

SPEED TECHNOLOGY

SPEED Communication Technology Limited

Radio-Frequency Performance Report Of ZTE WF720 External Antenna

Customer/Project	ZTE/WF720		Frequency Band	GSM850/1900 WCDMA850/1900	
SCT P/N			Version	R: A	
Date	2011-9-21				
SPEED					
Checked by	RF	Frank	Design by	RF	Linh
	ME			ME	
	QC		Remark		
Customer					
Date					
Confirmed by	RF				
	ME				
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1. Indication

This report summarizes the electrical performance results of the proposed external antenna to support the WF720 program. The antenna is an assembly GSM850/1900, WCDMA850/1900 band. (see Figure1).



Figure 1: Proposed Antenna

2. Electrical Performance

2.1 Matching Circuit Description

The matching circuit that is the customer provides with us.

2.2 Test Set-up

The antenna was evaluated using the customer provided prototype phone. Figure 2 shows the antenna mounted on the test fixture.



Figure 2: Antenna Mounted on WF720 Test Fixture

2.2.1 VSWR

VSWR measurements (S11) 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 Gain & Radiation Patterns

The gain and efficiency of the antenna was measured in the Speed Communication Technology anechoic

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chamber (SG24). The chamber provides less than -40 dB reflectivity from 400 MHz through 6 GHz and 25cm diameter spherical quiet zone. The measurement results are calibrated using both dipole and leaky wave horn standards. This section of the report describes the testing on this test fixture 4 .

