Antenna SPEC

Supplier Name	Sunnyway		
Material Name	Antenna Cells		
Specifications	FPC antenna,52.91*25.05mm, Silkscreen: SY-LL303(L)-MAIN-V1.0 (LL303(L)/ Shang Yuan)		
Project Model	LL303(L)	Pigment	Black
Material code/material number	KR3317L30310100		
Environmental requirements	■RoHS compliant □no-RoHS □Confirmed to REACH □no-REACH		
Type	□New product recognition□Material change will be admitted□Specification changes will be admitted		
State	□Structure sample qualified □Appearance sample qualified □Color samples qualified		

Description of replacement material		
Date	Change description	Signature

Fill in by supplier					
Producer/Date		Reviewer/Date		Approver/Date	

Fill in by the company					
Structural recognition	Project recognition	Procurement recognition	Quality recognition	Hardware recognition	

尚远科技（中国）有限公司

Sunnyway Technology (China) Co. Ltd.

Antenna SPEC

Customer name: JimiloT	Entry name: LL303 (L)
Working frequency band:LTE1/2/3/4/5/7/8/20/28/40	
Motherboard version:	

Sunnyway Material specification		
Specification type	Sunnyway number	Customer number
MAIN Antenna	SZ22112IB75-1	KR3317L30310100

Revision history			
Date of preparation/change	Change content	Altered person	Edition
2022.09.07	**New issue**	**Yang XIN**	**A**

Sunnyway Countersign column				
RD	ME:	To examine:	QE:	Approval:
	RF:	To examine:		

Customer will sign the column			
Electronic Engineer	Project manager	Structural Engineer	Quality Engineer

Tel: ＋86-021-64842326 （shanghai）; ＋86-0755-82504258（shenzhen）Fax: ＋86-021－64842328

Shanghai R&D Center: 1 / F, Building 4, No. 99, Lane 215, Gaoguang Road, Qingpu District, Shanghai

Shenzhen R&D Center: 6th Floor, Building 5, Nantaiyun Chuanggu Center, Guangming District, Shenzhen

Chongqing R&D Center: 1F, ARM Ecological Industrial Park, No. 19, East Datagu Road, Xiantao, Yubei District, Chongqing

Huizhou Manufacturing Center: Floor 4-5, No. 1, Central Village Road, Longhu Industrial Zone, Shuikou Town, Huicheng District, Huizhou

Email: sales@sunnyway-iot.com Web: www.sunnyway-iot.com

ITEM

1. PROJECT PICTURES

project pictures shown below：

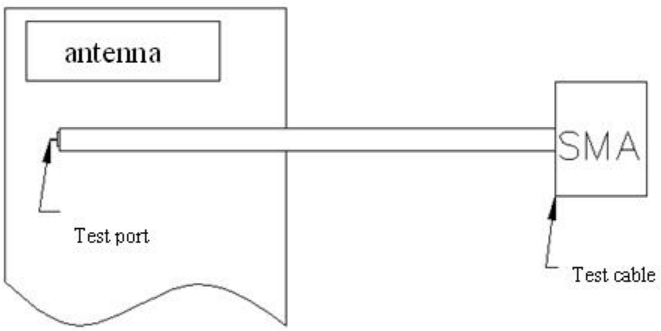
PS：

To ensure that the antenna shipment quality, the final prototype Clients validated the antenna's performance, should be kept in our company for at least a year time, facilitate solving antenna amount during abnormal situation,

