

**SP250-S5**

# **WLAN Antenna Test Report**

January 15, 2023  
v0.3



# Efficiency & Peak Gain



- ANT #1 – 2G0**

Frequency (MHz)	2400	2412	2417	2422	2427	2432	2437	2442	2447	2450	2452	2457	2462	2467	2472	2500
Efficiency (%)	48.07	48.92	50.81	50.70	52.61	51.60	51.53	51.32	50.47	51.03	50.63	49.31	48.20	46.39	45.28	38.27
Gain (dBi)	2.53	3.03	3.19	3.34	3.80	3.84	3.95	4.37	4.37	4.72	4.87	4.94	5.21	4.96	4.84	5.01

- ANT #2 – 2G1**

Frequency (MHz)	2400	2412	2417	2422	2427	2432	2437	2442	2447	2450	2452	2457	2462	2467	2472	2500
Efficiency (%)	44.75	45.63	47.51	47.63	50.57	49.23	49.52	49.76	49.80	50.64	50.32	49.69	48.88	47.65	46.95	42.38
Gain (dBi)	4.98	5.03	5.08	5.17	5.59	5.66	5.58	5.58	5.74	5.90	5.96	5.97	5.89	5.73	5.85	5.67

- ANT #3 – 5G0**

Frequency (MHz)	5150	5200	5250	5300	5350	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000
Efficiency (%)	40.94	42.55	44.47	38.66	35.74	42.93	43.63	43.70	44.75	38.84	38.70	39.65	35.93	40.84	40.91	38.72	40.73
Gain (dBi)	7.82	8.20	8.30	8.07	7.40	9.13	9.72	8.75	9.16	8.42	8.03	8.04	7.63	7.35	6.98	6.97	7.05

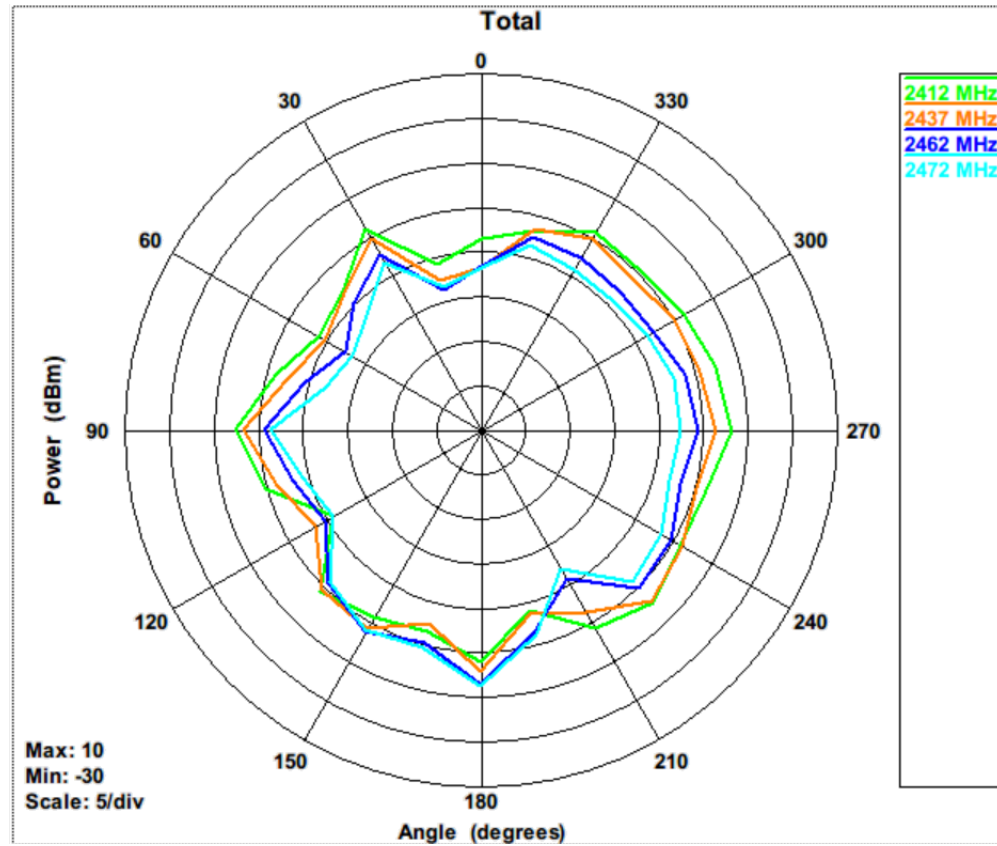
- ANT #4 – 5G1**

Frequency (MHz)	5150	5200	5250	5300	5350	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000
Efficiency (%)	45.53	46.61	51.27	42.79	40.88	44.33	46.19	45.93	45.46	38.80	35.80	36.19	30.16	35.28	33.75	30.98	34.03
Gain (dBi)	9.01	9.21	9.58	9.07	8.93	8.91	8.85	8.89	8.47	7.77	7.59	7.59	6.82	6.62	7.21	6.64	6.72

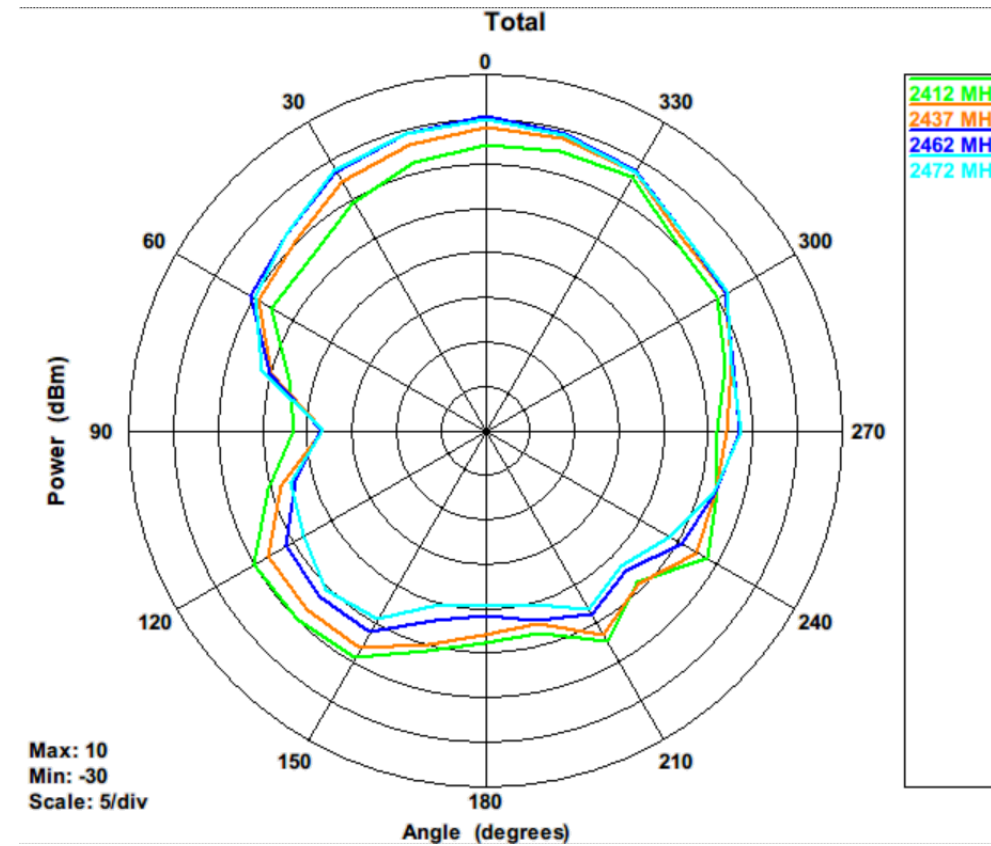
# Antenna Pattern – 2D for ANT# 1 (2G0)

