

# TEST REPORT

Applicant : Shenzhen qiuyu Electronic Co.,Ltd.  
Address : 3F, E Building, Hongzhuyongqi Industrial Park, Lezhujiao village,  
xixiang town, Bao'an District ,Shenzhen, China Bao'an  
District ,Shenzhen, China  
Manufacturer : Shenzhen qiuyu Electronic Co.,Ltd.  
Address : 3F, E Building, Hongzhuyongqi Industrial Park, Lezhujiao village,  
xixiang town, Bao'an District ,Shenzhen, China Bao'an  
District ,Shenzhen, China  
Product Name : KODAK 10-Inch Touchscreen DigitalPhoto Frame /Wi-Fi Enabled  
Model Number : RWF-108V,RCF-8019,RCF-1006P,RCF-1008P,RCF-1008W,RCF-10  
09P,RCF-1009W,TDF-1003M  
Trademark : N/AKODAK / urain/THOMSON  
FCC ID : 2AL64-RWF-108V  
Receiving Date : Oct 30, 2025  
Test Date : Apr 1,2026 - Apr 20, 2026  
Date of Report : Apr 20, 2026  
Test Result : This device described above has been tested by BKC, and the test  
results show that the equipment under test (EUT) is in compliance  
with the Standard requirements. And it is applicable only to the tested  
sample identified in the report.  
Test Procedure Used:  
Standards : FCC CFR47 Part 15 Section 15.407  
ANSIC63.10-2020+Cor.1-2023

Prepared by(Test Engineer):  
Casey zheng



Reviewer(Supervisor):  
Casey Wang



Approved(Manager):  
Jerry Liao



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| Revision History of This Test Report |               |             |
|--------------------------------------|---------------|-------------|
| Report Number                        | Description   | Issued Date |
| BKC26041863DE                        | Initial Issue | 2026-04-20  |
|                                      |               |             |
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|                                      |               |             |

## 1. General Information

### 1.1. Customer basic information

Contacts : Sandy Peng  
E-Mail : dpf@u-rain.com  
Telephone : 0755-86323682

### 1.2. Description of Device (EUT)

EUT Name : KODAK 10-Inch Touchscreen DigitalPhoto Frame /Wi-Fi Enabled  
Model No. : RWF-108V,RCF-8019,RCF-1006P,RCF-1008P,RCF-1008W,RCF-1009P,RCF-1009W,TDF-1003M  
Model Difference : The model name, appearance color and memory capacity of this product vary.  
The main model used for testing is RWF-108V  
Power supply : Input: AC 100-240V, 50/60Hz, 0.5A  
DC: 3.7V 4000mAh  
Wi-Fi Specification : IEEE 802.11a/n/ac/ax  
Operation frequency : IEEE 802.11a/n/ac/ax(20M): 5150MHz ~5250MHz/ 4 channel  
IEEE 802.11n/ac/ax(40M): 5150MHz ~5250MHz/ 2 channel  
IEEE 802.11a/n/ac/ax(20M): 5250MHz ~5350 MHz/ 4 channel  
IEEE802.11n/ac/ax(40M): 5250MHz ~5350 MHz/ 2 channel  
IEEE 802.11a/n/ac/ax(20M): 5470MHz ~5725 MHz/ 11 channel  
IEEE802.11n/ac/ax(40M): 5470MHz ~5725 MHz/ 5 channel  
IEEE 802.11a/n/ac/ax(20M): 5725MHz ~5850MHz/ 5 channel  
IEEE 802.11n/ac/ax(40M): 5725MHz ~5850MHz/ 2 channel  
Max. RF output power: : 12.46dBm  
Modulation : Orthogonal Frequency Division Multiplexing(OFDM)  
Antenna Type : FPC antenna,, Maximum Gain is 1.35dBi  
Device type : Slave Device(without Radar Detection)

### 1.3. Channel List

| U-NII-1 (5.15-5.25GHz) |                |         |                |
|------------------------|----------------|---------|----------------|
| channel                | Frequency(MHz) | channel | Frequency(MHz) |
| 36                     | 5180           | 38      | 5190           |
| 40                     | 5200           | 42      | 5210           |
| 44                     | 5220           | 46      | 5230           |
| 48                     | 5240           |         |                |

| U-NII-2A (5.25-5.35GHz) |                |         |                |
|-------------------------|----------------|---------|----------------|
| channel                 | Frequency(MHz) | channel | Frequency(MHz) |

|    |      |    |      |
|----|------|----|------|
| 52 | 5260 | 54 | 5270 |
| 56 | 5280 | 58 | 5290 |
| 60 | 5300 | 62 | 5310 |
| 64 | 5320 |    |      |

| U-NII-2C (5.47-5.725GHz) |                |         |                |
|--------------------------|----------------|---------|----------------|
| channel                  | Frequency(MHz) | channel | Frequency(MHz) |
| 100                      | 5500           | 102     | 5510           |
| 104                      | 5520           | 108     | 5540           |
| 110                      | 5550           | 112     | 5560           |
| 114                      | 5570           | 116     | 5580           |
| 118                      | 5590           | 120     | 5600           |
| 124                      | 5620           | 126     | 5630           |
| 128                      | 5640           | 132     | 5660           |
| 134                      | 5670           | 136     | 5680           |
| 140                      | 5700           |         |                |

| U-NII-3 (5.725-5.85GHz) |                |         |                |
|-------------------------|----------------|---------|----------------|
| channel                 | Frequency(MHz) | channel | Frequency(MHz) |
| 149                     | 5745           | 151     | 5755           |
| 153                     | 5765           | 155     | 5775           |
| 157                     | 5785           | 159     | 5795           |
| 161                     | 5805           | 165     | 5825           |

#### 1.4.Summary of test result

| RF PART                                                                                                                             |                                |        |
|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------|
| Test Items                                                                                                                          | Test Requirement               | Result |
| 15.407(b), 15.209                                                                                                                   | Radiated Spurious Emission     | PASS   |
| 15.207                                                                                                                              | Conducted Emission             | PASS   |
| 15.407 (a)<br>15.407 (e)                                                                                                            | 99% , 6dB and 26dB Bandwidth   | PASS   |
| 15.407 (a)                                                                                                                          | Maximum Conducted Output Power | PASS   |
| 15.407(b)                                                                                                                           | Band Edge                      | PASS   |
| 15.407 (a)                                                                                                                          | Power Spectral Density         | PASS   |
| 15.407(g)                                                                                                                           | Frequency Stability            | PASS   |
| 15.203                                                                                                                              | Antenna Requirement            | PASS   |
| Remark:<br>N/A is an abbreviation for Not Applicable.<br>Measurement Uncertainty is not taken into account for conformity statement |                                |        |

## 1.5.Special Accessories and Auxiliary Equipment

| Description | Manufacturer | Model No.         |
|-------------|--------------|-------------------|
| Adapter     | SNROX        | SR-C60502000U2    |
| Adapter     | TEKA         | TEKA-AB1B050200US |
| Adapter     | Sunshine     | XSC-0502000S      |
| Router      | ASUS         | GT-AXE11000       |

## 1.6.Test mode

The special RF test software was used to control EUT work in Continuous WIFI TX mode, and select test channel, wireless mode.

For 802.11a/n/ac/ax(HT20M,HE20M):

| channel | Frequency(MHz) | channel | Frequency(MHz) |
|---------|----------------|---------|----------------|
| 36      | 5180           | 40      | 5200           |
| 48      | 5240           |         |                |
| channel | Frequency(MHz) | channel | Frequency(MHz) |
| 52      | 5260           | 56      | 5280           |
| 64      | 5320           |         |                |
| channel | Frequency(MHz) | channel | Frequency(MHz) |
| 100     | 5500           | 120     | 5600           |
| 140     | 5700           |         |                |
| channel | Frequency(MHz) | channel | Frequency(MHz) |
| 149     | 5745           | 157     | 5785           |
| 165     | 5825           |         |                |

For 802.11n/ac/ax(HT40M HE40)

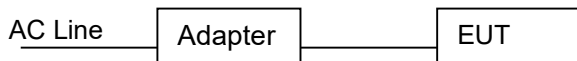
| channel | Frequency(MHz) | channel | Frequency(MHz) |
|---------|----------------|---------|----------------|
| 38      | 5190           | 42      | 5210           |
| 46      | 5230           |         |                |
| channel | Frequency(MHz) | channel | Frequency(MHz) |
| 54      | 5270           | 58      | 5290           |
| 62      | 5310           |         |                |
| channel | Frequency(MHz) | channel | Frequency(MHz) |
| 102     | 5510           | 106     | 5530           |
| 110     | 5550           | 118     | 5590           |
| 134     | 5670           |         |                |

| channel | Frequency(MHz) | channel | Frequency(MHz) |
|---------|----------------|---------|----------------|
| 151     | 5755           | 155     | 5775           |

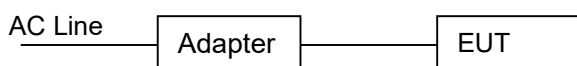
|     |      |  |  |
|-----|------|--|--|
| 159 | 5795 |  |  |
|-----|------|--|--|

## 1.7.Block Diagram

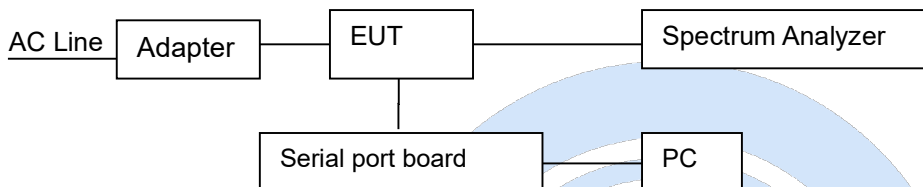
Conducted Emission



Radiated Emission



Conducted Spurious



## 1.8.Test Conditions

| Category                                         | Normal Conditions                                          | Extreme Conditions |
|--------------------------------------------------|------------------------------------------------------------|--------------------|
| Temperature range                                | 15-35℃                                                     | N/A                |
| Humidity range                                   | 20-75%                                                     | N/A                |
| Pressure range                                   | 86-106kPa                                                  | N/A                |
| Power supply                                     | Input: AC 100-240V, 50/60Hz, 0.5A<br>Battery: 3.7V 4000mAh | N/A                |
| Note: N/A is an abbreviation for Not Applicable. |                                                            |                    |

## 1.9.Measurement Uncertainty (95% confidence levels, k=2)

| Item                               | MU                                                               | Remark |
|------------------------------------|------------------------------------------------------------------|--------|
| Uncertainty for radio frequency    | $\pm 7 \times 10^{-8}$                                           |        |
| Conducted Emissions (150kHz~30MHz) | $\pm 2.54\text{dB}$                                              |        |
| Radiated Emission(9KHz~30MHz)      | $\pm 1.6\text{ dB}$                                              |        |
| Radiated Emission(30MHz~1GHz)      | Vertical: $\pm 4.14\text{dB}$<br>Horizontal: $\pm 4.25\text{dB}$ |        |
| Radiated Emission(1GHz~6GHz)       | $\pm 3.9\text{dB}$                                               |        |
| Radiated Emission(6GHz~18GHz)      | $\pm 4.3\text{dB}$                                               |        |
| Radiated Emission(18GHz~40GHz)     | $\pm 3.38\text{dB}$                                              |        |
| Uncertainty for conducted RF Power | $\pm 0.20\text{dB}$                                              |        |
| Conducted spurious emissions       | $\pm 0.24\text{dB}$                                              |        |
| Uncertainty for temperature        | 0.6℃                                                             |        |
| Uncertainty for humidity           | 1%                                                               |        |

|                                                                                                 |                          |  |
|-------------------------------------------------------------------------------------------------|--------------------------|--|
| Bandwidth                                                                                       | $\pm 1.5 \times 10^{-6}$ |  |
| Time                                                                                            | $\pm 2\%$                |  |
| Duty Cycle                                                                                      | $\pm 2\%$                |  |
| Remark: The coverage Factor (k=2), and measurement Uncertainty for a level of Confidence of 95% |                          |  |

## 1.10. Test Facility

| Site Description                  |   |                                                                                                                        |
|-----------------------------------|---|------------------------------------------------------------------------------------------------------------------------|
| Name of Firm                      | : | Shenzhen BKC Testing Co., Ltd.                                                                                         |
| Site Location                     | : | Room 103, 1/F, Huaya Building, Huaya Industrial Park, Longhua Community, Longhua District, Shenzhen, Guangdong, China. |
| ISED CAB identifier               | : | CN0188                                                                                                                 |
| ISED Company Number               | : | 34333                                                                                                                  |
| FCC Designation Number            | : | CN1416                                                                                                                 |
| FCC Test Firm Registration Number | : | 701543                                                                                                                 |

## 1.11. Test Equipment

### Conducted Test Site

| Item | Kind of Equipment               | Manufacturer | Type No.  | Serial No. | Last calibration | Calibrated until |
|------|---------------------------------|--------------|-----------|------------|------------------|------------------|
| 1    | LISN                            | R&S          | ENV216    | 102762     | Mar. 10. 2026    | Mar. 09. 2027    |
| 2    | EMI Test Receiver               | R&S          | ESCI      | 101424     | Mar. 10. 2026    | Mar. 09. 2027    |
| 3    | Rf cables                       | HTEC         | HCE 2M-CE | N/A        | Mar. 10. 2026    | Mar. 09. 2027    |
| 4    | Coupling/<br>Decoupling Network | Diamond      | CX210     | N/A        | Mar. 10. 2026    | Mar. 09. 2027    |
| 5    | CE Testing software             | EZ           | EZ-EMC    | /          | /                | /                |

### Radiated Test Site(Below 1G and Above 1G)

| Item | Kind of Equipment          | Manufacturer | Type No.   | Serial No. | Last calibration | Calibrated until |
|------|----------------------------|--------------|------------|------------|------------------|------------------|
| 1    | Antenna                    | Schwarzbeck  | VULB 9168  | 01321      | Mar. 20. 2026    | Mar. 19. 2027    |
| 2    | EMI Test Receiver          | R&S          | ESRP       | 101478     | Mar. 10. 2026    | Mar. 09. 2027    |
| 3    | Preamplifier               | HP           | 8447D      | 2727A05345 | Mar. 10. 2026    | Mar. 09. 2027    |
| 4    | Double Ridged<br>Broadband | SCHWARZBECK  | BBHA 9120D | 02621      | Mar. 20. 2026    | Mar. 19. 2029    |
| 5    | Preamplifier               | Schwarzbeck  | BBV 9718D  | 00041      | Mar. 10. 2026    | Mar. 09. 2027    |
| 6    | Rf cables                  | HUBER+SUHNER | 8M-RE      | N/A        | Mar. 10. 2026    | Mar. 09. 2027    |
| 7    | Rf cables                  | HUBER+SUHNER | 1.5M-RE    | N/A        | Mar. 10. 2026    | Mar. 09. 2027    |
| 8    | Rf cables                  | HUBER+SUHNER | 1.5M-AP-RE | N/A        | Mar. 10. 2026    | Mar. 09. 2027    |

|    |                                           |           |           |            |               |               |
|----|-------------------------------------------|-----------|-----------|------------|---------------|---------------|
| 9  | Loop antenna                              | TESEQ     | HLA6121   | 58357      | Mar. 10. 2026 | Mar. 09. 2027 |
| 10 | Spectrum                                  | Agilent   | N9020A    | MY50510311 | Mar. 11. 2026 | Mar. 10. 2027 |
| 11 | Spectrum analyzer                         | R&S       | FSP40     | 200061     | Feb. 13. 2026 | Feb. 12. 2027 |
| 12 | Double Ridged Broadband Horn Antenna      | COM-POWER | AH-1840   | 10100009   | Mar. 10. 2026 | Mar. 09. 2027 |
| 13 | Constant temperature and humidity chamber | Hongjin   | HYJ-408DH | DG-210652  | Mar. 10. 2026 | Mar. 09. 2027 |
| 14 | RE Testing software                       | EZ        | EZ-EMC    | /          | /             | /             |

