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: November 16-20, 2006 **Test Site/Location:**

PCTEST Lab., Columbia, MD, USA

Test Report Serial No.:

0611030972

FCC ID: BEJAX275

APPLICANT: LG ELECTRONICS USA

Certification Application Type:

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

FCC Rule Part(s): §2; §22(H), §24(E)

EUT Type: Tri-Mode Dual-Band Analog/ PCS Phone (AMPS/ CDMA)

Model(s): AX275

Tx Frequency Range: 824.04 - 848.97MHz (AMPS) / 824.70 - 848.31MHz (Cell. CDMA) /

1851.25 - 1908.75MHz (PCS CDMA)

869.04 - 893.97MHz (AMPS) / 869.70 - 893.31MHz (Cell. CDMA) / Rx Frequency Range:

> 1931.25 - 1988.75MHz (PCS CDMA) 0.456 W ERP AMPS (26.585 dBm) /

Max. RF Output Power:

0.301 W ERP Cell. CDMA (24.783 dBm) / 0.299 W EIRP PCS CDMA (24.751 dBm)

Max. SAR Measurement: 1.340 W/kg AMPS Head SAR, 0.902 W/kg AMPS Body SAR /

> 1.030 W/kg Cell. CDMA Head SAR, 0.710 W/kg Cell. CDMA Body SAR / 1.040 W/kg PCS CDMA Head SAR, 0.537 W/kg PCS CDMA Body SAR 40K0F8W, 40K0F1D (AMPS) / 1M27F9W (CDMA) / 1M26F9W (PCS)

Emission Designator(s): Test Device Serial No.: identical prototype [S/N: A0000003327130]

Class II Permissive Change:

Original Grant Date:

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. SAR compliance for body-worn operating configuration is based on a separation distance of 1.5cm between the back of the unit and the body of the user. End-users must be informed of the body-worn operating requirements for satisfying RF exposure compliance. Belt clips or holsters may not contain metallic components.

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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President



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

FCC RULE PART(S): §2; §22(H), §24(E)

MODEL NAME: AX275 FCC ID: BEJAX275

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

EMISSION DESIGNATOR(S): 40K0F8W, 40K0F1D (AMPS) / 1M27F9W (CDMA) / 1M26F9W (PCS)

Tri-Mode Dual-Band Analog/ PCS Phone (AMPS/ CDMA) MODE:

FREQUENCY TOLERANCE: ±0.00025 % (2.5 ppm)

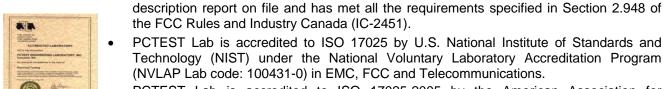
Test Device Serial No.: A0000003327130 ☐ Production ☐ Pre-Production ☐ Engineering

DATE(S) OF TEST: November 16-20, 2006

TEST REPORT S/N: 0611030972

A.1 Test Facility / Accreditations

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



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

PCTEST facility is an FCC registered (PCTEST Reg. No. 90864) test facility with the site

- 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.





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.

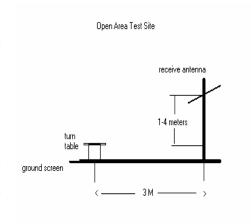


Figure 1-1. Diagram of 3-meter outdoor test range

Deviation from Measurement Procedure.....None

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

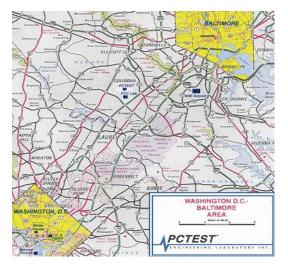


Figure 1-3. Map of the Greater Baltimore and Metropolitan Washington, D.C. area.

These measurement tests were conducted at 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. The 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.

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2.0 PRODUCT INFORMATION

2.1 **Equipment Description**

The Equipment Under Test (EUT) is the **LG Electronics Tri-Mode Dual-Band Analog/ PCS Phone (AMPS/ CDMA) FCC ID: BEJAX275.** The EUT consisted of the following components(s):

Manufacturer / Description	FCC ID	Serial Number
LG Electronics Tri-Mode Dual-Band Analog/ PCS Phone (AMPS/ CDMA)	BEJAX275	A0000003327130

Table 2.1. EUT Equipment Description

2.2 EMI Suppression Device(s)/Modifications

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

None

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3.0 DESCRIPTION OF TESTS

3.1 Transmitter Audio Frequency Response §2.1047, TIA/EIA-553-A (2.1.3.1.4)

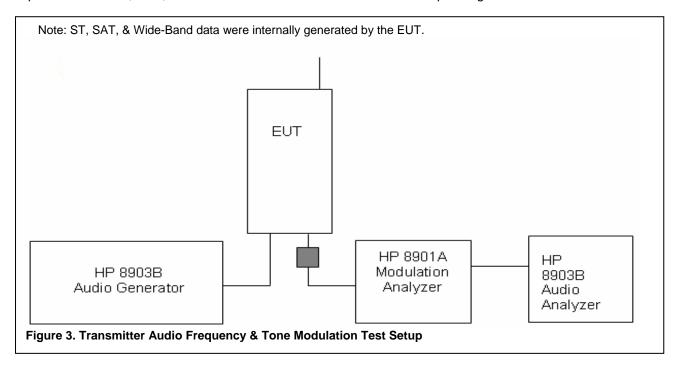
The frequency response of the audio modulating circuit over the frequency range 100-5000~Hz is measured. The audio signal generator is connected to the audio input circuit/microphone of the EUT. The audio signal input is adjusted to obtain 50% modulation at 1kHz and this point is taken as the 0dB reference. With the input held constant and below the limit at all frequencies, the audio signal generator is varied from 100~to~50~kHz.

3.2 Audio Low Pass Filter Frequency Response §2.1047, TIA/EIA-553-A (2.1.3.1.4); RSS-129 (6.2)

The response in dB relative to 1kHz is measured using the HP8901 a Modulation Analyzer. For the frequency response of the audio low-pass filter, the audio input is connected at the input to the modulation limiter and the modulated stage. The audio output is connected at the output of the modulated stage. The corresponding plots are shown herein.

3.3 Modulation Limiting §2.1047, TIA/EIA-553-A (2.1.3.1.3); RSS-129 (6.1)

The audio signal generator is connected to the audio input circuit/microphone of the EUT. The modulation response is measured for each of the three modulating frequencies (300Hz, 1000Hz, and 3000Hz), and the input voltage is varied from 30% modulation (±3.6kHz deviation) to at least 20dB higher than the saturation point. Measurements of modulation and the plots are attached herein. Measurements were performed for ST, SAT, and wide-band data modulations. The corresponding results are shown herein.



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3.4 Sideband Power Attenuation Limits (AMPS)

§2.1047, TIA/EIA-553-A (2.1.4.1); RSS-129 (6.3.2)

The audio signal generator is adjusted to 1 kHz. The output level is set to ±6 kHz deviation. With the level constant, the frequency is set to 2500 Hz. Then the audio signal level is increased by 16 dB. The occupied bandwidth data is obtained for the SAT (Supervisory Audio Tone), ST (Signaling Tone), WBD (Wideband data), and DTMF (Dual Tone Multi Frequencies). The results are shown on the attached graphs.

Specified Limits:

- a. On any frequency removed from the assigned carrier frequency by more than 20 kHz, up to and including 45 kHz, the sideband is at least 26 dB below the carrier.
- b. On any frequency removed from the assigned carrier frequency by more than the 45 kHz, up to and including 90 kHz, the sideband is at least 45 dB below the carrier.
- c. On any frequency removed from the assigned carrier frequency by more than 90 kHz, up to the first multiple of the carrier frequency, the sideband is at least 60dB below the carrier or 43 + log₁₀(mean power output in Watts) dB, whichever is the smaller attenuation.

3.5 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.

3.6 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.

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3.7 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*)

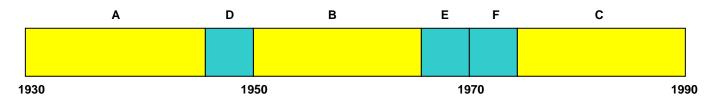
3.8 Cellular - Mobile Frequency Blocks



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*)

3.9 PCS - Base Frequency Blocks



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

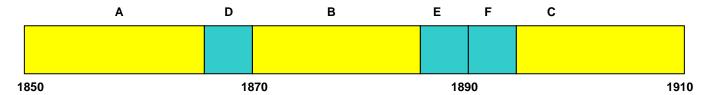
BLOCK 2: 1945 – 1950 MHz (D) BLOCK 5: 1970 – 1975 MHz (F)

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

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3.10 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)

3.11 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. 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.

