




TEST REPORT

Report No...... : **CHTEW19070054** Report verification : 

Project No...... : **SHT1906073903EW**

FCC ID..... : **2ATV2-WMBR-1**

Applicant's name..... : **Walmart, Inc. on behalf of its affiliate Project Franklin, LLC**

Address..... : 74 Kent St #2, Brooklyn, NY 11222

Manufacturer..... : Shenzhen ChampOn Technology Co. Ltd

Address..... : 628 Yi Ben BLDG, No.1063 Cha Guang rd, Xili, Nanshan, Shenzhen

Test item description : **Walmart WiFi Bridge**

Trade Mark : Walmart

Model/Type reference..... : WMBR-1

Listed Model(s) : -

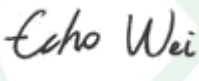
Standard : **FCC CFR Title 47 Part 15 Subpart E Section 15.407**


Date of receipt of test sample..... : Jul.05, 2019


Date of testing..... : Jul.05, 2019- Jul.15, 2019

Date of issue..... : Jul.16, 2019

Result..... : **PASS**

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Testing Laboratory Name : **Shenzhen Huatongwei International Inspection Co., Ltd**

Address..... : 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

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The test report merely correspond to the test sample.

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1. TEST STANDARDS AND REPORT VERSION

1.1. Test Standards

The tests were performed according to following standards:

[FCC Rules Part 15.407](#): General technical requirements.

[ANSI C63.10-2013](#): American National Standard for Testing Unlicensed Wireless Devices

[KDB789033 D02 v02r01](#): GUIDELINES FOR COMPLIANCE TESTING OF UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE (U-NII) DEVICES PART 15, SUBPART E

[KDB662911 D01 Multiple Transmitter Output v02r01](#): Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)

[KDB662911 D02 MIMO with Cross-Polarized Antennas v01](#): MIMO with Cross-Polarized Antenna

1.2. Report Version

| Revision No. | Date of issue | Description |
|--------------|---------------|-------------|
| N/A | 2019-07-16 | Original |
| | | |
| | | |
| | | |
| | | |

2. TEST DESCRIPTION

| Test Item | FCC Rule | Result | Test Engineer |
|--|-----------|--------|-----------------|
| Antenna Requirement | 15.203 | PASS | JiongSheng.Feng |
| Line Conducted Emissions (AC Main) | 15.207 | PASS | Zhiwei Liu |
| Maximum Conducted Output Power | 15.407(a) | PASS | JiongSheng.Feng |
| Maximum Power Spectral Density | 15.407(a) | PASS | JiongSheng.Feng |
| 26dB Bandwidth and 99% Occupancy bandwidth | 15.407(a) | PASS | JiongSheng.Feng |
| 6dB Bandwidth | 15.407(a) | PASS | JiongSheng.Feng |
| Band edge | 15.407(b) | PASS | Xu Yang |
| Radiated Spurious Emissions | 15.209 | PASS | Xu Yang |
| Frequency Stability | 15.407(g) | PASS | JiongSheng.Feng |

Remark: The measurement uncertainty is not included in the test result.

3. SUMMARY

3.1. Client Information

| | |
|---------------|--|
| Applicant: | Walmart, Inc. on behalf of its affiliate Project Franklin, LLC |
| Address: | 74 Kent St #2, Brooklyn, NY 11222 |
| Manufacturer: | Shenzhen ChampOn Technology Co. Ltd |
| Address: | 628 Yi Ben BLDG, No.1063 Cha Guang rd, Xili, Nanshan, Shenzhen |

3.2. Product Description

| | | | |
|----------------------|--|--|--|
| Name of EUT | Walmart WiFi Bridge | | |
| Trade Mark: | Walmart | | |
| Model No.: | WMBR-1 | | |
| Listed Model(s): | - | | |
| Power supply: | DC 5V | | |
| 5G WIFI | | | |
| Supported type: | <input checked="" type="checkbox"/> 802.11a | <input checked="" type="checkbox"/> 802.11n(HT20) | <input checked="" type="checkbox"/> 802.11n(HT40) |
| | <input checked="" type="checkbox"/> 802.11ac(HT20) | <input checked="" type="checkbox"/> 802.11ac(HT40) | <input checked="" type="checkbox"/> 802.11ac(HT80) |
| Function: | <input type="checkbox"/> Outdoor AP | <input type="checkbox"/> Indoor AP | <input type="checkbox"/> Fixed P2P |
| | <input checked="" type="checkbox"/> Client | | |
| Modulation: | BPSK, QPSK, 16QAM, 64QAM | | |
| Operation frequency: | <input checked="" type="checkbox"/> Band I: | 5150MHz~5250MHz | |
| | <input checked="" type="checkbox"/> Band IV: | 5725MHz~5850MHz | |
| Supported Bandwidth | 20MHz: | 802.11ac, 802.11n, 802.11a | |
| | 40MHz: | 802.11ac, 802.11n | |
| | 80MHz: | 802.11ac | |
| Antenna type: | 2 Transmit, 2 Receive | | |
| Antenna gain: | 2 dBi | | |

3.3. Operation state

➤ Frequency list

According to section 15.31(m), regards to the operating frequency range over 10 MHz, must select three channel which were tested. the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the above gray bottom.

| Band | Test Channel | 20MHz | | 40MHz | | 80MHz | |
|------|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|
| | | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| I | CH _L | 36 | 5180 | 38 | 5190 | - | - |
| | CH _M | 44 | 5220 | - | - | 42 | 5210 |
| | CH _H | 48 | 5240 | 46 | 5230 | - | - |
| IV | CH _L | 149 | 5745 | 151 | 5755 | - | - |
| | CH _M | 157 | 5785 | - | - | 155 | 5775 |
| | CH _H | 165 | 5825 | 159 | 5795 | - | - |

➤ Data Rated

Preliminary tests were performed in different data rate, and found which the below bit rate is worst case mode, so only show data which it is a worst case mode.

| Mode | Data rate (worst mode) |
|-------------------------------|------------------------|
| 802.11a | 6Mbps |
| 802.11n(HT20)/ 802.11ac(HT20) | MCS0 |
| 802.11n(HT40)/ 802.11ac(HT40) | MCS0 |
| 802.11ac(HT80) | MCS0 |

➤ Test mode

| |
|--|
| For RF test items |
| The engineering test program was provided and enabled to make EUT continuous transmit (duty cycle>98%). |
| For AC power line conducted emissions: |
| The EUT was set to connect with the WLAN AP under large package sizes transmission. |
| For Radiated suprious emissions test item: |
| The engineering test program was provided and enabled to make EUT continuous transmit(duty cycle>98%). The EUT in each of three orthogonal axis emissions had been tested ,but only the worst case (X axis) data Recorded in the report. |

3.4. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

- - supplied by the manufacturer
- - supplied by the lab

| | | | |
|---|----------|----------------|----------------|
| ○ | N/A | Manufacturer : | N/A |
| | | Model No. : | N/A |
| ○ | Notebook | Manufacturer: | TOSHIBA |
| | | Model No.: | Satellite M800 |

3.5. Modifications

No modifications were implemented to meet testing criteria.

4. TEST ENVIRONMENT

4.1. Address of the test laboratory

Laboratory: Shenzhen Huatongwei International Inspection Co., Ltd.

Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

Phone: 86-755-26748019 Fax: 86-755-26748089

4.2. Test Facility

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 3902.01

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 762235

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files.

IC-Registration No.:5377A

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No.: 5377A.

