

### HCT.CO., LTD.

**Product Compliance Division** 

TEL: +82 31 639 8518 FAX: +82 31 639 8525

#### CERTIFICATE OF COMPLIANCE

#### FCC Part 24 & 22 Certification

Applicant Name: LG Electronics, Inc.

Address:

LG Twin Tower, 20. Yeouido-dong, Yeongdeungpo-gu, Seoul, Korea 150-721

Date of Testing: July 11, 2008 Test Site/Location:

HCT.CO., LTD., San 136-1 Ami-ri, Bubal-eup, Icheon-si,

Kyungki-do, Korea

Test Report No.: HCT-R08-087

HCT FRN: 0005866421

FCC ID : BEJKC550D

APPLICANT: LG Electronics, Inc.

Application Type: Certification

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

**FCC Rule Part(s):** §22, §24, §2

**EUT Type:** Cellular/PCS GSM/EDGE Phone with Bluetooth

Model: KC550d

**Tx Frequency:** 824.20 - 848.80 MHz (GSM850)

1 850.20 – 1 909.80 MHz (GSM1900)

**Rx Frequency:** 869.20 - 893.80 MHz (GSM850)

1 930.20 - 1 989.80 MHz (GSM1900)

Max. RF Output Power: 0.238 W ERP GSM850 (23.76 dBm) / 0.333 W EIRP GSM1900 (25.22 dBm)

0.098 W ERP GSM850 EDGE (19.92 dBm) 0.132 W ERP GSM1900 EDGE (21.22 dBm)

Emission Designator(s): 244KGXW (GSM850), 246KGXW (GSM1900)

242KG7W (GSM850 EDGE), 249KG7W(GSM1900 EDGE)

The measurements shown in this report were made in accordance with the procedures specified in §2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

**HCT.CO., LTD.** Certifies that no party to this application has been denied FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

Report prepared by

: Youn Seok Jung

: Sang Jun Lee

Test engineer of RF Part

Manager of RF Part

This report only responds to the tested sample and may not be reproduced, except in full, without written approval of the HCT Co., Ltd.

FCC CERTIFICATION REPORT			www.hct.co.kr	
Test Report No. HCT-R08-087	Test Dates: July 11, 2008	EUT Type: Cellular/PCS GSM/EDGE Phone with Bluetooth	FCC ID: BEJKC550D	Page 1 of 30



# **Table of Contents**

1. GENERAL INFORMATION	. ა
2. INTRODUCTION	. 4
2.1. EUT DESCRIPTION	. 4
2.2. MEASURING INSTRUMENT CALIBRATION	. 4
2.3. TEST FACILITY	. 4
3. DESCRIPTION OF TESTS	. 5
3.1 Effective Radiated Power/Equivalent Isotropic Radiated Power	. 5
3.2 Occupied bandwidth	. 6
3.3 Spurious and Harmonic Emissions at Antenna Terminal	. 6
3.4 Radiated Spurious and Harmonic Emissions	. 7
3.5 Frequency stability / variation of ambient temperature	. 8
5. SUMMARY OF TEST RESULTS 1	0
6. SAMPLE CALCULATION 1	1
7. TEST DATA 1	2
7.1 Conducted Output Power 1	2
7.2 Effective Radiated Power Output (E.R.P)(GSM850) 1	3
7.3 Equivalent Isotropic Radiated Power (E.I.R.P.) (GSM1900 ) 1	4
7.4 Radiated Spurious Emissions(GSM850 Mode) 1	5
7.5 Radiated Spurious Emissions(GSM1900 Mode) 1	6
7.6 Frequency stability / variation of ambient temperature 1	7
7.6.1 FREQUENCY STABILITY (GSM850) 1	7
7.6.2 FREQUENCY STABILITY (GSM1900) 1	8
8. TEST PLOTS 1	9

FCC CERTIFICATION REPORT			www.hct.co.kr	
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 2 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	



## **MEASUREMENT REPORT**

## **1. GENERAL INFORMATION**

Applicant Name: LG Electronics, Inc.

Address: LG Twin Tower, 20. Yeouido-dong, Yeongdeungpo-gu,

Seoul, Korea 150-721

FCC ID: BEJKC550D

Application Type: Certification

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

FCC Rule Part(s): §22, §24, §2

**EUT Type:** Cellular/PCS GSM/EDGE Phone with Bluetooth

Model(s): KC550d

**Tx Frequency:** 824.20 - 848.80 MHz (GSM850)

1 850.20 - 1 909.80 MHz (GSM1900)

**Rx Frequency:** 869.20 - 893.80 MHz (GSM850)

1 930.20 - 1 989.80 MHz (GSM1900)

Max. RF Output Power: 0.238 W ERP GSM850 (23.76 dBm) / 0.333 W EIRP GSM1900 (25.22 dBm)

0.098 W ERP GSM850 EDGE (19.92 dBm) 0.132 W ERP GSM1900 EDGE (21.22 dBm)

Emission Designator(s): 244KGXW (GSM850), 246KGXW (GSM1900)

242KG7W (GSM850 EDGE), 249KG7W(GSM1900 EDGE)

Antenna Specification Manufacturer: E.M.W. ANTENNA Co.,Ltd.

Antenna type: Internal Antenna

Date(s) of Tests: July 11. 2008

Place of Tests: HCT.CO., LTD.

San 136-1 Ami-ri, Bubal-eup, Icheon-si,

Report Serial No HCT-R08-087

FCC CERTIFICATION REPORT			www.hct.co.kr	
Test Report No. HCT-R08-087	Test Dates: July 11, 2008	EUT Type: Cellular/PCS GSM/EDGE Phone with Bluetooth	FCC ID: BEJKC550D	Page 3 of 30



## 2. INTRODUCTION

#### 2.1. EUT DESCRIPTION

The LG Electronics, Inc. KC550d Cellular/PCS GSM/EDGE Phone with Bluetooth consists of GSM850, GSM1900, GPRS Class12 and EDGE.

