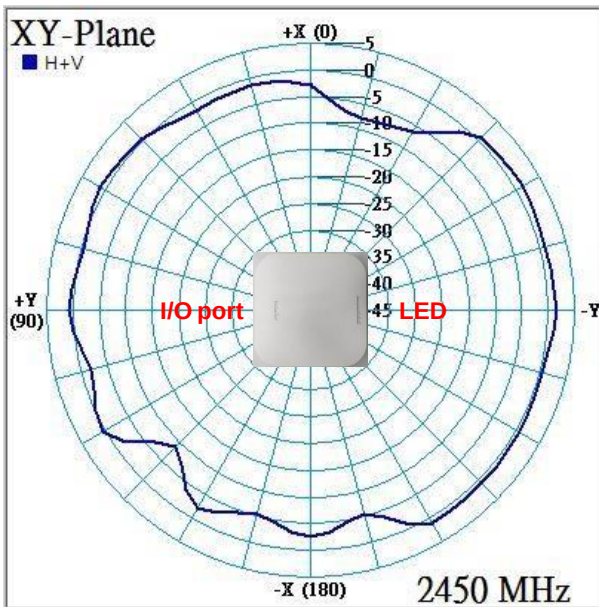
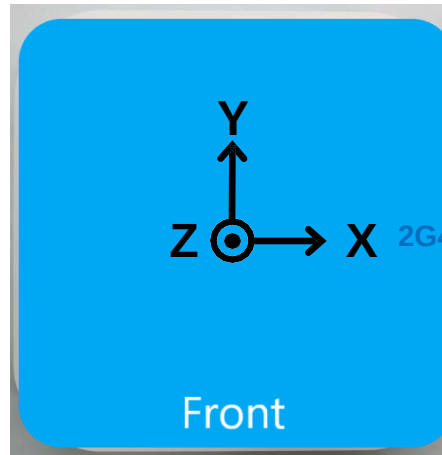
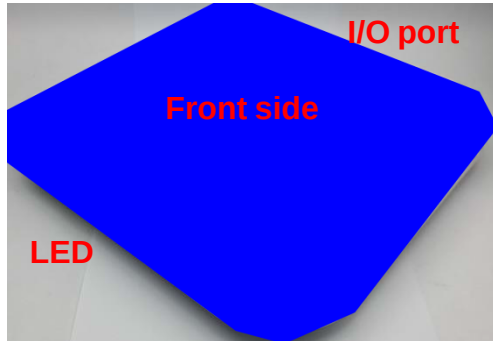
2D Radiation Pattern – 2G2 @ 2.45GHz



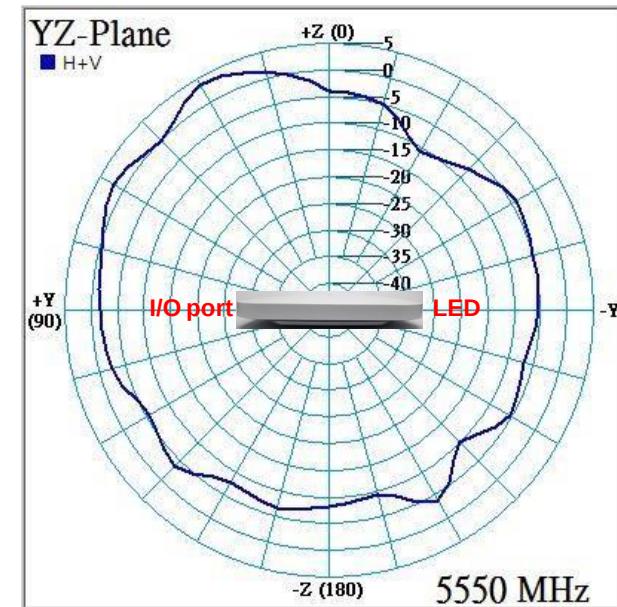
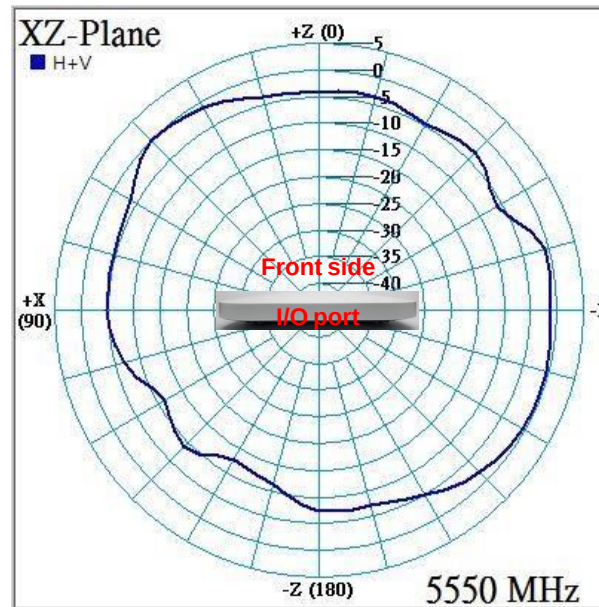
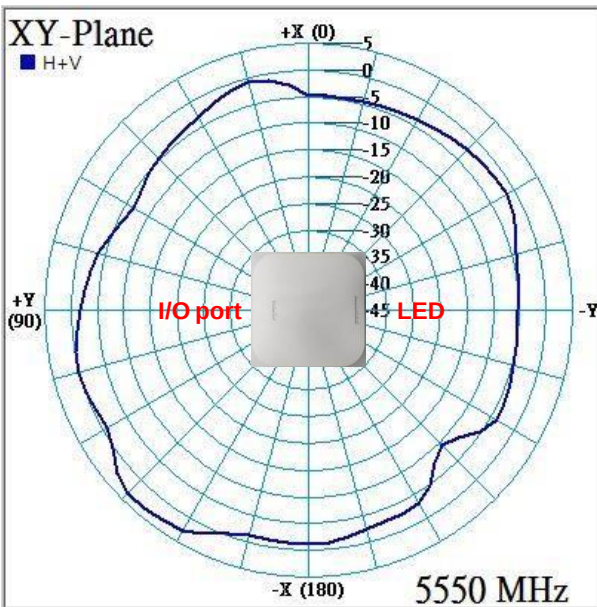
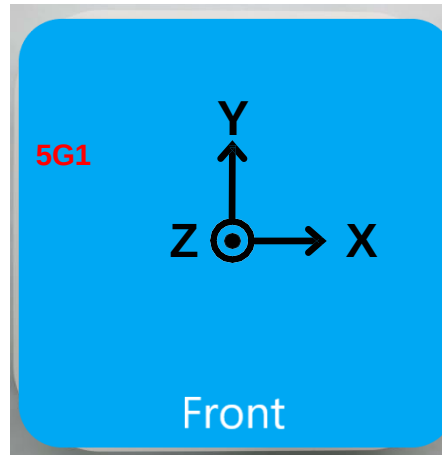
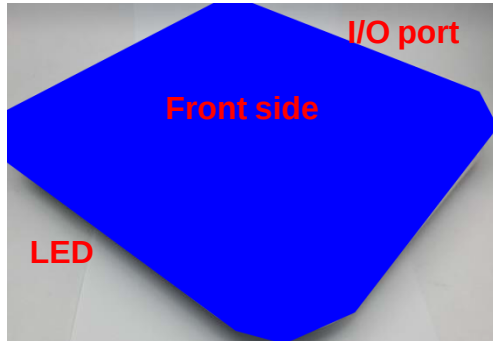
2D Radiation Pattern – 2G3 @ 2.45GHz



