Manufacturer：ShenzhenXingtongWieressTechnologyCo .,Ltd

Send products TO

Shenzhen Xinruizhi Industrial Co., Ltd

B752

Antenna specification sheet

Part No.:

STYLE: B752-4G-Antenna

Specification No.:2025-04-12-V1.0

Client	
Approved	

Approved by	Checked by	Designed by
XUGENG	HUANJJ	WUYANLONG

Project:**B752-LTE**		Author: HUANG	File Name:
Date: 2025-4-12			**B752-APP-RA**
TEST:	Language:	Check: XIE	
A	English		
Manufacturer address: 3rd Floor, Building A1, Qiangrong East Industrial Zone, Jiuwei, Xixiang, Bao'an District, Shenzhen Phone: 0755-27850514 Fax: 0755-27850514			

Revision History

Date	Revision	Description of Changes
2025-4-12	RA	Measured with FPC+Ceramic sample.

1 Technical Summary

This report summarizes the electrical results of the proposed antenna to support the B752-LTE 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

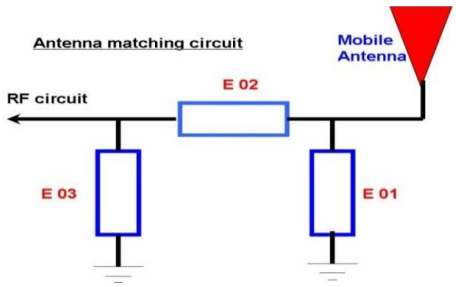
4.1.1 VSWR

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 680 MHz through 3 GHz and an 18" diameter spherical quite zone. The measurement results are calibrated using both dipole and leaky wave horn standards.

4.1.3 Matching Circuit Description



Antenna	
Element	Value
E1 (0201)	
E2 (0201)	
E3 (0201)	
Match without modification	

Project:**B752-LTE**		Author: HUANG	File Name:
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4.2 Measurement Data

Antenna-2D-OTA

4.2.1 680-960Mhz:

Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13
Frequency (MHz)	680.0	690.0	700.0	710.0	720.0	730.0	740.0	750.0	760.0	770.0	780.0	790.0	800.0
Efficiency (dBi)	-8.53	-7.80	-7.41	-7.21	-6.73	-6.67	-6.37	-5.94	-5.75	-5.55	-5.67	-6.08	-5.66
Gain (dBi)	-3.32	-2.69	-2.40	-2.18	-1.78	-1.97	-1.74	-1.27	-1.01	-0.72	-0.88	-1.38	-0.72
Efficiency (%)	14.04	16.60	18.14	19.02	21.25	21.55	23.09	25.49	26.63	27.87	27.13	24.65	27.19
Directivity (dB)	5.21	5.11	5.01	5.03	4.95	4.70	4.63	4.66	4.73	4.83	4.79	4.70	4.94
Peak Gain Position (Theta)	165.00	165.00	165.00	165.00	165.00	165.00	165.00	165.00	165.00	180.00	180.00	180.00	180.00
Peak Gain Position (Phi)	150.00	165.00	150.00	150.00	150.00	135.00	225.00	225.00	210.00	0.00	0.00	0.00	0.00
Efficiency ThetaPol (%)	6.57	7.90	8.49	8.87	9.99	10.07	10.76	11.88	12.35	12.98	12.90	12.21	12.58
Efficiency PhiPol (%)	7.46	8.69	9.65	10.15	11.26	11.48	12.32	13.62	14.28	14.89	14.23	12.44	14.62
Upper Hem. Efficiency (%)	4.24	5.53	6.46	7.00	7.76	7.68	8.09	8.92	9.48	10.16	9.88	8.65	9.64
Lower Hem. Efficiency (%)	9.80	11.07	11.67	12.01	13.49	13.87	15.00	16.57	17.15	17.71	17.24	16.00	17.55

