PCTEST.

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:
March 20-21, 2007
Test Site/Location:
PCTEST Lab., Columbia, MD, USA
Test Report Serial No.:
0703050143.BEJ

FCC ID: BEJLX160

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)

EUT Type: Cellular/PCS CDMA Phone with Bluetooth

Model(s): LX160

Tx Frequency Range: 824.70 - 848.31MHz (Cell. CDMA) / 1851.25 - 1908.75MHz (PCS CDMA)

Max. RF Output Power: 0.232 W ERP Cell. CDMA (23.65 dBm) /

0.324 W EIRP PCS CDMA (25.10 dBm)

Emission Designator(s): 1M26F9W (CDMA) / 1M26F9W (PCS)

Test Device Serial No.: identical prototype [S/N: #1]

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.

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.





FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 1 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 1 01 30



TABLE OF CONTENTS

FCC F	PART 2	22 & 24 MEASUREMENT REPORT	3
1.0	INTE	RODUCTION	4
	1.1	MEASUREMENT PROCEDURE	4
	1.2	SCOPE	4
	1.3	TESTING FACILITY	4
2.0	PRC	DDUCT INFORMATION	5
	2.1	EQUIPMENT DESCRIPTION	5
	2.2	EMI SUPPRESSION DEVICE(S)/MODIFICATIONS	5
3.0	DES	SCRIPTION OF TESTS	6
	3.1	OCCUPIED BANDWIDTH EMISSION LIMITS	6
	3.2	CELLULAR - BASE FREQUENCY BLOCKS	6
	3.3	CELLULAR - MOBILE FREQUENCY BLOCKS	
	3.4	PCS - BASE FREQUENCY BLOCKS	
	3.5	PCS - MOBILE FREQUENCY BLOCKS	
	3.6	SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL	
	3.7	RADIATED SPURIOUS AND HARMONIC EMISSIONS	
	3.8	FREQUENCY STABILITY / TEMPERATURE VARIATION	
4.0	TES	T EQUIPMENT CALIBRATION DATA	9
5.0	SAM	MPLE CALCULATIONS	10
6.0	TES	T RESULTS	11
	6.1	EFFECTIVE RADIATED POWER OUTPUT DATA	12
	6.2	EQUIVALENT ISOTROPIC RADIATED POWER OUTPUT DATA	13
	6.3	CELLULAR CDMA RADIATED MEASUREMENTS	14
	6.4	PCS CDMA RADIATED MEASUREMENTS	17
	6.5	FREQUENCY STABILITY (CELLULAR CDMA)	20
	6.6	FREQUENCY STABILITY (PCS CDMA)	
7.0	PLO	OT(S) OF EMISSIONS	24
8.0	CON	NCLUSION	35
EXHIE	BIT A -	- TEST SETUP PHOTOGRAPHS	36
EXHIE	BIT B -	- INTERNAL PHOTOGRAPHS	37
EXHIE	BIT C -	- EXTERNAL PHOTOGRAPHS	38

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 2 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 2 0i 30



MEASUREMENT REPORT



FCC Part 22 & 24

A. §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)

MODEL NAME: LX160 FCC ID: BEJLX160

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

EMISSION DESIGNATOR(S): 1M26F9W (CDMA) / 1M26F9W (PCS)

MODE: **CDMA**

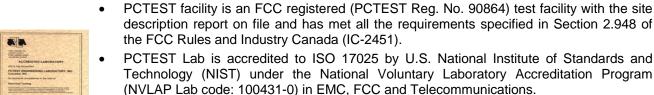
FREQUENCY TOLERANCE: ±0.00025 % (2.5 ppm)

☐ Production ☐ Pre-Production **Test Device Serial No.:** ☐ Engineering

DATE(S) OF TEST: March 20-21, 2007 **TEST REPORT S/N:** 0703050143.BEJ

Test Facility / Accreditations

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





(

سقادوان

- 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.

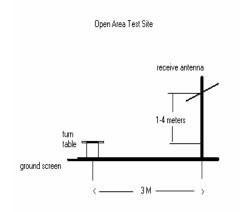
FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 3 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Page 3 or 36
© 2007 PCTEST Engineering Laboratory, Inc.				REV 6.20



1.0 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.

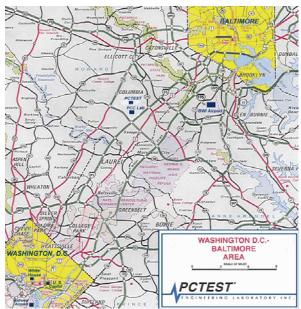


Figure 1-2. Map of the Greater Baltimore and Metropolitan Washington, D.C. area.

FCC ID: BEJLX160	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 4 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 4 01 36
@ 2007 PCTEST Engineeri	ng Laboratory Inc	·		REV.6.2C

02/19/07



PRODUCT INFORMATION

Equipment Description 2.1

The Equipment Under Test (EUT) is the LG Cellular/PCS CDMA Phone with Bluetooth FCC ID: BEJLX160. The EUT consisted of the following component(s):

Trade Name / Model	FCC ID	Description
LG / Model: LX160	BEJLX160	Cellular/PCS CDMA Phone with Bluetooth

Table 2-1. EUT Equipment Description

Mode	FCC Rule Part	Frequency [MHz]	Notes
CDMA	22 / 24	824.70 - 848.31MHz (Cell. CDMA) 1851.25 - 1908.75MHz (PCS CDMA)	This report contains data pertaining only to the CDMA transmitter.
Bluetooth	15.247	2402 – 2480 MHz	Data can be found in a separate test report under the same FCC ID.
Receiver / Digital Device	15B	N/A	Data can be found in a separate test report under the same FCC ID.

Table 2-2. Supported EUT Modes

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

EMI suppression device(s) added and/or modifications made during testing.

None

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 5 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Faye 3 01 30

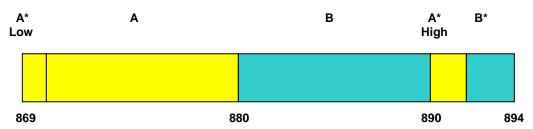


3.0 DESCRIPTION OF TESTS

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)

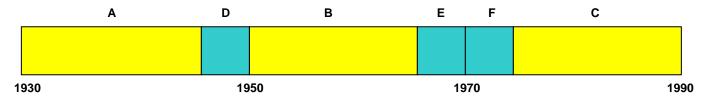
BLOCK 3: 845 - 846.5 MHz (A* High)

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

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 6 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 0 01 30



PCS - Base Frequency Blocks

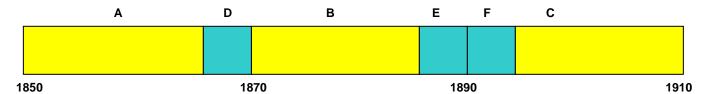


BLOCK 1: 1930 - 1945 MHz (A) BLOCK 4: 1965 - 1970 MHz (E)

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

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

PCS - Mobile Frequency Blocks 3.5



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

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. 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 R.C.s and S.O.s and the worst case is reported with RC3/SO55, with "All Up" power control bits.

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 7 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage / 0/36

© 2007 PCTEST Engineering Laboratory, Inc.



3.8 **Frequency Stability / Temperature Variation** §2.1055, 22.355, 24.235; RSS-129 (9.2.1), RSS-133 (6.7(a,b))

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 and the individual oscillators is measured at room temperature (20°C to provide a reference).
- 2. The equipment is subjected to an overnight "soak" at -30°C without any power applied.
- 3. After the overnight "soak" at -30°C (usually 14-16 hours) 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 and the individual oscillators is made within one minute after applying power to the transmitter.
- 4. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. At least a period of one half-hour is provided to allow stabilization of the equipment at each temperature level.

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 8 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage o or so