- ANT #1 - 2G0

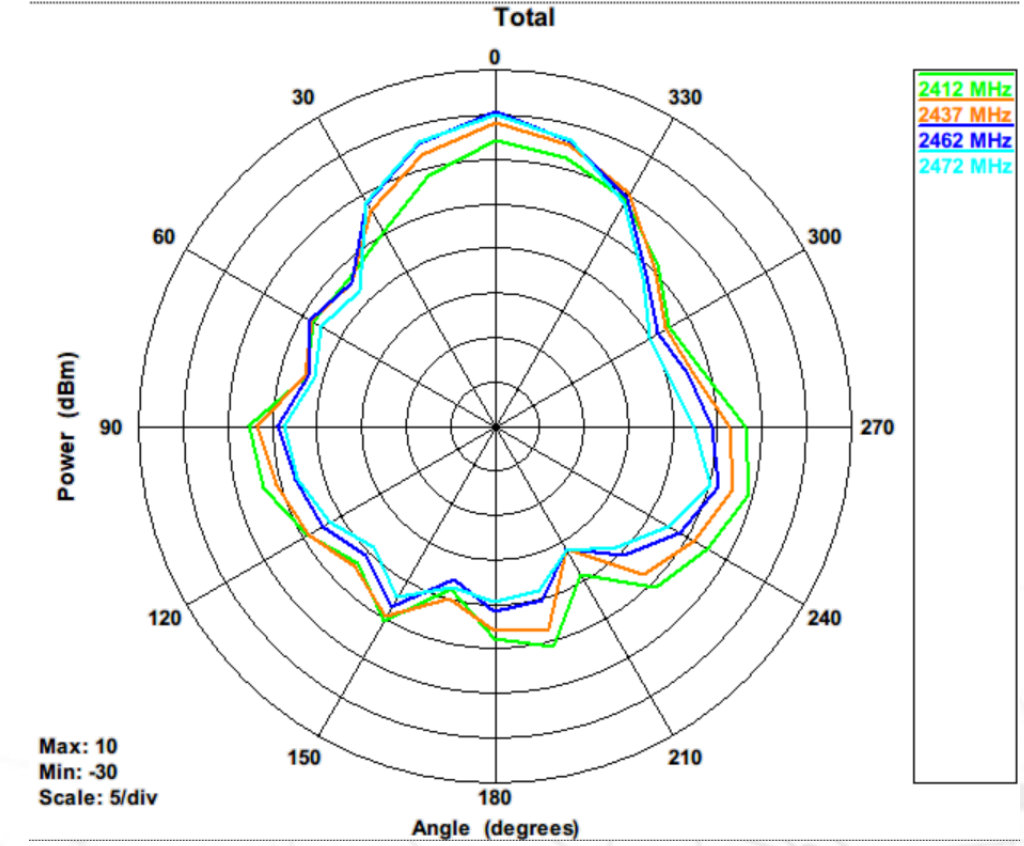
XY H-plane



XZ E1-plane



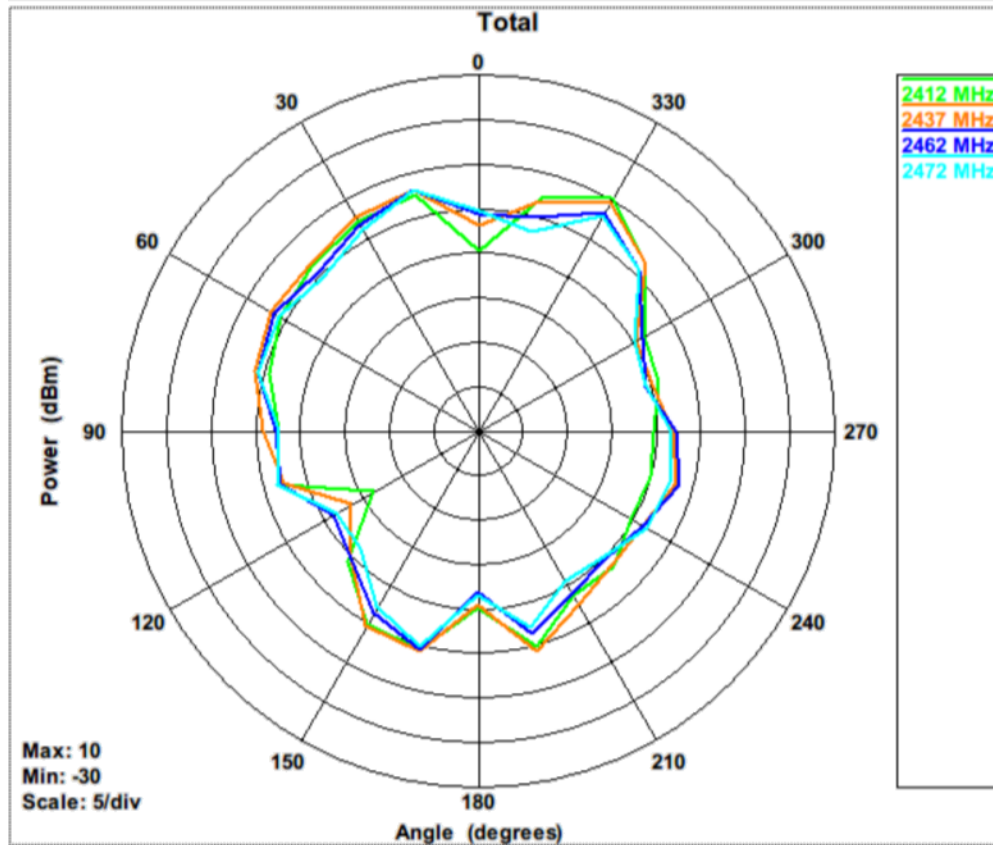
YZ E2-plane



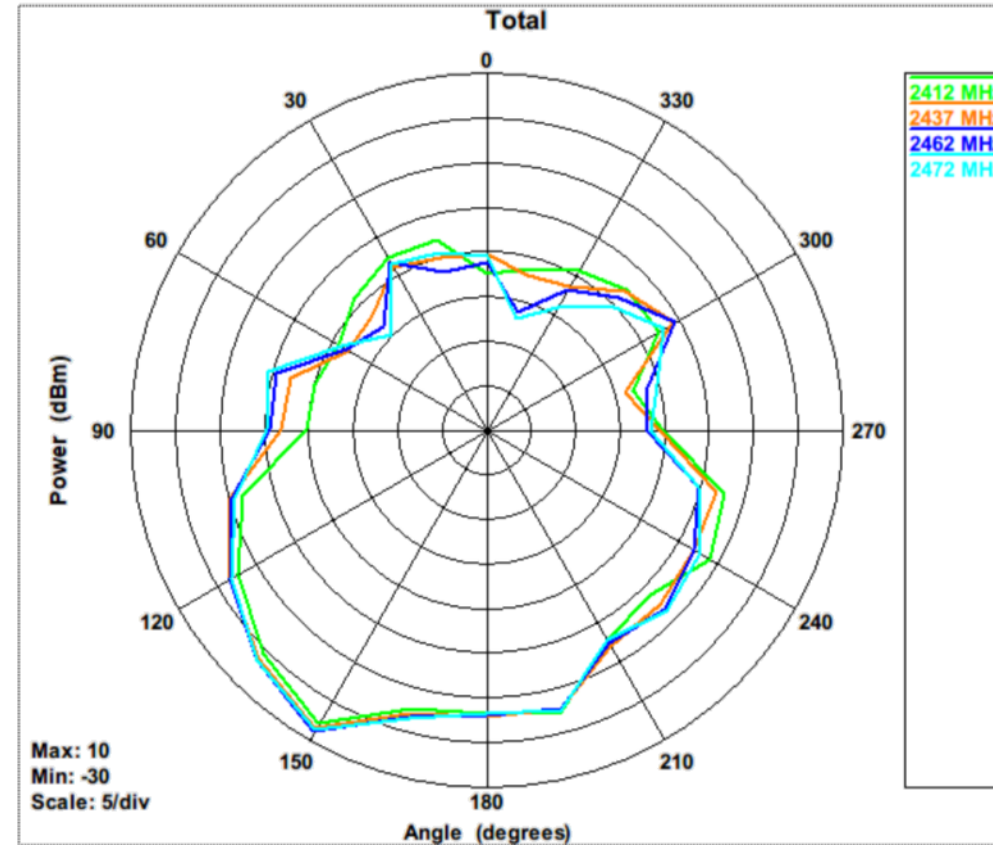
# Antenna Pattern – 2D for ANT# 2 (2G1)

