# FCC TEST REPORT
# (15.407)

| | |
|---|---|
| **REPORT NO.:** | RF130319C23A-1 |
| **MODEL NO.:** | SBG6782-ACHU DIAGNOSTIC<br>(Refer to item 3.1 for more details) |
| **FCC ID:** | W5HSBG6782ACH |
| **RECEIVED:** | Sep. 24, 2014 |
| **TESTED:** | Dec. 22, 2014 ~ Feb. 10, 2015 |
| **ISSUED:** | Feb. 12, 2015 |

| | |
|---|---|
| **APPLICANT:** | ARRIS Taiwan, Ltd. |
| **ADDRESS:** | No. 1, Ln. 232, Baoqiao Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.) |

| | |
|---|---|
| **ISSUED BY:** | Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch |
| **LAB ADDRESS:** | No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C. |
| **TEST LOCATION:** | No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C. |

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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# RELEASE CONTROL RECORD

| ISSUE NO. | REASON FOR CHANGE | DATE ISSUED |
|---|---|---|
| RF130319C23A-1 | Original release. | Feb. 12, 2015 |

# 1. CERTIFICATION

| | |
|---|---|
| **PRODUCT:** | Wireless Gateway |
| **MODEL:** | SBG6782-ACHU DIAGNOSTIC |
| | (Refer to item 3.1 for more details) |
| **BRAND:** | Arris |
| **APPLICANT:** | ARRIS Taiwan, Ltd. |
| **TESTED:** | Dec. 22, 2014 ~ Feb. 10, 2015 |
| **TEST SAMPLE:** | ENGINEERING SAMPLE |
| **STANDARDS:** | **FCC Part 15, Subpart E (Section 15.407)** |
| | ANSI C63.10-2009 |

The above equipment (model: SBG6782-ACHU DIAGNOSTIC) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**PREPARED BY :** Celine Chou **, DATE :** Feb. 12, 2015

Celine Chou / Specialist

**APPROVED BY :** Ken Liu **, DATE :** Feb. 12, 2015

Ken Liu / Senior Manager

# 2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407 UNDER NEW RULE) | | | |
|---|---|---|---|
| **STANDARD SECTION** | **TEST TYPE** | **RESULT** | **REMARK** |
| 15.407(b)(6) | AC Power Conducted Emissions | PASS | Meet the requirement of limit. Minimum passing margin is -10.42dB at 0.36505MHz. |
| 15.407(b) (1/2/3/4/6) | Radiated Emissions & Band Edge Measurement | PASS | Meet the requirement of limit. Minimum passing margin is -0.1dB at 5105.00MHz. |
| 15.407(a)(1/2/3) | Max Average Transmit Power | PASS | Meet the requirement of limit. |
| 15.407(a)(1/2/3) | Peak Power Spectral Density | PASS | Meet the requirement of limit. |
| 15.407(e) | 6dB bandwidth | PASS | Meet the requirement of limit. (U-NII-3 Band only) |
| 15.407(g) | Frequency Stability | PASS | Meet the requirement of limit. |
| 15.203 | Antenna Requirement | PASS | Antenna connector are UFL, IPEX and Murata not a standard connector. |

## 2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| MEASUREMENT | FREQUENCY | UNCERTAINTY |
|---|---|---|
| Conducted emissions | 9kHz~30MHz | 2.44 dB |
| Radiated emissions | 30MHz ~ 200MHz | 3.59 dB |
| | 200MHz ~1000MHz | 3.60 dB |
| | 1GHz ~ 18GHz | 2.29 dB |
| | 18GHz ~ 40GHz | 2.29 dB |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

# 3. GENERAL INFORMATION

## 3.1 GENERAL DESCRIPTION OF EUT

| | |
|---|---|
| **EUT** | Wireless Gateway |
| **MODEL NO.** | SBG6782-ACHU DIAGNOSTIC<br>(Refer to note for more details) |
| **POWER SUPPLY** | 100-240Vac |
| **MODULATION TYPE** | 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM |
| **MODULATION TECHNOLOGY** | OFDM |
| **TRANSFER RATE** | 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps<br>802.11n: up to 450.0Mbps<br>802.11ac: up to 1300Mbps |
| **OPERATING FREQUENCY** | 5180 ~ 5240MHz |
| **NUMBER OF CHANNEL** | 4 for 802.11a, 802.11n (20MHz), 802.11ac (20MHz)<br>2 for 802.11n (40MHz), 802.11ac (40MHz)<br>1 for 802.11ac (80MHz) |
| **OUTPUT POWER** | 818.287mW |
| **ANTENNA TYPE** | Refer to note |
| **ANTENNA CONNECTOR** | Refer to note |
| **DATA CABLE** | 1.5m non-shielded Diagnostic cable w/o core (for SBG6782-ACHU DIAGNOSTIC only)<br>1.8m non-shielded RJ45 cable w/o core |
| **I/O PORTS** | Refer to user's manual |
| **ACCESSORY DEVICES** | 1.5m non-shielded power cable w/o core |

**NOTE:**

1. This report is prepared for FCC class II permissive change. The differences compared with the original design are changing applicant and brand name, software change adding Beamforming mode and updating standard to the FCC new rule for U-NII 1 Band.
2. All models are listed as below.

| Brand | Model | Remark |
|---|---|---|
| Motorola | SBG6782-ACHU DIAGNOSTIC | with Diagnostic & USB port |
| | SBG6782-ACH | without Diagnostic & USB port |

*After pre-testing, the model: SBG6782-ACHU DIAGNOSTIC was the worst case for the final test and presented in the test report.

3. The following antenna is provided to the EUT.

| Antenna type | Band | Antenna Connector | Antenna gain (dBi) |
|---|---|---|---|
| Printed (Ant. 0) | 2.4GHz | UFL | 4.4 |
| | 5GHz | Murata | 3.5 |
| Printed (Ant. 1) | 2.4GHz | IPEX | 4.4 |
| | 5GHz | IPEX | 3.5 |
| Printed (Ant. 2) | 2.4GHz | IPEX | 4.4 |
| | 5GHz | UFL | 3.5 |

4. The EUT incorporates a MIMO function. Physically, the EUT provides 3 completed transmitters and 3 receivers.

| MODULATION MODE | | TX FUNCTION |
|---|---|---|
| **802.11a** | | 1TX |
| **802.11n (20MHz)** | **CDD Mode** | 3TX |
| | **STBC Mode** | |
| | **Beamforming Mode** | |
| **802.11n (40MHz)** | **CDD Mode** | 3TX |
| | **STBC Mode** | |
| | **Beamforming Mode** | |
| **802.11ac (80MHz)** | **CDD Mode** | 3TX |
| | **STBC Mode** | |
| | **Beamforming Mode** | |

5. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

## 3.2 DESCRIPTION OF TEST MODES

4 channels are provided for 802.11a, 802.11n (20MHz), 802.11ac (20MHz):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---|---|---|---|
| 36 | 5180 MHz | 44 | 5220 MHz |
| 40 | 5200 MHz | 48 | 5240 MHz |

2 channels are provided for 802.11n (40MHz), 802.11ac (40MHz):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---|---|---|---|
| 38 | 5190 MHz | 46 | 5230 MHz |

1 channel is provided for 802.11ac (80MHz):

| CHANNEL | FREQUENCY |
|---|---|
| 42 | 5210MHz |

## 3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

| EUT CONFIGURE MODE | APPLICABLE TO | | | | DESCRIPTION |
|---|---|---|---|---|---|
| | RE≥1G | RE<1G | PLC | APCM | |
| - | √ | √ | √ | √ | Adapter 2 |

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz
**PLC:** Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

**NOTE:** The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.

**RADIATED EMISSION TEST (ABOVE 1GHz):**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT CONFIGURE MODE | MODE | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|---|---|---|---|---|---|---|
| - | 802.11a | 36 to 48 | 36, 40, 48 | OFDM | BPSK | 6.0 |
| CDD, STBC, Beamforming | 802.11n (20MHz) | 36 to 48 | 36, 40, 48 | OFDM | BPSK | 7.2 |
| | 802.11n (40MHz) | 38 to 46 | 38, 46 | OFDM | BPSK | 15.0 |
| | 802.11ac (80MHz) | 42 | 42 | OFDM | BPSK | 87.8 |

**RADIATED EMISSION TEST (BELOW 1GHz):**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT CONFIGURE MODE | MODE | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|---|---|---|---|---|---|---|
| CDD, STBC, Beamforming | 802.11n (20MHz) | 36 to 48 | 36 | OFDM | BPSK | 7.2 |

**POWER LINE CONDUCTED EMISSION TEST:**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT CONFIGURE MODE | MODE | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|---|---|---|---|---|---|---|
| CDD, STBC, Beamforming | 802.11n (20MHz) | 36 to 48 | 36 | OFDM | BPSK | 7.2 |

## ANTENNA PORT CONDUCTED MEASUREMENT:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT CONFIGURE MODE | MODE | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|---|---|---|---|---|---|---|
| - | 802.11a | 36 to 48 | 36, 40, 48 | OFDM | BPSK | 6.0 |
| CDD, STBC, Beamforming | 802.11n (20MHz) | 36 to 48 | 36, 40, 48 | OFDM | BPSK | 7.2 |
| | 802.11n (40MHz) | 38 to 46 | 38, 46 | OFDM | BPSK | 15.0 |
| | 802.11ac (80MHz) | 42 | 42 | OFDM | BPSK | 87.8 |

## TEST CONDITION:

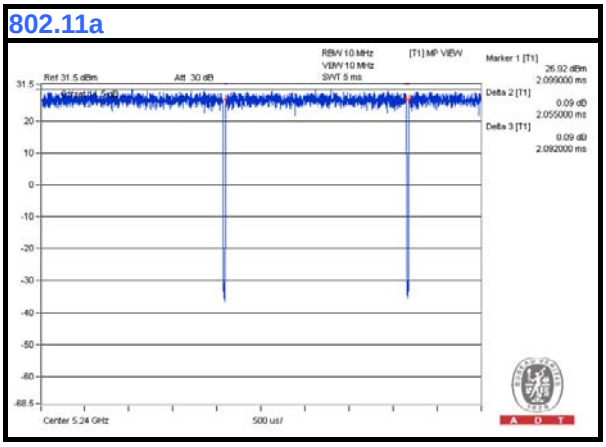
| APPLICABLE TO | ENVIRONMENTAL CONDITIONS | INPUT POWER | TESTED BY |
|---|---|---|---|
| RE≥1G | 22deg. C, 65%RH<br>25deg. C, 64%RH | 120Vac, 60Hz | Alan Wu |
| RE<1G | 23deg. C, 62%RH | 120Vac, 60Hz | Alan Wu |
| PLC | 25deg. C, 65%RH | 120Vac, 60Hz | Chris Lin |
| APCM | 25deg. C, 60%RH<br>24deg. C, 64%RH | 120Vac, 60Hz | Match Tsui |

## 3.3 DUTY CYCLE OF TEST SIGNAL

**802.11a, 802.11n (20MHz):** Duty cycle of test signal is > 98 %, duty factor is not required.

**802.11a**: Duty cycle = 2.055/2.092 = 0.982

**802.11a**



**CDD MODE:**

**802.11n (20MHz):** Duty cycle of test signal is > 98 %, duty factor is not required.

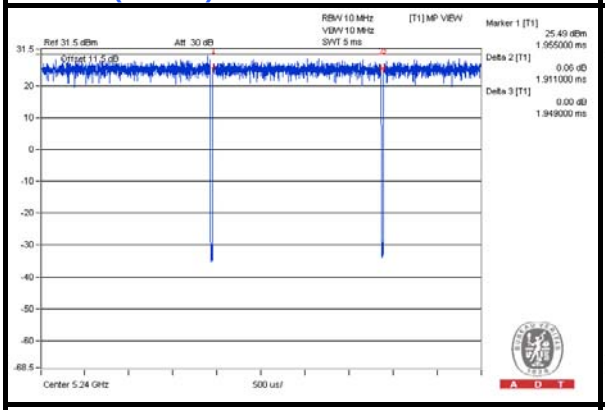
**802.11n (40MHz), 802.11ac (80MHz):** Duty cycle of test signal is < 98 %, duty factor shall be considered.

**802.11n (20MHz):** Duty cycle = 1.911/1.949 = 0.981

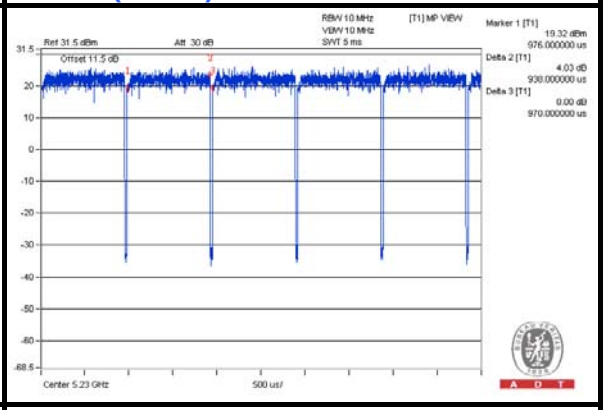
**802.11n (40MHz):** Duty cycle = 0.938/0.970 = 0.967, Duty factor = 10 * log(1/0.967) = 0.15

**802.11ac (80MHz):** Duty cycle = 0.452/0.494 = 0.915, Duty factor = 10 * log(1/0.915) = 0.39

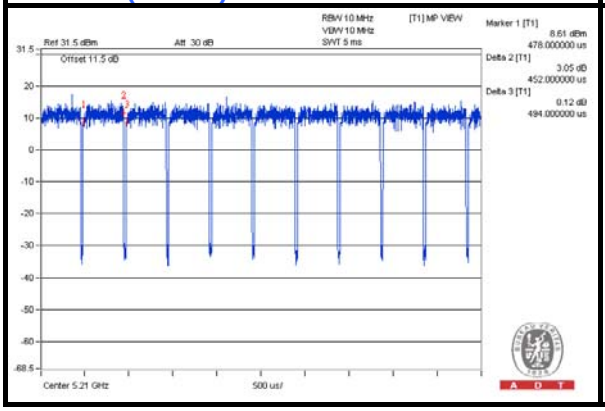
**802.11n (20MHz)**



**802.11n (40MHz)**



**802.11ac (80MHz)**



**STBC MODE:**

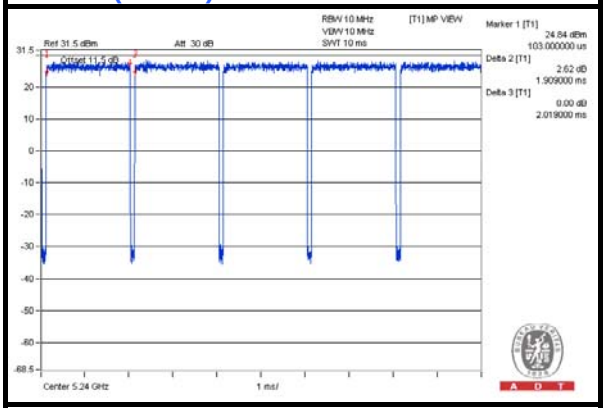
Duty cycle of test signal is < 98 %, duty factor shall be considered.

