PCTEST ENGINEERING LABORATORY, INC.

6660-B Dobbin Road, Columbia, MD 21045 USA Tel. 410.290.6652 / Fax 410.290.6554 http://www.pctestlab.com



CERTIFICATE OF COMPLIANCE FCC Part 22 & 24 Certification

Applicant Name: LG Electronics USA 1000 Sylvan Avenue Englewood Cliffs, NJ 07632 **United States**

Date of Testing: September 20, 2007 **Test Site/Location:**

PCTEST Lab., Columbia, MD, USA

Test Report Serial No.: 0709060979.BEJ

FCC ID: BEJCU720

APPLICANT: LG ELECTRONICS USA

Application Type: Certification

FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)

FCC Rule Part(s): §2; §22(H), §24(E)

850/1900 GSM/WCDMA/EDGE Phone with Bluetooth **EUT Type:**

Model(s): CU720

824.20 - 848.80MHz (Cell. GSM) / 1850.20 - 1909.80MHz (PCS GSM) Tx Frequency Range:

826.40 - 846.60MHz (Cell. WCDMA) / 1852.4 - 1907.6MHz (PCS WCDMA)

1.34 W ERP Cell. GSM (31.27 dBm) / 1.811 W EIRP PCS GSM (32.58 dBm) Max. RF Output Power:

> 0.131 W ERP Cell. WCDMA (21.17 dBm) 0.25 W EIRP PCS WCDMA (23.98 dBm)

0.703 W ERP EDGE850 (28.47 dBm) 1.042 W EIRP EDGE1900 (30.18 dBm)

Emission Designator(s): 246KGXW (Cellular GSM), 249KGXW (PCS GSM)

248KG7W (EDGE850), 244KG7W (EDGE1900)

4M18F9W (Cellular WCDMA), 4M18F9W (PCS WCDMA)

Test Device Serial No.: identical prototype [S/N: 707KPFX080571]

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Grant Conditions: Power output listed is ERP for Part 22 and EIRP for Part 24. This device also contains functions that are not operational in U.S. territories. This report is applicable only to U.S. operations.

PCTEST certifies that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.





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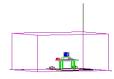


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MEASUREMENT REPORT



FCC Part 22 & 24

§2.1033 General Information

APPLICANT: LG Electronics USA
APPLICANT ADDRESS: 1000 Sylvan Avenue

Englewood Cliffs, NJ 07632

TEST SITE: PCTEST ENGINEERING LABORATORY, INC. **TEST SITE ADDRESS:** 6660-B Dobbin Road, Columbia, MD 21045 USA

FCC RULE PART(S): §2; §22(H), §24(E)

BASE MODEL: CU720 **FCC ID:** BEJCU720

FCC CLASSIFICATION: PCS Licensed Transmitter Held to Ear (PCE)

246KGXW (Cellular GSM), 249KGXW (PCS GSM)

EMISSION DESIGNATOR(S): 248KG7W (EDGE850), 244KG7W (EDGE1900)

4M18F9W (Cellular WCDMA), 4M18F9W (PCS WCDMA)

MODE: GSM/EDGE/WCDMA FREQUENCY TOLERANCE: ±0.00025 % (2.5 ppm)

Test Device Serial No.: 707KPFX080571 ☐ Production ☐ Pre-Production ☐ Engineering

DATE(S) OF TEST: September 20, 2007 **TEST REPORT S/N:** 0709060979.BEJ

Test Facility / Accreditations

Measurements were performed at PCTEST Engineering Lab located in Columbia, MD 21045, U.S.A.



- PCTEST facility is an FCC registered (PCTEST Reg. No. 90864) test facility with the site
 description report on file and has met all the requirements specified in Section 2.948 of
 the FCC Rules and Industry Canada (IC-2451).
- PCTEST Lab is accredited to ISO 17025 by U.S. National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP Lab code: 100431-0) in EMC, FCC and Telecommunications.
- PCTEST Lab is accredited to ISO 17025-2005 by the American Association for Laboratory Accreditation (A2LA) in Specific Absorption Rate (SAR) testing, Hearing Aid Compatibility (HAC) testing, CTIA Test Plans, and wireless testing for FCC and Industry Canada Rules
- PCTEST Lab is a recognized U.S. Conformity Assessment Body (CAB) in EMC and R&TTE (n.b. 0982) under the U.S.-EU Mutual Recognition Agreement (MRA).
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC Guide 65 by the American National Standards Institute (ANSI) in all scopes of FCC Rules and Industry Canada Standards (RSS).
- PCTEST facility is an IC registered (IC-2451) test laboratory with the site description on file at Industry Canada.
- PCTEST is a CTIA Authorized Test Laboratory (CATL) for AMPS, CDMA, and EvDO wireless devices and for Over-the-Air (OTA) Antenna Performance testing for AMPS, CDMA, GSM, GPRS, EGPRS, UMTS (W-CDMA), CDMA 1xEVDO, and CDMA 1xRTT.

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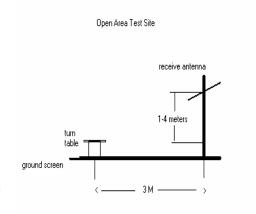
And Market



INTRODUCTION

1.1 Measurement Procedure

The radiated spurious measurements were made outdoors at a 3-meter test range (see Figure 1-1). The equipment under test is placed on a wooden turntable 3-meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic antenna are taken into consideration.



Deviation from Measurement Procedure.....None

Figure 1-1. Diagram of 3-meter outdoor test range

1.2 Scope

Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission.

1.3 **Testing Facility**

These measurements were conducted at the PCTEST Engineering Laboratory, Inc. facility in New Concept Business Park, Guilford Industrial Park, Columbia. Maryland. The site address is 6660-B Dobbin Road, Columbia, MD 21045. The test site is one of the highest points in the Columbia area with an elevation of 390 feet above mean sea level. The site coordinates are 39° 11'15" N latitude and 76° 49'38" W longitude. facility is 1.5 miles North of the FCC laboratory, and the ambient signal and ambient signal strength are approximately equal to those of the FCC laboratory. There are no FM or TV transmitters within 15 miles of the site. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2003 on January 27, 2006 and Industry Canada.

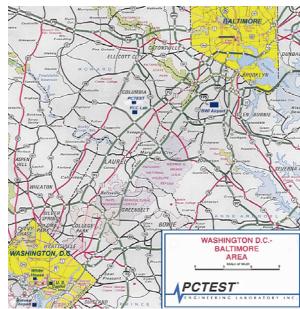


Figure 1-2. Map of the Greater Baltimore and Metropolitan Washington, D.C. area.

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PRODUCT INFORMATION

2.1 **Equipment Description**

The Equipment Under Test (EUT) is the LG 850/1900 GSM/WCDMA/EDGE Phone with Bluetooth FCC ID: BEJCU720. The EUT consisted of the following component(s):

Trade Name / Base Model	FCC ID	Description
LG / Model: CU720	BEJCU720	850/1900 GSM/WCDMA/EDGE Phone with Bluetooth

Table 2-1. EUT Equipment Description

2.2 **EMI Suppression Device(s)/Modifications**

No EMI suppression device(s) were added and no modifications were made during testing.

2.3 **Labeling Requirements**

Per 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the trade name and FCC ID must be displayed on the device per Section 15.19(b)(2).

Please see attachment for FCC ID label and label location.

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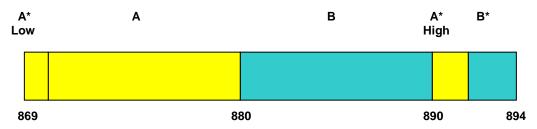


3.0 DESCRIPTION OF TESTS

3.1 Occupied Bandwidth Emission Limits §2.1049, 22.917(a), 24.238(a)

- a. On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB.
- b. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.
- c. When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.
- d. The measurement of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

3.2 Cellular - Base Frequency Blocks



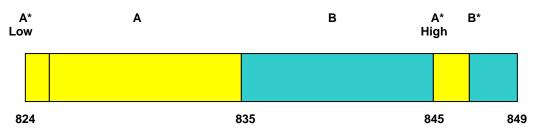
BLOCK 1: 869 - 880 MHz (A* Low + A)

BLOCK 3: 890 - 891.5 MHz (A* High)

BLOCK 2: 880 - 890 MHz (B)

BLOCK 4: 891.5 – 894 MHz (B*)

3.3 Cellular - Mobile Frequency Blocks



BLOCK 1: 824 - 835 MHz (A* Low + A)

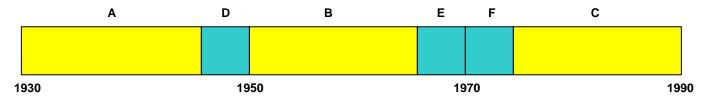
BLOCK 3: 845 – 846.5 MHz (A* High)

BLOCK 2: 835 – 845 MHz (B) BLOCK 4: 846.5 – 849 MHz (B*)

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3.4 PCS - Base Frequency Blocks

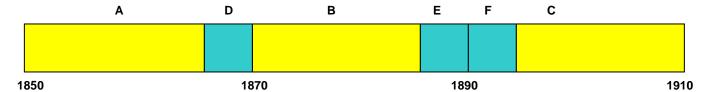


BLOCK 1: 1930 – 1945 MHz (A) BLOCK 4: 1965 – 1970 MHz (E)

BLOCK 2: 1945 – 1950 MHz (D) BLOCK 5: 1970 – 1975 MHz (F)

BLOCK 3: 1950 – 1965 MHz (B) BLOCK 6: 1975 – 1990 MHz (C)

3.5 PCS - Mobile Frequency Blocks



BLOCK 1: 1850 – 1865 MHz (A) BLOCK 4: 1885 – 1890 MHz (E)

BLOCK 2: 1865 – 1870 MHz (D) BLOCK 5: 1890 – 1895 MHz (F)

BLOCK 3: 1870 – 1885 MHz (B) BLOCK 6: 1895 – 1910 MHz (C)

3.6 Spurious and Harmonic Emissions at Antenna Terminal §2.1051, 22.917(a), 24.238(a); RSS-129 (8.1.1), RSS-133 (6.5.1)

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic.

