

Antenna Measurement Summary Report

MODEL NAME	5QFYAB
TESTED DATED	2026.04.23
ISSUED DATE	2026.07.29
TEST LAB NAME	INPAQ TECHNOLOGY CO. LTD.
TEST LAB ADDRESS	No. 90, Keyi St., Zhunan Township, Miaoli County 350402, Taiwan (R.O.C.)
TEST ENGINEER	Jerry Chen

RELEASE CONTROL RECORD

REPORT NO.	REASON FOR CHANGE	DATE ISSUED
A0	Original release	2026.07.29

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GENERAL INFORMATION

ANTENNA BRAND	INPAQ TECHNOLOGY CO. LTD.	
ANTENNA MODEL NAME	USAGE	ANTENNA TYPE
WAG-M-LTE12-00-013	LTE 1	Stamping IFA
WAG-M-LTE12-00-014	LTE 2	Stamping IFA
WA-P-LB-02-1165	WiFi 1	PCB Dipole
WA-P-LB-02-1166	WiFi 2	PCB Dipole
WA-P-LTE10-02-020	LoRa+BLE	PCB Dipole
MEASUREMENT STATNDARD	ANSI/IEEE Std 149 2021	

1. Test Methods

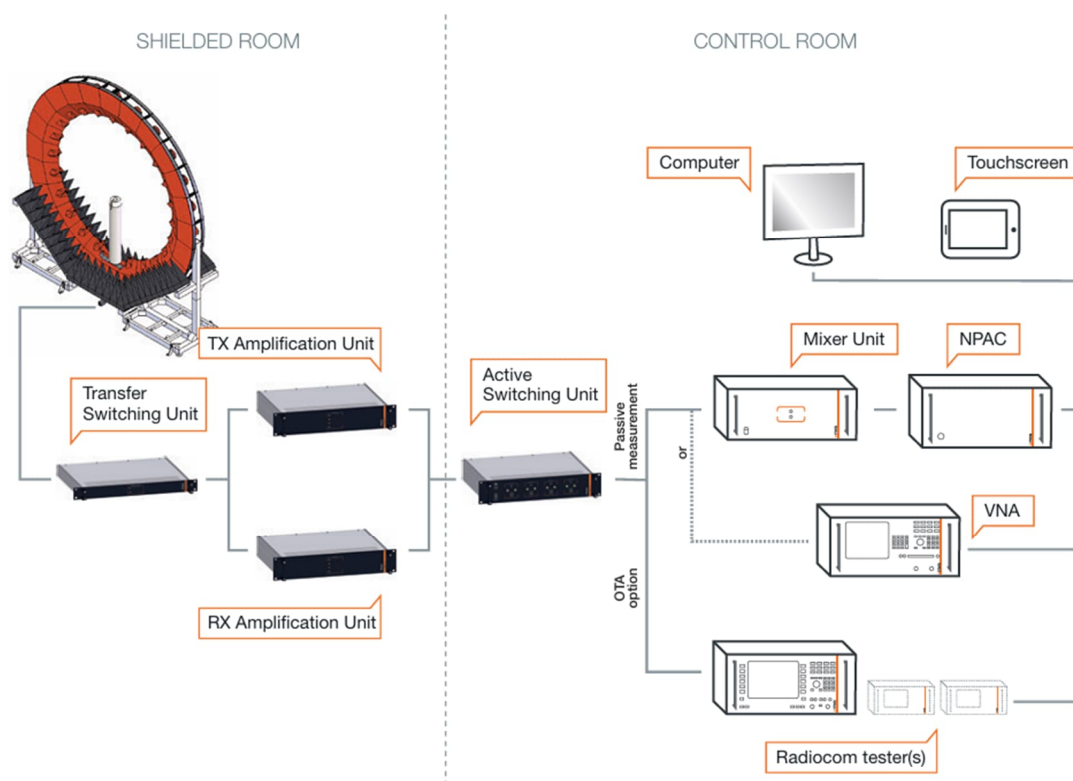
Place the DUT at the center of the turntable, connecting the test cable to the DUT, and use the MVG software for passive measurement. During the measured process, SATIMO SG24 will conduct radiation testing with the DUT through 23 probes by a vertical 360- degree; then the turntable will rotate a horizontal 180- degree. After, a complete measurement of spherical 3D is completed.

