M800 WiFi Antenna Passive Performance Test Results

Date. 2023.02.22

No. Description

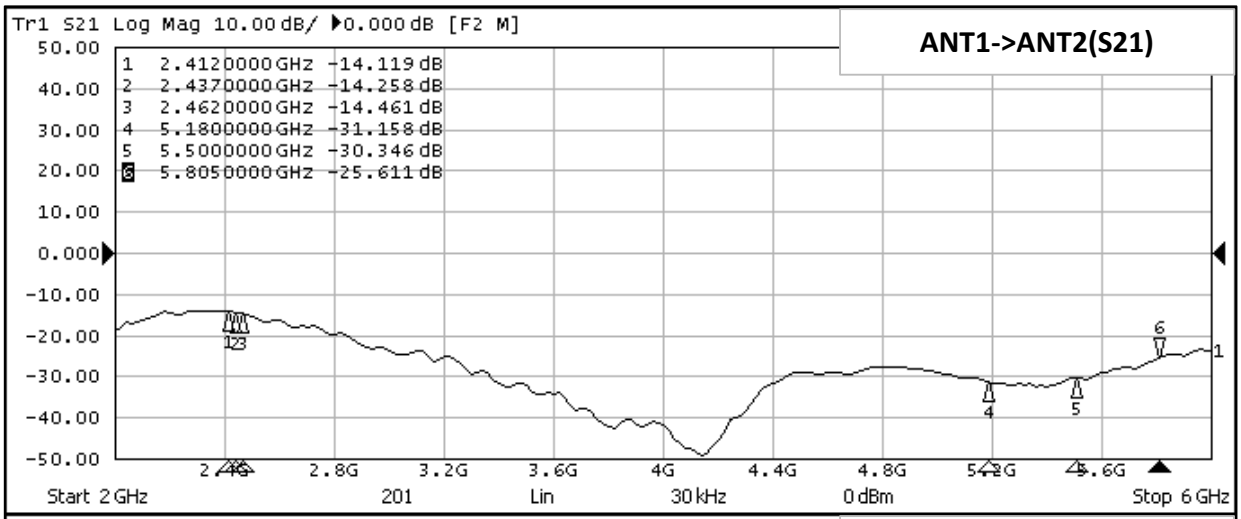
1. Antenna Isolation Test

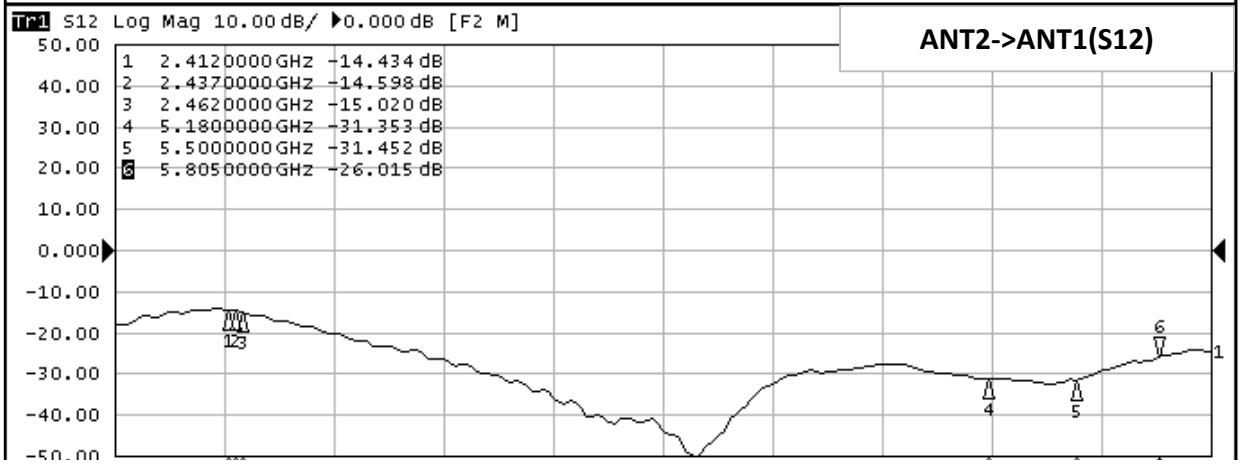
1) Test Environment

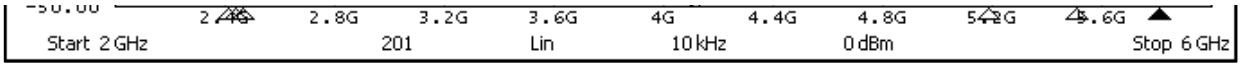
- Network Analyzer : Protek A338

2) Test Result

Frequency(Channel)	Isolation		Unit : dB
	ANT1->ANT2(S21)	ANT2->ANT1(S12)	passive Criteria
2412MHz	-14.119	-14.434	▼-14dB
2437MHz	-14.258	-14.598	▼-14dB
2462MHz	-14.461	-15.020	▼-14dB
5180MHz	-31.158	-31.352	▼-20dB
5500MHz	-30.346	-31.452	▼-20dB
5805MHz	-25.611	-26.015	▼-20dB






