



规格承认书

Approval Sheet

客户名称 天一泓

(Customer Name)

产品名称 EC25 Antenna

(Specification)

客户料号

(Customer P/N)

产品料号

(O/I)

送样日期 2023-11-26

(Date)

Frequency band	2G:850/900/1800/1900 3G:1/2/4/5/8 4G:1/2/3/4/5/7/8/28/40		
Version	A		
RF	LiuXingQuan	Confirm	
Structural Engineer	YangXueZhong		
Customer confirmation			
Date			

深圳市德仕勤科技有限公司

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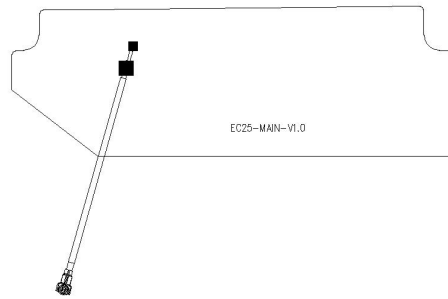
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1. Project image (for reference only)

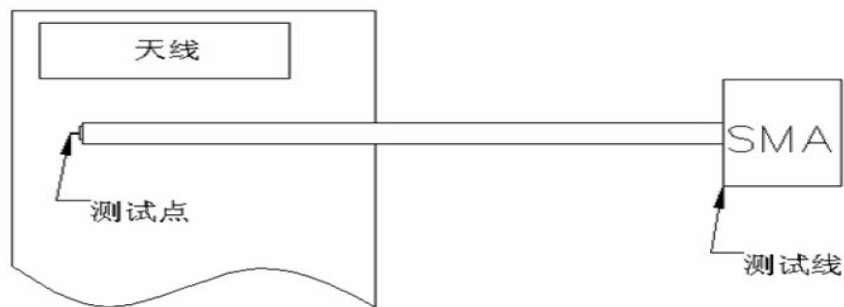


Antenna

2. Passive Test

Purpose: To test the passive parameters of the antenna as accurately as possible.

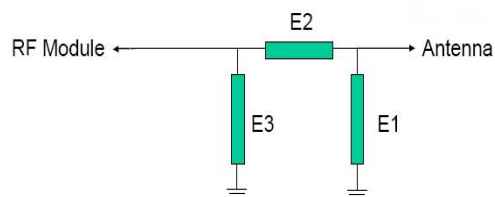
Method: This fixture uses a 50 ohm coaxial cable, with one end connected to the test point at the back end of the matching circuit (RF test hole front section) of the mobile phone motherboard, and the other end connected to the SMA connector. As shown in the following figure:



The following table shows the performance test indicators for EC25-4Gmass-produced antennas:

EC25 Antenna				
Frequency band	Frequency (MHz)	VSWR	Frequency (MHz)	VSWR
	Transmitting end		Receiving end	
GSM850	824-849	≤ 3.5	869-894	≤ 3.0
GSM900	880-915	≤ 3.5	925-960	≤ 3.5
DCS1800	1710-1785	≤ 3.0	1805-1880	≤ 2.5
PCS1900	1850-1910	≤ 2.8	1930-1990	≤ 3.2
WCDMA-850	824-849	≤ 3.5	869-894	≤ 3.5
WCDMA-900	880-915	≤ 3.5	925-960	≤ 3.5
WCDMA-1700	1710-1755	≤ 3.5	2110-2155	≤ 3.5
WCDMA-1900	1850-1910	≤ 2.8	1930-1990	≤ 3.2
WCDMA-2100	1710-1755	≤ 3.5	2110-2155	≤ 3.5
LTE-TDD-B1	1710-1785	≤ 2.5	1805-1880	≤ 2.5
LTE-TDD-B2	1850-1910	≤ 2.8	1930-1990	≤ 3.2
LTE-TDD-B3	1710-1785	≤ 2.5	1805-1880	≤ 2.5
LTE-TDD-B4	1850-1910	≤ 2.8	1930-1990	≤ 3.2
LTE-TDD-B5	824-849	≤ 3.5	869-894	≤ 3.0
LTE-TDD-B7	2505-2565	≤ 2.0	2625-2685	≤ 2.0
LTE-TDD-B8	880-913	≤ 2.0	930-955	≤ 2.0
LTE-TDD-B28	708-743	≤ 3.8	763-798	≤ 4.0
LTE-TDD-B40	2310-2390	≤ 2.0	2310-2390	≤ 2.0

