

HCT CO., LTD.

Product Compliance Division

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CERTIFICATE OF COMPLIANCE

FCC Certification

Applicant Name: Pantech Co., Ltd. Address: Pantech Building, I-2, DMC, Korea(ZIP: 121-792)	Sangam-dong, Mapo-gu, Seoul,	Date of Issue: March 23, 2010 Location: HCT CO., LTD., San 136-1 Ami-ri, Bubal-eup, Icheon-si, Kyungki-do, Korea Test Report No.: HCTR1003FR18 HCT FRN: 0005866421
		IC Recognition No.: 5944A-1
FCC ID	:JYCP9050	
APPLICANT	:Pantech Co., Ltd.	
FCC Model(s):	P9050	
EUT Type: Tx Frequency:	Dual-Band Dual-Mode GSM/ 824.20 - 848.80 MHz (GSM8	WCDMA Phone with Bluetooth
Tx Frequency.	1 850.20 - 1 909.80 MHz (GSI 826.40 - 846.60 MHz (WCDM 1 852.4 - 1 907.6 MHz (WCDM	M1900) A850)
Rx Frequency:	869.20 - 893.80 MHz (GSM85 1 930.20 - 1 989.80 MHz (GSI	0) M1900)
	871.40 - 891.60 (WCDMA850) 1 932.4 - 1 987.6 MHz (WCDM	
Max. RF Output Power:	0.968 W ERP GSM850 (29.86 0.557 W ERP EDGE850 (27.4	6 dBm) / 0.767 W EIRP GSM1900 (28.85 dBm) 66 dBm) / 0.687 W EIRP EDGE1900 (28.37 dBm) 3.15 dBm) / 0.297 W EIRP WCDMA1900 (24.73 dBm)
Emission Designator(s):		6XW (GSM1900) / 246KG7W (GSM850 EDGE) / 4M20F9W (WCDMA850) / 4M20F9W (WCDMA1900)
FCC Classification:	PCS Licensed Transmitter hel	d to ear (PCE)
FCC Rule Part(s):	§22, §24, §2	
	see, 327, 32	

The measurements shown in this report were made in accordance with the procedures specified in §2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. HCT.CO., LTD. Certifies that no party to this application has been denied FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

Jong ! eok

Report prepared by : Jong Seok Lee Test Engineer of RF Team

Approved by : Sang Jun Lee Manager of RF Team

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MEASUREMENT REPORT

1. GENERAL INFORMATION

Applica	nt Name:	Pantech Co.,Ltd.
Address	5:	Pantech Building, I-2, DMC, Sangam-dong, Mapo-gu, Seoul, Korea(ZIP: 121-792)
FCC ID:		JYCP9050
Application	on Type:	Certification
FCC Clas	sification:	PCS Licensed Transmitter held to ear (PCE)
FCC Rule	Part(s):	§22, §24, §2
EUT Туре	:	Dual-Band Dual-Mode GSM/ WCDMA Phone with Bluetooth
Model na	me(s):	P9050
Battery Tx Freque	Model Name: Power Rating: Type: ency:	PBR-40A(Standard) 3.7V, 1000mAh, 3.7Wh Rechargeable Li-Ion Battery 824.20 - 848.80 MHz (GSM850) 1 850.20 - 1 909.80 MHz (GSM1900) 826.40 - 846.60 MHz (WCDMA850)
Rx Frequ	ency:	1 852.4 - 1 907.6 MHz (WCDMA030) 869.20 - 893.80 MHz (GSM850) 1 930.20 - 1 989.80 MHz (GSM1900) 871.40 - 891.60 (WCDMA850) 1 932.4 - 1 987.6 MHz (WCDMA1900)
Max. RF (Dutput Power:	0.968 W ERP GSM850 (29.86 dBm) / 0.767 W EIRP GSM1900 (28.85 dBm) 0.557 W ERP EDGE850 (27.46 dBm) / 0.687 W EIRP EDGE1900 (28.37 dBm) 0.207 W ERP WCDMA850 (23.15 dBm) / 0.297 W EIRP WCDMA1900 (24.73 dBm)
Emission	Designator(s):	247KGXW (GSM850) / 247KGXW (GSM1900) / 246KG7W (GSM850 EDGE) 243KG7W (GSM1900 EDGE) / 4M20F9W (WCDMA850) / 4M20F9W (WCDMA1900)
Antenna	Specification	Manufacturer: GALTRONICS(GTK) LTD.
		Antenna type: Internal Antenna
		Peak Gain: 0.7 dBi
Date(s) of	f Tests:	March 11, 2010 ~ March 17, 2010

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2. INTRODUCTION

2.1 EUT DESCRIPTION

The Dual-Band Dual-Mode GSM/ WCDMA Phone with Bluetooth consists of GSM850, GSM1900, GPRS Class10, EDGE, WCDMA850, WCDMA1900 and HSDPA.

2.2 MEASURING INSTRUMENT CALIBRATION

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

2.3 TEST FACILITY

The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1, Maekok-Ri, Hobup-Myun, Ichon-Si, Kyoungki-Do, 467-701, KOREA. The site is constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated June 10, 2009(Registration Number: 90661)

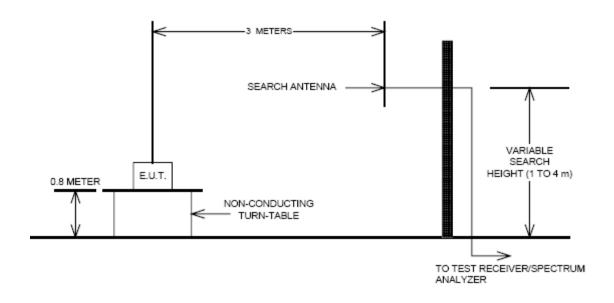
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3. DESCRIPTION OF TESTS

3.1 Effective Radiated Power/Equivalent Isotropic Radiated Power

Test Set-up



Test Procedure

Radiated emission measurements were performed at an open Site.

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

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

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

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3.2 Peak- to- Average Ratio

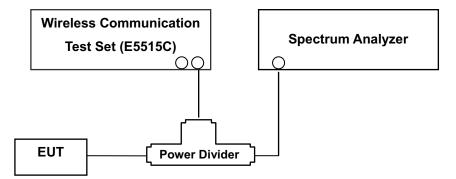
A peak to average ratio measurement is performed at the conducted port of the EUT. For CDMA and WCDMA signals, the spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT 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)

Test Procedure

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

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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.

The EUT was setup to maximum output power at its lowest channel. The Resolution BW of the analyzer is set to 1 % of the emission bandwidth to show compliance with the – 13 dBm limit, in the 1 MHz bands immediately outside and adjacent to the edge of the frequency block. The 1 MHz RBW was used to scan from 30 MHz to 10 GHz. (GSM1900 Mode: 30 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.

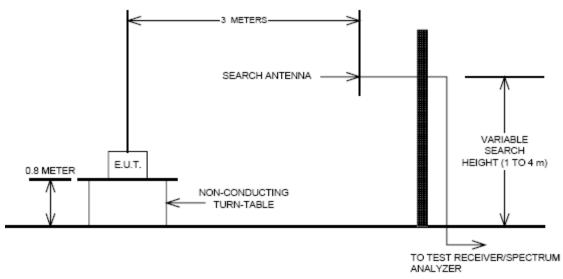
- Band Edge Requirement : In the 1MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions. Limit, -13dBm.

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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 open field test site is situated in open field with ground screen whose site attenuation characteristics meet ANSI C63.4 –2003. A mast capable of lifting the receiving antenna from a height of one to four meters is used together with a rotatable wooden platform mounted at three from the antenna mast.

- 1) The unit mounted on a wooden table 1.5 m × 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 wooden turntable 3-meters from the receive antenna.

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

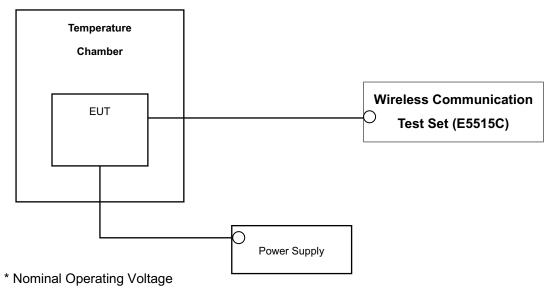
The maximum EIRP was calculated by adding the forward power to the calibrated source plus its appropriate gain value. These steps were carried out with the receiving antenna in both vertical and horizontal polarization. For readings above 1GHz, the above procedure is repeated using horn antennas and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

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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
R&S	ESI40/ Spectrum Analyzer	831564/003	Annual	10/30/2010
Agilent	E4416A/ Power Meter	GB41291412	Annual	01/14/2011
Agilent	E9327A/ Power Sensor	MY4442009	Annual	07/28/2010
Agilent	8960 (E5515C)/ Base Station	GB44400269	Annual	02/10/2011
MITEQ	AMF-60-0010 1800-35-20P / AMP	1200937	Annual	05/20/2010
Wainwright	WHK1.2/15G-10EF/H.P.F	2	Annual	06/29/2010
Wainwright	WHK3.3/18G-10EF/H.P.F	1	Annual	06/29/2010
Agilent	775D/ Dual Directional Coupler	12922	Annual	12/24/2010
Agilent	11636B/ Power Divider	11377	Annual	12/24/2010
Digital	EP-3010/ Power Supply	3110117	Annual	01/08/2011
Schwarzbeck	UHAP/ Dipole Antenna	585	Biennial	02/13/2011
Schwarzbeck	UHAP/ Dipole Antenna	558	Biennial	02/13/2011
Korea Engineering	KR-1005L / Chamber	KRAB07063-2CH	Annual	12/28/2010
Schwarzbeck	BBHA 9120D/ Horn Antenna	296	Biennial	09/23/2011
Agilent	E4440A/Spectrum Analyzer	US45303008	Annual	12/23/2010

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

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6. SAMPLE CALCULATION

A. ERP Sample Calculation

Mode	Ch.	n./ Freq. Measured Substitude Ant. Gain	Ant Gain	ain C.L	Pol.	ERP			
Mode	channel	Freq.(MHz)	Level(dBm)	LEVEL(dBm)	Ant. Gain	U.L	P01.	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 wooden tripod is 0.8 meter above test site ground level.

2) During the test, the turn table is rotated and the antenna height is also varied from 1 to 4 meters until the maximum signal is found.

3) Record the field strength meter's level.

4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.

