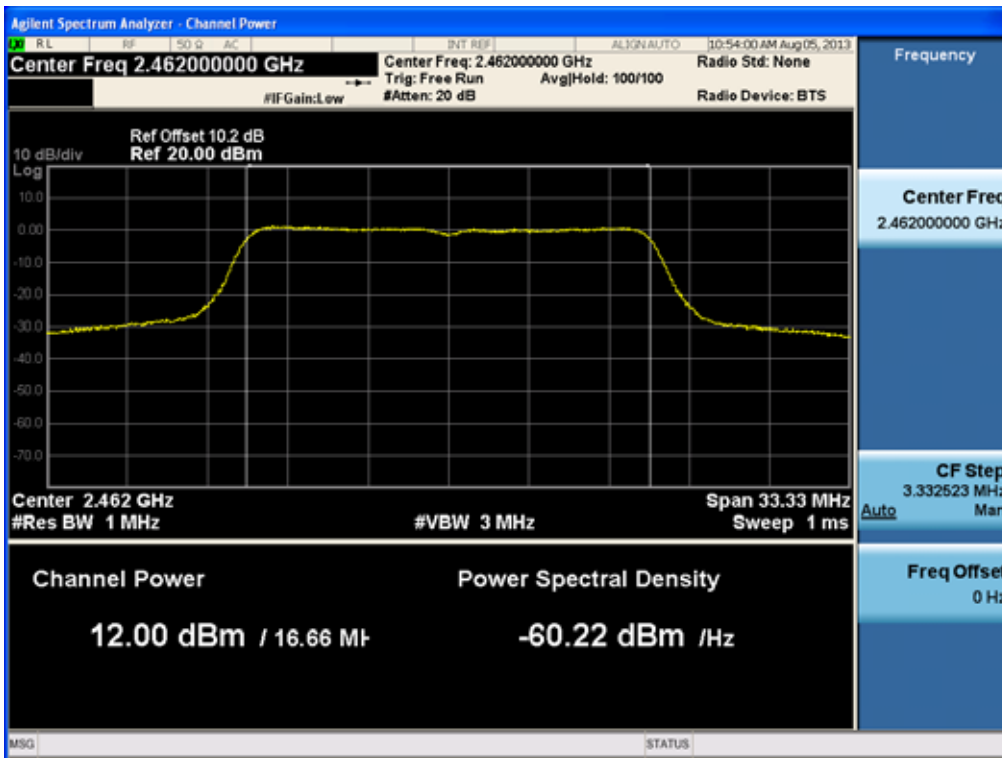
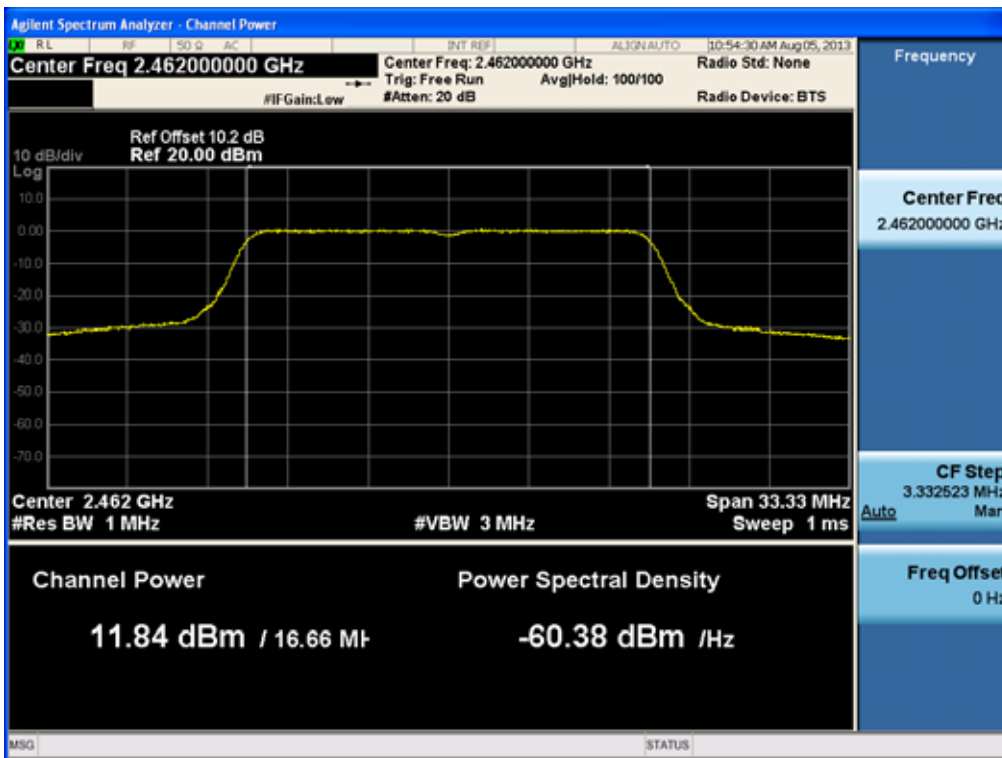


Conducted Output Power (802.11g-CH 11) 12Mbps

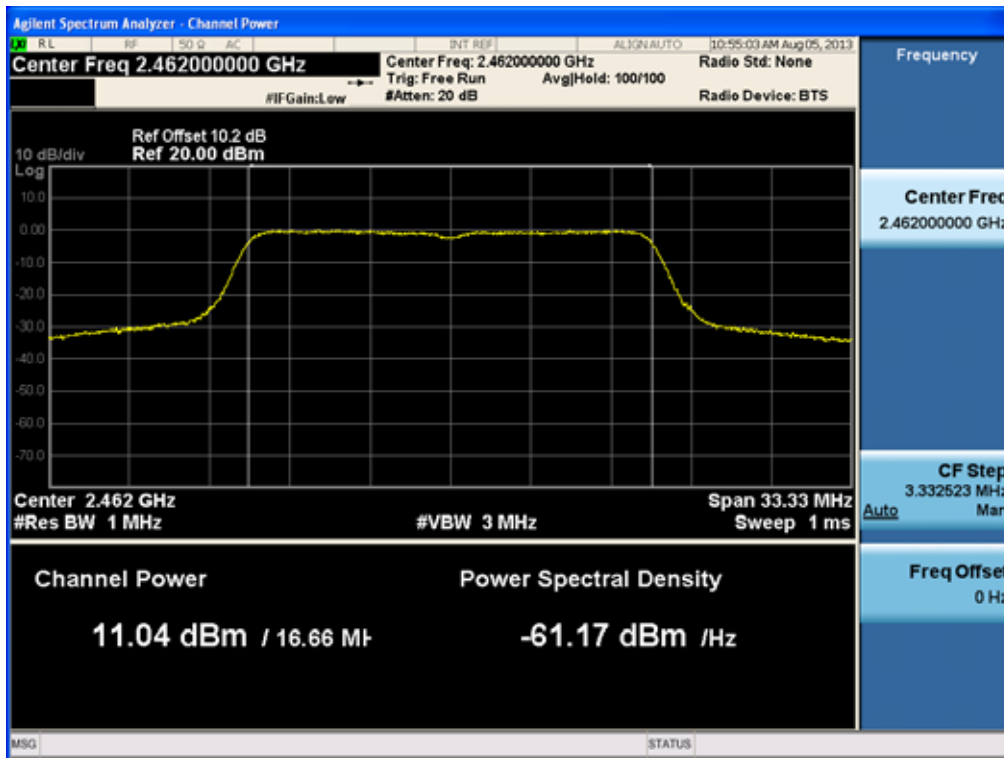


Conducted Output Power (802.11g-CH 11) 18Mbps

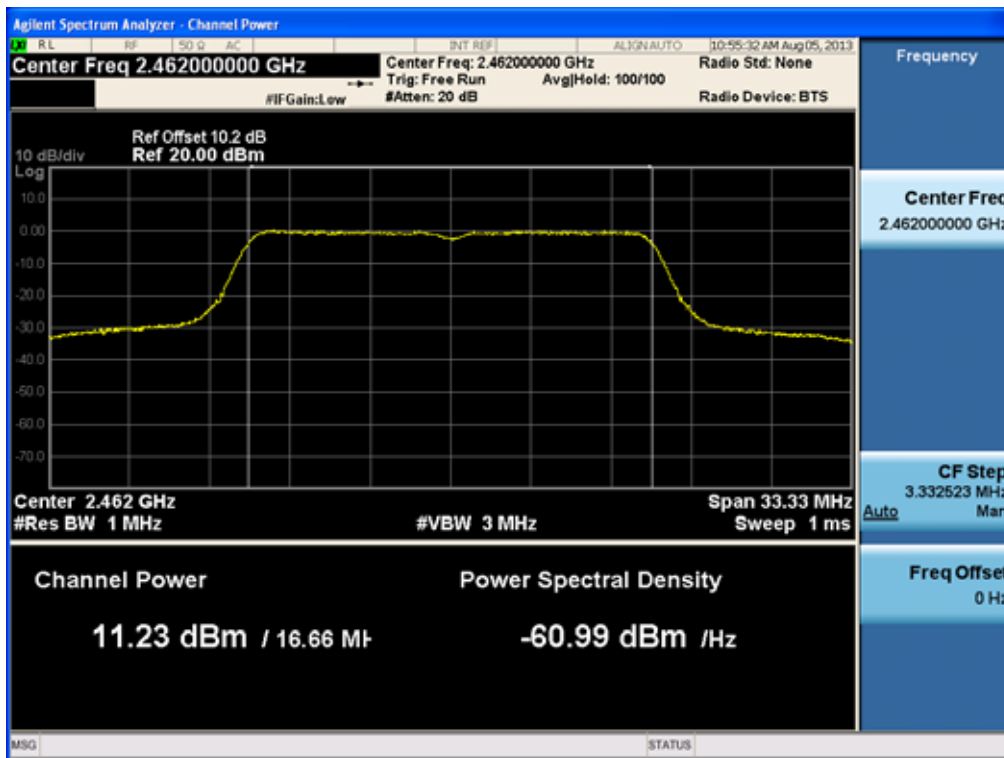


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |

Conducted Output Power (802.11g-CH 11) 24Mbps

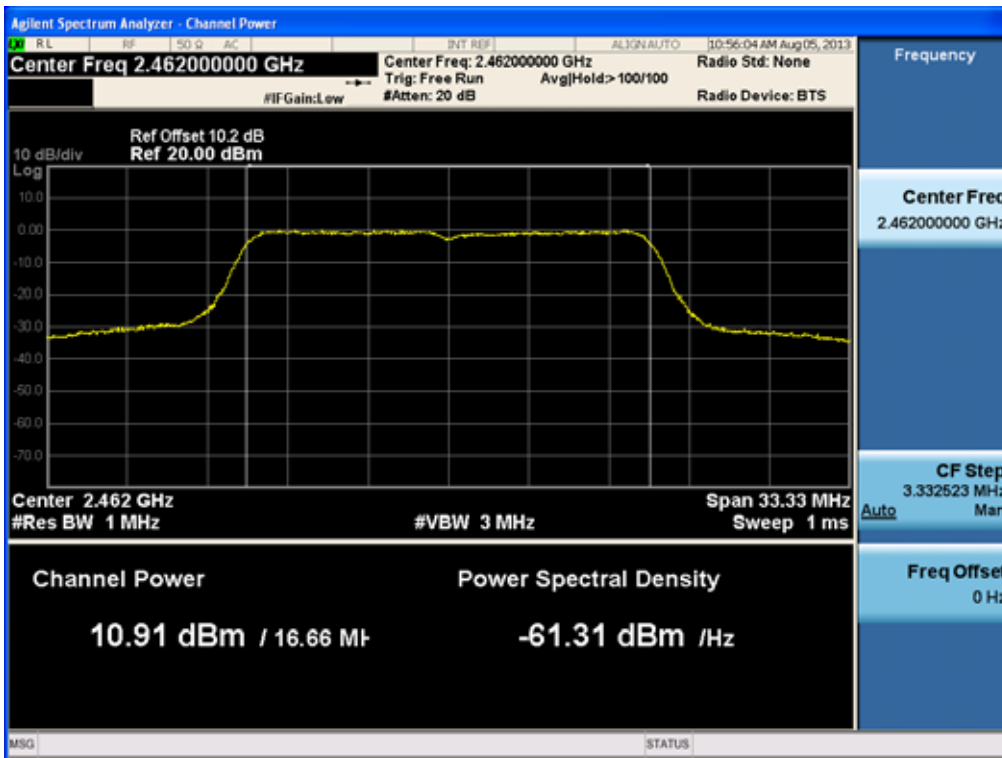


Conducted Output Power (802.11g-CH 11) 36Mbps

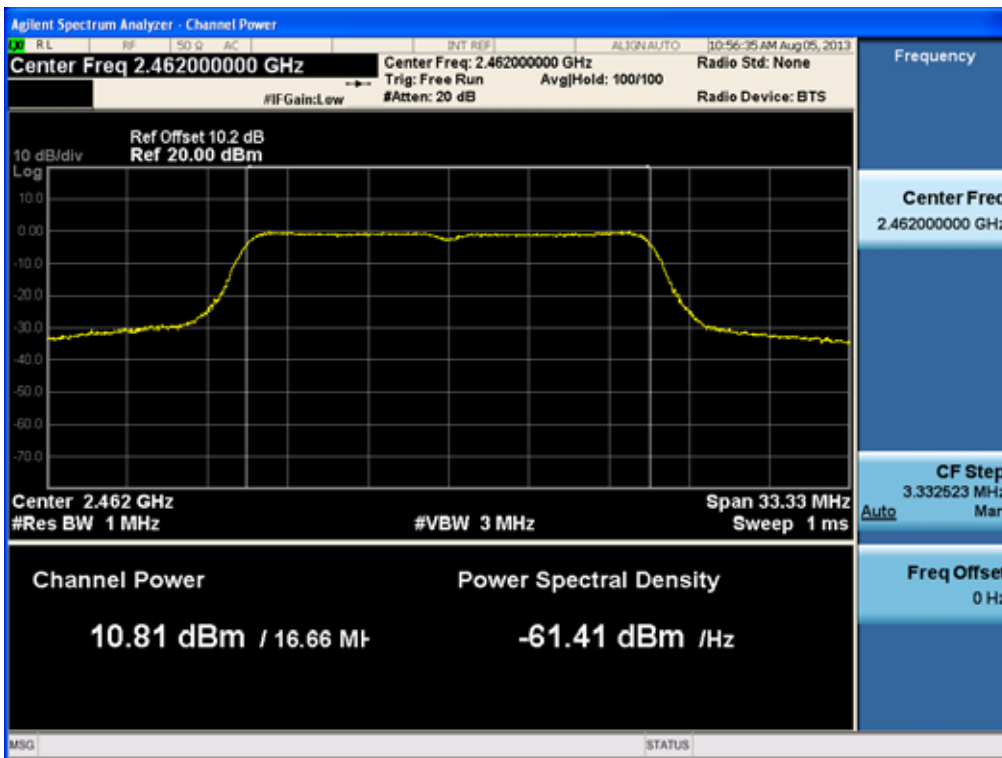


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Output Power (802.11g-CH 11) 48Mbps



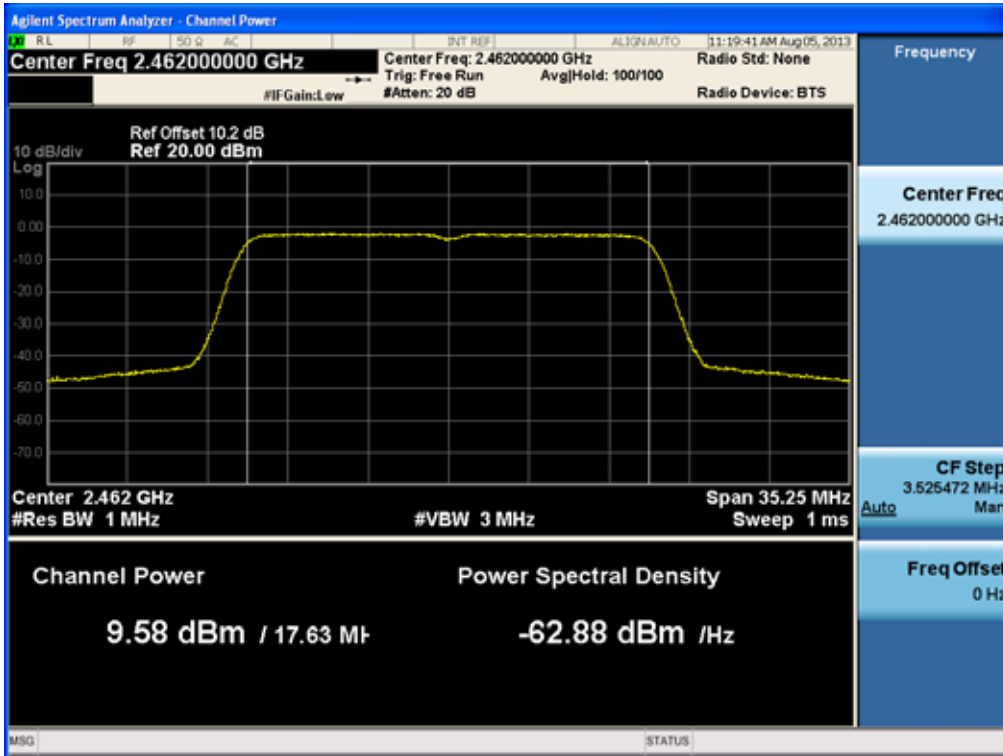
Conducted Output Power (802.11g-CH 11) 54Mbps



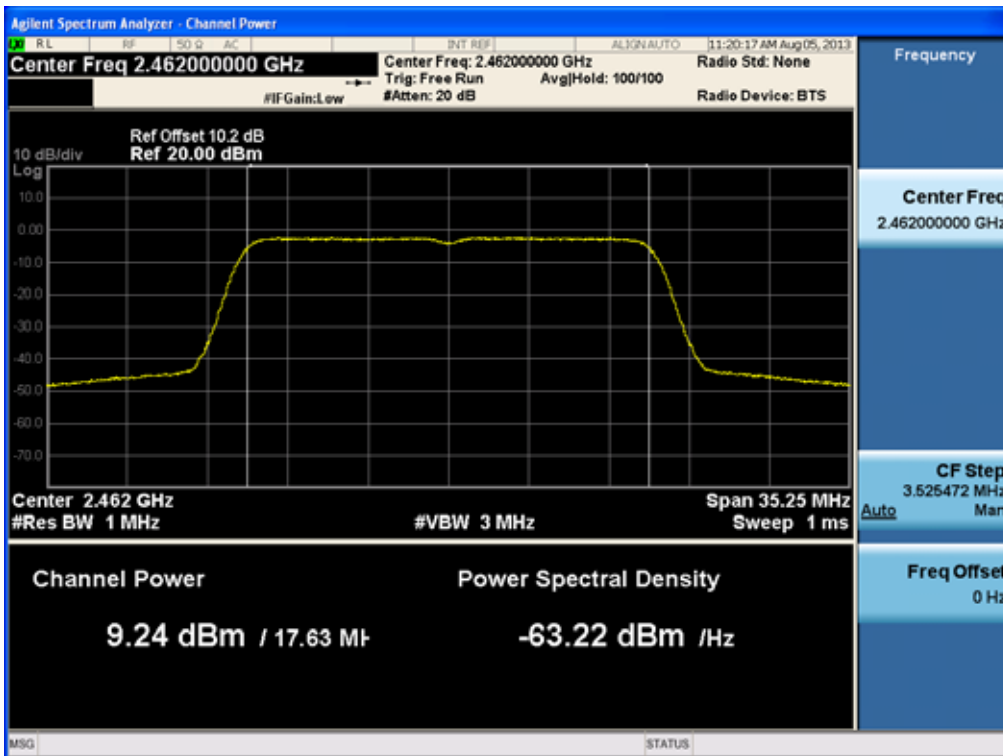
| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |

RESULT PLOTS: _20 MHz BW

Conducted Output Power (802.11n-CH 11) 6.5Mbps

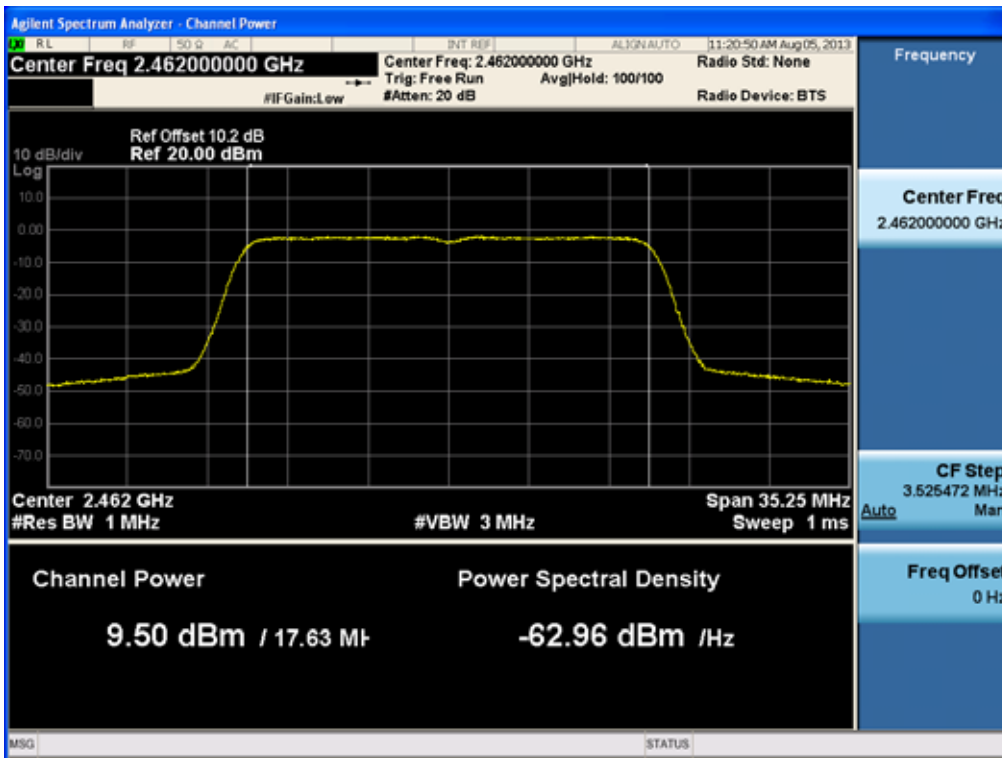


Conducted Output Power (802.11n-CH 11) 13Mbps

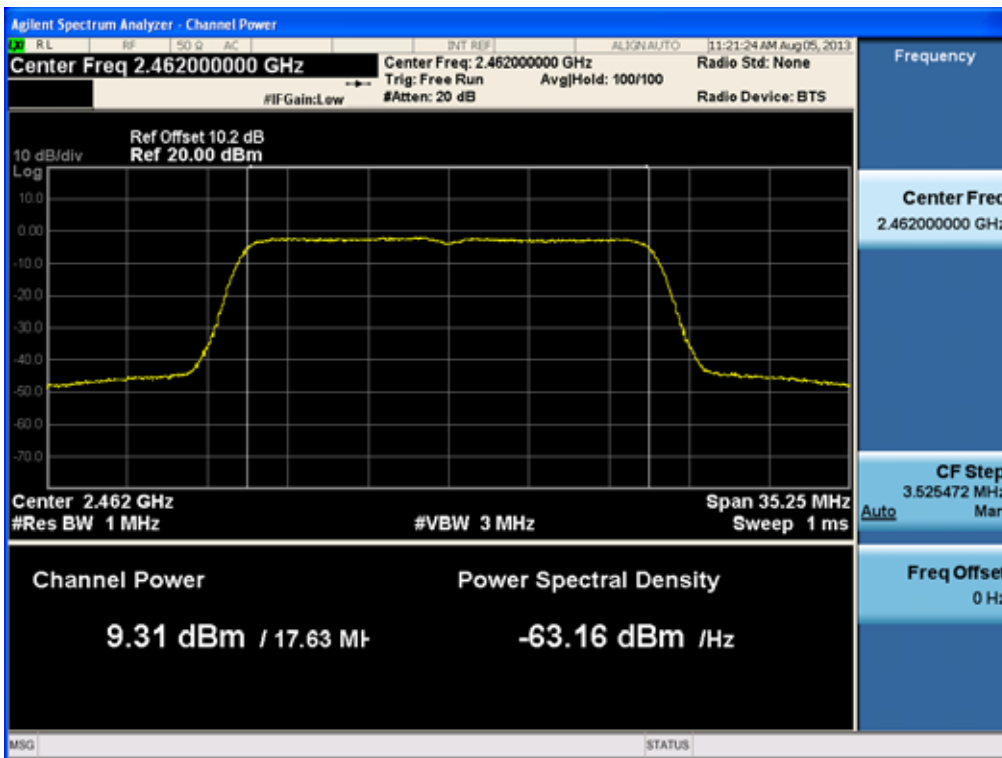


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Output Power (802.11n-CH 11) 19.5Mbps

