

WF189W

Customer: 剑桥
Designer: ZW
Date: 2025/06/03



Professional, Stringent & Innovation
Antenna Manufacturer
for WiFi WiMAX & RFID

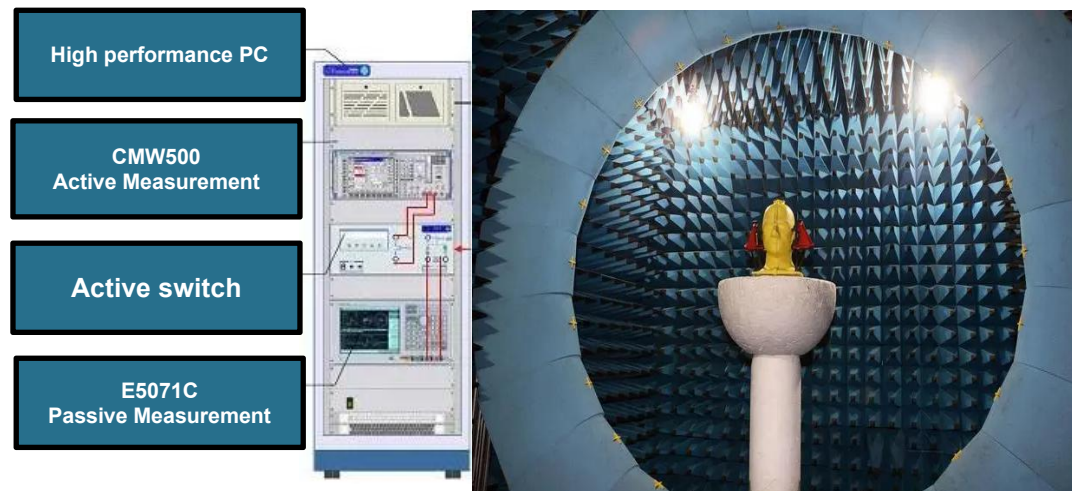


OUTLINE

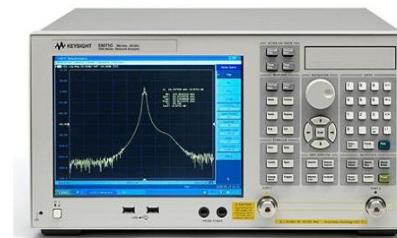
1. Benchmark
2. S-Parameters (VSWR&isolation)
3. Antenna Efficiency& Peak Gain
4. Radiation patterns
5. Summary

JingHong 3D Chamber Structure

- EMT-24 Series System Components
- Chambers
- EMT Quest Software
- Positioning Systems
- Chamber Room Size: $L*W*H=5*5*5$ M

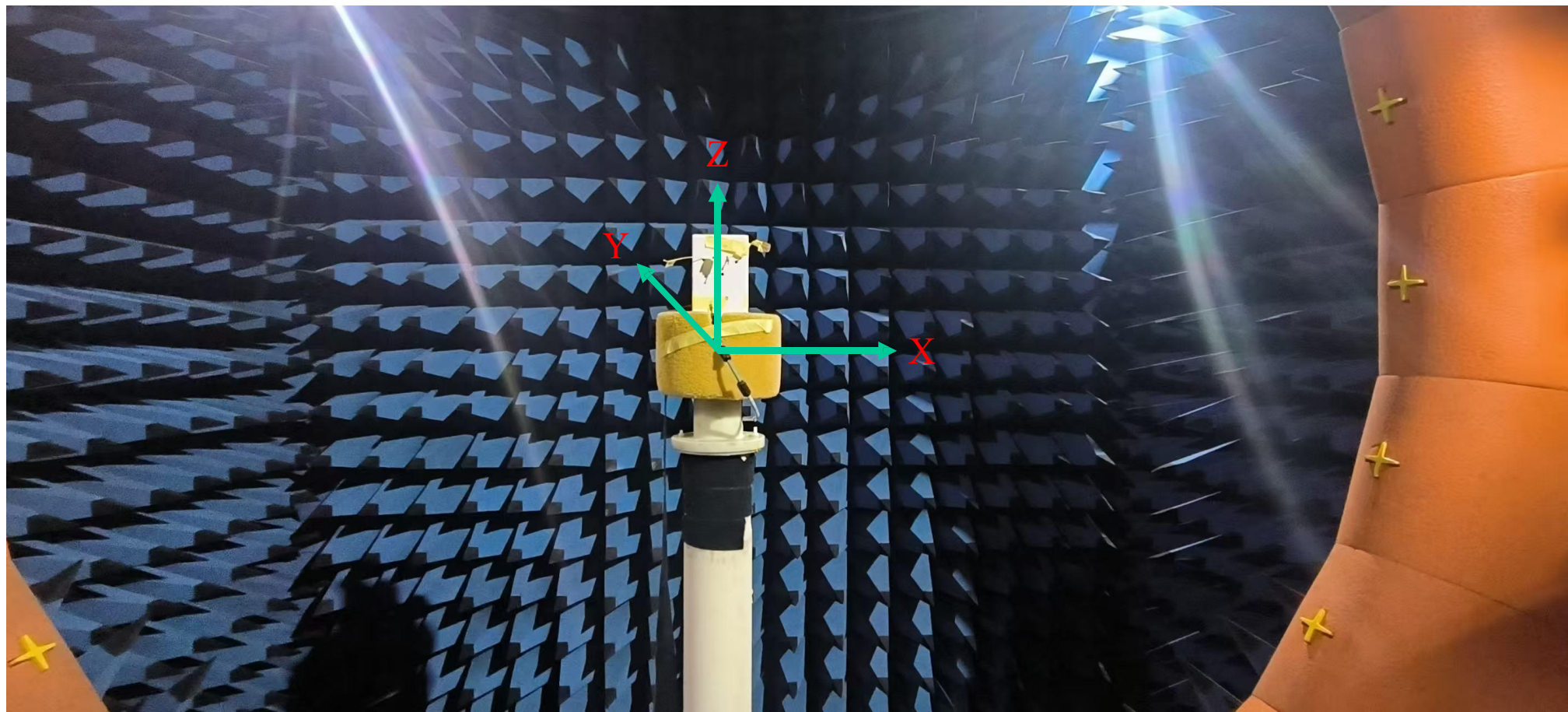


VSWR were performed using a keysight S-parameter Network Analyzer.

