

Shanghai Universe Communication Electron Co.,Ltd
上海安岗通信电子有限公司

Antenna Approval Sheet

For

AVIV project

Customer	ITOUCH	Project	AVIV
Band	CDMA/GPS/PCS	Color	-----
SUC PN	NF027IA84	Version	T: A

Issued by	HeBo	Checked by	
Confirmed by		Date	2008/06/02

1 Summary of the Test results

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



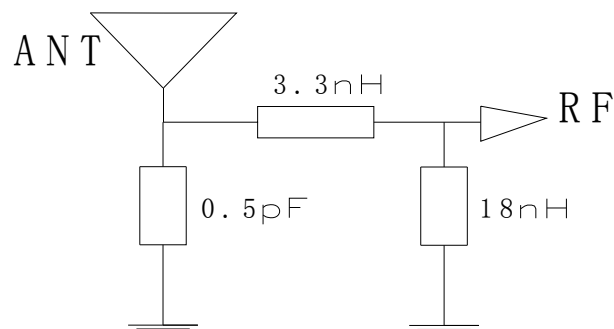
2. Test Result

2.1 RF Performance

2.1.1 S11 Measurement

The S11 parameter was performed using a Hewlett Packard 8753E Network Analyzer and SUC's test fixture that was using customer-providing device.

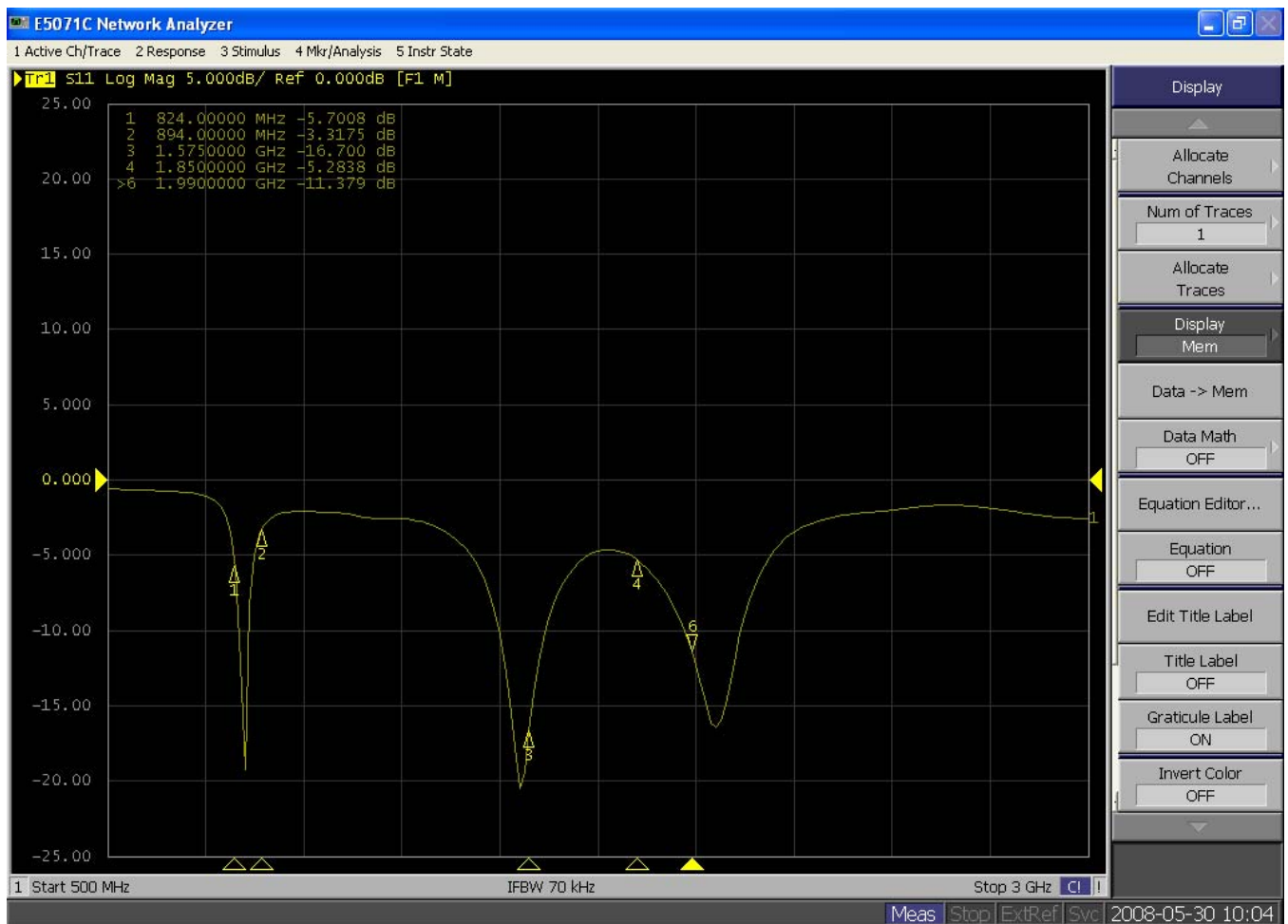
The matching circuit was shown below:



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

SUC ANT S11 parameter Summary of AVIV (free space testing)					
Band	CDMA(MHz)		GPS/PCS (MHz)		
	824	894	1575	1850	1990
R.L(dB)	-5.70	-3.32	-16.70	-5.28	-11.37

You could also check in detail in below figures.



2.1.2 Radiation pattern and Gain Measurement

An anechoic chamber was used to measure radiation pattern and antenna Gain. SUC's chamber was working from 700MHz 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 Gain parameter was shown below, you could check it.

Shanghai Universe Communication Electron Co., Ltd has possession of proprietary information provided in this presentation and this proprietary information shall be kept in strict confidence and not disclosed to any person or firm without the prior written consent of SUC.

SUC ANT parameter Summary of AVIV (free space testing)

Band	CDMA /GPS/PCS(MHz)						
	824	859	894	1575	1850	1920	1990
Efficiency (%)	28.94	42.67	30.80	55.70	31.22	36.88	41.55



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 地址：上海市闵行区澄建路 351 号 6 楼 邮编：201108 电话：021-64348850

Location: RF Chamber

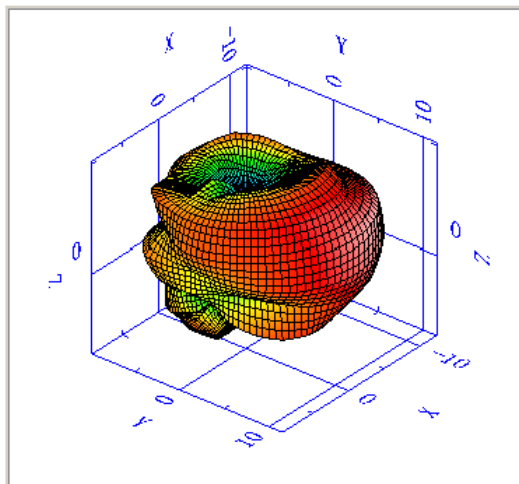
Date: 2008-6-2

Time: 15:55:16

Temperatuer (): 22.00

Humidity (%): 65.00

Approved by:

Total View

Frequency (MHz)

824.00

TRP (dBm)

-5.39

Efficiency (%)

28.92

NHPRP +/- 45 (dBm)

-5.9

NHPRP +/- 30 (dBm)

-6.79

Directivity (dBi)

3.18

Gain (dBi)

-2.21

Average Gain (dB)

-5.39

Peak EIRP (dBm)

-2.21

Max. Power (dBm)

-2.21

Min. Power (dBm)

-14.73

Avg. Power (dBm)

-6.2

Max. / Min. Ratio (dB)

12.52

Max. / Avg. Ratio (dB)

3.99

Min. / Avg. Ratio (dB)