5) Increase the signal generator output till the field strength meter's level is equal to the item (3).

6) The signal generator output level with Ant. Gain and cable loss are the rating of effective radiated power (**ERP**).

B. Emission Designator

GSM Emission Designator

Emission Designator = 249KGXW

GSM BW = 249 kHz

G = Phase Modulation

X = Cases not otherwise covered

W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M17F9W

WCDMA BW = 4.17 MHz

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

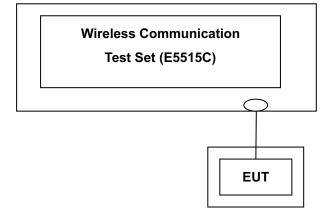
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7. TEST DATA

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	5 Data
Band	Channel	GSM (dBm)	GPRS 1 TX Slot (dBm)	GPRS 2 TX Slot (dBm)
GSM	128	32.67	32.62	32.60
850	190	32.64	32.59	32.59
0.00	251	32.67	32.62	32.61
COM	512	30.28	30.15	30.16
GSM 1900	661	30.11	30.02	30.02
1900	810	30.21	30.15	30.14

(GSM Conducted Output Powers)

		EDGE Data		
Band	Channel	EDGE 1 TX Slot (dBm)	EDGE 2 TX Slot (dBm)	
GSM	128	27.21	27.22	
850	190	27.20	27.20	
650	251	27.21	27.22	
CSM	512	26.26	26.27	
GSM 1900	661	26.12	26.12	
1900	810	26.23	26.23	

(GSM EDGE Conducted Output Powers)

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		HSDPA INA	HSDPA ACTIVE	
Band	Channel	12.2kbps RMC (dBm)	12.2kbps AMR (dBm)	12.2kbps RMC (dBm)
	4132	23.84	23.88	23.29
WCDMA 850	4183	23.58	23.65	23.06
	4233	23.81	23.83	23.35
	9262	23.58	23.68	23.22
WCDMA	9400	23.64	23.58	23.18
1900	9538	23.80	23.78	23.51

(WCDMA Conducted Output Powers)

Note : Detecting mode is average.

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7.2 Peak-to-Average Ratio

- Plots of the EUT's Peak- to- Average Ratio are shown Page 38, 42.

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7.3 Occupied Bandwidth

Band	Channel	Frequency(MHz)	Data (WCDMA: MHz, GSM: kHz)
	128	824.20	246.91
GSM850	190	836.60	242.70
	251	848.80	245.57
EDGE	128	824.20	245.58
	512	1850.20	247.44
GSM1900	661	1880.00	245.75
	810	1909.80	247.18
EDGE	512	1,850.20	242.71
	4132	826.40	4.16
WCDMA850	4183	836.60	4.20
	4233	846.60	4.15
	9262	1852.40	4.20
WCDMA1900	9400	1880.00	4.17
	9538	1907.60	4.18

- Plots of the EUT's Occupied Bandwidth are shown Page 34~37, 39~41.

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7.4 Conducted Spurious Emissions

Band	Channel	Frequency of Maximum Harmonic (GHz)	Maximum Data (dBm)
	128	7.4125	-30.99
GSM850	190	7.0875	-30.87
	251	7.0250	-30.65
	512	13.3870	-28.34
GSM1900	661	15.2000	-27.73
	810	13.5200	-28.23
	4132	7.0125	-40.80
WCDMA850	4183	7.0625	-40.99
	4233	7.1125	-41.11
	9262	3.7020	-33.64
WCDMA1900	9400	3.7620	-37.79
	9538	3.8150	-32.35

- Plots of the EUT's Conducted Spurious Emissions are shown Page 54~66.

7.4.1 Band Edge

- Plots of the EUT's Band Edge are shown Page 42~54.

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7.5 Effective Radiated Power Output (GSM / WCDMA)

(GSM850 Mode)

Mode	Ch	./ Freq.	Measured	Substitude	Ant. Gain	C.L	Pol.	E	RP
Mode	channel	Freq.(MHz)	Level(dBm)	LEVEL (dBm)	(dBd)	U.L	FUI.	w	dBm
	128	824.20	-7.09	38.75	-8.32	1.17	V	0.84	29.26
GSM850	190	836.60	-7.87	38.62	-8.22	1.19	V	0.83	29.21
	251	848.80	-7.94	39.18	-8.12	1.20	Н	0.97	29.86
EDGE	251	848.80	-10.34	36.78	-8.12	1.20	Н	0.56	27.46

(WCDMA850 Mode)

Mode	Ch	./ Freq.	Measured	Substitude	Ant. Gain	C.L	Pol.	E	RP
Mode	channel	Freq.(MHz)	Level(dBm)	LEVEL (dBm)	(dBd)	U.L	FUI.	w	dBm
WCDMA8	4132	826.40	-15.08	30.87	-8.30	1.17	V	0.14	21.40
50	4175	836.60	-14.41	32.08	-8.22	1.19	V	0.18	22.67
	4233	846.60	-14.52	32.49	-8.14	1.20	Н	0.21	23.15

Note: Standard batteries are the only options for this phone

NOTES:

Effective Radiated Power Output Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the dipole is measured. The ERP is recorded. 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 y plane(251 CH. and 4233 CH. : z plane) in GSM850 mode and WCDMA850 mode. Also worst case of detecting Antenna is in vertical polarization(251 CH. and 4233 CH. : horizontal) in GSM850 mode and WCDMA850 mode.

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.

The EDGE mode testing were performed using 2Tx because 2Tx is highest power in EDGE mode.

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7.6 Equivalent Isotropic Radiated Power (GSM / WCDMA)

(GSM1900 Mode)

Mode	Ch	./ Freq.	Measured	Substitude	Ant. Gain	C.L	Pol.	E	RP
Mode	channel	Freq.(MHz)	Level(dBm)	LEVEL (dBm)	(dBd)	U.L	FUI.	w	dBm
	512	1,850.20	-12.88	18.73	10.05	1.91	Н	0.49	26.86
GSM1900	661	1,880.00	-11.35	20.47	10.05	1.95	Н	0.72	28.57
	810	1,909.80	-11.14	20.76	10.06	1.97	Н	0.77	28.85
EDGE	810	1909.80	-11.62	20.28	10.06	1.97	Н	0.69	28.37

(WCDMA1900 Mode)

Mode	Ch	./ Freq.	Measured	Substitude	Ant. Gain	C.L	Pol.	E	RP
Mode	channel	Freq.(MHz)	Level(dBm)	LEVEL (dBm)	(dBd)	U.L	FUI.	w	dBm
WCDMA1	9262	1,852.40	-16.16	15.45	10.05	1.91	Н	0.23	23.59
900	9400	1,880.00	-15.54	16.28	10.05	1.95	Н	0.27	24.38
900	9538	1,907.60	-15.28	16.64	10.06	1.97	Н	0.30	24.73

Note: Standard batteries are the only options for this phone

NOTES:

Equivalent Isotropic Radiated Power Measurements by Substitution Method

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

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded. 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 x plane in GSM1900 mode and WCDMA1900 mode. Also worst case of detecting Antenna is in horizontal polarization in GSM1900 mode and WCDMA1900 mode.

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.

The EDGE mode testing were performed using 2Tx because 2Tx is highest power in EDGE mode.

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7.7 **Radiated Spurious Emissions**

Radiated Spurious Emissions (GSM 850 Mode) 7.7.1

MEASURED OUTPUT POWER:	29.86 dBm = 0.968 mW

MODULATION SIGNAL: _____GSM850

DISTANCE:

3 meters

LIMIT: - (43 + 10 log10 (W)) = -42.86 dBc

Ch.	Freq.(MHz)	Measured Level	Ant. Gain (dBd)	<u>Substitute</u> Level [dBm]	C.L	Pol.	ERP (dBm)	dBc
	1,648.40	-51.12	8.57	-63.13	1.73	н	-56.29	-86.15
	2,472.60	-29.87	11.10	-39.96	2.28	V	-31.14	-61.00
	3,296.80	-51.72	11.65	-61.23	2.57	н	-52.15	-82.01
	4,121.00	-43.22	12.65	-51.22	2.95	н	-41.52	-71.38
128	4,945.20	-44.90	12.97	-49.02	3.15	V	-39.20	-69.06
	5,769.40	_	_	_	_	_	_	_
	6,593.60	_	_	_	_	_	_	_
	7,417.80	-	_	_	-	_	_	_
	8,242.00	_	_	-	_	_	-	_

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Ch.	Freq.(MHz)	Measured Level	Ant. Gain (dBd)	<u>Substitute</u> Level [dBm]	C.L	Pol.	ERP (dBm)	dBc
	1,673.20	-53.94	8.57	-66.04	1.79	Н	-59.26	-89.12
	2,509.80	-44.80	11.15	-54.94	2.33	V	-46.12	-75.98
	3,346.40	-51.17	11.77	-60.98	2.66	Н	-51.87	-81.73
	4,183.00	-44.44	12.65	-52.17	2.92	Н	-42.44	-72.30
190	5,019.60	-46.70	12.99	-51.40	3.29	V	-41.70	-71.56
	5,856.20	-	-	-	-	-	-	-
	6,692.80	-	-	-	_	-	-	-
	7,529.40	_	-	_	_	_	-	-
	8,366.00	_	_	_	_	_	_	_

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Ch.	Freq.(MHz)	Measured Level	Ant. Gain (dBd)	<u>Substitute</u> <u>Level</u> [dBm]	C.L	Pol.	ERP (dBm)	dBc
	1,697.60	-52.38	8.57	-64.15	1.83	Н	-57.41	-87.27
	2,546.40	-38.45	11.15	-48.67	2.34	V	-39.86	-69.72
	3,395.20	-52.07	11.77	-61.56	2.85	V	-52.64	-82.50
	4,244.00	-43.78	12.69	-50.97	3.10	Н	-41.38	-71.24
251	5,092.80	-48.10	12.99	-52.15	3.34	V	-42.50	-72.36
	5,941.60	_	_	-	_	-	-	_
	6,790.40	_	_	_	_	_	-	_
	7,639.20	_	-	_	-	-	-	_
	8,488.00	-	_	_	_	_	-	_

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>

3. we have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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7.7.2 Radiated Spurious Emissions (WCDMA 850 Mode)

- MEASURED OUTPUT POWER: 23.15 dBm = 0.207 mW
- MODULATION SIGNAL: WCDMA850
- DISTANCE:
- <u>3 meters</u> <u>-36.15 dBc</u>
- LIMIT: (43 + 10 log10 (W)) =

Ch.	Freq.(MHz)	<u>Measured Level</u> [dBm]	Ant. Gain (dBd)	<u>Substitute</u> <u>Level</u> [dBm]	C.L	Pol.	ERP (dBm)	dBc
	1,652.80	_	_	_	_	_	_	_
4132	2,479.20	-49.85	11.10	-59.95	2.28	V	-51.13	-74.28
	4,132.00	-	_	-	_	_	-	_
	1,673.20	_	_	_	_	_	_	_
4183	2,509.80	-48.21	11.15	-58.35	2.33	V	-49.53	-72.68
	4,183.00	_	_	_	_	_	_	_
	1,693.20	_	_	_	_	_	_	_
4233	2,539.80	-51.42	11.15	-61.62	2.34	V	-52.81	-75.96
	4,233.00	-	_	_	_	_	-	_

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>

3. we have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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7.7.3 Radiated Spurious Emissions (GSM 1900 Mode)

- MEASURED OUTPUT POWER: ______28.85 dBm = 0.767 mW
- MODULATION SIGNAL:
 GSM1900
- DISTANCE:
- LIMIT: (43 + 10 log10 (W)) = -41.85 dBc

Ch.	Freq.(MHz)	Measured Level	Ant. Gain (dBi)	<u>Substitute</u> <u>Level</u> [dBm]	C.L	Pol.	EIRP (dBm)	dBc
	3,700.40	-50.92	12.25	-56.98	2.73	Н	-47.46	-76.31
	5,550.60	-51.81	12.59	-53.28	3.60	н	-44.29	-73.14
	7,400.80	-47.86	11.40	-39.02	3.88	V	-31.50	-60.35
	9,251.00	_	-	_	_	_	_	-
512	11,101.20	_	_	_	_	_	_	-
	12,951.40	_	-	_	_	_	_	-
	14,801.60	-	-	_	_	_	_	-
	16,651.80	-	_	_	_	_	_	_
	18,502.00	-	_	_	_	_	-	_

<u>3 meters</u>

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Ch.	Freq.(MHz)	<u>Measured Level</u> [dBm]	Ant. Gain (dBi)	<u>Substitute</u> Level [dBm]	C.L	Pol.	EIRP (dBm)	dBc
	3,760.00	-48.36	12.25	-54.11	2.73	Н	-44.59	-73.44
	5,640.00	-45.26	12.51	-46.67	3.60	Н	-37.76	-66.61
	7,520.00	-46.44	11.36	-37.37	3.88	V	-29.89	-58.74
	9,400.00	_	_	_	_	-	_	_
661	11,280.00	_	_	_	_	_	_	_
	13,160.00	_	-	_	_	_	_	_
	15,040.00	_	_	_	_	-	_	_
	16,920.00	_	_	-	_	_	-	-
	18,800.00	_	_	_	_	_	_	_

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Ch.	Freq.(MHz)	<u>Measured Level</u> [dBm]	Ant. Gain (dBi)	<u>Substitute</u> Level [dBm]	C.L	Pol.	EIRP (dBm)	dBc
	3,819.60	-45.30	12.37	-51.06	2.73	V	-41.42	-70.27
	5,729.40	-43.81	12.43	-44.75	3.60	Н	-35.92	-64.77
	7,639.20	-51.96	11.32	-42.65	3.88	V	-35.21	-64.06
	9,549.00	_	_	_	_	_	_	_
810	11,458.80	_	_	_	_	_	_	-
	13,368.60	_	_	_	_	_	_	_
	15,278.40	_	-	_	_	_	_	_
	17,188.20	_	_	_	_	_	_	_
	19,098.00	-	_	-	_	_	-	_

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:

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

3. we have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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7.7.4 Radiated Spurious Emissions (WCDMA1900 Mode)

- MEASURED OUTPUT POWER: 24.73 dBm = 0.297 mW
- MODULATION SIGNAL: WCDMA1900
- DISTANCE:
- LIMIT: (43 + 10 log10 (W)) = _____37.73 dBc

Ch.	Freq.(MHz)	<u>Measured Level</u> [dBm]	Ant. Gain (dBi)	<u>Substitute</u> Level [dBm]	C.L	Pol.	EIRP (dBm)	dBc
	3,704.80	-50.03	12.46	-56.27	2.73	Н	-46.54	-71.27
9262	5,557.20	_	-	-	-	_	-	_
	7,409.60	-	-	-	-	-	-	-
	3,760.00	-55.83	12.47	-61.80	2.73	н	-52.06	-76.79
9400	5,640.00	_	-	_	_	_	_	-
	7,520.00	_	-	_	_	-	_	_
	3,815.20	-52.25	12.46	-58.12	2.73	н	-48.39	-73.12
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>

3. we have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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7.8 Frequency stability / variation of ambient temperature

7.8.1 FREQUENCY STABILITY (GSM 850 Mode)

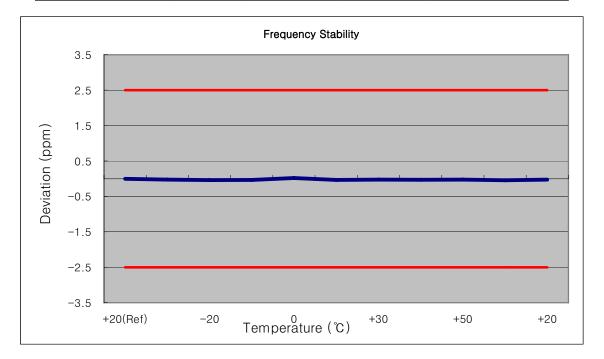
OPERATING FREQUENCY:	836,600,000 Hz
CHANNEL:	190

REFERENCE VOLTAGE:	3.7 VDC	

DEVIATION LIM IT:

Voltage	Power	Temp.	Frequency	Frequency	Deviation	
(%)	(VDC)	(°°)	(Hz)	Error (Hz)	(%)	ppm
100%		+20(Ref)	836 599 969	0	0.000 000	0.000
100%		-30	836 599 978	-22.1	-0.000 003	-0.026
100%		-20	836 599 968	-32.13	-0.000 004	-0.038
100%		-10	836 599 973	-27.02	-0.000 003	-0.032
100%	3.700	0	836 600 016	15.66	0.000 002	0.019
100%		+10	836 599 971	-28.91	-0.000 003	-0.035
100%		+30	836 599 978	-22.09	-0.000 003	-0.026
100%		+40	836 599 975	-24.89	-0.000 003	-0.030
100%		+50	836 599 979	-21.15	-0.000 003	-0.025
115%	4.255	+20	836 599 962	-37.64	-0.000 004	-0.045
Batt. Endpoint	3.400	+20	836 599 979	-20.82	-0.000 002	-0.025

<u>± 0.000 25 % or 2.5 ppm</u>



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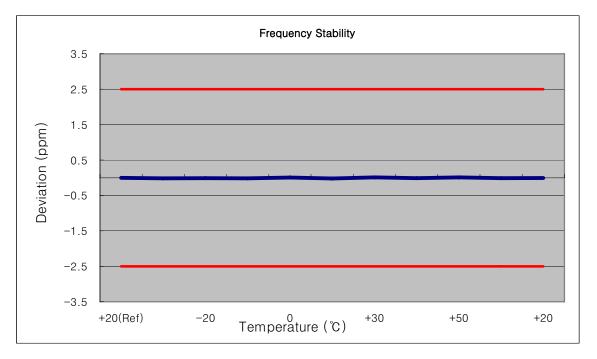
7.8.2 FREQUENCY STABILITY (WCDMA 850 Mode)

OPERATING FREQUENCY:	836,600,000 Hz
CHANNEL:	4183

- REFERENCE VOLTAGE: <u>3.7 VDC</u>
- DEVIATION LIM IT:

± 0.000 25 % or 2.5 ppm

Voltage	Power	Temp.	Frequency	Frequency	Deviation	
(%)	(VDC)	(°°)	(Hz)	Error (Hz)	(%)	ppm
100%		+20(Ref)	836 600 010	0	0.000 000	0.000
100%		-30	836 599 988	-11.64	-0.000 001	-0.014
100%		-20	836 599 989	-10.65	-0.000 001	-0.013
100%		-10	836 599 985	-14.66	-0.000 002	-0.018
100%	3.700	0	836 600 007	7.4	0.000 001	0.009
100%		+10	836 599 984	-16.1	-0.000 002	-0.019
100%		+30	836 600 009	9.43	0.000 001	0.011
100%		+40	836 599 992	-7.6	-0.000 001	-0.009
100%		+50	836 600 010	10.29	0.000 001	0.012
115%	4.255	+20	836 599 991	-9.08	-0.000 001	-0.011
Batt. Endpoint	3.400	+20	836 599 993	-7.18	-0.000 001	-0.009



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7.8.3 FREQUENCY STABILITY (GSM 1900 Mode)

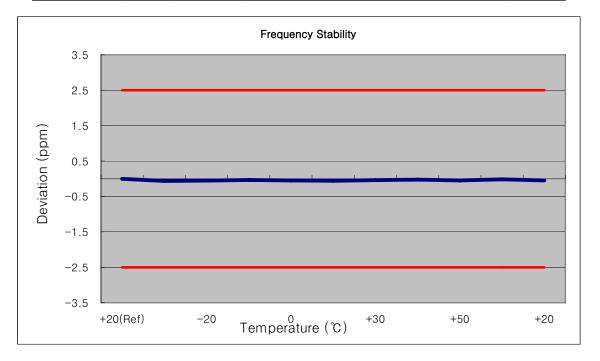
OPERATING FREQUENCY:	<u>1880,000,000 Hz</u>

- CHANNEL: <u>661</u>

 REFERENCE VOLTAGE: <u>3.7</u>
- DEVIATION LIM IT:

<u>3.7 VDC</u> <u>± 0.000 25 % or 2.5 ppm</u>

Voltage	Power	Temp.	Frequency	Frequency	Deviation	
(%)	(VDC)	(°°)	(Hz)	Error (Hz)	(%)	ppm
100%		+20(Ref)	1879 999 946	0	0.000 000	0.000
100%		-30	1879 999 950	-49.64	-0.000 006	-0.059
100%		-20	1879 999 956	-44.25	-0.000 005	-0.053
100%		-10	1879 999 971	-29.16	-0.000 003	-0.035
100%	3.700	0	1879 999 959	-40.72	-0.000 005	-0.049
100%		+10	1879 999 954	-45.7	-0.000 005	-0.055
100%		+30	1879 999 969	-31.22	-0.000 004	-0.037
100%		+40	1879 999 977	-22.61	-0.000 003	-0.027
100%		+50	1879 999 959	-41.1	-0.000 005	-0.049
115%	4.255	+20	1879 999 986	-14.22	-0.000 002	-0.017
Batt. Endpoint	3.400	+20	1879 999 960	-40.22	-0.000 005	-0.048



