`

# Antenna Approval sheet

# For

# project

| | | | |
|---|---|---|---|
| Customer | FOXCONN | Project | EP3-US |
| Band | CDMA800/CDMA1900 | Color | ----- |
| SCSZ PN | 4-2408 | Version | R:A |

| | | | |
|---|---|---|---|
| Issued by | Kevin Cheung | Checked by | Leo |
| Confirmed by | | Date | 2010/11/19 |
| Customer Confirm | | | |

# 1 Summary of the Test results

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

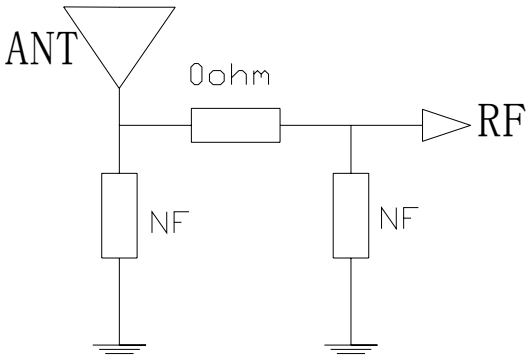
## 2. Test Result

## 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:

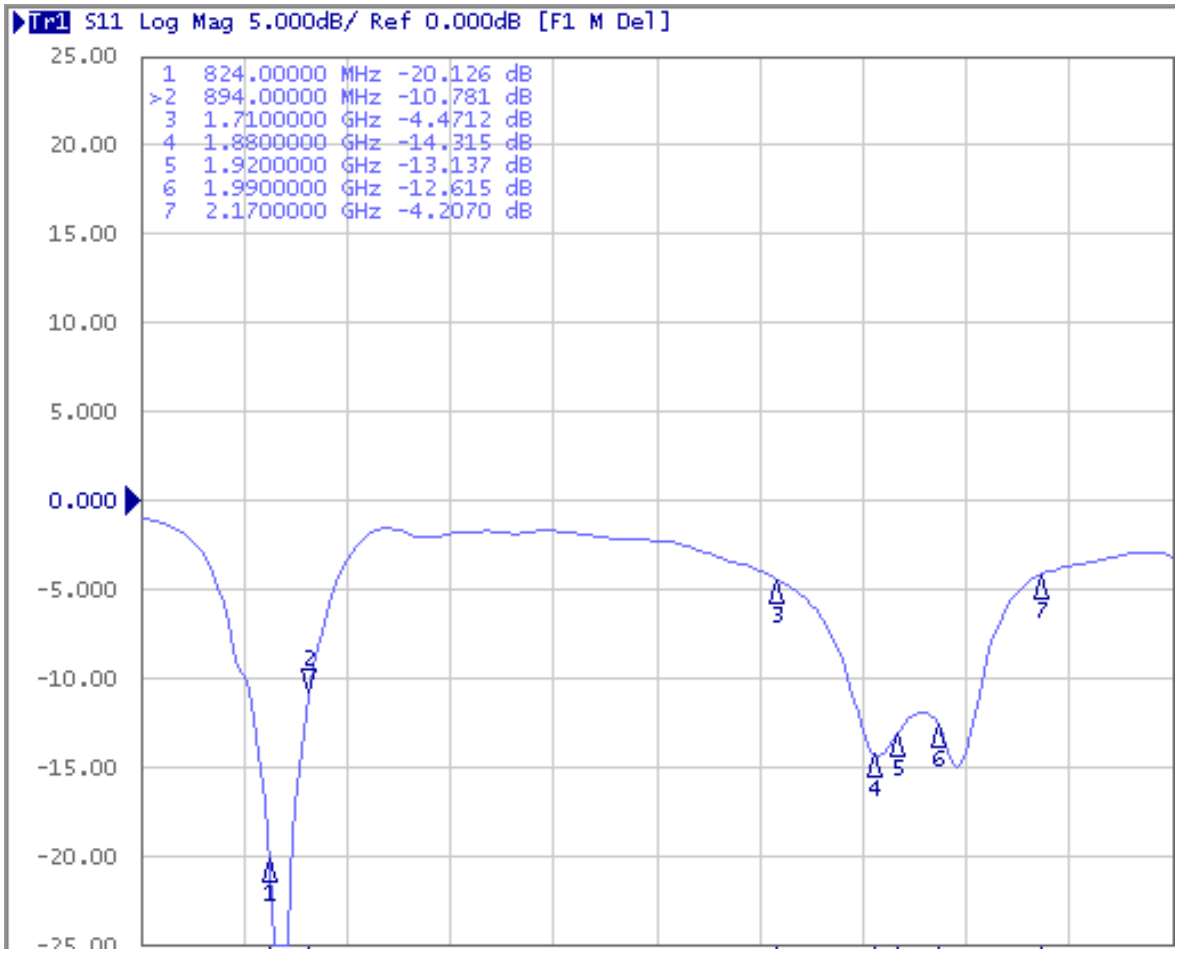



The S11 parameter was shown below, you could check it.