Frequency ID	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Frequency (MHz)	810.0	820.0	830.0	840.0	850.0	860.0	870.0	880.0	890.0	900.0	910.0	920.0	930.0	940.0	950.0	960.0
Efficiency (dBi)	-5.14	-4.77	-4.55	-4.37	-4.09	-4.18	-4.23	-4.33	-4.59	-4.71	-4.83	-5.09	-5.27	-5.51	-5.95	-6.22
Gain (dBi)	-0.16	0.06	0.09	0.06	0.07	-0.06	-0.09	-0.28	-0.61	-0.56	-0.57	-0.74	-0.78	-0.74	-0.82	-0.80
Efficiency (%)	30.64	33.36	35.09	36.52	39.01	38.15	37.79	36.91	34.72	33.83	32.87	30.99	29.70	28.12	25.43	23.88
Directivity (dB)	4.97	4.83	4.64	4.44	4.16	4.13	4.14	4.04	3.98	4.15	4.26	4.35	4.49	4.76	5.13	5.42
Peak Gain Position (Theta)	180.00	180.00	180.00	180.00	180.00	135.00	135.00	135.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
Peak Gain Position (Phi)	0.00	0.00	0.00	0.00	0.00	270.00	270.00	270.00	285.00	285.00	285.00	285.00	285.00	285.00	285.00	285.00
Efficiency ThetaPol (%)	13.72	14.92	15.86	16.84	18.19	18.12	19.16	19.83	18.88	18.57	18.03	16.78	15.86	14.95	13.50	12.67
Efficiency PhiPol (%)	16.92	18.44	19.23	19.68	20.82	20.03	18.63	17.08	15.84	15.26	14.84	14.21	13.83	13.17	11.93	11.21
Upper Hem. Efficiency (%)	10.79	11.65	12.29	12.88	13.91	13.56	13.16	13.08	12.77	12.69	12.37	11.58	10.89	9.97	8.54	7.40
Lower Hem. Efficiency (%)	19.85	21.70	22.80	23.64	25.11	24.59	24.63	23.83	21.96	21.14	20.50	19.42	18.80	18.15	16.90	16.49

4.2.2 1710-1880Mhz:

Frequency ID	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Frequency (MHz)	1700.0	1710.0	1720.0	1730.0	1740.0	1750.0	1760.0	1770.0	1780.0	1790.0	1800.0	1810.0	1820.0	1830.0	1840.0	1850.0	1860.0	1870.0	1880.0
Efficiency (dBi)	-6.97	-6.78	-6.79	-6.62	-6.44	-6.45	-6.28	-6.01	-5.99	-5.63	-5.49	-5.49	-5.24	-4.98	-4.92	-4.50	-4.33	-4.37	-4.11
Gain (dBi)	-2.09	-1.83	-1.68	-1.42	-1.17	-1.08	-0.87	-0.55	-0.42	-0.08	0.02	-0.05	0.08	0.25	0.30	0.74	0.98	1.00	1.29
Efficiency (%)	20.09	20.97	20.94	21.78	22.68	22.63	23.56	25.04	25.17	27.32	28.25	28.23	29.95	31.81	32.23	35.49	36.87	36.56	38.85
Directivity (dB)	4.88	4.96	5.11	5.20	5.28	5.38	5.40	5.46	5.57	5.56	5.51	5.44	5.31	5.22	5.22	5.24	5.31	5.37	5.40
Peak Gain Position (Theta)	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
Peak Gain Position (Phi)	150.00	135.00	135.00	135.00	135.00	135.00	135.00	135.00	135.00	135.00	135.00	135.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
Efficiency ThetaPol (%)	13.15	13.83	13.97	14.67	15.49	15.82	16.96	18.44	18.79	20.48	21.13	21.00	22.08	23.59	24.41	27.78	29.51	29.56	31.56
Efficiency PhiPol (%)	6.94	7.14	6.97	7.11	7.19	6.80	6.60	6.60	6.38	6.84	7.13	7.22	7.86	8.21	7.81	7.71	7.36	7.00	7.29
Upper Hem. Efficiency (%)	10.70	11.24	11.23	11.64	12.09	12.10	12.67	13.54	13.60	14.65	14.98	14.76	15.44	16.08	16.00	17.34	17.91	17.72	18.68
Lower Hem. Efficiency (%)	9.39	9.73	9.72	10.14	10.59	10.53	10.88	11.50	11.57	12.68	13.27	13.47	14.51	15.72	16.23	18.15	18.96	18.84	20.17

4.2.3 1890-2060Mhz:

Frequency ID	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
Frequency (MHz)	1890.0	1900.0	1910.0	1920.0	1930.0	1940.0	1950.0	1960.0	1970.0	1980.0	1990.0	2000.0	2010.0	2020.0	2030.0	2040.0	2050.0	2060.0
Efficiency (dBi)	-4.01	-4.01	-3.74	-3.55	-3.72	-3.48	-3.38	-3.39	-3.31	-3.34	-3.62	-3.55	-3.59	-3.86	-3.57	-3.44	-3.50	-3.39
Gain (dBi)	1.42	1.47	1.74	1.90	1.69	1.87	1.80	1.72	1.79	1.84	1.62	1.80	1.92	1.82	2.13	2.23	2.19	2.34
Efficiency (%)	39.73	39.74	42.25	44.13	42.45	44.92	45.92	45.84	46.68	46.33	43.50	44.15	43.72	41.09	43.95	45.24	44.62	45.77
Directivity (dB)	5.43	5.48	5.49	5.46	5.42	5.34	5.18	5.10	5.10	5.18	5.23	5.35	5.51	5.69	5.70	5.68	5.70	5.73
Peak Gain Position (Theta)	90.00	90.00	90.00	90.00	90.00	90.00	90.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
Peak Gain Position (Phi)	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
Efficiency ThetaPol (%)	32.29	32.26	34.16	35.60	34.26	36.26	37.09	37.18	37.82	37.30	34.67	34.81	34.13	32.14	34.74	35.89	35.41	36.18
Efficiency PhiPol (%)	7.43	7.47	8.09	8.53	8.19	8.66	8.83	8.66	8.86	9.03	8.83	9.34	9.58	8.94	9.20	9.35	9.21	9.59
Upper Hem. Efficiency (%)	18.95	18.86	19.99	20.82	20.03	21.25	21.82	21.84	22.30	22.20	20.97	21.39	21.26	20.03	21.35	21.89	21.54	22.02
Lower Hem. Efficiency (%)	20.78	20.87	22.26	23.31	22.42	23.67	24.10	24.00	24.38	24.13	22.53	22.76	22.45	21.06	22.60	23.36	23.08	23.74

4.2.4 2070-2180Mhz:

Frequency ID	67	68	69	70	71	72	73	74	75	76	77	78
Frequency (MHz)	2070.0	2080.0	2090.0	2100.0	2110.0	2120.0	2130.0	2140.0	2150.0	2160.0	2170.0	2180.0
Efficiency (dBi)	-3.32	-3.54	-3.25	-3.42	-3.69	-3.54	-3.37	-3.53	-3.21	-3.12	-3.38	-3.21
Gain (dBi)	2.42	2.20	2.48	2.19	1.77	1.74	2.02	1.89	2.19	2.33	2.10	2.39
Efficiency (%)	46.60	44.30	47.28	45.47	42.79	44.21	46.03	44.34	47.76	48.74	45.95	47.74
Directivity (dB)	5.74	5.74	5.73	5.62	5.45	5.29	5.39	5.42	5.40	5.45	5.48	5.60
Peak Gain Position (Theta)	105.00	105.00	105.00	105.00	105.00	105.00	90.00	90.00	90.00	90.00	90.00	90.00
Peak Gain Position (Phi)	105.00	90.00	90.00	90.00	90.00	90.00	120.00	120.00	120.00	120.00	120.00	120.00
Efficiency ThetaPol (%)	36.67	34.71	36.92	35.33	33.00	33.98	35.41	34.16	36.59	36.96	34.59	35.78
Efficiency PhiPol (%)	9.92	9.59	10.36	10.15	9.79	10.23	10.62	10.18	11.18	11.77	11.36	11.96
Upper Hem. Efficiency (%)	22.42	21.39	22.92	22.20	21.10	21.95	23.02	22.32	24.18	24.83	23.42	24.27
Lower Hem. Efficiency (%)	24.18	22.91	24.35	23.27	21.69	22.26	23.01	22.02	23.58	23.91	22.53	23.47

4.2.5 2300-2690Mhz:

Frequency ID	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94
Frequency (MHz)	2300.0	2310.0	2320.0	2330.0	2340.0	2350.0	2360.0	2370.0	2380.0	2390.0	2400.0	2500.0	2510.0	2520.0	2530.0	2540.0
Efficiency (dBi)	-3.04	-3.20	-3.38	-3.10	-3.27	-3.41	-3.21	-3.27	-3.53	-3.02	-3.25	-3.80	-3.59	-3.47	-3.79	-3.41
Gain (dBi)	2.26	2.15	2.06	2.41	2.33	2.22	2.52	2.57	2.41	3.03	2.80	1.67	1.99	2.20	1.98	2.39
Efficiency (%)	49.64	47.87	45.91	49.00	47.07	45.57	47.74	47.06	44.31	49.87	47.34	41.64	43.80	44.98	41.78	45.64
Directivity (dB)	5.30	5.35	5.44	5.50	5.60	5.64	5.74	5.84	5.94	6.05	6.05	5.48	5.57	5.67	5.77	5.80
Peak Gain Position (Theta)	105.00	105.00	105.00	105.00	105.00	90.00	105.00	105.00	105.00	105.00	105.00	75.00	90.00	90.00	90.00	90.00
Peak Gain Position (Phi)	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	135.00	135.00	135.00	135.00	135.00
Efficiency ThetaPol (%)	35.96	34.64	33.11	35.21	33.79	32.50	33.80	33.16	31.27	35.23	33.41	30.21	31.83	32.54	29.99	32.63
Efficiency PhiPol (%)	13.68	13.23	12.80	13.79	13.28	13.06	13.93	13.90	13.04	14.63	13.92	11.42	11.97	12.44	11.79	13.01
Upper Hem. Efficiency (%)	24.41	23.55	22.61	24.14	23.19	22.45	23.51	23.16	21.80	24.57	23.45	20.49	21.53	21.99	20.31	22.02
Lower Hem. Efficiency (%)	25.23	24.32	23.30	24.86	23.88	23.11	24.23	23.90	22.51	25.30	23.89	21.15	22.27	22.99	21.47	23.63

