

Shenzhen HamyWe Technology Co., Ltd.

匠岩JC21-04

版本
V4

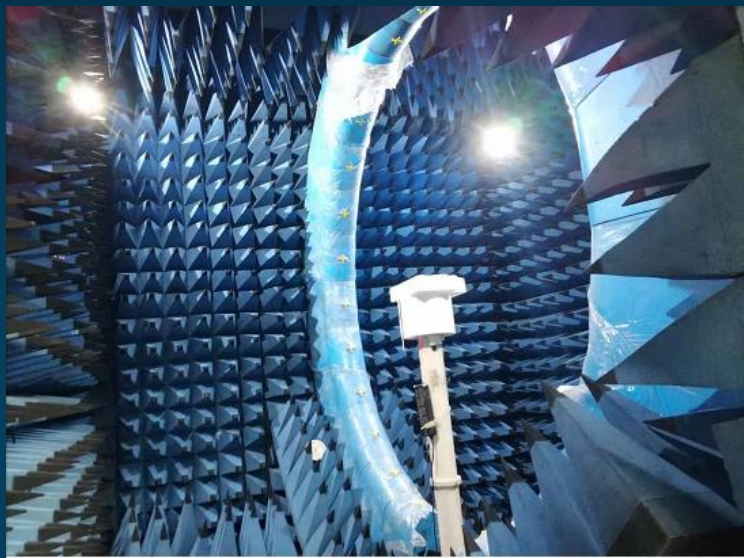
调试报告



负责人：钟一铭
电话：15607971884
日期：2023/02/27

测试设备(Test Device)

SG24



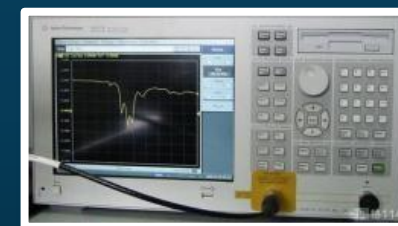
GTS



Agilent 8960



CMW 500



Agilent E5071B

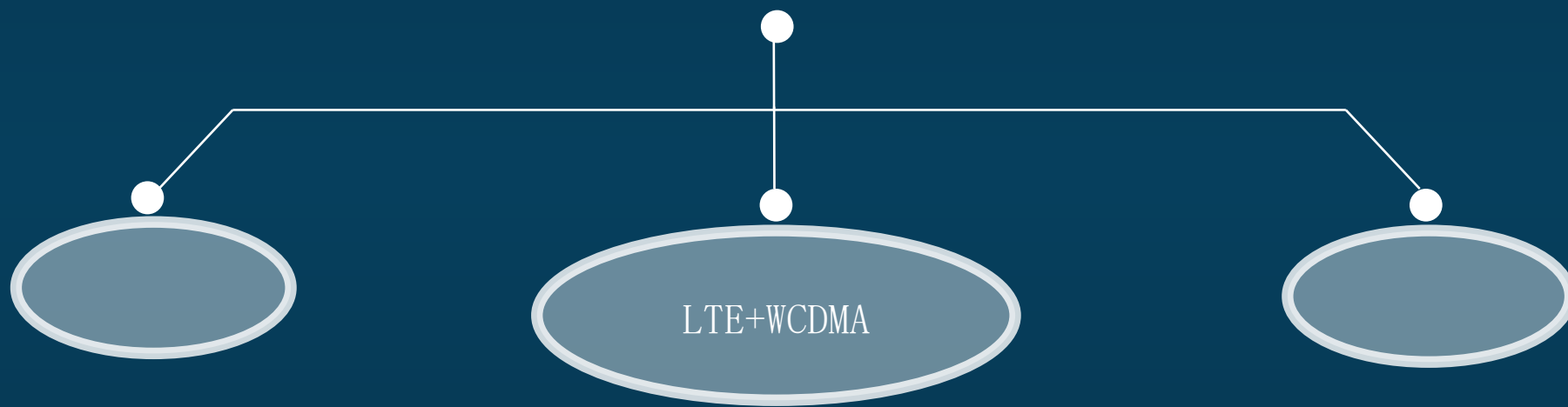
测试系统(Test System)	测试环境(Test Environment)	有源测试(OTA Testing)	无源测试(SAR Testing)
SG24 ETS	温度: $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 湿度: $50\% \pm 15\%$	支持2G/3G/4G 支持BT/WIFI/GPS	600MHZ——6G

JC21(CRH51C1-04+CRH51-03R)
CRH51C1-MB-V2.1-20221108

[illegible]

项目说明(Item Description)

匠岩JC21-04



机器类型:手机

天线方式: fpc

匹配改动: 未更改

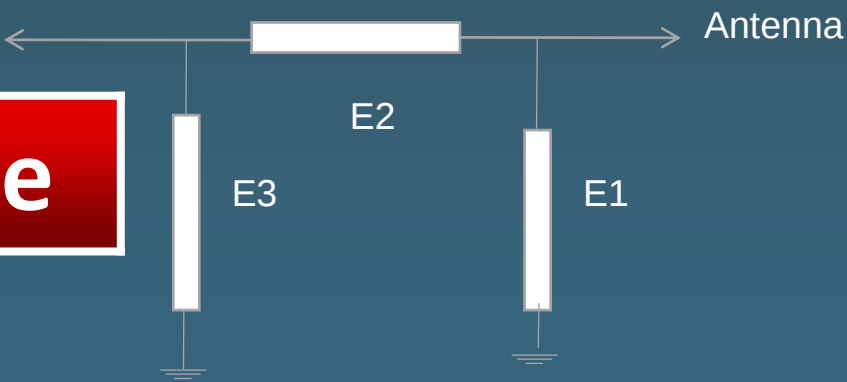
Device: Mobile Phone

Antenna Type: fpc

Matching changes: No changes

匹配电路(Matching Circuit)