- ANT #2 - 2G1

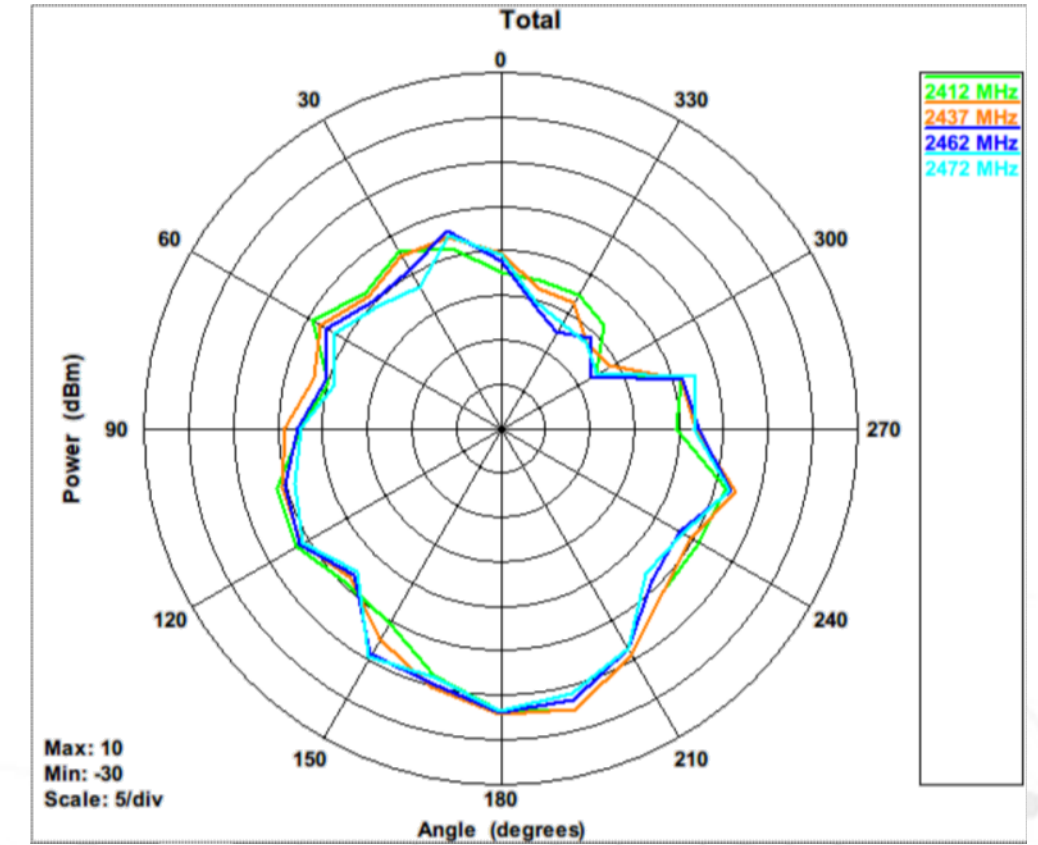
XY H-plane



XZ E1-plane



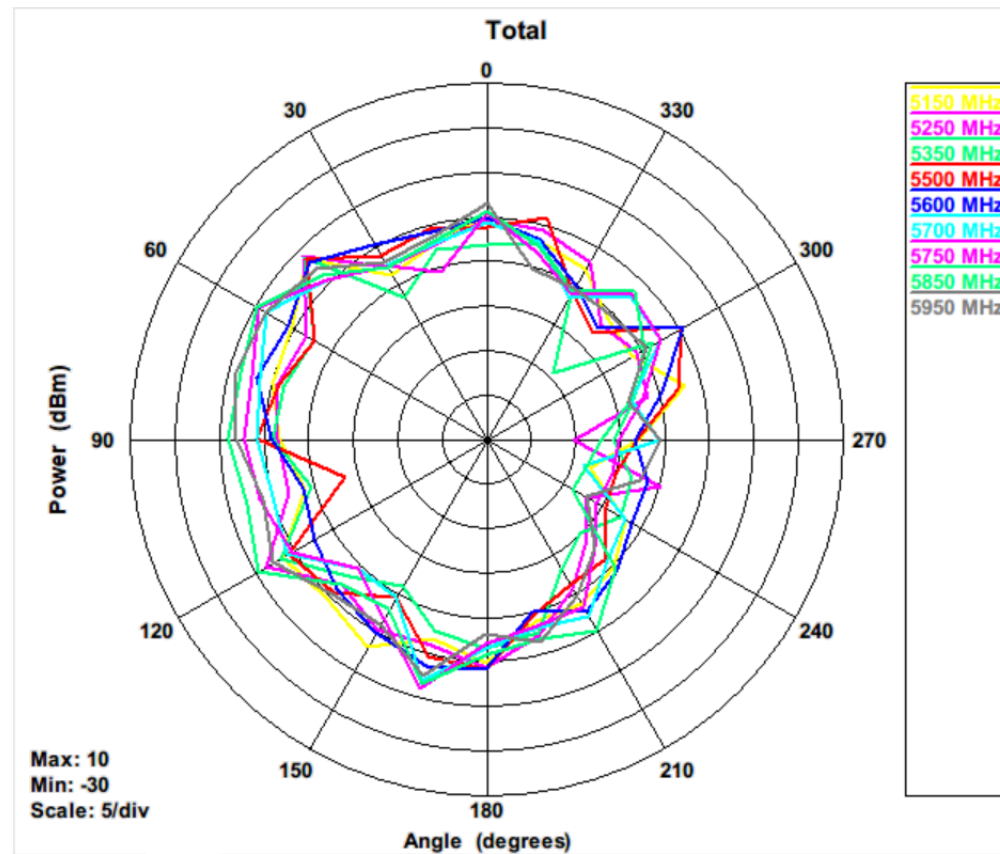
YZ E2-plane



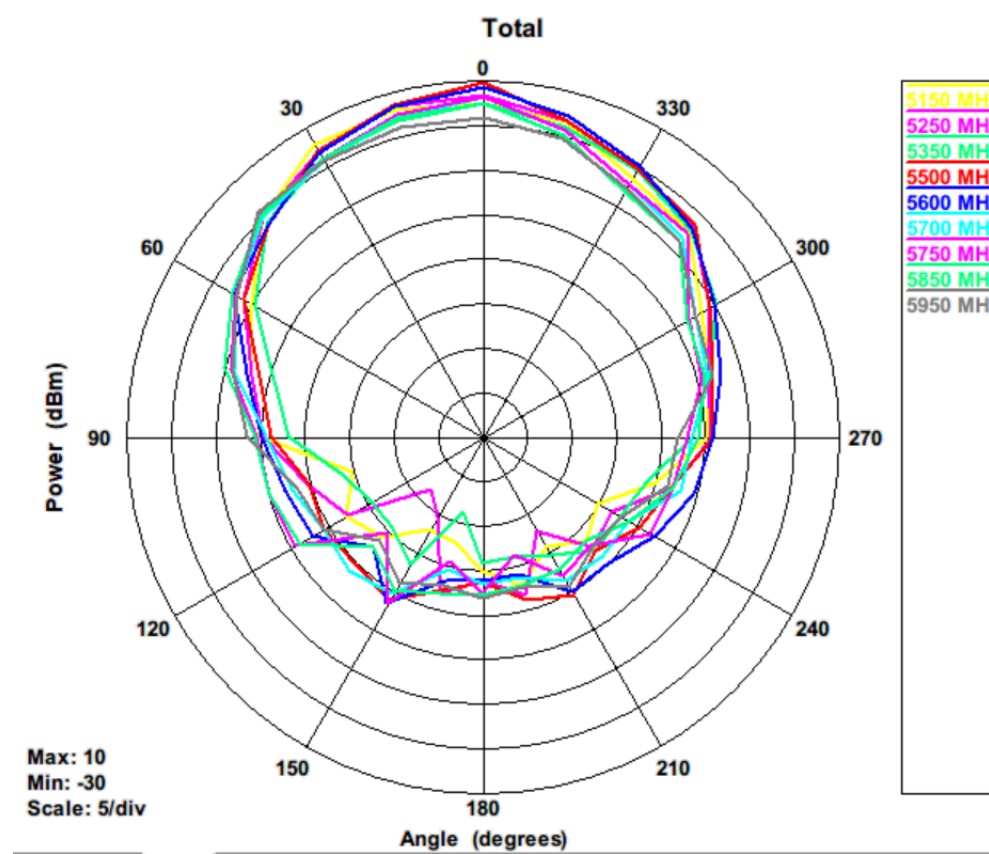
# Antenna Pattern – 2D for ANT# 3 (5G0)

