

# TEST REPORT

**FCC ID: 2AQOO-N14AC464P**

**Product: Notebook**

**Model No.: WWNEO14C4BK64-P**

**Additional Model No.: WWNEO14C4WH64-P, WWNEO14C4PK64-P,  
WWNEO14C4SL64-P, WWNEO14A4BK64-P, WWNEO14A4WH64-P,  
WWNEO14A4PK64-P, WWNEO14A4BL64-P, WWNEO14A4SL64-P,  
WWNEO14C4BL64 -P**

**Trade Mark: THOMSON**

**Report No.: TCT201010E027**

**Issued Date: Nov. 05, 2020**

Issued for:

**GROUPE SFIT**

**80/84 route de la Liberation, PONTAULT COMBAULT 77340, France**

Issued By:

**Shenzhen Tongce Testing Lab.**

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**Appendix A: Test Result of Conducted Test**

**Appendix B: Photographs of Test Setup**

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## 1. Test Certification

|                              |                                                                                                                                                                                |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product:</b>              | Notebook                                                                                                                                                                       |
| <b>Model No.:</b>            | WWNEO14C4BK64-P                                                                                                                                                                |
| <b>Additional Model No.:</b> | WWNEO14C4WH64-P, WWNEO14C4PK64-P,<br>WWNEO14C4SL64-P, WWNEO14A4BK64-P,<br>WWNEO14A4WH64-P, WWNEO14A4PK64-P,<br>WWNEO14A4BL64-P, WWNEO14A4SL64-P,<br>WWNEO14C4BL64 -P           |
| <b>Trade Mark:</b>           | THOMSON                                                                                                                                                                        |
| <b>Applicant:</b>            | GROUPE SFIT                                                                                                                                                                    |
| <b>Address:</b>              | 80/84 route de la Liberation, PONTAULT COMBAULT 77340, France                                                                                                                  |
| <b>Manufacturer:</b>         | GROUPE SFIT                                                                                                                                                                    |
| <b>Address:</b>              | 80/84 route de la Liberation, PONTAULT COMBAULT 77340, France                                                                                                                  |
| <b>Date of Test:</b>         | Oct. 12, 2020 – Nov. 04, 2020                                                                                                                                                  |
| <b>Applicable Standards:</b> | FCC CFR Title 47 Part 15 Subpart E Section 15.407: 2016<br>KDB662911 D01 Multiple Transmitter Output v02r01<br>KDB789033 D02 General U-NII Test Procedures New Rules<br>v02r01 |

The above equipment has been tested by Shenzhen Tongce Testing Lab. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:

Brave Zeng

Brave Zeng

Date:

Nov. 04, 2020

Reviewed By:

Beryl Zhao

Beryl Zhao

Date:

Nov. 05, 2020

Approved By:

Tomsin

Tomsin

Date:

Nov. 05, 2020

## 2. Test Result Summary

| Requirement                                     | CFR 47 Section | Result |
|-------------------------------------------------|----------------|--------|
| Antenna requirement                             | §15.203        | PASS   |
| AC Power Line Conducted Emission                | §15.207        | PASS   |
| Maximum Conducted Output Power                  | §15.407(a)     | PASS   |
| 6dB Emission Bandwidth                          | §15.407(a)     | PASS   |
| 26dB Emission Bandwidth& 99% Occupied Bandwidth | §15.407(a)     | PASS   |
| Power Spectral Density                          | §15.407(a)     | PASS   |
| Restricted Bands around fundamental frequency   | §15.407(a)     | PASS   |
| Radiated Emission                               | §15.407(a)     | PASS   |
| Frequency Stability                             | §15.407(g)     | PASS   |

**Note:**

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

### 3. EUT Description

|                               |                                                                                                                                                                      |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product:</b>               | Notebook                                                                                                                                                             |
| <b>Model No.:</b>             | WWNEO14C4BK64-P                                                                                                                                                      |
| <b>Additional Model No.:</b>  | WWNEO14C4WH64-P, WWNEO14C4PK64-P,<br>WWNEO14C4SL64-P, WWNEO14A4BK64-P,<br>WWNEO14A4WH64-P, WWNEO14A4PK64-P,<br>WWNEO14A4BL64-P, WWNEO14A4SL64-P,<br>WWNEO14C4BL64 -P |
| <b>Trade Mark:</b>            | <b>THOMSON</b>                                                                                                                                                       |
| <b>Operation Frequency:</b>   | Band 3: 5745 MHz -5825 MHz                                                                                                                                           |
| <b>Channel Bandwidth:</b>     | 802.11a: 20MHz<br>802.11n: 20MHz, 40MHz<br>802.11ac: 20MHz, 40MHz, 80MHz                                                                                             |
| <b>Modulation Technology:</b> | Orthogonal Frequency Division Multiplexing(OFDM)                                                                                                                     |
| <b>Modulation Type</b>        | 256QAM, 64QAM, 16QAM, BPSK, QPSK                                                                                                                                     |
| <b>Antenna Type:</b>          | Internal Antenna                                                                                                                                                     |
| <b>Antenna Gain:</b>          | 2.2dBi                                                                                                                                                               |
| <b>Power Supply:</b>          | Rechargeable Li-ion Battery DC 7.6V                                                                                                                                  |
| <b>AC adapter:</b>            | Adapter Information:<br>MODEL: JHD-AP024U-120200BA-A<br>INPUT: AC 100-240V, 50/60Hz, 0.55A<br>OUTPUT: DC 12V, 2000mA                                                 |
| <b>Remark:</b>                | All models above are identical in interior structure, electrical circuits and components, just model exterior colors are different for the marketing requirement.    |

**Note:** The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

## Test Frequency each of channel

### Band 3

| 20MHz   |           | 40MHz   |           | 80MHz   |           |
|---------|-----------|---------|-----------|---------|-----------|
| Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 149     | 5745      | 151     | 5755      | 155     | 5775      |
| 157     | 5785      | 159     | 5795      |         |           |
| 165     | 5825      |         |           |         |           |

### Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below.

## 4. General Information

### 4.1. Test environment and mode

| Operating Environment:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Temperature:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 25.0 °C                                                                                                    |
| Humidity:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 56 % RH                                                                                                    |
| Atmospheric Pressure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1010 mbar                                                                                                  |
| Test Mode:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                            |
| Engineering mode:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Keep the EUT in continuous transmitting by select channel and modulations(The value of duty cycle is 100%) |
| <p>The sample was placed 0.8m/1.5m for blow/above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y &amp; Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.</p> |                                                                                                            |

| <p>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:</p> |                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.                                                                                                                |                                                         |
| Mode                                                                                                                                                                                                                | Data rate                                               |
| 802.11a                                                                                                                                                                                                             | 6 Mbps                                                  |
| 802.11n(HT20)                                                                                                                                                                                                       | 6.5 Mbps                                                |
| 802.11n(HT40)                                                                                                                                                                                                       | 13.5 Mbps                                               |
| 802.11ac(VHT20)                                                                                                                                                                                                     | 6.5 Mbps                                                |
| 802.11ac(VHT40)                                                                                                                                                                                                     | 13.5 Mbps                                               |
| 802.11ac(VHT80)                                                                                                                                                                                                     | 29.3 Mbps                                               |
| Final Test Mode:                                                                                                                                                                                                    |                                                         |
| Operation mode:                                                                                                                                                                                                     | Keep the EUT in continuous transmitting with modulation |

## 4.2. Description of Support Units

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

| Equipment | Model No. | Serial No. | FCC ID | Trade Name |
|-----------|-----------|------------|--------|------------|
| /         | /         | /          | /      | /          |

**Note:**

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.



## 5. Facilities and Accreditations

### 5.1. Facilities

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

- FCC - Registration No.: 645098

Shenzhen Tongce Testing Lab

The 3m Semi-anechoic chamber has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

The 3m Semi-anechoic chamber of Shenzhen TCT Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

### 5.2. Location

Shenzhen Tongce Testing Lab

Address: 1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District, Shenzhen, Guangdong, China

TEL: +86-755-27673339

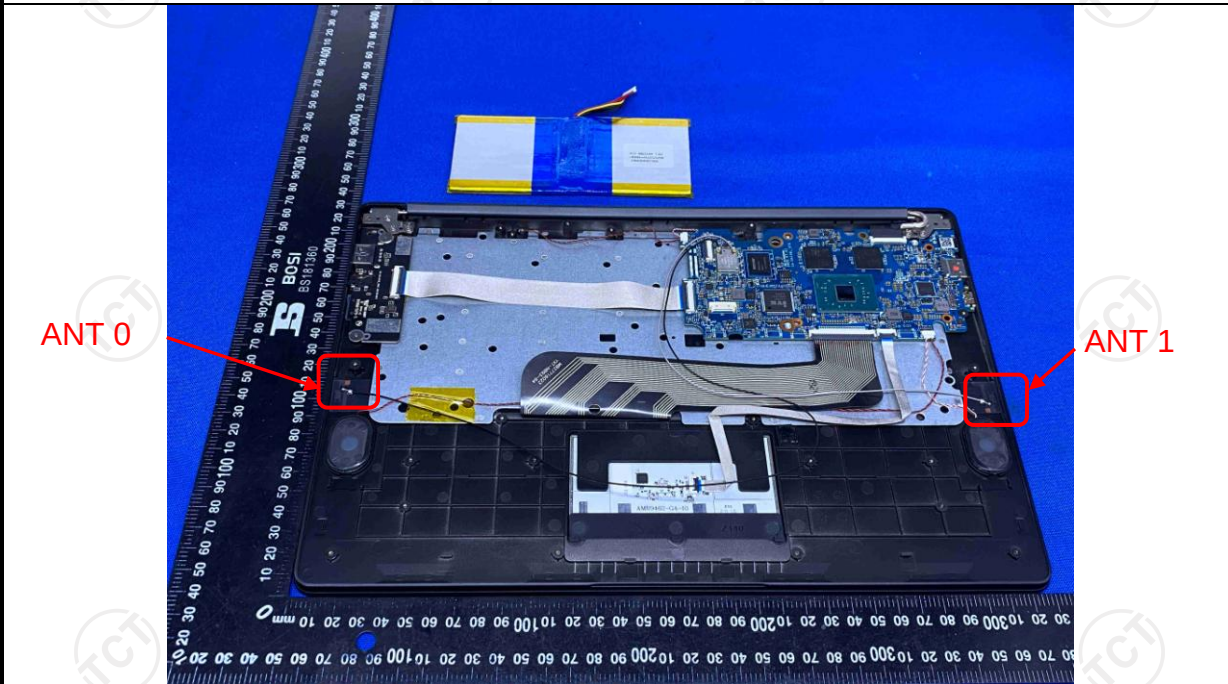
### 5.3. Measurement Uncertainty

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95 %.

| No. | Item                          | MU                        |
|-----|-------------------------------|---------------------------|
| 1   | Conducted Emission            | $\pm 2.56\text{dB}$       |
| 2   | RF power, conducted           | $\pm 0.12\text{dB}$       |
| 3   | Spurious emissions, conducted | $\pm 0.11\text{dB}$       |
| 4   | All emissions, radiated(<1G)  | $\pm 3.92\text{dB}$       |
| 5   | All emissions, radiated(>1G)  | $\pm 4.28\text{dB}$       |
| 6   | Temperature                   | $\pm 0.1^{\circ}\text{C}$ |
| 7   | Humidity                      | $\pm 1.0\%$               |

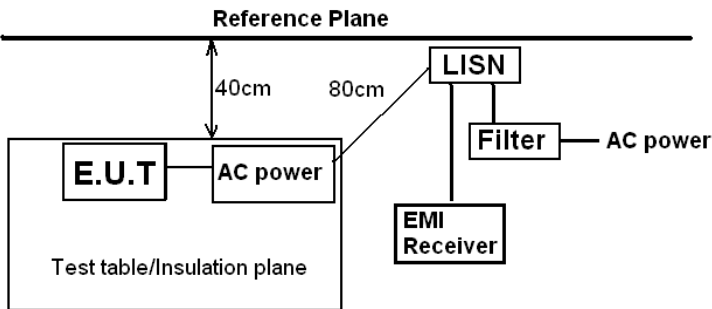
## 6. Test Results and Measurement Data

### 6.1. Antenna requirement

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>Standard requirement:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                      | FCC Part15 C Section 15.203 /247(c) |
| <p>15.203 requirement:<br/>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</p> |                                     |
| <b>E.U.T Antenna:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                     |
| <p>The WIFI antennas are internal antennas, and the best case gains of the both antennas are 2.2dBi.</p>                                                                                                                                                                                                                                                                                                                                                                          |                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                |                                     |

## 6.2. Conducted Emission

### 6.2.1. Test Specification

| Test Requirement:     | FCC Part15 C Section 15.207                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------|--|------------|---------|----------|-----------|-----------|-------|----|----|------|----|----|
| Test Method:          | ANSI C63.10:2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Frequency Range:      | 150 kHz to 30 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Receiver setup:       | RBW=9 kHz, VBW=30 kHz, Sweep time=auto                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Limits:               | <table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                | 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 |
| 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                    |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test Setup:           | <div><p>Reference Plane</p><p>Remark<br/>E.U.T: Equipment Under Test<br/>LISN: Line Impedance Stabilization Network<br/>Test table height=0.8m</p></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test Mode:            | Tx Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test Procedure:       | <div><div>1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.</div><div>2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</div><div>3. 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.</div></div> |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test Result:          | PASS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |

**6.2.2. Test Instruments**

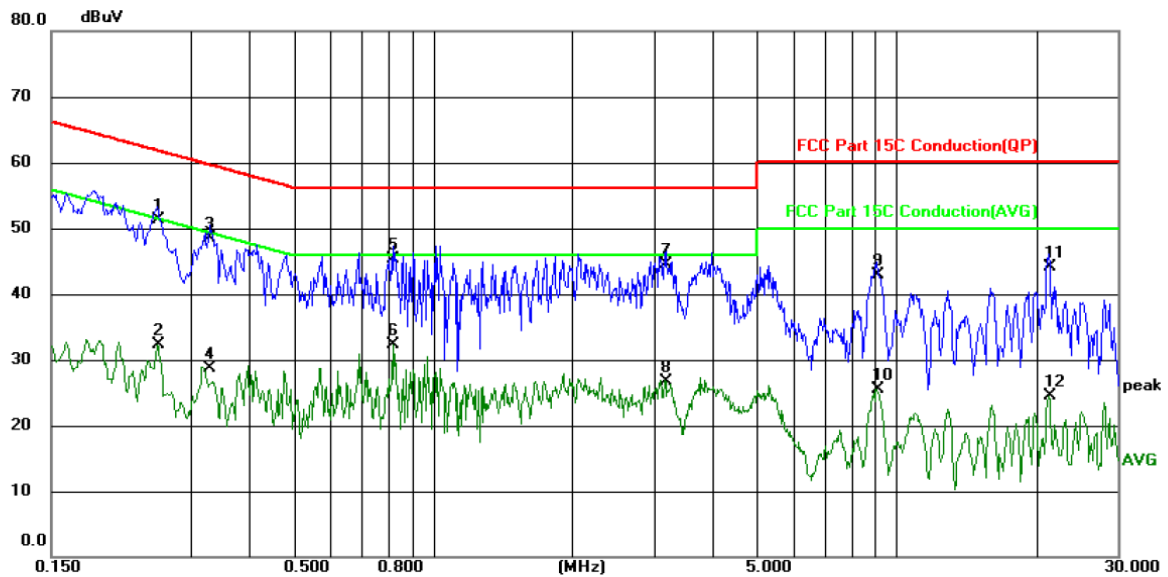
| Conducted Emission Shielding Room Test Site (843) |                    |           |               |                 |
|---------------------------------------------------|--------------------|-----------|---------------|-----------------|
| Equipment                                         | Manufacturer       | Model     | Serial Number | Calibration Due |
| Test Receiver                                     | R&S                | ESPI      | 101402        | Jul. 27, 2021   |
| LISN                                              | Schwarzbeck        | NSLK 8126 | 8126453       | Sep. 11, 2021   |
| Line-5                                            | TCT                | CE-05     | N/A           | Sep. 02, 2021   |
| EMI Test Software                                 | Shurple Technology | EZ-EMC    | N/A           | N/A             |

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

## 6.2.3. Test data

Please refer to following diagram for individual

### Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



Site: Phase: **L1** Temperature: 25 (C)  
 Limit: FCC Part 15C Conduction(QP) Power: AC 120V/60Hz Humidity: 55 %RH

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBμV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBμV | Limit<br>dBμV | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1   | *   | 0.2540       | 41.15                    | 10.23                   | 51.38                    | 61.63         | -10.25     | QP       |         |
| 2   |     | 0.2540       | 22.09                    | 10.23                   | 32.32                    | 51.63         | -19.31     | AVG      |         |
| 3   |     | 0.3300       | 38.29                    | 10.23                   | 48.52                    | 59.45         | -10.93     | QP       |         |
| 4   |     | 0.3300       | 18.45                    | 10.23                   | 28.68                    | 49.45         | -20.77     | AVG      |         |
| 5   |     | 0.8175       | 35.08                    | 10.28                   | 45.36                    | 56.00         | -10.64     | QP       |         |
| 6   |     | 0.8175       | 21.94                    | 10.28                   | 32.22                    | 46.00         | -13.78     | AVG      |         |
| 7   |     | 3.1819       | 34.00                    | 10.47                   | 44.47                    | 56.00         | -11.53     | QP       |         |
| 8   |     | 3.1819       | 16.33                    | 10.47                   | 26.80                    | 46.00         | -19.20     | AVG      |         |
| 9   |     | 9.0815       | 32.28                    | 10.55                   | 42.83                    | 60.00         | -17.17     | QP       |         |
| 10  |     | 9.0815       | 14.92                    | 10.55                   | 25.47                    | 50.00         | -24.53     | AVG      |         |
| 11  |     | 21.2900      | 32.94                    | 11.09                   | 44.03                    | 60.00         | -15.97     | QP       |         |
| 12  |     | 21.2900      | 13.49                    | 11.09                   | 24.58                    | 50.00         | -25.42     | AVG      |         |

#### Note:

Freq. = Emission frequency in MHz

Reading level (dBμV) = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement (dBμV) = Reading level (dBμV) + Corr. Factor (dB)

Limit (dBμV) = Limit stated in standard

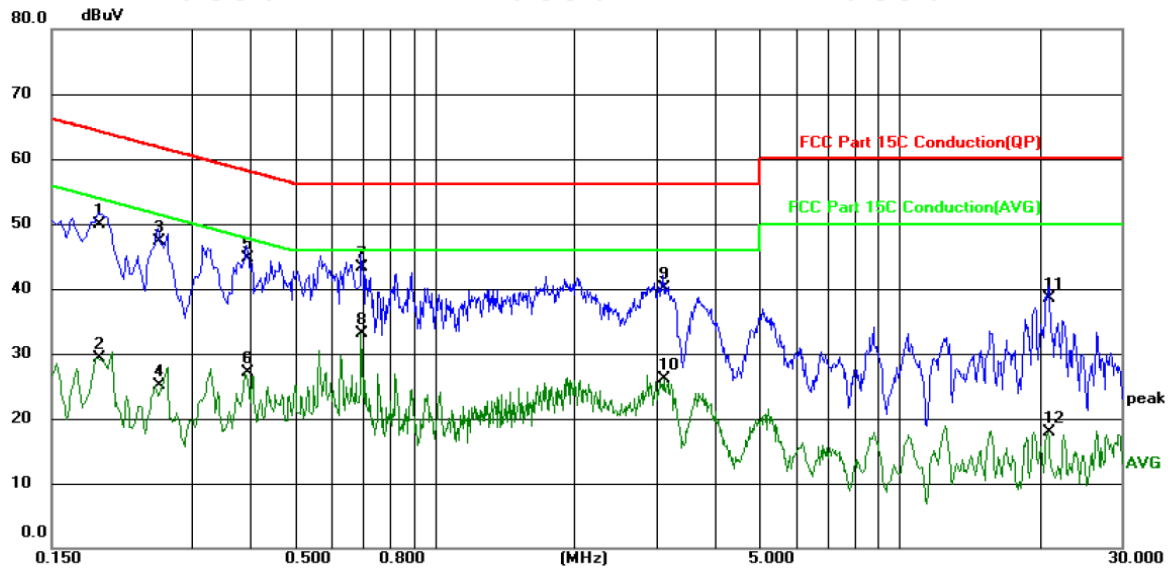
Margin (dB) = Measurement (dBμV) – Limits (dBμV)

Q.P. =Quasi-Peak

AVG =average

\* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

## Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



Site: Phase: **N** Temperature: 25 (C)  
 Limit: FCC Part 15C Conduction(QP) Power: AC 120V/60Hz Humidity: 55 %RH

| No. | Mk. | Freq.   | Reading Level | Correct Factor | Measurement | Limit | Over   |          |         |
|-----|-----|---------|---------------|----------------|-------------|-------|--------|----------|---------|
|     |     | MHz     | dBμV          | dB             | dBμV        | dBμV  | dB     | Detector | Comment |
| 1   |     | 0.1900  | 39.70         | 10.22          | 49.92       | 64.04 | -14.12 | QP       |         |
| 2   |     | 0.1900  | 19.11         | 10.22          | 29.33       | 54.04 | -24.71 | AVG      |         |
| 3   |     | 0.2540  | 37.11         | 10.23          | 47.34       | 61.63 | -14.29 | QP       |         |
| 4   |     | 0.2540  | 14.82         | 10.23          | 25.05       | 51.63 | -26.58 | AVG      |         |
| 5   |     | 0.3940  | 34.41         | 10.22          | 44.63       | 57.98 | -13.35 | QP       |         |
| 6   |     | 0.3940  | 16.80         | 10.22          | 27.02       | 47.98 | -20.96 | AVG      |         |
| 7   | *   | 0.6936  | 33.08         | 10.23          | 43.31       | 56.00 | -12.69 | QP       |         |
| 8   |     | 0.6936  | 22.80         | 10.23          | 33.03       | 46.00 | -12.97 | AVG      |         |
| 9   |     | 3.0979  | 29.71         | 10.47          | 40.18       | 56.00 | -15.82 | QP       |         |
| 10  |     | 3.0979  | 15.54         | 10.47          | 26.01       | 46.00 | -19.99 | AVG      |         |
| 11  |     | 20.9540 | 27.34         | 11.08          | 38.42       | 60.00 | -21.58 | QP       |         |
| 12  |     | 20.9540 | 6.74          | 11.08          | 17.82       | 50.00 | -32.18 | AVG      |         |

### Note:

Freq. = Emission frequency in MHz

Reading level (dBμV) = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement (dBμV) = Reading level (dBμV) + Corr. Factor (dB)

Limit (dBμV) = Limit stated in standard

Margin (dB) = Measurement (dBμV) – Limits (dBμV)

Q.P. =Quasi-Peak

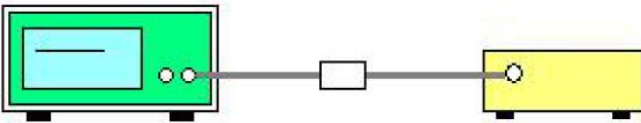
AVG =average

\* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.



## 6.3. Maximum Conducted Output Power

### 6.3.1. Test Specification

| <b>Test Requirement:</b> | FCC Part15 E Section 15.407(a)&                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                      |       |             |                                |             |                                                                                   |             |                                                                                   |             |           |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------|-------------|--------------------------------|-------------|-----------------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------|-------------|-----------|
| <b>Test Method:</b>      | KDB662911 D01 Multiple Transmitter Output v02r01<br>KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E                                                                                                                                                                                                                                                                                                                                                                                                           |                      |       |             |                                |             |                                                                                   |             |                                                                                   |             |           |
| <b>Limit:</b>            | <table border="1"> <thead> <tr> <th>Frequency Band (MHz)</th><th>Limit</th></tr> </thead> <tbody> <tr> <td>5180 - 5240</td><td>24dBm(250mW) for client device</td></tr> <tr> <td>5260 - 5320</td><td>24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz</td></tr> <tr> <td>5470 - 5725</td><td>24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz</td></tr> <tr> <td>5745 - 5825</td><td>30dBm(1W)</td></tr> </tbody> </table>                                        | Frequency Band (MHz) | Limit | 5180 - 5240 | 24dBm(250mW) for client device | 5260 - 5320 | 24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz | 5470 - 5725 | 24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz | 5745 - 5825 | 30dBm(1W) |
| Frequency Band (MHz)     | Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |       |             |                                |             |                                                                                   |             |                                                                                   |             |           |
| 5180 - 5240              | 24dBm(250mW) for client device                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |       |             |                                |             |                                                                                   |             |                                                                                   |             |           |
| 5260 - 5320              | 24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |       |             |                                |             |                                                                                   |             |                                                                                   |             |           |
| 5470 - 5725              | 24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |       |             |                                |             |                                                                                   |             |                                                                                   |             |           |
| 5745 - 5825              | 30dBm(1W)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                      |       |             |                                |             |                                                                                   |             |                                                                                   |             |           |
| <b>Test Setup:</b>       |  <p style="text-align: center;">Power meter                      EUT</p>                                                                                                                                                                                                                                                                                                                                                                        |                      |       |             |                                |             |                                                                                   |             |                                                                                   |             |           |
| <b>Test Mode:</b>        | Transmitting mode with modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |       |             |                                |             |                                                                                   |             |                                                                                   |             |           |
| <b>Test Procedure:</b>   | <ol style="list-style-type: none"> <li>1. The testing follows the Measurement Procedure of KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E, 3, a</li> <li>2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.</li> <li>3. Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>5. Measure the conducted output power and record the results in the test report.</li> </ol> |                      |       |             |                                |             |                                                                                   |             |                                                                                   |             |           |
| <b>Test Result:</b>      | PASS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      |       |             |                                |             |                                                                                   |             |                                                                                   |             |           |
| <b>Remark:</b>           | <p>Conducted output power= measurement power +10log(1/x) X is duty cycle=1, so 10log(1/1)=0</p> <p>Conducted output power= measurement power</p>                                                                                                                                                                                                                                                                                                                                                                                    |                      |       |             |                                |             |                                                                                   |             |                                                                                   |             |           |

### 6.3.2. Test Instruments

| Equipment                                  | Manufacturer | Model     | Serial Number | Calibration Due |
|--------------------------------------------|--------------|-----------|---------------|-----------------|
| Spectrum Analyzer                          | Agilent      | N9020A    | MY49100619    | Sep. 11, 2021   |
| Power Meter                                | Agilent      | E4418B    | GB43312526    | Sep. 02, 2021   |
| Power Sensor                               | Agilent      | E9301A    | MY41497725    | Sep. 02, 2021   |
| 4 Ch. Simultaneous Sampling 14 Bits 2 MS/s | Agilent      | U2531A    | N/A           | Sep. 02, 2021   |
| Combiner Box                               | Ascentest    | AT890-RFB | N/A           | Sep. 02, 2021   |

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



**Configuration Band 3 (5745 - 5825 MHz ) / Antenna 0+Antenna 1**

| Mode        | Test channel | Maximum Conducted (Average)<br>Output Power (dBm) |        |        | Limit<br>(dBm) | Result |
|-------------|--------------|---------------------------------------------------|--------|--------|----------------|--------|
|             |              | ANT 0                                             | ANT 1  | Total  |                |        |
| 11a         | CH149        | 9.886                                             | 9.357  | /      | 30             | PASS   |
| 11a         | CH157        | 9.711                                             | 9.554  | /      | 30             | PASS   |
| 11a         | CH165        | 9.477                                             | 9.772  | /      | 30             | PASS   |
| 11n(HT20)   | CH149        | 9.464                                             | 9.859  | 12.676 | 30             | PASS   |
| 11n(HT20)   | CH157        | 9.706                                             | 10.048 | 12.891 | 30             | PASS   |
| 11n(HT20)   | CH165        | 9.383                                             | 10.232 | 12.839 | 30             | PASS   |
| 11n(HT40)   | CH151        | 9.828                                             | 9.076  | 12.479 | 30             | PASS   |
| 11n(HT40)   | CH159        | 9.992                                             | 10.053 | 13.033 | 30             | PASS   |
| 11ac(VHT20) | CH149        | 9.527                                             | 9.396  | 12.472 | 30             | PASS   |
| 11ac(VHT20) | CH157        | 9.760                                             | 9.861  | 12.821 | 30             | PASS   |
| 11ac(VHT20) | CH165        | 9.482                                             | 10.049 | 12.785 | 30             | PASS   |
| 11ac(VHT40) | CH151        | 9.639                                             | 9.053  | 12.366 | 30             | PASS   |
| 11ac(VHT40) | CH159        | 9.502                                             | 10.000 | 12.768 | 30             | PASS   |
| 11ac(VHT80) | CH155        | 9.349                                             | 9.437  | 12.404 | 30             | PASS   |

## 6.4. 6dB Emission Bandwidth

### 6.4.1. Test Specification

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Requirement:</b> | FCC CFR47 Part 15 Section 15.407(e)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Test Method:</b>      | KDB662911 D01 Multiple Transmitter Output v02r01<br>KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Limit:</b>            | >500kHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Test Setup:</b>       |  <p style="text-align: center;">Spectrum Analyzer                      EUT</p>                                                                                                                                                                                                                                                                                                                                                        |
| <b>Test Mode:</b>        | Transmitting mode with modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Test Procedure:</b>   | <ol style="list-style-type: none"> <li>1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C</li> <li>2. Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz.</li> <li>4. Measure and record the results in the test report.</li> </ol> |
| <b>Test Result:</b>      | PASS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

### 6.4.2. Test Instruments

| Equipment                                  | Manufacturer | Model     | Serial Number | Calibration Due |
|--------------------------------------------|--------------|-----------|---------------|-----------------|
| Spectrum Analyzer                          | Agilent      | N9020A    | MY49100619    | Sep. 11, 2021   |
| 4 Ch. Simultaneous Sampling 14 Bits 2 MS/s | Agilent      | U2531A    | N/A           | Sep. 02, 2021   |
| Combiner Box                               | Ascentest    | AT890-RFB | N/A           | Sep. 02, 2021   |

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

## 6.5. 26dB Bandwidth and 99% Occupied Bandwidth

### 6.5.1. Test Specification

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Requirement:</b> | 47 CFR Part 15C Section 15.407 (a)                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Test Method:</b>      | KDB662911 D01 Multiple Transmitter Output v02r01<br>KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section D                                                                                                                                                                                                                                                                                                                                               |
| <b>Limit:</b>            | No restriction limits                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Test Setup:</b>       |  <p style="text-align: center;">Spectrum Analyzer                      EUT</p>                                                                                                                                                                                                                                                                                                        |
| <b>Test Mode:</b>        | Transmitting mode with modulation                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Test Procedure:</b>   | <ol style="list-style-type: none"> <li>1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section D</li> <li>2. Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement.</li> <li>4. Measure and record the results in the test report.</li> </ol> |
| <b>Test Result:</b>      | PASS                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

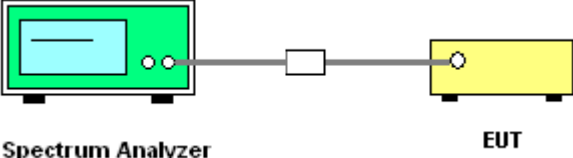
### 6.5.2. Test Instruments

| Equipment                                  | Manufacturer | Model     | Serial Number | Calibration Due |
|--------------------------------------------|--------------|-----------|---------------|-----------------|
| Spectrum Analyzer                          | Agilent      | N9020A    | MY49100619    | Sep. 11, 2021   |
| 4 Ch. Simultaneous Sampling 14 Bits 2 MS/s | Agilent      | U2531A    | N/A           | Sep. 02, 2021   |
| Combiner Box                               | Ascentest    | AT890-RFB | N/A           | Sep. 02, 2021   |

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

## 6.6. Power Spectral Density

### 6.6.1. Test Specification

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Requirement:</b> | FCC Part15 E Section 15.407 (a)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Test Method:</b>      | KDB662911 D01 Multiple Transmitter Output v02r01<br>KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section F                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Limit:</b>            | $\leq 11.00\text{dBm/MHz}$ for Band 1 5150MHz-5250MHz(client device)<br>$\leq 11.00\text{dBm/MHz}$ for Band 2A&2C 5250-5350&5470-5725<br>$\leq 30.00\text{dBm/500KHz}$ for Band 3 5725MHz-5850MHz<br>The e.i,r,p spectral density for Band 1 5150MHz – 5250 MHz should not exceed 10dBm/MHz                                                                                                                                                                                                                                                                                       |
| <b>Test Setup:</b>       |  <p style="text-align: center;">Spectrum Analyzer                      EUT</p>                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Test Mode:</b>        | Transmitting mode with modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Test Procedure:</b>   | 1. Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth.<br>1. Set RBW = 510 kHz/1 MHz, VBW $\geq 3 \times$ RBW, Sweep time = Auto, Detector = RMS.<br>2. Allow the sweeps to continue until the trace stabilizes.<br>3. Use the peak marker function to determine the maximum amplitude level.<br>4. The E.I.R.P spectral density used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment. |
| <b>Test Result:</b>      | PASS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

### 6.6.2. Test Instruments

| Equipment                                  | Manufacturer | Model     | Serial Number | Calibration Due |
|--------------------------------------------|--------------|-----------|---------------|-----------------|
| Spectrum Analyzer                          | Agilent      | N9020A    | MY49100619    | Sep. 11, 2021   |
| 4 Ch. Simultaneous Sampling 14 Bits 2 MS/s | Agilent      | U2531A    | N/A           | Sep. 02, 2021   |
| Combiner Box                               | Ascentest    | AT890-RFB | N/A           | Sep. 02, 2021   |

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

| Mode        | Test channel | Power Spectral Density |        |        | Limit (dBm/500kHz) | Result |
|-------------|--------------|------------------------|--------|--------|--------------------|--------|
|             |              | ANT 0                  | ANT 1  | Total  |                    |        |
| 11a         | CH149        | -3.91                  | -4.372 | /      | 30                 | PASS   |
| 11a         | CH157        | -4.291                 | -4.317 | /      | 30                 | PASS   |
| 11a         | CH165        | -4.613                 | -4.418 | /      | 30                 | PASS   |
| 11n(HT20)   | CH149        | -4.791                 | -5.148 | -1.956 | 30                 | PASS   |
| 11n(HT20)   | CH157        | -4.572                 | -4.302 | -1.425 | 30                 | PASS   |
| 11n(HT20)   | CH165        | -4.831                 | -4.345 | -1.571 | 30                 | PASS   |
| 11n(HT40)   | CH151        | -7.585                 | -8.188 | -4.866 | 30                 | PASS   |
| 11n(HT40)   | CH159        | -7.649                 | -6.929 | -4.264 | 30                 | PASS   |
| 11ac(VHT20) | CH149        | -9.651                 | -9.228 | -6.424 | 30                 | PASS   |
| 11ac(VHT20) | CH157        | -4.925                 | -4.704 | -1.803 | 30                 | PASS   |
| 11ac(VHT20) | CH165        | -4.572                 | -4.137 | -1.339 | 30                 | PASS   |
| 11ac(VHT40) | CH151        | -4.539                 | -3.842 | -1.167 | 30                 | PASS   |
| 11ac(VHT40) | CH159        | -7.665                 | -4.201 | -2.586 | 30                 | PASS   |
| 11ac(VHT80) | CH155        | -6.936                 | -6.684 | -3.798 | 30                 | PASS   |

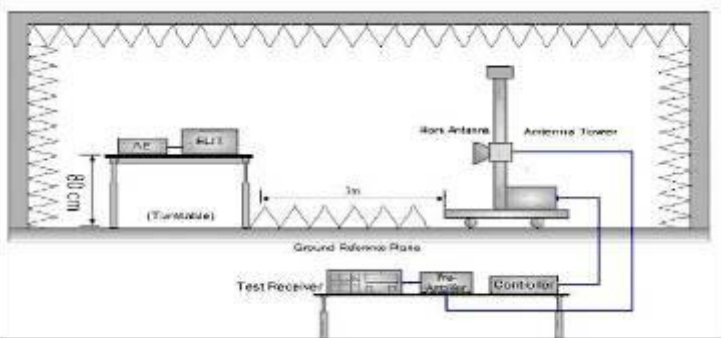
Note: 1. All antennas have the same gain.  $G_{ANT}=2.2\text{dBi}$ , Array Gain= $10\log(N_{ANT})=3.01\text{dBi}$

Directional Gain= $G_{ANT} + \text{Array Gain}=5.21\text{dBi}$ ,  $5.21\text{dBi} < 6\text{dBi}$  so limit=30dBm/500KHz

2. The total PSD method used the sum spectra maxima across the outputs.

## 6.7. Band edge

### 6.7.1. Test Specification

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Requirement:</b> | FCC CFR47 Part 15E Section 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Test Method:</b>      | ANSI C63.10 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Limit:</b>            | <p>For Band 1&amp;2A&amp;2C: <math>E[dB\mu V/m] = EIRP[dBm] + 95.2 = 68.2</math> dB<math>\mu</math>V/m, for EIRP(dBm)= <b>-27dBm</b></p> <p>For Band 3(5715-5725MHz&amp;5850-5860MHz): <math>E[dB\mu V/m] = EIRP[dBm] + 95.2 = 78.2</math> dB<math>\mu</math>V/m, for EIRP(dBm)= <b>-17dBm</b>;<br/> For Band 3(other un-restricted band): <math>E[dB\mu V/m] = EIRP[dBm] + 95.2 = 68.2</math> dB<math>\mu</math>V/m, for EIRP(dBm)= <b>-27dBm</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Test Setup:</b>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Test Mode:</b>        | Transmitting mode with modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Test Procedure:</b>   | <ol style="list-style-type: none"> <li>1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>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.</li> <li>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.</li> <li>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 rota table was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>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,</li> </ol> |

|              |                                                                             |
|--------------|-----------------------------------------------------------------------------|
|              | quasipeak or average method as specified and then reported in a data sheet. |
| Test Result: | PASS                                                                        |



## 6.7.2. Test Instruments

| Radiated Emission Test Site (966) |                                    |              |               |                 |
|-----------------------------------|------------------------------------|--------------|---------------|-----------------|
| Name of Equipment                 | Manufacturer                       | Model        | Serial Number | Calibration Due |
| Test Receiver                     | ROHDE&SCHWARZ                      | ESIB7        | 100197        | Jul. 27, 2021   |
| Spectrum Analyzer                 | ROHDE&SCHWARZ                      | FSQ40        | 200061        | Sep. 11, 2021   |
| Spectrum Analyzer                 | Agilent                            | N9020A       | MY49100619    | Sep. 11, 2021   |
| Pre-amplifier                     | EM Electronics Corporation CO.,LTD | EM30265      | 07032613      | Sep. 02, 2021   |
| Pre-amplifier                     | HP                                 | 8447D        | 2727A05017    | Sep. 02, 2021   |
| Loop antenna                      | ZHINAN                             | ZN30900A     | 12024         | Oct. 05, 2022   |
| Broadband Antenna                 | Schwarzbeck                        | VULB9163     | 340           | Sep. 04, 2022   |
| Horn Antenna                      | Schwarzbeck                        | BBHA 9120D   | 631           | Sep. 04, 2022   |
| Horn Antenna                      | A-INFO                             | LB-180400-KF | J211020657    | Sep. 02, 2021   |
| Line-4                            | TCT                                | RE-high-04   | N/A           | Sep. 02, 2021   |
| Line-8                            | TCT                                | RE-01        | N/A           | Jul. 27, 2021   |
| Antenna Mast                      | Keleto                             | CC-A-4M      | N/A           | N/A             |
| EMI Test Software                 | Shurple Technology                 | EZ-EMC       | N/A           | N/A             |