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7.8.4 FREQUENCY STABILITY (WCDMA 1900 Mode)

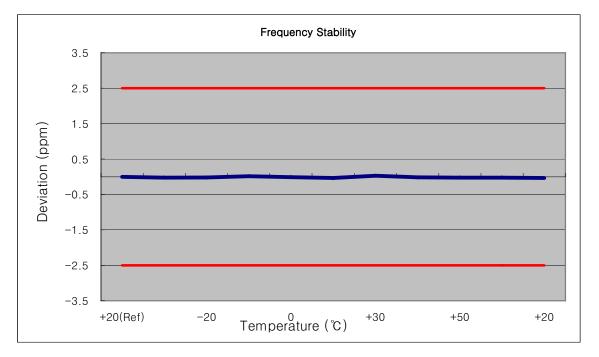
OPERATING FREQUENCY:	1,880,000,000 Hz
CHANNEL:	9400

REFERENCE VOLTAGE: <u>3.7 VDC</u>

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 999 985	0	0.000 000	0.000
100%		-30	1879 999 979	-21.11	-0.000 003	-0.025
100%		-20	1879 999 984	-15.88	-0.000 002	-0.019
100%	3.700	-10	1880 000 015	14.7	0.000 002	0.018
100%		0	1879 999 991	-9.13	-0.000 001	-0.011
100%		+10	1879 999 973	-26.59	-0.000 003	-0.032
100%		+30	1880 000 025	25.49	0.000 003	0.030
100%		+40	1879 999 987	-13.03	-0.000 002	-0.016
100%		+50	1879 999 981	-19.08	-0.000 002	-0.023
115%	4.255	+20	1879 999 978	-21.7	-0.000 003	-0.026
Batt. Endpoint	3.400	+20	1879 999 973	-26.66	-0.000 003	-0.032



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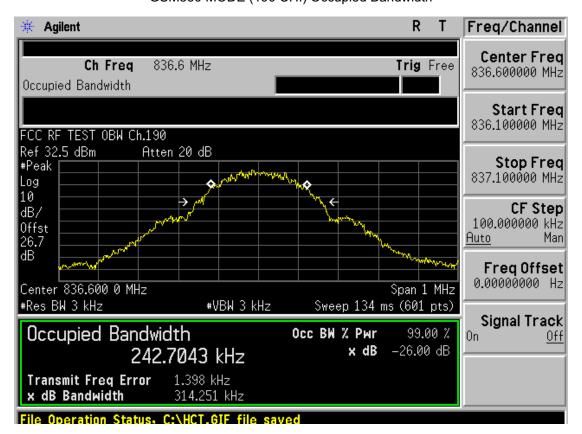
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🔆 Agilent R Т Freg/Channel Center Freq Ch Freq 824.2 MHz Trig Free 824.200000 MHz Occupied Bandwidth Start Freq 823.700000 MHz FCC RF TEST OBW Ch.128 Ref 32.5 dBm Atten 20 dB Stop Freq #Peak 824.700000 MHz Log 10 ć -> CF Step dB/ 100.000000 kHz Offst Man Auto 26.7 Mad dB Freq Offset 0.00000000 Hz Center 824.200 0 MHz Span 1 MHz #Res BW 3 kHz #VBW 3 kHz Sweep 134 ms (601 pts) Signal Track Occupied Bandwidth Occ BW % Pwr 99.00 % 0n Off 246.9070 kHz x dB -26.00 dB 1.239 kHz Transmit Freq Error x dB Bandwidth 310.478 kHz Operation Status, C:\HCT.GIF file saved

GSM850 MODE (128 CH.) Occupied Bandwidth

GSM850 MODE (190 CH.) Occupied Bandwidth



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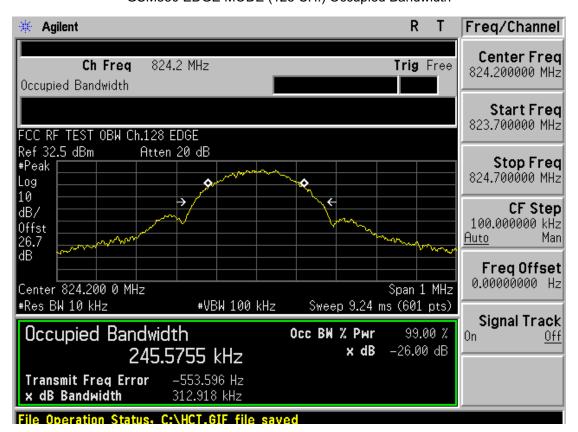
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🔆 Agilent R Т Freg/Channel Center Freq Ch Freq 848.8 MHz Trig Free 848.800000 MHz Occupied Bandwidth Start Freq 848.300000 MHz FCC RF TEST OBW Ch.251 Ref 32.5 dBm Atten 20 dB Stop Freq #Peak 849.300000 MHz Log 10 ⇒ CF Step dB/ 100.000000 kHz Offst Man Auto 26.7 dB Freq Offset 0.00000000 Hz Center 848.800 0 MHz Span 1 MHz #Res BW 3 kHz #VBW 3 kHz Sweep 134 ms (601 pts) Signal Track Occupied Bandwidth Occ BW % Pwr 99.00 % 0n Off 245.5675 kHz x dB -26.00 dB Transmit Freq Error 1.493 kHz 309.616 kHz x dB Bandwidth Operation Status, C:\HCL.GIF file saved

GSM850 MODE (251 CH.) Occupied Bandwidth

GSM850 EDGE MODE (128 CH.) Occupied Bandwidth



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GSM1900 MODE (512 CH.) Occupied Bandwidth



Operation Status, C:\HCT.GIF file saved

GSM1900 MODE (661 CH.) Occupied Bandwidth



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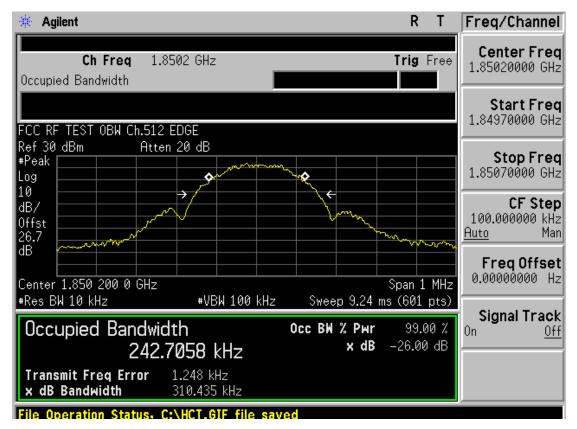


GSM1900 MODE (810 CH.) Occupied Bandwidth



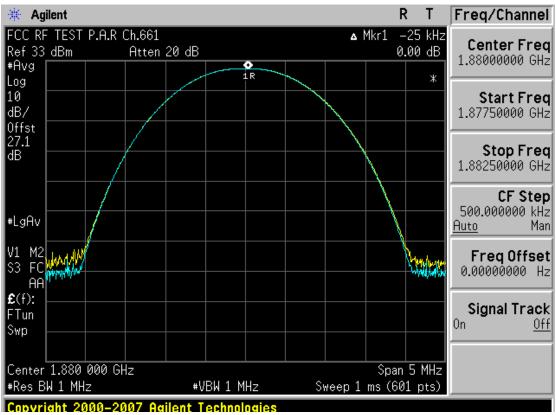
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GSM1900 EDGE MODE (512 CH.) Occupied Bandwidth



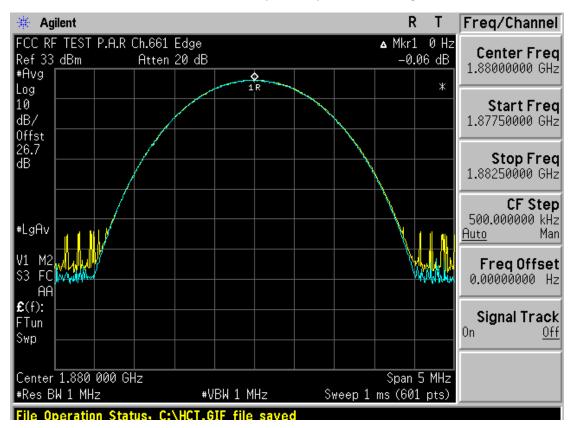
	www.hct.co.kr			
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GSM1900 MODE (661 CH.) Peak-to-Average Ratio

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



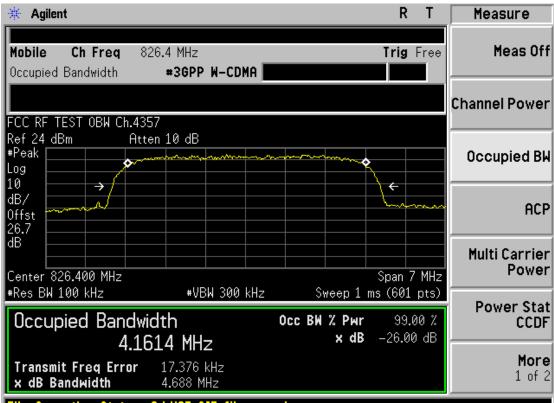
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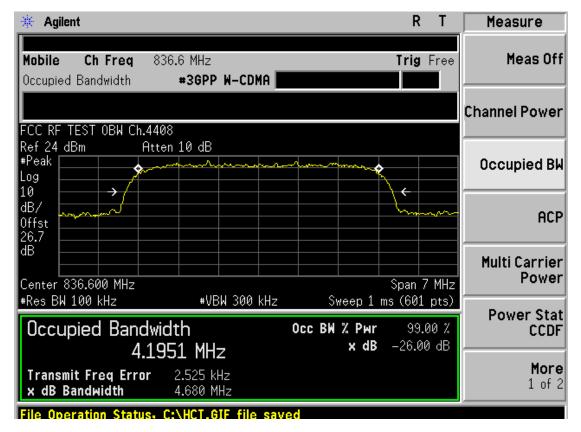


