

**Test Report On**  
**Dual-Band Dual-Mode CDMA Cellular Phone**

<b>FCC Part 22 &amp; 24 Certification</b>	
FCC ID:	<b>OVFKWC- S6000-150</b>
Models:	<b>S6000-150</b>
Date:	<b>February 16, 2007</b>

<b>STATEMENT OF CERTIFICATION</b>	
<i>The data, data evaluation and equipment configuration represented herein are a true and accurate representation of the measurements of the sample's radio frequency interference emissions characteristics as of the dates and at the times of the test under the conditions herein specified.</i>	
<b>STATEMENT OF COMPLIANCE</b>	
<i>This product has been shown to be capable of compliance with the applicable technical standards as indicted in the measurement report and was tested in accordance with the measurement procedures specified in §2.947.</i>	
<b>Date of Test:</b>	February 13 – February 16, 2007
<b>Test performed by:</b>	Kyocera Wireless Corp. 10300 Campus Point Drive San Diego, CA 92121
<b>Report Prepared by:</b>	Thuy To, Regulatory Engineer
<b>Report Reviewed by:</b>	C.K. Li, Principal Hardware Engineer
Nemko USA, Inc. performed the tests that required an OATS site.	

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**General Information**

<b>Applicant:</b>	Kyocera Wireless Corp 10300 Campus Point Drive San Diego CA 92121	
<b>FCC ID:</b>	OVFKWC-S6000-150	
<b>Product:</b>	Dual-Band Dual mode Cellular Phone	
<b>Model Numbers:</b>	S6000-150	
<b>EUT Serial Number:</b>	FFS60000000669	
<b>Type:</b>	[ ] Prototype, [X] Pre-Production, [ ] Production	
<b>Device Category:</b>	Portable	
<b>RF Exposure Environment:</b>	General Population / Uncontrolled	
<b>Antenna:</b>	Internal PIFA	
<b>Detachable Antenna:</b>	No	
<b>External Input:</b>	Audio/Digital Data	
<b>Quantity:</b>	Quantity production is planned	
<b>FCC Rule Parts:</b>	§22H	§24E
<b>Modes:</b>	800 CDMA	1900 CDMA
<b>Multiple Access Scheme:</b>	CDMA	CDMA
<b>TX Frequency (MHz):</b>	824 – 849	1850 - 1910
<b>Emission Designators:</b>	1M25F9W	1M25F9W
<b>Max. Output Power (W):</b>	0.446 ERP	0.482 EIRP

### Product Description

The OVFKWC-S6000-150 phones are Dual-mode Dual-Band 1XRTT products. The phones have assisted GPS software feature enabled to meet the emergency location requirements of the FCC's E911 Phase II mandate. The Tri-mode architecture is defined as 1900MHz (PCS CDMA) and 800MHz (cellular CDMA).

The phone is designed in compliance with the technical specifications for compatibility of mobile and base stations in the Cellular Radio telephone service contained in "Cellular System Mobile Station -Land Station Compatibility Specification" as specified in OET Bulletin 53 and TIA Standards

As described in Exhibit 1 (operation description), OVFKWC-S6000-150 can operate in the CDMA mode specified in IS-2000.2 standard, release 0. It can only invoke a Spreading Rate 1 (SR1) operational mode. SR1 is defined as a 1.2288 Mcps chip rate-based system using a direct-spread single carrier, which limits the bandwidth to the same 1.25MHz bandwidth occupied by the legacy IS-95/8-A/B system. Thus, for SR1 in IS-2000, the frequency response is identical to the legacy IS-95 B system standard.

### Test Configuration

For Part 22 and 24, all of CDMA measurements were conducted with Agilent 8960 as a base station simulator. The base station simulator establishes a CDMA link with the test device. To justify on the selection of applicable configurations, the EUT were put in varies R.C. and S.O. operation modes and the worst case is determined for final tests.

CONFIGURATION  Peak Power	CONDUCTED POWER (dBm)					
	CDMA 1900			CDMA 800		
	Ch 25	Ch 600	Ch 1175	Ch 1013	Ch 383	Ch 777
	Peak	Peak	Peak	Peak	Peak	Peak
SO2, RC1 Full Rate	29.41	29.41	29.41	27.37	27.35	27.49
SO2, RC3 Full Rate	29.41	29.41	29.41	27.49	27.49	27.49
SO55, RC1 Full Rate	29.41	29.41	29.41	27.49	27.49	27.56
<b>SO55, RC3 Full Rate</b>	<b>29.41</b>	<b>29.41</b>	<b>29.41</b>	<b>27.56</b>	<b>27.56</b>	<b>27.56</b>
TDSO SO32, RC3 (FCH +SCH) Full Rate	29.41	29.41	29.41	27.56	27.56	27.56
TDSO SO32, RC3 (-SCH) Full Rate	29.41	29.41	29.41	27.56	27.56	27.56

