



TESTING LABORATORY  
CERTIFICATE#4323.01



FCC PART 15.407

## TEST REPORT

For

**NLT Digital Solution's**

22-26 Cessna Drive, Caboolture 4510 Australia

**FCC ID: 2AYB9AS14006**

|                                        |                                                                                                                                                                                                                               |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Report Type:</b><br>Original Report | <b>Product Type:</b><br>Lightning Bolt                                                                                                                                                                                        |
| <b>Project Engineer:</b>               | CK Huang                                                                                                                                                                                                                      |
| <b>Report Number:</b>                  | RKSA201023001-00C                                                                                                                                                                                                             |
| <b>Report Date:</b>                    | 2021-01-12                                                                                                                                                                                                                    |
| <b>Reviewed By:</b>                    | Oscar Ye<br>EMC Manager                                                                                                                                                                                                       |
| <b>Test Laboratory:</b>                | Bay Area Compliance Laboratories Corp. (Kunshan)<br>No.248 Chenghu Road, Kunshan, Jiangsu province, China<br>Tel: +86-0512-86175000<br>Fax: +86-0512-88934268<br><a href="http://www.baclcorp.com.cn">www.baclcorp.com.cn</a> |

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## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

|                           |                                                                                 |
|---------------------------|---------------------------------------------------------------------------------|
| Applicant:                | NLT Digital Solution's                                                          |
| Product Type:             | Lightning Bolt                                                                  |
| Test Model                | AS14006                                                                         |
| Power Supply:             | DC 51V                                                                          |
| RF Function:              | 5G Wi-Fi                                                                        |
| Operating Band/Frequency: | 5G Wi-Fi B1: 5150-5250 MHz, B4: 5725-5850 MHz                                   |
| Channel Number:           | 5G Wi-Fi B1: 7, B4: 8                                                           |
| Channel Separation:       | 802.11a/802.11ac20/n20: 20 MHz; 802.11n40/802.11ac40:40 MHz, 802.11ac80: 80 MHz |
| Modulation Type:          | OFDM                                                                            |
| Antenna Type:             | Omni antenna                                                                    |
| *Maximum Antenna Gain:    | Band 1 Chain 0 & Chain 1: 9.0 dBi<br>Band 4 Chain 0 & Chain 1: 9.0 dBi          |

*Note: The antenna gain is provided by the applicant.*

*\*All measurement and test data in this report was gathered from production sample serial number: RKSA201023001-1 (Assigned by the BACL. The EUT supplied by the applicant was received on 2020-10-23)*

### Objective

This type approval report is prepared on behalf of *NLT Digital Solution's* in accordance with Part 2-Subpart J, Part 15-Subparts A and E of the Federal Communication Commissions' rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart E, section 15.203, 15.205, 15.207, 15.209 and 15.407 rules.

### Related Submittal(s)/Grant(s)

FCC Part 15.247 DTS submissions with FCC ID: 2AYB9AS14006

### Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Kunshan).

**Measurement Uncertainty**

| Item                               |             | Uncertainty |
|------------------------------------|-------------|-------------|
| AC Power Lines Conducted Emissions |             | 3.19 dB     |
| RF conducted test with spectrum    |             | 0.9dB       |
| RF Output Power with Power meter   |             | 0.5dB       |
| Radiated emission                  | 30MHz~1GHz  | 6.11dB      |
|                                    | 1GHz~6GHz   | 4.45dB      |
|                                    | 6GHz~18GHz  | 5.23dB      |
|                                    | 18GHz~40GHz | 5.65dB      |
| Occupied Bandwidth                 |             | 0.5kHz      |
| Temperature                        |             | 1.0°C       |
| Humidity                           |             | 6%          |

**Test Facility**

The Test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) Lab is accredited to ISO/IEC 17025 by A2LA (Lab code: 4323.01), the FCC designation No. CN1185 under the FCC KDB 974614 D01 and CAB identifier CN0004 under the ISED requirement. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

## SYSTEM TEST CONFIGURATION

### Description of Test Configuration

The EUT was configured for testing in an engineering mode which was provided by the manufacturer.

In **5150~5250 MHz** band, test channel list is as below,

802.11a/802.11ac20/n20 mode Channel 36, 40, 48 were tested.

802.11n40/802.11ac40 mode Channel 38, 46 were tested.

802.11ac80 mode Channel 42 was tested

| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|
| 36      | 5180            | 44      | 5220            |
| 38      | 5190            | 46      | 5230            |
| 40      | 5200            | 48      | 5240            |
| 42      | 5210            | /       | /               |

For **5725~5850 MHz** band,

802.11a/802.11ac20/n20 mode Channel 149, 157, 165 were tested.

802.11n40/802.11ac40 mode Channel 151, 159 were tested.

802.11ac80 mode Channel 155 was tested.

| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|
| 149     | 5745            | 159     | 5795            |
| 151     | 5755            | 161     | 5805            |
| 153     | 5765            | 165     | 5825            |
| 155     | 5775            | /       | /               |
| 157     | 5785            | /       | /               |

**EUT Exercise Software**

RF test tool: QRCT

The worst case was performed under:

5150MHz-5250MHz Band:

| Mode         | Data rate | Frequency (MHz) | Power Level Setting |         |
|--------------|-----------|-----------------|---------------------|---------|
|              |           |                 | Chain 0             | Chain 1 |
| 802.11a      | 6 Mbps    | 5180            | 20                  | 20      |
|              |           | 5200            | 20                  | 20      |
|              |           | 5240            | 20                  | 20      |
| 802.11ac20   | MCS0      | 5180            | 19                  | 19      |
|              |           | 5200            | 19                  | 19      |
|              |           | 5240            | 19                  | 19      |
| 802.11n-HT20 | MCS0      | 5180            | 19                  | 19      |
|              |           | 5200            | 19                  | 19      |
|              |           | 5240            | 19                  | 19      |
| 802.11ac40   | MCS0      | 5190            | 19                  | 19      |
|              |           | 5230            | 19                  | 19      |
| 802.11n-HT40 | MCS0      | 5190            | 19                  | 19      |
|              |           | 5230            | 19                  | 19      |
| 802.11ac80   | MCS0      | 5210            | 19                  | 19      |

5725MHz-5850MHz Band:

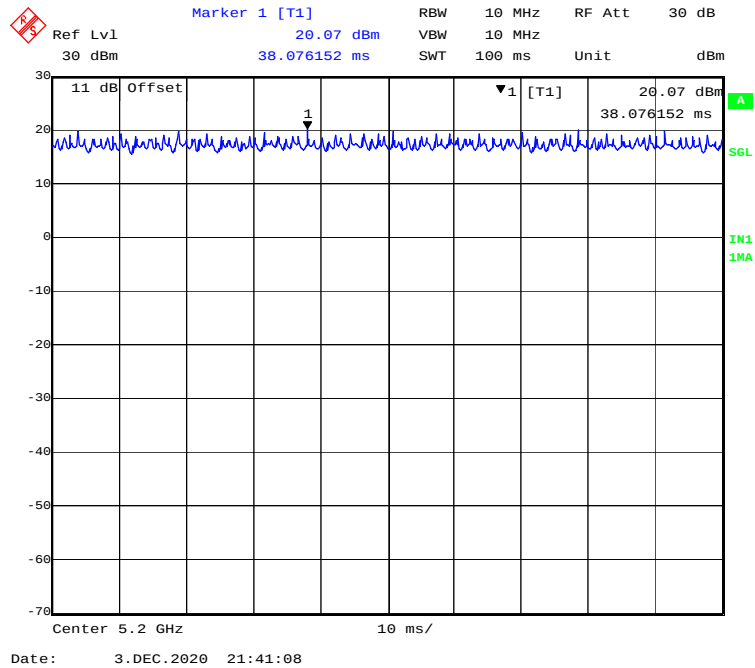
| Mode             | Data rate | Channel | Power Level Setting |         |
|------------------|-----------|---------|---------------------|---------|
|                  |           |         | Chain 0             | Chain 1 |
| 802.11a          | 6 Mbps    | 5745    | 30                  | 30      |
|                  |           | 5785    | 30                  | 30      |
|                  |           | 5825    | 30                  | 30      |
| 802.11ac20       | MCS0      | 5745    | 30                  | 30      |
|                  |           | 5785    | 30                  | 30      |
|                  |           | 5825    | 30                  | 30      |
| 802.11n-<br>HT20 | MCS0      | 5745    | 30                  | 30      |
|                  |           | 5785    | 30                  | 30      |
|                  |           | 5825    | 30                  | 30      |
| 802.11ac40       | MCS0      | 5755    | 30                  | 30      |
|                  |           | 5795    | 30                  | 30      |
| 802.11n-<br>HT40 | MCS0      | 5755    | 30                  | 30      |
|                  |           | 5795    | 30                  | 30      |
| 802.11ac80       | MCS0      | 5775    | 25                  | 25      |

Note: The power level setting was declared by the applicant.

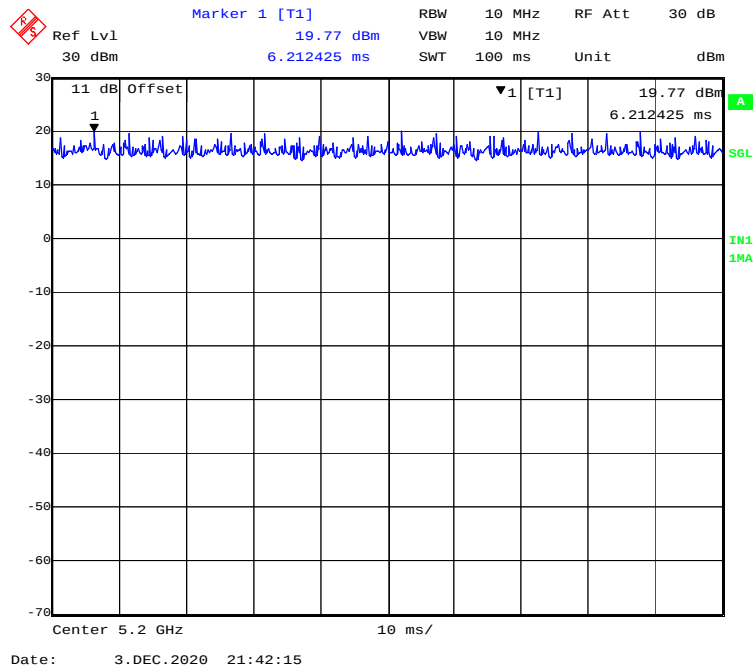
**Duty Cycle (Chain 0)**

**5150MHz-5250MHz Band:**

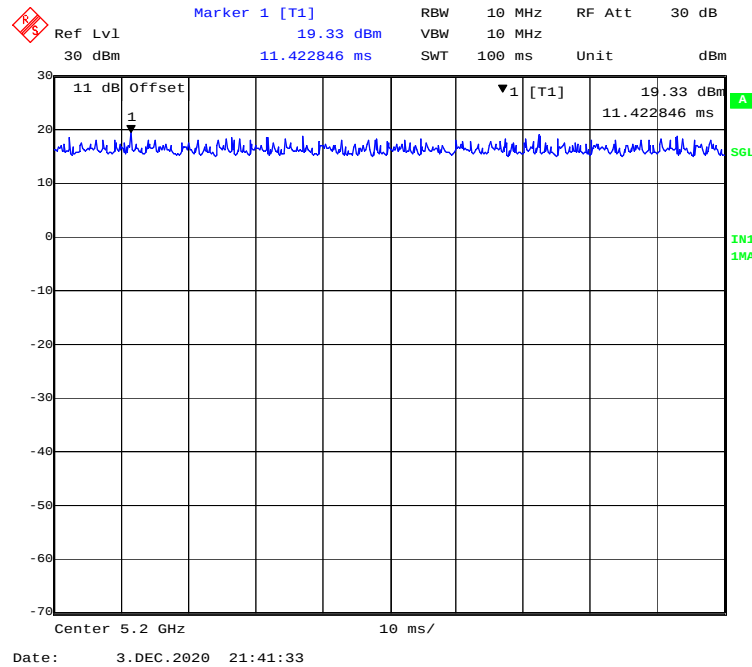
**802.11a mode**



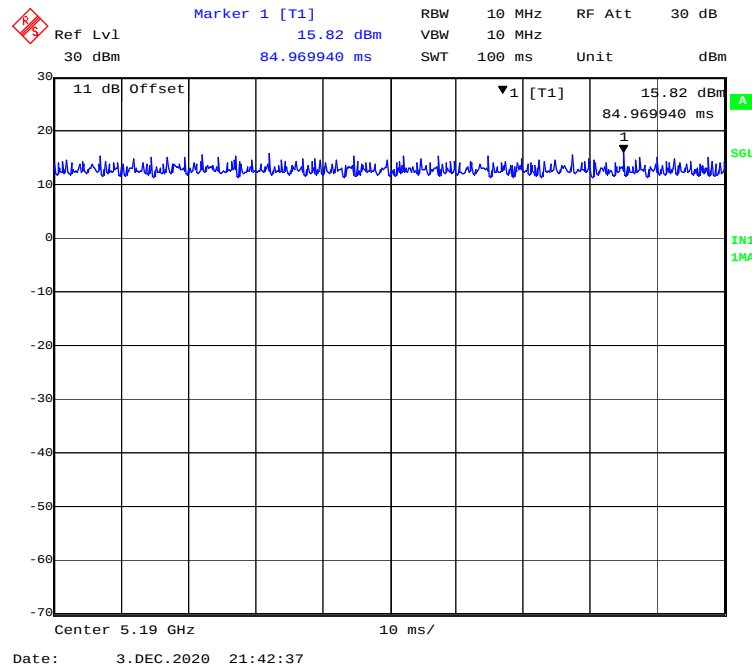
**802.11ac20 mode**



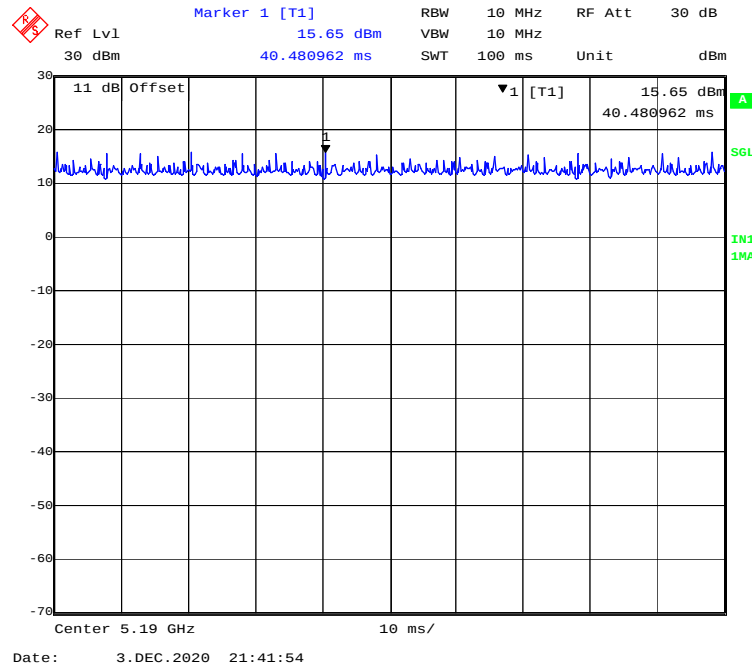
### 802.11n-HT20 mode



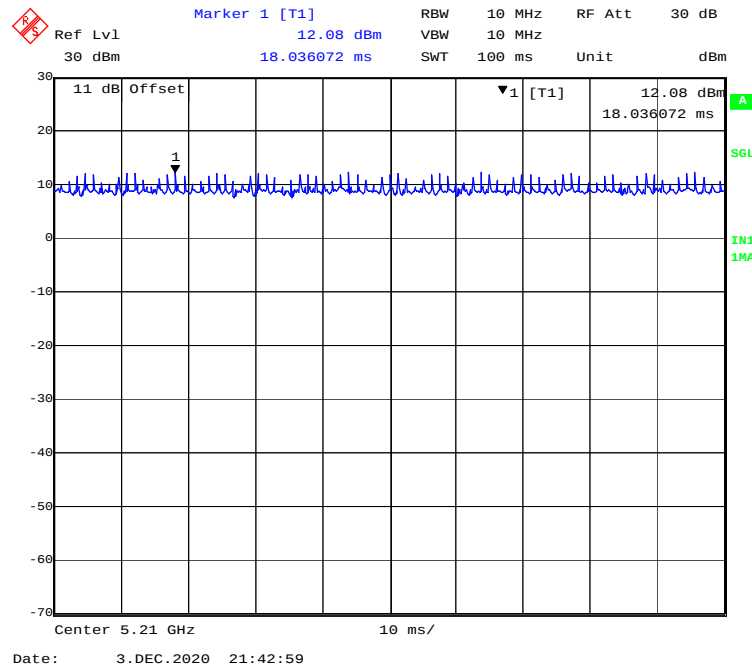
### 802.11 ac40 mode



### 802.11n-HT40 mode



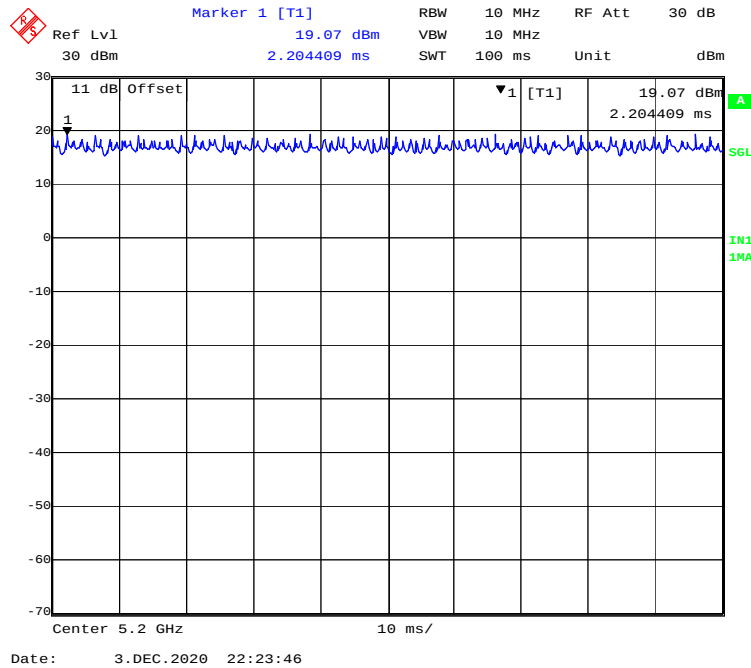
### 802.11 ac80 mode



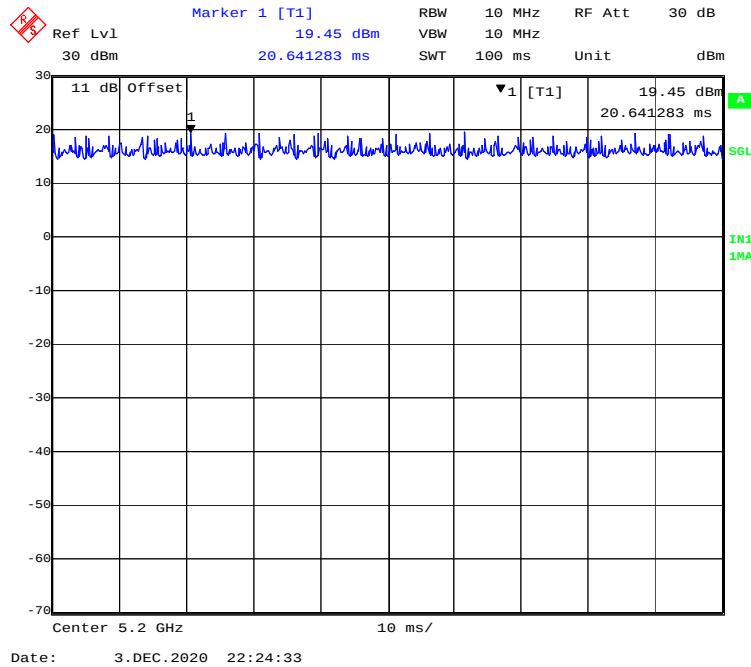
**Duty Cycle(Chain 1)**

**5150MHz-5250MHz Band:**

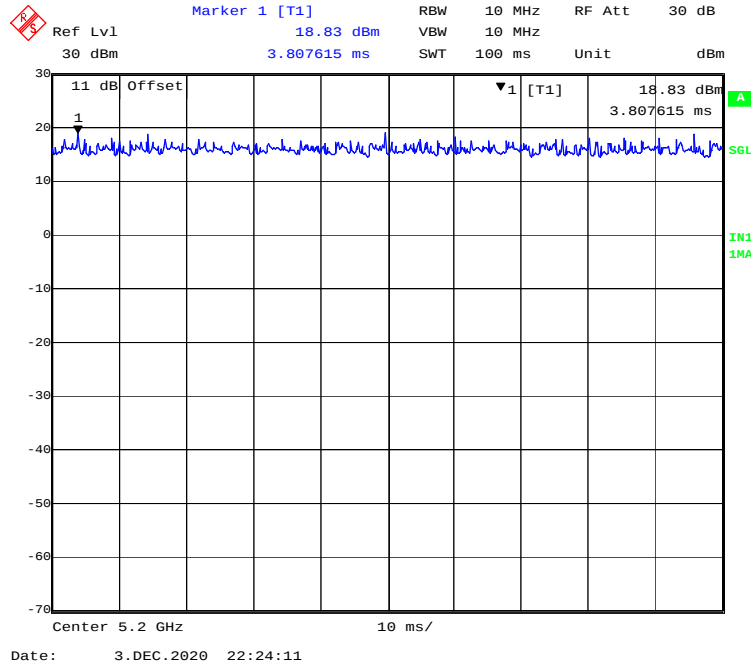
**802.11a mode**



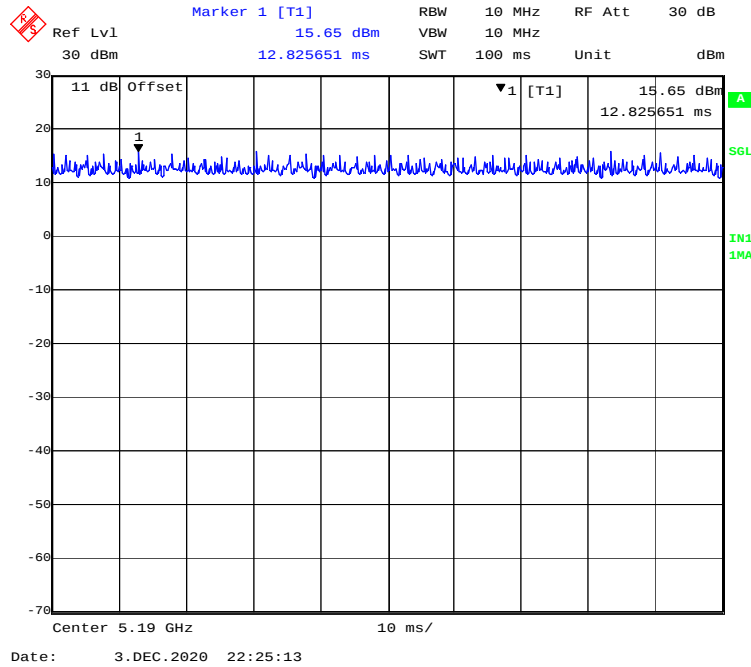
**802.11ac20 mode**



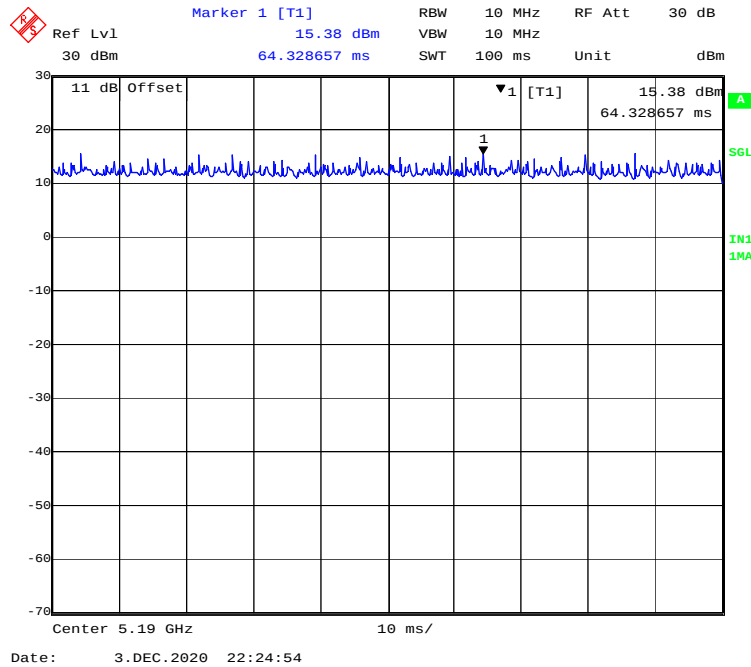
### 802.11n-HT20 mode



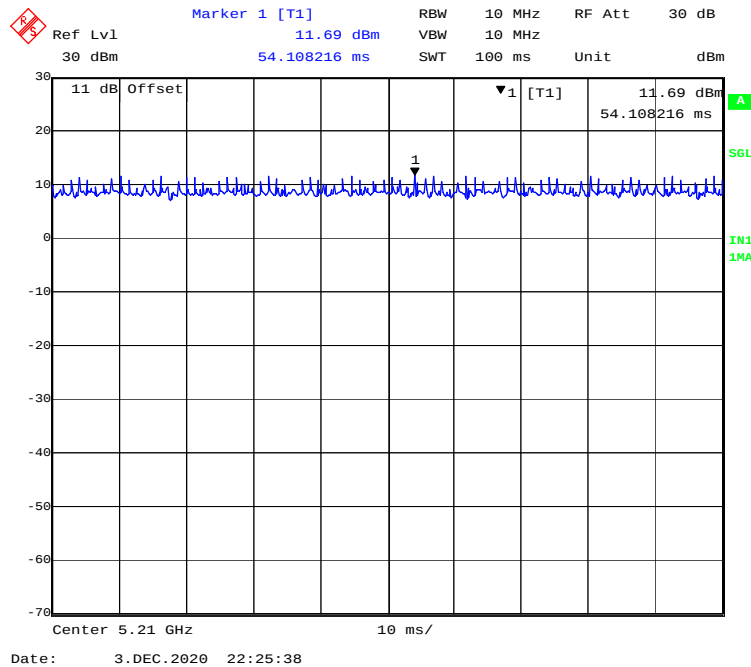
### 802.11 ac40 mode



### 802.11n-HT40 mode



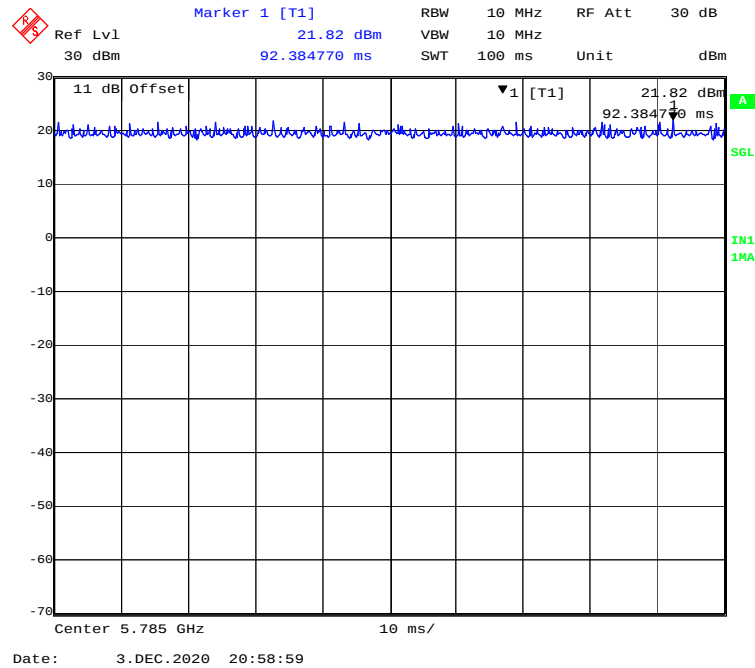
### 802.11 ac80 mode



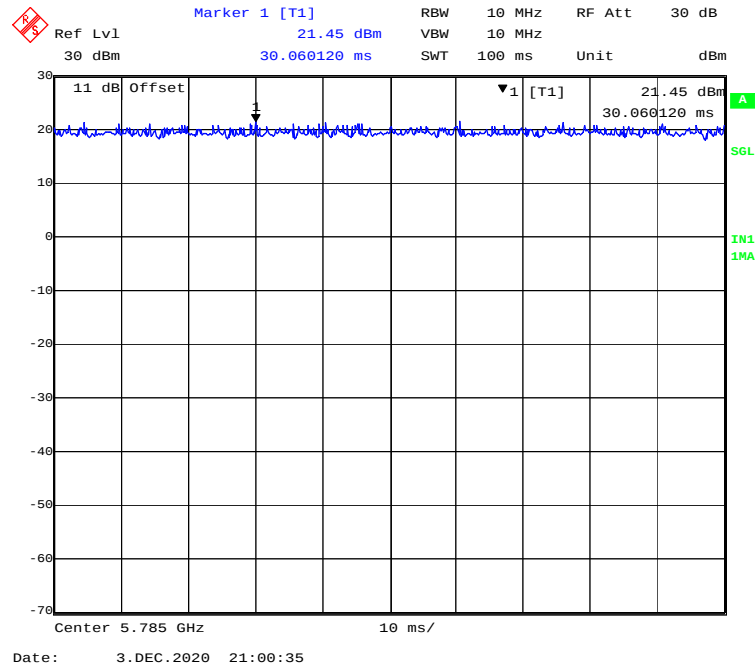
**Chain 0:**

**5725MHz-5850MHz Band:**

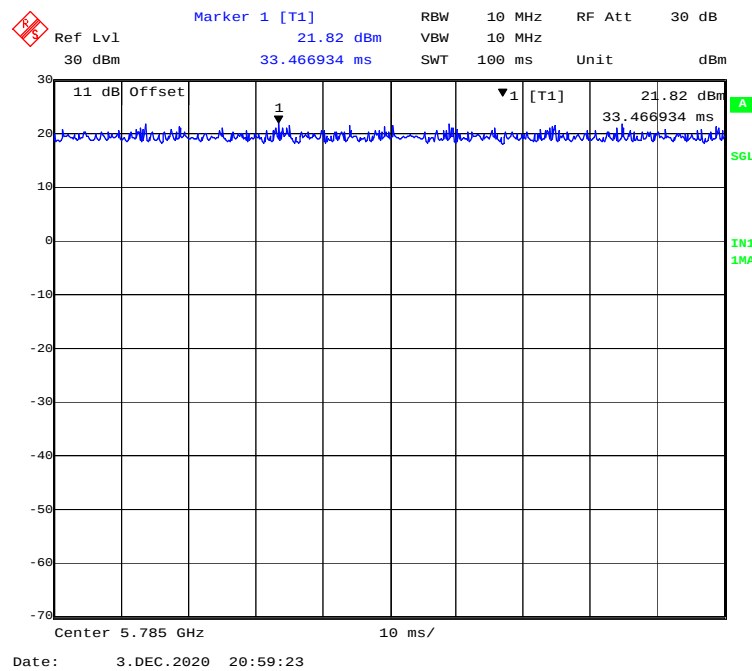
**802.11a mode**



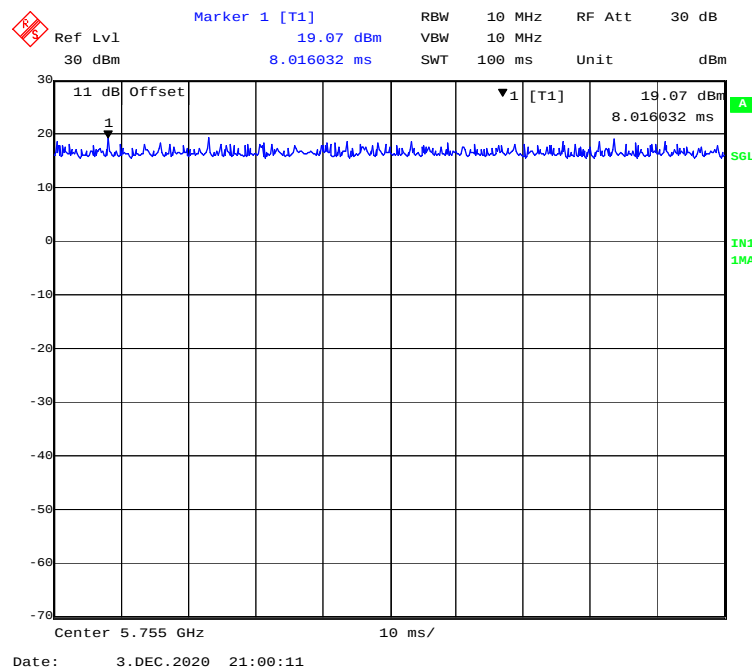
**802.11ac20 mode**



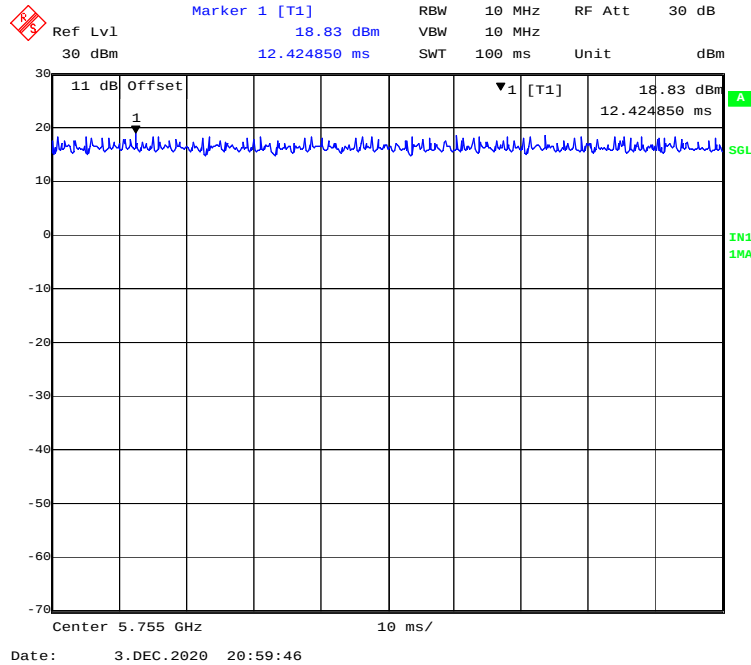
### 802.11n-HT20 mode



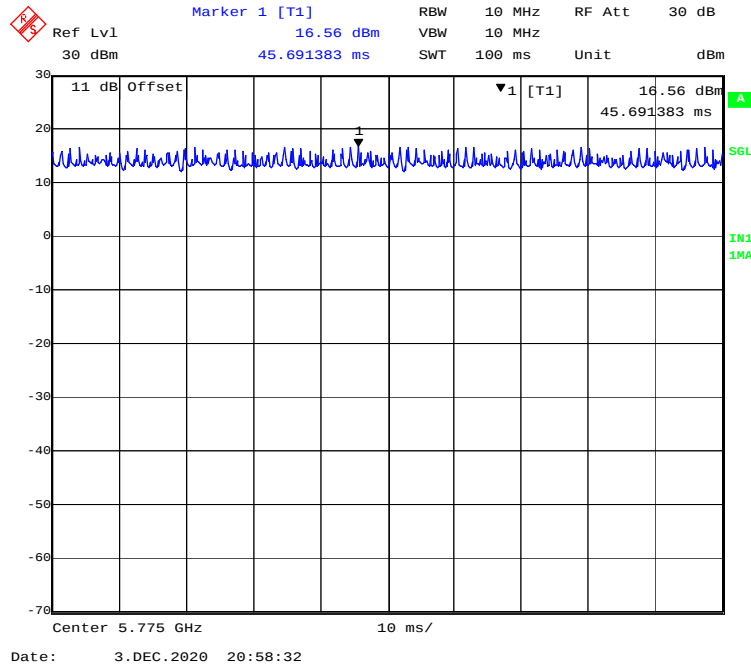
### 802.11 ac40 mode



### 802.11n-HT40 mode



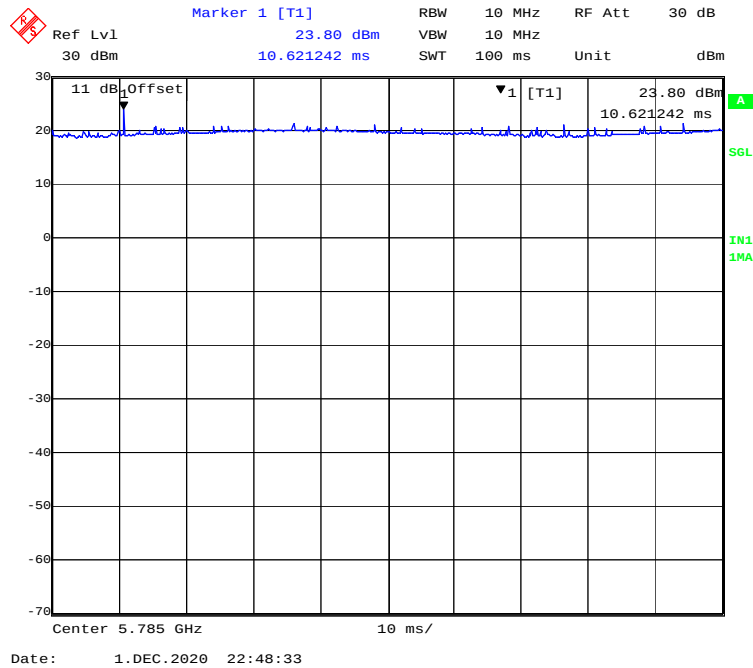
### 802.11n- ac80 mode



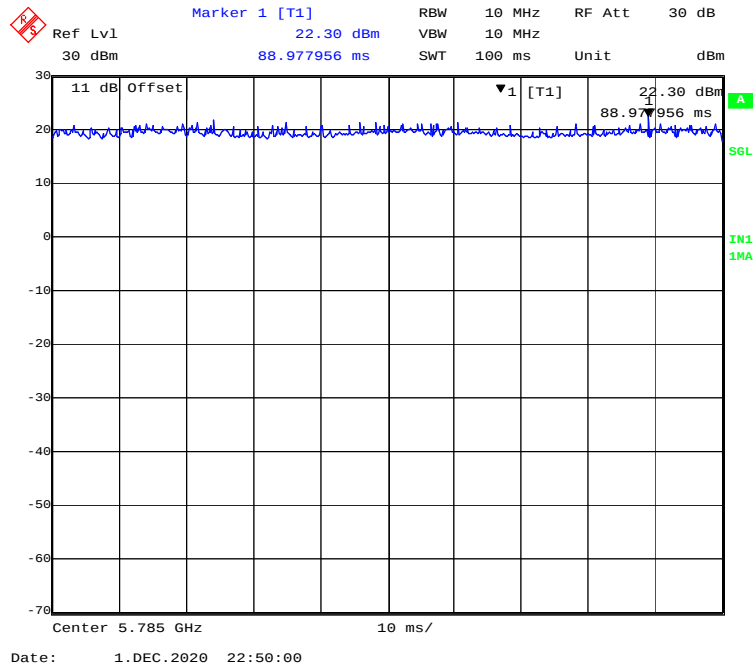
**Chain 1:**

**5725MHz-5850MHz Band:**

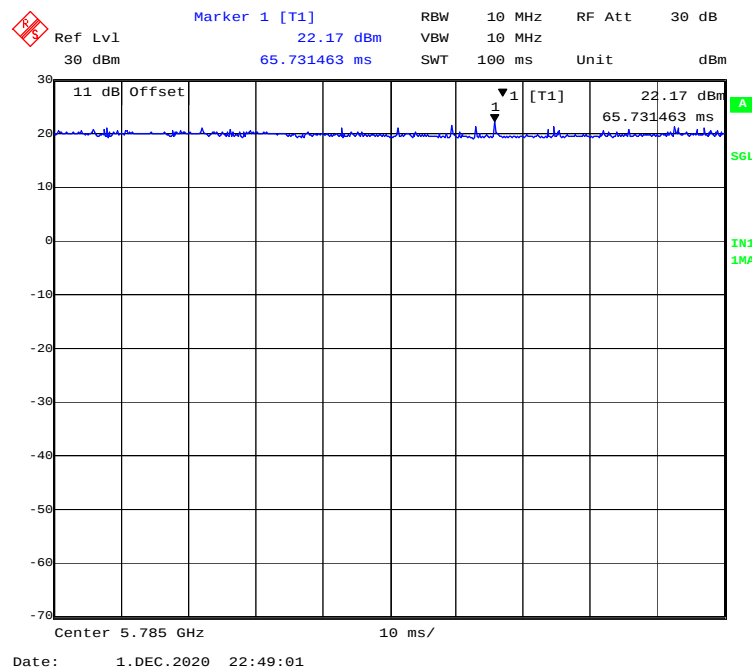
**802.11a mode**



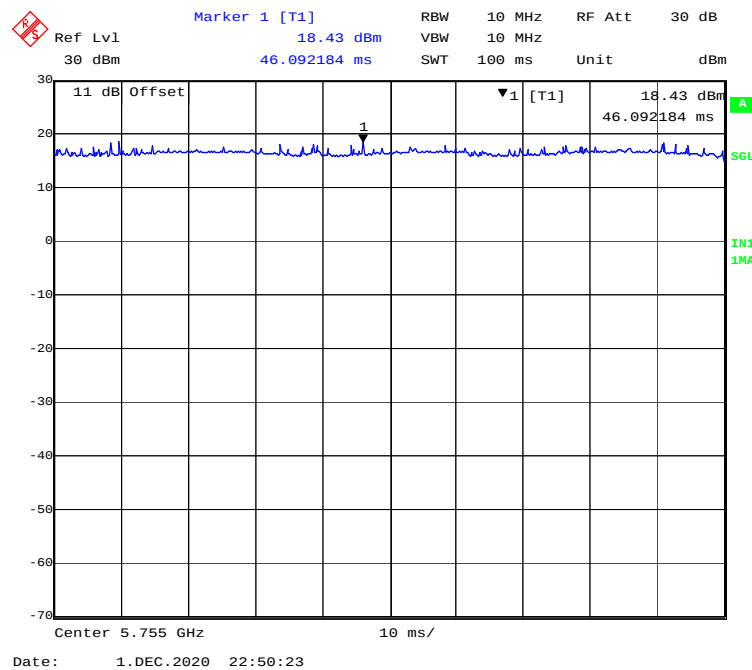
**802.11ac20 mode**



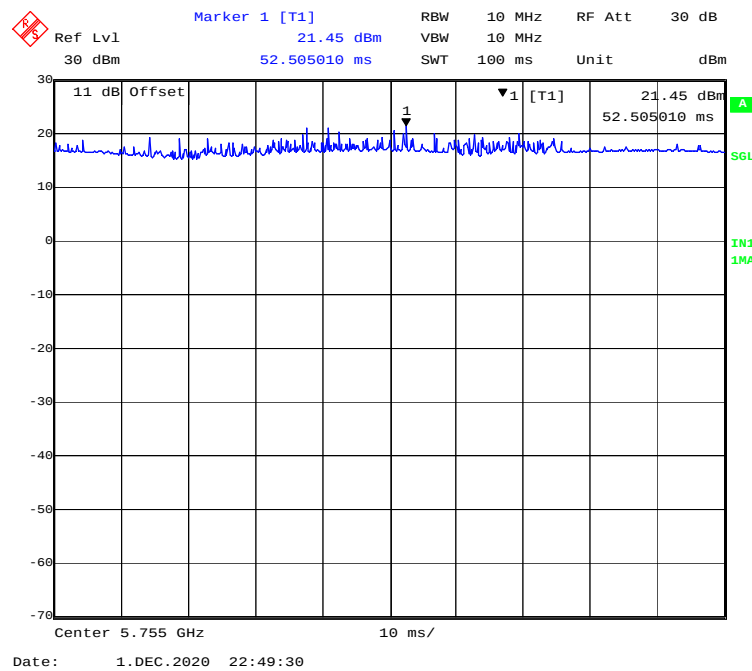
### 802.11n-HT20 mode



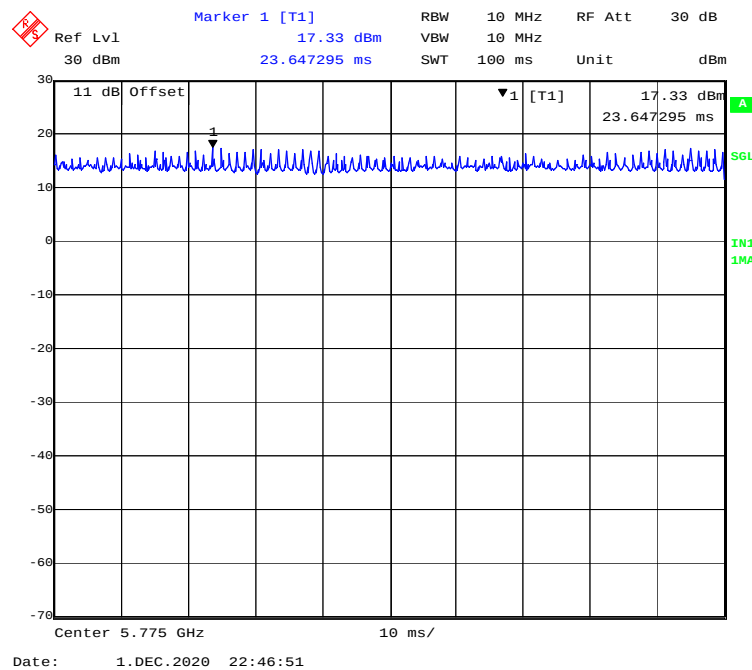
### 802.11 ac40 mode



## 802.11n-HT40 mode



## 802.11n- ac80 mode



**Chain 0:**

| Mode         | Frequency Range (MHz) | Duty Cycle (%) | T (ms) | 1/T (kHz) | 10log(1/x) |
|--------------|-----------------------|----------------|--------|-----------|------------|
| 802.11a      | 5150-5250             | 100            | /      | /         | 0          |
| 802.11ac20   |                       | 100            | /      | /         | 0          |
| 802.11n-HT20 |                       | 100            | /      | /         | 0          |
| 802.11ac40   |                       | 100            | /      | /         | 0          |
| 802.11n-HT40 |                       | 100            | /      | /         | 0          |
| 802.11ac80   |                       | 100            | /      | /         | 0          |
| 802.11a      | 5725-5850             | 100            | /      | /         | 0          |
| 802.11ac20   |                       | 100            | /      | /         | 0          |
| 802.11n-HT20 |                       | 100            | /      | /         | 0          |
| 802.11ac40   |                       | 100            | /      | /         | 0          |
| 802.11n-HT40 |                       | 100            | /      | /         | 0          |
| 802.11ac80   |                       | 100            | /      | /         | 0          |

**Chain 1:**

| Mode         | Frequency Range (MHz) | Duty Cycle (%) | T (ms) | 1/T (kHz) | 10log(1/x) |
|--------------|-----------------------|----------------|--------|-----------|------------|
| 802.11a      | 5150-5250             | 100            | /      | /         | 0          |
| 802.11ac20   |                       | 100            | /      | /         | 0          |
| 802.11n-HT20 |                       | 100            | /      | /         | 0          |
| 802.11ac40   |                       | 100            | /      | /         | 0          |
| 802.11n-HT40 |                       | 100            | /      | /         | 0          |
| 802.11ac80   |                       | 100            | /      | /         | 0          |
| 802.11a      | 5725-5850             | 100            | /      | /         | 0          |
| 802.11ac20   |                       | 100            | /      | /         | 0          |
| 802.11n-HT20 |                       | 100            | /      | /         | 0          |
| 802.11ac40   |                       | 100            | /      | /         | 0          |
| 802.11n-HT40 |                       | 100            | /      | /         | 0          |
| 802.11ac80   |                       | 100            | /      | /         | 0          |

**Note:** “x” means duty cycle.

**Equipment Modifications**

No modification was made to the EUT.