#### RF Test Site

| Item | Kind of Equipment   | Manufacturer    | Type No.  | Serial No. | Last calibration | Calibrated until |
|------|---------------------|-----------------|-----------|------------|------------------|------------------|
| 1    | Spectrum            | Agilent         | N9020A    | MY50510311 | Mar. 09. 2026    | Mar. 10. 2027    |
| 2    | Vector source       | Agilent         | N5182A    | MY47420223 | Mar. 09. 2026    | Mar. 10. 2027    |
| 3    | All instrument      | Rohde & Schwarz | CMW 500   | 101131     | Mar. 09. 2026    | Mar. 10. 2027    |
| 4    | control unit        | TSTPASS         | TSCB562R2 | SN3604554  | Mar. 09. 2026    | Mar. 10. 2027    |
| 6    | RF Testing software | TST             | TSTPASS   | /          | Mar. 09. 2026    | /                |
| 7    | Spectrum analyzer   | R&S             | FSP40     | 200061     | Feb. 13. 2026    | Feb. 12. 2027    |

Note: The power meter is integrated into the control unit

#### Test software

|                  |                             |
|------------------|-----------------------------|
| Software name    | TSTPASS RF Auto Test System |
| Software version | 2.0.0.0                     |
| Software name    | RE Testing software         |
| Software version | EMEC-03A2 RE+               |
| Software name    | CE Testing software         |
| Software version | EMEC-3A1+                   |

## 1.12.EQUIPMENT UNDER TEST (EUT) DETAILS

The manufacturer declared values for the EUT operational characteristics that affect DFS are as follows  
operating Modes (5250-5350 MHz, 5470-5725 MHz)

- ☐ Master Device  
☒ Client Device (no In Service Monitoring, no Ad-Hoc mode)  
☐ Client Device with In-Service Monitoring

Operating Modes (5250 – 5350 MHz, 5470 – 5725 MHz)

|                              | 5250-5350MHz |      | 5470-5725MHz |      |
|------------------------------|--------------|------|--------------|------|
| Antenna Gain (dBi)           | 1.35         | 1.35 | 1.35         | 1.35 |
| Max/min EIRP Power(dBm)      | 12.02        | 8.0  | 12.46        | 9.36 |
| DFS Detection Threshold(dBm) | -62          |      |              |      |

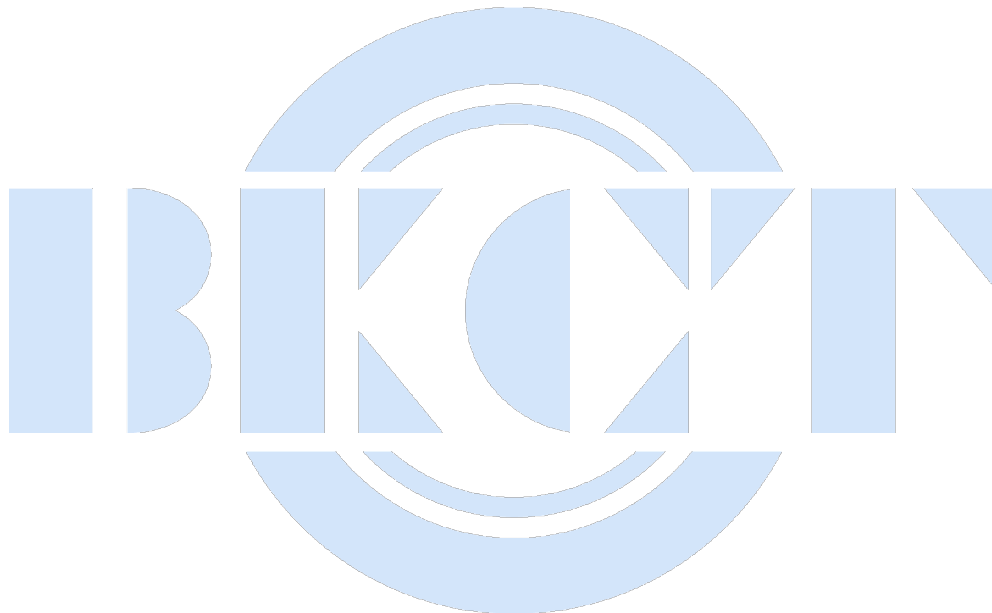
#### Channel Protocol

- ☒ IP Based  
☐ Frame Based  
☐ OTHER \_\_\_\_\_

Note 1: We test all channels that need to be tested for DFS, reporting only part of the test pattern and data, in this report, we have identified other parts that are compliant with RSS regulations.

Note 2: The method of establishing a connection between the master device and the slave device After inserting the EUT USB port into the Pc, the laptop opens the router control interface to connect to the EUT and control its corresponding signal transmission.

1. This device does not support the TPC function.
2. Manufacturers can manually select the first channel 5300MHz.
3. The time required for the master and slave devices to fully start is 150 seconds.
4. The product belongs to Slave without radar detection
5. Manufacturer statement confirming that information regarding the parameters of the detected Radar Waveforms is not available to the end user.



## 2. Conducted emission at the mains terminals test

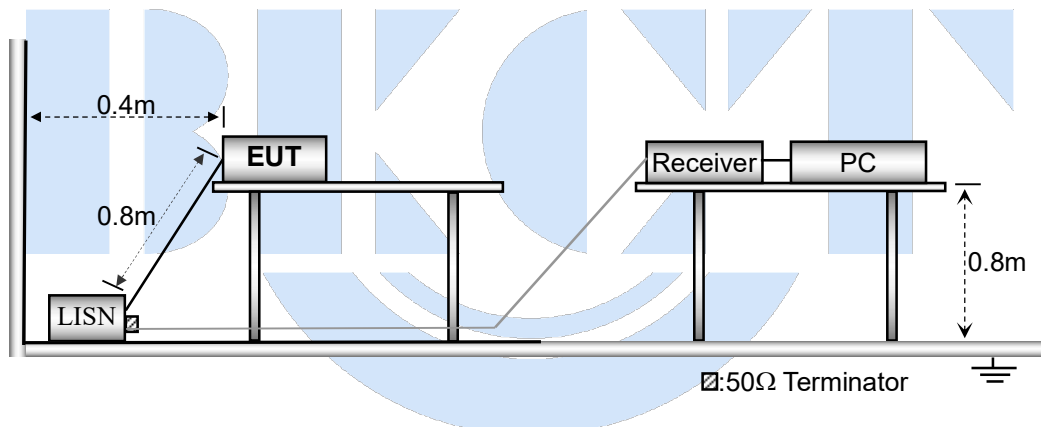
### 2.1.Limit

|                       |                                          |
|-----------------------|------------------------------------------|
| Test Requirement:     | FCC Part15 C Section 15.207, RSS-Gen 8.8 |
| Test Method:          | ANSI C63.10:2020+Cor 1-2023              |
| Test Frequency Range: | 150KHz to 30MHz                          |
| Receiver setup:       | RBW=9KHz, VBW=30KHz, Sweep time=auto     |

| Frequency<br>MHz | Limits dB( $\mu$ V) |               |
|------------------|---------------------|---------------|
|                  | Quasi-peak Level    | Average Level |
| 0.15 ~ 0.50      | 66 ~ 56*            | 56 ~ 46*      |
| 0.50 ~ 5.00      | 56                  | 46            |
| 5.00 ~ 30.00     | 60                  | 50            |

Notes: 1. \*Decreasing linearly with logarithm of frequency.  
2. The lower limit shall apply at the transition frequencies.

### 2.2.Test Setup

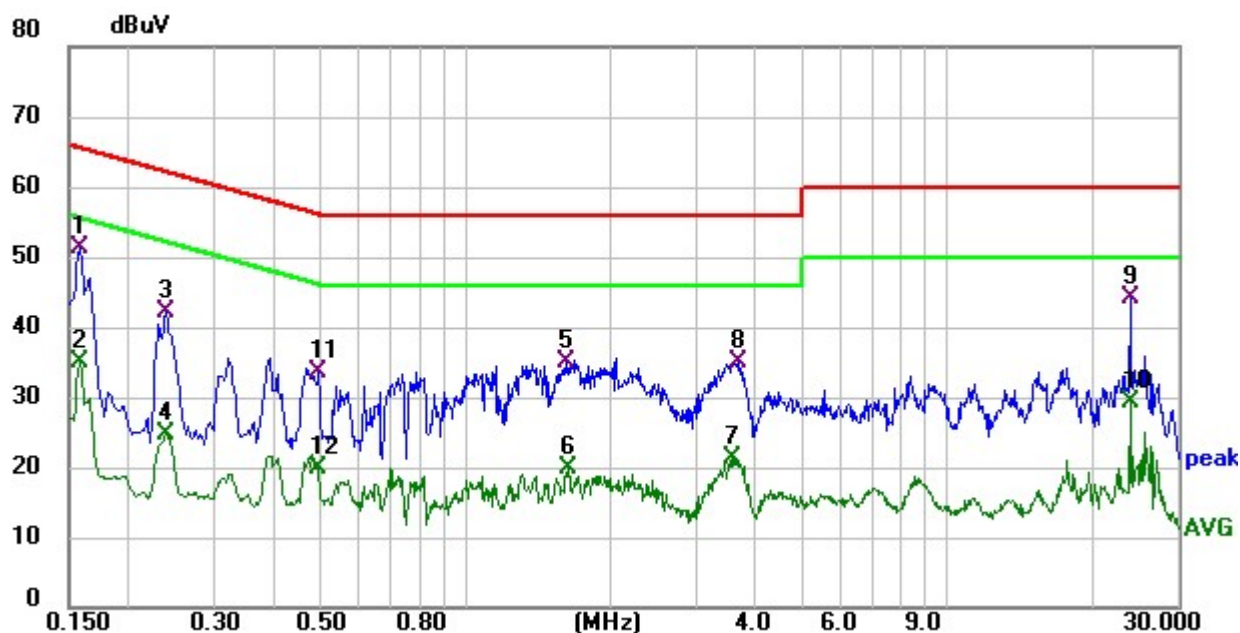


### 2.3.Test Procedure

1. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
2. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
3. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
4. LISN at least 80 cm from nearest part of EUT chassis.
5. For the actual test configuration, please refer to the related Item - EUT Test Photos.

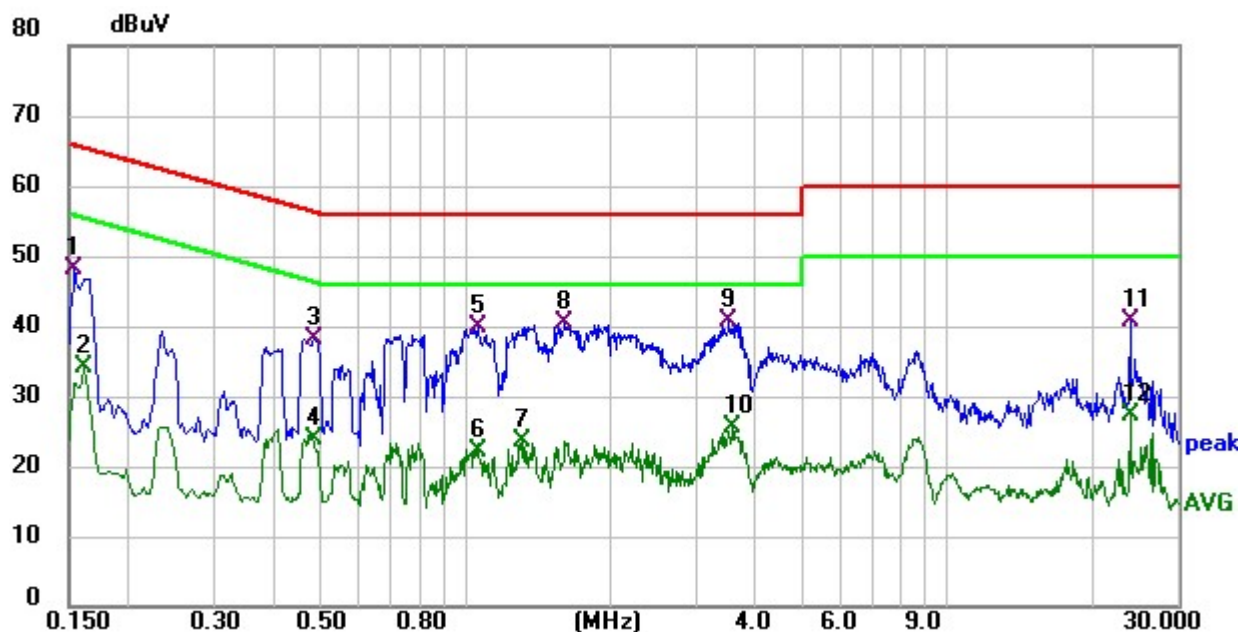
## 2.4.Test Result

| Conducted Emission At The Mains Terminals Test Data |              |                    |                |
|-----------------------------------------------------|--------------|--------------------|----------------|
| Temperature:                                        | 25.1℃        | Relative Humidity: | 56%            |
| Pressure:                                           | 1008hPa      | Phase :            | Line           |
| Test Voltage :                                      | AC 120V/60Hz | Test Mode:         | 802.11n20      |
| EUT                                                 | RWF-108V     | Adapter            | SR-C60502000U2 |



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F | Remark |
|-----|-----------------|----------------|-------------|--------------|--------------|-------------|----------|-----|--------|
| 1 * | 0.1580          | 32.37          | 19.01       | 51.38        | 65.57        | -14.19      | QP       | P   |        |
| 2   | 0.1580          | 15.91          | 19.01       | 34.92        | 55.57        | -20.65      | AVG      | P   |        |
| 3   | 0.2380          | 23.03          | 19.18       | 42.21        | 62.17        | -19.96      | QP       | P   |        |
| 4   | 0.2380          | 5.48           | 19.18       | 24.66        | 52.17        | -27.51      | AVG      | P   |        |
| 5   | 1.6140          | 15.69          | 19.28       | 34.97        | 56.00        | -21.03      | QP       | P   |        |
| 6   | 1.6380          | 0.46           | 19.27       | 19.73        | 46.00        | -26.27      | AVG      | P   |        |
| 7   | 3.5980          | 1.84           | 19.32       | 21.16        | 46.00        | -24.84      | AVG      | P   |        |
| 8   | 3.6620          | 15.81          | 19.32       | 35.13        | 56.00        | -20.87      | QP       | P   |        |
| 9   | 23.9300         | 24.56          | 19.50       | 44.06        | 60.00        | -15.94      | QP       | P   |        |
| 10  | 23.9300         | 9.74           | 19.50       | 29.24        | 50.00        | -20.76      | AVG      | P   |        |
| 11  | 0.4940          | 14.38          | 19.25       | 33.63        | 56.10        | -22.47      | QP       | P   |        |
| 12  | 0.4940          | 0.53           | 19.25       | 19.78        | 46.10        | -26.32      | AVG      | P   |        |

| Conducted Emission At The Mains Terminals Test Data |              |                    |                |
|-----------------------------------------------------|--------------|--------------------|----------------|
| Temperature:                                        | 25.1℃        | Relative Humidity: | 56%            |
| Pressure:                                           | 1008hPa      | Phase :            | Neutral        |
| Test Voltage :                                      | AC 120V/60Hz | Test Mode:         | 802.11n20      |
| EUT                                                 | RWF-108V     | Adapter            | SR-C60502000U2 |