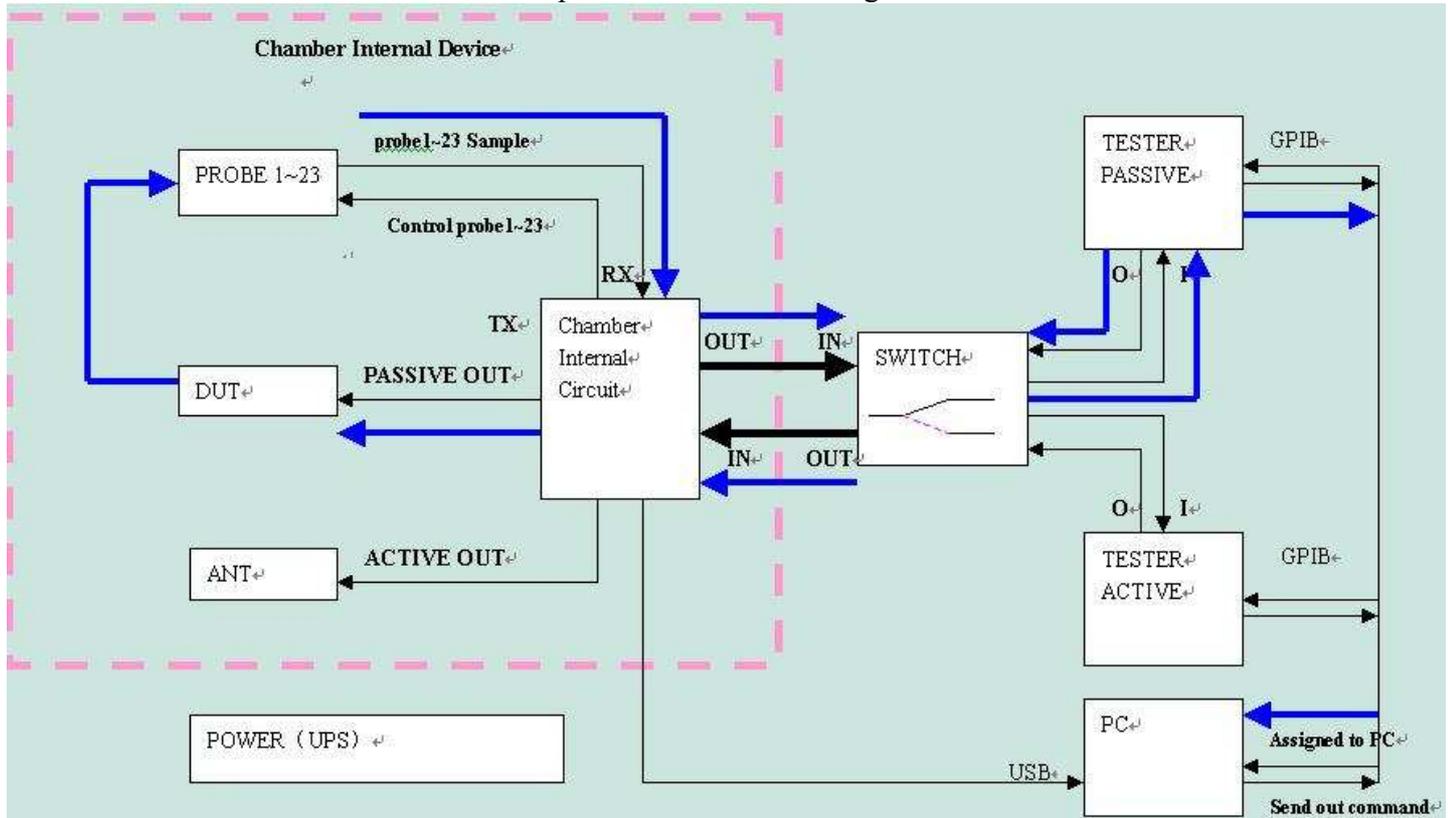


Figure 4: SG24 Passive Test

2.3 Measurement Data

2.3.1 WF720VSWR

Freq (MHz)	824	894	4850	1990
Free Space	1.5	4.5	1.8	1.9

2.3.2 Peak gain

Gain (dBi)			
Frequency	GSM	Freq. (MHz)	SCT Sample
		824	1.01
		849	1.63
		869	1.34
		894	1.11
	DCS	1850	4.38
		1910	3.54
		1930	2.19
		1990	1.52

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2.3.3 Efficiency

Efficiency(%)			
Frequency	GSM	Freq. (MHz)	SCT Sample
		824	71
849		72	
869		56	
894	41		
DCS	1850	80	
	1910	76	
	1930	72	
	1990	63	

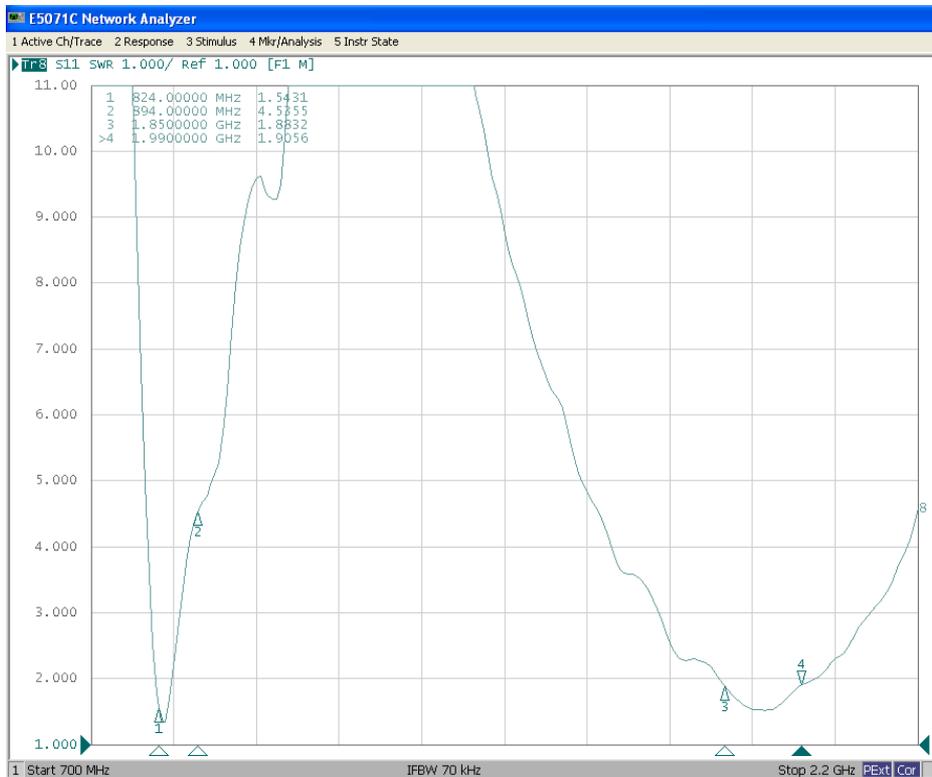
3. Suggestions and Conclusion

This report summarizes the electrical performance of external antenna for ZTE WF720. The antenna was tested using the customer provided bar phone test fixture.

In order to get best performance, we tune the resonance frequency higher of GSM 850/1900, WCDMA850/1900 band. SCT team is looking forward to getting your approval.

4.Attachment

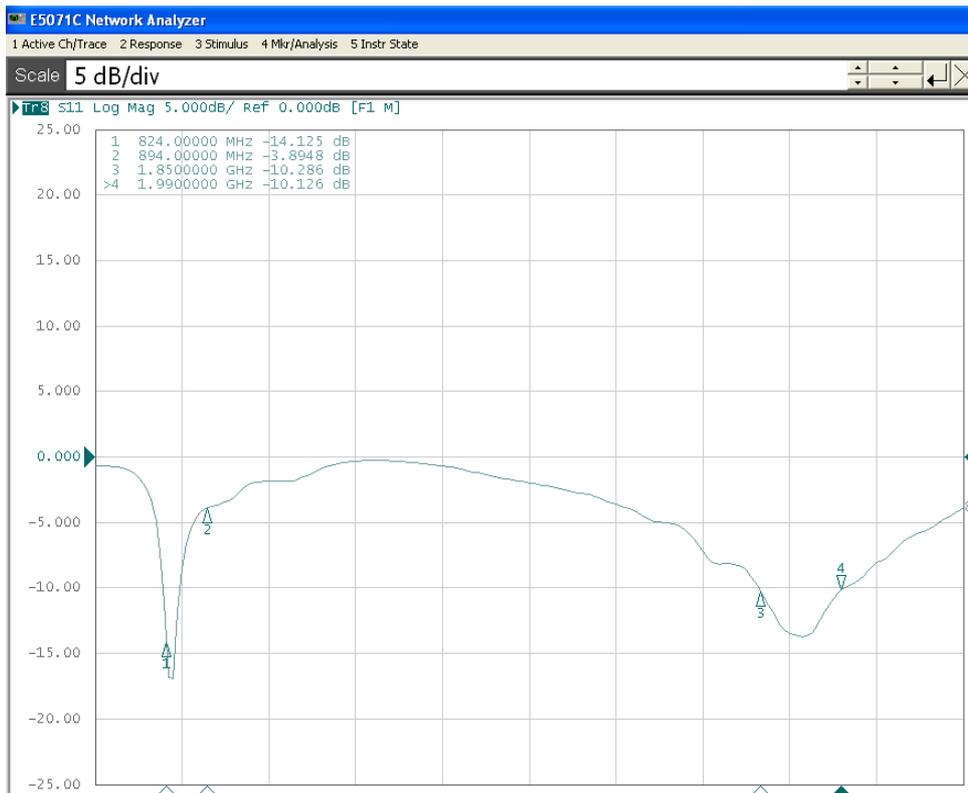
4.1 WF720 S11 Parameter



VSWR, WF720 Antenna

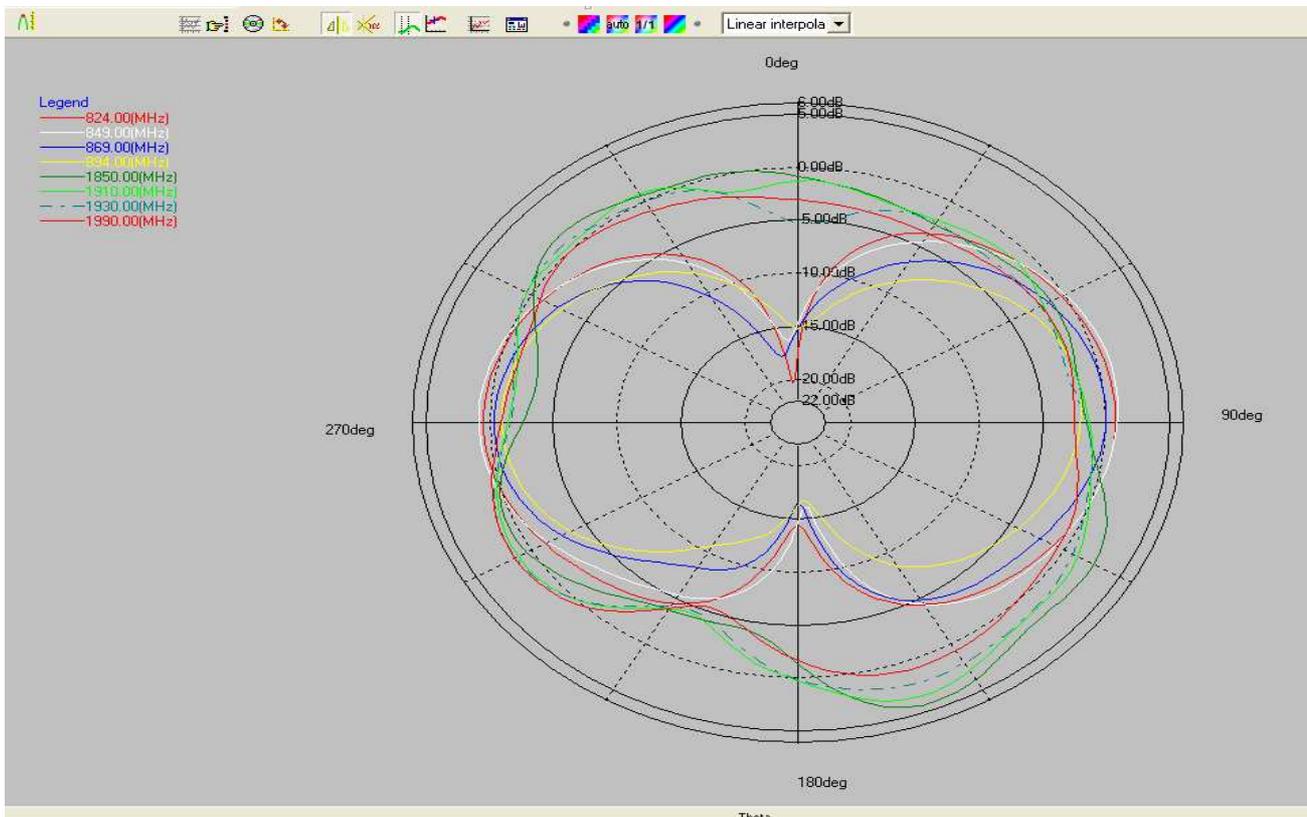
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Return Loss, WF720 Antenna

