

Antenna Testing Report

Customer: apical Technology

Project Name: CJ5517

Report Number: SZ25443IB77/SZ25443IA54

Manufacturer: Sunnyway Technology(CHINA)

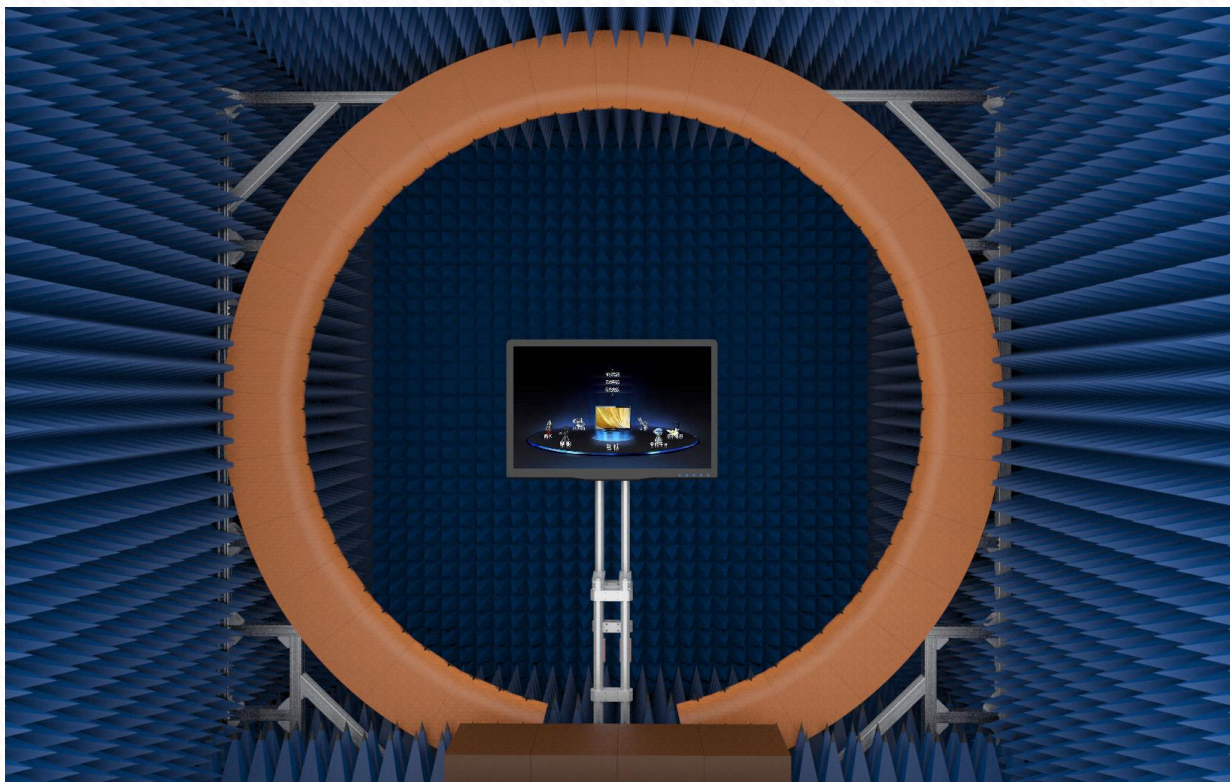
Address: Floor 6, Building 5, Nam Tai Inno Park, Guangming District,
Shenzhen

