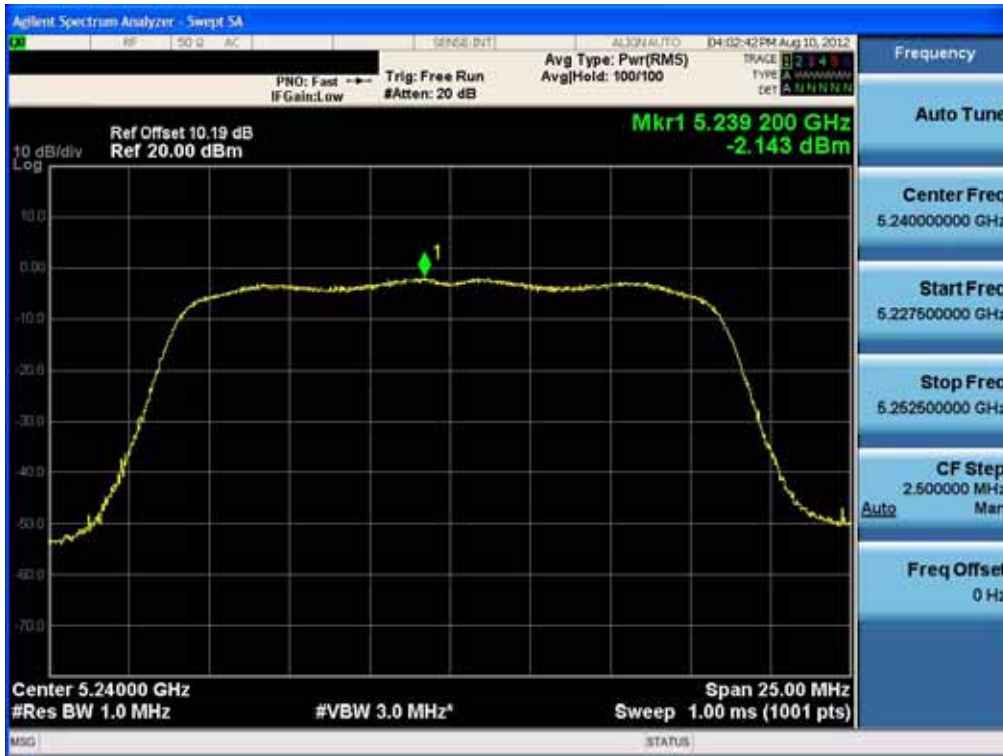


Power Spectral Density (802.11a-CH 48)



Power Spectral Density (802.11a-CH 52)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Power Spectral Density (802.11a-CH 60)



Power Spectral Density (802.11a-CH 64)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Power Spectral Density (802.11a-CH 100)

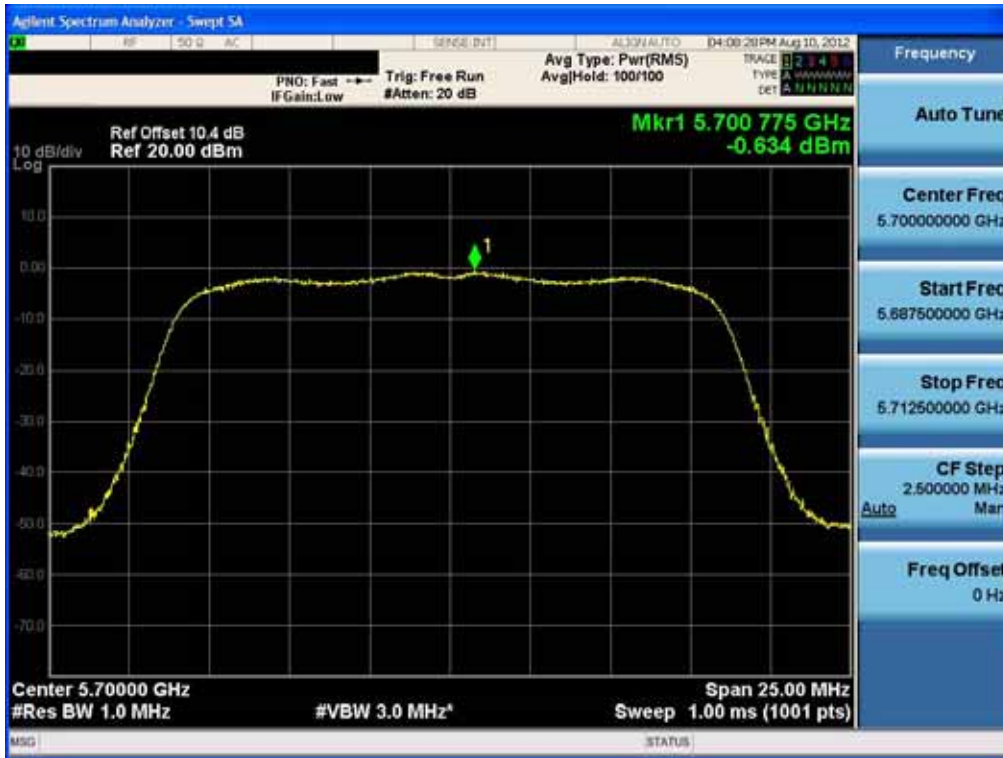


Power Spectral Density (802.11a-CH 116)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Power Spectral Density (802.11a-CH 140)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Power Spectral Density (802.11n-CH 36)



Power Spectral Density (802.11n-CH 40)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Power Spectral Density (802.11n-CH 48)

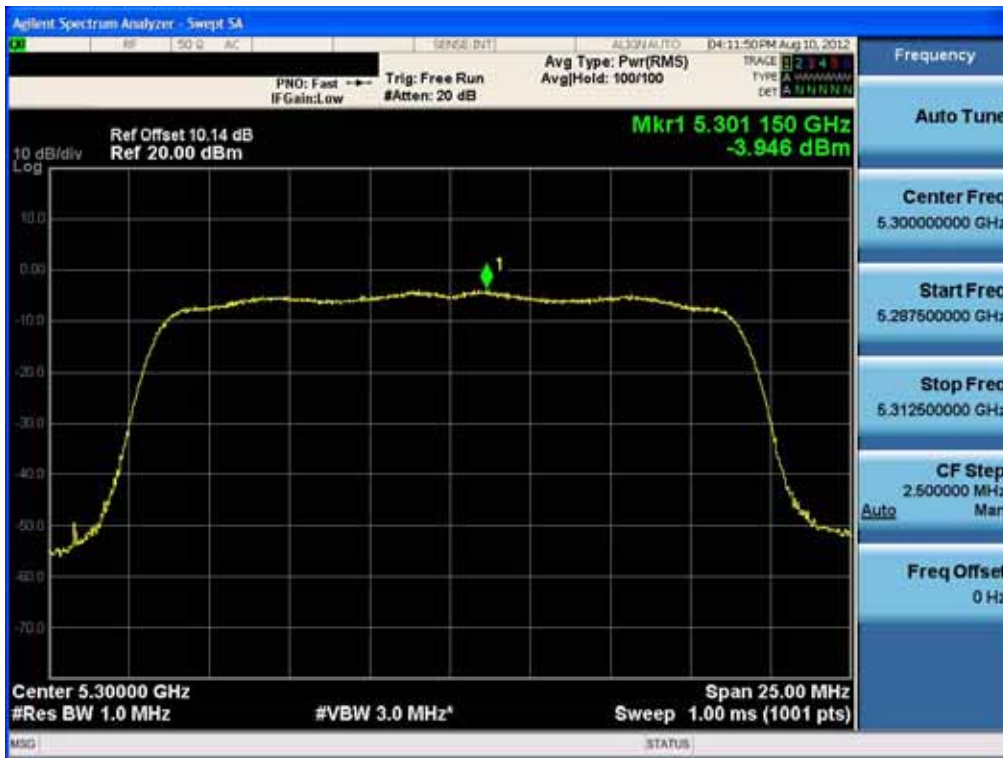


Power Spectral Density (802.11n-CH 52)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Power Spectral Density (802.11n-CH 60)

