

Confidential Information

SPEED TECHNOLOGY

SPEED Communication Technology CO.,LTD.

Approval sheet of GSM850/1900 AP balance antenna (BLACK)

Customer/Project	ZTE/ GSM850/1900 AP balance antenna	Band	GSM850/PCS1900
SCT P/N	084-076	Version	Rev: A
Checked by		Designed by	Frank
Date	2010-6-9	Confirm by	
Speed Communication Technology			

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Index

1、	indication.....	3
2、	Electrical Performance.....	3
2.1	Specifications.....	3
2.2	Matching Circuit Description.....	3
2.3	Test Set-up.....	3
2.3.1	VSWR.....	4
2.3.2	Gain & Radiation Patterns.....	4
2.4	Measurement Data.....	5
2.4.1	VSWR.....	5
2.4.2	Peak Gain.....	5
3、	Suggestion and Conclusion.....	5
4、		
5、	Attachment.....	6
4.1	S11 Parameter.....	6
4.2	Radiation Pattern.....	7
4.3	Drawing and full-size test report.....	10

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1 Indication

This report summarizes the electrical performance results of the proposed external antenna to support the GSM850/1900 AP balance antenna program. The antenna is a monopole antenna. (see Figure1).



Figure 1: Proposed Antenna

2 Electrical Performance

2.1 Specification

GSM850/1900					
Band	Frequency (MHz)	Gain(dBi)	Gain (dBi)	Frequency (MHz)	Gain(dBi)
Free space TX	VSWR	Free Space	Free space RX	VSWR	Free Space
824-849	≤ 3.0	≥ 0.7	869-894	≤ 2.0	≥ -3.2
1850-1910	≤ 3.0	≥ 0.7	1930-1990	≤ 2.0	≥ -3.2

2.2 Matching Circuit Description

A matching circuit was designed to provide the required impedance match across the bands. Our customer provided the topology structure of the matching network.

2.3 Test Set-up

The antenna was evaluated using the customer provided prototype phone. This section of the report describes the testing on this test fixture.

NA

2.3.1 VSWR

VSWR measurements (S_{11}) were performed using ROHDE&SCHWARZ ZVB4 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.

2.3.2 Gain & Radiation Patterns

The gain and efficiency of the antenna was measured in the Speed 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.

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2.4 Measurement Data

2.4.1 VSWR

GSM850/1900				
Freq (MHz)	824	894	1850	1990
VSWR	2.29	2.48	1.31	1.79
RT	-8.11	-7.42	-17.3	-10.9

2.4.2 Peak gain

GSM850/1900		
Freq. (MHz)	Gain(dBi)	Eff (%)
824	0.67	51.8
894	0.83	57.2
1850	2.07	68.7
1990	1.48	64.8

3 suggestions and Conclusion

This report summarizes the electrical performance of internal antenna for GSM850/1900固定台平衡天线. The antenna was tested using the customer provided final phone test fixture. The report shows satisfied RF performance across the band.