ACA

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

4.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

| | |
|--------------------|-------------|
| Temperature: | 15~35°C |
| Relative Humidity: | 30~60 % |
| Air Pressure: | 950~1050mba |

4.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors in calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report according to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2" and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd. quality system according to ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Here after the best measurement capability for Shenzhen Huatongwei International Inspection Co., Ltd. is reported:

| Test Items | Measurement Uncertainty | Notes |
|---|-------------------------|-------|
| Transmitter power conducted | 0.51 dB | (1) |
| Conducted spurious emissions 9kHz~40GHz | 0.51 dB | (1) |
| Conducted Disturbance 150kHz~30MHz | 3.02 dB | (1) |
| Radiated Emissions below 1GHz | 4.90 dB | (1) |
| Radiated Emissions above 1GHz | 4.96 dB | (1) |
| Occupied Bandwidth | 70 Hz | (1) |
| Frequency error | 70 Hz | (1) |

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=1.96$.

4.5. Equipments Used during the Test

| ● Conducted Emission | | | | | | |
|-----------------------------------|----------------------------------|--------------------|-----------------|------------|---------------------------|---------------------------|
| Used | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. Date (YY-MM-DD) | Next Cal. Date (YY-MM-DD) |
| ● | Shielded Room | Albatross projects | N/A | N/A | 2018/09/28 | 2023/09/27 |
| ● | EMI Test Receiver | R&S | ESCI | 101247 | 2018/10/27 | 2019/10/26 |
| ● | Artificial Mains | SCHWARZBECK | NNLK 8121 | 573 | 2018/10/27 | 2019/10/26 |
| ● | Pulse Limiter | R&S | ESH3-Z2 | 100499 | 2018/10/27 | 2019/10/26 |
| ● | RF Connection Cable | HUBER+SUHNER | EF400 | N/A | 2018/11/15 | 2019/11/14 |
| ● | Test Software | R&S | ES-K1 | N/A | N/A | N/A |
| ○ | Single Balanced Telecom Pair ISN | FCC | FCC-TLISN-T2-02 | 20371 | 2018/10/28 | 2019/10/27 |
| ○ | Two Balanced Telecom Pairs ISN | FCC | FCC-TLISN-T4-02 | 20373 | 2018/10/28 | 2019/10/27 |
| ○ | Four Balanced Telecom Pairs ISN | FCC | FCC-TLISN-T8-02 | 20375 | 2018/10/28 | 2019/10/27 |
| ○ | V-Network | R&S | ESH3-Z6 | 100211 | 2018/10/27 | 2019/10/26 |
| ○ | V-Network | R&S | ESH3-Z6 | 100210 | 2018/10/27 | 2019/10/26 |
| ○ | 2-Line V-Network | R&S | ESH3-Z5 | 100049 | 2018/10/27 | 2019/10/26 |
| ● Radiated Emission-6th test site | | | | | | |
| Used | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. Date (YY-MM-DD) | Next Cal. Date (YY-MM-DD) |
| ● | Semi-Anechoic Chamber | Albatross projects | SAC-3m-02 | N/A | 2018/09/30 | 2021/09/29 |
| ● | EMI Test Receiver | R&S | ESCI | 100900 | 2018/10/28 | 2019/10/27 |
| ● | Loop Antenna | R&S | HFH2-Z2 | 100020 | 2017/11/20 | 2020/11/19 |
| ● | Ultra-Broadband Antenna | SCHWARZBECK | VULB9163 | 546 | 2017/04/05 | 2020/04/04 |
| ● | Pre-Amplifier | SCHWARZBECK | BBV 9742 | N/A | 2018/11/15 | 2019/11/14 |
| ● | RF Connection Cable | HUBER+SUHNER | N/A | N/A | 2018/09/28 | 2019/09/27 |
| ● | RF Connection Cable | HUBER+SUHNER | SUCOFLEX104 | 501184/4 | 2018/09/28 | 2019/09/27 |
| ● | Test Software | R&S | ES-K1 | N/A | N/A | N/A |
| ● | Turntable | Maturo Germany | TT2.0-1T | N/A | N/A | N/A |
| ● | Antenna Mast | Maturo Germany | CAM-4.0-P-12 | N/A | N/A | N/A |
| ● Radiated emission-7th test site | | | | | | |
| Used | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. Date (YY-MM-DD) | Next Cal. Date (YY-MM-DD) |
| ● | Semi-Anechoic Chamber | Albatross projects | SAC-3m-01 | N/A | 2018/09/30 | 2021/09/29 |
| ● | Spectrum Analyzer | R&S | FSP40 | 100597 | 2018/10/27 | 2019/10/26 |
| ● | Horn Antenna | SCHWARZBECK | 9120D | 1011 | 2017/03/27 | 2020/03/26 |
| ● | Pre-amplifier | BONN | BLWA0160-2M | 1811887 | 2018/11/14 | 2019/11/13 |
| ● | Pre-amplifier | CD | PAP-0102 | 12004 | 2018/11/14 | 2019/11/13 |
| ● | Broadband Pre-amplifier | SCHWARZBECK | BBV 9718 | 9718-248 | 2019/04/26 | 2020/04/25 |
| ● | RF Connection Cable | HUBER+SUHNER | RE-7-FH | N/A | 2018/11/15 | 2019/11/14 |
| ● | RF Connection Cable | HUBER+SUHNER | RE-7-FL | N/A | 2018/11/15 | 2019/11/14 |
| ● | Test Software | Audix | E3 | N/A | N/A | N/A |
| ● | Turntable | Maturo Germany | TT2.0-1T | N/A | N/A | N/A |
| ● | Antenna Mast | Maturo Germany | CAM-4.0-P-12 | N/A | N/A | N/A |

| ● RF Conducted Method | | | | | | |
|-----------------------|------------------------------|--------------|-----------------|------------|---------------------------|---------------------------|
| Used | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. Date (YY-MM-DD) | Next Cal. Date (YY-MM-DD) |
| ● | Signal and spectrum Analyzer | R&S | FSV40 | 100048 | 2018/10/28 | 2019/10/27 |
| ● | Spectrum Analyzer | Agilent | N9020A | MY50510187 | 2018/09/29 | 2019/09/28 |
| ● | OSP | R&S | OSP120 | 101317 | N/A | N/A |
| ○ | Radio communication tester | R&S | CMW500 | 137688-Lv | 2018/09/29 | 2019/09/28 |
| ○ | Test software | Tonscend | JS1120-1(LTE) | N/A | N/A | N/A |
| ○ | Test software | Tonscend | JS1120-2(WIFI) | N/A | N/A | N/A |
| ○ | Test software | Tonscend | JS1120-3(WCDMA) | N/A | N/A | N/A |
| ○ | Test software | Tonscend | JS1120-4(GSM) | N/A | N/A | N/A |

5. TEST CONDITIONS AND RESULTS

5.1. Antenna requirement

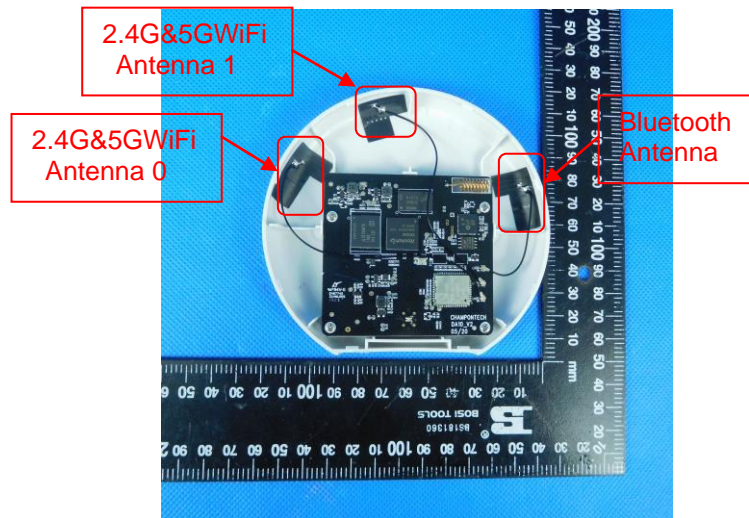
Requirement

FCC CFR Title 47 Part 15 Subpart C Section 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, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Test Result:

The directional gain of the antenna less than 6 dBi, please refer to the below antenna photo.



