



47 CFR PART 22H

# TEST REPORT

of

### CDMA Phone

Brand Name: Motorola  
 Model Name: FX1900P  
 Report No.: SZ09020096E01  
 FCC ID.: WVBFX1900P

*prepared for*

### Brightstar Corporation

9725 NW 117<sup>th</sup> Ave # 300 Miami - FL 33178 – USA

*prepared by*

### Shenzhen Electronic Product Quality Testing Center

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## Bluetooth®

### CTIA

### Authorized Test Lab

LAB CODE 20081223-00

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## 1. TEST CERTIFICATION

Equipment under Test: CDMA Phone

Brand Name: Motorola

Model Name: FX1900P

FCC ID: WVBFX1900P

Applicant: Brightstar Corporation

9725 NW 117th Ave # 300 Miami - FL 33178 - USA

Manufacturer: Jiangsu Cel Battery Co., Ltd

No.47, Jianshe Road, Licheng Town, Jinhu, Huai'an, Jiangsu, China

Emission Designator 1M25F9W

Test Standards: 47 CFR Part 2

47 CFR Part 24 Subpart E

Test Date(s): March 03, 2009 – March 06, 2009

Test Result: PASS

### \* We Hereby Certify That:

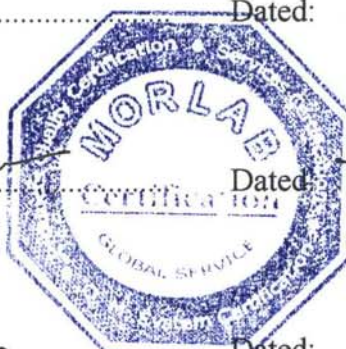
The equipment under test was tested by Shenzhen Electronic Product Quality Testing Center Morlab Laboratory. The test data, data evaluation, test procedures and equipment configurations shown in this report were made in accordance with the requirement of related FCC rules.

The test results of this report only apply for the tested sample equipment identified above. The test report shall be invalid without all the signatures of the test engineer, the reviewer and the approver.

Tested by: Ni Yong Dated: 2009.03.09  
Ni Yong

Reviewed by: Wei Yanquan Dated: 2009.03.09  
Wei Yanquan

Approved by: Shu Luan Dated: 2009.03.09  
Shu Luan



## 2. GENERAL INFORMATION

### 2.1 EUT Description

EUT Type .....: CDMA Phone  
Model Name.....: FX1900P  
Serial No. ....: (n.a, marked #1 by test site)  
MSIN.....: 01516575555  
Hardware Version.....: FX1900P 1.2  
Software Version .....: DF1B4L17  
Frequency Range.....: Tx: 1851.25 MHz -1908.75 MHz  
Rx: 1931.25 MHz -1988.75 MHz  
Modulation Type .....: CDMA  
Emission Designators...: 1M25F9W  
Power Supply .....: Battery  
Model Name: LT50AA1200H (PN: R11W0018)  
Brand name: CEL  
Capacitance: 1200mAh  
Rated voltage: 3.6V  
Manufacturer: Jiangsu Cel Battery Co., Ltd.  
Ancillary Equipment 1 : AC Adapter (Charger for Battery)  
Model Name: CHG50100-3A  
Brand Name: Chi Yuan  
Serial No.: (n.a. marked #1 by test site)  
Rated Input: AC 100-240V, 0.25A, 50/60Hz  
Rated Output: DC 5V, 1.0A, 5W  
Manufacturer: Shenzhen Chi Yuan Industrial Co Ltd  
Manufacturer Address: City Plaza, B1 Bldg, 13th Fl, Room C Chang An  
Town Dongguan, Guangdong 523850 China.  
Wire Length: 145cm

*Note 1:* The EUT is a CDMA Wireless telephone; it supports 1900MHz.

*Note 2:* The transmitter (Tx) frequency arrangement of the CDMA 1900MHz band used by the EUT can be represented with the formula  $F(n)=1851.2+0.05*(n-25)$ ,  $25 \leq n \leq 1175$ ; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 25 (1851.2MHz), 600 (1880.0MHz) and 1175 (1908.7MHz).

*Note 3:* The EUT is equipped with the USB-port, but the USB-port just used in the factory, the consumer can't use the USB-port for data transferring.

*Note 4:* For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.



## 2.2 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2 and Part 24 for FCC ID Certification:

| No. | Identity                            | Document Title  |
|-----|-------------------------------------|---|
| 1   | 47 CFR Part 2<br>(10-1-05 Edition)  | Frequency Allocations and Radio Treaty Matters; General Rules and Regulations |
| 2   | 47 CFR Part 24<br>(10-1-05 Edition) | Personal Communications Services  |

Test detailed items/section required by FCC rules and results are as below:

| No. | Rules                      | Test Type                             | Result | Date of Test |
|-----|----------------------------|---------------------------------------|--------|--------------|
| 1   | 2.106<br>24.229            | Frequencies                           | PASS   | 2009-03-05   |
| 2   | 2.1046                     | Conducted RF Output Power             | PASS   | 2009-03-05   |
| 3   | 2.1049                     | 20dB Occupied Bandwidth               | PASS   | 2009-03-05   |
| 4   | 2.1055<br>24.235           | Frequency Stability                   | PASS   | 2009-03-05   |
| 5   | 2.1051<br>2.1057<br>24.238 | Conducted Out of Band Emissions       | PASS   | 2009-03-05   |
| 6   | 2.1051<br>2.1057<br>24.238 | Band Edge                             | PASS   | 2009-03-05   |
| 7   | 24.232                     | Transmitter Radiated Power (EIPR/ERP) | PASS   | 2009-03-05   |

## 2.3 Facilities and Accreditations

### 2.3.1 Facilities

Shenzhen Electronic Product Quality Testing Center Morlab Laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

All measurement facilities used to collect the measurement data are located at Electronic Testing Building, Shahe Road, Xili, Nanshan District, Shenzhen 518055 CHINA. The test site is constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22; the FCC registration number is 741109.

### 2.3.2 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

|                             |           |
|-----------------------------|-----------|
| Temperature (°C):           | 20 - 25   |
| Relative Humidity (%):      | 40 - 60   |
| Atmospheric Pressure (kPa): | 86-106kPa |

### 2.3.3 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

|                                    |        |
|------------------------------------|--------|
| Uncertainty of Conducted Emission: | ±1.8dB |
| Uncertainty of Radiated Emission:  | ±3.1dB |

### 3. 47 CFR PART 2, PART 24E REQUIREMENTS

#### 3.1 Frequencies

##### 3.1.1 Requirement

According to FCC section 24.229, the frequencies available in the Broadband PCS services are listed as below, in accordance with the frequency allocations table of FCC section 2.106.

(a) The following frequency blocks are available for assignment on an MTA basis:

Block A: 1850 - 1865MHz paired with 1930 - 1945MHz;

Block B: 1870 - 1885MHz paired with 1950 - 1965MHz

(b) The following frequency blocks are available for assignment on a BTA basis:

Block C: 1895 - 1910 MHz paired with 1975 - 1990MHz;

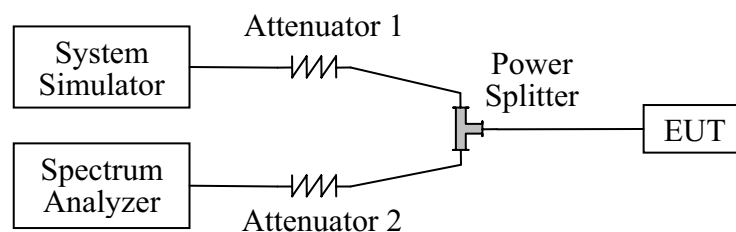
Block D: 1865 - 1870 MHz paired with 1945 - 1950MHz;

Block E: 1885 - 1890 MHz paired with 1965 - 1970MHz;

Block F: 1890 - 1895 MHz paired with 1970 - 1975MHz.

##### 3.1.2 Test Description

###### 1. Test Setup:



1.1 The EUT is coupled to the Spectrum Analyzer and the System Simulator with the suitable Attenuators through the Power Splitter; the path loss is calibrated to correct the reading.

1.2 The EUT is configured here as MS + Battery.

1.3 The EUT is commanded via the System Simulator (SS) to operate at the maximum output power. A communication link is established between the EUT and the SS.

1.4 The Spectrum Analyzer is set to max-peak detector function and maximum hold mode.



## 2. Equipments List:

| Description       | Manufacturer | Model  | Serial No. | Cal. Date | Cal. Due |
|-------------------|--------------|--------|------------|-----------|----------|
| System Simulator  | Agilent      | E5515C | GB43130131 | 2008.09   | 1year    |
| Spectrum Analyzer | Agilent      | E7405A | US44210471 | 2008.09   | 1year    |
| Power Splitter    | Weinschel    | 1506A  | NW521      | (n.a.)    | (n.a.)   |
| Attenuator 1      | Resnet       | 20dB   | (n.a.)     | (n.a.)    | (n.a.)   |
| Attenuator 2      | Resnet       | 3dB    | (n.a.)     | (n.a.)    | (n.a.)   |

### 3.1.3 Procedure

1. Perform test system setup as section 4.1.2
2. The resolution bandwidth (RBW) of the Spectrum Analyzer was set to at least 1% of the emission bandwidth of the fundamental emission of the transmitter, e.g. for CDMA modulated signal (here used):  $RBW=VBW=3\text{ kHz}$ , for CDMA modulated signal:  $RBW=VBW=30\text{kHz}$ .
3. The lowest and the highest channel were selected to perform tests respectively. Channel No.25 (lowest) and 1175(highest) for PCS band.
4. The MS operated at the maximum output power. Set the Spectrum Analyzer suitably to capture the waveform, search peak and mark, and then record the plot.