**802.11n (20MHz):** Duty cycle = 1.909/2.019 = 0.946, Duty factor = 10 * log(1/0.946) = 0.24

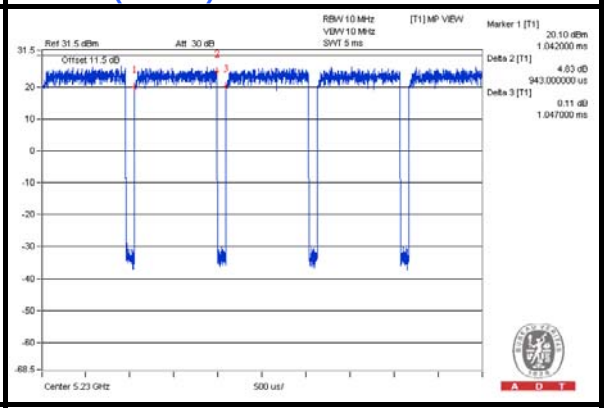
**802.11n (40MHz):** Duty cycle = 0.943/1.047 = 0.901, Duty factor = 10 * log(1/0.901) = 0.45

**802.11ac (80MHz):** Duty cycle = 0.459/0.490 = 0.937, Duty factor = 10 * log(1/0.937) = 0.28

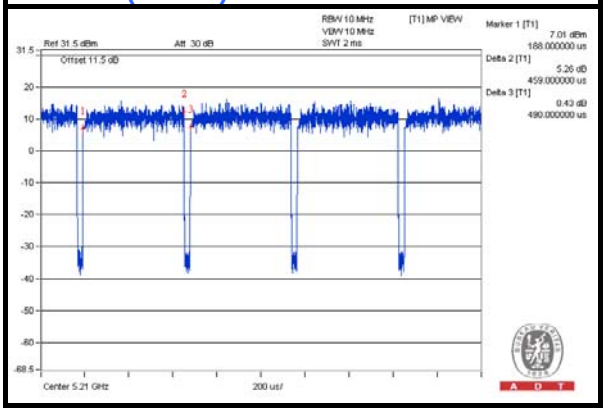
**802.11n (20MHz)**




**802.11n (40MHz)**




**802.11ac (80MHz)**



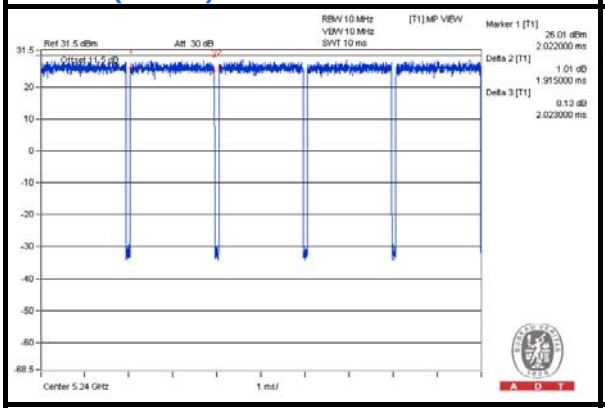
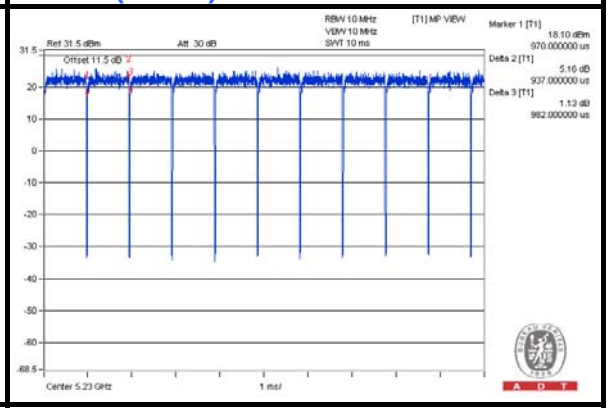
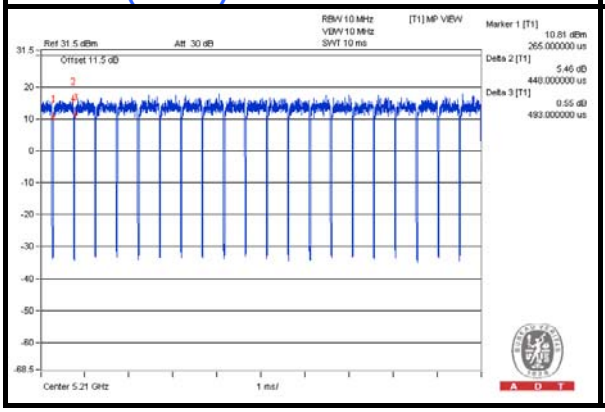
**BEAMFORMING MODE:**

Duty cycle of test signal is < 98 %, duty factor shall be considered.

**802.11n (20MHz):** Duty cycle = 1.915/2.023 = 0.947, Duty factor = 10 * log(1/0.947) = 0.24

**802.11n (40MHz):** Duty cycle = 0.937/0.982 = 0.954, Duty factor = 10 * log(1/0.954) = 0.20

**802.11ac (80MHz):** Duty cycle = 0.448/0.493 = 0.909, Duty factor = 10 * log(1/0.909) = 0.42

| 802.11n (20MHz) | 802.11n (40MHz) |
|---|---|
|  |  |
| **802.11ac (80MHz)** | |
|  | |

## 3.4 DESCRIPTION OF SUPPORT UNITS

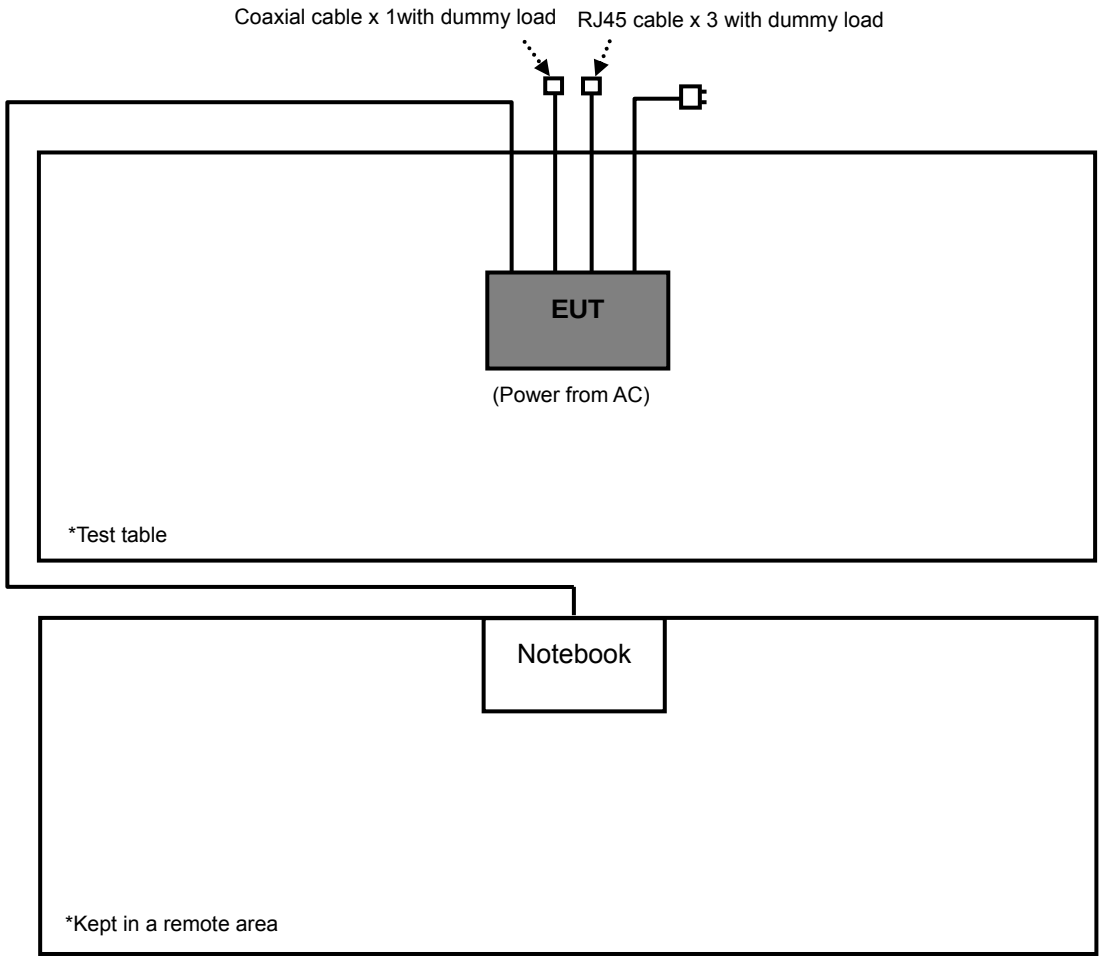
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| NO. | PRODUCT | BRAND | MODEL NO. | SERIAL NO. | FCC ID |
|---|---|---|---|---|---|
| 1 | NOTEBOOK | DELL | E5430 | 2RL3YW1 | FCC DoC Approved |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|---|---|
| 1 | 10m RJ45 UTP cable |

**NOTE:**
1. All power cords of the above support units are non-shielded (1.8m).
2. Item 1 acted as a communication partner to transfer data.

### 3.4.1 CONFIGURATION OF SYSTEM UNDER TEST



## 3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specification of the EUT declared by the manufacturer, it must comply with the requirements of the following standards:

**FCC Part 15, Subpart E (15.407)**
**789033 D02 General UNII Test Procedures New Rules v01**
**662911 D01 Multiple Transmitter Output v02r01**
ANSI C63.10-2009

All test items have been performed and recorded as per the above standards.

**NOTE:** The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

# 4. TEST TYPES AND RESULTS

## 4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

### 4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table:

| FREQUENCIES (MHz) | FIELD STRENGTH (microvolts/meter) | MEASUREMENT DISTANCE (meters) |
|---|---|---|
| 0.009 ~ 0.490 | 2400/F(kHz) | 300 |
| 0.490 ~ 1.705 | 24000/F(kHz) | 30 |
| 1.705 ~ 30.0 | 30 | 30 |
| 30 ~ 88 | 100 | 3 |
| 88 ~ 216 | 150 | 3 |
| 216 ~ 960 | 200 | 3 |
| Above 960 | 500 | 3 |

**NOTE**:
1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

### 4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

| APPLICABLE TO | LIMIT | |
|---|---|---|
| 789033 D02 General UNII Test Procedures New Rules v01 | FIELD STRENGTH AT 3m | |
| | PK: 74 (dBμV/m) | AV: 54 (dBμV/m) |
| **APPLICABLE TO** | **EIRP LIMIT** | **EQUIVALENT FIELD STRENGTH AT 3m** |
| 15.407(b)(1) | PK: -27 (dBm/MHz) | PK: 68.2 (dBμV/m) |
| 15.407(b)(2) | | |
| 15.407(b)(3) | | |
| 15.407(b)(4) | PK: -27 (dBm/MHz) *1<br>PK: -17 (dBm/MHz) *2 | PK: 68.2 (dBμV/m) *1<br>PK: 78.2 (dBμV/m) *2 |

**NOTE:** *1 beyond 10MHz of the band edge *2 within 10 MHz of band edge

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts).

### 4.1.3 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | DATE OF CALIBRATION | DUE DATE OF CALIBRATION |
|---|---|---|---|---|
| Test Receiver ROHDE & SCHWARZ | ESCI | 100424 | Oct. 06, 2014 | Oct. 05, 2015 |
| Spectrum Analyzer ROHDE & SCHWARZ | FSU 43 | 100115 | Dec. 18, 2014 | Dec. 17, 2015 |
| BILOG Antenna SCHWARZBECK | VULB9168 | 9168-155 | Feb. 06, 2014 | Feb. 05, 2015 |
| | | | Feb. 06, 2015 | Feb. 05, 2016 |
| HORN Antenna SCHWARZBECK | BBHA 9120D | 9120D-1170 | Feb. 05, 2014 | Feb. 04, 2015 |
| | | | Feb. 05, 2015 | Feb. 04, 2016 |
| HORN Antenna SCHWARZBECK | BBHA 9170 | BBHA9170241 | Feb. 09, 2014 | Feb. 08, 2015 |
| | | | Feb. 09, 2015 | Feb. 08, 2016 |
| Preamplifier Agilent | 8449B | 3008A01961 | Oct. 18, 2014 | Oct. 17, 2015 |
| Preamplifier Agilent | 8447D | 2944A10738 | Oct. 18, 2014 | Oct. 17, 2015 |
| RF signal cable HUBER+SUHNNER | SUCOFLEX 104 | 309220/4 | Aug. 09, 2014 | Aug. 08, 2015 |
| RF signal cable HUBER+SUHNNER | SUCOFLEX 104 | 250724/4 | Aug. 09, 2014 | Aug. 08, 2015 |
| RF signal cable HUBER+SUHNNER | SUCOFLEX 104 | 295012/4 | Aug. 09, 2014 | Aug. 08, 2015 |
| Software BV ADT | ADT_Radiated_ V7.6.15.9.4 | NA | NA | NA |
| Antenna Tower inn-co GmbH | MA 4000 | 010303 | NA | NA |
| Antenna Tower Controller inn-co GmbH | CO2000 | 019303 | NA | NA |
| Turn Table BV ADT | TT100. | TT93021704 | NA | NA |
| Turn Table Controller BV ADT | SC100. | SC93021704 | NA | NA |
| 26GHz ~ 40GHz Amplifier | EM26400 | 815221 | Oct. 18, 2014 | Oct. 17, 2015 |
| High Speed Peak Power Meter | ML2495A | 0824011 | Jul. 26, 2014 | Jul. 25, 2015 |
| Power Sensor | MA2411B | 0738171 | Jul. 26, 2014 | Jul. 25, 2015 |

**NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 4.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 460141.
5. The IC Site Registration No. is IC7450F-4.

### 4.1.4 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

**NOTE:**

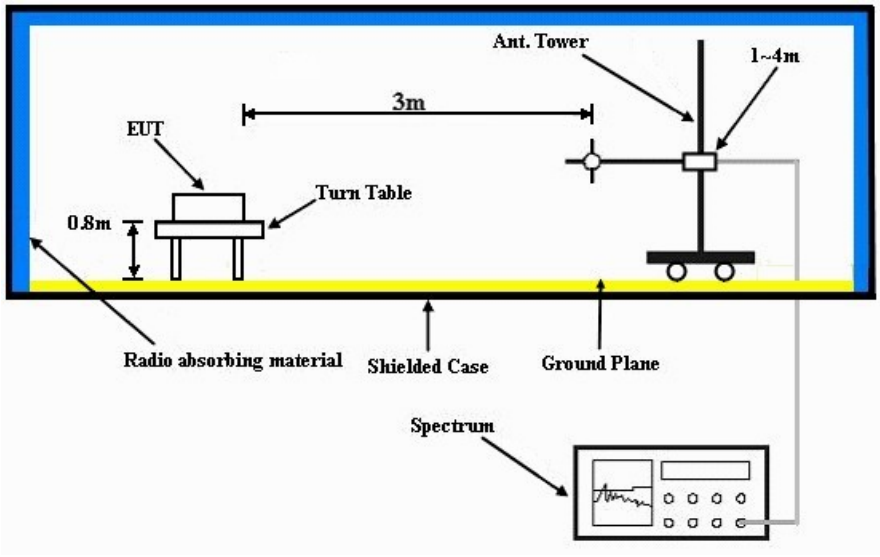
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz(Duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

### 4.1.5 DEVIATION FROM TEST STANDARD

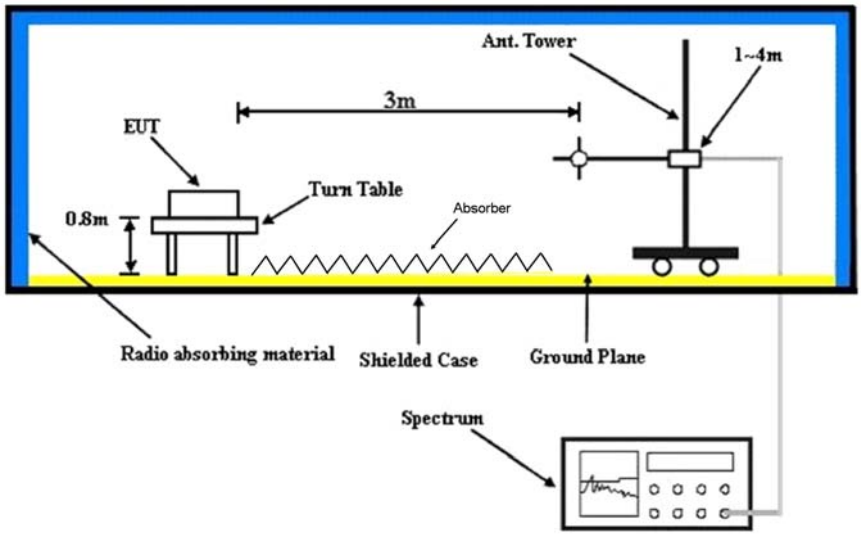
No deviation.

## 4.1.6 TEST SETUP

**Frequency range 30MHz~1GHz**




**Frequency range above 1GHz**




For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 4.1.7 EUT OPERATING CONDITION

a. Placed the EUT on the testing table.
b. Prepared a notebook to act as a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partners sent data to EUT by command "PING".

