



规格承认书

Approval Sheet

客户名称 _____ 万利丰 _____

(Customer Name)

产品名称 _____ V730 快充-V1.0 -天线 _____

(Specification)

客户料号 _____

(Customer P/N)

产品料号 _____

(O/I)

送样日期 _____ 2022-11-22 _____

(Date)

频段	GSM:2.3.5.8/WCDMA:1.2.4.5.8/LTE:B1/2/3/4/5/7/8/12/13/17/18/19/20/25/26/28/34/38/39/40/41		
版本	B	改了 WIFI 天线	
射频	彭魏	确认	
结构	杨学忠		
客户确认			
日期			

Catalogue

1. Project image

2. Test fixture

3. Matching circuit

4. S11 Test electrical performance

4.1 S11 Test Method Description Specifications

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5.1 Test data

5.2 Auxiliary antenna

5.3 NFC Antenna

5.4 Environmental processing, i.e. small board matching

6. Structural drawings

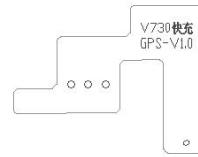
1. Project image (For Reference Only)



4G Antenna



WIFI Antenna



GPS Antenna

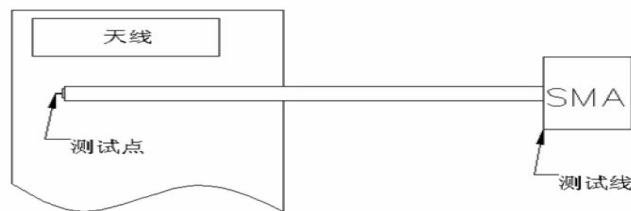


DIV Antenna

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 (front section of the RF test hole) of the mobile phone motherboard, and the other section connected to the SMA connector. See the following figure for details:



The following table shows the performance test indicators for the V730 Fast Charging V1.0 - Mass Production Antenna:

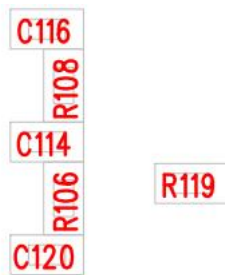
V730 快充-V1.0 -天线				
频段	频率 (MHz)	VSWR	频率 (MHz)	VSWR
	发射端		接收端	
GSM850	824-849	≤3.5	869-894	≤3.0
GSM900	880-915	≤3.0	925-960	≤3.5
DCS1800	1710-1785	≤3.0	1805-1880	≤2.5
PCS1900	1850-1910	≤2.8	1930-1990	≤3.2
WCDMA-900	880-915	≤3.5	925-960	≤3.5
WCDMA-2100	1850-1920	≤2.0	2010-2024	≤2.0
LTE-FDD-B1	1920-1980	≤2.0	2110-2170	≤2.0
LTE-FDD-B2	1920-1980	≤2.0	2110-2170	≤2.0
LTE-FDD-B3	1710-1785	≤2.5	1805-1880	≤2.5
LTE-FDD-B4	1710-1785	≤2.5	1805-1880	≤2.5

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LTE-TDD-B5	824-849	≤ 3.5	869-894	≤ 3.0
LTE-FDD-B7	2505-2565	≤ 2.0	2625-2685	≤ 2.0
LTE-TDD-B8	880-915	≤ 3.0	925-960	≤ 3.5
LTE-TDD-B12	703-706	≤ 2.0	733-740	≤ 2.0
LTE-TDD-B13	703-706	≤ 2.0	733-740	≤ 2.0
LTE-FDD-B17	709-711	≤ 2.0	739-741	≤ 2.0
LTE-FDD-B18	824-849	≤ 3.5	869-894	≤ 3.0
LTE-FDD-B19	824-849	≤ 3.5	869-894	≤ 3.0
LTE-FDD-B20	837-857	≤ 3.0	796-816	≤ 3.0
LTE-TDD-B28	708-743	≤ 2.0	763-798	≤ 2.0
LTE-TDD-B34	1920-1980	≤ 2.0	2110-2170	≤ 2.0
LTE-TDD-B38	2570-2620	≤ 2.0	2570-2620	≤ 2.0
LTE-TDD-B39	1880-1920	≤ 2.5	1880-1920	≤ 2.5
LTE-TDD-B40	2310-2390	≤ 2.0	2310-2390	≤ 2.0
LTE-TDD-B41	2550-2660	≤ 2.0	2550-2660	≤ 2.0

3. Matching circuit

Main Antenna (Matching has changed)



Element	Matching value
C120	10NH
R106	0Ω
C114	0.5PF

4G-LTE GND

Note: Switch matching details environmental processing location.

4. S11 Test

4.1 S11 Test Method Description Specification Standard

VSWR The test devices are sequentially connected as follows: 8753E 网络分析仪 → 50 欧姆的同轴 Cable → 120mm 长的铜管 → 测试治具。

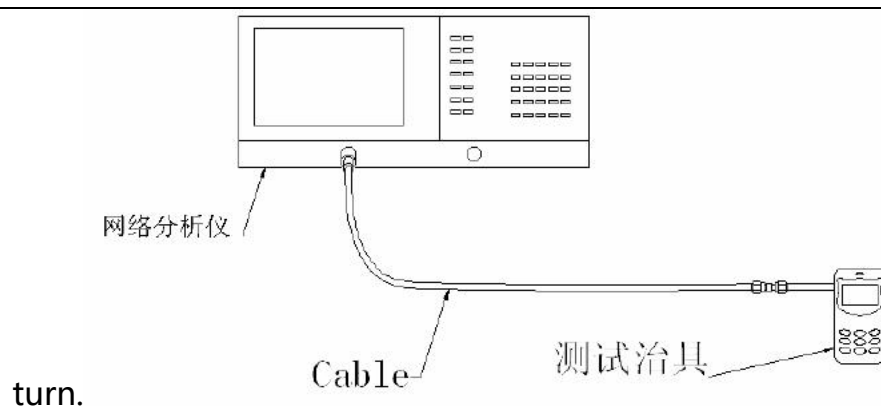
Treatment of the test fixture: Use a hard cable to lead out the SMA-J connector from the antenna 50 ohm test point on the phone PCB, connect it to a copper tube covered with a choke, and then connect other devices in