**Support Equipment List and Details**

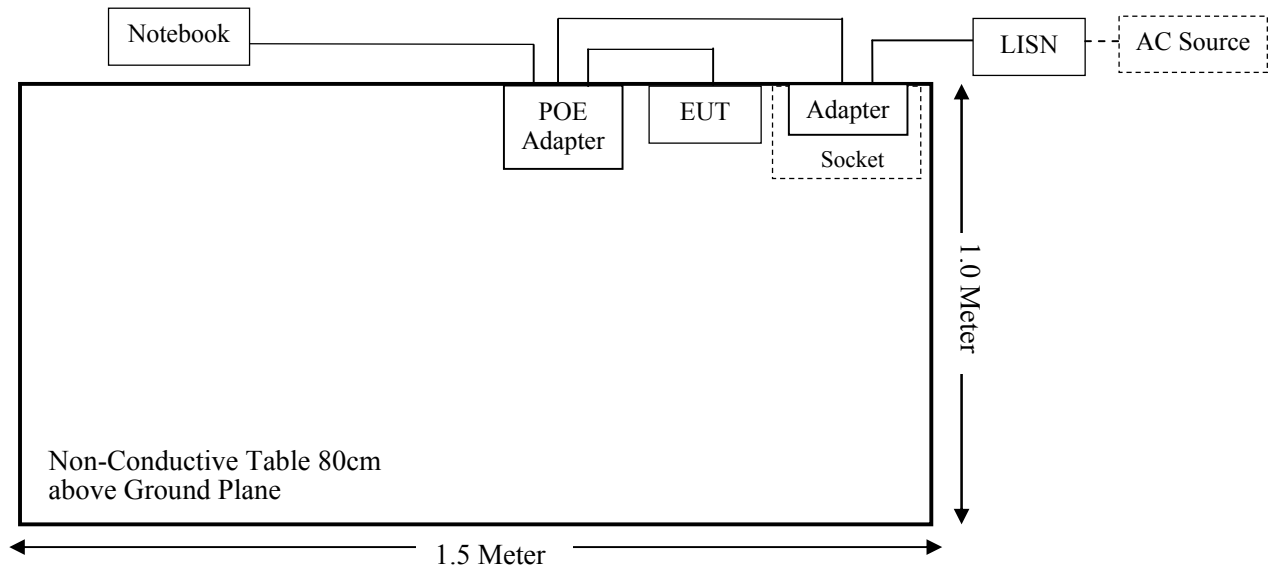
| Manufacturer                              | Description | Model          | Serial Number      |
|-------------------------------------------|-------------|----------------|--------------------|
| Tenda                                     | POE Adapter | POE30G-AT      | 170951920100000806 |
| SHEN ZHEN TIANYIN<br>ELECTRONICS CO.,LTD. | Adapter     | TPA-46050200UV | Unknown            |
| DELL                                      | Notebook    | GX620          | D65874152          |
| Unknown                                   | Socket      | Unknown        | Unknown            |

**External I/O Cable**

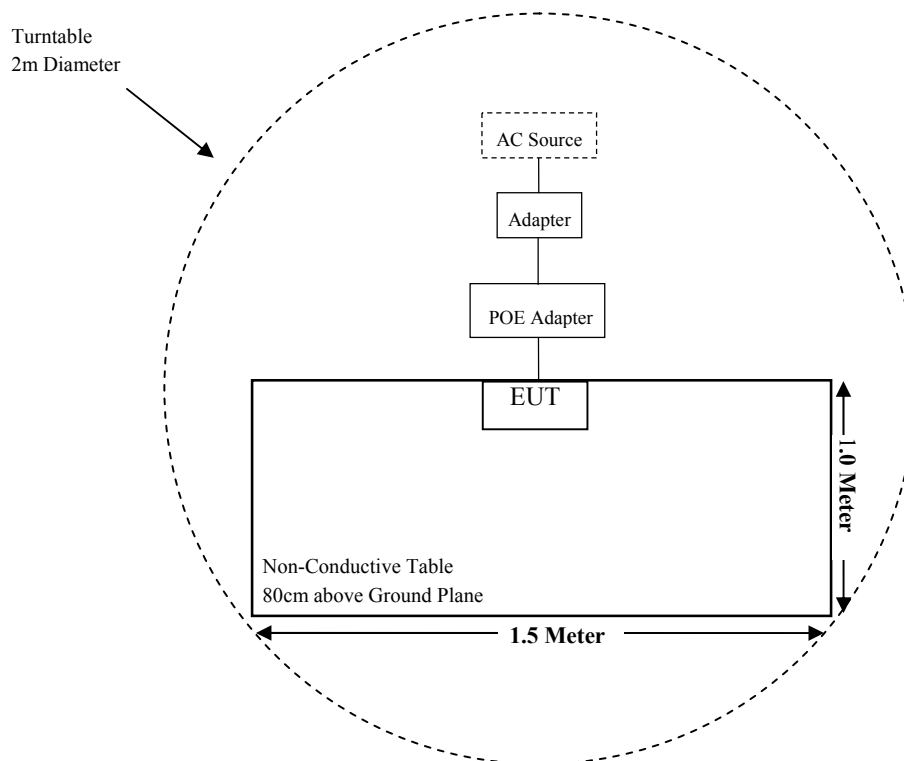
| Cable Description | Length (m) | From Port   | To             |
|-------------------|------------|-------------|----------------|
| RJ45 Cable        | 1.0        | EUT         | POE Adapter    |
| Power Cable       | 1.3        | POE Adapter | Adapter        |
| Power Cable       | 0.8        | Adapter     | LISN/AC Source |
| RJ45 Cable        | 5.0        | POE Adapter | Notebook       |

## Block Diagram of Test Setup

For Conducted Emissions:

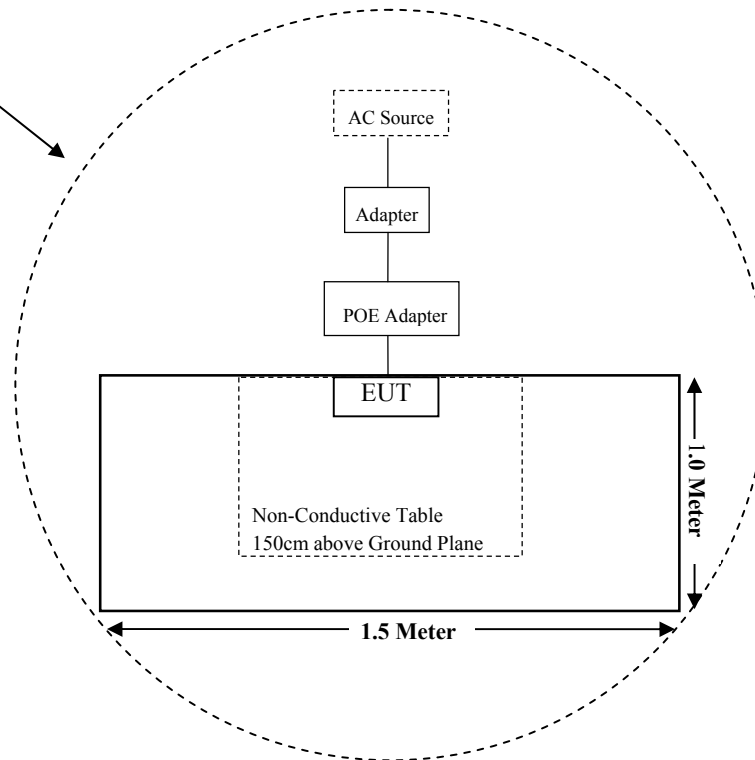


For Radiated Emissions (Below 1GHz):



For Radiated Emissions (Above 1GHz):

Turntable  
2m Diameter



**SUMMARY OF TEST RESULTS**

| FCC Rules                                       | Description of Test                     | Result    |
|-------------------------------------------------|-----------------------------------------|-----------|
| §1.1310 & §2.1091                               | Maximum Permissible Exposure (MPE)      | Compliant |
| §15.203                                         | Antenna Requirement                     | Compliant |
| §15.207 & §15.407(b) (8)                        | AC Power Line Conducted Emissions       | Compliant |
| §15.205 & §15.209 & §15.407(b)<br>(1)(4) (8)(9) | Undesirable Emission & Restricted Bands | Compliant |
| §15.407(a) & §15.407 (e)                        | Emission Bandwidth                      | Compliant |
| §15.407(a) (1) (3)                              | Conducted Transmitter Output Power      | Compliant |
| §15.407(a) (1) (3)                              | Power Spectral Density                  | Compliant |

**TEST EQUIPMENT LIST**

| Manufacturer                               | Description        | Model                      | Serial Number          | Calibration Date | Calibration Due Date |
|--------------------------------------------|--------------------|----------------------------|------------------------|------------------|----------------------|
| <b>Radiated Emission Test (Chamber 1#)</b> |                    |                            |                        |                  |                      |
| Rohde & Schwarz                            | EMI Test Receiver  | ESCI                       | 100195                 | 2020-12-14       | 2021-12-13           |
| Sunol Sciences                             | Broadband Antenna  | JB3                        | A090314-1              | 2020-08-05       | 2023-08-04           |
| Sonoma Instrument                          | Pre-amplifier      | 310N                       | 171205                 | 2020-08-14       | 2021-08-13           |
| Rohde & Schwarz                            | Auto Test Software | EMC32                      | 100361                 | /                | /                    |
| MICRO-COAX                                 | Coaxial Cable      | Cable-8                    | 008                    | 2020-08-15       | 2021-08-14           |
| MICRO-COAX                                 | Coaxial Cable      | Cable-9                    | 009                    | 2020-08-15       | 2021-08-14           |
| MICRO-COAX                                 | Coaxial Cable      | Cable-10                   | 010                    | 2020-08-15       | 2021-08-14           |
| <b>Radiated Emission Test (Chamber 2#)</b> |                    |                            |                        |                  |                      |
| Rohde & Schwarz                            | EMI Test Receiver  | ESU40                      | 100207                 | 2020-04-01       | 2021-03-31           |
| ETS-LINDGREN                               | Horn Antenna       | 3115                       | 9207-3900              | 2020-07-15       | 2023-07-14           |
| ETS-LINDGREN                               | Horn Antenna       | 3116                       | 00084159               | 2019-12-12       | 2022-12-11           |
| A.H.Systems, inc                           | Amplifier          | PAM-0118P                  | 512                    | 2020-02-20       | 2021-02-19           |
| SELECTOR                                   | Amplifier          | EM18G40G                   | 060726                 | 2020-03-22       | 2021-03-21           |
| MICRO-TRONICS                              | Band Reject Filter | BRC50703                   | G094                   | 2020-08-05       | 2021-08-04           |
| MICRO-TRONICS                              | Band Reject Filter | BRC50705                   | G085                   | 2020-08-05       | 2021-08-04           |
| Narda                                      | Attenuator         | 10dB                       | 010                    | 2020-08-15       | 2021-08-14           |
| Rohde & Schwarz                            | Auto test Software | EMC32                      | 100361                 | /                | /                    |
| MICRO-COAX                                 | Coaxial Cable      | Cable-6                    | 006                    | 2019-12-12       | 2020-12-11           |
| MICRO-COAX                                 | Coaxial Cable      | Cable-6                    | 006                    | 2020-12-12       | 2021-12-11           |
| MICRO-COAX                                 | Coaxial Cable      | Cable-11                   | 011                    | 2020-08-15       | 2021-08-14           |
| MICRO-COAX                                 | Coaxial Cable      | Cable-12                   | 012                    | 2020-08-15       | 2021-08-14           |
| MICRO-COAX                                 | Coaxial Cable      | Cable-13                   | 013                    | 2020-08-15       | 2021-08-14           |
| <b>RF Conducted Test</b>                   |                    |                            |                        |                  |                      |
| Rohde & Schwarz                            | EMI Test Receiver  | ESIB26                     | 100146                 | 2019-12-14       | 2020-12-13           |
| Agilent                                    | Power Meter        | N1912A                     | MY5000492              | 2020-11-18       | 2021-11-17           |
| Agilent                                    | Power Sensor       | N1921A                     | MY54210024             | 2020-11-18       | 2021-11-17           |
| Narda                                      | Attenuator         | 10dB                       | 010                    | 2020-08-15       | 2021-08-14           |
| NLT Digital Solution's                     | RF Cable           | NLT Digital Solution's C01 | C01                    | Each Time        | /                    |
| <b>Conducted Emission Test</b>             |                    |                            |                        |                  |                      |
| Rohde & Schwarz                            | EMI Test Receiver  | ESR                        | 1316.3003K03-101746-zn | 2020-07-28       | 2021-07-27           |
| Rohde & Schwarz                            | LISN               | ENV216                     | 101115                 | 2020-11-27       | 2021-11-26           |
| Audix                                      | Test Software      | e3                         | V9                     | /                | /                    |
| Rohde & Schwarz                            | Pulse limiter      | ESH3-Z2                    | 100552                 | 2020-08-10       | 2021-08-09           |
| MICRO-COAX                                 | Coaxial Cable      | Cable-15                   | 015                    | 2020-08-15       | 2021-08-14           |

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

## **FCC §1.1310& §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)**

### **Applicable Standard**

According to subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

| <b>(B) Limits for General Population/Uncontrolled Exposure</b> |                                      |                                      |                                          |                                 |
|----------------------------------------------------------------|--------------------------------------|--------------------------------------|------------------------------------------|---------------------------------|
| <b>Frequency Range (MHz)</b>                                   | <b>Electric Field Strength (V/m)</b> | <b>Magnetic Field Strength (A/m)</b> | <b>Power Density (mW/cm<sup>2</sup>)</b> | <b>Averaging Time (minutes)</b> |
| 0.3-1.34                                                       | 614                                  | 1.63                                 | *(100)                                   | 30                              |
| 1.34-30                                                        | 824/f                                | 2.19/f                               | *(180/f <sup>2</sup> )                   | 30                              |
| 30-300                                                         | 27.5                                 | 0.073                                | 0.2                                      | 30                              |
| 300-1500                                                       | /                                    |                                      | f/1500                                   | 30                              |
| 1500-100,000                                                   | /                                    |                                      | 1.0                                      | 30                              |

f = frequency in MHz; \* = Plane-wave equivalent power density;

### **Calculated Formulary:**

Predication of MPE limit at a given distance

$S = PG/4\pi R^2$  = power density (in appropriate units, e.g. mW/cm<sup>2</sup>);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

**Calculated Data:**

| Mode         | Frequency Range (MHz) | Maximum Antenna Gain |           | Tune-up Conducted Power |        | Evaluation Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | MPE Limit (mW/cm <sup>2</sup> ) |
|--------------|-----------------------|----------------------|-----------|-------------------------|--------|--------------------------|-------------------------------------|---------------------------------|
|              |                       | (dBi)                | (numeric) | (dBm)                   | (mW)   |                          |                                     |                                 |
| 802.11b      | 2412-2462             | 7.0                  | 5.01      | 24.50                   | 281.84 | 20                       | 0.2809                              | 1.0                             |
| 802.11g      |                       | 7.0                  | 5.01      | 22.50                   | 177.83 | 20                       | 0.1772                              | 1.0                             |
| 802.11n-HT20 |                       | 7.0                  | 5.01      | 22.00                   | 158.49 | 20                       | 0.1579                              | 1.0                             |
| 802.11n-HT40 | 2422-2452             | 7.0                  | 5.01      | 21.00                   | 125.89 | 20                       | 0.1255                              | 1.0                             |
| 802.11a      | 5150~5250             | 9.0                  | 7.94      | 12.00                   | 15.85  | 20                       | 0.0250                              | 1.0                             |
|              | 5725~5850             | 9.0                  | 7.94      | 15.50                   | 35.48  | 20                       | 0.0561                              | 1.0                             |
| 802.11ac20   | 5150~5250             | 9.0                  | 7.94      | 12.00                   | 15.85  | 20                       | 0.0250                              | 1.0                             |
|              | 5725~5850             | 9.0                  | 7.94      | 18.00                   | 63.10  | 20                       | 0.0997                              | 1.0                             |
| 802.11n-HT20 | 5150~5250             | 9.0                  | 7.94      | 12.00                   | 15.85  | 20                       | 0.0250                              | 1.0                             |
|              | 5725~5850             | 9.0                  | 7.94      | 18.00                   | 63.10  | 20                       | 0.0997                              | 1.0                             |
| 802.11ac40   | 5150~5250             | 9.0                  | 7.94      | 12.00                   | 15.85  | 20                       | 0.0250                              | 1.0                             |
|              | 5725~5850             | 9.0                  | 7.94      | 17.50                   | 56.23  | 20                       | 0.0889                              | 1.0                             |
| 802.11n-HT40 | 5150~5250             | 9.0                  | 7.94      | 12.00                   | 15.85  | 20                       | 0.0250                              | 1.0                             |
|              | 5725~5850             | 9.0                  | 7.94      | 17.50                   | 56.23  | 20                       | 0.0889                              | 1.0                             |
| 802.11ac80   | 5210                  | 9.0                  | 7.94      | 12.00                   | 15.85  | 20                       | 0.0250                              | 1.0                             |
|              | 5775                  | 9.0                  | 7.94      | 17.00                   | 50.12  | 20                       | 0.0792                              | 1.0                             |

**Note:**

- (1) The tune-up output power was declared by the manufacturer.  
 (2) 2.4GWi-Fi and 5G Wi-Fi cannot transmit simultaneously.

**Result:** The device meets FCC MPE at 20 cm distance.

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**FCC §15.203 – ANTENNA REQUIREMENT**

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**Applicable Standard**

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.407, if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

**Antenna Connector Construction**

The EUT has two Omni antennas for 5G Wi-Fi, the antenna gain is 9.0 dBi for chain0 and chain1, Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit, fulfill the requirement of this section. Please refer to the EUT photos.

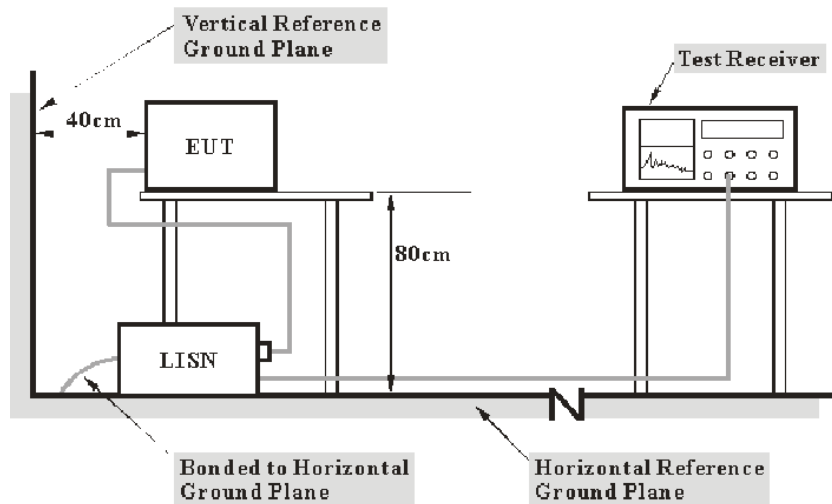
**Result:** Compliant.

## FCC §15.407 (b) (8) §15.207 (a) – AC POWER LINE CONDUCTED EMISSIONS

### Applicable Standard

FCC §15.207(a), §15.407(b) (8)

### EUT Setup



Note: 1. Support units were connected to second LISN.  
2. Both of LISNs (AMN) 80 cm from EUT and at the least 30 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

### EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz

During the conducted emission test, the EMI test receiver was set with the following configurations:

| Frequency Range  | IF B/W |
|------------------|--------|
| 150 kHz – 30 MHz | 9 kHz  |

## Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

## Factor & Over Limit Calculation

The Corrected factor is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

$$\text{Factor (dB)} = \text{LISN VDF (dB)} + \text{Cable Loss (dB)} + \text{Transient Limiter Attenuation (dB)}$$

The “**Over Limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an over limit of 7dB means the emission is 7 dB above the limit. The equation for over limit calculation is as follows:

$$\text{Over Limit (dB)} = \text{Read level (dB}\mu\text{V)} + \text{Factor (dB)} - \text{Limit (dB}\mu\text{V)}$$

## Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207.

## Test Data

### Environmental Conditions

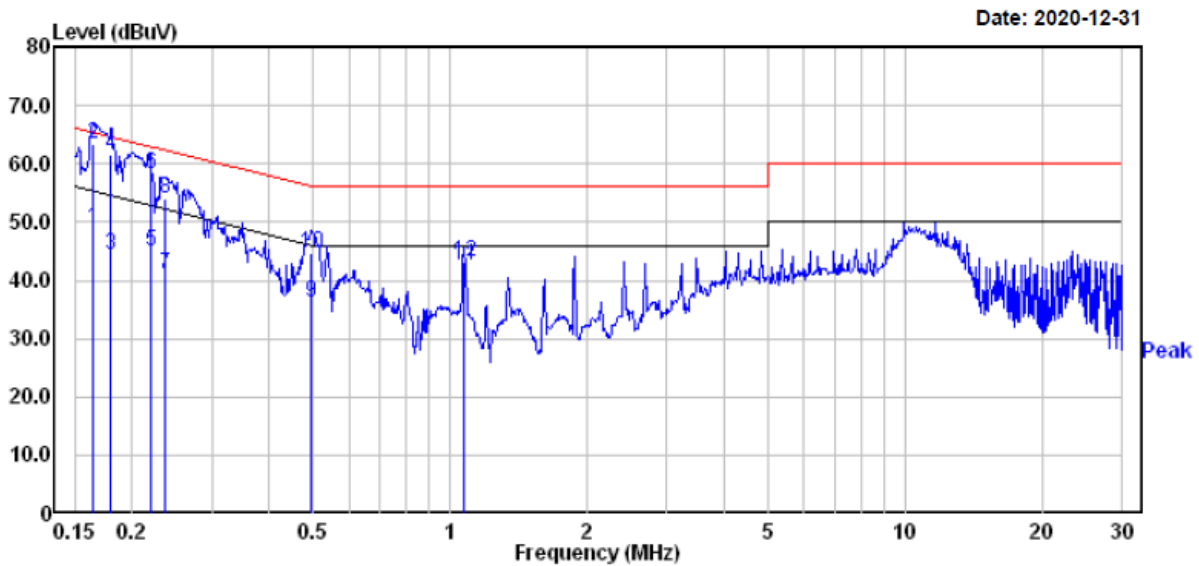
|                    |           |
|--------------------|-----------|
| Temperature:       | 24.5 °C   |
| Relative Humidity: | 51 %      |
| ATM Pressure:      | 100.9 kPa |

*The testing was performed by CK Huang on 2020-12-31.*

**Chain 0:**

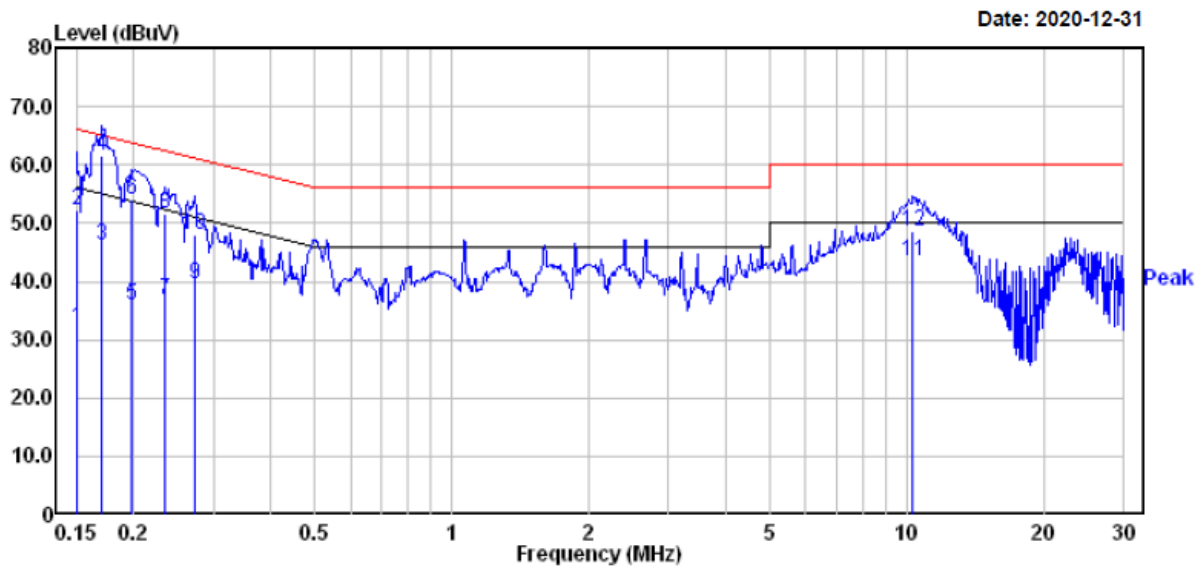
EUT operation mode: Transmitting in 802.11a mode low channel of 5150~5250MHz (worst case)

AC 120V/60 Hz, Line



|    | Freq  | Read Level | Factor | Level | Limit Line | Over Limit | Remark  |
|----|-------|------------|--------|-------|------------|------------|---------|
|    | MHz   | dBuV       | dB     | dBuV  | dBuV       | dB         |         |
| 1  | 0.164 | 29.00      | 19.83  | 48.83 | 55.25      | -6.42      | Average |
| 2  | 0.164 | 43.60      | 19.83  | 63.43 | 65.25      | -1.82      | QP      |
| 3  | 0.180 | 24.50      | 19.83  | 44.33 | 54.50      | -10.17     | Average |
| 4  | 0.180 | 41.70      | 19.83  | 61.53 | 64.50      | -2.97      | QP      |
| 5  | 0.220 | 25.20      | 19.82  | 45.02 | 52.83      | -7.81      | Average |
| 6  | 0.220 | 38.40      | 19.82  | 58.22 | 62.83      | -4.61      | QP      |
| 7  | 0.237 | 21.10      | 19.82  | 40.92 | 52.22      | -11.30     | Average |
| 8  | 0.237 | 34.30      | 19.82  | 54.12 | 62.22      | -8.10      | QP      |
| 9  | 0.497 | 16.40      | 19.76  | 36.16 | 46.05      | -9.89      | Average |
| 10 | 0.497 | 25.00      | 19.76  | 44.76 | 56.05      | -11.29     | QP      |
| 11 | 1.071 | 22.70      | 19.82  | 42.52 | 46.00      | -3.48      | Average |
| 12 | 1.071 | 23.50      | 19.82  | 43.32 | 56.00      | -12.68     | QP      |

## AC 120V/60 Hz, Neutral

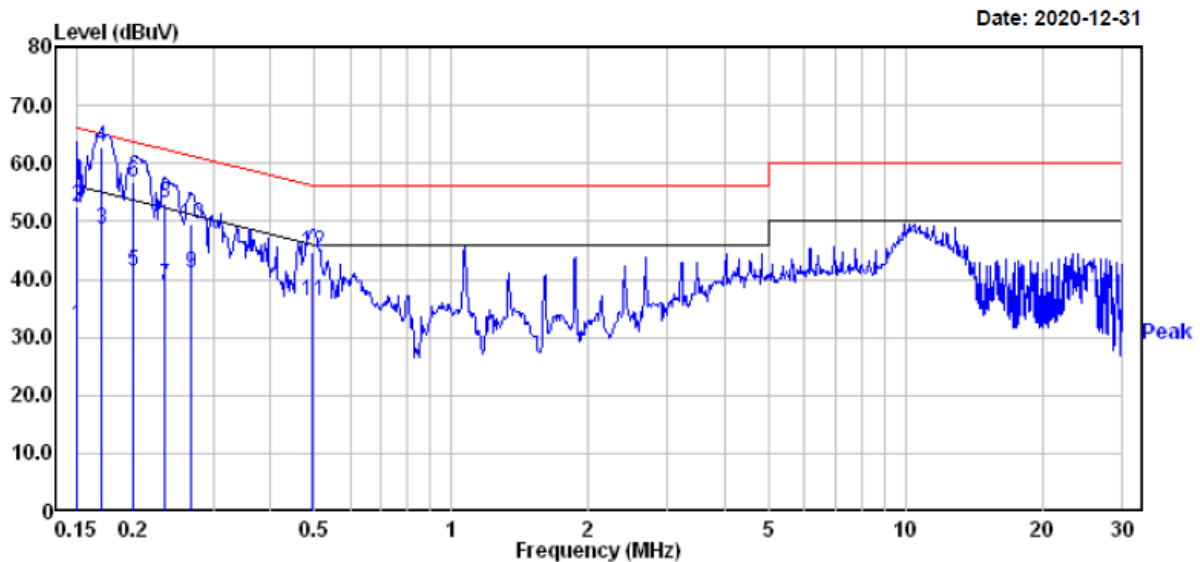


|    | Freq   | Read Level | Factor | Level | Limit Line | Over Limit | Remark  |
|----|--------|------------|--------|-------|------------|------------|---------|
|    | MHz    | dBuV       | dB     | dBuV  | dBuV       | dB         |         |
| 1  | 0.150  | 12.20      | 19.82  | 32.02 | 56.00      | -23.98     | Average |
| 2  | 0.150  | 32.40      | 19.82  | 52.22 | 66.00      | -13.78     | QP      |
| 3  | 0.170  | 26.50      | 19.83  | 46.33 | 54.94      | -8.61      | Average |
| 4  | 0.170  | 41.70      | 19.83  | 61.53 | 64.94      | -3.41      | QP      |
| 5  | 0.199  | 16.00      | 19.82  | 35.82 | 53.67      | -17.85     | Average |
| 6  | 0.199  | 34.30      | 19.82  | 54.12 | 63.67      | -9.55      | QP      |
| 7  | 0.235  | 17.10      | 19.82  | 36.92 | 52.26      | -15.34     | Average |
| 8  | 0.235  | 31.90      | 19.82  | 51.72 | 62.26      | -10.54     | QP      |
| 9  | 0.272  | 19.70      | 19.82  | 39.52 | 51.07      | -11.55     | Average |
| 10 | 0.272  | 28.20      | 19.82  | 48.02 | 61.07      | -13.05     | QP      |
| 11 | 10.342 | 23.80      | 19.56  | 43.36 | 50.00      | -6.64      | Average |
| 12 | 10.342 | 29.10      | 19.56  | 48.66 | 60.00      | -11.34     | QP      |

**Chain 1:**

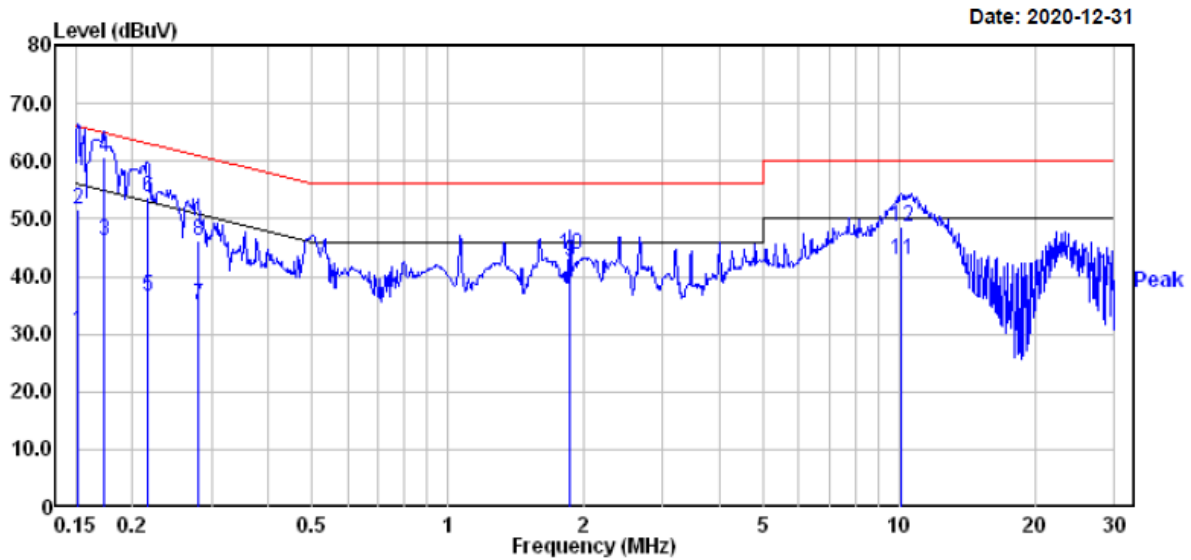
EUT operation mode: Transmitting in 802.11a mode high channel of 5725-5850MHz (worst case)

AC 120V/60 Hz, Line



|    | Freq  | Read Level | Factor | Level | Limit Line | Over Limit | Remark  |
|----|-------|------------|--------|-------|------------|------------|---------|
|    | MHz   | dBuV       | dB     | dBuV  | dBuV       | dB         |         |
| 1  | 0.150 | 12.20      | 19.82  | 32.02 | 56.00      | -23.98     | Average |
| 2  | 0.150 | 32.80      | 19.82  | 52.62 | 66.00      | -13.38     | QP      |
| 3  | 0.170 | 28.70      | 19.83  | 48.53 | 54.94      | -6.41      | Average |
| 4  | 0.170 | 43.10      | 19.83  | 62.93 | 64.94      | -2.01      | QP      |
| 5  | 0.200 | 21.60      | 19.82  | 41.42 | 53.62      | -12.20     | Average |
| 6  | 0.200 | 36.90      | 19.82  | 56.72 | 63.62      | -6.90      | QP      |
| 7  | 0.234 | 19.00      | 19.82  | 38.82 | 52.30      | -13.48     | Average |
| 8  | 0.234 | 33.30      | 19.82  | 53.12 | 62.30      | -9.18      | QP      |
| 9  | 0.269 | 21.30      | 19.82  | 41.12 | 51.16      | -10.04     | Average |
| 10 | 0.269 | 29.80      | 19.82  | 49.62 | 61.16      | -11.54     | QP      |
| 11 | 0.494 | 16.60      | 19.76  | 36.36 | 46.10      | -9.74      | Average |
| 12 | 0.494 | 25.00      | 19.76  | 44.76 | 56.10      | -11.34     | QP      |

## AC 120V/60 Hz, Neutral



|    |        | Read  |        |       | Limit | Over   |         |
|----|--------|-------|--------|-------|-------|--------|---------|
|    | Freq   | Level | Factor | Level | Line  | Limit  | Remark  |
|    | MHz    | dBuV  | dB     | dBuV  | dBuV  | dB     |         |
| 1  | 0.152  | 10.70 | 19.82  | 30.52 | 55.91 | -25.39 | Average |
| 2  | 0.152  | 31.70 | 19.82  | 51.52 | 65.91 | -14.39 | QP      |
| 3  | 0.173  | 26.30 | 19.83  | 46.13 | 54.81 | -8.68  | Average |
| 4  | 0.173  | 40.80 | 19.83  | 60.63 | 64.81 | -4.18  | QP      |
| 5  | 0.216  | 16.60 | 19.82  | 36.42 | 52.96 | -16.54 | Average |
| 6  | 0.216  | 33.80 | 19.82  | 53.62 | 62.96 | -9.34  | QP      |
| 7  | 0.280  | 15.20 | 19.82  | 35.02 | 50.81 | -15.79 | Average |
| 8  | 0.280  | 26.40 | 19.82  | 46.22 | 60.81 | -14.59 | QP      |
| 9  | 1.868  | 22.60 | 19.83  | 42.43 | 46.00 | -3.57  | Average |
| 10 | 1.868  | 23.90 | 19.83  | 43.73 | 56.00 | -12.27 | QP      |
| 11 | 10.125 | 23.40 | 19.56  | 42.96 | 50.00 | -7.04  | Average |
| 12 | 10.125 | 29.10 | 19.56  | 48.66 | 60.00 | -11.34 | QP      |

## §15.205 & §15.209 & §15.407(B)(1)(4) (8)(9) – UNDESIRABLE EMISSION & RESTRICTED BANDS

### Applicable Standard

FCC §15.407 (b)(1)(4) (8) (9); §15.209; §15.205;

For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27dBm/MHz

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of –27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

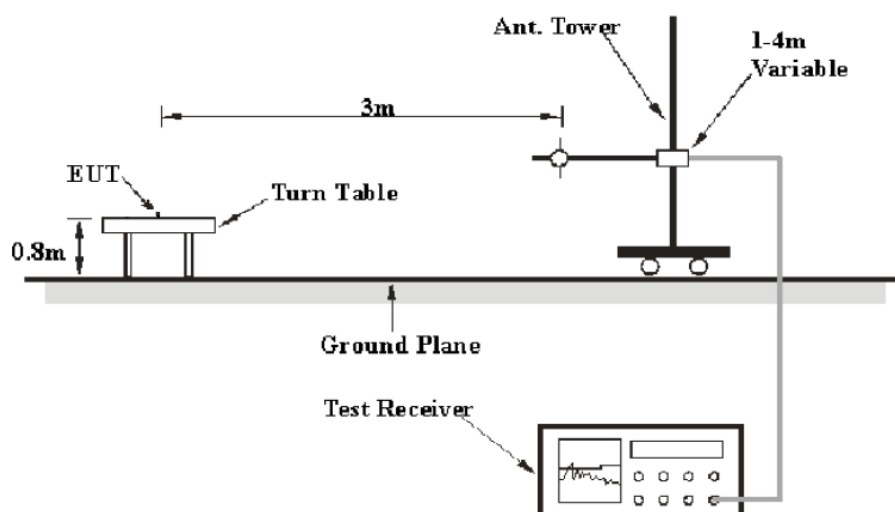
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

As per FCC §15.35(d): Unless otherwise specified, on any frequency or frequencies above 1000MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000MHz shall be performed using a minimum resolution bandwidth of 1MHz.

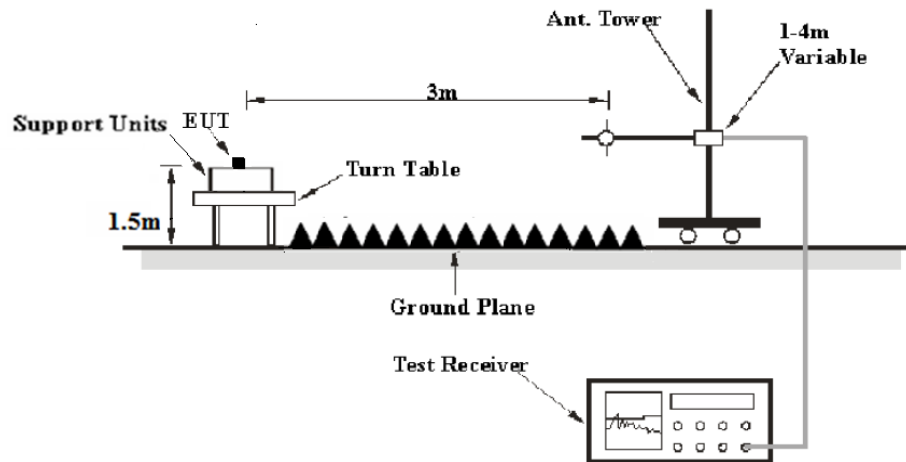
According to 789033 D02 General UNII Test Procedures New Rules v02r01, emission shall be computed as:  $E \text{ [dB}\mu\text{V/m]} = \text{EIRP [dBm]} + 95.2$ , for  $d = 3$  meters.

### EUT Setup

Below 1 GHz:



Above 1 GHz:



The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC 15.209 and FCC 15.407 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

### EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz.

During the radiated emission test, the EMI test receiver Setup was set with the following configurations:

| Frequency Range   | RBW     | Video B/W | IF B/W  | Detector |
|-------------------|---------|-----------|---------|----------|
| 30 MHz – 1000 MHz | 120 kHz | 300 kHz   | 120 kHz | QP       |
| Above 1GHz        | 1MHz    | 3 MHz     | /       | PK       |
|                   | 1MHz    | 3 MHz     | /       | Ave.     |

### Test Procedure

During the radiated emission test, the adapter was connected to the first AC floor outlet and the other support equipments were connected to the second AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1GHz, peak and Average detection modes for frequencies above 1GHz.

## Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

## Test Data

### Environmental Conditions

|                           |                 |
|---------------------------|-----------------|
| <b>Temperature:</b>       | 24.6~25.0 °C    |
| <b>Relative Humidity:</b> | 48~53 %         |
| <b>ATM Pressure:</b>      | 100.7~101.3 kPa |

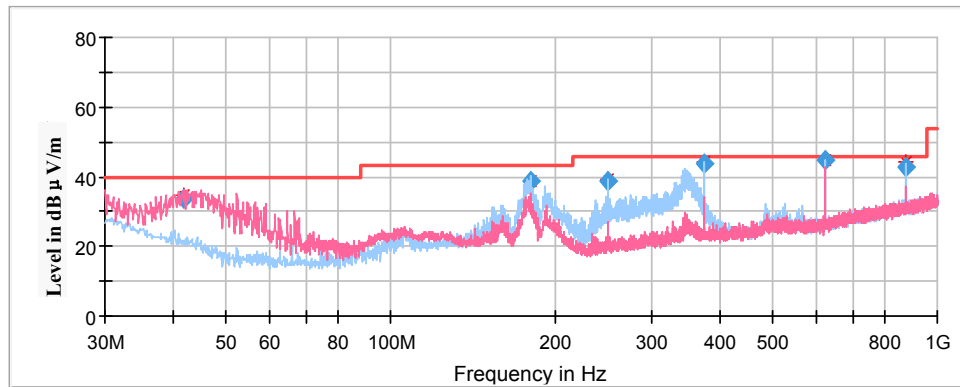
*The testing was performed by CK Huang from 2020-11-08 to 2021-01-09.*

*Test Mode: Transmitting*

## Spurious Emission Test

### 30MHz-1GHz(5150-5250MHz Band):

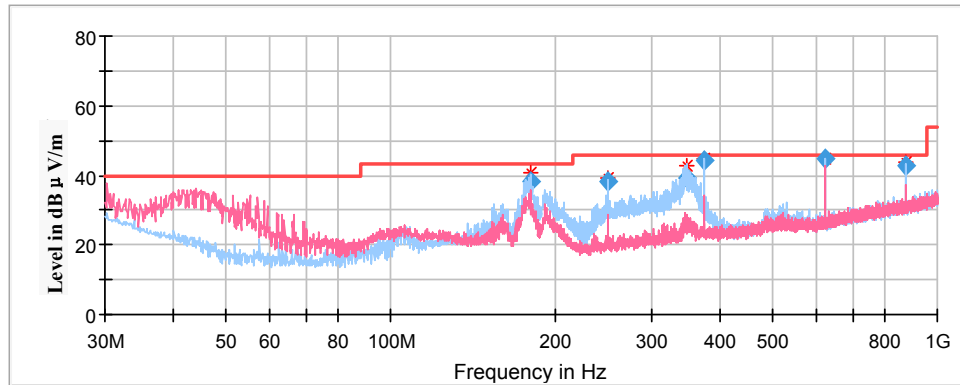
Pre-scan with 802.11a, 802.11ac20, 802.11n-HT20, 802.11ac40, 802.11n-HT40 and 802.11 ac80 modes of operation in the X,Y and Z axes of orientation, the worst case 802.11a mode in low channel 5180MHz(Chain0) in Y-axis of orientation was recorded.



| Frequency (MHz) | Corrected Amplitude | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | QuasiPeak (dBμV/m)  | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 41.744750       | 33.65               | 100.0       | V           | 307.0            | -12.4                 | 40.00          | 6.35        |
| 180.233250      | 38.93               | 200.0       | H           | 259.0            | -13.0                 | 43.50          | 4.57        |
| 250.002400      | 38.65               | 100.0       | H           | 79.0             | -13.2                 | 46.00          | 7.35        |
| 375.003950      | 43.97               | 100.0       | H           | 289.0            | -9.2                  | 46.00          | 2.03        |
| 624.992950      | 44.64               | 200.0       | H           | 235.0            | -4.9                  | 46.00          | 1.36        |
| 874.981700      | 43.00               | 100.0       | H           | 22.0             | -0.2                  | 46.00          | 3.00        |

**30MHz-1GHz(5725-5850MHz Band):**

Pre-scan with 802.11a, 802.11ac20, 802.11n-HT20, 802.11ac40, 802.11n-HT40 and 802.11 ac80 modes of operation in the X,Y and Z axes of orientation, the worst case 802.11a mode in high channel 5825MHz(Chain0) in Y-axis of orientation was recorded



| Frequency (MHz) | Corrected Amplitude | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | QuasiPeak (dBμV/m)  | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 180.228150      | 38.41               | 200.0       | H           | 264.0            | -13.0                 | 43.50          | 5.09        |
| 250.005750      | 38.18               | 200.0       | H           | 95.0             | -13.2                 | 46.00          | 7.82        |
| 348.481100      | 39.48               | 100.0       | H           | 71.0             | -9.9                  | 46.00          | 6.52        |
| 374.992250      | 44.06               | 100.0       | H           | 294.0            | -9.2                  | 46.00          | 1.94        |
| 624.997150      | 44.60               | 200.0       | H           | 227.0            | -4.9                  | 46.00          | 1.40        |
| 875.003300      | 42.56               | 100.0       | H           | 320.0            | -0.2                  | 46.00          | 3.44        |

**1GHz-18GHz(5150-5250MHz Band):****802.11a Mode(Chain 0):**

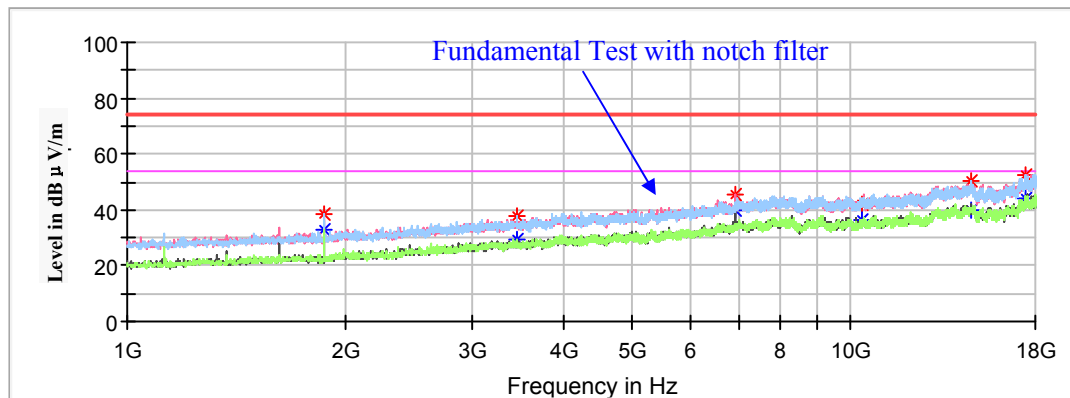
(Pre-scan in the X, Y and Z axes of orientation, the worst case **Y-axis of orientation** was recorded.)

Note:

1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
Corrected Amplitude = Corrected Factor + Reading  
Margin = Limit - Corrected. Amplitude

**Low Channel: 5180MHz**

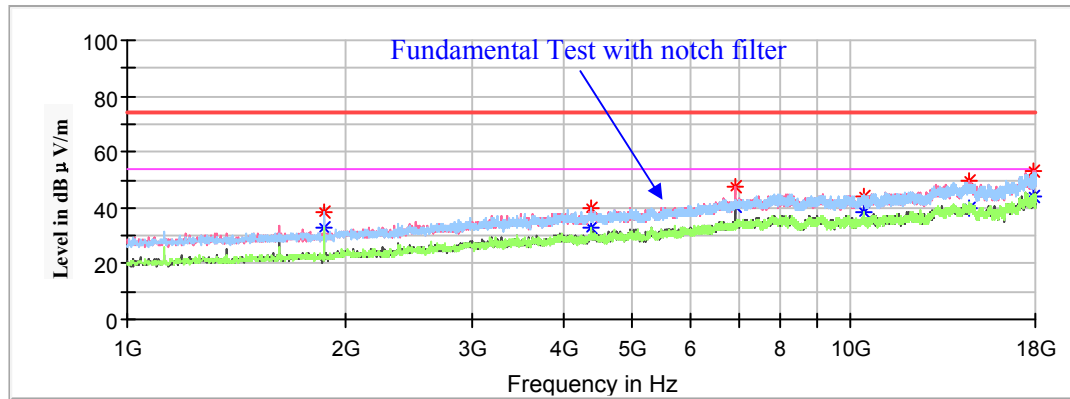
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 38.53               | ---              | 200.0       | H           | 144.0            | -14.9                 | 68.20          | 29.67       |
| 3453.100000     | 37.56               | ---              | 200.0       | H           | 196.0            | -8.9                  | 68.20          | 30.64       |
| 6905.800000     | 45.27               | ---              | 150.0       | V           | 344.0            | -0.3                  | 68.20          | 22.93       |
| 10360.200000    | 42.28               | ---              | 200.0       | V           | 185.0            | 2.2                   | 68.20          | 25.92       |
| 14702.000000    | 50.14               | ---              | 150.0       | H           | 198.0            | 6.0                   | 68.20          | 18.06       |
| 17496.800000    | 52.63               | ---              | 150.0       | H           | 32.0             | 8.9                   | 68.20          | 15.57       |

**Middle Channel: 5200MHz**

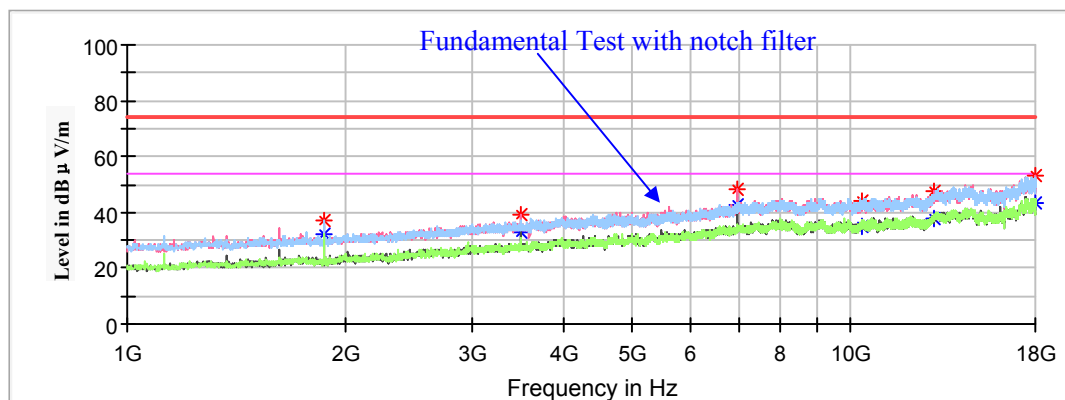
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 38.61               | ---              | 200.0       | H           | 140.0            | -14.9                 | 68.20          | 29.59       |
| 4374.500000     | ---                 | 33.10            | 200.0       | H           | 209.0            | -6.4                  | 54.00          | 20.90       |
| 4374.500000     | 39.96               | ---              | 200.0       | H           | 209.0            | -6.4                  | 74.00          | 34.04       |
| 6933.000000     | 47.24               | ---              | 150.0       | V           | 336.0            | -0.2                  | 68.20          | 20.96       |
| 10399.300000    | 43.99               | ---              | 200.0       | H           | 262.0            | 2.2                   | 68.20          | 24.21       |
| 14620.400000    | 49.40               | ---              | 200.0       | V           | 231.0            | 6.2                   | 68.20          | 18.80       |
| 17933.700000    | ---                 | 43.86            | 200.0       | H           | 288.0            | 8.8                   | 54.00          | 10.14       |
| 17933.700000    | 52.88               | ---              | 200.0       | H           | 288.0            | 8.8                   | 74.00          | 21.12       |

**High Channel: 5240MHz**

Full Spectrum



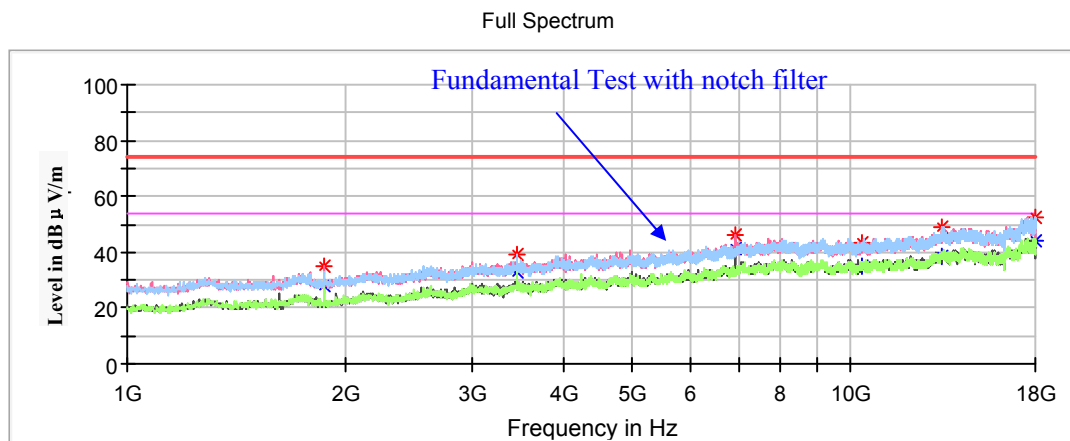
| Frequency (MHz) | Corrected Amplitude    |                        | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
|-----------------|------------------------|------------------------|-------------|-------------|------------------|-----------------------|----------------------|-------------|
|                 | MaxPeak (dB $\mu$ V/m) | Average (dB $\mu$ V/m) | Height (cm) | Polar (H/V) |                  |                       |                      |             |
| 1873.800000     | 37.19                  | ---                    | 200.0       | H           | 151.0            | -14.9                 | 68.20                | 31.01       |
| 3492.200000     | 38.97                  | ---                    | 150.0       | V           | 266.0            | -8.8                  | 68.20                | 29.23       |
| 6985.700000     | 48.17                  | ---                    | 150.0       | V           | 344.0            | -0.1                  | 68.20                | 20.03       |
| 10358.500000    | 44.20                  | ---                    | 150.0       | H           | 8.0              | 2.2                   | 68.20                | 24.00       |
| 13071.700000    | 47.73                  | ---                    | 150.0       | V           | 190.0            | 5.3                   | 68.20                | 20.47       |
| 17959.200000    | ---                    | 43.67                  | 200.0       | H           | 242.0            | 8.8                   | 54.00                | 10.33       |
| 17959.200000    | 53.19                  | ---                    | 200.0       | H           | 242.0            | 8.8                   | 74.00                | 20.81       |

**802.11a Mode(Chain 1):**

(Pre-scan in the X, Y and Z axes of orientation, the worst case **Y-axis of orientation** was recorded.)

Note:

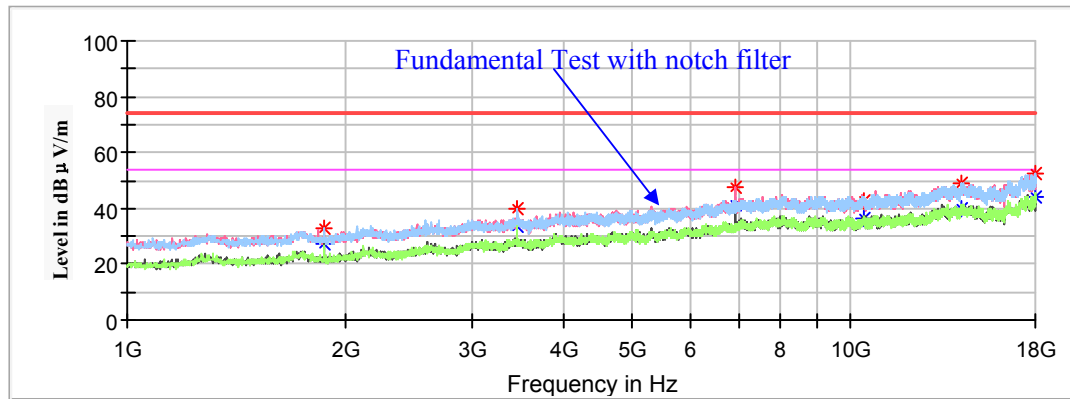
1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
Corrected Amplitude = Corrected Factor + Reading  
Margin = Limit - Corrected. Amplitude

**Low Channel: 5180MHz**

| Frequency<br>(MHz) | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Correct<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|--------------------|---------------------|---------------------|----------------|----------------|---------------------|-----------------------------|-------------------|----------------|
|                    | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                             |                   |                |
| 1873.800000        | 35.03               | ---                 | 150.0          | V              | 195.0               | -14.9                       | 68.20             | 33.17          |
| 3453.100000        | 39.46               | ---                 | 150.0          | H              | 203.0               | -8.9                        | 68.20             | 28.74          |
| 6905.800000        | 46.45               | ---                 | 150.0          | V              | 284.0               | -0.3                        | 68.20             | 21.75          |
| 10358.500000       | 43.14               | ---                 | 150.0          | V              | 195.0               | 2.2                         | 68.20             | 25.06          |
| 13391.300000       | 49.18               | ---                 | 150.0          | H              | 25.0                | 5.6                         | 74.00             | 24.82          |
| 13391.300000       | ---                 | 38.66               | 150.0          | H              | 25.0                | 5.6                         | 54.00             | 15.34          |
| 17949.000000       | ---                 | 44.30               | 150.0          | V              | 347.0               | 8.8                         | 54.00             | 9.70           |
| 17949.000000       | 52.69               | ---                 | 150.0          | V              | 347.0               | 8.8                         | 74.00             | 21.31          |

**Middle Channel: 5200MHz**

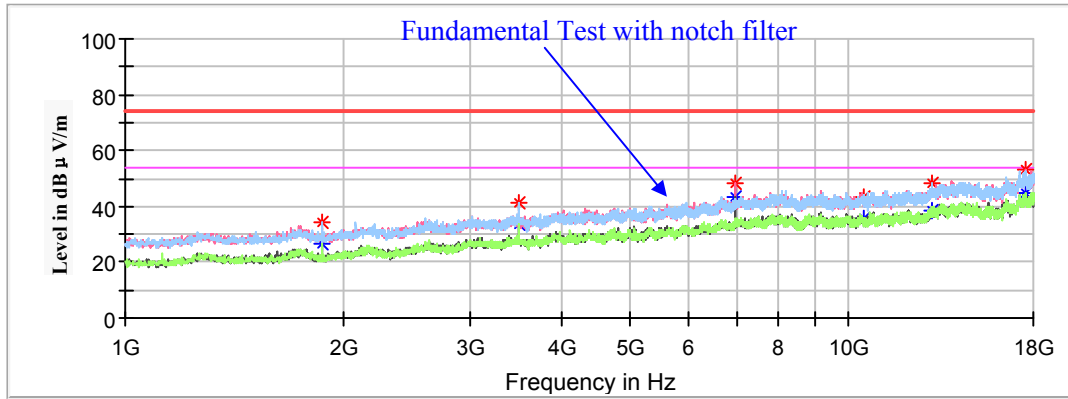
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBµV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBµV/m)    | Average (dBµV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 32.59               | ---              | 150.0       | H           | 113.0            | -14.9                 | 68.20          | 35.61       |
| 3465.000000     | 40.06               | ---              | 150.0       | H           | 216.0            | -8.9                  | 68.20          | 28.14       |
| 6933.000000     | 47.31               | ---              | 150.0       | V           | 301.0            | -0.2                  | 68.20          | 20.89       |
| 10401.000000    | 42.38               | ---              | 150.0       | V           | 327.0            | 2.2                   | 68.20          | 25.82       |
| 14248.100000    | 49.09               | ---              | 150.0       | H           | 0.0              | 6.3                   | 68.20          | 19.11       |
| 17950.700000    | ---                 | 43.90            | 150.0       | H           | 243.0            | 8.8                   | 54.00          | 10.10       |
| 17950.700000    | 52.42               | ---              | 150.0       | H           | 243.0            | 8.8                   | 74.00          | 21.58       |

**High Channel: 5240MHz**

Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 34.48               | ---              | 150.0       | H           | 124.0            | -14.9                 | 68.20          | 33.72       |
| 3492.200000     | 40.95               | ---              | 150.0       | H           | 201.0            | -8.8                  | 68.20          | 27.25       |
| 6985.700000     | 48.50               | ---              | 150.0       | V           | 296.0            | -0.1                  | 68.20          | 19.70       |
| 10480.900000    | 43.15               | ---              | 150.0       | V           | 103.0            | 2.3                   | 68.20          | 25.05       |
| 13008.800000    | 48.21               | ---              | 150.0       | H           | 43.0             | 5.2                   | 68.20          | 19.99       |
| 17517.200000    | 52.92               | ---              | 150.0       | V           | 359.0            | 8.9                   | 68.20          | 15.28       |

**Chain 0&1:****802.11ac20 Mode:**

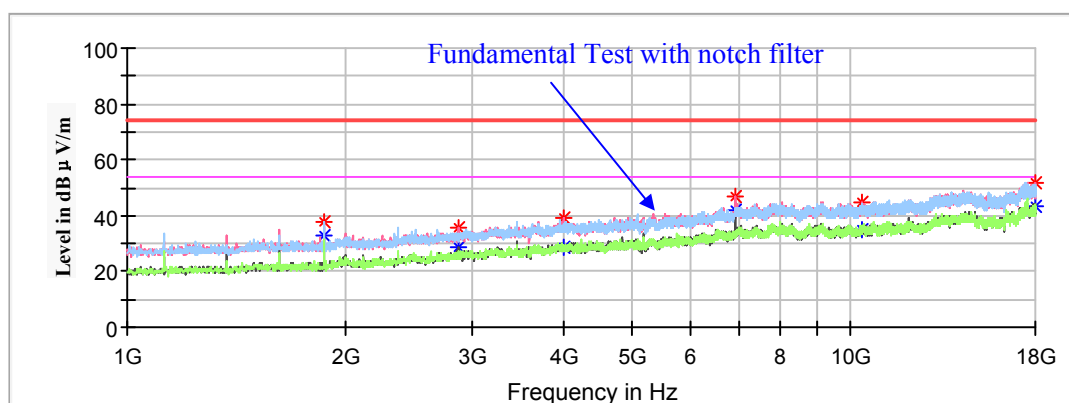
(Pre-scan in the X, Y and Z axes of orientation, the worst case **Y-axis of orientation** was recorded.)