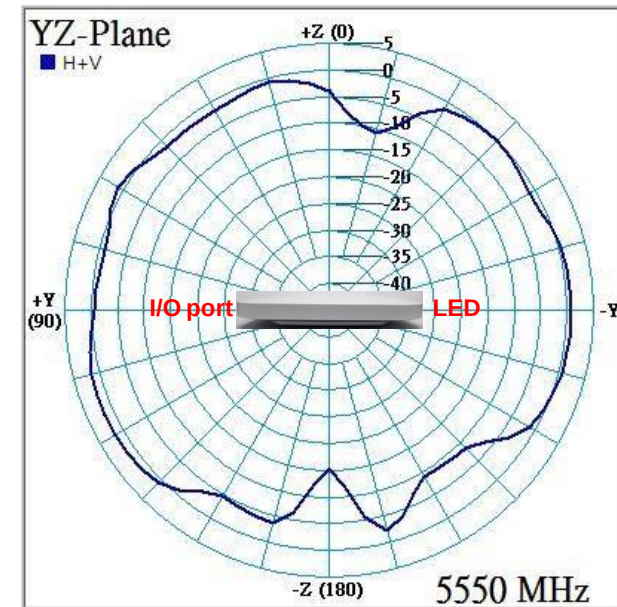
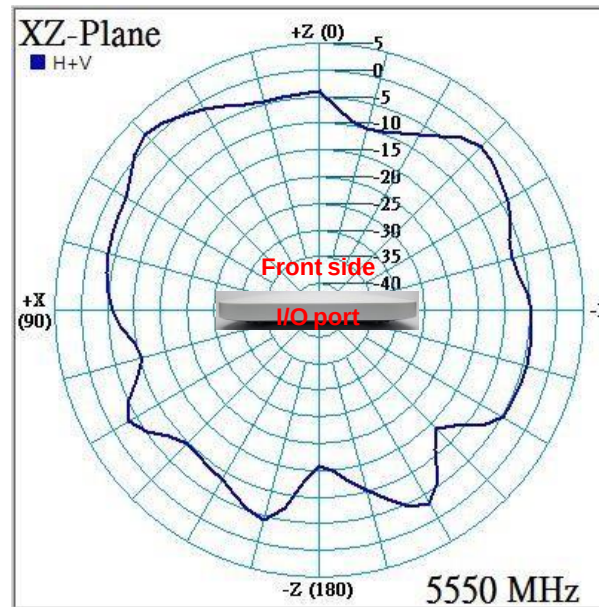
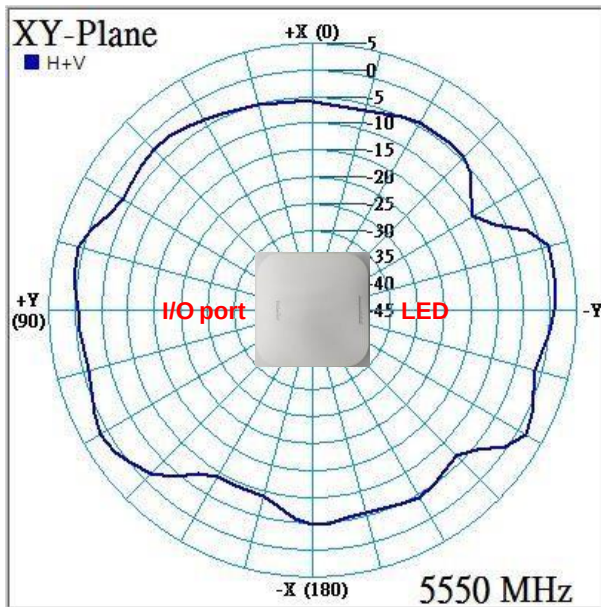
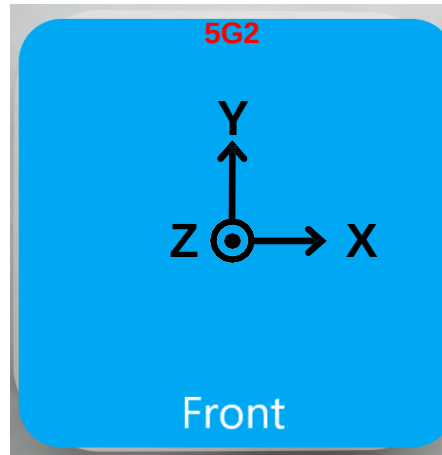
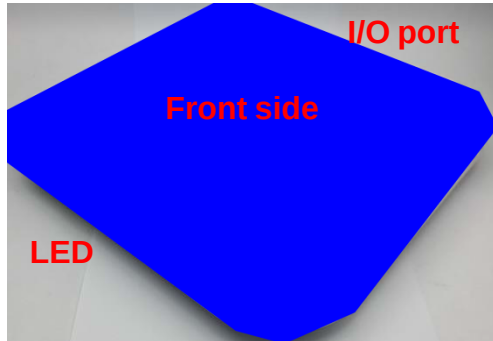
2D Radiation Pattern – 2G4 @ 2.45GHz