RF Module



Matching Changes

No Change

匹配是否有改动

未改动

天线(Antenna)

Element	Value
E1 (0201)	
E2 (0201)	
E3 (0201)	

OTA测试数据(OTA Test Data):

Band	TRP	TIS	Band	TRP	TIS	Band	TRP	TIS	Band	TRP	TIS
LTE B2	21.22		LTE B12	20.32		LTE B40	20.17		W2	20.35	
	21.13			20.45			20.39			20.18	
	21.28	-92.31		20.62	-90.24		20.43	-90.45		20.02	-103.59
LTE B4	20.12		LTE B13	20.13		LTE B41	20.05		W4	20.34	
	20.79			20.22			20.11			20.71	
	21.08	-91.42		20.28	-89.05		20.32	-92.38		20.62	-103.58
LTE B5	18.05		LTE B17	20.72					W5	18.18	
	18.71			20.23						18.57	
	18.59	-93.08		20.46	-90					18.69	-104.49
LTE B7	20.41		LTE B38	20.07							
	20.64			20.13							
	20.12	-95.43		20.18	-89.41						

低频主天线无源测试数据(Low Frequency Primary/Main Antenna SAR Test Data)

LTE		
Frequency (MHz)	Gain(dBi)	Efficiency(%)
700	3.01	58.86
710	3.18	60.93
720	3.13	57.71
730	3.39	55.42
740	4.05	57.7
750	3.74	60.59
760	3.63	58.7
770	3.81	60.59
780	3.68	60.76
790	3.28	59.67
800	3.25	59.5

LTE		
Frequency (MHz)	Gain(dBi)	Efficiency (%)
810	3.23	57.35
820	3.03	56.44
830	3.01	56.87
840	2.9	58.04
850	2.32	57.55
860	2.29	58.1
870	2.59	58.45
880	2.51	58.39
890	2.67	57.48
900	2.42	55.47
910	2.35	55.05

[illegible]

高频主天线无源测试数据： (High Frequency Primary/Main Antenna SAR Test Data)

LTE			LTE			LTE			LTE		
Frequency (MHz)	Gain (dBi)	Efficiency (%)	Frequency (MHz)	Gain (dBi)	Efficiency (%)	Frequency (MHz)	Gain (dBi)	Efficiency (%)	Frequency (MHz)	Gain (dBi)	Efficiency (%)
1700	0.34	35.88	1920	4.67	68.37	2140	3.4	59.61	2500	2.28	55.59
1720	0.51	37.79	1940	4.8	68.47	2160	2.6	56.98	2520	2.28	58.3
1740	1.1	40.72	1960	5.11	68.63	2180	1.67	51.93	2540	2.09	56.86
1760	2.02	45.82	1980	5.21	68.17	2300	-0.83	30.93	2560	2.1	56.05
1780	2.58	50.4	2000	5.58	69.34	2320	-0.24	31.28	2580	2.22	57.42
1800	2.85	53.04	2020	5.62	71.12	2340	-1.2	32.15	2600	2.54	59.7
1820	3.34	57.7	2040	5.73	70.92	2360	-0.19	32.37	2620	2.73	61.18
1840	3.96	62.96	2060	5.33	68	2380	0.5	36.58	2640	2.69	60.23
1860	4.16	64.77	2080	5.07	65.41	2400	0.92	40.09	2660	2.62	59.77
1880	4.58	69.1	2100	4.56	63.29				2680	2.57	59.48
1900	4.54	68.39	2120	4.18	61.43				2700	2.56	59.27

低频分集天线无源测试数据 (Low Frequency Secondary Antenna SAR Test Data)

DIV		
Frequency (MHz)	Gain(dBi)	Efficiency (%)
700	-1.41	21.22
710	-1.31	22.3
720	-1.09	22.7
730	-1.51	23.12
740	-1.11	23.1
750	-1.53	21.87
760	-1.52	19.9
770	-1.09	19.52
780	-1.26	19.75
790	-1.12	19.74
800	-1.2	19.35

DIV		
Frequency (MHz)	Gain(dBi)	Efficiency (%)
810	-1.41	18.35
820	-2.05	18.5
830	-1.98	18.54
840	-2.64	19.29
850	-2.61	20.63
860	-2.76	21
870	-2.54	21.16
880	-2.78	21.81
890	-2.77	22.2
900	-1.75	25.35
910	-0.55	33.5

[illegible]

高频分集天线无源测试数据

(High Frequency Secondary Antenna SAR Test Data):