Report version: 2025.12.17

Version	Time	Update Notes
A0	2025.12.17	Latest test data
A1		
A2		
A3		
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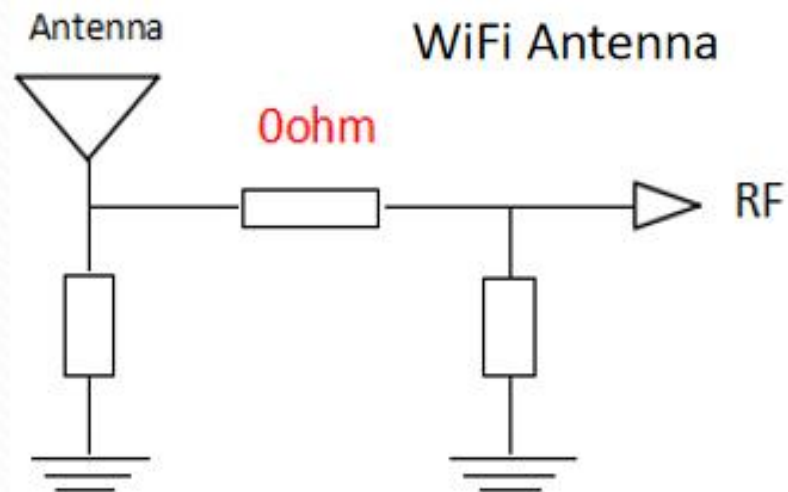
Prototype status	Active machine	Project Prototype Diagram: 
Product Type	Temperature and humidity sensor	
Number of antennas	WIFI Antenna, GNSSAntenna	
Antenna frequency band	GNSS (1561/1575.42MHz)	
	WIFI 802.11 /b/g/n	
Structural form	FPC/Ceramics	
Environmental management	No changes made	
Matching circuit	No changes made	



The industry's top 64 sensors OTA
chamber Frequency range: 400MHz-11GHz
Device Llimitation: 2M
Load-bearing limitation:100KG

Equipments Items	Total Quantity	Quantity for Shanghai R&D	Quantity for Shenzhen R&D	Quantity for ChongQing R&D
OTA chamber	10	4	5	1
5G Tester (SP9500-CTS)	3	1	1	1
R&S Tester (high configuration CMW500)	6	3	2	1
Japan Anritsu Tester (Dual Channel 8820)	4	2	2	--
NB-IoT Tester (SP8315)	3	1	1	1
Agilent Tester (8960)	9	4	4	--
Agilent Network Analyzer (E5062A)	7	3	3	1
Agilent Network Analyzer (E5071C 8.5GHZ)	11	5	5	1
Agilent Network Analyzer (E5071B 8.5GHZ)	7	3	3	1
R&S Network Analyzer (ZND)	9	4	4	1
R&S Network Analyzer (ZVB)	3	1	1	1
OTA head hand / ear hand / arm hand	5	2	2	1
GPS/WIFI active test equipment	5	2	2	1

