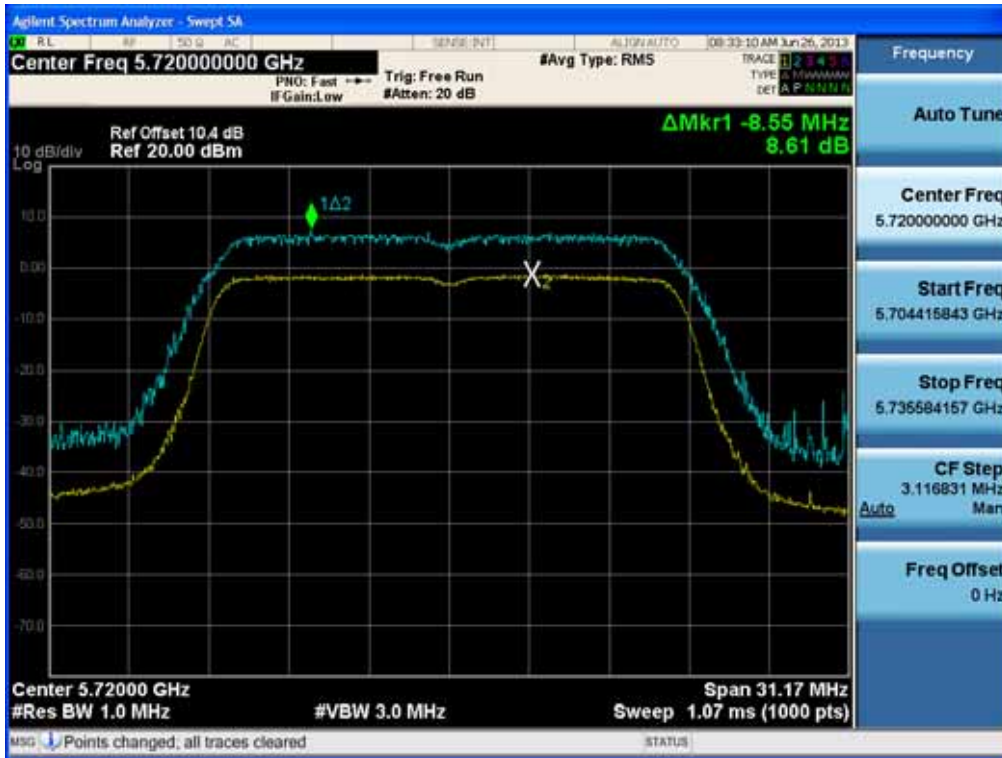
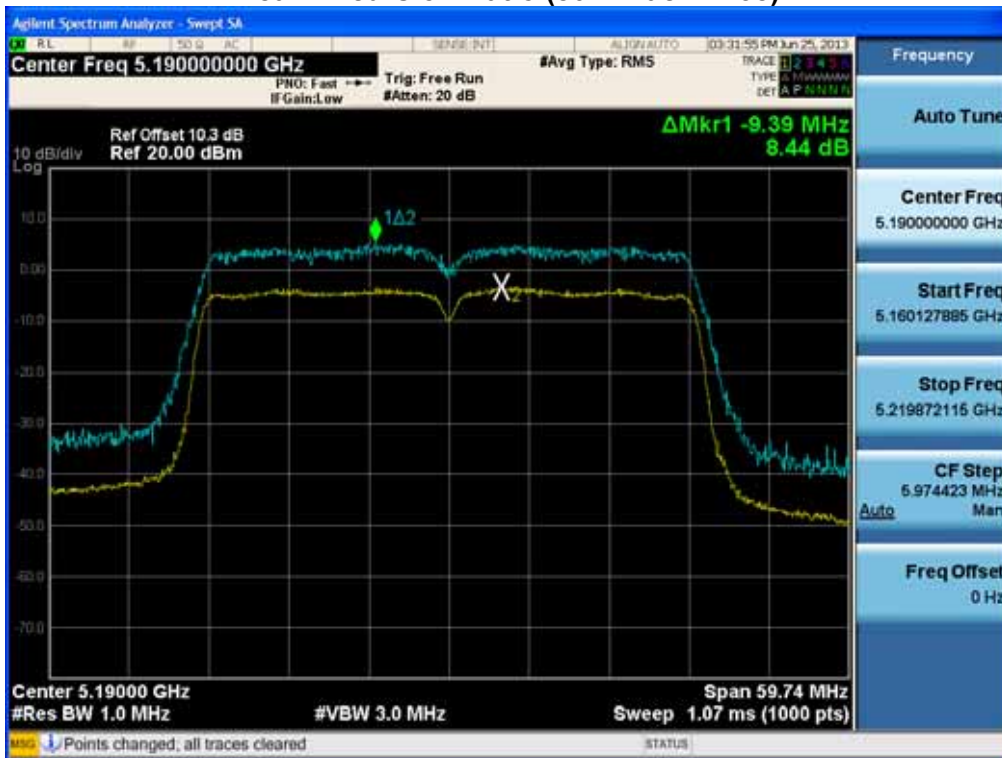


Peak Excursion Ratio (802.11ac-CH 144)

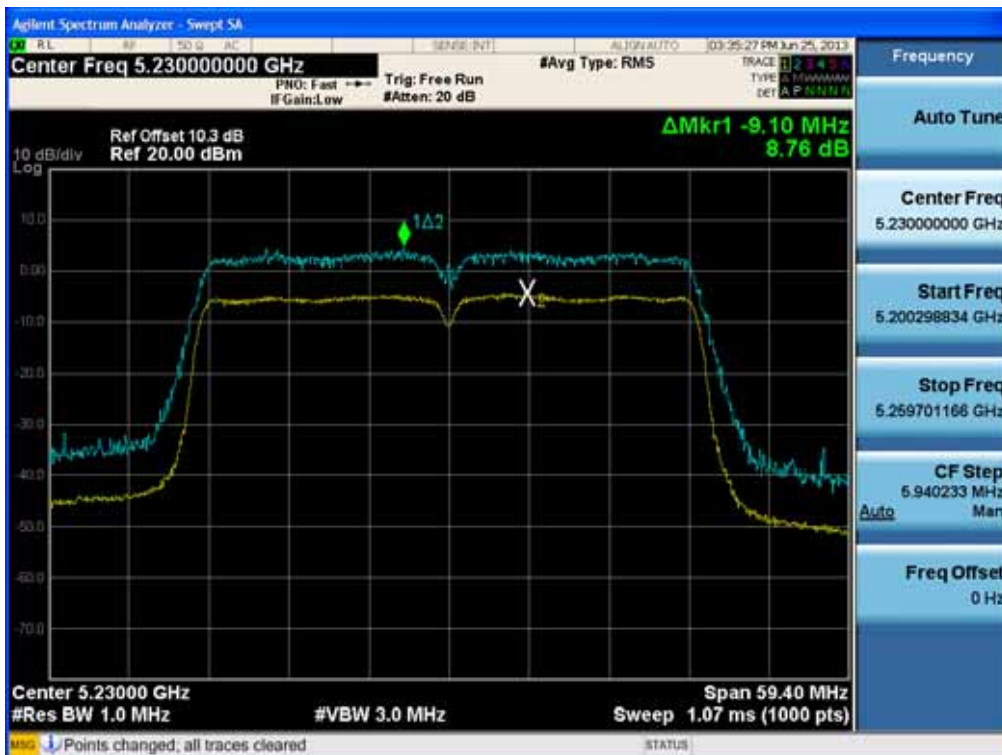


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|-----------------------------------|---------------------------------|--|---|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and FCC ID: ZNFL01F |

Peak Excursion Ratio (802.11ac-CH 38)

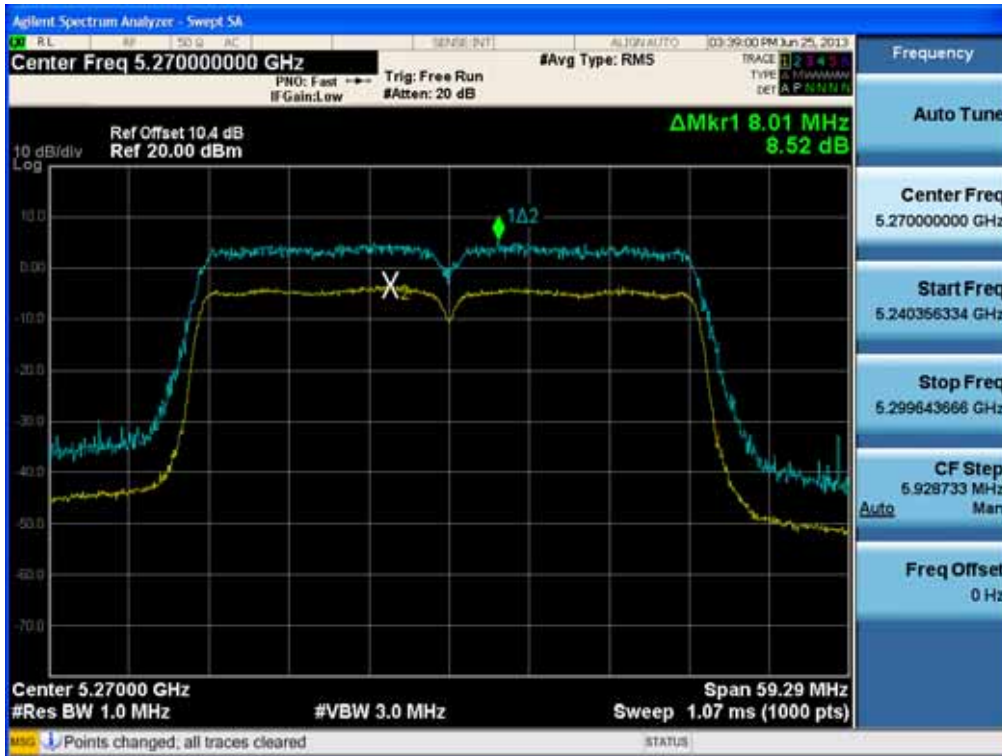


Peak Excursion Ratio (802.11ac-CH 46)

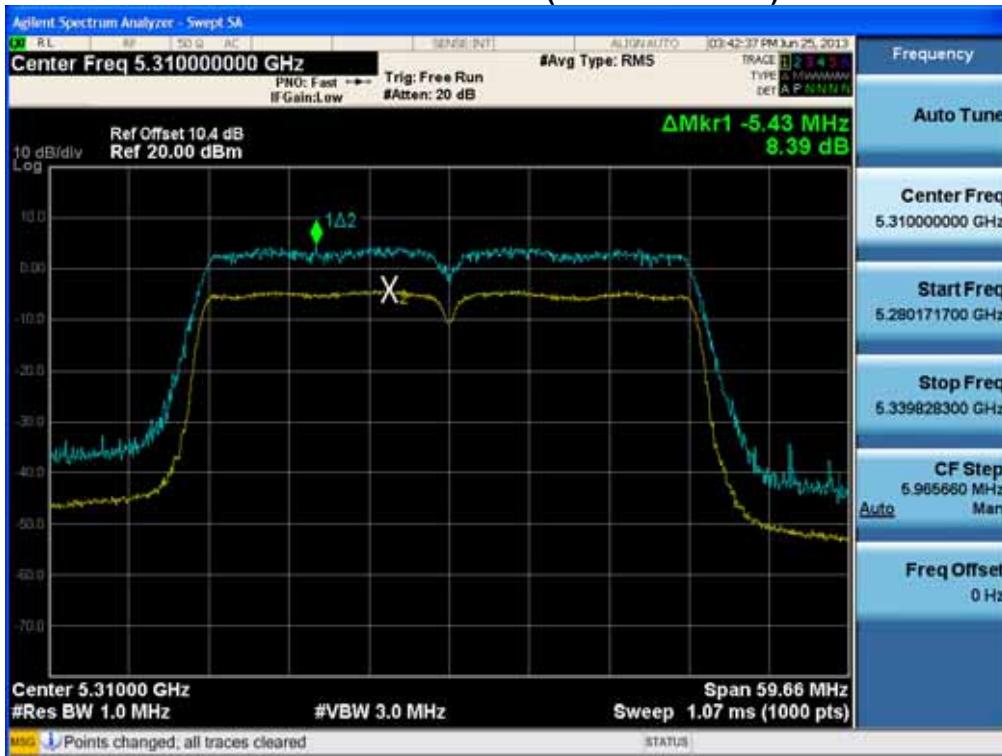


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| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | FCC ID: ZNFL01F |

Peak Excursion Ratio (802.11ac-CH 54)