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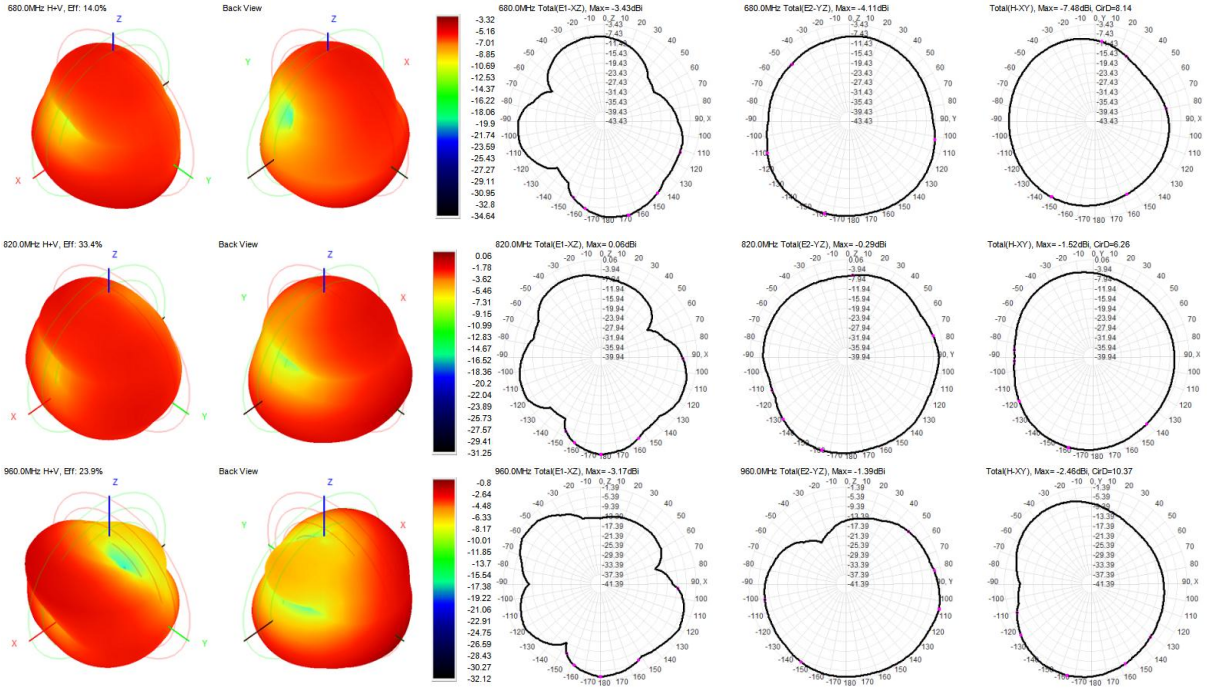
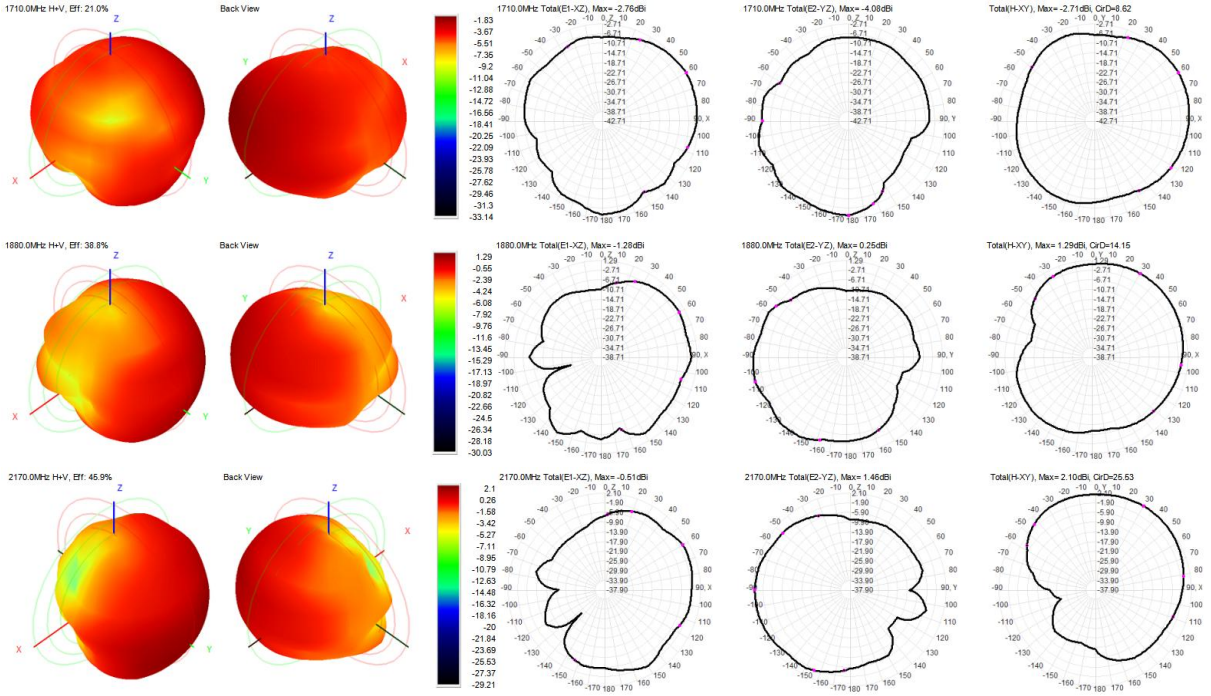
Frequency ID	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110
Frequency (MHz)	2550.0	2560.0	2570.0	2580.0	2590.0	2600.0	2610.0	2620.0	2630.0	2640.0	2650.0	2660.0	2670.0	2680.0	2690.0	2700.0
Efficiency (dBi)	-3.54	-3.70	-3.58	-3.70	-3.94	-3.75	-3.97	-4.24	-3.95	-4.15	-4.11	-3.90	-3.95	-3.98	-3.47	-3.73
Gain (dBi)	2.26	2.27	2.57	2.44	2.02	1.96	1.37	0.97	1.43	1.47	1.66	1.98	2.08	2.26	2.88	2.71
Efficiency (%)	44.23	42.62	43.85	42.66	40.35	42.20	40.08	37.69	40.26	38.46	38.80	40.71	40.30	40.00	45.02	42.32
Directivity (dB)	5.80	5.97	6.15	6.13	5.96	5.71	5.34	5.20	5.38	5.62	5.77	5.88	6.03	6.24	6.35	6.45
Peak Gain Position (Theta)	105.00	105.00	105.00	105.00	105.00	105.00	90.00	90.00	90.00	90.00	90.00	105.00	105.00	105.00	105.00	105.00
Peak Gain Position (Phi)	120.00	120.00	120.00	120.00	120.00	120.00	120.00	135.00	135.00	135.00	135.00	120.00	120.00	120.00	120.00	120.00
Efficiency ThetaPol (%)	31.46	30.00	30.49	29.39	27.57	28.57	27.20	25.95	27.97	26.76	26.84	27.82	26.99	26.06	28.29	25.47
Efficiency PhiPol (%)	12.77	12.62	13.36	13.27	12.79	13.63	12.88	11.74	12.29	11.70	11.96	12.89	13.32	13.94	16.72	16.85
Upper Hem. Efficiency (%)	21.19	20.26	20.76	20.22	19.19	20.09	19.08	17.88	18.78	17.60	17.48	17.99	17.55	17.24	19.21	17.85
Lower Hem. Efficiency (%)	23.04	22.36	23.09	22.44	21.16	22.11	21.00	19.80	21.48	20.86	21.32	22.73	22.75	22.76	25.80	24.47

Antenna directional map

680-960MHZ



1710-2170MHZ



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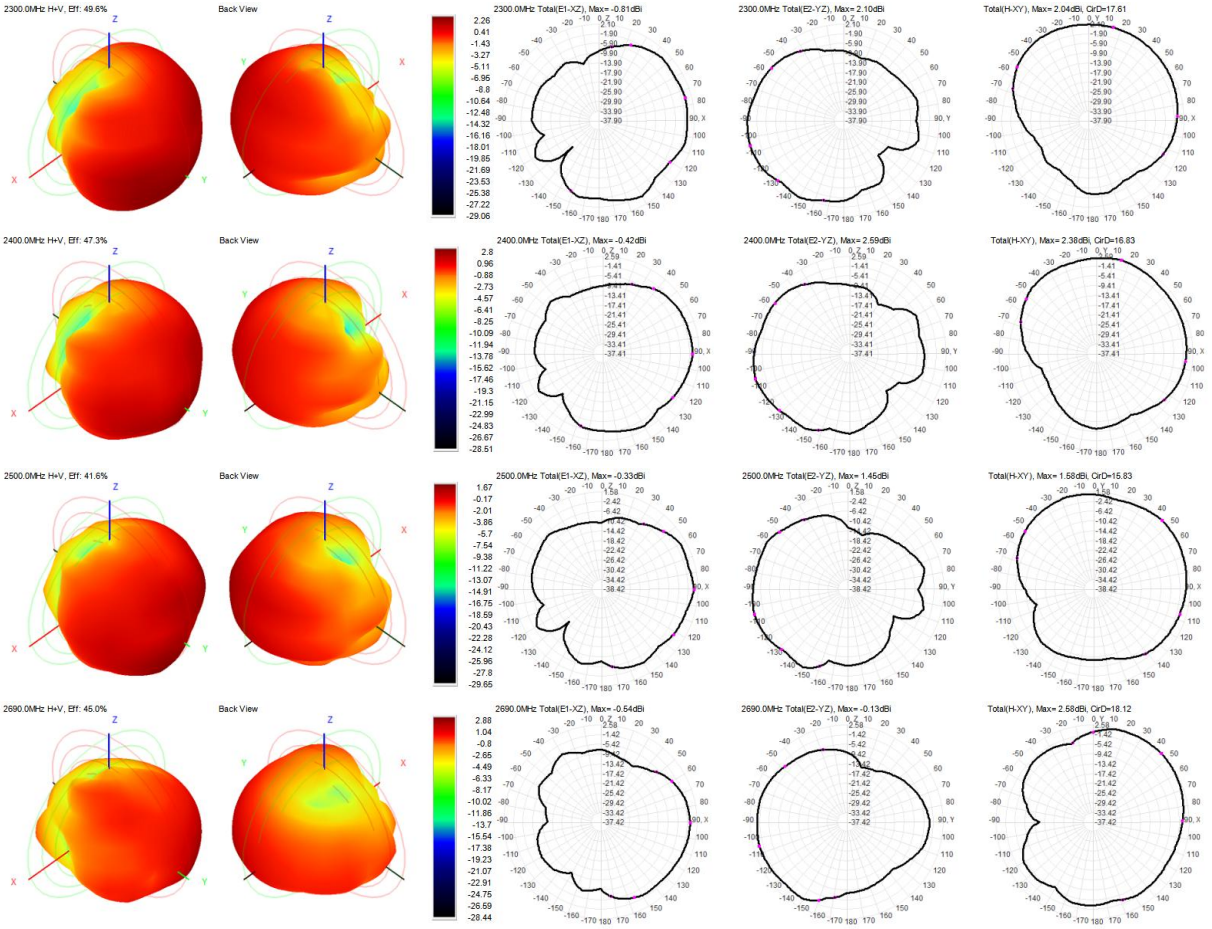
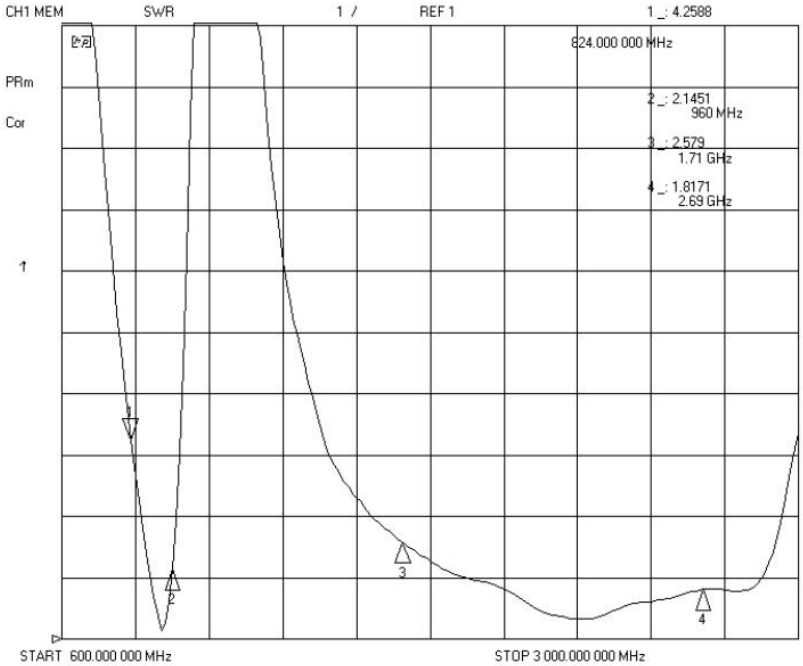
2300-2690MHZ



