

Shenzhen 3good Wireless Technology Co., Ltd

Specification

客户 Customer	传奇数码	规格型号 Specs	F051
三好料号 Part Number	CQ-F051-01 CQ-F051-02 CQ-F051-03	频 段 Frequency Band	BT&2.5G WIFI:2400~2483.5MHZ 5G WIFI:5100~5800MHZ GSM850/900/1800/1900 WCDMA1/2/4/5/8 B1.2.3.4.5.7.8.12.17.20.26.28.66.38.39.40.41.66
颜 色 Color	black	版 本 Edition	
销 售 Salesperson		设 计 Design	官炳坤
结 构 Structure	李富伦	确 认 Confirm	周武
日 期 Date		签字日期 Signing Date	
客户确认 Customer confirmation:			
Join hands to create the future			

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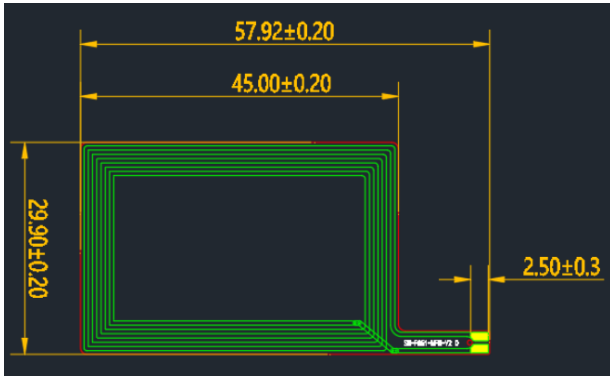
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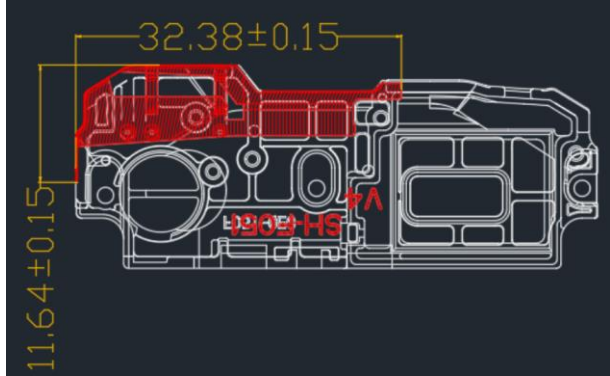
一、Product specifications

The report mainly provides parameter tests of S105 antenna performance. S105 antenna is 4G antenna. (As shown in the figure below)