3. Matching circuit



Element	Matching Value
E1	
E2	0
E3	

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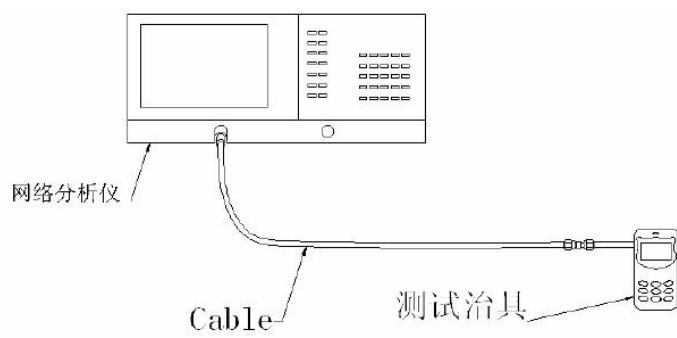
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4. S11Test

4.1 S11Test Method Description Specification Standards

VSWR The testing devices are sequentially connected as follows :
E5071B Network analyzer → 50Ω Coaxial line → 120mm Copper tube → Test fixture.

Treatment of testing fixture: Use a hard cable to lead out the SMA-J connector from the 50 ohm test point of the antenna on the mobile phone PCB, connect it to a copper pipe with a choke ring, and then connect other devices in sequence.



Test diagram

4.2 S11Parameter

The following table shows the standing wave ratio values at the edge frequency points of the ME61 antenna operating frequency band. The waveform diagrams of Return Loss and VSWR obtained from the test are shown in the attachment.

	EC25 Antenna				
Frequency(MHz)	824	960	1710	1990	2700
Free space	3.6	3.3	3.7	1.9	2.1

4.3 S11



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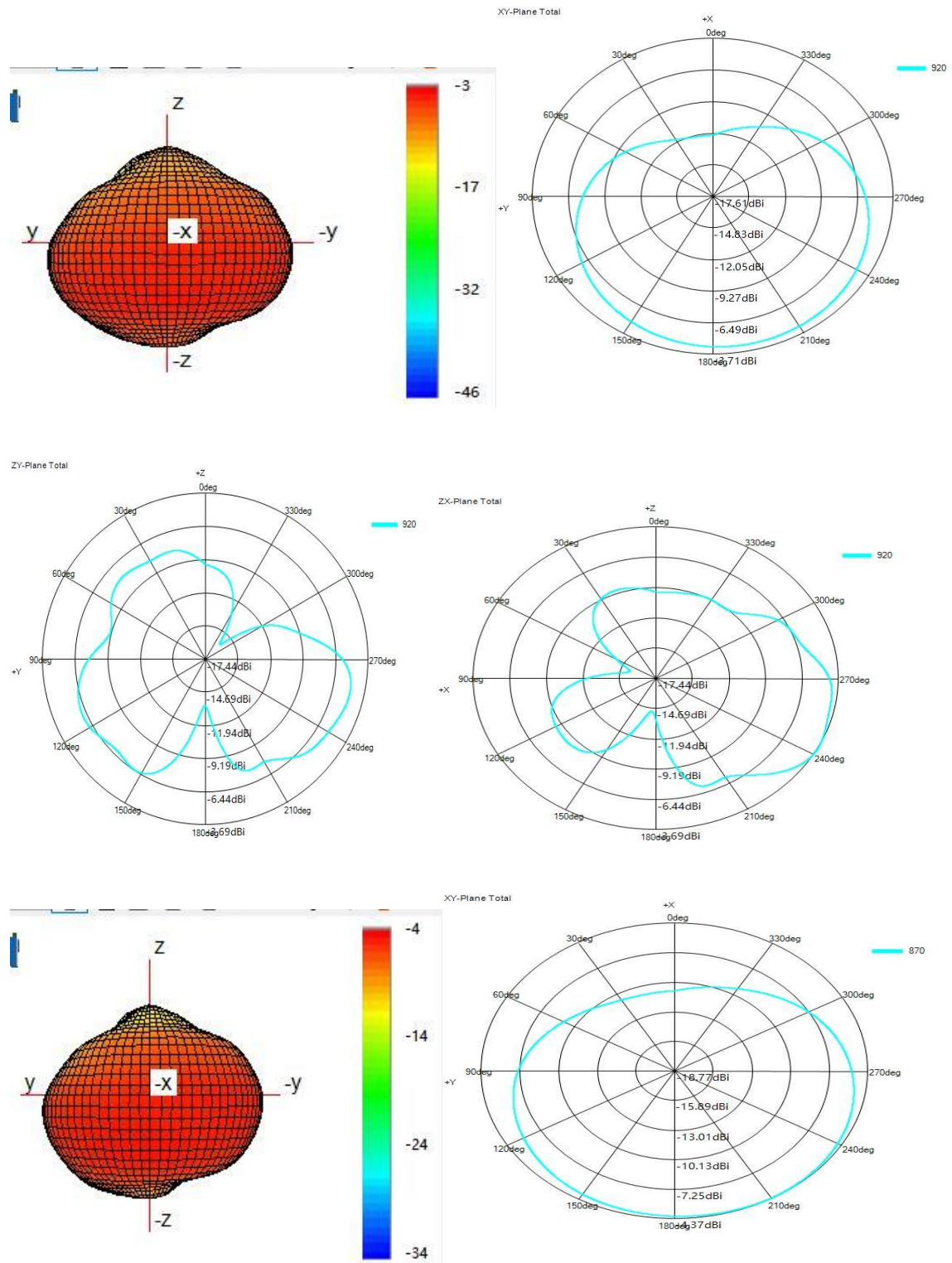
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5. Passive Test