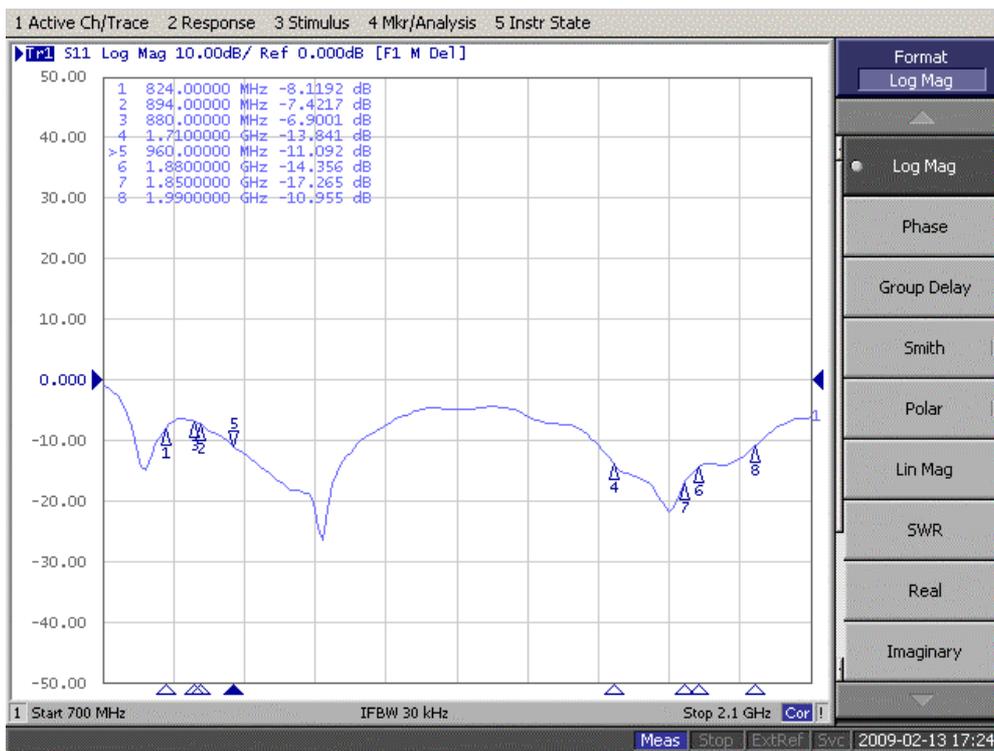
SCT team is looking forward to getting your approval. Thanks for your cooperation.

4 Attachment

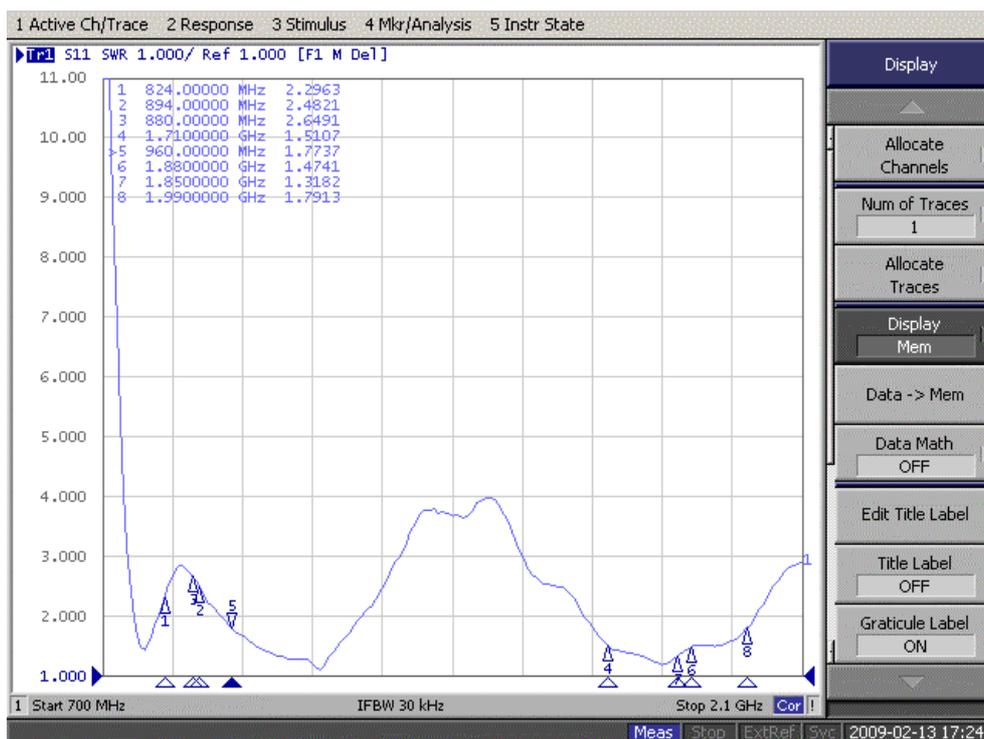
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4.1 S11 Parameter