## 4.1.8 TEST RESULTS

**ABOVE 1GHz DATA**

**802.11a**

| | | | |
|---|---|---|---|
| **CHANNEL** | TX Channel 36 | **DETECTOR FUNCTION** | Peak (PK)<br>Average (AV) |
| **FREQUENCY RANGE** | 1GHz ~ 40GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5100.00 | 62.8 PK | 74.0 | -11.2 | 1.21 H | 272 | 57.30 | 5.50 |
| 2 | 5100.00 | 51.2 AV | 54.0 | -2.8 | 1.21 H | 272 | 45.70 | 5.50 |
| 3 | 5150.00 | 70.5 PK | 74.0 | -3.5 | 1.19 H | 272 | 64.80 | 5.70 |
| 4 | 5150.00 | 53.6 AV | 54.0 | -0.4 | 1.19 H | 272 | 47.90 | 5.70 |
| 5 | *5180.00 | 115.0 PK | | | 1.18 H | 270 | 75.50 | 39.50 |
| 6 | *5180.00 | 104.7 AV | | | 1.18 H | 270 | 65.20 | 39.50 |
| 7 | #10360.00 | 60.9 PK | 74.0 | -13.1 | 1.00 H | 311 | 42.40 | 18.50 |
| 8 | #10360.00 | 48.0 AV | 54.0 | -6.0 | 1.00 H | 311 | 29.50 | 18.50 |
| **ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M** | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5100.00 | 63.6 PK | 74.0 | -10.4 | 1.00 V | 71 | 58.10 | 5.50 |
| 2 | 5100.00 | 52.2 AV | 54.0 | -1.8 | 1.00 V | 71 | 46.70 | 5.50 |
| 3 | 5150.00 | 69.3 PK | 74.0 | -4.7 | 1.00 V | 62 | 63.60 | 5.70 |
| 4 | 5150.00 | 52.6 AV | 54.0 | -1.4 | 1.00 V | 62 | 46.90 | 5.70 |
| 5 | *5180.00 | 113.9 PK | | | 1.00 V | 68 | 74.40 | 39.50 |
| 6 | *5180.00 | 104.0 AV | | | 1.00 V | 68 | 64.50 | 39.50 |
| 7 | #10360.00 | 60.7 PK | 74.0 | -13.3 | 1.00 V | 330 | 42.20 | 18.50 |
| 8 | #10360.00 | 47.2 AV | 54.0 | -6.8 | 1.00 V | 330 | 28.70 | 18.50 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

| CHANNEL | TX Channel 40 | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5120.00 | 64.0 PK | 74.0 | -10.0 | 1.21 H | 273 | 58.50 | 5.50 |
| 2 | 5120.00 | 52.6 AV | 54.0 | -1.4 | 1.21 H | 273 | 47.10 | 5.50 |
| 3 | *5200.00 | 113.7 PK | | | 1.15 H | 263 | 74.10 | 39.60 |
| 4 | *5200.00 | 103.6 AV | | | 1.15 H | 263 | 64.00 | 39.60 |
| 5 | #10400.00 | 60.1 PK | 74.0 | -13.9 | 1.00 H | 314 | 41.80 | 18.30 |
| 6 | #10400.00 | 47.4 AV | 54.0 | -6.6 | 1.00 H | 314 | 29.10 | 18.30 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5120.00 | 64.6 PK | 74.0 | -9.4 | 1.00 V | 65 | 59.10 | 5.50 |
| 2 | 5120.00 | 53.5 AV | 54.0 | -0.5 | 1.00 V | 65 | 48.00 | 5.50 |
| 3 | *5200.00 | 113.3 PK | | | 1.00 V | 70 | 73.70 | 39.60 |
| 4 | *5200.00 | 103.3 AV | | | 1.00 V | 70 | 63.70 | 39.60 |
| 5 | #10400.00 | 60.0 PK | 74.0 | -14.0 | 1.00 V | 336 | 41.70 | 18.30 |
| 6 | #10400.00 | 46.6 AV | 54.0 | -7.4 | 1.00 V | 336 | 28.30 | 18.30 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

| CHANNEL | TX Channel 48 | DETECTOR FUNCTION | Peak (PK) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | #5160.00 | 64.6 PK | 68.2 | -3.6 | 1.18 H | 272 | 58.90 | 5.70 |
| 2 | *5240.00 | 115.6 PK | | | 1.17 H | 267 | 76.00 | 39.60 |
| 3 | *5240.00 | 105.3 AV | | | 1.17 H | 267 | 65.70 | 39.60 |
| 4 | 5350.00 | 58.5 PK | 74.0 | -15.5 | 1.16 H | 263 | 52.70 | 5.80 |
| 5 | 5350.00 | 45.9 AV | 54.0 | -8.1 | 1.16 H | 263 | 40.10 | 5.80 |
| 6 | #10480.00 | 61.2 PK | 74.0 | -12.8 | 1.00 H | 319 | 43.50 | 17.70 |
| 7 | #10480.00 | 48.4 AV | 54.0 | -5.6 | 1.00 H | 319 | 30.70 | 17.70 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | #5160.00 | 64.0 PK | 68.2 | -4.2 | 1.00 V | 73 | 58.30 | 5.70 |
| 2 | *5240.00 | 114.5 PK | | | 1.00 V | 50 | 74.90 | 39.60 |
| 3 | *5240.00 | 104.8 AV | | | 1.00 V | 50 | 65.20 | 39.60 |
| 4 | 5350.00 | 57.7 PK | 74.0 | -16.3 | 1.00 V | 51 | 51.90 | 5.80 |
| 5 | 5350.00 | 44.9 AV | 54.0 | -9.1 | 1.00 V | 51 | 39.10 | 5.80 |
| 6 | #10480.00 | 60.9 PK | 74.0 | -13.1 | 1.00 V | 338 | 43.20 | 17.70 |
| 7 | #10480.00 | 47.8 AV | 54.0 | -6.2 | 1.00 V | 338 | 30.10 | 17.70 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

## CDD MODE:

### 802.11n (20MHz)

| | | | |
|---|---|---|---|
| **CHANNEL** | TX Channel 36 | **DETECTOR FUNCTION** | Peak (PK) |
| **FREQUENCY RANGE** | 1GHz ~ 40GHz | | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **NO.** | **FREQ. (MHz)** | **EMISSION LEVEL (dBuV/m)** | **LIMIT (dBuV/m)** | **MARGIN (dB)** | **ANTENNA HEIGHT (m)** | **TABLE ANGLE (Degree)** | **RAW VALUE (dBuV)** | **CORRECTION FACTOR (dB/m)** |
| 1 | 5100.00 | 61.9 PK | 74.0 | -12.1 | 1.09 H | 256 | 56.40 | 5.50 |
| 2 | 5100.00 | 50.8 AV | 54.0 | -3.2 | 1.09 H | 256 | 45.30 | 5.50 |
| 3 | 5150.00 | 73.0 PK | 74.0 | -1.0 | 1.08 H | 266 | 67.30 | 5.70 |
| 4 | 5150.00 | 53.3 AV | 54.0 | -0.7 | 1.08 H | 266 | 47.60 | 5.70 |
| 5 | *5180.00 | 115.5 PK | | | 1.08 H | 255 | 76.00 | 39.50 |
| 6 | *5180.00 | 105.6 AV | | | 1.08 H | 255 | 66.10 | 39.50 |
| 7 | #10360.00 | 60.6 PK | 74.0 | -13.4 | 1.00 H | 313 | 42.10 | 18.50 |
| 8 | #10360.00 | 47.7 AV | 54.0 | -6.3 | 1.00 H | 313 | 29.20 | 18.50 |
| **ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M** | | | | | | | | |
| **NO.** | **FREQ. (MHz)** | **EMISSION LEVEL (dBuV/m)** | **LIMIT (dBuV/m)** | **MARGIN (dB)** | **ANTENNA HEIGHT (m)** | **TABLE ANGLE (Degree)** | **RAW VALUE (dBuV)** | **CORRECTION FACTOR (dB/m)** |
| 1 | 5100.00 | 63.0 PK | 74.0 | -11.0 | 1.00 V | 55 | 57.50 | 5.50 |
| 2 | 5100.00 | 51.6 AV | 54.0 | -2.4 | 1.00 V | 55 | 46.10 | 5.50 |
| 3 | 5150.00 | 72.4 PK | 74.0 | -1.6 | 1.00 V | 59 | 66.70 | 5.70 |
| 4 | 5150.00 | 53.1 AV | 54.0 | -0.9 | 1.00 V | 59 | 47.40 | 5.70 |
| 5 | *5180.00 | 115.4 PK | | | 1.00 V | 58 | 75.90 | 39.50 |
| 6 | *5180.00 | 105.4 AV | | | 1.00 V | 58 | 65.90 | 39.50 |
| 7 | #10360.00 | 60.1 PK | 74.0 | -13.9 | 1.00 V | 335 | 41.60 | 18.50 |
| 8 | #10360.00 | 47.4 AV | 54.0 | -6.6 | 1.00 V | 335 | 28.90 | 18.50 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

| CHANNEL | TX Channel 40 | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5120.00 | 63.2 PK | 74.0 | -10.8 | 1.00 H | 3 | 57.70 | 5.50 |
| 2 | 5120.00 | 52.0 AV | 54.0 | -2.0 | 1.00 H | 3 | 46.50 | 5.50 |
| 3 | *5200.00 | 117.4 PK | | | 1.00 H | 1 | 77.80 | 39.60 |
| 4 | *5200.00 | 107.0 AV | | | 1.00 H | 1 | 67.40 | 39.60 |
| 5 | #10400.00 | 60.5 PK | 74.0 | -13.5 | 1.00 H | 319 | 42.20 | 18.30 |
| 6 | #10400.00 | 47.5 AV | 54.0 | -6.5 | 1.00 H | 319 | 29.20 | 18.30 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5120.00 | 64.3 PK | 74.0 | -9.7 | 1.00 V | 58 | 58.80 | 5.50 |
| 2 | 5120.00 | 53.8 AV | 54.0 | -0.2 | 1.00 V | 58 | 48.30 | 5.50 |
| 3 | *5200.00 | 116.2 PK | | | 1.04 V | 48 | 76.60 | 39.60 |
| 4 | *5200.00 | 106.5 AV | | | 1.04 V | 48 | 66.90 | 39.60 |
| 5 | #10400.00 | 60.2 PK | 74.0 | -13.8 | 1.00 V | 337 | 41.90 | 18.30 |
| 6 | #10400.00 | 47.2 AV | 54.0 | -6.8 | 1.00 V | 337 | 28.90 | 18.30 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

| CHANNEL | TX Channel 48 | DETECTOR FUNCTION | Peak (PK) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | #5160.00 | 65.9 PK | 68.2 | -2.3 | 1.08 H | 259 | 60.20 | 5.70 |
| 2 | *5240.00 | 118.3 PK | | | 1.06 H | 258 | 78.70 | 39.60 |
| 3 | *5240.00 | 108.8 AV | | | 1.06 H | 258 | 69.20 | 39.60 |
| 4 | 5350.00 | 57.8 PK | 74.0 | -16.2 | 1.06 H | 257 | 52.00 | 5.80 |
| 5 | 5350.00 | 45.8 AV | 54.0 | -8.2 | 1.06 H | 257 | 40.00 | 5.80 |
| 6 | #10480.00 | 61.0 PK | 74.0 | -13.0 | 1.00 H | 320 | 43.30 | 17.70 |
| 7 | #10480.00 | 47.9 AV | 54.0 | -6.1 | 1.00 H | 320 | 30.20 | 17.70 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | #5160.00 | 64.4 PK | 68.2 | -3.8 | 1.01 V | 59 | 58.70 | 5.70 |
| 2 | *5240.00 | 117.8 PK | | | 1.03 V | 56 | 78.20 | 39.60 |
| 3 | *5240.00 | 108.1 AV | | | 1.03 V | 56 | 68.50 | 39.60 |
| 4 | 5350.00 | 57.3 PK | 74.0 | -16.7 | 1.00 V | 58 | 51.50 | 5.80 |
| 5 | 5350.00 | 45.1 AV | 54.0 | -8.9 | 1.00 V | 58 | 39.30 | 5.80 |
| 6 | #10480.00 | 60.6 PK | 74.0 | -13.4 | 1.00 V | 330 | 42.90 | 17.70 |
| 7 | #10480.00 | 47.6 AV | 54.0 | -6.4 | 1.00 V | 330 | 29.90 | 17.70 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

## 802.11n (40MHz)

| CHANNEL | TX Channel 38 | DETECTOR FUNCTION | Peak (PK) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 66.8 PK | 74.0 | -7.2 | 1.00 H | 4 | 61.10 | 5.70 |
| 2 | 5150.00 | 52.5 AV | 54.0 | -1.5 | 1.00 H | 4 | 46.80 | 5.70 |
| 3 | *5190.00 | 110.6 PK | | | 1.00 H | 2 | 71.10 | 39.50 |
| 4 | *5190.00 | 99.9 AV | | | 1.00 H | 2 | 60.40 | 39.50 |
| 5 | #10380.00 | 59.5 PK | 74.0 | -14.5 | 1.00 H | 314 | 41.10 | 18.40 |
| 6 | #10380.00 | 46.7 AV | 54.0 | -7.3 | 1.00 H | 314 | 28.30 | 18.40 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 67.5 PK | 74.0 | -6.5 | 1.03 V | 68 | 61.80 | 5.70 |
| 2 | 5150.00 | 53.4 AV | 54.0 | -0.6 | 1.03 V | 68 | 47.70 | 5.70 |
| 3 | *5190.00 | 110.6 PK | | | 1.03 V | 69 | 71.10 | 39.50 |
| 4 | *5190.00 | 100.4 AV | | | 1.03 V | 69 | 60.90 | 39.50 |
| 5 | #10380.00 | 59.6 PK | 74.0 | -14.4 | 1.00 V | 336 | 41.20 | 18.40 |
| 6 | #10380.00 | 46.6 AV | 54.0 | -7.4 | 1.00 V | 336 | 28.20 | 18.40 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

| CHANNEL | TX Channel 46 | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 65.2 PK | 74.0 | -8.8 | 1.12 H | 1 | 59.50 | 5.70 |
| 2 | 5150.00 | 52.7 AV | 54.0 | -1.3 | 1.12 H | 1 | 47.00 | 5.70 |
| 3 | *5230.00 | 116.7 PK | | | 1.21 H | 5 | 77.10 | 39.60 |
| 4 | *5230.00 | 106.1 AV | | | 1.21 H | 5 | 66.50 | 39.60 |
| 5 | #10460.00 | 59.8 PK | 74.0 | -14.2 | 1.00 H | 317 | 42.00 | 17.80 |
| 6 | #10460.00 | 47.3 AV | 54.0 | -6.7 | 1.00 H | 317 | 29.50 | 17.80 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 61.9 PK | 74.0 | -12.1 | 1.00 V | 64 | 56.20 | 5.70 |
| 2 | 5150.00 | 50.4 AV | 54.0 | -3.6 | 1.00 V | 64 | 44.70 | 5.70 |
| 3 | *5230.00 | 114.8 PK | | | 1.00 V | 68 | 75.20 | 39.60 |
| 4 | *5230.00 | 104.9 AV | | | 1.00 V | 68 | 65.30 | 39.60 |
| 5 | #10460.00 | 59.5 PK | 74.0 | -14.5 | 1.00 V | 333 | 41.70 | 17.80 |
| 6 | #10460.00 | 47.0 AV | 54.0 | -7.0 | 1.00 V | 333 | 29.20 | 17.80 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

## 802.11ac (80MHz)

| CHANNEL | TX Channel 42 | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 68.7 PK | 74.0 | -5.3 | 1.13 H | 1 | 63.00 | 5.70 |
| 2 | 5150.00 | 52.7 AV | 54.0 | -1.3 | 1.13 H | 1 | 47.00 | 5.70 |
| 3 | *5210.00 | 105.6 PK | | | 1.11 H | 1 | 66.00 | 39.60 |
| 4 | *5210.00 | 94.7 AV | | | 1.11 H | 1 | 55.10 | 39.60 |
| 5 | #10420.00 | 59.2 PK | 74.0 | -14.8 | 1.00 H | 318 | 41.00 | 18.20 |
| 6 | #10420.00 | 46.0 AV | 54.0 | -8.0 | 1.00 H | 318 | 27.80 | 18.20 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 69.5 PK | 74.0 | -4.5 | 1.03 V | 68 | 63.80 | 5.70 |
| 2 | 5150.00 | 53.6 AV | 54.0 | -0.4 | 1.03 V | 68 | 47.90 | 5.70 |
| 3 | *5210.00 | 105.9 PK | | | 1.13 V | 72 | 66.30 | 39.60 |
| 4 | *5210.00 | 94.8 AV | | | 1.13 V | 72 | 55.20 | 39.60 |
| 5 | #10420.00 | 58.8 PK | 74.0 | -15.2 | 1.00 V | 331 | 40.60 | 18.20 |
| 6 | #10420.00 | 45.2 AV | 54.0 | -8.8 | 1.00 V | 331 | 27.00 | 18.20 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