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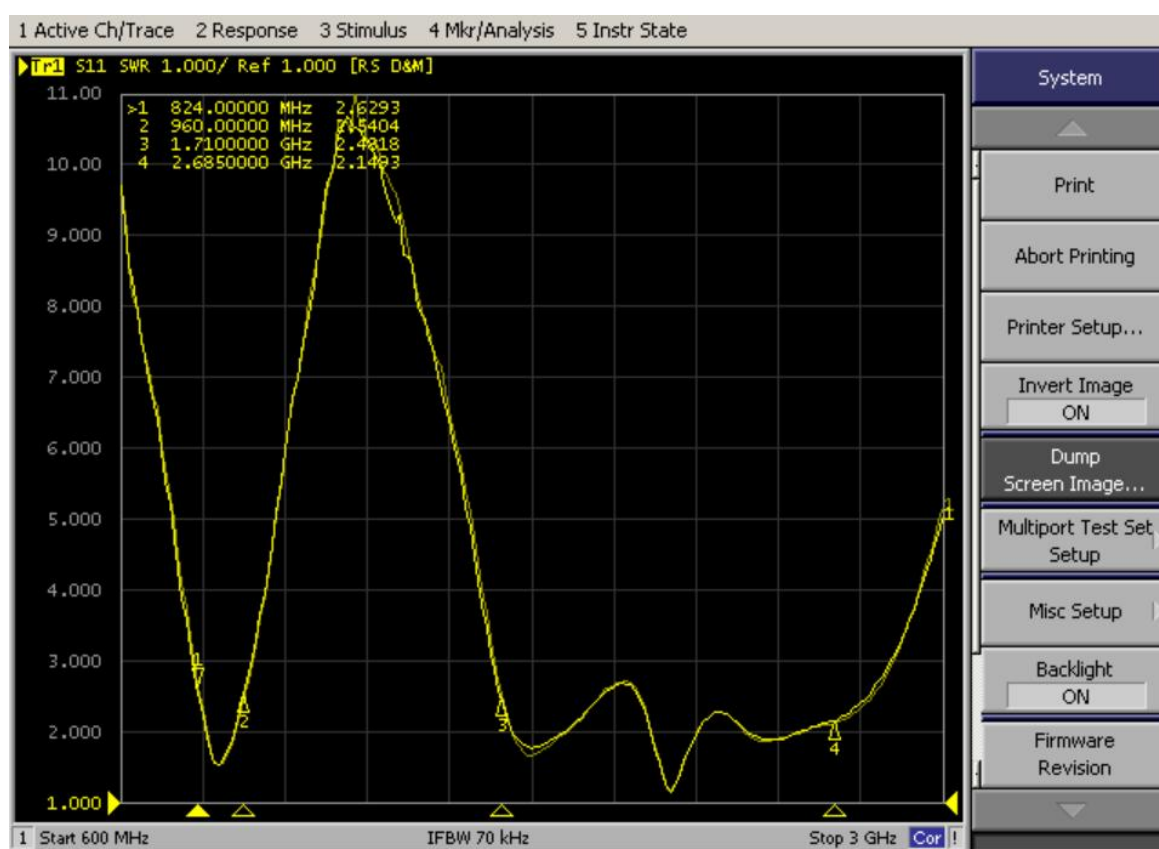
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Test diagram

4.2 S11



5.Power and sensitivity testing

5.1 OTA Test Data

Channel	GSM850			GSM900		
	CH128	CH192	CH251	CH1	CH62	CH124
TRP	25.91	26.26	26.50	27.50	27.47	27.03
TIS			-102.34			-101.42
Channel	DCS1800			PCS1900		
	CH512	CH698	CH885	CH512	CH661	CH810
TRP	24.02	24.68	25.09	25.14	24.97	25.18
TIS			-103.98			-104.07
Channel	WCDMA-2100			WCDMA-1900		
	CH10562	CH10700	CH10838	CH9938	CH9662	CH9800
TRP	17.75	17.32	17.10	17.67	17.61	17.56
TIS			-102.22			-103.19
Channel	WCDMA-1700			WCDMA-850		
	CH1537	CH1637	CH1738	CH4357	CH4408	CH4458
TRP	17.61	18.03	18.29	18.12	18.29	18.48
TIS			-103.25			-102.74
Channel	WCDMA-900			LTE-TDD-B34		
	CH2937	CH3012	CH3083	CH36250	CH36275	CH36300
TRP	18.02	17.51	17.03	17.66	17.71	17.88
TIS			-102.49			-91.89
Channel	LTE-FDD-B1			LTE-FDD-B2		
	CH18050	CH18300	CH18550	CH18650	CH18900	CH19150
TRP	18.28	18.19	18.32	18.17	18.08	18.18
TIS			-91.28			-91.18
Channel	LTE-FDD-B3			LTE-FDD-B4		
	CH19250	CH19575	CH19900	CH20000	CH20175	CH20350
TRP	18.17	18.62	18.38	18.04	18.24	18.22
TIS			-92.09			-91.73

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Channel	LTE-FDD-B5			LTE-FDD-B7		
	CH20450	CH20525	CH20600	CH20800	CH21100	CH21400
TRP	18.12	18.28	18.28	18.29	18.06	17.75
TIS			-91.46			-91.85
Channel	LTE-FDD-B8			LTE-FDD-B12		
	CH21500	CH21625	CH21750	CH23060	CH23095	CH23130
TRP	18.13	17.62	17.10	16.03	16.11	16.37
TIS			-89.90			-91.08
Channel	LTE-FDD-B13			LTE-FDD-B17		
	CH23230	CH23230	CH23230	CH23780	CH23790	CH23800
TRP		16.83		16.20	16.26	16.22
TIS		-90.64				-90.03
Channel	LTE-FDD-B18			LTE-FDD-B19		
	CH23900	CH23925	CH23950	CH24050	CH24075	CH24100
TRP	17.64	18.01	17.79	17.85	17.93	17.92
TIS			-90.21			-91.07
Channel	LTE-FDD-B20			LTE-FDD-B25		
	CH24200	CH24300	CH24400	CH26090	CH26365	CH06640
TRP	18.39	18.02	17.88	18.35	18.60	18.23
TIS			-90.98			-91.30
Channel	LTE-FDD-B26			LTE-FDD-B28		
	CH26740	CH26865	CH26990	CH27260	CH27435	CH27610
TRP	17.09	17.50	17.83	16.33	16.21	16.03
TIS			-91.26			-89.97
Channel	LTE-TDD-B38			LTE-TDD-B39		
	CH37850	CH38000	CH38150	CH38350	CH38450	CH38550
TRP	17.61	17.48	17.87	18.02	18.03	17.95
TIS			-91.50			-90.10
Channel	LTE-TDD-B40			LTE-TDD-B41		
	CH38750	CH39150	CH39550	CH40340	CH40260	CH41140
TRP	16.40	16.86	17.17	18.02	17.75	17.45
TIS			-90.5			-90.67