5 Plots

5.1 Lobe pattern



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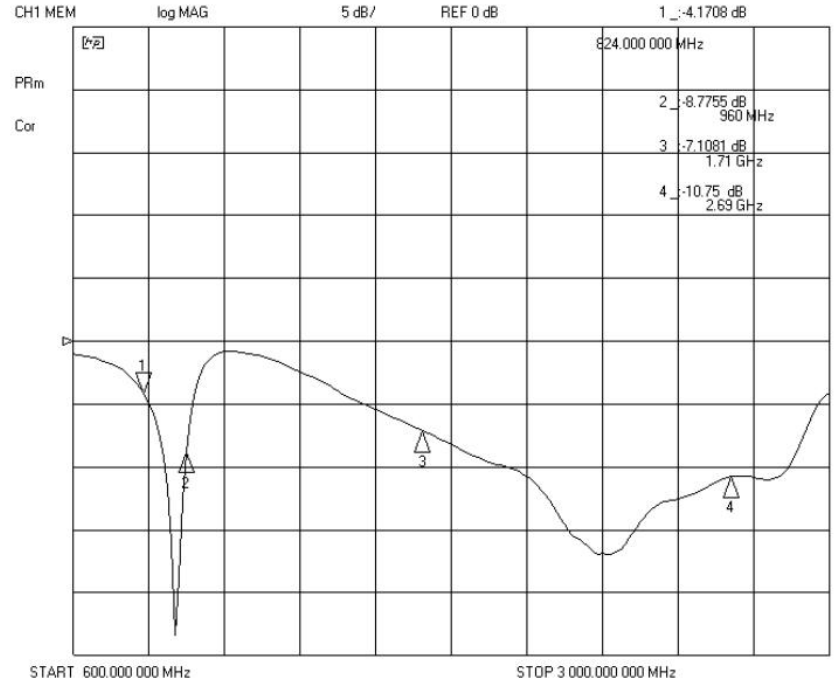
5.2 LOG MAG

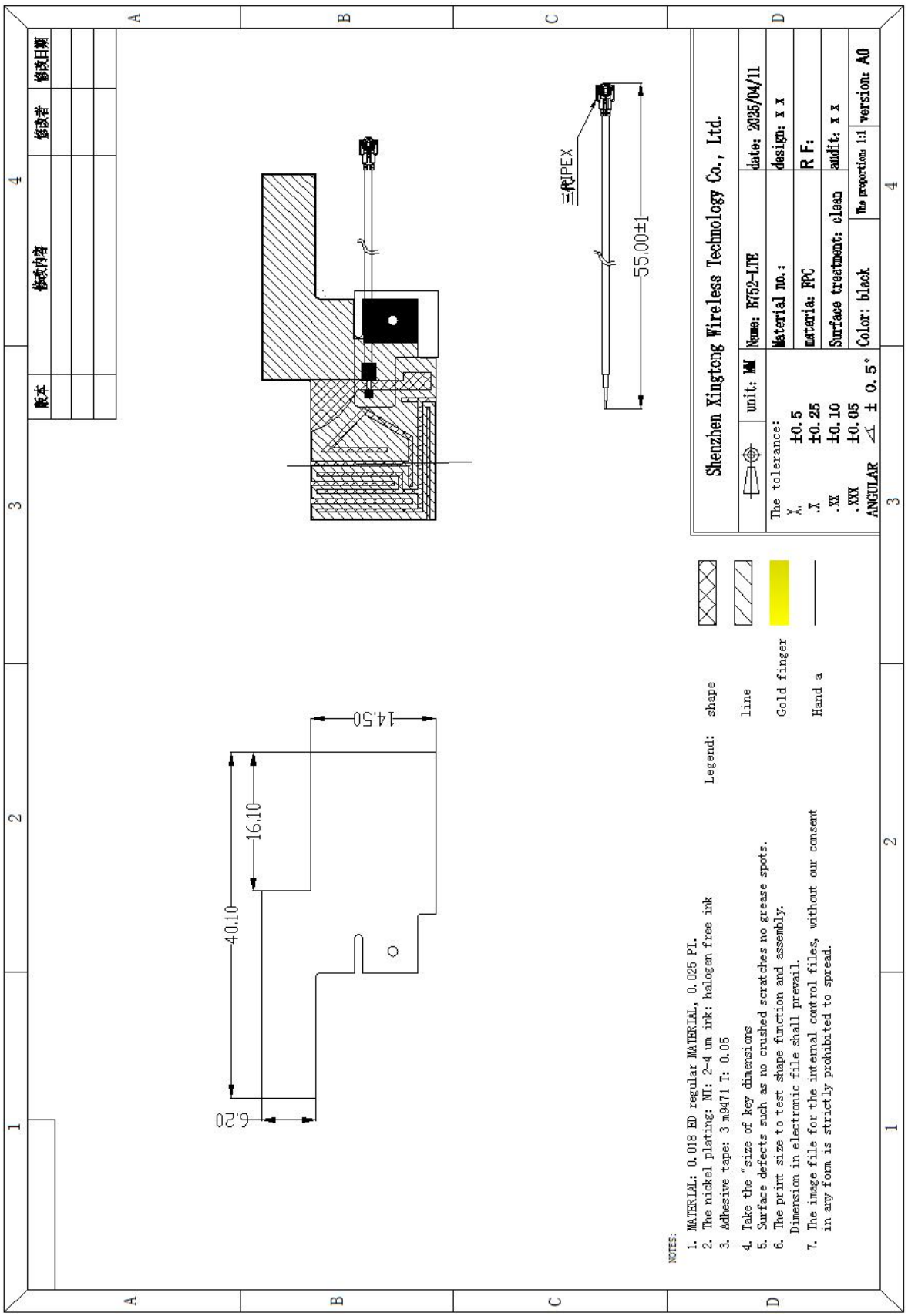


Passive OTA parameters of antenna:

Frequency point (Mhz)	680	824	960	1710	2690
S W R	6.58	4.25	2.14	2.10	1.77
Return Loss	-2.54	-4.17	-8.77	-7.10	-10.75
Gain(dbi)	-2.26	0.09	-0.80	-1.83	2.88

6 Mechanical drawing

LTE



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TEST:	Language:	Check: XIE	
A	English		

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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.