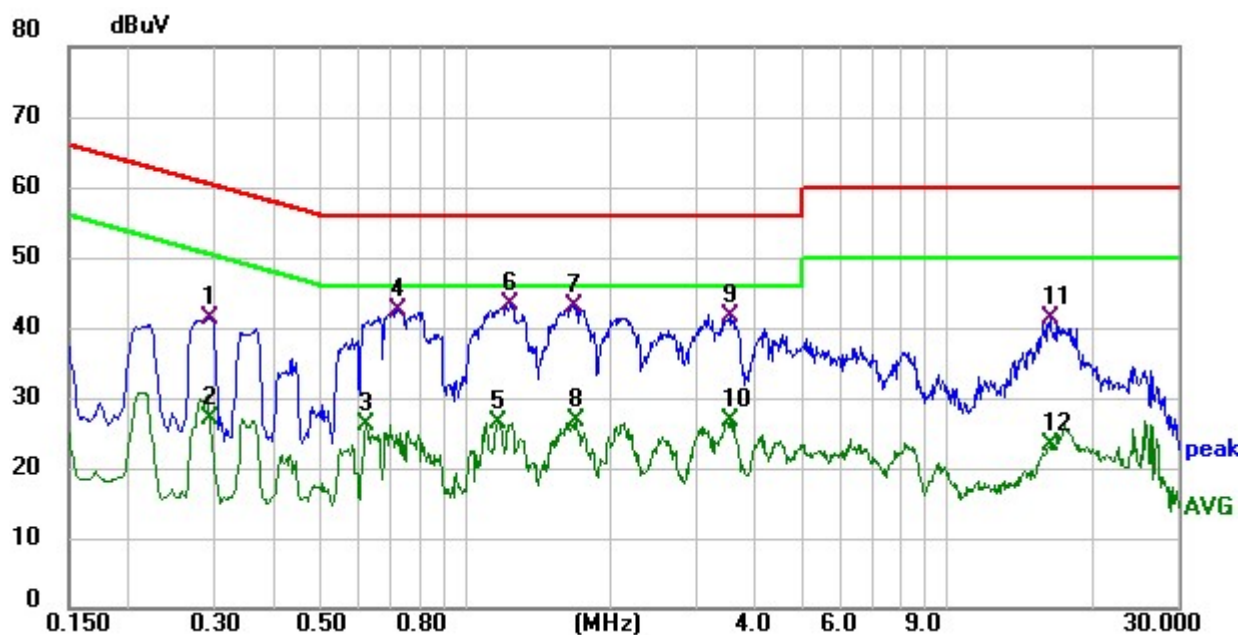
| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F | Remark |
|-----|-----------------|----------------|-------------|--------------|--------------|-------------|----------|-----|--------|
| 1   | 0.1539          | 28.88          | 19.13       | 48.01        | 65.79        | -17.78      | QP       | P   |        |
| 2   | 0.1620          | 14.94          | 19.15       | 34.09        | 55.36        | -21.27      | AVG      | P   |        |
| 3   | 0.4837          | 18.78          | 19.43       | 38.21        | 56.28        | -18.07      | QP       | P   |        |
| 4   | 0.4837          | 4.56           | 19.43       | 23.99        | 46.28        | -22.29      | AVG      | P   |        |
| 5   | 1.0660          | 20.56          | 19.38       | 39.94        | 56.00        | -16.06      | QP       | P   |        |
| 6   | 1.0660          | 2.82           | 19.38       | 22.20        | 46.00        | -23.80      | AVG      | P   |        |
| 7   | 1.3140          | 4.19           | 19.46       | 23.65        | 46.00        | -22.35      | AVG      | P   |        |
| 8   | 1.6060          | 20.86          | 19.47       | 40.33        | 56.00        | -15.67      | QP       | P   |        |
| 9 * | 3.5220          | 21.23          | 19.50       | 40.73        | 56.00        | -15.27      | QP       | P   |        |
| 10  | 3.5900          | 6.18           | 19.50       | 25.68        | 46.00        | -20.32      | AVG      | P   |        |
| 11  | 23.9140         | 21.05          | 19.80       | 40.85        | 60.00        | -19.15      | QP       | P   |        |
| 12  | 23.9140         | 7.42           | 19.80       | 27.22        | 50.00        | -22.78      | AVG      | P   |        |

Remark: 1. Level(dBuV)=Reading(dBuV)+Factor(dB)

2. Margin(dB)= Level(dBuV)-Limit(dBuV)

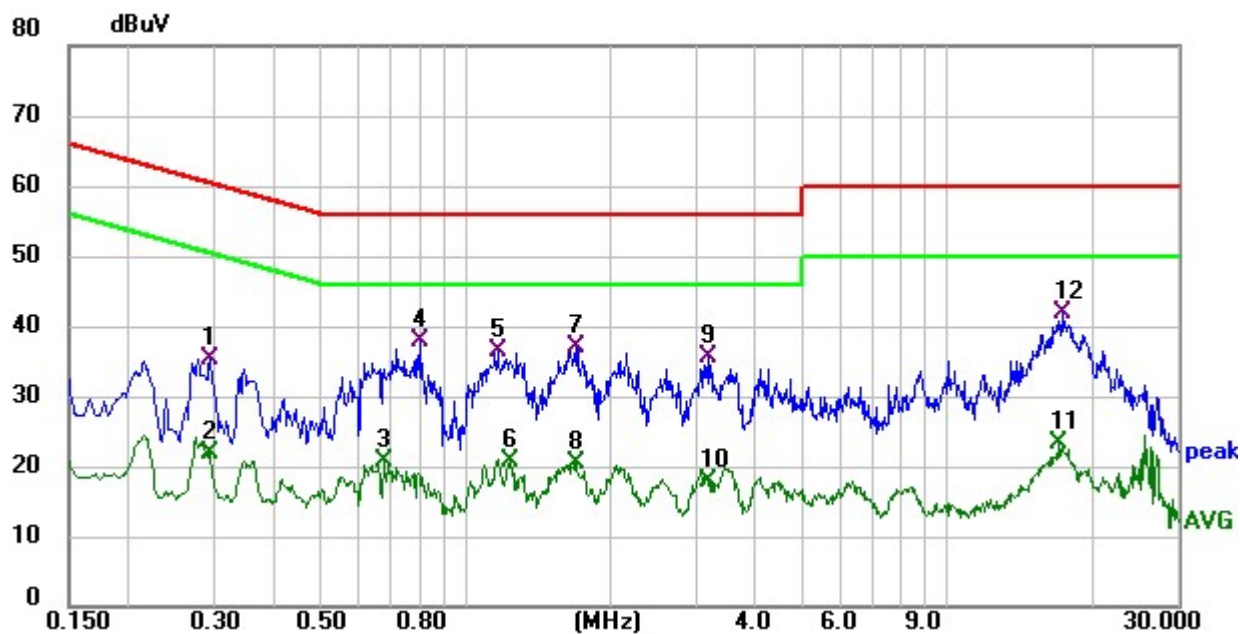
Conducted Emission At The Mains Terminals Test Data

|                |              |                    |                   |
|----------------|--------------|--------------------|-------------------|
| Temperature:   | 25.1°C       | Relative Humidity: | 56%               |
| Pressure:      | 1008hPa      | Phase :            | Neutral           |
| Test Voltage : | AC 120V/60Hz | Test Mode:         | 802.11n20         |
| EUT            | RWF-108V     | Adapter            | TEKA-AB1B050200US |



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F | Remark |
|-----|-----------------|----------------|-------------|--------------|--------------|-------------|----------|-----|--------|
| 1   | 0.2940          | 21.88          | 19.38       | 41.26        | 60.41        | -19.15      | QP       | P   |        |
| 2   | 0.2940          | 7.63           | 19.38       | 27.01        | 50.41        | -23.40      | AVG      | P   |        |
| 3   | 0.6220          | 6.70           | 19.44       | 26.14        | 46.00        | -19.86      | AVG      | P   |        |
| 4   | 0.7260          | 23.13          | 19.43       | 42.56        | 56.00        | -13.44      | QP       | P   |        |
| 5   | 1.1700          | 7.06           | 19.43       | 26.49        | 46.00        | -19.51      | AVG      | P   |        |
| 6 * | 1.2420          | 23.84          | 19.46       | 43.30        | 56.00        | -12.70      | QP       | P   |        |
| 7   | 1.6860          | 23.60          | 19.47       | 43.07        | 56.00        | -12.93      | QP       | P   |        |
| 8   | 1.6980          | 7.17           | 19.47       | 26.64        | 46.00        | -19.36      | AVG      | P   |        |
| 9   | 3.5340          | 21.95          | 19.50       | 41.45        | 56.00        | -14.55      | QP       | P   |        |
| 10  | 3.5340          | 7.34           | 19.50       | 26.84        | 46.00        | -19.16      | AVG      | P   |        |
| 11  | 16.3380         | 21.75          | 19.66       | 41.41        | 60.00        | -18.59      | QP       | P   |        |
| 12  | 16.3380         | 3.56           | 19.66       | 23.22        | 50.00        | -26.78      | AVG      | P   |        |

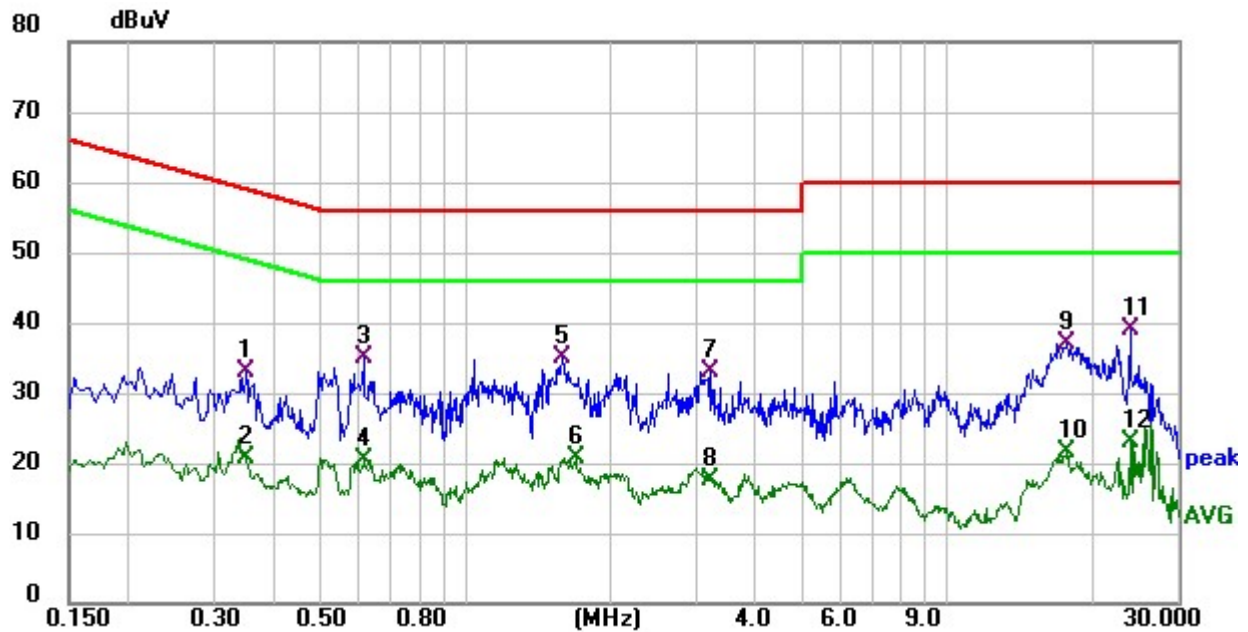
| Conducted Emission At The Mains Terminals Test Data |              |                    |                   |
|-----------------------------------------------------|--------------|--------------------|-------------------|
| Temperature:                                        | 25.1°C       | Relative Humidity: | 56%               |
| Pressure:                                           | 1008hPa      | Phase :            | Line              |
| Test Voltage :                                      | AC 120V/60Hz | Test Mode:         | 802.11n20         |
| EUT                                                 | RWF-108V     | Adapter            | TEKA-AB1B050200US |



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F | Remark |
|-----|-----------------|----------------|-------------|--------------|--------------|-------------|----------|-----|--------|
| 1   | 0.2940          | 15.99          | 19.24       | 35.23        | 60.41        | -25.18      | QP       | P   |        |
| 2   | 0.2940          | 2.72           | 19.24       | 21.96        | 50.41        | -28.45      | AVG      | P   |        |
| 3   | 0.6820          | 1.59           | 19.26       | 20.85        | 46.00        | -25.15      | AVG      | P   |        |
| 4 * | 0.8020          | 18.70          | 19.27       | 37.97        | 56.00        | -18.03      | QP       | P   |        |
| 5   | 1.1660          | 17.23          | 19.26       | 36.49        | 56.00        | -19.51      | QP       | P   |        |
| 6   | 1.2380          | 1.55           | 19.29       | 20.84        | 46.00        | -25.16      | AVG      | P   |        |
| 7   | 1.6940          | 17.85          | 19.27       | 37.12        | 56.00        | -18.88      | QP       | P   |        |
| 8   | 1.6940          | 1.21           | 19.27       | 20.48        | 46.00        | -25.52      | AVG      | P   |        |
| 9   | 3.1820          | 16.37          | 19.30       | 35.67        | 56.00        | -20.33      | QP       | P   |        |
| 10  | 3.1820          | -1.39          | 19.30       | 17.91        | 46.00        | -28.09      | AVG      | P   |        |
| 11  | 17.1020         | 3.78           | 19.56       | 23.34        | 50.00        | -26.66      | AVG      | P   |        |
| 12  | 17.4580         | 22.34          | 19.54       | 41.88        | 60.00        | -18.12      | QP       | P   |        |

Remark: 1. Level(dBuV)=Reading(dBuV)+Factor(dB)  
2. Margin(dB)= Level(dBuV)-Limit(dBuV)

| Conducted Emission At The Mains Terminals Test Data |              |                    |              |
|-----------------------------------------------------|--------------|--------------------|--------------|
| Temperature:                                        | 25.1℃        | Relative Humidity: | 56%          |
| Pressure:                                           | 1008hPa      | Phase :            | Line         |
| Test Voltage :                                      | AC 120V/60Hz | Test Mode:         | 802.11n20    |
| EUT                                                 | RWF-108V     | Adapter            | XSC-0502000S |



| No.  | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F | Remark |
|------|-----------------|----------------|-------------|--------------|--------------|-------------|----------|-----|--------|
| 1    | 0.3500          | 13.83          | 19.20       | 33.03        | 58.96        | -25.93      | QP       | P   |        |
| 2    | 0.3500          | 1.43           | 19.20       | 20.63        | 48.96        | -28.33      | AVG      | P   |        |
| 3    | 0.6140          | 15.76          | 19.26       | 35.02        | 56.00        | -20.98      | QP       | P   |        |
| 4    | 0.6180          | 1.31           | 19.26       | 20.57        | 46.00        | -25.43      | AVG      | P   |        |
| 5    | 1.5859          | 15.63          | 19.28       | 34.91        | 56.00        | -21.09      | QP       | P   |        |
| 6    | 1.6900          | 1.52           | 19.27       | 20.79        | 46.00        | -25.21      | AVG      | P   |        |
| 7    | 3.2300          | 13.77          | 19.31       | 33.08        | 56.00        | -22.92      | QP       | P   |        |
| 8    | 3.2300          | -1.84          | 19.31       | 17.47        | 46.00        | -28.53      | AVG      | P   |        |
| 9    | 17.6940         | 17.52          | 19.54       | 37.06        | 60.00        | -22.94      | QP       | P   |        |
| 10   | 17.6940         | 2.13           | 19.54       | 21.67        | 50.00        | -28.33      | AVG      | P   |        |
| 11 * | 23.9300         | 19.55          | 19.50       | 39.05        | 60.00        | -20.95      | QP       | P   |        |
| 12   | 23.9300         | 3.46           | 19.50       | 22.96        | 50.00        | -27.04      | AVG      | P   |        |

| Conducted Emission At The Mains Terminals Test Data |              |                    |              |
|-----------------------------------------------------|--------------|--------------------|--------------|
| Temperature:                                        | 25.1℃        | Relative Humidity: | 56%          |
| Pressure:                                           | 1008hPa      | Phase :            | Neutral      |
| Test Voltage :                                      | AC 120V/60Hz | Test Mode:         | 802.11n20    |
| EUT                                                 | RWF-108V     | Adapter            | XSC-0502000S |



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F | Remark |
|-----|-----------------|----------------|-------------|--------------|--------------|-------------|----------|-----|--------|
| 1   | 0.2140          | 24.06          | 19.27       | 43.33        | 63.05        | -19.72      | QP       | P   |        |
| 2   | 0.2140          | 10.74          | 19.27       | 30.01        | 53.05        | -23.04      | AVG      | P   |        |
| 3   | 0.5860          | 24.52          | 19.45       | 43.97        | 56.00        | -12.03      | QP       | P   |        |
| 4   | 0.6220          | 10.34          | 19.44       | 29.78        | 46.00        | -16.22      | AVG      | P   |        |
| 5   | 1.1780          | 10.67          | 19.43       | 30.10        | 46.00        | -15.90      | AVG      | P   |        |
| 6   | 1.2540          | 24.56          | 19.46       | 44.02        | 56.00        | -11.98      | QP       | P   |        |
| 7 * | 1.5220          | 24.62          | 19.47       | 44.09        | 56.00        | -11.91      | QP       | P   |        |
| 8   | 1.5859          | 10.06          | 19.47       | 29.53        | 46.00        | -16.47      | AVG      | P   |        |
| 9   | 3.0140          | 23.88          | 19.49       | 43.37        | 56.00        | -12.63      | QP       | P   |        |
| 10  | 3.0140          | 8.16           | 19.49       | 27.65        | 46.00        | -18.35      | AVG      | P   |        |
| 11  | 23.9300         | 25.44          | 19.80       | 45.24        | 60.00        | -14.76      | QP       | P   |        |
| 12  | 23.9300         | 13.00          | 19.80       | 32.80        | 50.00        | -17.20      | AVG      | P   |        |

Remark: 1. Level(dBuV)=Reading(dBuV)+Factor(dB)  
2. Margin(dB)= Level(dBuV)-Limit(dBuV)

### 3. Radiated Spurious Emissions

#### 3.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.407, RSS-Gen 8.9  
RSS-247 5.5  
Test Method: KDB 789033 D02 General UNII Test Procedures New Rules v02r01  
ANSI C63.10:2020+Cor 1-2023  
Test Result: PASS  
Measurement Distance: 3m

| Frequency    | Detector   | RBW    | VBW    | Value      |
|--------------|------------|--------|--------|------------|
| 9KHz-150KHz  | Quasi-peak | 200Hz  | 600Hz  | Quasi-peak |
| 150KHz-30MHz | Quasi-peak | 9KHz   | 30KHz  | Quasi-peak |
| 30MHz-1GHz   | Quasi-peak | 100KHz | 300KHz | Quasi-peak |
| Above 1GHz   | Peak       | 1MHz   | 3MHz   | Peak       |
|              | Peak       | 1MHz   | 10Hz   | Average    |

Limit:

| Frequency (MHz) | Field Strength |              | Field Strength Limit at 3m Measurement Dist |                             |
|-----------------|----------------|--------------|---------------------------------------------|-----------------------------|
|                 | uV/m           | Distance (m) | uV/m                                        | dBuV/m                      |
| 0.009 ~ 0.490   | 2400/F(kHz)    | 300          | $10000 * 2400/F(kHz)$                       | $20\log(2400/F(kHz)) + 80$  |
| 0.490 ~ 1.705   | 24000/F(kHz)   | 30           | $100 * 24000/F(kHz)$                        | $20\log(24000/F(kHz)) + 40$ |
| 1.705 ~ 30      | 30             | 30           | $100 * 30$                                  | $20\log(30) + 40$           |
| 30 ~ 88         | 100            | 3            | 100                                         | $20\log(100)$               |
| 88 ~ 216        | 150            | 3            | 150                                         | $20\log(150)$               |
| 216 ~ 960       | 200            | 3            | 200                                         | $20\log(200)$               |
| Above 960       | 500            | 3            | 500                                         | $20\log(500)$               |

#### Undesirable emission limits

The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27

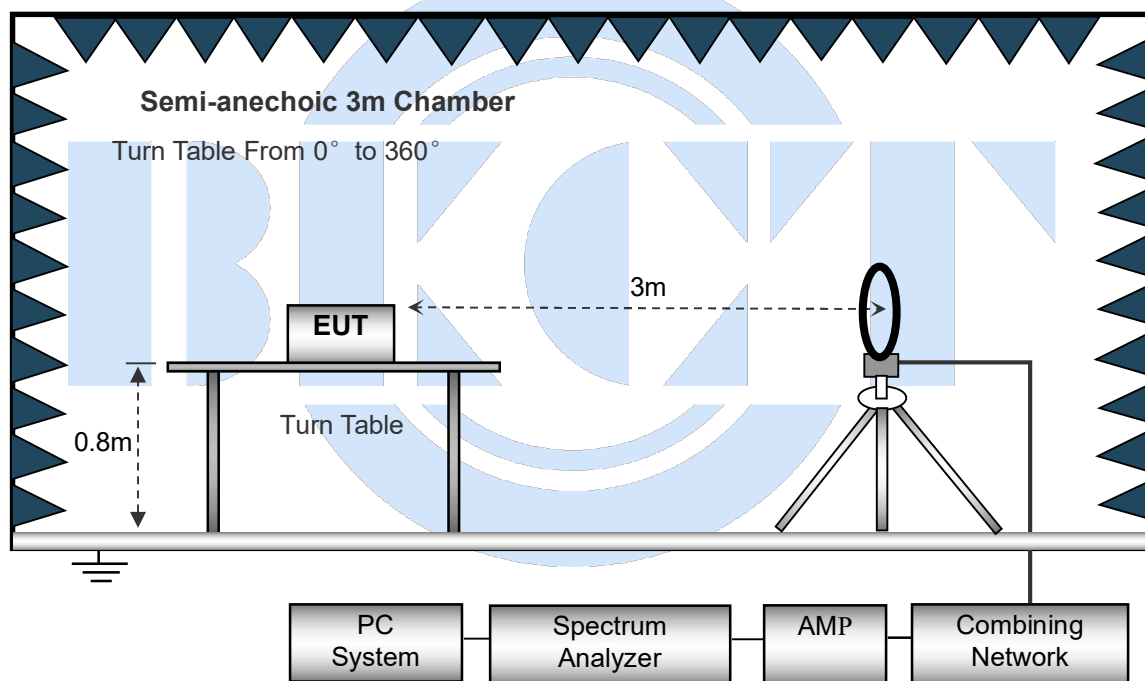
dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge

| Requirement  | Limit(EIRP)     | Limit (Field strength at 3m) |
|--------------|-----------------|------------------------------|
| 15.407(b)(1) | PK:-27(dBm/MHz) | PK:68.2(dB $\mu$ V/m)        |
| 15.407(b)(2) |                 |                              |
| 15.407(b)(3) |                 |                              |
| 15.407(b)(4) |                 |                              |

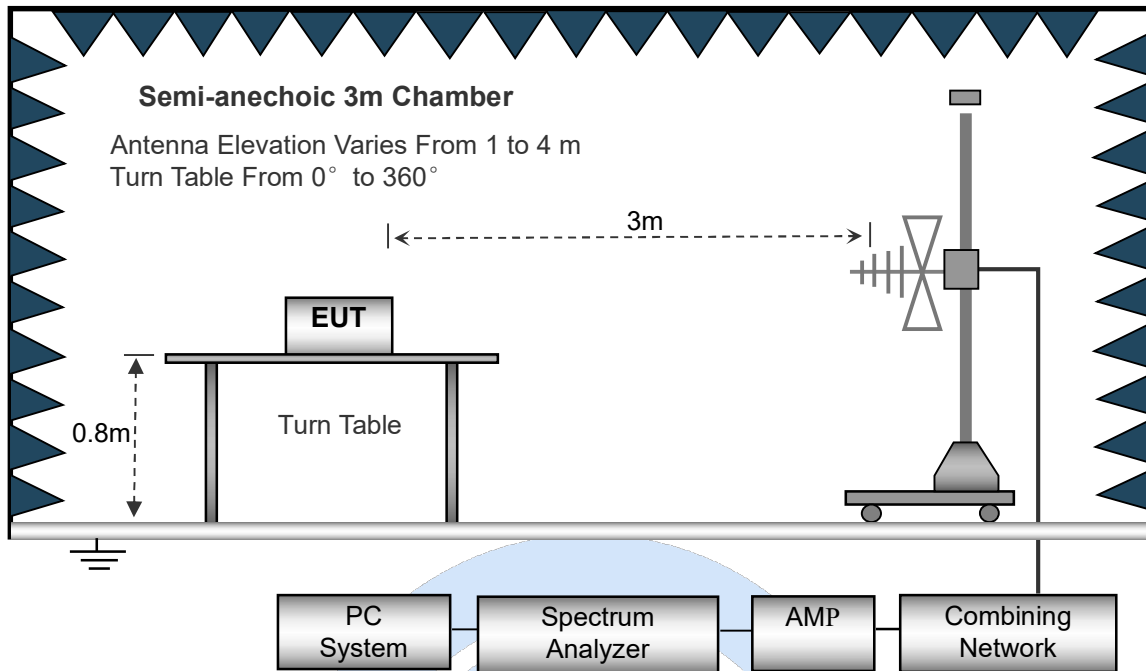
### 3.2.Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10.

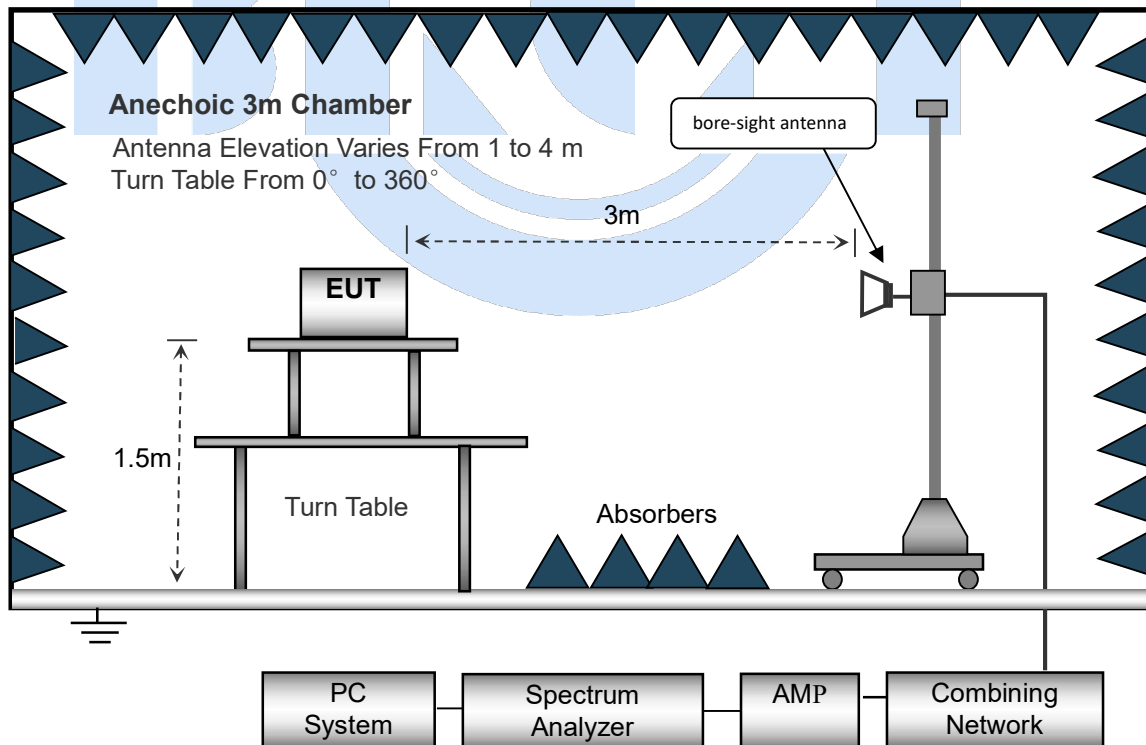
The test setup for emission measurement below 30MHz.

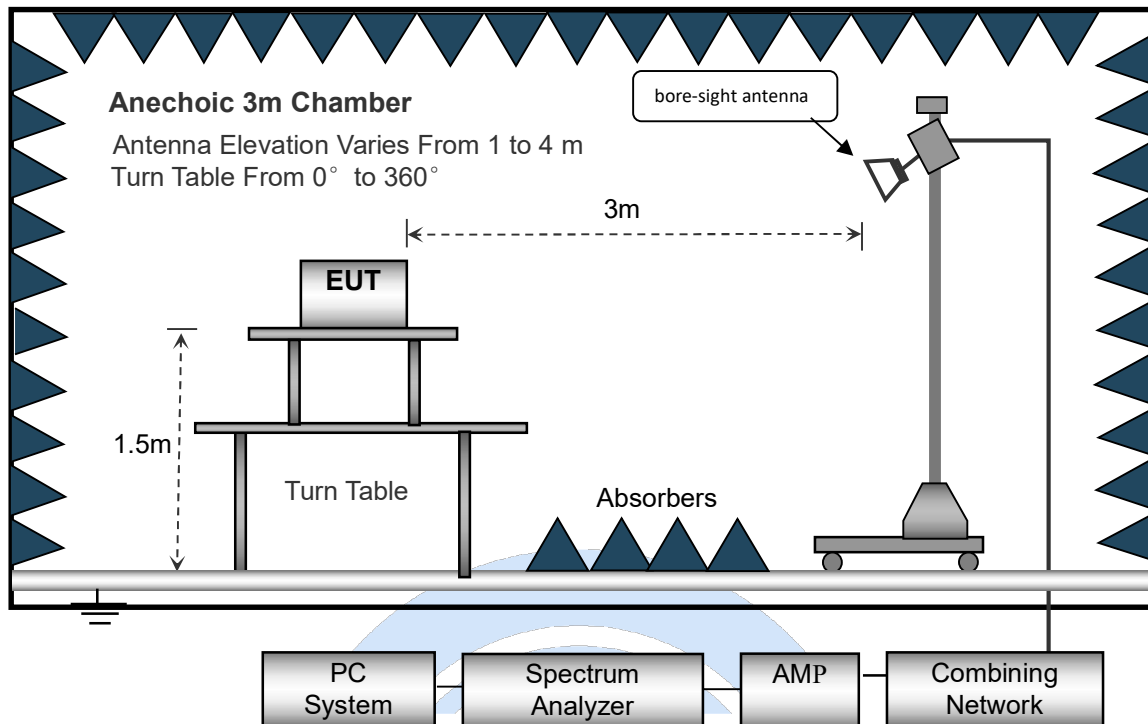


The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.





