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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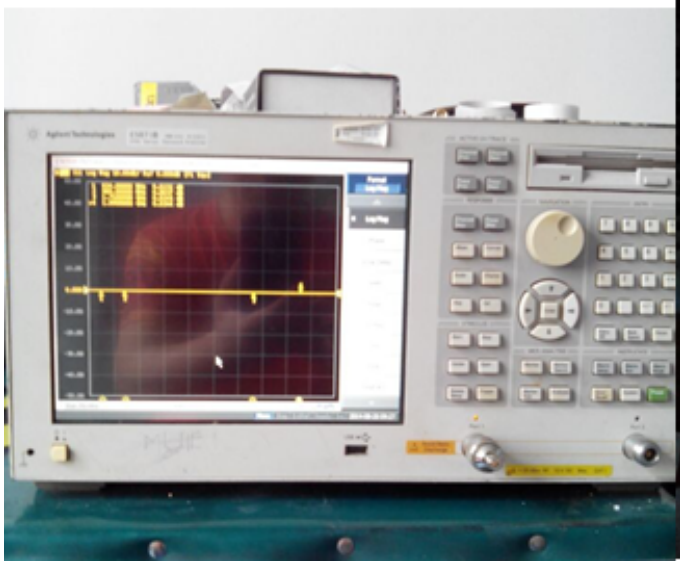
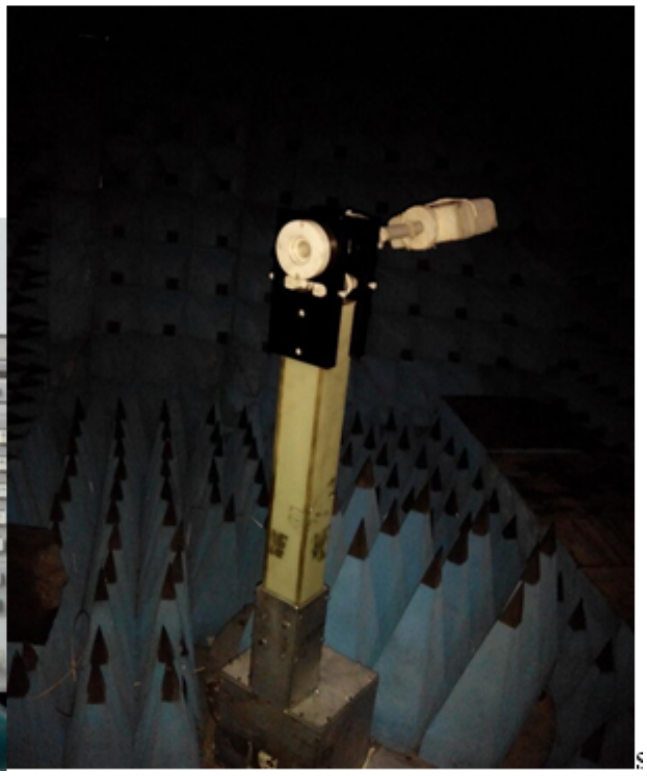




Indication

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).

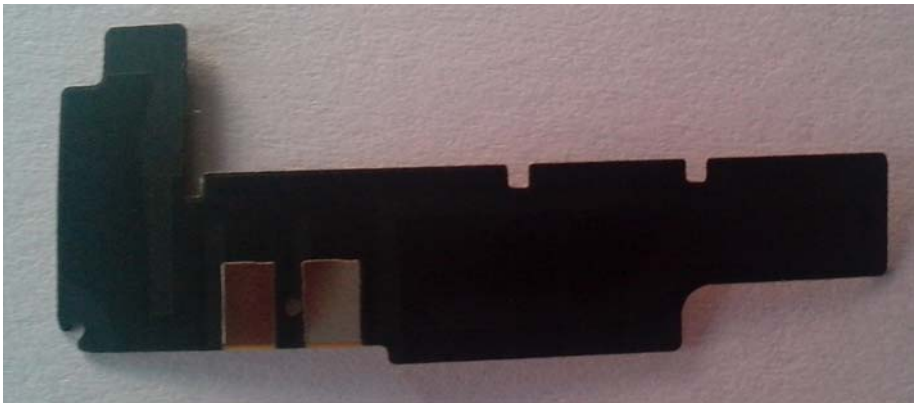


Figure 1: Proposed Antenna

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.

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 quite 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	824	-2.6
		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	824	33.237
		849	35.321
		869	32.842
		894	33.425
	DCS1800	1850	33.237
		1910	35.321