### 3.1.4 Test Result

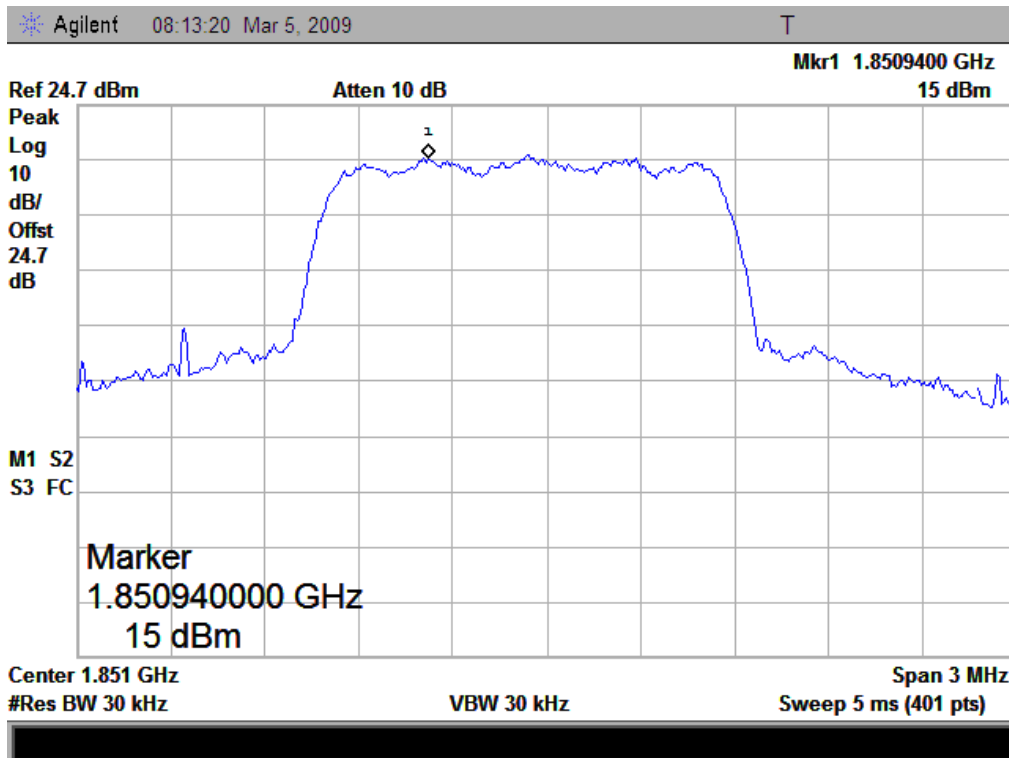
The Tx frequency arrangement of the PCS 1900MHz band employed by the EUT should be from 1850.2MHz to 1909.8MHz (the corresponding frequency block is from 1850MHz to 1910MHz). Here the lowest and highest channels are tested to verify the EUT's using the frequency block required.

#### 1. Test Verdict:

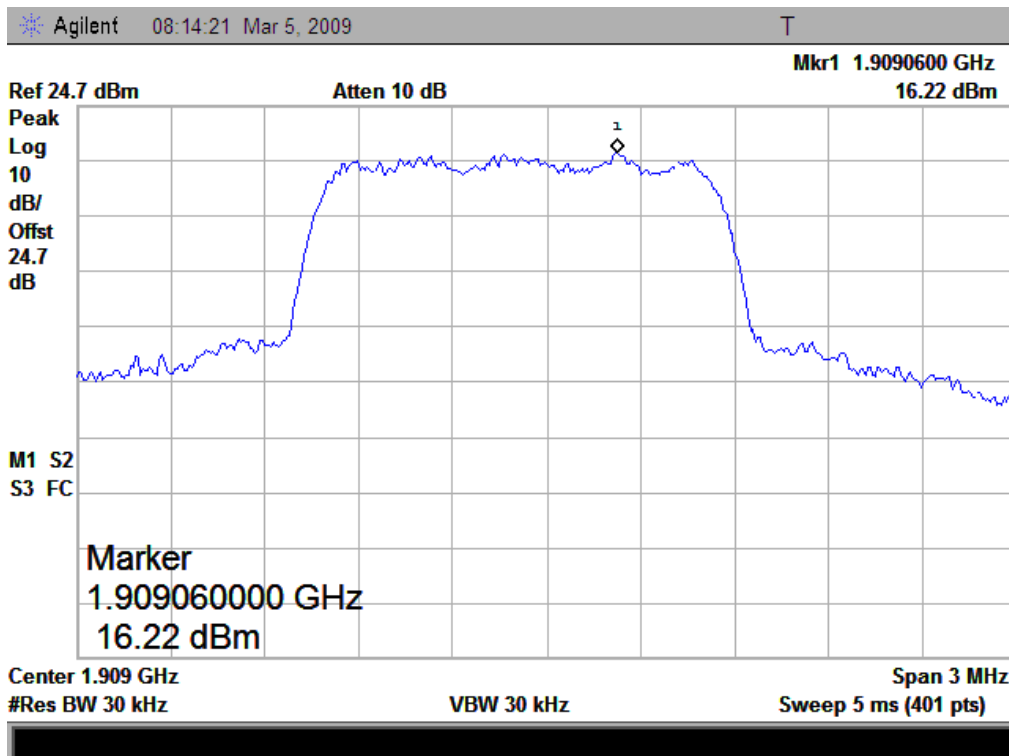
The required frequency block is employed legally, the verdict is PASS.

| Band            | Channel | Frequency (MHz) | Measured Carrier (dBm) | Refer to Plot |
|-----------------|---------|-----------------|------------------------|---------------|
| CDMA<br>1900MHz | 25      | 1850.940        | 15.00                  | Plot A        |
|                 | 1175    | 1909.060        | 16.22                  | Plot B        |

#### 2. Test Plot:



(Plot A: CDMA 1900MHz Channel = 25)



(Plot B: CDMA 1900MHz Channel = 1175)

## 3.2 Conducted RF Output Power

### 3.2.1 Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

### 3.2.2 Test Description

See section 4.1.2 of this report.

### 3.2.3 Test Procedure

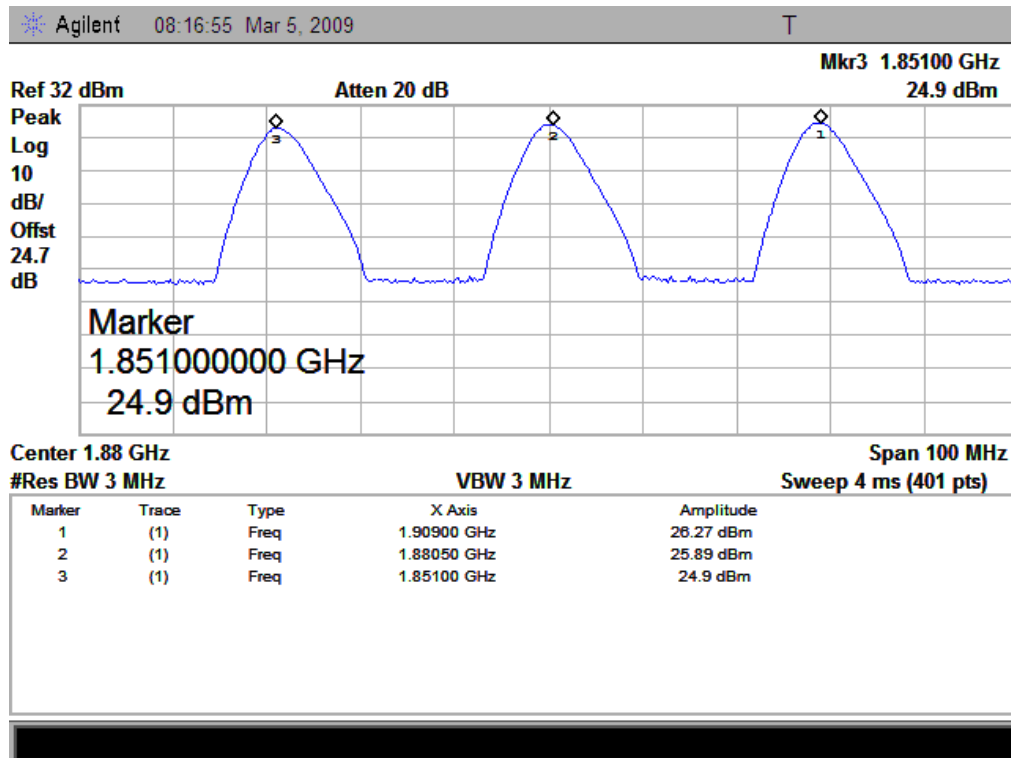
1. Perform test system setup as section 4.1.2 (the radio frequency load attached to the EUT antenna terminal is 50Ω).
2. The resolution bandwidth of the Spectrum Analyzer is set to be comparable to the emission bandwidth of the transmitter, e.g. for GSM modulated signal (here used): RBW=VBW=1MHz, for CDMA modulated signal: RBW=VBW=3MHz.
3. The lowest and the highest channel were selected to perform tests respectively. channel No.25 (lowest) 600(middle) and 1175(highest) for PCS band.
4. Set the frequency range of the Spectrum Analyzer suitably to capture the waveform; search peak and mark it; finally record the peak and the plot.