**STBC MODE:**

**802.11n (20MHz)**

| | | | |
|---|---|---|---|
| **CHANNEL** | TX Channel 36 | **DETECTOR FUNCTION** | Peak (PK) |
| **FREQUENCY RANGE** | 1GHz ~ 40GHz | | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **NO.** | **FREQ. (MHz)** | **EMISSION LEVEL (dBuV/m)** | **LIMIT (dBuV/m)** | **MARGIN (dB)** | **ANTENNA HEIGHT (m)** | **TABLE ANGLE (Degree)** | **RAW VALUE (dBuV)** | **CORRECTION FACTOR (dB/m)** |
| 1 | 5100.00 | 62.0 PK | 74.0 | -12.0 | 1.01 H | 259 | 56.50 | 5.50 |
| 2 | 5100.00 | 51.1 AV | 54.0 | -2.9 | 1.01 H | 259 | 45.60 | 5.50 |
| 3 | 5150.00 | 73.3 PK | 74.0 | -0.7 | 1.02 H | 268 | 67.60 | 5.70 |
| 4 | 5150.00 | 53.6 AV | 54.0 | -0.4 | 1.02 H | 268 | 47.90 | 5.70 |
| 5 | *5180.00 | 115.6 PK | | | 1.00 H | 258 | 76.10 | 39.50 |
| 6 | *5180.00 | 105.7 AV | | | 1.00 H | 258 | 66.20 | 39.50 |
| 7 | #10360.00 | 60.7 PK | 74.0 | -13.3 | 1.00 H | 336 | 42.20 | 18.50 |
| 8 | #10360.00 | 47.9 AV | 54.0 | -6.1 | 1.00 H | 336 | 29.40 | 18.50 |
| **ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M** | | | | | | | | |
| **NO.** | **FREQ. (MHz)** | **EMISSION LEVEL (dBuV/m)** | **LIMIT (dBuV/m)** | **MARGIN (dB)** | **ANTENNA HEIGHT (m)** | **TABLE ANGLE (Degree)** | **RAW VALUE (dBuV)** | **CORRECTION FACTOR (dB/m)** |
| 1 | 5100.00 | 63.2 PK | 74.0 | -10.8 | 1.00 V | 50 | 57.70 | 5.50 |
| 2 | 5100.00 | 51.7 AV | 54.0 | -2.3 | 1.00 V | 50 | 46.20 | 5.50 |
| 3 | 5150.00 | 72.3 PK | 74.0 | -1.7 | 1.00 V | 94 | 66.60 | 5.70 |
| 4 | 5150.00 | 53.4 AV | 54.0 | -0.6 | 1.00 V | 94 | 47.70 | 5.70 |
| 5 | *5180.00 | 115.3 PK | | | 1.00 V | 83 | 75.80 | 39.50 |
| 6 | *5180.00 | 105.3 AV | | | 1.00 V | 83 | 65.80 | 39.50 |
| 7 | #10360.00 | 59.7 PK | 74.0 | -14.3 | 1.00 V | 358 | 41.20 | 18.50 |
| 8 | #10360.00 | 47.3 AV | 54.0 | -6.7 | 1.00 V | 358 | 28.80 | 18.50 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

| CHANNEL | TX Channel 40 | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5120.00 | 63.4 PK | 74.0 | -10.6 | 1.00 H | 30 | 57.90 | 5.50 |
| 2 | 5120.00 | 52.1 AV | 54.0 | -1.9 | 1.00 H | 30 | 46.60 | 5.50 |
| 3 | *5200.00 | 117.5 PK | | | 1.00 H | 11 | 77.90 | 39.60 |
| 4 | *5200.00 | 107.1 AV | | | 1.00 H | 11 | 67.50 | 39.60 |
| 5 | #10400.00 | 60.4 PK | 74.0 | -13.6 | 1.00 H | 30 | 42.10 | 18.30 |
| 6 | #10400.00 | 47.2 AV | 54.0 | -6.8 | 1.00 H | 30 | 28.90 | 18.30 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5120.00 | 64.1 PK | 74.0 | -9.9 | 1.00 V | 83 | 58.60 | 5.50 |
| 2 | 5120.00 | 53.1 AV | 54.0 | -0.9 | 1.00 V | 83 | 47.60 | 5.50 |
| 3 | *5200.00 | 115.8 PK | | | 1.02 V | 84 | 76.20 | 39.60 |
| 4 | *5200.00 | 106.4 AV | | | 1.02 V | 84 | 66.80 | 39.60 |
| 5 | #10400.00 | 60.1 PK | 74.0 | -13.9 | 1.00 V | 10 | 41.80 | 18.30 |
| 6 | #10400.00 | 47.1 AV | 54.0 | -6.9 | 1.00 V | 10 | 28.80 | 18.30 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

| CHANNEL | TX Channel 48 | DETECTOR FUNCTION | Peak (PK) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | #5160.00 | 66.1 PK | 68.2 | -2.1 | 1.04 H | 258 | 60.40 | 5.70 |
| 2 | *5240.00 | 118.1 PK | | | 1.03 H | 256 | 78.50 | 39.60 |
| 3 | *5240.00 | 108.6 AV | | | 1.03 H | 256 | 69.00 | 39.60 |
| 4 | 5350.00 | 57.5 PK | 74.0 | -16.5 | 1.07 H | 276 | 51.70 | 5.80 |
| 5 | 5350.00 | 45.3 AV | 54.0 | -8.7 | 1.07 H | 276 | 39.50 | 5.80 |
| 6 | #10480.00 | 61.1 PK | 74.0 | -12.9 | 1.00 H | 302 | 43.40 | 17.70 |
| 7 | #10480.00 | 48.1 AV | 54.0 | -5.9 | 1.00 H | 302 | 30.40 | 17.70 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | #5160.00 | 64.5 PK | 68.2 | -3.7 | 1.04 V | 91 | 58.80 | 5.70 |
| 2 | *5240.00 | 118.0 PK | | | 1.01 V | 63 | 78.40 | 39.60 |
| 3 | *5240.00 | 108.3 AV | | | 1.01 V | 63 | 68.70 | 39.60 |
| 4 | 5350.00 | 57.0 PK | 74.0 | -17.0 | 1.00 V | 83 | 51.20 | 5.80 |
| 5 | 5350.00 | 45.2 AV | 54.0 | -8.8 | 1.00 V | 83 | 39.40 | 5.80 |
| 6 | #10480.00 | 60.5 PK | 74.0 | -13.5 | 1.00 V | 306 | 42.80 | 17.70 |
| 7 | #10480.00 | 47.5 AV | 54.0 | -6.5 | 1.00 V | 306 | 29.80 | 17.70 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

## 802.11n (40MHz)

| CHANNEL | TX Channel 38 | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 66.9 PK | 74.0 | -7.1 | 1.00 H | 6 | 61.20 | 5.70 |
| 2 | 5150.00 | 52.4 AV | 54.0 | -1.6 | 1.00 H | 6 | 46.70 | 5.70 |
| 3 | *5190.00 | 110.7 PK | | | 1.00 H | 24 | 71.20 | 39.50 |
| 4 | *5190.00 | 99.8 AV | | | 1.00 H | 24 | 60.30 | 39.50 |
| 5 | #10380.00 | 59.4 PK | 74.0 | -14.6 | 1.00 H | 345 | 41.00 | 18.40 |
| 6 | #10380.00 | 46.3 AV | 54.0 | -7.7 | 1.00 H | 345 | 27.90 | 18.40 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 67.3 PK | 74.0 | -6.7 | 1.04 V | 83 | 61.60 | 5.70 |
| 2 | 5150.00 | 53.4 AV | 54.0 | -0.6 | 1.04 V | 83 | 47.70 | 5.70 |
| 3 | *5190.00 | 110.7 PK | | | 1.00 V | 95 | 71.20 | 39.50 |
| 4 | *5190.00 | 100.3 AV | | | 1.00 V | 95 | 60.80 | 39.50 |
| 5 | #10380.00 | 59.5 PK | 74.0 | -14.5 | 1.00 V | 9 | 41.10 | 18.40 |
| 6 | #10380.00 | 46.8 AV | 54.0 | -7.2 | 1.00 V | 9 | 28.40 | 18.40 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

| CHANNEL | TX Channel 46 | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 65.4 PK | 74.0 | -8.6 | 1.23 H | 10 | 59.70 | 5.70 |
| 2 | 5150.00 | 52.9 AV | 54.0 | -1.1 | 1.23 H | 10 | 47.20 | 5.70 |
| 3 | *5230.00 | 116.8 PK | | | 1.13 H | 15 | 77.20 | 39.60 |
| 4 | *5230.00 | 106.6 AV | | | 1.13 H | 15 | 67.00 | 39.60 |
| 5 | #10460.00 | 59.7 PK | 74.0 | -14.3 | 1.00 H | 18 | 41.90 | 17.80 |
| 6 | #10460.00 | 47.4 AV | 54.0 | -6.6 | 1.00 H | 18 | 29.60 | 17.80 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 62.0 PK | 74.0 | -12.0 | 1.00 V | 40 | 56.30 | 5.70 |
| 2 | 5150.00 | 50.4 AV | 54.0 | -3.6 | 1.00 V | 40 | 44.70 | 5.70 |
| 3 | *5230.00 | 114.7 PK | | | 1.00 V | 84 | 75.10 | 39.60 |
| 4 | *5230.00 | 104.8 AV | | | 1.00 V | 84 | 65.20 | 39.60 |
| 5 | #10460.00 | 59.4 PK | 74.0 | -14.6 | 1.00 V | 336 | 41.60 | 17.80 |
| 6 | #10460.00 | 47.2 AV | 54.0 | -6.8 | 1.00 V | 336 | 29.40 | 17.80 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

## 802.11ac (80MHz)

| CHANNEL | TX Channel 42 | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 68.5 PK | 74.0 | -5.5 | 1.11 H | 13 | 62.80 | 5.70 |
| 2 | 5150.00 | 52.9 AV | 54.0 | -1.1 | 1.11 H | 13 | 47.20 | 5.70 |
| 3 | *5210.00 | 105.1 PK | | | 1.12 H | 10 | 65.50 | 39.60 |
| 4 | *5210.00 | 94.6 AV | | | 1.12 H | 10 | 55.00 | 39.60 |
| 5 | #10420.00 | 59.1 PK | 74.0 | -14.9 | 1.00 H | 29 | 40.90 | 18.20 |
| 6 | #10420.00 | 45.8 AV | 54.0 | -8.2 | 1.00 H | 29 | 27.60 | 18.20 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 69.4 PK | 74.0 | -4.6 | 1.04 V | 83 | 63.70 | 5.70 |
| 2 | 5150.00 | 53.5 AV | 54.0 | -0.5 | 1.04 V | 83 | 47.80 | 5.70 |
| 3 | *5210.00 | 106.2 PK | | | 1.14 V | 29 | 66.60 | 39.60 |
| 4 | *5210.00 | 95.0 AV | | | 1.14 V | 29 | 55.40 | 39.60 |
| 5 | #10420.00 | 58.6 PK | 74.0 | -15.4 | 1.00 V | 314 | 40.40 | 18.20 |
| 6 | #10420.00 | 44.7 AV | 54.0 | -9.3 | 1.00 V | 314 | 26.50 | 18.20 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

## BEAMFORMING MODE:

### 802.11n (20MHz)

| | | | |
|---|---|---|---|
| **CHANNEL** | TX Channel 36 | **DETECTOR FUNCTION** | Peak (PK) |
| **FREQUENCY RANGE** | 1GHz ~ 40GHz | | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **NO.** | **FREQ. (MHz)** | **EMISSION LEVEL (dBuV/m)** | **LIMIT (dBuV/m)** | **MARGIN (dB)** | **ANTENNA HEIGHT (m)** | **TABLE ANGLE (Degree)** | **RAW VALUE (dBuV)** | **CORRECTION FACTOR (dB/m)** |
| 1 | 5100.00 | 63.0 PK | 74.0 | -11.0 | 1.00 H | 302 | 57.50 | 5.50 |
| 2 | 5100.00 | 53.2 AV | 54.0 | -0.8 | 1.00 H | 302 | 47.70 | 5.50 |
| 3 | 5150.00 | 68.9 PK | 74.0 | -5.1 | 1.00 H | 138 | 63.20 | 5.70 |
| 4 | 5150.00 | 51.7 AV | 54.0 | -2.3 | 1.00 H | 138 | 46.00 | 5.70 |
| 5 | *5180.00 | 116.4 PK | | | 1.00 H | 257 | 76.90 | 39.50 |
| 6 | *5180.00 | 107.4 AV | | | 1.00 H | 257 | 67.90 | 39.50 |
| 7 | #10360.00 | 60.1 PK | 74.0 | -13.9 | 1.00 H | 329 | 41.60 | 18.50 |
| 8 | #10360.00 | 47.4 AV | 54.0 | -6.6 | 1.00 H | 329 | 28.90 | 18.50 |
| **ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M** | | | | | | | | |
| **NO.** | **FREQ. (MHz)** | **EMISSION LEVEL (dBuV/m)** | **LIMIT (dBuV/m)** | **MARGIN (dB)** | **ANTENNA HEIGHT (m)** | **TABLE ANGLE (Degree)** | **RAW VALUE (dBuV)** | **CORRECTION FACTOR (dB/m)** |
| 1 | 5100.00 | 63.5 PK | 74.0 | -10.5 | 1.00 V | 70 | 58.00 | 5.50 |
| 2 | 5100.00 | 52.4 AV | 54.0 | -1.6 | 1.00 V | 70 | 46.90 | 5.50 |
| 3 | 5150.00 | 64.1 PK | 74.0 | -9.9 | 1.00 V | 76 | 58.40 | 5.70 |
| 4 | 5150.00 | 48.3 AV | 54.0 | -5.7 | 1.00 V | 76 | 42.60 | 5.70 |
| 5 | *5180.00 | 116.3 PK | | | 1.00 V | 73 | 76.80 | 39.50 |
| 6 | *5180.00 | 107.3 AV | | | 1.00 V | 73 | 67.80 | 39.50 |
| 7 | #10360.00 | 59.7 PK | 74.0 | -14.3 | 1.00 V | 256 | 41.20 | 18.50 |
| 8 | #10360.00 | 47.1 AV | 54.0 | -6.9 | 1.00 V | 256 | 28.60 | 18.50 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

| CHANNEL | TX Channel 40 | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5120.00 | 64.9 PK | 74.0 | -9.1 | 1.00 H | 255 | 59.40 | 5.50 |
| 2 | 5120.00 | 53.6 AV | 54.0 | -0.4 | 1.00 H | 255 | 48.10 | 5.50 |
| 3 | *5200.00 | 116.1 PK | | | 1.00 H | 278 | 76.50 | 39.60 |
| 4 | *5200.00 | 106.7 AV | | | 1.00 H | 278 | 67.10 | 39.60 |
| 5 | #10400.00 | 59.8 PK | 74.0 | -14.2 | 1.00 H | 322 | 41.50 | 18.30 |
| 6 | #10400.00 | 47.3 AV | 54.0 | -6.7 | 1.00 H | 322 | 29.00 | 18.30 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5120.00 | 61.7 PK | 74.0 | -12.3 | 1.00 V | 27 | 56.20 | 5.50 |
| 2 | 5120.00 | 50.8 AV | 54.0 | -3.2 | 1.00 V | 27 | 45.30 | 5.50 |
| 3 | *5200.00 | 114.3 PK | | | 1.00 V | 30 | 74.70 | 39.60 |
| 4 | *5200.00 | 105.0 AV | | | 1.00 V | 30 | 65.40 | 39.60 |
| 5 | #10400.00 | 59.6 PK | 74.0 | -14.4 | 1.00 V | 252 | 41.30 | 18.30 |
| 6 | #10400.00 | 46.8 AV | 54.0 | -7.2 | 1.00 V | 252 | 28.50 | 18.30 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

| CHANNEL | TX Channel 48 | DETECTOR FUNCTION | Peak (PK) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | #5160.00 | 67.0 PK | 68.2 | -1.2 | 1.12 H | 284 | 61.30 | 5.70 |
| 2 | *5240.00 | 119.1 PK | | | 1.10 H | 286 | 79.50 | 39.60 |
| 3 | *5240.00 | 109.2 AV | | | 1.10 H | 286 | 69.60 | 39.60 |
| 4 | #10480.00 | 59.8 PK | 74.0 | -14.2 | 1.00 H | 352 | 42.10 | 17.70 |
| 5 | #10480.00 | 47.9 AV | 54.0 | -6.1 | 1.00 H | 352 | 30.20 | 17.70 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | #5160.00 | 64.1 PK | 68.2 | -4.1 | 1.00 V | 100 | 58.40 | 5.70 |
| 2 | *5240.00 | 117.2 PK | | | 1.00 V | 110 | 77.60 | 39.60 |
| 3 | *5240.00 | 108.2 AV | | | 1.00 V | 110 | 68.60 | 39.60 |
| 4 | #10480.00 | 59.4 PK | 74.0 | -14.6 | 1.00 V | 205 | 41.70 | 17.70 |
| 5 | #10480.00 | 47.3 AV | 54.0 | -6.7 | 1.00 V | 205 | 29.60 | 17.70 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