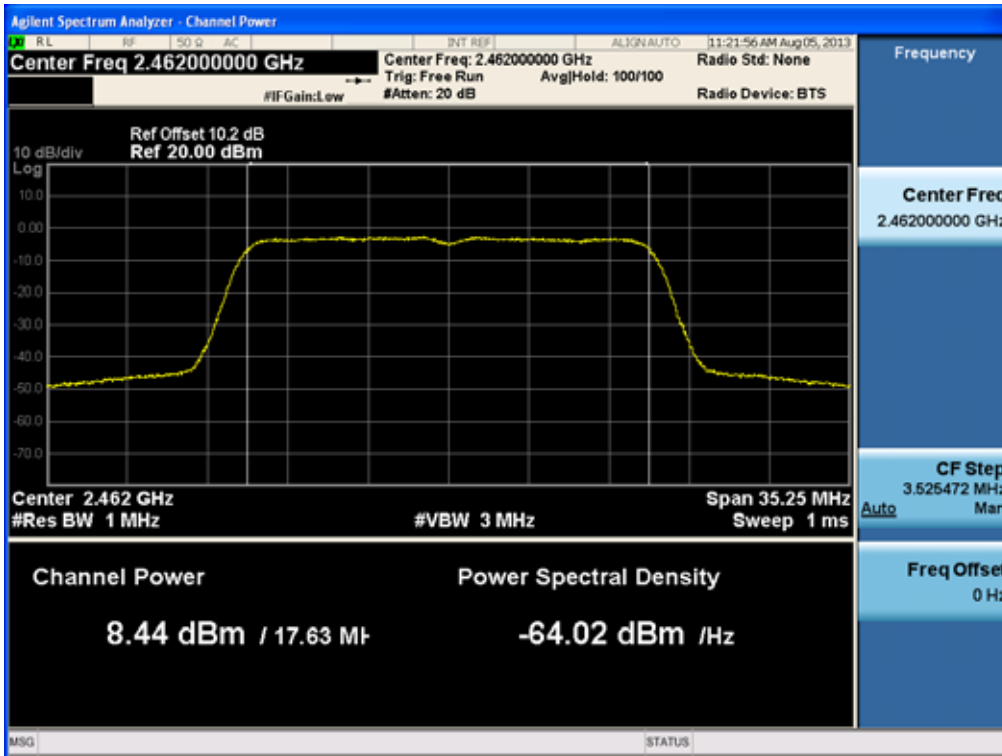


Conducted Output Power (802.11n-CH 11) 26Mbps

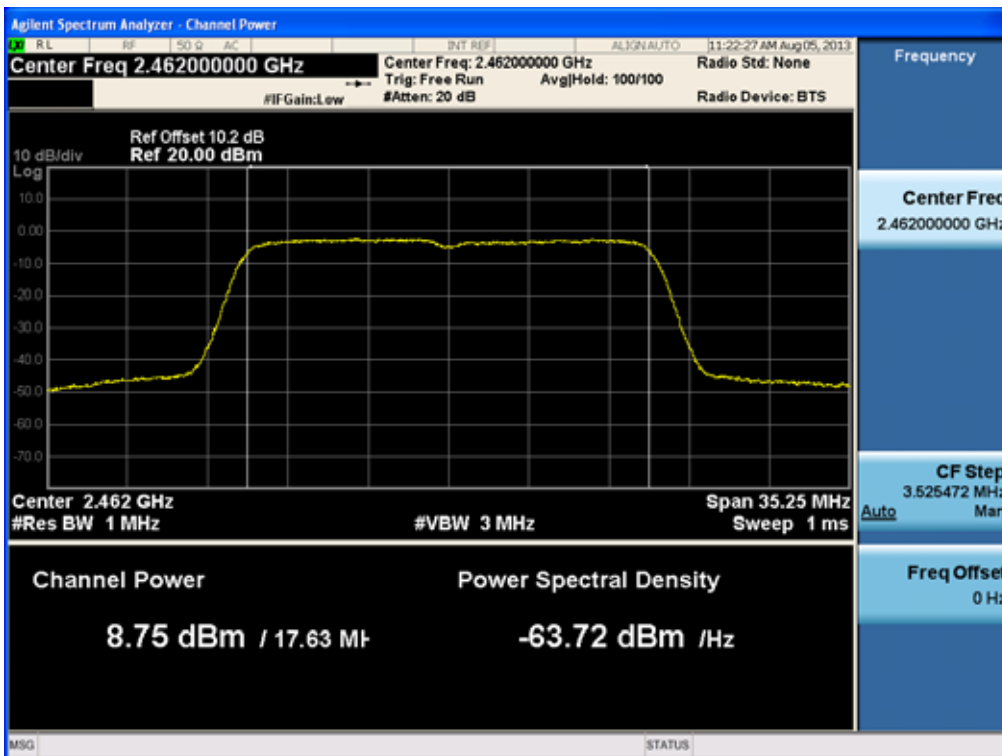


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Output Power (802.11n-CH 11) 39Mbps

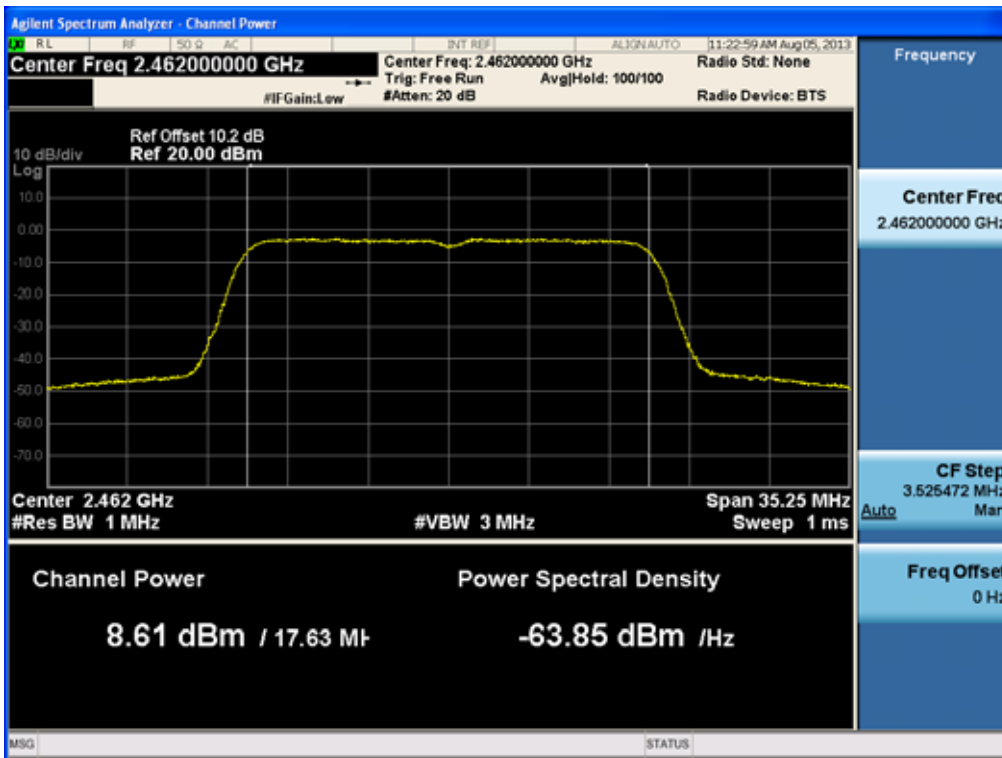


Conducted Output Power (802.11n-CH 11) 52Mbps

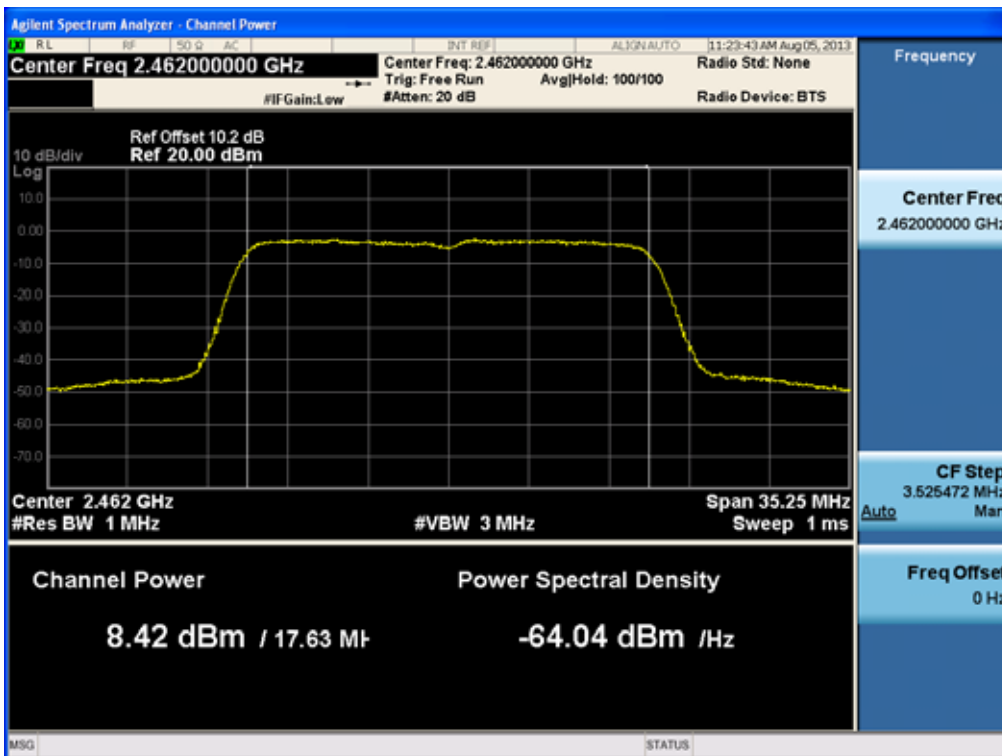


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Output Power (802.11n-CH 11) 58.5Mbps



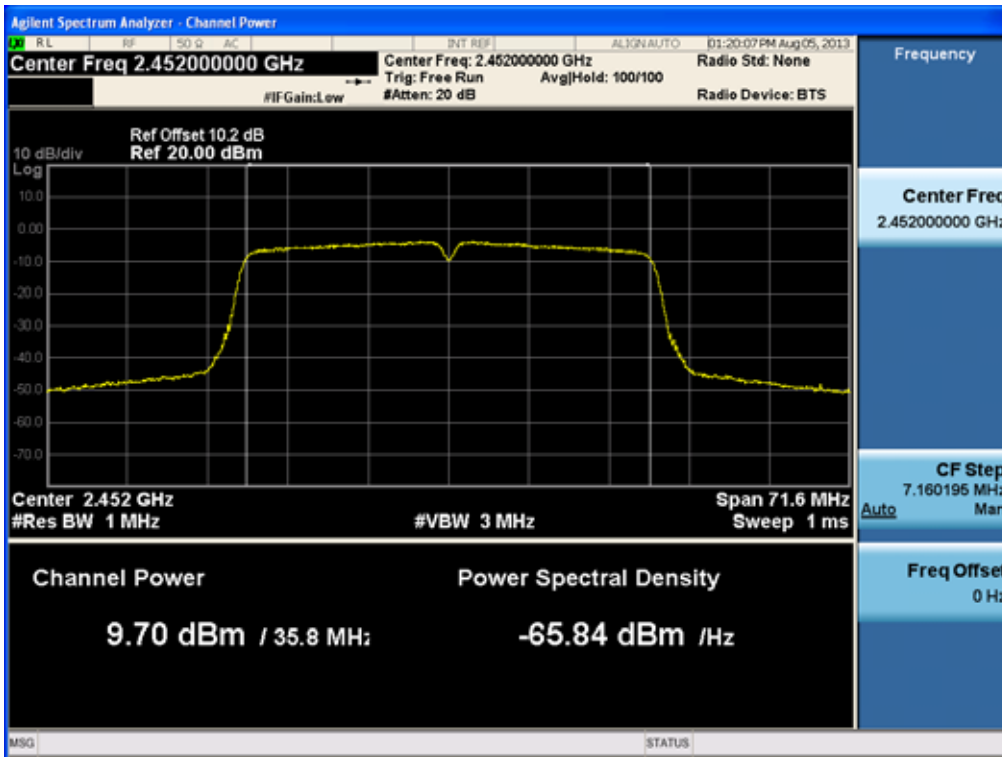
Conducted Output Power (802.11n-CH 11) 65Mbps



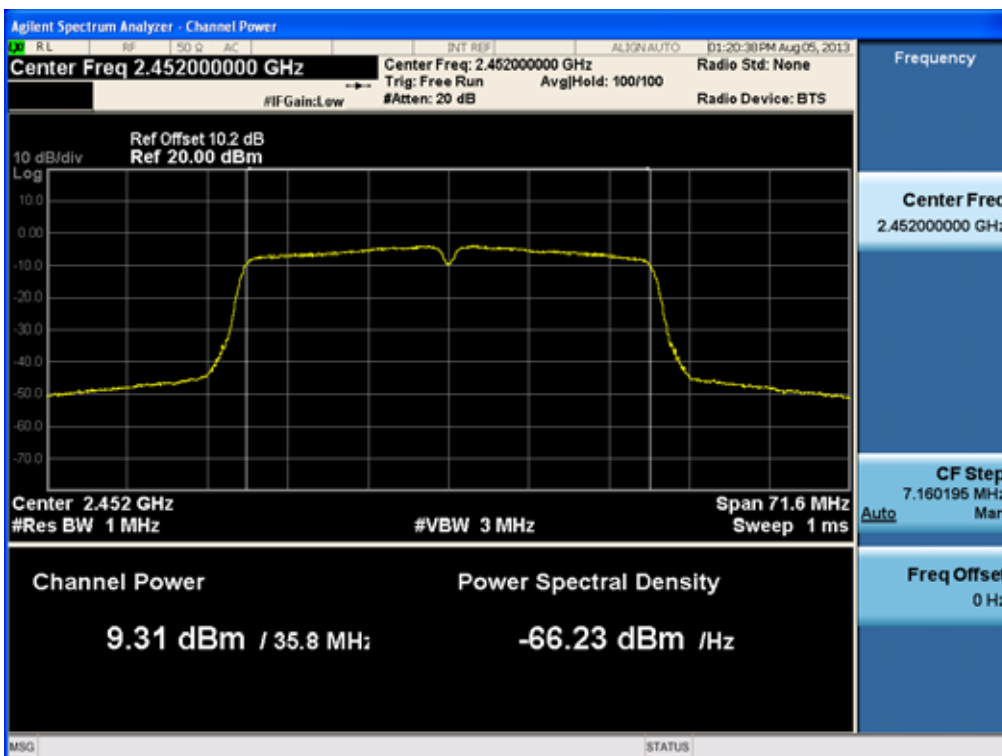
| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

RESULT PLOTS: _40 MHz BW

Conducted Output Power (802.11n-CH 9) 13.5Mbps

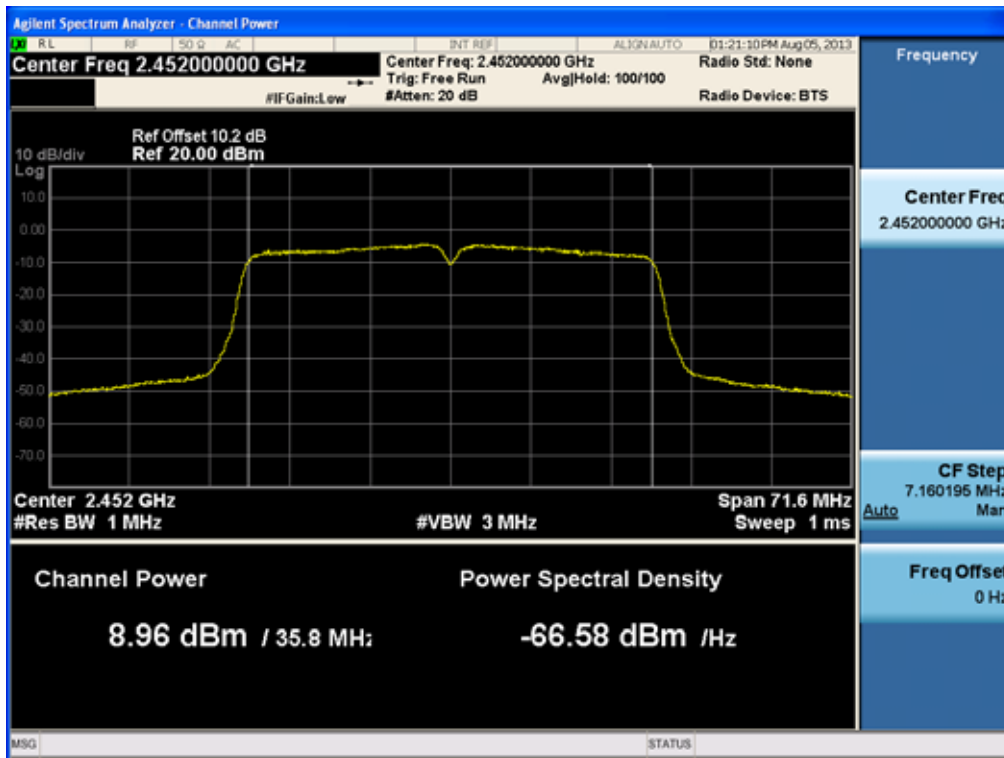


Conducted Output Power (802.11n-CH 9) 27 Mbps

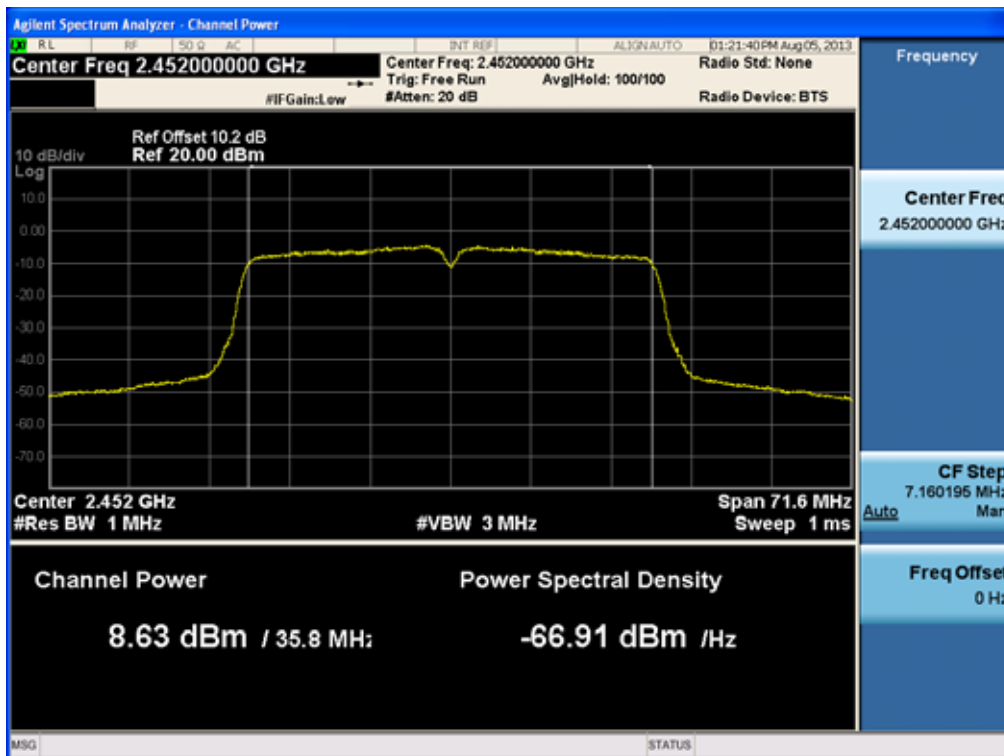


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Output Power (802.11n-CH 9) 40.5 Mbps

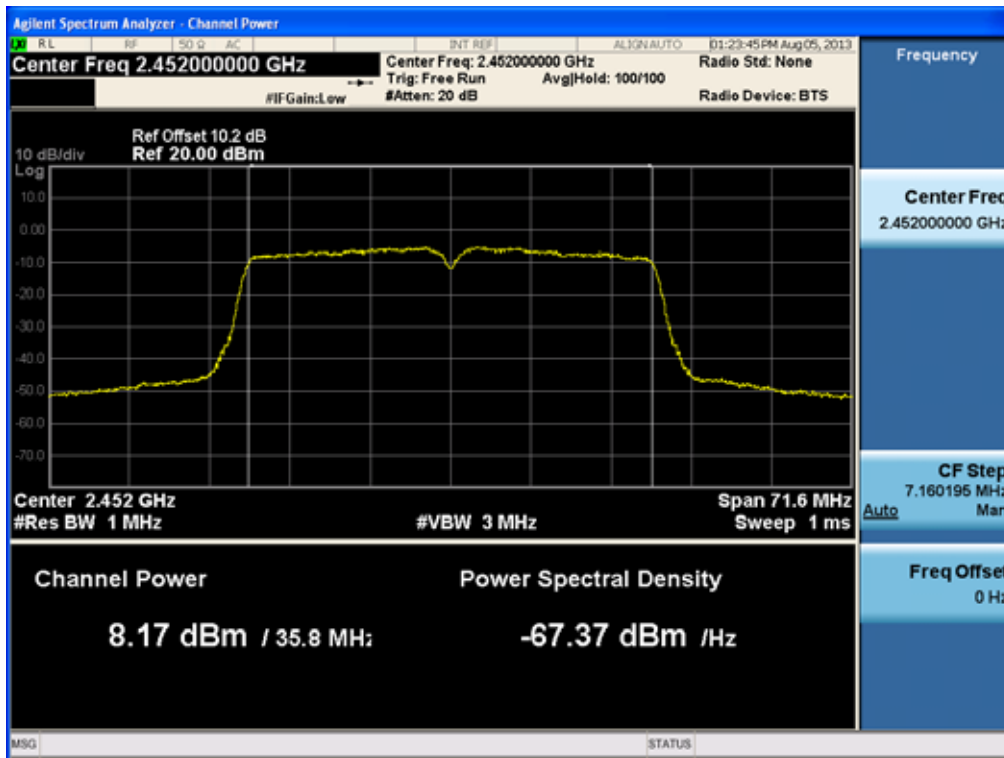


Conducted Output Power (802.11n-CH 9) 54 Mbps

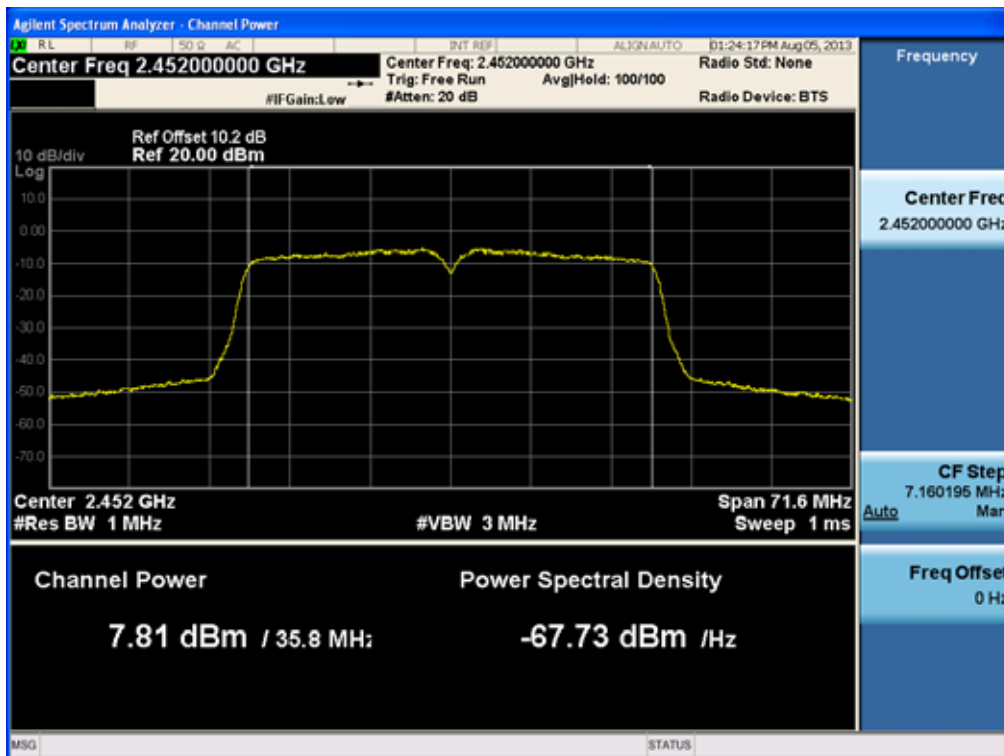


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Output Power (802.11n-CH 9) 81 Mbps

