

## FCC Test Report

**Report No.:** RF141227C17-1

**FCC ID:** 2ACTO-AP100C

**Test Model:** AP 100C

**Received Date:** Dec. 27, 2014

**Test Date:** Jan. 20 ~ Mar. 05, 2015

**Issued Date:** Mar. 12, 2015

**Applicant:** Sophos Ltd

**Address:** The Pentagon, Abingdon, OX14 3YP, United Kingdom

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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33383, TAIWAN (R.O.C.)



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### Release Control Record

| Issue No.     | Description       | Date Issued   |
|---------------|-------------------|---------------|
| RF141227C17-1 | Original release. | Mar. 12, 2015 |

## 1 Certificate of Conformity

**Product:** Sophos wireless Access Point AP 100C

**Brand:** Sophos

**Test Model:** AP 100C

**Sample Status:** Engineering sample

**Applicant:** Sophos Ltd

**Test Date:** Jan. 20 ~ Mar. 05, 2015

**Standard:** 47 CFR FCC Part 15, Subpart E (Section 15.407)  
ANSI C63.10:2009

The above equipment 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 :** , **Date:** Mar. 12, 2015  
Pettie Chen / Senior Specialist

**Approved by :** , **Date:** Mar. 12, 2015  
Ken Liu / Senior Manager

## 2 Summary of Test Results

| 47 CFR FCC Part 15, Subpart E (SECTION 15.407) |                                            |        |                                                                                                                                              |
|------------------------------------------------|--------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| FCC Clause                                     | Test Item                                  | Result | Remarks                                                                                                                                      |
| 15.407(b)(6)                                   | AC Power Conducted Emissions               | PASS   | Meet the requirement of limit.<br>Minimum passing margin is -16.17dB at 0.48041MHz.                                                          |
| 15.407(b)(1/2/3/4/6)                           | Radiated Emissions & Band Edge Measurement | PASS   | Meet the requirement of limit.<br>Minimum passing margin is -1.0dB at 5150.00, 5714.90, 11490.00, 11510.00, 11570.00, 15600.00, 16500.00MHz. |
| 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.<br>(U-NII-3 Band only)                                                                                        |
| 15.407(g)                                      | Frequency Stability                        | PASS   | Meet the requirement of limit.                                                                                                               |
| 15.203                                         | Antenna Requirement                        | PASS   | Ant. D, E: No antenna connector is used.<br>Ant. F: Antenna connector is I-PEX 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        | Expended Uncertainty (k=2) (±) |
|------------------------------------|------------------|--------------------------------|
| Conducted Emissions at mains ports | 150kHz ~ 30MHz   | 2.44 dB                        |
| Radiated Emissions up to 1 GHz     | 30MHz ~ 200MHz   | 3.63 dB                        |
|                                    | 200MHz ~ 1000MHz | 3.64 dB                        |
| Radiated Emissions above 1 GHz     | 1GHz ~ 18GHz     | 2.29 dB                        |
|                                    | 18GHz ~ 40GHz    | 2.29 dB                        |

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product               | Sophos wireless Access Point AP 100C                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Brand                 | Sophos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Test Model            | AP 100C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Status of EUT         | Engineering sample                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Power Supply Rating   | 12Vdc (adapter)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Modulation Type       | 64QAM, 16QAM, QPSK, BPSK                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 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 & 5745 ~ 5825MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Number of Channel     | 5180 ~ 5240MHz:<br>4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20)<br>2 for 802.11n (HT40), 802.11ac (VHT40)<br>1 for 802.11ac (VHT80)<br>5745 ~ 5825MHz:<br>5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20)<br>2 for 802.11n (HT40), 802.11ac (VHT40)<br>1 for 802.11ac (VHT80)                                                                                                                                                                                                                  |
| Output Power          | <b>1TX:</b><br>802.11a:<br>5180 ~ 5240MHz: 214.783mW<br>5745 ~ 5825MHz: 76.208mW<br><b>2TX:</b><br>802.11n (HT20):<br>5180 ~ 5240MHz: 406.704mW<br>5745 ~ 5825MHz: 67.560 mW<br>802.11n (HT40):<br>5180 ~ 5240MHz: 453.974mW<br>5745 ~ 5825MHz: 97.895mW<br>802.11ac (VHT20):<br>5180 ~ 5240MHz: 414.934mW<br>5745 ~ 5825MHz: 66.705mW<br>802.11ac (VHT40):<br>5180 ~ 5240MHz: 467.769mW<br>5745 ~ 5825MHz: 96.038mW<br>802.11ac (VHT80):<br>5180 ~ 5240MHz: 82.421mW<br>5745 ~ 5825MHz: 66.716mW |

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Output Power        | <b>3TX:</b><br>802.11n (HT20):<br>5180 ~ 5240MHz: 386.333mW<br>5745 ~ 5825MHz: 88.595mW<br>802.11n (HT40):<br>5180 ~ 5240MHz: 647.225mW<br>5745 ~ 5825MHz: 120.565mW<br>802.11ac (VHT20):<br>5180 ~ 5240MHz: 378.003mW<br>5745 ~ 5825MHz: 89.898mW<br>802.11ac (VHT40):<br>5180 ~ 5240MHz: 641.813mW<br>5745 ~ 5825MHz: 118.867mW<br>802.11ac (VHT80):<br>5180 ~ 5240MHz: 96.617mW<br>5745 ~ 5825MHz: 86.153mW |
| Antenna Type        | Refer to Note                                                                                                                                                                                                                                                                                                                                                                                                  |
| Antenna Connector   | Refer to Note                                                                                                                                                                                                                                                                                                                                                                                                  |
| Accessory Device    | NA                                                                                                                                                                                                                                                                                                                                                                                                             |
| Data Cable Supplied | NA                                                                                                                                                                                                                                                                                                                                                                                                             |

Note:

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

| Modulation Mode  | TX FUNCTION  |
|------------------|--------------|
| 802.11a          | 1TX (Ant. D) |
| 802.11n (HT20)   | 2TX/3TX      |
| 802.11n (HT40)   | 2TX/3TX      |
| 802.11ac (VHT20) | 2TX/3TX      |
| 802.11ac (VHT40) | 2TX/3TX      |
| 802.11ac (VHT80) | 2TX/3TX      |

\*The EUT doesn't support diversity function in 802.11a and 2TX of 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40) & 802.11ac (VHT80).

\*For 802.11a was fixed in Antenna D.

\*For 2TX of 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40) & 802.11ac (VHT80) were fixed in Antenna D & E

\*The EUT doesn't support beamforming function.

- The EUT uses following adapter. (Support unit only)

|              |                               |
|--------------|-------------------------------|
| Brand        | Asian Power Devices Inc.      |
| Model        | WA-18Q12R                     |
| Input Power  | 100-240Vac ~50-60Hz 0.5A Max. |
| Output Power | 12Vdc / 1.5A                  |
| Power Line   | 1.5m cable without core       |

- The following antennas were provided to the EUT.

| Antenna Type | P/N                | Gain (dBi) | Antenna Connector |
|--------------|--------------------|------------|-------------------|
| Ant. D       | RFMTA100800NN5B001 | 6.13       | NA                |
| Ant. E       | RFMTA100800NN5B002 | 5.96       | NA                |
| Ant. F       | RFMTA150719IM5B301 | 6.27       | I-PEX             |

4. 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

#### FOR 5180 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 36      | 5180 MHz  | 44      | 5220 MHz  |
| 40      | 5200 MHz  | 48      | 5240 MHz  |

2 channels are provided for 802.11n (HT40), 802.11ac (40MHz):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 38      | 5190 MHz  | 46      | 5230 MHz  |

1 channel is provided for 802.11ac (VHT80):

| Channel | Frequency |
|---------|-----------|
| 42      | 5210MHz   |

#### FOR 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 149     | 5745MHz   | 161     | 5805MHz   |
| 153     | 5765MHz   | 165     | 5825MHz   |
| 157     | 5785MHz   |         |           |

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 151     | 5755MHz   | 159     | 5795MHz   |

1 channel is provided for 802.11ac (VHT80):

| Channel | Frequency |
|---------|-----------|
| 155     | 5775MHz   |

### 3.2.1 Test Mode Applicability and Tested Channel Detail

| EUT<br>CONFIGURE<br>MODE | APPLICABLE TO |       |     |      | DESCRIPTION |
|--------------------------|---------------|-------|-----|------|-------------|
|                          | RE $\geq$ 1G  | RE<1G | PLC | APCM |             |
| -                        | √             | √     | √   | √    | -           |

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

#### NOTE:

1. 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<br>CONFIGURE<br>MODE | MODE             | FREQ.<br>BAND<br>(MHz) | AVAILABLE<br>CHANNEL | TESTED<br>CHANNEL | MODULATION<br>TECHNOLOGY | MODULATION<br>TYPE | DATA<br>RATE<br>(Mbps) | TX<br>FUNCTION |
|--------------------------|------------------|------------------------|----------------------|-------------------|--------------------------|--------------------|------------------------|----------------|
| -                        | 802.11a          | 5180-5240              | 36 to 48             | 36, 40, 48        | OFDM                     | BPSK               | 6.0                    | 1TX            |
| -                        | 802.11n (HT20)   |                        | 36 to 48             | 36, 40, 48        | OFDM                     | BPSK               | 6.5                    | 2TX/3TX        |
| -                        | 802.11n (HT40)   |                        | 38 to 46             | 38, 46            | OFDM                     | BPSK               | 13.5                   | 2TX/3TX        |
| -                        | 802.11ac (VHT20) |                        | 36 to 48             | 36, 40, 48        | OFDM                     | BPSK               | 13.0                   | 2TX            |
| -                        |                  |                        | 36 to 48             | 36, 40, 48        | OFDM                     | BPSK               | 19.5                   | 3TX            |
| -                        | 802.11ac (VHT40) |                        | 38 to 46             | 38, 46            | OFDM                     | BPSK               | 27.0                   | 2TX            |
| -                        |                  |                        | 38 to 46             | 38, 46            | OFDM                     | BPSK               | 40.5                   | 3TX            |
| -                        | 802.11ac (VHT80) |                        | 42                   | 42                | OFDM                     | BPSK               | 58.5                   | 2TX            |
| -                        |                  |                        | 42                   | 42                | OFDM                     | BPSK               | 87.5                   | 3TX            |
| -                        | 802.11a          | 5745-5825              | 149 to 165           | 149, 157, 165     | OFDM                     | BPSK               | 6.0                    | 1TX            |
| -                        | 802.11n (HT20)   |                        | 149 to 165           | 149, 157, 165     | OFDM                     | BPSK               | 6.5                    | 2TX/3TX        |
| -                        | 802.11n (HT40)   |                        | 151 to 159           | 151, 159          | OFDM                     | BPSK               | 13.5                   | 2TX/3TX        |
| -                        | 802.11ac (VHT20) |                        | 149 to 165           | 149, 157, 165     | OFDM                     | BPSK               | 13.0                   | 2TX            |
| -                        |                  |                        | 149 to 165           | 149, 157, 165     | OFDM                     | BPSK               | 19.5                   | 3TX            |
| -                        | 802.11ac (VHT40) |                        | 151 to 159           | 151, 159          | OFDM                     | BPSK               | 27.0                   | 2TX            |
| -                        |                  |                        | 151 to 159           | 151, 159          | OFDM                     | BPSK               | 40.5                   | 3TX            |
| -                        | 802.11ac (VHT80) |                        | 155                  | 155               | OFDM                     | BPSK               | 58.5                   | 2TX            |
| -                        |                  |                        | 155                  | 155               | OFDM                     | BPSK               | 87.5                   | 3TX            |

### **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<br>CONFIGURE<br>MODE | MODE             | FREQ.<br>BAND<br>(MHz) | AVAILABLE<br>CHANNEL   | TESTED<br>CHANNEL | MODULATION<br>TECHNOLOGY | MODULATION<br>TYPE | DATA<br>RATE<br>(Mbps) | TX<br>FUNCTION |
|--------------------------|------------------|------------------------|------------------------|-------------------|--------------------------|--------------------|------------------------|----------------|
| -                        | 802.11ac (VHT20) | 5180-5320<br>5745-5825 | 36 to 64<br>149 to 165 | 40                | OFDM                     | BPSK               | 13.0                   | 2TX            |

### **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<br>CONFIGURE<br>MODE | MODE             | FREQ.<br>BAND<br>(MHz) | AVAILABLE<br>CHANNEL   | TESTED<br>CHANNEL | MODULATION<br>TECHNOLOGY | MODULATION<br>TYPE | DATA<br>RATE<br>(Mbps) | TX<br>FUNCTION |
|--------------------------|------------------|------------------------|------------------------|-------------------|--------------------------|--------------------|------------------------|----------------|
| -                        | 802.11ac (VHT20) | 5180-5320<br>5745-5825 | 36 to 64<br>149 to 165 | 40                | OFDM                     | BPSK               | 13.0                   | 2TX            |

### 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<br>CONFIGURE<br>MODE | MODE             | FREQ.<br>BAND<br>(MHz) | AVAILABLE<br>CHANNEL | TESTED<br>CHANNEL | MODULATION<br>TECHNOLOGY | MODULATION<br>TYPE | DATA<br>RATE<br>(Mbps) | TX<br>FUNCTION |
|--------------------------|------------------|------------------------|----------------------|-------------------|--------------------------|--------------------|------------------------|----------------|
| -                        | 802.11a          | 5180-5240              | 36 to 48             | 36, 40, 48        | OFDM                     | BPSK               | 6.0                    | 1TX            |
| -                        | 802.11n (HT20)   |                        | 36 to 48             | 36, 40, 48        | OFDM                     | BPSK               | 6.5                    | 2TX/3TX        |
| -                        | 802.11n (HT40)   |                        | 38 to 46             | 38, 46            | OFDM                     | BPSK               | 13.5                   | 2TX/3TX        |
| -                        | 802.11ac (VHT20) |                        | 36 to 48             | 36, 40, 48        | OFDM                     | BPSK               | 13.0                   | 2TX            |
| -                        |                  |                        | 36 to 48             | 36, 40, 48        | OFDM                     | BPSK               | 19.5                   | 3TX            |
| -                        | 802.11ac (VHT40) |                        | 38 to 46             | 38, 46            | OFDM                     | BPSK               | 27.0                   | 2TX            |
| -                        |                  |                        | 38 to 46             | 38, 46            | OFDM                     | BPSK               | 40.5                   | 3TX            |
| -                        | 802.11ac (VHT80) |                        | 42                   | 42                | OFDM                     | BPSK               | 58.5                   | 2TX            |
| -                        |                  |                        | 42                   | 42                | OFDM                     | BPSK               | 87.5                   | 3TX            |
| -                        | 802.11a          | 5745-5825              | 149 to 165           | 149, 157, 165     | OFDM                     | BPSK               | 6.0                    | 1TX            |
| -                        | 802.11n (HT20)   |                        | 149 to 165           | 149, 157, 165     | OFDM                     | BPSK               | 6.5                    | 2TX/3TX        |
| -                        | 802.11n (HT40)   |                        | 151 to 159           | 151, 159          | OFDM                     | BPSK               | 13.5                   | 2TX/3TX        |
| -                        | 802.11ac (VHT20) |                        | 149 to 165           | 149, 157, 165     | OFDM                     | BPSK               | 13.0                   | 2TX            |
| -                        |                  |                        | 149 to 165           | 149, 157, 165     | OFDM                     | BPSK               | 19.5                   | 3TX            |
| -                        | 802.11ac (VHT40) |                        | 151 to 159           | 151, 159          | OFDM                     | BPSK               | 27.0                   | 2TX            |
| -                        |                  |                        | 151 to 159           | 151, 159          | OFDM                     | BPSK               | 40.5                   | 3TX            |
| -                        | 802.11ac (VHT80) |                        | 155                  | 155               | OFDM                     | BPSK               | 58.5                   | 2TX            |
| -                        |                  |                        | 155                  | 155               | OFDM                     | BPSK               | 87.5                   | 3TX            |

### Test Condition:

| APPLICABLE TO | ENVIRONMENTAL CONDITIONS | INPUT POWER  | TESTED BY |
|---------------|--------------------------|--------------|-----------|
| RE $\geq$ 1G  | 25deg. C, 60%RH          | 120Vac, 60Hz | Tank Wu   |
| RE $<$ 1G     | 25deg. C, 60%RH          | 120Vac, 60Hz | Tank Wu   |
| PLC           | 25deg. C, 60%RH          | 120Vac, 60Hz | Tank Wu   |
| APCM          | 25deg. C, 60%RH          | 120Vac, 60Hz | Nick Chen |

### 3.3 Duty Cycle of Test Signal

Duty cycle of test signal is  $\geq 98\%$ , duty factor is not required.

**802.11a\_1TX:** Duty cycle =  $23.8/24.05 = 0.99$

**802.11n (HT20)\_2TX:** Duty cycle =  $23.925/24.025 = 0.996$

**802.11n (HT40)\_2TX:** Duty cycle =  $23.925/24.05 = 0.995$

**802.11ac (VHT20)\_2TX:** Duty cycle =  $23.875/24 = 0.995$

**802.11ac (VHT40)\_2TX:** Duty cycle =  $23.925/24.125 = 0.992$

**802.11ac (VHT80)\_2TX:** Duty cycle =  $23.825/24.05 = 0.991$

**802.11n (HT20)\_3TX:** Duty cycle =  $23.825/24.125 = 0.988$

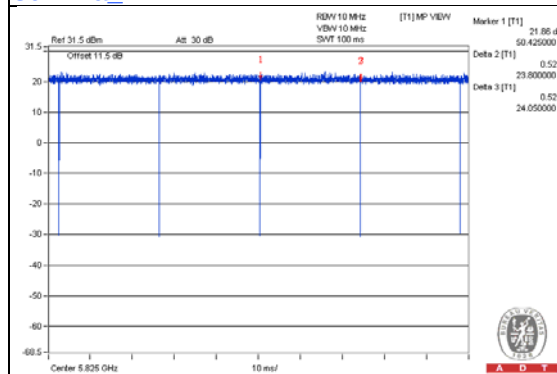
**802.11n (HT40)\_3TX:** Duty cycle =  $23.9/24.075 = 0.993$

**802.11ac (VHT20)\_3TX:** Duty cycle =  $23.875/23.975 = 0.996$

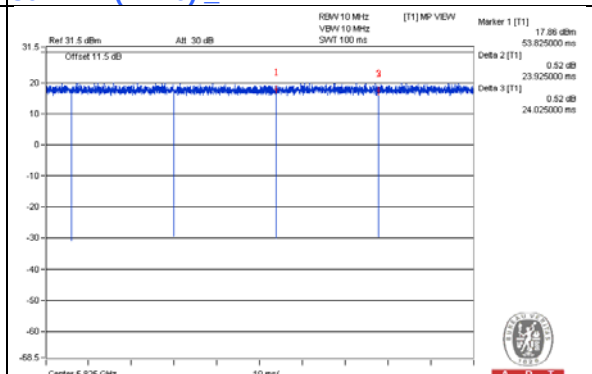
**802.11ac (VHT40)\_3TX:** Duty cycle =  $23.775/23.975 = 0.992$

**802.11ac (VHT80)\_3TX:** Duty cycle =  $23.9/24.05 = 0.994$

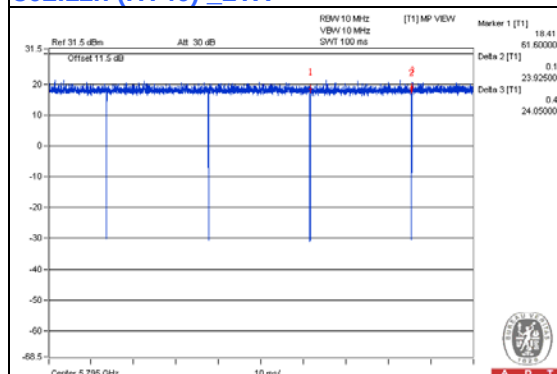
**802.11a\_1TX**



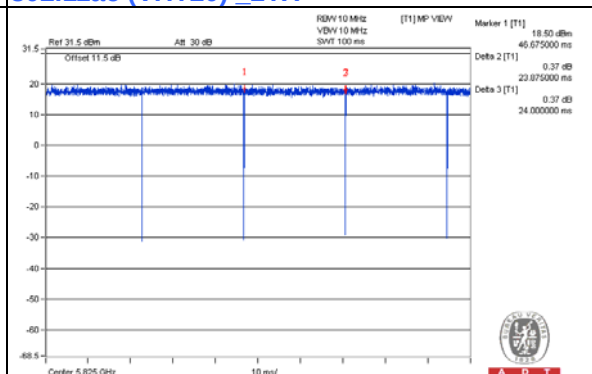
**802.11n (HT20)\_2TX**



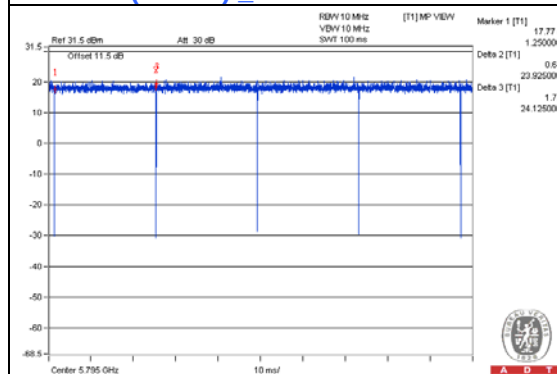
**802.11n (HT40)\_2TX**



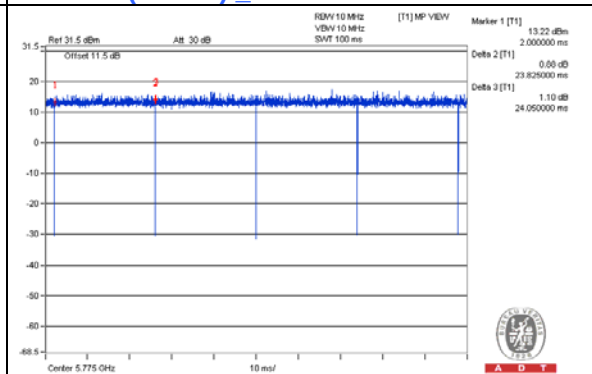
**802.11ac (VHT20)\_2TX**



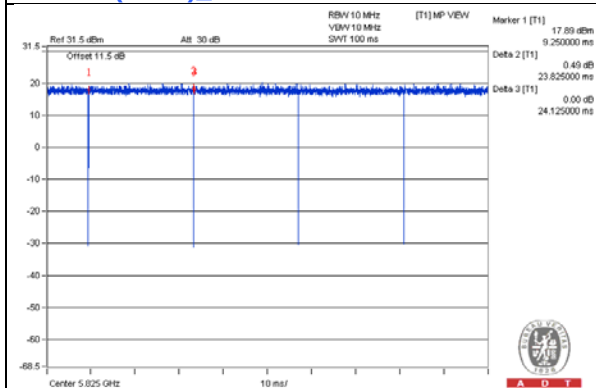
**802.11ac (VHT40)\_2TX**



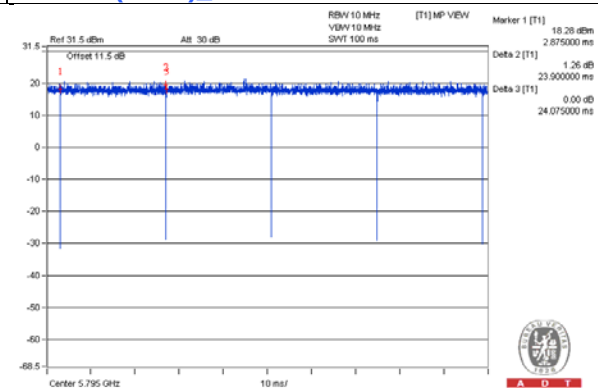
**802.11ac (VHT80)\_2TX**



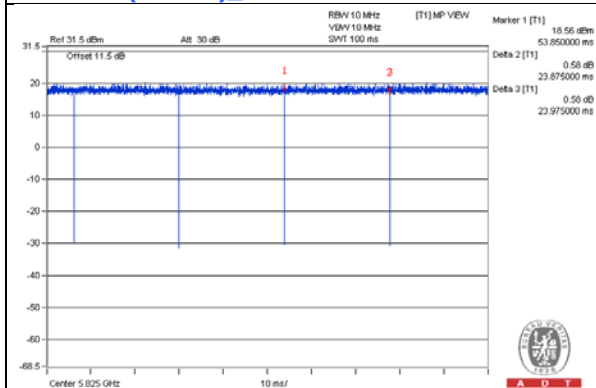
### 802.11n (HT20)\_3TX



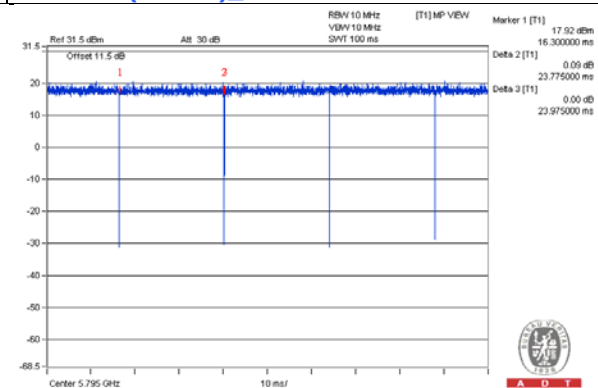
### 802.11n (HT40)\_3TX



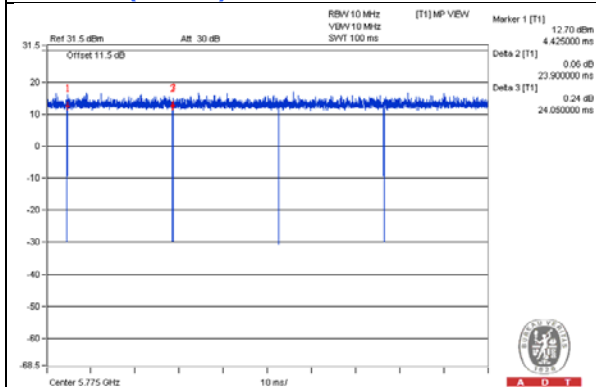
### 802.11ac (VHT20)\_3TX



### 802.11ac (VHT40)\_3TX



### 802.11ac (VHT80)\_3TX



### 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.

| ID | Product  | Brand                    | Model No. | Serial No. | FCC ID           | Remarks             |
|----|----------|--------------------------|-----------|------------|------------------|---------------------|
| A. | Notebook | DELL                     | E5410     | 1HC2XM1    | FCC DoC Approved | -                   |
| B. | Adapter  | Asian Power Devices Inc. | WA-18Q12R | NA         | NA               | Provided by client. |

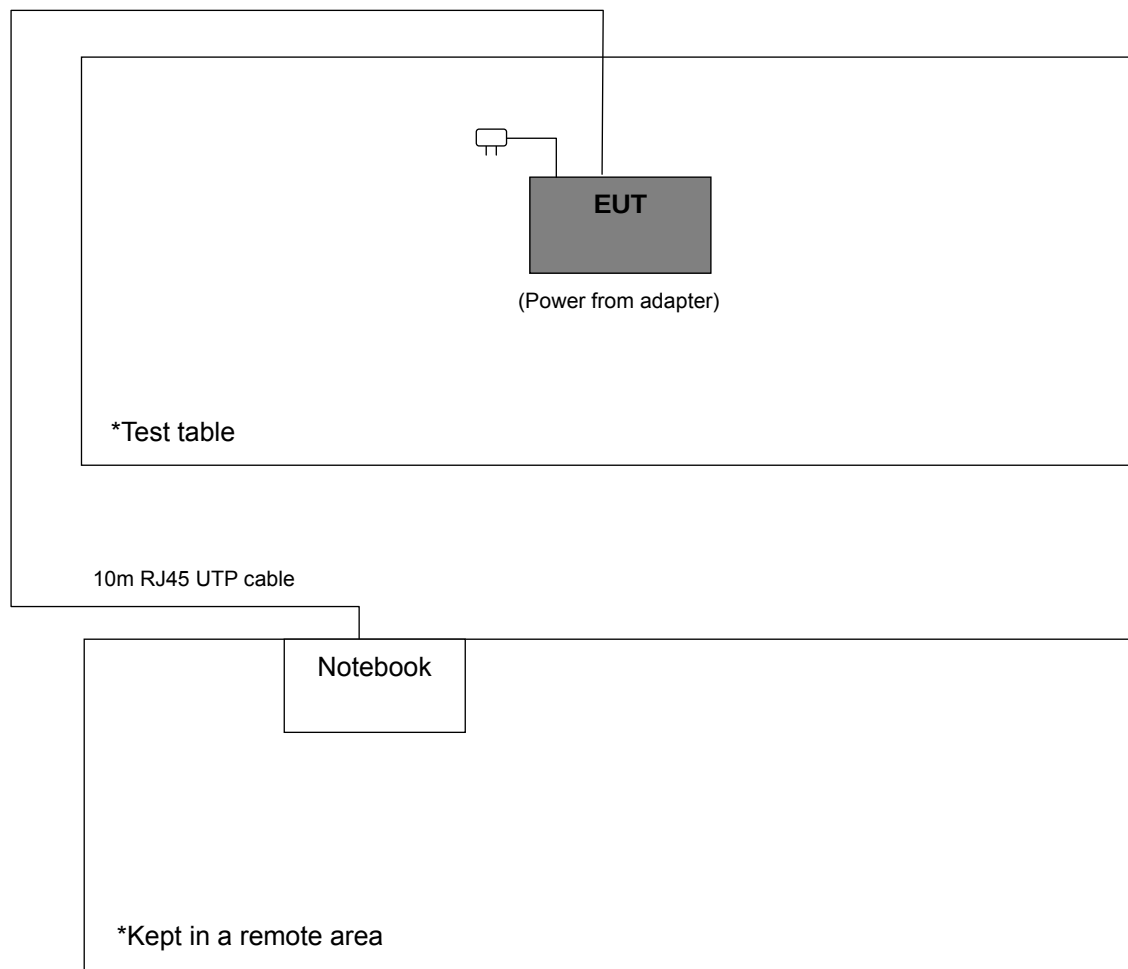
Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as communication partners to transfer data.

| ID | Descriptions | Qty. | Length (m) | Shielding (Yes/No) | Cores (Qty.) | Remarks |
|----|--------------|------|------------|--------------------|--------------|---------|
| 1. | RJ 45 cable  | 1    | 10         | N                  | 0            | -       |

Note: The core(s) is(are) originally attached to the cable(s).

#### 3.4.1 Configuration of System under Test



### 3.5 General Description of Applied Standard

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

**FCC Part 15, Subpart E (15.407)**

**789033 D02 General UNII Test Procedure 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.

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

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

**NOTE:** <sup>\*1</sup> beyond 10MHz of the band edge <sup>\*2</sup> within 10 MHz of band edge

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

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

#### 4.1.2 Test Instruments

| Description & Manufacturer                          | Model No.                    | Serial No.                       | Date Of Calibration | Due Date Of Calibration |
|-----------------------------------------------------|------------------------------|----------------------------------|---------------------|-------------------------|
| Test Receiver<br>ROHDE & SCHWARZ                    | ESCS30                       | 100289                           | Dec. 01, 2014       | Nov. 30, 2015           |
| Spectrum Analyzer<br>ROHDE & SCHWARZ                | E4446A                       | MY51100039                       | Aug. 18, 2014       | Aug. 17, 2015           |
| BILOG Antenna<br>SCHWARZBECK                        | VULB9168                     | 9168-156                         | Feb. 27, 2014       | Feb. 26, 2015           |
|                                                     |                              |                                  | Feb. 06, 2015       | Feb. 05, 2016           |
| HORN Antenna<br>SCHWARZBECK                         | BBHA 9120 D                  | 9120D-1169                       | Aug. 26, 2014       | Feb. 08, 2016           |
|                                                     |                              |                                  | Feb. 09, 2015       | Feb. 08, 2016           |
| HORN Antenna<br>SCHWARZBECK                         | BBHA 9170                    | BBHA9170241                      | Feb. 17, 2014       | Feb. 16, 2015           |
|                                                     |                              |                                  | Feb. 09, 2015       | Feb. 08, 2016           |
| Preamplifier<br>Agilent                             | 8449B                        | 3008A01911                       | Aug. 09, 2014       | Aug. 08, 2015           |
| Preamplifier<br>Agilent                             | 8447D                        | 2944A10638                       | Aug. 09, 2014       | Aug. 08, 2015           |
| RF signal cable<br>HUBER+SUHNNER                    | SUCOFLEX 104                 | 248780/4<br>309222/4<br>274092/4 | Aug. 09, 2014       | Aug. 08, 2015           |
| RF signal cable<br>Worken                           | 8D-FB                        | Cable-CH9-01                     | Aug. 11, 2014       | Aug. 10, 2015           |
| Software<br>BV ADT                                  | ADT_Radiated_<br>V7.6.15.9.4 | NA                               | NA                  | NA                      |
| Antenna Tower<br>EMCO                               | 2070/2080                    | 512.835.4684                     | NA                  | NA                      |
| Turn Table<br>EMCO                                  | 2087-2.03                    | NA                               | NA                  | NA                      |
| Antenna Tower & Turn<br>Table Controller<br>EMCO    | 2090                         | NA                               | NA                  | NA                      |
| High Speed Peak Power<br>Meter                      | ML2495A                      | 0824011                          | Jul. 26, 2014       | Jul. 25, 2015           |
| Power Sensor                                        | MA2411B                      | 0738171                          | Jul. 26, 2014       | Jul. 25, 2015           |
| WIT Standard<br>Temperature And<br>Humidity Chamber | TH-4S-C                      | W981030                          | Jun. 09, 2014       | Jun. 08, 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 9.
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 215374.
5. The IC Site Registration No. is IC 7450F-9.

