

HCT CO., LTD.

CERTIFICATE OF COMPLIANCE FCC Certification

Applicant Name: LG Electronics MobileComm U.S.A., Inc.	Date of Issue: March 15, 2013
Address: 1000 Sylvan Avenue, Englewood Cliffs NJ 07632	Test Site/Location: HCT CO., LTD., 105-1, Jangam-ri, Majang-Myeon, Icheon-si, Kyunggi-Do, Korea
	Report No.: HCTR1301FR19-3
	HCT FRN: 0005866421

FCC ID: ZNFP710

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

FCC Model(s):	LG-P710
Additional FCC Model(s):	P710, LGP710
EUT Type:	Cellular/PCS GSM/GPRS/EDGE Rx only/PCS 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) 1 850.20 - 1 909.80 MHz (GSM1900) 1 852.40 - 1 907.60 MHz (WCDMA1900)
Rx Frequency:	869.20 - 893.80 MHz (GSM850) 1 930.20 - 1 989.80 MHz (GSM1900) 1 932.40 - 1 987.60 MHz (WCDMA1900)
Max. RF Output Power:	0.733 W GSM850 (28.65 dBm) / 0.270 W GSM1900 (24.32 dBm) 0.142 W WCDMA1900 (21.51 dBm)
Emission Designator(s):	245 KGXW (GSM850) / 248 KGXW (GSM1900) 4M18F9W (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)



Report prepared by
: Jae Chul Shin
Test engineer of RF Team



Approved by
: Chang Seok Choi
Manager of RF Team

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. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710
-----------------------------------	----------------------------------	---	--------------------

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCTR1301FR19	January 30, 2013	First Approval Report
HCTR1301FR19-1	February 06, 2013	Revise the Emission Designator and the PAR Plot.
HCTR1301FR19-2	February 08, 2013	Revise page 1 and 4.
HCTR1301FR19-3	March 15, 2013	Revise Font

Table of Contents

1. GENERAL INFORMATION		4
2. INTRODUCTION		5
2.1. EUT DESCRIPTION.....		5
2.2. MEASURING INSTRUMENT CALIBRATION.....		5
2.3. TEST FACILITY		5
3. DESCRIPTION OF TESTS		6
3.1 EFFECTIVE RADIATED POWER/EQUIVALENT ISOTROPIC RADIATED POWER.....		6
3.2 PEAK- TO- AVERAGE RATIO		6
3.3 OCCUPIED BANDWIDTH.		7
3.4 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL.....		8
3.5 RADIATED SPURIOUS AND HARMONIC EMISSIONS		9
3.6 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE		10
4. LIST OF TEST EQUIPMENT		11
5. SUMMARY OF TEST RESULTS		12
6. SAMPLE CALCULATION		13
7. TEST DATA		14
7.1 CONDUCTED OUTPUT POWER		14
7.2 PEAK-TO-AVERAGE RATIO		15
7.3 OCCUPIED BANDWIDTH		16
7.4 CONDUCTED SPURIOUS EMISSIONS		17
7.4.1 BAND EDGE.....		17
7.5 EFFECTIVE RADIATED POWER OUTPUT (GSM).....		18
7.6 EQUIVALENT ISOTROPIC RADIATED POWER (GSM / WCDMA).....		19
7.7 RADIATED SPURIOUS EMISSIONS.....		20
7.7.1 RADIATED SPURIOUS EMISSIONS (GSM850).....		20
7.7.2 RADIATED SPURIOUS EMISSIONS (GSM1900).....		21
7.7.3 SPURIOUS EMISSIONS (WCDMA1900).....		22
7.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE		23
7.8.1 FREQUENCY STABILITY (GSM850)		23
7.8.2 FREQUENCY STABILITY (GSM1900)		24
7.8.3 FREQUENCY STABILITY (WCDMA1900)		25
8. TEST PLOTS.....		26



MEASUREMENT REPORT

1. GENERAL INFORMATION

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

Address: 1000 Sylvan Avenue, Englewood Cliffs NJ 07632

FCC ID: ZNFP710

Application Type: Certification

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

FCC Rule Part(s): §22, §24, §2

EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC

FCC Model(s): LG-P710

Additional FCC Model(s): P710, LGP710

Tx Frequency: 824.20 - 848.80 MHz (GSM850)
1 850.20 - 1 909.80 MHz (GSM1900)
1 852.40 – 1 907.60 MHz (WCDMA1900)

Rx Frequency: 869.20 - 893.80 MHz (GSM850)
1 930.20 - 1 989.80 MHz (GSM1900)
1 932.40 – 1 987.60 MHz (WCDMA1900)

Max. RF Output Power: 0.733 W GSM850 (28.65 dBm) / 0.270 W GSM1900 (24.32 dBm)
0.142 W WCDMA1900 (21.51 dBm)

Emission Designator(s): 245 KGXW (GSM850) / 248 KGXW (GSM1900)
4M18F9W (WCDMA1900)

Date(s) of Tests: December 19, 2012 ~ February 07, 2013

Antenna Specification Manufacturer: Shanghai Amphenol Airwave Korea
Antenna type: Internal antenna
Peak Gain: GSM850 : -1.30 dBi
GSM1900/WCDMA1900 : 4.06 dBi

FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710



2. INTRODUCTION

2.1. EUT DESCRIPTION

The LG Electronics MobileComm U.S.A., Inc. LG-P710 Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC consists of GSM850, GSM1900, WCDMA1900, GPRS Class12, 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)

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15,2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

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 at horizontal and vertical polarity 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

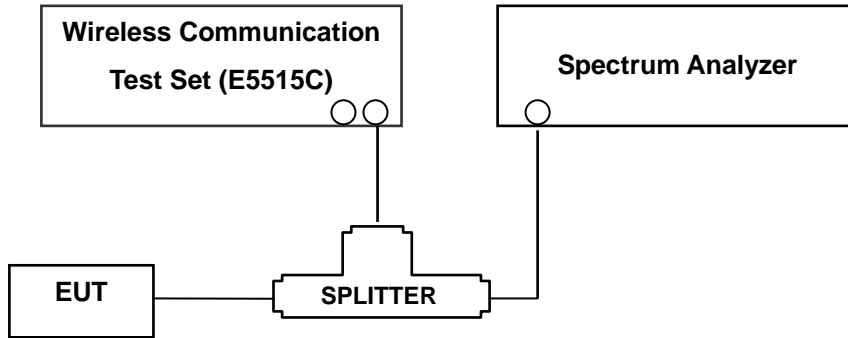
3.2 PEAK- TO- AVERAGE RATIO

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.

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15,2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

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

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)

NOTES: The analyzer plot offsets were determined by below conditions.

- For GSM850, total offset 27.1 dBm = 20 dBm attenuator + 6 dBm Divider + 1.1 dBm RF cables.
- For GSM1900 and WCDMA1900, total offset 28.1 dBm = 20 dBm attenuator + 6 dBm Divider + 2.1 dBm RF cables.

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15,2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710



3.5 RADIATED SPURIOUS AND HARMONIC EMISSIONS

Test Procedure

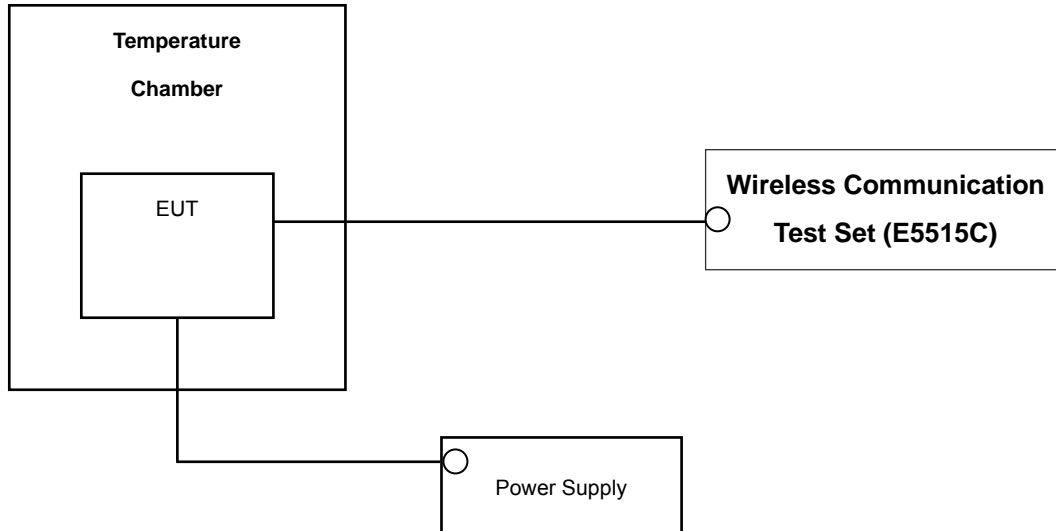
The equipment under test is placed on a non-conductive table 3-meters from the receive antenna. A turntable was rotated 360° and the receiving antenna scanned at horizontal and vertical polarity in order to capture the maximum emission. A half wave dipole was substituted in place of the EUT. This dipole 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. HCTR1301FR19-3	Date of Issue: March 15,2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

3.6 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

Test Set-up



* Nominal Operating Voltage

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 $\pm 0.00025\%$ (± 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 half-hour is provided to allow stabilization of the equipment at each temperature level.

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15,2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

4. LIST OF TEST EQUIPMENT

Manufacture	Model/ Equipment	Serial Number	Calibration Interval	Calibration Due
Agilent	E9327A/ Power Sensor	MY4442009	Annual	05/02/2013
MITEQ	AMF-6D-001180-35-20P/AMP	1081666	Annual	09/11/2013
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	11/07/2013
Digital	EP-3010/ Power Supply	3110117	Annual	11/07/2013
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	11/07/2013
Schwarzbeck	BBHA 9120D/ Horn Antenna	296	Biennial	02/20/2014
Agilent	E4440A/Spectrum Analyzer	US45303008	Annual	05/02/2013
WEINSCHTEL	ATTENUATOR	BR0592	Annual	11/07/2013
REOHDE&SCHWARZ	FSV40/Spectrum Analyzer	1307.9002K40-100931-NK	Annual	06/11/2013
Agilent	8960 (E5515C)/ Base Station	GB44400269	Annual	02/10/2013
Agilent	N9020A / SIGNAL Analyzer	MY51110063	Annual	05/02/2013

FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15,2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

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	CONDUCTED	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	-		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) 24.232(c)	Effective Radiated Power	< 7 Watts max. ERP	RADIATED	PASS
	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP		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

FCC CERTIFICATION REPORT

www.hct.co.kr		
Test Report No. HCTR1301FR19-3	Date of Issue: March 15,2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC
		FCC ID: ZNFP710

6. SAMPLE CALCULATION

A. ERP Sample Calculation

Mode	Ch./ Freq.		Measured Level(dBm)	Substitute LEVEL(dBm)	Ant. Gain (dBd)	C.L	Pol.	ERP	
	channel	Freq.(MHz)						W	dBm
GSM850	128	824.20	-21.37	38.40	-10.61	0.95	H	0.483	26.84

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

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

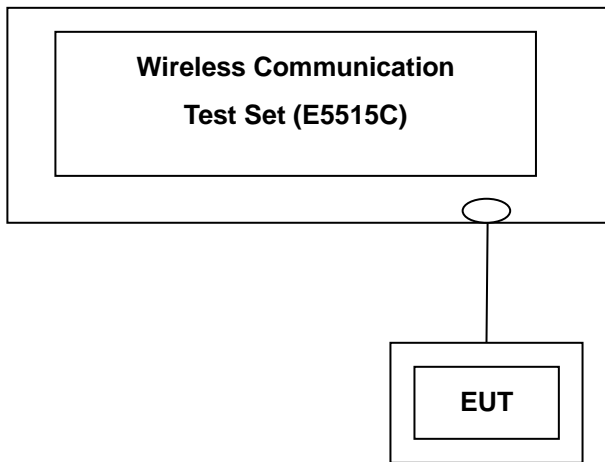
9 = Composite Digital Info

W = Combination (Audio/Data)

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

Band	Channel	Voice	GPRS Data			
		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	33.67	33.66	31.01	29.52	28.00
	190	33.57	33.57	30.87	29.38	27.89
	251	33.45	33.45	30.79	29.30	27.79
GSM 1900	512	30.18	30.18	27.60	26.16	24.65
	661	29.98	29.97	27.15	25.72	24.20
	810	29.72	29.72	26.87	25.41	23.91

(GSM Conducted Maximum Output Powers)

3GPP Release Version	Mode	3GPP 34.121	PCS Band [dBm]			MPR
		Subtest	UL 9262 (1852.4)	UL 9400 (1880.0)	UL 9538 (1907.6)	
			DL 9662	DL 9800	DL 9938	
99	WCDMA	12.2 kbps RMC	22.98	22.99	22.90	-
99	WCDMA	12.2 kbps AMR	22.99	22.95	22.88	-
5	HSDPA	Subtest 1	22.88	22.89	22.79	0
5		Subtest 2	22.81	22.80	22.78	0
5		Subtest 3	22.44	22.45	22.37	-0.5
5		Subtest 4	22.39	22.39	22.34	-0.5
6	HSUPA	Subtest 1	22.68	22.74	22.44	0
6		Subtest 2	20.66	20.63	21.10	-2
6		Subtest 3	21.18	21.19	21.43	-1
6		Subtest 4	21.18	21.20	21.11	-2
6		Subtest 5	22.71	22.77	22.50	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 30, 32.

7.3 OCCUPIED BANDWIDTH

Band	Channel	Frequency(MHz)	Data (GSM: kHz / WCDMA : MHz)
GSM850	128	824.20	242.9873
	190	836.60	245.0871
	251	848.80	244.7752
GSM1900	512	1850.20	246.0166
	661	1880.00	247.7949
	810	1909.80	245.1153
WCDMA1900	9262	1852.40	4.1849
	9400	1880.00	4.1661
	9538	1907.60	4.1704

- Plots of the EUT's Occupied Bandwidth are shown Page 27 ~ 29, 30 ~ 31.

7.4 CONDUCTED SPURIOUS EMISSIONS

Band	Channel	Frequency of Maximum Harmonic (GHz)	Maximum Data (dBm)
GSM850	128	9.3375	-30.67
	190	7.4375	-30.44
	251	7.0625	-30.95
GSM1900	512	14.2930	-27.08
	661	14.0000	-27.52
	810	13.6800	-26.52
WCDMA1900	9262	13.6530	-36.51
	9400	14.3200	-37.08
	9538	3.8150	-36.85

- Plots of the EUT's Conducted Spurious Emissions are shown Page 38 ~ 47.

7.4.1 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 32 ~ 38.

7.5 EFFECTIVE RADIATED POWER OUTPUT (GSM)

(GSM850 Mode)

Ch./ Freq.		Measured Level(dBm)	Substitute LEVEL (dBm)	Ant. Gain (dBd)	C.L	Pol.	ERP	
channel	Freq.(MHz)						W	dBm
128	824.20	-21.99	37.78	-10.61	0.95	H	0.419	26.22
190	836.60	-20.45	39.73	-10.54	0.96	H	0.665	28.23
251	848.80	-20.20	40.22	-10.47	1.10	V	0.733	28.65

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 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. 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 in z plane in GSM850 (y plane ch 251)mode. Also worst case of detecting Antenna is in horizontal polarization in GSM850 (vertical polarization) mode.

FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15,2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

7.6 EQUIVALENT ISOTROPIC RADIATED POWER (GSM / WCDMA)

(GSM1900 Mode)

Ch./ Freq.		Measured Level(dBm)	Substitute LEVEL (dBm)	Ant. Gain (dBi)	C.L	Pol.	EIRP	
channel	Freq.(MHz)						W	dBm
512	1,850.20	-16.43	15.71	10.02	1.41	H	0.270	24.32
661	1,880.00	-16.79	15.52	10.04	1.45	H	0.258	24.11
810	1,909.80	-16.73	15.68	10.05	1.44	H	0.269	24.29

(WCDMA1900 Mode)

Ch./ Freq.		Measured Level(dBm)	Substitute LEVEL (dBm)	Ant. Gain (dBi)	C.L	Pol.	EIRP	
channel	Freq.(MHz)						W	dBm
9262	1,852.40	-19.54	12.61	10.02	1.40	H	0.133	21.23
9400	1,880.00	-19.39	12.92	10.04	1.45	H	0.142	21.51
9538	1,907.60	-20.64	11.90	10.05	1.46	H	0.112	20.49

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 = 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 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 x plane in GSM1900 and WCDMA1900 mode. Also worst case of detecting Antenna is in horizontal polarization in GSM1900 and WCDMA1900 mode.