3.7 Radiated Spurious and Harmonic Emissions §2.1053, 22.917(a), 24.238(a); RSS-129 (8.1.1), RSS-133 (6.5.1(i))

Spurious and harmonic radiated emissions are measured outdoors at our 3-meter test range. The equipment under test is placed on a wooden turntable 3-meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer reading. This level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration. This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band.

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3.8 Frequency Stability / Temperature Variation §2.1055, 22.355, 24.235; RSS-132 (4.3) / RSS-133 (6.3)

The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Specification – The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency.

Time Period and Procedure:

- 1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
- 2. The equipment is turned on in a "standby" condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
- 3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

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TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST).

rest Equipment Ca	alibration is traceable to the National Institute of	Standards an	<u>u recimolo</u>	Jy (14101).	
Manufacturer	Model / Equipment	Calibration Date	Cal Interval	Calibration Due	Serial No.
Agilent	E4407B ESA Spectrum Analyzer	04/29/07	Annual	04/28/08	US39210313
Agilent	E5515C Wireless Communications Test Set	07/27/06	Biennial	07/26/08	GB41450275
Agilent	E5515C Wireless Communications Test Set	10/06/06	Biennial	10/05/08	GB43193972
Agilent	E5515C Wireless Communications Test Set	10/26/06	Biennial	10/25/08	GB46310798
EMCO	Model 3115 (1-18GHz) Horn Antenna	09/24/06	Biennial	09/23/08	9203-2178
EMCO	Model 3115 (1-18GHz) Horn Antenna	09/25/06	Biennial	09/24/08	9704-5182
Rohde & Schwarz	NRVS Power Meter	07/03/07	Biennial	07/02/09	835360/079
Rohde & Schwarz	NRV-Z53 Power Sensor	07/03/07	Biennial	07/02/09	846076/007
Rohde & Schwarz	CMU200 Base Station Simulator	11/08/06	Annual	11/08/07	107826
Rohde & Schwarz	CMU200 Base Station Simulator	09/07/07	Annual	09/06/08	833855/010
Rohde & Schwarz	CMU200 Base Station Simulator	05/24/07	Annual	05/23/08	836371/079
Agilent	HP 8566B (100Hz–22GHz) Spectrum Analyzer	12/21/06	Annual	12/21/07	3638A08713
Agilent	E8257D (250kHz-20GHz) Signal Generator	03/08/07	Annual	03/07/08	MY45470194
Agilent	HP 85650A Quasi-Peak Adapter	12/21/06	Annual	12/21/07	2043A00301
Agilent	HP 8449B (1-26.5GHz) Pre-Amplifier	12/12/06	Annual	12/12/07	3008A00985
Agilent	HP 85650A Quasi-Peak Adapter	12/21/06	Annual	12/21/07	2043A00301
Agilent	HP 8449B (1-26.5GHz) Pre-Amplifier	12/12/06	Annual	12/12/07	3008A00985
Agilent	HP 11713A Attenuation/Switch Driver	12/12/06	Annual	12/12/07	N/A
Agilent	HP 85685A (20Hz-2GHz) Preselector	12/12/06	Annual	12/12/07	N/A
Agilent	HP 8566B Opt. 462 Impulse Bandwidth	12/12/06	Annual	12/12/07	3701A22204
EMCO	Dipole Pair	09/21/06	Biennial	09/20/08	23951
SOLAR	8012-50 LISN (2)	11/18/05	Biennial	11/18/07	0313233, 0310234
K&L	11SH10 Band Pass Filter	N/A	Annual	N/A	1300/4000
K&L	11SH10 Band Pass Filter	N/A	Annual	N/A	4000/12000
Agilent	HP 8495A (0-70dB) DC-4GHz Attenuator	N/A		N/A	N/A
-	263-10dB (DC-18GHz) 10 dB Attenuator	N/A		N/A	N/A
Pasternack	PE2208-6 Bidirectional Coupler	N/A		N/A	N/A
	No.165 (30MHz - 1000MHz) RG58 Coax Cable	N/A		N/A	N/A
-	No.166 (1000-26500MHz) Microwave RF Cable	N/A		N/A	N/A
-	No.167 (100kHz - 100MHz) RG58 Coax Cable	N/A		N/A	N/A
Rohde & Schwarz	NRVD Dual Channel Power Meter	12/11/06	Biennial	12/10/08	101695
Rohde & Schwarz	NRV-Z33 Peak Power Sensor (1mW-20W)	11/28/06	Biennial	11/27/08	100155

Table 4-1. Test Equipment

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SAMPLE CALCULATIONS

GSM Emission Designator

Emission Designator = 250KGXW

GSM BW = 250 kHzG = Phase Modulation X = Cases not otherwise covered W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M16F9W

WCDMA BW = 4.16 MHz F = Frequency Modulation 9 = Composite Digital Info W = Combination (Audio/Data) (Measured at the 99.75% power bandwidth)

Spurious Radiated Emission - PCS Band

Example: GSM Channel 512 PCS Mode 2nd Harmonic (3700.40 MHz)

The receive analyzer reading at 3 meters with the EUT on the turntable was -81.0 dBm. The gain of the substituted antenna is 8.1 dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of -81.0 dBm on the receive analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 3700.40 MHz. So 6.1 dB is added to the signal generator reading of -30.9 dBm yielding -24.80 dBm. The fundamental EIRP was 25.501 dBm so this harmonic was 25.501 dBm - (-24.80) = 50.3 dBc.

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TEST RESULTS 6.0

6.1 **Summary**

Company Name: LG Electronics USA

FCC ID: BEJCU720

PCS Licensed Transmitter Held to Ear (PCE) FCC Classification:

Mode(s): GSM/EDGE/WCDMA

FCC Part Section(s)	RSS Section	Test Description	Test Limit	Test Condition	Test Result	Reference
TRANSMITTER MO	DDE (TX)					•
2.1049, 22.917(a), 24.238(a)	N/A	Occupied Bandwidth	N/A		PASS	Section 7.0
2.1051, 22.917(a), 24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	Band Edge / Conducted Spurious Emissions	< 43 + log ₁₀ (P[Watts]) at Band Edge and for all out-of-band emissions	CONDUCTED	PASS	Section 7.0
2.1046	N/A	GSM/WCDMA Conducted Output Power	N/A		PASS	Section 6.2
22.913(a)(2)	RSS-132 (4.4) [SRSP-503(5.1.3)]	Effective Radiated Power	< 7 Watts max. ERP (<6.3 Watts max. ERP (IC))		PASS	Section 6.3
24.232(c)	RSS-133 (6.4) [SRSP-510 (5.1.2)]	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP	DADIATED	PASS	Section 6.4
2.1053, 22.917(a), 24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	Undesirable Emissions	< 43 + log ₁₀ (P[Watts]) for all out- of-band emissions	RADIATED	PASS	Sections 6.5, 6.6, 6.7, 6.8
2.1055, 22.355, 24.235	RSS-132 (4.3) RSS-133 (6.3)	Frequency Stability	< 2.5 ppm		PASS	Sections 6.9, 6.10, 6.11, 6.12
RECEIVER MODE	(RX) / DIGITAL EMIS	SIONS				
15.107	RSS-Gen (7.2.2)	AC Conducted Emissions 150kHz – 30MHz	< FCC 15.107 limits or < RSS-Gen table 2 limits	LINE CONDUCTED	PASS	Pt. 15B Test Report
15.109	RSS-132 (4.6) RSS-133(6.7(a) [RSS-Gen (7.2.2)] RSS-210 (7.3)	General Field Strength Limits (Restricted Bands and Radiated Emissions Limits)	< FCC 15.109 limits or < RSS-210 table 3 limits (30MHz-1GHz) (1-25 GHz)		PASS	Pt. 15B Test Report
RF EXPOSURE (S.	AR)					
2.1091 / 2.1093	RSS-102	SAR Test	1.6 W/kg (SAR Limit)	SAR	PASS	SAR Report
						1

Table 6-1. Summary of Test Results

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© 2007 PCTEST Engineer	ing Laboratory, Inc.	•		REV 2.6GWC



6.2 Conducted Output Power §2.1046

A base station simulator (Rhode and Schwartz Model: CMU200) was used to establish communication with the **LG 850/1900 GSM/WCDMA/EDGE Phone with Bluetooth FCC ID: BEJCU720**. The base station simulator parameters were set to produce the maximum power from the EUT. This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps AMR and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. The WCDMA and GSM conducted powers are reported below.