3.12 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 +60°C using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the voltage normally at the input to the device or at the power supply terminals if cables are not normally supplied.

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 ± 0.00025 (± 2.5 ppm) of the center frequency.

of the transmitter and the individual oscillators is made within a three minute interval after applying power to the transmitter.

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Frequency Stability / Temperature Variation (Cont'd)

§2.1055, 22.355, 24.235; RSS-129 (9.2.1), RSS-133 (6.7(a,b))

Time Period and Procedure:

- 1. The carrier frequency of the transmitter and the individual oscillators is measured at room temperature (22°C to 25°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
- 4. Frequency measurements are made at 10°C interval up to room temperature. At least a period of one and one half-hour is provided to allow stabilization of the equipment at each temperature level.
- 5. Again the transmitter carrier frequency and the individual oscillators are measured at room temperature to begin measurement of the upper temperature levels.
- 6. Frequency measurements are at 10 intervals starting at -30°C up to +50°C allowing at least two hours at each temperature for stabilization. In all measurements the frequency is measured within three minutes after re-applying power to the transmitter.
- 7. The artificial load is mounted external to the temperature chamber.

NOTE: The EUT is tested down to the battery endpoint.

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4.0 TEST EQUIPMENT CALIBRATION DATA

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

. oot Equipmont Ou	libration is traceable to the National Institute of S				
Manufacturer	Model / Equipment	Calibration Date	Cal Interval	Calibration Due	Serial No.
Agilent	E4404B/E4407B ESA Spectrum Analyzer	04/20/06	Annual	04/20/07	US39210313
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	GB43193972
Agilent	E4432B ESG-D Series Signal Generator	08/08/06	Annual	08/08/07	US40053896
Agilent	8648D (9kHz-4GHz) Signal Generator	10/01/06	Annual	10/01/07	3613A00315
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	833855/010
Rohde & Schwarz	CMU200 Base Station Simulator	04/20/06	Annual	04/20/07	836371/079
Agilent	HP 8566B (100Hz–22GHz)	12/22/05	Annual	12/22/06	3638A08713
Agilent	E4448A (3Hz-50GHz)	09/22/06	Annual	09/22/07	US42510244
Agilent	E8257D (250kHz-20GHz) Signal Generator	02/11/06	Annual	02/11/07	MY45470194
Agilent	E8257D (250kHz-20GHz) Signal Generator	03/30/06	Annual	03/30/07	MY44320964
Gigatronics	8651A (50MHz-18GHz)	07/28/06	Annual	07/28/07	1834052
Gigatronics	80701A (0.05-18GHz) Power Sensor	08/04/06	Annual	08/04/07	1835299
Agilent	HP 85650A Quasi-Peak Adapter	12/22/05	Annual	12/22/06	2043A00301
Agilent	HP 8449B (1-26.5GHz) Pre-Amplifier	12/22/05	Annual	12/22/06	3008A00985
Agilent	HP 11713A Attenuation/Switch Driver	12/22/05	Annual	12/22/06	N/A
Agilent	HP 85685A (20Hz-2GHz) Preselector	12/22/05	Annual	12/22/06	N/A
Agilent	HP 8586 Opt. 462 Impulse Bandwidth	12/22/05	Annual	12/22/06	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	Annual	N/A	N/A
-	263-10dB (DC-18GHz) 10 dB Attenuator	N/A	Annual	N/A	N/A
Pasternack	PE2208-6 Bidirectional Coupler	N/A	Annual	N/A	N/A
-	No.165 (30MHz - 1000MHz) RG58 Coax Cable	N/A	Annual	N/A	N/A
-	No.166 (1000-26500MHz) Microwave RF Cable	N/A	Annual	N/A	N/A
-	No.167 (100kHz - 100MHz) RG58 Coax Cable	N/A	Annual	N/A	N/A

Table 4.1. Test Equipment

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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)

Emission Designator = 40K0F8W

Calculation: Voice + SAT

Modulation: Voice is 2.5 kHz and SAT is 6 kHz – Maximum modulation is M = 6 kHz

Deviation: Voice is 12 kHz and SAT is 2 kHz – Maximum deviation is D = 12 + 2 = 14 kHz

 $B_n = 2M + 2DK \text{ with } K = 1$

 $B_n = 40 \text{ kHz}$

Calculation: Signaling Tone (ST) + SAT

Modulation: ST is 10 kHz and SAT is 6 kHz – Maximum modulation is M = 10 kHz Deviation: ST is 8 kHz and SAT is 2 kHz – Maximum deviation is D = 8 + 2 = 10 kHz

 $B_n = 2M + 2DK \text{ with } K = 1$

 $B_n = 40 \text{ kHz}$

Emission Designator = 40K0F1D

Calculation: Voice + SAT

Modulation: Wideband Data is 10 kHz and SAT is 6 kHz – Maximum modulation is M = 10 kHz Deviation: Wideband Data is 8 kHz and SAT is 2 kHz – Maximum deviation is D = 8 + 2 = 10 kHz

 $B_n = 2xM + 2xDK$ with K = 1

 $B_n = 40 \text{ kHz}$

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.

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6.0 TEST RESULTS

Summary

The intentional radiator has been tested in a simulated typical installation to demonstrate compliance with the relevant FCC performance and procedural standards. The radio was transmitting at full power on the specified channels. The channels tested are high, middle and low of the allocated bands. Final system data was gathered in a mode that tended to maximize emissions by varying the orientation of the EUT, orientation of power and I/O cabling, antenna search height, and antenna polarization. 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.

Method/System: PCS Licensed Transmitter Held to Ear (PCE)

Mada(a): Tri-Mode Dual-Band Analog/ PCS Phone

Mode(s): (AMPS/ CDMA)

FCC Part Section(s)	RSS Section	Test Description	Test Limit	Test Condition	Test Result		
TRANSMITTER MO	DDE (TX)						
2.1049, 22.917(a), 24.238(a)	N/A	Occupied Bandwidth	N/A		PASS		
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]) dB at Band Edge and for all out-of-band emissions		PASS		
2.1046	N/A	Transmitter Conducted Output Power	N/A		PASS		
2.1047, TIA/EIA-553-A (2.1.4.1)	RSS-129 (6.3.2)	Sideband Power Attenuation (Analog)	Please refer to Section 3.4 of this report for test limits	CONDUCTED	PASS		
2.1047, TIA/EIA-553-A (2.1.3.1.4)	N/A	Transmitter Audio Frequency Response	Response must comply with limits set in Table 6.1 (RSS-129)		PASS		
2.1047, TIA/EIA-553-A (2.1.3.1.4)	RSS-129 (6.2)	Audio Low Pass Filter Frequency Response	Response must comply with limits set in Table 6.1 (RSS-129)		PASS		
2.1047, TIA/EIA-553-A (2.1.3.1.3)	RSS-129 (6.1)	Modulation Limiting	±12kHz from carrier frequency		PASS		
22.913(a)(2)	RSS-129 (9.1)	Effective Radiated Power	< 7 Watts max. ERP < 6.3 Watts max. ERP (IC)		PASS		
24.232(c)	RSS-133 (6.4) [SRSP-510 (5.1.2)]	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP	RADIATED	PASS		
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		PASS		
2.1055, 22.355, 24.235	RSS-129 (9.2.1) RSS-133 (6.3)	Frequency Stability	< 2.5 ppm		PASS		
RECEIVER MODE	(RX)						
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		
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; Table1]	RADIATED (30MHz-1GHz) (1-25 GHz)	PASS		
RF EXPOSURE (SAR)							
2.1093	RSS-102	SAR Test or MPE	1.6 W/kg (SAR Limit)	3 Channels	PASS		

Table 6-1. Summary of Test Results

FCC ID: BEJAX275	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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6.1 Conducted Output Power

§2.1046

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.

SAR Measurement Conditions for CDMA2000

The following procedures were followed according to FCC "SAR Measurement Procedures for 3G Devices", June 2006.

Output Power Verification

See 3GPP2 C.S0011/TIA-98-E as recommended by "SAR Measurement Procedures for 3G Devices", June 2006.

- 1. If the mobile station (MS) supports Reverse TCH RC 1 and Forward TCH RC 1, set up a call using Fundamental Channel Test Mode 1 (RC=1/1) with 9600 bps data rate only.
- 2. Under RC1, C.S0011 Table 4.4.5.2-1, Table 6-2 parameters were applied.
- 3. If the MS supports the RC 3 Reverse FCH, RC3 Reverse SCH0 and demodulation of RC 3,4, or 5, set up a call using Supplemental Channel Test Mode 3 (RC 3/3) with 9600 bps Fundamental Channel and 9600 bps SCH0 data rate.
- 4. Under RC3, C.S0011 Table 4.4.5.2-2, Table 6-3 was applied.
- 5. FCHs were configured at full rate for maximum SAR with "All Up" power control bits.