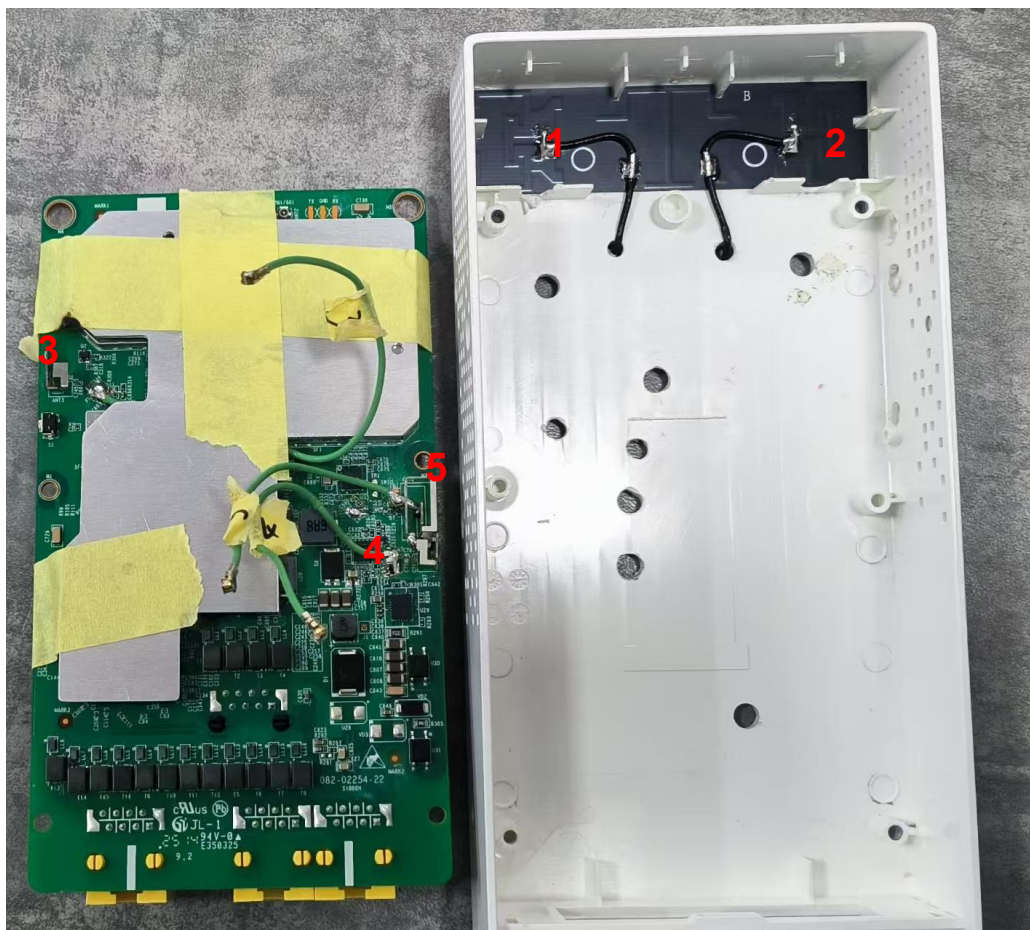


E5071C

1. Benchmark



1. Benchmark

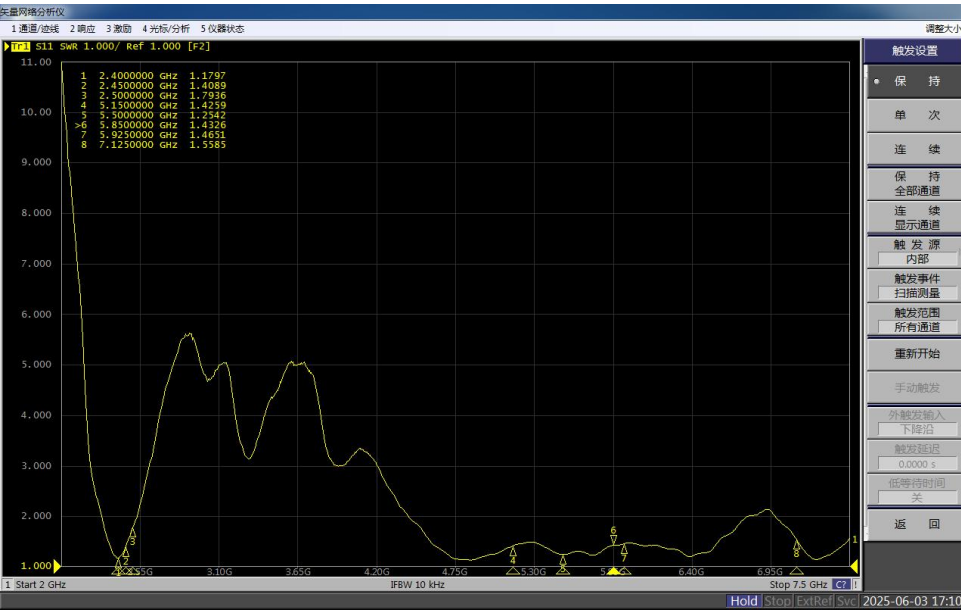


Ant1/Ant2:2400-2500/5150-5850MHz

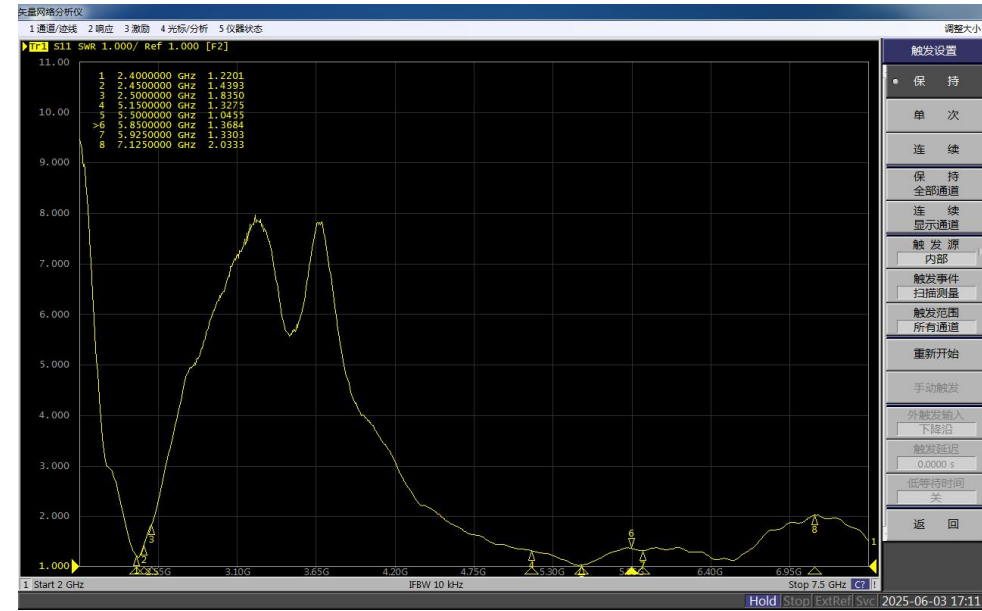
Ant3/Ant4:5925-7125MHz

Ant5(BT):2400-2500MHz

2. S-Parameters(VSWR)

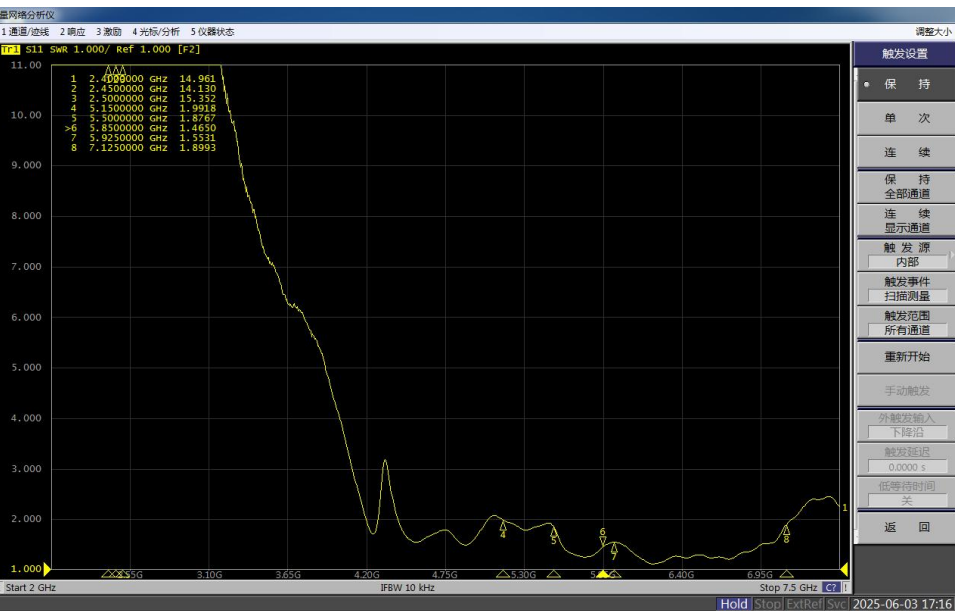


1



2

2. S-Parameters(VSWR)



3



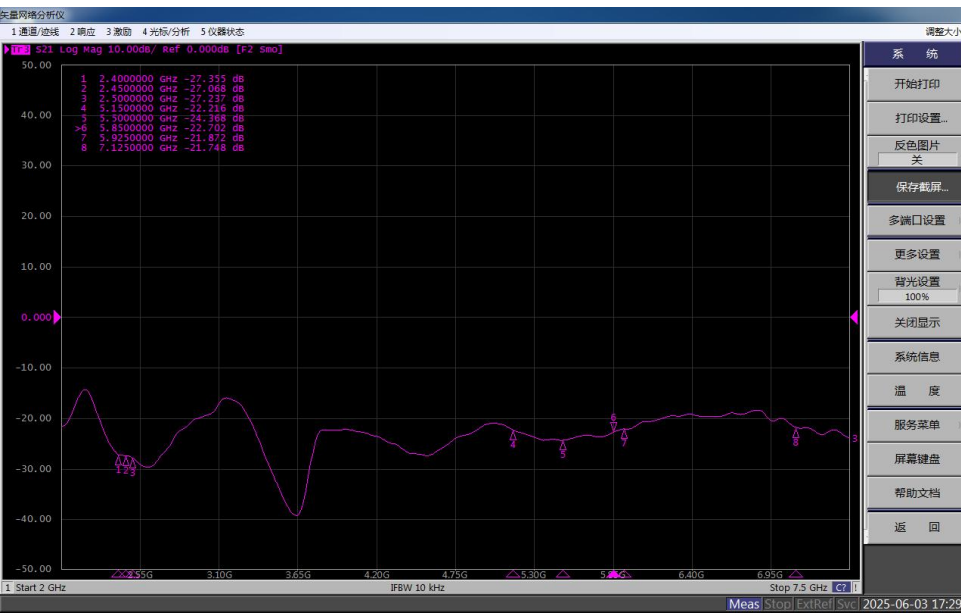
4

2. S-Parameters(VSWR)



5