		GSM .	/ GPRS	EDGE
Band	Channel	hannel Power Conducted Level Power		Conducted Power
			[dBm]	[dBm]
	128	5	32.20	26.82
Cellular	190	5	32.30	26.91
	251	5	32.30	26.84
	512	0	29.30	25.89
PCS	661	0	29.40	26.04
	810	0	29.10	25.76

Table 6-2. GSM Conducted Output Powers

		HSDPA	Inactive	HSDPA	Active
Band	Channel	12.2 kbps RMC	12.2 kbps AMR	12.2 kbps RMC	12.2 kbps AMR
		[dBm]	[dBm]	[dBm]	[dBm]
	4132	22.38	22.56	22.61	22.63
UMTS	4175	22.39	22.43	22.4	22.48
	4233	22.33	22.22	22.23	22.31
	9262	21.36	21.37	21.49	21.55
PCS	9400	21.37	21.49	21.42	21.48
	9538	21.18	21.16	21.26	21.2

Table 6-3. WCDMA Conducted Output Powers

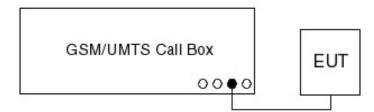


Figure 6-1. GSM/WCDMA Conducted Power Test Setup Diagram

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6.3 Effective Radiated Power Output Data

§22.913(a)(2); RSS-132 (4.4) [SRSP-503(5.1.3)]

POWER: PCL "5" (Cellular GSM Mode)

Frequency [MHz]	Mode	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	Battery Type
824.20	GSM850	-6.200	31.27	0.00	Н	31.27	1.340	Standard
836.60	GSM850	-6.300	31.17	0.00	Н	31.17	1.309	Standard
848.80	GSM850	-6.700	30.77	0.00	Н	30.77	1.194	Standard
824.20	EDGE850	-9.000	28.47	0.00	Н	28.47	0.703	Standard

Table 6-4. Effective Radiated Power Output Data (GSM)

POWER: All "1" bits (Cellular WCDMA Mode)

Frequency [MHz]	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	Battery Type
826.40	-17.200	20.27	0.00	Н	20.27	0.106	Standard
836.60	-17.400	20.07	0.00	Н	20.07	0.102	Standard
846.60	-16.300	21.17	0.00	Н	21.17	0.131	Standard

Table 6-5. Effective Radiated Power Output Data (WCDMA)

NOTES:

Effective Radiated Power Output Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the dipole is measured. The ERP is recorded.

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6.4 Equivalent Isotropic Radiated Power Output Data §24.232(c); RSS-133 (6.4) [SRSP-510 (5.1.2)]

POWER: PCL "0" (PCS GSM Mode)

Frequency [MHz]	Mode	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery Type
1850.20	GSM1900	-7.900	24.58	8.00	Н	32.58	1.811	Standard
1880.00	GSM1900	-9.100	23.38	8.00	Н	31.38	1.374	Standard
1909.80	GSM1900	-9.200	23.28	8.00	Н	31.28	1.343	Standard
1850.20	EDGE1900	-10.300	22.18	8.00	Н	30.18	1.042	Standard

Table 6-6. Equivalent Isotropic Radiated Power Output Data (GSM)

POWER: All "1" bits (PCS WCDMA Mode)

Frequency [MHz]	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery Type
1852.40	-16.500	15.98	8.00	Н	23.98	0.250	Standard
1880.00	-17.600	14.88	8.00	H	22.88	0.194	Standard
1907.60	-17.000	15.48	8.00	Н	23.48	0.223	Standard

Table 6-7. Equivalent Isotropic Radiated Power Output Data (WCDMA)

NOTES:

<u>Equivalent Isotropic Radiated Power Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:</u>

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

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6.5 Cellular GSM Radiated Measurements §2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 824.20 MHz
CHANNEL: 128

MEASURED OUTPUT POWER: 31.270 dBm = 1.340 W

MODULATION SIGNAL: GSM (Internal)

DISTANCE: 3 meters

LIMIT: $\overline{43 + 10 \log_{10} (W)} = 44.27$ dBc

FREQ.	LEVEL @ ANTENNA	SUBSTITUTE ANTENNA	CORRECT GENERATOR	POL	
(MHz)	TERMINALS (dBm)	GAIN (dBd)	LEVEL (dBm)	(H/V)	(dBc)
1648.40	-41.75	6.08	-35.67	Н	66.9
2472.60	-42.27	6.53	-35.74	Н	67.0
3296.80	-49.32	6.87	-42.45	Н	73.7
4121.00	-47.94	7.21	-40.73	Н	72.0
4945.20	-91.17	8.37	-82.80	Н	114.1

Table 6-8. Radiated Spurious Data (Cellular GSM Mode – Ch. 128)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

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Cellular GSM Radiated Measurements (Cont'd)

§2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 836.60 MHz

CHANNEL: 190

MEASURED OUTPUT POWER: 31.270 dBm = 1.340 W

MODULATION SIGNAL: GSM (Internal)

DISTANCE: _____ meters

LIMIT: $\overline{43 + 10 \log_{10} (W)} = 44.27$ dBc

FREQ.	LEVEL @ ANTENNA	SUBSTITUTE ANTENNA	CORRECT GENERATOR	POL	
(MHz)	TERMINALS	GAIN	LEVEL	(H/V)	(dBc)
	(dBm)	(dBd)	(dBm)		
1673.20	-42.62	6.09	-36.53	Н	67.8
2509.80	-44.19	6.55	-37.64	Н	68.9
3346.40	-53.07	6.89	-46.18	Н	77.5
4183.00	-50.23	7.43	-42.80	Н	74.1
5019.60	-50.26	8.35	-41.92	Н	73.2

Table 6-9. Radiated Spurious Data (Cellular GSM Mode – Ch. 190)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

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Cellular GSM Radiated Measurements (Cont'd)

§2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 848.80 MHz

CHANNEL: 251

MEASURED OUTPUT POWER: 31.270 dBm = 1.340 W

MODULATION SIGNAL: GSM (Internal)

DISTANCE: _____ meters

LIMIT: $43 + 10 \log_{10} (W) = 44.27$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1697.60	-46.99	6.09	-40.90	Н	72.2
2546.40	-42.23	6.57	-35.66	Н	66.9
3395.20	-52.93	6.91	-46.02	Н	77.3
4244.00	-54.02	7.65	-46.37	Н	77.6
5092.80	-90.49	8.33	-82.16	Н	113.4

Table 6-10. Radiated Spurious Data (Cellular GSM Mode – Ch. 251)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

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6.6 Cellular WCDMA Radiated Measurements §2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 826.40 MHz

CHANNEL: 4132

MEASURED OUTPUT POWER: 21.170 dBm = 0.131 W

MODULATION SIGNAL: WCDMA (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 34.17$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1652.80	-53.33	6.08	-47.24	Н	68.4
2479.20	-52.84	6.54	-46.31	Н	67.5
3305.60	-50.20	6.88	-43.32	Н	64.5
4132.00	-91.88	7.25	-84.64	Η	105.8
4958.40	-91.11	8.37	-82.75	Н	103.9

Table 6-11. Radiated Spurious Data (Cellular WCDMA Mode - Ch. 4132)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

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Cellular WCDMA Radiated Measurements (Cont'd)

§2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 836.60 MHz

CHANNEL: 4183

MEASURED OUTPUT POWER: 21.170 dBm = 0.131 W

MODULATION SIGNAL: WCDMA (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 34.17$ dBc

FREQ.	LEVEL @ ANTENNA	SUBSTITUTE ANTENNA	CORRECT GENERATOR	POL	
(MHz)	TERMINALS	GAIN	LEVEL	(H/V)	(dBc)
	(dBm)	(dBd)	(dBm)		
1673.20	-51.04	6.09	-44.95	Н	66.1
2509.80	-53.02	6.55	-46.46	Н	67.6
3346.40	-50.79	6.89	-43.90	Н	65.1
4183.00	-92.04	7.40	-84.63	Н	105.8
5019.60	-90.89	8.35	-82.54	Н	103.7

Table 6-12. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4183)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

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Cellular WCDMA Radiated Measurements (Cont'd)

§2.1053, 22.917(a); RSS-132 (4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 846.60 MHz

CHANNEL: 4233

MEASURED OUTPUT POWER: 21.170 dBm = 0.131 W

MODULATION SIGNAL: WCDMA (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 34.17$ dBc

FREQ.	LEVEL @ ANTENNA	SUBSTITUTE ANTENNA	CORRECT GENERATOR	POL	
(MHz)	TERMINALS	GAIN	LEVEL	(H/V)	(dBc)
	(dBm)	(dBd)	(dBm)		
1693.20	-51.21	6.09	-45.12	Н	66.3
2539.80	-53.96	6.57	-47.40	Н	68.6
3386.40	-49.65	6.91	-42.75	Н	63.9
4233.00	-92.24	7.62	-84.62	Η	105.8
5079.60	-90.56	8.33	-82.22	Н	103.4

Table 6-13. Radiated Spurious Data (Cellular WCDMA Mode - Ch. 4233)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

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6.7 PCS GSM Radiated Measurements

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1850.20 MHz

CHANNEL: 512

MEASURED OUTPUT POWER: 32.580 dBm = 1.811 W

MODULATION SIGNAL: GSM (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 45.58$ dBc

FREQ.	LEVEL @ ANTENNA	SUBSTITUTE ANTENNA	CORRECT GENERATOR	POL	
(MHz)	TERMINALS	GAIN	LEVEL	(H/V)	(dBc)
	(dBm)	(dBi)	(dBm)		
3700.40	-37.00	9.02	-27.98	Н	60.6
5550.60	-47.85	10.40	-37.45	Н	70.0
7400.80	-86.12	10.50	-75.62	Н	108.2
9251.00	-85.37	11.85	-73.52	Н	106.1
11101.20	-82.70	12.76	-69.94	Н	102.5