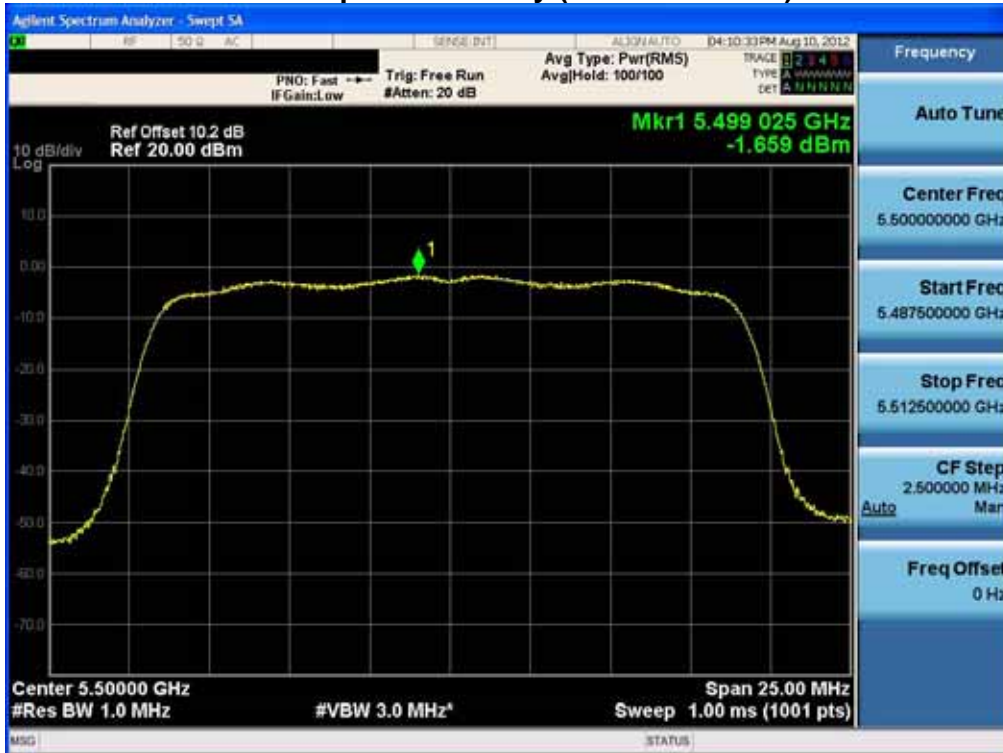


Power Spectral Density (802.11n-CH 64)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Power Spectral Density (802.11n-CH 100)



Power Spectral Density (802.11n-CH 116)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Power Spectral Density (802.11n-CH 140)

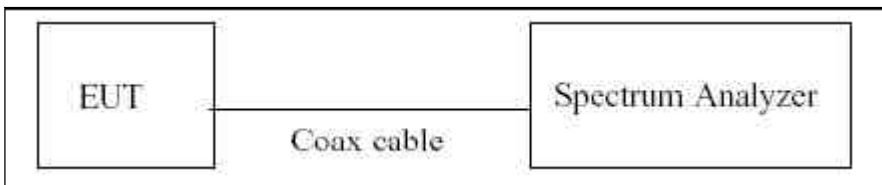


FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

8.4 PEAK EXCURSION RATIO

The spectrum analyzer was connected to the antenna terminal while the EUT was operating in the continuous transmission mode at the appropriate center frequencies. The largest permissible difference between the modulation envelope(measured using a peak hold function) and the maximum conducted output power 13 dB/MHz.

■ TEST CONFIGURATION



■ TEST PROCEDURE

We tested according to KDB 789033(issued 03/05/2012).

The spectrum analyzer is set to :

1. Span = Set the span to view the entire emission bandwidth.
2. RBW = 1 MHz
3. VBW = 3 MHz
4. Sweep = Auto couple
5. Detector Mode = Peak
6. Trace Mode = Max hold
7. Use the procedure to measure the PPSD
8. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

Note :

1. The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.
2. Spectrum offset = Attenuator loss + Cable loss
3. We apply to the offset in the 5.2 GHz, 5.3 GHz and 5.6 GHz range that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table.

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Band	Frequency(MHz)	Loss(dB)
UNII 1	5180	10.26
	5200	10.18
	5240	10.19
UNII 2	5260	10.18
	5300	10.14
	5320	10.09
UNII 3	5500	10.20
	5580	10.24
	5700	10.40

(Actual value of loss for the attenuator and cable combination)

RESULT PLOTS

Peak Excursion Ratio (802.11a-CH 36)



Peak Excursion Ratio (802.11a-CH 40)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Peak Excursion Ratio (802.11a-CH 48)



Peak Excursion Ratio (802.11a-CH 52)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Peak Excursion Ratio (802.11a-CH 60)



Peak Excursion Ratio (802.11a-CH 64)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Peak Excursion Ratio (802.11a-CH 100)



Peak Excursion Ratio (802.11a-CH 116)