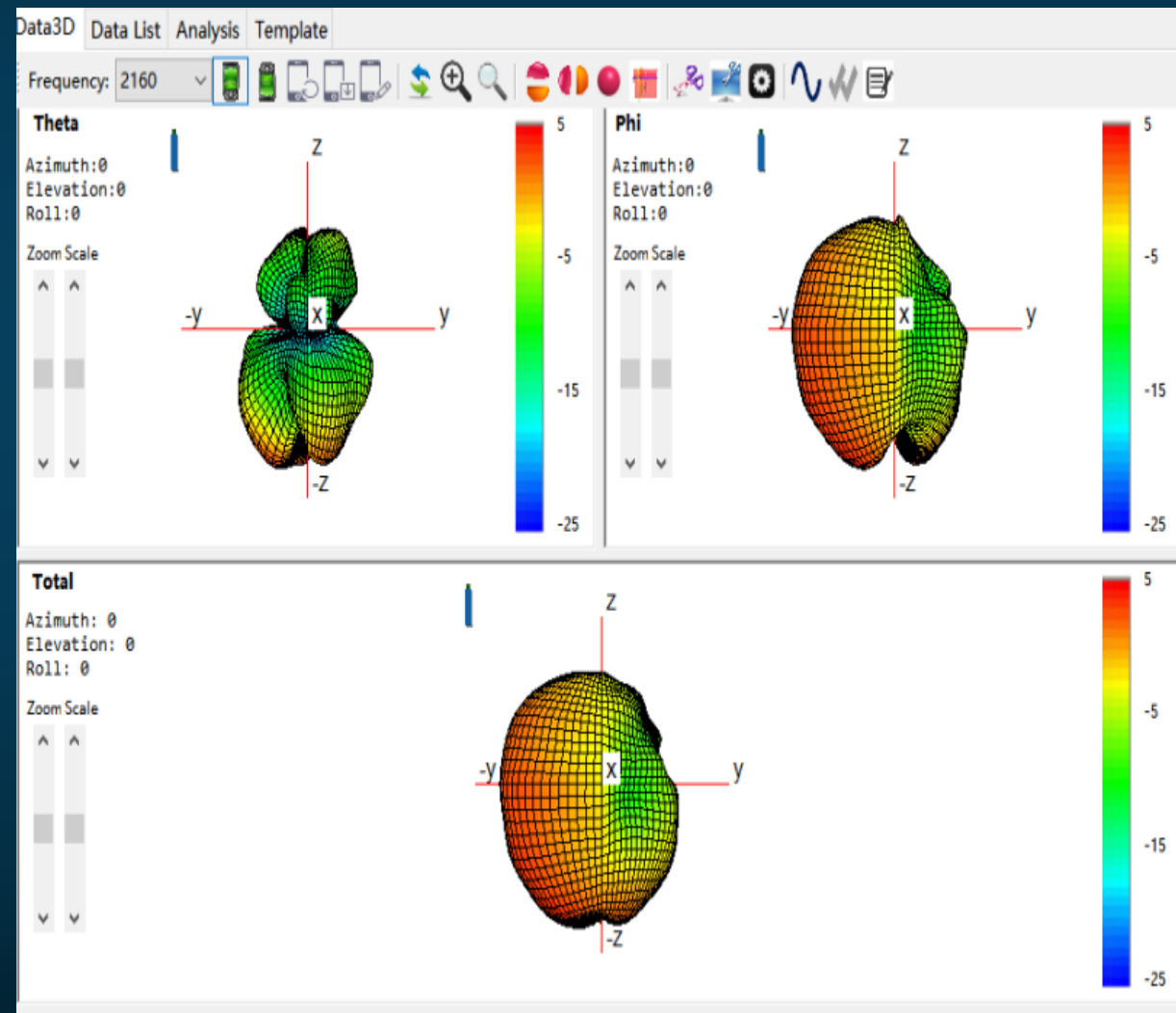
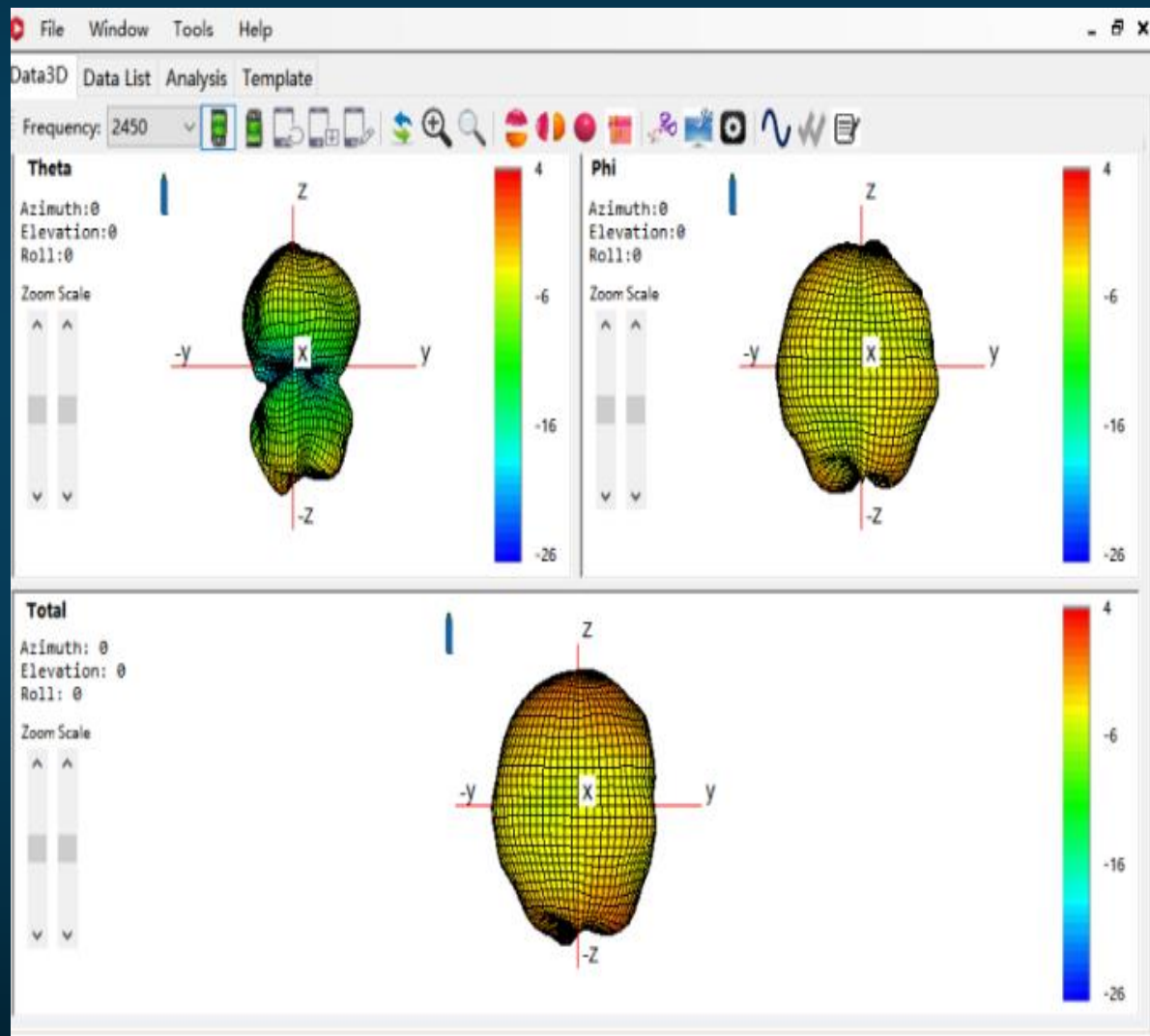
DIV			DIV			DIV			DIV		
Frequency (MHz)	Gain (dBi)	Efficiency (%)	Frequency (MHz)	Gain (dBi)	Efficiency (%)	Frequency (MHz)	Gain (dBi)	Efficiency (%)	Frequency (MHz)	Gain (dBi)	Efficiency (%)
1700	0.7	25.16	1920	3.22	55.86	2140	4.06	73.1	2500	4.86	75.31
1720	0.96	27.4	1940	3.34	59.09	2160	4.2	76.7	2520	4.88	74.22
1740	1.12	29.31	1960	3.73	63.7	2180	4.12	75.67	2540	4.67	70.94
1760	1.27	31.04	1980	3.79	64.58	2300	3.05	58.51	2560	4.62	70.37
1780	1.68	34.5	2000	4.12	66.74	2320	2.87	55.14	2580	4.75	71.59
1800	1.73	36.97	2020	4.37	72.47	2340	3.53	55.7	2600	4.94	72.77
1820	2.05	39.91	2040	4.66	77.39	2360	4.48	59.64	2620	4.92	73.11
1840	2.59	45.02	2060	4.56	77.56	2380	5.17	67.44	2640	4.99	72.77
1860	2.84	47.16	2080	4.39	75.75	2400	5.18	69.88	2660	5.22	72.61
1880	3.18	51.93	2100	4.39	77.17				2680	5.17	72.51
1900	3.22	54.67	2120	4.33	75.8				2700	5.28	72.01