#### 4.1.3 Test Procedure

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. 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 height of antenna 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 quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

**Note:**

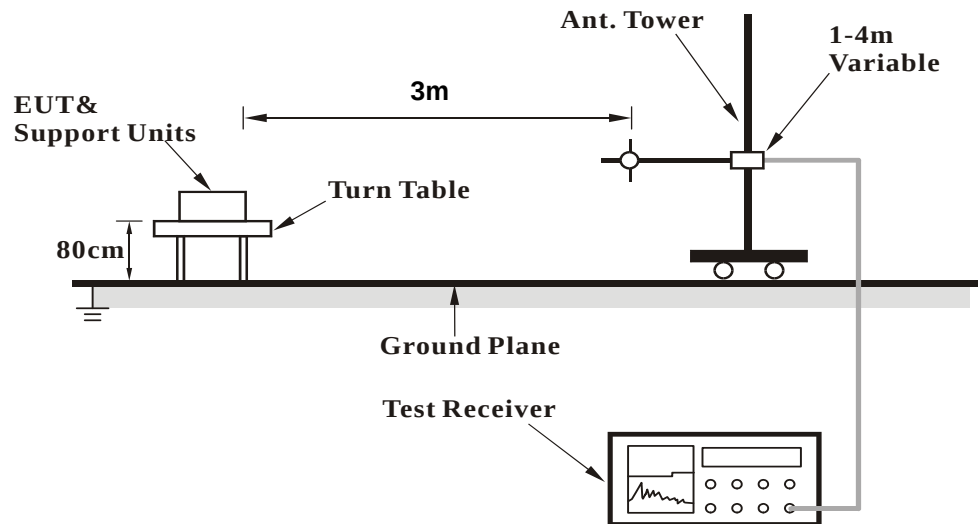
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ( $10 \log(1/\text{duty cycle})$ ).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle  $\geq 98\%$ ) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

#### 4.1.4 Deviation from Test Standard

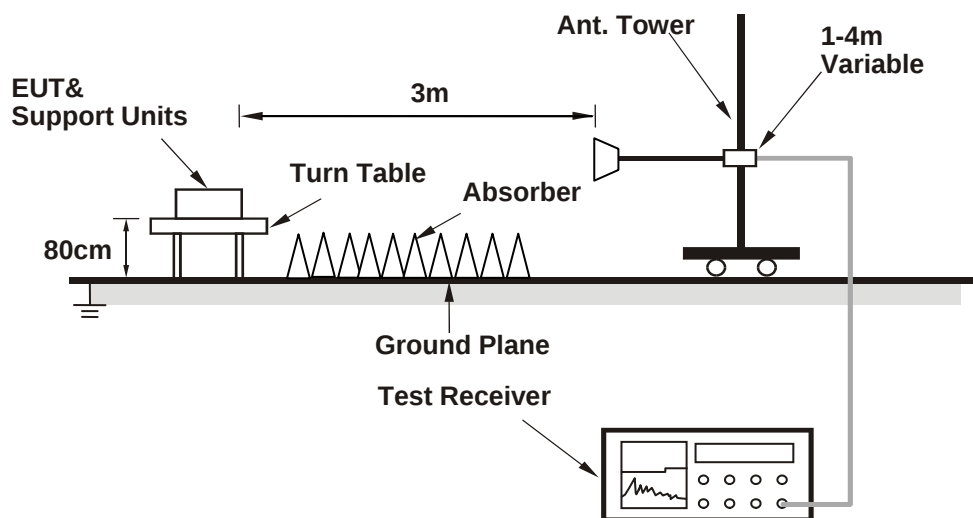
No deviation.

#### 4.1.5 Test Setup

##### <Frequency Range below 1GHz>



##### <Frequency Range above 1GHz>



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

#### 4.1.6 EUT Operating Conditions

- a. Placed the EUT on the testing table.
- b. Prepared notebooks to act as 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 partner sent data to EUT by command "PING".
- e. The necessary accessories enable the system in full functions.

#### 4.1.7 Test Results

##### ABOVE 1GHz DATA :

##### 802.11a\_1TX

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3453.00       | 48.5 PK                       | 74.0              | -25.5          | 1.06 H                   | 326                        | 50.30                  | -1.80                          |
| 2                                                   | #3453.00       | 44.1 AV                       | 54.0              | -9.9           | 1.06 H                   | 326                        | 45.90                  | -1.80                          |
| 3                                                   | 5150.00        | 65.8 PK                       | 74.0              | -8.2           | 1.14 H                   | 74                         | 63.80                  | 2.00                           |
| 4                                                   | 5150.00        | 52.4 AV                       | 54.0              | -1.6           | 1.14 H                   | 74                         | 50.40                  | 2.00                           |
| 5                                                   | *5180.00       | 114.2 PK                      |                   |                | 1.13 H                   | 69                         | 74.20                  | 40.00                          |
| 6                                                   | *5180.00       | 103.4 AV                      |                   |                | 1.13 H                   | 69                         | 63.40                  | 40.00                          |
| 7                                                   | #10360.00      | 61.2 PK                       | 74.0              | -12.8          | 1.23 H                   | 341                        | 46.20                  | 15.00                          |
| 8                                                   | #10360.00      | 47.1 AV                       | 54.0              | -6.9           | 1.23 H                   | 341                        | 32.10                  | 15.00                          |
| 9                                                   | 15540.00       | 63.5 PK                       | 74.0              | -10.5          | 1.00 H                   | 61                         | 47.60                  | 15.90                          |
| 10                                                  | 15540.00       | 50.3 AV                       | 54.0              | -3.7           | 1.00 H                   | 61                         | 34.40                  | 15.90                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3453.00       | 47.0 PK                       | 74.0              | -27.0          | 1.21 V                   | 32                         | 48.80                  | -1.80                          |
| 2                                                   | #3453.00       | 39.1 AV                       | 54.0              | -14.9          | 1.21 V                   | 32                         | 40.90                  | -1.80                          |
| 3                                                   | 5150.00        | 65.0 PK                       | 74.0              | -9.0           | 1.00 V                   | 30                         | 63.00                  | 2.00                           |
| 4                                                   | 5150.00        | 50.1 AV                       | 54.0              | -3.9           | 1.00 V                   | 30                         | 48.10                  | 2.00                           |
| 5                                                   | *5180.00       | 112.7 PK                      |                   |                | 1.00 V                   | 30                         | 72.70                  | 40.00                          |
| 6                                                   | *5180.00       | 102.5 AV                      |                   |                | 1.00 V                   | 30                         | 62.50                  | 40.00                          |
| 7                                                   | #10360.00      | 61.4 PK                       | 74.0              | -12.6          | 1.16 V                   | 18                         | 46.40                  | 15.00                          |
| 8                                                   | #10360.00      | 47.3 AV                       | 54.0              | -6.7           | 1.16 V                   | 18                         | 32.30                  | 15.00                          |
| 9                                                   | 15540.00       | 63.4 PK                       | 74.0              | -10.6          | 1.00 V                   | 45                         | 47.50                  | 15.90                          |
| 10                                                  | 15540.00       | 50.6 AV                       | 54.0              | -3.4           | 1.00 V                   | 45                         | 34.70                  | 15.90                          |

#### 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.

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3466.00       | 47.1 PK                       | 74.0              | -26.9          | 1.02 H                   | 263                        | 48.90                  | -1.80                          |
| 2                                                   | #3466.00       | 39.0 AV                       | 54.0              | -15.0          | 1.02 H                   | 263                        | 40.80                  | -1.80                          |
| 3                                                   | *5200.00       | 114.3 PK                      |                   |                | 1.01 H                   | 69                         | 74.20                  | 40.10                          |
| 4                                                   | *5200.00       | 103.8 AV                      |                   |                | 1.01 H                   | 69                         | 63.70                  | 40.10                          |
| 5                                                   | #10400.00      | 65.0 PK                       | 74.0              | -9.0           | 1.02 H                   | 18                         | 50.00                  | 15.00                          |
| 6                                                   | #10400.00      | 50.7 AV                       | 54.0              | -3.3           | 1.02 H                   | 18                         | 35.70                  | 15.00                          |
| 7                                                   | 15600.00       | 64.0 PK                       | 74.0              | -10.0          | 1.00 H                   | 18                         | 48.50                  | 15.50                          |
| 8                                                   | 15600.00       | 51.0 AV                       | 54.0              | -3.0           | 1.00 H                   | 18                         | 35.50                  | 15.50                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3466.00       | 46.4 PK                       | 74.0              | -27.6          | 1.02 V                   | 40                         | 48.20                  | -1.80                          |
| 2                                                   | #3466.00       | 38.6 AV                       | 54.0              | -15.4          | 1.02 V                   | 40                         | 40.40                  | -1.80                          |
| 3                                                   | *5200.00       | 114.8 PK                      |                   |                | 1.00 V                   | 32                         | 74.70                  | 40.10                          |
| 4                                                   | *5200.00       | 103.9 AV                      |                   |                | 1.00 V                   | 32                         | 63.80                  | 40.10                          |
| 5                                                   | #10400.00      | 59.5 PK                       | 74.0              | -14.5          | 1.00 V                   | 299                        | 44.50                  | 15.00                          |
| 6                                                   | #10400.00      | 46.8 AV                       | 54.0              | -7.2           | 1.00 V                   | 299                        | 31.80                  | 15.00                          |
| 7                                                   | 15600.00       | 70.0 PK                       | 74.0              | -4.0           | 1.01 V                   | 34                         | 54.50                  | 15.50                          |
| 8                                                   | 15600.00       | 52.6 AV                       | 54.0              | -1.4           | 1.01 V                   | 34                         | 37.10                  | 15.50                          |

#### 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.

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3493.00       | 49.1 PK                       | 74.0              | -24.9          | 1.23 H                   | 344                        | 50.90                  | -1.80                          |
| 2                                                   | #3493.00       | 43.4 AV                       | 54.0              | -10.6          | 1.23 H                   | 344                        | 45.20                  | -1.80                          |
| 3                                                   | *5240.00       | 115.8 PK                      |                   |                | 1.01 H                   | 61                         | 75.70                  | 40.10                          |
| 4                                                   | *5240.00       | 105.1 AV                      |                   |                | 1.01 H                   | 61                         | 65.00                  | 40.10                          |
| 5                                                   | 5350.00        | 57.9 PK                       | 74.0              | -16.1          | 1.01 H                   | 61                         | 55.90                  | 2.00                           |
| 6                                                   | 5350.00        | 45.5 AV                       | 54.0              | -8.5           | 1.01 H                   | 61                         | 43.50                  | 2.00                           |
| 7                                                   | #10480.00      | 60.0 PK                       | 74.0              | -14.0          | 1.00 H                   | 136                        | 44.90                  | 15.10                          |
| 8                                                   | #10480.00      | 46.9 AV                       | 54.0              | -7.1           | 1.00 H                   | 136                        | 31.80                  | 15.10                          |
| 9                                                   | 15720.00       | 62.0 PK                       | 74.0              | -12.0          | 1.19 H                   | 80                         | 47.10                  | 14.90                          |
| 10                                                  | 15720.00       | 49.7 AV                       | 54.0              | -4.3           | 1.19 H                   | 80                         | 34.80                  | 14.90                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | #3493.00       | 49.5 PK                       | 74.0              | -24.5          | 1.00 V                   | 310                        | 51.30                  | -1.80                          |
| 2                                                 | #3493.00       | 43.3 AV                       | 54.0              | -10.7          | 1.00 V                   | 310                        | 45.10                  | -1.80                          |
| 3                                                 | *5240.00       | 114.3 PK                      |                   |                | 1.00 V                   | 32                         | 74.20                  | 40.10                          |
| 4                                                 | *5240.00       | 103.4 AV                      |                   |                | 1.00 V                   | 32                         | 63.30                  | 40.10                          |
| 5                                                 | 5350.00        | 58.3 PK                       | 74.0              | -15.7          | 1.15 V                   | 34                         | 56.30                  | 2.00                           |
| 6                                                 | 5350.00        | 45.2 AV                       | 54.0              | -8.8           | 1.15 V                   | 34                         | 43.20                  | 2.00                           |
| 7                                                 | #10480.00      | 59.8 PK                       | 74.0              | -14.2          | 1.00 V                   | 139                        | 44.70                  | 15.10                          |
| 8                                                 | #10480.00      | 46.8 AV                       | 54.0              | -7.2           | 1.00 V                   | 139                        | 31.70                  | 15.10                          |
| 9                                                 | 15720.00       | 66.3 PK                       | 74.0              | -7.7           | 1.04 V                   | 29                         | 51.40                  | 14.90                          |
| 10                                                | 15720.00       | 52.4 AV                       | 54.0              | -1.6           | 1.04 V                   | 29                         | 37.50                  | 14.90                          |

#### 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 (HT20)\_2TX

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3453.00       | 44.9 PK                       | 74.0              | -29.1          | 1.12 H                   | 326                        | 46.70                  | -1.80                          |
| 2                                                   | #3453.00       | 34.2 AV                       | 54.0              | -19.8          | 1.12 H                   | 326                        | 36.00                  | -1.80                          |
| 3                                                   | 5150.00        | 66.4 PK                       | 74.0              | -7.6           | 1.25 H                   | 310                        | 64.40                  | 2.00                           |
| 4                                                   | 5150.00        | 51.1 AV                       | 54.0              | -2.9           | 1.25 H                   | 310                        | 49.10                  | 2.00                           |
| 5                                                   | *5180.00       | 114.2 PK                      |                   |                | 1.04 H                   | 58                         | 74.20                  | 40.00                          |
| 6                                                   | *5180.00       | 104.0 AV                      |                   |                | 1.04 H                   | 58                         | 64.00                  | 40.00                          |
| 7                                                   | #10360.00      | 59.7 PK                       | 74.0              | -14.3          | 1.00 H                   | 193                        | 44.70                  | 15.00                          |
| 8                                                   | #10360.00      | 46.7 AV                       | 54.0              | -7.3           | 1.00 H                   | 193                        | 31.70                  | 15.00                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3453.00       | 46.5 PK                       | 74.0              | -27.5          | 1.01 V                   | 36                         | 48.30                  | -1.80                          |
| 2                                                   | #3453.00       | 37.6 AV                       | 54.0              | -16.4          | 1.01 V                   | 36                         | 39.40                  | -1.80                          |
| 3                                                   | 5150.00        | 66.0 PK                       | 74.0              | -8.0           | 1.23 V                   | 70                         | 64.00                  | 2.00                           |
| 4                                                   | 5150.00        | 52.4 AV                       | 54.0              | -1.6           | 1.23 V                   | 70                         | 50.40                  | 2.00                           |
| 5                                                   | *5180.00       | 115.3 PK                      |                   |                | 1.01 V                   | 35                         | 75.30                  | 40.00                          |
| 6                                                   | *5180.00       | 105.5 AV                      |                   |                | 1.01 V                   | 35                         | 65.50                  | 40.00                          |
| 7                                                   | #10360.00      | 59.7 PK                       | 74.0              | -14.3          | 1.00 V                   | 132                        | 44.70                  | 15.00                          |
| 8                                                   | #10360.00      | 47.3 AV                       | 54.0              | -6.7           | 1.00 V                   | 132                        | 32.30                  | 15.00                          |

## 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.

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3466.00       | 45.4 PK                       | 74.0              | -28.6          | 1.08 H                   | 339                        | 47.20                  | -1.80                          |
| 2                                                   | #3466.00       | 34.0 AV                       | 54.0              | -20.0          | 1.08 H                   | 339                        | 35.80                  | -1.80                          |
| 3                                                   | *5200.00       | 117.5 PK                      |                   |                | 1.03 H                   | 58                         | 77.40                  | 40.10                          |
| 4                                                   | *5200.00       | 106.8 AV                      |                   |                | 1.03 H                   | 58                         | 66.70                  | 40.10                          |
| 5                                                   | #10400.00      | 60.8 PK                       | 74.0              | -13.2          | 1.00 H                   | 316                        | 45.80                  | 15.00                          |
| 6                                                   | #10400.00      | 47.3 AV                       | 54.0              | -6.7           | 1.00 H                   | 316                        | 32.30                  | 15.00                          |
| 7                                                   | 15600.00       | 65.4 PK                       | 74.0              | -8.6           | 1.00 H                   | 18                         | 49.90                  | 15.50                          |
| 8                                                   | 15600.00       | 51.0 AV                       | 54.0              | -3.0           | 1.00 H                   | 18                         | 35.50                  | 15.50                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3466.00       | 47.8 PK                       | 74.0              | -26.2          | 1.00 V                   | 41                         | 49.60                  | -1.80                          |
| 2                                                   | #3466.00       | 37.4 AV                       | 54.0              | -16.6          | 1.00 V                   | 41                         | 39.20                  | -1.80                          |
| 3                                                   | *5200.00       | 119.5 PK                      |                   |                | 1.13 V                   | 34                         | 79.40                  | 40.10                          |
| 4                                                   | *5200.00       | 108.9 AV                      |                   |                | 1.13 V                   | 34                         | 68.80                  | 40.10                          |
| 5                                                   | #10400.00      | 60.2 PK                       | 74.0              | -13.8          | 1.00 V                   | 163                        | 45.20                  | 15.00                          |
| 6                                                   | #10400.00      | 47.2 AV                       | 54.0              | -6.8           | 1.00 V                   | 163                        | 32.20                  | 15.00                          |
| 7                                                   | 15600.00       | 67.8 PK                       | 74.0              | -6.2           | 1.09 V                   | 28                         | 52.30                  | 15.50                          |
| 8                                                   | 15600.00       | 52.9 AV                       | 54.0              | -1.1           | 1.09 V                   | 28                         | 37.40                  | 15.50                          |

#### 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.

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3493.00       | 45.1 PK                       | 74.0              | -28.9          | 1.33 H                   | 261                        | 46.90                  | -1.80                          |
| 2                                                   | #3493.00       | 33.9 AV                       | 54.0              | -20.1          | 1.33 H                   | 261                        | 35.70                  | -1.80                          |
| 3                                                   | *5240.00       | 117.3 PK                      |                   |                | 1.01 H                   | 59                         | 77.20                  | 40.10                          |
| 4                                                   | *5240.00       | 107.3 AV                      |                   |                | 1.01 H                   | 59                         | 67.20                  | 40.10                          |
| 5                                                   | 5350.00        | 58.7 PK                       | 74.0              | -15.3          | 1.15 H                   | 347                        | 56.70                  | 2.00                           |
| 6                                                   | 5350.00        | 45.2 AV                       | 54.0              | -8.8           | 1.15 H                   | 347                        | 43.20                  | 2.00                           |
| 7                                                   | #10480.00      | 60.0 PK                       | 74.0              | -14.0          | 1.00 H                   | 142                        | 44.90                  | 15.10                          |
| 8                                                   | #10480.00      | 47.2 AV                       | 54.0              | -6.8           | 1.00 H                   | 142                        | 32.10                  | 15.10                          |
| 9                                                   | 15720.00       | 63.7 PK                       | 74.0              | -10.3          | 1.00 H                   | 19                         | 48.80                  | 14.90                          |
| 10                                                  | 15720.00       | 49.8 AV                       | 54.0              | -4.2           | 1.00 H                   | 19                         | 34.90                  | 14.90                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | #3493.00       | 45.8 PK                       | 74.0              | -28.2          | 1.00 V                   | 30                         | 47.60                  | -1.80                          |
| 2                                                 | #3493.00       | 37.4 AV                       | 54.0              | -16.6          | 1.00 V                   | 30                         | 39.20                  | -1.80                          |
| 3                                                 | *5240.00       | 119.0 PK                      |                   |                | 1.00 V                   | 32                         | 78.90                  | 40.10                          |
| 4                                                 | *5240.00       | 108.6 AV                      |                   |                | 1.00 V                   | 32                         | 68.50                  | 40.10                          |
| 5                                                 | 5350.00        | 59.0 PK                       | 74.0              | -15.0          | 1.00 V                   | 6                          | 57.00                  | 2.00                           |
| 6                                                 | 5350.00        | 46.5 AV                       | 54.0              | -7.5           | 1.00 V                   | 6                          | 44.50                  | 2.00                           |
| 7                                                 | #10480.00      | 60.1 PK                       | 74.0              | -13.9          | 1.00 V                   | 79                         | 45.00                  | 15.10                          |
| 8                                                 | #10480.00      | 46.8 AV                       | 54.0              | -7.2           | 1.00 V                   | 79                         | 31.70                  | 15.10                          |
| 9                                                 | 15720.00       | 67.7 PK                       | 74.0              | -6.3           | 1.08 V                   | 28                         | 52.80                  | 14.90                          |
| 10                                                | 15720.00       | 52.2 AV                       | 54.0              | -1.8           | 1.08 V                   | 28                         | 37.30                  | 14.90                          |

#### 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 (HT40)\_2TX

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 68.9 PK                       | 74.0              | -5.1           | 1.26 H                   | 306                        | 66.90                  | 2.00                           |
| 2                                                   | 5150.00        | 53.0 AV                       | 54.0              | -1.0           | 1.26 H                   | 306                        | 51.00                  | 2.00                           |
| 3                                                   | *5190.00       | 110.8 PK                      |                   |                | 1.04 H                   | 54                         | 70.80                  | 40.00                          |
| 4                                                   | *5190.00       | 100.5 AV                      |                   |                | 1.04 H                   | 54                         | 60.50                  | 40.00                          |
| 5                                                   | #10380.00      | 61.0 PK                       | 74.0              | -13.0          | 1.02 H                   | 34                         | 46.00                  | 15.00                          |
| 6                                                   | #10380.00      | 47.6 AV                       | 54.0              | -6.4           | 1.02 H                   | 34                         | 32.60                  | 15.00                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 66.8 PK                       | 74.0              | -7.2           | 1.24 V                   | 71                         | 64.80                  | 2.00                           |
| 2                                                   | 5150.00        | 52.2 AV                       | 54.0              | -1.8           | 1.24 V                   | 71                         | 50.20                  | 2.00                           |
| 3                                                   | *5190.00       | 111.0 PK                      |                   |                | 1.00 V                   | 32                         | 71.00                  | 40.00                          |
| 4                                                   | *5190.00       | 101.3 AV                      |                   |                | 1.00 V                   | 32                         | 61.30                  | 40.00                          |
| 5                                                   | #10380.00      | 60.7 PK                       | 74.0              | -13.3          | 1.02 V                   | 64                         | 45.70                  | 15.00                          |
| 6                                                   | #10380.00      | 47.5 AV                       | 54.0              | -6.5           | 1.02 V                   | 64                         | 32.50                  | 15.00                          |

## 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.

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 70.3 PK                       | 74.0              | -3.7           | 1.18 H                   | 52                         | 68.30                  | 2.00                           |
| 2                                                   | 5150.00        | 52.5 AV                       | 54.0              | -1.5           | 1.18 H                   | 52                         | 50.50                  | 2.00                           |
| 3                                                   | *5230.00       | 115.3 PK                      |                   |                | 1.02 H                   | 57                         | 75.20                  | 40.10                          |
| 4                                                   | *5230.00       | 105.4 AV                      |                   |                | 1.02 H                   | 57                         | 65.30                  | 40.10                          |
| 5                                                   | 5350.00        | 58.9 PK                       | 74.0              | -15.1          | 1.00 H                   | 39                         | 56.90                  | 2.00                           |
| 6                                                   | 5350.00        | 45.3 AV                       | 54.0              | -8.7           | 1.00 H                   | 39                         | 43.30                  | 2.00                           |
| 7                                                   | #10460.00      | 60.5 PK                       | 74.0              | -13.5          | 1.02 H                   | 54                         | 45.50                  | 15.00                          |
| 8                                                   | #10460.00      | 47.2 AV                       | 54.0              | -6.8           | 1.02 H                   | 54                         | 32.20                  | 15.00                          |
| 9                                                   | 15690.00       | 62.8 PK                       | 74.0              | -11.2          | 1.00 H                   | 18                         | 47.80                  | 15.00                          |
| 10                                                  | 15690.00       | 49.5 AV                       | 54.0              | -4.5           | 1.00 H                   | 18                         | 34.50                  | 15.00                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 5150.00        | 67.4 PK                       | 74.0              | -6.6           | 1.00 V                   | 64                         | 65.40                  | 2.00                           |
| 2                                                 | 5150.00        | 52.8 AV                       | 54.0              | -1.2           | 1.00 V                   | 64                         | 50.80                  | 2.00                           |
| 3                                                 | *5230.00       | 116.4 PK                      |                   |                | 1.00 V                   | 32                         | 76.30                  | 40.10                          |
| 4                                                 | *5230.00       | 106.1 AV                      |                   |                | 1.00 V                   | 32                         | 66.00                  | 40.10                          |
| 5                                                 | 5350.00        | 60.0 PK                       | 74.0              | -14.0          | 1.00 V                   | 49                         | 58.00                  | 2.00                           |
| 6                                                 | 5350.00        | 46.7 AV                       | 54.0              | -7.3           | 1.00 V                   | 49                         | 44.70                  | 2.00                           |
| 7                                                 | #10460.00      | 60.6 PK                       | 74.0              | -13.4          | 1.02 V                   | 48                         | 45.60                  | 15.00                          |
| 8                                                 | #10460.00      | 47.5 AV                       | 54.0              | -6.5           | 1.02 V                   | 48                         | 32.50                  | 15.00                          |
| 9                                                 | 15690.00       | 66.9 PK                       | 74.0              | -7.1           | 1.08 V                   | 27                         | 51.90                  | 15.00                          |
| 10                                                | 15690.00       | 50.9 AV                       | 54.0              | -3.1           | 1.08 V                   | 27                         | 35.90                  | 15.00                          |

#### 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 (VHT20)\_2TX

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 67.6 PK                       | 74.0              | -6.4           | 1.30 H                   | 305                        | 65.60                  | 2.00                           |
| 2                                                   | 5150.00        | 52.7 AV                       | 54.0              | -1.3           | 1.30 H                   | 305                        | 50.70                  | 2.00                           |
| 3                                                   | *5180.00       | 114.2 PK                      |                   |                | 1.03 H                   | 60                         | 74.20                  | 40.00                          |
| 4                                                   | *5180.00       | 103.9 AV                      |                   |                | 1.03 H                   | 60                         | 63.90                  | 40.00                          |
| 5                                                   | #10360.00      | 60.1 PK                       | 74.0              | -13.9          | 1.02 H                   | 54                         | 45.10                  | 15.00                          |
| 6                                                   | #10360.00      | 47.2 AV                       | 54.0              | -6.8           | 1.02 H                   | 54                         | 32.20                  | 15.00                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 68.1 PK                       | 74.0              | -5.9           | 1.11 V                   | 67                         | 66.10                  | 2.00                           |
| 2                                                   | 5150.00        | 52.5 AV                       | 54.0              | -1.5           | 1.11 V                   | 67                         | 50.50                  | 2.00                           |
| 3                                                   | *5180.00       | 116.2 PK                      |                   |                | 1.01 V                   | 31                         | 76.20                  | 40.00                          |
| 4                                                   | *5180.00       | 105.9 AV                      |                   |                | 1.01 V                   | 31                         | 65.90                  | 40.00                          |
| 5                                                   | #10360.00      | 61.0 PK                       | 74.0              | -13.0          | 1.02 V                   | 65                         | 46.00                  | 15.00                          |
| 6                                                   | #10360.00      | 47.5 AV                       | 54.0              | -6.5           | 1.02 V                   | 65                         | 32.50                  | 15.00                          |

## 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.

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | *5200.00       | 117.8 PK                      |                   |                | 1.03 H                   | 59                         | 77.70                  | 40.10                          |
| 2                                                   | *5200.00       | 107.4 AV                      |                   |                | 1.03 H                   | 59                         | 67.30                  | 40.10                          |
| 3                                                   | #10400.00      | 60.3 PK                       | 74.0              | -13.7          | 1.02 H                   | 35                         | 45.30                  | 15.00                          |
| 4                                                   | #10400.00      | 47.5 AV                       | 54.0              | -6.5           | 1.02 H                   | 35                         | 32.50                  | 15.00                          |
| 5                                                   | 15600.00       | 69.7 PK                       | 74.0              | -4.3           | 1.01 H                   | 17                         | 54.20                  | 15.50                          |
| 6                                                   | 15600.00       | 51.4 AV                       | 54.0              | -2.6           | 1.01 H                   | 17                         | 35.90                  | 15.50                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | *5200.00       | 118.8 PK                      |                   |                | 1.00 V                   | 32                         | 78.70                  | 40.10                          |
| 2                                                   | *5200.00       | 108.5 AV                      |                   |                | 1.00 V                   | 32                         | 68.40                  | 40.10                          |
| 3                                                   | #10400.00      | 62.0 PK                       | 74.0              | -12.0          | 1.02 V                   | 34                         | 47.00                  | 15.00                          |
| 4                                                   | #10400.00      | 48.2 AV                       | 54.0              | -5.8           | 1.02 V                   | 34                         | 33.20                  | 15.00                          |
| 5                                                   | 15600.00       | 67.5 PK                       | 74.0              | -6.5           | 1.05 V                   | 31                         | 52.00                  | 15.50                          |
| 6                                                   | 15600.00       | 52.6 AV                       | 54.0              | -1.4           | 1.05 V                   | 31                         | 37.10                  | 15.50                          |

#### 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.

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | *5240.00       | 117.9 PK                      |                   |                | 1.02 H                   | 54                         | 77.80                  | 40.10                          |
| 2                                                   | *5240.00       | 107.7 AV                      |                   |                | 1.02 H                   | 54                         | 67.60                  | 40.10                          |
| 3                                                   | 5350.00        | 58.7 PK                       | 74.0              | -15.3          | 1.00 H                   | 50                         | 56.70                  | 2.00                           |
| 4                                                   | 5350.00        | 46.3 AV                       | 54.0              | -7.7           | 1.00 H                   | 50                         | 44.30                  | 2.00                           |
| 5                                                   | #10480.00      | 60.8 PK                       | 74.0              | -13.2          | 1.02 H                   | 34                         | 45.70                  | 15.10                          |
| 6                                                   | #10480.00      | 47.3 AV                       | 54.0              | -6.7           | 1.02 H                   | 34                         | 32.20                  | 15.10                          |
| 7                                                   | 15720.00       | 64.0 PK                       | 74.0              | -10.0          | 1.07 H                   | 32                         | 49.10                  | 14.90                          |
| 8                                                   | 15720.00       | 49.1 AV                       | 54.0              | -4.9           | 1.07 H                   | 32                         | 34.20                  | 14.90                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | *5240.00       | 118.9 PK                      |                   |                | 1.00 V                   | 30                         | 78.80                  | 40.10                          |
| 2                                                   | *5240.00       | 108.5 AV                      |                   |                | 1.00 V                   | 30                         | 68.40                  | 40.10                          |
| 3                                                   | 5350.00        | 59.5 PK                       | 74.0              | -14.5          | 1.01 V                   | 9                          | 57.50                  | 2.00                           |
| 4                                                   | 5350.00        | 46.3 AV                       | 54.0              | -7.7           | 1.01 V                   | 9                          | 44.30                  | 2.00                           |
| 5                                                   | #10480.00      | 61.0 PK                       | 74.0              | -13.0          | 1.55 V                   | 102                        | 45.90                  | 15.10                          |
| 6                                                   | #10480.00      | 47.6 AV                       | 54.0              | -6.4           | 1.55 V                   | 102                        | 32.50                  | 15.10                          |
| 7                                                   | 15720.00       | 67.6 PK                       | 74.0              | -6.4           | 1.08 V                   | 29                         | 52.70                  | 14.90                          |
| 8                                                   | 15720.00       | 52.4 AV                       | 54.0              | -1.6           | 1.08 V                   | 29                         | 37.50                  | 14.90                          |

#### 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 (VHT40)\_2TX

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 68.7 PK                       | 74.0              | -5.3           | 1.24 H                   | 86                         | 66.70                  | 2.00                           |
| 2                                                   | 5150.00        | 52.8 AV                       | 54.0              | -1.2           | 1.24 H                   | 86                         | 50.80                  | 2.00                           |
| 3                                                   | *5190.00       | 110.3 PK                      |                   |                | 1.02 H                   | 251                        | 70.30                  | 40.00                          |
| 4                                                   | *5190.00       | 100.0 AV                      |                   |                | 1.02 H                   | 251                        | 60.00                  | 40.00                          |
| 5                                                   | #10380.00      | 60.6 PK                       | 74.0              | -13.4          | 1.25 H                   | 66                         | 45.60                  | 15.00                          |
| 6                                                   | #10380.00      | 47.4 AV                       | 54.0              | -6.6           | 1.25 H                   | 66                         | 32.40                  | 15.00                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 66.5 PK                       | 74.0              | -7.5           | 1.22 V                   | 58                         | 64.50                  | 2.00                           |
| 2                                                   | 5150.00        | 52.0 AV                       | 54.0              | -2.0           | 1.22 V                   | 58                         | 50.00                  | 2.00                           |
| 3                                                   | *5190.00       | 110.8 PK                      |                   |                | 1.02 V                   | 355                        | 70.80                  | 40.00                          |
| 4                                                   | *5190.00       | 101.0 AV                      |                   |                | 1.02 V                   | 355                        | 61.00                  | 40.00                          |
| 5                                                   | #10380.00      | 60.3 PK                       | 74.0              | -13.7          | 1.02 V                   | 65                         | 45.30                  | 15.00                          |
| 6                                                   | #10380.00      | 47.2 AV                       | 54.0              | -6.8           | 1.02 V                   | 65                         | 32.20                  | 15.00                          |