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15,2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

7.7 RADIATED SPURIOUS EMISSIONS

7.7.1 RADIATED SPURIOUS EMISSIONS (GSM850)

- MEASURED OUTPUT POWER: 28.65 dBm = 0.733 W
- MODULATION SIGNAL: GSM850
- DISTANCE: 3 meters
- LIMIT: $-(43 + 10 \log_{10}(W)) =$ - 41.65 dBc

Ch.	Freq.(MHz)	Measured Level [dBm]	Ant. Gain (dBd)	Substitute Level [dBm]	C.L	Pol.	ERP (dBm)	dBc
128 (824.2)	1,648.40	-43.01	7.05	-49.85	1.18	H	-43.98	-72.63
	2,472.60	-47.42	7.90	-51.17	1.57	H	-44.84	-73.49
	3,296.80	-52.12	9.91	-56.00	1.99	H	-48.08	-76.73
190 (836.6)	1,673.20	-44.77	7.22	-51.77	1.20	H	-45.75	-74.40
	2,509.80	-48.44	8.51	-52.23	1.65	H	-45.37	-74.02
	3,346.40	-51.34	10.09	-55.73	2.00	H	-47.64	-76.29
251 (848.8)	1,697.60	-44.98	7.34	-52.00	1.20	V	-45.86	-74.51
	2,546.40	-48.07	8.61	-51.61	1.65	H	-44.65	-73.30
	3,395.20	-52.28	10.22	-56.81	1.99	V	-48.58	-77.23

- NOTES:**
1. Radiated Spurious Emission Measurements at 3 meters by Substitution Method 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 all channel.
 3. we have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

7.7.2 RADIATED SPURIOUS EMISSIONS (GSM1900)

- MEASURED OUTPUT POWER: 24.32 dBm = 0.270 W
- MODULATION SIGNAL: GSM1900
- DISTANCE: 3 meters
- LIMIT: - (43 + 10 log₁₀ (W)) = - 37.32 dBc

Ch.	Freq.(MHz)	Measured Level [dBm]	Ant. Gain (dBi)	Substitute Level [dBm]	C.L	Pol.	EIRP (dBm)	dBc
512 (1850.2)	3,700.40	-45.46	12.27	-50.20	2.19	H	-40.12	-64.44
	5,550.60	-44.65	13.40	-44.32	2.88	H	-33.80	-58.12
	7,400.80	-45.40	11.37	-35.11	3.29	V	-27.03	-51.35
661 (1880.0)	3,760.00	-40.38	12.31	-44.93	2.11	H	-34.73	-59.05
	5,640.00	-50.70	13.41	-50.03	2.92	V	-39.54	-63.86
	7,520.00	-47.96	11.55	-38.44	3.34	V	-30.23	-54.55
810 (1909.8)	3,819.60	-38.97	12.37	-43.45	2.14	H	-33.22	-57.54
	5,729.40	-46.54	13.42	-45.10	3.02	H	-34.70	-59.02
	7,639.20	-49.48	11.70	-39.72	3.13	V	-31.15	-55.47

- NOTES:**
1. Radiated Spurious Emission Measurements at 3 meters by Substitution Method 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 all channel.
 3. we have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

7.7.3 SPURIOUS EMISSIONS (WCDMA1900)

- MEASURED OUTPUT POWER: 21.51 dBm = 0.142 W
- MODULATION SIGNAL: WCDMA1900
- DISTANCE: 3 meters
- LIMIT: - (43 + 10 log₁₀(W)) = - 34.51 dBc

Ch.	Freq.(MHz)	Measured Level [dBm]	Ant. Gain (dBi)	Substitute Level [dBm]	C.L	Pol.	EIRP (dBm)	dBc
9262	3,704.80	-37.49	12.27	-42.23	2.19	H	-32.15	-53.66
	5,557.20	-54.19	13.40	-53.86	2.88	H	-43.34	-64.85
	7,409.60	-	-	-	-	-	-	-
9400	3,760.00	-44.94	12.31	-49.49	2.11	H	-39.29	-60.80
	5,640.00	-56.01	13.41	-55.34	2.92	H	-44.85	-66.36
	7,520.00	-	-	-	-	-	-	-
9538	3,815.20	-38.30	12.37	-42.78	2.14	V	-32.55	-54.06
	5,722.80	-55.85	13.42	-54.41	3.02	H	-44.01	-65.52
	7,630.40	-	-	-	-	-	-	-

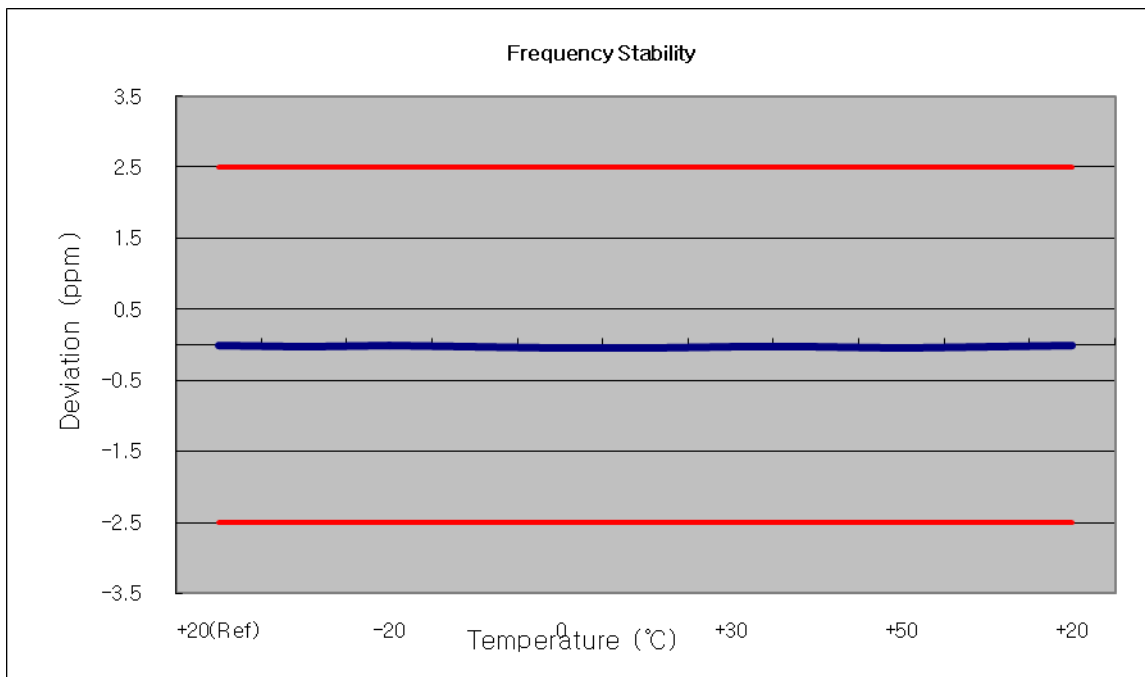
- NOTES:**
1. Radiated Spurious Emission Measurements at 3 meters by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:
 2. The magnitude of spurious emissions attenuated more than 20dB below the limit above 5th Harmonic for all channel.
 3. we have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

7.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

7.8.1 FREQUENCY STABILITY (GSM850)

- ▣ OPERATING FREQUENCY: 836,600,000 Hz
- ▣ CHANNEL: 190
- ▣ REFERENCE VOLTAGE: 3.8 VDC
- ▣ DEVIATION LIM IT: ± 0.000 25 % or 2.5 ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
100%	3.800	+20(Ref)	836 600 022	0	0.000 000	0.000
100%		-30	836 599 996	-25.57	-0.000 003	-0.031
100%		-20	836 600 009	-12.24	-0.000 001	-0.015
100%		-10	836 599 999	-22.69	-0.000 003	-0.027
100%		0	836 599 987	-34.61	-0.000 004	-0.041
100%		+10	836 599 979	-42.28	-0.000 005	-0.051
100%		+30	836 600 003	-19.00	-0.000 002	-0.023
100%		+40	836 599 992	-29.41	-0.000 004	-0.035
100%		+50	836 599 983	-38.85	-0.000 005	-0.046
115%	4.370	+20	836 599 994	-27.62	-0.000 003	-0.033
Batt. Endpoint	3.500	+20	836 600 011	-10.83	-0.000 001	-0.013



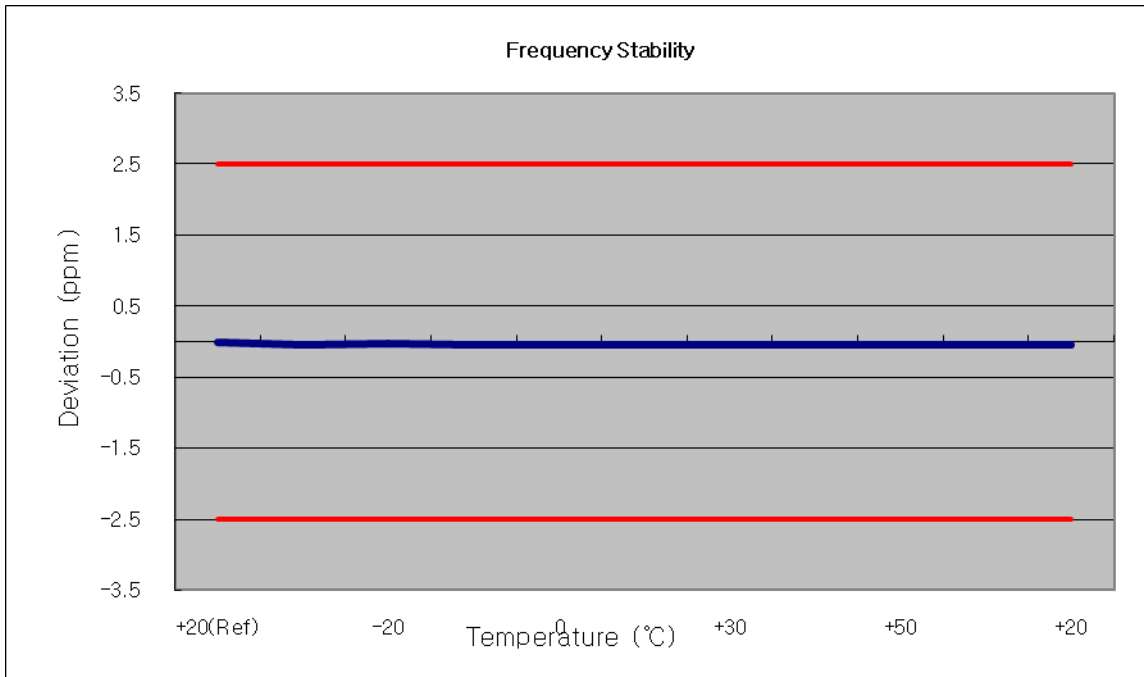
FCC CERTIFICATION REPORT

Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	www.hct.co.kr FCC ID: ZNFP710
-----------------------------------	----------------------------------	---	--

7.8.2 FREQUENCY STABILITY (GSM1900)

- ▣ OPERATING FREQUENCY: 1880,000,000 Hz
- ▣ CHANNEL: 661
- ▣ REFERENCE VOLTAGE: 3.8 VDC
- ▣ DEVIATION LIMIT: ± 0.000 25 % or 2.5 ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
100%	3.800	+20(Ref)	1880 000 100	0	0.000 000	0.000
100%		-30	1880 000 003	-96.40	-0.000 005	-0.051
100%		-20	1880 000 036	-63.97	-0.000 003	-0.034
100%		-10	1880 000 021	-78.48	-0.000 004	-0.042
100%		0	1880 000 002	-97.12	-0.000 005	-0.052
100%		+10	1880 000 000	-99.18	-0.000 005	-0.053
100%		+30	1880 000 016	-83.28	-0.000 004	-0.044
100%		+40	1880 000 029	-70.63	-0.000 004	-0.038
100%		+50	1880 000 011	-88.12	-0.000 005	-0.047
115%	4.370	+20	1880 000 010	-89.74	-0.000 005	-0.048
Batt. Endpoint	3.500	+20	1880 000 012	-87.86	-0.000 005	-0.047



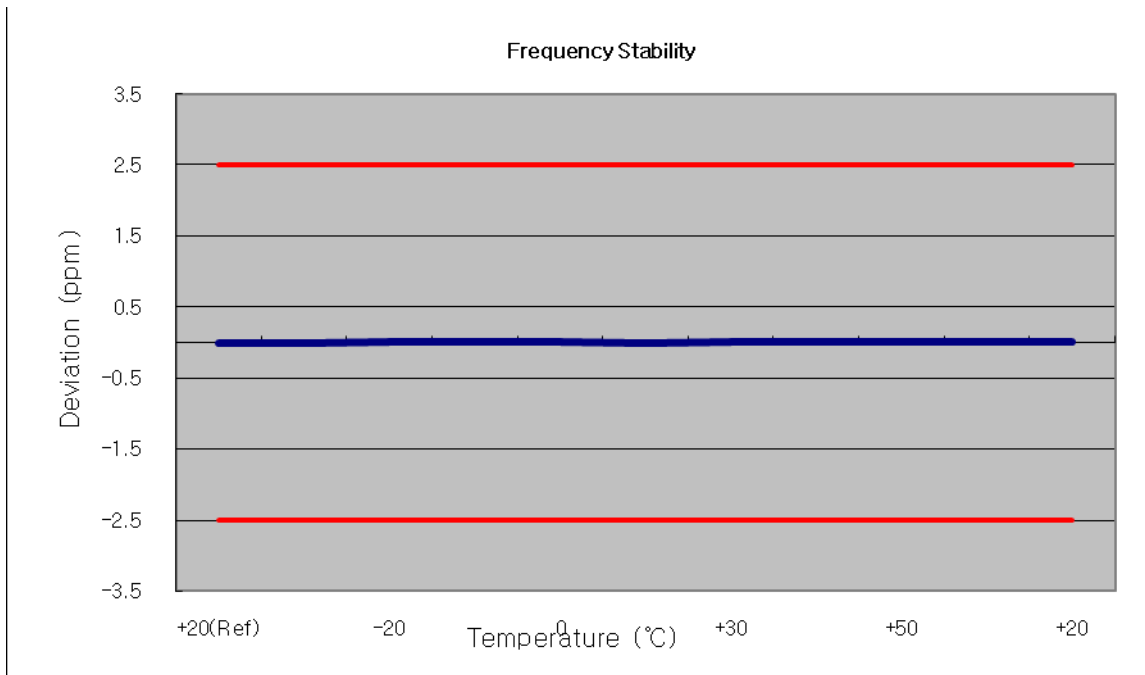
FCC CERTIFICATION REPORT

Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	www.hct.co.kr FCC ID: ZNFP710
-----------------------------------	----------------------------------	---	--

7.8.3 FREQUENCY STABILITY (WCDMA1900)

- OPERATING FREQUENCY: 1,880,000,000 Hz
- CHANNEL: 9400
- REFERENCE VOLTAGE: 3.8 VDC
- DEVIATION LIMIT: ± 0.000 25 % or 2.5 ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
100%	3.800	+20(Ref)	1879 999 976	0	0.000 000	0.000
100%		-30	1879 999 983	-16.76	-0.000 001	-0.009
100%		-20	1880 000 024	24.43	0.000 001	0.013
100%		-10	1880 000 023	22.56	0.000 001	0.012
100%		0	1880 000 025	25.06	0.000 001	0.013
100%		+10	1879 999 978	-21.85	-0.000 001	-0.012
100%		+30	1880 000 026	26.36	0.000 001	0.014
100%		+40	1880 000 025	25.30	0.000 001	0.013
100%		+50	1880 000 021	21.24	0.000 001	0.011
115%	4.370	+20	1880 000 018	18.26	0.000 001	0.010
Batt. Endpoint	3.500	+20	1880 000 021	21.36	0.000 001	0.011