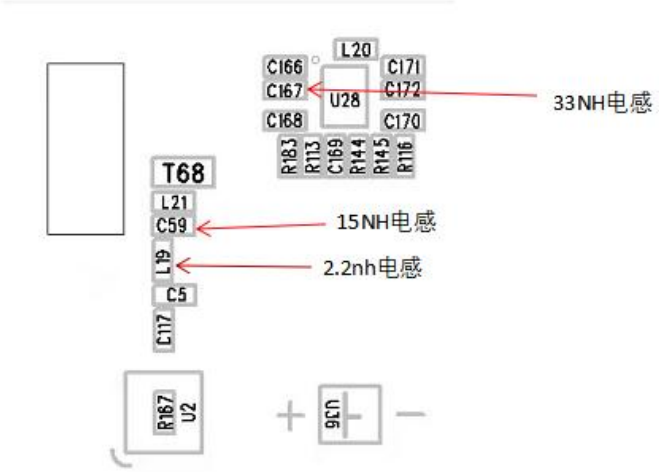
2. TEST FIXTURE

Purpose： To test antenna passive parameters as accurately as possible。

methods：the fixture is to use a 50 ohm coaxial cable, one end is connected to the pad after the antenna 's matching circuit (the front of the antenna switch) , and the other end is connected to the SMA connector.



3. MATCHING CIRCUIT



主路L19串2.2NH电感，C59并15NH电感一路
C167并33NH电感控制700兆频段

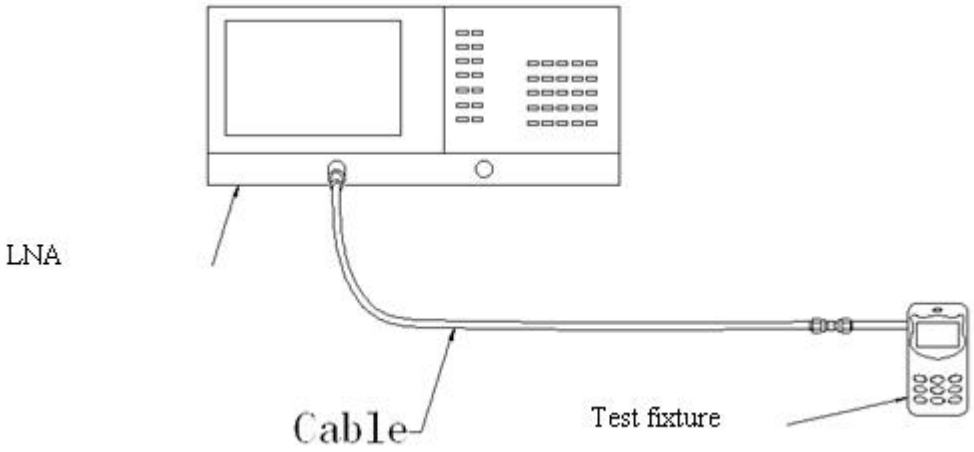
4. S11 test

4.0 S11 test method instructions

Test equipment：LNA(Agilent E5071B)

Test method：With a 50 ohm CABLE ,CABLE export from instrument testing port ， After the calibration with calibration Key, connected to the SMA connector， Records the return loss and VSWR of the related frequency points.