Antenna matching has
not been changed



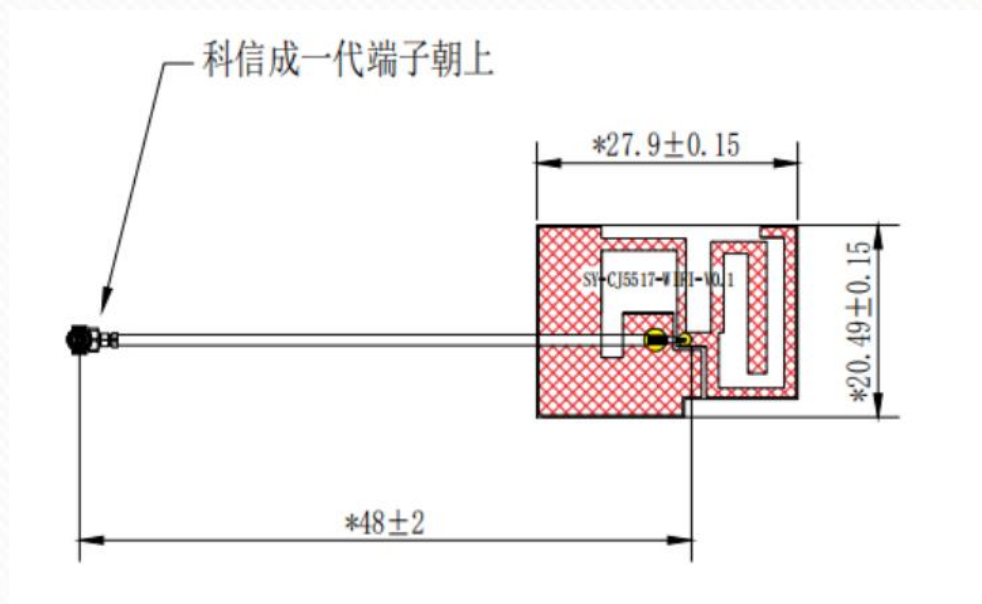
WiFiAntenna



gnssAntenna



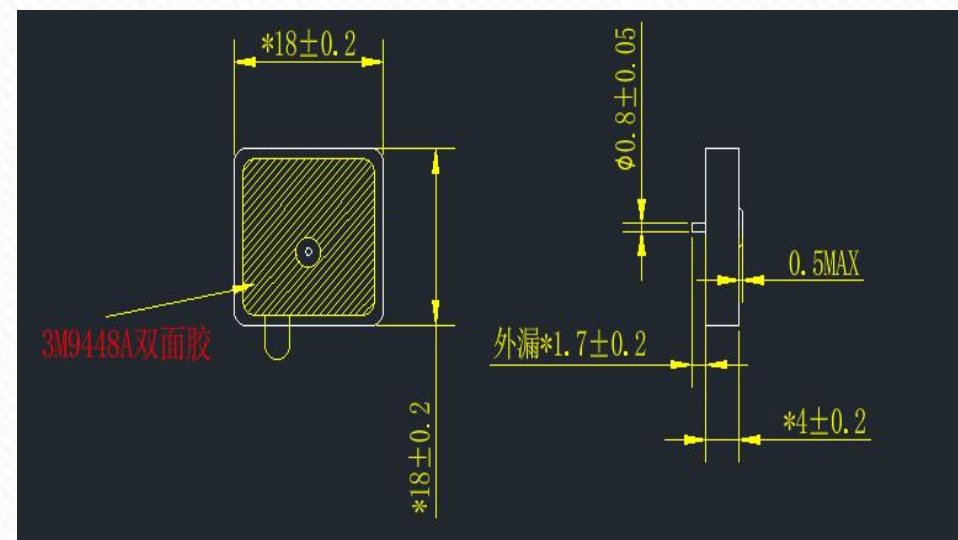
WI FI antenna/Antenna size