CONFIGURATION  Average Power	CONDUCTED POWER (dBm)					
	CDMA 1900			CDMA 800		
	Ch 25	Ch 600	Ch 1175	Ch 1013	Ch 383	Ch 777
	Avg	Avg	Avg	Avg	Avg	Avg
SO2, RC1 Full Rate	23.64	23.49	23.45	21.92	22.0	21.49
SO2, RC3 Full Rate	23.62	23.43	23.43	21.87	21.90	21.45
SO55, RC1 Full Rate	23.65	23.48	23.46	21.90	22.03	21.59
<b>SO55, RC3 Full Rate</b>	<b>23.62</b>	<b>23.43</b>	<b>23.45</b>	<b>21.92</b>	<b>21.98</b>	<b>21.45</b>
TDSO SO32, RC3 (FCH +SCH) Full Rate	23.62	23.41	23.42	21.91	21.98	21.45
TDSO SO32, RC3 (-SCH) Full Rate	23.61	23.42	23.45	21.92	21.98	21.45

The CDMA link was configured via 8960 for all of measurements as follows:

Radio Configuration: RC3  
 Service Options: SO55  
 Data Rate: full rate

**FCC Compliance Emergency 911****FCC § 22.921**

When an emergency 911 call is originated by the user, the mobile will attempt to acquire any available system and originate the emergency call on that system, disregarding restrictions set by the roaming list. The FCC NPRM WT99-13, CC94-102 automatic analog A/B roaming option has been implemented for 911 emergency calls. Note that the models that contain the letter "L" have Global Positioning System (GPS) support.

**TTY compliance****FCC § 255 of the Telecom Act**

The OVFKWC-S6000-150 phone models have been designed for TTY Compliance with Cellular Compatibility Standard.

**Transmitter RF Power Output**

**Conducted Power**

<b>FCC: § 2.1046</b>
<p><b>Measurement Procedures:</b></p> <p>The RF output power was measured using a Giga-tronics 8541C Universal Power Meter. Terminated to a resistive coaxial load of 50 ohms.</p>

Mode	Frequency (MHz)	Channel	Power (dBm)
CDMA 800	824.70	1013	23.62
	836.52	384	23.43
	848.31	777	23.45
CDMA 1900	1851.25	25	21.92
	1880.00	600	21.98
	1908.75	1175	21.45

**Radiated Power**

<b>FCC:</b> § 22.913, § 24.232
<p><b>Measurement Procedures:</b></p> <p>The test was performed at an open area test site at Nemko USA, Inc. using substitution method.</p>

Mode	Frequency (MHz)	Channel	Max. Power (dBm)	Ref.
CDMA 800	824.70	1013	25.73	ERP
	836.52	384	26.15	
	848.31	777	26.49	
CDMA 1900	1851.25	25	25.56	EIRP
	1880.00	600	26.83	
	1908.75	1175	25.63	



**Occupied Bandwidth**

<b>FCC:</b> § 2.1049, § 22.917(b)(d), § 24.238
<p><b>Measurement Procedures:</b></p> <p>The RF output of the EUT was connected to the input of the spectrum analyzer with sufficient attenuation. The spectrum with no modulation was recorded.</p> <p><u>For Digital:</u> Modulate with full rate all up power control bit.</p>

**List of Figures**

Figure	Mode	Description
7-1	<b>CDMA 800</b>	CDMA @ Ch383
7-2	<b>CDMA 1900</b>	CDMA @ CH600
7-3		Lower Band Edge @ CH 25
7-4		Upper Band Edge @ CH 1175