2.8G
3.2G
3.6G
4G
4.4G
4.8G
Start 2 GHz
201
Lin
10 kHz
0 dBm
Stop 6 GHz

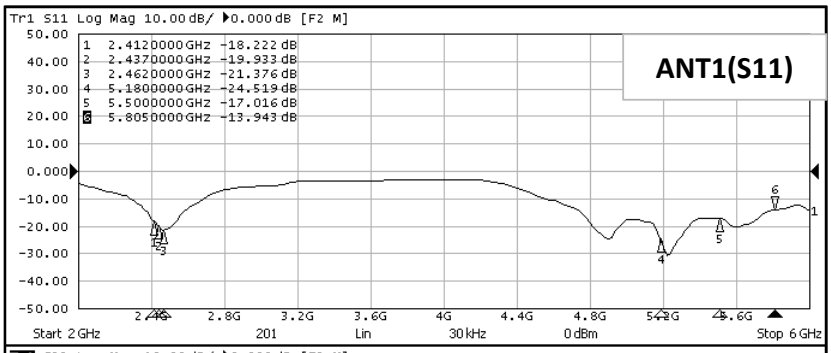
2. Antenna Return Loss Test

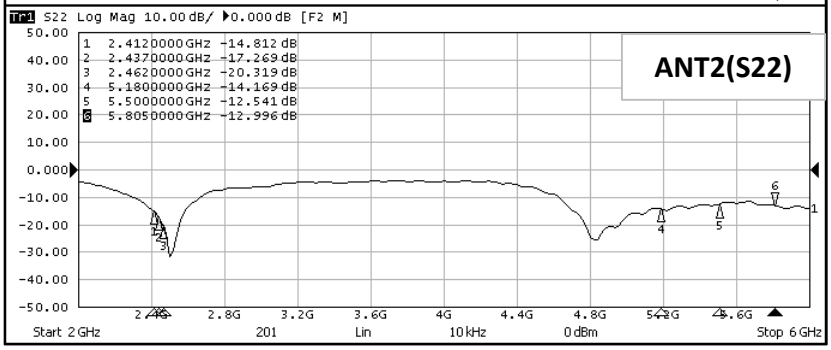
1) Test Environment

- Network Analyzer : Protek A338

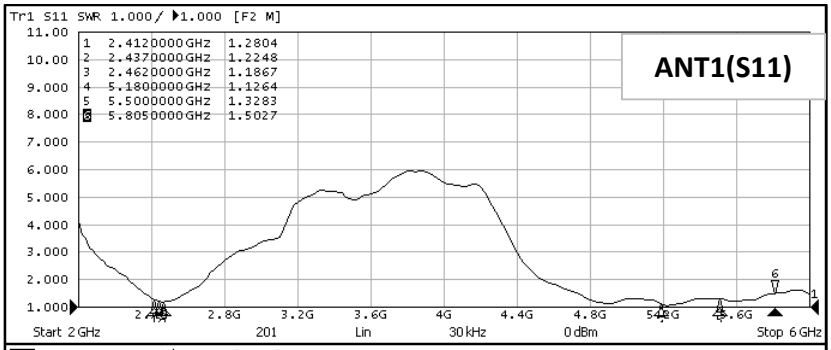
2) Test Result

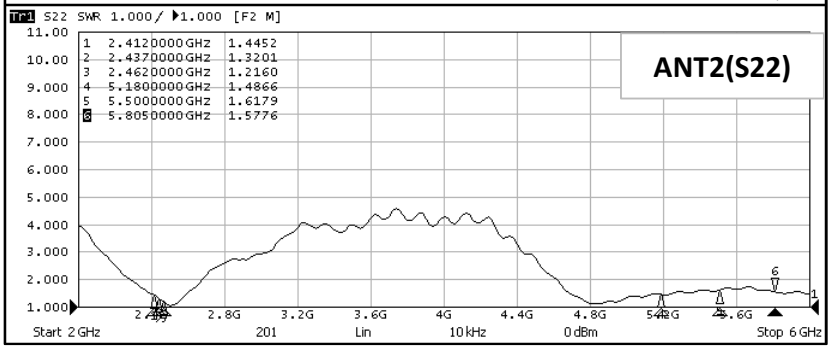
Log





SWR

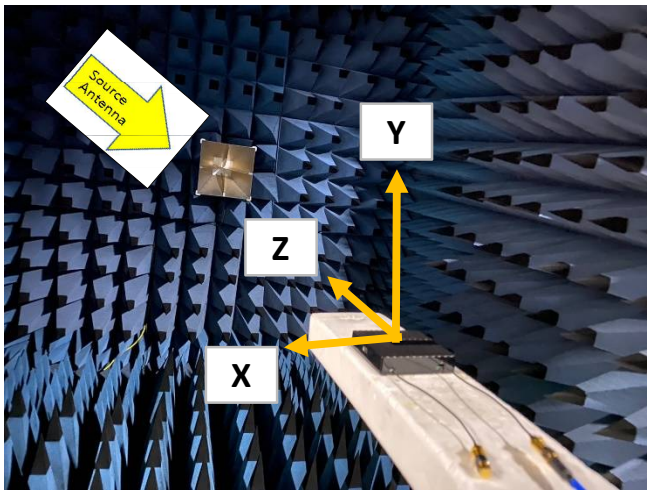




3. Antenna Passive

1) Test Environment & DUT Axis