WI FI Antenna type: FPC

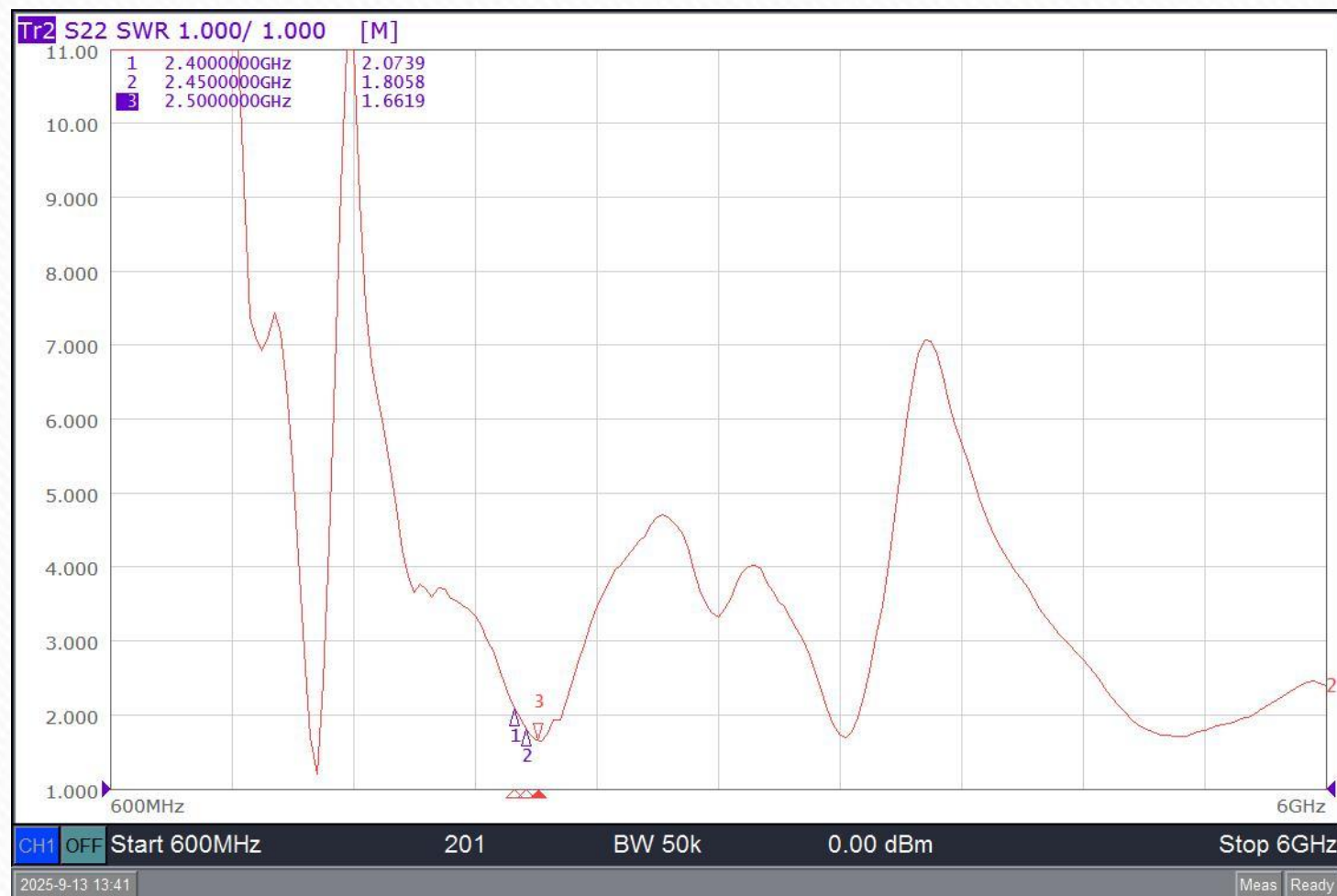
WI FI Antenna model: SZ25443IB77

GPS antenna/Antenna size



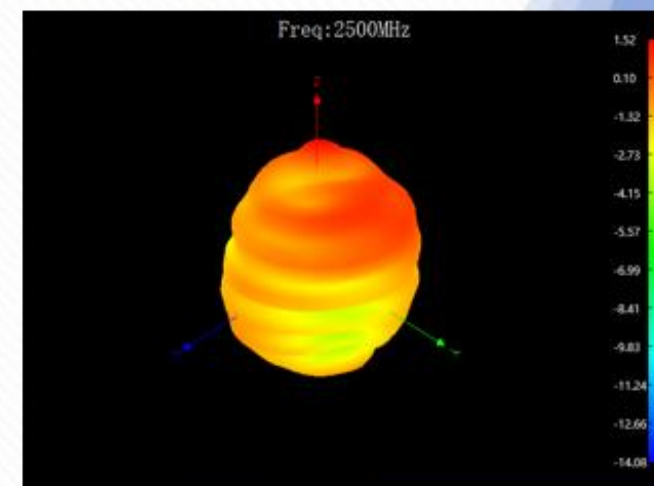
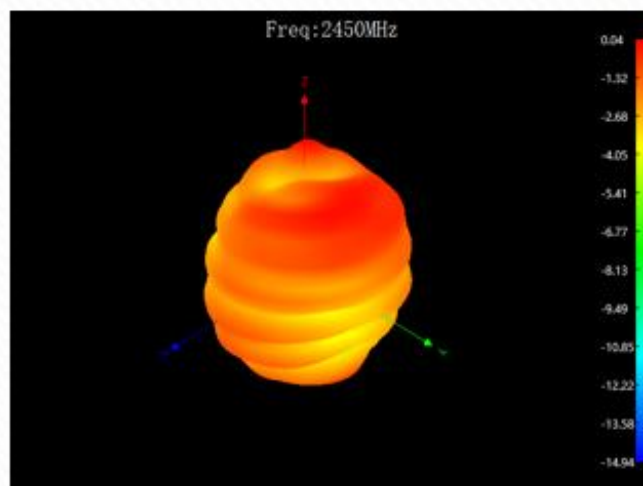