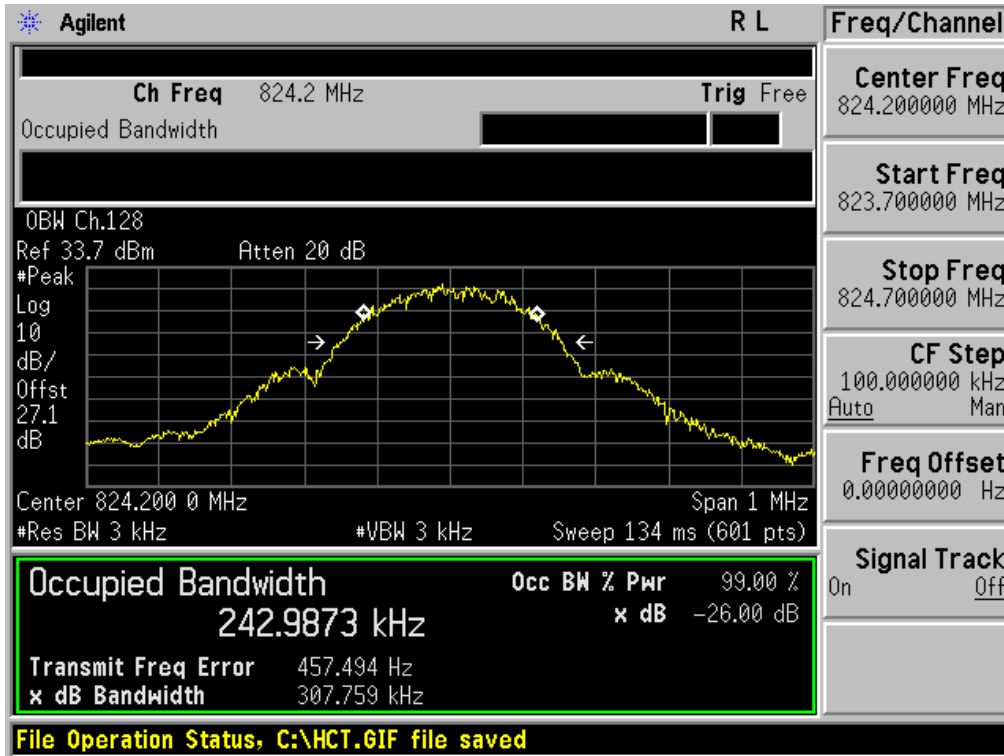
FCC CERTIFICATION REPORT

Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	www.hct.co.kr FCC ID: ZNFP710
-----------------------------------	----------------------------------	---	--

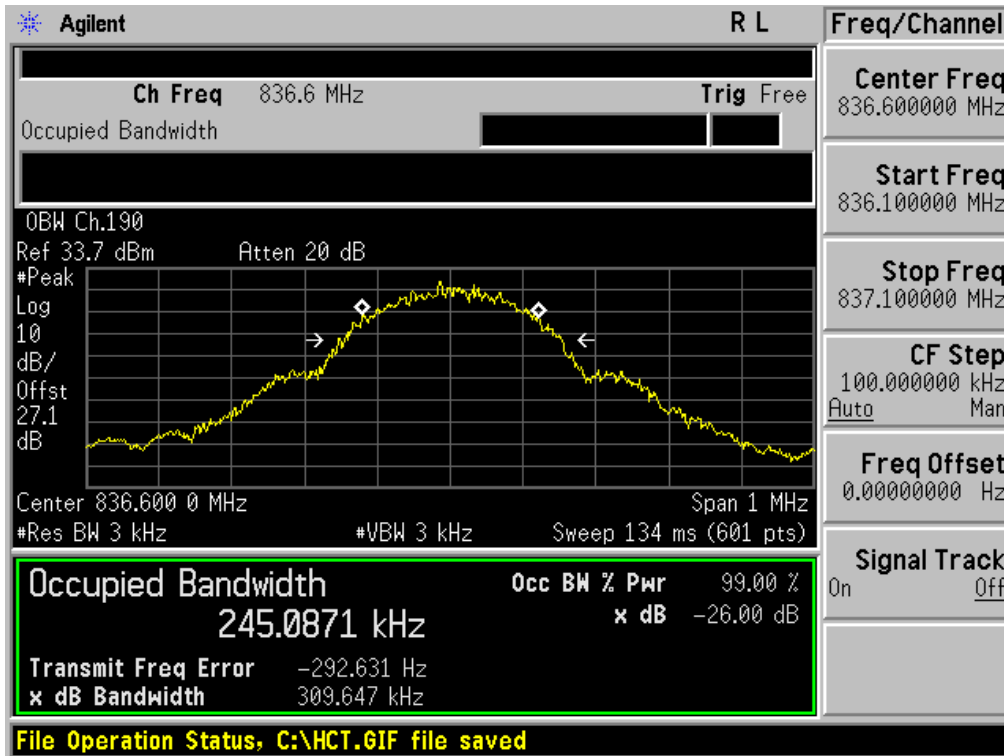


8. TEST PLOTS

■ GSM850 MODE (128 CH.) Occupied Bandwidth



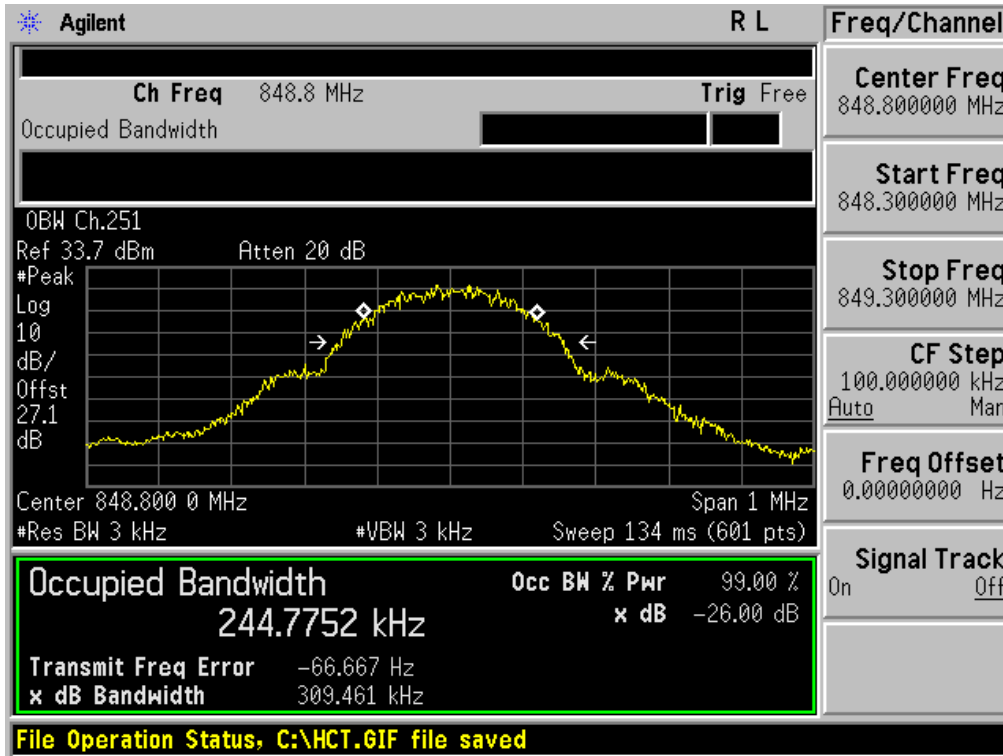
■ GSM850 MODE (190 CH.) Occupied Bandwidth



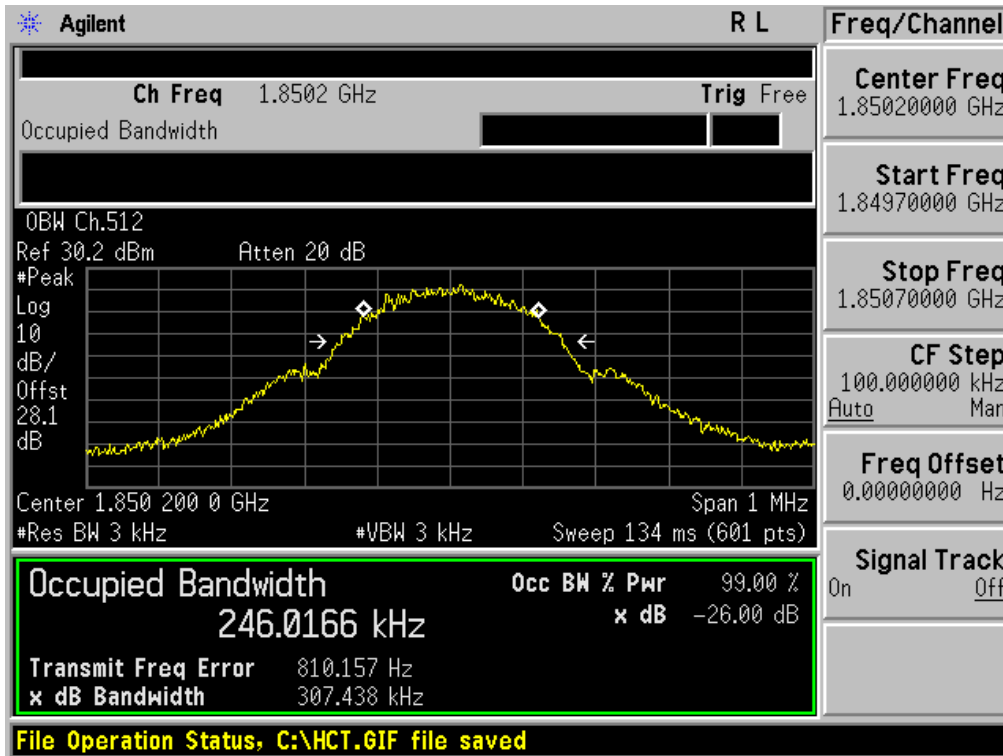
FCC CERTIFICATION REPORT

Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	www.hct.co.kr FCC ID: ZNF710
-----------------------------------	----------------------------------	---	---

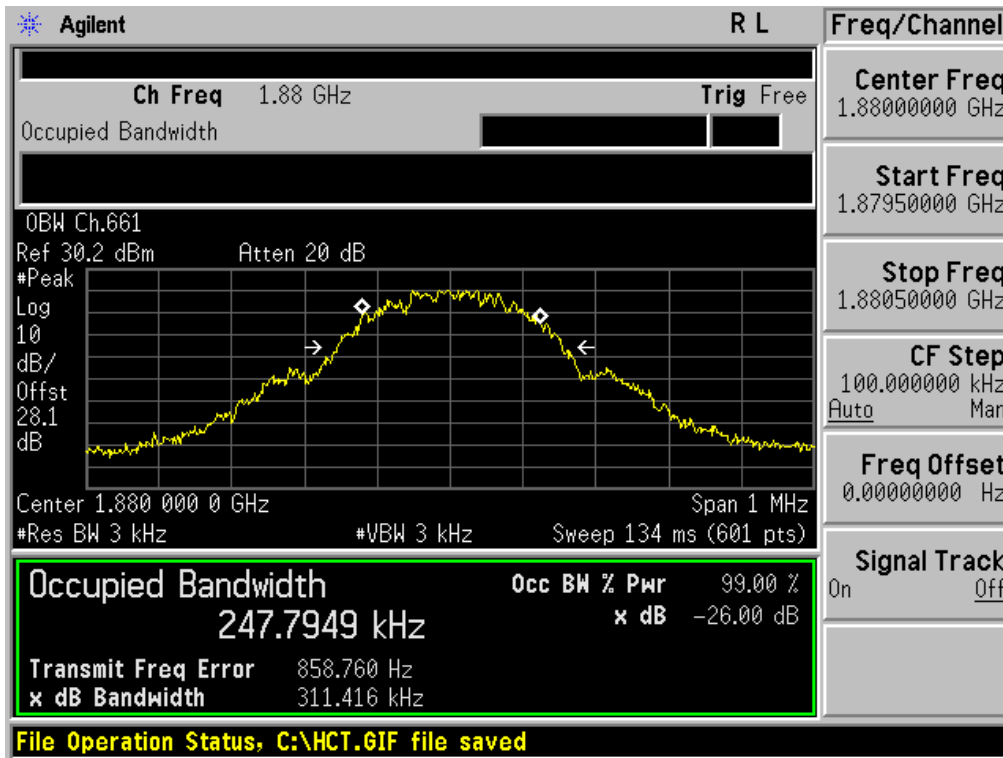
■ GSM850 MODE (251 CH.) Occupied Bandwidth



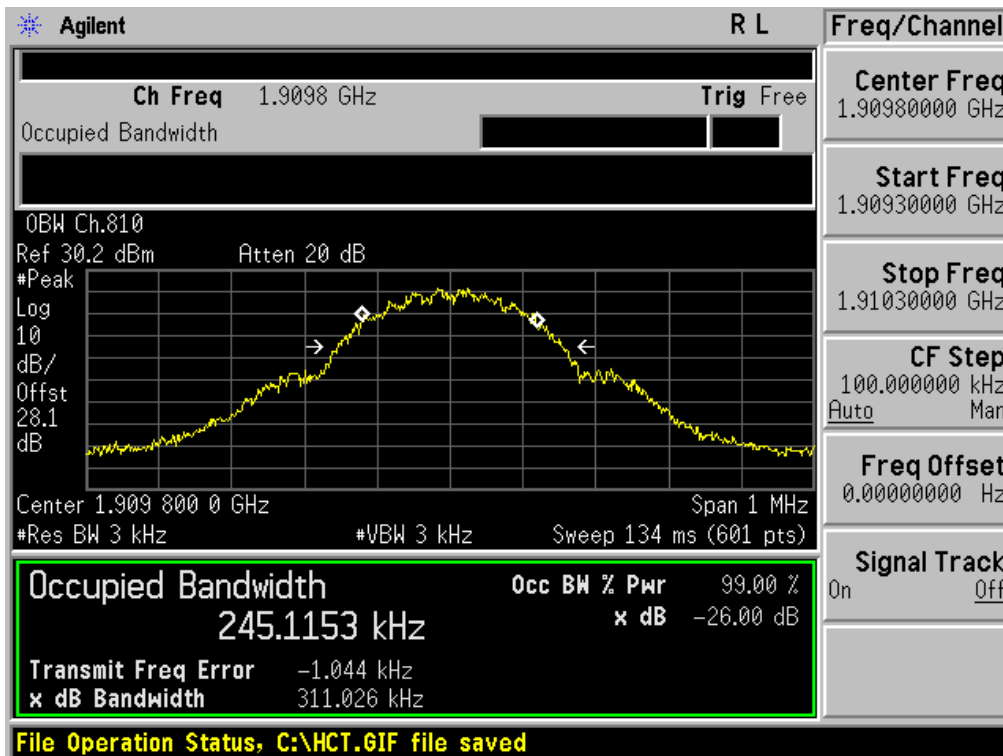
■ GSM1900 MODE (512 CH.) Occupied Bandwidth



■ GSM1900 MODE (661 CH.) Occupied Bandwidth



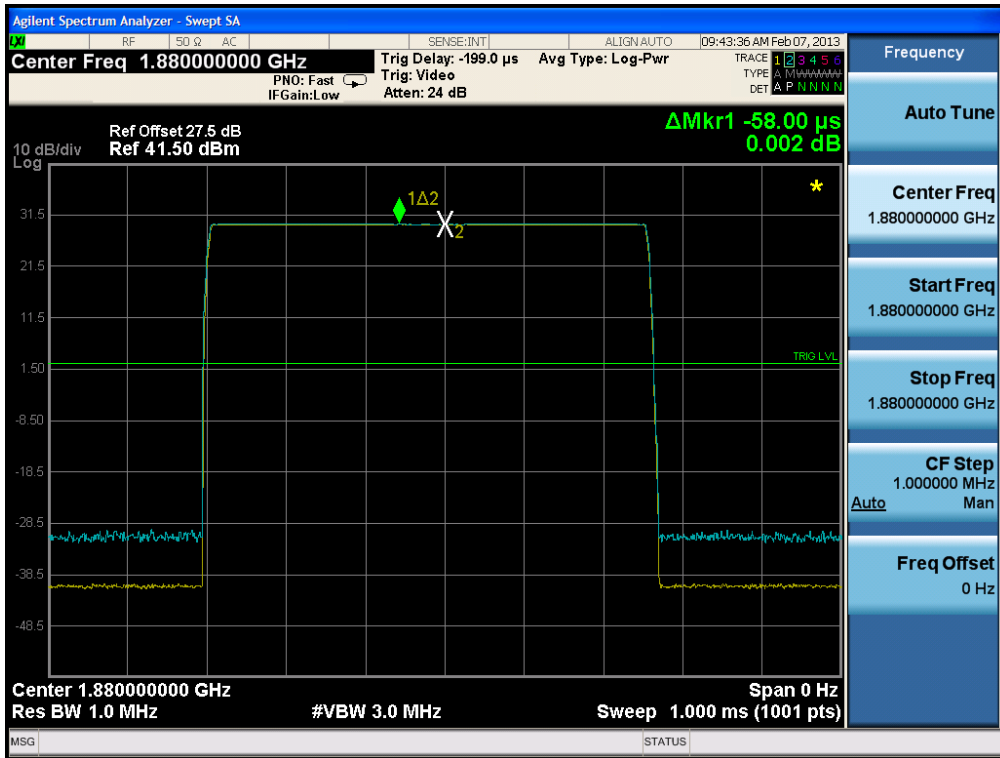
■ GSM1900 MODE (810 CH.) Occupied Bandwidth