Table 6-14. Radiated Spurious Data (PCS GSM Mode - Ch. 512)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

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PCS GSM Radiated Measurements (Cont'd)

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1880.00 MHz

CHANNEL: 661

MEASURED OUTPUT POWER: 32.580 dBm = 1.811 W

MODULATION SIGNAL: GSM (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 45.58$ dBc

FREQ.	LEVEL @ ANTENNA TERMINALS	SUBSTITUTE ANTENNA GAIN	CORRECT GENERATOR LEVEL	POL (H/V)	(dBc)
	(dBm)	(dBi)	(dBm)		
3760.00	-32.62	8.99	-23.63	Н	56.2
5640.00	-44.61	10.40	-34.21	Η	66.8
7520.00	-86.12	10.62	-75.51	Н	108.1
9400.00	-85.14	11.70	-73.44	Н	106.0
11280.00	-36.16	12.69	-23.47	Н	56.1

Table 6-15. Radiated Spurious Data (PCS GSM Mode - Ch. 661)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

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PCS GSM Radiated Measurements (Cont'd)

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1909.80 MHz

CHANNEL: 810

MEASURED OUTPUT POWER: 32.580 dBm = 1.811 W

MODULATION SIGNAL: GSM (Internal)

DISTANCE: _____ 3 ____meters

LIMIT: $43 + 10 \log_{10} (W) = 45.58$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3819.60	-31.16	8.97	-22.19	Н	54.8
5729.40	-39.77	10.40	-29.37	Н	61.9
7639.20	-86.03	10.71	-75.31	Н	107.9
9549.00	-84.94	11.64	-73.30	Н	105.9
11458.80	-81.14	12.62	-68.53	Н	101.1

Table 6-16. Radiated Spurious Data (PCS GSM Mode – Ch. 810)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

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6.8 PCS WCDMA Radiated Measurements

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1852.40 MHz

CHANNEL: 9262

MEASURED OUTPUT POWER: 23.980 dBm = 0.250 W

MODULATION SIGNAL: WCDMA (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 36.98$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3704.80	-65.28	9.01	-56.26	Н	80.2
5557.20	-89.61	10.40	-79.21	Н	103.2
7409.60	-86.12	10.51	-75.61	Н	99.6
9262.00	-85.35	11.83	-73.52	Н	97.5
11114.40	-82.64	12.75	-69.89	Н	93.9

Table 6-17. Radiated Spurious Data (PCS WCDMA Mode - Ch. 9262)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

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PCS WCDMA Radiated Measurements (Cont'd)

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1880.00 MHz

CHANNEL: 9400

MEASURED OUTPUT POWER: 23.980 dBm = 0.250 W

MODULATION SIGNAL: WCDMA (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 36.98$ dBc

FREQ.	LEVEL @ ANTENNA	SUBSTITUTE ANTENNA	CORRECT GENERATOR	POL	
(MHz)	TERMINALS	GAIN	LEVEL	(H/V)	(dBc)
	(dBm)	(dBi)	(dBm)		
3760.00	-65.32	8.99	-56.33	Н	80.3
5640.00	-89.34	10.40	-78.94	Н	102.9
7520.00	-86.12	10.62	-75.51	Н	99.5
9400.00	-85.14	11.70	-73.44	Н	97.4
11280.00	-81.91	12.69	-69.23	Н	93.2

Table 6-18. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9400)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

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PCS WCDMA Radiated Measurements (Cont'd)

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1907.60 MHz

> 9538 CHANNEL:

MEASURED OUTPUT POWER: 23.980 0.250 dBm W

MODULATION SIGNAL: WCDMA (Internal)

DISTANCE:

LIMIT: $43 + 10 \log_{10} (W) =$ dBc

FREQ.	LEVEL @ ANTENNA	SUBSTITUTE ANTENNA	CORRECT GENERATOR	POL	
(MHz)	TERMINALS	GAIN	LEVEL	(H/V)	(dBc)
	(dBm)	(dBi)	(dBm)		
3815.20	-64.17	8.97	-55.20	Н	79.2
5722.80	-89.07	10.40	-78.67	Н	102.7
7630.40	-86.03	10.71	-75.33	Н	99.3
9538.00	-84.95	11.63	-73.32	Η	97.3
11445.60	-81.20	12.62	-68.58	Н	92.6

Table 6-19. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9538)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A halfwave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

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6.9 Cellular GSM Frequency Stability Measurements §2.1055, 22.355; RSS-132 (4.3)

OPERATING FREQUENCY: 836,600,000 Hz

CHANNEL: 190

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

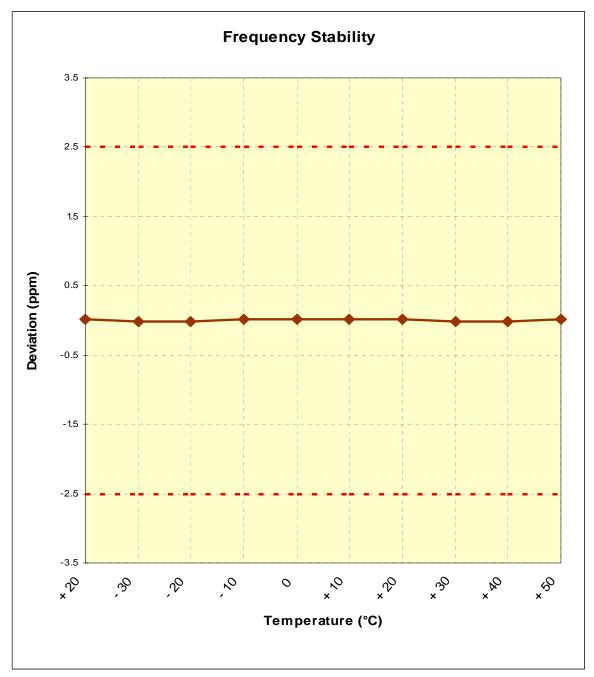
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQ. (Hz)	Freq. Dev.	Deviation (%)
100 %	3.70	+ 20 (Ref)	836,600,010	10	0.000001
100 %		- 30	836,599,986	-14	-0.000002
100 %		- 20	836,599,982	-18	-0.000002
100 %		- 10	836,600,009	9	0.000001
100 %		0	836,600,012	12	0.000001
100 %		+ 10	836,600,016	16	0.000002
100 %		+ 20	836,600,010	10	0.000001
100 %		+ 30	836,599,985	-15	-0.000002
100 %		+ 40	836,599,983	-17	-0.000002
100 %		+ 50	836,600,019	19	0.000002
115 %	4.26	+ 20	836,600,010	10	0.000001
BATT. ENDPOINT	3.40	+ 20	836,600,025	25	0.000003

Table 6-20. Frequency Stability Data (Cellular GSM Mode – Ch. 190)

FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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Cellular GSM Frequency Stability Measurements (Cont'd) §2.1055, 22.355; RSS-132 (4.3)



Plot 6-1. Frequency Stability Graph (Cellular GSM Mode – Ch. 190)

FCC ID: BEJCU720	PCTEST:	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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6.10 Cellular WCDMA Frequency Stability Measurements §2.1055, 22.355; RSS-132 (4.3)

OPERATING FREQUENCY: 836,600,000 Hz

CHANNEL: 4183

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

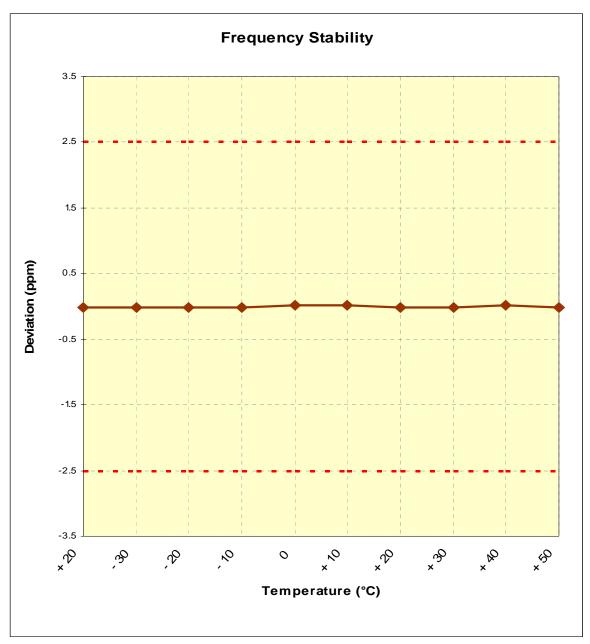
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQ. (Hz)	Freq. Dev.	Deviation (%)
100 %	3.70	+ 20 (Ref)	836,599,985	-15	-0.000002
100 %		- 30	836,599,981	-19	-0.000002
100 %		- 20	836,599,989	-11	-0.000001
100 %		- 10	836,599,991	-9	-0.000001
100 %		0	836,600,013	13	0.000002
100 %		+ 10	836,600,018	18	0.000002
100 %		+ 20	836,599,985	-15	-0.000002
100 %		+ 30	836,599,987	-13	-0.000002
100 %		+ 40	836,600,012	12	0.000001
100 %		+ 50	836,599,983	-17	-0.000002
115 %	4.26	+ 20	836,599,985	-15	-0.000002
BATT. ENDPOINT	3.40	+ 20	836,599,976	-24	-0.000003