Note:

1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
Corrected Amplitude = Corrected Factor + Reading  
Margin = Limit - Corrected. Amplitude

**Low Channel: 5180MHz**

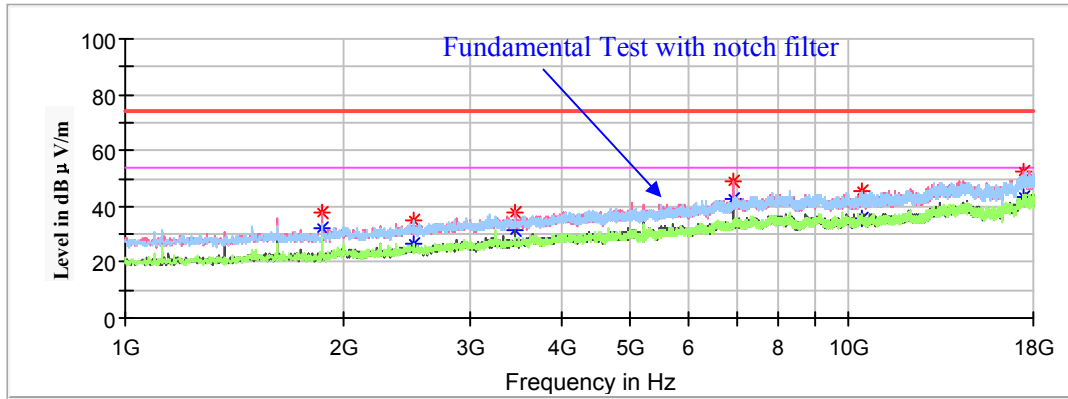
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 37.75               | ---              | 150.0       | V           | 181.0            | -14.9                 | 68.20          | 30.45       |
| 2873.400000     | ---                 | 28.58            | 150.0       | V           | 181.0            | -10.7                 | 54.00          | 25.42       |
| 2873.400000     | 35.66               | ---              | 150.0       | V           | 181.0            | -10.7                 | 74.00          | 38.34       |
| 4020.900000     | ---                 | 28.58            | 150.0       | H           | 110.0            | -7.0                  | 54.00          | 25.42       |
| 4020.900000     | 39.19               | ---              | 150.0       | H           | 110.0            | -7.0                  | 74.00          | 34.81       |
| 6905.800000     | 46.55               | ---              | 150.0       | V           | 300.0            | -0.3                  | 68.20          | 21.65       |
| 10378.900000    | 44.81               | ---              | 150.0       | V           | 0.0              | 2.2                   | 68.20          | 23.39       |
| 17959.200000    | 51.94               | ---              | 150.0       | V           | 338.0            | 8.8                   | 74.00          | 22.06       |
| 17959.200000    | ---                 | 43.60            | 150.0       | V           | 338.0            | 8.8                   | 54.00          | 10.40       |

**Middle Channel: 5200MHz**

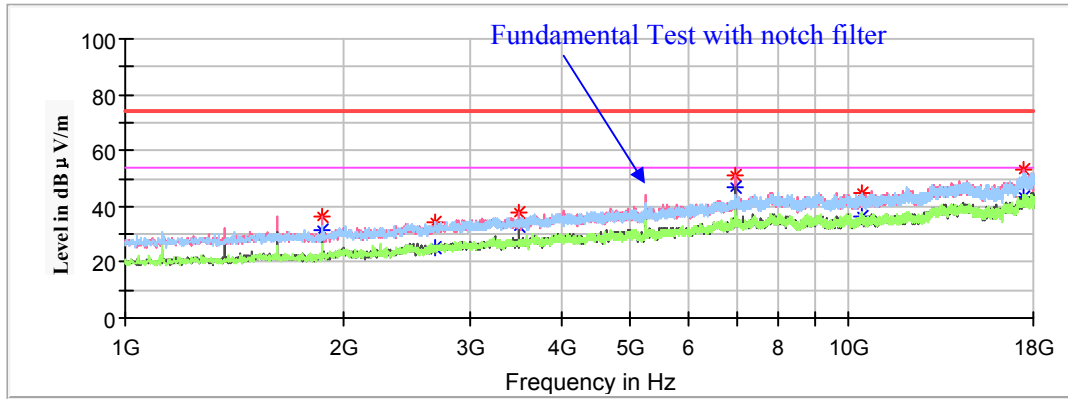
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 37.66               | ---              | 150.0       | V           | 180.0            | -14.9                 | 68.20          | 30.54       |
| 2499.400000     | ---                 | 26.61            | 150.0       | H           | 206.0            | -12.4                 | 54.00          | 27.39       |
| 2499.400000     | 34.66               | ---              | 150.0       | H           | 206.0            | -12.4                 | 74.00          | 39.34       |
| 3465.000000     | 37.84               | ---              | 150.0       | V           | 257.0            | -8.9                  | 68.20          | 30.36       |
| 6933.000000     | 48.83               | ---              | 150.0       | V           | 307.0            | -0.2                  | 68.20          | 19.37       |
| 10407.800000    | 45.14               | ---              | 150.0       | V           | 269.0            | 2.2                   | 68.20          | 23.06       |
| 17488.300000    | 52.51               | ---              | 150.0       | V           | 89.0             | 8.8                   | 68.20          | 15.69       |

**High Channel: 5240MHz**

Full Spectrum



| Frequency (MHz) | Corrected Amplitude    |                        | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
|-----------------|------------------------|------------------------|-------------|-------------|------------------|-----------------------|----------------------|-------------|
|                 | MaxPeak (dB $\mu$ V/m) | Average (dB $\mu$ V/m) | Height (cm) | Polar (H/V) |                  |                       |                      |             |
| 1873.800000     | 36.55                  | ---                    | 150.0       | V           | 185.0            | -14.9                 | 68.20                | 31.65       |
| 2679.600000     | 34.55                  | ---                    | 150.0       | H           | 252.0            | -11.6                 | 68.20                | 33.65       |
| 3492.200000     | 37.83                  | ---                    | 150.0       | V           | 274.0            | -8.8                  | 68.20                | 30.37       |
| 6985.700000     | 51.39                  | ---                    | 150.0       | V           | 300.0            | -0.1                  | 68.20                | 16.81       |
| 10460.500000    | 44.48                  | ---                    | 150.0       | H           | 60.0             | 2.3                   | 68.20                | 23.72       |
| 17479.800000    | 53.12                  | ---                    | 150.0       | V           | 129.0            | 8.8                   | 68.20                | 15.08       |

**802.11n-HT20 Mode:**

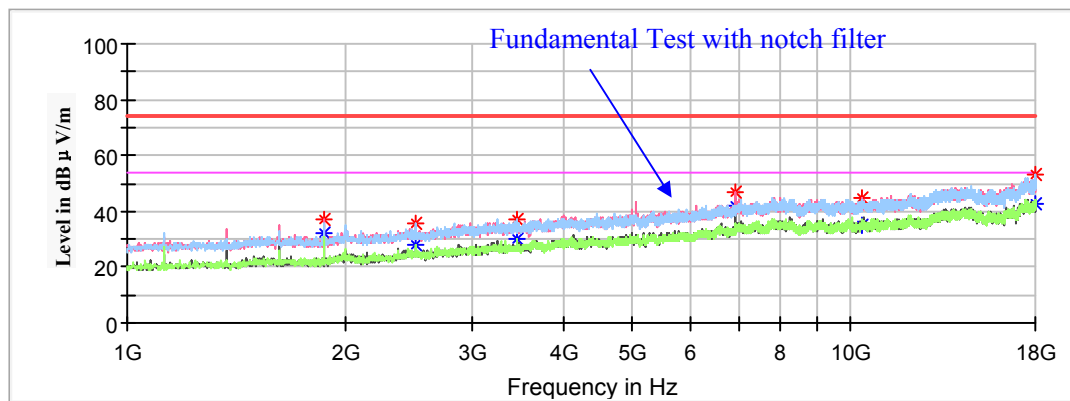
*Pre-scan with X,Y and Z axes of orientation, the worst case Y-axis of orientation was recorded*

Note:

1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
Corrected Amplitude = Corrected Factor + Reading  
Margin = Limit - Corrected. Amplitude

**Low Channel: 5180MHz**

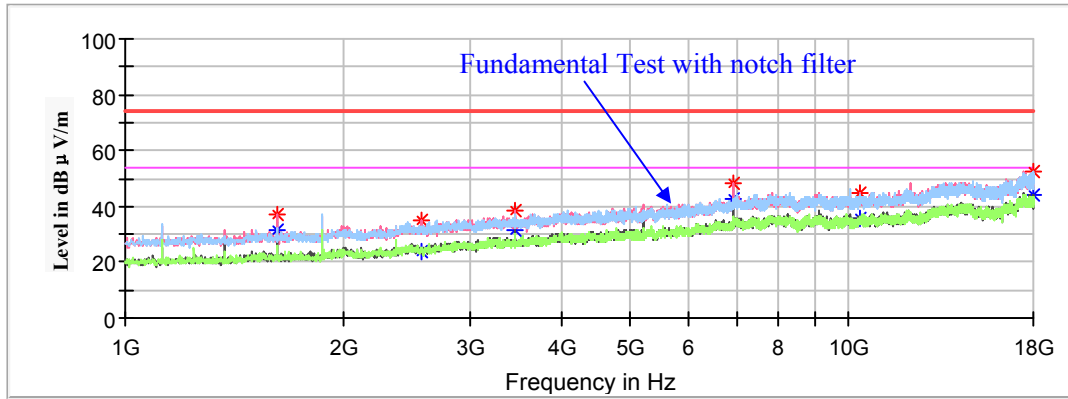
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 37.32               | ---              | 150.0       | V           | 193.0            | -14.9                 | 68.20          | 30.88       |
| 2499.400000     | 35.77               | ---              | 150.0       | H           | 149.0            | -12.4                 | 74.00          | 38.23       |
| 2499.400000     | ---                 | 27.62            | 150.0       | H           | 149.0            | -12.4                 | 54.00          | 26.38       |
| 3453.100000     | 37.27               | ---              | 150.0       | V           | 206.0            | -8.9                  | 68.20          | 30.93       |
| 6905.800000     | 47.05               | ---              | 150.0       | V           | 300.0            | -0.3                  | 68.20          | 21.15       |
| 10353.400000    | 44.63               | ---              | 150.0       | V           | 356.0            | 2.2                   | 68.20          | 23.57       |
| 17976.200000    | ---                 | 42.75            | 150.0       | H           | 0.0              | 8.8                   | 54.00          | 11.25       |
| 17976.200000    | 52.95               | ---              | 150.0       | H           | 0.0              | 8.8                   | 74.00          | 21.05       |

**Middle Channel: 5200MHz**

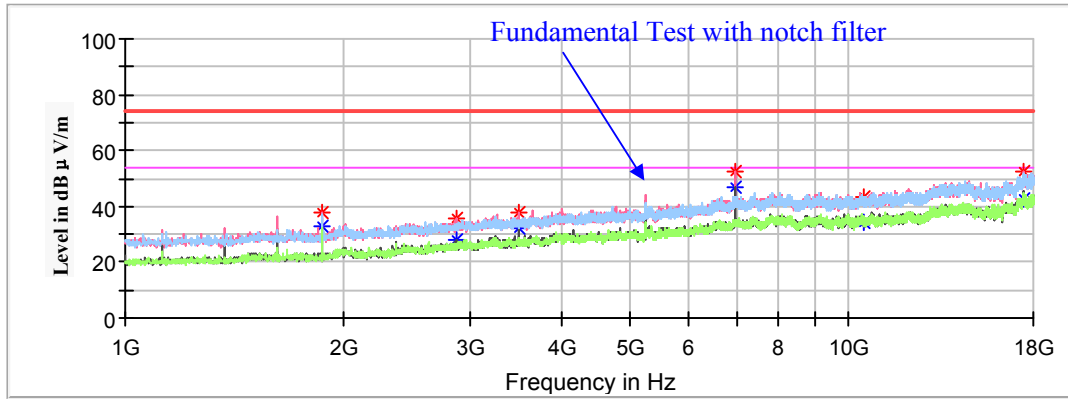
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1623.900000     | 36.83               | ---              | 150.0       | V           | 129.0            | -15.9                 | 74.00          | 37.17       |
| 1623.900000     | ---                 | 31.71            | 150.0       | V           | 129.0            | -15.9                 | 54.00          | 22.29       |
| 2572.500000     | 34.88               | ---              | 150.0       | V           | 313.0            | -12.1                 | 68.20          | 33.32       |
| 3465.000000     | 38.29               | ---              | 150.0       | V           | 206.0            | -8.9                  | 68.20          | 29.91       |
| 6933.000000     | 48.16               | ---              | 150.0       | V           | 295.0            | -0.2                  | 68.20          | 20.04       |
| 10373.800000    | 44.56               | ---              | 150.0       | V           | 155.0            | 2.2                   | 68.20          | 23.64       |
| 17964.300000    | ---                 | 44.37            | 150.0       | V           | 295.0            | 8.8                   | 54.00          | 9.63        |
| 17964.300000    | 52.46               | ---              | 150.0       | V           | 295.0            | 8.8                   | 74.00          | 21.54       |

**High Channel: 5240MHz**

Full Spectrum



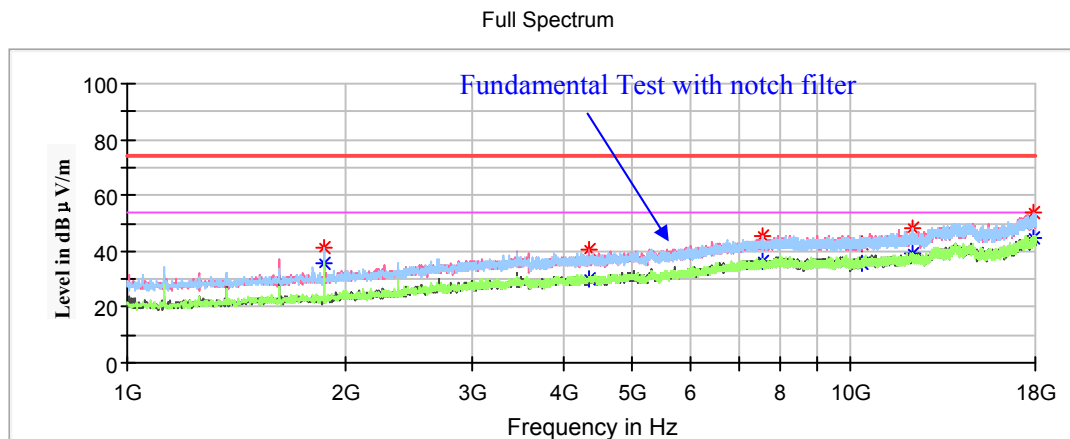
| Frequency (MHz) | Corrected Amplitude    |                        | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
|-----------------|------------------------|------------------------|-------------|-------------|------------------|-----------------------|----------------------|-------------|
|                 | MaxPeak (dB $\mu$ V/m) | Average (dB $\mu$ V/m) | Height (cm) | Polar (H/V) |                  |                       |                      |             |
| 1873.800000     | 37.84                  | ---                    | 150.0       | V           | 180.0            | -14.9                 | 68.20                | 30.36       |
| 2873.400000     | 35.97                  | ---                    | 150.0       | V           | 193.0            | -10.7                 | 74.00                | 38.03       |
| 2873.400000     | ---                    | 28.28                  | 150.0       | V           | 193.0            | -10.7                 | 54.00                | 25.72       |
| 3492.200000     | 38.10                  | ---                    | 150.0       | V           | 155.0            | -8.8                  | 68.20                | 30.10       |
| 6985.700000     | 52.22                  | ---                    | 150.0       | V           | 295.0            | -0.1                  | 68.20                | 15.98       |
| 10475.800000    | 43.29                  | ---                    | 150.0       | V           | 2.0              | 2.3                   | 68.20                | 24.91       |
| 17491.700000    | 52.36                  | ---                    | 150.0       | V           | 89.0             | 8.9                   | 68.20                | 15.84       |

**802.11ac40 Mode:**

(Pre-scan in the X, Y and Z axes of orientation, the worst case **Y-axis of orientation** was recorded.)

Note:

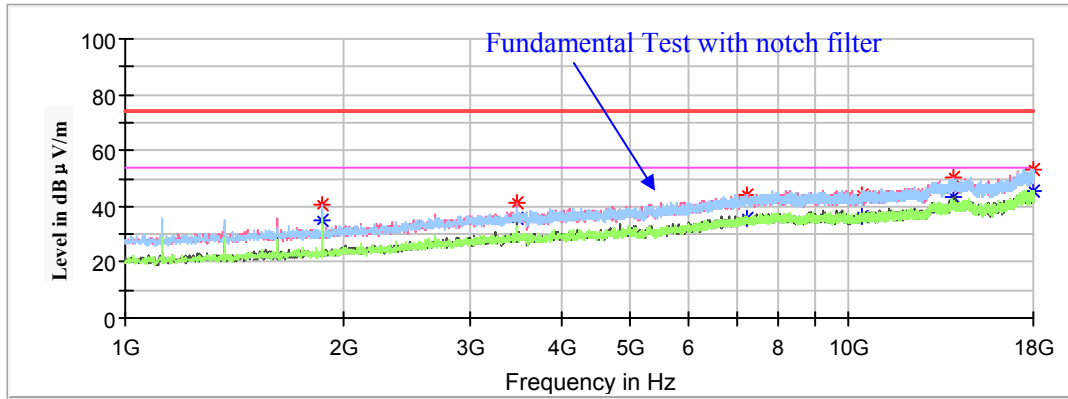
1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
 Corrected Amplitude = Corrected Factor + Reading  
 Margin = Limit - Corrected. Amplitude

**Low Channel: 5190MHz**

| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBµV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBµV/m)    | Average (dBµV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 40.99               | ---              | 150.0       | H           | 130.0            | -14.9                 | 68.20          | 27.21       |
| 4352.400000     | ---                 | 30.07            | 150.0       | V           | 319.0            | -6.4                  | 54.00          | 23.93       |
| 4352.400000     | 40.69               | ---              | 150.0       | V           | 319.0            | -6.4                  | 74.00          | 33.31       |
| 7550.100000     | 45.73               | ---              | 150.0       | H           | 354.0            | 1.1                   | 74.00          | 28.27       |
| 7550.100000     | ---                 | 36.58            | 150.0       | H           | 354.0            | 1.1                   | 54.00          | 17.42       |
| 10378.900000    | 42.64               | ---              | 150.0       | V           | 225.0            | 2.2                   | 68.20          | 25.56       |
| 12192.800000    | ---                 | 39.18            | 200.0       | H           | 296.0            | 3.5                   | 54.00          | 14.82       |
| 12192.800000    | 48.05               | ---              | 150.0       | H           | 296.0            | 3.5                   | 74.00          | 25.95       |
| 17943.900000    | ---                 | 45.10            | 150.0       | H           | 284.0            | 8.8                   | 54.00          | 8.90        |
| 17943.900000    | 53.54               | ---              | 150.0       | H           | 284.0            | 8.8                   | 74.00          | 20.46       |

**High Channel: 5230MHz**

Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBµV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBµV/m)    | Average (dBµV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 40.30               | ---              | 150.0       | V           | 175.0            | -14.9                 | 68.20          | 27.90       |
| 3485.400000     | 41.31               | ---              | 150.0       | V           | 357.0            | -8.9                  | 68.20          | 26.89       |
| 7249.200000     | 44.36               | ---              | 150.0       | H           | 347.0            | 0.5                   | 68.20          | 23.84       |
| 10460.500000    | 43.85               | ---              | 150.0       | V           | 306.0            | 2.3                   | 68.20          | 24.35       |
| 13998.200000    | 50.45               | ---              | 200.0       | V           | 240.0            | 6.1                   | 68.20          | 17.75       |
| 17974.500000    | ---                 | 45.20            | 150.0       | H           | 170.0            | 8.8                   | 54.00          | 8.80        |
| 17974.500000    | 53.48               | ---              | 150.0       | H           | 170.0            | 8.8                   | 74.00          | 20.52       |

**802.11n-HT40 Mode:**

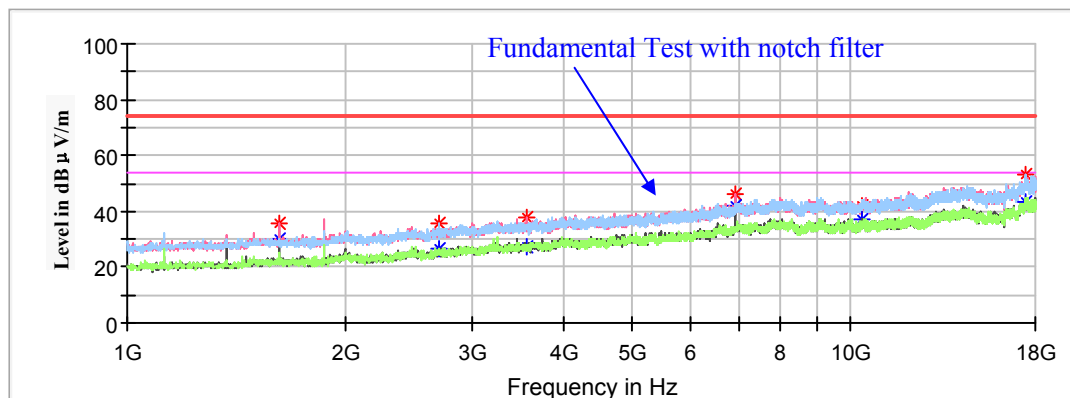
*Pre-scan with X,Y and Z axes of orientation, the worst case Y-axis of orientation was recorded*

Note:

1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
Corrected Amplitude = Corrected Factor + Reading  
Margin = Limit - Corrected. Amplitude

**Low Channel: 5190MHz**

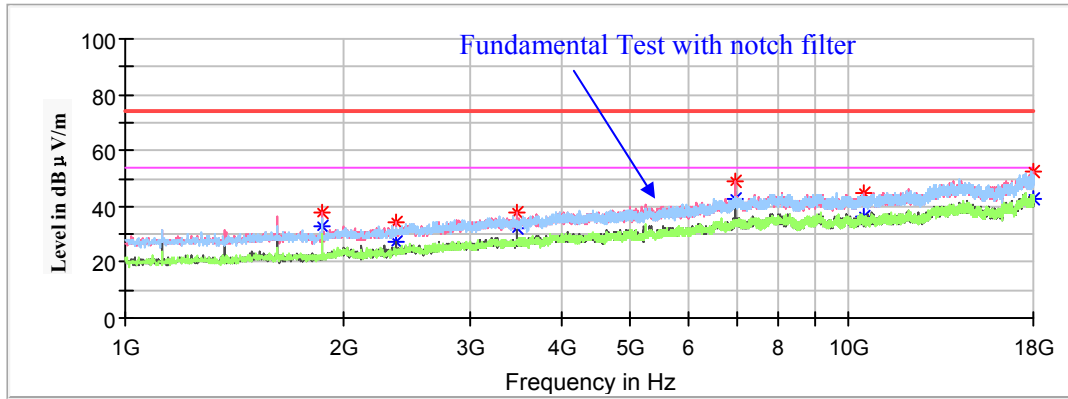
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1623.900000     | 35.55               | ---              | 150.0       | V           | 143.0            | -15.9                 | 74.00          | 38.45       |
| 1623.900000     | ---                 | 30.03            | 150.0       | V           | 143.0            | -15.9                 | 54.00          | 23.97       |
| 2693.200000     | 35.95               | ---              | 150.0       | H           | 231.0            | -11.5                 | 74.00          | 38.05       |
| 2693.200000     | ---                 | 26.86            | 150.0       | H           | 231.0            | -11.5                 | 54.00          | 27.14       |
| 3573.800000     | 37.99               | ---              | 150.0       | V           | 77.0             | -8.6                  | 68.20          | 30.21       |
| 6919.400000     | 45.97               | ---              | 150.0       | V           | 295.0            | -0.2                  | 68.20          | 22.23       |
| 10378.900000    | 42.26               | ---              | 150.0       | V           | 194.0            | 2.2                   | 68.20          | 25.94       |
| 17454.300000    | 53.32               | ---              | 150.0       | H           | 141.0            | 8.7                   | 68.20          | 14.88       |

**High Channel: 5230MHz**

Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBµV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBµV/m)    | Average (dBµV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 37.79               | ---              | 150.0       | V           | 185.0            | -14.9                 | 68.20          | 30.41       |
| 2373.600000     | 34.51               | ---              | 150.0       | V           | 287.0            | -12.9                 | 74.00          | 39.49       |
| 2373.600000     | ---                 | 27.36            | 150.0       | V           | 287.0            | -12.9                 | 54.00          | 26.64       |
| 3485.400000     | 38.07               | ---              | 150.0       | V           | 147.0            | -8.9                  | 68.20          | 30.13       |
| 6972.100000     | 48.95               | ---              | 150.0       | V           | 299.0            | -0.1                  | 68.20          | 19.25       |
| 10462.200000    | 44.59               | ---              | 150.0       | V           | 348.0            | 2.3                   | 68.20          | 23.61       |
| 17962.600000    | ---                 | 42.99            | 150.0       | V           | 299.0            | 8.8                   | 54.00          | 11.01       |
| 17962.600000    | 52.37               | ---              | 150.0       | V           | 299.0            | 8.8                   | 74.00          | 21.63       |

**802.11ac80 Mode:**

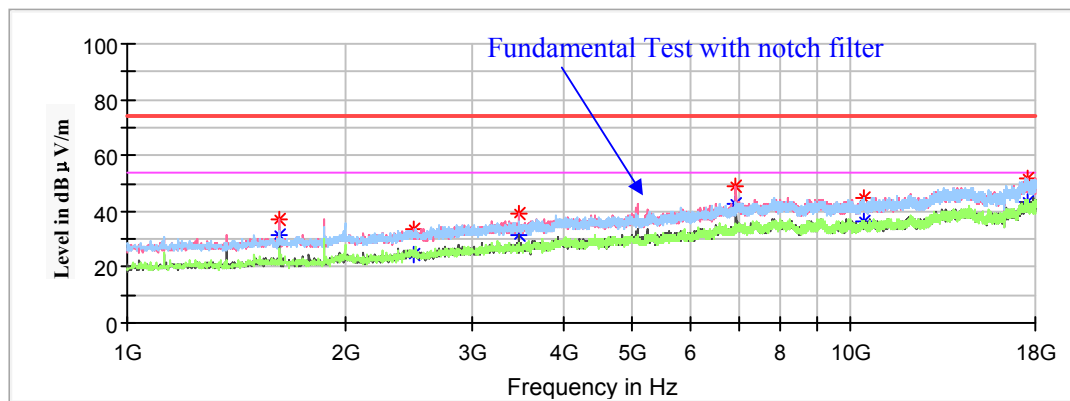
Pre-scan with X,Y and Z axes of orientation, the worst case **Y-axis of orientation** was recorded

Note:

1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
Corrected Amplitude = Corrected Factor + Reading  
Margin = Limit - Corrected. Amplitude

**Low Channel: 5210MHz**

Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1623.900000     | 36.82               | ---              | 150.0       | V           | 134.0            | -15.9                 | 74.00          | 37.18       |
| 1623.900000     | ---                 | 31.38            | 150.0       | V           | 134.0            | -15.9                 | 54.00          | 22.62       |
| 2487.500000     | ---                 | 24.45            | 150.0       | H           | 1.0              | -12.5                 | 54.00          | 29.55       |
| 2487.500000     | 33.86               | ---              | 150.0       | H           | 1.0              | -12.5                 | 74.00          | 40.14       |
| 3471.800000     | 39.32               | ---              | 150.0       | V           | 262.0            | -8.9                  | 68.20          | 28.88       |
| 6946.600000     | 49.25               | ---              | 150.0       | V           | 300.0            | -0.2                  | 68.20          | 18.95       |
| 10445.200000    | 44.43               | ---              | 150.0       | H           | 52.0             | 2.3                   | 68.20          | 23.77       |
| 17508.700000    | 51.74               | ---              | 150.0       | V           | 94.0             | 8.9                   | 68.20          | 16.46       |

**5725-5850MHz Band:****1GHz-18GHz:****802.11a Mode(Chain 0):**

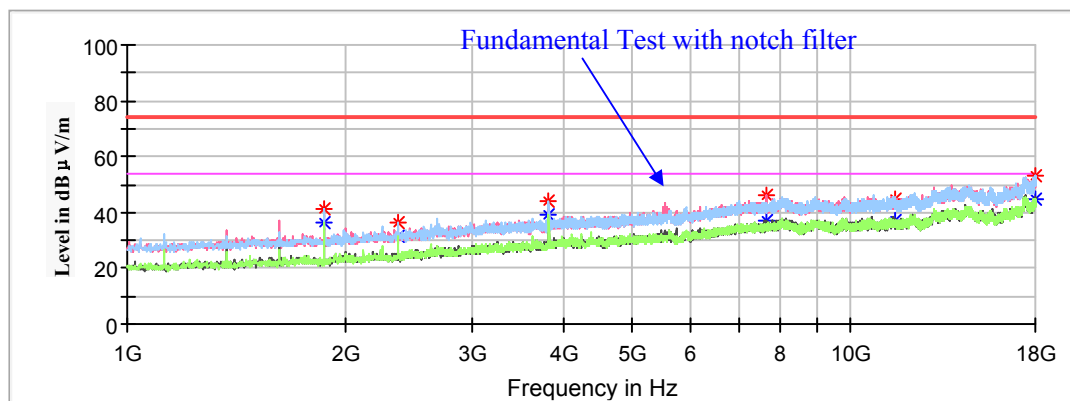
(Pre-scan in the X,Y and Z axes of orientation, the worst case **Y-axis of orientation** was recorded.)

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
Corrected Amplitude = Corrected Factor + Reading  
Margin = Limit - Corrected. Amplitude

**Low Channel: 5745MHz**

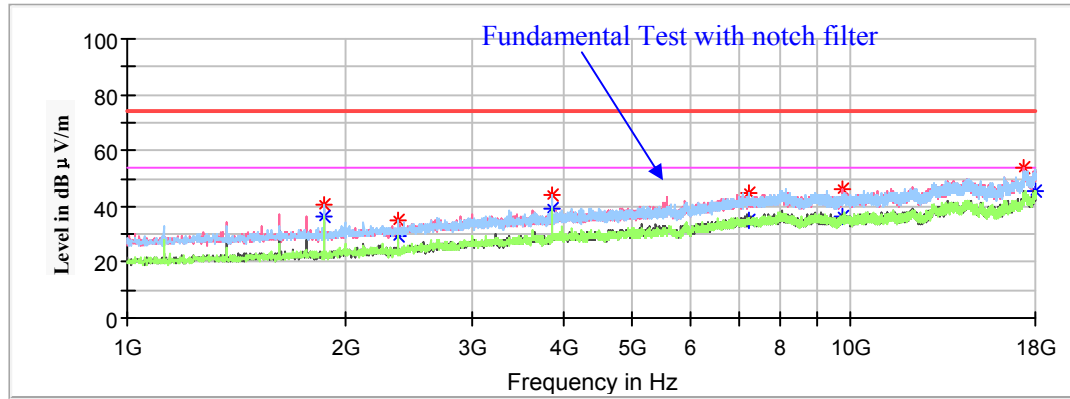
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 41.59               | ---              | 150.0       | H           | 308.0            | -14.9                 | 68.20          | 26.61       |
| 2373.600000     | ---                 | 31.25            | 150.0       | H           | 76.0             | -12.9                 | 54.00          | 22.75       |
| 2373.600000     | 36.71               | ---              | 150.0       | H           | 76.0             | -12.9                 | 74.00          | 37.29       |
| 3828.800000     | ---                 | 39.16            | 150.0       | H           | 49.0             | -7.6                  | 54.00          | 14.84       |
| 3828.800000     | 44.03               | ---              | 150.0       | H           | 49.0             | -7.6                  | 74.00          | 29.97       |
| 7660.600000     | ---                 | 36.91            | 150.0       | V           | 319.0            | 1.3                   | 54.00          | 17.09       |
| 7660.600000     | 46.40               | ---              | 150.0       | V           | 319.0            | 1.3                   | 74.00          | 27.60       |
| 11494.100000    | ---                 | 37.30            | 150.0       | V           | 72.0             | 2.8                   | 54.00          | 16.70       |
| 11494.100000    | 44.86               | ---              | 150.0       | V           | 72.0             | 2.8                   | 74.00          | 29.14       |
| 17976.200000    | ---                 | 44.87            | 150.0       | H           | 76.0             | 8.8                   | 54.00          | 9.13        |
| 17976.200000    | 53.26               | ---              | 150.0       | H           | 76.0             | 8.8                   | 74.00          | 20.74       |

**Middle Channel: 5785MHz**

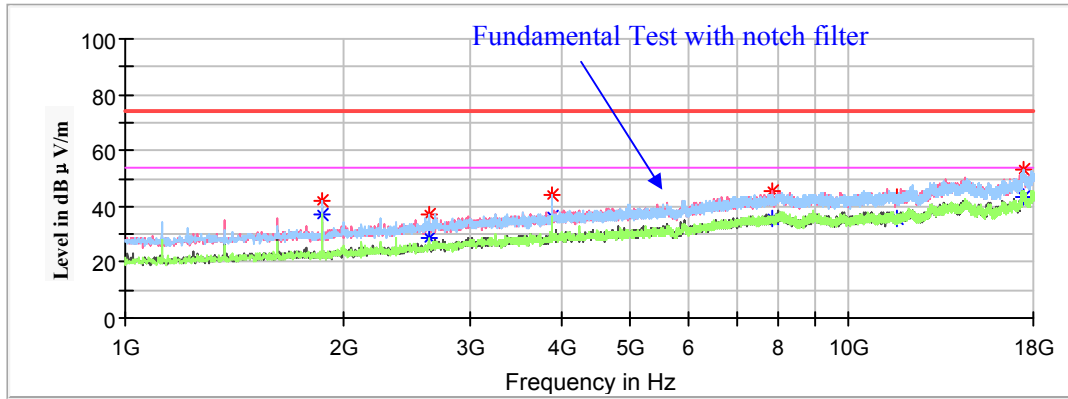
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 40.83               | ---              | 150.0       | H           | 316.0            | -14.9                 | 68.20          | 27.37       |
| 2373.600000     | ---                 | 29.30            | 150.0       | H           | 117.0            | -12.9                 | 54.00          | 24.70       |
| 2373.600000     | 35.00               | ---              | 150.0       | H           | 117.0            | -12.9                 | 74.00          | 39.00       |
| 3856.000000     | ---                 | 39.03            | 150.0       | H           | 64.0             | -7.5                  | 54.00          | 14.97       |
| 3856.000000     | 43.81               | ---              | 150.0       | H           | 64.0             | -7.5                  | 74.00          | 30.19       |
| 7215.200000     | 44.83               | ---              | 150.0       | V           | 0.0              | 0.4                   | 68.20          | 23.37       |
| 9732.900000     | 46.09               | ---              | 150.0       | V           | 243.0            | 2.0                   | 68.20          | 22.11       |
| 17365.900000    | 53.70               | ---              | 150.0       | V           | 243.0            | 8.4                   | 68.20          | 14.50       |

**High Channel: 5825MHz**

Full Spectrum



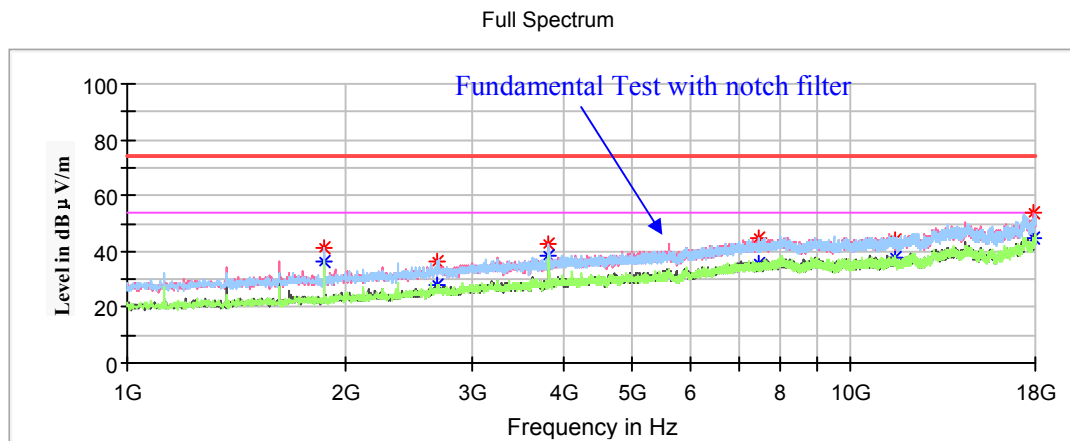
| Frequency (MHz) | Corrected Amplitude    |                        | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
|-----------------|------------------------|------------------------|-------------|-------------|------------------|-----------------------|----------------------|-------------|
|                 | MaxPeak (dB $\mu$ V/m) | Average (dB $\mu$ V/m) | Height (cm) | Polar (H/V) |                  |                       |                      |             |
| 1873.800000     | 42.29                  | ---                    | 150.0       | H           | 312.0            | -14.9                 | 68.20                | 25.91       |
| 2623.500000     | 36.74                  | ---                    | 150.0       | H           | 313.0            | -11.8                 | 68.20                | 31.46       |
| 3883.200000     | 43.93                  | ---                    | 150.0       | H           | 35.0             | -7.4                  | 74.00                | 30.07       |
| 3883.200000     | ---                    | 36.67                  | 150.0       | H           | 35.0             | -7.4                  | 54.00                | 17.33       |
| 7825.500000     | 45.18                  | ---                    | 150.0       | V           | 128.0            | 1.5                   | 68.20                | 23.02       |
| 11648.800000    | ---                    | 35.44                  | 150.0       | H           | 210.0            | 3.1                   | 54.00                | 18.56       |
| 11648.800000    | 43.40                  | ---                    | 150.0       | H           | 210.0            | 3.1                   | 74.00                | 30.60       |
| 17491.700000    | 53.06                  | ---                    | 150.0       | H           | 337.0            | 8.9                   | 68.20                | 15.14       |

**802.11a Mode(Chain 1):**

(Pre-scan in the X,Y and Z axes of orientation, the worst case **Y-axis of orientation** was recorded.)

Note:

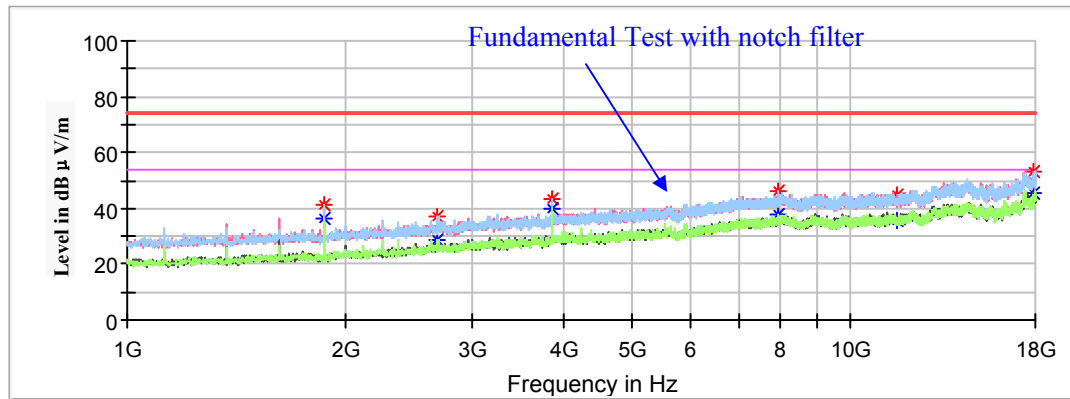
1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
Corrected Amplitude = Corrected Factor + Reading  
Margin = Limit - Corrected. Amplitude

**Low Channel: 5745MHz**

| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBµV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBµV/m)    | Average (dBµV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 41.52               | ---              | 150.0       | H           | 309.0            | -14.9                 | 68.20          | 26.68       |
| 2681.300000     | 36.61               | ---              | 150.0       | H           | 322.0            | -11.6                 | 68.20          | 31.59       |
| 3828.800000     | 42.65               | ---              | 150.0       | H           | 37.0             | -7.6                  | 74.00          | 31.35       |
| 3828.800000     | ---                 | 38.47            | 150.0       | H           | 37.0             | -7.6                  | 54.00          | 15.53       |
| 7465.100000     | 44.72               | ---              | 150.0       | H           | 117.0            | 1.0                   | 74.00          | 29.28       |
| 7465.100000     | ---                 | 35.78            | 150.0       | H           | 117.0            | 1.0                   | 54.00          | 18.22       |
| 11497.500000    | ---                 | 37.92            | 150.0       | H           | 271.0            | 2.8                   | 54.00          | 16.08       |
| 11497.500000    | 43.91               | ---              | 150.0       | H           | 271.0            | 2.8                   | 74.00          | 30.09       |
| 17943.900000    | ---                 | 45.02            | 150.0       | H           | 208.0            | 8.8                   | 54.00          | 8.98        |
| 17943.900000    | 53.59               | ---              | 150.0       | H           | 208.0            | 8.8                   | 74.00          | 20.41       |

**Middle Channel: 5785MHz**

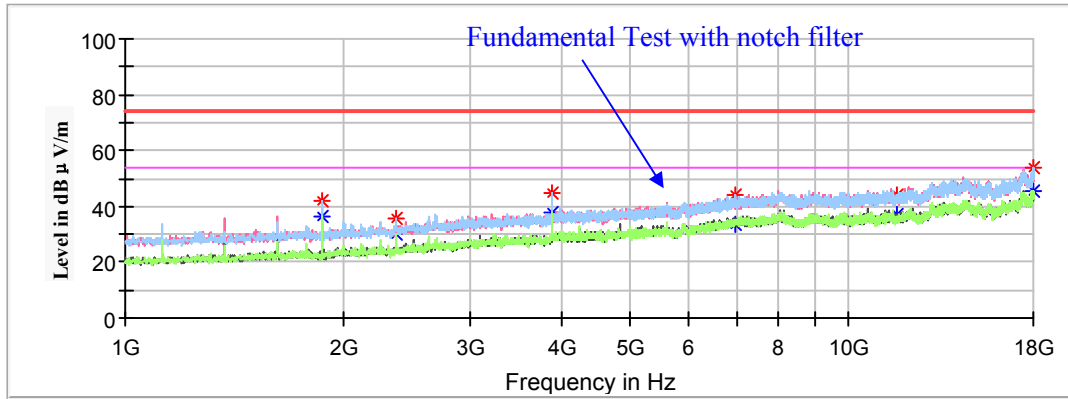
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 41.14               | ---              | 150.0       | H           | 301.0            | -14.9                 | 68.20          | 27.06       |
| 2681.300000     | 37.07               | ---              | 150.0       | H           | 50.0             | -11.6                 | 68.20          | 31.13       |
| 3856.000000     | 43.68               | ---              | 150.0       | H           | 50.0             | -7.5                  | 74.00          | 30.32       |
| 3856.000000     | ---                 | 39.53            | 150.0       | H           | 50.0             | -7.5                  | 54.00          | 14.47       |
| 7958.100000     | 45.89               | ---              | 150.0       | H           | 0.0              | 1.7                   | 68.20          | 22.31       |
| 11575.700000    | ---                 | 35.49            | 150.0       | V           | 0.0              | 3.0                   | 54.00          | 18.51       |
| 11575.700000    | 44.81               | ---              | 150.0       | V           | 0.0              | 3.0                   | 74.00          | 29.19       |
| 17932.000000    | ---                 | 45.32            | 150.0       | V           | 94.0             | 8.8                   | 54.00          | 8.68        |
| 17932.000000    | 53.48               | ---              | 150.0       | V           | 94.0             | 8.8                   | 74.00          | 20.52       |

**High Channel: 5825MHz**

Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 41.82               | ---              | 150.0       | H           | 308.0            | -14.9                 | 68.20          | 26.38       |
| 2373.600000     | 35.85               | ---              | 150.0       | H           | 334.0            | -12.9                 | 74.00          | 38.15       |
| 2373.600000     | ---                 | 29.83            | 150.0       | H           | 334.0            | -12.9                 | 54.00          | 24.17       |
| 3883.200000     | 44.44               | ---              | 150.0       | H           | 50.0             | -7.4                  | 74.00          | 29.56       |
| 3883.200000     | ---                 | 37.48            | 150.0       | H           | 50.0             | -7.4                  | 54.00          | 16.52       |
| 6950.000000     | 43.97               | ---              | 150.0       | H           | 354.0            | -0.2                  | 68.20          | 24.23       |
| 11648.800000    | ---                 | 36.74            | 150.0       | H           | 346.0            | 3.1                   | 54.00          | 17.26       |
| 11648.800000    | 44.00               | ---              | 150.0       | H           | 346.0            | 3.1                   | 74.00          | 30.00       |
| 17952.400000    | ---                 | 45.12            | 150.0       | H           | 143.0            | 8.8                   | 54.00          | 8.88        |
| 17952.400000    | 54.09               | ---              | 150.0       | H           | 143.0            | 8.8                   | 74.00          | 19.91       |

**Chain 0&1:****802.11ac20 Mode:**

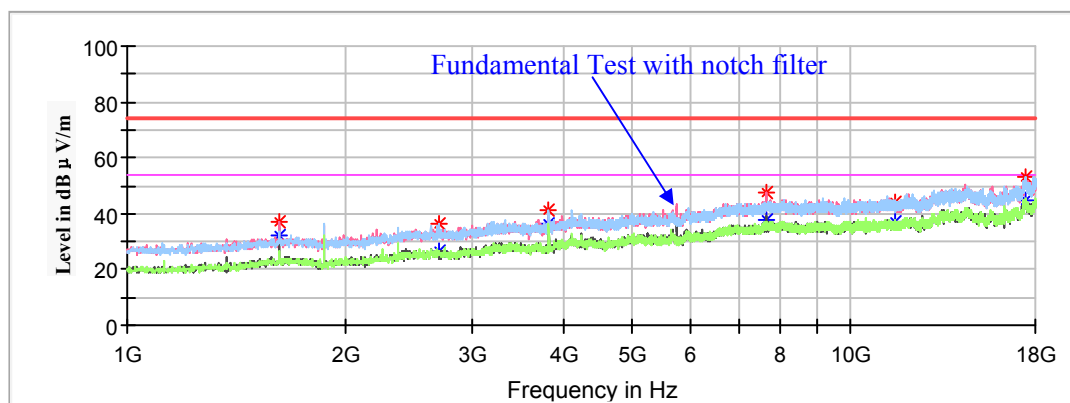
(Pre-scan in the X,Y and Z axes of orientation, the worst case **Y-axis of orientation** was recorded.)

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
Corrected Amplitude = Corrected Factor + Reading  
Margin = Limit - Corrected. Amplitude

**Low Channel: 5745MHz**

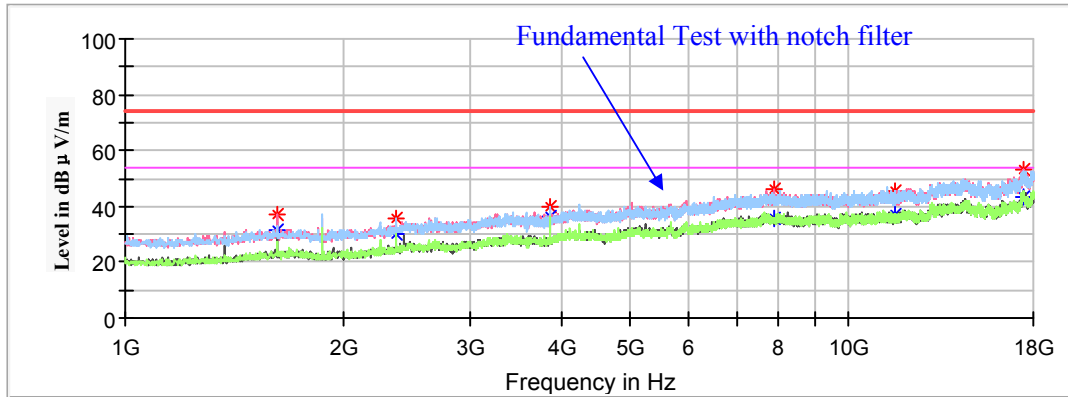
Full Spectrum



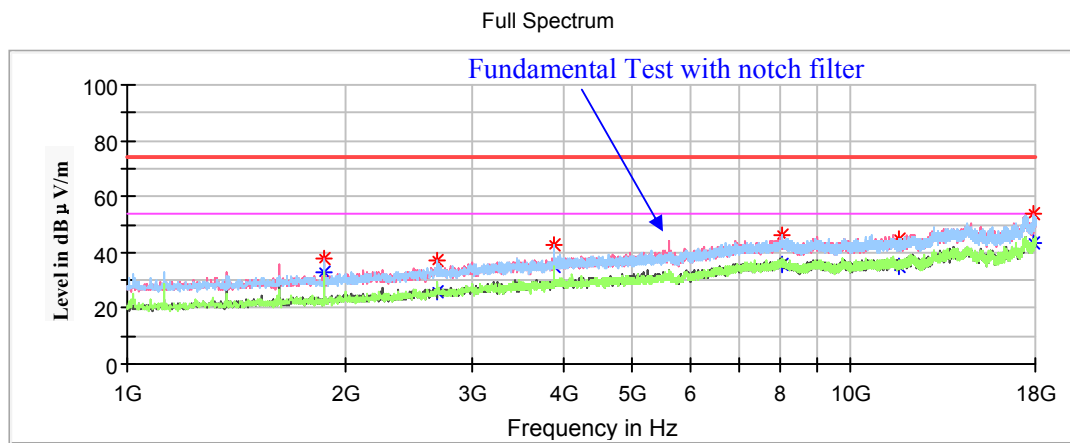
| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1623.900000     | 36.86               | ---              | 150.0       | V           | 325.0            | -15.9                 | 74.00          | 37.14       |
| 1623.900000     | ---                 | 31.96            | 150.0       | V           | 325.0            | -15.9                 | 54.00          | 22.04       |
| 2693.200000     | 36.10               | ---              | 150.0       | H           | 340.0            | -11.5                 | 74.00          | 37.90       |
| 2693.200000     | ---                 | 26.27            | 150.0       | H           | 340.0            | -11.5                 | 54.00          | 27.73       |
| 3828.800000     | 41.13               | ---              | 150.0       | H           | 0.0              | -7.6                  | 74.00          | 32.87       |
| 3828.800000     | ---                 | 36.24            | 150.0       | H           | 0.0              | -7.6                  | 54.00          | 17.76       |
| 7660.600000     | 47.82               | ---              | 150.0       | V           | 61.0             | 1.3                   | 74.00          | 26.18       |
| 7660.600000     | ---                 | 37.53            | 150.0       | V           | 61.0             | 1.3                   | 54.00          | 16.47       |
| 11489.000000    | 44.12               | ---              | 150.0       | V           | 48.0             | 2.8                   | 74.00          | 29.88       |
| 11489.000000    | ---                 | 37.08            | 150.0       | V           | 48.0             | 2.8                   | 54.00          | 16.92       |
| 17418.600000    | 53.12               | ---              | 150.0       | H           | 251.0            | 8.6                   | 68.20          | 15.08       |

**Middle Channel: 5785MHz**

Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1623.900000     | 36.94               | ---              | 150.0       | V           | 1.0              | -15.9                 | 74.00          | 37.06       |
| 1623.900000     | ---                 | 31.35            | 150.0       | V           | 1.0              | -15.9                 | 54.00          | 22.65       |
| 2373.600000     | 35.63               | ---              | 150.0       | H           | 63.0             | -12.9                 | 74.00          | 38.37       |
| 2373.600000     | ---                 | 30.32            | 150.0       | H           | 63.0             | -12.9                 | 54.00          | 23.68       |
| 3856.000000     | 39.95               | ---              | 150.0       | H           | 346.0            | -7.5                  | 74.00          | 34.05       |
| 3856.000000     | ---                 | 36.03            | 150.0       | H           | 346.0            | -7.5                  | 54.00          | 17.97       |
| 7864.600000     | 46.24               | ---              | 150.0       | V           | 141.0            | 1.6                   | 68.20          | 21.96       |
| 11563.800000    | 45.60               | ---              | 150.0       | H           | 50.0             | 2.9                   | 74.00          | 28.40       |
| 11563.800000    | ---                 | 37.41            | 150.0       | H           | 50.0             | 2.9                   | 54.00          | 16.59       |
| 17411.800000    | 53.28               | ---              | 150.0       | V           | 6.0              | 8.6                   | 68.20          | 14.92       |

**High Channel: 5825MHz**

| Frequency<br>(MHz) | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Correct<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|--------------------|---------------------|---------------------|----------------|----------------|---------------------|-----------------------------|-------------------|----------------|
|                    | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                             |                   |                |
| 1873.800000        | 37.78               | ---                 | 150.0          | V              | 38.0                | -14.9                       | 68.20             | 30.42          |
| 2686.400000        | 36.97               | ---                 | 150.0          | H              | 38.0                | -11.6                       | 68.20             | 31.23          |
| 3883.200000        | 42.72               | ---                 | 150.0          | H              | 0.0                 | -7.4                        | 74.00             | 31.28          |
| 3883.200000        | ---                 | 35.10               | 150.0          | H              | 0.0                 | -7.4                        | 54.00             | 18.90          |
| 8044.800000        | 45.91               | ---                 | 150.0          | H              | 263.0               | 1.8                         | 74.00             | 28.09          |
| 8044.800000        | ---                 | 35.96               | 150.0          | H              | 263.0               | 1.8                         | 54.00             | 18.04          |
| 11636.900000       | ---                 | 35.28               | 150.0          | H              | 238.0               | 3.1                         | 54.00             | 18.72          |
| 11638.600000       | 44.62               | ---                 | 150.0          | H              | 238.0               | 3.1                         | 74.00             | 29.38          |
| 17943.900000       | ---                 | 43.65               | 150.0          | H              | 358.0               | 8.8                         | 54.00             | 10.35          |
| 17943.900000       | 53.69               | ---                 | 150.0          | V              | 358.0               | 8.8                         | 74.00             | 20.31          |

**802.11n-HT20 Mode:**

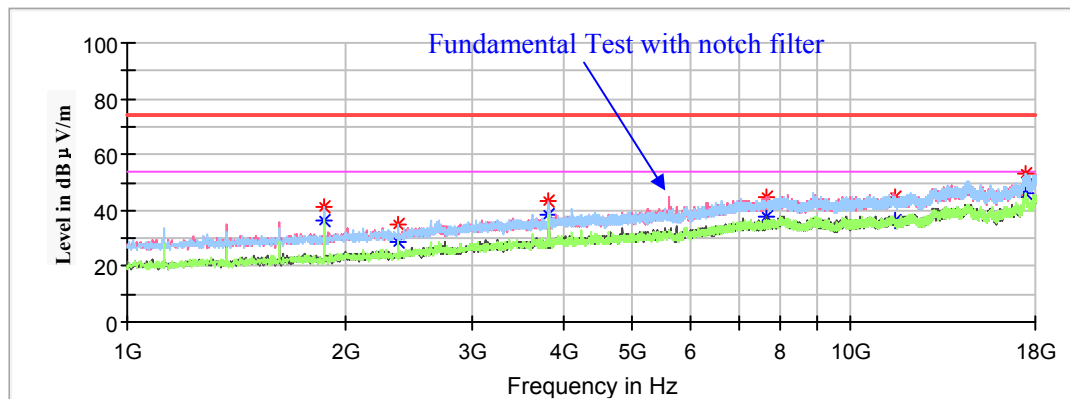
(Pre-scan with X,Y and Z axes of orientation, the worst case **Y-axis of orientation** was recorded)

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
Corrected Amplitude = Corrected Factor + Reading  
Margin = Limit - Corrected. Amplitude

**Low Channel: 5745MHz**

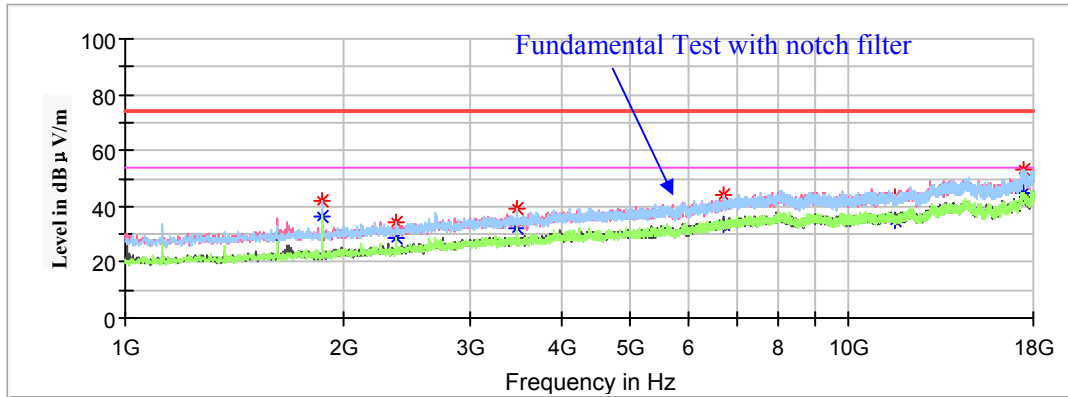
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 41.00               | ---              | 150.0       | H           | 323.0            | -14.9                 | 68.20          | 27.20       |
| 2373.600000     | 35.01               | ---              | 150.0       | H           | 104.0            | -12.9                 | 74.00          | 38.99       |
| 2373.600000     | ---                 | 28.48            | 150.0       | H           | 104.0            | -12.9                 | 54.00          | 25.52       |
| 3828.800000     | 43.14               | ---              | 150.0       | H           | 37.0             | -7.6                  | 74.00          | 30.86       |
| 3828.800000     | ---                 | 38.80            | 150.0       | H           | 37.0             | -7.6                  | 54.00          | 15.20       |
| 7658.900000     | ---                 | 37.93            | 150.0       | V           | 62.0             | 1.3                   | 54.00          | 16.07       |
| 7658.900000     | 44.92               | ---              | 150.0       | V           | 62.0             | 1.3                   | 74.00          | 29.08       |
| 11495.800000    | ---                 | 36.55            | 150.0       | V           | 24.0             | 2.8                   | 54.00          | 17.45       |
| 11495.800000    | 44.79               | ---              | 150.0       | V           | 24.0             | 2.8                   | 74.00          | 29.21       |
| 17423.700000    | 53.48               | ---              | 150.0       | H           | 221.0            | 8.6                   | 68.20          | 14.72       |

**Middle Channel: 5785MHz**

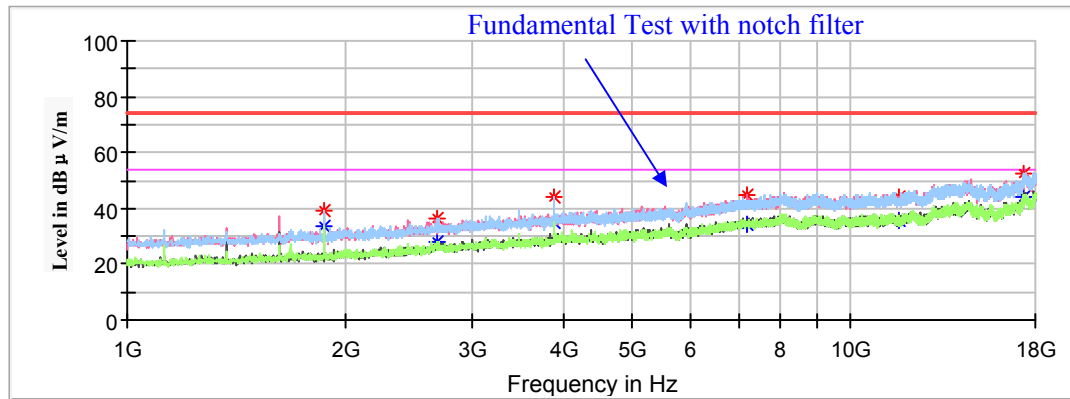
Full Spectrum



| Frequency (MHz) | Corrected Amplitude    |                        | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
|-----------------|------------------------|------------------------|-------------|-------------|------------------|-----------------------|----------------------|-------------|
|                 | MaxPeak (dB $\mu$ V/m) | Average (dB $\mu$ V/m) | Height (cm) | Polar (H/V) |                  |                       |                      |             |
| 1873.800000     | 41.78                  | ---                    | 150.0       | H           | 324.0            | -14.9                 | 68.20                | 26.42       |
| 2373.600000     | 34.57                  | ---                    | 150.0       | H           | 64.0             | -12.9                 | 74.00                | 39.43       |
| 2373.600000     | ---                    | 28.49                  | 150.0       | H           | 64.0             | -12.9                 | 54.00                | 25.51       |
| 3471.800000     | 39.11                  | ---                    | 150.0       | H           | 8.0              | -8.9                  | 68.20                | 29.09       |
| 6734.100000     | 44.16                  | ---                    | 150.0       | H           | 0.0              | -0.7                  | 68.20                | 24.04       |
| 11568.900000    | ---                    | 35.09                  | 150.0       | H           | 157.0            | 2.9                   | 54.00                | 18.91       |
| 11568.900000    | 43.68                  | ---                    | 150.0       | H           | 157.0            | 2.9                   | 74.00                | 30.32       |
| 17440.700000    | 53.18                  | ---                    | 150.0       | H           | 273.0            | 8.7                   | 68.20                | 15.02       |

**High Channel: 5825MHz**

Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 38.96               | ---              | 150.0       | H           | 355.0            | -14.9                 | 68.20          | 29.24       |
| 2681.300000     | 36.61               | ---              | 150.0       | H           | 335.0            | -11.6                 | 68.20          | 31.59       |
| 3883.200000     | 43.85               | ---              | 150.0       | H           | 0.0              | -7.4                  | 74.00          | 30.15       |
| 3883.200000     | ---                 | 35.30            | 150.0       | H           | 0.0              | -7.4                  | 54.00          | 18.70       |
| 7169.300000     | 44.85               | ---              | 150.0       | V           | 270.0            | 0.3                   | 68.20          | 23.35       |
| 11650.500000    | ---                 | 35.40            | 150.0       | V           | 283.0            | 3.1                   | 54.00          | 18.60       |
| 11650.500000    | 43.88               | ---              | 150.0       | V           | 283.0            | 3.1                   | 74.00          | 30.12       |
| 17388.000000    | 52.56               | ---              | 150.0       | H           | 323.0            | 8.5                   | 68.20          | 15.64       |

**802.11ac40 Mode:**

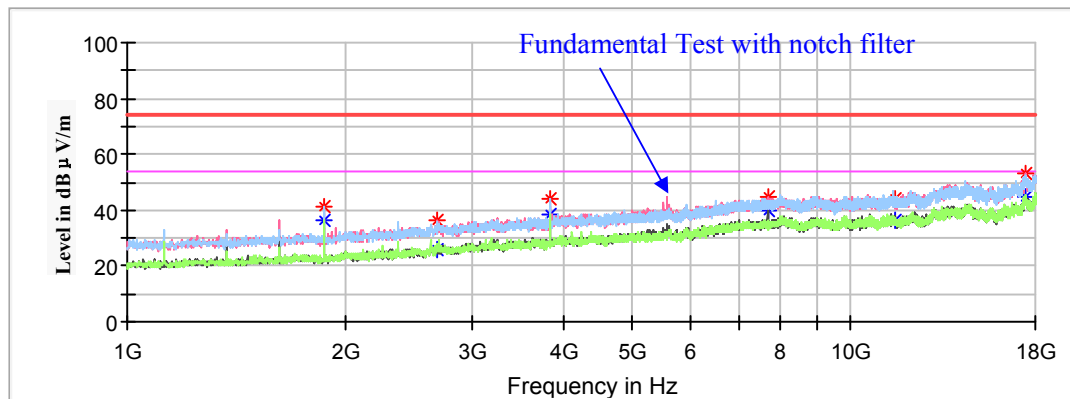
(Pre-scan in the X,Y and Z axes of orientation, the worst case **Y-axis of orientation** was recorded.)

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
Corrected Amplitude = Corrected Factor + Reading  
Margin = Limit - Corrected. Amplitude

**Low Channel: 5755MHz**

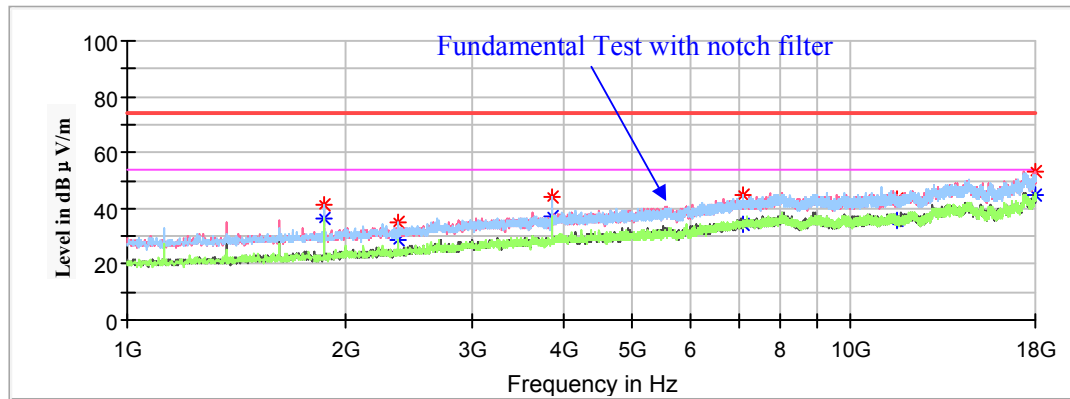
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 41.06               | ---              | 150.0       | H           | 327.0            | -14.9                 | 68.20          | 27.14       |
| 2688.100000     | 36.59               | ---              | 150.0       | V           | 126.0            | -11.5                 | 68.20          | 31.61       |
| 3835.600000     | 44.03               | ---              | 150.0       | H           | 37.0             | -7.6                  | 74.00          | 29.97       |
| 3835.600000     | ---                 | 38.63            | 150.0       | H           | 37.0             | -7.6                  | 54.00          | 15.37       |
| 7672.500000     | 44.95               | ---              | 150.0       | V           | 63.0             | 1.3                   | 74.00          | 29.05       |
| 7672.500000     | ---                 | 39.62            | 150.0       | V           | 63.0             | 1.3                   | 54.00          | 14.38       |
| 11511.100000    | 43.81               | ---              | 150.0       | V           | 1.0              | 2.8                   | 74.00          | 30.19       |
| 11511.100000    | ---                 | 36.48            | 150.0       | V           | 1.0              | 2.8                   | 54.00          | 17.52       |
| 17406.700000    | 52.90               | ---              | 150.0       | V           | 204.0            | 8.6                   | 68.20          | 15.30       |

**High Channel: 5795MHz**

Full Spectrum



| Frequency (MHz) | Corrected Amplitude    |                        | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
|-----------------|------------------------|------------------------|-------------|-------------|------------------|-----------------------|----------------------|-------------|
|                 | MaxPeak (dB $\mu$ V/m) | Average (dB $\mu$ V/m) | Height (cm) | Polar (H/V) |                  |                       |                      |             |
| 1873.800000     | 41.27                  | ---                    | 150.0       | H           | 327.0            | -14.9                 | 68.20                | 26.93       |
| 2373.600000     | 35.13                  | ---                    | 150.0       | H           | 90.0             | -12.9                 | 74.00                | 38.87       |
| 2373.600000     | ---                    | 28.59                  | 150.0       | H           | 90.0             | -12.9                 | 54.00                | 25.41       |
| 3862.800000     | 44.33                  | ---                    | 150.0       | H           | 37.0             | -7.5                  | 74.00                | 29.67       |
| 3862.800000     | ---                    | 37.27                  | 150.0       | H           | 37.0             | -7.5                  | 54.00                | 16.73       |
| 7109.800000     | 44.79                  | ---                    | 150.0       | H           | 233.0            | 0.2                   | 68.20                | 23.41       |
| 11591.000000    | 43.21                  | ---                    | 150.0       | V           | 65.0             | 3.0                   | 74.00                | 30.79       |
| 11591.000000    | ---                    | 35.48                  | 150.0       | V           | 65.0             | 3.0                   | 54.00                | 18.52       |
| 17959.200000    | ---                    | 44.58                  | 150.0       | V           | 27.0             | 8.8                   | 54.00                | 9.42        |
| 17959.200000    | 53.08                  | ---                    | 150.0       | V           | 27.0             | 8.8                   | 74.00                | 20.92       |

**802.11n-HT40 Mode:**

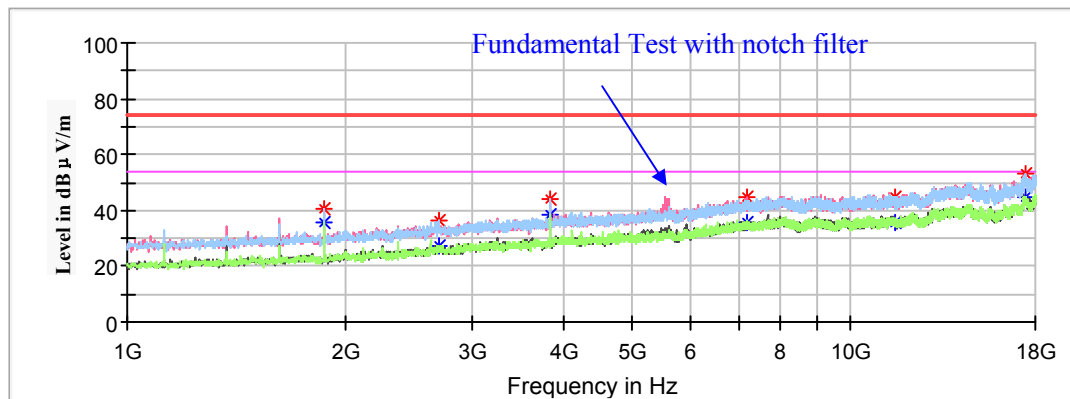
(Pre-scan with X,Y and Z axes of orientation, the worst case **Y-axis of orientation** was recorded)

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
Corrected Amplitude = Corrected Factor + Reading  
Margin = Limit - Corrected. Amplitude

**Low Channel: 5755MHz**

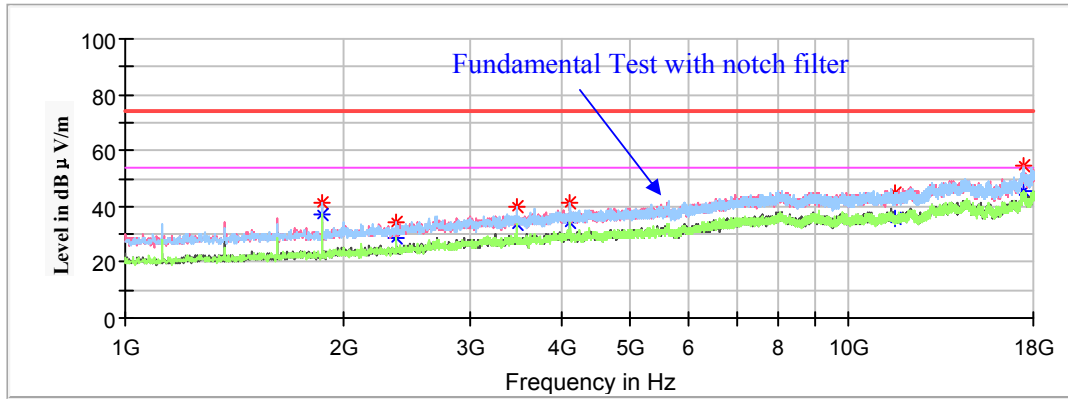
Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 40.27               | ---              | 150.0       | H           | 309.0            | -14.9                 | 68.20          | 27.93       |
| 2689.800000     | 36.05               | ---              | 150.0       | H           | 322.0            | -11.5                 | 68.20          | 32.15       |
| 3835.600000     | 44.14               | ---              | 150.0       | H           | 37.0             | -7.6                  | 74.00          | 29.86       |
| 3835.600000     | ---                 | 38.16            | 150.0       | H           | 37.0             | -7.6                  | 54.00          | 15.84       |
| 7210.100000     | 44.84               | ---              | 150.0       | V           | 212.0            | 0.4                   | 68.20          | 23.36       |
| 11516.200000    | ---                 | 35.36            | 150.0       | H           | 207.0            | 2.8                   | 54.00          | 18.64       |
| 11516.200000    | 44.89               | ---              | 150.0       | H           | 207.0            | 2.8                   | 74.00          | 29.11       |
| 17396.500000    | 53.22               | ---              | 150.0       | H           | 220.0            | 8.5                   | 68.20          | 14.98       |

**High Channel: 5795MHz**

Full Spectrum



| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 41.43               | ---              | 150.0       | H           | 309.0            | -14.9                 | 68.20          | 26.77       |
| 2373.600000     | ---                 | 28.92            | 150.0       | H           | 90.0             | -12.9                 | 54.00          | 25.08       |
| 2373.600000     | 34.30               | ---              | 150.0       | H           | 90.0             | -12.9                 | 74.00          | 39.70       |
| 3471.800000     | 39.80               | ---              | 150.0       | H           | 77.0             | -8.9                  | 68.20          | 28.40       |
| 4124.600000     | ---                 | 34.10            | 150.0       | H           | 0.0              | -6.8                  | 54.00          | 19.90       |
| 4124.600000     | 41.16               | ---              | 150.0       | H           | 0.0              | -6.8                  | 74.00          | 32.84       |
| 11570.600000    | ---                 | 35.96            | 150.0       | H           | 169.0            | 2.9                   | 54.00          | 18.04       |
| 11570.600000    | 44.94               | ---              | 150.0       | H           | 169.0            | 2.9                   | 74.00          | 29.06       |
| 17399.900000    | 54.27               | ---              | 150.0       | V           | 86.0             | 8.5                   | 68.20          | 13.93       |

**802.11ac80 Mode:**

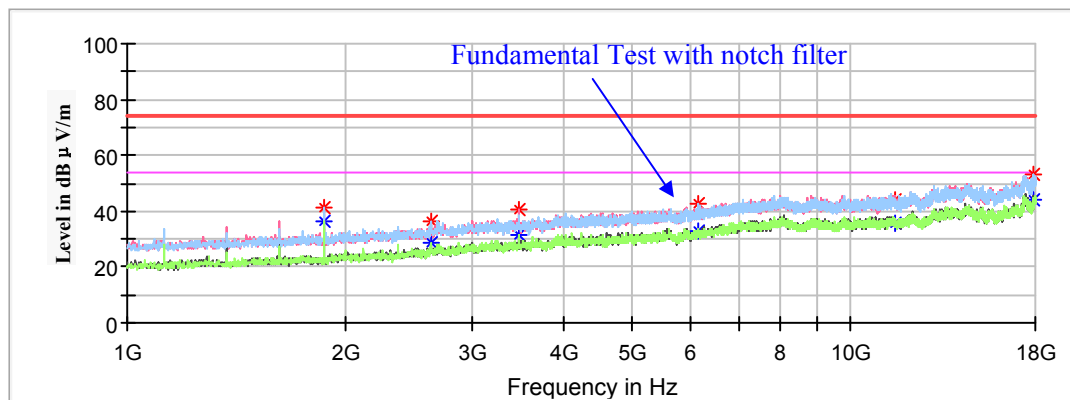
(Pre-scan in the X,Y and Z axes of orientation, the worst case **Y-axis of orientation** was recorded.)

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor  
Corrected Amplitude = Corrected Factor + Reading  
Margin = Limit - Corrected. Amplitude

**Low Channel: 5775MHz**

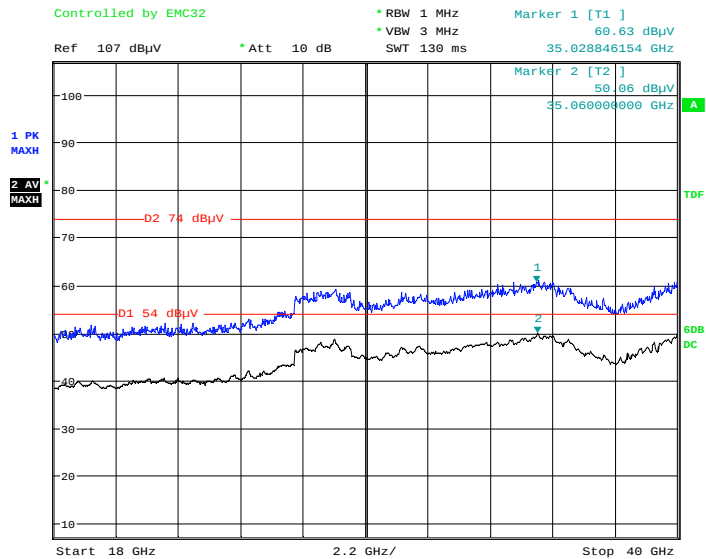
Full Spectrum



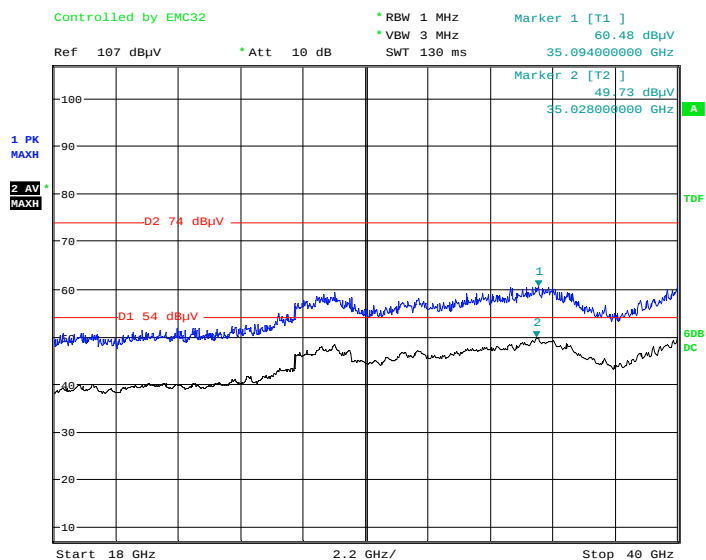
| Frequency (MHz) | Corrected Amplitude |                  | Rx Antenna  |             | Turntable Degree | Correct Factor (dB/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------|------------------|-------------|-------------|------------------|-----------------------|----------------|-------------|
|                 | MaxPeak (dBμV/m)    | Average (dBμV/m) | Height (cm) | Polar (H/V) |                  |                       |                |             |
| 1873.800000     | 41.37               | ---              | 150.0       | H           | 317.0            | -14.9                 | 68.20          | 26.83       |
| 2623.500000     | 36.64               | ---              | 150.0       | H           | 317.0            | -11.8                 | 68.20          | 31.56       |
| 3471.800000     | 40.74               | ---              | 150.0       | V           | 88.0             | -8.9                  | 68.20          | 27.46       |
| 6159.500000     | 42.62               | ---              | 150.0       | H           | 317.0            | -2.4                  | 68.20          | 25.58       |
| 11526.400000    | ---                 | 35.49            | 150.0       | V           | 32.0             | 2.9                   | 54.00          | 18.51       |
| 11526.400000    | 44.37               | ---              | 150.0       | V           | 32.0             | 2.9                   | 74.00          | 29.63       |
| 17926.900000    | ---                 | 44.33            | 150.0       | H           | 37.0             | 8.8                   | 54.00          | 9.67        |
| 17926.900000    | 52.88               | ---              | 150.0       | H           | 37.0             | 8.8                   | 74.00          | 21.12       |

**18GHz-40GHz(5150-5250MHz Band):**

Pre-scan with 802.11a, 802.11ac20, 802.11n-HT20, 802.11ac40, 802.11n-HT40 and 802.11 ac80 modes of operation in the X,Y and Z axes of orientation, the worst case 802.11a mode in low channel 5180(Chain0) in Y-axis of orientation was recorded.

**Horizontal**

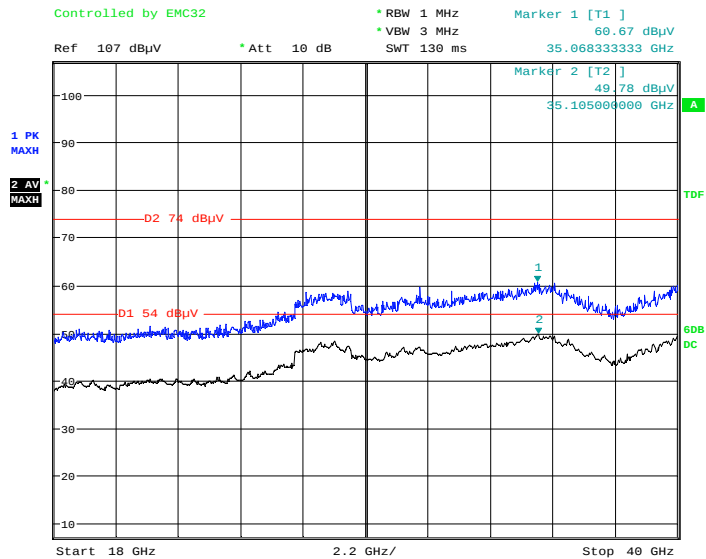
Date: 9.JAN.2021 08:26:01

**Vertical**

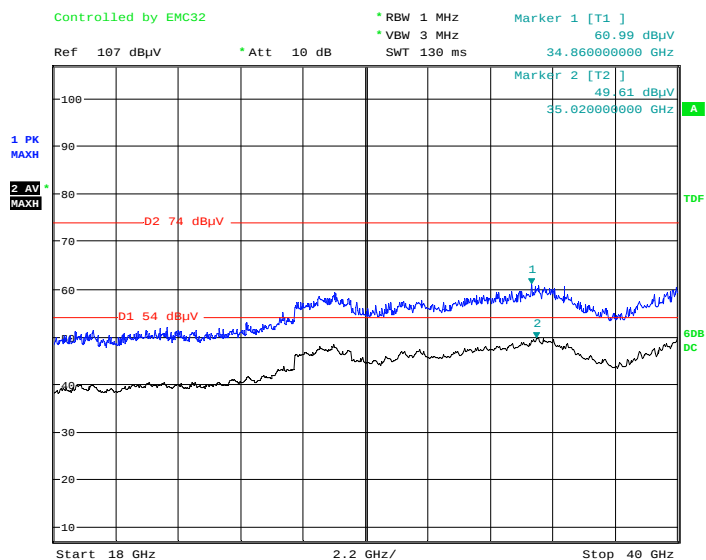
Date: 9.JAN.2021 08:31:23

**18GHz-40GHz(5725-5850MHz Band):**

Pre-scan with 802.11a, 802.11ac20, 802.11n-HT20, 802.11ac40, 802.11n-HT40 and 802.11 ac80 modes of operation in the X,Y and Z axes of orientation, the worst case 802.11a mode in high channel 5825(Chain0) in Y-axis of orientation was recorded.

**Horizontal**

Date: 9.JAN.2021 08:39:25

**Vertical**

Date: 9.JAN.2021 08:47:28

**Restricted Bands Emissions Test (5150-5250MHz Band):**

Note:

1. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
2. Corrected Amplitude = Corrected Factor + Reading
3. Margin = Limit - Corrected. Amplitude

**Chain 0:****802.11a Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)    | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Correct<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|-----------------------|---------------------|---------------------|----------------|----------------|---------------------|-----------------------------|-------------------|----------------|
|                       | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                             |                   |                |
| Low Channel: 5180MHz  |                     |                     |                |                |                     |                             |                   |                |
| 5150.00               | 53.56               | ---                 | 150.0          | V              | 0.0                 | 5.1                         | 74.00             | 20.44          |
| 5150.00               | ---                 | 50.78               | 150.0          | V              | 0.0                 | 5.1                         | 54.00             | 3.22           |
| High Channel: 5240MHz |                     |                     |                |                |                     |                             |                   |                |
| 5350.00               | 52.79               | ---                 | 150.0          | V              | 73.0                | 5.7                         | 74.00             | 21.21          |
| 5350.00               | ---                 | 50.36               | 150.0          | V              | 73.0                | 5.7                         | 54.00             | 3.64           |

**Chain 1:****802.11a Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)    | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Correct<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|-----------------------|---------------------|---------------------|----------------|----------------|---------------------|-----------------------------|-------------------|----------------|
|                       | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                             |                   |                |
| Low Channel: 5180MHz  |                     |                     |                |                |                     |                             |                   |                |
| 5150.00               | 54.45               | ---                 | 200.0          | H              | 0.0                 | 5.1                         | 74.00             | 19.55          |
| 5150.00               | ---                 | 50.30               | 200.0          | H              | 0.0                 | 5.1                         | 54.00             | 3.70           |
| High Channel: 5240MHz |                     |                     |                |                |                     |                             |                   |                |
| 5350.00               | 53.46               | ---                 | 200.0          | H              | 259.0               | 5.7                         | 74.00             | 20.54          |
| 5350.00               | ---                 | 50.68               | 200.0          | H              | 259.0               | 5.7                         | 54.00             | 3.32           |

**Chain 0&1:**

**802.11ac20 Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)    | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Corrected<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|-----------------------|---------------------|---------------------|----------------|----------------|---------------------|-------------------------------|-------------------|----------------|
|                       | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                               |                   |                |
| Low Channel: 5180MHz  |                     |                     |                |                |                     |                               |                   |                |
| 5150.00               | 54.31               | ---                 | 150.0          | V              | 319.0               | 5.1                           | 74.00             | 19.69          |
| 5150.00               | ---                 | 50.56               | 150.0          | V              | 319.0               | 5.1                           | 54.00             | 3.44           |
| High Channel: 5240MHz |                     |                     |                |                |                     |                               |                   |                |
| 5350.00               | 53.49               | ---                 | 150.0          | V              | 357.0               | 5.7                           | 74.00             | 20.51          |
| 5350.00               | ---                 | 51.11               | 150.0          | V              | 357.0               | 5.7                           | 54.00             | 2.89           |

**802.11n-HT20 Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)    | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Correct<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|-----------------------|---------------------|---------------------|----------------|----------------|---------------------|-----------------------------|-------------------|----------------|
|                       | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                             |                   |                |
| Low Channel: 5180MHz  |                     |                     |                |                |                     |                             |                   |                |
| 5150.00               | 53.31               | ---                 | 150.0          | V              | 197.0               | 5.1                         | 74.00             | 20.69          |
| 5150.00               | ---                 | 50.01               | 150.0          | V              | 197.0               | 5.1                         | 54.00             | 3.99           |
| High Channel: 5240MHz |                     |                     |                |                |                     |                             |                   |                |
| 5350.00               | 53.72               | ---                 | 150.0          | V              | 4.0                 | 5.7                         | 74.00             | 20.28          |
| 5350.00               | ---                 | 50.25               | 150.0          | V              | 4.0                 | 5.7                         | 54.00             | 3.75           |

**802.11ac40 Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)    | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Corrected<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|-----------------------|---------------------|---------------------|----------------|----------------|---------------------|-------------------------------|-------------------|----------------|
|                       | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                               |                   |                |
| Low Channel: 5190MHz  |                     |                     |                |                |                     |                               |                   |                |
| 5150.00               | 55.22               | ---                 | 150.0          | V              | 358.0               | 5.1                           | 74.00             | 18.78          |
| 5150.00               | ---                 | 51.41               | 150.0          | V              | 358.0               | 5.1                           | 54.00             | 2.59           |
| High Channel: 5230MHz |                     |                     |                |                |                     |                               |                   |                |
| 5350.00               | 55.48               | ---                 | 150.0          | V              | 0.0                 | 5.7                           | 74.00             | 18.52          |
| 5350.00               | ---                 | 50.31               | 150.0          | V              | 0.0                 | 5.7                           | 54.00             | 3.69           |

**802.11n-HT40 Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)    | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Corrected<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|-----------------------|---------------------|---------------------|----------------|----------------|---------------------|-------------------------------|-------------------|----------------|
|                       | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                               |                   |                |
| Low Channel: 5190MHz  |                     |                     |                |                |                     |                               |                   |                |
| 5150.00               | 57.46               | ---                 | 150.0          | V              | 2.0                 | 5.1                           | 74.00             | 16.54          |
| 5150.00               | ---                 | 51.85               | 150.0          | V              | 2.0                 | 5.1                           | 54.00             | 2.15           |
| High Channel: 5230MHz |                     |                     |                |                |                     |                               |                   |                |
| 5350.00               | 53.74               | ---                 | 150.0          | V              | 76.0                | 5.7                           | 74.00             | 20.26          |
| 5350.00               | ---                 | 49.95               | 150.0          | V              | 76.0                | 5.7                           | 54.00             | 4.05           |

**802.11ac80 Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)   | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Corrected<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|----------------------|---------------------|---------------------|----------------|----------------|---------------------|-------------------------------|-------------------|----------------|
|                      | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                               |                   |                |
| Low Channel: 5210MHz |                     |                     |                |                |                     |                               |                   |                |
| 5150.00              | 56.56               | ---                 | 150.0          | V              | 0.0                 | 5.1                           | 74.00             | 17.44          |
| 5150.00              | ---                 | 51.98               | 150.0          | V              | 0.0                 | 5.1                           | 54.00             | 2.02           |
| 5350.00              | 53.67               | ---                 | 150.0          | V              | 212.0               | 5.7                           | 74.00             | 20.33          |
| 5350.00              | ---                 | 50.63               | 150.0          | V              | 212.0               | 5.7                           | 54.00             | 3.37           |

**Restricted Bands Emissions Test (5725-5850MHz Band):**

Note:

1. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
2. Corrected Amplitude = Corrected Factor + Reading
3. Margin = Limit - Corrected. Amplitude

**Chain 0:****802.11a Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)    | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Correct<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|-----------------------|---------------------|---------------------|----------------|----------------|---------------------|-----------------------------|-------------------|----------------|
|                       | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                             |                   |                |
| Low Channel: 5745MHz  |                     |                     |                |                |                     |                             |                   |                |
| 5650.00               | 55.47               | ---                 | 150.0          | H              | 87.0                | 6.4                         | 68.20             | 12.73          |
| 5700.00               | 55.57               | ---                 | 150.0          | V              | 271.0               | 6.5                         | 105.20            | 49.63          |
| 5720.00               | 69.28               | ---                 | 150.0          | V              | 10.0                | 6.5                         | 110.80            | 41.52          |
| 5725.00               | 74.46               | ---                 | 150.0          | V              | 0.0                 | 6.5                         | 122.20            | 47.74          |
| High Channel: 5825MHz |                     |                     |                |                |                     |                             |                   |                |
| 5850.00               | 70.68               | ---                 | 150.0          | V              | 355.0               | 6.7                         | 122.20            | 51.52          |
| 5855.00               | 65.51               | ---                 | 150.0          | V              | 0.0                 | 6.7                         | 110.80            | 45.29          |
| 5875.00               | 53.98               | ---                 | 150.0          | V              | 0.0                 | 6.8                         | 105.20            | 51.22          |
| 5925.00               | 55.48               | ---                 | 150.0          | H              | 9.0                 | 6.9                         | 68.20             | 12.72          |

**Chain 1:****802.11a Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)    | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Correct<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|-----------------------|---------------------|---------------------|----------------|----------------|---------------------|-----------------------------|-------------------|----------------|
|                       | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                             |                   |                |
| Low Channel: 5745MHz  |                     |                     |                |                |                     |                             |                   |                |
| 5650.00               | 53.33               | ---                 | 150.0          | H              | 3.0                 | 6.4                         | 68.20             | 14.87          |
| 5700.00               | 54.90               | ---                 | 150.0          | V              | 355.0               | 6.5                         | 105.20            | 50.30          |
| 5720.00               | 71.99               | ---                 | 150.0          | V              | 2.0                 | 6.5                         | 110.80            | 38.81          |
| 5725.00               | 76.14               | ---                 | 150.0          | V              | 0.0                 | 6.5                         | 122.20            | 46.06          |
| High Channel: 5825MHz |                     |                     |                |                |                     |                             |                   |                |
| 5850.00               | 69.48               | ---                 | 150.0          | V              | 0.0                 | 6.7                         | 122.20            | 52.72          |
| 5855.00               | 66.21               | ---                 | 150.0          | V              | 0.0                 | 6.7                         | 110.80            | 44.59          |
| 5875.00               | 56.79               | ---                 | 150.0          | V              | 355.0               | 6.8                         | 105.20            | 48.41          |
| 5925.00               | 54.08               | ---                 | 150.0          | H              | 69.0                | 6.9                         | 68.20             | 14.12          |

**Chain 0&1:**

**802.11ac20 Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)    | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Correct<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|-----------------------|---------------------|---------------------|----------------|----------------|---------------------|-----------------------------|-------------------|----------------|
|                       | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                             |                   |                |
| Low Channel: 5745MHz  |                     |                     |                |                |                     |                             |                   |                |
| 5650.00               | 53.94               | ---                 | 150.0          | H              | 358.0               | 6.4                         | 68.20             | 14.26          |
| 5700.00               | 58.81               | ---                 | 150.0          | V              | 11.0                | 6.5                         | 105.20            | 46.39          |
| 5720.00               | 72.86               | ---                 | 150.0          | V              | 355.0               | 6.5                         | 110.80            | 37.94          |
| 5725.00               | 78.79               | ---                 | 150.0          | V              | 345.0               | 6.5                         | 122.20            | 43.41          |
| High Channel: 5825MHz |                     |                     |                |                |                     |                             |                   |                |
| 5850.00               | 70.83               | ---                 | 150.0          | V              | 351.0               | 6.7                         | 122.20            | 51.37          |
| 5855.00               | 64.79               | ---                 | 150.0          | V              | 351.0               | 6.7                         | 110.80            | 46.01          |
| 5875.00               | 55.67               | ---                 | 150.0          | V              | 337.0               | 6.8                         | 105.20            | 49.53          |
| 5925.00               | 54.23               | ---                 | 150.0          | V              | 290.0               | 6.9                         | 68.20             | 13.97          |

**802.11n-HT20 Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)    | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Correct<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|-----------------------|---------------------|---------------------|----------------|----------------|---------------------|-----------------------------|-------------------|----------------|
|                       | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                             |                   |                |
| Low Channel: 5745MHz  |                     |                     |                |                |                     |                             |                   |                |
| 5650.00               | 55.00               | ---                 | 150.0          | H              | 251.0               | 6.4                         | 68.20             | 13.20          |
| 5700.00               | 55.58               | ---                 | 150.0          | V              | 304.0               | 6.5                         | 105.20            | 49.62          |
| 5720.00               | 69.63               | ---                 | 150.0          | V              | 86.0                | 6.5                         | 110.80            | 41.17          |
| 5725.00               | 77.41               | ---                 | 150.0          | V              | 38.0                | 6.5                         | 122.20            | 44.79          |
| High Channel: 5825MHz |                     |                     |                |                |                     |                             |                   |                |
| 5850.00               | 69.26               | ---                 | 150.0          | V              | 1.0                 | 6.7                         | 122.20            | 52.94          |
| 5855.00               | 66.95               | ---                 | 150.0          | V              | 53.0                | 6.7                         | 110.80            | 43.85          |
| 5875.00               | 55.24               | ---                 | 150.0          | V              | 0.0                 | 6.8                         | 105.20            | 49.96          |
| 5925.00               | 54.48               | ---                 | 150.0          | H              | 271.0               | 6.9                         | 68.20             | 13.72          |

**802.11ac40 Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)    | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Correct<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|-----------------------|---------------------|---------------------|----------------|----------------|---------------------|-----------------------------|-------------------|----------------|
|                       | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                             |                   |                |
| Low Channel: 5755MHz  |                     |                     |                |                |                     |                             |                   |                |
| 5650.00               | 54.14               | ---                 | 150.0          | V              | 321.0               | 6.4                         | 68.20             | 14.06          |
| 5700.00               | 63.00               | ---                 | 150.0          | V              | 35.0                | 6.5                         | 105.20            | 42.20          |
| 5720.00               | 73.04               | ---                 | 150.0          | V              | 51.0                | 6.5                         | 110.80            | 37.76          |
| 5725.00               | 76.99               | ---                 | 150.0          | V              | 1.0                 | 6.5                         | 122.20            | 45.21          |
| High Channel: 5795MHz |                     |                     |                |                |                     |                             |                   |                |
| 5850.00               | 63.10               | ---                 | 150.0          | V              | 14.0                | 6.7                         | 122.20            | 59.10          |
| 5855.00               | 62.48               | ---                 | 150.0          | V              | 0.0                 | 6.7                         | 110.80            | 48.32          |
| 5875.00               | 58.54               | ---                 | 150.0          | V              | 0.0                 | 6.8                         | 105.20            | 46.66          |
| 5925.00               | 53.36               | ---                 | 150.0          | V              | 4.0                 | 6.9                         | 68.20             | 14.84          |

**802.11n-HT40 Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)    | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Correct<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|-----------------------|---------------------|---------------------|----------------|----------------|---------------------|-----------------------------|-------------------|----------------|
|                       | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                             |                   |                |
| Low Channel: 5755MHz  |                     |                     |                |                |                     |                             |                   |                |
| 5650.00               | 52.18               | ---                 | 150.0          | H              | 92.0                | 6.4                         | 68.20             | 16.02          |
| 5700.00               | 60.34               | ---                 | 150.0          | V              | 0.0                 | 6.5                         | 105.20            | 44.86          |
| 5720.00               | 72.99               | ---                 | 150.0          | V              | 17.0                | 6.5                         | 110.80            | 37.81          |
| 5725.00               | 76.84               | ---                 | 150.0          | V              | 96.0                | 6.5                         | 122.20            | 45.36          |
| High Channel: 5795MHz |                     |                     |                |                |                     |                             |                   |                |
| 5850.00               | 65.18               | ---                 | 150.0          | V              | 0.0                 | 6.7                         | 122.20            | 57.02          |
| 5855.00               | 64.67               | ---                 | 150.0          | V              | 0.0                 | 6.7                         | 110.80            | 46.13          |
| 5875.00               | 56.12               | ---                 | 150.0          | V              | 0.0                 | 6.8                         | 105.20            | 49.08          |
| 5925.00               | 54.76               | ---                 | 150.0          | V              | 142.0               | 6.9                         | 68.20             | 13.44          |

**802.11ac80 Mode:** (Pre-scan in the X, Y and Z axes of orientation, the worst case in Y-axis of orientation was recorded)

| Frequency<br>(MHz)   | Corrected Amplitude |                     | Rx Antenna     |                | Turntable<br>Degree | Correct<br>Factor<br>(dB/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|----------------------|---------------------|---------------------|----------------|----------------|---------------------|-----------------------------|-------------------|----------------|
|                      | MaxPeak<br>(dBμV/m) | Average<br>(dBμV/m) | Height<br>(cm) | Polar<br>(H/V) |                     |                             |                   |                |
| Low Channel: 5775MHz |                     |                     |                |                |                     |                             |                   |                |
| 5650.00              | 56.70               | ---                 | 150.0          | V              | 18.0                | 6.4                         | 68.20             | 11.50          |
| 5700.00              | 69.35               | ---                 | 150.0          | V              | 6.0                 | 6.5                         | 105.20            | 35.85          |
| 5720.00              | 71.46               | ---                 | 150.0          | V              | 51.0                | 6.5                         | 110.80            | 39.34          |
| 5725.00              | 71.61               | ---                 | 150.0          | V              | 51.0                | 6.5                         | 122.20            | 50.59          |
| 5850.00              | 72.28               | ---                 | 150.0          | V              | 349.0               | 6.7                         | 122.20            | 49.92          |
| 5855.00              | 70.20               | ---                 | 150.0          | V              | 18.0                | 6.7                         | 110.80            | 40.60          |
| 5875.00              | 65.91               | ---                 | 150.0          | V              | 6.0                 | 6.8                         | 105.20            | 39.29          |
| 5925.00              | 56.29               | ---                 | 150.0          | V              | 0.0                 | 6.9                         | 68.20             | 11.91          |

## **FCC §15.407(a) & §15.407(e)–EMISSION BANDWIDTH**

### **Applicable Standard**

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

### **Test Procedure**

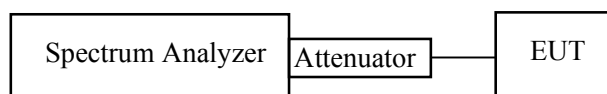
#### **1. Emission Bandwidth (EBW)**

- a) Set RBW = approximately 1% of the emission bandwidth.
- b) Set the VBW > RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

#### **2. Minimum Emission Bandwidth for the band 5.725-5.85 GHz**

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.725-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

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



**Test Data****Environmental Conditions**

|                           |                 |
|---------------------------|-----------------|
| <b>Temperature:</b>       | 23.5~24.8 °C    |
| <b>Relative Humidity:</b> | 49~54 %         |
| <b>ATM Pressure:</b>      | 100.7~101.5 kPa |

The testing was performed by CK Huang from 2020-12-01 to 2020-12-03.

**Test Result:** Compliant

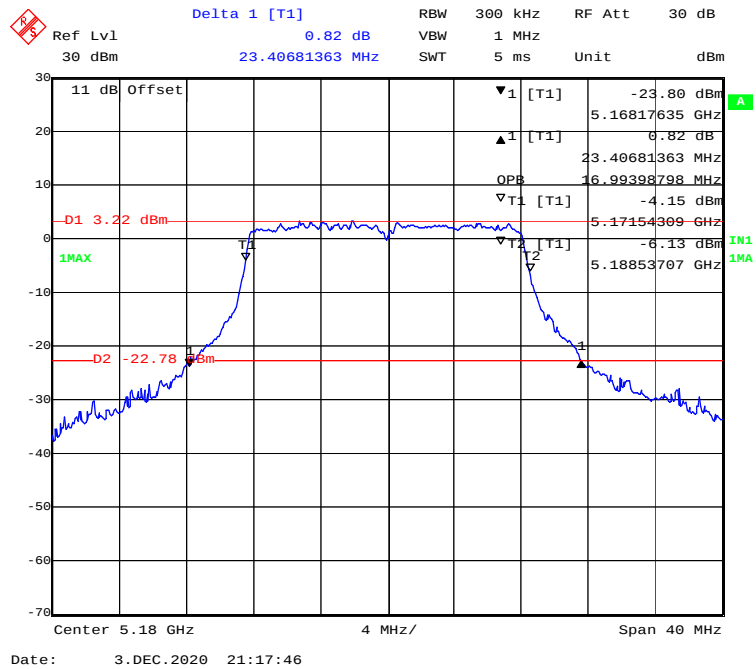
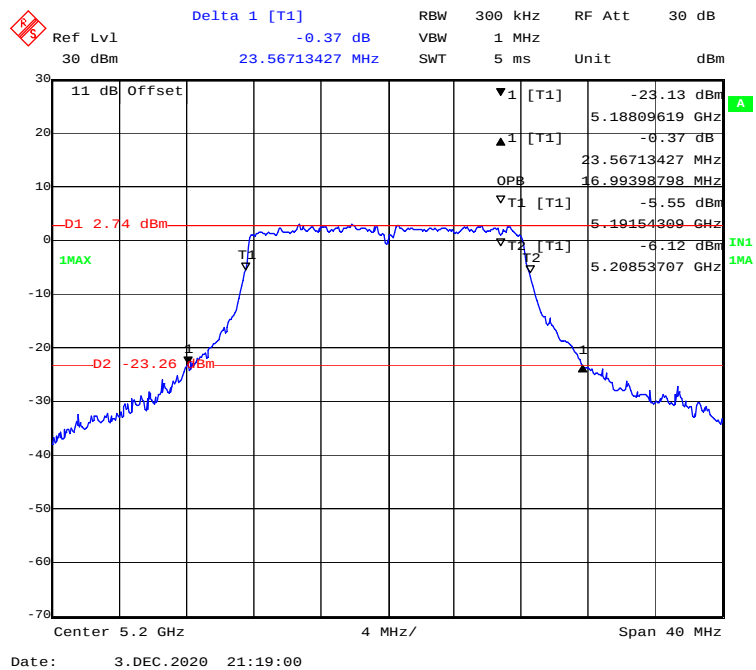
5150-5250 MHz:

| Test mode    | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |         | 99% Bandwidth (MHz) |         |
|--------------|---------|-----------------|----------------------|---------|---------------------|---------|
|              |         |                 | Chain 0              | Chain 1 | Chain 0             | Chain 1 |
| 802.11a      | Low     | 5180            | 23.407               | 23.567  | 16.994              | 16.994  |
|              | Middle  | 5200            | 23.567               | 23.727  | 16.994              | 16.994  |
|              | High    | 5240            | 23.327               | 23.648  | 16.994              | 16.994  |
| 802.11ac20   | Low     | 5180            | 23.968               | 24.208  | 18.116              | 18.116  |
|              | Middle  | 5200            | 24.289               | 24.609  | 18.116              | 18.196  |
|              | High    | 5240            | 24.609               | 23.968  | 18.116              | 18.116  |
| 802.11n-HT20 | Low     | 5180            | 24.609               | 24.369  | 18.196              | 18.196  |
|              | Middle  | 5200            | 24.529               | 24.609  | 18.196              | 18.196  |
|              | High    | 5240            | 24.369               | 24.529  | 18.196              | 18.196  |
| 802.11ac40   | Low     | 5190            | 45.812               | 45.210  | 36.914              | 36.794  |
|              | High    | 5230            | 45.691               | 45.691  | 36.794              | 36.673  |
| 802.11n-HT40 | Low     | 5190            | 46.052               | 46.293  | 36.794              | 36.794  |
|              | High    | 5230            | 45.571               | 45.932  | 36.673              | 36.794  |
| 802.11ac80   | Low     | 5210            | 91.142               | 90.421  | 76.473              | 76.713  |

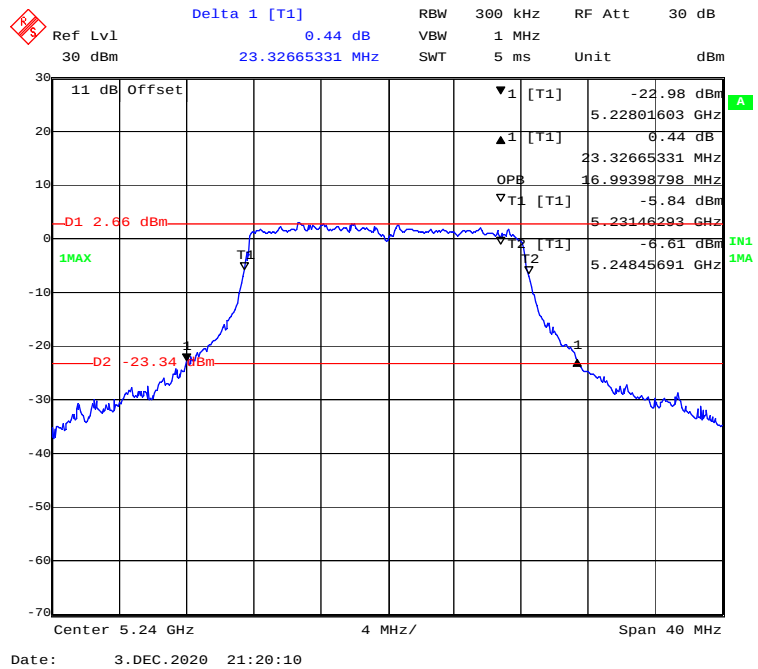
5725-5850MHz:

| Test mode    | Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         | 99% Bandwidth (MHz) |         | Limit (MHz) |
|--------------|---------|-----------------|---------------------|---------|---------------------|---------|-------------|
|              |         |                 | Chain 0             | Chain 1 | Chain 0             | Chain 1 |             |
| 802.11a      | Low     | 5745            | 16.413              | 16.413  | 22.906              | 22.485  | ≥0.5        |
|              | Middle  | 5785            | 16.413              | 16.413  | 22.184              | 22.966  | ≥0.5        |
|              | High    | 5825            | 16.413              | 16.413  | 20.621              | 22.365  | ≥0.5        |
| 802.11ac20   | Low     | 5745            | 17.675              | 17.675  | 23.747              | 22.725  | ≥0.5        |
|              | Middle  | 5785            | 17.615              | 17.675  | 22.665              | 23.206  | ≥0.5        |
|              | High    | 5825            | 17.615              | 17.675  | 20.982              | 22.305  | ≥0.5        |
| 802.11n-HT20 | Low     | 5745            | 17.735              | 17.735  | 23.567              | 23.086  | ≥0.5        |
|              | Middle  | 5785            | 17.735              | 17.675  | 23.146              | 23.327  | ≥0.5        |
|              | High    | 5825            | 17.615              | 17.675  | 21.162              | 22.545  | ≥0.5        |
| 802.11ac40   | Low     | 5755            | 36.553              | 36.433  | 44.489              | 44.850  | ≥0.5        |
|              | High    | 5795            | 36.433              | 36.433  | 42.685              | 42.926  | ≥0.5        |
| 802.11n-HT40 | Low     | 5755            | 36.433              | 36.433  | 44.369              | 43.647  | ≥0.5        |
|              | High    | 5795            | 36.433              | 36.313  | 42.204              | 43.166  | ≥0.5        |
| 802.11ac80   | Low     | 5775            | 76.232              | 76.232  | 84.649              | 86.333  | ≥0.5        |

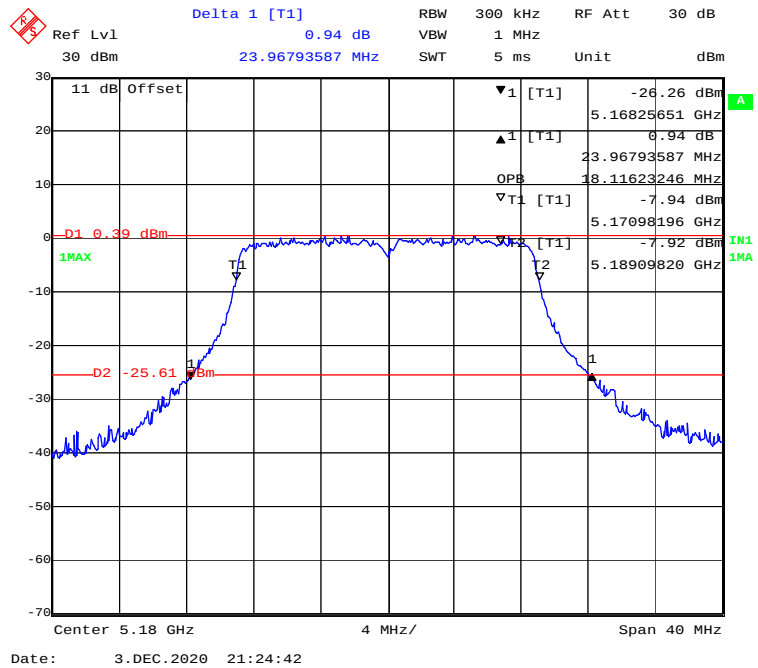
Note: No transmitted signal in the 99% bandwidth extends into the U-NII-2A and U-NII-2C band.

**5150-5250 MHz Band:****26 Bandwidth&99% Bandwidth (Chain 0)****802.11a mode, 5180MHz****802.11a mode, 5200MHz**

### 802.11a mode, 5240MHz



### 802.11ac20 mode, 5180MHz



[illegible]

Ref Lvl 30 dBm

Delta 1 [T1] 0.02 dB

30 dBm 24.60921844 MHz

RBW 300 kHz

VBW 1 MHz

SWT 5 ms

RF Att 30 dB

Unit dBm

11 dB Offset

▼1 [T1] -25.24 dBm

5.22753507 GHz

▲1 [T1] 0.02 dB

24.60921844 MHz

OPB 18.11623246 MHz

▽T1 [T1] -7.62 dBm

5.23090180 GHz

▼T1 [T1] -7.73 dBm

5.24901804 GHz

-D1 0.66 dBm

1MAX

D2 -25.34 dBm

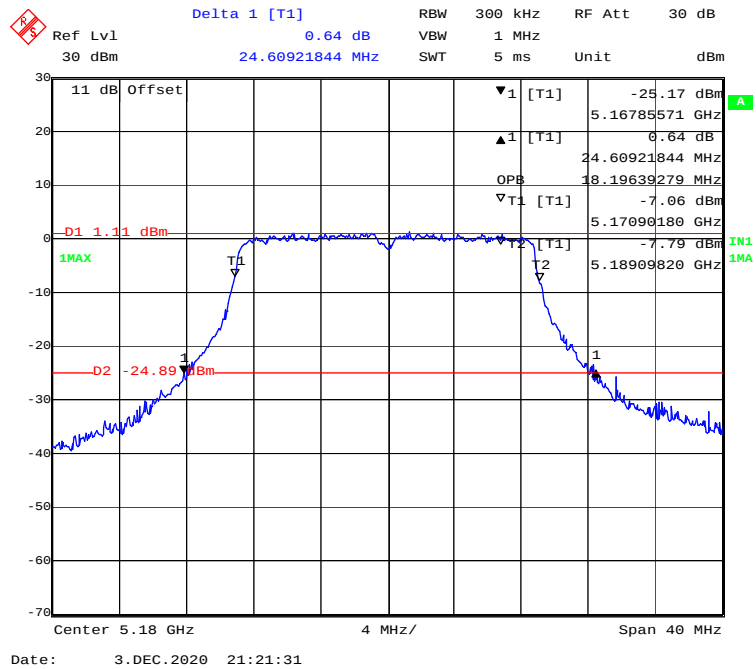
Center 5.24 GHz

4 MHz/

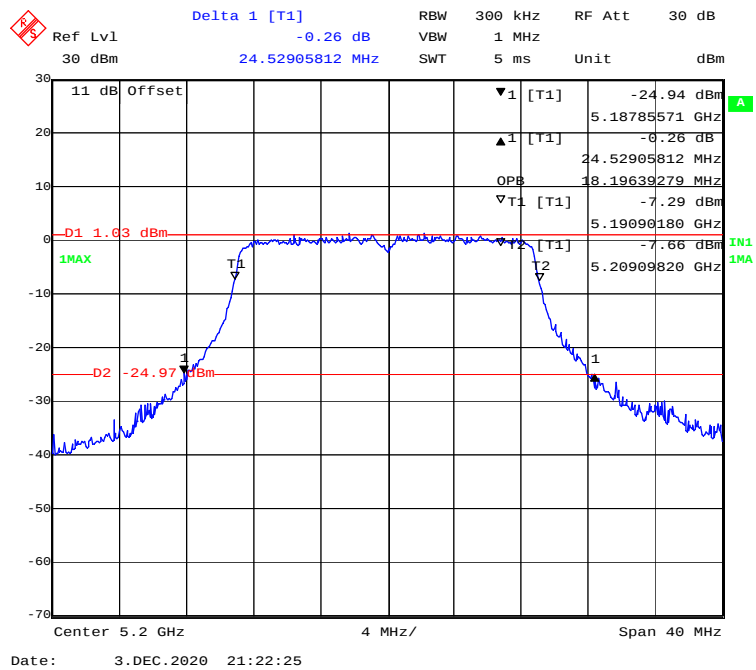
Span 40 MHz

Date: 3.DEC.2020 21:27:58

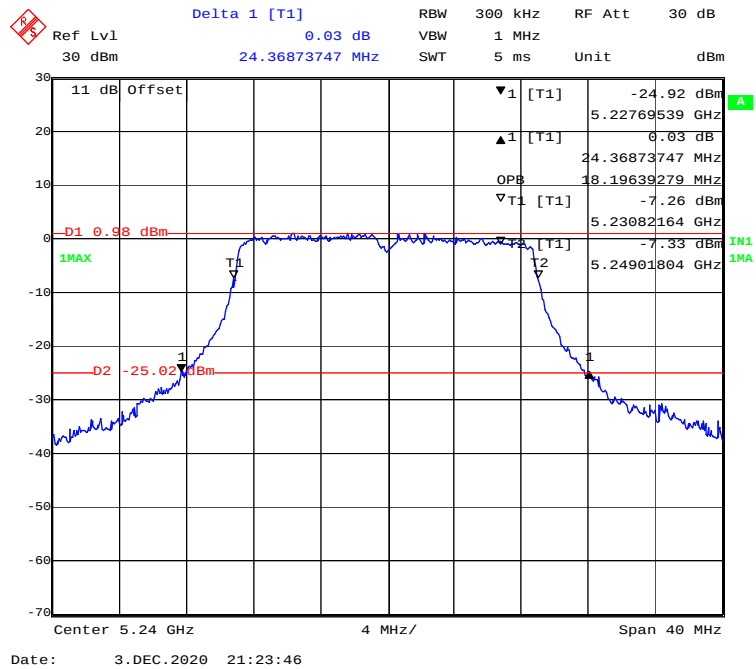
## 802.11n-HT20 mode, 5180MHz



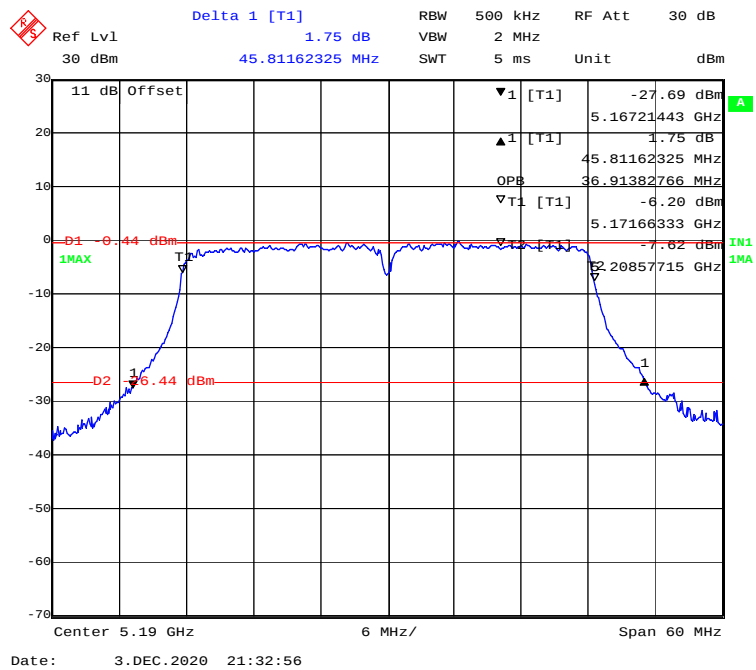
## 802.11n-HT20 mode, 5200MHz



## 802.11n-HT20 mode, 5240MHz



## 802.11ac40 mode, 5190MHz



Delta 1 [T1] 0.98 dB  
 RBW 500 KHz RF Att 30 dB  
 Ref Lvl 30 dBm VBW 2 MHz  
 45.69138277 MHz SWT 5 ms Unit dBm

11 dB Offset  
 -26.63 dBm  
 5.20709419 GHz  
 0.98 dB  
 45.69138277 MHz  
 36.79358717 MHz  
 -6.17 dBm  
 5.21154309 GHz  
 -5.68 dBm  
 5.24833667 GHz

D1 -0.03 dBm  
 1MAX  
 D2 -6.03 dBm  
 1  
 1  
 1

Center 5.23 GHz 6 MHz/ Span 60 MHz

Date: 3.DEC.2020 21:34:00

Ref Lvl 30 dBm

Delta 1 [T1] 0.27 dB

RBW 500 kHz

VBW 2 MHz

RF Att 30 dB

SWT 5 ms

Unit dBm

11 dB Offset

▼1 [T1] -26.67 dBm

▲1 [T1] 0.27 dB

OPB 46.05210421 MHz

▼T1 [T1] -5.97 dBm

D1 0.29 dBm

1MAX

5.16721443 GHz

5.17166333 GHz

5.1720845691 GHz

D2 6.29 dBm

1

2

1

IN1 1MA

Center 5.19 GHz

6 MHz/

Span 60 MHz

Date: 3.DEC.2020 21:30:15

[illegible]

Delta 1 [T1] 0.74 dB  
 Ref Lvl 30 dBm  
 RBW 1 MHz  
 VBW 3 MHz  
 RF Att 30 dB  
 30 dBm  
 91.14228457 MHz  
 SWT 5 ms  
 Unit dBm

11 dB Offset  
 -27.07 dBm  
 5.16442886 GHz  
 0.74 dB  
 91.14228457 MHz  
 76.47294589 MHz  
 OPB  
 -5.00 dBm  
 5.17188377 GHz  
 -5.05 dBm  
 57.24835671 GHz  
 -6.46 dBm  
 -5.05 dBm

Center 5.21 GHz  
 12 MHz/  
 Span 120 MHz

Date: 3.DEC.2020 21:35:07

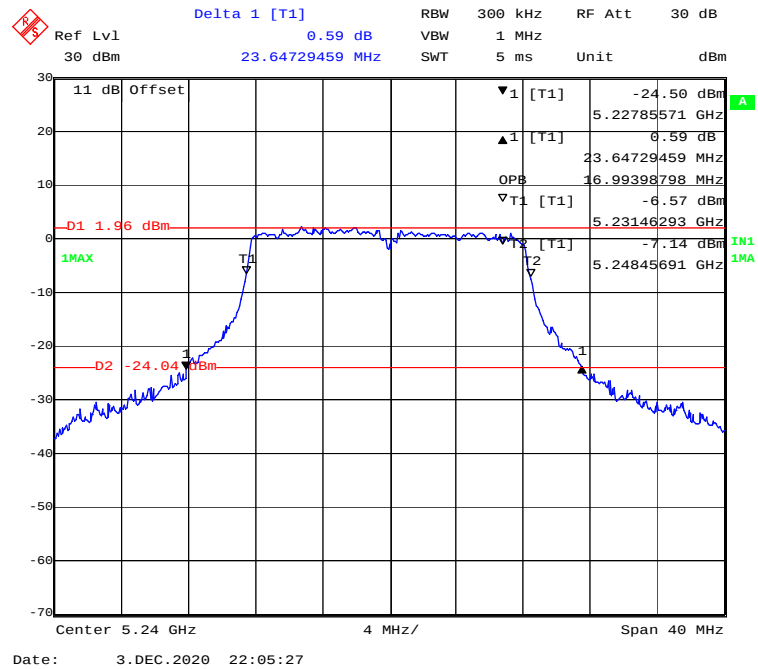
**802.11a mode, 5180MHz**



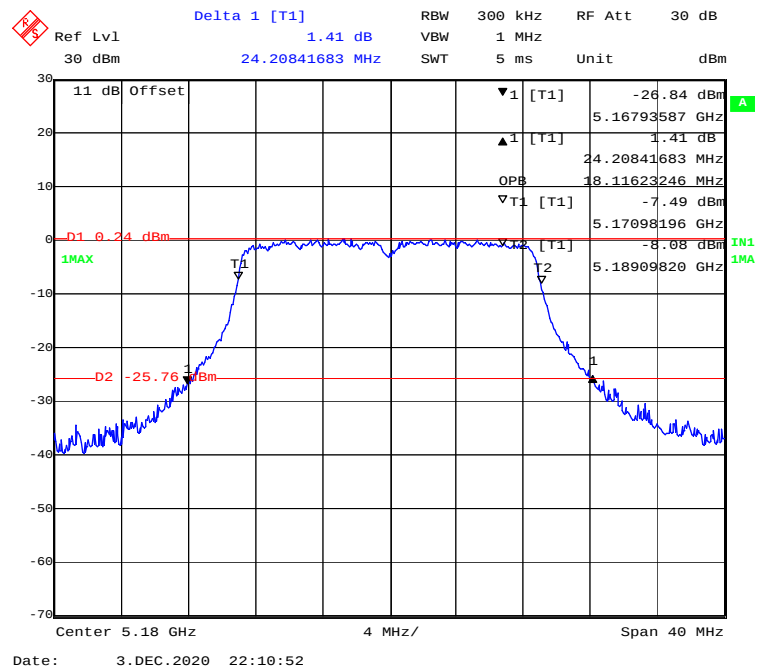
**802.11a mode, 5200MHz**



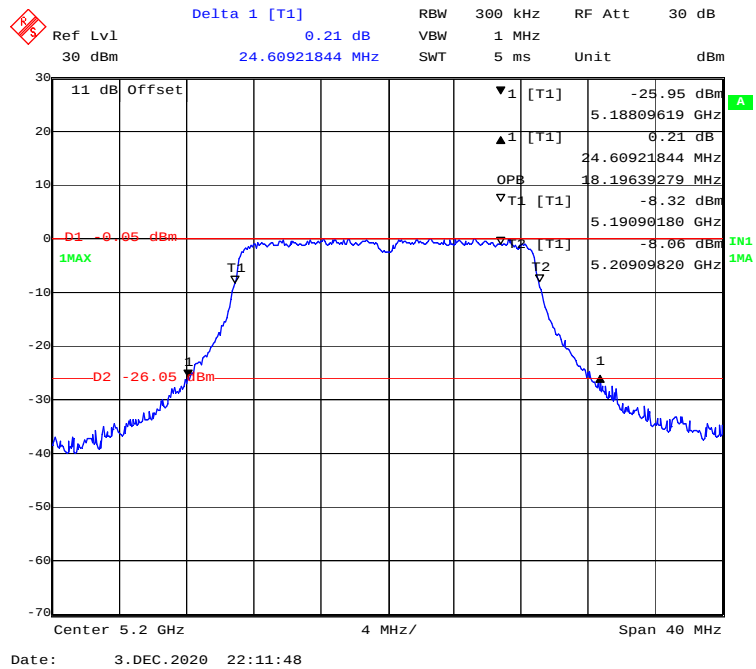
### 802.11a mode, 5240MHz



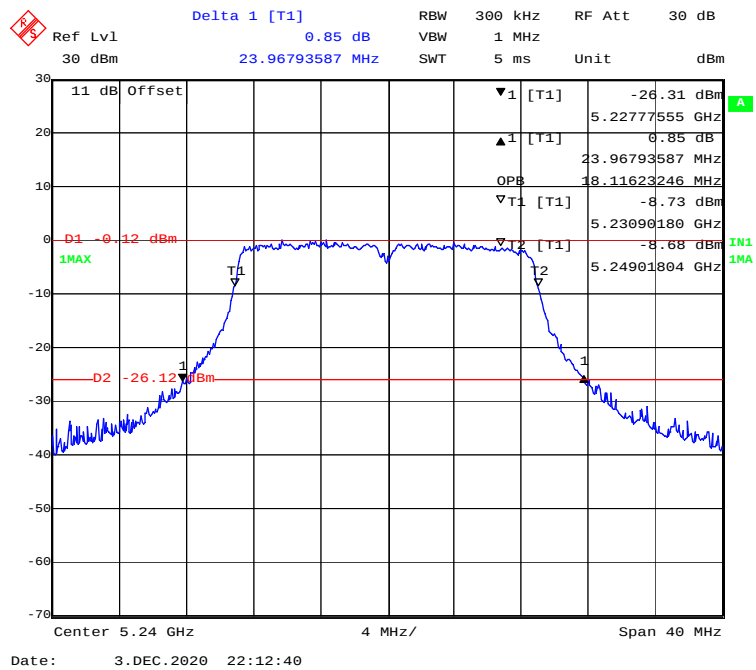
### 802.11ac20 mode, 5180MHz



## 802.11 ac20 mode, 5200MHz



## 802.11 ac20 mode, 5240MHz



Delta 1 [T1] 1.19 dB

Ref Lvl 30 dBm

30 dBm

24.36873747 MHz

RBW 300 KHz

RF Att 30 dB

1 MHz

5 ms

Unit dBm

11 dB Offset

▼1 [T1] -26.13 dBm

▲1 [T1] 1.19 dB

24.36873747 MHz

OPB 18.19639279 MHz

▽T1 [T1] -7.55 dBm

5.17090180 GHz

D1 0.7 dBm

1MAX

T1

1

D2 -25.3 dBm

-7.26 dBm

5.18909820 GHz

IN1

IMA

Center 5.18 GHz

4 MHz/

Span 40 MHz

Date: 3.DEC.2020 22:06:30

Delta 1 [T1] 0.50 dB  
 RBW 300 kHz RF Att 30 dB  
 Ref Lvl 30 dBm VBW 1 MHz  
 30 dBm 24.60921844 MHz SWT 5 ms Unit dBm

11 dB Offset  
 -25.68 dBm  
 5.18777555 GHz  
 0.50 dB  
 24.60921844 MHz  
 18.19639279 MHz  
 OPB  
 -7.49 dBm  
 5.19090180 GHz  
 -7.72 dBm  
 5.20909820 GHz  
 IN1 1MA

D1 0.48 dBm  
 1MAX  
 T1  
 D2 -25.52 dBm  
 1  
 T2  
 1

Center 5.2 GHz 4 MHz/ Span 40 MHz

Date: 3.DEC.2020 22:08:04

Delta 1 [T1]

Ref Lvl 1.36 dB

30 dBm

24.52905812 MHz

RBW 300 kHz

RF Att 30 dB

VBW 1 MHz

SWT 5 ms

Unit dBm

11 dB Offset

▼1 [T1] -26.95 dBm

5.22753507 GHz

▲1 [T1] 1.36 dB

24.52905812 MHz

OPB 18.19639279 MHz

▽T1 [T1] -8.28 dBm

5.23082164 GHz

D1 0.19 dBm

1MAX

T1

D2 -25.8 dBm

T2

1

-7.76 dBm

5.24901804 GHz

IN1

1MAX

Center 5.24 GHz

4 MHz/

Span 40 MHz

Date: 3.DEC.2020 22:10:00

Delta 1 [T1] 0.59 dB  
 Ref Lvl 30 dBm  
 30 dBm 45.21042084 MHz  
 RBW 500 kHz  
 RF Att 30 dB  
 2 MHz  
 5 ms  
 Unit dBm

11 dB Offset  
 D1 -0.51 dBm  
 1MAX  
 D2 -26.51 dBm  
 T1 [T1]  
 T2 [T1]  
 T3 [T1]  
 T4 [T1]  
 T5 [T1]  
 T6 [T1]  
 T7 [T1]  
 T8 [T1]  
 T9 [T1]  
 T10 [T1]  
 T11 [T1]  
 T12 [T1]  
 T13 [T1]  
 T14 [T1]  
 T15 [T1]  
 T16 [T1]  
 T17 [T1]  
 T18 [T1]  
 T19 [T1]  
 T20 [T1]  
 T21 [T1]  
 T22 [T1]  
 T23 [T1]  
 T24 [T1]  
 T25 [T1]  
 T26 [T1]  
 T27 [T1]  
 T28 [T1]  
 T29 [T1]  
 T30 [T1]  
 T31 [T1]  
 T32 [T1]  
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 T84 [T1]  
 T85 [T1]  
 T86 [T1]  
 T87 [T1]  
 T88 [T1]  
 T89 [T1]  
 T90 [T1]  
 T91 [T1]  
 T92 [T1]  
 T93 [T1]  
 T94 [T1]  
 T95 [T1]  
 T96 [T1]  
 T97 [T1]  
 T98 [T1]  
 T99 [T1]  
 T100 [T1]

Center 5.19 GHz  
 6 MHz/  
 Span 60 MHz

Date: 3.DEC.2020 22:15:25

**Ref Lvl** 30 dBm  
**Delta 1 [T1]** 0.87 dB  
**RBW** 500 kHz  
**VBW** 2 MHz  
**SWT** 5 ms  
**RF Att** 30 dB  
**Unit** dBm

**11 dB Offset**

| Marker | Freq            | Power      |
|--------|-----------------|------------|
| D1     | 5.20709419 GHz  | -27.26 dBm |
| T1     | 5.20709419 GHz  | 0.87 dB    |
| OPB    | 36.67334669 MHz | -4.98 dBm  |
| T2     | 5.21166333 GHz  | -6.19 dBm  |
| D2     | 5.24833667 GHz  | -26.56 dBm |

**Center** 5.23 GHz  
**Span** 60 MHz  
**6 MHz/**

Date: 3.DEC.2020 22:16:06

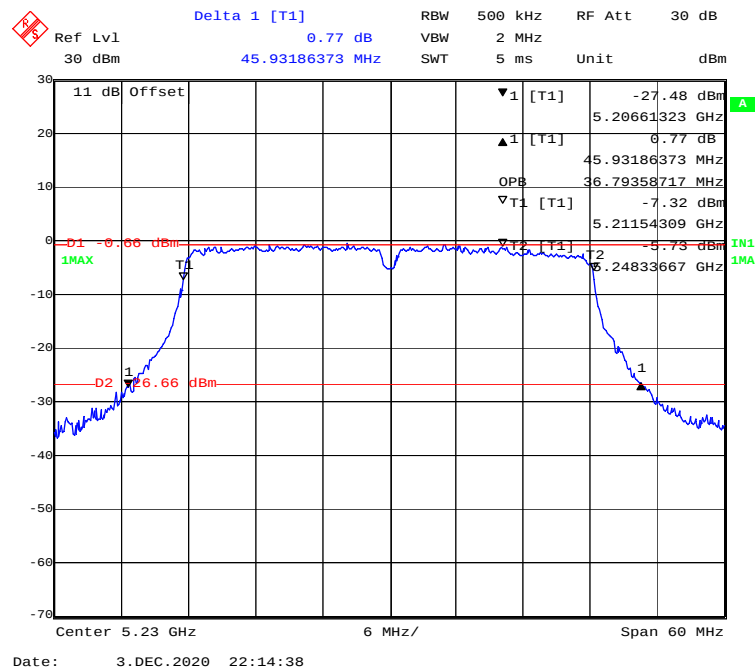
Ref Lvl 30 dBm  
 Delta 1 [T1] 0.11 dB  
 RBW 500 kHz  
 RF Att 30 dB  
 VBW 2 MHz  
 SWT 5 ms  
 Unit dBm

11 dB Offset  
 30 dBm  
 46.29258517 MHz

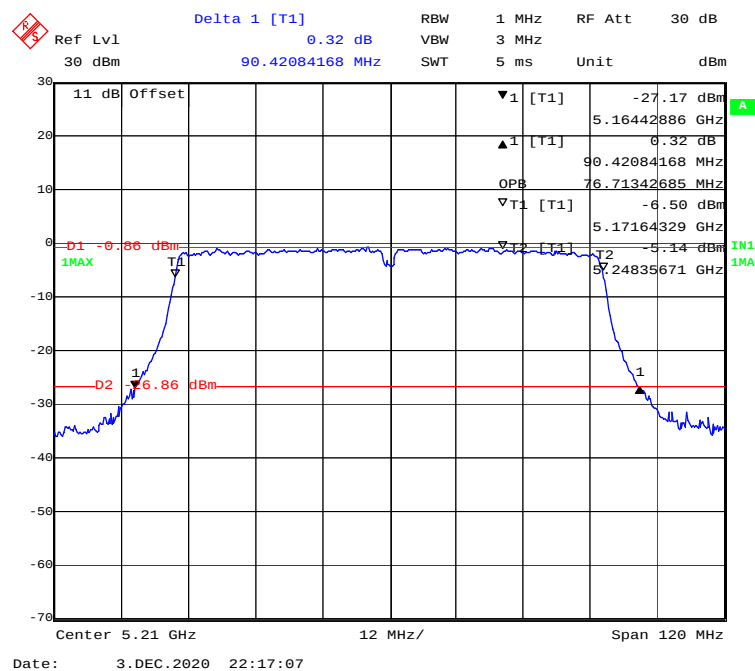
Center 5.19 GHz  
 6 MHz/  
 Span 60 MHz

Date: 3.DEC.2020 22:13:43

### 802.11n-HT40 mode, 5230MHz



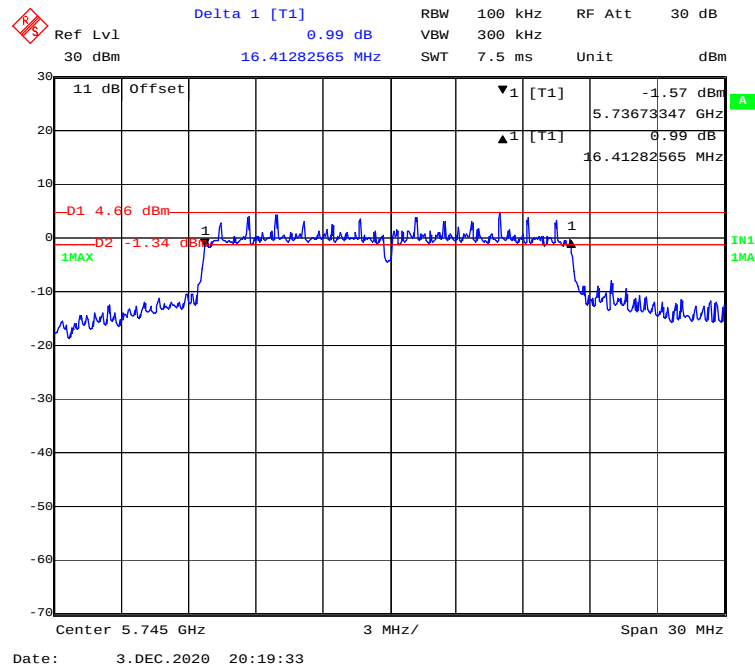
## 802.11ac80 mode, 5210MHz



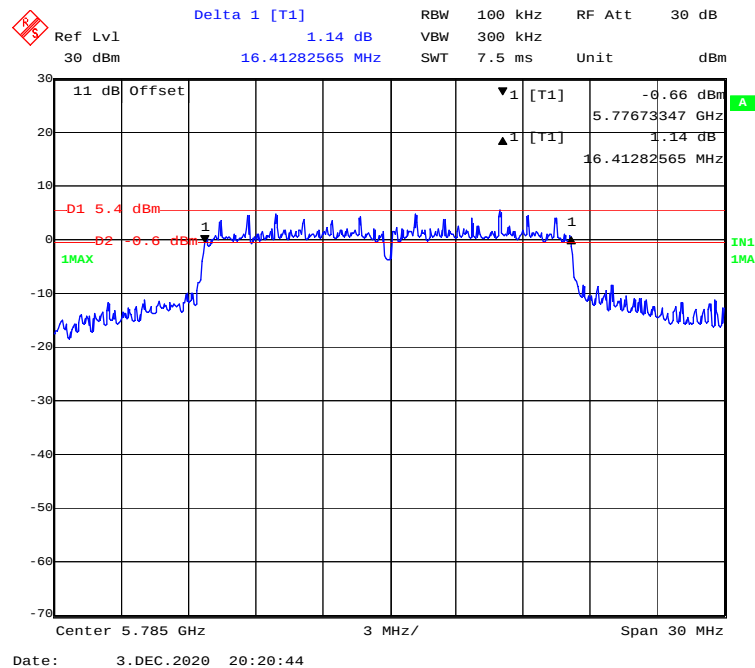
## 5725-5850 MHz Band

## 6 Bandwidth(Chain 0)

## 802.11a mode, 5745MHz



## 802.11a mode, 5785MHz



Delta 1 [T1]

Ref Lvl -0.05 dB

30 dBm 16.41282565 MHz

RBW 100 kHz RF Att 30 dB

VBW 300 kHz

SWT 7.5 ms Unit dBm

11 dB Offset

▼1 [T1] 0.81 dBm

▲1 [T1] -0.05 dB

5.81673347 GHz

16.41282565 MHz

-D1 5.88 dBm

D2 0.12 dBm

1MAX

IN1 1MA

Center 5.825 GHz

3 MHz/

Span 30 MHz

Date: 3.DEC.2020 20:21:43

Ref Lvl 30 dBm

Delta 1 [T1] 1.19 dB

RBW 100 kHz

RF Att 30 dB

SWT 7.5 ms

Unit dBm

11 dB Offset

-3.93 dBm

5.73613226 GHz

1.19 dB

17.67535070 MHz

-D1 3.16 dBm

-D2 -2.84 dBm

1

1

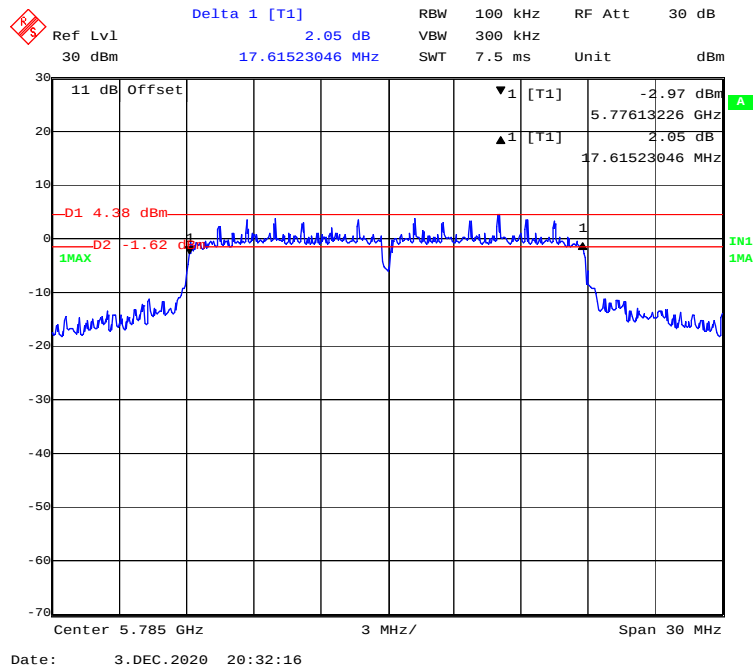
Center 5.745 GHz

3 MHz/

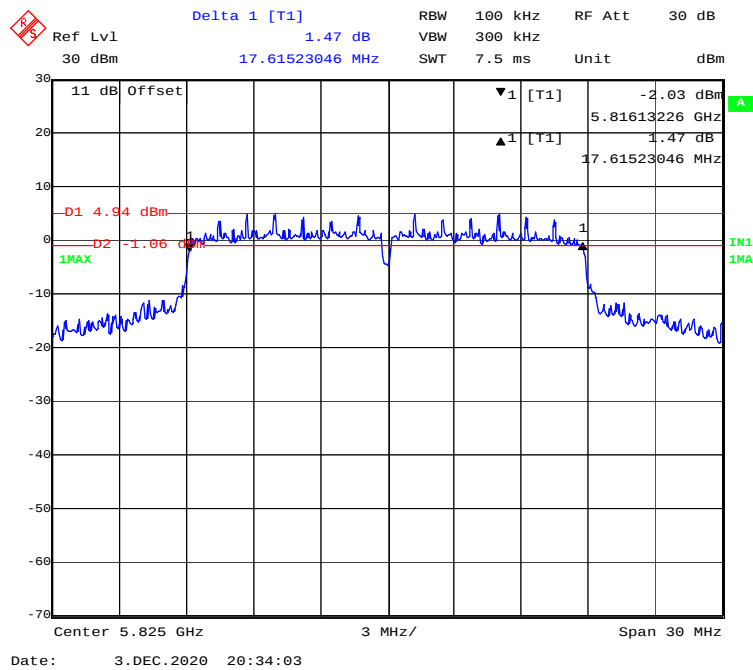
Span 30 MHz

Date: 3.DEC.2020 20:31:04

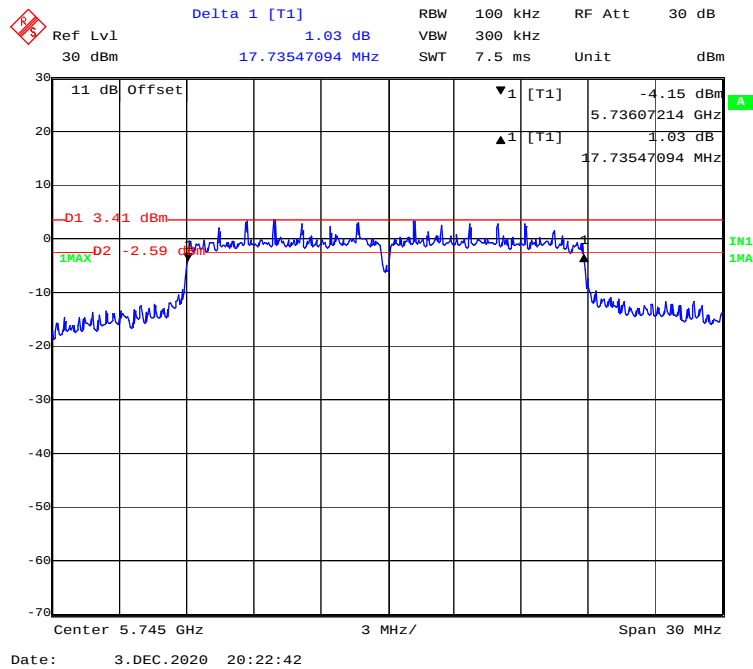
### 802.11 ac20 mode, 5785MHz



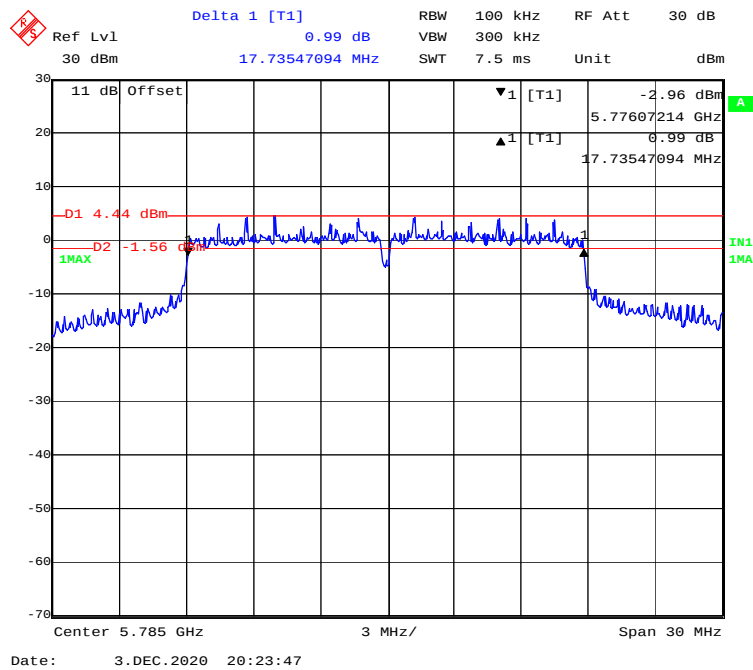
### 802.11 ac20 mode, 5825MHz



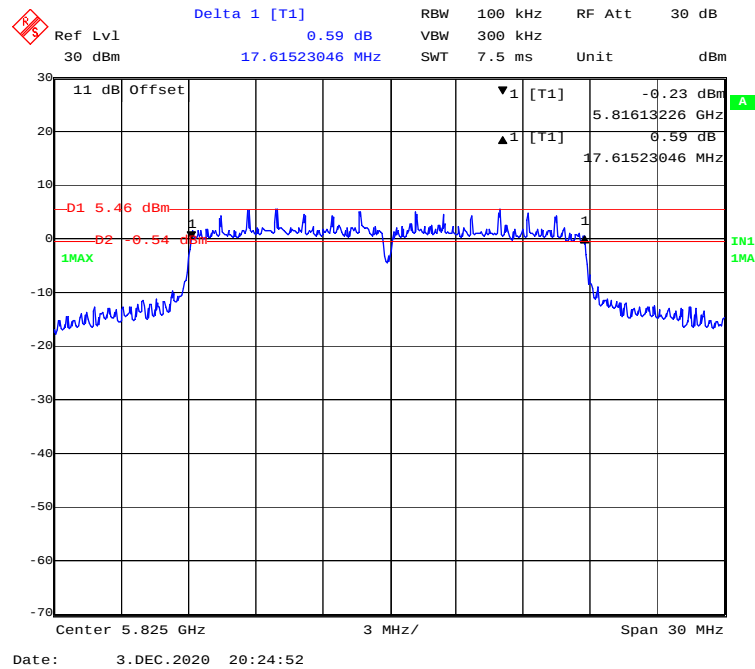
802.11n-HT20 mode, 5745MHz



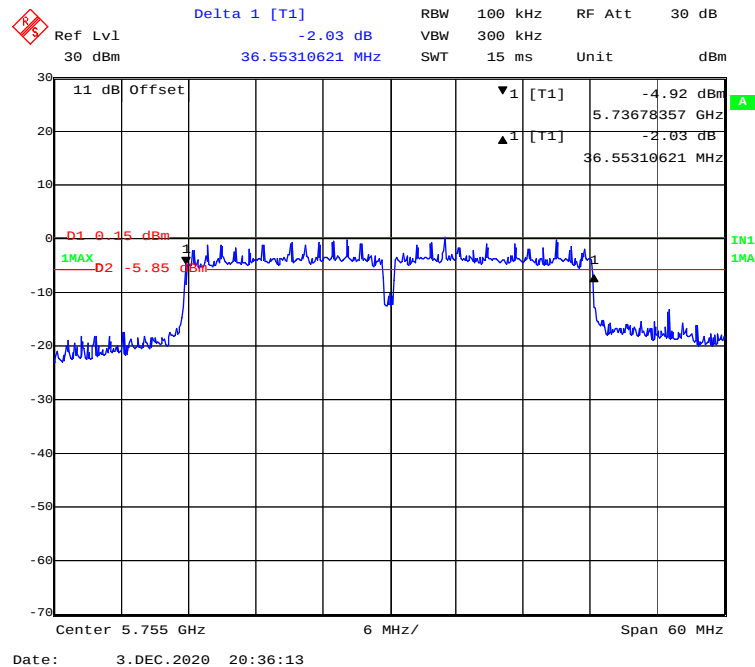
802.11n-HT20 mode, 5785MHz



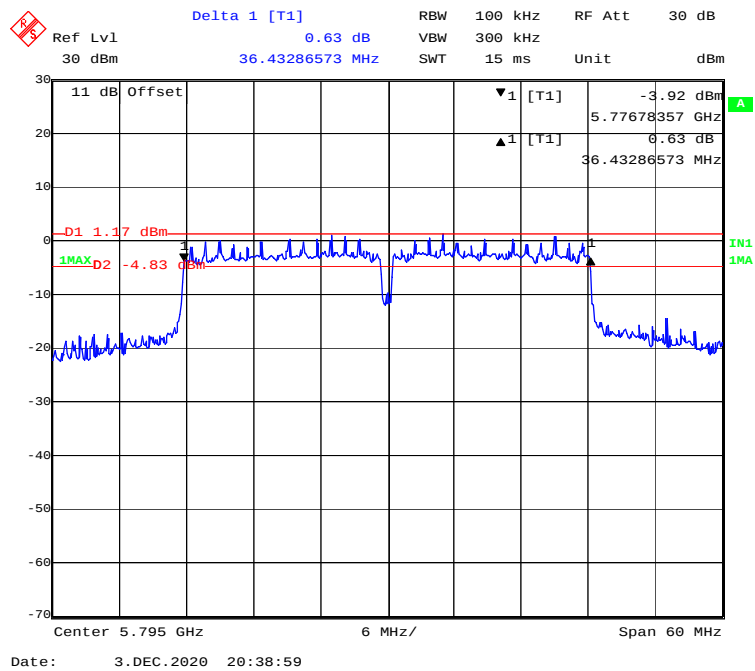
### 802.11n-HT20 mode, 5825MHz



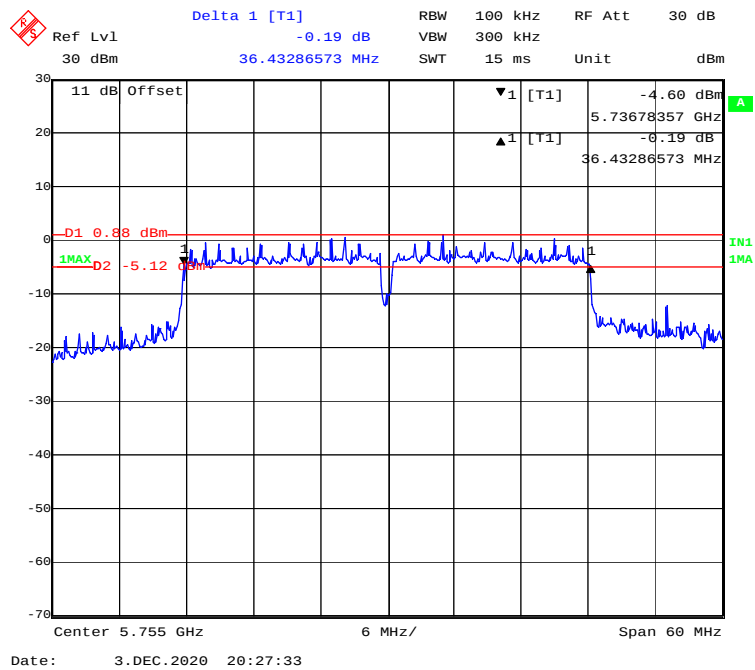
### 802.11ac40 mode, 5755MHz



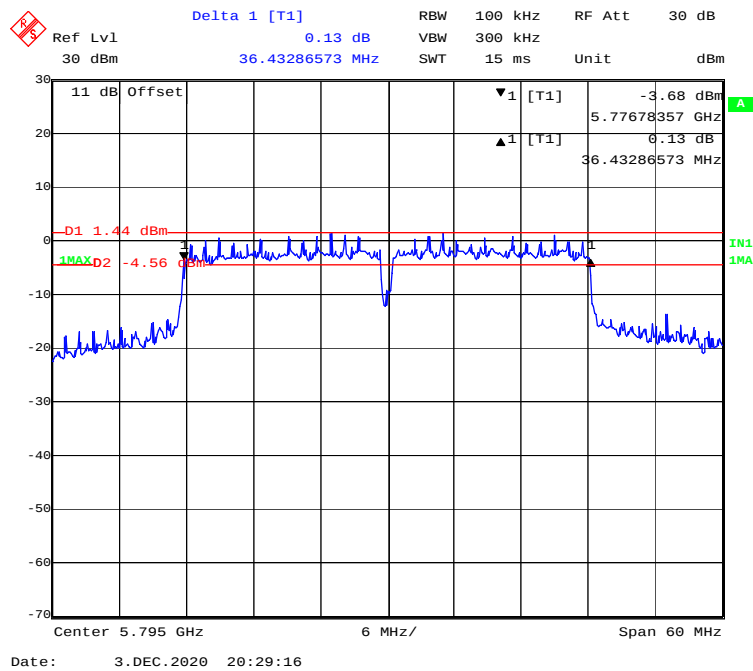
## 802.11 ac40 mode, 5795MHz



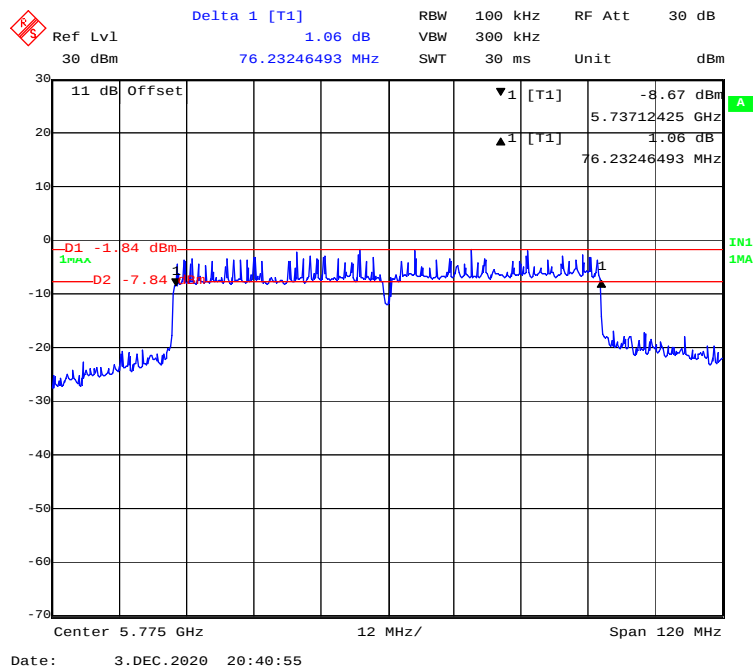
## 802.11n-HT40 mode, 5755MHz



## 802.11n-HT40 mode, 5795MHz

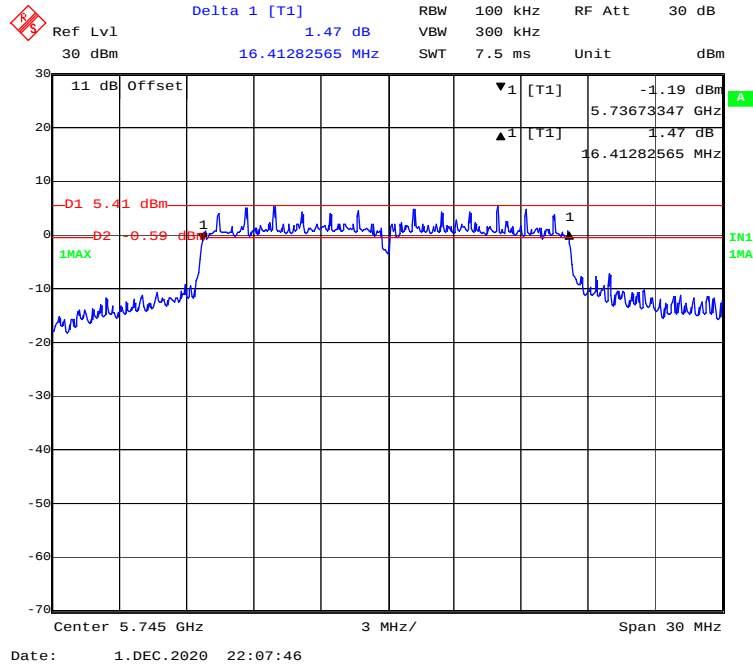


## 802.11ac80 mode, 5775MHz

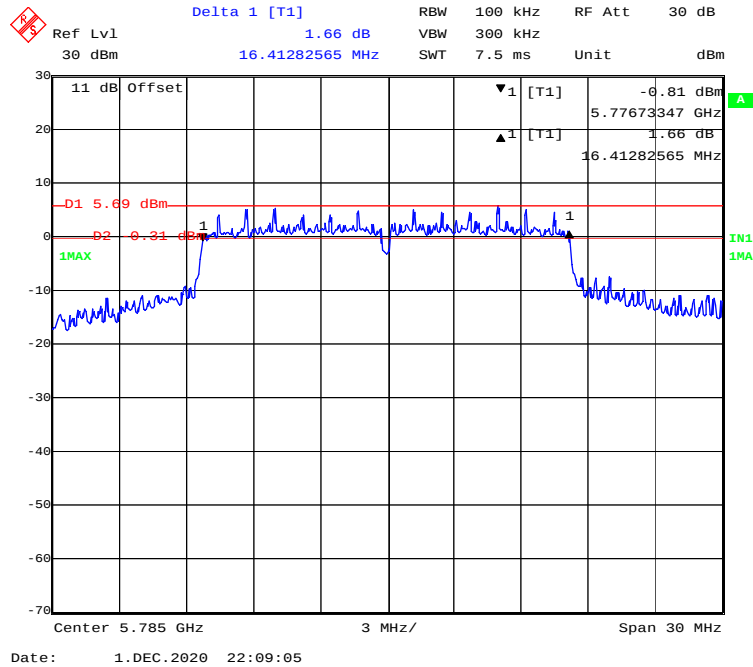


# 6 Bandwidth(Chain 1)

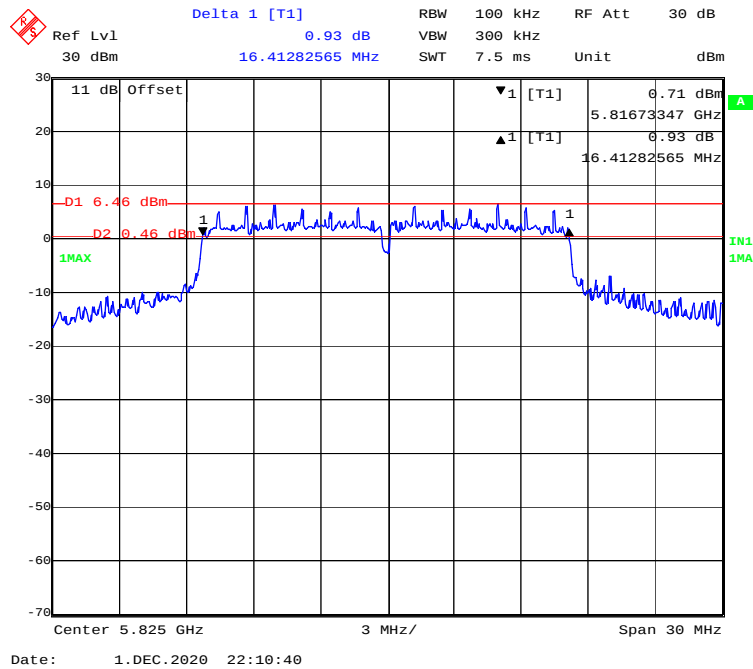
## 802.11a mode, 5745MHz



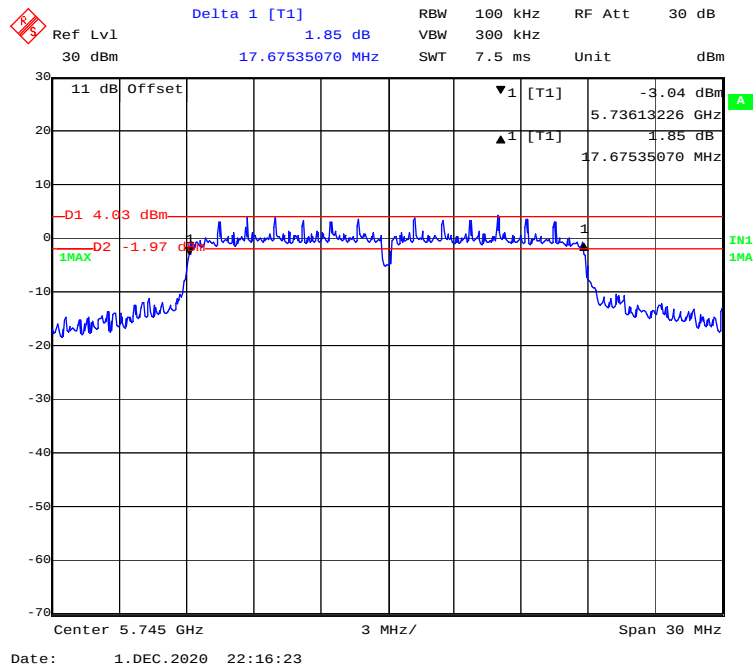
## 802.11a mode, 5785MHz



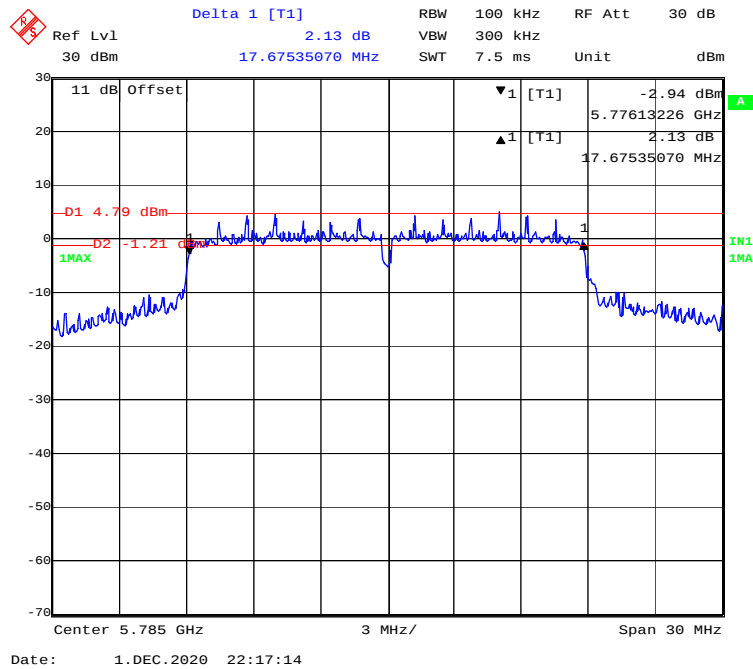
### 802.11a mode, 5825MHz



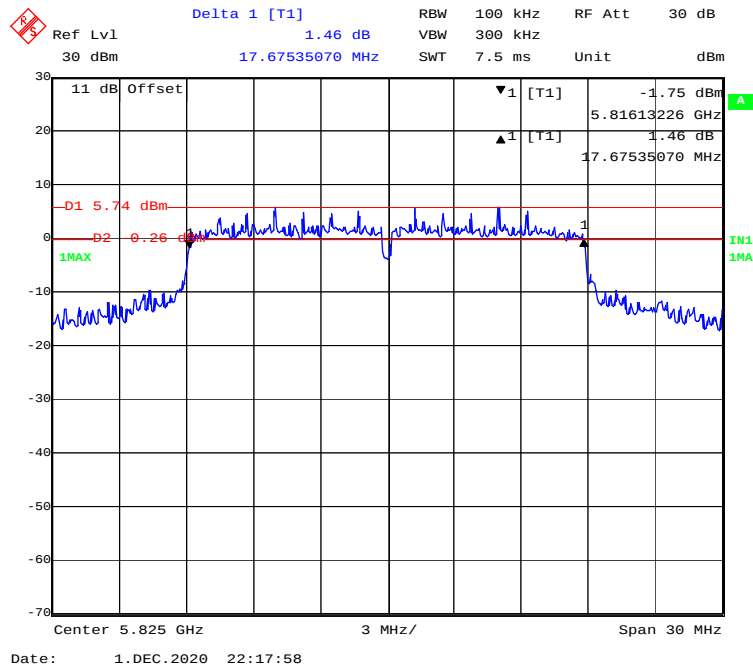
### 802.11ac20 mode, 5745MHz



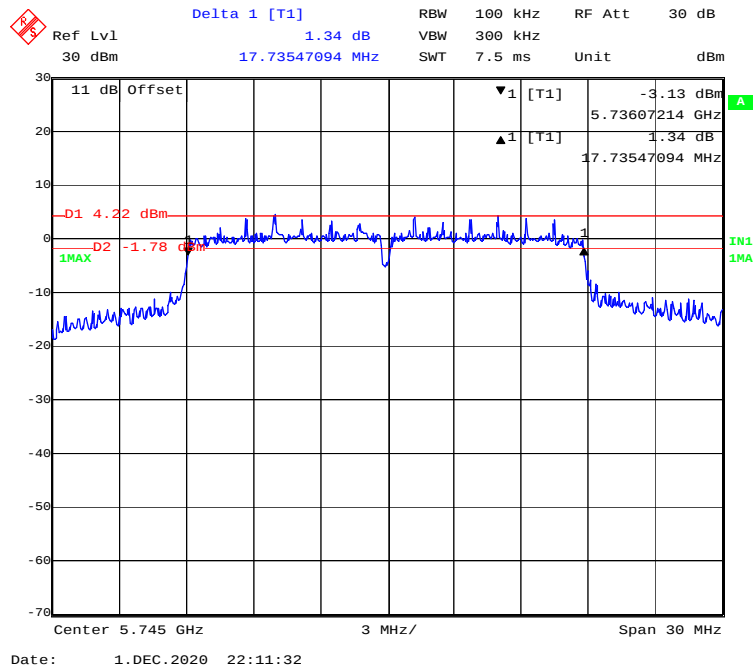
### 802.11 ac20 mode, 5785MHz



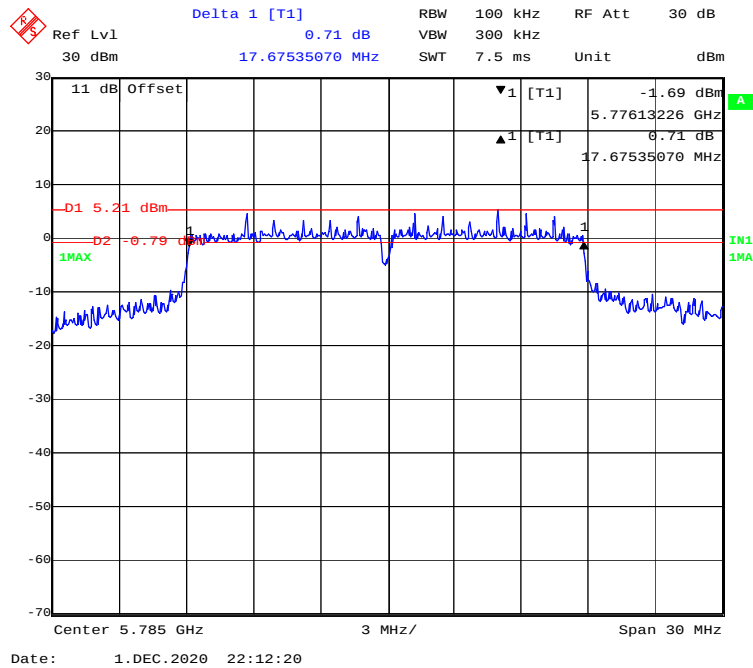
### 802.11 ac20 mode, 5825MHz



### 802.11n-HT20 mode, 5745MHz



### 802.11n-HT20 mode, 5785MHz



Delta 1 [T1]

Ref Lvl 0.19 dB

30 dBm 17.67535070 MHz

RBW 100 kHz RF Att 30 dB

VBW 300 kHz

SWT 7.5 ms Unit dBm

11 dB Offset

-0.26 dBm

5.81613226 GHz

0.19 dB

17.67535070 MHz

-D1 6.21 dBm

-D2 0.21 dBm

1MAX

IN1 1MAX

Center 5.825 GHz

3 MHz/

Span 30 MHz

Date: 1.DEC.2020 22:13:11

Delta 1 [T1]

RBW 100 kHz RF Att 30 dB

Ref Lvl 30 dBm

36.43286573 MHz

SWT 15 ms Unit dBm

11 dB Offset

▼ 1 [T1] -4.82 dBm

▲ 1 [T1] 1.38 dB

5.73678357 GHz

36.43286573 MHz

D1 0.89 dBm

1MAX D2 -5.11 dBm

IN1

1MA

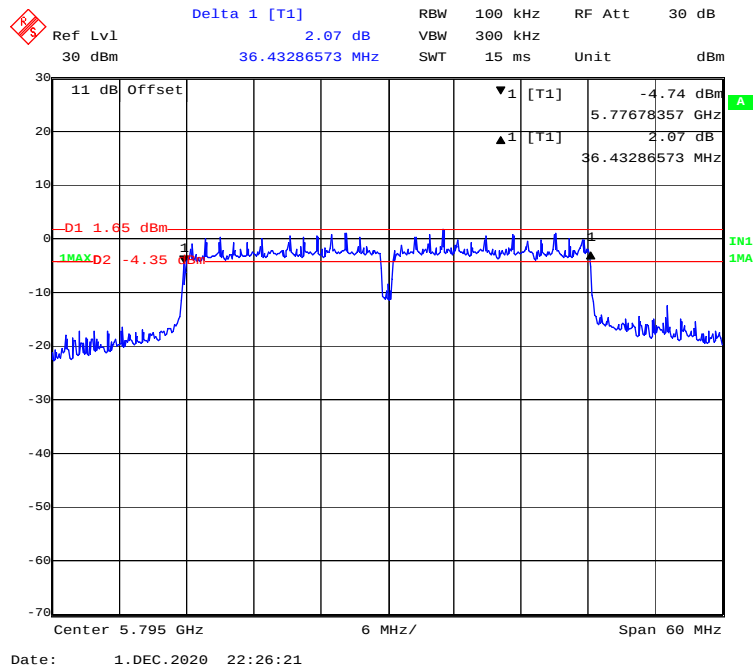
Center 5.755 GHz

6 MHz/

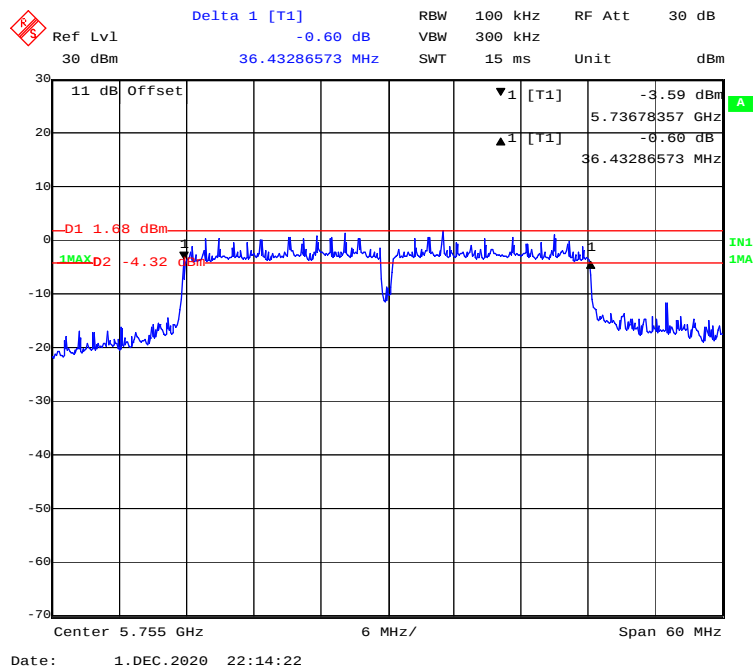
Span 60 MHz

Date: 1.DEC.2020 22:25:13

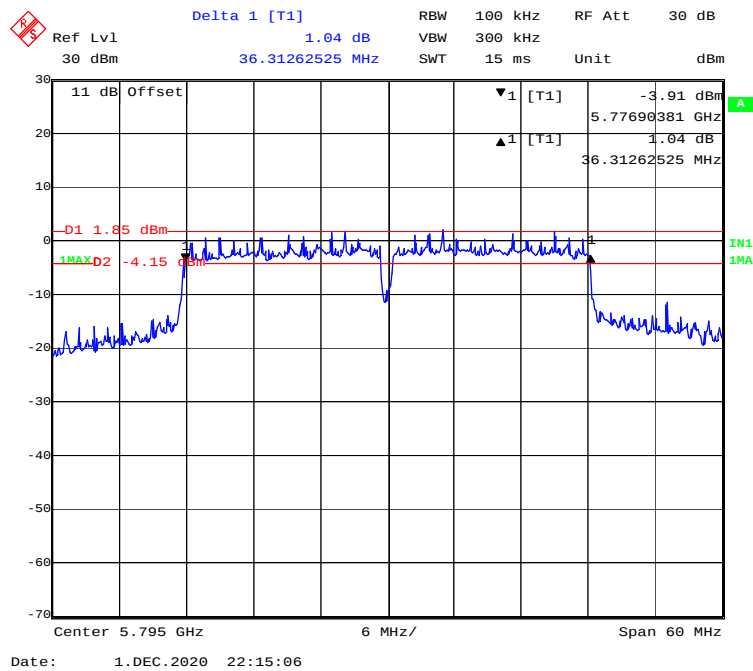
## 802.11 ac40 mode, 5795MHz



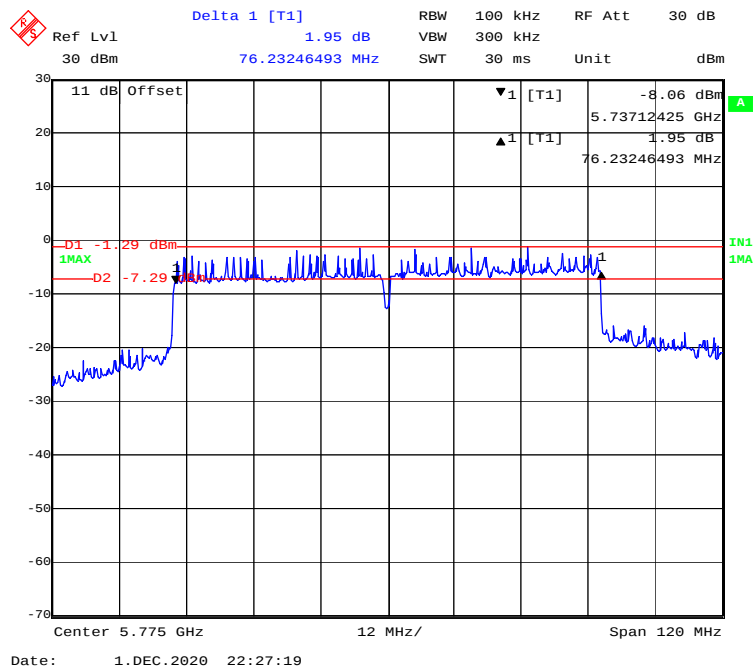
## 802.11n-HT40 mode, 5755MHz



## 802.11n-HT40 mode, 5795MHz

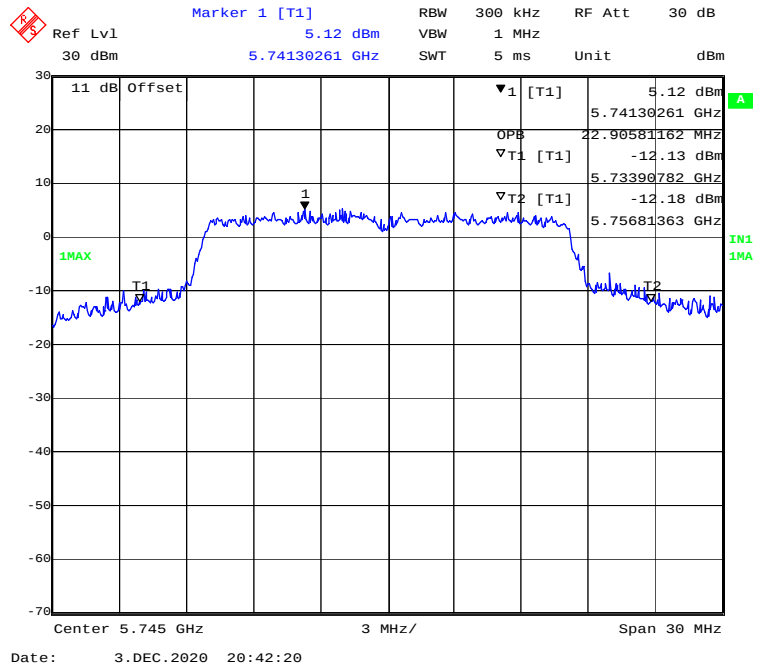


## 802.11ac80 mode, 5775MHz

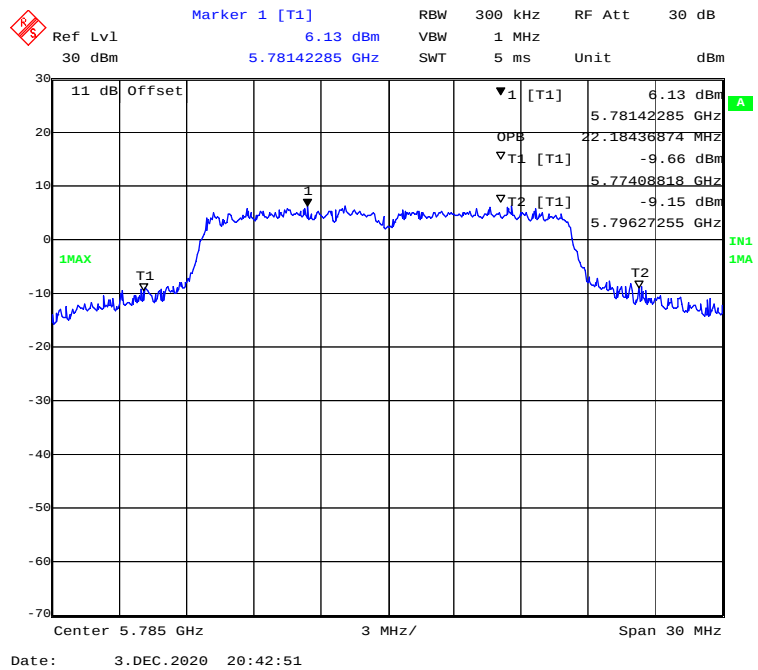


99% Bandwidth (Chain 0):

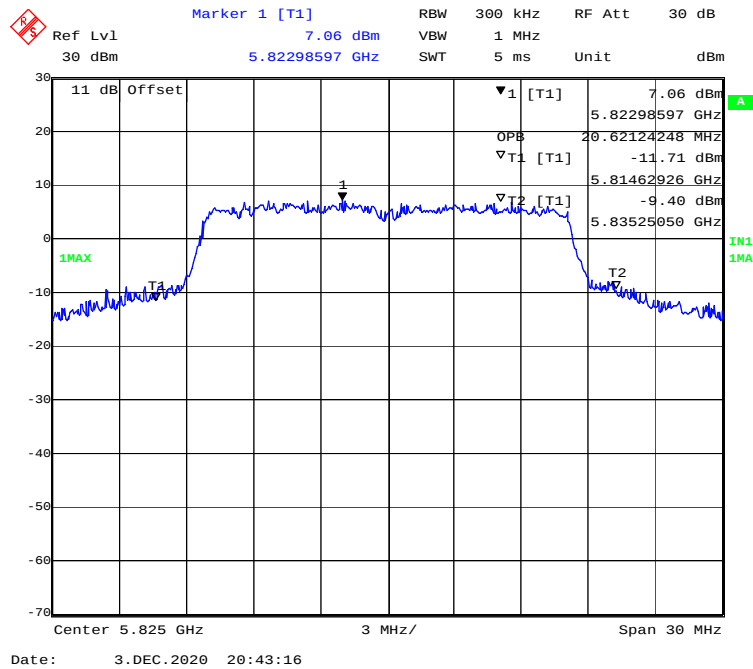
802.11a mode, 5745MHz



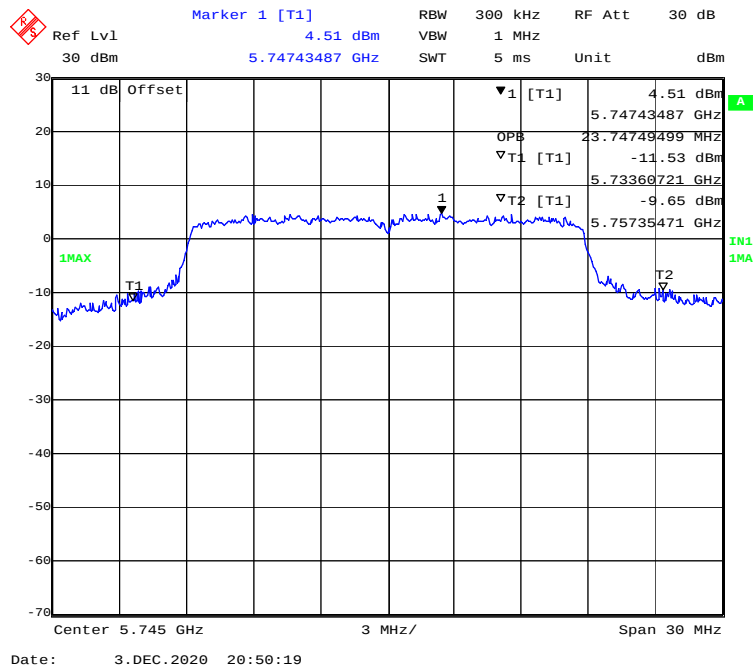
802.11a mode, 5785MHz



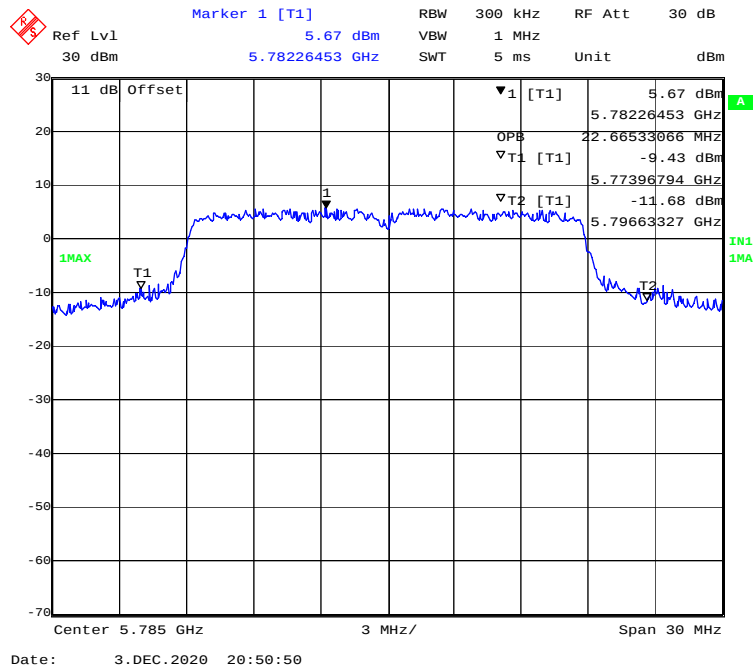
### 802.11a mode, 5825MHz



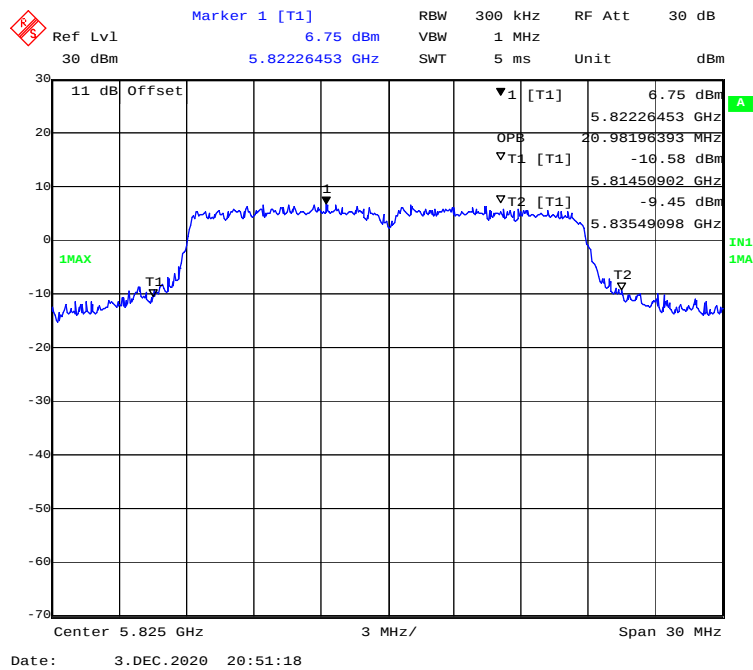
### 802.11ac20 mode, 5745MHz



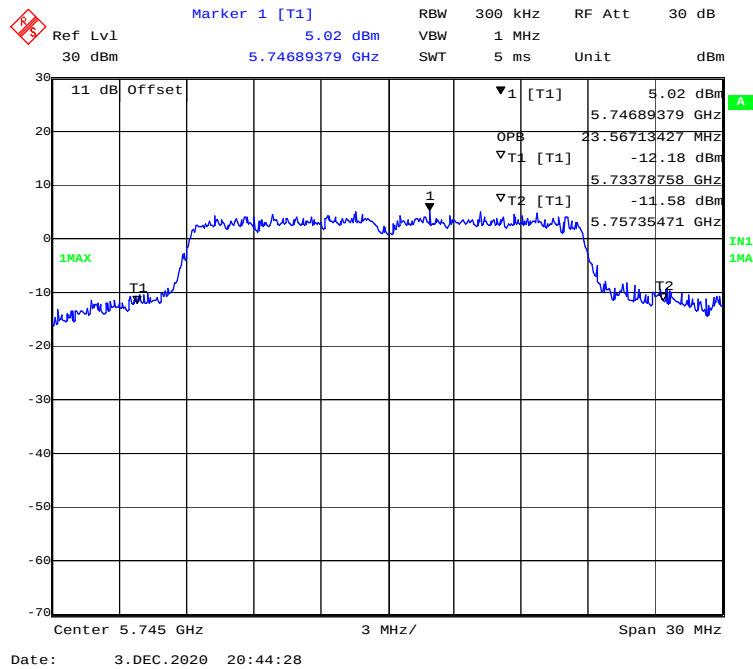
### 802.11 ac20 mode, 5785MHz



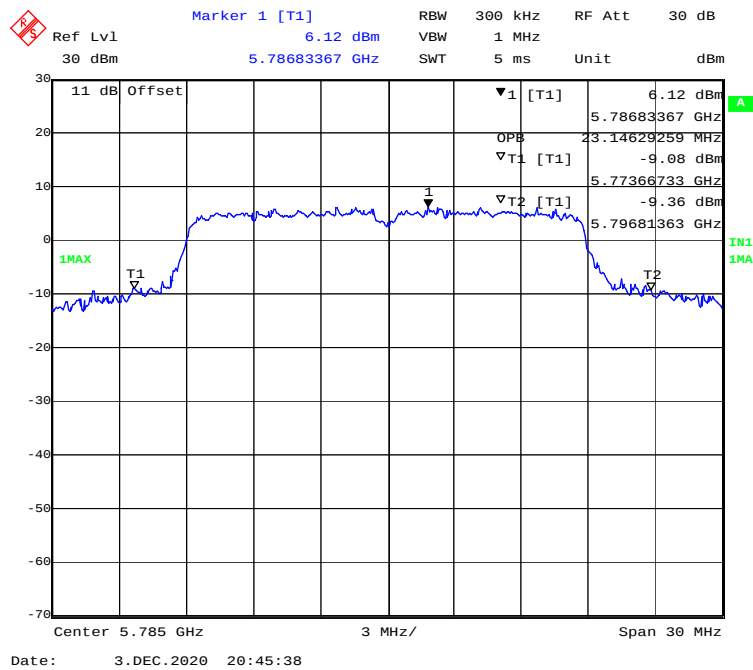
### 802.11 ac20 mode, 5825MHz



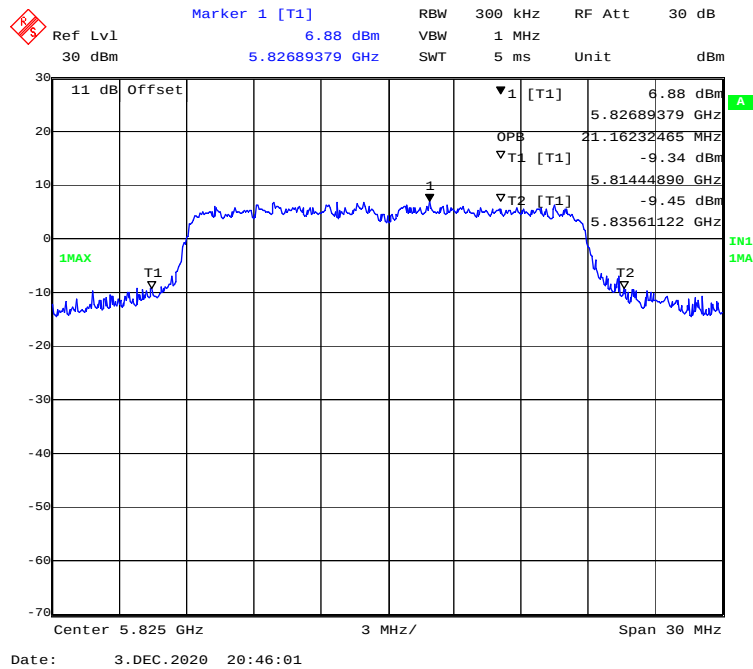
### 802.11n-HT20 mode, 5745MHz



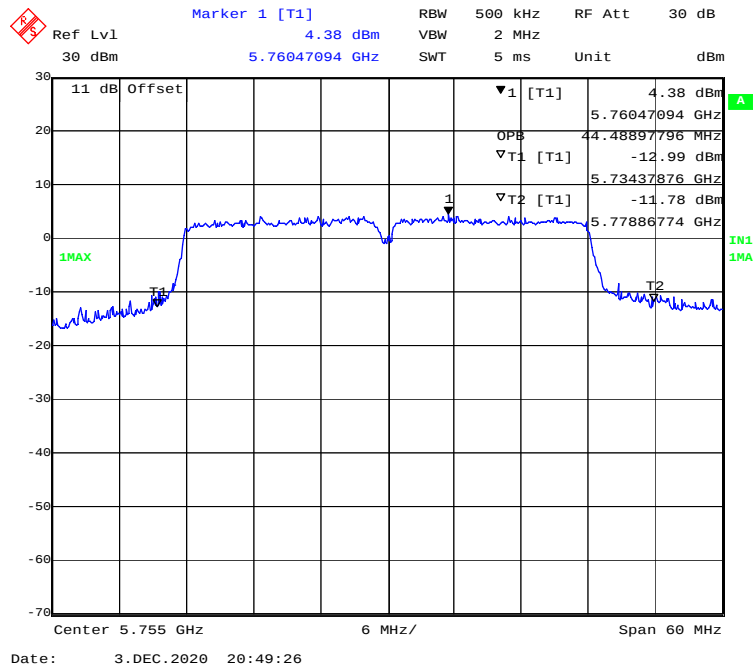
### 802.11n-HT20 mode, 5785MHz



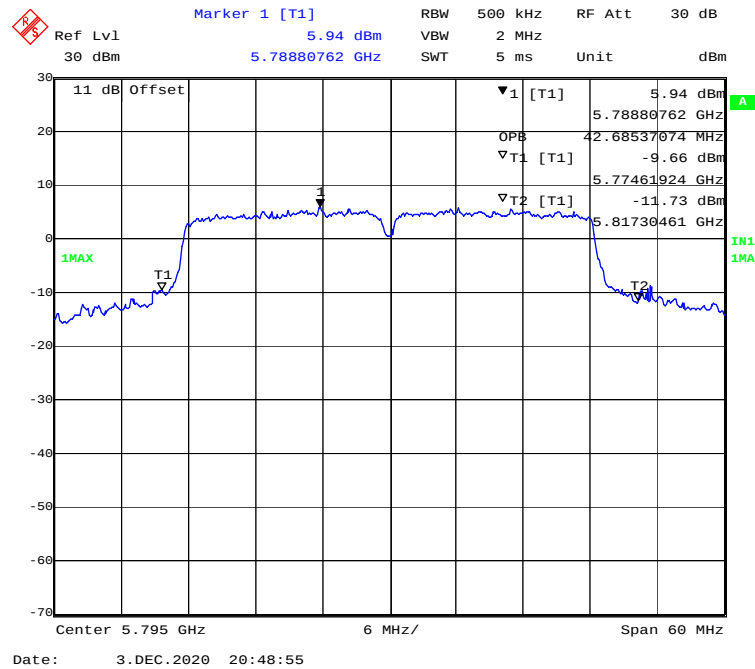
### 802.11n-HT20 mode, 5825MHz



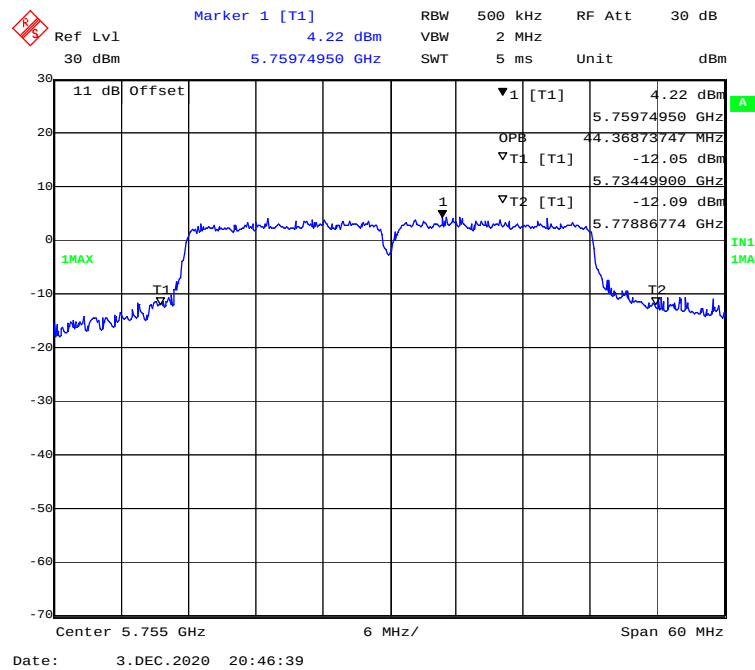
### 802.11ac40 mode, 5755MHz



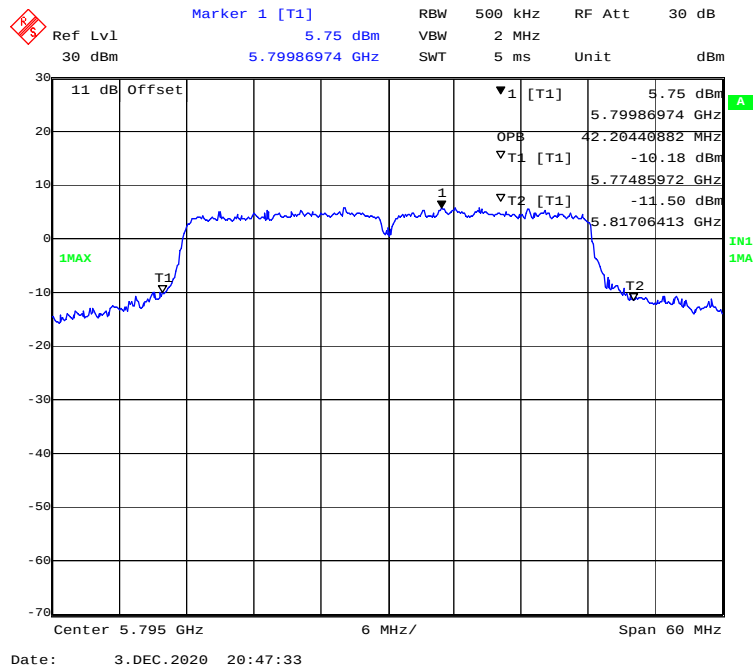
### 802.11 ac40 mode, 5795MHz



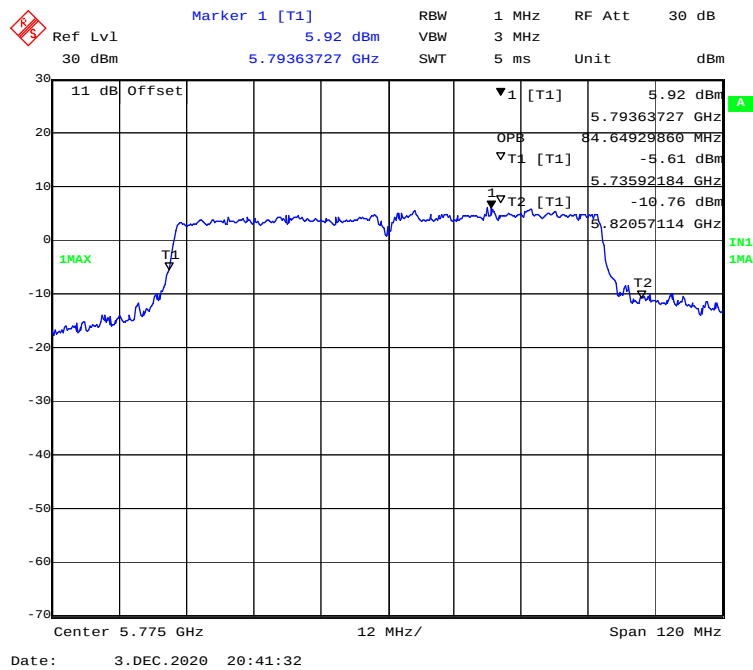
### 802.11n-HT40 mode, 5755MHz

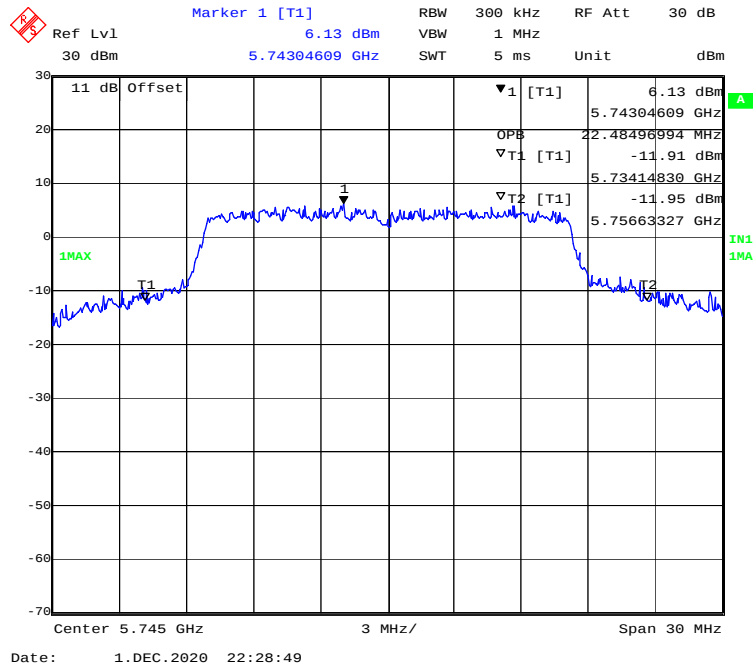
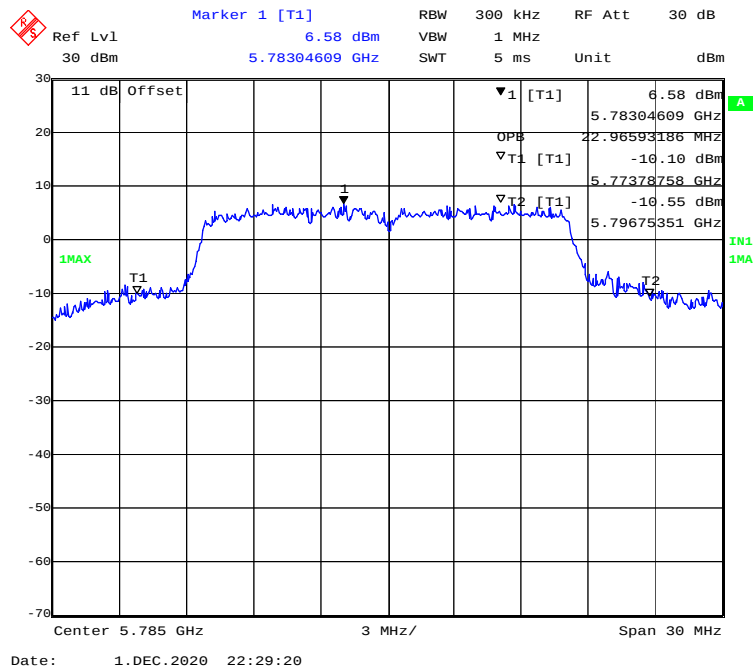


### 802.11n-HT40 mode, 5795MHz

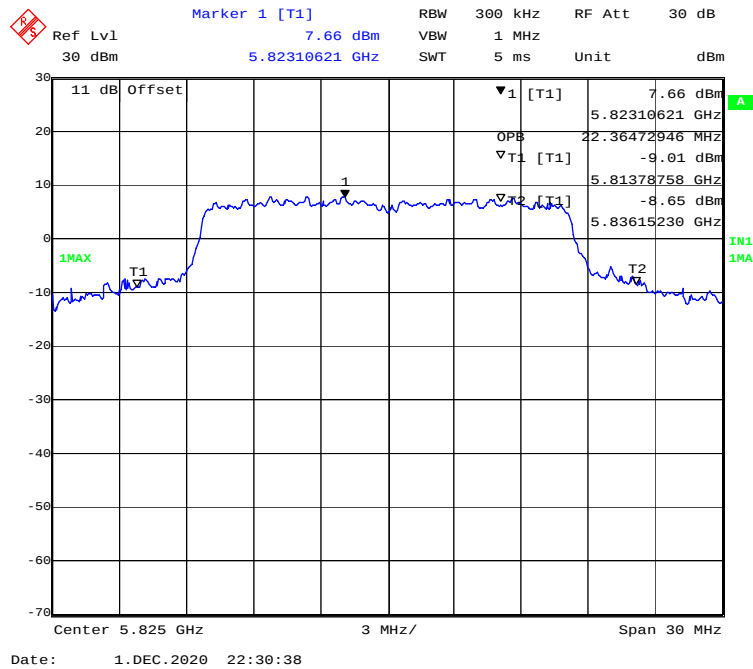


### 802.11n-ac80 mode, 5775MHz

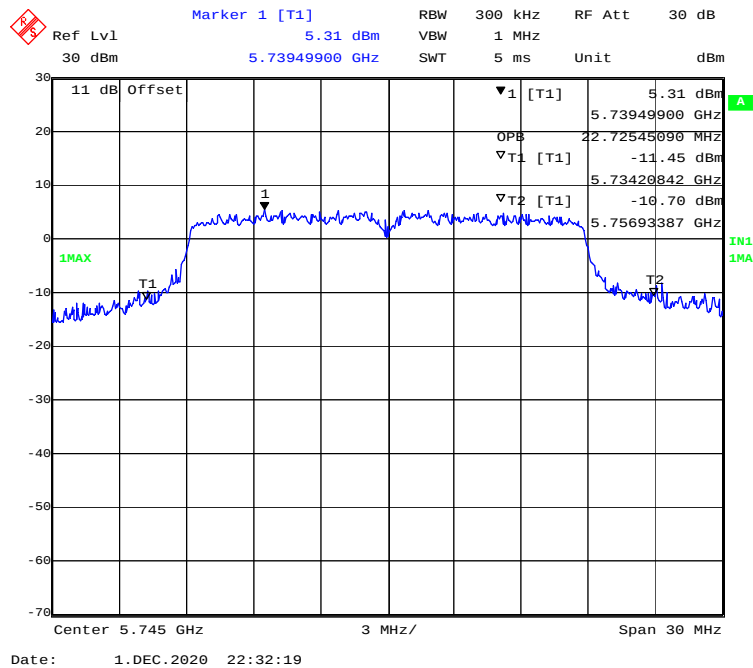


**99% Bandwidth (Chain 1):****802.11a mode, 5745MHz****802.11a mode, 5785MHz**

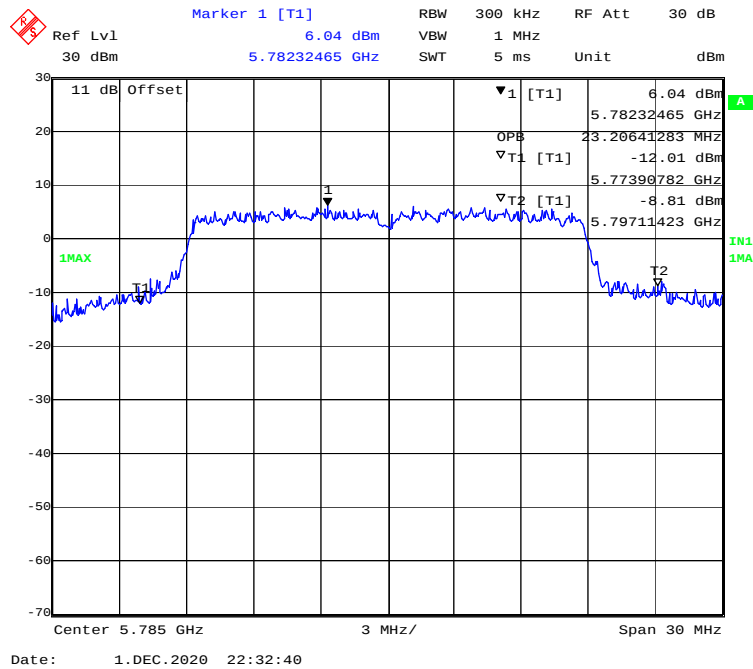
### 802.11a mode, 5825MHz



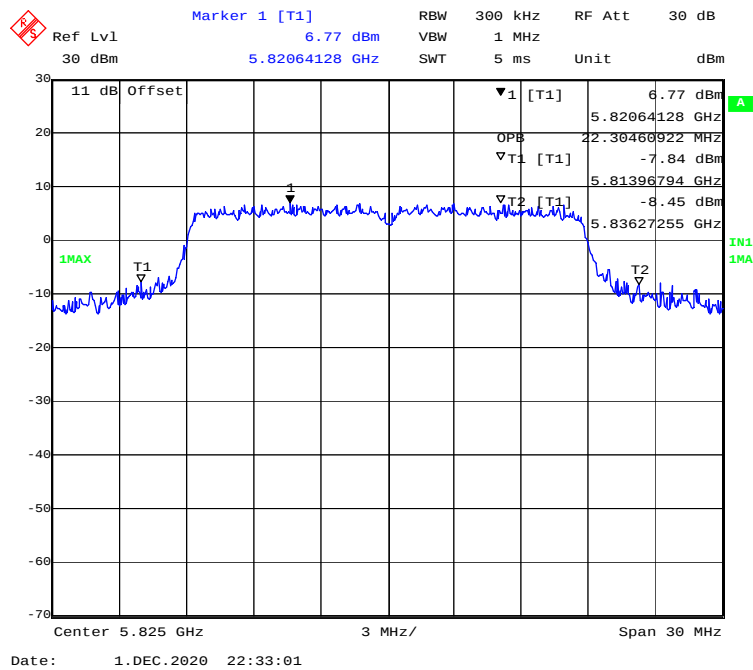
### 802.11ac20 mode, 5745MHz



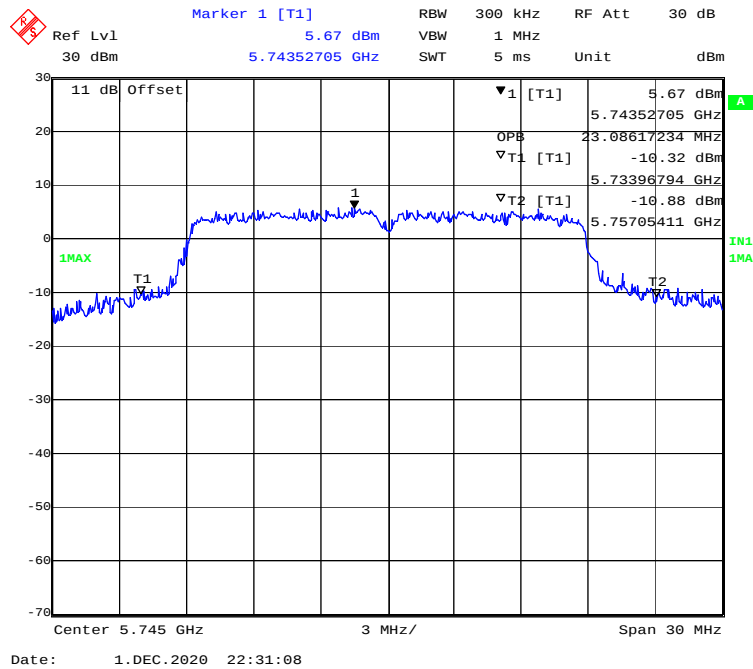
### 802.11 ac20 mode, 5785MHz



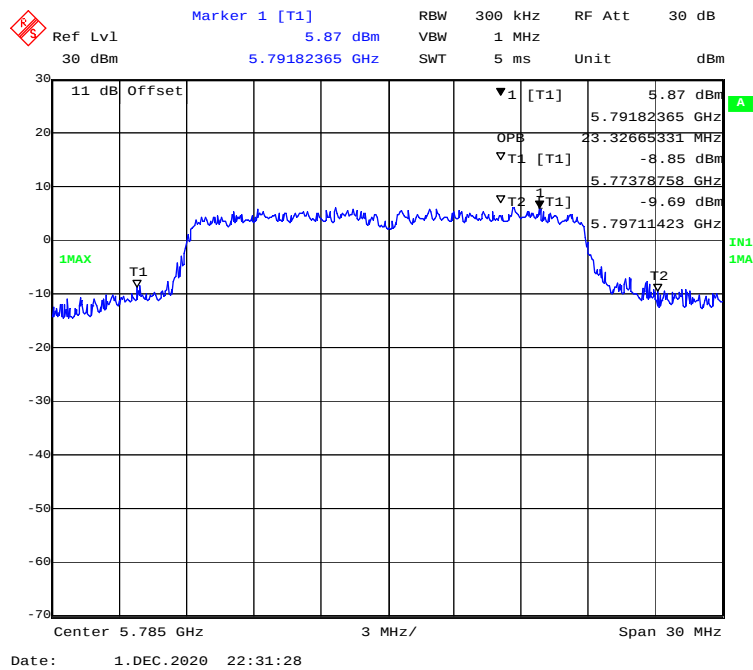
### 802.11 ac20 mode, 5825MHz



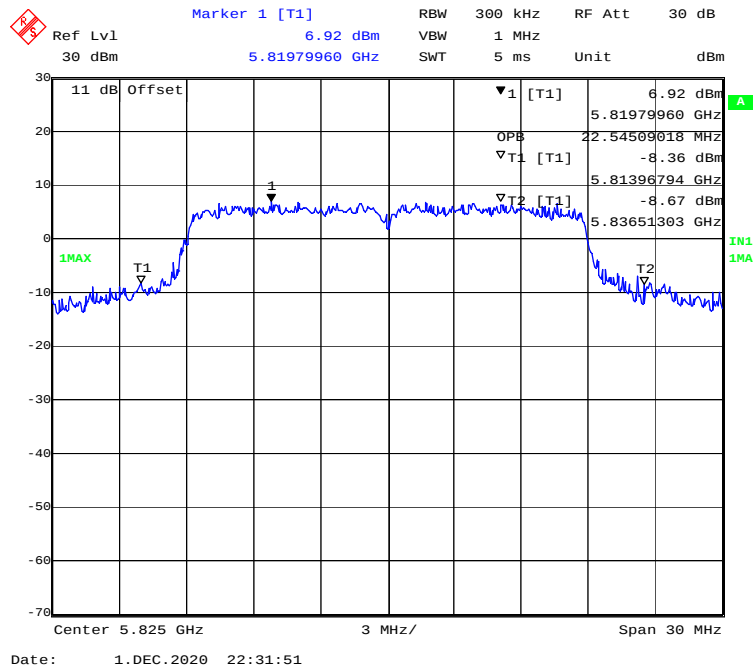
### 802.11n-HT20 mode, 5745MHz



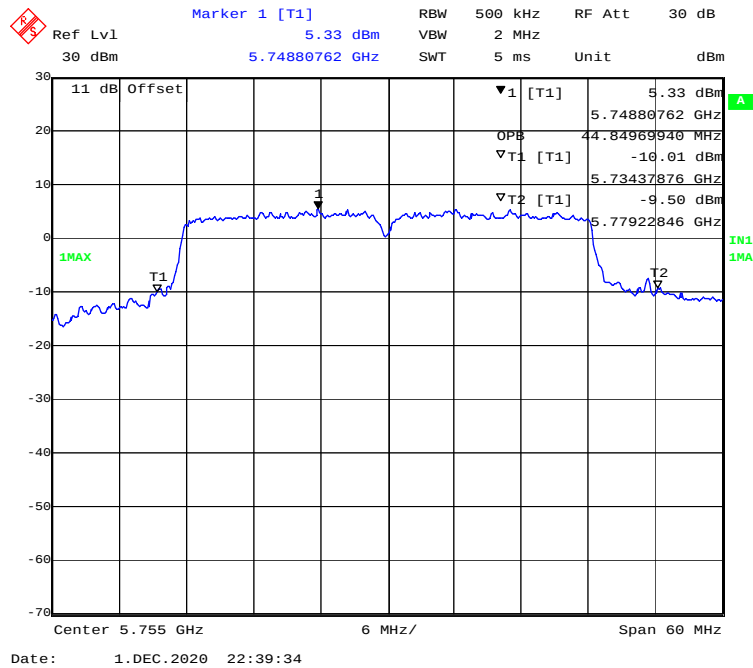
### 802.11n-HT20 mode, 5785MHz



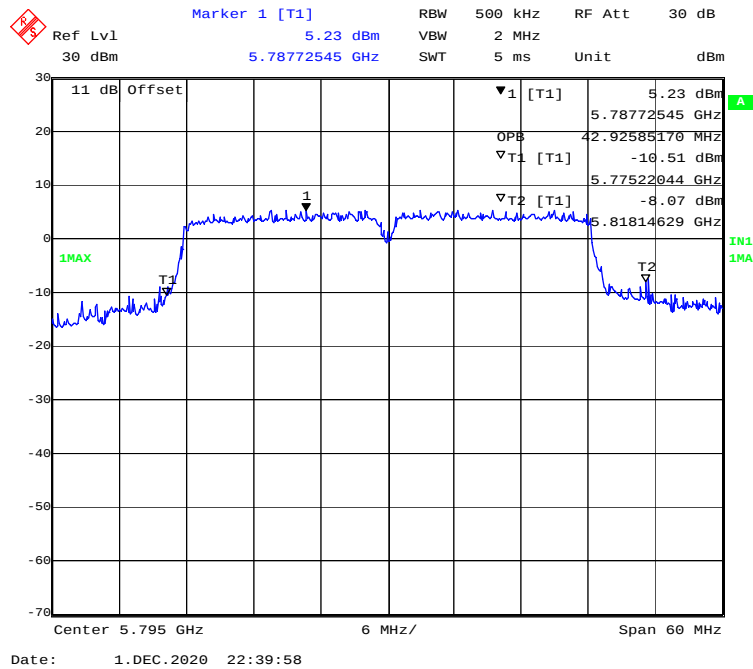
### 802.11n-HT20 mode, 5825MHz



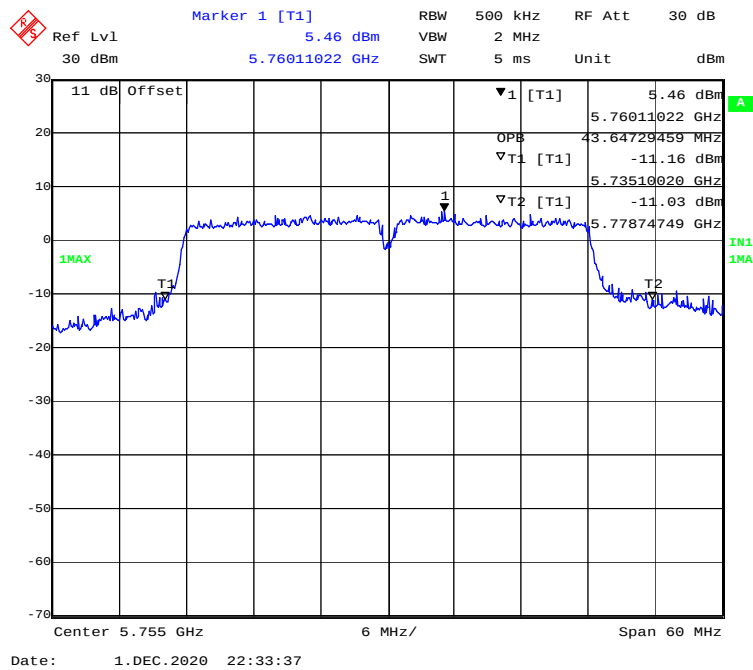
### 802.11ac40 mode, 5755MHz



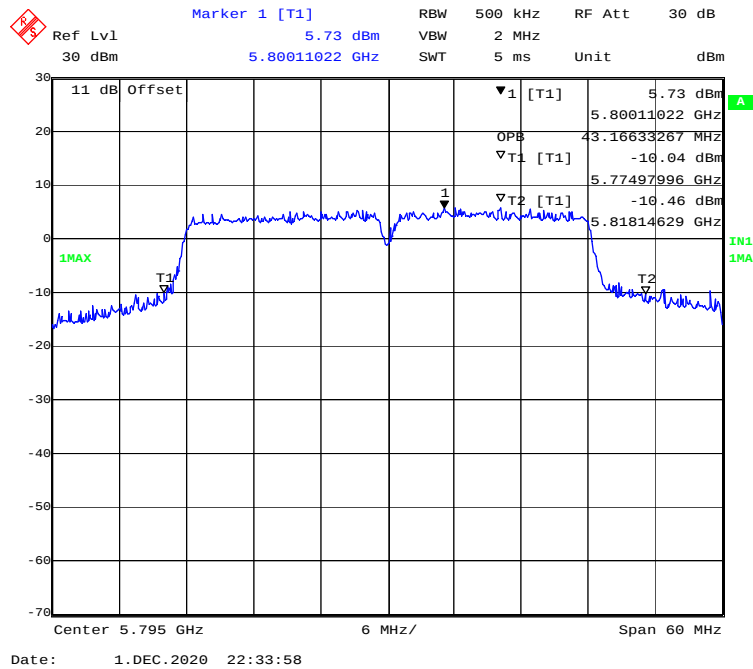
### 802.11 ac40 mode, 5795MHz



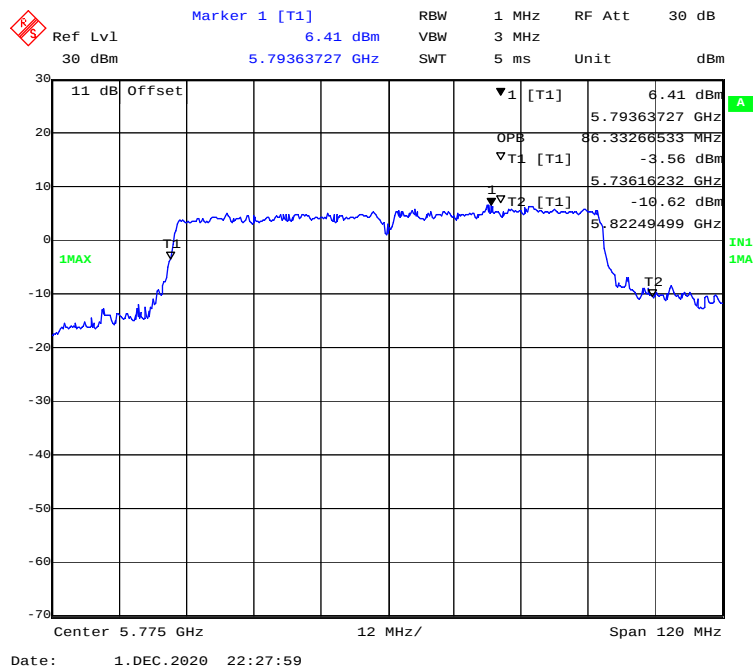
### 802.11n-HT40 mode, 5755MHz



### 802.11n-HT40 mode, 5795MHz



### 802.11n-ac80 mode, 5775MHz



**FCC §15.407(a) (1) (3) – CONDUCTED TRANSMITTER OUTPUT POWER****Applicable Standard**

According to §15.407(a)(1)

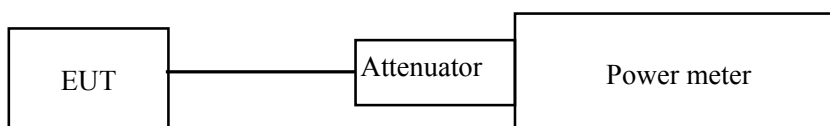
(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz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

According to §15.407(a) (3)

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

**Test Procedure**

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.
3. Add a correction factor to the display.