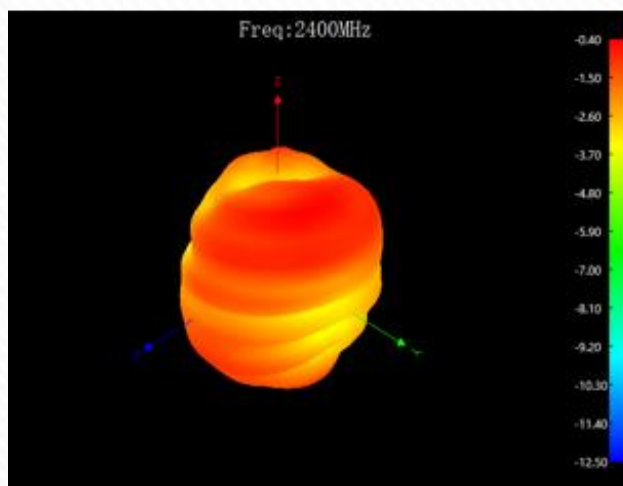
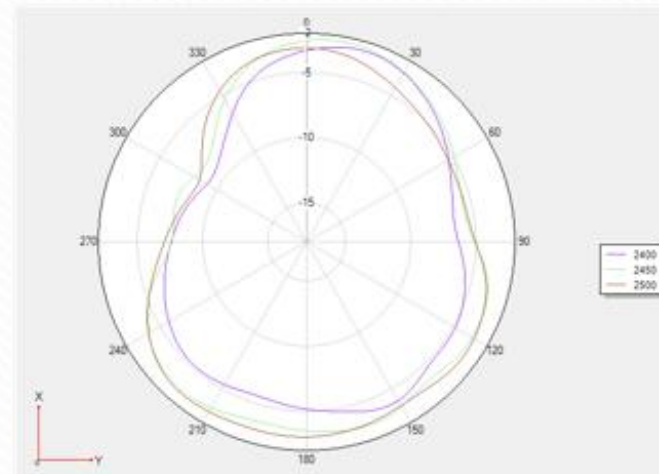
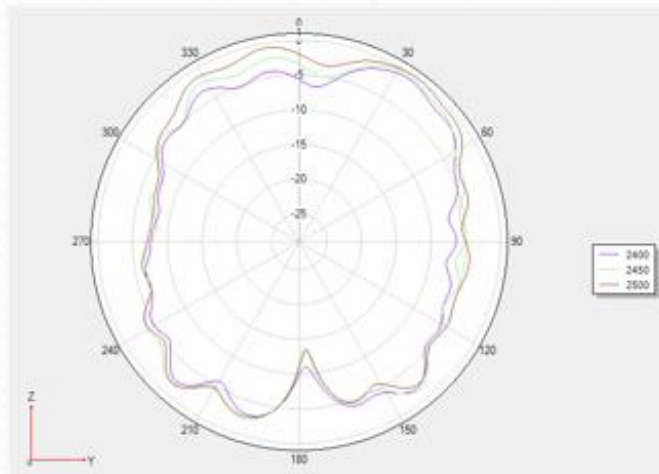
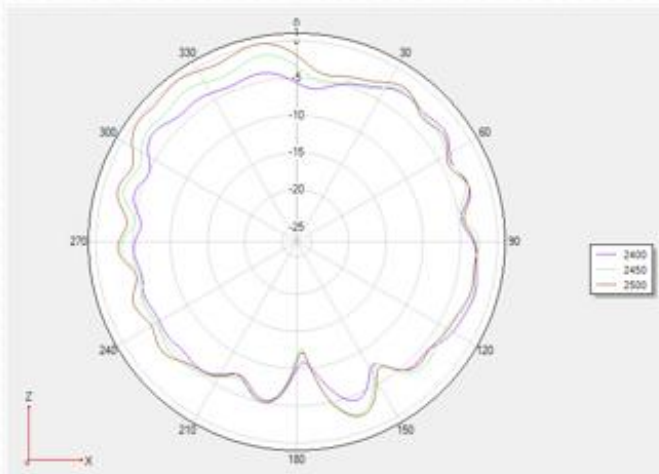
GPS Antenna type: Ceramics

