



# FCC TEST REPORT

for

## 47 CFR Part 24E

**Equipment** : Mobile Phone  
**Trade Name** : Icare, Buddy Bear, Teddyfone  
**Model No.** : I 3300  
**FCC ID** : T3K-ICARE-I3300-A  
**Tx Frequency Range** : PCS 1900: 1850.2~1909.8MHz  
**Max. EIRP Power** : PCS 1900: 0.37W  
**Emission Designator** : 300 KGXW  
**Applicant** : I-Care Telecom Inc.  
8F, No. 9, Lane 235, Bauchiau Rd., Shindian City, Taipei, Taiwan

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- The data shown in this test report were carried out on Mar. 04, 2006 at **Sporton International Inc. LAB.**
- Report No.: FG622826, Report Version: Rev. 01

Dr. Daniel Lee  
EMC/SAR Director

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Report Version: Rev. 01



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### History of this test report

Report Issue Date: Mar. 09, 2006

| Report No. | Description |
|------------|-------------|
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## **1. General Information**

### **1.1. Applicant**

**I-Care Telecom Inc.**

8F, No. 9, Lane 235, Bauchiau Rd., Shindian City, Taipei, Taiwan

### **1.2. Manufacturer**

**I-Care Telecom Inc.**

8F, No. 9, Lane 235, Bauchiau Rd., Shindian City, Taipei, Taiwan

### **1.3. Basic Description of Equipment under Test**

|                   |                                         |
|-------------------|-----------------------------------------|
| Equipment         | : Mobile Phone                          |
| Trade Name        | : Icare, Buddy Bear, Teddyfone          |
| Model No.         | : I 3300                                |
| Power Supply Type | : Switching, From battery 3.7V          |
| AC Power Cord     | : AC 120V, Wall-mount, 1.8 meter, 2 pin |

**1.2 Feature of Equipment under Test**

|                                          |                              |
|------------------------------------------|------------------------------|
| <b>DUT Type :</b>                        | Mobile Phone                 |
| <b>Trade Name :</b>                      | Icare, Buddy Bear, Teddyfone |
| <b>Model Name :</b>                      | I 3300                       |
| <b>FCC ID :</b>                          | T3K-ICARE-I3300-A            |
| <b>Tx Frequency :</b>                    | 1850.2-1909.8 MHz.           |
| <b>Rx Frequency :</b>                    | 1930.2-1989.8 MHz            |
| <b>Antenna Type :</b>                    | Fixed Internal               |
| <b>Maximum Output Power to Antenna :</b> | 29.44 dBm                    |
| <b>Maximum EIRP :</b>                    | 0.37 W ( 25.74 dBm)          |
| <b>HW Version :</b>                      | V02                          |
| <b>SW Version :</b>                      | V023                         |
| <b>Power Rating (DC/AC Voltage) :</b>    | 2.8V/150mA                   |
| <b>Digital Modulation Emission :</b>     | GMSK                         |
| <b>Type of Emission :</b>                | 300 KGXW                     |
| <b>DUT Stage :</b>                       | Production Unit              |

**1.3 Report Date**

EUT Received : Feb. 28, 2006

Report Date : Mar. 09, 2006

## 2 Test Configuration of Equipment under Test

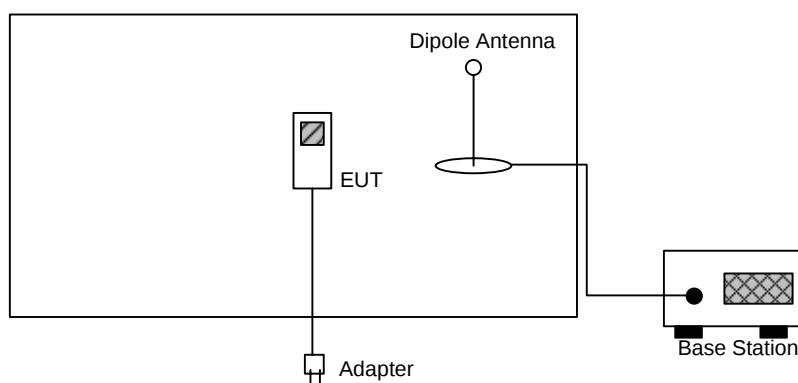
### 2.1 Test Manner

- The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range.
- During all testings, EUT is in link mode with base station emulator at maximum power level. (PCL=0 for PCS 1900)
- Frequency range investigated: radiated emission 30MHz to 18000 MHz for PCS 1900.

### 2.2 Test Mode

| Application           | PCS 1900                                                              |
|-----------------------|-----------------------------------------------------------------------|
| Radiated Emission     | <input checked="" type="checkbox"/> Mode 1: PCS 1900 Link Mode_CH 661 |
| Conducted Measurement | <input checked="" type="checkbox"/> Mode 1: PCS 1900 Link Mode_CH 661 |

### 2.3 Connection Diagram of Test System



### 2.4 Ancillary Equipment List

| Item | Equipment    | Trade Name | Model No. | Power Cord |
|------|--------------|------------|-----------|------------|
| 1.   | Base Station | R & S      | CMU200    | N/A        |



### **3. General Information of Test Site**

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,  
Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.  
TEL : 886-3-327-3456  
FAX : 886-3-318-0055  
Test Site No : 03CH06-HY

The chamber meets the characteristics of ANSI C63.4-2003. This site is on file with the FCC. The Industry Canada file number for this site is IC 4088.

#### **3.1 Test Voltage**

120V / 60Hz

#### **3.2 Test in Compliance with**

47 CFR Part 24E

#### **3.3 Frequency Range Investigated**

- a. Radiation: from 30 MHz to 19000 MHz for PCS 1900.

#### **3.4 Test Distance**

The test distance of radiated emission from antenna to EUT is 3 m.



## 4. Test Data and Test Result

### 4.1 List of Measurements and Examinations

| FCC Rule                | DESCRIPTION OF TEST                           | Result | Section |
|-------------------------|-----------------------------------------------|--------|---------|
| §2.1046                 | RF Output Power                               | Passed | 4.2     |
| §24.232                 | ERP / EIRP                                    | Passed | 4.3     |
| §2.1049,<br>§ 24.238(b) | Occupied Bandwidth & Band Edge<br>Measurement | Passed | 4.4     |
| §2.1051                 | Conducted Emission                            | Passed | 4.5     |
| §2.1053                 | Field Strength of Spurious Radiation          | Passed | 4.6     |
| §2.1055,<br>§24.235     | Frequency Stability vs. Temperature           | Passed | 4.7     |
| §2.1055,<br>§24.235     | Frequency Stability vs. Voltage               | Passed | 4.8     |

## 4.2 RF Output Power

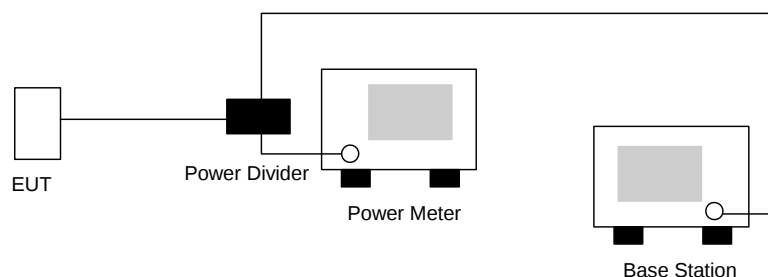
### 4.2.1 Measurement Instruments :

As described in chapter 5 of this test report.

### 4.2.2 Test Procedure :

1. The transmitter output was connected to power meter and base station through power divider.
2. Set EUT at PCL=0 for PCS 1900 through base station.
3. Select lowest, middle, and highest channels for each band.

### 4.2.3 Test Setup Layout :



### 4.2.4 Test Result :

| Bands    | Channel | Frequency (MHz) | Conducted Power (dBm) | Conducted Power (Watts) |
|----------|---------|-----------------|-----------------------|-------------------------|
| PCS 1900 | 512     | 1850.2 (Low)    | 29.28                 | 0.847                   |
|          | 661     | 1880.0 (Mid)    | 29.44                 | 0.879                   |
|          | 810     | 1909.8 (High)   | 29.42                 | 0.875                   |



### **4.3 ERP / EIRP Measurement**

Equivalent isotropic radiated power measurements by substitution method according to ANSI/TIA/EIA-603-A.

#### **4.3.1 Measurement Instruments**

As described in chapter 5 of this test report.

#### **4.3.2 Test Procedure**

1. The EUT was placed on a rotatable table with 1.0 meter height in an fully anechoic chamber.
2. The EUT was set 1.2 meters from the receiving antenna which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiated power.
4. The height of the receiving antenna is also kept at 1.0M height.
5. Taking the record of maximum ERP/EIRP.
6. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
7. The conducted power at the terminal of the dipole antenna is measured.
8. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
9.  $ERP/EIRP = P_s + E_t - E_s + G_s = P_s + R_t - R_s + G_s$

$P_s$  (dBm): Input power to substitution antenna.

$G_s$  (dBi or dBd): Substitution antenna Gain.

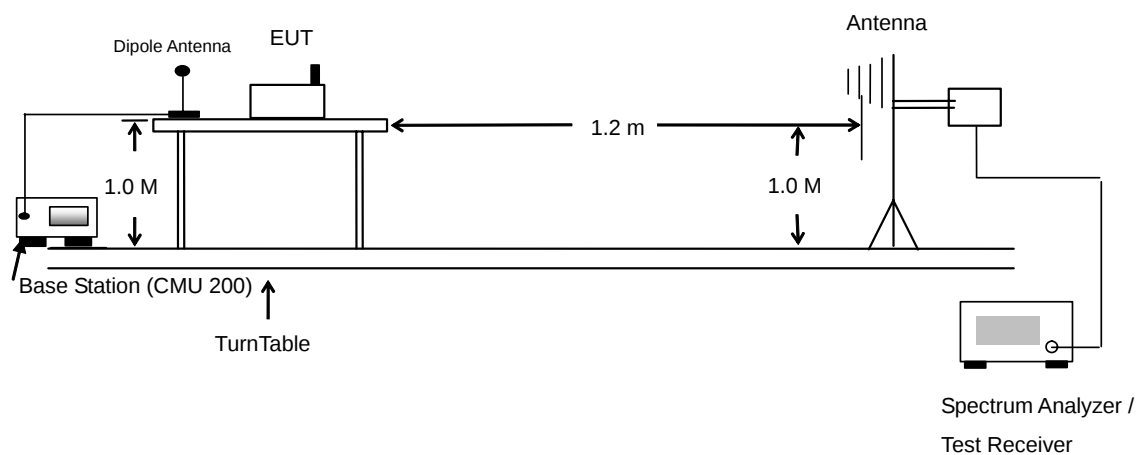
$E_t = R_t + AF$

$E_s + R_s + AF$

$AF$  (dB/m): Receive antenna factor

10.  $R_t$ : the highest received signal in Spectrum Analyzer for EUT.

### 4.3.3 Test Setup Layout of ERP/EIRP



### 4.3.4 Test Result

| PCS1900 Radiated Power EIRP |               |                 |                    |               |                 |
|-----------------------------|---------------|-----------------|--------------------|---------------|-----------------|
| H Polarization              |               |                 | V Polarization     |               |                 |
| Frequency<br>(MHz)          | EIRP<br>(dBm) | EIRP<br>(Watts) | Frequency<br>(MHz) | EIRP<br>(dBm) | EIRP<br>(Watts) |
| 1850.20                     | 25.27         | 0.34            | <b>1850.20</b>     | <b>25.74</b>  | <b>0.37</b>     |
| 1880.00                     | 24.92         | 0.31            | 1880.00            | 24.49         | 0.28            |
| 1909.80                     | 23.85         | 0.24            | 1909.80            | 22.40         | 0.17            |

## 4.4 Occupied Bandwidth and Band Edge Measurement

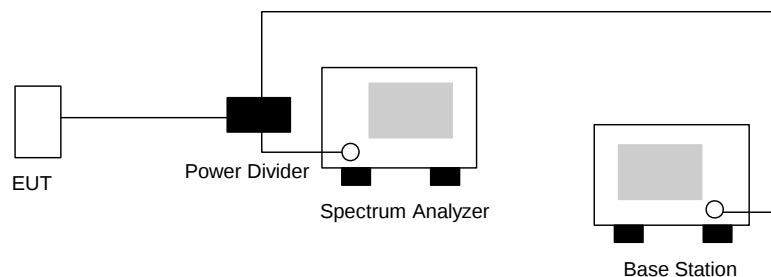
### 4.4.1 Measurement Instruments

As described in chapter 5 of this test report.