5.2. Conducted Emissions (AC Main)

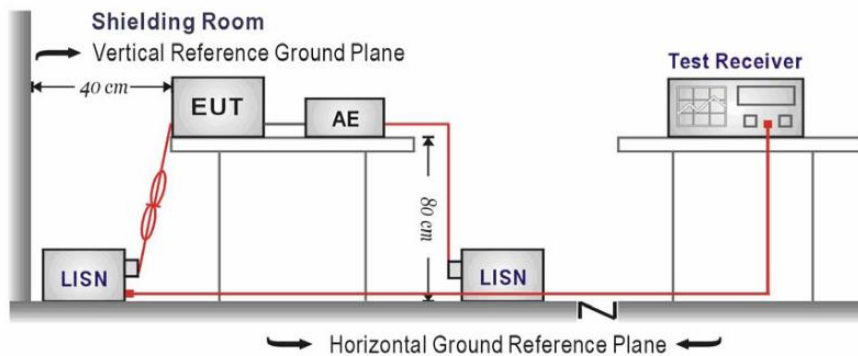
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.207:

| Frequency range (MHz) | Limit (dBuV) | |
|-----------------------|--------------|-----------|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56* | 56 to 46* |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

* Decreases with the logarithm of the frequency.

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT was setup according to ANSI C63.10:2013 requirements.
2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment.
4. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
7. Conducted Emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
8. During the above scans, the emissions were maximized by cable manipulation.

TEST MODE:

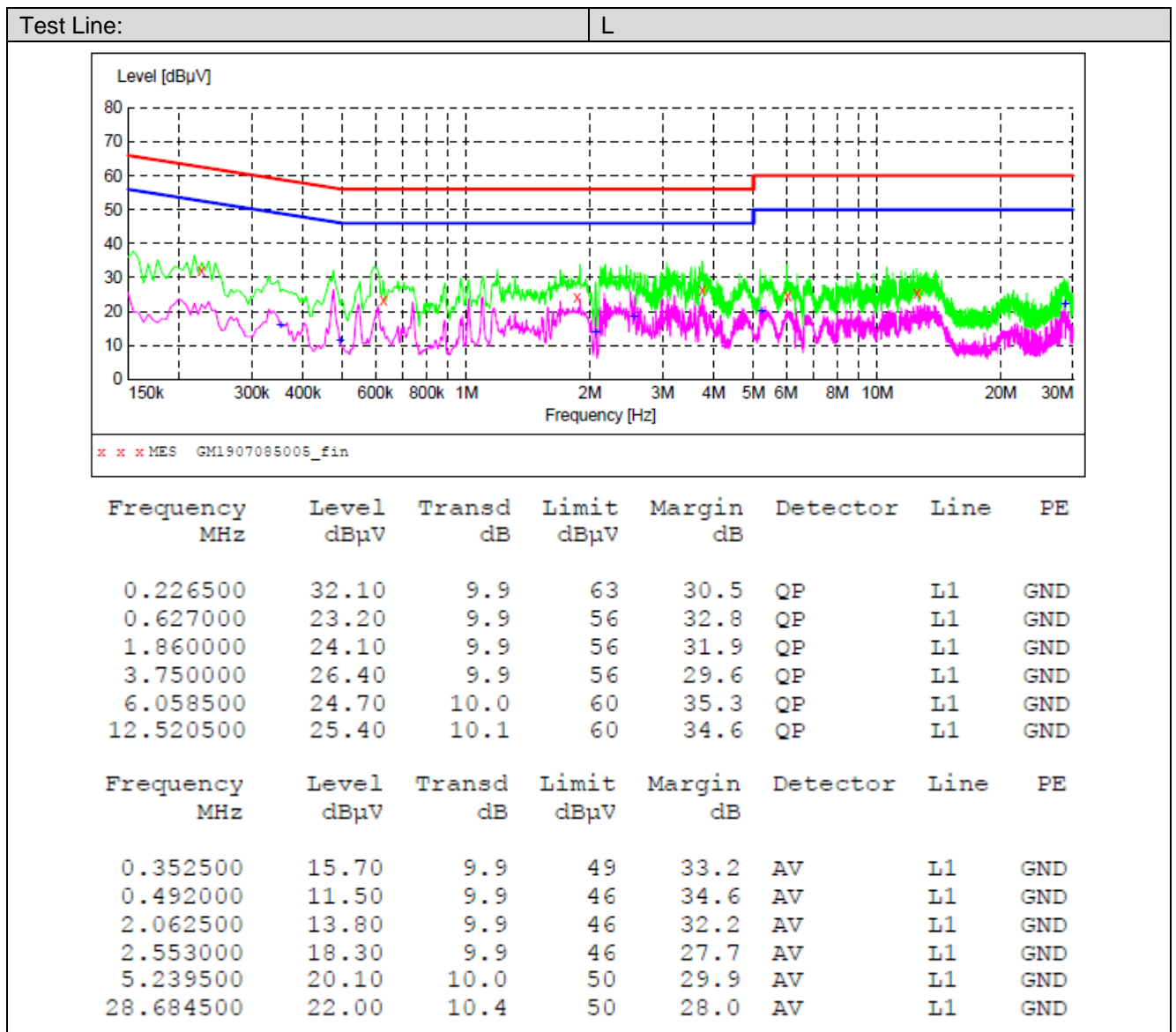
Please refer to the clause 3.3

TEST RESULTS

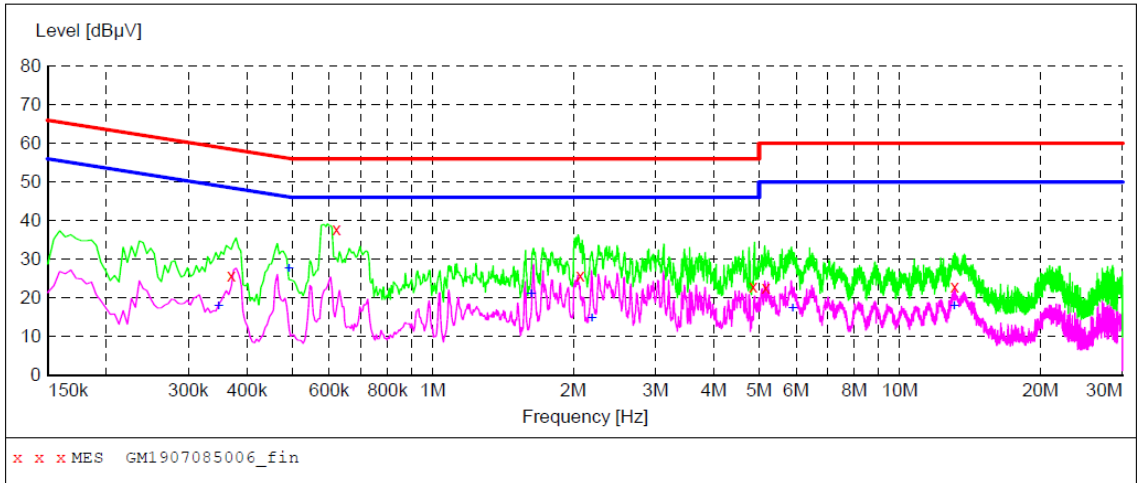
Passed Not Applicable

Note:

- 1) Transd=Cable lose+ Pulse Limiter Factor + Artificial Mains Factor
- 2) Margin= Limit -Level