Table 6-21. Frequency Stability Data (Cellular WCDMA Mode – Ch. 4183)

		(CERTIFICATION)	Quality Manager
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Cellular WCDMA Frequency Stability Measurements (Cont'd) §2.1055, 22.355; RSS-132 (4.3)



Plot 6-2. Frequency Stability Graph (Cellular WCDMA Mode – Ch. 4183)

FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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6.11 PCS GSM Frequency Stability Measurements §2.1055, 24.235; RSS-133 (6.3)

OPERATING FREQUENCY: 1,880,000,000 Hz

CHANNEL: 661

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

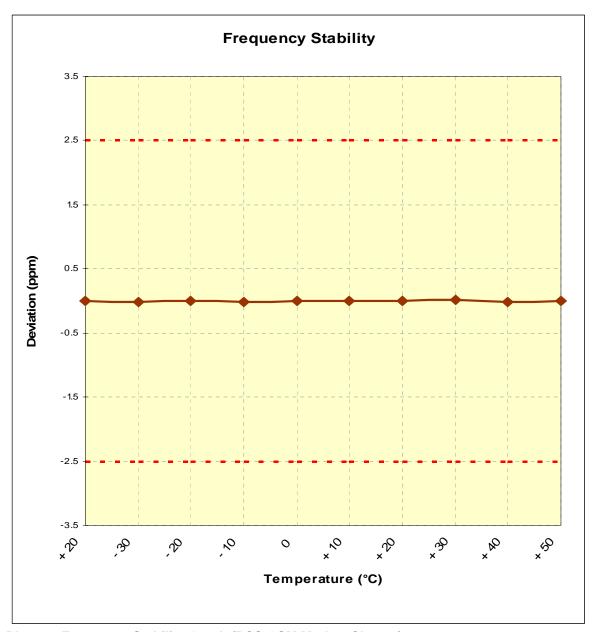
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQ. (Hz)	Freq. Dev.	Deviation (%)
100 %	3.70	+ 20 (Ref)	1,879,999,991	-9	0.000000
100 %		- 30	1,879,999,982	-18	-0.000001
100 %		- 20	1,879,999,986	-14	-0.000001
100 %		- 10	1,879,999,981	-19	-0.000001
100 %		0	1,879,999,986	-14	-0.000001
100 %		+ 10	1,880,000,012	12	0.000001
100 %		+ 20	1,879,999,991	-9	0.000000
100 %		+ 30	1,880,000,017	17	0.000001
100 %		+ 40	1,879,999,982	-18	-0.000001
100 %		+ 50	1,880,000,012	12	0.000001
115 %	4.26	+ 20	1,879,999,991	-9	0.000000
BATT. ENDPOINT	3.40	+ 20	1,880,000,022	22	0.000001

Table 6-22. Frequency Stability Data (PCS GSM Mode – Ch. 661)

FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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PCS GSM Frequency Stability Measurements (Cont'd) §2.1055, 24.235; RSS-133 (6.3)



Plot 6-3. Frequency Stability Graph (PCS GSM Mode - Ch. 661)

FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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6.12 PCS WCDMA Frequency Stability Measurements §2.1055, 24.235; RSS-133 (6.3)

OPERATING FREQUENCY: 1,880,000,000 Hz

CHANNEL: 9400

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

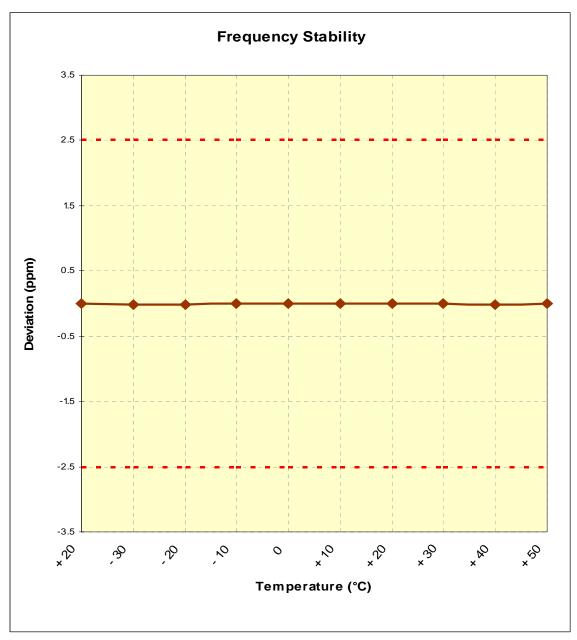
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQ. (Hz)	Freq. Dev.	Deviation (%)
100 %	3.70	+ 20 (Ref)	1,879,999,986	-14	-0.000001
100 %		- 30	1,879,999,982	-18	-0.000001
100 %		- 20	1,879,999,981	-19	-0.000001
100 %		- 10	1,879,999,988	-12	-0.000001
100 %		0	1,880,000,014	14	0.000001
100 %		+ 10	1,879,999,990	-10	-0.000001
100 %		+ 20	1,879,999,986	-14	-0.000001
100 %		+ 30	1,879,999,992	-8	0.000000
100 %		+ 40	1,879,999,984	-16	-0.000001
100 %		+ 50	1,879,999,985	-15	-0.000001
115 %	4.26	+ 20	1,879,999,982	-18	-0.000001
BATT. ENDPOINT	3.40	+ 20	1,880,000,021	21	0.000001

Table 6-23. Frequency Stability Data (PCS WCDMA Mode – Ch. 9400)

FCC ID: BEJCU720	PCTEST:	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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PCS WCDMA Frequency Stability Measurements (Cont'd) §2.1055, 24.235; RSS-133 (6.3)

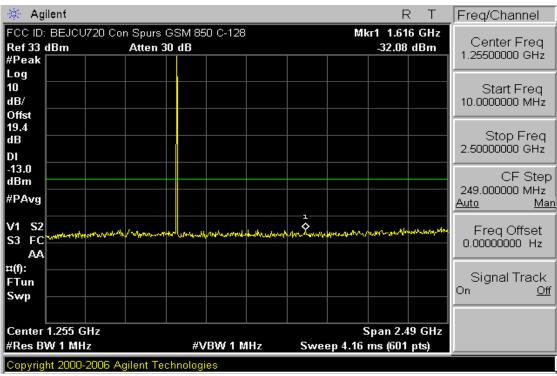


Plot 6-4. Frequency Stability Graph (PCS WCDMA Mode – Ch. 9400)

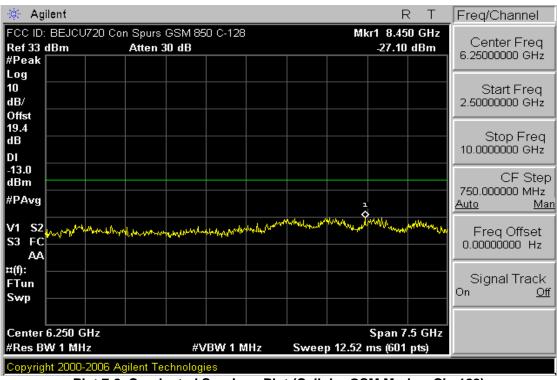
FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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7.0 PLOTS OF EMISSIONS



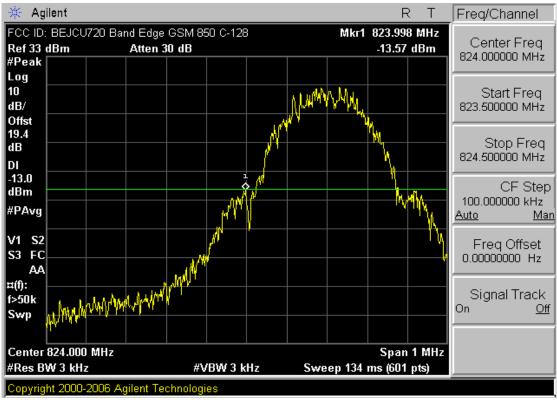
Plot 7-1. Conducted Spurious Plot (Cellular GSM Mode – Ch. 128)



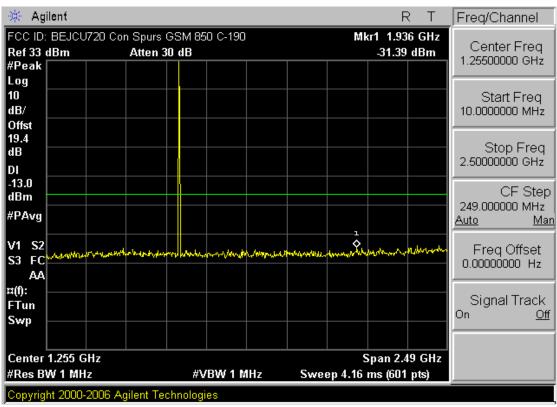
Plot 7-2. Conducted Spurious Plot (Cellular GSM Mode – Ch. 128)

FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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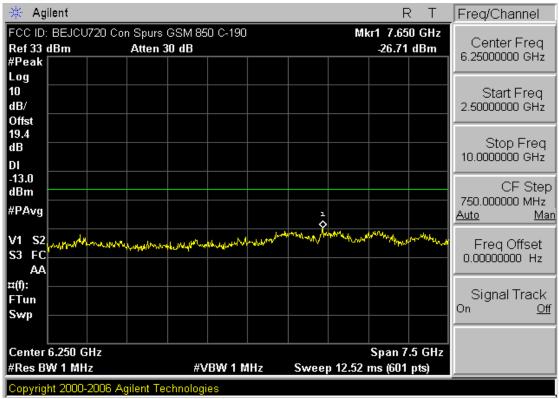
Plot 7-3. Band Edge Plot (Cellular GSM Mode – Ch. 128)



