

# HCT CO., LTD.

## **CERTIFICATE OF COMPLIANCE**

## **FCC Certification**

#### Applicant Name:

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

#### Address:

1000 Sylvan Avenue, Englewood Cliffs NJ 07632

Date of Issue: August 06, 2013 Test Site/Location: HCT CO., LTD., 105-1, Jangam-ri, Majang-Myeon, Icheon-si, Kyunggi-Do, Korea Report No.: HCTR1308FR15

HCT FRN: 0005866421

IC Recognition No.: 5944A-3

| FCC ID    | : ZNFV500                                |
|-----------|------------------------------------------|
| IC        | : 2703C-V500                             |
| APPLICANT | : LG Electronics MobileComm U.S.A., Inc. |

| FCC/ IC Model(s):               | LG-V500                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                              |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Additional FCC/ IC<br>Model(s): | LGV500, V500                                                                                                                                                                                                                                                                                                                                                                                                                | )                                                                                            |
| EUT Type:                       | 2.4G/5G Dual                                                                                                                                                                                                                                                                                                                                                                                                                | WIFI Tablet                                                                                  |
| Max. RF Output<br>Power:        | Wi-Fi 802.11a (5180~5240) (12.26 dBm)/ Wi-Fi 802.11a (5260~5320) (12.45 dBm)/<br>Wi-Fi 802.11a (5500~5700) (12.37 dBm)/ Wi-Fi 802.11n_20 MHz BW (5180~5240) (11.26 dBm)/<br>Wi-Fi 802.11n_20 MHz BW(5260~5320)(11.44 dBm)/ Wi-Fi 802.11n_20 MHz BW(5500~5700)(11.39 dBm<br>Wi-Fi 802.11n_40 MHz BW(5190~5230) (10.70 dBm)/ Wi-Fi 802.11n_40 MHz BW (5270~5310) (10.84 dB<br>Wi-Fi 802.11n_40 MHz BW (5510~5670) (10.86 dBm) |                                                                                              |
| Frequency Range:                | 20 MHz BW:                                                                                                                                                                                                                                                                                                                                                                                                                  | 5180 MHz – 5240 MHz (UNII 1)/ 5260 MHz – 5320 MHz (UNII 2)/<br>5500 MHz – 5700 MHz (UNII 2e) |
|                                 | 40 MHz BW:                                                                                                                                                                                                                                                                                                                                                                                                                  | 5190 MHz – 5230 MHz (UNII 1)/ 5270 MHz – 5310 MHz (UNII 2)/<br>5510 MHz – 5670 MHz (UNII 2e) |
| Modulation type                 | OFDM                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                              |
| FCC<br>Classification:          | Unlicensed Na                                                                                                                                                                                                                                                                                                                                                                                                               | ational Information Infrastructure(UNII)                                                     |
| FCC Rule Part(s):               | Part 15.407                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                              |
| IC Rule :                       | RSS-210, RSS                                                                                                                                                                                                                                                                                                                                                                                                                | S-GEN                                                                                        |

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this

equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these

measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

Report prepared by : Kwang II Yoon Test engineer of RF Team

Approved by : Kyung Hoon Seo Manager of RF Team

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# **Version**

| TEST REPORT NO. | DATE            | DESCRIPTION             |
|-----------------|-----------------|-------------------------|
| HCTR1308FR15    | August 06, 2013 | - First Approval Report |
|                 |                 |                         |
|                 |                 |                         |
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# **1. GENERAL INFORMATION**

| Applicant:        | LG Electronics MobileComm U.S.A., Inc.                                                                                     |
|-------------------|----------------------------------------------------------------------------------------------------------------------------|
| Address:          | 1000 Sylvan Avenue, Englewood Cliffs NJ 07632                                                                              |
| FCC ID:           | ZNFV500                                                                                                                    |
| IC:               | 2703C-V500                                                                                                                 |
| EUT Type:         | 2.4G/5G Dual WIFI Tablet                                                                                                   |
| FCC/ IC Model     | LG-V500                                                                                                                    |
| Additional FCC/   | LGV500, V500                                                                                                               |
| Date(s) of Tests: | July 25, 2013 ~ July 31, 2013                                                                                              |
| Place of Tests:   | HCT Co., Ltd.<br>105-1, Jangam-ri , Majang-Myeon, Icheon-si, Kyunggi-Do, 467-811, KOREA.<br>(IC Recognition No. : 5944A-3) |

# 2. EUT DESCRIPTION

| EUT Type                 | 2.4G/5G Dual WIFI Ta                                                                                                                                                                                                                                                                                                                                                                                                             | 2.4G/5G Dual WIFI Tablet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| FCC Model Name           | LG-V500                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
|                          | LGV500, V500                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
| Power Supply             | DC 4.3 V                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
| Frequency Range          | TX_20 MHz BW:<br>40 MHz BW:<br>RX_20 MHz BW:<br>40 MHz BW:                                                                                                                                                                                                                                                                                                                                                                       | (20 MHz BW: 5180 MHz - 5240 MHz (UNII 1)/ 5260 MHz - 5320 MHz (UNII 2)/   40 MHz BW: 5500 MHz - 5700 MHz (UNII 2e) where) Not supported 5600 MHz - 5640 MHz   5190 MHz - 5230 MHz (UNII 1)/ 5270 MHz - 5310 MHz (UNII 2)/   5510 MHz - 5670 MHz (UNII 2e) where) Not supported 5590 MHz - 5630 MHz   (20 MHz BW: 5180 MHz - 5240 MHz (UNII 2e) where) Not supported 5590 MHz - 5630 MHz   (20 MHz BW: 5180 MHz - 5240 MHz (UNII 1)/ 5260 MHz - 5320 MHz (UNII 2)/   5500 MHz - 5700 MHz (UNII 2e) where) Not supported 5600 MHz - 5640 MHz   40 MHz BW: 5190 MHz - 5230 MHz (UNII 2e) where) Not supported 5600 MHz - 5640 MHz   5190 MHz - 5670 MHz (UNII 2e) where) Not supported 5600 MHz - 5640 MHz   5190 MHz - 5670 MHz (UNII 2e) where) Not supported 5600 MHz - 5640 MHz   5190 MHz - 5670 MHz (UNII 2e) where) Not supported 5600 MHz - 5640 MHz   5190 MHz - 5670 MHz (UNII 2e) where) Not supported 5600 MHz - 5630 MHz |  |  |
| Max. RF<br>Output Power: | Wi-Fi 802.11a (5180~5240) (12.26 dBm)/ Wi-Fi 802.11a (5260~5320) (12.45 dBm)/<br>Wi-Fi 802.11a (5500~5700) (12.37 dBm)/ Wi-Fi 802.11n_20 MHz BW (5180~5240) (11.26 dBm)/<br>Wi-Fi 802.11n_20 MHz BW(5260~5320)(11.44 dBm)/ Wi-Fi 802.11n_20 MHz BW(5500~5700)(11.39 dBm)/<br>Wi-Fi 802.11n_40 MHz BW(5190~5230) (10.70 dBm)/ Wi-Fi 802.11n_40 MHz BW (5270~5310) (10.84 dBm)/<br>Wi-Fi 802.11n_40 MHz BW (5510~5670) (10.86 dBm) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
| Modulation Type          | OFDM(802.11a, 802.11n_20 MHz, 802.11n_40 MHz)                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
| Antenna Specification    | n Manufacturer: LS Mtron Co. Ltd.                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
|                          | Antenna type: PIFA A                                                                                                                                                                                                                                                                                                                                                                                                             | ntenna                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |
|                          | Peak Gain : 1.64 dBi                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |

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|                                 |                                   |                                   |                    |                   |  |



# **3. TEST METHODOLOGY**

The measurement procedure described in FCC KDB 789033 D01 General UNII Test Procedures v01r03 dated April 08, 2013 entitled " Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices the American National Standard for Testing Unlicensed Wireless Devices(ANSI C63.4-2003) – Part 15, Subpart E" were used in the measurement.

## **3.1 EUT CONFIGURATION**

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

## **3.2 EUT EXERCISE**

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.407 under the FCC Rules Part 15 Subpart E.