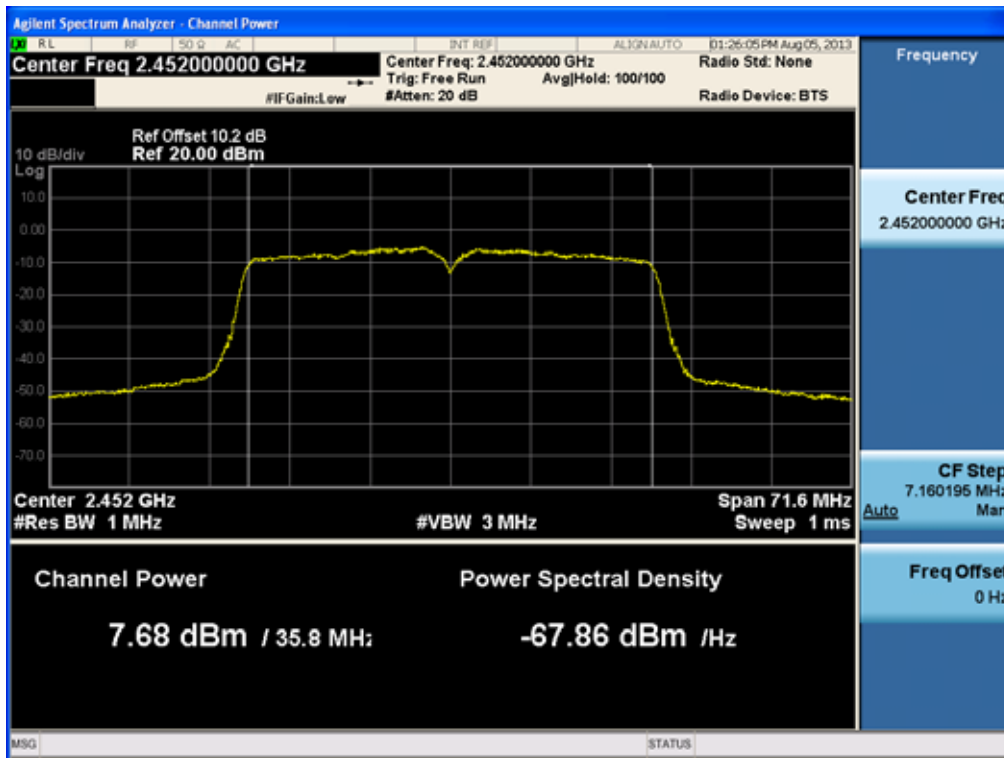


Conducted Output Power (802.11n-CH 9) 108 Mbps

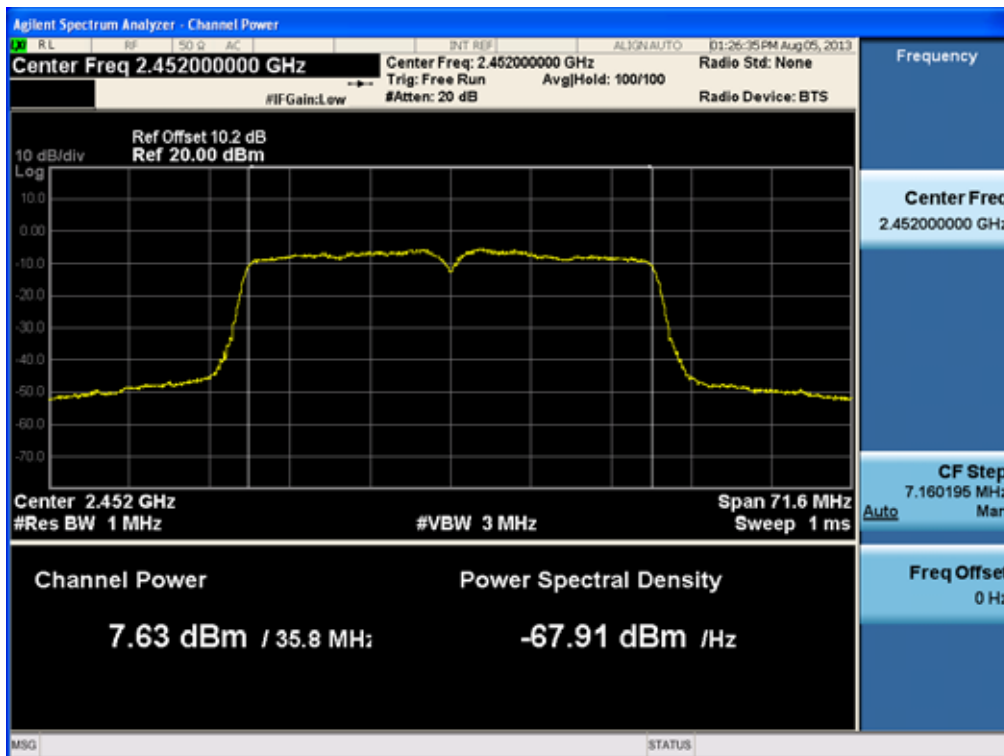


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Output Power (802.11n-CH 9) 121.5 Mbps



Conducted Output Power (802.11n-CH 9) 135 Mbps



| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

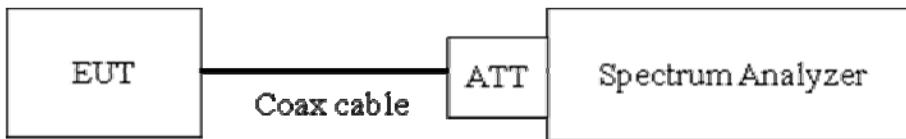
8.4 POWER SPECTRAL DENSITY (802.11b/g/n)

Test Requirements and limit, §15.247(e)

The peak power spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

Minimum Standard – the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST CONFIGURATION



TEST PROCEDURE

We tested according to Procedure 10.2 in KDB 558074, issued 04/09/2013

The spectrum analyzer is set to :

Set analyzer center frequency to DTS channel center frequency.

Span = 1.5 times the DTS channel bandwidth.

RBW = 3 kHz ≤ RBW ≤ 100 kHz.

VBW ≥ 3 x RBW.

Sweep = auto couple

Detector = peak

Trace Mode = max hold

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level within the RBW.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Sample Calculation

$$\begin{aligned} \text{PSD} &= \text{Reading Value} + \text{ATT loss} + \text{Cable loss}(1 \text{ ea}) \\ &= -5 \text{ dBm} + 10 \text{ dB} + 0.8 \text{ dB} = 5.8 \text{ dBm} \end{aligned}$$

Note :

1. Spectrum reading values are not plot data. 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 2.4 GHz range that was rounded off to the closest tenth dB. So, 10.2 dB is offset for 2.4 GHz Band.

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. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |

| Band | Frequency(MHz) | Loss(dB) |
|---------|----------------|----------|
| 2.4 GHz | 2412 | 10.21 |
| | 2437 | 10.24 |
| | 2462 | 10.24 |

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

TEST RESULTS

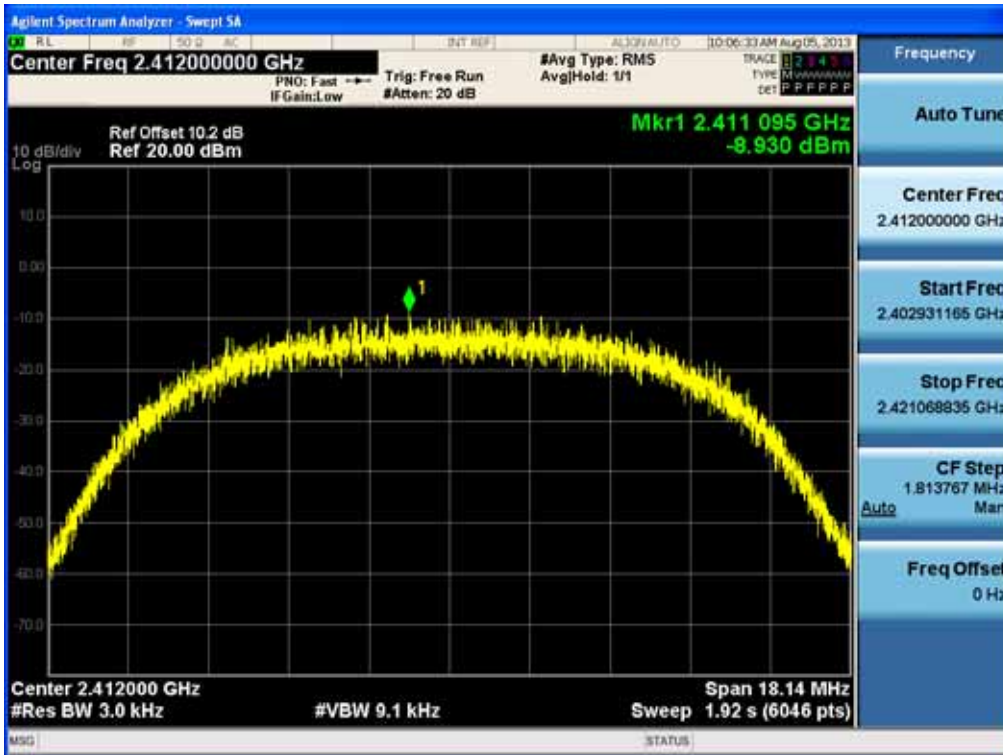
Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode | Test Result | | |
|-----------------|-------------|---------------------------|-------------|-------------|-----------|
| | | | PSD (dBm) | Limit (dBm) | Pass/Fail |
| 2412 | 1 | 802.11b | -8.930 | 8 | Pass |
| 2437 | 6 | | -9.000 | 8 | Pass |
| 2462 | 11 | | -9.494 | 8 | Pass |
| 2412 | 1 | 802.11g | -15.402 | 8 | Pass |
| 2437 | 6 | | -13.345 | 8 | Pass |
| 2462 | 11 | | -13.408 | 8 | Pass |
| 2412 | 1 | 802.11n (20 MHz BW) | -16.293 | 8 | Pass |
| 2437 | 6 | | -16.892 | 8 | Pass |
| 2462 | 11 | | -16.283 | 8 | Pass |
| 2422 | 3 | 802.11n (40 MHz BW) | -18.855 | 8 | Pass |
| 2437 | 6 | | -18.680 | 8 | Pass |
| 2452 | 9 | | -19.319 | 8 | Pass |

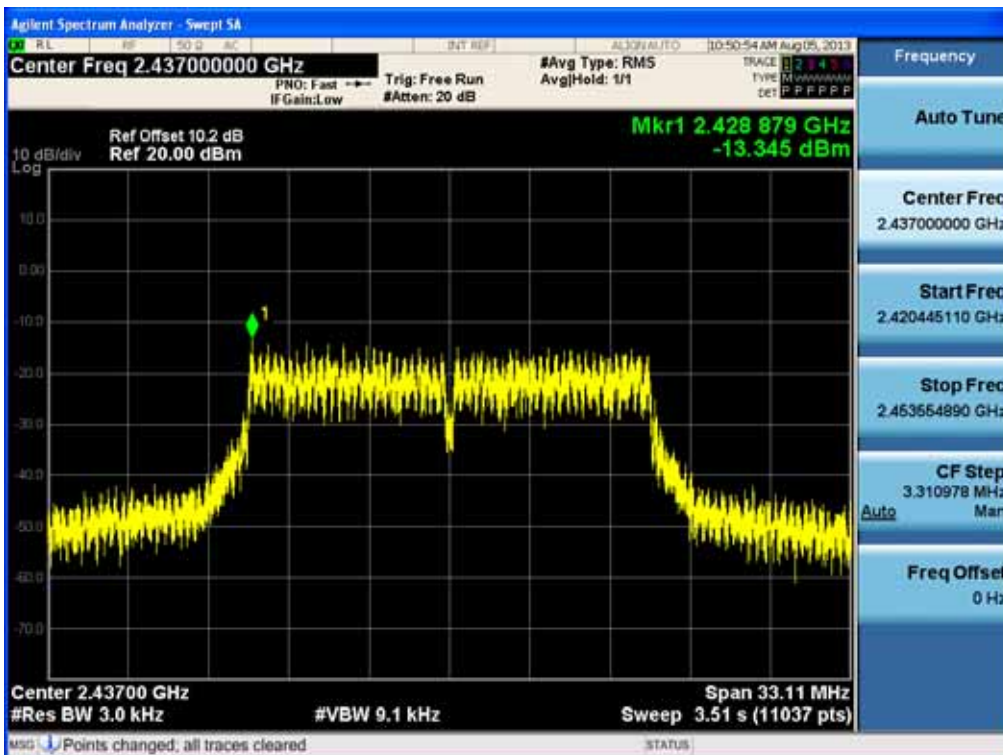
Note : In order to simplify the report, attached plots were only the highest PSD channel.

RESULT PLOTS

Power Spectral Density (802.11b-CH 1)

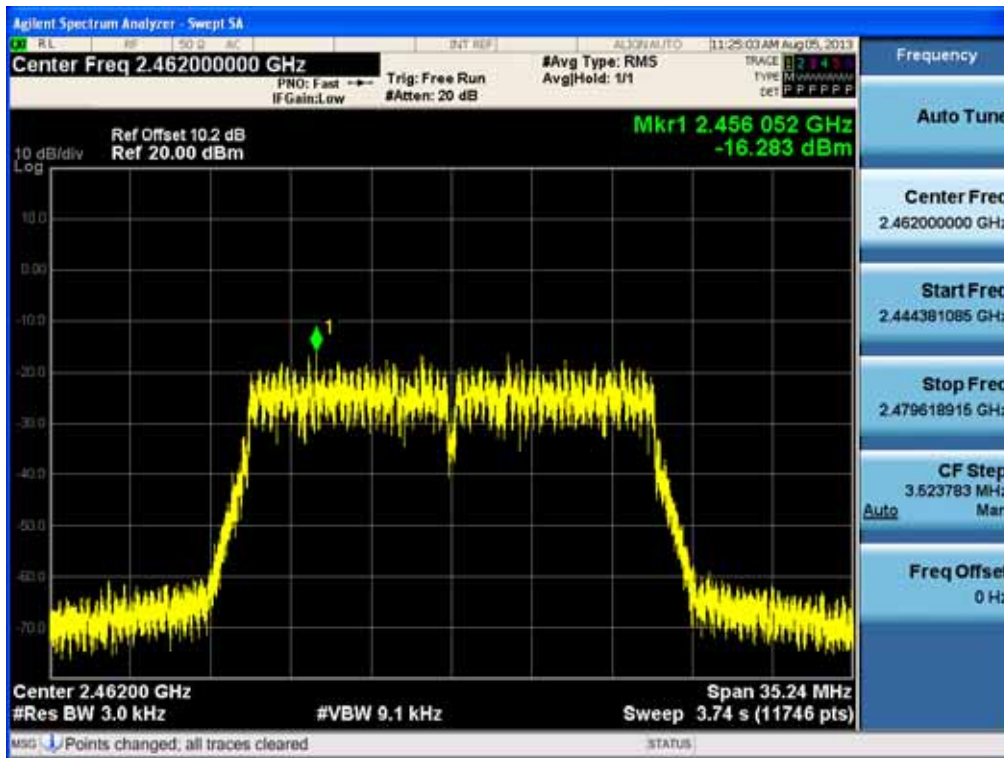


Power Spectral Density (802.11g-CH 6)

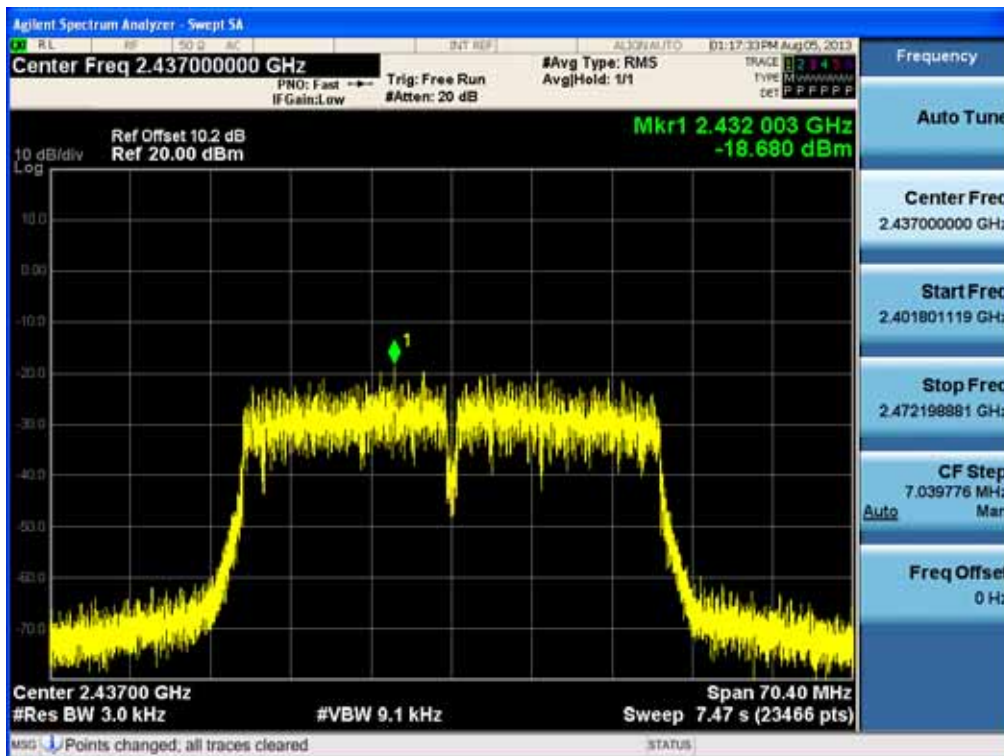


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Power Spectral Density (802.11n-CH11) _ 20 MHz BW



Power Spectral Density (802.11n-CH 6) _ 40 MHz BW



| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

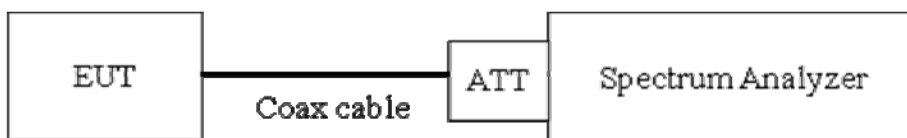
8.5 OUT OF BAND EMISSIONS AT THE BAND EDGE/ CONDUCTED SPURIOUS EMISSIONS

Test Requirements and limit, §15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

Limit : 20 dBc

TEST CONFIGURATION



TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. (Procedure 11.0 in KDB 558074, issued 04/09/2013)

RBW = 100 kHz (Upon 1 GHz = 1 MHz, In order to increase the measurement speed).

VBW \geq 3 x RBW (Upon 1 GHz = 3 MHz, In order to increase the measurement speed).

Set span to encompass the spectrum to be examined

Detector = Peak

Trace Mode = max hold

Sweep time = auto couple

Ensure that the number of measurement points \geq Span/RBW

Allow trace to fully stabilize.

Use peak marker function to determine the maximum amplitude level.

Measurements are made over the 30 MHz to 10th harmonic range with the transmitter set to the lowest, middle, and highest channels.

Note :

1. The band edge 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 2.4 GHz range that was rounded off to the closest tenth dB. So, 10.2 dB is

| | | | | |
|---------------------------------|-----------------------------------|---|--|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | | FCC ID: ZNF683 |

offset for 2.4 GHz Band. Actual value of loss for the attenuator and cable combination is below table.

| Band | Frequency(MHz) | Loss(dB) |
|---------|----------------|----------|
| 2.4 GHz | 2412 | 10.21 |
| | 2437 | 10.24 |
| | 2462 | 10.24 |

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

4. In case of conducted spurious emissions test, please check factors blow table.
5. The display line shown in the following plots denotes the limit at 20 dB below the fundamental emission level measured in a 100 kHz bandwidth. However, since the traces in the following plots are measured with a 1 MHz RBW, the display line may not necessarily appear to be 20 dB below the level of the fundamental in a 1 MHz bandwidth.
6. For plots showing conducted spurious emissions near the limit, the frequencies were investigated with a reduced RBW to ensure that no emissions were present.

FACTORS FOR FREQUENCY

| Freq(MHz) | Factor(dB) |
|-----------|------------|
| 30 | 9.95 |
| 100 | 10.01 |
| 200 | 10.03 |
| 300 | 10.04 |
| 400 | 10.05 |
| 500 | 10.04 |
| 600 | 10.03 |
| 700 | 10.09 |
| 800 | 10.10 |
| 900 | 10.08 |
| 1000 | 10.11 |
| 2000 | 10.25 |
| 2400* | 10.19 |
| 2500* | 10.26 |
| 3000 | 10.27 |
| 4000 | 10.22 |
| 5000 | 10.48 |
| 5700* | 10.42 |
| 5800* | 10.48 |
| 6000 | 10.48 |
| 7000 | 10.57 |

| | |
|-------|-------|
| 8000 | 10.45 |
| 9000 | 10.50 |
| 10000 | 10.64 |
| 11000 | 10.69 |
| 12000 | 10.75 |
| 13000 | 10.92 |
| 14000 | 11.90 |
| 15000 | 11.00 |
| 16000 | 11.03 |
| 17000 | 10.93 |
| 18000 | 10.96 |
| 19000 | 10.85 |
| 20000 | 12.11 |
| 21000 | 11.17 |
| 22000 | 10.99 |
| 23000 | 11.12 |
| 24000 | 11.10 |
| 25000 | 11.42 |

Note : 1. ** is fundamental frequency range.
 2. Factor = Cable loss + Attenuator loss

RESULT PLOTS

BandEdge (802.11b-CH1)

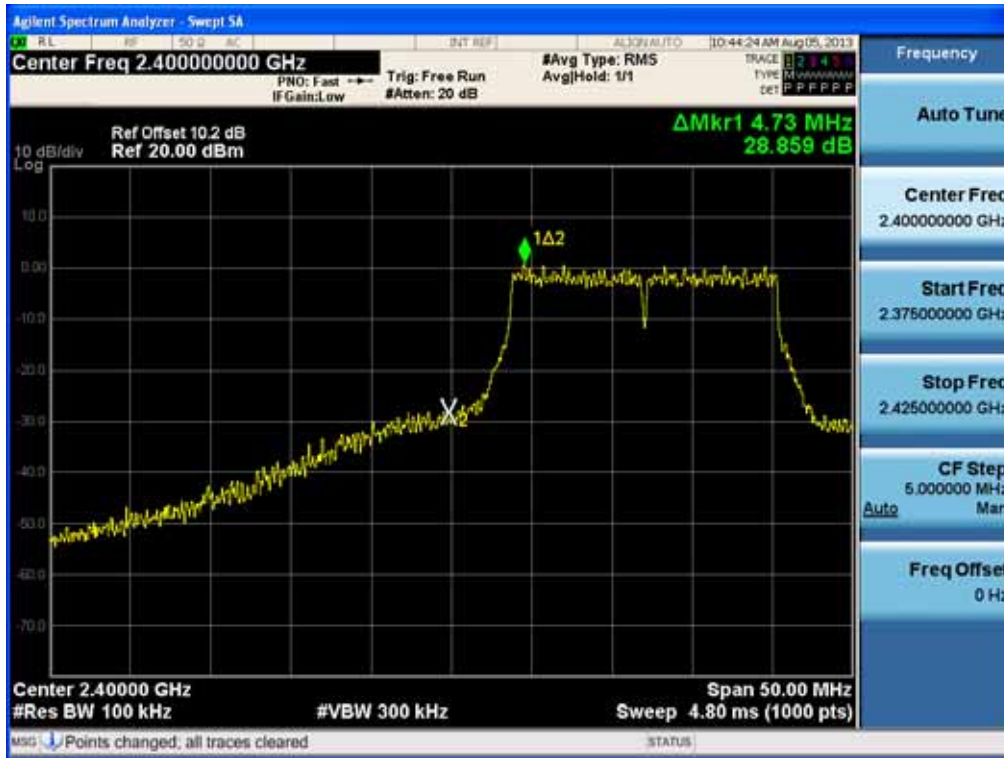


BandEdge (802.11b-CH11)

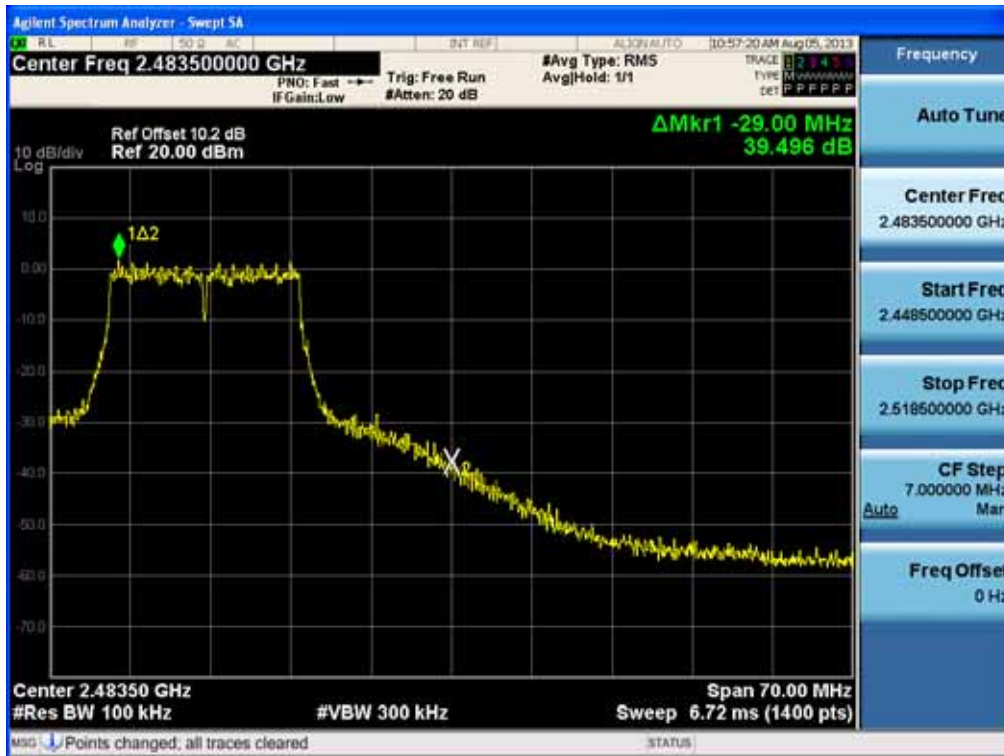


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

BandEdge (802.11g-CH1)