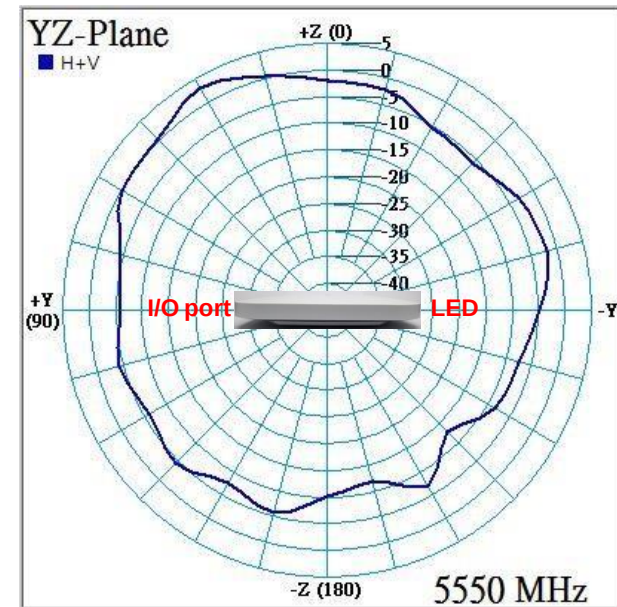
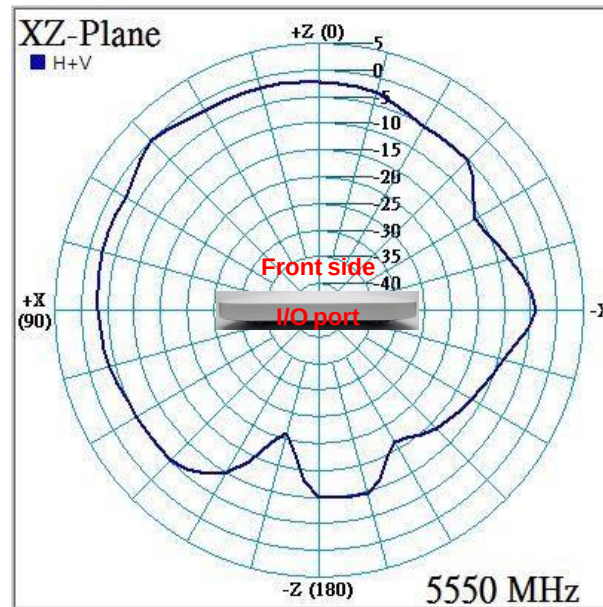
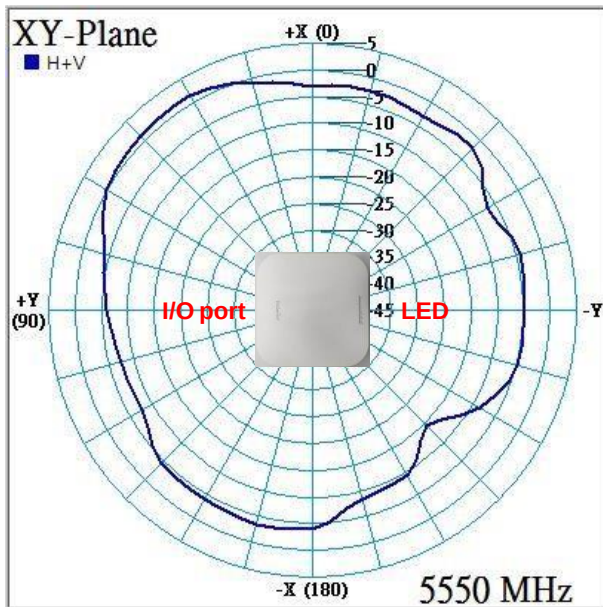
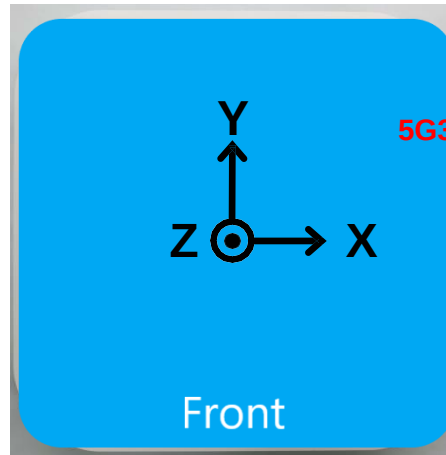
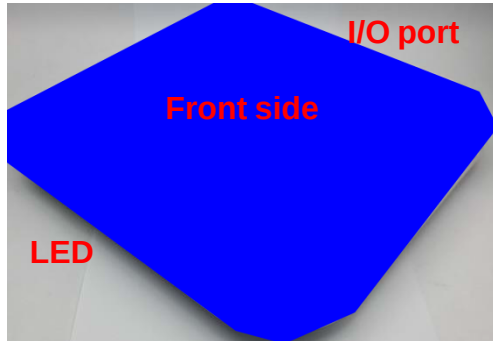
2D Radiation Pattern – 5G1 @ 5.55GHz



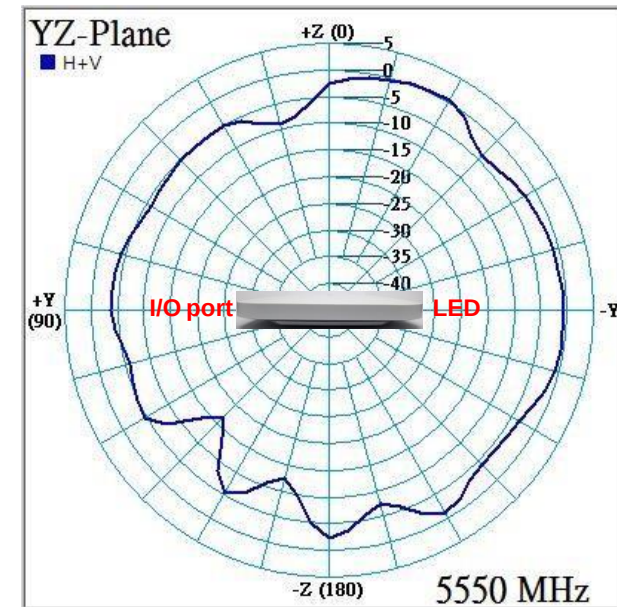
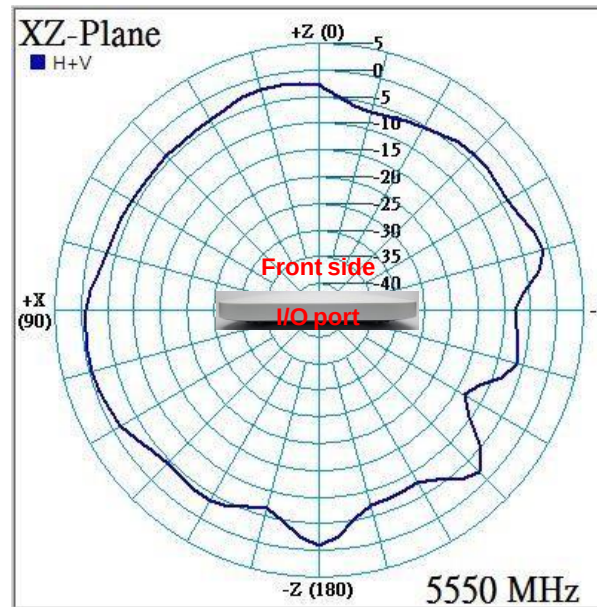
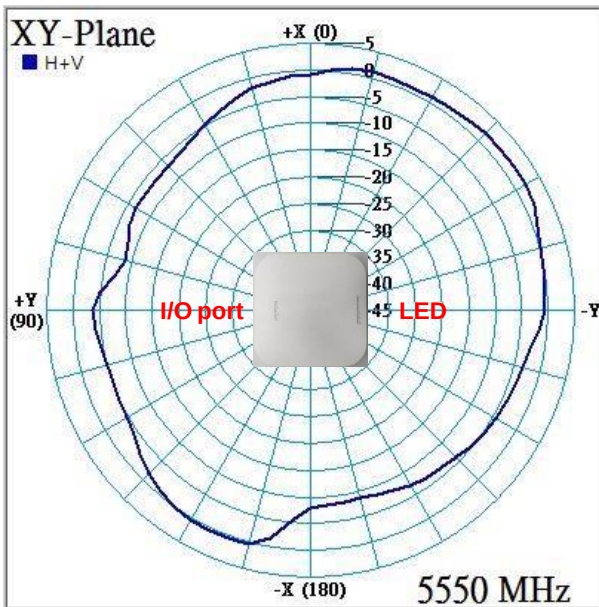
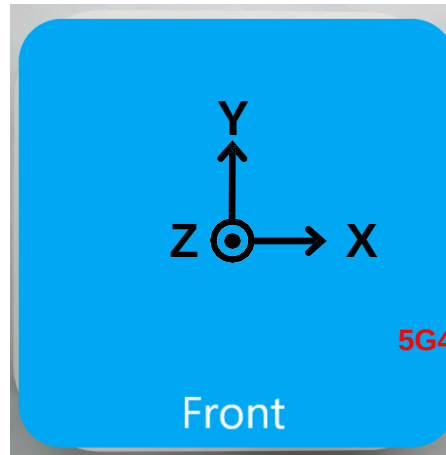
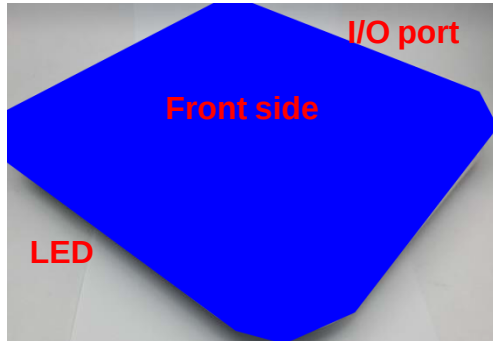
2D Radiation Pattern – 5G2 @ 5.55GHz