### 4.4.2 Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The occupied bandwidth of middle channel for the highest and lowest RF powers were measured.
3. The bandedge of low and high channels for the highest RF powers within the transmitting frequency band were measured. Setting RBW as roughly BW/100.

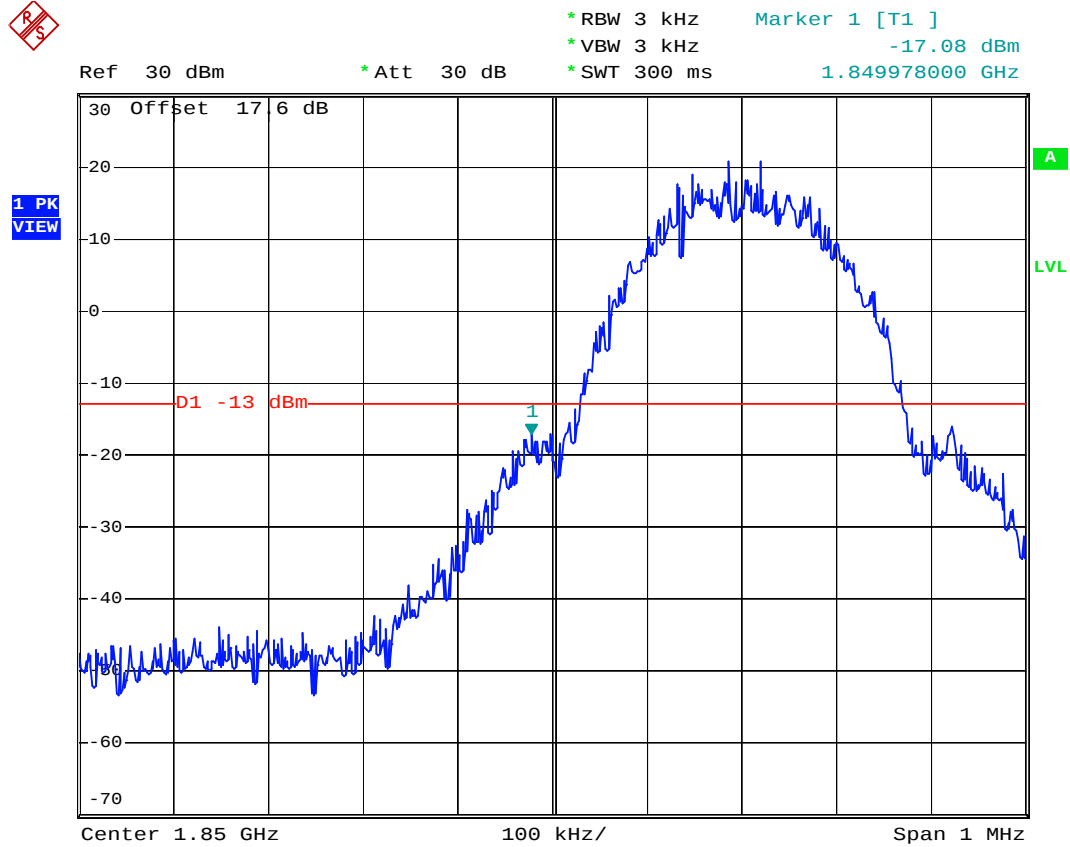
### 4.4.3 Test Setup Layout





4.4.4 Test Result

- Test Mode : PCS 1900 CH512 Lower Band Edge
- Power State : High



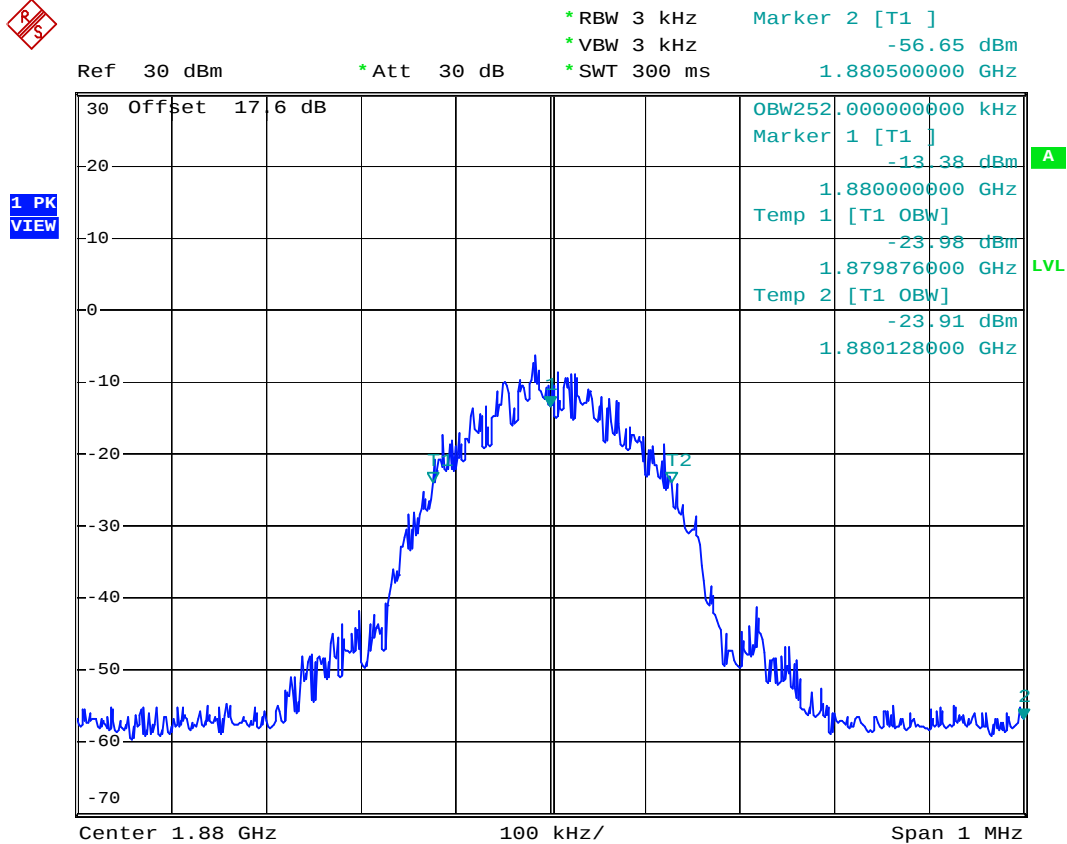
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Report No. : FG622826

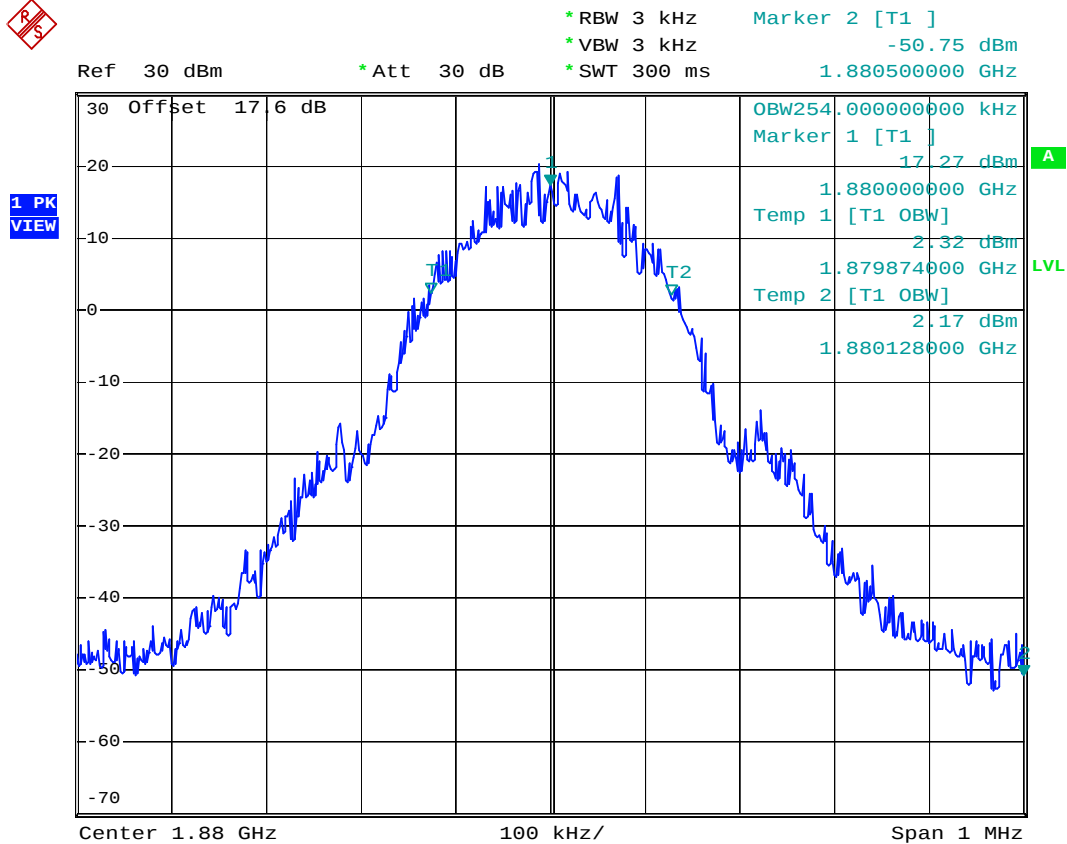
- Test Mode : PCS 1900 CH661 99% Occupied Bandwidth
- Power State : Low



Date: 4.MAR.2006 01:05:38



- Test Mode : PCS 1900 CH661 99% Occupied Bandwidth
- Power State : High



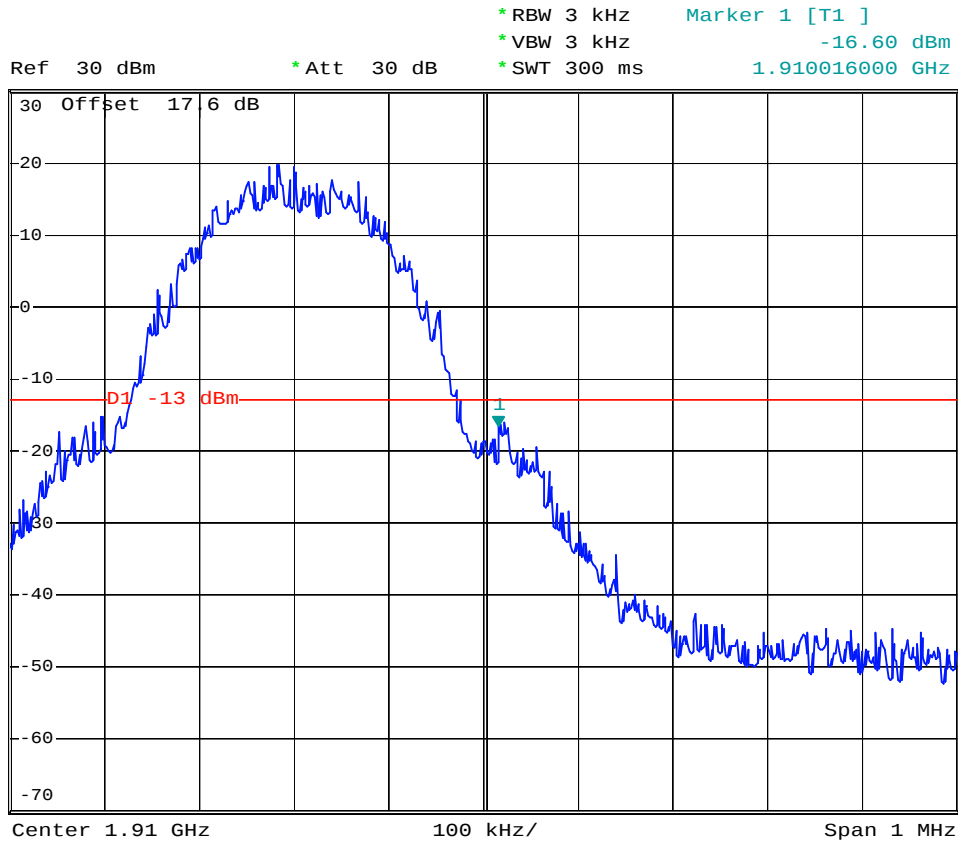
Date: 4.MAR.2006 01:04:43



## FCC TEST REPORT

Report No. : FG622826

- Test Mode : PCS 1900 CH810 Higher Band Edge
- Power State : High



Date: 4.MAR.2006 01:08:02

## 4.5 Conducted Emission

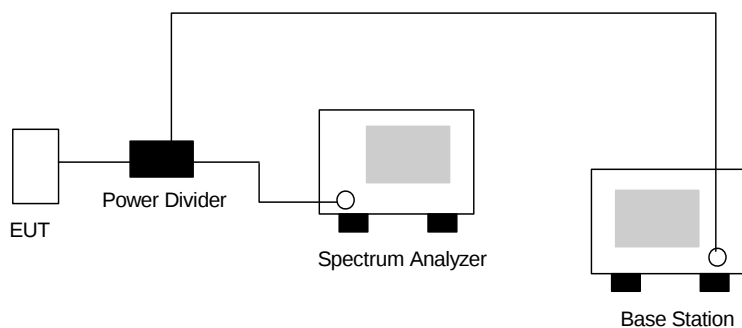
### 4.5.1 Measurement Instruments

As described in chapter 5 of this test report.