Return Loss

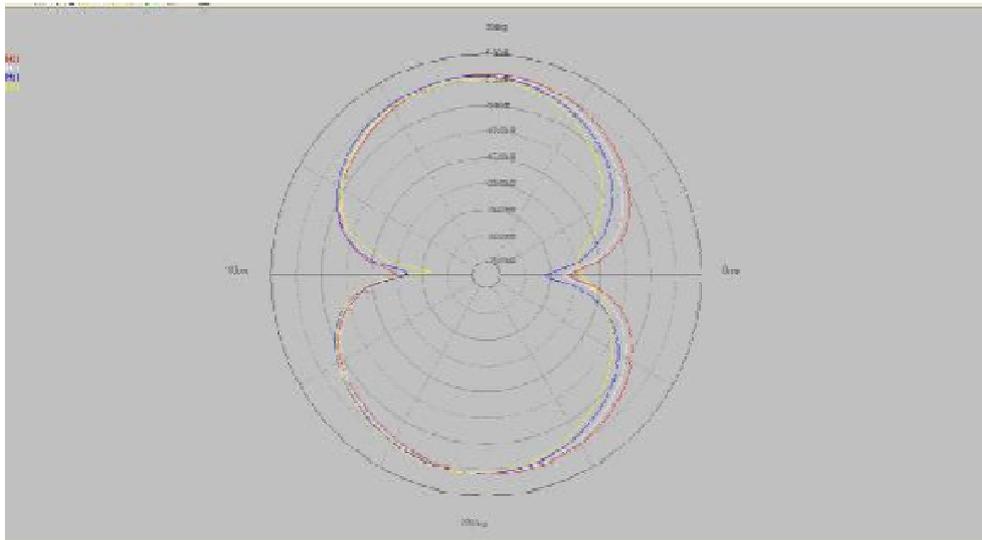


4.2 Radiation Pattern

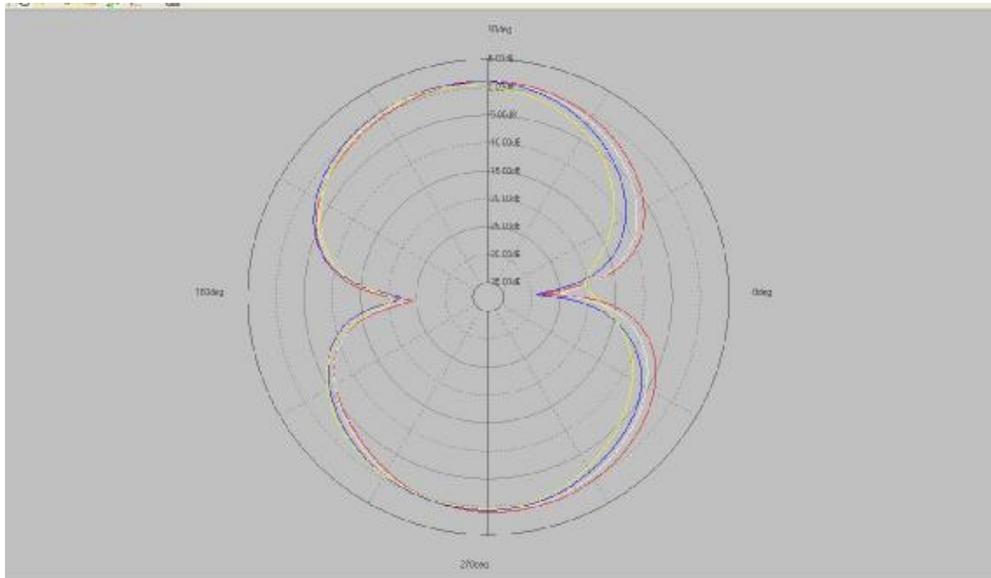
VSWR

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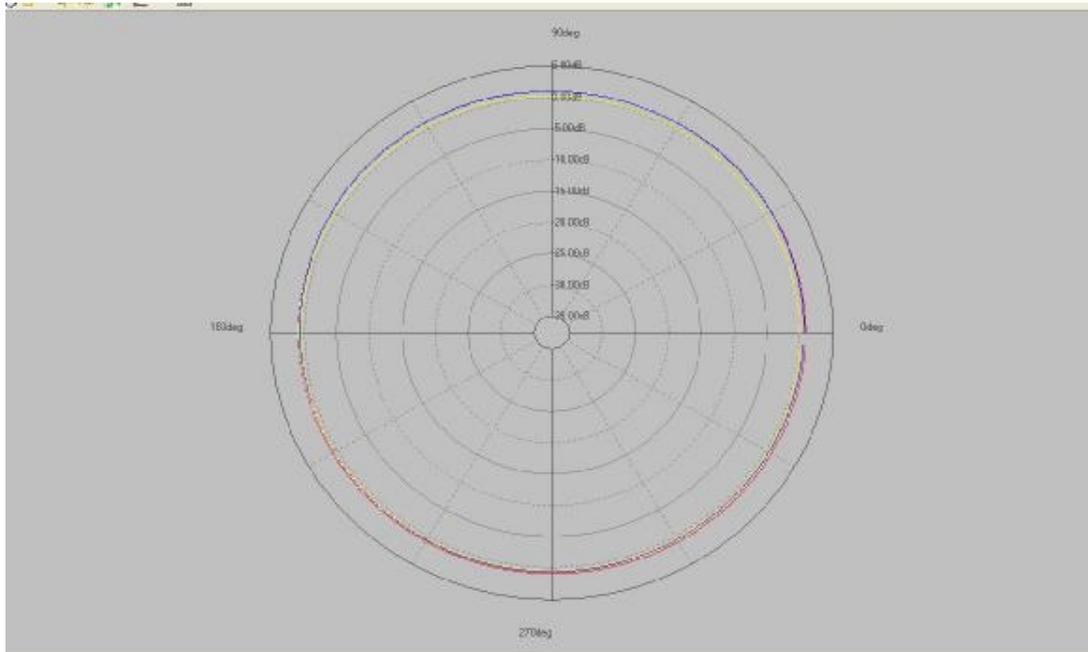
E1



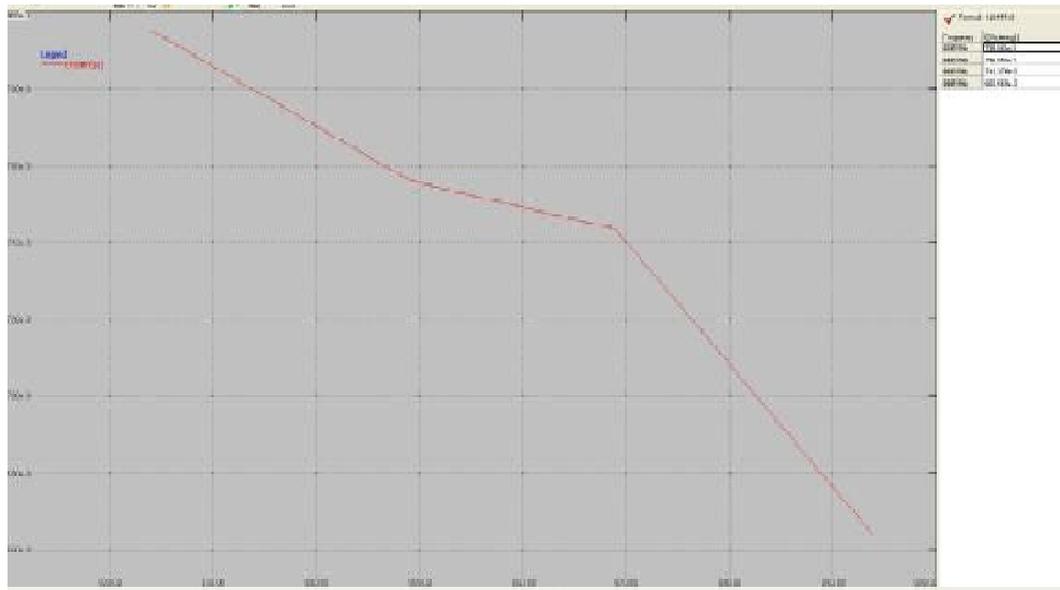
E2

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H



EFF (%)

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