| SCSZ ANT S11 parameter Summary of (free space testing) | | | | | | |
|---|---|---|---|---|---|---|
| **Band** | **(MHz)** | | | | | |
| | 824 | 894 | 1880 | 1920 | 1990 | |
| **R.L (dB)** | -20.1 | -10.7 | -14.3 | -13.1 | -12.6 | |

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**

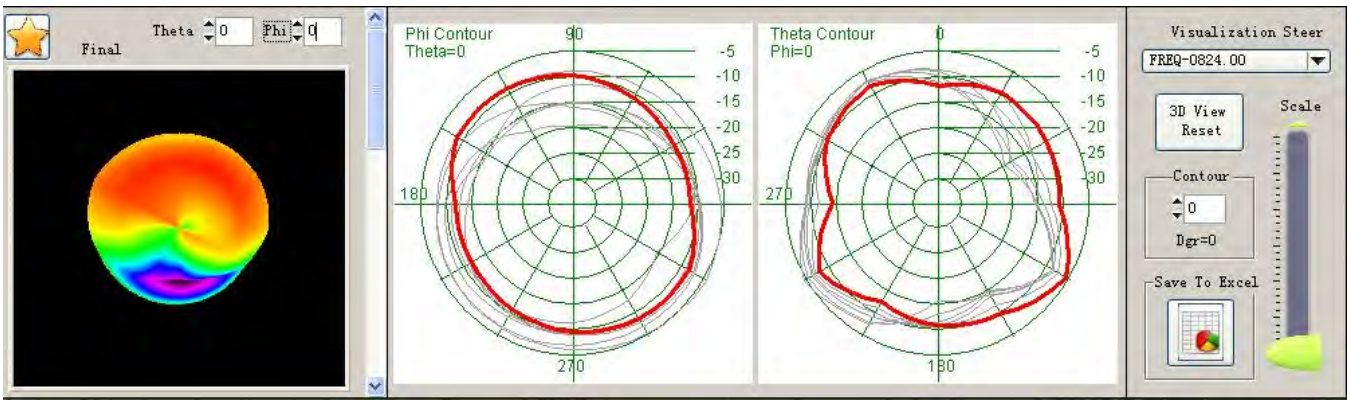
| Freq. (MHz) | Gain (dBi) | Efficiency (%) | Efficiency (dB) |
|---|---|---|---|
| | | | |
| 824.0 | -4.70 | 10.8% | -9.67 |
| 834.0 | -4.09 | 12.5% | -9.02 |
| 844.0 | -4.02 | 12.8% | -8.94 |
| 854.0 | -3.99 | 13.0% | -8.86 |
| 864.0 | -4.17 | 12.6% | -8.99 |
| 874.0 | -3.62 | 14.6% | -8.34 |
| 884.0 | -3.36 | 15.7% | -8.05 |
| 894.0 | -3.90 | 13.8% | -8.59 |

| | | | |
|---|---|---|---|
| 1880.0 | 1.94 | 34.4% | -4.63 |
| 1900.0 | 2.27 | 35.7% | -4.47 |
| 1920.0 | 1.80 | 33.7% | -4.72 |
| 1940.0 | 1.69 | 32.4% | -4.90 |
| 1960.0 | 1.43 | 30.2% | -5.19 |
| 1980.0 | 1.01 | 27.0% | -5.68 |
| 1990.0 | 1.14 | 27.2% | -5.66 |