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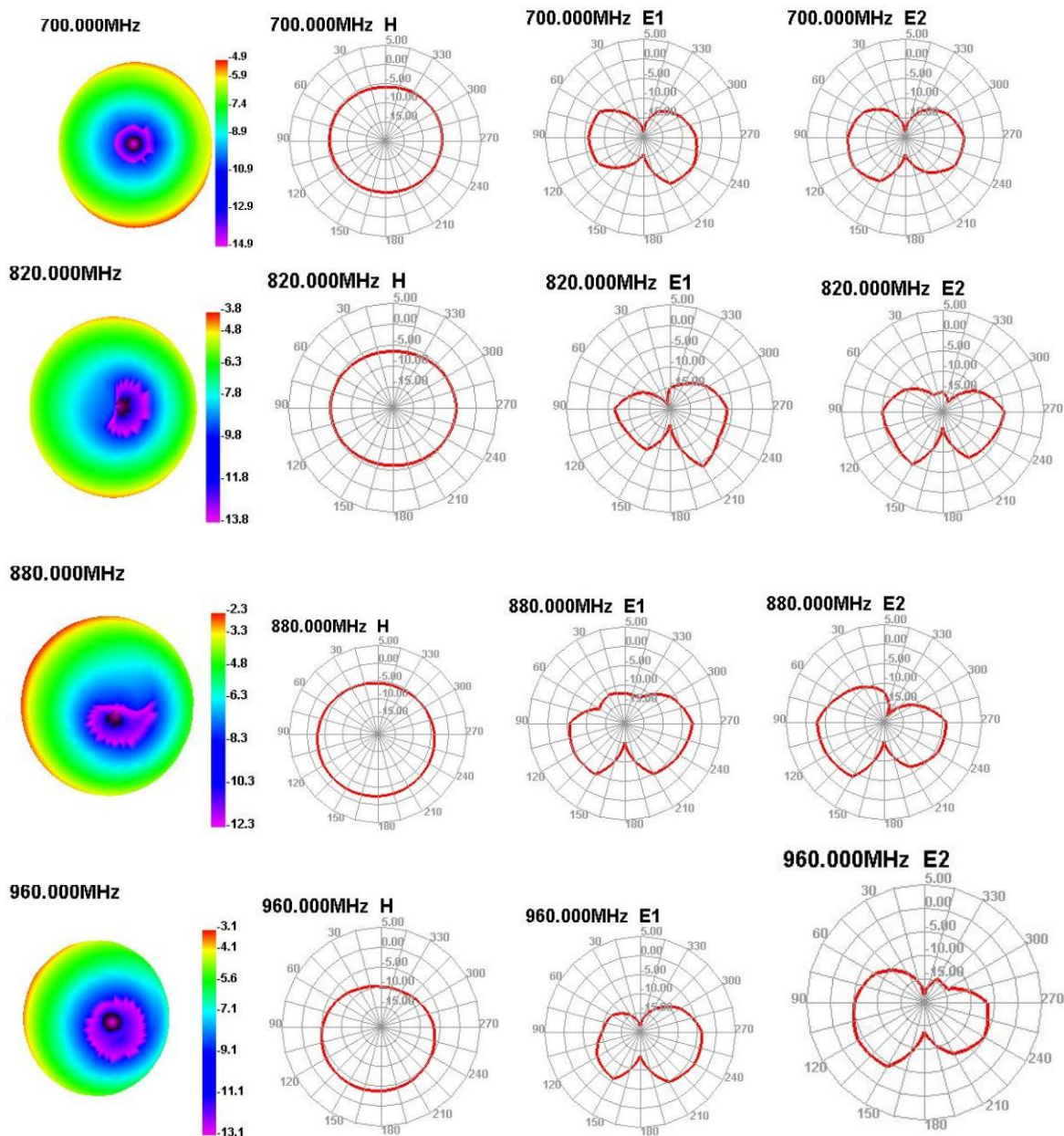
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Passive Test For 800-960				Passive Test For 800-890				Passive Test For 700-880			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
880	28.36	-5.47	-2.25	800	25.05	-7.98	-3.14	700	19.64	-7.07	-4.94
890	33.54	-4.74	-1.34	810	25.96	-7.6	-3.56	718	26.41	-5.78	-3.55
900	39.36	-4.05	-0.62	820	24.78	-7.1	-3.26	736	30.12	-5.21	-2.24
910	42.14	-3.75	-0.39	830	27.02	-7.2	-3.34	754	22.6	-6.46	-2.99
920	40.47	-3.93	-0.71	840	28.18	-6.8	-2.98	772	18.14	-7.41	-3.81
930	35.9	-4.45	-1.36	850	31.46	-5.84	-2.99	790	16.46	-7.84	-4.46
940	33.18	-4.79	-1.71	860	32.74	-5.51	-2.75	808	11.71	-9.31	-5.62
950	25.82	-5.88	-2.44	870	36.92	-5.59	-2.67	826	7.89	-11.03	-6.48
960	21.08	-6.76	-3.12	880	30.36	-5.47	-2.25	844	6.07	-12.16	-7.31
				890	33.54	-4.74	-1.34	862	3.75	-14.26	-9.37
								880	3.02	-15.2	-10.45



