

# FCC REPORT

**Applicant:** AVS Electronics (HK) Ltd.

**Address of Applicant:** 16D Hollywood Centre 77-91 Queens Road West, Sheung Wan, Hong Kong SAR

**Manufacturer:** AVS Electronics (HK) Ltd.

**Address of Manufacturer:** 16D Hollywood Centre 77-91 Queens Road West, Sheung Wan, Hong Kong SAR

**Factory:** AVS Electronics (HK) Ltd.

**Address of Factory:** 16D Hollywood Centre 77-91 Queens Road West, Sheung Wan, Hong Kong SAR

**Equipment Under Test (EUT)**

Product Name: 8-inch Tablet PC

Model No.: SuitePad-8

**FCC ID:** 2AUYC-SUITEPAD-8

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart E Section 15.407

**Date of sample receipt:** September 16, 2019

**Date of Test:** September 16- September 29, 2019

**Date of report issue:** September 29, 2019

**Test Result :** PASS \*

\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

**Robinson Lo**  
**Laboratory Manager**

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

## 2 Version

| Version No. | Date         | Description |
|-------------|--------------|-------------|
| 00          | September 29 | Original    |
|             |              |             |
|             |              |             |
|             |              |             |
|             |              |             |

**Prepared By:**

**Date:**

September 29

\_\_\_\_\_  
**Project Engineer**

**Check By:**

**Date:**

September 29

\_\_\_\_\_  
**Reviewer**

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## 4 Test Summary

| Test Item                        | Section in CFR 47           | Result |
|----------------------------------|-----------------------------|--------|
| Antenna requirement              | 15.203                      | PASS   |
| AC Power Line Conducted Emission | 15.207                      | PASS   |
| Peak Transmit Power              | 15.407(a)(1)                | PASS   |
| Power Spectral Density           | 15.407(a)(1)                | PASS   |
| Undesirable Emission             | 15.407(b)(6), 15.205/15.209 | PASS   |
| Radiated Emission                | 15.205/15.209               | PASS   |
| Band Edge                        | 15.407(b)(1)                | PASS   |
| Frequency Stability              | 15.407(g)                   | PASS   |

Remark:

Pass: The EUT complies with the essential requirements in the standard.

### 4.1 Measurement Uncertainty

| Test Item                        | Frequency Range | Measurement Uncertainty | Notes |
|----------------------------------|-----------------|-------------------------|-------|
| Radiated Emission                | 9kHz ~ 30MHz    | $\pm 3.8039\text{dB}$   | (1)   |
| Radiated Emission                | 30MHz ~ 1000MHz | $\pm 3.9679\text{dB}$   | (1)   |
| Radiated Emission                | 1GHz ~ 40GHz    | $\pm 4.29\text{dB}$     | (1)   |
| AC Power Line Conducted Emission | 0.15MHz ~ 30MHz | $\pm 3.44\text{dB}$     | (1)   |

Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

Remark: Test according to ANSI C63.10:2013 and ANSI C63.4:2014

## 5 General Information

### 5.1 General Description of EUT

|                        |                   |                       |                      |                    |
|------------------------|-------------------|-----------------------|----------------------|--------------------|
| Product Name:          | 8-inch Tablet PC  |                       |                      |                    |
| Model No.:             | SuitePad-8        |                       |                      |                    |
| Test Model No:         | SuitePad-8        |                       |                      |                    |
| Remark:/               |                   |                       |                      |                    |
| Serial No.:            | PSJS500G          |                       |                      |                    |
| Hardware Version:      | HV1.0             |                       |                      |                    |
| Software Version:      | SV1.0             |                       |                      |                    |
| Test sample(s) ID:     | GTS201909000200-1 |                       |                      |                    |
| Sample(s) Status:      | Engineer sample   |                       |                      |                    |
| Operation Frequency:   | Band              | Mode                  | Frequency Range(MHz) | Number of channels |
|                        | U-NII Band I      | IEEE 802.11a          | 5180-5240            | 4                  |
|                        |                   | IEEE 802.11n/ac 20MHz | 5180-5240            | 4                  |
|                        |                   | IEEE 802.11n/ac 40MHz | 5190-5230            | 2                  |
|                        |                   | IEEE 802.11ac 80MHz   | 5210                 | 1                  |
| Modulation technology: | OFDM              |                       |                      |                    |
| Antenna Type:          | FPCB Antenna      |                       |                      |                    |
| Antenna gain:          | 1.0 dBi           |                       |                      |                    |
| Power supply:          | AC120V 60Hz       |                       |                      |                    |

| Channel list for 802.11a/n/ac(HT20) |           |         |           |         |           |         |           |
|-------------------------------------|-----------|---------|-----------|---------|-----------|---------|-----------|
| Channel                             | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 36                                  | 5180MHz   | 40      | 5200MHz   | 44      | 5220MHz   | 48      | 5240MHz   |

| Channel list for 802.11n(HT40)/ac(HT40) |           |         |           |         |           |         |           |
|-----------------------------------------|-----------|---------|-----------|---------|-----------|---------|-----------|
| Channel                                 | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 38                                      | 5190MHz   | 46      | 5230MHz   |         |           |         |           |

| Channel list for 802.11ac(HT80) |           |         |           |         |           |         |           |
|---------------------------------|-----------|---------|-----------|---------|-----------|---------|-----------|
| Channel                         | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 42                              | 5210MHz   |         |           |         |           |         |           |

## 5.2 Test mode

|                                                                                                                                                                                                                                              |                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Transmitting mode                                                                                                                                                                                                                            | Keep the EUT in transmitting with modulation.. |
| <i>Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.</i> |                                                |
| We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:                                 |                                                |
| Pre-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.                                                                                                                                         |                                                |
| Mode                                                                                                                                                                                                                                         | Data rate                                      |
| 802.11a/n/ac(HT20)                                                                                                                                                                                                                           | 6/6.5 Mbps                                     |
| 802.11n/ac(HT40)                                                                                                                                                                                                                             | 13.5 Mbps                                      |
| 802.11ac(HT80)                                                                                                                                                                                                                               | 29.3 Mbps                                      |

## 5.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC —Registration No.: 381383**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383.

● **IC —Registration No.: 9079A**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A

● **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0

## 5.4 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

## 5.5 Description of Support Units

None.

## 5.6 Deviation from Standards

None.

## 5.7 Abnormalities from Standard Conditions

None.

## 5.8 Additional Instructions

|                   |                                               |
|-------------------|-----------------------------------------------|
| Test Software     | Special test command provided by manufacturer |
| Power level setup | Default                                       |

## 6 Test Instruments list

| Radiated Emission: |                                     |                                |                             |               |                     |                         |
|--------------------|-------------------------------------|--------------------------------|-----------------------------|---------------|---------------------|-------------------------|
| Item               | Test Equipment                      | Manufacturer                   | Model No.                   | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                  | 3m Semi- Anechoic Chamber           | ZhongYu Electron               | 9.2(L)*6.2(W)* 6.4(H)       | GTS250        | July. 03 2015       | July. 02 2020           |
| 2                  | Control Room                        | ZhongYu Electron               | 6.2(L)*2.5(W)* 2.4(H)       | GTS251        | N/A                 | N/A                     |
| 3                  | EMI Test Receiver                   | Rohde & Schwarz                | ESU26                       | GTS203        | June. 26 2019       | June. 25 2020           |
| 4                  | BiConiLog Antenna                   | SCHWARZBECK<br>MESS-ELEKTRONIK | VULB9163                    | GTS214        | June. 26 2019       | June. 25 2020           |
| 5                  | Double -ridged waveguide horn       | SCHWARZBECK<br>MESS-ELEKTRONIK | BBHA 9120 D                 | GTS208        | June. 26 2019       | June. 25 2020           |
| 6                  | Horn Antenna                        | ETS-LINDGREN                   | 3160                        | GTS217        | June. 26 2019       | June. 25 2020           |
| 7                  | EMI Test Software                   | AUDIX                          | E3                          | N/A           | N/A                 | N/A                     |
| 8                  | Coaxial Cable                       | GTS                            | N/A                         | GTS213        | June. 26 2019       | June. 25 2020           |
| 9                  | Coaxial Cable                       | GTS                            | N/A                         | GTS211        | June. 26 2019       | June. 25 2020           |
| 10                 | Coaxial cable                       | GTS                            | N/A                         | GTS210        | June. 26 2019       | June. 25 2020           |
| 11                 | Coaxial Cable                       | GTS                            | N/A                         | GTS212        | June. 26 2019       | June. 25 2020           |
| 12                 | Amplifier(100kHz-3GHz)              | HP                             | 8347A                       | GTS204        | June. 26 2019       | June. 25 2020           |
| 13                 | Amplifier(2GHz-20GHz)               | HP                             | 84722A                      | GTS206        | June. 26 2019       | June. 25 2020           |
| 14                 | Amplifier (18-26GHz)                | Rohde & Schwarz                | AFS33-18002<br>650-30-8P-44 | GTS218        | June. 26 2019       | June. 25 2020           |
| 15                 | Band filter                         | Amindeon                       | 82346                       | GTS219        | June. 26 2019       | June. 25 2020           |
| 16                 | Power Meter                         | Anritsu                        | ML2495A                     | GTS540        | June. 26 2019       | June. 25 2020           |
| 17                 | Power Sensor                        | Anritsu                        | MA2411B                     | GTS541        | June. 26 2019       | June. 25 2020           |
| 18                 | Wideband Radio Communication Tester | Rohde & Schwarz                | CMW500                      | GTS575        | June. 26 2019       | June. 25 2020           |
| 19                 | Splitter                            | Agilent                        | 11636B                      | GTS237        | June. 26 2019       | June. 25 2020           |
| 20                 | Loop Antenna                        | ZHINAN                         | ZN30900A                    | GTS534        | June. 26 2019       | June. 25 2020           |
| 21                 | Breitband hornantenne               | SCHWARZBECK                    | BBHA 9170                   | GTS579        | Oct. 20 2018        | Oct. 19 2019            |
| 22                 | Amplifier                           | TDK                            | PA-02-02                    | GTS574        | Oct. 20 2018        | Oct. 19 2019            |
| 23                 | Amplifier                           | TDK                            | PA-02-03                    | GTS576        | Oct. 20 2018        | Oct. 19 2019            |
| 24                 | PSA Series Spectrum Analyzer        | Rohde & Schwarz                | FSP                         | GTS578        | June. 26 2019       | June. 25 2020           |

| Conducted Emission |                          |                         |                      |               |                     |                         |
|--------------------|--------------------------|-------------------------|----------------------|---------------|---------------------|-------------------------|
| Item               | Test Equipment           | Manufacturer            | Model No.            | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                  | Shielding Room           | ZhongYu Electron        | 7.3(L)x3.1(W)x2.9(H) | GTS252        | May.15 2019         | May.14 2022             |
| 2                  | EMI Test Receiver        | R&S                     | ESCI 7               | GTS552        | June. 26 2019       | June. 25 2020           |
| 3                  | Coaxial Switch           | ANRITSU CORP            | MP59B                | GTS225        | June. 26 2019       | June. 25 2020           |
| 4                  | Artificial Mains Network | SCHWARZBECK MESS        | NSLK8127             | GTS226        | June. 26 2019       | June. 25 2020           |
| 5                  | Coaxial Cable            | GTS                     | N/A                  | GTS227        | N/A                 | N/A                     |
| 6                  | EMI Test Software        | AUDIX                   | E3                   | N/A           | N/A                 | N/A                     |
| 7                  | Thermo meter             | KTJ                     | TA328                | GTS233        | June. 26 2019       | June. 25 2020           |
| 8                  | Absorbing clamp          | Elektronik-Feinmechanik | MDS21                | GTS229        | June. 26 2019       | June. 25 2020           |
| 9                  | ISN                      | SCHWARZBECK             | NTFM 8158            | GTD565        | June. 26 2019       | June. 25 2020           |

| RF Conducted Test: |                                                |              |                  |            |                     |                         |
|--------------------|------------------------------------------------|--------------|------------------|------------|---------------------|-------------------------|
| Item               | Test Equipment                                 | Manufacturer | Model No.        | Serial No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                  | MXA Signal Analyzer                            | Agilent      | N9020A           | GTS566     | June. 26 2019       | June. 25 2020           |
| 2                  | EMI Test Receiver                              | R&S          | ESCI 7           | GTS552     | June. 26 2019       | June. 25 2020           |
| 3                  | Spectrum Analyzer                              | Agilent      | E4440A           | GTS533     | June. 26 2019       | June. 25 2020           |
| 4                  | MXG vector Signal Generator                    | Agilent      | N5182A           | GTS567     | June. 26 2019       | June. 25 2020           |
| 5                  | ESG Analog Signal Generator                    | Agilent      | E4428C           | GTS568     | June. 26 2019       | June. 25 2020           |
| 6                  | USB RF Power Sensor                            | DARE         | RPR3006W         | GTS569     | June. 26 2019       | June. 25 2020           |
| 7                  | RF Switch Box                                  | Shongyi      | RFSW3003328      | GTS571     | June. 26 2019       | June. 25 2020           |
| 8                  | Programmable Constant Temp & Humi Test Chamber | WEWON        | WHTH-150L-40-880 | GTS572     | June. 26 2019       | June. 25 2020           |

| General used equipment: |                                 |              |           |               |                     |                         |
|-------------------------|---------------------------------|--------------|-----------|---------------|---------------------|-------------------------|
| Item                    | Test Equipment                  | Manufacturer | Model No. | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                       | Humidity/ Temperature Indicator | KTJ          | TA328     | GTS243        | June. 26 2019       | June. 25 2020           |
| 2                       | Barometer                       | ChangChun    | DYM3      | GTS255        | June. 26 2019       | June. 25 2020           |

## 7 Test results and Measurement Data

### 7.1 Antenna requirement:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Standard requirement:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                | FCC Part15 C Section 15.203 |
| <p>15.203 requirement:</p> <p><i>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.</i></p> |                             |
| <b>E.U.T Antenna:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                             |
| <p>The antennas are FPCB antenna, the best case gain of the antennas are 1.0dBi</p>                                                                                                                                                                                                                                                                                                                      |                             |

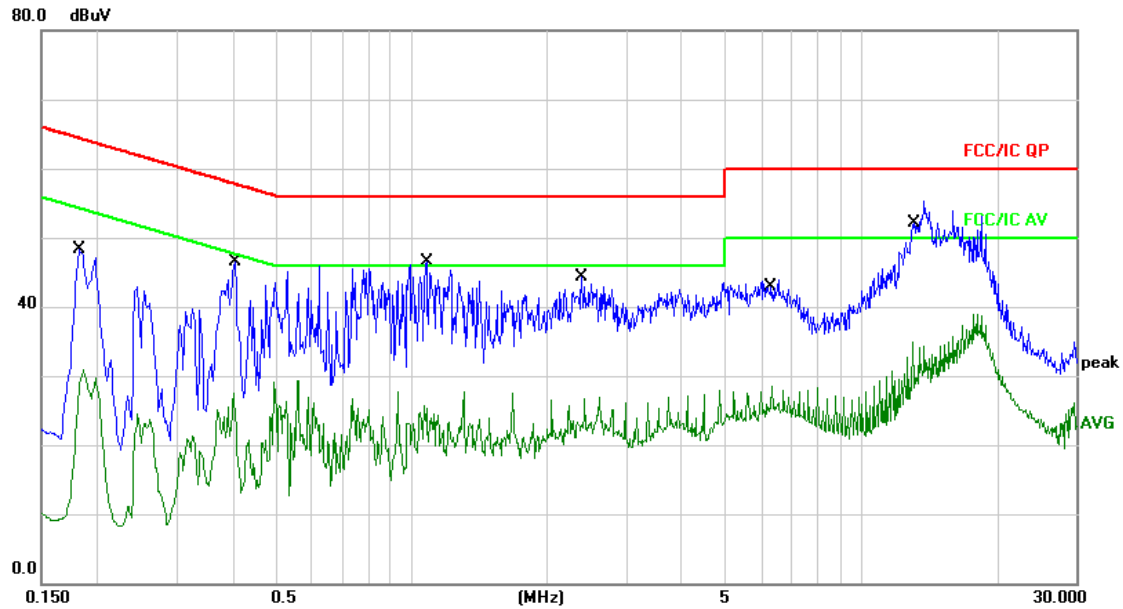
## 7.2 Conducted Emissions

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |              |     |           |          |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------|-----|-----------|----------|
| Test Requirement:                                | FCC Part15 C Section 15.207                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |              |     |           |          |
| Test Method:                                     | ANSI C63.10:2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |              |     |           |          |
| Test Frequency Range:                            | 150KHz to 30MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |              |     |           |          |
| Class / Severity:                                | Class B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |              |     |           |          |
| Receiver setup:                                  | RBW=9KHz, VBW=30KHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |              |     |           |          |
| Limit:                                           | Frequency range (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       | Limit (dBuV) |     |           |          |
|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       | Quasi-peak   |     | Average   |          |
|                                                  | 0.15-0.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       | 66 to 56*    |     | 56 to 46* |          |
|                                                  | 0.5-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       | 56           |     | 46        |          |
|                                                  | 5-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | 60           |     | 50        |          |
| * Decreases with the logarithm of the frequency. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |              |     |           |          |
| Test procedure                                   | The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement. |       |              |     |           |          |
| Test setup:                                      | <div><div><div><div><div>Reference Plane</div><div>LISN</div><div>AUX Equipment</div><div>E.U.T</div></div><div>40cm</div><div>80cm</div><div>EMI Receiver</div><div>Filter</div><div>AC power</div></div><div>Test table/Insulation plane</div></div><div><i>Remark:</i><br/><i>E.U.T: Equipment Under Test</i><br/><i>LISN: Line Impedance Stabilization Network</i><br/><i>Test table height=0.8m</i></div></div>                                                                                                                                                                                                                                                            |       |              |     |           |          |
| Test Instruments:                                | Refer to section 5.10 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |              |     |           |          |
| Test mode:                                       | Refer to section 5.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |              |     |           |          |
| Test environment:                                | Temp.:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 25 °C | Humid.:      | 52% | Press.:   | 1012mbar |
| Test voltage:                                    | AC 120V, 60Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |              |     |           |          |
| Test results:                                    | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |              |     |           |          |

Remark: Both high and low voltages have been tested to show only the worst low voltage test data.