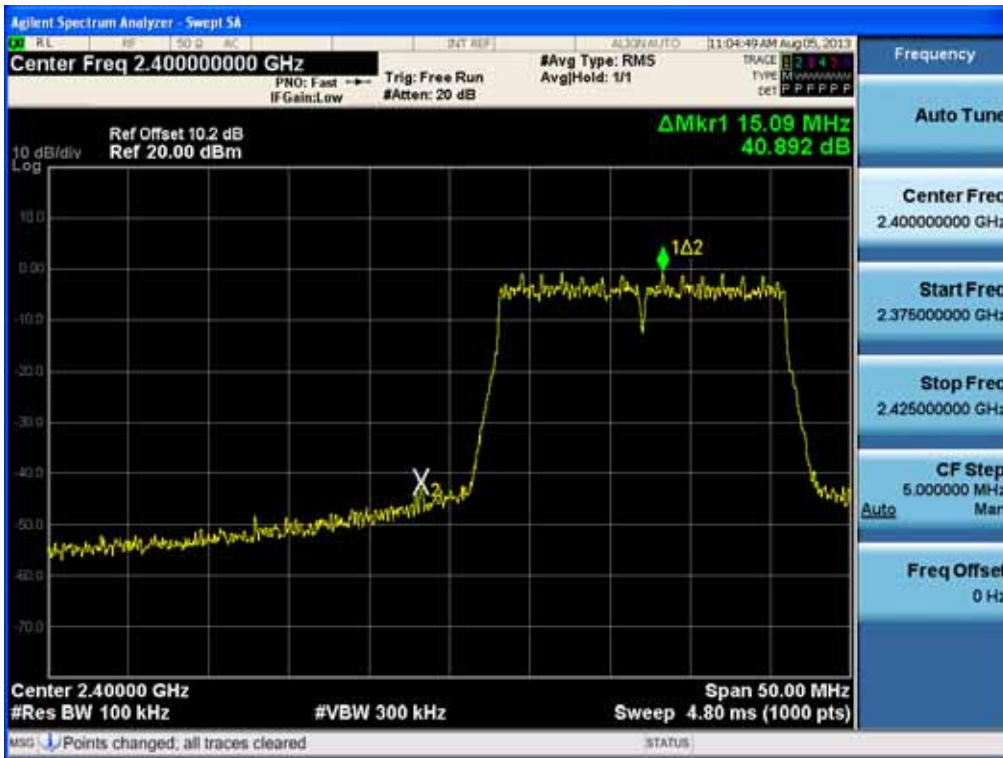


BandEdge (802.11g-CH11)



| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Band Edge (802.11n-CH1) _ 20 MHz BW



Band Edge (802.11n-CH11) _ 20 MHz BW

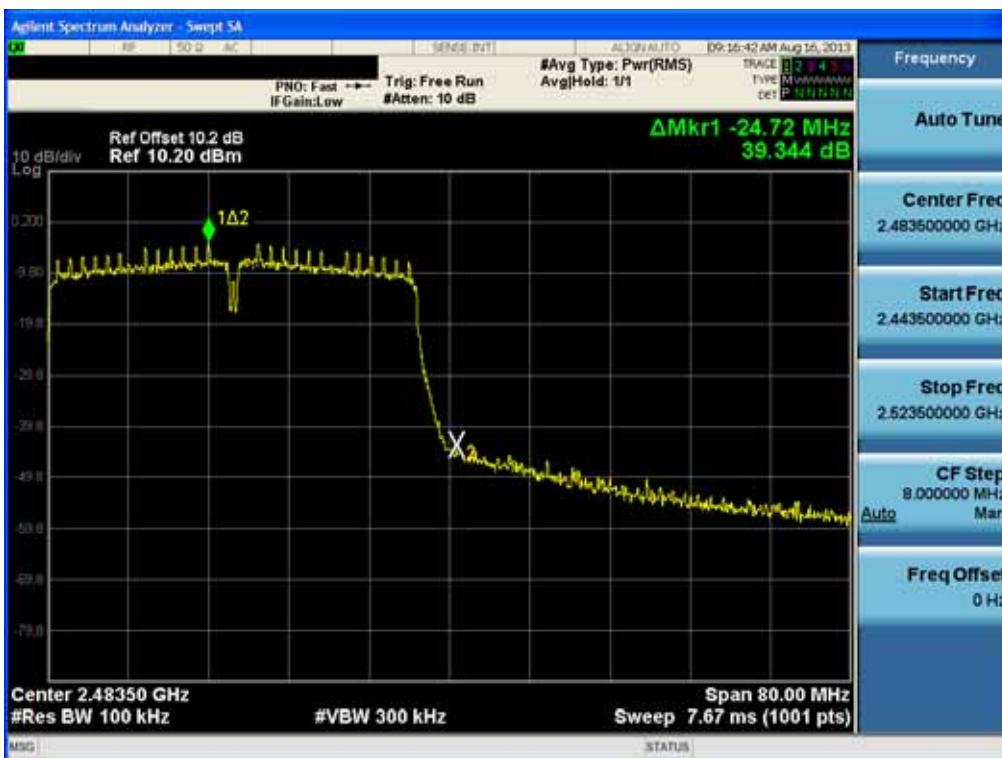


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF0683 |

Band Edge (802.11n-CH3)_40 MHz BW

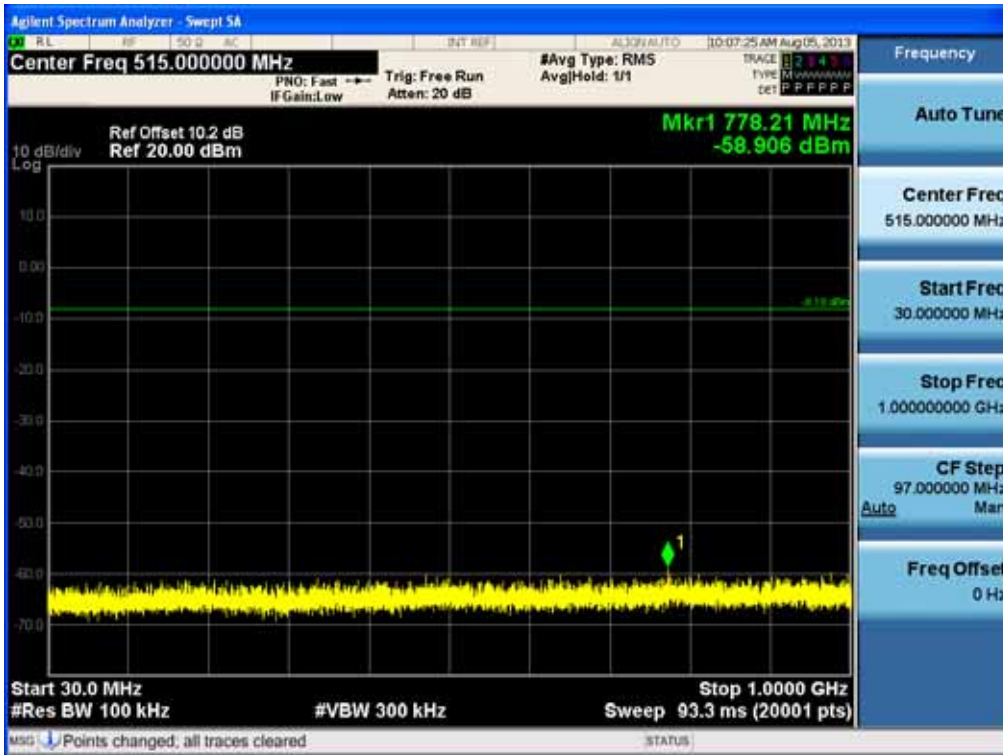


Band Edge (802.11n-CH9)_40 MHz BW

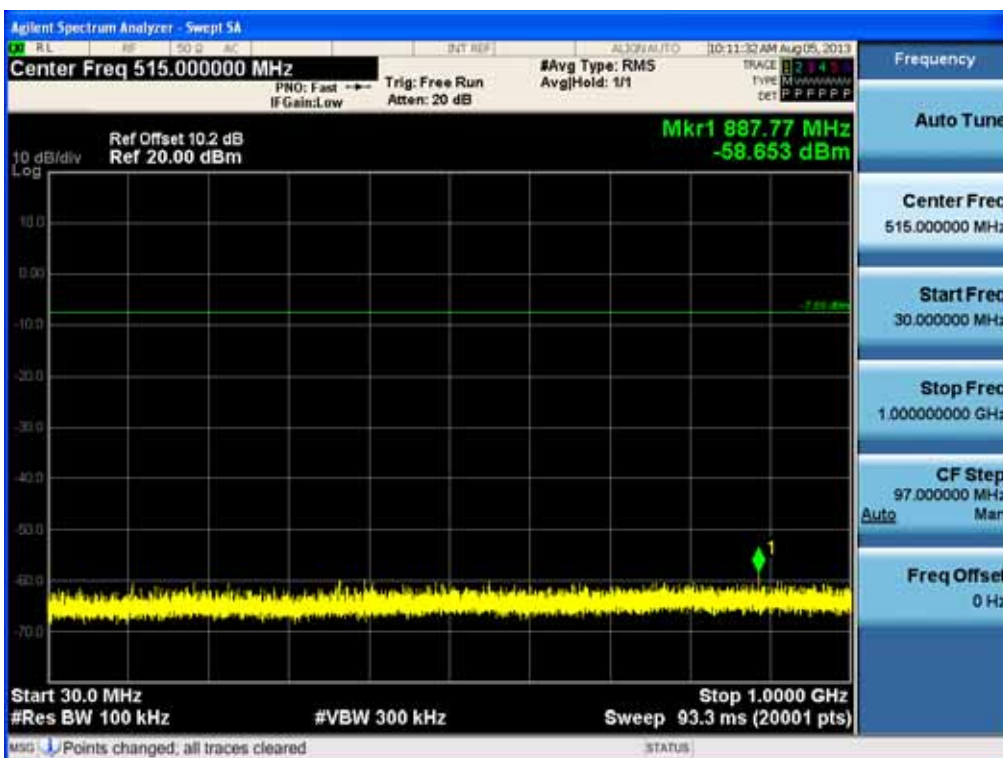


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Spurious Emission (802.11b-CH1)

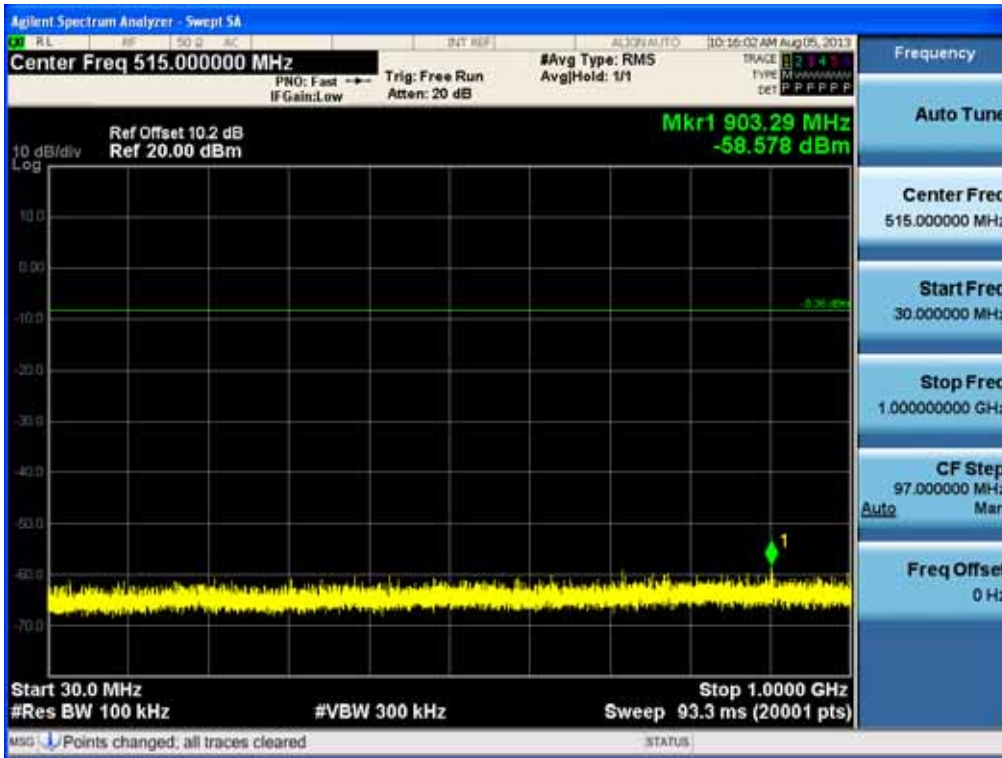


Conducted Spurious Emission (802.11b-CH6)

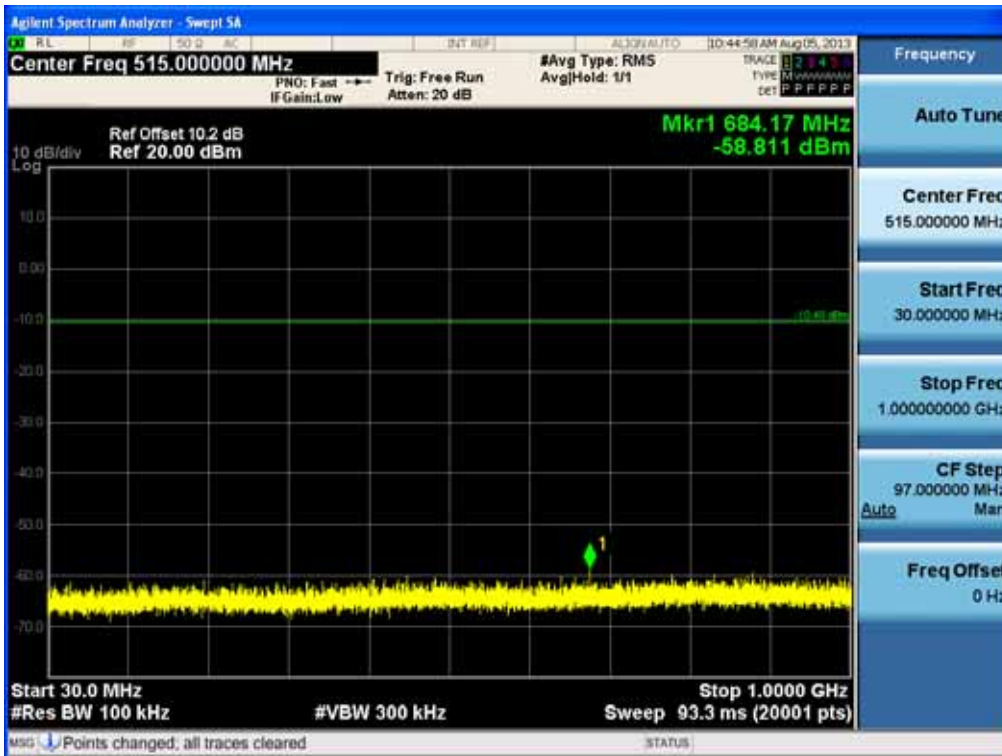


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Spurious Emission (802.11b-CH11)

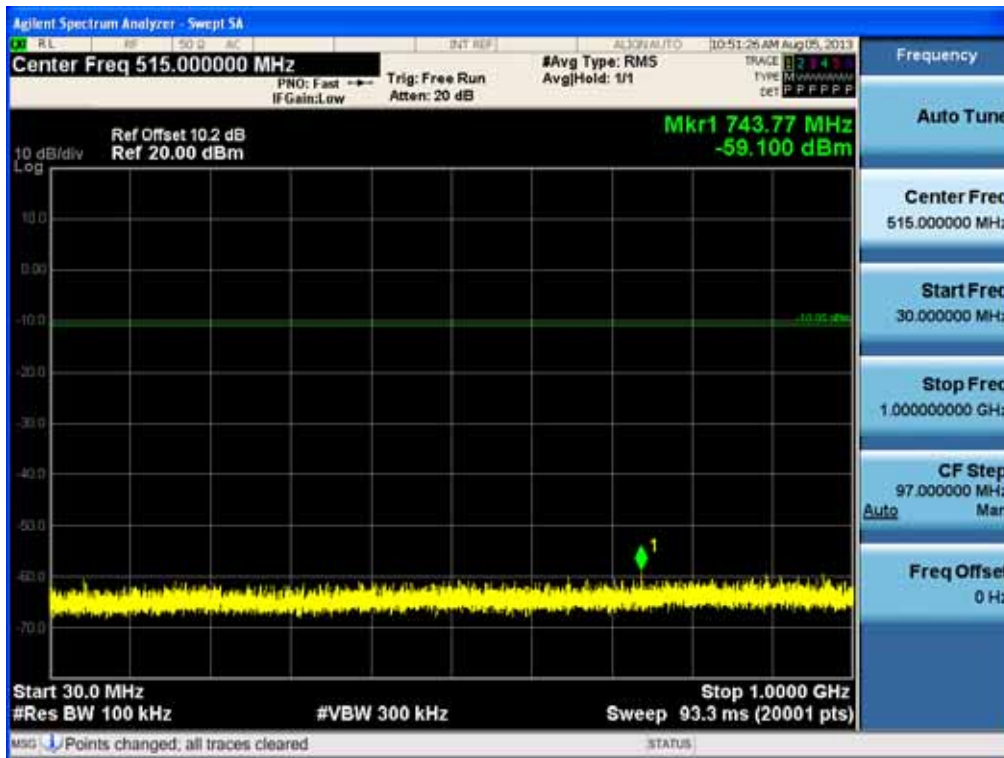


Conducted Spurious Emission (802.11g-CH1)

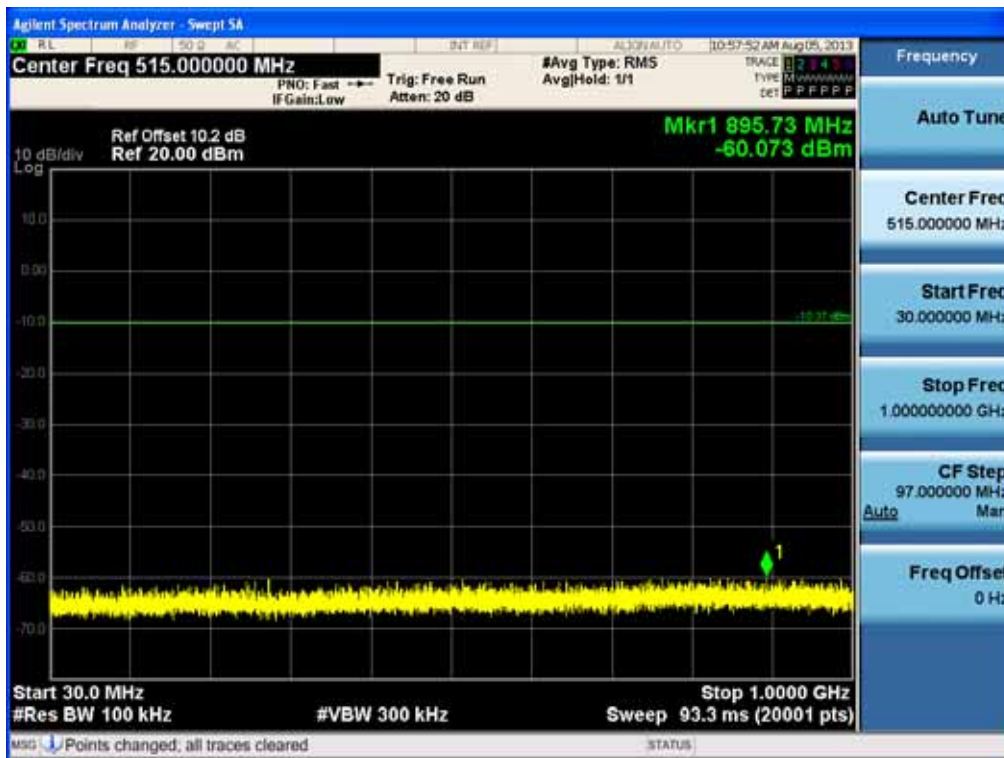


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Spurious Emission (802.11g-CH6)

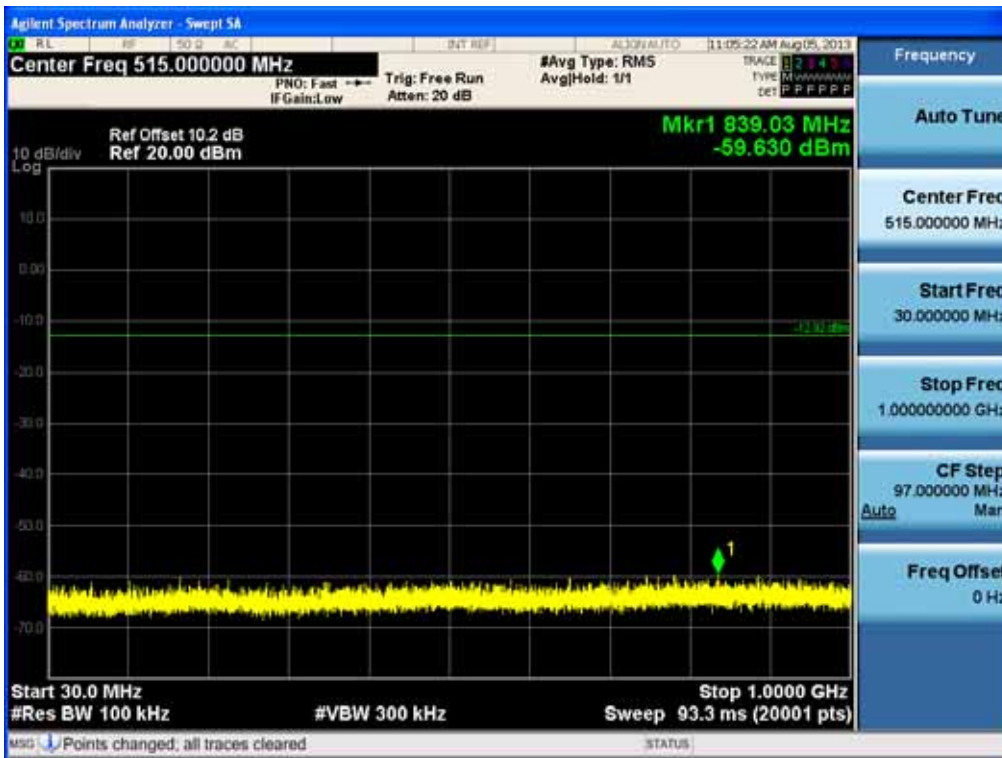


Conducted Spurious Emission (802.11g-CH11)

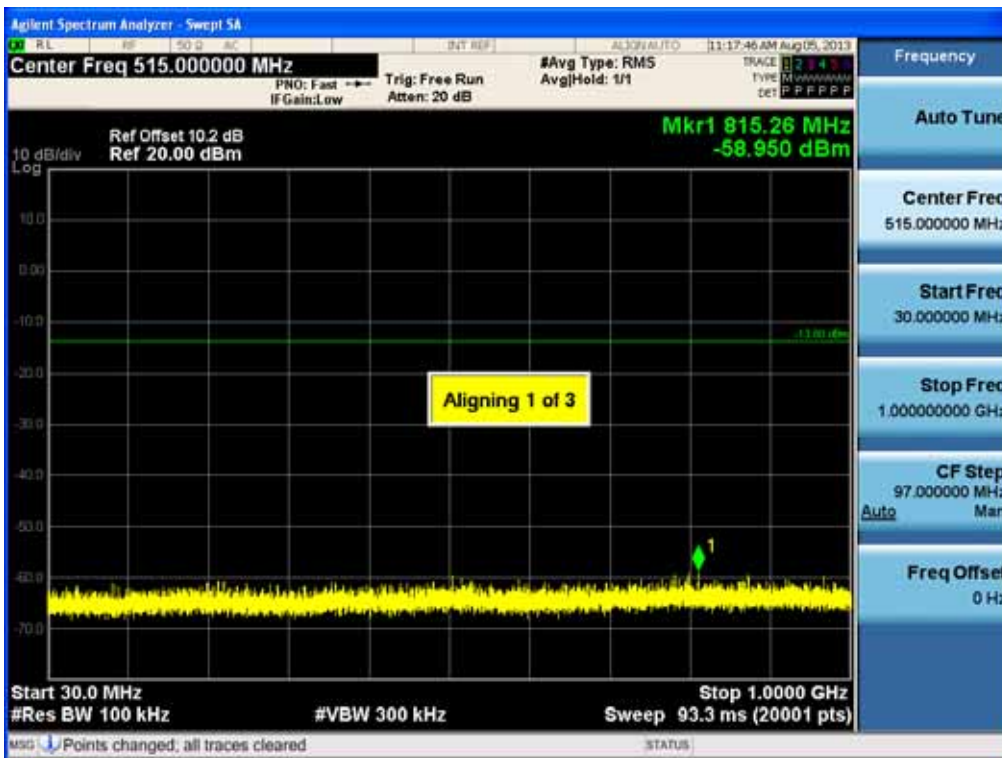


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Spurious Emission (802.11n-CH1)_20 MHz BW