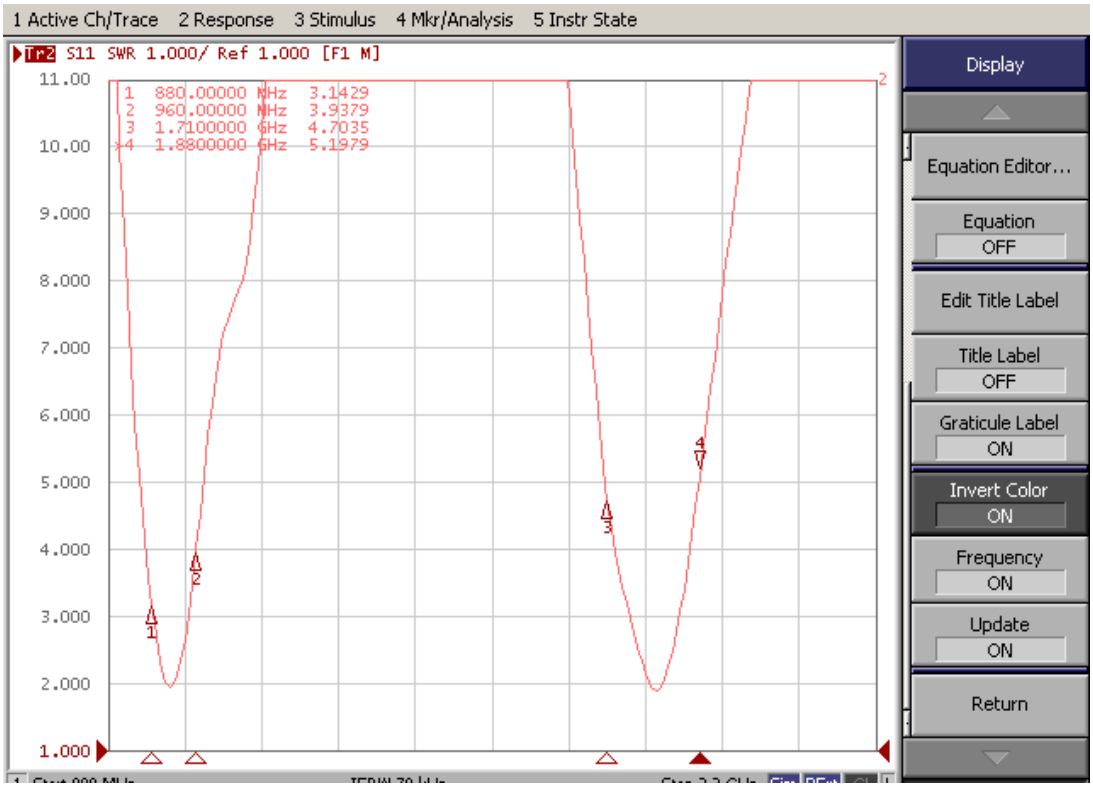
		1930	32.842
		1990	33.425

2.3.3 TRP&TIS

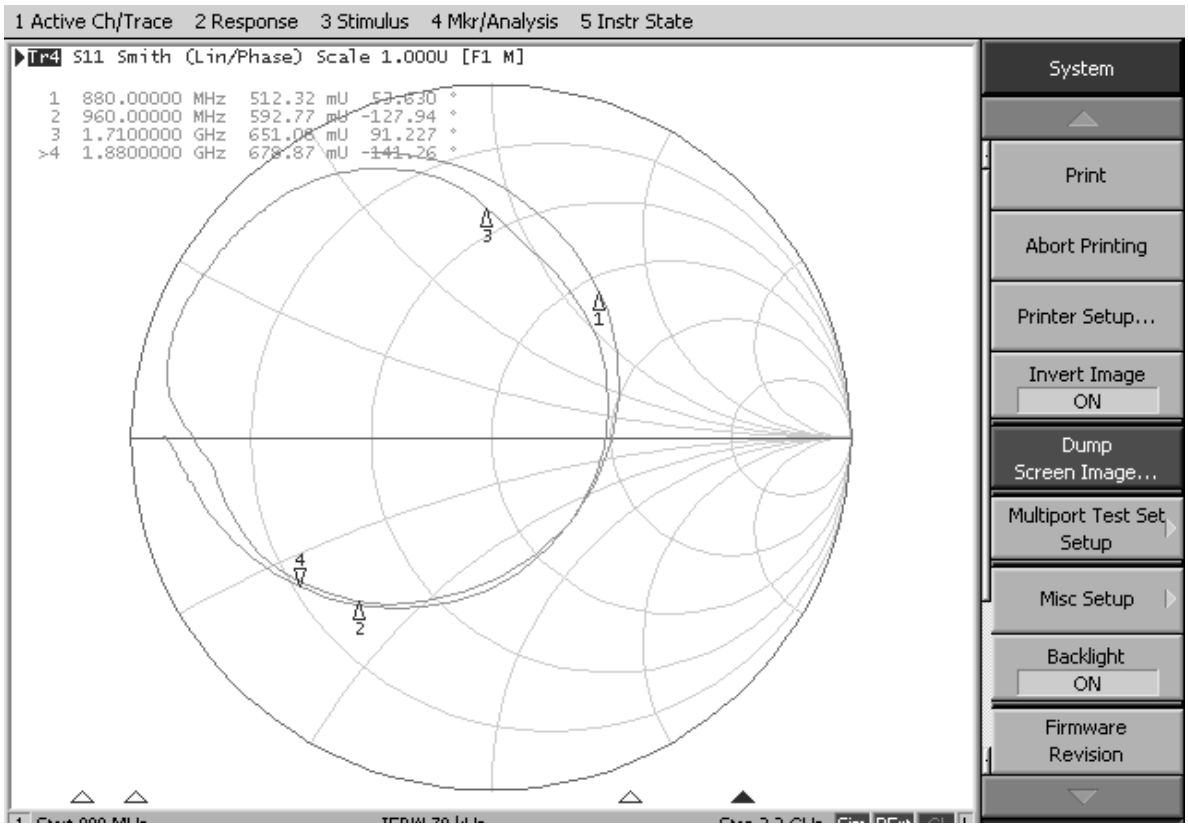
Item	GSM850			DCS1900		
	128	190	251	512	661	810
EIRP	29.5	30.2	30.2	29.5	29.7	29.2
TRP	26.5	27.1	27.4	25.7	25.6	25.1
EIS	-1074	-107	-107	-107	-106	-106
TIS	-104.1	-103.7	-103.6	-102.6	-102.3	-102.1

2.4 Attachment of Electrical Measurement Data

2.4.1 S11 Parameter-GSM



VSWR, G211 Antenna



Smith, G211 Antenna

2. Mechanical Performance

2.1 Mechanical Configuration-GSM