- ANT #3 - 5G0

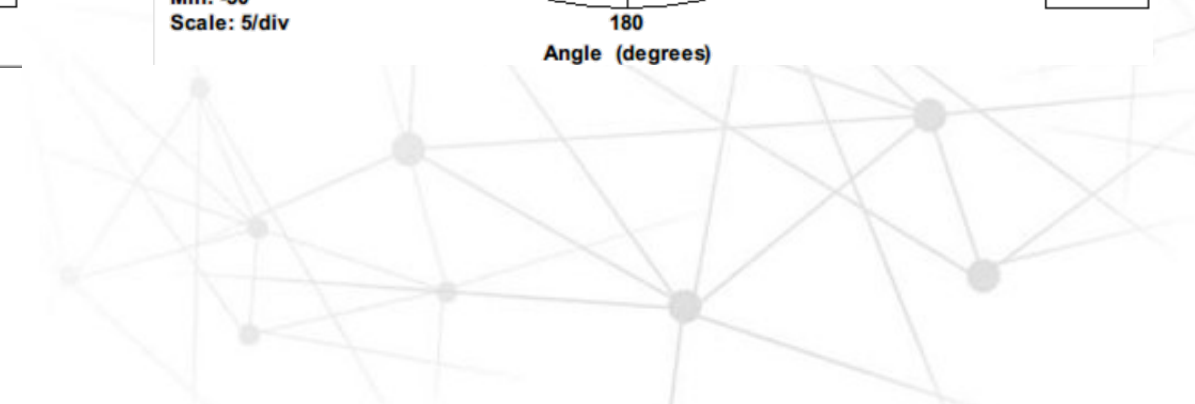
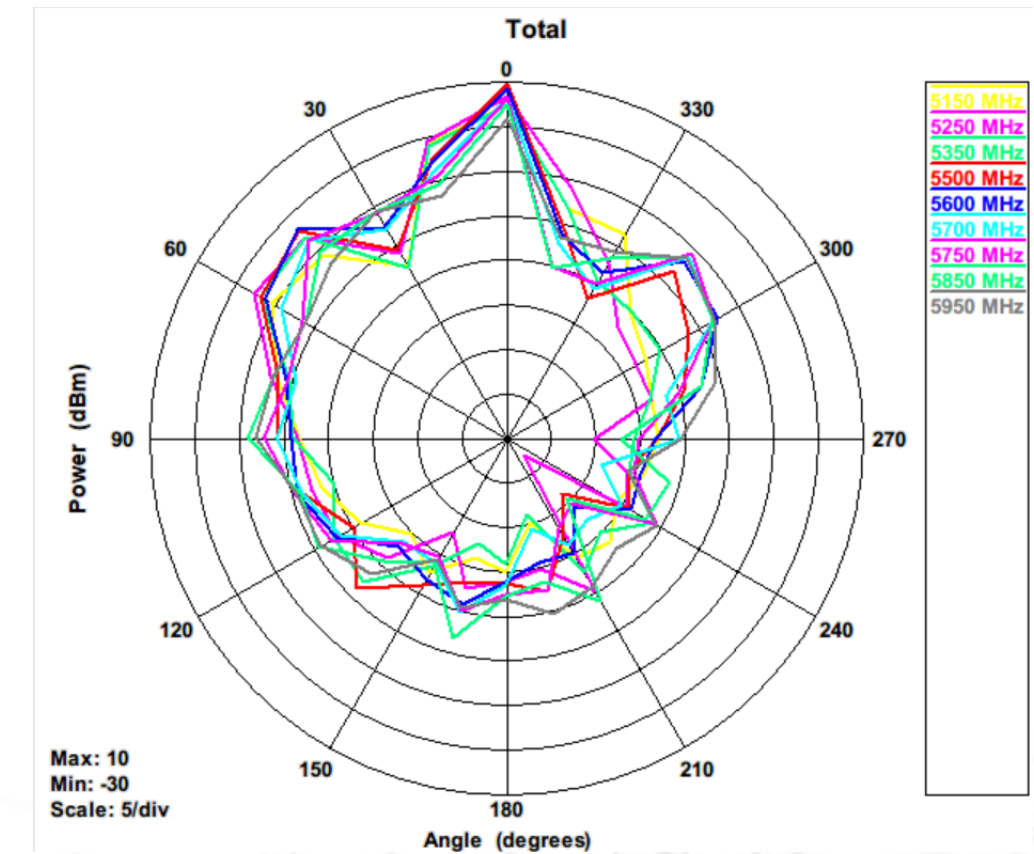
XY H-plane