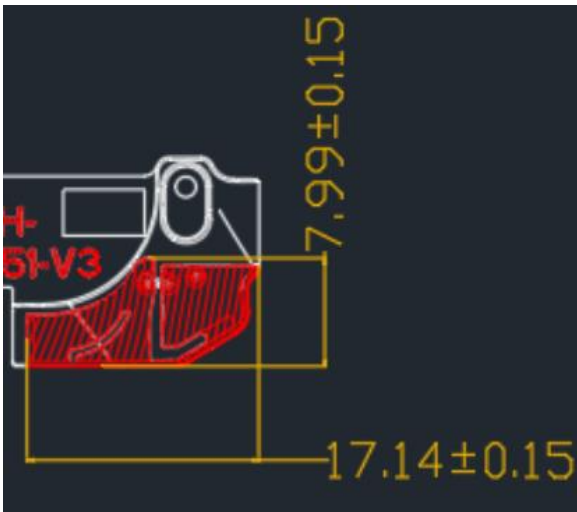
NF Cantenna



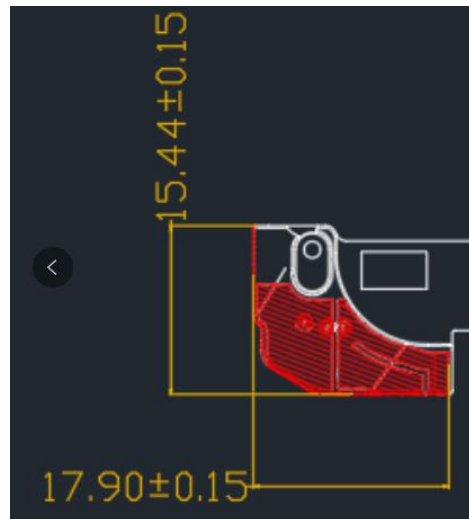
Main set antenna



Three in one antenna



Diversity antenna



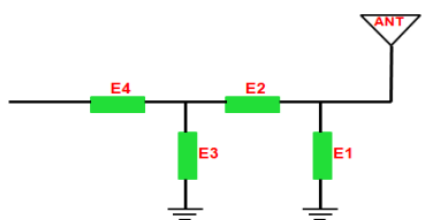
二、Electrical performance

1.Specifications

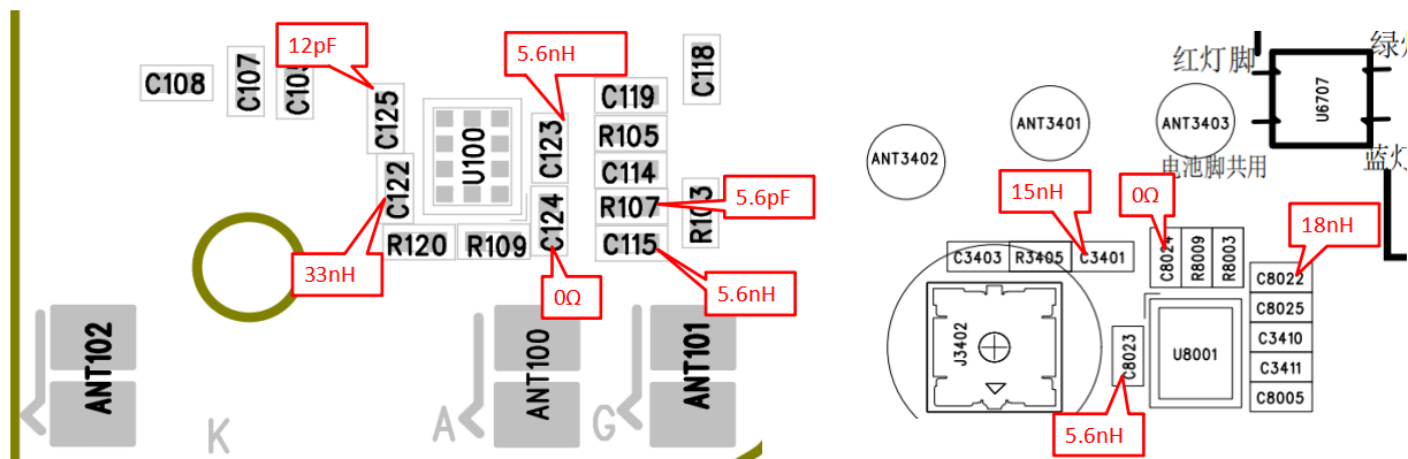
The operating frequency band of F051 antenna is 699~960MHZ and 1710~2700MHZ, in which resonance occurs.

2.Matching circuit of antenna

Matching circuits (匹配电路)



主天线		分集天线		三合一	
Element	Value	Element	Value	Element	Value
C115	5.6nH	C3401	15nH	C5030	NC
R107	5.6pF	R3405	0Ω	R5004	0Ω
C114	NC	C3403	NC	L5001	NC
R105	0Ω			R5125	0Ω
C119	NC				



主、分集开关逻辑

RF1:

频段是: GSM850 RX/GSM900 TX/DCS1800/PCS1900+W1/2/4/8+LTE B1/2/3/4/7/8/38/39/40/41/66

RF2:

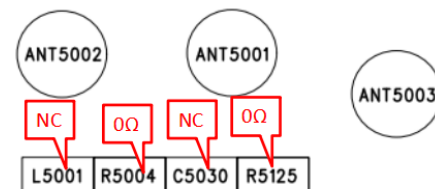
频段是: GSM850 TX+W5+LTE B5/B20/B26

RF3:

频段是: LTE B12/B17/B28AB

RF4:

频段是: GSM900 RX



Structure of antenna: FPC

三、Test of parameters

1.Test settings

The connection of VSWR test device is:

E5071B network analyzer → 50 Ohmic coaxial Cable → 110mm Long copper tube → Test fixture

Treatment of test 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 the copper tube with a choke, and then connect other devices in turn.

