



广东森领通信科技有限公司

GUANGDONG SLEING COMM-TECH CO., LTD

承认书

SPECIFICATION APPROVAL SHEET

客 户 :

CUSTOMER

客 户 料 号 :

CUS PART NO

01.WF7.X15MWFZ001A

版次:

REV

X4

品 名 / 规格 :

SPECIFICATION

2.4-2.5/5,15~7.15 GHz
WIFIMAIN Antenna L=253mm (Φ0.81+MHF)

单重:

weight

供 方 料 号 :

SUP PART NO

SLEingB248710242

日 期 :

DATE

2025/8/23

厂 商 核 准 :

SUP APPROVED

核准 APPROVED	结构审核 Structure audit	RF审核 RF CHECKED	品保审核 QA CHECKED	承办 DESIGNED

客 户 核 准 :

CUS APPROVED

核准 APPROVED	审核 CHECKED	品保审核 QA CHECKED	承办 DESIGNED

广东森领通信科技有限公司

GUANGDONG SLEING COMM-TECH CO., LTD

广东省东莞市松山湖园区工业东路24号6栋402室

Room 402, Building 6, No. 24, Industrial East Road, Songshan Lake Park,
Dongguan City, Guangdong Province

Tel: +86-076989208968

Fax: +86-0769-89208969

www.sleing.com

正本由承办单位保存

[illegible]

承认书项目表 (Spec Item)

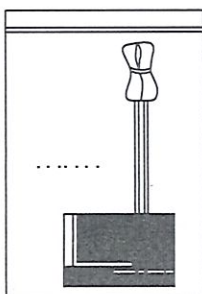
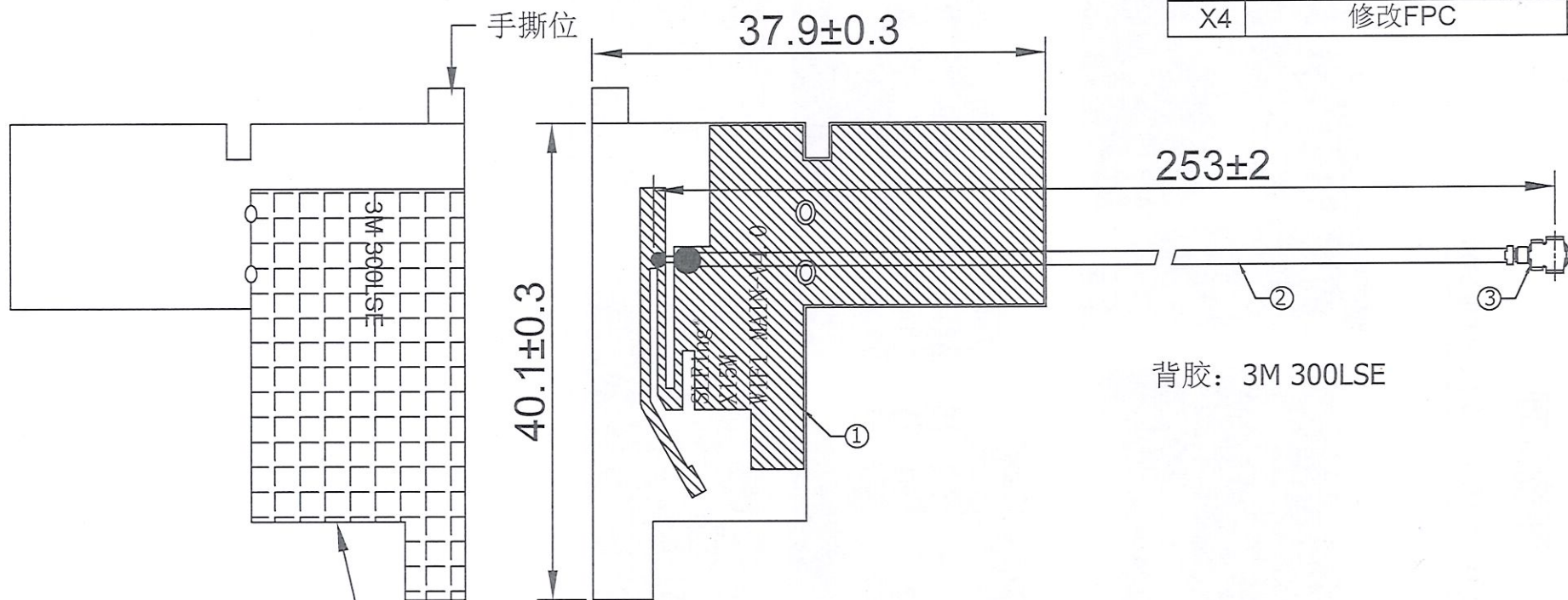
序号 (NO.)	项目 (Project)	备注 (Remark)	页码 (Page)
1	承认书封面 (Spec Cover)		1
2	变更记录 (MODIFICATION RECORD SHEET)		2
3	承认书项目表 (Spec Item)		3
4	工程成品图 (Drawing)		4
5	电性测试报告 (Test Reports)		5
6	天线组装图 (Antenna assembly diagram)		6
7	S参数测试 (S Parameter Test)		7~8
8	测试设备 (Test Setup)		9
9	测试效率 (Test Efficiency)		10
10	OTA		11