WCDMA850 MODE (4357 CH.) Occupied Bandwidth



e Operation Status, C:\HCT.GIF file saved

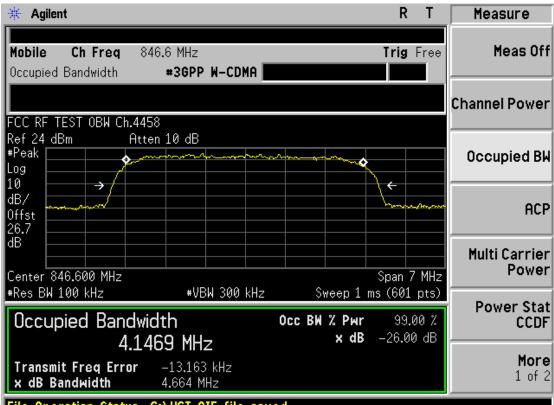
WCDMA850 MODE (4408 CH.) Occupied Bandwidth



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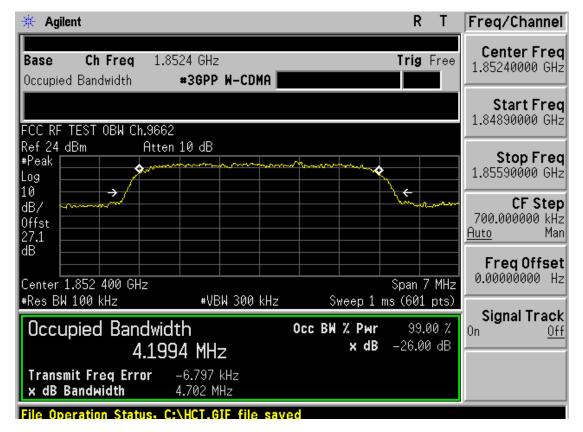


WCDMA850 MODE (4458 CH.) Occupied Bandwidth



Operation Status. C:\HCT.GIF file saved

WCDMA1900 MODE (9662 CH.) Occupied Bandwidth



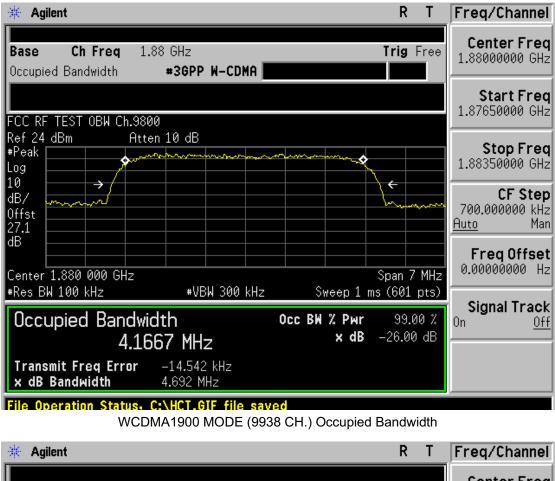
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WCDMA1900 MODE (9800 CH.) Occupied Bandwidth



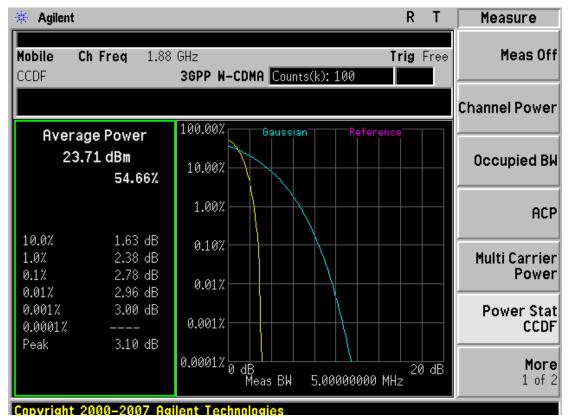


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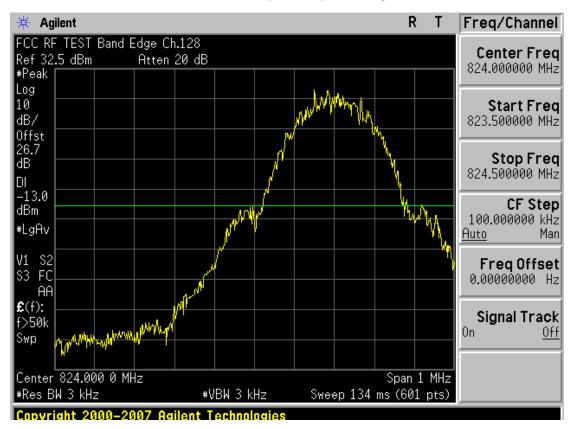
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WCDMA1900 MODE (9800 CH.) Peak-to-Average Ratio

GSM850 MODE (128 CH.) Band Edge-1



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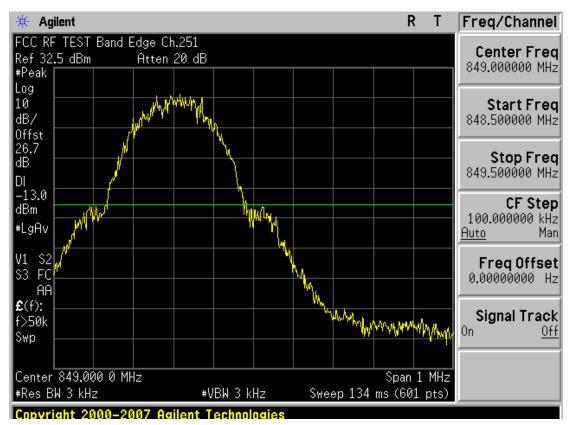
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GSM850 MODE (128 CH.) Band Edge-2

GSM850 MODE (251 CH.) Band Edge-1

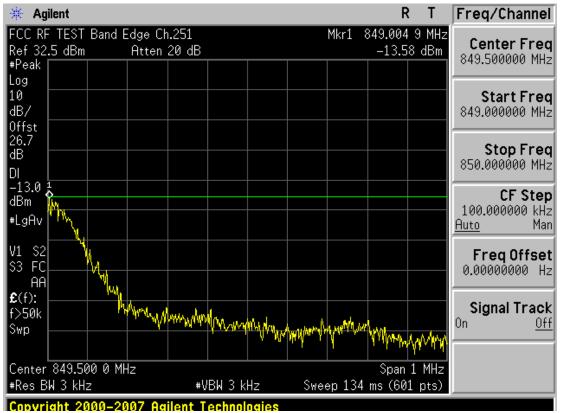


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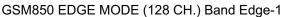
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GSM850 MODE (251 CH.) Band Edge-2



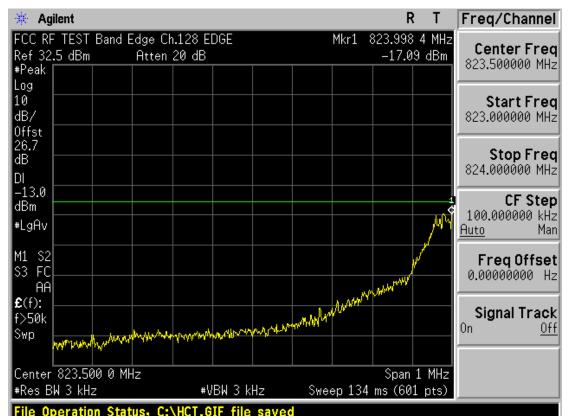


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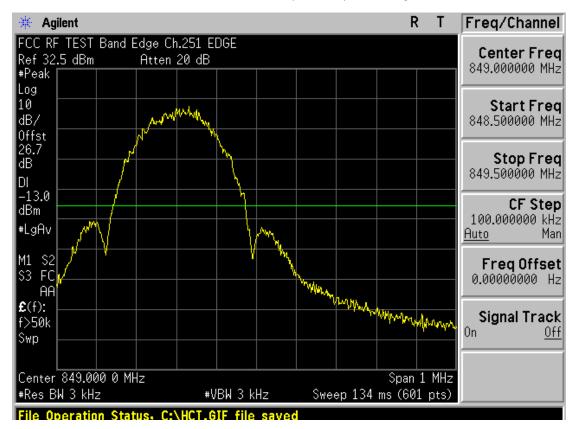
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GSM850 EDGE MODE (128 CH.) Band Edge-2

GSM850 EDGE MODE (251 CH.) Band Edge-1



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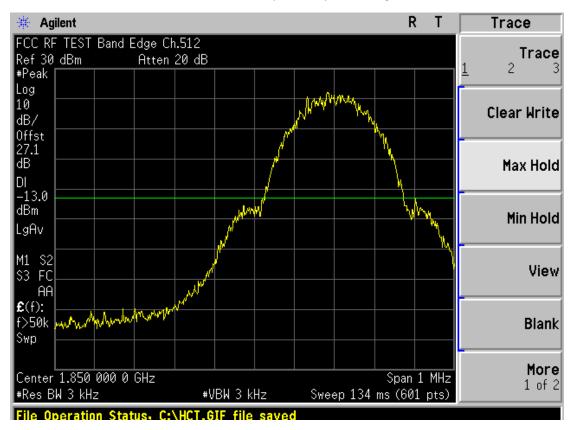
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🔆 Agilent		R	T Freq/Channel
FCC RF TEST Band Edge (Ref 32.5 dBm Atter #Peak	Ch.251 EDGE n 20 dB	Mkr1 849.006 6 —19.40 d	[ontor Lrog
Log 10 dB/			Start Freq 849.000000 MHz
0ffst 26.7 dB DI			Stop Freq 850.000000 MHz
-13.0 dBm 1 #LgAv 0.4			CF Step 100.000000 kHz <u>Auto</u> Man
M1 S2 S3 FC AA			Freq Offset 0.00000000 Hz
£ (f): f>50k Swp	han hala an han han han han han han han han han	when when a way and	Signal Track
Center 849.500 0 MHz #Res BW 3 kHz	#VBW 3 kHz	Span 1 № Sweep 134 ms (601 p	1Hz