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

## 6.7.3. Test Data

| 802.11<br>a                                             | CH      | Freq.<br>(MHz) | Read_level<br>(dBuV/m) | Factor<br>(dB) | Peak<br>(dBuV/m) | Limit<br>(dBuV/m)<br>(Peak) | Limit<br>(dBuV/m)<br>(Avg) | Over   | Ant.<br>Pol.<br>H/V |
|---------------------------------------------------------|---------|----------------|------------------------|----------------|------------------|-----------------------------|----------------------------|--------|---------------------|
| Band 3                                                  | Lowest  | 5725           | 42.05                  | 5.82           | 47.87            | 68.2                        | /                          | -20.33 | H                   |
|                                                         |         | 5725           | 39.39                  | 5.82           | 45.21            | 68.2                        | /                          | -22.99 | V                   |
|                                                         | Highest | 5850           | 37.27                  | 6.52           | 43.79            | 68.2                        | /                          | -24.41 | H                   |
|                                                         |         | 5850           | 40.10                  | 6.52           | 46.62            | 68.2                        | /                          | -21.58 | V                   |
| Remark: Factor(dB)=Ant. Factor + Cable Loss-Amp. Factor |         |                |                        |                |                  |                             |                            |        |                     |

| 802.11<br>n<br>HT20                                     | CH      | Freq.<br>(MHz) | Read_level<br>(dBuV/m) | Factor<br>(dB) | Peak<br>(dBuV/m) | Limit<br>(dBuV/m)<br>(Peak) | Limit<br>(dBuV/m)<br>(Avg) | Over   | Ant.<br>Pol.<br>H/V |
|---------------------------------------------------------|---------|----------------|------------------------|----------------|------------------|-----------------------------|----------------------------|--------|---------------------|
| Band 3                                                  | Lowest  | 5725           | 41.76                  | 8.21           | 49.97            | 68.2                        | /                          | -18.23 | H                   |
|                                                         |         | 5725           | 39.86                  | 8.21           | 48.07            | 68.2                        | /                          | -20.13 | V                   |
|                                                         | Highest | 5850           | 37.63                  | 8.87           | 46.5             | 68.2                        | /                          | -21.7  | H                   |
|                                                         |         | 5850           | 39.80                  | 8.87           | 48.67            | 68.2                        | /                          | -19.53 | V                   |
| Remark: Factor(dB)=Ant. Factor + Cable Loss-Amp. Factor |         |                |                        |                |                  |                             |                            |        |                     |

| 802.11<br>n<br>HT40                                     | CH      | Freq.<br>(MHz) | Read_level<br>(dBuV/m) | Factor<br>(dB) | Peak<br>(dBuV/m) | Limit<br>(dBuV/m)<br>(Peak) | Limit<br>(dBuV/m)<br>(Avg) | Over   | Ant.<br>Pol.<br>H/V |
|---------------------------------------------------------|---------|----------------|------------------------|----------------|------------------|-----------------------------|----------------------------|--------|---------------------|
| Band 3                                                  | Lowest  | 5725           | 41.65                  | 5.82           | 47.47            | 68.2                        | /                          | -20.73 | H                   |
|                                                         |         | 5725           | 39.57                  | 5.82           | 45.39            | 68.2                        | /                          | -22.81 | V                   |
|                                                         | Highest | 5850           | 37.40                  | 6.52           | 43.92            | 68.2                        | /                          | -24.28 | H                   |
|                                                         |         | 5850           | 40.77                  | 6.52           | 47.29            | 68.2                        | /                          | -20.91 | V                   |
| Remark: Factor(dB)=Ant. Factor + Cable Loss-Amp. Factor |         |                |                        |                |                  |                             |                            |        |                     |

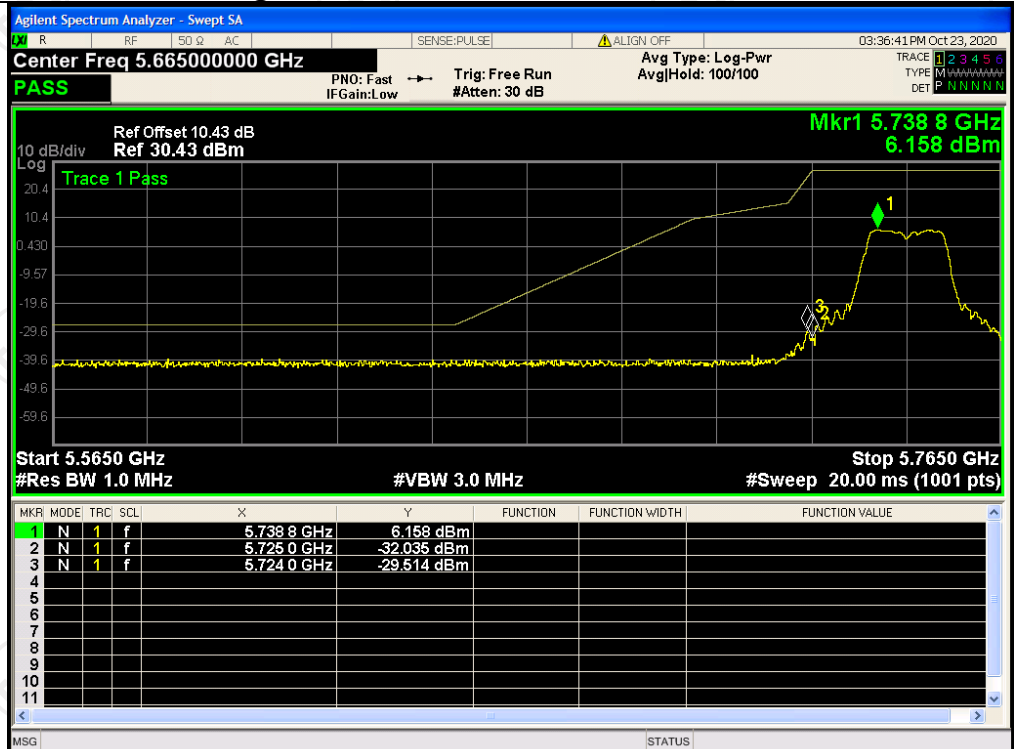
| 802.11<br>ac<br>HT20                                    | CH      | Freq.<br>(MHz) | Read_level<br>(dBuV/m) | Factor<br>(dB) | Peak<br>(dBuV/m) | Limit<br>(dBuV/m)<br>(Peak) | Limit<br>(dBuV/m)<br>(Avg) | Over   | Ant.<br>Pol.<br>H/V |
|---------------------------------------------------------|---------|----------------|------------------------|----------------|------------------|-----------------------------|----------------------------|--------|---------------------|
| Band 3                                                  | Lowest  | 5725           | 41.37                  | 8.21           | 49.58            | 68.2                        | /                          | -18.62 | H                   |
|                                                         |         | 5725           | 39.72                  | 8.21           | 47.93            | 68.2                        | /                          | -20.27 | V                   |
|                                                         | Highest | 5850           | 37.28                  | 8.87           | 46.15            | 68.2                        | /                          | -22.05 | H                   |
|                                                         |         | 5850           | 40.80                  | 8.87           | 49.67            | 68.2                        | /                          | -18.53 | V                   |
| Remark: Factor(dB)=Ant. Factor + Cable Loss-Amp. Factor |         |                |                        |                |                  |                             |                            |        |                     |

| 802.11<br>ac<br>HT40                                    | CH      | Freq.<br>(MHz) | Read_level<br>(dBuV/m) | Factor<br>(dB) | Peak<br>(dBuV/m) | Limit<br>(dBuV/m)<br>(Peak) | Limit<br>(dBuV/m)<br>(Avg) | Over   | Ant.<br>Pol.<br>H/V |
|---------------------------------------------------------|---------|----------------|------------------------|----------------|------------------|-----------------------------|----------------------------|--------|---------------------|
| Band 3                                                  | Lowest  | 5725           | 41.95                  | 5.82           | 47.77            | 68.2                        | /                          | -20.43 | H                   |
|                                                         |         | 5725           | 39.16                  | 5.82           | 44.98            | 68.2                        | /                          | -23.22 | V                   |
|                                                         | Highest | 5850           | 37.28                  | 6.52           | 43.80            | 68.2                        | /                          | -24.40 | H                   |
|                                                         |         | 5850           | 40.16                  | 6.52           | 46.68            | 68.2                        | /                          | -21.52 | V                   |
| Remark: Factor(dB)=Ant. Factor + Cable Loss-Amp. Factor |         |                |                        |                |                  |                             |                            |        |                     |

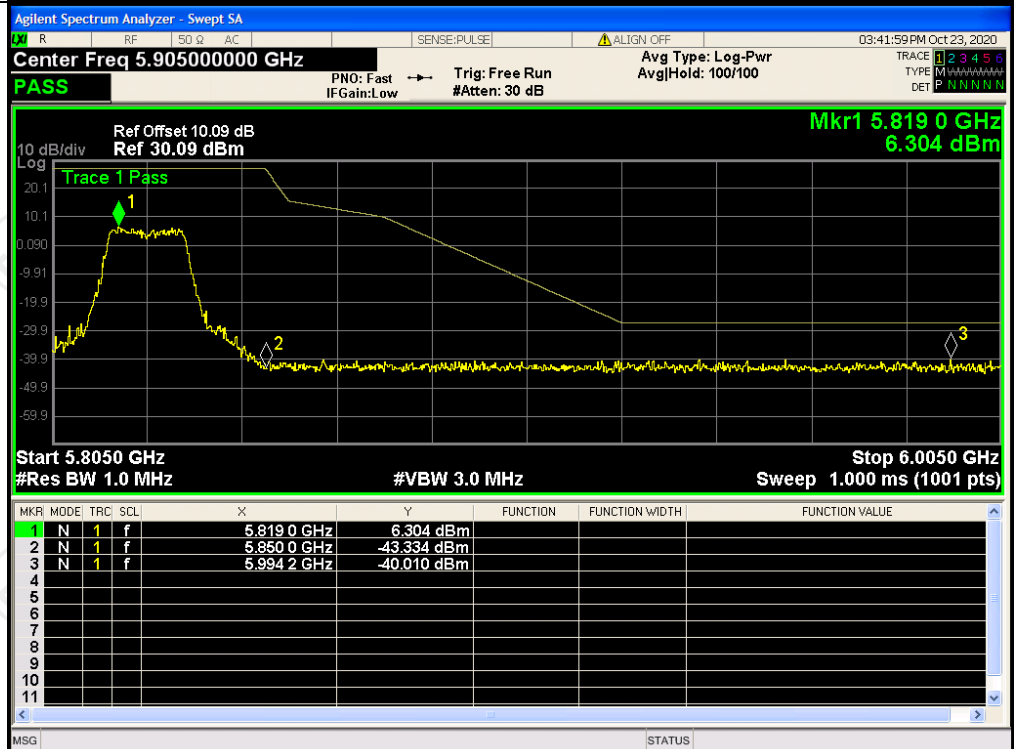
| 802.11<br>ac<br>HT80                                    | CH      | Freq.<br>(MHz) | Read_level<br>(dBuV/m) | Factor<br>(dB) | Peak<br>(dBuV/m) | Limit<br>(dBuV/m)<br>(Peak) | Limit<br>(dBuV/m)<br>(Avg) | Over   | Ant.<br>Pol.<br>H/V |
|---------------------------------------------------------|---------|----------------|------------------------|----------------|------------------|-----------------------------|----------------------------|--------|---------------------|
| Band 3                                                  | Lowest  | 5725           | 41.80                  | 5.82           | 47.62            | 68.2                        | /                          | -20.58 | H                   |
|                                                         |         | 5725           | 38.50                  | 5.82           | 44.32            | 68.2                        | /                          | -23.88 | V                   |
|                                                         | Highest | 5850           | 37.38                  | 6.52           | 43.90            | 68.2                        | /                          | -24.30 | H                   |
|                                                         |         | 5850           | 39.91                  | 6.52           | 46.43            | 68.2                        | /                          | -21.77 | V                   |
| Remark: Factor(dB)=Ant. Factor + Cable Loss-Amp. Factor |         |                |                        |                |                  |                             |                            |        |                     |

## Band 3 Band-edge for RF Conducted Emissions

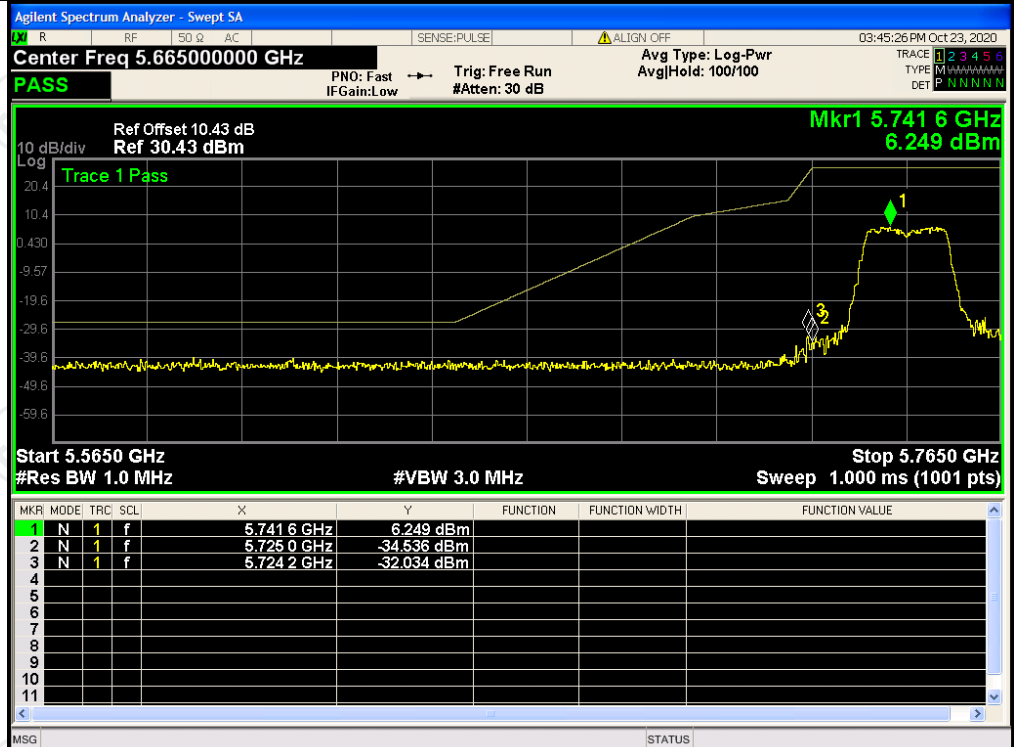
802.11a  
/LCH



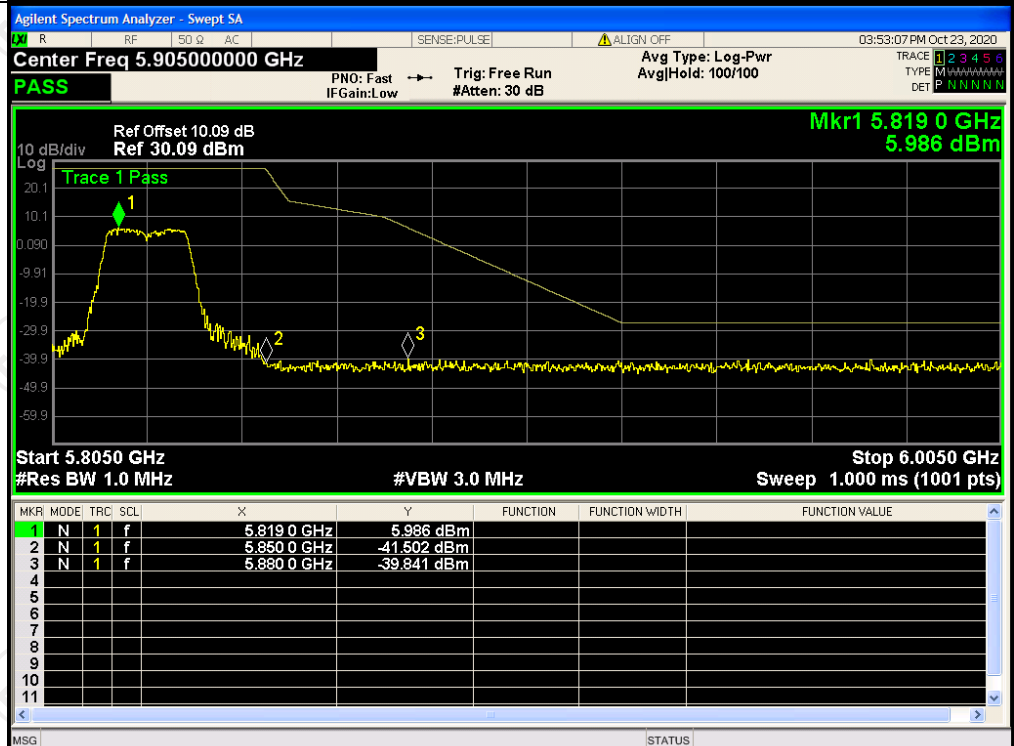
802.11a  
/HCH



802.11n  
HT20/LCH

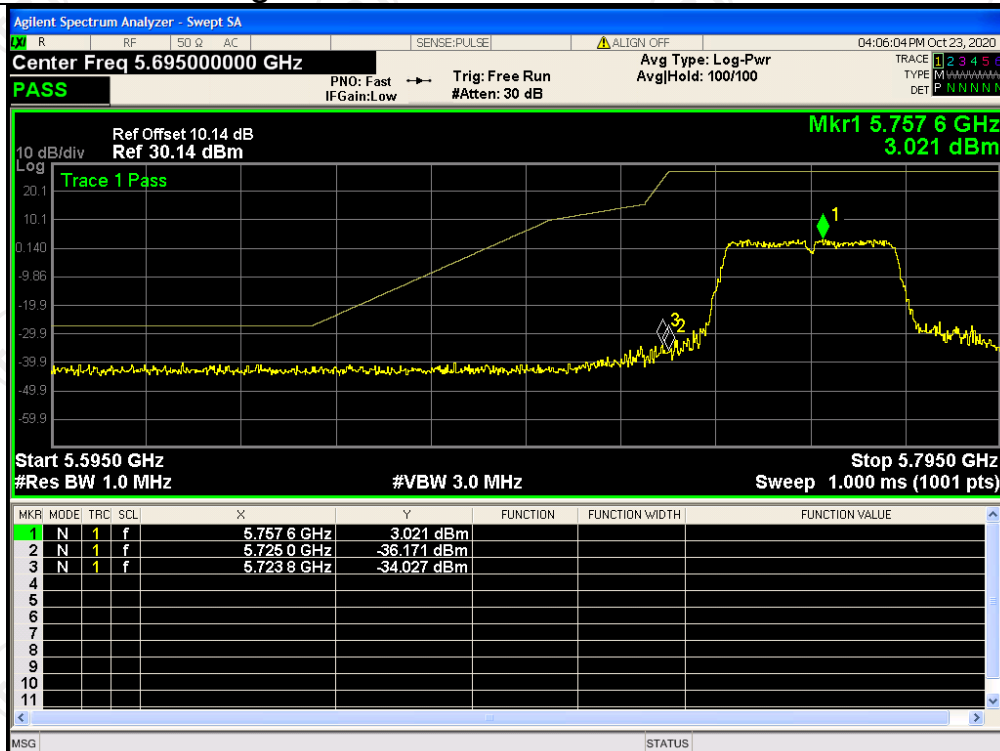


802.11n  
HT20/HCH

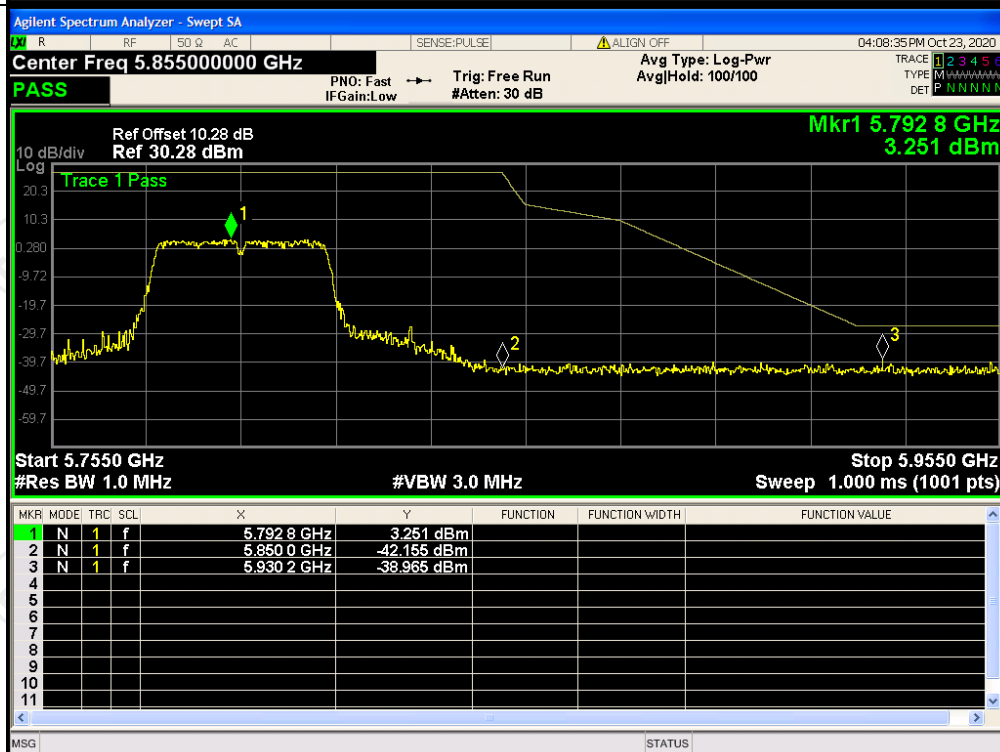


## Band 3 Band-edge for RF Conducted Emissions

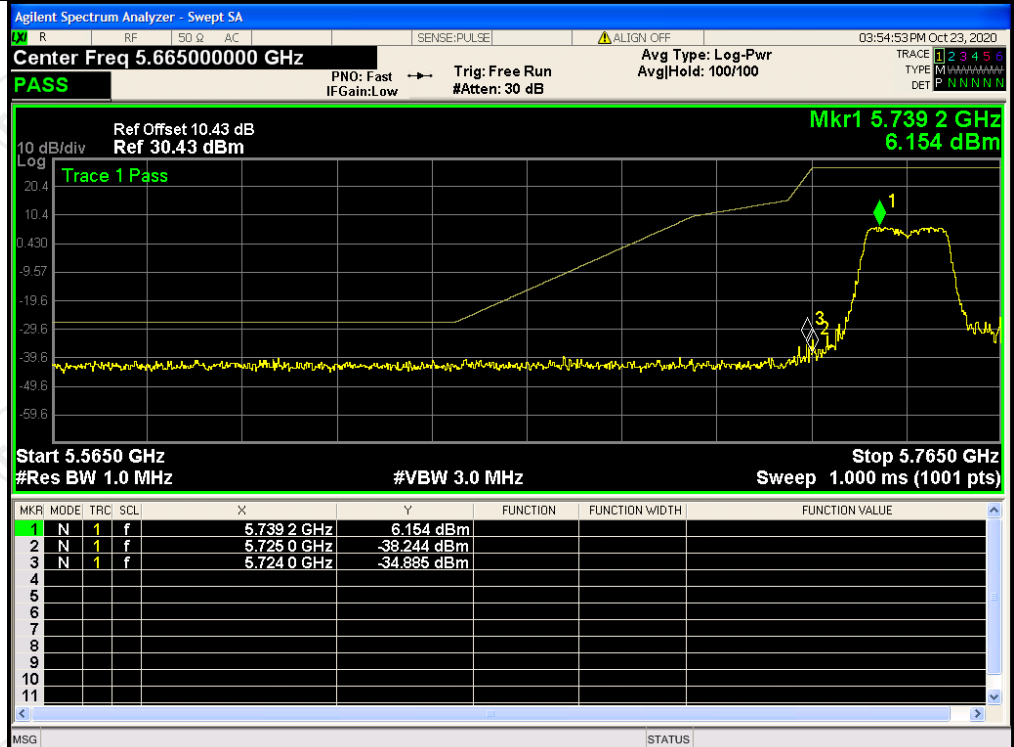
802.11n  
HT40/LCH



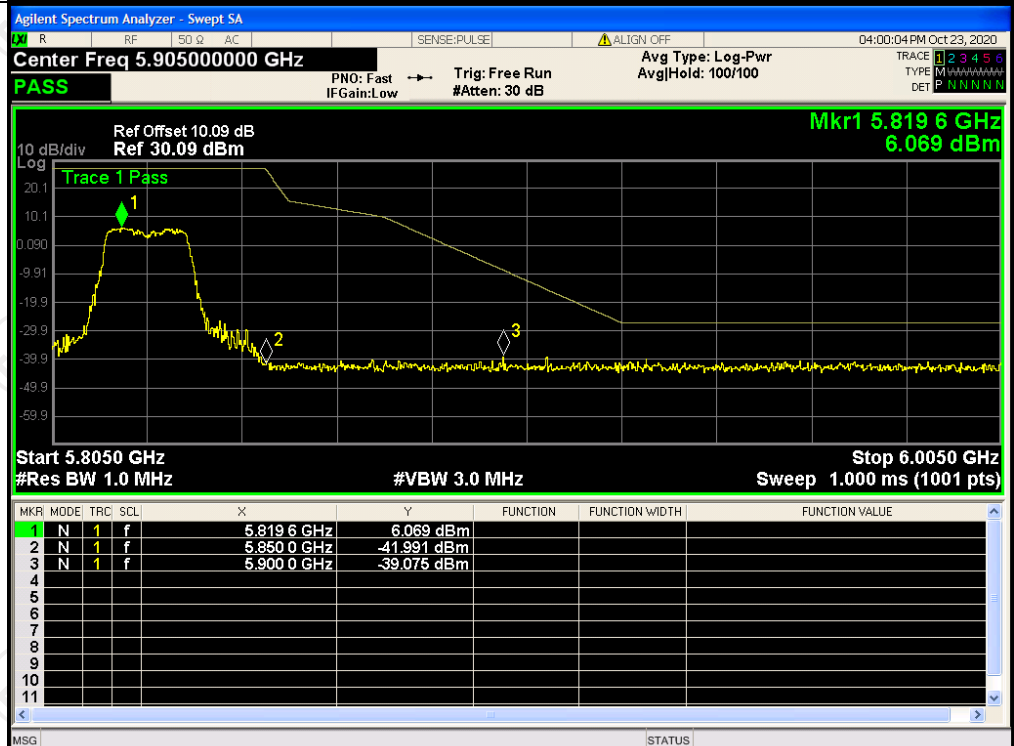
802.11n  
HT40/HCH



802.11ac  
HT20/LCH

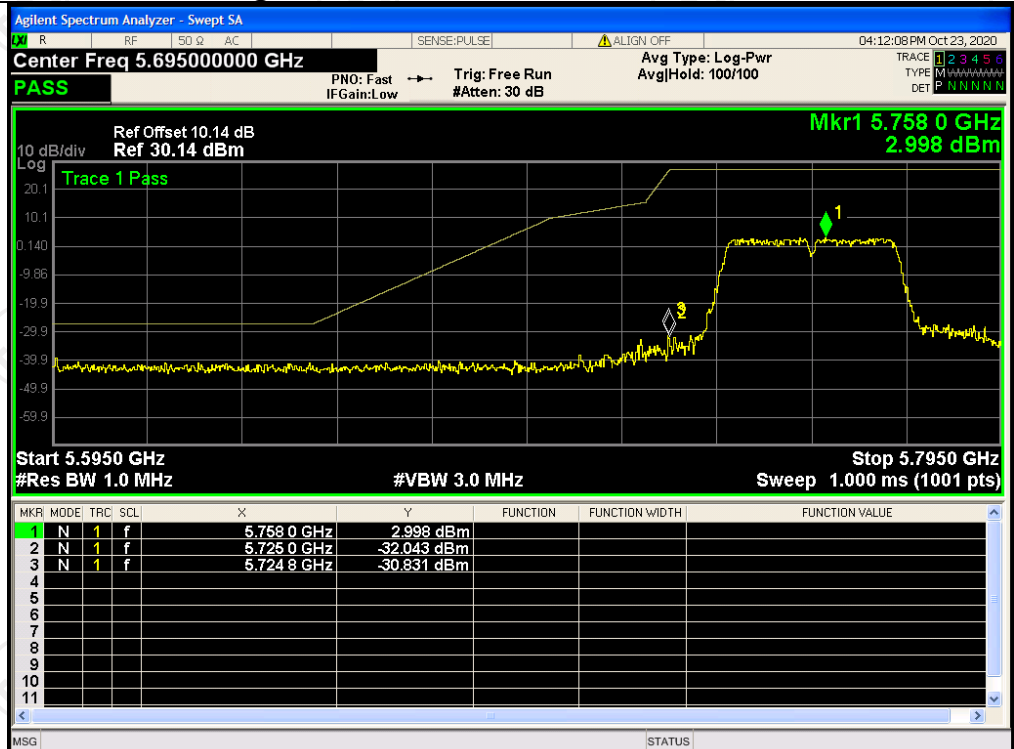


802.11ac  
HT20/HCH

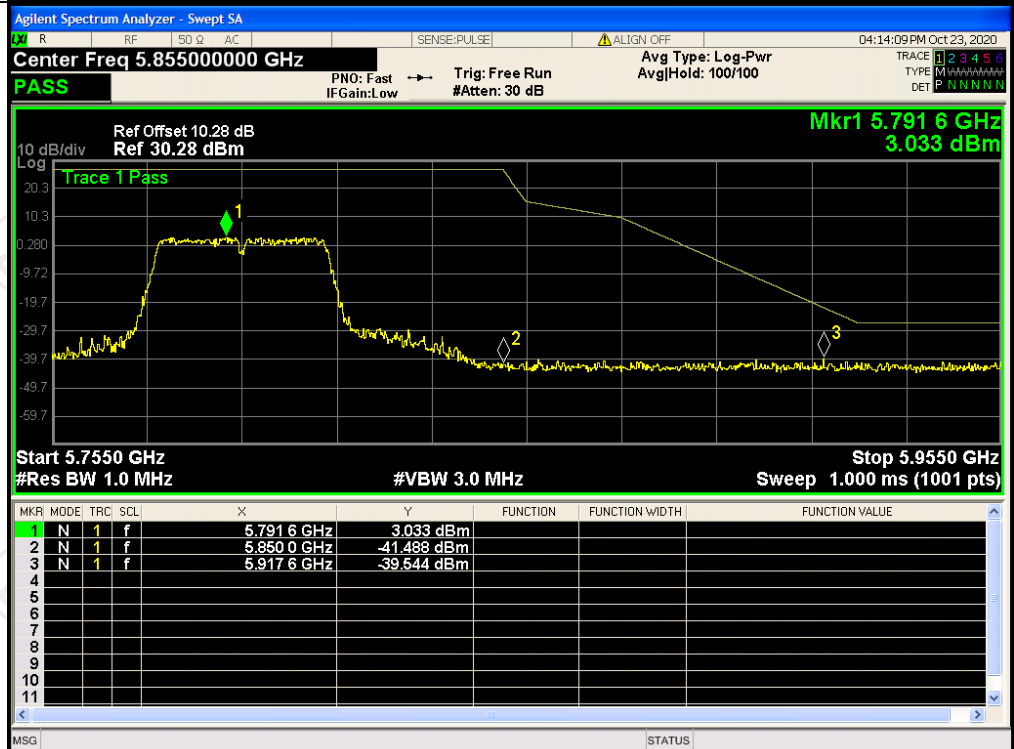


## Band 3 Band-edge for RF Conducted Emissions

802.11ac  
HT40/LCH



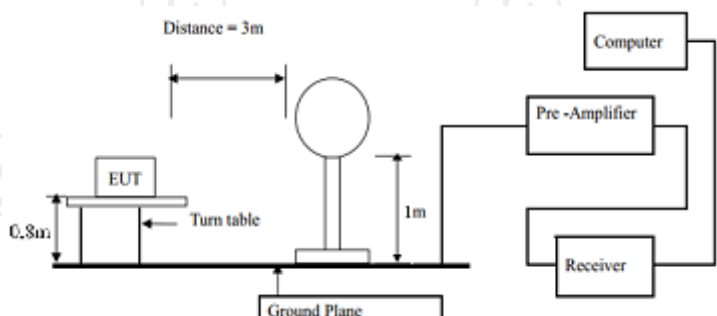
802.11ac  
HT40/HCH

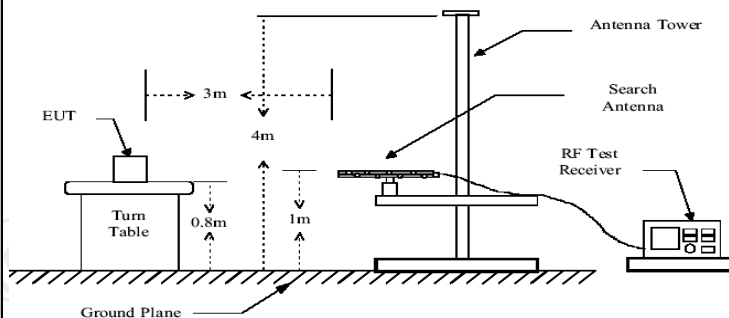




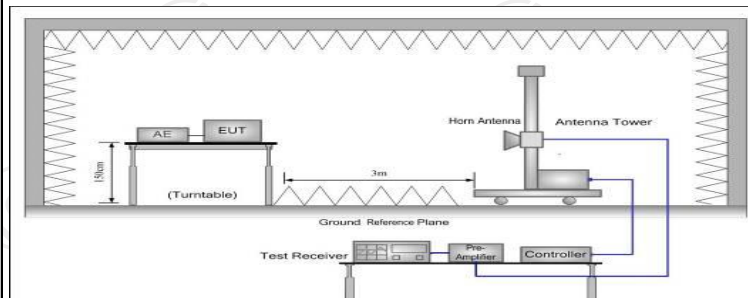
## 6.8. Unwanted Emission

### 6.8.1. Test Specification

|                       |                                                                                                                                                                                                                            |                                   |                    |                               |                  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------|-------------------------------|------------------|
| Test Requirement:     | FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205                                                                                                                                                                         |                                   |                    |                               |                  |
| Test Method:          | KDB 789033 D02 v02r01                                                                                                                                                                                                      |                                   |                    |                               |                  |
| Frequency Range:      | 9kHz to 40GHz                                                                                                                                                                                                              |                                   |                    |                               |                  |
| Measurement Distance: | 3 m                                                                                                                                                                                                                        |                                   |                    |                               |                  |
| Antenna Polarization: | Horizontal & Vertical                                                                                                                                                                                                      |                                   |                    |                               |                  |
| Operation mode:       | Transmitting mode with modulation                                                                                                                                                                                          |                                   |                    |                               |                  |
| Receiver Setup:       | Frequency                                                                                                                                                                                                                  | Detector                          | RBW                | VBW                           | Remark           |
|                       | 9kHz- 150kHz                                                                                                                                                                                                               | Quasi-peak                        | 200Hz              | 1kHz                          | Quasi-peak Value |
|                       | 150kHz- 30MHz                                                                                                                                                                                                              | Quasi-peak                        | 9kHz               | 30kHz                         | Quasi-peak Value |
|                       | 30MHz-1GHz                                                                                                                                                                                                                 | Quasi-peak                        | 120KHz             | 300KHz                        | Quasi-peak Value |
|                       | Above 1GHz                                                                                                                                                                                                                 | Peak                              | 1MHz               | 3MHz                          | Peak Value       |
|                       |                                                                                                                                                                                                                            | Peak                              | 1MHz               | 10Hz                          | Average Value    |
| Limit:                | Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,                                                        |                                   |                    |                               |                  |
|                       | Frequency                                                                                                                                                                                                                  | Field Strength (microvolts/meter) |                    | Measurement Distance (meters) |                  |
|                       | 0.009-0.490                                                                                                                                                                                                                | 2400/F(KHz)                       |                    | 300                           |                  |
|                       | 0.490-1.705                                                                                                                                                                                                                | 24000/F(KHz)                      |                    | 30                            |                  |
|                       | 1.705-30                                                                                                                                                                                                                   | 30                                |                    | 30                            |                  |
|                       | 30-88                                                                                                                                                                                                                      | 100                               |                    | 3                             |                  |
|                       | 88-216                                                                                                                                                                                                                     | 150                               |                    | 3                             |                  |
|                       | 216-960                                                                                                                                                                                                                    | 200                               |                    | 3                             |                  |
|                       | Above 960                                                                                                                                                                                                                  | 500                               |                    | 3                             |                  |
|                       |                                                                                                                                                                                                                            | Frequency                         | Limit (dBuV/m @3m) | Detector                      |                  |
|                       | Above 1G                                                                                                                                                                                                                   | 74.0                              | Peak               |                               |                  |
|                       |                                                                                                                                                                                                                            | 54.0                              | Average            |                               |                  |
| Test setup:           | For radiated emissions below 30MHz                                                                                                                                                                                         |                                   |                    |                               |                  |
|                       |  <p>Distance = 3m</p> <p>0.8m</p> <p>Turn table</p> <p>1m</p> <p>Ground Plane</p> <p>Computer</p> <p>Pre-Amplifier</p> <p>Receiver</p> |                                   |                    |                               |                  |
|                       | 30MHz to 1GHz                                                                                                                                                                                                              |                                   |                    |                               |                  |



Above 1GHz



### Test Procedure:

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
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.
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.
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 rotating table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
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.