2. Description of the anechooic chamber

Length: 5 m

Width: 5 m

Height: 5 m



3. Test Equipment List

TYPE OF EQUIPMENT	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DUE DATE
Satimo Chamber	SG24	1101895-0004	N/A
Measurement Software	MVG WaveStudio	24.3	N/A
Switch Control	Satimo active switching unit	1101172-0009	N/A
Network Analyzer	ROHDE&SCHWARZ ZNB20	1311.6010K64-101630-tU	2026/07/04

5. Antenna Radiation Performance

LTE1

Frequency (MHz)	700	750	800	860	900	960
Average Gain (dBi)	-4.69	-3.23	-2.73	-4.1	-6.49	-5.52
Peak Gain (dBi)	1.01	3.01	2.68	0.78	-2.32	1.11
Efficiency (%)	33.96	47.53	53.33	38.9	22.44	28.05
Frequency (MHz)	1710	1900	2100	2360	2500	2690
Average Gain (dBi)	-2.75	-1.58	-1.33	-2.63	-2.25	-1.7
Peak Gain (dBi)	2.36	3.48	4.42	3.03	3.07	3.74
Efficiency (%)	53.09	69.5	73.62	54.58	59.57	67.61

LTE2

Frequency (MHz)	700	750	800	860	900	960
Average Gain (dBi)	-5.29	-2.38	-2.13	-3.02	-2.69	-4.02
Peak Gain (dBi)	0.04	4.32	3.26	0.92	0.8	-0.1
Efficiency (%)	29.58	57.81	61.24	49.89	53.83	39.63
Frequency (MHz)	1710	1900	2100	2360	2500	2690
Average Gain (dBi)	-3.45	-2.43	-2.26	-2.42	-3.06	-2.62
Peak Gain (dBi)	0.32	1.08	1.22	3.16	2.42	2.12
Efficiency (%)	45.19	57.15	59.43	57.28	49.43	54.7

Wi-Fi1

Frequency (MHz)	2400	2410	2420	2430	2440	2450
Average Gain (dBi)	-2.16	-2.10	-2.09	-2.04	-2.01	-1.97
Peak Gain (dBi)	2.33	2.35	2.18	2.10	2.13	2.15
Efficiency (%)	60.81	61.66	61.80	62.52	62.95	63.53
Frequency (MHz)	2460	2470	2480	2490	2500	
Average Gain (dBi)	-2.00	-2.03	-2.00	-2.07	-2.17	
Peak Gain (dBi)	2.11	2.01	2.15	2.13	2.14	
Efficiency (%)	63.10	62.66	63.10	62.09	60.67	

Wi-Fi2

Frequency (MHz)	2400	2410	2420	2430	2440	2450
Average Gain (dBi)	-2.20	-2.16	-2.11	-2.10	-2.10	-2.05
Peak Gain (dBi)	2.63	2.51	2.43	2.36	2.29	2.39
Efficiency (%)	60.26	60.81	61.52	61.66	61.66	62.37

Frequency (MHz)	2460	2470	2480	2490	2500	
Average Gain (dBi)	-2.09	-2.13	-2.14	-2.19	-2.28	
Peak Gain (dBi)	2.38	2.30	2.30	2.27	2.22	
Efficiency (%)	61.80	61.24	61.09	60.39	59.16	