## 802.11n (40MHz)

| CHANNEL | TX Channel 38 | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 66.9 PK | 74.0 | -7.1 | 1.00 H | 16 | 61.20 | 5.70 |
| **2** | **5150.00** | **53.9 AV** | **54.0** | **-0.1** | **1.00 H** | **16** | **48.20** | **5.70** |
| 3 | *5190.00 | 111.7 PK | | | 1.03 H | 274 | 72.20 | 39.50 |
| 4 | *5190.00 | 102.1 AV | | | 1.03 H | 274 | 62.60 | 39.50 |
| 5 | #10380.00 | 59.7 PK | 74.0 | -14.3 | 1.00 H | 311 | 41.30 | 18.40 |
| 6 | #10380.00 | 46.4 AV | 54.0 | -7.6 | 1.00 H | 311 | 28.00 | 18.40 |
| **ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M** | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 65.4 PK | 74.0 | -8.6 | 1.00 V | 56 | 59.70 | 5.70 |
| 2 | 5150.00 | 53.0 AV | 54.0 | -1.0 | 1.00 V | 56 | 47.30 | 5.70 |
| 3 | *5190.00 | 110.8 PK | | | 1.00 V | 52 | 71.30 | 39.50 |
| 4 | *5190.00 | 101.1 AV | | | 1.00 V | 52 | 61.60 | 39.50 |
| 5 | #10380.00 | 59.1 PK | 74.0 | -14.9 | 1.00 V | 253 | 40.70 | 18.40 |
| 6 | #10380.00 | 46.0 AV | 54.0 | -8.0 | 1.00 V | 253 | 27.60 | 18.40 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

| CHANNEL | TX Channel 46 | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 67.5 PK | 74.0 | -6.5 | 1.00 H | 7 | 61.80 | 5.70 |
| 2 | 5150.00 | 53.7 AV | 54.0 | -0.3 | 1.00 H | 7 | 48.00 | 5.70 |
| 3 | *5230.00 | 116.2 PK | | | 1.00 H | 145 | 76.60 | 39.60 |
| 4 | *5230.00 | 106.8 AV | | | 1.00 H | 145 | 67.20 | 39.60 |
| 5 | #10460.00 | 59.9 PK | 74.0 | -14.1 | 1.00 H | 318 | 42.10 | 17.80 |
| 6 | #10460.00 | 47.2 AV | 54.0 | -6.8 | 1.00 H | 318 | 29.40 | 17.80 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 64.0 PK | 74.0 | -10.0 | 1.00 V | 46 | 58.30 | 5.70 |
| 2 | 5150.00 | 53.0 AV | 54.0 | -1.0 | 1.00 V | 46 | 47.30 | 5.70 |
| 3 | *5230.00 | 114.6 PK | | | 1.00 V | 46 | 75.00 | 39.60 |
| 4 | *5230.00 | 105.9 AV | | | 1.00 V | 46 | 66.30 | 39.60 |
| 5 | #10460.00 | 59.4 PK | 74.0 | -14.6 | 1.00 V | 255 | 41.60 | 17.80 |
| 6 | #10460.00 | 46.8 AV | 54.0 | -7.2 | 1.00 V | 255 | 29.00 | 17.80 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

## 802.11ac (80MHz)

| CHANNEL | TX Channel 42 | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
|---|---|---|---|
| FREQUENCY RANGE | 1GHz ~ 40GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 67.5 PK | 74.0 | -6.5 | 1.00 H | 6 | 61.80 | 5.70 |
| 2 | 5150.00 | 53.3 AV | 54.0 | -0.7 | 1.00 H | 6 | 47.60 | 5.70 |
| 3 | *5210.00 | 109.0 PK | | | 1.00 H | 7 | 69.40 | 39.60 |
| 4 | *5210.00 | 97.5 AV | | | 1.00 H | 7 | 57.90 | 39.60 |
| 5 | #10420.00 | 57.9 PK | 74.0 | -16.1 | 1.00 H | 320 | 39.70 | 18.20 |
| 6 | #10420.00 | 45.8 AV | 54.0 | -8.2 | 1.00 H | 320 | 27.60 | 18.20 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 5150.00 | 67.2 PK | 74.0 | -6.8 | 1.00 V | 20 | 61.50 | 5.70 |
| 2 | 5150.00 | 52.7 AV | 54.0 | -1.3 | 1.00 V | 20 | 47.00 | 5.70 |
| 3 | *5210.00 | 108.0 PK | | | 1.00 V | 24 | 68.40 | 39.60 |
| 4 | *5210.00 | 96.7 AV | | | 1.00 V | 24 | 57.10 | 39.60 |
| 5 | #10420.00 | 57.6 PK | 74.0 | -16.4 | 1.00 V | 258 | 39.40 | 18.20 |
| 6 | #10420.00 | 44.9 AV | 54.0 | -9.1 | 1.00 V | 258 | 26.70 | 18.20 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

## BELOW 1GHz WORST-CASE DATA

## CDD MODE:

### 802.11n (20MHz)

| | | | |
|---|---|---|---|
| **CHANNEL** | TX Channel 36 | **DETECTOR FUNCTION** | Quasi-Peak (QP) |
| **FREQUENCY RANGE** | 30MHz ~ 1GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **NO.** | **FREQ. (MHz)** | **EMISSION LEVEL (dBuV/m)** | **LIMIT (dBuV/m)** | **MARGIN (dB)** | **ANTENNA HEIGHT (m)** | **TABLE ANGLE (Degree)** | **RAW VALUE (dBuV)** | **CORRECTION FACTOR (dB/m)** |
| 1 | 74.53 | 29.6 QP | 40.0 | -10.4 | 2.00 H | 13 | 46.50 | -16.90 |
| 2 | 216.18 | 36.3 QP | 46.0 | -9.7 | 1.00 H | 97 | 52.80 | -16.50 |
| 3 | 249.17 | 34.3 QP | 46.0 | -11.7 | 1.24 H | 103 | 48.70 | -14.40 |
| 4 | 270.51 | 38.6 QP | 46.0 | -7.4 | 1.00 H | 252 | 51.90 | -13.30 |
| 5 | 625.60 | 40.1 QP | 46.0 | -5.9 | 1.24 H | 287 | 46.40 | -6.30 |
| 6 | 875.91 | 41.3 QP | 46.0 | -4.7 | 1.49 H | 312 | 43.50 | -2.20 |
| **ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M** | | | | | | | | |
| **NO.** | **FREQ. (MHz)** | **EMISSION LEVEL (dBuV/m)** | **LIMIT (dBuV/m)** | **MARGIN (dB)** | **ANTENNA HEIGHT (m)** | **TABLE ANGLE (Degree)** | **RAW VALUE (dBuV)** | **CORRECTION FACTOR (dB/m)** |
| 1 | 35.72 | 26.2 QP | 40.0 | -13.8 | 1.00 V | 23 | 41.30 | -15.10 |
| 2 | 64.83 | 25.7 QP | 40.0 | -14.3 | 1.00 V | 308 | 40.90 | -15.20 |
| 3 | 270.51 | 33.2 QP | 46.0 | -12.8 | 2.00 V | 90 | 46.50 | -13.30 |
| 4 | 600.38 | 37.3 QP | 46.0 | -8.7 | 1.50 V | 66 | 44.00 | -6.70 |
| 5 | 625.60 | 39.8 QP | 46.0 | -6.2 | 1.00 V | 77 | 46.10 | -6.30 |
| 6 | 875.91 | 41.2 QP | 46.0 | -4.8 | 1.00 V | 125 | 43.40 | -2.20 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

**STBC MODE:**

**802.11n (20MHz)**

| CHANNEL | TX Channel 36 | DETECTOR FUNCTION | Quasi-Peak (QP) |
|---|---|---|---|
| FREQUENCY RANGE | 30MHz ~ 1GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 216.18 | 36.5 QP | 46.0 | -9.5 | 1.00 H | 87 | 53.00 | -16.50 |
| 2 | 249.17 | 34.4 QP | 46.0 | -11.6 | 1.24 H | 109 | 48.80 | -14.40 |
| 3 | 270.51 | 38.2 QP | 46.0 | -7.8 | 1.00 H | 249 | 51.50 | -13.30 |
| 4 | 625.60 | 40.2 QP | 46.0 | -5.8 | 1.24 H | 288 | 46.50 | -6.30 |
| 5 | 800.24 | 37.6 QP | 46.0 | -8.4 | 3.00 H | 302 | 40.80 | -3.20 |
| 6 | 875.91 | 41.0 QP | 46.0 | -5.0 | 1.50 H | 316 | 43.20 | -2.20 |
| **ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M** | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 35.72 | 29.1 QP | 40.0 | -10.9 | 2.00 V | 230 | 44.20 | -15.10 |
| 2 | 60.95 | 27.9 QP | 40.0 | -12.1 | 1.00 V | 307 | 42.70 | -14.80 |
| 3 | 431.56 | 35.5 QP | 46.0 | -10.5 | 1.25 V | 283 | 45.50 | -10.00 |
| 4 | 600.38 | 37.8 QP | 46.0 | -8.2 | 1.00 V | 117 | 44.50 | -6.70 |
| 5 | 625.60 | 39.7 QP | 46.0 | -6.3 | 1.00 V | 60 | 46.00 | -6.30 |
| 6 | 875.91 | 40.6 QP | 46.0 | -5.4 | 1.00 V | 136 | 42.80 | -2.20 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

**BEAMFORMING MODE:**

**802.11n (20MHz)**

| | | | |
|---|---|---|---|
| **CHANNEL** | TX Channel 36 | **DETECTOR FUNCTION** | Quasi-Peak (QP) |
| **FREQUENCY RANGE** | 30MHz ~ 1GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **NO.** | **FREQ. (MHz)** | **EMISSION LEVEL (dBuV/m)** | **LIMIT (dBuV/m)** | **MARGIN (dB)** | **ANTENNA HEIGHT (m)** | **TABLE ANGLE (Degree)** | **RAW VALUE (dBuV)** | **CORRECTION FACTOR (dB/m)** |
| 1 | 41.54 | 27.5 QP | 40.0 | -12.5 | 1.49 H | 147 | 42.00 | -14.50 |
| 2 | 216.18 | 36.3 QP | 46.0 | -9.7 | 1.00 H | 89 | 52.80 | -16.50 |
| 3 | 249.17 | 34.8 QP | 46.0 | -11.2 | 1.00 H | 92 | 49.20 | -14.40 |
| 4 | 270.51 | 38.6 QP | 46.0 | -7.4 | 1.00 H | 254 | 51.90 | -13.30 |
| 5 | 625.60 | 41.3 QP | 46.0 | -4.7 | 1.24 H | 293 | 47.60 | -6.30 |
| 6 | 875.91 | 41.1 QP | 46.0 | -4.9 | 1.49 H | 296 | 43.30 | -2.20 |
| **ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M** | | | | | | | | |
| **NO.** | **FREQ. (MHz)** | **EMISSION LEVEL (dBuV/m)** | **LIMIT (dBuV/m)** | **MARGIN (dB)** | **ANTENNA HEIGHT (m)** | **TABLE ANGLE (Degree)** | **RAW VALUE (dBuV)** | **CORRECTION FACTOR (dB/m)** |
| 1 | 35.72 | 25.6 QP | 40.0 | -14.4 | 2.00 V | 289 | 40.70 | -15.10 |
| 2 | 66.77 | 28.3 QP | 40.0 | -11.7 | 1.99 V | 263 | 43.90 | -15.60 |
| 3 | 499.48 | 34.2 QP | 46.0 | -11.8 | 1.00 V | 118 | 43.10 | -8.90 |
| 4 | 600.38 | 38.0 QP | 46.0 | -8.0 | 1.00 V | 114 | 44.70 | -6.70 |
| 5 | 625.60 | 39.4 QP | 46.0 | -6.6 | 1.00 V | 64 | 45.70 | -6.30 |
| 6 | 875.91 | 42.0 QP | 46.0 | -4.0 | 1.00 V | 129 | 44.20 | -2.20 |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

## 4.2 CONDUCTED EMISSION MEASUREMENT

### 4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

| FREQUENCY OF EMISSION (MHz) | CONDUCTED LIMIT (dBμV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15 ~ 0.5 | 66 to 56 | 56 to 46 |
| 0.5 ~ 5 | 56 | 46 |
| 5 ~ 30 | 60 | 50 |

**NOTE**: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

### 4.2.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | DATE OF CALIBRATION | DUE DATE OF CALIBRATION |
|---|---|---|---|---|
| Test Receiver ROHDE & SCHWARZ | ESCI | 100612 | Sep. 30, 2014 | Sep. 29, 2015 |
| RF signal cable Woken | 5D-FB | Cable-HYC01-01 | Dec. 26, 2013 | Dec. 25, 2014 |
| | | | Dec. 26, 2014 | Dec. 25, 2015 |
| LISN ROHDE & SCHWARZ (EUT) | ESH3-Z5 | 835239/001 | Feb. 13, 2014 | Feb. 12, 2015 |
| LISN ROHDE & SCHWARZ (Peripheral) | ESH3-Z5 | 100311 | Jul. 21, 2014 | Jul. 20, 2015 |
| Software ADT | BV ADT_Cond_ V7.3.7.3 | NA | NA | NA |

**NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Shielded Room 1.

3. The VCCI Site Registration No. is C-2040.

### 4.2.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

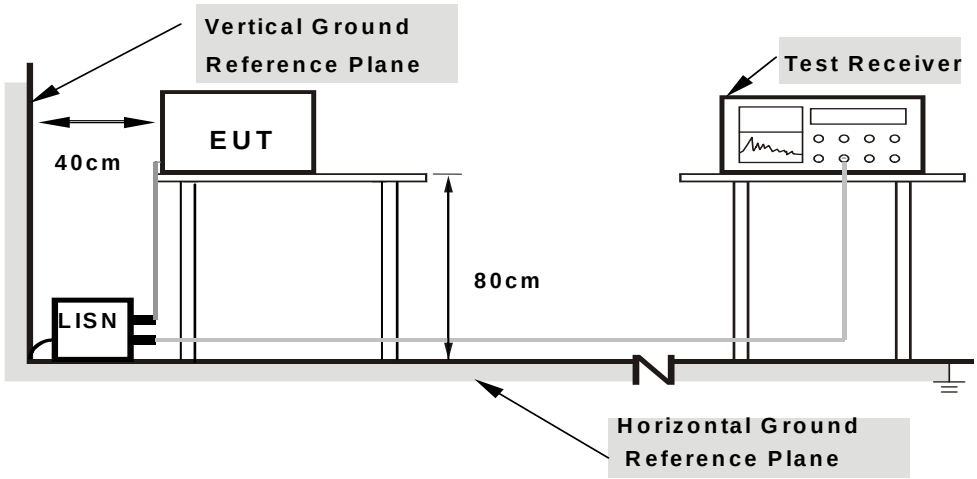
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