### Test results:

PASS

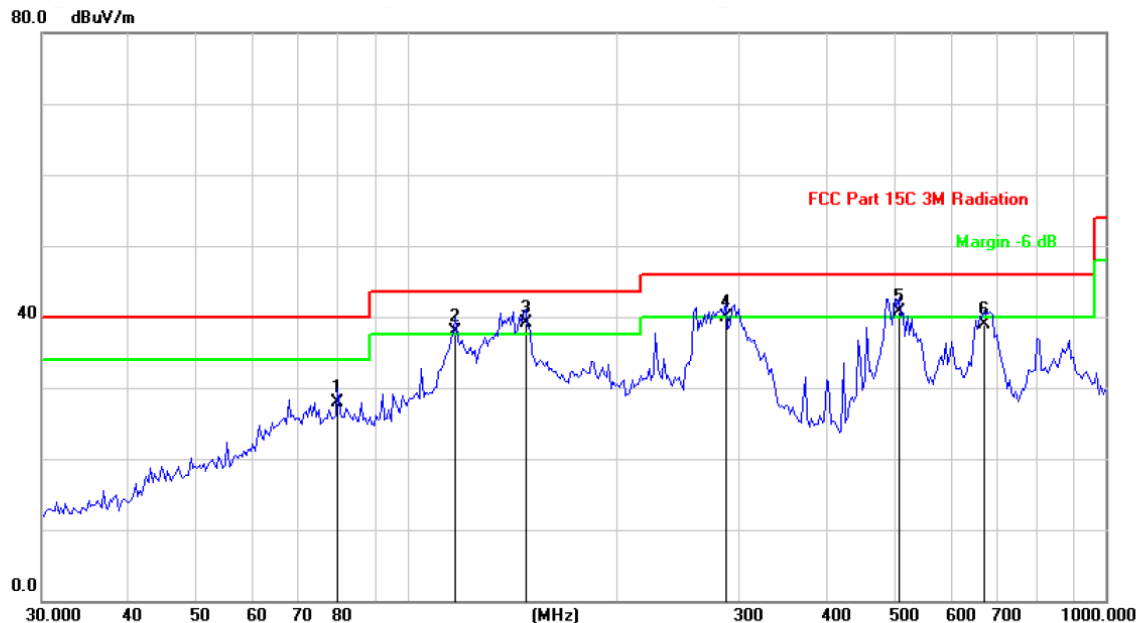
## 6.8.2. Test Instruments

| Radiated Emission Test Site (966) |                                    |              |               |                 |
|-----------------------------------|------------------------------------|--------------|---------------|-----------------|
| Name of Equipment                 | Manufacturer                       | Model        | Serial Number | Calibration Due |
| Test Receiver                     | ROHDE&SCHW ARZ                     | ESIB7        | 100197        | Jul. 27, 2021   |
| Spectrum Analyzer                 | ROHDE&SCHW ARZ                     | FSQ40        | 200061        | Sep. 11, 2021   |
| Pre-amplifier                     | EM Electronics Corporation CO.,LTD | EM30265      | 07032613      | Sep. 02, 2021   |
| Pre-amplifier                     | HP                                 | 8447D        | 2727A05017    | Sep. 02, 2021   |
| Loop antenna                      | ZHINAN                             | ZN30900A     | 12024         | Oct. 05, 2022   |
| Broadband Antenna                 | Schwarzbeck                        | VULB9163     | 340           | Sep. 04, 2022   |
| Horn Antenna                      | Schwarzbeck                        | BBHA 9120D   | 631           | Sep. 04, 2022   |
| Horn Antenna                      | A-INFO                             | LB-180400-KF | J211020657    | Sep. 04, 2022   |
| Antenna Mast                      | Keleto                             | RE-AM        | N/A           | N/A             |
| Line-4                            | TCT                                | RE-high-04   | N/A           | Sep. 02, 2021   |
| Line-8                            | TCT                                | RE-01        | N/A           | Jul. 27, 2021   |
| EMI Test Software                 | Shurple Technology                 | EZ-EMC       | N/A           | N/A             |

## 6.8.3. Test Data

Please refer to following diagram for individual  
Below 1GHz

Horizontal:



Site

Polarization: **Horizontal**

Temperature: 25

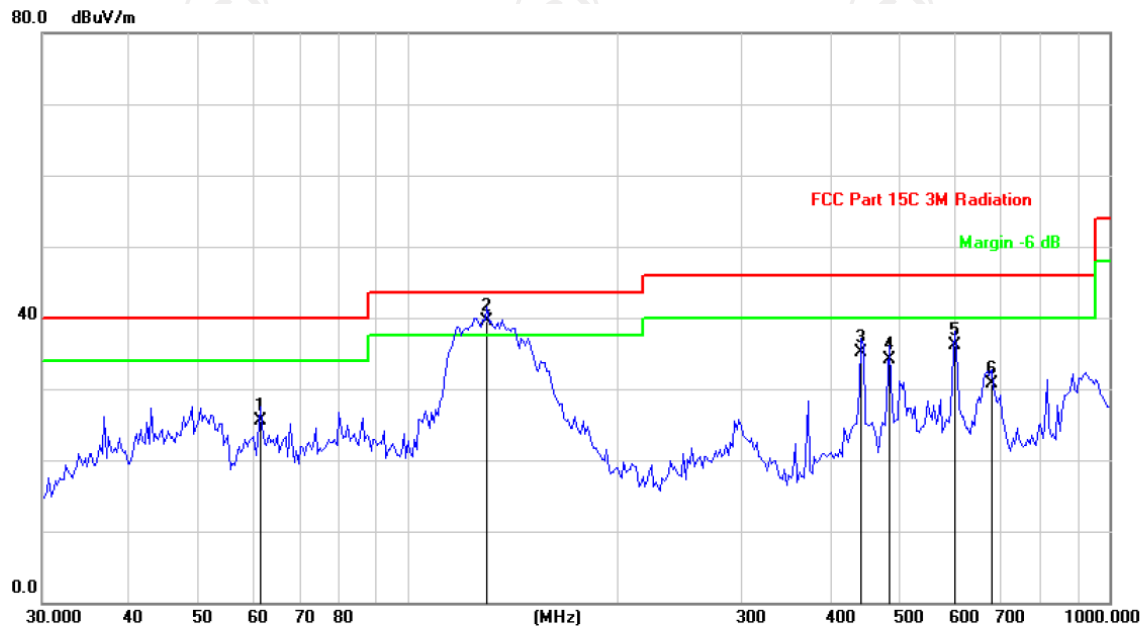
Limit: FCC Part 15C 3M Radiation

Power: AC 120V/60Hz

Humidity: 55 %

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dB/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|---------------|------------|----------|
| 1   |     | 79.6764      | 44.62                    | -16.67                  | 27.95                      | 40.00         | -12.05     | QP       |
| 2   | !   | 117.2686     | 48.62                    | -10.81                  | 37.81                      | 43.50         | -5.69      | QP       |
| 3   | *   | 147.8745     | 55.33                    | -16.22                  | 39.11                      | 43.50         | -4.39      | QP       |
| 4   |     | 286.2653     | 51.20                    | -11.36                  | 39.84                      | 46.00         | -6.16      | QP       |
| 5   | !   | 505.7891     | 48.07                    | -7.35                   | 40.72                      | 46.00         | -5.28      | QP       |
| 6   |     | 669.9523     | 44.47                    | -5.54                   | 38.93                      | 46.00         | -7.07      | QP       |

Vertical:



Site: Polarization: **Vertical** Temperature: 25  
Limit: FCC Part 15C 3M Radiation Power: AC 120V/60Hz Humidity: 55 %

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dB/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|---------------|------------|----------|
| 1   |     | 61.4343      | 38.36                    | -12.84                  | 25.52                      | 40.00         | -14.48     | QP       |
| 2   | *   | 129.3923     | 54.59                    | -15.17                  | 39.42                      | 43.50         | -4.08      | QP       |
| 3   |     | 442.5722     | 43.48                    | -8.42                   | 35.06                      | 46.00         | -10.94     | QP       |
| 4   |     | 484.9067     | 41.87                    | -7.68                   | 34.19                      | 46.00         | -11.81     | QP       |
| 5   |     | 602.9287     | 41.97                    | -5.78                   | 36.19                      | 46.00         | -9.81      | QP       |
| 6   |     | 679.4346     | 36.29                    | -5.51                   | 30.78                      | 46.00         | -15.22     | QP       |

**Note:** 1. The low frequency, which started from 9KHz~30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported

2. Measurements were conducted in all three channels (high, middle, low) and all modulation (802.11a, 802.11n(HT20), 802.11n(HT40), 802.11ac(VHT20), 802.11ac(VHT40) 802.11ac(VHT80), and the worst case Mode (Highest channel and 802.11n(HT40) in MIMO mode) was submitted only.

| Modulation Type: Band 3  |               |                     |                   |                          |                |             |                     |                   |             |
|--------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| 11a(HT20) CH149: 5745MHz |               |                     |                   |                          |                |             |                     |                   |             |
| Frequency (MHz)          | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                          |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11490                    | H             | 40.75               | ---               | 8.09                     | 48.84          | ---         | 74                  | 54                | -5.16       |
| 17235                    | H             | 38.96               | ---               | 9.67                     | 48.63          | ---         | 74                  | 54                | -5.37       |
| ---                      | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11490                    | V             | 40.52               | ---               | 8.09                     | 48.61          | ---         | 74                  | 54                | -5.39       |
| 17235                    | V             | 37.63               | ---               | 9.67                     | 47.30          | ---         | 74                  | 54                | -6.70       |
| ---                      | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |

| 11a(HT20) CH157: 5785MHz |               |                     |                   |                          |                |             |                     |                   |             |
|--------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| Frequency (MHz)          | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                          |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11570                    | H             | 40.47               | ---               | 8.1                      | 48.57          | ---         | 74                  | 54                | -5.43       |
| 17355                    | H             | 37.55               | ---               | 9.65                     | 47.20          | ---         | 74                  | 54                | -6.80       |
| ---                      | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11570                    | V             | 40.93               | ---               | 8.1                      | 49.03          | ---         | 74                  | 54                | -4.97       |
| 17355                    | V             | 37.69               | ---               | 9.65                     | 47.34          | ---         | 74                  | 54                | -6.66       |
| ---                      | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |

| 11a(HT20) CH161: 5825MHz |               |                     |                   |                          |                |             |                     |                   |             |
|--------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| Frequency (MHz)          | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                          |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11650                    | H             | 41.71               | ---               | 8.12                     | 49.83          | ---         | 74                  | 54                | -4.17       |
| 17475                    | H             | 40.85               | ---               | 9.62                     | 50.47          | ---         | 74                  | 54                | -3.53       |
| ---                      | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11650                    | V             | 41.94               | ---               | 8.12                     | 50.06          | ---         | 74                  | 54                | -3.94       |
| 17475                    | V             | 40.34               | ---               | 9.62                     | 49.96          | ---         | 74                  | 54                | -4.04       |
| ---                      | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |

| 11n(HT20) CH151: 5745MHz |               |                     |                   |                          |                |             |                     |                   |             |
|--------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| Frequency (MHz)          | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                          |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11510                    | H             | 41.89               | ---               | 8.09                     | 49.98          | ---         | 74                  | 54                | -4.02       |
| 17265                    | H             | 37.92               | ---               | 9.67                     | 47.59          | ---         | 74                  | 54                | -6.41       |
| ---                      | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11510                    | V             | 41.77               | ---               | 8.09                     | 49.86          | ---         | 74                  | 54                | -4.14       |
| 17265                    | V             | 37.25               | ---               | 9.67                     | 46.92          | ---         | 74                  | 54                | -7.08       |
| ---                      | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |

| 11n(HT20) CH157: 5785MHz |               |                     |                   |                          |                |             |                     |                   |             |
|--------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| Frequency (MHz)          | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                          |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11570                    | H             | 41.75               | ---               | 8.1                      | 49.85          | ---         | 74                  | 54                | -4.15       |
| 17355                    | H             | 38.82               | ---               | 9.65                     | 48.47          | ---         | 74                  | 54                | -5.53       |
| ---                      | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11570                    | V             | 40.33               | ---               | 8.1                      | 48.43          | ---         | 74                  | 54                | -5.57       |
| 17355                    | V             | 40.64               | ---               | 9.65                     | 50.29          | ---         | 74                  | 54                | -3.71       |
| ---                      | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |

| 11n(HT20) CH165: 5825MHz |               |                     |                   |                          |                |             |                     |                   |             |
|--------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| Frequency (MHz)          | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                          |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11650                    | H             | 40.81               | ---               | 8.12                     | 48.93          | ---         | 74                  | 54                | -5.07       |
| 17475                    | H             | 39.77               | ---               | 9.62                     | 49.39          | ---         | 74                  | 54                | -4.61       |
| ---                      | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11650                    | V             | 40.28               | ---               | 8.12                     | 48.40          | ---         | 74                  | 54                | -5.60       |
| 17475                    | V             | 39.64               | ---               | 9.62                     | 49.26          | ---         | 74                  | 54                | -4.74       |
| ---                      | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |

| 11n(HT40) CH151: 5755MHz |               |                     |                   |                          |                |             |                     |                   |             |
|--------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| Frequency (MHz)          | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                          |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11510                    | H             | 42.83               | ---               | 8.09                     | 50.92          | ---         | 74                  | 54                | -3.08       |
| 17265                    | H             | 40.76               | ---               | 9.67                     | 50.43          | ---         | 74                  | 54                | -3.57       |
| ---                      | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11510                    | V             | 42.44               | ---               | 8.09                     | 50.53          | ---         | 74                  | 54                | -3.47       |
| 17265                    | V             | 39.87               | ---               | 9.67                     | 49.54          | ---         | 74                  | 54                | -4.46       |
| ---                      | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |

| 11n(HT40) CH159: 5795MHz |               |                     |                   |                          |                |             |                     |                   |             |
|--------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| Frequency (MHz)          | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                          |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11590                    | H             | 41.91               | ---               | 8.1                      | 50.01          | ---         | 74                  | 54                | -3.99       |
| 17385                    | H             | 39.83               | ---               | 9.65                     | 49.48          | ---         | 74                  | 54                | -4.52       |
| ---                      | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11590                    | V             | 41.66               | ---               | 8.1                      | 49.76          | ---         | 74                  | 54                | -4.24       |
| 17385                    | V             | 39.37               | ---               | 9.65                     | 49.02          | ---         | 74                  | 54                | -4.98       |
| ---                      | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |

| 11ac(VHT20) CH149: 5745MHz |               |                     |                   |                          |                |             |                     |                   |             |
|----------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| Frequency (MHz)            | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                            |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11490                      | H             | 42.84               | ---               | 8.09                     | 50.93          | ---         | 74                  | 54                | -3.07       |
| 17235                      | H             | 39.38               | ---               | 9.67                     | 49.05          | ---         | 74                  | 54                | -4.95       |
| ---                        | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11490                      | V             | 41.27               | ---               | 8.09                     | 49.36          | ---         | 74                  | 54                | -4.64       |
| 17235                      | V             | 38.39               | ---               | 9.67                     | 48.06          | ---         | 74                  | 54                | -5.94       |
| ---                        | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |



| 11ac(VHT20) CH157: 5785MHz |               |                     |                   |                          |                |             |                     |                   |             |
|----------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| Frequency (MHz)            | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                            |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11570                      | H             | 40.76               | ---               | 8.10                     | 48.86          | ---         | 74                  | 54                | -5.14       |
| 17355                      | H             | 38.63               | ---               | 9.65                     | 48.28          | ---         | 74                  | 54                | -5.72       |
| ---                        | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11570                      | V             | 39.51               | ---               | 8.1                      | 47.61          | ---         | 74                  | 54                | -6.39       |
| 17355                      | V             | 38.84               | ---               | 9.65                     | 48.49          | ---         | 74                  | 54                | -5.51       |
| ---                        | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |

| 11ac(VHT20) CH165: 5825MHz |               |                     |                   |                          |                |             |                     |                   |             |
|----------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| Frequency (MHz)            | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                            |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11650                      | H             | 41.66               | ---               | 8.12                     | 49.78          | ---         | 74                  | 54                | -4.22       |
| 17475                      | H             | 40.43               | ---               | 9.62                     | 50.05          | ---         | 74                  | 54                | -3.95       |
| ---                        | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11650                      | V             | 41.84               | ---               | 8.12                     | 49.96          | ---         | 74                  | 54                | -4.04       |
| 17475                      | V             | 37.93               | ---               | 9.62                     | 47.55          | ---         | 74                  | 54                | -6.45       |
| ---                        | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |

| 11ac(VHT40) CH151: 5755MHz |               |                     |                   |                          |                |             |                     |                   |             |
|----------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| Frequency (MHz)            | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                            |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11510                      | H             | 41.97               | ---               | 8.09                     | 50.06          | ---         | 74                  | 54                | -3.94       |
| 17265                      | H             | 39.88               | ---               | 9.67                     | 49.55          | ---         | 74                  | 54                | -4.45       |
| ---                        | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11510                      | V             | 42.45               | ---               | 8.09                     | 50.54          | ---         | 74                  | 54                | -3.46       |
| 17265                      | V             | 39.96               | ---               | 9.67                     | 49.63          | ---         | 74                  | 54                | -4.37       |
| ---                        | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |

| 11ac(VHT40) CH159: 5795MHz |               |                     |                   |                          |                |             |                     |                   |             |
|----------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| Frequency (MHz)            | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                            |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11590                      | H             | 41.86               | ---               | 8.1                      | 49.96          | ---         | 74                  | 54                | -4.04       |
| 17385                      | H             | 39.75               | ---               | 9.65                     | 49.40          | ---         | 74                  | 54                | -4.60       |
| ---                        | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11590                      | V             | 42.17               | ---               | 8.1                      | 50.27          | ---         | 74                  | 54                | -3.73       |
| 17385                      | V             | 40.24               | ---               | 9.65                     | 49.89          | ---         | 74                  | 54                | -4.11       |
| ---                        | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |



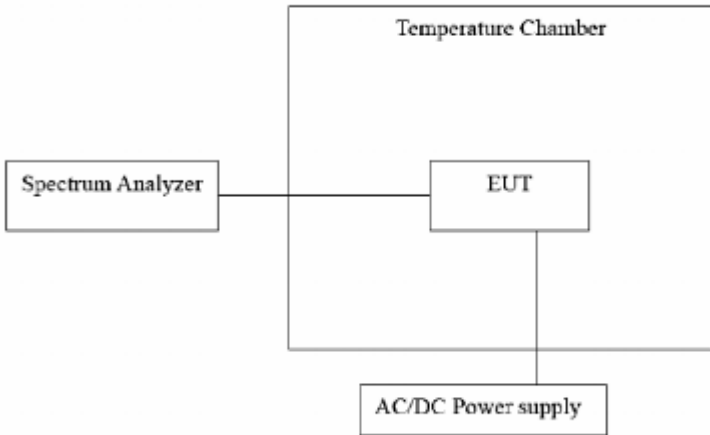
| 11ac(VHT80) CH155: 5775MHz |               |                     |                   |                          |                |             |                     |                   |             |
|----------------------------|---------------|---------------------|-------------------|--------------------------|----------------|-------------|---------------------|-------------------|-------------|
| Frequency (MHz)            | Ant. Pol. H/V | Peak reading (dBμV) | AV reading (dBμV) | Correction Factor (dB/m) | Emission Level |             | Peak limit (dBμV/m) | AV limit (dBμV/m) | Margin (dB) |
|                            |               |                     |                   |                          | Peak (dBμV/m)  | AV (dBμV/m) |                     |                   |             |
| 11550                      | H             | 41.32               | ---               | 8.09                     | 49.41          | ---         | 74                  | 54                | -4.59       |
| 17325                      | H             | 37.55               | ---               | 9.67                     | 47.22          | ---         | 74                  | 54                | -6.78       |
| ---                        | H             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |
| 11550                      | V             | 42.39               | ---               | 8.09                     | 50.48          | ---         | 74                  | 54                | -3.52       |
| 17325                      | V             | 39.53               | ---               | 9.67                     | 49.20          | ---         | 74                  | 54                | -4.80       |
| ---                        | V             | ---                 | ---               | ---                      | ---            | ---         | ---                 | ---               | ---         |

**Note:**

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dBμV/m)-Average limit (dBμV/m)
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
5. Data of measurement shown “---“in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

## 6.9. Frequency Stability Measurement

### 6.9.1. Test Specification

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Requirement:</b> | FCC Part15 Section 15.407(g)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Test Method:</b>      | ANSI C63.10: 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Limit:</b>            | The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 45 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.                                                                                                                                                                                                                                                                                                                |
| <b>Test Setup:</b>       |  <pre> graph LR     SA[Spectrum Analyzer] --- EUT[EUT]     subgraph TC [Temperature Chamber]         EUT     end     EUT --- P[AC/DC Power supply]             </pre>                                                                                                                                                                                                                                                                                                                                                               |
| <b>Test Procedure:</b>   | The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage. b. Turn the EUT on and couple its output to a spectrum analyzer. c. Turn the EUT off and set the chamber to the highest temperature specified. d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record. |
| <b>Test Result:</b>      | PASS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Remark:</b>           | Pre-scan was performed at all models(11a,11n,11ac), the worst case (11ac) was found and test data was shown in this report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

Test plots as follows:

| Test mode:       |              | 802.11ac(VHT20)            | Frequency(MHz):     | 5745   |
|------------------|--------------|----------------------------|---------------------|--------|
| Temperature (°C) | Voltage(VDC) | Measurement Frequency(MHz) | Delta Frequency(Hz) | Result |
| 45               | 7.6V         | 5745.0030                  | 3000                | PASS   |
| 35               |              | 5745.0055                  | 5500                | PASS   |
| 25               |              | 5744.9920                  | -8000               | PASS   |
| 15               |              | 5744.9979                  | -2100               | PASS   |
| 5                |              | 5745.0048                  | 4800                | PASS   |
| 0                |              | 5745.0032                  | 3200                | PASS   |
| 20               | 9.6          | 5745.0027                  | 2700                | PASS   |
|                  | 7.6          | 5745.0015                  | 1500                | PASS   |
|                  | 6.6          | 5745.0053                  | 5300                | PASS   |

| Test mode:       |              | 802.11ac(VHT20)            | Frequency(MHz):     | 5785   |
|------------------|--------------|----------------------------|---------------------|--------|
| Temperature (°C) | Voltage(VDC) | Measurement Frequency(MHz) | Delta Frequency(Hz) | Result |
| 45               | 7.6V         | 5785.0067                  | 6700                | PASS   |
| 35               |              | 5785.0077                  | 7700                | PASS   |
| 25               |              | 5785.0051                  | 5100                | PASS   |
| 15               |              | 5785.0059                  | 5900                | PASS   |
| 5                |              | 5785.0044                  | 4400                | PASS   |
| 0                |              | 5785.0062                  | 6200                | PASS   |
| 20               | 9.6          | 5785.0031                  | 3100                | PASS   |
|                  | 7.6          | 5785.0039                  | 3900                | PASS   |
|                  | 6.6          | 5784.9983                  | -1700               | PASS   |

| Test mode:       |              | 802.11ac(VHT20)            | Frequency(MHz):     | 5825   |
|------------------|--------------|----------------------------|---------------------|--------|
| Temperature (°C) | Voltage(VDC) | Measurement Frequency(MHz) | Delta Frequency(Hz) | Result |
| 45               | 7.6V         | 5824.9986                  | -1400               | PASS   |
| 35               |              | 5825.0062                  | 6200                | PASS   |
| 25               |              | 5824.9976                  | -2400               | PASS   |
| 15               |              | 5824.9998                  | -200                | PASS   |
| 5                |              | 5825.0019                  | 1900                | PASS   |
| 0                |              | 5825.0031                  | 3100                | PASS   |
| 20               | 9.6          | 5825.0035                  | 3500                | PASS   |
|                  | 7.6          | 5824.9997                  | -300                | PASS   |
|                  | 6.6          | 5825.0014                  | 1400                | PASS   |

| Test mode:       |              | 802.11ac(VHT40)            | Frequency(MHz):     | 5755   |
|------------------|--------------|----------------------------|---------------------|--------|
| Temperature (°C) | Voltage(VDC) | Measurement Frequency(MHz) | Delta Frequency(Hz) | Result |
| 45               | 7.6V         | 5754.9960                  | -4000               | PASS   |
| 35               |              | 5755.0072                  | 7200                | PASS   |
| 25               |              | 5755.0036                  | 3600                | PASS   |
| 15               |              | 5755.0015                  | 1500                | PASS   |
| 5                |              | 5755.0027                  | 2700                | PASS   |
| 0                |              | 5755.0046                  | 4600                | PASS   |
| 20               | 9.6          | 5755.0039                  | 3900                | PASS   |
|                  | 7.6          | 5755.0016                  | 1600                | PASS   |
|                  | 6.6          | 5755.0024                  | 2400                | PASS   |

| Test mode:       |              | 802.11ac(VHT40)            | Frequency(MHz):     | 5795   |
|------------------|--------------|----------------------------|---------------------|--------|
| Temperature (°C) | Voltage(VDC) | Measurement Frequency(MHz) | Delta Frequency(Hz) | Result |
| 45               | 7.6V         | 5794.9980                  | -2000               | PASS   |
| 35               |              | 5794.9948                  | -5200               | PASS   |
| 25               |              | 5795.0023                  | 2300                | PASS   |
| 15               |              | 5795.0055                  | 5500                | PASS   |
| 5                |              | 5795.0015                  | 1500                | PASS   |
| 0                |              | 5795.0044                  | 4400                | PASS   |
| 20               | 9.6          | 5795.0012                  | 1200                | PASS   |
|                  | 7.6          | 5794.9983                  | -1700               | PASS   |
|                  | 6.6          | 5795.0055                  | 5500                | PASS   |

| Test mode:       |              | 802.11ac(VHT80)            | Frequency(MHz):     | 5775   |
|------------------|--------------|----------------------------|---------------------|--------|
| Temperature (°C) | Voltage(VDC) | Measurement Frequency(MHz) | Delta Frequency(Hz) | Result |
| 45               | 7.6V         | 5774.9860                  | -14000              | PASS   |
| 35               |              | 5775.0037                  | 3700                | PASS   |
| 25               |              | 5775.0075                  | 7500                | PASS   |
| 15               |              | 5774.9953                  | -4700               | PASS   |
| 5                |              | 5774.9928                  | -7200               | PASS   |
| 0                |              | 5774.9906                  | -9400               | PASS   |
| 20               | 9.6          | 5775.0098                  | 9800                | PASS   |
|                  | 7.6          | 5775.0047                  | 4700                | PASS   |
|                  | 6.6          | 5775.0016                  | 1600                | PASS   |

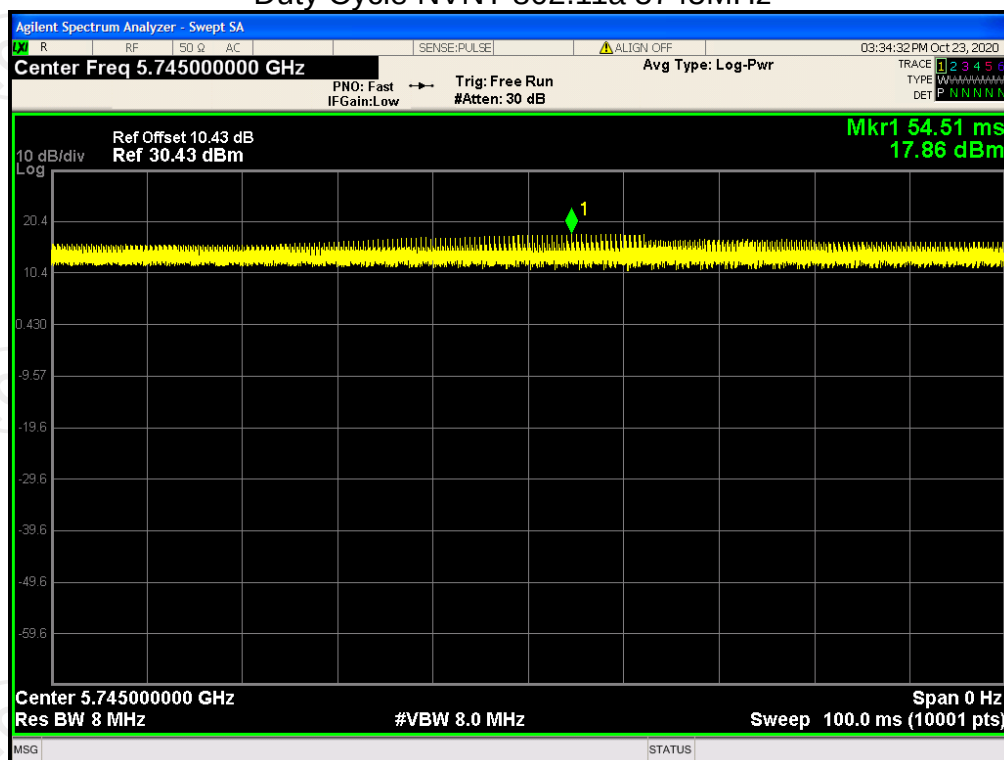
## Appendix A: Test Result of Conducted Test

ANT 0

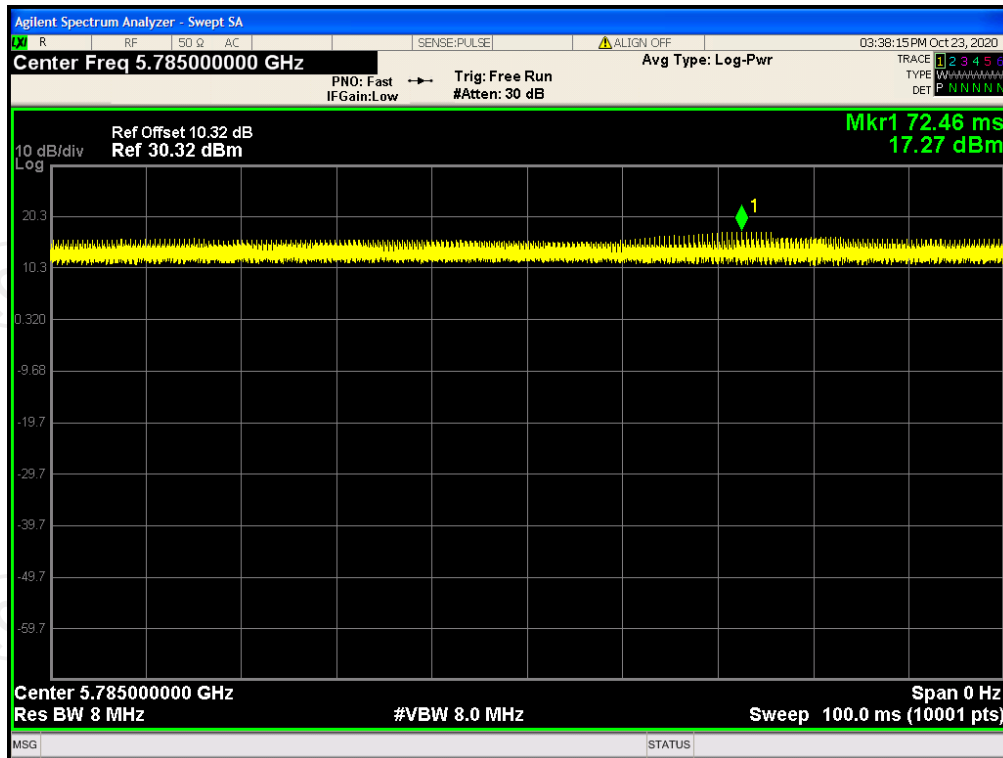
### Duty Cycle

| Condition | Mode          | Frequency (MHz) | Duty Cycle (%) | Correction Factor (dB) |
|-----------|---------------|-----------------|----------------|------------------------|
| NVNT      | 802.11a       | 5745            | 100            | 0                      |
| NVNT      | 802.11a       | 5785            | 100            | 0                      |
| NVNT      | 802.11a       | 5825            | 100            | 0                      |
| NVNT      | 802.11ac20    | 5745            | 100            | 0                      |
| NVNT      | 802.11ac20    | 5785            | 100            | 0                      |
| NVNT      | 802.11ac20    | 5825            | 100            | 0                      |
| NVNT      | 802.11ac40    | 5755            | 100            | 0                      |
| NVNT      | 802.11ac40    | 5795            | 100            | 0                      |
| NVNT      | 802.11ac80    | 5775            | 100            | 0                      |
| NVNT      | 802.11n(HT20) | 5745            | 100            | 0                      |
| NVNT      | 802.11n(HT20) | 5785            | 100            | 0                      |
| NVNT      | 802.11n(HT20) | 5825            | 100            | 0                      |
| NVNT      | 802.11n(HT40) | 5755            | 100            | 0                      |
| NVNT      | 802.11n(HT40) | 5795            | 100            | 0                      |

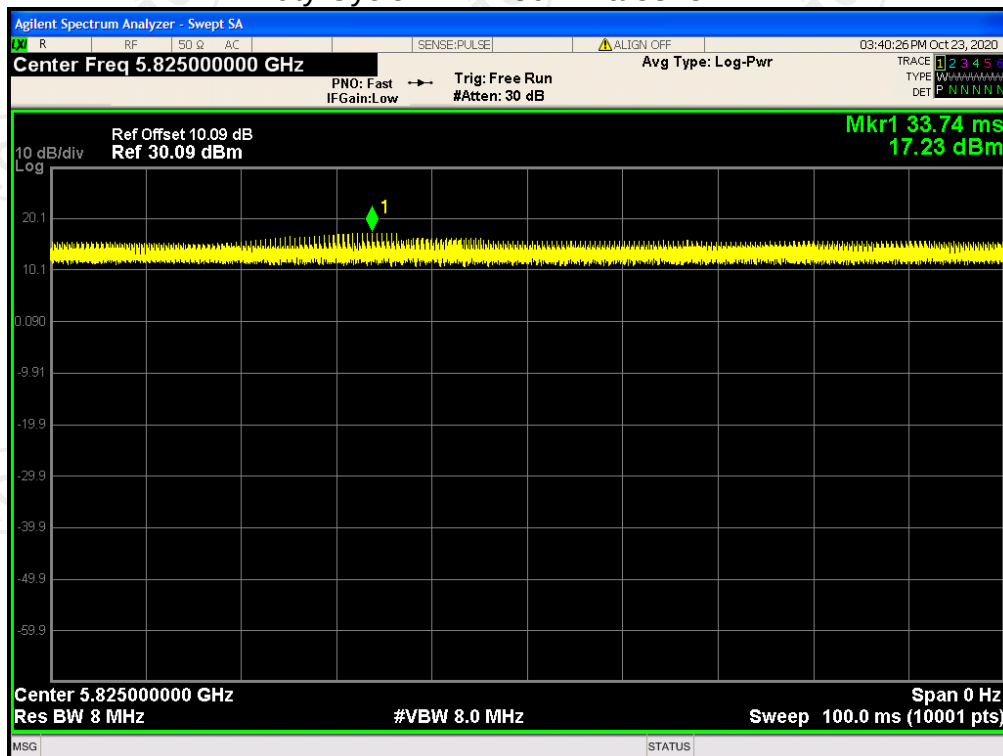
### Duty Cycle NVNT 802.11a 5745MHz



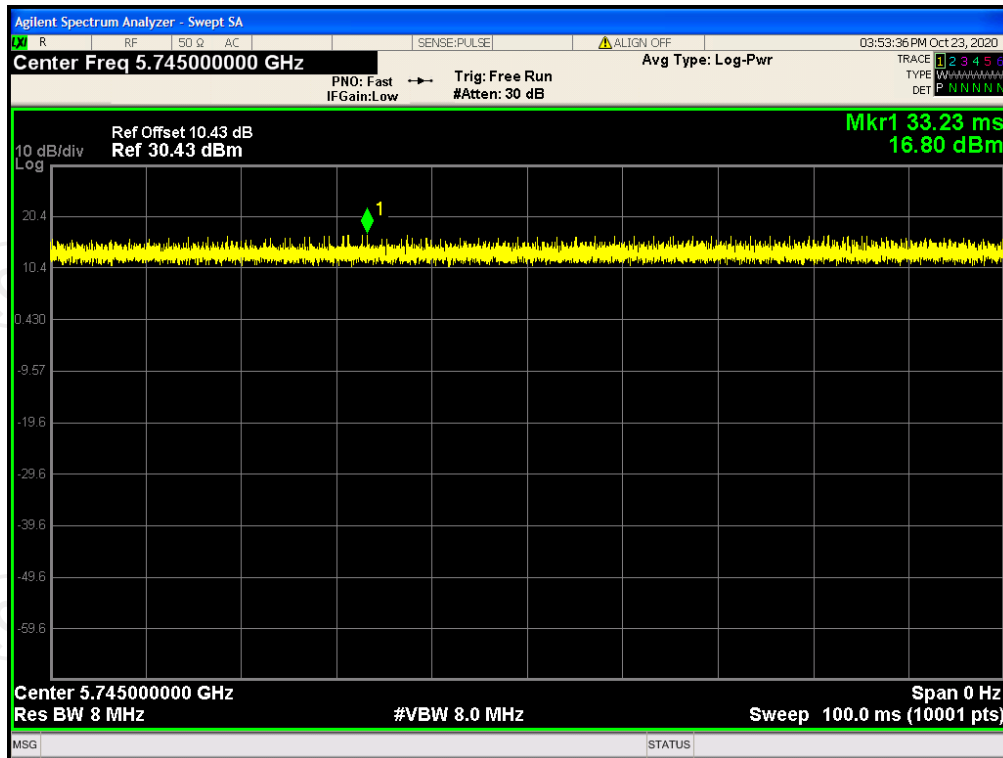
### Duty Cycle NVNT 802.11a 5785MHz



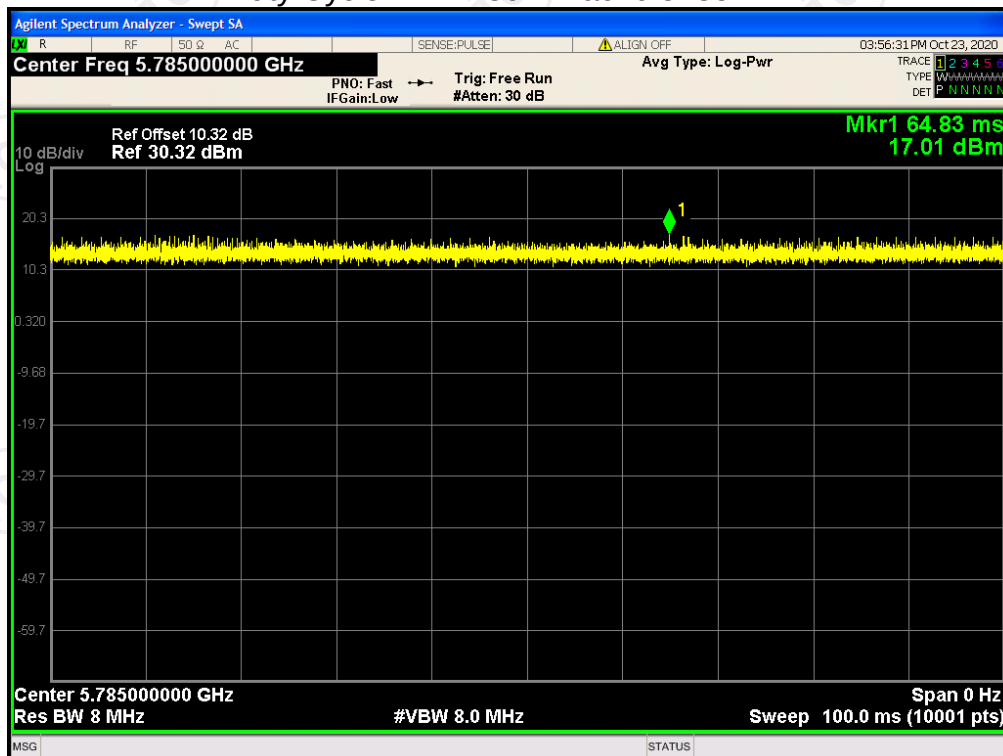
Duty Cycle NVNT 802.11a 5825MHz



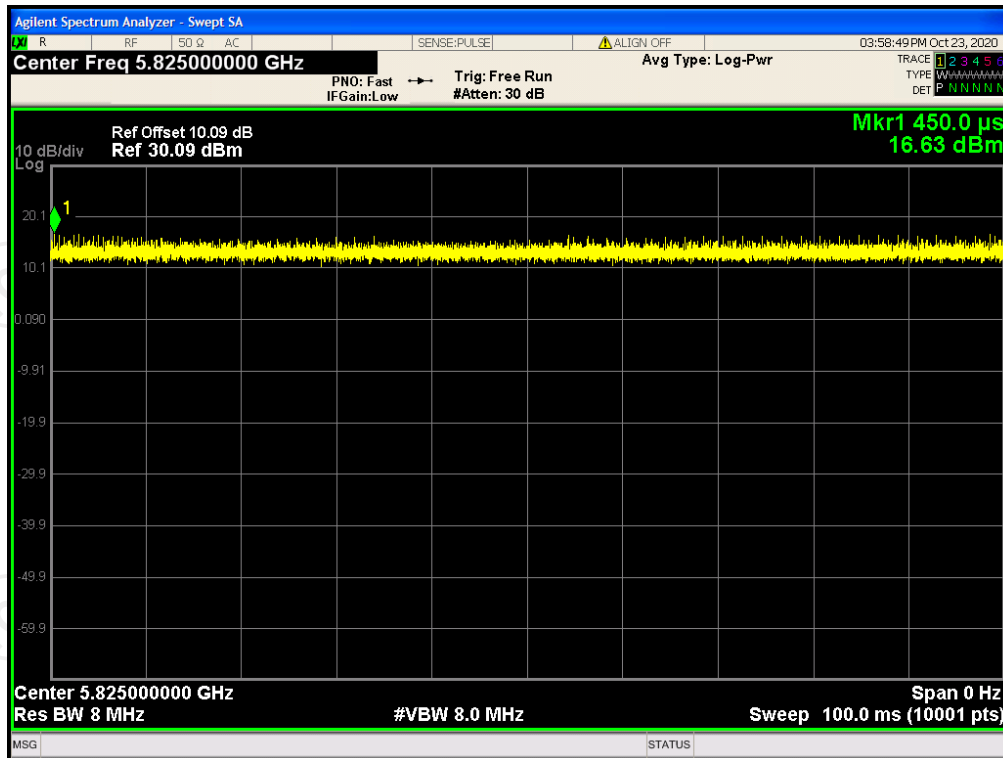
Duty Cycle NVNT 802.11ac20 5745MHz



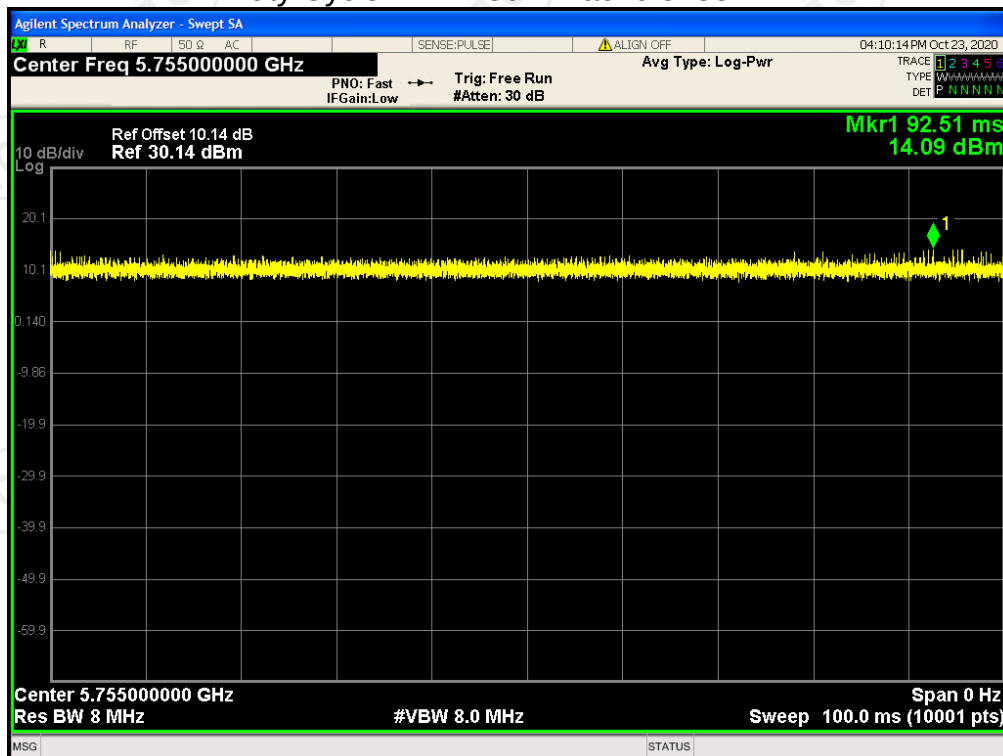
Duty Cycle NVNT 802.11ac20 5785MHz



Duty Cycle NVNT 802.11ac20 5825MHz

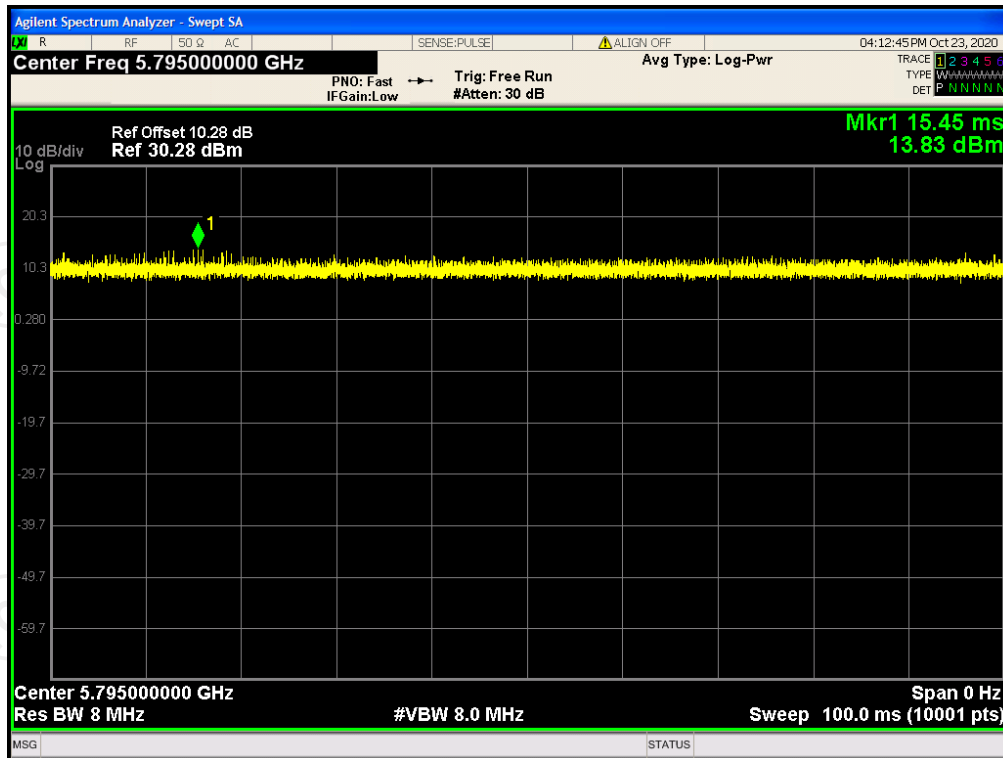


Duty Cycle NVNT 802.11ac40 5755MHz

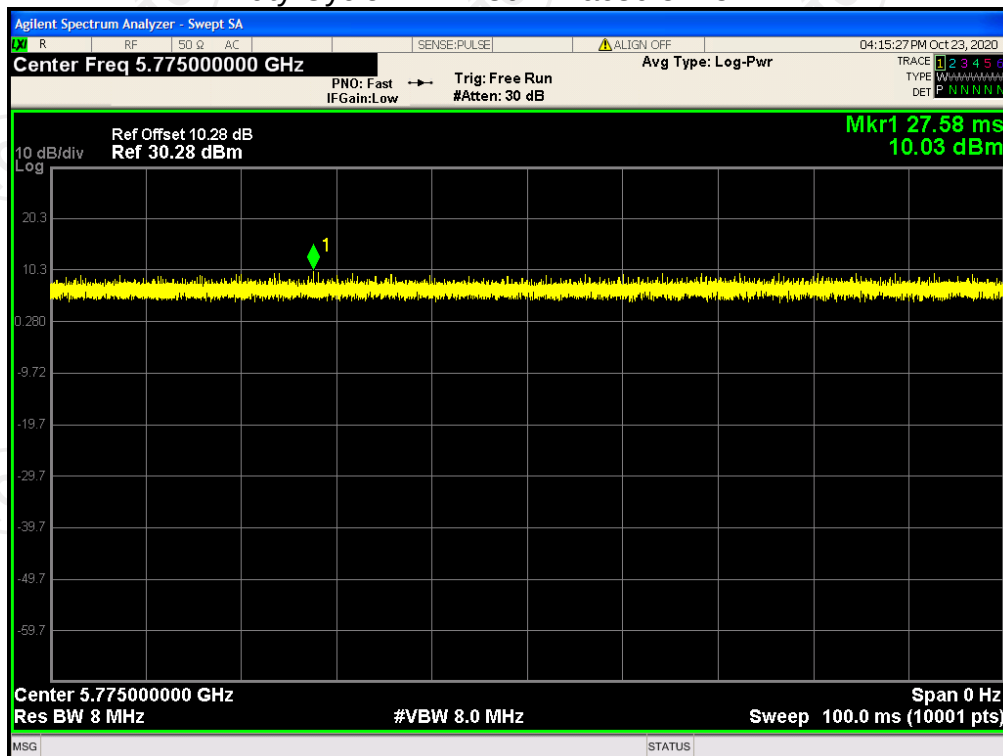


Duty Cycle NVNT 802.11ac40 5795MHz

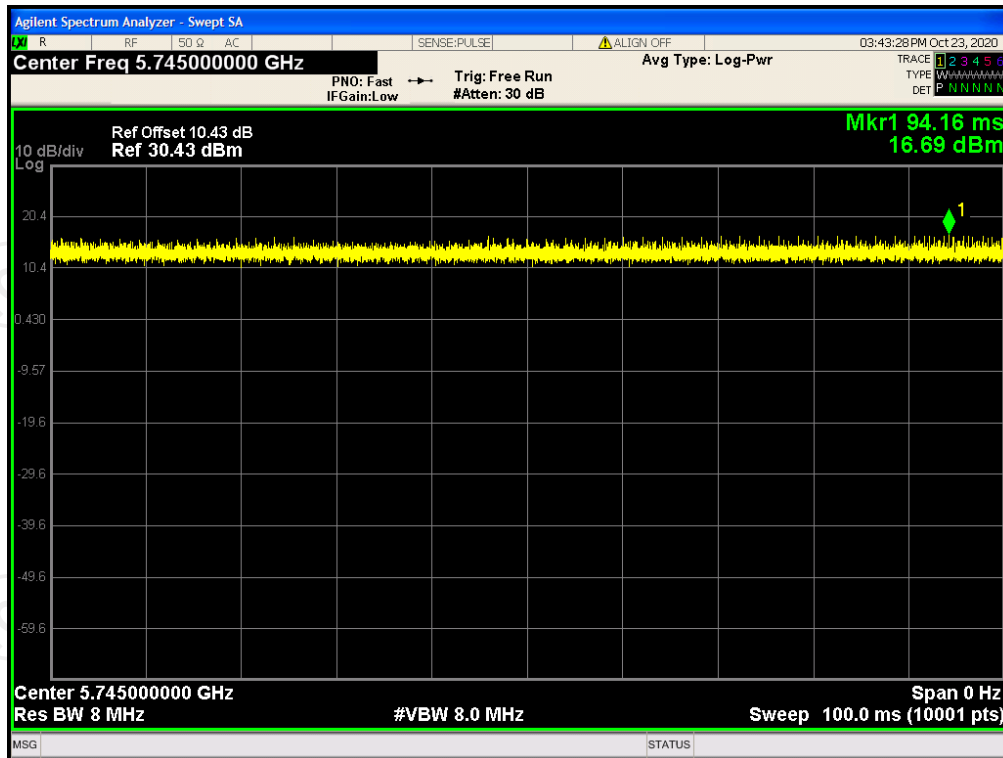




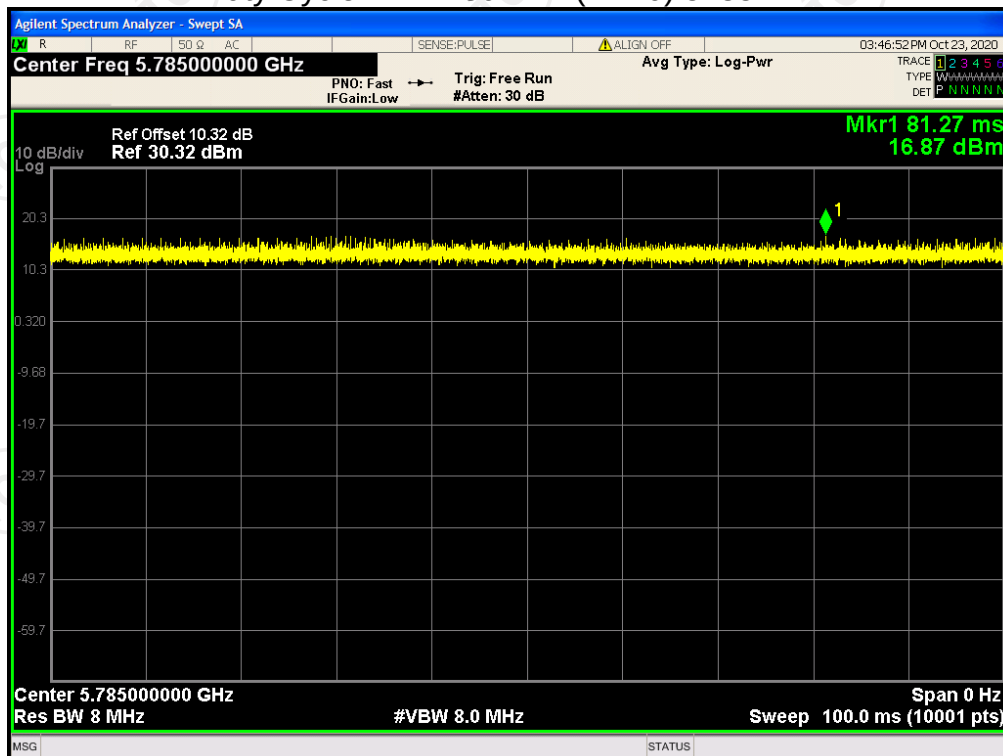
Duty Cycle NVNT 802.11ac80 5775MHz



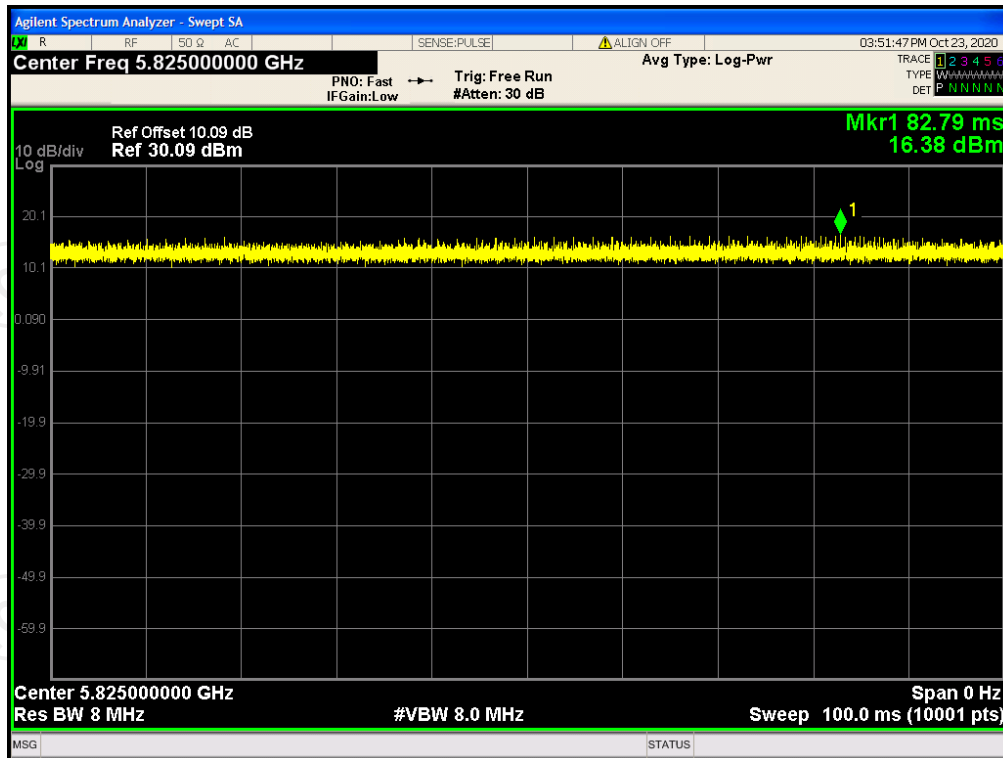
Duty Cycle NVNT 802.11n(HT20) 5745MHz



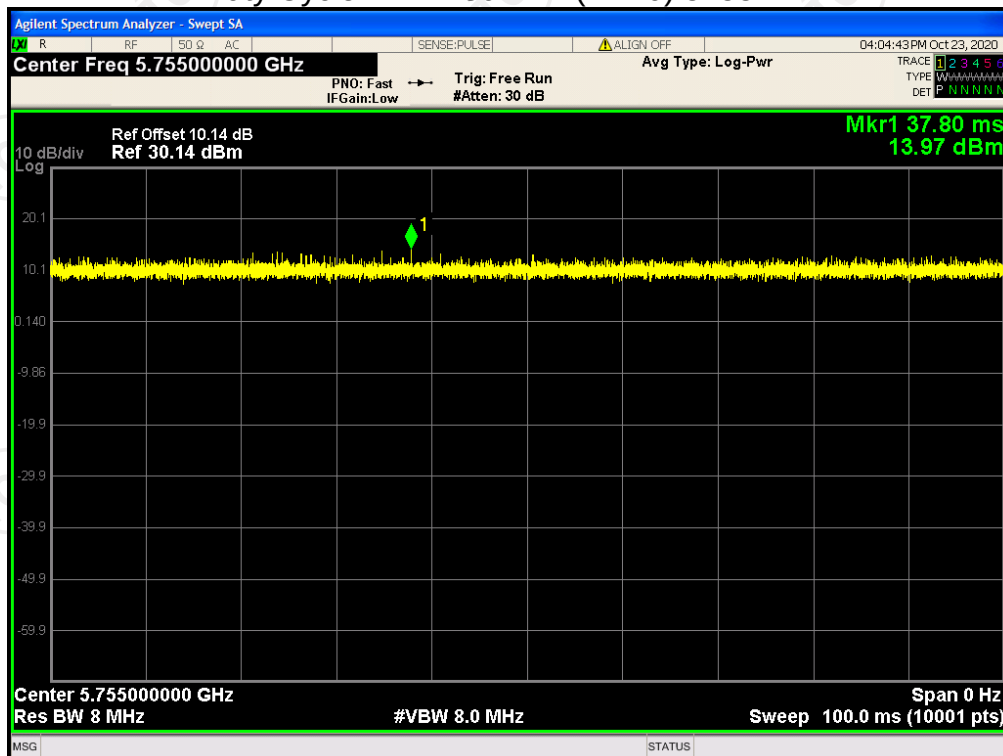
Duty Cycle NVNT 802.11n(HT20) 5785MHz



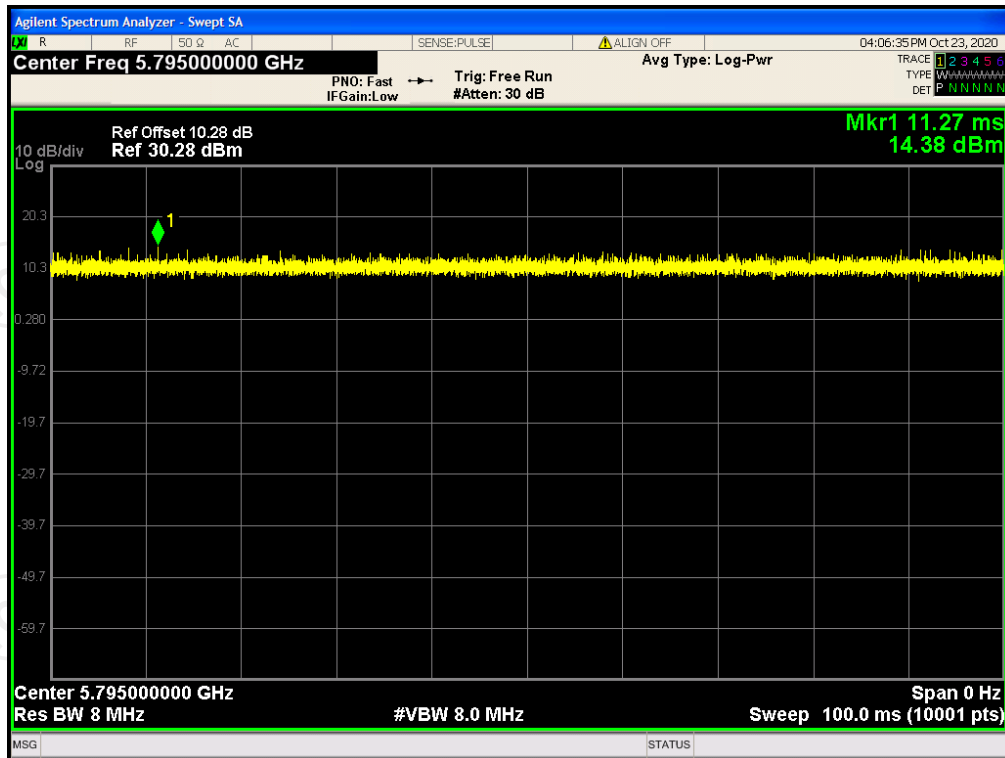
Duty Cycle NVNT 802.11n(HT20) 5825MHz



Duty Cycle NVNT 802.11n(HT40) 5755MHz



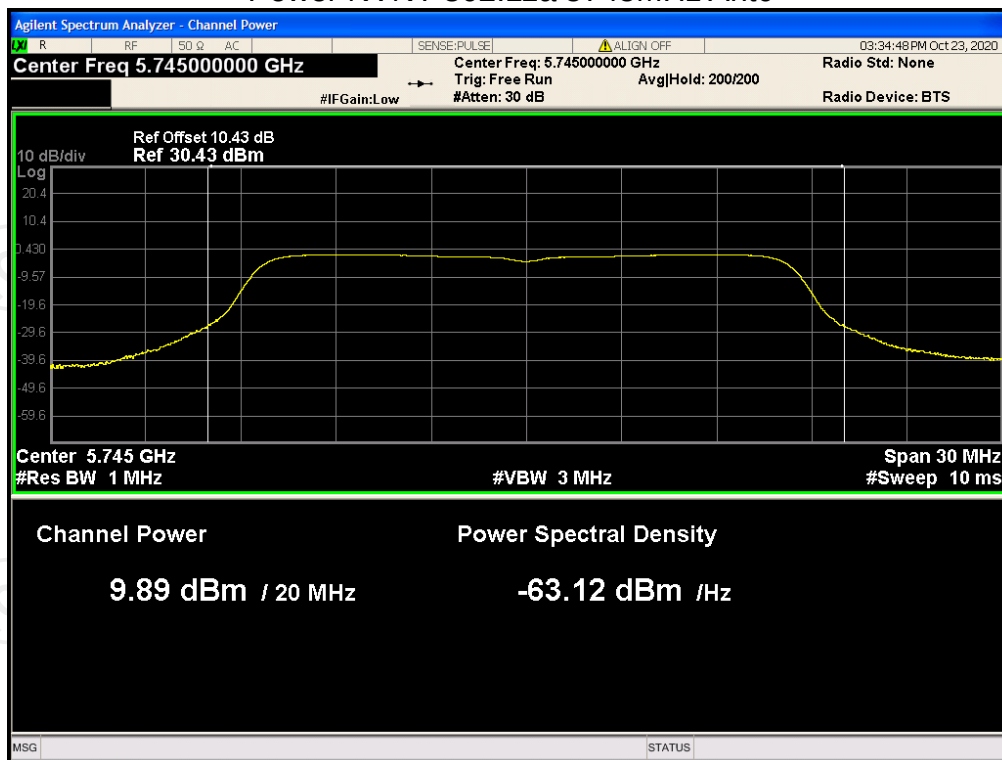
Duty Cycle NVNT 802.11n(HT40) 5795MHz



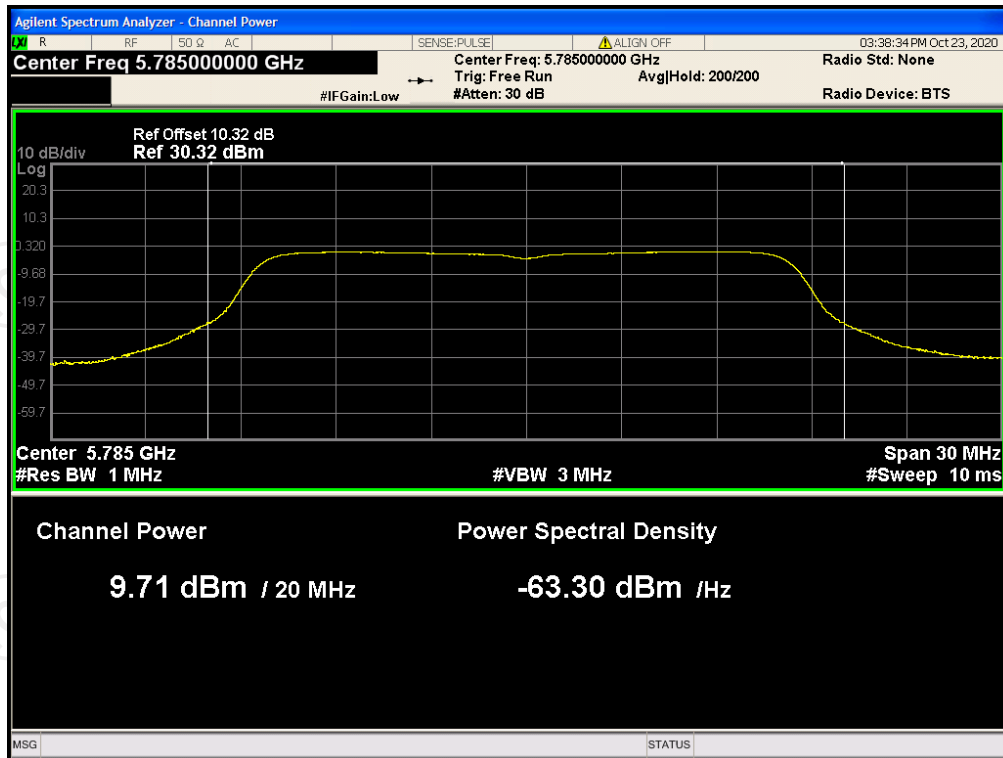
## Maximum Conducted Output Power

| Condition | Mode          | Frequency (MHz) | Antenna | Conducted Power (dBm) | Duty Factor (dB) | Total Power (dBm) | Limit (dBm) | Verdict |
|-----------|---------------|-----------------|---------|-----------------------|------------------|-------------------|-------------|---------|
| NVNT      | 802.11a       | 5745            | Ant 0   | 9.886                 | 0                | 9.886             | 30          | Pass    |
| NVNT      | 802.11a       | 5785            | Ant 0   | 9.711                 | 0                | 9.711             | 30          | Pass    |
| NVNT      | 802.11a       | 5825            | Ant 0   | 9.477                 | 0                | 9.477             | 30          | Pass    |
| NVNT      | 802.11ac20    | 5745            | Ant 0   | 9.527                 | 0                | 9.527             | 30          | Pass    |
| NVNT      | 802.11ac20    | 5785            | Ant 0   | 9.76                  | 0                | 9.760             | 30          | Pass    |
| NVNT      | 802.11ac20    | 5825            | Ant 0   | 9.482                 | 0                | 9.482             | 30          | Pass    |
| NVNT      | 802.11ac40    | 5755            | Ant 0   | 9.639                 | 0                | 9.639             | 30          | Pass    |
| NVNT      | 802.11ac40    | 5795            | Ant 0   | 9.502                 | 0                | 9.502             | 30          | Pass    |
| NVNT      | 802.11ac80    | 5775            | Ant 0   | 9.349                 | 0                | 9.349             | 30          | Pass    |
| NVNT      | 802.11n(HT20) | 5745            | Ant 0   | 9.464                 | 0                | 9.464             | 30          | Pass    |
| NVNT      | 802.11n(HT20) | 5785            | Ant 0   | 9.706                 | 0                | 9.706             | 30          | Pass    |
| NVNT      | 802.11n(HT20) | 5825            | Ant 0   | 9.383                 | 0                | 9.383             | 30          | Pass    |
| NVNT      | 802.11n(HT40) | 5755            | Ant 0   | 9.828                 | 0                | 9.828             | 30          | Pass    |
| NVNT      | 802.11n(HT40) | 5795            | Ant 0   | 9.992                 | 0                | 9.992             | 30          | Pass    |

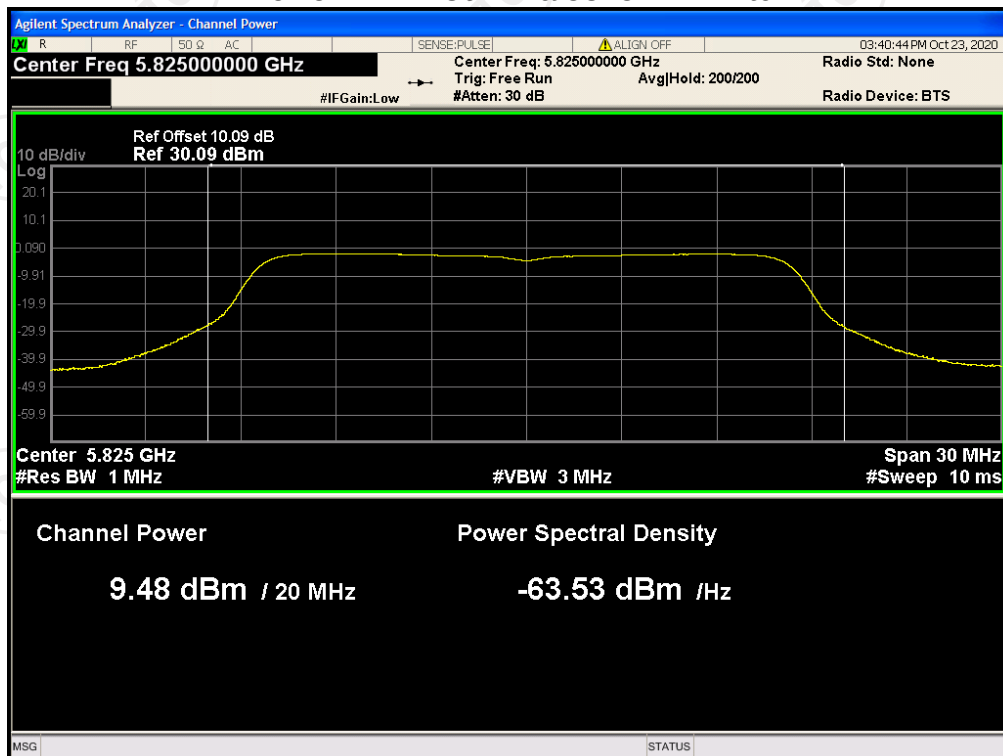
### Power NVNT 802.11a 5745MHz Ant0



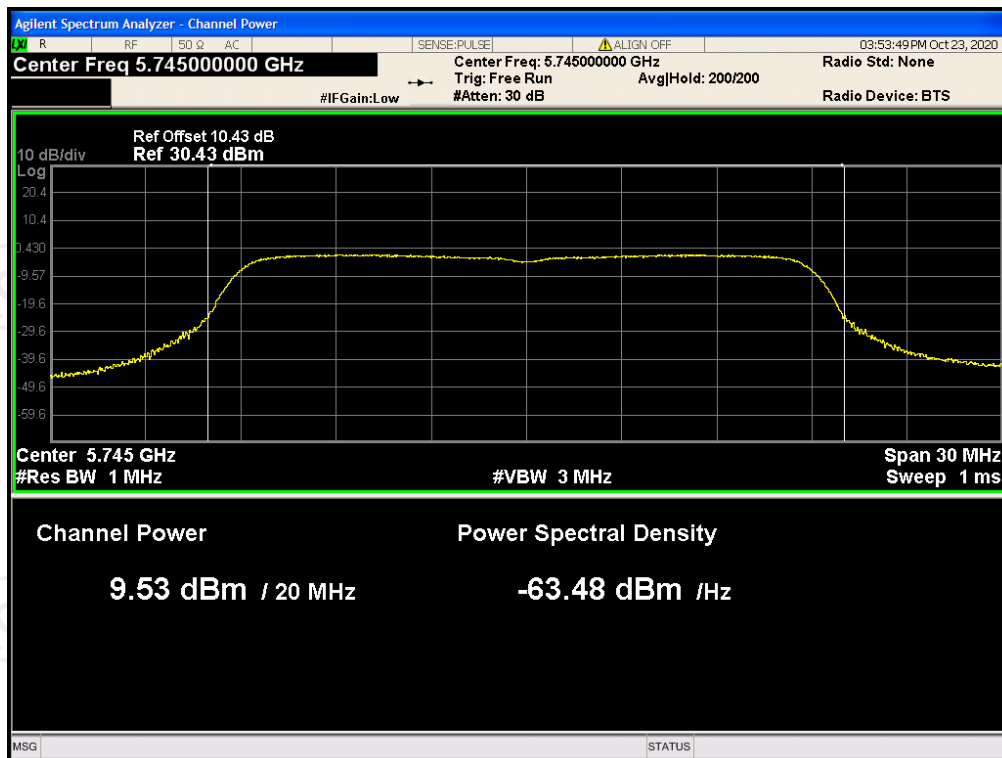
### Power NVNT 802.11a 5785MHz Ant0



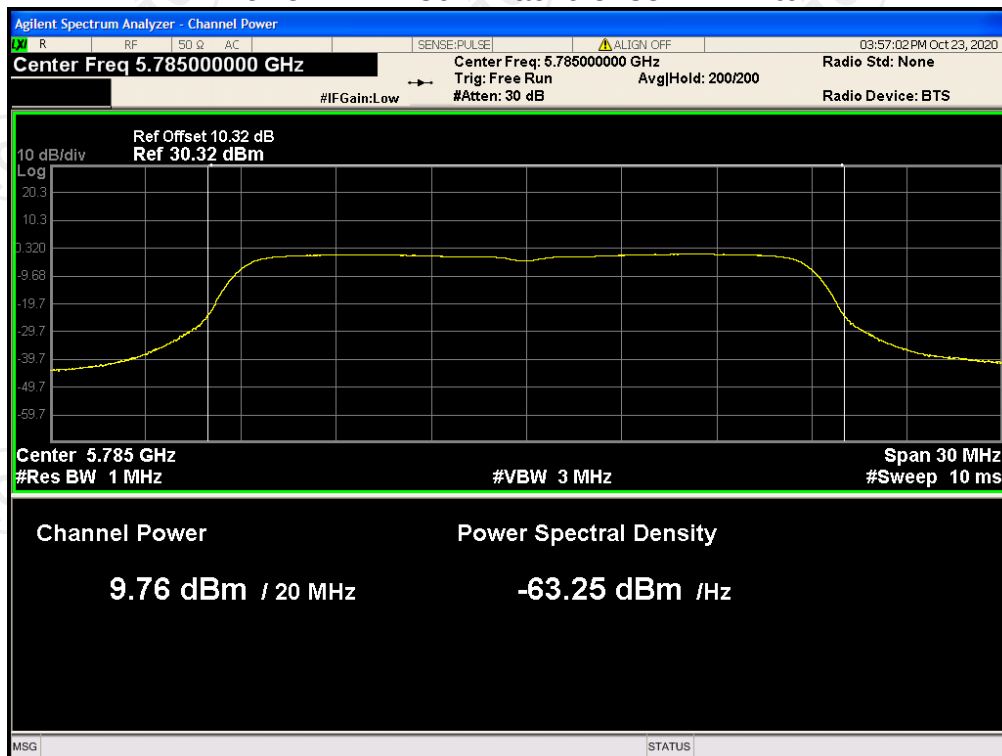
Power NVNT 802.11a 5825MHz Ant0



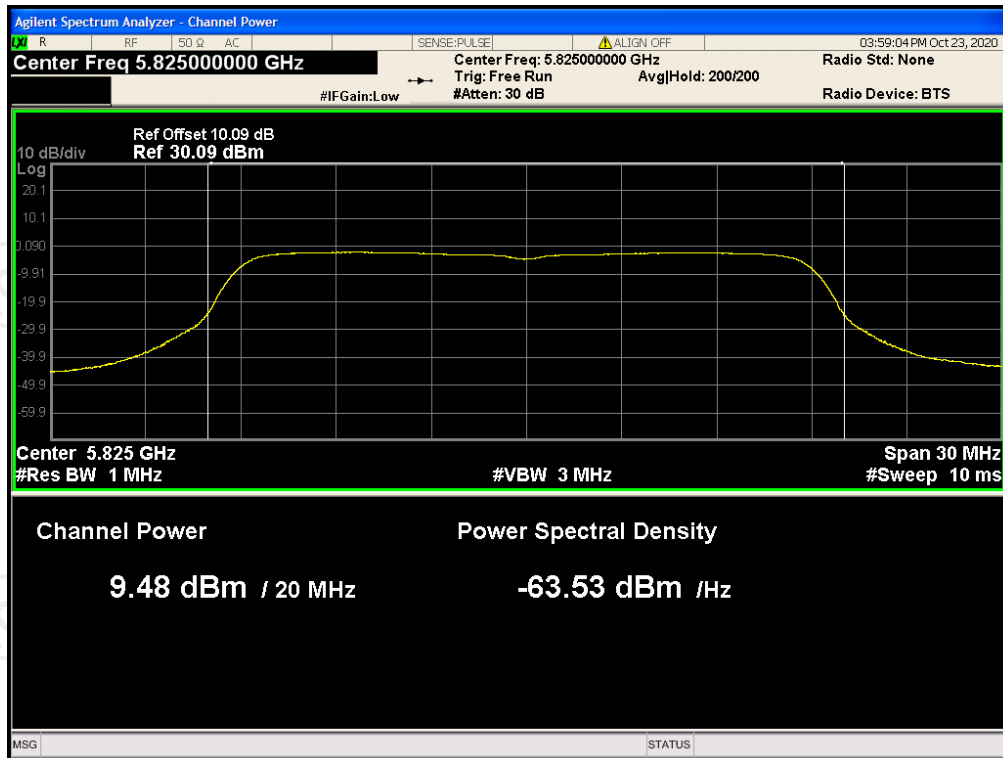
Power NVNT 802.11ac20 5745MHz Ant0



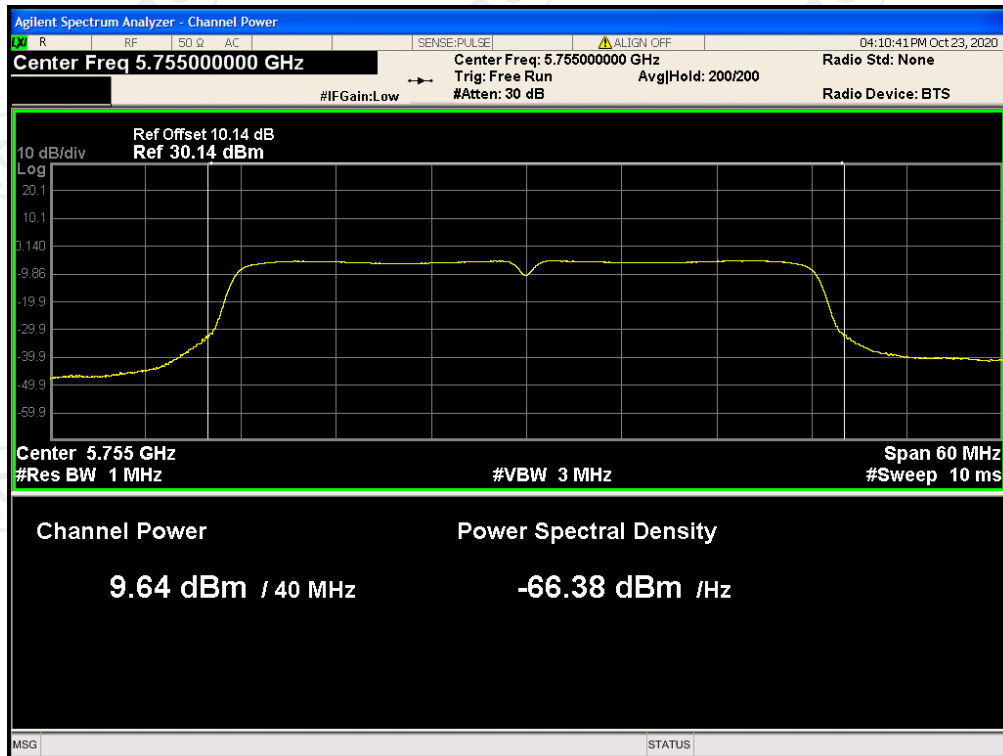
Power NVNT 802.11ac20 5785MHz Ant0



Power NVNT 802.11ac20 5825MHz Ant0

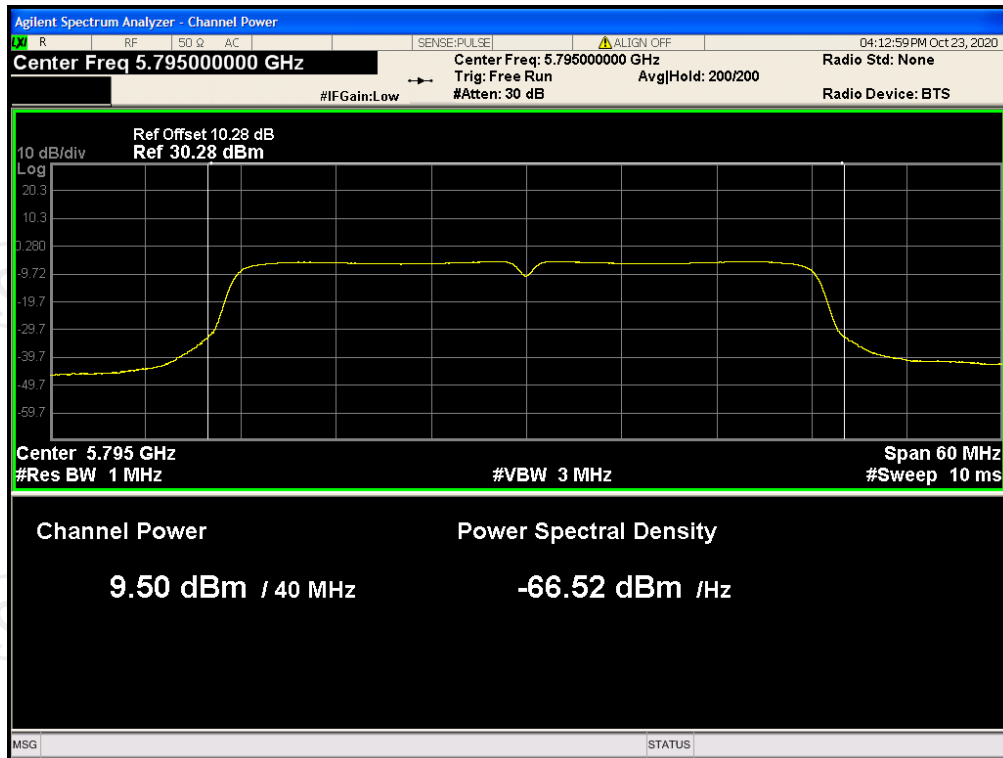


Power NVNT 802.11ac40 5755MHz Ant0

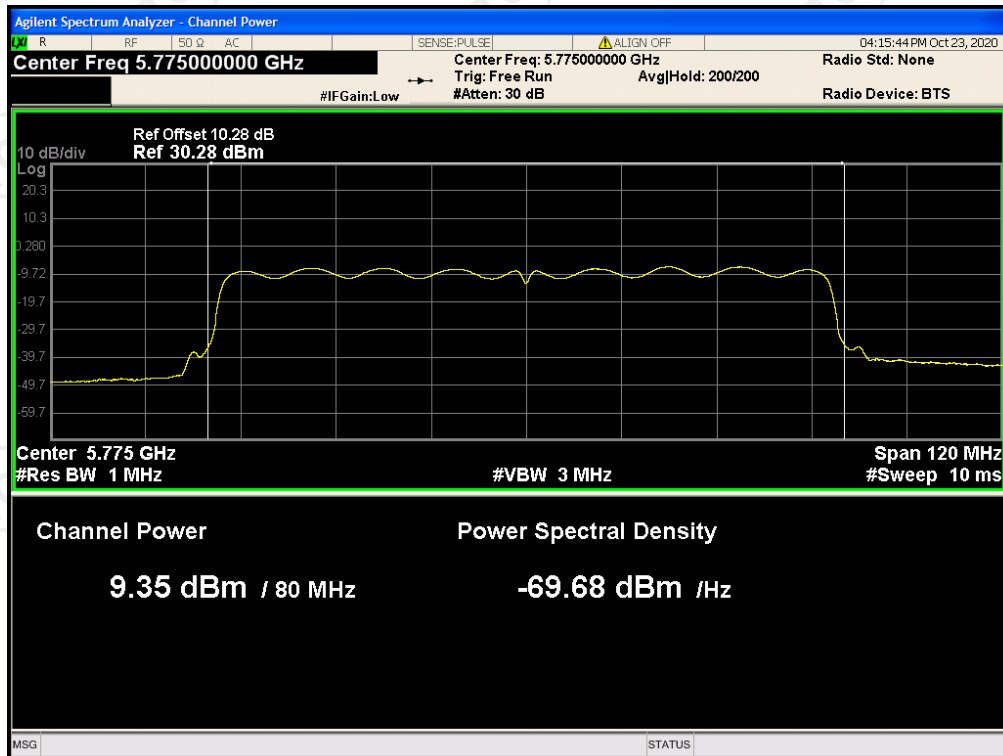


Power NVNT 802.11ac40 5795MHz Ant0

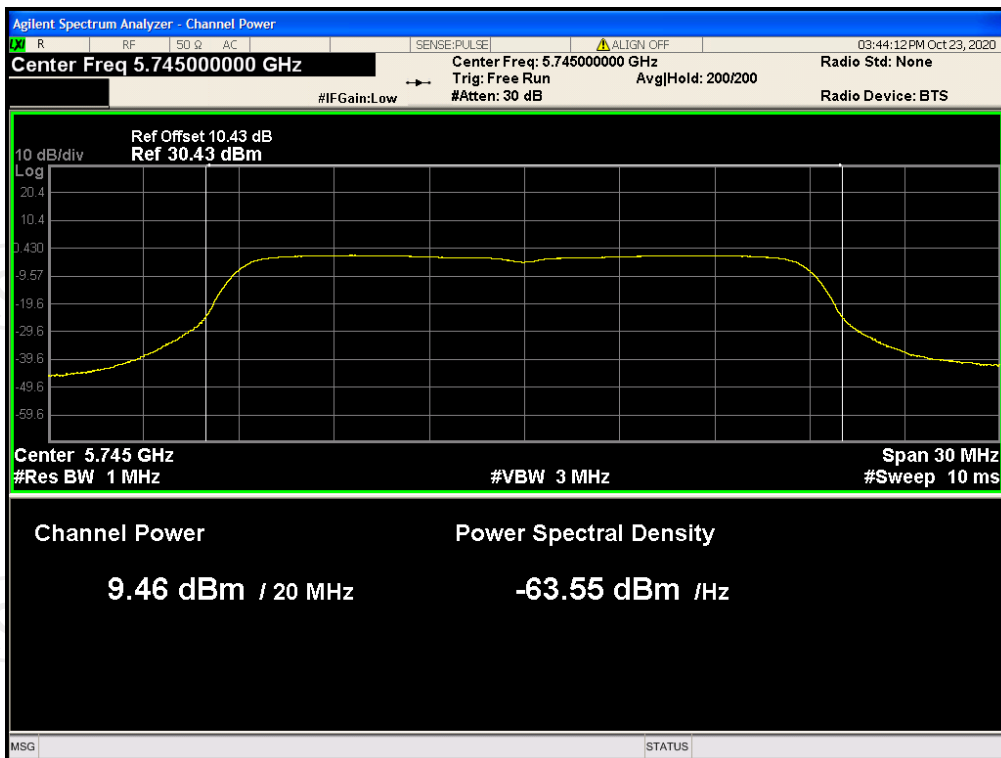




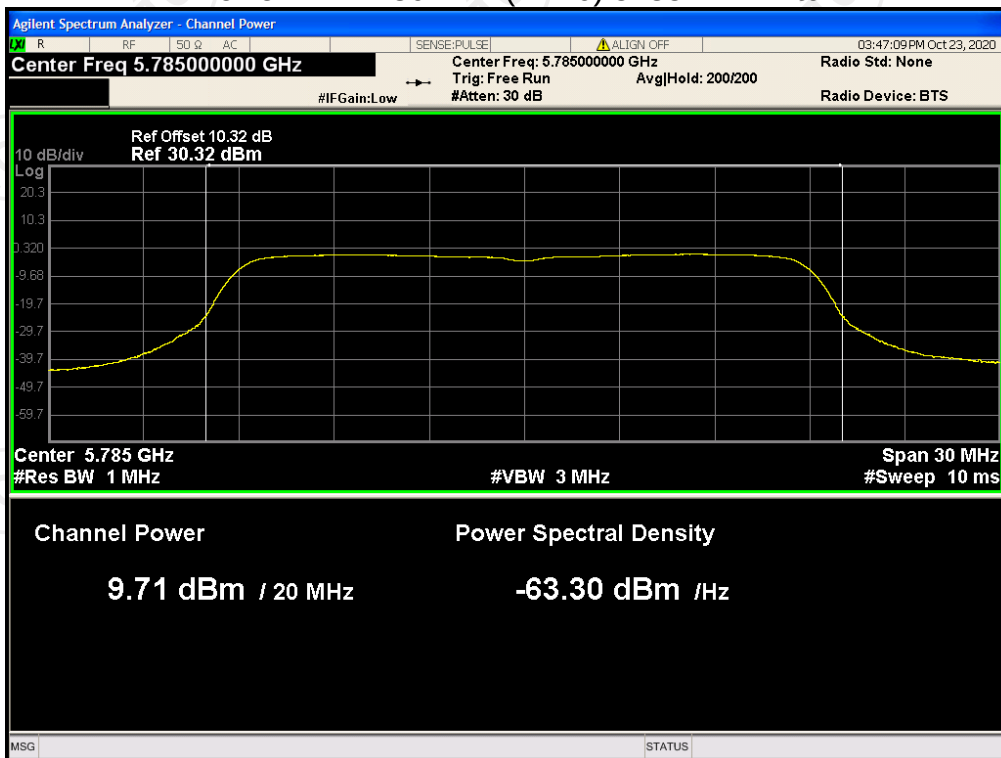
Power NVNT 802.11ac80 5775MHz Ant0



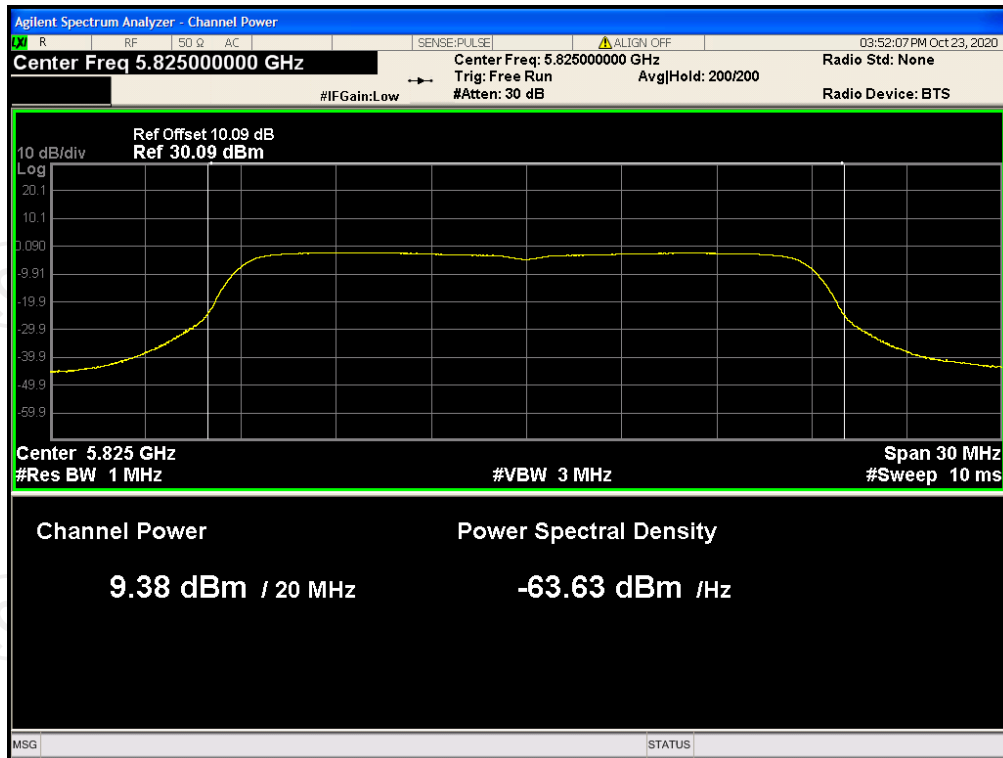
Power NVNT 802.11n(HT20) 5745MHz Ant0



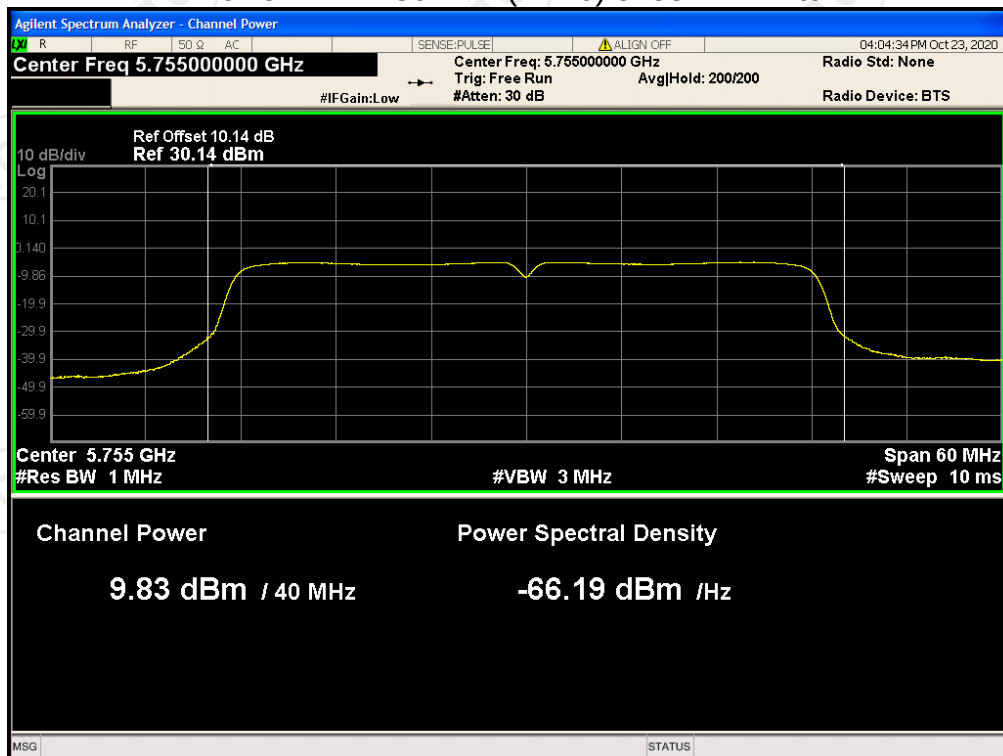
Power NVNT 802.11n(HT20) 5785MHz Ant0



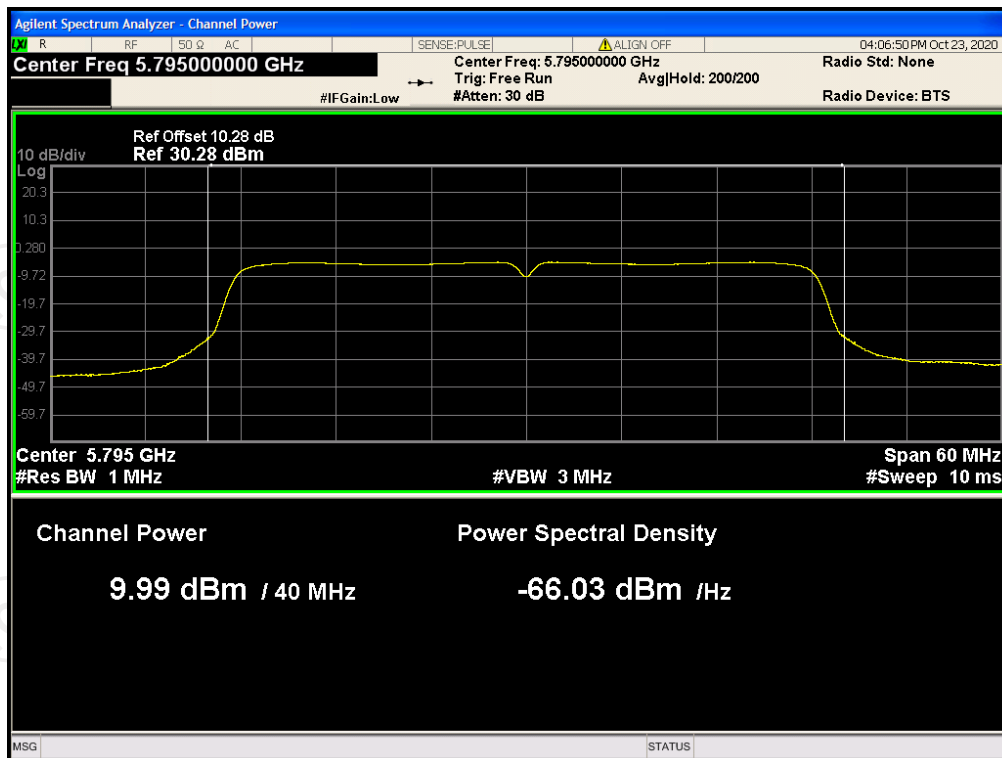
Power NVNT 802.11n(HT20) 5825MHz Ant0



Power NVNT 802.11n(HT40) 5755MHz Ant0



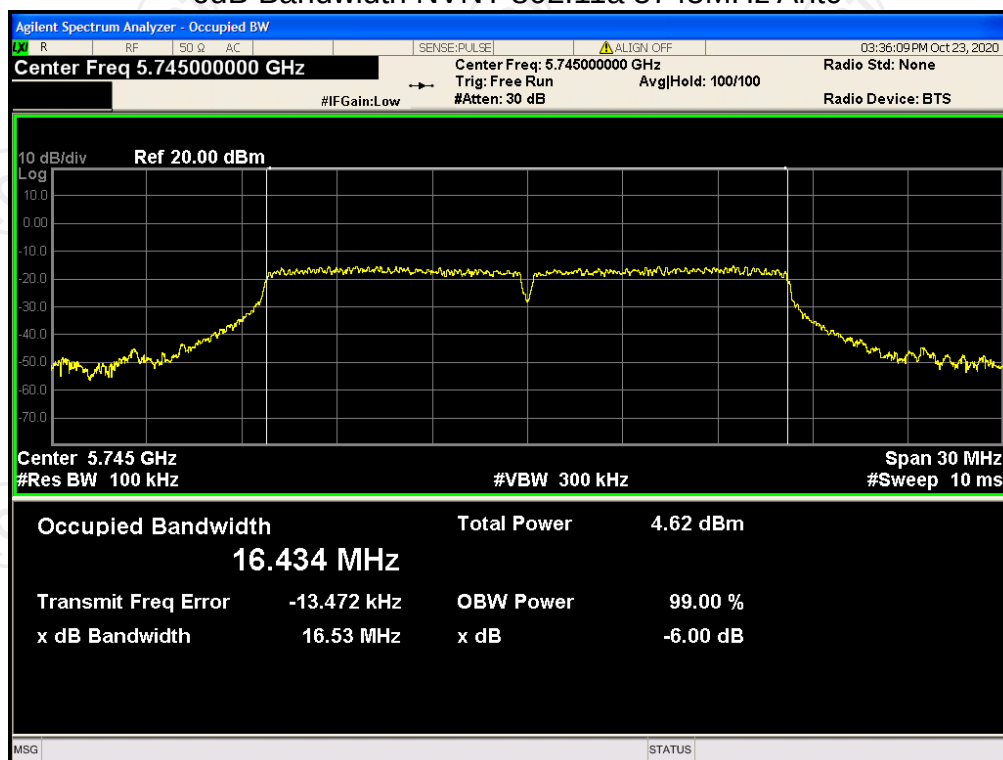
Power NVNT 802.11n(HT40) 5795MHz Ant0



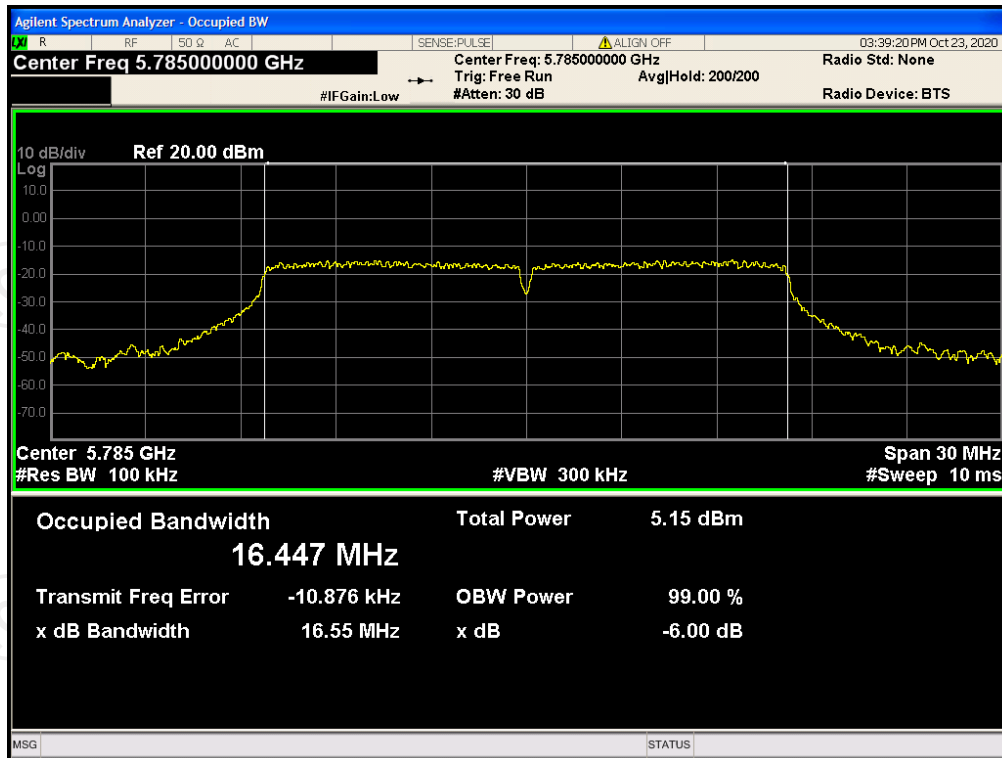
## -6dB Bandwidth

| Condition | Mode          | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|-----------|---------------|-----------------|---------|-----------------------|-----------------------------|---------|
| NVNT      | 802.11a       | 5745            | Ant 0   | 16.5312               | 0.5                         | Pass    |
| NVNT      | 802.11a       | 5785            | Ant 0   | 16.5482               | 0.5                         | Pass    |
| NVNT      | 802.11a       | 5825            | Ant 0   | 16.5328               | 0.5                         | Pass    |
| NVNT      | 802.11ac20    | 5745            | Ant 0   | 17.6531               | 0.5                         | Pass    |
| NVNT      | 802.11ac20    | 5785            | Ant 0   | 17.6341               | 0.5                         | Pass    |
| NVNT      | 802.11ac20    | 5825            | Ant 0   | 17.6096               | 0.5                         | Pass    |
| NVNT      | 802.11ac40    | 5755            | Ant 0   | 36.3911               | 0.5                         | Pass    |
| NVNT      | 802.11ac40    | 5795            | Ant 0   | 36.3865               | 0.5                         | Pass    |
| NVNT      | 802.11ac80    | 5775            | Ant 0   | 76.3500               | 0.5                         | Pass    |
| NVNT      | 802.11n(HT20) | 5745            | Ant 0   | 17.6285               | 0.5                         | Pass    |
| NVNT      | 802.11n(HT20) | 5785            | Ant 0   | 17.6362               | 0.5                         | Pass    |
| NVNT      | 802.11n(HT20) | 5825            | Ant 0   | 17.6568               | 0.5                         | Pass    |
| NVNT      | 802.11n(HT40) | 5755            | Ant 0   | 36.4623               | 0.5                         | Pass    |
| NVNT      | 802.11n(HT40) | 5795            | Ant 0   | 36.4603               | 0.5                         | Pass    |

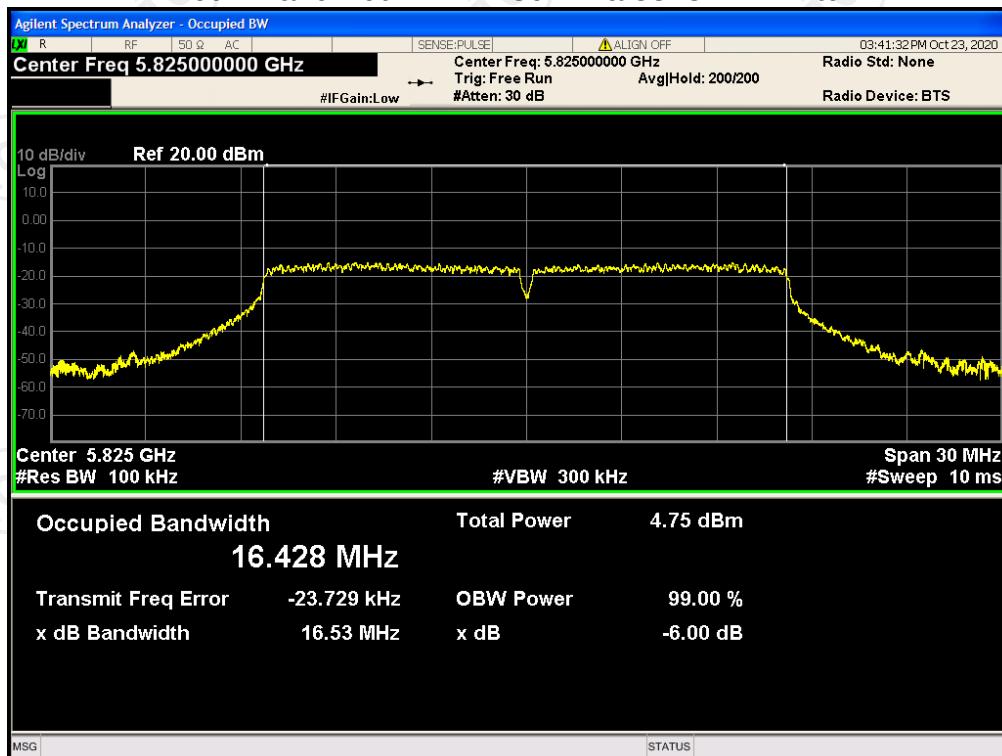
## -6dB Bandwidth NVNT 802.11a 5745MHz Ant0



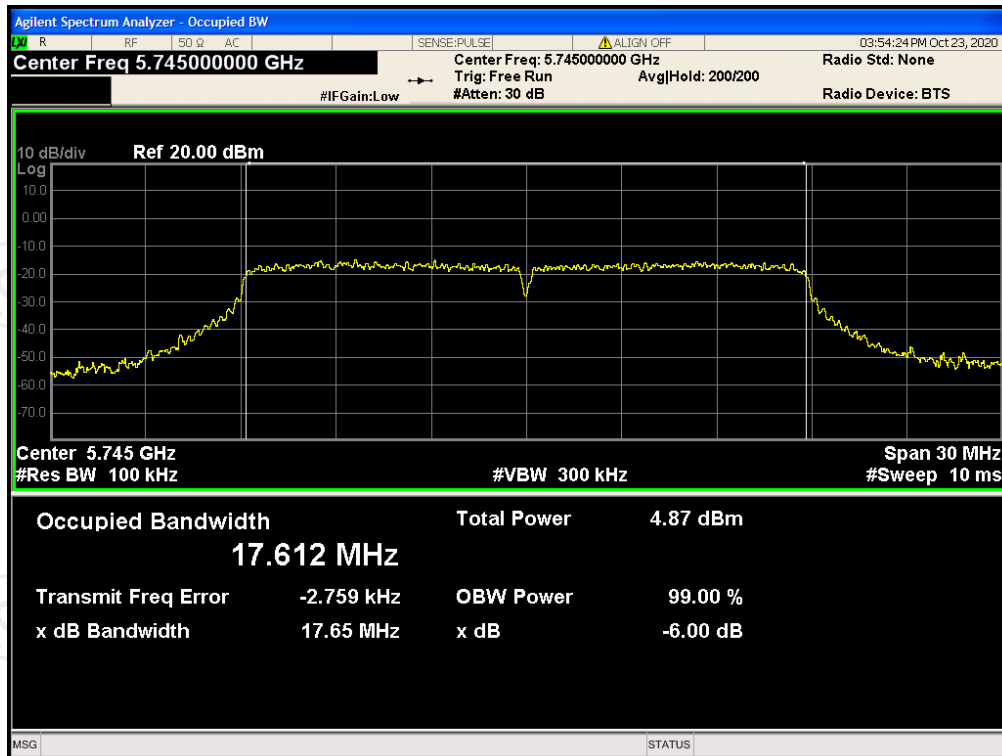
## -6dB Bandwidth NVNT 802.11a 5785MHz Ant0



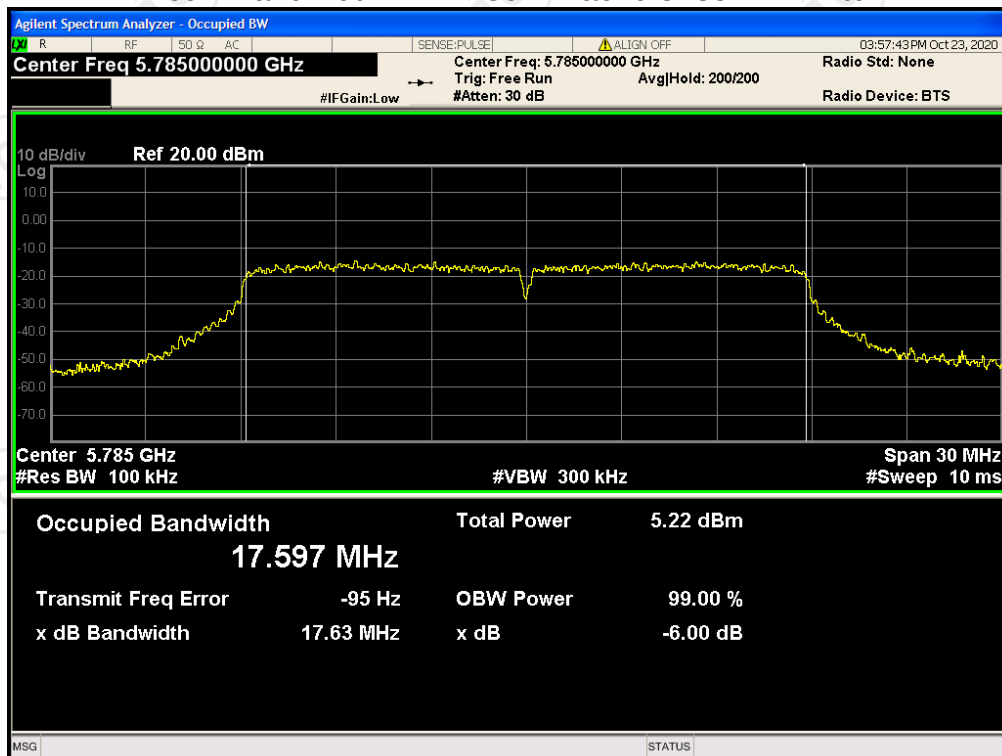
-6dB Bandwidth NVNT 802.11a 5825MHz Ant0



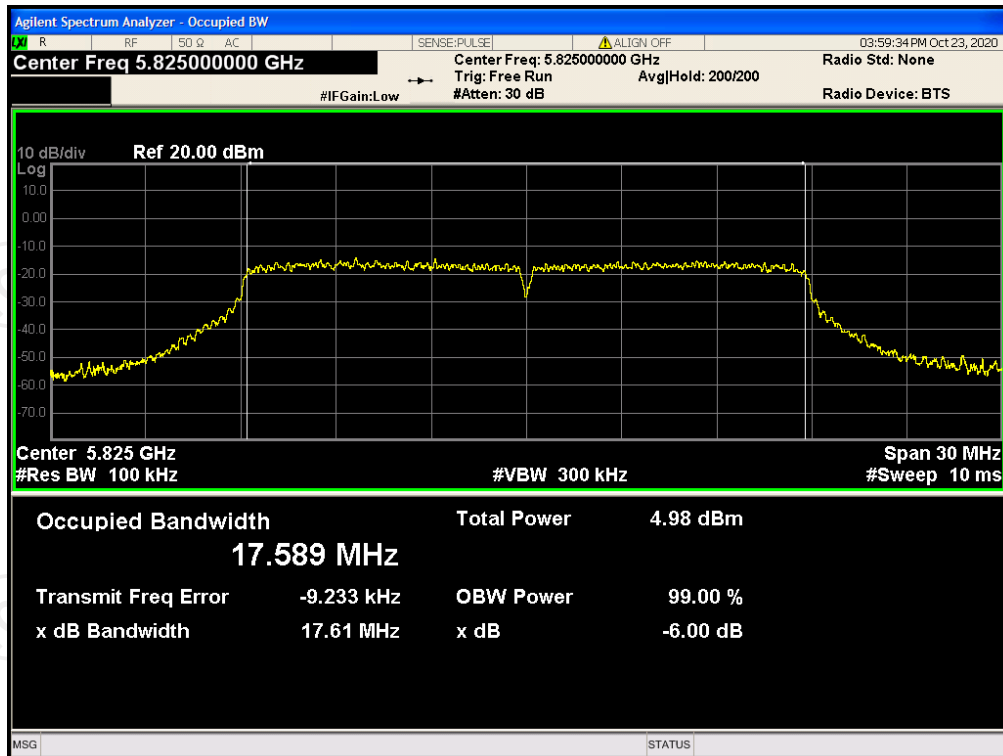
-6dB Bandwidth NVNT 802.11ac20 5745MHz Ant0



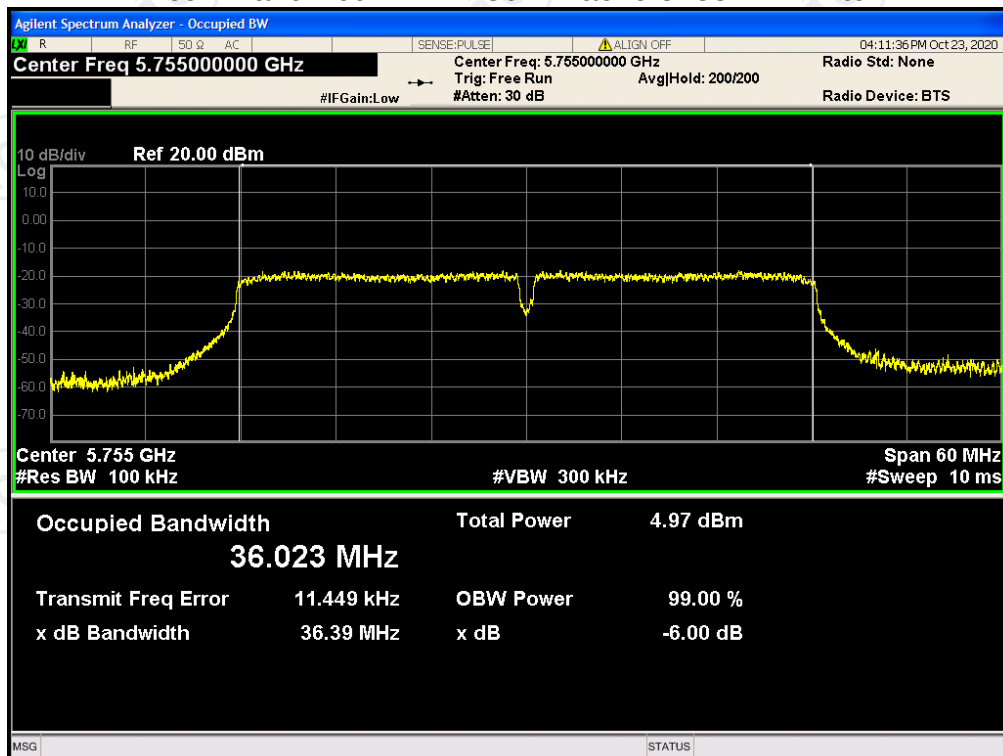
-6dB Bandwidth NVNT 802.11ac20 5785MHz Ant0



-6dB Bandwidth NVNT 802.11ac20 5825MHz Ant0

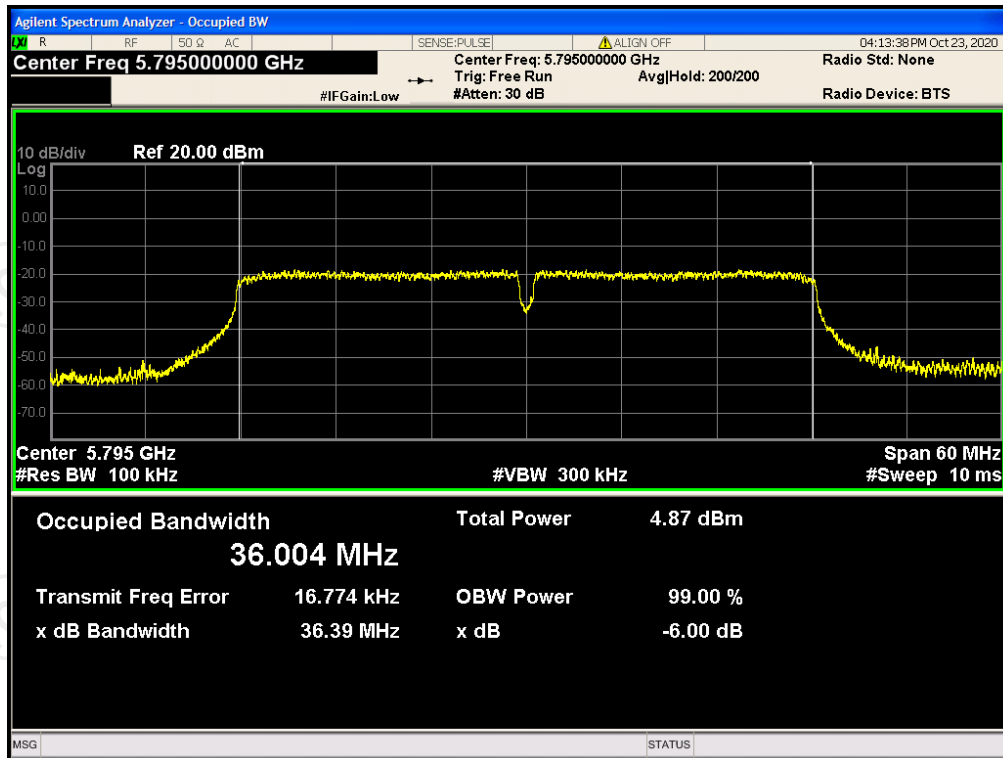


-6dB Bandwidth NVNT 802.11ac40 5755MHz Ant0

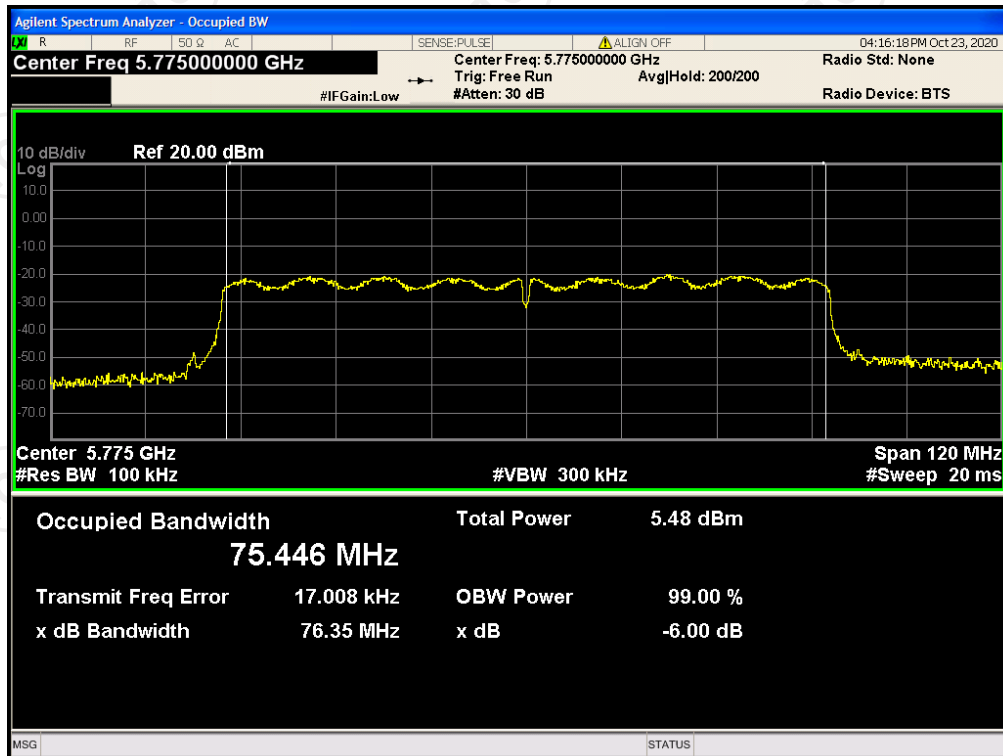


-6dB Bandwidth NVNT 802.11ac40 5795MHz Ant0

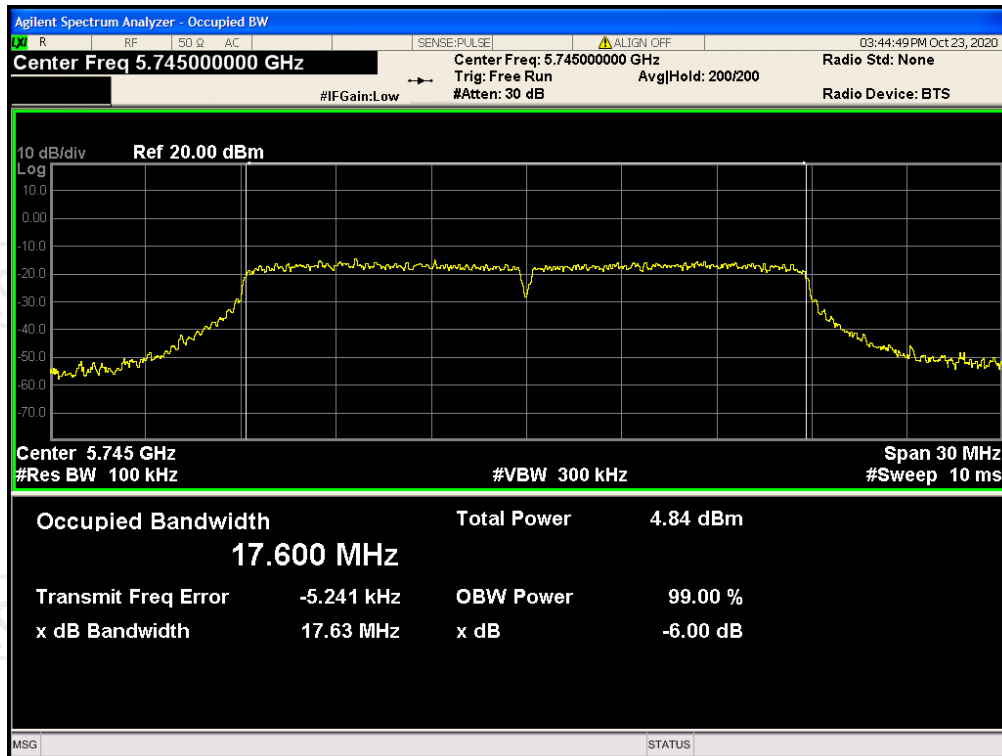




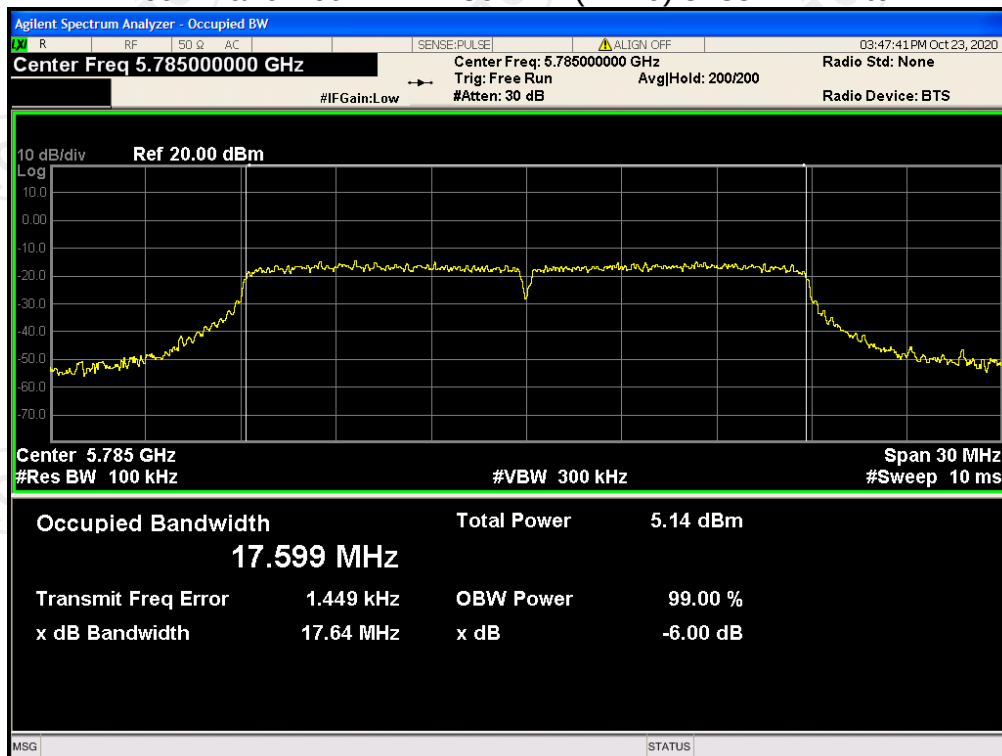
-6dB Bandwidth NVNT 802.11ac80 5775MHz Ant0



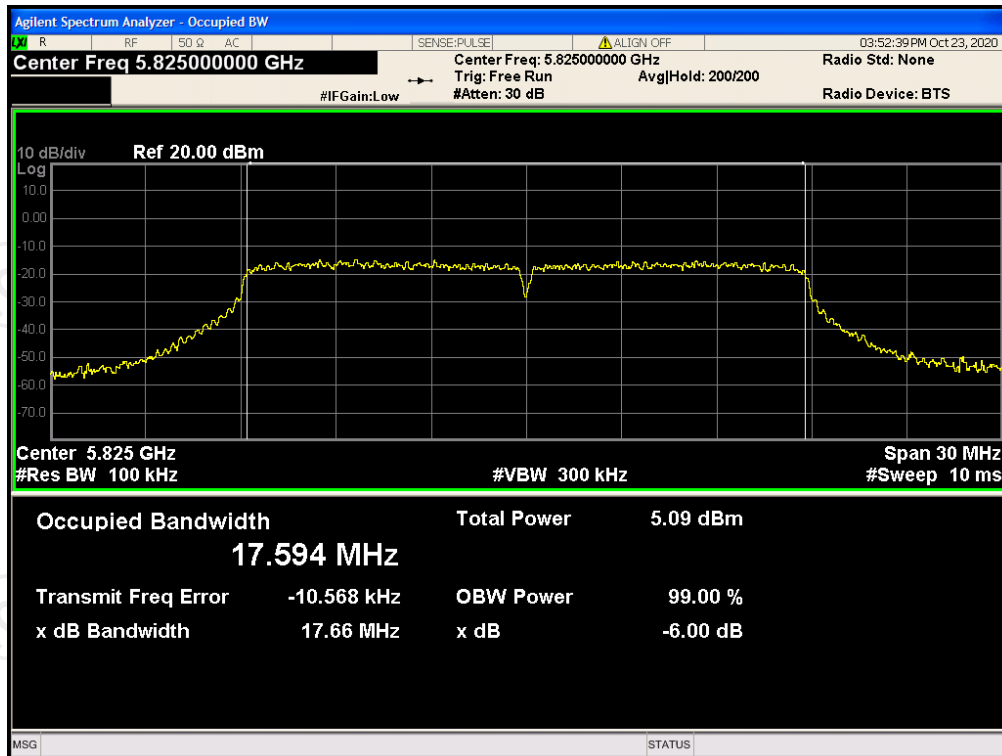
-6dB Bandwidth NVNT 802.11n(HT20) 5745MHz Ant0



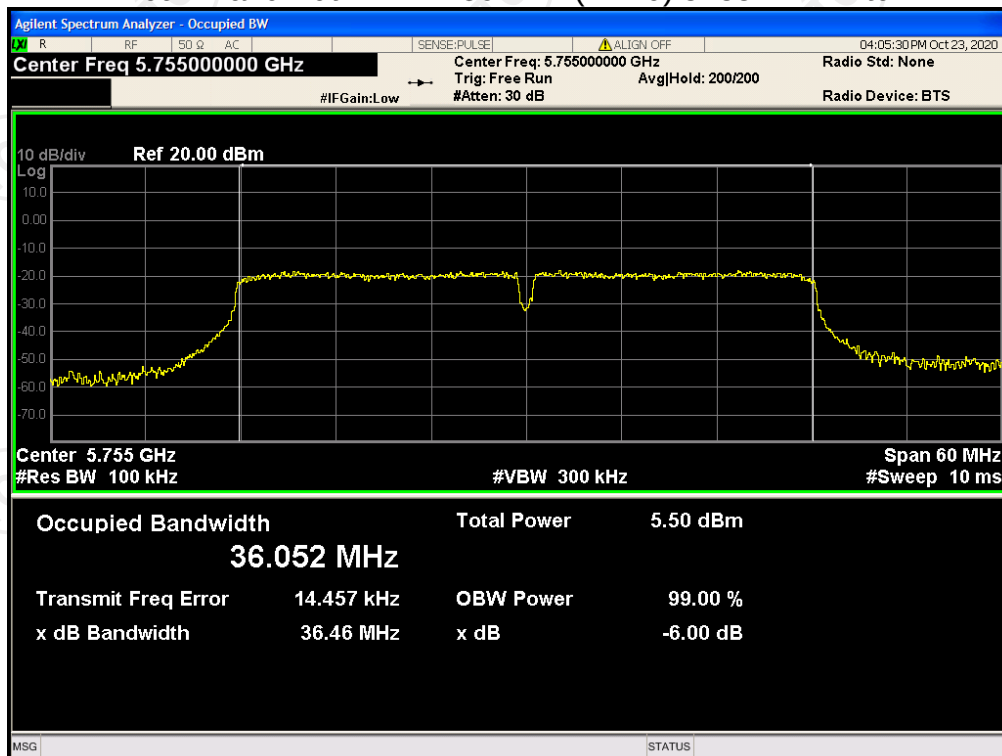
-6dB Bandwidth NVNT 802.11n(HT20) 5785MHz Ant0



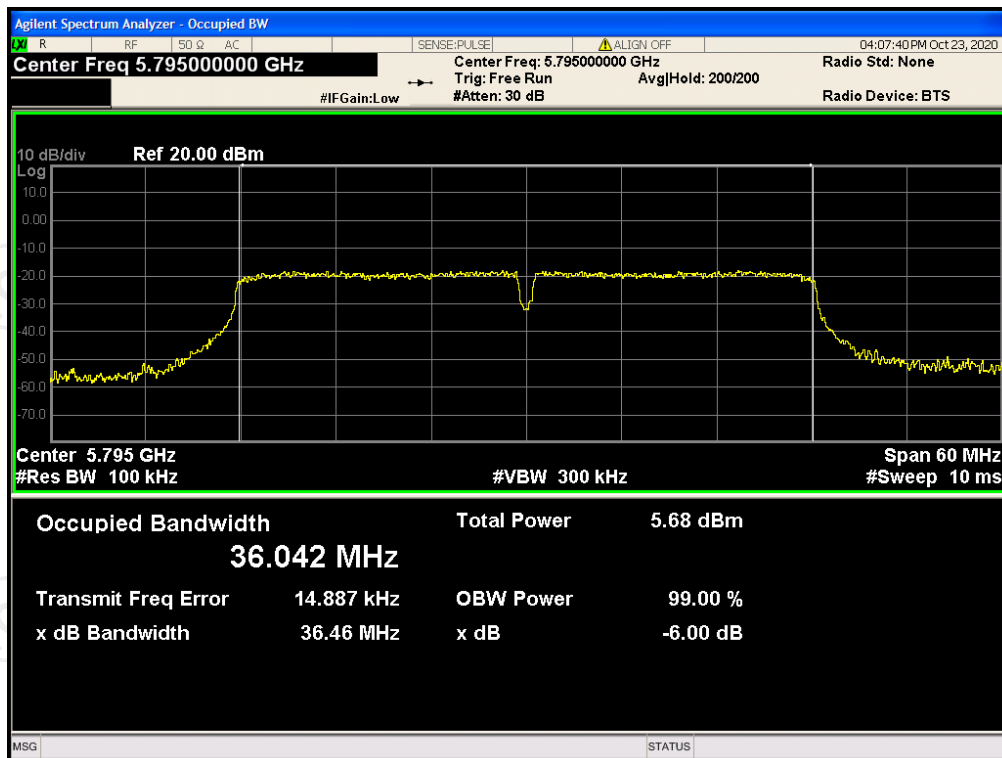
-6dB Bandwidth NVNT 802.11n(HT20) 5825MHz Ant0



-6dB Bandwidth NVNT 802.11n(HT40) 5755MHz Ant0



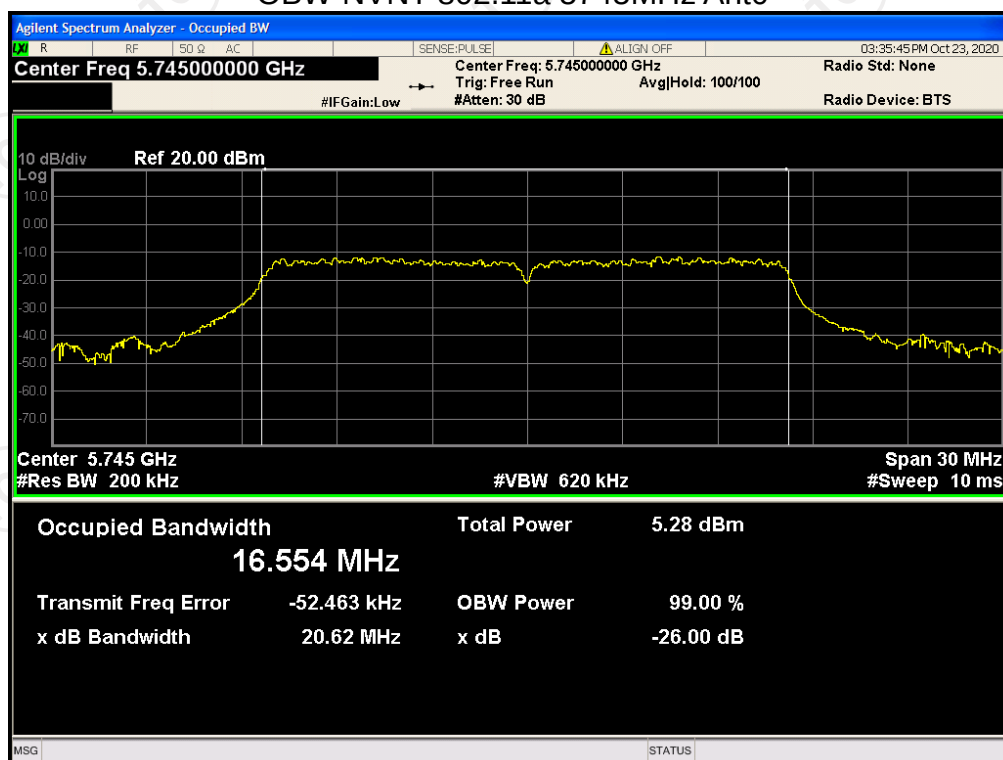
-6dB Bandwidth NVNT 802.11n(HT40) 5795MHz Ant0



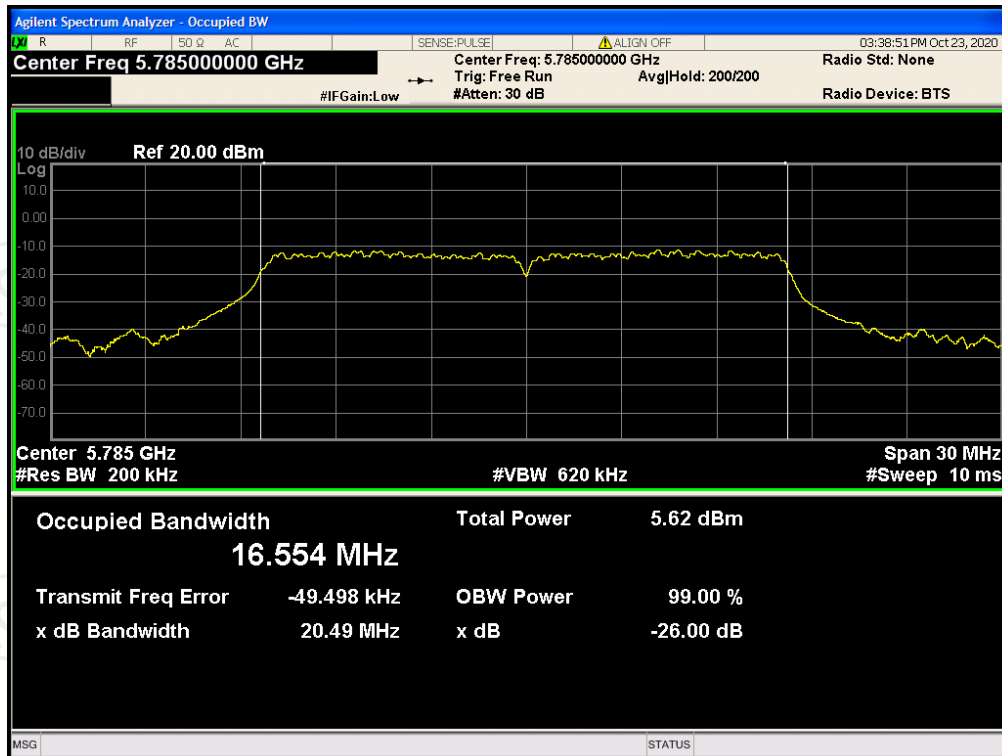
## Occupied Channel Bandwidth

| Condition | Mode          | Frequency (MHz) | Antenna | 99% OBW (MHz) | -26 dB Bandwidth (MHz) | Limit -26 dB Bandwidth (MHz) | Verdict |
|-----------|---------------|-----------------|---------|---------------|------------------------|------------------------------|---------|
| NVNT      | 802.11a       | 5745            | Ant 0   | 16.5537       | 20.6239                | 0.5                          | Pass    |
| NVNT      | 802.11a       | 5785            | Ant 0   | 16.5535       | 20.4892                | 0.5                          | Pass    |
| NVNT      | 802.11a       | 5825            | Ant 0   | 16.5402       | 20.2652                | 0.5                          | Pass    |
| NVNT      | 802.11ac20    | 5745            | Ant 0   | 17.6761       | 21.1993                | 0.5                          | Pass    |
| NVNT      | 802.11ac20    | 5785            | Ant 0   | 17.656        | 21.2545                | 0.5                          | Pass    |
| NVNT      | 802.11ac20    | 5825            | Ant 0   | 17.6505       | 21.223                 | 0.5                          | Pass    |
| NVNT      | 802.11ac40    | 5755            | Ant 0   | 36.1964       | 42.0122                | 0.5                          | Pass    |
| NVNT      | 802.11ac40    | 5795            | Ant 0   | 36.1646       | 42.0647                | 0.5                          | Pass    |
| NVNT      | 802.11ac80    | 5775            | Ant 0   | 75.5395       | 82.7843                | 0.5                          | Pass    |
| NVNT      | 802.11n(HT20) | 5745            | Ant 0   | 17.6595       | 21.257                 | 0.5                          | Pass    |
| NVNT      | 802.11n(HT20) | 5785            | Ant 0   | 17.6564       | 21.424                 | 0.5                          | Pass    |
| NVNT      | 802.11n(HT20) | 5825            | Ant 0   | 17.6482       | 21.1467                | 0.5                          | Pass    |
| NVNT      | 802.11n(HT40) | 5755            | Ant 0   | 36.1994       | 42.0021                | 0.5                          | Pass    |
| NVNT      | 802.11n(HT40) | 5795            | Ant 0   | 36.1761       | 42.0479                | 0.5                          | Pass    |

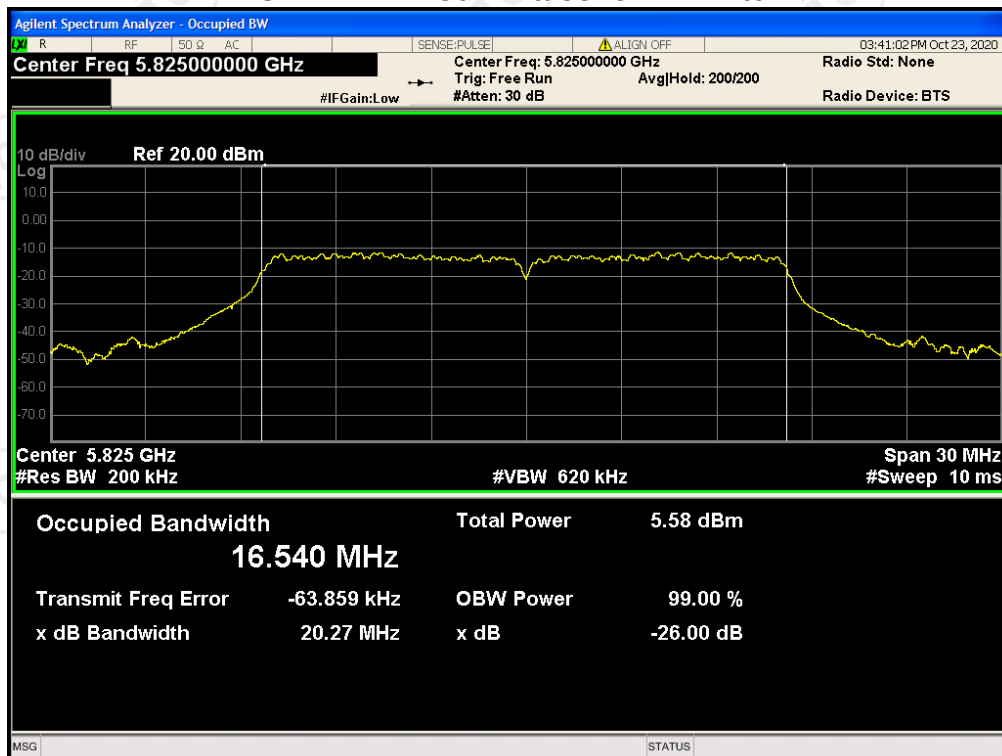
OBW NVNT 802.11a 5745MHz Ant0



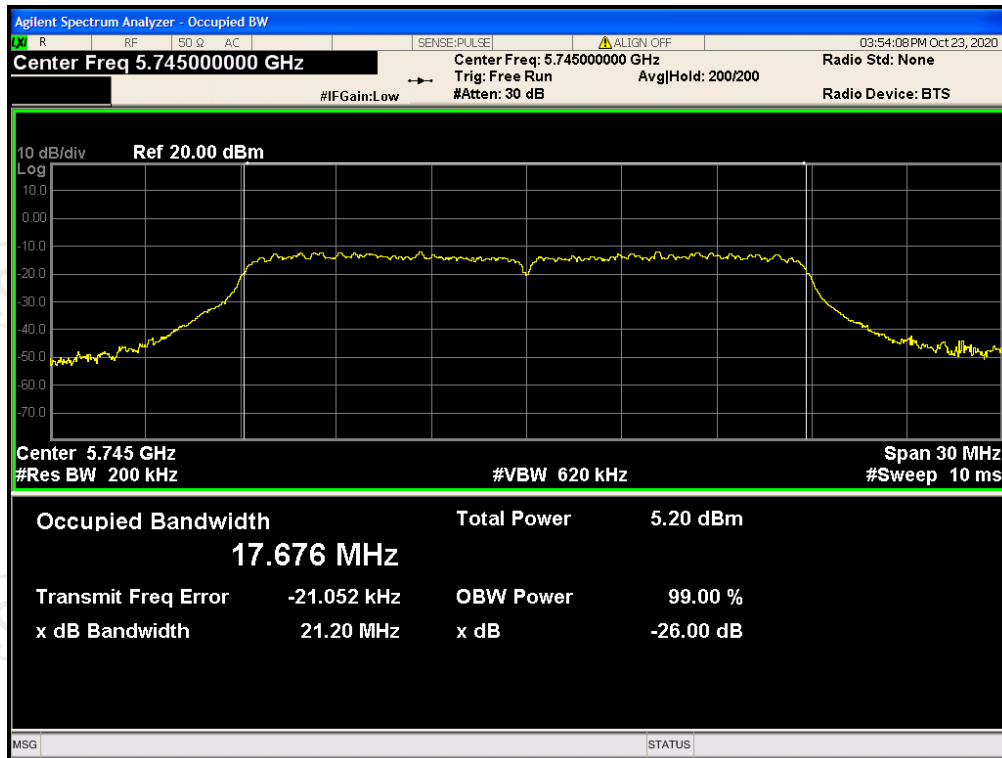
OBW NVNT 802.11a 5785MHz Ant0



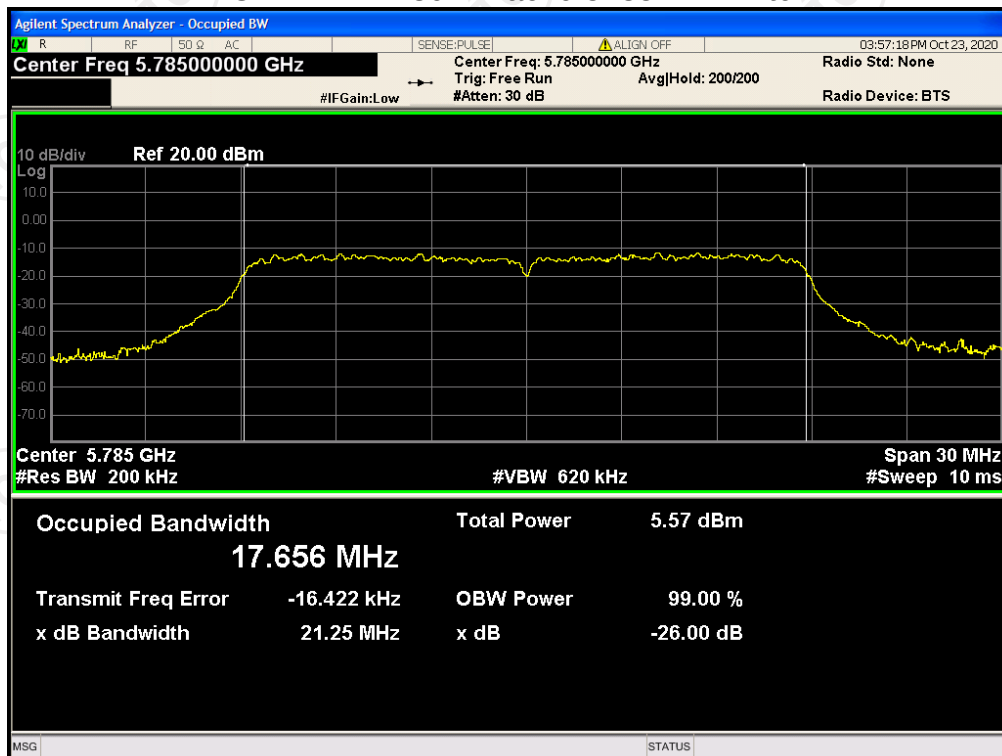
OBW NVNT 802.11a 5825MHz Ant0



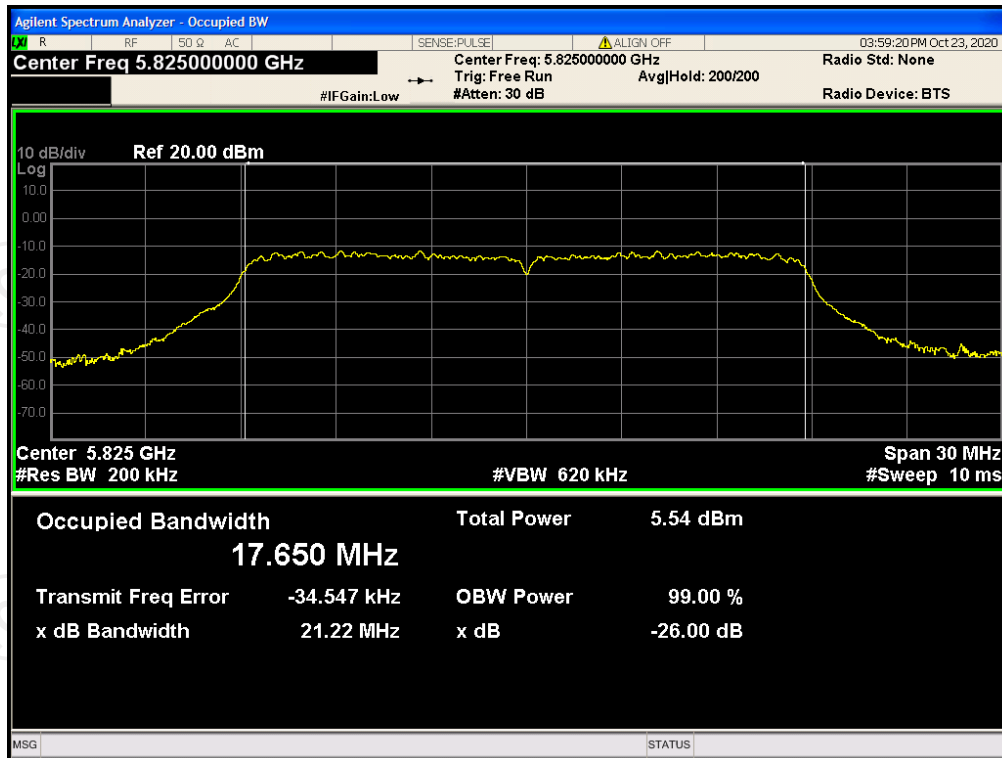
OBW NVNT 802.11ac20 5745MHz Ant0



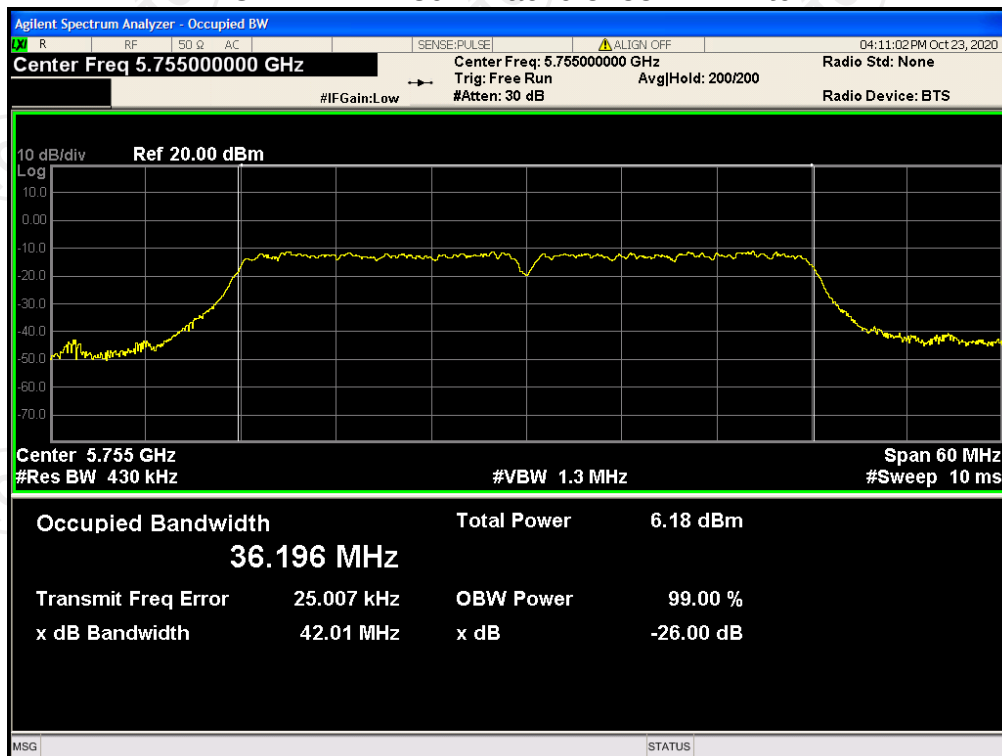
OBW NVNT 802.11ac20 5785MHz Ant0



OBW NVNT 802.11ac20 5825MHz Ant0

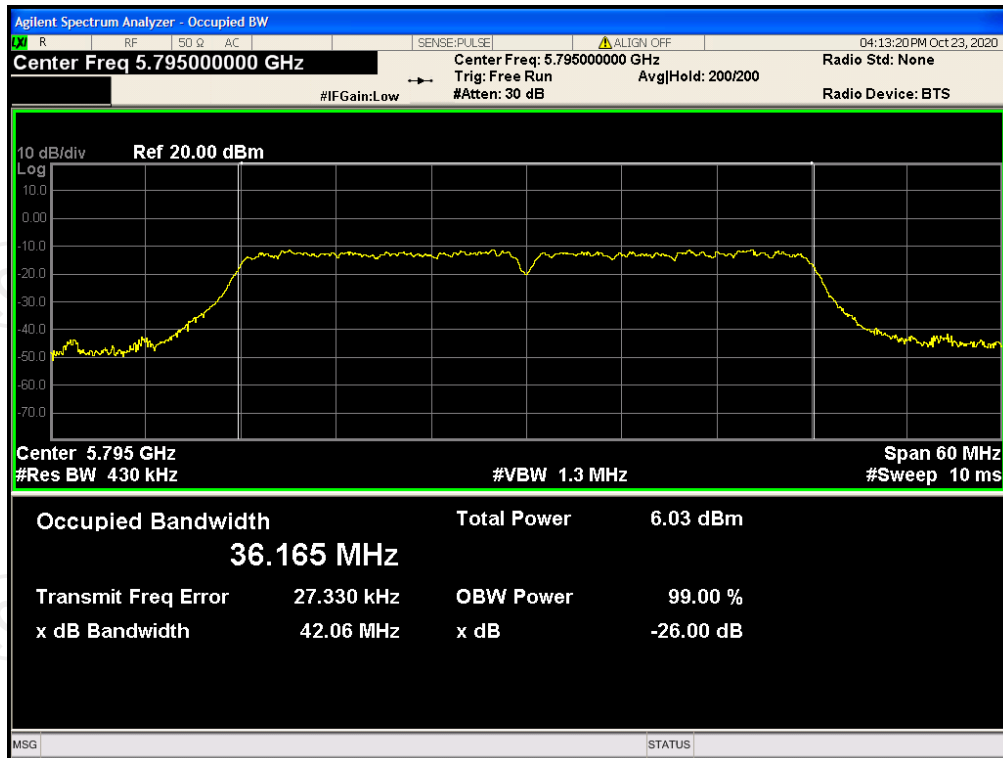


OBW NVNT 802.11ac40 5755MHz Ant0

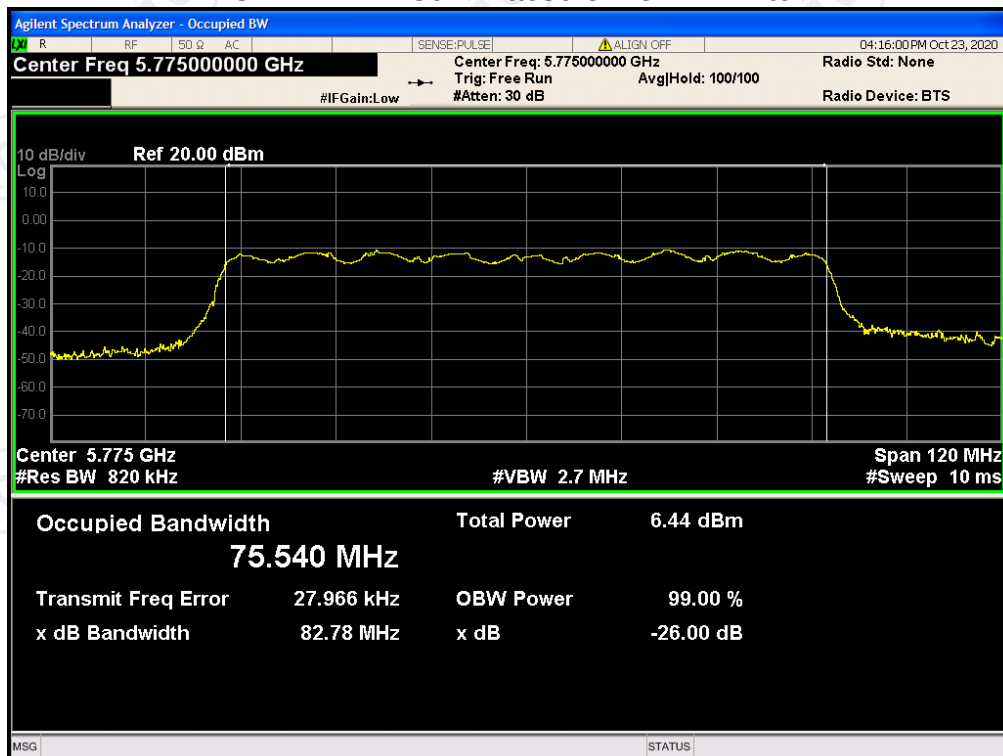


OBW NVNT 802.11ac40 5795MHz Ant0

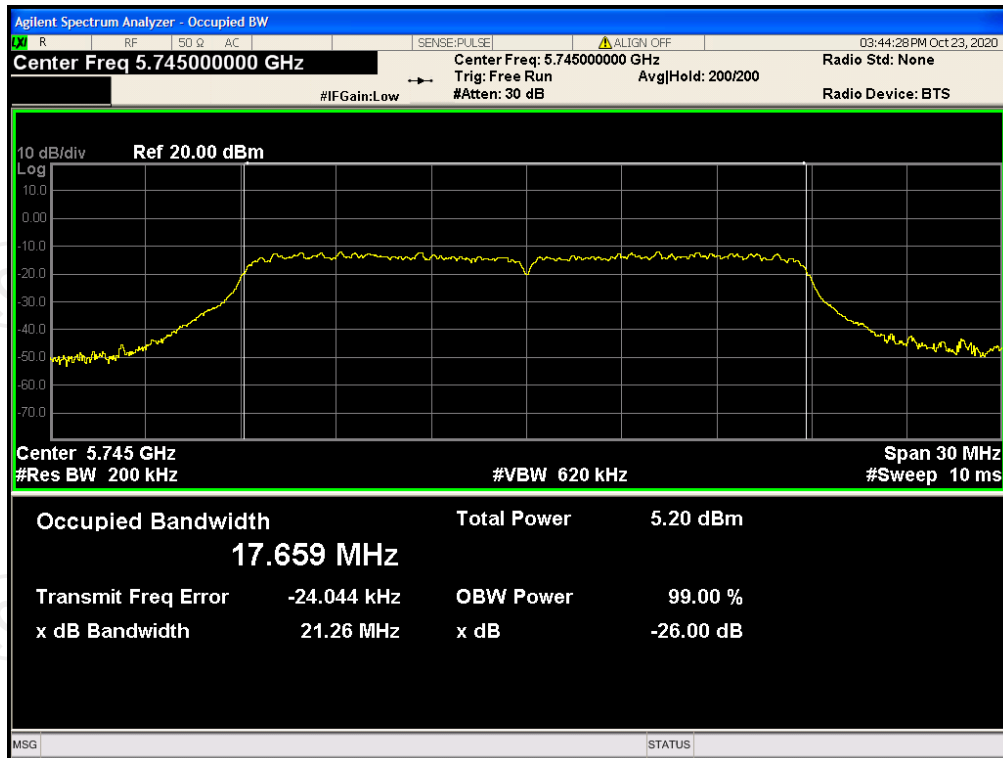




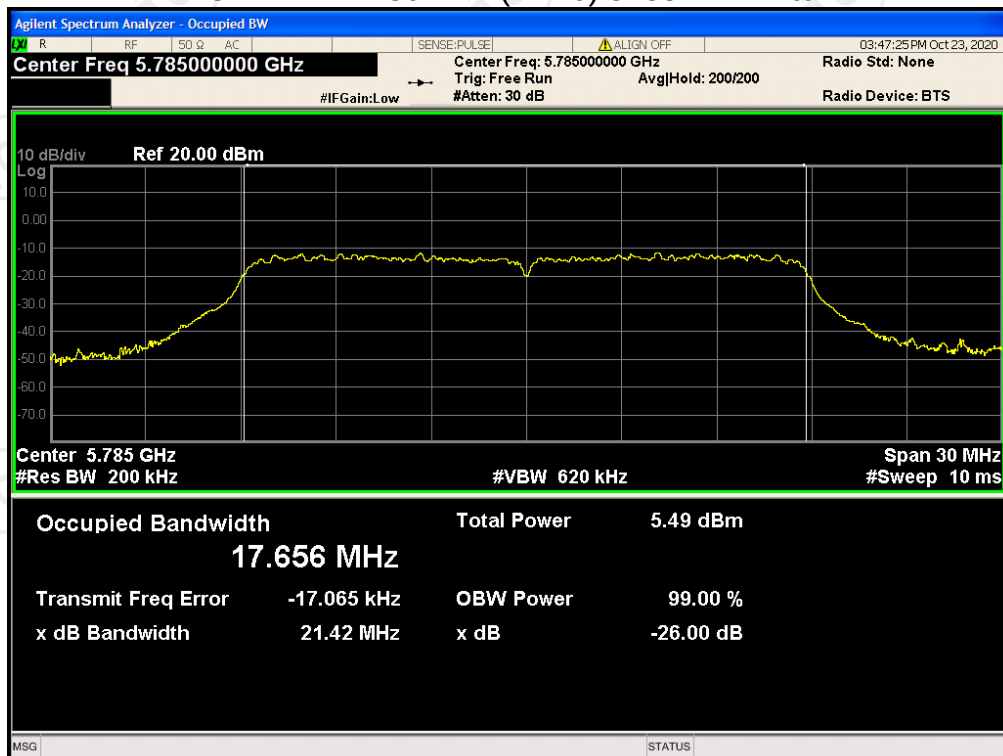
OBW NVNT 802.11ac80 5775MHz Ant0



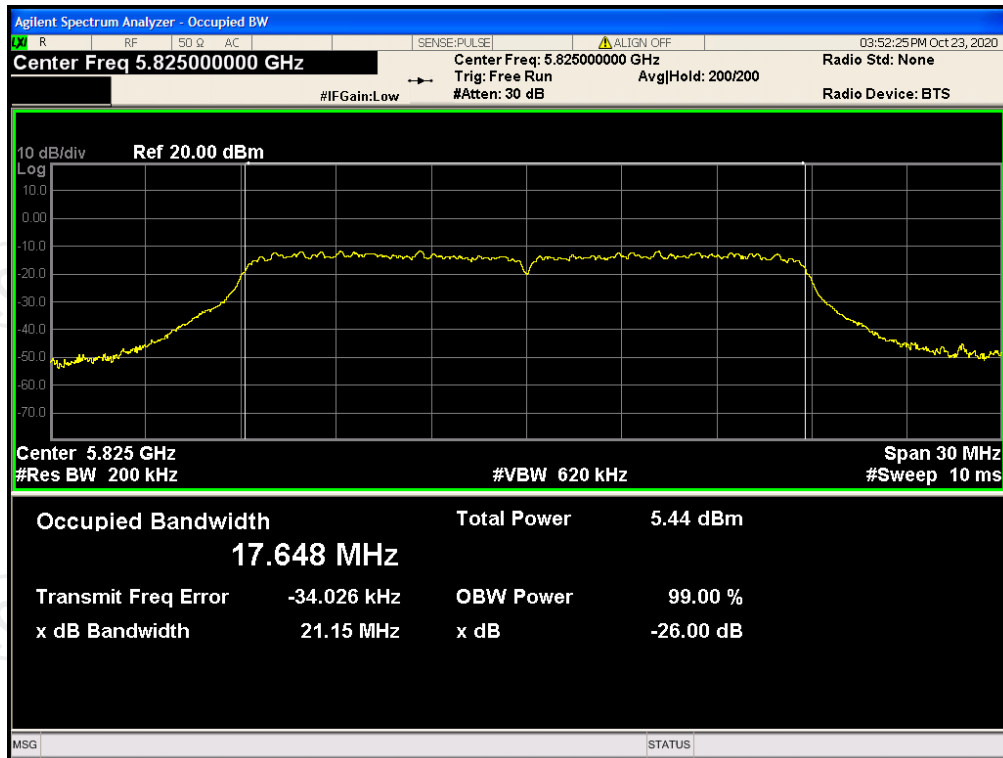
OBW NVNT 802.11n(HT20) 5745MHz Ant0



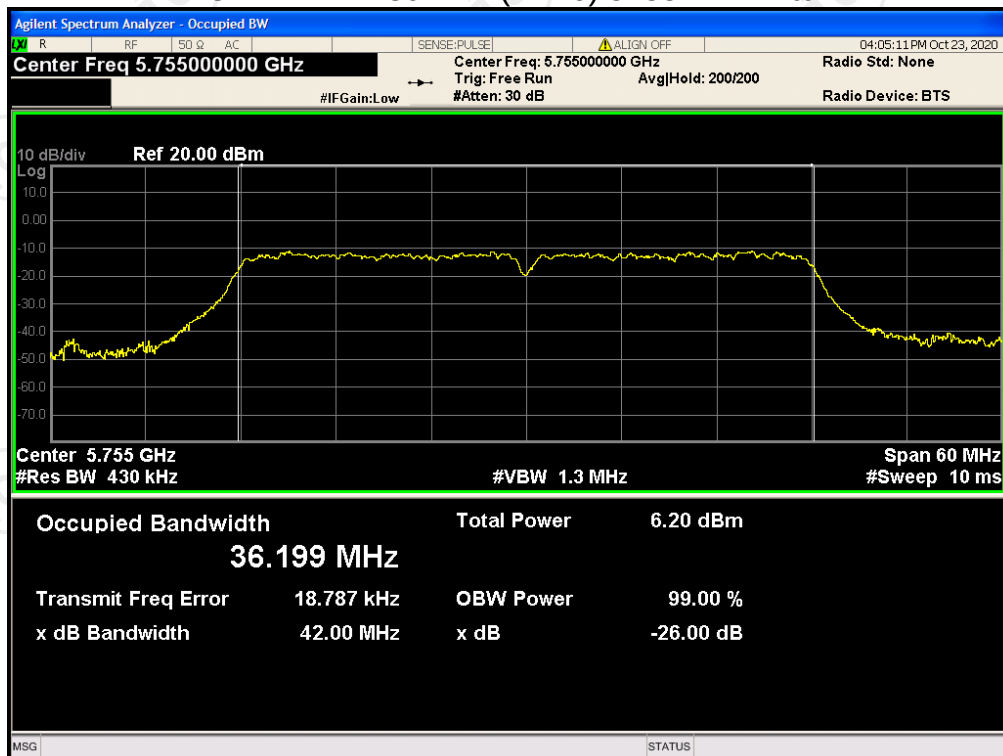
OBW NVNT 802.11n(HT20) 5785MHz Ant0



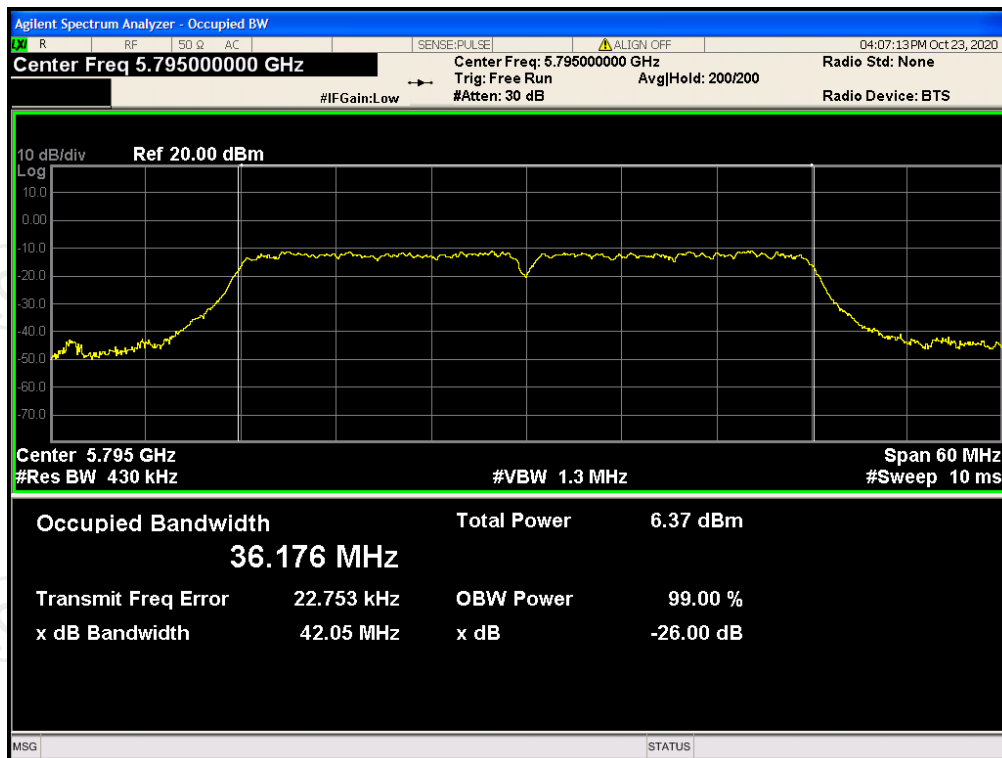
OBW NVNT 802.11n(HT20) 5825MHz Ant0



OBW NVNT 802.11n(HT40) 5755MHz Ant0



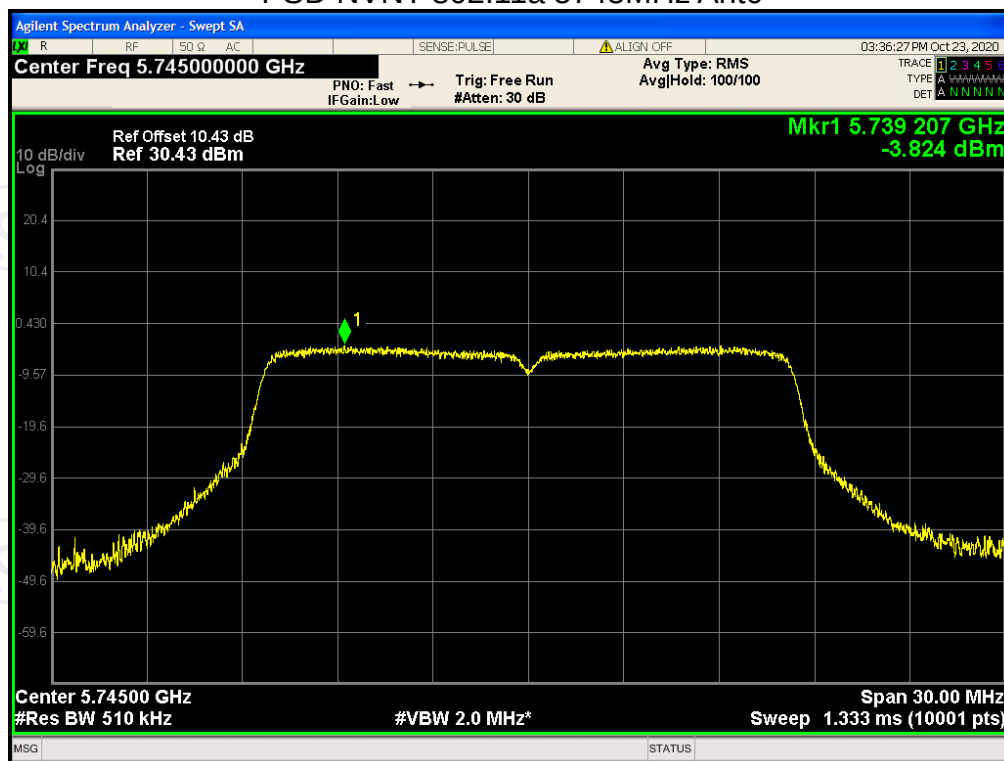
OBW NVNT 802.11n(HT40) 5795MHz Ant0



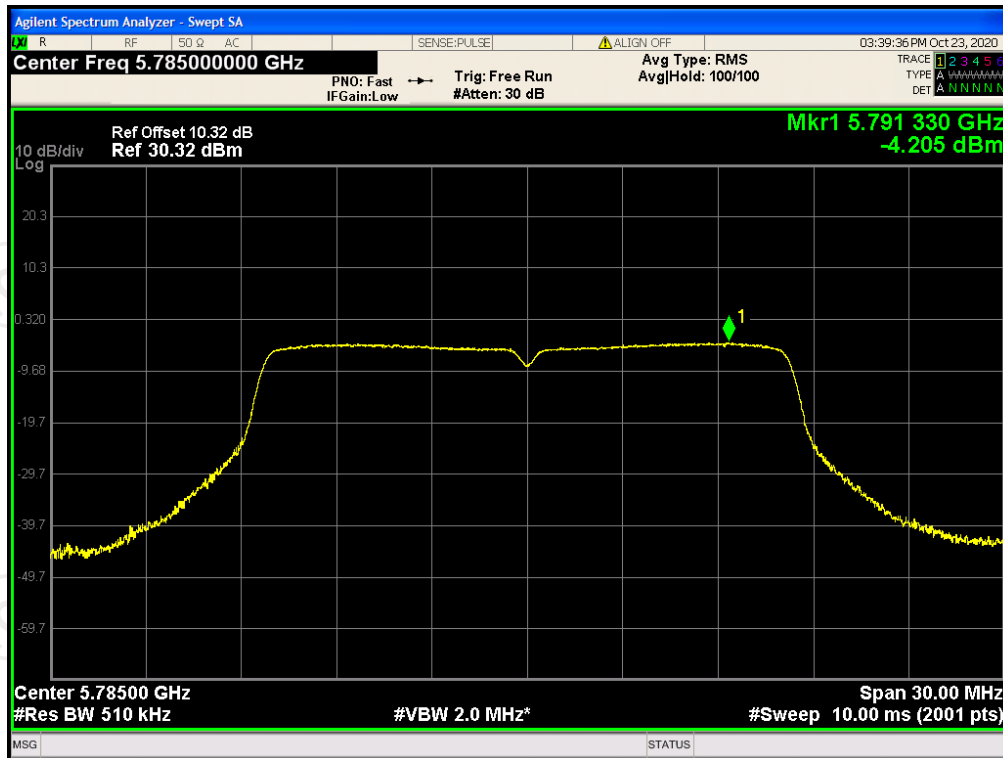
### Maximum Power Spectral Density Level

| Condition | Mode          | Frequency (MHz) | Max PSD (dBm/510KHz) | Max PSD (dBm/500KHz) | Limit (dBm) | Verdict |
|-----------|---------------|-----------------|----------------------|----------------------|-------------|---------|
| NVNT      | 802.11a       | 5745            | -3.824               | -3.91                | 30          | Pass    |
| NVNT      | 802.11a       | 5785            | -4.205               | -4.291               | 30          | Pass    |
| NVNT      | 802.11a       | 5825            | -4.527               | -4.613               | 30          | Pass    |
| NVNT      | 802.11ac20    | 5745            | -4.705               | -4.791               | 30          | Pass    |
| NVNT      | 802.11ac20    | 5785            | -4.486               | -4.572               | 30          | Pass    |
| NVNT      | 802.11ac20    | 5825            | -4.745               | -4.831               | 30          | Pass    |
| NVNT      | 802.11ac40    | 5755            | -7.499               | -7.585               | 30          | Pass    |
| NVNT      | 802.11ac40    | 5795            | -7.563               | -7.649               | 30          | Pass    |
| NVNT      | 802.11ac80    | 5775            | -9.565               | -9.651               | 30          | Pass    |
| NVNT      | 802.11n(HT20) | 5745            | -4.839               | -4.925               | 30          | Pass    |
| NVNT      | 802.11n(HT20) | 5785            | -4.486               | -4.572               | 30          | Pass    |
| NVNT      | 802.11n(HT20) | 5825            | -4.453               | -4.539               | 30          | Pass    |
| NVNT      | 802.11n(HT40) | 5755            | -7.579               | -7.665               | 30          | Pass    |
| NVNT      | 802.11n(HT40) | 5795            | -6.850               | -6.936               | 30          | Pass    |

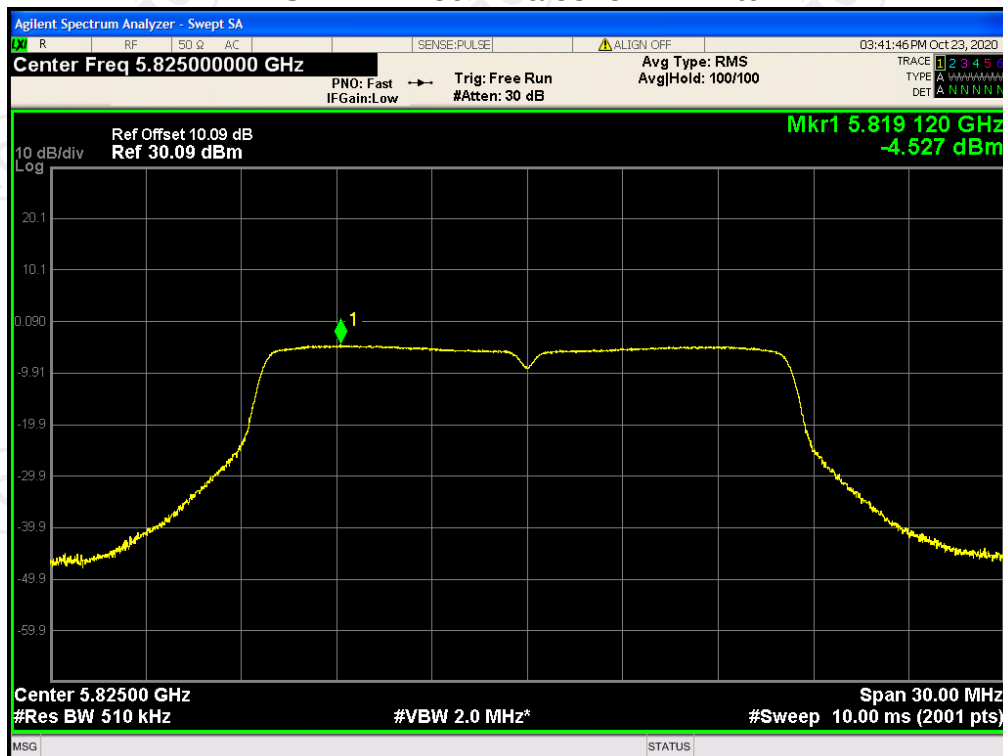
PSD NVNT 802.11a 5745MHz Ant0



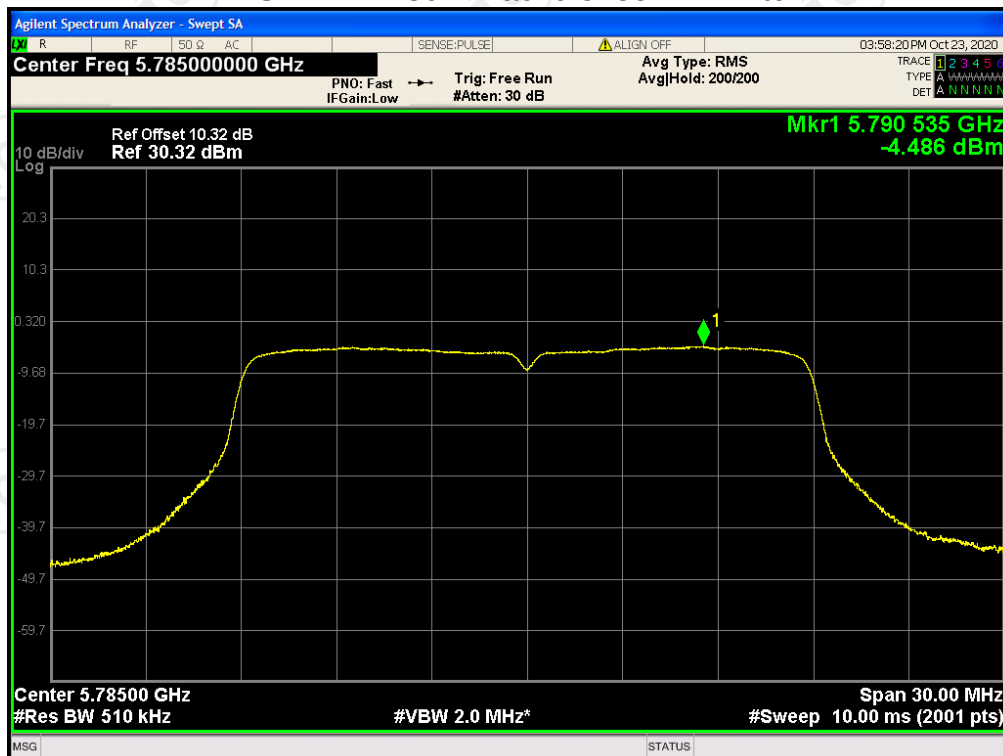
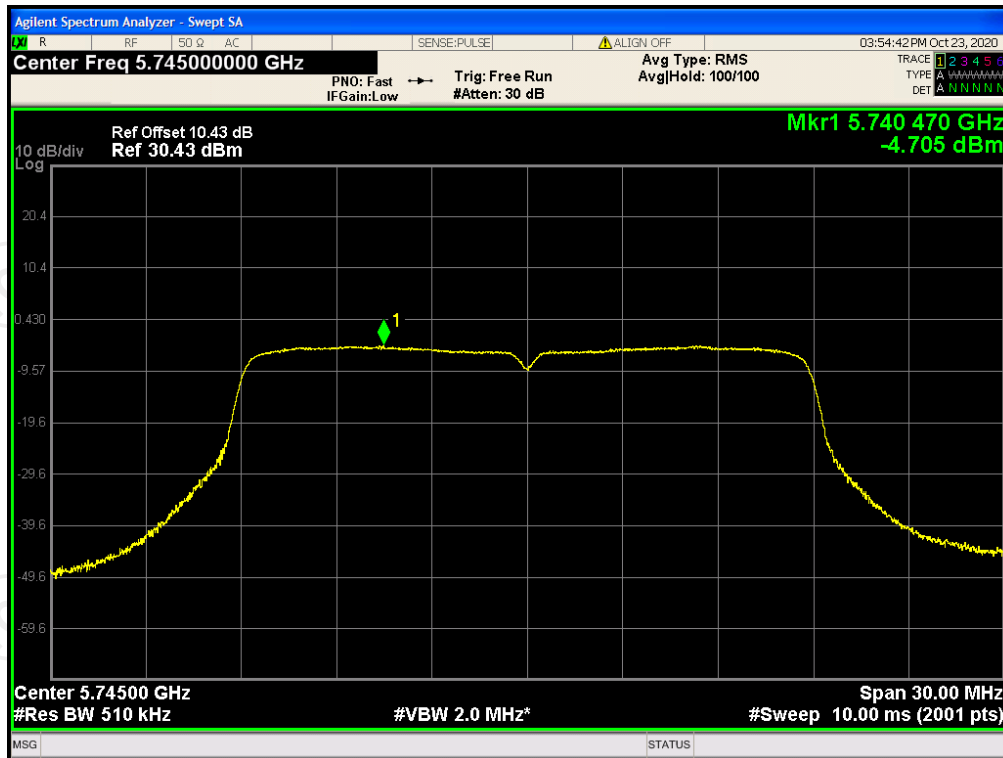
PSD NVNT 802.11a 5785MHz Ant0