### 4.5.2 Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The middle channel for the highest RF power within the transmitting frequency was measured.
3. The conducted spurious emission for the whole frequency range was taken.

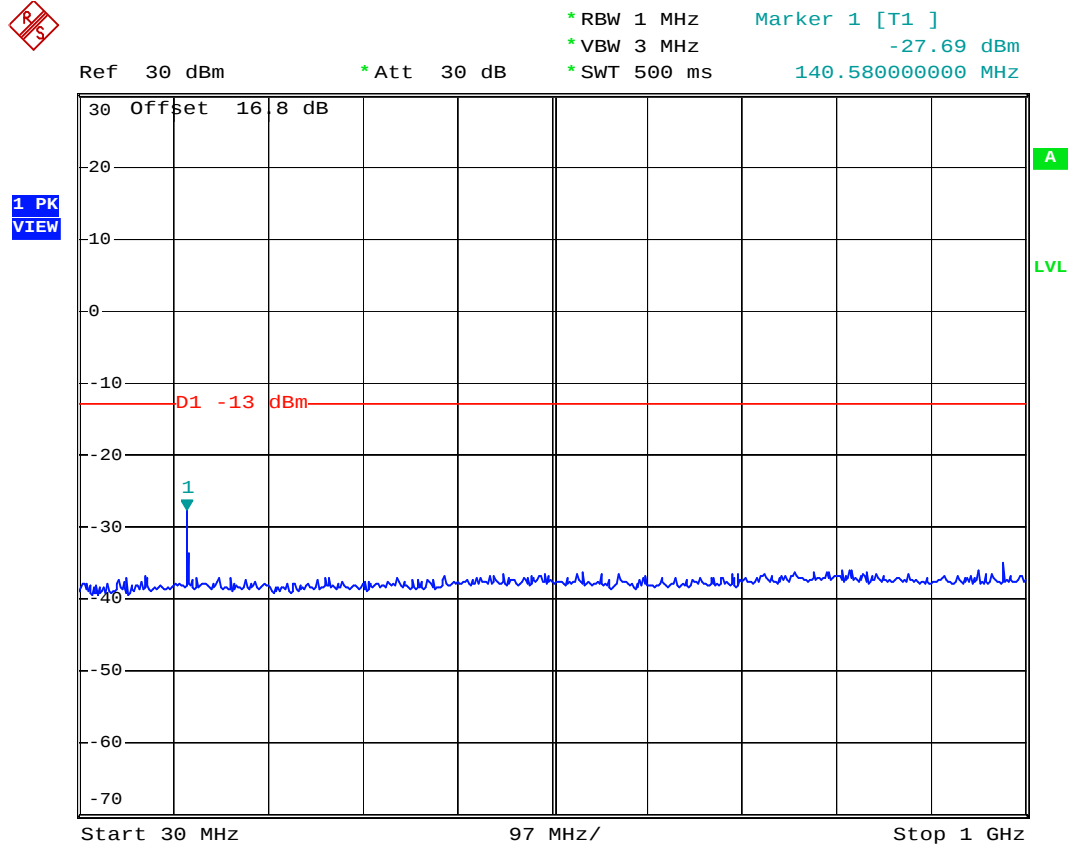
### 4.5.3 Test Setup Layout





4.5.4 Test Result

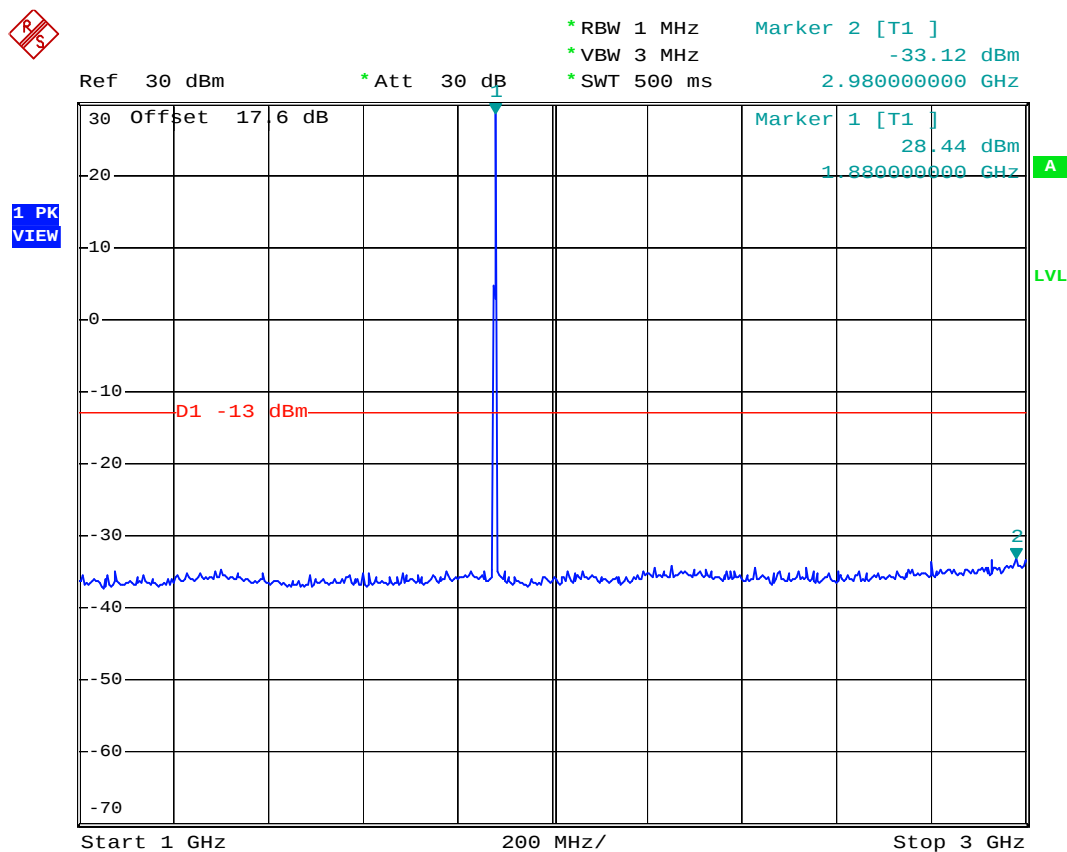
- Test Mode : PCS 1900 CH661
- Frequency Range : 0.3G-1G



Date: 4.MAR.2006 01:01:51



- Test Mode : PCS 1900 CH661
- Frequency Range : 1G-3G



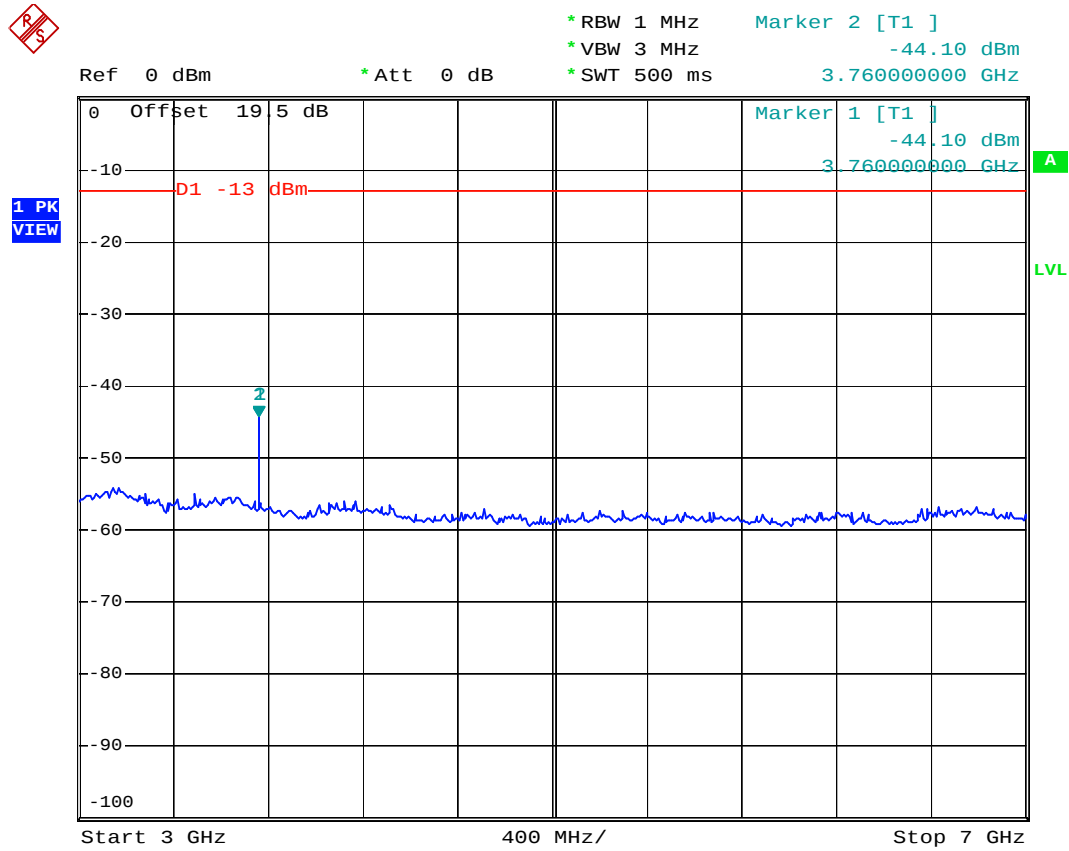
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## FCC TEST REPORT