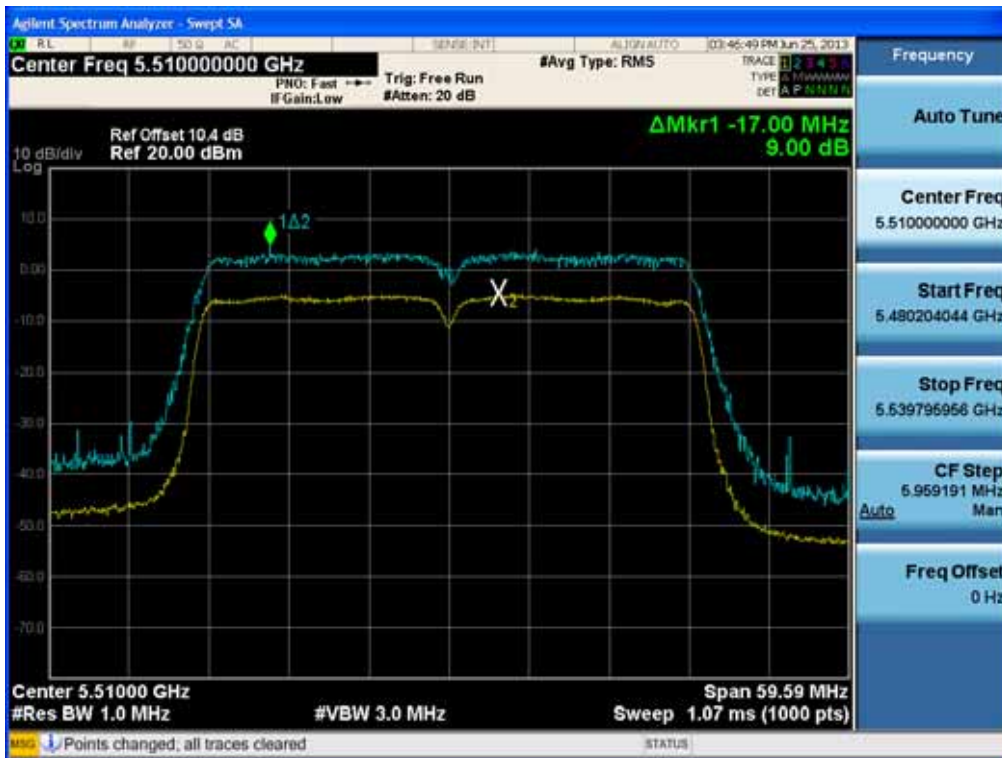


Peak Excursion Ratio (802.11ac-CH 62)

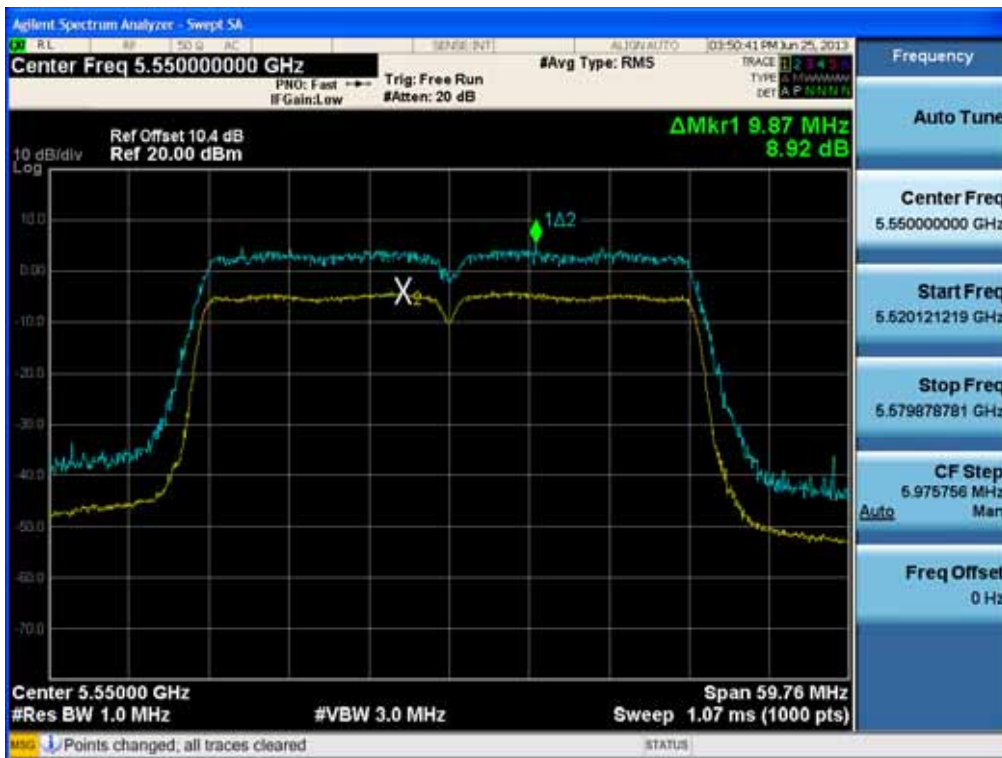


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|-----------------------------------|---------------------------------|--|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | FCC ID: ZNFL01F |

Peak Excursion Ratio (802.11ac-CH 102)

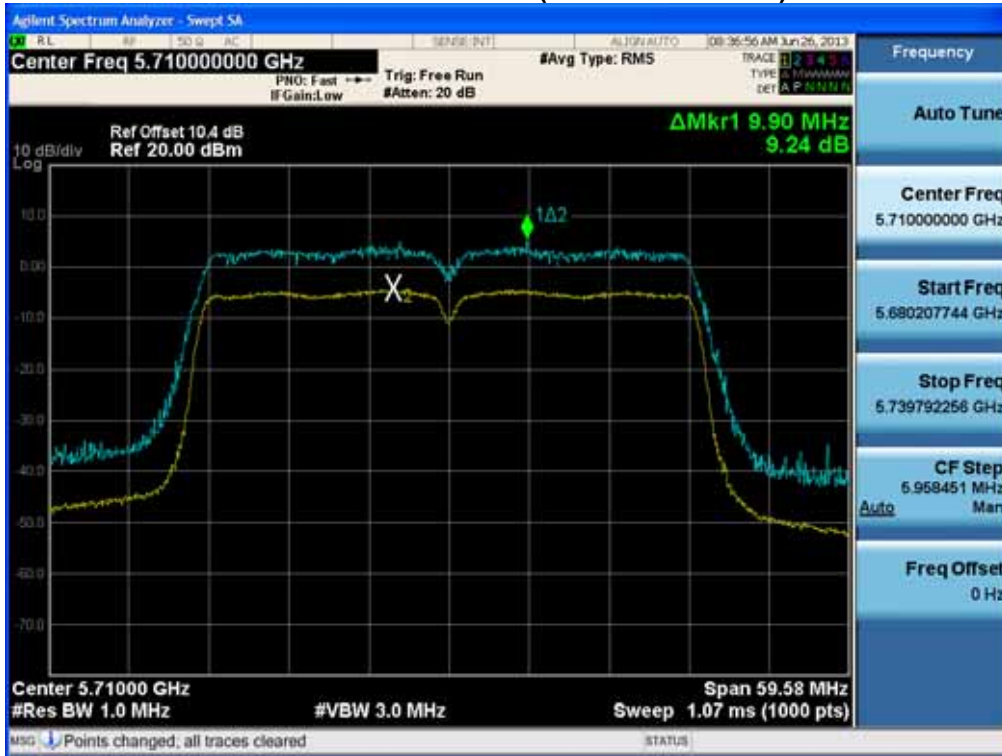


Peak Excursion Ratio (802.11ac-CH 110)



| | | | |
|-----------------------------------|---------------------------------|--|---|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and FCC ID: ZNFL01F |

Peak Excursion Ratio (802.11ac-CH 142)

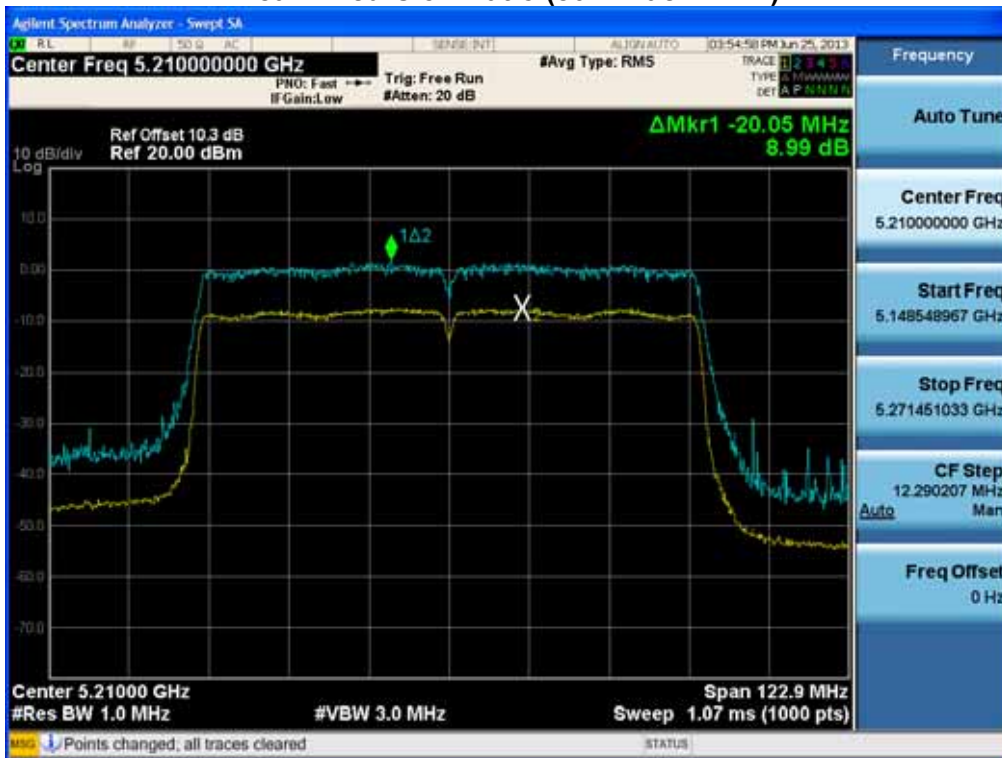


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| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | FCC ID: ZNFL01F |

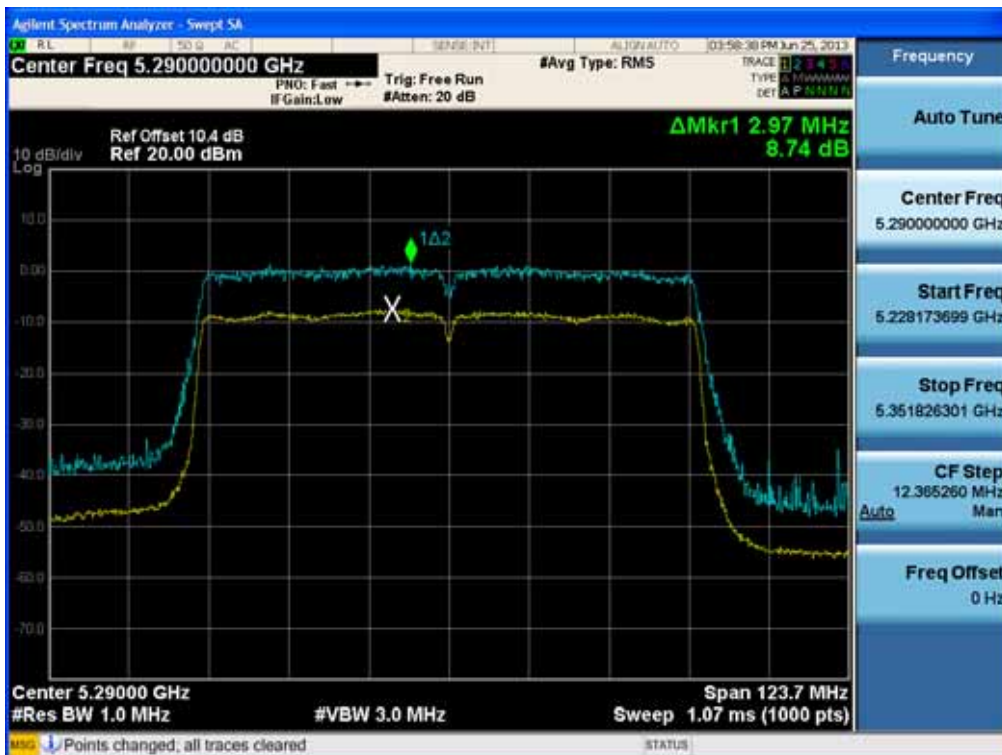


80 MHz BW

Peak Excursion Ratio (802.11ac-CH 42)



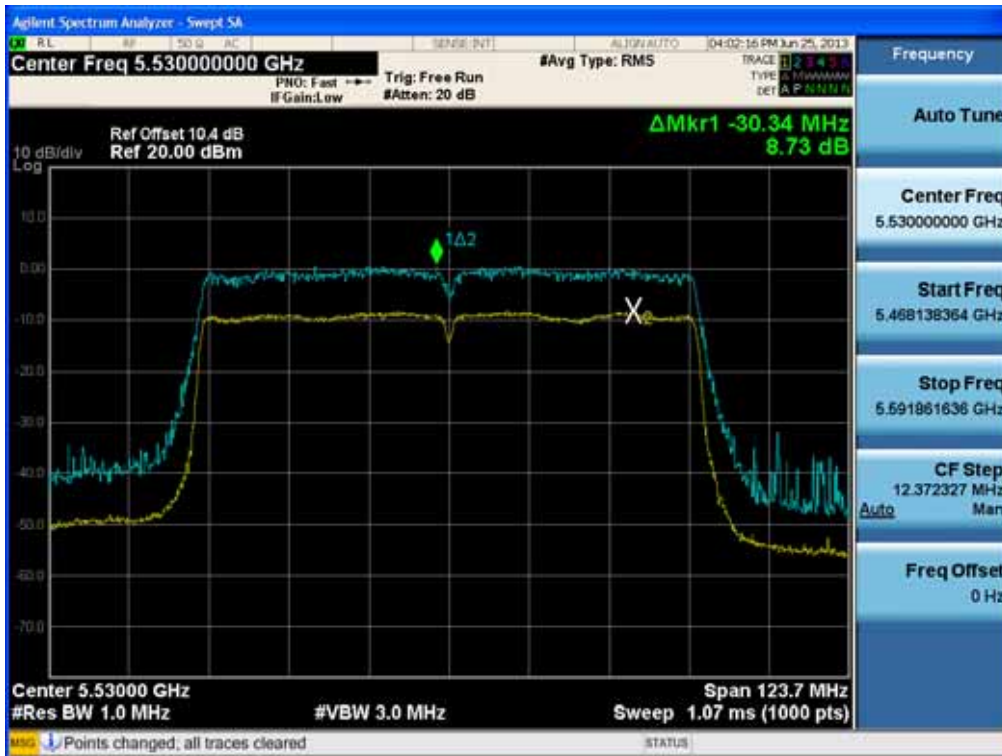
Peak Excursion Ratio (802.11ac-CH 58)