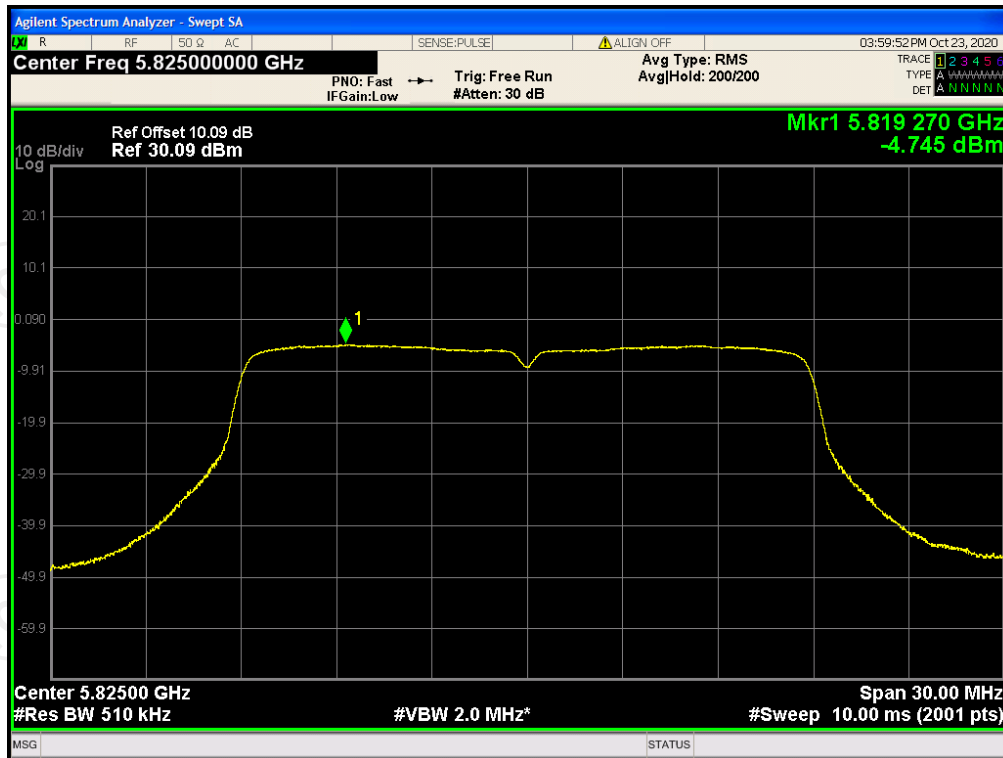


PSD NVNT 802.11a 5825MHz Ant0

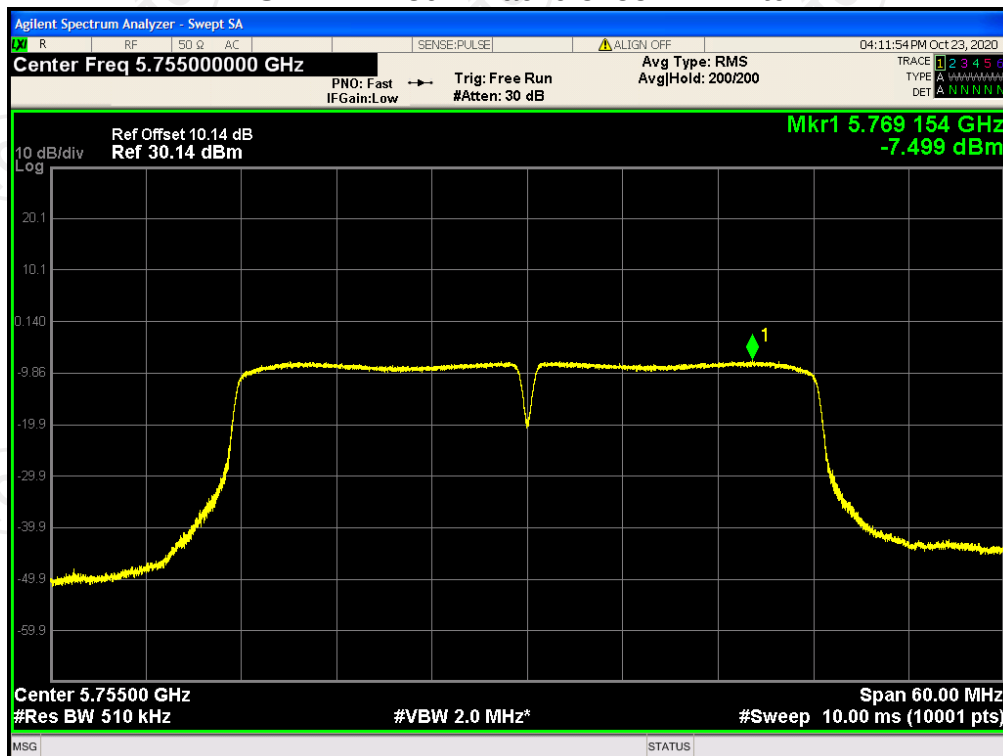


PSD NVNT 802.11ac20 5745MHz Ant0



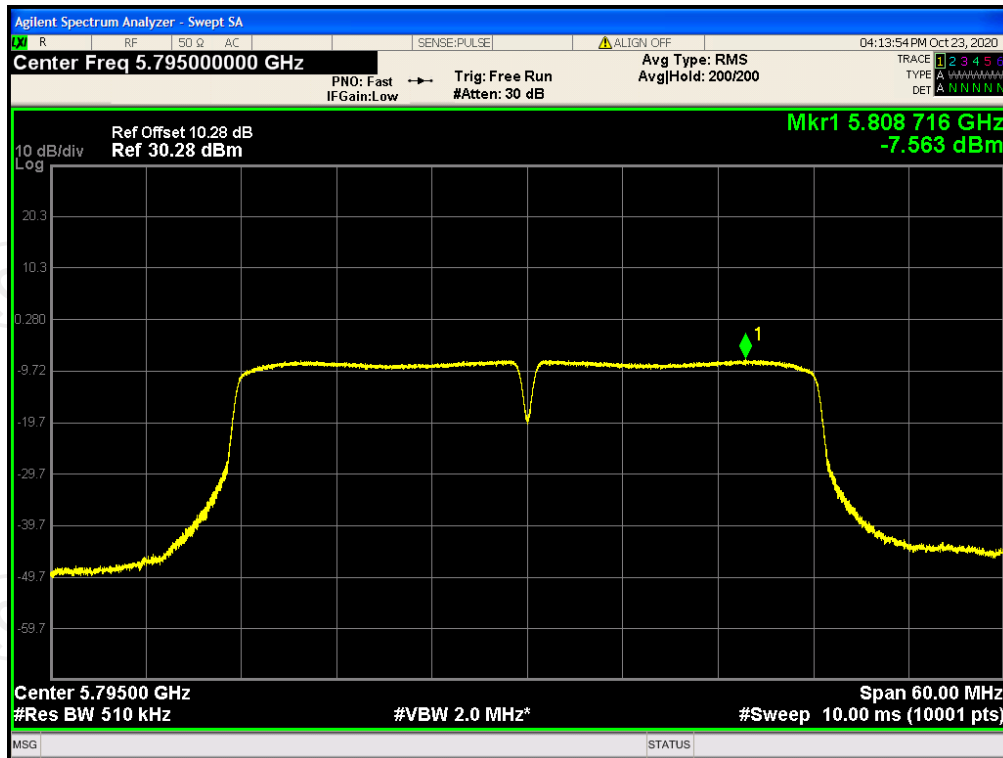


PSD NVNT 802.11ac40 5755MHz Ant0

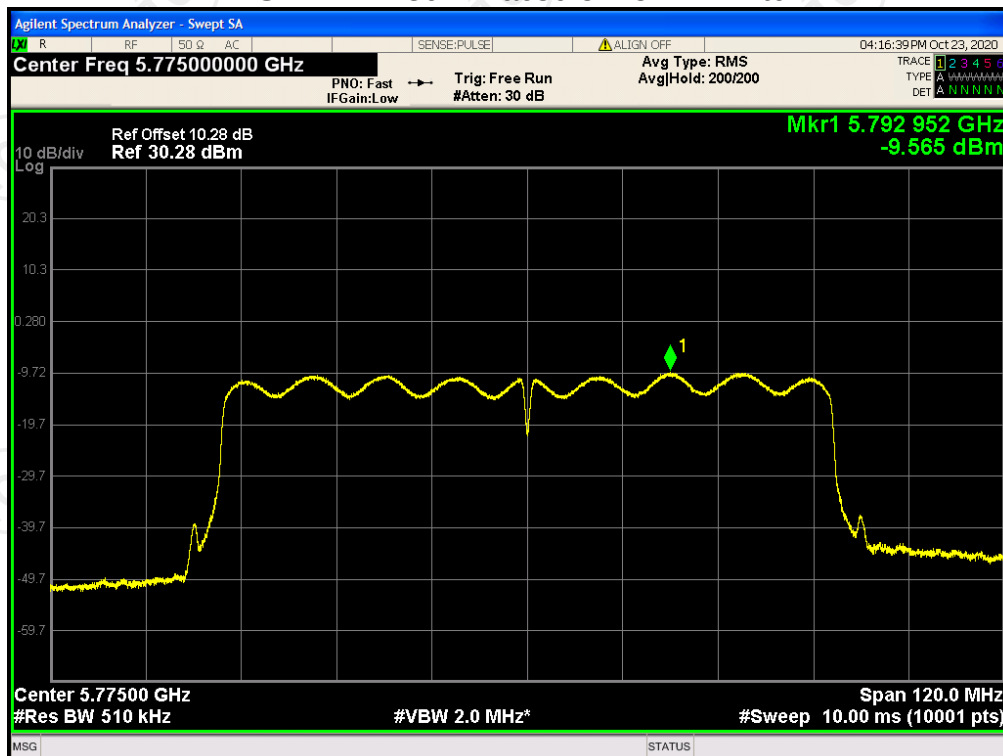


PSD NVNT 802.11ac40 5795MHz Ant0

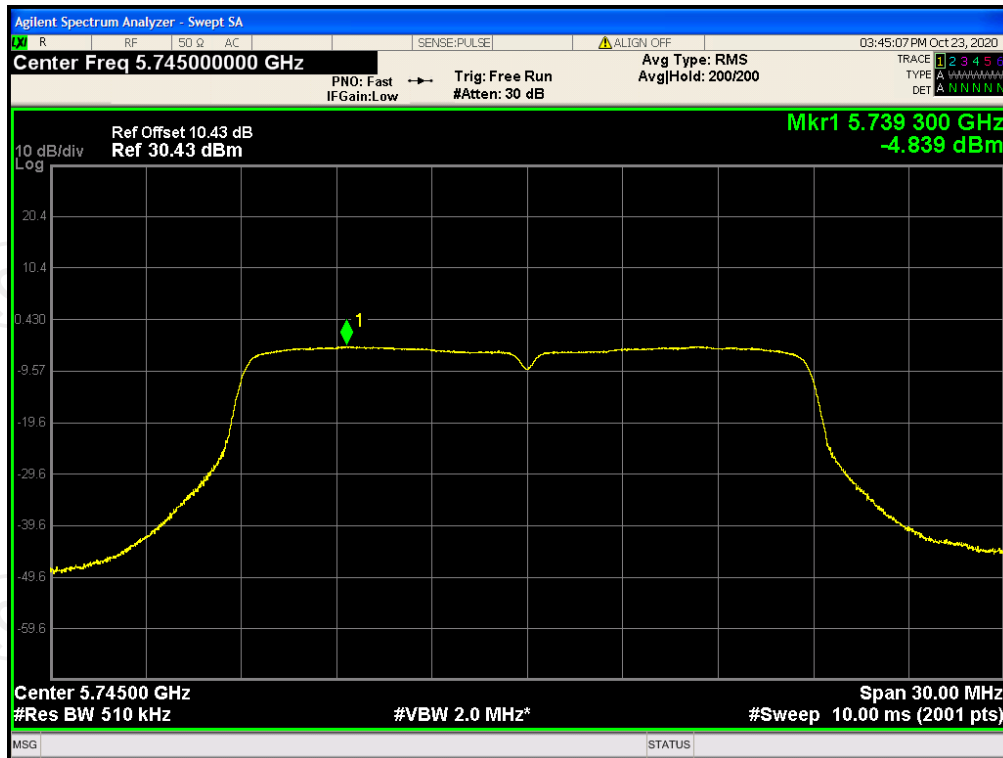




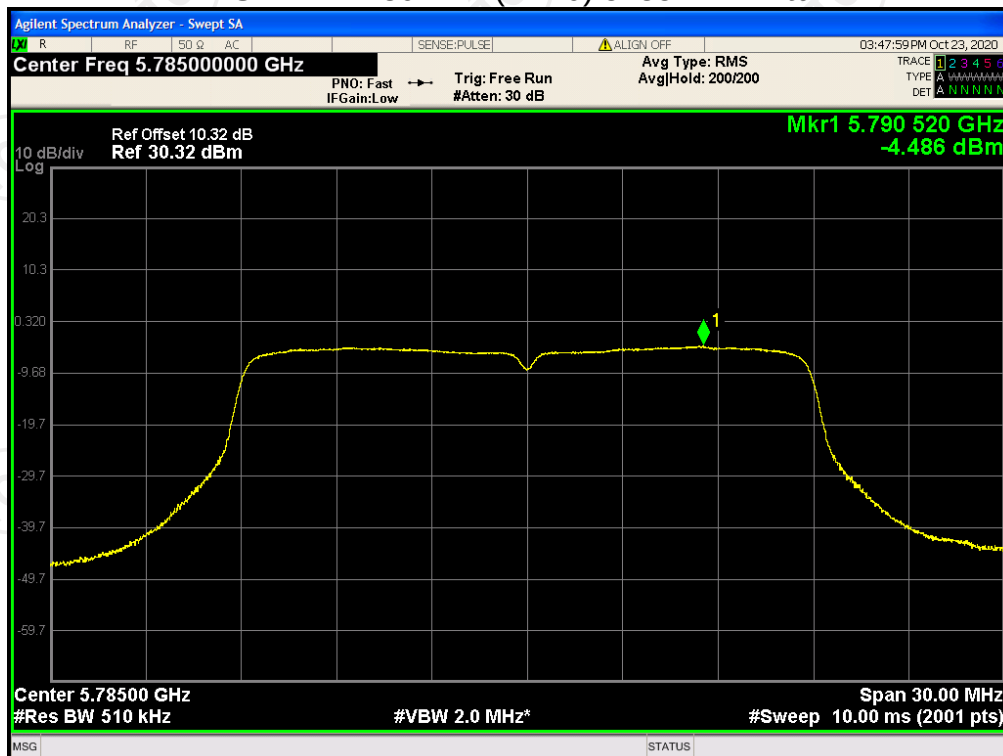
PSD NVNT 802.11ac80 5775MHz Ant0



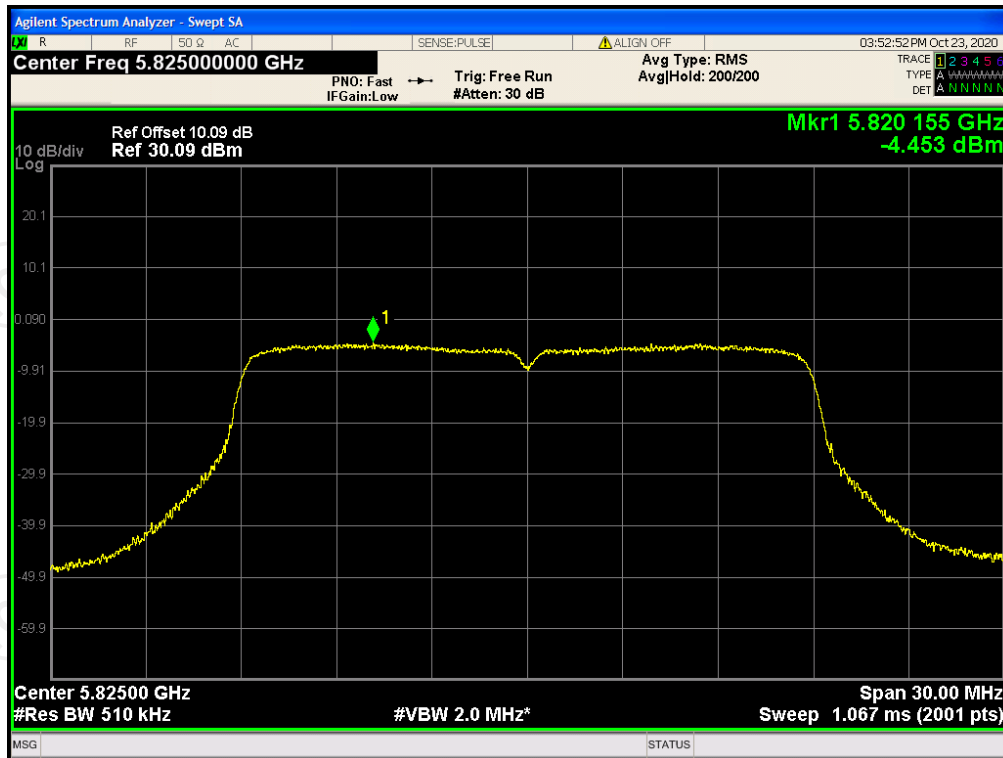
PSD NVNT 802.11n(HT20) 5745MHz Ant0



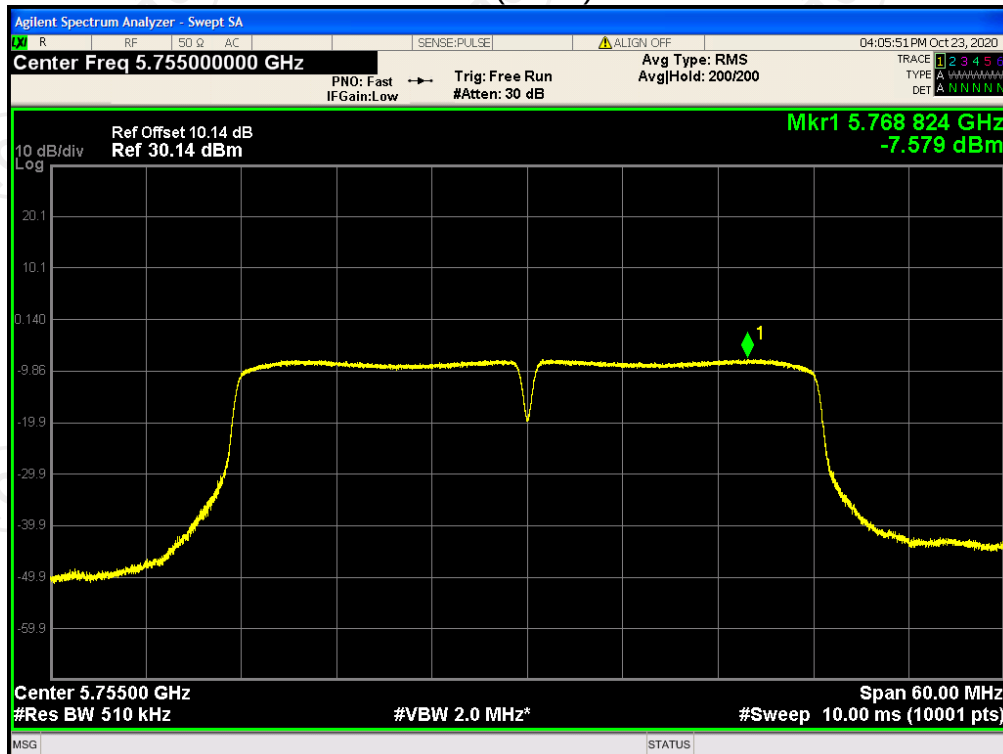
PSD NVNT 802.11n(HT20) 5785MHz Ant0



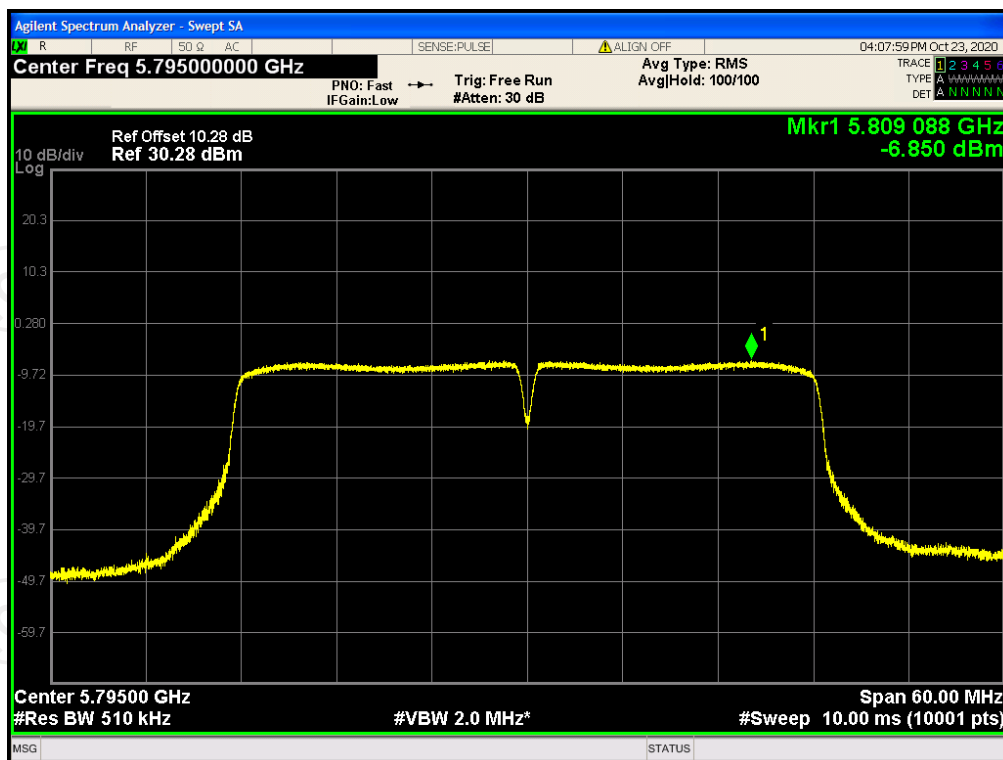
PSD NVNT 802.11n(HT20) 5825MHz Ant0



PSD NVNT 802.11n(HT40) 5755MHz Ant0



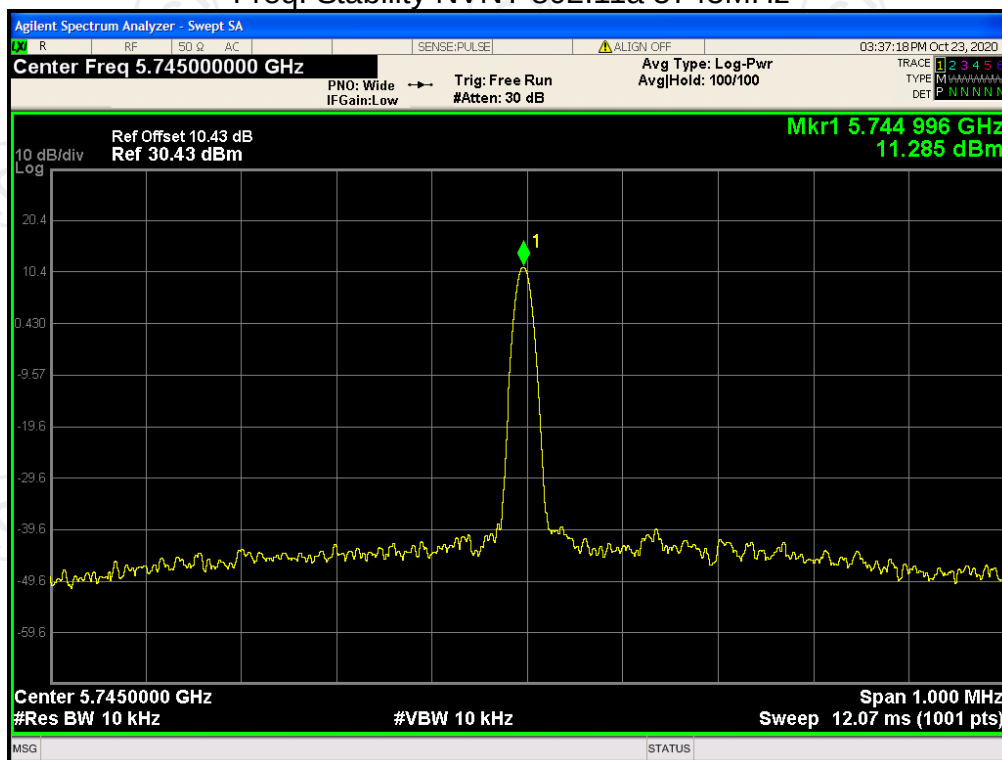
PSD NVNT 802.11n(HT40) 5795MHz Ant0



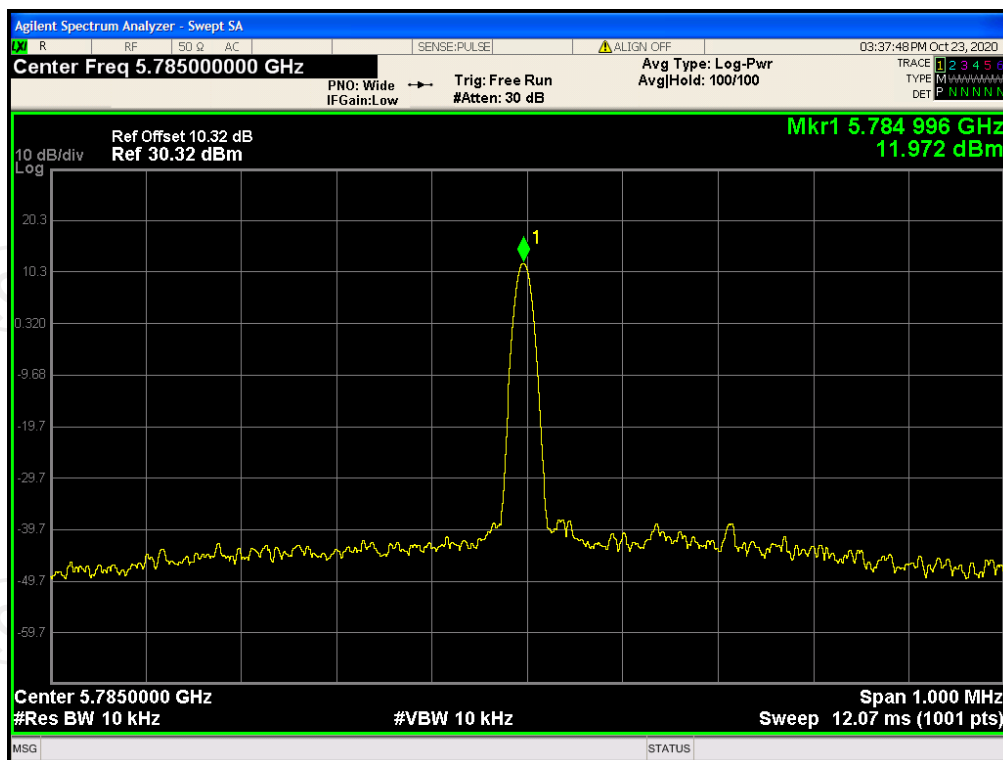
### Frequency Stability

| Condition | Mode          | Frequency (MHz) | Measured Frequency (MHz) | Deviation (ppm) | Limit (ppm) | Verdict |
|-----------|---------------|-----------------|--------------------------|-----------------|-------------|---------|
| NVNT      | 802.11a       | 5745            | 5744.996                 | -0.70           | 25          | Pass    |
| NVNT      | 802.11a       | 5785            | 5784.996                 | -0.69           | 25          | Pass    |
| NVNT      | 802.11a       | 5825            | 5824.996                 | -0.69           | 25          | Pass    |
| NVNT      | 802.11ac20    | 5745            | 5744.996                 | -0.70           | 25          | Pass    |
| NVNT      | 802.11ac20    | 5785            | 5784.997                 | -0.52           | 25          | Pass    |
| NVNT      | 802.11ac20    | 5825            | 5824.996                 | -0.69           | 25          | Pass    |
| NVNT      | 802.11ac40    | 5755            | 5754.997                 | -0.52           | 25          | Pass    |
| NVNT      | 802.11ac40    | 5795            | 5794.996                 | -0.69           | 25          | Pass    |
| NVNT      | 802.11ac80    | 5775            | 5774.996                 | -0.69           | 25          | Pass    |
| NVNT      | 802.11n(HT20) | 5745            | 5744.996                 | -0.70           | 25          | Pass    |
| NVNT      | 802.11n(HT20) | 5785            | 5784.996                 | -0.69           | 25          | Pass    |
| NVNT      | 802.11n(HT20) | 5825            | 5824.996                 | -0.69           | 25          | Pass    |
| NVNT      | 802.11n(HT40) | 5755            | 5754.996                 | -0.70           | 25          | Pass    |
| NVNT      | 802.11n(HT40) | 5795            | 5794.996                 | -0.69           | 25          | Pass    |

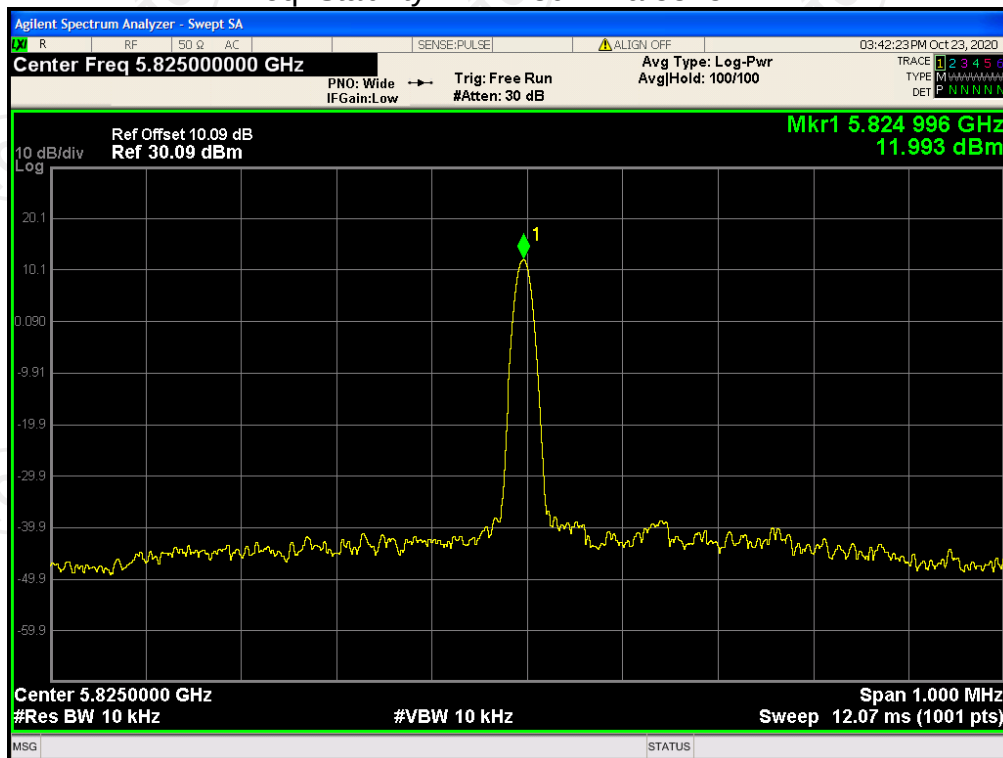
Freq. Stability NVNT 802.11a 5745MHz



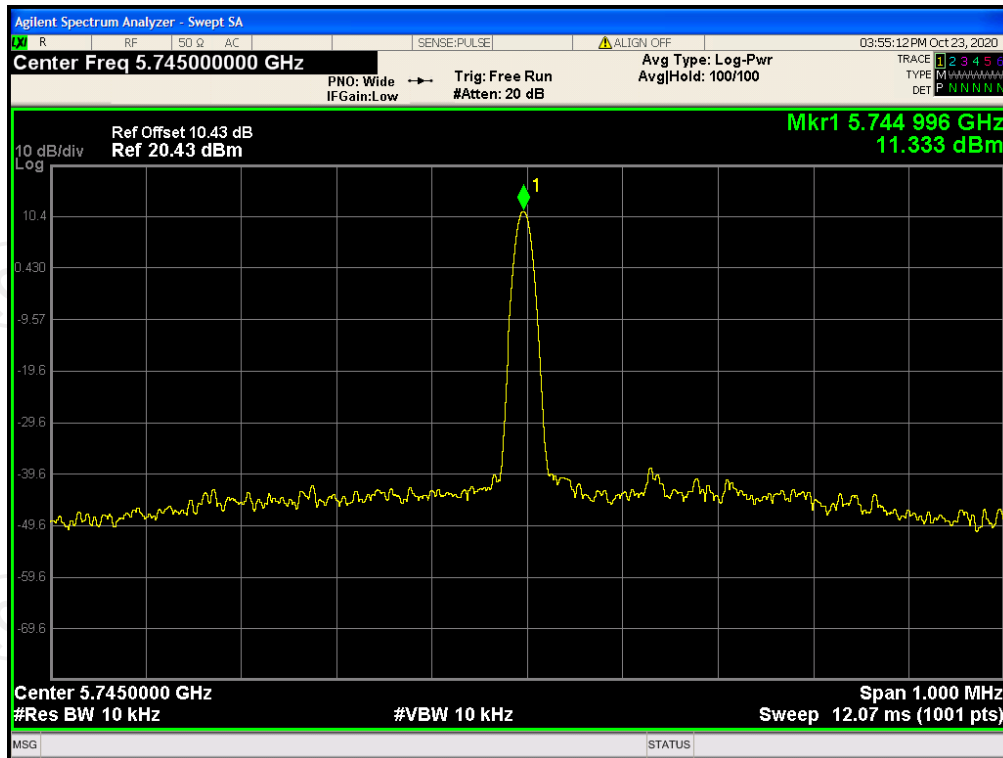
Freq. Stability NVNT 802.11a 5785MHz



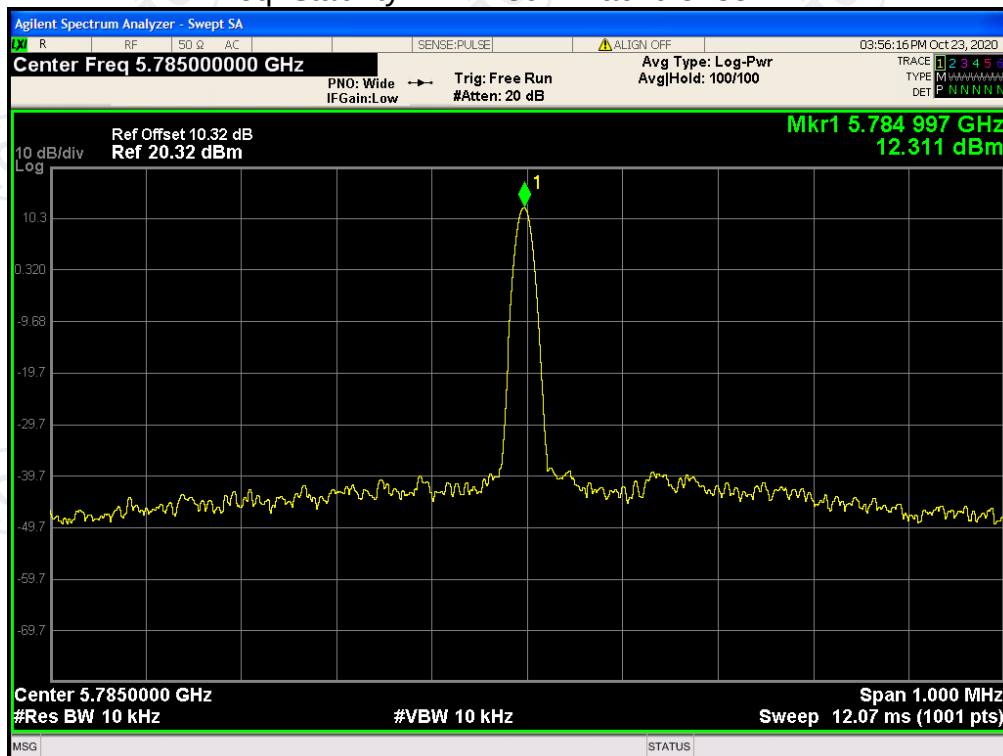
Freq. Stability NVNT 802.11a 5825MHz



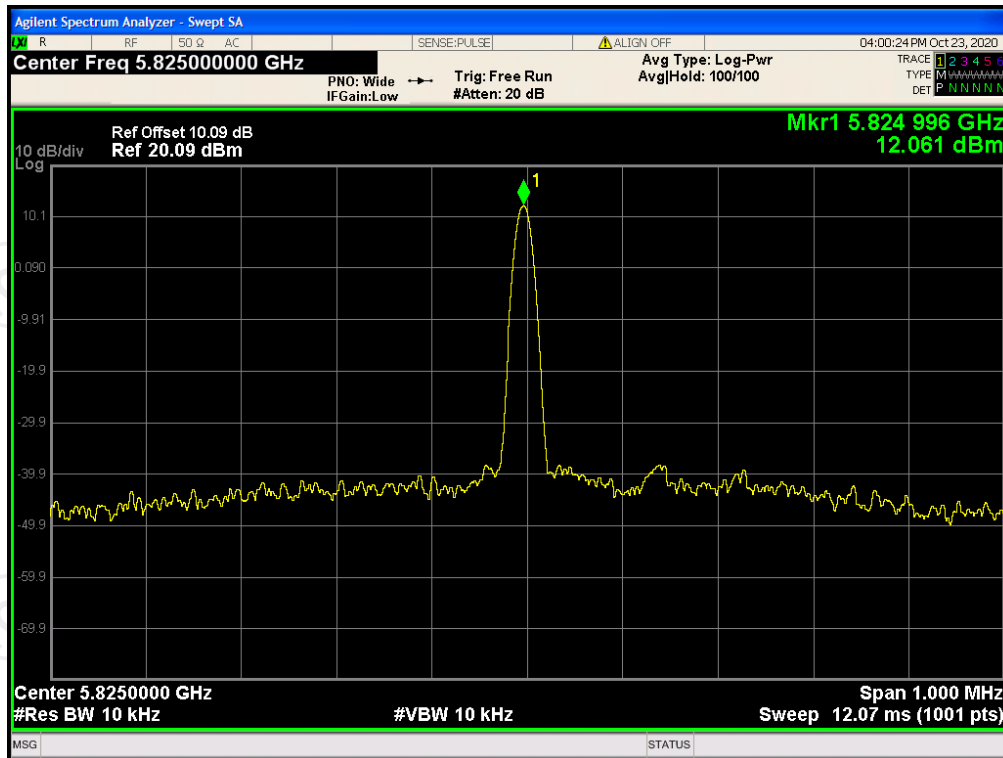
Freq. Stability NVNT 802.11ac20 5745MHz



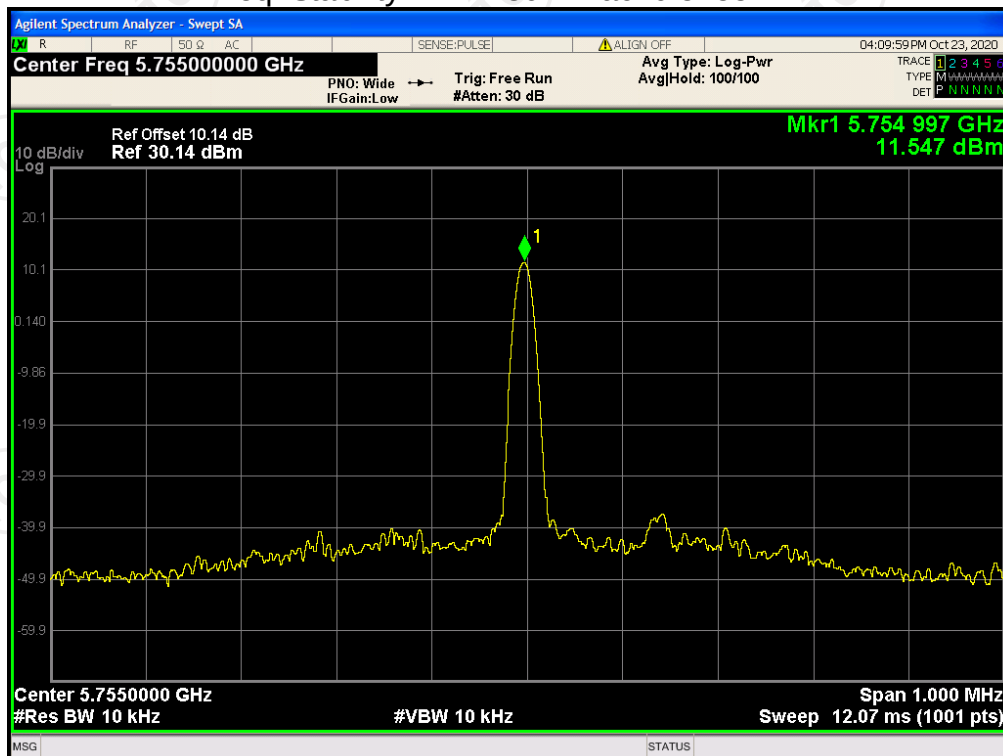
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Freq. Stability NVNT 802.11ac20 5825MHz

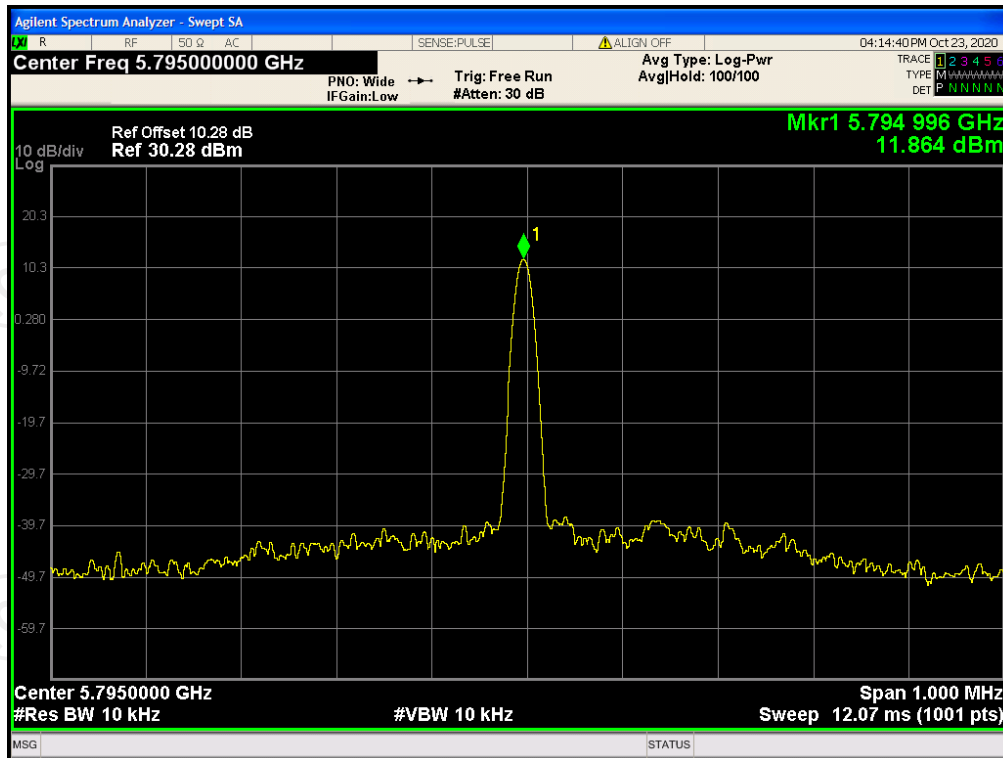


Freq. Stability NVNT 802.11ac40 5755MHz

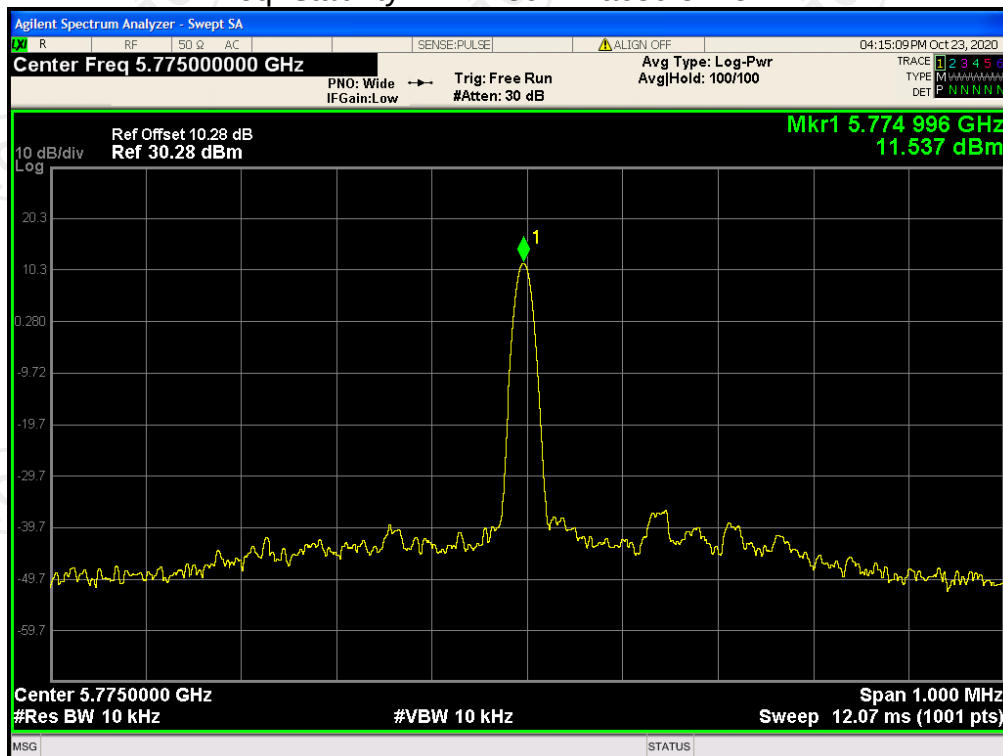


Freq. Stability NVNT 802.11ac40 5795MHz

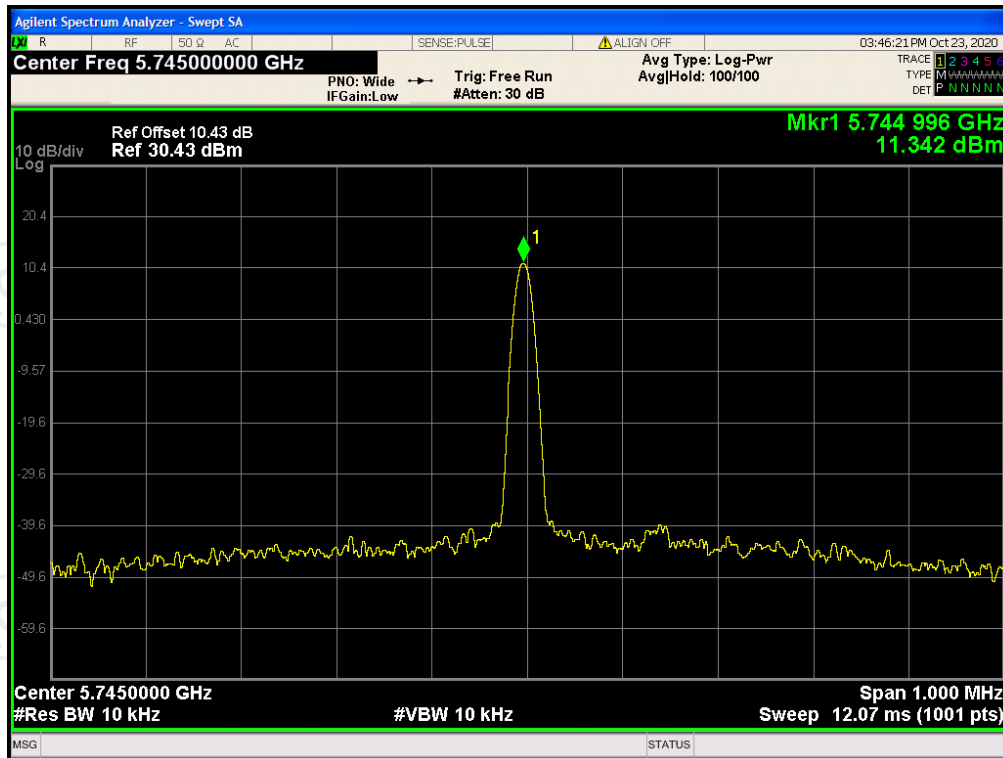




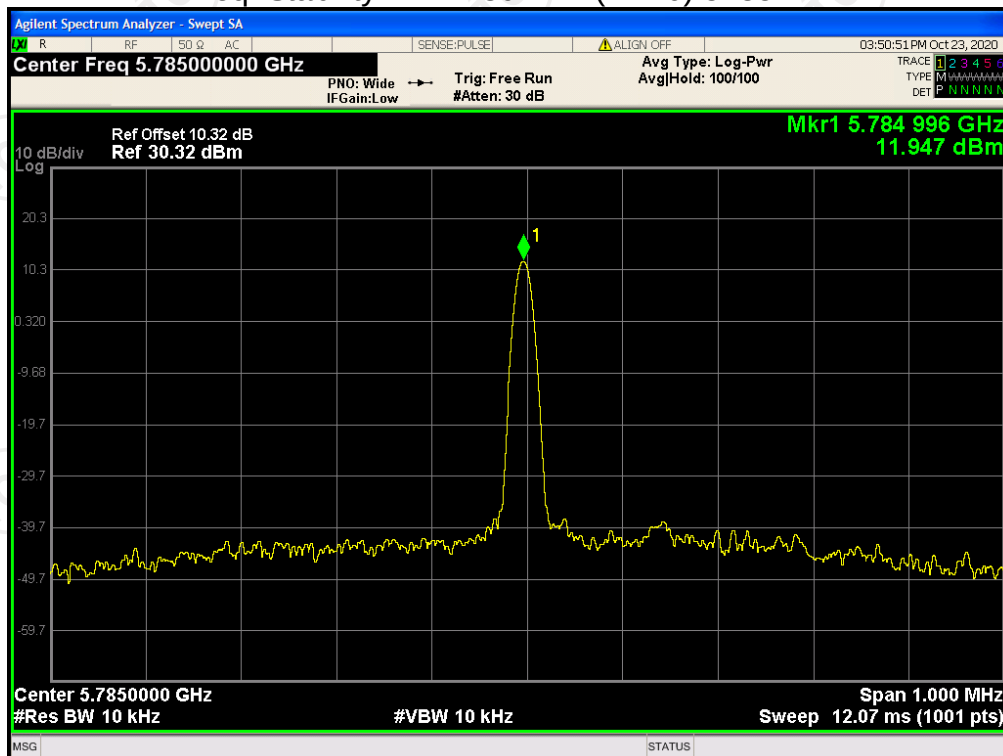
Freq. Stability NVNT 802.11ac80 5775MHz



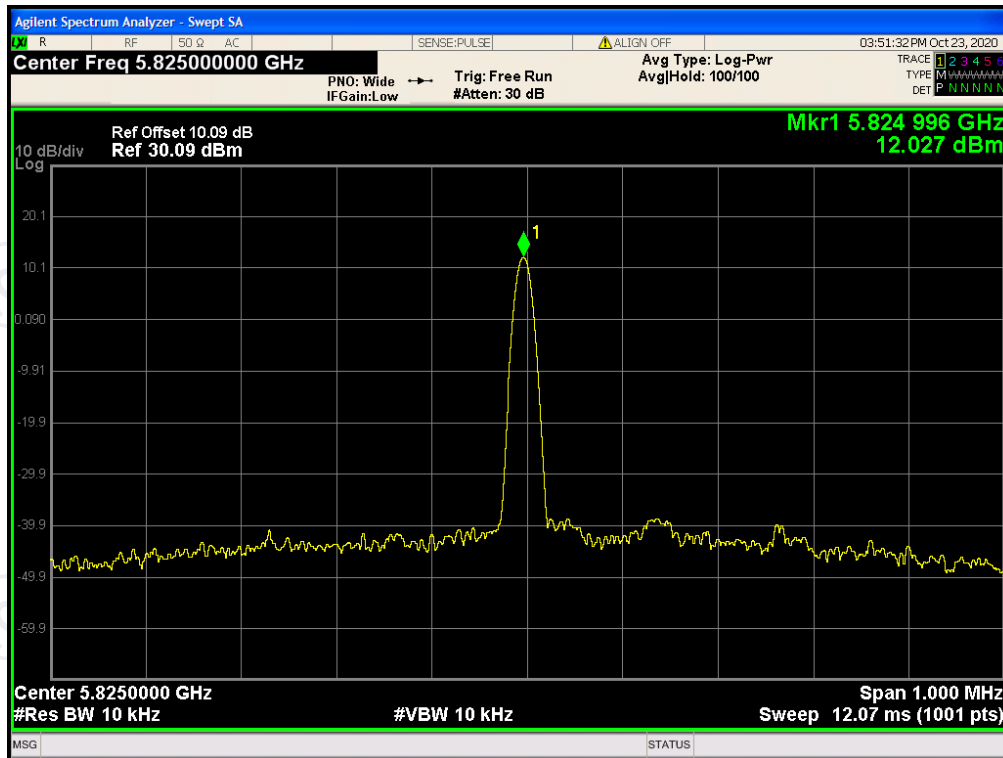
Freq. Stability NVNT 802.11n(HT20) 5745MHz



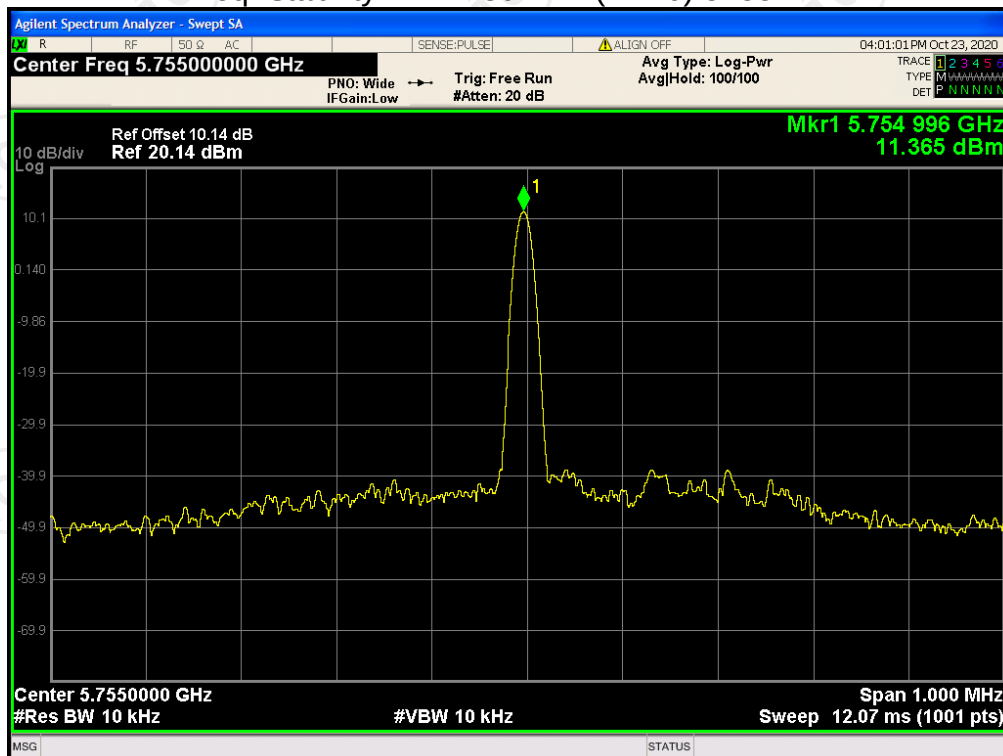
Freq. Stability NVNT 802.11n(HT20) 5785MHz



Freq. Stability NVNT 802.11n(HT20) 5825MHz



Freq. Stability NVNT 802.11n(HT40) 5755MHz



Freq. Stability NVNT 802.11n(HT40) 5795MHz