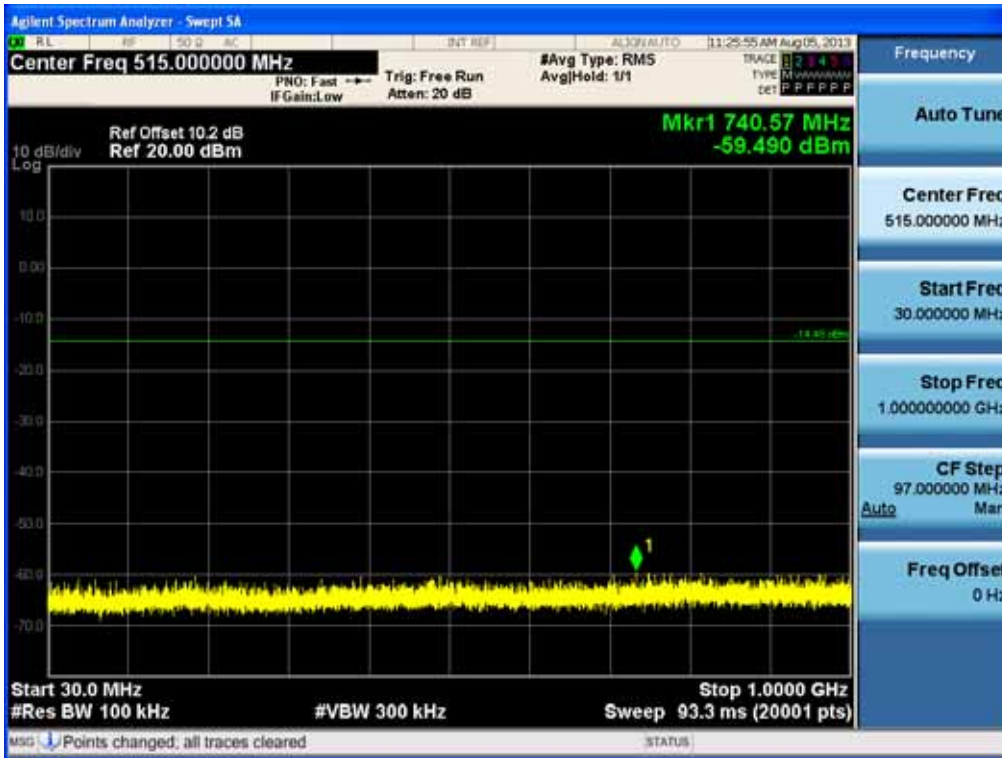


Conducted Spurious Emission (802.11n-CH6)_20 MHz BW

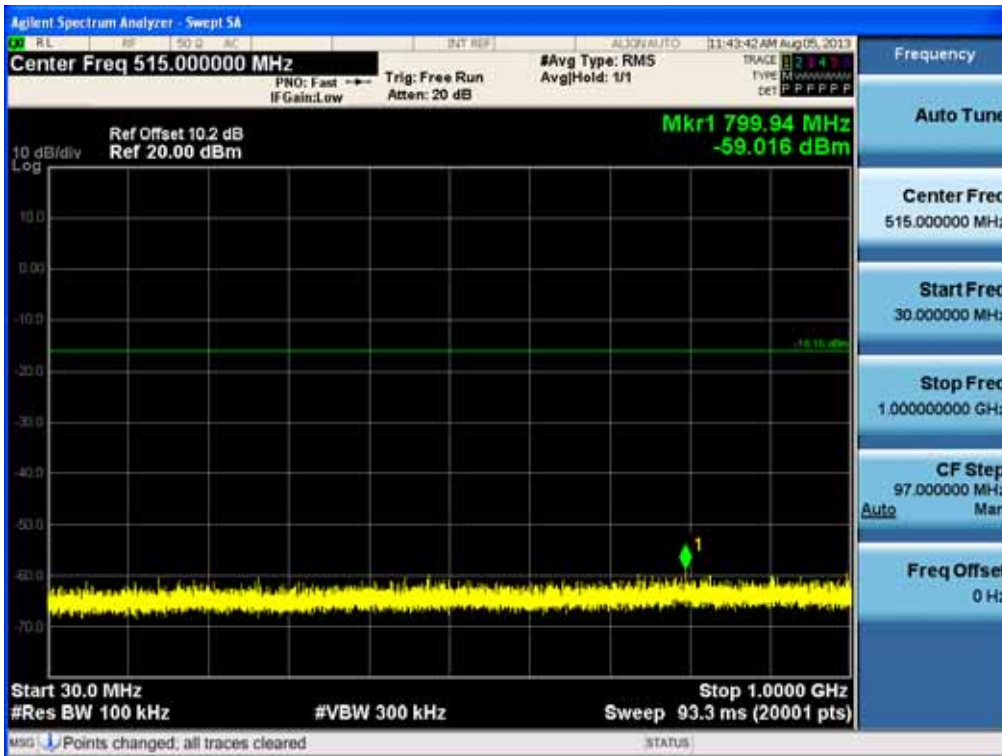


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Spurious Emission (802.11n-CH11) _20 MHz BW

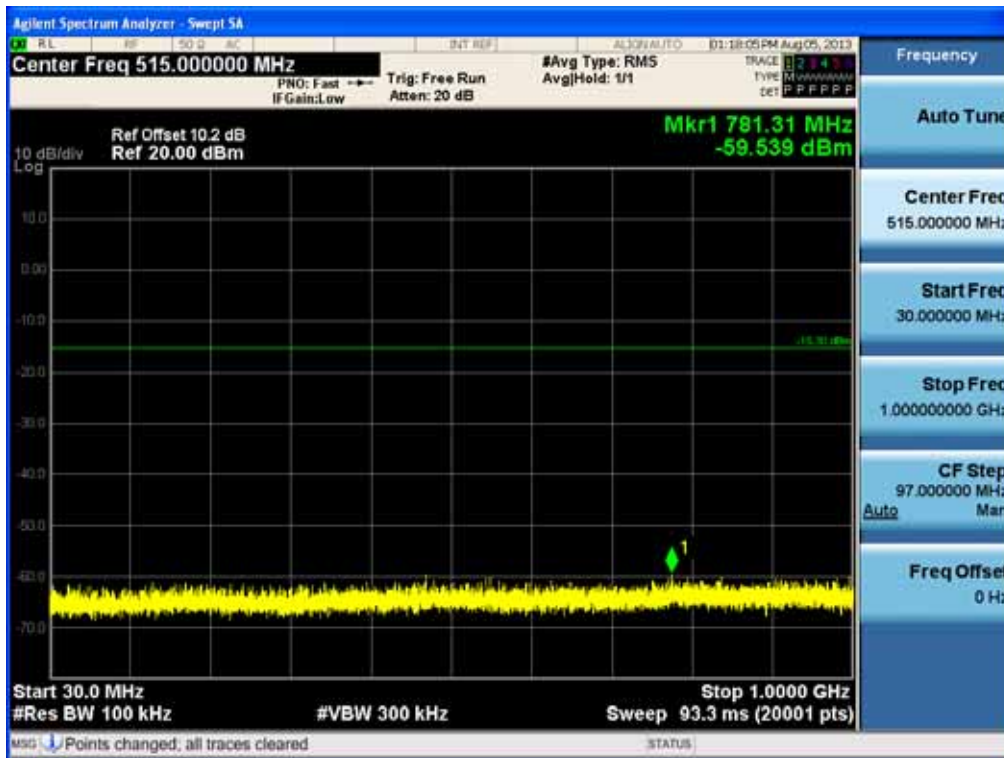


Conducted Spurious Emission (802.11n-CH3) _40 MHz BW

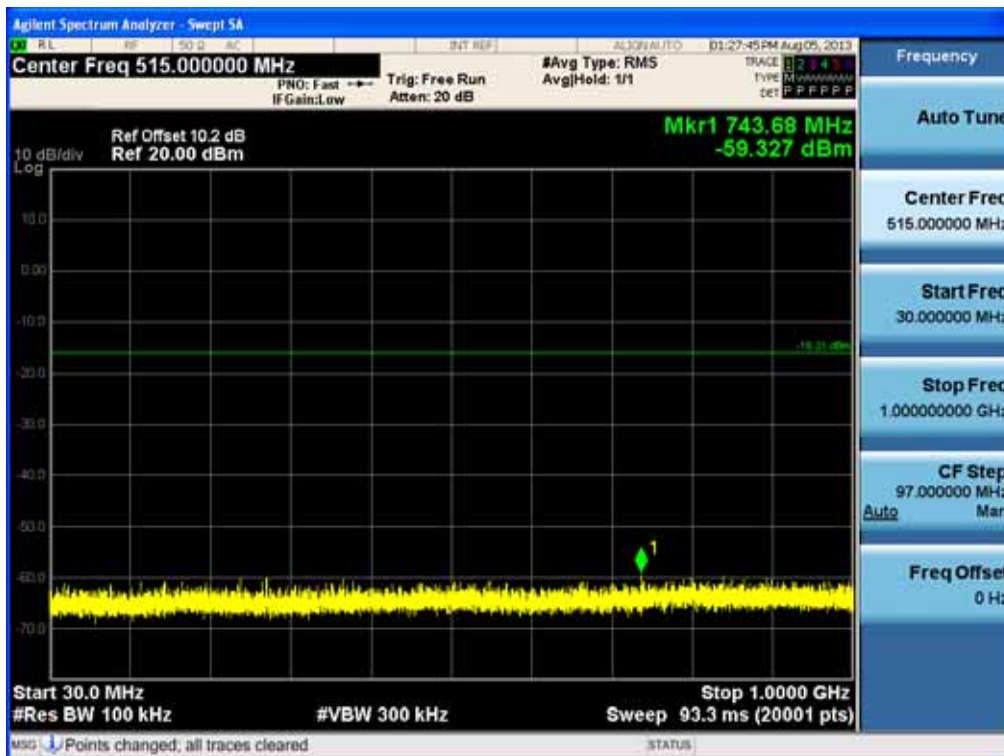


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Spurious Emission (802.11n-CH6)_40 MHz BW



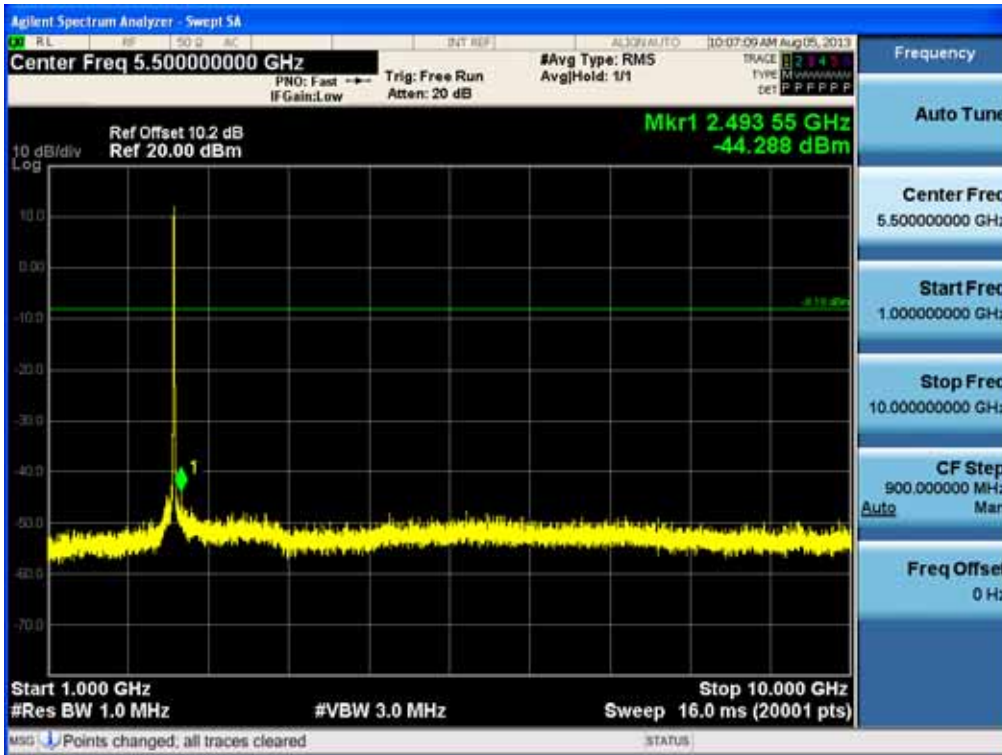
Conducted Spurious Emission (802.11n-CH9)_40 MHz BW



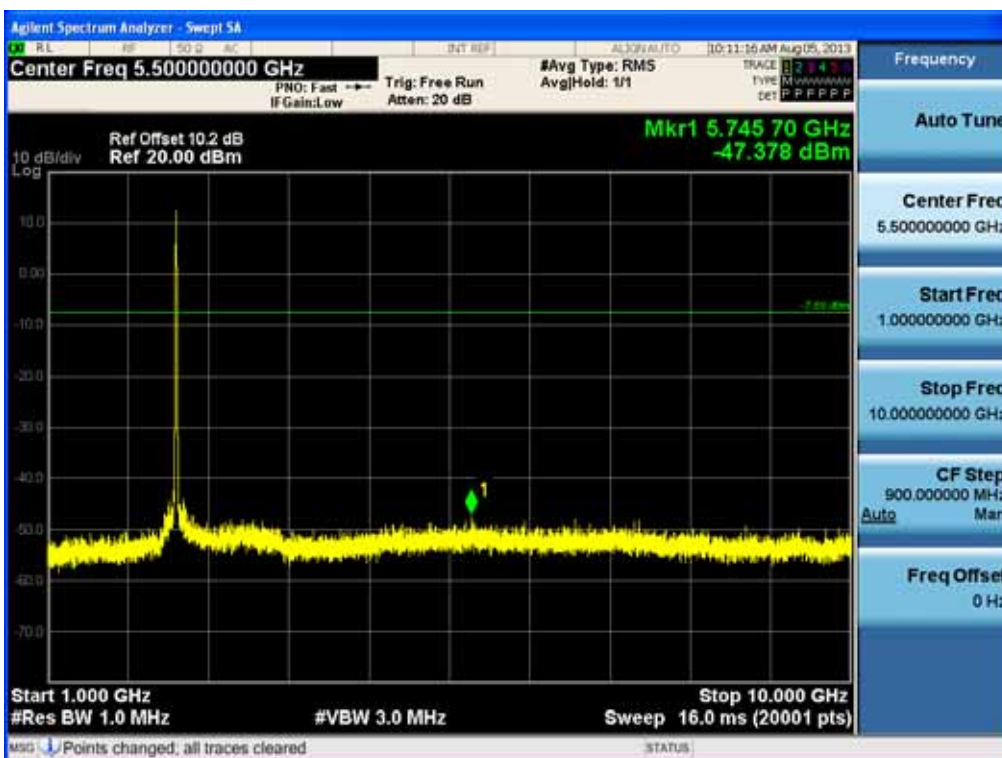
| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

1 GHz ~ 10 GHz

Conducted Spurious Emission (802.11b-CH1)

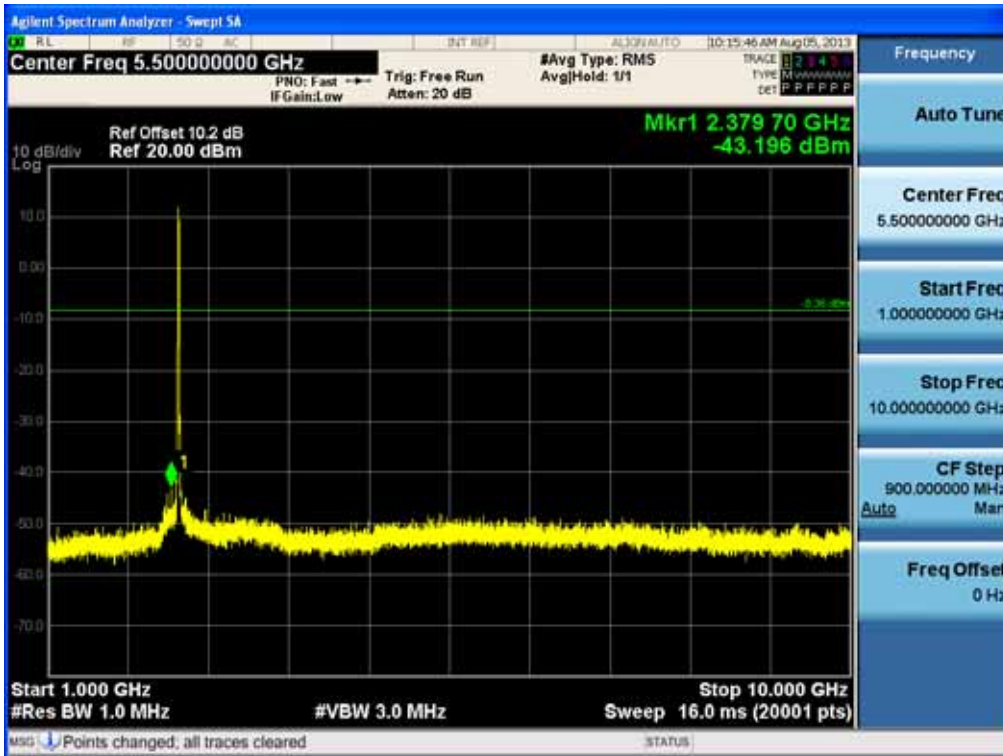


Conducted Spurious Emission (802.11b-CH6)

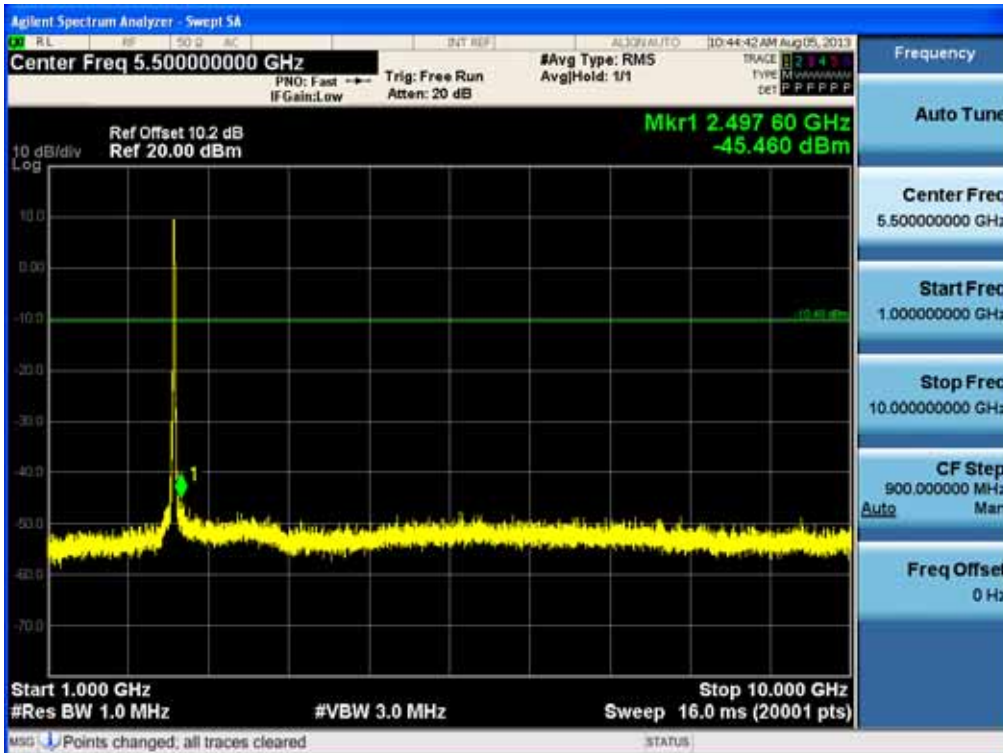


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Spurious Emission (802.11b-CH11)

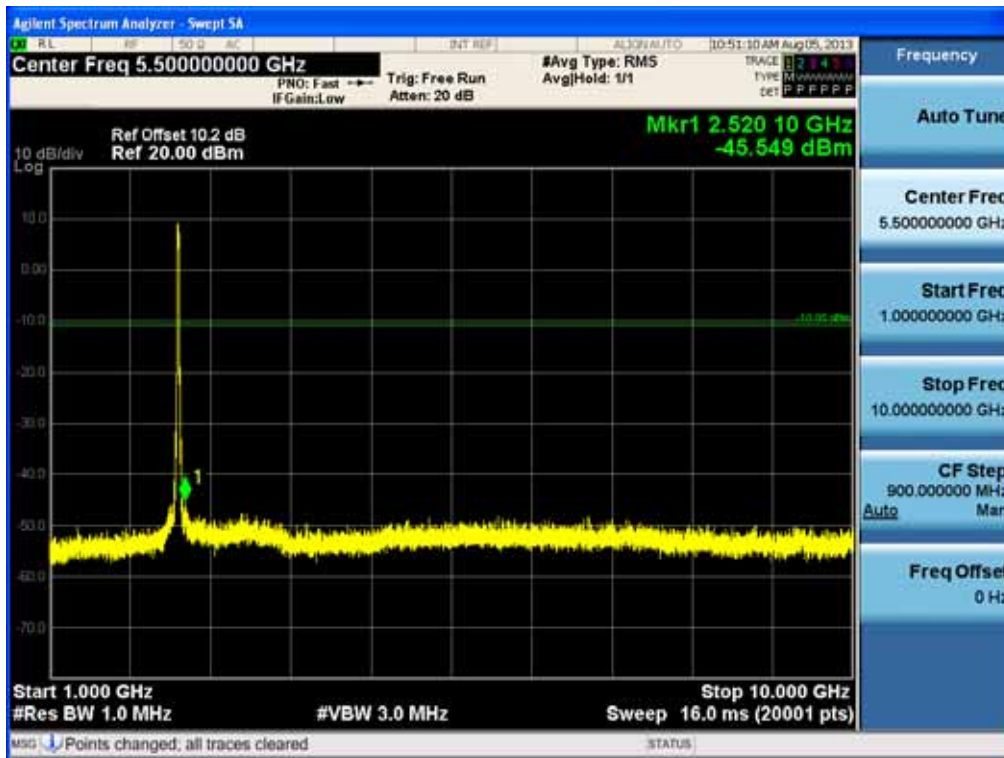


Conducted Spurious Emission (802.11g-CH1)

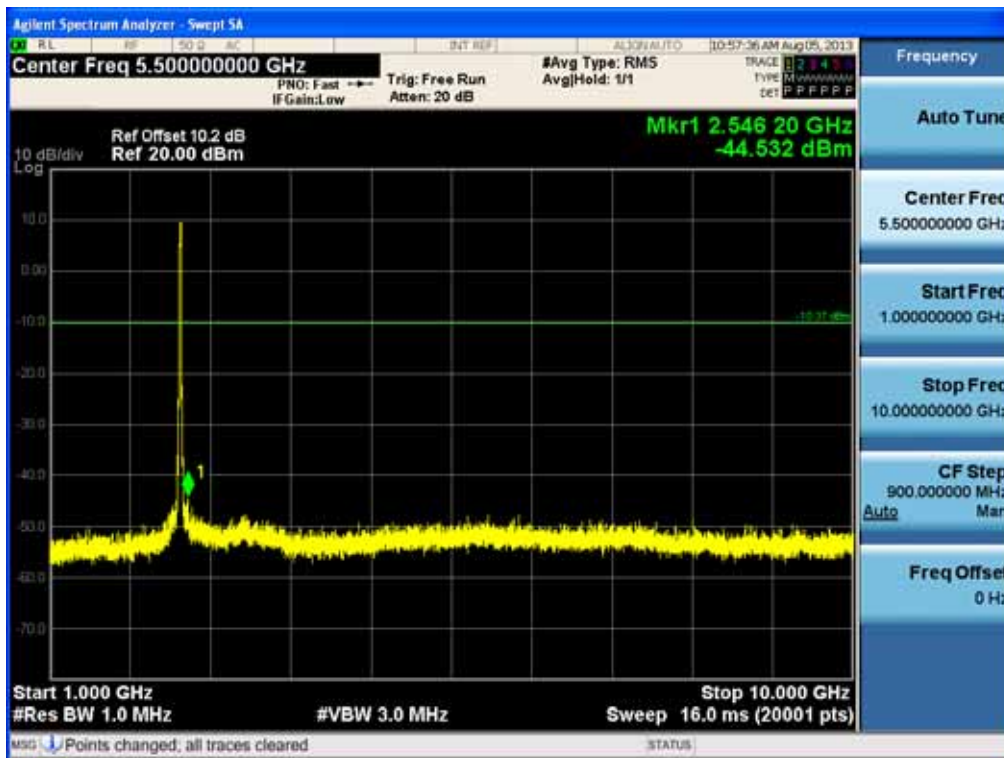


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Spurious Emission (802.11g-CH6)

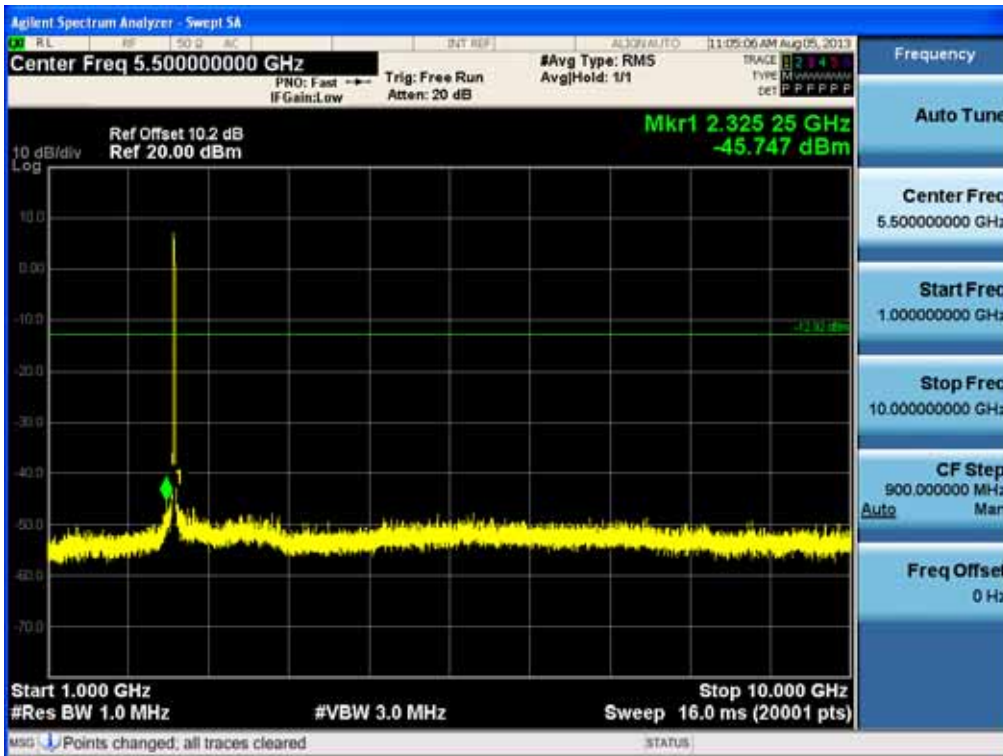


Conducted Spurious Emission (802.11g-CH11)