Test Line: N



| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.370500 | 25.80 | 9.9 | 59 | 32.7 | QP | N | GND |
| 0.622500 | 37.70 | 9.9 | 56 | 18.3 | QP | N | GND |
| 2.071500 | 25.70 | 9.9 | 56 | 30.3 | QP | N | GND |
| 4.852500 | 23.00 | 10.0 | 56 | 33.0 | QP | N | GND |
| 5.176500 | 22.70 | 10.0 | 60 | 37.3 | QP | N | GND |
| 13.105500 | 23.00 | 10.1 | 60 | 37.0 | QP | N | GND |
| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
| 0.348000 | 17.80 | 9.9 | 49 | 31.2 | AV | N | GND |
| 0.492000 | 27.50 | 9.9 | 46 | 18.6 | AV | N | GND |
| 1.626000 | 21.00 | 9.9 | 46 | 25.0 | AV | N | GND |
| 2.193000 | 14.60 | 9.9 | 46 | 31.4 | AV | N | GND |
| 5.901000 | 17.40 | 10.0 | 50 | 32.6 | AV | N | GND |
| 13.083000 | 17.80 | 10.1 | 50 | 32.2 | AV | N | GND |

5.3. Maximum Conducted Output Power

LIMIT

FCC CFR Title 47 Part 15 Subpart E Section 15.407(a):

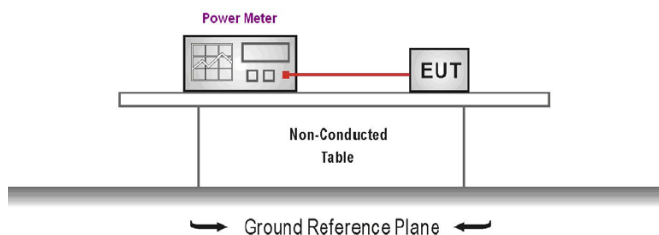
For the 5.15~5.25GHz band:

- Outdoor AP
The maximum conducted output power (P_{out}) shall not exceed the lesser of 1W (30dBm).
if $G_{TX} > 6\text{dBi}$, then $P_{out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees $\leq 125\text{mW}$ (21dBm)
- Indoor AP
The maximum conducted output power (P_{out}) shall not exceed the lesser of 1W (30dBm).
if $G_{TX} > 6\text{dBi}$, then $P_{out} = 30 - (G_{TX} - 6)$.
- Point-to-point AP
The maximum conducted output power (P_{out}) shall not exceed the lesser of 1W (30dBm).
if $G_{TX} > 23\text{dBi}$, then $P_{out} = 30 - (G_{TX} - 23)$.
- Client devices
The maximum conducted output power (P_{out}) shall not exceed the lesser of 250W (24dBm).
if $G_{TX} > 6\text{dBi}$, then $P_{out} = 24 - (G_{TX} - 6)$.

For the 5.725~5.85GHz band:

- Point-to-multipoint systems (P2M)
The maximum conducted output power (P_{out}) shall not exceed the lesser of 1W (30dBm).
if $G_{TX} > 6\text{dBi}$, then $P_{out} = 30 - (G_{TX} - 6)$.
- Point-to-point systems (P2P)
The maximum conducted output power (P_{out}) shall not exceed the lesser of 1W (30dBm).

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT was tested according to KDB789033 Section E-3-b)
2. The maximum conducted output power may be measured using a broadband AVG RF power meter.
3. Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor.
4. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.
5. Record the measurement data.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

Passed Not Applicable

| Band | Bandwidth (MHz) | Type | Channel | Output power (dBm) | | Total Power (dBm) | Limit (dBm) | Result |
|-----------------|-----------------|-----------------|-----------------|--------------------|-----------|-------------------|-------------|--------|
| | | | | Antenna 0 | Antenna 1 | | | |
| I | 20 | 802.11ac | CH _L | 15.57 | 15.29 | 18.46 | 24.00 | Pass |
| | | | CH _M | 15.25 | 15.45 | 18.41 | | |
| | | | CH _H | 15.57 | 15.63 | 18.61 | | |
| | | 802.11n | CH _L | 14.57 | 15.03 | 17.81 | 24.00 | Pass |
| | | | CH _M | 14.94 | 14.90 | 17.91 | | |
| | | | CH _H | 15.48 | 15.42 | 18.46 | | |
| | | 802.11a | CH _L | 14.52 | 14.72 | - | 24.00 | Pass |
| | | | CH _M | 15.25 | 14.27 | - | | |
| | | | CH _H | 15.52 | 14.57 | - | | |
| | 40 | 802.11ac | CH _L | 15.40 | 14.23 | 17.85 | 24.00 | Pass |
| | | | CH _H | 16.05 | 14.57 | 18.42 | | |
| | | 802.11n | CH _L | 14.68 | 14.35 | 17.56 | 24.00 | Pass |
| CH _H | | | 15.71 | 14.19 | 18.02 | | | |
| 80 | 802.11ac | CH _M | 15.36 | 14.39 | 17.94 | 24.00 | Pass | |
| IV | 20 | 802.11ac | CH _L | 15.48 | 15.53 | 18.51 | 30.00 | Pass |
| | | | CH _M | 15.07 | 14.05 | 17.64 | | |
| | | | CH _H | 14.86 | 14.23 | 17.57 | | |
| | | 802.11n | CH _L | 14.91 | 15.26 | 18.11 | 30.00 | Pass |
| | | | CH _M | 15.09 | 14.08 | 17.64 | | |
| | | | CH _H | 14.68 | 14.28 | 17.51 | | |
| | | 802.11a | CH _L | 15.35 | 15.30 | - | 30.00 | Pass |
| | | | CH _M | 15.20 | 14.43 | - | | |
| | | | CH _H | 15.08 | 13.59 | - | | |
| | 40 | 802.11ac | CH _L | 14.81 | 14.44 | 17.61 | 30.00 | Pass |
| | | | CH _H | 14.76 | 14.29 | 17.57 | | |
| | | 802.11n | CH _L | 14.73 | 14.10 | 17.42 | 30.00 | Pass |
| | | | CH _H | 14.72 | 14.04 | 17.37 | | |
| | 80 | 802.11ac | CH _M | 14.52 | 14.20 | 17.11 | 30.00 | Pass |

5.4. Maximum Power Spectral Density

LIMIT

FCC CFR Title 47 Part 15 Subpart E Section 15.407(a):

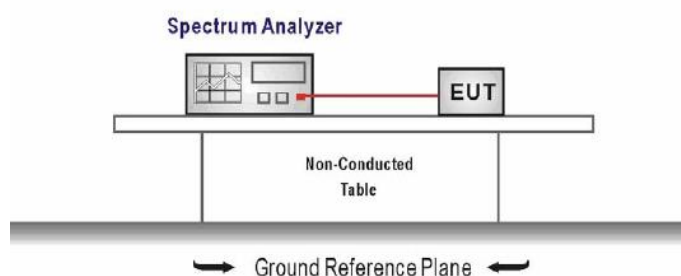
For the 5.15~5.25GHz band:

- Outdoor AP
The peak power spectral density (PSD) shall not exceed the lesser of 17dBm/MHz.
if $G_{TX} > 6\text{dBi}$, then $\text{PSD} = 17 - (G_{TX} - 6)$.
- Indoor AP
The peak power spectral density (PSD) shall not exceed the lesser of 17dBm/MHz.
if $G_{TX} > 6\text{dBi}$, then $\text{PSD} = 17 - (G_{TX} - 6)$.
- Point-to-point AP
The peak power spectral density (PSD) shall not exceed the lesser of 17dBm/MHz.
if $G_{TX} > 23\text{dBi}$, then $\text{PSD} = 17 - (G_{TX} - 23)$.
- Client devices
The peak power spectral density (PSD) shall not exceed the lesser of 11dBm/MHz.
if $G_{TX} > 6\text{dBi}$, then $\text{PSD} = 11 - (G_{TX} - 6)$.

For the 5.725~5.85GHz band:

- Point-to-multipoint systems (P2M)
The peak power spectral density (PSD) shall not exceed the lesser of 30dBm/500kHz.
if $G_{TX} > 6\text{dBi}$, then $\text{PSD} = 30 - (G_{TX} - 6)$.
- Point-to-point systems (P2P)
The peak power spectral density (PSD) shall not exceed the lesser of 30dBm/500kHz.