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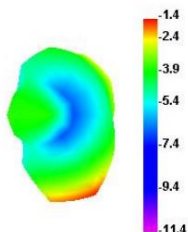
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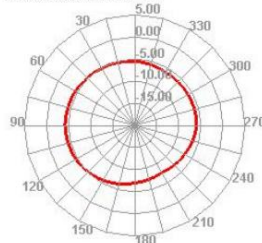
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Passive Test For 1700-2700				2370	33.53	-4.75	0.54
Freq (MHz)	Effi (%)	Effi (dBi)	Gain (dBi)	2380	34.29	-4.65	0.8
1710	21.61	-6.65	-3.08	2390	34.28	-4.65	0.69
1720	21.04	-6.77	-3.31	2400	35.44	-4.51	0.97
1730	25.82	-5.88	-2.62	2410	31.22	-5.06	0.42
1740	26.74	-5.73	-2.54	2420	31.74	-4.98	0.67
1750	28.71	-5.42	-2.27	2430	30.86	-5.11	0.79
1760	28.25	-5.49	-2.34	2440	32.83	-4.84	1.17
1770	29.02	-5.37	-2.33	2450	32.64	-4.86	1.42
1780	35.98	-4.44	-1.36	2460	31.37	-5.03	1.28
1790	35.38	-4.51	-1.48	2470	32.9	-4.83	1.7
1800	39.39	-4.05	-1.02	2480	33.74	-4.72	1.86
1810	43.44	-3.62	-0.8	2490	36.21	-4.41	2.32
1820	48.54	-3.14	-0.46	2500	34.74	-4.59	2.12
1830	48.98	-3.1	-0.63	2510	34.82	-4.58	2.29
1840	45.38	-3.43	-1.07	2520	34.36	-4.64	2.17
1850	47.01	-3.28	-0.84	2530	34.93	-4.57	2.3
1860	44.13	-3.55	-0.91	2540	36.72	-4.35	2.5
1870	38.17	-4.18	-1.48	2550	37.68	-4.24	2.62
1880	38.1	-4.19	-1.51	2560	39.69	-4.01	2.8
1890	38.72	-4.12	-1.5	2570	41.11	-3.86	2.92
1900	42.58	-3.71	-1.08	2580	40.04	-3.98	2.77
1910	43.09	-3.66	-1.13	2590	40.56	-3.92	2.84
1920	44.55	-3.51	-1.12	2600	39.36	-4.05	2.71
1930	53.32	-2.73	-0.43	2610	38.12	-4.19	2.61
1940	49.41	-3.06	-0.52	2620	35.51	-4.5	2.35
1950	49.08	-3.09	-0.28	2630	34.7	-4.6	2.31
1960	44.11	-3.55	-0.42	2640	36.51	-4.38	2.63
1970	46.95	-3.28	0.13	2650	36.25	-4.41	2.66
1980	46.74	-3.3	0.16	2660	36.93	-4.33	2.79
1990	39.38	-4.05	-0.61	2670	37.71	-4.24	2.88
2000	43.25	-3.64	-0.19	2680	36.58	-4.37	2.75
2010	44.84	-3.48	-0.15	2690	36.29	-4.4	2.7
				2700	31.9	-4.96	2.15

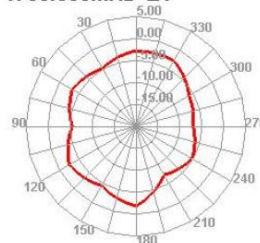
1780.000MHz



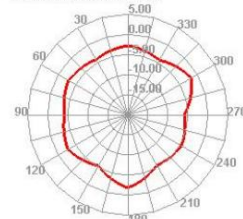
1780.000MHz H



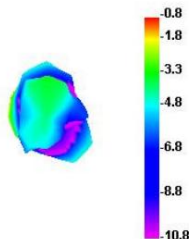
1780.000MHz E1



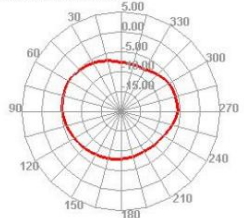
1780.000MHz E2



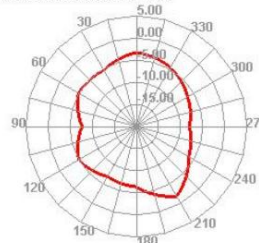
2200.000MHz



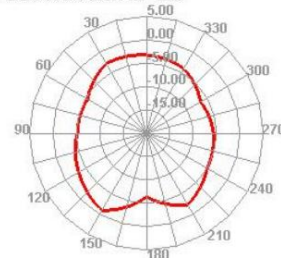
2200.000MHz H



2200.000MHz E1



2200.000MHz E2



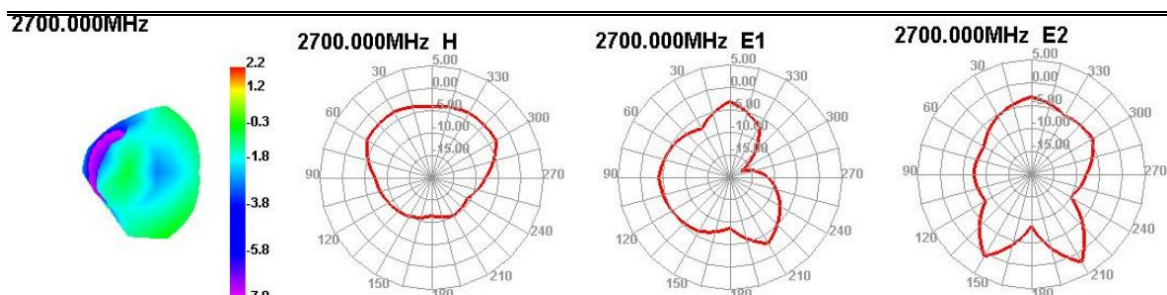
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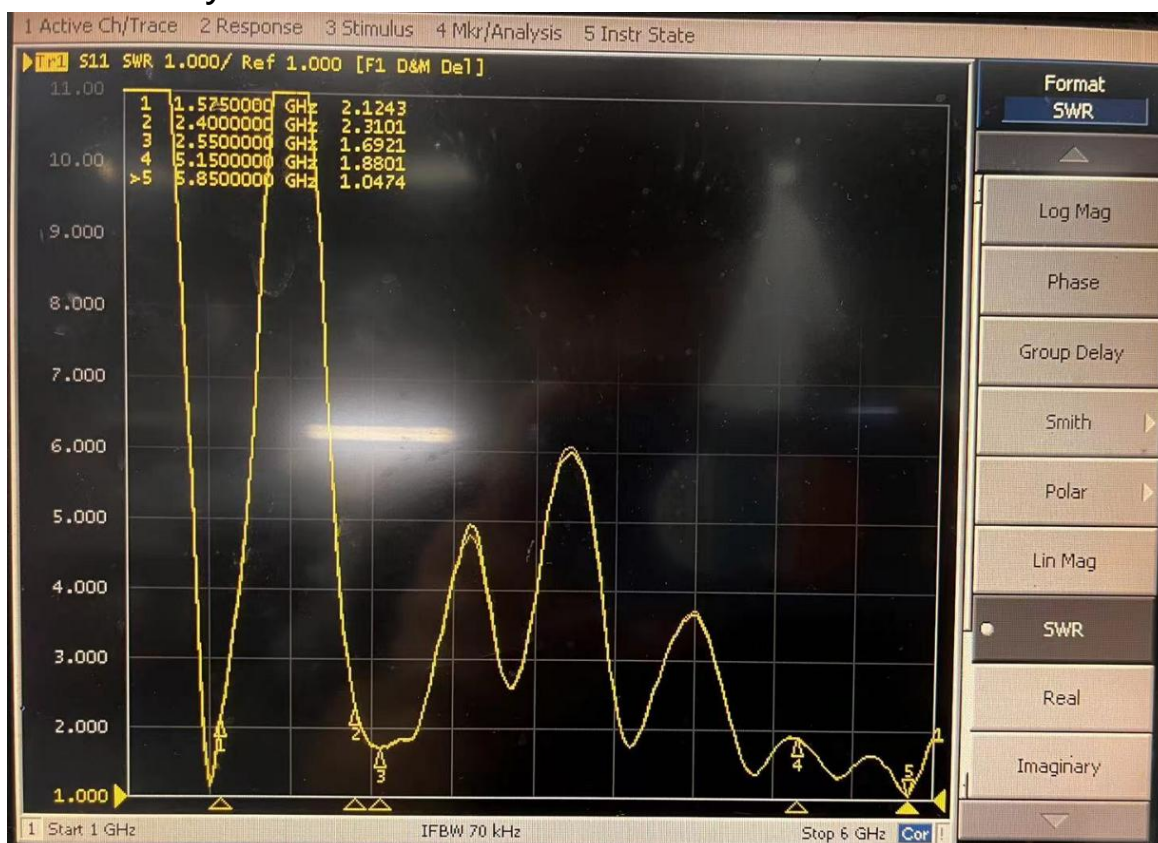
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5.2 Auxiliary antenna