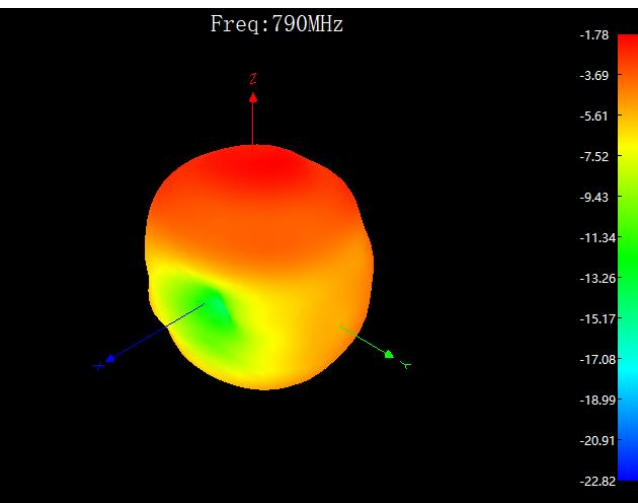
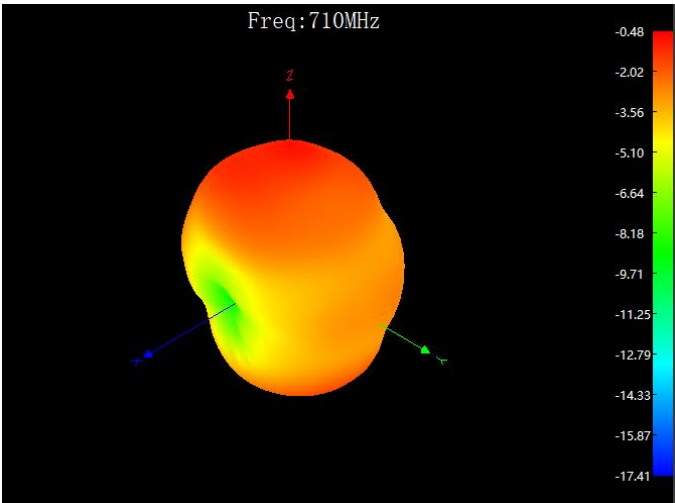
Passive parameters of main antenna:

工作频段(Working frequency band): 699~960MHZ, 1710~2700MHZ
GSM850/900/1800/1900
WCDMA1/2/4/5/8
LTE B1.2.3.4.5.7.8.12.17.20.26.28.66.38.39.40.41

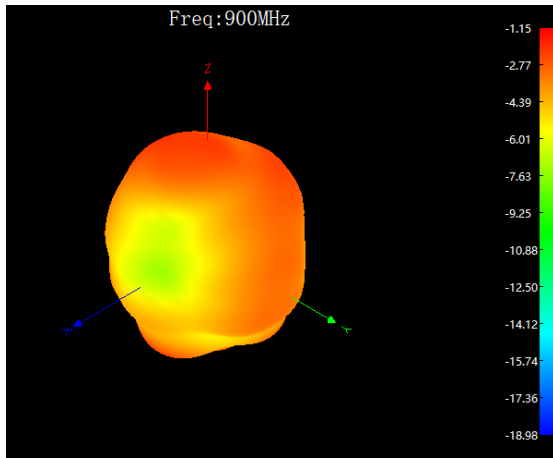
Gain			
频段 Band	gain 增益 (dBi)	频段 Band	gain 增益(dBi)
GSM850,WCDMA-B5,LTE-B5/B20/B26	-1.78	LTE-B7/B38/B41	1.04
GSM900,WCDMA-B8,LTE-B8	-1.15	LTE-B12/B13/B17/B28	-0.48
DCS1800,WCDMA-B4,LTE-B3/B4/B66	0.43	LTE-B40	1.06
PCS1900,WCDMA-B1/B2,LTE-B1/B2	2.70		