Parameter	Units	Value
Îor	dBm/1.23 MHz	-104
Pilot E _c	dB	-7
Traffic E _c	dB	-7.4

Parameter	Units	Value
Îor	dBm/1.23 MHz	-86
$\frac{\text{Pilot E}_{c}}{\text{I}_{or}}$	dB	-7
$\frac{\text{Traffic E}_{c}}{I_{or}}$	dB	-7.4

Table 6-2. Parameters for Max. Power for RC1

Table 6-3. Parameters for Max. Power for RC3

Modulation	Channel	Conducted Power
		[dBm]
Fraguanay	991	26.11
Frequency Modulation	384	26.11
	799	26.31

Table 6-4. Maximum AMPS Conducted Power Output Table for AX275

Band	Channel	SO2 [dBm]	SO2 [dBm]	SO2 [dBm]	SO55 [dBm]	SO55 [dBm]	SO9 [dBm]	SO9 [dBm]	SO3 [dBm]	SO3 [dBm]	SO3 [dBm]	TDSO SO32 [dBm]
	F-RC	RC1	RC3	RC4	RC1	RC3	RC2	RC5	RC1	RC3	RC4	RC3
	Vocoder Rate	Full	Full	Full	Full	Full	Full	Full	EVRC	Full	Full	N/A
	25	24.05	24.04	24.09	24.07	24.09	24.03	24.04	24.07	24.06	24.07	24.02
PCS	600	24.10	24.12	24.11	24.13	24.12	24.10	24.12	24.13	24.13	24.08	24.07
	1175	24.04	24.09	24.08	24.06	24.08	24.05	24.10	24.09	24.08	24.08	24.03
	1013	24.46	24.42	24.49	24.45	24.41	24.48	24.47	24.42	24.45	24.44	24.42
Cellular	384	24.49	24.45	24.53	24.51	24.43	24.51	24.53	24.51	24.52	24.47	24.46
	777	24.51	24.48	24.52	24.50	24.52	24.56	24.55	24.53	24.54	24.55	24.54

Table 6-5. Maximum CDMA Conducted Power Output Table for AX275

FCC ID: BEJAX275	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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6.2 Effective Radiated Power Output Data

§22.913(a)(2); RSS-129 (9.1)

POWER: High (Analog (AMPS) Mode)

Freq. Tuned (MHz)	REF. LEVEL (dBm)	POL (H/V)	ERP (W)	ERP (dBm)	BATTERY
824.04	-15.000	Н	0.42396	26.273	Standard
836.52	-15.200	Н	0.41969	26.229	Standard
848.97	-15.000	Н	0.45550	26.585	Standard

Table 6-6. Effective Radiated Power Output Data (AMPS)

POWER: High (CDMA Mode)

OWER: Ingir	(
Freq. Tuned	REF. LEVEL	POL	ERP	ERP	BATTERY
(MHz)	(dBm)	(H/V)	(W)	(dBm)	
824.70	-16.900	Н	0.27370	24.373	Standard
836.49	-16.800	Н	0.29059	24.633	Standard
848.31	-16.800	Н	0.30080	24.783	Standard

Table 6-7. Effective Radiated Power Output Data (CDMA)

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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6.3 Equivalent Isotropic Radiated Power Output Data

§24.232(c); RSS-133 (6.4) [SRSP-510 (5.1.2)]

Radiated measurements at 3 meters

Supply Voltage: 3.7 VDC

Modulation: PCS CDMA

FREQ. (MHz)	REF. LEVEL (dBm)	POL (H/V)	Azimuth (o angle)	EIRP (dBm)	EIRP (W)	Battery
1851.25	-18.500	Н	180	24.581	0.288	Standard
1880.00	-18.500	Н	180	24.751	0.299	Standard
1908.75	-18.800	Н	180	24.621	0.291	Standard

Table 6-8. Equivalent Isotropic Radiated Power Output Data

NOTES:

<u>Equivalent Isotropic Radiated Power Measurements by Substitution Method</u> 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 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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6.4 AMPS Radiated Measurements

§2.1053, 22.917(a): RSS-129 (8.1.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 824.04 MHz

CHANNEL: 0991 (Low)

MEASURED OUTPUT POWER: ______ 26.585 _____ dBm = _____ 0.456 _ W

MODULATION SIGNAL: FM (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 39.58$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1648.08	-49.38	6.10	-43.28	Н	69.9
2472.12	-56.38	6.70	-49.68	Н	76.3
3296.16	-72.18	6.80	-65.38	Н	92.0
4120.20	-72.58	6.50	-66.08	Η	92.7
4944.24	-84.38	7.00	-77.38	Н	104.0

Table 6-9. Radiated Spurious Data (AMPS Mode - Ch. 991)

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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AMPS 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: 0384 (Mid)

MEASURED OUTPUT POWER: 26.585 dBm = 0.456 W

MODULATION SIGNAL: FM (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 39.58$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1673.04	-48.08	6.10	-41.98	Н	68.6
2509.56	-53.78	6.70	-47.08	Н	73.7
3346.08	-69.28	6.80	-62.48	Н	89.1
4182.60	-71.58	6.50	-65.08	Н	91.7
5019.12	-83.88	7.00	-76.88	Н	103.5

Table 6-10. Radiated Spurious Data (AMPS 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.

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AMPS Radiated Measurements (Cont'd)

§2.1053, 22.917(a); RSS-129 (8.1.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 848.97 MHz

CHANNEL: 0799 (High)

MEASURED OUTPUT POWER: 26.585 dBm = 0.456 W

MODULATION SIGNAL: FM (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 39.58$ dBc

FREQ.	LEVEL @ ANTENNA TERMINALS	SUBSTITUTE ANTENNA	CORRECT GENERATOR LEVEL	POL	(dPa)
(MHz)		GAIN		(H/V)	(dBc)
	(dBm)	(dBd)	(dBm)		
1697.94	-45.78	6.10	-39.68	Н	66.3
2546.91	-53.98	6.70	-47.28	Н	73.9
3395.88	-64.58	6.80	-57.78	Н	84.4
4244.85	-71.38	6.50	-64.88	Н	91.5
5093.82	-83.98	7.00	-76.98	Н	103.6

Table 6-11. Radiated Spurious Data (AMPS Mode - Ch. 799)

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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6.5 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 (Low)

MEASURED OUTPUT POWER: 24.783 dBm = 0.302 W

MODULATION SIGNAL: CDMA (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 37.79$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1649.40	-51.18	6.10	-45.08	Н	69.9
2474.10	-57.48	6.70	-50.78	Н	75.6
3298.80	-67.38	6.80	-60.58	Н	85.4
4123.50	-77.98	6.50	-71.48	Η	96.3
4948.20	-84.38	7.00	-77.38	Н	102.2

Table 6-12. 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.

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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: 24.783 dBm = 0.301 W

MODULATION SIGNAL: CDMA (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 37.78$ dBc

FREQ.	LEVEL @ ANTENNA	SUBSTITUTE ANTENNA	CORRECT GENERATOR	POL	
(MHz)	TERMINALS	GAIN	LEVEL	(H/V)	(dBc)
	(dBm)	(dBd)	(dBm)		
1673.04	-51.98	6.10	-45.88	Н	70.7
2509.56	-60.28	6.70	-53.58	Н	78.4
3346.08	-68.68	6.80	-61.88	Н	86.7
4182.60	-77.18	6.50	-70.68	Н	95.5
5019.12	-83.78	7.00	-76.78	Н	101.6

Table 6-13. 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.