GSM850 EDGE MODE (251 CH.) Band Edge-2

GSM1900 MODE (512 CH.) Band Edge-1

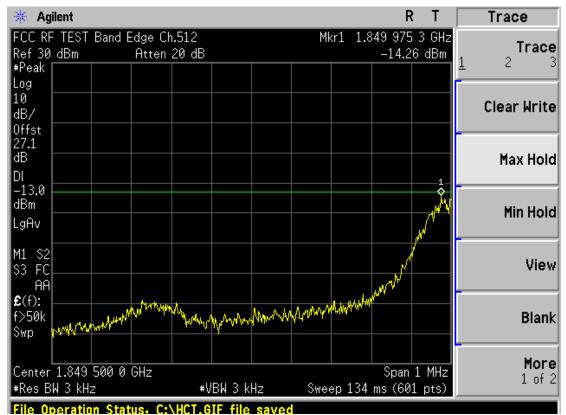


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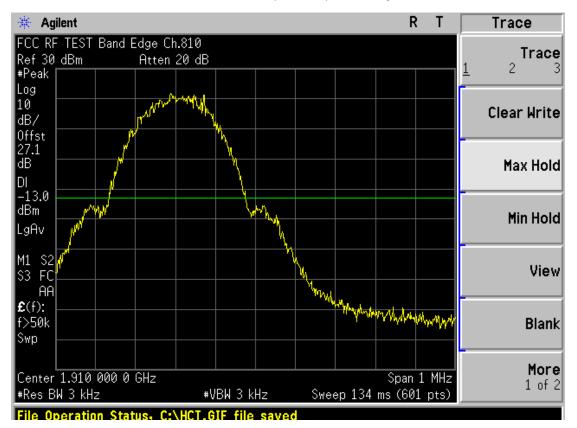
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GSM1900 MODE (512 CH.) Band Edge-2

GSM1900 MODE (810 CH.) Band Edge-1

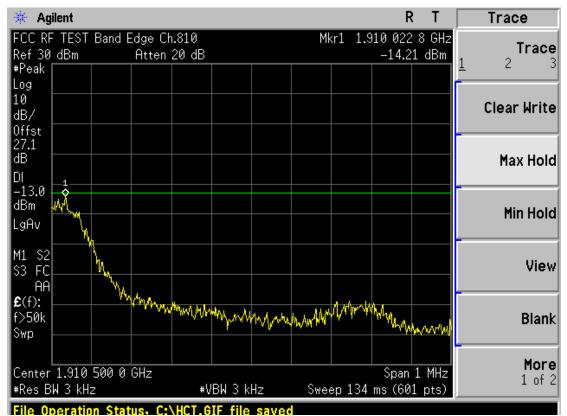


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GSM1900 MODE (810 CH.) Band Edge-2

GSM1900 EDGE MODE (512 CH.) Band Edge-1



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GSM1900 EDGE MODE (512 CH.) Band Edge-2

GSM1900 EDGE MODE (810 CH.) Band Edge-1



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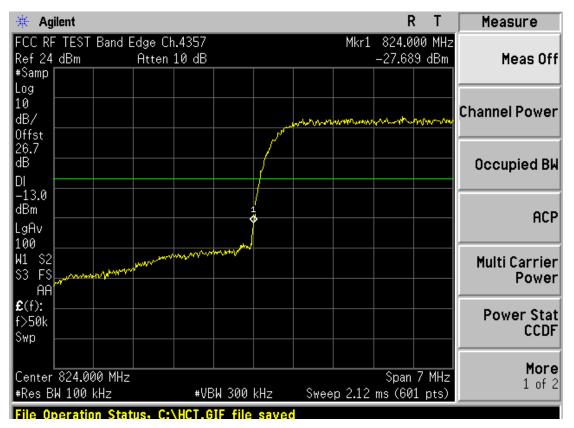
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🔆 Agile	ent								F	₹ T	Freq/Channel
FCC RF Ref 30 d #Peak		Band E	dge Ch Atten		DGE		Mk	r1 1.	910 038 -21.0	3 4 GHz 01 dBm	Center Freq 1.91050000 GHz
Log 10 dB/ Offst											Start Freq 1.91000000 GHz
26.7 dB DI											Stop Freq 1.91100000 GHz
-13.0 dBm #LgAv	1 YU										CF Step 100.000000 kHz <u>Auto</u> Man
M1 S2 S3 FC AA	Ì	M. Martine									FreqOffset 0.00000000 Hz
£ (f): - f>50k Swp -		••••••	-nhan Man	nl _{yyly} ly ⁿ wi	mpulint	·~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	munam	an da	Withman	handersto	Signal Track On <u>Off</u>
Center 1 #Res BW			GHz	#\	BWI 3 k	Hz	Swee	ep 1 <u>34</u>	Span 1 ms (60	1 MHz 1 pts)	
			us. C:Y	HCT.G	IF file	saved					

GSM1900 EDGE MODE (810 CH.) Band Edge-2

WCDMA850 MODE (4357 CH.) Band Edge



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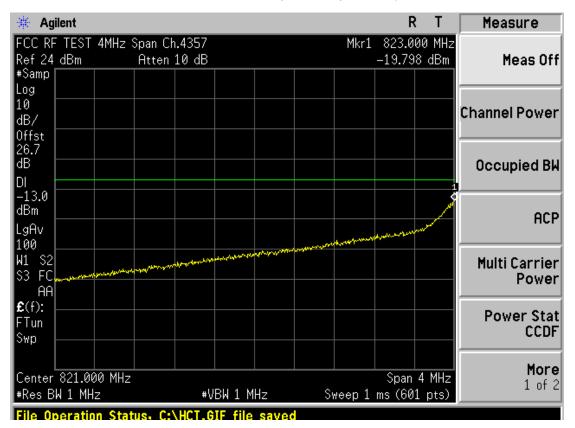
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* Agilent	R T Measure
FCC RF TEST Band Edge Ch.4458 Ref 24 dBm Atten 10 dB #Samp	Mkr1 849.000 MHz -29.426 dBm Meas Of
Log 10 dB/ Manahananananananananananananananananana	Channel Powe
0ffst 26.7 dB DI	Occupied Bl
-13.0 dBm LgAv	ACI
100	Multi Carrie Powe
£ (f): f>50k Swp	Power Sta CCDI
Center 849.000 MHz #Res BW 100 kHz ===================================	Span 7 MHz More Sweep 2.12 ms (601 pts)

WCDMA850 MODE (4458 CH.) Band Edge

WCDMA850 MODE (4357 CH.) 4MHz Span



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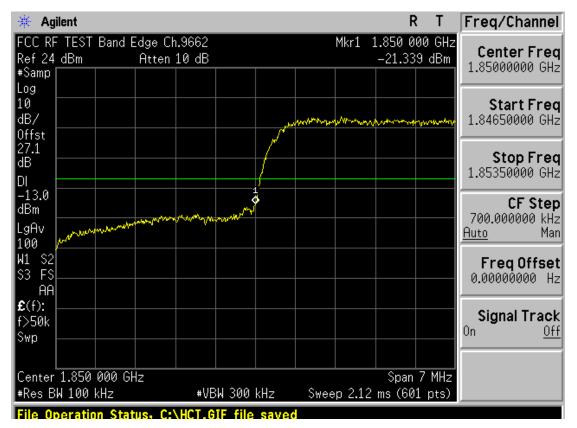
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🔆 Agilent				RT	Measure
FCC RF TEST 4MHz S Ref 24 dBm	òpan Ch.4458 Atten 10 dB		Mkr1	850.013 MHz -17.668 dBm	
#Samp Log 10					
dB/ Offst					Channel Power
26.7 dB					Occupied BW
DI 1 -13.0 dBm					
LgAv 100	and the second	antiperson and the second	14.urm		ACP
W1 S2 S3 FC AA			Hellow and a state of the second	when an a property of the second s	Multi Carrier Power
£(f): FTun Swp					Power Stat CCDF
				Corra 4 MU-	More
Center 852.000 MHz #Res BW 1 MHz	#VBI	√1 MHz	Sweep 1	Span 4 MHz ms (601 pts)	1 of 2

WCDMA850 MODE (4458 CH.) 4MHz Span

WCDMA1900 MODE (9662 CH.) Band Edge



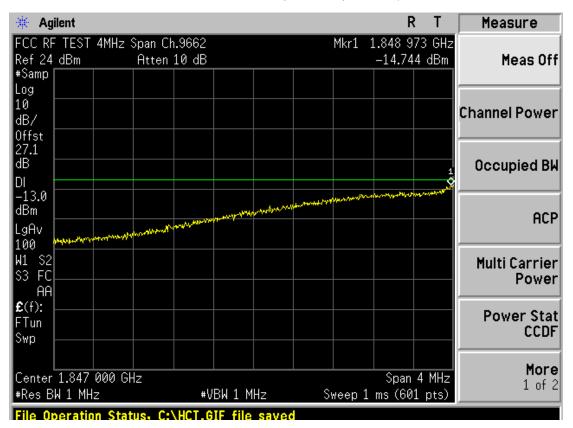
	www.hct.co.kr			
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🔆 Agilent		R T Freq/Channel
FCC RF TEST Band Edge Ch.S Ref 24 dBm Atten 1 #Samp		0 000 GHz 5.735 dBm 1.91000000 GHz
Log 10 dB/ mmunnymmunnymmun	why	Start Freq 1.90650000 GHz
0ffst 27.1 dB DI		Stop Freq 1.91350000 GHz
-13.0 dBm LgAv		CF Step 700.000000 kHz Auto Man
100 W1 S2 S3 FS AAA		Freq Offset 0.00000000 Hz
£(f): f>50k Swp		Signal Track
Center 1.910 000 GHz #Res BW 100 kHz	\$ #VBW 300 kHz Sweep 2.12 ms	pan 7 MHz (601 pts)
File Operation Status, C:\\		

WCDMA1900 MODE (9938 CH.) Band Edge

WCDMA1900 MODE (9662 CH.) 4MHz Span



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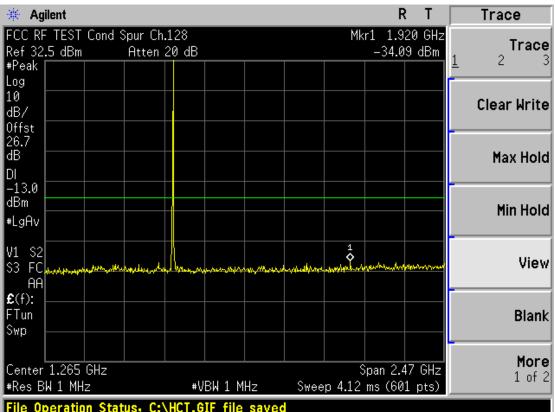
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🔆 Agilent			RT	Measure
FCC RF TEST 4MHz Span C Ref 24 dBm Atten #Samp	h.9938 10 dB		l 013 GHz .727 dBm	Meas Off
Log 10 dB/ Offst				Channel Power
27.1 dB DI ±				Occupied BW
-13.0 dBm LgAv 100	analogo and a state and a state and a state and	ารการสาราร์การสาราราร์การสารารา	and granted a frage	ACP
W1 S2 S3 FC				Multi Carrier Power
£(f): FTun Swp				Power Stat CCDF
Center 1.913 000 GHz #Res BW 1 MHz	#VBW 1 MHz	Sweep 1 ms (an 4 MHz (601 pts)	More 1 of 2