2. S-Parameters(isolation)



1&2

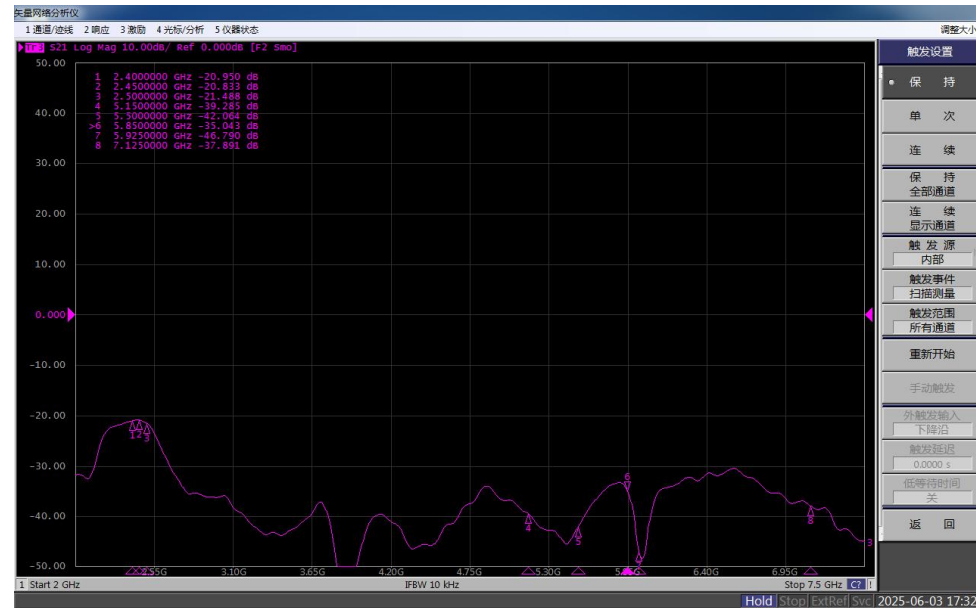


1&3

2. S-Parameters(isolation)

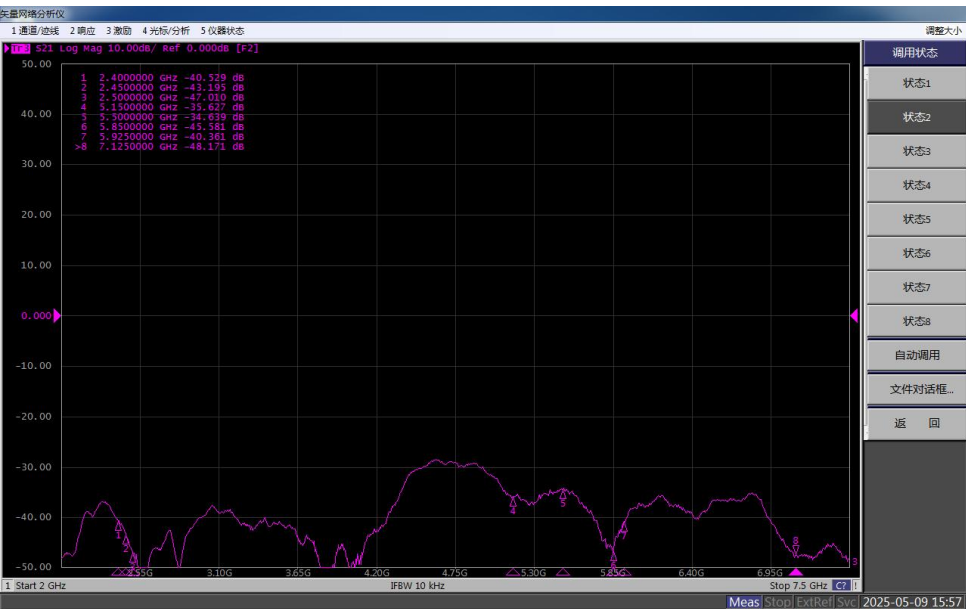


1&4

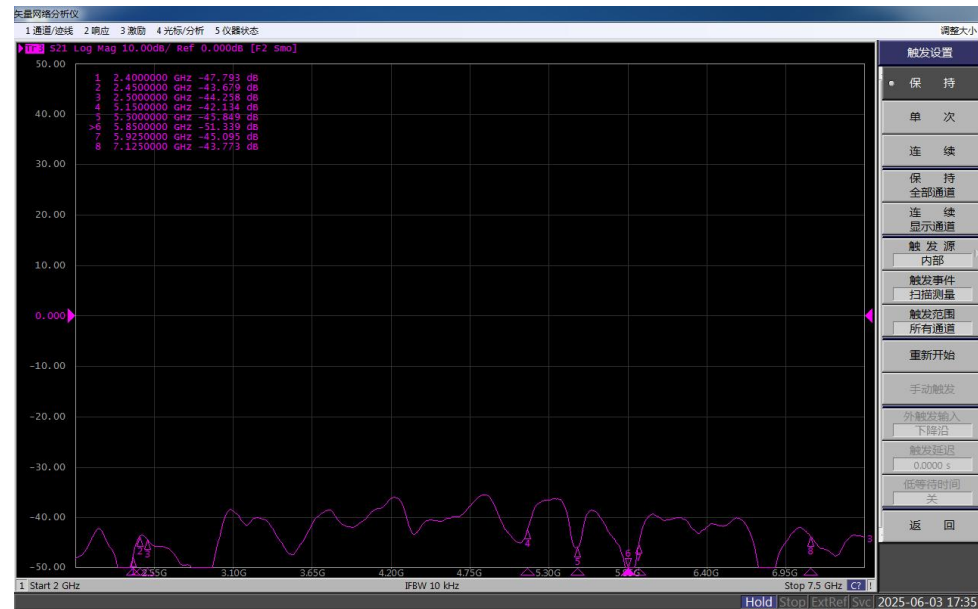


1&5

2. S-Parameters(isolation)

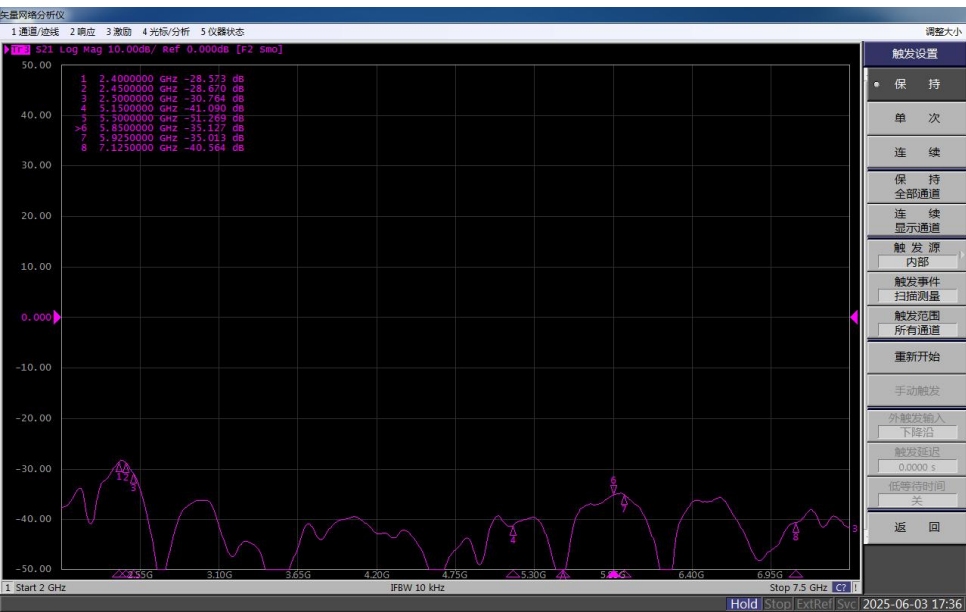


2&3



2&4

2. S-Parameters(isolation)

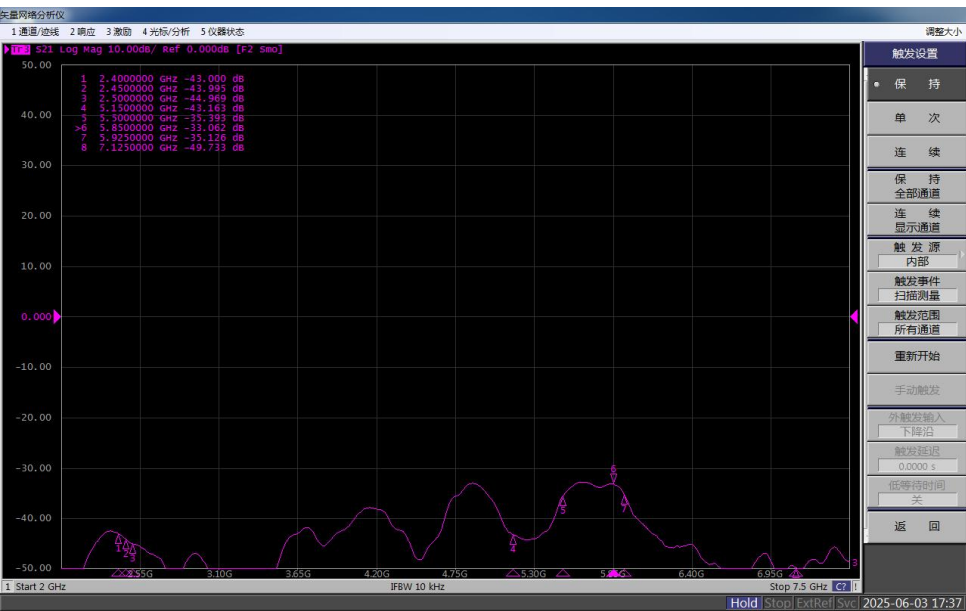


2&5



3&4

2. S-Parameters(isolation)

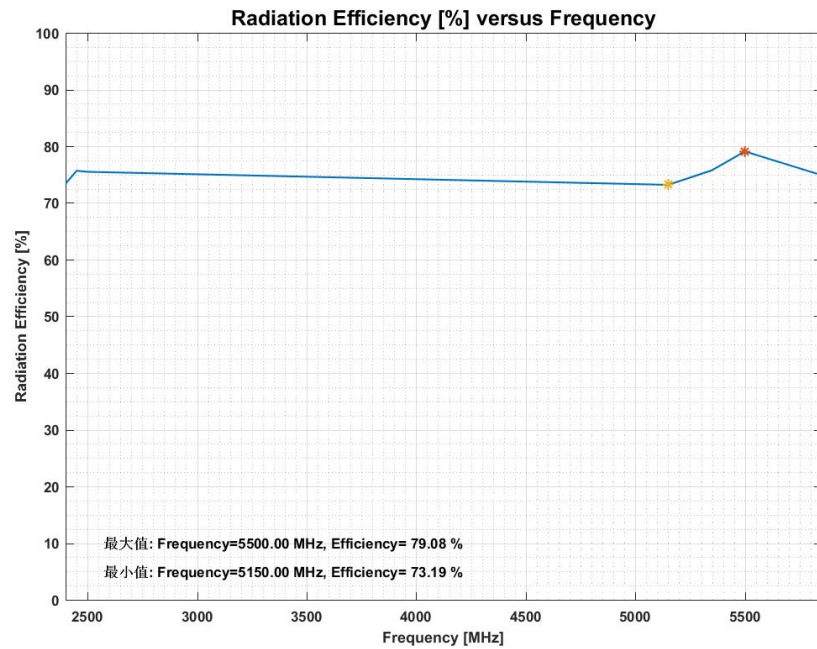