#### 2.2. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

#### 2.3. TEST FACILITY

The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1, Maekok-Ri, Hobup-Myun, Ichon-Si, Kyoungki-Do, 467-701, KOREA. The site is constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated July 6, 2006(Registration Number: 90661)

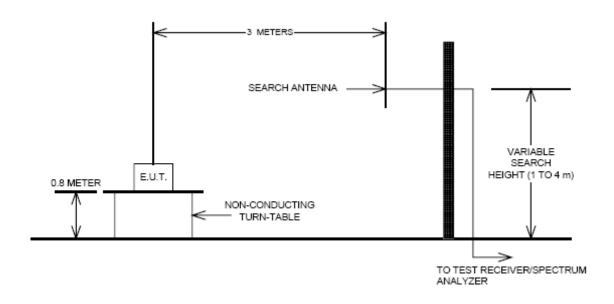
FCC CERTIFICATION REPORT			www.hct.co.kr	
Test Report No. HCT-R08-087	Test Dates: July 11, 2008	EUT Type: Cellular/PCS GSM/EDGE Phone with Bluetooth	FCC ID: BEJKC550D	Page 4 of 30



## 3. DESCRIPTION OF TESTS

### 3.1 Effective Radiated Power/Equivalent Isotropic Radiated Power

### Test Set-up



#### **Test Procedure**

Radiated emission measurements were performed at an open Site.

The equipment under test is placed on a wooden turntable 3-meters from the receive antenna.

A wooden turntable was rotated 360° and the receiving antenna scanned from 1-4m in order to capture the maximum emission. A half wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the previously recorded signal was duplicated.

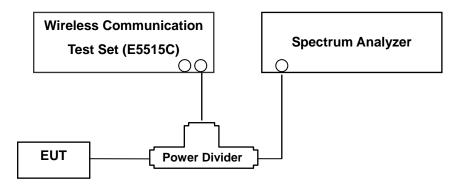
The maximum EIRP was calculated by adding the forward power to the calibrated source plus its appropriate gain value. These steps were carried out with the receiving antenna in both vertical and horizontal polarization. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic antenna are taken into consideration.

FCC CERTIFICATION REPORT			www.hct.co.kr	
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 5 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	



#### 3.2 Occupied bandwidth.

#### Test set-up



(Configuration of conducted Emission measurement)
Test Procedure

The EUT was setup to maximum output power at its lowest channel. The occupied bandwidth was measured using a spectrum analyzer. The measurements are repeated for the highest and a middle channel. The EUT's occupied bandwidth is measured as the width of the signal between two points, one below the carrier center frequency and one above the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. Plots of the EUT's occupied bandwidth are shown herein.

### 3.3 Spurious and Harmonic Emissions at Antenna Terminal.

#### **Test Procedure**

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer.

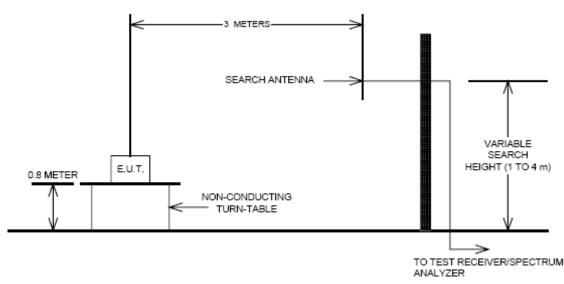
The EUT was setup to maximum output power at its lowest channel. The Resolution BW of the analyzer is set to 1 % of the emission bandwidth to show compliance with the – 13 dBm limit, in the 1 MHz bands immediately outside and adjacent to the edge of the frequency block. The 1 MHz RBW was used to scan from 10 MHz to 10 GHz. (GSM1900 Mode: 10 MHz to 20 GHz). A display line was placed at – 13 dBm to show compliance. The high, lowest and a middle channel were tested for out of band measurements.

FCC CERTIFICATION REPORT			www.hct.co.kr	
Test Report No. HCT-R08-087	Test Dates: July 11, 2008	EUT Type: Cellular/PCS GSM/EDGE Phone with Bluetooth	FCC ID: BEJKC550D	Page 6 of 30



#### 3.4 Radiated Spurious and Harmonic Emissions

## Test Set-up



The measurement facilities used for this test have been documented in previous filings with the commission pursuant to section § 2.948. The open field test site is situated in open field with ground screen whose site attenuation characteristics meet ANSI C63.4 –2003. A mast capable of lifting the receiving antenna from a height of one to four meters is used together with a rotatable wooden platform mounted at three from the antenna mast.

- 1) The unit mounted on a wooden table 1.5 m  $\times$  1.0 m  $\times$  0.80 m is 0.8 meter above test site ground level.
- 2) During the emission test, the turntable is rotated and the EUT is manipulated to find the configuration resulting in maximum emission under normal condition of installation and operation.
- 3) The antenna height and polarization are also varied from 1 to 4 meters until the maximum signal is found.
- 4) The spectrum shall be scanned up to the 10<sup>th</sup> harmonic of the fundamental frequency.

#### Test Procedure

The equipment under test is placed on a wooden turntable 3-meters from the receive antenna.

A wooden turntable was rotated 360° and the receiving antenna scanned from 1-4m in order to capture the maximum emission. A half wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the previously recorded signal was duplicated.

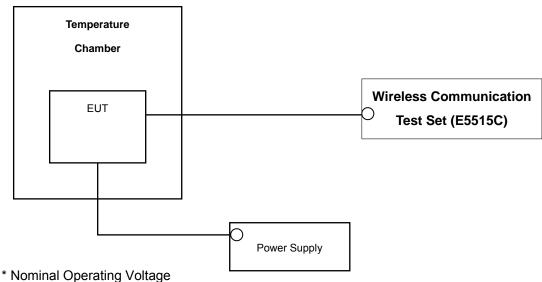
The maximum EIRP was calculated by adding the forward power to the calibrated source plus its appropriate gain value. These steps were carried out with the receiving antenna in both vertical and horizontal polarization. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic antenna are taken into consideration.