WIFI无源测试数据(WIFI SAR Test Data):

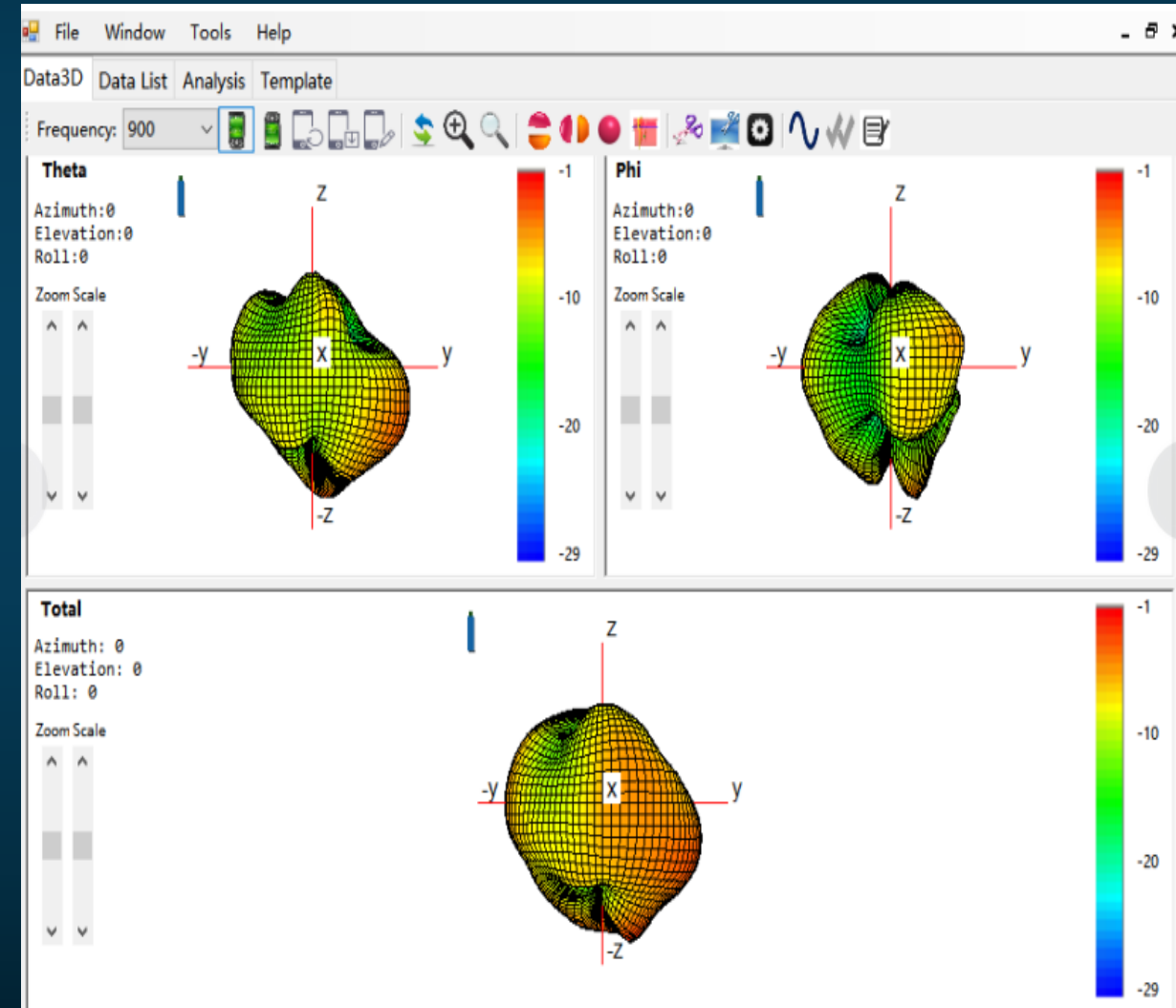
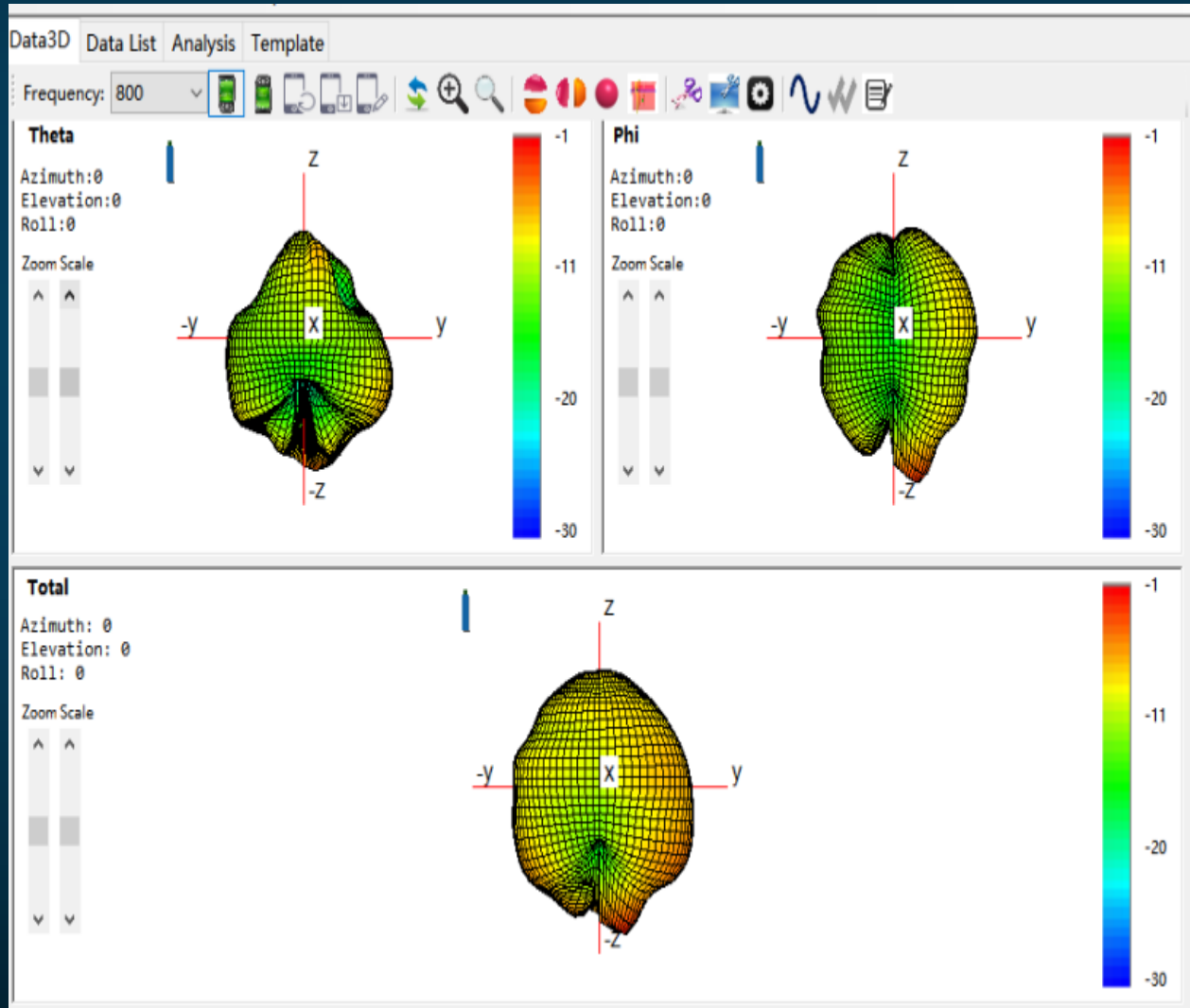
WIFI1		
Frequency (MHz)	Gain(dBi)	Efficiency (%)
2400	4.15	58.85
2410	4.38	59.72
2420	4.5	60.17
2430	4.58	60.39
2440	4.53	61.3
2450	4.46	62.68
2460	4.59	63.49
2470	4.7	64.71
2480	4.85	65.03
2490	4.95	64.65
2500	4.86	62.59

WIFI2		
Frequency (MHz)	Gain(dBi)	Efficiency (%)
2400	4.21	58.39
2410	4.25	59.59
2420	4.39	60.02
2430	4.51	60.14
2440	4.52	61.35
2450	4.53	62.52
2460	4.57	63.59
2470	4.65	64.45
2480	4.81	65.21
2490	4.75	64.26
2500	4.85	62.31