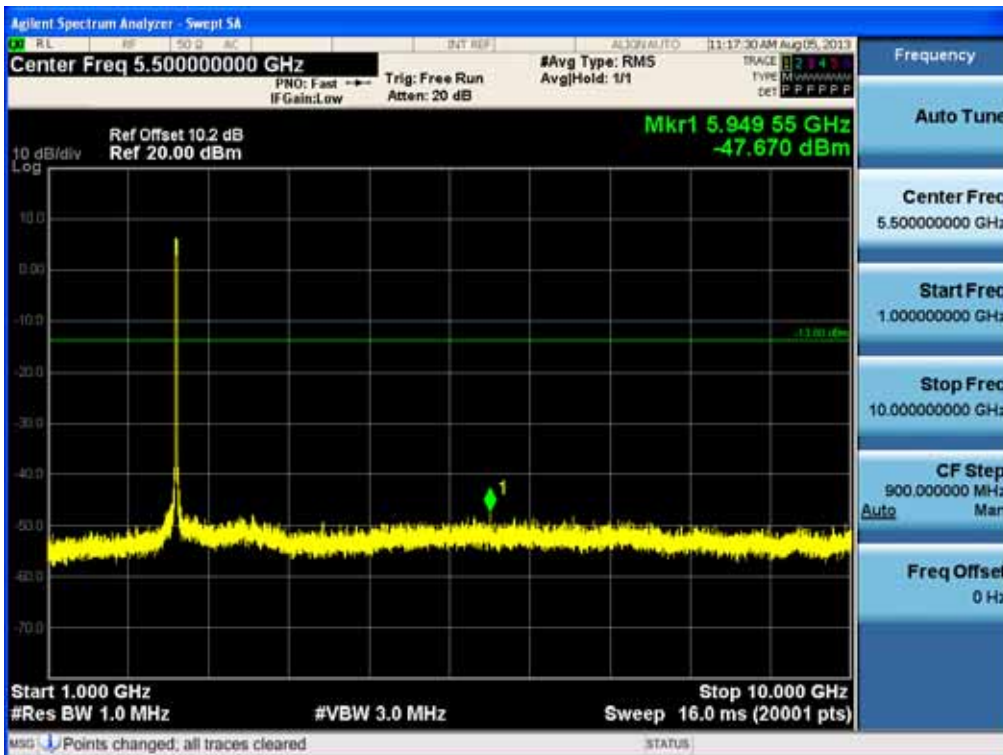


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |

Conducted Spurious Emission (802.11n-CH1) _20 MHz BW

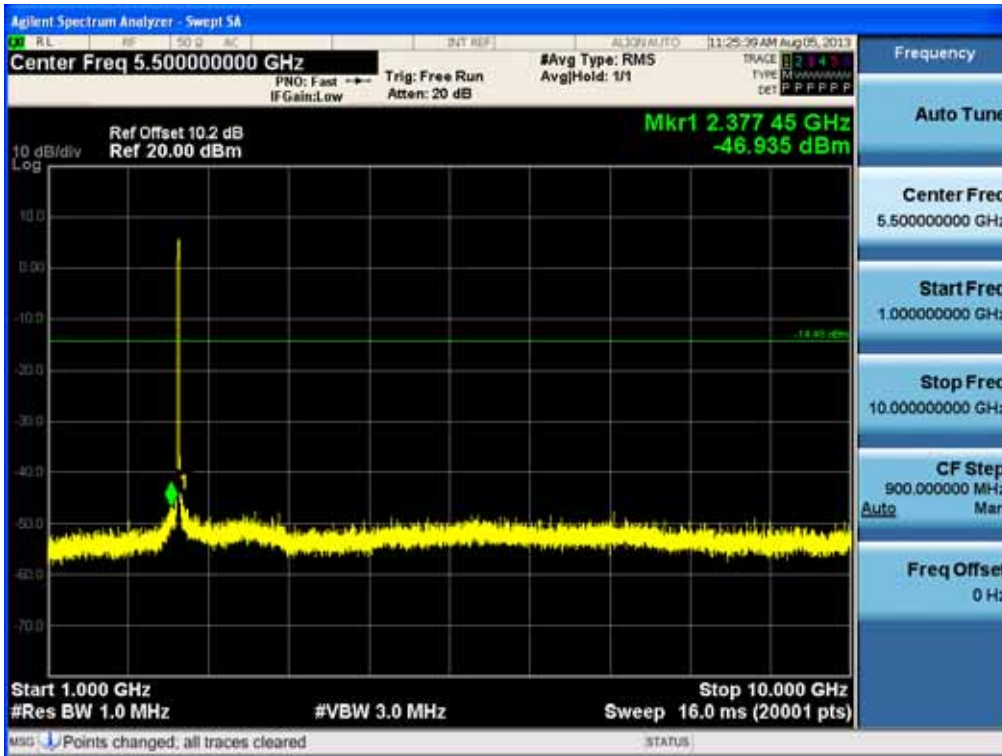


Conducted Spurious Emission (802.11n-CH6) _20 MHz BW

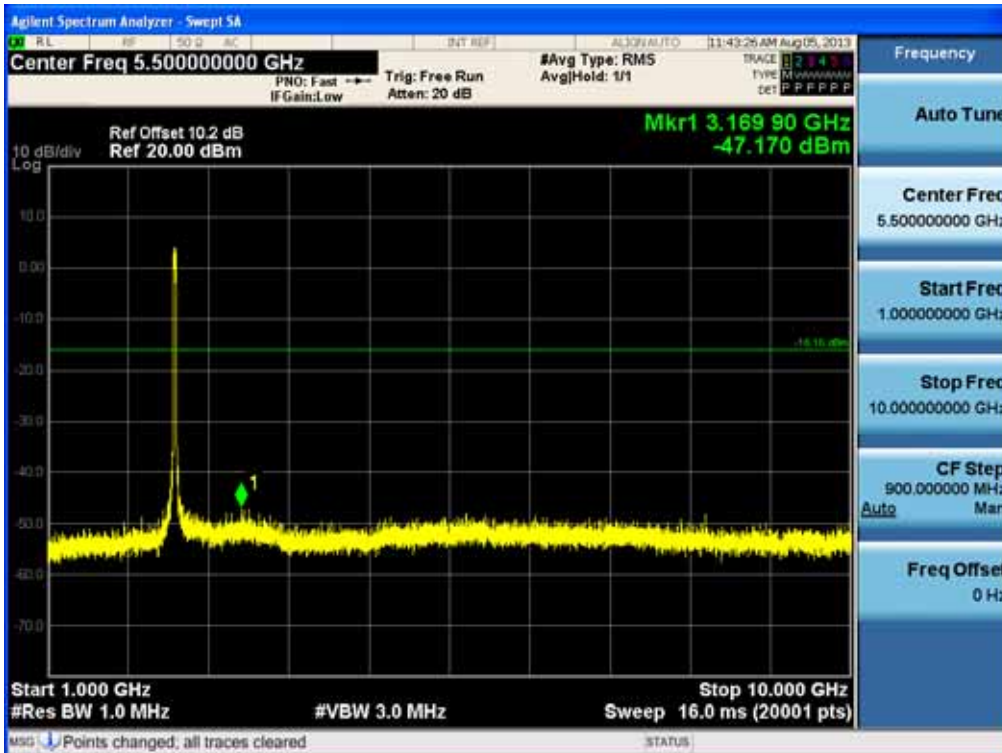


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |

Conducted Spurious Emission (802.11n-CH11) _20 MHz BW

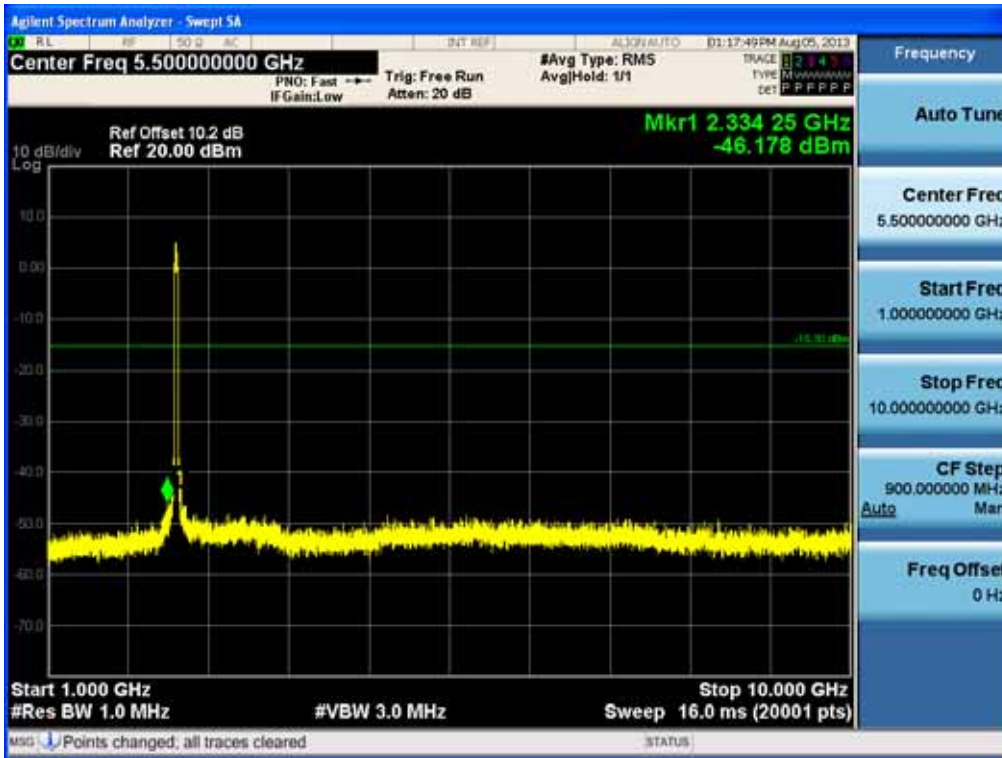


Conducted Spurious Emission (802.11n-CH3) _40 MHz BW

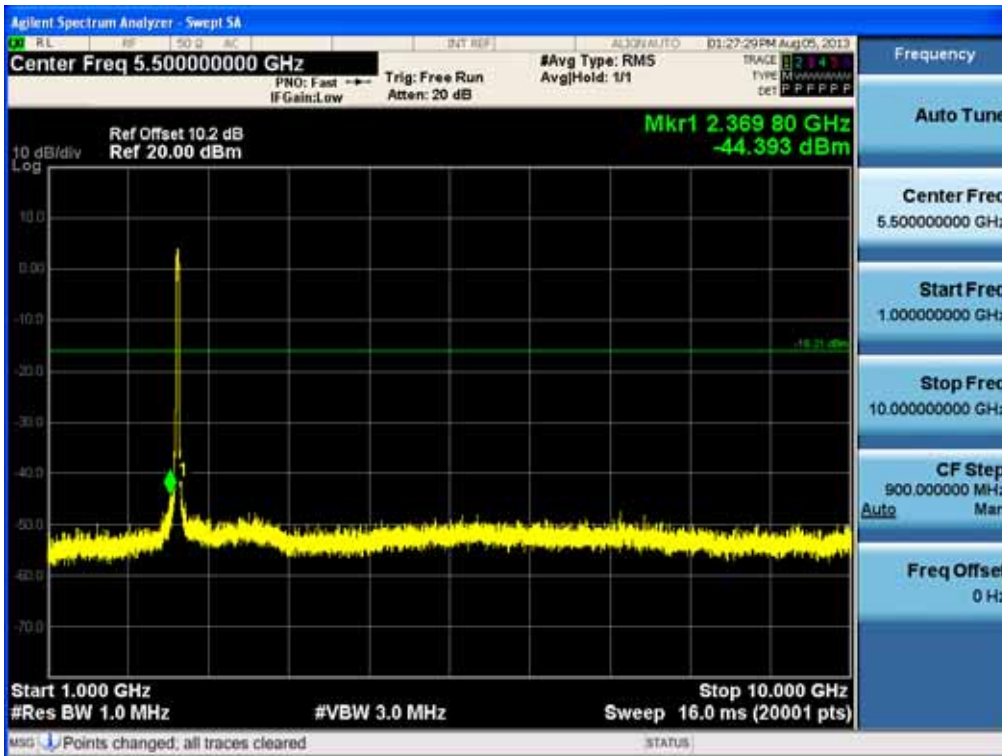


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |

Conducted Spurious Emission (802.11n-CH6)_40 MHz BW



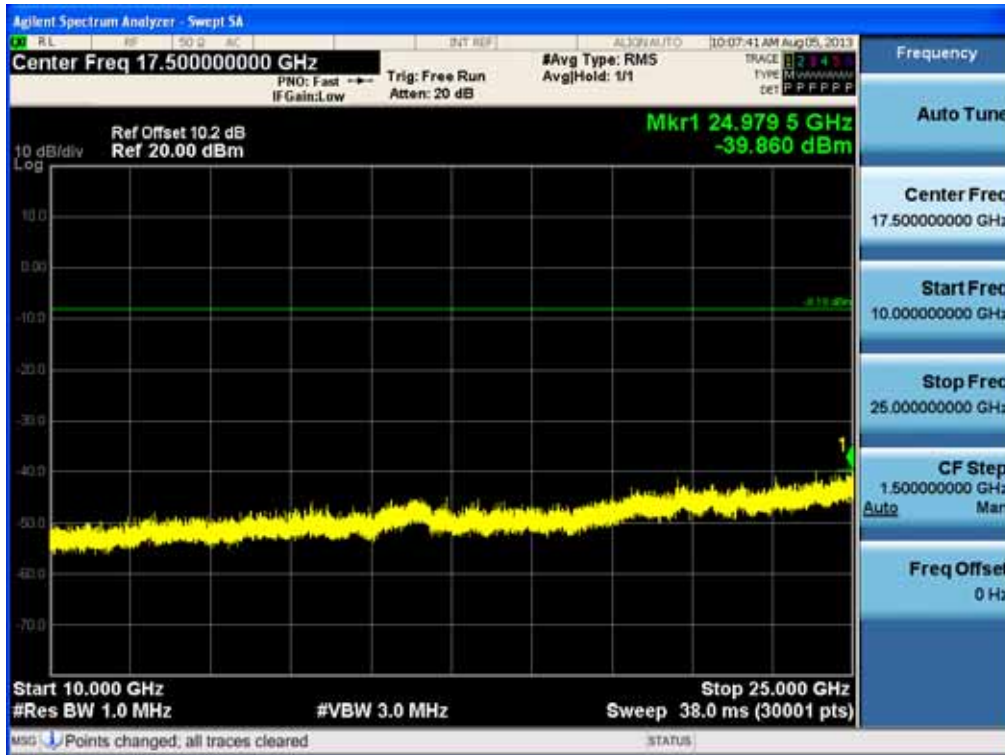
Conducted Spurious Emission (802.11n-CH9)_40 MHz BW



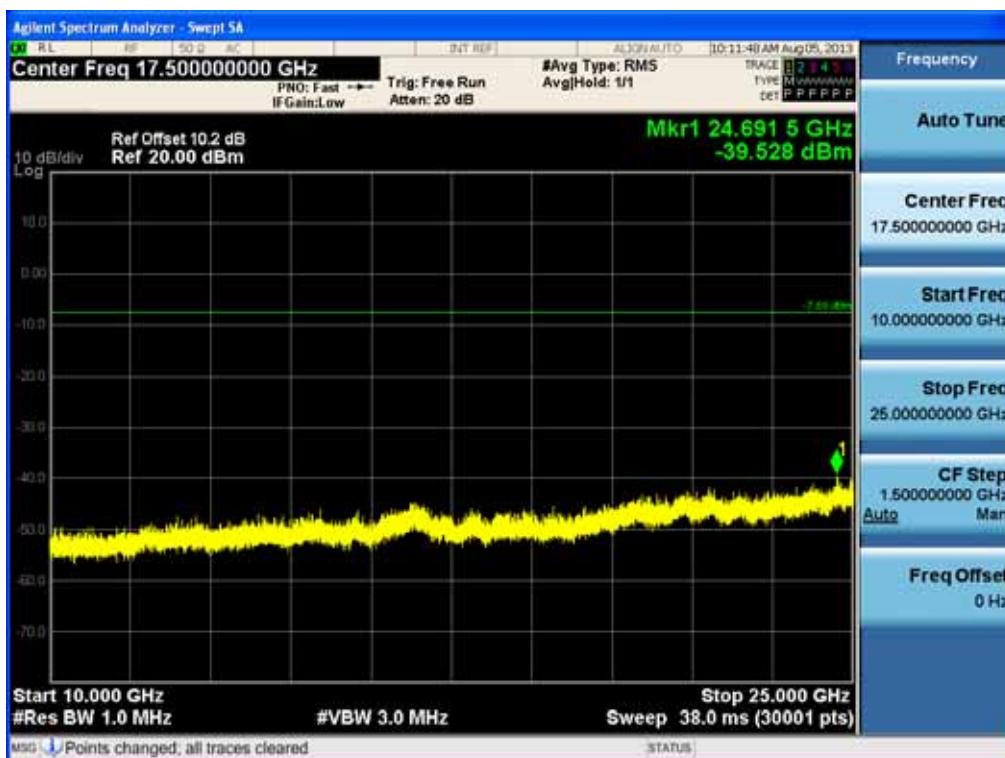
| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

10 GHz ~ 25 GHz

Conducted Spurious Emission (802.11b-CH1)



Conducted Spurious Emission (802.11b-CH6)

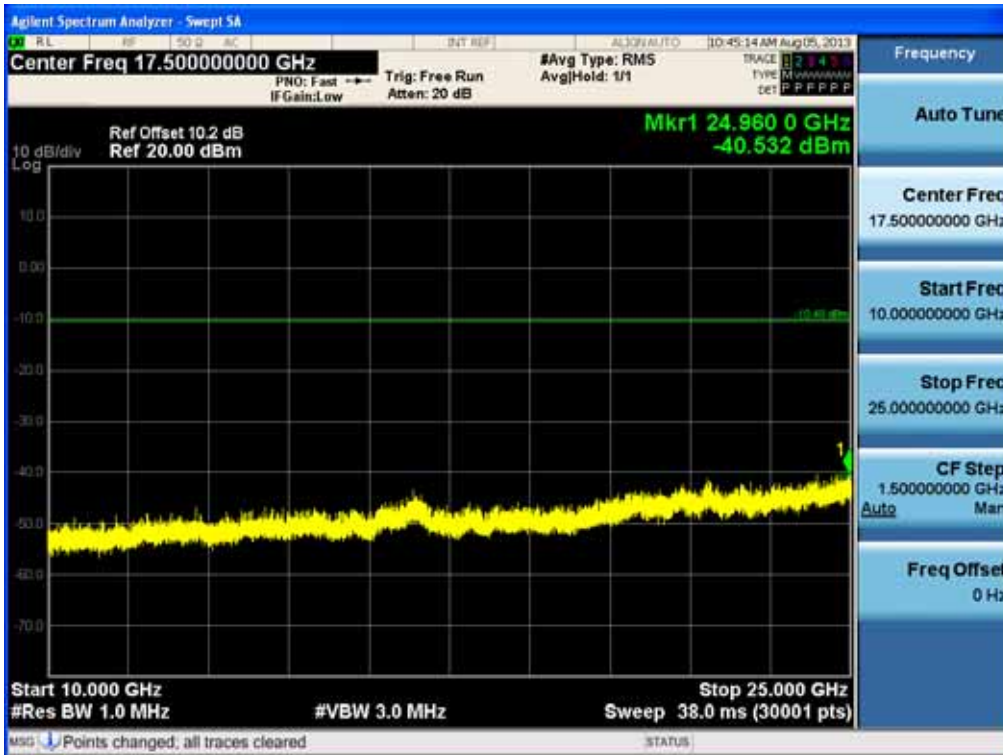


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Spurious Emission (802.11b-CH11)

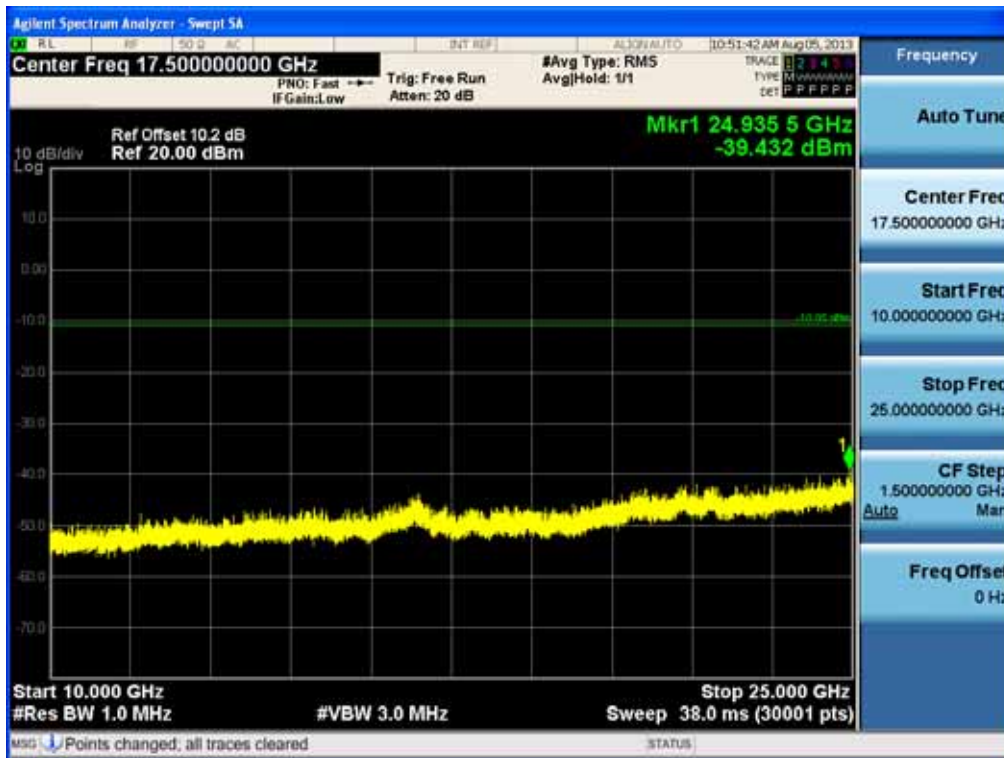


Conducted Spurious Emission (802.11g-CH11)



| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Spurious Emission (802.11g-CH6)

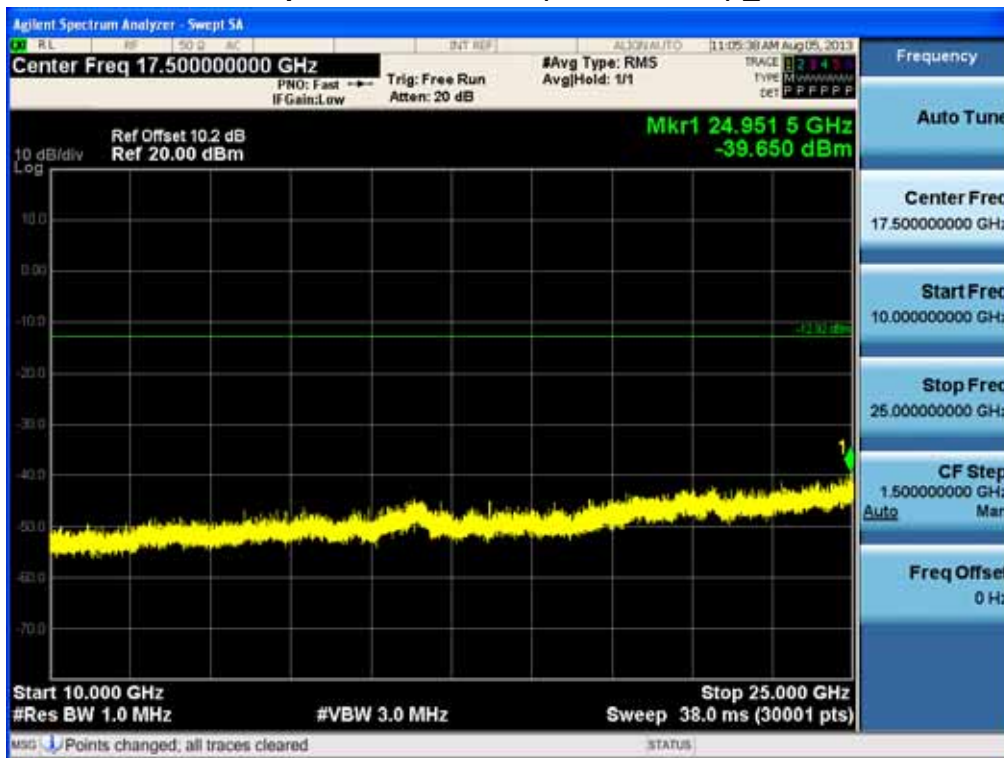


Conducted Spurious Emission (802.11g-CH11)