## 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.

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 70.0 PK                       | 74.0              | -4.0           | 1.21 H                   | 58                         | 68.00                  | 2.00                           |
| 2                                                   | 5150.00        | 52.4 AV                       | 54.0              | -1.6           | 1.21 H                   | 58                         | 50.40                  | 2.00                           |
| 3                                                   | *5230.00       | 115.1 PK                      |                   |                | 1.00 H                   | 63                         | 75.00                  | 40.10                          |
| 4                                                   | *5230.00       | 105.2 AV                      |                   |                | 1.00 H                   | 63                         | 65.10                  | 40.10                          |
| 5                                                   | 5350.00        | 58.5 PK                       | 74.0              | -15.5          | 1.02 H                   | 351                        | 56.50                  | 2.00                           |
| 6                                                   | 5350.00        | 45.1 AV                       | 54.0              | -8.9           | 1.02 H                   | 351                        | 43.10                  | 2.00                           |
| 7                                                   | #10460.00      | 60.3 PK                       | 74.0              | -13.7          | 1.02 H                   | 54                         | 45.30                  | 15.00                          |
| 8                                                   | #10460.00      | 47.2 AV                       | 54.0              | -6.8           | 1.02 H                   | 54                         | 32.20                  | 15.00                          |
| 9                                                   | 15690.00       | 62.2 PK                       | 74.0              | -11.8          | 1.00 H                   | 299                        | 47.20                  | 15.00                          |
| 10                                                  | 15690.00       | 49.2 AV                       | 54.0              | -4.8           | 1.00 H                   | 299                        | 34.20                  | 15.00                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | #5150.00       | 67.2 PK                       | 74.0              | -6.8           | 1.05 V                   | 24                         | 65.20                  | 2.00                           |
| 2                                                 | #5150.00       | 52.6 AV                       | 54.0              | -1.4           | 1.05 V                   | 24                         | 50.60                  | 2.00                           |
| 3                                                 | *5230.00       | 116.1 PK                      |                   |                | 1.52 V                   | 44                         | 76.00                  | 40.10                          |
| 4                                                 | *5230.00       | 95.8 AV                       |                   |                | 1.52 V                   | 44                         | 55.70                  | 40.10                          |
| 5                                                 | #5350.00       | 59.6 PK                       | 74.0              | -14.4          | 1.22 V                   | 65                         | 57.60                  | 2.00                           |
| 6                                                 | #5350.00       | 49.5 AV                       | 54.0              | -4.5           | 1.22 V                   | 65                         | 47.50                  | 2.00                           |
| 7                                                 | #10460.00      | 60.6 PK                       | 74.0              | -13.4          | 1.55 V                   | 99                         | 45.60                  | 15.00                          |
| 8                                                 | #10460.00      | 47.2 AV                       | 54.0              | -6.8           | 1.55 V                   | 99                         | 32.20                  | 15.00                          |
| 9                                                 | #15690.00      | 65.5 PK                       | 74.0              | -8.5           | 1.04 V                   | 74                         | 50.50                  | 15.00                          |
| 10                                                | #15690.00      | 50.2 AV                       | 54.0              | -3.8           | 1.04 V                   | 74                         | 35.20                  | 15.00                          |

#### 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 (VHT80)\_2TX

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 66.2 PK                       | 74.0              | -7.8           | 1.26 H                   | 53                         | 64.20                  | 2.00                           |
| 2                                                   | 5150.00        | 51.6 AV                       | 54.0              | -2.4           | 1.26 H                   | 53                         | 49.60                  | 2.00                           |
| 3                                                   | *5210.00       | 104.1 PK                      |                   |                | 1.02 H                   | 58                         | 64.00                  | 40.10                          |
| 4                                                   | *5210.00       | 94.3 AV                       |                   |                | 1.02 H                   | 58                         | 54.20                  | 40.10                          |
| 5                                                   | #10420.00      | 61.0 PK                       | 74.0              | -13.0          | 1.05 H                   | 34                         | 46.00                  | 15.00                          |
| 6                                                   | #10420.00      | 47.2 AV                       | 54.0              | -6.8           | 1.05 H                   | 34                         | 32.20                  | 15.00                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 66.8 PK                       | 74.0              | -7.2           | 1.18 V                   | 32                         | 64.80                  | 2.00                           |
| 2                                                   | 5150.00        | 52.6 AV                       | 54.0              | -1.4           | 1.18 V                   | 32                         | 50.60                  | 2.00                           |
| 3                                                   | *5210.00       | 105.6 PK                      |                   |                | 1.00 V                   | 31                         | 65.50                  | 40.10                          |
| 4                                                   | *5210.00       | 95.5 AV                       |                   |                | 1.00 V                   | 31                         | 55.40                  | 40.10                          |
| 5                                                   | #10420.00      | 60.2 PK                       | 74.0              | -13.8          | 1.00 V                   | 62                         | 45.20                  | 15.00                          |
| 6                                                   | #10420.00      | 48.2 AV                       | 54.0              | -5.8           | 1.00 V                   | 62                         | 33.20                  | 15.00                          |

## 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 (HT20)\_3TX

|                 |               |                   |              |
|-----------------|---------------|-------------------|--------------|
| 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                                                   | 5150.00     | 65.7 PK                 | 74.0           | -8.3        | 1.30 H             | 301                  | 63.70            | 2.00                     |
| 2                                                   | 5150.00     | 51.3 AV                 | 54.0           | -2.7        | 1.30 H             | 301                  | 49.30            | 2.00                     |
| 3                                                   | *5180.00    | 115.5 PK                |                |             | 1.03 H             | 62                   | 75.50            | 40.00                    |
| 4                                                   | *5180.00    | 105.7 AV                |                |             | 1.03 H             | 62                   | 65.70            | 40.00                    |
| 5                                                   | #10360.00   | 61.0 PK                 | 74.0           | -13.0       | 1.05 H             | 35                   | 46.00            | 15.00                    |
| 6                                                   | #10360.00   | 47.5 AV                 | 54.0           | -6.5        | 1.05 H             | 35                   | 32.50            | 15.00                    |
| 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        | 1.02 V             | 42                   | 65.30            | 2.00                     |
| 2                                                   | 5150.00     | 52.9 AV                 | 54.0           | -1.1        | 1.02 V             | 42                   | 50.90            | 2.00                     |
| 3                                                   | *5180.00    | 118.0 PK                |                |             | 1.03 V             | 37                   | 78.00            | 40.00                    |
| 4                                                   | *5180.00    | 107.2 AV                |                |             | 1.03 V             | 37                   | 67.20            | 40.00                    |
| 5                                                   | #10360.00   | 61.5 PK                 | 74.0           | -12.5       | 1.52 V             | 66                   | 46.50            | 15.00                    |
| 6                                                   | #10360.00   | 48.5 AV                 | 54.0           | -5.5        | 1.52 V             | 66                   | 33.50            | 15.00                    |

## REMARKS:

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

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

| <b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b> |                |                               |                   |                |                          |                            |                        |                                |
|----------------------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                            | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                              | *5200.00       | 117.2 PK                      |                   |                | 1.02 H                   | 64                         | 77.10                  | 40.10                          |
| 2                                                              | *5200.00       | 107.0 AV                      |                   |                | 1.02 H                   | 64                         | 66.90                  | 40.10                          |
| 3                                                              | #10400.00      | 60.7 PK                       | 74.0              | -13.3          | 1.02 H                   | 59                         | 45.70                  | 15.00                          |
| 4                                                              | #10400.00      | 47.5 AV                       | 54.0              | -6.5           | 1.02 H                   | 59                         | 32.50                  | 15.00                          |
| 5                                                              | 15600.00       | 65.3 PK                       | 74.0              | -8.7           | 1.00 H                   | 37                         | 49.80                  | 15.50                          |
| 6                                                              | 15600.00       | 50.9 AV                       | 54.0              | -3.1           | 1.00 H                   | 37                         | 35.40                  | 15.50                          |
| <b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                            | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                              | *5200.00       | 118.4 PK                      |                   |                | 1.02 V                   | 38                         | 78.30                  | 40.10                          |
| 2                                                              | *5200.00       | 108.6 AV                      |                   |                | 1.02 V                   | 38                         | 68.50                  | 40.10                          |
| 3                                                              | #10400.00      | 60.4 PK                       | 74.0              | -13.6          | 1.03 V                   | 4                          | 45.40                  | 15.00                          |
| 4                                                              | #10400.00      | 47.6 AV                       | 54.0              | -6.4           | 1.03 V                   | 4                          | 32.60                  | 15.00                          |
| 5                                                              | 15600.00       | 67.2 PK                       | 74.0              | -6.8           | 1.01 V                   | 2                          | 51.70                  | 15.50                          |
| 6                                                              | 15600.00       | 53.0 AV                       | 54.0              | -1.0           | 1.01 V                   | 2                          | 37.50                  | 15.50                          |

#### 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.

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | *5240.00       | 119.5 PK                      |                   |                | 1.03 H                   | 60                         | 79.40                  | 40.10                          |
| 2                                                   | *5240.00       | 109.3 AV                      |                   |                | 1.03 H                   | 60                         | 69.20                  | 40.10                          |
| 3                                                   | 5350.00        | 57.0 PK                       | 74.0              | -17.0          | 1.05 H                   | 94                         | 55.00                  | 2.00                           |
| 4                                                   | 5350.00        | 45.6 AV                       | 54.0              | -8.4           | 1.05 H                   | 94                         | 43.60                  | 2.00                           |
| 5                                                   | #10480.00      | 61.0 PK                       | 74.0              | -13.0          | 1.41 H                   | 58                         | 45.90                  | 15.10                          |
| 6                                                   | #10480.00      | 47.3 AV                       | 54.0              | -6.7           | 1.41 H                   | 58                         | 32.20                  | 15.10                          |
| 7                                                   | 15720.00       | 67.4 PK                       | 74.0              | -6.6           | 1.03 H                   | 36                         | 52.50                  | 14.90                          |
| 8                                                   | 15720.00       | 51.4 AV                       | 54.0              | -2.6           | 1.03 H                   | 36                         | 36.50                  | 14.90                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | *5240.00       | 119.9 PK                      |                   |                | 1.00 V                   | 39                         | 79.80                  | 40.10                          |
| 2                                                   | *5240.00       | 109.6 AV                      |                   |                | 1.00 V                   | 39                         | 69.50                  | 40.10                          |
| 3                                                   | 5350.00        | 57.8 PK                       | 74.0              | -16.2          | 1.02 V                   | 65                         | 55.80                  | 2.00                           |
| 4                                                   | 5350.00        | 47.2 AV                       | 54.0              | -6.8           | 1.02 V                   | 65                         | 45.20                  | 2.00                           |
| 5                                                   | #10480.00      | 61.1 PK                       | 74.0              | -12.9          | 1.05 V                   | 34                         | 46.00                  | 15.10                          |
| 6                                                   | #10480.00      | 47.6 AV                       | 54.0              | -6.4           | 1.05 V                   | 34                         | 32.50                  | 15.10                          |
| 7                                                   | 15720.00       | 69.5 PK                       | 74.0              | -4.5           | 1.08 V                   | 29                         | 54.60                  | 14.90                          |
| 8                                                   | 15720.00       | 52.4 AV                       | 54.0              | -1.6           | 1.08 V                   | 29                         | 37.50                  | 14.90                          |

#### 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 (HT40)\_3TX

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 63.7 PK                       | 74.0              | -10.3          | 1.32 H                   | 307                        | 61.70                  | 2.00                           |
| 2                                                   | 5150.00        | 51.1 AV                       | 54.0              | -2.9           | 1.32 H                   | 307                        | 49.10                  | 2.00                           |
| 3                                                   | *5190.00       | 110.5 PK                      |                   |                | 1.13 H                   | 72                         | 70.50                  | 40.00                          |
| 4                                                   | *5190.00       | 100.5 AV                      |                   |                | 1.13 H                   | 72                         | 60.50                  | 40.00                          |
| 5                                                   | #10380.00      | 59.5 PK                       | 74.0              | -14.5          | 1.00 H                   | 184                        | 44.50                  | 15.00                          |
| 6                                                   | #10380.00      | 47.0 AV                       | 54.0              | -7.0           | 1.00 H                   | 184                        | 32.00                  | 15.00                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 66.7 PK                       | 74.0              | -7.3           | 1.16 V                   | 26                         | 64.70                  | 2.00                           |
| 2                                                   | 5150.00        | 53.0 AV                       | 54.0              | -1.0           | 1.16 V                   | 26                         | 51.00                  | 2.00                           |
| 3                                                   | *5190.00       | 111.2 PK                      |                   |                | 1.01 V                   | 37                         | 71.20                  | 40.00                          |
| 4                                                   | *5190.00       | 100.9 AV                      |                   |                | 1.01 V                   | 37                         | 60.90                  | 40.00                          |
| 5                                                   | #10380.00      | 59.8 PK                       | 74.0              | -14.2          | 1.00 V                   | 269                        | 44.80                  | 15.00                          |
| 6                                                   | #10380.00      | 46.9 AV                       | 54.0              | -7.1           | 1.00 V                   | 269                        | 31.90                  | 15.00                          |

#### 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.

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 64.6 PK                       | 74.0              | -9.4           | 1.22 H                   | 302                        | 62.60                  | 2.00                           |
| 2                                                   | 5150.00        | 50.2 AV                       | 54.0              | -3.8           | 1.22 H                   | 302                        | 48.20                  | 2.00                           |
| 3                                                   | *5230.00       | 115.9 PK                      |                   |                | 1.36 H                   | 67                         | 75.80                  | 40.10                          |
| 4                                                   | *5230.00       | 105.6 AV                      |                   |                | 1.36 H                   | 67                         | 65.50                  | 40.10                          |
| 5                                                   | 5350.00        | 58.4 PK                       | 74.0              | -15.6          | 1.00 H                   | 292                        | 56.40                  | 2.00                           |
| 6                                                   | 5350.00        | 45.2 AV                       | 54.0              | -8.8           | 1.00 H                   | 292                        | 43.20                  | 2.00                           |
| 7                                                   | #10460.00      | 60.2 PK                       | 74.0              | -13.8          | 1.00 H                   | 63                         | 45.20                  | 15.00                          |
| 8                                                   | #10460.00      | 46.8 AV                       | 54.0              | -7.2           | 1.00 H                   | 63                         | 31.80                  | 15.00                          |
| 9                                                   | 15690.00       | 65.1 PK                       | 74.0              | -8.9           | 1.08 H                   | 32                         | 50.10                  | 15.00                          |
| 10                                                  | 15690.00       | 51.1 AV                       | 54.0              | -2.9           | 1.08 H                   | 32                         | 36.10                  | 15.00                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 5150.00        | 65.6 PK                       | 74.0              | -8.4           | 1.29 V                   | 17                         | 63.60                  | 2.00                           |
| 2                                                 | 5150.00        | 52.8 AV                       | 54.0              | -1.2           | 1.29 V                   | 17                         | 50.80                  | 2.00                           |
| 3                                                 | *5230.00       | 116.8 PK                      |                   |                | 1.00 V                   | 31                         | 76.70                  | 40.10                          |
| 4                                                 | *5230.00       | 106.6 AV                      |                   |                | 1.00 V                   | 31                         | 66.50                  | 40.10                          |
| 5                                                 | 5350.00        | 58.8 PK                       | 74.0              | -15.2          | 1.36 V                   | 3                          | 56.80                  | 2.00                           |
| 6                                                 | 5350.00        | 45.9 AV                       | 54.0              | -8.1           | 1.36 V                   | 3                          | 43.90                  | 2.00                           |
| 7                                                 | #10460.00      | 60.4 PK                       | 74.0              | -13.6          | 1.00 V                   | 257                        | 45.40                  | 15.00                          |
| 8                                                 | #10460.00      | 47.2 AV                       | 54.0              | -6.8           | 1.00 V                   | 257                        | 32.20                  | 15.00                          |
| 9                                                 | 15690.00       | 66.2 PK                       | 74.0              | -7.8           | 1.05 V                   | 26                         | 51.20                  | 15.00                          |
| 10                                                | 15690.00       | 50.9 AV                       | 54.0              | -3.1           | 1.05 V                   | 26                         | 35.90                  | 15.00                          |

#### 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 (VHT20)\_3TX

|                 |               |                   |              |
|-----------------|---------------|-------------------|--------------|
| 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                                                   | 5150.00     | 65.5 PK                 | 74.0           | -8.5        | 1.31 H             | 302                  | 63.50            | 2.00                     |
| 2                                                   | 5150.00     | 51.3 AV                 | 54.0           | -2.7        | 1.31 H             | 302                  | 49.30            | 2.00                     |
| 3                                                   | *5180.00    | 115.3 PK                |                |             | 1.05 H             | 84                   | 75.30            | 40.00                    |
| 4                                                   | *5180.00    | 105.5 AV                |                |             | 1.05 H             | 84                   | 65.50            | 40.00                    |
| 5                                                   | #10360.00   | 60.9 PK                 | 74.0           | -13.1       | 1.52 H             | 22                   | 45.90            | 15.00                    |
| 6                                                   | #10360.00   | 47.2 AV                 | 54.0           | -6.8        | 1.52 H             | 22                   | 32.20            | 15.00                    |
| 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        | 1.02 V             | 43                   | 65.20            | 2.00                     |
| 2                                                   | 5150.00     | 52.0 AV                 | 54.0           | -2.0        | 1.02 V             | 43                   | 50.00            | 2.00                     |
| 3                                                   | *5180.00    | 117.8 PK                |                |             | 1.00 V             | 35                   | 77.80            | 40.00                    |
| 4                                                   | *5180.00    | 107.0 AV                |                |             | 1.00 V             | 35                   | 67.00            | 40.00                    |
| 5                                                   | #10360.00   | 61.0 PK                 | 74.0           | -13.0       | 1.52 V             | 99                   | 46.00            | 15.00                    |
| 6                                                   | #10360.00   | 48.2 AV                 | 54.0           | -5.8        | 1.52 V             | 99                   | 33.20            | 15.00                    |

## 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.

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | *5200.00       | 117.1 PK                      |                   |                | 1.52 H                   | 96                         | 77.00                  | 40.10                          |
| 2                                                   | *5200.00       | 106.8 AV                      |                   |                | 1.52 H                   | 96                         | 66.70                  | 40.10                          |
| 3                                                   | #10400.00      | 58.6 PK                       | 74.0              | -15.4          | 1.51 H                   | 221                        | 43.60                  | 15.00                          |
| 4                                                   | #10400.00      | 47.2 AV                       | 54.0              | -6.8           | 1.51 H                   | 221                        | 32.20                  | 15.00                          |
| 5                                                   | 15600.00       | 65.0 PK                       | 74.0              | -9.0           | 1.52 H                   | 354                        | 49.50                  | 15.50                          |
| 6                                                   | 15600.00       | 50.6 AV                       | 54.0              | -3.4           | 1.52 H                   | 354                        | 35.10                  | 15.50                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | *5200.00       | 118.2 PK                      |                   |                | 1.00 V                   | 55                         | 78.10                  | 40.10                          |
| 2                                                   | *5200.00       | 105.4 AV                      |                   |                | 1.00 V                   | 55                         | 65.30                  | 40.10                          |
| 3                                                   | #10400.00      | 60.9 PK                       | 74.0              | -13.1          | 1.05 V                   | 95                         | 45.90                  | 15.00                          |
| 4                                                   | #10400.00      | 47.5 AV                       | 54.0              | -6.5           | 1.05 V                   | 95                         | 32.50                  | 15.00                          |
| 5                                                   | 15600.00       | 67.4 PK                       | 74.0              | -6.6           | 1.52 V                   | 78                         | 51.90                  | 15.50                          |
| 6                                                   | 15600.00       | 52.1 AV                       | 54.0              | -1.9           | 1.52 V                   | 78                         | 36.60                  | 15.50                          |

#### 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.

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | *5240.00       | 119.1 PK                      |                   |                | 1.05 H                   | 225                        | 79.00                  | 40.10                          |
| 2                                                   | *5240.00       | 109.2 AV                      |                   |                | 1.05 H                   | 225                        | 69.10                  | 40.10                          |
| 3                                                   | 5350.00        | 58.6 PK                       | 74.0              | -15.4          | 1.52 H                   | 88                         | 56.60                  | 2.00                           |
| 4                                                   | 5350.00        | 45.5 AV                       | 54.0              | -8.5           | 1.52 H                   | 88                         | 43.50                  | 2.00                           |
| 5                                                   | #10480.00      | 60.8 PK                       | 74.0              | -13.2          | 1.00 H                   | 335                        | 45.70                  | 15.10                          |
| 6                                                   | #10480.00      | 47.4 AV                       | 54.0              | -6.6           | 1.00 H                   | 335                        | 32.30                  | 15.10                          |
| 7                                                   | 15720.00       | 67.3 PK                       | 74.0              | -6.7           | 1.02 H                   | 24                         | 52.40                  | 14.90                          |
| 8                                                   | 15720.00       | 51.2 AV                       | 54.0              | -2.8           | 1.02 H                   | 24                         | 36.30                  | 14.90                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | *5240.00       | 119.8 PK                      |                   |                | 1.05 V                   | 74                         | 79.70                  | 40.10                          |
| 2                                                   | *5240.00       | 105.4 AV                      |                   |                | 1.05 V                   | 74                         | 65.30                  | 40.10                          |
| 3                                                   | 5350.00        | 57.1 PK                       | 74.0              | -16.9          | 1.52 V                   | 221                        | 55.10                  | 2.00                           |
| 4                                                   | 5350.00        | 47.1 AV                       | 54.0              | -6.9           | 1.52 V                   | 221                        | 45.10                  | 2.00                           |
| 5                                                   | #10480.00      | 60.4 PK                       | 74.0              | -13.6          | 1.54 V                   | 99                         | 45.30                  | 15.10                          |
| 6                                                   | #10480.00      | 47.4 AV                       | 54.0              | -6.6           | 1.54 V                   | 99                         | 32.30                  | 15.10                          |
| 7                                                   | 15720.00       | 69.2 PK                       | 74.0              | -4.8           | 1.84 V                   | 69                         | 54.30                  | 14.90                          |
| 8                                                   | 15720.00       | 52.3 AV                       | 54.0              | -1.7           | 1.84 V                   | 69                         | 37.40                  | 14.90                          |

#### 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 (VHT40)\_3TX

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 65.1 PK                       | 74.0              | -8.9           | 1.31 H                   | 307                        | 63.10                  | 2.00                           |
| 2                                                   | 5150.00        | 51.6 AV                       | 54.0              | -2.4           | 1.31 H                   | 307                        | 49.60                  | 2.00                           |
| 3                                                   | *5190.00       | 110.4 PK                      |                   |                | 1.13 H                   | 73                         | 70.40                  | 40.00                          |
| 4                                                   | *5190.00       | 100.3 AV                      |                   |                | 1.13 H                   | 73                         | 60.30                  | 40.00                          |
| 5                                                   | #10380.00      | 59.6 PK                       | 74.0              | -14.4          | 1.00 H                   | 179                        | 44.60                  | 15.00                          |
| 6                                                   | #10380.00      | 47.1 AV                       | 54.0              | -6.9           | 1.00 H                   | 179                        | 32.10                  | 15.00                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 66.6 PK                       | 74.0              | -7.4           | 1.15 V                   | 28                         | 64.60                  | 2.00                           |
| 2                                                   | 5150.00        | 52.9 AV                       | 54.0              | -1.1           | 1.15 V                   | 28                         | 50.90                  | 2.00                           |
| 3                                                   | *5190.00       | 104.5 PK                      |                   |                | 1.15 V                   | 27                         | 64.50                  | 40.00                          |
| 4                                                   | *5190.00       | 92.8 AV                       |                   |                | 1.15 V                   | 27                         | 52.80                  | 40.00                          |
| 5                                                   | #10380.00      | 59.9 PK                       | 74.0              | -14.1          | 1.00 V                   | 259                        | 44.90                  | 15.00                          |
| 6                                                   | #10380.00      | 47.0 AV                       | 54.0              | -7.0           | 1.00 V                   | 259                        | 32.00                  | 15.00                          |

## 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.

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 64.5 PK                       | 74.0              | -9.5           | 1.21 H                   | 312                        | 62.50                  | 2.00                           |
| 2                                                   | 5150.00        | 50.1 AV                       | 54.0              | -3.9           | 1.21 H                   | 312                        | 48.10                  | 2.00                           |
| 3                                                   | *5230.00       | 115.7 PK                      |                   |                | 1.35 H                   | 66                         | 75.60                  | 40.10                          |
| 4                                                   | *5230.00       | 105.4 AV                      |                   |                | 1.35 H                   | 66                         | 65.30                  | 40.10                          |
| 5                                                   | 5350.00        | 58.5 PK                       | 74.0              | -15.5          | 1.00 H                   | 296                        | 56.50                  | 2.00                           |
| 6                                                   | 5350.00        | 45.3 AV                       | 54.0              | -8.7           | 1.00 H                   | 296                        | 43.30                  | 2.00                           |
| 7                                                   | #10460.00      | 60.6 PK                       | 74.0              | -13.4          | 1.00 H                   | 66                         | 45.60                  | 15.00                          |
| 8                                                   | #10460.00      | 47.1 AV                       | 54.0              | -6.9           | 1.00 H                   | 66                         | 32.10                  | 15.00                          |
| 9                                                   | 15690.00       | 65.2 PK                       | 74.0              | -8.8           | 1.07 H                   | 33                         | 50.20                  | 15.00                          |
| 10                                                  | 15690.00       | 51.3 AV                       | 54.0              | -2.7           | 1.07 H                   | 33                         | 36.30                  | 15.00                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 5150.00        | 66.4 PK                       | 74.0              | -7.6           | 1.30 V                   | 19                         | 64.40                  | 2.00                           |
| 2                                                 | 5150.00        | 52.7 AV                       | 54.0              | -1.3           | 1.30 V                   | 19                         | 50.70                  | 2.00                           |
| 3                                                 | *5230.00       | 116.5 PK                      |                   |                | 1.00 V                   | 33                         | 76.40                  | 40.10                          |
| 4                                                 | *5230.00       | 106.3 AV                      |                   |                | 1.00 V                   | 33                         | 66.20                  | 40.10                          |
| 5                                                 | 5350.00        | 58.7 PK                       | 74.0              | -15.3          | 1.33 V                   | 10                         | 56.70                  | 2.00                           |
| 6                                                 | 5350.00        | 46.1 AV                       | 54.0              | -7.9           | 1.33 V                   | 10                         | 44.10                  | 2.00                           |
| 7                                                 | #10460.00      | 60.5 PK                       | 74.0              | -13.5          | 1.00 V                   | 259                        | 45.50                  | 15.00                          |
| 8                                                 | #10460.00      | 47.4 AV                       | 54.0              | -6.6           | 1.00 V                   | 259                        | 32.40                  | 15.00                          |
| 9                                                 | 15690.00       | 66.3 PK                       | 74.0              | -7.7           | 1.03 V                   | 27                         | 51.30                  | 15.00                          |
| 10                                                | 15690.00       | 50.8 AV                       | 54.0              | -3.2           | 1.03 V                   | 27                         | 35.80                  | 15.00                          |

#### 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 (VHT80)\_3TX

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

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 64.4 PK                       | 74.0              | -9.6           | 1.23 H                   | 300                        | 62.40                  | 2.00                           |
| 2                                                   | 5150.00        | 49.9 AV                       | 54.0              | -4.1           | 1.23 H                   | 300                        | 47.90                  | 2.00                           |
| 3                                                   | *5210.00       | 105.0 PK                      |                   |                | 1.38 H                   | 63                         | 64.90                  | 40.10                          |
| 4                                                   | *5210.00       | 94.9 AV                       |                   |                | 1.38 H                   | 63                         | 54.80                  | 40.10                          |
| 5                                                   | #10420.00      | 59.8 PK                       | 74.0              | -14.2          | 1.03 H                   | 36                         | 44.80                  | 15.00                          |
| 6                                                   | #10420.00      | 46.6 AV                       | 54.0              | -7.4           | 1.03 H                   | 36                         | 31.60                  | 15.00                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 5150.00        | 67.0 PK                       | 74.0              | -7.0           | 1.28 V                   | 16                         | 65.00                  | 2.00                           |
| 2                                                   | 5150.00        | 52.4 AV                       | 54.0              | -1.6           | 1.28 V                   | 16                         | 50.40                  | 2.00                           |
| 3                                                   | *5210.00       | 105.3 PK                      |                   |                | 1.00 V                   | 31                         | 65.20                  | 40.10                          |
| 4                                                   | *5210.00       | 95.8 AV                       |                   |                | 1.00 V                   | 31                         | 55.70                  | 40.10                          |
| 5                                                   | #10420.00      | 59.2 PK                       | 74.0              | -14.8          | 1.12 V                   | 110                        | 44.20                  | 15.00                          |
| 6                                                   | #10420.00      | 45.6 AV                       | 54.0              | -8.4           | 1.12 V                   | 110                        | 30.60                  | 15.00                          |

## 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.

## 802.11a\_1TX

|                 |                |                      |              |
|-----------------|----------------|----------------------|--------------|
| CHANNEL         | TX Channel 149 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 40GHz   |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3830.00        | 45.8 PK                       | 74.0              | -28.2          | 1.00 H                   | 13                         | 46.50                  | -0.70                          |
| 2                                                   | 3830.00        | 36.8 AV                       | 54.0              | -17.2          | 1.00 H                   | 13                         | 37.50                  | -0.70                          |
| 3                                                   | #5714.90       | 61.9 PK                       | 74.0              | -12.1          | 1.00 H                   | 89                         | 59.30                  | 2.60                           |
| 4                                                   | #5714.90       | 46.5 AV                       | 54.0              | -7.5           | 1.00 H                   | 89                         | 43.90                  | 2.60                           |
| 5                                                   | #5722.90       | 65.2 PK                       | 78.2              | -13.0          | 1.00 H                   | 86                         | 62.60                  | 2.60                           |
| 6                                                   | #5725.00       | 52.9 PK                       | 78.2              | -25.3          | 1.00 H                   | 78                         | 50.30                  | 2.60                           |
| 7                                                   | *5745.00       | 108.9 PK                      |                   |                | 1.00 H                   | 78                         | 67.90                  | 41.00                          |
| 8                                                   | *5745.00       | 98.3 AV                       |                   |                | 1.00 H                   | 78                         | 57.30                  | 41.00                          |
| 9                                                   | 11490.00       | 64.1 PK                       | 74.0              | -9.9           | 1.00 H                   | 353                        | 48.20                  | 15.90                          |
| 10                                                  | 11490.00       | 50.8 AV                       | 54.0              | -3.2           | 1.00 H                   | 353                        | 34.90                  | 15.90                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3830.00        | 46.3 PK                       | 74.0              | -27.7          | 1.00 V                   | 76                         | 47.00                  | -0.70                          |
| 2                                                   | 3830.00        | 37.1 AV                       | 54.0              | -16.9          | 1.00 V                   | 76                         | 37.80                  | -0.70                          |
| 3                                                   | #5714.90       | 61.1 PK                       | 74.0              | -12.9          | 1.00 V                   | 92                         | 58.50                  | 2.60                           |
| 4                                                   | #5714.90       | 46.3 AV                       | 54.0              | -7.7           | 1.00 V                   | 92                         | 43.70                  | 2.60                           |
| 5                                                   | #5722.90       | 67.0 PK                       | 78.2              | -11.2          | 1.00 V                   | 90                         | 64.40                  | 2.60                           |
| 6                                                   | #5725.00       | 52.2 PK                       | 78.2              | -26.0          | 1.00 V                   | 89                         | 49.60                  | 2.60                           |
| 7                                                   | *5745.00       | 109.2 PK                      |                   |                | 1.00 V                   | 89                         | 68.20                  | 41.00                          |
| 8                                                   | *5745.00       | 99.0 AV                       |                   |                | 1.00 V                   | 89                         | 58.00                  | 41.00                          |
| 9                                                   | 11490.00       | 67.5 PK                       | 74.0              | -6.5           | 1.01 V                   | 88                         | 51.60                  | 15.90                          |
| 10                                                  | 11490.00       | 52.8 AV                       | 54.0              | -1.2           | 1.01 V                   | 88                         | 36.90                  | 15.90                          |

## 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.

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 157 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3856.00        | 46.4 PK                       | 74.0              | -27.6          | 1.00 H                   | 13                         | 47.00                  | -0.60                          |
| 2                                                   | 3856.00        | 38.3 AV                       | 54.0              | -15.7          | 1.00 H                   | 13                         | 38.90                  | -0.60                          |
| 3                                                   | *5785.00       | 110.5 PK                      |                   |                | 1.00 H                   | 81                         | 69.40                  | 41.10                          |
| 4                                                   | *5785.00       | 100.2 AV                      |                   |                | 1.00 H                   | 81                         | 59.10                  | 41.10                          |
| 5                                                   | 11570.00       | 64.3 PK                       | 74.0              | -9.7           | 1.00 H                   | 316                        | 48.70                  | 15.60                          |
| 6                                                   | 11570.00       | 51.2 AV                       | 54.0              | -2.8           | 1.00 H                   | 316                        | 35.60                  | 15.60                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3856.00        | 47.1 PK                       | 74.0              | -26.9          | 1.00 V                   | 75                         | 47.70                  | -0.60                          |
| 2                                                   | 3856.00        | 39.5 AV                       | 54.0              | -14.5          | 1.00 V                   | 75                         | 40.10                  | -0.60                          |
| 3                                                   | *5785.00       | 110.6 PK                      |                   |                | 1.00 V                   | 89                         | 69.50                  | 41.10                          |
| 4                                                   | *5785.00       | 100.4 AV                      |                   |                | 1.00 V                   | 89                         | 59.30                  | 41.10                          |
| 5                                                   | 11570.00       | 67.6 PK                       | 74.0              | -6.4           | 1.00 V                   | 45                         | 52.00                  | 15.60                          |
| 6                                                   | 11570.00       | 52.9 AV                       | 54.0              | -1.1           | 1.00 V                   | 45                         | 37.30                  | 15.60                          |