GPS Antenna model: SZ25443IA54



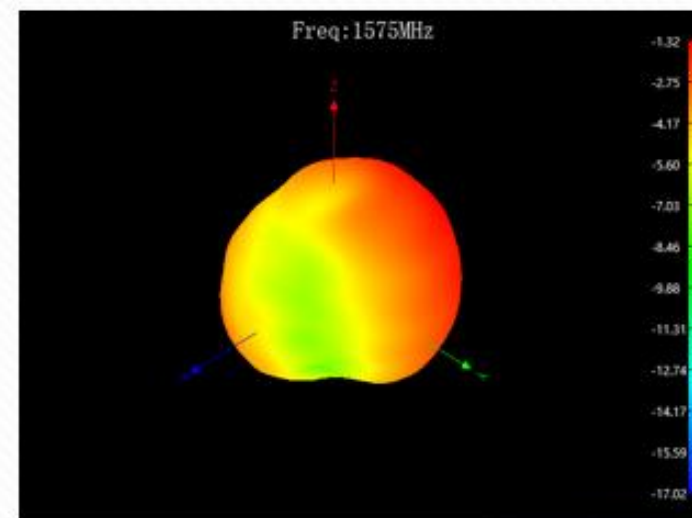
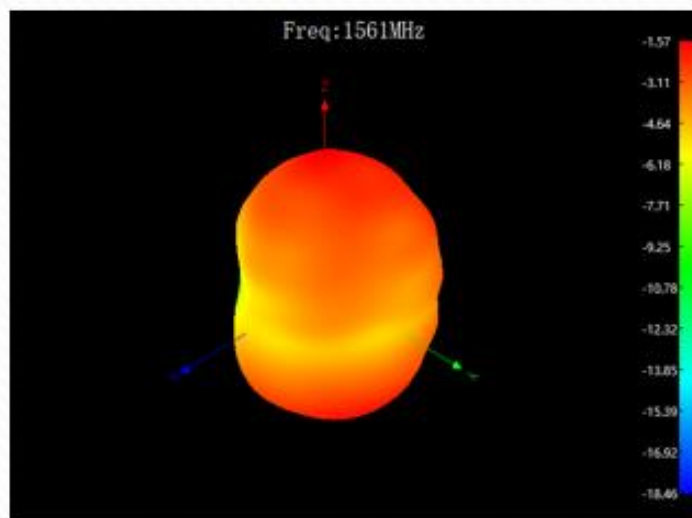
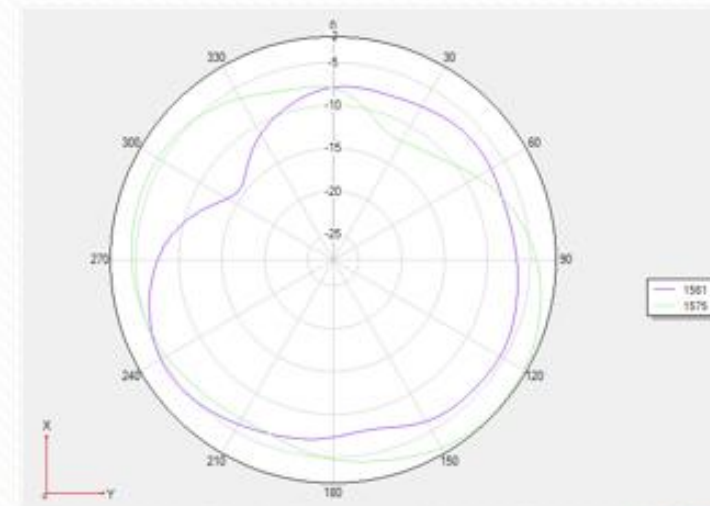
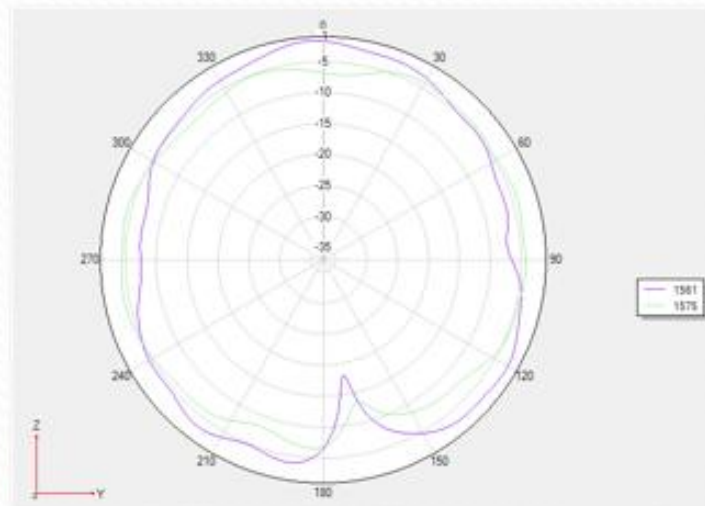
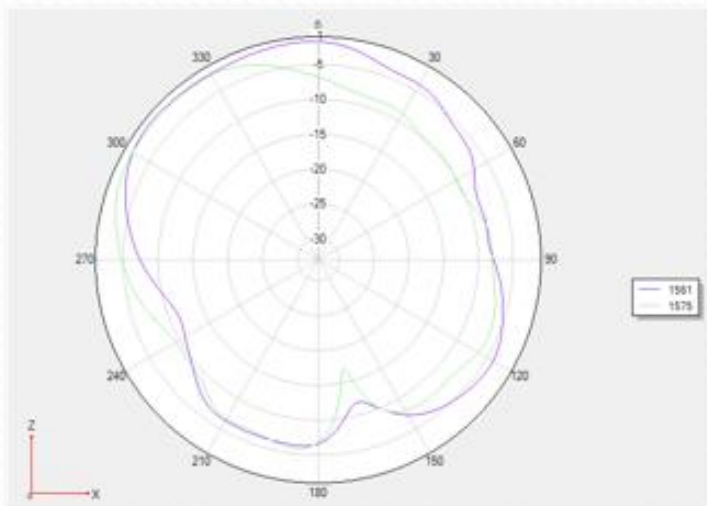
Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	-0.4	48.53
2410	-0.19	50.6
2420	-0.94	44.16
2430	-1.09	43.35
2440	-0.58	47.21
2450	0.04	51.33
2460	0.26	50.58
2470	0.41	48.17
2480	1	49.2
2490	0.89	48.76
2500	1.52	47.7