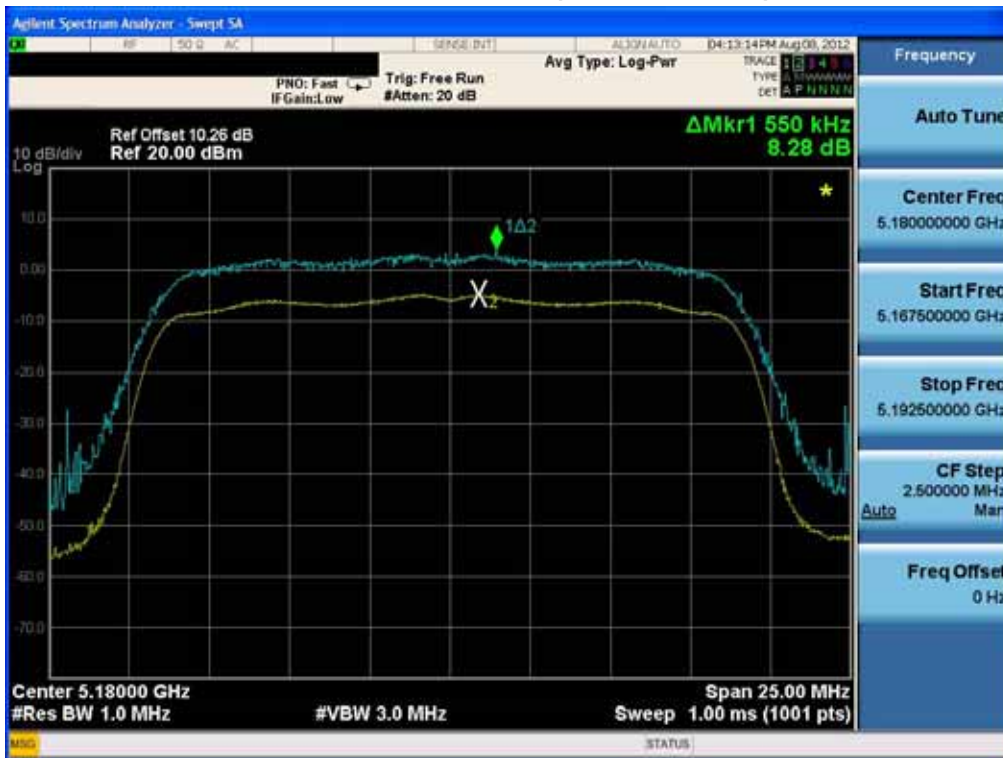
FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Peak Excursion Ratio (802.11a-CH 140)

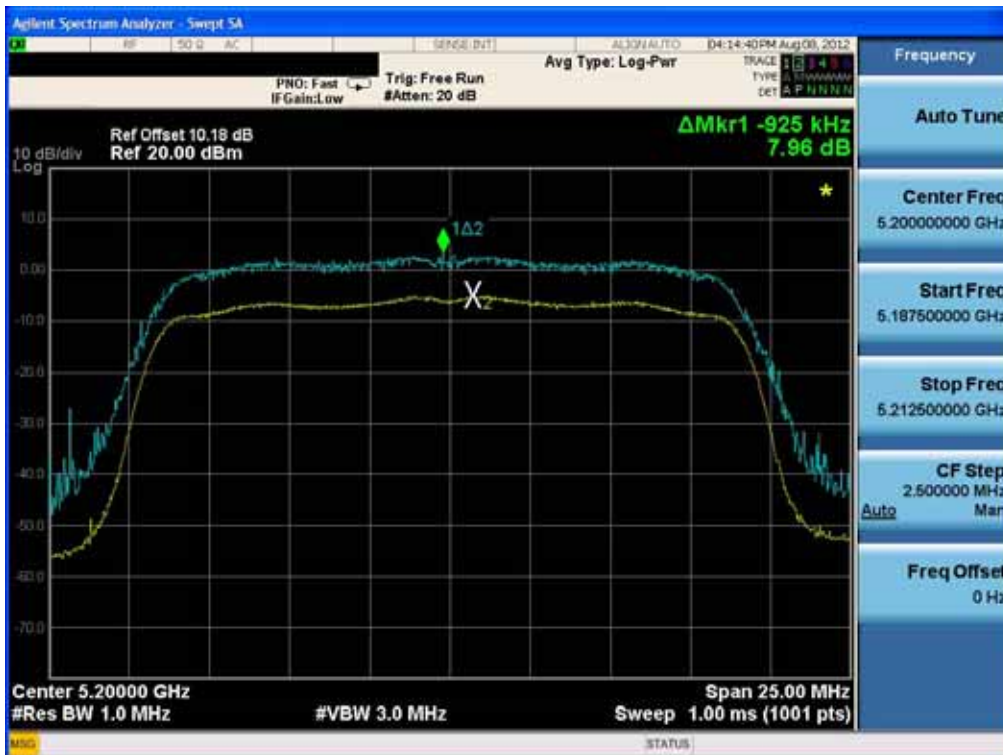


FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Peak Excursion Ratio (802.11n-CH 36)

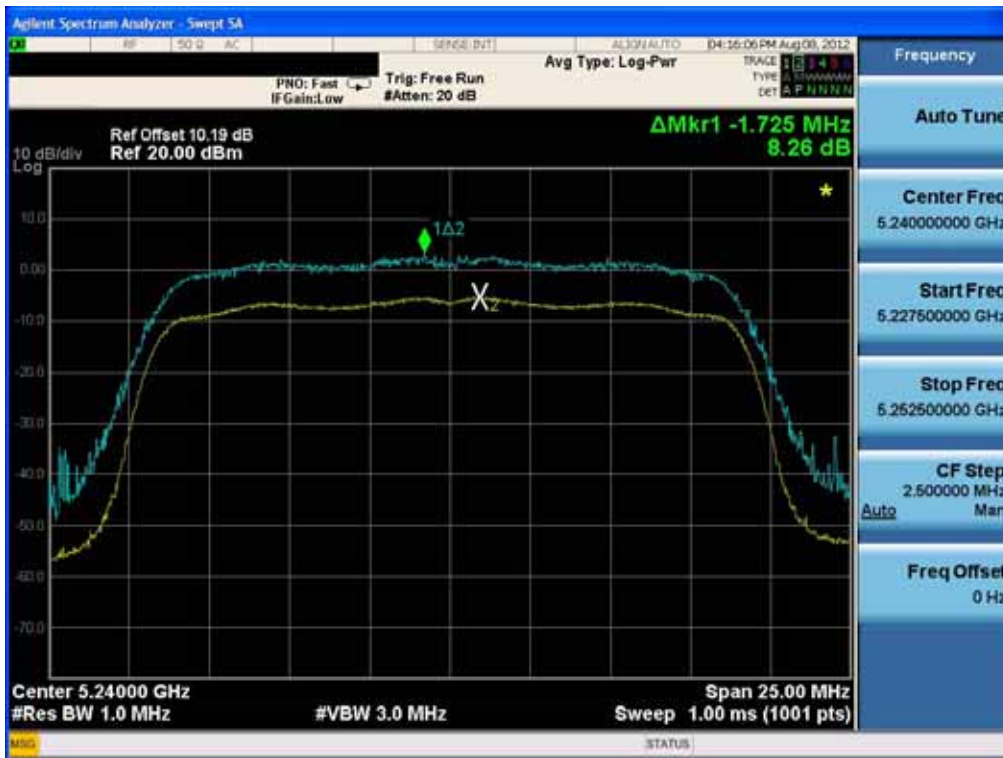


Peak Excursion Ratio (802.11n-CH 40)