XZ E1-plane



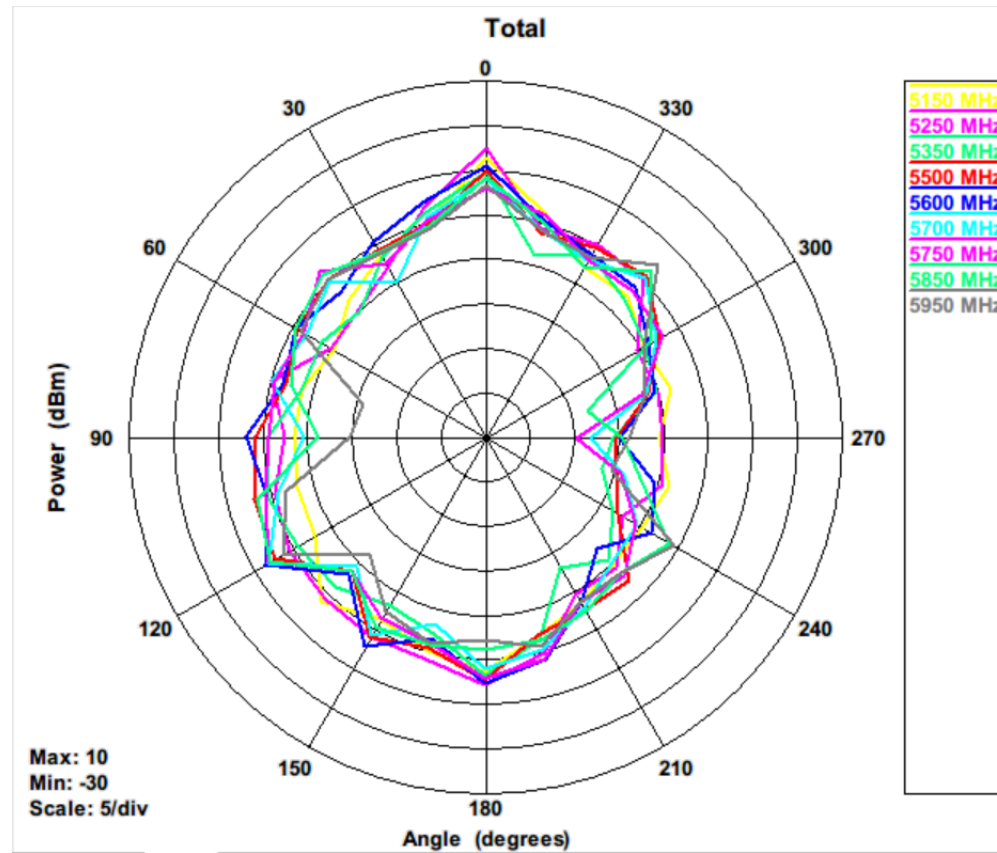
YZ E2-plane



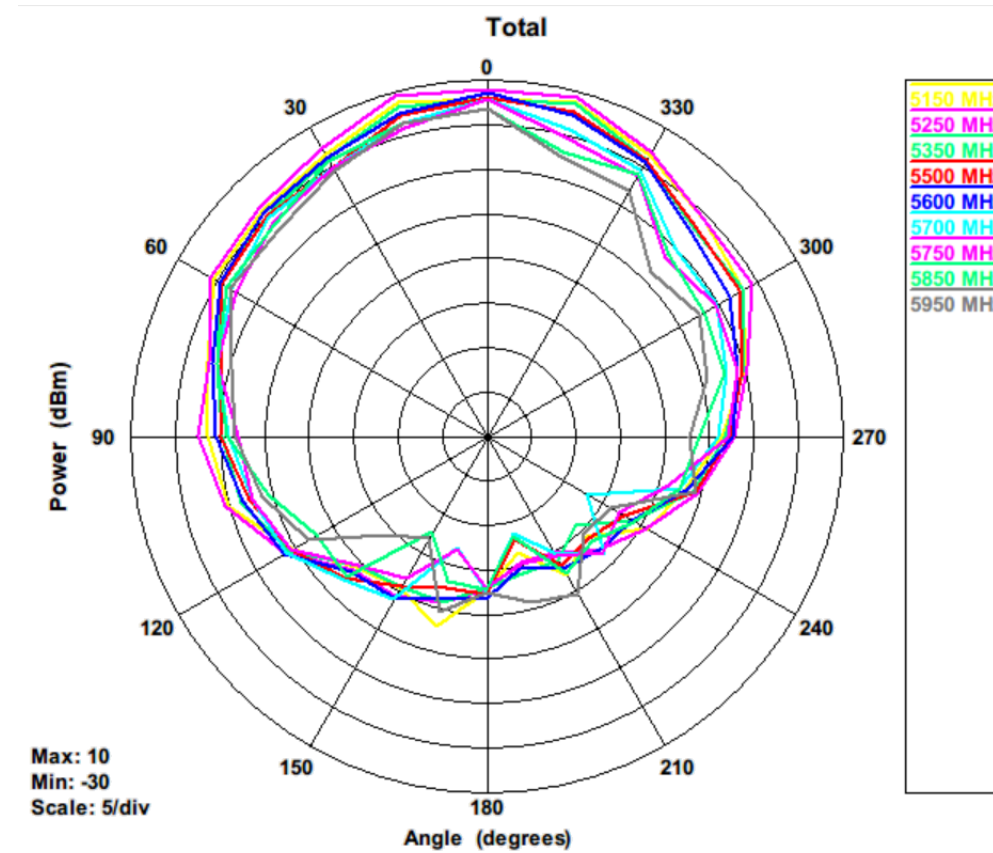
# Antenna Pattern – 