TEST CONFIGURATION



TEST PROCEDURE

1. According KDB 789033 D02 – Section F
2. Analyzer was setting as follow:
Center frequency: test channel
Span was set to encompass the entire emission bandwidth of the signal
RBW=1MHz for devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz
RBW=500kHz for devices operating in the band 5.725-5.85 GHz
VBW ≥ 3 RBW
Number of sweep points > 2 x (span/RBW)
Sweep time = auto
Detector = Peak
Trigger was set to free run for all modes, trace was averaged over 100 sweeps
3. The peak search function of the spectrum analyzer was used to find the peak of the spectrum.

TEST MODE:

Please refer to the clause 3.3

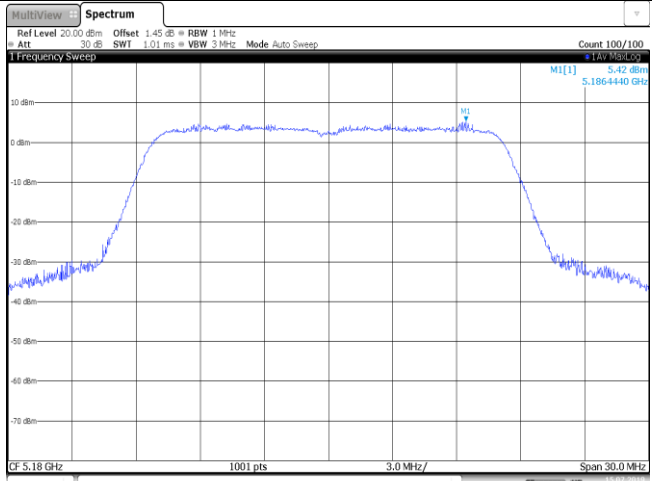
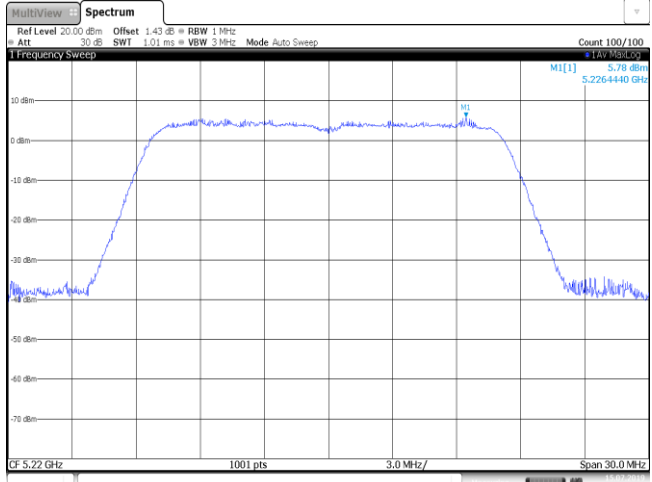
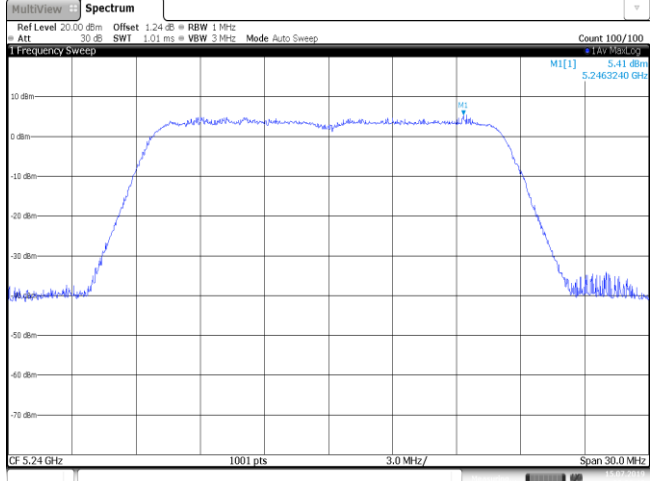
TEST RESULTS

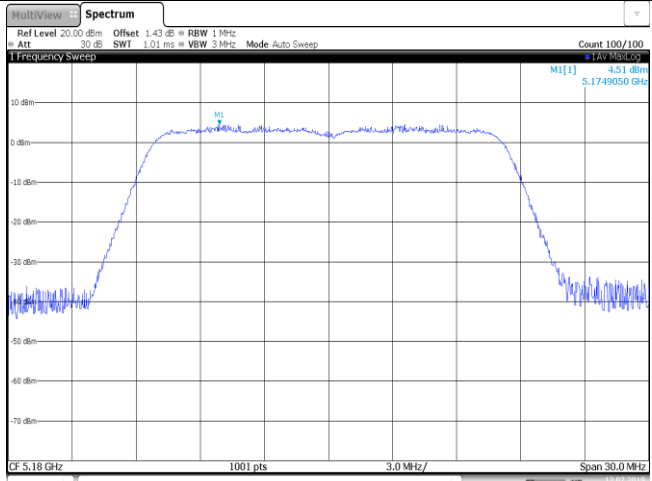
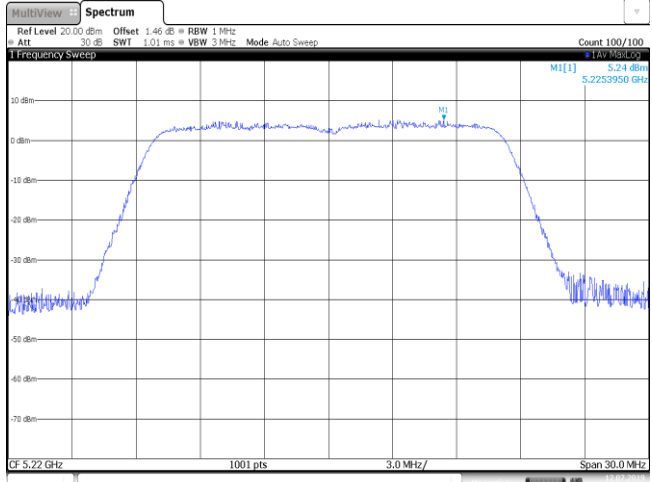
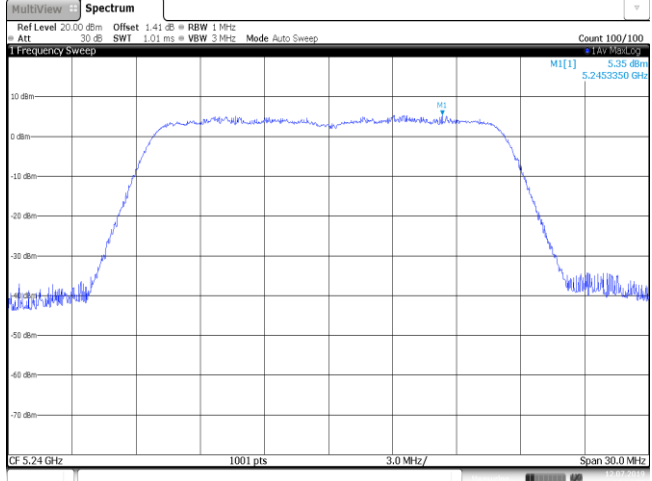
Passed Not Applicable