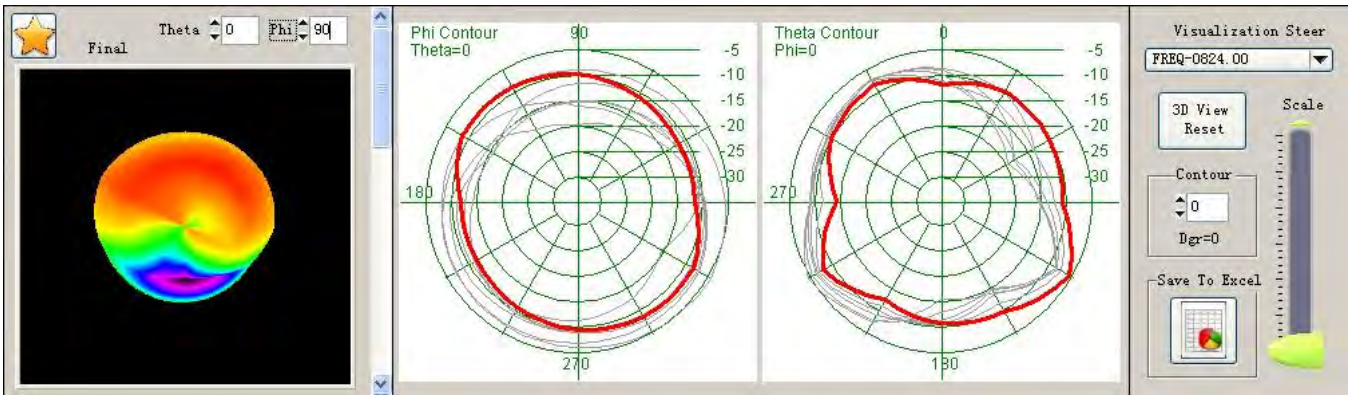
## 2.1.3 Radiation pattern

## 824M

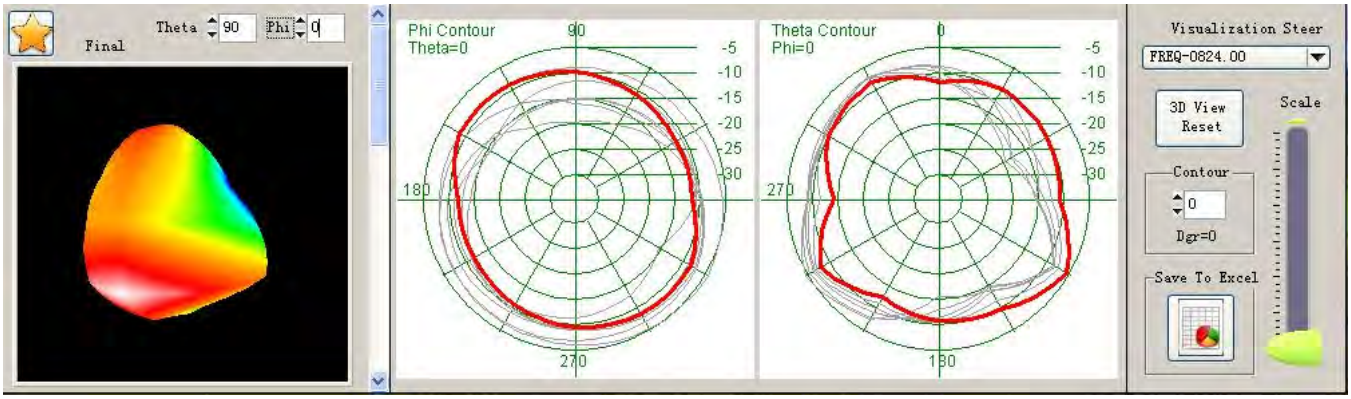
**Phi=0**




**Phi=90**

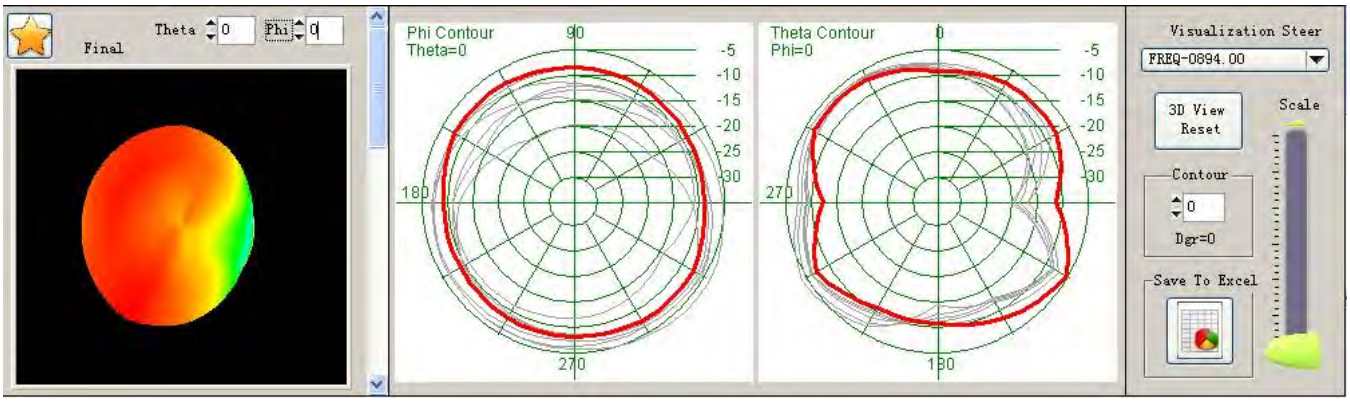



**Theta=90**

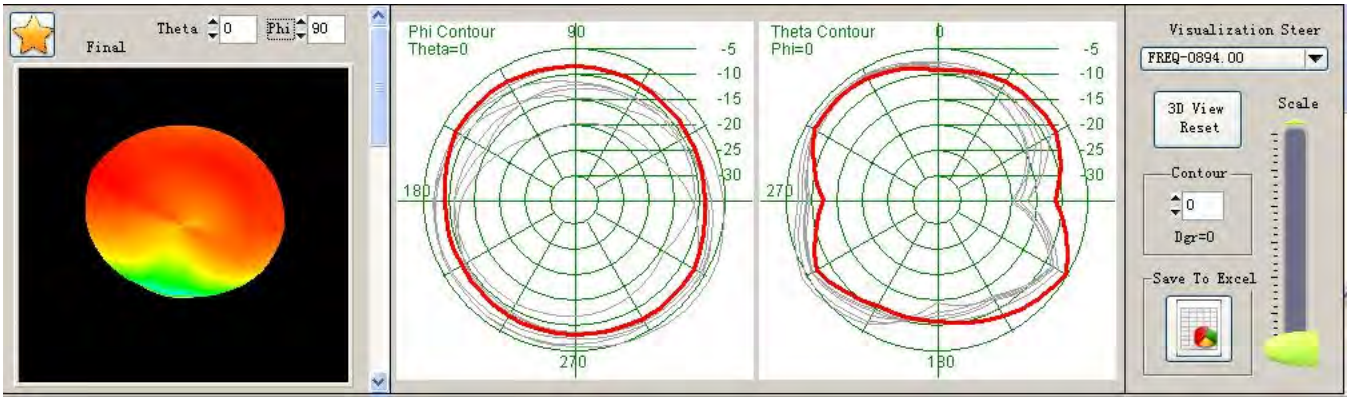



## 894M

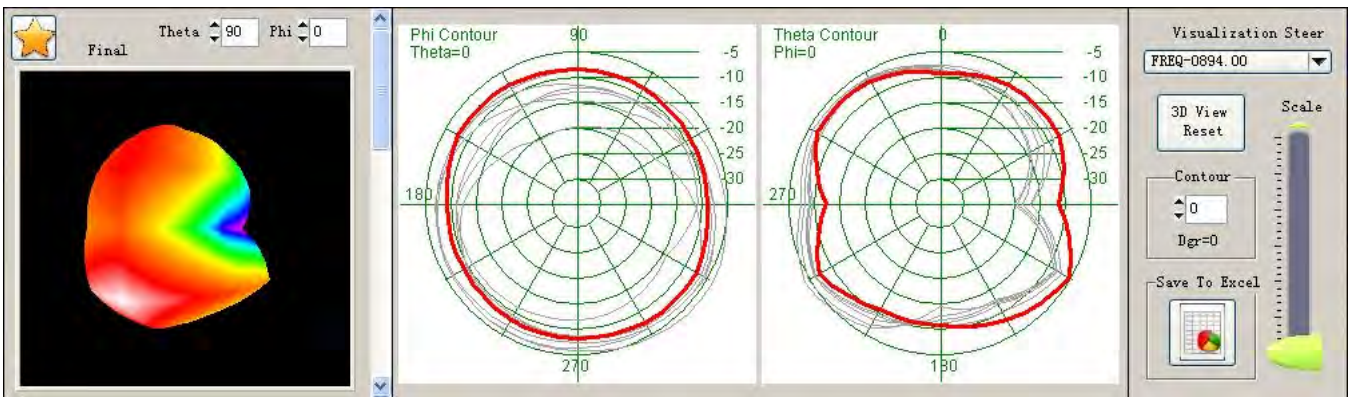