### 3.2.4 Test Result

1. Test Verdict:

| Band            | Channel | Frequency (MHz) | Measured Output Power |      | Rated Output Power |   | Verdict |
|-----------------|---------|-----------------|-----------------------|------|--------------------|---|---------|
|                 |         |                 | dBm                   | W    | dBm                | W |         |
| CDMA<br>1900MHz | 25      | 1851.30         | 26.27                 | 0.42 | 33                 | 2 | PASS    |
|                 | 600     | 1880.0          | 25.89                 | 0.39 |                    |   | PASS    |
|                 | 1175    | 1908.8          | 24.90                 | 0.31 |                    |   | PASS    |

2. Test Plot:



(Plot A: CDMA 1900MHz Channel = 25, 600, 1175)

### 3.3 Occupied Bandwidth

#### 3.3.1 Definition

According to FCC section 2.1049, the occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

Occupied bandwidth is also known as the 99% emission bandwidth.

#### 3.3.2 Test Description

See section 4.1.2 of this report.

#### 3.3.3 Test Procedure

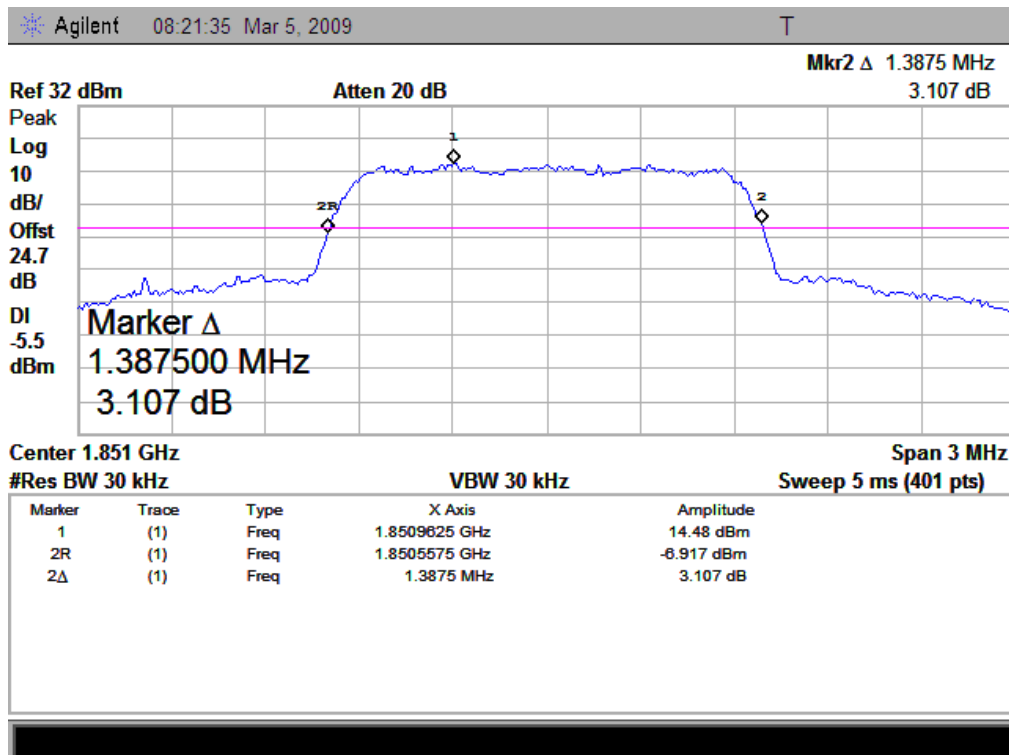
- 1 Perform test system setup as section 4.1.2 (the radio frequency load attached to the EUT antenna terminal is  $50\Omega$ ).
- 2 The resolution bandwidth of the Spectrum Analyzer is set to be comparable to the emission bandwidth of the transmitter, e.g. for GSM modulated signal (here used):  $RBW=VBW=1MHz$ , for CDMA modulated signal:  $RBW=VBW=3MHz$ .
- 3 The lowest and the highest channel were selected to perform tests respectively. channel No.25 (lowest) 600(middle) and 1175(highest) for PCS band.
- 4 Set the frequency range of the Spectrum Analyzer suitably to capture the waveform; search peak and mark it; finally record the peak and the plot.

#### 3.3.4 Test Verdict

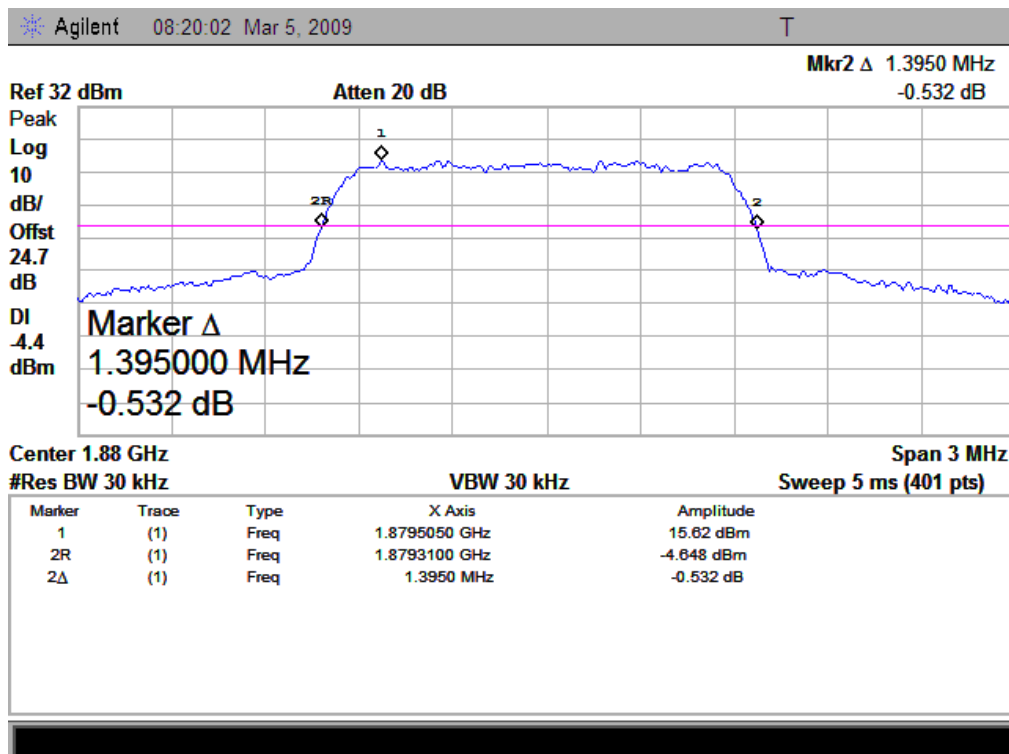
1. Test Verdict:

| Band            | Channel | Frequency (MHz) | Measured 20dB Occupied Bandwidth (MHz) | Refer to Plot |
|-----------------|---------|-----------------|--|---------------|
| CDMA<br>1900MHz | 25      | 1850.2          | 1.3875                                 | Plot A        |
|                 | 600     | 1880.0          | 1.3950                                 | Plot B        |
|                 | 1175    | 1909.8          | 1.3950                                 | Plot C        |

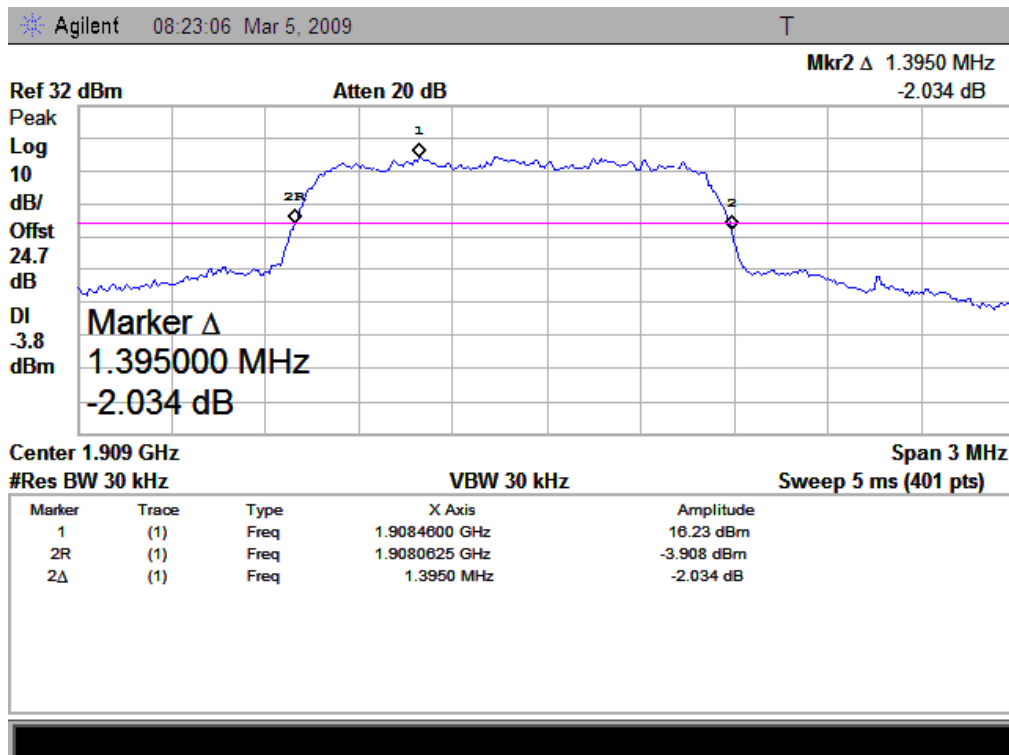
2. Test Plot:



(Plot A: CDMA 1900MHz Channel = 25)



(Plot B: CDMA 1900MHz Channel = 600)



(Plot C: CDMA 1900MHz Channel = 1175)

### 3.4 Frequency Stability

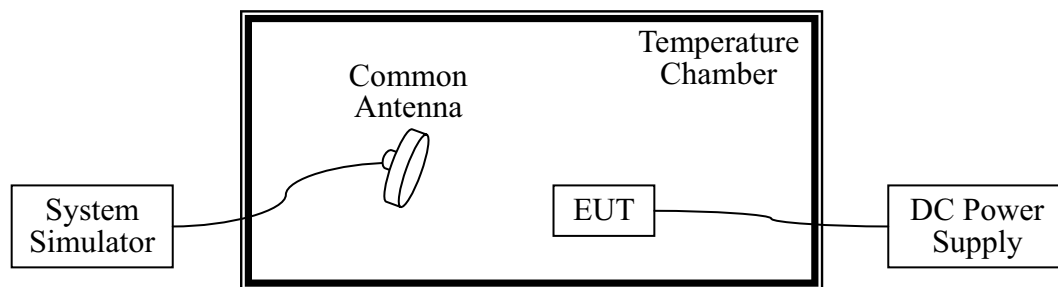
#### 3.4.1 Requirement

According to FCC section 24.235, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

- (a) The temperature is varied from  $-30^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  at intervals of not more than  $10^{\circ}\text{C}$ .
- (b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

#### 3.4.2 Test Description

Test Setup:



The EUT, which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power. A call is established between the EUT and the SS via a Common Antenna.

Equipments List:

| Description         | Manufacturer              | Model      | Serial No. | Cal. Date | Cal. Due |
|---------------------|---------------------------|------------|------------|-----------|----------|
| System Simulator    | Agilent                   | E5515C     | GB43130131 | 2008.09   | 1year    |
| DC Power Supply     | Good Will                 | GPS-3030DD | EF920938   | 2008.08   | 2year    |
| Temperature Chamber | YinHe Experimental Equip. | HL4003T    | (n.a.)     | 2008.08   | 1year    |

#### 3.4.3 Test Procedure

1. Set the voltage of the DC Power Supply to normal supply voltage (here used 3.6V) and the temperature of the Temperature Chamber to vary from  $-30^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  at intervals of  $10^{\circ}\text{C}$ .



2. At each temperature level, the EUT is powered off and kept in the Temperature Chamber for two hours. After sufficient stabilization, turn on the EUT, command it via the System Simulator (SS) to operate at the maximum output power i.e. A communication link is established between the EUT and the SS.
3. The lowest and the highest channel were selected to perform tests respectively. channel No.25 (lowest) 600(middle ) and 1175(highest) for PCS band..
4. The frequency deviation is measured (directly read from the SS, which can report the parameter) within three minutes.
5. Set the frequency range of the Spectrum Analyzer suitably to capture the waveform; search peak and mark it; finally record the peak and the plot.
6. Adjust the temperature of the Temperature Chamber as specified in step 2, then repeat step 2 to 6.
7. Set the voltage of the DC Power Supply to high extreme supply voltage (here used 4.2V) and the temperature of the Temperature Chamber to normal (here used +22°C), then repeat step 2 to 7.
8. Set the voltage of the DC Power Supply to low extreme supply voltage (here used 3.6V) and the temperature of the Temperature Chamber to normal (here used +22°C), then repeat step 2 to 7.

### 3.4.4 Test Verdict

The nominal, highest and lowest extreme voltages are separately 3.6VDC, 4.2VDC and 3.4VDC, which are specified by the applicant; the normal temperature here used is 25°C. The frequency deviation limit of CDMA 1900MHz is  $\pm 1$ ppm

| Band         | Test Conditions |                  | Frequency Deviation      |              |                           |              |                            |              | Verdict |
|--------------|-----------------|------------------|--------------------------|--------------|---------------------------|--------------|----------------------------|--------------|---------|
|              | Power (VDC)     | Temperature (°C) | Channel = 25 (1851.2MHz) |              | Channel = 600 (1880.0MHz) |              | Channel = 1175 (1908.8MHz) |              |         |
|              |                 |                  | Hz                       | Limits       | Hz                        | Limits       | Hz                         | Limits       |         |
| CDMA 1900MHz | 3.6             | -30              | 11.45                    | $\pm 1851.2$ | 10.23                     | $\pm 1880.0$ | 8.43                       | $\pm 1908.8$ | PASS    |
|              |                 | -20              | -22.52                   |              | -21.43                    |              | -14.21                     |              |         |
|              |                 | -10              | 30.25                    |              | 27.94                     |              | 24.54                      |              |         |
|              |                 | 0                | -3.47                    |              | -5.85                     |              | -9.54                      |              |         |
|              |                 | +10              | -5.33                    |              | -6.76                     |              | -7.93                      |              |         |
|              |                 | +20              | 12.33                    |              | 11.34                     |              | 9.54                       |              |         |
|              |                 | +30              | -14.53                   |              | -12.54                    |              | -8.61                      |              |         |
|              |                 | +40              | 10.37                    |              | 15.32                     |              | 12.43                      |              |         |
|              |                 | +50              | 16.25                    |              | 19.43                     |              | 17.45                      |              |         |
|              | 4.2             | +25              | 25.35                    | 19.86        | 15.64                     |              |                            |              |         |
| 3.4          | +25             | 30.94            | 27.45                    | 24.51        |                           |              |                            |              |         |

### 3.5 Conducted Out of Band Emissions

#### 3.5.1 Requirement

According to FCC section 24.238(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43+10*\log(P)$ dB. This calculated to be -13dBm.

#### 3.5.2 Test Description

See section 4.1.2 of this report.

#### 3.5.3 Test Procedure

1. Make a limit line whose value is -13dBm on the Spectrum Analyzer.
2. The lowest and the highest channel were selected to perform tests respectively. Channel No.25 (lowest), 600 (middle) and 1175(highest) for PCS band.
3. Set the RBW of the Spectrum Analyzer to 1MHz, and the measuring frequency range from 9kHz to 10th harmonic of the fundamental frequency (here used 26.5GHz); mark the fundamental frequency and the harmonics thereof; finally record the harmonics and the plot. Note, the measuring frequency range can be divided into several parts to perform tests.
4. In the 1MHz bands immediately outside and adjacent to the frequency block, the RBW of the Spectrum Analyzer was set to at least one percent of the emission bandwidth of the fundamental emission of the transmitter, e.g. for GSM modulated signal (here used): RBW=3kHz, for CDMA modulated signal: RBW=30kHz.
5. Set the frequency range of the Spectrum Analyzer suitably to capture the waveform; search peak and mark it; finally record the peak and the plot.

#### 3.5.4 Test Result

The measurement frequency range is from 30MHz to the 10<sup>th</sup> harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions.

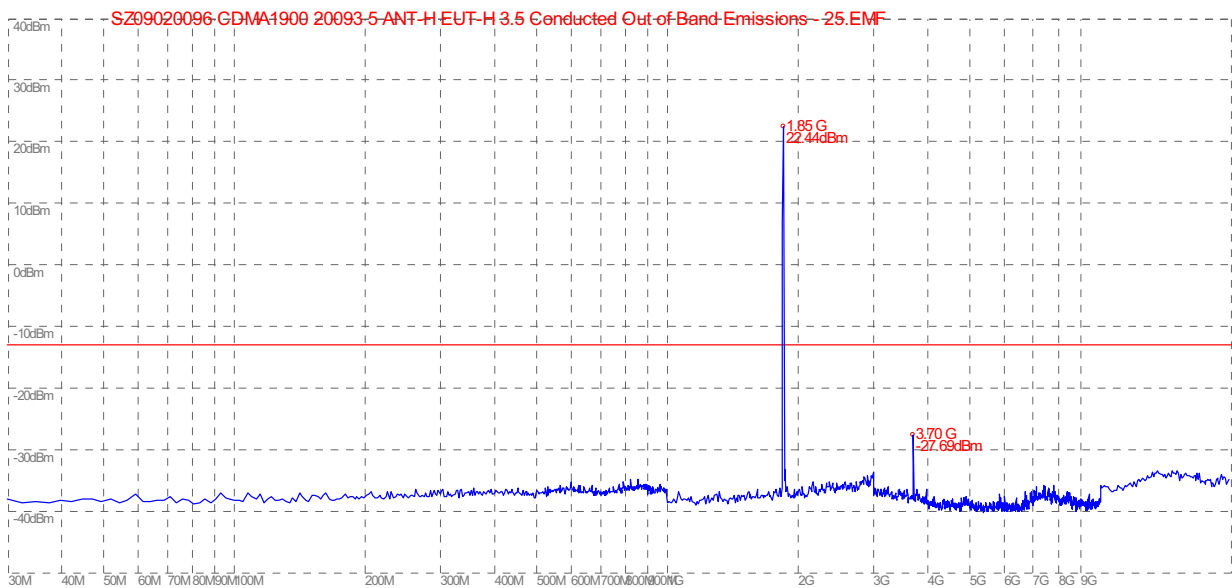
1. Test Verdict:

| Band | Channel | Frequency (MHz) | Measured Max. Spurious Emission (dBm) | Refer to Plot | Limit (dBm) | Verdict |
|------|---------|-----------------|---------------------------------------|---------------|-------------|---------|
| CDMA | 25      | 1851.2          | -27.69                                | Plot A        | -13         | PASS    |