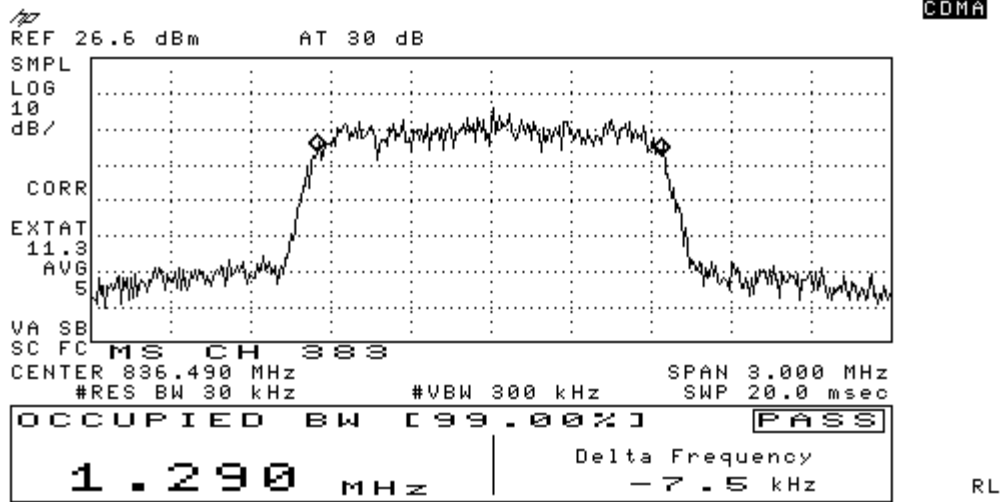


Figure 7-1 CDMA 800 @ CH 383

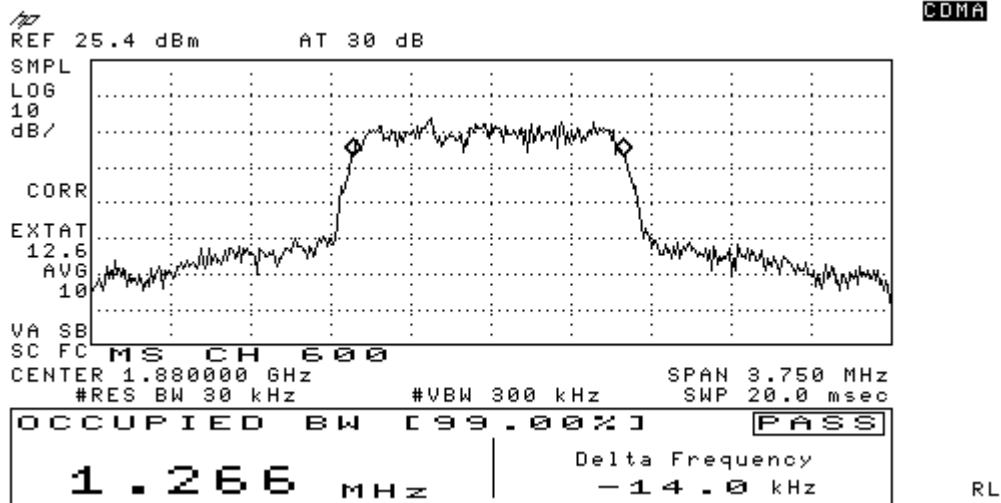


Figure 7-2 CDMA 1900 @ CH 600

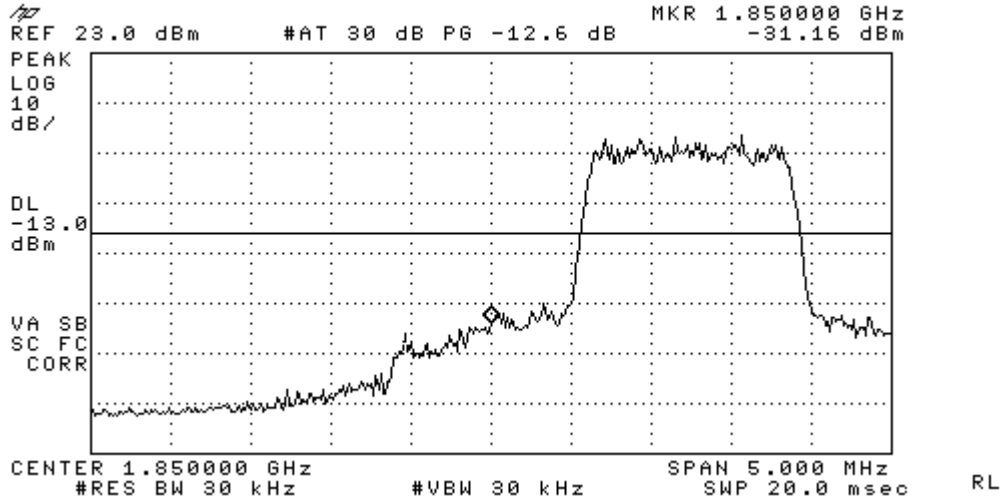


Figure 7-3 CDMA 1900 Lower Band Edge @ ch25

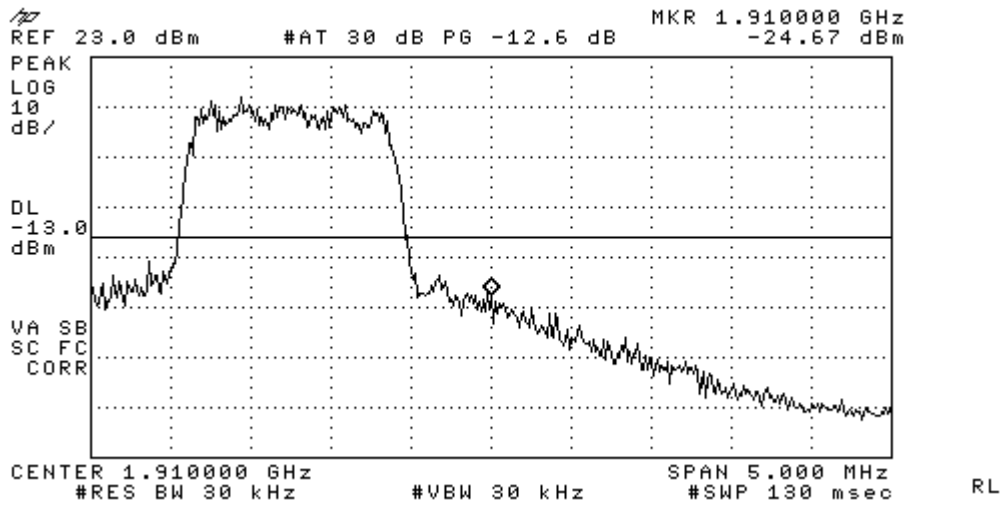


Figure 7-4 CDMA 1900 Upper Band Edge @ ch1175

**Spurious Emissions At Antenna Terminals**

<b>FCC:</b>	<b>§ 2.1051, § 22.917(e)(f), § 24.238</b>
<b>Measurement Procedures:</b>	
<p><u>Out of Band:</u> The RF output of the EUT was connected to the input of the spectrum analyzer with sufficient attenuation. The modulating signal was applied accordingly. The frequency spectrum was investigated from the lowest frequency signal generated up to at least the tenth harmonic of the fundamental.</p>	