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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: 0777 (High)

MEASURED OUTPUT POWER: 24.783 dBm = 0.301 W

MODULATION SIGNAL: CDMA (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 37.78$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
	(ubiii)	(ubu)	(ubiii)		
1696.62	-53.08	6.10	-46.98	Н	71.8
2544.93	-59.28	6.70	-52.58	Н	77.4
3393.24	-67.78	6.80	-60.98	Н	85.8
4241.55	-76.88	6.50	-70.38	Н	95.2
5089.86	-83.98	7.00	-76.98	Н	101.8

Table 6-14. 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: BEJAX275	@\PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 22 of 53
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6.6 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: 0025 (Low)

MEASURED OUTPUT POWER: 24.751 dBm = 0.299 W

MODULATION SIGNAL: CDMA (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 37.76$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3702.50	-40.33	8.70	-31.63	Н	56.4
5553.75	-42.33	9.70	-32.63	Н	57.4
7405.00	-61.83	9.90	-51.93	Н	76.7
9256.25	-64.23	11.40	-52.83	Н	77.6
11107.50	-77.33	12.10	-65.23	Н	90.0

Table 6-15. 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: BEJAX275	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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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: 0600 (Mid)

MEASURED OUTPUT POWER: 24.751 dBm = 0.299 W

MODULATION SIGNAL: CDMA (Internal)

DISTANCE: 3 meters

LIMIT: $43 + 10 \log_{10} (W) = 37.76$ dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS	SUBSTITUTE ANTENNA GAIN	CORRECT GENERATOR LEVEL	POL (H/V)	(dBc)
	(dBm)	(dBi)	(dBm)		
3760.00	-38.73	8.70	-30.03	Н	54.8
5640.00	-41.83	9.70	-32.13	Н	56.9
7520.00	-59.43	9.90	-49.53	Н	74.3
9400.00	-63.63	11.40	-52.23	Н	77.0
11280.00	-77.13	12.10	-65.03	Н	89.8

Table 6-16. 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: BEJAX275	@\PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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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 (High)

MEASURED OUTPUT POWER: 24.751 dBm = 0.299 W

MODULATION SIGNAL: CDMA (Internal)

DISTANCE: _____ a ___ meters

LIMIT: $43 + 10 \log_{10} (W) = 37.76$ dBc

FREQ.	LEVEL @ ANTENNA	SUBSTITUTE ANTENNA	CORRECT GENERATOR	POL	(-ID-)
(MHz)	TERMINALS	GAIN	LEVEL	(H/V)	(dBc)
	(dBm)	(dBi)	(dBm)		
3817.50	-40.33	8.70	-31.63	Н	56.4
5726.25	-40.63	9.70	-30.93	Н	55.7
7635.00	-61.63	9.90	-51.73	Н	76.5
9543.75	-66.43	11.40	-55.03	Н	79.8
11452.50	-76.93	12.10	-64.83	Н	89.6

Table 6-17. 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: BEJAX275	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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6.6 Frequency Stability (AMPS) §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	TEMP	FREQ.	Freq. Dev.	Deviation
(%)	(VDC)	(°C)	(Hz)	(Hz)	(%)
100 %	3.70	+ 20 (Ref)	836,520,006	-6.00	0.000000
100 %		- 30	836,520,100	-100.38	-0.000012
100 %		- 20	836,520,125	-125.48	-0.000015
100 %		- 10	836,519,791	209.13	0.000025
100 %		0	836,519,858	142.21	0.000017
100 %		+ 10	836,519,824	175.67	0.000021
100 %		+ 20	836,520,000	0.00	0.000000
100 %		+ 25	836,519,724	276.05	0.000033
100 %		+ 30	836,519,891	108.75	0.000013
100 %		+ 40	836,519,816	184.03	0.000022
100 %		+ 50	836,519,799	200.76	0.000024
100 %		+ 60	836,520,100	-100.38	-0.000012
85 %	3.17	+ 20	836,520,000	0.00	0.000000
115 %	4.26	+ 20	836,520,000	0.00	0.000000
BATT. ENDPOINT	3.10	+ 20	836,520,000	0.00	0.000000

Table 6-18. Frequency Stability Data (AMPS Mode – Ch. 384)

Note:

FCC ID: BEJAX275	CAPCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
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<u>Frequency Stability (AMPS) (Cont'd)</u> §2.1055, 22.355; RSS-129 (9.2.1)

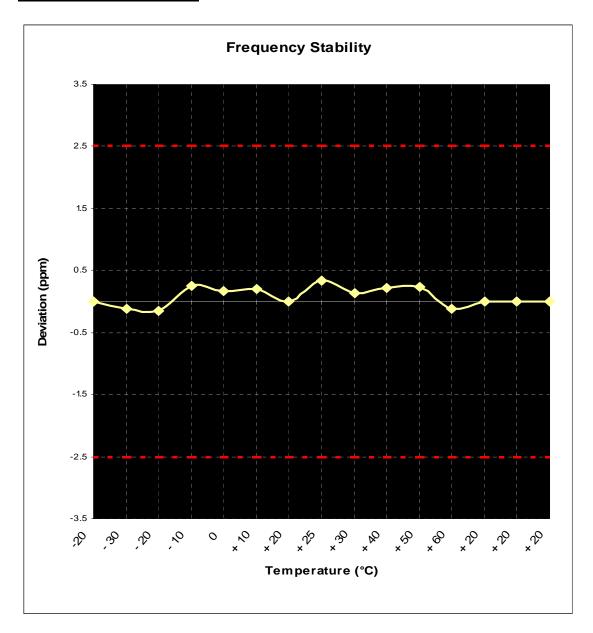


Figure 6-1. Frequency Stability Graph (AMPS Mode - Ch. 384)

Note:

FCC ID: BEJAX275	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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Test Report S/N:	Test Dates:	EUT Type:		Page 27 of 53
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<u>6.7 Frequency Stability (Cellular CDMA)</u> <u>§2.1055, 22.355; RSS-129 (9.2.1)</u>

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)	836,520,004	-4.00	0.000000
100 %		- 30	836,520,067	-66.92	-0.000008
100 %		- 20	836,520,009	-9.20	-0.000001
100 %		- 10	836,519,875	125.48	0.000015
100 %		0	836,519,799	200.76	0.000024
100 %		+ 10	836,519,699	301.15	0.000036
100 %		+ 20	836,520,004	-4.00	0.000000
100 %		+ 25	836,519,933	66.92	0.000008
100 %		+ 30	836,519,791	209.13	0.000025
100 %		+ 40	836,519,841	158.94	0.000019
100 %		+ 50	836,519,774	225.86	0.000027
100 %		+ 60	836,520,125	-125.48	-0.000015
85 %	3.17	+ 20	836,520,004	-4.00	0.000000
115 %	4.26	+ 20	836,520,004	-4.00	0.000000
BATT. ENDPOINT	3.10	+ 20	836,520,004	-4.00	0.000000

Table 6-19. Frequency Stability Data (Cellular CDMA Mode - Ch. 384)

Note:

FCC ID: BEJAX275	@ PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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<u>Frequency Stability (Cellular CDMA) (Cont'd)</u> §2.1055, 22.355; RSS-129 (9.2.1)

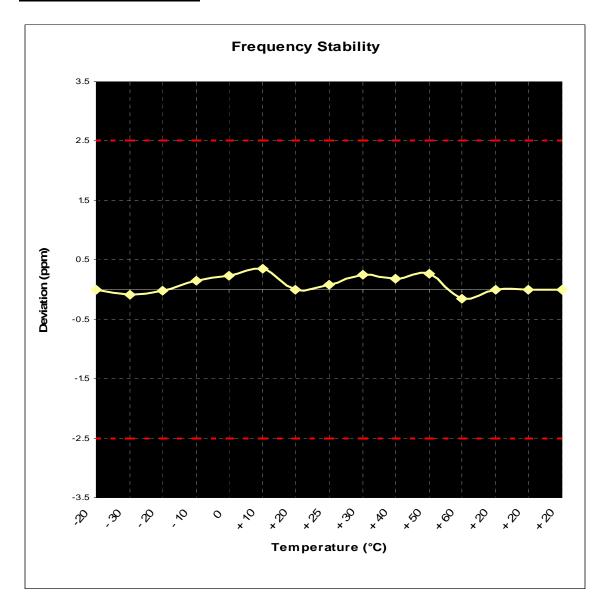


Figure 6-2. Frequency Stability Graph (Cellular CDMA Mode – Ch. 384)

Note:

FCC ID: BEJAX275	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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6.8 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)	1,880,000,002	-2.00	0.000000
100 %		- 30	1,879,999,850	150.40	0.000008
100 %		- 20	1,880,000,244	-244.40	-0.000013
100 %		- 10	1,879,999,586	413.60	0.000022
100 %		0	1,879,999,699	300.80	0.000016
100 %		+ 10	1,879,999,455	545.20	0.000029
100 %		+ 20	1,880,000,002	-2.00	0.000000
100 %		+ 25	1,879,999,530	470.00	0.000025
100 %		+ 30	1,879,999,662	338.40	0.000018
100 %		+ 40	1,879,999,605	394.80	0.000021
100 %		+ 50	1,880,000,320	-319.60	-0.000017
100 %		+ 60	1,879,999,549	451.20	0.000024
85 %	3.15	+ 20	1,880,000,002	-2.00	0.000000
115 %	4.26	+ 20	1,880,000,002	-2.00	0.000000
BATT. ENDPOINT	3.14	+ 20	1,880,000,002	-2.00	0.000000

Table 6-20. Frequency Stability Data (PCS CDMA Mode - Ch. 600)

Note:

FCC ID: BEJAX275	CAPCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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Frequency Stability (PCS CDMA) (Cont'd)

§2.1055, 24.235; RSS-133 (6.3)