3&5

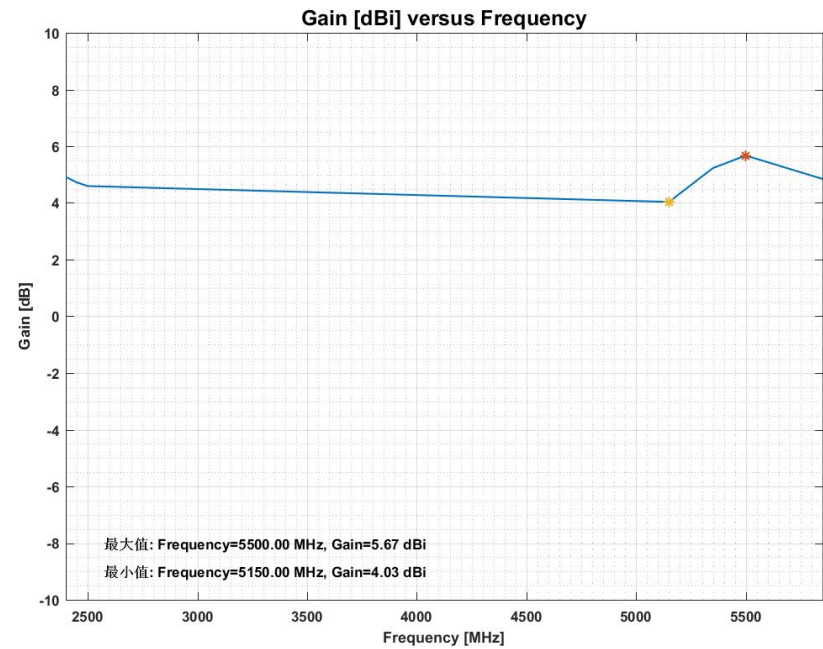


4&5

3. Antenna Efficiency& Peak Gain(1)

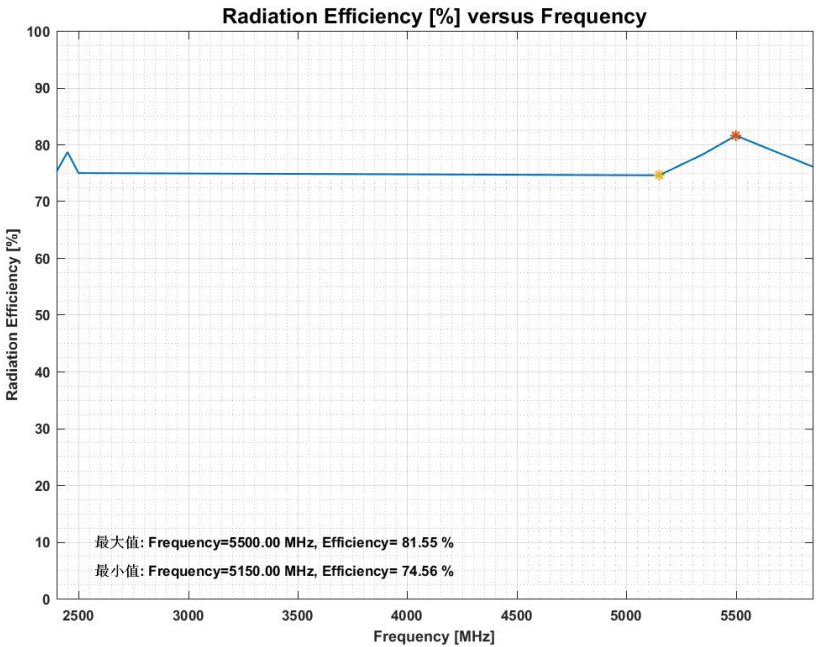


Efficiency

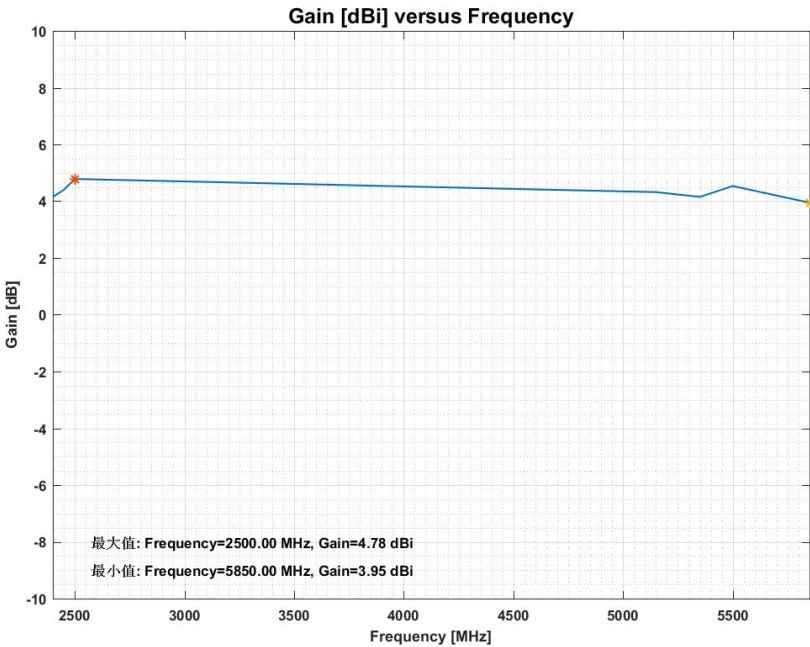


Gain

3. Antenna Efficiency& Peak Gain(2)

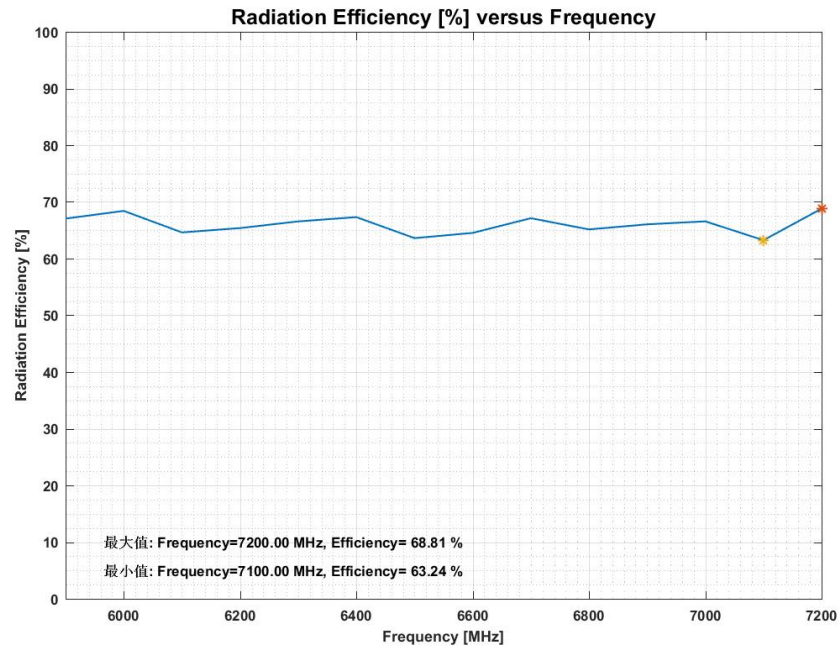


Efficiency

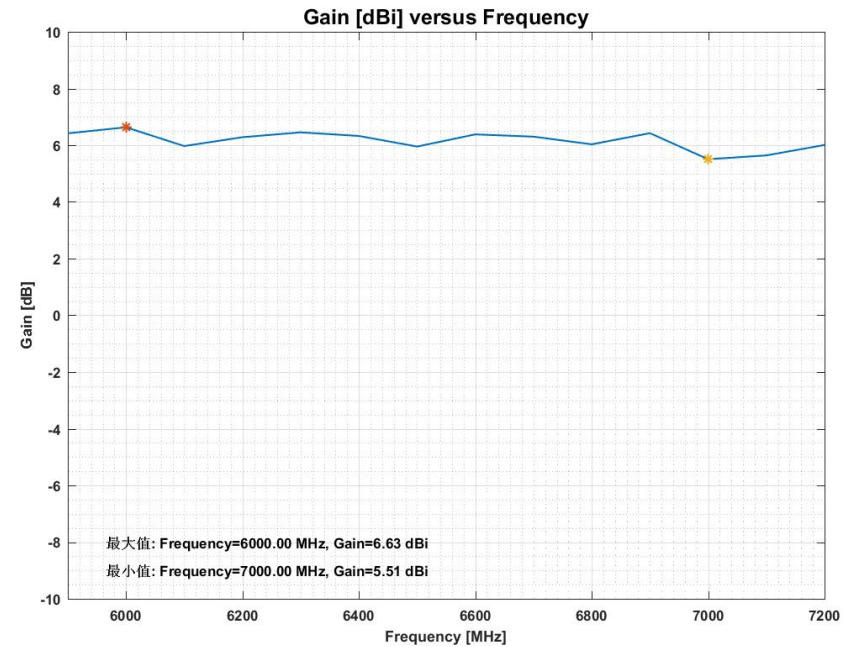


Gain

3. Antenna Efficiency& Peak Gain(3)

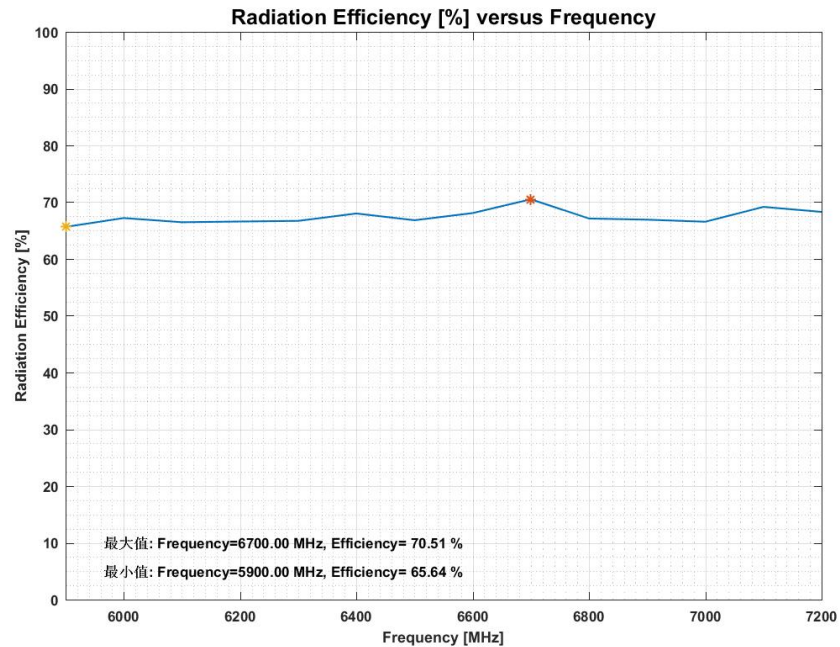


Efficiency