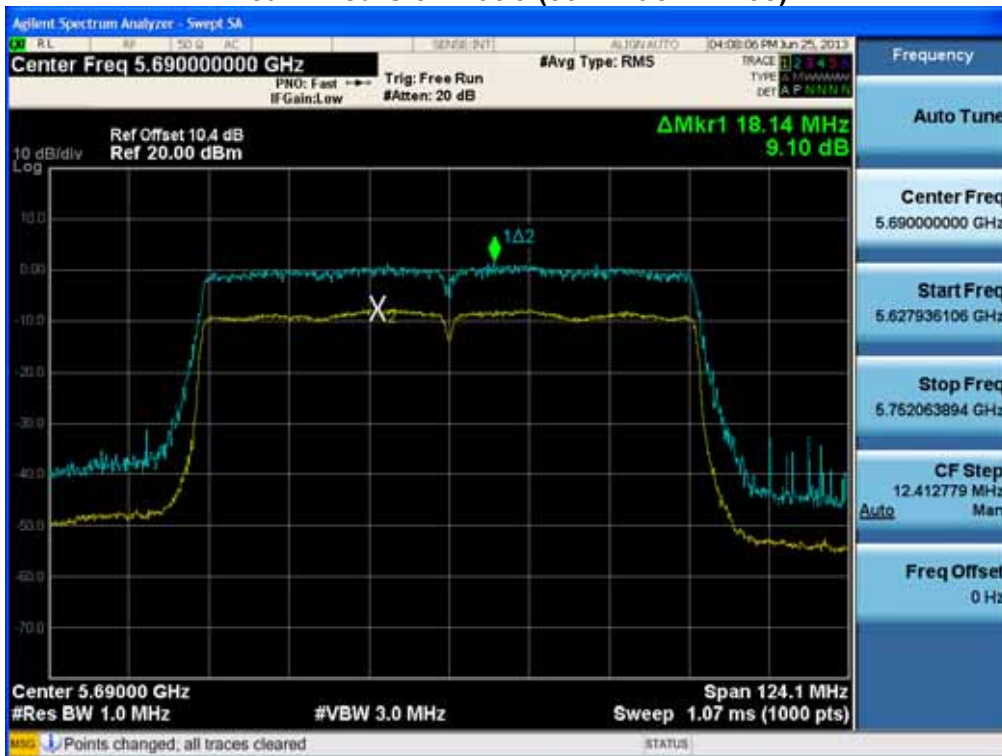
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| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | FCC ID: ZNFL01F |



Peak Excursion Ratio (802.11ac-CH 106)



Peak Excursion Ratio (802.11ac-CH 138)



| | | | |
|-----------------------------------|---------------------------------|--|---|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and FCC ID: ZNFL01F |

8.6 FREQUENCY STABILITY.

The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -30 and 50 . The temperature was incremented by 10 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.

20 MHz BW

OPERATING BAND: UNII Band 1
 OPERATING FREQUENCY: 5,180,000,000 Hz
 CHANNEL: 36
 REFERENCE VOLTAGE: 3.8 VDC

| Voltage (%) | Power (VDC) | Temp. () | Frequency (kHz) | Frequency Error (kHz) |
|----------------|-------------|-----------|-----------------|-----------------------|
| 100% | 3.800 | +20(Ref) | 5 179 968 | -32.15 |
| 100% | | -30 | 5 180 010 | 10.43 |
| 100% | | -20 | 5 180 005 | 4.81 |
| 100% | | -10 | 5 179 991 | -8.85 |
| 100% | | 0 | 5 179 985 | -14.91 |
| 100% | | +10 | 5 179 972 | -28.50 |
| 100% | | +30 | 5 179 962 | -38.15 |
| 100% | | +40 | 5 179 954 | -45.83 |
| 100% | | +50 | 5 179 949 | -50.87 |
| 115% | 4.370 | +20 | 5 179 966 | -33.64 |
| Batt. Endpoint | 3.500 | +20 | 5 179 967 | -32.71 |

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.



OPERATING BAND: UNII Band 2
 OPERATING FREQUENCY: 5,260,000,000 Hz
 CHANNEL: 52
 REFERENCE VOLTAGE: 3.8 VDC

| Voltage (%) | Power (VDC) | Temp. () | Frequency (kHz) | Frequency Error (kHz) |
|----------------|-------------|-----------|-----------------|-----------------------|
| 100% | 3.800 | +20(Ref) | 5 259 966 | -34.21 |
| 100% | | -30 | 5 260 010 | 9.84 |
| 100% | | -20 | 5 260 005 | 4.66 |
| 100% | | -10 | 5 259 991 | -8.74 |
| 100% | | 0 | 5 259 985 | -14.85 |
| 100% | | +10 | 5 259 972 | -27.74 |
| 100% | | +30 | 5 259 962 | -38.05 |
| 100% | | +40 | 5 259 954 | -45.57 |
| 100% | | +50 | 5 259 949 | -50.66 |
| 115% | 4.370 | +20 | 5 259 970 | -29.96 |
| Batt. Endpoint | 3.500 | +20 | 5 259 966 | -33.74 |

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

| | | | | |
|--|--|---|---|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | FCC ID: ZNFL01F |



OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,500,000,000 Hz
 CHANNEL: 100
 REFERENCE VOLTAGE: 3.8 VDC

| Voltage (%) | Power (VDC) | Temp. () | Frequency (kHz) | Frequency Error (kHz) |
|----------------|-------------|-----------|-----------------|-----------------------|
| 100% | 3.800 | +20(Ref) | 5 499 964 | -36.50 |
| 100% | | -30 | 5 500 010 | 9.74 |
| 100% | | -20 | 5 500 005 | 4.54 |
| 100% | | -10 | 5 499 991 | -8.66 |
| 100% | | 0 | 5 499 985 | -14.94 |
| 100% | | +10 | 5 499 972 | -28.11 |
| 100% | | +30 | 5 499 962 | -38.06 |
| 100% | | +40 | 5 499 954 | -45.65 |
| 100% | | +50 | 5 499 949 | -50.61 |
| 115% | 4.370 | +20 | 5 499 966 | -33.68 |
| Batt. Endpoint | 3.500 | +20 | 5 499 962 | -37.63 |

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

| | | | | |
|--|--|---|---|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | FCC ID: ZNFL01F |



40 MHz BW

OPERATING BAND: UNII Band 1
 OPERATING FREQUENCY: 5,190,000,000 Hz
 CHANNEL: 38
 REFERENCE VOLTAGE: 3.8 VDC

| Voltage (%) | Power (VDC) | Temp. () | Frequency (kHz) | Frequency Error (kHz) |
|----------------|-------------|-----------|-----------------|-----------------------|
| 100% | 3.800 | +20(Ref) | 5 179 966 | -34.33 |
| 100% | | -30 | 5 180 010 | 9.77 |
| 100% | | -20 | 5 180 005 | 4.58 |
| 100% | | -10 | 5 179 991 | -8.61 |
| 100% | | 0 | 5 179 985 | -14.79 |
| 100% | | +10 | 5 179 973 | -26.88 |
| 100% | | +30 | 5 179 962 | -38.14 |
| 100% | | +40 | 5 179 955 | -45.38 |
| 100% | | +50 | 5 179 950 | -50.41 |
| 115% | 4.370 | +20 | 5 179 966 | -34.05 |
| Batt. Endpoint | 3.500 | +20 | 5 179 966 | -34.21 |

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

| | | | | |
|--|--|---|---|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | FCC ID: ZNFL01F |



OPERATING BAND: UNII Band 2
 OPERATING FREQUENCY: 5,310,000,000 Hz
 CHANNEL: 62
 REFERENCE VOLTAGE: 3.8 VDC

| Voltage (%) | Power (VDC) | Temp. () | Frequency (kHz) | Frequency Error (kHz) |
|----------------|-------------|-----------|-----------------|-----------------------|
| 100% | 3.800 | +20(Ref) | 5 259 964 | -36.01 |
| 100% | | -30 | 5 260 010 | 9.78 |
| 100% | | -20 | 5 260 005 | 4.59 |
| 100% | | -10 | 5 259 991 | -8.61 |
| 100% | | 0 | 5 259 985 | -14.88 |
| 100% | | +10 | 5 259 972 | -27.79 |
| 100% | | +30 | 5 259 962 | -37.94 |
| 100% | | +40 | 5 259 954 | -45.69 |
| 100% | | +50 | 5 259 949 | -51.24 |
| 115% | 4.370 | +20 | 5 259 966 | -33.73 |
| Batt. Endpoint | 3.500 | +20 | 5 259 963 | -36.65 |

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

| | | | | |
|-----------------------------------|---------------------------------|--|---|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | FCC ID: ZNFL01F |



OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,510,000,000 Hz
 CHANNEL: 102
 REFERENCE VOLTAGE: 3.8 VDC

| Voltage (%) | Power (VDC) | Temp. () | Frequency (kHz) | Frequency Error (kHz) |
|----------------|-------------|-----------|-----------------|-----------------------|
| 100% | 3.800 | +20(Ref) | 5 499 964 | -35.51 |
| 100% | | -30 | 5 500 010 | 9.65 |
| 100% | | -20 | 5 500 004 | 4.48 |
| 100% | | -10 | 5 499 991 | -8.51 |
| 100% | | 0 | 5 499 985 | -14.84 |
| 100% | | +10 | 5 499 972 | -27.78 |
| 100% | | +30 | 5 499 962 | -38.11 |
| 100% | | +40 | 5 499 954 | -45.57 |
| 100% | | +50 | 5 499 950 | -50.14 |
| 115% | 4.370 | +20 | 5 499 966 | -33.81 |
| Batt. Endpoint | 3.500 | +20 | 5 499 965 | -34.73 |

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

| | | | | |
|--|--|---|---|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | www.hct.co.kr |
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80 MHz BW

OPERATING BAND: UNII Band 1
 OPERATING FREQUENCY: 5,210,000,000 Hz
 CHANNEL: 42
 REFERENCE VOLTAGE: 3.8 VDC

| Voltage (%) | Power (VDC) | Temp. () | Frequency (kHz) | Frequency Error (kHz) |
|----------------|-------------|-----------|-----------------|-----------------------|
| 100% | 3.800 | +20(Ref) | 5 179 966 | -34.50 |
| 100% | | -30 | 5 180 010 | 10.14 |
| 100% | | -20 | 5 180 005 | 4.75 |
| 100% | | -10 | 5 179 991 | -8.76 |
| 100% | | 0 | 5 179 985 | -14.85 |
| 100% | | +10 | 5 179 972 | -28.14 |
| 100% | | +30 | 5 179 962 | -38.06 |
| 100% | | +40 | 5 179 954 | -45.77 |
| 100% | | +50 | 5 179 949 | -50.64 |
| 115% | 4.370 | +20 | 5 179 966 | -33.55 |
| Batt. Endpoint | 3.500 | +20 | 5 179 967 | -32.83 |

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

| | | | | |
|--|--|---|---|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | www.hct.co.kr |
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OPERATING BAND: UNII Band 2
 OPERATING FREQUENCY: 5,290,000,000 Hz
 CHANNEL: 58
 REFERENCE VOLTAGE: 3.8 VDC

| Voltage (%) | Power (VDC) | Temp. () | Frequency (kHz) | Frequency Error (kHz) |
|----------------|-------------|-----------|-----------------|-----------------------|
| 100% | 3.800 | +20(Ref) | 5 259 964 | -35.54 |
| 100% | | -30 | 5 260 009 | 9.41 |
| 100% | | -20 | 5 260 005 | 4.57 |
| 100% | | -10 | 5 259 991 | -8.65 |
| 100% | | 0 | 5 259 985 | -14.78 |
| 100% | | +10 | 5 259 972 | -27.80 |
| 100% | | +30 | 5 259 961 | -38.54 |
| 100% | | +40 | 5 259 955 | -45.47 |
| 100% | | +50 | 5 259 950 | -50.16 |
| 115% | | 4.370 | +20 | 5 259 970 |
| Batt. Endpoint | 3.500 | +20 | 5 259 965 | -34.85 |

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

| | | | | |
|-----------------------------------|---------------------------------|--|---|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | www.hct.co.kr |
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OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,530,000,000 Hz
 CHANNEL: 106
 REFERENCE VOLTAGE: 3.8 VDC

| Voltage (%) | Power (VDC) | Temp. () | Frequency (kHz) | Frequency Error (kHz) |
|----------------|-------------|-----------|-----------------|-----------------------|
| 100% | 3.800 | +20(Ref) | 5 499 965 | -34.85 |
| 100% | | -30 | 5 500 010 | 9.64 |
| 100% | | -20 | 5 500 005 | 4.61 |
| 100% | | -10 | 5 499 992 | -8.45 |
| 100% | | 0 | 5 499 985 | -14.58 |
| 100% | | +10 | 5 499 972 | -28.04 |
| 100% | | +30 | 5 499 962 | -38.15 |
| 100% | | +40 | 5 499 954 | -45.51 |
| 100% | | +50 | 5 499 950 | -50.36 |
| 115% | 4.370 | +20 | 5 499 966 | -33.84 |
| Batt. Endpoint | 3.500 | +20 | 5 499 963 | -37.15 |

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

| | | | | |
|--|--|---|---|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | www.hct.co.kr |
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8.7 RADIATED MEASUREMENT.