-8.53

824MHz



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Date: 2008-6-2

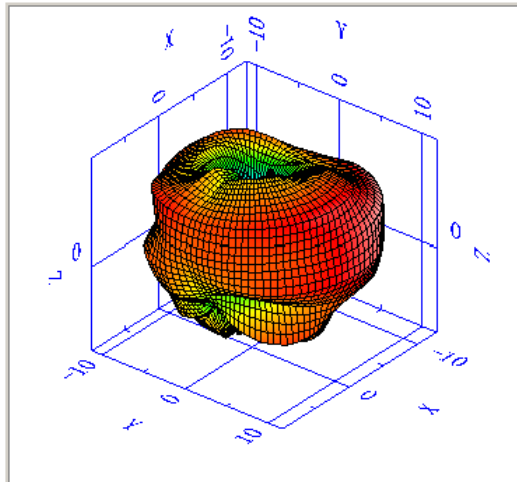
Time: 15:55:29

Temperatuer (): 22.00

Humidity (%): 65.00

Approved by:

Total View



Frequency (MHz)

859.00

TRP (dBm)

-3.7

Efficiency (%)

42.67

NHPRP +/- 45 (dBm)

-4.17

NHPRP +/- 30 (dBm)

-4.99

Directivity (dBi)

3.14

Gain (dBi)

-0.56

Average Gain (dB)

-3.7

Peak EIRP (dBm)

-0.56

Max. Power (dBm)

-0.56

Min. Power (dBm)

-13.62

Avg. Power (dBm)

-4.6

Max. / Min. Ratio (dB)

13.06

Max. / Avg. Ratio (dB)

4.04

Min. / Avg. Ratio (dB)

-9.02

859 MHz



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Date: 2008-6-2

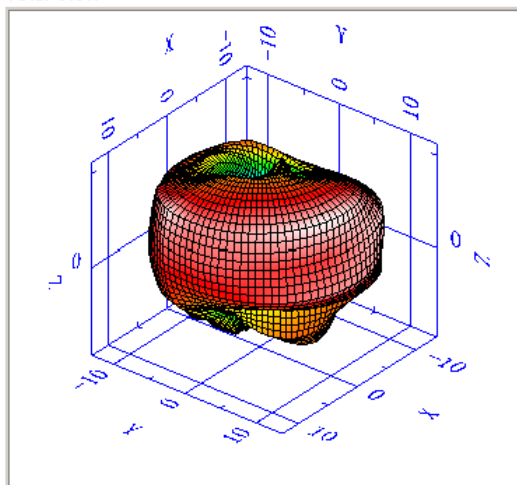
Time: 15:56:22

Temperatuer (): 22.00

Humidity (%): 65.00

Approved by:

Total View



Frequency (MHz)

894.00

TRP (dBm)

-5.12

Efficiency (%)

30.8

NHPRP +/- 45 (dBm)

-5.61

NHPRP +/- 30 (dBm)

-6.4

Directivity (dBi)

2.78

Gain (dBi)

-2.33

Average Gain (dB)

-5.12

Peak EIRP (dBm)

-2.33

Max. Power (dBm)

-2.33

Min. Power (dBm)

-16.64

Avg. Power (dBm)

-6.08

Max. / Min. Ratio (dB)

14.31

Max. / Avg. Ratio (dB)

3.75

Min. / Avg. Ratio (dB)

-10.56

894 MHz



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Location: RF Chamber

Date: 2008-6-2

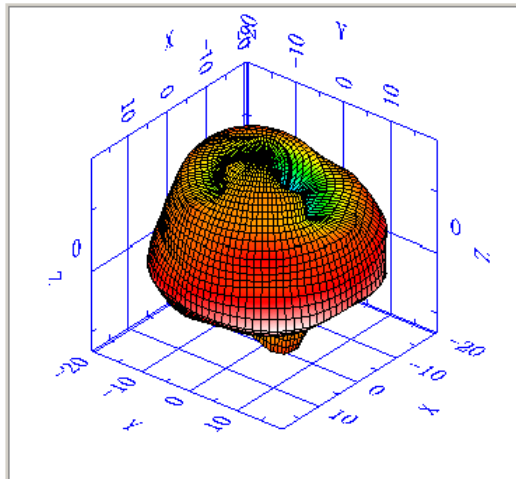
Time: 15:57:53

Temperatuer (): 22.00

Humidity (%): 65.00

Approved by:

Total View



Frequency (MHz)

1575.00

TRP (dBm)

-2.54

Efficiency (%)

55.7

NHPRP +/- 45 (dBm)

-3.01

NHPRP +/- 30 (dBm)

-3.58

Directivity (dBi)

4.46

Gain (dBi)

1.92

Average Gain (dB)

-2.54

Peak EIRP (dBm)

1.92

Max. Power (dBm)

1.92

Min. Power (dBm)

-19.98

Avg. Power (dBm)

-3.25

Max. / Min. Ratio (dB)

21.9

Max. / Avg. Ratio (dB)

5.16

Min. / Avg. Ratio (dB)

-16.74

1575 MHz



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Date: 2008-6-2

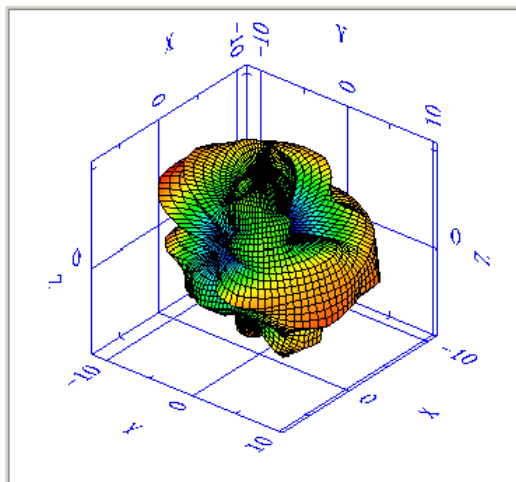
Time: 15:58:10

Temperatuer (): 22.00

Humidity (%): 65.00

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Total View



Frequency (MHz)

1850.00

TRP (dBm)

-5.06

Efficiency (%)

31.22

NHPRP +/- 45 (dBm)

-5.78

NHPRP +/- 30 (dBm)

-6.8

Directivity (dBi)

5.27

Gain (dBi)

0.21

Average Gain (dB)

-5.06

Peak EIRP (dBm)

0.21

Max. Power (dBm)

0.21

Min. Power (dBm)

-13.54

Avg. Power (dBm)

-4.89

Max. / Min. Ratio (dB)

13.75

Max. / Avg. Ratio (dB)

5.1

Min. / Avg. Ratio (dB)

-8.65

1850 MHz



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Date: 2008-6-2

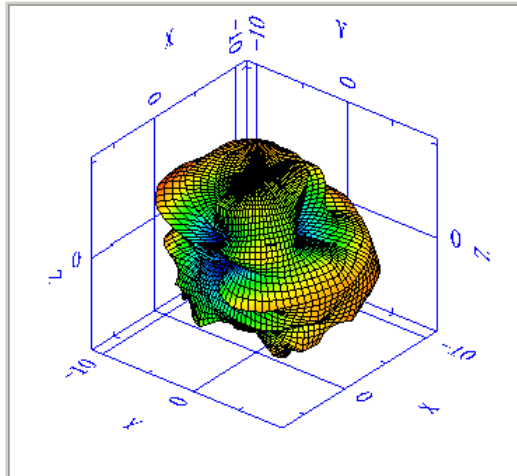
Time: 15:58:19

Temperatuer (): 22.00

Humidity (%): 65.00

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Total View



Frequency (MHz)

1920.00

TRP (dBm)

-4.33

Efficiency (%)

36.88

NHPRP +/- 45 (dBm)

-5.14

NHPRP +/- 30 (dBm)

-6.26

Directivity (dBi)

5.12

Gain (dBi)

0.79

Average Gain (dB)

-4.33

Peak EIRP (dBm)