**NOTE:** All modes of operation were investigated and the worst-case emissions are reported.

### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

### 4.2.5 TEST SETUP




**Note: 1.Support units were connected to second LISN.**
**2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes**

For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

## 4.2.7 TEST RESULTS

**CONDUCTED WORST-CASE DATA: 802.11n (20MHz)**

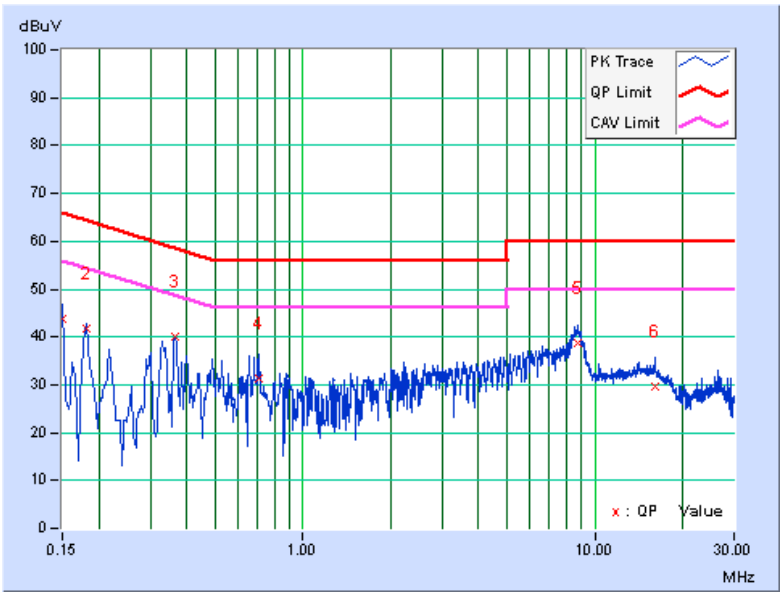
**CDD MODE:**

| PHASE | Line 1 | 6dB BANDWIDTH | 9kHz |
|---|---|---|---|

| No | Freq. | Corr. Factor | Reading Value | | Emission Level | | Limit | | Margin | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | [dB (uV)] | | [dB (uV)] | | [dB (uV)] | | (dB) | |
| | [MHz] | (dB) | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.15000 | 0.08 | 43.82 | 35.83 | 43.90 | 35.91 | 66.00 | 56.00 | -22.10 | -20.09 |
| 2 | 0.18128 | 0.07 | 41.56 | 34.15 | 41.63 | 34.22 | 64.43 | 54.43 | -22.79 | -20.20 |
| **3** | **0.36505** | **0.08** | **40.11** | **38.11** | **40.19** | **38.19** | **58.61** | **48.61** | **-18.42** | **-10.42** |
| 4 | 0.70913 | 0.10 | 31.28 | 20.27 | 31.38 | 20.37 | 56.00 | 46.00 | -24.62 | -25.63 |
| 5 | 8.72854 | 0.45 | 38.29 | 32.73 | 38.74 | 33.18 | 60.00 | 50.00 | -21.26 | -16.82 |
| 6 | 16.03242 | 0.83 | 28.79 | 24.02 | 29.62 | 24.85 | 60.00 | 50.00 | -30.38 | -25.15 |

**REMARKS:**

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

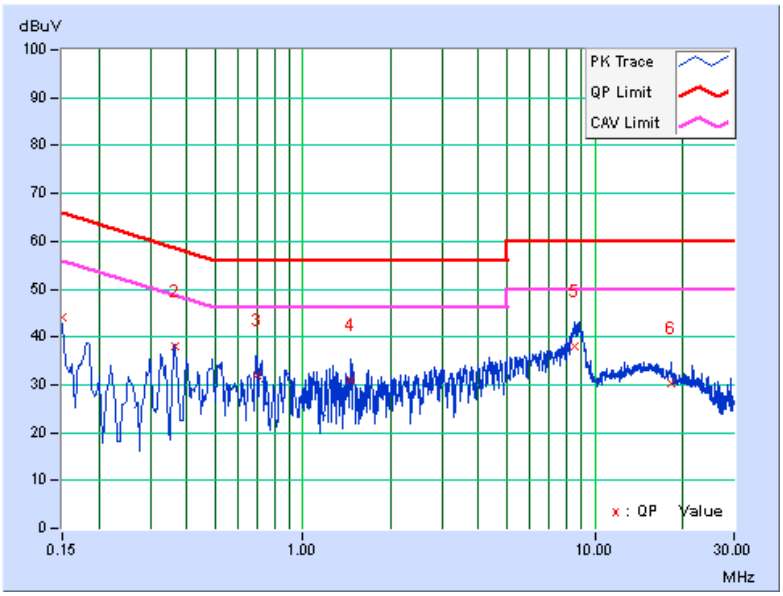


| PHASE | Line 2 | 6dB BANDWIDTH | 9kHz |
|---|---|---|---|

| No | Freq. | Corr. Factor | Reading Value | | Emission Level | | Limit | | Margin | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | [dB (uV)] | | [dB (uV)] | | [dB (uV)] | | (dB) | |
| | [MHz] | (dB) | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.15000 | 0.05 | 44.09 | 35.54 | 44.14 | 35.59 | 66.00 | 56.00 | -21.86 | -20.41 |
| 2 | 0.36430 | 0.07 | 38.13 | 35.85 | 38.20 | 35.92 | 58.63 | 48.63 | -20.43 | -12.71 |
| 3 | 0.69349 | 0.08 | 32.05 | 28.82 | 32.13 | 28.90 | 56.00 | 46.00 | -23.87 | -17.10 |
| 4 | 1.45985 | 0.11 | 30.91 | 27.56 | 31.02 | 27.67 | 56.00 | 46.00 | -24.98 | -18.33 |
| 5 | 8.52522 | 0.38 | 37.51 | 31.27 | 37.89 | 31.65 | 60.00 | 50.00 | -22.11 | -18.35 |
| 6 | 18.30413 | 0.83 | 29.43 | 24.37 | 30.26 | 25.20 | 60.00 | 50.00 | -29.74 | -24.80 |

**REMARKS:**

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



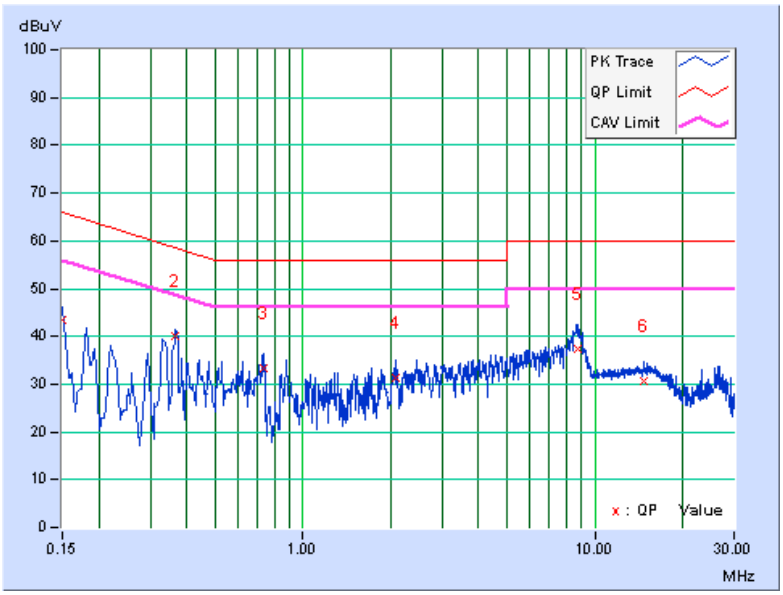
**STBC MODE:**

| PHASE | Line 1 | 6dB BANDWIDTH | 9kHz |
|---|---|---|---|

| No | Freq. | Corr. Factor | Reading Value | | Emission Level | | Limit | | Margin | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | [dB (uV)] | | [dB (uV)] | | [dB (uV)] | | (dB) | |
| | [MHz] | (dB) | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.15000 | 0.08 | 43.41 | 36.31 | 43.49 | 36.39 | 66.00 | 56.00 | -22.51 | -19.61 |
| 2 | 0.36547 | 0.08 | 40.06 | 37.86 | 40.14 | 37.94 | 58.60 | 48.60 | -18.46 | -10.66 |
| 3 | 0.73662 | 0.10 | 33.17 | 24.23 | 33.27 | 24.33 | 56.00 | 46.00 | -22.73 | -21.67 |
| 4 | 2.07784 | 0.15 | 31.07 | 23.75 | 31.22 | 23.90 | 56.00 | 46.00 | -24.78 | -22.10 |
| 5 | 8.77207 | 0.45 | 37.03 | 30.87 | 37.48 | 31.32 | 60.00 | 50.00 | -22.52 | -18.68 |
| 6 | 14.73447 | 0.76 | 29.74 | 24.47 | 30.50 | 25.23 | 60.00 | 50.00 | -29.50 | -24.77 |

**REMARKS:**

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

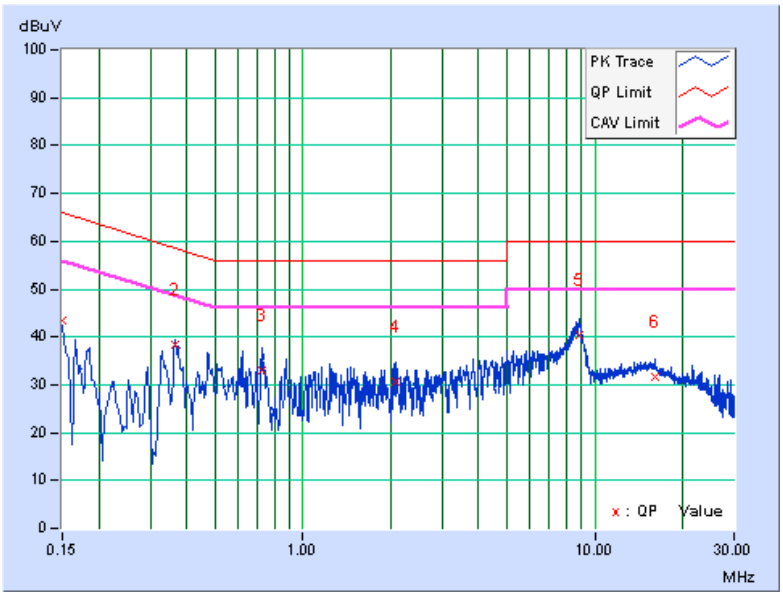


| PHASE | Line 2 | 6dB BANDWIDTH | 9kHz |
|---|---|---|---|

| No | Freq. | Corr. Factor | Reading Value | | Emission Level | | Limit | | Margin | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | [dB (uV)] | | [dB (uV)] | | [dB (uV)] | | (dB) | |
| | [MHz] | (dB) | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.15000 | 0.05 | 43.39 | 34.18 | 43.44 | 34.23 | 66.00 | 56.00 | -22.56 | -21.77 |
| 2 | 0.36537 | 0.07 | 38.44 | 36.53 | 38.51 | 36.60 | 58.61 | 48.61 | -20.10 | -12.01 |
| 3 | 0.72868 | 0.08 | 33.06 | 27.74 | 33.14 | 27.82 | 56.00 | 46.00 | -22.86 | -18.18 |
| 4 | 2.07816 | 0.14 | 30.65 | 25.09 | 30.79 | 25.23 | 56.00 | 46.00 | -25.21 | -20.77 |
| 5 | 8.85396 | 0.40 | 40.06 | 33.79 | 40.46 | 34.19 | 60.00 | 50.00 | -19.54 | -15.81 |
| 6 | 16.16974 | 0.73 | 30.96 | 25.17 | 31.69 | 25.90 | 60.00 | 50.00 | -28.31 | -24.10 |

**REMARKS:**

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



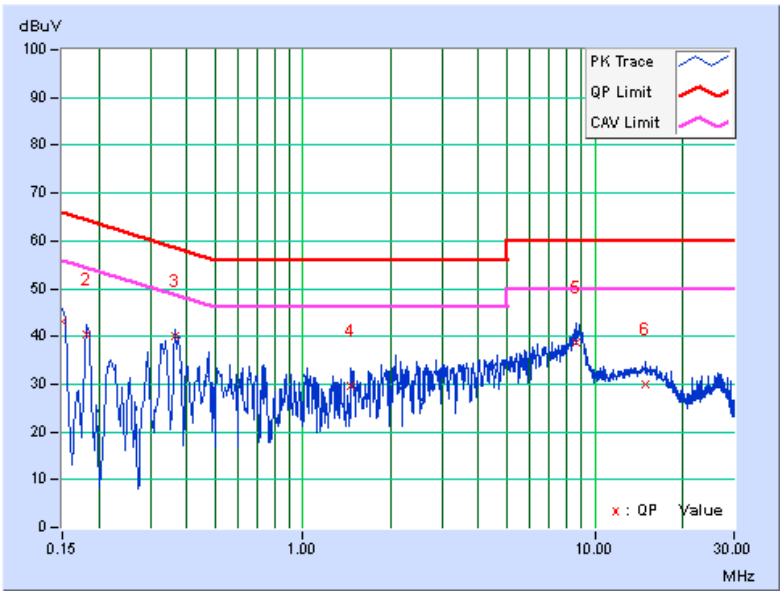
**BEAMFORMING MODE:**

| PHASE | Line 1 | 6dB BANDWIDTH | 9kHz |
|---|---|---|---|

| No | Freq. | Corr. Factor | Reading Value | | Emission Level | | Limit | | Margin | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | [dB (uV)] | | [dB (uV)] | | [dB (uV)] | | (dB) | |
| | [MHz] | (dB) | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.15000 | 0.08 | 43.00 | 36.19 | 43.08 | 36.27 | 66.00 | 56.00 | -22.92 | -19.73 |
| 2 | 0.18122 | 0.07 | 40.26 | 32.94 | 40.33 | 33.01 | 64.43 | 54.43 | -24.10 | -21.42 |
| 3 | 0.36505 | 0.08 | 40.03 | 37.78 | 40.11 | 37.86 | 58.61 | 48.61 | -18.50 | -10.75 |
| 4 | 1.45985 | 0.13 | 29.46 | 22.69 | 29.59 | 22.82 | 56.00 | 46.00 | -26.41 | -23.18 |
| 5 | 8.67380 | 0.45 | 38.34 | 32.68 | 38.79 | 33.13 | 60.00 | 50.00 | -21.21 | -16.87 |
| 6 | 14.87897 | 0.77 | 29.24 | 24.07 | 30.01 | 24.84 | 60.00 | 50.00 | -29.99 | -25.16 |

**REMARKS:**

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

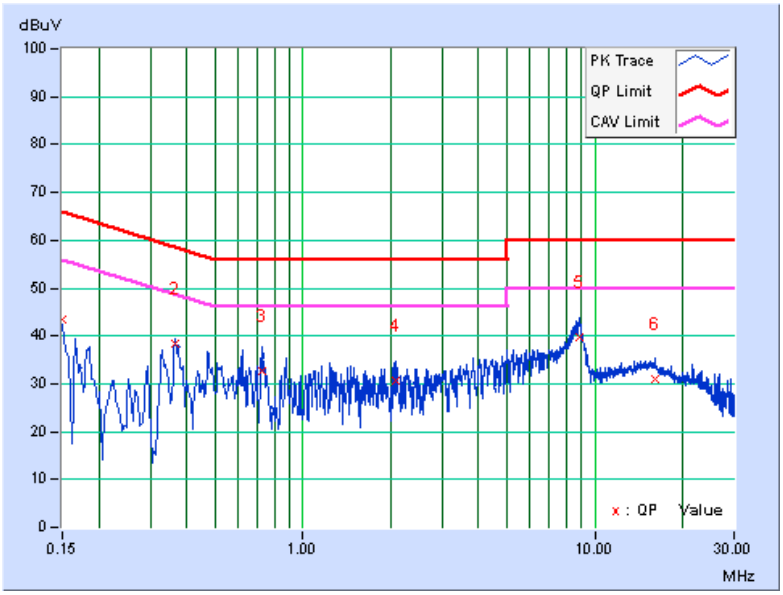


| PHASE | Line 2 | 6dB BANDWIDTH | 9kHz |
|---|---|---|---|

| No | Freq. | Corr. Factor | Reading Value | | Emission Level | | Limit | | Margin | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | [dB (uV)] | | [dB (uV)] | | [dB (uV)] | | (dB) | |
| | [MHz] | (dB) | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.15000 | 0.05 | 43.24 | 34.92 | 43.29 | 34.97 | 66.00 | 56.00 | -22.71 | -21.03 |
| 2 | 0.36526 | 0.07 | 38.44 | 36.69 | 38.51 | 36.76 | 58.61 | 48.61 | -20.10 | -11.85 |
| 3 | 0.72868 | 0.08 | 32.64 | 27.74 | 32.72 | 27.82 | 56.00 | 46.00 | -23.28 | -18.18 |
| 4 | 2.07763 | 0.14 | 30.65 | 25.09 | 30.79 | 25.23 | 56.00 | 46.00 | -25.21 | -20.77 |
| 5 | 8.85366 | 0.40 | 39.40 | 33.79 | 39.80 | 34.19 | 60.00 | 50.00 | -20.20 | -15.81 |
| 6 | 16.16927 | 0.73 | 30.40 | 25.50 | 31.13 | 26.23 | 60.00 | 50.00 | -28.87 | -23.77 |

**REMARKS:**

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



## 4.3 TRANSMIT POWER MEASUREMENT

### 4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

| Operation Band | EUT Category | | LIMIT |
|---|---|---|---|
| U-NII-1 | | Outdoor Access Point | 1 Watt (30 dBm) (Max. e.i.r.p ≦ 125mW (21 dBm) at any elevation angle above 30 degrees as measured from the horizon) |
| | | Fixed point-to-point Access Point | 1 Watt (30 dBm) |
| | √ | Indoor Access Point | 1 Watt (30 dBm) |
| | | Mobile and Portable client device | 250mW (24 dBm) |
| U-NII-2A | | --- | 250mW (24 dBm) or 11 dBm+10 log B* |
| U-NII-2C | | --- | 250mW (24 dBm) or 11 dBm+10 log B* |
| U-NII-3 | | --- | 1 Watt (30 dBm) |