8.7.1 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 |

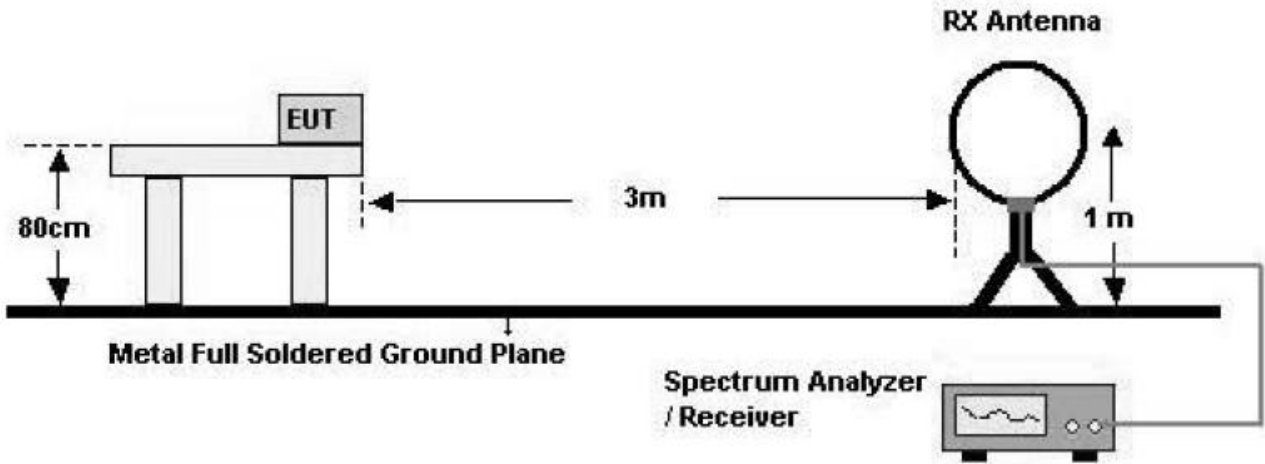
§15.407, KDB 789033

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.

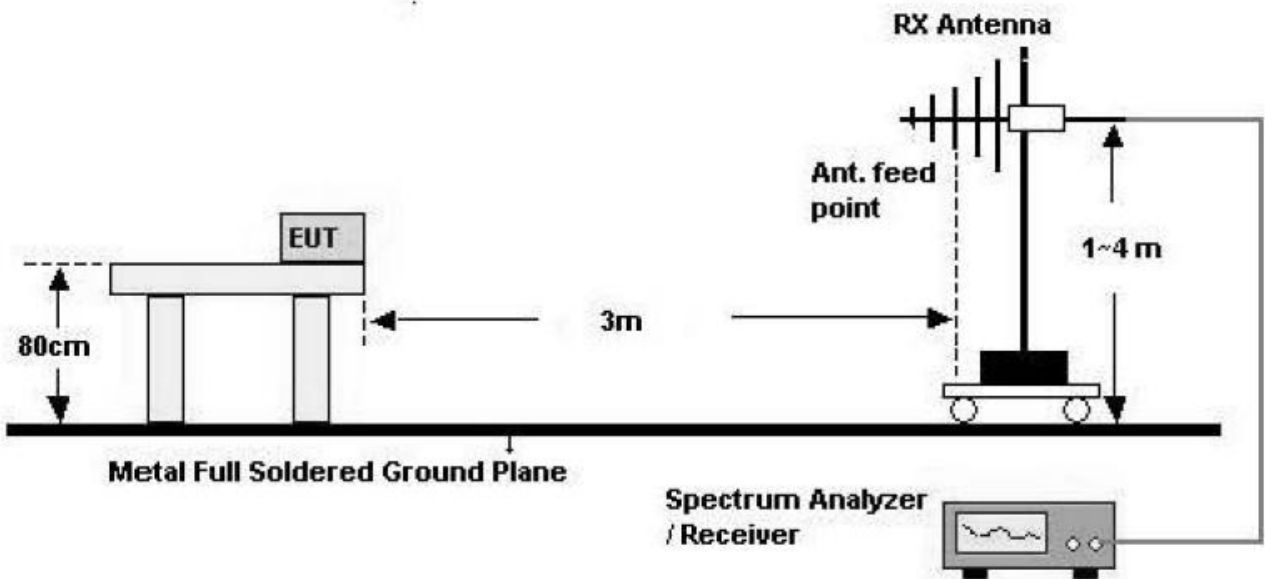
| | | | | |
|--|--|---|---|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | FCC ID: ZNFL01F |

Test Configuration

Below 30 MHz

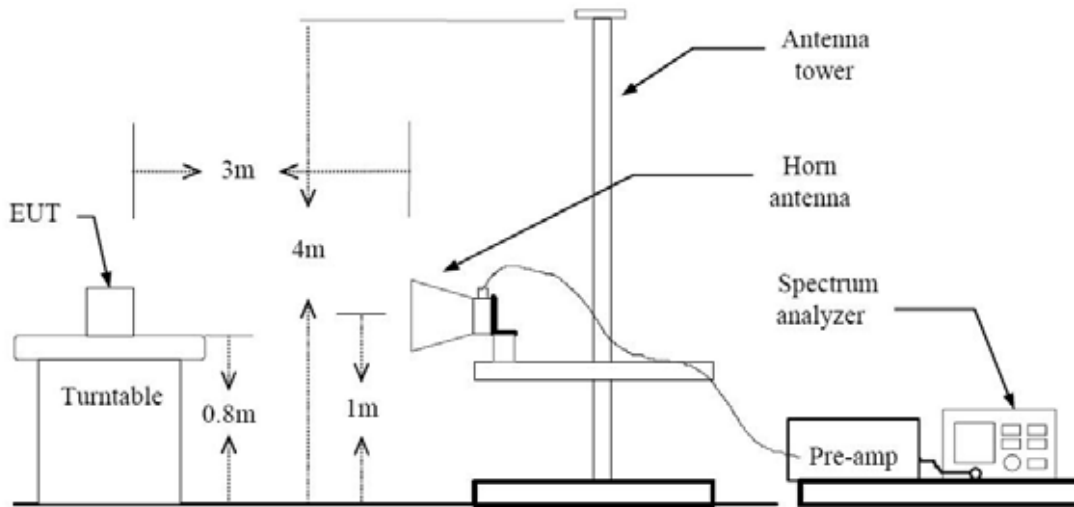


30 MHz - 1 GHz



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Above 1 GHz



TEST PROCEDURE USED

ANSI C63.4(2003)

Method H)5) in KDB 789033, issued 04/08/2013 (Peak)

Method H)6)d) in KDB 789033, issued 04/08/2013 (Average)

. Spectrum setting:

- Peak.

1. RBW = 1 MHz

2. VBW \geq 3 MHz

3. Detector = Peak

4. Sweep Time = auto

5. Trace mode = max hold

6. Allow sweeps to continue until the trace stabilizes.

7. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately $1/x$, where x is the duty cycle.

- Average (Method VB :Averaging using reduced video bandwidth)

1. RBW = 1 MHz

2. VBW

2.1. If the EUT is configured to transmit with duty cycle \geq 98 percent, set VBW \leq RBW/100(i.e., 10 kHz) but not less than 10 Hz.

2.2. If the EUT duty cycle is $<$ 98 percent, set VBW \geq $1/T$, where T is the minimum transmission duration.

3. The analyzer is set to linear detector mode.

| | | | | |
|-----------------------------------|---------------------------------|--|---|--|
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4. Detector = Peak.
5. Sweep time = auto.
6. Trace mode = max hold.
7. Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of 1/x, where x is the duty cycle.

Note: The actual setting value of VBW

| Mode | Worst Data rate (Mbps) | T _{on} (ms) | T _{total} (ms) | Duty Cycle (%) | VBW(1/T) (Hz) | The actual setting value of VBW (Hz) |
|-------|------------------------|----------------------|-------------------------|----------------|---------------|--------------------------------------|
| a | 6 | 2.056 | 2.162 | 95.1 | 486.4 | 1000 |
| n_20 | 6.5 | 1.909 | 2.019 | 94.6 | 523.8 | 1000 |
| n_40 | 13.5 | 0.943 | 1.042 | 90.5 | 1060.4 | 3000 |
| ac_20 | 6.5 | 1.924 | 2.031 | 94.7 | 519.8 | 1000 |
| ac_40 | 13.5 | 0.952 | 1.051 | 90.6 | 1050.4 | 3000 |
| ac_80 | 29.3 | 0.460 | 0.558 | 82.4 | 2173.9 | 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.

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|--|--|---|---|--|--|
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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.

| | | | | |
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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 | 46.91 | 9.33 | V | 56.24 | 68.2 | 11.96 | PK |
| 15540 | 44.61 | 14.61 | V | 59.22 | 74.0 | 14.78 | PK |
| 15540 | 32.11 | 14.61 | V | 46.72 | 54.0 | 7.28 | AV |
| 10360 | 48.33 | 9.33 | H | 57.66 | 68.2 | 10.54 | PK |
| 15540 | 44.65 | 14.61 | H | 59.26 | 74.0 | 14.74 | PK |
| 15540 | 32.40 | 14.61 | H | 47.01 | 54.0 | 6.99 | 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 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|--|--|---|---|--|--|
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| | |
|---------------------|----------|
| 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 | 45.06 | 10.13 | V | 55.19 | 68.2 | 13.01 | PK |
| 15600 | 44.81 | 14.60 | V | 59.41 | 74.0 | 14.59 | PK |
| 15600 | 31.68 | 14.60 | V | 46.28 | 54.0 | 7.72 | AV |
| 10400 | 47.69 | 10.13 | H | 57.82 | 68.2 | 10.38 | PK |
| 15600 | 44.51 | 14.60 | H | 59.11 | 74.0 | 14.89 | PK |
| 15600 | 31.74 | 14.60 | H | 46.34 | 54.0 | 7.66 | 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 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|----------|
| 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 | 45.00 | 10.20 | V | 55.20 | 68.2 | 13.00 | PK |
| 15720 | 47.00 | 13.47 | V | 60.47 | 74.0 | 13.53 | PK |
| 15720 | 32.76 | 13.47 | V | 46.23 | 54.0 | 7.77 | AV |
| 10480 | 47.00 | 10.20 | H | 57.20 | 68.2 | 11.00 | PK |
| 15720 | 45.39 | 13.47 | H | 58.86 | 74.0 | 15.14 | PK |
| 15720 | 32.87 | 13.47 | H | 46.34 | 54.0 | 7.66 | 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 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 n_20 MHz BW |
| Transfer Rate: | 6.5 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 | 46.36 | 9.33 | V | 55.69 | 68.2 | 12.51 | PK |
| 15540 | 45.06 | 14.61 | V | 59.67 | 74.0 | 14.33 | PK |
| 15540 | 32.84 | 14.61 | V | 47.45 | 54.0 | 6.55 | AV |
| 10360 | 48.80 | 9.33 | H | 58.13 | 68.2 | 10.07 | PK |
| 15540 | 44.53 | 14.61 | H | 59.14 | 74.0 | 14.86 | PK |
| 15540 | 33.05 | 14.61 | H | 47.66 | 54.0 | 6.34 | 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_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
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| | |
|---------------------|--------------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 n_20 MHz BW |
| Transfer Rate: | 6.5 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 | 46.42 | 10.13 | V | 56.55 | 68.2 | 11.65 | PK |
| 15600 | 44.58 | 14.60 | V | 59.18 | 74.0 | 14.82 | PK |
| 15600 | 31.76 | 14.60 | V | 46.36 | 54.0 | 7.64 | AV |
| 10400 | 48.12 | 10.13 | H | 58.25 | 68.2 | 9.95 | PK |
| 15600 | 44.74 | 14.60 | H | 59.34 | 74.0 | 14.66 | PK |
| 15600 | 31.70 | 14.60 | H | 46.30 | 54.0 | 7.70 | 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_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
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| | |
|---------------------|--------------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 n_20 MHz BW |
| Transfer Rate: | 6.5 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 | 46.61 | 10.20 | V | 56.81 | 68.2 | 11.39 | PK |
| 15720 | 46.32 | 13.47 | V | 59.79 | 74.0 | 14.21 | PK |
| 15720 | 32.79 | 13.47 | V | 46.26 | 54.0 | 7.74 | AV |
| 10480 | 47.05 | 10.20 | H | 57.25 | 68.2 | 10.95 | PK |
| 15720 | 45.93 | 13.47 | H | 59.40 | 74.0 | 14.60 | PK |
| 15720 | 32.81 | 13.47 | H | 46.28 | 54.0 | 7.72 | 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_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
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| | |
|---------------------|---------------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 ac_20 MHz BW |
| Transfer Rate: | 6.5 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 | 43.72 | 9.33 | V | 53.05 | 68.2 | 15.15 | PK |
| 15540 | 44.86 | 14.61 | V | 59.47 | 74.0 | 14.53 | PK |
| 15540 | 32.46 | 14.61 | V | 47.07 | 54.0 | 6.93 | AV |
| 10360 | 47.73 | 9.33 | H | 57.06 | 68.2 | 11.14 | PK |
| 15540 | 44.72 | 14.61 | H | 59.33 | 74.0 | 14.67 | PK |
| 15540 | 32.34 | 14.61 | H | 46.95 | 54.0 | 7.05 | 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 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
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| | |
|---------------------|---------------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 ac_20 MHz BW |
| Transfer Rate: | 6.5 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 | 43.69 | 10.13 | V | 53.82 | 68.2 | 14.38 | PK |
| 15600 | 45.81 | 14.60 | V | 60.41 | 74.0 | 13.59 | PK |
| 15600 | 32.51 | 14.60 | V | 47.11 | 54.0 | 6.89 | AV |
| 10400 | 46.88 | 10.13 | H | 57.01 | 68.2 | 11.19 | PK |
| 15600 | 45.51 | 14.60 | H | 60.11 | 74.0 | 13.89 | PK |
| 15600 | 32.62 | 14.60 | H | 47.22 | 54.0 | 6.78 | 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 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
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| | |
|---------------------|---------------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 ac_20 MHz BW |
| Transfer Rate: | 6.5 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 | 45.29 | 10.20 | V | 55.49 | 68.2 | 12.71 | PK |
| 15720 | 47.32 | 13.47 | V | 60.79 | 74.0 | 13.21 | PK |
| 15720 | 33.75 | 13.47 | V | 47.22 | 54.0 | 6.78 | AV |
| 10480 | 45.65 | 10.20 | H | 55.85 | 68.2 | 12.35 | PK |
| 15720 | 46.65 | 13.47 | H | 60.12 | 74.0 | 13.88 | PK |
| 15720 | 33.91 | 13.47 | H | 47.38 | 54.0 | 6.62 | 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 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
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| | |
|---------------------|-------------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11n_40 MHz BW |
| Transfer Rate: | 13.5 Mbps |
| Operating Frequency | 5190 MHz |
| Channel No. | 38 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 10380 | 43.94 | 9.33 | V | 53.27 | 68.2 | 14.93 | PK |
| 15570 | 45.17 | 14.61 | V | 59.78 | 74.0 | 14.22 | PK |
| 15570 | 32.53 | 14.61 | V | 47.14 | 54.0 | 6.86 | AV |
| 10380 | 45.79 | 9.33 | H | 55.12 | 68.2 | 13.08 | PK |
| 15570 | 45.09 | 14.61 | H | 59.70 | 74.0 | 14.30 | PK |
| 15570 | 32.40 | 14.61 | H | 47.01 | 54.0 | 6.99 | 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 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.