GPS/WIFI/BT	Maximum signal strength	Number of search stars	Average positioning tim (s)	Weather Condition
	40	7-10	120-150	Fine
	Normal internet access distance (m)		Online browsing smooth flow distance (m)	
	12-15		8-10	
	Clear call distance (m)			
	8-10			

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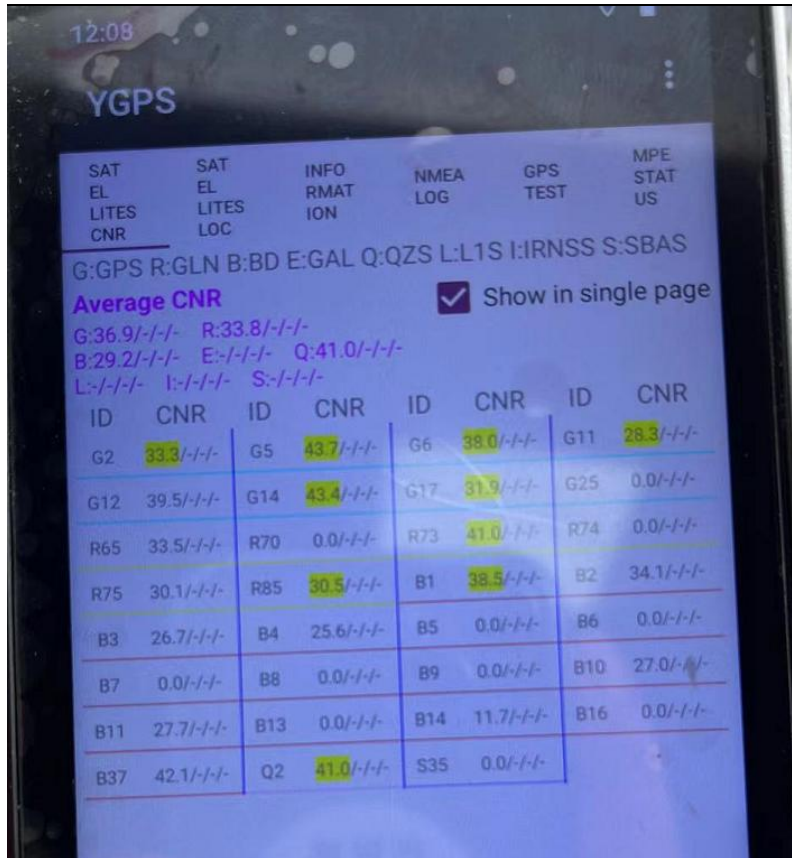
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Passive Test For GPS			Passive Test For 2.4G-WIFI			Passive Test For 5G-WIFI		
Freq	Effi	Gain	Freq	Effi	Gain	Freq	Effi	Gain
(MHz)	(%)	(dBi)	(MHz)	(%)	(dBi)	(MHz)	(%)	(dBi)
1565	34.45	1.13	2400	40.82	0.82	5150	53.01	2.69
1570	34.88	0.91	2420	38.42	0.64	5250	52.33	2.46
1575	33.81	0.63	2440	41.02	1.23	5350	53.54	2.48
1580	33.32	0.53	2460	40.08	1.36	5450	55.49	2.71
1585	33.13	0.46	2480	39.82	1.5	5550	55.69	2.59
			2500	38.53	1.34	5650	55.01	2.36
						5750	53.81	2.16
						5850	50.02	1.59

WIFI 2.4G 11b(11M)	CH 1	CH6	CH 11
TRP	10.75	12.25	11.84
TIS	-83.93	-83.03	-82.45
WIFI 5G 11a(54M)	CH 36	CH 60	CH 165
TRP	11.49	11.67	11.86
TIS	-71.78	-71.67	-72.58