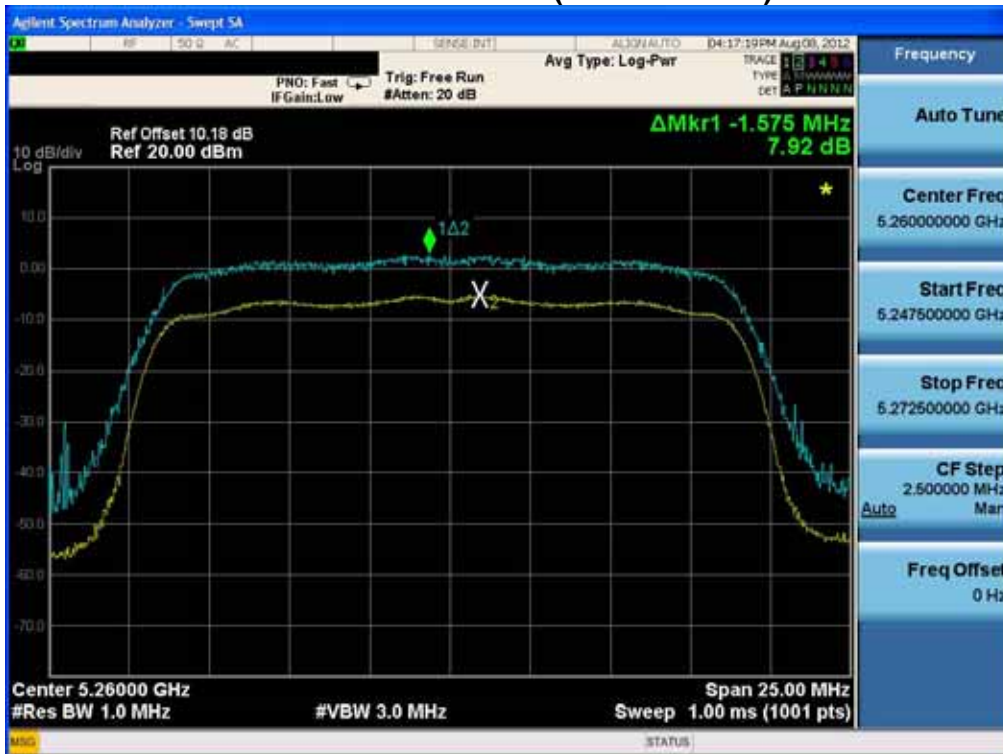


FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Peak Excursion Ratio (802.11n-CH 48)

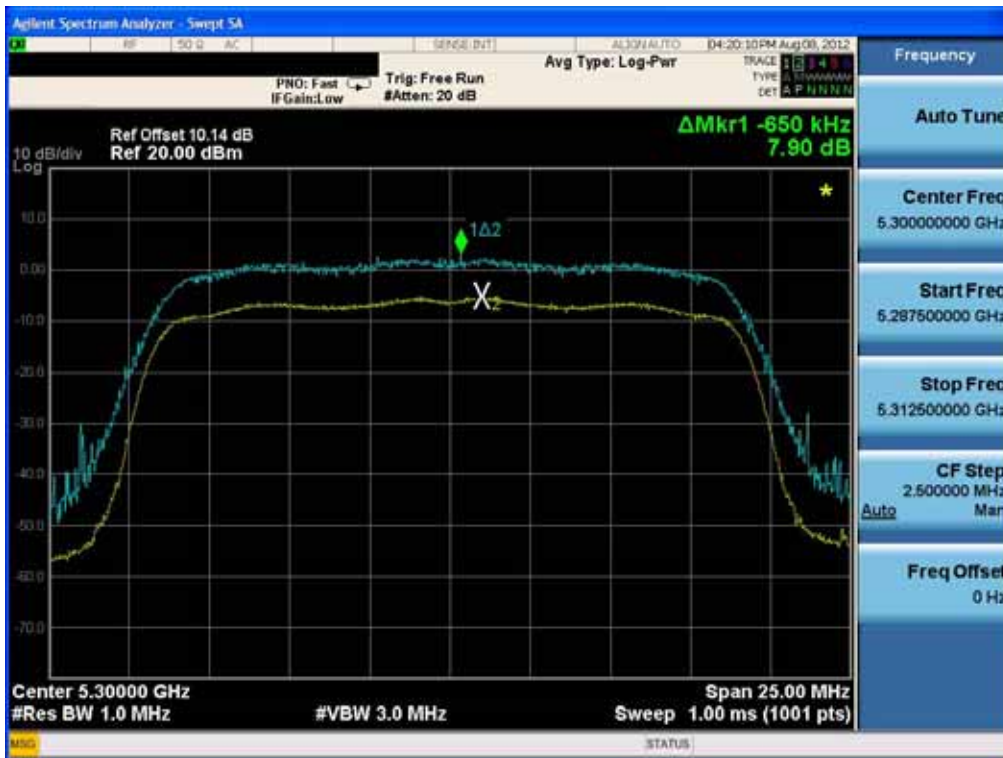


Peak Excursion Ratio (802.11n-CH 52)

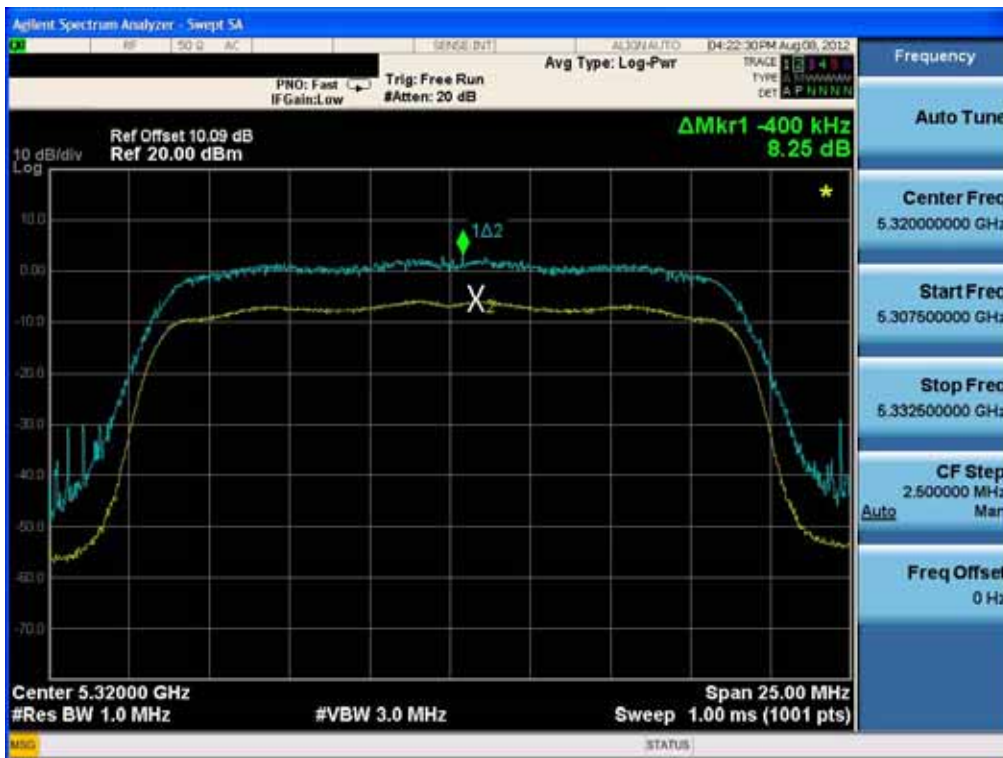


FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Peak Excursion Ratio (802.11n-CH 60)



Peak Excursion Ratio (802.11n-CH 64)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Peak Excursion Ratio (802.11n-CH 100)



Peak Excursion Ratio (802.11n-CH 116)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Peak Excursion Ratio (802.11n-CH 140)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

8.5 FREQUENCY STABILITY.

The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -30 °C and 50 °C. The temperature was incremented by 10 °C intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.