### 3.3.Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in Z axis,so the worst data were shown as follow.
8. A 5GHz high - pass filter is used druing radiated emissions above 1GHz measurement.

### 3.4.Test Result

Test Frequency: 9KHz~30MHz

The measurements were more than 20 dB below the limit and not reported.

Test Frequency : 30MHz ~ 1GHz

| Radiation Emission Test Data |              |                    |                |
|------------------------------|--------------|--------------------|----------------|
| Temperature:                 | 25.1℃        | Relative Humidity: | 56%            |
| Pressure:                    | 1008hPa      | Phase :            | Horizontal     |
| Test Voltage :               | AC 120V/60Hz | Test Mode          | 802.11n20      |
| EUT                          | RWF-108V     | Adapter            | SR-C60502000U2 |



| No. | Frequency (MHz) | Reading Level(dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Comment |
|-----|-----------------|---------------------|---------------|----------------|----------------|-------------|----------|---------|
| 1   | 30.4237         | 17.77               | 12.45         | 30.22          | 40.00          | -9.78       | QP       |         |
| 2   | 40.5591         | 16.55               | 13.40         | 29.95          | 40.00          | -10.05      | QP       |         |
| 3   | 106.7587        | 23.78               | 10.09         | 33.87          | 44.00          | -10.13      | QP       |         |
| 4   | 161.4740        | 15.96               | 13.16         | 29.12          | 44.00          | -14.88      | QP       |         |
| 5   | 455.9057        | 20.56               | 16.86         | 37.42          | 46.00          | -8.58       | QP       |         |
| 6 * | 649.6594        | 17.91               | 20.73         | 38.64          | 46.00          | -7.36       | QP       |         |

| Radiation Emission Test Data |              |                    |                |
|------------------------------|--------------|--------------------|----------------|
| Temperature:                 | 25.1°C       | Relative Humidity: | 56%            |
| Pressure:                    | 1008hPa      | Phase :            | Vertical       |
| Test Voltage :               | AC 120V/60Hz | Test Mode          | 802.11n20      |
| EUT                          | RWF-108V     | Adapter            | SR-C60502000U2 |



| No. | Frequency (MHz) | Reading Level(dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Comment |
|-----|-----------------|---------------------|---------------|----------------|----------------|-------------|----------|---------|
| 1   | 96.4360         | 21.31               | 9.24          | 30.55          | 44.00          | -13.45      | QP       |         |
| 2 * | 107.5100        | 25.04               | 10.16         | 35.20          | 44.00          | -8.80       | QP       |         |
| 3   | 159.2250        | 16.52               | 13.20         | 29.72          | 44.00          | -14.28      | QP       |         |
| 4   | 438.6553        | 16.51               | 16.43         | 32.94          | 46.00          | -13.06      | QP       |         |
| 5   | 504.7062        | 19.12               | 17.43         | 36.55          | 46.00          | -9.45       | QP       |         |
| 6   | 601.4265        | 13.88               | 20.02         | 33.90          | 46.00          | -12.10      | QP       |         |

| Radiation Emission Test Data |              |                    |                   |
|------------------------------|--------------|--------------------|-------------------|
| Temperature:                 | 25.1°C       | Relative Humidity: | 56%               |
| Pressure:                    | 1008hPa      | Phase :            | Horizontal        |
| Test Voltage :               | AC 120V/60Hz | Test Mode          | 802.11n20         |
| EUT                          | RWF-108V     | Adapter            | TEKA-AB1B050200US |



| No. | Frequency (MHz) | Reading Level(dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Comment |
|-----|-----------------|---------------------|---------------|----------------|----------------|-------------|----------|---------|
| 1   | 87.4175         | 16.32               | 8.81          | 25.13          | 40.00          | -14.87      | QP       |         |
| 2 * | 106.3850        | 25.31               | 10.06         | 35.37          | 44.00          | -8.63       | QP       |         |
| 3   | 158.1123        | 17.29               | 13.21         | 30.50          | 44.00          | -13.50      | QP       |         |
| 4   | 443.2941        | 16.50               | 16.59         | 33.09          | 46.00          | -12.91      | QP       |         |
| 5   | 552.8831        | 14.41               | 18.58         | 32.99          | 46.00          | -13.01      | QP       |         |
| 6   | 649.6594        | 13.24               | 20.73         | 33.97          | 46.00          | -12.03      | QP       |         |

| Radiation Emission Test Data |              |                    |                   |
|------------------------------|--------------|--------------------|-------------------|
| Temperature:                 | 25.1°C       | Relative Humidity: | 56%               |
| Pressure:                    | 1008hPa      | Phase :            | Vertical          |
| Test Voltage :               | AC 120V/60Hz | Test Mode          | 802.11n20         |
| EUT                          | RWF-108V     | Adapter            | TEKA-AB1B050200US |



| No. | Frequency (MHz) | Reading Level(dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Comment |
|-----|-----------------|---------------------|---------------|----------------|----------------|-------------|----------|---------|
| 1   | 35.4992         | 17.13               | 12.79         | 29.92          | 40.00          | -10.08      | QP       |         |
| 2   | 106.3850        | 23.95               | 10.06         | 34.01          | 44.00          | -9.99       | QP       |         |
| 3   | 159.2250        | 16.05               | 13.20         | 29.25          | 44.00          | -14.75      | QP       |         |
| 4   | 312.1792        | 18.30               | 13.34         | 31.64          | 46.00          | -14.36      | QP       |         |
| 5   | 455.9057        | 20.64               | 16.86         | 37.50          | 46.00          | -8.50       | QP       |         |
| 6 * | 649.6594        | 20.47               | 20.73         | 41.20          | 46.00          | -4.80       | QP       |         |

| Radiation Emission Test Data |              |                    |              |
|------------------------------|--------------|--------------------|--------------|
| Temperature:                 | 25.1°C       | Relative Humidity: | 56%          |
| Pressure:                    | 1008hPa      | Phase :            | Horizontal   |
| Test Voltage :               | AC 120V/60Hz | Test Mode          | 802.11n20    |
| EUT                          | RWF-108V     | Adapter            | XSC-0502000S |



| No. | Frequency (MHz) | Reading Level(dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Comment |
|-----|-----------------|---------------------|---------------|----------------|----------------|-------------|----------|---------|
| 1   | 35.4992         | 17.63               | 12.79         | 30.42          | 40.00          | -9.58       | QP       |         |
| 2   | 39.9941         | 16.10               | 13.43         | 29.53          | 40.00          | -10.47      | QP       |         |
| 3   | 106.3850        | 24.24               | 10.06         | 34.30          | 44.00          | -9.70       | QP       |         |
| 4   | 160.3454        | 15.33               | 13.19         | 28.52          | 44.00          | -15.48      | QP       |         |
| 5   | 457.5072        | 20.29               | 16.87         | 37.16          | 46.00          | -8.84       | QP       |         |
| 6 * | 649.6594        | 17.62               | 20.73         | 38.35          | 46.00          | -7.65       | QP       |         |

| Radiation Emission Test Data |              |                    |              |
|------------------------------|--------------|--------------------|--------------|
| Temperature:                 | 25.1℃        | Relative Humidity: | 56%          |
| Pressure:                    | 1008hPa      | Phase :            | Vertical     |
| Test Voltage :               | AC 120V/60Hz | Test Mode          | 802.11n20    |
| EUT                          | RWF-108V     | Adapter            | XSC-0502000S |



| No. | Frequency (MHz) | Reading Level(dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Comment |
|-----|-----------------|---------------------|---------------|----------------|----------------|-------------|----------|---------|
| 1   | 95.4270         | 20.48               | 9.17          | 29.65          | 44.00          | -14.35      | QP       |         |
| 2 * | 106.3850        | 24.66               | 10.06         | 34.72          | 44.00          | -9.28       | QP       |         |
| 3   | 159.2250        | 16.41               | 13.20         | 29.61          | 44.00          | -14.39      | QP       |         |
| 4   | 437.1200        | 17.33               | 16.37         | 33.70          | 46.00          | -12.30      | QP       |         |
| 5   | 601.4265        | 16.55               | 20.02         | 36.57          | 46.00          | -9.43       | QP       |         |
| 6   | 793.3960        | 13.45               | 23.06         | 36.51          | 46.00          | -9.49       | QP       |         |

#### Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.

Note:Worst case is 802.11n20(5580MHz)

## U-NII-1 802.11a

| Polar<br>(H/V)      | Frequency<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-ampl<br>ifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/<br>m) | Margin<br>(dB) | Detect<br>or<br>Type |
|---------------------|--------------------|----------------------------|---------------------------|-----------------------|---------------------------|-------------------------------|------------------------|----------------|----------------------|
| Low Channel:5180MHz |                    |                            |                           |                       |                           |                               |                        |                |                      |
| V                   | 10360.00           | 54.39                      | 45.24                     | 11.32                 | 27.53                     | 48.00                         | 68.20                  | -20.20         | PK                   |
| V                   | 15540.00           | 55.36                      | 45.16                     | 12.25                 | 28.62                     | 51.07                         | 68.20                  | -17.13         | PK                   |
| V                   | 20720.00           | 57.30                      | 45.15                     | 13.16                 | 29.64                     | 54.95                         | 68.20                  | -13.25         | PK                   |
| V                   | 25900.00           | 54.71                      | 45.13                     | 14.51                 | 30.54                     | 54.63                         | 68.20                  | -13.57         | PK                   |
| H                   | 10360.00           | 57.46                      | 45.24                     | 11.32                 | 27.53                     | 51.07                         | 68.20                  | -17.13         | PK                   |
| H                   | 15540.00           | 57.86                      | 45.16                     | 12.25                 | 28.62                     | 53.57                         | 68.20                  | -14.63         | PK                   |
| H                   | 20720.00           | 57.96                      | 45.15                     | 13.16                 | 29.64                     | 55.61                         | 68.20                  | -12.59         | PK                   |
| H                   | 25900.00           | 53.10                      | 45.13                     | 14.51                 | 30.54                     | 53.02                         | 68.20                  | -15.18         | PK                   |

| Polar<br>(H/V)         | Frequency<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-ampl<br>ifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/<br>m) | Margin<br>(dB) | Detect<br>or<br>Type |
|------------------------|--------------------|----------------------------|---------------------------|-----------------------|---------------------------|-------------------------------|------------------------|----------------|----------------------|
| Middle Channel:5200MHz |                    |                            |                           |                       |                           |                               |                        |                |                      |
| V                      | 10400.00           | 54.30                      | 45.23                     | 11.39                 | 27.86                     | 48.32                         | 68.20                  | -19.88         | PK                   |
| V                      | 15600.00           | 56.51                      | 45.15                     | 12.31                 | 29.64                     | 53.31                         | 68.20                  | -14.89         | PK                   |
| V                      | 20800.00           | 55.94                      | 45.14                     | 13.24                 | 29.89                     | 53.93                         | 68.20                  | -14.27         | PK                   |
| V                      | 26000.00           | 55.11                      | 45.13                     | 14.61                 | 30.72                     | 55.31                         | 68.20                  | -12.89         | PK                   |
| H                      | 10400.00           | 55.66                      | 45.23                     | 11.39                 | 27.86                     | 49.68                         | 68.20                  | -18.52         | PK                   |
| H                      | 15600.00           | 56.95                      | 45.15                     | 12.31                 | 29.64                     | 53.75                         | 68.20                  | -14.45         | PK                   |
| H                      | 20800.00           | 53.00                      | 45.14                     | 13.24                 | 29.89                     | 50.99                         | 68.20                  | -17.21         | PK                   |
| H                      | 26000.00           | 57.48                      | 45.13                     | 14.61                 | 30.72                     | 57.68                         | 68.20                  | -10.52         | PK                   |

| Polar<br>(H/V)       | Frequency<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-ampl<br>ifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/<br>m) | Margin<br>(dB) | Detect<br>or<br>Type |
|----------------------|--------------------|----------------------------|---------------------------|-----------------------|---------------------------|-------------------------------|------------------------|----------------|----------------------|
| High Channel:5240MHz |                    |                            |                           |                       |                           |                               |                        |                |                      |
| V                    | 10480.00           | 54.32                      | 45.22                     | 11.52                 | 27.98                     | 48.60                         | 68.20                  | -19.60         | PK                   |
| V                    | 15720.00           | 55.53                      | 45.14                     | 12.52                 | 29.91                     | 52.82                         | 68.20                  | -15.38         | PK                   |
| V                    | 20960.00           | 57.04                      | 15.14                     | 13.35                 | 30.15                     | 85.40                         | 68.20                  | 17.20          | PK                   |
| V                    | 26200.00           | 54.89                      | 45.13                     | 14.78                 | 30.96                     | 55.50                         | 68.20                  | -12.70         | PK                   |
| H                    | 10480.00           | 57.18                      | 45.22                     | 11.52                 | 27.98                     | 51.46                         | 68.20                  | -16.74         | PK                   |
| H                    | 15720.00           | 53.99                      | 45.14                     | 12.52                 | 29.91                     | 51.28                         | 68.20                  | -16.92         | PK                   |
| H                    | 20960.00           | 54.02                      | 15.14                     | 13.35                 | 30.15                     | 82.38                         | 68.20                  | 14.18          | PK                   |
| H                    | 26200.00           | 53.28                      | 45.13                     | 14.78                 | 30.96                     | 53.89                         | 68.20                  | -14.31         | PK                   |

