

Sunnyway Technology (China) Co., Ltd.

Antenna SPEC

Customer name:Mobiletek		Project name:P51AE-G
Operating Band: EMTC B1/2/3/4/5/8/12/13/18/19/20/25/26/27/28/66		
Motherboard version:A502-V1 20200109		
Material specifications		
Specifications and models	Material No	Customer data
Main antenna	SH22343IA65	

Change your resume				
Date of establishment/change	Change the content		Changers	Version
SUNNYWAY Will sign the box				
R & D	ME:	Audit:	QE:	Approved:
	RF:	Audit:		
The customer will sign the bar				
Electrical engineer	PM	ME		QE

Tel: +86-021-64842326 (shanghai)

+86-0755-82504258 (shenzhen)

Fax: +86-021-64842328

Shanghai R & D center: Room 302, building 65, No.421, Hong Cao Road, Caohejing Development Zone, Shanghai.

Shenzhen R&D Center: Room 405, 4th Floor, Jinke Building, No.8 Qiongyu Road, Nanshan District, Shenzhen

目录

1. Project Image.....	3
2. Test fixture.....	4
3. Matching circuit.....	4
4. S11 test.....	5
4.1 S11 The test method states.....	5
4.2 S11 Parameter.....	5
4.2 V.S.W.R.....	5
5 Darkroom test data.....	6
5.1 Passive test data.....	6
5.1.1 Passive efficiency of antenna.....	6
5.2 Active test data.....	7
5.2.2 Active antenna test data.....	7
6. Ground handling of the prototype.....	7
7. Mass production antenna index.....	8
8 Engineering drawings.....	9

1. Project information

Machine Information



Antenna information



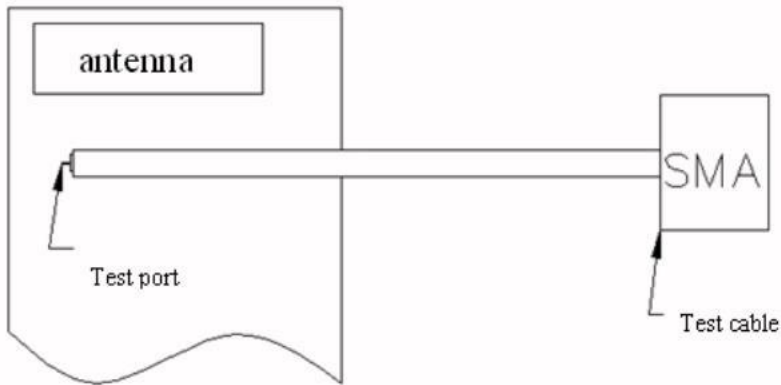
Motherboard	
-------------	--

The final verification antenna performance prototype is kept in our company for at least one year to facilitate the analysis and resolution of antenna production anomalies, Ensure the quality of antenna shipment

2. Test fixture

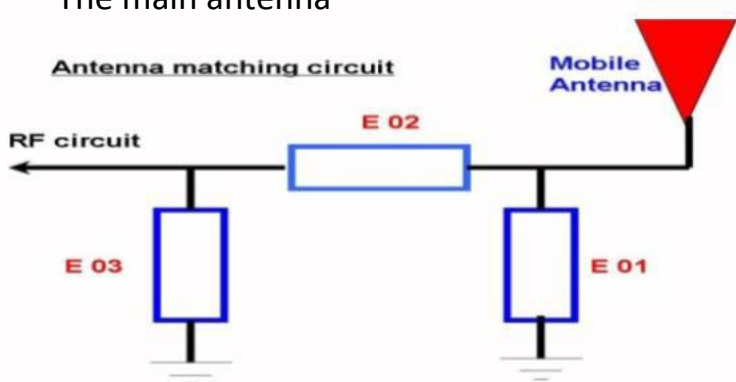
Purpose: To test antenna passive parameters as accurately as possible.

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

The main antenna



Element	Value
E1	6.8nH
E2	0 Ω
E3	N/A

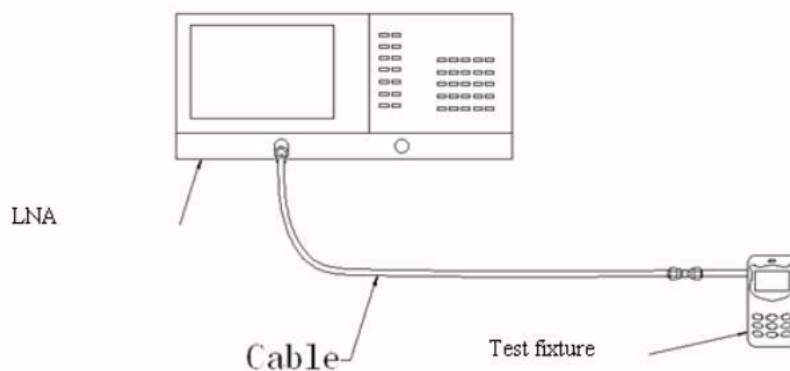
4. S11 Test

4.1 S11 test method instructions

Test equipment: LNA(E5062A)