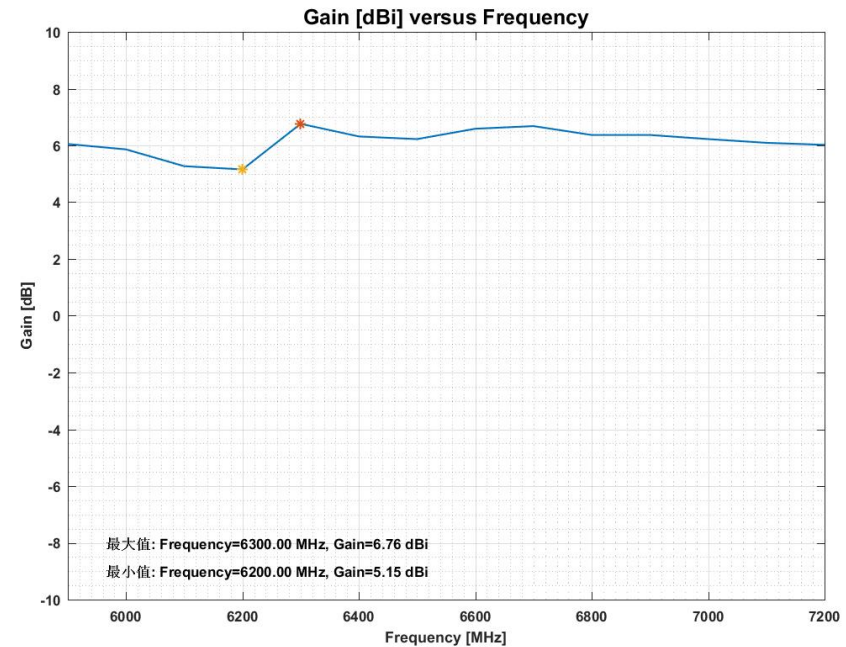


Gain

3. Antenna Efficiency & Peak Gain(4)

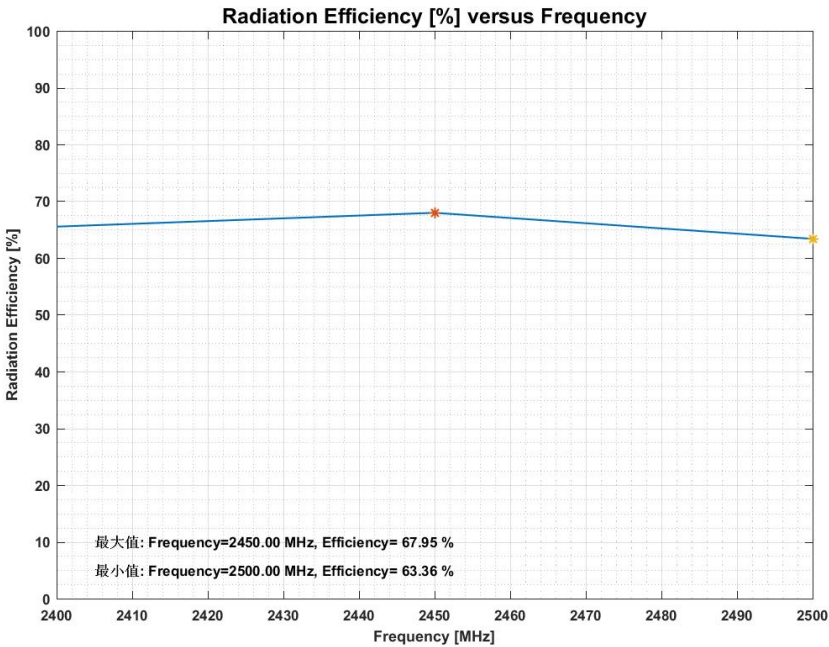


Efficiency

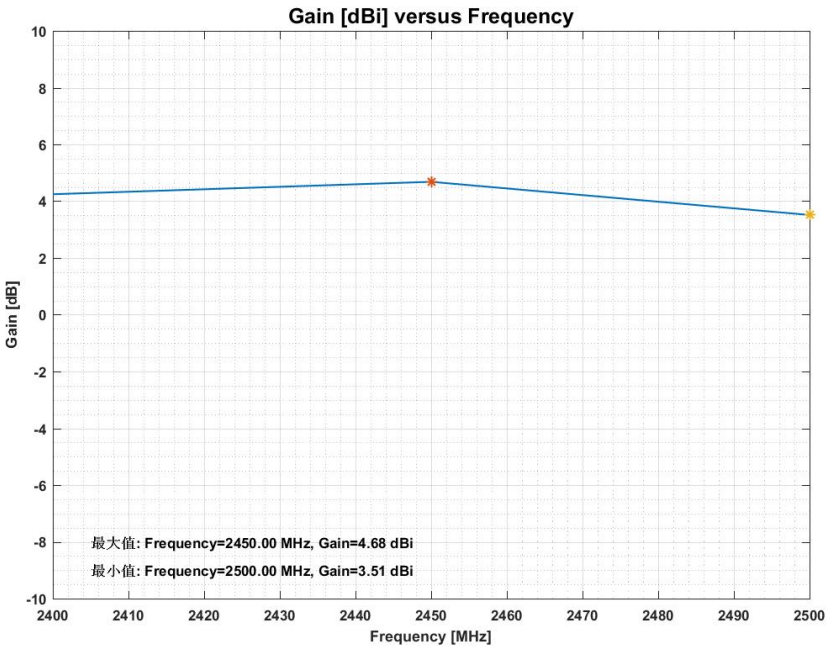


Gain

3. Antenna Efficiency& Peak Gain(5)

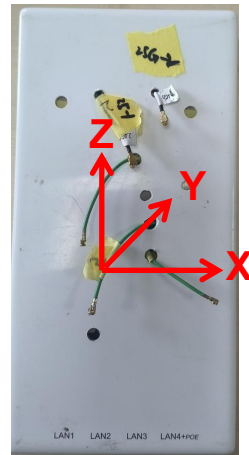
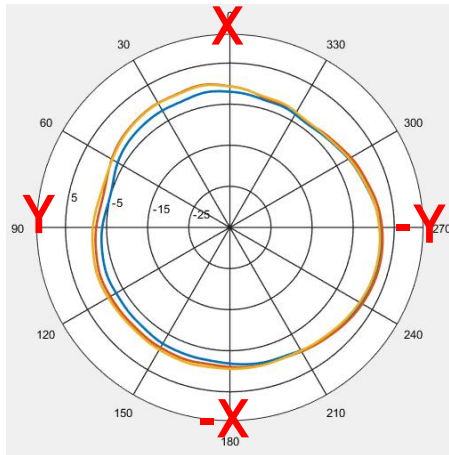
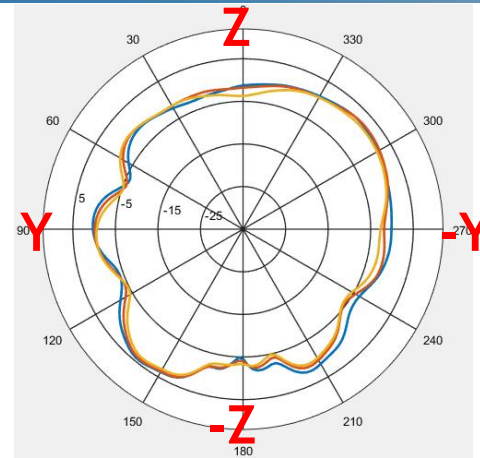
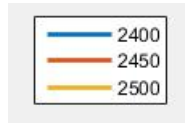
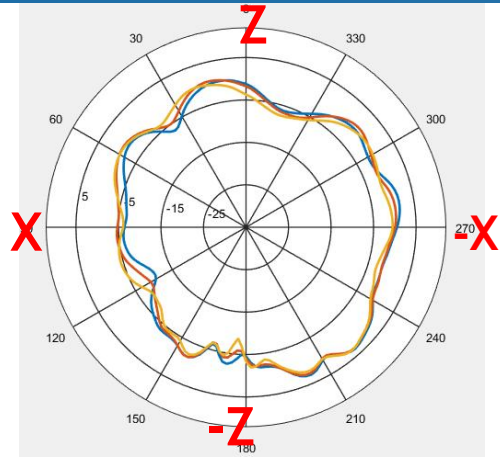