**List of Figures:**

Figure	Mode	Channel	Plot Description
8-1	<b>CDM A 800</b>	1013	Conducted spurious emissions, 9kHz to 20GHz
8-2		383	Conducted spurious emissions, 9kHz to 20GHz
8-3		777	Conducted spurious emissions, 9kHz to 20GHz
8-4	<b>CDM A 1900</b>	25	Conducted spurious emissions, 9kHz to 20GHz
8-5		600	Conducted spurious emissions, 9kHz to 20GHz
8-6		1175	Conducted spurious emissions, 9kHz to 20GHz

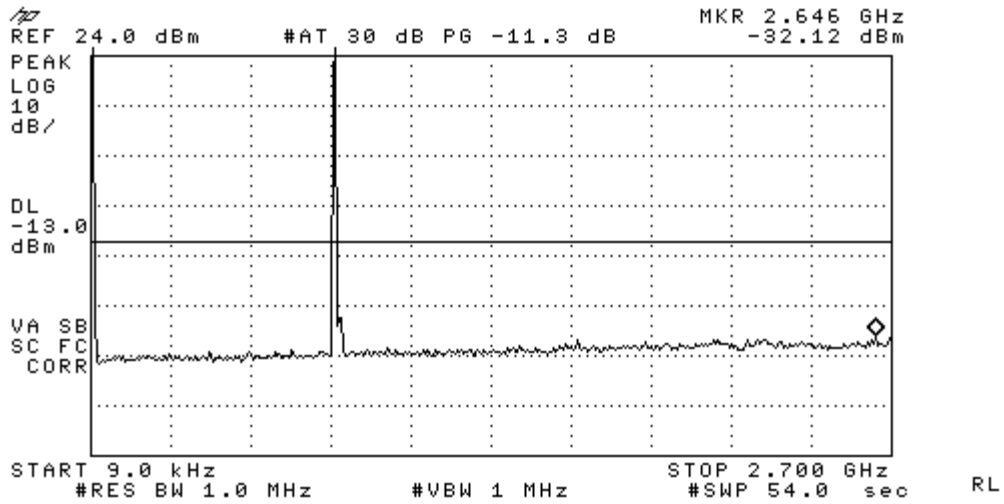


Figure 8-1a CDMA 800 – Conducted Spurious Emission (CH 1013)