**Test Data****Environmental Conditions**

|                    |           |
|--------------------|-----------|
| Temperature:       | 24.9 °C   |
| Relative Humidity: | 49 %      |
| ATM Pressure:      | 101.7 kPa |

*The testing was performed by CK Huang on 2020-12-01.*

*Test Mode: Transmitting*

Test Mode: Transmitting

| Test mode    | Band          | Channel | Frequency (MHz) | Average Conducted Output Power (dBm) |         |       | Limit (dBm) | Result |
|--------------|---------------|---------|-----------------|--------------------------------------|---------|-------|-------------|--------|
|              |               |         |                 | Chain 0                              | Chain 1 | Total |             |        |
| 802.11a      | 5150-5250 MHz | Low     | 5180            | 11.64                                | 11.05   | /     | 27          | PASS   |
|              |               | Middle  | 5200            | 11.47                                | 11.08   | /     | 27          | PASS   |
|              |               | High    | 5240            | 11.63                                | 11.47   | /     | 27          | PASS   |
|              | 5725-5850 MHz | Low     | 5745            | 14.75                                | 13.52   | /     | 27          | PASS   |
|              |               | Middle  | 5785            | 14.44                                | 13.73   | /     | 27          | PASS   |
|              |               | High    | 5825            | 15.05                                | 14.75   | /     | 27          | PASS   |
| 802.11n-HT20 | 5150-5250 MHz | Low     | 5180            | 8.17                                 | 8.79    | 11.50 | 27          | PASS   |
|              |               | Middle  | 5200            | 8.09                                 | 8.61    | 11.37 | 27          | PASS   |
|              |               | High    | 5240            | 8.28                                 | 8.81    | 11.56 | 27          | PASS   |
|              | 5725-5850 MHz | Low     | 5745            | 14.31                                | 13.36   | 16.87 | 27          | PASS   |
|              |               | Middle  | 5785            | 14.35                                | 13.56   | 16.98 | 27          | PASS   |
|              |               | High    | 5825            | 14.95                                | 14.99   | 17.98 | 27          | PASS   |
| 802.11n-HT40 | 5150-5250 MHz | Low     | 5190            | 8.04                                 | 8.29    | 11.18 | 27          | PASS   |
|              |               | High    | 5230            | 8.58                                 | 8.44    | 11.52 | 27          | PASS   |
|              | 5725-5850 MHz | Low     | 5755            | 14.00                                | 13.13   | 16.60 | 27          | PASS   |
|              |               | High    | 5795            | 14.42                                | 13.83   | 17.15 | 27          | PASS   |
| 802.11ac20   | 5150-5250 MHz | Low     | 5180            | 8.13                                 | 8.24    | 11.20 | 27          | PASS   |
|              |               | Middle  | 5200            | 8.17                                 | 8.67    | 11.44 | 27          | PASS   |
|              |               | High    | 5240            | 8.09                                 | 8.52    | 11.32 | 27          | PASS   |
|              | 5725-5850 MHz | Low     | 5745            | 14.16                                | 13.36   | 16.79 | 27          | PASS   |
|              |               | Middle  | 5785            | 14.12                                | 13.65   | 16.90 | 27          | PASS   |
|              |               | High    | 5825            | 14.78                                | 14.63   | 17.72 | 27          | PASS   |
| 802.11ac40   | 5150-5250 MHz | Low     | 5190            | 8.24                                 | 8.18    | 11.22 | 27          | PASS   |
|              |               | High    | 5230            | 8.41                                 | 8.37    | 11.40 | 27          | PASS   |
|              | 5725-5850 MHz | Low     | 5755            | 13.82                                | 13.26   | 16.56 | 27          | PASS   |
|              |               | High    | 5795            | 14.05                                | 13.99   | 17.03 | 27          | PASS   |
| 802.11ac80   | 5150-5250 MHz | /       | 5210            | 8.65                                 | 8.52    | 11.60 | 27          | PASS   |
|              | 5725-5850 MHz | /       | 5775            | 13.96                                | 13.27   | 16.64 | 27          | PASS   |

Note 1: The total output power= $10\log_{10}(10^{Chain\ 0/10}+10^{Chain\ 1/10})$ 

Note 2: The maximum antenna gain is 9.0 dBi, the device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

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

So: Directional gain = GANT + Array Gain = 9.0 dBi &gt; 6dBi = 9-6 = 3 dBi

**FCC §15.407(a) (1) (3) - POWER SPECTRAL DENSITY****Applicable Standard**

According to §15.407(a)(1)

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

According to §15.407(a) (3)

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

**Test Procedure**

The measurements are base on FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01: Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices section F: Maximum power spectral density (PPSD)

**Test Data****Environmental Conditions**

|                           |                  |
|---------------------------|------------------|
| <b>Temperature:</b>       | 24.3~24.7 °C     |
| <b>Relative Humidity:</b> | 49~50 %          |
| <b>ATM Pressure:</b>      | 101.2 ~101.5 kPa |

*The testing was performed by CK Huang from 2020-11-04 to 2020-12-03.*

*Test Mode: Transmitting*

**5150MHz-5250MHz:**

| Mode       | Channel | Frequency (MHz) | PSD (dBm/MHz) |         |       | Limit (dBm/MHz) | Result |
|------------|---------|-----------------|---------------|---------|-------|-----------------|--------|
|            |         |                 | Chain 0       | Chain 1 | Total |                 |        |
| 802.11a    | Low     | 5180            | -0.14         | -0.28   | /     | 14              | PASS   |
|            | Middle  | 5200            | 0.16          | 0.01    | /     | 14              | PASS   |
|            | High    | 5240            | -0.43         | -0.36   | /     | 14              | PASS   |
| 802.11ac20 | Low     | 5180            | -2.84         | -2.54   | 0.32  | 10.99           | PASS   |
|            | Middle  | 5200            | -2.29         | -2.37   | 0.68  | 10.99           | PASS   |
|            | High    | 5240            | -2.11         | -2.09   | 0.91  | 10.99           | PASS   |
| 802.11n20  | Low     | 5180            | -2.84         | -2.83   | 0.18  | 10.99           | PASS   |
|            | Middle  | 5200            | -2.65         | -2.69   | 0.34  | 10.99           | PASS   |
|            | High    | 5240            | -2.14         | -2.41   | 0.74  | 10.99           | PASS   |
| 802.11ac40 | Low     | 5190            | -4.28         | -4.71   | -1.48 | 10.99           | PASS   |
|            | High    | 5230            | -4.04         | -4.51   | -1.26 | 10.99           | PASS   |
| 802.11n40  | Low     | 5190            | -3.96         | -4.75   | -1.33 | 10.99           | PASS   |
|            | High    | 5230            | -3.98         | -4.42   | -1.18 | 10.99           | PASS   |
| 802.11ac80 | /       | 5210            | -7.81         | -8.36   | -5.07 | 10.99           | PASS   |

**5725MHz-5850MHz:**

| Mode       | Channel | Frequency MHz | PSD (dBm/500kHz) |         |       | Limit (dBm/500kHz) | Result |
|------------|---------|---------------|------------------|---------|-------|--------------------|--------|
|            |         |               | Chain 0          | Chain 1 | Total |                    |        |
| 802.11a    | Low     | 5745          | 2.71             | 3.21    | /     | 27.00              | PASS   |
|            | Middle  | 5785          | 3.71             | 3.40    | /     | 27.00              | PASS   |
|            | High    | 5825          | 4.24             | 5.26    | /     | 27.00              | PASS   |
| 802.11ac20 | Low     | 5745          | 2.39             | 2.48    | 7.79  | 23.99              | PASS   |
|            | Middle  | 5785          | 3.77             | 2.78    | 5.45  | 23.99              | PASS   |
|            | High    | 5825          | 4.57             | 4.28    | 6.31  | 23.99              | PASS   |
| 802.11n20  | Low     | 5745          | 2.11             | 2.78    | 7.44  | 23.99              | PASS   |
|            | Middle  | 5785          | 3.15             | 3.16    | 5.47  | 23.99              | PASS   |
|            | High    | 5825          | 3.85             | 3.92    | 6.90  | 23.99              | PASS   |
| 802.11ac40 | Low     | 5755          | -0.94            | 0.14    | 2.64  | 23.99              | PASS   |
|            | High    | 5795          | 0.15             | 0.16    | 3.17  | 23.99              | PASS   |
| 802.11n40  | Low     | 5755          | -1.00            | -0.73   | 2.15  | 23.99              | PASS   |
|            | High    | 5795          | 0.14             | -0.29   | 2.94  | 23.99              | PASS   |
| 802.11ac80 | /       | 5775          | -3.78            | -3.11   | -0.42 | 23.99              | PASS   |

Note1: The total PSD= $10\log_{10}(10^{(Chain\ 0/10)}+10^{(Chain\ 1/10)})$

Note2: The maximum antenna gain is 9.0 dBi. The device employed Cyclic Delay Diversity (CDD) for 802.11MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

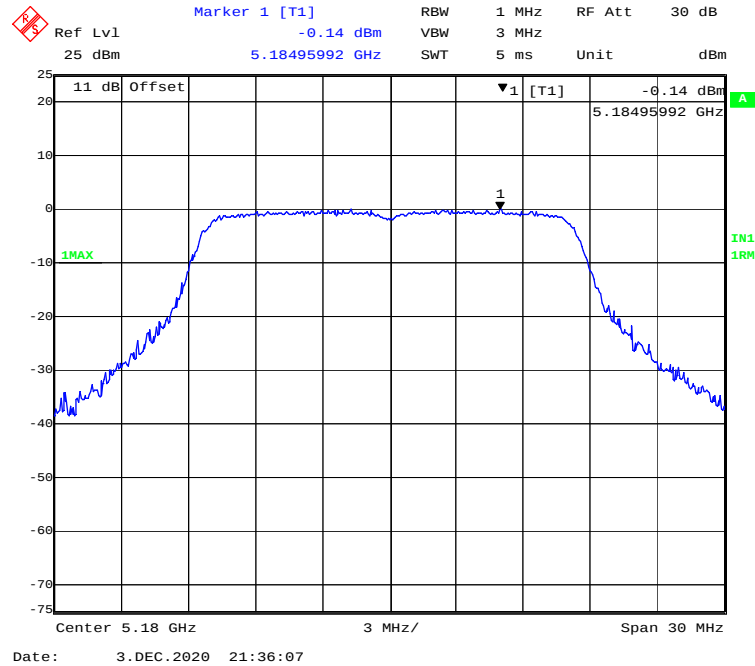
Array Gain =  $10\log(NANT/NSS)$  dB.

So: Directional gain = GANT + Array Gain =  $9.0 + 10\log(2/1) = 12.01$  dBi, power spectral density limit reduced  $12.01 - 6 = 6.01$  dB.

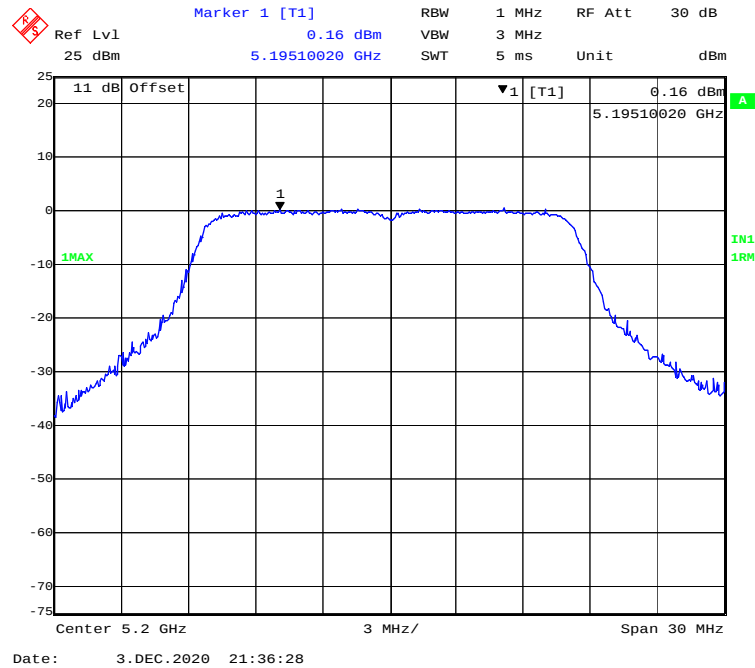
**5150MHz-5250MHz Band:**

**Chain 0:**

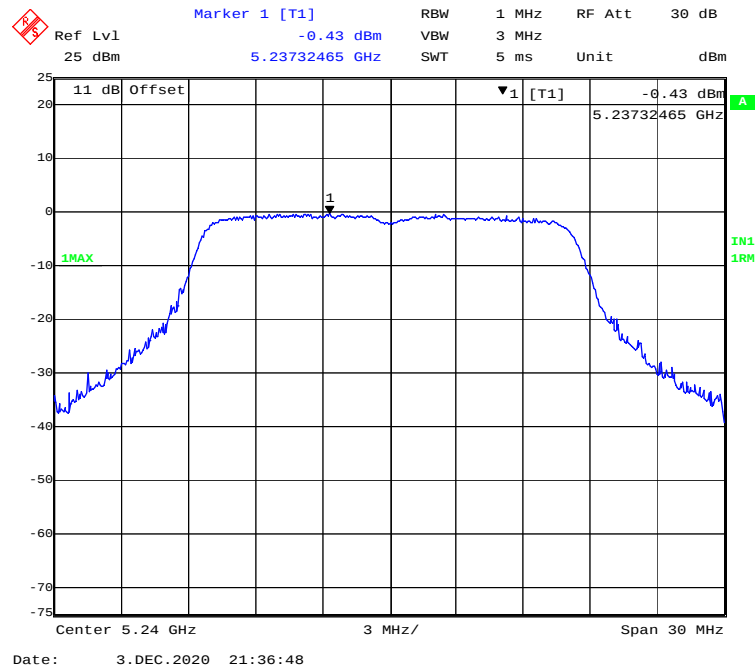
**802.11a mode, Power spectral density-5180MHz**



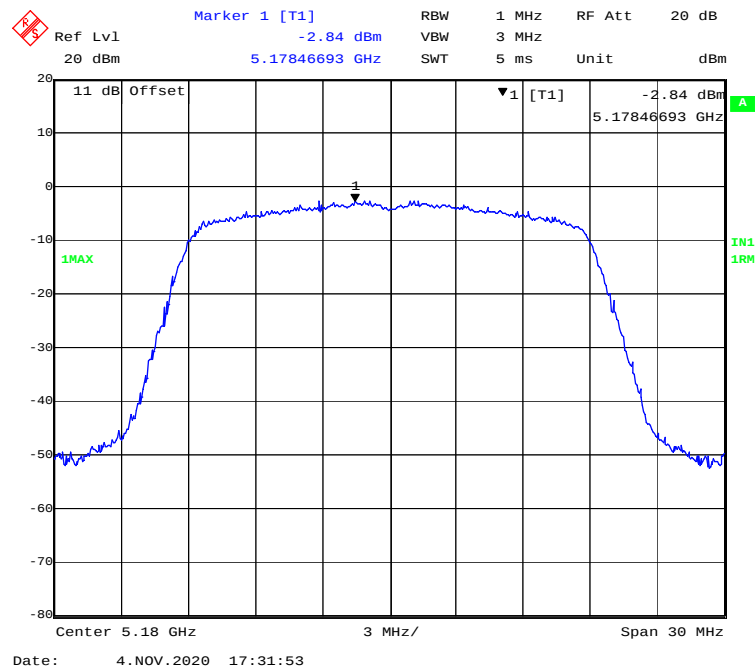
**802.11a mode, Power spectral density-5200MHz**

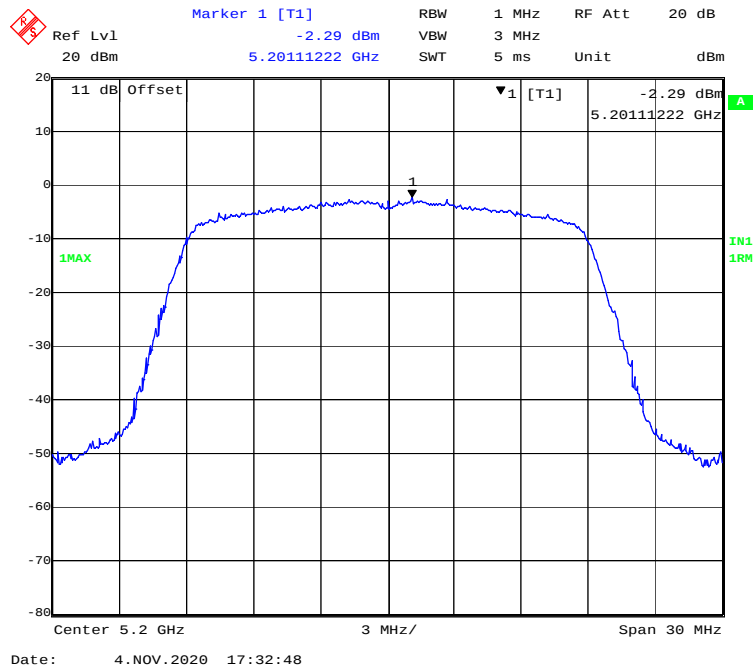
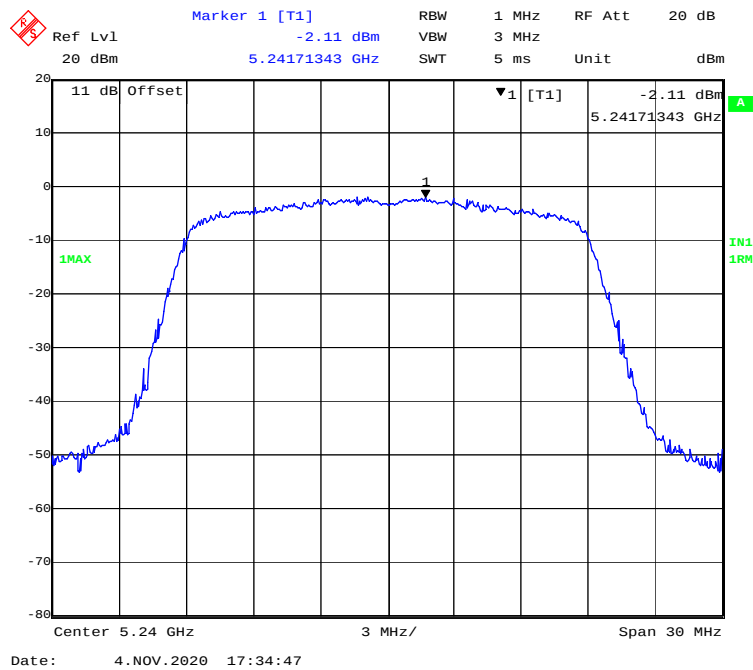


### 802.11a mode, Power spectral density-5240MHz

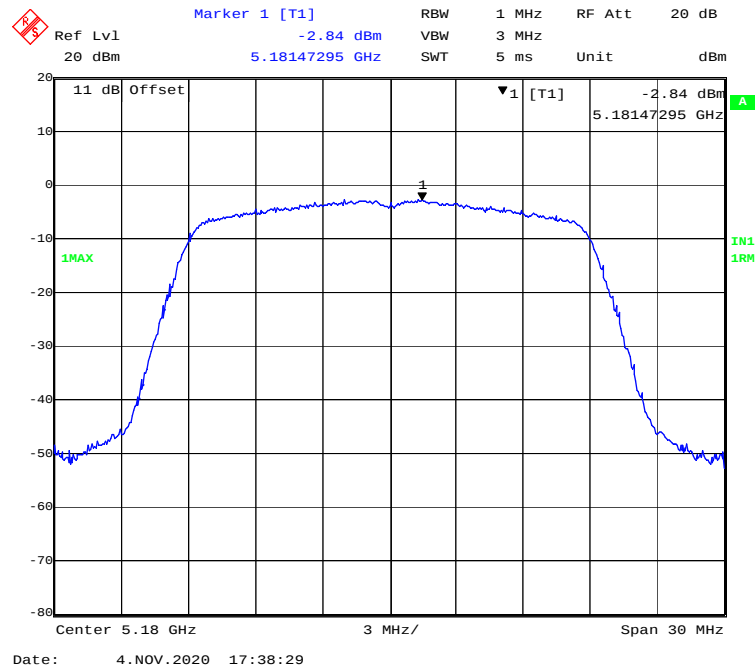


### 802.11ac20 mode, Power spectral density-5180MHz

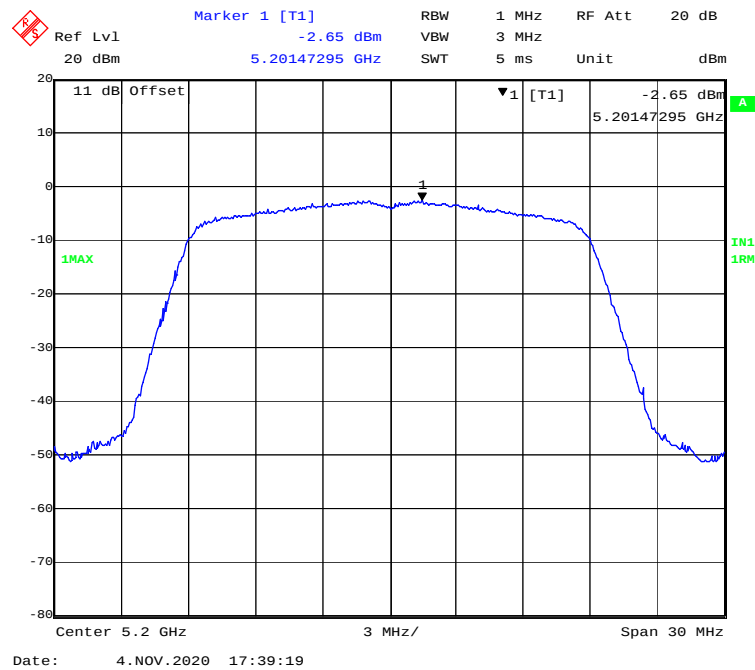


**802.11 ac20 mode, Power spectral density-5200MHz****802.11ac20 mode, Power spectral density-5240MHz**

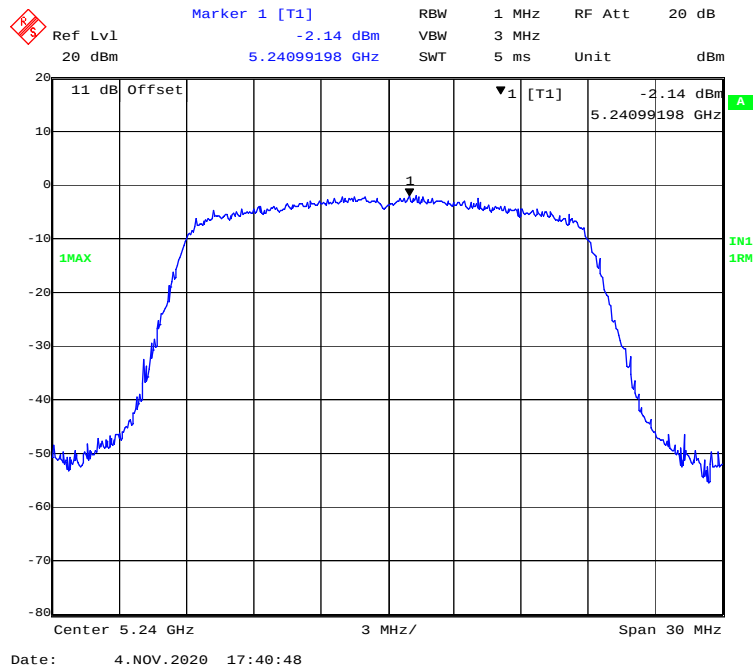
### 802.11n-HT20 mode, Power spectral density-5180MHz



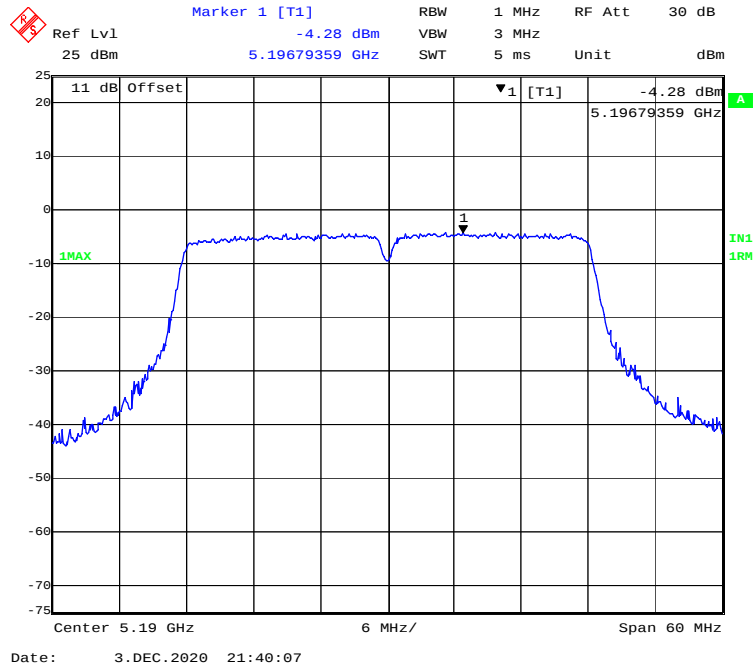
### 802.11n-HT20 mode, Power spectral density-5200MHz



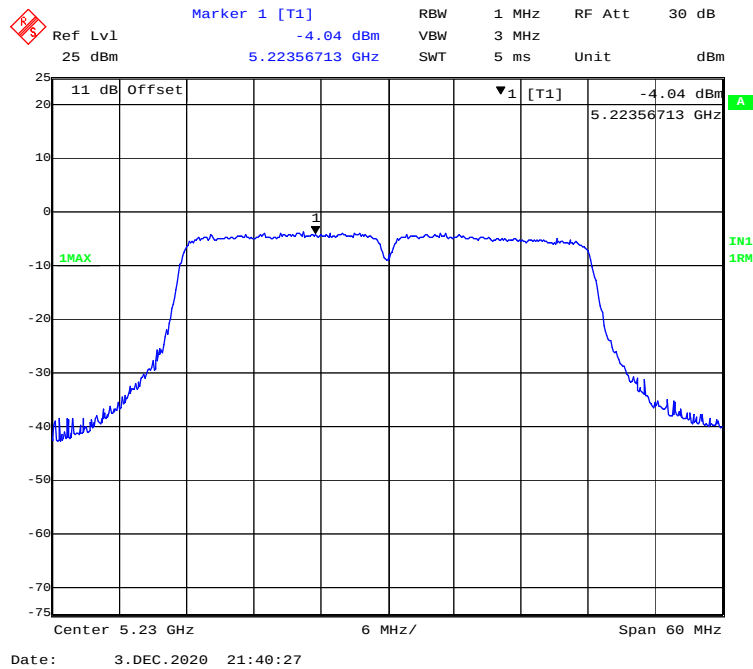
### 802.11n-HT20 mode, Power spectral density-5240MHz



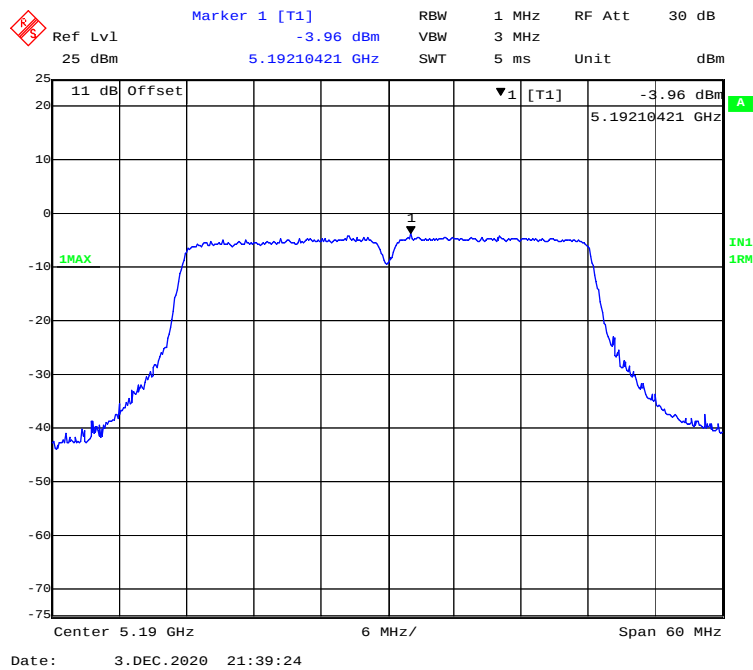
### 802.11ac40 mode, Power spectral density-5190MHz

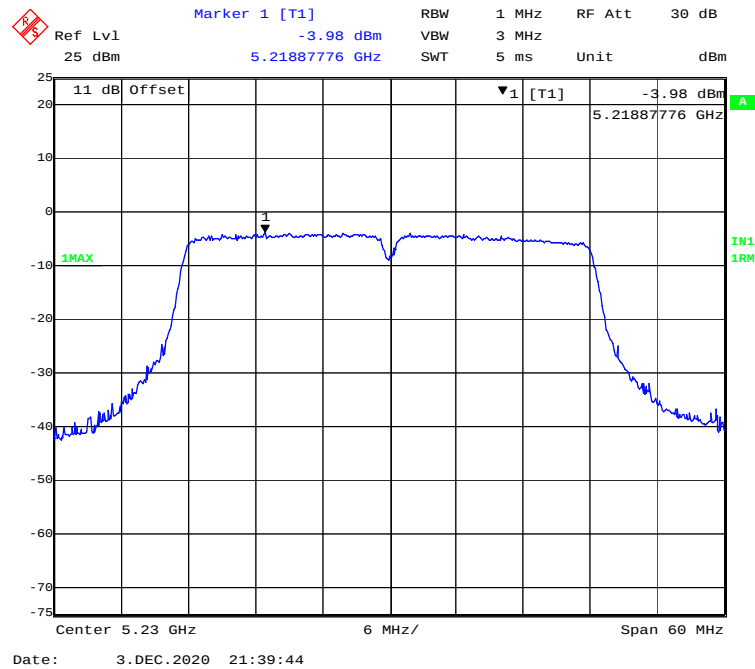
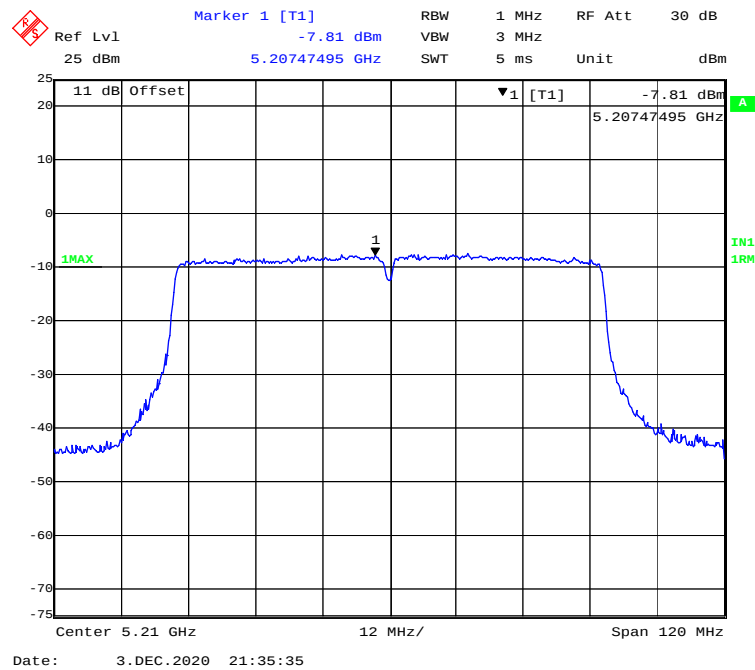


**802.11 ac40 mode, Power spectral density-5230MHz**



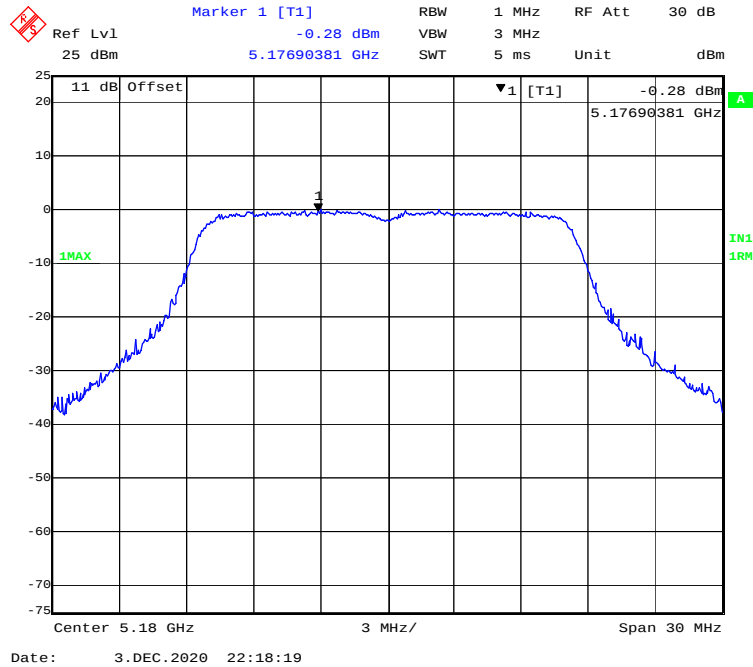
**802.11n-HT40 mode, Power spectral density-5190MHz**



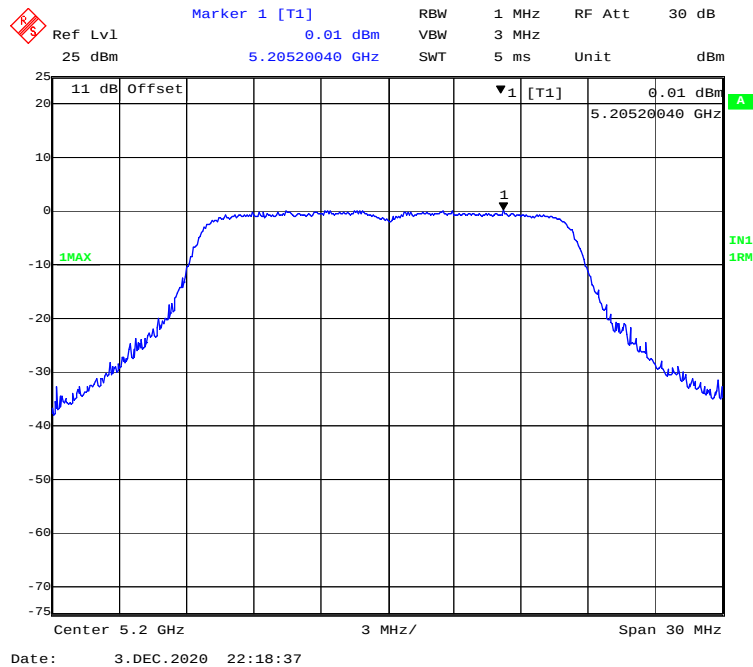
**802.11n-HT40 mode, Power spectral density-5230MHz****802.11n- ac80 mode, Power spectral density-5210MHz**

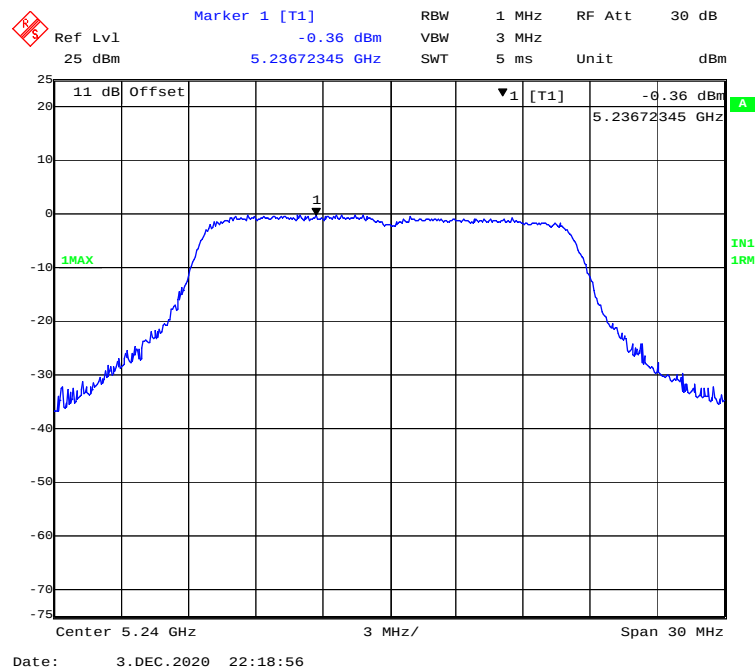
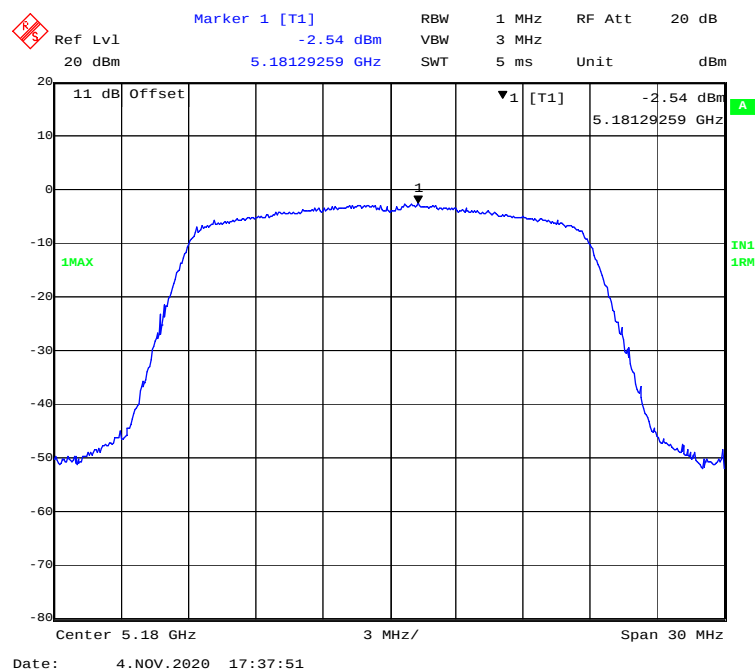
## Chain 1:

## 802.11a mode, Power spectral density-5180MHz

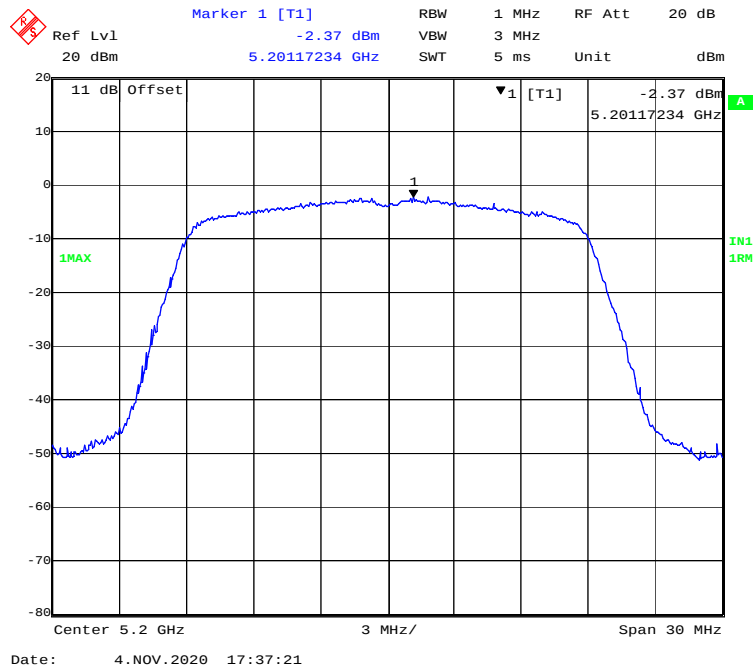


## 802.11a mode, Power spectral density-5200MHz

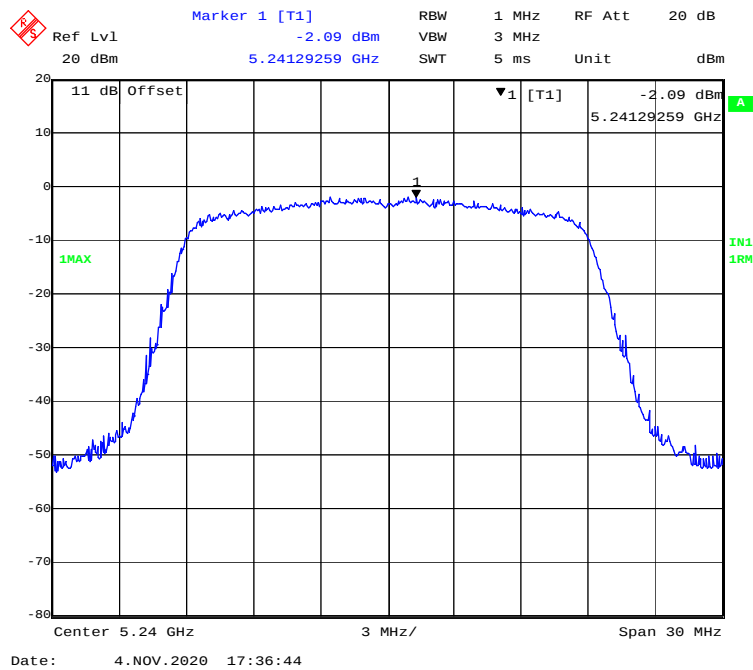


**802.11a mode, Power spectral density-5240MHz****802.11ac20 mode, Power spectral density-5180MHz**

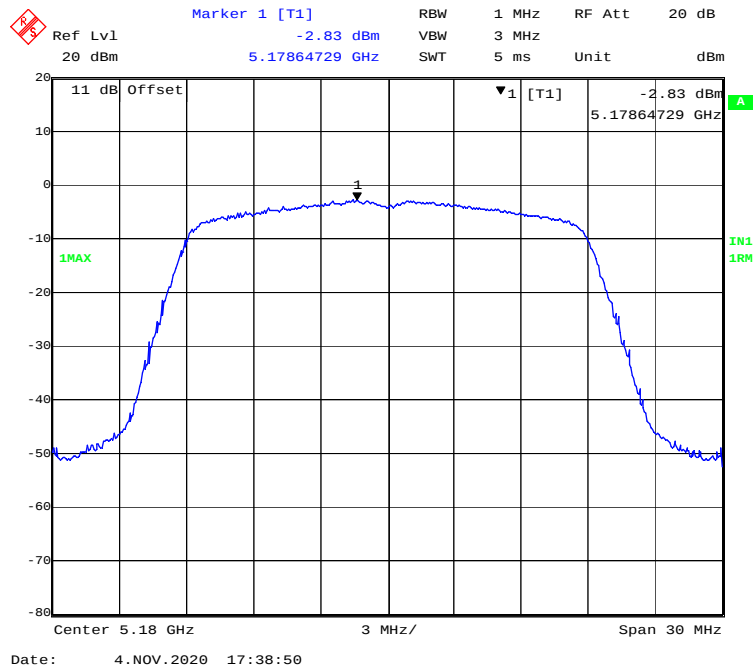
**802.11 ac20 mode, Power spectral density-5200MHz**



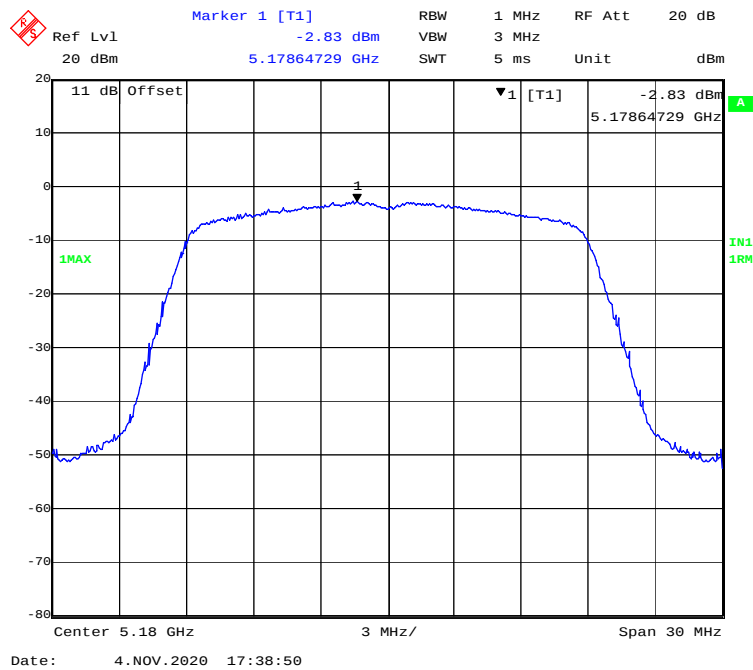
**802.11ac20 mode, Power spectral density-5240MHz**



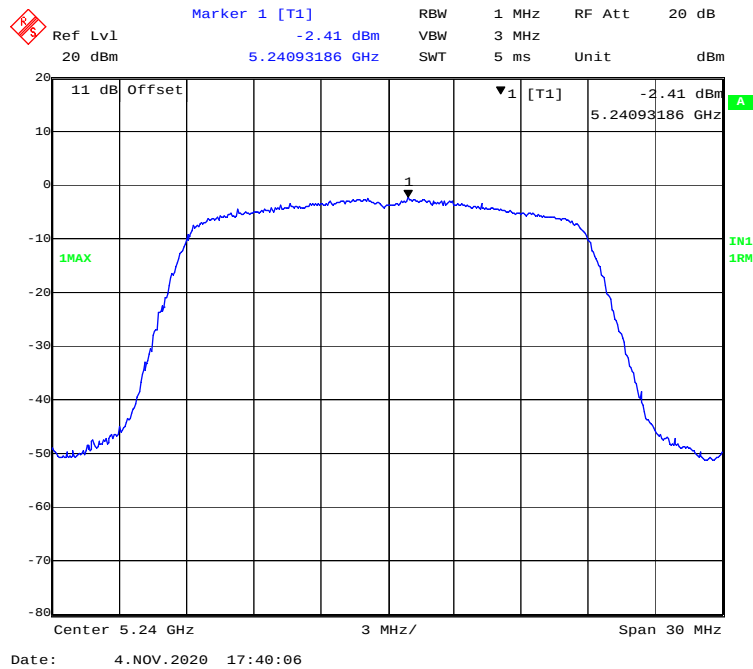
**802.11n-HT20 mode, Power spectral density-5180MHz**