Efficiency

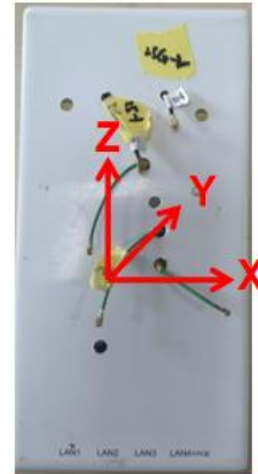
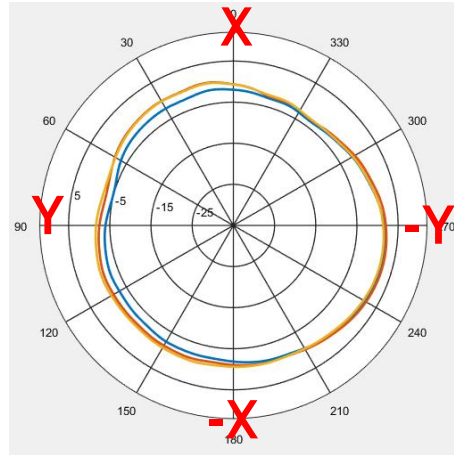
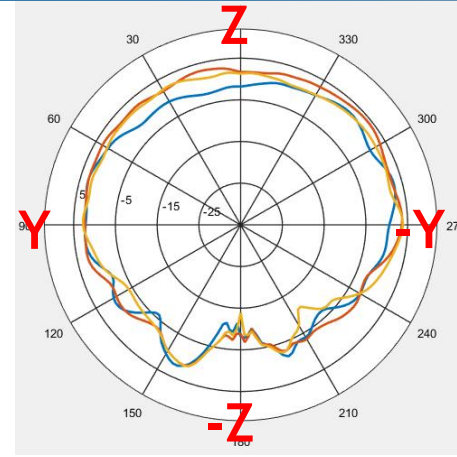
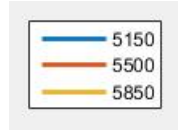
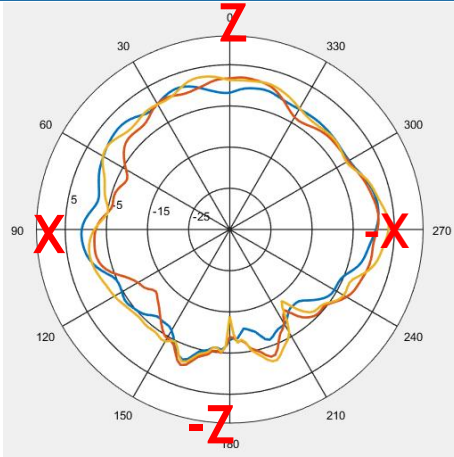


Gain

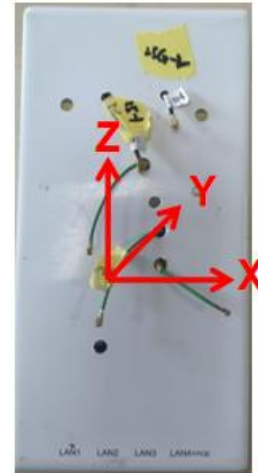
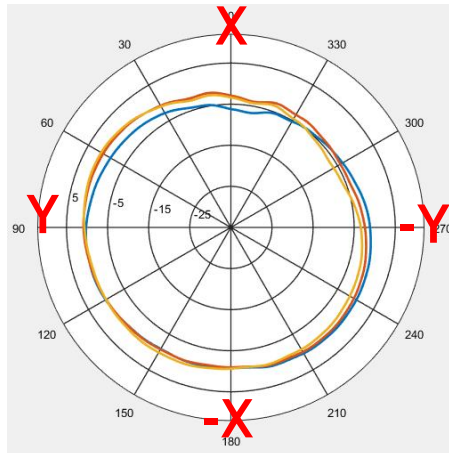
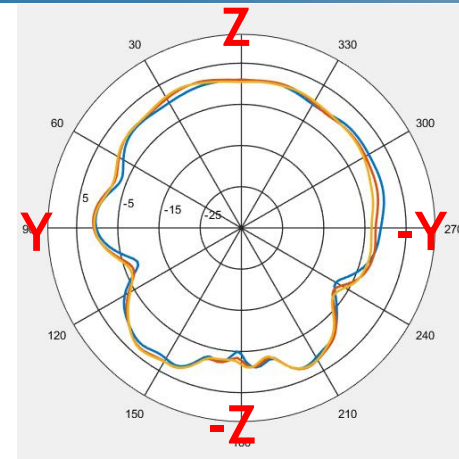
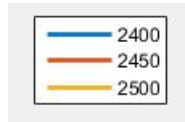
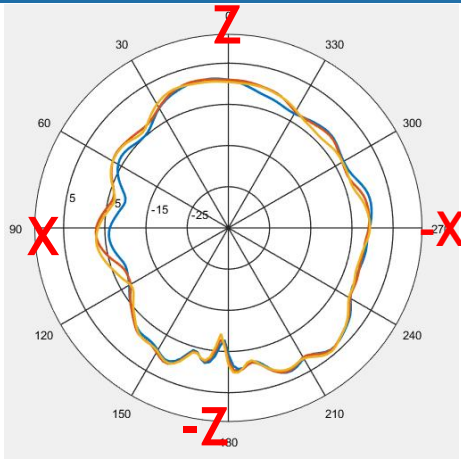
4. Radiation patterns (1-2G)



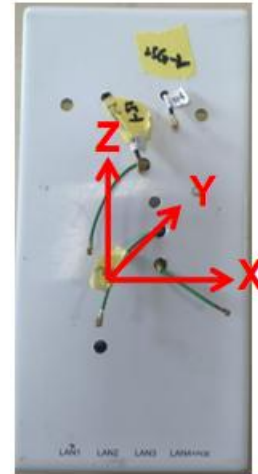
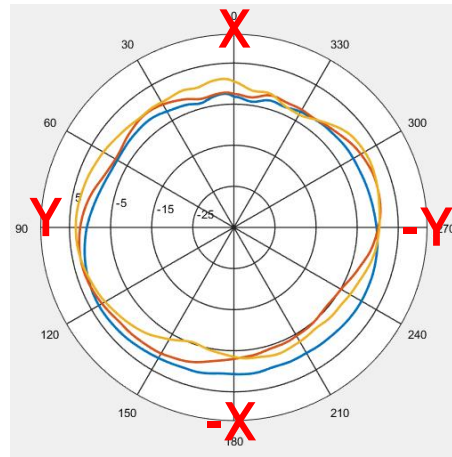
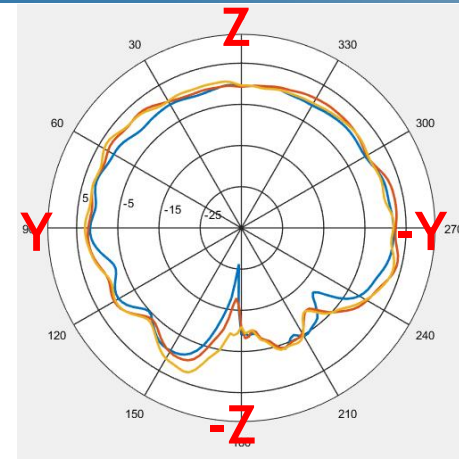
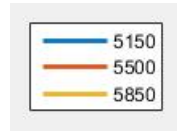
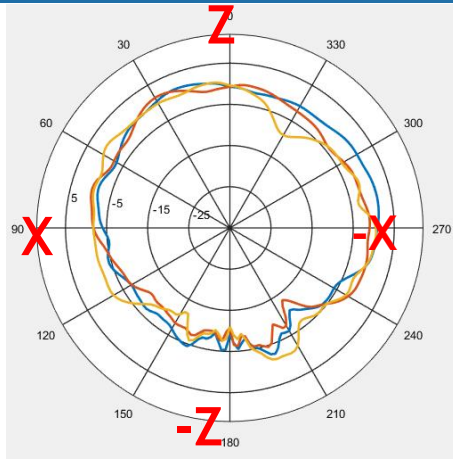
4. Radiation patterns (1-5G)