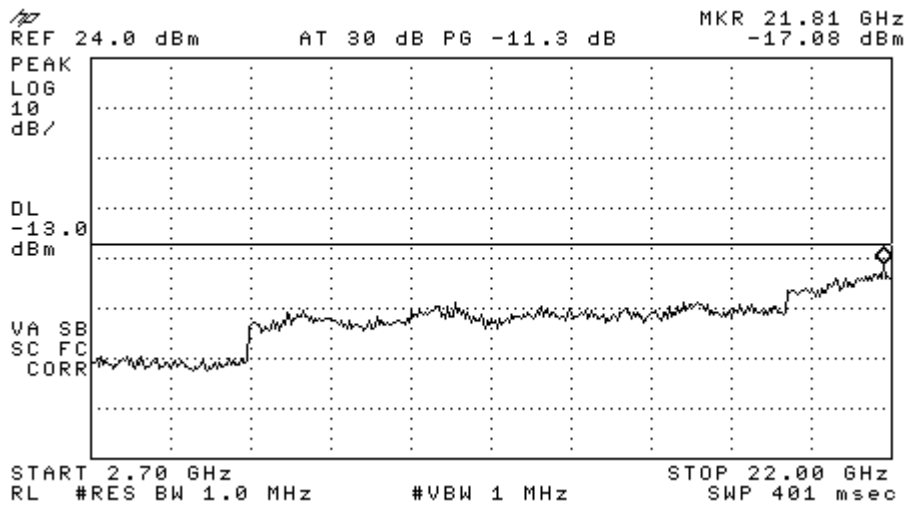
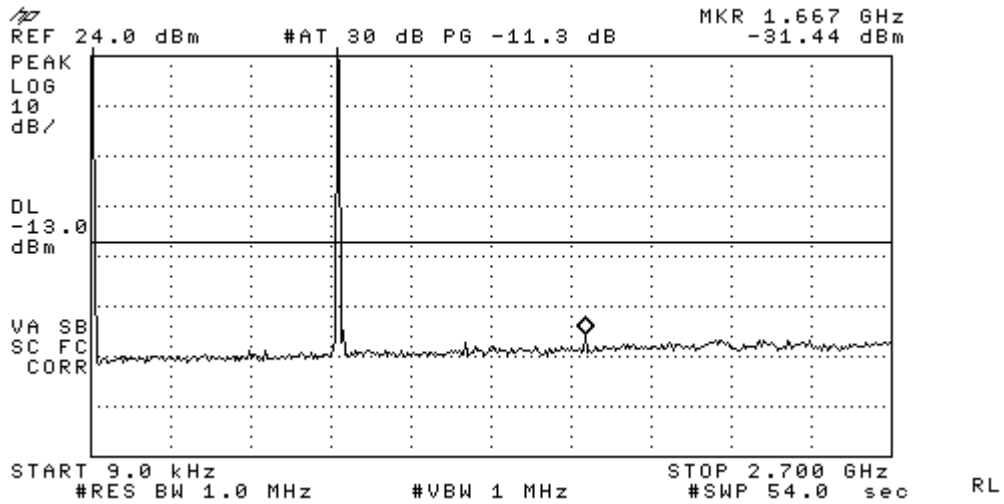
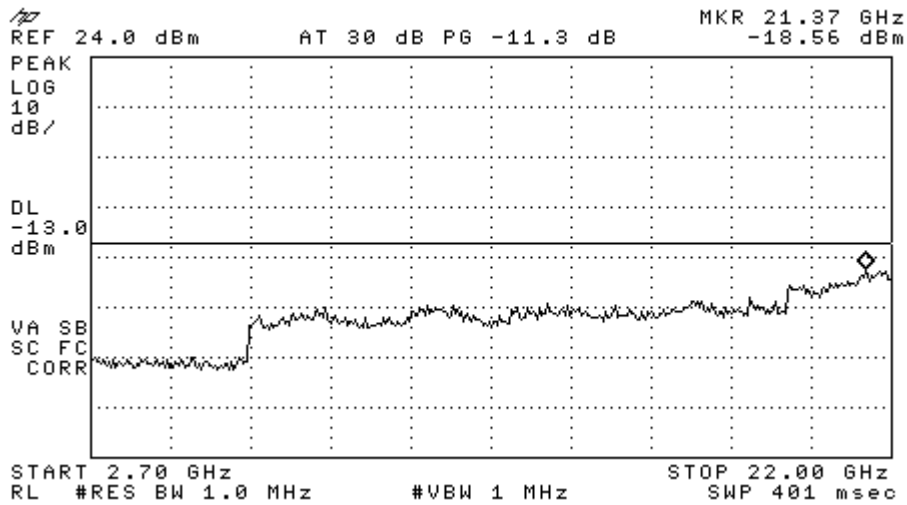


Figure 8-1b CDMA 800 – Conducted Spurious Emission (CH 1013)



**Figure 8-2a CDMA 800 – Conducted Spurious Emission (CH 383)**



**Figure 8-2b CDMA 800 – Conducted Spurious Emission (CH 383)**

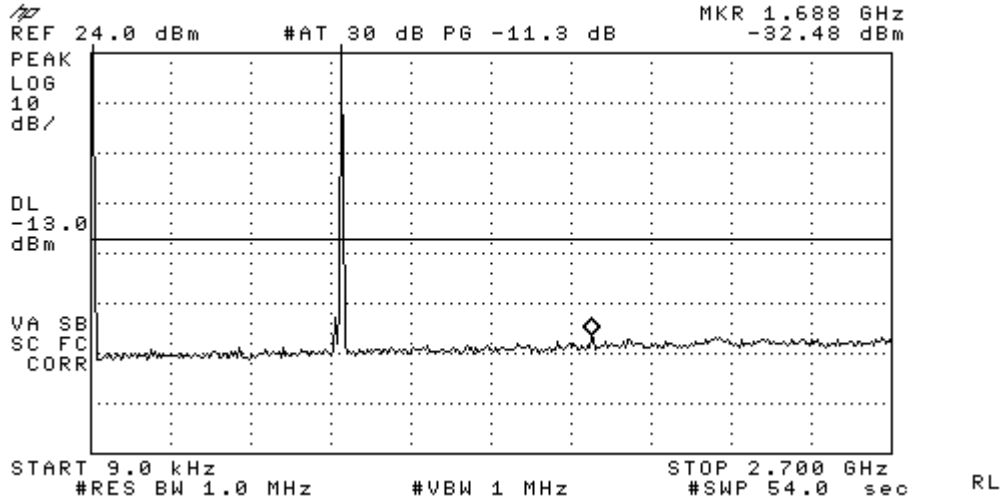


Figure 8-3a CDMA 800 – Conducted Spurious Emission (CH 777)