Give clear indication of:

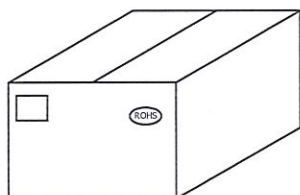
1. The contents of the acknowledgement shall be arranged in order according to the items in the check sheet.
2. The number of copies of the acceptance letter shall be printed according to the customer's requirements, and the SGS report shall be stamped with the engineering seal.
3. All materials shall be confirmed by the customer. Any material/process/changes that may affect product quality and environmental quality must be re-sent to the customer for confirmation before import.
4. SGS report is valid for one year.
5. According to the contents attached to the actual acknowledgement, check the check form: "Yes" is provided, "no" is provided according to customer requirements.

符合ROHS认证标准

REV.	CONTENT	DATE
X1	First Sample	2024.09.14
X2	修改FPC及线长	2024.09.27
X3	修改FPC	2024.12.31
X4	修改FPC	2025.08.23



50pcs/Bundle
Packing:100pcs/bag



外箱须贴ROHS标签与物料标签各1PCS

Specification:
Frequency Rang:2.4~2.5/5.15~7.15GHz(带机测试)
Return Loss:-10dB or less
VSWR:1.92 Max

SLEing® 森领 广东森领通信科技有限公司 GUANGDONG SLEING COMM-TECH CO., LTD		CUSTOMER	
		PART NO	
		TITLE	
		S.L P/NO	
		SLEingB248710242	
		DRAWN	
		CHECKED	
		APPROVED	

NO	PART NAME	DESCRIPTION	REMARK	Q'TY
3	Connector	MHF Plug for Φ0.81 Cable	第四代端子	1
2	Cable	Φ0.81mm Coaxial Cable Black,50Ω	低损耗线	1
1	FPCB	FPC,L40.1*W37.9*T0.4mm,Color:Black	300LSE Adhesive	1