700

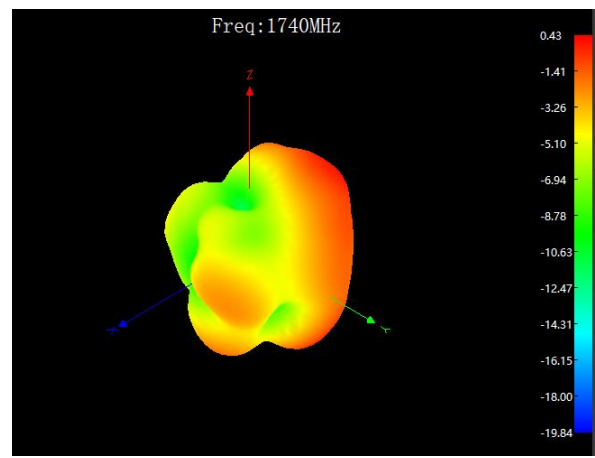
800



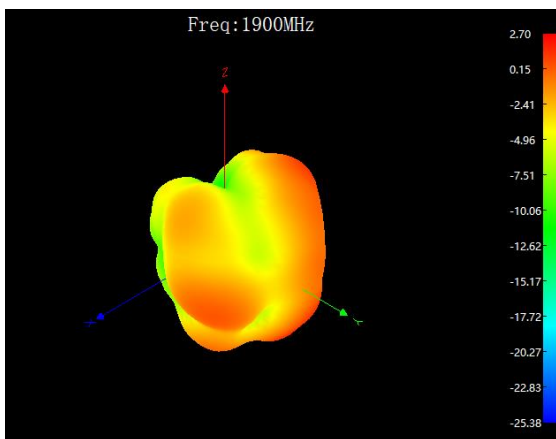
900



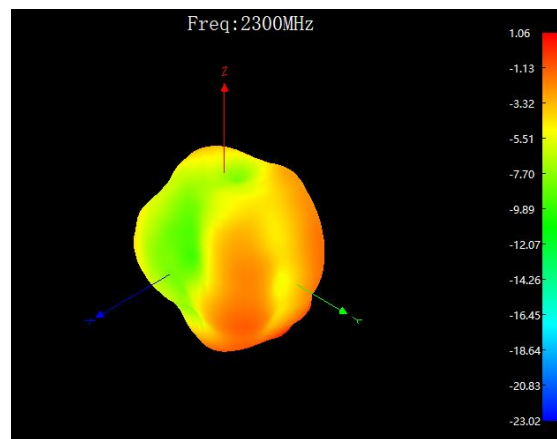
1700



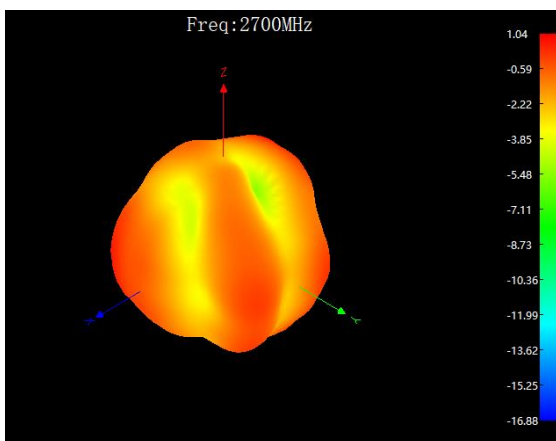
1900



2300



2700

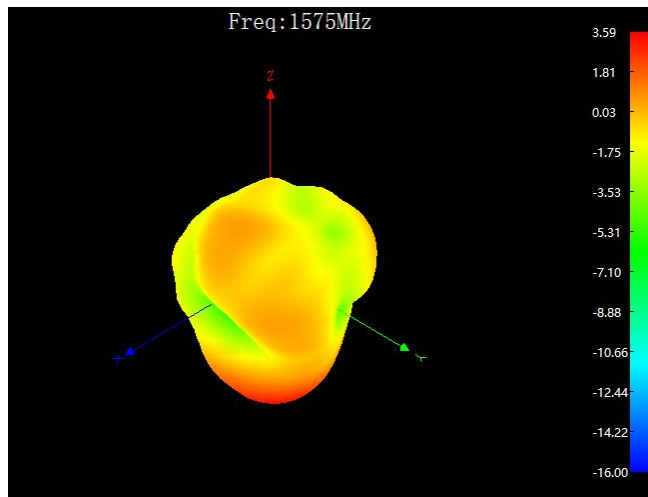


GPS/WIFI/BTPassive parameters of antenna:

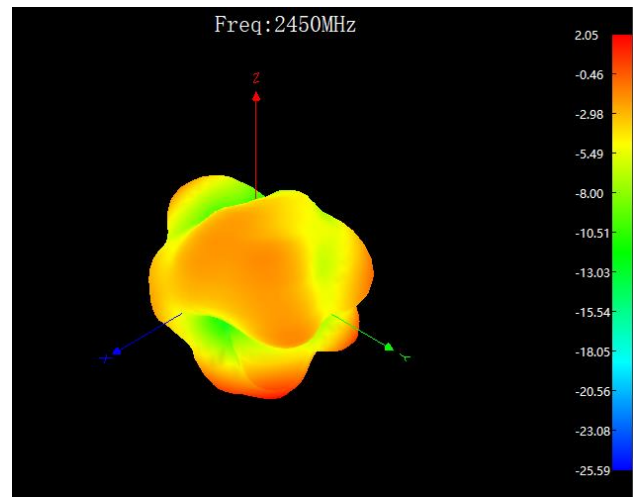
工作频段(Working frequency band): 1560~1580MHZ, 2400~2500MHZ,5180~8525MHZ