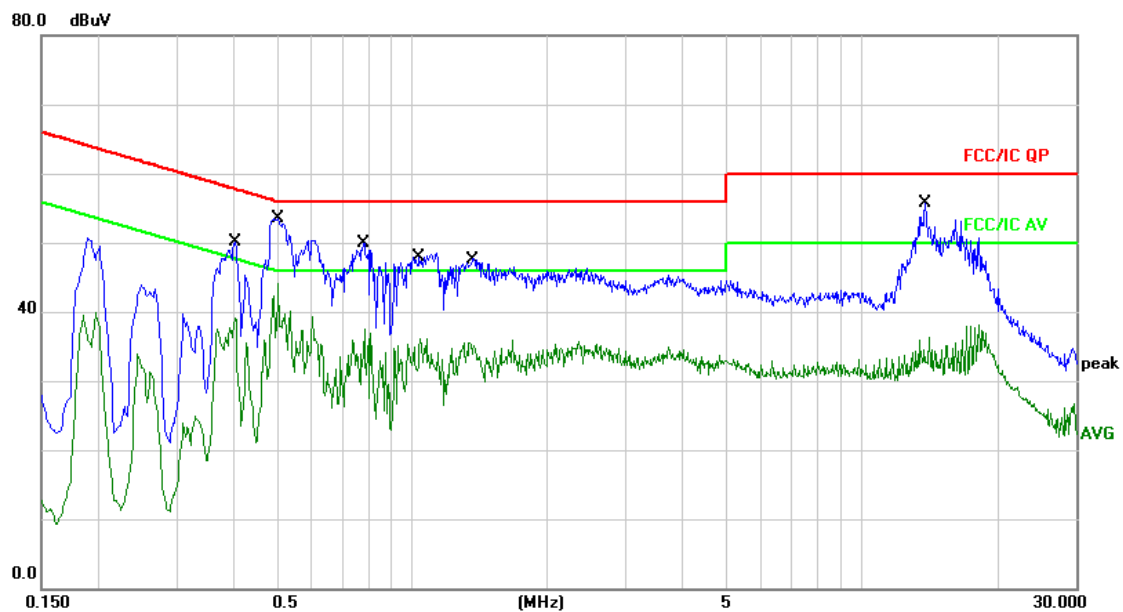
**Measurement data:**

**Line:**



| No. | Mk. | Freq.   | Reading Level | Correct Factor | Measurement | Limit | Over   |          |         |
|-----|-----|---------|---------------|----------------|-------------|-------|--------|----------|---------|
|     |     | MHz     | dBuV          | dB             | dBuV        | dBuV  | dB     | Detector | Comment |
| 1   |     | 0.1819  | 38.58         | 9.66           | 48.24       | 64.39 | -16.15 | QP       |         |
| 2   |     | 0.1819  | 21.23         | 9.66           | 30.89       | 54.39 | -23.50 | AVG      |         |
| 3   |     | 0.4060  | 36.86         | 9.67           | 46.53       | 57.73 | -11.20 | QP       |         |
| 4   |     | 0.4060  | 19.46         | 9.67           | 29.13       | 47.73 | -18.60 | AVG      |         |
| 5   |     | 1.0700  | 36.77         | 9.69           | 46.46       | 56.00 | -9.54  | QP       |         |
| 6   |     | 1.0700  | 15.92         | 9.69           | 25.61       | 46.00 | -20.39 | AVG      |         |
| 7   |     | 2.3940  | 34.68         | 9.72           | 44.40       | 56.00 | -11.60 | QP       |         |
| 8   |     | 2.3940  | 17.00         | 9.72           | 26.72       | 46.00 | -19.28 | AVG      |         |
| 9   |     | 6.3380  | 34.08         | 9.78           | 43.86       | 60.00 | -16.14 | QP       |         |
| 10  |     | 6.3380  | 18.68         | 9.78           | 28.46       | 50.00 | -21.54 | AVG      |         |
| 11  | *   | 13.0460 | 45.44         | 9.84           | 55.28       | 60.00 | -4.72  | QP       |         |
| 12  |     | 13.0460 | 25.14         | 9.84           | 34.98       | 50.00 | -15.02 | AVG      |         |

## Neutral:

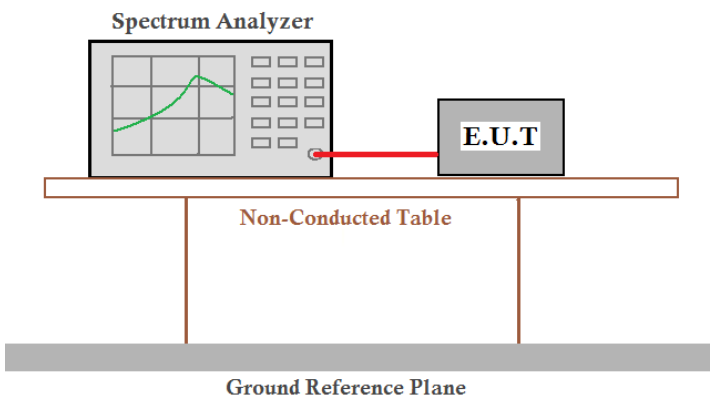


| No. | Mk. | Freq.   | Reading Level | Correct Factor | Measurement | Limit | Over   |          |
|-----|-----|---------|---------------|----------------|-------------|-------|--------|----------|
|     |     | MHz     | dBuV          | dB             | dBuV        | dBuV  | dB     | Detector |
| 1   |     | 0.4060  | 40.34         | 9.67           | 50.01       | 57.73 | -7.72  | QP       |
| 2   |     | 0.4060  | 29.46         | 9.67           | 39.13       | 47.73 | -8.60  | AVG      |
| 3   |     | 0.5060  | 43.89         | 9.68           | 53.57       | 56.00 | -2.43  | QP       |
| 4   | *   | 0.5060  | 34.40         | 9.68           | 44.08       | 46.00 | -1.92  | AVG      |
| 5   |     | 0.7820  | 40.22         | 9.68           | 49.90       | 56.00 | -6.10  | QP       |
| 6   |     | 0.7820  | 27.79         | 9.68           | 37.47       | 46.00 | -8.53  | AVG      |
| 7   |     | 1.0460  | 38.76         | 9.69           | 48.45       | 56.00 | -7.55  | QP       |
| 8   |     | 1.0460  | 26.42         | 9.69           | 36.11       | 46.00 | -9.89  | AVG      |
| 9   |     | 1.3500  | 38.03         | 9.70           | 47.73       | 56.00 | -8.27  | QP       |
| 10  |     | 1.3500  | 25.85         | 9.70           | 35.55       | 46.00 | -10.45 | AVG      |
| 11  |     | 13.8940 | 45.77         | 9.85           | 55.62       | 60.00 | -4.38  | QP       |
| 12  |     | 13.8940 | 28.34         | 9.85           | 38.19       | 50.00 | -11.81 | AVG      |

## Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss

## 7.3 Emission Bandwidth and 99% Occupied Bandwidth

|                   |                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 E Section 15.407                                                                                                                                                                                                                                                                                                                                                                      |
| Test Method:      | KDB 789033 D02 General U-NII Test Procedures New Rules v02r01                                                                                                                                                                                                                                                                                                                                    |
| Limit:            | N/A                                                                                                                                                                                                                                                                                                                                                                                              |
| Test setup:       |  <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by two vertical legs. Below the table is a Ground Reference Plane.</p> |
| Test procedure:   | According to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01.                                                                                                                                                                                                                                                                                                                      |
| Test Instruments: | Refer to section 5.10 for details                                                                                                                                                                                                                                                                                                                                                                |
| Test mode:        | Refer to section 5.2 for details                                                                                                                                                                                                                                                                                                                                                                 |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                             |

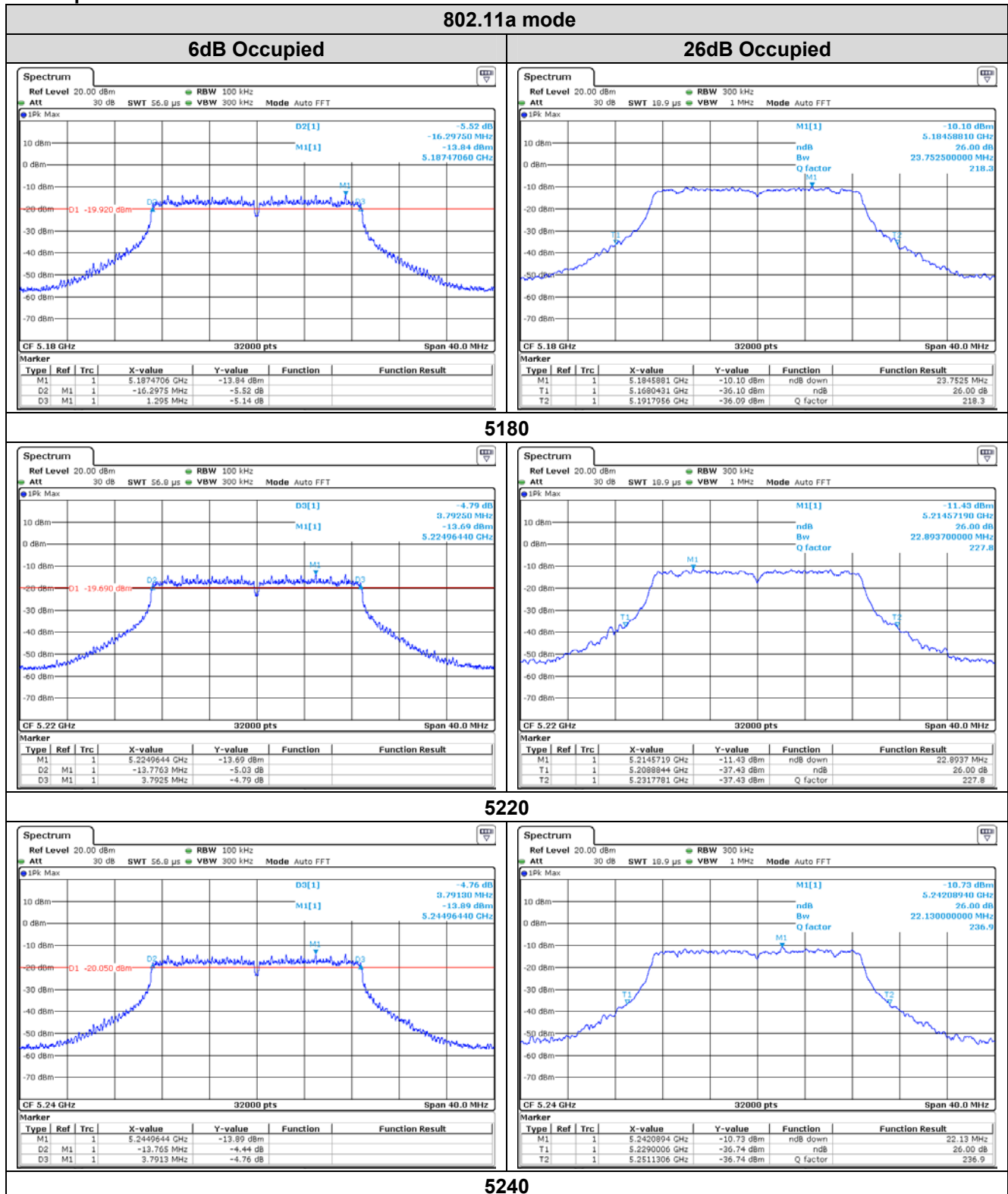
**Measurement Data:**

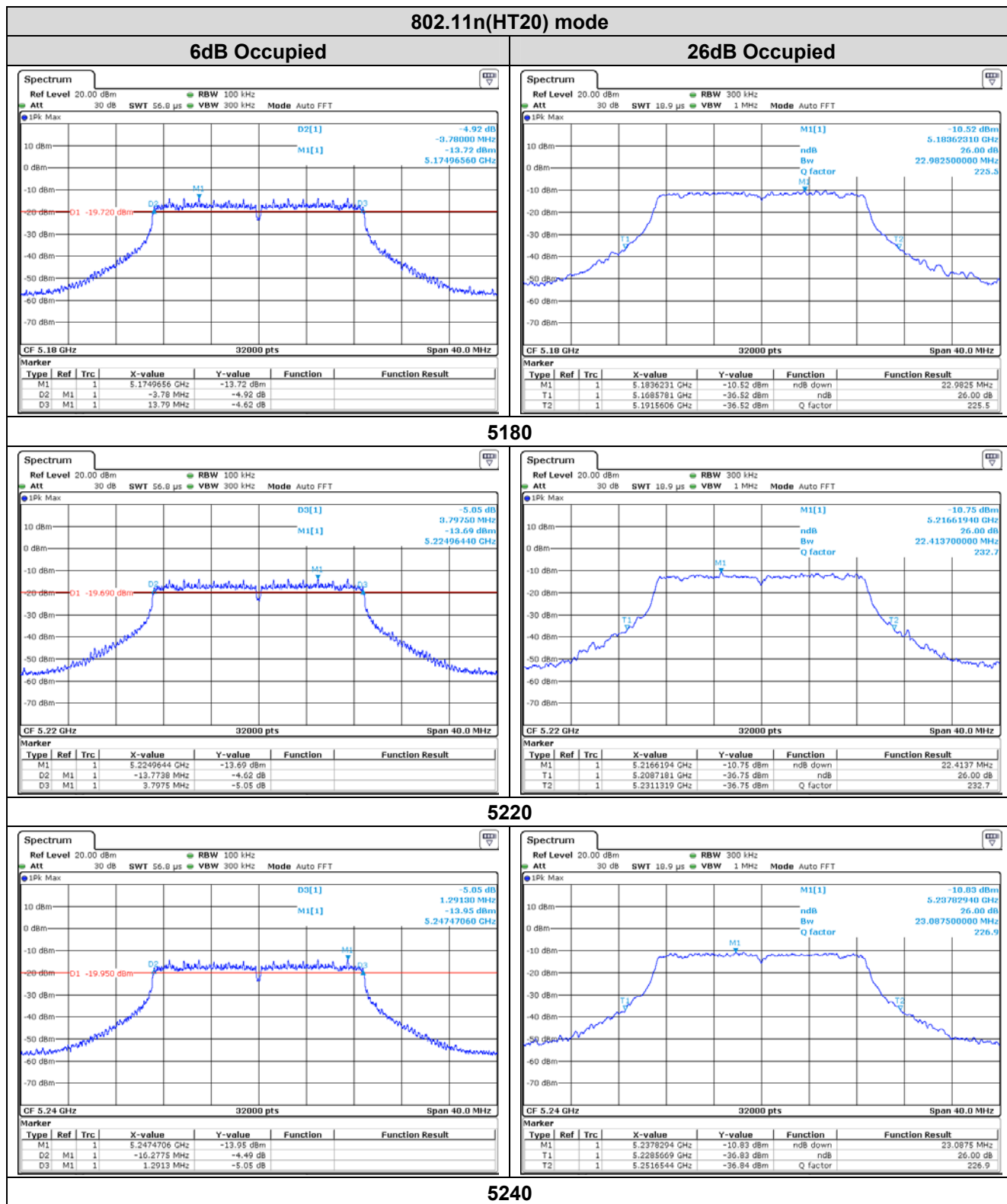
| CH. No. | Frequency (MHz) | 6dB Occupied Bandwidth (MHz) |                |                 | 26dB Occupied Bandwidth (MHz) |                |                 |
|---------|-----------------|------------------------------|----------------|-----------------|-------------------------------|----------------|-----------------|
|         |                 | 802.11a                      | 802.11n (HT20) | 802.11ac (HT20) | 802.11a                       | 802.11n (HT20) | 802.11ac (HT20) |
| 36      | 5180            | 17.5925                      | 17.5700        | 17.5826         | 23.7525                       | 22.9025        | 23.0637         |
| 44      | 5220            | 17.5688                      | 17.5713        | 17.5663         | 22.0937                       | 22.4137        | 22.5137         |
| 48      | 5240            | 17.5563                      | 17.5688        | 17.5588         | 22.1300                       | 23.0075        | 22.3050         |