## **3.3 GENERAL TEST PROCEDURES**

## **Conducted Emissions**

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4. (Version :2003) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

## **Radiated Emissions**

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4. (Version: 2003)

## **Conducted Antenna Terminal**

See Section from 8.1 to 8.4.(KDB 789033)

## **3.4 DESCRIPTION OF TEST MODES**

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Channel low, mid and high with highest data rate (worst case) is chosen for full testing.

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# 4. INSTRUMENT CALIBRATION

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

# 5. FACILITIES AND ACCREDITATIONS

## **5.1 FACILITIES**

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 105-1, Jangam-ri, Majang-Myeon, Icheon-si, Kyunggi-Do, 467-811, Korea. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2003) and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated March 02, 2011 (Registration Number: 90661)

## **5.2 EQUIPMENT**

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements. Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

# 6. ANTENNA REQUIREMENTS

## According to FCC 47 CFR §15.203:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section."

\* The antennas of this E.U.T are permanently attached.

\*The E.U.T Complies with the requirement of §15.203

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# 7. SUMMARY OF TEST RESULTS

| IC Part                                                                               |                           | FCC Part                            | To at Linuit                                                                                                           | Test      | Test   |
|---------------------------------------------------------------------------------------|---------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------|--------|
| lest Description                                                                      | Section(s)                | Section(s)                          | lest Limit                                                                                                             | Condition | Result |
| 26dB Bandwidth(FCC)<br>Occupied Bandwidth(IC)                                         | RSS-210 [A9.2]            | NA                                  | NA                                                                                                                     |           | NA     |
| Maximum Conducted<br>Output Power                                                     | RSS-210 [A9.2]            | §15.407(a)(1)                       | < 4+10 log <sub>10</sub> (BW) dBm<br>(5150-5250 MHz)(FCC)<br>< 10+10 log <sub>10</sub> (BW) dBm<br>(5150-5250 MHz)(IC) |           | PASS   |
| Peak Power Spectral<br>Density                                                        | RSS-210 [A9.2]            | §15.407(a)(1), (5)                  | <4 dBm/ MHz (5150-<br>5250)(FCC)<br><4 dBm/ MHz (5150-<br>5250)(IC)                                                    |           | PASS   |
| Peak Excursion                                                                        | NA                        | §15.407(a)(6)                       | <13 dB/ MHz maximum difference                                                                                         | CONDUCTED | PASS   |
| Frequency Stability                                                                   | NA                        | §15.407(g)                          | NA                                                                                                                     |           | NA     |
| AC Conducted Emissions<br>150 kHz-30 MHz                                              | RSS-GEN, Section<br>7.2.2 | 15.207                              | <fcc 15.207="" limits<="" td=""><td></td><td>NA</td></fcc>                                                             |           | NA     |
| Undesirable Emissions                                                                 | RSS-210 [A8.5]            | §15.407(b)(1),<br>(2), (3)          | <-27 dBm/ MHz EIRP<br>(5150-5350 MHz, 5470-<br>5725 MHz)                                                               |           | PASS   |
| General Field Strength<br>Limits(Restricted Bands<br>and Radiated Emission<br>Limits) | RSS-GEN, Section<br>7.2.3 | 15.205,<br>5.407(b)(1), (5),<br>(6) | Emissions in restricted<br>bands must meet the<br>radiated limits detailed in<br>15.209                                | RADIATED  | PASS   |
| Receiver Spurious<br>Emissions                                                        | RSS-GEN, Section<br>7.2.3 | §15.109                             | cf. Section 8.7.3                                                                                                      |           | PASS   |

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The zero-span mode on a spectrum analyzer or EMI receiver ,if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set RBW  $\geq$  EBW if possible; otherwise, set RBW to the largest available value. Set VBW  $\geq$  RBW. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T, where *T* is defined in section B)1)a), and the number of sweep points across duration *T* exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if  $T \leq 16.7$  microseconds.)

## **TEST CONFIGURATION**



## **TEST PROCEDURE**

The transmitter output is connected to the Spectrum Analyzer. We tested accroding to the zerospan measurement method, B)2) in KDB 789033( issued 04/08/2013)

The largest available value of RBW is 8 MHz and VBW is 50 MHz. The zero-span method of measuring duty cycle shall not be used if T  $\leq$  6.25 microseconds. (50/6.25 = 8)

The zero-span method was used becaure all measured T data are > 6.25 microseconds and both RBW and VBW are > 50/T.

- 1. RBW = 8 MHz (the largest available value)
- 2. VBW = 8 MHz (≥ RBW)
- 3. SPAN = 0 Hz
- 4. Detector = Peak
- 5. Number of points in sweep > 100
- 6. Trace mode = Clear write
- 7. Measure  $T_{\text{total}} \, \text{and} \, T_{\text{on}}$
- 8. Calculate Duty Cycle =  $T_{on}/T_{total}$  and Duty Cycle Factor = 10\*log(1/Duty Cycle)

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| Mode               | Data Rate  | T <sub>on</sub><br>(ms) | T <sub>total</sub><br>(ms) | Duty Cycle | Duty Cycle Factor |
|--------------------|------------|-------------------------|----------------------------|------------|-------------------|
|                    | 6 Mbs      | 2.034                   | 2.154                      | 0.94428969 | 0.249             |
|                    | 9 Mbs      | 1.359                   | 1.479                      | 0.91886410 | 0.367             |
|                    | 12 Mbs     | 1.026                   | 1.146                      | 0.89528796 | 0.480             |
| 902 110            | 18 Mbs     | 0.692                   | 0.812                      | 0.85221675 | 0.694             |
| 002.11a            | 24 Mbs     | 0.524                   | 0.644                      | 0.81366460 | 0.896             |
|                    | 36 Mbs     | 0.356                   | 0.475                      | 0.74836945 | 1.259             |
|                    | 48 Mbs     | 0.272                   | 0.391                      | 0.69565217 | 1.576             |
|                    | 54 Mbs     | 0.244                   | 0.364                      | 0.67032967 | 1.737             |
|                    | 6.5 Mbs    | 1.890                   | 2.010                      | 0.94029851 | 0.267             |
|                    | 13 Mbs     | 0.966                   | 1.086                      | 0.88950276 | 0.509             |
|                    | 19.5 Mbs   | 0.656                   | 0.776                      | 0.84536082 | 0.730             |
| 902 44 p 20 MU- DW | 26 Mbs     | 0.500                   | 0.620                      | 0.80645161 | 0.934             |
|                    | 39 Mbs     | 0.348                   | 0.468                      | 0.74358974 | 1.287             |
|                    | 52 Mbs     | 0.268                   | 0.388                      | 0.69072165 | 1.607             |
|                    | 58.5 Mbs   | 0.244                   | 0.364                      | 0.67032967 | 1.737             |
|                    | 65 Mbs     | 0.224                   | 0.344                      | 0.65116279 | 1.863             |
|                    | 13.5 Mbps  | 0.932                   | 0.992                      | 0.93951613 | 0.271             |
|                    | 27 Mbps    | 0.483                   | 0.544                      | 0.88737828 | 0.519             |
|                    | 40.5 Mbps  | 0.335                   | 0.396                      | 0.84595960 | 0.727             |
| 802.11n_40 MHz BW  | 54 Mbps    | 0.259                   | 0.320                      | 0.80937500 | 0.919             |
|                    | 81 Mbps    | 0.188                   | 0.249                      | 0.75653924 | 1.212             |
|                    | 108 Mbps   | 0.148                   | 0.209                      | 0.70983213 | 1.488             |
|                    | 121.5 Mbps | 0.136                   | 0.197                      | 0.69211196 | 1.598             |
|                    | 135 Mbps   | 0.128                   | 0.189                      | 0.67904509 | 1.681             |

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## 8.2 26 dB BANDWIDTH MEASUREMENT

The bandwidth at 26 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum power control level, as defined in KDB 789033(issued 04/08/2013), at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26 dB bandwidth.

The 26 dB bandwidth is used to determine the conducted power limits.