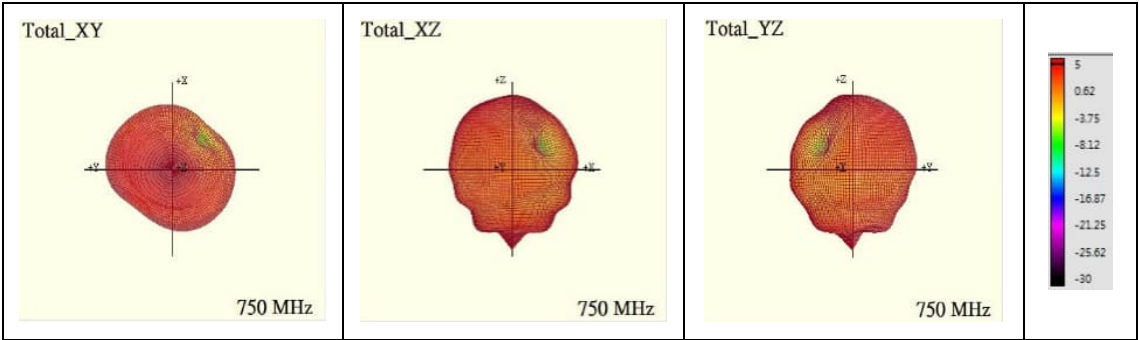
LoRa + BLE

Frequency (MHz)	863	868	890	915	928	2400
Average Gain (dBi)	-4.96	-4.59	-3.80	-3.67	-4.65	-3.43
Peak Gain (dBi)	-2.10	-1.16	0.80	0.74	-0.29	3.50
Efficiency (%)	31.92	34.75	41.69	42.95	34.28	45.39
Frequency (MHz)	2410	2420	2430	2440	2450	2460
Average Gain (dBi)	-3.32	-3.23	-3.11	-2.98	-2.77	-2.69
Peak Gain (dBi)	3.83	3.63	2.45	2.64	2.96	3.01
Efficiency (%)	46.56	47.53	48.87	50.35	52.84	53.83
Frequency (MHz)	2470	2480	2490	2500		
Average Gain (dBi)	-2.56	-2.46	-2.34	-2.34		
Peak Gain (dBi)	3.17	3.30	3.42	3.52		
Efficiency (%)	55.46	56.75	58.34	58.34		