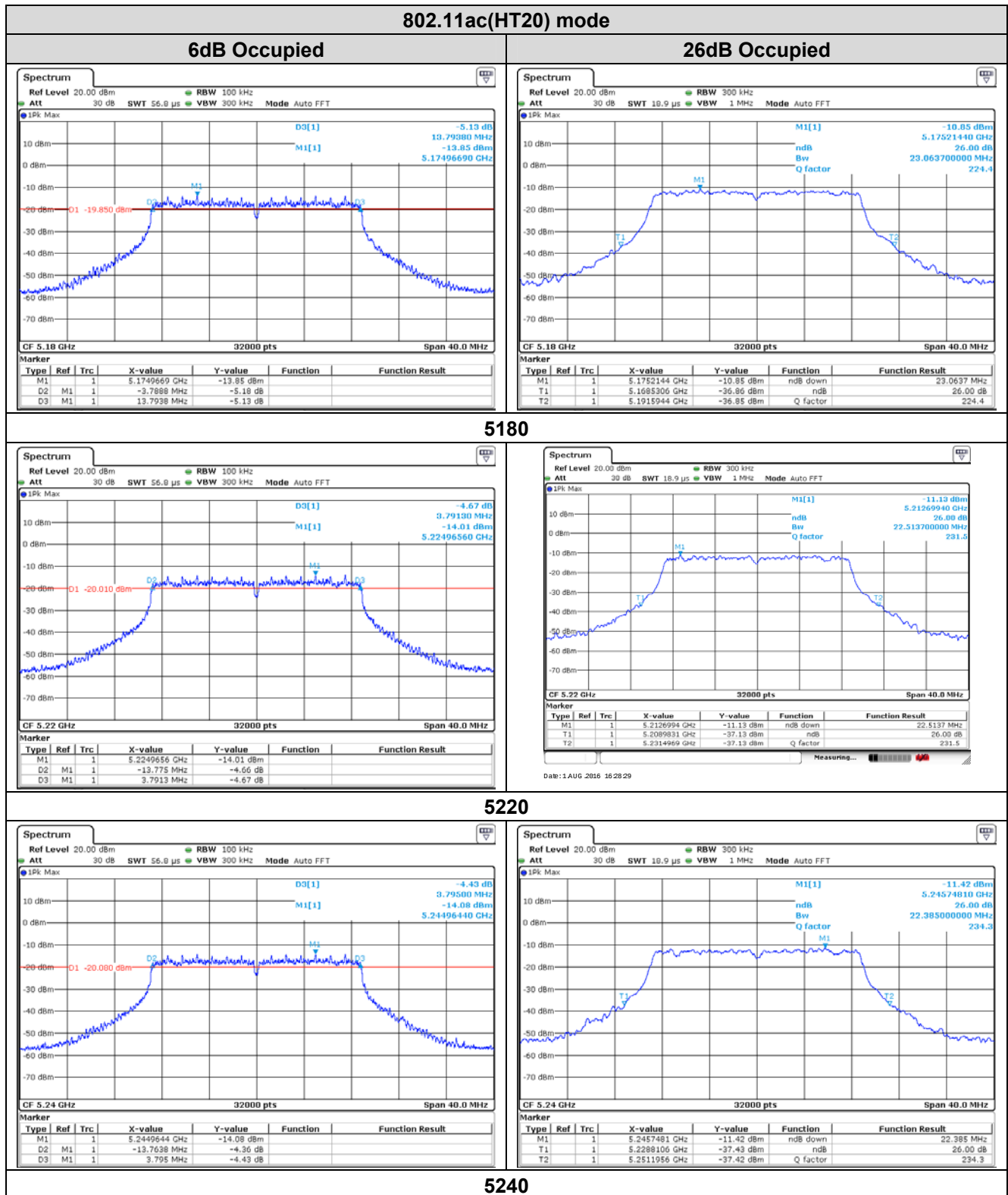
| CH. No. | Frequency (MHz) | 6dB Occupied Bandwidth (MHz) |                | 26dB Occupied Bandwidth (MHz) |                |
|---------|-----------------|------------------------------|----------------|-------------------------------|----------------|
|         |                 | 802.11n(HT40)                | 802.11ac(HT40) | 802.11n(HT40)                 | 802.11ac(HT40) |
| 38      | 5190            | 36.2950                      | 36.3025        | 45.5150                       | 45.1375        |
| 46      | 5230            | 36.3038                      | 36.2925        | 44.0300                       | 44.7950        |

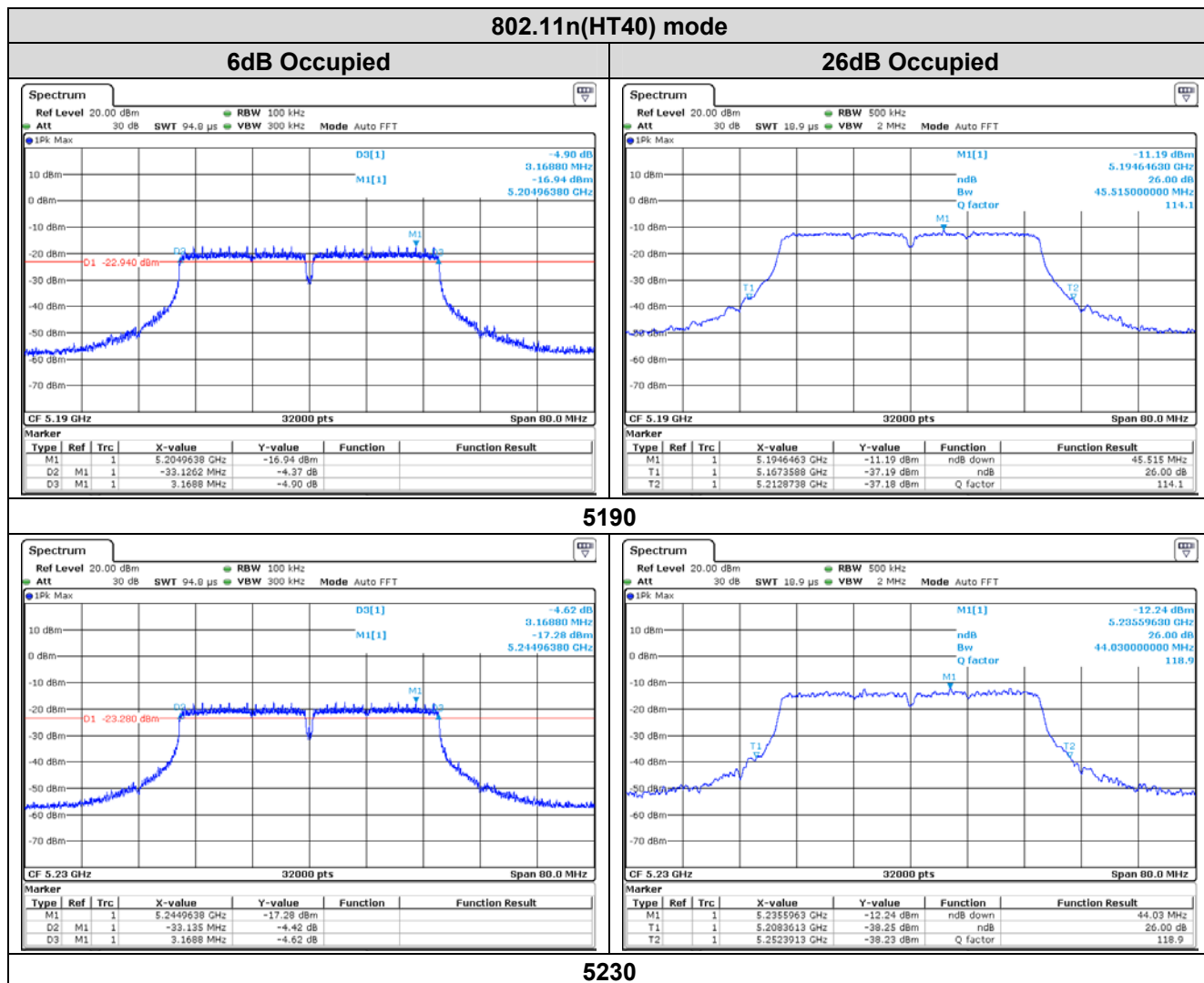
| CH. No. | Frequency (MHz) | 6dB Occupied Bandwidth (MHz) | 26dB Occupied Bandwidth (MHz) |
|---------|-----------------|------------------------------|-------------------------------|
|         |                 | 802.11ac(HT80)               | 802.11ac(HT80)                |
| 42      | 5210            | 75.9563                      | 87.8100                       |

Test plots as followed:



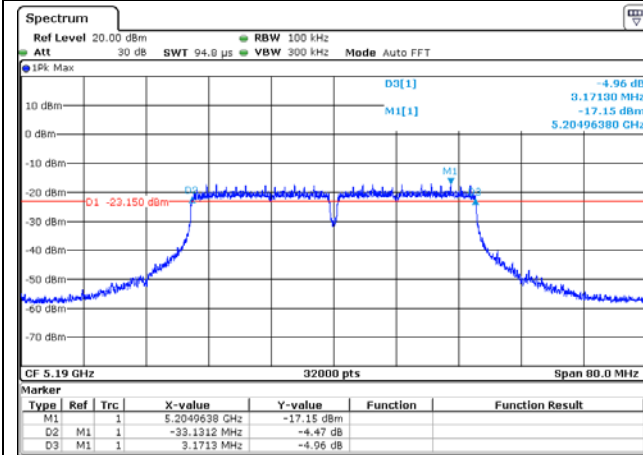




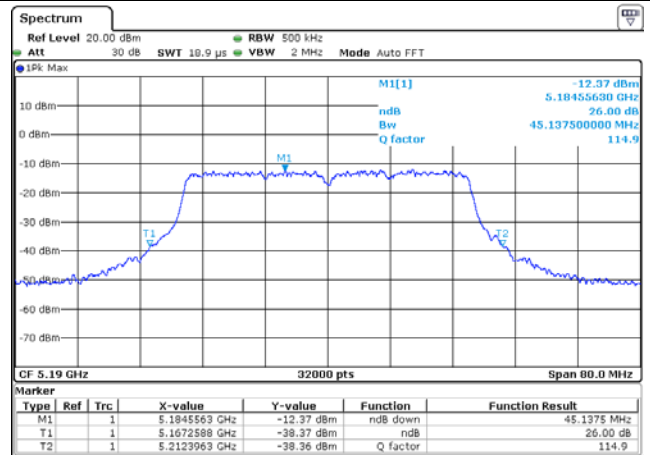


## 802.11ac(HT40) mode

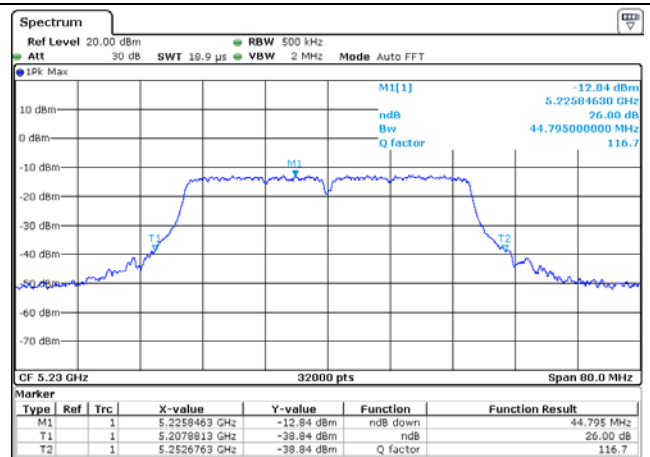
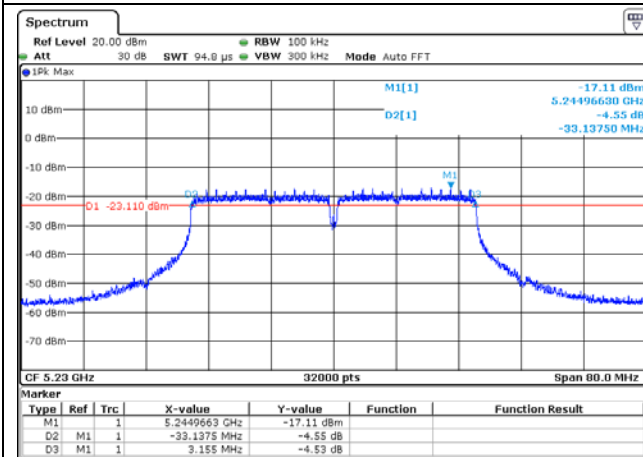
### 6dB Occupied



### 26dB Occupied



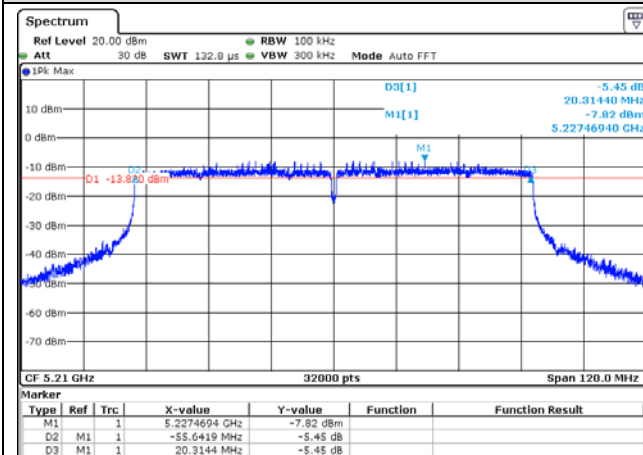
## 5190



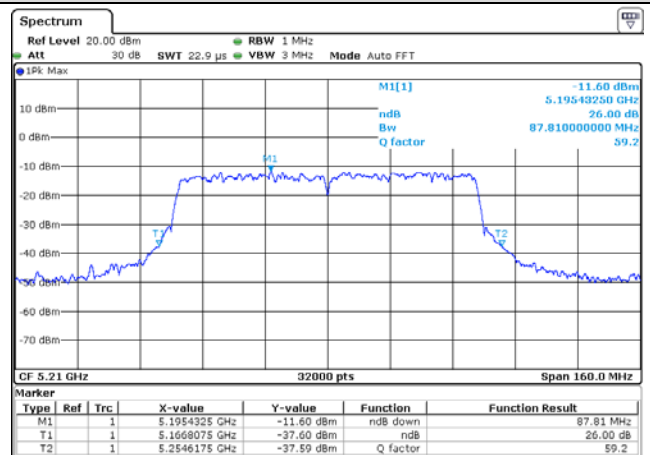
## 5230

## 802.11ac(HT80) mode

### 6dB Occupied

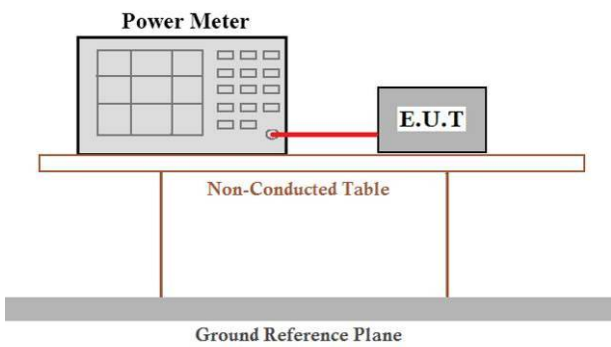


### 26dB Occupied



## 5210

## 7.4 Peak Transmit Power

|                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Test Requirement:                                                                                                                                                                                                                   | FCC Part15 E Section 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     |
| Test Method:                                                                                                                                                                                                                        | KDB 789033 D02 General U-NII Test Procedures New Rules v02r01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                     |
| Limit:                                                                                                                                                                                                                              | Frequency band (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Limit                                                                               |
|                                                                                                                                                                                                                                     | 5150-5250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | $\leq 1\text{W}(30\text{dBm})$ for master device                                    |
|                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | $\leq 250\text{mW}(23.98\text{dBm})$ for client device                              |
|                                                                                                                                                                                                                                     | 5250-5350                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | $\leq 250\text{mW}(23.98\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$ |
|                                                                                                                                                                                                                                     | 5470-5725                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | $\leq 250\text{mW}(23.98\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$ |
| Remark: *Where B is the 26dB emission bandwidth in MHz.<br>The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                     |
| Test setup:                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                     |
| Test procedure:                                                                                                                                                                                                                     | <p><b>Measurement using an RF average power meter</b></p> <ul style="list-style-type: none"> <li>(i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied <ul style="list-style-type: none"> <li>a) The EUT is configured to transmit continuously or to transmit with a constant duty cycle.</li> <li>b) At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.</li> <li>c) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.</li> </ul> </li> <li>(ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in section B).</li> <li>(iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.</li> <li>(iv) Adjust the measurement in dBm by adding <math>10 \log(1/x)</math> where x is the duty cycle (e.g., <math>10\log(1/0.25)</math> if the duty cycle is 25 percent).</li> </ul> |                                                                                     |
| Test Instruments:                                                                                                                                                                                                                   | Refer to section 5.10 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                     |
| Test mode:                                                                                                                                                                                                                          | Refer to section 5.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                     |
| Test results:                                                                                                                                                                                                                       | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |

## Measurement Data

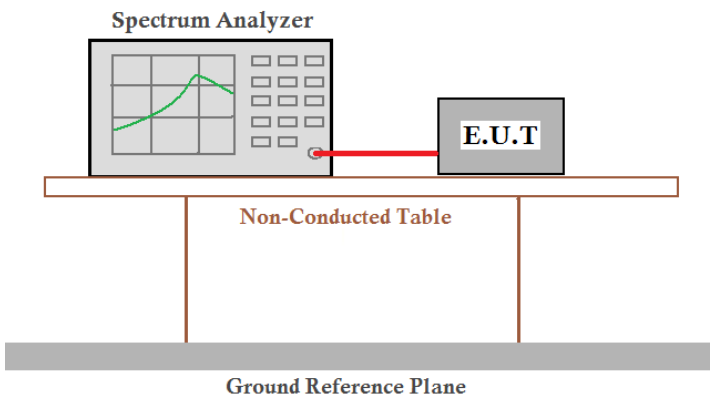
| Modulation     | Duty cycle | Duty Factor |
|----------------|------------|-------------|
| 802.11a        | 98.8%      | 0.05        |
| 802.11n(HT20)  | 98.8%      | 0.05        |
| 802.11n(HT40)  | 97.5%      | 0.11        |
| 802.11ac(HT20) | 98.9%      | 0.05        |
| 802.11ac(HT40) | 97.4%      | 0.11        |
| 802.11ac(HT80) | 95.2%      | 0.21        |

| 802.11a mode         |                 |                      |             |                    |             |        |
|----------------------|-----------------|----------------------|-------------|--------------------|-------------|--------|
| CH No.               | Frequency (MHz) | Measured Power (dBm) | Duty Factor | Output Power (dBm) | Limit (dBm) | Result |
| 36                   | 5180            | 15.28                | 0.05        | 15.33              | 23.98       | Pass   |
| 40                   | 5200            | 15.81                | 0.05        | 15.86              | 23.98       | Pass   |
| 48                   | 5240            | 15.46                | 0.05        | 15.51              | 23.98       | Pass   |
| 802.11n(HT20) mode   |                 |                      |             |                    |             |        |
| CH No.               | Frequency (MHz) | Measured Power (dBm) | Duty Factor | Output Power (dBm) | Limit (dBm) | Result |
| 36                   | 5180            | 15.88                | 0.05        | 15.93              | 23.98       | Pass   |
| 40                   | 5200            | 15.37                | 0.05        | 15.42              | 23.98       | Pass   |
| 48                   | 5240            | 15.49                | 0.05        | 15.54              | 23.98       | Pass   |
| 802.11ac(HT20) mode  |                 |                      |             |                    |             |        |
| CH No.               | Frequency (MHz) | Measured Power (dBm) | Duty Factor | Output Power (dBm) | Limit (dBm) | Result |
| 36                   | 5180            | 16.79                | 0.05        | 16.84              | 23.98       | Pass   |
| 40                   | 5200            | 16.13                | 0.05        | 16.18              | 23.98       | Pass   |
| 48                   | 5240            | 16.28                | 0.05        | 16.33              | 23.98       | Pass   |
| 802.11n(HT40) mode   |                 |                      |             |                    |             |        |
| CH No.               | Frequency (MHz) | Measured Power (dBm) | Duty Factor | Output Power (dBm) | Limit (dBm) | Result |
| 38                   | 5190            | 15.57                | 0.11        | 15.68              | 23.98       | Pass   |
| 46                   | 5230            | 15.22                | 0.11        | 15.33              | 23.98       | Pass   |
| 802.11 ac(HT40) mode |                 |                      |             |                    |             |        |
| CH No.               | Frequency (MHz) | Measured Power (dBm) | Duty Factor | Output Power (dBm) | Limit (dBm) | Result |
| 38                   | 5190            | 16.43                | 0.11        | 16.54              | 23.98       | Pass   |
| 46                   | 5230            | 16.75                | 0.11        | 16.86              | 23.98       | Pass   |
| 802.11 ac(HT80)      |                 |                      |             |                    |             |        |
| CH No.               | Frequency (MHz) | Measured Power (dBm) | Duty Factor | Output Power (dBm) | Limit (dBm) | Result |
| 42                   | 5210            | 14.18                | 0.21        | 14.39              | 23.98       | Pass   |

Note: Output Power = Measured Power + Duty Factor

Duty Factor = 10 log (1/Duty Cycle)

## 7.5 Power Spectral Density

|                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Test Requirement:                                                                                                                                                | FCC Part15 E Section 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                  |
| Test Method:                                                                                                                                                     | KDB 789033 D02 General U-NII Test Procedures New Rules v02r01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                  |
| Limit:                                                                                                                                                           | Frequency band (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Limit                            |
|                                                                                                                                                                  | 5150-5250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ≤17dBm in 1MHz for master device |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ≤11dBm in 1MHz for client device |
|                                                                                                                                                                  | 5250-5350                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ≤11dBm in 1MHz for client device |
|                                                                                                                                                                  | 5470-5725                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ≤11dBm in 1MHz for client device |
| Remark: The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                  |
| Test setup:                                                                                                                                                      |  <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                  |
| Test procedure:                                                                                                                                                  | <ol style="list-style-type: none"> <li>1) Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, "Compute power...".</li> <li>2) Use the peak search function on the instrument to find the peak of the spectrum.</li> <li>3) Make the following adjustments to the peak value of the spectrum, if applicable: <ol style="list-style-type: none"> <li>a) If Method SA-2 or SA-2 Alternative was used, add <math>10 \log(1/x)</math>, where <math>x</math> is the duty cycle, to the peak of the spectrum.</li> <li>b) If Method SA-3 Alternative was used and the linear mode was used in step E)2)g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.</li> </ol> </li> <li>4) The result is the PSD.</li> </ol> |                                  |
| Test Instruments:                                                                                                                                                | Refer to section 5.10 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                  |
| Test mode:                                                                                                                                                       | Refer to section 5.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                  |
| Test results:                                                                                                                                                    | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                  |

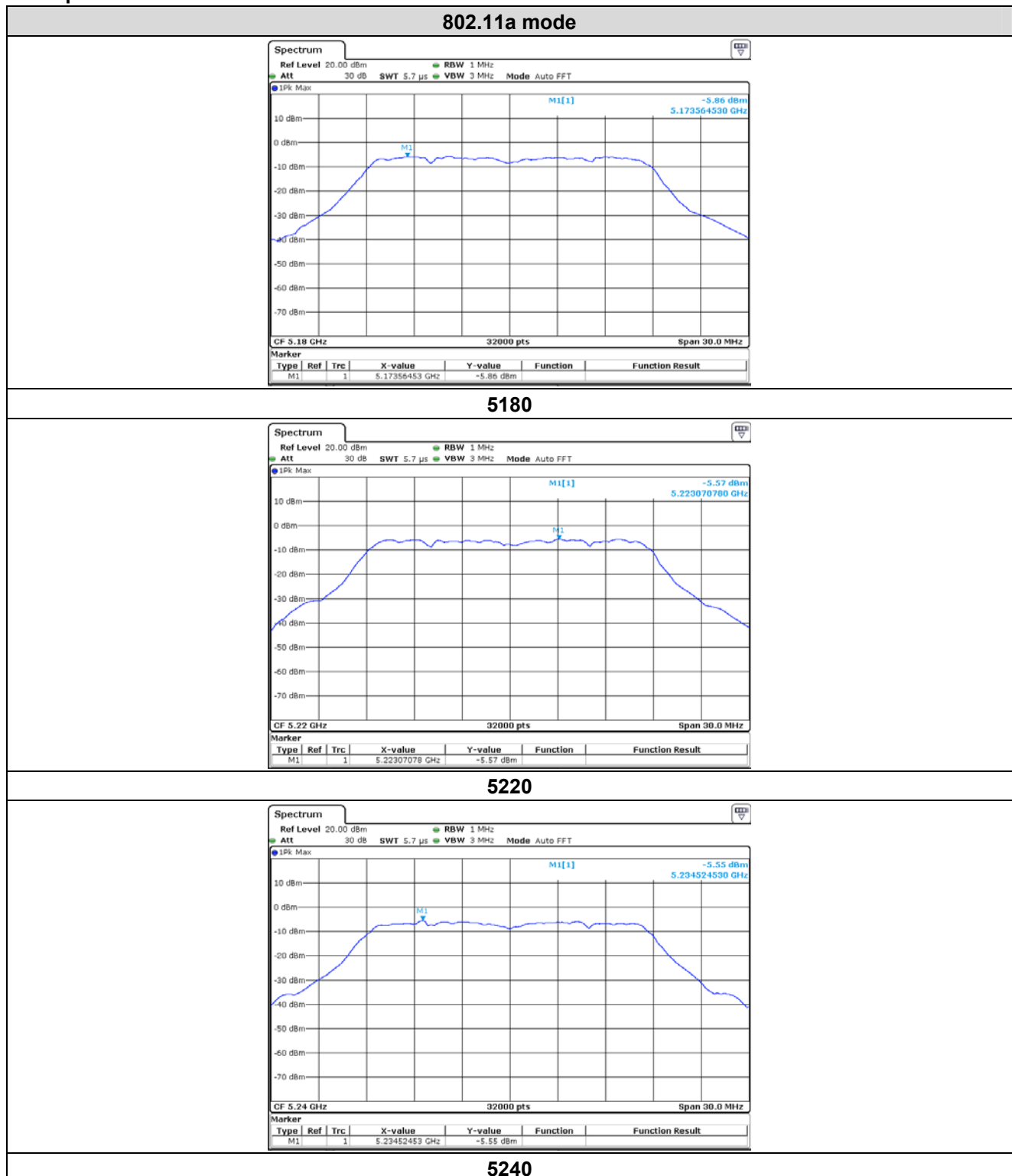
## Measurement Data

| Modulation           |                 | Duty cycle             |             | Duty Factor              |                 |        |
|----------------------|-----------------|------------------------|-------------|--------------------------|-----------------|--------|
| 802.11a              |                 | 98.8%                  |             | 0.05                     |                 |        |
| 802.11n(HT20)        |                 | 98.8%                  |             | 0.05                     |                 |        |
| 802.11n(HT40)        |                 | 97.5%                  |             | 0.11                     |                 |        |
| 802.11ac(HT20)       |                 | 98.9%                  |             | 0.05                     |                 |        |
| 802.11ac(HT40)       |                 | 97.4%                  |             | 0.11                     |                 |        |
| 802.11ac(HT80)       |                 | 95.2%                  |             | 0.21                     |                 |        |
| 802.11a mode         |                 |                        |             |                          |                 |        |
| CH No.               | Frequency (MHz) | Measured PSD (dBm/MHz) | Duty Factor | Total PSD Power(dBm/MHz) | Limit (dBm/MHz) | Result |
| 36                   | 5180            | -5.86                  | 0.05        | -5.81                    | 11              | Pass   |
| 40                   | 5200            | -5.57                  | 0.05        | -5.52                    | 11              | Pass   |
| 48                   | 5240            | -5.55                  | 0.05        | -5.50                    | 11              | Pass   |
| 802.11n(HT20) mode   |                 |                        |             |                          |                 |        |
| CH No.               | Frequency (MHz) | Measured PSD (dBm/MHz) | Duty Factor | Total PSD Power(dBm/MHz) | Limit (dBm/MHz) | Result |
| 36                   | 5180            | -5.55                  | 0.05        | -5.50                    | 11              | Pass   |
| 40                   | 5220            | -6.27                  | 0.05        | -6.22                    | 11              | Pass   |
| 48                   | 5240            | -6.23                  | 0.05        | -6.18                    | 11              | Pass   |
| 802.11ac(HT20) mode  |                 |                        |             |                          |                 |        |
| CH No.               | Frequency (MHz) | Measured PSD (dBm/MHz) | Duty Factor | Total PSD Power(dBm/MHz) | Limit (dBm/MHz) | Result |
| 36                   | 5180            | -5.39                  | 0.05        | -5.34                    | 11              | Pass   |
| 40                   | 5220            | -5.75                  | 0.05        | -5.70                    | 11              | Pass   |
| 48                   | 5240            | -6.02                  | 0.05        | -5.97                    | 11              | Pass   |
| 802.11n(HT40) mode   |                 |                        |             |                          |                 |        |
| CH No.               | Frequency (MHz) | Measured PSD (dBm/MHz) | Duty Factor | Total PSD Power(dBm/MHz) | Limit (dBm/MHz) | Result |
| 38                   | 5190            | -8.68                  | 0.11        | -8.63                    | 11              | Pass   |
| 46                   | 5230            | -7.53                  | 0.11        | -7.48                    | 11              | Pass   |
| 802.11 ac(HT40) mode |                 |                        |             |                          |                 |        |
| CH No.               | Frequency (MHz) | Measured PSD (dBm/MHz) | Duty Factor | Total PSD Power(dBm/MHz) | Limit (dBm/MHz) | Result |
| 38                   | 5190            | -8.59                  | 0.11        | -8.54                    | 11              | Pass   |
| 46                   | 5230            | -7.50                  | 0.11        | -7.45                    | 11              | Pass   |
| 802.11 ac(HT80)      |                 |                        |             |                          |                 |        |
| CH No.               | Frequency (MHz) | Measured PSD (dBm/MHz) | Duty Factor | Total PSD Power(dBm/MHz) | Limit (dBm/MHz) | Result |
| 42                   | 5210            | -11.18                 | 0.21        | -11.13                   | 11              | Pass   |

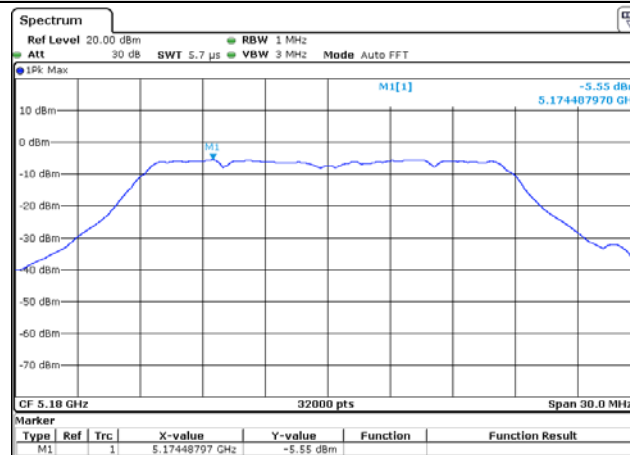
Note: Output Power = Measured Power + Duty Factor

Duty Factor = 10 log (1/Duty Cycle)

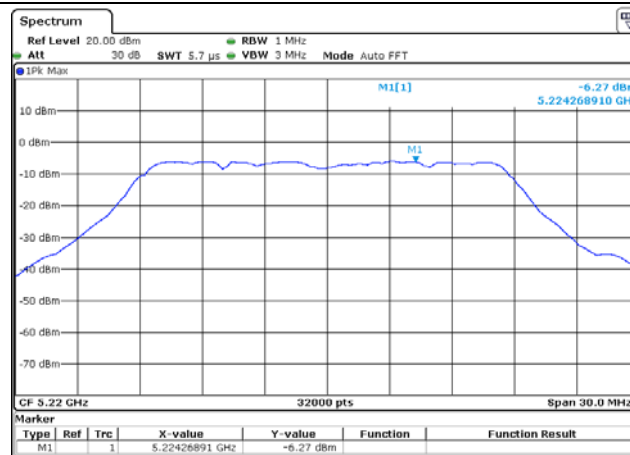
Test plots as followed:



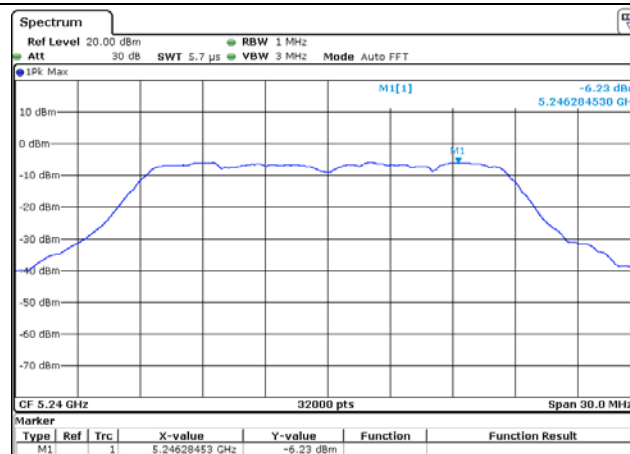
## 802.11n(HT20) mode



5180

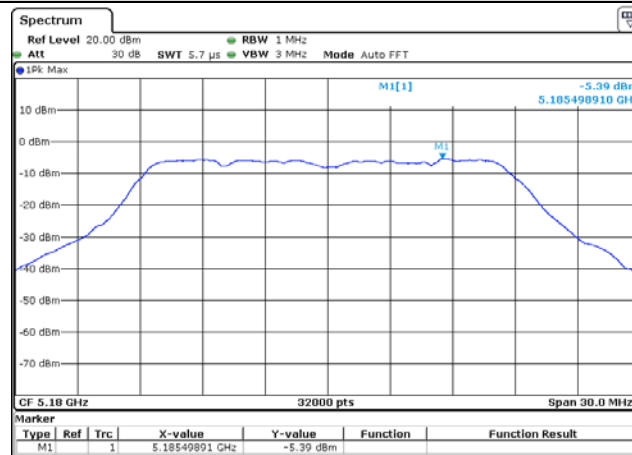


5220

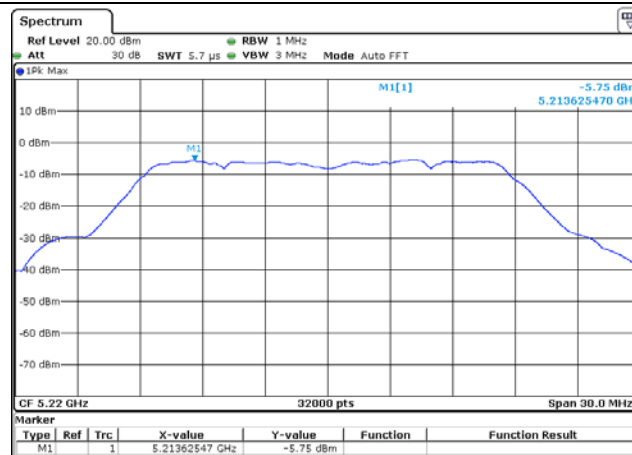


5240

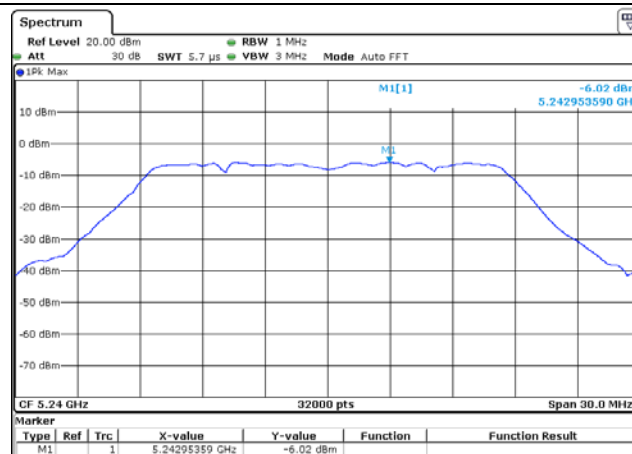
## 802.11ac(HT20) mode



5180

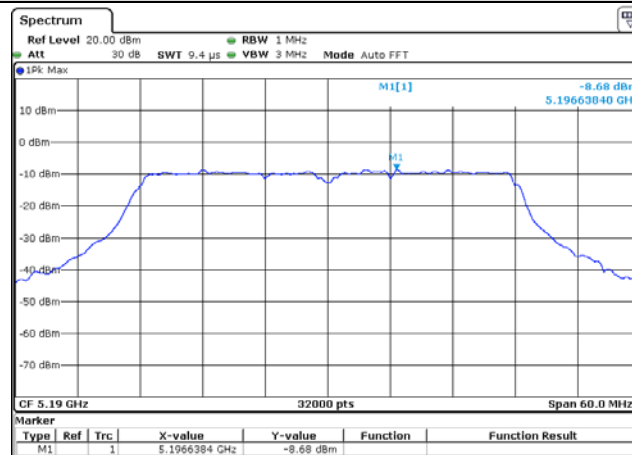


5220

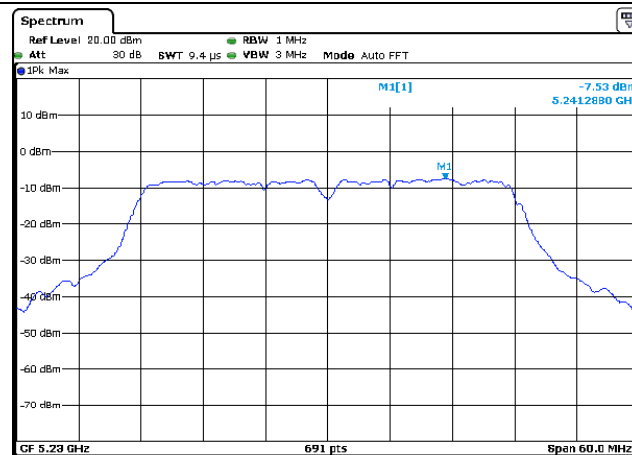


5240

## 802.11n(HT40) mode

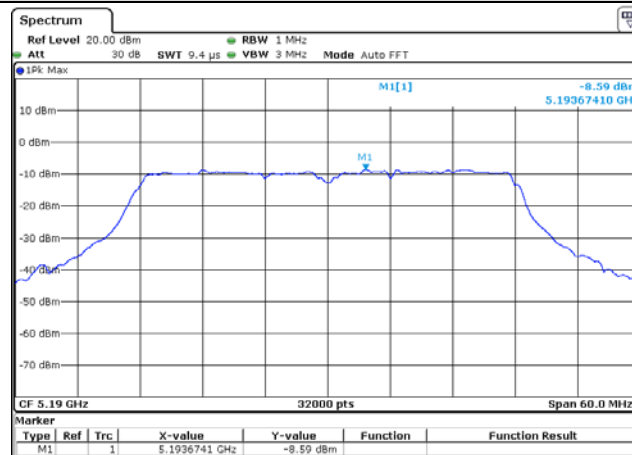


5190

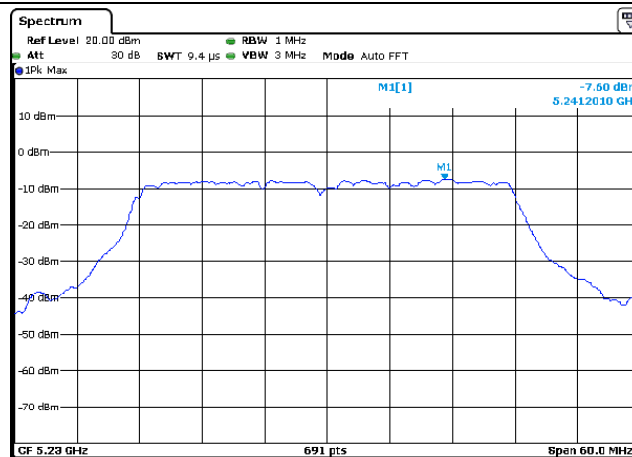


5230

## 802.11ac(HT40) mode

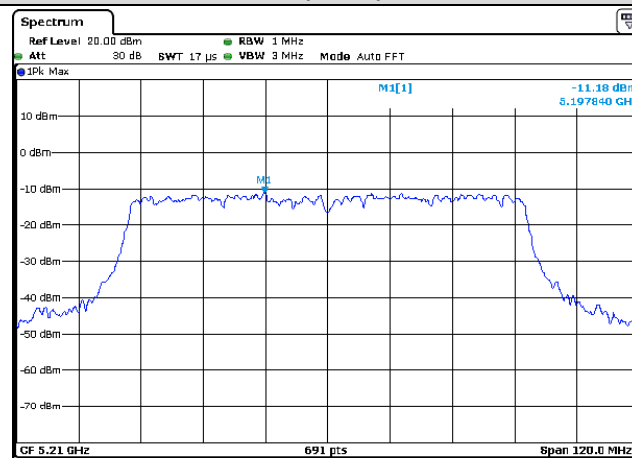


5190



5230

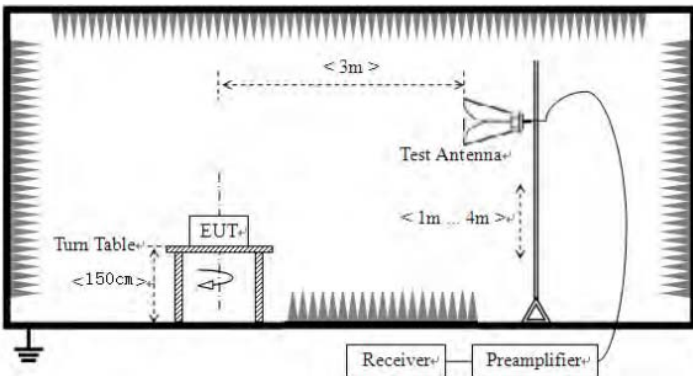
## 802.11ac(HT80) mode



5210

## 7.6 Band Edge

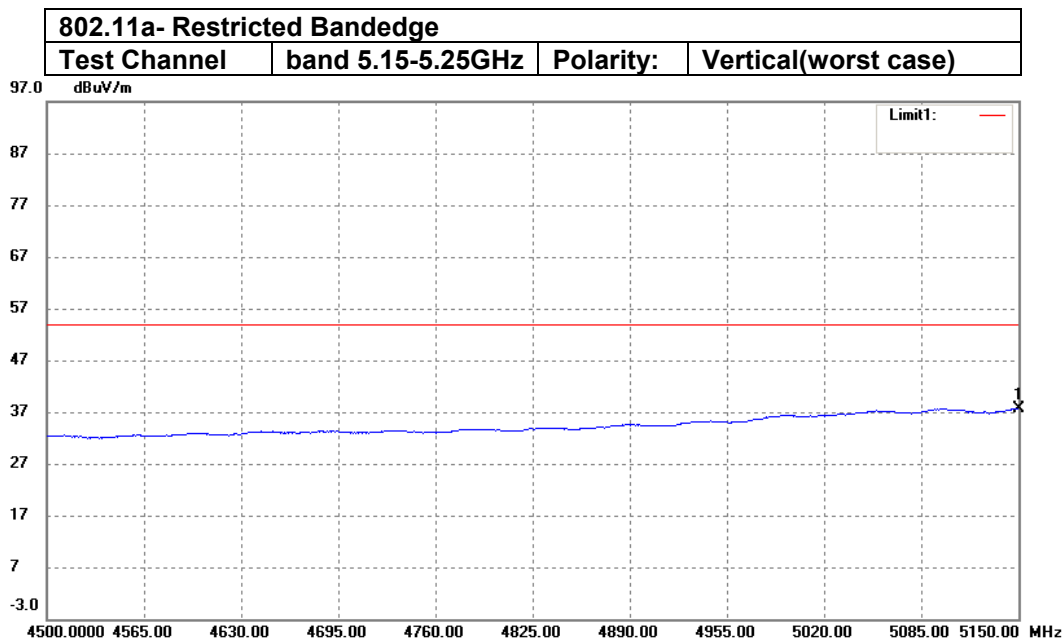
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|------------------|--|-----------|--------------------|--------|-------------|--------|------------------|--------------|--------|------------------|------------------|------------|------------------|-------------|------|------------------|------------|------|---------------|---------------|------------|
| Test Requirement: | FCC Part15 E Section 15.407 and 5.205                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Test Method:      | ANSI C63.10:2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Test site:        | Measurement Distance: 3m (Semi-Anechoic Chamber)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Receiver setup:   | <table><tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr><tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr><tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr><tr><td>AV</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |        |                  |  | Frequency | Detector           | RBW    | VBW         | Remark | 30MHz-1GHz       | Quasi-peak   | 100KHz | 300KHz           | Quasi-peak Value | Above 1GHz | Peak             | 1MHz        | 3MHz | Peak Value       | AV         | 1MHz | 3MHz          | Average Value |            |
| Frequency         | Detector                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | RBW              | VBW    | Remark           |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 30MHz-1GHz        | Quasi-peak                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 100KHz           | 300KHz | Quasi-peak Value |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Above 1GHz        | Peak                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1MHz             | 3MHz   | Peak Value       |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
|                   | AV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1MHz             | 3MHz   | Average Value    |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Limit:            | <table><tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr><tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr><tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr><tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr><tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr><tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr><tr><td>68.2</td><td>Peak Value</td></tr></table> <p>Undesirable emission limits:</p> <p>(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 EIRP of -27 dBm/MHz.</p> <p>(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 EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.</p> <p>(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 EIRP of -27 dBm/MHz.</p> |                  |        |                  |  | Frequency | Limit (dBuV/m @3m) | Remark | 30MHz-88MHz | 40.0   | Quasi-peak Value | 88MHz-216MHz | 43.5   | Quasi-peak Value | 216MHz-960MHz    | 46.0       | Quasi-peak Value | 960MHz-1GHz | 54.0 | Quasi-peak Value | Above 1GHz | 54.0 | Average Value | 68.2          | Peak Value |
| Frequency         | Limit (dBuV/m @3m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Remark           |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 30MHz-88MHz       | 40.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Quasi-peak Value |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 88MHz-216MHz      | 43.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Quasi-peak Value |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 216MHz-960MHz     | 46.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Quasi-peak Value |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 960MHz-1GHz       | 54.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Quasi-peak Value |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Above 1GHz        | 54.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Average Value    |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
|                   | 68.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Peak Value       |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Test Procedure:   | <p>a. The EUT was placed on the top of a rotating table 1.5 m above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</p> <p>b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</p> <p>c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</p> <p>d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</p> <p>e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not</p>                                                                                                                                              |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |

|                   |                                                                                                                                         |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
|                   | have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. |
| Test setup:       | <p>For radiated emissions above 1GHz</p>              |
| Test Instruments: | Refer to section 5.10 for details                                                                                                       |
| Test mode:        | Refer to section 5.2 for details                                                                                                        |
| Test results:     | Pass                                                                                                                                    |

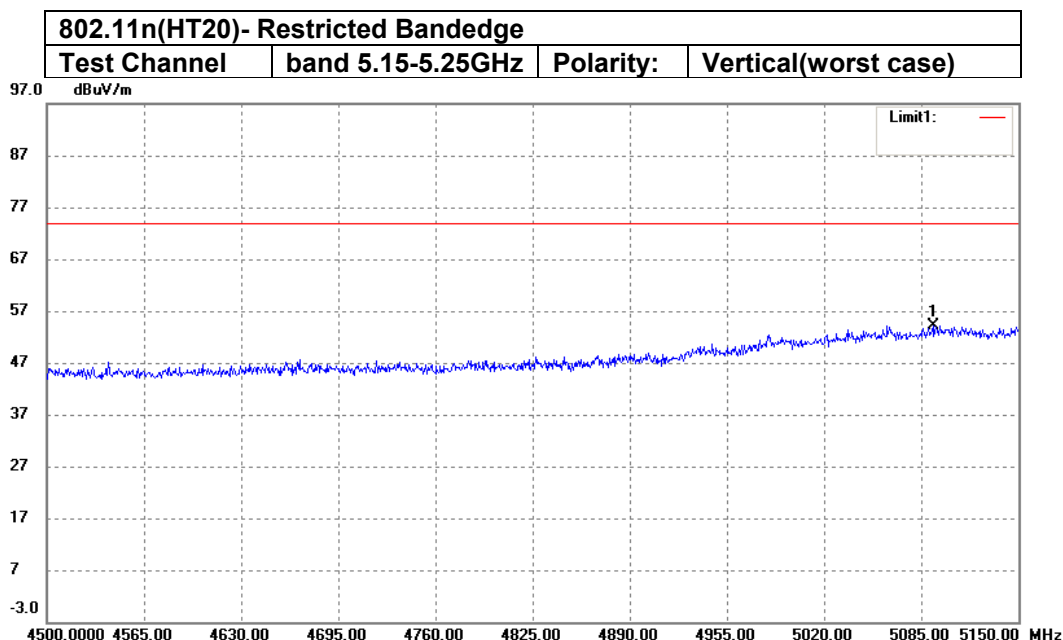
## Remarks:

- Only the worst case Main Antenna test data.
- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- The emission levels of other frequencies are very lower than the limit and not show in test report.
- The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.
- According to KDB 789033 D02 v02r01 section G) 1) (d), for For measurements above 1000 MHz @ 3m distance, the limit of field strength is computed as follows:  
 $E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2;$   
For example, if  $\text{EIRP} = -27\text{dBm}$   
 $E[\text{dBuV/m}] = -27 + 95.2 = 68.2\text{dBuV/m}.$

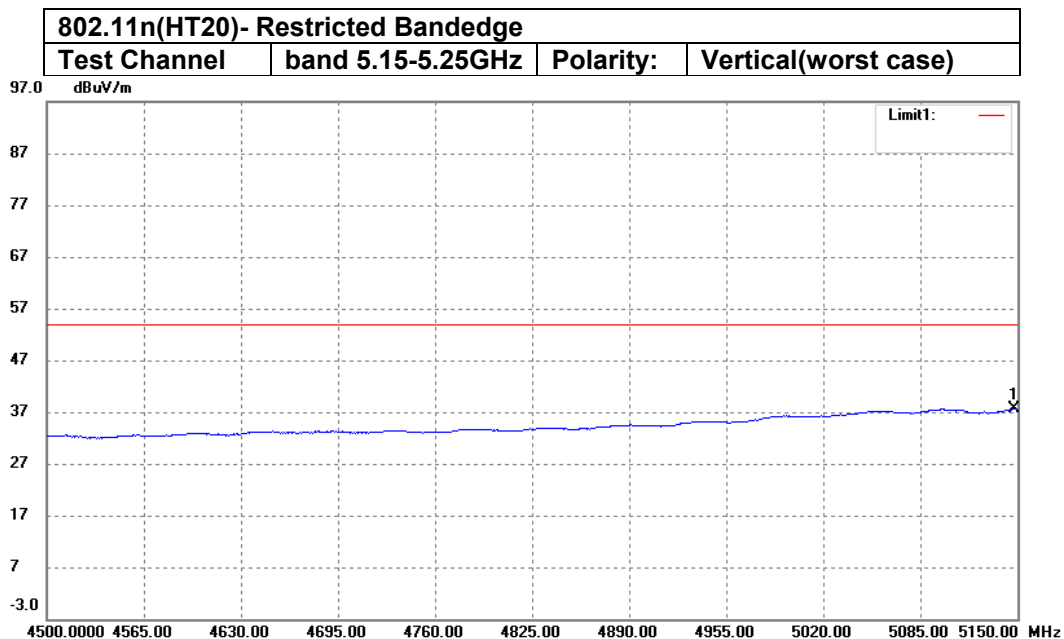
Measurement Data:



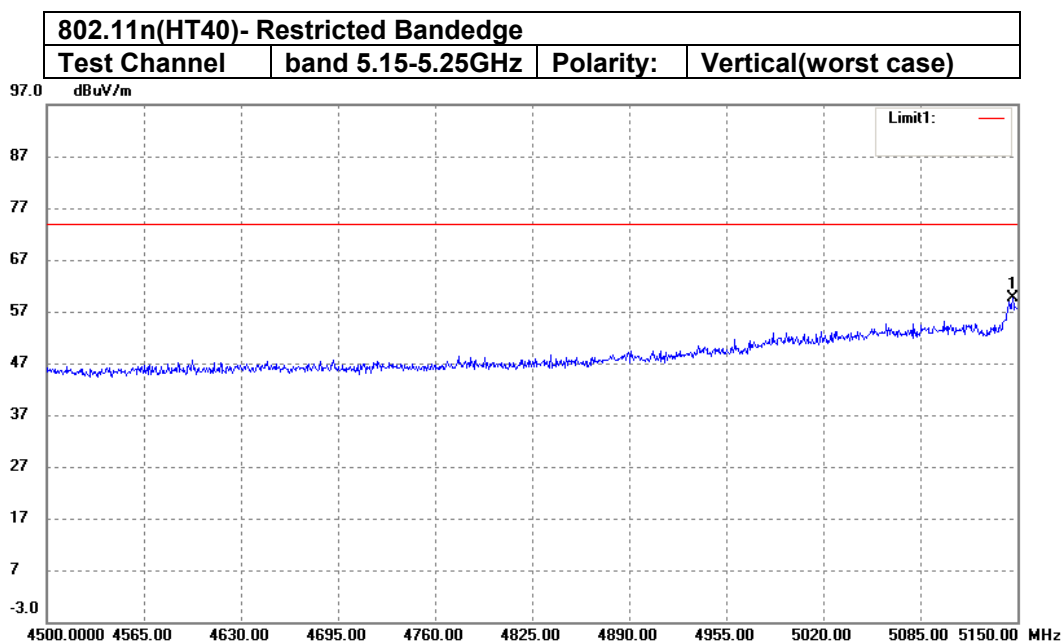
| 802.11a(HT20) |            |         | AVG      |          |        |
|---------------|------------|---------|----------|----------|--------|
| Frequency     | Read Level | Correct | Result   | Limit    | Margin |
| (MHz)         | (dBuV/m)   | (dB/m)  | (dBuV/m) | (dBuV/m) | (dB)   |
| 5150.00       | 37.16      | -0.13   | 37.03    | 54.00    | -16.97 |



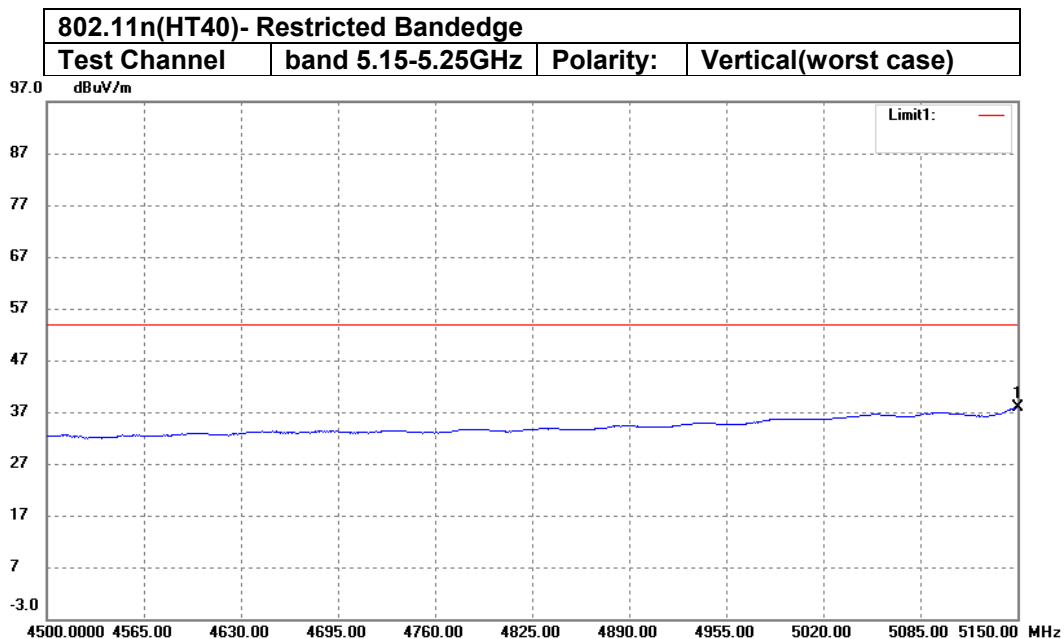
| 802.11n(HT20) |            |         | Peak     |          |        |
|---------------|------------|---------|----------|----------|--------|
| Frequency     | Read Level | Correct | Result   | Limit    | Margin |
| (MHz)         | (dBuV/m)   | (dB/m)  | (dBuV/m) | (dBuV/m) | (dB)   |
| 5090.5        | 53.7       | -0.26   | 53.44    | 74.00    | -20.56 |



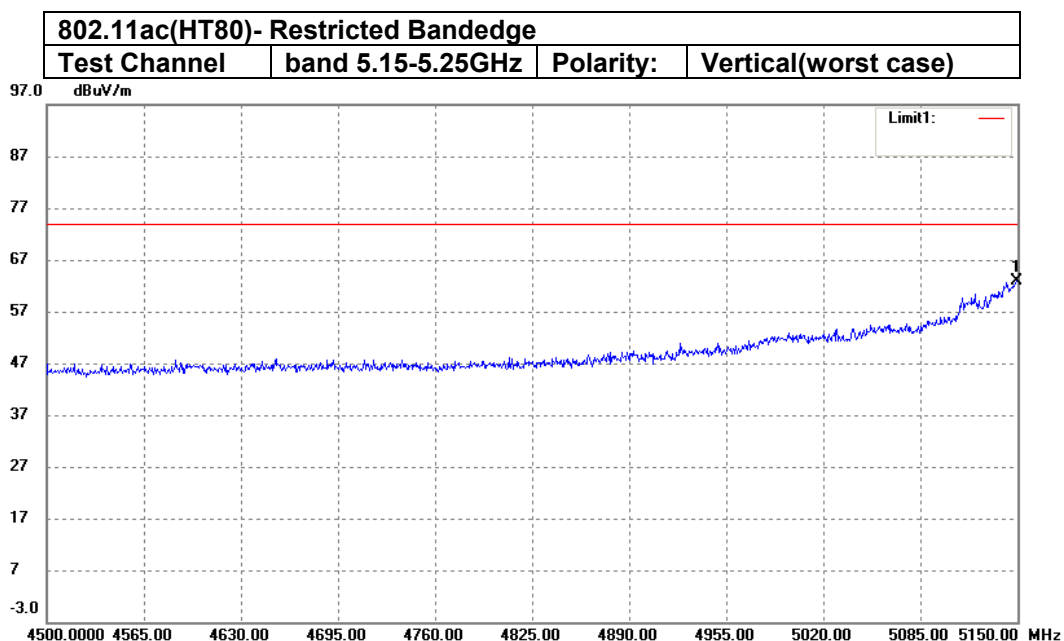
| 802.11a(HT20) |            |         | AVG      |          |        |
|---------------|------------|---------|----------|----------|--------|
| Frequency     | Read Level | Correct | Result   | Limit    | Margin |
| (MHz)         | (dBuV/m)   | (dB/m)  | (dBuV/m) | (dBuV/m) | (dB)   |
| 5148.050      | 37.69      | -0.13   | 37.56    | 54.00    | -16.44 |



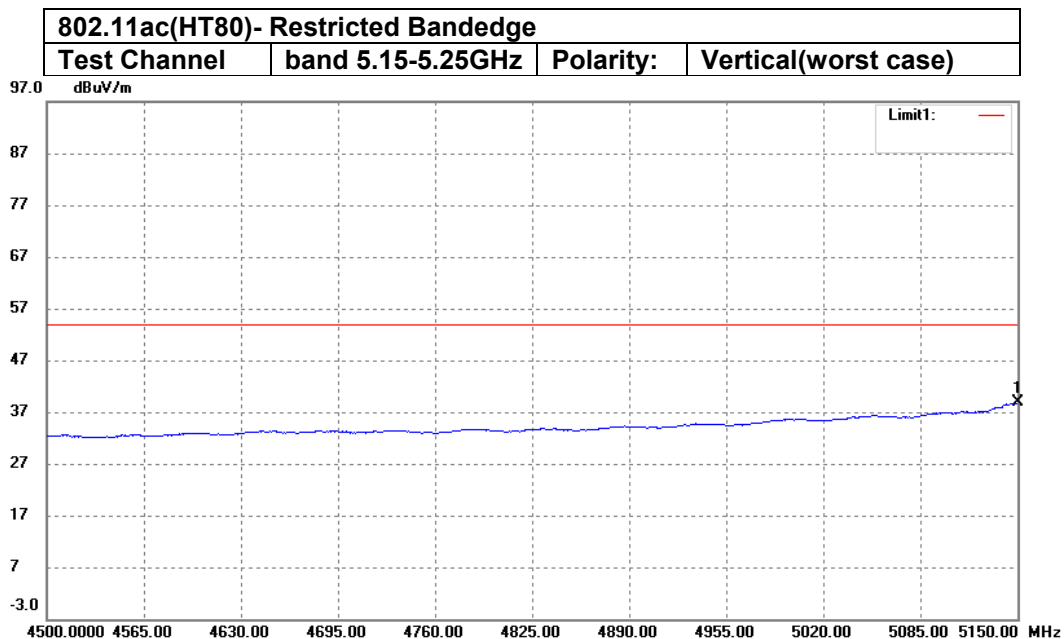
| 802.11n(HT40) |            |         | Peak     |          |        |
|---------------|------------|---------|----------|----------|--------|
| Frequency     | Read Level | Correct | Result   | Limit    | Margin |
| (MHz)         | (dBuV/m)   | (dB/m)  | (dBuV/m) | (dBuV/m) | (dB)   |
| 5131.55       | 59.21      | -0.14   | 59.07    | 74.00    | -14.93 |



| 802.11n(HT40) |            |         | AVG      |          |        |
|---------------|------------|---------|----------|----------|--------|
| Frequency     | Read Level | Correct | Result   | Limit    | Margin |
| (MHz)         | (dBuV/m)   | (dB/m)  | (dBuV/m) | (dBuV/m) | (dB)   |
| 5150.000      | 38.05      | -0.13   | 37.92    | 54.00    | -16.08 |



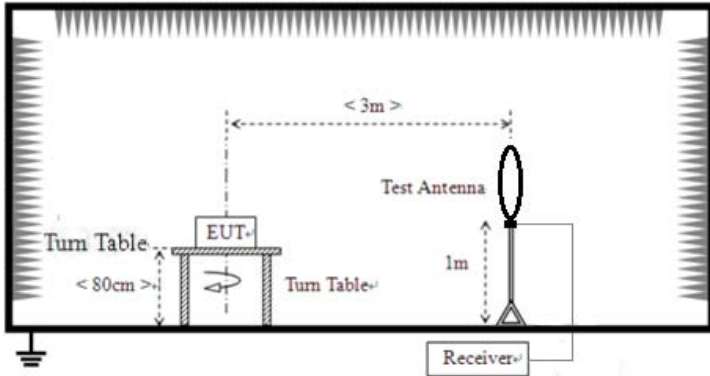
| 802.11ac(HT80) |            |         | Peak     |          |        |
|----------------|------------|---------|----------|----------|--------|
| Frequency      | Read Level | Correct | Result   | Limit    | Margin |
| (MHz)          | (dBuV/m)   | (dB/m)  | (dBuV/m) | (dBuV/m) | (dB)   |
| 5149.350       | 62.96      | -0.13   | 62.83    | 74.00    | -11.17 |

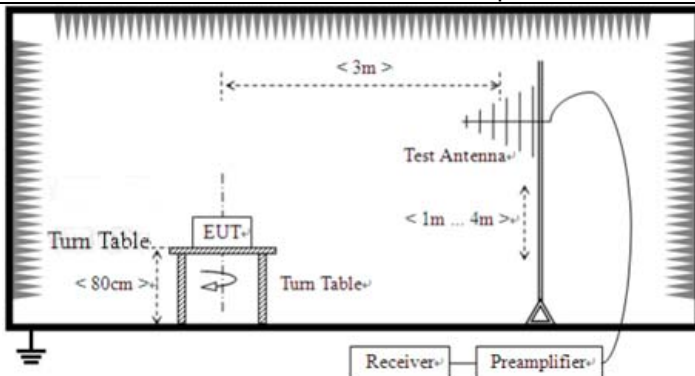
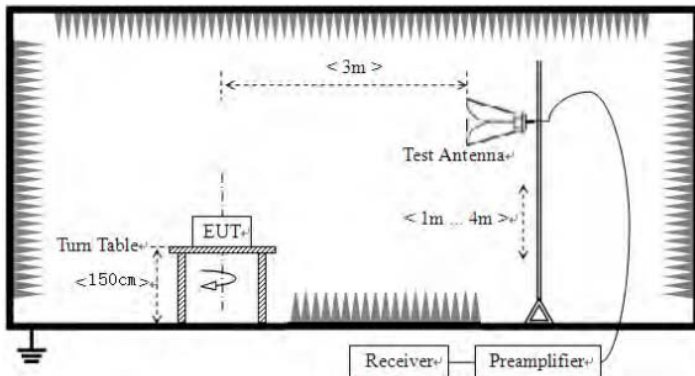


| 802.11ac(HT80) |            |         | AVG      |          |        |
|----------------|------------|---------|----------|----------|--------|
| Frequency      | Read Level | Correct | Result   | Limit    | Margin |
| (MHz)          | (dBuV/m)   | (dB/m)  | (dBuV/m) | (dBuV/m) | (dB)   |
| 5150.000       | 38.93      | -0.13   | 38.80    | 54.00    | -15.20 |

## 7.7 Radiated Emission

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |        |               |                      |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------|---------------|----------------------|
| Test Requirement:     | FCC Part15 C Section 15.209 and 15.205                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |              |        |               |                      |
| Test Method:          | ANSI C63.10:2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |        |               |                      |
| Test Frequency Range: | 9kHz to 40GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |        |               |                      |
| Test site:            | Measurement Distance: 3m (Semi-Anechoic Chamber)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |        |               |                      |
| Receiver setup:       | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Detector     | RBW    | VBW           | Value                |
|                       | 9kHz-150KHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Quasi-peak   | 200Hz  | 1kHz          | Quasi-peak Value     |
|                       | 150kHz-30MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Quasi-peak   | 9kHz   | 30kHz         | Quasi-peak Value     |
|                       | 30MHz-1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Quasi-peak   | 100KHz | 300KHz        | Quasi-peak Value     |
|                       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Peak         | 1MHz   | 3MHz          | Peak Value           |
| AV                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1MHz         | 3MHz   | Average Value |                      |
| Limit:                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |        |               |                      |
|                       | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Limit (uV/m) |        | Value         | Measurement Distance |
|                       | 0.009MHz-0.490MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2400/F(KHz)  |        | QP            | 300m                 |
|                       | 0.490MHz-1.705MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 24000/F(KHz) |        | QP            | 300m                 |
|                       | 1.705MHz-30MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30           |        | QP            | 30m                  |
|                       | 30MHz-88MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 100          |        | QP            | 3m                   |
|                       | 88MHz-216MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 150          |        | QP            |                      |
|                       | 216MHz-960MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 200          |        | QP            |                      |
|                       | 960MHz-1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 500          |        | QP            |                      |
|                       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 500          |        | Average       |                      |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5000         |        | Peak          |                      |
| Test Procedure:       | Substitution method was performed to determine the actual ERP emission levels of the EUT.<br>The following test procedure as below:<br>1>.Below 1GHz test procedure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |        |               |                      |
|                       | 1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.<br>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.<br>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.<br>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.<br>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.<br>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.<br>2> Above 1GHz test procedure: |              |        |               |                      |

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | <ol style="list-style-type: none"> <li>1. On the test site as test setup graph above, the EUT shall be placed at the 0.8m support on the turntable and in the position closest to normal use as declared by the provider.</li> <li>2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter. The output of the test antenna shall be connected to the measuring receiver.</li> <li>3. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test.</li> <li>4. The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.</li> <li>5. Repeat step 4 for test frequency with the test antenna polarized horizontally.</li> <li>6. Remove the transmitter and replace it with a substitution antenna</li> <li>7. Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.</li> <li>8. Repeat step 7 with both antennas horizontally polarized for each test frequency.</li> <li>9. Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula:<br/> <math display="block">\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}</math>           where:<br/>           Pg is the generator output power into the substitution antenna.         </li> </ol> |
| <p>Test setup:</p> | <p>For radiated emissions from 9kHz to 30MHz</p>  <p>For radiated emissions from 30MHz to 1GHz</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                     |                                                     |
|-------------------------------------------------------------------------------------|-----------------------------------------------------|
|   |                                                     |
| For radiated emissions above 1GHz                                                   |                                                     |
|  |                                                     |
| Test Instruments:                                                                   | Refer to section 5.10 for details                   |
| Test mode:                                                                          | Refer to section 5.2 for details                    |
| Test environment:                                                                   | Temp.: 25 °C      Humid.: 52%      Press.: 1012mbar |
| Test voltage:                                                                       | AC 120V, 60Hz                                       |
| Test results:                                                                       | Pass                                                |