#### 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.

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 165 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3883.00        | 46.0 PK                       | 74.0              | -28.0          | 1.00 H                   | 10                         | 46.70                  | -0.70                          |
| 2                                                   | 3883.00        | 38.0 AV                       | 54.0              | -16.0          | 1.00 H                   | 10                         | 38.70                  | -0.70                          |
| 3                                                   | *5825.00       | 107.1 PK                      |                   |                | 1.00 H                   | 80                         | 66.00                  | 41.10                          |
| 4                                                   | *5825.00       | 97.2 AV                       |                   |                | 1.00 H                   | 80                         | 56.10                  | 41.10                          |
| 5                                                   | #5850.00       | 51.0 PK                       | 78.2              | -27.2          | 1.00 H                   | 80                         | 48.00                  | 3.00                           |
| 6                                                   | #5852.10       | 62.9 PK                       | 78.2              | -15.3          | 1.00 H                   | 81                         | 59.90                  | 3.00                           |
| 7                                                   | #5860.10       | 58.4 PK                       | 74.0              | -15.6          | 1.00 H                   | 82                         | 55.40                  | 3.00                           |
| 8                                                   | #5860.10       | 45.0 AV                       | 54.0              | -9.0           | 1.00 H                   | 82                         | 42.00                  | 3.00                           |
| 9                                                   | 11650.00       | 63.4 PK                       | 74.0              | -10.6          | 1.00 H                   | 316                        | 47.80                  | 15.60                          |
| 10                                                  | 11650.00       | 50.2 AV                       | 54.0              | -3.8           | 1.00 H                   | 316                        | 34.60                  | 15.60                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 3883.00        | 46.5 PK                       | 74.0              | -27.5          | 1.00 V                   | 73                         | 47.20                  | -0.70                          |
| 2                                                 | 3883.00        | 40.0 AV                       | 54.0              | -14.0          | 1.00 V                   | 73                         | 40.70                  | -0.70                          |
| 3                                                 | *5825.00       | 107.9 PK                      |                   |                | 1.00 V                   | 88                         | 66.80                  | 41.10                          |
| 4                                                 | *5825.00       | 97.2 AV                       |                   |                | 1.00 V                   | 88                         | 56.10                  | 41.10                          |
| 5                                                 | #5850.00       | 49.6 PK                       | 78.2              | -28.6          | 1.00 V                   | 85                         | 46.60                  | 3.00                           |
| 6                                                 | #5852.10       | 64.3 PK                       | 78.2              | -13.9          | 1.00 V                   | 84                         | 61.30                  | 3.00                           |
| 7                                                 | #5860.10       | 58.0 PK                       | 74.0              | -16.0          | 1.00 V                   | 88                         | 55.00                  | 3.00                           |
| 8                                                 | #5860.10       | 45.0 AV                       | 54.0              | -9.0           | 1.00 V                   | 88                         | 42.00                  | 3.00                           |
| 9                                                 | 11650.00       | 69.1 PK                       | 74.0              | -4.9           | 1.47 V                   | 40                         | 53.50                  | 15.60                          |
| 10                                                | 11650.00       | 53.0 AV                       | 54.0              | -1.0           | 1.47 V                   | 40                         | 37.40                  | 15.60                          |

#### 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 (HT20)\_2TX

|                 |                |                      |              |
|-----------------|----------------|----------------------|--------------|
| CHANNEL         | TX Channel 149 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 40GHz   |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3830.00        | 46.3 PK                       | 74.0              | -27.7          | 1.00 H                   | 16                         | 47.00                  | -0.70                          |
| 2                                                   | 3830.00        | 37.1 AV                       | 54.0              | -16.9          | 1.00 H                   | 16                         | 37.80                  | -0.70                          |
| 3                                                   | #5714.90       | 58.5 PK                       | 74.0              | -15.5          | 1.00 H                   | 323                        | 55.90                  | 2.60                           |
| 4                                                   | #5714.90       | 45.4 AV                       | 54.0              | -8.6           | 1.00 H                   | 323                        | 42.80                  | 2.60                           |
| 5                                                   | #5722.90       | 63.3 PK                       | 78.2              | -14.9          | 1.01 H                   | 330                        | 60.70                  | 2.60                           |
| 6                                                   | #5725.00       | 50.9 PK                       | 78.2              | -27.3          | 1.06 H                   | 339                        | 48.30                  | 2.60                           |
| 7                                                   | *5745.00       | 110.3 PK                      |                   |                | 1.17 H                   | 342                        | 69.30                  | 41.00                          |
| 8                                                   | *5745.00       | 100.1 AV                      |                   |                | 1.17 H                   | 342                        | 59.10                  | 41.00                          |
| 9                                                   | 11490.00       | 61.9 PK                       | 74.0              | -12.1          | 1.31 H                   | 343                        | 46.00                  | 15.90                          |
| 10                                                  | 11490.00       | 48.8 AV                       | 54.0              | -5.2           | 1.31 H                   | 343                        | 32.90                  | 15.90                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3830.00        | 46.6 PK                       | 74.0              | -27.4          | 1.01 V                   | 76                         | 47.30                  | -0.70                          |
| 2                                                   | 3830.00        | 36.5 AV                       | 54.0              | -17.5          | 1.01 V                   | 76                         | 37.20                  | -0.70                          |
| 3                                                   | #5714.90       | 58.4 PK                       | 74.0              | -15.6          | 1.24 V                   | 29                         | 55.80                  | 2.60                           |
| 4                                                   | #5714.90       | 45.9 AV                       | 54.0              | -8.1           | 1.24 V                   | 29                         | 43.30                  | 2.60                           |
| 5                                                   | #5722.90       | 62.1 PK                       | 78.2              | -16.1          | 1.10 V                   | 66                         | 59.50                  | 2.60                           |
| 6                                                   | #5725.00       | 49.4 PK                       | 78.2              | -28.8          | 1.25 V                   | 69                         | 46.80                  | 2.60                           |
| 7                                                   | *5745.00       | 107.0 PK                      |                   |                | 1.24 V                   | 64                         | 66.00                  | 41.00                          |
| 8                                                   | *5745.00       | 96.8 AV                       |                   |                | 1.24 V                   | 64                         | 55.80                  | 41.00                          |
| 9                                                   | 11490.00       | 66.3 PK                       | 74.0              | -7.7           | 1.28 V                   | 21                         | 50.40                  | 15.90                          |
| 10                                                  | 11490.00       | 52.8 AV                       | 54.0              | -1.2           | 1.28 V                   | 21                         | 36.90                  | 15.90                          |

## REMARKS:

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

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 157 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| <b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b> |                |                               |                   |                |                          |                            |                        |                                |
|----------------------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                            | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                              | 3856.00        | 47.2 PK                       | 74.0              | -26.8          | 1.00 H                   | 33                         | 47.80                  | -0.60                          |
| 2                                                              | 3856.00        | 37.6 AV                       | 54.0              | -16.4          | 1.00 H                   | 33                         | 38.20                  | -0.60                          |
| 3                                                              | *5785.00       | 110.1 PK                      |                   |                | 1.03 H                   | 345                        | 69.00                  | 41.10                          |
| 4                                                              | *5785.00       | 99.7 AV                       |                   |                | 1.03 H                   | 345                        | 58.60                  | 41.10                          |
| 5                                                              | 11570.00       | 60.9 PK                       | 74.0              | -13.1          | 1.02 H                   | 315                        | 45.30                  | 15.60                          |
| 6                                                              | 11570.00       | 48.1 AV                       | 54.0              | -5.9           | 1.02 H                   | 315                        | 32.50                  | 15.60                          |
| <b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                            | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                              | 3856.00        | 46.9 PK                       | 74.0              | -27.1          | 1.03 V                   | 301                        | 47.50                  | -0.60                          |
| 2                                                              | 3856.00        | 38.5 AV                       | 54.0              | -15.5          | 1.03 V                   | 301                        | 39.10                  | -0.60                          |
| 3                                                              | *5785.00       | 108.6 PK                      |                   |                | 1.13 V                   | 36                         | 67.50                  | 41.10                          |
| 4                                                              | *5785.00       | 98.6 AV                       |                   |                | 1.13 V                   | 36                         | 57.50                  | 41.10                          |
| 5                                                              | 11570.00       | 67.2 PK                       | 74.0              | -6.8           | 1.23 V                   | 21                         | 51.60                  | 15.60                          |
| 6                                                              | 11570.00       | 53.0 AV                       | 54.0              | -1.0           | 1.23 V                   | 21                         | 37.40                  | 15.60                          |

#### 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.

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 165 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3883.00        | 45.8 PK                       | 74.0              | -28.2          | 1.00 H                   | 15                         | 46.50                  | -0.70                          |
| 2                                                   | 3883.00        | 36.4 AV                       | 54.0              | -17.6          | 1.00 H                   | 15                         | 37.10                  | -0.70                          |
| 3                                                   | *5825.00       | 108.0 PK                      |                   |                | 1.13 H                   | 344                        | 66.90                  | 41.10                          |
| 4                                                   | *5825.00       | 97.9 AV                       |                   |                | 1.13 H                   | 344                        | 56.80                  | 41.10                          |
| 5                                                   | #5850.00       | 48.7 PK                       | 78.2              | -29.5          | 1.00 H                   | 66                         | 45.70                  | 3.00                           |
| 6                                                   | #5852.10       | 62.8 PK                       | 78.2              | -15.4          | 1.00 H                   | 77                         | 59.80                  | 3.00                           |
| 7                                                   | #5860.10       | 58.9 PK                       | 74.0              | -15.1          | 1.00 H                   | 72                         | 55.90                  | 3.00                           |
| 8                                                   | #5860.10       | 45.8 AV                       | 54.0              | -8.2           | 1.00 H                   | 72                         | 42.80                  | 3.00                           |
| 9                                                   | 11650.00       | 61.8 PK                       | 74.0              | -12.2          | 1.00 H                   | 353                        | 46.20                  | 15.60                          |
| 10                                                  | 11650.00       | 48.2 AV                       | 54.0              | -5.8           | 1.00 H                   | 353                        | 32.60                  | 15.60                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 3883.00        | 46.9 PK                       | 74.0              | -27.1          | 1.00 V                   | 75                         | 47.60                  | -0.70                          |
| 2                                                 | 3883.00        | 39.1 AV                       | 54.0              | -14.9          | 1.00 V                   | 75                         | 39.80                  | -0.70                          |
| 3                                                 | *5825.00       | 106.5 PK                      |                   |                | 1.13 V                   | 37                         | 65.40                  | 41.10                          |
| 4                                                 | *5825.00       | 96.5 AV                       |                   |                | 1.13 V                   | 37                         | 55.40                  | 41.10                          |
| 5                                                 | #5850.00       | 48.6 PK                       | 78.2              | -29.6          | 1.02 V                   | 34                         | 45.60                  | 3.00                           |
| 6                                                 | #5852.10       | 59.9 PK                       | 78.2              | -18.3          | 1.00 V                   | 33                         | 56.90                  | 3.00                           |
| 7                                                 | #5860.10       | 58.1 PK                       | 74.0              | -15.9          | 1.00 V                   | 41                         | 55.10                  | 3.00                           |
| 8                                                 | #5860.10       | 44.6 AV                       | 54.0              | -9.4           | 1.00 V                   | 41                         | 41.60                  | 3.00                           |
| 9                                                 | 11650.00       | 67.1 PK                       | 74.0              | -6.9           | 1.16 V                   | 24                         | 51.50                  | 15.60                          |
| 10                                                | 11650.00       | 52.9 AV                       | 54.0              | -1.1           | 1.16 V                   | 24                         | 37.30                  | 15.60                          |

#### 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 (HT40)\_2TX

|                 |                |                      |              |
|-----------------|----------------|----------------------|--------------|
| CHANNEL         | TX Channel 151 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 40GHz   |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3836.00        | 45.7 PK                       | 74.0              | -28.3          | 1.00 H                   | 57                         | 46.40                  | -0.70                          |
| 2                                                   | 3836.00        | 35.5 AV                       | 54.0              | -18.5          | 1.00 H                   | 57                         | 36.20                  | -0.70                          |
| 3                                                   | #5714.90       | 60.9 PK                       | 74.0              | -13.1          | 1.00 H                   | 87                         | 58.30                  | 2.60                           |
| 4                                                   | #5714.90       | 48.5 AV                       | 54.0              | -5.5           | 1.00 H                   | 87                         | 45.90                  | 2.60                           |
| 5                                                   | #5722.90       | 67.9 PK                       | 78.2              | -10.3          | 1.00 H                   | 72                         | 65.30                  | 2.60                           |
| 6                                                   | #5725.00       | 55.9 PK                       | 78.2              | -22.3          | 1.00 H                   | 69                         | 53.30                  | 2.60                           |
| 7                                                   | *5755.00       | 107.7 PK                      |                   |                | 1.18 H                   | 341                        | 66.70                  | 41.00                          |
| 8                                                   | *5755.00       | 97.6 AV                       |                   |                | 1.18 H                   | 341                        | 56.60                  | 41.00                          |
| 9                                                   | 11510.00       | 61.1 PK                       | 74.0              | -12.9          | 1.27 H                   | 55                         | 45.40                  | 15.70                          |
| 10                                                  | 11510.00       | 47.4 AV                       | 54.0              | -6.6           | 1.27 H                   | 55                         | 31.70                  | 15.70                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3836.00        | 47.2 PK                       | 74.0              | -26.8          | 1.00 V                   | 76                         | 47.90                  | -0.70                          |
| 2                                                   | 3836.00        | 38.4 AV                       | 54.0              | -15.6          | 1.00 V                   | 76                         | 39.10                  | -0.70                          |
| 3                                                   | #5714.90       | 60.8 PK                       | 74.0              | -13.2          | 1.00 V                   | 72                         | 58.20                  | 2.60                           |
| 4                                                   | #5714.90       | 49.3 AV                       | 54.0              | -4.7           | 1.00 V                   | 72                         | 46.70                  | 2.60                           |
| 5                                                   | #5722.90       | 66.4 PK                       | 78.2              | -11.8          | 1.00 V                   | 59                         | 63.80                  | 2.60                           |
| 6                                                   | #5725.00       | 55.5 PK                       | 78.2              | -22.7          | 1.00 V                   | 60                         | 52.90                  | 2.60                           |
| 7                                                   | *5755.00       | 104.2 PK                      |                   |                | 1.25 V                   | 67                         | 63.20                  | 41.00                          |
| 8                                                   | *5755.00       | 94.4 AV                       |                   |                | 1.25 V                   | 67                         | 53.40                  | 41.00                          |
| 9                                                   | 11510.00       | 65.2 PK                       | 74.0              | -8.8           | 1.13 V                   | 21                         | 49.50                  | 15.70                          |
| 10                                                  | 11510.00       | 52.5 AV                       | 54.0              | -1.5           | 1.13 V                   | 21                         | 36.80                  | 15.70                          |

## REMARKS:

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

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 159 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3863.00        | 46.2 PK                       | 74.0              | -27.8          | 1.00 H                   | 10                         | 46.80                  | -0.60                          |
| 2                                                   | 3863.00        | 36.7 AV                       | 54.0              | -17.3          | 1.00 H                   | 10                         | 37.30                  | -0.60                          |
| 3                                                   | *5795.00       | 107.4 PK                      |                   |                | 1.03 H                   | 345                        | 66.30                  | 41.10                          |
| 4                                                   | *5795.00       | 97.4 AV                       |                   |                | 1.03 H                   | 345                        | 56.30                  | 41.10                          |
| 5                                                   | #5850.00       | 47.6 PK                       | 78.2              | -30.6          | 1.00 H                   | 54                         | 44.60                  | 3.00                           |
| 6                                                   | #5852.10       | 59.3 PK                       | 78.2              | -18.9          | 1.00 H                   | 91                         | 56.30                  | 3.00                           |
| 7                                                   | #5860.10       | 58.1 PK                       | 74.0              | -15.9          | 1.00 H                   | 72                         | 55.10                  | 3.00                           |
| 8                                                   | #5860.10       | 45.0 AV                       | 54.0              | -9.0           | 1.00 H                   | 72                         | 42.00                  | 3.00                           |
| 9                                                   | 11590.00       | 64.2 PK                       | 74.0              | -9.8           | 1.00 H                   | 316                        | 48.60                  | 15.60                          |
| 10                                                  | 11590.00       | 49.9 AV                       | 54.0              | -4.1           | 1.00 H                   | 316                        | 34.30                  | 15.60                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 3863.00        | 46.6 PK                       | 74.0              | -27.4          | 1.00 V                   | 75                         | 47.20                  | -0.60                          |
| 2                                                 | 3863.00        | 37.3 AV                       | 54.0              | -16.7          | 1.00 V                   | 75                         | 37.90                  | -0.60                          |
| 3                                                 | *5795.00       | 105.9 PK                      |                   |                | 1.13 V                   | 34                         | 64.80                  | 41.10                          |
| 4                                                 | *5795.00       | 96.4 AV                       |                   |                | 1.13 V                   | 34                         | 55.30                  | 41.10                          |
| 5                                                 | #5850.00       | 46.6 PK                       | 78.2              | -31.6          | 1.00 V                   | 38                         | 43.60                  | 3.00                           |
| 6                                                 | #5852.10       | 58.6 PK                       | 78.2              | -19.6          | 1.00 V                   | 35                         | 55.60                  | 3.00                           |
| 7                                                 | #5860.10       | 57.9 PK                       | 74.0              | -16.1          | 1.00 V                   | 41                         | 54.90                  | 3.00                           |
| 8                                                 | #5860.10       | 44.9 AV                       | 54.0              | -9.1           | 1.00 V                   | 41                         | 41.90                  | 3.00                           |
| 9                                                 | 11590.00       | 65.0 PK                       | 74.0              | -9.0           | 1.23 V                   | 24                         | 49.40                  | 15.60                          |
| 10                                                | 11590.00       | 52.6 AV                       | 54.0              | -1.4           | 1.23 V                   | 24                         | 37.00                  | 15.60                          |

#### 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 (VHT20)\_2TX

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 149 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3830.00        | 46.4 PK                       | 74.0              | -27.6          | 1.00 H                   | 17                         | 47.10                  | -0.70                          |
| 2                                                   | 3830.00        | 37.2 AV                       | 54.0              | -16.8          | 1.00 H                   | 17                         | 37.90                  | -0.70                          |
| 3                                                   | #5714.90       | 58.7 PK                       | 74.0              | -15.3          | 1.00 H                   | 337                        | 56.10                  | 2.60                           |
| 4                                                   | #5714.90       | 45.8 AV                       | 54.0              | -8.2           | 1.00 H                   | 337                        | 43.20                  | 2.60                           |
| 5                                                   | #5722.90       | 63.6 PK                       | 78.2              | -14.6          | 1.00 H                   | 298                        | 61.00                  | 2.60                           |
| 6                                                   | #5725.00       | 51.1 PK                       | 78.2              | -27.1          | 1.05 H                   | 341                        | 48.50                  | 2.60                           |
| 7                                                   | *5745.00       | 109.8 PK                      |                   |                | 1.03 H                   | 340                        | 68.80                  | 41.00                          |
| 8                                                   | *5745.00       | 99.7 AV                       |                   |                | 1.03 H                   | 340                        | 58.70                  | 41.00                          |
| 9                                                   | 11490.00       | 62.1 PK                       | 74.0              | -11.9          | 1.30 H                   | 331                        | 46.20                  | 15.90                          |
| 10                                                  | 11490.00       | 49.0 AV                       | 54.0              | -5.0           | 1.30 H                   | 331                        | 33.10                  | 15.90                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3830.00        | 46.8 PK                       | 74.0              | -27.2          | 1.00 V                   | 77                         | 47.50                  | -0.70                          |
| 2                                                   | 3830.00        | 36.8 AV                       | 54.0              | -17.2          | 1.00 V                   | 77                         | 37.50                  | -0.70                          |
| 3                                                   | #5714.90       | 58.5 PK                       | 74.0              | -15.5          | 1.24 V                   | 28                         | 55.90                  | 2.60                           |
| 4                                                   | #5714.90       | 46.1 AV                       | 54.0              | -7.9           | 1.24 V                   | 28                         | 43.50                  | 2.60                           |
| 5                                                   | #5722.90       | 62.4 PK                       | 78.2              | -15.8          | 1.09 V                   | 62                         | 59.80                  | 2.60                           |
| 6                                                   | #5725.00       | 49.5 PK                       | 78.2              | -28.7          | 1.22 V                   | 65                         | 46.90                  | 2.60                           |
| 7                                                   | *5745.00       | 107.8 PK                      |                   |                | 1.00 V                   | 62                         | 66.80                  | 41.00                          |
| 8                                                   | *5745.00       | 98.0 AV                       |                   |                | 1.00 V                   | 62                         | 57.00                  | 41.00                          |
| 9                                                   | 11490.00       | 66.8 PK                       | 74.0              | -7.2           | 1.24 V                   | 22                         | 50.90                  | 15.90                          |
| 10                                                  | 11490.00       | 53.0 AV                       | 54.0              | -1.0           | 1.24 V                   | 22                         | 37.10                  | 15.90                          |

## REMARKS:

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

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 157 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3856.00        | 47.3 PK                       | 74.0              | -26.7          | 1.00 H                   | 32                         | 47.90                  | -0.60                          |
| 2                                                   | 3856.00        | 37.7 AV                       | 54.0              | -16.3          | 1.00 H                   | 32                         | 38.30                  | -0.60                          |
| 3                                                   | *5785.00       | 109.4 PK                      |                   |                | 1.14 H                   | 346                        | 68.30                  | 41.10                          |
| 4                                                   | *5785.00       | 99.2 AV                       |                   |                | 1.14 H                   | 346                        | 58.10                  | 41.10                          |
| 5                                                   | 11570.00       | 61.0 PK                       | 74.0              | -13.0          | 1.00 H                   | 311                        | 45.40                  | 15.60                          |
| 6                                                   | 11570.00       | 48.0 AV                       | 54.0              | -6.0           | 1.00 H                   | 311                        | 32.40                  | 15.60                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3856.00        | 46.9 PK                       | 74.0              | -27.1          | 1.02 V                   | 299                        | 47.50                  | -0.60                          |
| 2                                                   | 3856.00        | 38.6 AV                       | 54.0              | -15.4          | 1.02 V                   | 299                        | 39.20                  | -0.60                          |
| 3                                                   | *5785.00       | 108.9 PK                      |                   |                | 1.14 V                   | 35                         | 67.80                  | 41.10                          |
| 4                                                   | *5785.00       | 98.6 AV                       |                   |                | 1.14 V                   | 35                         | 57.50                  | 41.10                          |
| 5                                                   | 11570.00       | 66.3 PK                       | 74.0              | -7.7           | 1.28 V                   | 20                         | 50.70                  | 15.60                          |
| 6                                                   | 11570.00       | 52.7 AV                       | 54.0              | -1.3           | 1.28 V                   | 20                         | 37.10                  | 15.60                          |

#### 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.

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 165 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3883.00        | 45.5 PK                       | 74.0              | -28.5          | 1.00 H                   | 10                         | 46.20                  | -0.70                          |
| 2                                                   | 3883.00        | 35.9 AV                       | 54.0              | -18.1          | 1.00 H                   | 10                         | 36.60                  | -0.70                          |
| 3                                                   | *5825.00       | 108.1 PK                      |                   |                | 1.14 H                   | 342                        | 67.00                  | 41.10                          |
| 4                                                   | *5825.00       | 98.0 AV                       |                   |                | 1.14 H                   | 342                        | 56.90                  | 41.10                          |
| 5                                                   | #5850.00       | 48.9 PK                       | 78.2              | -29.3          | 1.00 H                   | 71                         | 45.90                  | 3.00                           |
| 6                                                   | #5852.10       | 63.1 PK                       | 78.2              | -15.1          | 1.00 H                   | 60                         | 60.10                  | 3.00                           |
| 7                                                   | #5860.10       | 59.2 PK                       | 74.0              | -14.8          | 1.00 H                   | 62                         | 56.20                  | 3.00                           |
| 8                                                   | #5860.10       | 46.6 AV                       | 54.0              | -7.4           | 1.00 H                   | 62                         | 43.60                  | 3.00                           |
| 9                                                   | 11650.00       | 62.1 PK                       | 74.0              | -11.9          | 1.00 H                   | 351                        | 46.50                  | 15.60                          |
| 10                                                  | 11650.00       | 48.4 AV                       | 54.0              | -5.6           | 1.00 H                   | 351                        | 32.80                  | 15.60                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 3883.00        | 47.2 PK                       | 74.0              | -26.8          | 1.00 V                   | 69                         | 47.90                  | -0.70                          |
| 2                                                 | 3883.00        | 39.4 AV                       | 54.0              | -14.6          | 1.00 V                   | 69                         | 40.10                  | -0.70                          |
| 3                                                 | *5825.00       | 107.6 PK                      |                   |                | 1.13 V                   | 34                         | 66.50                  | 41.10                          |
| 4                                                 | *5825.00       | 97.1 AV                       |                   |                | 1.13 V                   | 34                         | 56.00                  | 41.10                          |
| 5                                                 | #5850.00       | 48.9 PK                       | 78.2              | -29.3          | 1.01 V                   | 39                         | 45.90                  | 3.00                           |
| 6                                                 | #5852.10       | 60.1 PK                       | 78.2              | -18.1          | 1.00 V                   | 36                         | 57.10                  | 3.00                           |
| 7                                                 | #5860.10       | 58.4 PK                       | 74.0              | -15.6          | 1.00 V                   | 40                         | 55.40                  | 3.00                           |
| 8                                                 | #5860.10       | 44.9 AV                       | 54.0              | -9.1           | 1.00 V                   | 40                         | 41.90                  | 3.00                           |
| 9                                                 | 11650.00       | 66.8 PK                       | 74.0              | -7.2           | 1.11 V                   | 23                         | 51.20                  | 15.60                          |
| 10                                                | 11650.00       | 52.7 AV                       | 54.0              | -1.3           | 1.11 V                   | 23                         | 37.10                  | 15.60                          |

#### 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 (VHT40)\_2TX

|                 |                |                      |              |
|-----------------|----------------|----------------------|--------------|
| CHANNEL         | TX Channel 151 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 40GHz   |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3836.00        | 45.1 PK                       | 74.0              | -28.9          | 1.00 H                   | 66                         | 45.80                  | -0.70                          |
| 2                                                   | 3836.00        | 35.6 AV                       | 54.0              | -18.4          | 1.00 H                   | 66                         | 36.30                  | -0.70                          |
| 3                                                   | #5714.90       | 60.8 PK                       | 74.0              | -13.2          | 1.00 H                   | 79                         | 58.20                  | 2.60                           |
| 4                                                   | #5714.90       | 48.2 AV                       | 54.0              | -5.8           | 1.00 H                   | 79                         | 45.60                  | 2.60                           |
| 5                                                   | #5722.90       | 67.7 PK                       | 78.2              | -10.5          | 1.00 H                   | 80                         | 65.10                  | 2.60                           |
| 6                                                   | #5725.00       | 56.1 PK                       | 78.2              | -22.1          | 1.00 H                   | 62                         | 53.50                  | 2.60                           |
| 7                                                   | *5755.00       | 107.9 PK                      |                   |                | 1.21 H                   | 340                        | 66.90                  | 41.00                          |
| 8                                                   | *5755.00       | 97.9 AV                       |                   |                | 1.21 H                   | 340                        | 56.90                  | 41.00                          |
| 9                                                   | 11510.00       | 61.3 PK                       | 74.0              | -12.7          | 1.22 H                   | 58                         | 45.60                  | 15.70                          |
| 10                                                  | 11510.00       | 47.6 AV                       | 54.0              | -6.4           | 1.22 H                   | 58                         | 31.90                  | 15.70                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3836.00        | 47.1 PK                       | 74.0              | -26.9          | 1.00 V                   | 86                         | 47.80                  | -0.70                          |
| 2                                                   | 3836.00        | 38.2 AV                       | 54.0              | -15.8          | 1.00 V                   | 86                         | 38.90                  | -0.70                          |
| 3                                                   | #5714.90       | 60.7 PK                       | 74.0              | -13.3          | 1.00 V                   | 73                         | 58.10                  | 2.60                           |
| 4                                                   | #5714.90       | 48.8 AV                       | 54.0              | -5.2           | 1.00 V                   | 73                         | 46.20                  | 2.60                           |
| 5                                                   | #5722.90       | 66.1 PK                       | 78.2              | -12.1          | 1.00 V                   | 63                         | 63.50                  | 2.60                           |
| 6                                                   | #5725.00       | 55.4 PK                       | 78.2              | -22.8          | 1.00 V                   | 70                         | 52.80                  | 2.60                           |
| 7                                                   | *5755.00       | 104.3 PK                      |                   |                | 1.09 V                   | 66                         | 63.30                  | 41.00                          |
| 8                                                   | *5755.00       | 94.4 AV                       |                   |                | 1.09 V                   | 66                         | 53.40                  | 41.00                          |
| 9                                                   | 11510.00       | 65.5 PK                       | 74.0              | -8.5           | 1.10 V                   | 32                         | 49.80                  | 15.70                          |
| 10                                                  | 11510.00       | 52.6 AV                       | 54.0              | -1.4           | 1.10 V                   | 32                         | 36.90                  | 15.70                          |

## REMARKS:

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

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 159 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3863.00        | 46.3 PK                       | 74.0              | -27.7          | 1.00 H                   | 33                         | 46.90                  | -0.60                          |
| 2                                                   | 3863.00        | 36.8 AV                       | 54.0              | -17.2          | 1.00 H                   | 33                         | 37.40                  | -0.60                          |
| 3                                                   | *5795.00       | 107.7 PK                      |                   |                | 1.02 H                   | 344                        | 66.60                  | 41.10                          |
| 4                                                   | *5795.00       | 97.5 AV                       |                   |                | 1.02 H                   | 344                        | 56.40                  | 41.10                          |
| 5                                                   | #5850.00       | 47.9 PK                       | 78.2              | -30.3          | 1.00 H                   | 63                         | 44.90                  | 3.00                           |
| 6                                                   | #5852.10       | 59.8 PK                       | 78.2              | -18.4          | 1.00 H                   | 77                         | 56.80                  | 3.00                           |
| 7                                                   | #5860.10       | 58.6 PK                       | 74.0              | -15.4          | 1.00 H                   | 86                         | 55.60                  | 3.00                           |
| 8                                                   | #5860.10       | 45.8 AV                       | 54.0              | -8.2           | 1.00 H                   | 86                         | 42.80                  | 3.00                           |
| 9                                                   | 11590.00       | 64.4 PK                       | 74.0              | -9.6           | 1.00 H                   | 322                        | 48.80                  | 15.60                          |
| 10                                                  | 11590.00       | 50.2 AV                       | 54.0              | -3.8           | 1.00 H                   | 322                        | 34.60                  | 15.60                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 3863.00        | 46.9 PK                       | 74.0              | -27.1          | 1.00 V                   | 93                         | 47.50                  | -0.60                          |
| 2                                                 | 3863.00        | 37.6 AV                       | 54.0              | -16.4          | 1.00 V                   | 93                         | 38.20                  | -0.60                          |
| 3                                                 | *5795.00       | 106.2 PK                      |                   |                | 1.12 V                   | 41                         | 65.10                  | 41.10                          |
| 4                                                 | *5795.00       | 93.9 AV                       |                   |                | 1.12 V                   | 41                         | 52.80                  | 41.10                          |
| 5                                                 | #5850.00       | 46.9 PK                       | 78.2              | -31.3          | 1.00 V                   | 33                         | 43.90                  | 3.00                           |
| 6                                                 | #5852.10       | 58.9 PK                       | 78.2              | -19.3          | 1.00 V                   | 49                         | 55.90                  | 3.00                           |
| 7                                                 | #5860.10       | 58.2 PK                       | 74.0              | -15.8          | 1.00 V                   | 51                         | 55.20                  | 3.00                           |
| 8                                                 | #5860.10       | 45.3 AV                       | 54.0              | -8.7           | 1.00 V                   | 51                         | 42.30                  | 3.00                           |
| 9                                                 | 11590.00       | 65.1 PK                       | 74.0              | -8.9           | 1.22 V                   | 26                         | 49.50                  | 15.60                          |
| 10                                                | 11590.00       | 52.7 AV                       | 54.0              | -1.3           | 1.22 V                   | 26                         | 37.10                  | 15.60                          |

#### 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 (VHT80)\_2TX

|                 |                |                      |              |
|-----------------|----------------|----------------------|--------------|
| CHANNEL         | TX Channel 155 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 40GHz   |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3850.00        | 45.8 PK                       | 74.0              | -28.2          | 1.00 H                   | 102                        | 46.50                  | -0.70                          |
| 2                                                   | 3850.00        | 36.6 AV                       | 54.0              | -17.4          | 1.00 H                   | 102                        | 37.30                  | -0.70                          |
| 3                                                   | #5714.90       | 68.9 PK                       | 74.0              | -5.1           | 1.08 H                   | 338                        | 66.30                  | 2.60                           |
| 4                                                   | #5714.90       | 53.0 AV                       | 54.0              | -1.0           | 1.08 H                   | 338                        | 50.40                  | 2.60                           |
| 5                                                   | #5722.90       | 71.9 PK                       | 78.2              | -6.3           | 1.00 H                   | 327                        | 69.30                  | 2.60                           |
| 6                                                   | #5725.00       | 57.4 PK                       | 78.2              | -20.8          | 1.00 H                   | 323                        | 54.80                  | 2.60                           |
| 7                                                   | *5775.00       | 104.3 PK                      |                   |                | 1.17 H                   | 343                        | 63.30                  | 41.00                          |
| 8                                                   | *5775.00       | 93.9 AV                       |                   |                | 1.17 H                   | 343                        | 52.90                  | 41.00                          |
| 9                                                   | #5850.00       | 63.2 PK                       | 78.2              | -15.0          | 1.00 H                   | 329                        | 60.20                  | 3.00                           |
| 10                                                  | #5860.10       | 58.1 PK                       | 74.0              | -15.9          | 1.00 H                   | 335                        | 55.10                  | 3.00                           |
| 11                                                  | #5860.10       | 45.9 AV                       | 54.0              | -8.1           | 1.00 H                   | 335                        | 42.90                  | 3.00                           |
| 12                                                  | 11550.00       | 59.8 PK                       | 74.0              | -14.2          | 1.00 H                   | 201                        | 44.20                  | 15.60                          |
| 13                                                  | 11550.00       | 47.4 AV                       | 54.0              | -6.6           | 1.00 H                   | 201                        | 31.80                  | 15.60                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3850.00        | 46.1 PK                       | 74.0              | -27.9          | 1.00 V                   | 102                        | 46.80                  | -0.70                          |
| 2                                                   | 3850.00        | 38.5 AV                       | 54.0              | -15.5          | 1.00 V                   | 102                        | 39.20                  | -0.70                          |
| 3                                                   | #5714.90       | 62.3 PK                       | 74.0              | -11.7          | 1.00 V                   | 65                         | 59.70                  | 2.60                           |
| 4                                                   | #5714.90       | 49.0 AV                       | 54.0              | -5.0           | 1.00 V                   | 65                         | 46.40                  | 2.60                           |
| 5                                                   | #5722.90       | 68.1 PK                       | 78.2              | -10.1          | 1.12 V                   | 45                         | 65.50                  | 2.60                           |
| 6                                                   | #5725.00       | 54.8 PK                       | 78.2              | -23.4          | 1.13 V                   | 39                         | 52.20                  | 2.60                           |
| 7                                                   | *5775.00       | 100.2 PK                      |                   |                | 1.25 V                   | 65                         | 59.20                  | 41.00                          |
| 8                                                   | *5775.00       | 89.7 AV                       |                   |                | 1.25 V                   | 65                         | 48.70                  | 41.00                          |
| 9                                                   | #5850.00       | 60.5 PK                       | 78.2              | -17.7          | 1.03 V                   | 38                         | 57.50                  | 3.00                           |
| 10                                                  | #5860.10       | 59.0 PK                       | 74.0              | -15.0          | 1.00 V                   | 44                         | 56.00                  | 3.00                           |
| 11                                                  | #5860.10       | 45.4 AV                       | 54.0              | -8.6           | 1.00 V                   | 44                         | 42.40                  | 3.00                           |
| 12                                                  | 11500.00       | 63.3 PK                       | 74.0              | -10.7          | 1.02 V                   | 65                         | 47.60                  | 15.70                          |
| 13                                                  | 11500.00       | 49.5 AV                       | 54.0              | -4.5           | 1.02 V                   | 65                         | 33.80                  | 15.70                          |