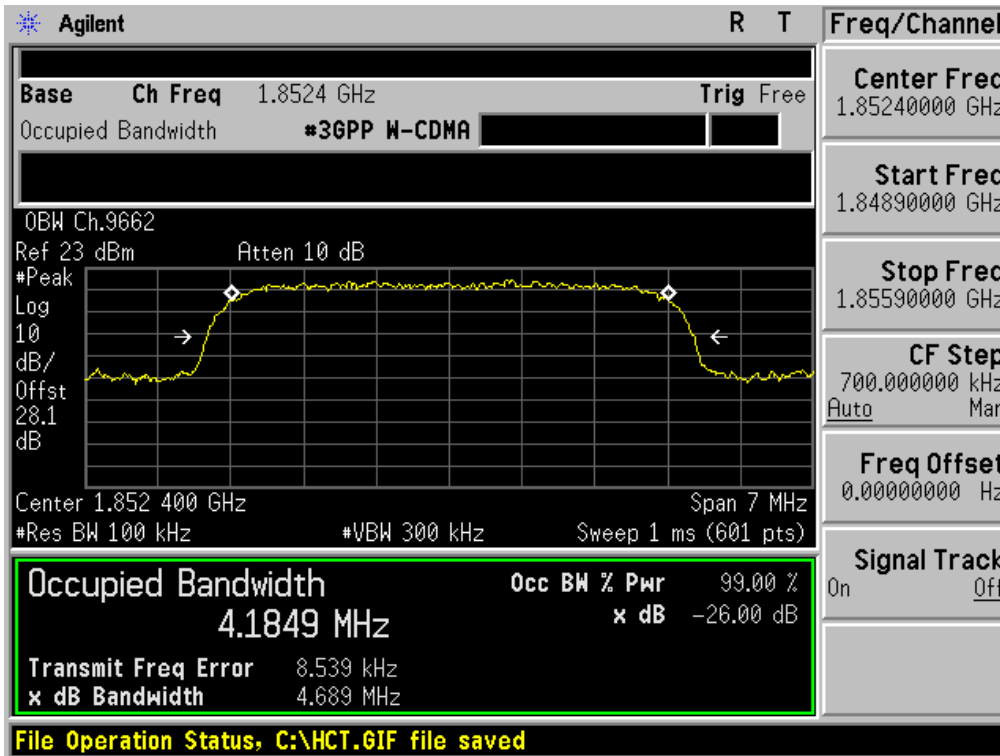
FCC CERTIFICATION REPORT

Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	www.hct.co.kr FCC ID: ZNF710
-----------------------------------	----------------------------------	---	---

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



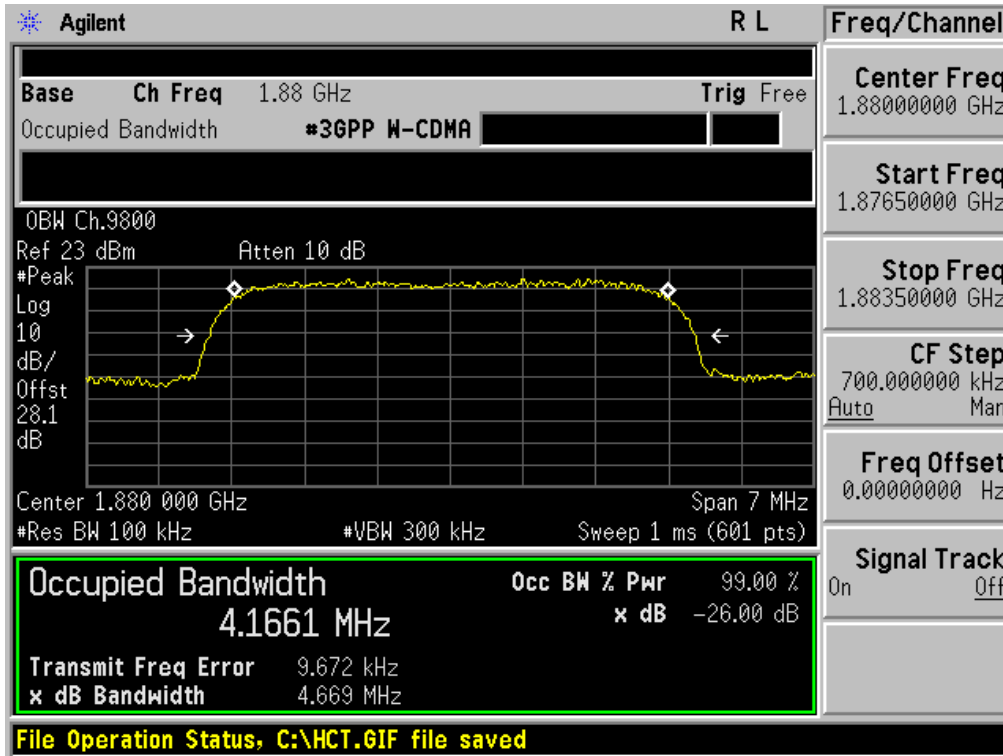
■ WCDMA1900 MODE (9262 CH.) Occupied Bandwidth



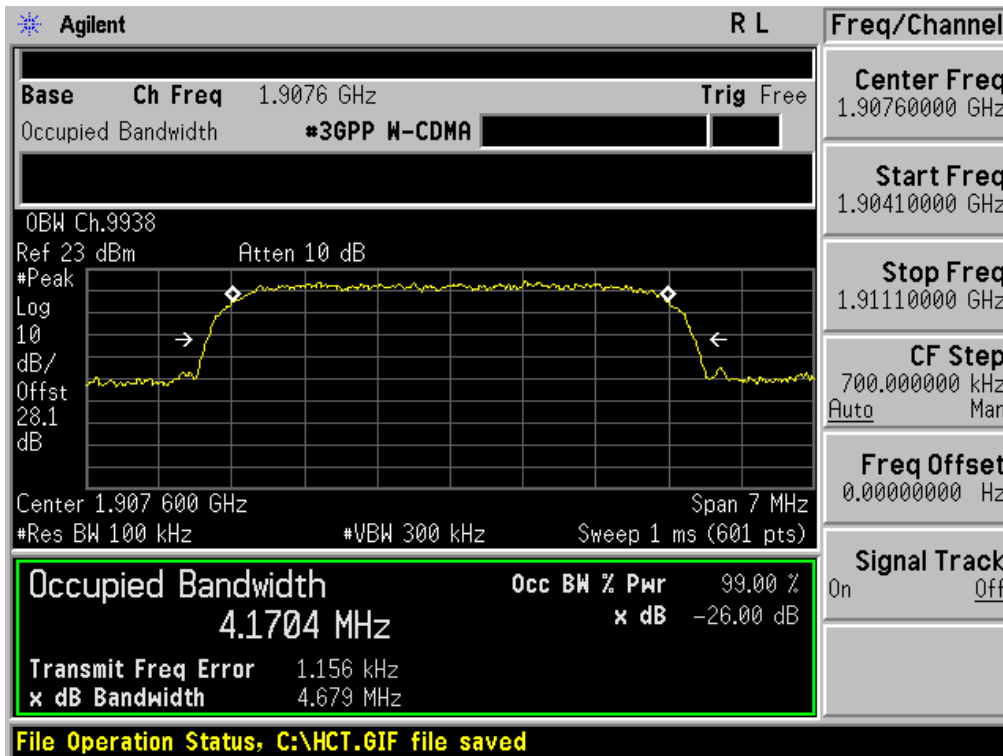
FCC CERTIFICATION REPORT

Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	www.hct.co.kr FCC ID: ZNFP710
-----------------------------------	----------------------------------	---	--

■ WCDMA1900 MODE (9400 CH.) Occupied Bandwidth



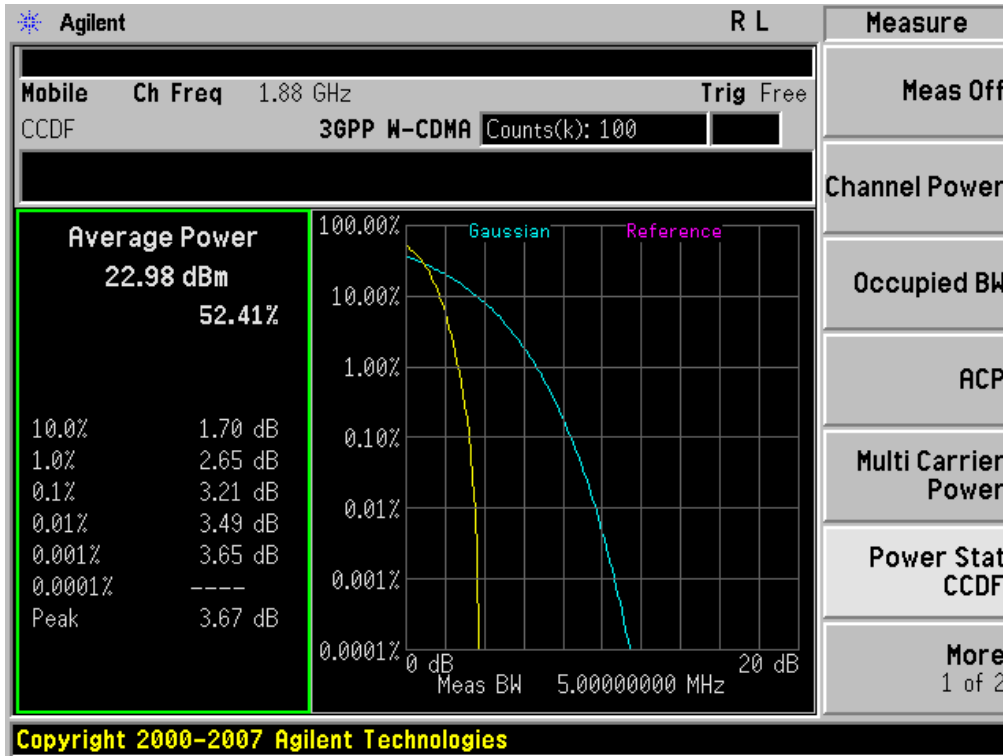
■ WCDMA1900 MODE (9538 CH.) Occupied Bandwidth



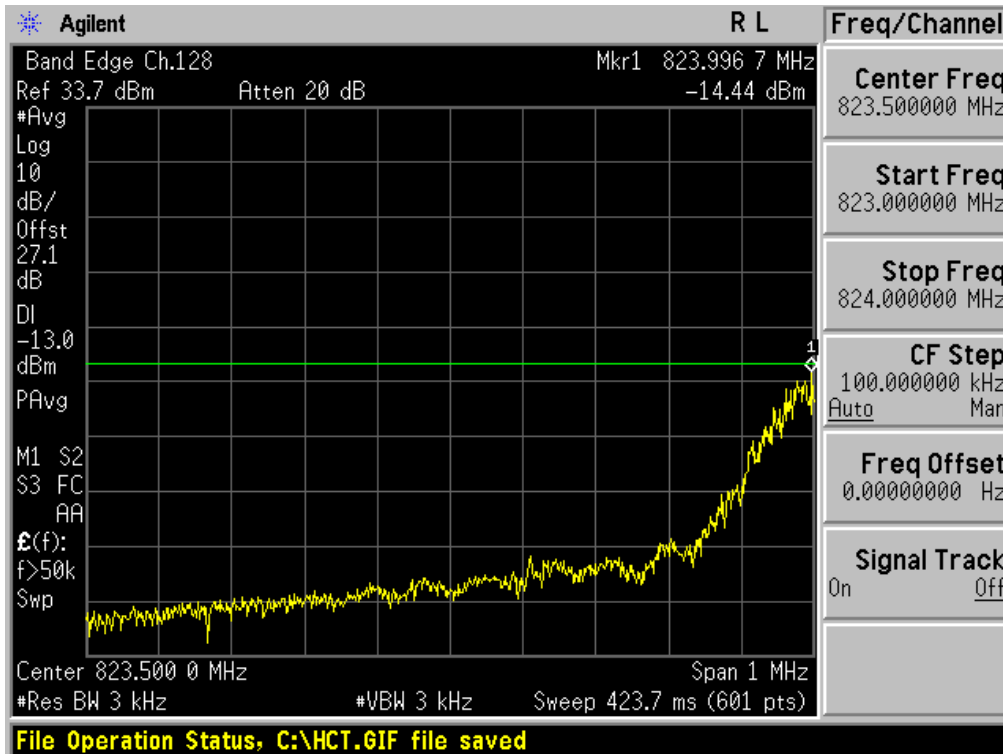
FCC CERTIFICATION REPORT

Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	www.hct.co.kr FCC ID: ZNF710
-----------------------------------	----------------------------------	---	---

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



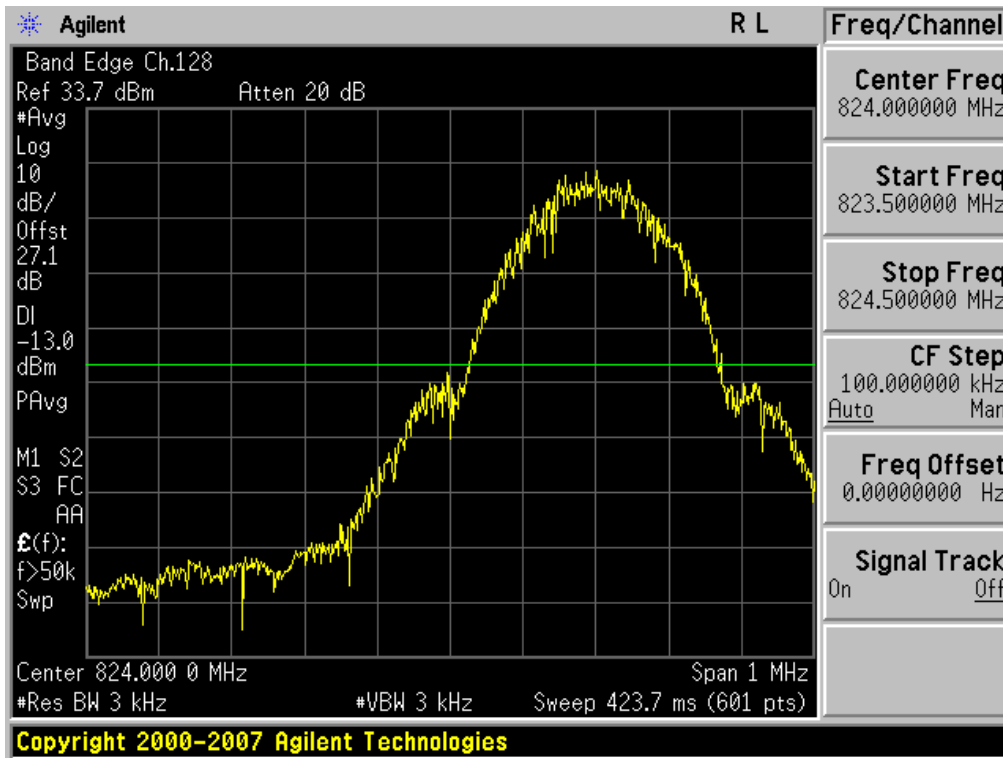
■ GSM850 MODE (128 CH.) Block Edge 1



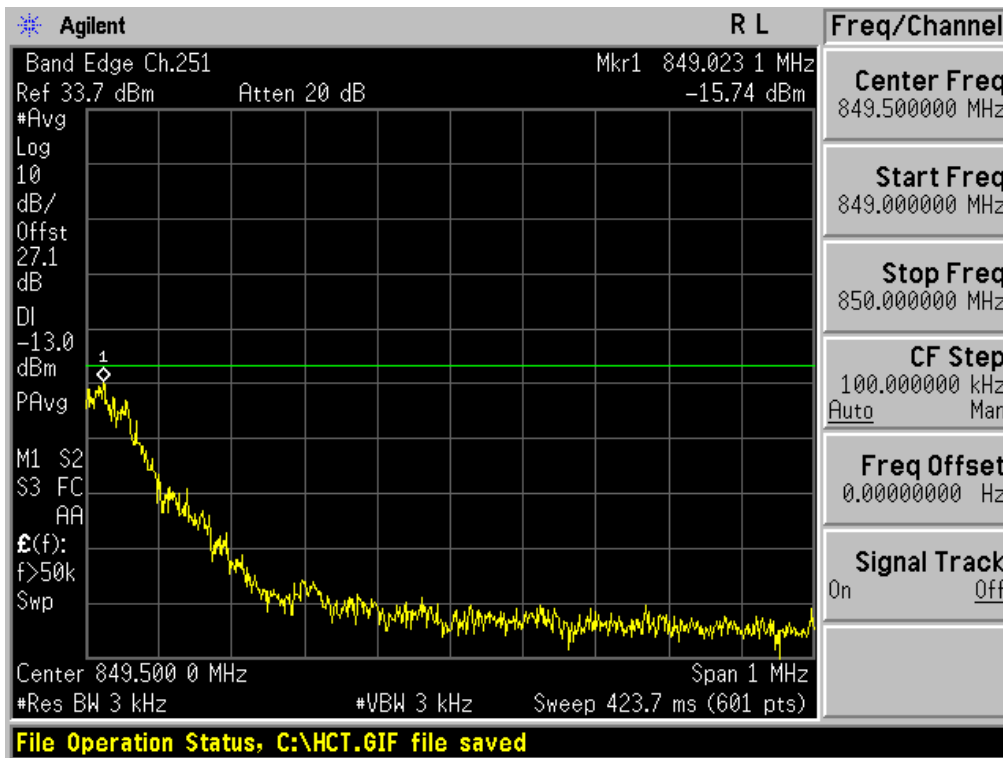
FCC CERTIFICATION REPORT

Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	www.hct.co.kr FCC ID: ZNFP710
-----------------------------------	----------------------------------	---	--