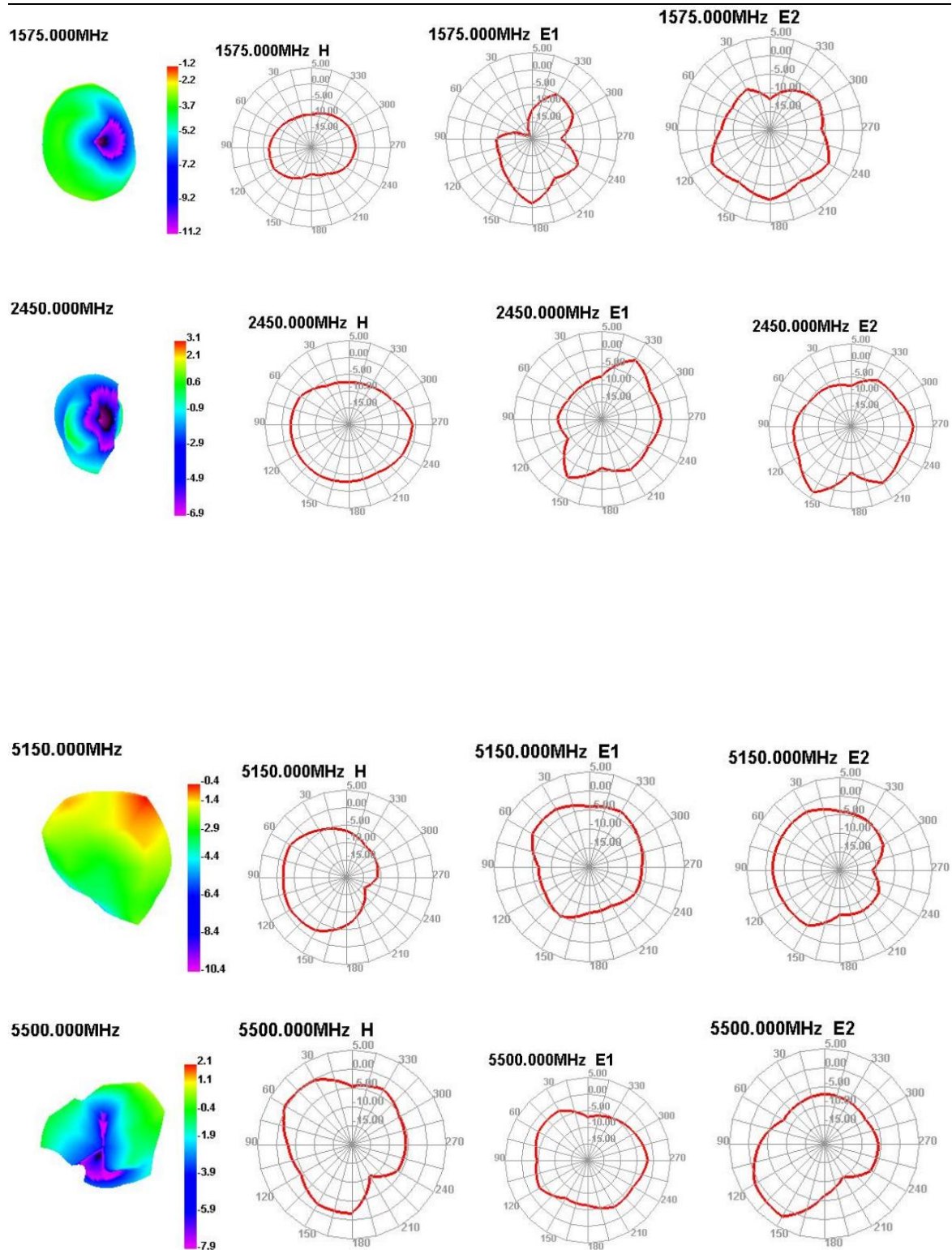
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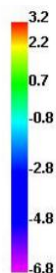
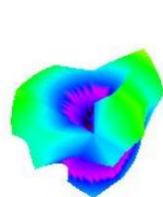
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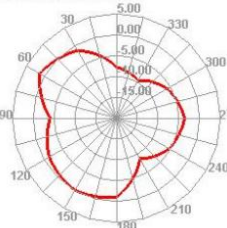
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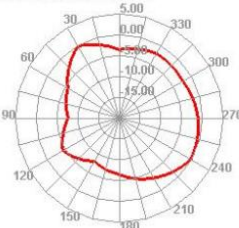
5850.000MHz



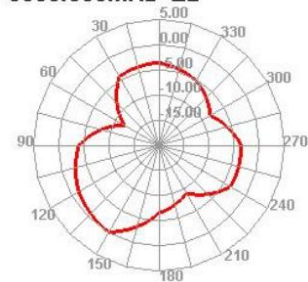
5850.000MHz H



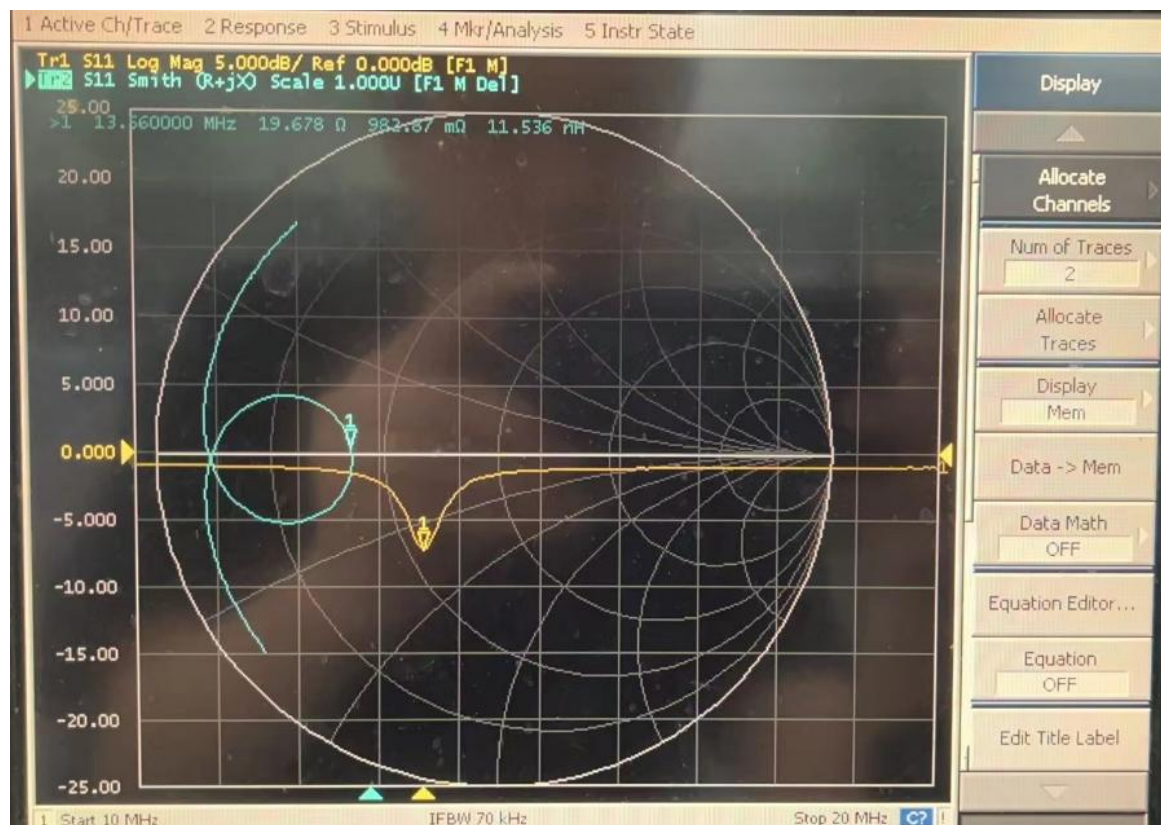
5850.000MHz E1



5850.000MHz E2



5.3 NFC Antenna



Real card distance test

Test Card Category	Actual distance(mm)
Type 1	30-35
Type 2	30-35
Type 3	30-35
Type 4	20-25
Type 5	50-60