## 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 (HT20)\_3TX

|                 |                |                      |              |
|-----------------|----------------|----------------------|--------------|
| CHANNEL         | TX Channel 149 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 40GHz   |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3830.00       | 46.2 PK                       | 74.0              | -27.8          | 1.00 H                   | 10                         | 46.90                  | -0.70                          |
| 2                                                   | #3830.00       | 37.1 AV                       | 54.0              | -16.9          | 1.00 H                   | 10                         | 37.80                  | -0.70                          |
| 3                                                   | #5714.90       | 57.8 PK                       | 74.0              | -16.2          | 1.13 H                   | 352                        | 55.20                  | 2.60                           |
| 4                                                   | #5714.90       | 45.3 AV                       | 54.0              | -8.7           | 1.13 H                   | 352                        | 42.70                  | 2.60                           |
| 5                                                   | #5722.90       | 66.0 PK                       | 78.2              | -12.2          | 1.13 H                   | 352                        | 63.40                  | 2.60                           |
| 6                                                   | #5725.00       | 50.4 PK                       | 78.2              | -27.8          | 1.13 H                   | 347                        | 47.80                  | 2.60                           |
| 7                                                   | *5745.00       | 110.3 PK                      |                   |                | 1.00 H                   | 76                         | 69.30                  | 41.00                          |
| 8                                                   | *5745.00       | 100.3 AV                      |                   |                | 1.00 H                   | 76                         | 59.30                  | 41.00                          |
| 9                                                   | #11490.00      | 64.0 PK                       | 74.0              | -10.0          | 1.38 H                   | 337                        | 48.10                  | 15.90                          |
| 10                                                  | #11490.00      | 50.8 AV                       | 54.0              | -3.2           | 1.38 H                   | 337                        | 34.90                  | 15.90                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3830.00       | 47.1 PK                       | 74.0              | -26.9          | 1.30 V                   | 71                         | 47.80                  | -0.70                          |
| 2                                                   | #3830.00       | 36.7 AV                       | 54.0              | -17.3          | 1.30 V                   | 71                         | 37.40                  | -0.70                          |
| 3                                                   | #5714.90       | 58.2 PK                       | 74.0              | -15.8          | 1.00 V                   | 88                         | 55.60                  | 2.60                           |
| 4                                                   | #5714.90       | 45.7 AV                       | 54.0              | -8.3           | 1.00 V                   | 88                         | 43.10                  | 2.60                           |
| 5                                                   | #5722.90       | 63.7 PK                       | 78.2              | -14.5          | 1.00 V                   | 93                         | 61.10                  | 2.60                           |
| 6                                                   | #5725.00       | 50.8 PK                       | 78.2              | -27.4          | 1.13 V                   | 94                         | 48.20                  | 2.60                           |
| 7                                                   | *5745.00       | 108.0 PK                      |                   |                | 1.01 V                   | 59                         | 67.00                  | 41.00                          |
| 8                                                   | *5745.00       | 98.2 AV                       |                   |                | 1.01 V                   | 59                         | 57.20                  | 41.00                          |
| 9                                                   | #11490.00      | 68.0 PK                       | 74.0              | -6.0           | 1.40 V                   | 18                         | 52.10                  | 15.90                          |
| 10                                                  | #11490.00      | 52.9 AV                       | 54.0              | -1.1           | 1.40 V                   | 18                         | 37.00                  | 15.90                          |

## 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.

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 157 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3856.00       | 46.8 PK                       | 74.0              | -27.2          | 1.00 H                   | 12                         | 47.40                  | -0.60                          |
| 2                                                   | #3856.00       | 37.1 AV                       | 54.0              | -16.9          | 1.00 H                   | 12                         | 37.70                  | -0.60                          |
| 3                                                   | *5785.00       | 108.6 PK                      |                   |                | 1.00 H                   | 82                         | 67.50                  | 41.10                          |
| 4                                                   | *5785.00       | 99.4 AV                       |                   |                | 1.00 H                   | 82                         | 58.30                  | 41.10                          |
| 5                                                   | #11570.00      | 63.9 PK                       | 74.0              | -10.1          | 1.00 H                   | 314                        | 48.30                  | 15.60                          |
| 6                                                   | #11570.00      | 50.6 AV                       | 54.0              | -3.4           | 1.00 H                   | 314                        | 35.00                  | 15.60                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3856.00       | 47.2 PK                       | 74.0              | -26.8          | 1.04 V                   | 315                        | 47.80                  | -0.60                          |
| 2                                                   | #3856.00       | 38.6 AV                       | 54.0              | -15.4          | 1.04 V                   | 315                        | 39.20                  | -0.60                          |
| 3                                                   | *5785.00       | 110.4 PK                      |                   |                | 1.02 V                   | 33                         | 69.30                  | 41.10                          |
| 4                                                   | *5785.00       | 100.4 AV                      |                   |                | 1.02 V                   | 33                         | 59.30                  | 41.10                          |
| 5                                                   | #11570.00      | 66.7 PK                       | 74.0              | -7.3           | 1.37 V                   | 35                         | 51.10                  | 15.60                          |
| 6                                                   | #11570.00      | 52.7 AV                       | 54.0              | -1.3           | 1.37 V                   | 35                         | 37.10                  | 15.60                          |

#### 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.

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 165 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | #3883.00       | 45.8 PK                       | 74.0              | -28.2          | 1.00 H                   | 7                          | 46.50                  | -0.70                          |
| 2                                                   | #3883.00       | 36.4 AV                       | 54.0              | -17.6          | 1.00 H                   | 7                          | 37.10                  | -0.70                          |
| 3                                                   | *5825.00       | 109.1 PK                      |                   |                | 1.00 H                   | 72                         | 68.00                  | 41.10                          |
| 4                                                   | *5825.00       | 99.0 AV                       |                   |                | 1.00 H                   | 72                         | 57.90                  | 41.10                          |
| 5                                                   | #5850.00       | 48.2 PK                       | 78.2              | -30.0          | 1.00 H                   | 82                         | 45.20                  | 3.00                           |
| 6                                                   | #5852.10       | 63.1 PK                       | 78.2              | -15.1          | 1.00 H                   | 81                         | 60.10                  | 3.00                           |
| 7                                                   | #5860.10       | 58.5 PK                       | 74.0              | -15.5          | 1.00 H                   | 75                         | 55.50                  | 3.00                           |
| 8                                                   | #5860.10       | 45.1 AV                       | 54.0              | -8.9           | 1.00 H                   | 75                         | 42.10                  | 3.00                           |
| 9                                                   | #11650.00      | 62.5 PK                       | 74.0              | -11.5          | 1.21 H                   | 358                        | 46.90                  | 15.60                          |
| 10                                                  | #11650.00      | 49.7 AV                       | 54.0              | -4.3           | 1.21 H                   | 358                        | 34.10                  | 15.60                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | #3883.00       | 47.5 PK                       | 74.0              | -26.5          | 1.29 V                   | 73                         | 48.20                  | -0.70                          |
| 2                                                 | #3883.00       | 40.8 AV                       | 54.0              | -13.2          | 1.29 V                   | 73                         | 41.50                  | -0.70                          |
| 3                                                 | *5825.00       | 108.9 PK                      |                   |                | 1.00 V                   | 35                         | 67.80                  | 41.10                          |
| 4                                                 | *5825.00       | 98.6 AV                       |                   |                | 1.00 V                   | 35                         | 57.50                  | 41.10                          |
| 5                                                 | #5850.00       | 48.1 PK                       | 78.2              | -30.1          | 1.00 V                   | 79                         | 45.10                  | 3.00                           |
| 6                                                 | #5852.10       | 59.0 PK                       | 78.2              | -19.2          | 1.00 V                   | 101                        | 56.00                  | 3.00                           |
| 7                                                 | #5860.10       | 57.2 PK                       | 74.0              | -16.8          | 1.00 V                   | 71                         | 54.20                  | 3.00                           |
| 8                                                 | #5860.10       | 44.5 AV                       | 54.0              | -9.5           | 1.00 V                   | 71                         | 41.50                  | 3.00                           |
| 9                                                 | #11650.00      | 67.8 PK                       | 74.0              | -6.2           | 1.11 V                   | 22                         | 52.20                  | 15.60                          |
| 10                                                | #11650.00      | 52.6 AV                       | 54.0              | -1.4           | 1.11 V                   | 22                         | 37.00                  | 15.60                          |

#### 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 (HT40)\_3TX

|                 |                |                   |              |
|-----------------|----------------|-------------------|--------------|
| CHANNEL         | TX Channel 151 | 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                                                   | 3836.00     | 46.4 PK                 | 74.0           | -27.6       | 1.00 H             | 13                   | 47.10            | -0.70                    |
| 2                                                   | 3836.00     | 37.3 AV                 | 54.0           | -16.7       | 1.00 H             | 13                   | 38.00            | -0.70                    |
| 3                                                   | #5714.90    | 64.2 PK                 | 74.0           | -9.8        | 1.00 H             | 83                   | 61.60            | 2.60                     |
| 4                                                   | #5714.90    | 51.1 AV                 | 54.0           | -2.9        | 1.00 H             | 83                   | 48.50            | 2.60                     |
| 5                                                   | #5722.90    | 69.6 PK                 | 78.2           | -8.6        | 1.00 H             | 72                   | 67.00            | 2.60                     |
| 6                                                   | #5725.00    | 56.4 PK                 | 78.2           | -21.8       | 1.01 H             | 77                   | 53.80            | 2.60                     |
| 7                                                   | *5755.00    | 108.0 PK                |                |             | 1.00 H             | 86                   | 67.00            | 41.00                    |
| 8                                                   | *5755.00    | 98.6 AV                 |                |             | 1.00 H             | 86                   | 57.60            | 41.00                    |
| 9                                                   | 11510.00    | 62.9 PK                 | 74.0           | -11.1       | 1.00 H             | 354                  | 47.20            | 15.70                    |
| 10                                                  | 11510.00    | 49.3 AV                 | 54.0           | -4.7        | 1.00 H             | 354                  | 33.60            | 15.70                    |
| 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                                                   | 3836.00     | 47.2 PK                 | 74.0           | -26.8       | 1.00 V             | 79                   | 47.90            | -0.70                    |
| 2                                                   | 3836.00     | 38.1 AV                 | 54.0           | -15.9       | 1.00 V             | 79                   | 38.80            | -0.70                    |
| 3                                                   | #5714.90    | 60.8 PK                 | 74.0           | -13.2       | 1.00 V             | 93                   | 58.20            | 2.60                     |
| 4                                                   | #5714.90    | 49.2 AV                 | 54.0           | -4.8        | 1.00 V             | 93                   | 46.60            | 2.60                     |
| 5                                                   | #5722.90    | 67.2 PK                 | 78.2           | -11.0       | 1.02 V             | 94                   | 64.60            | 2.60                     |
| 6                                                   | #5725.00    | 55.1 PK                 | 78.2           | -23.1       | 1.01 V             | 89                   | 52.50            | 2.60                     |
| 7                                                   | *5755.00    | 108.5 PK                |                |             | 1.03 V             | 34                   | 67.50            | 41.00                    |
| 8                                                   | *5755.00    | 98.2 AV                 |                |             | 1.03 V             | 34                   | 57.20            | 41.00                    |
| 9                                                   | 11510.00    | 66.1 PK                 | 74.0           | -7.9        | 1.32 V             | 26                   | 50.40            | 15.70                    |
| 10                                                  | 11510.00    | 53.0 AV                 | 54.0           | -1.0        | 1.32 V             | 26                   | 37.30            | 15.70                    |

## REMARKS:

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

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 159 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3863.00        | 46.3 PK                       | 74.0              | -27.7          | 1.00 H                   | 14                         | 46.90                  | -0.60                          |
| 2                                                   | 3863.00        | 37.4 AV                       | 54.0              | -16.6          | 1.00 H                   | 14                         | 38.00                  | -0.60                          |
| 3                                                   | *5795.00       | 108.2 PK                      |                   |                | 1.00 H                   | 78                         | 67.10                  | 41.10                          |
| 4                                                   | *5795.00       | 98.3 AV                       |                   |                | 1.00 H                   | 78                         | 57.20                  | 41.10                          |
| 5                                                   | #5850.00       | 47.4 PK                       | 78.2              | -30.8          | 1.00 H                   | 84                         | 44.40                  | 3.00                           |
| 6                                                   | #5852.10       | 59.2 PK                       | 78.2              | -19.0          | 1.18 H                   | 84                         | 56.20                  | 3.00                           |
| 7                                                   | #5860.10       | 57.8 PK                       | 74.0              | -16.2          | 1.24 H                   | 76                         | 54.80                  | 3.00                           |
| 8                                                   | #5860.10       | 44.7 AV                       | 54.0              | -9.3           | 1.24 H                   | 76                         | 41.70                  | 3.00                           |
| 9                                                   | 11590.00       | 64.2 PK                       | 74.0              | -9.8           | 1.00 H                   | 317                        | 48.60                  | 15.60                          |
| 10                                                  | 11590.00       | 50.4 AV                       | 54.0              | -3.6           | 1.00 H                   | 317                        | 34.80                  | 15.60                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 3863.00        | 47.6 PK                       | 74.0              | -26.4          | 1.00 V                   | 76                         | 48.20                  | -0.60                          |
| 2                                                 | 3863.00        | 40.2 AV                       | 54.0              | -13.8          | 1.00 V                   | 76                         | 40.80                  | -0.60                          |
| 3                                                 | *5795.00       | 104.3 PK                      |                   |                | 1.00 V                   | 39                         | 63.20                  | 41.10                          |
| 4                                                 | *5795.00       | 94.2 AV                       |                   |                | 1.00 V                   | 39                         | 53.10                  | 41.10                          |
| 5                                                 | #5850.00       | 45.9 PK                       | 78.2              | -32.3          | 1.00 V                   | 89                         | 42.90                  | 3.00                           |
| 6                                                 | #5852.10       | 58.1 PK                       | 78.2              | -20.1          | 1.00 V                   | 89                         | 55.10                  | 3.00                           |
| 7                                                 | #5860.10       | 57.9 PK                       | 74.0              | -16.1          | 1.00 V                   | 85                         | 54.90                  | 3.00                           |
| 8                                                 | #5860.10       | 44.6 AV                       | 54.0              | -9.4           | 1.00 V                   | 85                         | 41.60                  | 3.00                           |
| 9                                                 | 11590.00       | 67.4 PK                       | 74.0              | -6.6           | 1.06 V                   | 30                         | 51.80                  | 15.60                          |
| 10                                                | 11590.00       | 52.9 AV                       | 54.0              | -1.1           | 1.06 V                   | 30                         | 37.30                  | 15.60                          |

#### 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 (VHT20)\_3TX

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 149 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3830.00        | 46.4 PK                       | 74.0              | -27.6          | 1.00 H                   | 13                         | 47.10                  | -0.70                          |
| 2                                                   | 3830.00        | 37.2 AV                       | 54.0              | -16.8          | 1.00 H                   | 13                         | 37.90                  | -0.70                          |
| 3                                                   | #5714.90       | 58.4 PK                       | 74.0              | -15.6          | 1.00 H                   | 344                        | 55.80                  | 2.60                           |
| 4                                                   | #5714.90       | 45.1 AV                       | 54.0              | -8.9           | 1.00 H                   | 344                        | 42.50                  | 2.60                           |
| 5                                                   | #5722.90       | 65.8 PK                       | 78.2              | -12.4          | 1.00 H                   | 75                         | 63.20                  | 2.60                           |
| 6                                                   | #5725.00       | 50.7 PK                       | 78.2              | -27.5          | 1.06 H                   | 332                        | 48.10                  | 2.60                           |
| 7                                                   | *5745.00       | 111.4 PK                      |                   |                | 1.00 H                   | 79                         | 70.40                  | 41.00                          |
| 8                                                   | *5745.00       | 100.9 AV                      |                   |                | 1.00 H                   | 79                         | 59.90                  | 41.00                          |
| 9                                                   | 11490.00       | 64.2 PK                       | 74.0              | -9.8           | 1.32 H                   | 319                        | 48.30                  | 15.90                          |
| 10                                                  | 11490.00       | 51.2 AV                       | 54.0              | -2.8           | 1.32 H                   | 319                        | 35.30                  | 15.90                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3830.00        | 46.6 PK                       | 74.0              | -27.4          | 1.02 V                   | 76                         | 47.30                  | -0.70                          |
| 2                                                   | 3830.00        | 36.2 AV                       | 54.0              | -17.8          | 1.02 V                   | 76                         | 36.90                  | -0.70                          |
| 3                                                   | #5714.90       | 59.4 PK                       | 74.0              | -14.6          | 1.00 V                   | 76                         | 56.80                  | 2.60                           |
| 4                                                   | #5714.90       | 46.7 AV                       | 54.0              | -7.3           | 1.00 V                   | 76                         | 44.10                  | 2.60                           |
| 5                                                   | #5722.90       | 64.1 PK                       | 78.2              | -14.1          | 1.00 V                   | 43                         | 61.50                  | 2.60                           |
| 6                                                   | #5725.00       | 50.3 PK                       | 78.2              | -27.9          | 1.00 V                   | 94                         | 47.70                  | 2.60                           |
| 7                                                   | *5745.00       | 107.8 PK                      |                   |                | 1.13 V                   | 18                         | 66.80                  | 41.00                          |
| 8                                                   | *5745.00       | 97.5 AV                       |                   |                | 1.13 V                   | 18                         | 56.50                  | 41.00                          |
| 9                                                   | 11490.00       | 67.2 PK                       | 74.0              | -6.8           | 1.02 V                   | 28                         | 51.30                  | 15.90                          |
| 10                                                  | 11490.00       | 53.0 AV                       | 54.0              | -1.0           | 1.02 V                   | 28                         | 37.10                  | 15.90                          |

## 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.

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 157 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3856.00        | 46.9 PK                       | 74.0              | -27.1          | 1.00 H                   | 29                         | 47.50                  | -0.60                          |
| 2                                                   | 3856.00        | 37.3 AV                       | 54.0              | -16.7          | 1.00 H                   | 29                         | 37.90                  | -0.60                          |
| 3                                                   | *5785.00       | 110.0 PK                      |                   |                | 1.00 H                   | 78                         | 68.90                  | 41.10                          |
| 4                                                   | *5785.00       | 100.0 AV                      |                   |                | 1.00 H                   | 78                         | 58.90                  | 41.10                          |
| 5                                                   | 11570.00       | 63.8 PK                       | 74.0              | -10.2          | 1.00 H                   | 304                        | 48.20                  | 15.60                          |
| 6                                                   | 11570.00       | 50.7 AV                       | 54.0              | -3.3           | 1.00 H                   | 304                        | 35.10                  | 15.60                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3856.00        | 46.6 PK                       | 74.0              | -27.4          | 1.03 V                   | 306                        | 47.20                  | -0.60                          |
| 2                                                   | 3856.00        | 37.9 AV                       | 54.0              | -16.1          | 1.03 V                   | 306                        | 38.50                  | -0.60                          |
| 3                                                   | *5785.00       | 108.4 PK                      |                   |                | 1.02 V                   | 32                         | 67.30                  | 41.10                          |
| 4                                                   | *5785.00       | 98.5 AV                       |                   |                | 1.02 V                   | 32                         | 57.40                  | 41.10                          |
| 5                                                   | 11570.00       | 67.3 PK                       | 74.0              | -6.7           | 1.06 V                   | 22                         | 51.70                  | 15.60                          |
| 6                                                   | 11570.00       | 52.8 AV                       | 54.0              | -1.2           | 1.06 V                   | 22                         | 37.20                  | 15.60                          |

#### 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.

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 165 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3883.00        | 45.7 PK                       | 74.0              | -28.3          | 1.00 H                   | 10                         | 46.40                  | -0.70                          |
| 2                                                   | 3883.00        | 36.2 AV                       | 54.0              | -17.8          | 1.00 H                   | 10                         | 36.90                  | -0.70                          |
| 3                                                   | *5825.00       | 109.3 PK                      |                   |                | 1.00 H                   | 89                         | 68.20                  | 41.10                          |
| 4                                                   | *5825.00       | 98.9 AV                       |                   |                | 1.00 H                   | 89                         | 57.80                  | 41.10                          |
| 5                                                   | #5850.00       | 48.3 PK                       | 78.2              | -29.9          | 1.00 H                   | 73                         | 45.30                  | 3.00                           |
| 6                                                   | #5852.10       | 63.2 PK                       | 78.2              | -15.0          | 1.00 H                   | 69                         | 60.20                  | 3.00                           |
| 7                                                   | #5860.10       | 58.6 PK                       | 74.0              | -15.4          | 1.00 H                   | 77                         | 55.60                  | 3.00                           |
| 8                                                   | #5860.10       | 45.3 AV                       | 54.0              | -8.7           | 1.00 H                   | 77                         | 42.30                  | 3.00                           |
| 9                                                   | 11650.00       | 62.4 PK                       | 74.0              | -11.6          | 1.19 H                   | 344                        | 46.80                  | 15.60                          |
| 10                                                  | 11650.00       | 49.5 AV                       | 54.0              | -4.5           | 1.19 H                   | 344                        | 33.90                  | 15.60                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 3883.00        | 47.4 PK                       | 74.0              | -26.6          | 1.22 V                   | 70                         | 48.10                  | -0.70                          |
| 2                                                 | 3883.00        | 40.6 AV                       | 54.0              | -13.4          | 1.22 V                   | 70                         | 41.30                  | -0.70                          |
| 3                                                 | *5825.00       | 108.5 PK                      |                   |                | 1.01 V                   | 37                         | 67.40                  | 41.10                          |
| 4                                                 | *5825.00       | 98.5 AV                       |                   |                | 1.01 V                   | 37                         | 57.40                  | 41.10                          |
| 5                                                 | #5850.00       | 48.2 PK                       | 78.2              | -30.0          | 1.00 V                   | 56                         | 45.20                  | 3.00                           |
| 6                                                 | #5852.10       | 59.1 PK                       | 78.2              | -19.1          | 1.00 V                   | 99                         | 56.10                  | 3.00                           |
| 7                                                 | #5860.10       | 57.1 PK                       | 74.0              | -16.9          | 1.00 V                   | 77                         | 54.10                  | 3.00                           |
| 8                                                 | #5860.10       | 44.6 AV                       | 54.0              | -9.4           | 1.00 V                   | 77                         | 41.60                  | 3.00                           |
| 9                                                 | 11650.00       | 67.1 PK                       | 74.0              | -6.9           | 1.16 V                   | 24                         | 51.50                  | 15.60                          |
| 10                                                | 11650.00       | 52.8 AV                       | 54.0              | -1.2           | 1.16 V                   | 24                         | 37.20                  | 15.60                          |

#### 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 (VHT40)\_3TX

|                 |                |                      |              |
|-----------------|----------------|----------------------|--------------|
| CHANNEL         | TX Channel 151 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 40GHz   |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3836.00        | 46.2 PK                       | 74.0              | -27.8          | 1.00 H                   | 10                         | 46.90                  | -0.70                          |
| 2                                                   | 3836.00        | 37.1 AV                       | 54.0              | -16.9          | 1.00 H                   | 10                         | 37.80                  | -0.70                          |
| 3                                                   | #5714.90       | 64.1 PK                       | 74.0              | -9.9           | 1.00 H                   | 88                         | 61.50                  | 2.60                           |
| 4                                                   | #5714.90       | 50.8 AV                       | 54.0              | -3.2           | 1.00 H                   | 88                         | 48.20                  | 2.60                           |
| 5                                                   | #5722.90       | 69.4 PK                       | 78.2              | -8.8           | 1.00 H                   | 65                         | 66.80                  | 2.60                           |
| 6                                                   | #5725.00       | 56.2 PK                       | 78.2              | -22.0          | 1.00 H                   | 71                         | 53.60                  | 2.60                           |
| 7                                                   | *5755.00       | 108.1 PK                      |                   |                | 1.00 H                   | 73                         | 67.10                  | 41.00                          |
| 8                                                   | *5755.00       | 98.1 AV                       |                   |                | 1.00 H                   | 73                         | 57.10                  | 41.00                          |
| 9                                                   | 11510.00       | 62.6 PK                       | 74.0              | -11.4          | 1.00 H                   | 339                        | 46.90                  | 15.70                          |
| 10                                                  | 11510.00       | 49.2 AV                       | 54.0              | -4.8           | 1.00 H                   | 339                        | 33.50                  | 15.70                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3836.00        | 47.0 PK                       | 74.0              | -27.0          | 1.00 V                   | 77                         | 47.70                  | -0.70                          |
| 2                                                   | 3836.00        | 38.2 AV                       | 54.0              | -15.8          | 1.00 V                   | 77                         | 38.90                  | -0.70                          |
| 3                                                   | #5714.90       | 60.7 PK                       | 74.0              | -13.3          | 1.00 V                   | 73                         | 58.10                  | 2.60                           |
| 4                                                   | #5714.90       | 49.1 AV                       | 54.0              | -4.9           | 1.00 V                   | 73                         | 46.50                  | 2.60                           |
| 5                                                   | #5722.90       | 66.3 PK                       | 78.2              | -11.9          | 1.00 V                   | 63                         | 63.70                  | 2.60                           |
| 6                                                   | #5725.00       | 55.0 PK                       | 78.2              | -23.2          | 1.00 V                   | 61                         | 52.40                  | 2.60                           |
| 7                                                   | *5755.00       | 105.3 PK                      |                   |                | 1.00 V                   | 64                         | 64.30                  | 41.00                          |
| 8                                                   | *5755.00       | 95.8 AV                       |                   |                | 1.00 V                   | 64                         | 54.80                  | 41.00                          |
| 9                                                   | 11510.00       | 65.0 PK                       | 74.0              | -9.0           | 1.07 V                   | 20                         | 49.30                  | 15.70                          |
| 10                                                  | 11510.00       | 52.6 AV                       | 54.0              | -1.4           | 1.07 V                   | 20                         | 36.90                  | 15.70                          |

## REMARKS:

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

|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 159 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 40GHz   |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3863.00        | 45.9 PK                       | 74.0              | -28.1          | 1.00 H                   | 16                         | 46.50                  | -0.60                          |
| 2                                                   | 3863.00        | 36.6 AV                       | 54.0              | -17.4          | 1.00 H                   | 16                         | 37.20                  | -0.60                          |
| 3                                                   | *5795.00       | 108.0 PK                      |                   |                | 1.00 H                   | 85                         | 66.90                  | 41.10                          |
| 4                                                   | *5795.00       | 98.1 AV                       |                   |                | 1.00 H                   | 85                         | 57.00                  | 41.10                          |
| 5                                                   | #5850.00       | 47.3 PK                       | 78.2              | -30.9          | 1.08 H                   | 7                          | 44.30                  | 3.00                           |
| 6                                                   | #5852.10       | 59.0 PK                       | 78.2              | -19.2          | 1.00 H                   | 31                         | 56.00                  | 3.00                           |
| 7                                                   | #5860.10       | 57.7 PK                       | 74.0              | -16.3          | 1.00 H                   | 32                         | 54.70                  | 3.00                           |
| 8                                                   | #5860.10       | 44.6 AV                       | 54.0              | -9.4           | 1.00 H                   | 32                         | 41.60                  | 3.00                           |
| 9                                                   | 11590.00       | 64.1 PK                       | 74.0              | -9.9           | 1.00 H                   | 311                        | 48.50                  | 15.60                          |
| 10                                                  | 11590.00       | 50.5 AV                       | 54.0              | -3.5           | 1.00 H                   | 311                        | 34.90                  | 15.60                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 3863.00        | 46.1 PK                       | 74.0              | -27.9          | 1.00 V                   | 73                         | 46.70                  | -0.60                          |
| 2                                                 | 3863.00        | 35.9 AV                       | 54.0              | -18.1          | 1.00 V                   | 73                         | 36.50                  | -0.60                          |
| 3                                                 | *5795.00       | 104.2 PK                      |                   |                | 1.23 V                   | 14                         | 63.10                  | 41.10                          |
| 4                                                 | *5795.00       | 94.0 AV                       |                   |                | 1.23 V                   | 14                         | 52.90                  | 41.10                          |
| 5                                                 | #5850.00       | 45.8 PK                       | 78.2              | -32.4          | 1.00 V                   | 31                         | 42.80                  | 3.00                           |
| 6                                                 | #5852.10       | 58.0 PK                       | 78.2              | -20.2          | 1.00 V                   | 33                         | 55.00                  | 3.00                           |
| 7                                                 | #5860.10       | 57.8 PK                       | 74.0              | -16.2          | 1.00 V                   | 86                         | 54.80                  | 3.00                           |
| 8                                                 | #5860.10       | 44.5 AV                       | 54.0              | -9.5           | 1.00 V                   | 86                         | 41.50                  | 3.00                           |
| 9                                                 | 11590.00       | 67.3 PK                       | 74.0              | -6.7           | 1.22 V                   | 22                         | 51.70                  | 15.60                          |
| 10                                                | 11590.00       | 52.8 AV                       | 54.0              | -1.2           | 1.22 V                   | 22                         | 37.20                  | 15.60                          |

#### 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 (VHT80)\_3TX

|                 |                |                      |              |
|-----------------|----------------|----------------------|--------------|
| CHANNEL         | TX Channel 155 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 40GHz   |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3850.00        | 46.5 PK                       | 74.0              | -27.5          | 1.00 H                   | 12                         | 47.20                  | -0.70                          |
| 2                                                   | 3850.00        | 37.2 AV                       | 54.0              | -16.8          | 1.00 H                   | 12                         | 37.90                  | -0.70                          |
| 3                                                   | #5714.90       | 68.6 PK                       | 74.0              | -5.4           | 1.00 H                   | 71                         | 66.00                  | 2.60                           |
| 4                                                   | #5714.90       | 52.6 AV                       | 54.0              | -1.4           | 1.00 H                   | 71                         | 50.00                  | 2.60                           |
| 5                                                   | #5722.90       | 73.8 PK                       | 78.2              | -4.4           | 1.00 H                   | 84                         | 71.20                  | 2.60                           |
| 6                                                   | #5725.00       | 60.0 PK                       | 78.2              | -18.2          | 1.00 H                   | 79                         | 57.40                  | 2.60                           |
| 7                                                   | *5775.00       | 103.9 PK                      |                   |                | 1.00 H                   | 85                         | 62.90                  | 41.00                          |
| 8                                                   | *5775.00       | 94.4 AV                       |                   |                | 1.00 H                   | 85                         | 53.40                  | 41.00                          |
| 9                                                   | #5850.00       | 65.3 PK                       | 78.2              | -12.9          | 1.00 H                   | 71                         | 62.30                  | 3.00                           |
| 10                                                  | #5860.10       | 63.9 PK                       | 74.0              | -10.1          | 1.00 H                   | 83                         | 60.90                  | 3.00                           |
| 11                                                  | #5860.10       | 49.7 AV                       | 54.0              | -4.3           | 1.00 H                   | 83                         | 46.70                  | 3.00                           |
| 12                                                  | 11550.00       | 59.9 PK                       | 74.0              | -14.1          | 1.00 H                   | 199                        | 44.30                  | 15.60                          |
| 13                                                  | 11550.00       | 46.9 AV                       | 54.0              | -7.1           | 1.00 H                   | 199                        | 31.30                  | 15.60                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 3850.00        | 46.5 PK                       | 74.0              | -27.5          | 1.00 V                   | 73                         | 47.20                  | -0.70                          |
| 2                                                   | 3850.00        | 39.1 AV                       | 54.0              | -14.9          | 1.00 V                   | 73                         | 39.80                  | -0.70                          |
| 3                                                   | #5714.90       | 69.7 PK                       | 74.0              | -4.3           | 1.01 V                   | 37                         | 67.10                  | 2.60                           |
| 4                                                   | #5714.90       | 52.6 AV                       | 54.0              | -1.4           | 1.01 V                   | 37                         | 50.00                  | 2.60                           |
| 5                                                   | #5722.90       | 76.0 PK                       | 78.2              | -2.2           | 1.15 V                   | 18                         | 73.40                  | 2.60                           |
| 6                                                   | #5725.00       | 60.8 PK                       | 78.2              | -17.4          | 1.26 V                   | 20                         | 58.20                  | 2.60                           |
| 7                                                   | *5775.00       | 103.5 PK                      |                   |                | 1.14 V                   | 35                         | 62.50                  | 41.00                          |
| 8                                                   | *5775.00       | 93.4 AV                       |                   |                | 1.14 V                   | 35                         | 52.40                  | 41.00                          |
| 9                                                   | #5850.00       | 62.7 PK                       | 78.2              | -15.5          | 1.00 V                   | 34                         | 59.70                  | 3.00                           |
| 10                                                  | #5860.10       | 61.7 PK                       | 74.0              | -12.3          | 1.11 V                   | 35                         | 58.70                  | 3.00                           |
| 11                                                  | #5860.10       | 49.0 AV                       | 54.0              | -5.0           | 1.11 V                   | 35                         | 46.00                  | 3.00                           |
| 12                                                  | 11500.00       | 63.4 PK                       | 74.0              | -10.6          | 1.32 V                   | 29                         | 47.70                  | 15.70                          |
| 13                                                  | 11500.00       | 49.8 AV                       | 54.0              | -4.2           | 1.32 V                   | 29                         | 34.10                  | 15.70                          |

## 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.

# BELOW 1GHz WORST-CASE DATA

## 802.11ac (VHT20)\_2TX

|                 |               |                   |                 |
|-----------------|---------------|-------------------|-----------------|
| CHANNEL         | TX Channel 40 | 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                                                   | 80.44       | 23.3 QP                 | 40.0           | -16.7       | 2.00 H             | 253                  | 42.00            | -18.70                   |
| 2                                                   | 119.24      | 24.9 QP                 | 43.5           | -18.6       | 1.51 H             | 291                  | 41.60            | -16.70                   |
| 3                                                   | 156.10      | 27.9 QP                 | 43.5           | -15.6       | 2.00 H             | 111                  | 41.80            | -13.90                   |
| 4                                                   | 249.22      | 34.3 QP                 | 46.0           | -11.7       | 1.01 H             | 119                  | 48.80            | -14.50                   |
| 5                                                   | 524.70      | 34.6 QP                 | 46.0           | -11.4       | 1.51 H             | 235                  | 42.80            | -8.20                    |
| 6                                                   | 901.06      | 35.3 QP                 | 46.0           | -10.7       | 1.01 H             | 175                  | 36.60            | -1.30                    |
| 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                                                   | 33.45       | 30.7 QP                 | 40.0           | -9.3        | 1.00 V             | 94                   | 46.50            | -15.80                   |
| 2                                                   | 49.40       | 30.4 QP                 | 40.0           | -9.6        | 1.00 V             | 303                  | 44.90            | -14.50                   |
| 3                                                   | 107.60      | 30.7 QP                 | 43.5           | -12.8       | 1.00 V             | 283                  | 48.30            | -17.60                   |
| 4                                                   | 249.22      | 31.4 QP                 | 46.0           | -14.6       | 2.00 V             | 197                  | 45.90            | -14.50                   |
| 5                                                   | 524.70      | 34.2 QP                 | 46.0           | -11.8       | 1.00 V             | 180                  | 42.40            | -8.20                    |
| 6                                                   | 895.24      | 40.7 QP                 | 46.0           | -5.3        | 1.50 V             | 260                  | 42.10            | -1.40                    |

### 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

## 4.2 Conducted Emission Measurement

### 4.2.1 Limits of Conducted Emission Measurement

| Frequency (MHz) | Conducted Limit (dBuV) |         |
|-----------------|------------------------|---------|
|                 | Quasi-peak             | Average |
| 0.15 - 0.5      | 66 - 56                | 56 - 46 |
| 0.50 - 5.0      | 56                     | 46      |
| 5.0 - 30.0      | 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.