■ GSM850 MODE (128 CH.) Block Edge 2



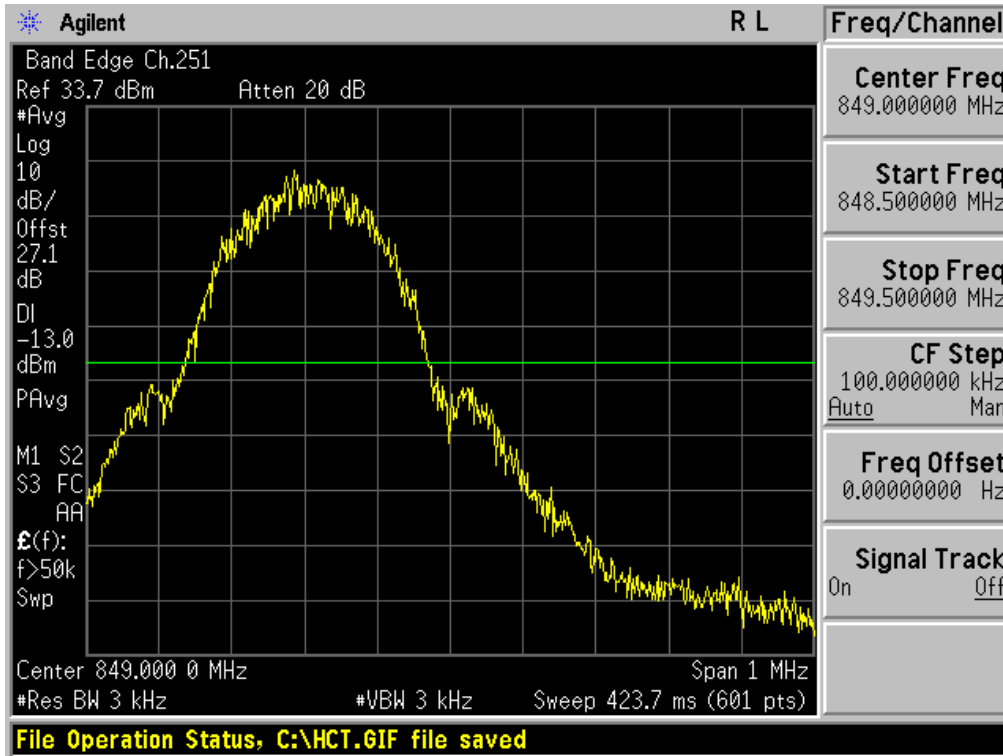
■ GSM850 MODE (251 CH.) Block Edge 1



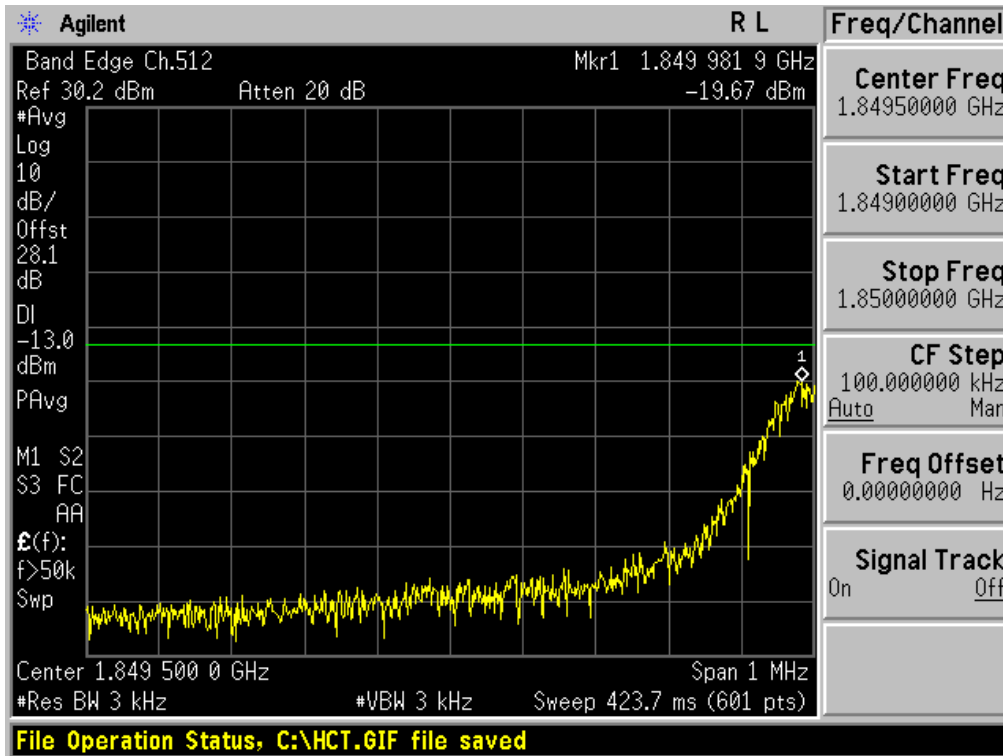
FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNF710

■ GSM850 MODE (251 CH.) Block Edge 2



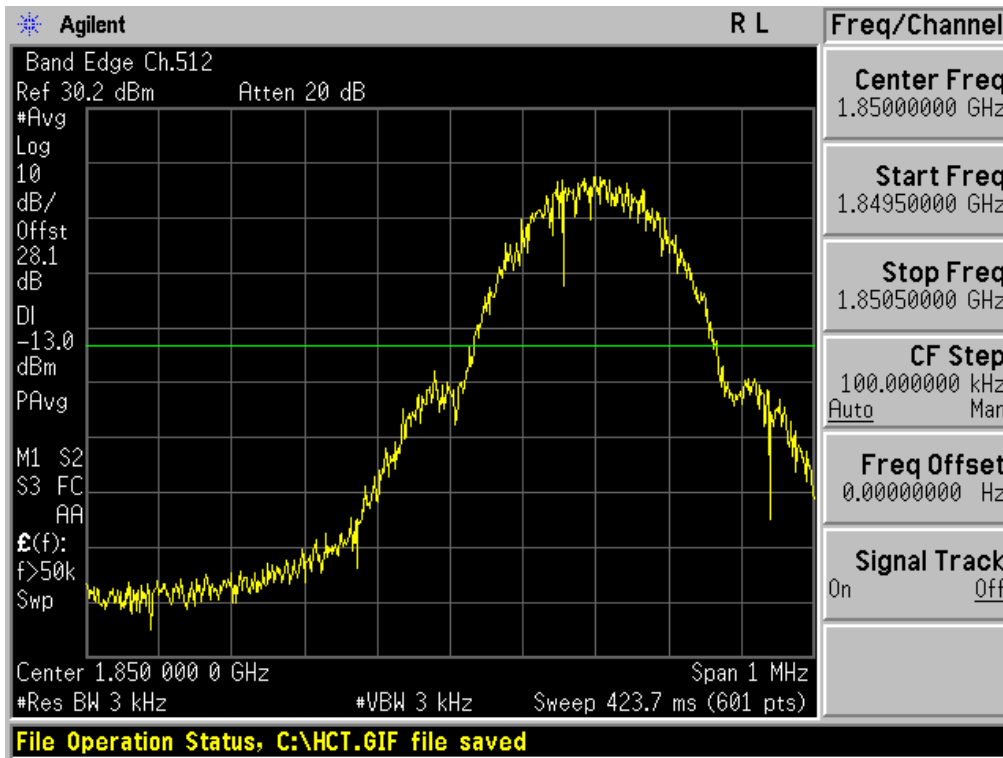
■ GSM1900 MODE (512 CH.) Block Edge 1



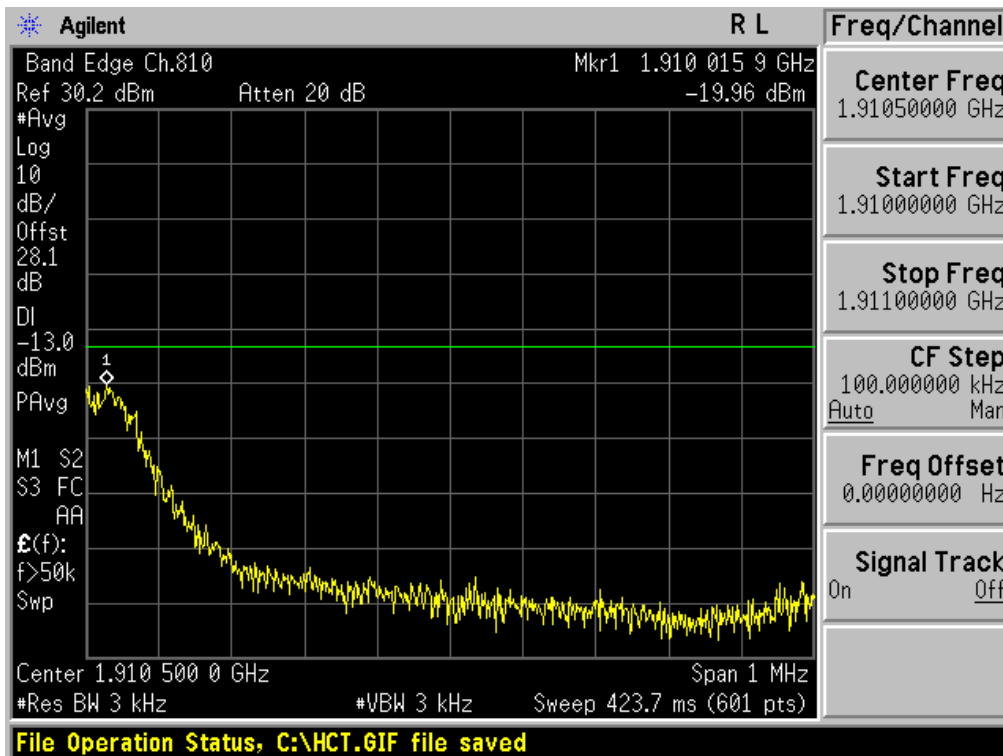
FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

■ GSM1900 MODE (512 CH.) Block Edge 2



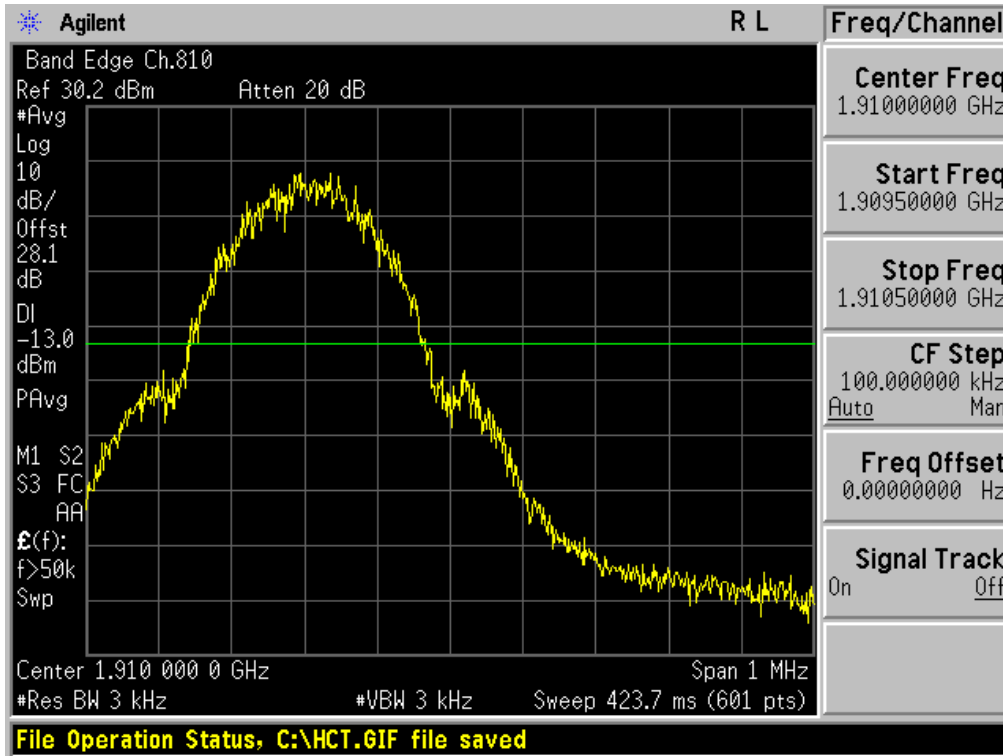
■ GSM1900 MODE (810 CH.) Block Edge 1



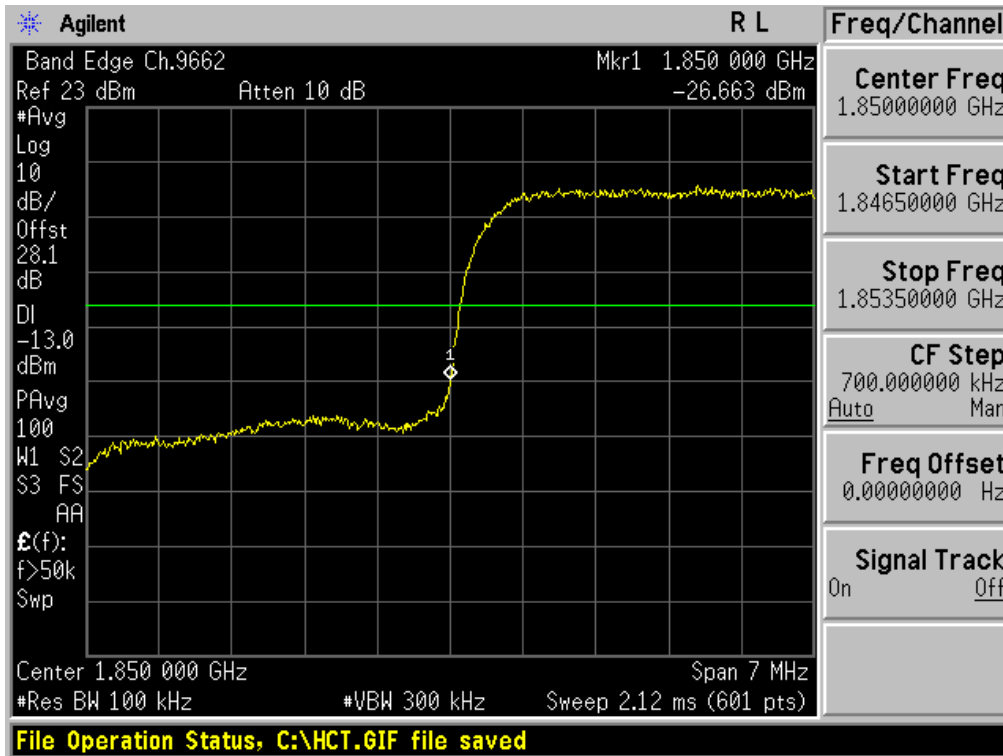
FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