| | | | | | |
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| | |
|---------------------|-------------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11n_40 MHz BW |
| Transfer Rate: | 13.5 Mbps |
| Operating Frequency | 5230 MHz |
| Channel No. | 46 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 10460 | 43.55 | 10.13 | V | 53.68 | 68.2 | 14.52 | PK |
| 15690 | 44.93 | 14.60 | V | 59.53 | 74.0 | 14.47 | PK |
| 15690 | 31.76 | 14.60 | V | 46.36 | 54.0 | 7.64 | AV |
| 10460 | 44.50 | 10.13 | H | 54.63 | 68.2 | 13.57 | PK |
| 15690 | 44.84 | 14.60 | H | 59.44 | 74.0 | 14.56 | PK |
| 15690 | 31.91 | 14.60 | H | 46.51 | 54.0 | 7.49 | 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 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.

| | | | | | |
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| | |
|---------------------|--------------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11ac_40 MHz BW |
| Transfer Rate: | 13.5 Mbps |
| Operating Frequency | 5190 MHz |
| Channel No. | 38 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 10380 | 42.79 | 9.33 | V | 52.12 | 68.2 | 16.08 | PK |
| 15570 | 45.08 | 14.61 | V | 59.69 | 74.0 | 14.31 | PK |
| 15570 | 32.20 | 14.61 | V | 46.81 | 54.0 | 7.19 | AV |
| 10380 | 43.97 | 9.33 | H | 53.30 | 68.2 | 14.90 | PK |
| 15570 | 44.84 | 14.61 | H | 59.45 | 74.0 | 14.55 | PK |
| 15570 | 32.10 | 14.61 | H | 46.71 | 54.0 | 7.29 | 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 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11ac_40 MHz BW |
| Transfer Rate: | 6.5 Mbps |
| Operating Frequency | 5230 MHz |
| Channel No. | 46 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 10460 | 42.25 | 10.13 | V | 52.38 | 68.2 | 15.82 | PK |
| 15690 | 45.95 | 14.60 | V | 60.55 | 74.0 | 13.45 | PK |
| 15690 | 32.53 | 14.60 | V | 47.13 | 54.0 | 6.87 | AV |
| 10460 | 44.30 | 10.13 | H | 54.43 | 68.2 | 13.77 | PK |
| 15690 | 46.12 | 14.60 | H | 60.72 | 74.0 | 13.28 | PK |
| 15690 | 32.60 | 14.60 | H | 47.20 | 54.0 | 6.80 | 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 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11ac_80 MHz BW |
| Transfer Rate: | 29.3 Mbps |
| Operating Frequency | 5210 MHz |
| Channel No. | 42 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 10420 | 40.07 | 10.43 | V | 50.50 | 68.2 | 17.7 | PK |
| 15630 | 45.40 | 14.15 | V | 59.55 | 74 | 14.45 | PK |
| 15630 | 32.73 | 14.15 | V | 46.88 | 54 | 7.12 | AV |
| 10420 | 41.88 | 10.43 | H | 52.31 | 68.2 | 15.89 | PK |
| 15630 | 46.23 | 14.15 | H | 60.38 | 74 | 13.62 | PK |
| 15630 | 32.51 | 14.15 | H | 46.66 | 54 | 7.34 | 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 802.11ac_80 MHz BW. Worst case is 29.3 Mbps in 802.11ac_80 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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| | |
|---------------------|----------|
| 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 | 41.02 | 10.38 | V | 51.40 | 68.2 | 16.80 | PK |
| 15780 | 45.40 | 14.38 | V | 59.78 | 74.0 | 14.22 | PK |
| 15780 | 32.74 | 14.38 | V | 47.12 | 54.0 | 6.88 | AV |
| 10520 | 46.26 | 10.38 | H | 56.64 | 68.2 | 11.56 | PK |
| 15780 | 46.10 | 14.38 | H | 60.48 | 74.0 | 13.52 | PK |
| 15780 | 32.67 | 14.38 | H | 47.05 | 54.0 | 6.95 | 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 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|----------|
| 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 | 44.03 | 10.39 | V | 54.42 | 74.0 | 19.58 | PK |
| 10600 | 31.69 | 10.39 | V | 42.08 | 54.0 | 11.92 | AV |
| 15900 | 43.98 | 14.00 | V | 57.98 | 74.0 | 16.02 | PK |
| 15900 | 31.23 | 14.00 | V | 45.23 | 54.0 | 8.77 | AV |
| 10600 | 44.06 | 10.39 | H | 54.45 | 74.0 | 19.55 | PK |
| 10600 | 31.67 | 10.39 | H | 42.06 | 54.0 | 11.94 | AV |
| 15900 | 43.54 | 14.00 | H | 57.54 | 74.0 | 16.46 | PK |
| 15900 | 31.18 | 14.00 | H | 45.18 | 54.0 | 8.82 | 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 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|----------|
| 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 | 44.18 | 10.50 | V | 54.68 | 74 | 19.32 | PK |
| 10640 | 31.48 | 10.50 | V | 41.98 | 54 | 12.02 | AV |
| 15960 | 44.68 | 14.27 | V | 58.95 | 74 | 15.05 | PK |
| 15960 | 30.94 | 14.27 | V | 45.21 | 54 | 8.79 | AV |
| 10640 | 44.18 | 10.50 | H | 54.68 | 74 | 19.32 | PK |
| 10640 | 31.58 | 10.50 | H | 42.08 | 54 | 11.92 | AV |
| 15960 | 44.10 | 14.27 | H | 58.37 | 74 | 15.63 | PK |
| 15960 | 31.12 | 14.27 | H | 45.39 | 54 | 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. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 2 |
| Operation Mode: | 802.11 n_20 MHz BW |
| Transfer Rate: | 6.5 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 | 45.28 | 10.38 | V | 55.66 | 68.2 | 12.54 | PK |
| 15780 | 46.00 | 14.38 | V | 60.38 | 74.0 | 13.62 | PK |
| 15780 | 32.64 | 14.38 | V | 47.02 | 54.0 | 6.98 | AV |
| 10520 | 46.02 | 10.38 | H | 56.40 | 68.2 | 11.80 | PK |
| 15780 | 46.08 | 14.38 | H | 60.46 | 74.0 | 13.54 | PK |
| 15780 | 32.70 | 14.38 | H | 47.08 | 54.0 | 6.92 | 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_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 2 |
| Operation Mode: | 802.11 n_20 MHz BW |
| Transfer Rate: | 6.5 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 | 43.89 | 10.39 | V | 54.28 | 74.0 | 19.72 | PK |
| 10600 | 30.51 | 10.39 | V | 40.90 | 54.0 | 13.10 | AV |
| 15900 | 44.09 | 14.00 | V | 58.09 | 74.0 | 15.91 | PK |
| 15900 | 31.28 | 14.00 | V | 45.28 | 54.0 | 8.72 | AV |
| 10600 | 44.45 | 10.39 | H | 54.84 | 74.0 | 19.16 | PK |
| 10600 | 31.10 | 10.39 | H | 41.49 | 54.0 | 12.51 | AV |
| 15900 | 43.77 | 14.00 | H | 57.77 | 74.0 | 16.23 | PK |
| 15900 | 31.20 | 14.00 | H | 45.20 | 54.0 | 8.80 | 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_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 2 |
| Operation Mode: | 802.11 n_20 MHz BW |
| Transfer Rate: | 6.5 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 | 43.75 | 10.50 | V | 54.25 | 74 | 19.75 | PK |
| 10640 | 30.52 | 10.50 | V | 41.02 | 54 | 12.98 | AV |
| 15960 | 44.72 | 14.27 | V | 58.99 | 74 | 15.01 | PK |
| 15960 | 30.98 | 14.27 | V | 45.25 | 54 | 8.75 | AV |
| 10640 | 44.72 | 10.50 | H | 55.22 | 74 | 18.78 | PK |
| 10640 | 30.57 | 10.50 | H | 41.07 | 54 | 12.93 | AV |
| 15960 | 45.09 | 14.27 | H | 59.36 | 74 | 14.64 | PK |
| 15960 | 31.27 | 14.27 | H | 45.54 | 54 | 8.46 | 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_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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| | |
|---------------------|---------------------|
| Band : | UNII 2 |
| Operation Mode: | 802.11 ac_20 MHz BW |
| Transfer Rate: | 6.5 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 | 43.00 | 10.38 | V | 53.38 | 68.2 | 14.82 | PK |
| 15780 | 46.05 | 14.38 | V | 60.43 | 74.0 | 13.57 | PK |
| 15780 | 32.66 | 14.38 | V | 47.04 | 54.0 | 6.96 | AV |
| 10520 | 45.41 | 10.38 | H | 55.79 | 68.2 | 12.41 | PK |
| 15780 | 45.99 | 14.38 | H | 60.37 | 74.0 | 13.63 | PK |
| 15780 | 32.64 | 14.38 | H | 47.02 | 54.0 | 6.98 | 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 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|---------------------|
| Band : | UNII 2 |
| Operation Mode: | 802.11 ac_20 MHz BW |
| Transfer Rate: | 6.5 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 | 42.22 | 10.39 | V | 52.61 | 74.0 | 21.39 | PK |
| 10600 | 28.52 | 10.39 | V | 38.91 | 54.0 | 15.09 | AV |
| 15900 | 43.87 | 14.00 | V | 57.87 | 74.0 | 16.13 | PK |
| 15900 | 31.16 | 14.00 | V | 45.16 | 54.0 | 8.84 | AV |
| 10600 | 43.58 | 10.39 | H | 53.97 | 74.0 | 20.03 | PK |
| 10600 | 29.41 | 10.39 | H | 39.80 | 54.0 | 14.20 | AV |
| 15900 | 43.51 | 14.00 | H | 57.51 | 74.0 | 16.49 | PK |
| 15900 | 31.30 | 14.00 | H | 45.30 | 54.0 | 8.70 | 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 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|---------------------|
| Band : | UNII 2 |
| Operation Mode: | 802.11 ac_20 MHz BW |
| Transfer Rate: | 6.5 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 | 42.28 | 10.50 | V | 52.78 | 74 | 21.22 | PK |
| 10640 | 28.50 | 10.50 | V | 39.00 | 54 | 15.00 | AV |
| 15960 | 44.54 | 14.27 | V | 58.81 | 74 | 15.19 | PK |
| 15960 | 30.99 | 14.27 | V | 45.26 | 54 | 8.74 | AV |
| 10640 | 43.46 | 10.50 | H | 53.96 | 74 | 20.04 | PK |
| 10640 | 29.75 | 10.50 | H | 40.25 | 54 | 13.75 | AV |
| 15960 | 43.98 | 14.27 | H | 58.25 | 74 | 15.75 | PK |
| 15960 | 31.14 | 14.27 | H | 45.41 | 54 | 8.59 | 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 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|-------------------|
| Band : | UNII 2 |
| Operation Mode: | 802.11n_40 MHz BW |
| Transfer Rate: | 13.5 Mbps |
| Operating Frequency | 5270 MHz |
| Channel No. | 54 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 10540 | 43.49 | 10.55 | V | 54.04 | 68.2 | 14.16 | PK |
| 15810 | 47.03 | 14.26 | V | 61.29 | 74.0 | 12.71 | PK |
| 15810 | 33.15 | 14.26 | V | 47.41 | 54.0 | 6.59 | AV |
| 10540 | 43.98 | 10.55 | H | 54.53 | 68.2 | 13.67 | PK |
| 15810 | 46.21 | 14.26 | H | 60.47 | 74.0 | 13.53 | PK |
| 15810 | 33.07 | 14.26 | H | 47.33 | 54.0 | 6.67 | 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 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.