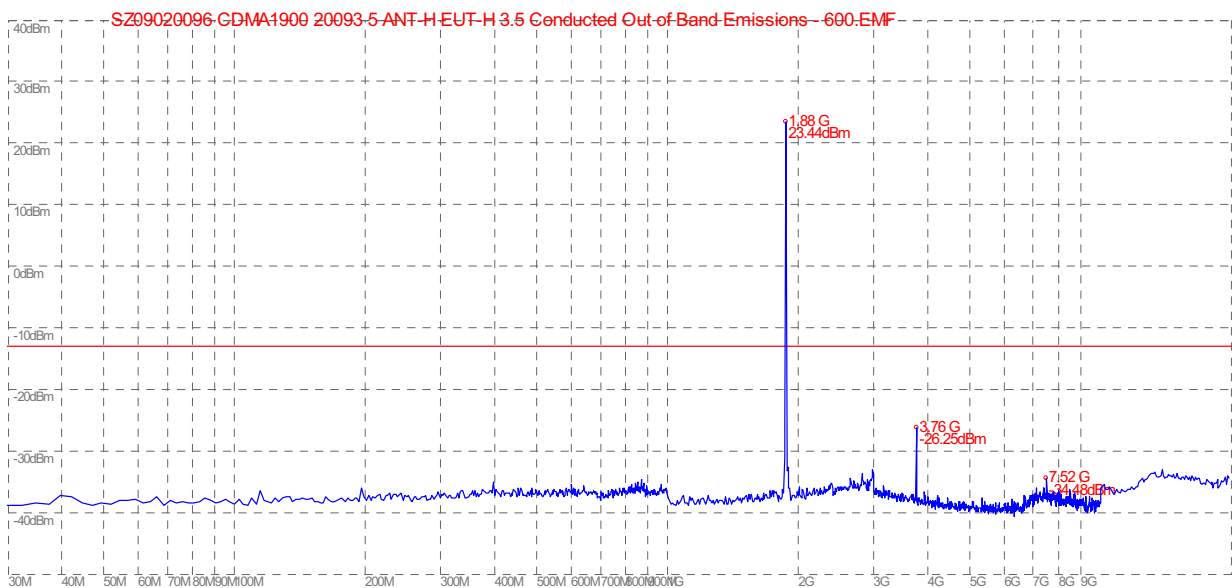
| Band    | Channel | Frequency (MHz) | Measured Max. Spurious Emission (dBm) | Refer to Plot | Limit (dBm) | Verdict |
|---------|---------|-----------------|---------------------------------------|---------------|-------------|---------|
| 1900MHz | 600     | 1880.0          | -26.25                                | Plot B        |             | PASS    |
|         | 1175    | 1908.8          | -27.96                                | Plot C        |             | PASS    |

2. Test Plot for the Whole Measurement Frequency Range:

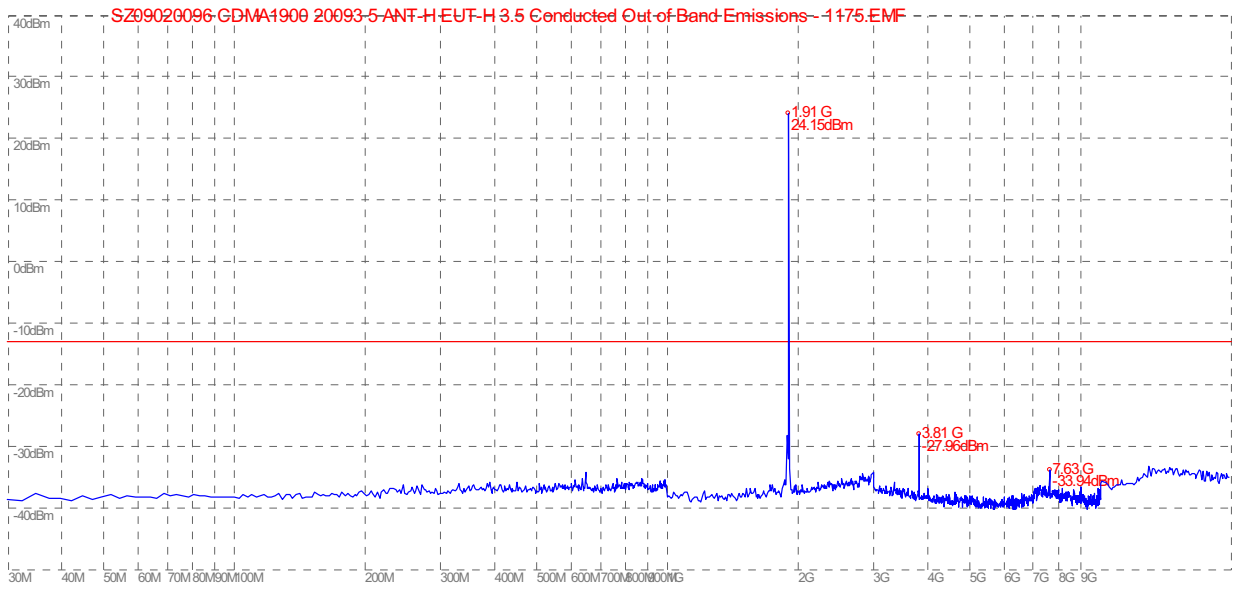
Note: the power of the EUT transmitting frequency should be ignored.



(Plot A: CDMA 1900MHz Channel = 25, 30MHz to 20GHz)



(Plot B: CDMA 1900MHz Channel = 600, 30MHz to 20GHz)



(Plot C: CDMA 1900MHz Channel = 1175, 30MHz to 20GHz)

### 3.6 Band Edge

#### 3.6.1 Requirement

According to FCC section 22.917(b) and FCC section 24.238(b), in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth (26dB emission bandwidth) of the fundamental emission of the transmitter may be employed.

#### 3.6.2 Test Description

See section 4.1.2 of this report.

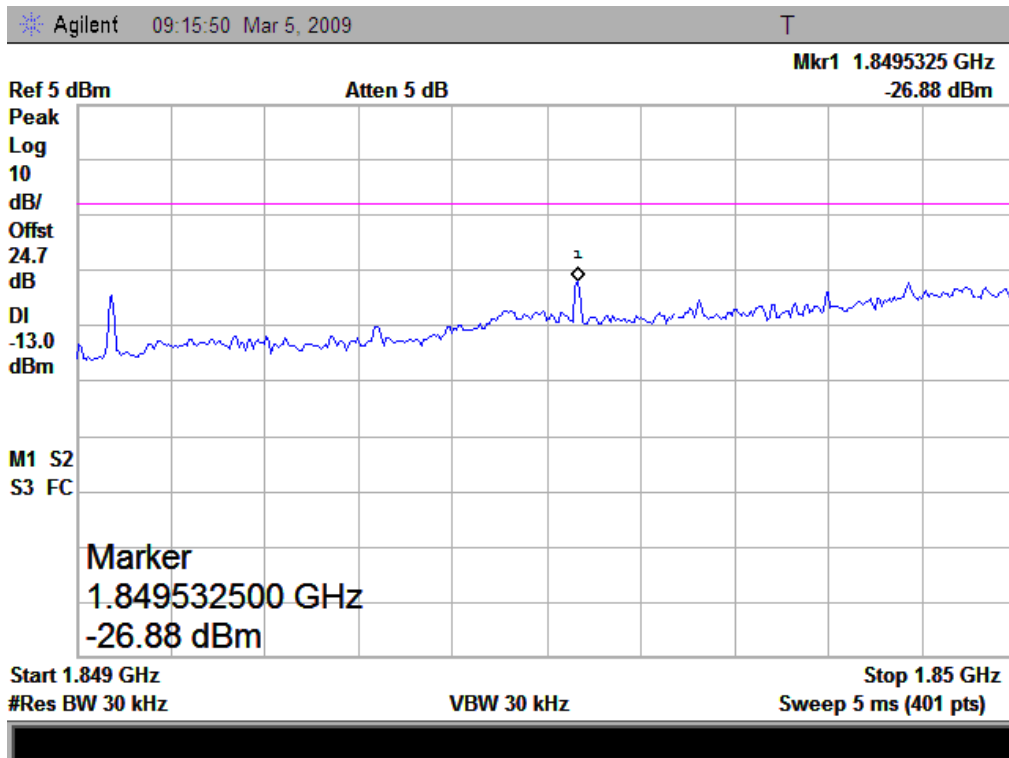
#### 3.6.3 Test Result

The lowest and highest channels are tested to verify the band edge emissions.