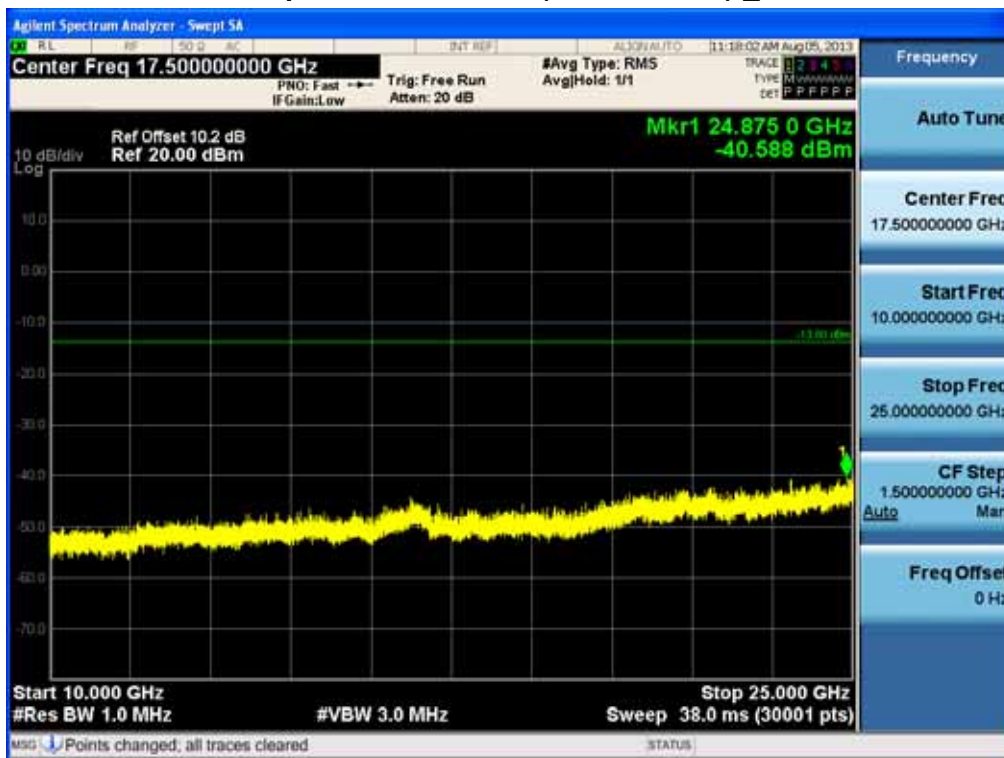


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Spurious Emission (802.11n-CH1) _20 MHz BW

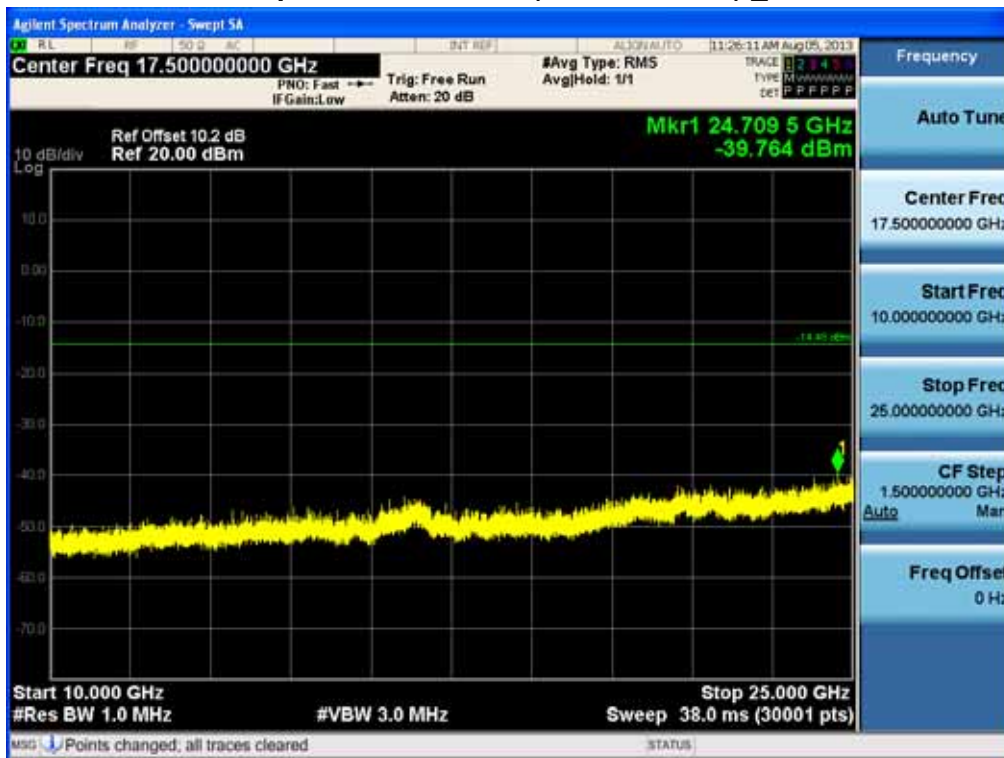


Conducted Spurious Emission (802.11n-CH6) _20 MHz BW

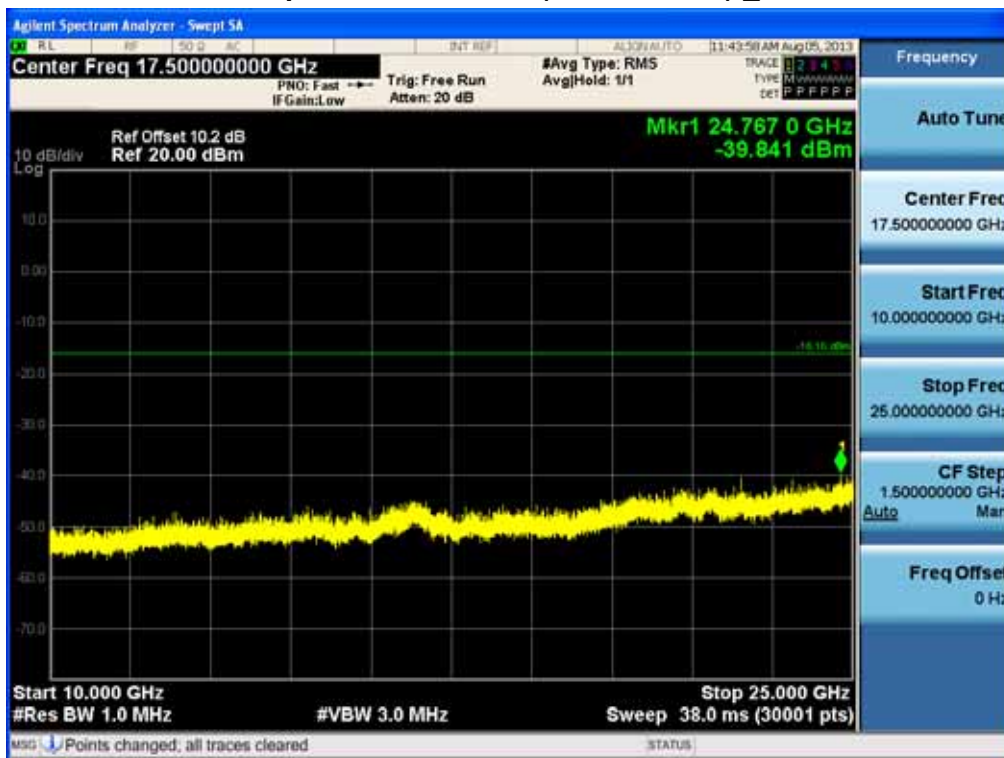


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

Conducted Spurious Emission (802.11n-CH11) _20 MHz BW

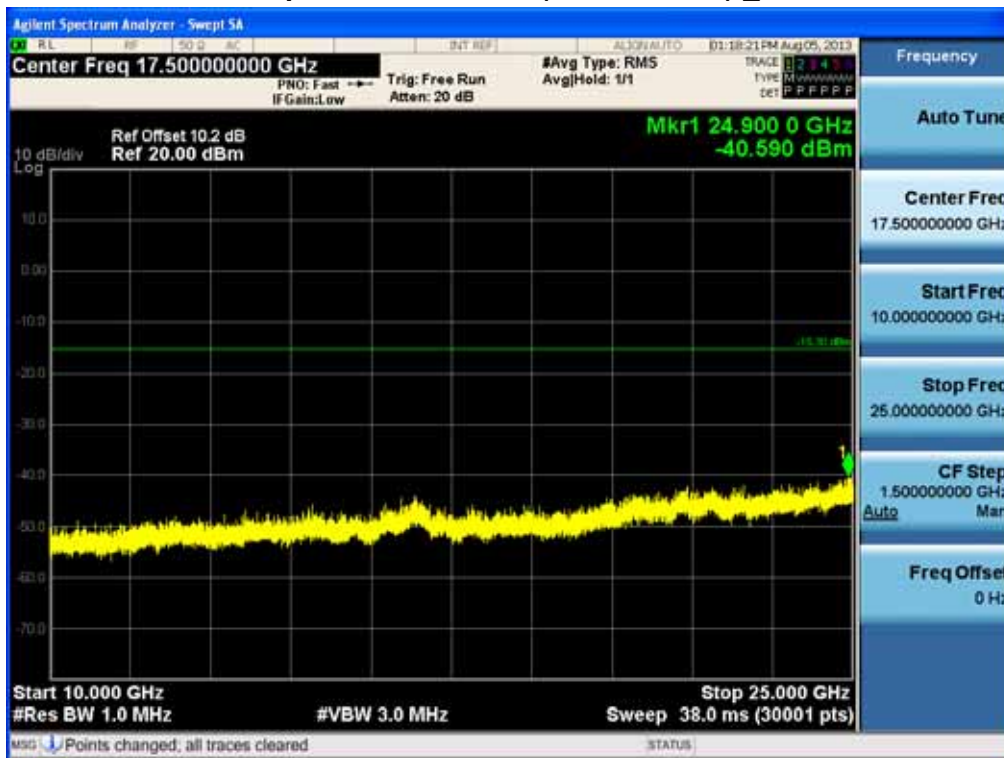


Conducted Spurious Emission (802.11n-CH3) _40 MHz BW

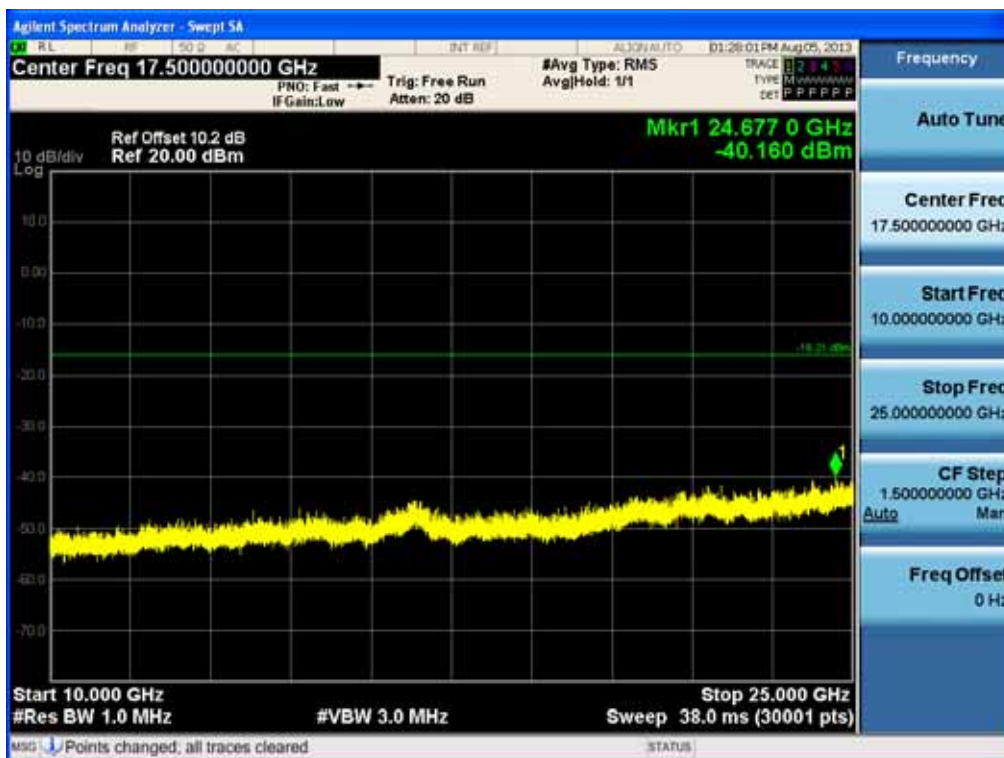


| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |

Conducted Spurious Emission (802.11n-CH6) _40 MHz BW



Conducted Spurious Emission (802.11n-CH9) _40 MHz BW



| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |

8.6 RADIATED MEASUREMENT.

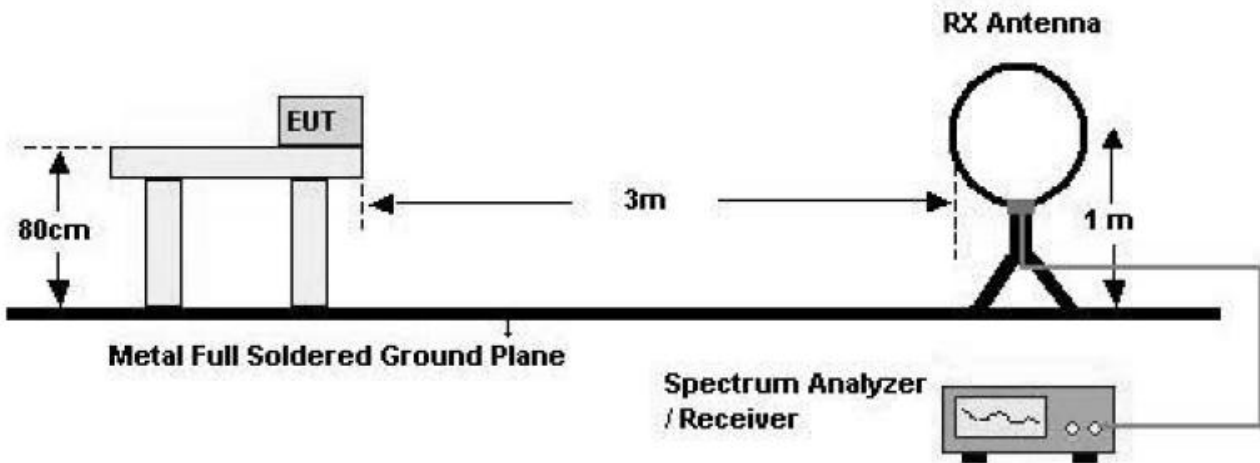
8.6.1 RADIATED SPURIOUS EMISSIONS.

Test Requirements and limit, §15.205, §15.209

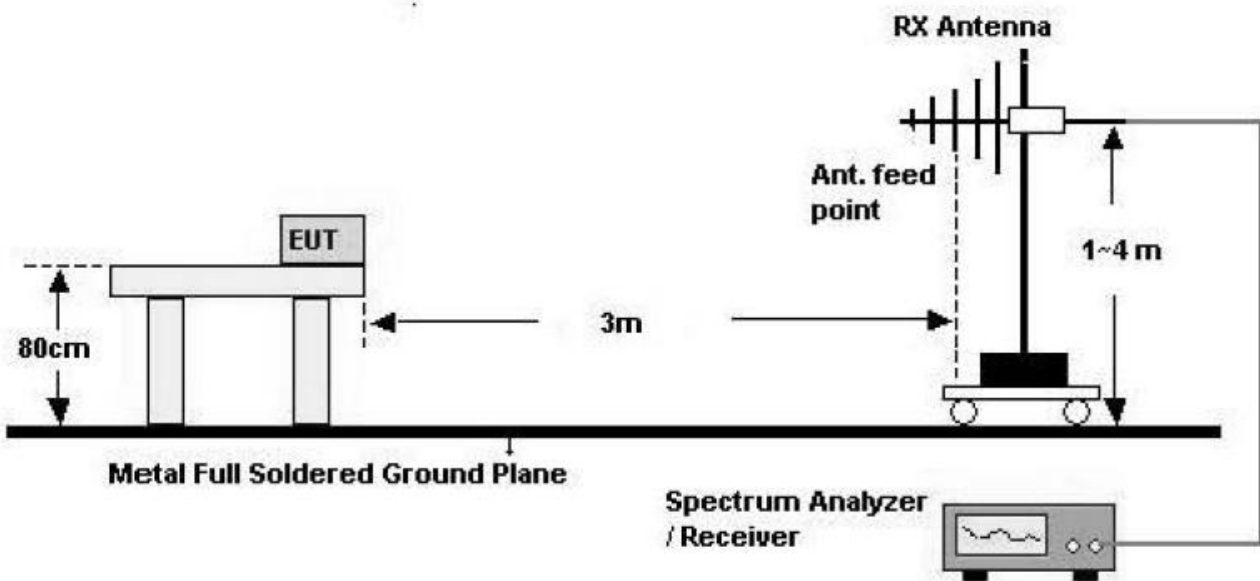
| Frequency (MHz) | Field Strength (uV/m) | Measurement Distance (m) |
|-----------------|-----------------------|--------------------------|
| 0.009 – 0.490 | 2400/F(kHz) | 300 |
| 0.490 – 1.705 | 24000/F(kHz) | 30 |
| 1.705 – 30 | 30 | 30 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 |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

Test Configuration

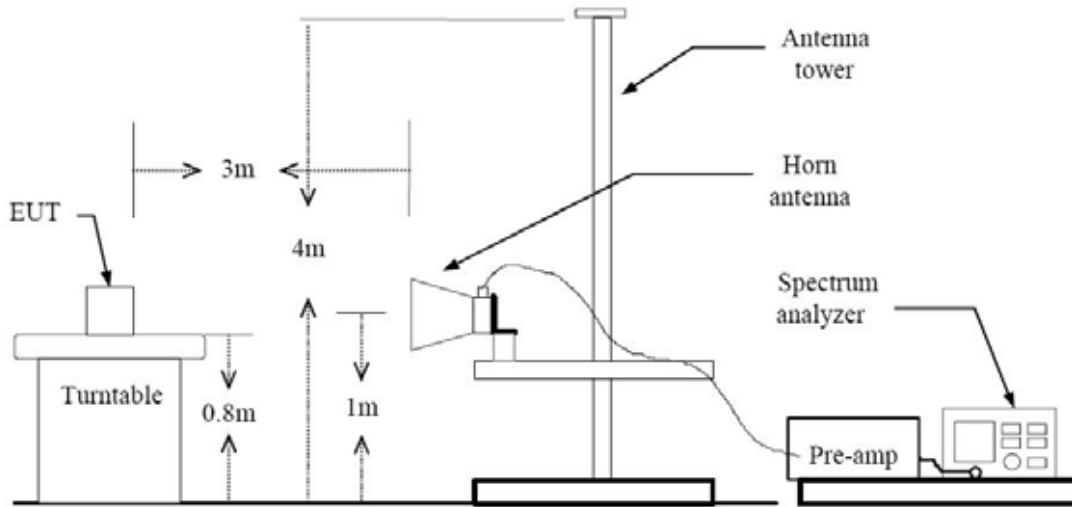
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



TEST PROCEDURE USED

ANSI C63.4(2003)

Method 12.2.4 in KDB 558074, issued 04/09/2013 (Peak)

Method 12.2.5.1 in KDB 558074, issued 04/09/2013(Average Case 1)

Method 12.2.5.3 in KDB 558074, issued 04/09/2013(Average Case 2)

Spectrum Setting

- Peak

Peak emission levels are measured by setting the instrument as follows:

RBW = cf. Table 1.

VBW ≥ 3 x RBW.

Detector = Peak.

Sweep time = auto.

Trace mode = max hold.

Allow sweeps to continue until the trace stabilizes.

(Note that the required measurement time may be longer for low duty cycle applications).

Table 1 —RBW as a function of frequency

| Frequency | RBW |
|-------------|-------------|
| 9-150 kHz | 200-300 Hz |
| 0.15-30 MHz | 9-10 kHz |
| 30-1000 MHz | 100-120 kHz |
| > 1000 MHz | 1 MHz |

- Average

Case 1

If the EUT can be configured or modified to transmit continuously (duty cycle \geq 98 percent then the average emission levels shall be measured using the following method (with EUT transmitting continuously).

RBW = 1 MHz (unless otherwise specified).

VBW \geq 3 x RBW.

Detector = RMS, if span/(# of points in sweep) \leq (RBW/2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.

Averaging type = power (i.e., RMS).

- 1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
- 2) Some instruments require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used.

Sweep time = auto.

Perform a trace average of at least 100 traces.

Case 2

If continuous transmission of the EUT (i.e., duty cycle \geq 98 percent) cannot be achieved and the duty cycle is not constant (i.e., duty cycle variations exceed \pm 2 percent), then the following procedure shall be used:

Set RBW = 1 MHz.

Set VBW \geq 1/T.

Video bandwidth mode or display mode

- 1) The instrument shall be set to ensure that video filtering is applied in the power domain. Typically, this requires setting the detector mode to RMS and setting the Average-VBW Type to Power (RMS).
- 2) As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode.

Detector = Peak.

Sweep time = auto.

Trace mode = max hold.

Allow max hold to run for at least 50 times (1/duty cycle) traces.

Note :

1. We used the case 1 for 802.11b mode and the case 2 for 802.11g/n_20/n_40 to perform the average filed strength measurements for RSE and radiated band edge test.

| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |

2. The actual setting value of VBW for 802.11g/n_20/n_40

| Mode | Worst Data rate (Mbps) | T _{on} (ms) | T _{total} (ms) | Duty Cycle (%) | VBW(1/T) (Hz) | The actual setting value of VBW (Hz) |
|-------------|------------------------|----------------------|-------------------------|----------------|---------------|--------------------------------------|
| g | 6 | 2.019 | 2.135 | 94.57 | 495.0 | 1000 |
| n 20 MHz BW | 6.5 | 1.881 | 1.998 | 94.14 | 531.6 | 1000 |
| n 40 MHz BW | 13.5 | 0.896 | 1.036 | 86.49 | 1116.1 | 3000 |



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. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |



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. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |



Above 1 GHz

Operation Mode: 802.11 b
 Transfer Rate: 1 Mbps
 Operating Frequency: 2412
 Channel No.: 01 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL-AMP G [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4824 | 56.43 | -4.25 | V | 52.18 | 74 | 21.80 | PK |
| 4824 | 49.97 | -4.25 | V | 45.72 | 54 | 8.26 | AV |
| 7236 | 53.65 | 5.21 | V | 58.86 | 74 | 15.12 | PK |
| 7236 | 41.10 | 5.21 | V | 46.31 | 54 | 7.67 | AV |
| 4824 | 58.35 | -4.25 | H | 54.10 | 74 | 19.88 | PK |
| 4824 | 53.35 | -4.25 | H | 49.10 | 54 | 4.88 | AV |
| 7236 | 53.32 | 5.21 | H | 58.53 | 74 | 15.45 | PK |
| 7236 | 41.13 | 5.21 | H | 46.34 | 54 | 7.64 | AV |

Operation Mode: 802.11 g
 Transfer Rate: 6 Mbps
 Operating Frequency: 2412
 Channel No.: 01 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL-AMP G [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4824 | 55.14 | -4.25 | V | 50.89 | 74 | 23.09 | PK |
| 4824 | 40.41 | -4.25 | V | 36.16 | 54 | 17.82 | AV |
| 7236 | 53.77 | 5.21 | V | 58.98 | 74 | 15.00 | PK |
| 7236 | 39.41 | 5.21 | V | 44.62 | 54 | 9.36 | AV |
| 4824 | 55.60 | -4.25 | H | 51.35 | 74 | 22.63 | PK |
| 4824 | 40.74 | -4.25 | H | 36.49 | 54 | 17.49 | AV |
| 7236 | 53.96 | 5.21 | H | 59.17 | 74 | 14.81 | PK |
| 7236 | 39.49 | 5.21 | H | 44.70 | 54 | 9.28 | AV |



| | |
|---------------------|----------|
| Operation Mode: | 802.11 n |
| Transfer Rate: | 6.5 Mbps |
| Operating Frequency | 2412 |
| Channel No. | 01 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-AMP G [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4824 | 54.55 | -4.25 | V | 50.30 | 74 | 23.68 | PK |
| 4824 | 40.31 | -4.25 | V | 36.06 | 54 | 17.92 | AV |
| 7236 | 53.34 | 5.21 | V | 58.55 | 74 | 15.43 | PK |
| 7236 | 39.38 | 5.21 | V | 44.59 | 54 | 9.39 | AV |
| 4824 | 54.73 | -4.25 | H | 50.48 | 74 | 23.50 | PK |
| 4824 | 40.25 | -4.25 | H | 36.00 | 54 | 17.98 | AV |
| 7236 | 53.21 | 5.21 | H | 58.42 | 74 | 15.56 | PK |
| 7236 | 39.40 | 5.21 | H | 44.61 | 54 | 9.37 | 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. We have done 802.11b/g/n_20 mode and all data rate. Worst data rate is the lowest data of each mode.
6. 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. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |



Operation Mode: 802.11 b
 Transfer Rate: 1 Mbps
 Operating Frequency: 2437
 Channel No.: 06 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL-AMP G [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4874 | 56.24 | -3.93 | V | 52.31 | 74 | 21.67 | PK |
| 4874 | 49.95 | -3.93 | V | 46.02 | 54 | 7.96 | AV |
| 7311 | 53.38 | 4.97 | V | 58.35 | 74 | 15.63 | PK |
| 7311 | 41.13 | 4.97 | V | 46.10 | 54 | 7.88 | AV |
| 4874 | 58.07 | -3.93 | H | 54.14 | 74 | 19.84 | PK |
| 4874 | 53.02 | -3.93 | H | 49.09 | 54 | 4.89 | AV |
| 7311 | 53.14 | 4.97 | H | 58.11 | 74 | 15.87 | PK |
| 7311 | 41.05 | 4.97 | H | 46.02 | 54 | 7.96 | AV |

Operation Mode: 802.11 g
 Transfer Rate: 6 Mbps
 Operating Frequency: 2437
 Channel No.: 06 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL-AMP G [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4874 | 54.37 | -3.93 | V | 50.44 | 74 | 23.54 | PK |
| 4874 | 40.34 | -3.93 | V | 36.41 | 54 | 17.57 | AV |
| 7311 | 53.18 | 4.97 | V | 58.15 | 74 | 15.83 | PK |
| 7311 | 39.31 | 4.97 | V | 44.28 | 54 | 9.70 | AV |
| 4874 | 54.43 | -3.93 | H | 50.50 | 74 | 23.48 | PK |
| 4874 | 40.26 | -3.93 | H | 36.33 | 54 | 17.65 | AV |
| 7311 | 53.32 | 4.97 | H | 58.29 | 74 | 15.69 | PK |
| 7311 | 39.40 | 4.97 | H | 44.37 | 54 | 9.61 | AV |



| | |
|---------------------|----------|
| Operation Mode: | 802.11 n |
| Transfer Rate: | 6.5 Mbps |
| Operating Frequency | 2437 |
| Channel No. | 06 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-AMP G [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4874 | 53.49 | -3.93 | V | 49.56 | 74 | 24.42 | PK |
| 4874 | 39.38 | -3.93 | V | 35.45 | 54 | 18.53 | AV |
| 7311 | 53.38 | 4.97 | V | 58.35 | 74 | 15.63 | PK |
| 7311 | 39.41 | 4.97 | V | 44.38 | 54 | 9.60 | AV |
| 4874 | 53.35 | -3.93 | H | 49.42 | 74 | 24.56 | PK |
| 4874 | 39.42 | -3.93 | H | 35.49 | 54 | 18.49 | AV |
| 7311 | 53.46 | 4.97 | H | 58.43 | 74 | 15.55 | PK |
| 7311 | 39.36 | 4.97 | H | 44.33 | 54 | 9.65 | 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. We have done 802.11b/g/n_20 mode and all data rate. Worst data rate is the lowest data of each mode.
6. 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. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |



Operation Mode: 802.11 b
 Transfer Rate: 1 Mbps
 Operating Frequency: 2462
 Channel No.: 11 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL-AMP G [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4924 | 56.64 | -3.75 | V | 52.89 | 74 | 21.09 | PK |
| 4924 | 50.62 | -3.75 | V | 46.87 | 54 | 7.11 | AV |
| 7386 | 53.10 | 5.60 | V | 58.70 | 74 | 15.28 | PK |
| 7386 | 41.20 | 5.60 | V | 46.80 | 54 | 7.18 | AV |
| 4924 | 56.82 | -3.75 | H | 53.07 | 74 | 20.91 | PK |
| 4924 | 51.25 | -3.75 | H | 47.50 | 54 | 6.48 | AV |
| 7386 | 52.77 | 5.60 | H | 58.37 | 74 | 15.61 | PK |
| 7386 | 41.23 | 5.60 | H | 46.83 | 54 | 7.15 | AV |

Operation Mode: 802.11 g
 Transfer Rate: 6 Mbps
 Operating Frequency: 2462
 Channel No.: 11 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL-AMP G [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4924 | 53.17 | -3.75 | V | 49.42 | 74 | 24.56 | PK |
| 4924 | 39.21 | -3.75 | V | 35.46 | 54 | 18.52 | AV |
| 7386 | 53.32 | 5.60 | V | 58.92 | 74 | 15.06 | PK |
| 7386 | 39.24 | 5.60 | V | 44.84 | 54 | 9.14 | AV |
| 4924 | 53.07 | -3.75 | H | 49.32 | 74 | 24.66 | PK |
| 4924 | 39.37 | -3.75 | H | 35.62 | 54 | 18.36 | AV |
| 7386 | 52.76 | 5.60 | H | 58.36 | 74 | 15.62 | PK |
| 7386 | 39.38 | 5.60 | H | 44.98 | 54 | 9.00 | AV |



| | |
|---------------------|----------|
| Operation Mode: | 802.11 n |
| Transfer Rate: | 6.5 Mbps |
| Operating Frequency | 2462 |
| Channel No. | 11 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-AMP G [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4924 | 53.54 | -3.75 | V | 49.79 | 74 | 24.19 | PK |
| 4924 | 39.34 | -3.75 | V | 35.59 | 54 | 18.39 | AV |
| 7386 | 53.44 | 5.60 | V | 59.04 | 74 | 14.94 | PK |
| 7386 | 39.30 | 5.60 | V | 44.90 | 54 | 9.08 | AV |
| 4924 | 53.34 | -3.75 | H | 49.59 | 74 | 24.39 | PK |
| 4924 | 39.40 | -3.75 | H | 35.65 | 54 | 18.33 | AV |
| 7386 | 53.11 | 5.60 | H | 58.71 | 74 | 15.27 | PK |
| 7386 | 39.35 | 5.60 | H | 44.95 | 54 | 9.03 | 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. We have done 802.11b/g/n_20 mode and all data rate. Worst data rate is the lowest data of each mode.
6. 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. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |



Operation Mode: 802.11 n_40 MHz BW
 Transfer Rate: 13.5 Mbps
 Operating Frequency: 2422
 Channel No.: 03 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL-AMP G [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4844 | 52.89 | -3.90 | V | 48.99 | 74 | 24.99 | PK |
| 4844 | 39.49 | -3.90 | V | 35.59 | 54 | 18.39 | AV |
| 7266 | 53.44 | 4.91 | V | 58.35 | 74 | 15.63 | PK |
| 7266 | 39.50 | 4.91 | V | 44.41 | 54 | 9.57 | AV |
| 4844 | 53.04 | -3.90 | H | 49.14 | 74 | 24.84 | PK |
| 4844 | 39.64 | -3.90 | H | 35.74 | 54 | 18.24 | AV |
| 7266 | 53.60 | 4.91 | H | 58.51 | 74 | 15.47 | PK |
| 7266 | 39.53 | 4.91 | H | 44.44 | 54 | 9.54 | AV |

Operation Mode: 802.11 n_40 MHz BW
 Transfer Rate: 13.5 Mbps
 Operating Frequency: 2437
 Channel No.: 06 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL-AMP G [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4874 | 52.56 | -3.93 | V | 48.63 | 74 | 25.35 | PK |
| 4874 | 39.04 | -3.93 | V | 35.11 | 54 | 18.87 | AV |
| 7311 | 53.57 | 4.97 | V | 58.54 | 74 | 15.44 | PK |
| 7311 | 39.66 | 4.97 | V | 44.63 | 54 | 9.35 | AV |
| 4874 | 52.87 | -3.93 | H | 48.94 | 74 | 25.04 | PK |
| 4874 | 39.09 | -3.93 | H | 35.16 | 54 | 18.82 | AV |
| 7311 | 53.18 | 4.97 | H | 58.15 | 74 | 15.83 | PK |
| 7311 | 39.58 | 4.97 | H | 44.55 | 54 | 9.43 | AV |



| | |
|---------------------|--------------------|
| Operation Mode: | 802.11 n_40 MHz BW |
| Transfer Rate: | 13.5 Mbps |
| Operating Frequency | 2452 |
| Channel No. | 09 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-AMP G [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4904 | 52.67 | -3.70 | V | 48.97 | 74 | 25.01 | PK |
| 4904 | 38.77 | -3.70 | V | 35.07 | 54 | 18.91 | AV |
| 7356 | 53.34 | 6.00 | V | 59.34 | 74 | 14.64 | PK |
| 7356 | 39.48 | 6.00 | V | 45.48 | 54 | 8.50 | AV |
| 4904 | 52.34 | -3.70 | H | 48.64 | 74 | 25.34 | PK |
| 4904 | 38.63 | -3.70 | H | 34.93 | 54 | 19.05 | AV |
| 7356 | 53.14 | 6.00 | H | 59.14 | 74 | 14.84 | PK |
| 7356 | 39.51 | 6.00 | H | 45.51 | 54 | 8.47 | 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. We have done all data rate in 802.11n_40 MHz BW. Worst case of EUT is 13.5 Mbps in 802.11n_40 MHz BW.
6. 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. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

8.6.2 RADIATED RESTRICTED BAND EDGES

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)).

| | |
|---------------------|--------------------|
| Operation Mode: | 802.11g |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 2412 MHz, 2462 MHz |
| Channel No. | 01 Ch, 11 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------|----------------|----------------|----------------|-------------|--------|
| 2390.0 | 27.53 | 33.90 | H | 61.43 | 74 | 12.55 | PK |
| 2390.0 | 14.26 | 33.90 | H | 48.16 | 54 | 5.82 | AV |
| 2390.0 | 27.48 | 33.90 | V | 61.38 | 74 | 12.60 | PK |
| 2390.0 | 14.25 | 33.90 | V | 48.15 | 54 | 5.83 | AV |
| 2483.5 | 26.66 | 33.99 | H | 60.65 | 74 | 13.33 | PK |
| 2483.5 | 13.41 | 33.99 | H | 47.40 | 54 | 6.58 | AV |
| 2483.5 | 25.06 | 33.99 | V | 59.05 | 74 | 14.93 | PK |
| 2483.5 | 12.09 | 33.99 | V | 46.08 | 54 | 7.90 | AV |



Operation Mode: 802.11b
 Transfer Rate: 1 Mbps
 Operating Frequency: 2412 MHz, 2462 MHz
 Channel No.: 01 Ch, 11 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------|----------------|----------------|----------------|-------------|--------|
| 2390.0 | 25.85 | 33.90 | H | 59.75 | 74 | 14.23 | PK |
| 2390.0 | 14.19 | 33.90 | H | 48.09 | 54 | 5.89 | AV |
| 2390.0 | 25.79 | 33.90 | V | 59.69 | 74 | 14.29 | PK |
| 2390.0 | 14.17 | 33.90 | V | 48.07 | 54 | 5.91 | AV |
| 2483.5 | 26.43 | 33.99 | H | 60.42 | 74 | 13.56 | PK |
| 2483.5 | 14.92 | 33.99 | H | 48.91 | 54 | 5.07 | AV |
| 2483.5 | 25.64 | 33.99 | V | 59.63 | 74 | 14.35 | PK |
| 2483.5 | 14.08 | 33.99 | V | 48.07 | 54 | 5.91 | AV |

Operation Mode: 802.11n_20 MHz
 Transfer Rate: 39 Mbps
 Operating Frequency: 2412 MHz, 2462 MHz
 Channel No.: 01 Ch, 11 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------|----------------|----------------|----------------|-------------|--------|
| 2390.0 | 29.73 | 33.90 | H | 63.63 | 74 | 10.35 | PK |
| 2390.0 | 14.80 | 33.90 | H | 48.70 | 54 | 5.28 | AV |
| 2390.0 | 29.65 | 33.90 | V | 63.55 | 74 | 10.43 | PK |
| 2390.0 | 14.77 | 33.90 | V | 48.67 | 54 | 5.31 | AV |
| 2483.5 | 25.51 | 33.99 | H | 59.50 | 74 | 14.48 | PK |
| 2483.5 | 13.29 | 33.99 | H | 47.28 | 54 | 6.70 | AV |
| 2483.5 | 24.12 | 33.99 | V | 58.11 | 74 | 15.87 | PK |
| 2483.5 | 12.00 | 33.99 | V | 45.99 | 54 | 7.99 | AV |



Operation Mode: 802.11n_40 MHz
 Transfer Rate: 13.5 Mbps
 Operating Frequency: 2422 MHz, 2452 MHz
 Channel No. 03 Ch, 09 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|-------------|----------------|----------------|----------------|-------------|--------|
| 2390.0 | 30.89 | 33.90 | H | 64.79 | 74 | 9.19 | PK |
| 2390.0 | 16.51 | 33.90 | H | 50.41 | 54 | 3.57 | AV |
| 2390.0 | 28.96 | 33.90 | V | 62.86 | 74 | 11.12 | PK |
| 2390.0 | 14.68 | 33.90 | V | 48.58 | 54 | 5.40 | AV |
| 2483.5 | 28.33 | 33.99 | H | 62.32 | 74 | 11.66 | PK |
| 2483.5 | 13.99 | 33.99 | H | 47.98 | 54 | 6.00 | AV |
| 2483.5 | 27.39 | 33.99 | V | 61.38 | 74 | 12.60 | PK |
| 2483.5 | 13.18 | 33.99 | V | 47.17 | 54 | 6.81 | AV |

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss
2. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each 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. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |

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 48 Mbps, Ch.6 and 802.11g. Because 802.11g mode is worst case.

RESULT PLOTS

Conducted Emissions (Line 1)

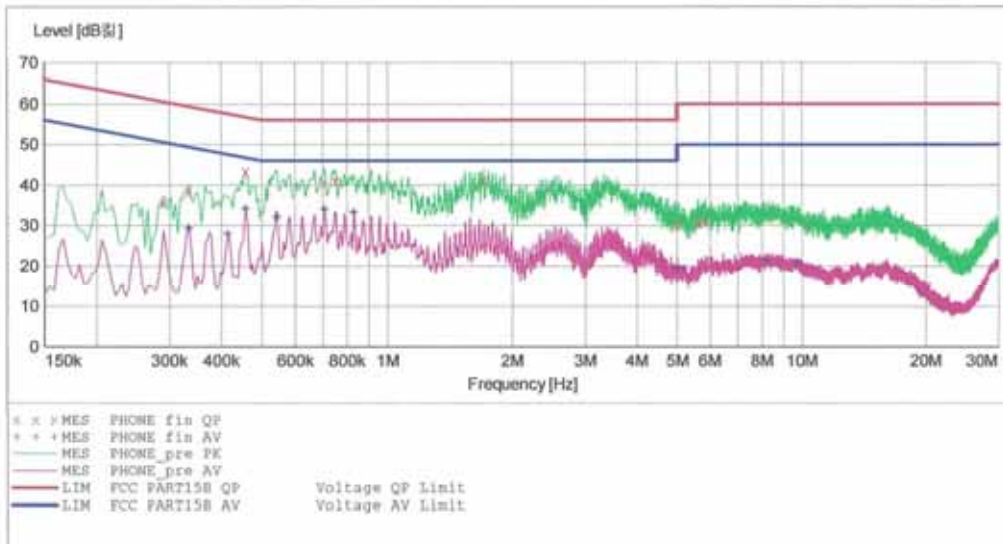
HCT

EMC

EUT: LG-D683
 Manufacturer: LG
 Operating Condition: WLAN MODE
 Test Site: SHIELD ROOM
 Operator: JC SHIN
 Test Specification: FCC PART15 B
 Comment: H

SCAN TABLE: "FCC CLASS B(H)"

| Start Frequency | Stop Frequency | Step Width | Detector | Meas. Time | IF Bandw. | Transducer |
|-----------------|----------------|------------|--------------|------------|-----------|------------|
| 150.0 kHz | 500.0 kHz | 4.0 kHz | KN22 CLASS B | 10.0 ms | 9 kHz | None |
| 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"

2013-08-06 9:18오전

| Frequency MHz | Level dBμV | Transd dB | Limit dBμV | Margin dB | Line | PE |
|---------------|------------|-----------|------------|-----------|------|-----|
| 0.290001 | 35.60 | 9.8 | 61 | 24.9 | --- | --- |
| 0.334001 | 38.40 | 9.8 | 59 | 21.0 | --- | --- |
| 0.458001 | 43.30 | 9.8 | 57 | 13.4 | --- | --- |
| 0.704000 | 40.60 | 9.8 | 56 | 15.4 | --- | --- |
| 0.752000 | 41.10 | 9.8 | 56 | 14.9 | --- | --- |
| 1.708000 | 41.30 | 9.9 | 56 | 14.7 | --- | --- |
| 5.000000 | 30.00 | 10.2 | 56 | 26.0 | --- | --- |
| 5.628000 | 30.60 | 10.2 | 60 | 29.4 | --- | --- |
| 5.832000 | 30.90 | 10.2 | 60 | 29.1 | --- | --- |

MEASUREMENT RESULT: "PHONE_fin AV"

2013-08-06 9:18오전

| Frequency MHz | Level dB _{μV} | Transd dB | Limit dB _{μV} | Margin dB | Line | PE |
|------------------|---------------------------|--------------|---------------------------|--------------|------|-----|
| 0.334001 | 29.30 | 9.8 | 49 | 20.0 | --- | --- |
| 0.414001 | 27.80 | 9.8 | 48 | 19.7 | --- | --- |
| 0.458001 | 34.10 | 9.8 | 47 | 12.6 | --- | --- |
| 0.544000 | 32.10 | 9.8 | 46 | 13.9 | --- | --- |
| 0.708000 | 34.00 | 9.8 | 46 | 12.0 | --- | --- |
| 0.832000 | 33.20 | 9.8 | 46 | 12.8 | --- | --- |
| 5.000000 | 19.40 | 10.2 | 46 | 26.6 | --- | --- |
| 8.212000 | 21.40 | 10.4 | 50 | 28.6 | --- | --- |
| 9.720000 | 20.50 | 10.5 | 50 | 29.5 | --- | --- |

| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |

Conducted Emissions (Line 2)

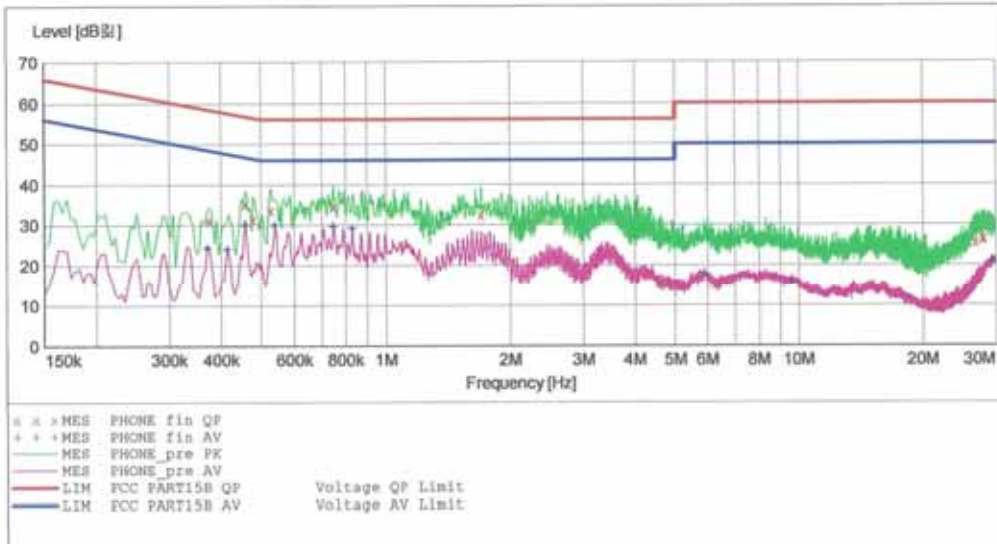
HCT

EMC

EUT: LG-D683
 Manufacturer: LG
 Operating Condition: WLAN MODE
 Test Site: SHIELD ROOM
 Operator: JC SHIN
 Test Specification: FCC PART15 B
 Comment: N

SCAN TABLE: "FCC CLASS B(N)"

| Short Description: | | KN22 CLASS B | | | | | |
|--------------------|-----------|--------------|----------|------------|-----------|------------|--|
| Start | Stop | Step | Detector | Meas. Time | IF Bandw. | Transducer | |
| 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"

2013-08-06 9:15오전

| Frequency MHz | Level dBμV | Transd dB | Limit dBμV | Margin dB | Line | PE |
|---------------|------------|-----------|------------|-----------|------|-----|
| 0.374001 | 31.00 | 10.0 | 58 | 27.4 | --- | --- |
| 0.458001 | 35.10 | 10.0 | 57 | 21.7 | --- | --- |
| 0.478001 | 31.30 | 10.0 | 56 | 25.0 | --- | --- |
| 0.528000 | 33.60 | 10.0 | 56 | 22.4 | --- | --- |
| 0.748000 | 34.70 | 10.0 | 56 | 21.3 | --- | --- |
| 1.704000 | 32.60 | 10.1 | 56 | 23.4 | --- | --- |
| 26.788000 | 25.60 | 11.7 | 60 | 34.4 | --- | --- |
| 27.856000 | 26.40 | 11.7 | 60 | 33.6 | --- | --- |
| 27.972000 | 26.60 | 11.7 | 60 | 33.4 | --- | --- |

MEASUREMENT RESULT: "PHONE_fin AV"

2013-08-06 9:15오전

| Frequency MHz | Level dBμV | Transd dB | Limit dBμV | Margin dB | Line | PE |
|------------------|---------------|--------------|---------------|--------------|------|-----|
| 0.370001 | 24.20 | 10.0 | 49 | 24.3 | --- | --- |
| 0.414001 | 24.00 | 10.0 | 48 | 23.6 | --- | --- |
| 0.458001 | 29.90 | 10.0 | 47 | 16.8 | --- | --- |
| 0.540000 | 29.90 | 10.0 | 46 | 16.1 | --- | --- |
| 0.748000 | 29.70 | 10.0 | 46 | 16.3 | --- | --- |
| 0.832000 | 29.10 | 10.0 | 46 | 16.9 | --- | --- |
| 5.904000 | 17.90 | 10.4 | 50 | 32.1 | --- | --- |
| 9.592000 | 15.80 | 10.7 | 50 | 34.2 | --- | --- |
| 29.448000 | 20.90 | 11.8 | 50 | 29.1 | --- | --- |

| | | | |
|---------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNFD683 |

9. LIST OF TEST EQUIPMENT

| Manufacturer | Model / Equipment | Calibration Interval | Calibration Due | Serial No. |
|-----------------------|--|----------------------|-----------------|--------------------|
| Rohde & Schwarz | ENV216/ LISN | Annual | 02/06/2014 | 100073 |
| Schwarzbeck | VULB 9160/ TRILOG Antenna | Biennial | 12/17/2014 | 3150 |
| Rohde & Schwarz | ESI 40 / EMI TEST RECEIVER | Annual | 04/16/2014 | 831564103 |
| Agilent | E4440A/ Spectrum Analyzer | Annual | 04/25/2014 | US45303008 |
| Agilent | N9020A/ SIGNAL ANALYZER | Annual | 05/14/2014 | MY51110063 |
| 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 | 09/11/2013 | 10094 |
| MITEQ | AMF-6B-180265-35-10P / POWER AMP | Annual | 04/16/2014 | 667624 |
| CERNEX | CBL26405040 / POWER AMP | Annual | 04/16/2014 | 19660 |
| Schwarzbeck | BBHA 9120D/ Horn Antenna | Biennial | 10/17/2013 | 937 |
| Schwarzbeck | BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz) | Biennial | 10/30/2014 | BBHA9170124 |
| Rohde & Schwarz | FSP / Spectrum Analyzer | Annual | 02/08/2014 | 839117/011 |
| Agilent | E4416A /Power Meter | Annual | 11/07/2013 | GB41291412 |
| Agilent | E9327A /POWER SENSOR | Annual | 04/16/2014 | MY4442009 |
| Wainwright Instrument | WHF3.0/18G-10EF / High Pass Filter | Annual | 02/08/2014 | F6 |
| Wainwright Instrument | WHNX6.0/26.5G-6SS / High Pass Filter | Annual | 04/16/2014 | 1 |
| Wainwright Instrument | WHNX7.0/18G-8SS / High Pass Filter | Annual | 04/16/2014 | 29 |
| Wainwright Instrument | WRCJ2400/2483.5-2370/2520-60/14SS / Band Reject Filter | Annual | 03/19/2014 | 1 |
| Hewlett Packard | 11636B/Power Divider | Annual | 11/07/2013 | 11377 |
| Agilent | 87300B/Directional Coupler | Annual | 12/24/2013 | 3116A03621 |
| Hewlett Packard | 11667B / Power Splitter | Annual | 05/29/2014 | 05001 |
| DIGITAL | EP-3010 /DC POWER SUPPLY | Annual | 11/07/2013 | 3110117 |
| ITECH | IT6720 / DC POWER SUPPLY | Annual | 11/07/2013 | 010002156287001199 |
| TESCOM | TC-3000C / BLUETOOTH TESTER | Annual | 04/24/2014 | 3000C000276 |
| Rohde & Schwarz | CBT / BLUETOOTH TESTER | Annual | 04/25/2014 | 100422 |
| EMCO | 6502.LOOP ANTENNA | Biennial | 01/11/2014 | 9009-2536 |
| CERNEX | CBLU1183540 / POWER AMP | Annual | 07/24/2014 | 21691 |
| Agilent | 8493C / Attenuator(10 dB) | Annual | 07/24/2014 | 76649 |
| WEINSCHL | 2-3 / Attenuator(3 dB) | Annual | 11/07/2013 | BR0617 |

| | | | |
|--------------------------------------|-----------------------------------|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1308FR26 | Date of Issue: August 16, 2013 | EUT Type: GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n(2.4GHz), VoIP, Hotspot support | FCC ID: ZNF683 |