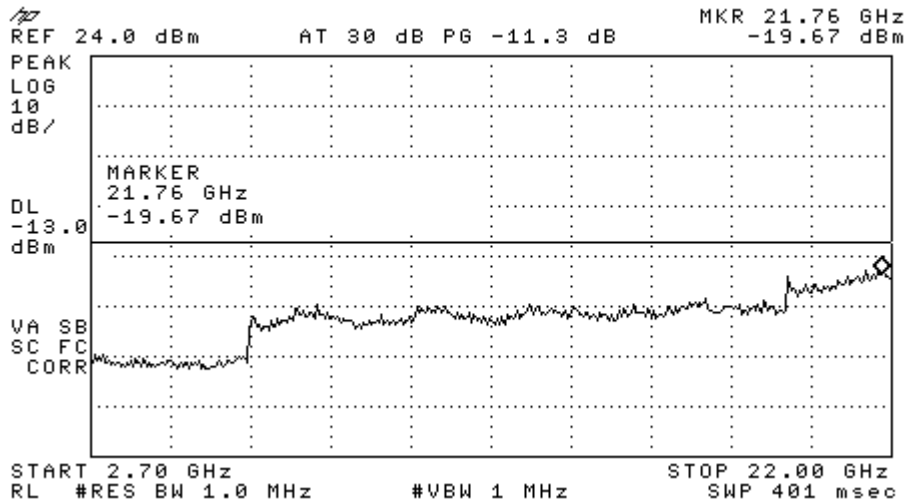


Figure 8-3b CDMA 800 – Conducted Spurious Emission (CH 777)





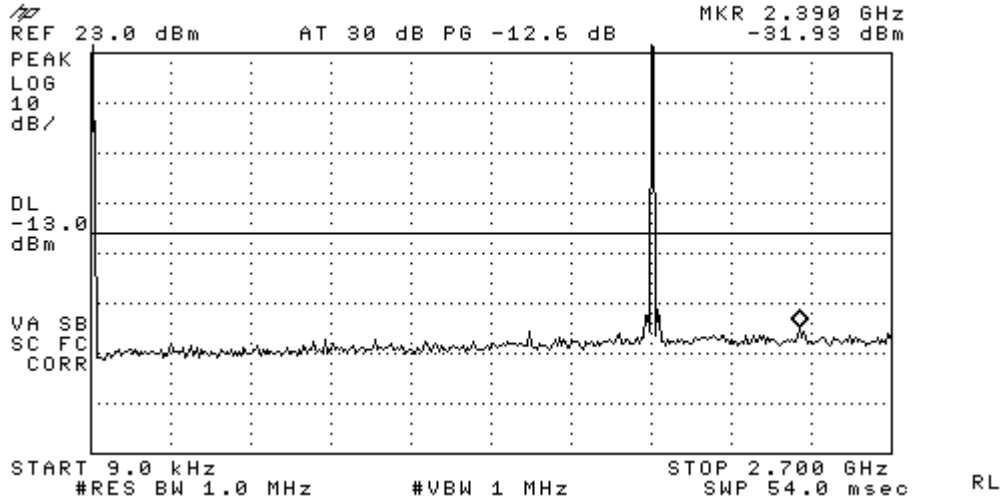


Figure 8-5a CDMA 1900 - Conducted Spurious Emission (CH 600)

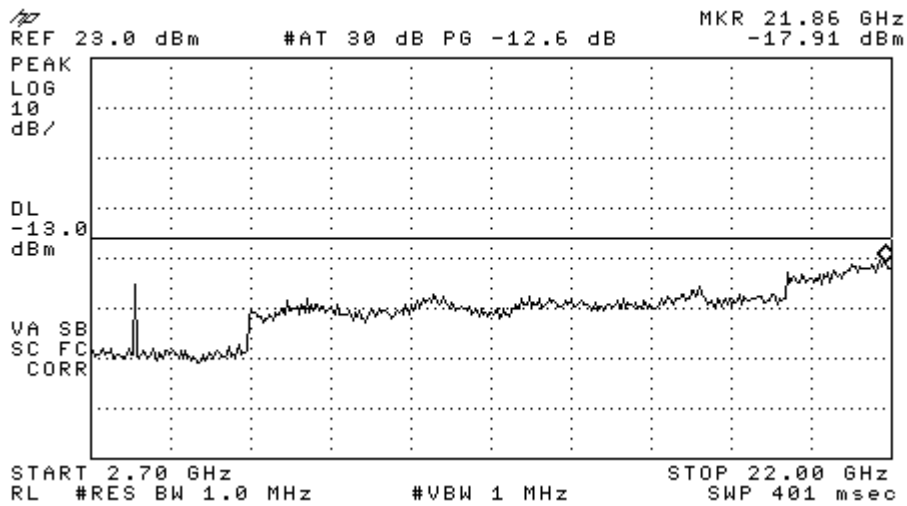


Figure 8-5b CDMA 1900 - Conducted Spurious Emission (CH 600)



## Transmitter Radiated Spurious Emissions Measured Data

**FCC:** § 2.1053, § 22.91, § 24.238

**Measurement Procedures:**

The radiated spurious emission test was performed at Nemko in San Diego, California. The test report is attached in a separate attachment.

## Receiver Spurious Emissions

**FCC:** § 15.109

**Measurement Procedures:**

The receiver radiated spurious emission test was performed at Nemko in San Diego, California. The test report is attached in a separate attachment.

