



**No.** DAT-P-114/01-01

# TEST REPORT

## No. FCC-2006008

<b>Test name</b>	FCC Test
<b>Product</b>	GSM/GPRS Mobile with Bluetooth function
<b>Model</b>	CT0598
<b>Client</b>	CEC Wireless R&D Ltd

**Telecommunication Metrology Center**  
**of Ministry of Information Industry**

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Address: No. 52, Huayuanbei Road, Beijing, P. R. China

Post code: 100083

Cable: 04282

Telephone: +86 10 62302041

Fax: +86 10 62304793

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No. FCC-2006008

Page 3 of 36

<b>Product</b>	GSM/GPRS Mobile with Bluetooth function	<b>Model</b>	CT0598			
		<b>Trade mark</b>				
<b>Client</b>	CEC Wireless R&D Ltd					
<b>Manufacturer</b>	CEC Wireless R&D Ltd	<b>Arrival Date of sample</b>	Oct,30 , 2006			
<b>Place of sampling</b>	/	<b>Carrier of the samples</b>	Wang Lili			
<b>Quantity of the samples</b>	2	<b>Date of product</b>	/			
<b>Base of the samples</b>	(Blank)	<b>Items of test</b>	8			
<b>Series number</b>	EUT1:352556010000367 EUT2:352556010000359					
<b>Standard(s)</b>	FCC Part 24 (10-1-05 Edition)					
<b>Conclusion</b>	The testcases requested by the client in this test report have passed the test.					
(Stamp)						
Date of issue: November 27, 2006						
<b>Comment</b>	The test result relates only to the tested samples.					

Approved by 盧炳松 Reviewed by 張蕊 Performed by 吳迪  
 (Lu Bingsong) (Zhang Rui) (Wu Di)

(Lu Bingsong - Deputy Director of the laboratory)

## **TABLE OF CONTENT**

<b>1. COMPETENCE AND WARRANTIES .....</b>	<b>5</b>
<b>2. TESTING LABORATORY .....</b>	<b>5</b>
<b>2.1 TESTING LOCATION.....</b>	<b>5</b>
<b>2.2 TESTING ENVIRONMENT .....</b>	<b>5</b>
<b>2.3 TESTING PERIOD .....</b>	<b>6</b>
<b>3. APPLICANT INFORMATION .....</b>	<b>6</b>
<b>3.1 CLIENT INFORMATION.....</b>	<b>6</b>
<b>3.2 MANUFACTURER INFORMATION.....</b>	<b>7</b>
<b>4. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE) .....</b>	<b>7</b>
<b>4.1 ABOUT EUT .....</b>	<b>7</b>
<b>4.2 INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST .....</b>	<b>7</b>
<b>4.3 PHOTOGRAPHS OF EUT .....</b>	<b>7</b>
<b>5. SUMMARY OF TEST RESULTS.....</b>	<b>8</b>
<b>6. MAIN TEST INSTRUMENTS.....</b>	<b>8</b>
<b>ANNEX A MEASUREMENT RESULTS.....</b>	<b>9</b>
<b>ANNEX B PHOTOGRAPHS OF EUT.....</b>	<b>31</b>
<b>ANNEX C TEST LAYOUT .....</b>	<b>36</b>

## **1. COMPETENCE AND WARRANTIES**

**Telecommunication Metrology Center of Ministry of Information Industry**(hereinafter **TMC**) is a test laboratory accredited by DAR (DATech) – Deutschen Akkreditierungs Rat (Deutsche Akkreditierungsstelle Technik), for the tests indicated in the Certificate No. **DAT-P-114/01-01**.

**TMC** is a test laboratory accredited by CNAL – Accreditation Certificate of China National Accreditation Board for Laboratories, for the tests indicated in the Certificate No. **L0442**.

**TMC** is FCC listed lab. FCC listed number is **733176**.

The test site in **TMC** is registered in Industry Canada. The IC registration number is **6629**.

**TMC** is a testing laboratory competent to carry out the tests described in this report.

**TMC** guarantees the reliability of the data presented in this report, which is the result of measurements and tests performed to the item under test on the date and under the conditions stated on the report and is based on the knowledge and technical facilities available at TMC at the time of execution of the test.

**TMC** is liable to the client for the maintenance by its personnel of the confidentiality of all information related to the item under test and the results of the test.

## **2. Testing Laboratory**

### **2.1 Testing Location**

Company Name:	Telecommunication Metrology Center of Ministry of Information Industry
Address:	No 52, Huayuan beilu, Haidian District, Beijing,P.R.China
Postal Code:	100083
Telephone:	00861062303288
Fax:	00861062304793

### **2.2 Testing Environment**

**Semi-anechoic chamber** (23 meters×17meters×10meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ±3.2 dB, 10 m distance, from 30 to 1000 MHz
Uniformity of field strength	Between 0 and 6 dB, from 26 to 1000 MHz

# Telecommunication Metrology Center of Ministry of Information Industry

No. FCC-2006008

Page 6 of 36

**Control room** did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

**Conducted chamber** did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

**Fully-anechoic chamber** (6.8 meters×3.08 meters×3.53 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Uniformity of field strength	Between 0 and 6 dB, from 26 to 1000 MHz

## 2.3 Testing Period

Testing Start Date:	Oct 30,2006
Testing End Date:	Nov 13,2006

## 3. Applicant Information

### 3.1 Client Information

Name or Company	CEC Wireless R&D Ltd
Address/Post	P.O.Box 707-27 West M5 Building, No.1 East Road Jiuxianqiao ChaoYang District, Beijing, CHINA
City	Beijing
Postal Code	100016
Country	P.R.China
Telephone	86-10-58270302
Fax	86-10-84568718

**Telecommunication Metrology Center  
of Ministry of Information Industry**

**No. FCC-2006008**

**Page 7 of 36**

**3.2 Manufacturer Information**

Name or Company	CEC Wireless R&D Ltd
Address/Post	P.O.Box 707-27 West M5 Building, No.1 East Road Jiuxianqiao ChaoYang District, Beijing, CHINA
City	Beijing
Postal Code	100016
Country	P.R.China
Telephone	86-10-58270302
Fax	86-10-84568718

**4. Equipment Under Test (EUT) and Ancillary Equipment (AE)**

**4.1 About EUT**

Model	CT0598
FCC ID:	RXSCT0598
Description	GSM/GPRS Mobile with BlueTooth function
Frequency	1850.2MHz –1909.8MHz for PCS 1900;
Type of modulation	GMSK for PCS 1900
Number of channels	299 for PCS 1900
Antenna	Internal
Power supply	Battery or Charger (AC Adaptor)
Output power	27.04dBm maximum EIRP measured for PCS 1900
Extreme vol. Limits	3.4VDC to 4.2VDC (nominal: 3.7 VDC)
Extreme temp. Tolerance	-30°C to +50°C

**4.2 Internal Identification of EUT used during the test**

EUT ID	SN or IMEI	HW Version	SW Version
EUT1	352556010000367	PR2	C6113-PR2-DV6-5016
EUT2	352556010000359	PR2	C6113-PR2-DV6-5016

\*EUT code: is used to identify the test sample in the lab internally.

**4.3 Photographs of EUT**

Photographs of Telephone Set and Charger are respectively shown in ANNEX B of this test report.

**Telecommunication Metrology Center  
of Ministry of Information Industry**

**No. FCC-2006008**

**Page 8 of 36**

**5. SUMMARY OF TEST RESULTS**

Items	List	Clause in FCC rules	Verdict
1	Output Power	24.232(b)	P
2	Emission Limit	24.238	P
3	Conducted Emission	15.107/207	P
4	Frequency Stability	§2.1055/§24.235	P
5	Occupied Bandwidth	§2.1049(h)(i)	P
6	Emission Bandwidth	§24.238(b)	P
7	Band Edge Compliance	§24.238(b)	P
8	Conducted Spurious Emission	§2.1057/§24.238	P

**6. MAIN TEST INSTRUMENTS**

NO.	Description	TYPE	SERIES NUMBER	PRODUCER	CAL DUE DATE
1	Test Receiver	ESS	847151/015	R&S	2007-10-30
2	Test Receiver	ESI40	831564/002	R&S	2007-2-11
3	BiLog Antenna	3142B	9908-1403	EMCO	2007-1-16
4	BiLog Antenna	3142B	9908-1405	EMCO	2009-9-19
5	Signal Generator	SMT06	831285/005	R&S	2006-12-26
6	Signal Generator	SMP04	100070	R&S	2007-4-20
7	LISN	ESH2-Z5	829991/012	R&S	2007-8
8	Spectrum Analyzer	E4440A	MY41000262	Agilent	2007-4-18
9	Universal Radio Communication Tester	CMU200	100680	R&S	2007-8-23
10	Dual-Ridge Waveguide Horn Antenna	3115	9906-5827	EMCO	2008-3
11	Dual-Ridge Waveguide Horn Antenna	3116	2663	EMCO	2008-3
12	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2008-3
13	Climatic chamber	SH-241	92003546	ESPEC	2007-5-15

## **ANNEX A MEASUREMENT RESULTS**

### **A.1 OUTPUT POWER (§24.232(b))**

#### **A.1.1 Summary**

During the process of testing, the EUT was controlled via Rhode & Schwarz Digital Radio

Communication tester (CMU-200) to ensure max power transmission and proper modulation.

This result contains peak output power and EIRP measurements for the EUT.

In all cases, output power is within the specified limits.

#### **A.1.2 Conducted**

##### **A.1.2.1 Method of Measurements**

The EUT was set up for the max output power with pseudo random data modulation.

The power was measured with Agilent Spectrum Analyzer E4440A (peak)

These measurements were done at 3 frequencies, 1850.2 MHz, 1880.0 MHz and 1909.8 MHz for PCS1900 band (bottom, middle and top of operational frequency range).

#### **PCS1900**

##### **Limit**

Power step	Nominal Peak output power (dBm)	Tolerance (dB)
0	30dBm(1W)*	± 2

\*GSM Specification – ETSI EN 300 910 V8.5.1 (2000-11) Section 4.1

#### **Measurement result**

EUT1: SN 352556010000367;

Frequency(MHz)	Power Step	Peak EIRP(dBm)	Peak EIRP(W)
1850.2	0	29.51	0.89
1880.0	0	29.17	0.83
1909.8	0	29.27	0.85

#### **A.1.3 Radiated**

##### **A.1.3.1 Description**

This is the test for the maximum radiated power from the EUT.

Rule Part 24.232(b) specifies, "Mobile/portable stations are limited to 2 watts e.i.r.p. Peak power" and 24.232(c) specifies that "Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage."

##### **A.1.3.2 Method of Measurement**

1. In an anechoic antenna test chamber, a half-wave dipole antenna for the frequency band of interest is placed at the reference centre of the chamber. An RF Signal source for the frequency band of interest is connected to the dipole with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A known (measured) power ( $P_{in}$ ) is applied to the input of the dipole, and the power received ( $P_{r}$ ) at the chamber's probe antenna is recorded.
2. A "reference path loss" is established as  $P_{in} + 2.15 - P_{r}$ .
3. The EUT is substituted for the dipole at the reference centre of the chamber and a scan is

performed to obtain the radiation pattern.

4. From the radiation pattern, the co-ordinates where the maximum antenna gain occurs are identified.
5. The EUT is then put into pulse mode at its maximum power level (Power Step 0 for PCS1900).
6. "Gated mode" power measurements are performed with the receiving antenna placed at the coordinates determined in Step 3 to determine the output power as defined in Rule 24.232 (b) and (c). The "reference path loss" from Step1 is added to this result.
7. This value is EIRP since the measurement is calibrated using a half-wave dipole antenna of known gain (2.15 dBi) and known input power (Pin).
8. ERP can be calculated from EIRP by subtracting the gain of the dipole,  $ERP = EIRP - 2.15\text{dBi}$ .

**PCS1900-EIRP 24.232(b)**

**Limits**

Power Step	Burst Peak EIRP (dBm)
0	$\leq 33\text{dBm}$ (2W)

**Measurement result**

Frequency(MHz)	Power Step	Peak EIRP(dBm)	Peak EIRP(W)
1850.2	0	27.02	0.50
1880.0	0	26.35	0.43
1909.8	0	27.04	0.51

**ANALYZER SETTINGS: RBW = VBW = 3MHz**

**A.2 EMISSION LIMIT (§24.238)**

**A.2.1 Measurement Method**

The measurements procedures in TIA-603C-2004 are used.

The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier that can be as high as 1910 MHz. The resolution bandwidth is set 1MHz as outlined in Part 24.238. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of the PCS1900.

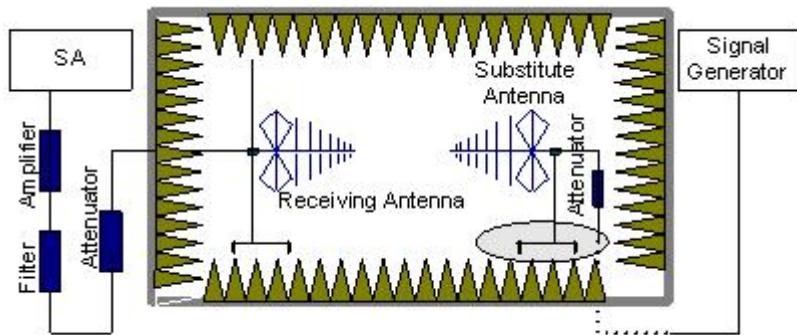
**The procedure of radiated spurious emissions is as follows:**

a) Pre-calibration

With pre-calibration method, the Radiated Spurious Emissions(RSE) is calculated as,

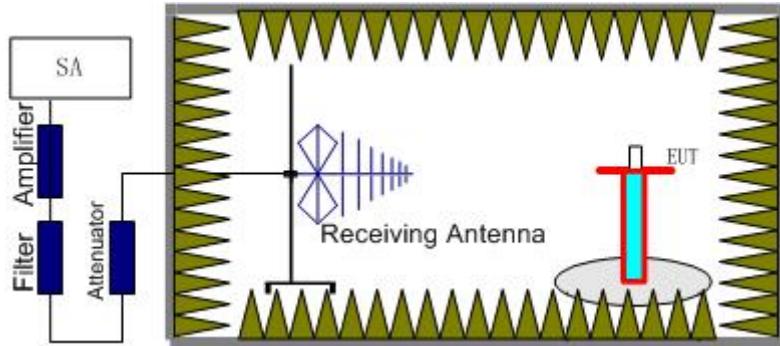
$$RSE = Rx \text{ (dBuV)} + CL \text{ (dB)} + SA \text{ (dB)} + Gain \text{ (dBi)} - 107 \text{ (dBuV to dBm)}$$

The SA is calibrated using following setup.



**b) EUT test**

EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the test item for emission measurements. The height of receiving antenna is 1.5m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the test item and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector and 1MHz bandwidth.



**A.2.2 Measurement Limit**

Sec. 24.238 Emission Limits.

(a) On any frequency outside a licensee's frequency block (e.g. A, D, B, etc.) within the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power ( $P$ , in Watts) by at least  $43 + 10\log(P)$  dB. The specification that emissions shall be attenuated below the transmitter power ( $P$ ) by at least  $43 + 10 \log (P)$  dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

**A.2.3 Measurement Results**

Radiated emissions measurements were made only at the upper, middle, and lower carrier

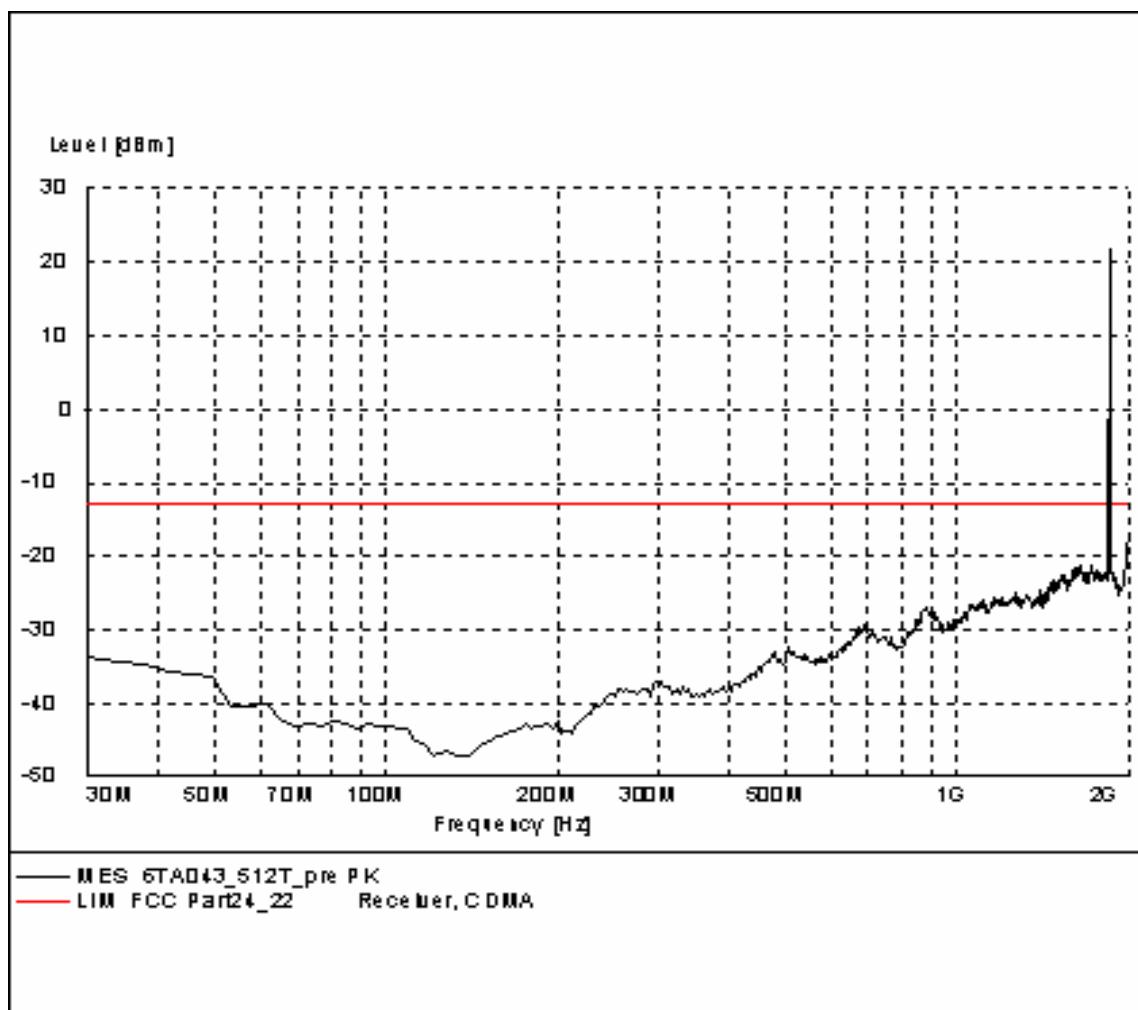
frequencies of the PCS band (1850.2 MHz, 1880 MHz and 1909.8 MHz). It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of the PCS1900 into any of the other blocks. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this.

**NOTE: The spurious emissions were done with different settings, using the relevant pre-amplifiers for the relevant frequency ranges. This is the reason that the graphs show different noise levels.**

**PCS 1900**

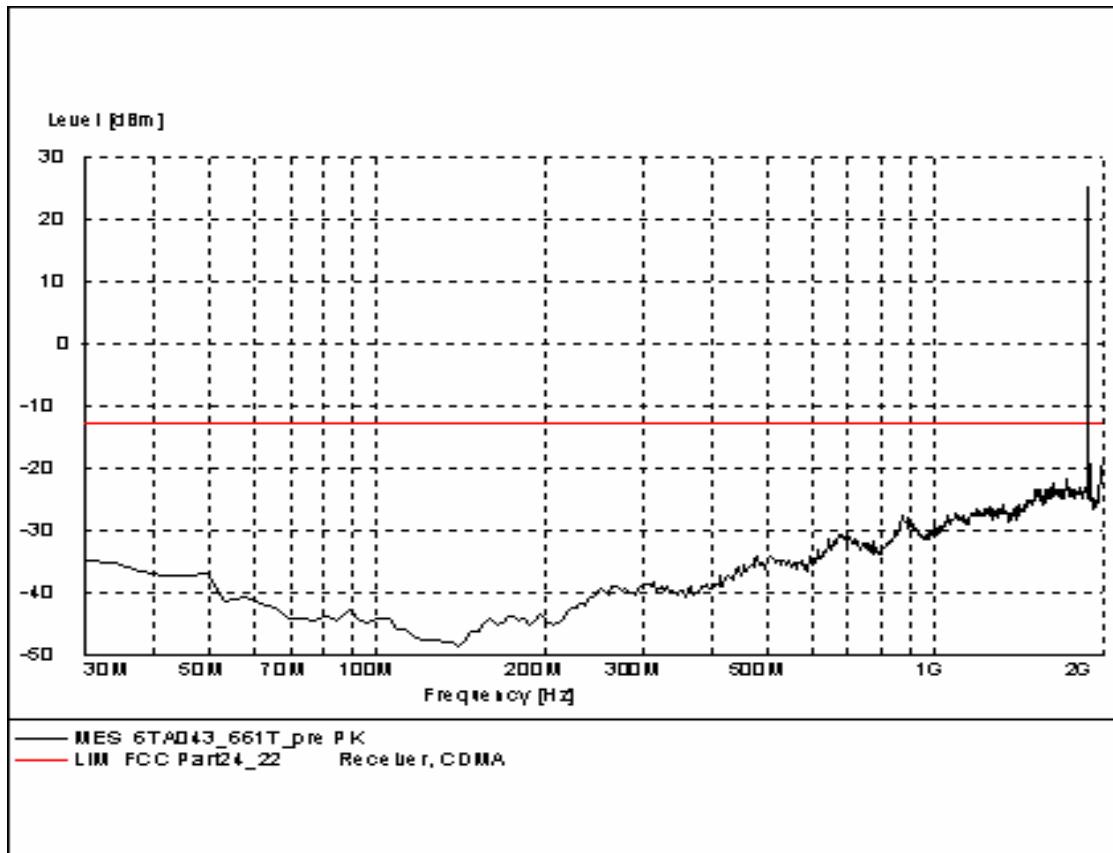
**A.2.3.1 RADIATED SPURIOUS EMISSIONS-Channel 512: 30MHz – 2GHz**

**NOTE: peak above the limit line is the Carrier frequency @ ch-512**



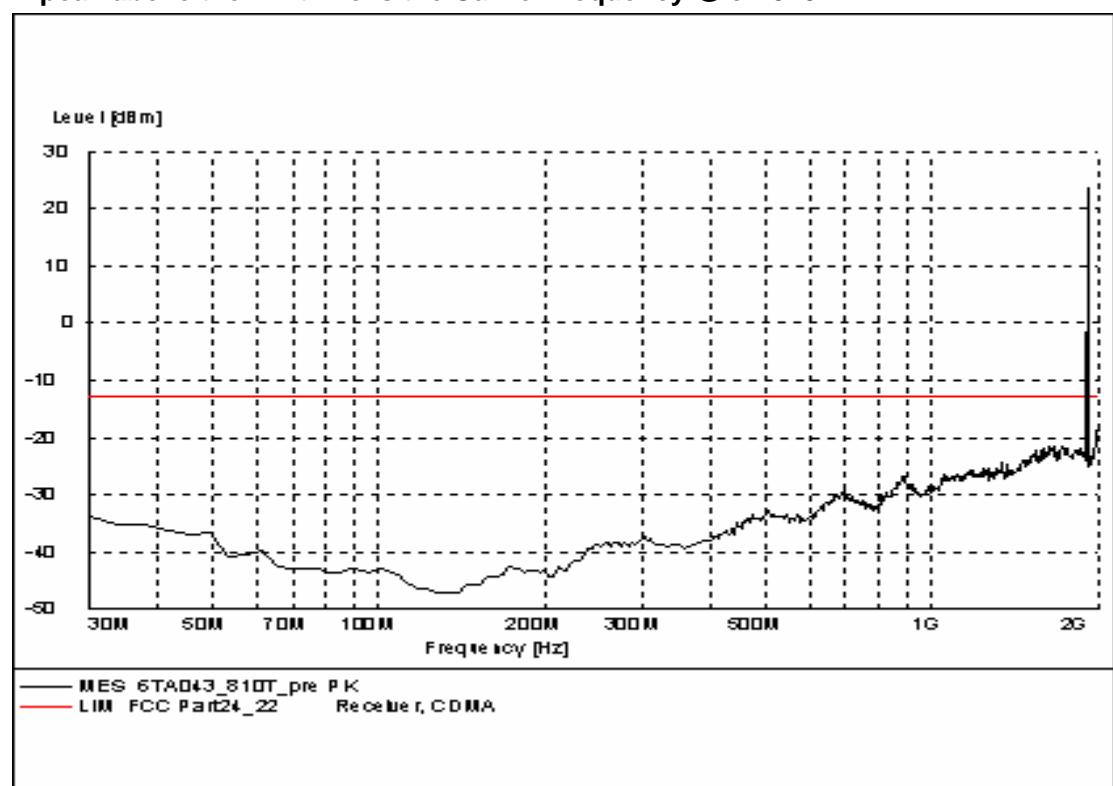
A.2.3.2 RADIATED SPURIOUS EMISSIONS-Channel 661: 30MHz – 2GHz

NOTE: peak above the limit line is the Carrier frequency @ ch-661

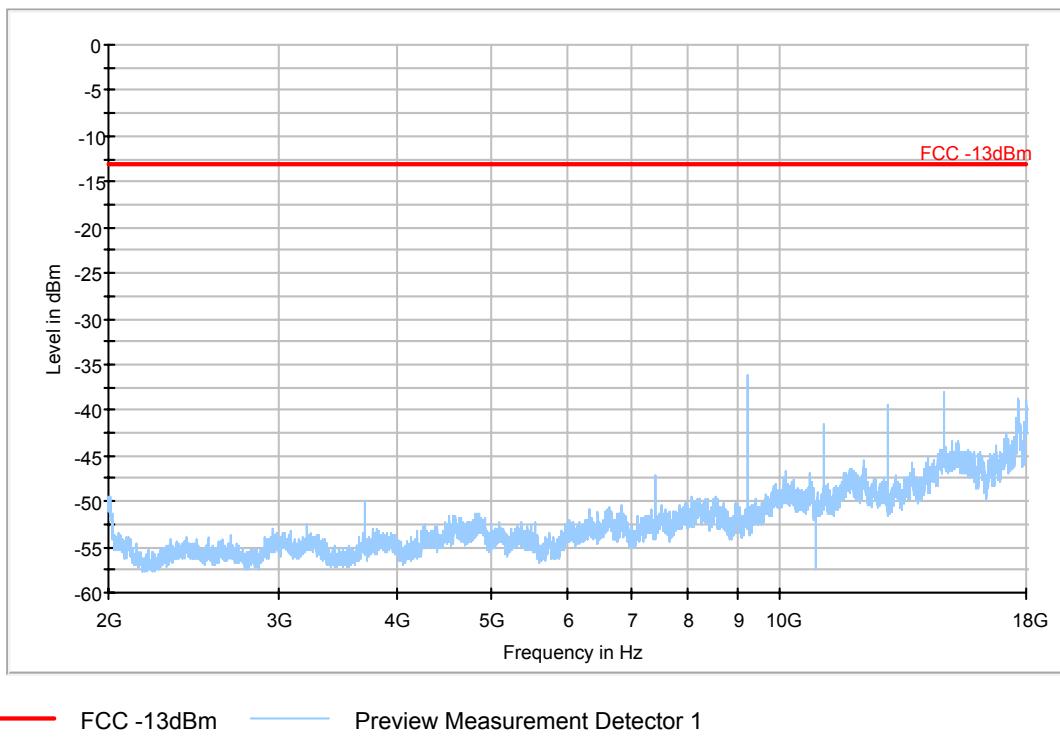


A.2.3.3 RADIATED SPURIOUS EMISSIONS-Channel 810: 30MHz – 2GHz

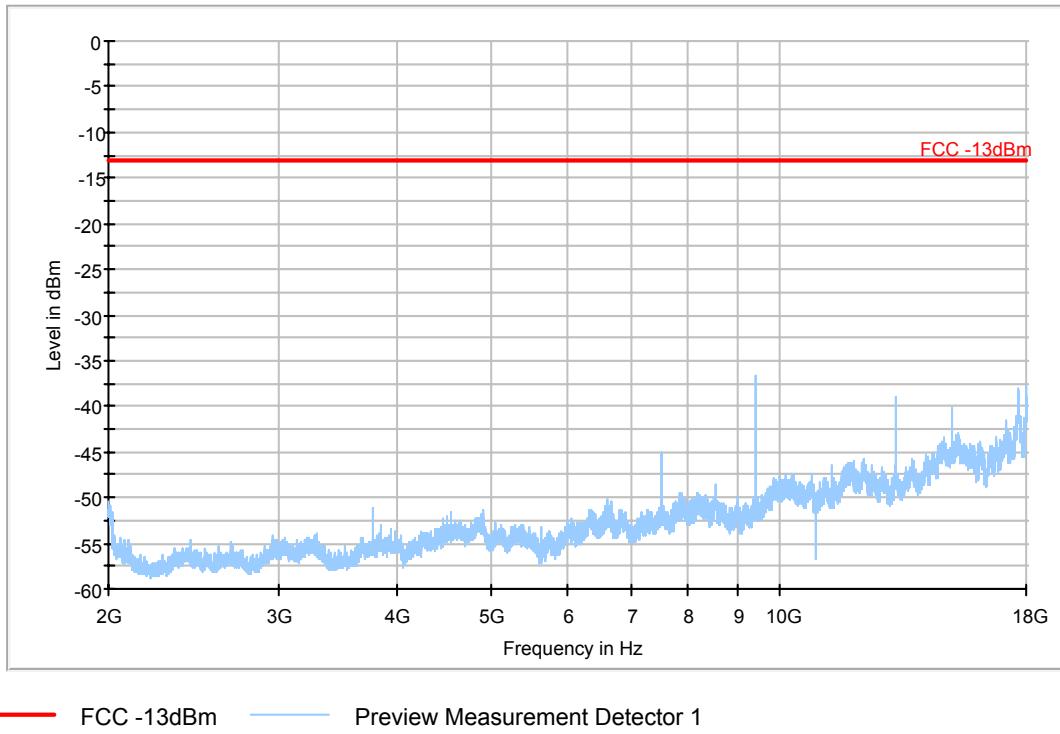
NOTE: peak above the limit line is the Carrier frequency @ ch-810



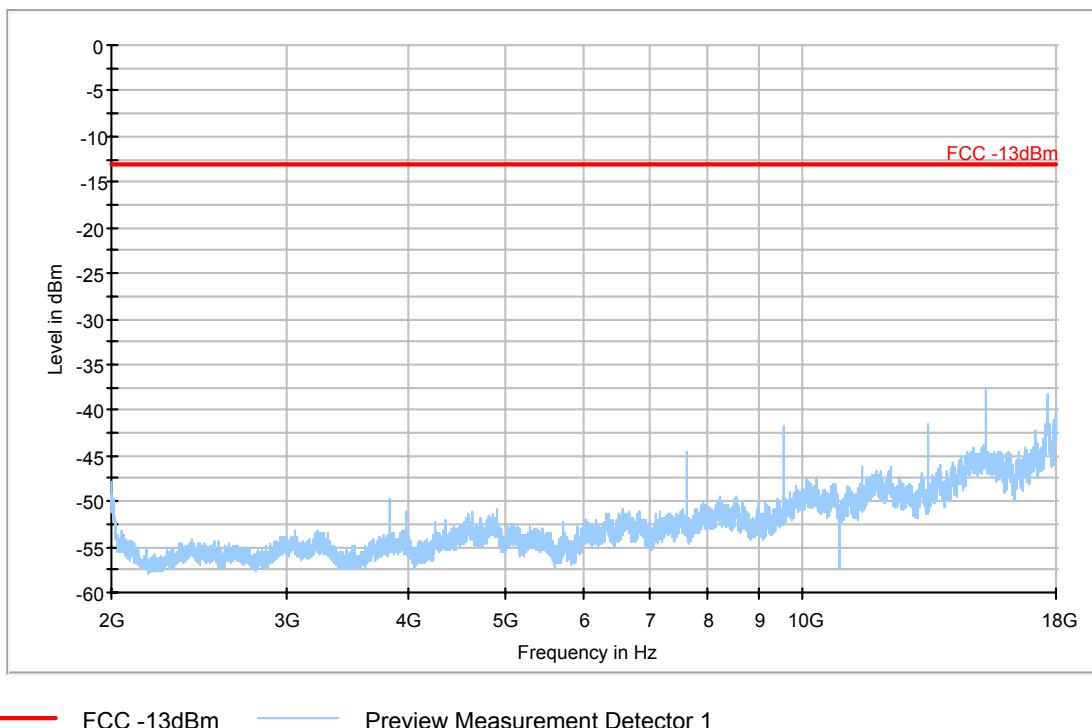
A.2.3.4 RADIATED SPURIOUS EMISSIONS-Channel 512: 2GHz – 18GHz



A2.3.5 RADIATED SPURIOUS EMISSIONS-Channel 661: 2GHz – 18GHz

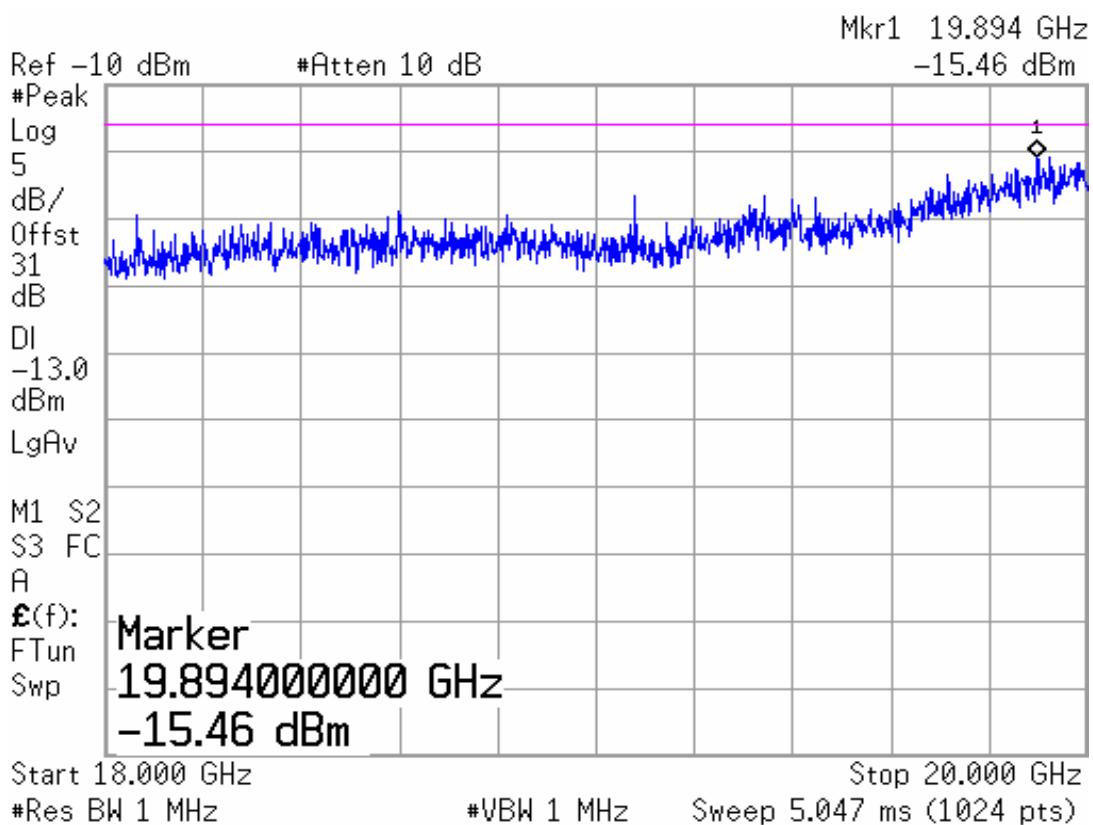


**A.2.3.6 RADIATED SPURIOUS EMISSIONS-Channel 810: 2GHz – 18GHz**

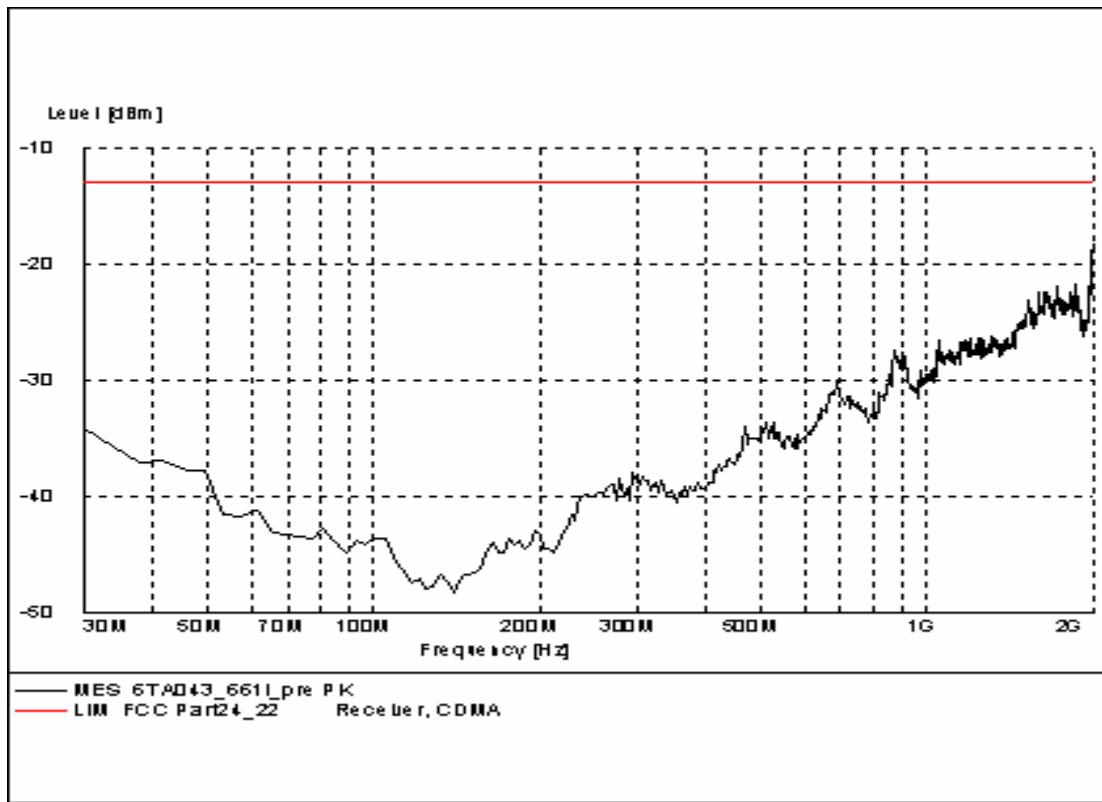


**A.2.3.7 Radiated spurious emission (18GHz-20GHz)**

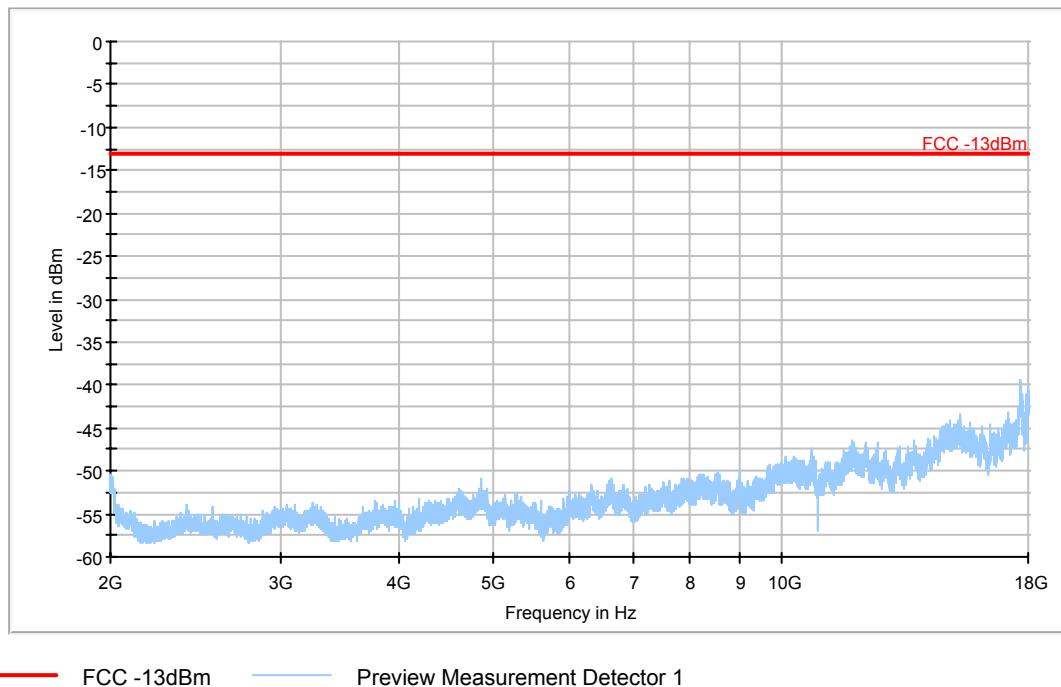
**Note: This plot is valid for low, mid & high channels. It is same as the floor noise.**



A.2.3.8 RADIATED SPURIOUS EMISSIONS-EUT in Idle Mode: 30MHz – 2GHz

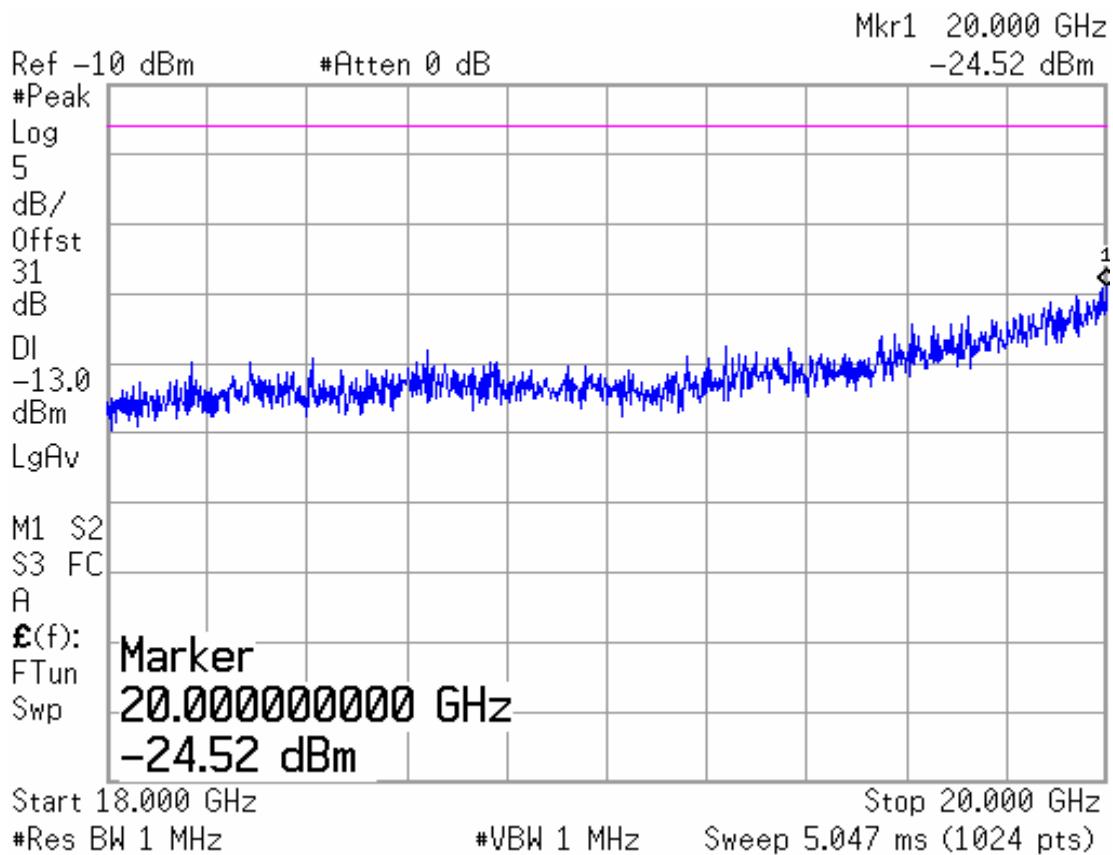


A.2.3.9 RADIATED SPURIOUS EMISSIONS-EUT in Idle Mode: 2GHz – 18GHz



**A.2.3.10 RADIATED SPURIOUS EMISSIONS-EUT in Idle Mode: 18GHz – 20GHz**

**Note: It is same as the floor noise.**



**A.3 CONDUCTED EMISSION (§15.107§15.207)**

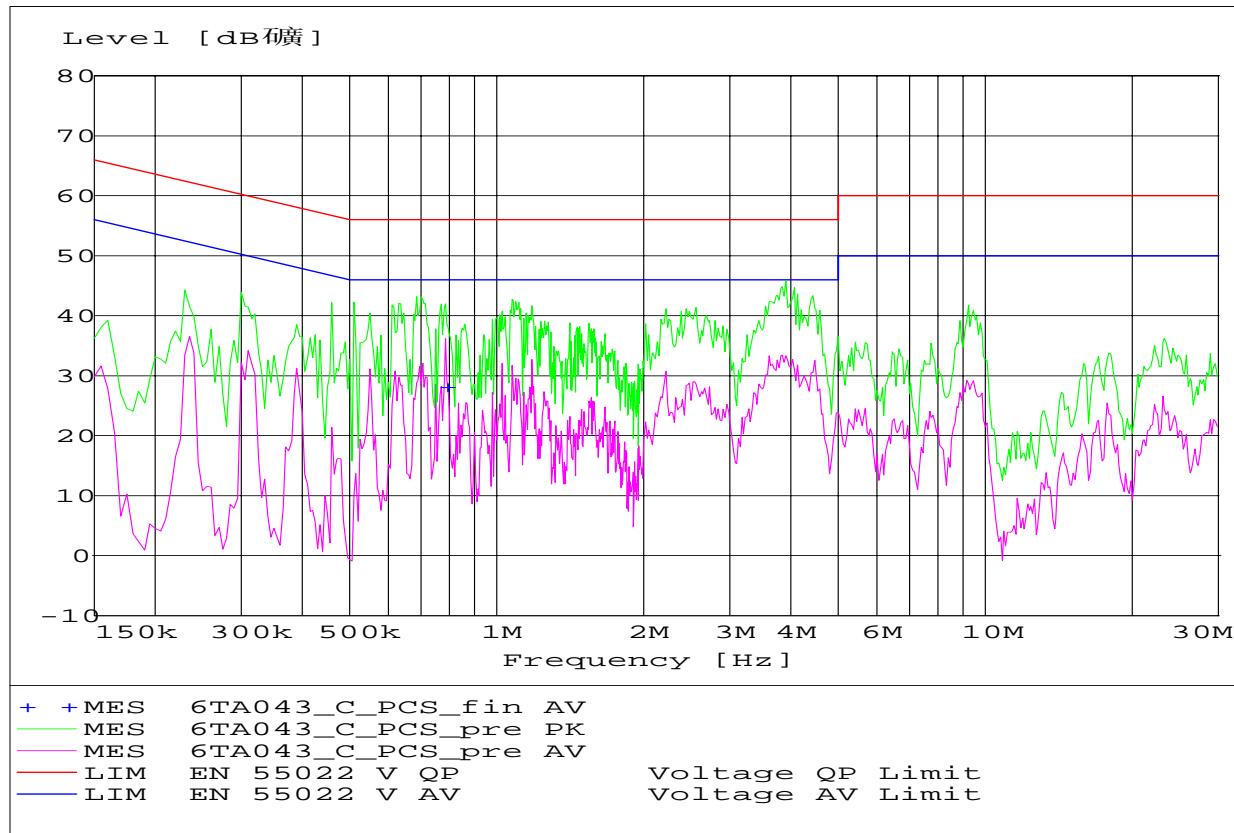
The measurement procedure in ANSI C63.4-1003 is used. Conducted Emission is measured with travel charger ETC-100.

**A.3.1 Limit**

Frequency of Emission (MHz)	Conducted Limit (dB $\mu$ V)	
	Quasi -Peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

\* Decreases with logarithm of the frequency

**A.3.2 Measurement result**



## **A.4 FREQUENCY STABILITY    (\$2.1055/\$24.235)**

### **A.4.1 Method of Measurement**

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a "call mode". This is accomplished with the use of R&S CMU200 DIGITAL RADIO COMMUNICATION TESTER.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -30°C.
3. With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on channel 661 (centre channel), measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.
5. Remeasure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1 Volt increments remeasuring carrier frequency at each voltage. Pause at nominal voltage for 1 1/2 hours unpowered, to allow any self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50°C.
7. With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on channel 661 (centre channel), measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10°C increments from +50°C to -30°C. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.
9. At all temperature levels hold the temperature to +/- 0.5°C during the measurement procedure.

### **A.4.2 Measurement Limit**

#### **A.4.2.1 For Hand carried battery powered equipment**

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d)(2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of between **3.4VDC** and **4.2VDC**, with a nominal voltage of **3.7VDC**. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress. These voltages represent a tolerance of -10 % and +12.5 %. For the purposes of measuring frequency stability these voltage limits are to be used.

#### **A.4.2.2 For equipment powered by primary supply voltage**

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental

**Telecommunication Metrology Center  
of Ministry of Information Industry**

**No. FCC-2006008**

**Page 20 of 36**

emission stays within the authorized frequency block. For this EUT section 2.1055(d)(1) applies. This requires varying primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

**A.4.3 Measurement results**

**PCS 1900**

**Frequency Error vs Voltage**

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.4	22	0.012
3.7	20	0.011
4.2	25	0.013

**Frequency Error vs Temperature**

temperature(°C)	Frequency error(Hz)	Frequency error(ppm)
-30	28	0.015
-20	25	0.013
-10	26	0.014
0	20	0.011
10	25	0.013
20	23	0.012
30	24	0.013
40	29	0.015
50	30	0.016

**A.5 OCCUPIED BANDWIDTH (§2.1049(h)(i))**

**A.5.1 Occupied Bandwidth Results**

Similar to conducted emissions; occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the USPCS frequency band. The table below lists the measured -20dBc BW (99%). Spectrum analyzer plots are included on the following pages.

**PCS 1900(-20dBc)**

Frequency(MHz)	Occupied Bandwidth (-20dBc BW)( kHz)
1850.2	268.125
1880.0	268.322
1909.8	264.913

**ANALYZER SETTINGS: RBW=VBW=3kHz**

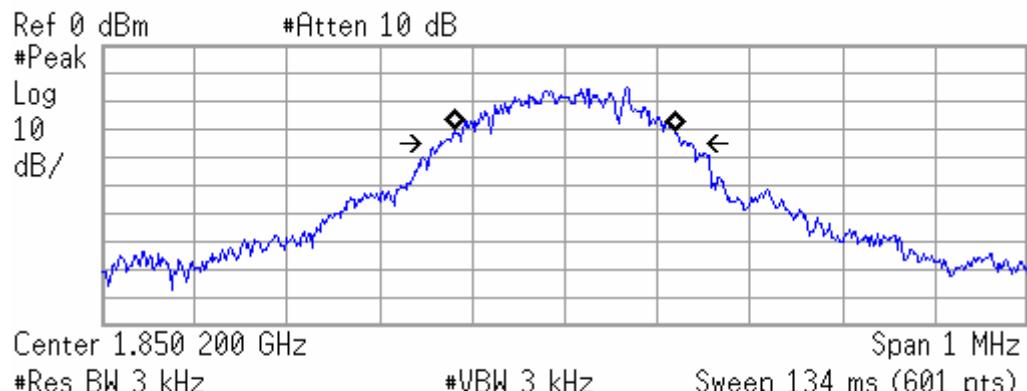
**Telecommunication Metrology Center  
of Ministry of Information Industry**

**No. FCC-2006008**

**Page 21 of 36**

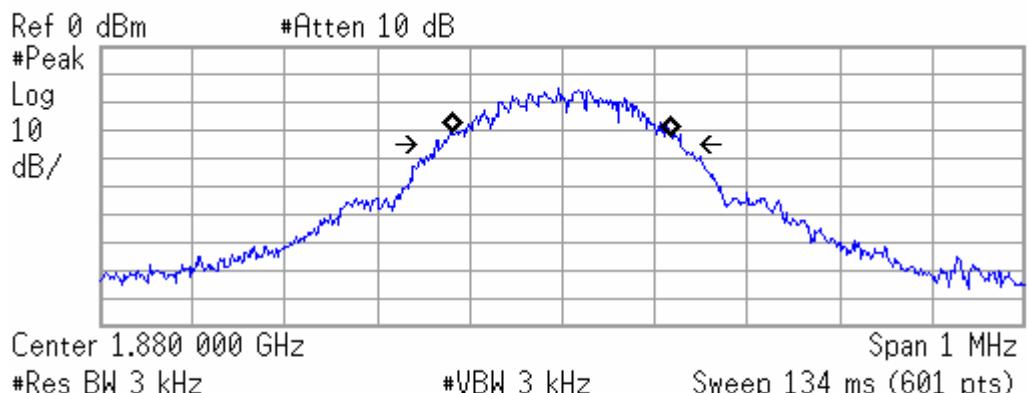
**PCS 1900**

**Channel 512-Occupied Bandwidth (-20dBc BW)**



<b>Occupied Bandwidth</b>	<b>Occ BW % Pwr</b>	<b>99.00 %</b>
<b>242.3210 kHz</b>	<b>x dB</b>	<b>-20.00 dB</b>
<b>Transmit Freq Error</b>	-394.714 Hz	
<b>x dB Bandwidth</b>	268.125 kHz	

**Channel 661-Occupied Bandwidth (-20dBc BW)**



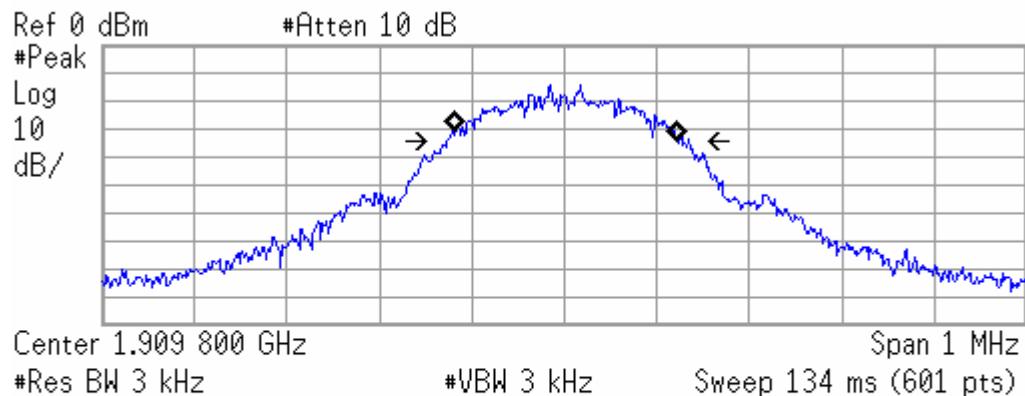
<b>Occupied Bandwidth</b>	<b>Occ BW % Pwr</b>	<b>99.00 %</b>
<b>240.0966 kHz</b>	<b>x dB</b>	<b>-20.00 dB</b>
<b>Transmit Freq Error</b>	-1.475 kHz	
<b>x dB Bandwidth</b>	268.322 kHz	

**Telecommunication Metrology Center  
of Ministry of Information Industry**

**No. FCC-2006008**

**Page 22 of 36**

**Channel 810-Occupied Bandwidth (-20dBc BW)**



<b>Occupied Bandwidth</b>	<b>Occ BW % Pwr</b>	<b>99.00 %</b>
<b>245.0813 kHz</b>	<b>x dB</b>	<b>-20.00 dB</b>

<b>Transmit Freq Error</b>	440.873 Hz
<b>x dB Bandwidth</b>	264.913 kHz

**A.6 EMISSION BANDWIDTH (§24.238(b))**

**A.6.1 Emission Bandwidth Results**

Similar to conducted emissions; Emission bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the PCS1900 band. Table below lists the measured -26dBc BW. Spectrum analyzer plots are included on the following pages.

**PCS 1900(-26dBc)**

EUT1: SN.not available

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)( kHz)
1850.2	315.540
1880.0	311.157
1909.8	312.710

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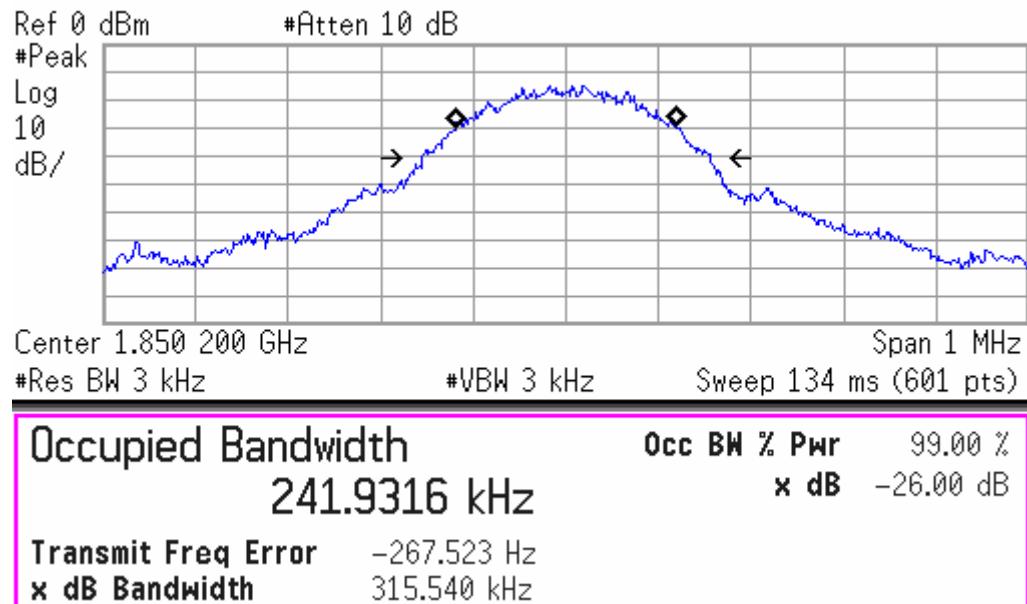
**No. FCC-2006008**

**Page 23 of 36**

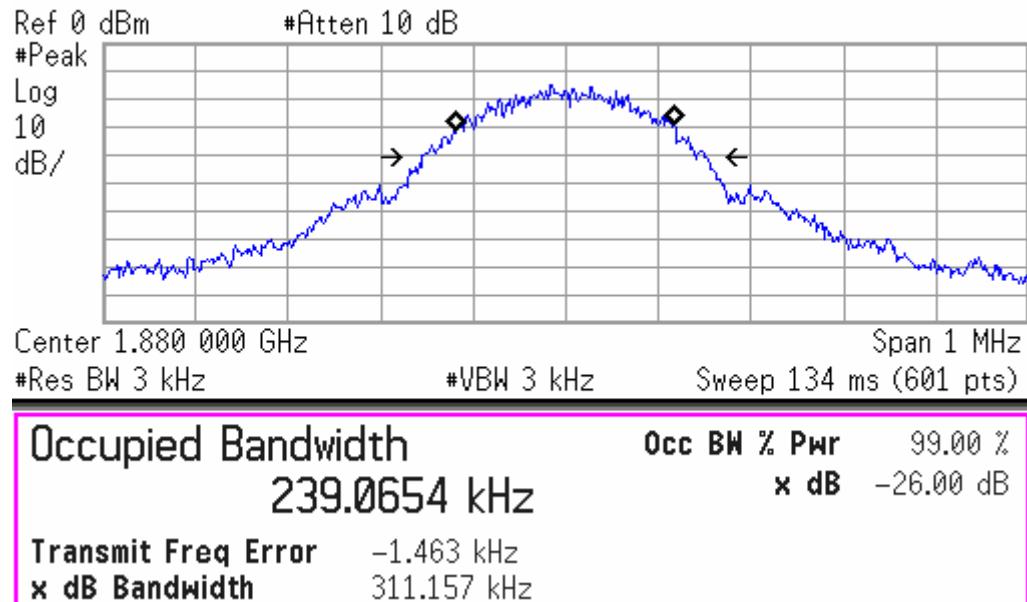
**ANALYZER SETTINGS: RBW=VBW=3kHz;**

**PCS 1900**

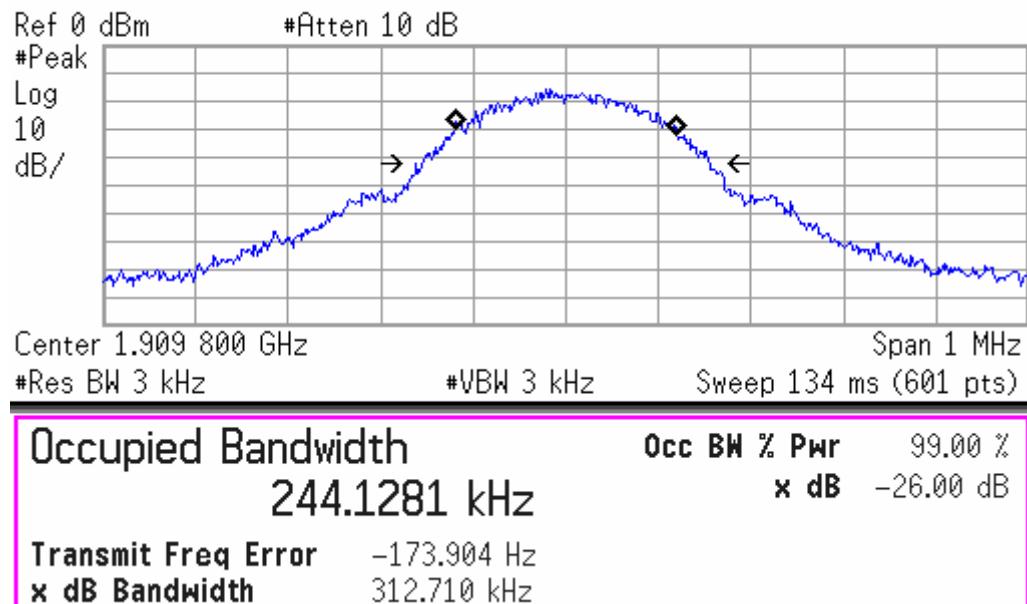
**Channel 512-Occupied Bandwidth (-26dBc BW)**



**Channel 661-Occupied Bandwidth (-26dBc BW)**



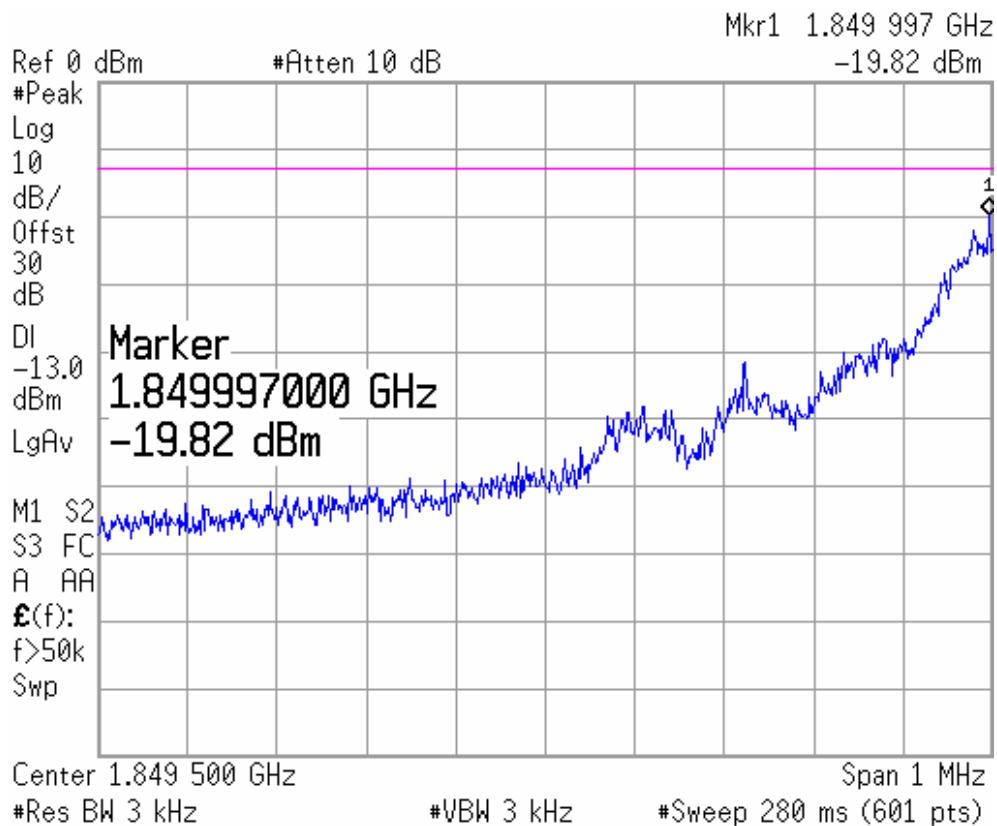
**Channel 810-Occupied Bandwidth (-26dBc BW)**



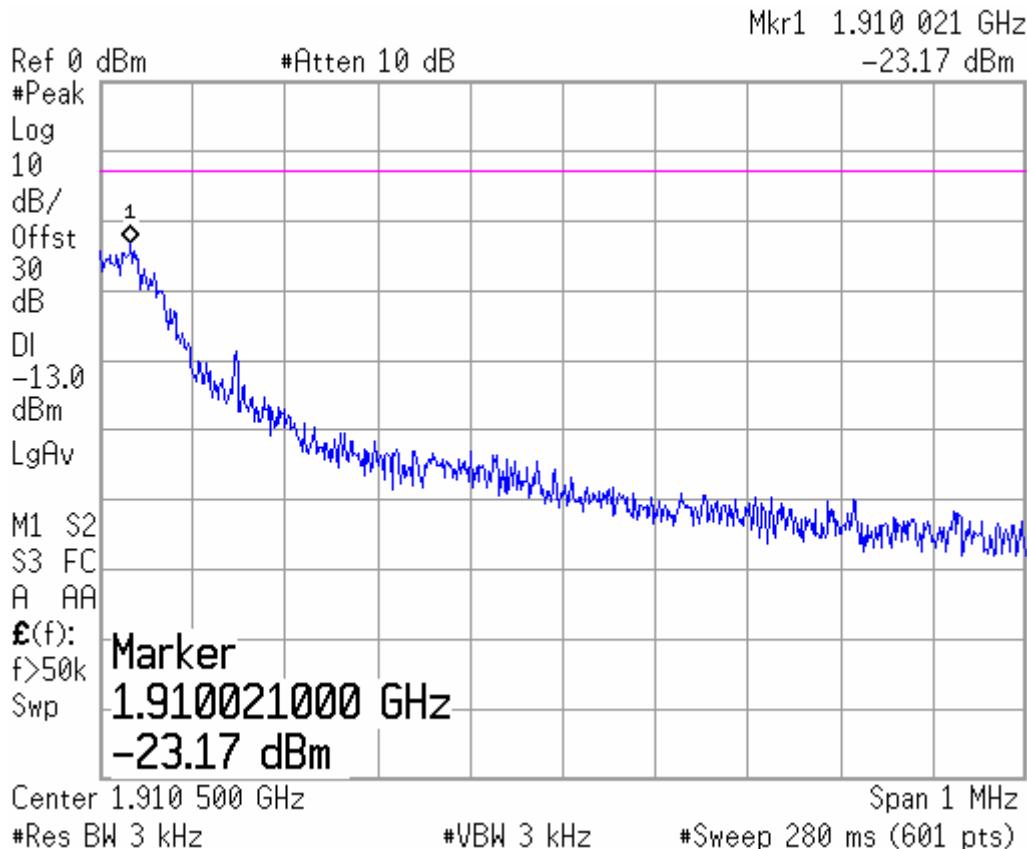
**A.7 BAND EDGE COMPLIANCE (§24.238(b))**

**PCS 1900**

**LOW BAND EDGE BLOCK-A (PCS-1900)-Channel 512**



**HIGH BAND EDGE BLOCK-C (PCS-1900) –Channel 810**



**A.8 CONDUCTED SPURIOUS EMISSION    (§2.1057/§24.238)**

**A.8.1 Measurement Method**

The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the equipment of PCS1900 band, this equates to a frequency range of 30 MHz to 19.1 GHz, data taken from 30 MHz to 20 GHz.
2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.

**PCS1900 Transmitter**

Channel	Frequency (MHz)
512	1850.2
661	1880.0
810	1909.8

**A.8.2 Measurement Limit**

Sec. 24.238 Emission Limits.

(a) On any frequency outside frequency band of the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power ( $P$ , in Watts) by at least  $43+10\log(P)$  dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

**A. 8.3 Measurement result**

**PCS1900**

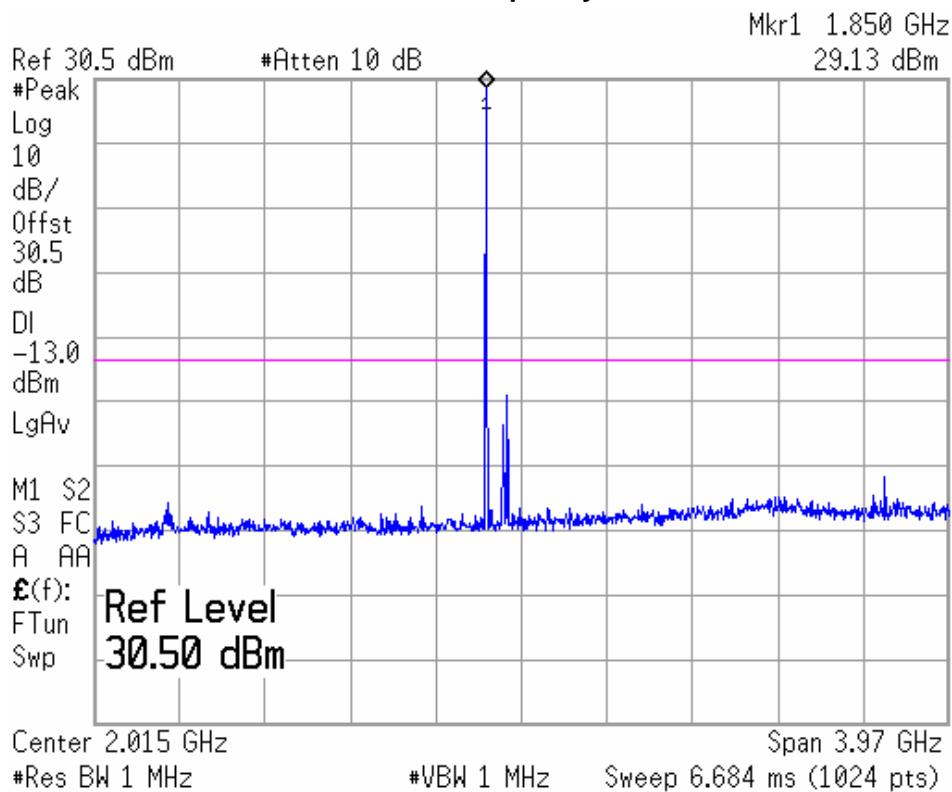
Harmonic	Tx ch. 512 Freq. (MHz)	Level (dBm)	Tx ch. 661 Freq. (MHz)	Level (dBm)	Tx ch. 810 Freq. (MHz)	Level (dBm)
2	3700.4	nf	3760	nf	3819.6	nf
3	5550.6	nf	5640	nf	5729.4	nf
4	7400.8	nf	7520	nf	7639.2	nf
5	9251.0	nf	9400	nf	9549.0	nf
6	11101.2	nf	11280	nf	11458.8	nf
7	12951.4	nf	13160	nf	13368.6	nf
8	14801.6	nf	15040	nf	15278.4	nf
9	16651.8	nf	16920	nf	17188.2	nf
10	18502.0	nf	18800	nf	19098.0	nf

nf: Noise floor

**A. 8.3.1 Channel 512: 30MHz – 4GHz**

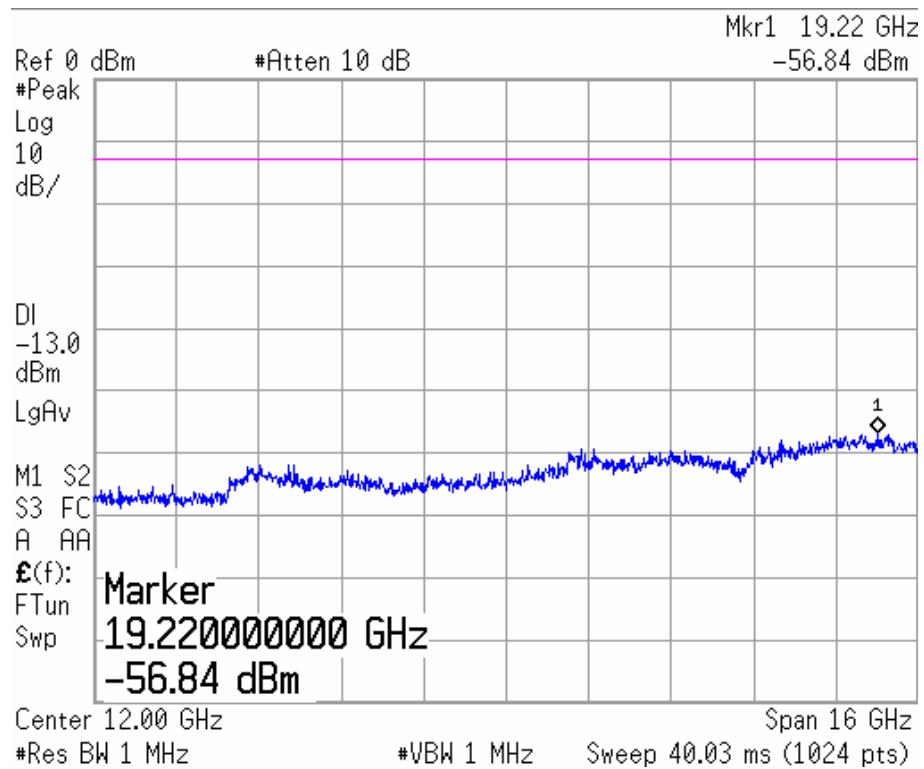
Spurious emission limit –13dBm.

**NOTE: peak above the limit line is the carrier frequency.**



**A. 8.3.2 Channel 512: 4GHz – 20GHz**

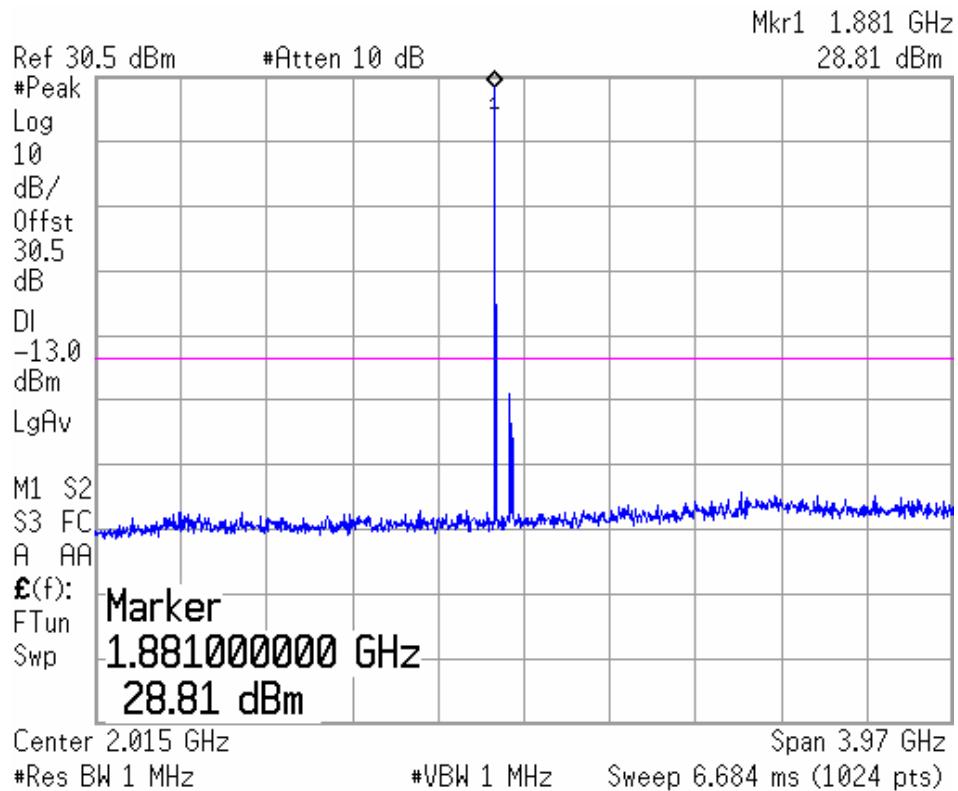
Spurious emission limit –13dBm.



**A. 8.3.3 Channel 661: 30MHz – 4GHz**

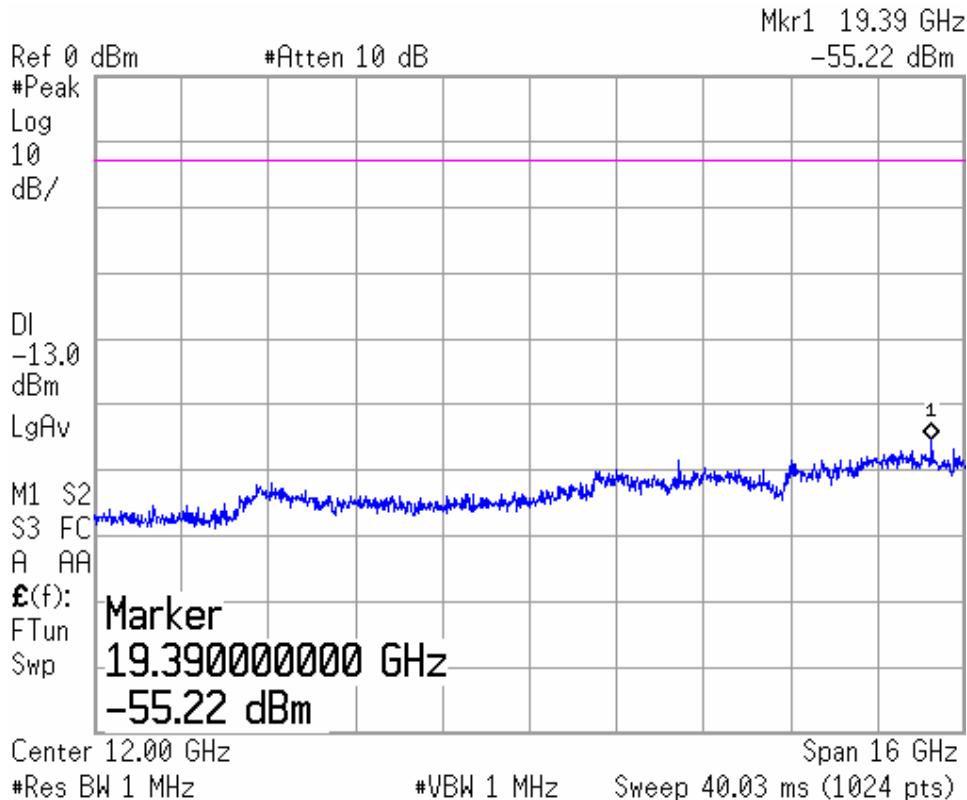
Spurious emission limit –13dBm

**NOTE: peak above the limit line is the carrier frequency.**



**A. 8.3.4 Channel 661: 4GHz –20GHz**

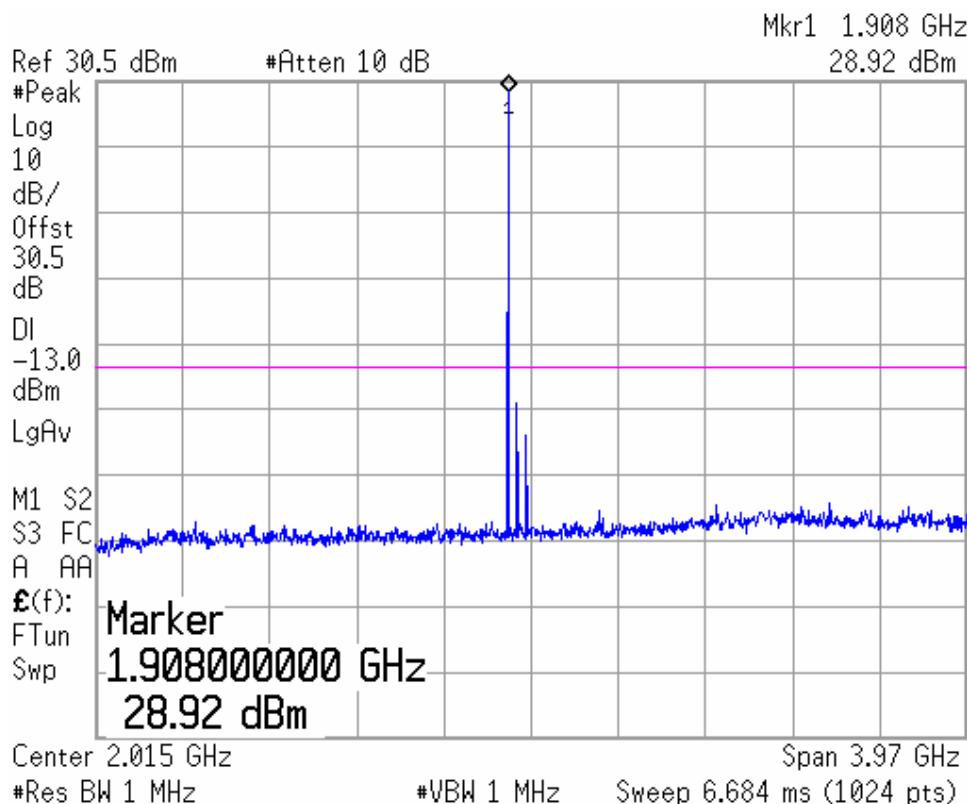
Spurious emission limit –13dBm



**A. 8.3.5 Channel 810: 30MHz – 4GHz**

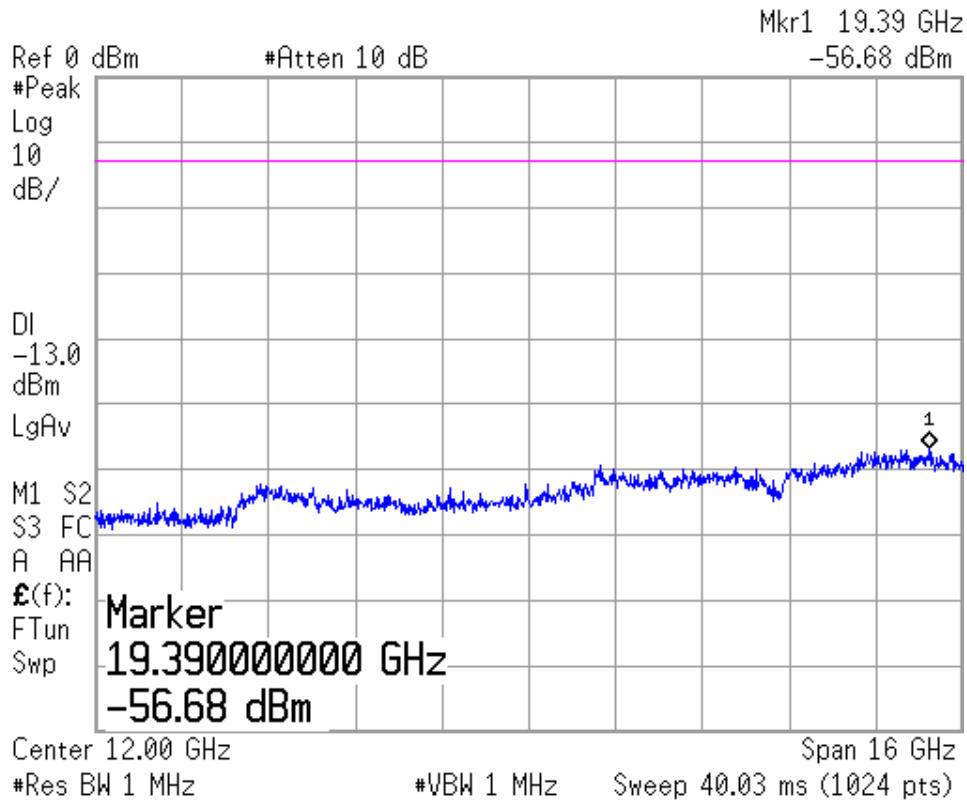
Spurious emission limit –13dBm.

**NOTE: peak above the limit line is the carrier frequency.**



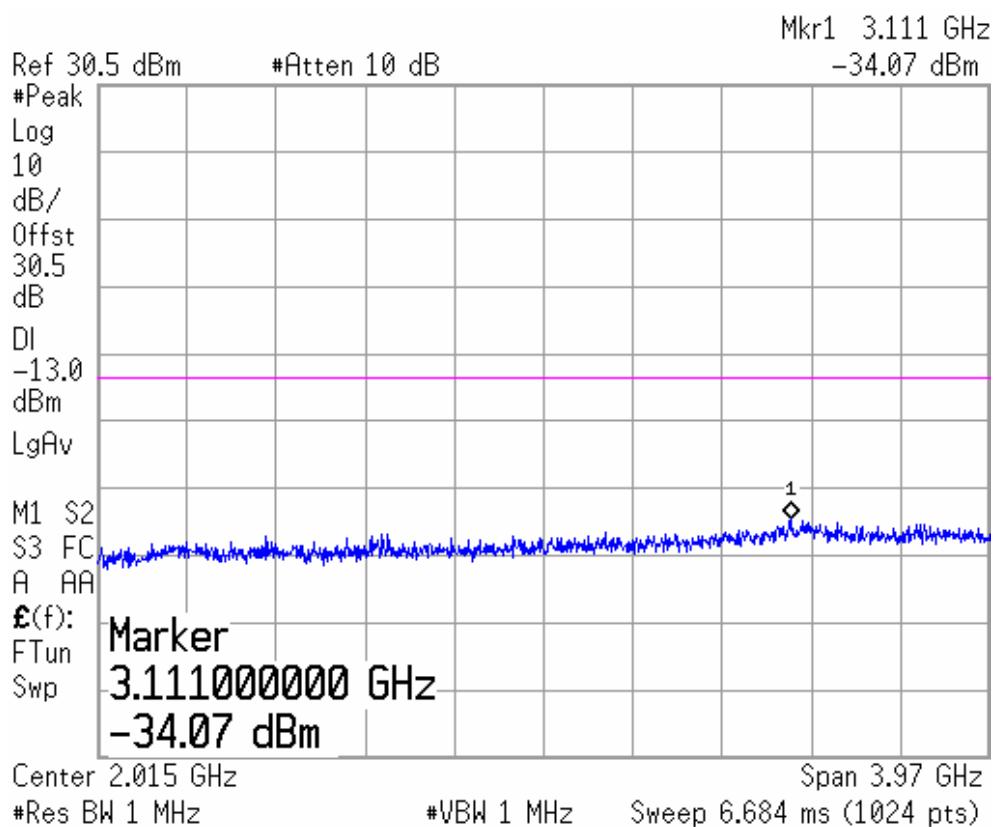
**A. 8.3.6 Channel 810: 4GHz – 20GHz**

Spurious emission limit –13dBm.



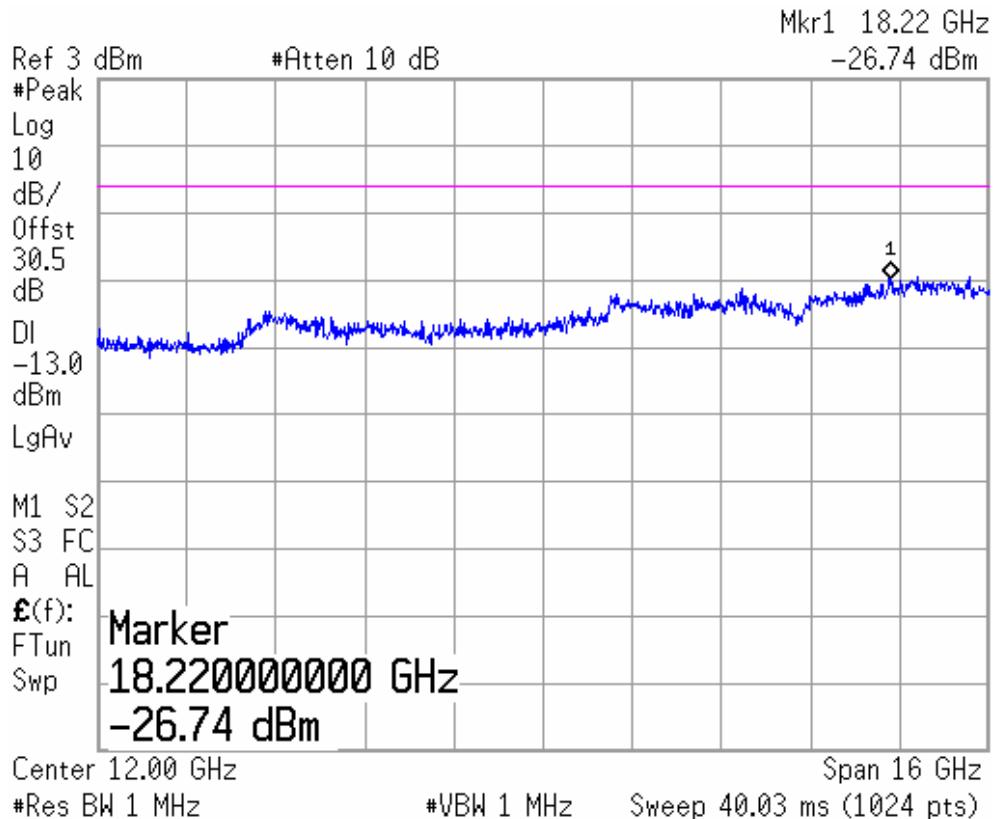
**A. 8.3.7 Idle mode: 30MHz – 4GHz**

Spurious emission limit –13dBm.



**A. 8.3.8 Idle mode: 4GHz – 20GHz**

Spurious emission limit –13dBm.



**ANNEX B PHOTOGRAPHS OF EUT**

**External Photo**



**Mobile Phone**



**Mobile Phone**

**Telecommunication Metrology Center  
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**No. FCC-2006008**

**Page 32 of 36**



**Mobile Phone**



**Mobile phone**



**Charger (AC/DC Adapter)**

**Internal Photo**



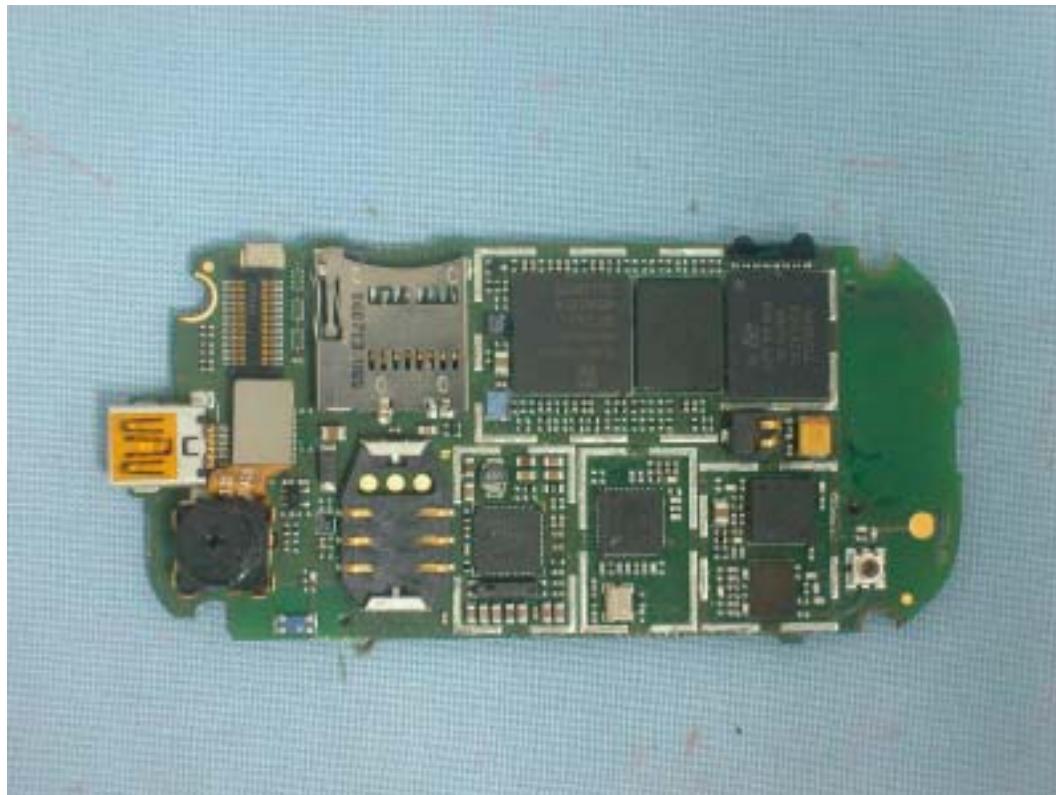
**Mobile phone Disassembly**



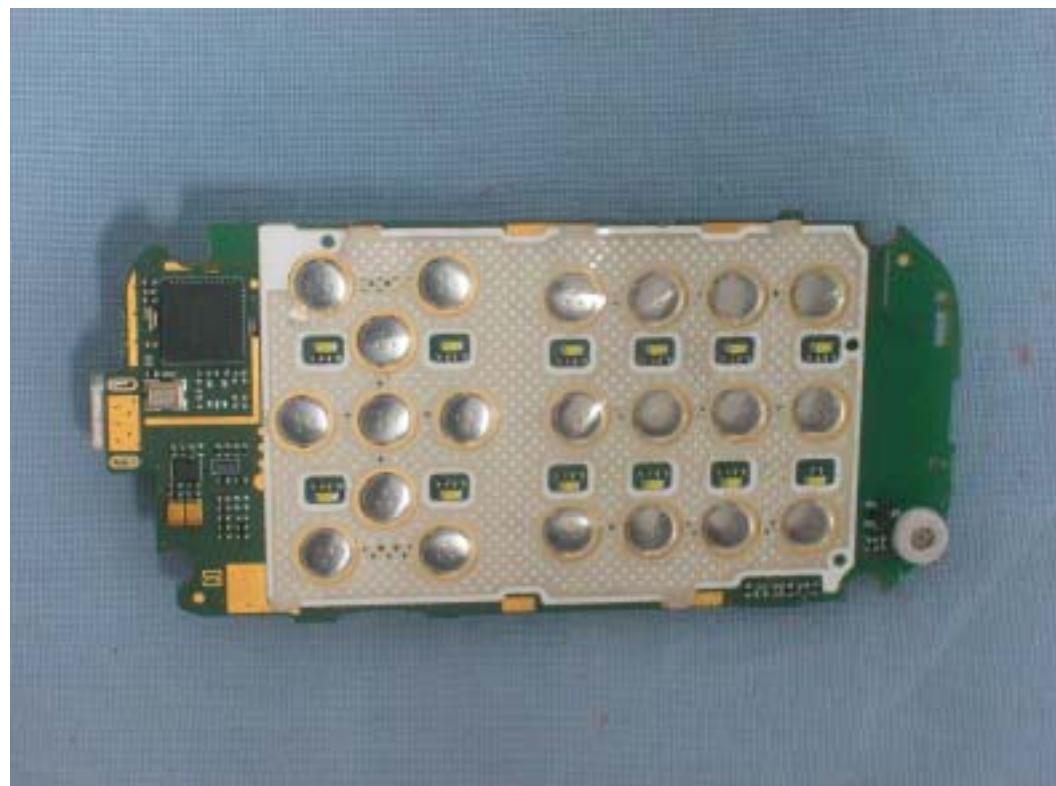
**Mobile phone Disassembly**



**Mobile phone Disassembly**

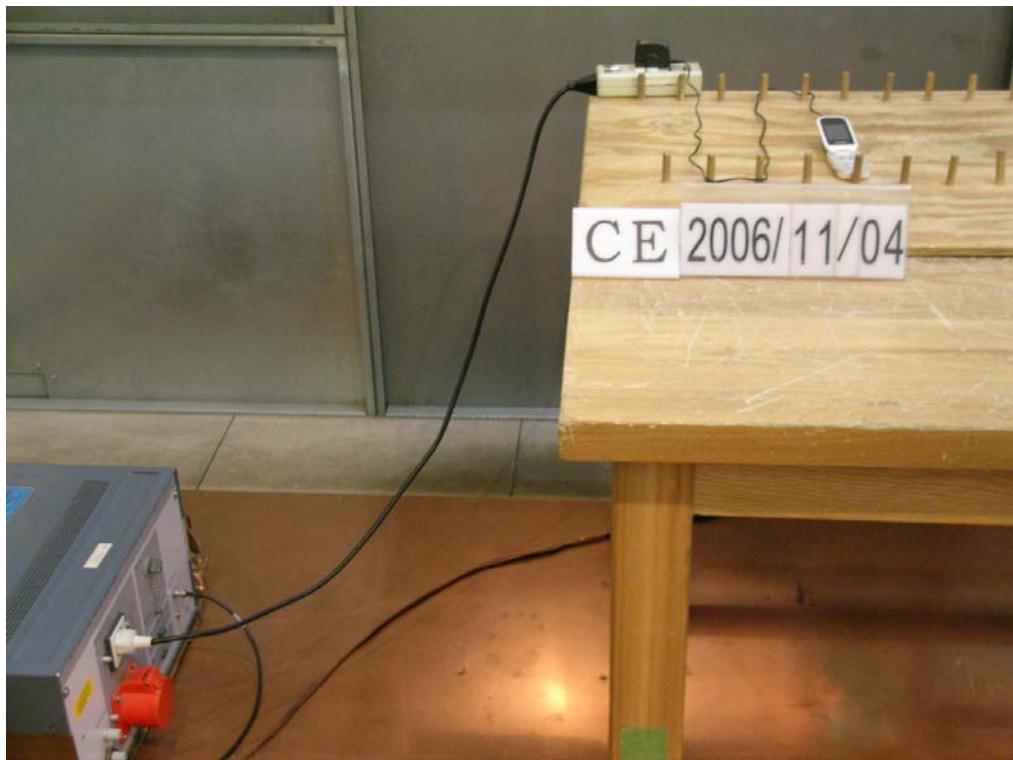


**mobile phone PCB back view**



**mobile phone PCB front view**

**ANNEX C TEST LAYOUT**



**Pic1 Conducted Emission**



**Pic2 Radiated Spurious Emission**

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