## **TEST CONFIGURATION**



## **TEST PROCEDURE**

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to( Page 3 in KDB 789033, issued 04/08/2013)

- 9. RBW = approximately 1 % of the emission bandwidth
- 10. VBW > RBW
- 11. Detector = Peak
- 12. Trace mode = max hold
- 13. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

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|                                 |                                   |                                   |                    |                   |



20 MHz BW

### Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |                | Measured Bandwidth | Minimum Bandwidth |             |
|-----------------|----------------|--------------------|-------------------|-------------|
| Frequency [MHz] | Channel<br>No. | [MHz]              | [MHz]             | Pass / Fail |
| 5180            | 36             | 21.72              | N/A               | Pass        |
| 5200            | 40             | 21.50              | N/A               | Pass        |
| 5240            | 48             | 21.65              | N/A               | Pass        |

### Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |                | Measured Bandwidth | Minimum Bandwidth |             |
|-----------------|----------------|--------------------|-------------------|-------------|
| Frequency [MHz] | Channel<br>No. | [MHz]              | [MHz]             | Pass / Fail |
| 5260            | 52             | 21.37              | N/A               | Pass        |
| 5300            | 60             | 21.79              | N/A               | Pass        |
| 5320            | 64             | 21.38              | N/A               | Pass        |

#### Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |                | Measured Bandwidth | Minimum Bandwidth |             |
|-----------------|----------------|--------------------|-------------------|-------------|
| Frequency [MHz] | Channel<br>No. | [MHz]              | [MHz]             | Pass / Fail |
| 5500            | 100            | 21.35              | N/A               | Pass        |
| 5580            | 116            | 21.82              | N/A               | Pass        |
| 5700            | 140            | 21.39              | N/A               | Pass        |

| FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                    |                   |  |
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|                                 |                                   |                                   |                    |                   |  |



| 802.11n Mode    |                | Measured Bandwidth | Minimum Bandwidth |             |
|-----------------|----------------|--------------------|-------------------|-------------|
| Frequency [MHz] | Channel<br>No. | [MHz]              | [MHz]             | Pass / Fail |
| 5180            | 36             | 22.03              | N/A               | Pass        |
| 5200            | 40             | 21.81              | N/A               | Pass        |
| 5240            | 48             | 21.94              | N/A               | Pass        |

## Conducted 26 dB Bandwidth Measurements for 802.11n

## Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |                | Measured Bandwidth | Minimum Bandwidth |             |
|-----------------|----------------|--------------------|-------------------|-------------|
| Frequency [MHz] | Channel<br>No. | [MHz]              | [MHz]             | Pass / Fail |
| 5260            | 52             | 22.15              | N/A               | Pass        |
| 5300            | 60             | 22.00              | N/A               | Pass        |
| 5320            | 64             | 22.26              | N/A               | Pass        |

### Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |                | Measured Bandwidth | Minimum Bandwidth |             |  |
|-----------------|----------------|--------------------|-------------------|-------------|--|
| Frequency [MHz] | Channel<br>No. | [MHz]              | [MHz]             | Pass / Fail |  |
| 5500            | 100            | 21.97              | N/A               | Pass        |  |
| 5580            | 116            | 22.06              | N/A               | Pass        |  |
| 5700            | 140            | 22.15              | N/A               | Pass        |  |

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| <u>.</u>                        |                                   |                                   |                    |                   |



| 802.11n Mode    |                | Measured Bandwidth | Minimum Bandwidth |             |  |
|-----------------|----------------|--------------------|-------------------|-------------|--|
| Frequency [MHz] | Channel<br>No. | [MHz]              | [MHz]             | Pass / Fail |  |
| 5190            | 38             | 43.20              | N/A               | Pass        |  |
| 5230            | 46             | 43.05              | N/A               | Pass        |  |

#### Conducted 26 dB Bandwidth Measurements for 802.11n

### Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |                | Measured Bandwidth | Minimum Bandwidth |             |
|-----------------|----------------|--------------------|-------------------|-------------|
| Frequency [MHz] | Channel<br>No. | [MHz]              | [MHz]             | Pass / Fail |
| 5270            | 54             | 42.59              | N/A               | Pass        |
| 5310            | 62             | 43.29              | N/A               | Pass        |

### Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |                | Measured Bandwidth | Minimum Bandwidth |             |
|-----------------|----------------|--------------------|-------------------|-------------|
| Frequency [MHz] | Channel<br>No. | [MHz]              | [MHz]             | Pass / Fail |
| 5510            | 102            | 42.70              | N/A               | Pass        |
| 5550            | 110            | 42.99              | N/A               | Pass        |
| 5670            | 134            | 43.31              | N/A               | Pass        |

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|                                 |                                   |                                   |                    |                   |



## 20 dB BW TEST RESULTS(Additional Test)

#### Conducted 20 dB Bandwidth Measurements for 802.11a

| 802.11a Mo                                                   | ode          | Measured Bandwidth     | Minimum Bandwidth     |             |
|--------------------------------------------------------------|--------------|------------------------|-----------------------|-------------|
| Frequency [MHz]                                              | Channel      | [MHz]                  | [MHz]                 | Pass / Fail |
|                                                              | No.          |                        |                       |             |
| 5260                                                         | 52           | 19.61                  | N/A                   | Pass        |
| Conducted 20 dB Bandwidth Measurements for 802.11n_20 MHz BW |              |                        |                       |             |
| 802.11a Mode                                                 |              | Measured Bandwidth     | Minimum Bandwidth     |             |
|                                                              | Channel      | IMH71                  | [MHz]                 | Pass / Fail |
|                                                              | No.          | []                     | []                    |             |
| 5260                                                         | 52           | 19.29                  | N/A                   | Pass        |
| Con                                                          | ducted 20 dB | Bandwidth Measurements | for 802.11n_40 MHz BW |             |
| 802.11a Mode                                                 |              | Measured Bandwidth     | Minimum Bandwidth     |             |
|                                                              | Channel      | IMH71                  | [MHz]                 | Pass / Fail |
|                                                              | No.          | []                     | []                    |             |
| 5270                                                         | 54           | 39.52                  | N/A                   | Pass        |

Note : We performed the 20 dB BW test to prove that no part of the fundamental emissions of any UNII2 band signal lies within the UNII band 1.

| TEST REPORT     |                 | FCC & IC CERTIFICATION REPORT     |         | www.hct.co.kr |
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| Test Report No. | Date of Issue:  | EUT Type:2.4G/5G Dual WIFI Tablet | FCC ID: | IC:           |
| HCTR1308FR15    | August 06, 2013 |                                   | ZNFV500 | 2703C-V500    |



#### **RESULT PLOTS(26 dB Bandwidth)**

## 26 dB Bandwidth plot (802.11a-CH 36)



26 dB Bandwidth plot (802.11a-CH 40)



| FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                    | www.hct.co.kr     |
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|                                 |                                   |                                   |                    |                   |



## 26 dB Bandwidth plot (802.11a-CH 48)







| Test Report No.   Date of Issue:   EUT Type:2.4G/5G Dual WIFI Tablet   FCC ID:   IC:     HCTR1308FR15   August 06, 2013   EUT Type:2.4G/5G Dual WIFI Tablet   ZNFV500   2703C-V500 | FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                    | www.hct.co.kr     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------------------|-----------------------------------|--------------------|-------------------|
| <b>v</b> ,                                                                                                                                                                         | Test Report No.<br>HCTR1308FR15 | Date of Issue:<br>August 06, 2013 | EUT Type:2.4G/5G Dual WIFI Tablet | FCC ID:<br>ZNFV500 | IC:<br>2703C-V500 |



## 26 dB Bandwidth plot (802.11a-CH 60)



## 26 dB Bandwidth plot (802.11a-CH 64)



| FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                    | www.hct.co.kr     |
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|                                 |                                   |                                   |                    |                   |



## 26 dB Bandwidth plot (802.11a-CH 100)







| FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                    | www.hct.co.kr     |
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|                                 |                                   |                                   |                    |                   |