**Phi=0**




**Phi=90**

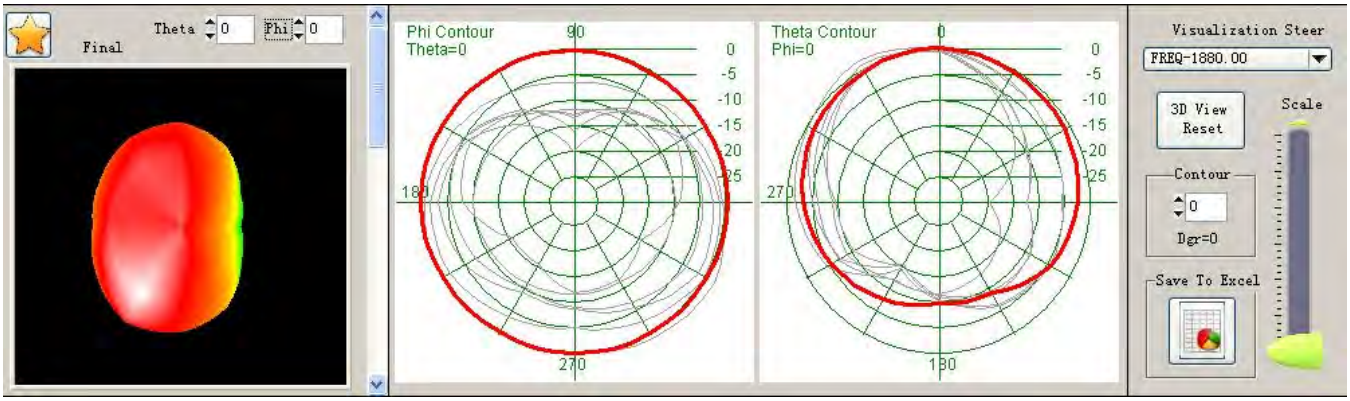



**Theta=90**

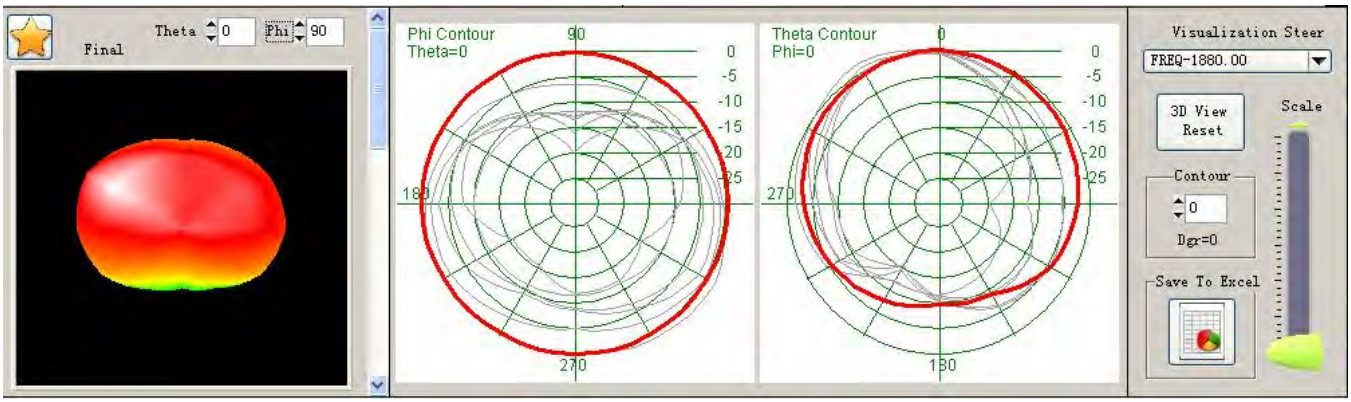


# 1880M

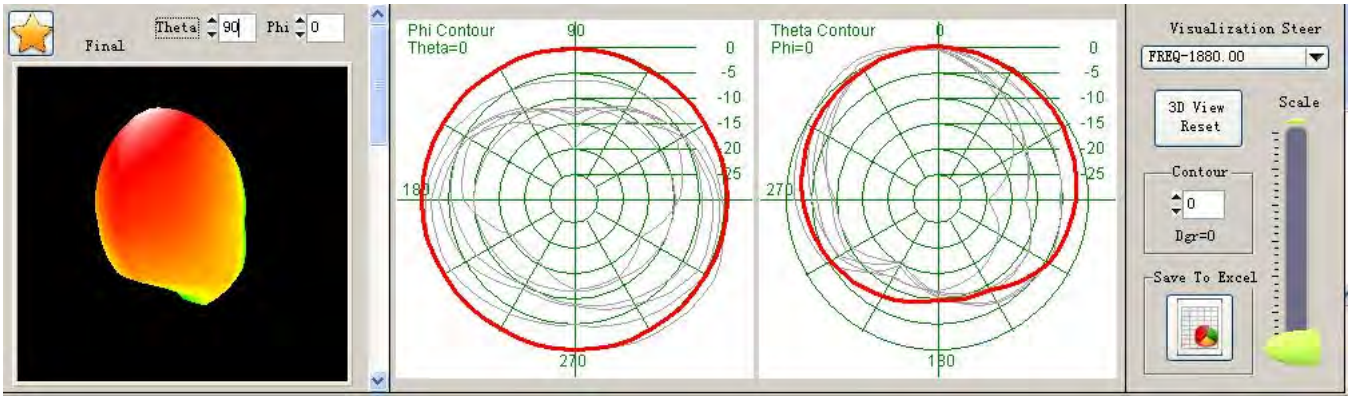
**Phi=0**




**Phi=90**

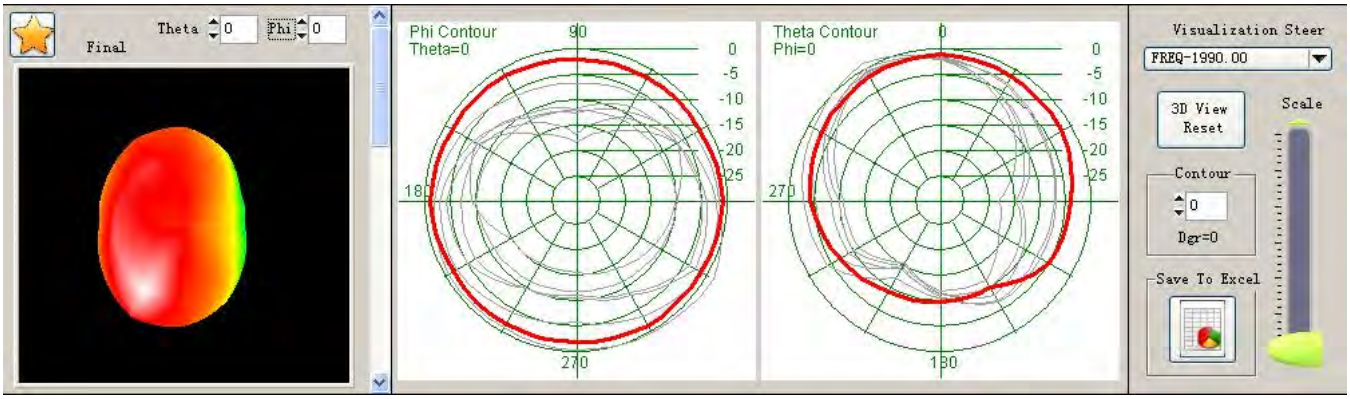



**Theta=90**

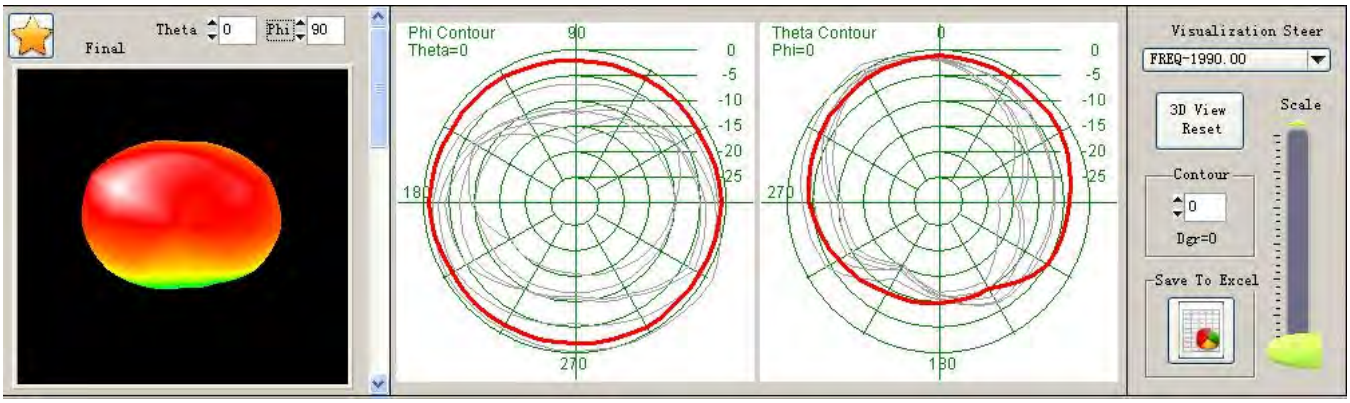



# 1990M

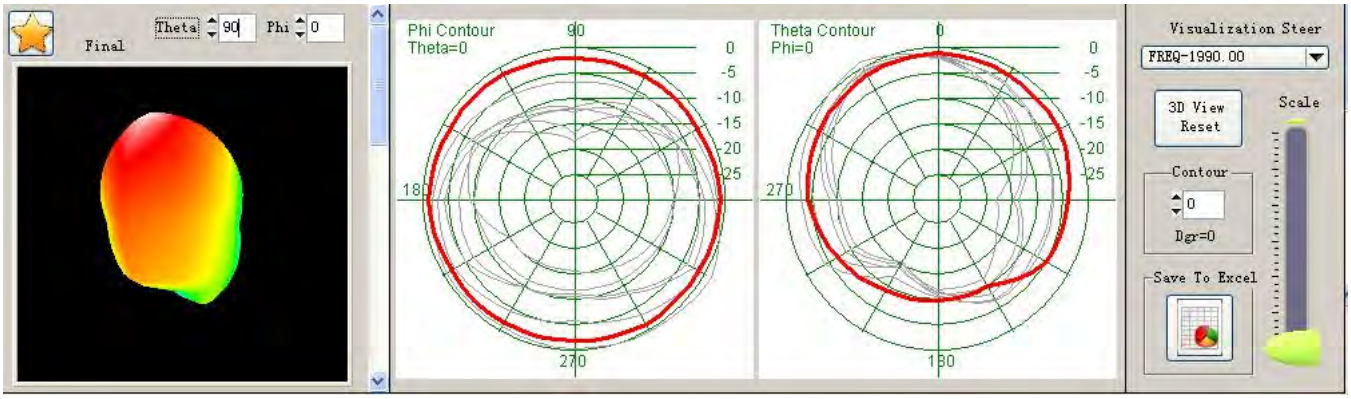
