

HCT CO., LTD.

CERTIFICATE OF COMPLIANCE

FCC Certification

Applicant Name: LG Electronics MobileComm U.S.A., Inc.

Address:

1000 Sylvan Avenue, Englewood Cliffs NJ 07632

Date of Issue: August 27, 2012 Test Site/Location: HCT CO., LTD., 105-1, Jangam-ri, Majang-Myeon, Icheonsi, Kyunggi-Do, Korea Report No.: HCTR1208FR28-1

HCT FRN: 0005866421

FCC ID:

ZNFP895

APPLICANT: LG Electronics MobileComm U.S.A., Inc.

FCC Model(s):	LG-P895
Additional FCC Model(s):	P895, LGP895
EUT Type:	Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC
FCC Classification:	Licensed Portable Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§22, §24, §2
Tx Frequency:	824.20 - 848.80 MHz (GSM850) 826.40 - 846.60 MHz (WCDMA850) 1 850.20 - 1 909.80 MHz (GSM1900) 1 852.4 – 1 907.6 MHz (WCDMA1900)
Rx Frequency:	869.20 - 893.80 MHz (GSM850) 871.40 - 891.60 (WCDMA850) 1 930.20 - 1 989.80 MHz (GSM1900) 1 932.4 – 1 987.6 MHz (WCDMA1900)
Max. RF Output Power:	0.424 W ERP GSM850 (26.27 dBm) / 1.245 W EIRP GSM1900 (30.95 dBm) 0.182 W ERP EDGE850 (22.60 dBm) / 0.923 W EIRP EDGE1900 (29.65 dBm) 0.084 W ERP WCDMA850 (19.23 dBm) / 0.426 W EIRP WCDMA1900 (26.29 dBm)
Emission Designator(s):	247 KGXW (GSM850) 248 KGXW (GSM1900) 253 KG7W (GSM850 EDGE) 250 KG7W (GSM1900 EDGE) 4M07F9W (WCDMA850) 4M07F9W (WCDMA1900)

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 subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

ort prepared

: Hyo Sun Kwak Test engineer of RF Team

Approved by : Chang Seok Choi Manager of RF Team

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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCTR1208FR28	August 17, 2012	First Approval Report
HCTR1208FR28-1	August 27, 2012	Revise GSM EDGE Conducted Output Powers on page 16

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MEASUREMENT REPORT

1. GENERAL INFORMATION

Applicant Name:	LG Electronics MobileComm U.S.A., Inc.
Address:	1000 Sylvan Avenue, Englewood Cliffs NJ 07632
FCC ID:	ZNFP895
Application Type:	Certification
FCC Classification:	Licensed Portable Transmitter Held to Ear (PCE)
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FCC Model(s):	LG-P895
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Date(s) of Tests:	July 24, 2012 ~ August 09, 2012
Antenna Specification	Manufacturer: S.A.A.
	Antenna type: INTERNAL Antenna
	Peak Gain: GSM850/WCDMA850 : -5.37 dBi
	GSM1900/WCDMA1900 : 2.52 dBi

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2. INTRODUCTION

2.1. EUT DESCRIPTION

The LG Electronics MobileComm U.S.A., Inc. LG-P895 Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC consists of GSM850, GSM1900, WCDMA850, WCDMA1900, EDGE Class33, GPRS Class33, HSDPA and HSUPA.

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 Fully-anechoic chamber and conducted measurement facility used to collect the radiated data are located at the 105-1, Jangam-ri , Majang-Myeon, Icheon-si, 467-811, 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 March 02, 2011 (Registration Number: 90661)

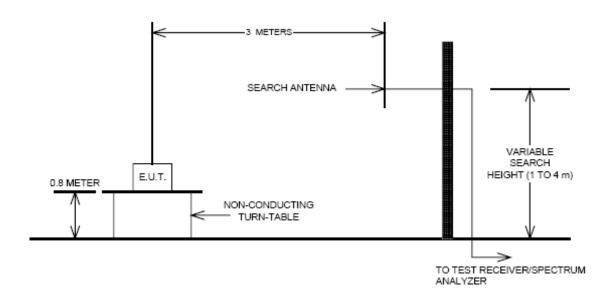
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3. DESCRIPTION OF TESTS

3.1 EFFECTIVE RADIATED POWER/EQUIVALENT ISOTROPIC RADIATED POWER

Test Set-up



Radiated emission measurements were performed at an Fully-anechoic chamber.

The equipment under test is placed on a non-conductive table 3-meters from the receive antenna. A 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

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3.2 PEAK- TO- AVERAGE RATIO

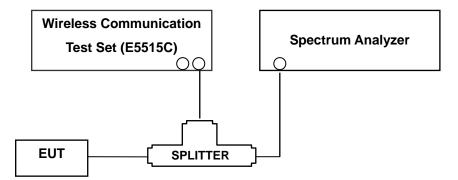
A peak to average ratio measurement is performed at the conducted port of the EUT. For CDMA and WCDMA signals, the spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level. For GSM signals, an average and a peak trace are used on a spectrum analyzer to determine the largest deviation between the average and the peak power of the EUT in a bandwidth greater than the emission bandwidth. Plots of the EUT's Peak- to- Average Ratio are shown herein.

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3.3 OCCUPIED BANDWIDTH.

Test set-up



(Configuration of conducted Emission measurement)

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

Test Procedure

The EUT makes a call to the communication simulator. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels(low, middle and high operational range.)

The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth

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3.4 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.

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. The RBW settings used in the testing are greater than 1 % of the occupied bw. 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.

- Band Edge Requirement : According to FCC 22.917 , 24.238(a) specified that power of any emission outside of The authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. 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 EUT makes a call to the communication simulator. The power was measured with R&S Spectrum Analyzer. All measurements were done at 2 channels(low and high operational frequency range.)

The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

The center frequency of spectrum is the band edge frequency and span is 1MHz RB of the spectrum is 3KHz and VB of the spectrum is 3KHz (GSM)

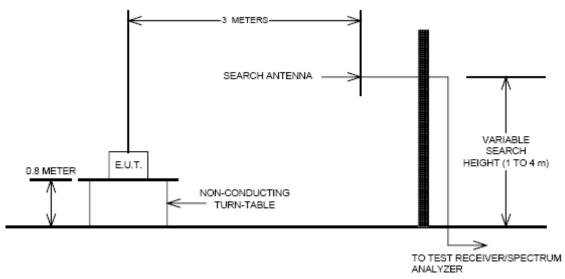
The center frequency of spectrum is the band edge frequency and span is 5MHz RB of the spectrum is 100KHz and VB of the spectrum is 100KHz(WCDMA)

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3.5 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 Fully-anechoic chamber meets requirements in 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 platform mounted at three from the antenna mast.

- 1) The unit mounted on a turntable 1.5 m × 1.0 m × 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 10th harmonic of the fundamental frequency.

Test Procedure

The equipment under test is placed on a non-conductive table 3-meters from the receive antenna. A 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.

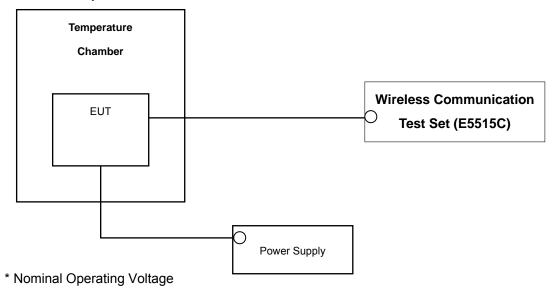
The maximum EIRP was calculated by adding the forward power to the calibrated source plus its appropriate gain value. These steps were carried out with the receiving antenna in both vertical and horizontal polarization. For readings above 1GHz, the above procedure is repeated using horn antennas and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

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3.6 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 \pm 0.000 25 %(\pm 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.**

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4. LIST OF TEST EQUIPMENT

Manufacture	Model/ Equipment	Serial Number	Calibration Interval	Calibration Due
Agilent	N9020A	MY51110020	Annual	09/23/2012
Agilent	E9327A/ Power Sensor	MY4442009	Annual	05/02/2013
R&S	CMW500/ Base Station	1201.0002K50_116858	Annual	01/17/2013
MITEQ	AMF-6D-001180-35-20P/AMP	1081666	Annual	09/24/2012
Wainwright	WHK1.2/15G-10EF/H.P.F	2	Annual	05/02/2013
Wainwright	WHK3.3/18G-10EF/H.P.F	1	Annual	05/02/2013
Hewlett Packard	11667B / Power Splitter	10126	Annual	11/04/2012
Digital	EP-3010/ Power Supply	3110117	Annual	11/07/2012
Schwarzbeck	UHAP/ Dipole Antenna	557	Biennial	03/11/2013
Schwarzbeck	UHAP/ Dipole Antenna	558	Biennial	03/11/2013
Korea Engineering	KR-1005L / Chamber	KRAB05063-3CH	Annual	11/07/2012
Schwarzbeck	BBHA 9120D/ Horn Antenna	296	Biennial	02/20/2014
Agilent	E4440A/Spectrum Analyzer	US45303008	Annual	05/02/2013
WEINSCHEL	ATTENUATOR	BR0592	Annual	11/07/2012
REOHDE&SCHWARZ	FSP30/Spectrum Analyzer	839117/011	Annual	02/09/2013
Agilent	8960 (E5515C)/ Base Station	GB44400269	Annual	02/10/2013

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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 + 10log10 (P[Watts]) at Band Edge and for all out-of-band emissions		PASS
2.1046	Conducted Output Power	-	CONDUCTED	PASS
24.232(d)	Peak- to- Average Ratio	< 13 dB		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 + 10log10 (P[Watts]) for all out-of band emissions		PASS

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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. Gain	U.L	P0I.	w	dBm
GSM850	128	824.20	-11.56	34.28	-8.32	1.17	Н	0.30	24.79

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

1) The EUT mounted on a non-conductive tuntable 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)

WCDMA Emission Designator

Emission Designator = 4M17F9W

WCDMA BW = 4.17 MHz

- F = Frequency Modulation
- 9 = Composite Digital Info
- W = Combination (Audio/Data)

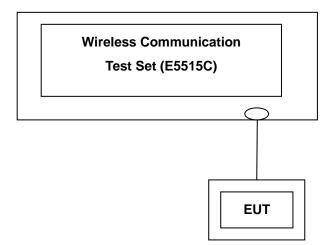
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7. TEST DATA

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.



Test Result

		Voice		GPRS Data				
Band	Channel	GSM (dBm)	GPRS 1 TX Slot (dBm)	GPRS 2 TX Slot (dBm)	GPRS 3 TX Slot (dBm)	GPRS 4 TX Slot (dBm)		
GSM 850	128	33.28	33.28	31.53	29.59	28.58		
	190	33.32	33.32	31.54	29.60	28.61		
	251	33.34	33.34	31.53	29.58	28.61		
C SM	512	29.23	29.23	26.82	25.31	23.87		
GSM 1900	661	29.16	29.16	26.75	25.27	23.82		
1900	810	29.12	29.12	26.73	25.24	23.79		

(GSM Conducted Maximum Output Powers)

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		EDGE Data				
Band	Channel	EDGE 1 TX Slot (dBm)	EDGE 2 TX Slot (dBm)	EDGE 3 TX Slot (dBm)	EDGE 4 TX Slot (dBm)	
CSM	128	27.13	25.10	23.24	22.24	
GSM 850	190	27.15	25.12	23.26	22.31	
	251	27.20	25.18	23.32	22.35	
COM	512	26.25	24.38	22.44	21.28	
GSM 1900	661	26.19	24.32	22.37	21.21	
1900	810	26.15	24.28	22.34	21.15	

(GSM EDGE Conducted Output Powers)

		3GPP 34.121	Cel	lular Band [d	Bm]	
3GPP Release Version	Mode	Subtest	UL 4132 (826.4)	UL 4183 (836.6)	UL 4233 (846.6)	MPR
			DL 4357	DL 4408	DL 4458	
99	WCDMA	12.2 kbps RMC	22.86	22.73	22.76	-
99	WCDMA	12.2 kbps AMR	22.86	22.82	22.75	-
5		Subtest 1	22.88	22.75	22.77	0
5	HSDPA	Subtest 2	22.91	22.75	22.82	0
5	NODFA	Subtest 3	22.65	22.50	22.56	-0.5
5		Subtest 4	22.41	22.25	22.31	-0.5
6		Subtest 1	21.57	21.47	21.57	0
6	HSUPA	Subtest 2	20.88	20.78	20.79	-2
6	HSUPA	Subtest 3	21.80	21.64	21.66	-1
6		Subtest 4	21.17	21.09	21.11	-2
6		Subtest 5	21.65	21.56	21.57	0

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2000		3GPP 34.121	P	PCS Band [dBm]			
3GPP Release Version	Mode	Subtest	UL 9262 (1852.4) DL 9662	UL 9400 (1880.0) DL 9800	UL 9538 (1907.6) DL 9938	MPR	
99	WCDMA	12.2 kbps RMC	23.07	22.84	22.81	-	
99	WCDMA	12.2 kbps AMR	23.06	22.86	22.80	-	
5		Subtest 1	23.11	22.88	22.81	0	
5		Subtest 2	23.13	22.89	22.83	0	
5	HSDPA	Subtest 3	23.15	22.91	22.84	-0.5	
5		Subtest 4	22.91	22.68	22.60	-0.5	
6		Subtest 1	21.81	21.62	21.57	0	
6		Subtest 2	21.33	21.08	21.07	-2	
6	HSUPA	Subtest 3	21.77	21.80	21.81	-1	
6		Subtest 4	21.67	21.45	21.41	-2	
6		Subtest 5	21.87	21.67	21.64	0	

(WCDMA Conducted Output Powers)

Note : Detecting mode is average.

7.2 PEAK-TO-AVERAGE RATIO

- Plots of the EUT's Peak- to- Average Ratio are shown Page 35, 39.

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7.3 OCCUPIED BANDWIDTH

Band	Channel	Frequency(MHz)	Data (GSM: kHz / WCDMA : MHz)
	128	824.20	242.3698
GSM850	190	836.60	243.9980
	251	848.80	246.8433
GSM850 EDGE	251	848.80	253.0600
	512	1850.20	246.6279
GSM1900	661	1880.00	241.8848
	810	1909.80	247.9783
GSM1900 EDGE	810	1909.80	249.5944
	4132	826.40	4.0688
WCDMA850	4183	836.60	4.0537
	4233	846.60	4.0554
	9262	1852.40	4.0608
WCDMA1900	9400	1880.00	4.0720
	9538	1907.60	4.0611

- Plots of the EUT's Occupied Bandwidth are shown Page 31 ~ 34, 36 ~ 38.

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7.4 CONDUCTED SPURIOUS EMISSIONS

Band	Channel	Frequency of Maximum Harmonic (GHz)	Maximum Data (dBm)
	128	7.0625	-30.67
GSM850	190	7.0125	-30.79
	251	7.0125	-30.32
	512	14.3200	-28.10
GSM1900	661	15.9470	-28.27
	810	13.6800	-28.06
	4132	7.3250	-40.81
WCDMA850	4183	7.4125	-40.68
	4233	7.3500	-41.21
	9262	14.4270	-37.35
WCDMA1900	9400	14.5070	-37.27
	9538	14.5330	-36.72

- Plots of the EUT's Conducted Spurious Emissions are shown Page 51 \sim 63.

7.4.1 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 39 ~ 51.

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7.5 EFFECTIVE RADIATED POWER OUTPUT (GSM / WCDMA)

(GSM850 Mode)

Ch./ Freq.		Measured	Substitude	Ant. Gain		Del	ER	Р
channel	Freq.(MHz)	Level(dBm)	LEVEL (dBm)	(dBd)	C.L	Pol.	W	dBm
128	824.20	-11.20	37.73	-10.54	1.61	Н	0.361	25.58
190	836.60	-10.93	37.99	-10.50	1.67	V	0.382	25.82
251	848.80	-10.68	38.38	-10.47	1.64	V	0.424	26.27
EDGE 251	848.80	-14.35	34.71	-10.47	1.64	V	0.182	22.60

(WCDMA850 Mode)

Ch./	Freq.	Measured	Substitude	Ant. Gain		Del	ER	Р
channel	Freq.(MHz)	Level(dBm)	LEVEL (dBm)	(dBd)	C.L	Pol.	w	dBm
4132	826.40	-17.55	31.38	-10.54	1.61	V	0.084	19.23
4183	836.60	-18.29	30.63	-10.50	1.67	V	0.070	18.46
4233	846.60	-17.85	31.03	-10.47	1.65	V	0.078	18.91

Note: Standard batteries are the only options for this phone. And a peak detector is used.

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 non-conductive styrofoam resin table 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 = 3 MHz. For WCDMA 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 WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery. Also, we have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna. The worst case of the EUT is y plane in GSM850 (z plane ch 128) and WCDMA850 mode. Also worst case of detecting Antenna is vertical polarization in GSM850 (horizontal polarization) and WCDMA850 mode.

The EDGE mode testing were performed using 1Tx because 1Tx is highest power in EDGE mode.

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7.6 EQUIVALENT ISOTROPIC RADIATED POWER (GSM / WCDMA)

(GSM1900 Mode)

Ch./	Ch./ Freq.		Substitude	Ant. Gain		Dal	EIRP	
channel	Freq.(MHz)	Level(dBm)	LEVEL (dBm)	(dBi)	C.L	Pol.	W	dBm
512	1,850.20	-9.52	22.42	10.23	1.78	V	1.222	30.87
661	1,880.00	-9.66	22.47	10.25	1.77	V	1.245	30.95
810	1,909.80	-10.10	22.10	10.29	1.75	V	1.159	30.64
EDGE 512	1,850.20	-10.74	21.20	10.23	1.78	V	0.923	29.65

(WCDMA1900 Mode)

Ch./	Freq.	Measured	Substitude	Ant. Gain		Del	EI	RP
channel	Freq.(MHz)	Level(dBm)	LEVEL (dBm)	(dBi)	C.L	Pol.	w	dBm
9262	1,852.40	-14.10	17.84	10.23	1.78	V	0.426	26.29
9400	1,880.00	-14.52	17.61	10.25	1.77	V	0.406	26.09
9538	1,907.60	-14.68	17.52	10.29	1.75	V	0.404	26.06

Note: Standard batteries are the only options for this phone. And a peak detector is used.

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 non-conductive styrofoam resin 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 = 3 MHz. For WCDMA 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 WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. This unit was tested with its standard battery. Also, we have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna. The worst case of the EUT is z plane in GSM1900 and WCDMA1900 mode. Also worst case of detecting Antenna is in vertical polarization in GSM1900 and WCDMA1900 mode.

The EDGE mode testing were performed using 1Tx because 1Tx is highest power in EDGE mode.

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7.7 RADIATED SPURIOUS EMISSIONS 7.7.1 RADIATED SPURIOUS EMISSIONS (GSM850)

MEASURED OUTPUT POWER:	26.27 dBm = 0.424 W

MODULATION SIGNAL: GSM850

DISTANCE:

■ LIMIT: - (43 + 10 log10 (W)) = ______ - <u>39.27 dBc</u>

Ch.	Freq.(MHz)	Measured Level	Ant. Gain (dBd)	<u>Substitute</u> Level [dBm]	C.L	Pol.	ERP (dBm)	dBc
	1,648.40	-35.84	9.69	-45.13	1.71	V	-37.15	-63.42
128 (824.2)	2,472.60	-49.21	10.56	-55.05	2.08	Н	-46.57	-72.84
()	3,296.80	_	_	_	-	-	-	-
	1,673.20	-40.28	9.82	-49.89	1.74	V	-41.81	-68.08
190 (836.6)	2,509.80	-44.33	10.57	-50.30	2.11	V	-41.84	-68.11
	3,346.40	_	_	_	-	-	-	_
	1,697.60	-43.38	10.01	-52.80	1.70	V	-44.49	-70.76
251 (848.8)	2,546.40	-44.35	10.60	-50.13	2.13	Н	-41.66	-67.93
`````	3,395.20	-	_	-	-	_	_	_

3 meters

### **NOTES:** <u>1. Radiated Spurious Emission Measurements at 3 meters by Substitution Method</u> <u>according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:</u>

2. The magnitude of spurious emissions attenuated more than 20dB below the limit above 5th Harmonic for <u>all channel.</u>

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#### 7.7.2 RADIATED SPURIOUS EMISSIONS (GSM1900)

LIMIT: - (43 + 10 log10 (W)) =

MEASURED OUTPUT POWER: <u>30.95 dBm = 1.245 W</u>

MODULATION SIGNAL:
 GSM1900

DISTANCE:

<u>3 meters</u> - 43.95 dBc

Ch.	Freq.(MHz)	Measured Level	Ant. Gain (dBi)	<u>Substitute</u> Level [dBm]	C.L	Pol.	EIRP (dBm)	dBc
	3,700.40	-52.82	12.50	-57.79	2.55	Н	-47.84	-78.79
512 (1850.2)	5,550.60	-54.26	13.04	-53.33	3.17	Н	-43.46	-74.41
(,	7,400.80	_	_	_	-	_	_	_
	3,760.00	-55.34	12.54	-60.02	2.60	V	-50.08	-81.03
661 (1880.0)	5,640.00	-56.65	13.05	-55.11	3.21	Н	-45.27	-76.22
	7,520.00	-58.03	10.99	-47.52	3.72	V	-40.25	-71.20
	3,819.60	-56.61	12.59	-61.05	2.59	Н	-51.05	-82.00
810 (1909.8)	5,729.40	-56.22	13.07	-54.19	3.35	Н	-44.47	-75.42
	7,639.20	-54.80	11.06	-44.82	3.23	Н	-36.99	-67.94

## **NOTES:** <u>1. Radiated Spurious Emission Measurements at 3 meters by Substitution Method</u>

according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

2. The magnitude of spurious emissions attenuated more than 20dB below the limit above 5th Harmonic for <u>all channel.</u>

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#### 7.7.3 RADIATED SPURIOUS EMISSIONS (WCDMA850)

MEASURED OUTPUT POWER: 19.23 dBm = 0.084 W

MODULATION SIGNAL: WCDMA850

DISTANCE:

LIMIT: - (43 + 10 log10 (W)) = - 32.23 dBc

Ch.	Freq.(MHz)	Measured Level	Ant. Gain (dBd)	<u>Substitute</u> Level [dBm]	C.L	Pol.	ERP (dBm)	dBc
	1,652.80	-53.96	9.69	-63.25	1.71	V	-55.27	-74.50
4,132 (826.4)	2,479.20	-54.81	10.56	-60.65	2.08	Н	-52.17	-71.40
()	3,305.60	_	_	-	-	-	_	_
	1,673.20	-52.02	9.82	-61.63	1.74	V	-53.55	-72.78
4,183 (836.6)	2,509.80	-54.18	10.57	-60.15	2.11	V	-51.69	-70.92
	3,346.40	_	_	-	-	-	_	_
	1,693.20	-57.22	10.01	-66.64	1.70	V	-58.33	-77.56
4,233 (846.6)	2,539.80	-51.44	10.60	-57.22	2.13	V	-48.75	-67.98
	3,386.40	_	_	_	_	_	_	_

3 meters

**NOTES:** <u>1. Radiated Spurious Emission Measurements at 3 meters by Substitution Method</u>

according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

2. The magnitude of spurious emissions attenuated more than 20dB below the limit above 5th Harmonic for <u>all channel.</u>

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#### 7.7.4 RADIATED SPURIOUS EMISSIONS (WCDMA1900)

- MEASURED OUTPUT POWER: <u>26.29 dBm = 0.426 W</u>
- MODULATION SIGNAL: WCDMA1900
- DISTANCE:
- LIMIT: (43 + 10 log10 (W)) = ______ <u>39.29 dBc</u>

Ch.	Freq.(MHz)	Measured Level	Ant. Gain (dBi)	<u>Substitute</u> Level [dBm]	C.L	Pol.	EIRP (dBm)	dBc
	3,704.80	-56.94	12.50	-61.91	2.55	Н	-51.96	-78.25
9262	5,557.20	_	_	-	_	-	-	_
	7,409.60	_	_	-	-	-	-	_
	3,760.00	-57.34	12.54	-62.02	2.60	V	-52.08	-78.37
9400	5,640.00	_	_	-	-	-	-	_
	7,520.00	_	_	-	-	-	-	_
	3,815.20	-58.71	12.59	-63.15	2.59	Н	-53.15	-79.44
9538	5,722.80	_	_	_	-	-	_	_
	7,630.40	-	_	-	-	_	-	_

3 meters

## **NOTES:** <u>1. Radiated Spurious Emission Measurements at 3 meters by Substitution Method</u>

according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

2. The magnitude of spurious emissions attenuated more than 20dB below the limit above 5th Harmonic for <u>all channel.</u>

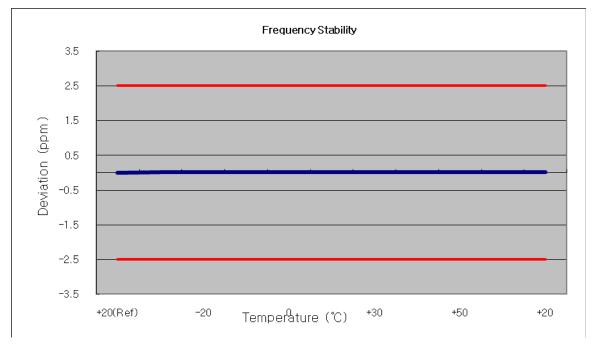
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## 7.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE 7.8.1 FREQUENCY STABILITY (GSM850)

OPERATING FREQUENCY:	836,600,000 Hz
CHANNEL:	190
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)	836 599 986	0	0.000 000	0.000
100%		-30	836 600 001	15.19	0.000 002	0.018
100%		-20	836 600 000	13.30	0.000 002	0.016
100%		-10	836 600 001	15.29	0.000 002	0.018
100%	3.700	0	836 600 001	14.36	0.000 002	0.017
100%		+10	836 600 001	14.67	0.000 002	0.018
100%		+30	836 599 997	11.17	0.000 001	0.013
100%		+40	836 600 001	15.08	0.000 002	0.018
100%		+50	836 599 998	12.21	0.000 001	0.015
115%	4.255	+20	836 600 001	14.86	0.000 002	0.018
Batt. Endpoint	3.400	+20	836 600 001	14.57	0.000 002	0.017



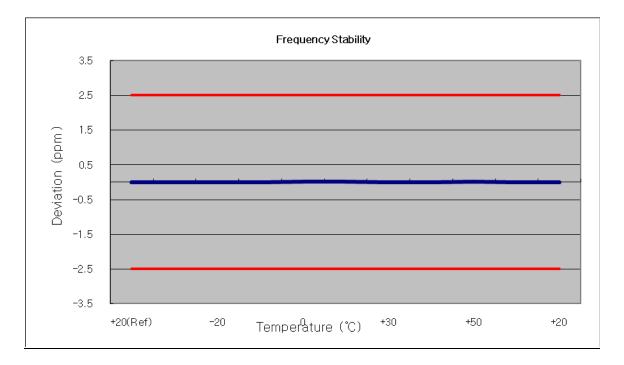
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## 7.8.2 FREQUENCY STABILITY (GSM1900)

OPERATING FREQUENCY:	1880,000,000 Hz
CHANNEL:	661
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	0	0.000 000	0.000
100%		-30	1879 999 979	-8.31	0.000 000	-0.004
100%		-20	1879 999 976	-10.80	-0.000 001	-0.006
100%	3.700	-10	1879 999 980	-7.68	0.000 000	-0.004
100%		0	1879 999 999	11.81	0.000 001	0.006
100%		+10	1879 999 999	11.29	0.000 001	0.006
100%		+30	1879 999 976	-11.75	-0.000 001	-0.006
100%		+40	1879 999 978	-8.94	0.000 000	-0.005
100%		+50	1879 999 998	10.98	0.000 001	0.006
115%	4.255	+20	1879 999 973	-14.36	-0.000 001	-0.008
Batt. Endpoint	3.400	+20	1879 999 997	9.79	0.000 001	0.005



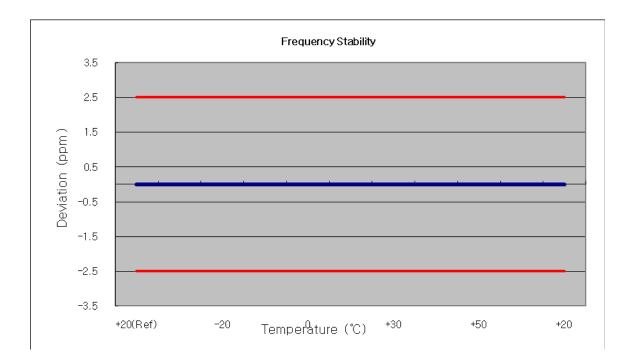
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## 7.8.3 FREQUENCY STABILITY (WCDMA850)

OPERATING FREQUENCY:	836,600,000 Hz
CHANNEL:	4183
REFERENCE VOLTAGE:	3.7 VDC
DEVIATION LIM IT:	<u>± 0.000 25 % or 2.5 ppm</u>

Voltage	Power	Temp.	Frequency	Frequency	Deviation	
(%)	(VDC)	(°°)	(Hz)	Error (Hz)	(%)	ppm
100%		+20(Ref)	836 600 004	0	0.000 000	0.000
100%		-30	836 599 997	-2.70	0.000 000	-0.003
100%		-20	836 599 996	-3.66	0.000 000	-0.004
100%	3.700	-10	836 599 995	-4.56	-0.000 001	-0.005
100%		0	836 599 996	-3.85	0.000 000	-0.005
100%		+10	836 600 002	2.16	0.000 000	0.003
100%		+30	836 599 997	-2.70	0.000 000	-0.003
100%		+40	836 599 995	-4.71	-0.000 001	-0.006
100%		+50	836 599 996	-4.14	0.000 000	-0.005
115%	4.255	+20	836 599 995	-4.82	-0.000 001	-0.006
Batt. Endpoint	3.400	+20	836 599 994	-5.74	-0.000 001	-0.007



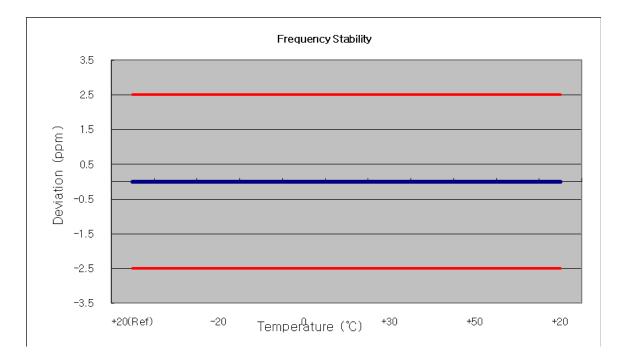
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### 7.8.4 FREQUENCY STABILITY (WCDMA1900)

OPERATING FREQUENCY:	1,880,000,000 Hz
CHANNEL:	9400
REFERENCE VOLTAGE:	3.7 VDC
DEVIATION LIM IT:	<u>± 0.000 25 % or 2.5 ppm</u>

Voltage	Power	Temp.	Frequency	Frequency	Deviation	
(%)	(VDC)	(°°)	(Hz)	Error (Hz)	(%)	ppm
100%		+20(Ref)	1880 000 010	0	0.000 000	0.000
100%		-30	1879 999 991	-9.07	0.000 000	-0.005
100%		-20	1879 999 990	-10.18	-0.000 001	-0.005
100%		-10	1879 999 992	-8.07	0.000 000	-0.004
100%	3.700	0	1879 999 987	-13.48	-0.000 001	-0.007
100%		+10	1879 999 994	-5.57	0.000 000	-0.003
100%		+30	1879 999 992	-7.91	0.000 000	-0.004
100%		+40	1879 999 993	-7.23	0.000 000	-0.004
100%		+50	1879 999 994	-6.23	0.000 000	-0.003
115%	4.255	+20	1879 999 992	-7.86	0.000 000	-0.004
Batt. Endpoint	3.400	+20	1879 999 986	-13.53	-0.000 001	-0.007



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## 8. TEST PLOTS

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



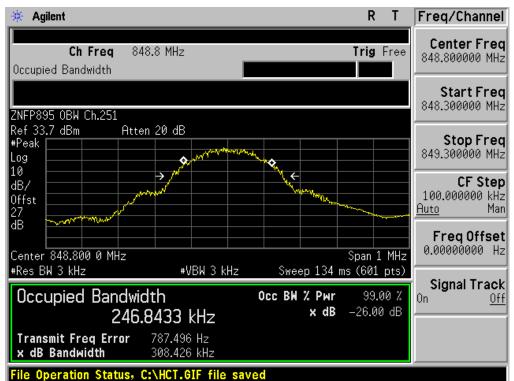
#### ■ GSM850 MODE (190 CH.) Occupied Bandwidth



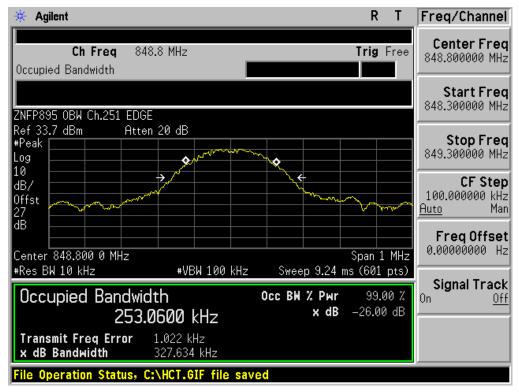
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Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895	
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#### GSM850 MODE (251 CH.) Occupied Bandwidth



■ GSM850 EDGE (251 CH.) Occupied Bandwidth



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



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



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



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



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#### ■ GSM1900 MODE (661 CH.) Peak-to-Average Ratio

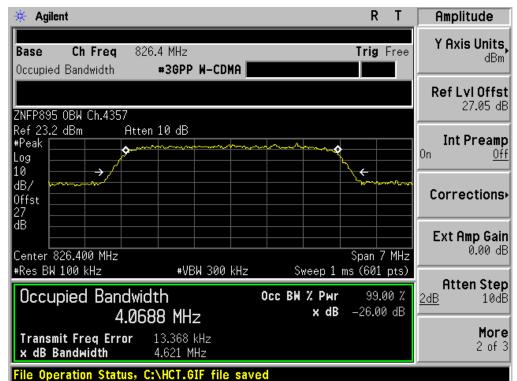
#### ■ GSM1900 EDGE (661 CH.) Peak-to-Average Ratio



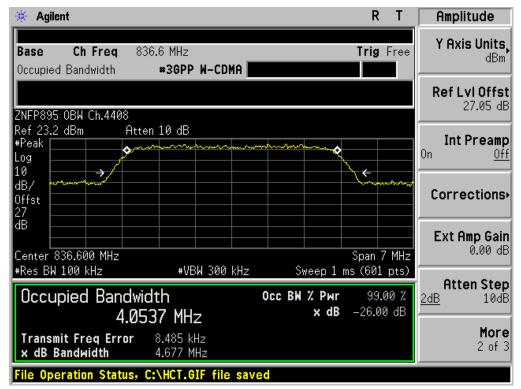
FCC CERTIFICATION REPORT			www.hct.co.kr	
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895	
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#### ■ WCDMA850 MODE (4132 CH.) Occupied Bandwidth



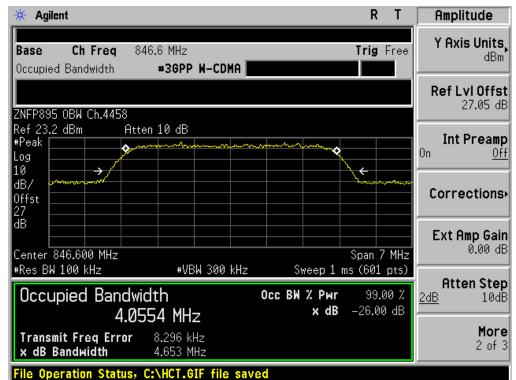
#### ■ WCDMA850 MODE (4183 CH.) Occupied Bandwidth



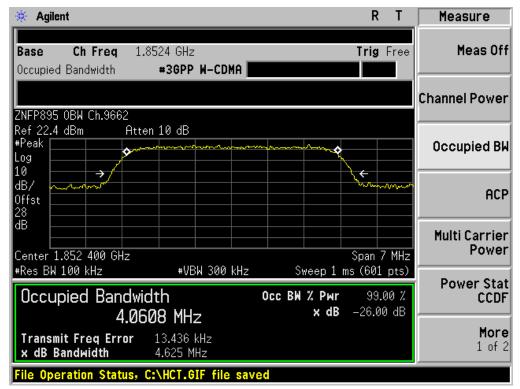
FCC CERTIFICATION REPORT			www.hct.co.kr	
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895	
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### ■ WCDMA850MODE (4233 CH.) Occupied Bandwidth



### ■ WCDMA1900 MODE (9262 CH.) Occupied Bandwidth



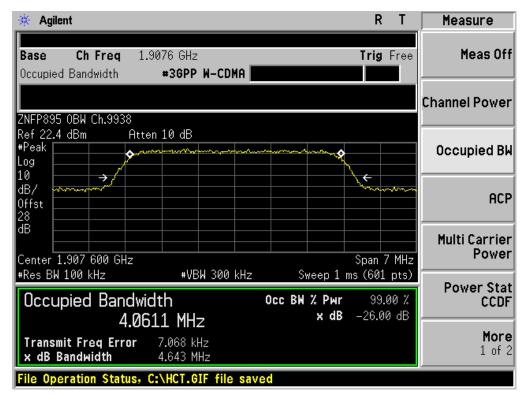
FCC CERTIFICATION REPORT			www.hct.co.kr		
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895		
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### ■ WCDMA1900 MODE (9400 CH.) Occupied Bandwidth

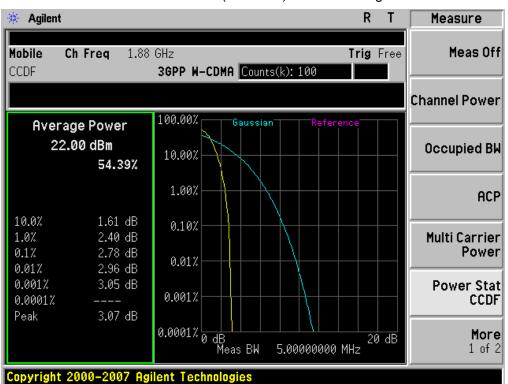
* Agilent R T	Measure
Base  Ch Freq  1.88 GHz  Trig  Free    Occupied Bandwidth  #3GPP W-CDMA	Meas Off
ZNFP895 OBW Ch.9800	Channel Power
Ref 22.4 dBm Atten 10 dB #Peak Log 10 → ← 7	Occupied BW
10 dB/ 0ffst 28 dB →	ACP
Center 1.880 000 GHz Span 7 MHz	Multi Carrier Power
*Res BW 100 kHz      *VBW 300 kHz      Sweep 1 ms (601 pts)        Occupied Bandwidth      Occ BW % Pwr      99.00 %        4.0720 MHz      × dB      -26.00 dB	Power Stat CCDF
4.0720 FIFZ    Transmit Freq Error  13.495 kHz    x dB Bandwidth  4.621 MHz	<b>More</b> 1 of 2

### ■ WCDMA1900 MODE (9538 CH.) Occupied Bandwidth



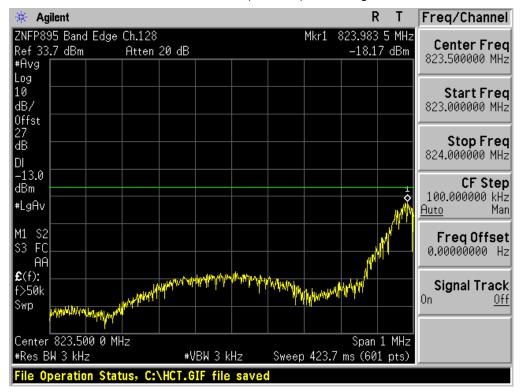
FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
		Page 38 of 63	





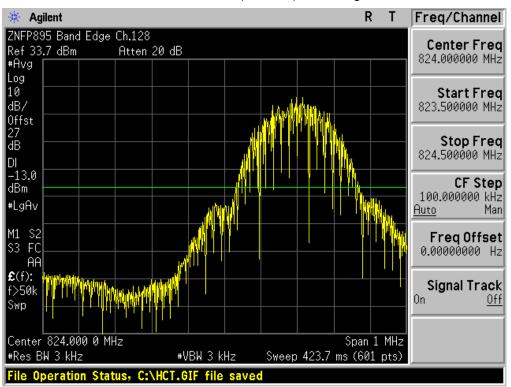
#### ■ WCDMA1900 MODE (9400 CH.) Peak-to-Average Ratio

■ GSM850 MODE (128 CH.) Block Edge 1



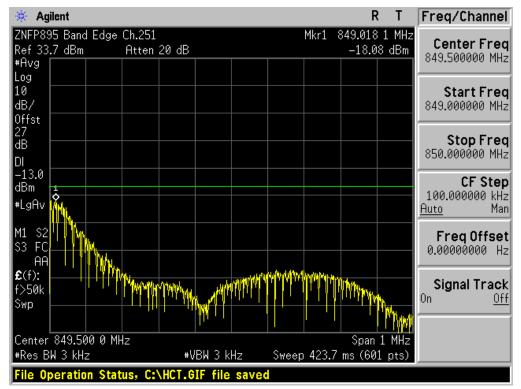
FCC CERTIFICATION REPORT			www.hct.co.kr		
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895		
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#### ■ GSM850 MODE (128 CH.) Block Edge 2

■ GSM850 MODE (251 CH.) Block Edge 1



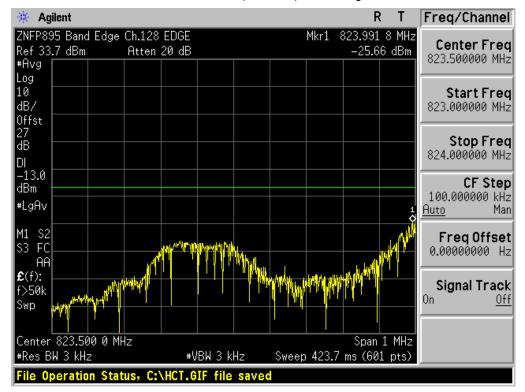
FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
		Page 40 of 63	





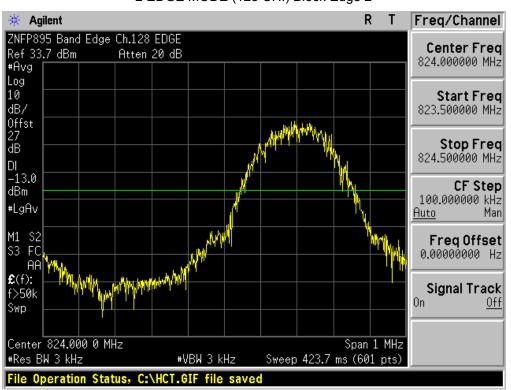
#### ■ GSM850 MODE (251 CH.) Block Edge 2

■ EDGE MODE (128 CH.) Block Edge 1



FCC CERTIFICATION REPORT			www.hct.co.kr		
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895		
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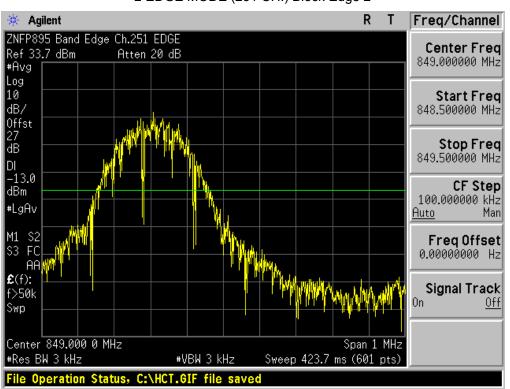
### ■ EDGE MODE (128 CH.) Block Edge 2

■ EDGE MODE (251 CH.) Block Edge 1



FCC CERTIFICATION REPORT			www.hct.co.kr		
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895		
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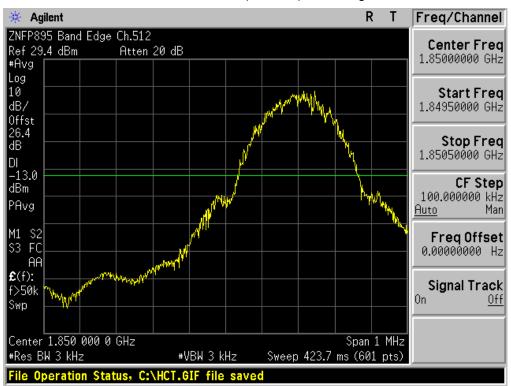
### ■ EDGE MODE (251 CH.) Block Edge 2

■ GSM1900 MODE (512 CH.) Block Edge 1



FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
	0 /	Page 43 of 63	





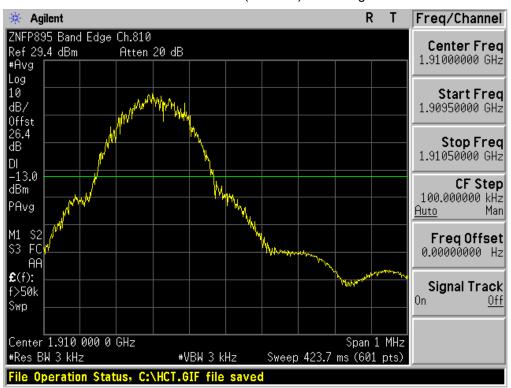
#### ■ GSM1900 MODE (512 CH.) Block Edge 2

■ GSM1900 MODE (810 CH.) Block Edge 1



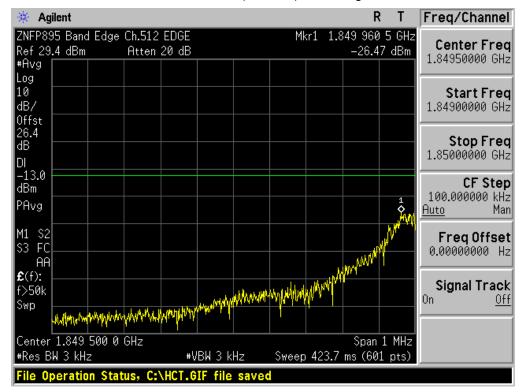
FCC CERTIFICATION REPORT			www.hct.co.kr		
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895		
	Page 44 of 63				





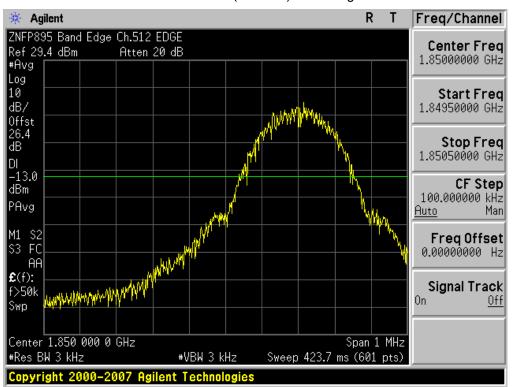
### ■ GSM1900 MODE (810 CH.) Block Edge 2

■ EDGE MODE (512 CH.) Block Edge 1



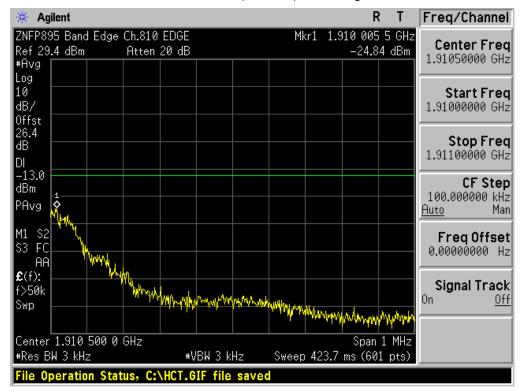
FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
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### ■ EDGE MODE (512 CH.) Block Edge 2

■ EDGE MODE (810 CH.) Block Edge 1



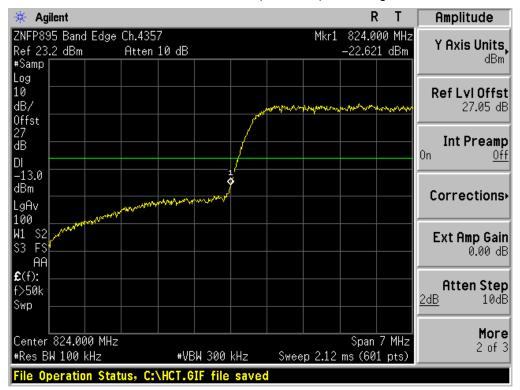
FCC CERTIFICATION REPORT			www.hct.co.kr
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	-	Page 46 of 63	





### ■ EDGE MODE (810 CH.) Block Edge 2

#### ■ WCDMA850 MODE (4132 CH.) Block Edge



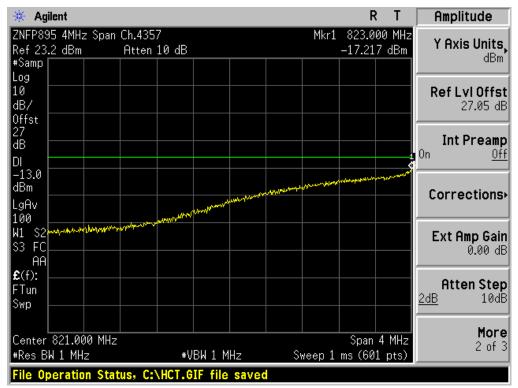
FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
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ZNFP895 Band Edge Ch.4458		Amplitude
Ref 23.2 dBm Atten 10 dB	Mkr1 849.000 MHz –23.876 dBm	Y Axis Units,
#Samp Log		dBm`
10 dB/ manner manner		Ref Lvi Offst 27.05 de
Offst 27 dB		Int Preamp
DI -13.0 dBm		Corrections
LgAv	worken workerstop	
W1 S2 S3 FS AA	Marken and a second sec	Ext Amp Gair 0.00 dE
€(f): f>50k Swp		Atten Step 2dB 10dE
Center 849.000 MHz	Span 7 MHz	More 2 of 3
#Res BW 100 kHz	ep 2.12 ms (601 pts)	2 UT 3

### ■ WCDMA850MODE (4233 CH.) Block Edge

#### ■ WCDMA850 MODE (4132 CH.) – 4 MHz Span



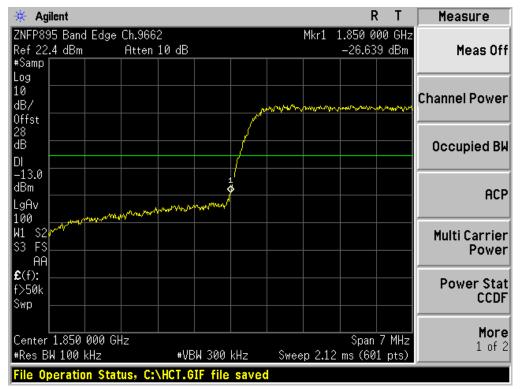
		FCC CERTIFICATION REPORT	www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
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🔆 Agilent			RT	Amplitude
ZNFP895 4MHz Span Ref 23.2 dBm		Mkr1	850.000 MHz -15.698 dBm	Y Axis Units, dBm
#Samp Log				
10 dB/ 0ffst				Ref Lvi Offst 27.05 dB
27 dB DI \$				Int Preamp On <u>Of</u> f
dBm	Marrison and the state of the s	Mr. Marine Marine Marine		Corrections
100		and the second second second second		
W1 S2 S3 FC AA				Ext Amp Gair 0.00 dE
£(f): FTun Swp				Atten Step 2dB 10dE
				More
Center 852.000 MHz #Res BW 1 MHz	#VBW 1 M⊦	z Sweep 1	Span 4 MHz ms (601 pts)	2 of 3
	tus, C:\HCT.GIF file			

### ■ WCDMA850MODE (4233 CH.) – 4 MHz Span

### ■ WCDMA1900 MODE (9262 CH.) Block Edge



		FCC CERTIFICATION REPORT	www.hct.co.kr
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🔆 Agilent			RT	Measure
ZNFP895 Band Edge C			0 000 GHz	
Ref 22.4 dBm F #Samp	Atten 10 dB	-26	6.573 dBm	Meas Off
Log				
10				Channel Power
dB/ more more more	manufaction and a			channel Fower
Offst 28				
dB				Occupied Bl
DI				eccupied bi
-13.0				
dBm	<b>•</b>			ACF
LgAv	way way we want	The way and a short of a short of	where a	
100 W1 S2			when we we	Hulti Comios
\$3 FS				Multi Carrier Power
AA				Fower
<b>£</b> (f):				Power Stat
f>50k				CCDF
Swp				
				More
Center 1.910 000 GHz			oan 7 MHz	1 of 2
#Res BW 100 kHz	₩VBW 300 kHz	Sweep 2.12 ms	(601 pts)	

## ■ WCDMA1900 MODE (9538 CH.) Block Edge

# ■ WCDMA1900 MODE (9262 CH.) – 4 MHz Span

🔆 Agilent			R	Т	Measure
	9662 ten 10 dB	Mkr1	1.848 987 -19.887		Meas Off
#Samp Log 10 dB/					Channel Power
Offst 28 dB DI					Occupied BW
-13.0 dBm LgAv	water and a start and a start and a start	~yyyter=*yryset=#9879**	er fill franker skriver	فمسره	ACP
100 W1 S2 S3 FC AA					Multi Carrier Power
£(f): FTun Swp					Power Stat CCDF
Center 1.847 000 GHz #Res BW 1 MHz	#VBW 1 MHz	Sweep 1	Span 4 L ms (601		<b>More</b> 1 of 2
File Operation Status,	C:\HCT.GIF file sav				

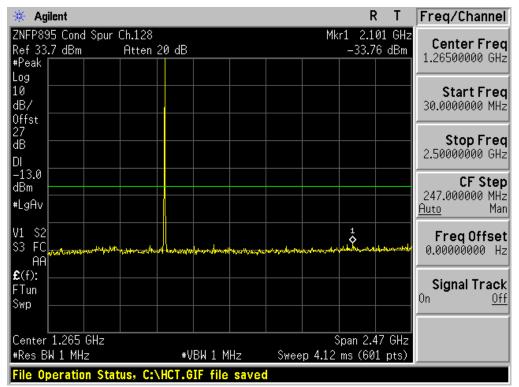
		FCC CERTIFICATION REPORT	www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
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🔆 Agilent				RT	Measure
ZNFP895 4MHz S Ref 22.4 dBm #Samp	pan Ch.9938 Atten 10 dB			1 000 GHz 8.577 dBm	Meas Off
Log 10 dB/ 0ffst					Channel Power
28 dB DI					Occupied BW
-13.0 dBm LgAv 100	namer formademanestrationale	agunaganya yang ng n	and the second	nd the advance of the loss	ACP
W1 S2 S3 FC AA					Multi Carrier Power
<b>£</b> (f): FTun Swp					Power Stat CCDF
Center 1.913 00 #Res BW 1 MHz		VBW 1 MHz	Sweep 1 ms	pan 4 MHz (601 pts)	More 1 of 2
#Res BW 1 MHz			Sweep 1 ms		

### ■ WCDMA1900 MODE (9538 CH.) – 4 MHz Span

#### ■ GSM850 MODE (128 CH.) Conducted Spurious Emissions1



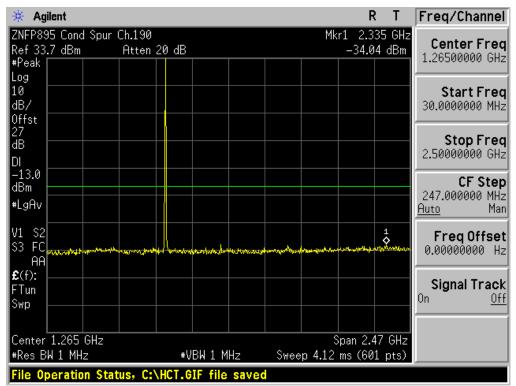
		FCC CERTIFICATION REPORT	www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
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🔆 Agilent				RT	Freq/Channel
ZNFP895 Cond Spur Ref 33.7 dBm #Peak	Ch.128 Atten 20 dB		Mkr1	7.062 5 GHz -30.67 dBm	Center Fred 6.25000000 GHz
Log 10 dB/ Offst					Start Freq 2.50000000 GHz
27 dB DI					Stop Fred 10.0000000 GHz
-13.0 dBm #LgAv					<b>CF Step</b> 750.000000 MHz <u>Auto</u> Mar
/1 S2 53 FC	North and the set of t	when when the	astrophing and all provided and the second	arabions-stationent.ann	Freq Offse 0.00000000 H:
E(f): Tun Swp					<b>Signal Tracl</b> On <u>Of</u>
Center 6.250 0 GHz #Res BW 1 MHz		AIMHz S	weep 12.52 r	òpan 7.5 GHz ns (601 pts)	
File Operation Sta			100p 12.02 1	10 (001 pto)	

### ■ GSM850 MODE (128 CH.) Conducted Spurious Emissions2

#### ■ GSM850 MODE (190 CH.) Conducted Spurious Emissions1



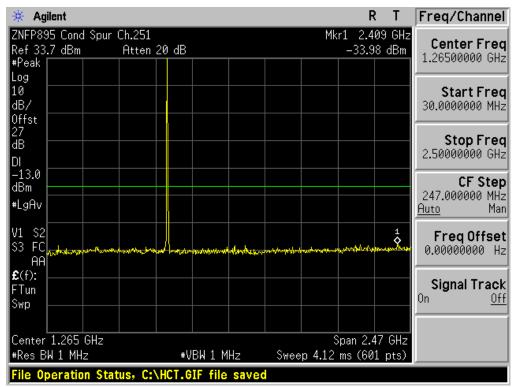
		FCC CERTIFICATION REPORT	www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
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🖗 Agilent			RT	Freq/Channel
Peak	90 en 20 dB	Mkr1	7.012 5 GHz -30.79 dBm	Center Fred 6.25000000 GHz
.og .0 HB/ Dffst				Start Fred 2.50000000 GHz
27 HB DI				Stop Fred 10.0000000 GH
-13.0 HBm •LgAv				<b>CF Step</b> 750.000000 MH: <u>Auto</u> Ma
/1 S2 S3 FC www.adva.com	in an	1	Andrawy Marchelager	Freq Offse 0.00000000 H
S(f): Tun Wep				<b>Signal Tracl</b> On <u>Of</u>
Center 6.250 0 GHz Res BW 1 MHz	#VBW 1 MHz		Span 7.5 GHz	

### ■ GSM850 MODE (190 CH.) Conducted Spurious Emissions2

#### ■ GSM850 MODE (251 CH.) Conducted Spurious Emissions1



		FCC CERTIFICATION REPORT	www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
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🔆 Agilent			_	RT	Freq/Channel
ZNFP895 Cond Spur Ref 33.7 dBm #Peak	Ch.251 Atten 20 dB		Mkr1	7.012 5 GHz -30.32 dBm	Center Fred 6.25000000 GH:
Log 10 dB/ Offst					Start Fred 2.50000000 GHz
27 dB DI					<b>Stop Fred</b> 10.0000000 GHz
-13.0 dBm #LgAv					<b>CF Step</b> 750.000000 MH: <u>Auto</u> Mai
V1 S2 S3 FC مەمىرىسىمى AA	and the second and a second	uterner allowed freehold many	handon and the stand of the	handerstradigedige	Freq Offse 0.00000000 H
E(f): Tun Swp					<b>Signal Tracl</b> On <u>Of</u>
Center 6.250 0 GHz #Res BW 1 MHz		I 1 MHz Swe		Span 7.5 GHz ms (601 pts)	
File Operation Sta					

### ■ GSM850 MODE (251 CH.) Conducted Spurious Emissions2

# ■ GSM1900 MODE (512 CH.) Conducted Spurious Emissions1

🔆 Agilent				R	Т	Freq/Channel
ZNFP895 Cond Spur Ref 29.4 dBm #Peak	Ch.512 Atten 20 dB		M	kr1 2.955 –31.25 (		Center Freq 2.01500000 GHz
Log 10 dB/ Offst						Start Freq 30.0000000 MHz
dB DI					_	<b>Stop Freq</b> 4.00000000 GHz
-13.0 dBm LgAv			1			<b>CF Step</b> 397.000000 MHz <u>Auto</u> Mar
V1 S2 S3 FC AA	Nyerrenterseeren konsentationen kan here			nharrh-santradin	*//17=-*12	Freq Offset 0.00000000 Hz
£(f): FTun Swp						<b>Signal Track</b> On <u>Off</u>
Center 2.015 GHz #Res BW 1 MHz		BW 1 MHz	Sweep 6.64	Span 3.97 4 ms (601 p		
Copyright 2000-2						

		FCC CERTIFICATION REPORT	www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
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🗧 Agilent		RT	Freq/Channe
Peak 🛛 👘	12 en 20 dB	Mkr1 14.320 GH: -28.10 dBm	Contor Eros
og 0 B/			Start Fred 4.00000000 GH
16.4 B II			<b>Stop Fre</b> 20.0000000 GH
13.0 Bm gAv			<b>CF Ste</b> 1.60000000 GH <u>Auto</u> Ma
3 FC	honor water for the second	24 M	Freq Offse 0.00000000 H
:(f): Tun wp			Signal Trac On <u>Ot</u>
Center 12.000 GHz Res BW 1 MHz	#VBW 1 MHz	Span 16 GHz Sweep 40 ms (601 pts)	

## ■ GSM1900 MODE (512 CH.) Conducted Spurious Emissions2

# ■ GSM1900 MODE (661 CH) Conducted Spurious Emissions1

🔆 Agilent				RT	Freq/Channel
ZNFP895 Cond Spur Ref 29.4 dBm #Peak	Ch.661 Atten 20 dB		Mk	r1 3.100 G –30.92 dB	Contor From
Log 10 dB/ Offst					Start Freq 30.0000000 MHz
dB DI					<b>Stop Freq</b> 4.00000000 GHz
-13.0 dBm LgAv			1		CF Step 397.000000 MHz Auto Man
V1 S2 S3 FC AA	ายกรับสี่งแสมหายสำหรังแก่เริ่มหมูม	and the participation and	what was	anter and a state of the state	Freq Offset 0.00000000 Hz
£(f): FTun Swp					Signal Track ^{On <u>Off</u>}
Center 2.015 GHz #Res BW 1 MHz	#V	BW 1 MHz	Sweep 6.64	) pan 3.97 GF ms (601 pts	
File Operation Sta					

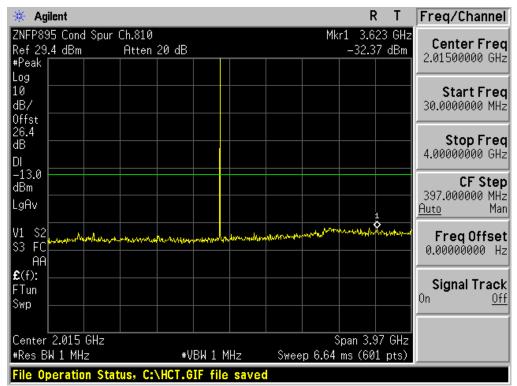
		FCC CERTIFICATION REPORT	www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
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🖗 Agilent			RT	Freq/Channel
Peak	61 en 20 dB		5.947 GHz 3.27 dBm	Center Fred 12.0000000 GHz
.og L0 HB/				Start Frec 4.00000000 GHz
26.4 HB				Stop Fred 20.0000000 GHz
-13.0 HBm .gAv		1 1		<b>CF Step</b> 1.60000000 GHz <u>Auto</u> Mar
63 FC	hoppostation and the dim	1///	7.44 ₈ -1 ₁₂ -7.9,4- ¹⁰ 44 ⁻¹ 1-2 ⁴	Freq Offse 0.00000000 H:
E(f): -Tun Gwp				<b>Signal Tracl</b> On <u>Of</u>
Center 12.000 GHz Res BW 1 MHz	#VBW 1 MHz	Spar Sweep 40 ms (1	1 16 GHz	

### ■ GSM1900 MODE (661 CH.) Conducted Spurious Emissions2

#### ■ GSM1900 MODE (810 CH.) Conducted Spurious Emissions1



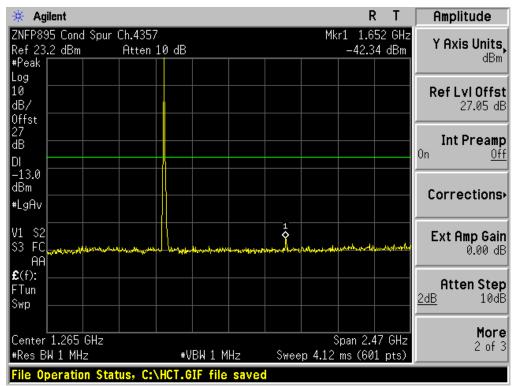
		FCC CERTIFICATION REPORT	www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
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🔆 Agilent			RT	Freq/Channe
ZNFP895 Cond Spur Ref 29.4 dBm #Peak	Ch.810 Atten 20 dB	Mkr1	13.680 GHz -28.06 dBm	Center Fred 12.0000000 GH:
Log 10 dB/ Offst				Start Fred 4.00000000 GH:
26.4 dB DI				<b>Stop Fred</b> 20.0000000 GH:
-13.0 dBm _gAv				<b>CF Step</b> 1.60000000 GH: <u>Auto</u> Ma
/1 S2 53 FC AA	Margan and a start and a start of the start	The second s	and an all a second and a second	<b>FreqOffse</b> 0.00000000 H
נ(f): Tun אשף				<b>Signal Trac</b> i ^{On <u>Of</u>}
Center 12.000 GHz +Res BW 1 MHz	#VBW 1 MF		Span 16 GHz is (601 pts)	
	tus, C:\HCT.GIF file		13 (001 p(3)	

### ■ GSM1900 MODE (810 CH.) Conducted Spurious Emissions2

#### ■ WCDMA850 MODE (4132 CH.) Conducted Spurious Emissions1



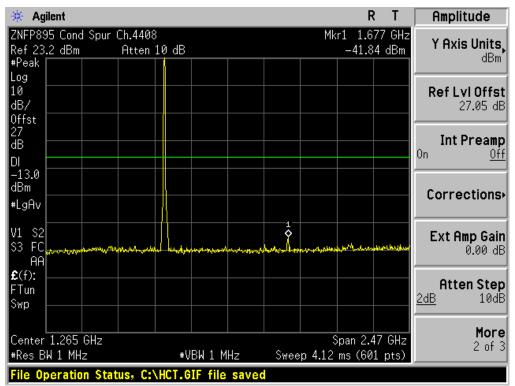
		FCC CERTIFICATION REPORT	www.hct.co.kr
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
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K Agilent			RT	Amplitude
NFP895 Cond Spur Ch.43 ef 23.2 dBm Atte Peak	57 n 10 dB	Mkr1	7.325 0 GHz -40.81 dBm	Y Axis Units dBm
0g 0 B/				Ref Lvi Offs 27.05 df
Iffst 7 B				Int Preamp
)  13.0  Bm				Corrections
LgAv 11 S2 3 FC	on fall and a start of the second	1 Mar Martin Martin Martin Carl	han the state of the	Ext Amp Gai 0.00 d
(f): Tun wp				Atten Step 2dB 10df
Center 6.250 0 GHz Res BW 1 MHz	#VBW 1 MHz	Sweep 12.52	Span 7.5 GHz ms (601 pts)	Mor 2 of

#### ■ WCDMA850 MODE (4132 CH.) Conducted Spurious Emissions2

#### ■ WCDMA850 MODE (4183 CH.) Conducted Spurious Emissions1



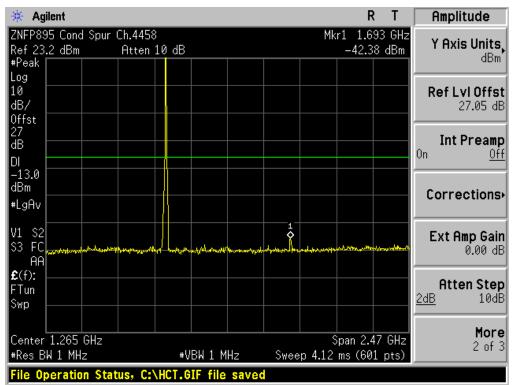
FCC CERTIFICATION REPORT						
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895			
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🐇 Agilent			RT	Amplitude
NFP895 Cond Spur Ch.44	ð8	Mkr1	7.412 5 GHz	V Ouis Units
	n 10 dB		-40.68 dBm	YAxisUnits dBm
Peak				uDiii
.og				Def Lui Offe
.ø IB/				Ref Lvl Offs 27.05 d
Offst				27.0J U
27				
IB IIII				Int Pream
)				0n <u>01</u>
-13.0				
1Bm				Corrections
LgAv				
и со				
1 S2 3 FC	mary and a stranger of the second	w man for a start way	www.www.whe	Ext Amp Gai
AA AA	-Wernship was a strength of the second s			0.00 d
:(f):				
Tun				Atten Ste
Śwp				<u>2dB</u> 10d
Center 6.250 0 GHz			Span 7.5 GHz	Mor
Res BW 1 MHz	₩VBW 1 MHz	Sweep 12.52		2 of
ile Operation Status, C			m <del>a (oo</del> r pta)	

#### ■ WCDMA850 MODE (4183 CH.) Conducted Spurious Emissions2

#### ■ WCDMA850MODE (4233 CH.) Conducted Spurious Emissions1



FCC CERTIFICATION REPORT						
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🔆 Agilent				R	Т	Amplitude
ZNFP895 Cond Spur	Ch.4458		Mkr1	7.350 0	GHz	V Oute United
Ref 23.2 dBm	Atten 10 dB			-41.21	dBm	YAxisUnits dBm
#Peak						ubii
Log						
10						Ref Lvl Offs
dB/						27.05 df
Offst 27						
dB						Int Pream
						0n <u>Of</u>
-13.0						
dBm						
#LgAv						Corrections
"L9IIV						
V1 S2			$\diamond$			Eut Own Cali
S3 FC	Antonia but have been and	control assured that when	water to find a work of the same	hallow some when	mary	Ext Amp Gail 0.00 df
AA						0.00 di
<b>£</b> (f):						
FTun						Atten Step
Swp						<u>2dB</u> 10dE
						More
Center 6.250 0 GHz				Span 7.5		2 of 3
#Res BW 1 MHz	#VB1	1 MHz S	Sweep 12.52	ms (601	pts)	
File Operation Sta	tus, C:\HCT.GIF	file saved				

## WCDMA850MODE (4233 CH.) Conducted Spurious Emissions2

# ■ WCDMA1900 MODE (9262 CH.) Conducted Spurious Emissions1

Measure	Т	R									ilent	🔆 Ag
Meas Off		3.067 41.24		М					Ch.9662 Atten	d Spur N		ZNFP89 Ref 22 #Peak
Channel Power												Log 10 dB/ Offst
Occupied BW												28 dB DI
ACP												-13.0 dBm LgAv
Multi Carrier Power		-	that	1 Andrew Con	w.m.m.h	, the second	sure ly	فالمرور والمروس	n day ben given a	<b>nend</b> ates		V1 S2 S3 FC AA
Power Stat CCDF												€(f): FTun Swp
More 1 of 2		1 3.97 (601		p 6.64	Swee	Hz	3W 1 M	#V				Center #Res B
									us, C:	on Stat		

FCC CERTIFICATION REPORT						
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895			
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	RT	Measure
		Channel Power
		Occupied Bk
	1	ACP
ningen son and an and the source of the solar of the	and the state of the second second	Multi Carrier Power
		Power Stat CCDF
#VBW 1 MHz		
		52 Mkr1 14.427 GHz -37.35 dBm -37.35 dBm

# ■ WCDMA1900 MODE (9262 CH.) Conducted Spurious Emissions2

# ■ WCDMA1900 MODE (9400 CH.) Conducted Spurious Emissions1

🔆 Agilent					R	Т	Measure
ZNFP895 Cond Spur (				Mkr:	l 3.371		
Ref 22.4 dBm #Peak	Atten 10 d	3B			-41.56	dBm	Meas Off
Log							
10							Channel Power
dB/							channel rower
Offst 28							
dB							Occupied BW
DI							
-13.0							
dBm		<u> </u>					ACP
LgAv							
V1 S2				and war all all and a second	\$		Multi Carrier
S3 FC when the strategy that the	Montenne	inormal his	water and a second start and a	had we also and	er (la ser and an free	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Power
AA A							
£(f): FTun							Power Stat
Swp							CCDF
Center 2.015 GHz				Sn	an 3.97	GHz	More
#Res BW 1 MHz		#VBW 1 M	Hz Sw	eep 6.64 m			1 of 2
File Operation Stat	us. C:\HC1						

FCC CERTIFICATION REPORT						
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895			
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	RT	Measure
9800 ten 10 dB		
		Channel Power
		Occupied BW
	1	ACP
March and the state of the stat	an fan ter fan de fa	Multi Carrier Power
		Power Stat CCDF
#VBW 1 MHz	Span 16 GHz Sweep 40 ms (601 pts)	<b>More</b> 1 of 2
	ten 10 dB	9800 Mkr1 14.507 GHz - 37.27 dBm - 37.27 d

# ■ WCDMA1900 MODE (9400 CH.) Conducted Spurious Emissions2

# ■ WCDMA1900 MODE (9538 CH.) Conducted Spurious Emissions1

🔆 Agilent			RT	Measure
ZNFP895 Cond Spur Ch.99			3.080 GHz	
Ref 22.4 dBm Atte #Peak	n 10 dB	-41	1.35 dBm	Meas Off
Log				
10 10				Channel Power
dB/				channel Fower
Offst 28				
dB				Occupied BW
DI				
-13.0				
dBm				ACP
LgAv		1		
V1 S2		· •		Multi Carrier
	administration of the second	wound all would be a strategy	yber where and	Power
AA A				
£(f):				Power Stat
FTun Swp				CCDF
Center 2.015 GHz		Span	3.97 GHz	More
#Res BW 1 MHz	#VBW 1 MHz	Sweep 6.64 ms (		1 of 2
File Operation Status,			001 p(0)	

FCC CERTIFICATION REPORT						
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895			
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🔆 Agilent				RТ	Measure		
ZNFP895 Cond Spur ( Ref 22.4 dBm			Mkr1 14. -36.	533 GHz 72 dBm	Meas Off		
#Peak Log							
10 dB/					Channel Power		
Offst 28 dB					Occupied BW		
DI							
dBm					ACP		
LgAv							
V1 S2 S3 FC AA	minterin	approved water	etternetheterneterjuntligetern	and the set of the set	Multi Carrier Power		
£(f): FTun Swp					Power Stat CCDF		
				10.01	More		
Center 12.000 GHz #Res BW 1 MHz	#VBW 1	MHz Sw	Span eep 40 ms (60	16 GHz 01 pts)	1 of 2		
File Operation Status, C:\HCT.GIF file saved							

# ■ WCDMA1900 MODE (9538 CH.) Conducted Spurious Emissions2

FCC CERTIFICATION REPORT			
Test Report No. HCTR1208FR28-1	Date of Issue: August 17, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895
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