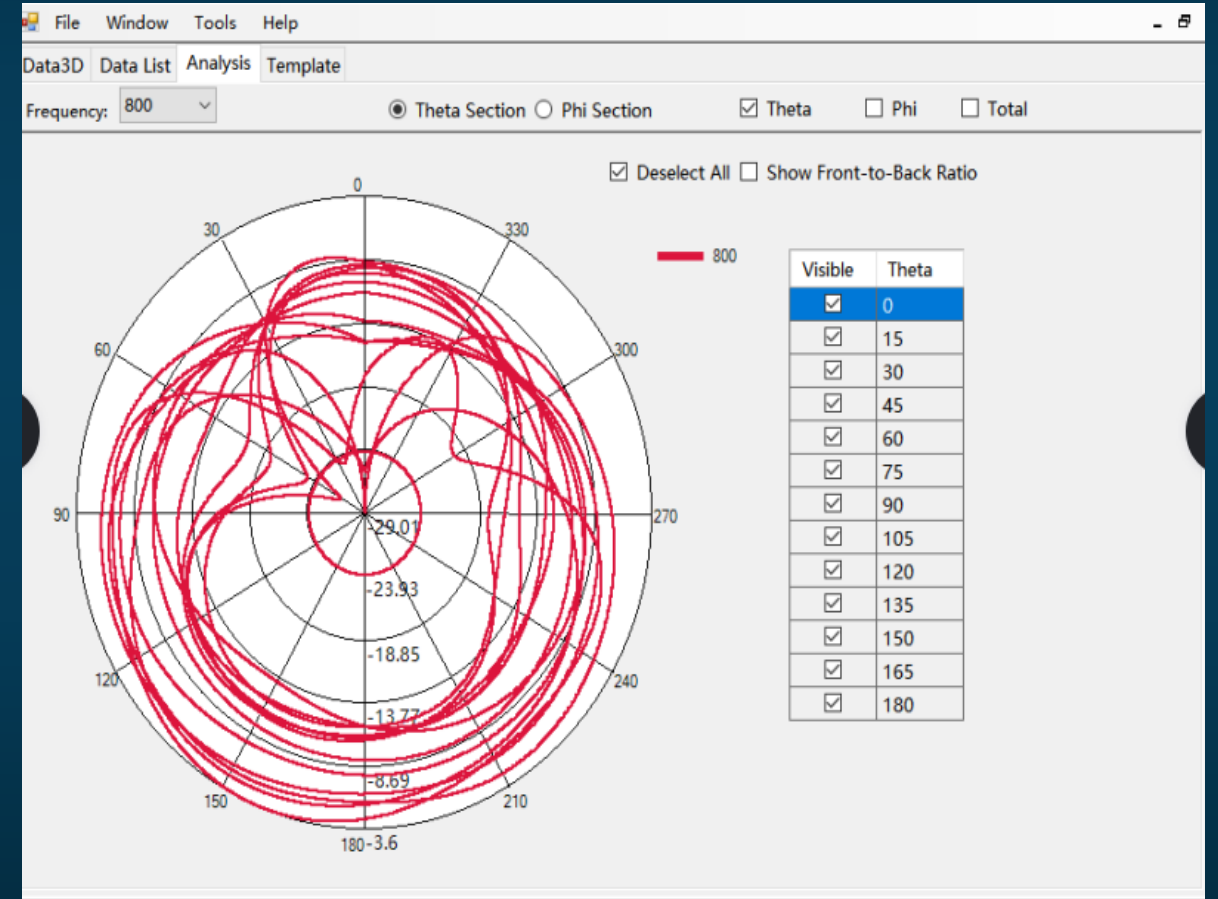
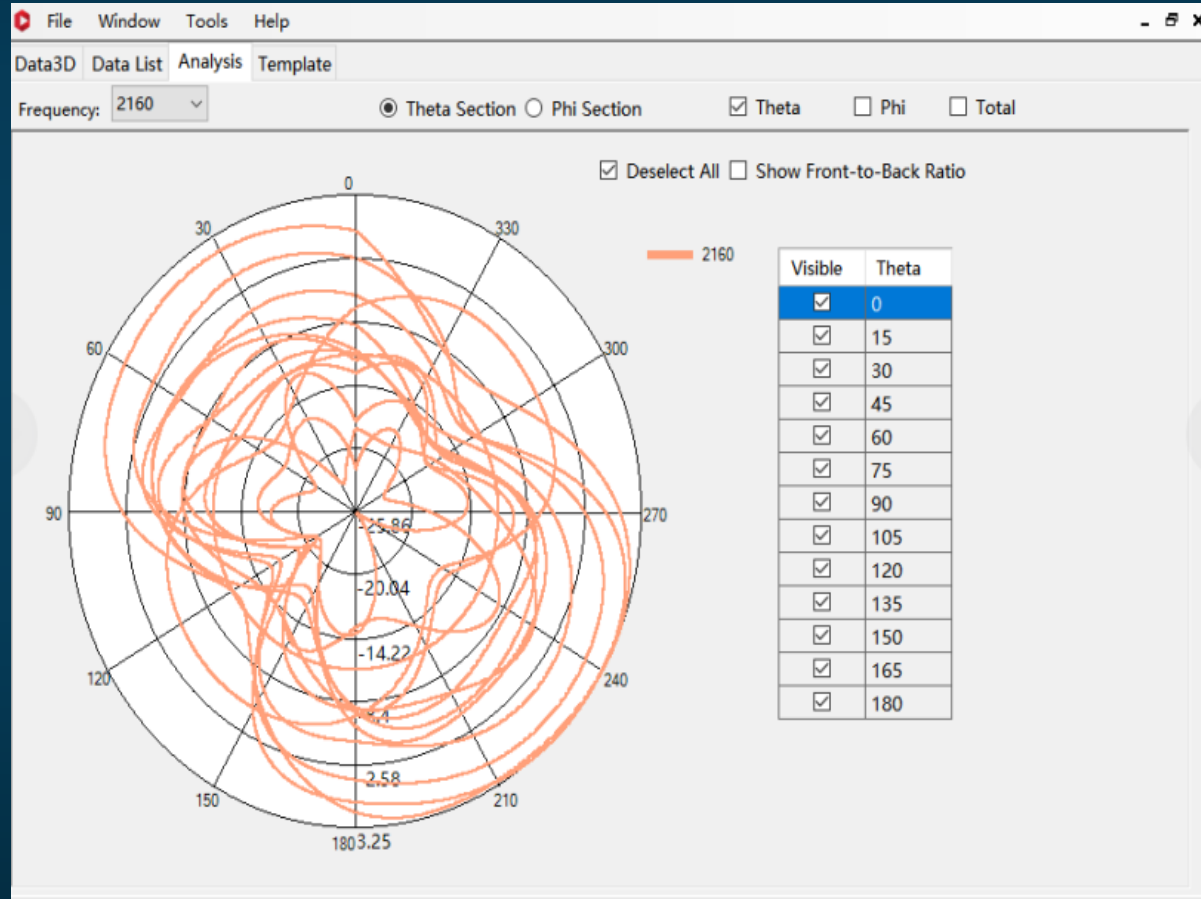
3D图(3D Views/Pictures):