4.0 TEST EQUIPMENT CALIBRATION DATA

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

Manufacturer	rest Equipment Ca	libration is traceable to the National Institute of S	standards and	rechnolog	y (INIST).	
Agilent E5515C Wireless Communications Test Set 07/27/06 Annual 07/27/07 GB41450275 Agilent E5515C Wireless Communications Test Set 10/06/06 Annual 10/06/07 GB43193927 Agilent E4432B ESG-D Series Signal Generator 08/08/06 Annual 10/06/07 US40053896 Agilent E864BD (9kHz-4GHz) Signal Generator 10/01/06 Annual 10/01/07 3613A00315 Agilent ES515C Wireless Communications Test Set 10/26/06 Biennial 10/02/08 GB4310798 EMCO Model 3115 (1-18GHz) Horn Antenna 08/25/06 Biennial 08/23/08 9203-2178 Gigatronics 8657A Universal Power Meter 04/07/06 Annual 04/07/07 8650319 Gigatronics 80701A (0.05-18GHz) Power Sensor 06/01/05 Biennial 06/01/07 853600/07 Rohde & Schwarz NRVS Power Meter 06/01/05 Biennial 06/01/07 846076/00 Rohde & Schwarz CMU200 Base Station Simulator 11/08/06 Annual 11/08/07 833855/010 Rohde & Schwarz<	Manufacturer	Model / Equipment				Serial No.
Agilent E5515C Wireless Communications Test Set 1 0/06/06 Annual 1 0/06/07 GB43193972 Agilent E4432B ESG-D Series Signal Generator 08/08/06 Annual 08/08/07 U540053896 Agilent E648D (9kHz-4GHz) Signal Generator 1 0/01/06 Annual 1 0/01/07 3613A00315 Agilent E5515C Wireless Communications Test Set 1 0/02/06 Biennial 10/25/08 GB48310798 EMCO Model 3115 (1-18GHz) Horn Antenna 08/24/06 Biennial 08/23/08 9203-2178 EMCO Model 3115 (1-18GHz) Horn Antenna 08/24/06 Biennial 08/23/08 9203-2178 EMCO Model 315 (1-18GHz) Power Sensor 04/11/06 Annual 04/07/07 8650319 Gigatronics 80701A (0.05-18GHz) Power Sensor 04/11/06 Annual 04/11/07 1833460 Rohde & Schwarz NRV-Z93 Power Sensor 06/01/05 Biennial 06/10/107 846076/07 Rohde & Schwarz CMU200 Base Station Simulator 11/08/06 Annual 11/08/07 107826 Rohde & Schwarz	Agilent	E4404B/E4407B ESA Spectrum Analyzer	04/20/06	Annual	04/20/07	US39210313
Agilent E4432B ESG-D Series Signal Generator 08/08/06 Annual 08/08/07 U\$40053896 Agilent 8648D (9kHz-4GHz) Signal Generator 10/01/06 Annual 10/01/07 3613A00315 Agilent E5515C Wireless Communications Test Set 10/26/06 Biennial 10/025/08 GB46310798 EMCO Model 3115 (1-18GHz) Horn Antenna 08/24/06 Biennial 08/23/08 9203-2178 EMCO Model 3115 (1-18GHz) Horn Antenna 08/25/06 Biennial 08/24/08 9704-5182 Gigatronics 8657A Universal Power Meter 04/07/06 Annual 04/11/07 8650319 Gigatronics 8677A Universal Power Meter 06/01/05 Biennial 06/01/07 835360/079 Rohde & Schwarz NRVS Power Meter 06/01/05 Biennial 06/01/07 835360/079 Rohde & Schwarz CMU200 Base Station Simulator 11/08/06 Annual 10/10/07 177826 Rohde & Schwarz CMU200 Base Station Simulator 01/20/06 Annual 12/21/07 333855/010 Rohde & Schwarz <td< td=""><td>Agilent</td><td>E5515C Wireless Communications Test Set</td><td>07/27/06</td><td>Annual</td><td>07/27/07</td><td>GB41450275</td></td<>	Agilent	E5515C Wireless Communications Test Set	07/27/06	Annual	07/27/07	GB41450275
Agilent 8648D (9kHz-4GHz) Signal Generator 10/01/06 Annual 10/01/07 3613A00315 Agilent E5515C Wireless Communications Test Set 10/26/06 Biennial 10/25/08 GB46310798 EMCO Model 3115 (1-18GHz) Horn Antenna 08/24/06 Biennial 08/23/08 9203-2178 EMCO Model 3115 (1-18GHz) Horn Antenna 08/24/06 Biennial 08/24/08 9704-5182 Gigatronics 8657A Universal Power Meter 04/07/06 Annual 04/07/07 8650319 Gigatronics 80701A (0.05-18GHz) Power Sensor 04/11/06 Annual 04/07/07 8650319 Rohde & Schwarz NRVS Power Meter 06/01/05 Biennial 06/10/17 835360/079 Rohde & Schwarz NRVS Power Sensor 06/01/05 Biennial 06/01/07 83630/079 Rohde & Schwarz CMU200 Base Station Simulator 11/08/06 Annual 11/08/07 107826 Rohde & Schwarz CMU200 Base Station Simulator 07/26/06 Annual 12/27/07 833385/010 Rohde & Schwarz CMU200 Bas	Agilent	E5515C Wireless Communications Test Set	10/06/06	Annual	10/06/07	GB43193972
Agilent E5515C Wireless Communications Test Set 10/26/06 Biennial 10/25/08 GB46310798 EMCO Model 3115 (1-18GHz) Horn Antenna 08/24/06 Biennial 08/23/08 9203-2178 EMCO Model 3115 (1-18GHz) Horn Antenna 08/24/06 Biennial 08/23/08 9203-2178 Gigatronics 8657A Universal Power Meter 04/07/06 Annual 04/11/07 1833460 Rohde & Schwarz NRVS Power Meter 06/01/05 Biennial 06/01/07 835360/079 Rohde & Schwarz NRVS Power Meter 06/01/05 Biennial 06/01/07 835360/079 Rohde & Schwarz NRVS-Z53 Power Sensor 06/01/05 Biennial 06/01/07 836356/079 Rohde & Schwarz CMU200 Base Station Simulator 01/06/06 Annual 01/06/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 07/26/06 Annual 07/26/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 07/26/06 Annual 07/26/07 833855/010 Rohde & Schwarz CMU20	Agilent	E4432B ESG-D Series Signal Generator	08/08/06	Annual	08/08/07	US40053896
EMCO Model 3115 (1-18GHz) Horn Antenna 08/24/06 Biennial 08/23/08 9203-2178 EMCO Model 3115 (1-18GHz) Horn Antenna 08/25/06 Biennial 08/24/08 9704-5182 Gigatronics 8657A Universal Power Meter 04/07/06 Annual 04/07/07 8650319 Gigatronics 80701A (0.05-18GHz) Power Sensor 04/11/06 Annual 04/11/07 1833460 Rohde & Schwarz NRVS Power Meter 06/01/05 Biennial 06/01/07 835360/079 Rohde & Schwarz NRV-Z53 Power Sensor 06/01/05 Biennial 06/01/07 846076/007 Rohde & Schwarz CMU200 Base Station Simulator 11/08/06 Annual 11/08/07 107826 Rohde & Schwarz CMU200 Base Station Simulator 07/26/06 Annual 07/26/07 83355/010 Rohde & Schwarz CMU200 Base Station Simulator 07/26/06 Annual 04/20/07 836371/079 Agilent HP 8566B (100Hz-22GHz) 12/21/06 Annual 12/21/07 3638A08713 Agilent HP 8566BA (100Hz-22GHz) Presens	Agilent	8648D (9kHz-4GHz) Signal Generator	10/01/06	Annual	10/01/07	3613A00315
EMCO Model 3115 (1-18GHz) Horn Antenna 08/25/06 Biennial 08/24/08 9704-5182 Gigatronics 8657A Universal Power Meter 04/07/06 Annual 04/07/07 8650319 Gigatronics 807014 (0.05-18GHz) Power Sensor 04/11/06 Annual 04/07/107 835360/079 Rohde & Schwarz NRVS Power Meter 06/01/05 Biennial 06/01/07 846076/07 Rohde & Schwarz NRV-Z53 Power Sensor 06/01/05 Biennial 06/01/07 846076/07 Rohde & Schwarz CMU200 Base Station Simulator 11/08/06 Annual 11/08/07 107826 Rohde & Schwarz CMU200 Base Station Simulator 07/26/06 Annual 07/26/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 07/26/06 Annual 07/26/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 07/26/06 Annual 07/26/07 833871/079 Rohde & Schwarz CMU200 Base Station Simulator 09/22/06 Annual 09/22/07 US4251024 William HP 85668	Agilent	E5515C Wireless Communications Test Set	10/26/06	Biennial	10/25/08	GB46310798
Gigatronics 8657A Universal Power Meter 04/07/06 Annual 04/07/07 8650319 Gigatronics 80701A (0.05-18GHz) Power Sensor 04/11/06 Annual 04/11/07 1833460 Rohde & Schwarz NRVS Power Meter 06/01/05 Biennial 06/01/07 835360/079 Rohde & Schwarz NRV-Z53 Power Sensor 06/01/05 Biennial 06/01/07 846076/007 Rohde & Schwarz CMU200 Base Station Simulator 11/08/06 Annual 11/08/07 107826 Rohde & Schwarz CMU200 Base Station Simulator 04/20/06 Annual 07/26/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 04/20/06 Annual 07/26/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 04/20/06 Annual 04/20/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 04/20/06 Annual 12/21/07 3638A08713 Agilent HP 8566B (100Hz-22GHz) 09/22/06 Annual 09/22/07 US42510244 Gigatronics 80701A (0.05-1	EMCO	Model 3115 (1-18GHz) Horn Antenna	08/24/06	Biennial	08/23/08	9203-2178
Gigatronics 80701A (0.05-18GHz) Power Sensor 04/11/06 Annual 04/11/07 1833460 Rohde & Schwarz NRVS Power Meter 06/01/05 Biennial 06/01/07 835360/079 Rohde & Schwarz NRV-Z53 Power Sensor 06/01/05 Biennial 06/01/07 846076/007 Rohde & Schwarz CMU200 Base Station Simulator 11/08/06 Annual 17/26/06 Annual 07/26/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 04/20/06 Annual 07/26/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 04/20/06 Annual 04/20/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 04/20/06 Annual 04/20/07 836371/079 Agilent HP 8566B (100Hz-22GHz) 09/22/06 Annual 12/21/07 3638A08713 Agilent HP 8566B (100Hz-2GHz) 09/22/06 Annual 12/21/07 3638A08713 Agilent HP 8566D (100Hz-2GHz) Pre-Amplifier 12/21/06 Annual 12/21/07 304300301	EMCO	Model 3115 (1-18GHz) Horn Antenna	08/25/06	Biennial	08/24/08	9704-5182