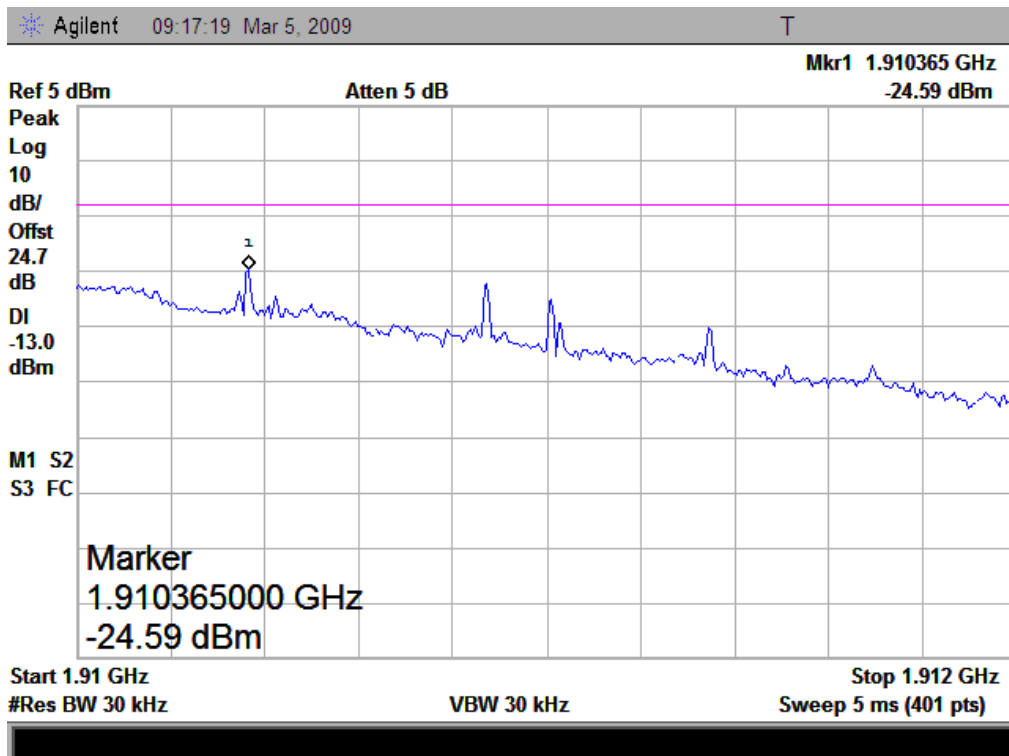
##### 1. Test Verdict:

| Band            | Channel | Frequency (MHz) | Measured Max. Band Edge Emission (dBm) | Refer to Plot | Limit (dBm) | Verdict |
|-----------------|---------|-----------------|--|---------------|-------------|---------|
| CDMA<br>1900MHz | 25      | 1851.2          | -26.88                                 | Plot A        | -13         | PASS    |
|                 | 1175    | 1908.8          | -24.59                                 | Plot B        |             | PASS    |

##### 2. Test Plot:



(Plot A: Channel = 25)



(Plot B: Channel = 1175)

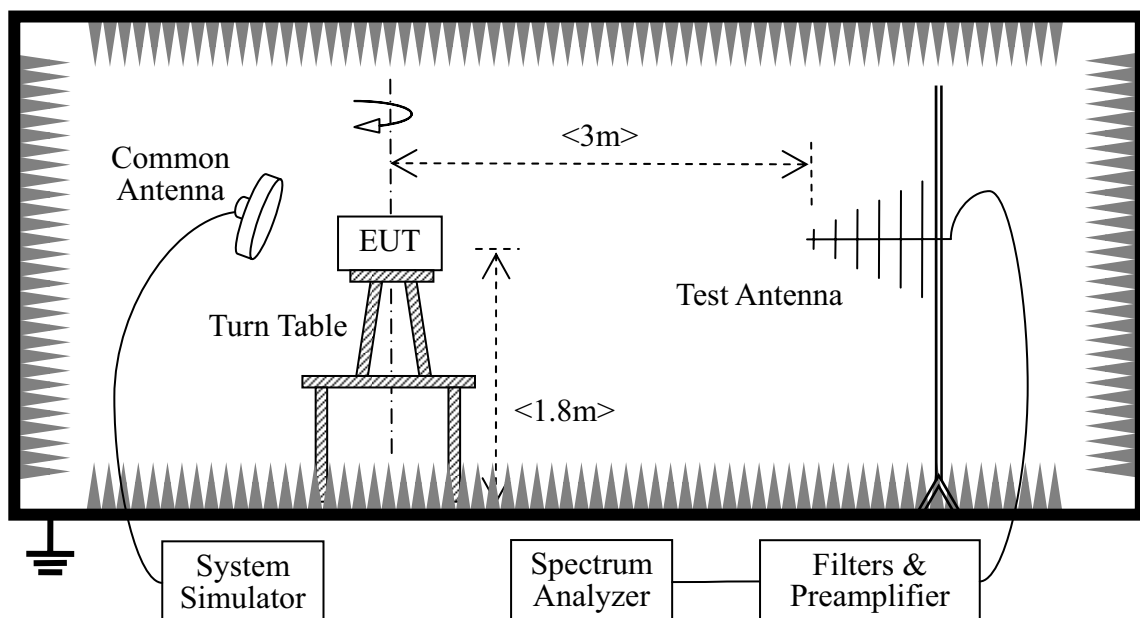
### 3.7 Transmitter Radiated Power (EIRP)

#### 3.7.1 Requirement

According to FCC section 24.232, the broadband PCS mobile station is limited to 2Watts e.i.r.p. peak power.

#### 3.7.2 Test Description

##### 1. Test Setup:



The EUT, which is powered by the Battery charged with the AC Adapter, is located in a 3m Full-Anechoic Chamber; the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS via a Common Antenna.

The Test Antenna is a Bi-Log one (used for 30MHz to 3GHz) or a Horn one (used for above 3GHz), and it's located at the same height as the EUT. The Filters consists of Notch Filters and High Pass Filter.

##### 2. Equipments List:

| Description           | Manufacturer | Model    | Serial No. | Cal. Date | Cal. Due |
|-----------------------|--------------|----------|------------|-----------|----------|
| System Simulator      | Agilent      | E5515C   | GB43130131 | 2008.09   | 1year    |
| Spectrum Analyzer     | Agilent      | E7405A   | US44210471 | 2008.09   | 1year    |
| Full-Anechoic Chamber | Albatross    | 9m*6m*6m | (n.a.)     | 2008.08   | 2year    |

| Description           | Manufacturer | Model      | Serial No. | Cal. Date | Cal. Due |
|-----------------------|--------------|------------|------------|-----------|----------|
| Test Antenna - Bi-Log | Schwarzbeck  | VULB 9163  | 9163-274   | 2008.08   | 1year    |
| Test Antenna - Horn   | Schwarzbeck  | BBHA 9120C | 9120C-384  | 2008.08   | 1year    |

### 3.7.3 Test Procedure

1. The resolution bandwidth of the Spectrum Analyzer is set to be comparable to the emission bandwidth of the transmitter, e.g. for GSM modulated signal (here used): RBW=VBW=1MHz, for CDMA modulated signal: RBW=VBW=3MHz.
2. The lowest and the highest channel were selected to perform tests respectively. channel No.25 (lowest) 600(middle ) and 1175(highest) for PCS band..
3. Employ the bi-log Test Antenna as the test system receiving antenna; set the polarization of the Test Antenna to be the same as that of the EUT transmitting antenna.
4. Set the frequency range of the Spectrum Analyzer suitably to capture the waveform; actuate the Turn Table to turn from 0 degrees to 360 degrees to find the maximum reading via the Spectrum Analyzer, mark the peak; finally record the peak and the plot.
5. Set the frequency range of the Spectrum Analyzer suitably to capture the waveform; search peak and mark it; finally record the peak and the plot.