2D for ANT# 4 (5G1)

- ANT #4 - 5G1

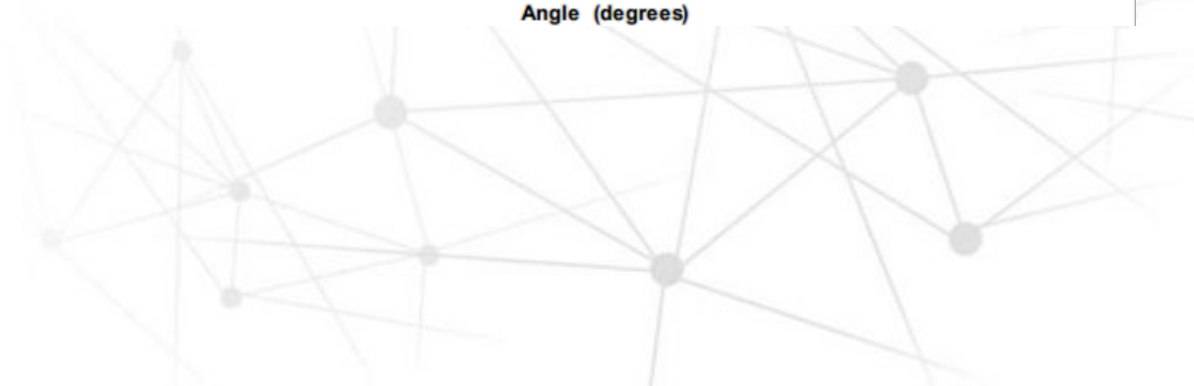
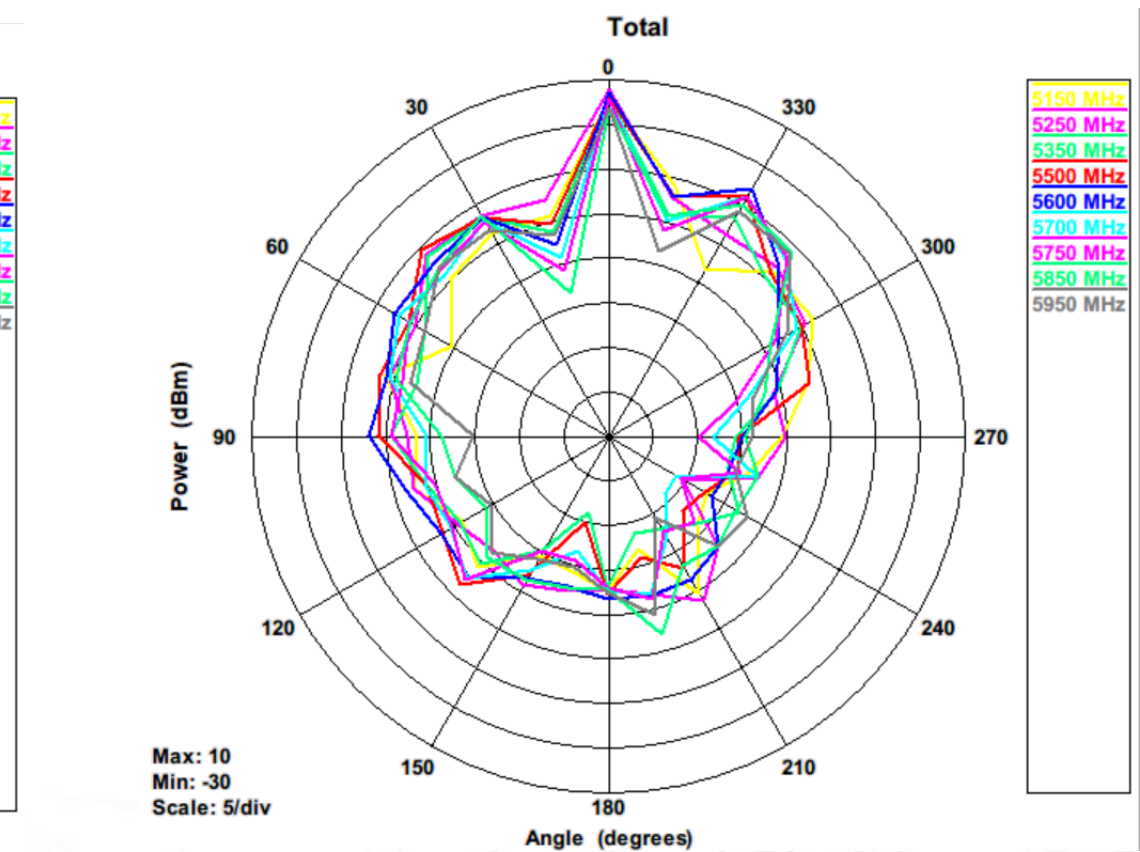
XY H-plane