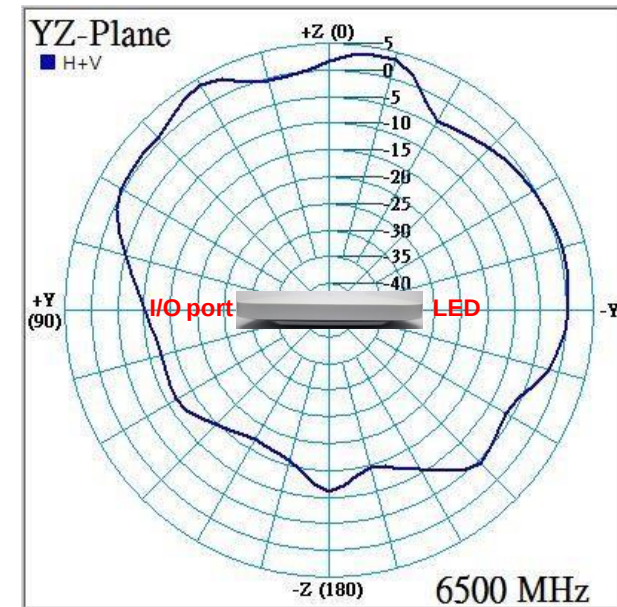
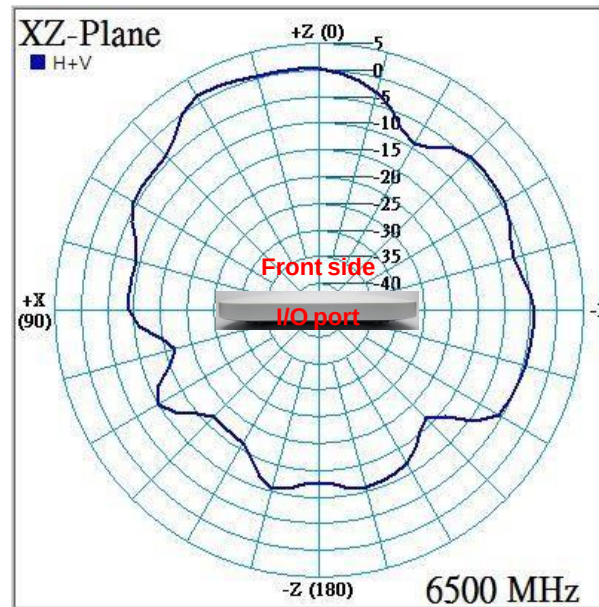
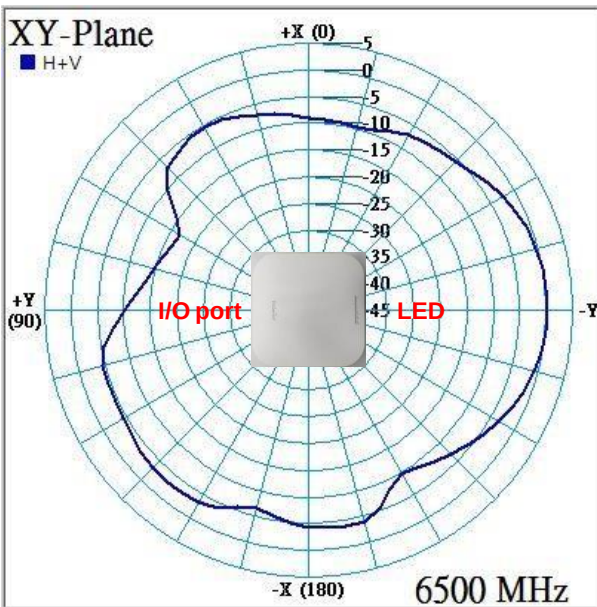
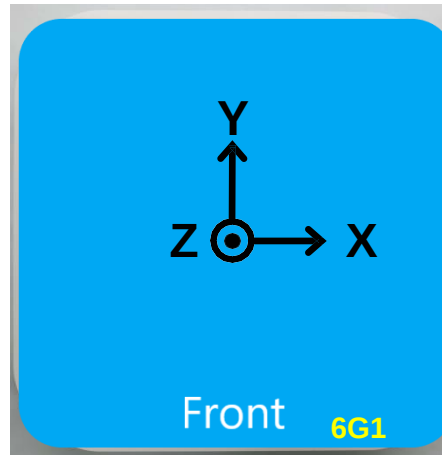
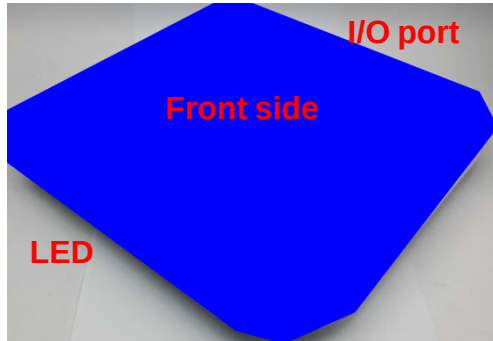
2D Radiation Pattern – 5G3 @ 5.55GHz