## U-NII-2A 802.11a

| Polar<br>(H/V)      | Frequency | Meter<br>Reading | Pre-ampl<br>ifier | Cable<br>Loss | Antenna<br>Factor | Emission<br>Level | Limits       | Margin | Detect<br>or<br>Type |
|---------------------|-----------|------------------|-------------------|---------------|-------------------|-------------------|--------------|--------|----------------------|
|                     | (MHz)     | (dBuV)           | (dB)              | (dB)          | (dB)              | (dBuV/m)          | (dBuV/<br>m) | (dB)   |                      |
| Low Channel:5260MHz |           |                  |                   |               |                   |                   |              |        |                      |
| V                   | 10520.00  | 57.76            | 45.22             | 11.86         | 28.13             | 52.53             | 68.20        | -15.67 | PK                   |
| V                   | 15780.00  | 54.24            | 45.15             | 12.84         | 29.14             | 51.07             | 68.20        | -17.13 | PK                   |
| V                   | 21040.00  | 57.55            | 45.14             | 13.65         | 30.29             | 56.35             | 68.20        | -11.85 | PK                   |
| V                   | 26300.00  | 55.27            | 45.13             | 15.05         | 31.16             | 56.35             | 68.20        | -11.85 | PK                   |
| H                   | 10520.00  | 57.08            | 45.22             | 11.86         | 28.13             | 51.85             | 68.20        | -16.35 | PK                   |
| H                   | 15780.00  | 55.33            | 45.15             | 12.84         | 29.14             | 52.16             | 68.20        | -16.04 | PK                   |
| H                   | 21040.00  | 53.72            | 45.14             | 13.65         | 30.29             | 52.52             | 68.20        | -15.68 | PK                   |
| H                   | 26300.00  | 53.52            | 45.13             | 15.05         | 31.16             | 54.60             | 68.20        | -13.60 | PK                   |

| Polar<br>(H/V)         | Frequency | Meter<br>Reading | Pre-ampl<br>ifier | Cable<br>Loss | Antenna<br>Factor | Emission<br>Level | Limits       | Margin | Detect<br>or<br>Type |
|------------------------|-----------|------------------|-------------------|---------------|-------------------|-------------------|--------------|--------|----------------------|
|                        | (MHz)     | (dBuV)           | (dB)              | (dB)          | (dB)              | (dBuV/m)          | (dBuV/<br>m) | (dB)   |                      |
| Middle Channel:5300MHz |           |                  |                   |               |                   |                   |              |        |                      |
| V                      | 10600.00  | 56.36            | 45.21             | 12.16         | 28.36             | 51.67             | 68.20        | -16.53 | PK                   |
| V                      | 15900.00  | 55.38            | 45.15             | 13.25         | 29.34             | 52.82             | 68.20        | -15.38 | PK                   |
| V                      | 21200.00  | 55.60            | 45.14             | 13.96         | 30.59             | 55.01             | 68.20        | -13.19 | PK                   |
| V                      | 26500.00  | 57.30            | 45.13             | 15.34         | 31.51             | 59.02             | 68.20        | -9.18  | PK                   |
| H                      | 10600.00  | 55.29            | 45.21             | 12.16         | 28.36             | 50.60             | 68.20        | -17.60 | PK                   |
| H                      | 15900.00  | 54.08            | 45.15             | 13.25         | 29.34             | 51.52             | 68.20        | -16.68 | PK                   |
| H                      | 21200.00  | 56.44            | 45.14             | 13.96         | 30.59             | 55.85             | 68.20        | -12.35 | PK                   |
| H                      | 26500.00  | 56.54            | 45.13             | 15.34         | 31.51             | 58.26             | 68.20        | -9.94  | PK                   |

| Polar<br>(H/V)       | Frequency | Meter<br>Reading | Pre-ampli<br>fier | Cable<br>Loss | Antenna<br>Factor | Emission<br>Level | Limits       | Margin | Detect<br>or<br>Type |
|----------------------|-----------|------------------|-------------------|---------------|-------------------|-------------------|--------------|--------|----------------------|
|                      | (MHz)     | (dBuV)           | (dB)              | (dB)          | (dB)              | (dBuV/m)          | (dBuV/<br>m) | (dB)   |                      |
| High Channel:5320MHz |           |                  |                   |               |                   |                   |              |        |                      |
| V                    | 10640.00  | 55.30            | 45.22             | 12.32         | 28.62             | 51.02             | 68.20        | -17.18 | PK                   |
| V                    | 15960.00  | 56.63            | 45.13             | 13.52         | 29.51             | 54.53             | 68.20        | -13.67 | PK                   |
| V                    | 21280.00  | 54.29            | 45.12             | 14.25         | 30.94             | 54.36             | 68.20        | -13.84 | PK                   |
| V                    | 26600.00  | 55.77            | 45.11             | 15.52         | 31.83             | 58.01             | 68.20        | -10.19 | PK                   |
| H                    | 10640.00  | 55.04            | 45.22             | 12.32         | 28.62             | 50.76             | 68.20        | -17.44 | PK                   |
| H                    | 15960.00  | 57.44            | 45.13             | 13.52         | 29.51             | 55.34             | 68.20        | -12.86 | PK                   |
| H                    | 21280.00  | 54.98            | 45.12             | 14.25         | 30.94             | 55.05             | 68.20        | -13.15 | PK                   |
| H                    | 26600.00  | 57.12            | 45.11             | 15.52         | 31.83             | 59.36             | 68.20        | -8.84  | PK                   |

## U-NII-2C 802.11a

| Polar<br>(H/V)         | Frequency<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-ampl<br>ifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/<br>m) | Margin<br>(dB) | Detect<br>or<br>Type |
|------------------------|--------------------|----------------------------|---------------------------|-----------------------|---------------------------|-------------------------------|------------------------|----------------|----------------------|
| Low Channel:5500MHz    |                    |                            |                           |                       |                           |                               |                        |                |                      |
| V                      | 11000.00           | 54.45                      | 45.21                     | 13.52                 | 29.31                     | 52.07                         | 68.20                  | -16.13         | PK                   |
| V                      | 16500.00           | 53.31                      | 45.15                     | 14.13                 | 30.11                     | 52.40                         | 68.20                  | -15.80         | PK                   |
| V                      | 22000.00           | 57.64                      | 45.13                     | 15.54                 | 32.51                     | 60.56                         | 68.20                  | -7.64          | PK                   |
| V                      | 27500.00           | 55.59                      | 45.12                     | 16.91                 | 33.18                     | 60.56                         | 68.20                  | -7.64          | PK                   |
| H                      | 11000.00           | 55.26                      | 45.21                     | 13.52                 | 29.31                     | 52.88                         | 68.20                  | -15.32         | PK                   |
| H                      | 16500.00           | 53.77                      | 45.15                     | 14.13                 | 30.51                     | 53.26                         | 68.20                  | -14.94         | PK                   |
| H                      | 22000.00           | 56.58                      | 45.13                     | 15.54                 | 32.51                     | 59.50                         | 68.20                  | -8.70          | PK                   |
| H                      | 27500.00           | 56.92                      | 45.12                     | 16.91                 | 33.18                     | 61.89                         | 68.20                  | -6.31          | PK                   |
| Polar<br>(H/V)         | Frequency<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-ampl<br>ifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/<br>m) | Margin<br>(dB) | Detect<br>or<br>Type |
| Middle Channel:5580MHz |                    |                            |                           |                       |                           |                               |                        |                |                      |
| V                      | 11600.00           | 53.09                      | 45.21                     | 14.61                 | 30.16                     | 52.65                         | 68.20                  | -15.55         | PK                   |
| V                      | 16740.00           | 55.84                      | 45.14                     | 15.18                 | 31.12                     | 57.00                         | 68.20                  | -11.20         | PK                   |
| V                      | 22320.00           | 55.09                      | 45.12                     | 16.62                 | 32.51                     | 59.10                         | 68.20                  | -9.10          | PK                   |
| V                      | 27900.00           | 54.04                      | 45.11                     | 17.64                 | 33.47                     | 60.04                         | 68.20                  | -8.16          | PK                   |
| H                      | 11600.00           | 55.84                      | 45.21                     | 14.61                 | 30.16                     | 55.40                         | 68.20                  | -12.80         | PK                   |
| H                      | 16740.00           | 56.71                      | 45.14                     | 15.18                 | 31.12                     | 57.87                         | 68.20                  | -10.33         | PK                   |
| H                      | 22320.00           | 55.83                      | 45.12                     | 16.62                 | 32.91                     | 60.24                         | 68.20                  | -7.96          | PK                   |
| H                      | 27900.00           | 55.56                      | 45.11                     | 17.64                 | 33.47                     | 61.56                         | 68.20                  | -6.64          | PK                   |
| Polar<br>(H/V)         | Frequency<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-ampl<br>ifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/<br>m) | Margin<br>(dB) | Detect<br>or<br>Type |
| High Channel:5700MHz   |                    |                            |                           |                       |                           |                               |                        |                |                      |
| V                      | 11400.00           | 54.13                      | 45.21                     | 15.52                 | 30.24                     | 54.68                         | 68.20                  | -13.52         | PK                   |
| V                      | 17100.00           | 51.18                      | 45.13                     | 16.23                 | 31.26                     | 53.54                         | 68.20                  | -14.66         | PK                   |
| V                      | 22800.00           | 54.86                      | 45.12                     | 17.53                 | 33.15                     | 60.42                         | 68.20                  | -7.78          | PK                   |
| V                      | 28500.00           | 53.83                      | 45.11                     | 18.64                 | 34.16                     | 61.52                         | 68.20                  | -6.68          | PK                   |
| H                      | 11400.00           | 53.74                      | 45.21                     | 15.52                 | 30.24                     | 54.29                         | 68.20                  | -13.91         | PK                   |
| H                      | 17100.00           | 53.20                      | 45.13                     | 16.23                 | 31.26                     | 55.56                         | 68.20                  | -12.64         | PK                   |
| H                      | 22800.00           | 54.41                      | 45.12                     | 17.53                 | 33.15                     | 59.97                         | 68.20                  | -8.23          | PK                   |
| H                      | 28500.00           | 51.57                      | 45.11                     | 18.64                 | 34.16                     | 59.26                         | 68.20                  | -8.94          | PK                   |

## U-NII-3 802.11a

| Polar<br>(H/V)      | Frequency | Meter<br>Reading | Pre-ampl<br>ifier | Cable<br>Loss | Antenna<br>Factor | Emission<br>Level | Limits       | Margin | Detect<br>or<br>Type |
|---------------------|-----------|------------------|-------------------|---------------|-------------------|-------------------|--------------|--------|----------------------|
|                     | (MHz)     | (dBuV)           | (dB)              | (dB)          | (dB)              | (dBuV/m)          | (dBuV/<br>m) | (dB)   |                      |
| Low Channel:5745MHz |           |                  |                   |               |                   |                   |              |        |                      |
| V                   | 11490.00  | 52.15            | 45.21             | 15.92         | 30.54             | 53.40             | 68.20        | -14.80 | PK                   |
| V                   | 17235.00  | 53.08            | 45.12             | 16.52         | 31.49             | 55.97             | 68.20        | -12.23 | PK                   |
| V                   | 22980.00  | 54.69            | 45.08             | 17.96         | 32.52             | 60.09             | 68.20        | -8.11  | PK                   |
| V                   | 28725.00  | 51.86            | 45.04             | 18.62         | 33.58             | 59.03             | 68.20        | -9.17  | PK                   |
| H                   | 11490.00  | 54.90            | 45.21             | 15.92         | 30.54             | 56.15             | 68.20        | -12.05 | PK                   |
| H                   | 17235.00  | 54.61            | 45.12             | 16.52         | 31.49             | 57.50             | 68.20        | -10.70 | PK                   |
| H                   | 22980.00  | 52.37            | 45.08             | 17.96         | 32.52             | 57.77             | 68.20        | -10.43 | PK                   |
| H                   | 28725.00  | 54.71            | 45.04             | 18.62         | 33.58             | 61.88             | 68.20        | -6.32  | PK                   |

| Polar<br>(H/V)         | Frequency | Meter<br>Reading | Pre-ampl<br>ifier | Cable<br>Loss | Antenna<br>Factor | Emission<br>Level | Limits       | Margin | Detect<br>or<br>Type |
|------------------------|-----------|------------------|-------------------|---------------|-------------------|-------------------|--------------|--------|----------------------|
|                        | (MHz)     | (dBuV)           | (dB)              | (dB)          | (dB)              | (dBuV/m)          | (dBuV/<br>m) | (dB)   |                      |
| Middle Channel:5785MHz |           |                  |                   |               |                   |                   |              |        |                      |
| V                      | 11570.00  | 51.01            | 45.20             | 16.15         | 30.87             | 52.83             | 68.20        | -15.37 | PK                   |
| V                      | 17355.00  | 52.97            | 45.12             | 16.76         | 31.52             | 56.13             | 68.20        | -12.07 | PK                   |
| V                      | 23140.00  | 50.11            | 45.05             | 18.05         | 34.06             | 57.17             | 68.20        | -11.03 | PK                   |
| V                      | 28925.00  | 52.58            | 45.03             | 19.93         | 34.66             | 62.14             | 68.20        | -6.06  | PK                   |
| H                      | 11570.00  | 53.58            | 42.62             | 11.32         | 27.53             | 49.81             | 68.20        | -18.39 | PK                   |
| H                      | 17355.00  | 53.79            | 43.25             | 12.25         | 28.62             | 51.41             | 68.20        | -16.79 | PK                   |
| H                      | 23140.00  | 54.08            | 44.58             | 13.16         | 29.64             | 52.30             | 68.20        | -15.90 | PK                   |
| H                      | 28925.00  | 54.26            | 45.75             | 14.51         | 30.54             | 53.56             | 68.20        | -14.64 | PK                   |

| Polar<br>(H/V)       | Frequency | Meter<br>Reading | Pre-ampli<br>fier | Cable<br>Loss | Antenna<br>Factor | Emission<br>Level | Limits       | Margin | Detect<br>or<br>Type |
|----------------------|-----------|------------------|-------------------|---------------|-------------------|-------------------|--------------|--------|----------------------|
|                      | (MHz)     | (dBuV)           | (dB)              | (dB)          | (dB)              | (dBuV/m)          | (dBuV/<br>m) | (dB)   |                      |
| High Channel:5825MHz |           |                  |                   |               |                   |                   |              |        |                      |
| V                    | 11650.00  | 53.69            | 45.21             | 16.25         | 30.15             | 54.88             | 68.20        | -13.32 | PK                   |
| V                    | 17475.00  | 51.28            | 45.11             | 16.88         | 31.62             | 54.68             | 68.20        | -13.52 | PK                   |
| V                    | 23300.00  | 50.28            | 45.04             | 18.06         | 34.21             | 57.51             | 68.20        | -10.69 | PK                   |
| V                    | 29125.00  | 54.08            | 45.03             | 19.99         | 34.85             | 60.89             | 68.20        | -7.31  | PK                   |
| H                    | 11650.00  | 53.54            | 45.21             | 16.25         | 30.15             | 54.73             | 68.20        | -13.47 | PK                   |
| H                    | 17475.00  | 52.54            | 45.11             | 16.88         | 31.62             | 55.93             | 68.20        | -12.27 | PK                   |
| H                    | 23300.00  | 51.98            | 45.04             | 18.06         | 34.21             | 59.21             | 68.20        | -8.99  | PK                   |
| H                    | 29125.00  | 51.18            | 45.03             | 19.99         | 34.85             | 60.99             | 68.20        | -7.21  | PK                   |

## Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss - Pre-amplifier,  
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
4. The worst mode is 802.11a, only the worst data is recorded.