XZ E1-plane



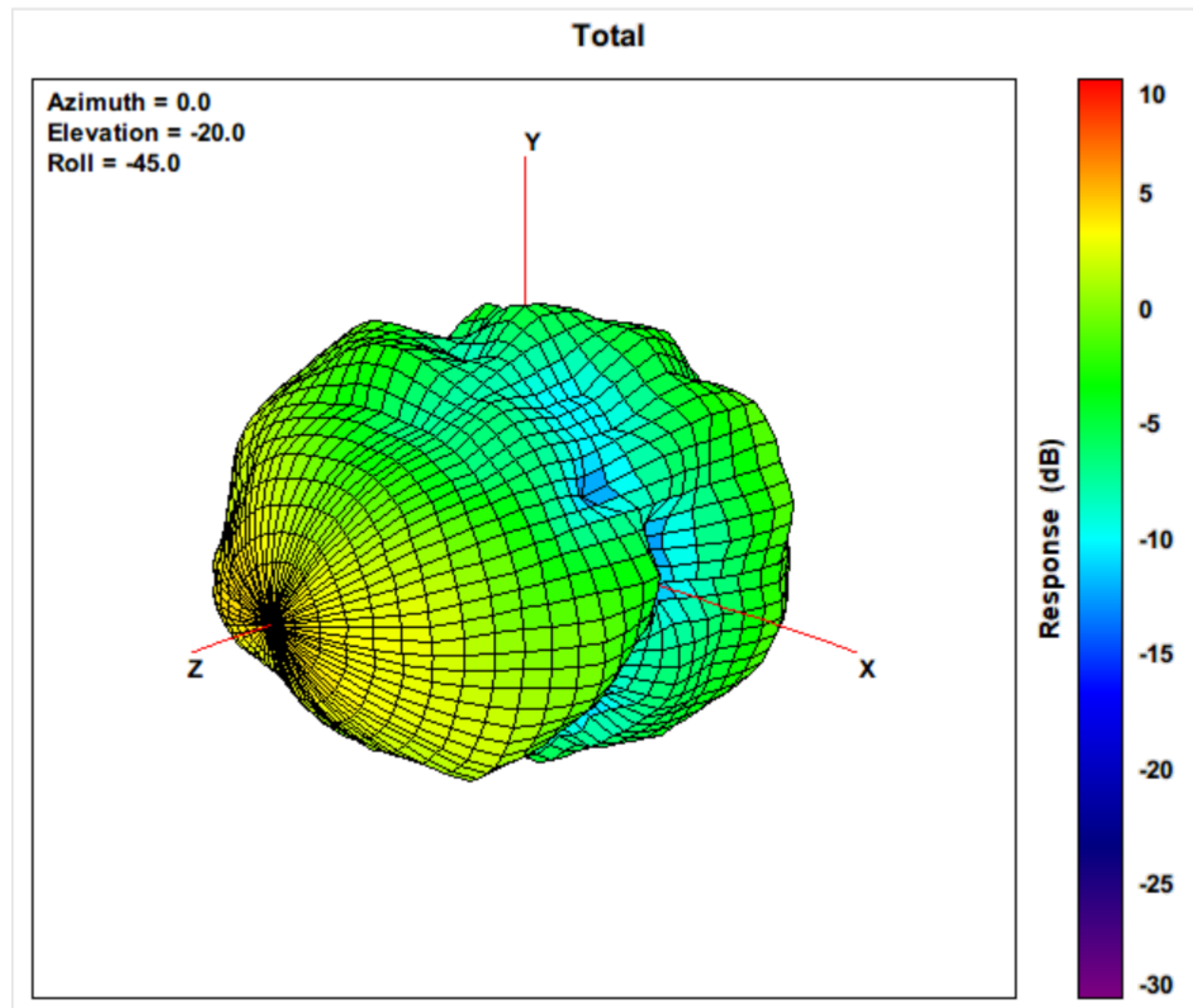
YZ E2-plane



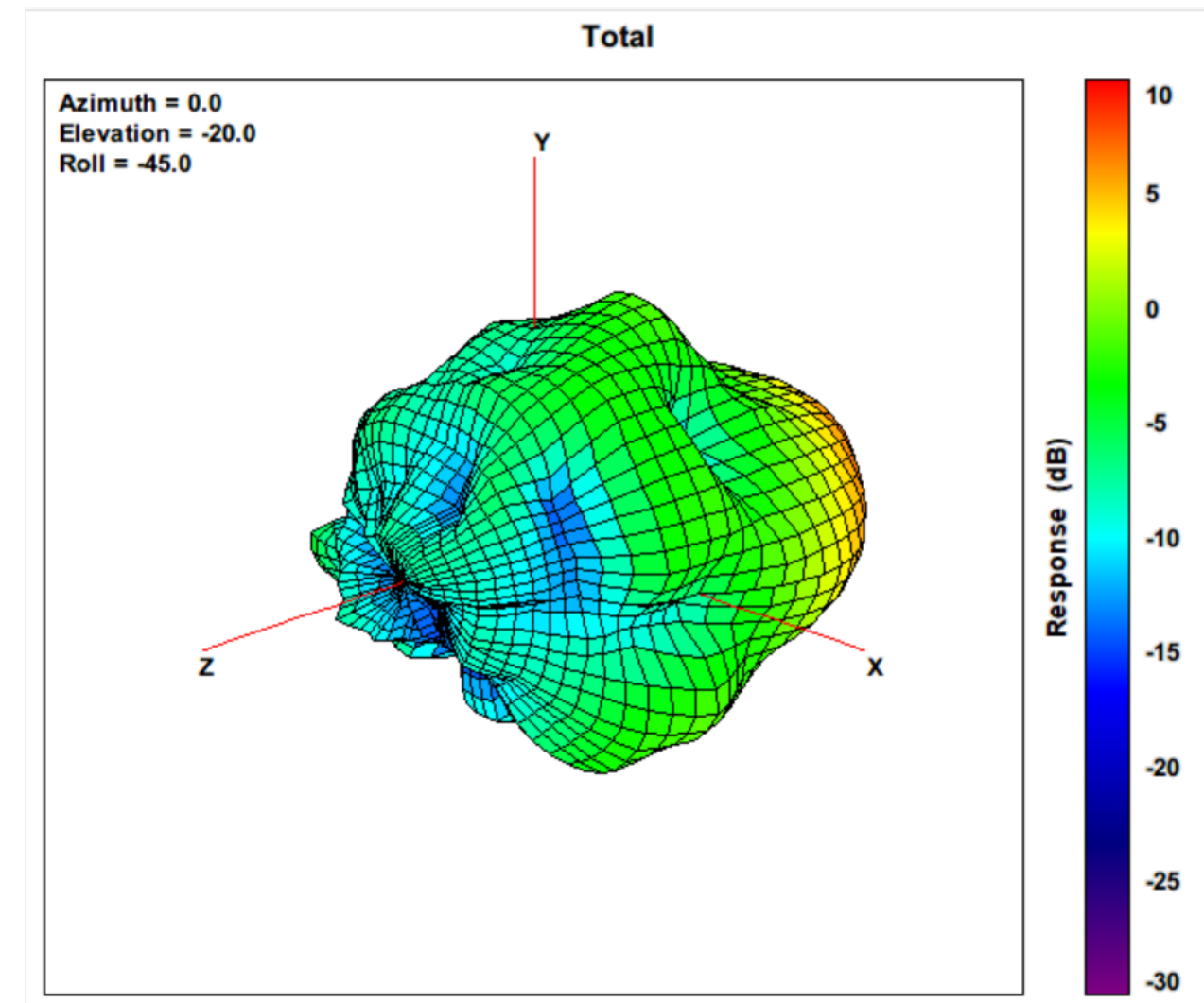
# Antenna Pattern – 3D

- WLAN 2.4GHz Antenna For ANT 1 (Front) and ANT 2 (Rear)