Rohde & Schwarz NRVS Power Meter 06/01/05 Biennial 06/01/07 835360/079 Rohde & Schwarz NRV-Z53 Power Sensor 06/01/05 Biennial 06/01/07 846076/007 Rohde & Schwarz CMU200 Base Station Simulator 11/08/06 Annual 11/08/07 10726/07 Rohde & Schwarz CMU200 Base Station Simulator 07/26/06 Annual 07/26/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 04/20/06 Annual 04/20/07 836371/079 Agilent HP 8566B (100Hz-22GHz) 12/21/06 Annual 12/21/07 3638A08713 Agilent HP 8566B (100Hz-22GHz) 09/22/06 Annual 09/22/07 US42510244 Gigatronics 80701A (0.05-18GHz) Power Sensor 08/04/06 Annual 08/04/07 1835299 Agilent HP 8566DA Quasi-Peak Adapter 12/21/06 Annual 12/21/07 2043A00301 Agilent HP 8566SA (20Hz-26JHz) Pre-Amplifier 12/12/06 Annual 12/12/07 N/A Agilent HP 8568SA (20Hz-26JHz) Preselector	Gigatronics	8657A Universal Power Meter	04/07/06	Annual	04/07/07	8650319
Rohde & Schwarz NRV-Z53 Power Sensor 06/01/05 Biennial 06/01/07 846076/007 Rohde & Schwarz CMU200 Base Station Simulator 11/08/06 Annual 11/08/07 107826 Rohde & Schwarz CMU200 Base Station Simulator 07/26/06 Annual 07/26/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 04/20/06 Annual 04/20/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 04/20/06 Annual 04/20/07 836371/079 Agilent HP 8566B (100Hz-22GHz) 12/21/06 Annual 12/21/07 3638A08713 Agilent E4448A (3Hz-50GHz) 09/22/06 Annual 09/22/07 US42510244 Gigatronics 80701A (0.05-18GHz) Power Sensor 08/04/06 Annual 08/04/07 1835299 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 8566B Opt. 462 Impulse Bandwidth 12/12/06 Annual 12/12/07 3701A22204 EMCO 3115 (1-18GHz) Horn Antenna 04/04/05 Biennial 04/04/07 9205-3874 Compliance Design A100 Roberts Dipoles 08/31/05 Biennial 08/31/07 5118 EMCO Dipole Pair 09/21/06 Biennial 09/20/08 23951 Compliance Design A100 Roberts Dipoles 08/05/06 Annual 06/05/07 2432A03467 Agilent HP 8901 B Audio Analyzer 06/05/06 Annual 06/05/07 2432A03467 Agilent HP 8901 B Audio Analyzer 06/05/06 Annual 06/05/07 2432A03467 Agilent HP 8903 B Audio Analyzer 06/05/06 Annual 06/05/07 2432A03467 Agilent HP 8903 B Audio Analyzer 06/05/06 Annual 06/01/07 3011A09025 K & L 11SH10 Band Pass Filter N/A Annual N/A 4000/12000 K & L 11SH10 Band Pass Filter N/A Annual N/A N/A N/A N/A P3263-10dB (DC-18GHz) 10 dB Attenuator N/A N/A	Gigatronics	80701A (0.05-18GHz) Power Sensor	04/11/06	Annual	04/11/07	1833460
Rohde & Schwarz CMU200 Base Station Simulator 11/08/06 Annual 11/08/07 107826 Rohde & Schwarz CMU200 Base Station Simulator 07/26/06 Annual 07/26/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 04/20/06 Annual 04/20/07 836371/079 Agilent HP 8566B (100Hz—22GHz) 12/21/06 Annual 12/21/07 3638A08713 Agilent E4448A (3Hz-50GHz) 09/22/06 Annual 09/22/07 US42510244 Gigatronics 80701A (0.05-18GHz) Power Sensor 08/04/06 Annual 09/22/07 US42510244 Gigatronics 80701A (0.05-18GHz) Power Sensor 08/04/06 Annual 09/22/07 US42510244 Gigatronics 80701A (0.05-18GHz) Power Sensor 08/04/06 Annual 12/21/07 US43500301 Agilent HP 8566DA Quasi-Peak Adapter 12/21/06 Annual 12/21/07 V/A Agilent HP 8449B (1-26.5GHz) Pre-Amplifier 12/12/06 Annual 12/12/07 N/A Agilent HP 8566B Opt. 462 Impulse Bandwidth	Rohde & Schwarz	NRVS Power Meter	06/01/05	Biennial	06/01/07	835360/079
Rohde & Schwarz CMU200 Base Station Simulator 07/26/06 Annual 07/26/07 833855/010 Rohde & Schwarz CMU200 Base Station Simulator 04/20/06 Annual 04/20/07 836371/079 Agilent HP 8566B (100Hz-22GHz) 12/21/06 Annual 12/21/07 3638A08713 Agilent E4448A (3Hz-50GHz) 09/22/06 Annual 09/22/07 US42510244 Gigatronics 80701A (0.05-18GHz) Power Sensor 08/04/06 Annual 09/22/07 US42510244 Gigatronics 80701A (0.05-18GHz) Power Sensor 08/04/06 Annual 08/04/07 1835299 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 85668B Opt. 462 Impulse Bandwidth <td>Rohde & Schwarz</td> <td>NRV-Z53 Power Sensor</td> <td>06/01/05</td> <td>Biennial</td> <td>06/01/07</td> <td>846076/007</td>	Rohde & Schwarz	NRV-Z53 Power Sensor	06/01/05	Biennial	06/01/07	846076/007
Rohde & Schwarz CMU200 Base Station Simulator 04/20/06 Annual 04/20/07 836371/079 Agilent HP 8566B (100Hz-22GHz) 12/21/06 Annual 12/21/07 3638A08713 Agilent E4448A (3Hz-50GHz) 09/22/06 Annual 09/22/07 US42510244 Gigatronics 80701A (0.05-18GHz) Power Sensor 08/04/06 Annual 09/22/07 US42510244 Gigatronics 80701A (0.05-18GHz) Prower Sensor 08/04/06 Annual 09/22/07 US42510244 Gigatronics 80701A (0.05-18GHz) Prower Sensor 08/04/06 Annual 12/21/07 US42510244 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 84568A (20Hz-2GHz) Preselector 12/12/06 Annual 12/12/07 N/A Agilent HP 8568B (2b. 42 Impulse Bandwidth 12/12/06 Annual 12/12/07 N/A EMCO 3115 (1-18GHz) Horn Antenna	Rohde & Schwarz	CMU200 Base Station Simulator	11/08/06	Annual	11/08/07	107826
Agilent HP 8566B (100Hz-22GHz) 12/21/06 Annual 12/21/07 3638A08713 Agilent E4448A (3Hz-50GHz) 09/22/06 Annual 09/22/07 US42510244 Gigatronics 80701A (0.05-18GHz) Power Sensor 08/04/06 Annual 08/04/07 1835299 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 85685 Opt. 462 Impulse Bandwidth 12/12/06 Annual 12/12/07 N/A EMCO 3115 (1-18GHz) Horn Antenna 04/04/05 Biennial 04/04/07 9205-3874 Compliance Design A100 Roberts Dipoles 08/31/05 Biennial 09/21/06 Biennial 09/20/08 23951 SOLAR 8012-50 LISN (2) <td>Rohde & Schwarz</td> <td>CMU200 Base Station Simulator</td> <td>07/26/06</td> <td>Annual</td> <td>07/26/07</td> <td>833855/010</td>	Rohde & Schwarz	CMU200 Base Station Simulator	07/26/06	Annual	07/26/07	833855/010
Agilent E4448A (3Hz-50GHz) 09/22/06 Annual 09/22/07 US42510244 Gigatronics 80701A (0.05-18GHz) Power Sensor 08/04/06 Annual 08/04/07 1835299 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 85685A (20Hz-2GHz) Preselector 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 85685A (20Hz-2GHz) Preselector 12/12/06 Annual 12/12/07 N/A EMCO 3115 (1-18GHz) Horn Antenna 04/04/05 Biennial 08/10/07 3701A22204 EMCO 3115 (1-18GHz) Horn Antenna 04/04/05 <td< td=""><td>Rohde & Schwarz</td><td>CMU200 Base Station Simulator</td><td>04/20/06</td><td>Annual</td><td>04/20/07</td><td>836371/079</td></td<>	Rohde & Schwarz	CMU200 Base Station Simulator	04/20/06	Annual	04/20/07	836371/079
Gigatronics 80701A (0.05-18GHz) Power Sensor 08/04/06 Annual 08/04/07 1835299 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 85685A (20Hz-2GHz) Preselector 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 85685A (20Hz-2GHz) Preselector 12/12/06 Annual 12/12/07 N/A Agilent HP 85685A (20Hz-2GHz) Preselector 12/12/06 Annual 12/12/07 N/A EMCO 3115 (1-18GHz) Horn Antenna 04/04/05 Biennial 04/04/07 9205-3874 Compliance Design A100 Roberts Dipoles 08/31/05 <td>Agilent</td> <td>HP 8566B (100Hz–22GHz)</td> <td>12/21/06</td> <td>Annual</td> <td>12/21/07</td> <td>3638A08713</td>	Agilent	HP 8566B (100Hz–22GHz)	12/21/06	Annual	12/21/07	3638A08713
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 85685A (20Hz-2GHz) Preselector 12/12/06 Annual 12/12/07 N/A Agilent HP 85685 Opt. 462 Impulse Bandwidth 12/12/06 Annual 12/12/07 3701A22204 EMCO 3115 (1-18GHz) Horn Antenna 04/04/05 Biennial 04/04/07 9205-3874 Compliance Design A100 Roberts Dipoles 08/31/05 Biennial 08/31/07 5118 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 Agilent HP 8901A Modulation Analyzer 06/05/06 Annual	Agilent	E4448A (3Hz-50GHz)	09/22/06	Annual	09/22/07	US42510244