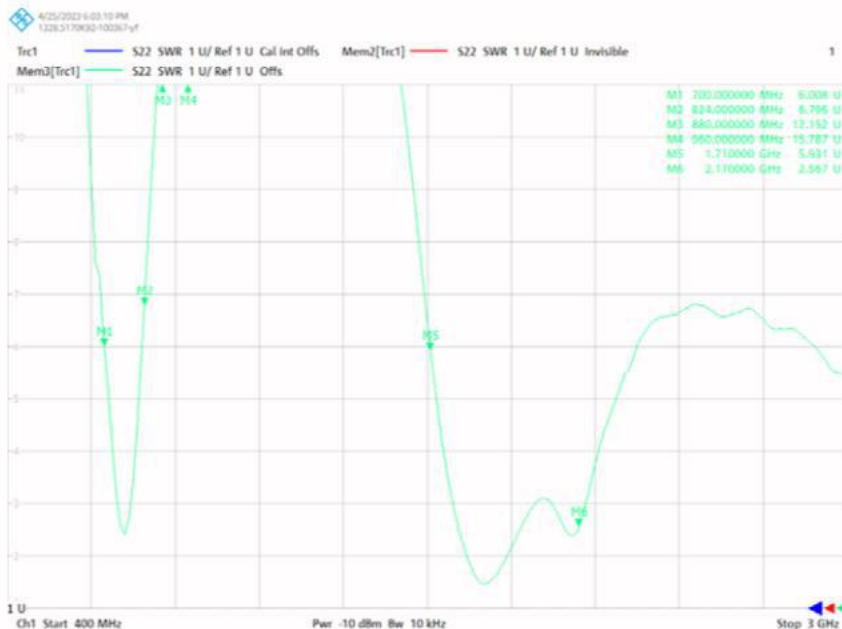
Test method: With a 50 ohm CABLE ,CABLE export from instrument testing port , After the calibration with calibration Key, connected to the SMA connector, Records the return loss and VSWR of the related frequency points.

Test schematic diagram is as follows:



4.2 S11 Parameter

The main antenna



FRq (MHz)	VSWR
700	6.0
824	6.79
880	12.1
960	15.7
1710	5.9
2170	2.56

5.Anechoic Chamber test data test system: SHIELDED
ANECHOIC chamber test environment: temperature $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$,
humidity $50\% \pm 15\%$ test equipment: when testing passive data,
when testing active data using Network analyzer Agilent
E5062C, agilent 8960/CMW500/E4438C was used

5.1 Passive test data

Passive efficiency of the main antennas

The main antenna



Chanel	Band2	Band4	Band12	Band13
Gain(dB)	3	-0.5	-7.5	-2.5

5.2 Active test data

The main antenna active test data (free space, screen off)

Band	Channel	OTA (dBm)	
		TRP (dB)	TIS (dB)
EMTC FDD Band 1	L	17.52	
	M	17.48	
	H	16.89	-94.77
EMTC FDD Band 2	L	17.62	
	M	17.79	
	H	17.53	-94.76
EMTC FDD Band 3	L	15.69	
	M	16.28	
	H	16.33	-94.59
EMTC FDD Band 4	L	15.55	
	M	16.79	
	H	16.88	-93.96
EMTC FDD Band 5	L	13.25	
	M	13.79	
	H	13.58	-93.29
EMTC FDD Band 8	L	13.73	
	M	12.61	
	H	12.47	-92.66
EMTC FDD Band 18	L	13.22	
	M	13.35	
	H	13.5	-93.77
EMTC FDD Band 25	L	16.12	
	M	16.22	
	H	16.33	-93.66

Band	Channel	OTA (dBm)	
		TRP (dB)	TIS (dB)
EMTC FDD Band 19	L	13.68	
	M	13.87	
	H	13.35	-93.28
EMTC FDD Band 20	L	13.28	
	M	13.39	
	H	13.44	-94.45
EMTC FDD Band26	L	13.36	
	M	13.79	
	H	13.22	-93.48
EMTC FDD Band12	L	13.79	
	M	13.85	
	H	13.89	-94.82
EMTC FDD Band13	L	14.22	
	M	14.53	
	H	14.25	-94.79
EMTC FDD Band 27	L	13.66	
	M	13.79	
	H	13.69	-94.12
EMTC FDD Band 28	L	13.84	
	M	13.89	
	H	13.93	-94.87
EMTC FDD Band 66	L	15.26	
	M	16.47	
	H	16.52	-94.72

6. Ground handling of the prototype

Note: No additional environmental treatment.

7. The standing wave ratio (SWR) is used as the test standard for antenna mass production. Based on the differences of the project itself, the following criteria are given:

Frequence	SPEC ,Mass Production
700MHz--960MHz 1710MHz--2170MHz	VSWR (MP performance) <VSWR (Verify performance)+1

8 Engineering drawings