Report No. : FG622826

- Test Mode : PCS 1900 CH661
- Frequency Range : 3G-7G



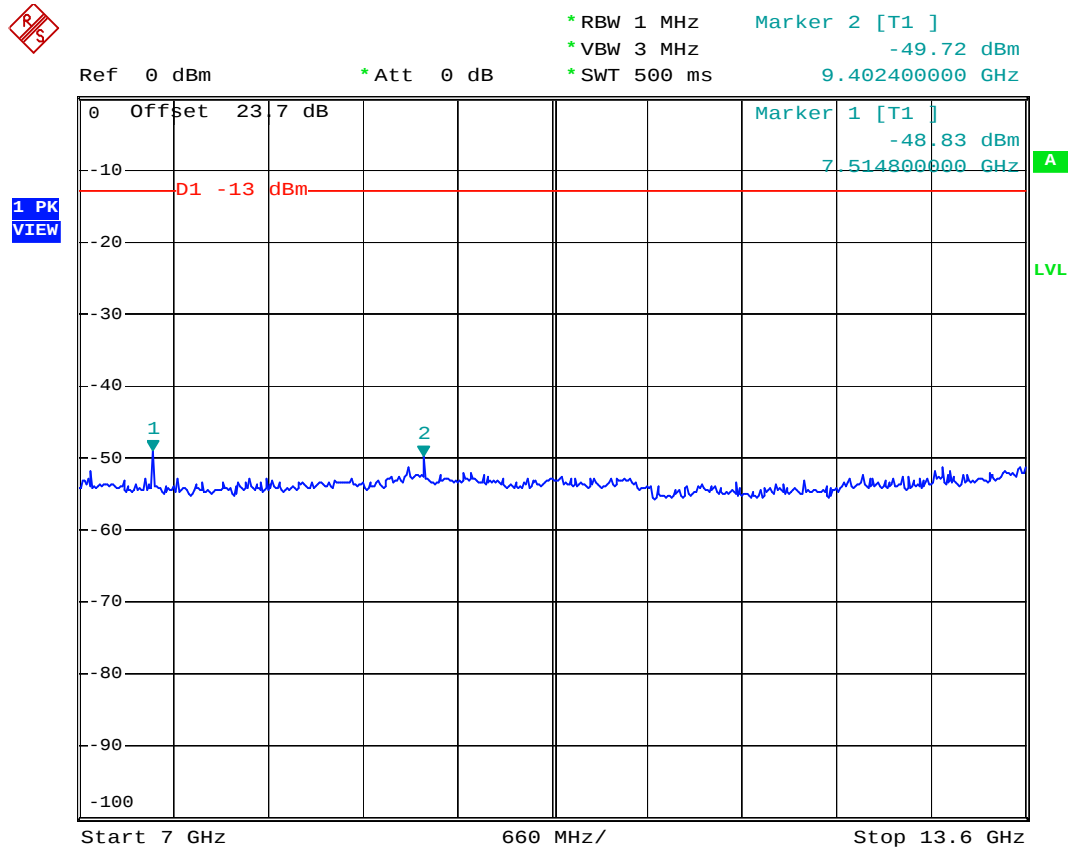
Date: 4.MAR.2006 00:56:19



## FCC TEST REPORT

Report No. : FG622826

- Test Mode : PCS 1900 CH661
- Frequency Range : 7G-13.6G



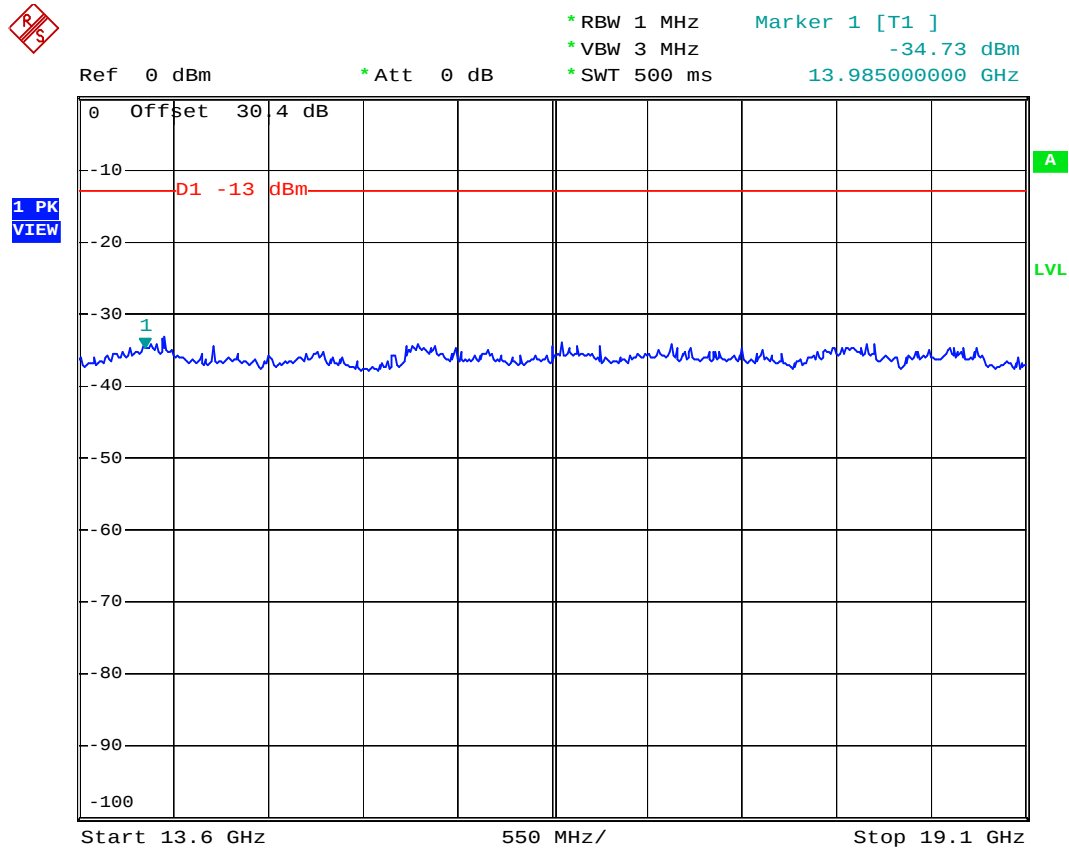
Date: 4.MAR.2006 00:57:51



## FCC TEST REPORT

Report No. : FG622826

- Test Mode : PCS 1900 CH661
- Frequency Range : 13.6G-19.1G



Date: 4.MAR.2006 00:59:19

## 4.6 Field Strength of Spurious Radiation

Equivalent isotropic radiated Power Measurements by substitution method according to ANSI/TIA/EIA-603-A.

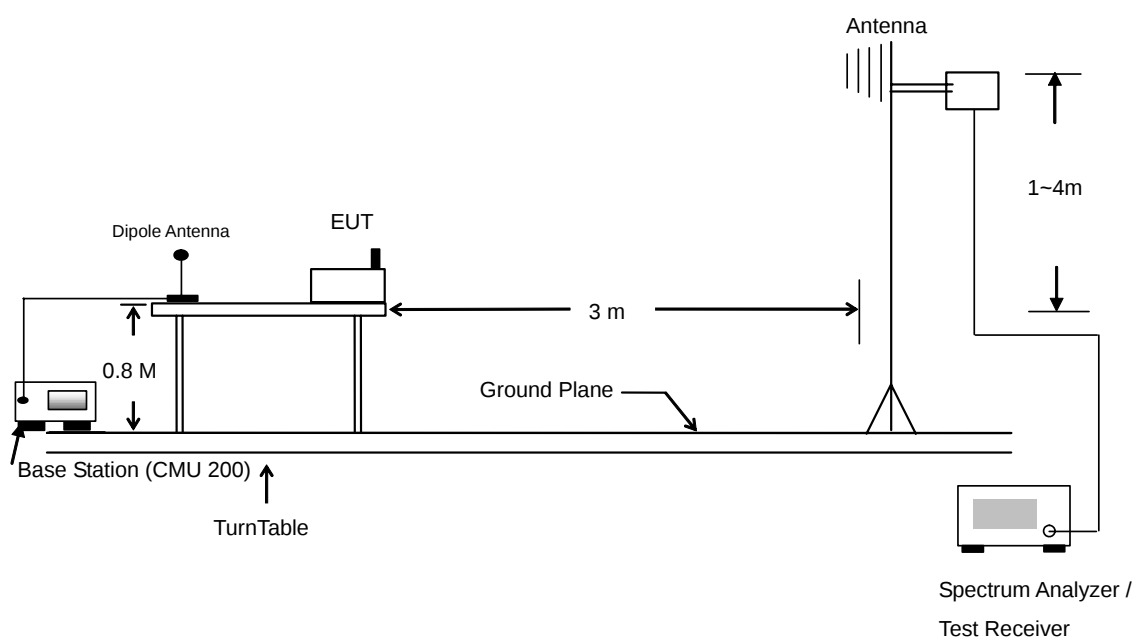
### 4.6.1 Measurement Instruments

As described in chapter 5 of this test report.

### 4.6.2 Test Procedure

1. The EUT was placed on a rotatable wooden table with 0.8 meter about ground.
2. The EUT was set 3 meters from the receiving antenna which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to reach the maximum spurious emission for both horizontal and vertical polarizations.
5. Taking the record of maximum spurious emission.
6. A Horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. Emission level (dBm) = output power + substitution Gain.

### 4.6.3 Test Setup Layout



**4.6.4 Test Result**

- Test Mode : Mode 1

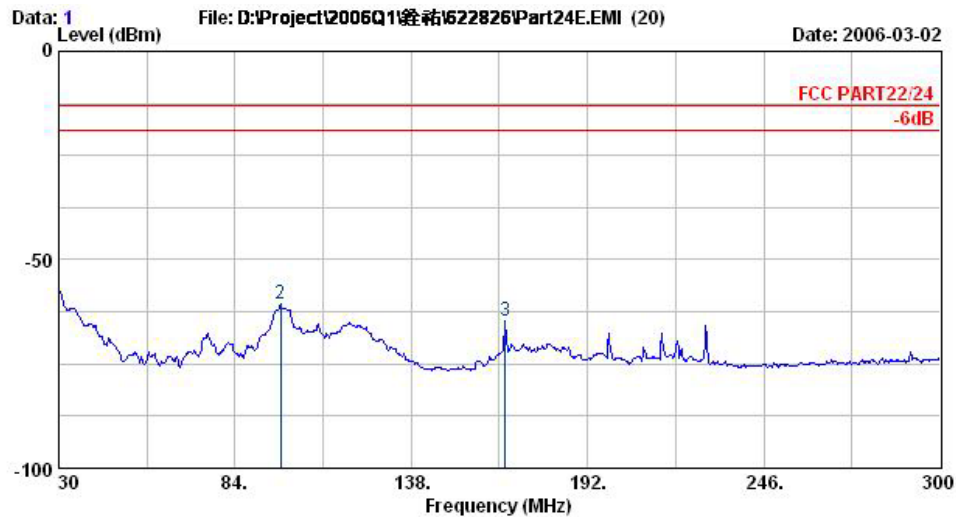
| <b>PCS1900 Radiated Spurious EIRP</b> |                |             |               |                 |            |             |             |
|---------------------------------------|----------------|-------------|---------------|-----------------|------------|-------------|-------------|
| H Polarization                        |                |             |               | V Polarization  |            |             |             |
| Frequency (MHz)                       | EIRP (dBm)     | Limit (dBm) | Margin (dB)   | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 30.000                                | -57.660        | -13         | -44.66        | 43.230          | -56.180    | -13         | -43.18      |
| 98.040                                | -60.700        | -13         | -47.70        | 75.630          | -57.050    | -13         | -44.05      |
| 166.890                               | -64.790        | -13         | -51.79        | 100.740         | -53.660    | -13         | -40.66      |
| 537.300                               | -64.090        | -13         | -51.09        | 430.200         | -63.220    | -13         | -50.22      |
| 834.800                               | -64.830        | -13         | -51.83        | 789.300         | -57.780    | -13         | -44.78      |
| 910.400                               | -64.140        | -13         | -51.14        | 915.300         | -61.760    | -13         | -48.76      |
| 1318.000                              | -54.370        | -13         | -41.37        | 1188.000        | -51.450    | -13         | -38.45      |
| 1688.000                              | -53.920        | -13         | -40.92        | 1358.000        | -53.800    | -13         | -40.80      |
| 3758.000                              | -50.550        | -13         | -37.55        | 1688.000        | -52.440    | -13         | -39.44      |
| 5638.000                              | -43.780        | -13         | -30.78        | 3758.000        | -45.920    | -13         | -32.92      |
| <b>9398.000</b>                       | <b>-37.010</b> | <b>-13</b>  | <b>-24.01</b> | 5638.000        | -41.380    | -13         | -28.38      |
|                                       |                |             |               | 7518.000        | -45.450    | -13         | -32.45      |
|                                       |                |             |               | 11278.000       | -41.580    | -13         | -28.58      |