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|-----------------------------------|---------------------------------|--|---|--|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | | www.hct.co.kr |
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| | |
|---------------------|-------------------|
| Band : | UNII 2 |
| Operation Mode: | 802.11n_40 MHz BW |
| Transfer Rate: | 13.5 Mbps |
| Operating Frequency | 5310 MHz |
| Channel No. | 62 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 10620 | 41.97 | 10.25 | V | 52.22 | 74 | 21.78 | PK |
| 10620 | 28.74 | 10.25 | V | 38.99 | 54 | 15.01 | AV |
| 15930 | 44.44 | 13.62 | V | 58.06 | 74 | 15.94 | PK |
| 15930 | 31.61 | 13.62 | V | 45.23 | 54 | 8.77 | AV |
| 10620 | 43.14 | 10.25 | H | 53.39 | 74 | 20.61 | PK |
| 10620 | 30.10 | 10.25 | H | 40.35 | 54 | 13.65 | AV |
| 15930 | 45.47 | 13.62 | H | 59.09 | 74 | 14.91 | PK |
| 15930 | 31.89 | 13.62 | H | 45.51 | 54 | 8.49 | 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 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.

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|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 2 |
| Operation Mode: | 802.11ac_40 MHz BW |
| Transfer Rate: | 6.5 Mbps |
| Operating Frequency | 5270 MHz |
| Channel No. | 54 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 10540 | 41.53 | 10.55 | V | 52.08 | 68.2 | 16.12 | PK |
| 15810 | 46.52 | 14.26 | V | 60.78 | 74.0 | 13.22 | PK |
| 15810 | 32.79 | 14.26 | V | 47.05 | 54.0 | 6.95 | AV |
| 10540 | 43.50 | 10.55 | H | 54.05 | 68.2 | 14.15 | PK |
| 15810 | 45.98 | 14.26 | H | 60.24 | 74.0 | 13.76 | PK |
| 15810 | 32.87 | 14.26 | H | 47.13 | 54.0 | 6.87 | 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 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 2 |
| Operation Mode: | 802.11ac_40 MHz BW |
| Transfer Rate: | 6.5 Mbps |
| Operating Frequency | 5310 MHz |
| Channel No. | 62 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 10620 | 40.78 | 10.25 | V | 51.03 | 74 | 22.97 | PK |
| 10620 | 27.98 | 10.25 | V | 38.23 | 54 | 15.77 | AV |
| 15930 | 44.63 | 13.62 | V | 58.25 | 74 | 15.75 | PK |
| 15930 | 31.45 | 13.62 | V | 45.07 | 54 | 8.93 | AV |
| 10620 | 42.11 | 10.25 | H | 52.36 | 74 | 21.64 | PK |
| 10620 | 29.39 | 10.25 | H | 39.64 | 54 | 14.36 | AV |
| 15930 | 44.77 | 13.62 | H | 58.39 | 74 | 15.61 | PK |
| 15930 | 31.53 | 13.62 | H | 45.15 | 54 | 8.85 | 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 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 2 |
| Operation Mode: | 802.11ac_80 MHz BW |
| Transfer Rate: | 29.3 Mbps |
| Operating Frequency | 5290 MHz |
| Channel No. | 58 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 10580 | 42.20 | 10.42 | V | 52.62 | 68.2 | 15.58 | PK |
| 15870 | 44.70 | 13.96 | V | 58.66 | 74 | 15.34 | PK |
| 15870 | 32.17 | 13.96 | V | 46.13 | 54 | 7.87 | AV |
| 10580 | 41.24 | 10.42 | H | 51.66 | 68.2 | 16.54 | PK |
| 15870 | 45.50 | 13.96 | H | 59.46 | 74 | 14.54 | PK |
| 15870 | 32.29 | 13.96 | H | 46.25 | 54 | 7.75 | 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 802.11ac_80 MHz BW. Worst case is 13.5 Mbps in 802.11ac_80 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|----------|
| Band : | UNII 2e |
| 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 | 38.60 | 11.28 | V | 49.88 | 74.0 | 24.12 | PK |
| 11000 | 26.15 | 11.28 | V | 37.43 | 54.0 | 16.57 | AV |
| 16500 | 46.02 | 14.19 | V | 60.21 | 68.2 | 7.99 | PK |
| 11000 | 39.78 | 11.28 | H | 51.06 | 74.0 | 22.94 | PK |
| 11000 | 27.36 | 11.28 | H | 38.64 | 54.0 | 15.36 | AV |
| 16500 | 45.31 | 14.19 | H | 59.50 | 68.2 | 8.70 | PK |

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 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|----------|
| Band : | UNII 2e |
| 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 | 39.37 | 11.10 | V | 50.47 | 74.0 | 23.53 | PK |
| 11160 | 27.10 | 11.10 | V | 38.20 | 54.0 | 15.80 | AV |
| 16740 | 44.79 | 15.70 | V | 60.49 | 68.2 | 7.71 | PK |
| 11160 | 40.06 | 11.10 | H | 51.16 | 74.0 | 22.84 | PK |
| 11160 | 27.92 | 11.10 | H | 39.02 | 54.0 | 14.98 | AV |
| 16740 | 44.78 | 15.70 | H | 60.48 | 68.2 | 7.72 | PK |

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 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|----------|
| Band : | UNII 2e |
| 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 | 42.02 | 10.97 | V | 52.99 | 74.0 | 21.01 | PK |
| 11400 | 30.07 | 10.97 | V | 41.04 | 54.0 | 12.96 | AV |
| 17100 | 45.23 | 17.82 | V | 63.05 | 68.2 | 5.15 | PK |
| 11400 | 41.76 | 10.97 | H | 52.73 | 74.0 | 21.27 | PK |
| 11400 | 29.15 | 10.97 | H | 40.12 | 54.0 | 13.88 | AV |
| 17100 | 44.92 | 17.82 | H | 62.74 | 68.2 | 5.46 | PK |

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 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11 n_20 MHz BW |
| Transfer Rate: | 6.5 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 | 40.06 | 11.28 | V | 51.34 | 74.0 | 22.66 | PK |
| 11000 | 27.51 | 11.28 | V | 38.79 | 54.0 | 15.21 | AV |
| 16500 | 45.29 | 14.19 | V | 59.48 | 68.2 | 8.72 | PK |
| 11000 | 41.03 | 11.28 | H | 52.31 | 74.0 | 21.69 | PK |
| 11000 | 28.20 | 11.28 | H | 39.48 | 54.0 | 14.52 | AV |
| 16500 | 45.27 | 14.19 | H | 59.46 | 68.2 | 8.74 | PK |

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_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11 n_20 MHz BW |
| Transfer Rate: | 6.5 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 | 39.85 | 11.10 | V | 50.95 | 74.0 | 23.05 | PK |
| 11160 | 27.77 | 11.10 | V | 38.87 | 54.0 | 15.13 | AV |
| 16740 | 45.62 | 15.70 | V | 61.32 | 68.2 | 6.88 | PK |
| 11160 | 41.30 | 11.10 | H | 52.40 | 74.0 | 21.60 | PK |
| 11160 | 28.57 | 11.10 | H | 39.67 | 54.0 | 14.33 | AV |
| 16740 | 45.71 | 15.70 | H | 61.41 | 68.2 | 6.79 | PK |

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_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11 n_20 MHz BW |
| Transfer Rate: | 6.5 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 | 39.73 | 10.97 | V | 50.70 | 74.0 | 23.30 | PK |
| 11400 | 26.30 | 10.97 | V | 37.27 | 54.0 | 16.73 | AV |
| 17100 | 45.17 | 17.82 | V | 62.99 | 68.2 | 5.21 | PK |
| 11400 | 39.48 | 10.97 | H | 50.45 | 74.0 | 23.55 | PK |
| 11400 | 26.14 | 10.97 | H | 37.11 | 54.0 | 16.89 | AV |
| 17100 | 45.15 | 17.82 | H | 62.97 | 68.2 | 5.23 | PK |

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_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|---------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11 ac_20 MHz BW |
| Transfer Rate: | 6.5 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 | 39.79 | 11.28 | V | 51.07 | 74.0 | 22.93 | PK |
| 11000 | 26.51 | 11.28 | V | 37.79 | 54.0 | 16.21 | AV |
| 16500 | 45.31 | 14.19 | V | 59.50 | 68.2 | 8.70 | PK |
| 11000 | 41.09 | 11.28 | H | 52.37 | 74.0 | 21.63 | PK |
| 11000 | 26.59 | 11.28 | H | 37.87 | 54.0 | 16.13 | AV |
| 16500 | 45.20 | 14.19 | H | 59.39 | 68.2 | 8.81 | PK |

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 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
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| | |
|---------------------|---------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11 ac_20 MHz BW |
| Transfer Rate: | 6.5 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 | 39.75 | 11.10 | V | 50.85 | 74.0 | 23.15 | PK |
| 11160 | 26.48 | 11.10 | V | 37.58 | 54.0 | 16.42 | AV |
| 16740 | 44.71 | 15.70 | V | 60.41 | 68.2 | 7.79 | PK |
| 11160 | 40.83 | 11.10 | H | 51.93 | 74.0 | 22.07 | PK |
| 11160 | 27.72 | 11.10 | H | 38.82 | 54.0 | 15.18 | AV |
| 16740 | 44.90 | 15.70 | H | 60.60 | 68.2 | 7.60 | PK |

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 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 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. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | | FCC ID: ZNFL01F |



| | |
|---------------------|---------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11 ac_20 MHz BW |
| Transfer Rate: | 6.5 Mbps |
| Operating Frequency | 5720 MHz |
| Channel No. | 144 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 11440 | 42.09 | 10.97 | V | 53.06 | 74 | 20.94 | PK |
| 11440 | 28.66 | 10.97 | V | 39.63 | 54 | 14.37 | AV |
| 17160 | 45.67 | 18.00 | V | 63.67 | 68.2 | 4.53 | PK |
| 11440 | 44.96 | 10.97 | H | 55.93 | 74 | 18.07 | PK |
| 11440 | 30.82 | 10.97 | H | 41.79 | 54 | 12.21 | AV |
| 17160 | 45.60 | 18.00 | H | 63.60 | 68.2 | 4.60 | PK |

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 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|-------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11n_40 MHz BW |
| Transfer Rate: | 13.5 Mbps |
| Operating Frequency | 5510 MHz |
| Channel No. | 102 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 11020 | 40.78 | 11.28 | V | 52.06 | 74.0 | 21.94 | PK |
| 11020 | 26.80 | 11.28 | V | 38.08 | 54.0 | 15.92 | AV |
| 16530 | 45.34 | 8.83 | V | 54.17 | 68.2 | 14.03 | PK |
| 11020 | 40.33 | 11.28 | H | 51.61 | 74.0 | 22.39 | PK |
| 11020 | 27.57 | 11.28 | H | 38.85 | 54.0 | 15.15 | AV |
| 16530 | 45.03 | 8.83 | H | 53.86 | 68.2 | 14.34 | PK |

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 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 |
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| | |
|---------------------|-------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11n_40 MHz BW |
| Transfer Rate: | 13.5 Mbps |
| Operating Frequency | 5580 MHz |
| Channel No. | 110 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 11100 | 39.89 | 11.56 | V | 51.45 | 74 | 22.55 | PK |
| 11100 | 28.88 | 11.56 | V | 40.44 | 54 | 13.56 | AV |
| 16650 | 46.12 | 14.98 | V | 61.10 | 68.2 | 7.10 | PK |
| 11100 | 40.32 | 11.56 | H | 51.88 | 74 | 22.12 | PK |
| 11100 | 27.77 | 11.56 | H | 39.33 | 54 | 14.67 | AV |
| 16650 | 45.33 | 14.98 | H | 60.31 | 68.2 | 7.89 | PK |

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 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 |
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| | |
|---------------------|-------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11n_40 MHz BW |
| Transfer Rate: | 13.5 Mbps |
| Operating Frequency | 5670 MHz |
| Channel No. | 134 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 11340 | 41.32 | 10.86 | V | 52.18 | 74 | 21.82 | PK |
| 11340 | 27.77 | 10.86 | V | 38.63 | 54 | 15.37 | AV |
| 17010 | 45.71 | 18.15 | V | 63.86 | 68.2 | 4.34 | PK |
| 11340 | 42.32 | 10.86 | H | 53.18 | 74 | 20.82 | PK |
| 11340 | 29.33 | 10.86 | H | 40.19 | 54 | 13.81 | AV |
| 17010 | 45.64 | 18.15 | H | 63.79 | 68.2 | 4.41 | PK |

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 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.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11ac_40 MHz BW |
| Transfer Rate: | 6.5 Mbps |
| Operating Frequency | 5510 MHz |
| Channel No. | 102 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 11020 | 39.88 | 11.28 | V | 51.16 | 74.0 | 22.84 | PK |
| 11020 | 27.16 | 11.28 | V | 38.44 | 54.0 | 15.56 | AV |
| 16530 | 45.58 | 8.83 | V | 54.41 | 68.2 | 13.79 | PK |
| 11020 | 39.24 | 11.28 | H | 50.52 | 74.0 | 23.48 | PK |
| 11020 | 27.17 | 11.28 | H | 38.45 | 54.0 | 15.55 | AV |
| 16530 | 45.51 | 8.83 | H | 54.34 | 68.2 | 13.86 | PK |

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 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_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 |
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| | |
|---------------------|--------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11ac_40 MHz BW |
| Transfer Rate: | 6.5 Mbps |
| Operating Frequency | 5580 MHz |
| Channel No. | 110 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 11100 | 39.62 | 11.56 | V | 51.18 | 74 | 22.82 | PK |
| 11100 | 27.11 | 11.56 | V | 38.67 | 54 | 15.33 | AV |
| 16650 | 45.29 | 14.98 | V | 60.27 | 68.2 | 7.93 | PK |
| 11100 | 40.53 | 11.56 | H | 52.09 | 74 | 21.91 | PK |
| 11100 | 27.40 | 11.56 | H | 38.96 | 54 | 15.04 | AV |
| 16650 | 45.23 | 14.98 | H | 60.21 | 68.2 | 7.99 | PK |