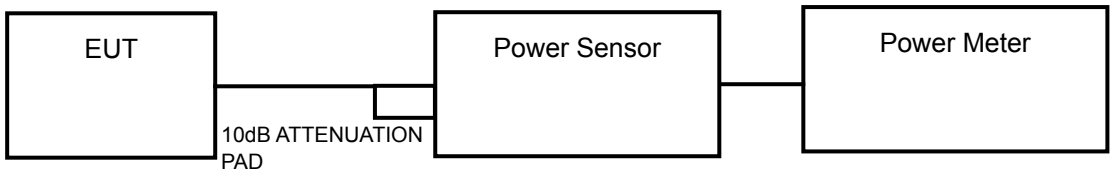
*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 D01 Multiple Transmitter Output v02r01 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

### 4.3.2 TEST SETUP



### 4.3.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

### 4.3.4 TEST PROCEDURE

**FOR AVERAGE POWER MEASUREMENT**

**For 802.11a, 802.11n (20MHz), 802.11n (40MHz)**

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

**For 802.11ac (80MHz)**

1) Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
2) Set sweep trigger to “free run”.
3) Set RBW = 1 MHz.
4) Set VBW ≥ 3 MHz
5) Number of points in sweep ≥ 2 Span / RBW.
6) Sweep time ≤ (number of points in sweep) * T
7) Detector = RMS.
8) Trace mode = max hold.
9) Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

### 4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

## 4.3.7 TEST RESULTS

### POWER OUTPUT:

#### 802.11a

| CHAN. | CHAN. FREQ. (MHz) | MAXIMUM CONDUCTED POWER (dBm) (mW) | MAXIMUM CONDUCTED POWER (dBm) (dBm) | POWER LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|
| 36 | 5180 | 229.087 | 23.60 | 30 | PASS |
| 40 | 5200 | 237.137 | 23.75 | 30 | PASS |
| 48 | 5240 | 314.775 | 24.98 | 30 | PASS |

### CDD MODE:

#### 802.11n (20MHz)

| CHAN. | CHAN. FREQ. (MHz) | MAXIMUM CONDUCTED POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | POWER LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 36 | 5180 | 22.91 | 22.22 | 22.38 | 535.141 | 27.28 | 30 | PASS |
| 40 | 5200 | 22.39 | 21.74 | 21.82 | 474.714 | 26.76 | 30 | PASS |
| 48 | 5240 | 25.02 | 24.14 | 23.74 | 813.697 | 29.10 | 30 | PASS |

#### 802.11n (40MHz)

| CHAN. | CHAN. FREQ. (MHz) | MAXIMUM CONDUCTED POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | POWER LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 38 | 5190 | 17.31 | 16.95 | 17.15 | 155.252 | 21.91 | 30 | PASS |
| 46 | 5230 | 24.93 | 23.83 | 24.03 | 805.648 | 29.06 | 30 | PASS |

#### 802.11ac (80MHz)

| CHAN. | CHAN. FREQ. (MHz) | MAXIMUM CONDUCTED POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | POWER LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 42 | 5210 | 16.36 | 15.69 | 16.21 | 122.102 | 20.87 | 30 | PASS |

## STBC MODE:

### 802.11n (20MHz)

| CHAN. | CHAN. FREQ. (MHz) | MAXIMUM CONDUCTED POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | POWER LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 36 | 5180 | 22.93 | 22.30 | 22.40 | 539.940 | 27.32 | 30 | PASS |
| 40 | 5200 | 22.43 | 21.65 | 21.95 | 477.878 | 26.79 | 30 | PASS |
| 48 | 5240 | 24.89 | 24.22 | 23.80 | 812.443 | 29.10 | 30 | PASS |

### 802.11n (40MHz)

| CHAN. | CHAN. FREQ. (MHz) | MAXIMUM CONDUCTED POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | POWER LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 38 | 5190 | 17.32 | 16.88 | 17.22 | 155.427 | 21.92 | 30 | PASS |
| 46 | 5230 | 24.96 | 23.88 | 24.16 | **818.287** | 29.13 | 30 | PASS |

### 802.11ac (80MHz)

| CHAN. | CHAN. FREQ. (MHz) | MAXIMUM CONDUCTED POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | POWER LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 42 | 5210 | 16.26 | 15.72 | 16.30 | 122.250 | 20.87 | 30 | PASS |

## BEAMFORMING MODE:

### 802.11n (20MHz)

| CHAN. | CHAN. FREQ. (MHz) | MAXIMUM CONDUCTED POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | POWER LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 36 | 5180 | 21.23 | 21.06 | 21.68 | 407.614 | 26.10 | 27.73 | PASS |
| 40 | 5200 | 20.75 | 20.27 | 20.82 | 346.045 | 25.39 | 27.73 | PASS |
| 48 | 5240 | 22.33 | 23.15 | 23.26 | 589.376 | 27.70 | 27.73 | PASS |

**NOTE:** Directional gain = 3.5dBi + 10log(3) = 8.27dBi > 6dBi , so the power limit shall be reduced to 30-(8.27-6) = 27.73dBm.

### 802.11n (40MHz)

| CHAN. | CHAN. FREQ. (MHz) | MAXIMUM CONDUCTED POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | POWER LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 38 | 5190 | 17.81 | 17.21 | 17.70 | 171.881 | 22.35 | 27.73 | PASS |
| 46 | 5230 | 23.02 | 22.73 | 23.05 | 589.783 | 27.71 | 27.73 | PASS |

**NOTE:** Directional gain = 3.5dBi + 10log(3) = 8.27dBi > 6dBi , so the power limit shall be reduced to 30-(8.27-6) = 27.73dBm.

### 802.11ac (80MHz)

| CHAN. | CHAN. FREQ. (MHz) | MAXIMUM CONDUCTED POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | POWER LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 42 | 5210 | 17.50 | 16.80 | 16.99 | 154.100 | 21.88 | 27.73 | PASS |

**NOTE:** Directional gain = 3.5dBi + 10log(3) = 8.27dBi > 6dBi , so the power limit shall be reduced to 30-(8.27-6) = 27.73dBm.

## 4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

### 4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

| Operation Band | EUT Category | | LIMIT |
|---|---|---|---|
| U-NII-1 | | Outdoor Access Point | 17dBm/ MHz |
| | | Fixed point-to-point Access Point | |
| | √ | Indoor Access Point | |
| | | Mobile and Portable client device | 11dBm/ MHz |
| U-NII-2A | | --- | 11dBm/ MHz |
| U-NII-2C | | --- | 11dBm/ MHz |
| U-NII-3 | | --- | 30dBm/ MHz |

### 4.4.2 TEST SETUP


### 4.4.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

### 4.4.4 TEST PROCEDURES

**Without duty factor**

Using method SA-1

1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 30 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3) Set Channel power measure = 1MHz
4) Sweep time = auto, trigger set to “free run”.
5) Trace average at least 100 traces in power averaging mode.
6) Record the max value

**With duty factor**

Using method SA-2

1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 30 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3) Set Channel power measure = 1MHz
4) Sweep time = auto, trigger set to “free run”.
5) Trace average at least 100 traces in power averaging mode.
6) Record the max value and add 10 log (1/duty cycle)

### 4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.4.6 EUT OPERATING CONDITIONS

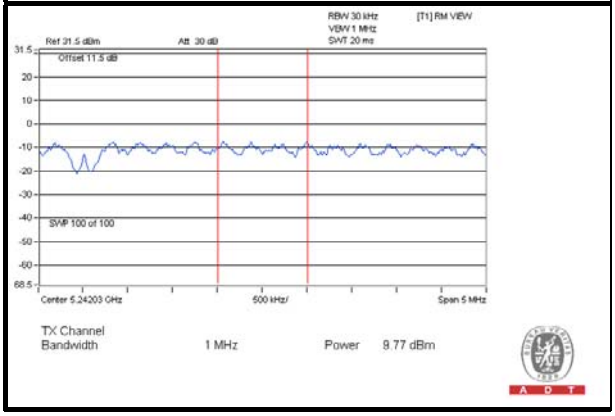
Same as 4.3.6.

## 4.4.7 TEST RESULTS

**802.11a**

| CHANNEL | FREQUENCY (MHz) | PSD (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 36 | 5180 | 8.49 | 17 | PASS |
| 40 | 5200 | 8.45 | 17 | PASS |
| 48 | 5240 | 9.77 | 17 | PASS |

| SPECTRUM PLOT OF WORST VALUE |
|---|
| **802.11a** |



## CDD MODE:

### 802.11n (20MHz)

| CHAN. | CHAN. FREQ. (MHz) | PSD (dBm) | | | TOTAL POWER DENSITY (dBm) | MAX. LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | |
| 38 | 5190 | 6.97 | 6.47 | 7.90 | 11.93 | 14.73 | PASS |
| 46 | 5230 | 6.98 | 6.59 | 7.56 | 11.83 | 14.73 | PASS |
| 54 | 5270 | 8.82 | 8.91 | 8.87 | 13.64 | 14.73 | PASS |

**NOTE:**

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 3.5dBi + 10log(3) = 8.27dBi > 6dBi , so the power density limit shall be reduced to 17-(8.27-6) = 14.73dBm.

### 802.11n (40MHz)

| CHAN. | CHAN. FREQ. (MHz) | PSD (dBm) | | | TOTAL PSD W/O DUTY FACTOR (dBm) | DUTY FACTOR | TOTAL PSD WITH DUTY FACTOR (dBm) | MAX. LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | | |
| 38 | 5190 | -0.68 | -1.72 | -0.58 | 3.80 | 0.15 | 3.95 | 14.73 | PASS |
| 46 | 5230 | 6.12 | 5.79 | 5.73 | 10.65 | 0.15 | 10.80 | 14.73 | PASS |

**NOTE:**

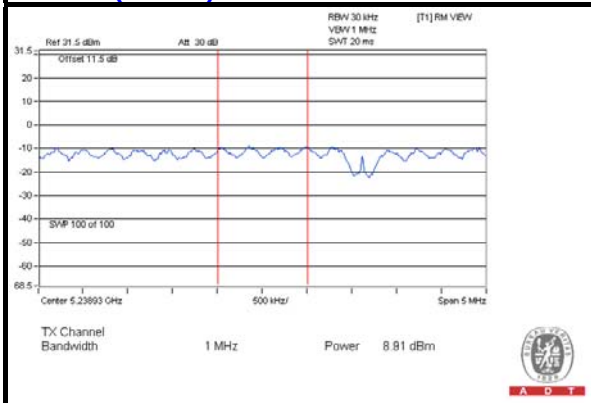
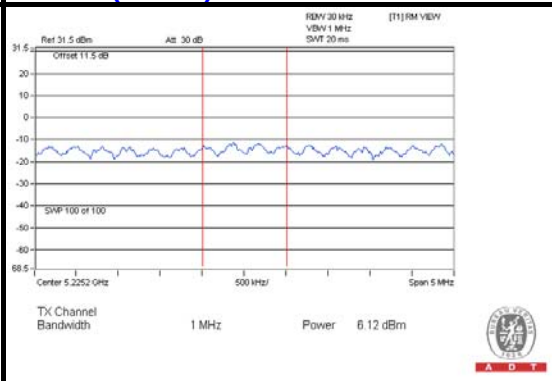
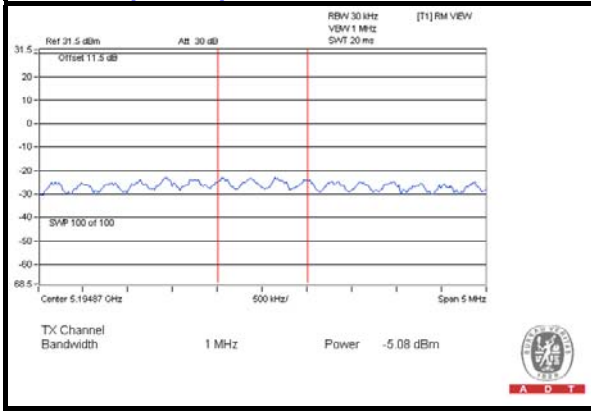
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 3.5dBi + 10log(3) = 8.27dBi > 6dBi , so the power density limit shall be reduced to 17-(8.27-6) = 14.73dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

### 802.11ac (80MHz)

| CHAN. | CHAN. FREQ. (MHz) | PSD (dBm) | | | TOTAL PSD W/O DUTY FACTOR (dBm) | DUTY FACTOR | TOTAL PSD WITH DUTY FACTOR (dBm) | MAX. LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | | |
| 42 | 5210 | -5.81 | -5.73 | -5.08 | -0.76 | 0.39 | -0.37 | 14.73 | PASS |

**NOTE:**

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 3.5dBi + 10log(3) = 8.27dBi > 6dBi , so the power density limit shall be reduced to 17-(8.27-6) = 14.73dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

| SPECTRUM PLOT OF WORST VALUE | |
|---|---|
| **802.11n (20MHz)** | **802.11n (40MHz)** |
|  |  |
| **802.11ac (80MHz)** | |
|  | |

## STBC MODE:

### 802.11n (20MHz)

| CHAN. | CHAN. FREQ. (MHz) | PSD (dBm) | | | TOTAL PSD W/O DUTY FACTOR (dBm) | DUTY FACTOR | TOTAL PSD WITH DUTY FACTOR (dBm) | MAX. LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | | |
| 38 | 5190 | 7.91 | 7.36 | 7.98 | 12.53 | 0.24 | 12.77 | 17 | PASS |
| 46 | 5230 | 7.02 | 7.02 | 7.94 | 12.12 | 0.24 | 12.36 | 17 | PASS |
| 54 | 5270 | 9.97 | 9.39 | 9.01 | 14.25 | 0.24 | 14.49 | 17 | PASS |

**NOTE:** Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

### 802.11n (40MHz)

| CHAN. | CHAN. FREQ. (MHz) | PSD (dBm) | | | TOTAL PSD W/O DUTY FACTOR (dBm) | DUTY FACTOR | TOTAL PSD WITH DUTY FACTOR (dBm) | MAX. LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | | |
| 38 | 5190 | -0.49 | -1.42 | -0.76 | 3.90 | 0.45 | 4.35 | 17 | PASS |
| 46 | 5230 | 6.49 | 5.96 | 5.29 | 10.71 | 0.45 | 11.16 | 17 | PASS |

**NOTE:**

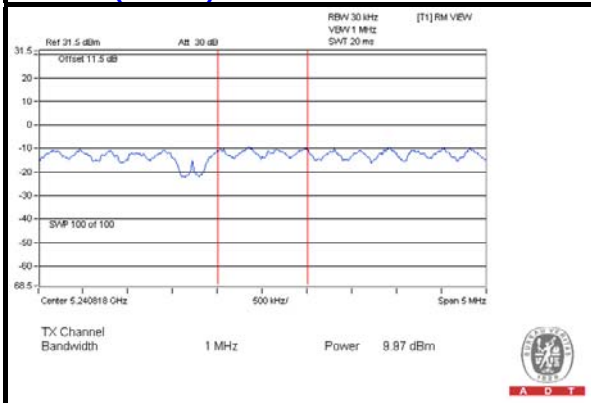
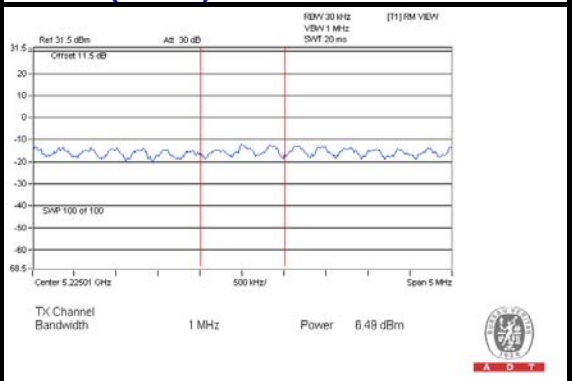
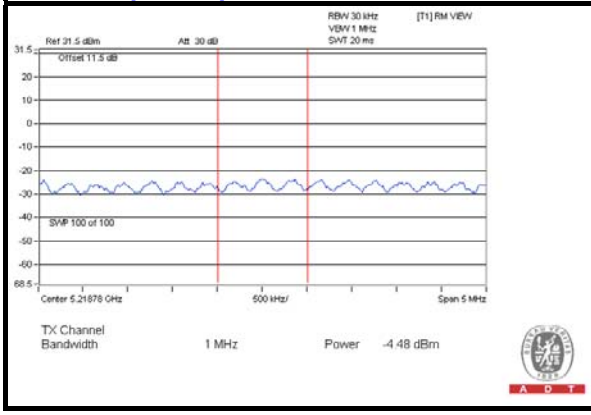
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Refer to section 3.3 for duty cycle spectrum plot.