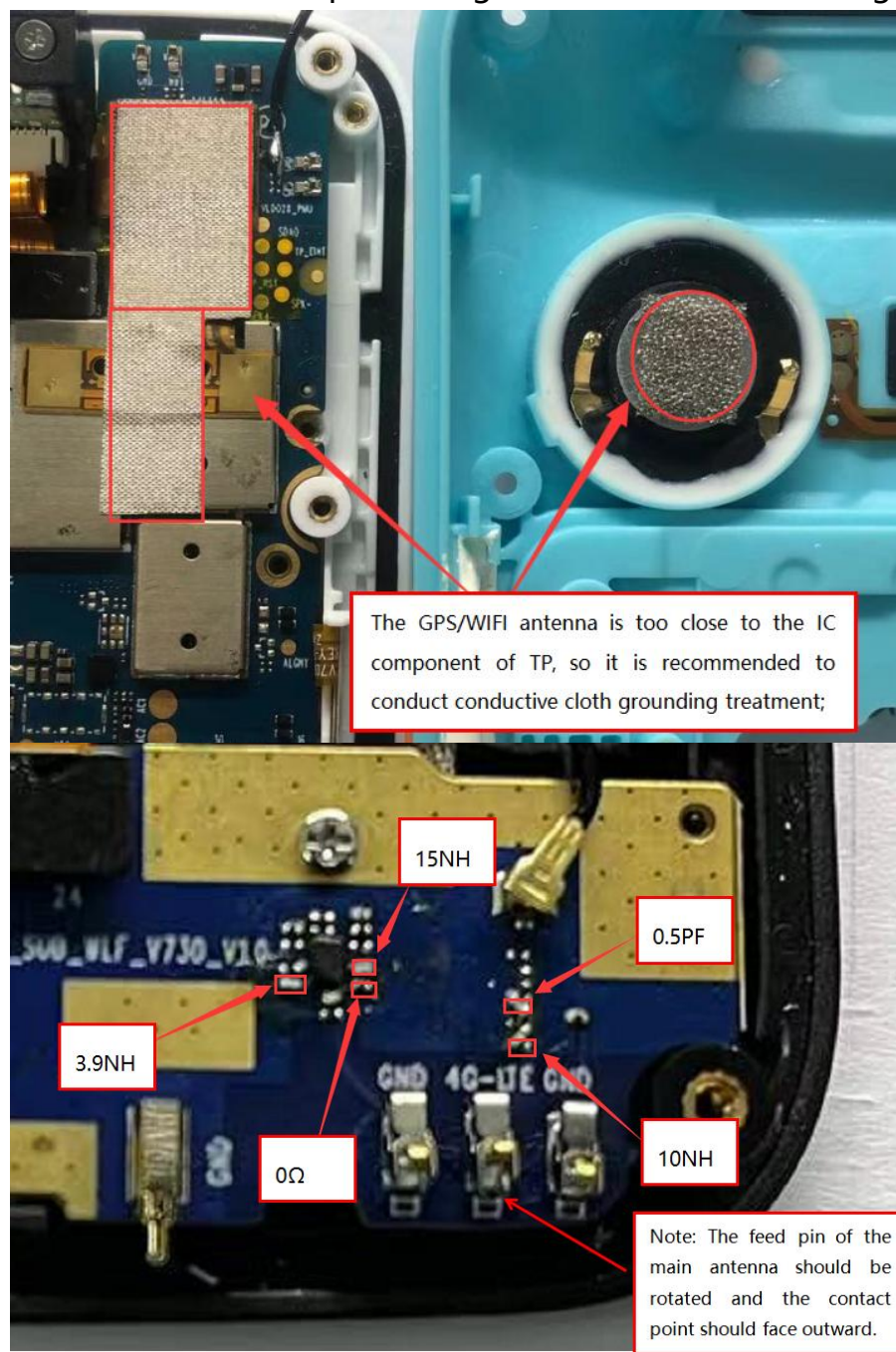
深圳市德仕勤科技有限公司

Dosking MicroElectronics Co.,Ltd

Address: 403, West Block, Building 2 (Ganghongji Building), Private Enterprise Science Park, Xili University Town, Nanshan District, Shenzhen