*Remarks:*

1. Only the worst case Main Antenna test data.
2. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

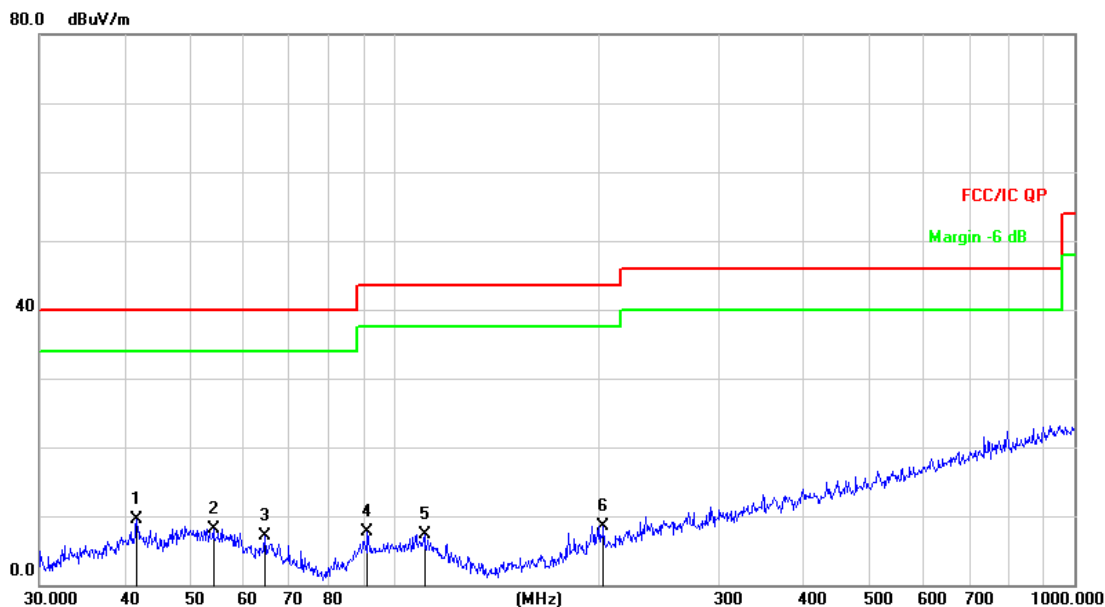
## Measurement Data:

### 9 kHz ~ 30 MHz

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

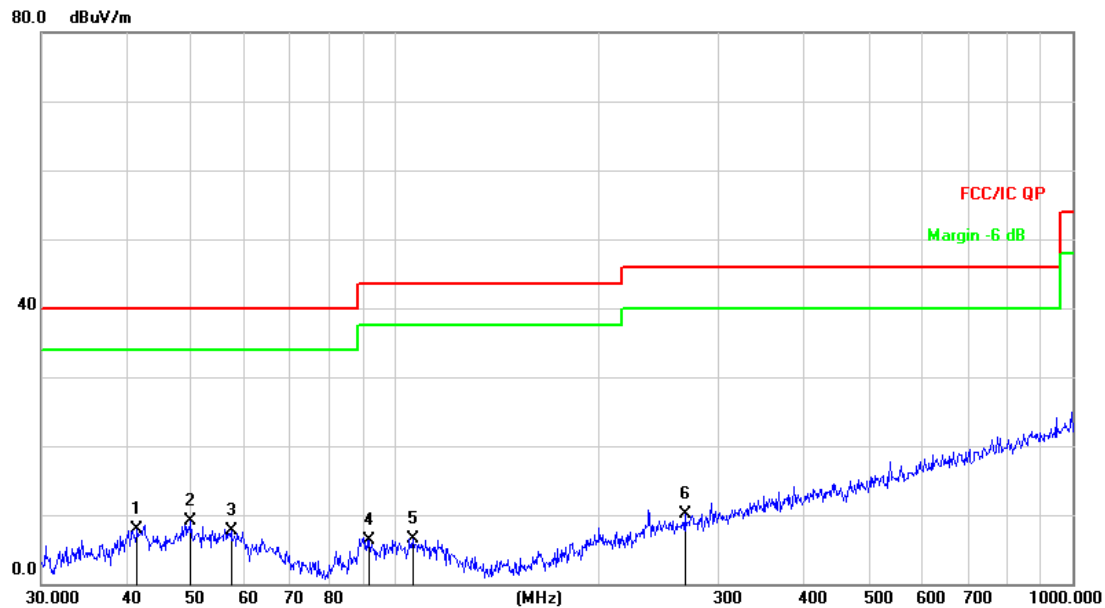
### 30MHz~ 1GHz

#### Horizontal:



| No. | Mk. | Freq.    | Reading | Correct | Measure- | Limit | Over   |          |
|-----|-----|----------|---------|---------|----------|-------|--------|----------|
|     |     | MHz      | Level   | Factor  | ment     |       |        | Detector |
|     |     |          | dBuV    | dB      | dBuV/m   | dB/m  | dB     |          |
| 1   | *   | 41.7129  | 24.64   | -15.19  | 9.45     | 40.00 | -30.55 | QP       |
| 2   |     | 54.0711  | 23.07   | -14.89  | 8.18     | 40.00 | -31.82 | QP       |
| 3   |     | 64.4331  | 23.92   | -16.72  | 7.20     | 40.00 | -32.80 | QP       |
| 4   |     | 91.1746  | 25.52   | -17.91  | 7.61     | 43.50 | -35.89 | QP       |
| 5   |     | 110.5687 | 23.81   | -16.55  | 7.26     | 43.50 | -36.24 | QP       |
| 6   |     | 202.8104 | 24.25   | -15.71  | 8.54     | 43.50 | -34.96 | QP       |

**Vertical:**



| No. | Mk. | Freq.    | Reading | Correct | Measure- | Limit | Over   |          |
|-----|-----|----------|---------|---------|----------|-------|--------|----------|
|     |     | MHz      | Level   | Factor  | ment     |       |        | Detector |
|     |     |          | dBuV    | dB      | dBuV/m   | dB/m  | dB     |          |
| 1   |     | 41.5670  | 23.09   | -15.25  | 7.84     | 40.00 | -32.16 | QP       |
| 2   | *   | 49.8814  | 23.86   | -14.75  | 9.11     | 40.00 | -30.89 | QP       |
| 3   |     | 57.1914  | 23.49   | -15.73  | 7.76     | 40.00 | -32.24 | QP       |
| 4   |     | 91.4949  | 24.22   | -17.84  | 6.38     | 43.50 | -37.12 | QP       |
| 5   |     | 106.3850 | 22.81   | -16.24  | 6.57     | 43.50 | -36.93 | QP       |
| 6   |     | 267.5455 | 23.23   | -13.15  | 10.08    | 46.00 | -35.92 | QP       |

## Above 1GHz:

### 802.11a(HT20) 5180MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10360.00        | 41.71             | 39.67                 | 14.62           | 32.65              | 63.35          | 74.00               | -10.65          | Vertical     |
| 15540.00        | 40.55             | 38.60                 | 17.66           | 34.46              | 62.35          | 74.00               | -11.65          | Vertical     |
| 10360.00        | 42.34             | 39.67                 | 14.62           | 32.65              | 63.98          | 74.00               | -10.02          | Horizontal   |
| 15540.00        | 43.38             | 38.60                 | 17.66           | 34.46              | 65.18          | 74.00               | -8.82           | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10360.00        | 21.69             | 39.67                 | 14.62           | 32.65              | 43.33          | 54.00               | -10.67          | Vertical     |
| 15540.00        | 20.38             | 38.60                 | 17.66           | 34.46              | 42.18          | 54.00               | -11.82          | Vertical     |
| 10360.00        | 21.51             | 39.67                 | 14.62           | 32.65              | 43.15          | 54.00               | -10.85          | Horizontal   |
| 15540.00        | 22.58             | 38.60                 | 17.66           | 34.46              | 44.38          | 54.00               | -9.62           | Horizontal   |

### 802.11a(HT20) 5200MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10400.00        | 41.75             | 39.75                 | 14.63           | 32.71              | 63.42          | 74.00               | -10.58          | Vertical     |
| 15600.00        | 40.39             | 38.33                 | 17.67           | 34.17              | 62.22          | 74.00               | -11.78          | Vertical     |
| 10400.00        | 42.82             | 39.75                 | 14.63           | 32.71              | 64.49          | 74.00               | -9.51           | Horizontal   |
| 15600.00        | 43.15             | 38.33                 | 17.67           | 34.17              | 64.98          | 74.00               | -9.02           | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10400.00        | 20.80             | 39.75                 | 14.63           | 32.71              | 42.47          | 54.00               | -11.53          | Vertical     |
| 15600.00        | 20.25             | 38.33                 | 17.67           | 34.17              | 42.08          | 54.00               | -11.92          | Vertical     |
| 10400.00        | 20.73             | 39.75                 | 14.63           | 32.71              | 42.40          | 54.00               | -11.60          | Horizontal   |
| 15600.00        | 21.19             | 38.33                 | 17.67           | 34.17              | 43.02          | 54.00               | -10.98          | Horizontal   |

## 802.11a(HT20) 5240MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 10480.00        | 42.35             | 39.82                 | 14.68           | 32.86                    | 63.99          | 74.00               | -10.01          | Vertical     |
| 15720.00        | 41.51             | 38.09                 | 17.73           | 33.66                    | 63.67          | 74.00               | -10.33          | Vertical     |
| 10480.00        | 42.28             | 39.82                 | 14.68           | 32.86                    | 63.92          | 74.00               | -10.08          | Horizontal   |
| 15720.00        | 42.51             | 38.09                 | 17.73           | 33.66                    | 64.67          | 74.00               | -9.33           | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 10480.00        | 21.26             | 39.82                 | 14.68           | 32.86                    | 42.90          | 54.00               | -11.10          | Vertical     |
| 15720.00        | 21.79             | 38.09                 | 17.73           | 33.66                    | 43.95          | 54.00               | -10.05          | Vertical     |
| 10480.00        | 20.55             | 39.82                 | 14.68           | 32.86                    | 42.19          | 54.00               | -11.81          | Horizontal   |
| 15720.00        | 21.92             | 38.09                 | 17.73           | 33.66                    | 44.08          | 54.00               | -9.92           | Horizontal   |

## 802.11n(HT20) 5180MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 10360.00        | 41.29             | 39.67                 | 14.62           | 32.65                    | 62.93          | 74.00               | -11.07          | Vertical     |
| 15540.00        | 40.85             | 38.60                 | 17.66           | 34.46                    | 62.65          | 74.00               | -11.35          | Vertical     |
| 10360.00        | 41.47             | 39.67                 | 14.62           | 32.65                    | 63.11          | 74.00               | -10.89          | Horizontal   |
| 15540.00        | 41.93             | 38.60                 | 17.66           | 34.46                    | 63.73          | 74.00               | -10.27          | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 10360.00        | 20.36             | 39.67                 | 14.62           | 32.65                    | 42.00          | 54.00               | -12.00          | Vertical     |
| 15540.00        | 20.45             | 38.60                 | 17.66           | 34.46                    | 42.25          | 54.00               | -11.75          | Vertical     |
| 10360.00        | 20.29             | 39.67                 | 14.62           | 32.65                    | 41.93          | 54.00               | -12.07          | Horizontal   |
| 15540.00        | 21.86             | 38.60                 | 17.66           | 34.46                    | 43.66          | 54.00               | -10.34          | Horizontal   |

## 802.11n(HT20) 5200MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10400.00        | 42.18             | 39.75                 | 14.63           | 32.71              | 63.85          | 74.00               | -10.15          | Vertical     |
| 15600.00        | 41.76             | 38.33                 | 17.67           | 34.17              | 63.59          | 74.00               | -10.41          | Vertical     |
| 10400.00        | 41.95             | 39.75                 | 14.63           | 32.71              | 63.62          | 74.00               | -10.38          | Horizontal   |
| 15600.00        | 42.24             | 38.33                 | 17.67           | 34.17              | 64.07          | 74.00               | -9.93           | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10400.00        | 21.16             | 39.75                 | 14.63           | 32.71              | 42.83          | 54.00               | -11.17          | Vertical     |
| 15600.00        | 21.35             | 38.33                 | 17.67           | 34.17              | 43.18          | 54.00               | -10.82          | Vertical     |
| 10400.00        | 20.87             | 39.75                 | 14.63           | 32.71              | 42.54          | 54.00               | -11.46          | Horizontal   |
| 15600.00        | 21.41             | 38.33                 | 17.67           | 34.17              | 43.24          | 54.00               | -10.76          | Horizontal   |

## 802.11n(HT20) 5240MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10480.00        | 40.69             | 39.82                 | 14.68           | 32.86              | 62.33          | 74.00               | -11.67          | Vertical     |
| 15720.00        | 42.86             | 38.09                 | 17.73           | 33.66              | 65.02          | 74.00               | -8.98           | Vertical     |
| 10480.00        | 43.93             | 39.82                 | 14.68           | 32.86              | 65.57          | 74.00               | -8.43           | Horizontal   |
| 15720.00        | 41.15             | 38.09                 | 17.73           | 33.66              | 63.31          | 74.00               | -10.69          | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10480.00        | 20.47             | 39.82                 | 14.68           | 32.86              | 42.11          | 54.00               | -11.89          | Vertical     |
| 15720.00        | 21.15             | 38.09                 | 17.73           | 33.66              | 43.31          | 54.00               | -10.69          | Vertical     |
| 10480.00        | 21.66             | 39.82                 | 14.68           | 32.86              | 43.30          | 54.00               | -10.70          | Horizontal   |
| 15720.00        | 20.89             | 38.09                 | 17.73           | 33.66              | 43.05          | 54.00               | -10.95          | Horizontal   |

## 802.11ac(HT20) 5180MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10360.00        | 41.28             | 39.67                 | 14.62           | 32.65              | 62.92          | 74.00               | -11.08          | Vertical     |
| 15540.00        | 40.49             | 38.60                 | 17.66           | 34.46              | 62.29          | 74.00               | -11.71          | Vertical     |
| 10360.00        | 42.75             | 39.67                 | 14.62           | 32.65              | 64.39          | 74.00               | -9.61           | Horizontal   |
| 15540.00        | 43.61             | 38.60                 | 17.66           | 34.46              | 65.41          | 74.00               | -8.59           | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10360.00        | 21.36             | 39.67                 | 14.62           | 32.65              | 43.00          | 54.00               | -11.00          | Vertical     |
| 15540.00        | 20.58             | 38.60                 | 17.66           | 34.46              | 42.38          | 54.00               | -11.62          | Vertical     |
| 10360.00        | 21.29             | 39.67                 | 14.62           | 32.65              | 42.93          | 54.00               | -11.07          | Horizontal   |
| 15540.00        | 22.18             | 38.60                 | 17.66           | 34.46              | 43.98          | 54.00               | -10.02          | Horizontal   |

## 802.11ac(HT20) 5200MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10400.00        | 40.29             | 39.75                 | 14.63           | 32.71              | 61.96          | 74.00               | -12.04          | Vertical     |
| 15600.00        | 41.96             | 38.33                 | 17.67           | 34.17              | 63.79          | 74.00               | -10.21          | Vertical     |
| 10400.00        | 41.36             | 39.75                 | 14.63           | 32.71              | 63.03          | 74.00               | -10.97          | Horizontal   |
| 15600.00        | 41.21             | 38.33                 | 17.67           | 34.17              | 63.04          | 74.00               | -10.96          | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10400.00        | 20.59             | 39.75                 | 14.63           | 32.71              | 42.26          | 54.00               | -11.74          | Vertical     |
| 15600.00        | 20.46             | 38.33                 | 17.67           | 34.17              | 42.29          | 54.00               | -11.71          | Vertical     |
| 10400.00        | 20.73             | 39.75                 | 14.63           | 32.71              | 42.40          | 54.00               | -11.60          | Horizontal   |
| 15600.00        | 21.27             | 38.33                 | 17.67           | 34.17              | 43.10          | 54.00               | -10.90          | Horizontal   |

## 802.11ac(HT20) 5240MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 10480.00        | 42.35             | 39.82                 | 14.68           | 32.86                    | 63.99          | 74.00               | -10.01          | Vertical     |
| 15720.00        | 41.76             | 38.09                 | 17.73           | 33.66                    | 63.92          | 74.00               | -10.08          | Vertical     |
| 10480.00        | 40.58             | 39.82                 | 14.68           | 32.86                    | 62.22          | 74.00               | -11.78          | Horizontal   |
| 15720.00        | 41.35             | 38.09                 | 17.73           | 33.66                    | 63.51          | 74.00               | -10.49          | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 10480.00        | 20.36             | 39.82                 | 14.68           | 32.86                    | 42.00          | 54.00               | -12.00          | Vertical     |
| 15720.00        | 21.85             | 38.09                 | 17.73           | 33.66                    | 44.01          | 54.00               | -9.99           | Vertical     |
| 10480.00        | 20.23             | 39.82                 | 14.68           | 32.86                    | 41.87          | 54.00               | -12.13          | Horizontal   |
| 15720.00        | 21.96             | 38.09                 | 17.73           | 33.66                    | 44.12          | 54.00               | -9.88           | Horizontal   |

## 802.11n(HT40) 5190MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 10380.00        | 41.65             | 39.71                 | 14.63           | 32.68                    | 63.31          | 74.00               | -10.69          | Vertical     |
| 15570.00        | 41.26             | 38.46                 | 17.67           | 34.32                    | 63.07          | 74.00               | -10.93          | Vertical     |
| 10380.00        | 40.93             | 39.71                 | 14.63           | 32.68                    | 62.59          | 74.00               | -11.41          | Horizontal   |
| 15570.00        | 40.72             | 38.46                 | 17.67           | 34.32                    | 62.53          | 74.00               | -11.47          | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 10380.00        | 20.53             | 39.71                 | 14.63           | 32.68                    | 42.19          | 54.00               | -11.81          | Vertical     |
| 15570.00        | 20.78             | 38.46                 | 17.67           | 34.32                    | 42.59          | 54.00               | -11.41          | Vertical     |
| 10380.00        | 20.22             | 39.71                 | 14.63           | 32.68                    | 41.88          | 54.00               | -12.12          | Horizontal   |
| 15570.00        | 21.36             | 38.46                 | 17.67           | 34.32                    | 43.17          | 54.00               | -10.83          | Horizontal   |