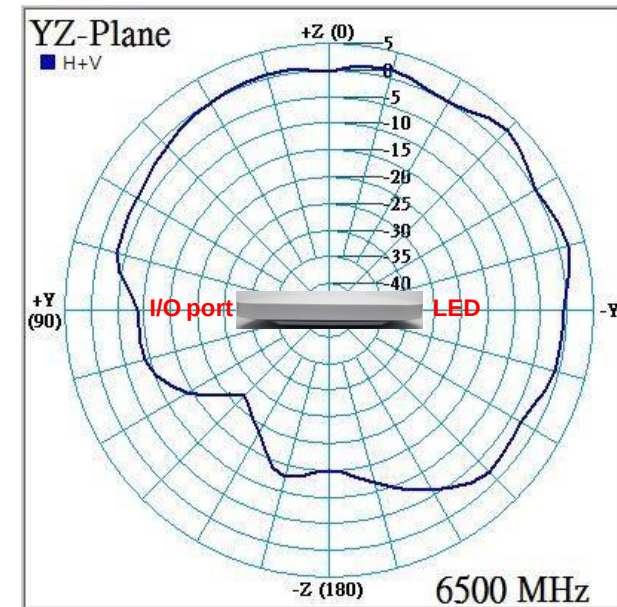
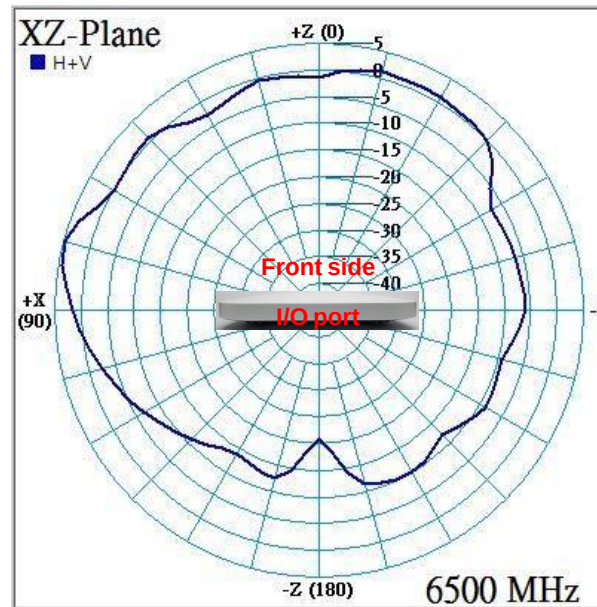
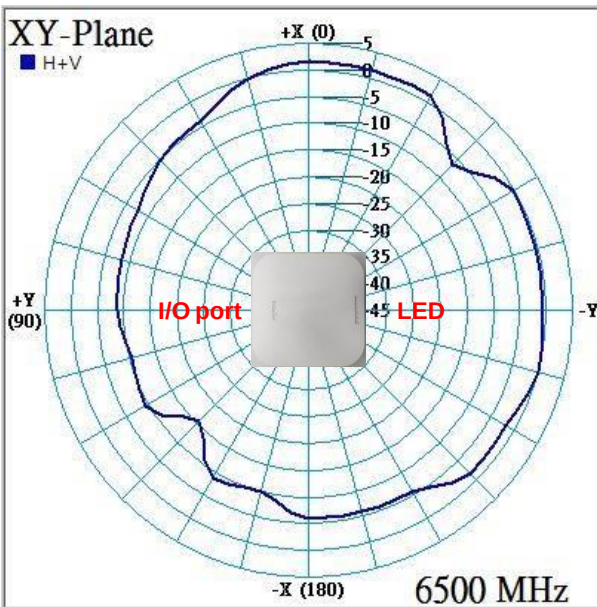
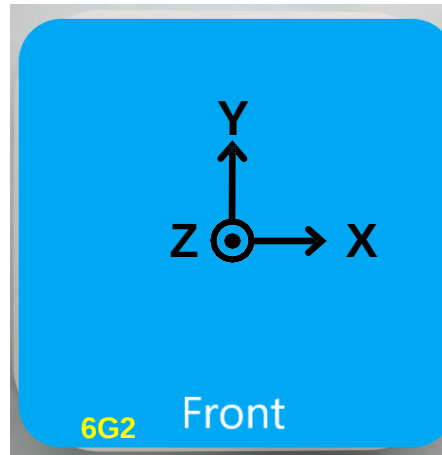
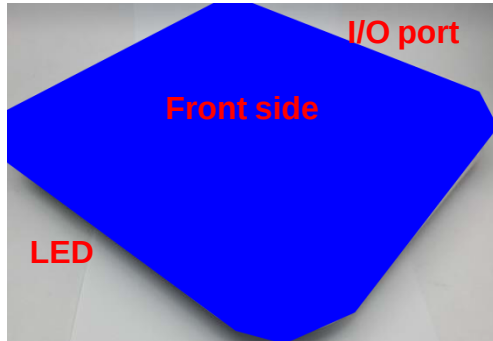
2D Radiation Pattern – 5G4 @ 5.55GHz



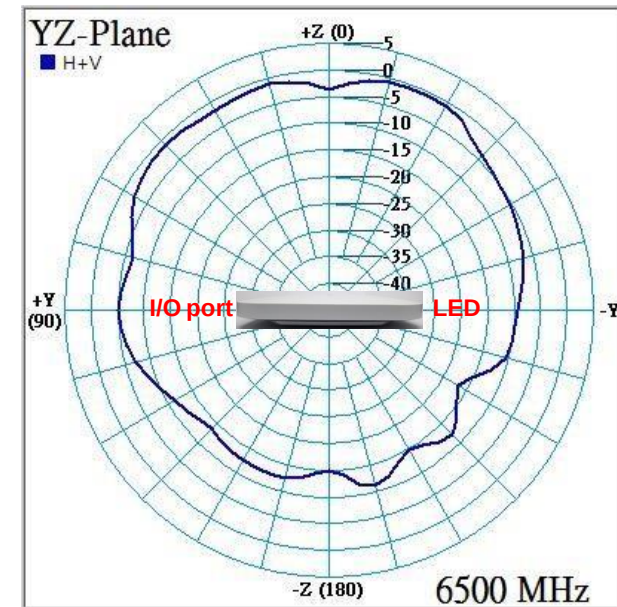
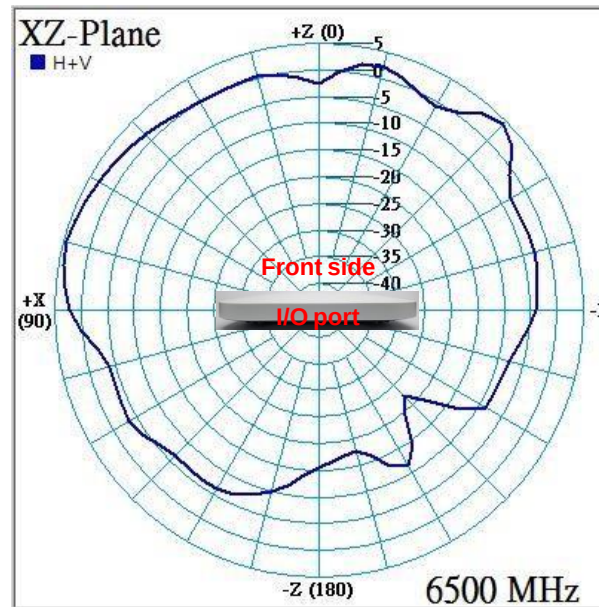
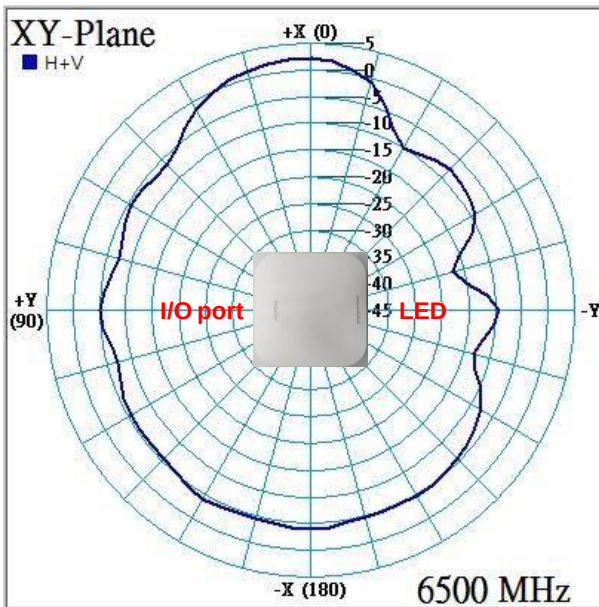
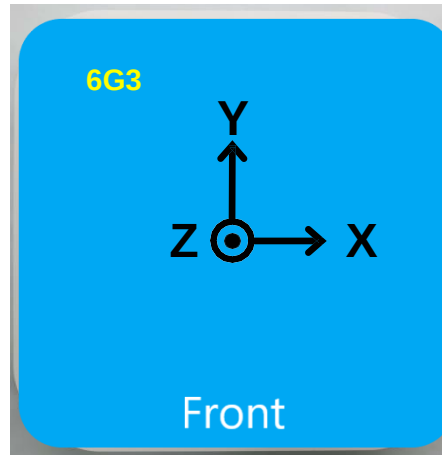
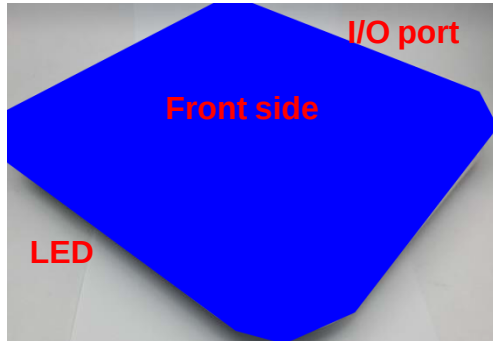
2D Radiation Pattern – 6G1 @ 6.5GHz