## Transmitter RF Carrier Frequency Stability

**FCC:** § 2.1055, § 22.355, § 24.235

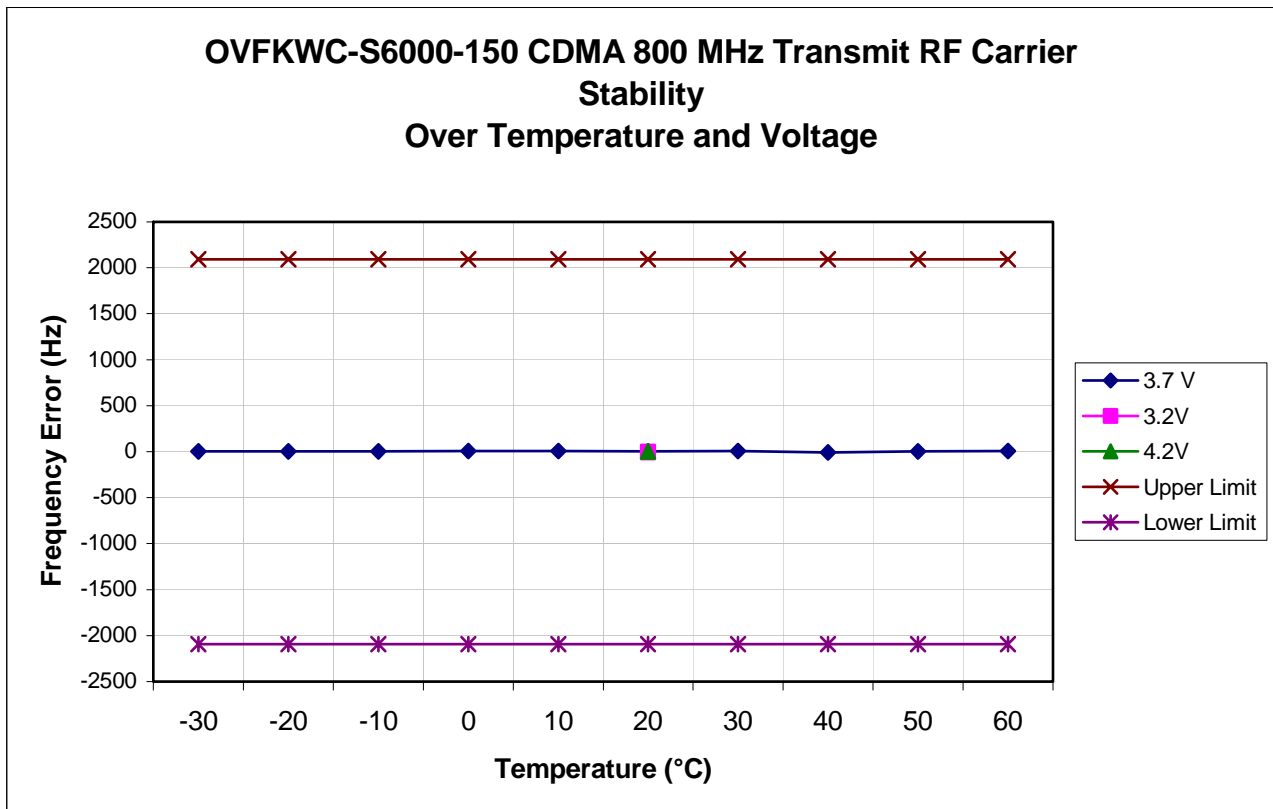
**Measurement Procedures:**

The EUT was placed in an environmental chamber. The RF output of the EUT was connected to Agilent 8960 Series 10 E5515C. A power supplier was connected as primary voltage supply.

11.2 CDMA 800 Mode

<b>Tx Frequency:</b>	836.49 MHz	<b>Voltage :</b>	3.7V
<b>Tolerance:</b>	+/- 2.5 Ppm (+/- 2091 Hz)	<b>Ch:</b>	383