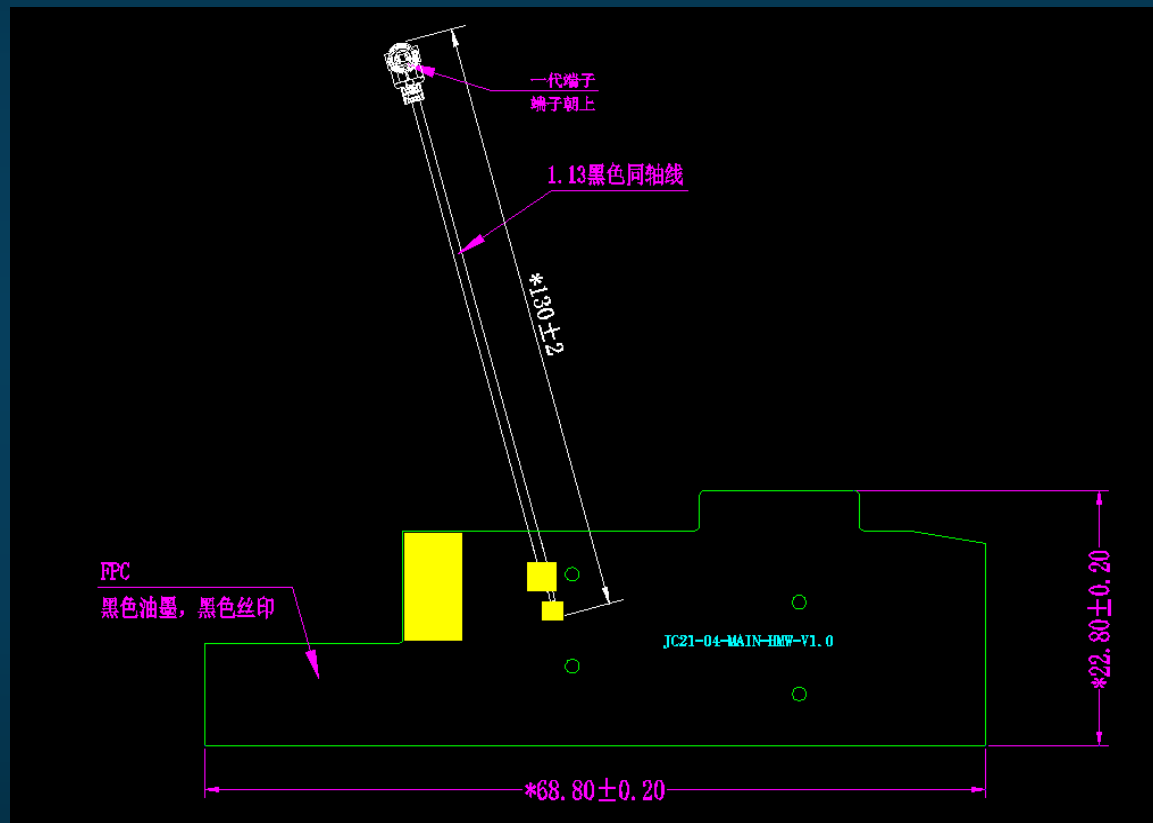
3D图(3D Views/Pictures):



