

Antenna Approval sheet

For

EP1(US) project

Customer	FOXCONN	Project	EP1(US)
Band	GSM850/PCS	Color	-----
SCSZ PN	4-2397	Version	R:A

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Confirmed by	Leo.chen	Date	2010/08/31
Customer Confirm			

编号:RFD-QR-7.3-01-13

版本/版次: A/1

1 Summary of the Test results

The test fixture was made for further testing, which was shown below.



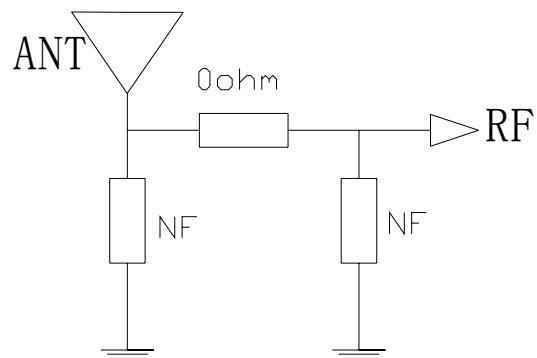
2. Test Result

2.1 RF Performance

2.1.1 S11 Measurement

The S11 parameter was performed using a Agilent E5071C Network Analyzer and SCSZ's test fixture that was using customer-providing device. We use a 30cm long ferrite de-coupling sleeve to mitigate surface currents on the outside of the testing cable.

The matching circuit was shown below:



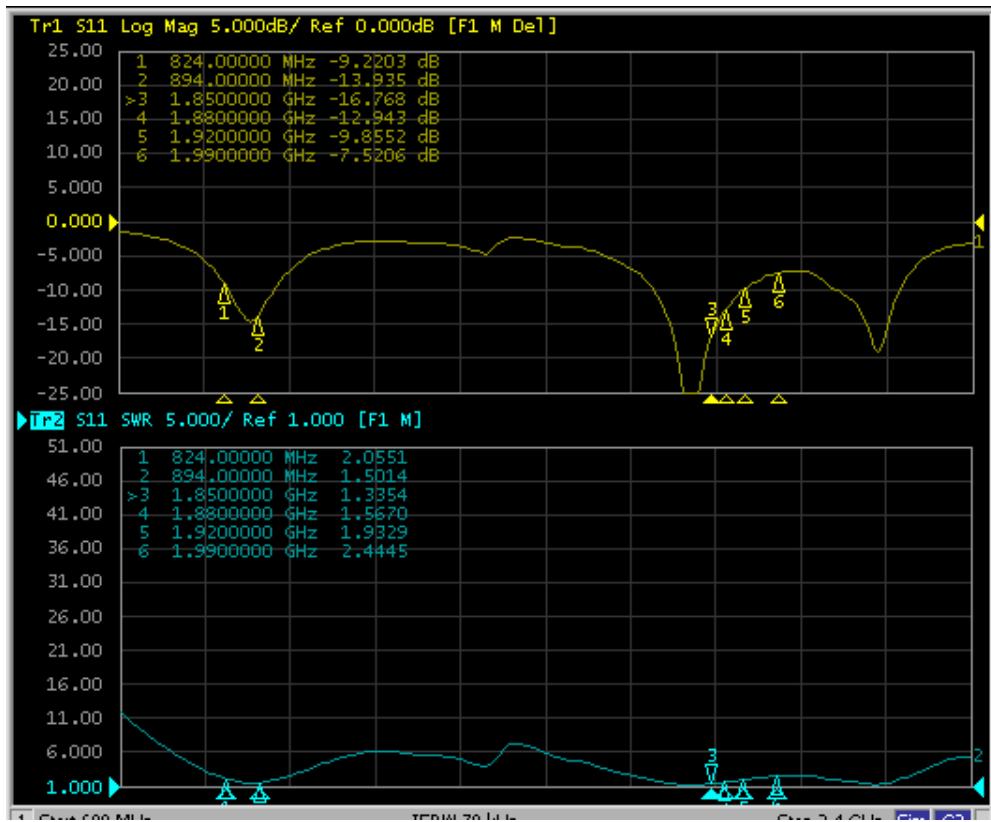
The S11 parameter was shown below, you could check it.

SCSZ ANT S11 parameter Summary of EP1(US) (free space testing)

Band	GSM850/PCS (MHz)			
	824	894	1850	1990
R.L (dB)	-9.22	-13.93	-16.76	-7.52
VSWR	2.05	1.50	1.33	2.44

You could also check in detail in below figures.

S11 parameter of antenna tested in free space



2.1.2 Efficiency Measurement

An anechoic chamber was used to measure Efficiency and antenna Gain. SCSZ's chamber was working from 400MHz to 6GHz. The chamber provides less than -40 dB reflectivity from 700 MHz through 6 GHz. A standard horn was used to calibrate the chamber, and we also use a decoupling sleeve to reduce feed line radiation, so we can measure the antenna gain accurately.

The Efficiency parameter was shown below, you could check it.

SCSZ ANT Efficiency parameter Summary of EP1(US)

Band	GSM850/PCS (MHz)					
	824	859	894	1850	1920	1990
Efficiency(%)	28.7	55.4	49.9	44.2	47.8	46.3

Freq. (MHz)	Gain (dBi)	Dire cti vi	Efficien cy (%)	Efficie ncy	Max (dBm)	The ta of	Phi of	Min (dBm)	Thet a of	Phi of	Avg (dBm)	Max/M in (dB)	Max/ AVG	Min/AV G (dB)
824.0	-0.92	4.50	28.7%	-5.42	-0.92	150	30	-18.24	180	90	-5.89	17.32	4.98	-12.34
859.0	1.77	4.33	55.4%	-2.56	1.77	150	0	-16.45	180	120	-2.72	18.22	4.49	-13.73
880.0	1.35	4.37	49.9%	-3.02	1.35	150	60	-13.44	180	150	-3.20	14.79	4.55	-10.24
960.0	-1.64	3.37	31.5%	-5.01	-1.64	90	150	-15.94	330	30	-5.39	14.30	3.75	-10.55
1710.0	1.54	4.52	50.4%	-2.97	1.54	120	30	-20.28	330	30	-3.60	21.82	5.14	-16.68
1750.0	0.50	4.13	43.3%	-3.64	0.50	300	150	-15.45	330	30	-4.10	15.94	4.59	-11.35
1800.0	0.22	4.06	41.2%	-3.85	0.22	120	30	-13.48	330	0	-4.21	13.69	4.43	-9.27
1840.0	1.14	4.68	44.2%	-3.54	1.14	300	150	-15.76	300	30	-3.83	16.89	4.97	-11.92
1880.0	0.45	3.96	44.6%	-3.50	0.45	300	150	-13.38	180	60	-3.63	13.83	4.08	-9.75
1920.0	1.64	4.84	47.8%	-3.21	1.64	300	150	-14.35	180	90	-3.18	15.99	4.82	-11.17
1990.0	1.53	4.88	46.3%	-3.35	1.53	30	0	-15.74	240	30	-3.18	17.27	4.71	-12.56
2110.0	1.88	5.32	45.3%	-3.44	1.88	30	30	-18.57	270	0	-2.90	20.45	4.78	-15.67
2170.0	1.55	5.69	38.6%	-4.14	1.55	330	150	-19.92	90	0	-3.64	21.47	5.18	-16.29

3.0 RF Performance in MP

SCSZ ANT SPEC of EP1(US)				
Band	GSM850/PCS (MHZ)			
Frequency(MHz)	824	894	1850	1990
VSWR	≤2.60	≤2.10	≤1.90	≤3.00

3.1 ME Drawing for the Antenna