Measurement	Band	Channel	Total
TRP	WIFI_B (1M)	1	13.3
TRP	WIFI_B (1M)	7	13.47
TRP	WIFI_B (1M)	13	13.69
TIS(EIRP)	WIFI_B (11M)	13	-80.28
TRP	WIFI_G (6M)	1	13.56
TRP	WIFI_G (6M)	7	14.06
TRP	WIFI_G (6M)	13	14.68
TIS(EIRP)	WIFI_G (54M)	13	-65.06
TRP	WIFI_N_ISM (6.5M)	1	12.47
TRP	WIFI_N_ISM (6.5M)	7	12.34
TRP	WIFI_N_ISM (6.5M)	13	13.38
TIS(EIRP)	WIFI_N_ISM (65M)	13	-62.72





Frequency/Mhz	MaxGain/dBi	Efficiency / %
1555	-3.1	26.61
1556	-2.8	29.44
1557	-2.58	32.66
1558	-2.28	36.06
1559	-1.91	39.17
1560	-1.71	41.21
1561	-1.57	41.11
1562	-1.43	39.45
1563	-1.6	36.56
1564	-2	33.42
1565	-2.46	34.76
1566	-2.85	32.97
1567	-3.11	32.18
1568	-3.28	32.31
1569	-3.39	33.11
1570	-3.3	34.27
1571	-2.82	35.41
1572	-2.41	36.51
1573	-2.04	37.57
1574	-1.69	38.75
1575	-1.32	40.22
1576	-1.03	41.93
1577	-0.72	39.63
1578	-0.41	40.64
1579	-0.24	40.55
1580	-0.3	39.17



Antenna environment processing not added

1. Antenna matching has not changed;
- 2.Environmental handling has not changed;
- 3.The trial production machine's antenna verification data is OK, with little difference from before..

Thank You

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