OPERATING FREQUENCY: 5,200,000,000 Hz
 CHANNEL: 40
 REFERENCE VOLTAGE: 3.7 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	3.7	+20(Ref)	5 199 998	-1.885
100%		-30	5 200 002	1.921
100%		-20	5 199 998	-1.726
100%		-10	5 199 998	-1.659
100%		0	5 199 998	-2.203
100%		+10	5 200 002	2.046
100%		+30	5 199 998	-2.184
100%		+40	5 200 002	1.795
100%		+50	5 199 998	-2.109
115%		4.3	+20	5 200 002
Batt. Endpoint	3.3	+20	5 200 002	1.875



OPERATING FREQUENCY: 5,300,000,000 Hz
 CHANNEL: 60
 REFERENCE VOLTAGE: 3.7 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	3.7	+20(Ref)	5 299 997	-2.830
100%		-30	5 299 998	-2.495
100%		-20	5 300 002	2.264
100%		-10	5 300 002	2.010
100%		0	5 299 998	-2.115
100%		+10	5 299 998	-1.972
100%		+30	5 300 002	1.752
100%		+40	5 300 002	2.375
100%		+50	5 299 997	-2.549
115%		4.3	+20	5 300 003
Batt. Endpoint	3.3	+20	5 300 003	2.672

OPERATING FREQUENCY: 5,580,000,000 Hz
 CHANNEL: 116
 REFERENCE VOLTAGE: 3.7 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	3.7	+20(Ref)	5 579 997	-3.230
100%		-30	5 579 997	-3.105
100%		-20	5 580 003	2.715
100%		-10	5 580 003	3.142
100%		0	5 580 003	2.709
100%		+10	5 580 003	2.562
100%		+30	5 579 997	-3.140
100%		+40	5 579 997	-2.920
100%		+50	5 579 996	-3.628
115%		4.3	+20	5 580 003
Batt. Endpoint	3.3	+20	5 579 997	-3.412

8.6 RADIATED MEASUREMENT.

8.6.1 RADIATED SPURIOUS EMISSIONS.

Test Requirements and limit, §15.205, §15.209, §15.407

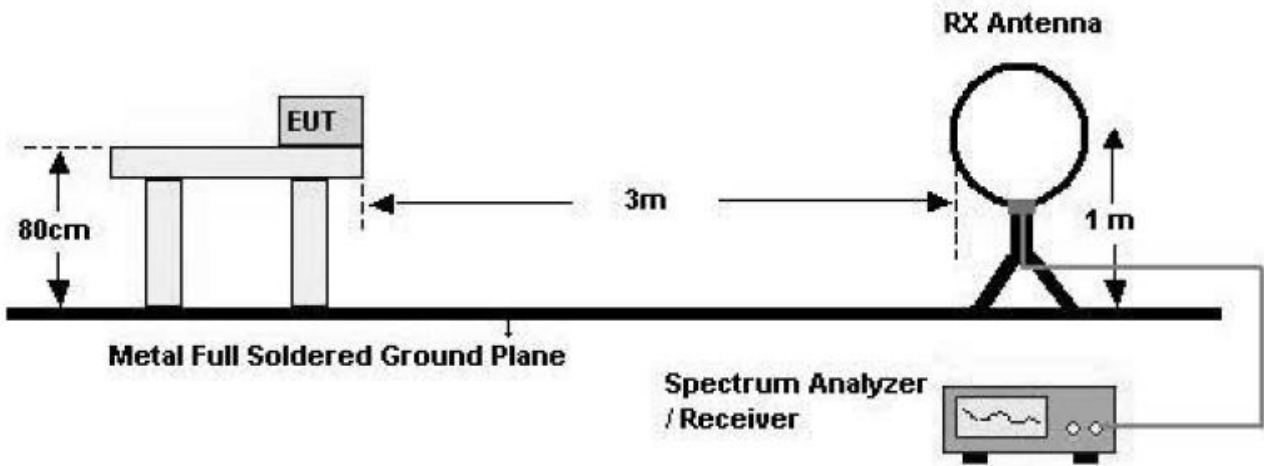
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

■ §15.407, KDB 789033

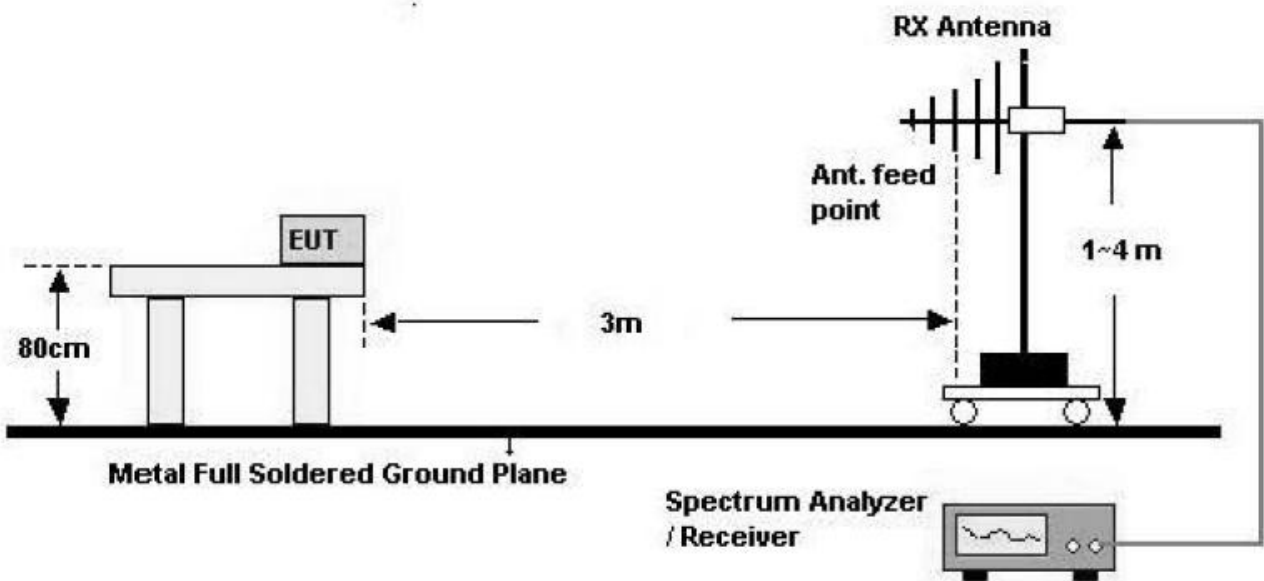
All harmonics that do not lie in a restricted band are subject to a peak limit of -27 dBm/MHz. At a distance of 3 meters the field strength limit in dBµV/m can be determined by adding a “conversion” factor of 95.2 dB to the EIRP limit of -27 dBm/MHz to obtain the limit for out of band spurious emissions of 68.2 dBµV/m.