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 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 3115 (1-18GHz) Horn Antenna 04/04/05 Biennial 04/04/07 9205-3874 Compliance Design A100 Roberts Dipoles 08/31/05 Biennial 08/31/07 5118 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 Agilent HP 8901A Modulation Analyzer 06/05/06 Annual						
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 3115 (1-18GHz) Horn Antenna 04/04/05 Biennial 04/04/07 9205-3874 Compliance Design A100 Roberts Dipoles 08/31/05 Biennial 08/31/07 5118 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 Agilent HP 8901A Modulation Analyzer 06/05/06 Annual 06/05/07 2432A03467 Agilent HP 8903 B Audio Analyzer 06/01/06 Annual 06/01/07 3011A09025 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 Pasternack PE2208-6 Bidirectional Coupler N/A No.165 (30MHz - 1000MHz) RG58 Coax Cable N/A No.166 (1000-26500MHz) Microwave RF Cable N/A N/A N/A N/A	Gigatronics	80701A (0.05-18GHz) Power Sensor	08/04/06	Annual	08/04/07	1835299
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 3115 (1-18GHz) Horn Antenna 04/04/05 Biennial 04/04/07 9205-3874 Compliance Design A100 Roberts Dipoles 08/31/05 Biennial 08/31/07 5118 EMCO Dipole Pair 09/21/06 Biennial 09/20/08 23951 SOLAR 8012-50 LISN (2) 11/18/05 Biennial 09/20/08 23951 SOLAR 8012-50 LISN (2) 11/18/05 Biennial 09/20/08 23951 Agilent HP 8901A Modulation Analyzer 06/05/06 Annual 06/05/07 2432A03467 Agilent HP 8903 B Audio Analyzer 06/01/06 Annual 06/01/07 3011A09025 K & L 11SH10 Band Pass Filter N/A Annual N/A N/A <	Agilent	HP 85650A Quasi-Peak Adapter	12/21/06	Annual	12/21/07	2043A00301
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 3115 (1-18GHz) Horn Antenna 04/04/05 Biennial 04/04/07 9205-3874 Compliance Design A100 Roberts Dipoles 08/31/05 Biennial 08/31/07 5118 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 Agilent HP 8901A Modulation Analyzer 06/05/06 Annual 06/05/07 2432A03467 Agilent HP 8903 B Audio Analyzer 06/01/06 Annual 06/01/07 3011A09025 K & L 11SH10 Band Pass Filter N/A Annual N/A 1300/4000 K & L 11SH10 Band Pass Filter N/A Annual N/A N/A Agilent HP 8495A (0-70dB) DC-4GHz Attenuator N/A N/A N/A N/A <td>Agilent</td> <td>HP 8449B (1-26.5GHz) Pre-Amplifier</td> <td>12/12/06</td> <td>Annual</td> <td>12/12/07</td> <td>3008A00985</td>	Agilent	HP 8449B (1-26.5GHz) Pre-Amplifier	12/12/06	Annual	12/12/07	3008A00985
Agilent HP 8566B Opt. 462 Impulse Bandwidth 12/12/06 Annual 12/12/07 3701A22204 EMCO 3115 (1-18GHz) Horn Antenna 04/04/05 Biennial 04/04/07 9205-3874 Compliance Design A100 Roberts Dipoles 08/31/05 Biennial 09/20/08 23951 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 Agilent HP 8901A Modulation Analyzer 06/05/06 Annual 06/05/07 2432A03467 Agilent HP 8903 B Audio Analyzer 06/01/06 Annual 06/01/07 3011A09025 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 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 Pasternack PE2208-6 Bidirectional Coupler N/A N/A N/A N/A No.165 (30MHz - 1000MHz) RG58 Coax Cable N/A N/A N/A N/A No.166 (1000-26500MHz) Microwave RF Cable N/A N/A N/A N/A	Agilent	HP 11713A Attenuation/Switch Driver	12/12/06	Annual	12/12/07	N/A
EMCO 3115 (1-18GHz) Horn Antenna 04/04/05 Biennial 04/04/07 9205-3874 Compliance Design A100 Roberts Dipoles 08/31/05 Biennial 08/31/07 5118 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 Agilent HP 8901A Modulation Analyzer 06/05/06 Annual 06/05/07 2432A03467 Agilent HP 8903 B Audio Analyzer 06/01/06 Annual 06/01/07 3011A09025 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 N/A - 263-10dB (DC-18GHz) 10 dB Attenuator N/A N/A N/A N/A - No.165 (30MHz - 1000MHz) RG58 Coax Cable N/A N/A N/A N/A -	Agilent	HP 85685A (20Hz-2GHz) Preselector	12/12/06	Annual	12/12/07	N/A
Compliance Design A100 Roberts Dipoles 08/31/05 Biennial 08/31/07 5118 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 Agilent HP 8901A Modulation Analyzer 06/05/06 Annual 06/05/07 2432A03467 Agilent HP 8903 B Audio Analyzer 06/01/06 Annual 06/01/07 3011A09025 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 N/A - 263-10dB (DC-18GHz) 10 dB Attenuator N/A N/A N/A N/A - PE2208-6 Bidirectional Coupler N/A N/A N/A N/A - No.165 (30MHz - 1000MHz) RG58 Coax Cable N/A N/A N/A N/A - No.166 (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 Agilent HP 8901A Modulation Analyzer 06/05/06 Annual 06/05/07 2432A03467 Agilent HP 8903 B Audio Analyzer 06/01/06 Annual 06/01/07 3011A09025 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 N/A - 263-10dB (DC-18GHz) 10 dB Attenuator N/A N/A N/A N/A Pasternack PE2208-6 Bidirectional Coupler N/A N/A N/A N/A - No.165 (30MHz - 1000MHz) RG58 Coax Cable N/A N/A N/A N/A - No.166 (1000-26500MHz) Microwave RF Cable N/A N/A N/A N/A	EMCO	3115 (1-18GHz) Horn Antenna	04/04/05	Biennial	04/04/07	9205-3874
SOLAR 8012-50 LISN (2) 11/18/05 Biennial 11/18/07 0313233, 0310234 Agilent HP 8901A Modulation Analyzer 06/05/06 Annual 06/05/07 2432A03467 Agilent HP 8903 B Audio Analyzer 06/01/06 Annual 06/01/07 3011A09025 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 N/A - 263-10dB (DC-18GHz) 10 dB Attenuator N/A N/A N/A N/A Pasternack PE2208-6 Bidirectional Coupler N/A N/A N/A N/A - No.165 (30MHz - 1000MHz) RG58 Coax Cable N/A N/A N/A N/A - No.166 (1000-26500MHz) Microwave RF Cable N/A N/A N/A N/A	Compliance Design	A100 Roberts Dipoles	08/31/05	Biennial	08/31/07	5118
Agilent HP 8901A Modulation Analyzer 06/05/06 Annual 06/05/07 2432A03467 Agilent HP 8903 B Audio Analyzer 06/01/06 Annual 06/01/07 3011A09025 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 N/A - 263-10dB (DC-18GHz) 10 dB Attenuator N/A N/A N/A N/A Pasternack PE2208-6 Bidirectional Coupler N/A N/A N/A N/A - No.165 (30MHz - 1000MHz) RG58 Coax Cable N/A N/A N/A N/A - No.166 (1000-26500MHz) Microwave RF Cable N/A N/A N/A N/A	EMCO	Dipole Pair	09/21/06	Biennial	09/20/08	23951
Agilent HP 8903 B Audio Analyzer 06/01/06 Annual 06/01/07 3011A09025 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 N/A - 263-10dB (DC-18GHz) 10 dB Attenuator N/A N/A N/A N/A Pasternack PE2208-6 Bidirectional Coupler N/A N/A N/A N/A - No.165 (30MHz - 1000MHz) RG58 Coax Cable N/A N/A N/A N/A - No.166 (1000-26500MHz) Microwave RF Cable N/A N/A N/A N/A	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 N/A - 263-10dB (DC-18GHz) 10 dB Attenuator N/A N/A N/A N/A Pasternack PE2208-6 Bidirectional Coupler N/A N/A N/A N/A - No.165 (30MHz - 1000MHz) RG58 Coax Cable N/A N/A N/A N/A - No.166 (1000-26500MHz) Microwave RF Cable N/A N/A N/A N/A	Agilent	HP 8901A Modulation Analyzer	06/05/06	Annual	06/05/07	2432A03467
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 N/A - 263-10dB (DC-18GHz) 10 dB Attenuator N/A N/A N/A N/A Pasternack PE2208-6 Bidirectional Coupler N/A N/A N/A N/A - No.165 (30MHz - 1000MHz) RG58 Coax Cable N/A N/A N/A N/A - No.166 (1000-26500MHz) Microwave RF Cable N/A N/A N/A N/A	Agilent	HP 8903 B Audio Analyzer	06/01/06	Annual	06/01/07	3011A09025
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 N/A Pasternack PE2208-6 Bidirectional Coupler N/A N/A N/A N/A - No.165 (30MHz - 1000MHz) RG58 Coax Cable N/A N/A N/A N/A - No.166 (1000-26500MHz) Microwave RF Cable N/A N/A N/A N/A	K&L	11SH10 Band Pass Filter	N/A	Annual	N/A	1300/4000
- 263-10dB (DC-18GHz) 10 dB Attenuator N/A N/A N/A Pasternack PE2208-6 Bidirectional Coupler N/A N/A N/A N/A - No.165 (30MHz - 1000MHz) RG58 Coax Cable N/A N/A N/A N/A - No.166 (1000-26500MHz) Microwave RF Cable N/A N/A N/A	K&L	11SH10 Band Pass Filter	N/A	Annual	N/A	4000/12000
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	Agilent	HP 8495A (0-70dB) DC-4GHz Attenuator	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	-	263-10dB (DC-18GHz) 10 dB Attenuator	N/A		N/A	N/A
- No.166 (1000-26500MHz) Microwave RF Cable 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.167 (100kHz - 100MHz) 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