WCDMA1900 MODE (9938 CH.) 4MHz Span

GSM850 MODE (128 CH.) Conducted Spurious Emissions1



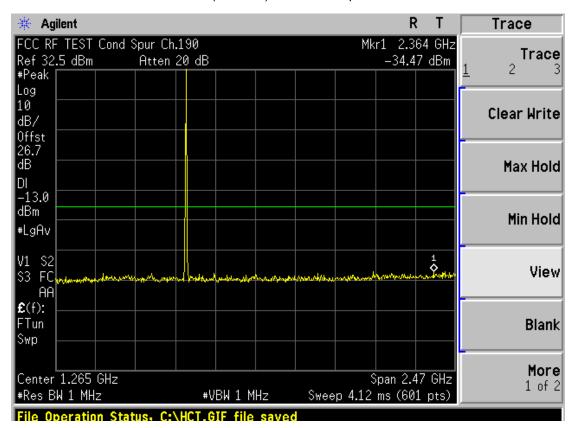
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🔆 Agilent				RT	Trace
FCC RF TEST Cond S Ref 32.5 dBm #Peak	Spur Ch.128 Atten 20 dB		Mkr1	7.412 5 GHz -30.99 dBm	Trace <u>1</u> 2 3
Log 10 dB/ Offst					Clear Write
26.7 dB DI -13.0					Max Hold
dBm #LgAv					Min Hold
V1 S2 S3 FC	Marine Jahren Jahren Marine	an nad dawn	mander for a strand and	len vertragen var bei brageles stragel	View
£(f): FTun Swp					Blank
Center 6.250 0 GHz #Res BW 1 MHz File Operation Stat		BW 1 MHz		Span 7.5 GHz ms (601 pts)	More 1 of 2

GSM850 MODE (128 CH.) Conducted Spurious Emissions2

GSM850 MODE (190 CH.) Conducted Spurious Emissions1



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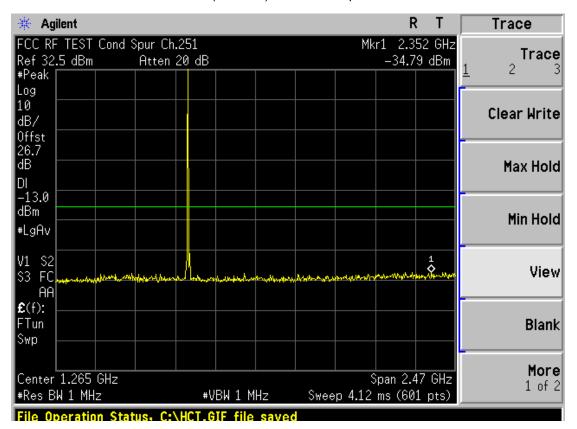
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🔆 Agilent			R	T Trace
FCC RF TEST Cond : Ref 32.5 dBm			Mkr1 7.087 5 —30.87 d	1 1 2 2 2 2
#Peak Log 10 dB/				Clear Write
0ffst 26.7 dB DI				Max Hold
-13.0 dBm #LgAv				Min Hold
M1 S2 S3 FC	and a grad a grad weather a descention of the stree	when whether the management	way and the house of the	www.View
£(f): FTun Swp				Blank
Center 6.250 0 GHz #Res BW 1 MHz	#VBW 1	. MHz Sweep	Span 7.5 (12.52 ms (601 p	

GSM850 MODE (190 CH.) Conducted Spurious Emissions2

GSM850 MODE (251 CH.) Conducted Spurious Emissions1

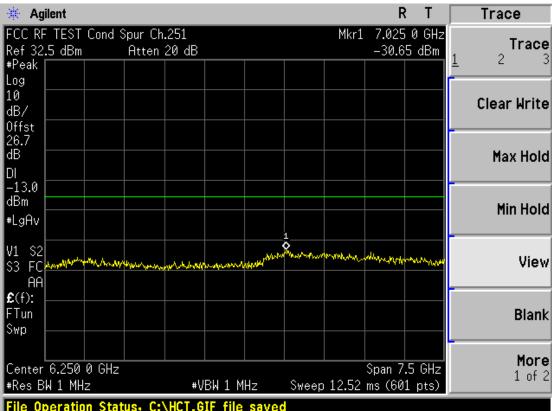


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GSM850 MODE (251 CH.) Conducted Spurious Emissions2

eration Status, L: ALT. DIF file saved

GSM1900 MODE (512 CH.) Conducted Spurious Emissions1

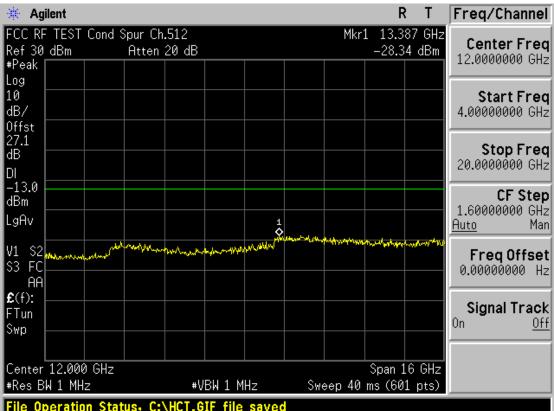
🔆 Agilent				RТ	Freq/Channel
FCC RF TEST Cond S Ref 30 dBm #Peak	pur Ch.512 Atten 20 dB		Mkr1 3. –31.	206 GHz 50 dBm	Center Freq 2.01500000 GHz
Log 10 dB/					Start Freq 30.0000000 MHz
0ffst 27.1 dB DI					Stop Freq 4.00000000 GHz
-13.0 dBm LgAv					CF Step 397.000000 MHz Auto Man
V1 S2 S3 FC	wayer of the Again at from	Juniorantemation	and the second s	mun anala	FreqOffset 0.00000000 Hz
£(f): FTun Swp					Signal Track On <u>Off</u>
Center 2.015 GHz #Res BW 1 MHz	#UBL	1 MHz Si	Span 3 veep 6.64 ms (6	.97 GHz	
Thes DW 1 MHZ			reep 0.04 ms (0	or µ(5)	

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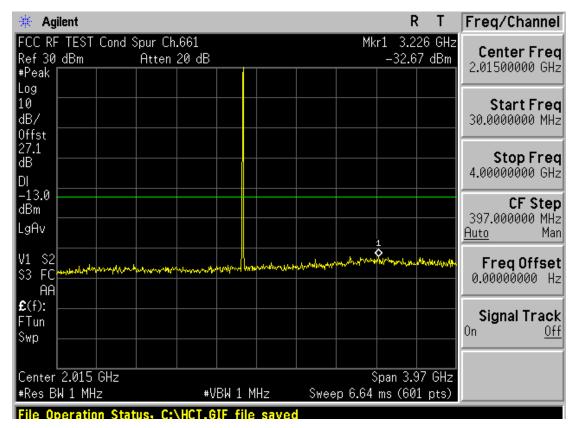




GSM1900 MODE (512 CH.) Conducted Spurious Emissions2

COM1000 MODE (661 CH.) Conducted Sourieus

GSM1900 MODE (661 CH.) Conducted Spurious Emissions1

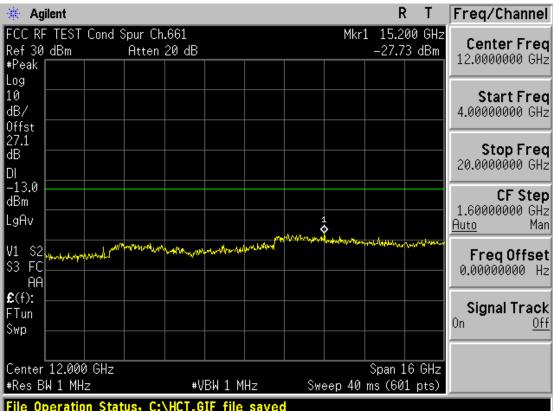


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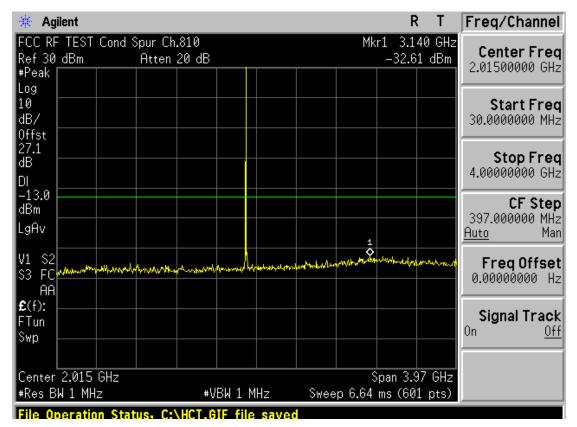
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GSM1900 MODE (661 CH.) Conducted Spurious Emissions2

GSM1900 MODE (810 CH.) Conducted Spurious Emissions1



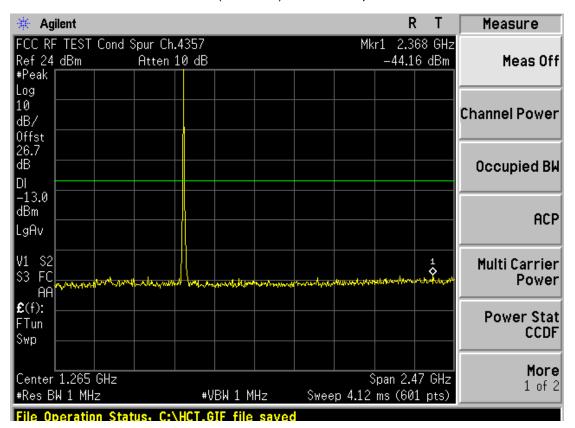
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🔆 Agilent		R	T Freq/Channel
FCC RF TEST Cond Spur (Ref 30 dBm Atte #Peak	Ch.810 n 20 dB	Mkr1 13.520 -28.23 d	[optor Lrog
Log 10 dB/			Start Freq 4.00000000 GHz
0ffst 27.1 dB DI			Stop Freq 20.0000000 GHz
-13.0 dBm LgAv		1	CF Step 1.60000000 GHz <u>Auto</u> Man
V1 S2 S3 FC AA	and such a south of the south o	alena and a sign of the second	Freq Offset 0.00000000 Hz
£(f): FTun Swp			Signal Track
Center 12.000 GHz #Res BW 1 MHz	#VBW 1 MHz	Span 16 Sweep 40 ms (601 g	