## 802.11n(HT40) 5230MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10460.00        | 40.12             | 39.75                 | 14.65           | 32.74              | 61.78          | 74.00               | -12.22          | Vertical     |
| 15690.00        | 41.31             | 38.33                 | 17.69           | 34.03              | 63.30          | 74.00               | -10.70          | Vertical     |
| 10460.00        | 41.29             | 39.75                 | 14.65           | 32.74              | 62.95          | 74.00               | -11.05          | Horizontal   |
| 15690.00        | 42.88             | 38.33                 | 17.69           | 34.03              | 64.87          | 74.00               | -9.13           | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10460.00        | 20.41             | 39.75                 | 14.65           | 32.74              | 42.07          | 54.00               | -11.93          | Vertical     |
| 15690.00        | 20.36             | 38.33                 | 17.69           | 34.03              | 42.35          | 54.00               | -11.65          | Vertical     |
| 10460.00        | 20.48             | 39.75                 | 14.65           | 32.74              | 42.14          | 54.00               | -11.86          | Horizontal   |
| 15690.00        | 21.96             | 38.33                 | 17.69           | 34.03              | 43.95          | 54.00               | -10.05          | Horizontal   |

## 802.11acHT40) 5190MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10380.00        | 40.69             | 39.71                 | 14.63           | 32.68              | 62.35          | 74.00               | -11.65          | Vertical     |
| 15570.00        | 41.46             | 38.46                 | 17.67           | 34.32              | 63.27          | 74.00               | -10.73          | Vertical     |
| 10380.00        | 41.78             | 39.71                 | 14.63           | 32.68              | 63.44          | 74.00               | -10.56          | Horizontal   |
| 15570.00        | 42.23             | 38.46                 | 17.67           | 34.32              | 64.04          | 74.00               | -9.96           | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10380.00        | 20.12             | 39.71                 | 14.63           | 32.68              | 41.78          | 54.00               | -12.22          | Vertical     |
| 15570.00        | 20.99             | 38.46                 | 17.67           | 34.32              | 42.80          | 54.00               | -11.20          | Vertical     |
| 10380.00        | 20.72             | 39.71                 | 14.63           | 32.68              | 42.38          | 54.00               | -11.62          | Horizontal   |
| 15570.00        | 21.63             | 38.46                 | 17.67           | 34.32              | 43.44          | 54.00               | -10.56          | Horizontal   |

## 802.11ac(HT40) 5230MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10460.00        | 40.28             | 39.75                 | 14.65           | 32.74              | 61.94          | 74.00               | -12.06          | Vertical     |
| 15690.00        | 40.94             | 38.33                 | 17.69           | 34.03              | 62.93          | 74.00               | -11.07          | Vertical     |
| 10460.00        | 41.83             | 39.75                 | 14.65           | 32.74              | 63.49          | 74.00               | -10.51          | Horizontal   |
| 15690.00        | 41.72             | 38.33                 | 17.69           | 34.03              | 63.71          | 74.00               | -10.29          | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10460.00        | 20.66             | 39.75                 | 14.65           | 32.74              | 42.32          | 54.00               | -11.68          | Vertical     |
| 15690.00        | 20.75             | 38.33                 | 17.69           | 34.03              | 42.74          | 54.00               | -11.26          | Vertical     |
| 10460.00        | 20.21             | 39.75                 | 14.65           | 32.74              | 41.87          | 54.00               | -12.13          | Horizontal   |
| 15690.00        | 21.38             | 38.33                 | 17.69           | 34.03              | 43.37          | 54.00               | -10.63          | Horizontal   |

## 802.11ac(HT80) 5210MHz

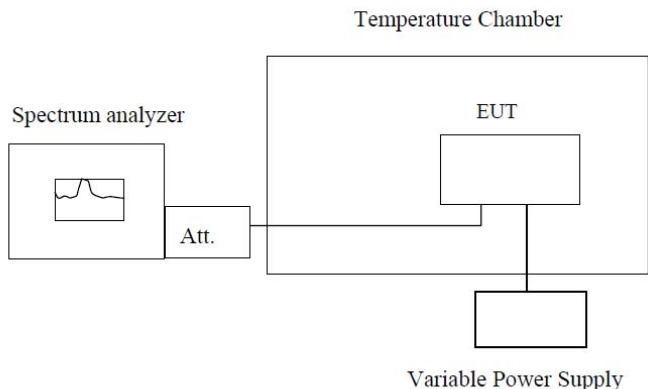
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10420.00        | 40.28             | 39.82                 | 14.66           | 32.80              | 61.96          | 74.00               | -12.04          | Vertical     |
| 15630.00        | 41.93             | 38.09                 | 17.71           | 33.81              | 63.92          | 74.00               | -10.08          | Vertical     |
| 10420.00        | 40.85             | 39.82                 | 14.66           | 32.80              | 62.53          | 74.00               | -11.47          | Horizontal   |
| 15630.00        | 41.79             | 38.09                 | 17.71           | 33.81              | 63.78          | 74.00               | -10.22          | Horizontal   |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10420.00        | 20.72             | 39.82                 | 14.66           | 32.80              | 42.40          | 54.00               | -11.60          | Vertical     |
| 15630.00        | 20.10             | 38.09                 | 17.71           | 33.81              | 42.09          | 54.00               | -11.91          | Vertical     |
| 10420.00        | 20.34             | 39.82                 | 14.66           | 32.80              | 42.02          | 54.00               | -11.98          | Horizontal   |
| 15630.00        | 21.58             | 38.09                 | 17.71           | 33.81              | 43.57          | 54.00               | -10.43          | Horizontal   |

### Notes:

1. Level = Read Level + Antenna Factor+ Cable loss- Preamp Factor.
2. The test trace is same as the ambient noise (the test frequency range: 18GHz~40GHz), therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

## 7.8 Frequency stability

|                   |                                                                                                                                                                                                       |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 C Section 15.407(g)                                                                                                                                                                        |
| Test Method:      | ANSI C63.10:2013, FCC Part 2.1055                                                                                                                                                                     |
| Limit:            | 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 |
| Test Procedure:   | The EUT was setup to ANSI C63.4, 2003; tested to 2.1055 for compliance to FCC Part 15.407(g) requirements.                                                                                            |
| Test setup:       |  <p><b>Note :</b> Measurement setup for testing on Antenna connector</p>                                           |
| Test Instruments: | Refer to section 5.10 for details                                                                                                                                                                     |
| Test mode:        | Refer to section 5.2 for details                                                                                                                                                                      |
| Test results:     | Pass                                                                                                                                                                                                  |

Remark: Set the EUT transmits at un-modulation mode to test frequency stability.

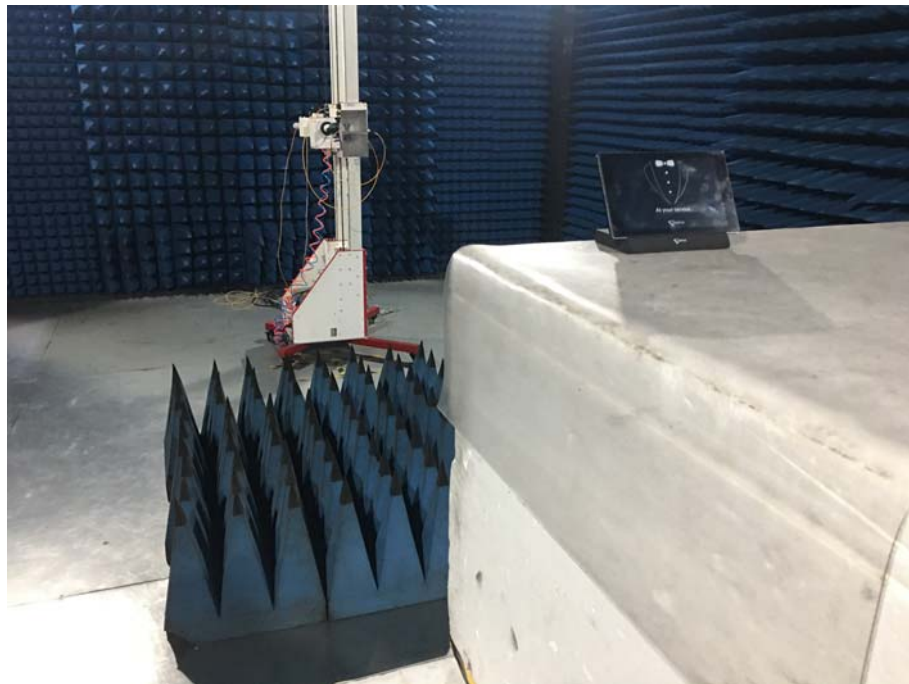
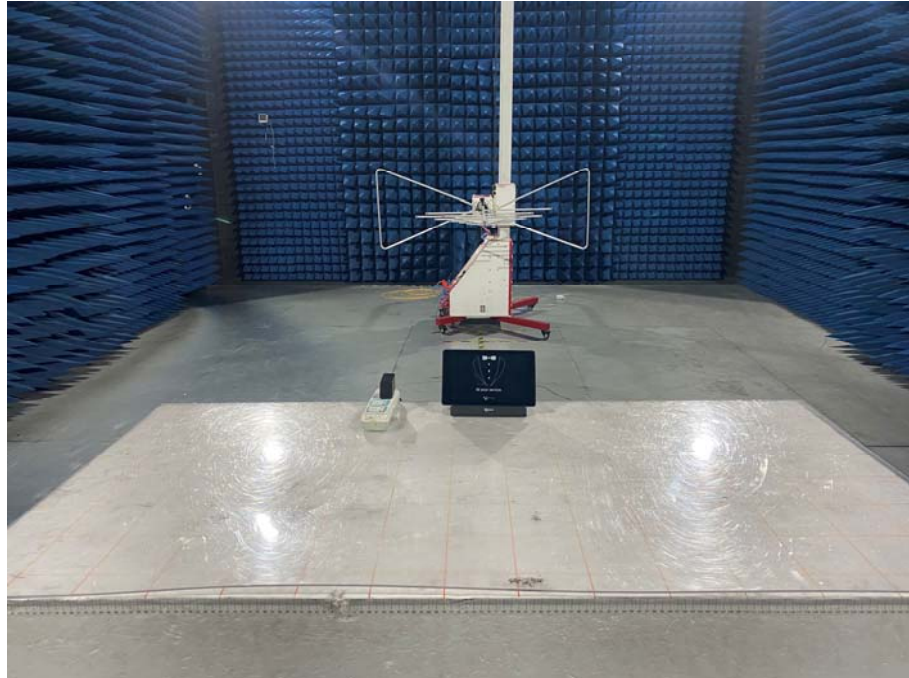
**Measurement data:**

| Frequency stability versus Temp. |                           |                                      |                                      |                                      |                                       |
|----------------------------------|---------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|
| Power Supply: DC 3.7V            |                           |                                      |                                      |                                      |                                       |
| Temp. (°C)                       | Operating Frequency (MHz) | 0 minute<br>Measured Frequency (MHz) | 2 minute<br>Measured Frequency (MHz) | 5 minute<br>Measured Frequency (MHz) | 10 minute<br>Measured Frequency (MHz) |
| -30                              | 5180                      | 5180.0045                            | 5180.0045                            | 5180.0045                            | 5180.0045                             |
|                                  | 5200                      | 5200.0045                            | 5200.0045                            | 5200.0045                            | 5200.0045                             |
|                                  | 5220                      | 5220.0045                            | 5220.0045                            | 5220.0045                            | 5220.0045                             |
|                                  | 5240                      | 5240.0045                            | 5240.0045                            | 5240.0045                            | 5240.0045                             |
| -20                              | 5180                      | 5180.0000                            | 5180.0000                            | 5180.0000                            | 5180.0000                             |
|                                  | 5200                      | 5200.0000                            | 5200.0000                            | 5200.0000                            | 5200.0000                             |
|                                  | 5220                      | 5220.0000                            | 5220.0000                            | 5220.0000                            | 5220.0000                             |
|                                  | 5240                      | 5240.0000                            | 5240.0000                            | 5240.0000                            | 5240.0000                             |
| -10                              | 5180                      | 5180.0000                            | 5180.0000                            | 5180.0000                            | 5180.0000                             |
|                                  | 5200                      | 5200.0000                            | 5200.0000                            | 5200.0000                            | 5200.0000                             |
|                                  | 5220                      | 5220.0000                            | 5220.0035                            | 5220.0000                            | 5220.0000                             |
|                                  | 5240                      | 5240.0000                            | 5240.0000                            | 5240.0000                            | 5240.0000                             |
| 0                                | 5180                      | 5180.0000                            | 5180.0000                            | 5180.0000                            | 5180.0000                             |
|                                  | 5200                      | 5200.0000                            | 5200.0000                            | 5200.0000                            | 5200.0000                             |
|                                  | 5220                      | 5220.0000                            | 5220.0000                            | 5220.0000                            | 5220.0000                             |
|                                  | 5240                      | 5240.0000                            | 5240.0000                            | 5240.0000                            | 5240.0000                             |
| 10                               | 5180                      | 5180.0000                            | 5180.0000                            | 5180.0000                            | 5180.0000                             |
|                                  | 5200                      | 5200.0000                            | 5200.0000                            | 5200.0000                            | 5200.0000                             |
|                                  | 5220                      | 5220.0000                            | 5220.0000                            | 5220.0000                            | 5220.0000                             |
|                                  | 5240                      | 5240.0000                            | 5240.0000                            | 5240.0000                            | 5240.0000                             |
| 20                               | 5180                      | 5180.0015                            | 5180.0015                            | 5180.0000                            | 5180.0000                             |
|                                  | 5200                      | 5200.0000                            | 5200.0000                            | 5200.0000                            | 5200.0000                             |
|                                  | 5220                      | 5220.0000                            | 5220.0000                            | 5220.0000                            | 5220.0000                             |
|                                  | 5240                      | 5240.0000                            | 5240.0000                            | 5240.0000                            | 5240.0000                             |
| 30                               | 5180                      | 5180.0000                            | 5180.0000                            | 5180.0000                            | 5180.0000                             |
|                                  | 5200                      | 5200.0000                            | 5200.0000                            | 5200.0000                            | 5200.0000                             |
|                                  | 5220                      | 5220.0000                            | 5220.0000                            | 5220.0000                            | 5220.0000                             |
|                                  | 5240                      | 5240.0000                            | 5240.0000                            | 5240.0000                            | 5240.0000                             |
| 40                               | 5180                      | 5180.0025                            | 5180.0025                            | 5180.0025                            | 5180.0025                             |
|                                  | 5200                      | 5200.0025                            | 5200.0025                            | 5200.0025                            | 5200.0025                             |
|                                  | 5220                      | 5220.0025                            | 5220.0025                            | 5220.0025                            | 5220.0025                             |
|                                  | 5240                      | 5240.0025                            | 5240.0025                            | 5240.0025                            | 5240.0025                             |
| 50                               | 5180                      | 5180.0025                            | 5180.0025                            | 5180.0025                            | 5180.0025                             |
|                                  | 5200                      | 5200.0025                            | 5200.0025                            | 5200.0025                            | 5200.0025                             |
|                                  | 5220                      | 5220.0025                            | 5220.0025                            | 5220.0025                            | 5220.0025                             |
|                                  | 5240                      | 5240.0025                            | 5240.0025                            | 5240.0025                            | 5240.0025                             |

| Frequency stability versus Voltage |                           |                          |                          |                          |                          |
|------------------------------------|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Temperature: 25°C                  |                           |                          |                          |                          |                          |
| Power Supply (VDC)                 | Operating Frequency (MHz) | 0 minute                 | 2 minute                 | 5 minute                 | 10 minute                |
|                                    |                           | Measured Frequency (MHz) | Measured Frequency (MHz) | Measured Frequency (MHz) | Measured Frequency (MHz) |
| 3.3                                | 5180                      | 5180.0000                | 5180.0000                | 5180.0000                | 5180.0000                |
|                                    | 5200                      | 5200.0000                | 5200.0000                | 5200.0000                | 5200.0000                |
|                                    | 5220                      | 5220.0000                | 5220.0000                | 5220.0000                | 5220.0000                |
|                                    | 5240                      | 5240.0000                | 5240.0000                | 5240.0000                | 5240.0000                |
| 3.7                                | 5180                      | 5180.0000                | 5180.0000                | 5180.0000                | 5180.0000                |
|                                    | 5200                      | 5200.0000                | 5200.0000                | 5200.0000                | 5200.0000                |
|                                    | 5220                      | 5220.0000                | 5220.0000                | 5220.0000                | 5220.0000                |
|                                    | 5240                      | 5240.0000                | 5240.0000                | 5240.0000                | 5240.0000                |
| 4.2                                | 5180                      | 5180.0000                | 5180.0000                | 5180.0000                | 5180.0000                |
|                                    | 5200                      | 5200.0000                | 5200.0000                | 5200.0000                | 5200.0000                |
|                                    | 5220                      | 5220.0000                | 5220.0000                | 5220.0000                | 5220.0000                |
|                                    | 5240                      | 5240.0000                | 5240.0000                | 5240.0000                | 5240.0000                |

## 8 Test Setup Photo





## 9 EUT Constructional Details

Reference to test report GTS201909000200-1.

---END---