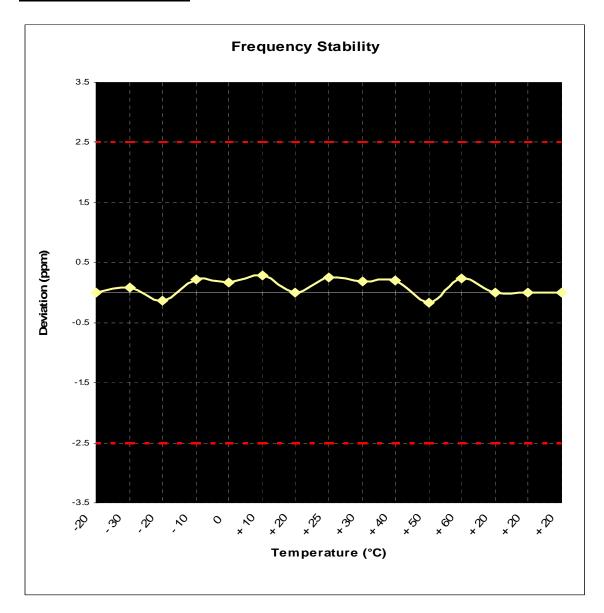


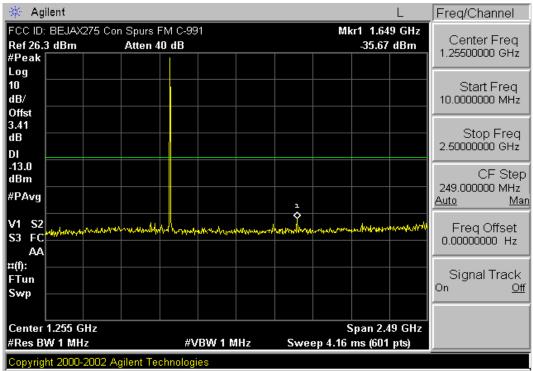
Figure 6-3. Frequency Stability Graph (PCS CDMA Mode – Ch. 600)

Note:

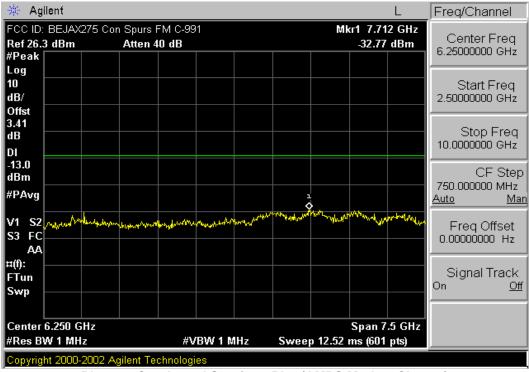
FCC ID: BEJAX275	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 31 of 53
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7.0 TEST PLOTS



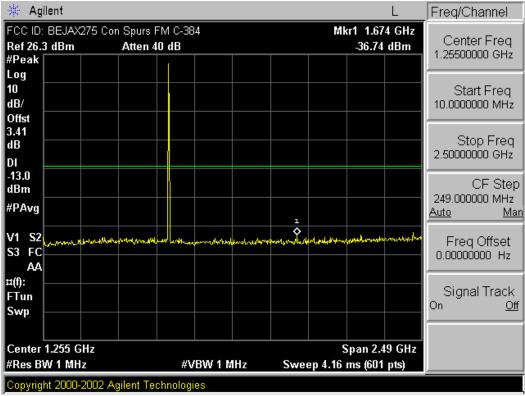
Plot 7-1. Conducted Spurious Plot (AMPS Mode – Ch. 991)



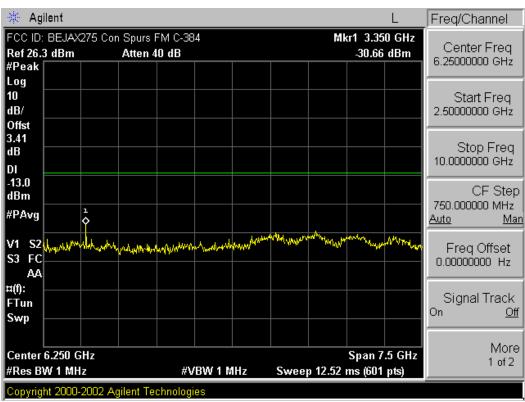
Plot 7-2. Conducted Spurious Plot (AMPS Mode - Ch. 991)

FCC ID: BEJAX275	@\PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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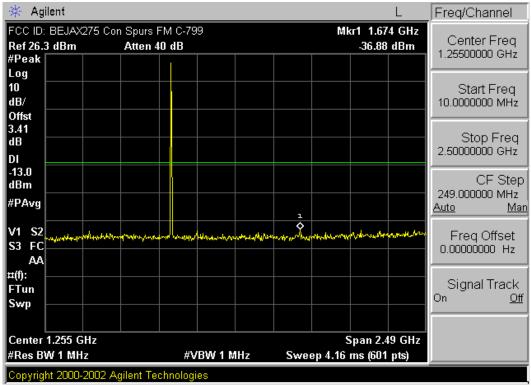
Plot 7-3. Conducted Spurious Plot (AMPS Mode - Ch. 384)



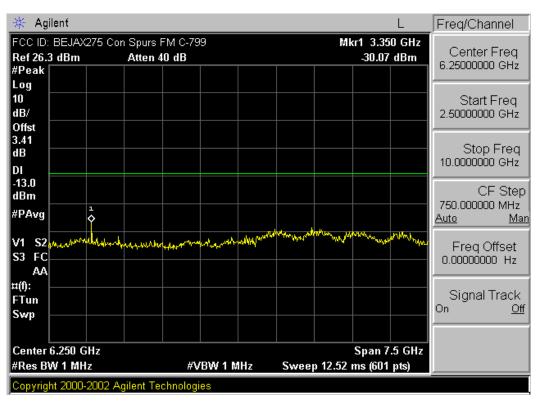
Plot 7-4. Conducted Spurious Plot (AMPS Mode – Ch. 384)

FCC ID: BEJAX275	@\PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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Plot 7-5. Conducted Spurious Plot (AMPS Mode - Ch. 799)



Plot 7-6. Conducted Spurious Plot (AMPS Mode - Ch. 799)

FCC ID: BEJAX275	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 34 of 53
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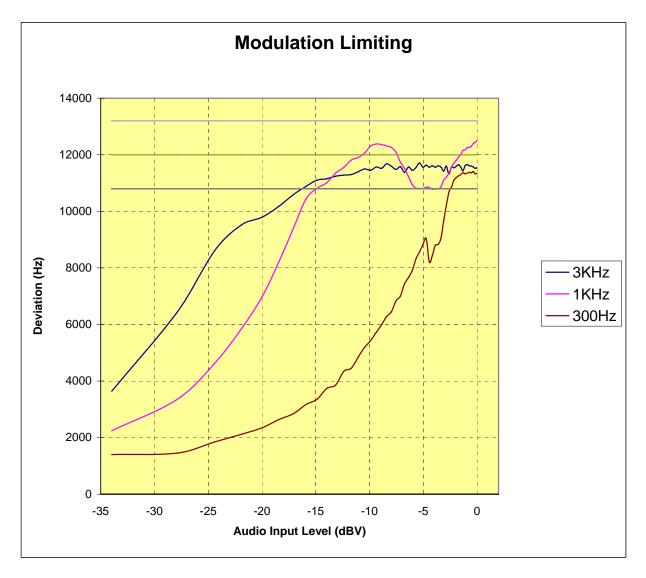
SUBJECT: Modulation Characteristics Test Report No.: 611030972

FCC Part 22/24 Test Date: 11.15.2006

EUT: Tri-Mode Dual-Band Analog/PCS Phone (AMPS/CDMA)

Model: AX725
FCC ID: BEJAX725

REFERENCE: 1 kHz = 0 dB



FCC ID: BEJAX275	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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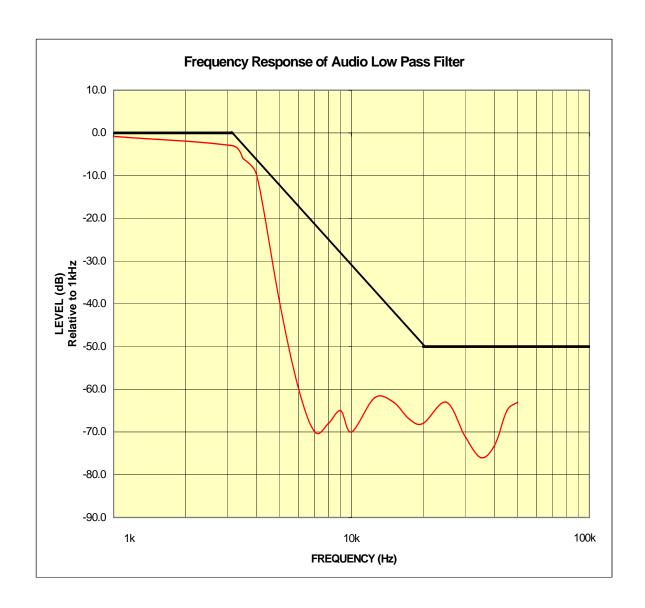
SUBJECT: Modulation Characteristics Test Report No.: 611030972