### 3.7.4 Test Result

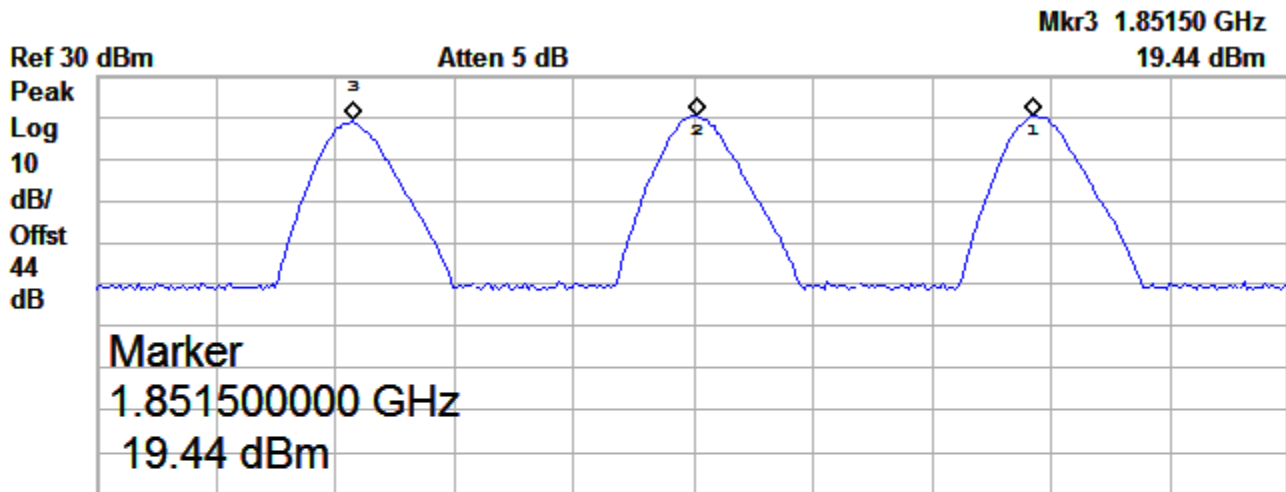
1. Test Verdict:

| Band            | Channel | Frequency (MHz) | MeasuredEIRP |      |               | Limit |   | Verdict |
|-----------------|---------|-----------------|--------------|------|---------------|-------|---|---------|
|                 |         |                 | dBm          | W    | Refer to Plot | dBm   | W |         |
| CDMA<br>1900MHz | 25      | 1850.2          | 19.44        | 0.09 | Plot A        | 33    | 2 | PASS    |
|                 | 600     | 1880.0          | 20.39        | 0.11 |               |       |   | PASS    |
|                 | 1175    | 1909.8          | 20.62        | 0.12 |               |       |   | PASS    |

2. Test Plot:



Agilent 09:09:40 Mar 5, 2009 T



Center 1.88 GHz Span 100 MHz  
 #Res BW 3 MHz VBW 3 MHz Sweep 4 ms (401 pts)

| Marker | Trace | Type | X Axis      | Amplitude |
|--------|-------|------|-------------|-----------|
| 1      | (1)   | Freq | 1.90850 GHz | 20.62 dBm |
| 2      | (1)   | Freq | 1.88025 GHz | 20.39 dBm |
| 3      | (1)   | Freq | 1.85150 GHz | 19.44 dBm |

(Plot A: CDMA 1900MHz Channel = 25, 600, 1175)

### 3.8 Radiated Out of Band Emissions

#### 3.8.1 Requirement

According to FCC section 22.917(a) and section 24.238(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43+10*\log(P)$ dB. This calculated to be -13dBm.

#### 3.8.2 Test Description

See section 4.7.2 of this report.

#### 3.8.3 Test Result

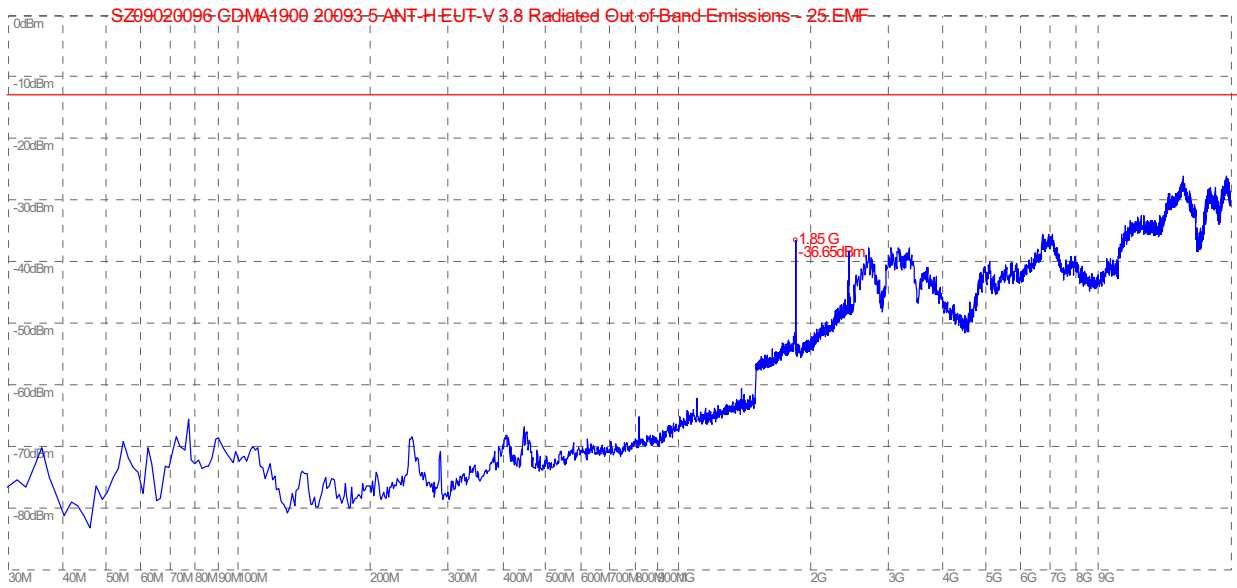
The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested to verify the out of band emissions.

##### 1. Test Verdict:

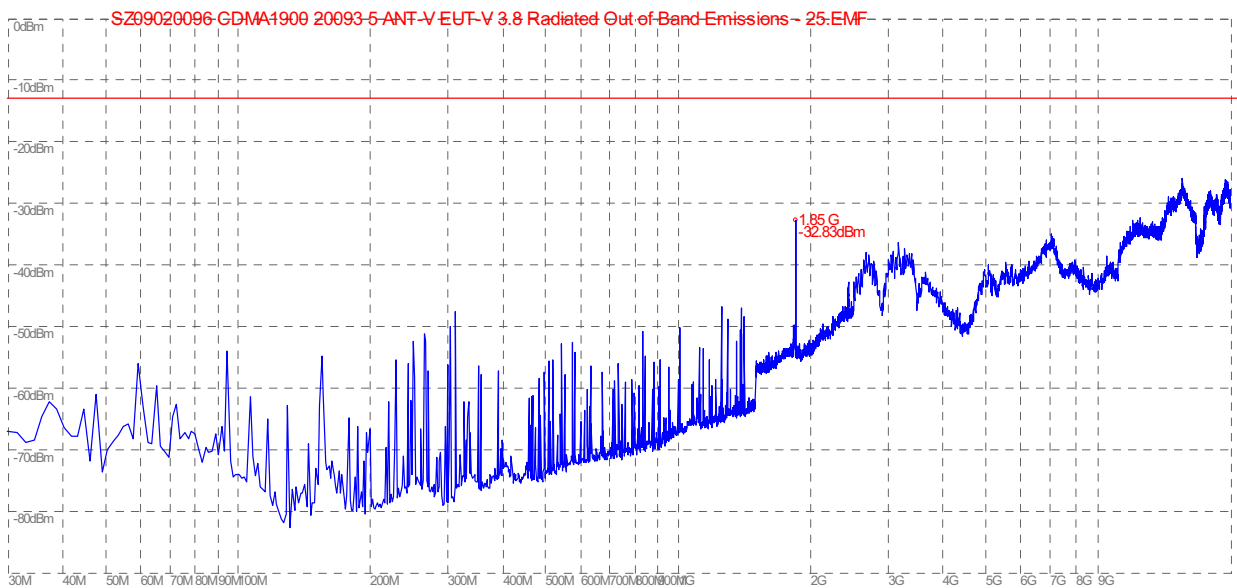
| Band            | Channel | Frequency (MHz) | Measured Max. Spurious Emission (dBm) |                       | Refer to Plot | Limit (dBm) | Verdict |
|-----------------|---------|-----------------|---------------------------------------|-----------------------|---------------|-------------|---------|
|                 |         |                 | Test Antenna Horizontal               | Test Antenna Vertical |               |             |         |
| CDMA<br>1900MHz | 25      | 3700            | -36.84                                | -33.72                | Plot A/B      | -13         | PASS    |
|                 | 600     | 3760            | < -25                                 | -36.83                | Plot C/D      |             | PASS    |
|                 | 1175    | 1909.8          | < -25                                 | < -25                 | Plot E/F      |             | PASS    |