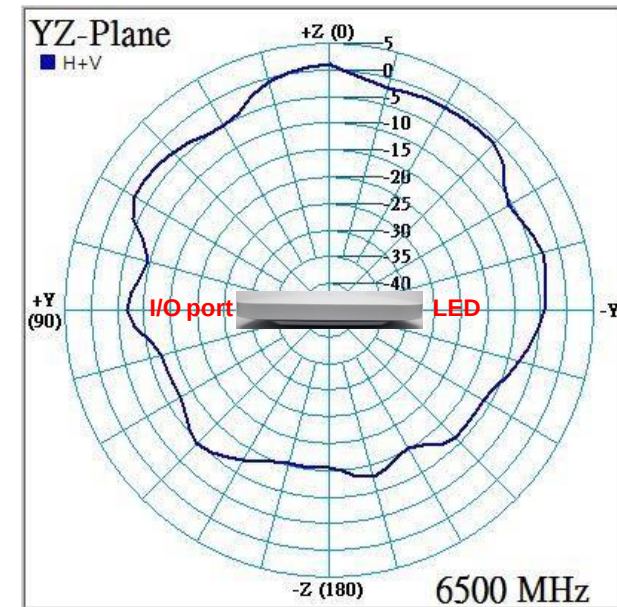
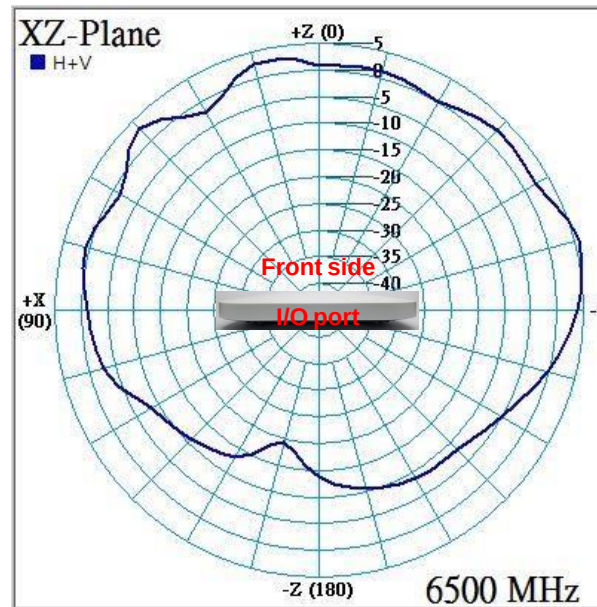
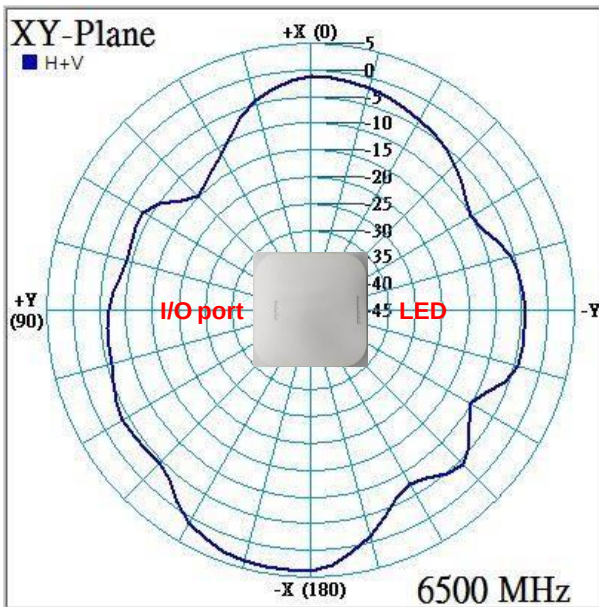
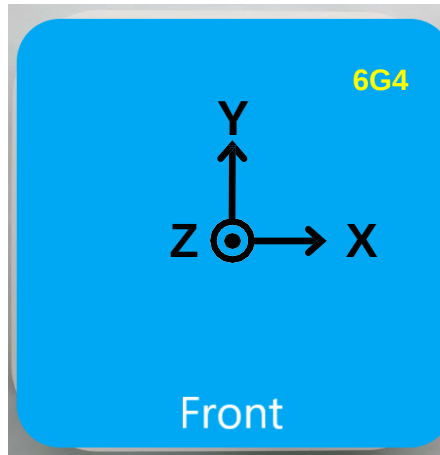
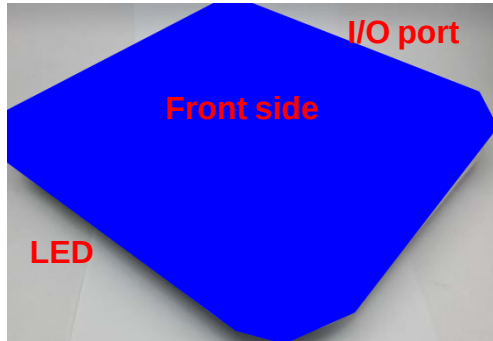
2D Radiation Pattern – 6G2 @ 6.5GHz