GSM1900 MODE (810 CH.) Conducted Spurious Emissions2

WCDMA850 MODE (4357 CH.) Conducted Spurious Emissions1



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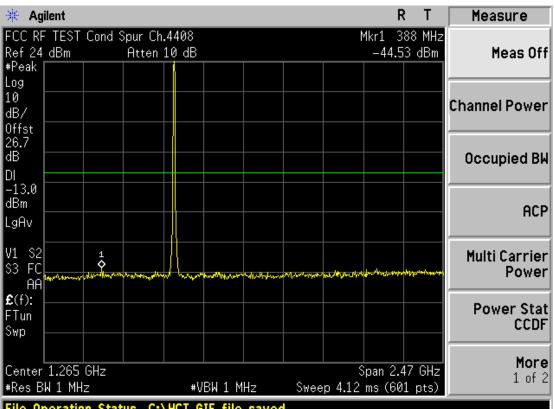
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🔆 Agilent				R	T Measure
FCC RF TEST Cond Ref 24 dBm #Peak	Spur Ch.4357 Atten 10 dB		Mkr1	7.012 5 -40.80 (
Log 10 dB/					Channel Power
0ffst 26.7 dB DI -13.0					Occupied Bk
dBm LgAv					ACP
V1 S2 S3 FC	Whatamana an Incasa subac	and a strategy and the state of	Wharryhannak	wheeppelanes	Multi Carrier Power
£(f): FTun Swp					Power Stat CCDF
Center 6.250 0 GHz #Res BW 1 MHz		W 1 MHz Sw	s eep 12.52 m) pan 7.5 ns (601 p	
File Operation Sta	tus, C:\HCT.GI	file saved			

WCDMA850 MODE (4357 CH.) Conducted Spurious Emissions2

C:\HCT.GIF file saved WCDMA850 MODE (4408 CH.) Conducted Spurious Emissions1



File Operation Status, C:\HCT.GIF file saved

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🔆 Agilent				R	Т	Measure
FCC RF TEST Cond S			Mkr1			N
Ref 24 dBm #Peak	Atten 10 dB			-40.99	dBm	Meas Off
Log						
10 dB/						Channel Power
Offst 26.7						
dB						Occupied BW
DI						•
-13.0 dBm						
LgAv						ACP
V1 S2 S3 FC	n floraflerafer af de le de la segura	approximation of the providence of the second se	1 Mapondown the second stand	dolardet sad faren.	erren f	Multi Carrier Power
£ (f):						Power Stat
FTun						CCDF
Swp						
Center 6.250 0 GHz				Span 7.5		More 1 of 2
#Res BW 1 MHz	#V	BW 1 MHz	Sweep 12.52	ms (601	pts)	1012

WCDMA850 MODE (4408 CH.) Conducted Spurious Emissions2

File Operation Status, C:\HCT.GIF file saved

WCDMA850 MODE (4458 CH.) Conducted Spurious Emissions1

🔆 Agilent		R	T Measure
#Peak	Ch.4458 n 10 dB	Mkr1 2.117 -44.71 d	
Log 10 dB/ Offst			Channel Power
26.7 dB DI			Occupied BW
-13.0 dBm LgAv			ACP
V1 S2 S3 FC AA	meet hard there and the	and a the other and the and a the approximation of	Multi Carrier Power
£(f): FTun Swp			Power Stat CCDF
Center 1.265 GHz #Res BW 1 MHz	#VBW 1 MHz	Span 2.47 6 Sweep 4.12 ms (601 p	
File Operation Status, C	:\HCT.GIF file sav	ed	

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🔆 Agilent					R	Т	Measure
FCC RF TEST Cond Sp				Mkr1	7.112		H 0((
Ref 24 dBm f #Peak	Atten 10 dB				-41.11	dBm	Meas Off
Log							
10							Channel Power
dB/ Offst							
26.7							
dB							Occupied BW
DI							
dBm							000
LgAv							ACP
			1				
V1 S2 S3 FC			Jown Munna	the shares	Marrie and M	white is	Multi Carrier
AA AA	nandraat dig kalenda an	all an up the factor of the address of					Power
£ (f):							Power Stat
FTun							CCDF
Swp							
							More
Center 6.250 0 GHz #Res BW 1 MHz	#U	BW 1 MHz	Sucon	12.52 r	Span 7.5		1 of 2
File Operation Statu			•	12.32	113 (001	pts)	

WCDMA850 MODE (4458 CH.) Conducted Spurious Emissions2

File Operation Status, C:\HCT.GIF file saved WCDMA1900 MODE (9662 CH.) Conducted Spurious Emissions1

R Т Freq/Channel 🔆 Agilent Mkr1 3.702 GHz FCC RF TEST Cond Spur Ch.9662 Center Freq Ref 24 dBm Atten 10 dB -33.64 dBm 2.01500000 GHz #Peak Log 10 Start Freq dB/ 30.0000000 MHz Offst 27.1 Stop Freq dB 4.00000000 GHz DI -13.0 **CF** Step dBm 397.000000 MHz #LgAv 1 **0** Auto Man V1 S2 S3 FC Freq Offset 0.00000000 Hz Vin. AA **£**(f): Signal Track FTun 0n <u> 0ff</u> Swp Span 3.97 GHz Center 2.015 GHz Sweep 6.64 ms (601 pts) #Res BW 1 MHz #VBW 1 MHz

File Operation Status, C:\HCT.GIF file saved

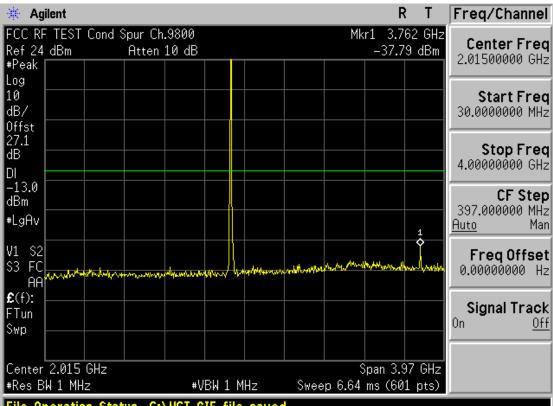
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🔆 Ag	ilent								R	T	Freq/Channel
Ref 24 #Peak		Cond S	òpur Ch Atten					Mkr1		67 GHz 1 dBm	Center Freq 12.0000000 GHz
Log 10 dB/ Offst											Start Freq 4.00000000 GHz
27.1 dB DI											Stop Freq 20.0000000 GHz
-13.0 dBm #LgAv							1				CF Step 1.60000000 GHz <u>Auto</u> Man
V1 S2 S3 FC AA		mond	han to the state of the	~~~~	an a	y ng kang har	, Žipter ser	un Mhritige	~~ ^w ww.w	ushy/14, 19, beaunger	FreqOffset 0.00000000 Hz
€(f): FTun Swp											Signal Track On <u>Off</u>
Center #Res B	W 1 MH	z			BW 1 M	Hz		eep 40		.6 GHz 1 pts)	

WCDMA1900 MODE (9662 CH.) Conducted Spurious Emissions2

WCDMA1900 MODE (9800 CH.) Conducted Spurious Emissions1



File Operation Status, C:\HCT.GIF file saved

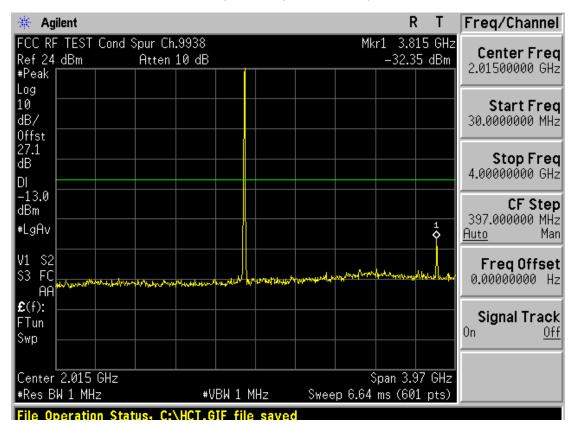
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🔆 Ag	ilent								F	: T	Freq/Channel
FCC RF Ref 24 #Peak		Cond S	òpur Ch Atten					Mkr1		60 GHz 8 dBm	Center Freq 12.0000000 GHz
Log 10 dB/ Offst											Start Freq 4.00000000 GHz
27.1 dB DI											Stop Freq 20.0000000 GHz
−13.0 dBm #LgAv							1				CF Step 1.6000000 GHz <u>Auto</u> Man
V1 S2 S3 FC AA		har an	nt al Mariana	man	Nurrh	mm	and how	NAN MARCHING	weet my terrange	hannanahan	FreqOffset 0.00000000 Hz
£ (f): FTun Swp											Signal Track On <u>Off</u>
Center #Res B	W 1 MH	z			BW 1 M	Hz		eep 40		.6 GHz 1 pts)	

WCDMA1900 MODE (9800 CH.) Conducted Spurious Emissions2

WCDMA1900 MODE (9938 CH.) Conducted Spurious Emissions1

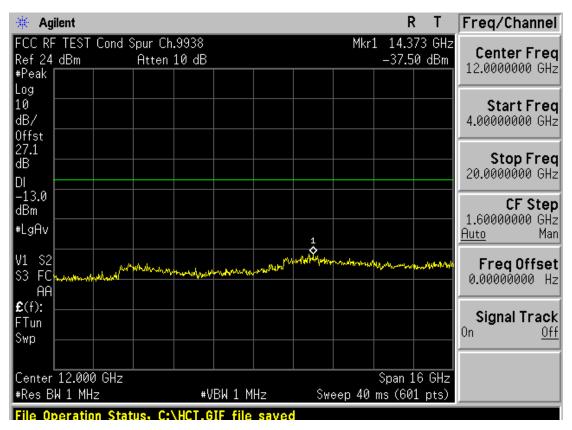


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WCDMA1900 MODE (9938 CH.) Conducted Spurious Emissions2

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