0.79

Max. Power (dBm)

0.79

Min. Power (dBm)

-12.8

Avg. Power (dBm)

-4.1

Max. / Min. Ratio (dB)

13.59

Max. / Avg. Ratio (dB)

4.88

Min. / Avg. Ratio (dB)

-8.7

1920 MHz



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Location: RF Chamber

Date: 2008-6-2

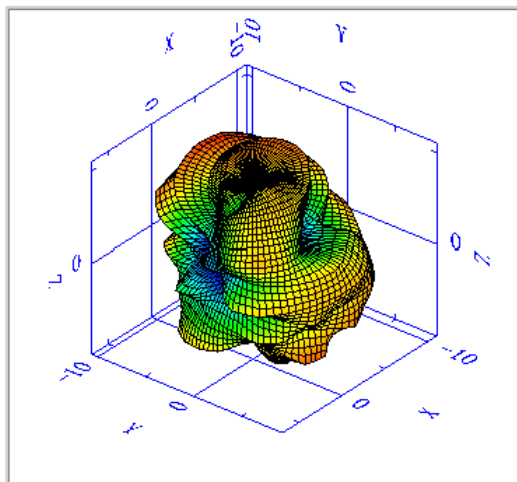
Time: 16:00:39

Temperatuer (): 22.00

Humidity (%): 65.00

Approved by:

Total View



Frequency (MHz)

1990.00

TRP (dBm)

-3.81

Efficiency (%)

41.55

NHPRP +/- 45 (dBm)

-4.68

NHPRP +/- 30 (dBm)

-5.92

Directivity (dBi)

5.02

Gain (dBi)

1.2

Average Gain (dB)

-3.81

Peak EIRP (dBm)

1.2

Max. Power (dBm)

1.2

Min. Power (dBm)

-12.31

Avg. Power (dBm)

-3.52

Max. / Min. Ratio (dB)

13.51

Max. / Avg. Ratio (dB)

4.72

Min. / Avg. Ratio (dB)

-8.8

1990 MHz

2.1.3 TRP、TIS Measurement

手机校准数据：

Frequency	CDMS800			PCS		
Channel	1013	384	777	25	600	1175
TRP (dBm)	23.9	23.6	23.6	23.9	23.6	23.6
TIS (dBm)	-109	-109	-109	-109	-109	-109

OTA 测试数据为：

Frequency	CDMS800			PCS		
Channel	1013	384	777	25	600	1175
TRP (dBm)	20.05	20.32	20.61	20.23	20.10	20.51
TIS (dBm)	-104.24	-104.94	-103.78	-105.93	-105.53	-105.4

3.0 RF Performance in MP

SUC ANT SPEC of AVIV (free space testing)					
Band	CDMA(MHz)		GPS/PCS (MHz)		
	824	894	1575	1850	1990
VSWR	≤3.5	≤4.5	≤2.5	≤4.0	≤2.5

3.1 ME Drawing for the antenna

8100-10-3-L-80-S10		2		3		4	
版本		修改内容		修订者		日期	

技术要求

- 外观必须保持干净无污，不可有凹点、划伤、黑点等等
- 未注尺寸公差按照一般公差
- 具体尺寸详见3D图，带*为重要尺寸
- 未经允许不可随意替换材质及表面处理
- 盐雾测试48小时在热修后表面管控在0.28-0.43之间

*禁止使用安规一般环境有害物质 具体要求见《安规禁止和限制使用的环境物质要求（SUC-EW-5.4.05）》

上海安岗通讯电子有限公司

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解三角波 单位:mm 名称: 天线 日期:2008.06.02

料号: NF0271A84 设计:

材质: 审核:

表面处理: 确认:

颜色: 比例: 3:1 版本:1E1A

序号	名称	料号	材质	表面处理	颜色
3	STAMPING	NF0081A23	磷青铜	镀银、金	
2	STAMPING	NF0081A28	磷青铜	镀银、金	
1	支架	NF0081A27	PC(2405)	火花纹	