5.1 Passive Testing data

Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
700	10.72	-6.49	1700	42.32	0.63	2300	33.47	-0.83
710	13.03	-5.69	1720	43.91	0.93	2320	34.93	-0.92
720	14.96	-5.12	1740	47.16	1.33	2340	36.97	0.72
730	17.06	-4.54	1760	49.13	1.57	2360	37.76	1.42
740	18.28	-4.31	1780	49.55	1.62	2380	35.25	1.38
750	16.79	-3.67	1800	49.85	1.66	2400	34.81	1.44
760	18.45	-3.26	1820	48.58	1.64	2500	23.16	-0.91
770	20.42	-2.78	1840	46.5	1.49	2520	22.76	-1.16
780	23.23	-2.17	1860	43.49	1.23	2540	22.71	-1.61
790	24.77	-1.86	1880	39.38	0.87	2560	23.6	-1.65
800	21.63	-1.4	1900	37.31	0.63	2580	25.18	-1.45
810	22.49	-1.24	1920	33.91	0.16	2600	27.97	-1.05
820	24.43	-0.89	1940	31.64	-0.48	2620	31.38	-0.75
830	21.18	-0.52	1960	32.31	-0.97	2640	33.19	-0.54
840	22.08	-0.37	1980	34.52	-1.03	2660	34.32	-0.36
850	23.93	-0.04	2000	37.95	-0.46	2680	35.89	-0.21
860	24.77	0.04	2020	43.96	0.88	2700	37.36	0.15
870	20.42	0.16	2040	49.38	1.59			
880	21.18	0.26	2060	53.4	2.06			
890	21.83	0.27	2080	54.52	2.28			
900	22.86	0.42	2100	53.55	2.17			
910	23.50	0.55	2120	53.12	2.15			
920	23.66	0.56	2140	48.51	2			
930	23.77	0.54	2160	45.51	1.72			
940	23.82	0.52	2180	44.62	1.75			
950	23.01	0.34						
960	22.18	0.15						

5.2 Direction diagram and apple diagram



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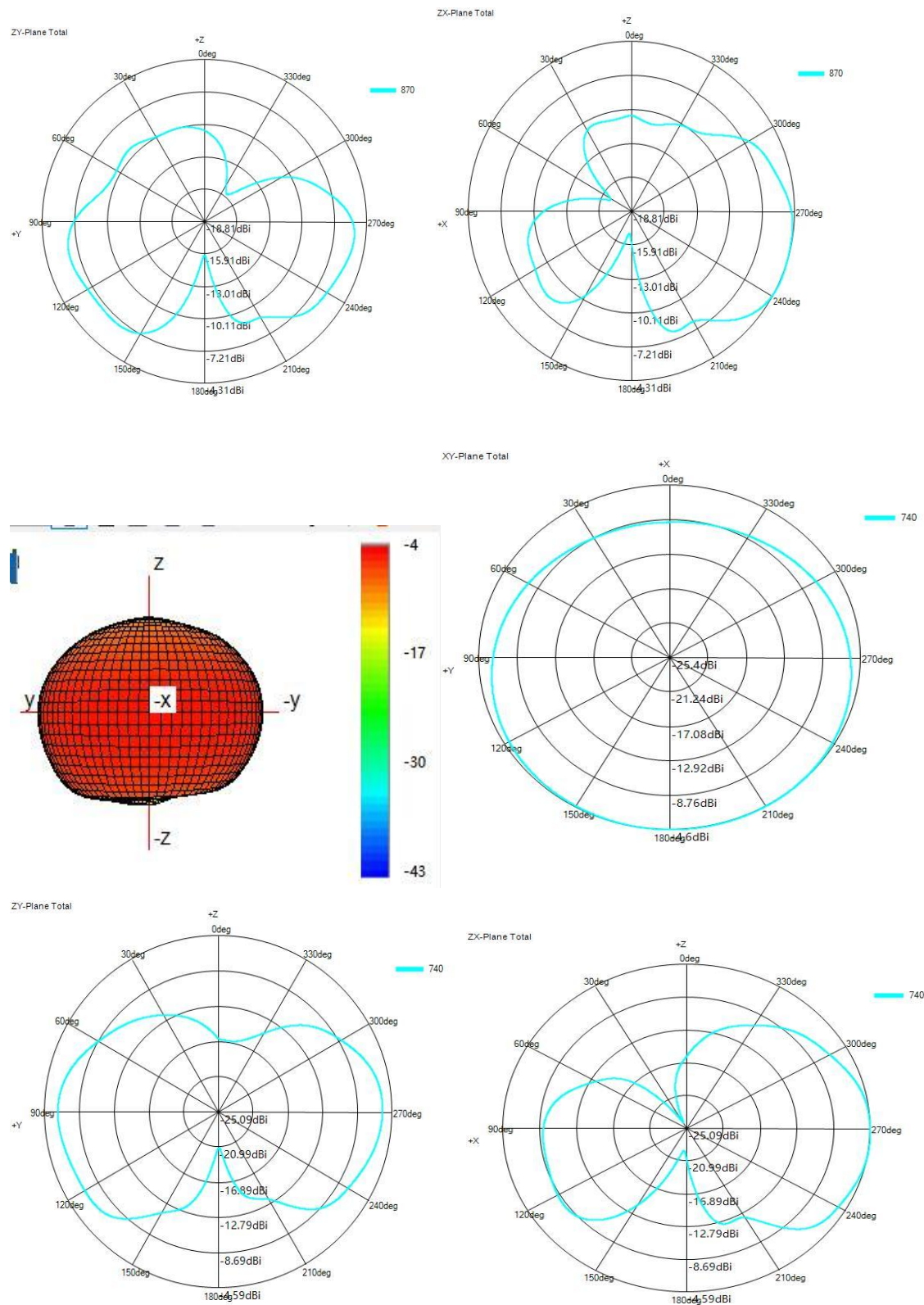
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