Anechoic Chamber



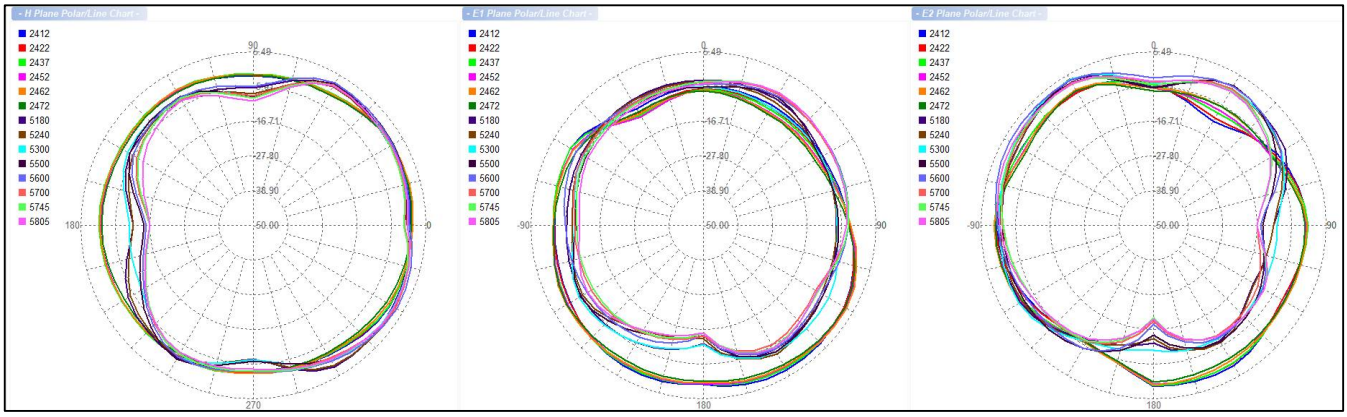
Chamber Information	KTM Anechoic Chamber 3.5m x 2.5m x 2.5m
Purpose of TEST	Verification of WIFI ANTENNA Passive Performance
Test Equipment	Anechoic Chamber 3.5m x 2.5m x 2.5m
	Network Analyzer, Control pc
	Motion Controller
Sequence	Step1 : Set "M800" to JIG of chamber
	Step2 : Set passive program for each antenna(ANT1, ANT2)
	Step3 : Measure passive performance for 2GHz/5GHz Band