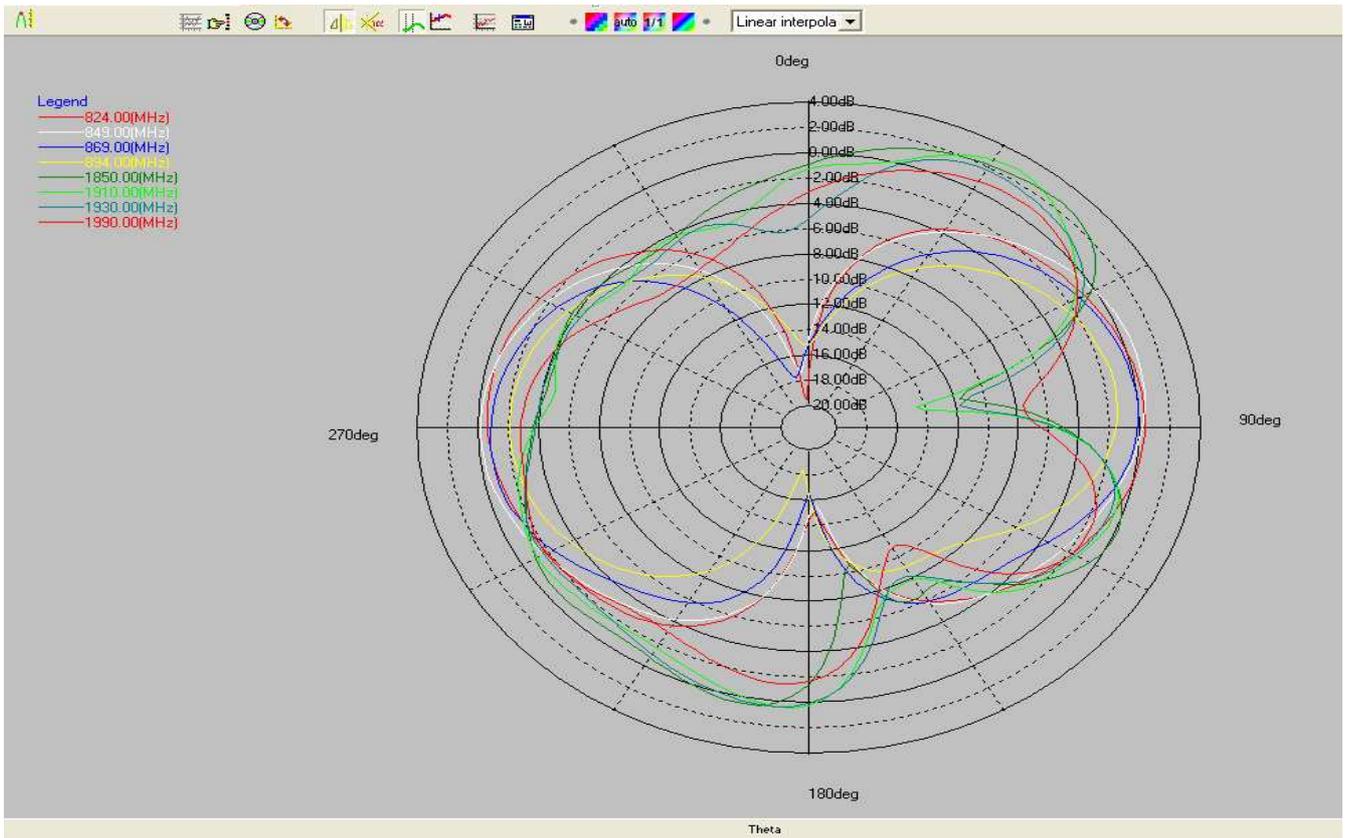
4.2 Radiation Pattern



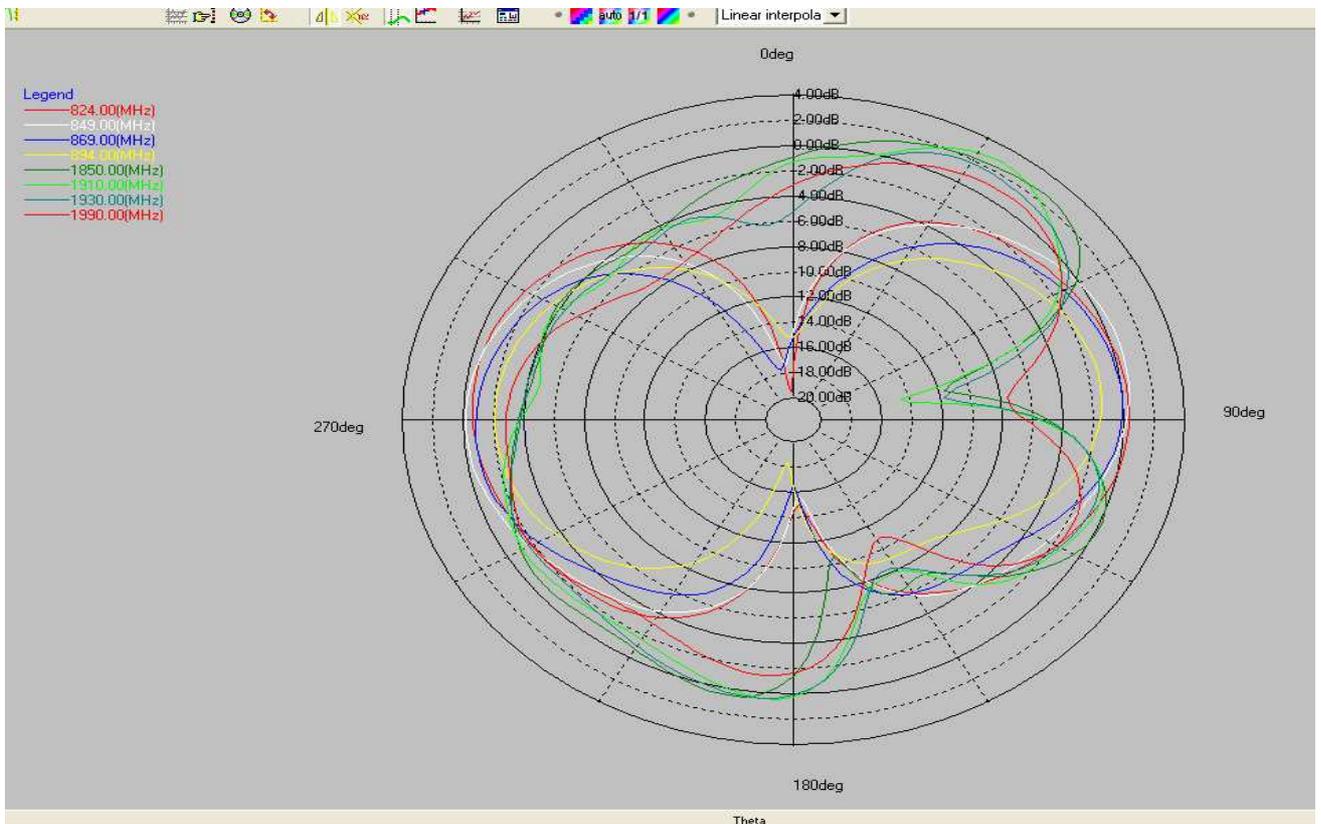
E1, ZTE WF720 Antenna

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E2, ZTE WF720 Antenna



H, ZTE WF720 Antenna

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