# 26 dB Bandwidth plot (802.11a-CH 140)

| Center Fre                       | eq 5.70000000                       | GH2<br>#IFGain:Low #Atter | r Freq: 5.700000000 GHz<br>ree Run Avg Hold<br>1: 20 dB | ACONAUTO 02:53<br>Radio S<br>d: 1/1<br>Radio D | 52 PM 3425, 2013<br>td: None<br>evice: BTS | Frequency                     |
|----------------------------------|-------------------------------------|---------------------------|---------------------------------------------------------|------------------------------------------------|--------------------------------------------|-------------------------------|
| 10 dB/div                        | Ref Offset 10.4 di<br>Ref 20.00 dBm | 3<br>1                    |                                                         | _                                              |                                            |                               |
| 0.00                             |                                     | processo                  | an gradient and a strate of the second                  |                                                |                                            | Center Freq<br>5.70000000 GHz |
| 20.0<br>40.0<br>40.0             | www.www.                            |                           |                                                         | A A A A A A A A A A A A A A A A A A A          | hand                                       |                               |
| 40.0<br>400.0<br>-70.0           |                                     |                           |                                                         |                                                |                                            | CF Step                       |
| Center 5.7<br>#Res BW            | GHz<br>220 kHz                      | #                         | VBW 680 kHz                                             | Sp<br>Sv                                       | an 40 MHz<br>veep 1 ms                     | 4.000000 MHz<br>Auto Man      |
| Occupied Bandwidth<br>16.799 MHz |                                     | Total Power 18.6 dBm      |                                                         |                                                | Freq Offset<br>0 Hz                        |                               |
| Transmi<br>x dB Ba               | it Freq Error<br>ndwidth            | 33.604 kHz<br>21.39 MHz   | OBW Power<br>x dB                                       | 99.00 %<br>-26.00 dB                           |                                            |                               |
| MSG                              |                                     |                           |                                                         | STATUS                                         |                                            |                               |

| FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                    |                   |  |
|---------------------------------|-----------------------------------|-----------------------------------|--------------------|-------------------|--|
| Test Report No.<br>HCTR1308FR15 | Date of Issue:<br>August 06, 2013 | EUT Type:2.4G/5G Dual WIFI Tablet | FCC ID:<br>ZNFV500 | IC:<br>2703C-V500 |  |
|                                 |                                   |                                   |                    |                   |  |





#### 26 dB Bandwidth plot (802.11n-CH 36)

### 26 dB Bandwidth plot (802.11n-CH 40)



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|                                 | ,<br>,                            | Dana 3.0 af 455                   |                    | ,<br>,            |



## 26 dB Bandwidth plot (802.11n-CH 48)



## 26 dB Bandwidth plot (802.11n-CH 52)



| FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                    | www.hct.co.kr     |
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| <u>.</u>                        |                                   |                                   |                    |                   |



## 26 dB Bandwidth plot (802.11n-CH 60)







| FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                    | www.hct.co.kr     |
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|                                 |                                   |                                   |                    |                   |



50

## 26 dB Bandwidth plot (802.11n-CH 100)







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|                                 |                                   |                                   | ·                  |                   |



# 26 dB Bandwidth plot (802.11n-CH 140)

| Center Fre            | eq 5.70000000                               | 0 GH2 Cente<br>#IFGain:Low #Atter | strid pit<br>ir Freq: 5.700000000 GHz<br>Free Run Avg Hold<br>1: 20 dB | ACONALITO<br>Ra<br>1: 1/1<br>Ra | osio: 20 PM 3425, 2013<br>Idio Std: None<br>Idio Device: BTS | Frequency                           |
|-----------------------|---------------------------------------------|-----------------------------------|------------------------------------------------------------------------|---------------------------------|--------------------------------------------------------------|-------------------------------------|
| 10 dB/dly             | Ref Offset 10.4 di<br>Ref 20.00 dBn         | B<br>n                            |                                                                        |                                 |                                                              |                                     |
| 10.0                  |                                             | and the state way and a survey of | an a                               | ~                               |                                                              | Center Freq<br>5.70000000 GHz       |
| 30.0                  |                                             | 4                                 |                                                                        | MAX                             |                                                              |                                     |
| -40.0                 |                                             |                                   |                                                                        |                                 | Wohnersonakors                                               |                                     |
| Center 5.7<br>#Res BW | 7 GHz<br>220 kHz                            | #                                 | VBW 680 kHz                                                            |                                 | Span 40 MHz<br>Sweep 1 ms                                    | CF Step<br>4.000000 MHz<br>Auto Man |
| Occup                 | Occupied Bandwidth<br>17.891 MHz            |                                   | Total Power 17.7                                                       |                                 | Bm                                                           | Freq Offset<br>0 Hz                 |
| Transm<br>x dB Ba     | Transmit Freq Error 33<br>x dB Bandwidth 22 |                                   | 8 kHz OBW Power<br>MHz x dB                                            |                                 | 0 %<br>dB                                                    |                                     |
| MSG                   |                                             |                                   |                                                                        | STATUS                          |                                                              |                                     |

| FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                    |                   |  |
|---------------------------------|-----------------------------------|-----------------------------------|--------------------|-------------------|--|
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|                                 |                                   |                                   |                    |                   |  |



## 26 dB Bandwidth plot (802.11n-CH 38)



### 26 dB Bandwidth plot (802.11n-CH 46)



| FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                    | www.hct.co.kr     |
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|                                 | ·                                 |                                   | - Č                |                   |



## 26 dB Bandwidth plot (802.11n-CH 54)



## 26 dB Bandwidth plot (802.11n-CH 62)



| FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                    | www.hct.co.kr     |
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|                                 | ·                                 |                                   |                    |                   |



## 26 dB Bandwidth plot (802.11n-CH 102)







| FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                    | www.hct.co.kr     |
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|                                 | ·                                 |                                   | ·                  |                   |



# 26 dB Bandwidth plot (802.11n-CH 134)

| MSG                              |                            |                     |                                 |                                           | STATUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ų.               |                       |                |
|----------------------------------|----------------------------|---------------------|---------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|----------------|
| Transm<br>x dB Ba                | nit Freq Error<br>andwidth | 65.849 k<br>43.31 M | Hz OBW<br>Hz x dB               | Power                                     | 91<br>-26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 9.00 %<br>.00 dB |                       |                |
| Occupied Bandwidth<br>36.203 MHz |                            | Total<br>IZ         | Power                           | 17.                                       | 1 dBm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                  | Freq Offset<br>0 Hz   |                |
| Center 5.0<br>#Res BW            | 67 GHz<br>430 kHz          |                     | #VBW 1.3                        | MHz                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Sp:<br>Sw        | an 80 MHz<br>eep 1 ms | Auto Man       |
| -01.0<br>-70.0                   |                            |                     |                                 |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |                       | CF Step        |
| 40.0<br>-40.0                    | National Works             |                     |                                 |                                           | 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | want for         | Morray                |                |
| -10.0                            |                            | /                   | - Andrew y annun                | en an | and the second sec |                  |                       | 5.67000000 GHz |
| 10 dB/div<br>Log                 | Ref 20.00 dBr              | 8<br>n              |                                 |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |                       | Center Freq    |
| Center Pr                        | eq 5.6700000               | #IFGain:Low         | Trig: Free Run<br>#Atten: 20 dB | Avg[Hold:                                 | 1/1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Radio De         | vice: BTS             |                |
| Againt Spectra                   | IF 502 AC                  |                     | SENCE DUT                       | 00000 GH*                                 | азанило                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 11:05:2          | 1 AM 3425, 2013       | Frequency      |

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|                                 |                                   |                                   |                    |                   |