2) Test Result

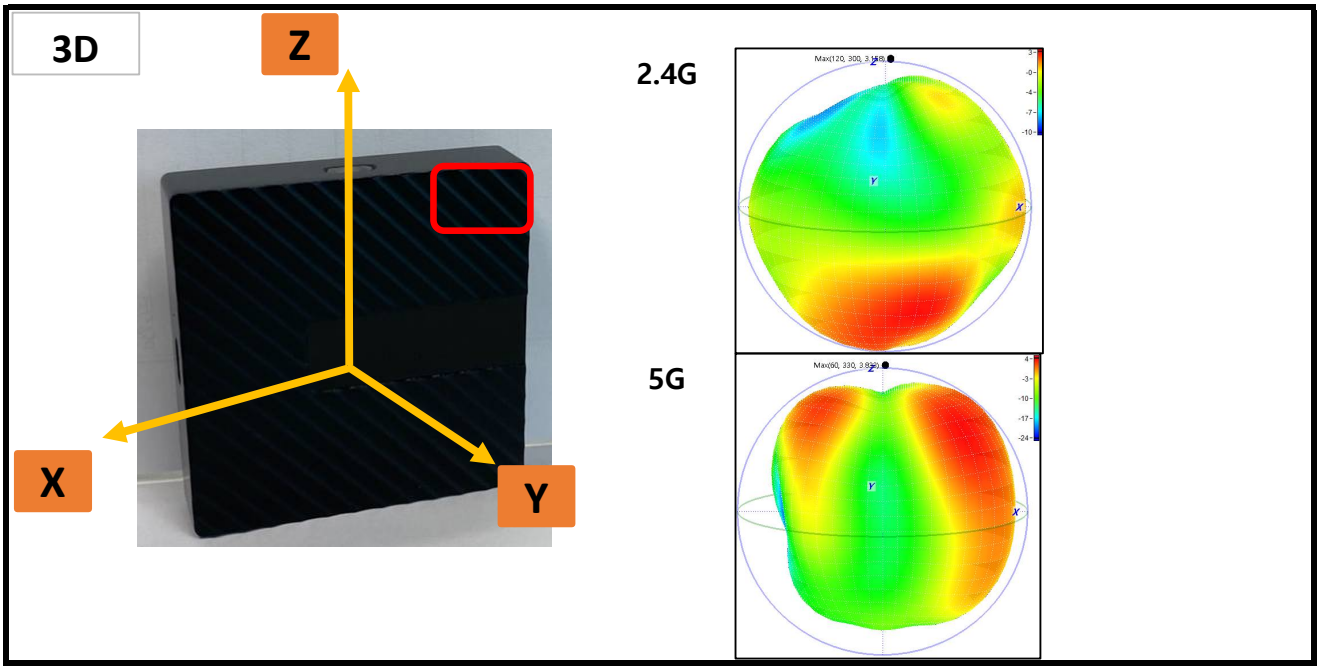
Antenna 1

Frequency	Avg. Gain	Efficiency	Peak Value			Null Value		
[MHz]	[dBi]	[%]	θ[Deg]	Φ[Deg]	Value[dBi]	θ[Deg]	Φ[Deg]	Value[dBi]
2412	-0.872	81.814	150	270	3.505	30	180	-11.64
2422	-1.078	78.024	150	270	2.832	30	150	-10.934
2437	-0.794	83.283	120	300	3.158	30	150	-10.446
2452	-1.092	77.766	120	300	3.077	30	150	-10.217
2462	-0.963	80.109	120	300	3.322	30	150	-9.268
2472	-1.513	70.589	120	300	2.876	30	150	-9.06
5180	-0.828	82.65	30	330	4.419	180	60	-13.16
5240	-1.03	78.881	30	330	4.628	180	60	-16.89
