



ShenzhenXingtongWieressTechnologyCo .,Ltd

For

Shenzhen Yaluet Technology Co., Ltd

BA5300

Product Passive Specification

Customer Part Number/Part No. :3. 34. BA8300-0004

Product Name/STYLE:BA5300-Wi-Fi

Client	
Approved	

Approved by	Checked by	Designed by
ZYJ	WYJ	Hjj

Project:BA5300-WIFI/BT		Author: HUANG	File Name: BA5300-APP-RA
Date: 2025-09-26			
TEST:	Language:	Check: XIE	
A	English		
Antenna supplier address: 3rd Floor, Building A1, Qianglong East Industrial Zone, Jiuwei, Xixiang, Bao'an District, Shenzhen Phone: 0755-27850514 Fax: 0755-27850514			

Revision History

Date	Revision	Description of Changes
2025-09-26	RA	Measured with FPC+Ceramic sample.

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1 Technical Summary

This report summarizes the electrical results of the proposed antenna to support the BA5300-WB program. We test the antenna with the latest version handset. And it seems to be acceptable.

2 General Description

2.1 Components/Part revisions

VSWR: Voltage Standing Wave Rate.

3 Mechanical Description



4 Electrical Performance

4.1 Set-up

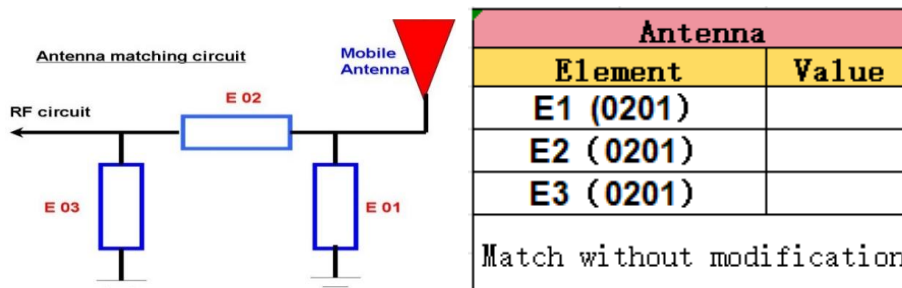
4.1.1 VSWR

VSWR measurements (S21) were performed using an Agilent 8753D Network Analyzer and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

4.1.2 Gain & Radiation Patterns

The gain of the antenna was measured in the XingTong's anechoic chamber. Coaxial chokes on the feed cable were used to mitigate surface currents. The chamber provides less than -30 dB reflectivity from 2400 MHz through 6000MHz and an 18" diameter spherical quiet zone. The measurement results are calibrated using both dipole and leaky wave horn standards.

4.1.3 Matching Circuit Description



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4.2 Measurement Data

4.2.1 WiFi/BT-OTA:

1. WIFI/BT

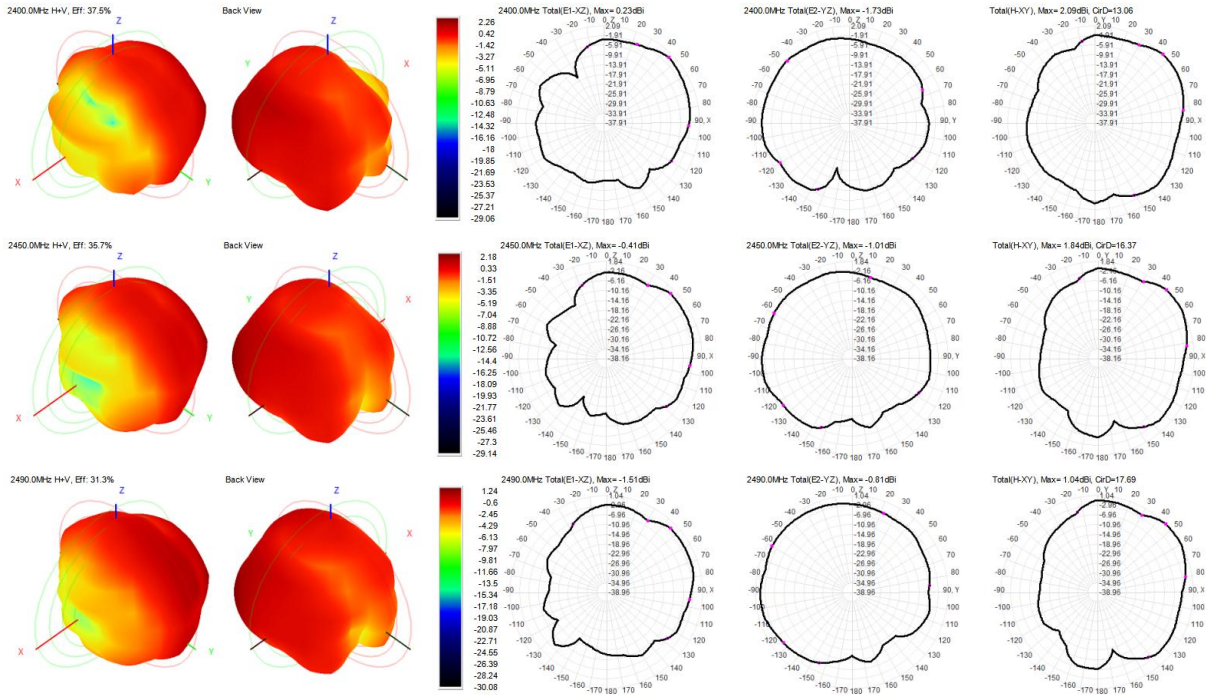
Frequency ID	12	13	14	15	16	17	18	19	20	21	22
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-4.26	-4.32	-4.19	-4.32	-4.72	-4.47	-4.67	-5.02	-4.73	-5.05	-5.33
Gain (dBi)	2.26	2.27	2.45	2.38	1.98	2.18	1.91	1.46	1.58	1.24	0.81
Efficiency (%)	37.51	36.99	38.10	37.02	33.75	35.70	34.15	31.49	33.62	31.29	29.29
Directivity (dB)	6.52	6.59	6.64	6.70	6.70	6.65	6.58	6.47	6.31	6.28	6.14
Peak Gain Position (Theta)	105.00	105.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	105.00	105.00
Peak Gain Position (Phi)	135.00	135.00	135.00	135.00	135.00	150.00	135.00	150.00	150.00	135.00	135.00
Efficiency ThetaPol (%)	14.11	13.76	14.28	13.99	12.66	13.14	12.45	11.59	12.16	11.11	10.21
Efficiency PhiPol (%)	23.40	23.23	23.82	23.04	21.10	22.56	21.70	19.89	21.46	20.18	19.08
Upper Hem. Efficiency (%)	21.67	21.56	22.43	21.95	20.13	21.41	20.60	19.16	20.60	19.32	18.23
Lower Hem. Efficiency (%)	15.84	15.43	15.66	15.07	13.62	14.29	13.55	12.33	13.02	11.97	11.06

3. WIFI-5G

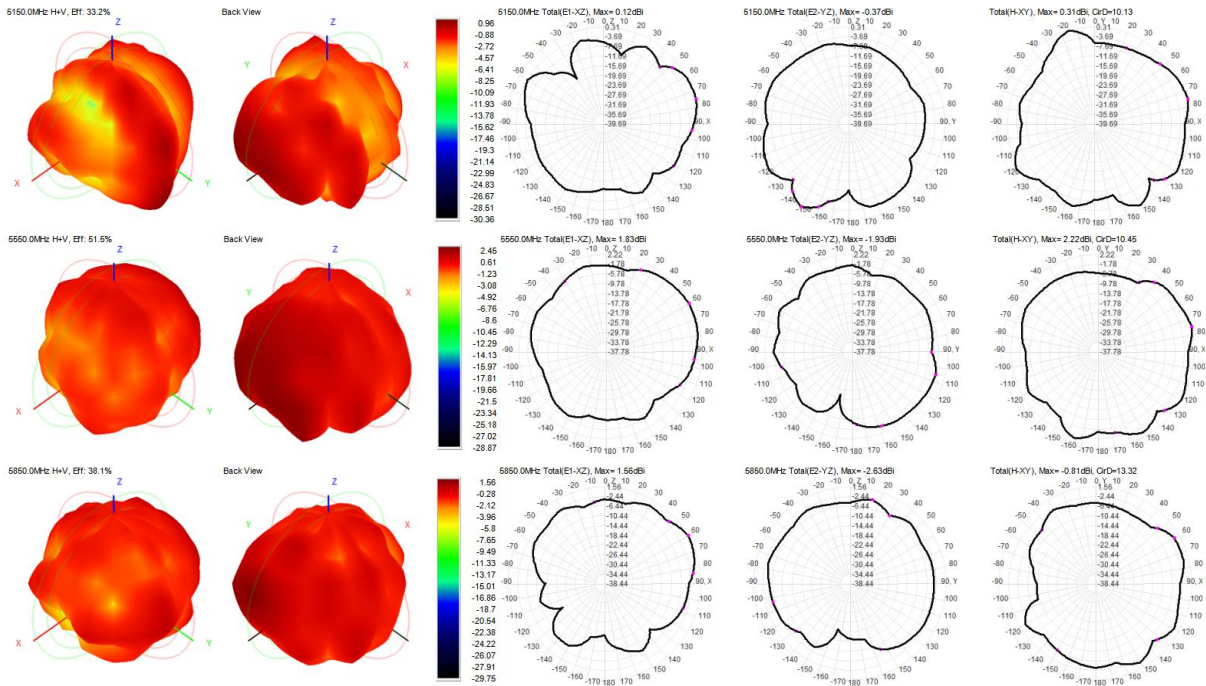
Frequency ID	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Frequency (MHz)	5150.0	5200.0	5250.0	5300.0	5350.0	5400.0	5450.0	5500.0	5550.0	5600.0	5650.0	5700.0	5750.0	5800.0	5850.0
Efficiency (dBi)	-4.78	-4.29	-4.28	-4.90	-4.02	-3.28	-4.41	-3.92	-2.88	-4.37	-4.32	-3.46	-4.56	-5.31	-4.19
Gain (dBi)	0.96	1.93	2.45	2.12	2.30	2.53	1.40	1.78	2.45	1.20	1.04	1.23	1.26	-0.01	1.56
Efficiency (%)	33.25	37.28	37.30	32.35	39.60	46.96	36.22	40.54	51.47	36.53	36.97	45.10	34.97	29.45	38.07
Directivity (dB)	5.74	6.21	6.73	7.02	6.33	5.82	5.81	5.71	5.33	5.58	5.36	4.69	5.82	5.30	5.76
Peak Gain Position (Theta)	75.00	90.00	90.00	90.00	90.00	60.00	75.00	75.00	75.00	75.00	75.00	90.00	60.00	60.00	60.00
Peak Gain Position (Phi)	165.00	165.00	165.00	165.00	165.00	180.00	210.00	180.00	165.00	165.00	165.00	165.00	180.00	180.00	180.00
Efficiency ThetaPol (%)	17.87	19.57	17.15	12.27	14.70	17.96	14.18	16.54	20.30	13.74	14.11	17.45	13.78	12.09	16.31
Efficiency PhiPol (%)	15.37	17.70	20.15	20.08	24.89	29.00	22.04	24.01	31.17	22.80	22.86	27.65	21.19	17.36	21.76
Upper Hem. Efficiency (%)	17.23	18.05	17.69	18.21	24.76	29.64	22.85	25.54	32.15	22.88	23.15	28.83	22.44	19.02	24.57
Lower Hem. Efficiency (%)	16.02	19.23	19.61	14.15	14.84	17.32	13.38	15.01	19.32	13.66	13.82	16.27	12.53	10.43	13.50

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WiFi2.4G/BT-3D directional map



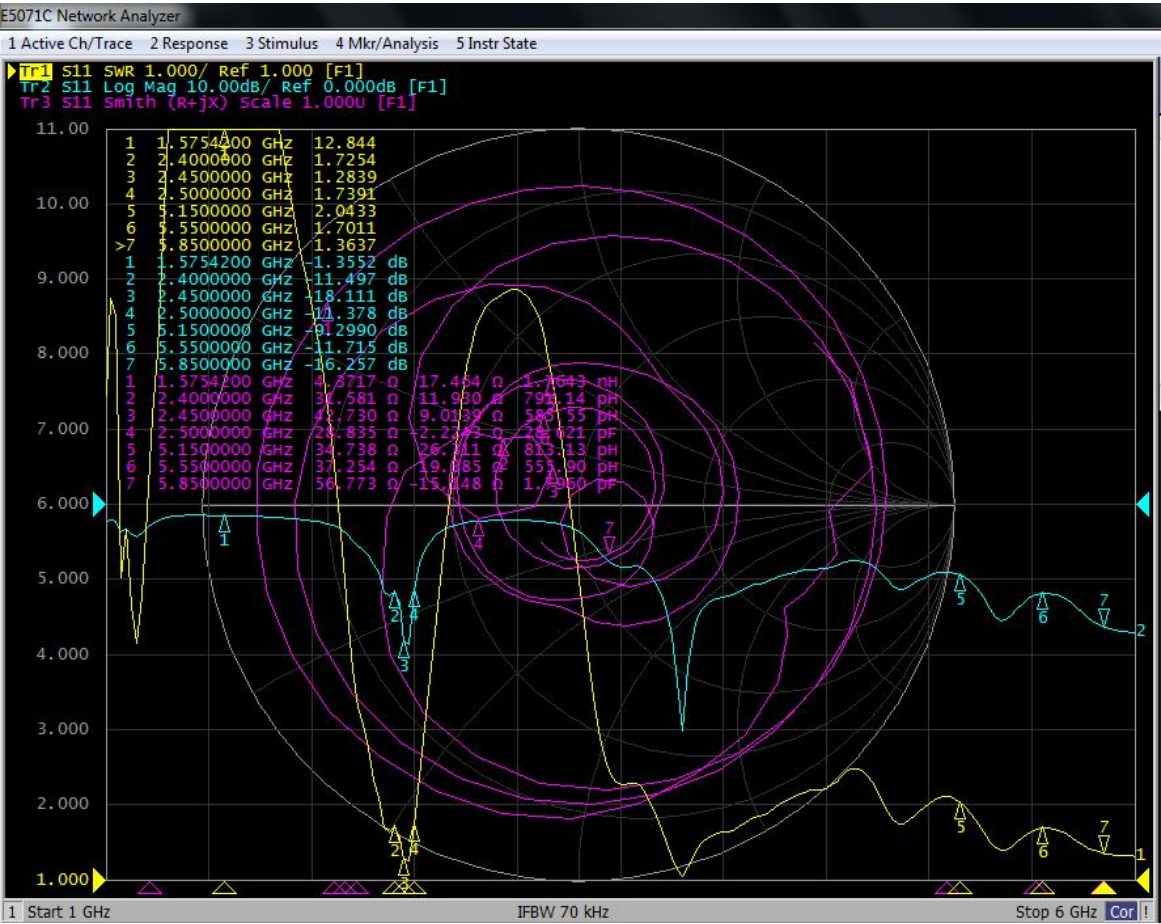
WiFi-5G-3D directional map



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5 Plots

5.1 Lobe pattern/LOG MAG

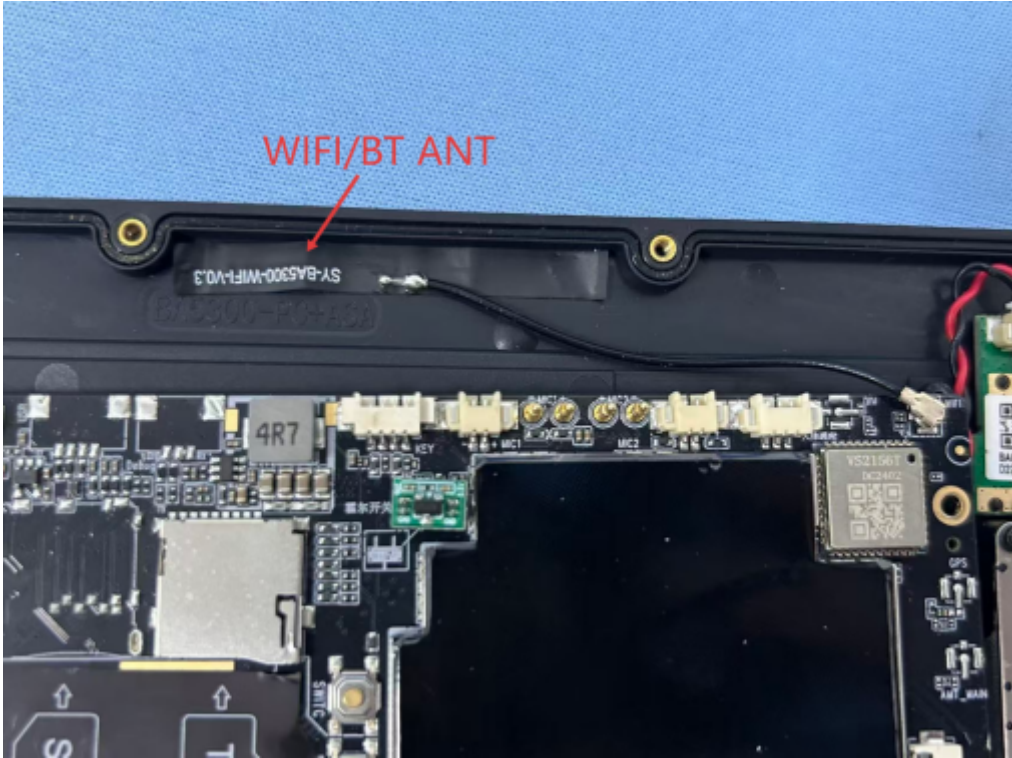


Passive OTA parameters of antenna:

Frequency point (Mhz)	2400	2450	2500	5150	5850
S W R	1.72	1.28	1.73	2.04	1.36
Return Loss	-11.49	-18.11	-11.37	-9.29	-16.25
Gain(dbi)	2.26	2.18	0.81	0.96	1.56

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6 ANT PHOTO



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7 Reliability tests

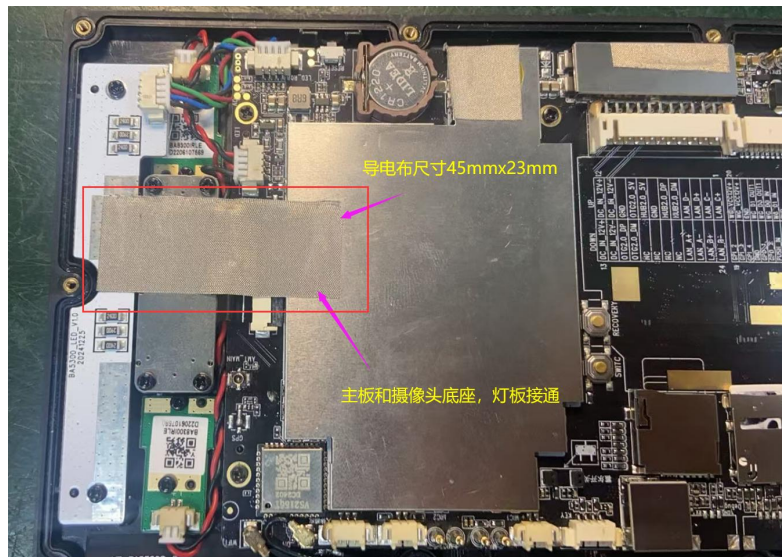
7.1 Test content

No	Test items	test method	defining principle
1	Salt water spray test	Spray the solution with salt concentration of 5% for 48HR	There should be no defects such as discoloration, deformation, or detachment, and the corrosion area should not be too large
2	Operational Temperature	-40℃~+65℃	
3	Storage Temperature	-50℃~+85℃	
4	Humidity	40%~95%	

7.2 Test results

NO	Number of samples	Test time	experimental result	notes
1	50	24 hour	OK	Technical level is level 9 Corrosion<0.4mm
2	50	24 hour	OK	Technical level is level 9 Corrosion<0.4mm

8 Conclusion



Note: The environmental treatment of the entire machine is based on the antenna report as the final decision.

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