广东森领通信科技有限公司

GUANGDONG SLEING COMM-TECH CO., LTD

电性测试报告

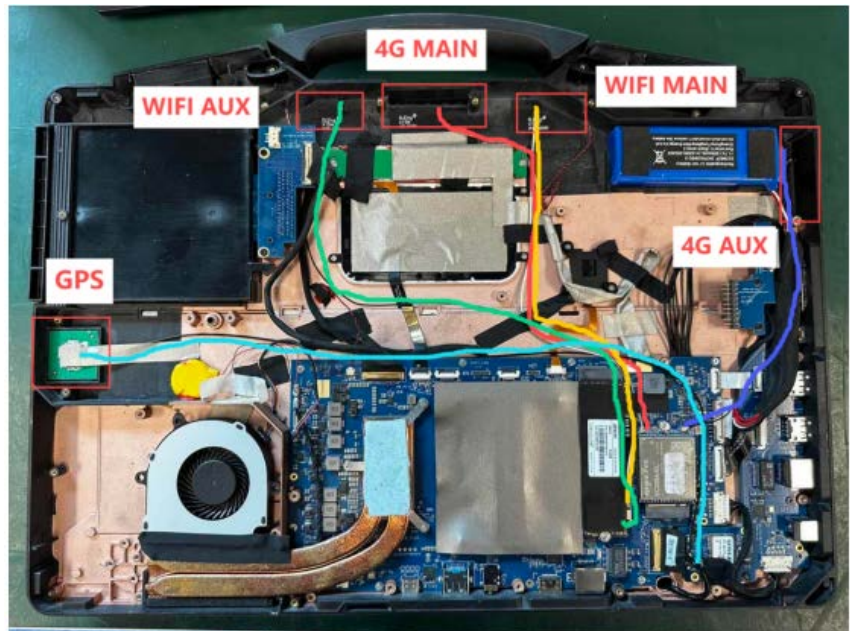
Test Reports

Electrical Properties	
Frequency	2.4~2.5/5.15~7.15GHz(带机测试)
Impedance	50 Ohm Nominal
V.S.W.R	≤ 1.92
Return Loss	-10 dB Max
Radiation	Omni-directional
Gain (Peak)	2 $\pm$ 0.5 dBi
Polarization	Linear, Vertical
Admitted Power	2 W
Connector	MHF
Physical Properties	
Antenna Material	FPCB
Cable Type	Φ 0.81mm Black
Operating Temp.	-40~+85 °C
Storage Temp.	-5~+30 °C