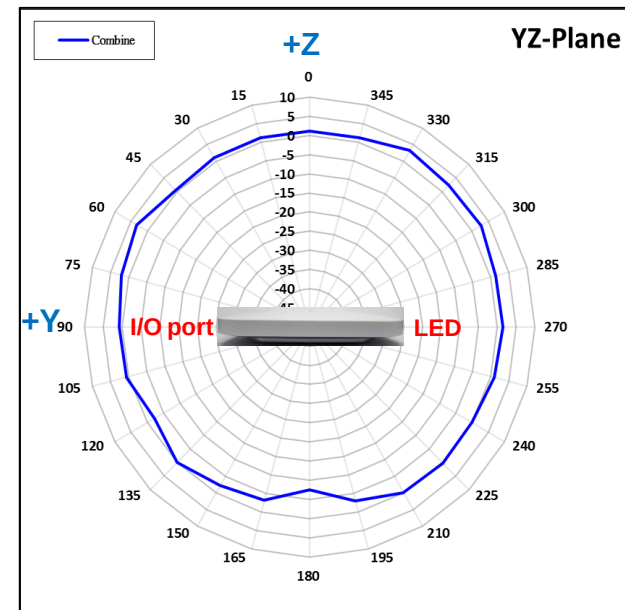
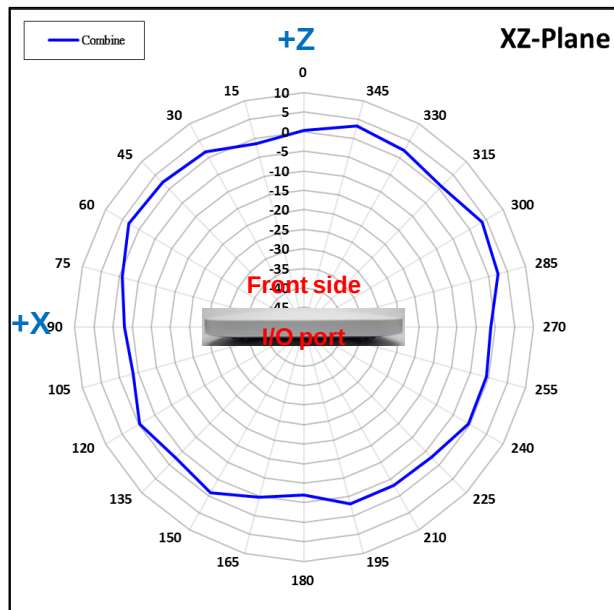
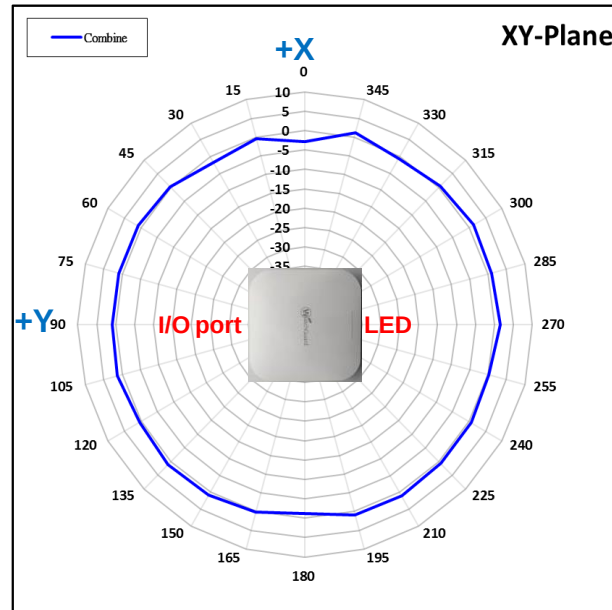
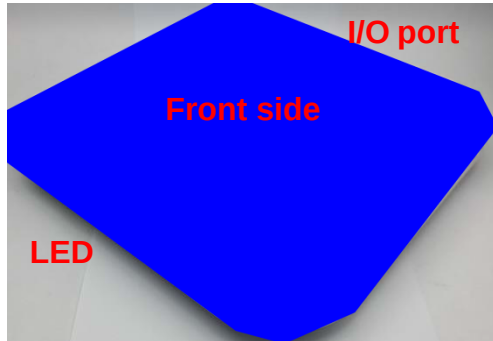
2D Radiation Pattern – 6G3 @ 6.5GHz



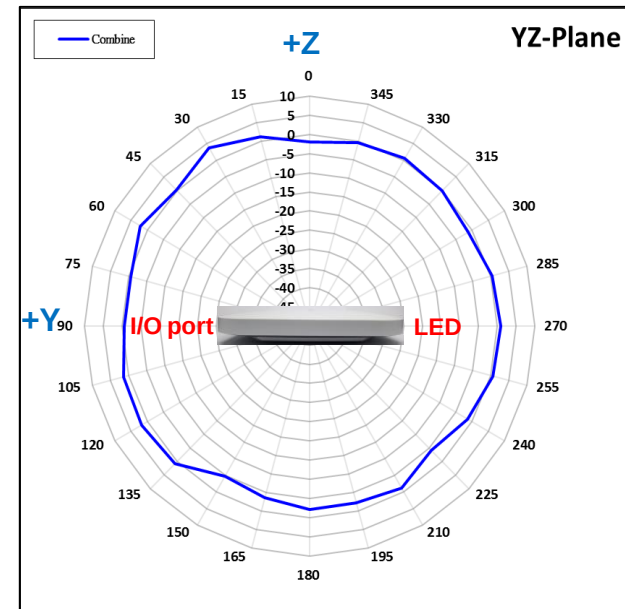
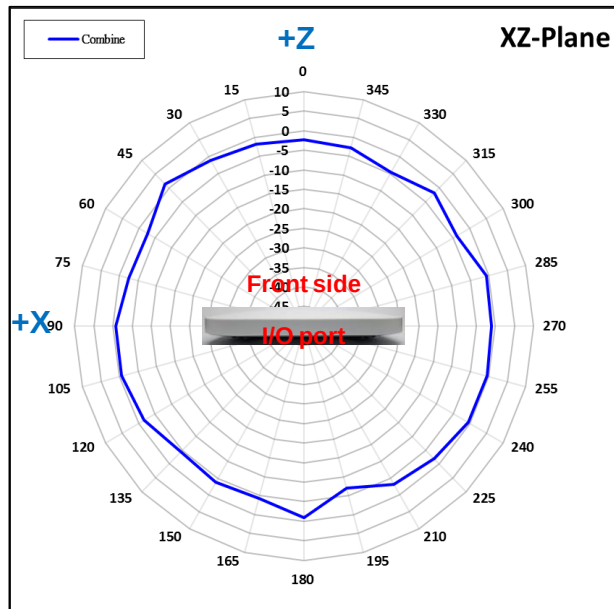
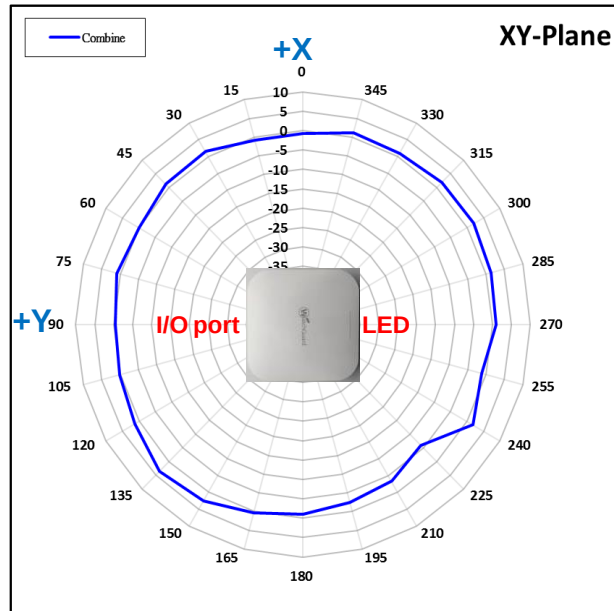
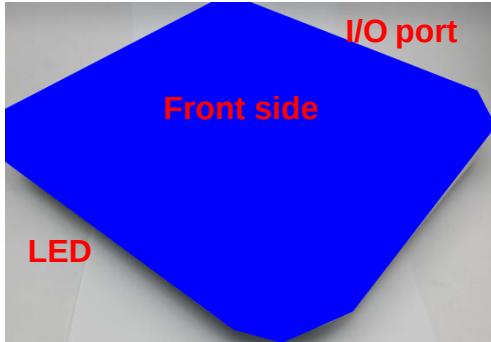
2D Radiation Pattern – 6G4 @ 6.5GHz