### 802.11ac (80MHz)

| CHAN. | CHAN. FREQ. (MHz) | PSD (dBm) | | | TOTAL PSD W/O DUTY FACTOR (dBm) | DUTY FACTOR | TOTAL PSD WITH DUTY FACTOR (dBm) | MAX. LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | | |
| 42 | 5210 | -5.19 | -4.91 | -4.48 | -0.08 | 0.28 | 0.20 | 17 | PASS |

**NOTE:**

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Refer to section 3.3 for duty cycle spectrum plot.

| SPECTRUM PLOT OF WORST VALUE | |
|---|---|
| **802.11n (20MHz)** | **802.11n (40MHz)** |
|  |  |
| **802.11ac (80MHz)** | |
|  | |

## BEAMFORMING MODE:

### 802.11n (20MHz)

| CHAN. | CHAN. FREQ. (MHz) | PSD (dBm) | | | TOTAL PSD W/O DUTY FACTOR (dBm) | DUTY FACTOR | TOTAL PSD WITH DUTY FACTOR (dBm) | MAX. LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | | |
| 38 | 5190 | 6.95 | 6.23 | 6.90 | 11.47 | 0.24 | 11.71 | 14.73 | PASS |
| 46 | 5230 | 6.45 | 5.53 | 5.89 | 10.74 | 0.24 | 10.98 | 14.73 | PASS |
| 54 | 5270 | 8.17 | 8.78 | 7.93 | 13.08 | 0.24 | 13.32 | 14.73 | PASS |

**NOTE:**

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 3.5dBi + 10log(3) = 8.27dBi > 6dBi , so the power density limit shall be reduced to 17-(8.27-6) = 14.73dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

### 802.11n (40MHz)

| CHAN. | CHAN. FREQ. (MHz) | PSD (dBm) | | | TOTAL PSD W/O DUTY FACTOR (dBm) | DUTY FACTOR | TOTAL PSD WITH DUTY FACTOR (dBm) | MAX. LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | | |
| 38 | 5190 | 1.00 | -0.55 | -0.22 | 4.90 | 0.20 | 5.10 | 14.73 | PASS |
| 46 | 5230 | 5.56 | 5.04 | 5.53 | 10.16 | 0.20 | 10.36 | 14.73 | PASS |

**NOTE:**

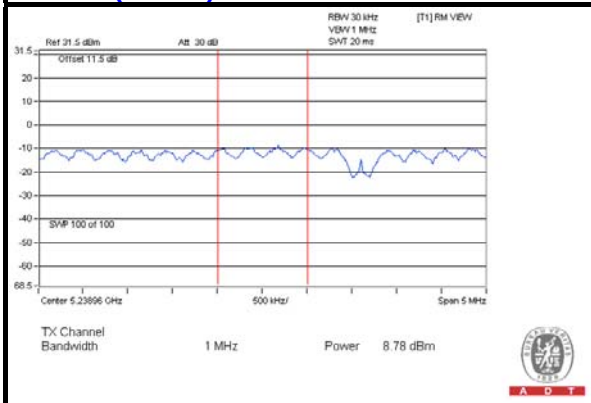
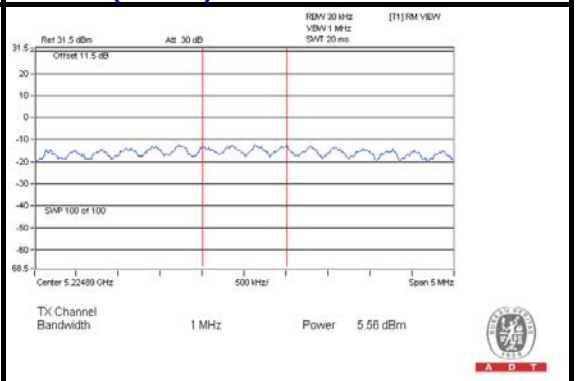
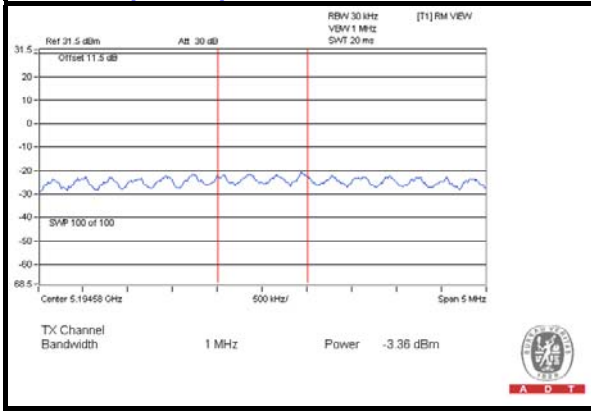
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 3.5dBi + 10log(3) = 8.27dBi > 6dBi , so the power density limit shall be reduced to 17-(8.27-6) = 14.73dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

### 802.11ac (80MHz)

| CHAN. | CHAN. FREQ. (MHz) | PSD (dBm) | | | TOTAL PSD W/O DUTY FACTOR (dBm) | DUTY FACTOR | TOTAL PSD WITH DUTY FACTOR (dBm) | MAX. LIMIT (dBm) | PASS / FAIL |
|---|---|---|---|---|---|---|---|---|---|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | | |
| 42 | 5210 | -3.36 | -4.67 | -4.09 | 0.76 | 0.42 | 1.18 | 14.73 | PASS |

**NOTE:**

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 3.5dBi + 10log(3) = 8.27dBi > 6dBi , so the power density limit shall be reduced to 17-(8.27-6) = 14.73dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

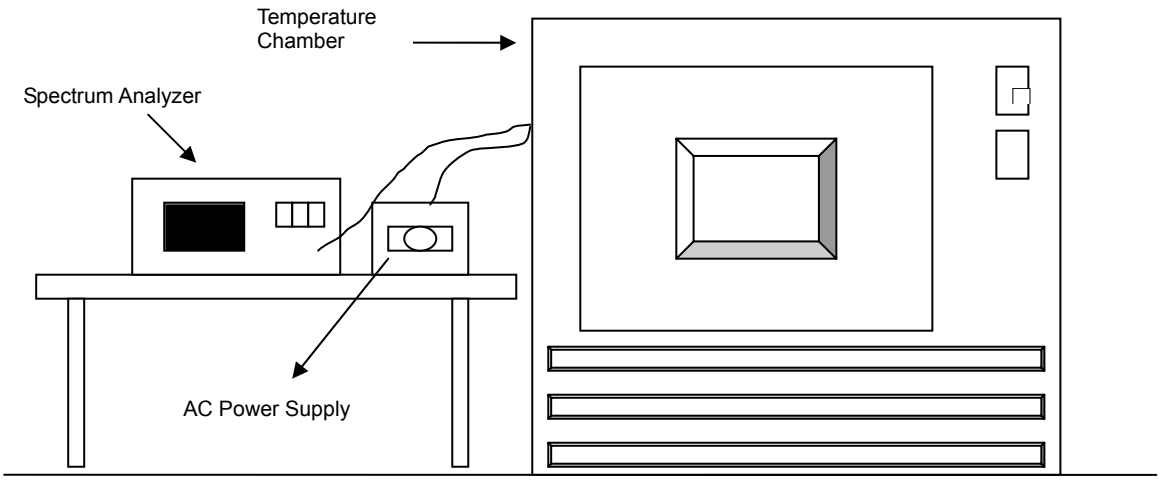
| SPECTRUM PLOT OF WORST VALUE | |
|---|---|
| **802.11n (20MHz)** | **802.11n (40MHz)** |
|  |  |
| **802.11ac (80MHz)** | |
|  | |

## 4.5 FREQUENCY STABILITY

### 4.5.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency of the carrier signal shall be maintained within band of operation

### 4.5.2 TEST SETUP




### 4.5.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

### 4.5.4 TEST PROCEDURE

a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.

b. Turn the EUT on and couple its output to a spectrum analyzer.

c. Turn the EUT off and set the chamber to the highest temperature specified.

d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.

e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.

f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

### 4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.5.6 EUT OPERATING CONDITION

Set the EUT transmit at un-modulation mode to test frequency stability.

## 4.5.7 TEST RESULTS

**CDD MODE:**

| FREQUEMCY STABILITY VERSUS TEMP. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| OPERATING FREQUENCY: 5240MHz | | | | | | | | | |
| TEMP. (℃) | POWER SUPPLY (Vac) | 0 MINUTE | | 2 MINUTE | | 5 MINUTE | | 10 MINUTE | |
| | | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) |
| 50 | 120 | 5239.9915 | -0.00016 | 5239.9917 | -0.00016 | 5239.9942 | -0.00011 | 5239.9915 | -0.00016 |
| 40 | 120 | 5239.9836 | -0.00031 | 5239.9838 | -0.00031 | 5239.9835 | -0.00031 | 5239.9832 | -0.00032 |
| 30 | 120 | 5239.9803 | -0.00038 | 5239.9813 | -0.00036 | 5239.9783 | -0.00041 | 5239.9828 | -0.00033 |
| 20 | 120 | 5239.9978 | -0.00004 | 5239.9967 | -0.00006 | 5239.9957 | -0.00008 | 5239.9979 | -0.00004 |
| 10 | 120 | 5239.991 | -0.00017 | 5239.995 | -0.00010 | 5239.994 | -0.00011 | 5239.9931 | -0.00013 |
| 0 | 120 | 5239.9837 | -0.00031 | 5239.9824 | -0.00034 | 5239.9833 | -0.00032 | 5239.9839 | -0.00031 |
| -10 | 120 | 5240.0055 | 0.00010 | 5240.0022 | 0.00004 | 5240.0041 | 0.00008 | 5240.0028 | 0.00005 |
| -20 | 120 | 5240.0249 | 0.00048 | 5240.0239 | 0.00046 | 5240.0262 | 0.00050 | 5240.0238 | 0.00045 |
| -30 | 120 | 5240.0194 | 0.00037 | 5240.0199 | 0.00038 | 5240.0189 | 0.00036 | 5240.0184 | 0.00035 |

| FREQUEMCY STABILITY VERSUS TEMP. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| OPERATING FREQUENCY: 5240MHz | | | | | | | | | |
| TEMP. (℃) | POWER SUPPLY (Vac) | 0 MINUTE | | 2 MINUTE | | 5 MINUTE | | 10 MINUTE | |
| | | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) |
| 20 | 138 | 5239.998 | -0.00004 | 5239.9973 | -0.00005 | 5239.9957 | -0.00008 | 5239.997 | -0.00006 |
| | 120 | 5239.9978 | -0.00004 | 5239.9967 | -0.00006 | 5239.9957 | -0.00008 | 5239.9979 | -0.00004 |
| | 102 | 5239.9972 | -0.00005 | 5239.9965 | -0.00007 | 5239.9957 | -0.00008 | 5239.9976 | -0.00005 |

## STBC MODE:

| FREQUEMCY STABILITY VERSUS TEMP. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| OPERATING FREQUENCY: 5240MHz | | | | | | | | | |
| TEMP. (℃) | POWER SUPPLY (Vac) | 0 MINUTE | | 2 MINUTE | | 5 MINUTE | | 10 MINUTE | |
| | | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) |
| 50 | 120 | 5239.9758 | -0.00046 | 5239.9758 | -0.00046 | 5239.9751 | -0.00048 | 5239.978 | -0.00042 |
| 40 | 120 | 5240.0181 | 0.00035 | 5240.0134 | 0.00026 | 5240.0135 | 0.00026 | 5240.0133 | 0.00025 |
| 30 | 120 | 5239.9801 | -0.00038 | 5239.9846 | -0.00029 | 5239.9829 | -0.00033 | 5239.9847 | -0.00029 |
| 20 | 120 | 5239.9842 | -0.00030 | 5239.9875 | -0.00024 | 5239.9854 | -0.00028 | 5239.987 | -0.00025 |
| 10 | 120 | 5240.0252 | 0.00048 | 5240.0248 | 0.00047 | 5240.028 | 0.00053 | 5240.026 | 0.00050 |
| 0 | 120 | 5239.9796 | -0.00039 | 5239.9811 | -0.00036 | 5239.98 | -0.00038 | 5239.9827 | -0.00033 |
| -10 | 120 | 5240.0095 | 0.00018 | 5240.0114 | 0.00022 | 5240.0092 | 0.00018 | 5240.0112 | 0.00021 |
| -20 | 120 | 5240.0007 | 0.00001 | 5239.9963 | -0.00007 | 5239.9997 | -0.00001 | 5240.0004 | 0.00001 |
| -30 | 120 | 5240.0241 | 0.00046 | 5240.0241 | 0.00046 | 5240.026 | 0.00050 | 5240.0233 | 0.00044 |

| FREQUEMCY STABILITY VERSUS TEMP. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| OPERATING FREQUENCY: 5240MHz | | | | | | | | | |
| TEMP. (℃) | POWER SUPPLY (Vac) | 0 MINUTE | | 2 MINUTE | | 5 MINUTE | | 10 MINUTE | |
| | | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) |
| 20 | 138 | 5239.9832 | -0.00032 | 5239.9869 | -0.00025 | 5239.9859 | -0.00027 | 5239.9874 | -0.00024 |
| | 120 | 5239.9842 | -0.00030 | 5239.9875 | -0.00024 | 5239.9854 | -0.00028 | 5239.987 | -0.00025 |
| | 102 | 5239.9838 | -0.00031 | 5239.9866 | -0.00026 | 5239.9848 | -0.00029 | 5239.9868 | -0.00025 |

## BEAMFORMING MODE:

| FREQUEMCY STABILITY VERSUS TEMP. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| OPERATING FREQUENCY: 5240MHz | | | | | | | | | |
| TEMP. (℃) | POWER SUPPLY (Vac) | 0 MINUTE | | 2 MINUTE | | 5 MINUTE | | 10 MINUTE | |
| | | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) |
| 50 | 120 | 5239.9952 | -0.00009 | 5239.9926 | -0.00014 | 5239.9909 | -0.00017 | 5239.9918 | -0.00016 |
| 40 | 120 | 5239.9782 | -0.00042 | 5239.9746 | -0.00048 | 5239.9768 | -0.00044 | 5239.9748 | -0.00048 |
| 30 | 120 | 5240.0238 | 0.00045 | 5240.0256 | 0.00049 | 5240.0259 | 0.00049 | 5240.0248 | 0.00047 |
| 20 | 120 | 5240.0196 | 0.00037 | 5240.0194 | 0.00037 | 5240.0199 | 0.00038 | 5240.0206 | 0.00039 |
| 10 | 120 | 5239.9757 | -0.00046 | 5239.9754 | -0.00047 | 5239.9749 | -0.00048 | 5239.9793 | -0.00040 |
| 0 | 120 | 5240.0124 | 0.00024 | 5240.0121 | 0.00023 | 5240.0117 | 0.00022 | 5240.0112 | 0.00021 |
| -10 | 120 | 5239.9771 | -0.00044 | 5239.9771 | -0.00044 | 5239.9745 | -0.00049 | 5239.9752 | -0.00047 |
| -20 | 120 | 5239.9911 | -0.00017 | 5239.9919 | -0.00015 | 5239.9879 | -0.00023 | 5239.9916 | -0.00016 |
| -30 | 120 | 5239.9857 | -0.00027 | 5239.9862 | -0.00026 | 5239.9882 | -0.00023 | 5239.9857 | -0.00027 |

| FREQUEMCY STABILITY VERSUS TEMP. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| OPERATING FREQUENCY: 5240MHz | | | | | | | | | |
| TEMP. (℃) | POWER SUPPLY (Vac) | 0 MINUTE | | 2 MINUTE | | 5 MINUTE | | 10 MINUTE | |
| | | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) | Measured Frequency (MHz) | Frequency Drift (%) |
| 20 | 138 | 5240.0205 | 0.00039 | 5240.0189 | 0.00036 | 5240.0208 | 0.00040 | 5240.0209 | 0.00040 |
| | 120 | 5240.0196 | 0.00037 | 5240.0194 | 0.00037 | 5240.0199 | 0.00038 | 5240.0206 | 0.00039 |
| | 102 | 5240.0202 | 0.00039 | 5240.0193 | 0.00037 | 5240.0202 | 0.00039 | 5240.0213 | 0.00041 |

# 5. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

# 6. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:


**Linko EMC/RF Lab**:
Tel: 886-2-26052180
Fax: 886-2-26051924

**Hsin Chu EMC/RF/Telecom Lab**:
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**Email:** service.adt@tw.bureauveritas.com
**Web Site:** www.bureauveritas-adt.com


The address and road map of all our labs can be found in our web site also.

# 7. APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

**---END---**