Table 4-1. Test Equipment

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo O of 20
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Page 9 of 38
© 2007 PCTEST Engineerii	ng Laboratory, Inc.			REV 6.2C 02/19/07



5.0 SAMPLE CALCULATIONS

Emission Designator

Emission Designator = 1M25F9W

CDMA BW = 1.25 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: Channel 25 PCS Mode 2nd Harmonic (3702.50 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 3702.50 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.

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 10 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 10 01 30



TEST RESULTS

Summary

LG Electronics USA Company Name:

FCC ID: BEJLX160

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

Mode(s): **CDMA**

FCC Part Section(s)	RSS Section	Test Description	Test Limit	Test Condition	Test Result	Reference
TRANSMITTER MC	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-129 (8.1.1) RSS-133 (6.5.1)	Band Edge / Conducted Spurious Emissions	< 43 + 10log ₁₀ (P[Watts]) at Band Edge and for all out-of- band emissions	CONDUCTED	PASS	Section 7.0
SAR Measurement Procedures for 3G Devices, June '06	N/A	Conducted Power Measurements for 3G Devices	N/A		N/A	FCC 3G Power Table
22.913(a)(2)	RSS-129 (9.1)	Effective Radiated Power	< 7 Watts max. ERP		PASS	Section 6.1
24.232(c)	RSS-133 (6.4) [SRSP-510 (5.1.2)]	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP		PASS	Section 6.2
2.1053, 22.917(a), 24.238(a)	RSS-129 (8.1.1) RSS-133 (6.5.1)	Undesirable Emissions	< 43 + 10log ₁₀ (P[Watts]) for all out-of-band emissions	RADIATED	PASS	Sections 6.3, 6.4
2.1055, 22.355, 24.235	RSS-129 (9.2.1) RSS-133 (6.3)	Frequency Stability	< 2.5 ppm		PASS	Sections 6.5, 6.6
RECEIVER MODE	(RX) / DIGITAL EMIS	SIONS				
15.107	RSS-Gen [7.2.2]	AC Conducted Emissions 150kHz – 30MHz	< FCC 15.207 limits or < RSS-Gen table 2 limits	LINE CONDUCTED	PASS	Pt. 15B Test Report
15.109	RSS-129 (10(a,d)), RSS-133 (6.7(a,b)), RSS-210 (7.3)	General Field Strength Limits (Restricted Bands and Radiated Emissions Limits)	< FCC 15.209 limits or < RSS-Gen limits [Section 6; Table 1]	RADIATED (30MHz-1GHz) (1-25 GHz)	PASS	Pt. 15B Test Report
RF EXPOSURE (SA	AR)					
2.1091 / 2.1093	RSS-102	SAR or MPE Test	1.6 W/kg (SAR Limit) 1 mW/cm² (MPE Limit) @ 20 cm	SAR	PASS	SAR Report

Table 6-1. Summary of Test Results

FCC ID: BEJLX160	@\PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 11 of 29
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Page 11 of 38



6.1 Effective Radiated Power Output Data

§22.913(a)(2); RSS-129 (9.1)

POWER: "All Up" Bits (Cellular CDMA Mode)

Frequency [MHz]	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]
824.70	-11.400	25.30	-1.65	Н	23.65	0.232
836.52	-13.700	23.00	-1.65	Η	21.35	0.136
848.31	-12.300	24.40	-1.65	Н	22.75	0.188

Table 6-2. Effective Radiated Power Output Data

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.

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 12 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Fage 12 01 30



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

POWER: "All Up" Bits (PCS CDMA Mode)

Frequency [MHz]	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]
1851.25	-15.500	17.10	8.00	V	25.10	0.324
1880.00	-19.200	13.40	8.00	V	21.40	0.138
1908.75	-17.500	15.10	8.00	V	23.10	0.204

Table 6-3. Equivalent Isotropic Radiated Power Output Data

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.

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 13 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 13 01 30



6.3 Cellular CDMA Radiated Measurements

§2.1053, 22.917(a): RSS-129 (8.1.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 824.70 MHz

CHANNEL: 1013

MEASURED OUTPUT POWER: 23.650 dBm = 0.232 W

MODULATION SIGNAL: CDMA (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) =$ 36.65 dBc

FREQ.	LEVEL @ ANTENNA	SUBSTITUTE ANTENNA	CORRECT GENERATOR	POL	
(MHz)	TERMINALS	GAIN	LEVEL	(H/V)	(dBc)
	(dBm)	(dBi)	(dBm)		
1649.40	-67.74	8.31	-59.43	Н	83.1
2474.10	-80.15	9.41	-70.75	Н	94.4
3298.80	-81.04	9.55	-71.49	Н	95.1
4123.50	-88.91	9.74	-79.18	Н	102.8
4948.20	-88.00	10.62	-77.38	Н	101.0

Table 6-4. Radiated Spurious Data (Cellular CDMA Mode – Ch. 1013)

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.

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 14 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 14 01 30



Cellular CDMA Radiated Measurements (Cont'd) §2.1053, 22.917(a); RSS-129 (8.1.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 836.52 MHz

CHANNEL: 384

MEASURED OUTPUT POWER: _____ 23.650 ____ dBm = ____ 0.232 _ W

MODULATION SIGNAL: CDMA (Internal)

DISTANCE: 3 meters

LIMIT: $\overline{43 + 10 \log_{10} (W)} = 36.65$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1673.04	-69.96	8.33	-61.63	Н	85.3
2509.56	-82.31	9.45	-72.86	Н	96.5
3346.08	-84.97	9.57	-75.40	Н	99.0
4182.60	-89.18	9.90	-79.28	Н	102.9
5019.12	-87.39	10.61	-76.78	Н	100.4

Table 6-5. Radiated Spurious Data (Cellular CDMA Mode - Ch. 384)

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.

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 15 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 13 01 30



Cellular CDMA Radiated Measurements (Cont'd) §2.1053, 22.917(a); RSS-129 (8.1.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 848.31 MHz

CHANNEL: 777

MEASURED OUTPUT POWER: _____ 23.650 ____ dBm = ____ 0.232 _ W

MODULATION SIGNAL: CDMA (Internal)

DISTANCE: 3 meters

LIMIT: $\overline{43 + 10 \log_{10} (W)} = 36.65$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1696.62	-68.48	8.34	-60.14	Н	83.8
2544.93	-81.90	9.45	-72.46	Н	96.1
3393.24	-82.30	9.59	-72.71	Н	96.4
4241.55	-89.23	10.06	-79.18	Н	102.8
5089.86	-87.59	10.61	-76.98	Н	100.6

Table 6-6. Radiated Spurious Data (Cellular CDMA Mode – Ch. 777)

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.