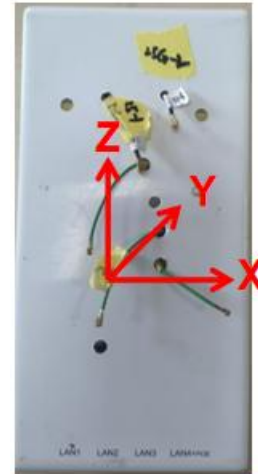
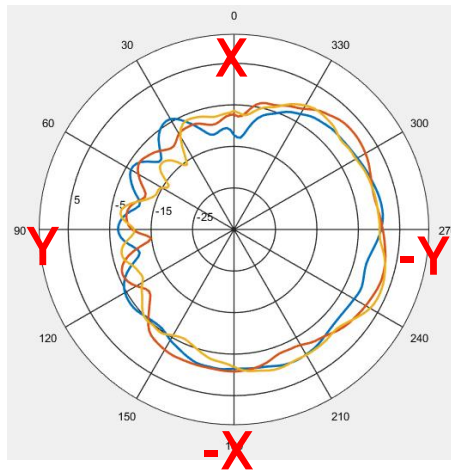
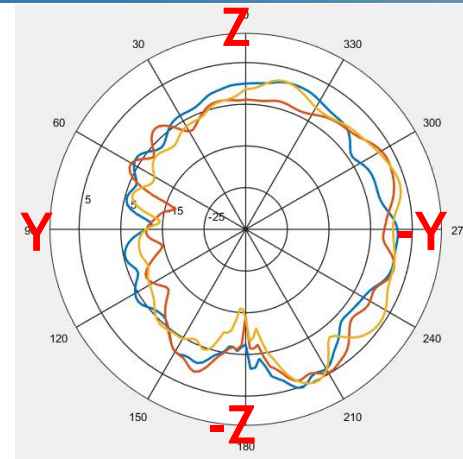
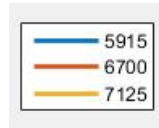
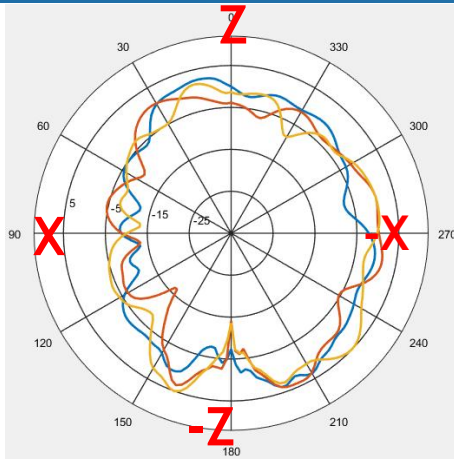
4. Radiation patterns (2-2G)



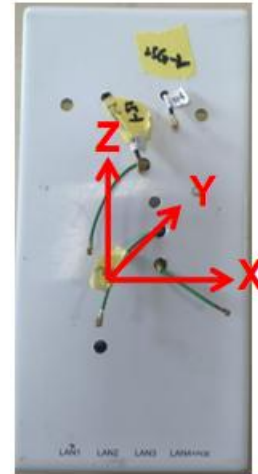
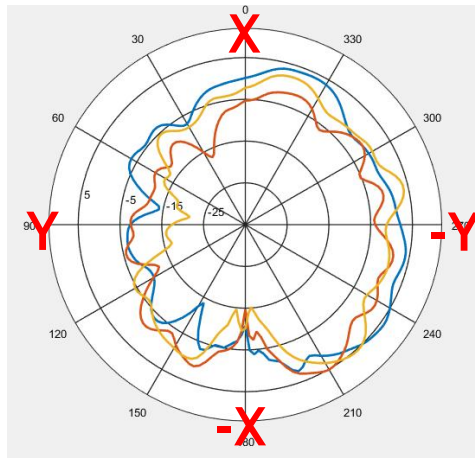
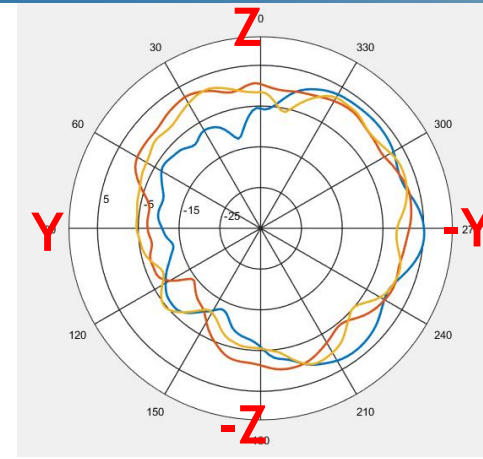
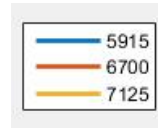
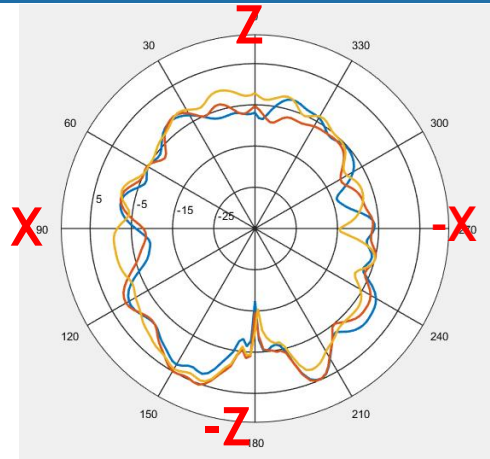
4. Radiation patterns (2-5G)



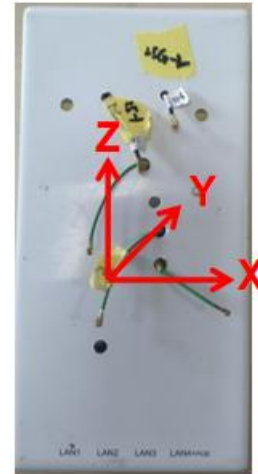
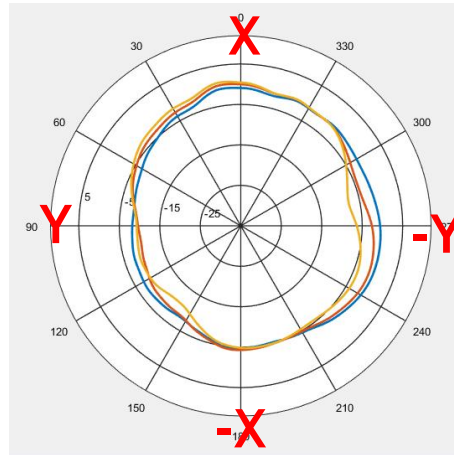
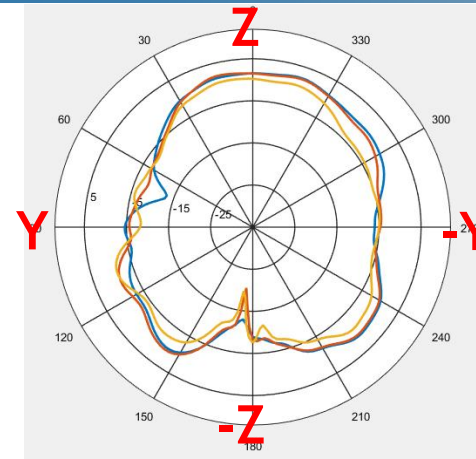
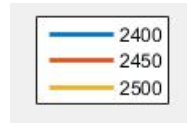
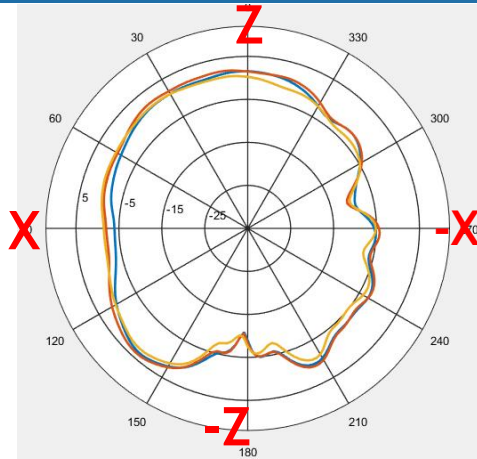
4. Radiation patterns (3-6G)