##### 2. Test Plot for the Whole Measurement Frequency Range:

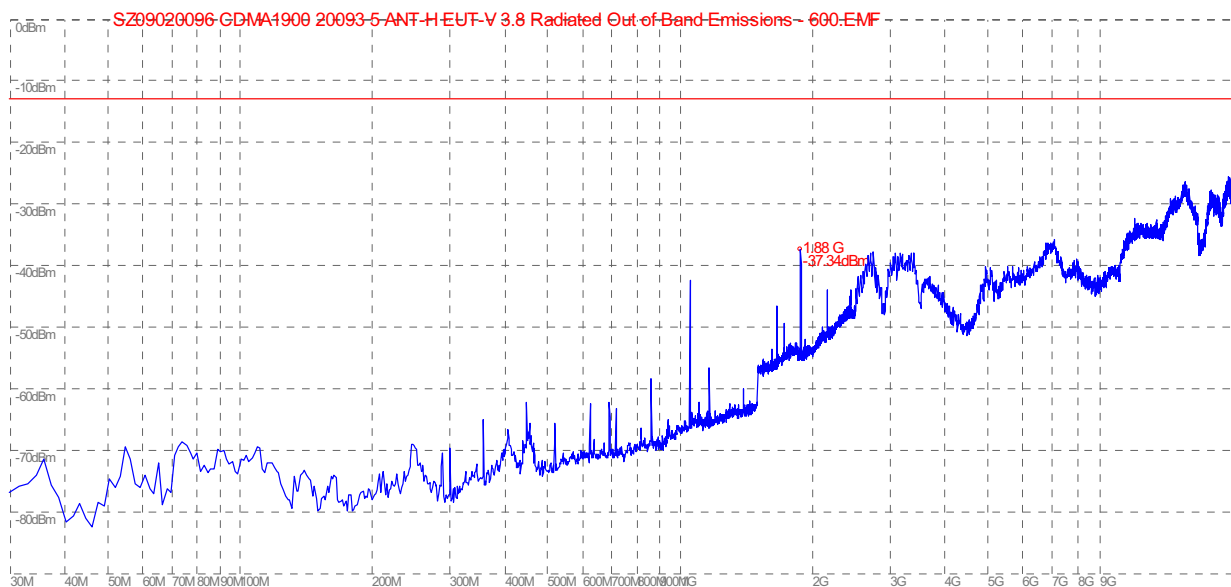
Note: the power of the EUT transmitting frequency should be ignored.



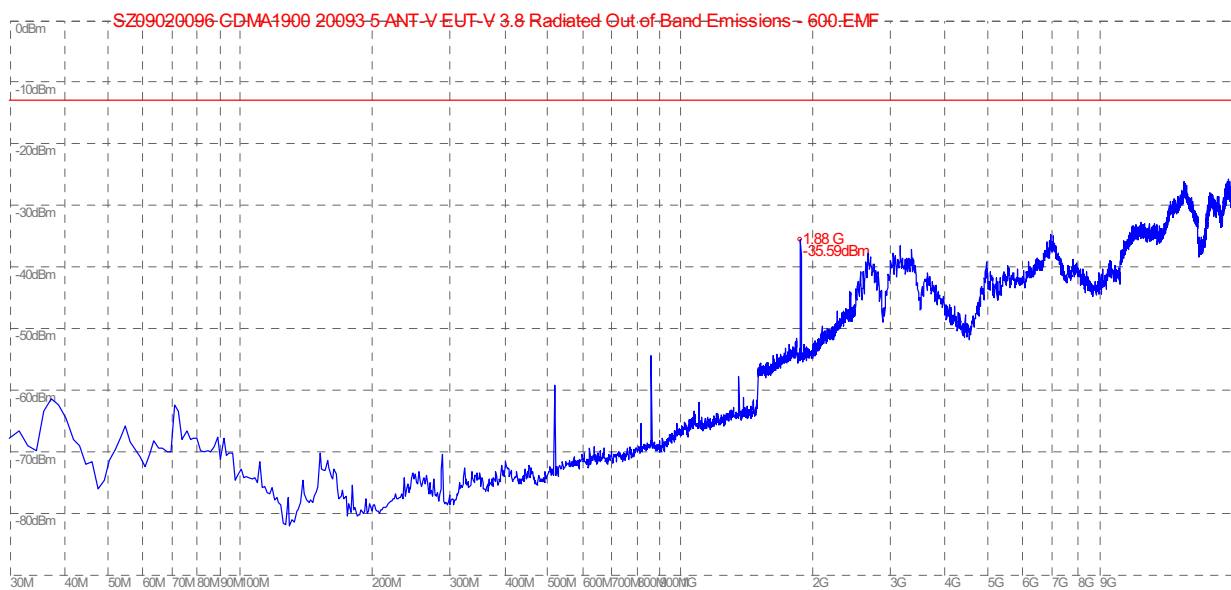
(Plot A: CDMA 1900MHz Channel = 25, Test Antenna Horizontal)



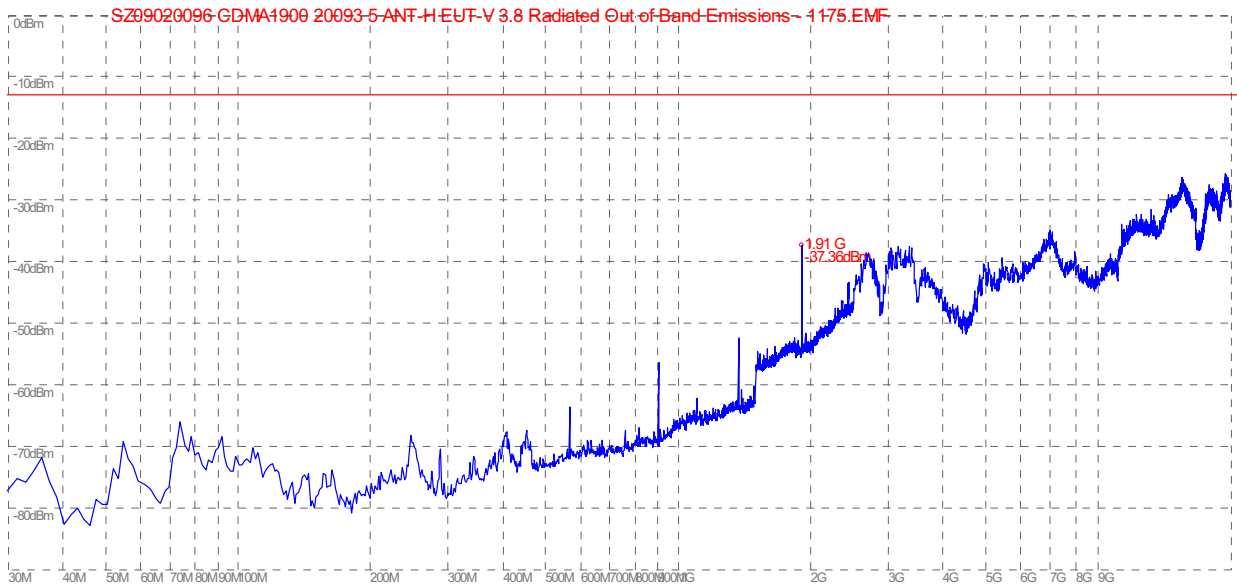
(Plot B: CDMA 1900MHz Channel = 25, Test Antenna Vertical)



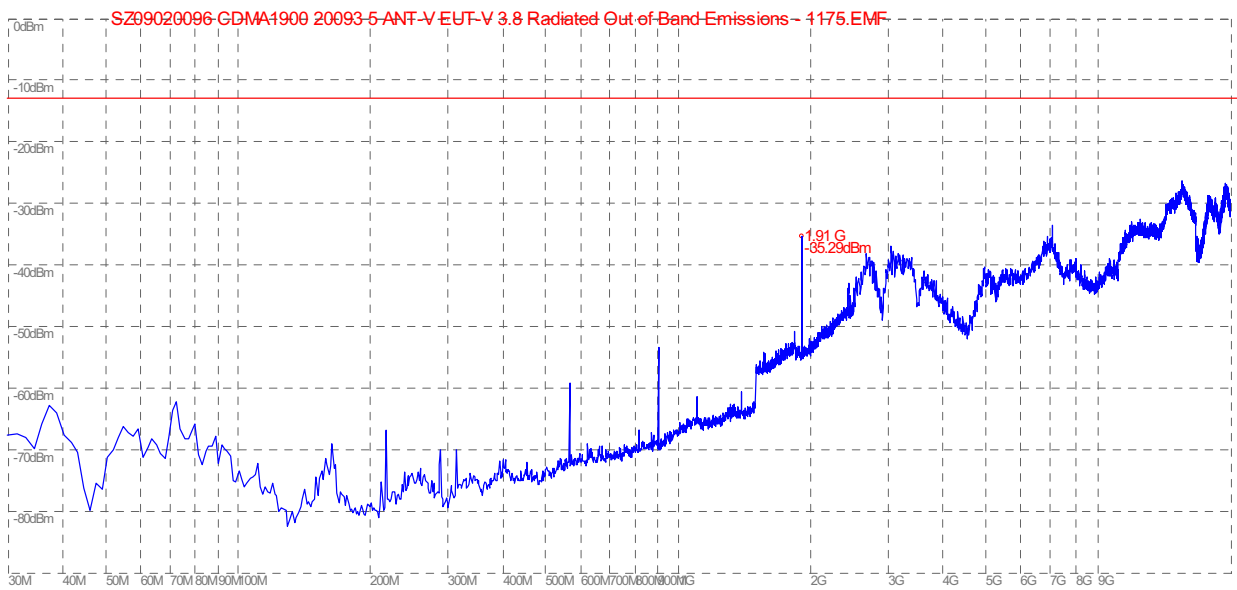
(Plot C: CDMA 1900MHz Channel = 600, Test Antenna Horizontal)



(Plot D: CDMA 1900MHz Channel = 600, Test Antenna Vertical)



(Plot E: CDMA 1900MHz Channel = 1175, Test Antenna Horizontal)



(Plot F: CDMA 1900MHz Channel = 1175, Test Antenna Vertical)

**\*\* END OF REPORT \*\***