FCC CERTIFICATION REPORT			www.hct.co.kr	
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 7 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	



### 3.5 Frequency stability / variation of ambient temperature

## Test Set-up



#### Test Procedure

The frequency stability of the transmitter is measured by:

- a.) Temperature: The temperature is varied from 30 °C to + 50 °C using an environmental chamber.
- b.) Primary Supply Voltage: The primary supply voltage is varied from battery end point 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 ± 0.000 25 %(± 2.5 ppm) of the center frequency.

#### **Time Period and Procedure:**

The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).

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

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

FCC CERTIFICATION REPORT			www.hct.co.kr	
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 8 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	



## **4. LIST OF TEST EQUIPMENT**

		Serial	Calibration	Calibration
Manufacture	Model/ Equipment	Number	Interval	Due
R&S	ESI40/ Spectrum Analyzer	831564/003	Annual	11/06/2008
Agilent	E4419B/ Power Meter	MY41291386	Annual	11/05/2008
Agilent	8481A/ Power Sensor	MY41090870	Annual	11/05/2008
Agilent	HP8901B/ Modulation Analyzer	3438A05231	Annual	08/04/2008
Agilent	8903A/ Audio Analyzer	2433A04322	Annual	08/04/2008
R&S	CMU200/ Base Station	110740	Annual	07/26/2008
Agilent	8960 (E5515C)/ Base Station	GB444400269	Annual	02/11/2009
Tescom	TC-3000/ Bluetooth Simulator	3000A4900112	Annual	01/11/2009
MITEQ	AMF-60-0010 1800-35-20P / AMP	1200937	Annual	01/15/2009
Wainwright	WHK1.2/15G-10EF/H.P.F	2	Annual	06/28/2009
Wainwright	WHK3.3/18G-10EF/H.P.F	1	Annual	06/28/2009
Agilent	778D/ Dual Directional Coupler	16072	Annual	11/09/2008
Agilent	1506A/ Power Divider	99441	Annual	11/10/2008
Digital	EP-3010/ Power Supply	3110117	Annual	12/29/2008
Schwarzbeck	UHAP/ Dipole Antenna	630	Annual	11/13/2008
Schwarzbeck	UHAP/ Dipole Antenna	605	Annual	11/13/2008
R&S	HFH2-Z2/ Loop Antenna	881056/070	Annual	12/11/2008
Korea Engineering	KR-1005L / Chamber	KRAB07063-2CH	Annual	01/05/2009
Schwarzbeck	VULB9160/ TRILOG Antenna	3150	Biennial	04/20/2009
Schwarzbeck	VULB9160/ TRILOG Antenna	3125	Biennial	05/16/2009
Schwarzbeck	BBHA 9120D/ Horn Antenna	147	Biennial	03/26/2010
Schwarzbeck	BBHA 9120D/ Horn Antenna	1201	Biennial	05/02/2009
Agilent	E4440A/Spectrum Analyzer	US45303008	Annual	01/08/2009

FCC CERTIFICATION REPORT			www.hct.co.kr	
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 9 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	



## **5. SUMMARY OF TEST RESULTS**

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result
2.1049, 22.917(a), 24.238(a)	Occupied Bandwidth	N/A		PASS
2.1051, 22.917(a), 24.238(a)	Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	< 43 + log <sub>10</sub> (P[Watts]) at Band  Edge and for all out-of-band  emissions	CONDUCTED	PASS
2.1046	Conducted Output Power	N/A		PASS
2.1055, 22.355, 24.235	Frequency stability / variation of ambient temperature	< 2.5 ppm		PASS
22.913(a)(2)	Effective Radiated Power	< 7 Watts max. ERP		PASS
24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP	RADIATED	PASS
2.1053, 22.917(a), 24.238(a)	Radiated Spurious and Harmonic Emissions	< 43 + log <sub>10</sub> (P[Watts]) for all out-of band emissions		PASS

FCC CERTIFICATION REPORT					
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 1 0 of 30	
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D		



## **6. SAMPLE CALCULATION**

## A. ERP Sample Calculation

Mode	Ch./ Freq.		Measured Substitude		Ant. Gain	C.L	Pol.	ERP	
Mode	channel	Freq.(MHz)	Level(dBm)	LEVEL(dBm)	Ant. Gam	O.L	POI.	w	dBm
GSM850	251	848.80	-7.58	28.59	2.83	1.20	Н	1.05	30.22

### ERP = SubstitudeLEVEL(dBm) + Ant. Gain - CL(Cable Loss)

- 1) The EUT mounted on a wooden tripod is 0.8 meter above test site ground level.
- 2) During the test, the turn table is rotated and the antenna height is also varied from 1 to 4 meters until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
- 6) The signal generator output level with Ant. Gain and cable loss are the rating of effective radiated power (ERP).

## **B. Emission Designator**

### **GSM Emission Designator**

**Emission Designator = 249KGXW** 

GSM BW = 249 kHz

G = Phase Modulation

X = Cases not otherwise covered

W = Combination (Audio/Data)

FCC CERTIFICATION REPORT					
Test Report No. HCT-R08-087	Test Dates: July 11, 2008	EUT Type: Cellular/PCS GSM/EDGE Phone with Bluetooth	FCC ID: BEJKC550D	Page 1 1 of 30	

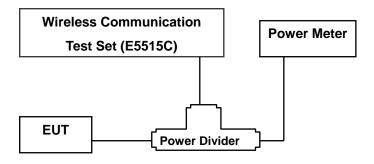


## 7. TEST DATA

## 7.1 Conducted Output Power

A base station simulator was used to establish communication with the EUT.

The base station simulator parameters were set to produce the maximum power from the EUT. This device was tested under all configurations and the highest power is reported. Conducted Output Powers of EUT are reported below.



		Voice		GPRS	Data		EDGE Data				
Band Channel	GSM	GPRS	GPRS	GPRS	GPRS	EDGE	EDGE	EDGE	EDGE		
		(dBm)	1 TX Slot	2 TX Slot	3 TX Slot	4 TX Slot	1 TX Slot	2 TX Slot	3 TX Slot	4 TX Slot	
	(ubiii)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)		
GSM	128	31.90	31.90	31.82	30.76	28.73	26.35	26.10	25.81	25.50	
850	190	31.89	31.90	31.82	30.76	28.73	26.52	26.21	25.91	25.63	
030	251	31.85	31.85	31.78	30.69	28.65	26.59	26.38	26.01	25.78	
CCM	512	29.10	28.97	28.93	28.84	27.85	23.72	23.45	23.32	23.24	
1900	661	28.94	28.97	28.79	28.71	27.72	23.46	23.24	23.07	22.95	
1300	810	28.74	28.97	28.60	28.56	27.53	23.13	22.99	22.81	22.68	

(GSM Conducted Output Powers)

FCC CERTIFICATION REPORT					
Test Report No. HCT-R08-087	Test Dates: July 11, 2008	EUT Type: Cellular/PCS GSM/EDGE Phone with Bluetooth	FCC ID: BEJKC550D	Page 1 2 of 30	



### 7.2 Effective Radiated Power Output (E.R.P)(GSM850)

#### (GSM850 Mode)

Mode	Ch./ Freq.		Measured	Substitude	Ant. Gain	C.L	Pol.	Е	RP
	channel	Freq.(MHz)	Level(dBm)	LEVEL (dBm)	Ant. Gain	Ċ.	POI.	W	dBm
	128	824.20	-15.68	30.16	-8.32	1.17	Н	0.12	20.67
GSM850	190	836.60	-14.89	31.60	-8.22	1.19	Н	0.17	22.19
	251	848.80	-14.04	33.08	-8.12	1.20	Н	0.24	23.76
GSM850 (EDGE)	251	848.80	-17.88	29.24	-8.12	1.20	Н	0.10	19.92

Note: Standard batteries are the only options for this phone

#### 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 = 5MHz. 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. This device was tested under all configurations and the highest power is reported in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

FCC CERTIFICATION REPORT					
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 1 3 of 30	
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D		



### 7.3 Equivalent Isotropic Radiated Power (E.I.R.P.) (GSM1900)

#### (GSM1900 Mode)

Mode	Ch	./ Freq.	Measured	Substitude				EI	RP
	channel	Freq.(MHz)	Level(dBm)	LEVEL (dBm)	Ant. Gain	C.L	Pol.	W	dBm
GSM1900	512	1,850.20	-16.00	15.61	10.05	1.91	Н	0.24	23.74
	661	1,880.00	-15.42	16.40	10.05	1.95	Н	0.28	24.50
	810	1,909.80	-14.77	17.13	10.06	1.97	Н	0.33	25.22
GSM1900 (EDGE)	810	1,880.00	-18.77	13.13	10.06	1.97	Н	0.13	21.22

Note: Standard batteries are the only options for this phone

#### **NOTES:**

Equivalent Isotropic Radiated Power 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 = 5MHz. 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.

This device was tested under all configurations and the highest power is reported in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery.

FCC CERTIFICATION REPORT					
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 1 4 of 30	
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D		



## 7.4 Radiated Spurious Emissions(GSM850 Mode)

■ MEASURED OUTPUT POWER: 23.76 dBm = 0.238 W

■ MODULATION SIGNAL: GSM850
■ DISTANCE: 3 meters

■ LIMIT: - (43 + 10 log10 (W)) = \_\_\_\_\_ - 36.76 dBc

<u>dBc</u>

Ch.	Freq.(MHz)	Measured Level	Ant. Gain	Substitute  Level  [dBm]	C.L	Pol.	ERP (dBm)	dBc
	1,648.40	-37.18	7.09	-47.71	1.73	Н	-42.35	-66.11
128	2,472.60	-41.98	8.12	-49.09	2.28	Н	-43.25	-67.01
	3,296.80	-55.67	9.72	-63.25	2.57	Н	-56.10	-79.86
	1,673.20	-39.19	7.23	-49.95	1.79	Н	-44.51	-68.27
190	2,509.80	-44.21	8.14	-51.34	2.33	Н	-45.53	-69.29
	3,346.40	-55.42	9.99	-63.45	2.66	Н	-56.12	-79.88
	1,699.60	-44.10	7.41	-54.71	1.83	Н	-49.13	-72.89
251	2,549.40	-44.15	8.21	-51.43	2.34	Н	-45.56	-69.32
	3,399.20	-56.18	9.91	-63.81	2.85	Н	-56.75	-80.51

NOTES: Radiated Spurious Emission Measurements at 3 meters by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

FCC CERTIFICATION REPORT					
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 1 5 of 30	
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D		



## 7.5 Radiated Spurious Emissions(GSM1900 Mode)

■ MEASURED OUTPUT POWER: 25.22 dBm = 0.333 W

■ MODULATION SIGNAL: GSM1900
■ DISTANCE: 3 meters

■ LIMIT: - (43 + 10 log10 (W)) = \_\_\_\_\_ - 38.22 dBc

Ch.	Freq.(MHz)	Measured Level	Ant. Gain	Substitute  Level  [dBm]	C.L	Pol.	ERP (dBm)	dBc
	3,700.40	-44.41	10.31	-50.68	2.73	Н	-43.10	-68.32
512	5,550.60	-54.56	10.55	-56.14	3.60	Н	-49.19	-74.41
	7,400.80	-56.70	9.21	-47.82	3.88	Н	-42.49	-67.71
	3,760.00	-46.07	10.32	-52.04	2.73	Н	-44.45	-69.67
661	5,640.00	-54.63	10.60	-56.28	3.60	Н	-49.28	-74.50
	7,520.00	-56.67	9.18	-47.57	3.88	Н	-42.27	-67.49
	3,819.60	-44.32	10.34	-50.20	2.73	Н	-42.59	-67.81
810	5,729.40	-53.87	10.65	-55.18	3.60	Н	-48.13	-73.35
	7,639.20	-57.27	9.15	-47.94	3.88	Н	-42.67	-67.89

NOTES: Radiated Spurious Emission Measurements at 3 meters by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No. HCT-R08-087	Test Dates: July 11, 2008	EUT Type: Cellular/PCS GSM/EDGE Phone with Bluetooth	FCC ID: BEJKC550D	Page 1 6 of 30



# **7.6 Frequency stability / variation of ambient temperature 7.6.1 FREQUENCY STABILITY (GSM850)**

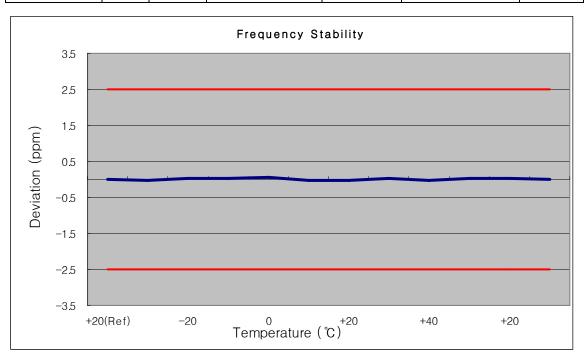
OPERATING FREQUENCY: 836,600,000 Hz

CHANNEL: <u>190</u>

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIM IT: ± 0.000 25 % or 2.5 ppm

Voltage	Power	Temp.	Frequency	Frequency	Deviation	
(%)	(VDC)	(℃)	(Hz)	Error (Hz)	(%)	ppm
100%		+20(Ref)	836 599 989	-11	-0.000 001	-0.013
100%		-30	836 599 976	-24	-0.000 003	-0.029
100%		-20	836 600 019	19	0.000 002	0.023
100%	3.700	-10	836 600 032	32	0.000 004	0.038
100%		0	836 600 035	35	0.000 004	0.042
100%	3.700	+10	836 599 973	-27	-0.000 003	-0.032
100%		+20	836 599 983	-17	-0.000 002	-0.020
100%		+30	836 600 026	26	0.000 003	0.031
100%	-	+40	836 599 971	-29	-0.000 003	-0.035
100%		+50	836 600 032	32	0.000 004	0.038
115%	4.255	+20	836 600 018	18	0.000 002	0.022
Batt. Endpoint	3.400	+20	836 600 007	7	0.000 001	0.008



FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No. HCT-R08-087	Test Dates: July 11, 2008	EUT Type: Cellular/PCS GSM/EDGE Phone with Bluetooth	FCC ID: BEJKC550D	Page 1 7 of 30



## 7.6.2 FREQUENCY STABILITY (GSM1900)

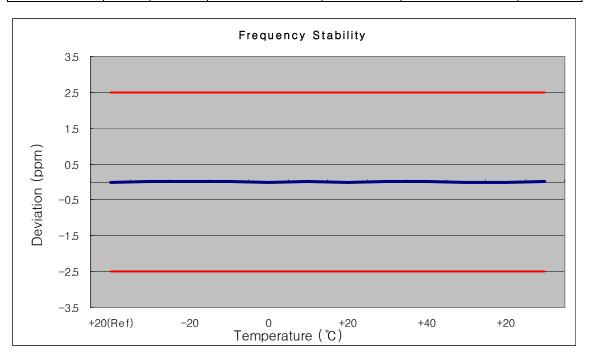
OPERATING FREQUENCY: 1880,000,000 Hz

CHANNEL: <u>661</u>

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIM IT: ± 0.000 25 % or 2.5 ppm

Voltage	Power	Temp.	Frequency	Frequency	Deviation	
(%)	(VDC)	(℃)	(Hz)	Error (Hz)	(%)	ppm
100%		+20(Ref)	1879 999 987	-13	-0.000 001	-0.007
100%		-30	1880 000 019	19	0.000 001	0.010
100%		-20	1880 000 034	34	0.000 002	0.018
100%		-10	1880 000 027	27	0.000 001	0.014
100%	3.700	0	1879 999 994	-6	0.000 000	-0.003
100%	3.700	+10	1879 999 985	-15	-0.000 001	-0.008
100%		+20	1880 000 021	21	0.000 001	0.011
100%		+30	1880 000 039	39	0.000 002	0.021
100%	-	+40	1880 000 023	23	0.000 001	0.012
100%		+50	1879 999 982	-18	-0.000 001	-0.010
115%	4.255	+20	1879 999 978	-22	-0.000 001	-0.012
Batt. Endpoint	3.400	+20	1880 000 037	37	0.000 002	0.020



FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No. HCT-R08-087	Test Dates: July 11, 2008	EUT Type: Cellular/PCS GSM/EDGE Phone with Bluetooth	FCC ID: BEJKC550D	Page 1 8 of 30

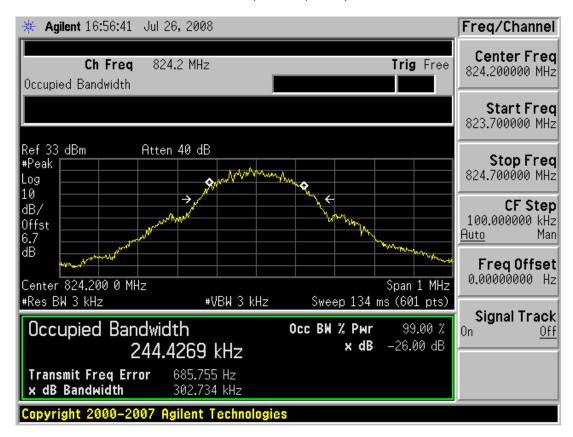


# 8. TEST PLOTS

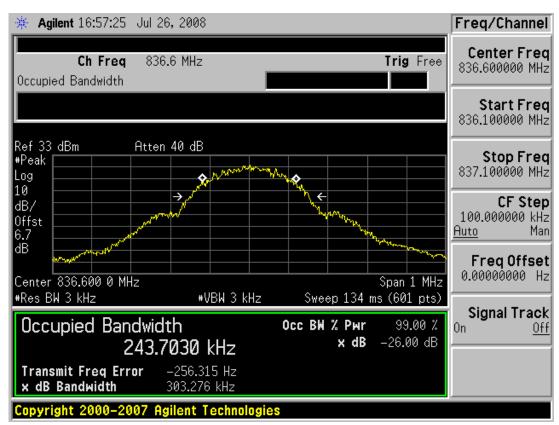
FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No. HCT-R08-087	Test Dates: July 11, 2008	EUT Type: Cellular/PCS GSM/EDGE Phone with Bluetooth	FCC ID: BEJKC550D	Page 1 9 of 30



#### ■ GSM850 MODE (128 CH.) Occupied Bandwidth



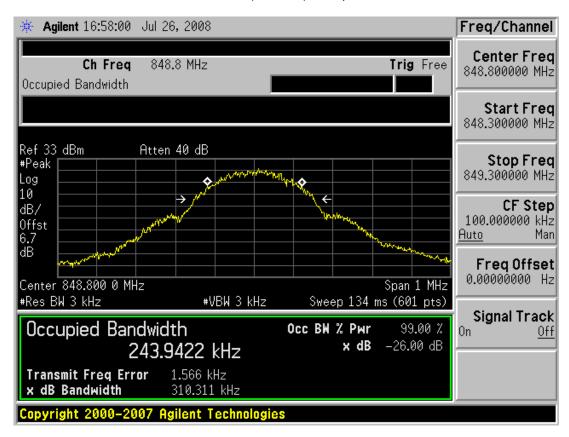
#### ■ GSM850 MODE (190 CH.) Occupied Bandwidth



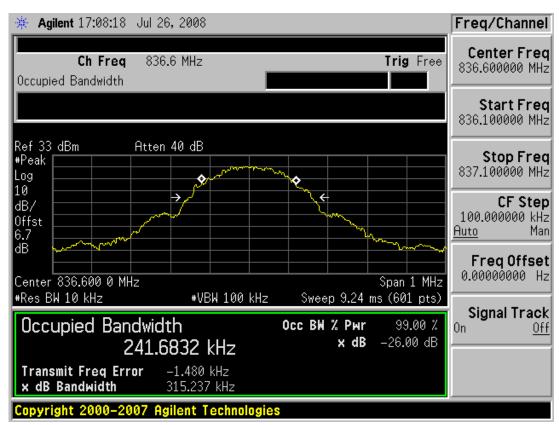
FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 2 0 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	



#### ■ GSM850 MODE (251 CH.) Occupied Bandwidth



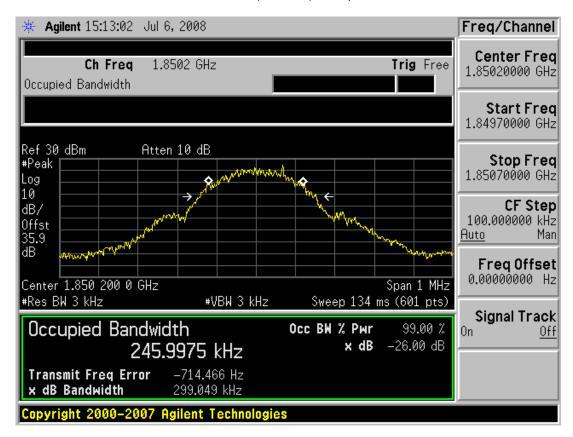
#### ■ GSM850 EDGE MODE (190 CH.) Occupied Bandwidth



FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 2 1 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	



#### ■ GSM1900 MODE (512 CH.) Occupied Bandwidth



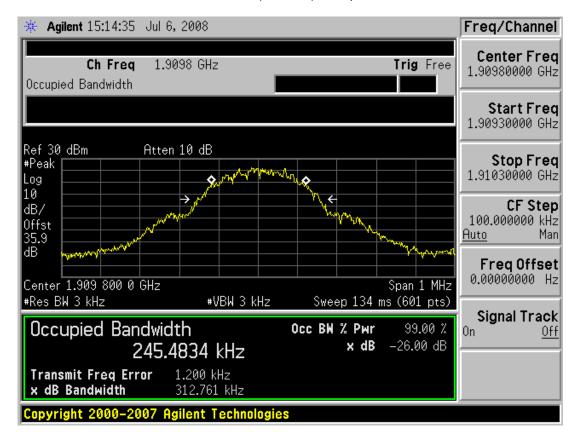
#### ■ GSM1900 MODE (661 CH.) Occupied Bandwidth



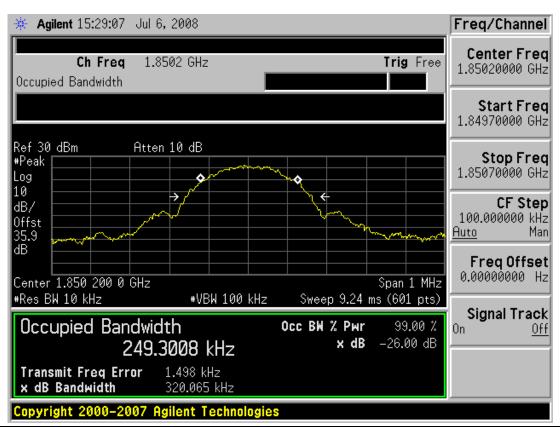
FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 2 2 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	



#### ■ GSM1900 MODE (810 CH.) Occupied Bandwidth



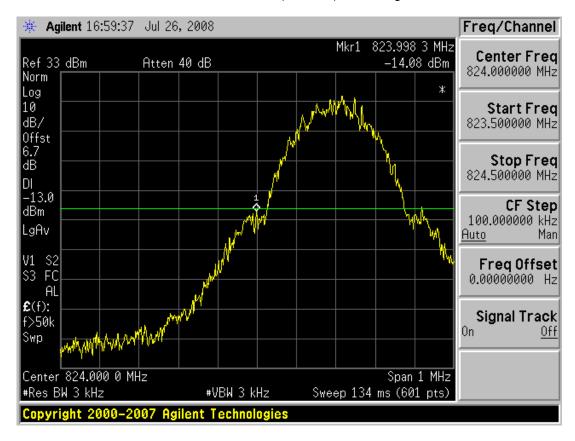
#### ■ GSM1900 EDGE MODE (512 CH.) Occupied Bandwidth



FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 2 3 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	



#### ■ GSM850 MODE (128 CH.) Block Edge



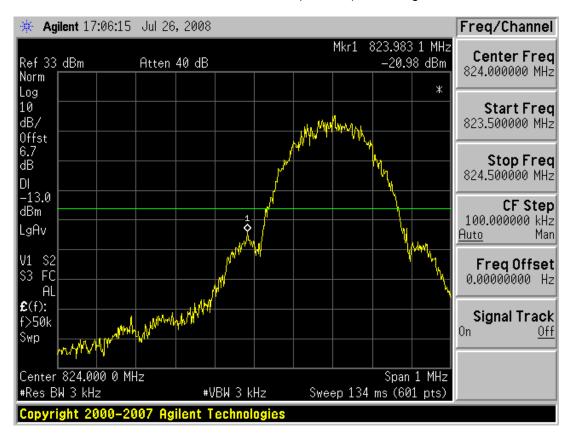
#### ■ GSM850 MODE (251 CH.) Block Edge



FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 2 4 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	



#### ■ GSM850 EDGE MODE (128 CH.) Block Edge



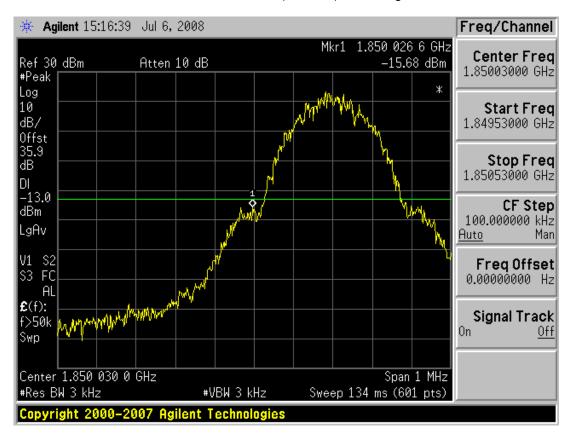
#### ■ GSM850 EDGE MODE (251 CH.) Block Edge



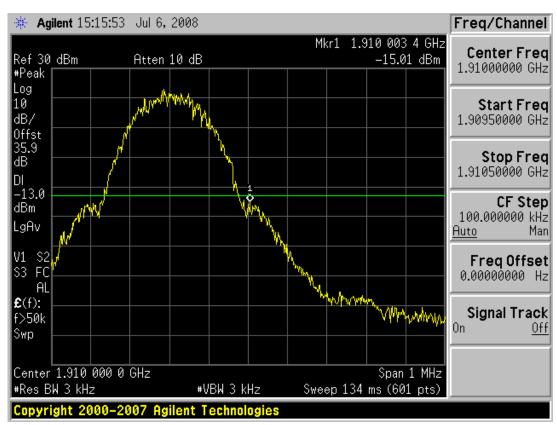
FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 2 5 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	



#### ■ GSM1900 MODE (512 CH.) Block Edge



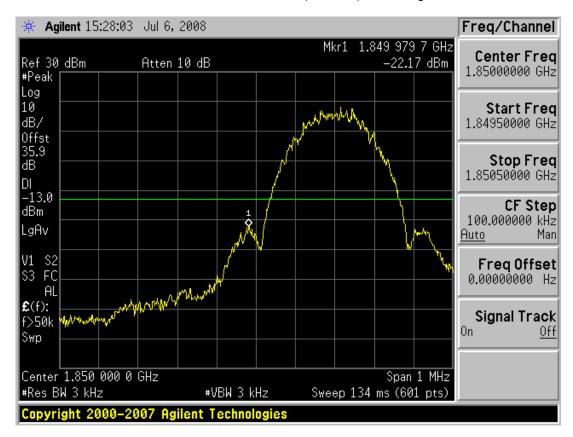
#### ■ GSM1900 MODE (810 CH.) Block Edge



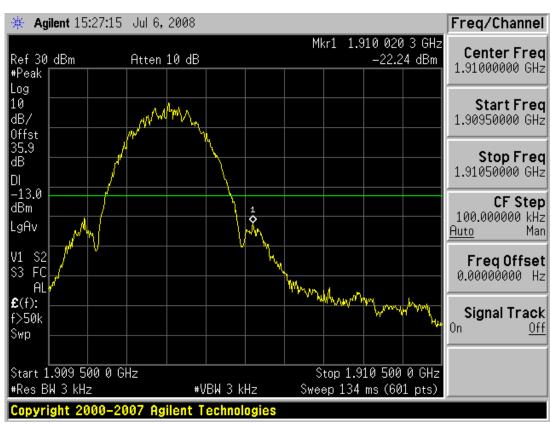
FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 2 6 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	



#### ■ GSM1900 EDGE MODE (512 CH.) Block Edge



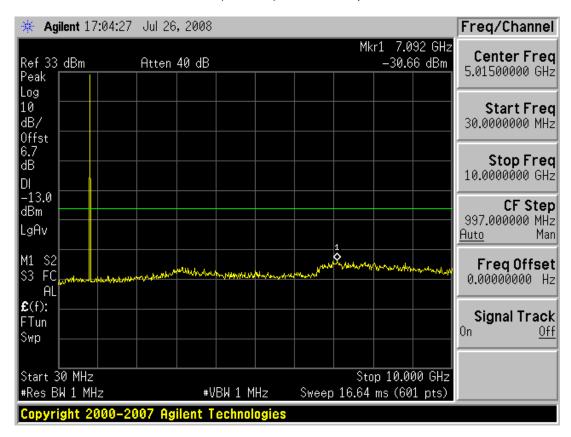
#### ■ GSM1900 EDGE MODE (810 CH.) Block Edge



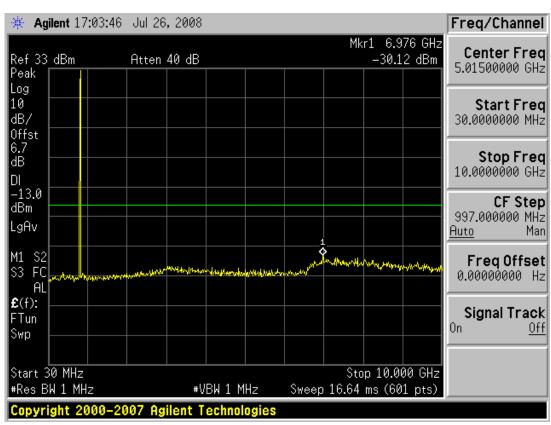
FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No. HCT-R08-087	Test Dates: July 11, 2008	EUT Type: Cellular/PCS GSM/EDGE Phone with Bluetooth	FCC ID: BEJKC550D	Page 2 7 of 30



#### ■ GSM850 MODE (128 CH.) Conducted Spurious Emissions



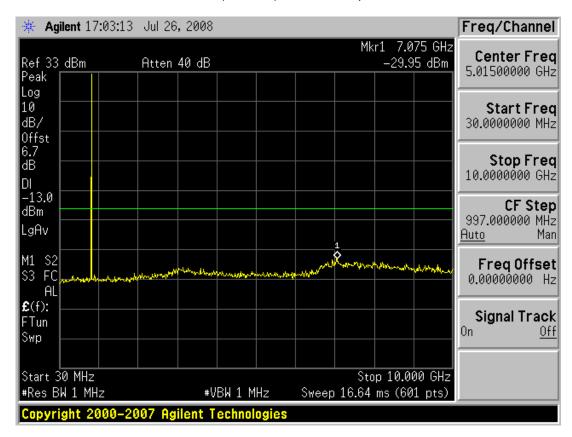
#### ■ GSM850 MODE (190 CH.) Conducted Spurious Emissions



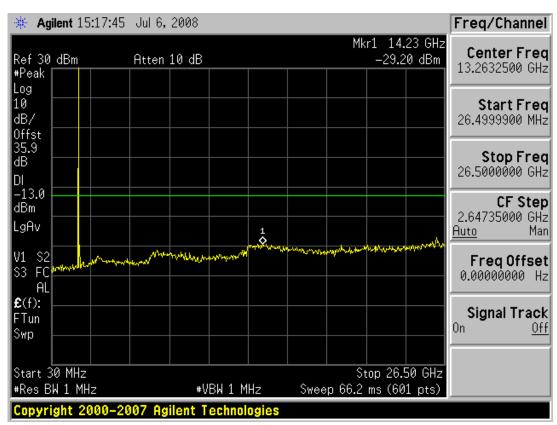
FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No. HCT-R08-087	Test Dates: July 11, 2008	EUT Type: Cellular/PCS GSM/EDGE Phone with Bluetooth	FCC ID: BEJKC550D	Page 2 8 of 30



#### ■ GSM850 MODE (251 CH.) Conducted Spurious Emissions



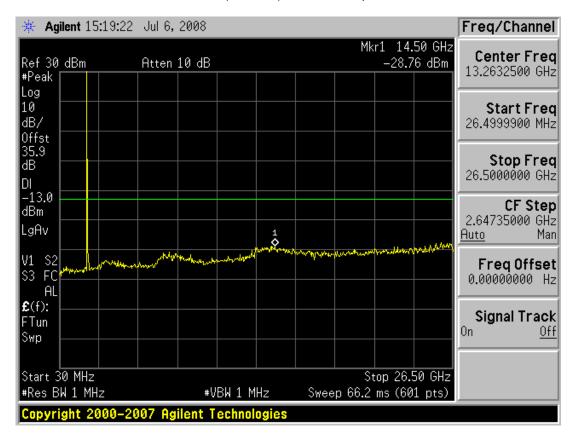
#### ■ GSM1900 MODE (512 CH.) Conducted Spurious Emissions



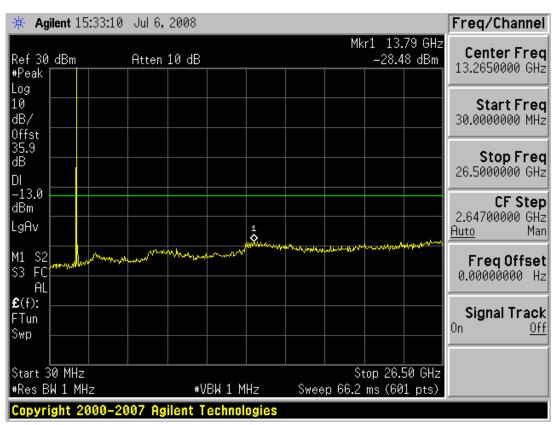
FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 2 9 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	



#### ■ GSM1900 MODE (661 CH.) Conducted Spurious Emissions



#### ■ GSM1900 MODE (810 CH.) Conducted Spurious Emissions



FCC CERTIFICATION REPORT				www.hct.co.kr
Test Report No.	Test Dates:	EUT Type:	FCC ID:	Page 3 0 of 30
HCT-R08-087	July 11, 2008	Cellular/PCS GSM/EDGE Phone with Bluetooth	BEJKC550D	