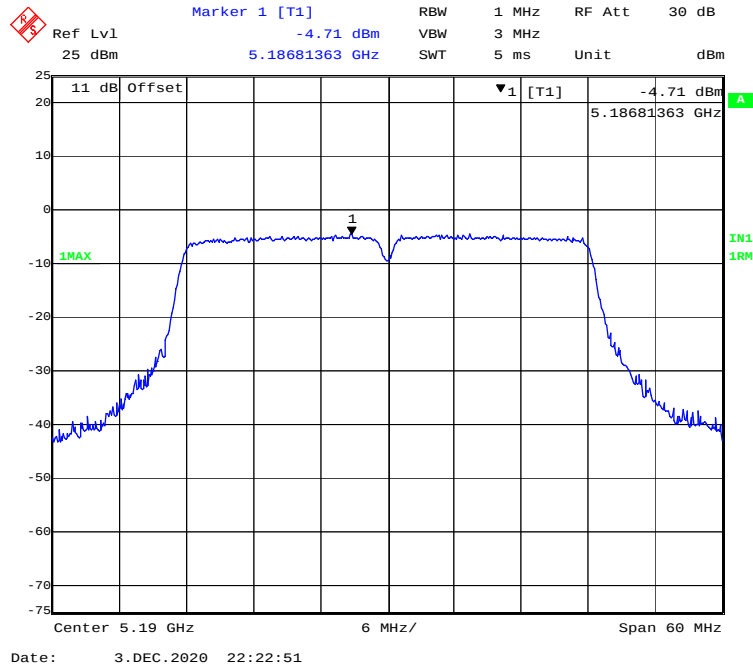
**802.11n-HT20 mode, Power spectral density-5200MHz**



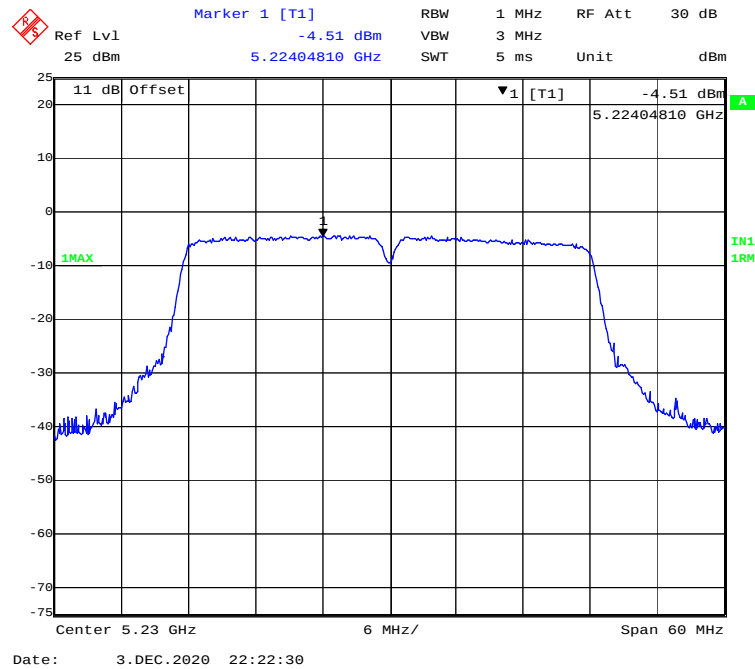
### 802.11n-HT20 mode, Power spectral density-5240MHz



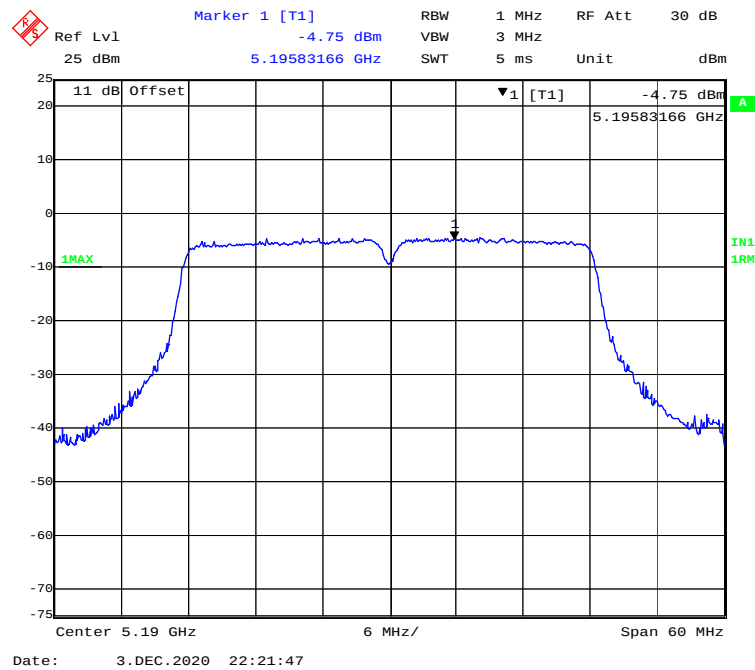
### 802.11ac40 mode, Power spectral density-5190MHz



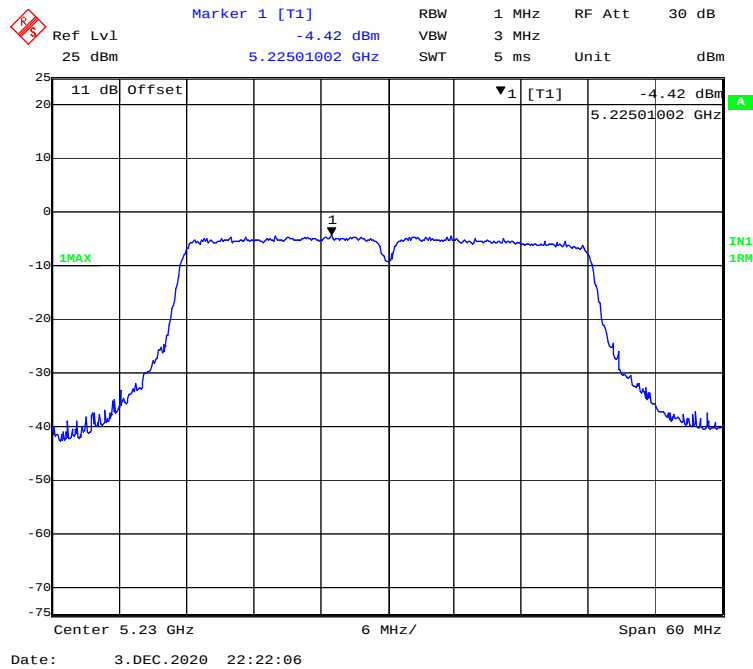
### 802.11 ac40 mode, Power spectral density-5230MHz



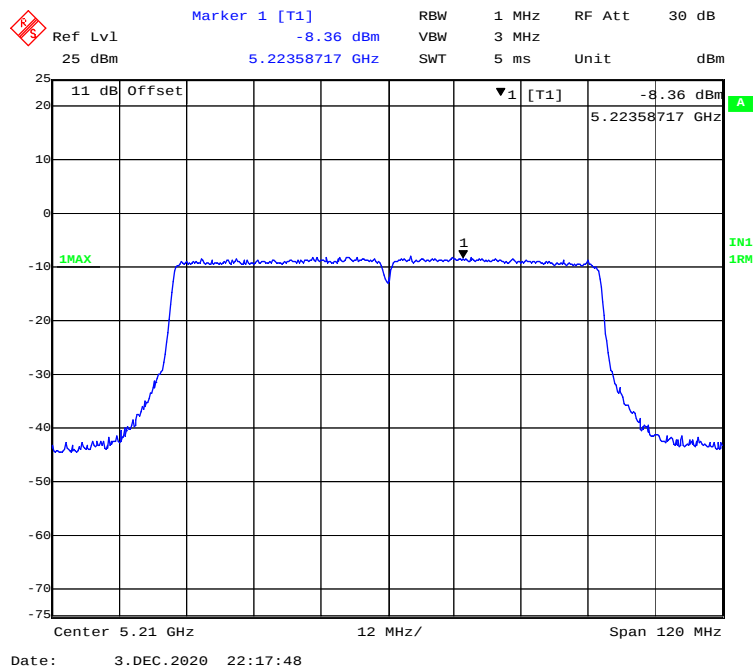
### 802.11n-HT40 mode, Power spectral density-5190MHz



### 802.11n-HT40 mode, Power spectral density-5230MHz



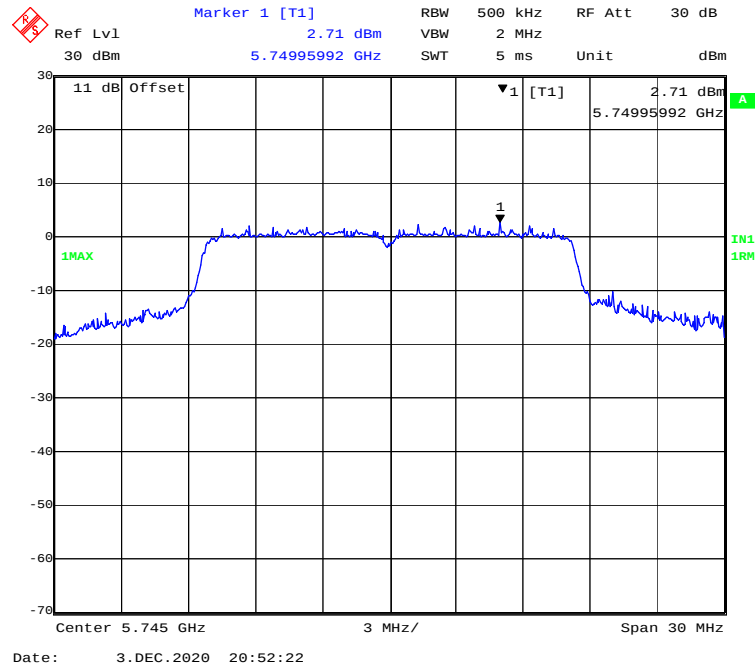
### 802.11n- ac80 mode, Power spectral density-5210MHz



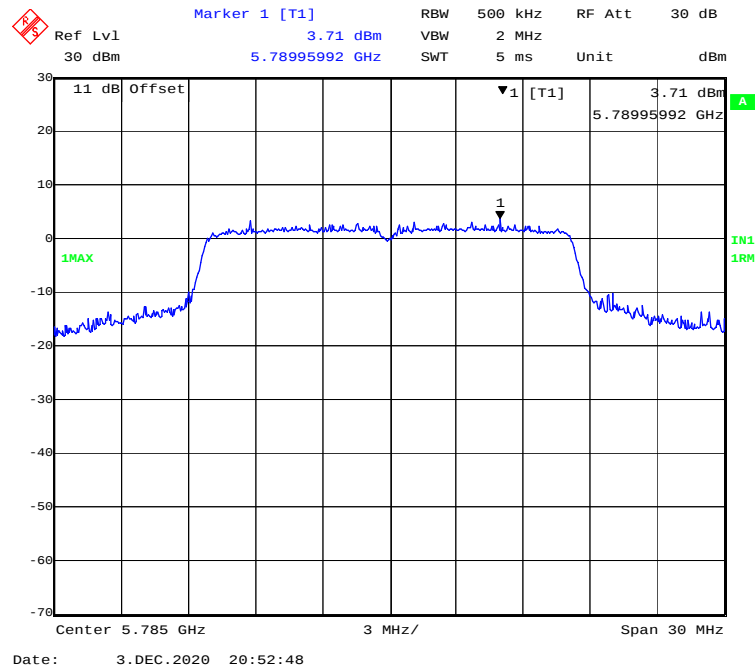
**5725MHz-5850 MHz Band:**

**Chain 0:**

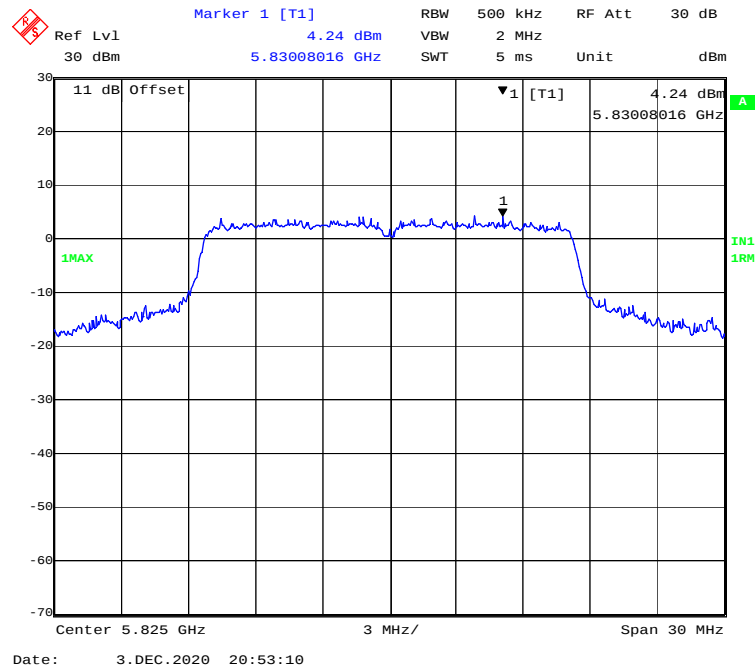
**802.11a mode, Power spectral density-5745MHz**



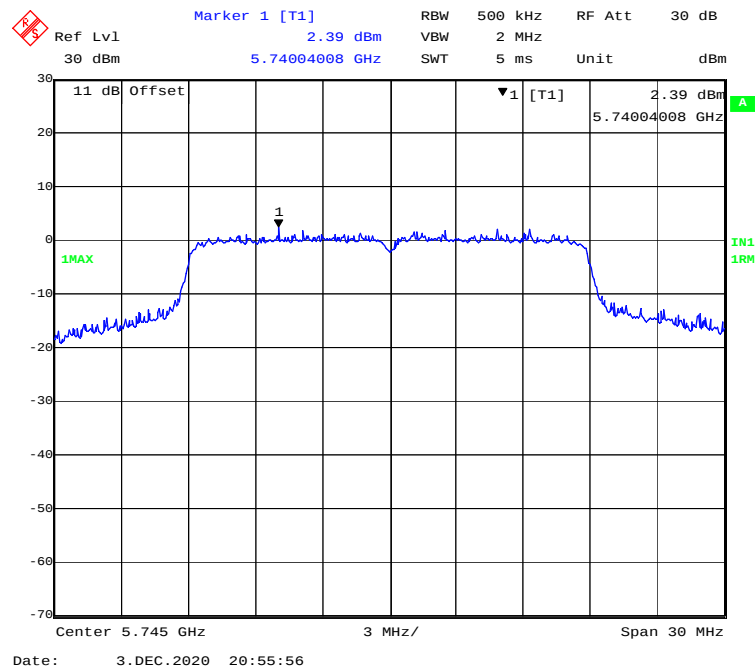
**802.11a mode, Power spectral density-5785MHz**



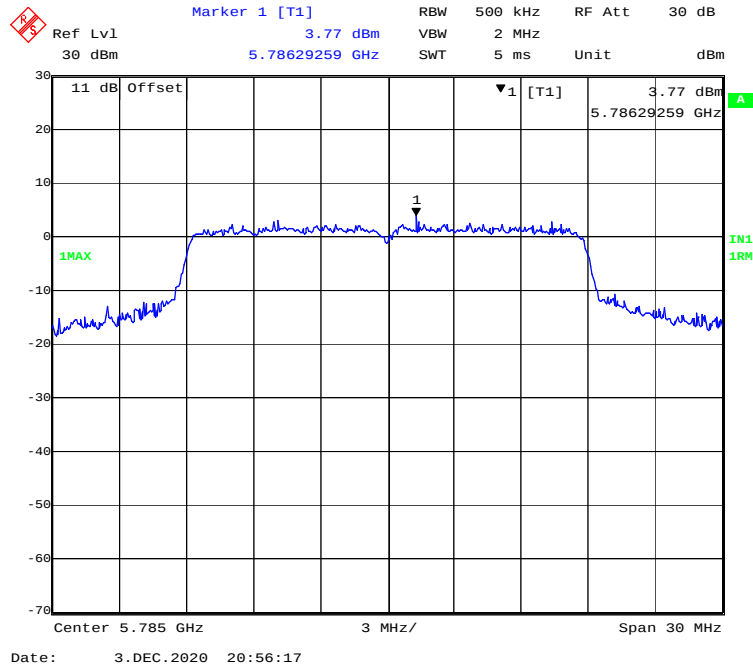
### 802.11a mode, Power spectral density-5825MHz



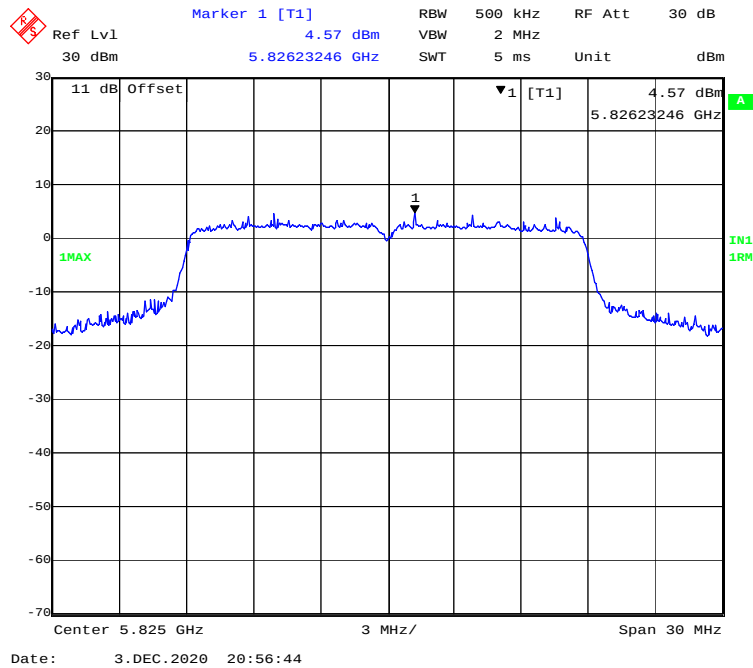
### 802.11ac20 mode, Power spectral density-5745MHz



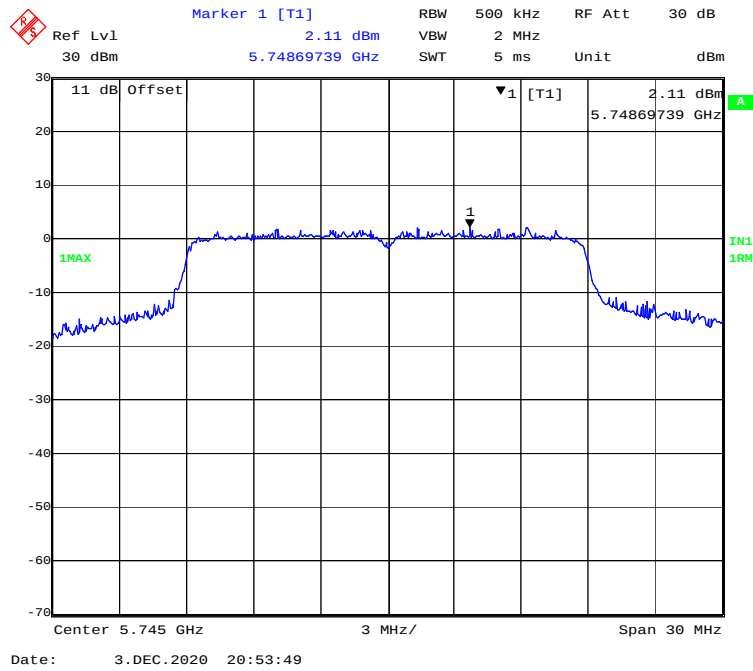
802.11 ac20 mode, Power spectral density-5785MHz



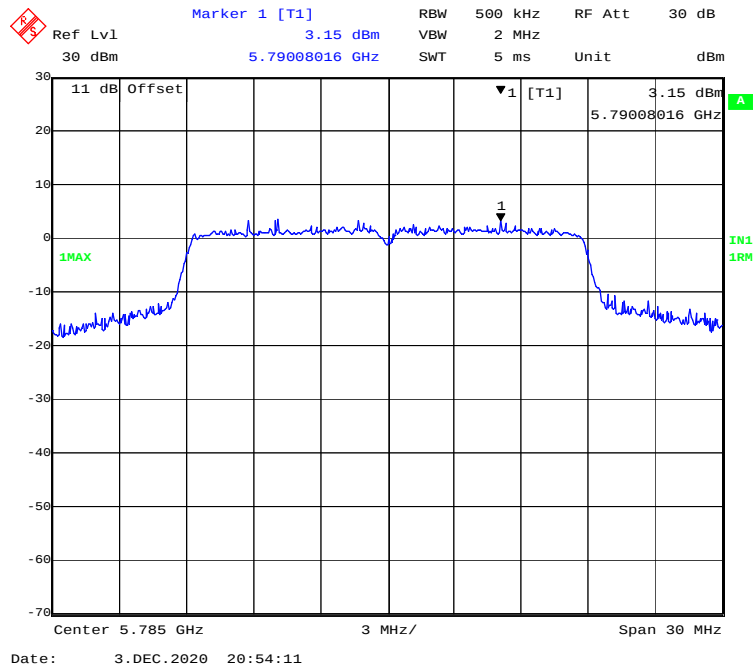
802.11 ac20 mode, Power spectral density-5825MHz



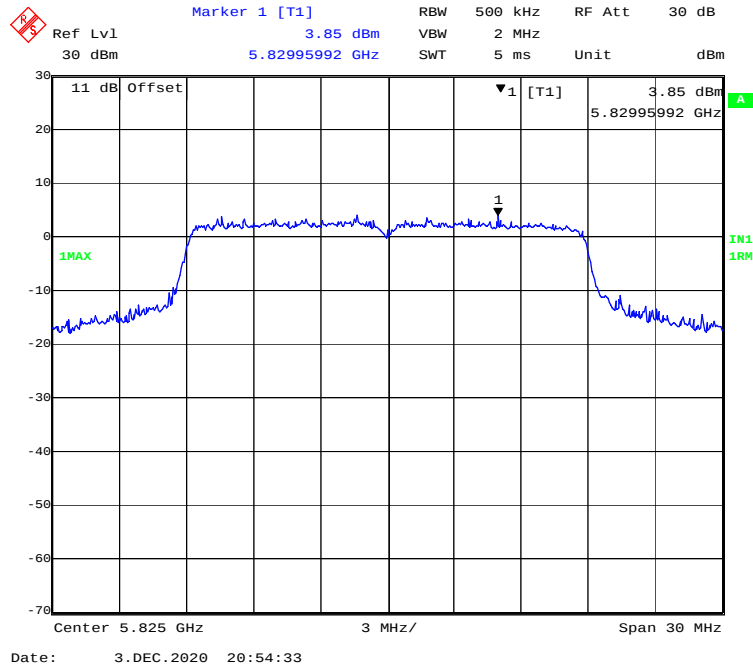
**802.11n-HT20 mode, Power spectral density-5745MHz**



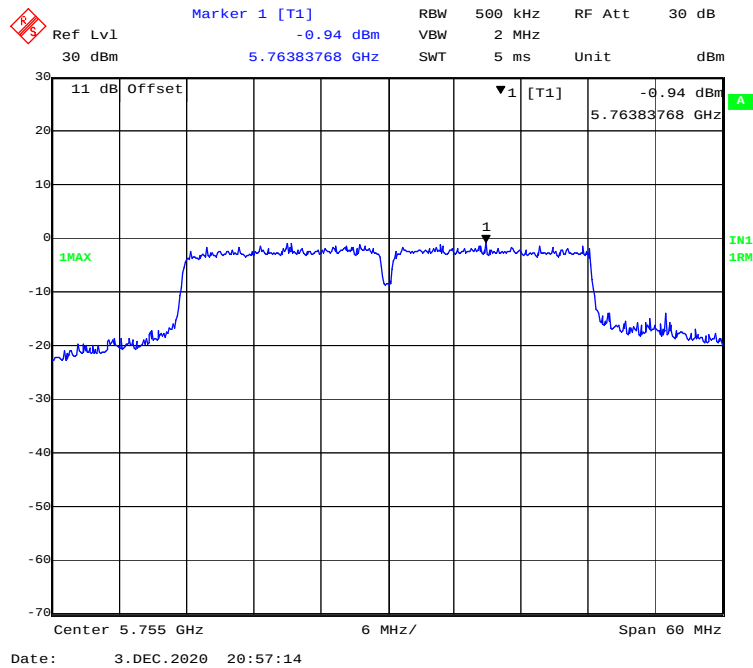
**802.11n-HT20 mode, Power spectral density-5785MHz**



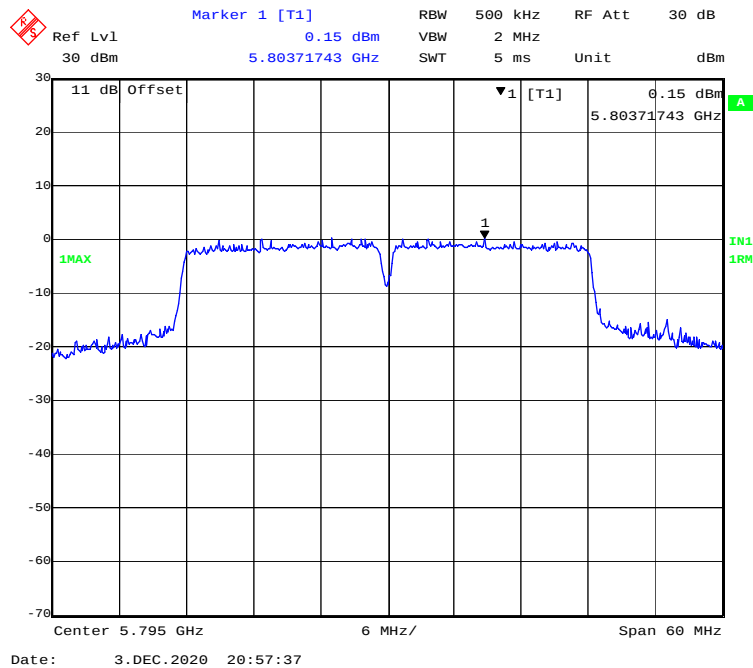
**802.11n-HT20 mode, Power spectral density-5825MHz**



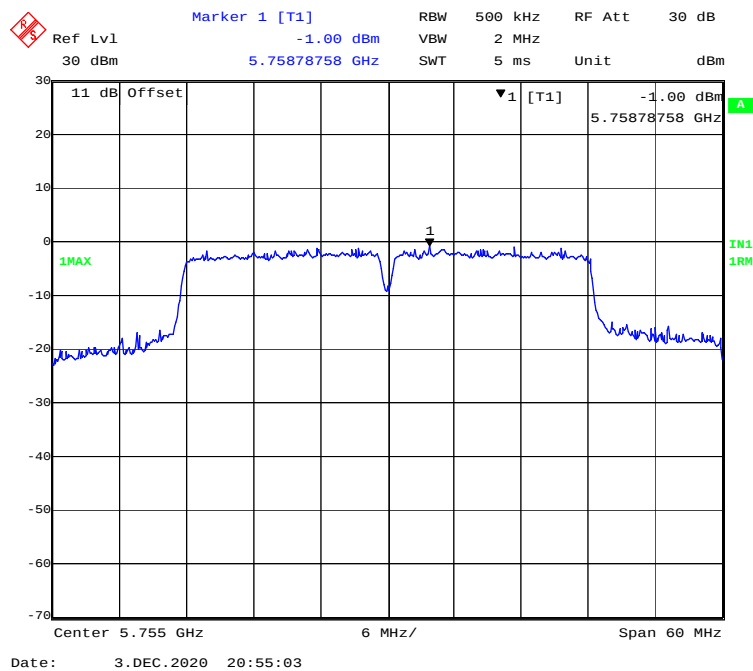
**802.11ac40 mode, Power spectral density-5755MHz**



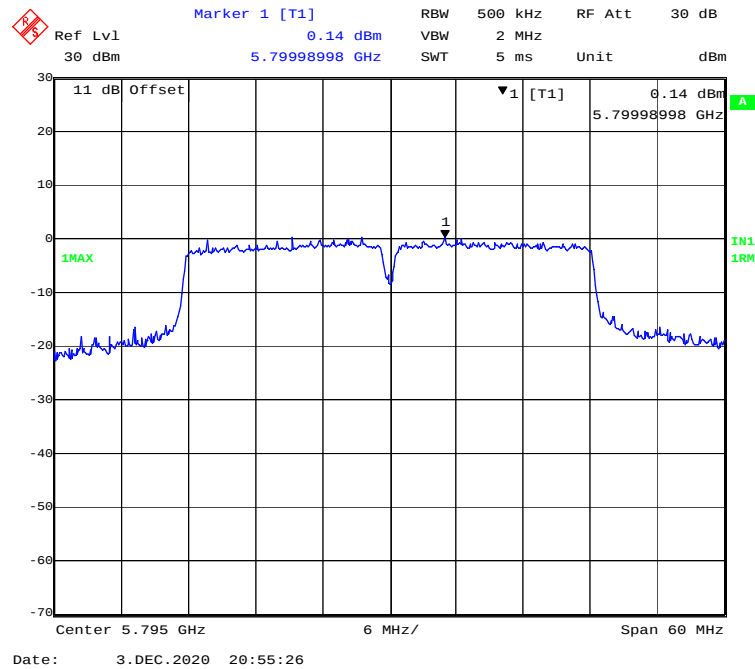
### 802.11 ac40 mode, Power spectral density-5795MHz



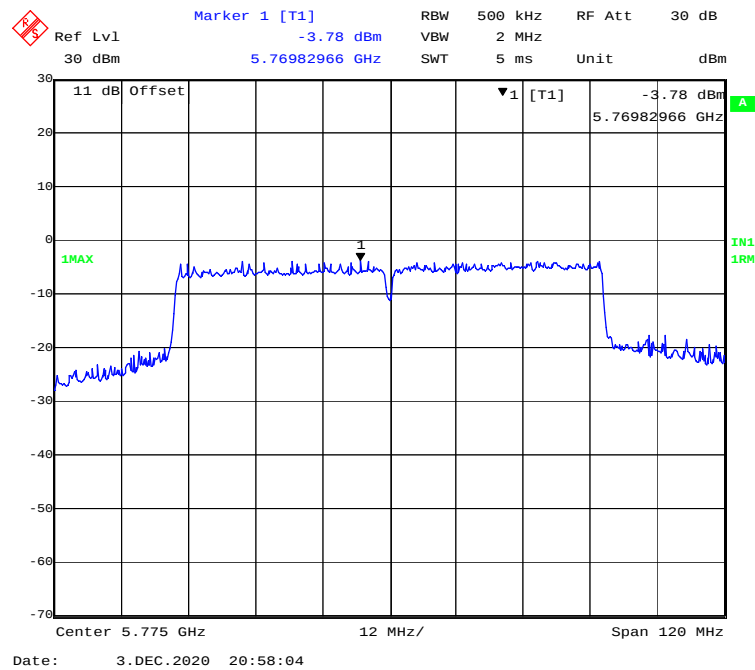
### 802.11n-HT40 mode, Power spectral density-5755MHz



**802.11n-HT40 mode, Power spectral density-5795MHz**

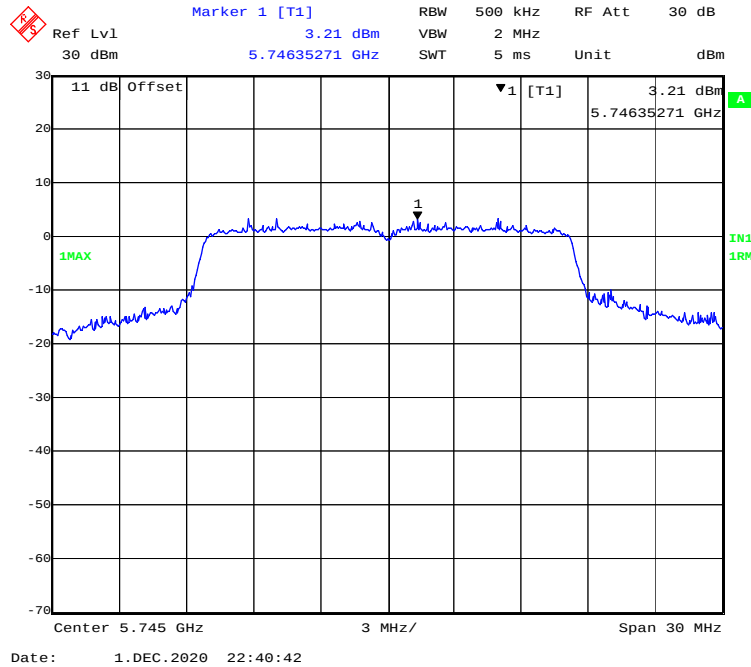


**802.11 ac80 mode, Power spectral density-5775MHz**

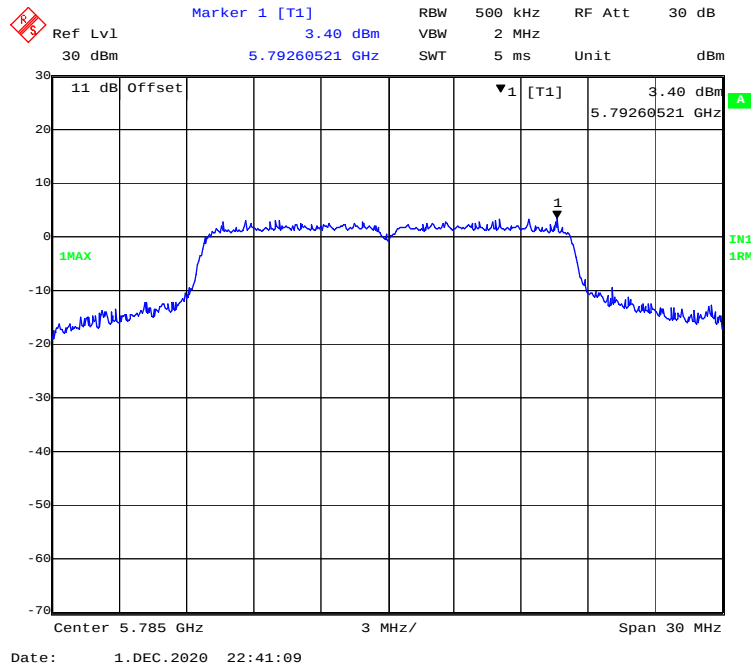


Chain 1:

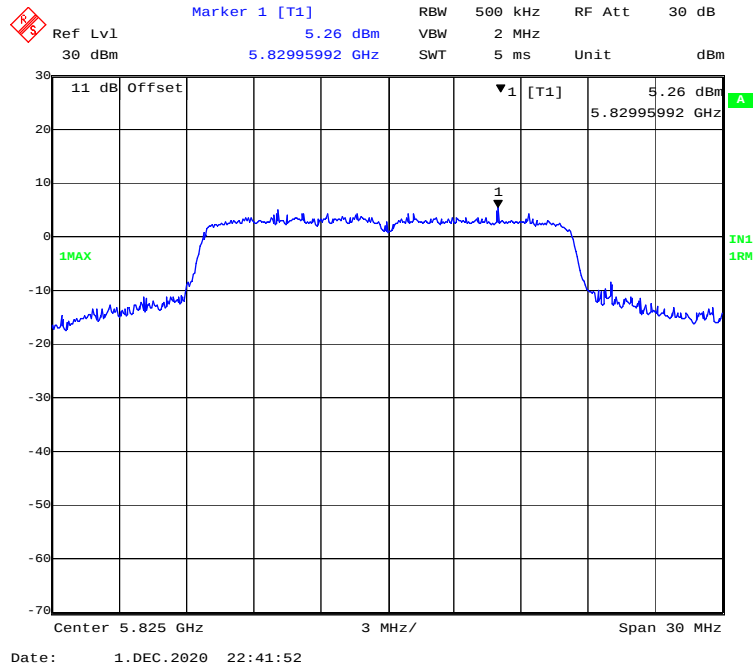
802.11a mode, Power spectral density-5745MHz



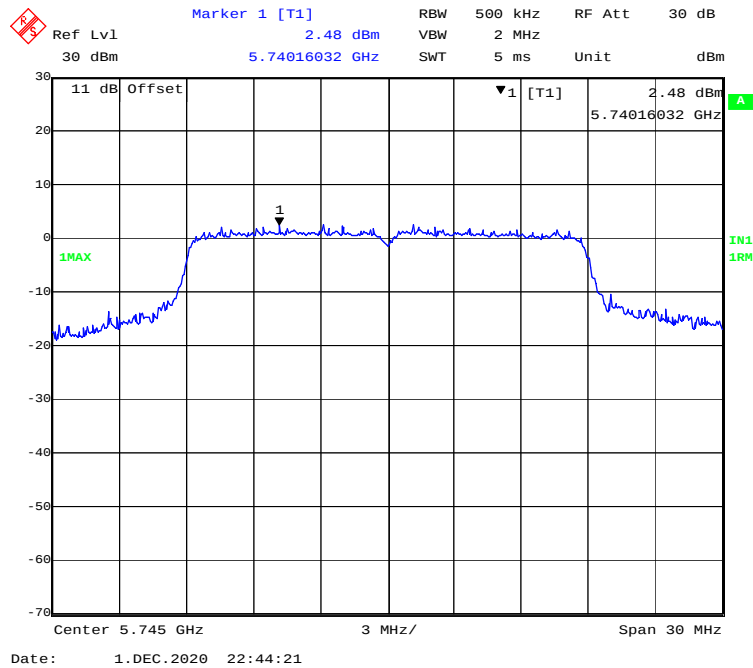
802.11a mode, Power spectral density-5785MHz



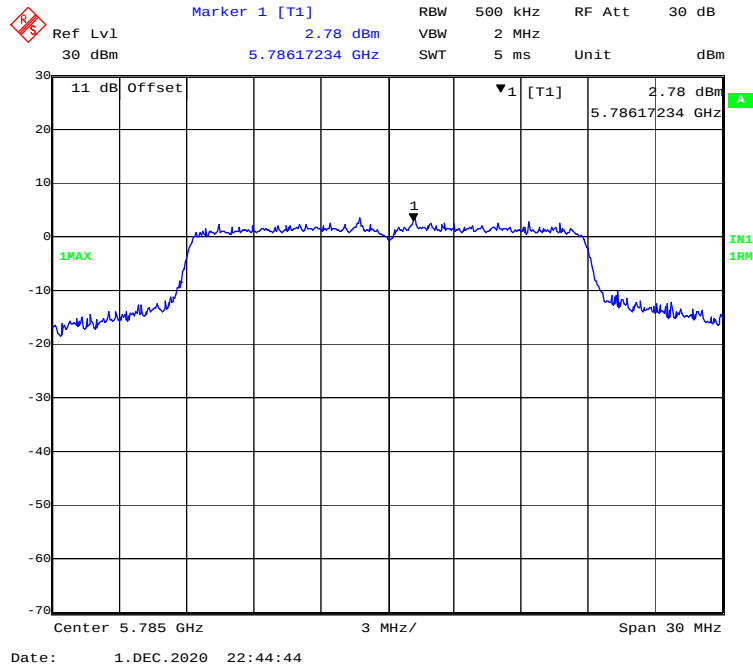
802.11a mode, Power spectral density-5825MHz



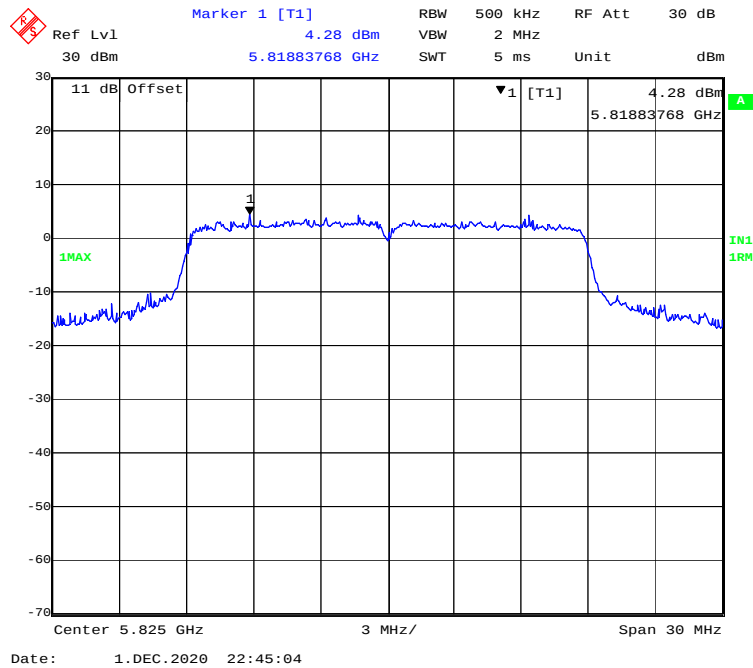
802.11ac20 mode, Power spectral density-5745MHz



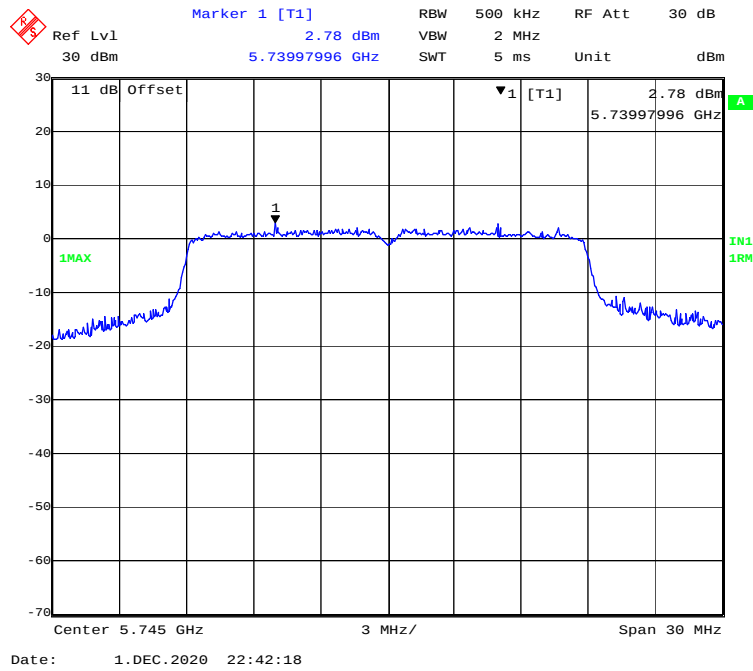
802.11 ac20 mode, Power spectral density-5785MHz



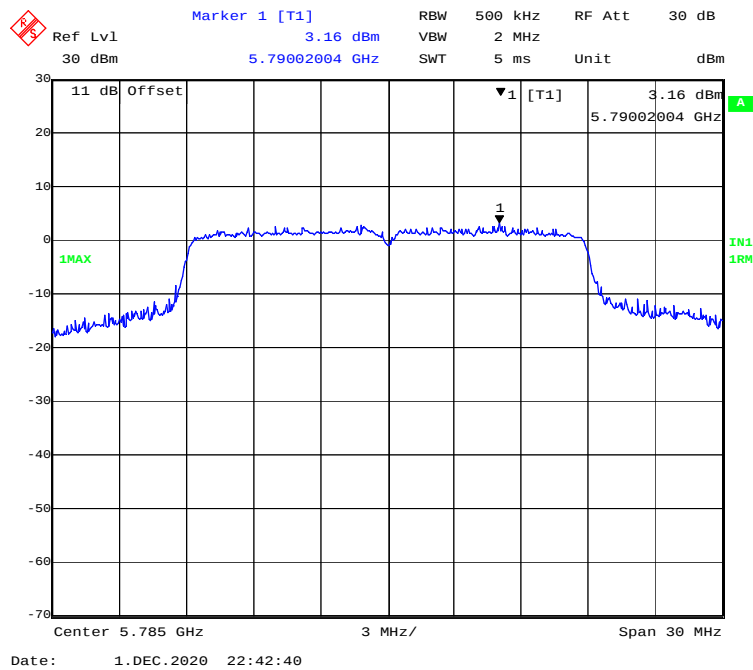
802.11 ac20 mode, Power spectral density-5825MHz



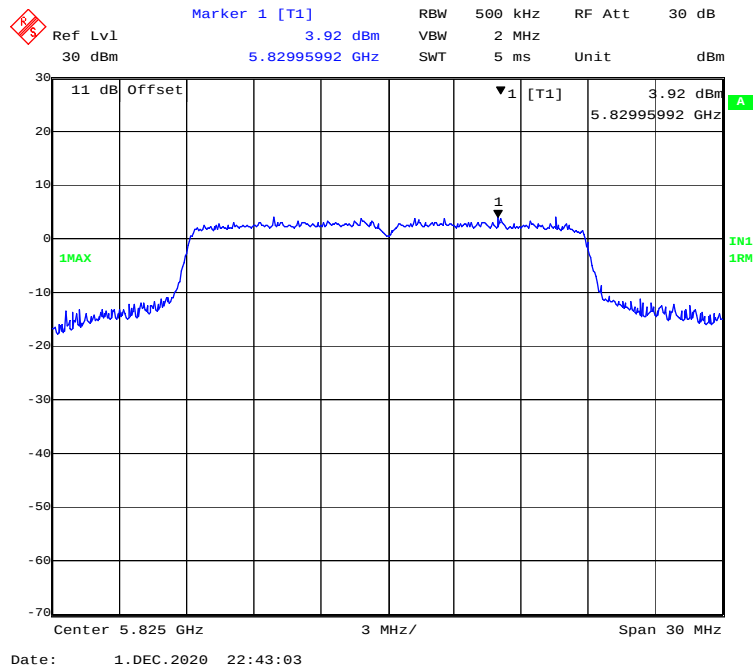
802.11n-HT20 mode, Power spectral density-5745MHz



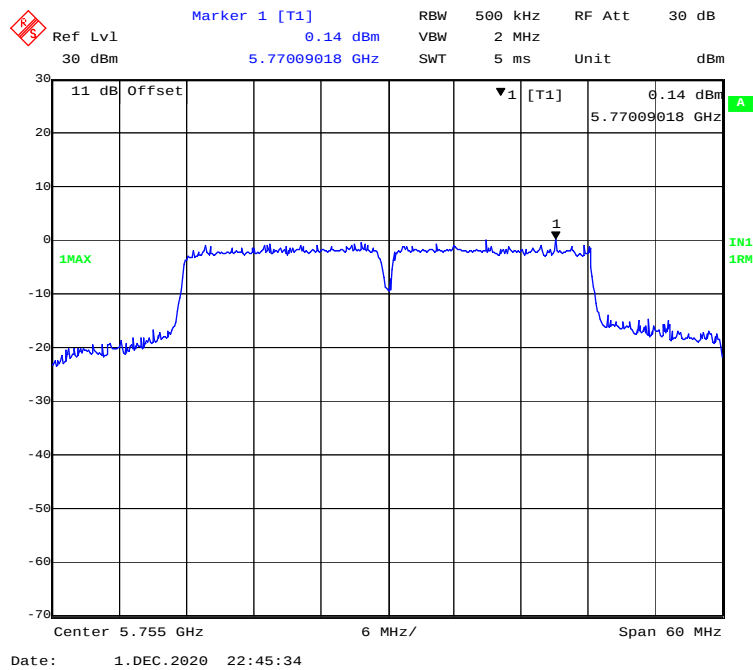
802.11n-HT20 mode, Power spectral density-5785MHz

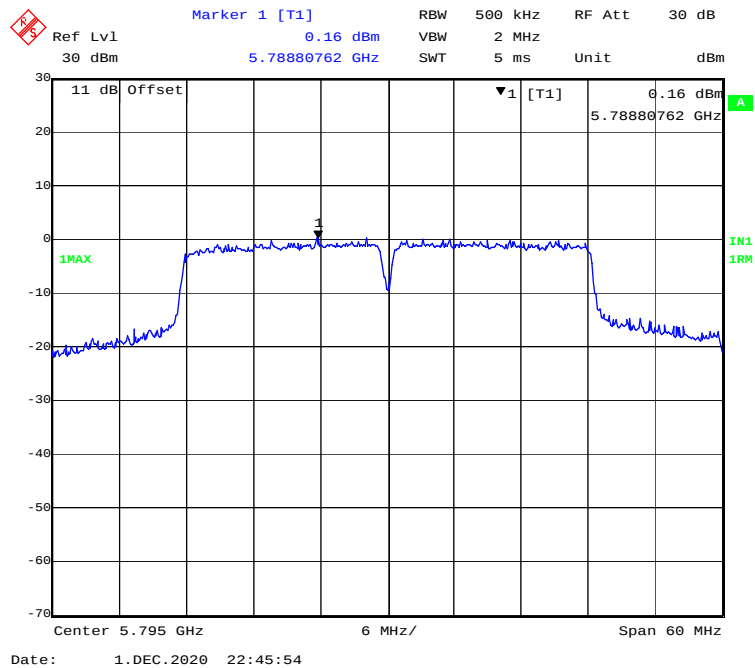
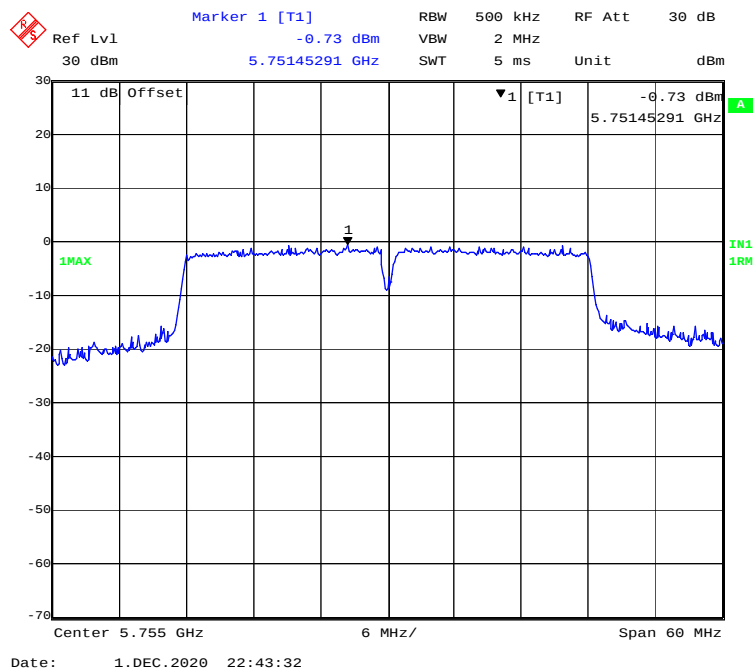


**802.11n-HT20 mode, Power spectral density-5825MHz**

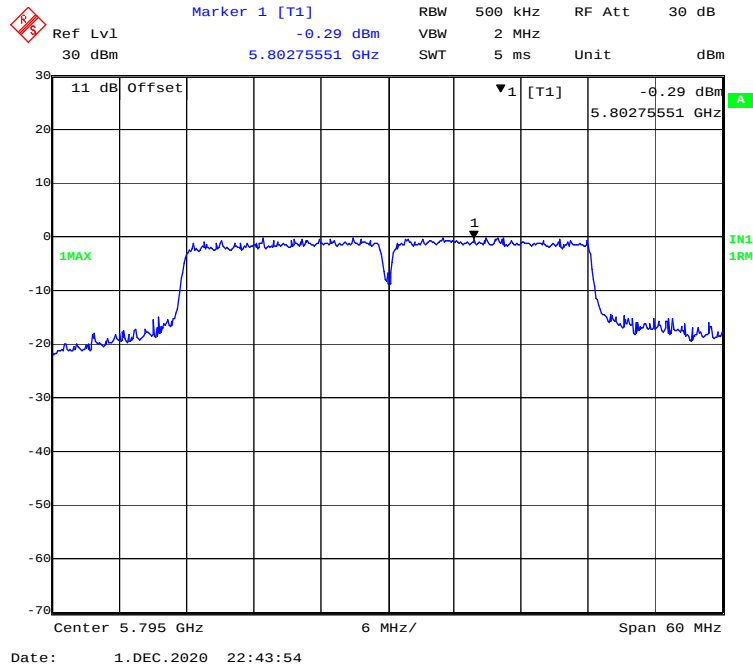


**802.11ac40 mode, Power spectral density-5755MHz**

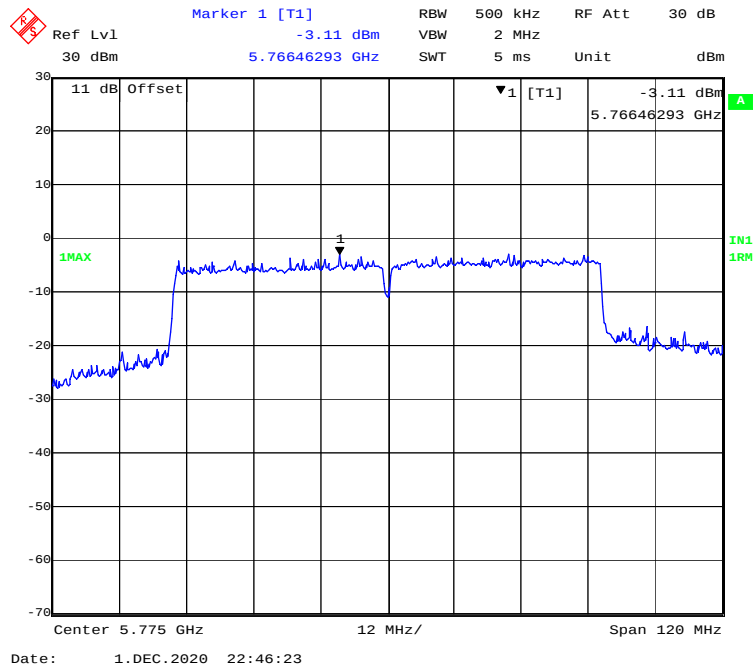


**802.11 ac40 mode, Power spectral density-5795MHz****802.11n-HT40 mode, Power spectral density-5755MHz**

**802.11n-HT40 mode, Power spectral density-5795MHz**



**802.11 ac80 mode, Power spectral density-5775MHz**



### **Declarations**

1: BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk '\*'. Customer model name, addresses, names, trademarks etc. are not considered data.

2: Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

3: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

4: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

5: This report cannot be reproduced except in full, without prior written approval of the Company.

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