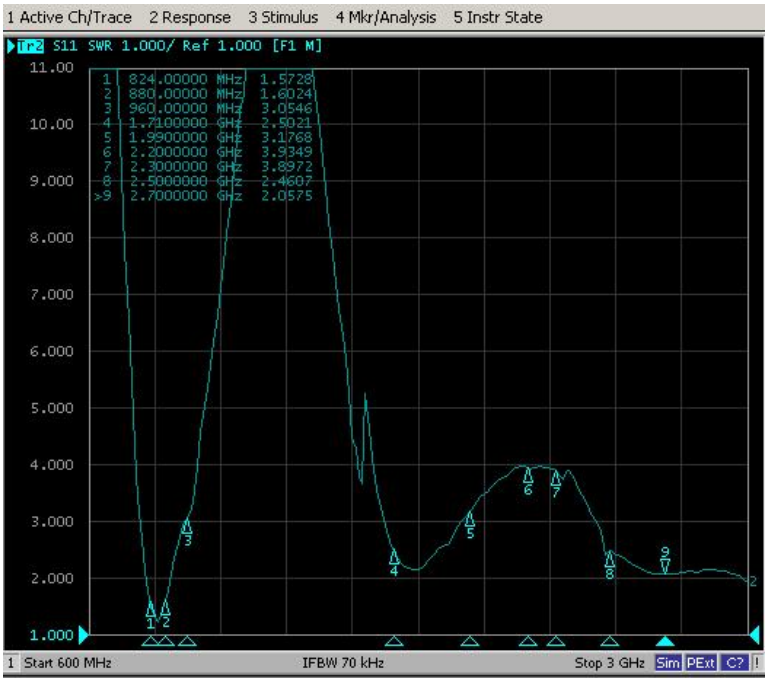
Test schematic diagram is as follows：



Test schematic diagram

4.1 S11 parameter

MIAN ANT VSWR



频率（MHZ）	824	2700
驻波比	1.57	2.05

5 CHAMBER TEST DATA

Test equipment

Test system: chamber

Test environment: the temperature of 22 ℃ + 3 ℃, humidity of 50% plus or minus 15%

Test equipment: to test passive status , use Agilent 5071C to test active status, use CMW500.

OTA Test data

FDD-LTE 2.1G (B1)			FDD-LTE 1.9G (B2)			FDD-LTE 1.8G (B3)			FDD-LTE 2.1G (B4)			FDD-LTE 2.6G (B7)		
18050	18300	18550	18650	18900	19150	19250	19575	19900	20000	20175	20350	20850	21100	21350
19.2	18.79	17.07	18.92	20.49	18.22	18.73	19.66	18.3	19.91	19.95	18.44	20.86	19.87	21.27
18.35333333			19.21			18.89666667			19.43333333			20.66666667		
50	300	550	650	900	1150	1250	1575	1900	2000	2175	2350	2850	3100	3350
-93.86	-92.73	-92.59	-94.48	-93.97	-92.61	-93.14	-93.83	-92.58	-93.49	-93.37	-93.56	-95.7	-93.12	-92.35
-93.06			-93.68666667			-93.18333333			-93.47333333			-93.72333333		

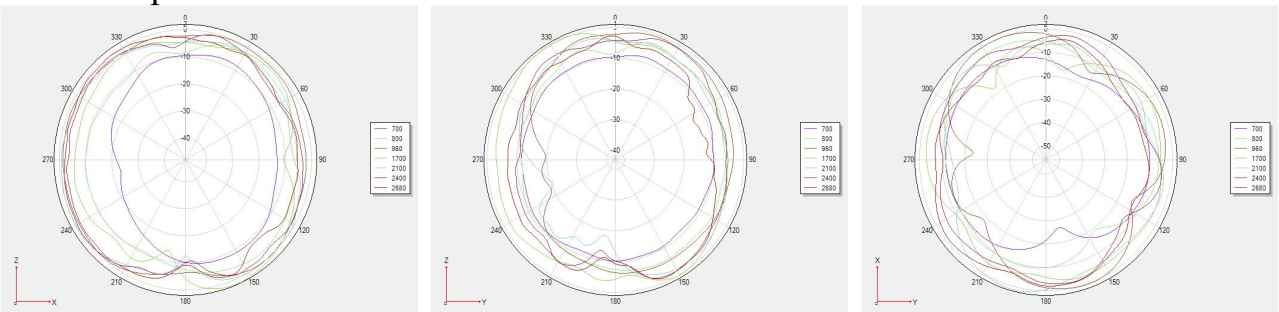
FDD-LTE 850M (B5)			FDD-LTE 900M (B8)			FDD-LTE 800M (B20)			FDD-LTE 750M (B28)		
20450	20525	20600	21500	21625	21750	24200	24300	24400	27260	27435	27610
16.59	16.51	16.68	20.65	21.54	19.7	16.38	17.5	18.91	17.44	17.07	15.7
16.59333333			20.63			17.59666667			16.73666667		
2450	2525	2600	3500	3625	3750	6200	6300	6400	9260	9435	9610
-95.11	-94.02	-95.09	-94.76	-94.92	-96.92	-90.86	-91.39	-92.45	-88.96	-91.02	-92.53
-94.74			-95.53333333			-91.56666667			-90.83666667		