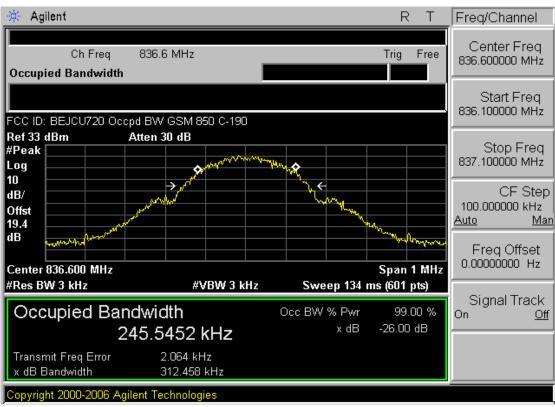
Plot 7-4. Conducted Spurious (Cellular GSM Mode - Ch. 190)

		•			
FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	⊕ LG	Reviewed by:	
				Quality Manager	
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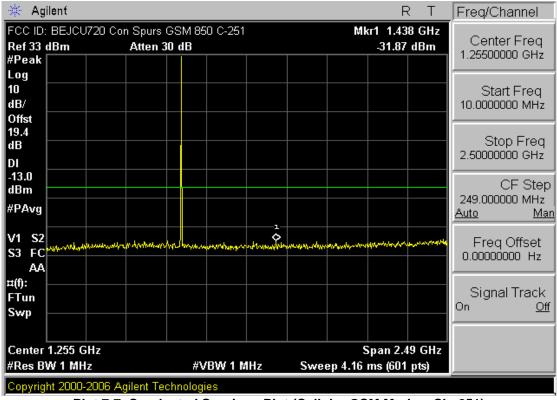
Plot 7-5. Conducted Spurious Plot (Cellular GSM Mode - Ch. 190)



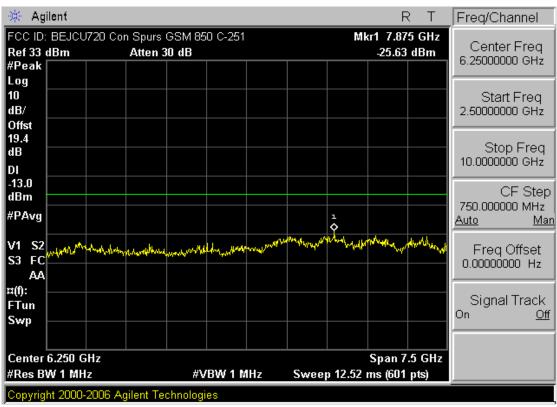
Plot 7-6. Occupied Bandwidth Plot (Cellular GSM Mode - Ch. 190)

FCC ID: BEJCU720	PCTEST.	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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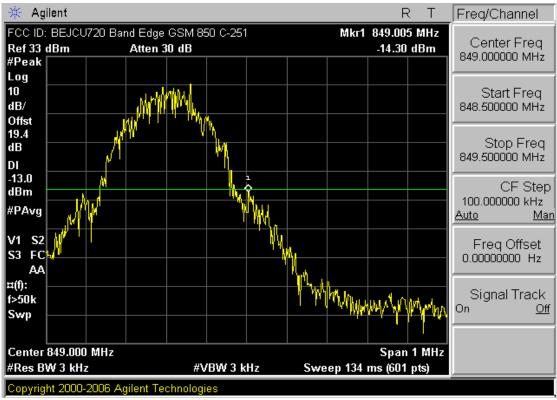
Plot 7-7. Conducted Spurious Plot (Cellular GSM Mode - Ch. 251)



Plot 7-8. Conducted Spurious Plot (Cellular GSM Mode - Ch. 251)

		• ` ` `	•	
FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT		Reviewed by:
FCC ID. BL3C0720	-V #7791989	(CERTIFICATION)	LG	Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 38 of 56
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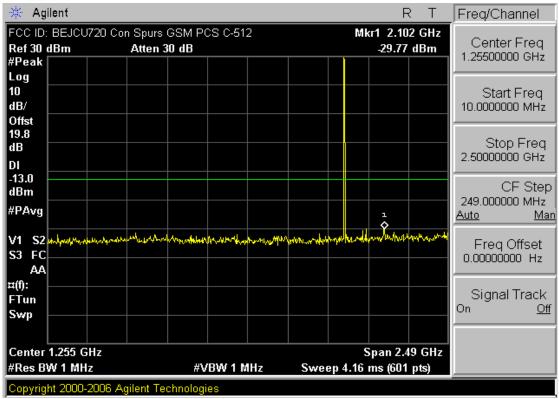
Plot 7-9. Band Edge Plot (Cellular GSM Mode – Ch. 251)



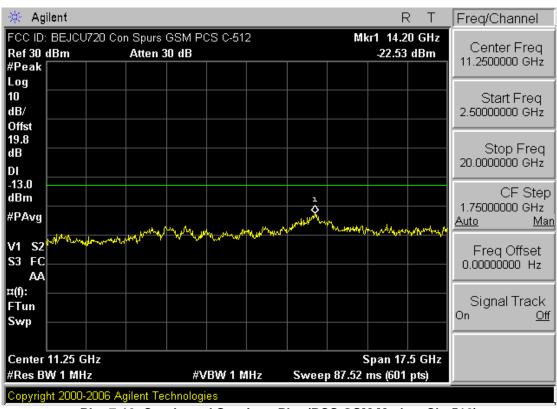
Plot 7-10. Occupied Bandwidth Plot (EDGE850 Mode - Ch. 190)

			,	
FOO ID: DE 1011700	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT		Reviewed by:
FCC ID: BEJCU720	Wiretess	(CERTIFICATION)	U LG	Quality Manager
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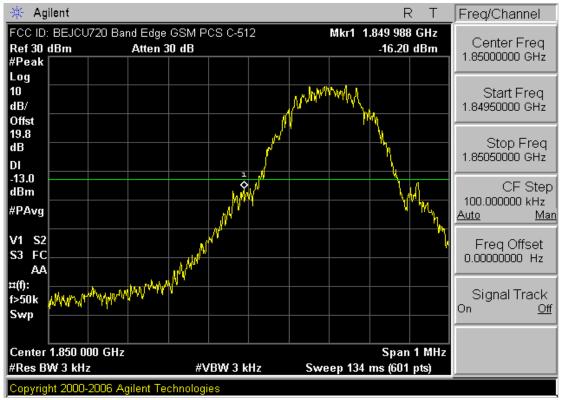
Plot 7-11. Conducted Spurious Plot (PCS GSM Mode - Ch. 512)



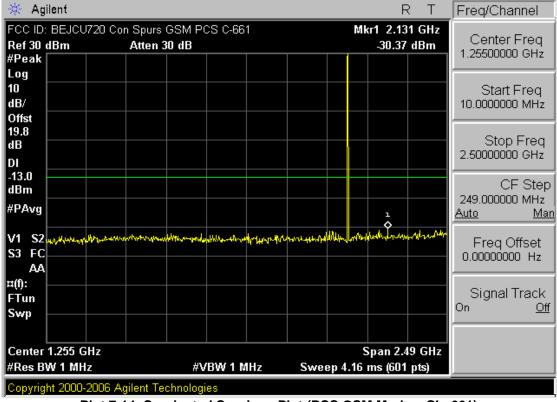
Plot 7-12. Conducted Spurious Plot (PCS GSM Mode - Ch. 512)

			,	
FOO ID: DE 1011700	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT	Reviewed by:	
FCC ID: BEJCU720	Wireless	(CERTIFICATION)	LG LG	Quality Manager
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Plot 7-13. Band Edge Plot (PCS GSM Mode - Ch. 512)



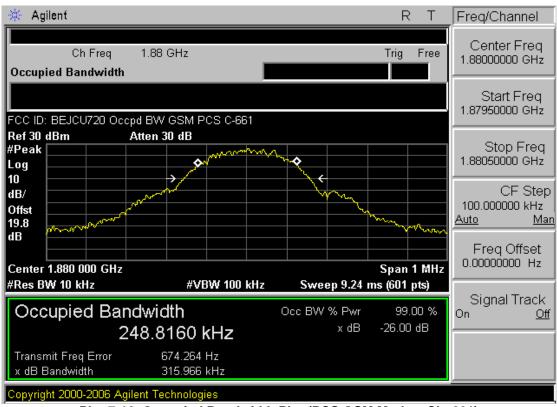
Plot 7-14. Conducted Spurious Plot (PCS GSM Mode - Ch. 661)

	1	•	 B. C III
FCC ID: BEJCU720	PCTEST:	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT	Reviewed by:
1 00 ib. BE300720	- V WITHING	(CERTIFICATION)	Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 41 of 56
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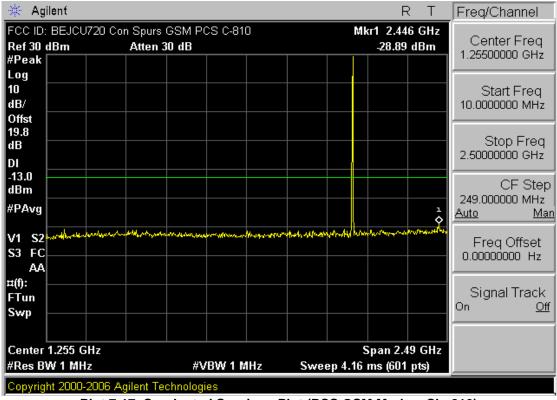
Plot 7-15. Conducted Spurious Plot (PCS GSM Mode - Ch. 661)