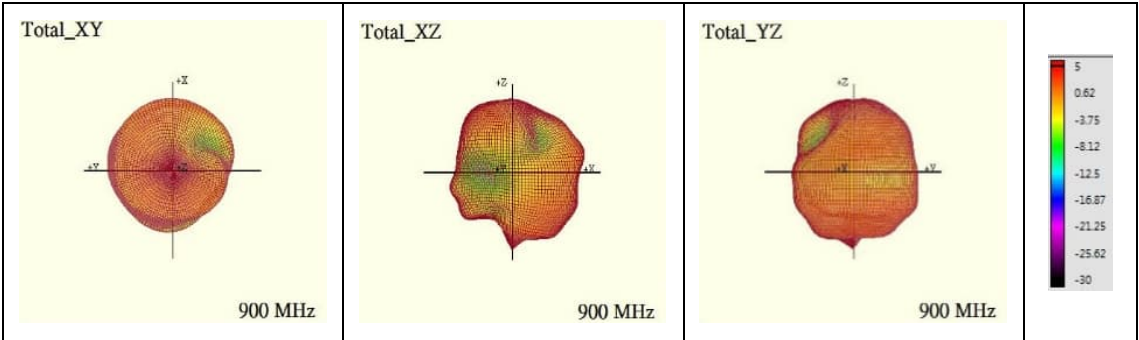
6. 2D/3D Antenna Patterns

LTE1

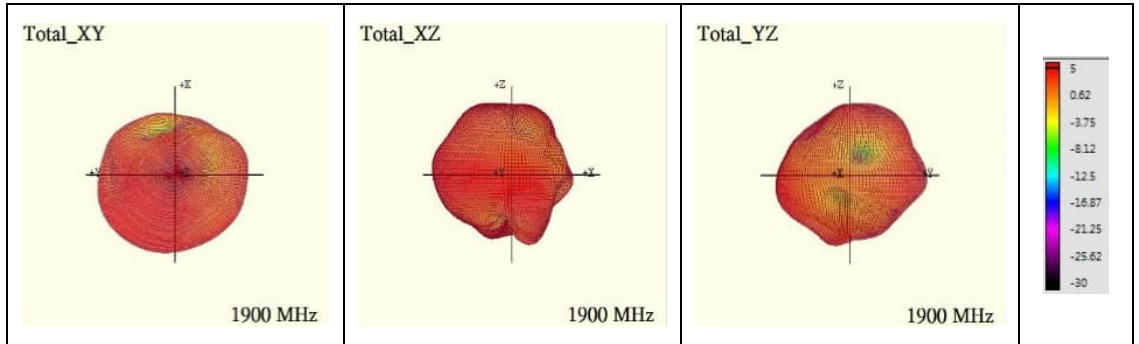
750 MHz



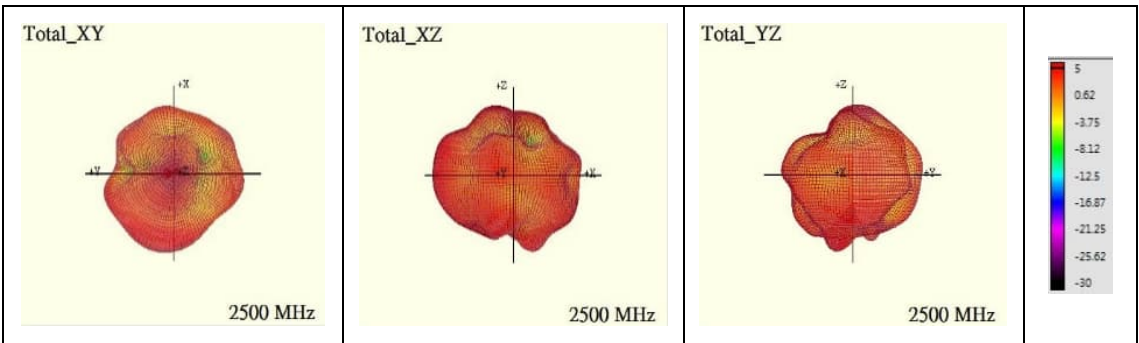
900 MHz



1900 MHz

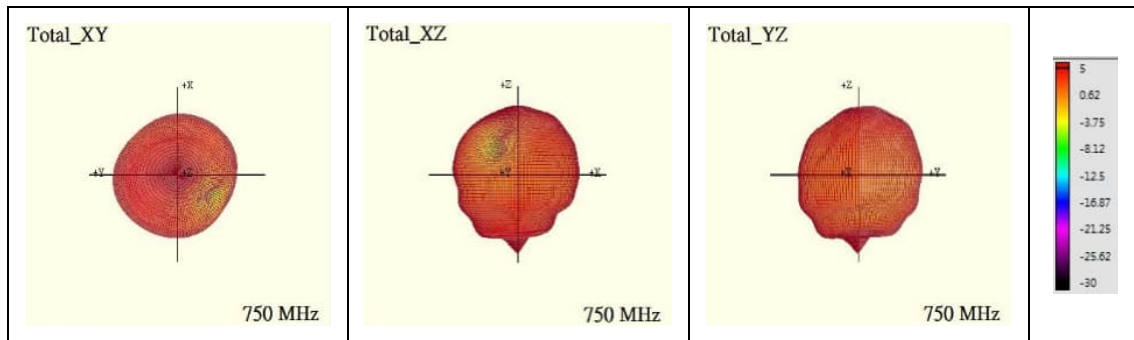