**Phi=0**




**Phi=90**




**Theta=90**



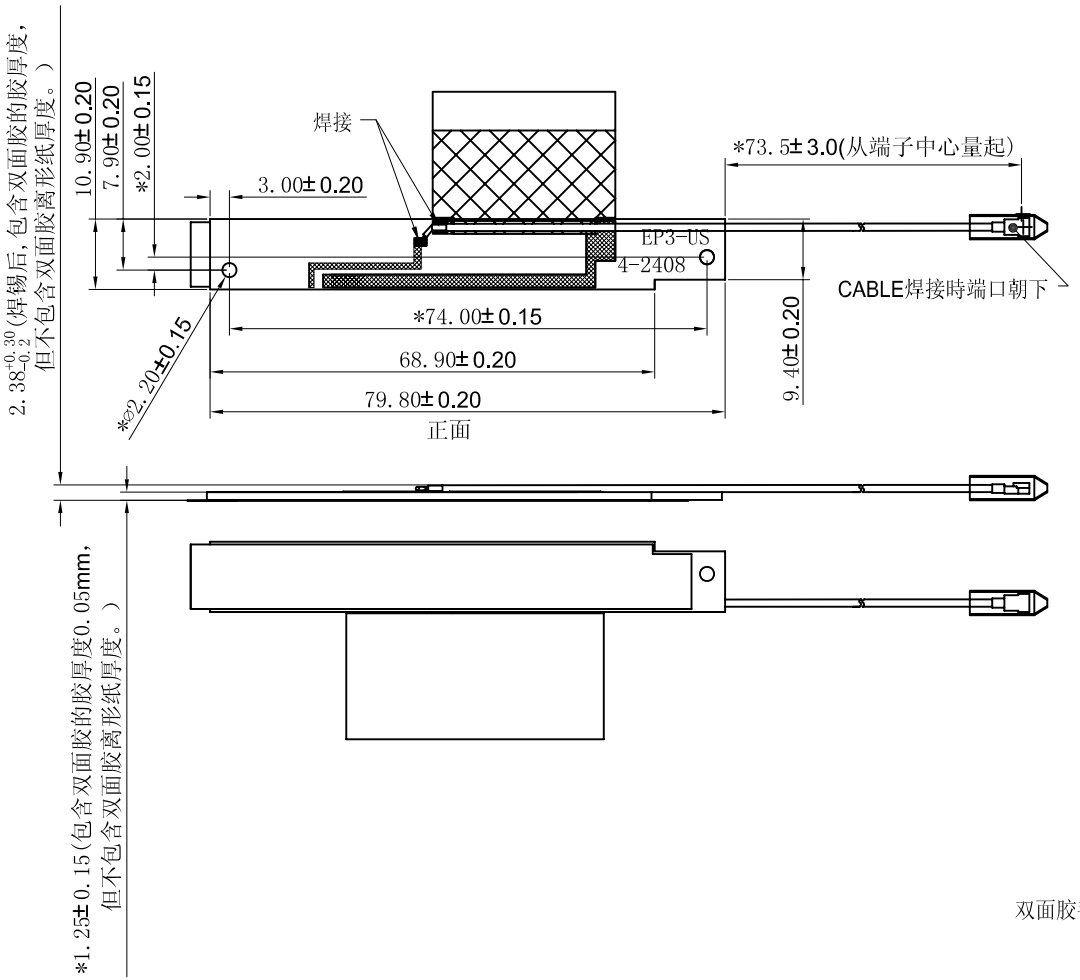

## 3.0 RF Performance in MP

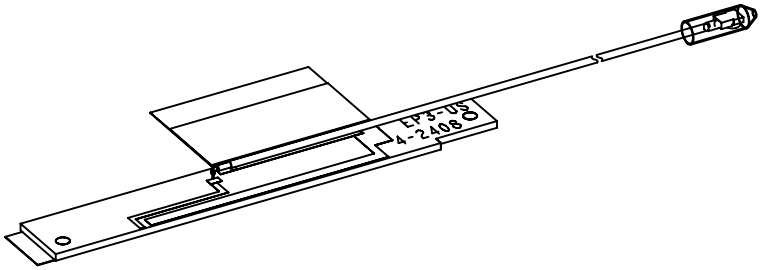
| SCSZ ANT S11 parameter Summary of (free space testing) | | | | | | |
|---|---|---|---|---|---|---|
| **Band** | **(MHz)** | | | | | |
| | 824 | 894 | 1880 | 1920 | 1990 | |
| **R.L (dB)** | | | | | | |

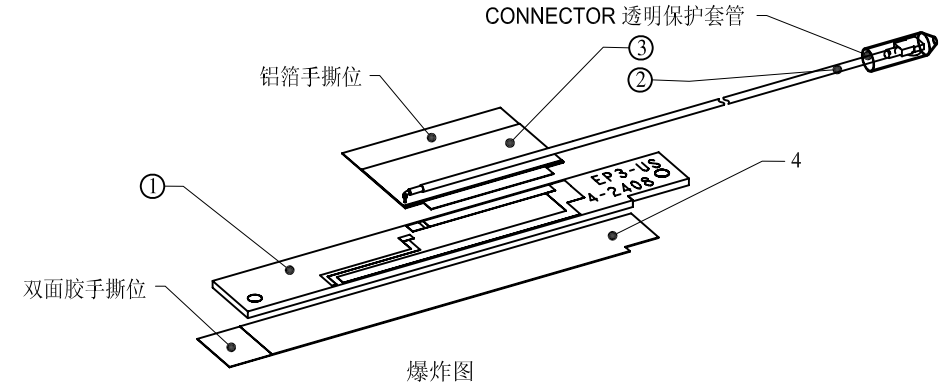
## 3.1 ME Drawing for the Antenna

DIS-QR-7.3-01-007B

| 版本 | 修改内容 | 修定者 | 修定日期 |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |




爆炸图

技术要求：

1. 焊锡不可虚焊、假焊；
2. 热缩套管和铝箔等位置准确；
3. 端子保护套管不能脱落；
4. *为重点管控尺寸(CPK)；◆为参考尺寸；
   ( )为适配尺寸，以配为准；
5. 产品需符合我司《内置天线检验规范》。
   *禁止使用一级环境物质，具体要求参见《禁止和限制使用的环境物质要求(SUC-EW-5.4-05)》

| 序号 | 名称 | 料号 | 材质 | 表面处理 | 颜色 |
|---|---|---|---|---|---|
| 4 | 双面胶 | 4-2361 | 3M 9471 | --- | N/A |
| 3 | 铝箔 | 4-2419 | L28.3*W16,0.065T | --- | N/A |
| 2 | Cable+CNNT | 4-2359 | φ1.13,CNNT,套管 | 上锡 | 白色 |
| 1 | PCB板 | 4-2409 | FR4 T=1.2mm | 油墨 | 绿色 |

SkyCross 斯凯科斯电子（深圳）有限公司上海分公司
SkyCross Electronics(Shenzhen) Co.,Ltd.Shanghai Branch

| | | | |
|---|---|---|---|
| 第三角法: | 单位:mm | 名称: EP3-US天线 | 日期: 2010-11-04 |
| 一般公差: X ±0.5, .X ±0.25, .XX ±0.10, .XXX ±0.05, ANGULAR ±0.5° | | 料号: 4-2408 | 设计: |
| | | 材质: 如料表 | 确认: |
| | | 表面处理: 如料表 | 审核: |
| | | 颜色: 如料表 | 比例: 版本: |