### 4.2.2 Test Instruments

| Description & Manufacturer              | Model No.                | Serial No.     | Date Of Calibration | Due Date Of Calibration |
|-----------------------------------------|--------------------------|----------------|---------------------|-------------------------|
| Test Receiver<br>ROHDE & SCHWARZ        | ESCI                     | 100612         | Sep. 30, 2014       | Sep. 29, 2015           |
| RF signal cable<br>Woken                | 5D-FB                    | Cable-HYC01-01 | Dec. 26, 2014       | Dec. 25, 2015           |
| LISN<br>ROHDE & SCHWARZ<br>(EUT)        | ESH3-Z5                  | 847265/023     | Oct. 21, 2014       | Oct. 20, 2015           |
| LISN<br>ROHDE & SCHWARZ<br>(Peripheral) | ESH3-Z5                  | 100311         | Jul. 21, 2014       | Jul. 20, 2015           |
| Software<br>ADT                         | BV ADT_Cond_<br>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 Procedure

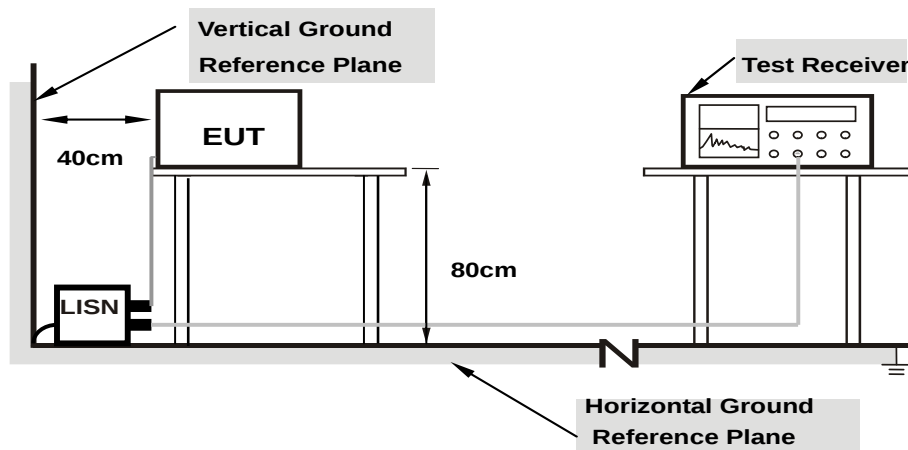
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

**NOTE:** The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

#### 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

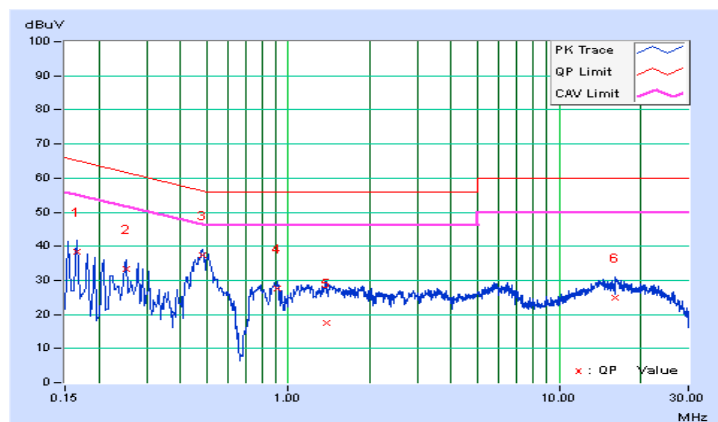
##### 802.11ac (VHT20)\_2TX

| Phase | Line (L) | Detector Function | Quasi-Peak (QP) / Average (AV) |
|-------|----------|-------------------|--------------------------------|
|-------|----------|-------------------|--------------------------------|

| No       | Freq.<br>[MHz] | Corr.<br>Factor<br>(dB) | Reading Value |              | Emission Level |              | Limit        |              | Margin        |               |
|----------|----------------|-------------------------|---------------|--------------|----------------|--------------|--------------|--------------|---------------|---------------|
|          |                |                         | [dB (uV)]     |              | [dB (uV)]      |              | [dB (uV)]    |              | (dB)          |               |
|          |                |                         | Q.P.          | AV.          | Q.P.           | AV.          | Q.P.         | AV.          | Q.P.          | AV.           |
| 1        | 0.16564        | 0.08                    | 38.28         | 20.06        | 38.36          | 20.14        | 65.18        | 55.18        | -26.82        | -35.04        |
| 2        | 0.25166        | 0.07                    | 33.31         | 22.29        | 33.38          | 22.36        | 61.70        | 51.70        | -28.32        | -29.34        |
| <b>3</b> | <b>0.48041</b> | <b>0.08</b>             | <b>37.20</b>  | <b>30.08</b> | <b>37.28</b>   | <b>30.16</b> | <b>56.33</b> | <b>46.33</b> | <b>-19.05</b> | <b>-16.17</b> |
| 4        | 0.91616        | 0.11                    | 27.55         | 19.77        | 27.66          | 19.88        | 56.00        | 46.00        | -28.34        | -26.12        |
| 5        | 1.38557        | 0.13                    | 17.23         | 9.10         | 17.36          | 9.23         | 56.00        | 46.00        | -38.64        | -36.77        |
| 6        | 16.15754       | 0.84                    | 24.14         | 16.56        | 24.98          | 17.40        | 60.00        | 50.00        | -35.02        | -32.60        |

#### 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.

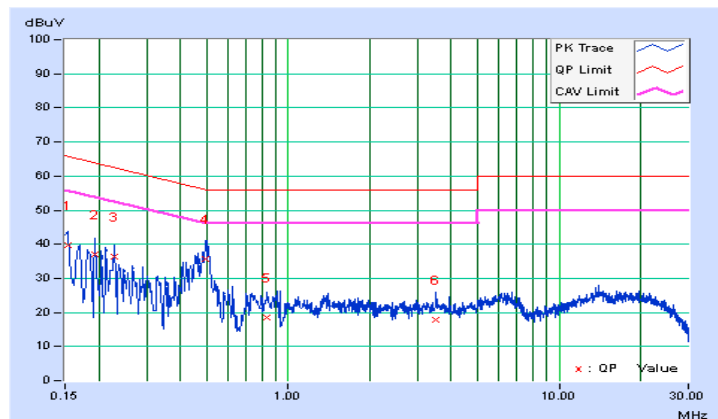


|       |             |                   |                                |
|-------|-------------|-------------------|--------------------------------|
| Phase | Neutral (N) | Detector Function | Quasi-Peak (QP) / Average (AV) |
|-------|-------------|-------------------|--------------------------------|

| No | Freq.<br>[MHz] | Corr.<br>Factor<br>(dB) | Reading Value<br>[dB (uV)] |       | Emission Level<br>[dB (uV)] |       | Limit<br>[dB (uV)] |       | Margin<br>(dB) |        |
|----|----------------|-------------------------|----------------------------|-------|-----------------------------|-------|--------------------|-------|----------------|--------|
|    |                |                         |                            |       |                             |       |                    |       |                |        |
|    |                |                         | Q.P.                       | AV.   | Q.P.                        | AV.   | Q.P.               | AV.   | Q.P.           | AV.    |
| 1  | 0.15391        | 0.05                    | 39.77                      | 22.88 | 39.82                       | 22.93 | 65.79              | 55.79 | -25.97         | -32.86 |
| 2  | 0.19301        | 0.05                    | 37.09                      | 19.50 | 37.14                       | 19.55 | 63.91              | 53.91 | -26.77         | -34.36 |
| 3  | 0.22820        | 0.05                    | 36.18                      | 19.45 | 36.23                       | 19.50 | 62.51              | 52.51 | -26.28         | -33.01 |
| 4  | 0.49408        | 0.07                    | 35.64                      | 23.28 | 35.71                       | 23.35 | 56.10              | 46.10 | -20.39         | -22.75 |
| 5  | 0.83034        | 0.08                    | 18.47                      | 9.61  | 18.55                       | 9.69  | 56.00              | 46.00 | -37.45         | -36.31 |
| 6  | 3.52433        | 0.19                    | 17.77                      | 10.18 | 17.96                       | 10.37 | 56.00              | 46.00 | -38.04         | -35.63 |

#### 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)<br>(Max. e.i.r.p $\leq$ 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 Method of conducted output power measurement on IEEE 802.11 devices,

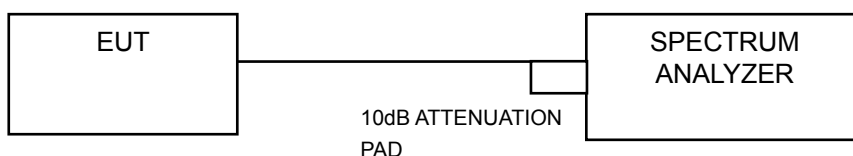
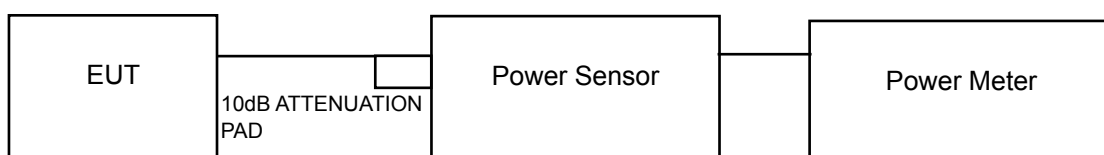
Array Gain = 0 dB (i.e., no array gain) for  $N_{ANT} \leq 4$ ;

Array Gain = 0 dB (i.e., no array gain) for channel widths  $\geq 40$  MHz for any  $N_{ANT}$ ;

Array Gain =  $5 \log(N_{ANT}/N_{SS})$  dB or 3 dB, whichever is less for 20-MHz channel widths with  $N_{ANT} \geq 5$ .

For power measurements on all other devices: Array Gain =  $10 \log(N_{ANT}/N_{SS})$  dB.

#### 4.3.2 Test Setup



#### 4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

#### 4.3.4 Test Procedure

##### FOR AVERAGE POWER MEASUREMENT

###### For 802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40)

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 (VHT80)

- 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  $\geq$  3 MHz
- 5) Number of points in sweep  $\geq$  2 Span / RBW.
- 6) Sweep time  $\leq$  (number of points in sweep) \* T
- 7) Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
- 8) Detector = RMS.
- 9) Trace mode = max hold.
- 10) 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 lowest, middle and highest channel frequencies individually.

#### 4.3.7 Test Result

##### POWER OUTPUT:

##### 802.11a\_1TX

| Channel | Channel Frequency (MHz) | Maximum Conducted Power (mW) | Maximum Conducted Power (dBm) | Power Limit (dBm) | Pass/Fail |
|---------|-------------------------|------------------------------|-------------------------------|-------------------|-----------|
| 36      | 5180                    | 184.927                      | 22.67                         | 29.87             | Pass      |
| 40      | 5200                    | 210.863                      | 23.24                         | 29.87             | Pass      |
| 48      | 5240                    | 214.783                      | 23.32                         | 29.87             | Pass      |
| 149     | 5745                    | 58.749                       | 17.69                         | 29.87             | Pass      |
| 157     | 5785                    | 76.208                       | 18.82                         | 29.87             | Pass      |
| 165     | 5825                    | 47.424                       | 16.76                         | 29.87             | Pass      |

\*Gain=6.13dBi > 6dBi, so the limit shall be reduced to 30-(6.13-6) = 29.87dBm.

##### 802.11n (HT20)\_2TX

| Chan. | Chan. Freq. (MHz) | Maximum Conducted Power (dBm) |         | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Pass / Fail |
|-------|-------------------|-------------------------------|---------|------------------|-------------------|-------------------|-------------|
|       |                   | Chain 0                       | Chain 1 |                  |                   |                   |             |
| 36    | 5180              | 21.00                         | 21.50   | 267.147          | 24.27             | 29.87             | Pass        |
| 40    | 5200              | 22.82                         | 23.33   | 406.704          | 26.09             | 29.87             | Pass        |
| 48    | 5240              | 22.80                         | 22.88   | 384.635          | 25.85             | 29.87             | Pass        |
| 149   | 5745              | 15.52                         | 15.04   | 67.560           | 18.30             | 29.87             | Pass        |
| 157   | 5785              | 15.19                         | 14.66   | 62.279           | 17.94             | 29.87             | Pass        |
| 165   | 5825              | 14.17                         | 14.30   | 53.037           | 17.25             | 29.87             | Pass        |

\*Max. Gain=6.13dBi > 6dBi, so the limit shall be reduced to 30-(6.13-6) = 29.87dBm.

##### 802.11n (HT40)\_2TX

| Chan. | Chan. Freq. (MHz) | Maximum Conducted Power (dBm) |         | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Pass / Fail |
|-------|-------------------|-------------------------------|---------|------------------|-------------------|-------------------|-------------|
|       |                   | Chain 0                       | Chain 1 |                  |                   |                   |             |
| 38    | 5190              | 18.69                         | 18.81   | 149.994          | 21.76             | 29.87             | Pass        |
| 46    | 5230              | 23.55                         | 23.57   | 453.974          | 26.57             | 29.87             | Pass        |
| 151   | 5755              | 16.98                         | 15.65   | 86.616           | 19.38             | 29.87             | Pass        |
| 159   | 5795              | 17.43                         | 16.29   | 97.895           | 19.91             | 29.87             | Pass        |

\*Max. Gain=6.13dBi > 6dBi, so the limit shall be reduced to 30-(6.13-6) = 29.87dBm.

### 802.11ac (VHT20)\_2TX

| Chan. | Chan. Freq.<br>(MHz) | Maximum Conducted Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Pass / Fail |
|-------|----------------------|-------------------------------|---------|---------------------|----------------------|----------------------|-------------|
|       |                      | Chain 0                       | Chain 1 |                     |                      |                      |             |
| 36    | 5180                 | 21.06                         | 21.51   | 269.223             | 24.30                | 29.87                | Pass        |
| 40    | 5200                 | 22.80                         | 23.51   | 414.934             | 26.18                | 29.87                | Pass        |
| 48    | 5240                 | 22.81                         | 22.98   | 389.594             | 25.91                | 29.87                | Pass        |
| 149   | 5745                 | 15.64                         | 14.78   | 66.705              | 18.24                | 29.87                | Pass        |
| 157   | 5785                 | 15.21                         | 15.05   | 65.178              | 18.14                | 29.87                | Pass        |
| 165   | 5825                 | 14.16                         | 14.28   | 52.854              | 17.23                | 29.87                | Pass        |

\*Max. Gain=6.13dBi > 6dBi, so the limit shall be reduced to  $30-(6.13-6) = 29.87\text{dBm}$ .

### 802.11ac (VHT40)\_2TX

| Chan. | Chan. Freq.<br>(MHz) | Maximum Conducted Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Pass / Fail |
|-------|----------------------|-------------------------------|---------|---------------------|----------------------|----------------------|-------------|
|       |                      | Chain 0                       | Chain 1 |                     |                      |                      |             |
| 38    | 5190                 | 18.76                         | 18.81   | 151.195             | 21.80                | 29.87                | Pass        |
| 46    | 5230                 | 23.70                         | 23.68   | 467.769             | 26.70                | 29.87                | Pass        |
| 151   | 5755                 | 17.11                         | 15.59   | 87.628              | 19.43                | 29.87                | Pass        |
| 159   | 5795                 | 17.39                         | 16.15   | 96.038              | 19.82                | 29.87                | Pass        |

\*Max. Gain=6.13dBi > 6dBi, so the limit shall be reduced to  $30-(6.13-6) = 29.87\text{dBm}$ .

### 802.11ac (VHT80)\_2TX

| Chan. | Chan. Freq.<br>(MHz) | Maximum Conducted Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Pass / Fail |
|-------|----------------------|-------------------------------|---------|---------------------|----------------------|----------------------|-------------|
|       |                      | Chain 0                       | Chain 1 |                     |                      |                      |             |
| 42    | 5210                 | 16.12                         | 16.18   | 82.421              | 19.16                | 29.87                | Pass        |
| 155   | 5775                 | 15.93                         | 14.40   | 66.716              | 18.24                | 29.87                | Pass        |

\*Max. Gain=6.13dBi > 6dBi, so the limit shall be reduced to  $30-(6.13-6) = 29.87\text{dBm}$ .

### 802.11n (HT20)\_3TX

| Chan. | Chan. Freq.<br>(MHz) | Maximum Conducted Power (dBm) |         |         | Total<br>Power<br>(mW) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Pass / Fail |
|-------|----------------------|-------------------------------|---------|---------|------------------------|-------------------------|-------------------------|-------------|
|       |                      | Chain 0                       | Chain 1 | Chain 2 |                        |                         |                         |             |
| 36    | 5180                 | 20.31                         | 21.10   | 20.78   | 355.898                | 25.51                   | 29.73                   | Pass        |
| 40    | 5200                 | 20.35                         | 21.07   | 20.85   | 357.950                | 25.54                   | 29.73                   | Pass        |
| 48    | 5240                 | 20.83                         | 21.46   | 20.98   | 386.333                | 25.87                   | 29.73                   | Pass        |
| 149   | 5745                 | 15.66                         | 14.75   | 13.41   | 88.595                 | 19.47                   | 29.73                   | Pass        |
| 157   | 5785                 | 15.28                         | 14.82   | 12.16   | 80.512                 | 19.06                   | 29.73                   | Pass        |
| 165   | 5825                 | 14.27                         | 14.35   | 12.62   | 72.238                 | 18.59                   | 29.73                   | Pass        |

\*Max. Gain=6.27dBi > 6dBi, so the limit shall be reduced to  $30-(6.27-6) = 29.73\text{dBm}$ .

### 802.11n (HT40)\_3TX

| Chan. | Chan. Freq.<br>(MHz) | Maximum Conducted Power (dBm) |         |         | Total<br>Power<br>(mW) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Pass / Fail |
|-------|----------------------|-------------------------------|---------|---------|------------------------|-------------------------|-------------------------|-------------|
|       |                      | Chain 0                       | Chain 1 | Chain 2 |                        |                         |                         |             |
| 38    | 5190                 | 18.31                         | 18.46   | 18.03   | 201.443                | 23.04                   | 29.73                   | Pass        |
| 46    | 5230                 | 23.44                         | 23.45   | 23.12   | 647.225                | 28.11                   | 29.73                   | Pass        |
| 151   | 5755                 | 17.24                         | 15.80   | 14.71   | 120.565                | 20.81                   | 29.73                   | Pass        |
| 159   | 5795                 | 17.03                         | 15.78   | 13.83   | 112.465                | 20.51                   | 29.73                   | Pass        |

\*Max. Gain=6.27dBi > 6dBi, so the limit shall be reduced to  $30-(6.27-6) = 29.73\text{dBm}$ .

### 802.11ac (VHT20)\_3TX

| Chan. | Chan. Freq.<br>(MHz) | Maximum Conducted Power (dBm) |         |         | Total<br>Power<br>(mW) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Pass / Fail |
|-------|----------------------|-------------------------------|---------|---------|------------------------|-------------------------|-------------------------|-------------|
|       |                      | Chain 0                       | Chain 1 | Chain 2 |                        |                         |                         |             |
| 36    | 5180                 | 20.53                         | 21.30   | 20.84   | 369.215                | 25.67                   | 29.73                   | Pass        |
| 40    | 5200                 | 20.48                         | 21.40   | 20.87   | 371.904                | 25.70                   | 29.73                   | Pass        |
| 48    | 5240                 | 20.74                         | 21.33   | 20.92   | 378.003                | 25.77                   | 29.73                   | Pass        |
| 149   | 5745                 | 15.62                         | 14.86   | 13.58   | 89.898                 | 19.54                   | 29.73                   | Pass        |
| 157   | 5785                 | 14.66                         | 14.01   | 11.76   | 69.416                 | 18.41                   | 29.73                   | Pass        |
| 165   | 5825                 | 14.21                         | 14.29   | 12.72   | 71.923                 | 18.57                   | 29.73                   | Pass        |

\*Max. Gain=6.27dBi > 6dBi, so the limit shall be reduced to  $30-(6.27-6) = 29.73\text{dBm}$ .

### 802.11ac (VHT40)\_3TX

| Chan. | Chan. Freq.<br>(MHz) | Maximum Conducted Power (dBm) |         |         | Total<br>Power<br>(mW) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Pass / Fail |
|-------|----------------------|-------------------------------|---------|---------|------------------------|-------------------------|-------------------------|-------------|
|       |                      | Chain 0                       | Chain 1 | Chain 2 |                        |                         |                         |             |
| 38    | 5190                 | 18.29                         | 18.52   | 18.10   | 203.139                | 23.08                   | 29.73                   | Pass        |
| 46    | 5230                 | 23.22                         | 23.52   | 23.16   | 641.813                | 28.07                   | 29.73                   | Pass        |
| 151   | 5755                 | 17.24                         | 15.72   | 14.56   | 118.867                | 20.75                   | 29.73                   | Pass        |
| 159   | 5795                 | 16.81                         | 15.80   | 13.88   | 110.426                | 20.43                   | 29.73                   | Pass        |

\*Max. Gain=6.27dBi > 6dBi, so the limit shall be reduced to  $30-(6.27-6) = 29.73\text{dBm}$ .

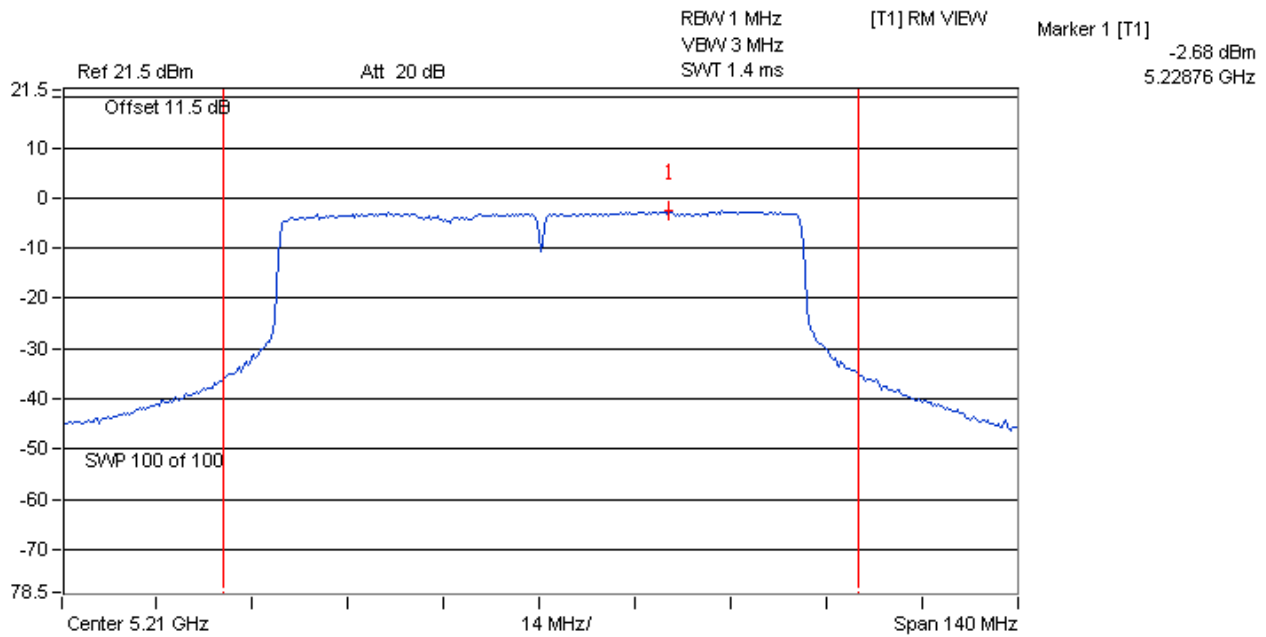
### 802.11ac (VHT80)\_3TX

| Chan. | Chan. Freq.<br>(MHz) | Maximum Conducted Power (dBm) |         |         | Total<br>Power<br>(mW) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Pass / Fail |
|-------|----------------------|-------------------------------|---------|---------|------------------------|-------------------------|-------------------------|-------------|
|       |                      | Chain 0                       | Chain 1 | Chain 2 |                        |                         |                         |             |
| 42    | 5210                 | 15.14                         | 15.38   | 14.69   | 96.617                 | 19.85                   | 29.73                   | Pass        |
| 155   | 5775                 | 16.04                         | 14.37   | 12.70   | 86.153                 | 19.35                   | 29.73                   | Pass        |

\*Max. Gain=6.27dBi > 6dBi, so the limit shall be reduced to  $30-(6.27-6) = 29.73\text{dBm}$ .

# SPECTRUM PLOT OF WORST VALUE

802.11ac (VHT80)\_2TX



TX Channel  
Bandwidth

93.28 MHz

Power 16.18 dBm

## 26dB BANDWIDTH:

### 802.11a\_1TX

| Channel | Channel Frequency (MHz) | 26dBc Bandwidth (MHz) | Pass / Fail |
|---------|-------------------------|-----------------------|-------------|
| 36      | 5180                    | 26.00                 | PASS        |
| 40      | 5200                    | 28.28                 | PASS        |
| 48      | 5240                    | 28.53                 | PASS        |

### 802.11n (HT20)\_2TX

| Channel | Channel Frequency (MHz) | 26dBc Bandwidth (MHz) |         | Pass / Fail |
|---------|-------------------------|-----------------------|---------|-------------|
|         |                         | Chain 0               | Chain 1 |             |
| 36      | 5180                    | 23.19                 | 23.40   | PASS        |
| 40      | 5200                    | 28.01                 | 25.97   | PASS        |
| 48      | 5240                    | 28.02                 | 25.31   | PASS        |

### 802.11n (HT40)\_2TX

| Channel | Channel Frequency (MHz) | 26dBc Bandwidth (MHz) |         | Pass / Fail |
|---------|-------------------------|-----------------------|---------|-------------|
|         |                         | Chain 0               | Chain 1 |             |
| 38      | 5190                    | 46.85                 | 46.14   | PASS        |
| 46      | 5230                    | 70.22                 | 50.98   | PASS        |

### 802.11ac (VHT20)\_2TX

| Channel | Channel Frequency (MHz) | 26dBc Bandwidth (MHz) |         | Pass / Fail |
|---------|-------------------------|-----------------------|---------|-------------|
|         |                         | Chain 0               | Chain 1 |             |
| 36      | 5180                    | 23.35                 | 24.19   | PASS        |
| 40      | 5200                    | 29.03                 | 27.14   | PASS        |
| 48      | 5240                    | 27.30                 | 25.21   | PASS        |

### 802.11ac (VHT40)\_2TX

| Channel | Channel Frequency (MHz) | 26dBc Bandwidth (MHz) |         | Pass / Fail |
|---------|-------------------------|-----------------------|---------|-------------|
|         |                         | Chain 0               | Chain 1 |             |
| 38      | 5190                    | 45.68                 | 46.37   | PASS        |
| 46      | 5230                    | 66.50                 | 54.64   | PASS        |

### 802.11ac (HT80)\_2TX

| Channel | Channel Frequency (MHz) | 26dBc Bandwidth (MHz) |         | Pass / Fail |
|---------|-------------------------|-----------------------|---------|-------------|
|         |                         | Chain 0               | Chain 1 |             |
| 42      | 5210                    | 89.43                 | 93.28   | PASS        |

### 802.11n (HT20)\_3TX

| Channel | Channel Frequency (MHz) | 26dBc Bandwidth (MHz) |         |         | Pass / Fail |
|---------|-------------------------|-----------------------|---------|---------|-------------|
|         |                         | Chain 0               | Chain 1 | Chain 2 |             |
| 36      | 5180                    | 23.51                 | 22.86   | 22.97   | PASS        |
| 40      | 5200                    | 25.24                 | 24.22   | 22.94   | PASS        |
| 48      | 5240                    | 26.71                 | 25.24   | 23.90   | PASS        |

### 802.11n (HT40)\_3TX

| Channel | Channel Frequency (MHz) | 26dBc Bandwidth (MHz) |         |         | Pass / Fail |
|---------|-------------------------|-----------------------|---------|---------|-------------|
|         |                         | Chain 0               | Chain 1 | Chain 2 |             |
| 38      | 5190                    | 46.52                 | 45.23   | 45.94   | PASS        |
| 46      | 5230                    | 69.50                 | 49.23   | 46.10   | PASS        |

### 802.11ac (VHT20)\_3TX

| Channel | Channel Frequency (MHz) | 26dBc Bandwidth (MHz) |         |         | Pass / Fail |
|---------|-------------------------|-----------------------|---------|---------|-------------|
|         |                         | Chain 0               | Chain 1 | Chain 2 |             |
| 36      | 5180                    | 23.59                 | 23.25   | 23.07   | PASS        |
| 40      | 5200                    | 24.68                 | 24.91   | 23.14   | PASS        |
| 48      | 5240                    | 26.60                 | 26.34   | 23.24   | PASS        |

### 802.11ac (VHT40)\_3TX

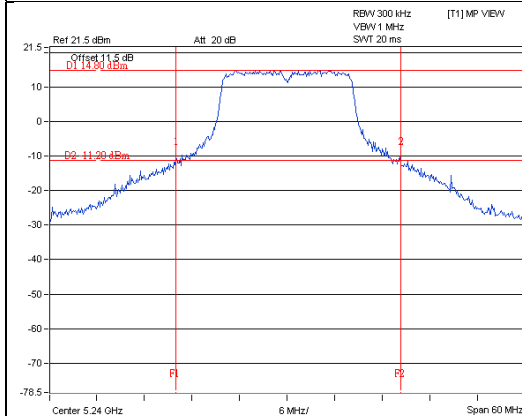
| Channel | Channel Frequency (MHz) | 26dBc Bandwidth (MHz) |         |         | Pass / Fail |
|---------|-------------------------|-----------------------|---------|---------|-------------|
|         |                         | Chain 0               | Chain 1 | Chain 2 |             |
| 38      | 5190                    | 46.38                 | 46.04   | 44.95   | PASS        |
| 46      | 5230                    | 65.91                 | 52.51   | 48.88   | PASS        |