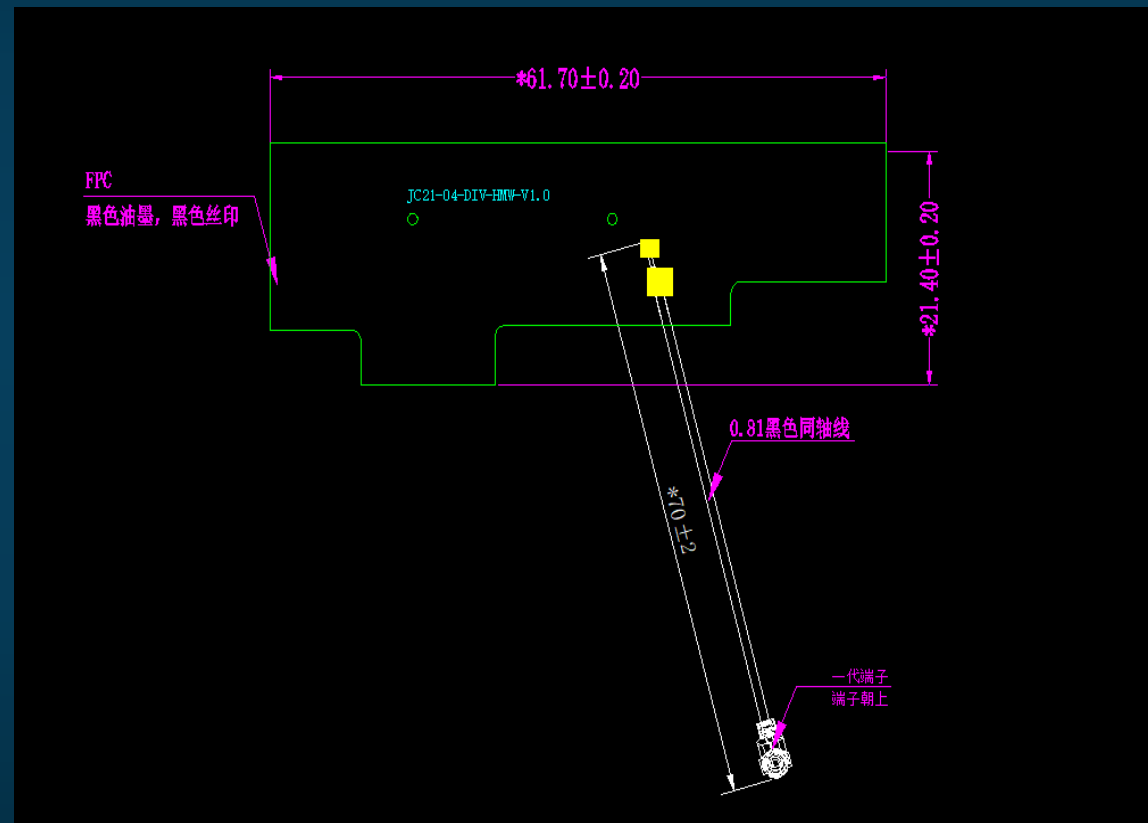
3D图(3D Views/Pictures):



天线尺寸(Antenna Dimensions):

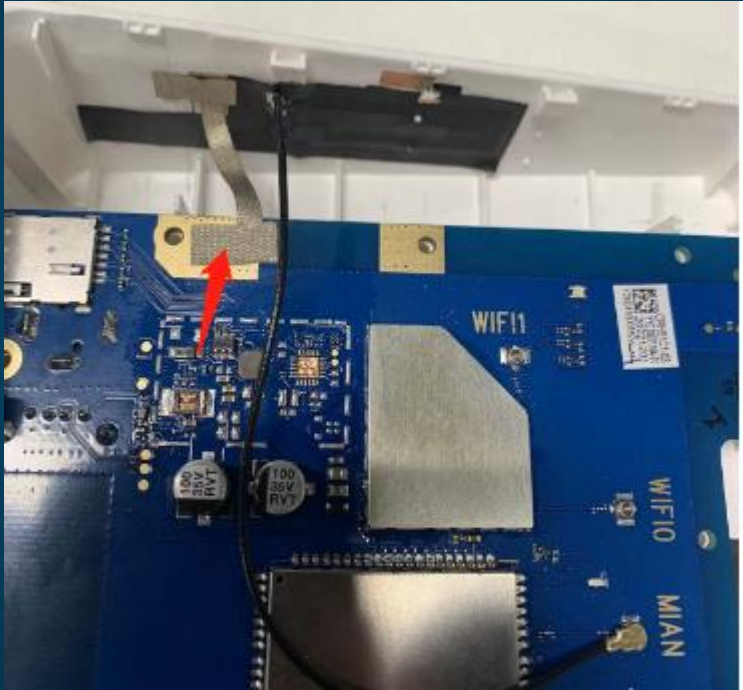


主集天线(Primary/Main Antenna)



分集天线(Secondary Antenna)

环境处理(environmental treatment(manipulation?))



如上图所示，天线露铜区域贴导电布与螺丝柱露铜位置接地

(As the picture shows, the antenna exposed copper area paste conductive cloth and screw column exposed copper position grounding)



主天线同轴线出线方式请严格按照上图所示。
(The coaxial line of main antenna outlet mode is strictly as shown in the picture above)

重要说明 (Important Notes)



1

请贵司注意报告中的匹配是否更改、环境处理是否可行；这直接会影响天线性能，若有异议请及时与本司联系；(In this report, please pay attention to whether the matching is changed and whether the environmental treatment is feasible because this will directly affect the antenna performance, if there is any objection, please contact us in time.)

2

若贵司机器有更换物料、更新软件、环处理变更等，须及时提供最新状态机器来我司验证；(If the machine has replaced materials, updated software, ring processing changes, etc., please provide the latest state of the machine to our company in a timely manner to verify.)

3

若贵公司机器需送第三方验证或送检，请最好提供送测机器来我司测试验证OK后方可送测（因为主板、环境处理、天线组装等一致性会影响天线性偏差）

(If this machine needs to be sent to a third party for verification or inspection, it is best to provide the test machine to our company for testing and verification before sending the test (because the consistency of the motherboard, environmental processing, antenna assembly, etc. will affect the antenna deviation)



深圳市和鸣微科技有限公司

Shenzhen HamyWe Technology Co., Ltd.

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