5300	-0.961	80.145	60	330	4.501	180	180	-13.983
5500	-0.901	81.273	60	330	3.833	180	60	-23.783
5600	-0.62	86.699	60	330	5.486	180	60	-20.822
5700	-1.739	67.006	60	330	4.338	180	0	-19.193
5745	-1.703	67.566	60	330	3.784	180	30	-24.959
5805	-1.641	68.533	60	330	4.471	180	30	-21.397

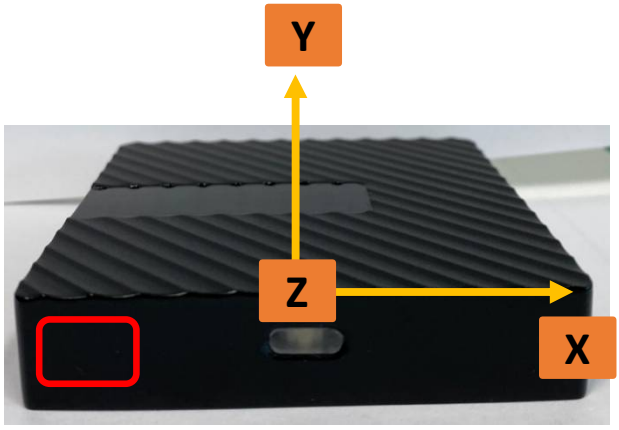
2D



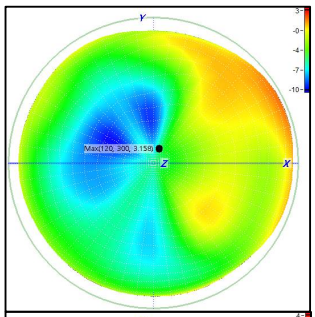
3D



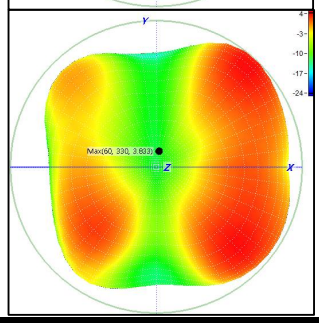
XY



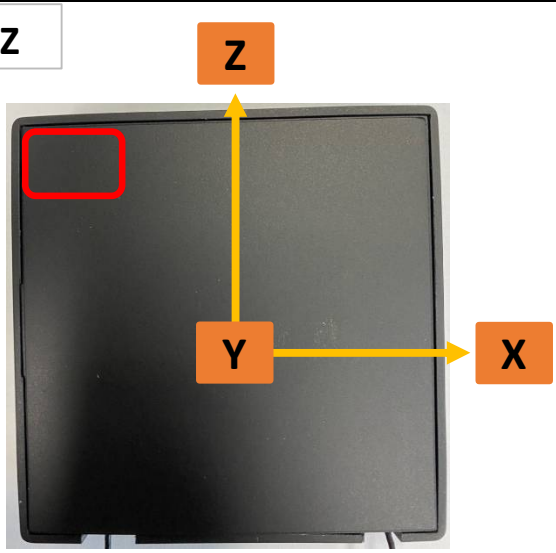
2.4G



5G



XZ



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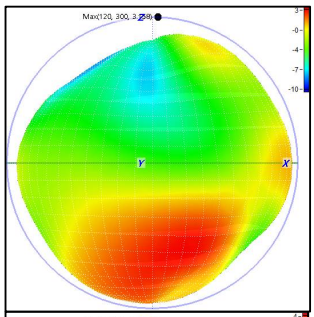