#### **RESULT PLOTS(20 dB Bandwidth)**



## 20 dB Bandwidth plot (802.11n\_20 MHz BW-CH 52)



| FCC PT.15.247<br>TEST REPORT    |                                   | www.hct.co.kr                     |                    |                   |
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|                                 |                                   | Daga 2.0 of 155                   |                    |                   |



| 00 L № 50                                 | P AC #IFGain:Low       | Center Freq: 5.2700<br>Trig: Free Run<br>#Atten: 20 dB | 00000 GHz<br>Avg[Hold: 1/1 | Radio Dev           | MAUGO2, 2013<br>None<br>fice: BTS | Frequency                           |
|-------------------------------------------|------------------------|--------------------------------------------------------|----------------------------|---------------------|-----------------------------------|-------------------------------------|
| 10 dB/div Ref 20.                         | et 10.3 dB<br>00 dBm   |                                                        |                            |                     |                                   |                                     |
| 10.0                                      |                        | hadaan da witaalaa                                     | -Marson and                |                     |                                   | Center Freq<br>5.270000000 GHz      |
| 200                                       |                        | Y                                                      |                            | w                   |                                   |                                     |
| -42.0<br>-42.0<br>-42.0<br>-42.0<br>-42.0 |                        |                                                        |                            | W AS M              | ment from                         |                                     |
| Center 5.27 GHz<br>#Res BW 390 kHz        |                        | #VBW 1.31                                              | MHz                        | Spa<br>Swe          | n 80 MHz<br>ep 1 ms               | CF Step<br>8.000000 MHz<br>Auto Man |
| Occupied Bandwidth<br>36.098 MHz          |                        | Total F<br>HZ                                          | Power                      | 15.1 dBm            |                                   | Freq Offset<br>0 Hz                 |
| Transmit Freq E<br>x dB Bandwidth         | rror 46.363<br>39.52 I | kHz OBW I<br>AHz x dB                                  | Power                      | 99.00 %<br>20.00 dB |                                   |                                     |
| MSG                                       |                        |                                                        | 31                         | ATUS                |                                   |                                     |

## 20 dB Bandwidth plot (802.11n\_40 MHz BW-CH 54)

| FCC PT.15.247<br>TEST REPORT    |                                   | www.hct.co.kr                     |                    |                   |
|---------------------------------|-----------------------------------|-----------------------------------|--------------------|-------------------|
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|                                 |                                   |                                   |                    |                   |



## 8.3 OUTPUT POWER MEASUREMENT

## Test Requirements and limit, §15.247(b)(3)

A transmitter antenna terminal of EUT is connected to the input of a Spectrum Analyzer. Measurement is made while the EUT is operating in transmission mode at the appropriate frequencies. In the 5.15 – 5.25 GHz band, the maximum permissible conducted output power is the lesser of 50 mW ((16.99 dBm) and 4 dBm + 10 log  $_{10}$  (26 dB BW) frequencies. In the 5.25 – 5.35 GHz band, the maximum permissible conducted output power is the lesser of 250 mW (23.98 dBm) and 11 dBm + 10 log  $_{10}$  (26 dB BW) frequencies. In the 5.47 – 5.725 GHz band, the maximum permissible conducted output power is the lesser of 250 mW (23.98 dBm) and 11 dBm + 10 log  $_{10}$  (26 dB BW)

Limit : 802.11a\_UNII1 = 16.99 dBm 802.11n\_UNII1\_20 MHz BW = 16.99 dBm 802.11n\_UNII1\_40 MHz BW = 16.99 dBm 802.11a\_UNII2 = 23.98 dBm 802.11n\_UNII2\_20 MHz BW = 23.98dBm 802.11n\_UNII2\_40 MHz BW = 23.98 dBm 802.11a\_UNII2e = 23.98dBm

802.11n\_UNII2e\_20 MHz BW = 23.98 dBm

802.11n\_UNII2e\_40 MHz BW = 23.98 dBm

| FCC PT.15.247<br>TEST REPORT |                 | www.hct.co.kr                     |         |            |
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| HCTR1308FR15                 | August 06, 2013 |                                   | ZNFV500 | 2703C-V500 |



| EUT | -          | Spectrum Analyzer |
|-----|------------|-------------------|
|     | Coax cable | 12 5              |

## **TEST PROCEDURE**

The transmitter output is connected to the Spectrum Analyzer. We use the spectrum analyzer's integrated band power measurement function. We tested according to Method SA-2 in KDB 789033(issued 04/08/2013).

The Spectrum Analyzer is set to

## Average Power

- 1. Measure the duty cycle.
- 2. Set span to encompass the 26 dB EBW of the signal.
- 3. RBW = 1 MHz.
- 4. VBW  $\geq$  3 MHz.
- 5. Number of points in sweep  $\geq 2^*$ span/RBW.
- 6. Sweep time = auto.
- 7. Detector = RMS.
- 8. Do not use sweep triggering. Allow the sweep to "free run".
- 9. Trace average at least 100 traces in power averaging(RMS) mode
- 10. Integrated bandwidth = OBW
- 11. Add  $10\log(1/x)$ , where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

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|                                 |                                   |                                   |                    |                   |



### **Sample Calculation**

Output Power = Reading Value + ATT loss + Cable loss(1 ea) + Duty Cycle Factor Output Power = 10 dBm + 10 dB + 0.8 dB + 0.21 dB = 21.01 dBm

Note :

- 1. Spectrum reading values are not plot data. The power results in plot is already including the actual values of loss for the attenuator and cable combination.
- 2. Spectrum offset = Attenuator loss + Cable loss
- 3. We apply to the offset in the 5.2 GHz, 5.3 GHz and 5.6 GHz range that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table.

| Band    | Frequency(MHz) | Loss(dB) |
|---------|----------------|----------|
|         | 5180           | 10.30    |
| UNII 1  | 5190           | 10.29    |
|         | 5200           | 10.28    |
|         | 5230           | 10.29    |
|         | 5240           | 10.34    |
|         | 5260           | 10.37    |
|         | 5270           | 10.38    |
| UNII 2  | 5300           | 10.40    |
|         | 5310           | 10.39    |
|         | 5320           | 10.39    |
|         | 5500           | 10.35    |
|         | 5510           | 10.36    |
| UNII 2e | 5550           | 10.41    |
|         | 5580           | 10.43    |
|         | 5670           | 10.43    |

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

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## Conducted Output Power Measurements (802.11a Mode: 5180~5240)

| 802.11a N          | lode           |             |                        |                      | Measured                                |                |
|--------------------|----------------|-------------|------------------------|----------------------|-----------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. | Rate (Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor | Power(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) |
|                    |                | 6           | 11.70                  | 0.249                | 11.94                                   | 16.99          |
|                    |                | 9           | 11.52                  | 0.367                | 11.89                                   | 16.99          |
|                    |                | 12          | 11.46                  | 0.480                | 11.94                                   | 16.99          |
| 5190               | 26             | 18          | 11.35                  | 0.694                | 12.05                                   | 16.99          |
| 5160               | 30             | 24          | 11.02                  | 0.896                | 11.92                                   | 16.99          |
|                    |                | 36          | 10.65                  | 1.259                | 11.91                                   | 16.99          |
|                    |                | 48          | 10.30                  | 1.576                | 11.88                                   | 16.99          |
|                    |                | 54          | 10.13                  | 1.737                | 11.86                                   | 16.99          |
|                    |                | 6           | 11.70                  | 0.249                | 11.95                                   | 16.99          |
|                    | 10             | 9           | 11.70                  | 0.367                | 12.07                                   | 16.99          |
|                    |                | 12          | 11.53                  | 0.480                | 12.01                                   | 16.99          |
| 5200               |                | 18          | 11.10                  | 0.694                | 11.79                                   | 16.99          |
| 5200               | 40             | 24          | 10.96                  | 0.896                | 11.86                                   | 16.99          |
|                    |                | 36          | 10.68                  | 1.259                | 11.94                                   | 16.99          |
|                    |                | 48          | 10.15                  | 1.576                | 11.73                                   | 16.99          |
|                    |                | 54          | 10.07                  | 1.737                | 11.80                                   | 16.99          |
|                    |                | 6           | 11.94                  | 0.249                | 12.19                                   | 16.99          |
|                    |                | 9           | 11.81                  | 0.367                | 12.18                                   | 16.99          |
|                    |                | 12          | 11.78                  | 0.480                | 12.26                                   | 16.99          |
| 5240               | 10             | 18          | 11.44                  | 0.694                | 12.13                                   | 16.99          |
| 5240               | 40             | 24          | 11.22                  | 0.896                | 12.12                                   | 16.99          |
|                    |                | 36          | 10.80                  | 1.259                | 12.06                                   | 16.99          |
|                    |                | 48          | 10.49                  | 1.576                | 12.06                                   | 16.99          |
|                    |                | 54          | 10.18                  | 1.737                | 11.92                                   | 16.99          |