2500 MHz

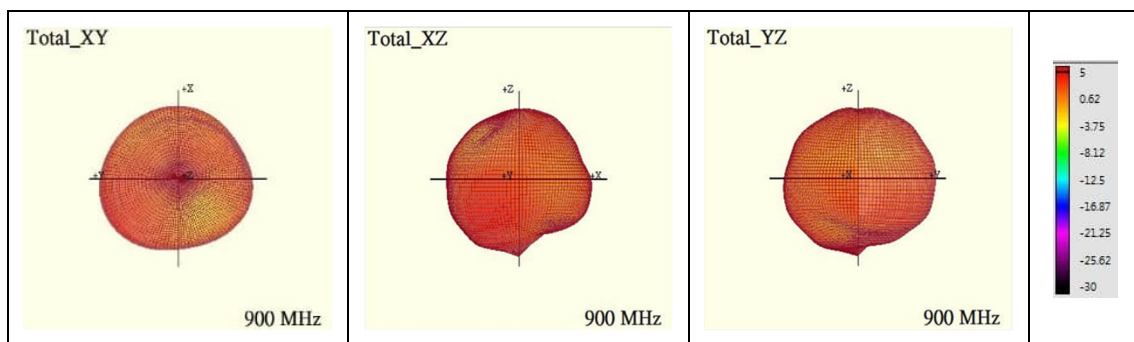


LTE2

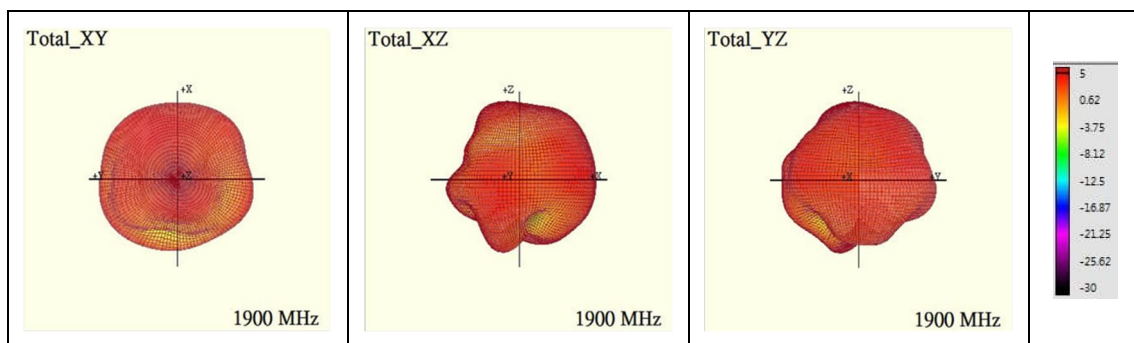
750 MHz



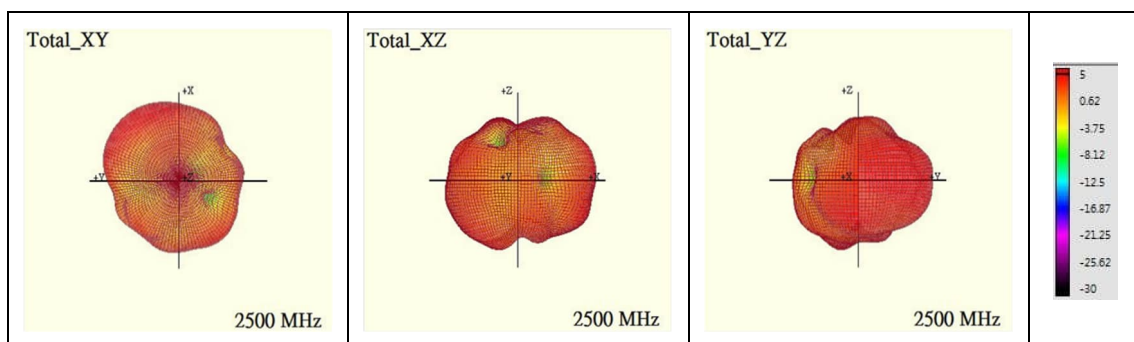
900 MHz



1900 MHz

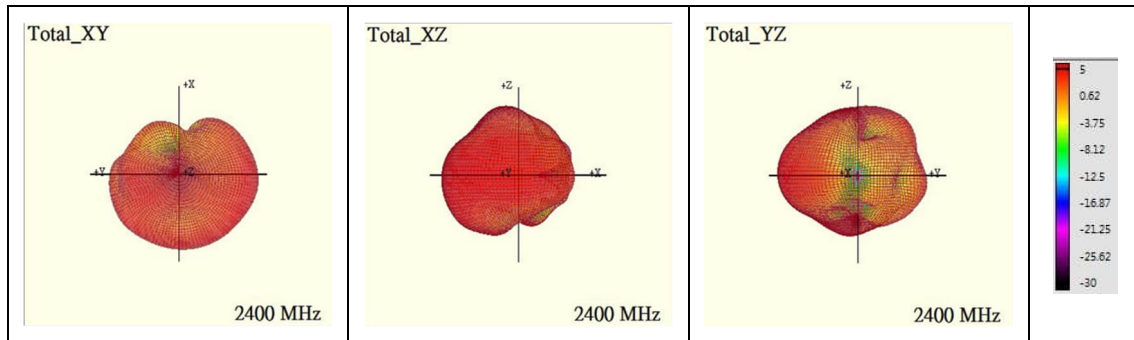