FCC Part 22/24 Test Date: 11.15.2006

EUT: Tri-Mode Dual-Band Analog/PCS Phone (AMPS/CDMA)

Model: AX725 FCC ID: BEJAX725

REFERENCE: 1 kHz = 0 dB



FCC ID: BEJAX275	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 36 of 53
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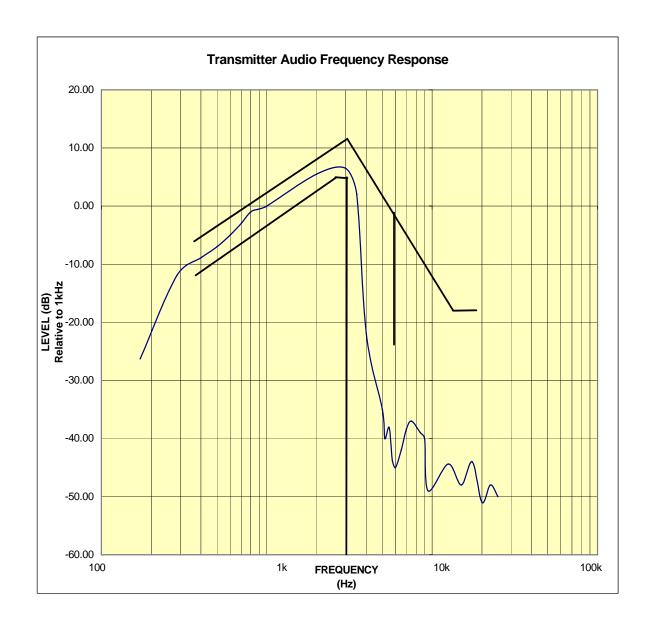
SUBJECT: Modulation Characteristics Test Report No.: 611030972

FCC Part 22/24 Test Date: 11.15.2006

EUT: Tri-Mode Dual-Band Analog/PCS Phone (AMPS/CDMA)

Model: AX725 FCC ID: BEJAX725

REFERENCE: 1 kHz = 0 dB



FCC ID: BEJAX275	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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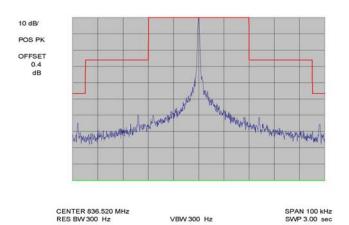
PCTEST Engineering Laboratory Inc.

SPECTRUM PRESENTATION

FCC ID: BEJAX275 LG Electronics Tri-Mode Phone FM Channel 384

836.52 MHz Operating Frequency: Output Power: 26.3 dBm Unmodulated Signal Test Mode:

REF 26.3 dBm ATTEN 40 dB



Plot 7-7. Unmodulated Signal

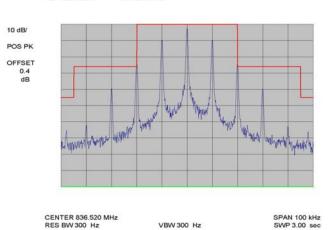
PCTEST Engineering Laboratory Inc.

SPECTRUM PRESENTATION

FCC ID: BEJAX275 LG Electronics Tri-Mode Phone FM Channel 384

836.52 MHz Operating Frequency: Output Power: 26.3 dBm Test Mode: ST

REF 26.3 dBm ATTEN 40 dB



Plot 7-8. Signaling Tone (ST)

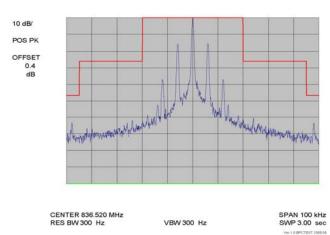
PCTEST Engineering Laboratory Inc.

SPECTRUM PRESENTATION

FCC ID: BEJAX275 LG Electronics Tri-Mode Phone FM Channel 384

Operating Frequency: Output Power: 26.3 dBm Test Mode: SAT

REF 26.3 dBm



Plot 7-9. Supervisory Audio Tone (SAT)

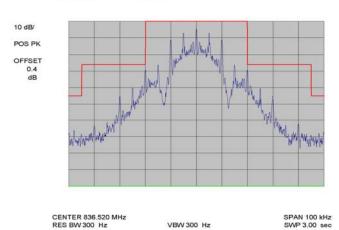
PCTEST Engineering Laboratory Inc.

SPECTRUM PRESENTATION

FCC ID: BEJAX275 LG Electronics Tri-Mode Phone FM Channel 384

836.52 MHz Operating Frequency: Output Power: 26.3 Test Mode: Wide Band Data 26.3 dBm

REF 26.3 dBm ATTEN 40 dB



Plot 7-10. Wide Band Data Signal (WBD)

VBW 300 Hz

FCC ID: BEJAX275	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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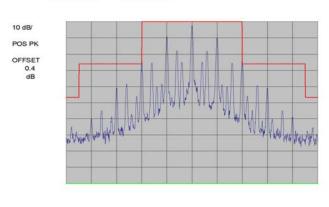
PCTEST Engineering Laboratory Inc.

SPECTRUM PRESENTATION

FCC ID: BEJAX275 LG Electronics Tri-Mode Phone FM Channel 384

Operating Frequency: Output Power: Test Mode: SAT + ST 836.52 MHz

REF 26.3 dBm



Plot 7-11. SAT + ST

ATTEN 40 dB

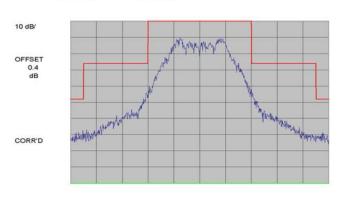
PCTEST Engineering Laboratory Inc.

SPECTRUM PRESENTATION

FCC ID: BEJAX275 LG Electronics Tri-Mode Phone FM Channel 384

836.52 MHz Operating Frequency: Output Power: 26.3 dBm
Test Mode: SAT + DTMF

REF 26.3 dBm ATTEN 40 dB



CENTER 836.520 MHz RES BW 300 Hz

VBW 300 Hz

SPAN 100 kHz

Plot 7-12. SAT + DTMF

PCTEST Engineering Laboratory Inc.

VBW 300 Hz

SPECTRUM PRESENTATION

FCC ID: BEJAX275 LG Electronics Tri-Mode Phone FM Channel 384

836.52 MHz Operating Frequency: Output Power: Test Mode: 26.3 dBm Voice

REF 26.3 dBm ATTEN 40 dB

CENTER 836 520 MHz

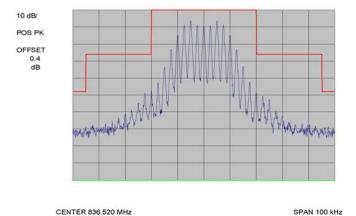
SPECTRUM PRESENTATION

PCTEST Engineering Laboratory Inc.

FCC ID: BEJAX275 LG Electronics Tri-Mode Phone FM Channel 384

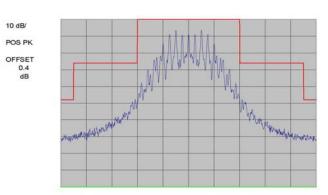
Operating Frequency: 836.52 MHz Output Power: 26.3 dBm Test Mode: SAT + Voice

REF 26.3 dBm ATTEN 40 dB



Plot 7-13. Voice

VBW 300 Hz



CENTER 836.520 MHz RES BW 300 Hz

VBW 300 Hz

SPAN 100 kHz SWP 3.00 sec

Plot 7-14. SAT + Voice

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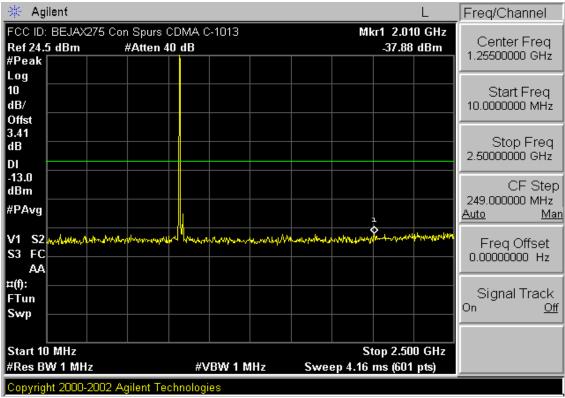
SWP 3.00 sec