Gain			
频段 Band	gain 增益 (dBi)	频段 Band	gain 增益(dBi)
GPS	3.59	2.4G WIFI/BT	2.05
5G WIFI	2.22		

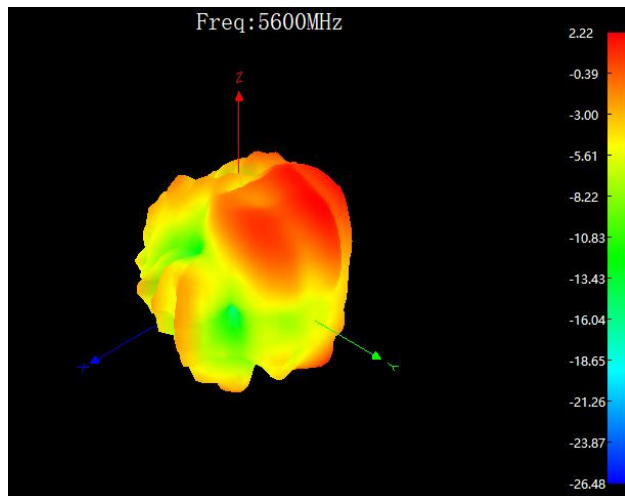
GPS



2.4G WIFI/BT



5G WIFI

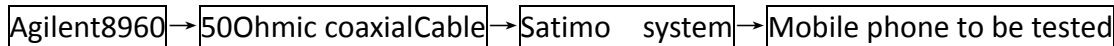


2.test result

business as usual.

四、 Active test setup

The active test devices are sequentially connected as follows:



1.Test site

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.