■ GSM1900 MODE (810 CH.) Block Edge 2



■ WCDMA1900 MODE (9262 CH.) Block Edge



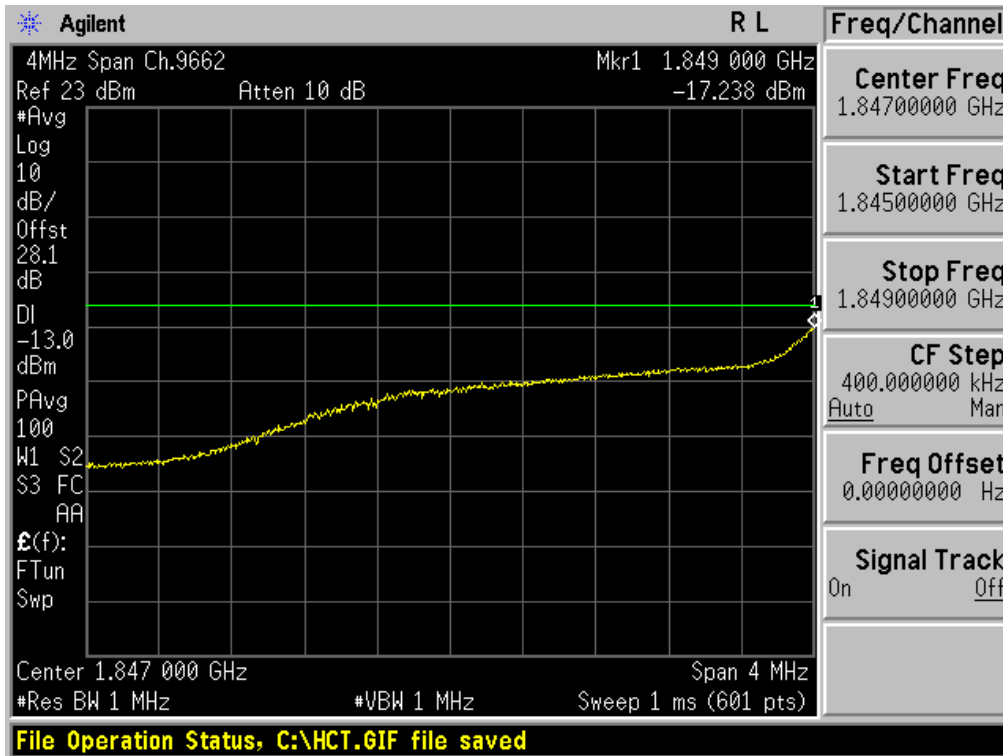
FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

■ WCDMA1900 MODE (9538 CH.) Block Edge



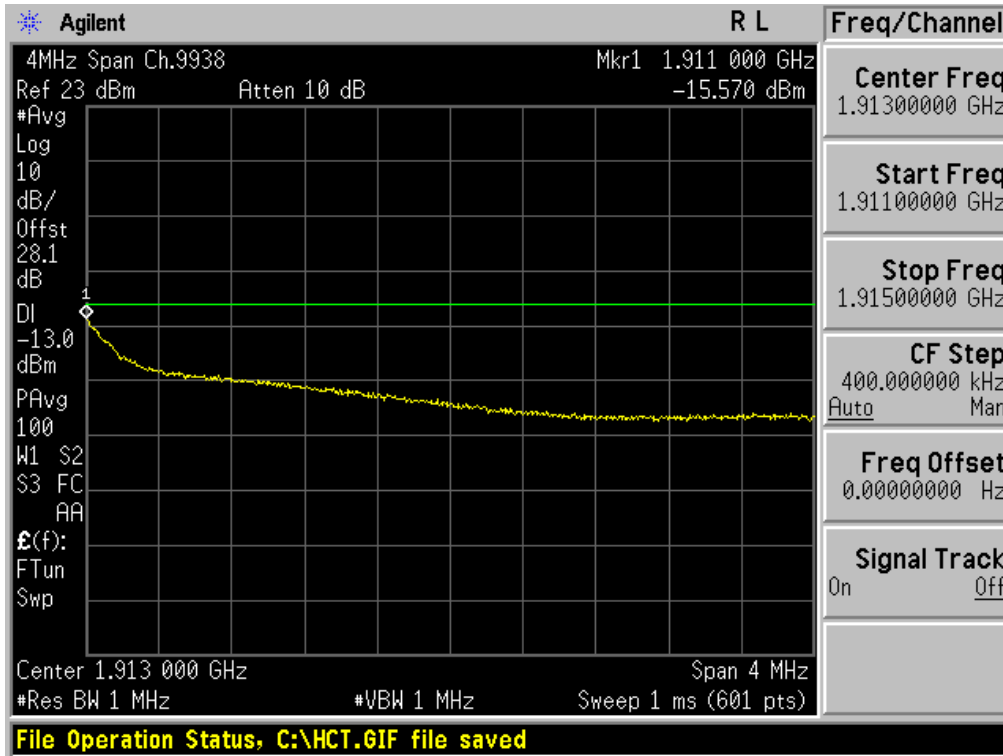
■ WCDMA1900 MODE (9262 CH.) – 4 MHz Span



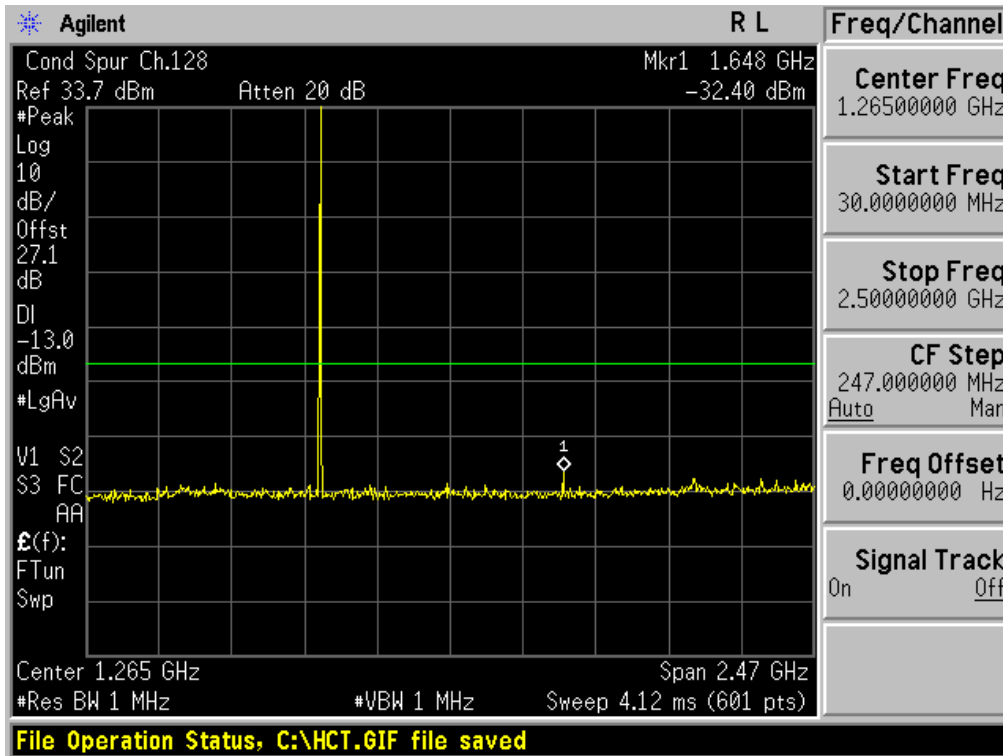
FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

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



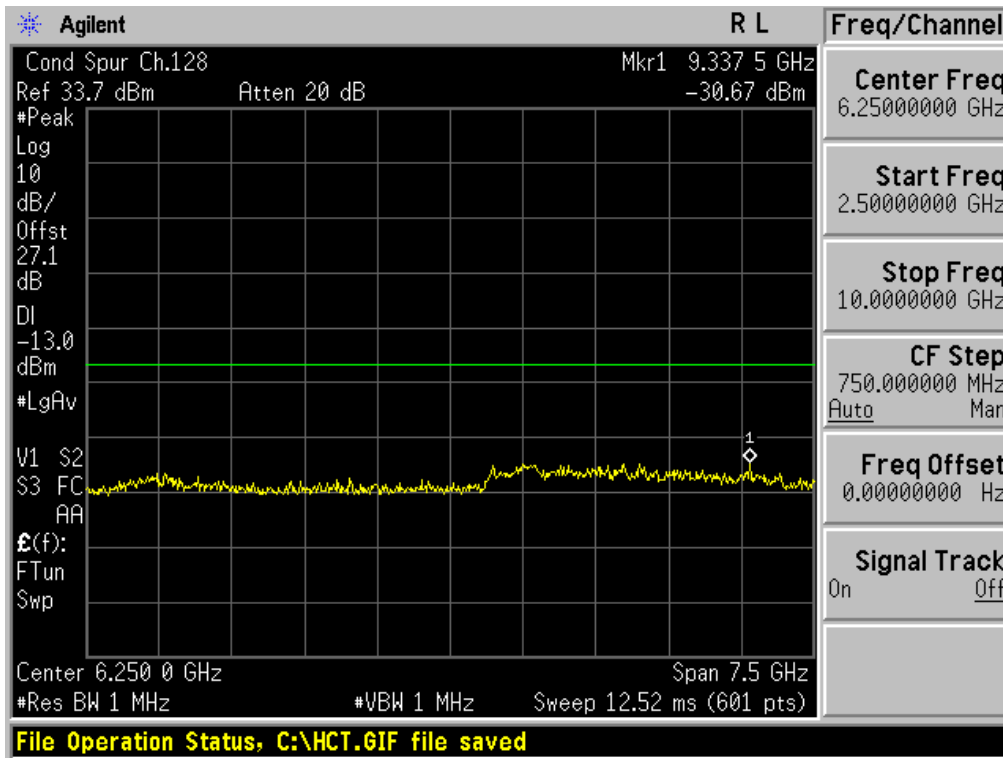
■ GSM850 MODE (128 CH.) Conducted Spurious Emissions1



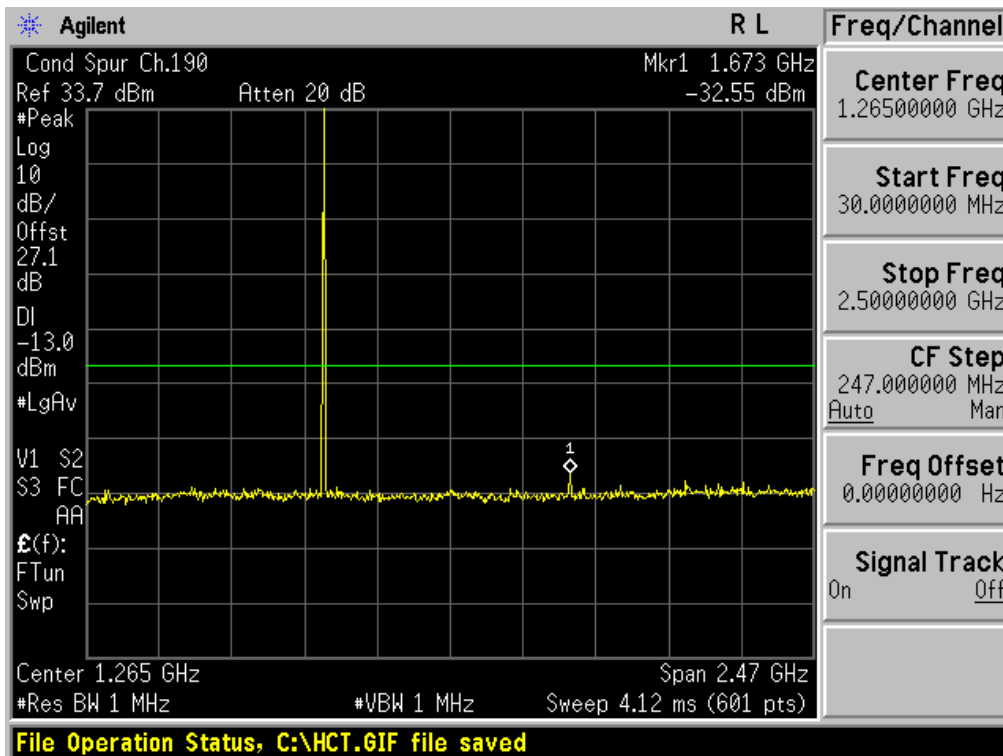
FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15,2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

■ GSM850 MODE (128 CH.) Conducted Spurious Emissions2



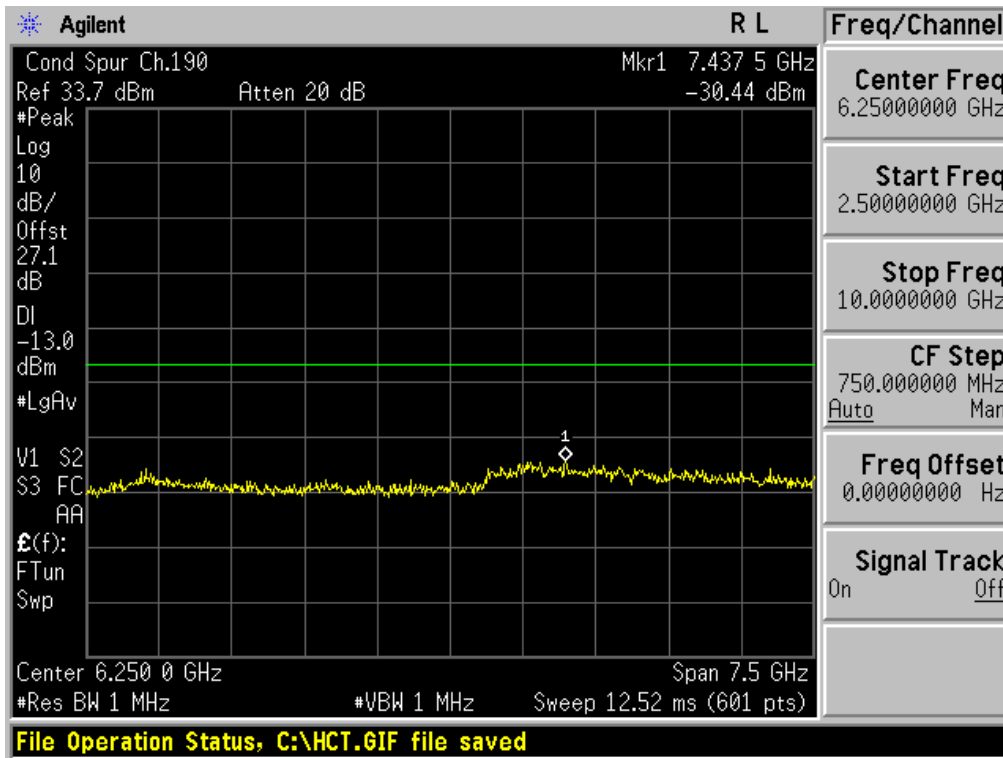
■ GSM850 MODE (190 CH.) Conducted Spurious Emissions1



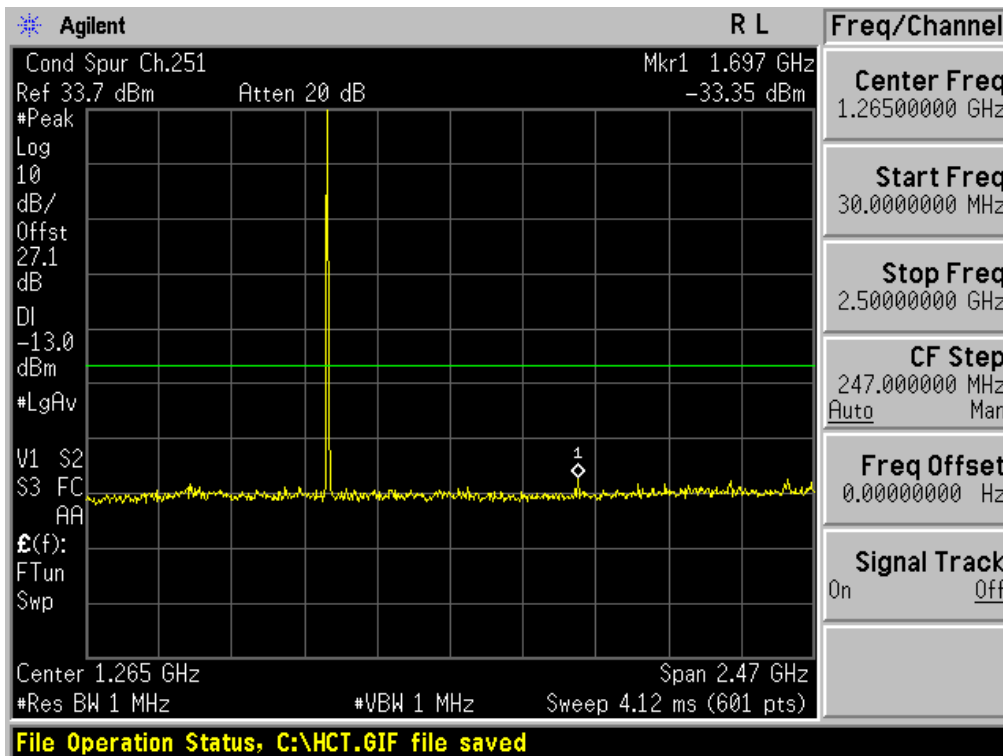
FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