## Band Edge Emission Measurement

## U-NII-1

|           | Polar<br>(H/V)        | Frequenc<br>y<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB/m) | Emission<br>level<br>(dBuV/m) | Limit<br>(dBuV<br>/m) | Detec<br>tor<br>Type | Result |
|-----------|-----------------------|------------------------|----------------------------|---------------------------|-----------------------|-----------------------------|-------------------------------|-----------------------|----------------------|--------|
| 802.11n20 | Low Channel: 5180MHz  |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5150                   | 54.68                      | 45.29                     | 9.63                  | 25.62                       | 44.64                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5150                   | 44.69                      | 45.29                     | 9.63                  | 25.62                       | 40.13                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5145                   | 53.96                      | 45.31                     | 9.54                  | 25.46                       | 43.65                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5145                   | 44.86                      | 45.31                     | 9.54                  | 25.46                       | 34.55                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5150                   | 54.32                      | 45.29                     | 9.63                  | 25.62                       | 44.28                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5150                   | 44.83                      | 45.29                     | 9.63                  | 25.62                       | 34.79                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5145                   | 53.41                      | 45.31                     | 9.54                  | 25.46                       | 43.10                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5145                   | 44.94                      | 45.31                     | 9.54                  | 25.46                       | 34.63                         | 54.00                 | AV                   | PASS   |
|           | High Channel: 5240MHz |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5350                   | 53.28                      | 45.23                     | 9.95                  | 26.83                       | 44.83                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5350                   | 44.71                      | 45.23                     | 9.95                  | 26.83                       | 36.26                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5370                   | 53.94                      | 45.35                     | 10.02                 | 26.97                       | 45.58                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5370                   | 44.88                      | 45.35                     | 10.02                 | 26.97                       | 36.52                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5350                   | 54.03                      | 45.23                     | 9.95                  | 26.83                       | 45.58                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5350                   | 44.37                      | 45.23                     | 9.95                  | 26.83                       | 35.92                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5370                   | 53.37                      | 45.35                     | 10.02                 | 26.97                       | 45.01                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5370                   | 44.53                      | 45.35                     | 10.02                 | 26.97                       | 36.17                         | 54.00                 | AV                   | PASS   |

## U-NII-2A

|           | Polar<br>(H/V)        | Frequenc<br>y<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB/m) | Emission<br>level<br>(dBuV/m) | Limit<br>(dBuV<br>/m) | Detec<br>tor<br>Type | Result |
|-----------|-----------------------|------------------------|----------------------------|---------------------------|-----------------------|-----------------------------|-------------------------------|-----------------------|----------------------|--------|
| 802.11n20 | Low Channel: 5260MHz  |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5150                   | 54.37                      | 45.29                     | 9.63                  | 25.62                       | 44.33                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5150                   | 44.13                      | 45.29                     | 9.63                  | 25.62                       | 34.09                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5145                   | 54.43                      | 45.31                     | 9.54                  | 25.46                       | 44.12                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5145                   | 44.20                      | 45.31                     | 9.54                  | 25.46                       | 33.89                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5150                   | 53.06                      | 45.29                     | 9.63                  | 25.62                       | 43.02                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5150                   | 44.49                      | 45.29                     | 9.63                  | 25.62                       | 34.45                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5145                   | 54.35                      | 45.31                     | 9.54                  | 25.46                       | 44.04                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5145                   | 44.61                      | 45.31                     | 9.54                  | 25.46                       | 34.30                         | 54.00                 | AV                   | PASS   |
|           | High Channel: 5320MHz |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5350                   | 54.44                      | 45.23                     | 9.95                  | 26.83                       | 45.99                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5350                   | 44.17                      | 45.23                     | 9.95                  | 26.83                       | 35.72                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5370                   | 54.32                      | 45.35                     | 10.02                 | 26.97                       | 45.96                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5370                   | 44.99                      | 45.35                     | 10.02                 | 26.97                       | 36.63                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5350                   | 54.96                      | 45.23                     | 9.95                  | 26.83                       | 46.51                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5350                   | 44.90                      | 45.23                     | 9.95                  | 26.83                       | 36.45                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5370                   | 54.11                      | 45.35                     | 10.02                 | 26.97                       | 45.75                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5370                   | 44.15                      | 45.35                     | 10.02                 | 26.97                       | 35.79                         | 54.00                 | AV                   | PASS   |



## U-NII-2C

|           | Polar<br>(H/V)        | Frequenc<br>y<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB/m) | Emission<br>level<br>(dBuV/m) | Limit<br>(dBuV<br>/m) | Detec<br>tor<br>Type | Result |
|-----------|-----------------------|------------------------|----------------------------|---------------------------|-----------------------|-----------------------------|-------------------------------|-----------------------|----------------------|--------|
| 802.11n20 | Low Channel: 5500MHz  |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5470                   | 54.49                      | 45.24                     | 10.52                 | 27.12                       | 46.89                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5470                   | 44.94                      | 45.24                     | 10.52                 | 27.12                       | 37.34                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5465                   | 53.77                      | 45.26                     | 10.51                 | 27.08                       | 46.10                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5465                   | 44.73                      | 45.26                     | 10.51                 | 27.08                       | 37.06                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5470                   | 53.04                      | 45.24                     | 10.52                 | 27.12                       | 45.44                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5470                   | 44.62                      | 45.24                     | 10.52                 | 27.12                       | 37.02                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5465                   | 53.86                      | 45.26                     | 10.51                 | 27.08                       | 46.19                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5465                   | 44.74                      | 45.26                     | 10.51                 | 27.08                       | 37.07                         | 54.00                 | AV                   | PASS   |
|           | High Channel: 5700MHz |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5725                   | 53.72                      | 45.23                     | 11.12                 | 27.82                       | 47.43                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5725                   | 44.44                      | 45.23                     | 11.12                 | 27.82                       | 38.15                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5730                   | 54.72                      | 45.24                     | 11.13                 | 27.85                       | 48.46                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5730                   | 44.67                      | 45.24                     | 11.13                 | 27.85                       | 38.41                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5725                   | 53.94                      | 45.23                     | 11.12                 | 27.82                       | 47.65                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5725                   | 44.80                      | 45.23                     | 11.12                 | 27.82                       | 38.51                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5730                   | 53.72                      | 45.24                     | 11.13                 | 27.85                       | 47.46                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5730                   | 44.42                      | 45.24                     | 11.13                 | 27.85                       | 38.16                         | 54.00                 | AV                   | PASS   |

## U-NII-3

|           | Polar<br>(H/V)        | Frequenc<br>y<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB/m) | Emission<br>level<br>(dBuV/m) | Limit<br>(dBuV<br>/m) | Detec<br>tor<br>Type | Result |
|-----------|-----------------------|------------------------|----------------------------|---------------------------|-----------------------|-----------------------------|-------------------------------|-----------------------|----------------------|--------|
| 802.11n20 | Low Channel: 5745MHz  |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5725                   | 54.72                      | 45.24                     | 10.52                 | 27.73                       | 47.73                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5725                   | 44.83                      | 45.24                     | 10.52                 | 27.73                       | 37.84                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5720                   | 53.48                      | 45.26                     | 10.51                 | 27.71                       | 46.44                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5720                   | 44.22                      | 45.26                     | 10.51                 | 27.71                       | 37.18                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5725                   | 53.38                      | 45.24                     | 10.52                 | 27.73                       | 46.39                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5725                   | 44.53                      | 45.24                     | 10.52                 | 27.73                       | 37.54                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5720                   | 53.89                      | 45.26                     | 10.51                 | 27.71                       | 46.85                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5720                   | 44.67                      | 45.26                     | 10.51                 | 27.71                       | 37.63                         | 54.00                 | AV                   | PASS   |
|           | High Channel: 5825MHz |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5925                   | 54.69                      | 45.23                     | 11.12                 | 27.82                       | 48.40                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5925                   | 44.88                      | 45.23                     | 11.12                 | 27.82                       | 38.59                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5930                   | 53.83                      | 45.24                     | 11.13                 | 27.85                       | 47.57                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5930                   | 44.52                      | 45.24                     | 11.13                 | 27.85                       | 38.26                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5925                   | 54.51                      | 45.23                     | 11.12                 | 27.82                       | 48.22                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5925                   | 44.54                      | 45.23                     | 11.12                 | 27.82                       | 38.25                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5930                   | 54.07                      | 45.24                     | 11.13                 | 27.85                       | 47.81                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5930                   | 44.47                      | 45.24                     | 11.13                 | 27.85                       | 38.21                         | 54.00                 | AV                   | PASS   |



## U-NII-1

|           | Polar<br>(H/V)        | Frequenc<br>y<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB/m) | Emission<br>level<br>(dBuV/m) | Limit<br>(dBuV<br>/m) | Detec<br>tor<br>Type | Result |
|-----------|-----------------------|------------------------|----------------------------|---------------------------|-----------------------|-----------------------------|-------------------------------|-----------------------|----------------------|--------|
| 802.11n40 | Low Channel: 5190MHz  |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5150                   | 54.16                      | 45.29                     | 9.63                  | 25.62                       | 44.12                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5150                   | 44.73                      | 45.29                     | 9.63                  | 25.62                       | 34.69                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5145                   | 54.58                      | 45.31                     | 9.54                  | 25.46                       | 44.27                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5145                   | 44.42                      | 45.31                     | 9.54                  | 25.46                       | 34.11                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5150                   | 54.33                      | 45.29                     | 9.63                  | 25.62                       | 44.29                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5150                   | 44.37                      | 45.29                     | 9.63                  | 25.62                       | 34.33                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5145                   | 54.57                      | 45.31                     | 9.54                  | 25.46                       | 44.26                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5145                   | 44.88                      | 45.31                     | 9.54                  | 25.46                       | 34.57                         | 54.00                 | AV                   | PASS   |
|           | High Channel: 5230MHz |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5350                   | 53.35                      | 45.23                     | 9.95                  | 26.83                       | 44.90                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5350                   | 44.16                      | 45.23                     | 9.95                  | 26.83                       | 35.71                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5370                   | 53.14                      | 45.35                     | 10.02                 | 26.97                       | 44.78                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5370                   | 44.53                      | 45.35                     | 10.02                 | 26.97                       | 36.17                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5350                   | 54.23                      | 45.23                     | 9.95                  | 26.83                       | 45.78                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5350                   | 44.54                      | 45.23                     | 9.95                  | 26.83                       | 36.09                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5370                   | 54.43                      | 45.35                     | 10.02                 | 26.97                       | 46.07                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5370                   | 44.09                      | 45.35                     | 10.02                 | 26.97                       | 35.73                         | 54.00                 | AV                   | PASS   |

## U-NII-2A

|           | Polar<br>(H/V)        | Frequenc<br>y<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB/m) | Emission<br>level<br>(dBuV/m) | Limit<br>(dBuV<br>/m) | Detec<br>tor<br>Type | Result |
|-----------|-----------------------|------------------------|----------------------------|---------------------------|-----------------------|-----------------------------|-------------------------------|-----------------------|----------------------|--------|
| 802.11n40 | Low Channel: 5270MHz  |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5150                   | 53.21                      | 45.29                     | 9.63                  | 25.62                       | 43.17                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5150                   | 44.43                      | 45.29                     | 9.63                  | 25.62                       | 34.39                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5145                   | 53.80                      | 45.31                     | 9.54                  | 25.46                       | 43.49                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5145                   | 44.96                      | 45.31                     | 9.54                  | 25.46                       | 34.65                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5150                   | 53.10                      | 45.29                     | 9.63                  | 25.62                       | 43.06                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5150                   | 44.92                      | 45.29                     | 9.63                  | 25.62                       | 34.88                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5145                   | 53.00                      | 45.31                     | 9.54                  | 25.46                       | 42.69                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5145                   | 44.49                      | 45.31                     | 9.54                  | 25.46                       | 34.18                         | 54.00                 | AV                   | PASS   |
|           | High Channel: 5310MHz |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5350                   | 53.64                      | 45.23                     | 9.95                  | 26.83                       | 45.19                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5350                   | 44.06                      | 45.23                     | 9.95                  | 26.83                       | 35.61                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5370                   | 54.55                      | 45.35                     | 10.02                 | 26.97                       | 46.19                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5370                   | 44.50                      | 45.35                     | 10.02                 | 26.97                       | 36.14                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5350                   | 53.58                      | 45.23                     | 9.95                  | 26.83                       | 45.13                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5350                   | 44.37                      | 45.23                     | 9.95                  | 26.83                       | 35.92                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5370                   | 54.52                      | 45.35                     | 10.02                 | 26.97                       | 46.16                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5370                   | 44.26                      | 45.35                     | 10.02                 | 26.97                       | 35.90                         | 54.00                 | AV                   | PASS   |



## U-NII-2C

|           | Polar<br>(H/V)        | Frequenc<br>y<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB/m) | Emission<br>level<br>(dBuV/m) | Limit<br>(dBuV<br>/m) | Detec<br>tor<br>Type | Result |
|-----------|-----------------------|------------------------|----------------------------|---------------------------|-----------------------|-----------------------------|-------------------------------|-----------------------|----------------------|--------|
| 802.11n40 | Low Channel: 5500MHz  |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5470                   | 53.66                      | 45.24                     | 10.52                 | 27.12                       | 46.06                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5470                   | 44.25                      | 45.24                     | 10.52                 | 27.12                       | 36.65                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5465                   | 53.08                      | 45.26                     | 10.51                 | 27.08                       | 45.41                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5465                   | 44.61                      | 45.26                     | 10.51                 | 27.08                       | 36.94                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5470                   | 54.21                      | 45.24                     | 10.52                 | 27.12                       | 46.61                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5470                   | 44.19                      | 45.24                     | 10.52                 | 27.12                       | 36.59                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5465                   | 54.59                      | 45.26                     | 10.51                 | 27.08                       | 46.92                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5465                   | 44.34                      | 45.26                     | 10.51                 | 27.08                       | 36.67                         | 54.00                 | AV                   | PASS   |
|           | High Channel: 5700MHz |                        |                            |                           |                       |                             |                               |                       |                      |        |
|           | H                     | 5725                   | 53.84                      | 45.23                     | 11.12                 | 27.82                       | 47.55                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5725                   | 44.65                      | 45.23                     | 11.12                 | 27.82                       | 38.36                         | 54.00                 | AV                   | PASS   |
|           | H                     | 5730                   | 54.68                      | 45.24                     | 11.13                 | 27.85                       | 48.42                         | 74.00                 | PK                   | PASS   |
|           | H                     | 5730                   | 44.99                      | 45.24                     | 11.13                 | 27.85                       | 38.73                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5725                   | 54.78                      | 45.23                     | 11.12                 | 27.82                       | 48.49                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5725                   | 44.60                      | 45.23                     | 11.12                 | 27.82                       | 38.31                         | 54.00                 | AV                   | PASS   |
|           | V                     | 5730                   | 54.66                      | 45.24                     | 11.13                 | 27.85                       | 48.40                         | 74.00                 | PK                   | PASS   |
|           | V                     | 5730                   | 44.47                      | 45.24                     | 11.13                 | 27.85                       | 38.21                         | 54.00                 | AV                   | PASS   |

**Remark:**

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit
2. . The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
3. All the modes have tested and recorded the worst mode(802.11n20) in the report

## 4. Maximum Peak Output Power

### 4.1.Limit

According to FCC §15.407

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or  $11 \text{ dBm} + 10 \log B$ , where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725–5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

### 4.2.Test Setup



### 4.3.Test Procedure

Method AVGPM is a measurement using an RF average power meter, as follows:

a) .

As an alternative to spectrum analyzer or EMI receiver measurements, measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent (see Figure 24) if all of the conditions listed below are satisfied:

1) The EUT is configured to transmit continuously, or to transmit with a constant duty cycle.

2) At all times when the EUT is transmitting, it shall be transmitting at its maximum power control level.

3) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.

b) If the transmitter does not transmit continuously, measure the duty cycle, D, of the transmitter output signal as described in 11.6.

c

Measure the average power of the transmitter. This measurement is an average over both the ON and OFF periods of the transmitter.

d)Correct the measurement in dBm by adding  $[10 \log (1 / D)]$ , where D is the duty cycle.

### 4.4.Test Result

Please see the attachment for WIFI 5G data.