2500 MHz

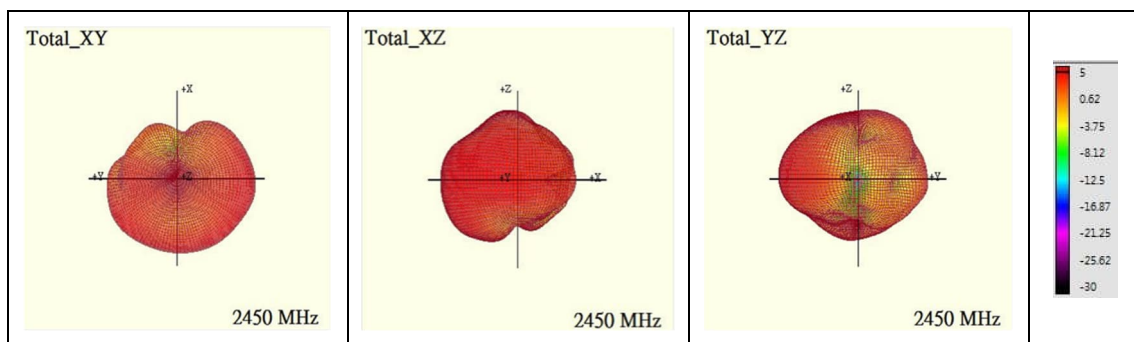


Wi-Fi1

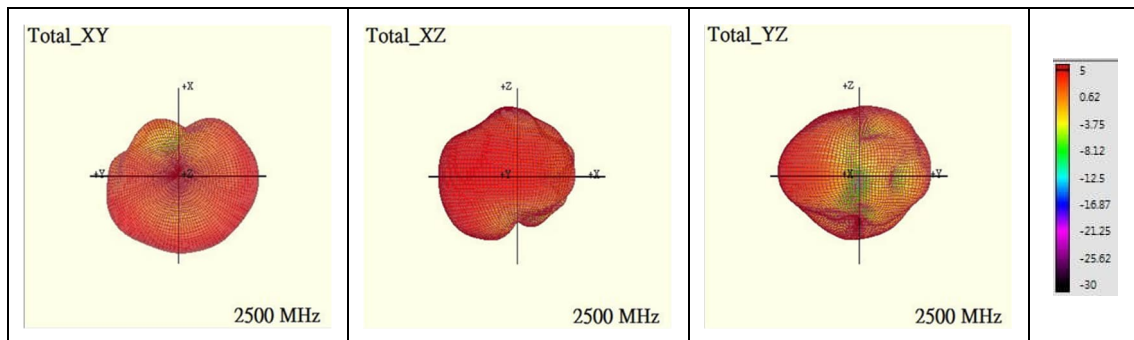
2400 MHz



2450 MHz

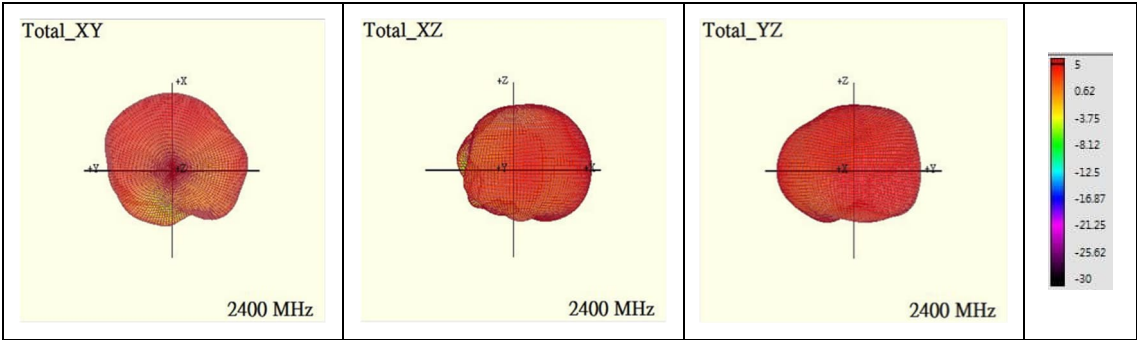


2500 MHz

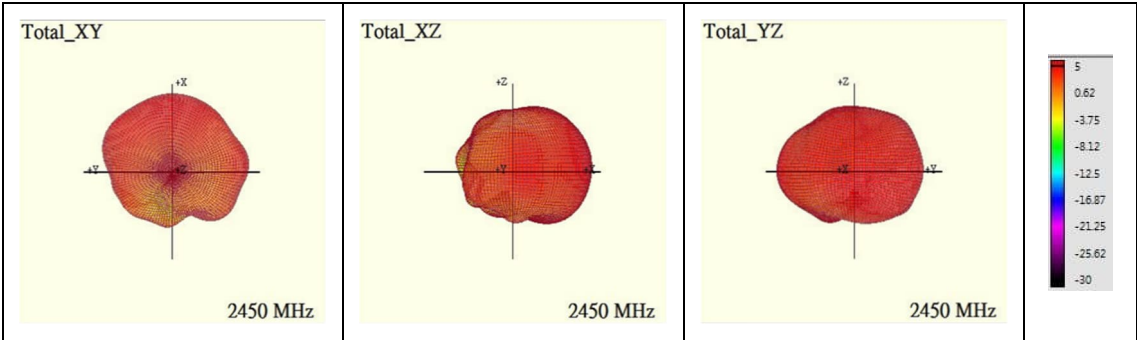