天线组装图

Antenna Profile

Device



Antenna



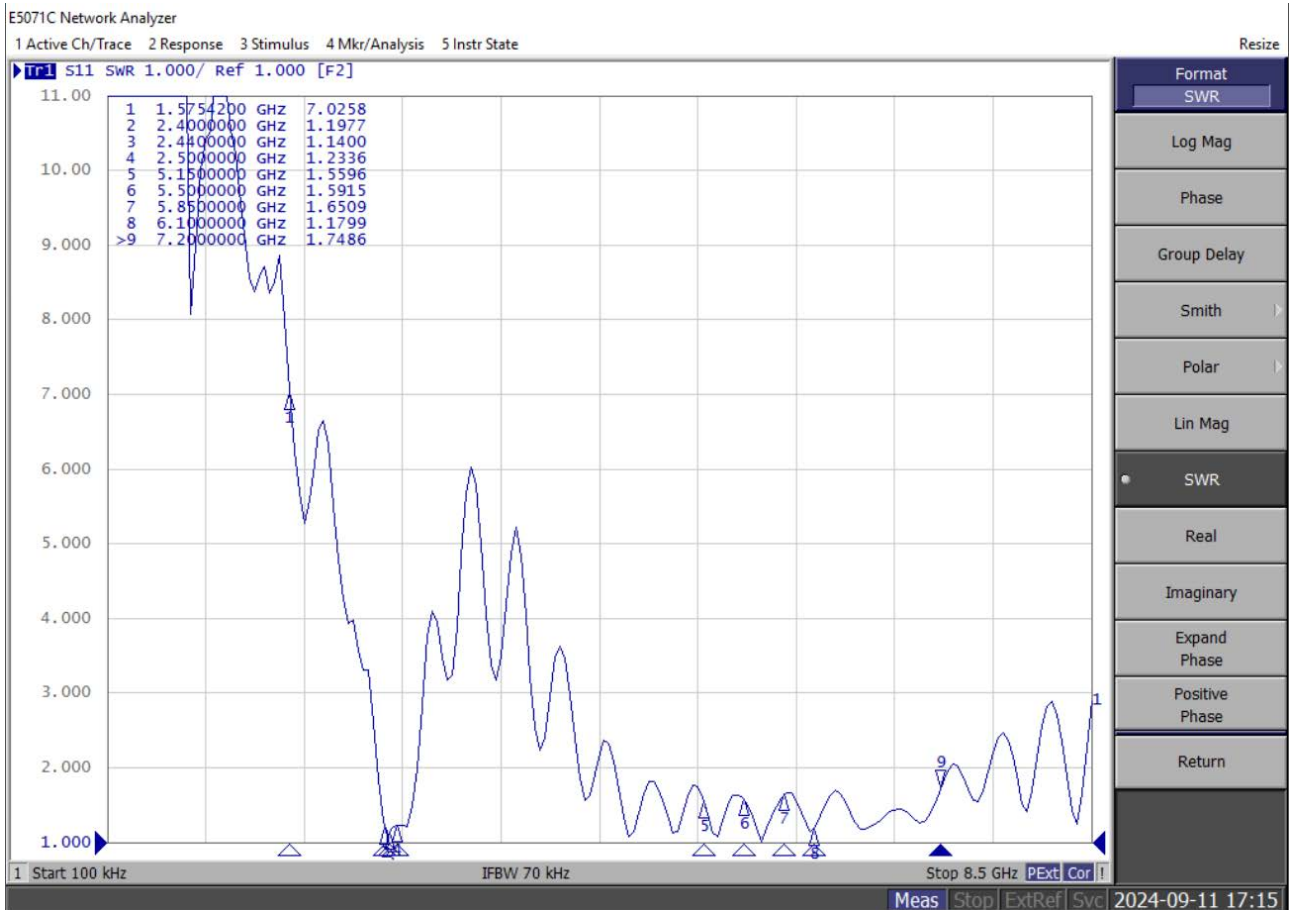
S 参数测试

S Parameter Test

Agilent E5071C Network Analyzer



WiFi 驻波 Antenna (NO.1)



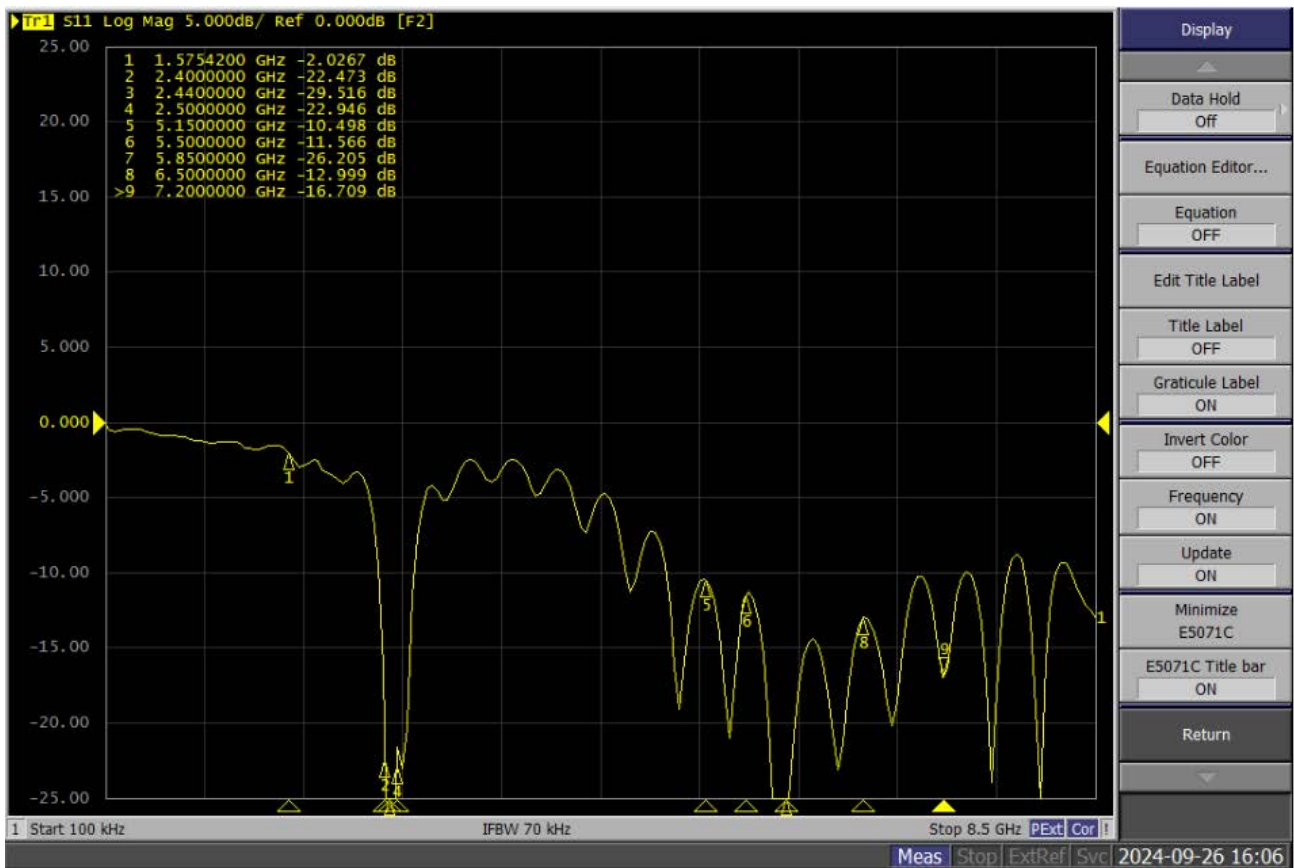
S 参数测试

S ParameterTest

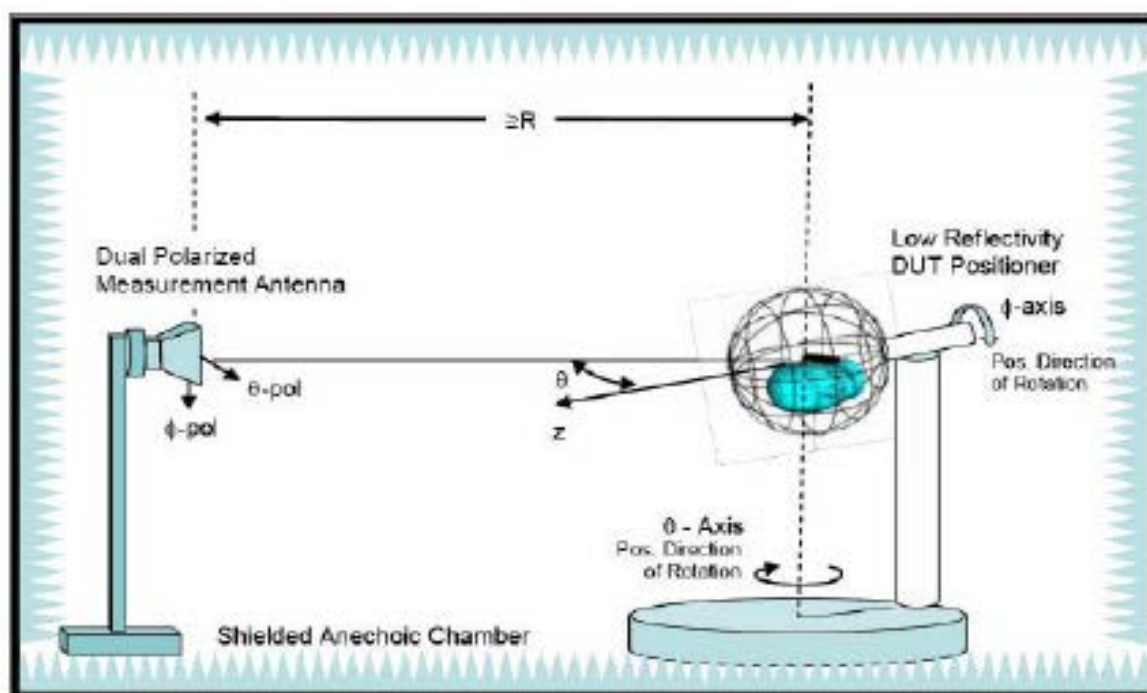
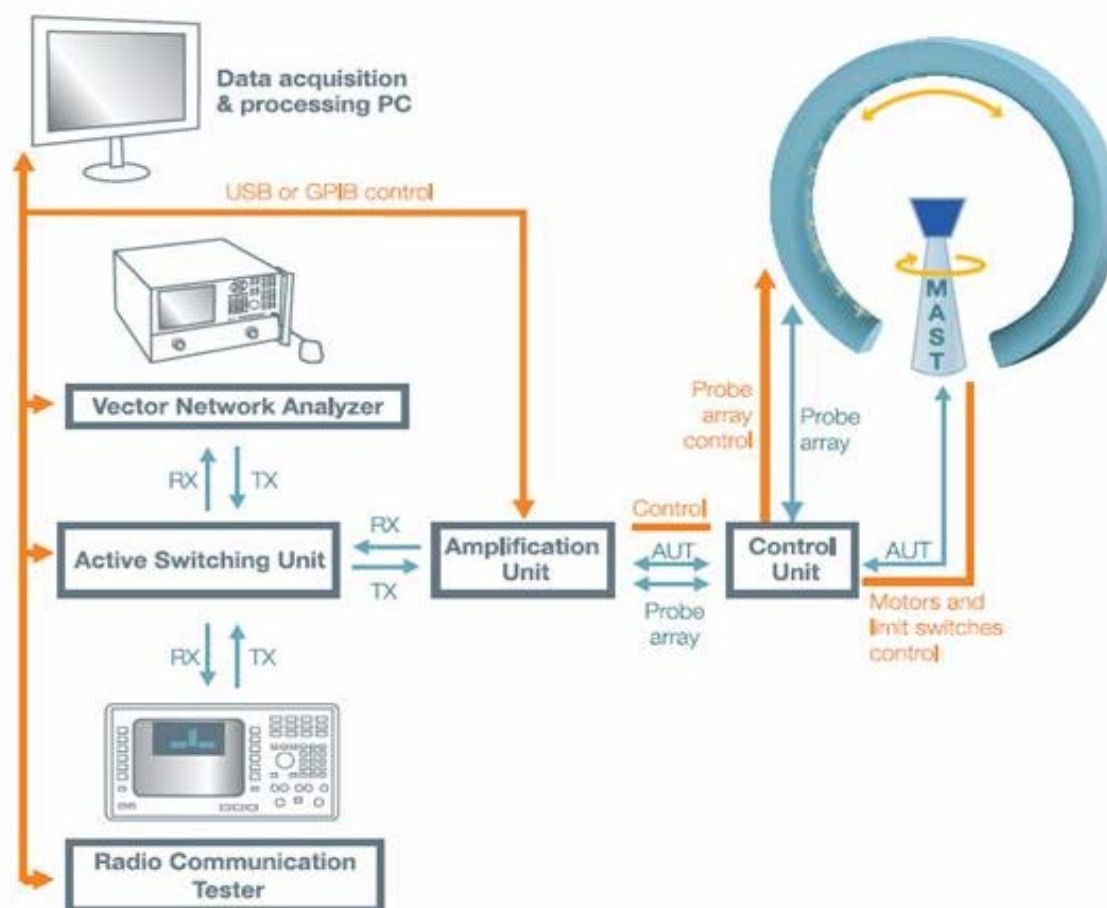
Agilent E5071C Network Analyzer