Test Configuration

Below 30 MHz

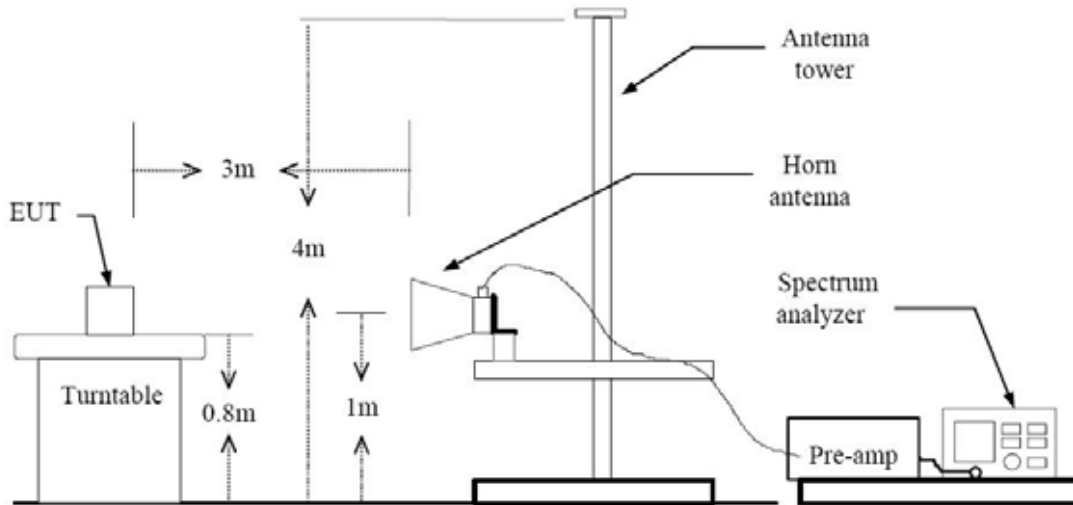


30 MHz - 1 GHz



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Above 1 GHz



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8 m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3 m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB



TEST RESULTS

9 kHz – 30MHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dB μ V	dB /m	dB	(H/V)	dB μ V/m	dB μ V/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 9 kHz to the 30MHz.
2. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
3. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)
4. Limit line = specific Limits (dBuV) + Distance extrapolation factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB



TEST RESULTS

Below 1 GHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dB μ V	dB /m	dB	(H/V)	dB μ V/m	dB μ V/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 30 MHz to the 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Above 1 GHz

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10360	55.60	9.33	V	64.93	68.2	3.27	PK
10360	39.83	9.33	V	49.16	54.0	4.84	AV
15540	44.67	14.61	V	59.28	74.0	14.72	PK
15540	30.73	14.61	V	45.34	54.0	8.66	AV
10360	55.27	9.33	H	64.60	68.2	3.60	PK
10360	38.80	9.33	H	48.13	54.0	5.87	AV
15540	44.27	14.61	H	58.88	74.0	15.12	PK
15540	30.78	14.61	H	45.39	54.0	8.61	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. Spectrum setting:
 - a. Peak Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 3 MHz.
 - b. AV Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 10 Hz.
6. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
7. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.



Band : UNII 1
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5200 MHz
 Channel No. 40 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10400	53.64	10.13	V	63.77	68.2	4.43	PK
10400	38.41	10.13	V	48.54	54.0	5.46	AV
15600	44.48	14.60	V	59.08	74.0	14.92	PK
15600	30.94	14.60	V	45.54	54.0	8.46	AV
10400	53.67	10.13	H	63.80	68.2	4.40	PK
10400	37.13	10.13	H	47.26	54.0	6.74	AV
15600	44.51	14.60	H	59.11	74.0	14.89	PK
15600	30.96	14.60	H	45.56	54.0	8.44	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. Spectrum setting:
 - a. Peak Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 3 MHz.
 - b. AV Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 10 Hz.
6. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
7. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

FCC PT.15.247 TEST REPORT		FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC		FCC ID: ZNFP895QB

Band : UNII 1
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5240 MHz
 Channel No. 48 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10480	52.86	10.20	V	63.06	68.2	5.14	PK
10480	36.42	10.20	V	46.62	54.0	7.38	AV
15720	45.75	13.47	V	59.22	74.0	14.78	PK
15720	32.15	13.47	V	45.62	54.0	8.38	AV
10480	52.84	10.20	H	63.04	68.2	5.16	PK
10480	36.13	10.20	H	46.33	54.0	7.67	AV
15720	45.57	13.47	H	59.04	74.0	14.96	PK
15720	32.14	13.47	H	45.61	54.0	8.39	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (i.e.: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. Spectrum setting:
 - a. Peak Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 3 MHz.
 - b. AV Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 10 Hz.
6. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
7. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5260 MHz
Channel No.	52 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10520	52.15	10.38	V	62.53	68.2	5.67	PK
10520	35.49	10.38	V	45.87	54.0	8.13	AV
15780	45.58	14.38	V	59.96	74.0	14.04	PK
15780	31.98	14.38	V	46.36	54.0	7.64	AV
10520	52.91	10.38	H	63.29	68.2	4.91	PK
10520	35.91	10.38	H	46.29	54.0	7.71	AV
15780	45.07	14.38	H	59.45	74.0	14.55	PK
15780	31.99	14.38	H	46.37	54.0	7.63	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. Spectrum setting:
 - a. Peak Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 3 MHz.
 - b. AV Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 10 Hz.
6. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
7. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band : UNII 2
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5300 MHz
 Channel No. 60 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10600	48.50	10.39	V	58.89	68.2	9.31	PK
10600	31.93	10.39	V	42.32	54.0	11.68	AV
15900	43.83	14.00	V	57.83	74.0	16.17	PK
15900	30.47	14.00	V	44.47	54.0	9.53	AV
10600	49.83	10.39	H	60.22	68.2	7.98	PK
10600	33.67	10.39	H	44.06	54.0	9.94	AV
15900	43.97	14.00	H	57.97	74.0	16.03	PK
15900	30.46	14.00	H	44.46	54.0	9.54	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. Spectrum setting:
 - a. Peak Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 3 MHz.
 - b. AV Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 10 Hz.
6. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
7. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band : UNII 2
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5320 MHz
 Channel No. 64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10640	47.16	10.50	V	57.66	74	16.34	PK
10640	31.59	10.50	V	42.09	54	11.91	AV
15960	43.90	14.27	V	58.17	74	15.83	PK
15960	30.20	14.27	V	44.47	54	9.53	AV
10640	49.82	10.50	H	60.32	74	13.68	PK
10640	33.21	10.50	H	43.71	54	10.29	AV
15960	43.21	14.27	H	57.48	74	16.52	PK
15960	30.22	14.27	H	44.49	54	9.51	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. Spectrum setting:
 - a. Peak Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 3 MHz.
 - b. AV Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 10 Hz.
6. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
7. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11000	44.07	11.28	V	55.35	74.0	18.65	PK
11000	29.29	11.28	V	40.57	54.0	13.43	AV
16500	45.38	14.19	V	59.57	68.2	8.63	PK
16500	31.55	14.19	V	45.74	54.0	8.26	AV
11000	48.10	11.28	H	59.38	74.0	14.62	PK
11000	31.56	11.28	H	42.84	54.0	11.16	AV
16500	45.69	14.19	H	59.88	68.2	8.32	PK
16500	31.53	14.19	H	45.72	54.0	8.28	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. Spectrum setting:
 - a. Peak Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 3 MHz.
 - b. AV Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 10 Hz.
6. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
7. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.