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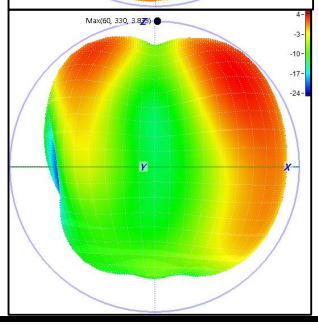
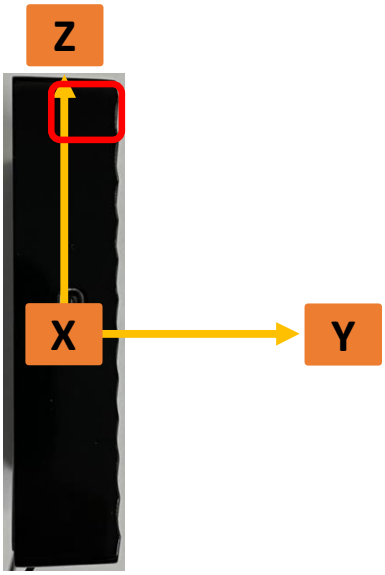


YZ



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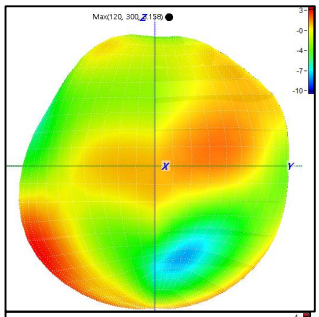
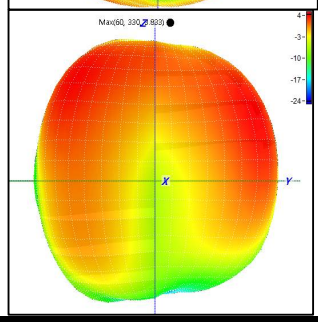