ANT #1- 2442MHz



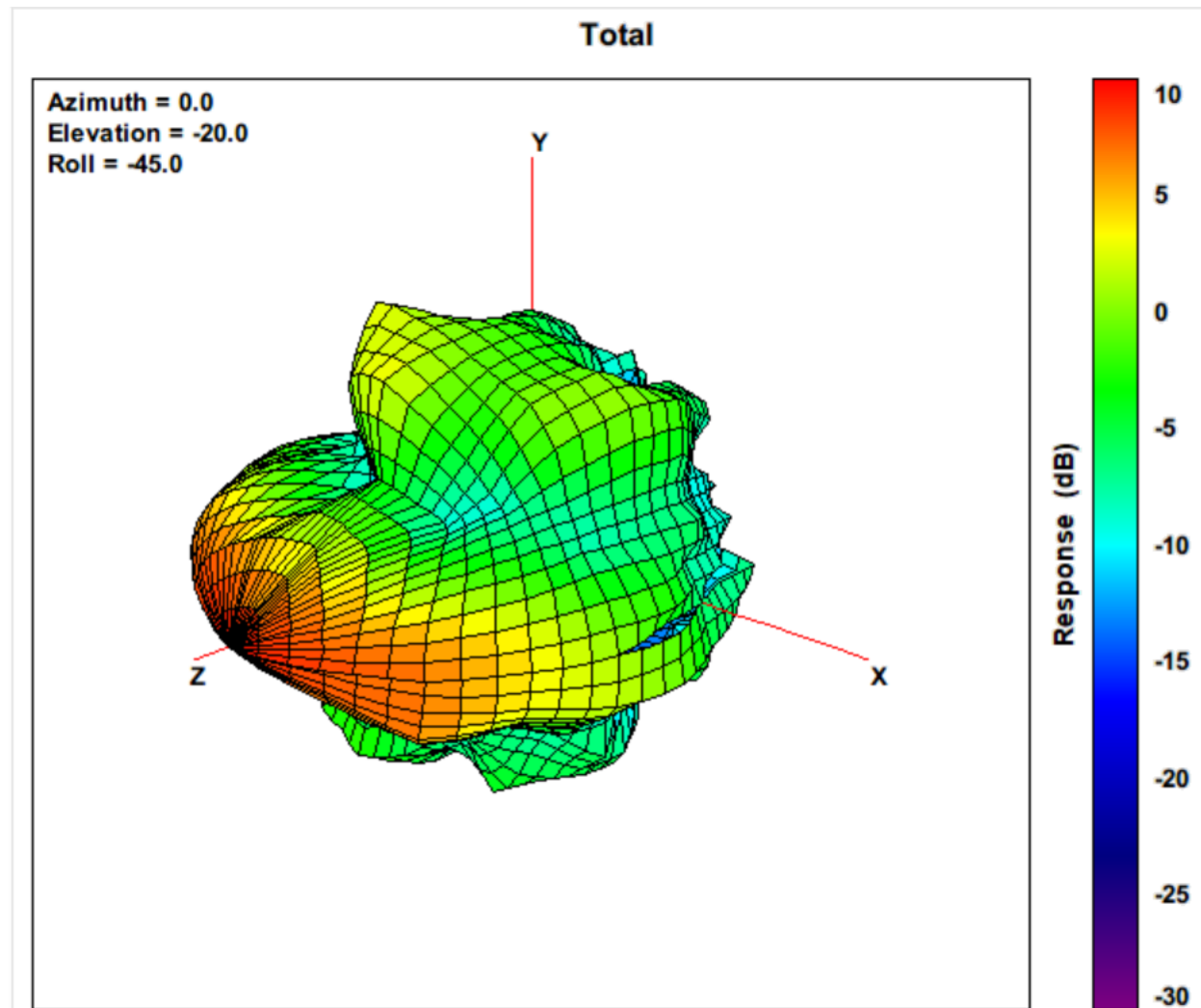
ANT #2- 2442MHz



# Antenna Pattern – 3D

- WLAN 5GHz Antenna For ANT 3 and ANT 4 on the Front

ANT #3- 5500MHz



ANT #4- 5500MHz