■ GSM850 MODE (190 CH.) Conducted Spurious Emissions2



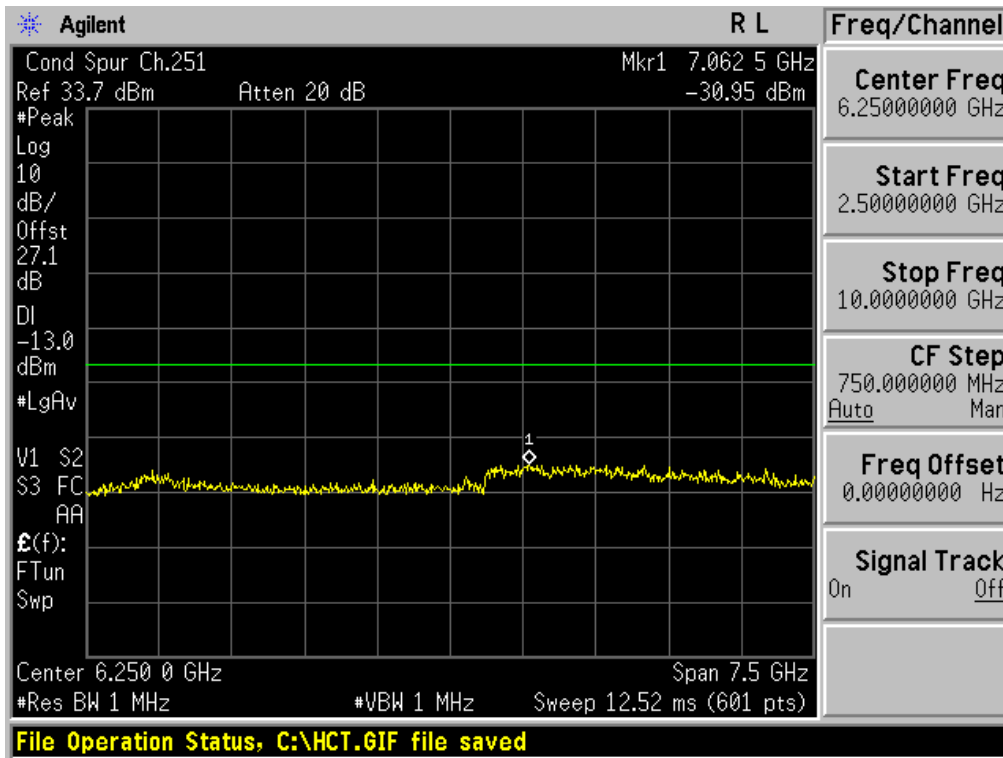
■ GSM850 MODE (251 CH.) Conducted Spurious Emissions1



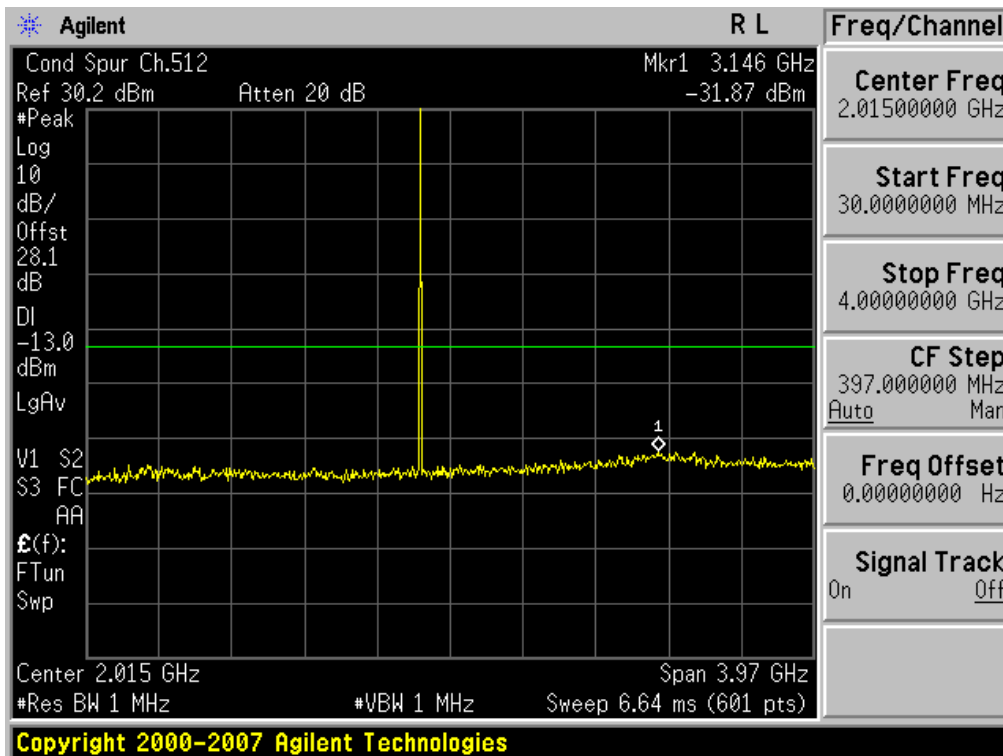
FCC CERTIFICATION REPORT

Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	www.hct.co.kr FCC ID: ZNFP710
-----------------------------------	----------------------------------	---	--

■ GSM850 MODE (251 CH.) Conducted Spurious Emissions2



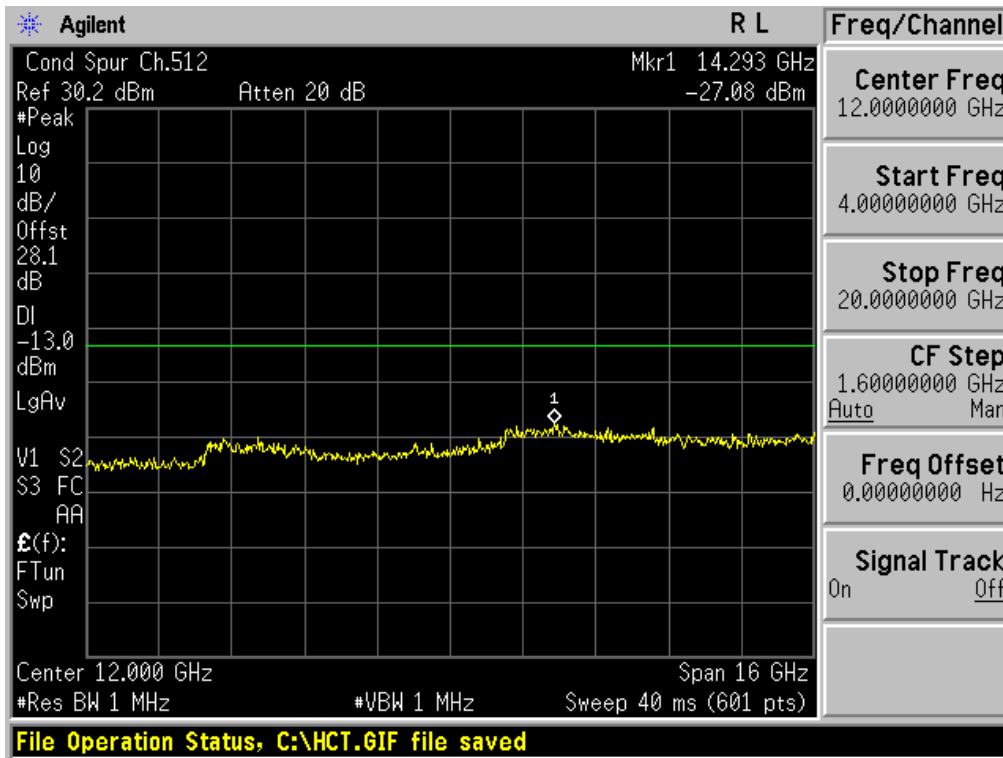
■ GSM1900 MODE (512 CH.) Conducted Spurious Emissions1



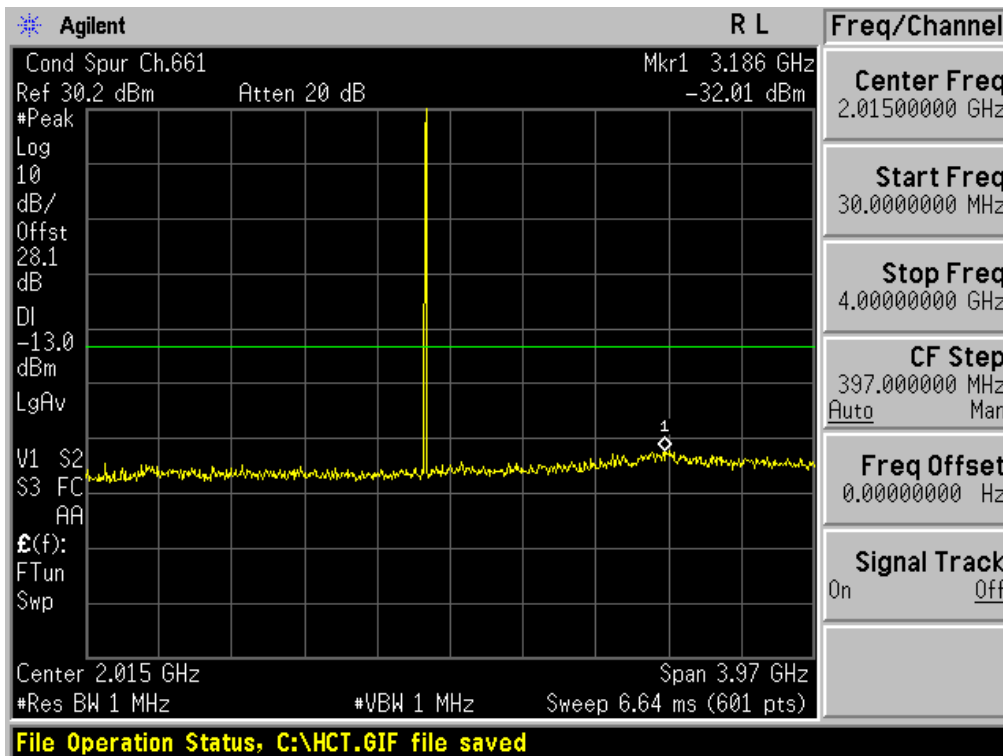
FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

■ GSM1900 MODE (512 CH.) Conducted Spurious Emissions2



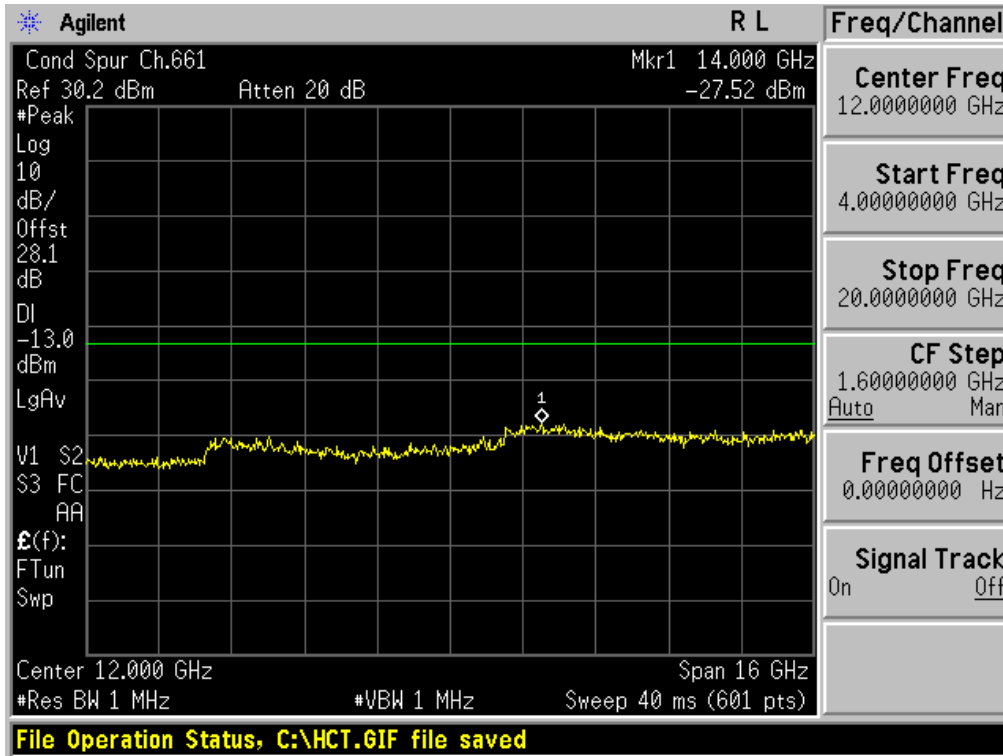
■ GSM1900 MODE (661 CH) Conducted Spurious Emissions1



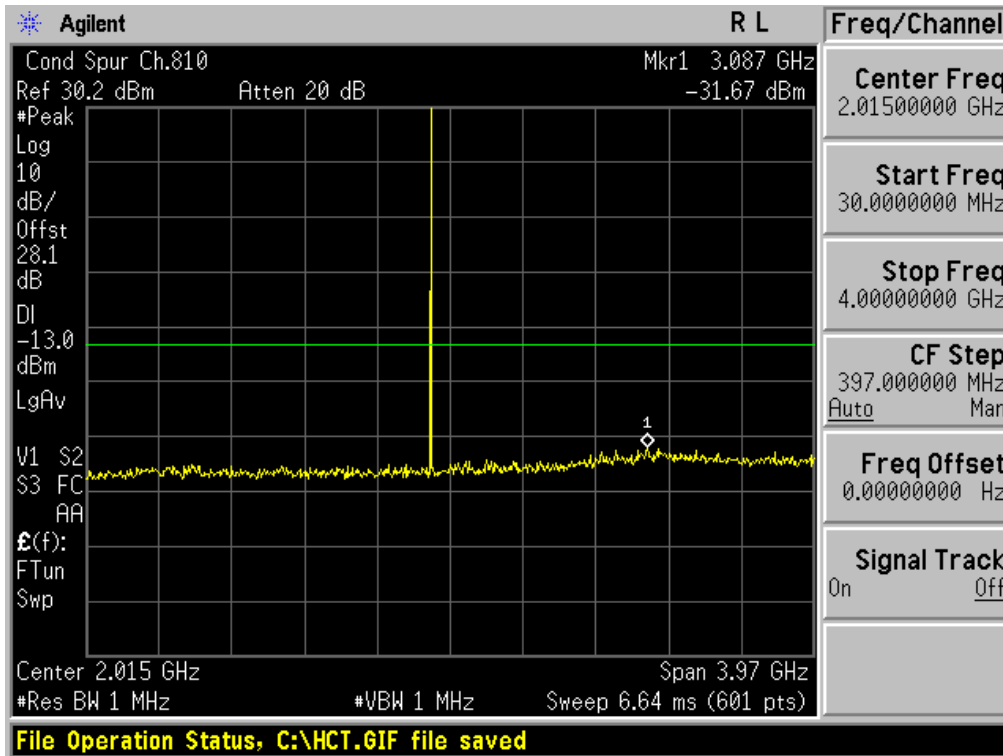
FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15,2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

■ GSM1900 MODE (661 CH.) Conducted Spurious Emissions2



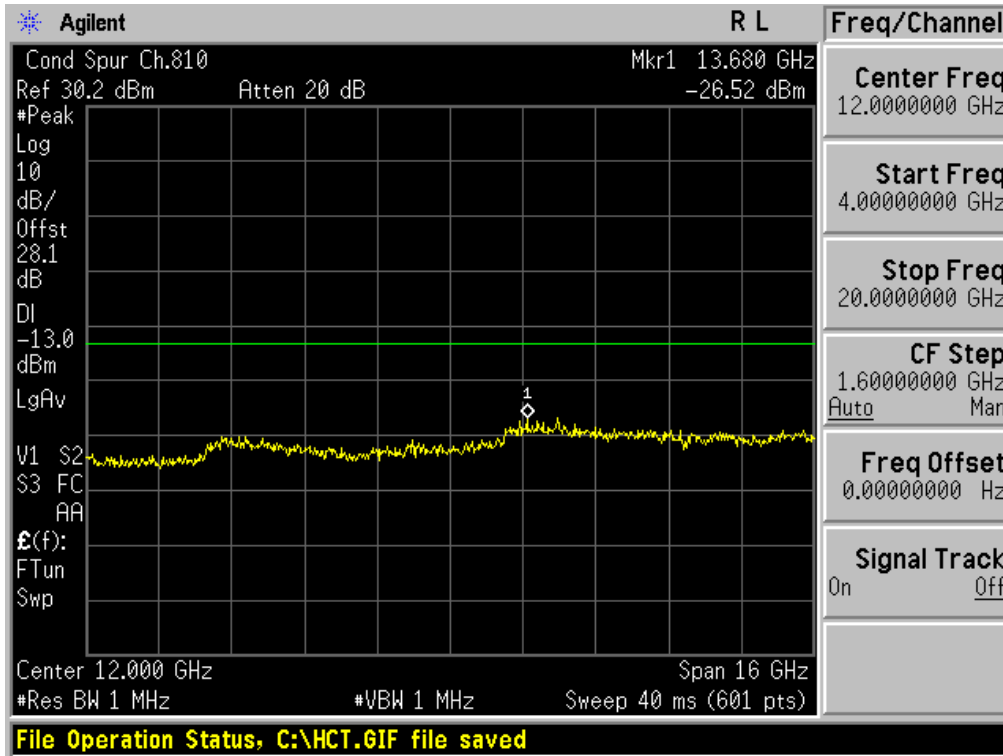
■ GSM1900 MODE (810 CH.) Conducted Spurious Emissions1