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|                                 |                                   |                                   | ·                  | ·                 |  |



## Conducted Output Power Measurements (802.11a Mode: 5260~5320)

| 802.11a N          | Node           |             |                        |                      | Measured                                |                |
|--------------------|----------------|-------------|------------------------|----------------------|-----------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. | Rate (Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor | Power(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) |
|                    |                | 6           | 12.07                  | 0.249                | 12.32                                   | 23.98          |
|                    |                | 9           | 11.92                  | 0.367                | 12.28                                   | 23.98          |
|                    |                | 12          | 11.88                  | 0.480                | 12.36                                   | 23.98          |
| 5260               | 52             | 18          | 11.49                  | 0.694                | 12.19                                   | 23.98          |
| 5200               | 52             | 24          | 11.15                  | 0.896                | 12.04                                   | 23.98          |
|                    |                | 36          | 10.92                  | 1.259                | 12.18                                   | 23.98          |
|                    |                | 48          | 10.43                  | 1.576                | 12.00                                   | 23.98          |
|                    |                | 54          | 10.26                  | 1.737                | 12.00                                   | 23.98          |
|                    |                | 6           | 12.08                  | 0.249                | 12.33                                   | 23.98          |
|                    |                | 9           | 11.81                  | 0.367                | 12.17                                   | 23.98          |
|                    |                | 12          | 11.68                  | 0.480                | 12.16                                   | 23.98          |
| E200               |                | 18          | 11.51                  | 0.694                | 12.21                                   | 23.98          |
| 5300               | 60             | 24          | 11.25                  | 0.896                | 12.15                                   | 23.98          |
|                    |                | 36          | 10.74                  | 1.259                | 12.00                                   | 23.98          |
|                    |                | 48          | 10.41                  | 1.576                | 11.99                                   | 23.98          |
|                    |                | 54          | 10.31                  | 1.737                | 12.05                                   | 23.98          |
|                    |                | 6           | 12.08                  | 0.249                | 12.33                                   | 23.98          |
|                    |                | 9           | 11.96                  | 0.367                | 12.33                                   | 23.98          |
|                    |                | 12          | 11.97                  | 0.480                | 12.45                                   | 23.98          |
| 5200               | 64             | 18          | 11.54                  | 0.694                | 12.24                                   | 23.98          |
| 5320               | 04             | 24          | 11.30                  | 0.896                | 12.20                                   | 23.98          |
|                    |                | 36          | 10.96                  | 1.259                | 12.22                                   | 23.98          |
|                    |                | 48          | 10.42                  | 1.576                | 11.99                                   | 23.98          |
|                    |                | 54          | 10.50                  | 1.737                | 12.24                                   | 23.98          |

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|                                 |                                   |                                   |                    |                   |



## Conducted Output Power Measurements (802.11a Mode: 5500~5700)

| 802.11a N          | Node           |             |                        |                      | Measured                                |                |
|--------------------|----------------|-------------|------------------------|----------------------|-----------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. | Rate (Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor | Power(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) |
|                    |                | 6           | 12.05                  | 0.249                | 12.30                                   | 23.98          |
|                    |                | 9           | 11.88                  | 0.367                | 12.24                                   | 23.98          |
|                    |                | 12          | 11.83                  | 0.480                | 12.31                                   | 23.98          |
| 5500               | 100            | 18          | 11.43                  | 0.694                | 12.12                                   | 23.98          |
| 5500               | 100            | 24          | 11.19                  | 0.896                | 12.08                                   | 23.98          |
|                    |                | 36          | 10.77                  | 1.259                | 12.03                                   | 23.98          |
|                    |                | 48          | 10.48                  | 1.576                | 12.06                                   | 23.98          |
|                    |                | 54          | 10.37                  | 1.737                | 12.11                                   | 23.98          |
|                    |                | 6           | 12.07                  | 0.249                | 12.32                                   | 23.98          |
|                    | 116            | 9           | 11.92                  | 0.367                | 12.28                                   | 23.98          |
|                    |                | 12          | 11.89                  | 0.480                | 12.37                                   | 23.98          |
| 5590               |                | 18          | 11.56                  | 0.694                | 12.25                                   | 23.98          |
| 5500               |                | 24          | 11.37                  | 0.896                | 12.27                                   | 23.98          |
|                    |                | 36          | 10.91                  | 1.259                | 12.16                                   | 23.98          |
|                    |                | 48          | 10.45                  | 1.576                | 12.02                                   | 23.98          |
|                    |                | 54          | 10.29                  | 1.737                | 12.02                                   | 23.98          |
|                    |                | 6           | 11.84                  | 0.249                | 12.09                                   | 23.98          |
|                    |                | 9           | 11.75                  | 0.367                | 12.12                                   | 23.98          |
|                    |                | 12          | 11.58                  | 0.480                | 12.07                                   | 23.98          |
| 5700               | 140            | 18          | 11.36                  | 0.694                | 12.06                                   | 23.98          |
|                    | 140            | 24          | 11.15                  | 0.896                | 12.05                                   | 23.98          |
|                    |                | 36          | 10.82                  | 1.259                | 12.07                                   | 23.98          |
|                    |                | 48          | 10.41                  | 1.576                | 11.98                                   | 23.98          |
|                    |                | 54          | 10.24                  | 1.737                | 11.97                                   | 23.98          |

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|                                 |                                   |                                   |                    | ·                 |



## Conducted Output Power Measurements (802.11n Mode: 5180~5240)

| 802.11n M          | Mode           |             |                        |                      | Measured                                |                |
|--------------------|----------------|-------------|------------------------|----------------------|-----------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. | Rate (Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor | Power(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) |
|                    |                | 6.5         | 10.77                  | 0.267                | 11.04                                   | 16.99          |
|                    |                | 13          | 10.64                  | 0.509                | 11.15                                   | 16.99          |
|                    |                | 19.5        | 10.27                  | 0.730                | 11.00                                   | 16.99          |
| 5190               | 26             | 26          | 10.04                  | 0.934                | 10.97                                   | 16.99          |
| 5160               | 30             | 39          | 9.72                   | 1.287                | 11.01                                   | 16.99          |
|                    |                | 52          | 9.28                   | 1.607                | 10.89                                   | 16.99          |
|                    |                | 58.5        | 9.11                   | 1.737                | 10.84                                   | 16.99          |
|                    |                | 65          | 9.07                   | 1.863                | 10.93                                   | 16.99          |
|                    | 40             | 6.5         | 10.74                  | 0.267                | 11.01                                   | 16.99          |
|                    |                | 13          | 10.54                  | 0.509                | 11.04                                   | 16.99          |
|                    |                | 19.5        | 10.34                  | 0.730                | 11.07                                   | 16.99          |
| 5200               |                | 26          | 10.06                  | 0.934                | 11.00                                   | 16.99          |
| 5200               |                | 39          | 9.55                   | 1.287                | 10.83                                   | 16.99          |
|                    |                | 52          | 9.41                   | 1.607                | 11.02                                   | 16.99          |
|                    |                | 58.5        | 9.21                   | 1.737                | 10.95                                   | 16.99          |
|                    |                | 65          | 9.05                   | 1.863                | 10.92                                   | 16.99          |
|                    |                | 6.5         | 10.89                  | 0.267                | 11.16                                   | 16.99          |
|                    |                | 13          | 10.70                  | 0.509                | 11.20                                   | 16.99          |
|                    |                | 19.5        | 10.53                  | 0.730                | 11.26                                   | 16.99          |
| 5240               | 40             | 26          | 10.24                  | 0.934                | 11.17                                   | 16.99          |
|                    | 48             | 39          | 9.67                   | 1.287                | 10.96                                   | 16.99          |
|                    |                | 52          | 9.35                   | 1.607                | 10.96                                   | 16.99          |
|                    |                | 58.5        | 9.26                   | 1.737                | 11.00                                   | 16.99          |
|                    |                | 65          | 9.01                   | 1.863                | 10.88                                   | 16.99          |

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|                                 |                                   |                                   | ·                  |                   |