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 16 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 10 01 30



6.4 PCS CDMA Radiated Measurements

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1851.25 MHz

CHANNEL: 25

MEASURED OUTPUT POWER: _____ 25.100 ____ dBm = ____ 0.324 _ W

MODULATION SIGNAL: CDMA (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) =$ 38.10 dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3702.50	-54.48	9.54	-44.95	V	70.0
5553.75	-53.36	10.66	-42.70	V	67.8
7405.00	-66.26	11.14	-55.12	V	80.2
9256.25	-77.18	11.15	-66.03	V	91.1
11107.50	-77.98	12.75	-65.23	V	90.3

Table 6-7. Radiated Spurious Data (PCS CDMA Mode – Ch. 25)

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.

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 17 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 17 01 30



PCS CDMA 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: 600

MEASURED OUTPUT POWER: 25.100 dBm 0.324

MODULATION SIGNAL: CDMA (Internal)

DISTANCE:

LIMIT: $43 + 10 \log_{10} (W) =$ 38.10 dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-62.40	9.51	-52.90	V	78.0
5640.00	-69.89	10.76	-59.13	V	84.2
7520.00	-73.24	11.01	-62.23	V	87.3
9400.00	-77.15	11.32	-65.83	V	90.9
11280.00	-77.77	12.74	-65.03	V	90.1

Table 6-8. Radiated Spurious Data (PCS CDMA Mode – Ch. 600)

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.

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 18 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Faye 10 01 30



PCS CDMA Radiated Measurements (Cont'd)

§2.1053, 24.238(a); RSS-133 (6.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1908.75 MHz

CHANNEL: 1175

MEASURED OUTPUT POWER: _____ 25.100 ____ dBm = ____ 0.324 _ W

MODULATION SIGNAL: CDMA (Internal)

DISTANCE: 3 meters

LIMIT: $\overline{43 + 10 \log_{10} (W)} = 38.10$ dBc

FREQ.	LEVEL @ ANTENNA	SUBSTITUTE ANTENNA	CORRECT GENERATOR	POL	
(MHz)	TERMINALS	GAIN	LEVEL	(H/V)	(dBc)
	(dBm)	(dBi)	(dBm)		
3817.50	-54.92	9.48	-45.44	V	70.5
5726.25	-45.78	10.86	-34.92	V	60.0
7635.00	-67.63	11.03	-56.60	V	81.7
9543.75	-77.02	11.49	-65.53	V	90.6
11452.50	-77.55	12.72	-64.83	٧	89.9

Table 6-9. Radiated Spurious Data (PCS CDMA Mode – Ch. 1175)

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.

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 19 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Faye 13 01 30



6.5 Frequency Stability (Cellular CDMA) §2.1055, 22.355; RSS-129 (9.2.1)

OPERATING FREQUENCY: 836,520,000 Hz

CHANNEL: 384

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)	836,520,009	9	0.000001
100 %		- 30	836,519,985	-15	-0.000002
100 %		- 20	836,520,018	18	0.000002
100 %		- 10	836,520,022	22	0.000003
100 %		0	836,520,018	18	0.000002
100 %		+ 10	836,519,988	-12	-0.000001
100 %		+ 20	836,520,009	9	0.000001
100 %		+ 25	836,519,983	-17	-0.000002
100 %		+ 30	836,519,987	-13	-0.000002
100 %		+ 40	836,519,982	-18	-0.000002
100 %		+ 50	836,519,982	-18	-0.000002
115 %	4.26	+ 20	836,520,009	9	0.000001
BATT. ENDPOINT	3.40	+ 20	836,519,973	-27	-0.000003

Table 6-10. Frequency Stability Data (Cellular CDMA Mode - Ch. 384)

Note:

Slim batteries were used to perform this test.

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 20 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Faye 20 01 30



Frequency Stability (Cellular CDMA) (Cont'd) §2.1055, 22.355; RSS-129 (9.2.1)

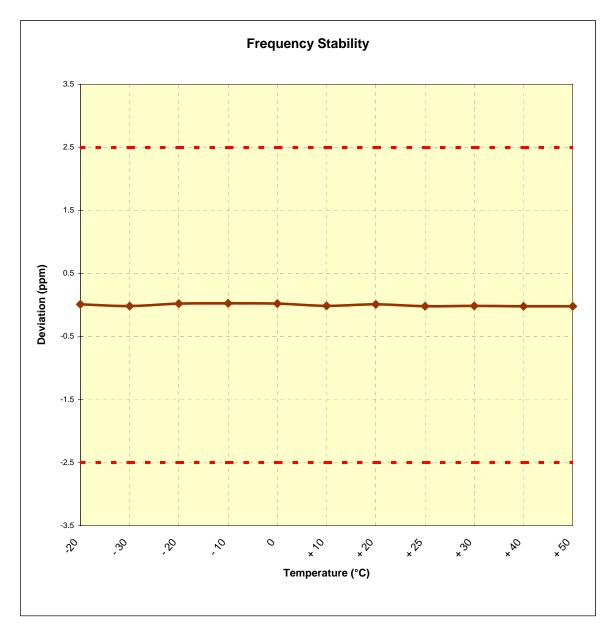


Figure 6-1. Frequency Stability Graph (Cellular CDMA Mode – Ch. 384)

Note:

Slim batteries were used to perform this test.

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 21 of 38	
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Page 21 01 36	
© 2007 DCTEST Engineering Laboratory Inc.					

© 2007 PCTEST Engineering Laboratory, Inc.



6.6 Frequency Stability (PCS CDMA) §2.1055, 24.235; RSS-133 (6.3)

OPERATING FREQUENCY: 1,880,000,000 Hz

CHANNEL: _______600

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)	1,879,999,984	-16	-0.000001
100 %		- 30	1,879,999,980	-20	-0.000001
100 %		- 20	1,880,000,018	18	0.000001
100 %		- 10	1,880,000,012	12	0.000001
100 %		0	1,880,000,015	15	0.000001
100 %		+ 10	1,880,000,019	19	0.000001
100 %		+ 20	1,879,999,984	-16	-0.000001
100 %		+ 25	1,880,000,021	21	0.000001
100 %		+ 30	1,880,000,016	16	0.000001
100 %		+ 40	1,880,000,014	14	0.000001
100 %		+ 50	1,880,000,018	18	0.000001
115 %	4.26	+ 20	1,879,999,984	-16	-0.000001
BATT. ENDPOINT	3.40	+ 20	1,879,999,971	-29	-0.000002

Table 6-11. Frequency Stability Data (PCS CDMA Mode - Ch. 600)

Note:

Slim batteries were used to perform this test.

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 22 of 38	
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Page 22 01 36	
© 0007 DOTEOT Familia and	DEVICEOUS Francisco de la baracteria de la contracte de la con				



Frequency Stability (PCS CDMA) (Cont'd) §2.1055, 24.235; RSS-133 (6.3)

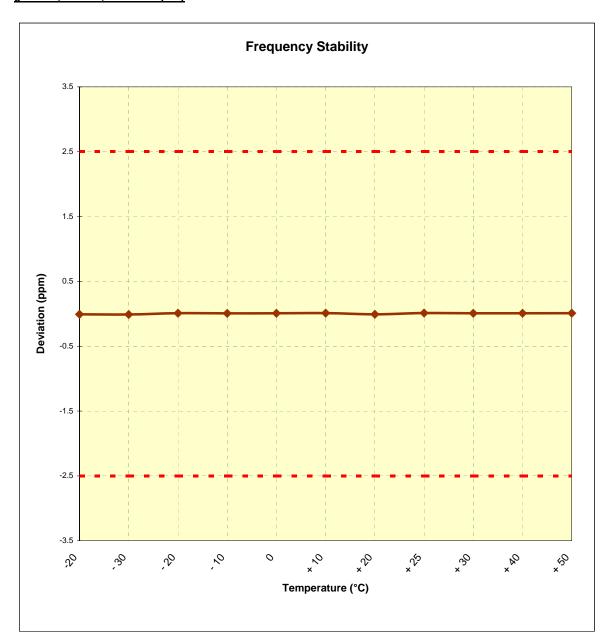


Figure 6-2. Frequency Stability Graph (PCS CDMA Mode – Ch. 600)

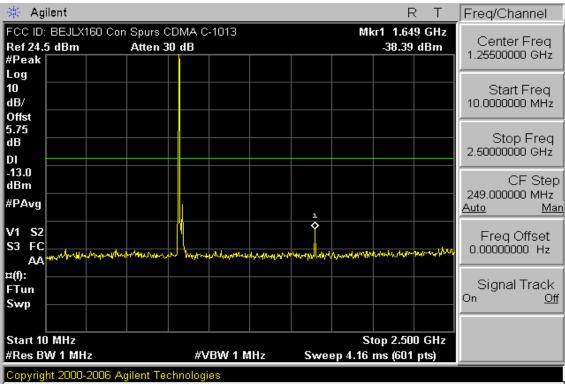
Note:

Slim batteries were used to perform this test.

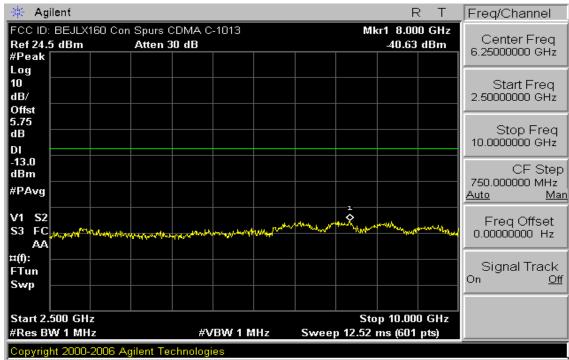
FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 23 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Fage 23 01 36
© 2007 PCTEST Engineering	2007 PCTEST Engineering Laboratory, Inc.			