Wi-Fi2

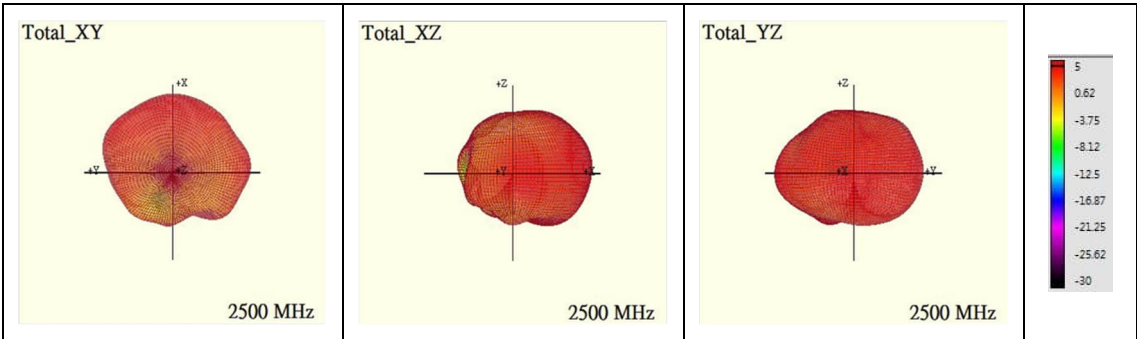
2400 MHz



2450 MHz

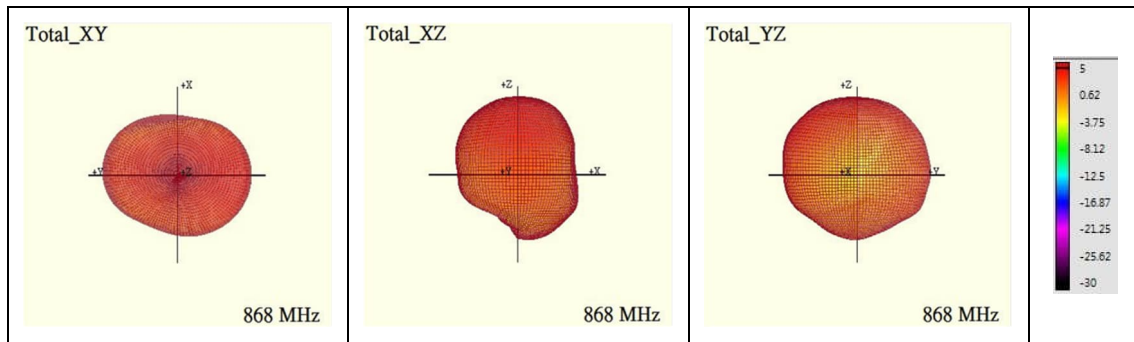


2500 MHz

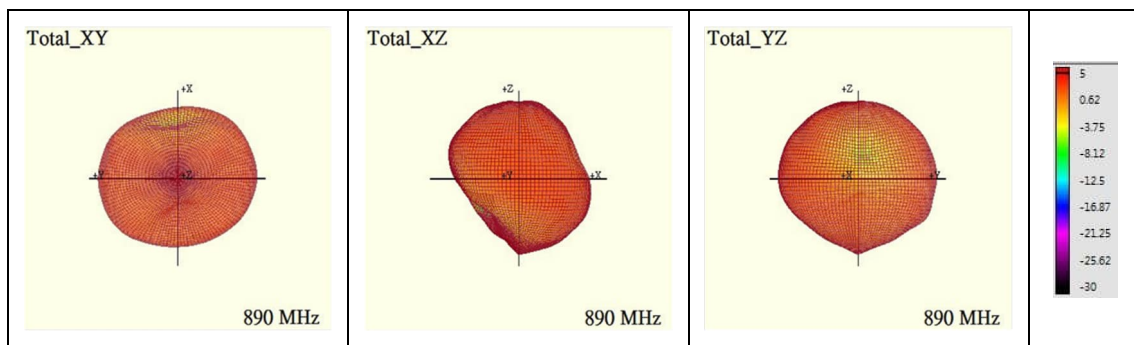


LoRa + BLE

868 MHz



890 MHz



915 MHz