SPAN 100 kHz

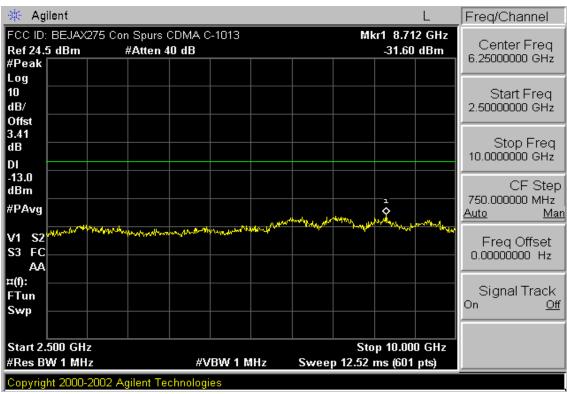
SWP 3.00 sec

RES BW 300 Hz





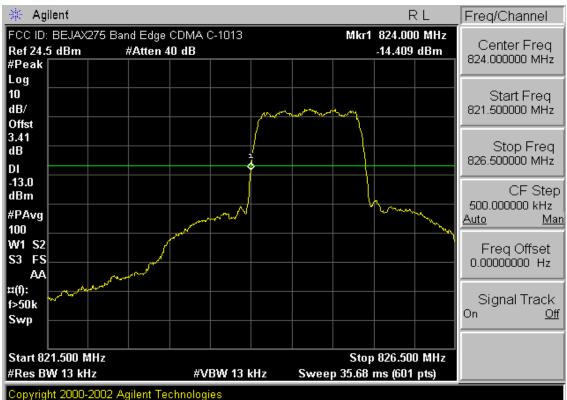
Plot 7-15. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 1013)

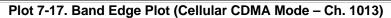


Plot 7-16. Conducted Spurious Plot (Cellular CDMA Mode - Ch. 1013)

FCC ID: BEJAX275	@\PCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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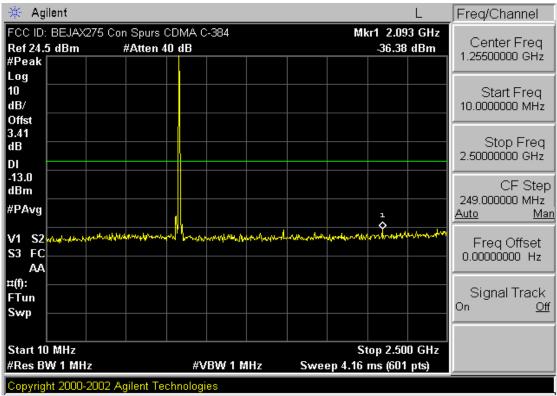




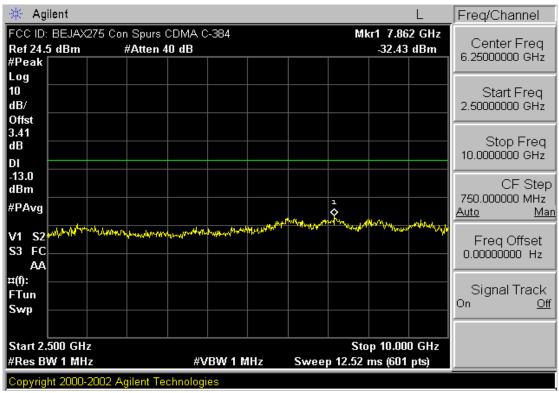
Plot 7-18. 4MHz Span Plot (Cellular CDMA Mode – Ch. 1013)

FCC ID: BEJAX275	@ PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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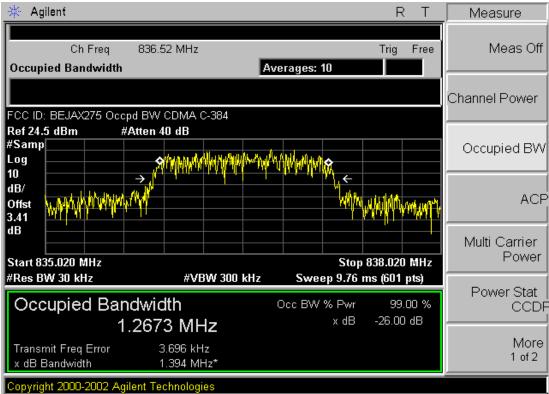
Plot 7-19. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 384)



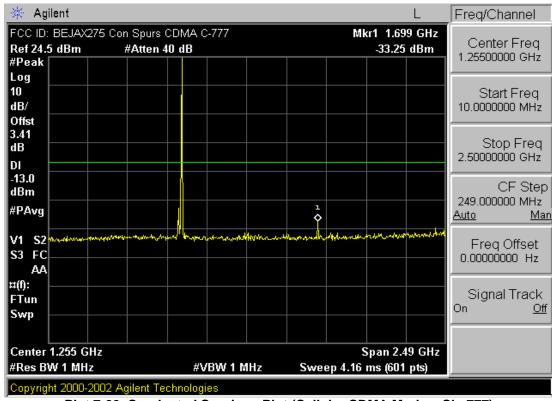
Plot 7-20. Conducted Spurious Plot (Cellular CDMA Mode - Ch. 384)

FCC ID: BEJAX275	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	① LG	Reviewed by: Quality Manager
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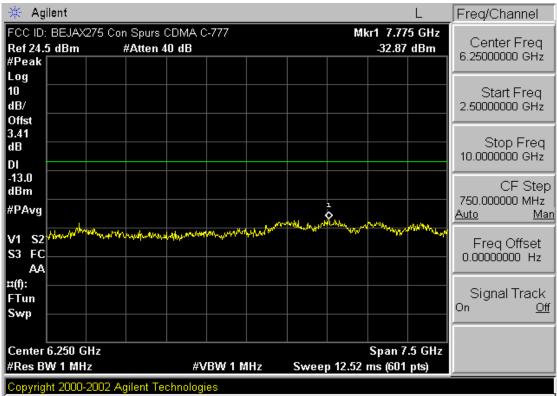
Plot 7-21. Occupied Bandwidth Plot (Cellular CDMA Mode – Ch. 384)



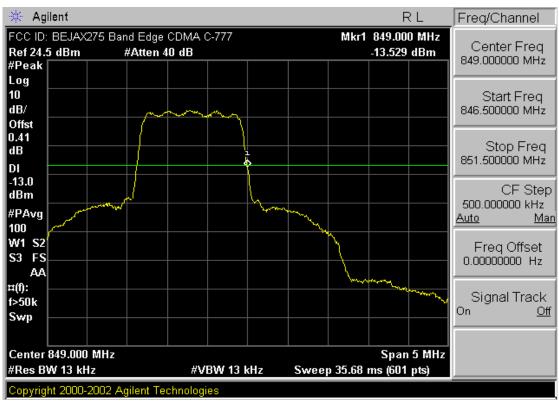
Plot 7-22. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 777)

FCC ID: BEJAX275	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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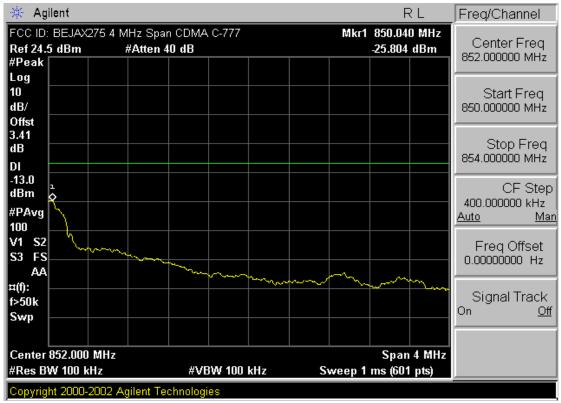
Plot 7-23. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 777)



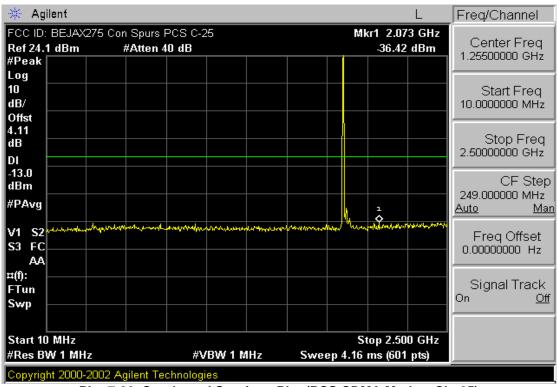
Plot 7-24. Band Edge Plot (Cellular CDMA Mode – Ch. 777)