TEL:0755-88602767 FAX:0755-82793883

5.4 Environmental processing, i.e. small board matching



Software version: MH11P44E71.WLF.V730.GN.HB.S0.HD.220711.V0.02

深圳市德仕勤科技有限公司

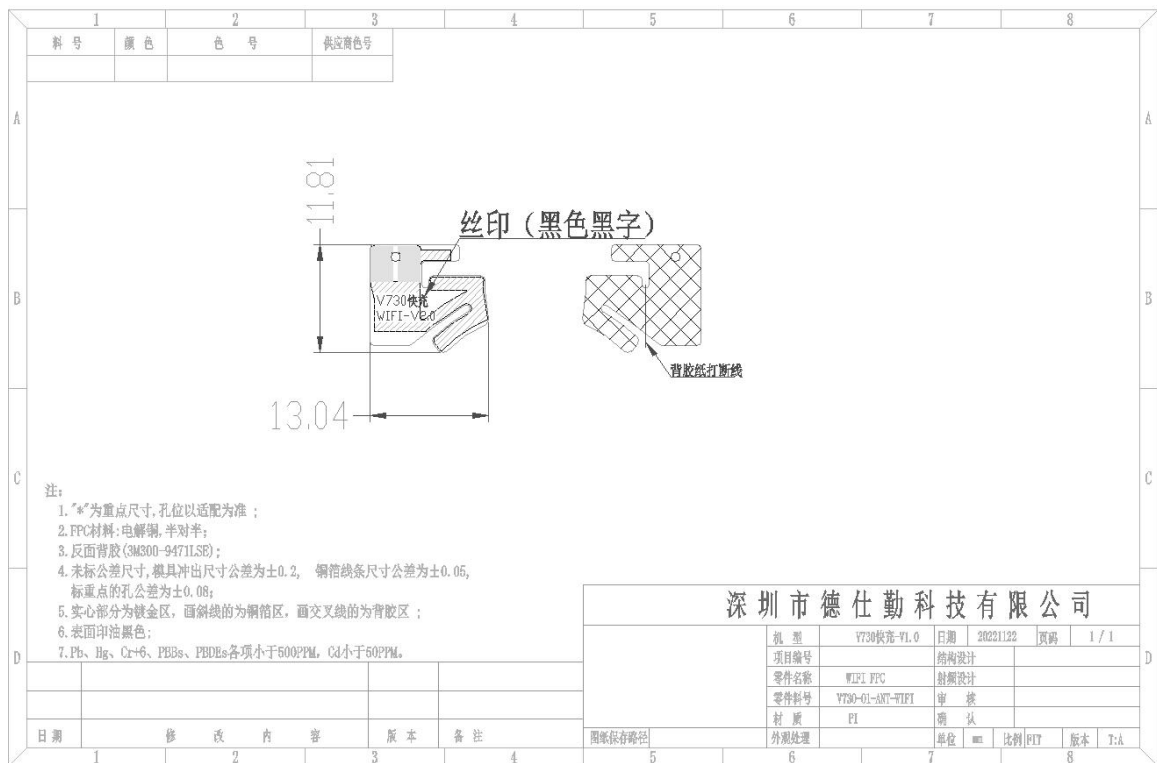
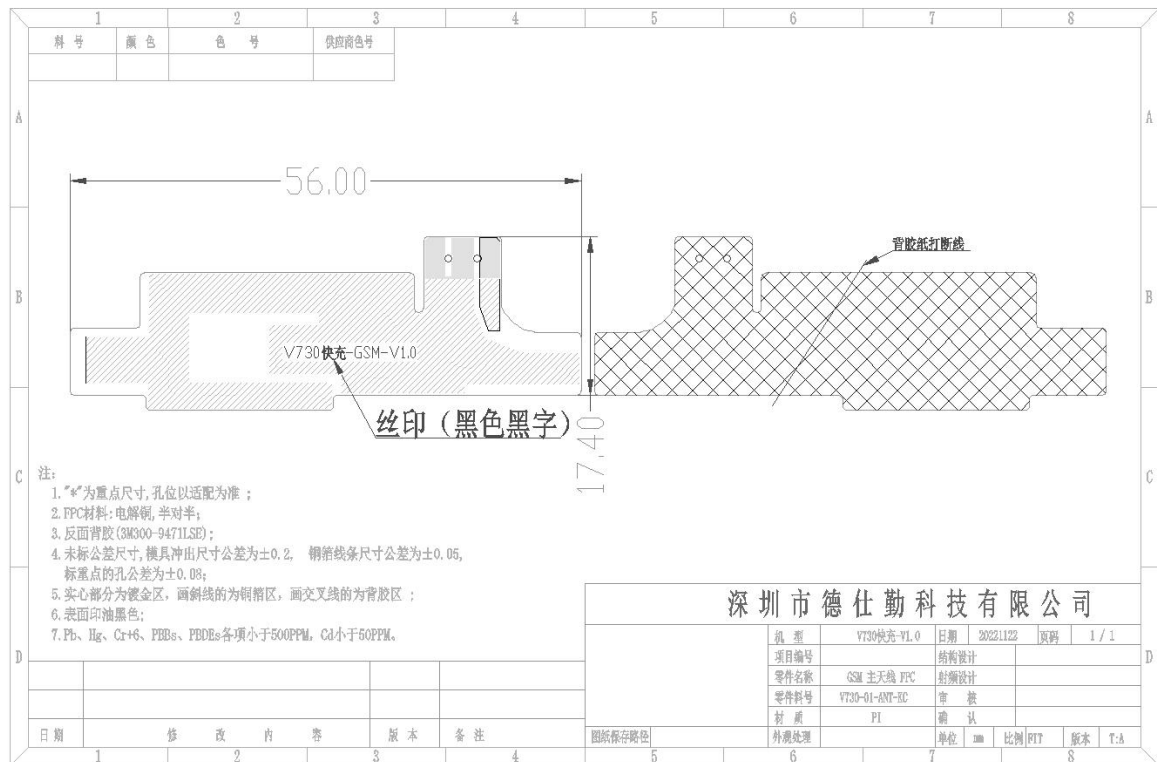
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6. Structural drawings



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德仕勤科技有限公司 - 承认书

1	2	3	4	5	6	7	8
料号	颜色	色号	供应商色号				

丝印 (黑色黑字)

V730快壳

背胶纸打断线

注:

1. "s"为重点尺寸,孔位以适配为准;
2. FPC材料:电解铜,半对半;
3. 反面背胶 (3M300-9471LSE);
4. 未标公差尺寸,模具冲出尺寸公差为±0.2, 铜箔线条尺寸公差为±0.05, 标重点的孔公差为±0.08;
5. 实心部分为镀金区,画斜线的为铜箔区,画交叉线的为背胶区;
6. 表面印油黑色;
7. Pb、Hg、Cr+6、PBBs、PBDEs各项小于500PPM, Cd小于50PPM.

深圳市德仕勤科技有限公司			
料号	V730快壳-V1.0	日期	20221123
项目编号		结构设计	
零件名称	GPS FPC	射频设计	
零件料号	V730-01-ANT-GPS	审核	
材质	PI	确认	
外观处理		单位	mm
图纸保存路径		比例	1:1
		版本	1.0
		T/A	

1	2	3	4	5	6	7	8
日期	修改	内容	版本	备注			

1	2	3	4	5	6	7	8
料号	颜色	色号	供应商色号				

丝印 (黑色黑字)

V730快壳

背胶纸打断线

注:

1. "s"为重点尺寸,孔位以适配为准;
2. FPC材料:电解铜,半对半;
3. 反面背胶 (3M300-9471LSE);
4. 未标公差尺寸,模具冲出尺寸公差为±0.2, 铜箔线条尺寸公差为±0.05, 标重点的孔公差为±0.08;
5. 实心部分为镀金区,画斜线的为铜箔区,画交叉线的为背胶区;
6. 表面印油黑色;
7. Pb、Hg、Cr+6、PBBs、PBDEs各项小于500PPM, Cd小于50PPM.

深圳市德仕勤科技有限公司			
料号	V730快壳-V1.0	日期	20221122
项目编号		结构设计	
零件名称	分集 FPC	射频设计	
零件料号	V730-01-ANT-FJ	审核	
材质	PI	确认	
外观处理		单位	mm
图纸保存路径		比例	1:1
		版本	1.0
		T/A	

1	2	3	4	5	6	7	8
日期	修改	内容	版本	备注			

深圳市德仕勤科技有限公司

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德仕勤科技有限公司 - 承认书

1	2	3	4	5	6	7	8
料号	颜色	色号	供应商色号				
A							A
B							B
C							C
D							D

正面 反面

注:

1. "*"为重点尺寸, 孔位以适配为准;
2. FPC材料: 电解铜, 一对半;
3. 反面背胶(3M300 467 LSE);
4. 公差尺寸按图所标;
5. 实心部分为镀金区, 画斜线的为铜箔区, 画交叉线的为背胶区;
6. 双面印刷黑色亚光磨砂;
7. Pb、Hg、Cr+6、PBBs、PBDEs各项小于500PPM, Cd小于50PPM。

深圳市德仕勤科技有限公司							
机 型	Y730	日期	2022-11-22	页码	1 / 1		
项目编号		结构设计					
零件名称	WPC ANT	射频设计					
零件料号		审 核					
材 质	PI	确 认					
外观处理		单位	mm	比例	1:1	版本	T:A

日期	修 改 内 容	版 本	备 注
1	2	3	4

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