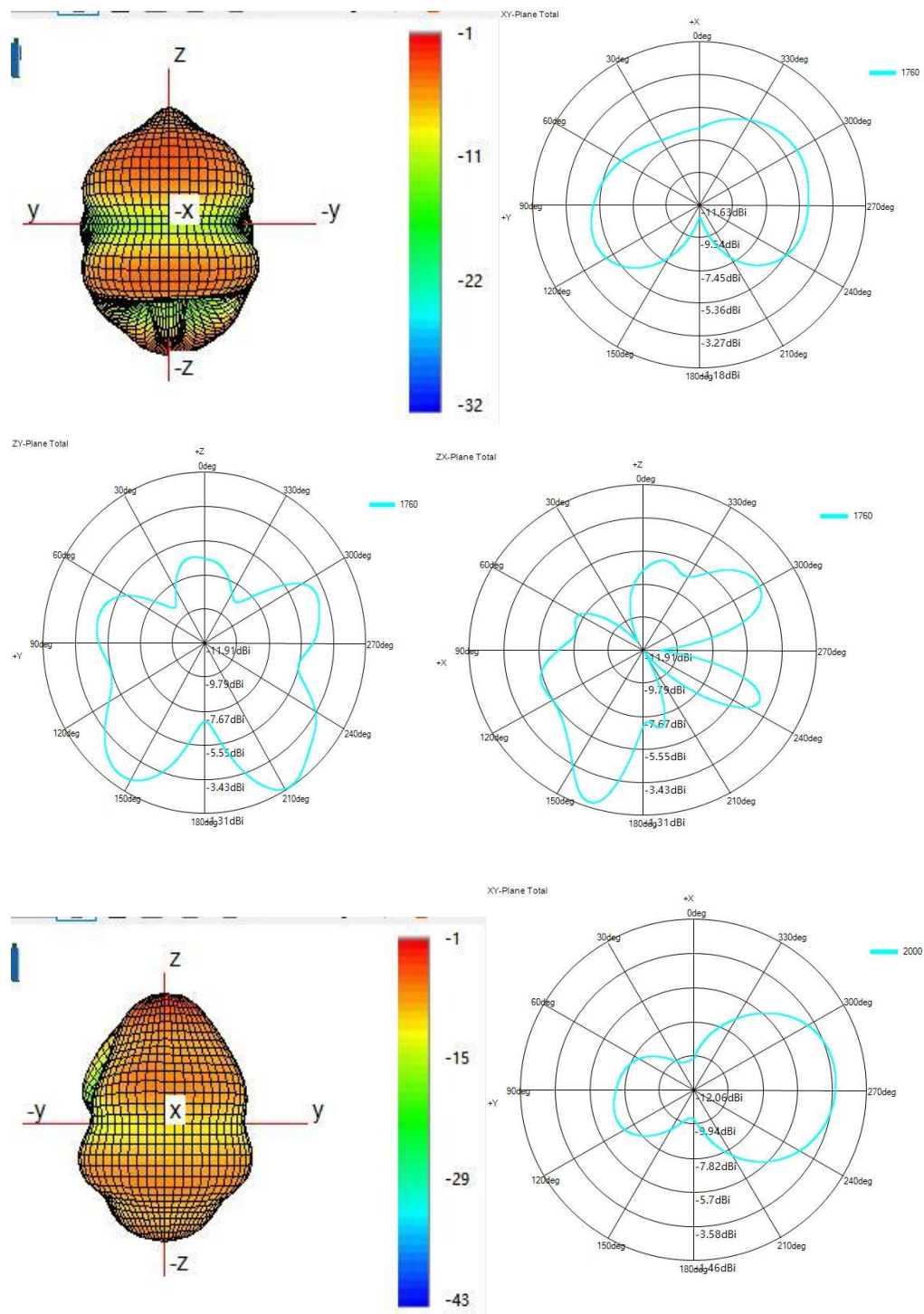
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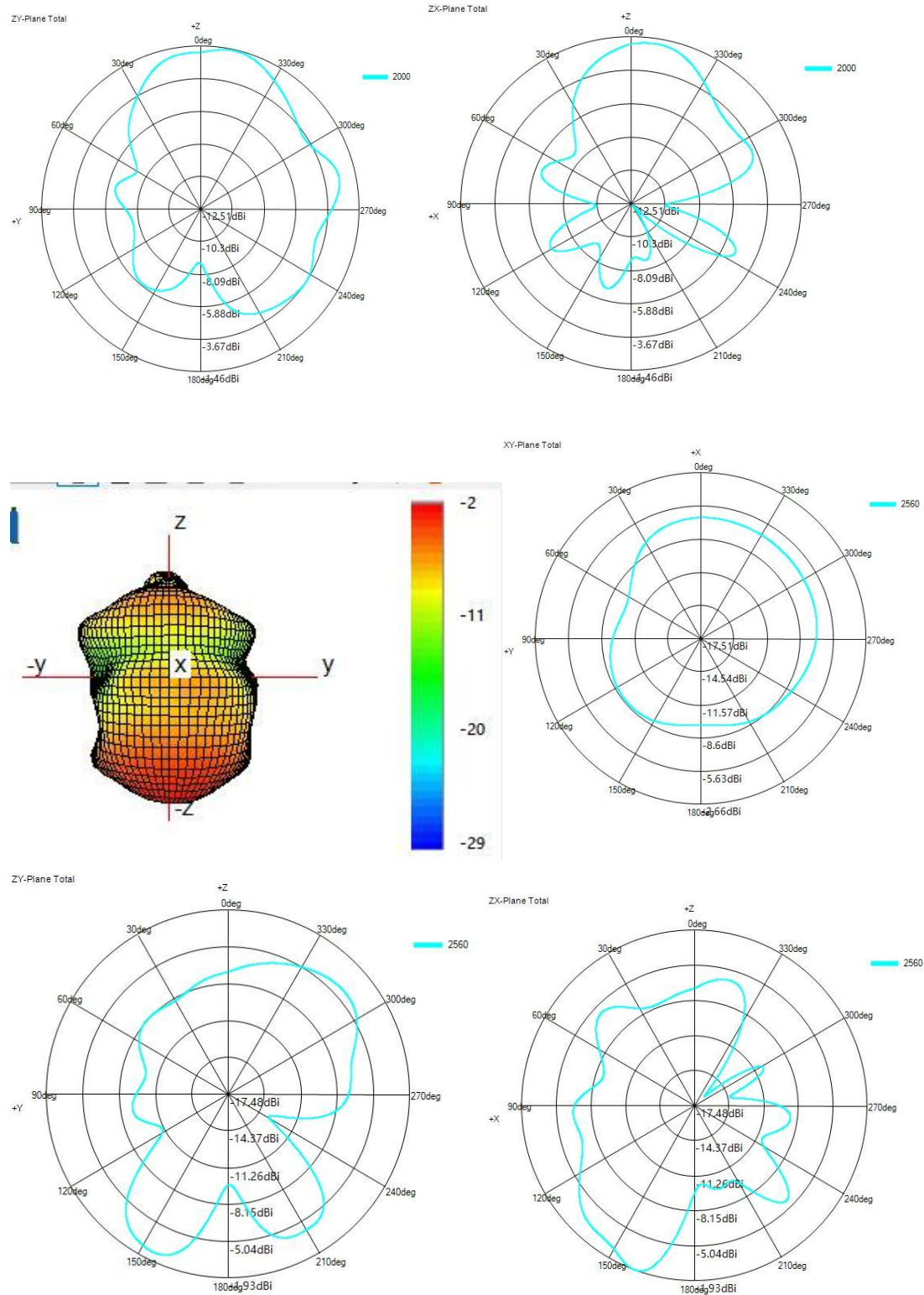
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