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 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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| | |
|---------------------|--------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11ac_40 MHz BW |
| Transfer Rate: | 6.5 Mbps |
| Operating Frequency | 5710 MHz |
| Channel No. | 142 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 11420 | 41.69 | 10.73 | V | 52.42 | 74 | 21.58 | PK |
| 11420 | 28.19 | 10.73 | V | 38.92 | 54 | 15.08 | AV |
| 17130 | 45.77 | 18.11 | V | 63.88 | 68.2 | 4.32 | PK |
| 11420 | 42.94 | 10.73 | H | 53.67 | 74 | 20.33 | PK |
| 11420 | 29.71 | 10.73 | H | 40.44 | 54 | 13.56 | AV |
| 17130 | 45.53 | 18.11 | H | 63.64 | 68.2 | 4.56 | PK |

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 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_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 |
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| | |
|---------------------|--------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11ac_80 MHz BW |
| Transfer Rate: | 6.5 Mbps |
| Operating Frequency | 5530 MHz |
| Channel No. | 106 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 11060 | 40.56 | 11.48 | V | 52.04 | 74 | 21.96 | PK |
| 11060 | 27.32 | 11.48 | V | 38.80 | 54 | 15.20 | AV |
| 16590 | 45.68 | 14.42 | V | 60.10 | 68.2 | 8.10 | PK |
| 11060 | 40.02 | 11.48 | H | 51.50 | 74 | 22.50 | PK |
| 11060 | 26.85 | 11.48 | H | 38.33 | 54 | 15.67 | AV |
| 16590 | 45.73 | 14.42 | H | 60.15 | 68.2 | 8.05 | PK |

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 802.11ac_80 MHz BW. Worst case is 13.5 Mbps in 802.11ac_80 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 |
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| | |
|---------------------|--------------------|
| Band : | UNII 2e |
| Operation Mode: | 802.11ac_80 MHz BW |
| Transfer Rate: | 6.5 Mbps |
| Operating Frequency | 5690 MHz |
| Channel No. | 138 Ch |

| Frequency [MHz] | Reading dBuV | AN.+CL-Amp G. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|--------------------|----------------|----------------|----------------|-------------|--------|
| 11380 | 40.80 | 11.05 | V | 51.85 | 74 | 22.15 | PK |
| 11380 | 27.58 | 11.05 | V | 38.63 | 54 | 15.37 | AV |
| 17070 | 45.05 | 18.08 | V | 63.13 | 68.2 | 5.07 | PK |
| 11380 | 42.94 | 11.05 | H | 53.99 | 74 | 20.01 | PK |
| 11380 | 29.88 | 11.05 | H | 40.93 | 54 | 13.07 | AV |
| 17070 | 44.99 | 18.08 | H | 63.07 | 68.2 | 5.13 | PK |

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 802.11ac_80 MHz BW. Worst case is 13.5 Mbps in 802.11ac_80 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
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8.7.2 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 | 55.78 | 3.63 | H | 59.41 | 74 | 14.59 | PK |
| 5150 | 40.16 | 3.63 | H | 43.79 | 54 | 10.21 | AV |
| 5150 | 55.70 | 3.63 | V | 59.33 | 74 | 14.67 | PK |
| 5150 | 40.32 | 3.63 | V | 43.95 | 54 | 10.05 | AV |

| | |
|---------------------|--------------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 n_20 MHz BW |
| 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 | 61.57 | 3.63 | H | 65.20 | 74 | 8.80 | PK |
| 5150 | 40.53 | 3.63 | H | 44.16 | 54 | 9.84 | AV |
| 5150 | 61.13 | 3.63 | V | 64.76 | 74 | 9.24 | PK |
| 5150 | 40.45 | 3.63 | V | 44.08 | 54 | 9.92 | AV |

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Band : UNII 1
 Operation Mode: 802.11 ac_20 MHz BW
 Transfer Rate: 6.5 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 | 59.95 | 3.63 | H | 63.58 | 74 | 10.42 | PK |
| 5150 | 40.06 | 3.63 | H | 43.69 | 54 | 10.31 | AV |
| 5150 | 59.85 | 3.63 | V | 63.48 | 74 | 10.52 | PK |
| 5150 | 39.88 | 3.63 | V | 43.51 | 54 | 10.49 | AV |

Band : UNII 1
 Operation Mode: 802.11n_40 MHz BW
 Transfer Rate: 13.5 Mbps
 Operating Frequency 5190 MHz
 Channel No. 38 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL+AMP+ATT. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|----------------------|----------------|----------------|----------------|-------------|--------|
| 5150 | 62.01 | 3.63 | H | 65.64 | 74 | 8.36 | PK |
| 5150 | 44.85 | 3.63 | H | 48.48 | 54 | 5.52 | AV |
| 5150 | 61.87 | 3.63 | V | 65.50 | 74 | 8.50 | PK |
| 5150 | 44.59 | 3.63 | V | 48.22 | 54 | 5.78 | AV |

| | | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|--|
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Band : UNII 1
 Operation Mode: 802.11 ac_40 MHz BW
 Transfer Rate: 13.5 Mbps
 Operating Frequency 5190 MHz
 Channel No. 38 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL+AMP+ATT. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|----------------------|----------------|----------------|----------------|-------------|--------|
| 5150 | 58.86 | 3.63 | H | 62.49 | 74 | 11.51 | PK |
| 5150 | 43.99 | 3.63 | H | 47.62 | 54 | 6.38 | AV |
| 5150 | 58.62 | 3.63 | V | 62.25 | 74 | 11.75 | PK |
| 5150 | 43.68 | 3.63 | V | 47.31 | 54 | 6.69 | AV |

Band : UNII 1
 Operation Mode: 802.11 ac_80 MHz BW
 Transfer Rate: 29.3 Mbps
 Operating Frequency 5210 MHz
 Channel No. 42 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL+AMP+ATT. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|----------------------|----------------|----------------|----------------|-------------|--------|
| 5150 | 61.30 | 3.63 | H | 64.93 | 74 | 9.07 | PK |
| 5150 | 44.81 | 3.63 | H | 48.44 | 54 | 5.56 | AV |
| 5150 | 60.82 | 3.63 | V | 64.45 | 74 | 9.55 | PK |
| 5150 | 44.32 | 3.63 | V | 47.95 | 54 | 6.05 | AV |

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + ATT
2. We have done all data rate in 802.11a/n/ac mode test. . Worst case of EUT is lowest data rate in 802.11a/n/ac
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. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | | | FCC ID: ZNFL01F |



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 | 50.79 | 4.45 | H | 55.24 | 74 | 18.76 | PK |
| 5350 | 36.93 | 4.45 | H | 41.38 | 54 | 12.62 | AV |
| 5350 | 50.94 | 4.45 | V | 55.39 | 74 | 18.61 | PK |
| 5350 | 36.69 | 4.45 | V | 41.14 | 54 | 12.86 | AV |

Band : UNII 2
 Operation Mode: 802.11 n_20 MHz BW
 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 | 52.46 | 4.45 | H | 56.91 | 74 | 17.09 | PK |
| 5350 | 36.99 | 4.45 | H | 41.44 | 54 | 12.56 | AV |
| 5350 | 51.88 | 4.45 | V | 56.33 | 74 | 17.67 | PK |
| 5350 | 36.75 | 4.45 | V | 41.20 | 54 | 12.80 | AV |

| | | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | | | FCC ID: ZNFL01F |



Band : UNII 2
 Operation Mode: 802.11 ac_20 MHz BW
 Transfer Rate: 6.5 Mbps
 Operating Frequency 5320 MHz
 Channel No. 62 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL+AMP+ATT. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|----------------------|----------------|----------------|----------------|-------------|--------|
| 5350 | 54.30 | 4.45 | H | 58.75 | 74 | 15.25 | PK |
| 5350 | 36.64 | 4.45 | H | 41.09 | 54 | 12.91 | AV |
| 5350 | 50.38 | 4.45 | V | 54.83 | 74 | 19.17 | PK |
| 5350 | 36.53 | 4.45 | V | 40.98 | 54 | 13.02 | AV |

Band : UNII 2
 Operation Mode: 802.11n_40 MHz BW
 Transfer Rate: 13.5 Mbps
 Operating Frequency 5310 MHz
 Channel No. 62 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL+AMP+ATT. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|----------------------|----------------|----------------|----------------|-------------|--------|
| 5350 | 56.75 | 4.45 | H | 61.20 | 74 | 12.80 | PK |
| 5350 | 38.68 | 4.45 | H | 43.13 | 54 | 10.87 | AV |
| 5350 | 50.02 | 4.45 | V | 54.47 | 74 | 19.53 | PK |
| 5350 | 37.23 | 4.45 | V | 41.68 | 54 | 12.32 | AV |

| | | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | | | FCC ID: ZNFL01F |



Band : UNII 2
 Operation Mode: 802.11 ac_40 MHz BW
 Transfer Rate: 13.5 Mbps
 Operating Frequency 5310 MHz
 Channel No. 62 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL+AMP+ATT. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|----------------------|----------------|----------------|----------------|-------------|--------|
| 5350 | 53.68 | 4.45 | H | 58.13 | 74 | 15.87 | PK |
| 5350 | 38.21 | 4.45 | H | 42.66 | 54 | 11.34 | AV |
| 5350 | 49.84 | 4.45 | V | 54.29 | 74 | 19.71 | PK |
| 5350 | 37.20 | 4.45 | V | 41.65 | 54 | 12.35 | AV |

Band : UNII 2
 Operation Mode: 802.11 ac_80 MHz BW
 Transfer Rate: 29.3 Mbps
 Operating Frequency 5290 MHz
 Channel No. 58 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL+AMP+ATT. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|----------------------|----------------|----------------|----------------|-------------|--------|
| 5350 | 57.05 | 4.45 | H | 61.50 | 74 | 12.50 | PK |
| 5350 | 37.88 | 4.45 | H | 42.33 | 54 | 11.67 | AV |
| 5350 | 50.32 | 4.45 | V | 54.77 | 74 | 19.23 | PK |
| 5350 | 37.26 | 4.45 | V | 41.71 | 54 | 12.29 | AV |

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + ATT
2. We have done all data rate in 802.11a/n/ac mode test. . Worst case of EUT is lowest data rate in 802.11a/n/ac
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. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | | | FCC ID: ZNFL01F |



Band : UNII 2e
 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 | 49.98 | 5.54 | H | 55.52 | 68.2 | 12.68 | PK |
| 5460 | 36.43 | 5.54 | H | 41.97 | 54.0 | 12.03 | AV |
| 5470 | 50.58 | 5.54 | H | 56.12 | 68.2 | 12.08 | PK |
| 5460 | 49.66 | 5.54 | V | 55.20 | 68.2 | 13.00 | PK |
| 5460 | 36.00 | 5.54 | V | 41.54 | 54.0 | 12.46 | AV |
| 5470 | 49.87 | 5.54 | V | 55.41 | 68.2 | 12.79 | PK |

Band : UNII 2e
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5700 MHz
 Channel No. 140 Ch

| Frequency [MHz] | Reading DBuV | AN.+CL+AMP+ATT. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|----------------------|----------------|----------------|----------------|-------------|--------|
| 5725 | 58.24 | 6.80 | H | 65.04 | 68.2 | 3.16 | PK |
| 5725 | 58.30 | 6.80 | V | 65.10 | 68.2 | 3.10 | PK |

| | | | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|--|--------------------|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | | | www.hct.co.kr | |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | | | | FCC ID: ZNFL01F |



Band : UNII 2e
 Operation Mode: 802.11 n_20 MHz BW
 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 | 51.28 | 5.54 | H | 56.82 | 68.2 | 11.38 | PK |
| 5460 | 36.23 | 5.54 | H | 41.77 | 54.0 | 12.23 | AV |
| 5470 | 57.40 | 5.54 | H | 62.94 | 68.2 | 5.26 | PK |
| 5460 | 49.12 | 5.54 | V | 54.66 | 68.2 | 13.54 | PK |
| 5460 | 35.95 | 5.54 | V | 41.49 | 54.0 | 12.51 | AV |
| 5470 | 52.82 | 5.54 | V | 58.36 | 68.2 | 9.84 | PK |

Band : UNII 2e
 Operation Mode: 802.11 n_20 MHz BW
 Transfer Rate: 6.5 Mbps
 Operating Frequency 5700 MHz
 Channel No. 140 Ch

| Frequency [MHz] | Reading DBuV | AN.+CL+AMP+ATT. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|----------------------|----------------|----------------|----------------|-------------|--------|
| 5725 | 58.06 | 6.80 | H | 64.86 | 68.2 | 3.34 | PK |
| 5725 | 54.20 | 6.80 | V | 61.00 | 68.2 | 7.20 | PK |

| | | | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|--|--------------------|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | | | www.hct.co.kr | |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | | | | FCC ID: ZNFL01F |



Band : UNII 2e
 Operation Mode: 802.11 ac_20 MHz BW
 Transfer Rate: 6.5 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 | 52.83 | 5.54 | H | 58.37 | 68.2 | 9.83 | PK |
| 5460 | 36.27 | 5.54 | H | 41.81 | 54.0 | 12.19 | AV |
| 5470 | 56.22 | 5.54 | H | 61.76 | 68.2 | 6.44 | PK |
| 5460 | 49.97 | 5.54 | V | 55.51 | 68.2 | 12.69 | PK |
| 5460 | 35.80 | 5.54 | V | 41.34 | 54.0 | 12.66 | AV |
| 5470 | 51.48 | 5.54 | V | 57.02 | 68.2 | 11.18 | PK |