## Conducted Output Power Measurements (802.11n Mode: 5260~5320)

| 802.11n Mode       |                |             |                        |                      | Measured                                |                |
|--------------------|----------------|-------------|------------------------|----------------------|-----------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. | Rate (Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor | Power(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) |
|                    |                | 6.5         | 10.99                  | 0.267                | 11.26                                   | 23.98          |
|                    |                | 13          | 10.78                  | 0.509                | 11.29                                   | 23.98          |
|                    |                | 19.5        | 10.71                  | 0.730                | 11.44                                   | 23.98          |
| 5260               | 50             | 26          | 10.34                  | 0.934                | 11.27                                   | 23.98          |
| 5260               | 52             | 39          | 9.85                   | 1.287                | 11.14                                   | 23.98          |
|                    |                | 52          | 9.54                   | 1.607                | 11.15                                   | 23.98          |
|                    |                | 58.5        | 9.41                   | 1.737                | 11.14                                   | 23.98          |
|                    |                | 65          | 9.25                   | 1.863                | 11.11                                   | 23.98          |
|                    | 60             | 6.5         | 10.94                  | 0.267                | 11.21                                   | 23.98          |
|                    |                | 13          | 10.69                  | 0.509                | 11.20                                   | 23.98          |
|                    |                | 19.5        | 10.48                  | 0.730                | 11.21                                   | 23.98          |
| 5200               |                | 26          | 10.27                  | 0.934                | 11.20                                   | 23.98          |
| 5300               |                | 39          | 9.82                   | 1.287                | 11.11                                   | 23.98          |
|                    |                | 52          | 9.50                   | 1.607                | 11.10                                   | 23.98          |
|                    |                | 58.5        | 9.35                   | 1.737                | 11.09                                   | 23.98          |
|                    |                | 65          | 9.22                   | 1.863                | 11.08                                   | 23.98          |
|                    |                | 6.5         | 11.09                  | 0.267                | 11.36                                   | 23.98          |
|                    |                | 13          | 10.83                  | 0.509                | 11.34                                   | 23.98          |
|                    |                | 19.5        | 10.48                  | 0.730                | 11.21                                   | 23.98          |
|                    | 64             | 26          | 10.24                  | 0.934                | 11.17                                   | 23.98          |
| 5320               | 04             | 39          | 9.89                   | 1.287                | 11.18                                   | 23.98          |
|                    |                | 52          | 9.61                   | 1.607                | 11.21                                   | 23.98          |
|                    |                | 58.5        | 9.44                   | 1.737                | 11.18                                   | 23.98          |
|                    |                | 65          | 9.40                   | 1.863                | 11.27                                   | 23.98          |

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|                                 |                                   | Dana 3.9 af 155                   |                    |                   |



## Conducted Output Power Measurements (802.11n Mode: 5500~5700)

| 802.11n N          | Node           |             |                        |                      | Measured                                |                |
|--------------------|----------------|-------------|------------------------|----------------------|-----------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. | Rate (Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor | Power(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) |
|                    |                | 6.5         | 11.06                  | 0.267                | 11.33                                   | 23.98          |
|                    |                | 13          | 10.76                  | 0.509                | 11.27                                   | 23.98          |
|                    |                | 19.5        | 10.55                  | 0.730                | 11.28                                   | 23.98          |
| 5500               | 100            | 26          | 10.10                  | 0.934                | 11.03                                   | 23.98          |
| 5500               | 100            | 39          | 9.84                   | 1.287                | 11.12                                   | 23.98          |
|                    |                | 52          | 9.33                   | 1.607                | 10.94                                   | 23.98          |
|                    |                | 58.5        | 9.33                   | 1.737                | 11.07                                   | 23.98          |
|                    |                | 65          | 9.26                   | 1.863                | 11.12                                   | 23.98          |
|                    |                | 6.5         | 11.09                  | 0.267                | 11.36                                   | 23.98          |
|                    | 116            | 13          | 10.84                  | 0.509                | 11.34                                   | 23.98          |
|                    |                | 19.5        | 10.66                  | 0.730                | 11.39                                   | 23.98          |
| 5590               |                | 26          | 10.32                  | 0.934                | 11.25                                   | 23.98          |
| 5500               |                | 39          | 9.89                   | 1.287                | 11.18                                   | 23.98          |
|                    |                | 52          | 9.48                   | 1.607                | 11.09                                   | 23.98          |
|                    |                | 58.5        | 9.35                   | 1.737                | 11.08                                   | 23.98          |
|                    |                | 65          | 9.35                   | 1.863                | 11.21                                   | 23.98          |
|                    |                | 6.5         | 11.07                  | 0.267                | 11.34                                   | 23.98          |
|                    |                | 13          | 10.62                  | 0.509                | 11.13                                   | 23.98          |
|                    |                | 19.5        | 10.53                  | 0.730                | 11.26                                   | 23.98          |
| 5700               | 440            | 26          | 10.32                  | 0.934                | 11.25                                   | 23.98          |
|                    | 140            | 39          | 9.95                   | 1.287                | 11.24                                   | 23.98          |
|                    |                | 52          | 9.52                   | 1.607                | 11.13                                   | 23.98          |
|                    |                | 58.5        | 9.40                   | 1.737                | 11.13                                   | 23.98          |
|                    |                | 65          | 9.28                   | 1.863                | 11.14                                   | 23.98          |

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|                                 |                                   |                                   |                    |                   |  |  |



## Conducted Output Power Measurements (802.11n Mode: 5190~5230)

| 802.11n Mode       |                |             |                        |                      | Measured                                |                |
|--------------------|----------------|-------------|------------------------|----------------------|-----------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. | Rate (Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor | Power(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) |
|                    |                | 13.5        | 10.43                  | 0.271                | 10.70                                   | 16.99          |
|                    |                | 27          | 10.08                  | 0.519                | 10.60                                   | 16.99          |
|                    |                | 40.5        | 9.90                   | 0.727                | 10.63                                   | 16.99          |
| 5400               | 20             | 54          | 9.74                   | 0.919                | 10.66                                   | 16.99          |
| 5190               | 38             | 81          | 9.16                   | 1.212                | 10.37                                   | 16.99          |
|                    |                | 108         | 8.92                   | 1.488                | 10.41                                   | 16.99          |
|                    |                | 121.5       | 8.85                   | 1.598                | 10.45                                   | 16.99          |
|                    |                | 135         | 8.78                   | 1.681                | 10.46                                   | 16.99          |
|                    |                | 13.5        | 10.40                  | 0.271                | 10.67                                   | 16.99          |
|                    |                | 27          | 10.15                  | 0.519                | 10.67                                   | 16.99          |
|                    |                | 40.5        | 9.83                   | 0.727                | 10.56                                   | 16.99          |
| 5000               | 40             | 54          | 9.63                   | 0.919                | 10.55                                   | 16.99          |
| 5230               | 40             | 81          | 9.28                   | 1.212                | 10.49                                   | 16.99          |
|                    |                | 108         | 8.98                   | 1.488                | 10.47                                   | 16.99          |
|                    |                | 121.5       | 8.95                   | 1.598                | 10.54                                   | 16.99          |
|                    |                | 135         | 8.77                   | 1.681                | 10.45                                   | 16.99          |

| FCC PT.15.247<br>TEST REPORT |                 | FCC & IC CERTIFICATION REPORT     |         |            |  |  |
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## Conducted Output Power Measurements (802.11n Mode: 5270~5310)

| 802.11n Mode       |                |             |                        |                      | Measured                                |                |
|--------------------|----------------|-------------|------------------------|----------------------|-----------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. | Rate (Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor | Power(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) |
|                    |                | 13.5        | 10.54                  | 0.271                | 10.82                                   | 23.98          |
|                    |                | 27          | 10.31                  | 0.519                | 10.83                                   | 23.98          |
|                    |                | 40.5        | 10.08                  | 0.727                | 10.81                                   | 23.98          |
| 5070               | 54             | 54          | 9.84                   | 0.919                | 10.76                                   | 23.98          |
| 5270               | 54             | 81          | 9.47                   | 1.212                | 10.68                                   | 23.98          |
|                    |                | 108         | 9.18                   | 1.488                | 10.66                                   | 23.98          |
|                    |                | 121.5       | 9.03                   | 1.598                | 10.62                                   | 23.98          |
|                    |                | 135         | 8.96                   | 1.681                | 10.64                                   | 23.98          |
|                    |                | 13.5        | 10.42                  | 0.271                | 10.69                                   | 23.98          |
|                    |                | 27          | 10.28                  | 0.519                | 10.79                                   | 23.98          |
|                    |                | 40.5        | 10.11                  | 0.727                | 10.84                                   | 23.98          |
| 5240               | 60             | 54          | 9.68                   | 0.919                | 10.60                                   | 23.98          |
| 5310               | 62             | 81          | 9.41                   | 1.212                | 10.62                                   | 23.98          |
|                    |                | 108         | 9.16                   | 1.488                | 10.65                                   | 23.98          |
|                    |                | 121.5       | 9.08                   | 1.598                | 10.68                                   | 23.98          |
|                    |                | 135         | 9.02                   | 1.681                | 10.70                                   | 23.98          |