2.test result

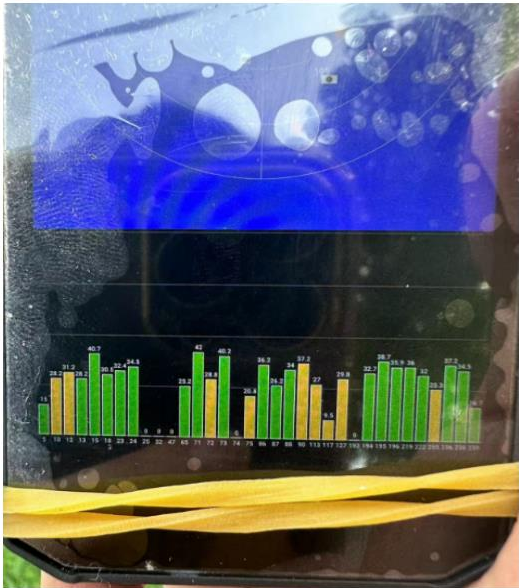
The maximum radiation power and maximum receiving sensitivity reflect the maximum power radiation value and the optimal receiving performance of the antenna in the entire radiation space. TRP and TIS reflect the average radiation power and average receiving sensitivity of the antenna, that is, the overall receiving performance of the antenna.

The following is the active test result of F051 mobile phone main antenna:

天线板子数据

	CH	TRP	TIS (天)			CH	TRP	TIS (天)
GSM850	128	26.15			B1	18050	17.49	
	190	26.81				18300	17.18	
	251	26.23	-102.27			18550	17.07	-96.54
EGSM900	1	26.12			B2	18650	18.55	
	62	26.18				18900	18.77	
	124	25.59	-100.82			19150	19	-93.75
DC S1800	512	24.34			B3	19250	18.59	
	698	24.94				19575	19.68	
	885	25.13	-105.44			19900	18.62	-90.84
PC S1900	512	24			B4	20000	18.87	
	661	24.25				20175	19.33	
	810	24.49	-101.43			20300	18.97	-94.44
W1	10562	16.55			B5	20450	17.58	
	10700	16.26				20525	17.82	
	10838	16.03	-107.42			20600	17.29	-90.53
W2	9626	16.91			B7	20800	17.21	
	9400	17.3				21100	16.63	
	9538	17.51	-106.04			21400	16.34	-90.24
W4	1312	18.09			B8	21500	18.72	
	1412	18.38				21625	18.39	
	1512	18.33	-106.96			21750	18.58	-88.62
W5	4132	17.48			B12	23035	15.69	
	4183	17.31				23095	15.21	
	4233	16.55	-104.24			23155	15.61	-92.33
W8	2937	17.42			B17	23780	15.16	
	3013	17.3				23790	15.65	
	3088	17.43	-100.27			23800	15.72	-90.48
					B20	24200	17.73	
						24300	17.58	
						24400	17.62	-90.19
					B26	26715	17.55	
						26865	17.87	
						27015	17.47	-92.95
					B28	27260	15.36	
						27435	16.64	
						27610	16.06	-90.69
					B66	132022	19.31	
						132322	20.04	
						132622	19.14	-96.79
					B38	37850	16.93	
						38000	16.06	
						38150	15.87	-88.84
					B39	38350	17.42	
						38450	17.19	
						38550	17.08	-90.5
					B40	38750	18.96	
						39150	19.12	
						39550	19.74	-91.87
					B41	40340	17.85	
						40620	16.97	
						41140	16.09	-89.12

2-1.Three in one test results



亮屏			
	CH	TRP	TIS
WIFI-B	1	13.49	-82.25
	7	13.46	-82.57
	13	14.76	-82.38
WIFI-A	36	11.48	-71.46
	149	11.83	-71.89
	165	11.71	-71.48
BT	0	7.72	-87.75
	39	7.53	-87.76
	78	7.59	-87.74

2-2.蓝牙测试（Bluetooth Test）：

10 meters online listening to music, making calls smoothly without interruption

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