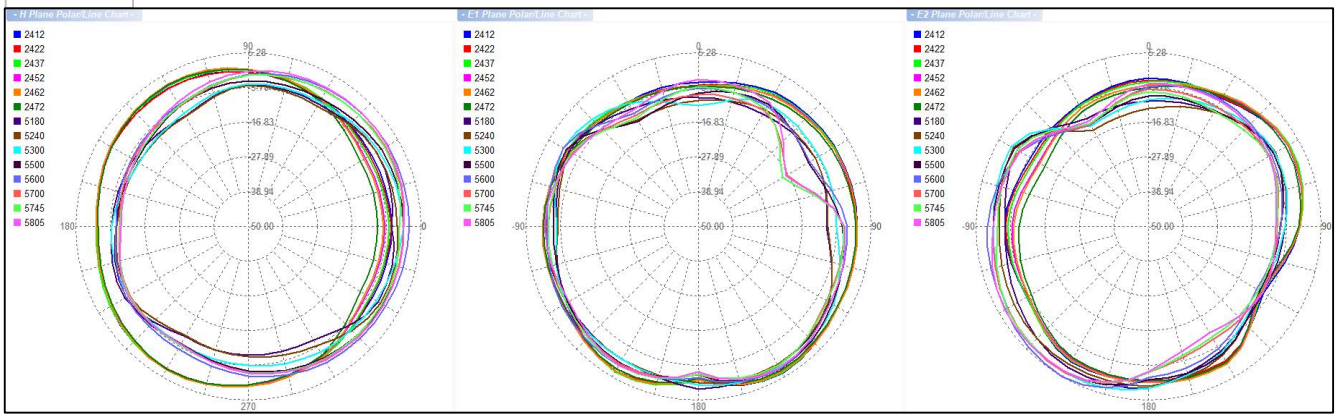
5G



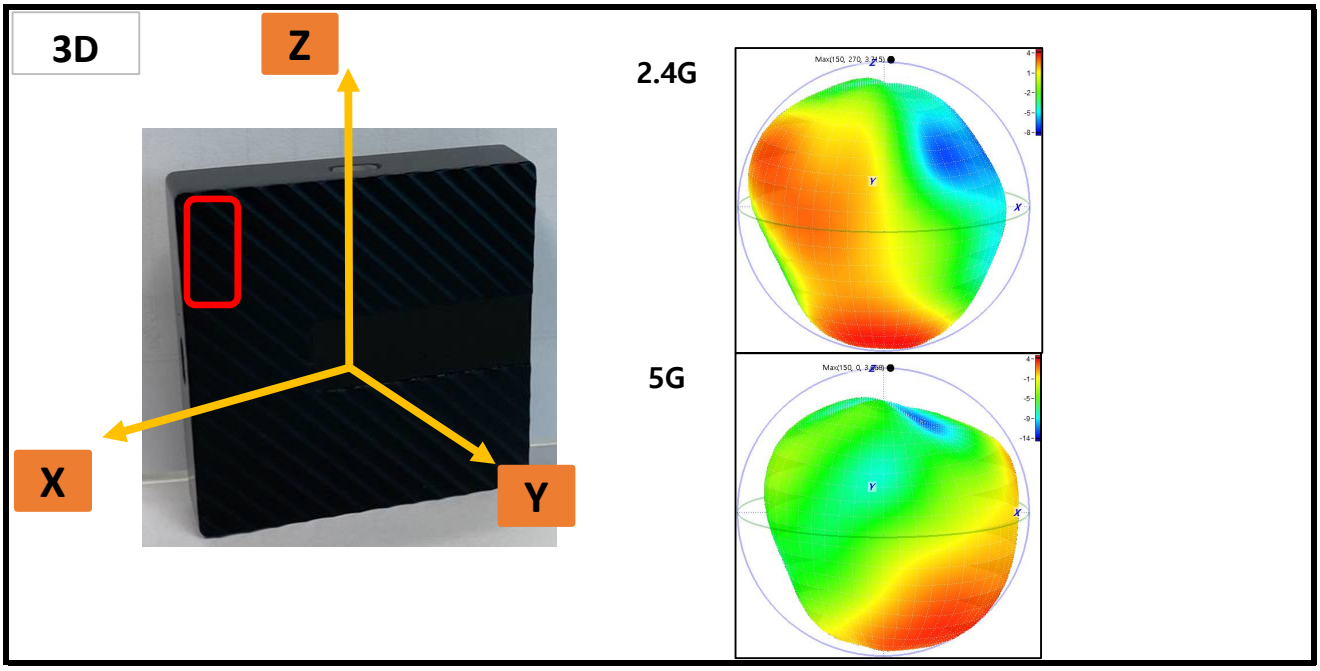
Antenna 2

Frequency	Avg. Gain	Efficiency	Peak Value			Null Value		
[MHz]	[dBi]	[%]	θ[Deg]	Φ[Deg]	Value[dBi]	θ[Deg]	Φ[Deg]	Value[dBi]
2412	-0.554	88.026	150	300	4.15	120	180	-7.462
2422	-0.842	82.368	150	300	3.501	120	180	-8.175
2437	-0.539	88.327	150	270	3.715	60	30	-8.119
2452	-0.784	83.487	150	270	3.533	60	30	-9.68
2462	-0.658	85.935	150	270	3.501	30	60	-10.577
2472	-1.238	75.192	150	270	2.965	30	60	-12.148
5180	-1.866	65.072	150	330	3.726	0	300	-11.91
5240	-1.833	65.569	120	330	3.625	30	0	-14.576
5300	-1.789	66.236	150	0	3.849	30	30	-15.904
5500	-1.789	66.235	150	0	3.668	30	30	-13.63
5600	-1.032	78.857	150	0	5.274	30	30	-16.217
5700	-2.155	60.878	150	0	3.834	60	270	-17.354
5745	-1.888	64.744	150	0	3.562	60	270	-18.902
5805	-1.891	64.693	150	0	3.559	60	270	-17.587

2D



3D



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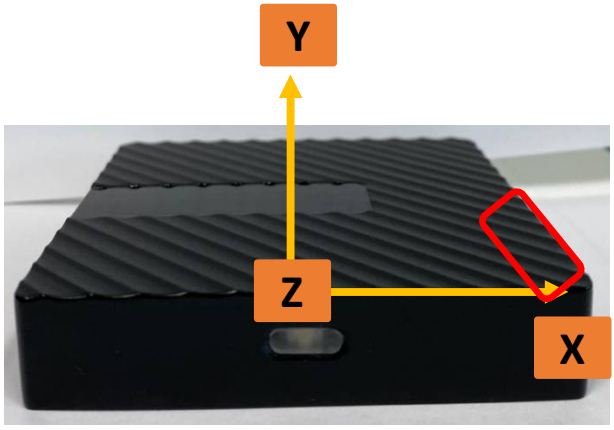