## 5. -26 dB Bandwidth,-6dB Bandwidth and 99% Bandwidth Measurement

### 5.1.Limit

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Standard | FCC Part15 C Section 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|               | <p>The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band, the minimum bandwidth 6 dB bandwidth of U-NII devices shall be at least 500KHz. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.</p> |

### 5.2.Test Setup



### 5.3.Test Procedure

DTS Emission bandwidth for the band 5.725 GHz to 5.85 GHz

The following procedure shall be used for measuring this bandwidth:

- Set RBW = 100 kHz.
- Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
- Detector = Peak.
- Trace mode = max-hold.
- Sweep = No faster than coupled (auto) time.
- Allow the trace to stabilize.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Other bandwidth

- Set RBW = approximately 1 % of the EBW.
- Set the VBW  $>$  RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

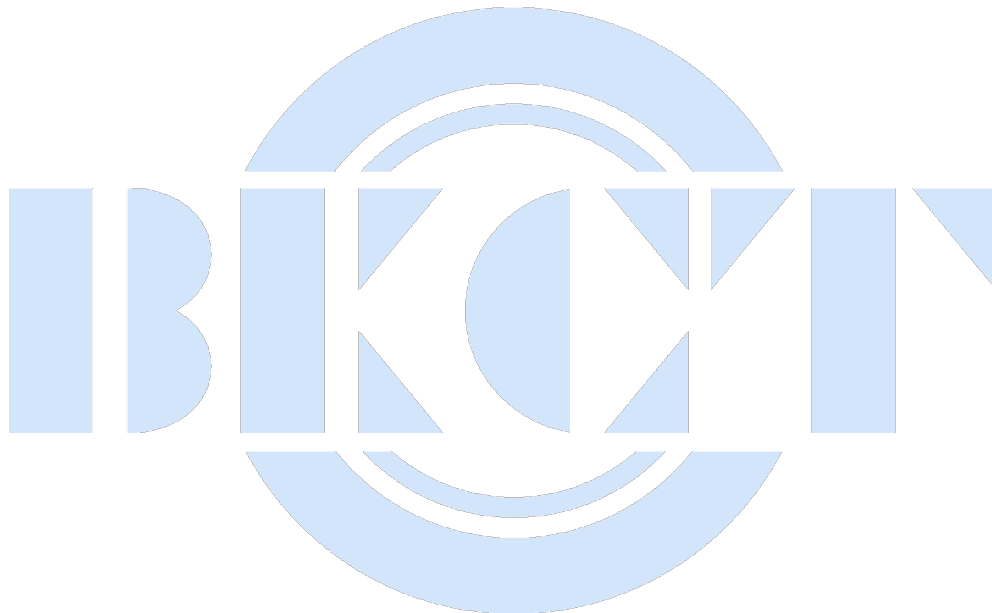
The following procedure shall be used for measuring (99 %) power bandwidth:

- Set center frequency to the nominal EUT channel center frequency.
- Set span = 1.5 times to 5 times the OBW.
- Set RBW = 1 % to 5 % of the OBW
- Set VBW  $\geq 3 \cdot$  RBW

5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

## 5.4. Test Result

Please see the attachment for WIFI 5G data.



## 6. Power Spectral density

### 6.1.Limit

According to FCC

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum

power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or  $11 \text{ dBm} + 10 \log B$ , where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

### 6.2.Test Setup



### 6.3. Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above,
2. The testing follows FCC KDB 789033 D02.
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum. Not with standing that some regulatory requirements refer to peak power spectral density (PPSD), in some cases the intent is to measure the maximum value of the time average of the power spectral density during a period of continuous transmission. The procedure for this method is as follows:
  - a) Create an average power spectrum for the EUT operating mode being tested by following the instructions in 12.4.2 for measuring maximum conducted output power using a spectrum analyzer or EMI receiver; that is, select the appropriate test method (SA-1, SA-2, SA-3, or their respective alternatives) and apply it up to, but not including, the step labeled, "Compute power...." (This procedure is required even if the maximum conducted output power measurement was performed using the power meter method PM.)
  - b) Use the peak search function on the instrument to find the peak of the spectrum.
  - c) Make the following corrections to the peak value of the spectrum, if applicable:
    - 1) If method SA-2 or SA-2A was used, then add  $[10 \log (1 / D)]$ , where D is the duty cycle, to the peak of the spectrum.
    - 2) If method SA-3A was used and the linear mode was used in step h) of 12.4.2.7, add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.
  - d) The result is the PPSD.
  - e) The procedure in item a) through item c) requires the use of 1 MHz resolution bandwidth to satisfy the 1 MHz measurement bandwidth specified by some regulatory authorities.<sup>85</sup> This requirement also permits use of resolution bandwidths less than 1 MHz "provided that the measured power is integrated to show the total power over the measurement bandwidth" (i.e., 1 MHz). If measurements are performed using a reduced resolution bandwidth and integrated over 1 MHz bandwidth, the following adjustments to the procedures apply:
    - 1) Set  $RBW \geq 1 / T$ , where T is defined in 12.2 a).
    - 2) Set  $VBW \geq [3 \times RBW]$ .
    - 3) Care shall be taken such that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.
4. For U-NII1, U-NII-2A, U-NII-2C Band:  
Set  $RBW=1\text{MHz}$ ,  $VBW=3\text{MHz}$ , where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-1 with the omission of procedure x, the integration with 26dB EBW bandwidth)  
For U-NII-3 Band:  
Set  $RBW=510\text{ kHz}$ ,  $VBW=3 \times RBW$ , where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = detector rms or sample, traces 100 sweeps of video averaging. (SA-1 with the omission of procedure x, the integration with 26dB EBW bandwidth)
5. Use the cursor on spectrum to peak search the highest level of trace
6. Record the max. reading and add  $10 \log(1/\text{duty cycle})$ .

### 6.4. Test Result

Please see the attachment for WIFI 5G data.

## 7. Out of Band Emissions and Spurious Emission

### 7.1.Limit

According to FCC §15.407(b), RSS-Gen 8.9, RSS-247 5.5

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of  $-17$  dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.

### 7.2.Test Setup



### 7.3.Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

### 7.4.Test Result

Please see the attachment for WIFI 5G data.

## 8. Frequency Stability Measurement

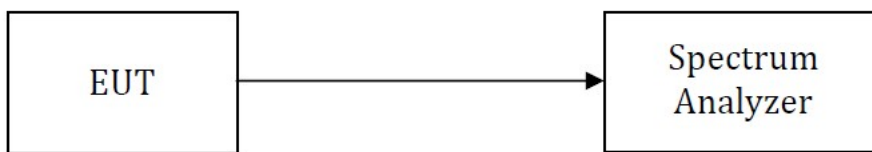
### 8.1.Limit

FCC

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be  $\pm 20$  ppm maximum for the 5 GHz band(IEEE802.11n specification).

### 8.2.Test setup



### 8.3.Test Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5.  $f_c$  is declaring of channel frequency. Then the frequency error formula is  $(f_c - f)/f_c \times 10^6$  ppm and the limit is less than  $\pm 20$  ppm (IEEE 802.11n specification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value  
Extreme temperature is  $-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$ .

### 8.4.Test Result

Please see the attachment for WIFI 5G data.

## 9. DYNAMIC FREQUENCY SELECTION (SLAVE)

### 9.1.Limit

#### (1) DFS Detection Thresholds

Table 3: DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection

| Maximum Transmit Power                                                       | Value (See Notes 1, 2, and 3) |
|------------------------------------------------------------------------------|-------------------------------|
| EIRP $\geq$ 200 milliwatt                                                    | -64 dBm                       |
| EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz                 | -62 dBm                       |
| EIRP < 200 milliwatt that do not meet the power spectral density requirement | -64 dBm                       |

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.

Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

#### (2) DFS Response Requirements

Table 4: DFS Response Requirement Values

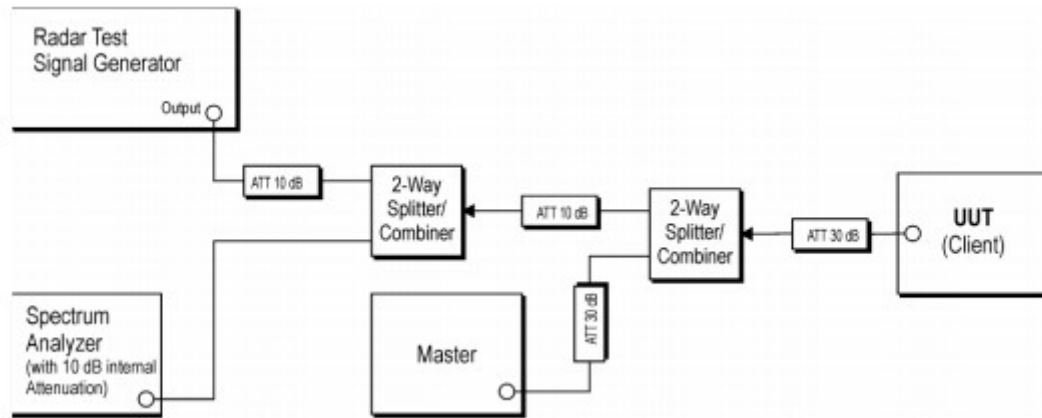
| Parameter                         | Value                                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------|
| Non-occupancy period              | Minimum 30 minutes                                                                                        |
| Channel Availability Check Time   | 60 seconds                                                                                                |
| Channel Move Time                 | 10 seconds<br>See Note 1.                                                                                 |
| Channel Closing Transmission Time | 200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period.<br>See Notes 1 and 2. |
| U-NII Detection Bandwidth         | Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.                                   |

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

## 9.2.TEST SETUP



## 9.3.APPLICABILITY OF DFS REQUIREMENTS

A U-NII network will employ a DFS function to detect signals from radar systems and to avoid co-channel operation with these systems. This applies to the 5250-5350 MHz and/or 5470-5725 MHz bands.

Within the context of the operation of the DFS function, a U-NII device will operate in either Master Mode or Client Mode. U-NII devices operating in Client Mode can only operate in a network controlled by a U-NII device operating in Master Mode.

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

| Requirement                     | Operational Mode                |                                                                    |                                                      |
|---------------------------------|---------------------------------|--------------------------------------------------------------------|------------------------------------------------------|
|                                 | <input type="checkbox"/> Master | <input checked="" type="checkbox"/> Client Without Radar Detection | <input type="checkbox"/> Client With Radar Detection |
| Non-Occupancy Period            | Yes                             | Not required                                                       | Yes                                                  |
| DFS Detection Threshold         | Yes                             | Not required                                                       | Yes                                                  |
| Channel Availability Check Time | Yes                             | Not required                                                       | Not required                                         |
| U-NII Detection Bandwidth       | Yes                             | Not required                                                       | Yes                                                  |

Table 2: Applicability of DFS requirements during normal operation

| Requirement                       | Operational Mode                                                      |                                                                    |
|-----------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------|
|                                   | <input type="checkbox"/> Master Device or Client with Radar Detection | <input checked="" type="checkbox"/> Client Without Radar Detection |
| DFS Detection Threshold           | Yes                                                                   | Not required                                                       |
| Channel Closing Transmission Time | Yes                                                                   | Yes                                                                |
| Channel Move Time                 | Yes                                                                   | Yes                                                                |
| U-NII Detection Bandwidth         | Yes                                                                   | Not required                                                       |

| Additional requirements for devices with multiple bandwidth modes | <input type="checkbox"/> Master Device or Client with Radar Detection | <input checked="" type="checkbox"/> Client Without Radar Detection |
|-------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------|
| U-NII Detection Bandwidth and Statistical Performance Check       | All BW modes must be tested                                           | Not required                                                       |
| Channel Move Time and Channel Closing Transmission Time           | Test using widest BW mode available                                   | Test using the widest BW mode available for the link               |

| All other tests                                                                                                                                                                                                                                                                                                                       | Any single BW mode | Not required |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------|
| Note: Frequencies selected for statistical performance check should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency. |                    |              |

## 9.4.PARAMETERS OF RADAR TEST WAVEFORMS

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Table 5 Short Pulse Radar Test Waveforms

| Radar Type                                                                                                                                                                                                                                                                                                                                                                                         | Pulse Width (μsec) | PRI (μsec) | Number of Pulses                                                                                                 | Minimum Percentage of Successful Detection | Minimum Number of Trials |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------|
| 0                                                                                                                                                                                                                                                                                                                                                                                                  | 1                  | 1428       | 18                                                                                                               | See Note 1                                 | See Note 1               |
| 1                                                                                                                                                                                                                                                                                                                                                                                                  | 1                  | Test A     | Roundup $\left\{ \left( \frac{1}{360} \right) \cdot \left( \frac{19 \cdot 10^6}{PRI_{\mu sec}} \right) \right\}$ | 60%                                        | 30                       |
|                                                                                                                                                                                                                                                                                                                                                                                                    |                    | Test B     |                                                                                                                  |                                            |                          |
| 2                                                                                                                                                                                                                                                                                                                                                                                                  | 1-5                | 150-230    | 23-29                                                                                                            | 60%                                        | 30                       |
| 3                                                                                                                                                                                                                                                                                                                                                                                                  | 6-10               | 200-500    | 16-18                                                                                                            | 60%                                        | 30                       |
| 4                                                                                                                                                                                                                                                                                                                                                                                                  | 11-20              | 200-500    | 12-16                                                                                                            | 60%                                        | 30                       |
| Aggregate (Radar Types 1-4)                                                                                                                                                                                                                                                                                                                                                                        |                    |            |                                                                                                                  | 80%                                        | 120                      |
| Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.<br>Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a<br>Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A |                    |            |                                                                                                                  |                                            |                          |

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B. Test aggregate is average of the percentage of successful detections of short pulse radar types 1-4.

## 9.5.TEST RESULTS

Please see the attachment for DFS data.

## 10. Antenna Requirement

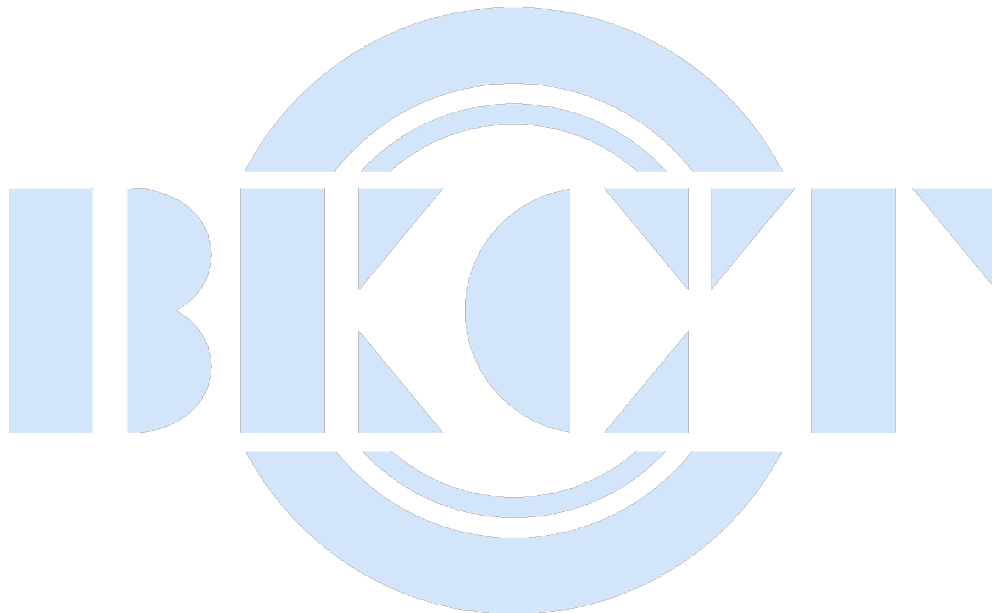
### 10.1.REQUIREMENT

Please refer to FCC §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Please refer to FCC §15.407(a)(1)(2)(3)

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.



|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Standard                  | FCC Part15 Section 15.203                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Requirement                    | <p>1) 15.203 requirement:<br/>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</p> <p>According to RSS-GEN section 6.8<br/>The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.</p> <p>For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).</p> <p>When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer.</p> <p>The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested.</p> <p>For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location:<br/>This radio transmitter [enter the device's ISED certification number] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.</p> <p>Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.</p> |
| Antenna Connected Construction | The antenna is Internal Antenna which permanently attached, and the best case gain of the antenna is 1.35 dBi(WIFI 5.0G). It complies with the standard requirement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## 11. Appendix II Test Photographs

Please see the attachment for Appendix I Test Photos.



## Appendix II: Photos of the EUT

Please see the attachment for Appendix II External Photos and Appendix II Internal Photos.

\*\*\*\*\* END OF REPORT \*\*\*\*\*