7.0 PLOT(S) OF EMISSIONS



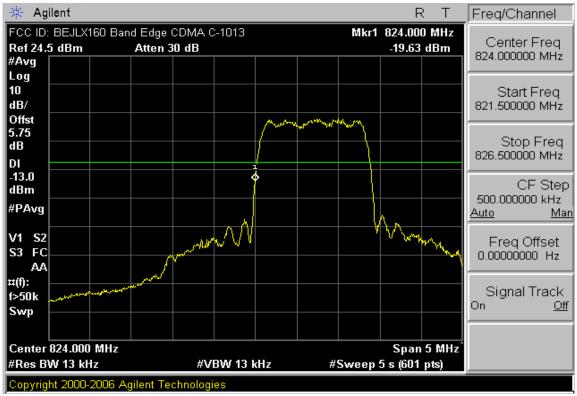
Plot 7-1. Conducted Spurious Plot (Cellular CDMA Mode - Ch. 1013)



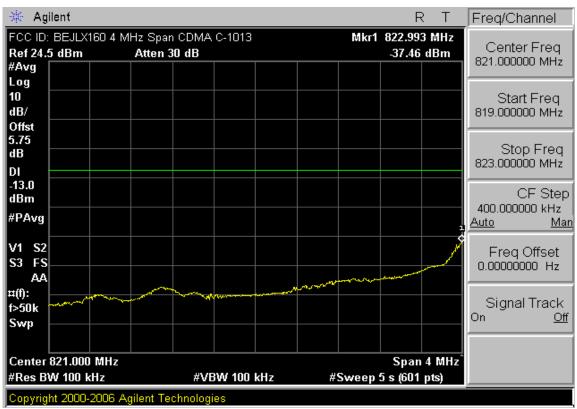
Plot 7-2. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 1013)

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 24 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		raye 24 01 30





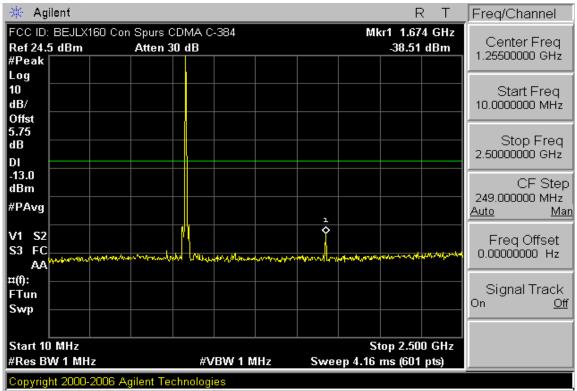
Plot 7-3. Band Edge Plot (Cellular CDMA Mode – Ch. 1013)



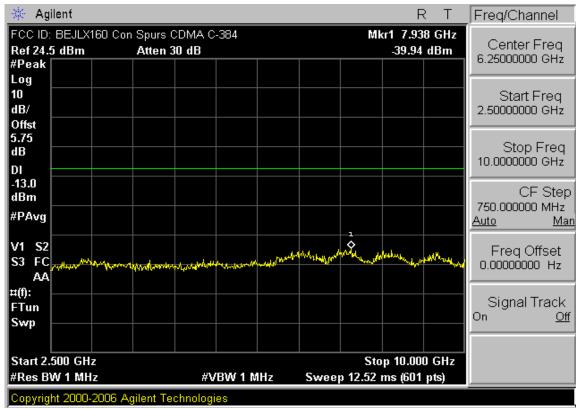
Plot 7-4. 4MHz Span Plot (Cellular CDMA Mode - Ch. 1013)

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 25 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Faye 23 01 30





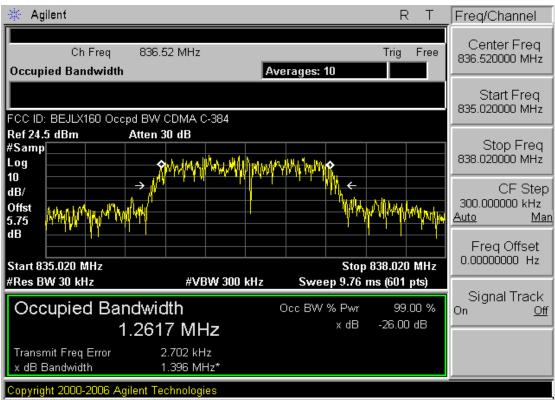
Plot 7-5. Conducted Spurious Plot (Cellular CDMA Mode - Ch. 384)



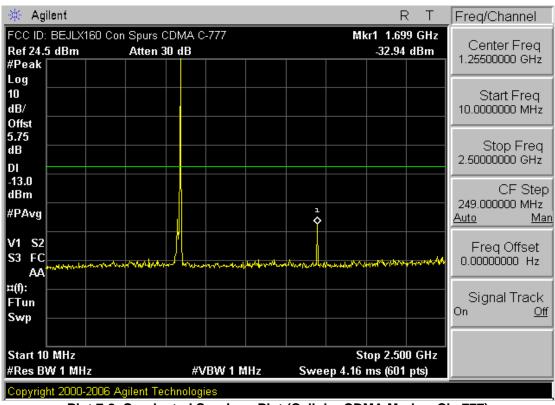
Plot 7-6. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 384)

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 26 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		F aye 20 01 30





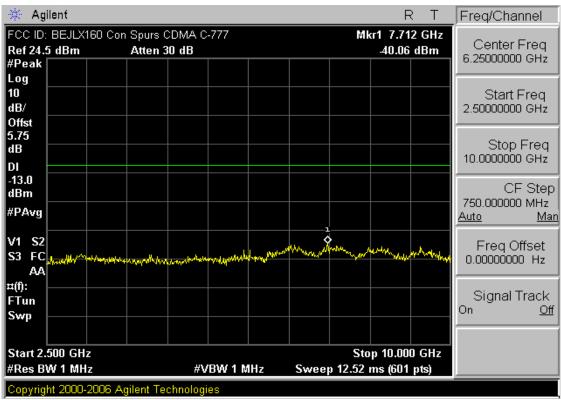
Plot 7-7. Occupied Bandwidth Plot (Cellular CDMA Mode – Ch. 384)



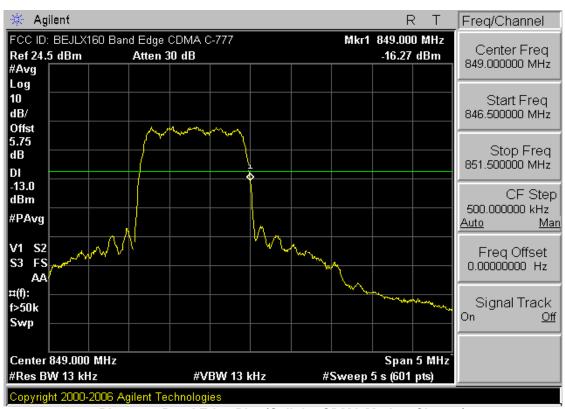
Plot 7-8. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 777)

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 27 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Faye 21 01 30





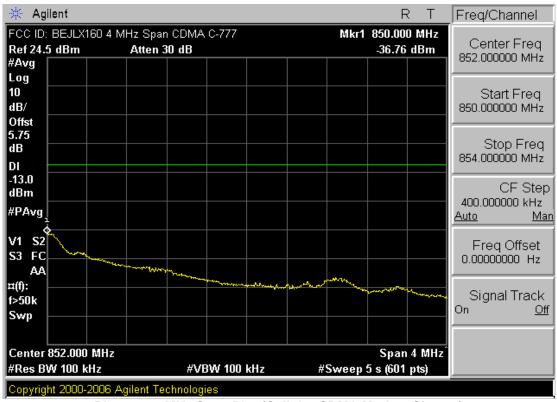
Plot 7-9. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 777)



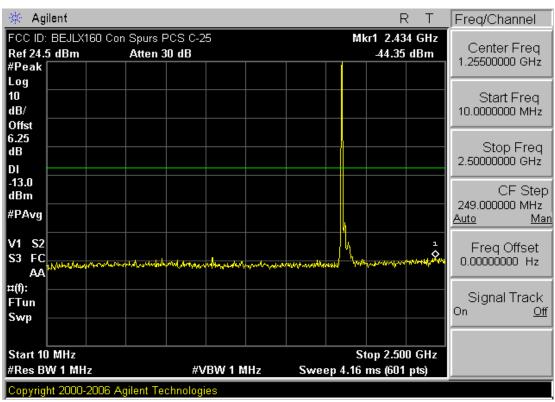
Plot 7-10. Band Edge Plot (Cellular CDMA Mode – Ch. 777)

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 28 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		F aye 20 01 30