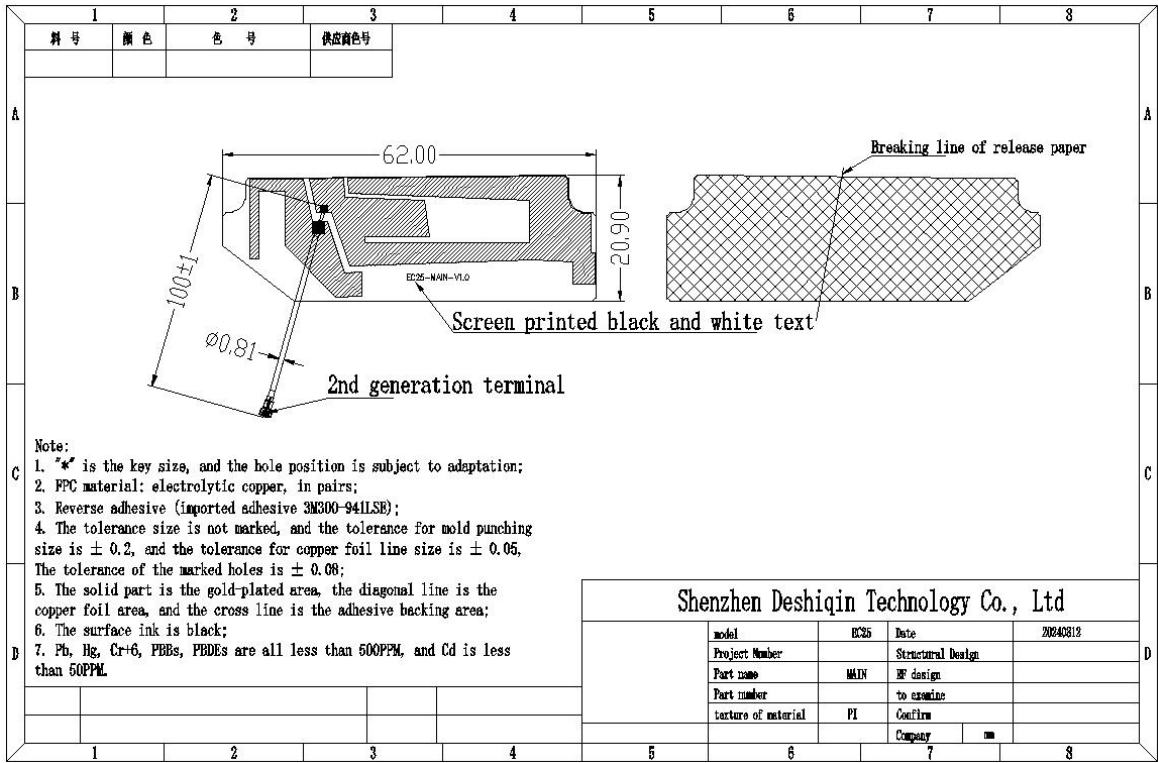
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6.Structural drawings



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