FCC ID: BEJAX275	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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Plot 7-25. 4MHz Span Plot (Cellular CDMA Mode - Ch. 777)



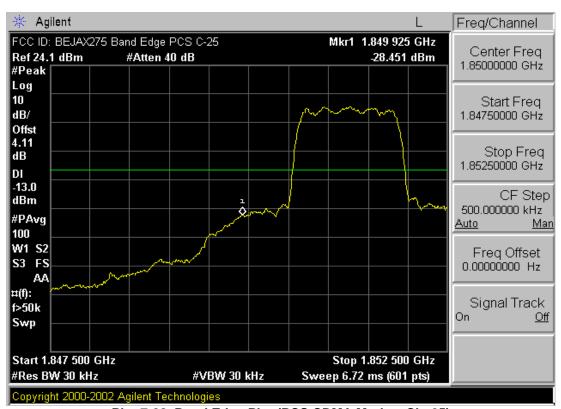
Plot 7-26. Conducted Spurious Plot (PCS CDMA Mode – Ch. 25)

FCC ID: BEJAX275	PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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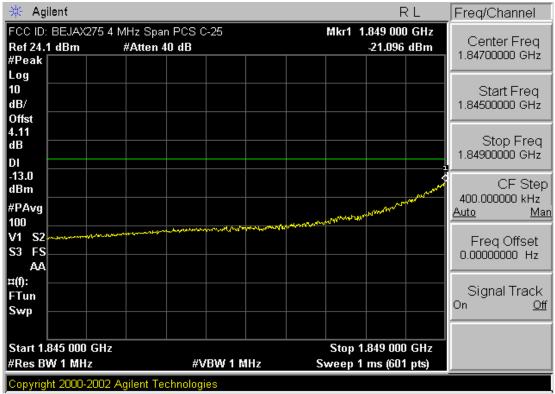
Plot 7-27. Conducted Spurious Plot (PCS CDMA Mode - Ch. 25)



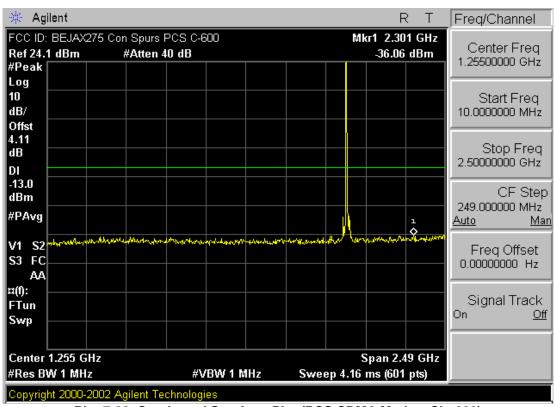
Plot 7-28. Band Edge Plot (PCS CDMA Mode - Ch. 25)

FCC ID: BEJAX275	@NPCTEST:	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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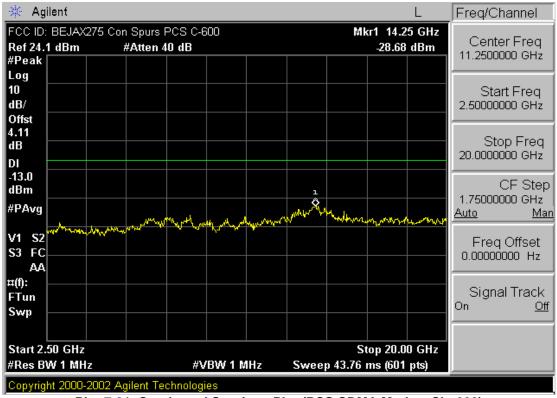
Plot 7-29. 4MHz Span Plot (PCS CDMA Mode - Ch. 25)



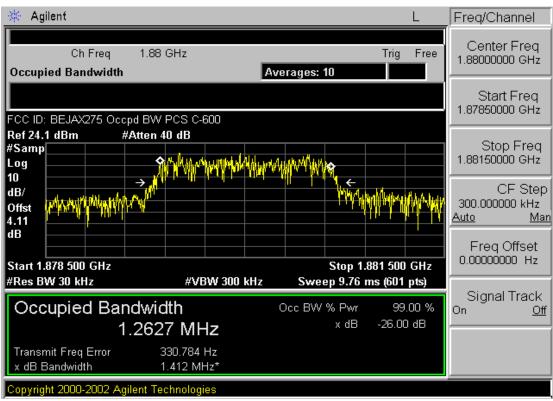
Plot 7-30. Conducted Spurious Plot (PCS CDMA Mode - Ch. 600)

FCC ID: BEJAX275	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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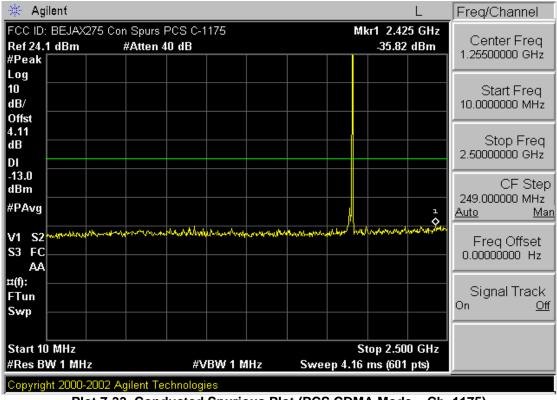
Plot 7-31. Conducted Spurious Plot (PCS CDMA Mode – Ch. 600)



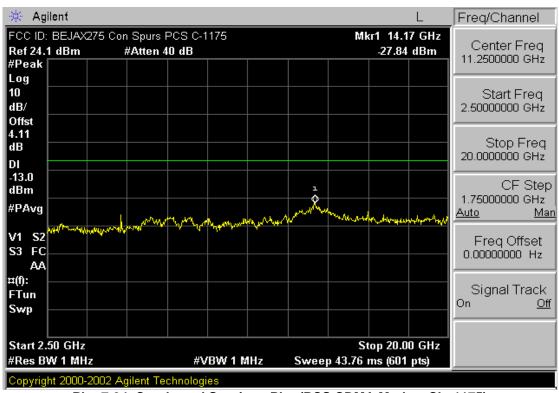
Plot 7-32. Occupied Bandwidth Plot (PCS CDMA Mode - Ch. 600)

FCC ID: BEJAX275	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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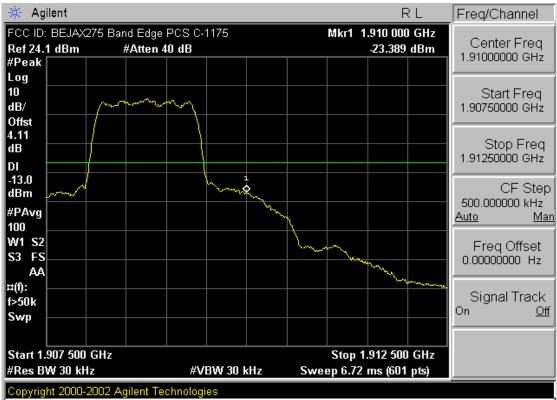
Plot 7-33. Conducted Spurious Plot (PCS CDMA Mode – Ch. 1175)



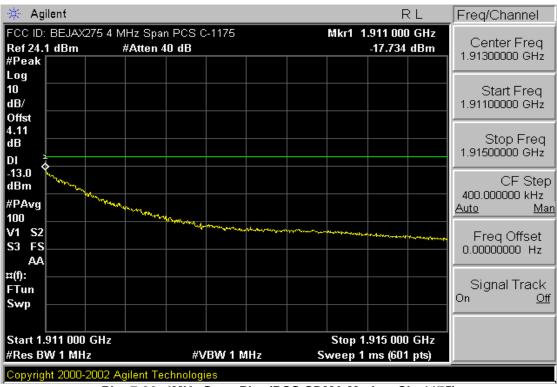
Plot 7-34. Conducted Spurious Plot (PCS CDMA Mode - Ch. 1175)

FCC ID: BEJAX275	@\PCTEST	FCC Pt. 22/24 CDMA MEASUREMENT REPORT (CERTIFICATION)	LG	Reviewed by: Quality Manager
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Plot 7-35. Band Edge Plot (PCS CDMA Mode - Ch. 1175)



Plot 7-36. 4MHz Span Plot (PCS CDMA Mode - Ch. 1175)

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8.0 CONCLUSION

The data collected shows that the LG Electronics Tri-Mode Dual-Band Analog/ PCS Phone (AMPS/ CDMA) FCC ID: BEJAX275 complies with all the requirements of Parts 2, 22, and 24 of the FCC rules.

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EXHIBIT A - TEST SETUP PHOTOGRAPHS

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EXHIBIT B - INTERNAL/EXTERNAL PHOTOGRAPHS

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