## 4.6.5 Test Data

Mode 1

Horizontal Polarization



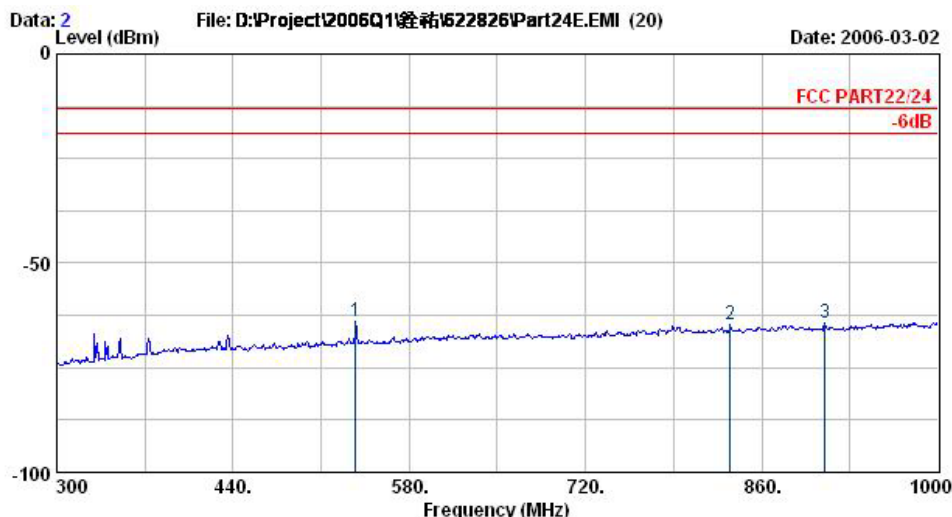
Site : 03CH06-HY  
Condition : LF-SPURIOUS HORIZONTAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

|     | Freq   | Level  | Over   | Limit  | Read   | Antenna |        |
|-----|--------|--------|--------|--------|--------|---------|--------|
|     | MHz    | dBm    | Limit  | Line   | Level  | Factor  | Remark |
|     |        |        | dB     | dBm    | dBm    | dB      |        |
| 1 @ | 30.00  | -57.66 | -44.66 | -13.00 | -58.02 | 0.36    | Peak   |
| 2   | 98.04  | -60.70 | -47.70 | -13.00 | -48.45 | -12.25  | Peak   |
| 3   | 166.89 | -64.79 | -51.79 | -13.00 | -51.78 | -13.01  | Peak   |



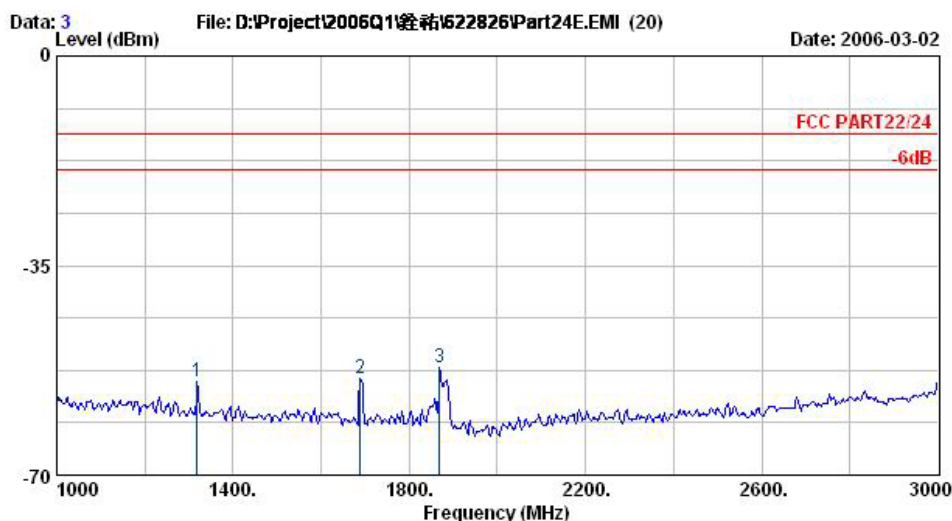
# FCC TEST REPORT

Report No. : FG622826



Site : 03CH06-HY  
Condition : LF-SPURIOUS HORIZONTAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

|   | Freq   | Level  | Over   | Limit  | ReadAntenna  |            |
|---|--------|--------|--------|--------|--------------|------------|
|   | MHz    | dBm    | Limit  | Line   | Level Factor | Remark     |
|   |        | dBm    | dB     | dBm    | dB           |            |
| 1 | 537.30 | -64.09 | -51.09 | -13.00 | -59.49       | -4.61 Peak |
| 2 | 834.80 | -64.83 | -51.83 | -13.00 | -63.47       | -1.35 Peak |
| 3 | 910.40 | -64.14 | -51.14 | -13.00 | -63.52       | -0.62 Peak |



Site : 03CH06-HY  
Condition : HF-SPURIOUS HORIZONTAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

|     | Freq    | Level  | Over   | Limit  | ReadAntenna  |            |
|-----|---------|--------|--------|--------|--------------|------------|
|     | MHz     | dBm    | Limit  | Line   | Level Factor | Remark     |
|     |         | dBm    | dB     | dBm    | dB           |            |
| 1 @ | 1318.00 | -54.37 | -41.37 | -13.00 | -55.39       | 1.02 Peak  |
| 2 @ | 1688.00 | -53.92 | -40.92 | -13.00 | -54.06       | 0.13 Peak  |
| 3 @ | 1868.00 | -51.97 |        |        | -51.46       | -0.51 Peak |

Remark: #3 MS TCH signal

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

FCC ID : T3K-ICARE-I3300-A

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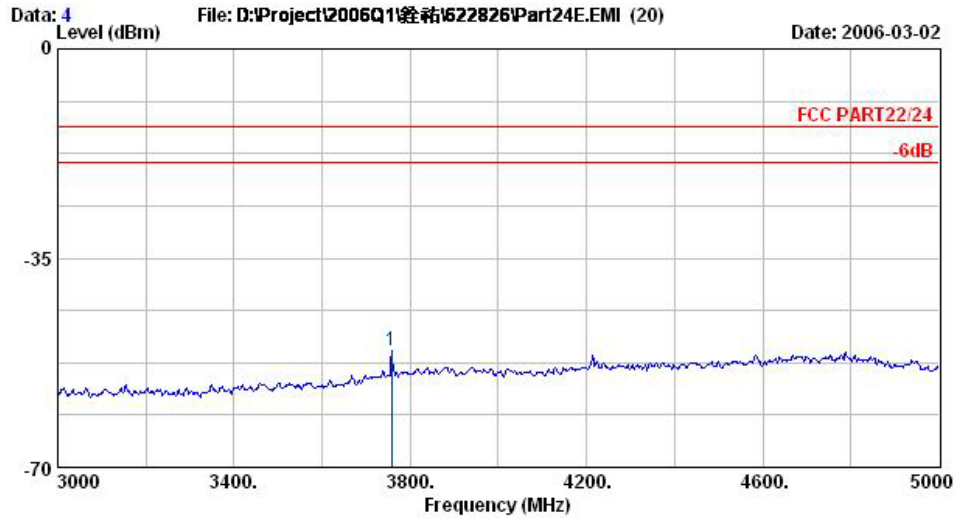
Report Issued Date : Mar. 09, 2006

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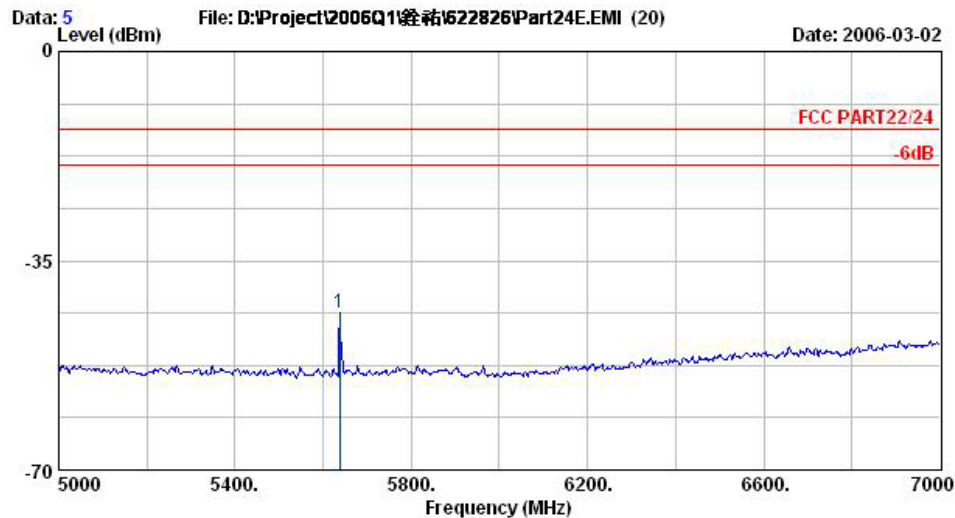
# FCC TEST REPORT

Report No. : FG622826



Site : 03CH06-HY  
Condition : HF-SPURIOUS HORIZONTAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

|     | Freq    | Level  | Over   | Limit  | ReadAntenna  |           |
|-----|---------|--------|--------|--------|--------------|-----------|
|     | MHz     | dBm    | Limit  | Line   | Level Factor | Remark    |
|     |         |        | dB     | dBm    | dBm          | dB        |
| 1 @ | 3758.00 | -50.55 | -37.55 | -13.00 | -58.47       | 7.92 Peak |



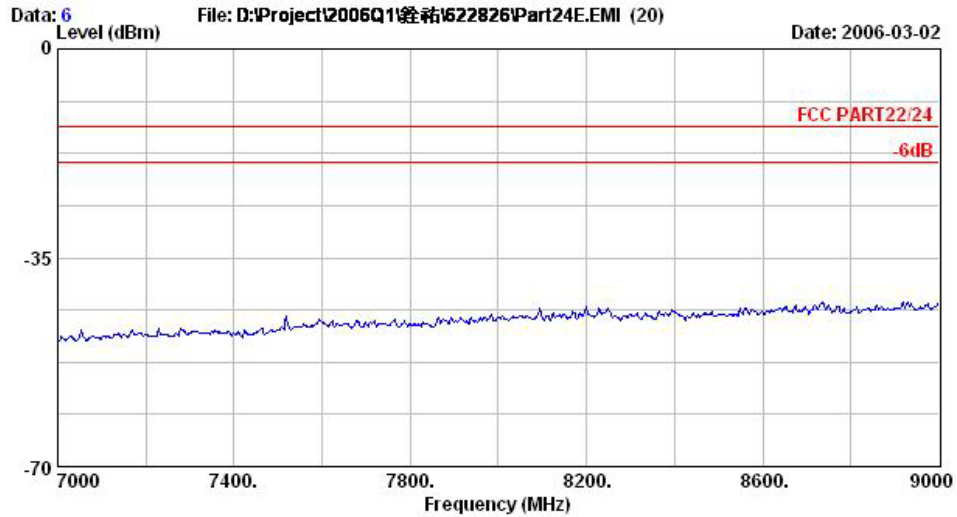
Site : 03CH06-HY  
Condition : HF-SPURIOUS HORIZONTAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

|     | Freq    | Level  | Over   | Limit  | ReadAntenna  |           |
|-----|---------|--------|--------|--------|--------------|-----------|
|     | MHz     | dBm    | Limit  | Line   | Level Factor | Remark    |
|     |         |        | dB     | dBm    | dBm          | dB        |
| 1 @ | 5638.00 | -43.78 | -30.78 | -13.00 | -53.75       | 9.97 Peak |

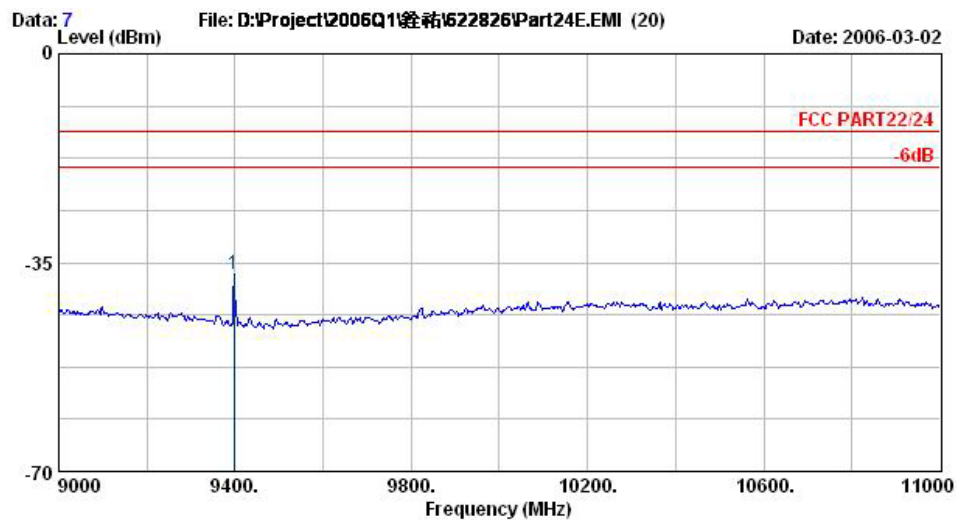


# FCC TEST REPORT

Report No. : FG622826



Site : 03CH06-HY  
Condition : HF-SPURIOUS HORIZONTAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H



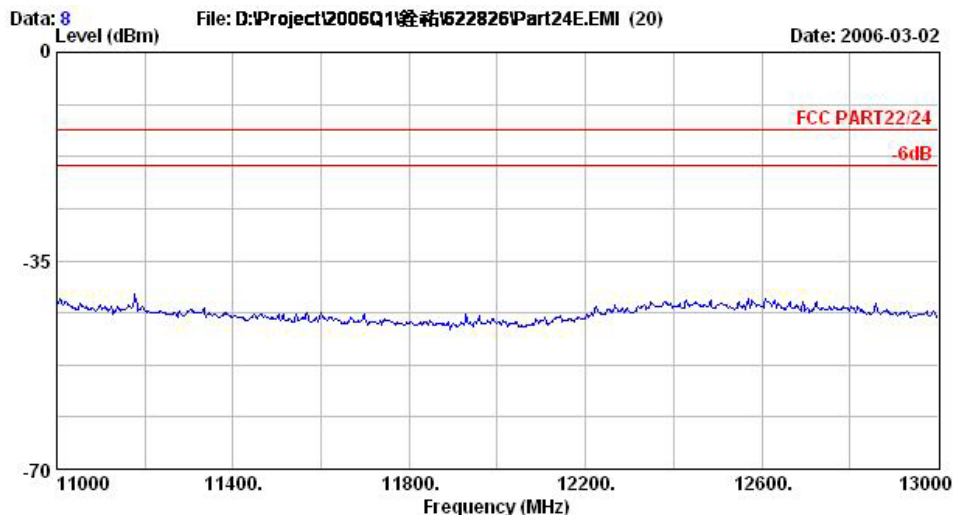
Site : 03CH06-HY  
Condition : HF-SPURIOUS HORIZONTAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

| Freq  | Level   | Over   | Limit  | Read   | Antenna |            |
|-------|---------|--------|--------|--------|---------|------------|
| MHz   | dBm     | Limit  | Line   | Level  | Factor  | Remark     |
| ----- | -----   | -----  | -----  | -----  | -----   | -----      |
| 1 @   | 9398.00 | -37.01 | -24.01 | -13.00 | -55.23  | 18.22 Peak |

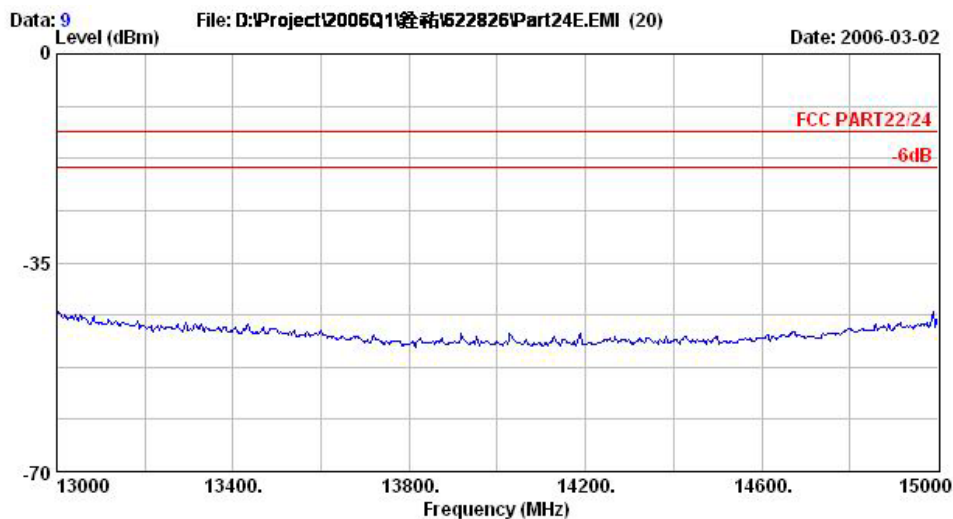


## FCC TEST REPORT

Report No. : FG622826



Site : 03CH06-HY  
Condition : HF-SPURIOUS HORIZONTAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG-622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

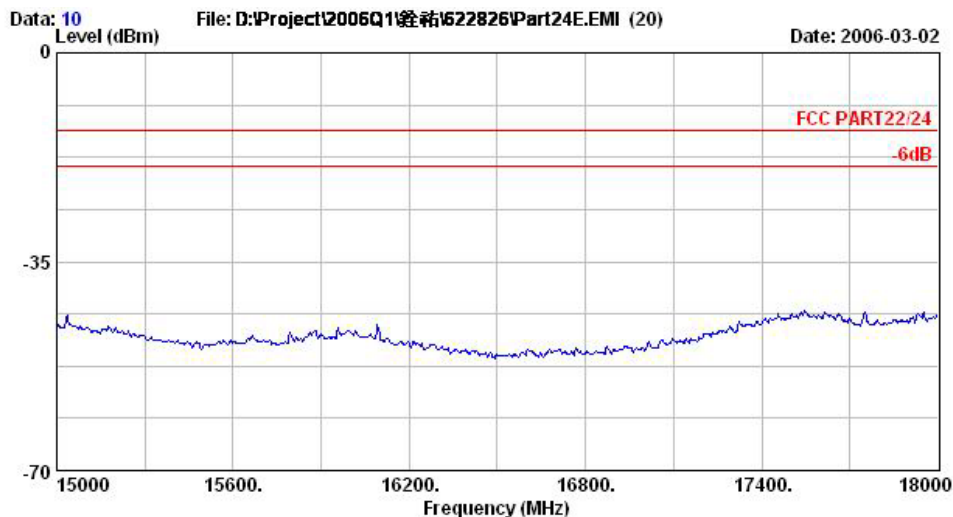


Site : 03CH06-HY  
Condition : HF-SPURIOUS HORIZONTAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG-622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H



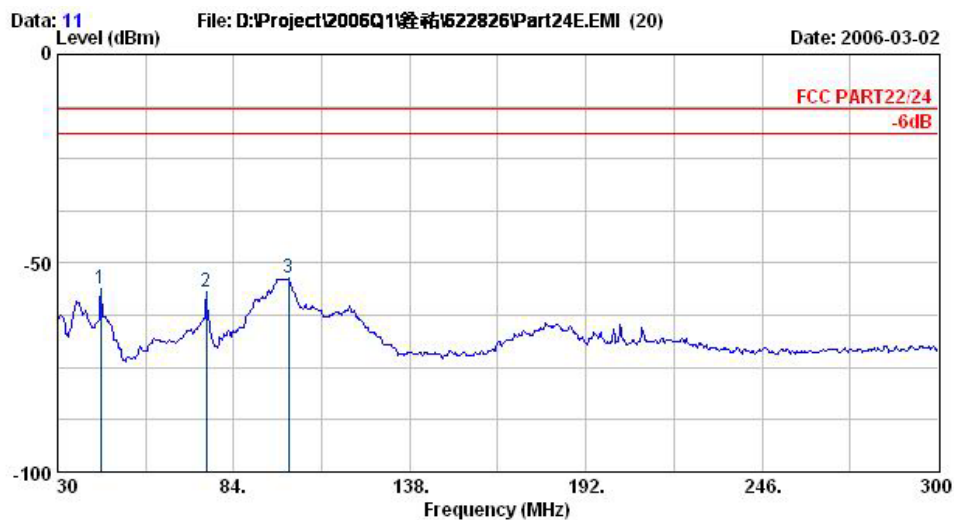
# FCC TEST REPORT

Report No. : FG622826



Site : 03CH06-HY  
Condition : HF-SPURIOUS HORIZONTAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

## Vertical Polarization



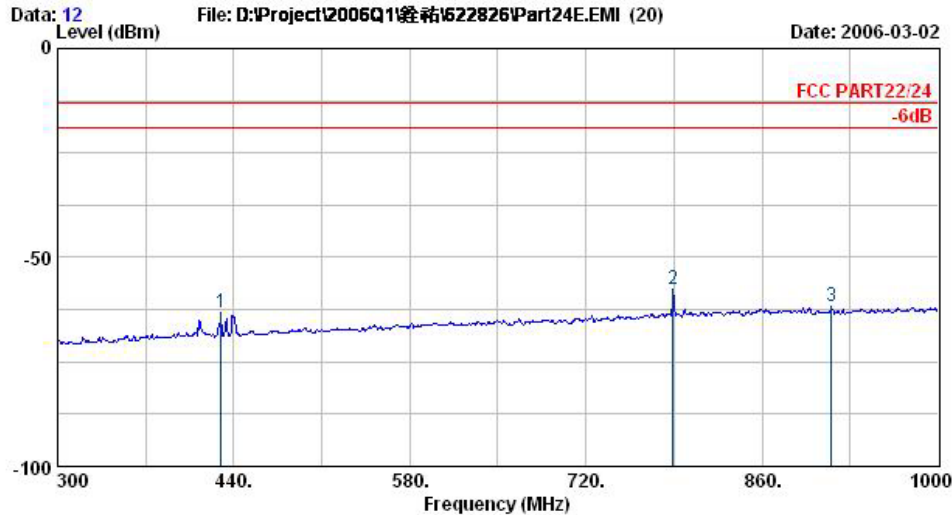
Site : 03CH06-HY  
Condition : LF-SPURIOUS VERTICAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

|     | Freq   | Level  | Over   | Limit  | ReadAntenna  | Remark      |
|-----|--------|--------|--------|--------|--------------|-------------|
|     | MHz    | dBm    | Limit  | Line   | Level Factor |             |
|     |        |        | dB     | dBm    | dB           |             |
| 1 @ | 43.23  | -56.18 | -43.18 | -13.00 | -43.28       | -12.90 Peak |
| 2 @ | 75.63  | -57.05 | -44.05 | -13.00 | -45.87       | -11.19 Peak |
| 3 @ | 100.74 | -53.66 | -40.66 | -13.00 | -45.96       | -7.70 Peak  |



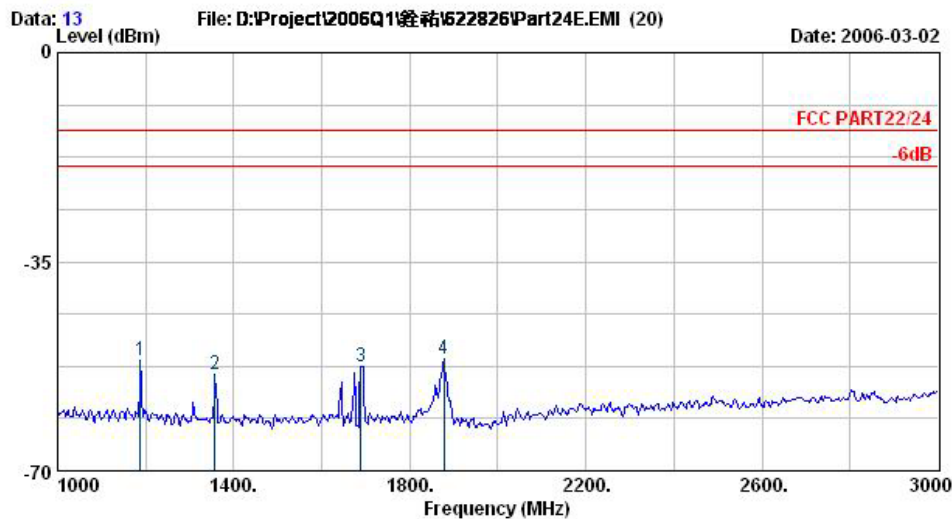
# FCC TEST REPORT

Report No. : FG622826



Site : 03CH06-HY  
Condition : LF-SPURIOUS VERTICAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

|   | Freq   | Level  | Over   | Limit  | ReadAntenna |        |
|---|--------|--------|--------|--------|-------------|--------|
|   | MHz    | dBm    | Limit  | Line   | Level       | Factor |
|   |        |        | dB     | dBm    | dBm         | dB     |
| 1 | 430.20 | -63.22 | -50.22 | -13.00 | -59.26      | -3.96  |
| 2 | 789.30 | -57.78 | -44.78 | -13.00 | -58.69      | 0.91   |
| 3 | 915.30 | -61.76 | -48.76 | -13.00 | -63.75      | 1.99   |
|   |        |        |        |        |             | Peak   |



Site : 03CH06-HY  
Condition : HF-SPURIOUS VERTICAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

|     | Freq    | Level  | Over   | Limit  | ReadAntenna |        |
|-----|---------|--------|--------|--------|-------------|--------|
|     | MHz     | dBm    | Limit  | Line   | Level       | Factor |
|     |         |        | dB     | dBm    | dBm         | dB     |
| 1 @ | 1188.00 | -51.45 | -38.45 | -13.00 | -50.71      | -0.73  |
| 2 @ | 1358.00 | -53.80 | -40.80 | -13.00 | -52.93      | -0.86  |
| 3 @ | 1688.00 | -52.44 | -39.44 | -13.00 | -51.94      | -0.50  |
| 4 @ | 1878.00 | -51.35 |        |        | -50.95      | -0.40  |
|     |         |        |        |        |             | Peak   |

Remark: #4 MS TCH signal

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

FCC ID : T3K-ICARE-I3300-A

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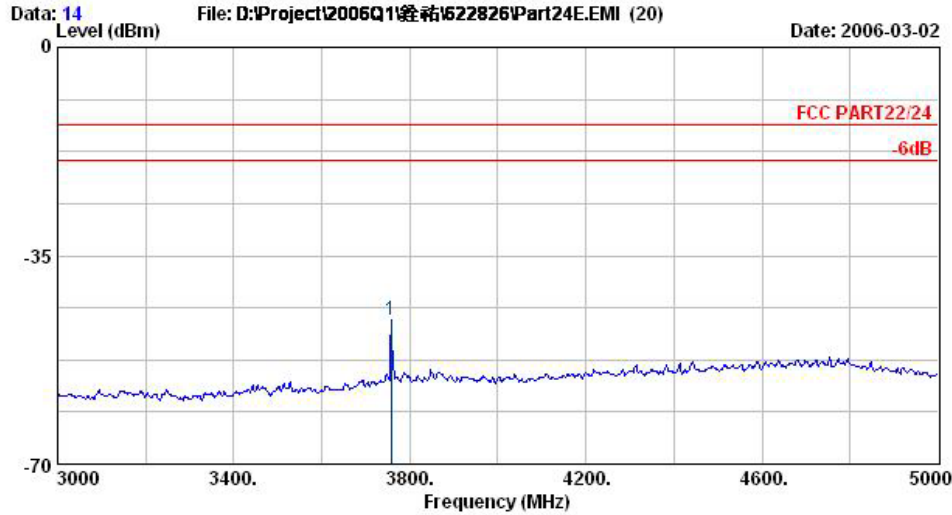
Report Issued Date : Mar. 09, 2006

Report Version : Rev. 01



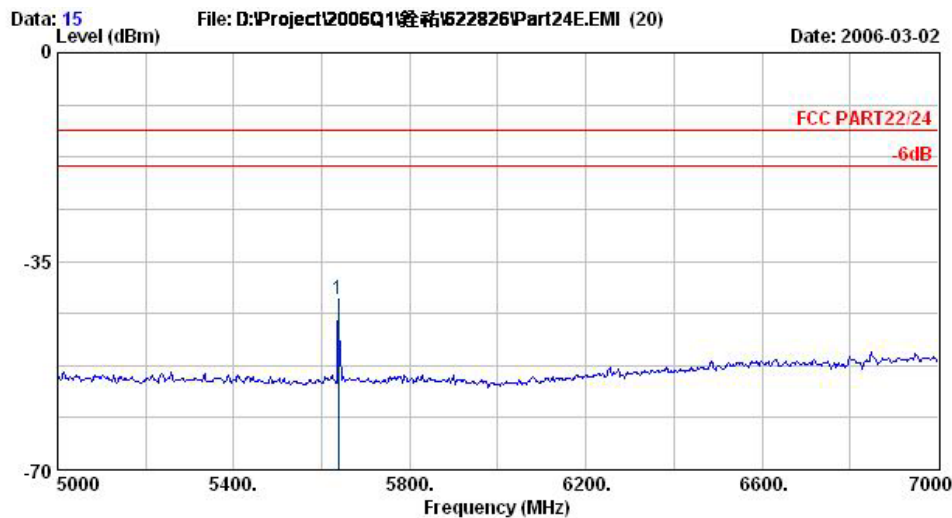
# FCC TEST REPORT

Report No. : FG622826



Site : 03CH06-HY  
Condition : HF-SPURIOUS VERTICAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

|     | Freq    | Level  | Over   | Limit  | ReadAntenna  |           |
|-----|---------|--------|--------|--------|--------------|-----------|
|     | MHz     | dBm    | Limit  | Line   | Level Factor | Remark    |
|     |         | dB     | dBm    | dB     |              |           |
| 1 @ | 3758.00 | -45.92 | -32.92 | -13.00 | -52.56       | 6.64 Peak |



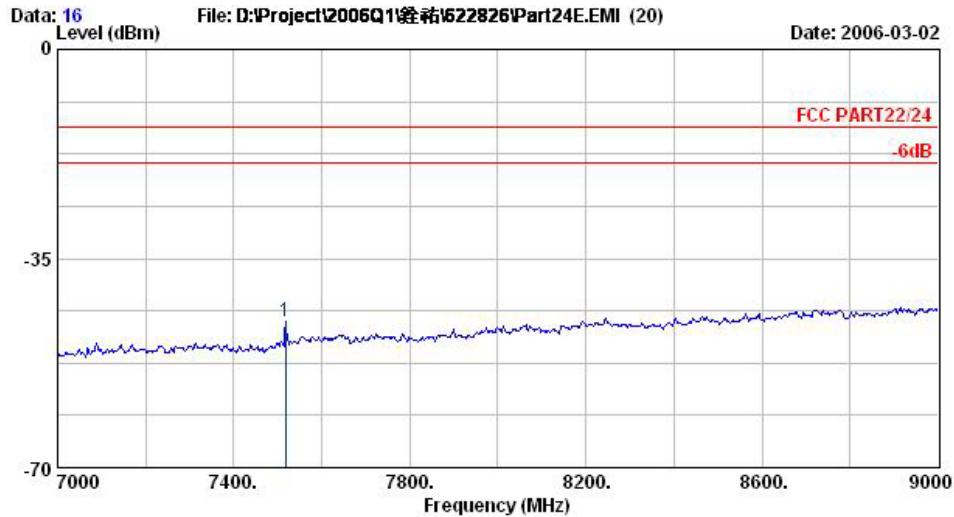
Site : 03CH06-HY  
Condition : HF-SPURIOUS VERTICAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

|     | Freq    | Level  | Over   | Limit  | ReadAntenna  |           |
|-----|---------|--------|--------|--------|--------------|-----------|
|     | MHz     | dBm    | Limit  | Line   | Level Factor | Remark    |
|     |         | dB     | dBm    | dB     |              |           |
| 1 @ | 5638.00 | -41.38 | -28.38 | -13.00 | -50.03       | 8.65 Peak |



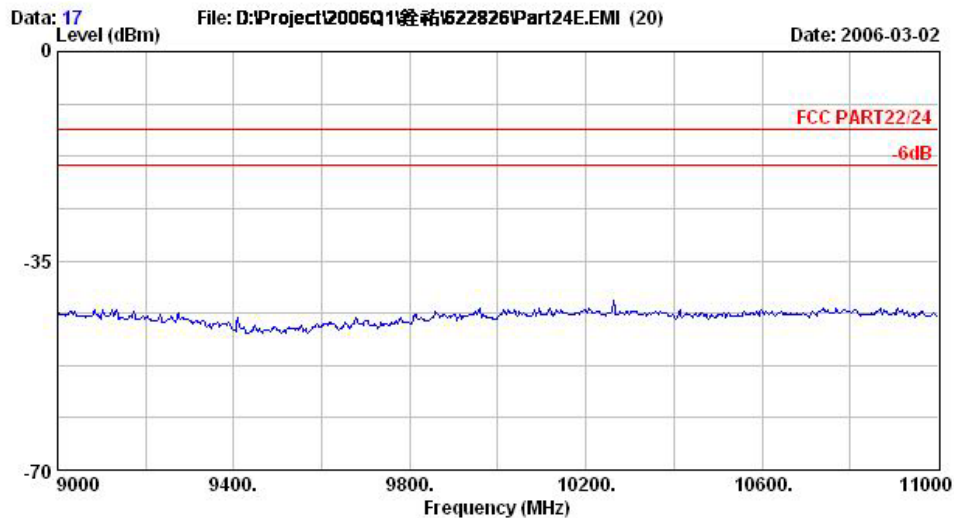
# FCC TEST REPORT

Report No. : FG622826



Site : 03CH06-HY  
Condition : HF-SPURIOUS VERTICAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

|     | Freq    | Level  | Over   | Limit  | ReadAntenna |            |
|-----|---------|--------|--------|--------|-------------|------------|
|     | MHz     | dBm    | dB     | dBm    | dBm         | dB         |
| 1 @ | 7518.00 | -45.45 | -32.45 | -13.00 | -58.82      | 13.37 Peak |

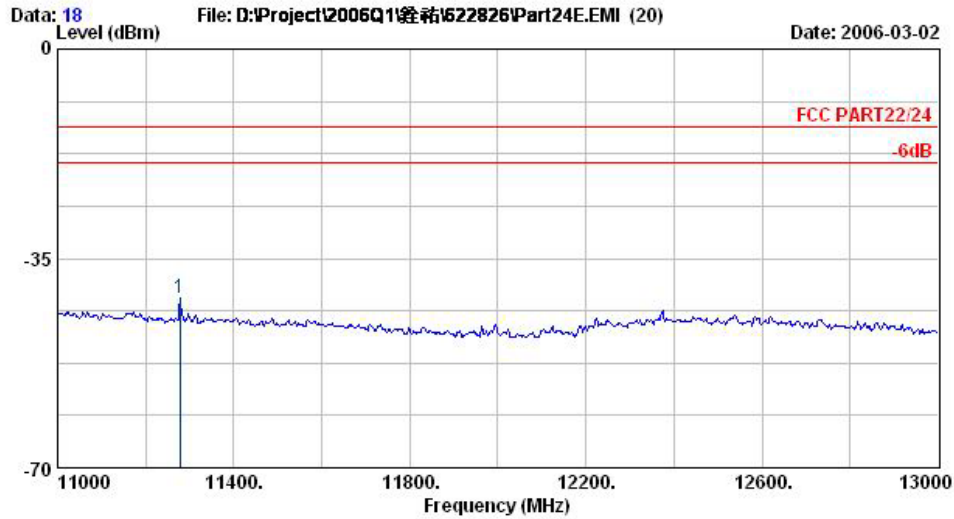


Site : 03CH06-HY  
Condition : HF-SPURIOUS VERTICAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H



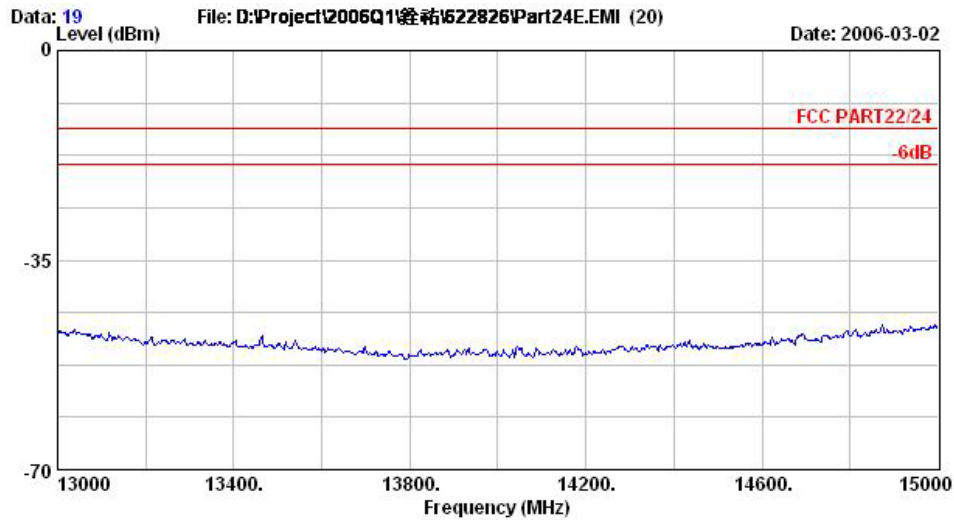
# FCC TEST REPORT

Report No. : FG622826



Site : 03CH06-HY  
Condition : HF-SPURIOUS VERTICAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

|     | Freq     | Level  | Over   | Limit  | ReadAntenna  |            |
|-----|----------|--------|--------|--------|--------------|------------|
|     | MHz      | dBm    | Limit  | Line   | Level Factor | Remark     |
|     |          | dB     | dBm    | dB     | dBm          | dB         |
| 1 @ | 11278.00 | -41.58 | -28.58 | -13.00 | -60.45       | 18.87 Peak |

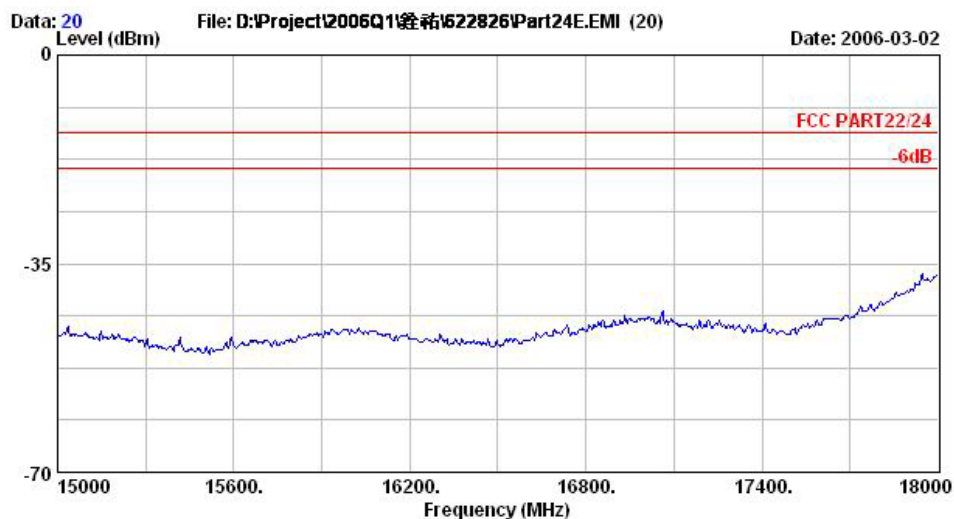


Site : 03CH06-HY  
Condition : HF-SPURIOUS VERTICAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H



## FCC TEST REPORT

Report No. : FG622826



Site : 03CH06-HY  
Condition : HF-SPURIOUS VERTICAL  
EUT : GSM Cellular Phone  
Power : 120Vac/60Hz  
Model : FG 622826  
Memo : PCS1900 Link Mode;Ch661+Charger  
Plane : H

## **4.7 Frequency Stability (Temperature Variation)**

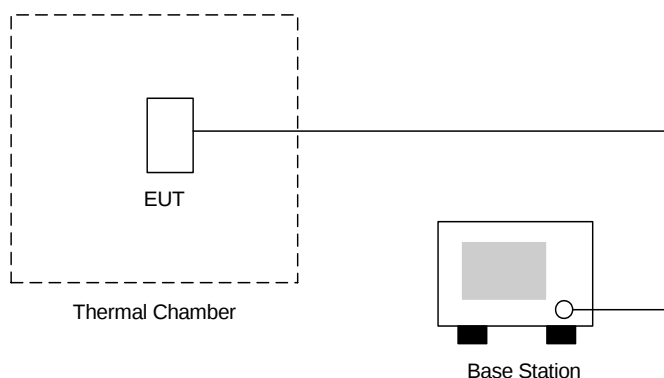
### **4.7.1 Measurement Instrument**

As described in chapter 5 of this test report.

### **4.7.2 Test Procedure**

1. The EUT and test equipment were set up as shown on the following section.
2. With all power removed, the temperature was decreased to -30°C and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was noted within one minute.
3. With power OFF, the temperature was raised in 10°C steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.
4. The temperature tests were performed for the worst case.
5. Test data was recorded.

### **4.7.3 Test Setup Layout**





## 4.7.4 Test Result

- Test Mode : PCS 1900 CH661

| Temperature(°C) | Change (Hz) | Change (ppm) | Limit (ppm) | Result |
|-----------------|-------------|--------------|-------------|--------|
| -30             | -65         | -0.03        | 2.5         | Passed |
| -20             | 40          | 0.02         |             |        |
| -10             | -39         | -0.02        |             |        |
| 0               | -42         | -0.02        |             |        |
| 10              | -34         | -0.02        |             |        |
| 20              | -33         | -0.02        |             |        |
| 30              | -37         | -0.02        |             |        |
| 40              | -42         | -0.02        |             |        |
| 50              | 33          | 0.02         |             |        |

## 4.8 Frequency Stability (Voltage Variation)

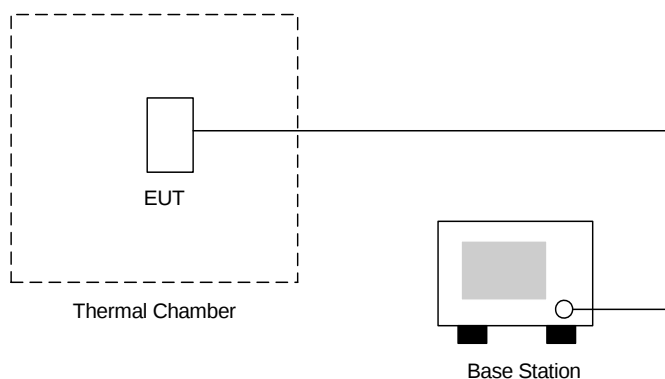
### 4.8.1 Measurement Instrument

As described in chapter 5 of this test report.

### 4.8.2 Test Procedure

1. The EUT was placed in a temperature chamber at  $25 \pm 5^{\circ}\text{C}$  and connected as the following section.
2. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

### 4.8.3 Test Setup Layout



### 4.8.4 Test Result

- Test Mode : PCS 1900 CH661

| Voltage(Volt) | Change (Hz) | Change (ppm) | Limit (ppm) | Result |
|---------------|-------------|--------------|-------------|--------|
| 3.7           | -27.0       | -0.01        | 2.5         | Passed |
| BEP           | -31.0       | -0.02        |             |        |
| 4.3           | -35.0       | -0.02        |             |        |

Remark:

1. Normal Voltage=3.7V
2. Battery End Point (BEP)=3.1 V



## 5 List of Measurement Equipments

| Instrument        | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Due Date      | Remark                |
|-------------------|--------------|-----------|------------|-----------------|------------------|---------------|-----------------------|
| Spectrum analyzer | Agilent      | E4408B    | MY44211030 | 9KHz-26.5GHz    | Jul. 25, 2005    | Jul. 24, 2006 | Radiation (03CH06-HY) |
| Receiver          | R&S          | ESCS30    | 100356     | 9KHz-2.75GHz    | Jun. 28, 2005    | Jun. 27, 2006 | Radiation (03CH06-HY) |
| Controller        | CT           | SC100     | N/A        | N/A             | N/A              | N/A           | Radiation (03CH06-HY) |
| Bilog Antenna     | SCHAFFNER    | CBL6112B  | 2885       | 30MHz -2GHz     | Nov. 22, 2004    | Nov. 22, 2006 | Radiation (03CH06-HY) |
| Horn Antenna      | Com-Power    | AH118     | 071025     | 1G-18G          | Feb. 22, 2005    | Feb. 22, 2007 | Radiation (03CH06-HY) |
| SHF-EHF Horn      | SCHWARZBECK  | BBHA 9170 | 9170-249   | 14G - 40G       | Jul. 21, 2005    | Jul. 20, 2006 | Radiation (03CH06-HY) |
| Amplifier         | MITEQ        | AMF-6F    | 997165     | 26G - 40G       | Jul. 21, 2005    | Jul. 20, 2006 | Radiation (03CH06-HY) |
| Turn Table        | HD           | DS 420    | 420/650/00 | 0 ~ 360 degree  | N/A              | N/A           | Radiation (03CH06-HY) |
| Antenna Mast      | HD           | MA 240    | 240/560/00 | 1 m - 4 m       | N/A              | N/A           | Radiation (03CH06-HY) |

## 6 Uncertainty Evaluation

### Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

| Contribution                                                           | Uncertainty of $x_i$ |                          | $u(x_i)$ |
|------------------------------------------------------------------------|----------------------|--------------------------|----------|
|                                                                        | dB                   | Probability Distribution |          |
| Receiver reading                                                       | 0.41                 | Normal(k=2)              | 0.21     |
| Antenna factor calibration                                             | 0.83                 | Normal(k=2)              | 0.42     |
| Cable loss calibration                                                 | 0.25                 | Normal(k=2)              | 0.13     |
| Pre Amplifier Gain calibration                                         | 0.27                 | Normal(k=2)              | 0.14     |
| RCV/SPA specification                                                  | 2.50                 | Rectangular              | 0.72     |
| Antenna Factor Interpolation for Frequency                             | 1.00                 | Rectangular              | 0.29     |
| Site imperfection                                                      | 1.43                 | Rectangular              | 0.83     |
| Mismatch                                                               | +0.39/-0.41          | U-shaped                 | 0.28     |
| <b>combined standard uncertainty Uc(y)</b>                             | <b>1.27</b>          |                          |          |
| <b>Measuring uncertainty for a level of confidence of 95% U=2Uc(y)</b> | <b>2.54</b>          |                          |          |

### Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

| Contribution                                                                                                                            | Uncertainty of $x_i$ |                          | $u(x_i)$ | $C_i$ | $C_i * u(x_i)$ |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------|----------|-------|----------------|
|                                                                                                                                         | dB                   | Probability Distribution |          |       |                |
| Receiver reading                                                                                                                        | ±0.10                | Normal(k=1)              | 0.10     | 1     | 0.10           |
| Antenna factor calibration                                                                                                              | ±1.70                | Normal(k=2)              | 0.85     | 1     | 0.85           |
| Cable loss calibration                                                                                                                  | ±0.50                | Normal(k=2)              | 0.25     | 1     | 0.25           |
| Receiver Correction                                                                                                                     | ±2.00                | Rectangular              | 1.15     | 1     | 1.15           |
| Antenna Factor Directional                                                                                                              | ±1.50                | Rectangular              | 0.87     | 1     | 0.87           |
| Site imperfection                                                                                                                       | ±2.80                | Triangular               | 1.14     | 1     | 1.14           |
| Mismatch<br>Receiver VSWR $\Gamma_1 = 0.197$<br>Antenna VSWR $\Gamma_2 = 0.194$<br>Uncertainty = $20 \log(1 - \Gamma_1^2 * \Gamma_2^2)$ | +0.34/-0.35          | U-shaped                 | 0.244    | 1     | 0.244          |
| <b>Combined standard uncertainty Uc(y)</b>                                                                                              | <b>2.36</b>          |                          |          |       |                |
| <b>Measuring uncertainty for a level of confidence of 95% U=2Ue(y)</b>                                                                  | <b>4.72</b>          |                          |          |       |                |

END OF TEST REPORT