Band : UNII 3
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5580 MHz
 Channel No. 116 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11160	40.63	11.10	V	51.73	74.0	22.27	PK
11160	26.55	11.10	V	37.65	54.0	16.35	AV
16740	44.86	15.70	V	60.56	68.2	7.64	PK
16740	31.46	15.70	V	47.16	54.0	6.84	AV
11160	45.13	11.10	H	56.23	74.0	17.77	PK
11160	28.48	11.10	H	39.58	54.0	14.42	AV
16740	44.86	15.70	H	60.56	68.2	7.64	PK
16740	31.49	15.70	H	47.19	54.0	6.81	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. Spectrum setting:
 - a. Peak Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 3 MHz.
 - b. AV Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 10 Hz.
6. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
7. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

FCC PT.15.247 TEST REPORT		FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC		FCC ID: ZNFP895QB

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5700 MHz
Channel No.	140 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11400	37.37	10.97	V	48.34	74.0	25.66	PK
11400	25.00	10.97	V	35.97	54.0	18.03	AV
17100	44.31	17.82	V	62.13	68.2	6.07	PK
17100	31.30	17.82	V	49.12	54.0	4.88	AV
11400	40.49	10.97	H	51.46	74.0	22.54	PK
11400	25.98	10.97	H	36.95	54.0	17.05	AV
17100	44.62	17.82	H	62.44	68.2	5.76	PK
17100	31.28	17.82	H	49.10	54.0	4.90	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. Spectrum setting:
 - a. Peak Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 3 MHz.
 - b. AV Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 10 Hz.
6. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
7. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

8.6.2 RADIATED RESTRICTED BAND EDGE MEASUREMENTS

Test Requirements and limit, §15.247(d) §15.205, §15.209

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (See section 15.205(c)).

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5150	61.70	4.18	H	65.88	74.0	8.12	PK
5150	38.38	4.18	H	42.56	54.0	11.44	AV
5150	55.95	4.18	V	60.13	74.0	13.87	PK
5150	37.79	4.18	V	41.97	54.0	12.03	AV

Band : UNII 2
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5320 MHz
 Channel No. 64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5350	54.69	4.80	H	59.49	74.0	14.51	PK
5350	37.07	4.80	H	41.87	54.0	12.13	AV
5350	55.32	4.80	V	60.12	74.0	13.88	PK
5350	37.04	4.80	V	41.84	54.0	12.16	AV

Band : UNII 3
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5500 MHz
 Channel No. 100 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5460	51.26	5.04	H	56.30	68.2	11.90	PK
5460	37.11	5.04	H	42.15	54.0	11.85	AV
5460	51.34	5.04	V	56.38	68.2	11.82	PK
5460	37.25	5.04	V	42.29	54.0	11.71	AV

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + ATT
2. Spectrum setting:
 - a. Peak Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 3 MHz.
 - b. AV Setting 1 GHz – 40 GHz, RBW = 1 MHz, VBW = 10 Hz.
3. We have done 802.11a/n mode test. . Worst case of EUT is 6 Mbps in 802.11a.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

8.7 POWERLINE CONDUCTED EMISSIONS

Test Requirements and limit, §15.207

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.
5. We are performed the AC Power Line Conducted Emission test for 6 Mbps, Ch.100 and 802.11a mode in UNII 3. Because 802.11a mode in UNII 3 is worst case.

RESULT PLOTS

Conducted Emissions (Line 1)

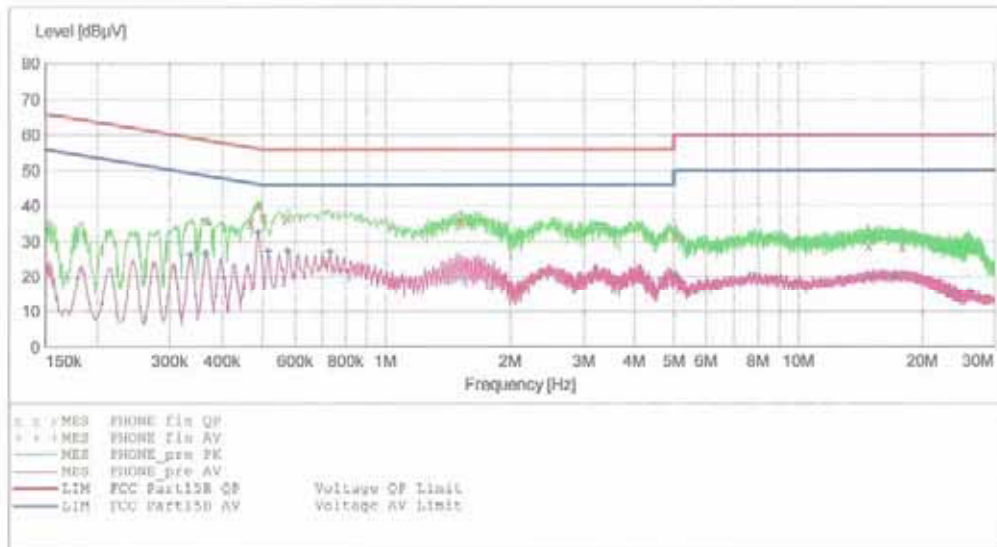
HCT

EMC

EUT: LG-P895qb
 Manufacturer: LG
 Operating Condition: WLAN MODE(5 GHz)
 Test Site: SHIELD ROOM
 Operator: JS LEE
 Test Specification: FCC PART 15 B
 Comment: H

SCAN TABLE: "FCC PART 15 B(H)"

Short Description:			FCC PART 15 CLASS B			
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	1.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin QP"

8/9/2012 10:55AM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Line	PE
0.367010	35.80	9.8	59	22.8	---	---
0.467010	35.30	9.8	57	21.3	---	---
0.489010	40.20	9.8	56	16.0	---	---
0.500000	36.90	9.8	56	19.1	---	---
0.576000	36.70	9.8	56	19.3	---	---
1.520000	35.40	9.9	56	20.6	---	---
5.040000	31.30	10.2	60	28.7	---	---
14.752000	28.80	10.9	60	31.2	---	---
17.784000	28.60	11.4	60	31.4	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

8/9/2012 10:55AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PK
0.335010	26.20	9.7	49	23.2	---	---
0.365010	26.70	9.8	49	21.9	---	---
0.487010	32.60	9.8	46	13.6	---	---
0.516000	27.20	9.8	46	18.8	---	---
0.576000	27.30	9.8	46	18.7	---	---
0.732000	27.10	9.8	46	18.9	---	---
5.040000	20.40	10.2	50	29.6	---	---
15.084000	20.20	11.0	50	29.8	---	---
17.116000	20.10	11.3	50	29.9	---	---