### 802.11ac (VHT80)\_3TX

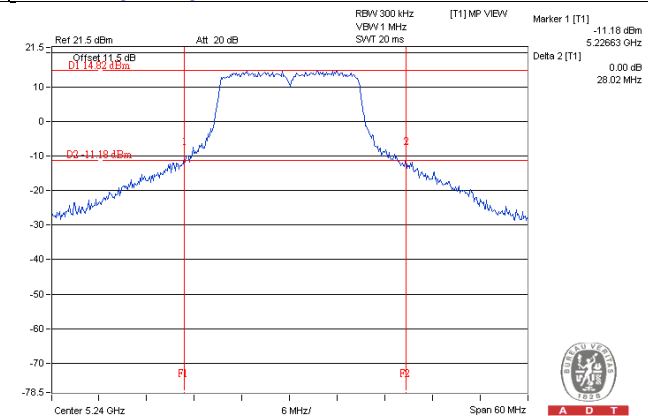
| Channel | Channel Frequency (MHz) | 26dBc Bandwidth (MHz) |         |         | Pass / Fail |
|---------|-------------------------|-----------------------|---------|---------|-------------|
|         |                         | Chain 0               | Chain 1 | Chain 2 |             |
| 42      | 5210                    | 89.83                 | 89.34   | 87.99   | PASS        |

# SPECTRUM PLOT OF WORST VALUE

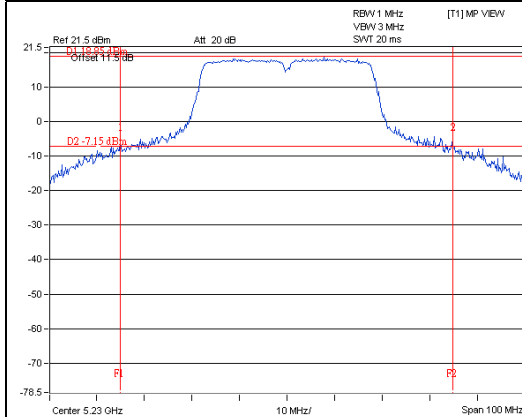
802.11a\_1TX



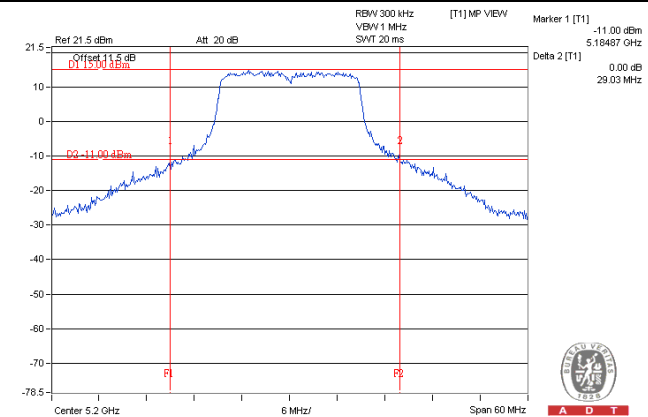
802.11n (HT20)\_2TX



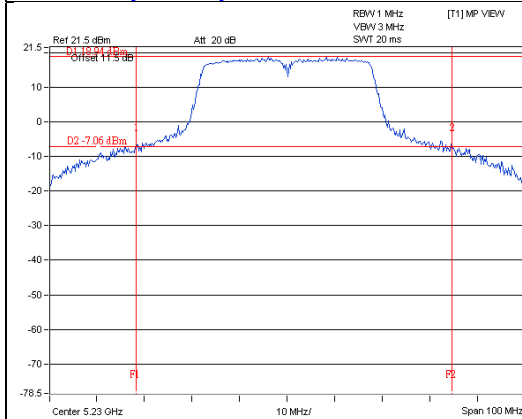
802.11n (HT40)\_2TX



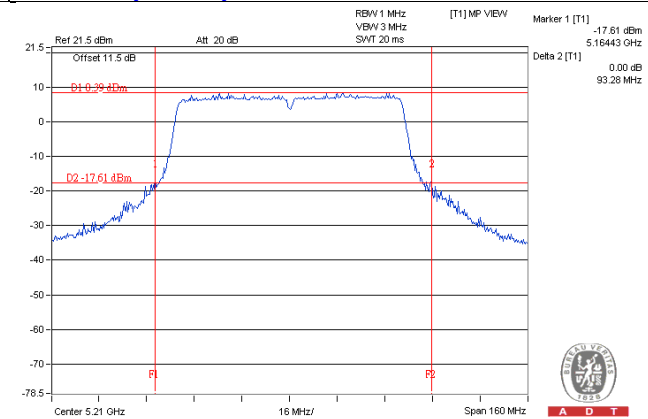
802.11ac (VHT20)\_2TX



802.11ac (VHT40)\_2TX

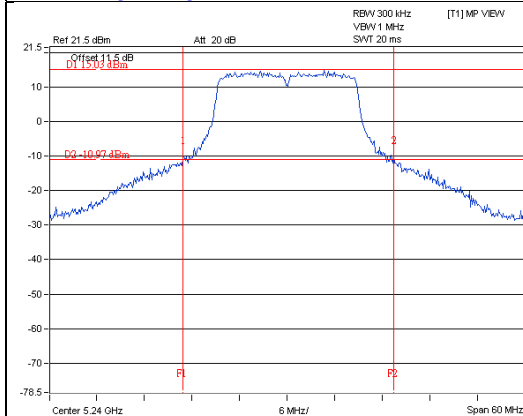


802.11ac (VHT80)\_2TX

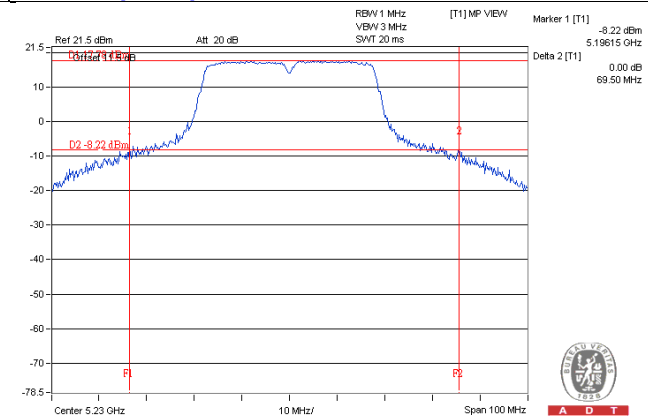


# SPECTRUM PLOT OF WORST VALUE

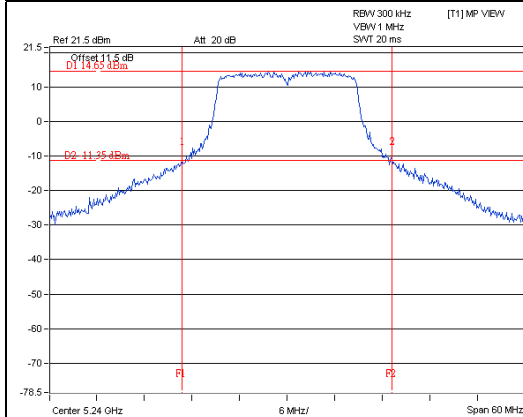
## 802.11n (HT20)\_3TX



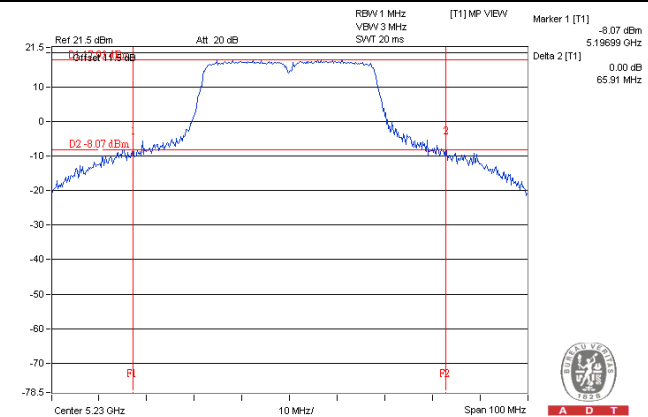
## 802.11n (HT40)\_3TX



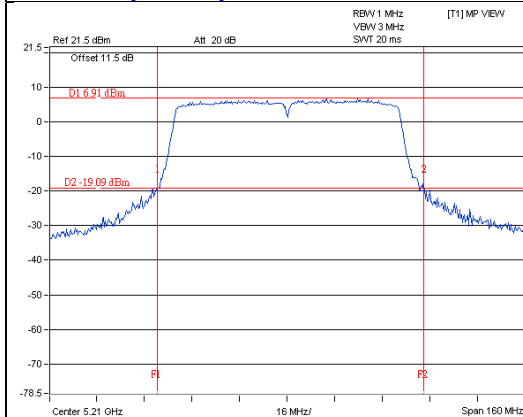
## 802.11ac (VHT20)\_3TX



## 802.11ac (VHT40)\_3TX



## 802.11ac (VHT80)\_3TX

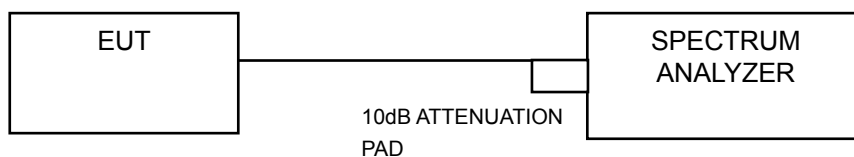


#### 4.4 Peak Power Spectral Density Measurement

##### 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/ 500kHz |

##### 4.4.2 Test Setup



##### 4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

##### 4.4.4 Test Procedure

###### For U-NII-1 band:

Using method SA-1

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 30 kHz, Set VBW  $\geq$  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

###### For U-NII-3 band:

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 500 kHz, Set VBW  $\geq$  3 RBW, Detector = RMS
- 3) Sweep time = auto, trigger set to "free run".
- 4) Trace average at least 100 traces in power averaging mode.
- 5) Record the max value and add 10 log (1/duty cycle)
- 6) Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where  $BWCF = 10\log(500\text{kHz}/300\text{kHz})$

#### 4.4.5 Deviation from Test Standard

No deviation.

#### 4.4.6 EUT Operating Condition

Same as Item 4.3.6.

#### 4.4.7 Test Results

##### For U-NII-1 Band

##### 802.11a\_1TX

| Channel | Frequency (MHz) | PSD (dBm) | Maximum Limit (dBm) | Pass/Fail |
|---------|-----------------|-----------|---------------------|-----------|
| 36      | 5180            | 9.01      | 16.87               | Pass      |
| 40      | 5200            | 9.46      | 16.87               | Pass      |
| 48      | 5240            | 9.56      | 16.87               | 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:

Gain = 6.13 dBi > 6dBi, so the power density limit shall be reduced to  $17 - (6.13 - 6) = 16.87$  dBm.

##### 802.11n (HT20)\_2TX

| Chan. | Chan. Freq. (MHz) | PSD (dBm) |         | Total Power Density (dBm) | Max. Limit (dBm) | Pass/Fail |
|-------|-------------------|-----------|---------|---------------------------|------------------|-----------|
|       |                   | Chain 0   | Chain 1 |                           |                  |           |
| 36    | 5180              | 7.48      | 8.24    | 10.89                     | 13.94            | Pass      |
| 40    | 5200              | 9.49      | 10.16   | 12.85                     | 13.94            | Pass      |
| 48    | 5240              | 9.17      | 9.56    | 12.38                     | 13.94            | 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 =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 9.06$  dBi > 6dBi, so the power density limit shall be reduced to  $17 - (9.06 - 6) = 13.94$  dBm.

##### 802.11n (HT40)\_2TX

| Chan. | Chan. Freq. (MHz) | PSD (dBm) |         | Total Power Density (dBm) | Max. Limit (dBm) | Pass/Fail |
|-------|-------------------|-----------|---------|---------------------------|------------------|-----------|
|       |                   | Chain 0   | Chain 1 |                           |                  |           |
| 38    | 5190              | 2.03      | 2.34    | 5.20                      | 13.94            | Pass      |
| 46    | 5230              | 6.90      | 7.24    | 10.08                     | 13.94            | 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 =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 9.06$  dBi > 6dBi, so the power density limit shall be reduced to  $17 - (9.06 - 6) = 13.94$  dBm.

### 802.11ac (VHT20)\_2TX

| Chan. | Chan. Freq.<br>(MHz) | PSD (dBm) |         | Total<br>Power<br>Density<br>(dBm) | Max. Limit<br>(dBm) | Pass/Fail |
|-------|----------------------|-----------|---------|------------------------------------|---------------------|-----------|
|       |                      | Chain 0   | Chain 1 |                                    |                     |           |
| 36    | 5180                 | 7.07      | 7.83    | 10.48                              | 13.94               | Pass      |
| 40    | 5200                 | 9.20      | 10.13   | 12.70                              | 13.94               | Pass      |
| 48    | 5240                 | 9.30      | 9.81    | 12.57                              | 13.94               | 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 =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 9.06 \text{ dBi} > 6 \text{ dBi}$ , so the power density limit shall be reduced to  $17 - (9.06 - 6) = 13.94 \text{ dBm}$ .

### 802.11ac (VHT40)\_2TX

| Chan. | Chan. Freq.<br>(MHz) | PSD (dBm) |         | Total<br>Power<br>Density<br>(dBm) | Max. Limit<br>(dBm) | Pass/Fail |
|-------|----------------------|-----------|---------|------------------------------------|---------------------|-----------|
|       |                      | Chain 0   | Chain 1 |                                    |                     |           |
| 38    | 5190                 | 1.93      | 2.39    | 5.18                               | 13.94               | Pass      |
| 46    | 5230                 | 6.74      | 7.03    | 9.90                               | 13.94               | 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 =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 9.06 \text{ dBi} > 6 \text{ dBi}$ , so the power density limit shall be reduced to  $17 - (9.06 - 6) = 13.94 \text{ dBm}$ .

### 802.11ac (VHT80)\_2TX

| Chan. | Chan. Freq.<br>(MHz) | PSD (dBm) |         | Total<br>Power<br>Density<br>(dBm) | Max. Limit<br>(dBm) | Pass/Fail |
|-------|----------------------|-----------|---------|------------------------------------|---------------------|-----------|
|       |                      | Chain 0   | Chain 1 |                                    |                     |           |
| 42    | 5210                 | -4.03     | -3.51   | -0.75                              | 13.94               | 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 =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 9.06 \text{ dBi} > 6 \text{ dBi}$ , so the power density limit shall be reduced to  $17 - (9.06 - 6) = 13.94 \text{ dBm}$ .

### 802.11n (HT20)\_3TX

| Chan. | Chan. Freq.<br>(MHz) | PSD (dBm) |         |         | Total<br>Power<br>Density<br>(dBm) | Max. Limit<br>(dBm) | Pass/Fail |
|-------|----------------------|-----------|---------|---------|------------------------------------|---------------------|-----------|
|       |                      | Chain 0   | Chain 1 | Chain 2 |                                    |                     |           |
| 36    | 5180                 | 7.01      | 7.02    | 6.52    | 11.63                              | 12.11               | Pass      |
| 40    | 5200                 | 7.36      | 7.03    | 7.25    | 11.99                              | 12.11               | Pass      |
| 48    | 5240                 | 7.62      | 7.09    | 7.21    | 12.08                              | 12.11               | 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 =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3] = 10.89 \text{ dBi} > 6 \text{ dBi}$ , so the power density limit shall be reduced to  $17 - (10.89 - 6) = 12.11 \text{ dBm}$ .

### 802.11n (HT40)\_3TX

| Chan. | Chan. Freq.<br>(MHz) | PSD (dBm) |         |         | Total<br>Power<br>Density<br>(dBm) | Max. Limit<br>(dBm) | Pass/Fail |
|-------|----------------------|-----------|---------|---------|------------------------------------|---------------------|-----------|
|       |                      | Chain 0   | Chain 1 | Chain 2 |                                    |                     |           |
| 38    | 5190                 | 1.53      | 1.65    | 0.77    | 6.11                               | 12.11               | Pass      |
| 46    | 5230                 | 6.61      | 6.78    | 6.23    | 11.32                              | 12.11               | 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 =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3] = 10.89 \text{ dBi} > 6 \text{ dBi}$ , so the power density limit shall be reduced to  $17 - (10.89 - 6) = 12.11 \text{ dBm}$ .

### 802.11ac (VHT20)\_3TX

| Chan. | Chan. Freq. (MHz) | PSD (dBm) |         |         | Total Power Density (dBm) | Max. Limit (dBm) | Pass/Fail |
|-------|-------------------|-----------|---------|---------|---------------------------|------------------|-----------|
|       |                   | Chain 0   | Chain 1 | Chain 2 |                           |                  |           |
| 36    | 5180              | 6.84      | 7.82    | 6.78    | 11.94                     | 12.11            | Pass      |
| 40    | 5200              | 6.85      | 7.87    | 6.67    | 11.93                     | 12.11            | Pass      |
| 48    | 5240              | 6.88      | 7.77    | 6.90    | 11.97                     | 12.11            | 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 =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3]$  = 10.89 dBi > 6dBi , so the power density limit shall be reduced to  $17-(10.89-6) = 12.11$ dBm.

### 802.11ac (VHT40)\_3TX

| Chan. | Chan. Freq. (MHz) | PSD (dBm) |         |         | Total Power Density (dBm) | Max. Limit (dBm) | Pass/Fail |
|-------|-------------------|-----------|---------|---------|---------------------------|------------------|-----------|
|       |                   | Chain 0   | Chain 1 | Chain 2 |                           |                  |           |
| 38    | 5190              | 1.54      | 2.08    | 1.02    | 6.34                      | 12.11            | Pass      |
| 46    | 5230              | 6.35      | 6.89    | 6.48    | 11.35                     | 12.11            | 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 =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3]$  = 10.89 dBi > 6dBi , so the power density limit shall be reduced to  $17-(10.89-6) = 12.11$ dBm.

### 802.11n (VHT80)\_3TX

| Chan. | Chan. Freq. (MHz) | PSD (dBm) |         |         | Total Power Density (dBm) | Max. Limit (dBm) | Pass/Fail |
|-------|-------------------|-----------|---------|---------|---------------------------|------------------|-----------|
|       |                   | Chain 0   | Chain 1 | Chain 2 |                           |                  |           |
| 42    | 5210              | -4.89     | -4.49   | -5.26   | -0.10                     | 12.11            | Pass      |

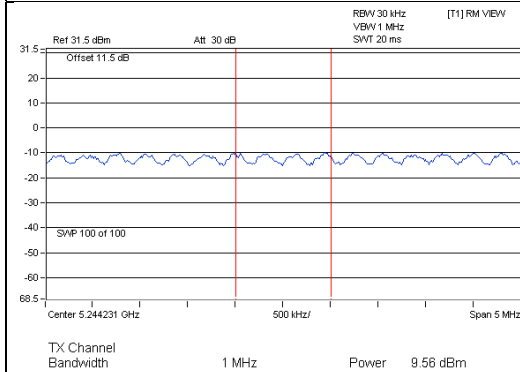
**NOTE:** 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

#### 2. For U-NII-1 Band:

Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3]$  = 10.89 dBi > 6dBi , so the power density limit shall be reduced to  $17-(10.89-6) = 12.11$ dBm.

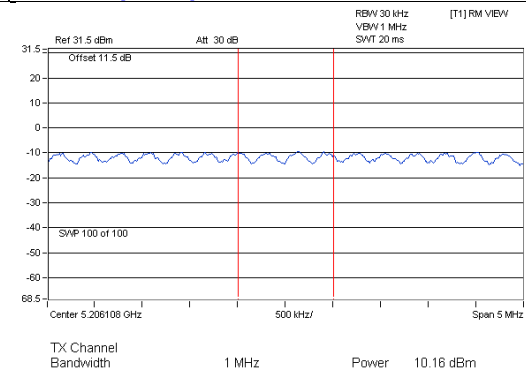
# SPECTRUM PLOT OF WORST VALUE

## 802.11a\_1TX



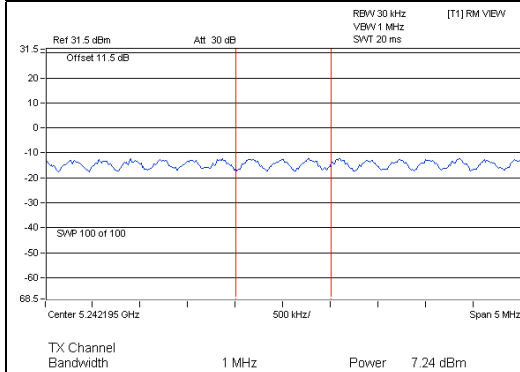
A D T

## 802.11n (HT20)\_2TX



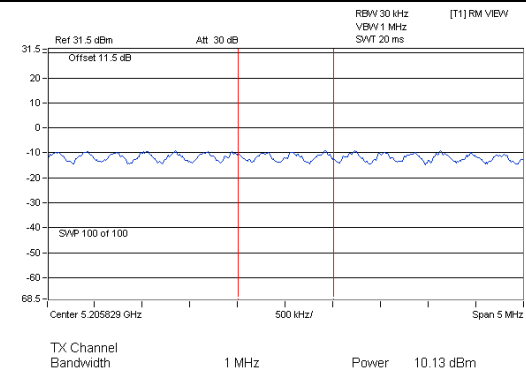
A D T

## 802.11n (HT40)\_2TX



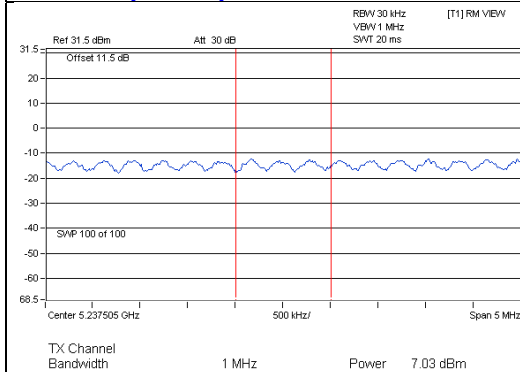
A D T

## 802.11ac (VHT20)\_2TX



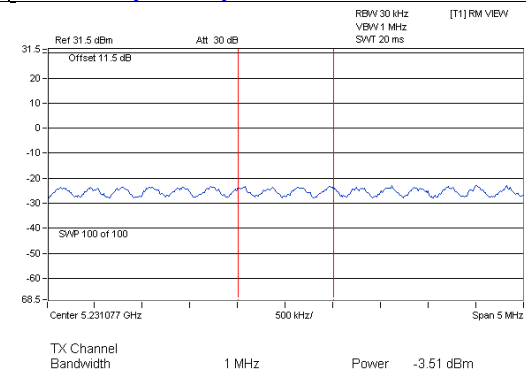
A D T

## 802.11ac (VHT40)\_2TX



A D T

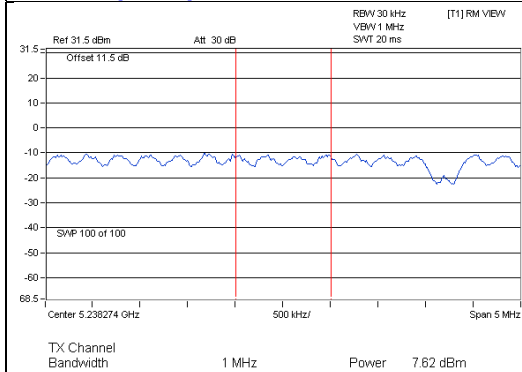
## 802.11ac (VHT80)\_2TX



A D T

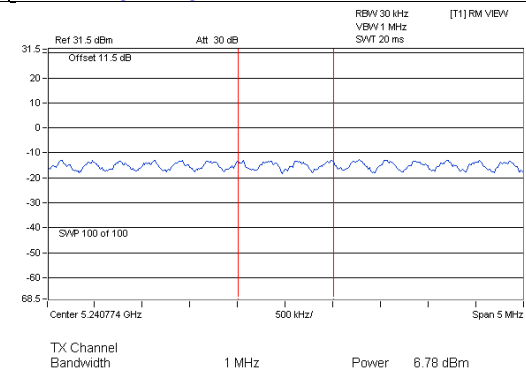
# SPECTRUM PLOT OF WORST VALUE

## 802.11n (HT20)\_3TX



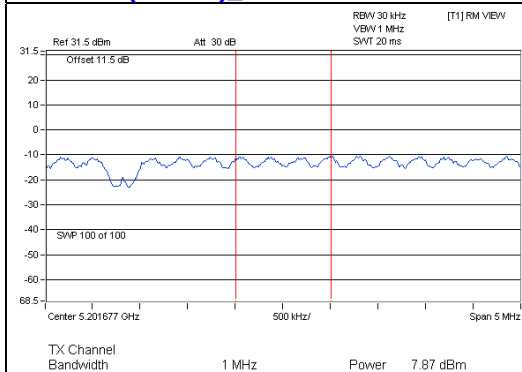
A D T

## 802.11n (HT40)\_3TX



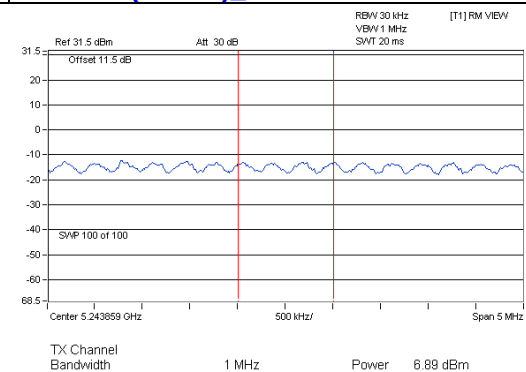
A D T

## 802.11ac (VHT20)\_3TX



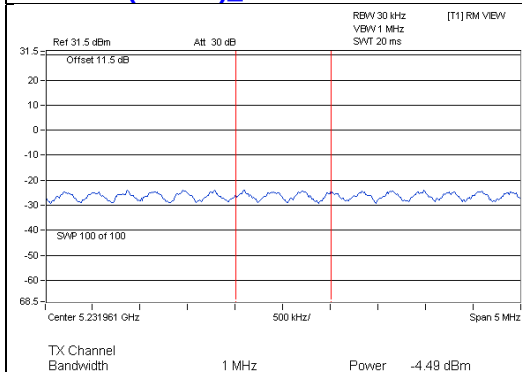
A D T

## 802.11ac (VHT40)\_3TX



A D T

## 802.11ac (VHT80)\_3TX



A D T

## For U-NII-3 Band

### 802.11a\_1TX

| Channel | Freq. (MHz) | PSD (dBm/300kHz) | PSD (dBm/500kHz) | Limit (dBm/500kHz) | Pass /Fail |
|---------|-------------|------------------|------------------|--------------------|------------|
| 149     | 5745        | -3.56            | -1.34            | 29.87              | Pass       |
| 157     | 5785        | -2.48            | -0.26            | 29.87              | Pass       |
| 165     | 5825        | -4.46            | -2.24            | 29.87              | Pass       |

\* Gain = 6.13 dBi > 6dBi, so the power density limit shall be reduced to 30-(6.13-6) = 29.87dBm.

### 802.11n (HT20)\_2TX

| TX chain | Channel | Freq. (MHz) | PSD (dBm/300k Hz) | PSD (dBm/500k Hz) | 10 log (N=2) dB | Total PSD (dBm/500k Hz) | Limit (dBm/500k Hz) | Pass /Fail |
|----------|---------|-------------|-------------------|-------------------|-----------------|-------------------------|---------------------|------------|
| 0        | 149     | 5745        | -6.01             | -3.79             | 3.01            | -0.78                   | 26.94               | Pass       |
|          | 157     | 5785        | -6.33             | -4.11             | 3.01            | -1.10                   | 26.94               | Pass       |
|          | 165     | 5825        | -7.66             | -5.44             | 3.01            | -2.43                   | 26.94               | Pass       |
| 1        | 149     | 5745        | -6.39             | -4.17             | 3.01            | -1.16                   | 26.94               | Pass       |
|          | 157     | 5785        | -6.73             | -4.51             | 3.01            | -1.50                   | 26.94               | Pass       |
|          | 165     | 5825        | -7.00             | -4.78             | 3.01            | -1.77                   | 26.94               | Pass       |

**NOTE:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 9.06 \text{ dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to 30-(9.06-6) = 26.94dBm.

### 802.11n (HT40)\_2TX

| TX chain | Channel | Freq. (MHz) | PSD (dBm/300k Hz) | PSD (dBm/500k Hz) | 10 log (N=2) dB | Total PSD (dBm/500k Hz) | Limit (dBm/500k Hz) | Pass /Fail |
|----------|---------|-------------|-------------------|-------------------|-----------------|-------------------------|---------------------|------------|
| 0        | 151     | 5755        | -7.68             | -5.46             | 3.01            | -2.45                   | 26.94               | Pass       |
|          | 159     | 5795        | -7.48             | -5.26             | 3.01            | -2.25                   | 26.94               | Pass       |
| 1        | 151     | 5755        | -9.03             | -6.81             | 3.01            | -3.80                   | 26.94               | Pass       |
|          | 159     | 5795        | -8.37             | -6.15             | 3.01            | -3.14                   | 26.94               | Pass       |

**NOTE:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 9.06 \text{ dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to 30-(9.06-6) = 26.94dBm.

### 802.11ac (VHT20)\_2TX

| TX chain | Channel | Freq. (MHz) | PSD (dBm/300k Hz) | PSD (dBm/500k Hz) | 10 log (N=2) dB | Total PSD (dBm/500k Hz) | Limit (dBm/500k Hz) | Pass /Fail |
|----------|---------|-------------|-------------------|-------------------|-----------------|-------------------------|---------------------|------------|
| 0        | 149     | 5745        | -5.93             | -3.71             | 3.01            | -0.70                   | 26.94               | Pass       |
|          | 157     | 5785        | -6.44             | -4.22             | 3.01            | -1.21                   | 26.94               | Pass       |
|          | 165     | 5825        | -7.27             | -5.05             | 3.01            | -2.04                   | 26.94               | Pass       |
| 1        | 149     | 5745        | -6.33             | -4.11             | 3.01            | -1.10                   | 26.94               | Pass       |
|          | 157     | 5785        | -6.97             | -4.75             | 3.01            | -1.74                   | 26.94               | Pass       |
|          | 165     | 5825        | -7.08             | -4.86             | 3.01            | -1.85                   | 26.94               | Pass       |

**NOTE:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 9.06 \text{ dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $30-(9.06-6) = 26.94\text{dBm}$ .

### 802.11ac (VHT40)\_2TX

| TX chain | Channel | Freq. (MHz) | PSD (dBm/300k Hz) | PSD (dBm/500k Hz) | 10 log (N=2) dB | Total PSD (dBm/500k Hz) | Limit (dBm/500k Hz) | Pass /Fail |
|----------|---------|-------------|-------------------|-------------------|-----------------|-------------------------|---------------------|------------|
| 0        | 151     | 5755        | -7.59             | -5.37             | 3.01            | -2.36                   | 26.94               | Pass       |
|          | 159     | 5795        | -7.43             | -5.21             | 3.01            | -2.20                   | 26.94               | Pass       |
| 1        | 151     | 5755        | -9.06             | -6.84             | 3.01            | -3.83                   | 26.94               | Pass       |
|          | 159     | 5795        | -8.68             | -6.46             | 3.01            | -3.45                   | 26.94               | Pass       |

**NOTE:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 9.06 \text{ dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $30-(9.06-6) = 26.94\text{dBm}$ .

### 802.11ac (VHT80)\_2TX

| TX chain | Channel | Freq. (MHz) | PSD (dBm/300k Hz) | PSD (dBm/500k Hz) | 10 log (N=2) dB | Total PSD (dBm/500k Hz) | Limit (dBm/500k Hz) | Pass /Fail |
|----------|---------|-------------|-------------------|-------------------|-----------------|-------------------------|---------------------|------------|
| 0        | 155     | 5775        | -12.35            | -10.13            | 3.01            | -7.12                   | 26.94               | Pass       |
| 1        | 155     | 5775        | -13.14            | -10.92            | 3.01            | -7.91                   | 26.94               | Pass       |

**NOTE:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 9.06 \text{ dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $30-(9.06-6) = 26.94\text{dBm}$ .

### 802.11n (HT20)\_3TX

| TX chain | Channel | Freq. (MHz) | PSD (dBm/300k Hz) | PSD (dBm/500k Hz) | 10 log (N=3) dB | Total PSD (dBm/500k Hz) | Limit (dBm/500k Hz) | Pass /Fail |
|----------|---------|-------------|-------------------|-------------------|-----------------|-------------------------|---------------------|------------|
| 0        | 149     | 5745        | -5.98             | -3.76             | 4.77            | 1.01                    | 25.11               | Pass       |
|          | 157     | 5785        | -6.21             | -3.99             | 4.77            | 0.78                    | 25.11               | Pass       |
|          | 165     | 5825        | -7.12             | -4.90             | 4.77            | -0.13                   | 25.11               | Pass       |
| 1        | 149     | 5745        | -6.08             | -3.86             | 4.77            | 0.91                    | 25.11               | Pass       |
|          | 157     | 5785        | -6.30             | -4.08             | 4.77            | 0.69                    | 25.11               | Pass       |
|          | 165     | 5825        | -7.27             | -5.05             | 4.77            | -0.28                   | 25.11               | Pass       |
| 2        | 149     | 5745        | -7.81             | -5.59             | 4.77            | -0.82                   | 25.11               | Pass       |
|          | 157     | 5785        | -9.30             | -7.08             | 4.77            | -2.31                   | 25.11               | Pass       |
|          | 165     | 5825        | -8.76             | -6.54             | 4.77            | -1.77                   | 25.11               | Pass       |

**NOTE:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3] = 10.89 \text{ dBi} > 6 \text{ dBi}$ , so the power density limit shall be reduced to  $30 - (10.89 - 6) = 25.11 \text{ dBm}$ .

