

# VALUABLE TECHNOLOGY

VALUABLE Communication Technology Limited

## Approval sheet of Wasam D250 Internal Antenna

Customer/Project	Wasam D250	Frequency Band	GSM850/PCS
SCT P/N		Version	R: A
Date	2014-08-20		

### VALUABLE

Checked by	RF		Design by	RF	Xiangguojun
	ME			ME	zhoupeng
	QC		Remark		

### Customer

Date				
Checked by	RF		QC	
	ME		Manager	
Remark				

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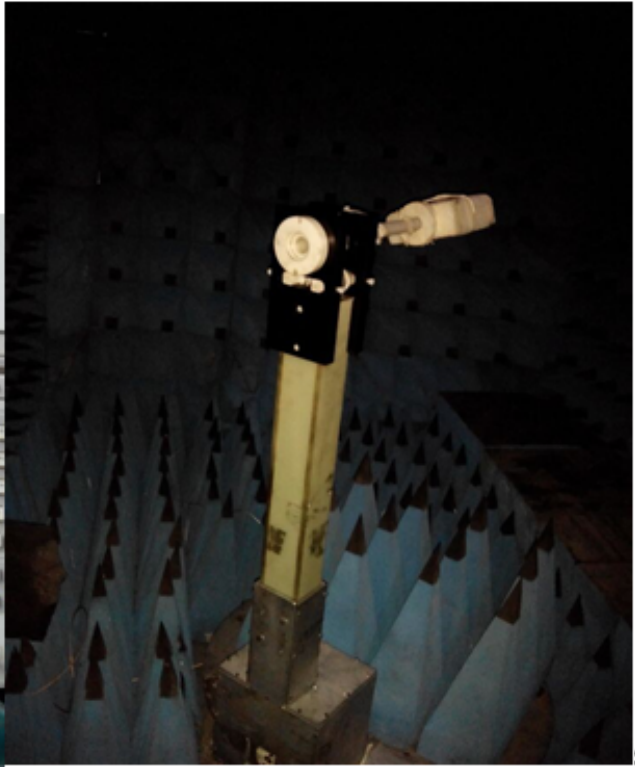
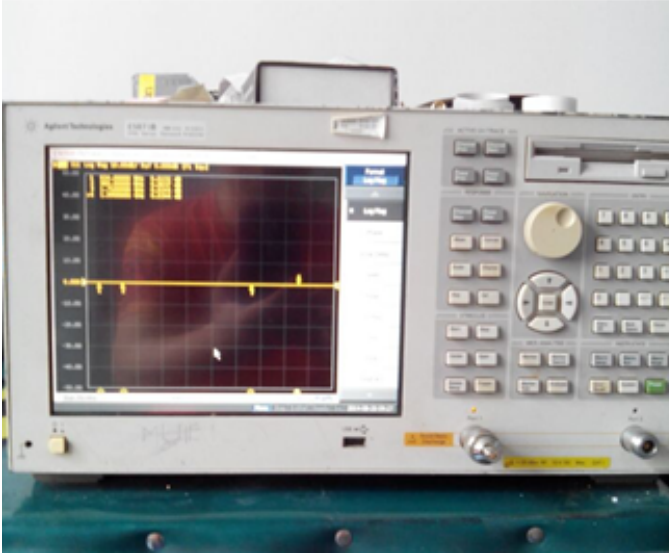
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**Indication**

This report contains the electrical and mechanical performance of the proposed Internal antenna to support the 华森 G122 program. The antenna is covering the GSM850/PCS bands. (see Figure1).

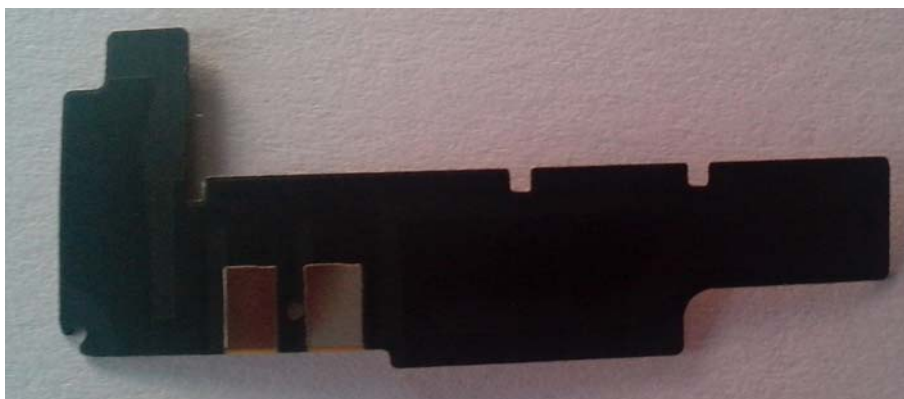


Figure 1: Proposed Antenna

## 1. Electrical Performance

### 1.1 Matching Circuit Description

N/A

### 1.2 Test Set-up

The antenna was evaluated using the customer provided bar phone. Figure 2 shows the antenna



mounted on the test fixture. This section of the report describes the testing on this test fixture.

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Figure 2: Antenna Mounted on G211 Test Fixture

2.2.1 VSWR

VSWR measurements ( $S_{11}$ ) were performed using E5071C Network Analyzer and the previously described test fixture. A ferrite-loaded coaxial cable was used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

2.2.2 TRP/TIS/Gain/Efficiency/Radiation Patterns

Those test items were measured in the VALUABLE Communication Technology anechoic chamber. The chamber provides less than -40 dB reflectivity from 800 MHz through 6 GHz and 25cm diameter spherical quiet zone. The measurement results are calibrated using both dipole and leaky wave horn standards.

1.3 Measurement Data

2.3.1 Peak gain-GSM

Gain (dBi)			
Frequency band		Freq. (MHz)	SCT Sample
		GSM850	
	849		-2.4
	869		-2.2
	894		-2.0
DCS1900		1850	1.8
		1910	2.3
		1930	1.9
		1990	1.5

2.3.2 Efficiency-GSM

Efficiency (%)			
Frequency band		Freq. (MHz)	SCT Sample
		GSM900	
	849		35.321
	869		32.842
	894		33.425
DCS1800		1850	33.237
		1910	35.321

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Confidential Information

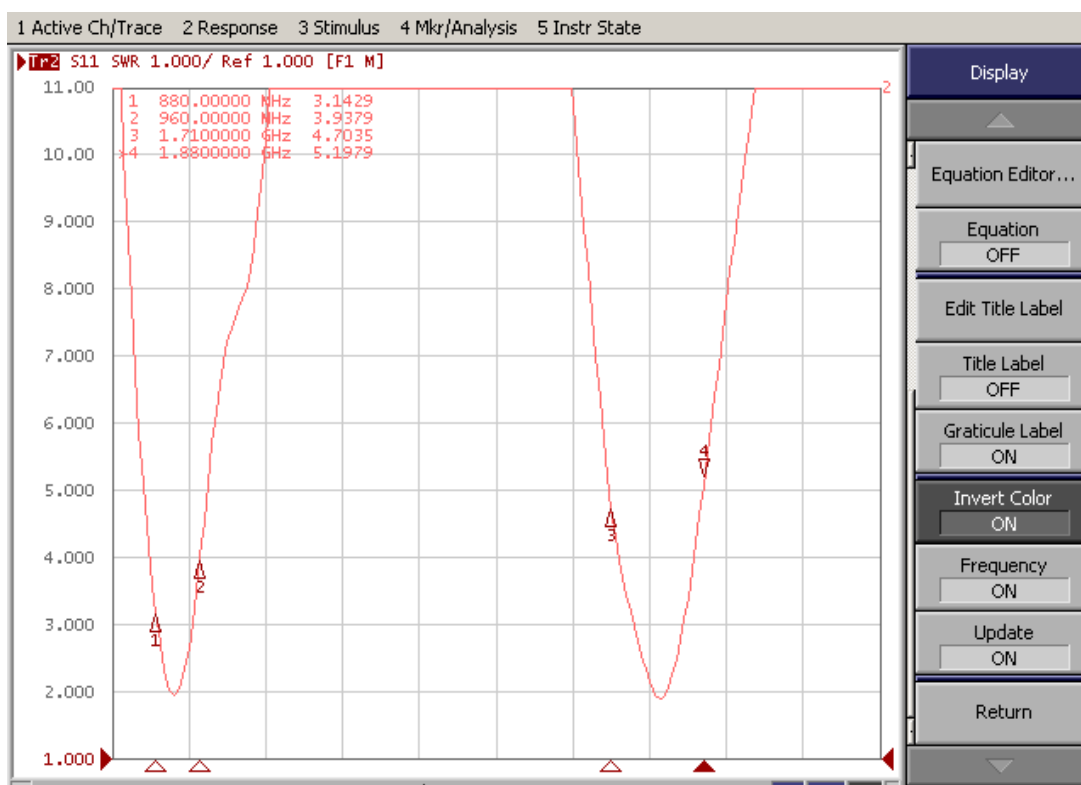
		1930	32.842
		1990	33.425

2.3.3 TRP&TIS

Item	GSM850			DCS1900		
	128	190	251	512	661	810
EIRP	29.5	30.2	30.2	29.5	29.7	29.2
TRP	26.5	27.1	27.4	25.7	25.6	25.1
EIS	-1074	-107	-107	-107	-106	-106
TIS	-104.1	-103.7	-103.6	-102.6	-102.3	-102.1

2.4 Attachment of Electrical Measurement Data

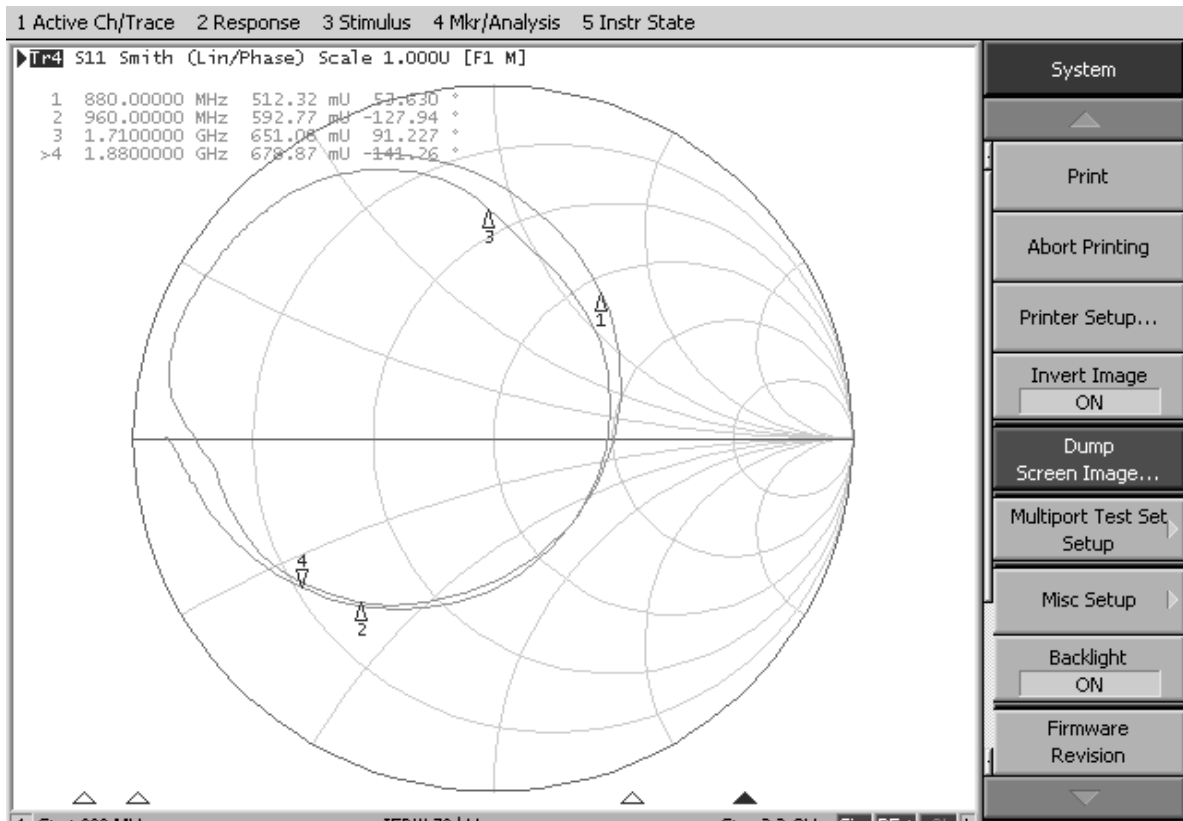
2.4.1 S11 Parameter-GSM



VSWR, G211 Antenna

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Smith, G211 Antenna

## 2. Mechanical Performance

### 2.1 Mechanical Configuration-GSM

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版本	说明	审核	日期	修改	日期

粉红色线为高型纸开槽位置

**材质排板说明 (放大视图)**

3M胶 (蓝色区域)  
PI层 (绿色区域)  
AD胶 (红色区域)  
铜箔 (黄色区域)  
油层 (灰色区域)

材质要求:  
1: 产品表面涂黑色哑光油 (T=0.03mm)  
2: 铜箔厚度为1/2oz (T=0.0125mm)  
3: AD胶 (T=0.006mm)  
4: 基材使用PI T=1mil (0.0125mm)  
5: 双面胶材质 3M 300LSE (0.05mm)  
6: 镀金区域 (T=0.003mm)

**备注:**

- 1: 图样所标尺寸为产品尺寸; 打“\*”为严格控制尺寸 (IQC必须等数A); 打“@”为重要尺寸 (操作按其来控制, 模具验收必须等数B), 其它为设计参考尺寸等数C; IQC抽检
- 2: 表面油层附着力好, 不能掉漆。
- 3: 外形需冲切光滑平整, 且不能冲切到内部线路。
- 4: 包装和运输过程中, 产品不能划伤、划伤以及损坏等。
- 5: 质量要求见RIT质量文件, RIT/TL B-06规定。
- 6: EPC天线成品未经过IP公司确认, 材料不能随意更改。

环境要求:		深圳市威利博科技有限公司					
项目	要求	公差	制程	材料	规格	比例	备注
尺寸	±0.04	±0.04	制程	材料	规格	1:1	
厚度	±0.05	±0.05	制程	材料	规格	1:1	
重量	±0.01	±0.01	制程	材料	规格	1:1	
外观	±0.02	±0.02	制程	材料	规格	1:1	
性能	±0.03	±0.03	制程	材料	规格	1:1	
寿命	±0.04	±0.04	制程	材料	规格	1:1	
可靠性	±0.05	±0.05	制程	材料	规格	1:1	
兼容性	±0.06	±0.06	制程	材料	规格	1:1	
可维护性	±0.07	±0.07	制程	材料	规格	1:1	
可回收性	±0.08	±0.08	制程	材料	规格	1:1	
可拆卸性	±0.09	±0.09	制程	材料	规格	1:1	
可升级性	±0.10	±0.10	制程	材料	规格	1:1	

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