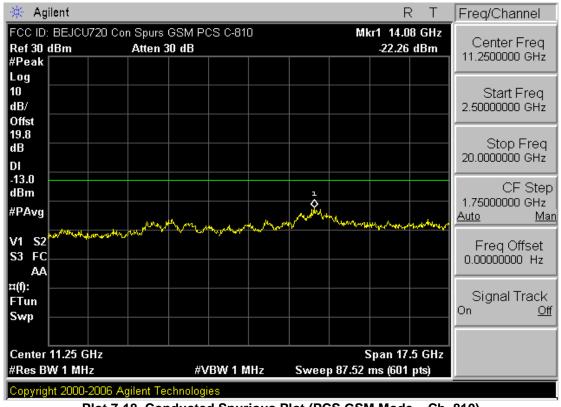
Plot 7-16, Occupied Bandwidth Plot (PCS GSM Mode - Ch. 661)

	riot riot occupied Bandwidth for (1 00 00th mode of 1 001)					
FCC ID: BEJCU720	@ PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT	5	Reviewed by:		
	Wiralass	(CERTIFICATION)	U LG	Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Page 42 of 56		
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Plot 7-17. Conducted Spurious Plot (PCS GSM Mode - Ch. 810)



Plot 7-18. Conducted Spurious Plot (PCS GSM Mode - Ch. 810)

FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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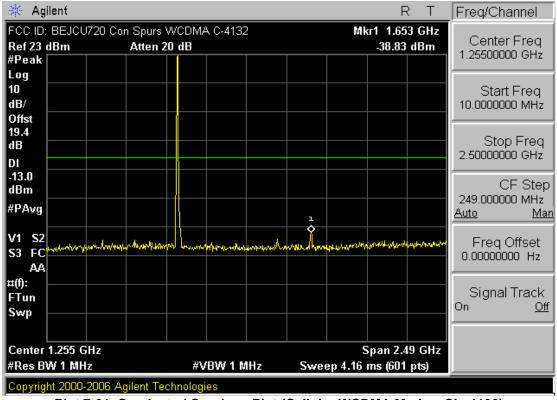
Plot 7-19. Band Edge Plot (PCS GSM Mode - Ch. 810)



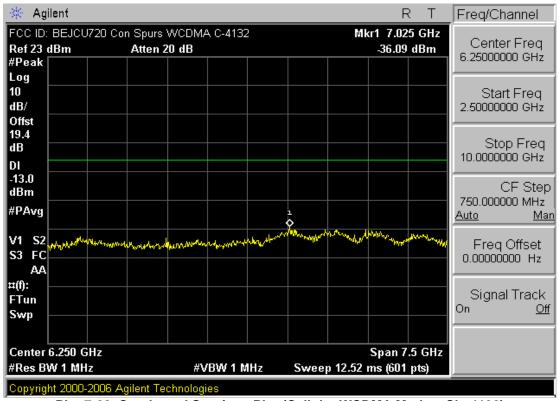
Plot 7-20, Occupied Bandwidth Plot (EDGE1900 Mode - Ch. 661)

		• ` `	,	
FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT		Reviewed by:
FCC ID: BEJC0720	Wireless	(CERTIFICATION)	LG LG	Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 44 of 56
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Plot 7-21. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4132)



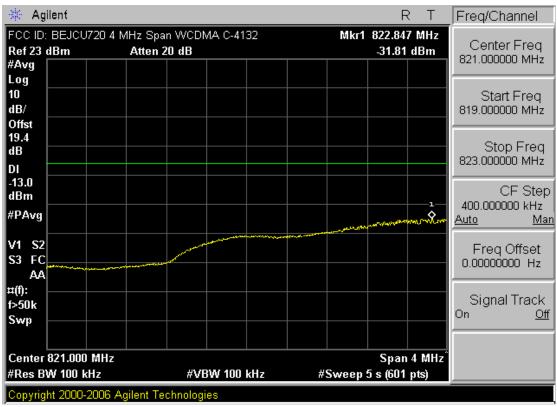
Plot 7-22. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4132)

FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	⊕ LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 45 of 56
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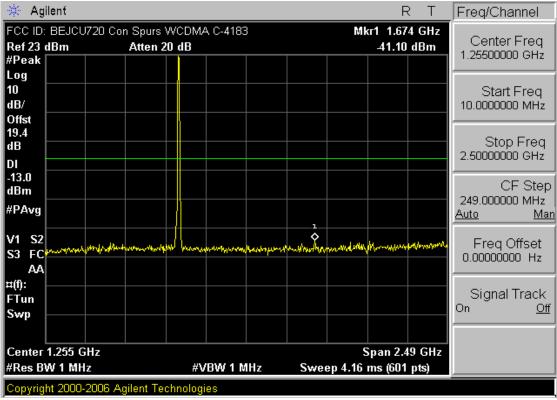
Plot 7-23. Band Edge Plot (Cellular WCDMA Mode – Ch. 4132)



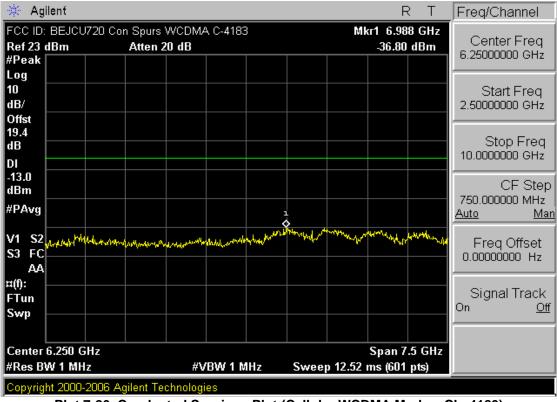
Plot 7-24, 4MHz Span Plot (Cellular WCDMA Mode - Ch. 4132)

FCC ID: BEJCU720	POTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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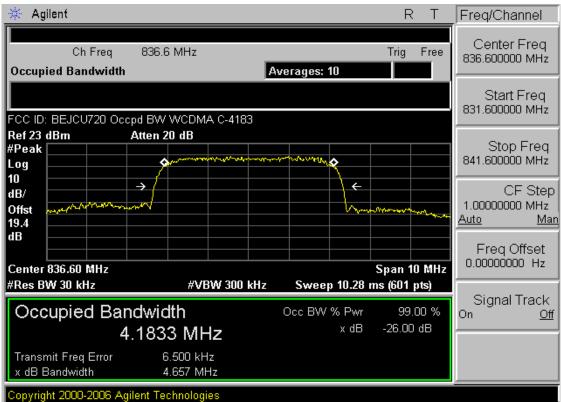
Plot 7-25. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4183)



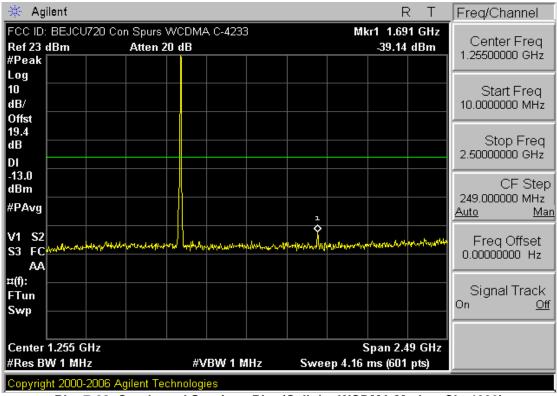
Plot 7-26. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4183)

FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
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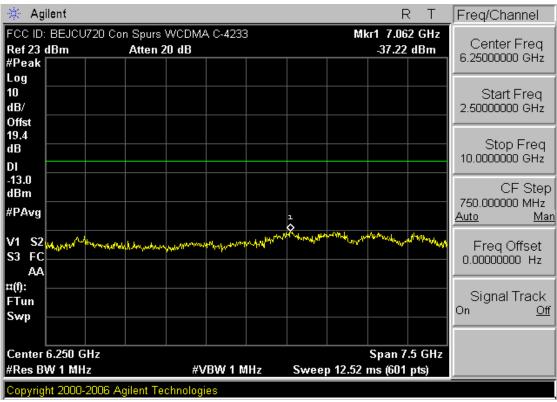
Plot 7-27. Occupied Bandwidth Plot (Cellular WCDMA Mode - Ch. 4183)



Plot 7-28. Conducted Spurious Plot (Cellular WCDMA Mode - Ch. 4233)

FCC ID: BEJCU720	PCTEST:	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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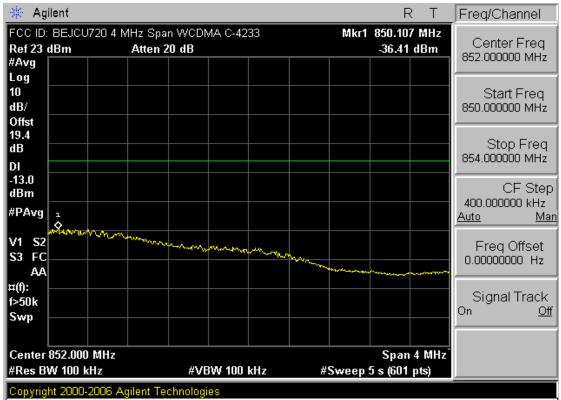
Plot 7-29. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4233)