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|                                 | ·                                 |                                   |                    | ·                 |



## Conducted Output Power Measurements (802.11n Mode: 5510~5670)

| 802.11n Mode       |                |             |                        |                      | Measured                                |                |
|--------------------|----------------|-------------|------------------------|----------------------|-----------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. | Rate (Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor | Power(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) |
|                    |                | 13.5        | 10.58                  | 0.271                | 10.85                                   | 23.98          |
|                    |                | 27          | 10.24                  | 0.519                | 10.75                                   | 23.98          |
|                    |                | 40.5        | 10.06                  | 0.727                | 10.78                                   | 23.98          |
| 5510               | 102            | 54          | 9.74                   | 0.919                | 10.65                                   | 23.98          |
| 5510               | 102            | 81          | 9.54                   | 1.212                | 10.75                                   | 23.98          |
|                    |                | 108         | 9.14                   | 1.488                | 10.63                                   | 23.98          |
|                    |                | 121.5       | 9.03                   | 1.598                | 10.63                                   | 23.98          |
|                    |                | 135         | 8.95                   | 1.681                | 10.63                                   | 23.98          |
|                    | 110            | 13.5        | 10.59                  | 0.271                | 10.86                                   | 23.98          |
|                    |                | 27          | 10.16                  | 0.519                | 10.68                                   | 23.98          |
|                    |                | 40.5        | 10.01                  | 0.727                | 10.74                                   | 23.98          |
| 5550               |                | 54          | 9.78                   | 0.919                | 10.70                                   | 23.98          |
| 5550               |                | 81          | 9.32                   | 1.212                | 10.53                                   | 23.98          |
|                    |                | 108         | 9.10                   | 1.488                | 10.59                                   | 23.98          |
|                    |                | 121.5       | 9.07                   | 1.598                | 10.66                                   | 23.98          |
|                    |                | 135         | 9.02                   | 1.681                | 10.70                                   | 23.98          |
|                    |                | 13.5        | 10.22                  | 0.271                | 10.50                                   | 23.98          |
|                    |                | 27          | 9.93                   | 0.519                | 10.45                                   | 23.98          |
|                    |                | 40.5        | 9.78                   | 0.727                | 10.51                                   | 23.98          |
| 5670               | 124            | 54          | 9.45                   | 0.919                | 10.37                                   | 23.98          |
| 5070               | 134            | 81          | 9.19                   | 1.212                | 10.40                                   | 23.98          |
|                    |                | 108         | 8.79                   | 1.488                | 10.28                                   | 23.98          |
|                    |                | 121.5       | 8.73                   | 1.598                | 10.33                                   | 23.98          |
|                    |                | 135         | 8.64                   | 1.681                | 10.32                                   | 23.98          |

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

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## RESULT PLOTS (5180 MHz ~5240 MHz)

#### Conducted Output Power (802.11a-CH 48) 6 Mbps



## Conducted Output Power (802.11a-CH 48) 9 Mbps



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|                                 |                                   |                                   |                    |                   |





## Conducted Output Power (802.11a-CH 48) 12 Mbps

## Conducted Output Power (802.11a-CH 48) 18 Mbps



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|                                 |                                   |                                   |                    |                   |





#### Conducted Output Power (802.11a-CH 48) 24 Mbps

## Conducted Output Power (802.11a-CH 48) 36 Mbps



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|                                 |                                   |                                   |                    |                   |





#### Conducted Output Power (802.11a-CH 48) 48 Mbps

## Conducted Output Power (802.11a-CH 48) 54 Mbps



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## RESULT PLOTS (5260 MHz ~5320 MHz)

## Conducted Output Power (802.11a-CH 64) 6 Mbps



## Conducted Output Power (802.11a-CH 64) 9 Mbps



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|                                 |                                   |                                   |                    |                   |





## Conducted Output Power (802.11a-CH 64) 12 Mbps

## Conducted Output Power (802.11a-CH 64) 18 Mbps



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|                                 |                                   |                                   |                    |                   |





## Conducted Output Power (802.11a-CH 64) 24 Mbps

## Conducted Output Power (802.11a-CH 64) 36 Mbps



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|                                 |                                   |                                   |                    |                   |





## Conducted Output Power (802.11a-CH 64) 48 Mbps

## Conducted Output Power (802.11a-CH 64) 54 Mbps



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|                                 |                                   |                                   |                    |                   |



## RESULT PLOTS (5500 MHz ~5700 MHz)

## Conducted Output Power (802.11a-CH 116) 6 Mbps



## Conducted Output Power (802.11a-CH 116) 9 Mbps



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|                                 |                                   |                                   |                    |                   |





## Conducted Output Power (802.11a-CH 116) 12 Mbps

### Conducted Output Power (802.11a-CH 116) 18 Mbps



| FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                                       | www.hct.co.kr     |
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## Conducted Output Power (802.11a-CH 116) 24 Mbps

## Conducted Output Power (802.11a-CH 116) 36 Mbps



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|                                 |                                   |                                   |                    |                   |





## Conducted Output Power (802.11a-CH 116) 48 Mbps

## Conducted Output Power (802.11a-CH 116) 54 Mbps



| FCC PT.15.247<br>TEST REPORT    |                                   | FCC & IC CERTIFICATION REPORT     |                    | www.hct.co.kr     |  |
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#### RESULT PLOTS (5180 MHz ~5240 MHz)

## Conducted Output Power (802.11n-CH 48) 6.5 Mbps



Conducted Output Power (802.11n-CH 48) 13 Mbps



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### Conducted Output Power (802.11n-CH 48) 19.5 Mbps

### Conducted Output Power (802.11n-CH 48) 26 Mbps



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#### Conducted Output Power (802.11n-CH 48) 39 Mbps

### Conducted Output Power (802.11n-CH 48) 52 Mbps



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### Conducted Output Power (802.11n-CH 48) 58.5 Mbps

### Conducted Output Power (802.11n-CH 48) 65 Mbps



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## RESULT PLOTS (5260 MHz ~5320 MHz)

## Conducted Output Power (802.11n-CH 52) 6.5 Mbps



## Conducted Output Power (802.11n-CH 52) 13 Mbps



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|                                 |                                   |                                   |                    |                   |





## Conducted Output Power (802.11n-CH 52) 19.5 Mbps

## Conducted Output Power (802.11n-CH 52) 26 Mbps



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### Conducted Output Power (802.11n-CH 52) 39 Mbps

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



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|                                 |                                   |                                   |                    |                   |





### Conducted Output Power (802.11n-CH 52) 58.5 Mbps

### Conducted Output Power (802.11n-CH 52) 65 Mbps



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## RESULT PLOTS (5500 MHz ~5700 MHz)

## Conducted Output Power (802.11n-CH 116) 6.5 Mbps



## Conducted Output Power (802.11n-CH 116) 13 Mbps



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### Conducted Output Power (802.11n-CH 116) 19.5 Mbps

## Conducted Output Power (802.11n-CH 116) 26 Mbps



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## Conducted Output Power (802.11n-CH 116) 39 Mbps

## Conducted Output Power (802.11n-CH 116) 52 Mbps



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|                                 |                                   |                                   |                    |                   |  |  |  |