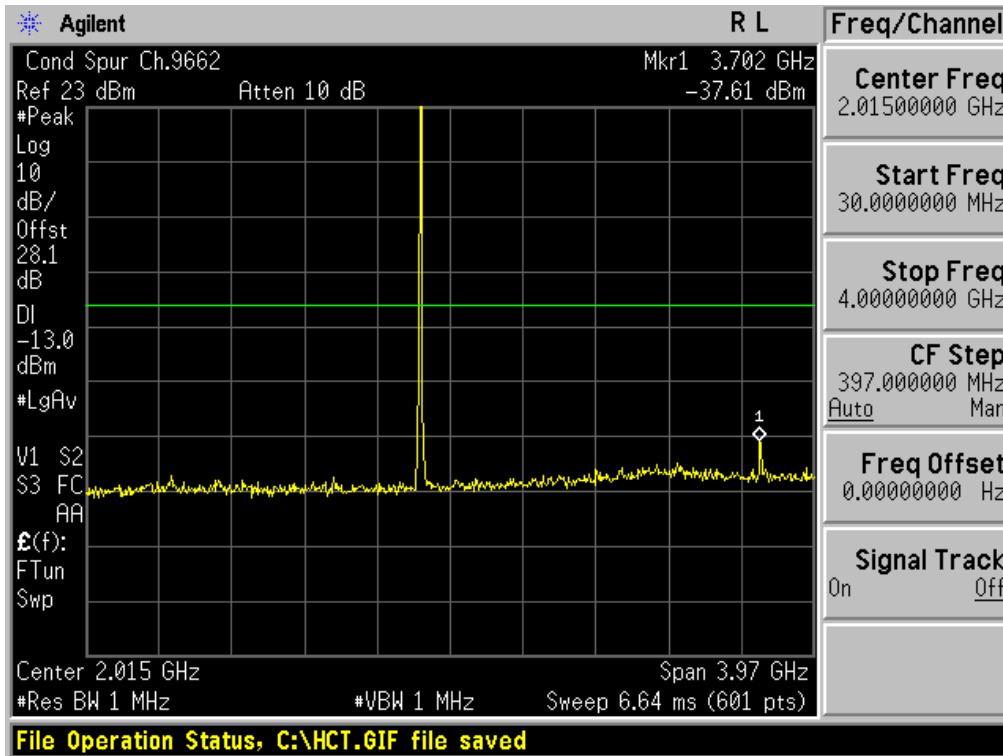
FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15,2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

■ GSM1900 MODE (810 CH.) Conducted Spurious Emissions2



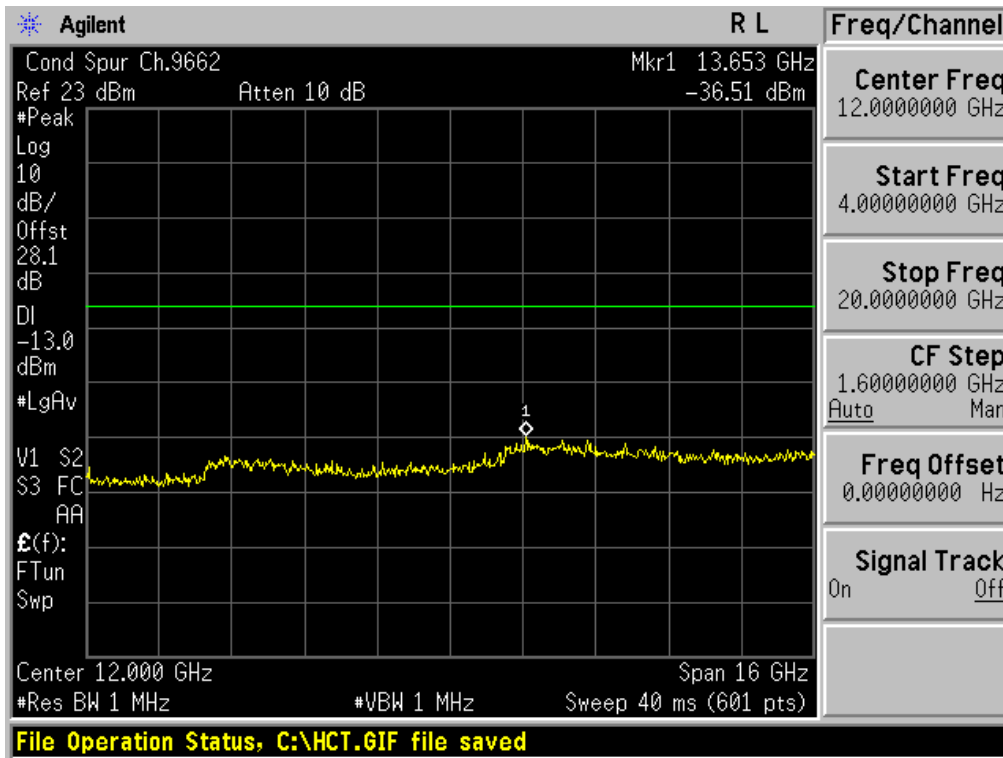
■ WCDMA1900 MODE (9262 CH.) Conducted Spurious Emissions1



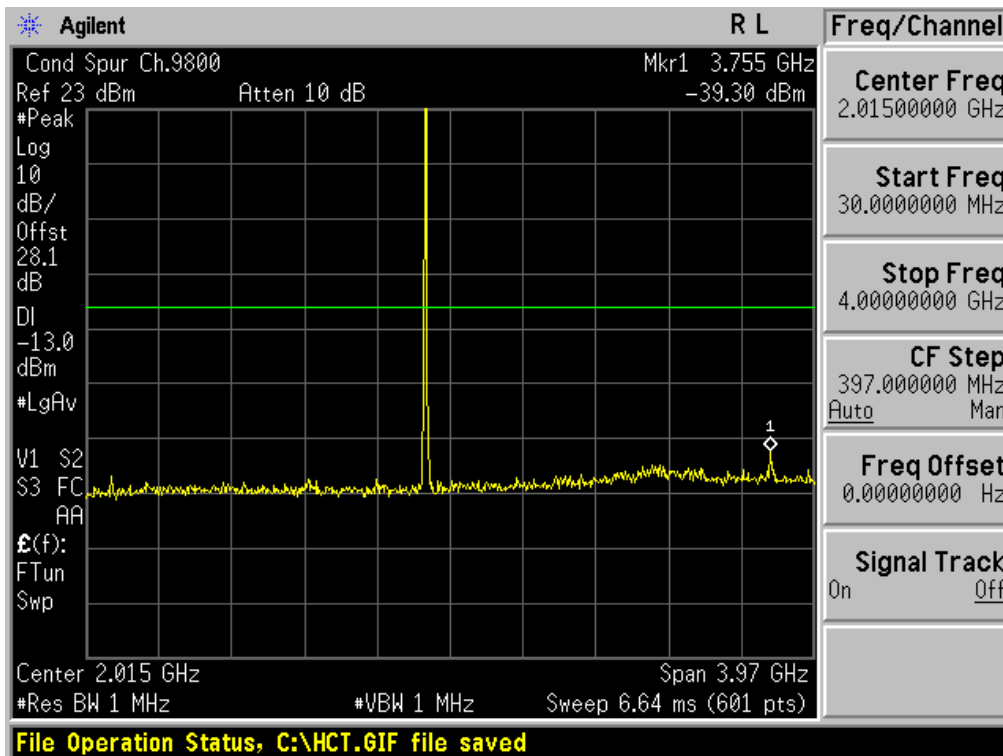
FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15,2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

■ WCDMA1900 MODE (9262 CH.) Conducted Spurious Emissions2



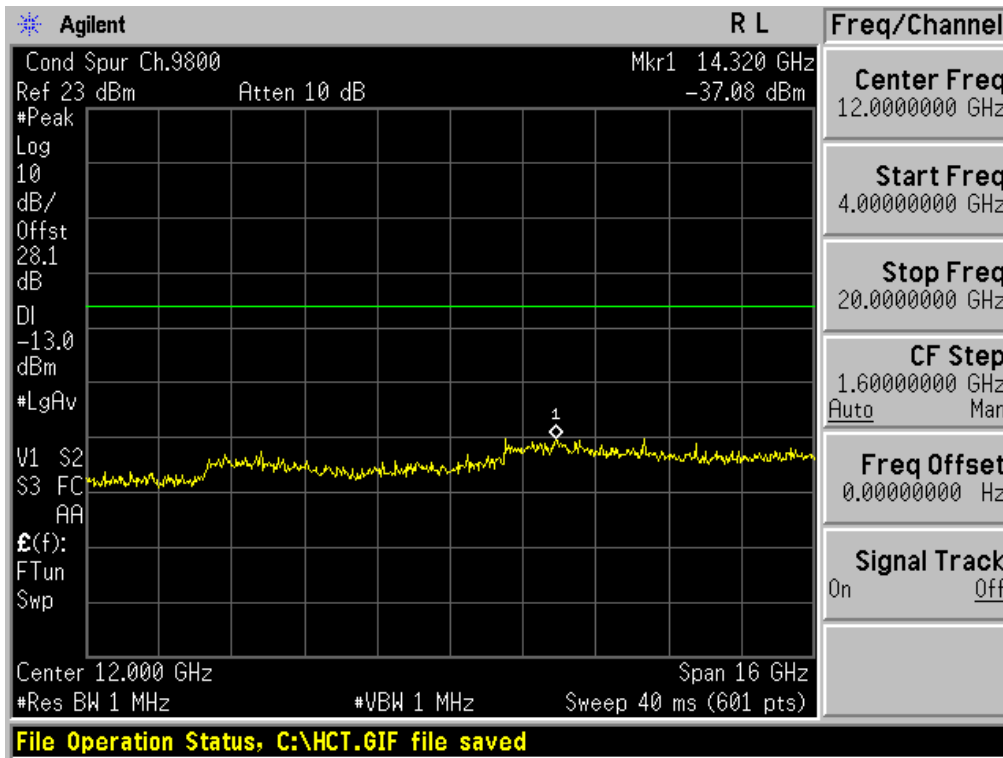
■ WCDMA1900 MODE (9400 CH.) Conducted Spurious Emissions1



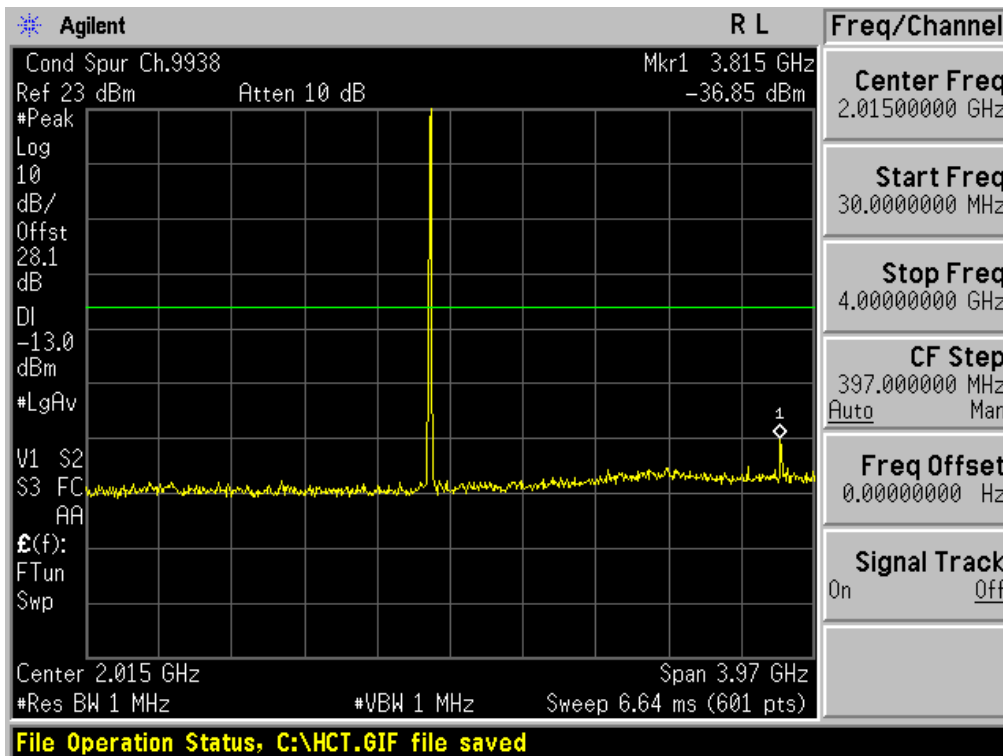
FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710

■ WCDMA1900 MODE (9400 CH.) Conducted Spurious Emissions2



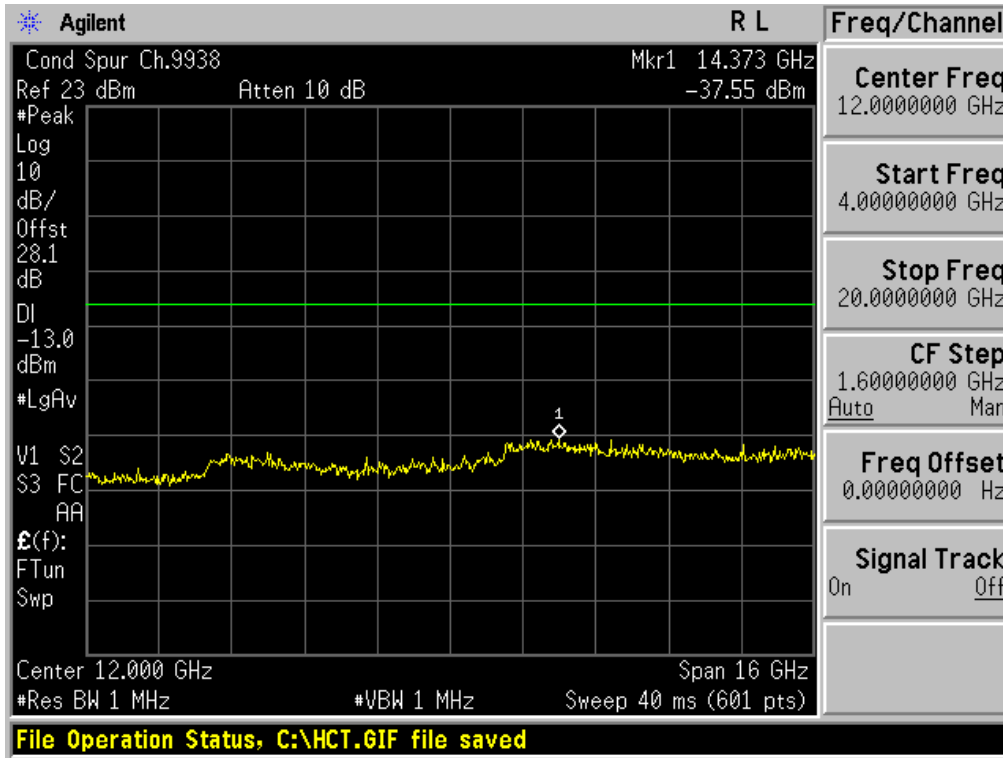
■ WCDMA1900 MODE (9538 CH.) Conducted Spurious Emissions1



FCC CERTIFICATION REPORT

Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	www.hct.co.kr FCC ID: ZNFP710
-----------------------------------	----------------------------------	---	--

■ WCDMA1900 MODE (9538 CH.) Conducted Spurious Emissions2



FCC CERTIFICATION REPORT

FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1301FR19-3	Date of Issue: March 15, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/PCS WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP710