Material Acknowledgement

Suppliers:	Shenzhen Maya Communication Equipment Co.,Ltd
Model:	A98
Product Name:	On the antenna assembly
Specifications / Models:	
Material Code:	
Color:	black
Address:	
Contact / Phone:	

Supplier (with official seal)

Structural Department	R&D Department	Quality Department	Project Department	

Customer review

ID Department	Structural Department / Special Project	Hardware Department	Packaging engineering	Quality Department

Citations

Specifications

The report mainly provides A68 GSM +LTE,performance parameter test, antenna for built-in antenna:

2、Electrical performance

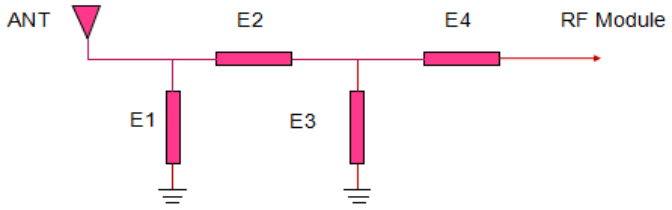
2-1Specification Standard

The A68 antenna operates in the LTE700/850/900 1800/1900/2100/2300/2700Mhz band, which generates resonances in this ;The following table shows the mass production performance test indicators for the A89 design antenna:

Band	VSWR	Band	VSWR
GSM850	≤2.0	LTE FDD,B26	≤2.0
GSM900	≤2.2	LTE FDD,B28	≤2.5
DCS1800	≤2.5	LTE FDD,B66	≤2.2
PCS1900	≤2.2	LTE TDD,B34	≤2.2
WCDMA1	≤2.2	LTE TDD,B38	≤2.6
WCDMA2	≤2.2	LTE TDD,B39	≤2.2
WCDMA4	≤2.5	LTE TDD,B40	≤3.0
WCDMA5	≤2.0	LTE TDD,B41	≤2.6
WCDMA6	≤2.0	CDMA BC0	≤2.0
WCDMA8	≤2.0	CDMA BC1	≤2.0
WCDMA19	≤2.0		
LTE FDD,B1	≤2.2		
LTE FDD,B2	≤2.2		
LTE FDD,B3	≤2.5		
LTE FDD,B4	≤2.5		
LTE FDD,B5	≤2.0		
LTE FDD,B7	≤2.6		
LTE FDD,B8	≤2.0		
LTE FDD,B12	≤2.5		
LTE FDD,B13	≤2.5		
LTE FDD,B17	≤2.5		
LTE FDD,B18	≤2.0		
LTE FDD,B19	≤2.0		
LTE FDD,B20	≤2.0		
LTE FDD,B25	≤2.2		

2-2antenna matching circuit

Antenna Matching circuit is designed to match the motherboard and antenna, so that the mobile phone in the operating frequency band to achieve the best RF performance.
EGSM +WCDMA+CDMA+LTE,antenna structure mode:



Element	Value
E1(0201)	1.0pF
E2(0201)	2.7nH
E3(0201)	6.8nHnH
E4(0201)	0 Ω

Main antenna

3.Standing Wave Ratio(VSWR)test

3-1 Test settings

The VSWR test units are connected in turn:E5071B Network Analyzer →50 ohm coaxial Cable→156mm long copper tube /b110> → Test fixtures. Processing of the test fixture: A hard cable is used from the antenna 50 ohm test point on the pcb of the mobile phone to lead out the SMA-J connector, connect it to the copper tube with a choke, and then connect the other devices in turn.

3-2 VWR test

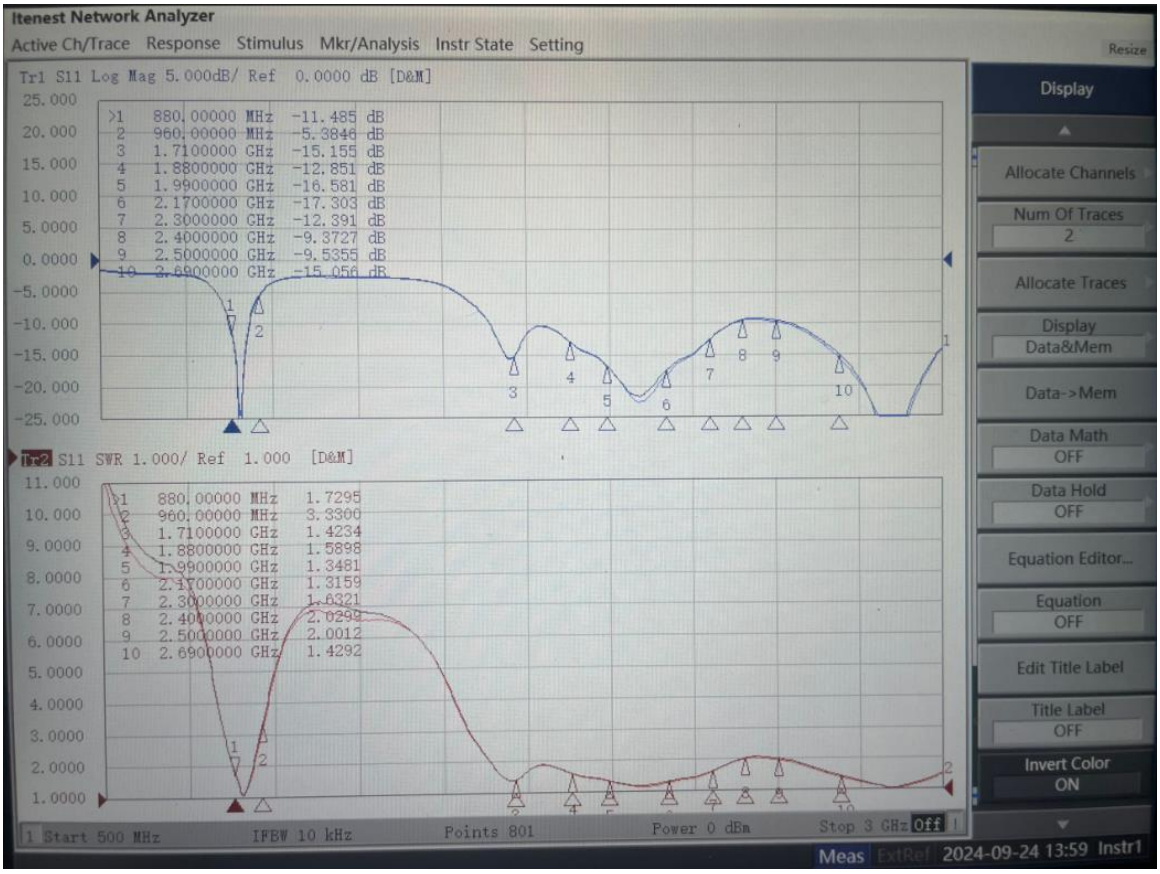
The following table shows the value of the standing wave ratio of the edge frequency point of the GSM+LTE antenna operating band, , the return loss, VSWR, and the relevant waveform plot is shown in the annex:

Main antenna VSWR								
Freq(MHz)	824	894	880	960	1710	1880	1950	1990
Free Space	1.3	2.2	1.7	3.3	1.4	1.5	1.5	1.3

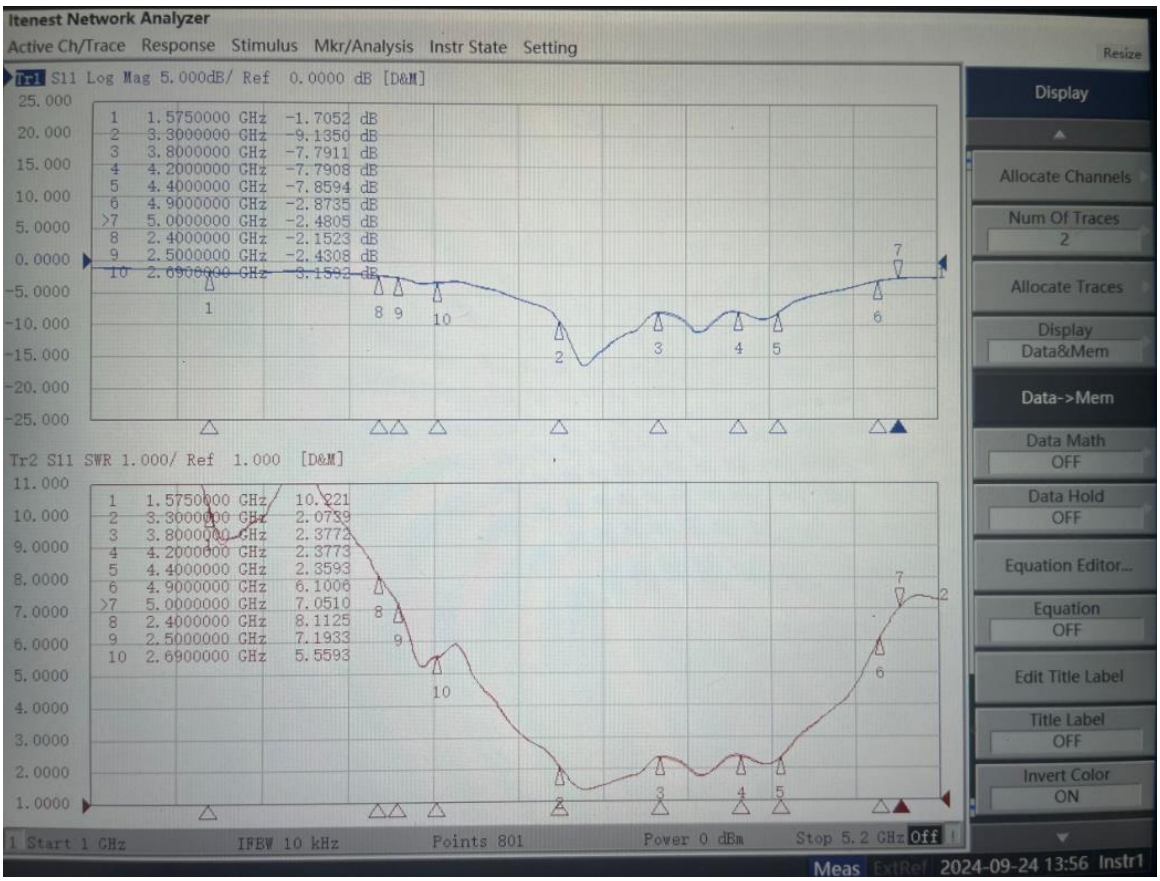
Main antenna VSWR					
Freq(MHz)	2170	2300	2400	2500	2700
Free Space	1.3	1.6	2.0	2.0	1.4

3-3test results

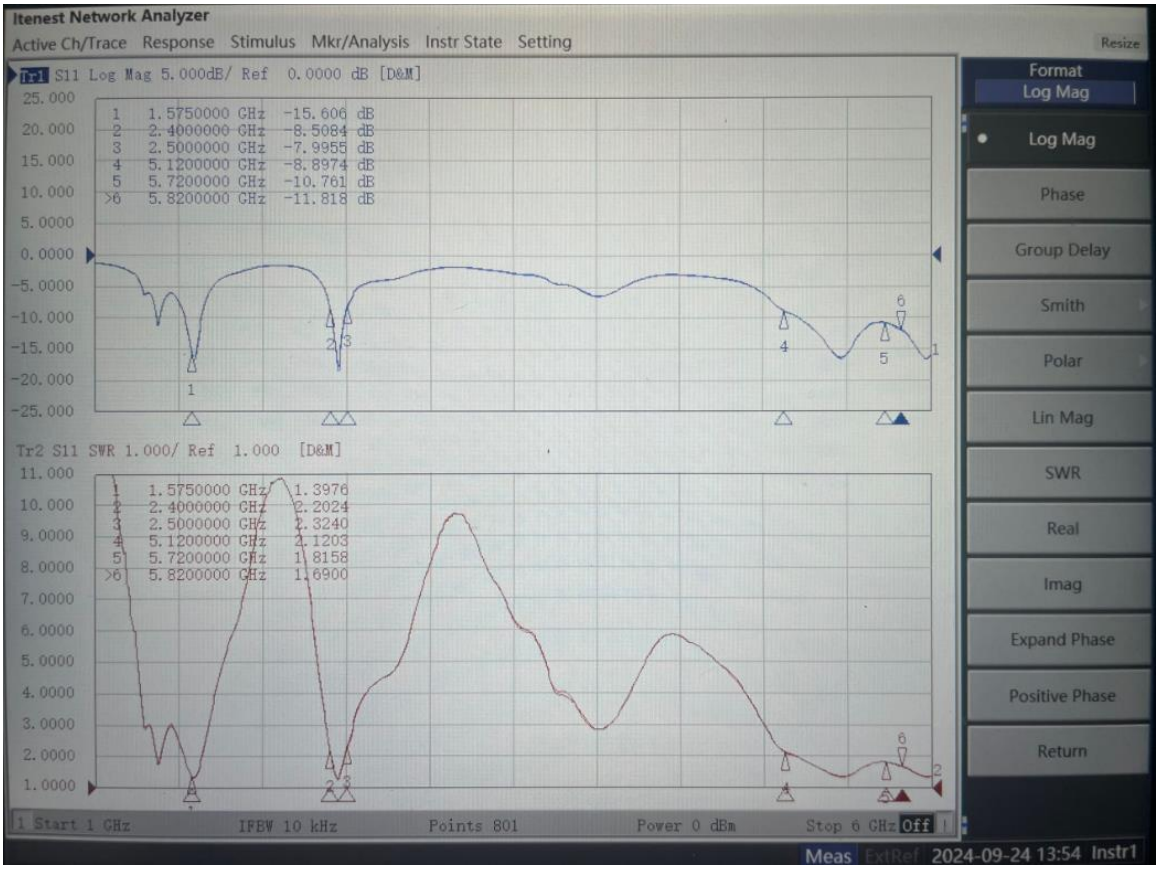
MAIN VSWR/Return Loss



5G MAIN VSWR/Return Loss



WiFi/GPS VSWR/Return Loss



3-4 gain test

WIFI/GPS Gain

Freq	Gain	Freq	Gain	Freq	Gain
1560	0.1	2400	-0.3	5200	2.4
1570	0.2	2420	0.02	5300	2.7
1580	0.5	2440	0.70	5400	2.2
1590	0.5	2460	0.71	5500	2.1
		2480	0.81	5600	2.1
		2500	0.52	5700	1.5
				5800	1.3

MAIN Gain

Freq	Gain	Freq	Gain	Freq	Gain
700	-4.8	950	-3.0	2160	0.5
710	-4.3	960	-3.8	2180	0.6
720	-5.0	1700	-1.0	2300	0.4

730	-4.0	1720	-1.4	2320	0.7
740	-3.9	1740	-1.0	2340	0.8
750	-3.5	1760	-0.6	2360	0.4
760	-3.0	1780	-0.5	2380	0.6
770	-3.5	1800	-0.4	2400	0.3
780	-3.0	1820	-0.2	2420	0.3
790	-3.5	1840	-0.2	2440	0.01
800	-2.9	1860	-0.4	2460	0.3
810	-2.4	1880	-0.6	2480	0.5
820	-4.1	1900	-0.5	2500	0.2
830	-3.5	1920	-0.8	2520	0.1
840	-3.3	1940	-0.4	2540	-0.05
850	-3.2	1960	-0.6	2560	-0.01
860	-2.9	1980	-0.5	2580	-0.05
870	-2.7	2000	-0.4	2600	-0.12
880	-2.6	2020	-0.4	2620	-0.2
890	-3.2	2040	-0.2	2640	-0.5
900	-2.6	2060	0.2	2660	-0.6
910	-2.0	2080	0.4	2680	-0.7
920	-1.7	2100	0.5	2700	-0.8
930	-1.5	2120	0.5		
940	-1.4	2140	0.6		

5G MAIN Gain

Freq	Gain
3300	1.6
3400	2.3
3500	2.3
3600	1.6
3700	1.5
3800	1.3
3900	1.3
4000	1.5
4100	1.0
4200	1.1

The active test units are connected in turn as follows: Agilent8960/8820C → 50 ohm coaxial Cable → GTS Test System → sted.

4-1 Test site

GTS microwave anechoic chamber: the test frequency range is 400MHz-6GHz, the quiet zone range is 40cm circumference, and the reflectivity is less than -90 dB.

4-2 Test results

Maximum radiated power and maximum receive sensitivity reflect the antenna's maximum power radiated value and optimal reception performance over the entire radiation space. /b10> TRP and TIS reflect the average radiated power and average reception sensitivity of the antenna, that is, the overall reception performance of the antenna.

5. Environmental treatment

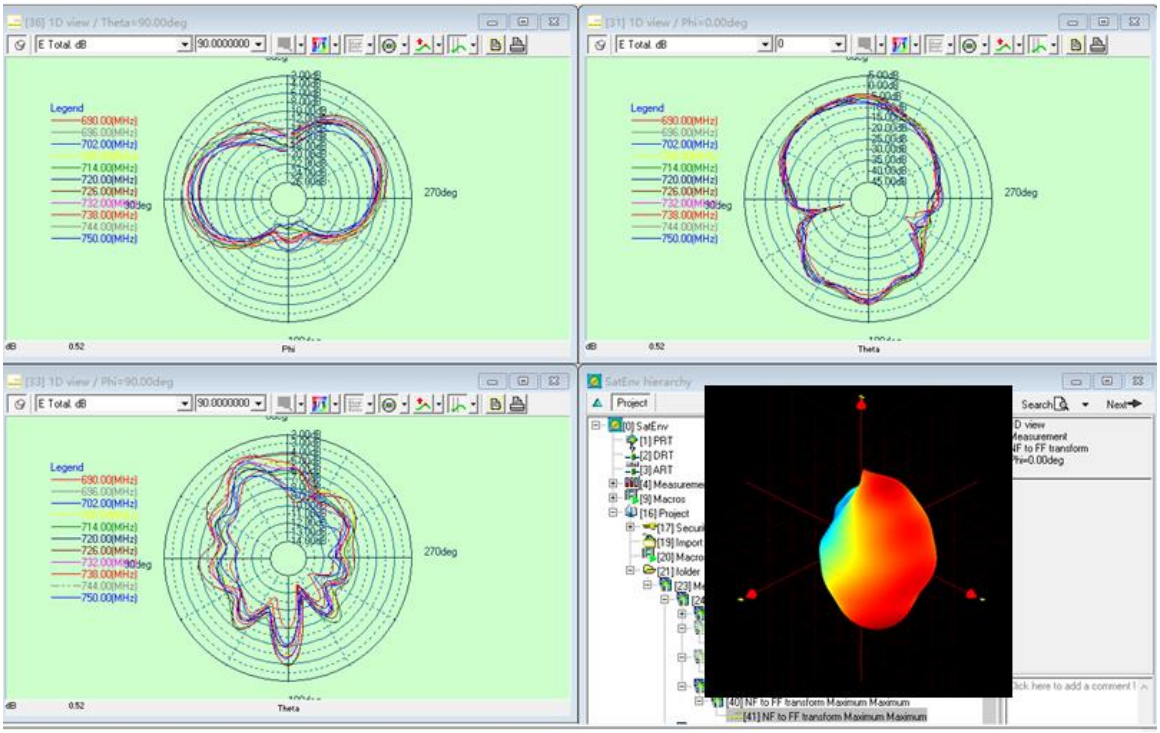
Original environment treatment.

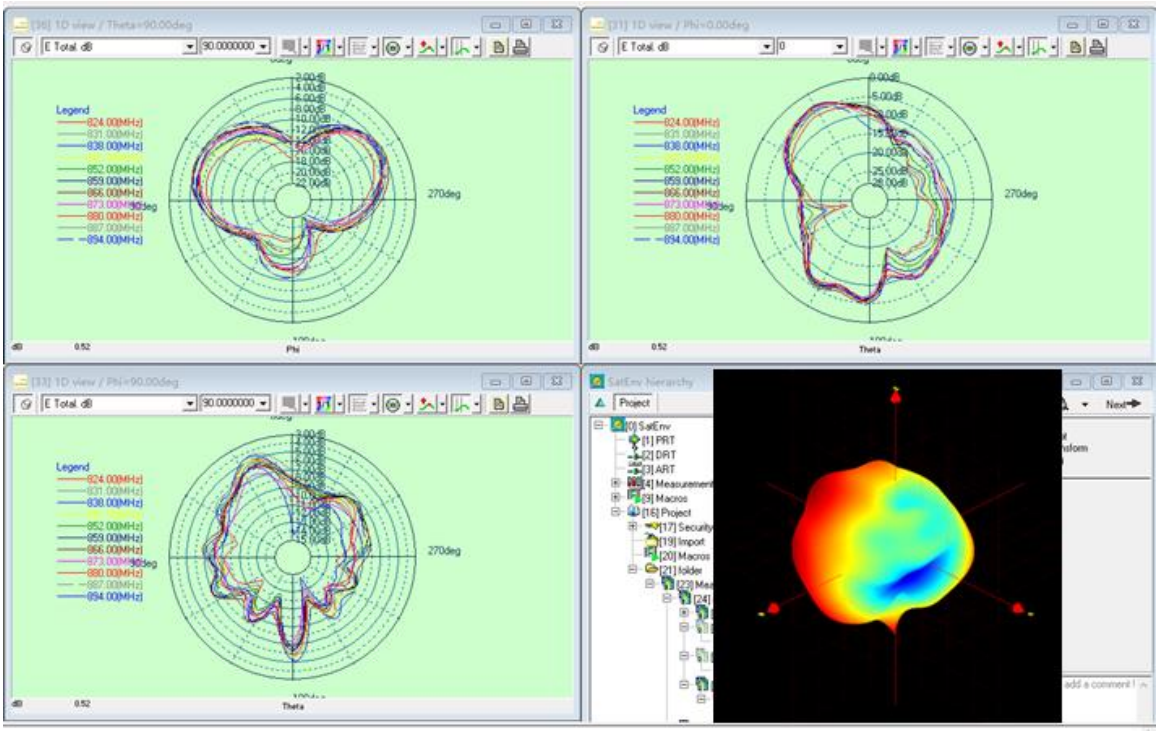
6. Recommendations and Conclusions

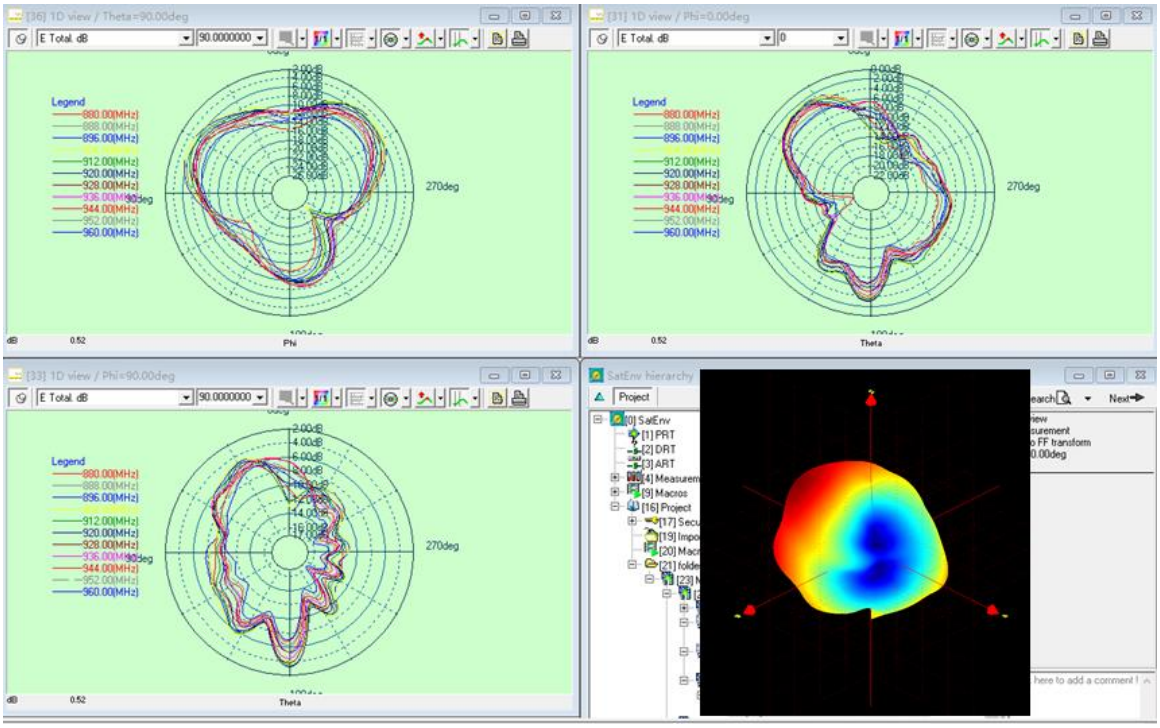
This report is based on the antenna electrical performance measured by the customer's final version of the A68. As can be seen from the above test data, this antenna provides better electrical performance.
Fubang R&D looks forward to your confirmation, thank you for your cooperation!

7.Passive Pattern

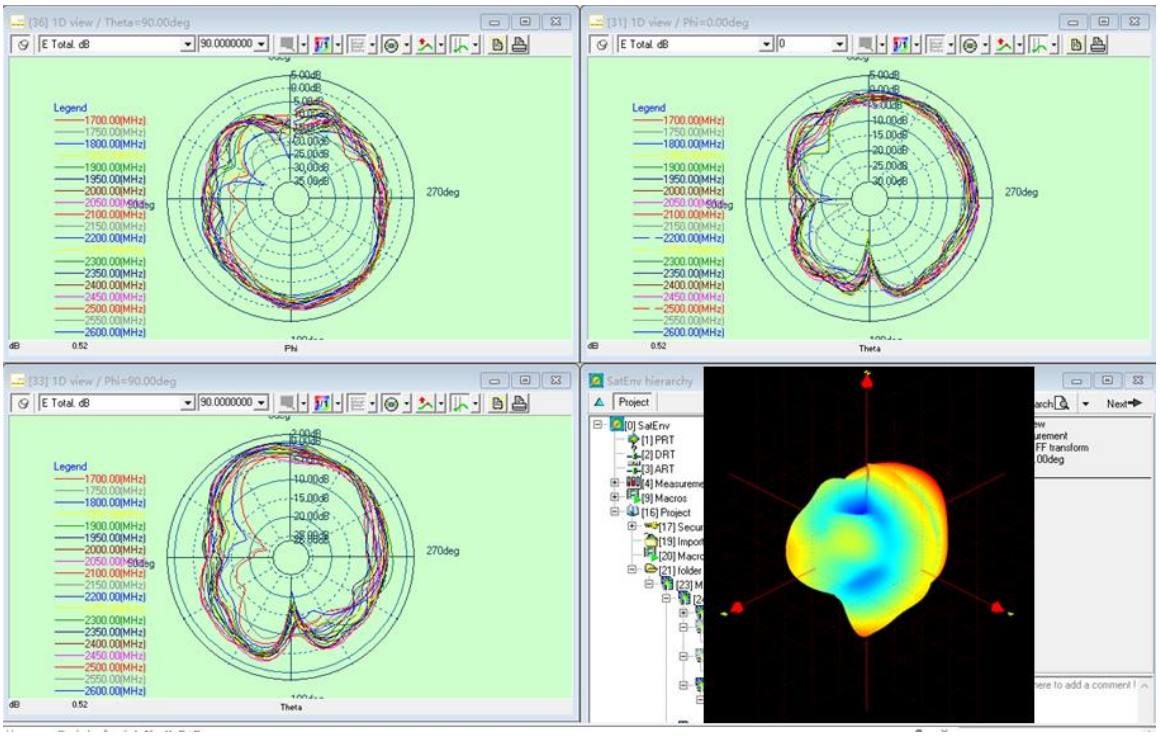
690-960MHz



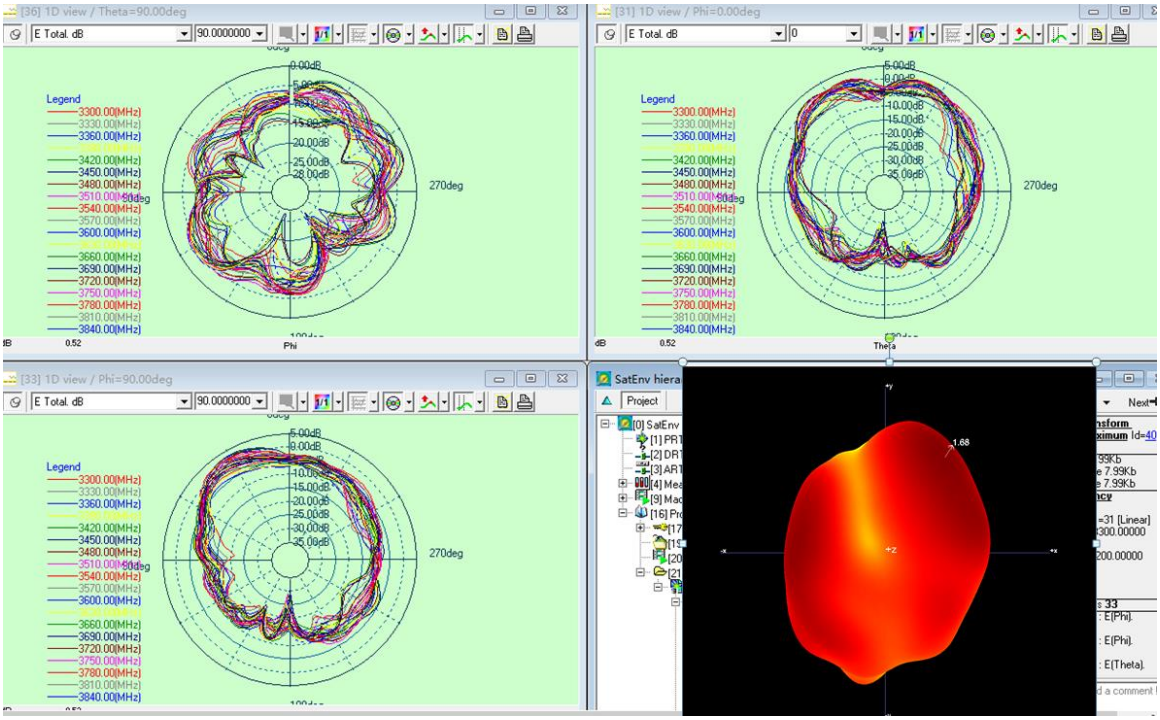




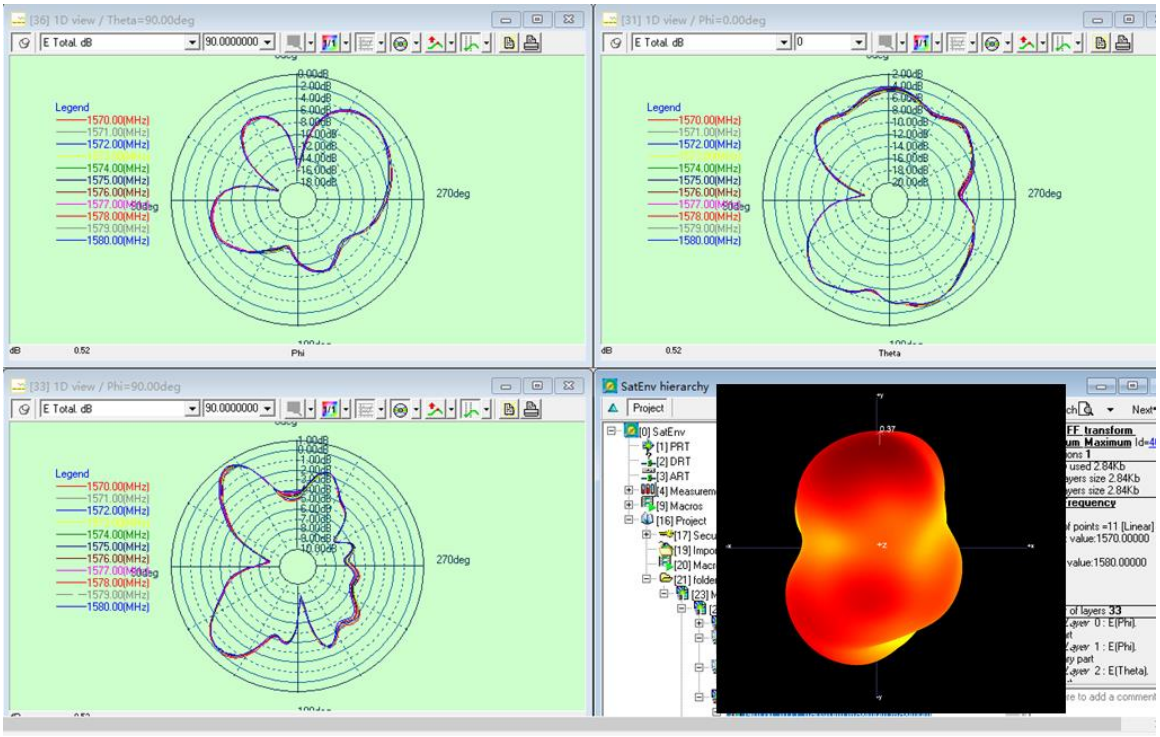
1700-2700MHz



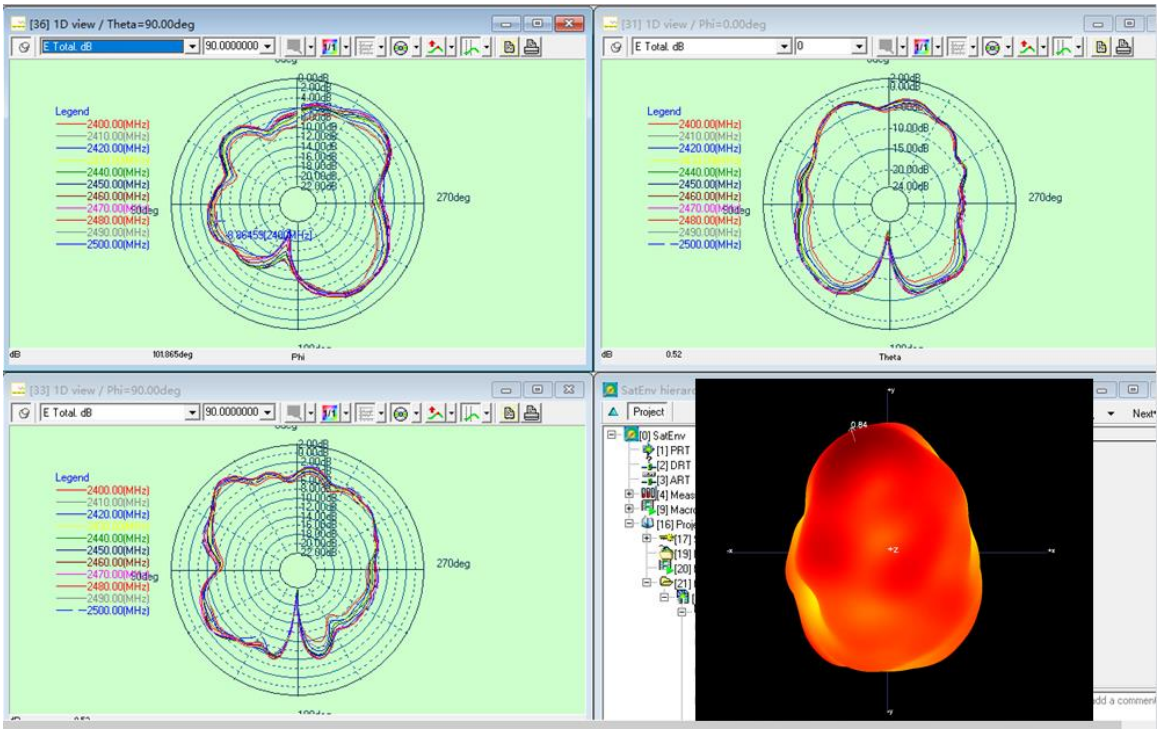
3300-4200MHz



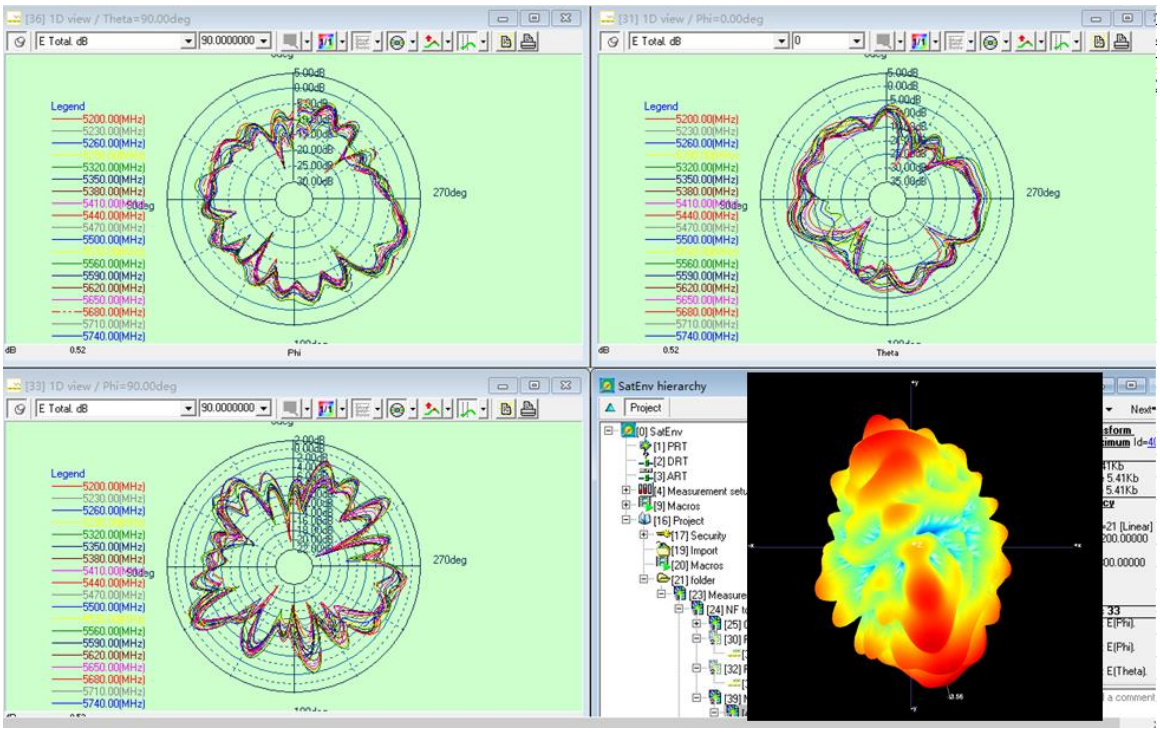
1570-1580MHz



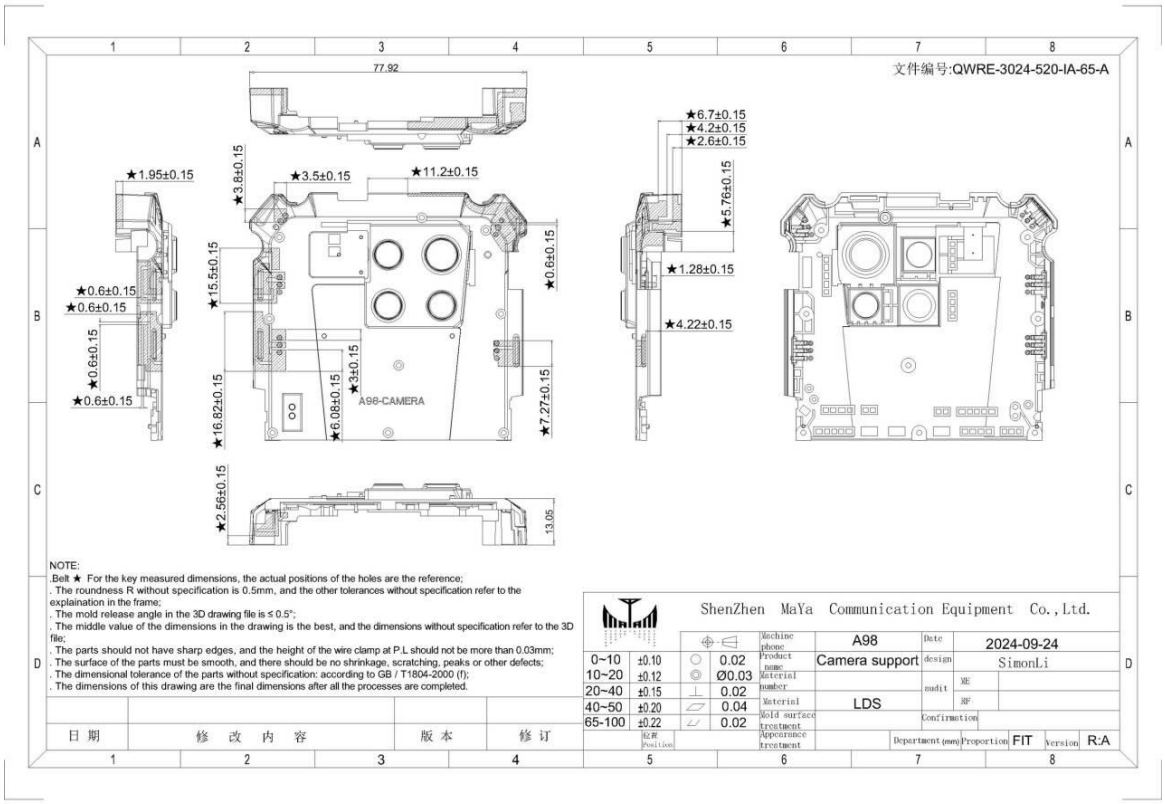
2400-2500MHz

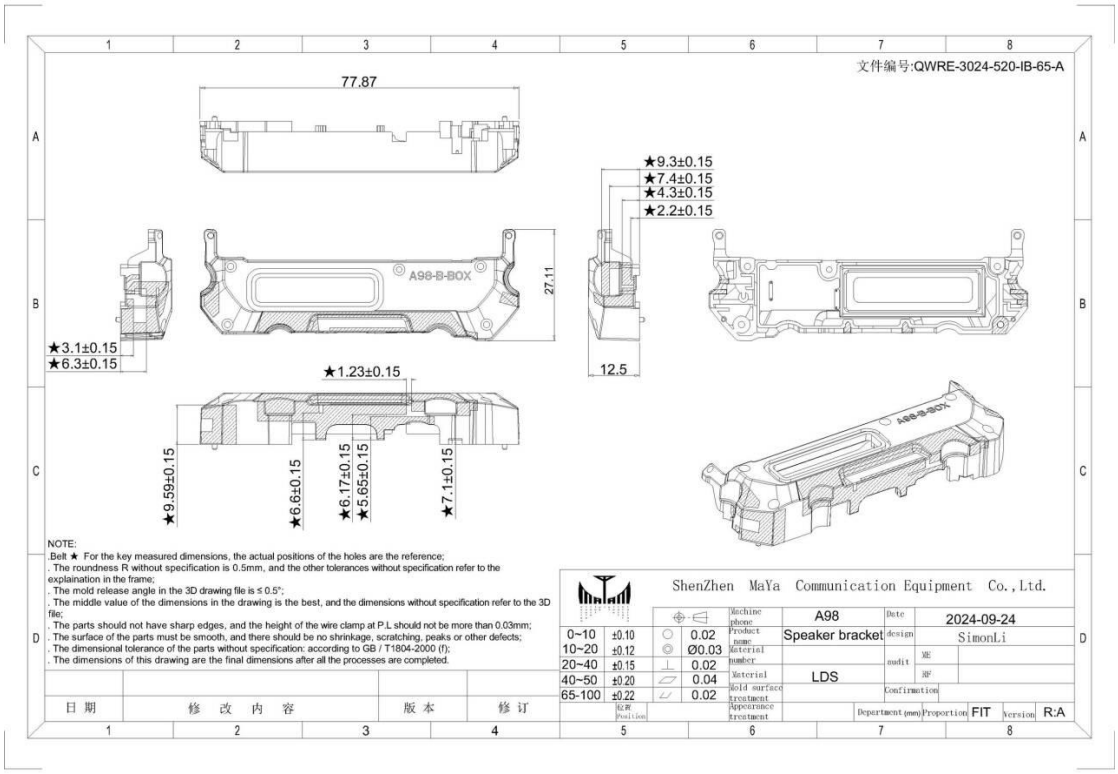


5200-5800MHz



8. Product drawings




文件编号:QWRE-3024-520-IB-65-A
77.87
★9.3±0.15
★7.4±0.15
★4.3±0.15
★2.2±0.15
A98-B-BOX
27.11
★3.1±0.15
★6.3±0.15
12.5
★1.23±0.15
★9.59±0.15
★6.6±0.15
★6.17±0.15
★5.65±0.15
★7.1±0.15
A98-B-BOX
NOTE:
.Belt ★ For the key measured dimensions, the actual positions of the holes are the reference;
. The roundness R without specification is 0.5mm, and the other tolerances without specification refer to the explaination in the frame;
. The mold release angle in the 3D drawing file is ≤ 0.5°;
. The middle value of the dimensions in the drawing is the best, and the dimensions without specification refer to the 3D file;
. The parts should not have sharp edges, and the height of the wire clamp at P.L should not be more than 0.03mm;
. The surface of the parts must be smooth, and there should be no shrinkage, scratching, peaks or other defects;
. The dimensional tolerance of the parts without specification: according to GB / T1804-2000 (f);
. The dimensions of this drawing are the final dimensions after all the processes are completed.
日 期
修 改 内 容
版 本
修 订
ShenZhen MaYa Communication Equipment Co.,Ltd.
Machine phone
A98
Date
2024-09-24
Product name
Speaker bracket
design
SimonLi
Material number
audit
Materiel
LDS
Confirmation
Mold surface treatment
Appearance treatment
Department (mm)
Proportion
FIT
Version
R:A
0~10 ±0.10
10~20 ±0.12
20~40 ±0.15
40~50 ±0.20
65-100 ±0.22
0.02
Ø0.03
0.02
0.04
0.02