WiFi 回波损耗 Antenna (NO.1)



测试设备 Test Setup

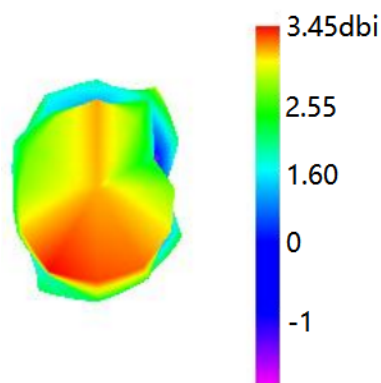


测试效率

Test Efficiency

WIFI主	Freq(MHz)	Efficiency _y _dB	Gain	Efficiency _y (%)
1	2400	-2.97887	3.403238	50.36313
2	2410	-2.97438	3.381132	50.41529
3	2420	-2.93568	3.453271	50.86649
4	2430	-2.91204	3.4593	51.14419
5	2440	-2.90474	3.349933	51.23018
6	2450	-2.83379	3.191938	52.07397
7	2460	-2.84521	2.964906	51.93721
8	2470	-2.88541	2.554679	51.45873
9	2480	-2.85979	2.360571	51.76314
10	2490	-2.91524	2.289511	51.10653
11	2500	-2.95171	2.234067	50.67909
12	5150	-4.42162	1.608735	36.12754
13	5200	-4.39236	1.930761	36.37175
14	5250	-4.30564	2.217919	37.10528
15	5300	-4.18169	1.987125	38.1796
16	5350	-3.74168	2.391467	42.25056
17	5400	-3.87369	1.721788	40.98557
18	5450	-4.00781	1.834413	39.73915
19	5500	-4.44836	1.295187	35.90577
20	5550	-4.2804	1.440604	37.32159
21	5600	-4.31968	1.140317	36.98553
22	5650	-4.44869	0.652595	35.90304
23	5700	-3.93042	1.123541	40.45365
24	5750	-3.986	0.845171	39.93922
25	5800	-3.97002	0.935261	40.08649
26	5850	-4.27608	0.867744	37.3587
27	5950	-4.45281	0.86352	35.86899
28	6000	-4.77569	0.91731	33.29901
29	6050	-4.83861	1.071447	32.82001
30	6100	-4.798	1.565366	33.1284
31	6150	-4.30562	2.221792	37.10543
32	6200	-4.13592	2.748176	38.5841
33	6250	-4.47458	2.597878	35.68965
34	6300	-4.36532	2.584716	36.59891
35	6350	-4.59226	2.290769	34.7355
36	6400	-4.5921	2.077289	34.73684
37	6450	-5.01232	1.425771	31.53318
38	6500	-5.10133	1.124495	30.89348
39	6550	-4.83046	1.205135	32.88167
40	6600	-4.93431	1.175534	32.10473
41	6650	-4.65785	1.666169	34.21487
42	6700	-4.72366	1.68595	33.70032
43	6750	-4.65975	1.607489	34.19992
44	6800	-4.58863	1.461765	34.7646
45	6850	-5.04226	1.043491	31.31654
46	6900	-4.98403	1.134297	31.73928
47	6950	-5.22658	0.864529	30.01528
48	7000	-5.36228	0.506442	29.09187
49	7050	-5.37335	0.075369	29.01781
50	7100	-5.15641	-0.1015	30.50418
51	7150	-4.89391	0.164613	32.40479
52	7200	-5.01763	0.346781	31.49469

Antenna Radiation Pattern 3D





广东森领通信科技有限公司

GUANGDONG SLEING COMM-TECH CO., LTD

OTA

项目：主+副天线		Performance request（性能要求）	信道	结果	判定	备注
2.4G WiFi_11b_CCK_11M	TRP	≥10dbm	1	12.23	PASS	
			7	12.04		
			13	11.50		
	TIS	≤-80dbm	1	-81.00	PASS	
			7	-80.26		
			13	-80.51		
5G WiFi_11a_54M	TRP	≥9dbm	36	12.24	PASS	
			64	12.29		
			157	11.98		
	TIS	≤-64dbm	36	-74.58	PASS	
			64	-74.85		
			157	-73.44		
WIFI漫游	测试环境：EM-public3F；频率：5GHz；协议：802.11ac；信道：AP随机 测试方法：在多个AP之间穿梭，利用软件查看热点的信号值					
	断开当前AP时信号值：		/			
	当前AP信号到达临界值后到切换至下个AP的时间		/			
	断开当前AP后丢包数		/			
项目：副天线		Performance request（性能要求）	结果	判定	备注	
2.4G WiFi_11b_CCK_11M	TRP	≥11±1dbm	\			
	TIS	≥-80dbm	\			
2.4G WiFi_11g_OFDM_54M	TRP	≥10±1dbm	\			
	-62.78	≥-67dbm	\			
2.4G WiFi_11n_20M_MCS7	TRP	≥9±1dbm	\			
	TIS	≥-63dbm	\			
5G WiFi_11a_54M	TRP	≥10±1dbm	\			
	TIS	≥-65±1dbm	\			
5G WiFi_11n_20M_MCS7	TRP	≥9±1dbm	\			
	TIS	≥-65±1dbm	\			