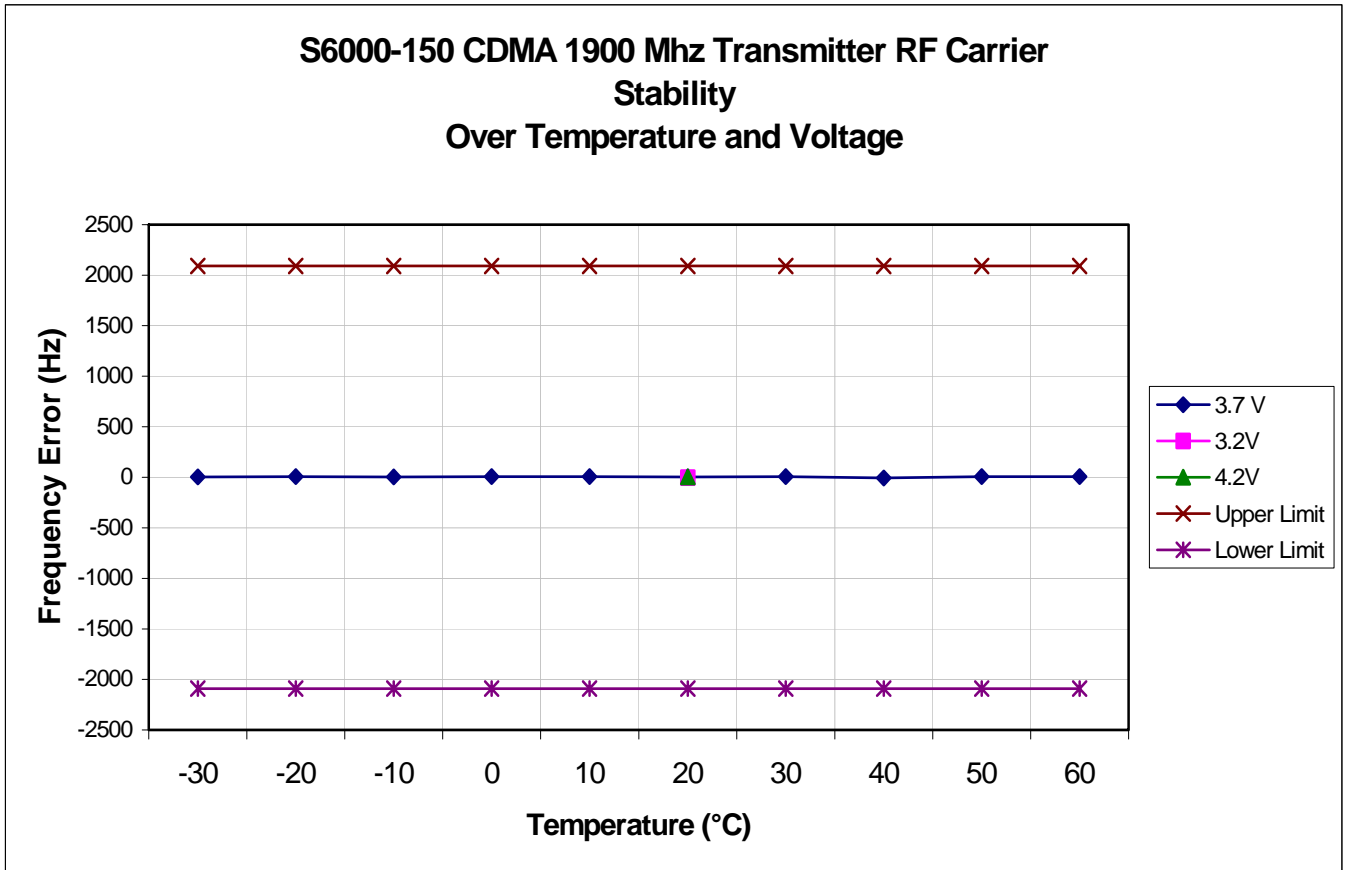
Temperature (°C)	Deviation of Carrier (Hz)			Specification (Hz)	
	3.2V (Battery endpoint)	3.7V	4.26V (115%)	Lower limit	Upper limit
-30		4.67		-2091	2091
-20		5.23		-2091	2091
-10		4.65		-2091	2091
0		7.73		-2091	2091
10		6.57		-2091	2091
20	<b>-4.46</b>	<b>3.43</b>	<b>4.56</b>	-2091	2091
30		7.24		-2091	2091
40		-7.00		-2091	2091
50		5.20		-2091	2091
60		7.57		-2091	2091



11.3 CDMA 1900 Mode

<b>Tx Frequency:</b>	1880.00 MHz	<b>Voltage :</b>	3.7V
<b>Tolerance:</b>	+/- 2.5 Ppm (+/-4700 Hz)	<b>Ch:</b>	600

Temperature (°C)	Deviation of Carrier (Hz)			Specification (Hz)			
	3.2V (Battery endpoint)	3.7V	4.26V (115%)	Lower limit	Upper limit		
-30		10.42		-4700	4700		
-20		10.51		-4700	4700		
-10		14.39		-4700	4700		
0		-10.59		-4700	4700		
10		14.59		-4700	4700		
20	<b>13.21</b>	<b>-9.85</b>	<b>15.64</b>	-4700	4700		
30		12.33		-4700	4700		
40		21.4		-4700	4700		
50		-12.06		-4700	4700		
60				14.84		-4700	4700
						-4700	4700



**12 Exposure of Humans to RF Fields (SAR)**

The SAR Test Report is shown in a separate attachment as Exhibit 9.

**13 Test Equipment**

Description	Manufacturer	Model Number	Serial Number	Cal Due Date
Power Meter	Giga-tronics	8541C	1831306	07/11/07
Spectrum Analyzer	Hewlett Packard	8593EM	3710A00203	03/23/07
Spectrum Analyzer	Hewlett Packard	8595E	3911A03899	07/11/07
Wireless Communications Test Set	Agilent	8960	US41070147	06/02/07
Temperature Chamber	Test Equity	105	0500507	08/23/07