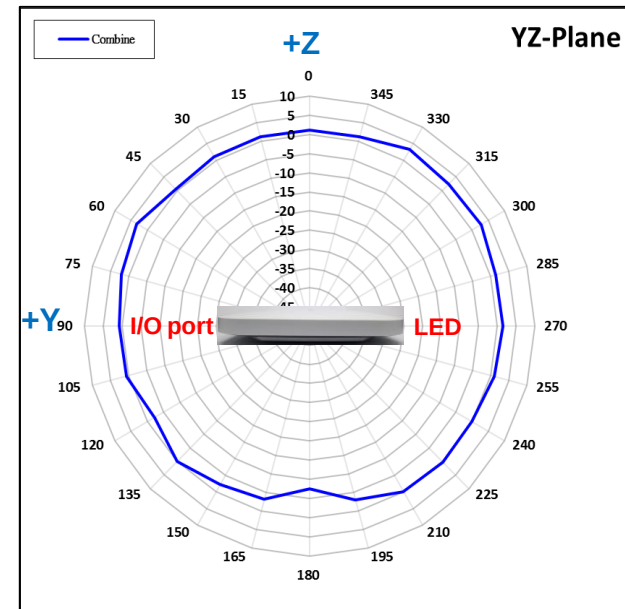
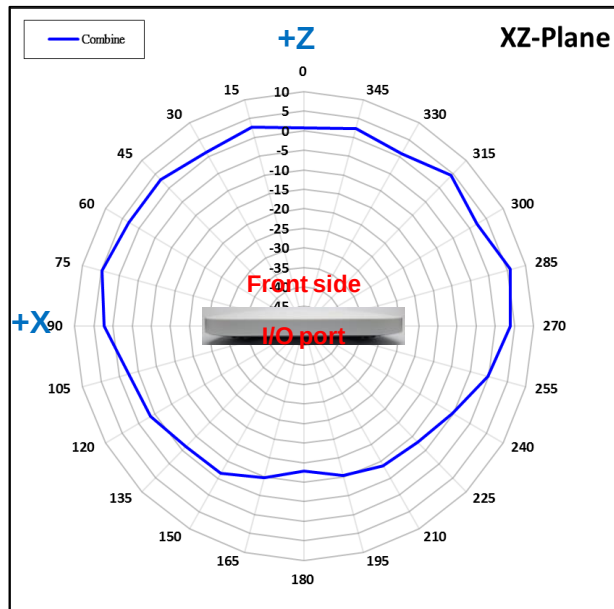
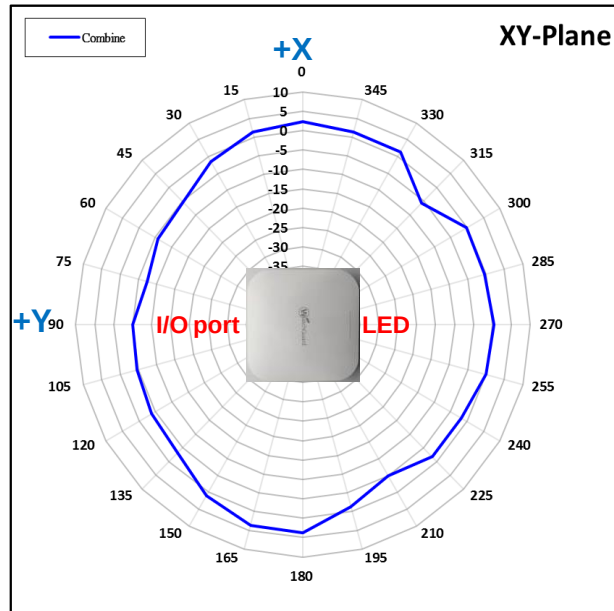
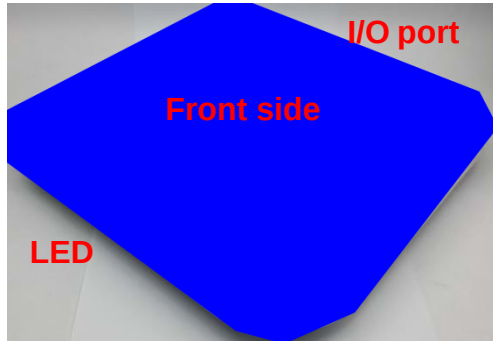
Combine pattern – 2G @ 2.45 GHz



Combine pattern – 5G @ 5.55 GHz



Combine pattern – 6G @ 6.5 GHz



Antenna Efficiency and Gain

Antenna Performance								
Freq. (MHz)	2G1		2G2		2G3		2G4	
	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)
2400	61.7	3.00	60.7	3.51	63.6	3.89	64.8	2.22
2450	67.2	3.30	67.5	4.11	62.5	3.71	72.0	2.90
2500	69.3	4.07	72.1	4.26	63.7	3.80	73.9	3.15

Antenna Performance								
Freq. (MHz)	5G1		5G2		5G3		5G4	
	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)
5150	61.2	4.87	61.8	4.01	52.6	4.36	53.1	3.59
5500	59.8	4.73	58.2	2.55	53.3	4.49	53.5	3.18
5850	60.3	5.09	61.5	3.04	54.3	4.56	56.4	4.01

Antenna Performance								
Freq. (MHz)	6G1		6G2		6G3		6G4	
	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)
5925	55.6	5.30	60.8	4.66	55.8	4.68	57.1	5.44
6500	55.2	3.71	57.5	4.74	55.1	4.44	57.5	5.38
7125	65.7	5.06	53.8	3.96	62.2	5.43	58.4	5.48