Band : UNII 2e
 Operation Mode: 802.11n_40 MHz BW
 Transfer Rate: 13.5 Mbps
 Operating Frequency 5510 MHz
 Channel No. 102 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL+AMP+ATT. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|----------------------|----------------|----------------|----------------|-------------|--------|
| 5460 | 54.15 | 5.54 | H | 59.69 | 68.2 | 8.51 | PK |
| 5460 | 37.13 | 5.54 | H | 42.67 | 54.0 | 11.33 | AV |
| 5470 | 59.19 | 5.54 | H | 64.73 | 68.2 | 3.47 | PK |
| 5460 | 50.16 | 5.54 | V | 55.70 | 68.2 | 12.50 | PK |
| 5460 | 36.63 | 5.54 | V | 42.17 | 54.0 | 11.83 | AV |
| 5470 | 53.31 | 5.54 | V | 58.85 | 68.2 | 9.35 | PK |

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|-----------------------------------|---------------------------------|--|---|--|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | | FCC ID: ZNFL01F |



Band : UNII 2e
 Operation Mode: 802.11 n_40 MHz BW
 Transfer Rate: 13.5 Mbps
 Operating Frequency 5670 MHz
 Channel No. 134 Ch

| Frequency [MHz] | Reading DBuV | AN.+CL+AMP+ATT. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|----------------------|----------------|----------------|----------------|-------------|--------|
| 5725 | 49.53 | 6.80 | H | 56.33 | 68.2 | 11.87 | PK |
| 5725 | 50.21 | 6.80 | H | 57.01 | 68.2 | 11.19 | PK |

Band : UNII 2e
 Operation Mode: 802.11 ac_40 MHz BW
 Transfer Rate: 13.5 Mbps
 Operating Frequency 5510 MHz
 Channel No. 102 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL+AMP+ATT. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|----------------------|----------------|----------------|----------------|-------------|--------|
| 5460 | 52.21 | 5.54 | H | 57.75 | 68.2 | 10.45 | PK |
| 5460 | 37.02 | 5.54 | H | 42.56 | 54.0 | 11.44 | AV |
| 5470 | 57.02 | 5.54 | H | 62.56 | 68.2 | 5.64 | PK |
| 5460 | 49.16 | 5.54 | V | 54.70 | 68.2 | 13.50 | PK |
| 5460 | 36.70 | 5.54 | V | 42.24 | 54.0 | 11.76 | AV |
| 5470 | 51.85 | 5.54 | V | 57.39 | 68.2 | 10.81 | PK |

| | | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | | | FCC ID: ZNFL01F |



Band : UNII 2e
 Operation Mode: 802.11 ac_80 MHz BW
 Transfer Rate: 29.3 Mbps
 Operating Frequency 5530 MHz
 Channel No. 106 Ch

| Frequency [MHz] | Reading dBuV | AN.+CL+AMP+ATT. [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|--------------|----------------------|----------------|----------------|----------------|-------------|--------|
| 5460 | 56.61 | 5.54 | H | 62.15 | 68.2 | 6.05 | PK |
| 5460 | 38.68 | 5.54 | H | 44.22 | 54.0 | 9.78 | AV |
| 5470 | 59.38 | 5.54 | H | 64.92 | 68.2 | 3.28 | PK |
| 5460 | 51.20 | 5.54 | V | 56.74 | 68.2 | 11.46 | PK |
| 5460 | 36.96 | 5.54 | V | 42.50 | 54.0 | 11.50 | AV |
| 5470 | 54.56 | 5.54 | V | 60.10 | 68.2 | 8.10 | PK |

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | | FCC ID: ZNFL01F |



8.8 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 (dBµV) | |
|-----------------------|---------------|----------|
| | 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 groundplane.
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.52 and 802.11a mode in UNII 2. Because 802.11a mode in UNII 2 is worst case.

| | | | | |
|-----------------------------------|---------------------------------|--|---|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | FCC ID: ZNFL01F |

RESULT PLOTS

Conducted Emissions (Line 1)

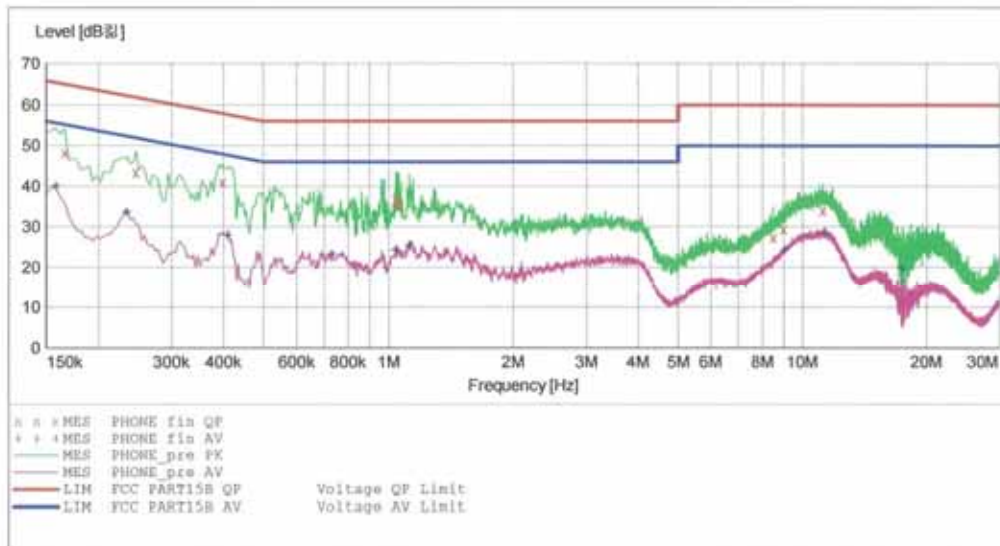
HCT

EMC

EUT: DS1203
 Manufacturer: LG
 Operating Condition: WLAN(UNII) 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 | 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"

2013-06-05 1:24 오후

| Frequency MHz | Level dBμV | Transd dB | Limit dBμV | Margin dB | Line | PE |
|---------------|------------|-----------|------------|-----------|------|-----|
| 0.166001 | 48.20 | 9.8 | 65 | 16.9 | --- | --- |
| 0.246001 | 43.40 | 9.8 | 62 | 18.5 | --- | --- |
| 0.398001 | 41.00 | 9.8 | 58 | 16.9 | --- | --- |
| 1.044000 | 36.80 | 9.8 | 56 | 19.2 | --- | --- |
| 1.052000 | 36.40 | 9.8 | 56 | 19.6 | --- | --- |
| 1.060000 | 35.10 | 9.8 | 56 | 20.9 | --- | --- |
| 8.496000 | 27.40 | 10.4 | 60 | 32.6 | --- | --- |
| 9.020000 | 29.40 | 10.4 | 60 | 30.6 | --- | --- |
| 11.232000 | 34.00 | 10.6 | 60 | 26.0 | --- | --- |

| | | | | |
|-----------------------------------|---------------------------------|--|---|--|
| FCC PT.15.247 TEST REPORT | FCC CERTIFICATION REPORT | | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | FCC ID: ZNFL01F |

MEASUREMENT RESULT: "PHONE_fin AV"

2013-06-05 1:24오.후

| Frequency MHz | Level dB _{μV} | Transd dB | Limit dB _{μV} | Margin dB | Line | PE |
|------------------|---------------------------|--------------|---------------------------|--------------|------|-----|
| 0.158001 | 40.00 | 9.8 | 56 | 15.5 | --- | --- |
| 0.234001 | 33.60 | 9.8 | 52 | 18.7 | --- | --- |
| 0.410001 | 27.80 | 9.8 | 48 | 19.8 | --- | --- |
| 0.732000 | 23.30 | 9.8 | 46 | 22.7 | --- | --- |
| 1.044000 | 24.20 | 9.8 | 46 | 21.8 | --- | --- |
| 1.124000 | 25.40 | 9.9 | 46 | 20.6 | --- | --- |
| 9.084000 | 24.40 | 10.4 | 50 | 25.6 | --- | --- |
| 11.364000 | 28.30 | 10.6 | 50 | 21.7 | --- | --- |
| 17.472000 | 19.60 | 10.8 | 50 | 30.4 | --- | --- |

| | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | | FCC ID: ZNFL01F |

Conducted Emissions (Line 2)

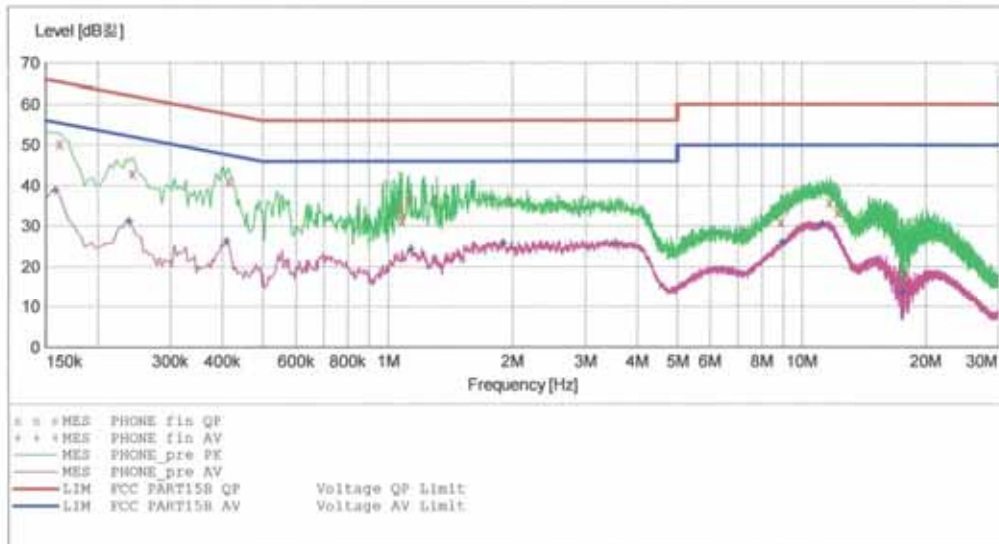
HCT

EMC

EUT: DS1203
 Manufacturer: LG
 Operating Condition: WLAN(UNII) MODE
 Test Site: SHIELD ROOM
 Operator: JC SHIN
 Test Specification: FCC PART15 B
 Comment: N

SCAN TABLE: "FCC CLASS B(N)"

| Start Frequency | Stop Frequency | Step Width | Detector | Meas. Time | IF Bandw. | Transducer |
|-----------------|----------------|------------|----------|------------|-----------|------------|
| 150.0 kHz | 500.0 kHz | 4.0 kHz | MaxPeak | 10.0 ms | 9 kHz | None |
| 500.0 kHz | 5.0 MHz | 4.0 kHz | Average | 10.0 ms | 9 kHz | None |
| 5.0 MHz | 30.0 MHz | 4.0 kHz | MaxPeak | 10.0 ms | 9 kHz | None |
| | | | Average | | | |



MEASUREMENT RESULT: "PHONE_fin QP"

2013-06-05 1:20오.ㅎ

| Frequency MHz | Level dBμV | Transd dB | Limit dBμV | Margin dB | Line | PE |
|---------------|------------|-----------|------------|-----------|------|-----|
| 0.162001 | 50.30 | 10.0 | 65 | 15.0 | --- | --- |
| 0.242001 | 43.00 | 10.0 | 62 | 19.0 | --- | --- |
| 0.414001 | 41.20 | 10.0 | 58 | 16.3 | --- | --- |
| 1.068000 | 34.10 | 10.1 | 56 | 21.9 | --- | --- |
| 1.080000 | 31.50 | 10.1 | 56 | 24.5 | --- | --- |
| 1.124000 | 36.60 | 10.1 | 56 | 19.4 | --- | --- |
| 8.916000 | 31.10 | 10.6 | 60 | 28.9 | --- | --- |
| 11.696000 | 35.80 | 10.8 | 60 | 24.2 | --- | --- |
| 12.212000 | 33.40 | 10.9 | 60 | 26.6 | --- | --- |

| | | | | | | |
|-----------------------------------|---------------------------------|--|---|--|--|--------------------|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | | www.hct.co.kr | |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | | | FCC ID: ZNFL01F |

MEASUREMENT RESULT: "PHONE_fin AV"

2013-06-05 1:20오.후

| Frequency MHz | Level dBμV | Transd dB | Limit dBμV | Margin dB | Line | PE |
|------------------|---------------|--------------|---------------|--------------|------|-----|
| 0.158001 | 38.80 | 10.0 | 56 | 16.8 | --- | --- |
| 0.238001 | 31.20 | 10.0 | 52 | 20.9 | --- | --- |
| 0.410001 | 26.20 | 10.0 | 48 | 21.4 | --- | --- |
| 1.140000 | 24.40 | 10.1 | 46 | 21.6 | --- | --- |
| 1.900000 | 25.80 | 10.1 | 46 | 20.2 | --- | --- |
| 3.548000 | 25.80 | 10.3 | 46 | 20.2 | --- | --- |
| 9.004000 | 25.90 | 10.6 | 50 | 24.1 | --- | --- |
| 11.220000 | 30.50 | 10.8 | 50 | 19.5 | --- | --- |
| 17.500000 | 13.60 | 11.1 | 50 | 36.4 | --- | --- |

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|-----------------------------------|---------------------------------|--|---|--|--|
| FCC PT.15.247 TEST REPORT | | FCC CERTIFICATION REPORT | | | www.hct.co.kr |
| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS NFC(Felica) | GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and | | FCC ID: ZNFL01F |

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 | 07/27/2013 | 21691 |
| Agilent | 8493C / Attenuator(10 dB) | Annual | 07/30/2013 | 76649 |
| WEINSCHL | 2-3 / Attenuator(3 dB) | Annual | 11/07/2013 | BR0617 |

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| Test Report No. HCTR1306FR25-1 | Date of Issue: July 30, 2013 | EUT Type: Cellular/PCS GSM/GPRS/WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN and NFC(Felica) | | FCC ID: ZNFL01F |