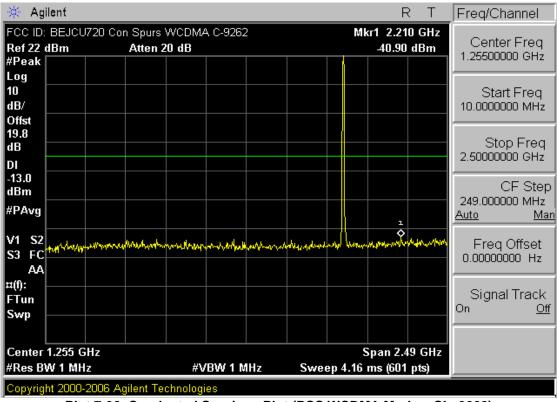
Plot 7-30. Band Edge Plot (Cellular WCDMA Mode - Ch. 4233)

FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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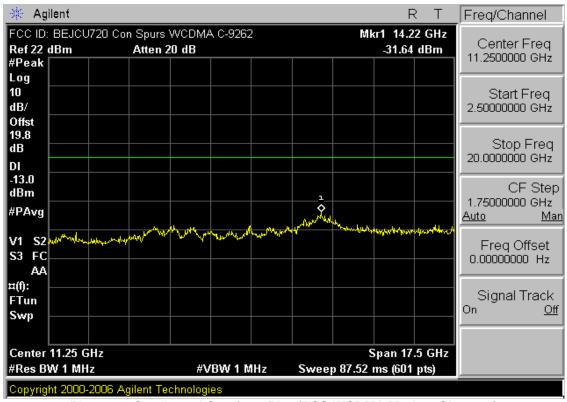
Plot 7-31. 4MHz Span Plot (Cellular WCDMA Mode - Ch. 4233)



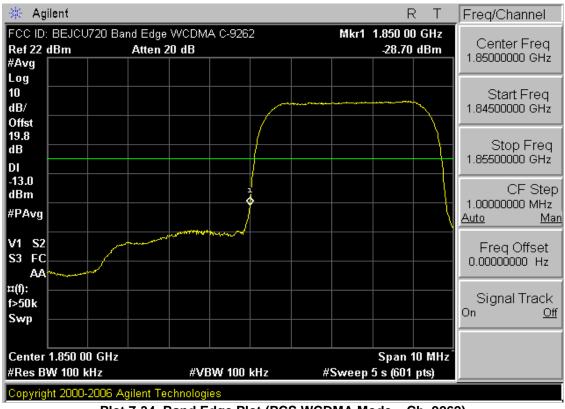
Plot 7-32. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9262)

FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo EO of EG
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Plot 7-33. Conducted Spurious Plot (PCS WCDMA Mode - Ch. 9262)



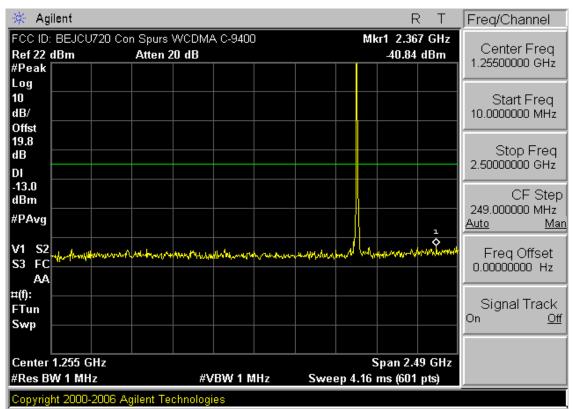
Plot 7-34. Band Edge Plot (PCS WCDMA Mode - Ch. 9262)

		•	,	
FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT		Reviewed by:
FCC ID: BEJC0720	Wiraless	(CERTIFICATION)	LG LG	Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 51 of 56
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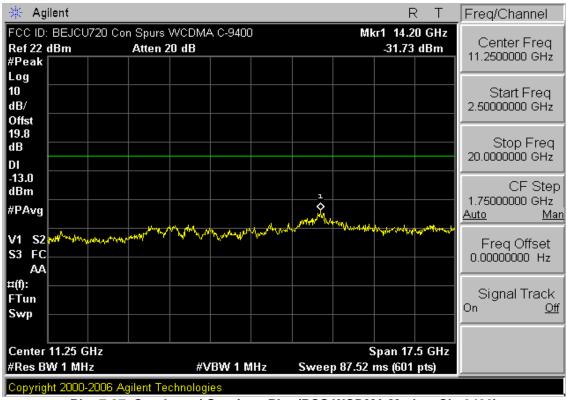
Plot 7-35. 4MHz Span Plot (PCS WCDMA Mode - Ch. 9262)



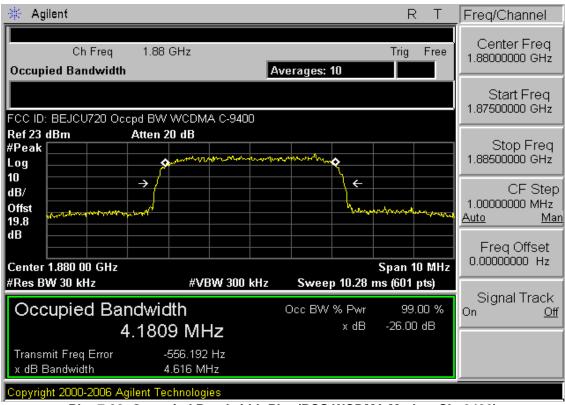
Plot 7-36. Conducted Spurious Plot (PCS WCDMA Mode - Ch. 9400)

			•	
FCC ID. DE ICUIZO	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT		Reviewed by:
FCC ID: BEJCU720	Wireless	(CERTIFICATION)	U LG	Quality Manager
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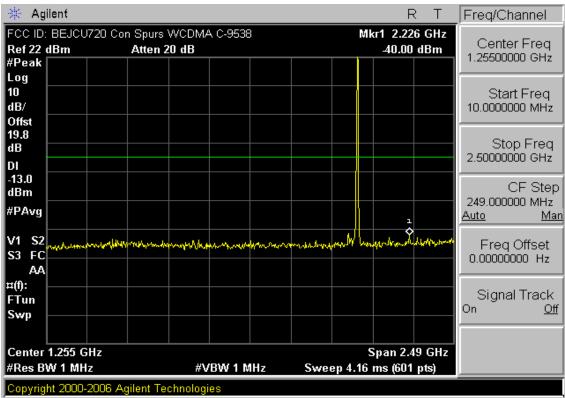
Plot 7-37. Conducted Spurious Plot (PCS WCDMA Mode - Ch. 9400)



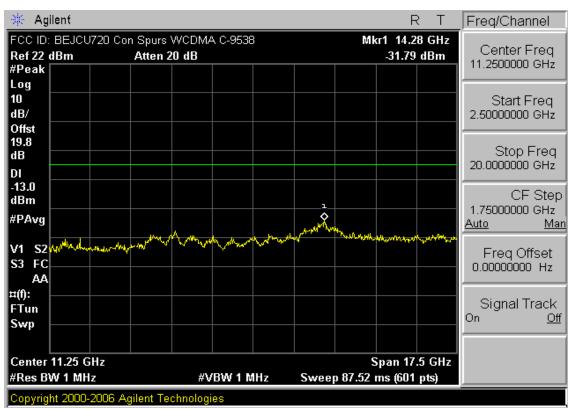
Plot 7-38. Occupied Bandwidth Plot (PCS WCDMA Mode - Ch. 9400)

FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
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Plot 7-39. Conducted Spurious Plot (PCS WCDMA Mode - Ch. 9538)



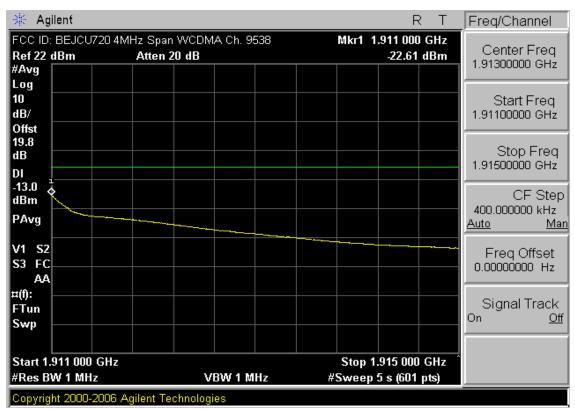
Plot 7-40. Conducted Spurious Plot (PCS WCDMA Mode - Ch. 9538)

			•	
FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT		Reviewed by:
FCC ID: BEJCU720	Wirefess	(CERTIFICATION)	LG LG	Quality Manager
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Plot 7-41. Band Edge Plot (PCS WCDMA Mode - Ch. 9538)



Plot 7-42. 4MHz Span Plot (PCS WCDMA Mode - Ch. 9538)

FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
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0709060979.BEJ	September 20, 2007	850/1900 GSM/WCDMA/EDGE Phone with Bluetooth		Fage 33 01 30
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8.0 CONCLUSION

The data collected show that the **LG 850/1900 GSM/WCDMA/EDGE Phone with Bluetooth FCC ID: BEJCU720** complies with all the requirements of Parts 2, 22, and 24 of the FCC rules.

FCC ID: BEJCU720	PCTEST	FCC Pt. 22/24 GSM/EDGE/WCDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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