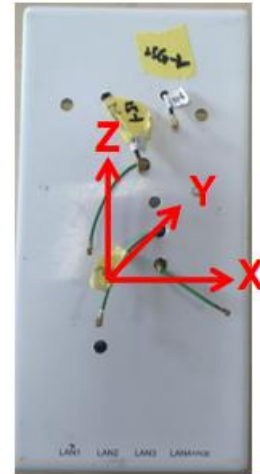
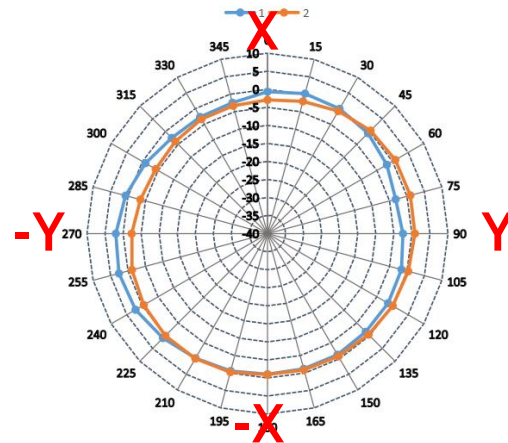
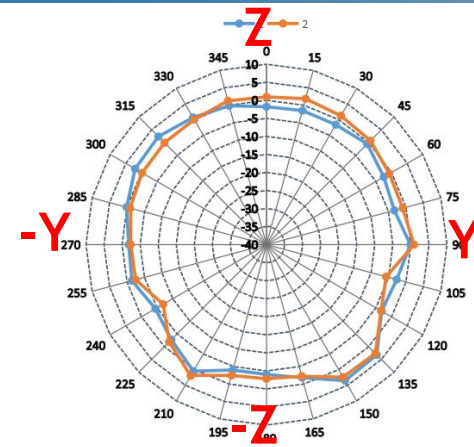
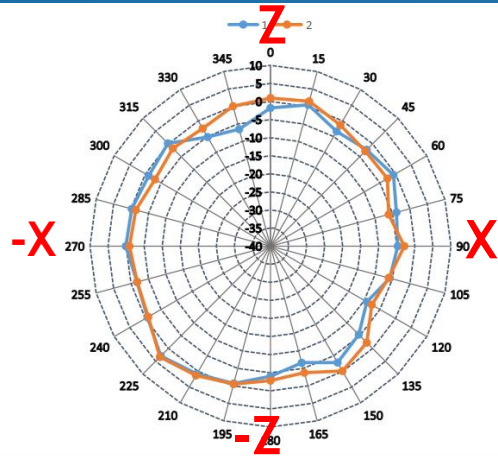
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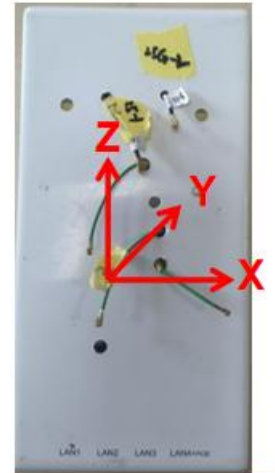
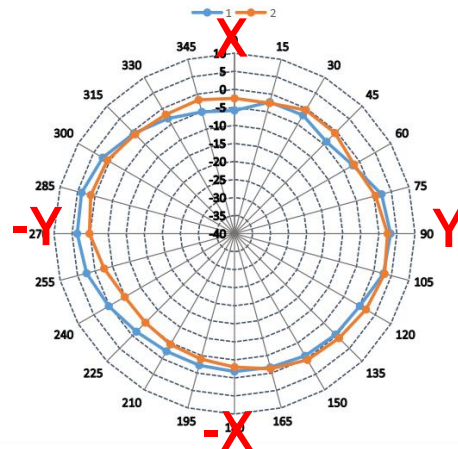
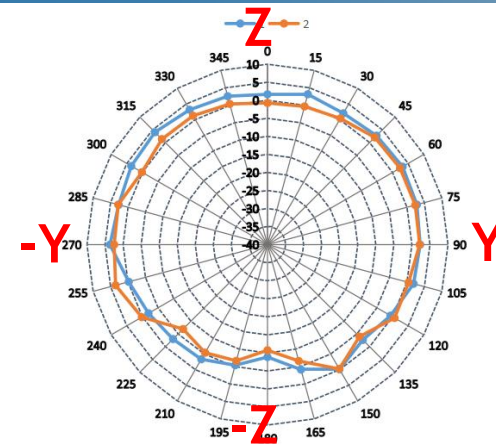
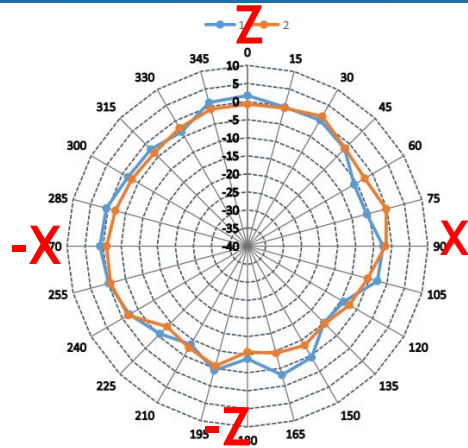
4. Radiation patterns (5-2G-BT)



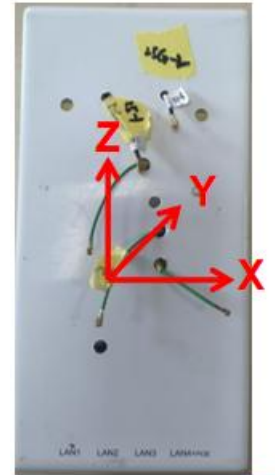
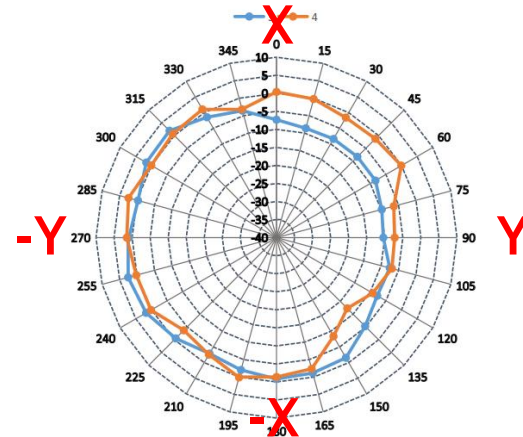
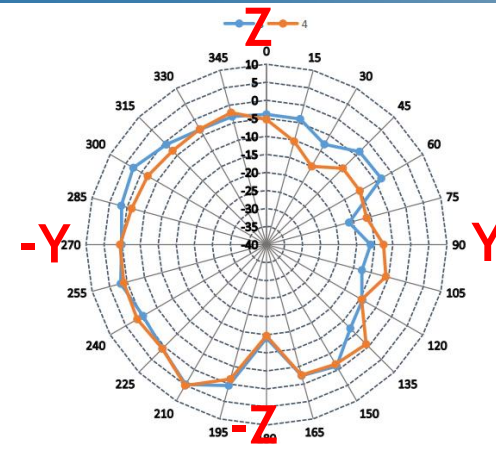
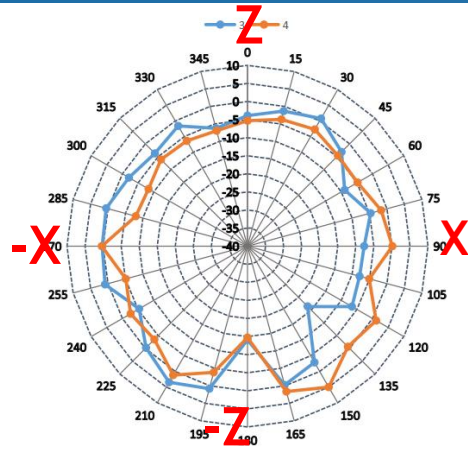
4. Radiation patterns (1&2system coverage 2.45GHz)



4. Radiation patterns (1&2system coverage5.5GHz)



4. Radiation patterns (3&4system coverage6.7GHz)



5. Summary

1.The measurements are as follows:

2/5G				
Frequency (MHz)	Gain(dBi)		Efficiency(%)	
	1	2	1	2
2400	4.91	4.15	73.38	75.23
2450	4.72	4.40	75.67	78.65
2500	4.59	4.78	75.48	74.95
5150	4.03	4.32	73.19	74.56
5500	5.67	4.53	79.08	81.55
5850	4.84	3.95	74.89	76.09

6G				
Frequency (MHz)	Gain(dBi)		Efficiency(%)	
	3	4	3	4
5925	6.42	6.05	67.05	65.64
6600	6.38	6.59	64.53	68.08
7215	6.01	6.02	68.81	68.29

BT		
Frequency (MHz)	Gain(dBi)	Efficiency(%)
	5	5
2400	4.04	66.44
2450	4.40	67.56
2500	3.17	63.10

5. Summary

1.The measurements are as follows:

Frequency (MHz)	Degree		Gain(dBi)		Correlated Gain(dBi)	Uncorrelated Gain(dBi)
	Theta(°)	Phi(°)	1	2		
2400	152	108	4.63	3.35	7.02	4.04
2450	140	100	4.51	4.11	7.33	4.32
2500	152	110	4.38	4.19	7.30	4.29
5150	74	100	3.40	3.08	6.25	3.24
5500	72	102	5.67	3.37	7.61	4.67
5850	58	96	3.49	3.47	6.49	3.48

Frequency (MHz)	Degree		Gain(dBi)		Correlated Gain(dBi)	Uncorrelated Gain(dBi)
	Theta(°)	Phi(°)	3	4		
5925	-150	52	6.12	2.30	7.42	4.61
6600	-150	74	4.35	6.17	8.32	5.35
7125	-160	146	4.27	5.26	7.78	4.79

5. Summary

1.The measurements are as follows:

Antenna	VSWR	Efficiency (%)	Highest Peak Gain (dBi)	E_total (avg) H plane	Mutual Isolation (dBi) 2G Band			Mutual Isolation (dBi) 5G Band		Mutual Isolation (dBi) 6G Band	
					1-2G	2-2G	5-2G	1-5G	2-5G	3-6G	4-6G
1-2G	1.79	73.38	4.91	-0.81		-27.06	-22.21				
2-2G	1.83	74.95	4.78	-1.08							
1-5G	1.45	73.19	5.67	-0.72						-32.78	-31.52
2-5G	1.41	74.56	4.53	-0.54						-36.72	-38.72
3-6G	1.89	63.24	6.63	-3.37	-43.71	-40.52	-43.00	-33.77	-34.61		-34.52
4-6G	1.89	65.64	6.76	-3.68	-37.48	-42.75	-19.09	-28.96	-36.71		
5-2G	1.95	63.36	4.68	-1.47	-20.83	-28.06		-34.27	-35.12	-35.13	-11.78

Thanks!