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1208FR46	Date of Issue: August 27, 2012	EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFP895QB

Conducted Emissions (Line 2)

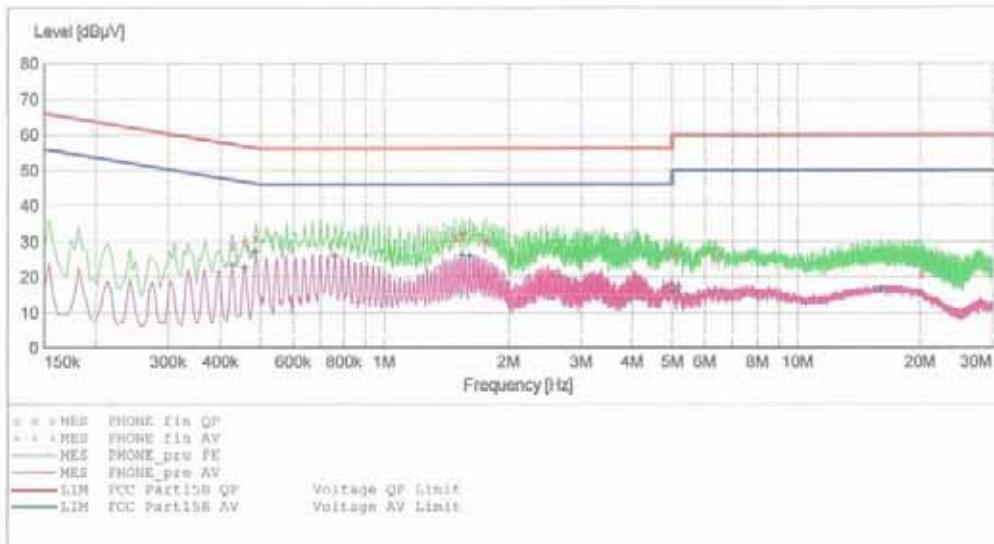
HCT

EMC

RUT: LG-P895qb
 Manufacturer: LG
 Operating Condition: WLAN MODE(5 GHz)
 Test Site: SHIELD ROOM
 Operator: JS LEE
 Test Specification: FCC PART 15 CLASS B
 Comment: N

SCAN TABLE: "FCC PART 15 B(N)"

Short Description: FCC PART 15 CLASS B				Detector	Meas. Time	IF Bandw.	Transducer
Start Frequency	Stop Frequency	Step Width	Step				
150.0 kHz	500.0 kHz	4.0 kHz		MaxPeak	10.0 ms	9 kHz	None
				Average			
500.0 kHz	5.0 MHz	4.0 kHz		MaxPeak	10.0 ms	9 kHz	None
				Average			
5.0 MHz	30.0 MHz	4.0 kHz		MaxPeak	10.0 ms	9 kHz	None
				Average			



MEASUREMENT RESULT: "PHONE_fin QP"

8/9/2012 10:51AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.426010	29.00	10.0	57	28.3	---	---
0.458010	30.00	10.0	57	26.7	---	---
0.486010	31.20	10.0	56	25.0	---	---
1.488000	31.40	10.0	56	24.6	---	---
1.548000	31.80	10.1	56	24.2	---	---
1.764000	30.20	10.1	56	25.8	---	---
5.016000	26.50	10.4	60	33.5	---	---
6.352000	25.70	10.5	60	34.3	---	---
20.144000	21.30	12.1	60	38.7	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

8/9/2012 10:51AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.426010	23.40	10.0	47	23.9	---	---
0.458010	22.70	10.0	47	24.1	---	---
0.486010	27.30	10.0	46	18.9	---	---
0.760000	26.10	10.0	46	19.9	---	---
1.548000	26.40	10.1	46	19.6	---	---
1.608000	26.10	10.1	46	19.9	---	---
5.000000	15.60	10.4	46	30.4	---	---
5.192000	17.40	10.4	50	32.6	---	---
15.940000	16.80	11.4	50	33.2	---	---

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9. LIST OF TEST EQUIPMENT

Manufacturer	Model / Equipment	Calibration Interval	Calibration Due	Serial No.
Rohde & Schwarz	ENV216/ LISN	Annual	02/09/2013	100073
Schwarzbeck	VULB 9168/ TRILOG Antenna	Biennial	02/09/2013	200
Rohde & Schwarz	ESI 40 / EMI TEST RECEIVER	Annual	05/03/2013	831564103
Agilent	E4440A/ Spectrum Analyzer	Annual	05/02/2013	US45303008
Agilent	N9020A/ SIGNAL ANALYZER	Annual	07/31/2013	MY51110020
HD	MA240/ Antenna Position Tower	N/A	N/A	556
EMCO	1050/ Turn Table	N/A	N/A	114
HD GmbH	HD 100/ Controller	N/A	N/A	13
HD GmbH	KMS 560/ SlideBar	N/A	N/A	12
Rohde & Schwarz	SCU-18/ Signal Conditioning Unit	Annual	09/19/2012	10094
MITEQ	AMF-6B-180265-35-10P / POWER AMP	Annual	04/16/2013	667624
CERNEX	CBL26405040 / POWER AMP	Annual	04/16/2013	19660
Schwarzbeck	BBHA 9120D/ Horn Antenna	Biennial	10/17/2013	937
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	Biennial	10/26/2012	BBHA9170342
Rohde & Schwarz	FSP / Spectrum Analyzer	Annual	02/09/2013	839117/011
Agilent	E4416A /Power Meter	Annual	11/07/2012	GB41291412
Agilent	E9327A /POWER SENSOR	Annual	05/02/2013	MY4442009
Wainwright Instrument	WHF3.3/18G-10EF / High Pass Filter	Annual	05/02/2013	1
Wainwright Instrument	WHNX6.0/26.5G-6SS / High Pass Filter	Annual	05/02/2013	1
Wainwright Instrument	WHNX7.0/18G-8SS / High Pass Filter	Annual	05/02/2013	29
Wainwright Instrument	WRCJ2400/2483.5-2370/2520-60/14SS / Band Reject Filter	Annual	05/02/2013	1
Hewlett Packard	11636B/Power Divider	Annual	11/07/2012	11377
Hewlett Packard	11667B / Power Splitter	Annual	06/05/2013	05001
DIGITAL	EP-3010 /DC POWER SUPPLY	Annual	11/07/2012	3110117
ITECH	IT6720 / DC POWER SUPPLY	Annual	11/07/2012	010002156287001199
TESCOM	TC-3000C / BLUETOOTH TESTER	Annual	11/14/2012	3000C000276
Rohde & Schwarz	CBT / BLUETOOTH TESTER	Annual	05/02/2013	100422
EMCO	6502.LOOP ANTENNA	Biennial	01/11/2014	9009-2536
MITEQ	AMF-6D-001180-35-20P/ POWER AMP	Annual	07/30/2013	990893
Agilent	8493C / Attenuator(10 dB)	Annual	07/30/2013	76649
WEINSCHL	2-3 / Attenuator(3 dB)	Annual	11/07/2013	BR0617
CERNEX	CBLU1183540 / POWER AMP	Annual	07/27/2013	21691

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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