规格承认书

Approval Sheet

客户名称 本恩科技

(Customer Name）

产品名称 OS-E02-37MZ Antenna

(Specification)

客户料号

(Customer P/N)

产品料号

(O/I)

送样日期 2023-11-20

（Date）

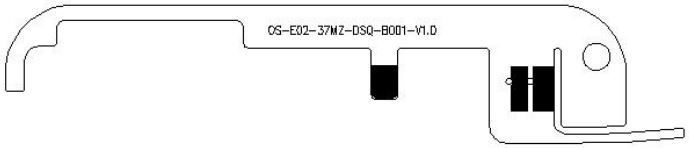
Frequency band	GSM:2.3.5.8、WCDMA:1.2.5、LTE:B1.2.4.5.7.8.20.28.40		
Version	A		
RF	王志彬	Confirm	
Structural Engineer	杨学忠		
Customer confirmation			
Date			

深圳市德仕勤科技有限公司
Dosking MicroElectronics Co.,Ltd
地址：深圳市南山区西丽大学城民企科技园 2 栋（港鸿基大厦）西座 403
TEL:0755-88602767 FAX:0755-82793883

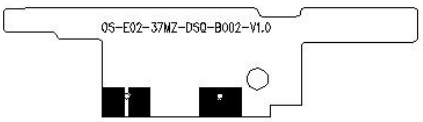
Catalogue

深圳市德仕勤科技有限公司
Dosking MicroElectronics Co.,Ltd
地址：深圳市南山区西丽大学城民企科技园 2 栋（港鸿基大厦）西座 403
TEL:0755-88602767 FAX:0755-82793883

1.Project image (for reference only)



GSM Antenna

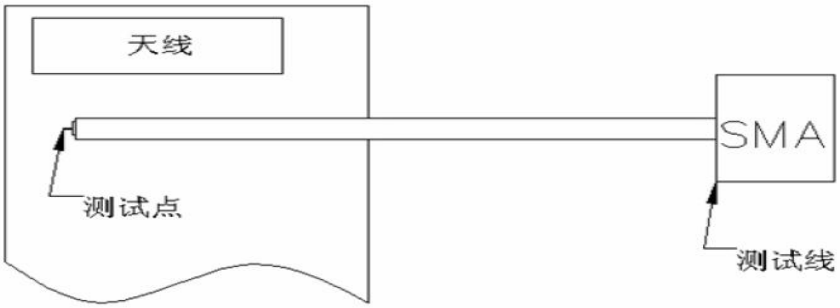


GPS/WIFI+BT Antenna

2. Passive Test

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

Method: This fixture uses a 50 ohm coaxial cable, with one end connected to the test point at the back end of the matching circuit (RF test hole front section) of the mobile phone motherboard, and the other end connected to the SMA connector. As shown in the following figure:



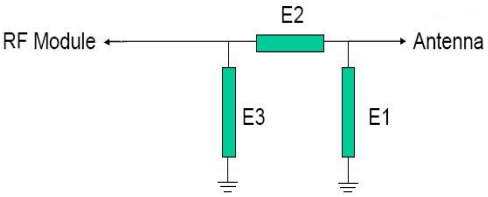
The following table shows the performance test indicators for OS-E02-37MZmass-produced antennas：

OS-E02-37MZ Antenna				
	Frequency (MHz)	VSWR	Frequency (MHz)	VSWR
Frequency band	Transmitting end		Receiving end	
GSM850	824-849	≤3.5	869-894	≤3.0

深圳市德仕勤科技有限公司
Dosking MicroElectronics Co.,Ltd
地址：深圳市南山区西丽大学城民企科技园 2 栋（港鸿基大厦）西座 403
TEL:0755-88602767 FAX:0755-82793883

GSM900	880-915	≤3.5	925-960	≤3.5
DCS1800	1710-1785	≤3.0	1805-1880	≤2.5
PCS1900	1850-1910	≤2.8	1930-1990	≤3.2
WCDMA-850	824-849	≤3.5	869-894	≤3.5
WCDMA-1700	1710-1755	≤3.5	2110-2155	≤3.5
WCDMA-1900	1850-1910	≤2.8	1930-1990	≤3.2
WCDMA-2100	1710-1755	≤3.5	2110-2155	≤3.5
WCDMA-900	880-915	≤3.5	925-960	≤3.5

3.Matching circuit



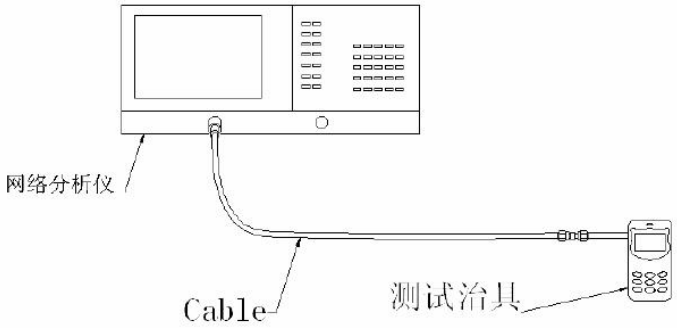
Element	Matching Value
E1	
E2	
E3	

4. S11Test

4.1 S11Test Method Description Specification Standards

VSWR The testing devices are sequentially connected as follows : E5071B Network analyzer → 50Ω Coaxial line → 120mm Copper tube → Test fixture。

Treatment of testing 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 a copper pipe with a choke ring, and then connect other devices in sequence.



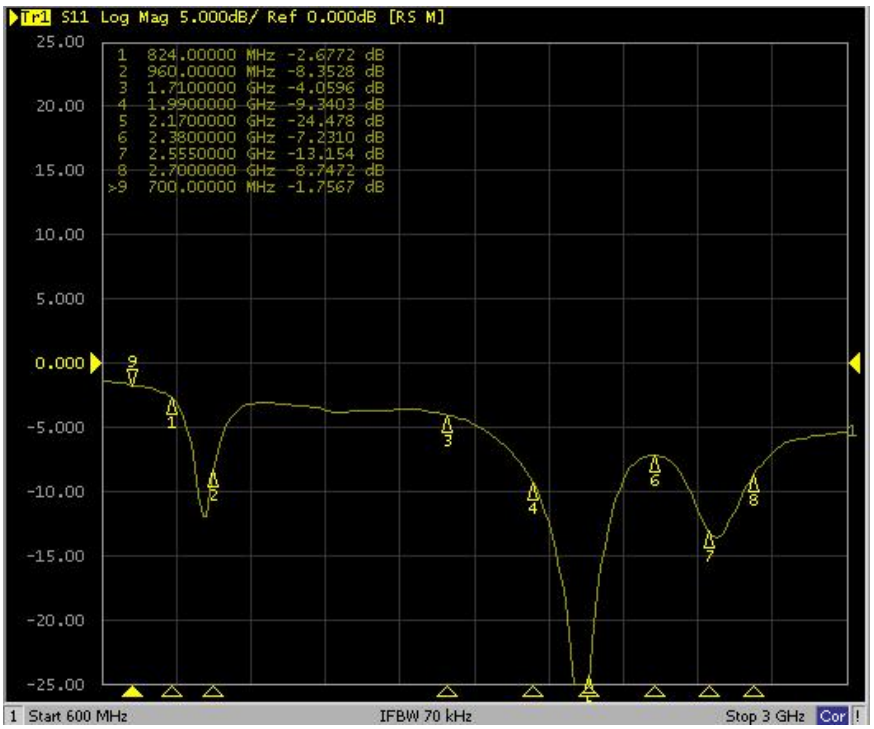
Test diagram

4.2 S11Parameter

The following table shows the standing wave ratio values at the edge frequency points of the ME61 antenna operating frequency band. The waveform diagrams of Return Loss and VSWR obtained from the test are shown in the attachment.

	OS-E02-37MZ Antenna				
Frequency(MHz)	824	960	1710	1990	2700
Free space	-2.6	-8.3	-4	-9.3	-8.7

4.3 S11



5. Power and sensitivity testing

5.1 Test data

Band	CH			Band	CH	FS	
GSM850	128	24.5		LTE Band1	18050	17.3	
	190	25.2			18300	17.4	
	251	25.8	-100.7		18550	17.2	-92.5
EGSM900	975	26.2		LTE Band2	18650	15.3	
	38	25.3			18900	15.4	
	124	25.1	-100.8		19150	15.2	-90.5
PCS1900	512	23.3		LTE Band4	20000	15.1	
	661	23.7			20175	15.5	
	810	23.5	-101.4		20350	15.3	-90.1
WCDMA Band1	10562	17.8		LTE Band5	2450	15.4	
	17000	17.5			2525	16.2	
	10838	17.2	-101.4		2600	16.4	-90.2
WCDMA Band2	9662	15.3		LTE Band7	20800	14.2	
	9800	15.4			21100	14.5	
	9938	15.5	-101.7		21140	14.3	-89.4
WCDMA Band5	4357	15.3		LTE Band8	21500	16.5	
	4408	15.7			21625	16.1	
	4458	15.8	-101.6		21750	15.7	-89.3
LTE Band40	38750	14.3		LTE Band20	24200	16.6	
	39150	14.5			24300	16.7	
	39550	14.4	-87.6		24400	16.3	-89.4
				LTE Band28	27260	16.5	
					27345	16.7	
					27610	15.4	-88.2

5.2 Antenna gain

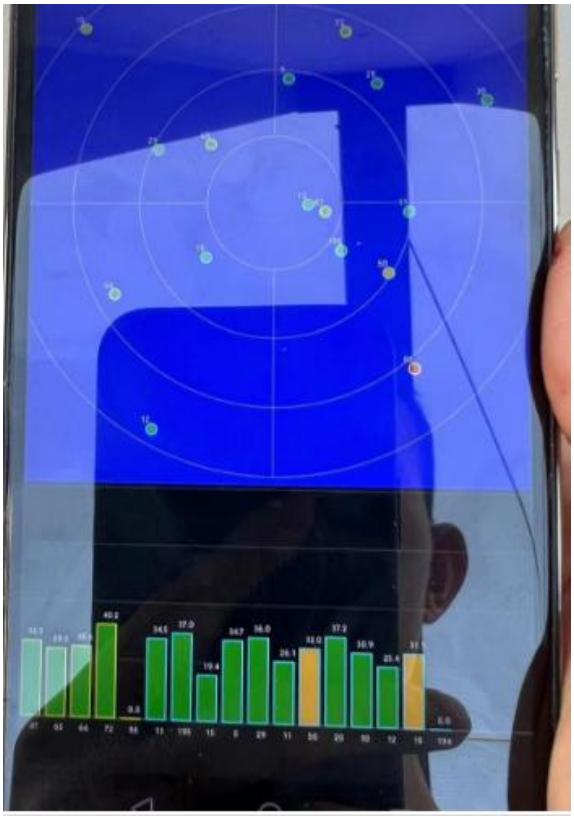
Band	增益(dBi)	Band	增益(dBi)
GSM850	-1.4	B1	1.3
EGSM900	-1.2	B2	1
PCS1900	1	B4	1
WCDMA Band1	1.3	B5	-1.4
WCDMA Band2	1	B7	2
WCDMA Band5	-1.2	B8	-1.2
LTE Band40	1.8	B20	-1.2
		B28	-2

5.3 GPS/WIFI+BTAntenna Test

Channel	2400			2450		
	CH1	CH7	CH13	CH1	CH7	CH13
TRP	10.11	10.18	10.07	7.78	8.97	8.69
TIS	-80.48	-80.57	-80.51	-69.82	-69.36	-68.34
Gain	+0.6dBi			+0.6dBi		
Channel	2500			5000-5850		
	CH1	CH7	CH13	CH36	CH60	CH165
TRP	7.97	8.0	8.68	10.70	10.14	11.65
TIS	-66.07	-66.33	-65.82	-69.74	-70.17	-70.22
Gain	+0.6dBi			+1.1dBi		

<table>
<tr><td rowspan="5">GPS/WIFI/BT

注:</td><td rowspan="2">GPS</td><td>Maximum signal strength</td><td>Number of received stars</td><td>Average positioning time（s）</td><td>Weather conditions</td></tr>
<tr><td>40</td><td>4-7</td><td>120</td><td>晴</td></tr>
<tr><td rowspan="2">WIFI</td><td colspan="2">Normal internet distance（m）</td><td colspan="2">Smooth distance for online browsing（m）</td></tr>
<tr><td colspan="2">10-12</td><td colspan="2">10-12</td></tr>
<tr><td rowspan="2">BT</td><td colspan="4">Clear call distance（m）</td></tr>
<tr><td colspan="4">10</td></tr>
</table>



6.Structural drawings