TDD-LTE 2.3G (B40)		
38750	39150	39550
18.94	20.28	19.54
19.58666667		
-94.42	-94.09	-94.73
-94.41333333		

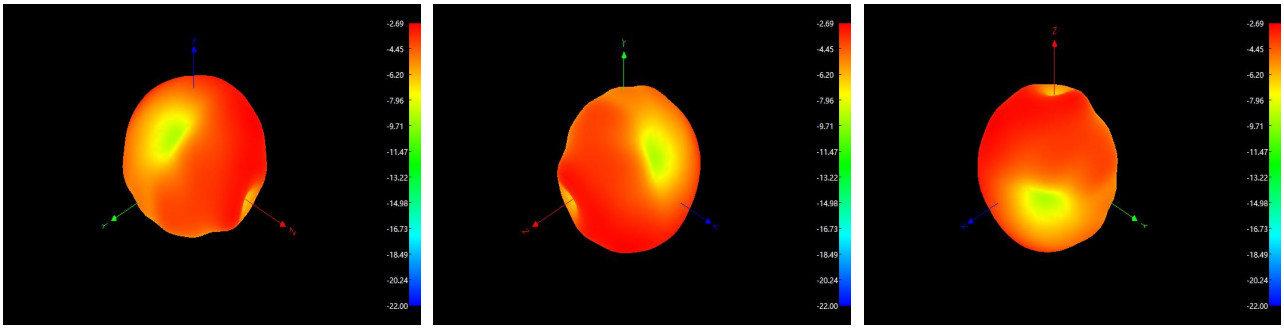
Antenna gain

GSM	850：-4.26dBi 900：-4.15dB 1800：-3.18dB 1900：-5.19dBi
FDD	B1：-3.38dBi B2：-4.29 dBi B3：-3.78 dBi B4：-3.52 dB B5：-5.19 dBi B7：-4.15 dBi B8：-4.39 dBi B20: -4.92 B28A：-3.59 dBi B40：-4.39 dBi

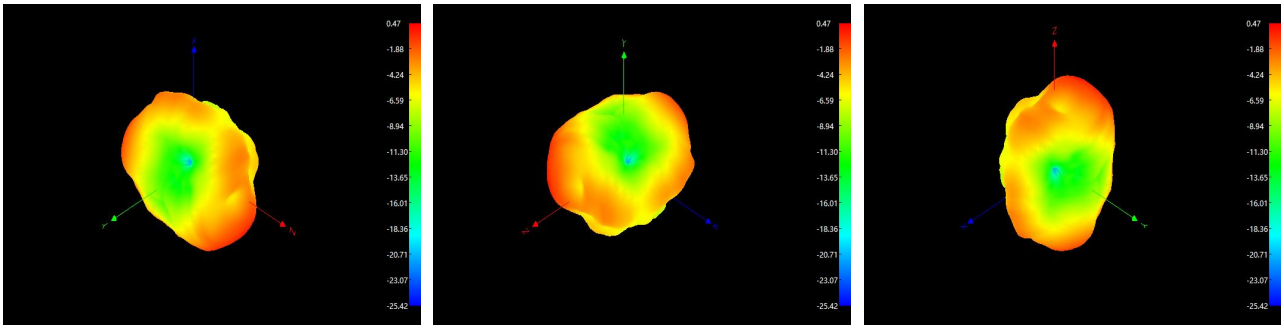
Radiation pattern



3D For 800MHz



3D For 2680MHz



6. Ground handling

Environmental treatment is not added, according to the customer's original environmental treatment.

7. Mass production antenna Spec

During Mass production, to test VSWR as production test standard

According to the difference of the project itself, the following specification:

Frequency	SPEC , Mass Production
700-960MHz	VSWR（MP performance）<VSWR(Verify performance)+0.5
1710-2190MHz	VSWR（MP performance）<VSWR(Verify performance)+0.5

8. Structural drawings