### 802.11n (HT40)\_3TX

| TX chain | Channel | Freq. (MHz) | PSD (dBm/300k Hz) | PSD (dBm/500k Hz) | 10 log (N=3) dB | Total PSD (dBm/500k Hz) | Limit (dBm/500k Hz) | Pass /Fail |
|----------|---------|-------------|-------------------|-------------------|-----------------|-------------------------|---------------------|------------|
| 0        | 151     | 5755        | -7.49             | -5.27             | 4.77            | -0.50                   | 25.11               | Pass       |
|          | 159     | 5795        | -7.89             | -5.67             | 4.77            | -0.90                   | 25.11               | Pass       |
| 1        | 151     | 5755        | -8.44             | -6.22             | 4.77            | -1.45                   | 25.11               | Pass       |
|          | 159     | 5795        | -8.76             | -6.54             | 4.77            | -1.77                   | 25.11               | Pass       |
| 2        | 151     | 5755        | -10.22            | -8.00             | 4.77            | -3.23                   | 25.11               | Pass       |
|          | 159     | 5795        | -10.57            | -8.35             | 4.77            | -3.58                   | 25.11               | Pass       |

**NOTE:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3] = 10.89 \text{ dBi} > 6 \text{ dBi}$ , so the power density limit shall be reduced to  $30 - (10.89 - 6) = 25.11 \text{ dBm}$ .

### 802.11ac (VHT20)\_3TX

| TX chain | Channel | Freq. (MHz) | PSD (dBm/300k Hz) | PSD (dBm/500k Hz) | 10 log (N=3) dB | Total PSD (dBm/500k Hz) | Limit (dBm/500k Hz) | Pass /Fail |
|----------|---------|-------------|-------------------|-------------------|-----------------|-------------------------|---------------------|------------|
| 0        | 149     | 5745        | -5.43             | -3.21             | 4.77            | 1.56                    | 25.11               | Pass       |
|          | 157     | 5785        | -6.56             | -4.34             | 4.77            | 0.43                    | 25.11               | Pass       |
|          | 165     | 5825        | -7.44             | -5.22             | 4.77            | -0.45                   | 25.11               | Pass       |
| 1        | 149     | 5745        | -5.93             | -3.71             | 4.77            | 1.06                    | 25.11               | Pass       |
|          | 157     | 5785        | -6.78             | -4.56             | 4.77            | 0.21                    | 25.11               | Pass       |
|          | 165     | 5825        | -7.01             | -4.79             | 4.77            | -0.02                   | 25.11               | Pass       |
| 2        | 149     | 5745        | -7.87             | -5.65             | 4.77            | -0.88                   | 25.11               | Pass       |
|          | 157     | 5785        | -9.49             | -7.27             | 4.77            | -2.50                   | 25.11               | Pass       |
|          | 165     | 5825        | -8.35             | -6.13             | 4.77            | -1.36                   | 25.11               | Pass       |

**NOTE:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3] = 10.89 \text{ dBi} > 6 \text{ dBi}$ , so the power density limit shall be reduced to  $30 - (10.89 - 6) = 25.11 \text{ dBm}$ .

### 802.11ac (VHT40)\_3TX

| TX chain | Channel | Freq. (MHz) | PSD (dBm/300k Hz) | PSD (dBm/500k Hz) | 10 log (N=3) dB | Total PSD (dBm/500k Hz) | Limit (dBm/500k Hz) | Pass /Fail |
|----------|---------|-------------|-------------------|-------------------|-----------------|-------------------------|---------------------|------------|
| 0        | 151     | 5755        | -7.52             | -5.30             | 4.77            | -0.53                   | 25.11               | Pass       |
|          | 159     | 5795        | -7.65             | -5.43             | 4.77            | -0.66                   | 25.11               | Pass       |
| 1        | 151     | 5755        | -8.48             | -6.26             | 4.77            | -1.49                   | 25.11               | Pass       |
|          | 159     | 5795        | -9.05             | -6.83             | 4.77            | -2.06                   | 25.11               | Pass       |
| 2        | 151     | 5755        | -9.84             | -7.62             | 4.77            | -2.85                   | 25.11               | Pass       |
|          | 159     | 5795        | -10.79            | -8.57             | 4.77            | -3.80                   | 25.11               | Pass       |

**NOTE:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3] = 10.89 \text{ dBi} > 6 \text{ dBi}$ , so the power density limit shall be reduced to  $30 - (10.89 - 6) = 25.11 \text{ dBm}$ .

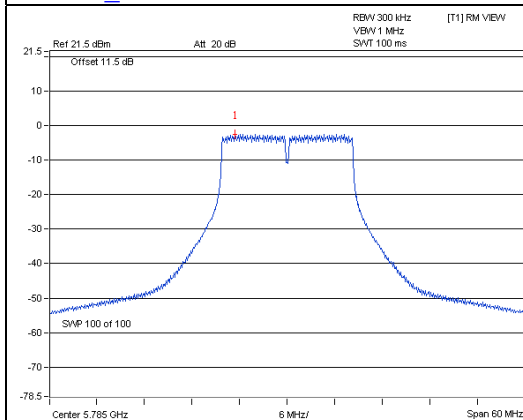
### 802.11ac (VHT80)\_3TX

| TX chain | Channel | Freq. (MHz) | PSD (dBm/300k Hz) | PSD (dBm/500k Hz) | 10 log (N=3) dB | Total PSD (dBm/500k Hz) | Limit (dBm/500k Hz) | Pass /Fail |
|----------|---------|-------------|-------------------|-------------------|-----------------|-------------------------|---------------------|------------|
| 0        | 155     | 5775        | -12.25            | -10.03            | 4.77            | -5.26                   | 25.11               | Pass       |
| 1        | 155     | 5775        | -13.23            | -11.01            | 4.77            | -6.24                   | 25.11               | Pass       |
| 2        | 155     | 5775        | -14.83            | -12.61            | 4.77            | -7.84                   | 25.11               | Pass       |

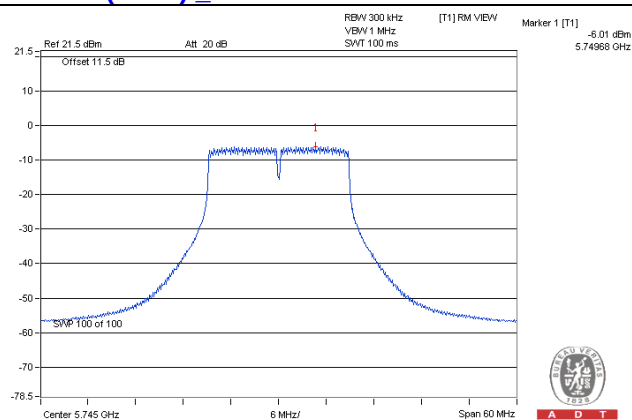
**NOTE:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3] = 10.89 \text{ dBi} > 6 \text{ dBi}$ , so the power density limit shall be reduced to  $30 - (10.89 - 6) = 25.11 \text{ dBm}$ .

# SPECTRUM PLOT OF WORST VALUE

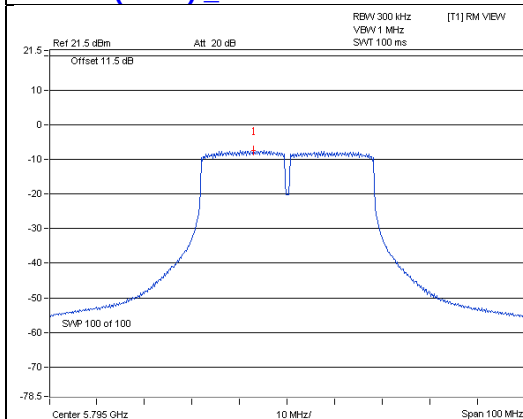
802.11a\_1TX



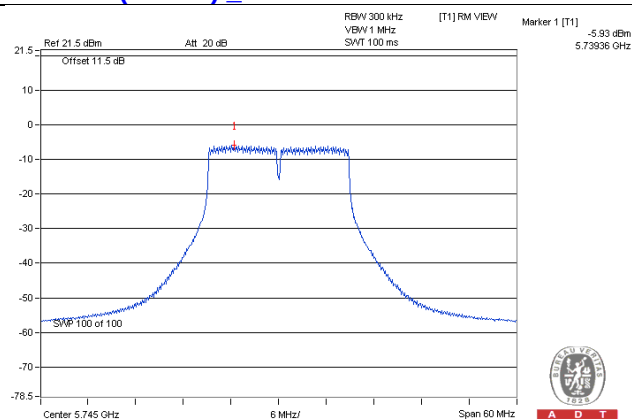
802.11n (HT20)\_2TX



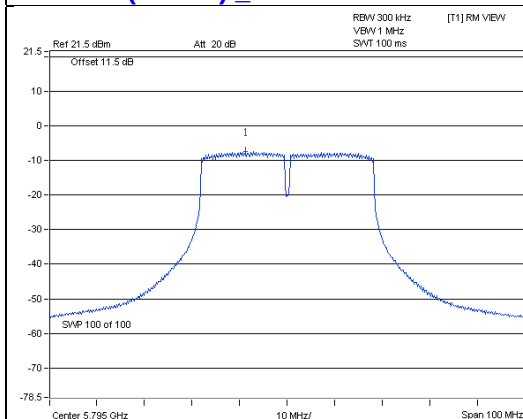
802.11n (HT40)\_2TX



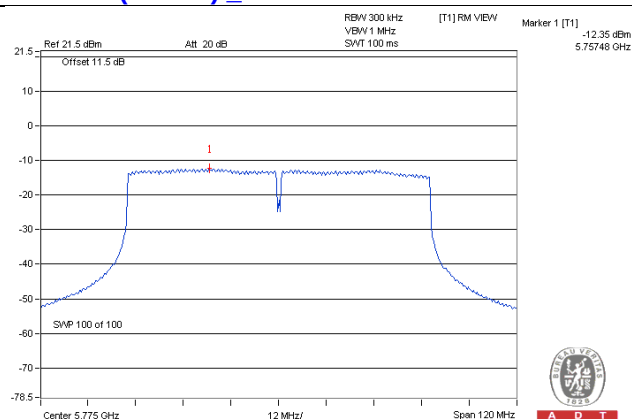
802.11ac (VHT20)\_2TX



802.11ac (VHT40)\_2TX

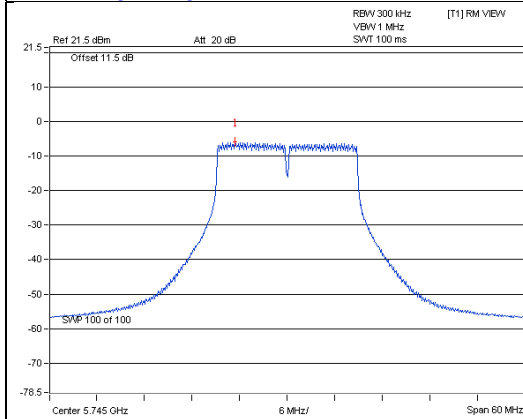


802.11ac (VHT80)\_2TX

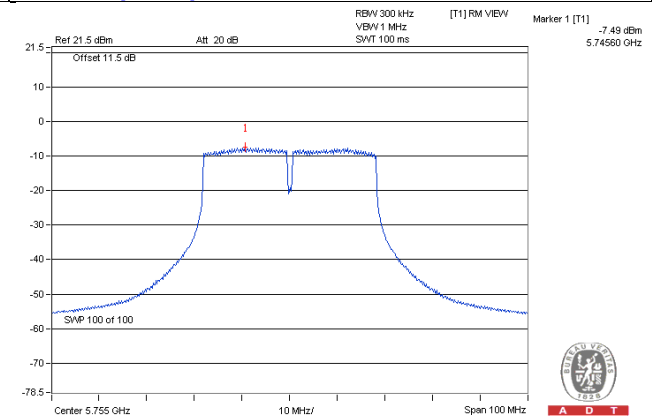


# SPECTRUM PLOT OF WORST VALUE

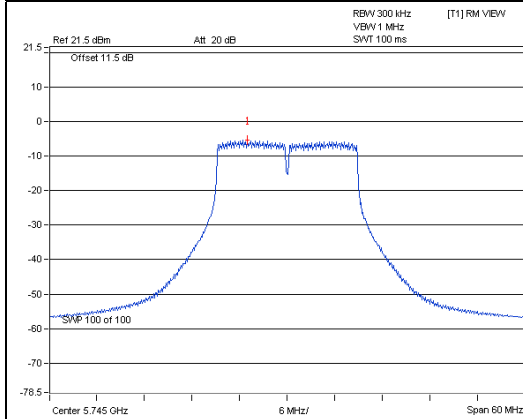
## 802.11n (HT20)\_3TX



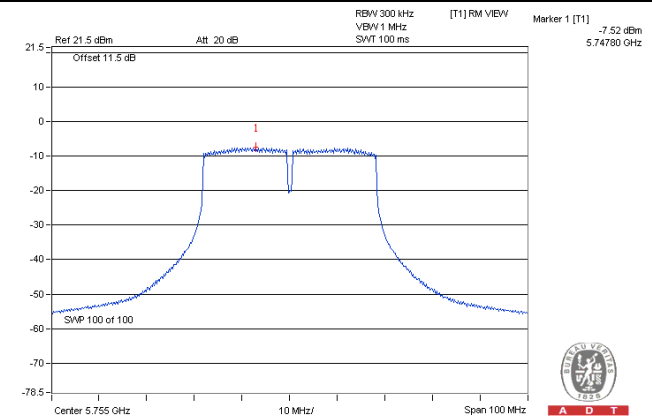
## 802.11n (HT40)\_3TX



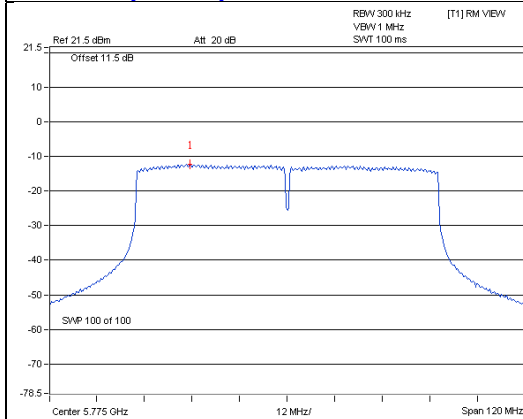
## 802.11ac (VHT20)\_3TX



## 802.11ac (VHT40)\_3TX



## 802.11ac (VHT80)\_3TX

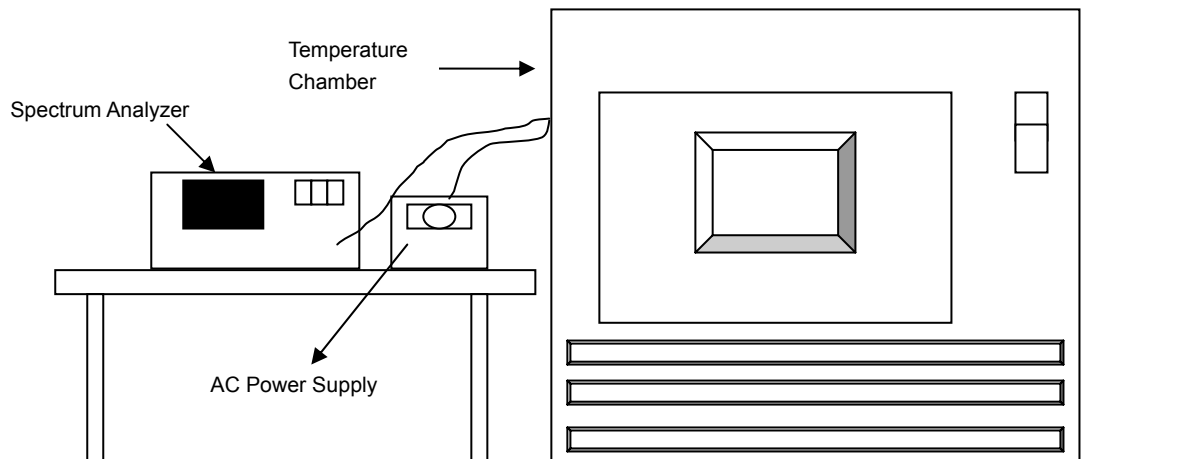


## 4.5 Frequency Stability

### 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 4.1.2 to get information of above instrument.

### 4.5.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- 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.
- Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- 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

| FREQUENCY STABILITY VERSUS TEMP. |                          |                                |                           |                                |                           |                                |                           |                                |                           |
|----------------------------------|--------------------------|--------------------------------|---------------------------|--------------------------------|---------------------------|--------------------------------|---------------------------|--------------------------------|---------------------------|
| OPERATING FREQUENCY: 5240MHz     |                          |                                |                           |                                |                           |                                |                           |                                |                           |
| TEMP.<br>(°C)                    | POWER<br>SUPPLY<br>(Vac) | 0 MINUTE                       |                           | 2 MINUTE                       |                           | 5 MINUTE                       |                           | 10 MINUTE                      |                           |
|                                  |                          | Measured<br>Frequency<br>(MHz) | Frequency<br>Drift<br>(%) | Measured<br>Frequency<br>(MHz) | Frequency<br>Drift<br>(%) | Measured<br>Frequency<br>(MHz) | Frequency<br>Drift<br>(%) | Measured<br>Frequency<br>(MHz) | Frequency<br>Drift<br>(%) |
| 50                               | 120                      | 5239.9842                      | -0.00030                  | 5239.9805                      | -0.00037                  | 5239.9831                      | -0.00032                  | 5239.9837                      | -0.00031                  |
| 40                               | 120                      | 5239.9906                      | -0.00018                  | 5239.9928                      | -0.00014                  | 5239.9905                      | -0.00018                  | 5239.9899                      | -0.00019                  |
| 30                               | 120                      | 5239.9856                      | -0.00027                  | 5239.9868                      | -0.00025                  | 5239.9873                      | -0.00024                  | 5239.9851                      | -0.00028                  |
| 20                               | 120                      | 5239.9998                      | 0.00000                   | 5239.9993                      | -0.00001                  | 5240.0005                      | 0.00001                   | 5240.0001                      | 0.00000                   |
| 10                               | 120                      | 5240.0004                      | 0.00001                   | 5239.9995                      | -0.00001                  | 5240.0017                      | 0.00003                   | 5240.0003                      | 0.00001                   |
| 0                                | 120                      | 5239.9809                      | -0.00036                  | 5239.9843                      | -0.00030                  | 5239.9803                      | -0.00038                  | 5239.9838                      | -0.00031                  |
| -10                              | 120                      | 5240.0159                      | 0.00030                   | 5240.0161                      | 0.00031                   | 5240.0165                      | 0.00031                   | 5240.0131                      | 0.00025                   |
| -20                              | 120                      | 5240.0048                      | 0.00009                   | 5240.0017                      | 0.00003                   | 5240.0038                      | 0.00007                   | 5240.0006                      | 0.00001                   |
| -30                              | 120                      | 5240.0152                      | 0.00029                   | 5240.0173                      | 0.00033                   | 5240.0156                      | 0.00030                   | 5240.0158                      | 0.00030                   |

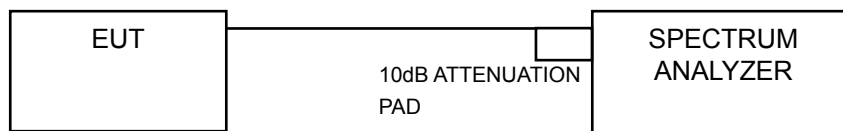
| FREQUENCY STABILITY VERSUS TEMP. |                          |                                |                           |                                |                           |                                |                           |                                |                           |
|----------------------------------|--------------------------|--------------------------------|---------------------------|--------------------------------|---------------------------|--------------------------------|---------------------------|--------------------------------|---------------------------|
| OPERATING FREQUENCY: 5240MHz     |                          |                                |                           |                                |                           |                                |                           |                                |                           |
| TEMP.<br>(°C)                    | POWER<br>SUPPLY<br>(Vac) | 0 MINUTE                       |                           | 2 MINUTE                       |                           | 5 MINUTE                       |                           | 10 MINUTE                      |                           |
|                                  |                          | Measured<br>Frequency<br>(MHz) | Frequency<br>Drift<br>(%) | Measured<br>Frequency<br>(MHz) | Frequency<br>Drift<br>(%) | Measured<br>Frequency<br>(MHz) | Frequency<br>Drift<br>(%) | Measured<br>Frequency<br>(MHz) | Frequency<br>Drift<br>(%) |
| 20                               | 138                      | 5239.9995                      | -0.00001                  | 5239.9986                      | -0.00003                  | 5240.0009                      | 0.00002                   | 5240.0001                      | 0.00000                   |
|                                  | 120                      | 5239.9998                      | 0.00000                   | 5239.9993                      | -0.00001                  | 5240.0005                      | 0.00001                   | 5240.0001                      | 0.00000                   |
|                                  | 102                      | 5239.9998                      | 0.00000                   | 5239.9988                      | -0.00002                  | 5240.0004                      | 0.00001                   | 5239.9992                      | -0.00002                  |

## 4.6 6dB Bandwidth Measurement

### 4.6.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

### 4.6.2 Test Setup



### 4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.6.4 Test Procedure

#### MEASUREMENT PROCEDURE REF

- Set resolution bandwidth (RBW) = 100kHz
- Set the video bandwidth (VBW)  $\geq 3 \times$  RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

### 4.6.5 Deviation from Test Standard

No deviation.

### 4.6.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission Condition continuously at lowest, middle and highest channel frequencies individually.

#### 4.6.7 Test Results

##### 802.11a\_1TX

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) | Minimum Limit (MHz) | Pass / Fail |
|---------|-----------------|---------------------|---------------------|-------------|
| 149     | 5745            | 16.44               | 0.5                 | PASS        |
| 157     | 5785            | 16.47               | 0.5                 | PASS        |
| 165     | 5825            | 16.46               | 0.5                 | PASS        |

##### 802.11n (HT20)\_2TX

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Pass / Fail |
|---------|-----------------|---------------------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 |                     |             |
| 149     | 5745            | 17.66               | 17.68   | 0.5                 | PASS        |
| 157     | 5785            | 17.70               | 17.69   | 0.5                 | PASS        |
| 165     | 5825            | 17.65               | 17.63   | 0.5                 | PASS        |

##### 802.11n (HT40)\_2TX

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Pass / Fail |
|---------|-----------------|---------------------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 |                     |             |
| 151     | 5755            | 36.50               | 36.53   | 0.5                 | PASS        |
| 159     | 5795            | 36.52               | 36.43   | 0.5                 | PASS        |

### 802.11ac (VHT20)\_2TX

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Pass / Fail |
|---------|-----------------|---------------------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 |                     |             |
| 149     | 5745            | 17.65               | 17.67   | 0.5                 | PASS        |
| 157     | 5785            | 17.66               | 17.70   | 0.5                 | PASS        |
| 165     | 5825            | 17.68               | 17.64   | 0.5                 | PASS        |

### 802.11ac (VHT40)\_2TX

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Pass / Fail |
|---------|-----------------|---------------------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 |                     |             |
| 151     | 5755            | 36.48               | 36.48   | 0.5                 | PASS        |
| 159     | 5795            | 36.57               | 36.53   | 0.5                 | PASS        |

### 802.11ac (VHT80)\_2TX

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Pass / Fail |
|---------|-----------------|---------------------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 |                     |             |
| 155     | 5775            | 76.47               | 76.56   | 0.5                 | PASS        |

### 802.11n (HT20)\_3TX

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         |         | Minimum Limit (MHz) | Pass / Fail |
|---------|-----------------|---------------------|---------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 | Chain 2 |                     |             |
| 149     | 5745            | 17.73               | 17.69   | 17.71   | 0.5                 | PASS        |
| 157     | 5785            | 17.65               | 17.67   | 17.66   | 0.5                 | PASS        |
| 165     | 5825            | 17.65               | 17.65   | 17.64   | 0.5                 | PASS        |

### 802.11n (HT40)\_3TX

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         |         | Minimum Limit (MHz) | Pass / Fail |
|---------|-----------------|---------------------|---------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 | Chain 2 |                     |             |
| 151     | 5755            | 36.47               | 36.51   | 36.49   | 0.5                 | PASS        |
| 159     | 5795            | 36.57               | 36.43   | 36.44   | 0.5                 | PASS        |

### 802.11ac (VHT20)\_3TX

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         |         | Minimum Limit (MHz) | Pass / Fail |
|---------|-----------------|---------------------|---------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 | Chain 2 |                     |             |
| 149     | 5745            | 17.69               | 17.68   | 17.66   | 0.5                 | PASS        |
| 157     | 5785            | 17.66               | 17.66   | 17.73   | 0.5                 | PASS        |
| 165     | 5825            | 17.64               | 17.69   | 17.71   | 0.5                 | PASS        |

### 802.11ac (VHT40)\_3TX

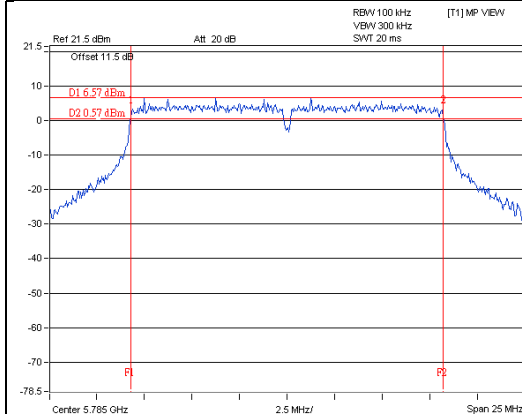
| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         |         | Minimum Limit (MHz) | Pass / Fail |
|---------|-----------------|---------------------|---------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 | Chain 2 |                     |             |
| 151     | 5755            | 36.56               | 36.51   | 36.49   | 0.5                 | PASS        |
| 159     | 5795            | 36.54               | 36.56   | 36.47   | 0.5                 | PASS        |

### 802.11ac (VHT80)\_3TX

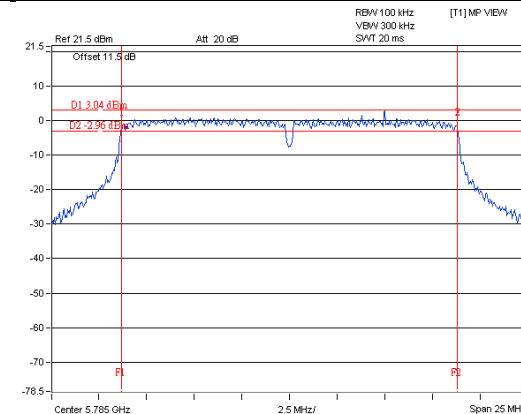
| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         |         | Minimum Limit (MHz) | Pass / Fail |
|---------|-----------------|---------------------|---------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 | Chain 2 |                     |             |
| 155     | 5775            | 76.55               | 76.55   | 75.88   | 0.5                 | PASS        |

# SPECTRUM PLOT OF WORST VALUE

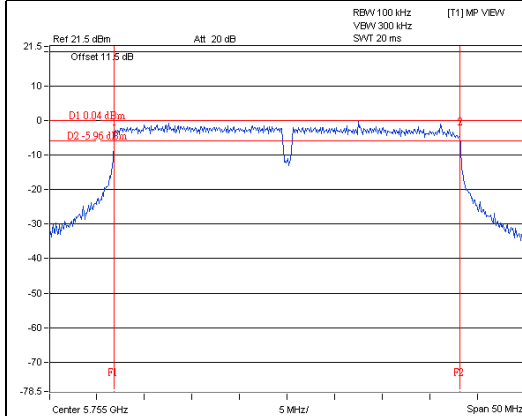
## 802.11a\_1TX



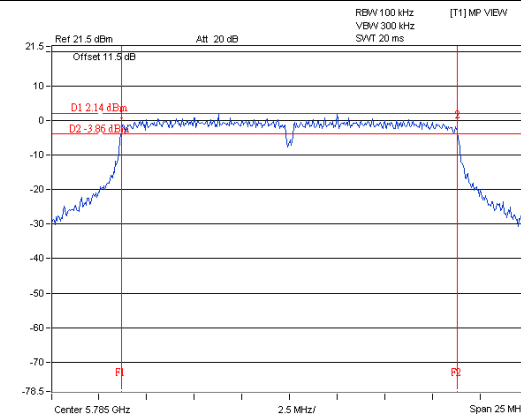
## 802.11n (HT20)\_2TX



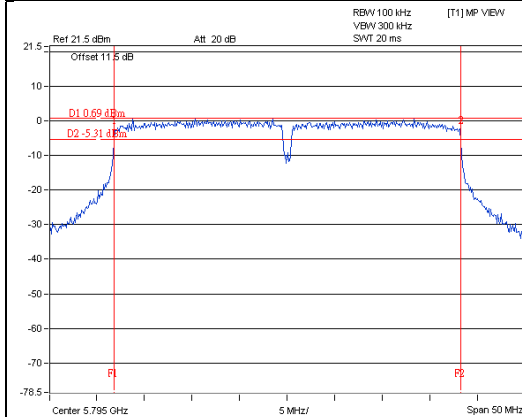
## 802.11n (HT40)\_2TX



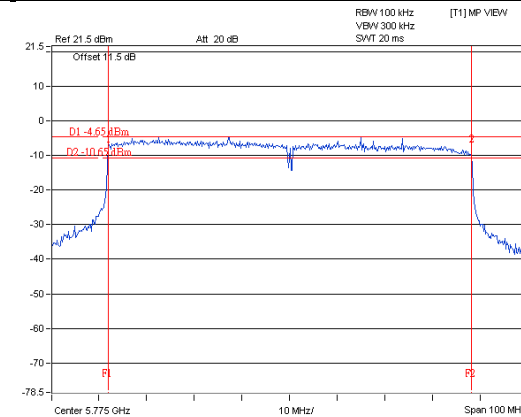
## 802.11ac (VHT20)\_2TX



## 802.11ac (VHT40)\_2TX

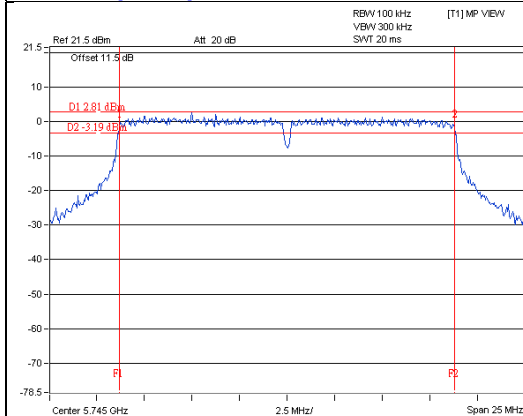


## 802.11ac (VHT80)\_2TX

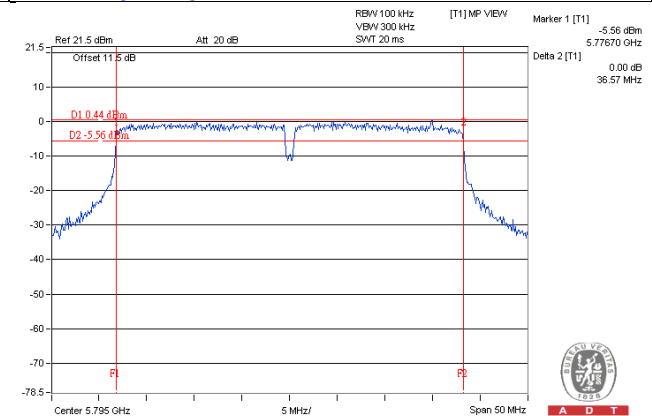


# SPECTRUM PLOT OF WORST VALUE

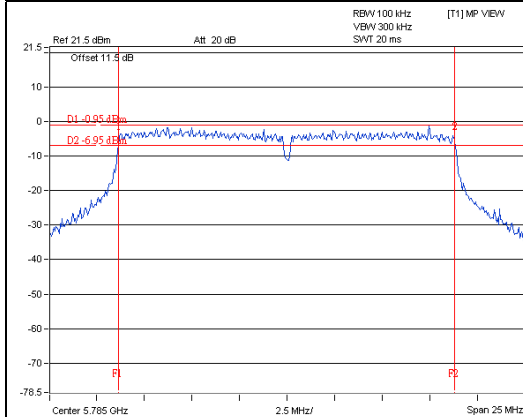
## 802.11n (HT20)\_3TX



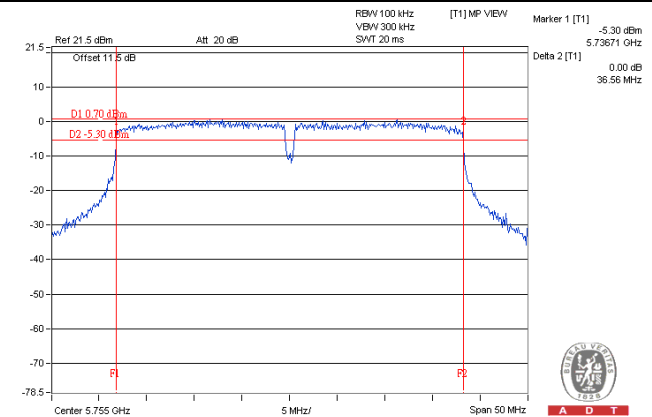
## 802.11n (HT40)\_3TX



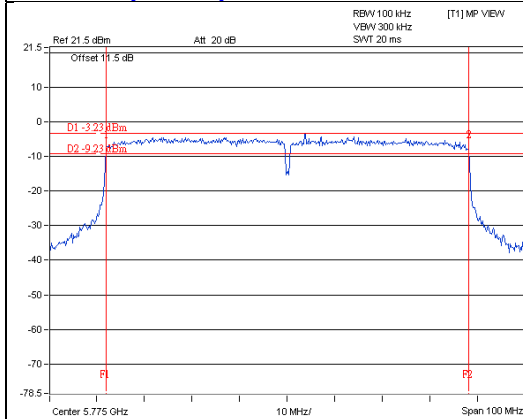
## 802.11ac (VHT20)\_3TX



## 802.11ac (VHT40)\_3TX



## 802.11ac (VHT80)\_3TX



## 5 Pictures of Test Arrangements

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

## Appendix – 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.

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**Web Site:** [www.bureauveritas-adt.com](http://www.bureauveritas-adt.com)

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

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