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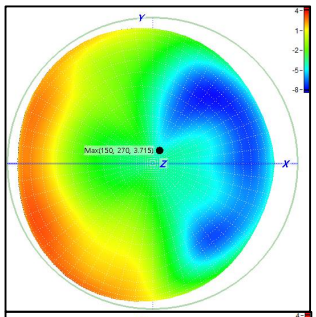

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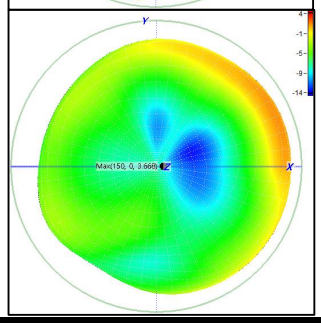

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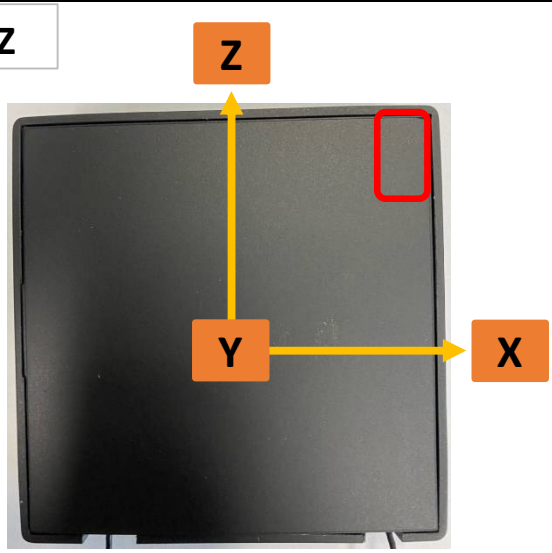

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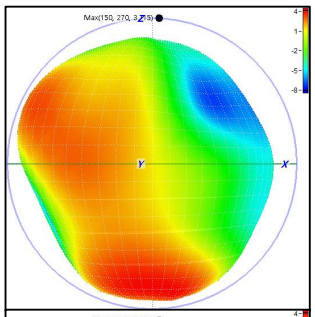

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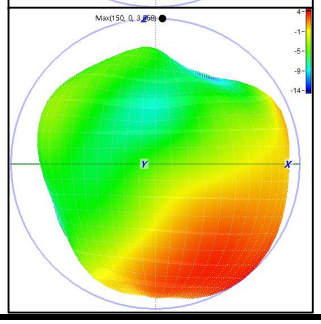

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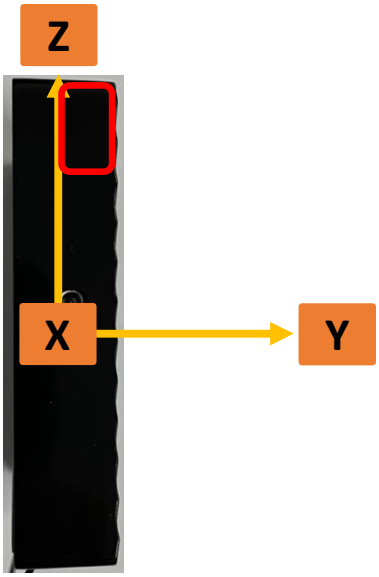

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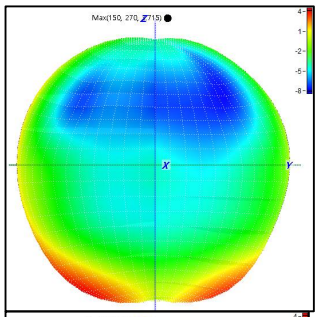

5G