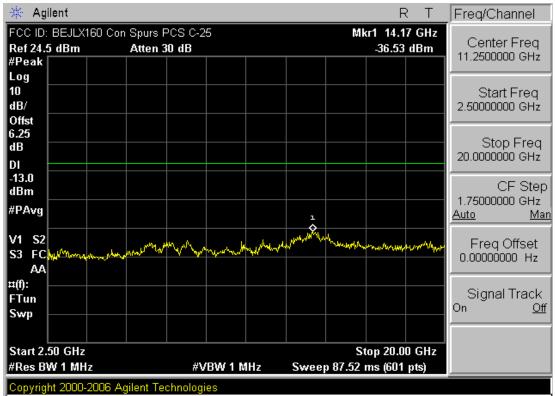
Plot 7-11. 4MHz Span Plot (Cellular CDMA Mode - Ch. 777)



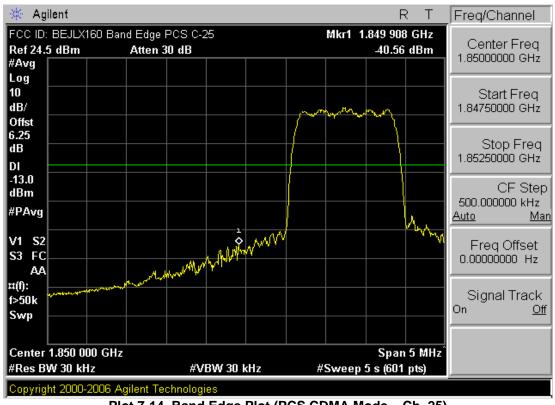
Plot 7-12. Conducted Spurious Plot (PCS CDMA Mode – Ch. 25)

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 29 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Fage 29 01 30





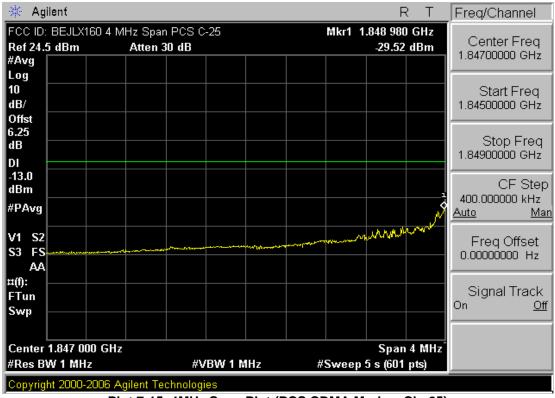
Plot 7-13. Conducted Spurious Plot (PCS CDMA Mode - Ch. 25)



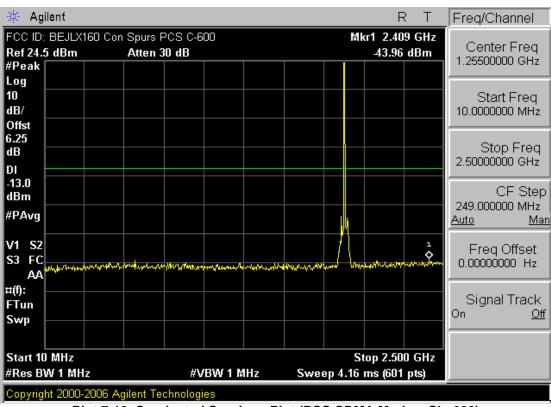
Plot 7-14. Band Edge Plot (PCS CDMA Mode - Ch. 25)

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 30 of 38	
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Page 30 01 36	
© 0007 DOTEOT E	2007 POTFOT Fording to the standard by				





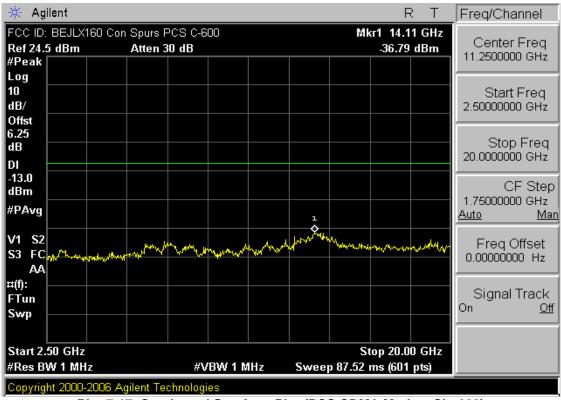
Plot 7-15. 4MHz Span Plot (PCS CDMA Mode - Ch. 25)



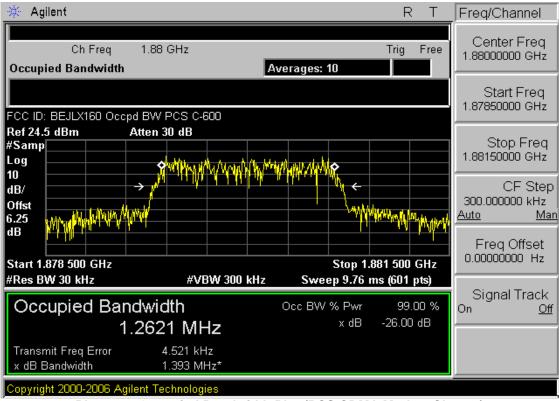
Plot 7-16. Conducted Spurious Plot (PCS CDMA Mode - Ch. 600)

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 31 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 31 01 30





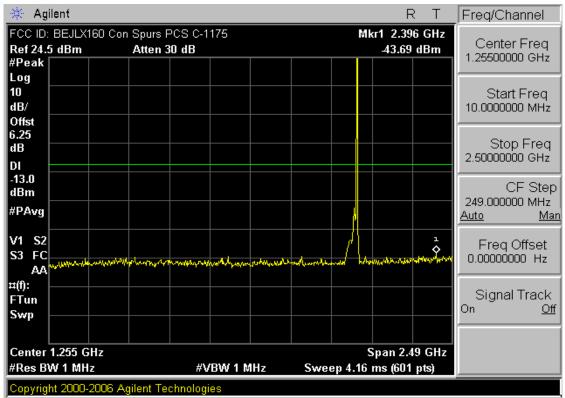
Plot 7-17. Conducted Spurious Plot (PCS CDMA Mode - Ch. 600)



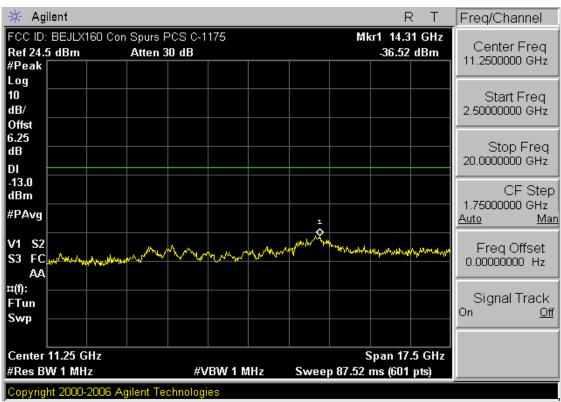
Plot 7-18. Occupied Bandwidth Plot (PCS CDMA Mode – Ch. 600)

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 32 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Fage 32 01 36





Plot 7-19. Conducted Spurious Plot (PCS CDMA Mode - Ch. 1175)



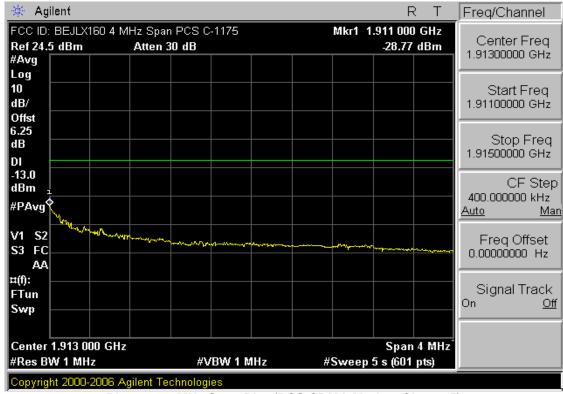
Plot 7-20. Conducted Spurious Plot (PCS CDMA Mode – Ch. 1175)

FCC ID: BEJLX160	@\PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 33 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 33 UI 36
© 2007 PCTEST Engineering Leberatory, Inc.				





Plot 7-21. Band Edge Plot (PCS CDMA Mode - Ch. 1175)



Plot 7-22. 4MHz Span Plot (PCS CDMA Mode - Ch. 1175)

FCC ID: BEJLX160	PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 34 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		raye 34 01 30



CONCLUSION 8.0

The data collected show that the LG Cellular/PCS CDMA Phone with Bluetooth FCC ID: BEJLX160 complies with all the requirements of Parts 2, 22, and 24 of the FCC rules.

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 35 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 33 01 30



EXHIBIT A - TEST SETUP PHOTOGRAPHS

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 36 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 30 01 30



EXHIBIT B - INTERNAL PHOTOGRAPHS

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 37 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		rage 37 01 30



EXHIBIT C - EXTERNAL PHOTOGRAPHS

FCC ID: BEJLX160	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 38 of 38
0703050143.BEJ	March 20-21, 2007	Cellular/PCS CDMA Phone with Bluetooth		Fage 30 01 30