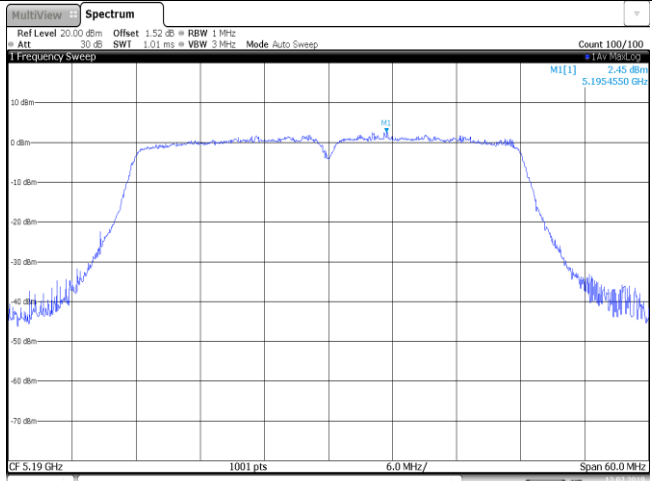
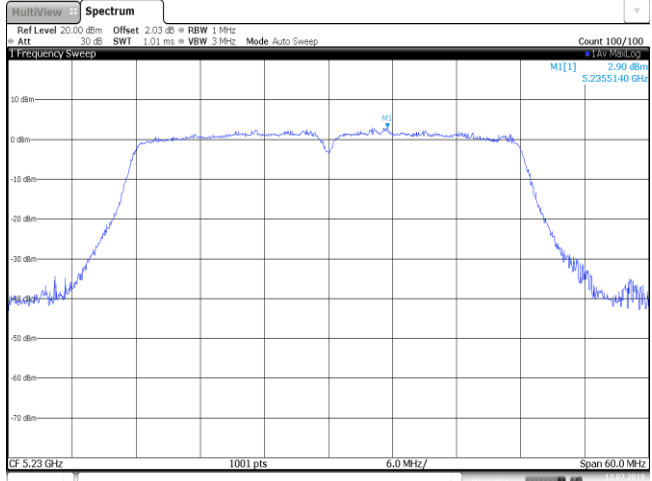
| Band | Bandwidth (MHz) | Type | Channel | Power Spectral Density (dBm/MHz) | | Total PSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-----------------|-----------------|-----------------|-----------------|-------------------------------------|-----------|------------------------|--------------------|--------|
| | | | | Antenna 0 | Antenna 1 | | | |
| I | 20 | 802.11ac | CH _L | 5.29 | 4.80 | 8.06 | 11.00 | Pass |
| | | | CH _M | 5.41 | 4.63 | 8.05 | | |
| | | | CH _H | 5.75 | 5.10 | 8.45 | | |
| | | 802.11n | CH _L | 5.42 | 4.01 | 7.78 | 11.00 | Pass |
| | | | CH _M | 5.78 | 4.64 | 8.26 | | |
| | | | CH _H | 5.41 | 4.93 | 8.19 | | |
| | | 802.11a | CH _L | 4.51 | 4.68 | - | 11.00 | Pass |
| | | | CH _M | 5.24 | 4.06 | - | | |
| | | | CH _H | 5.35 | 4.06 | - | | |
| | 40 | 802.11ac | CH _L | 2.45 | 0.60 | 4.63 | 11.00 | Pass |
| | | | CH _H | 2.90 | 1.00 | 5.06 | | |
| | | 802.11n | CH _L | 2.16 | 1.70 | 4.98 | 11.00 | Pass |
| CH _H | | | 2.72 | 1.28 | 5.07 | | | |
| 80 | 802.11ac | CH _M | -1.08 | -2.19 | 1.41 | 11.00 | Pass | |
| Band | Bandwidth (MHz) | Type | Channel | Power Spectral Density (dBm/500kHz) | | Total PSD (dBm/500kHz) | Limit (dBm/500KHz) | Result |
| | | | | Antenna 0 | Antenna 1 | | | |
| IV | 20 | 802.11ac | CH _L | 3.52 | 3.73 | 6.64 | 30.00 | Pass |
| | | | CH _M | 3.50 | 2.08 | 5.86 | | |
| | | | CH _H | 3.23 | 2.98 | 6.12 | | |
| | | 802.11n | CH _L | 3.61 | 3.64 | 6.64 | 30.00 | Pass |
| | | | CH _M | 2.76 | 1.32 | 5.11 | | |
| | | | CH _H | 3.19 | 2.05 | 5.67 | | |
| | | 802.11a | CH _L | 4.01 | 3.63 | - | 30.00 | Pass |
| | | | CH _M | 3.40 | 2.47 | - | | |
| | | | CH _H | 3.91 | 2.14 | - | | |
| | 40 | 802.11ac | CH _L | -0.12 | -0.83 | 2.55 | 30.00 | Pass |
| | | | CH _H | -0.18 | -1.18 | 2.36 | | |
| | | 802.11n | CH _L | -0.11 | -0.67 | 2.68 | 30.00 | Pass |
| | | | CH _H | 0.14 | -1.27 | 2.50 | | |
| | 80 | 802.11ac | CH _M | -3.92 | -4.21 | -0.96 | 30.00 | Pass |

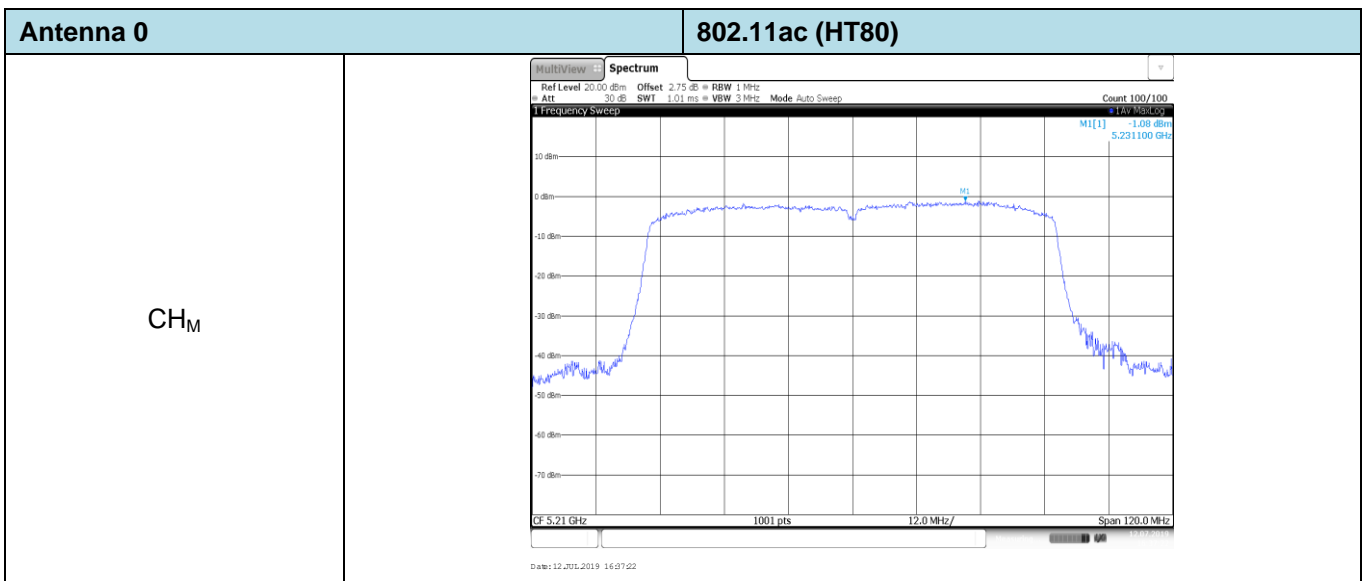
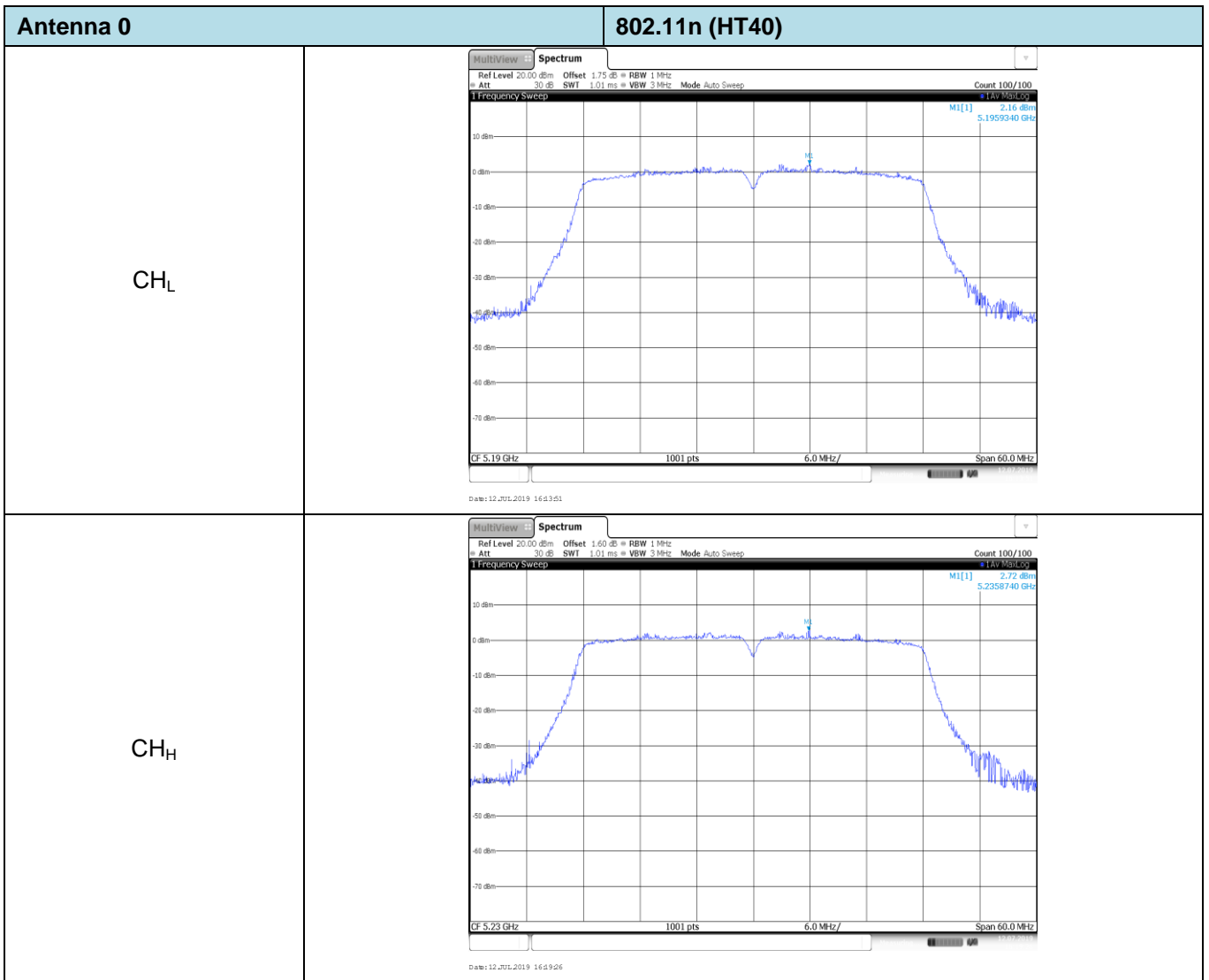
Test plot as follows:

| Band I | |
|-----------------|---|
| Antenna 0 | 802.11ac (HT20) |
| CH _L | <p>The spectrum plot for CH_L shows a signal centered at 5.1736460 GHz. The peak level is 5.29 dBm. The plot includes parameters: Ref Level 20.00 dBm, Offset 1.36 dB, RBW 1 MHz, Att 30 dB, SWI 1.01 ms, VBW 3 MHz, Mode Auto Sweep, Count 100/100. The frequency span is 30.0 MHz, and the resolution is 3.0 MHz.</p> |
| CH _M | <p>The spectrum plot for CH_M shows a signal centered at 5.2134670 GHz. The peak level is 5.41 dBm. The plot includes parameters: Ref Level 20.00 dBm, Offset 1.45 dB, RBW 1 MHz, Att 30 dB, SWI 1.01 ms, VBW 3 MHz, Mode Auto Sweep, Count 100/100. The frequency span is 30.0 MHz, and the resolution is 3.0 MHz.</p> |
| CH _H | <p>The spectrum plot for CH_H shows a signal centered at 5.2335260 GHz. The peak level is 5.75 dBm. The plot includes parameters: Ref Level 20.00 dBm, Offset 1.40 dB, RBW 1 MHz, Att 30 dB, SWI 1.01 ms, VBW 3 MHz, Mode Auto Sweep, Count 100/100. The frequency span is 30.0 MHz, and the resolution is 3.0 MHz.</p> |

| Antenna 0 | | 802.11n (HT20) |
|-----------------|--|----------------|
| CH _L |  <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.45 dB RBW 1 MHz Att 30 dB SWF 1.01 ms VSW 3.84Hz Mode Auto Sweep Count 100/100 1 Frequency Sweep MI(1) 5.12 dBm 5.1864440 GHz CF 5.18 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 15 JUL 2019 09:47:08</p> | |
| CH _M |  <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.43 dB RBW 1 MHz Att 30 dB SWF 1.01 ms VSW 3.84Hz Mode Auto Sweep Count 100/100 1 Frequency Sweep MI(1) 5.78 dBm 5.2264440 GHz CF 5.22 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 15 JUL 2019 09:49:02</p> | |
| CH _H |  <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.24 dB RBW 1 MHz Att 30 dB SWF 1.01 ms VSW 3.84Hz Mode Auto Sweep Count 100/100 1 Frequency Sweep MI(1) 5.41 dBm 5.2463240 GHz CF 5.24 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 15 JUL 2019 09:56:02</p> | |

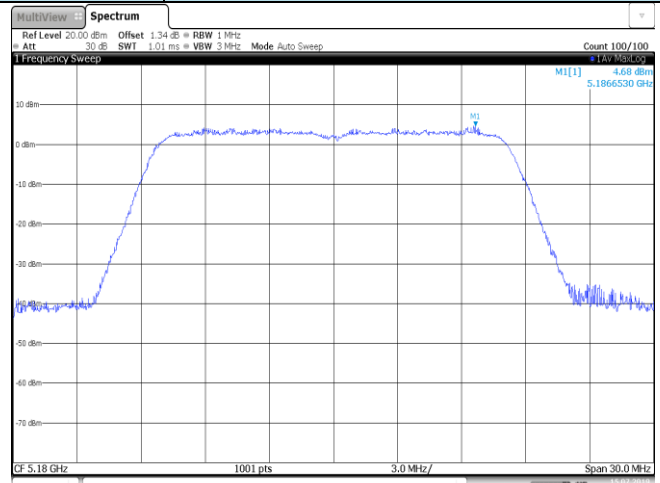
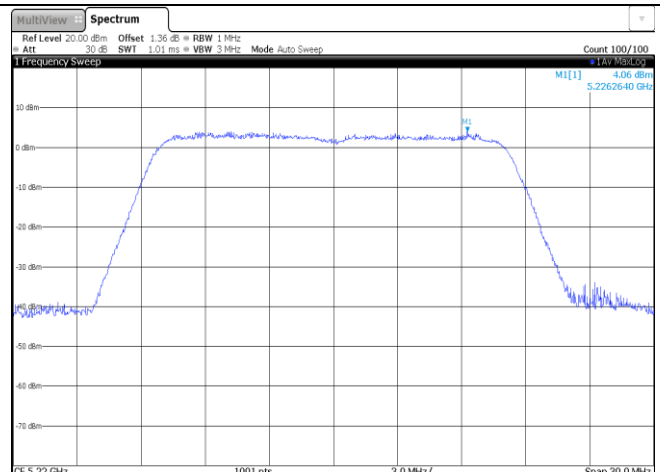
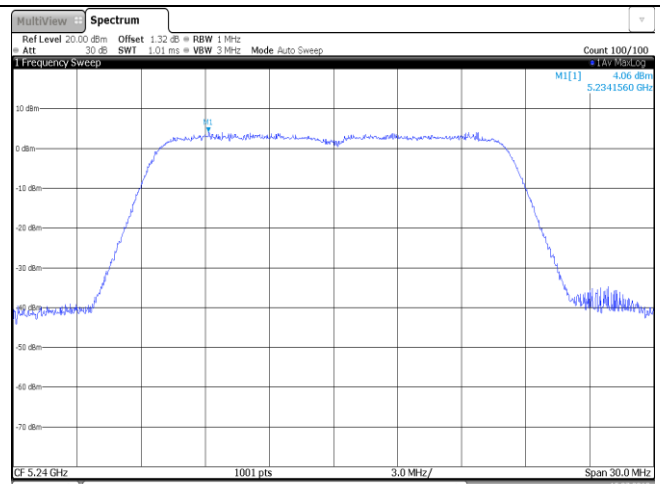
| Antenna 0 | | 802.11a |
|-----------------|--|---------|
| CH _L |  <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.43 dB RBW 1 MHz Att 30 dB SWF 1.01 ms VSW 3.48Hz Mode Auto Sweep Count 100/100 1 Frequency Sweep MI(1) 4.51 dBm 5.1749050 GHz CF 5.18 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 12_JUL_2019 15:59:02</p> | |
| CH _M |  <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.46 dB RBW 1 MHz Att 30 dB SWF 1.01 ms VSW 3.48Hz Mode Auto Sweep Count 100/100 1 Frequency Sweep MI(1) 5.24 dBm 5.2253950 GHz CF 5.22 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 12_JUL_2019 15:42:45</p> | |
| CH _H |  <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.41 dB RBW 1 MHz Att 30 dB SWF 1.01 ms VSW 3.48Hz Mode Auto Sweep Count 100/100 1 Frequency Sweep MI(1) 5.35 dBm 5.2453350 GHz CF 5.24 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 12_JUL_2019 15:44:02</p> | |

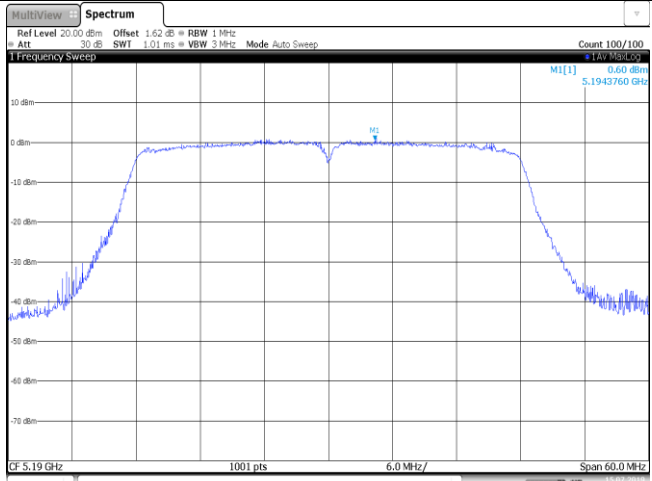
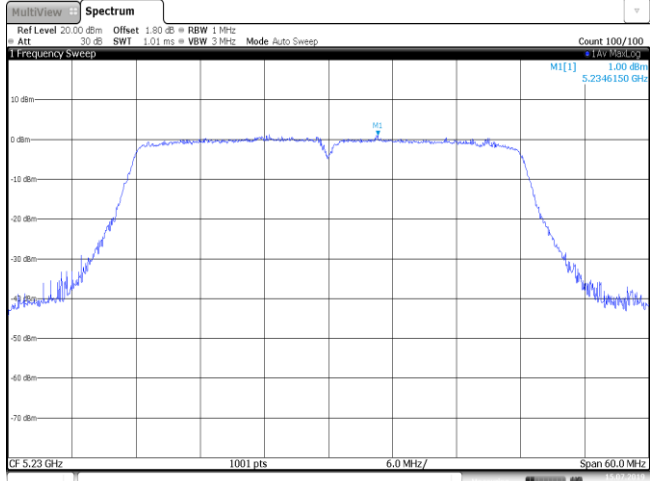
| Antenna 0 | | 802.11ac (HT40) |
|-----------------|--|-----------------|
| CH _L |  <p>Ref Level 20.00 dBm Offset 1.52 dB RBW 1 MHz ATT 30 dB SWI 1.01 ms VSW 3.48Hz Mode Auto Sweep Count 100/100 MI(1) 2.45 dBm 5.1954550 GHz CF 5.19 GHz 1001 pts 6.0 MHz/pt Span 60.0 MHz Date: 12 JUL 2019 16:29:28</p> | |
| CH _H |  <p>Ref Level 20.00 dBm Offset 2.03 dB RBW 1 MHz ATT 30 dB SWI 1.01 ms VSW 3.48Hz Mode Auto Sweep Count 100/100 MI(1) 2.90 dBm 5.2355140 GHz CF 5.23 GHz 1001 pts 6.0 MHz/pt Span 60.0 MHz Date: 12 JUL 2019 16:31:58</p> | |

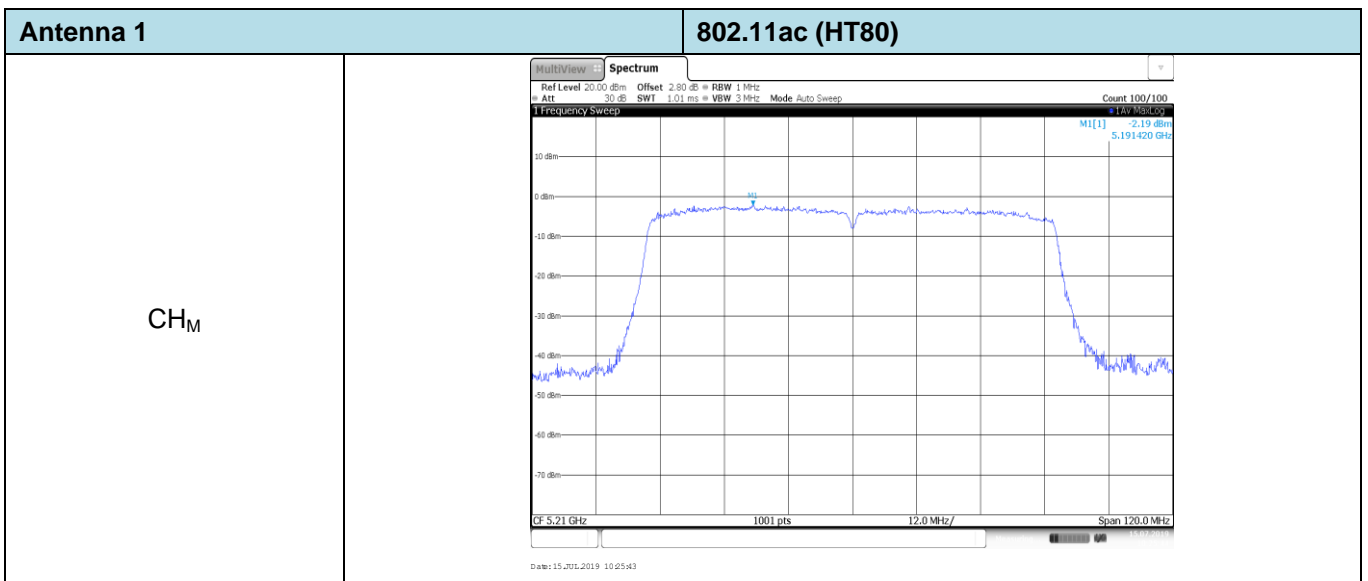
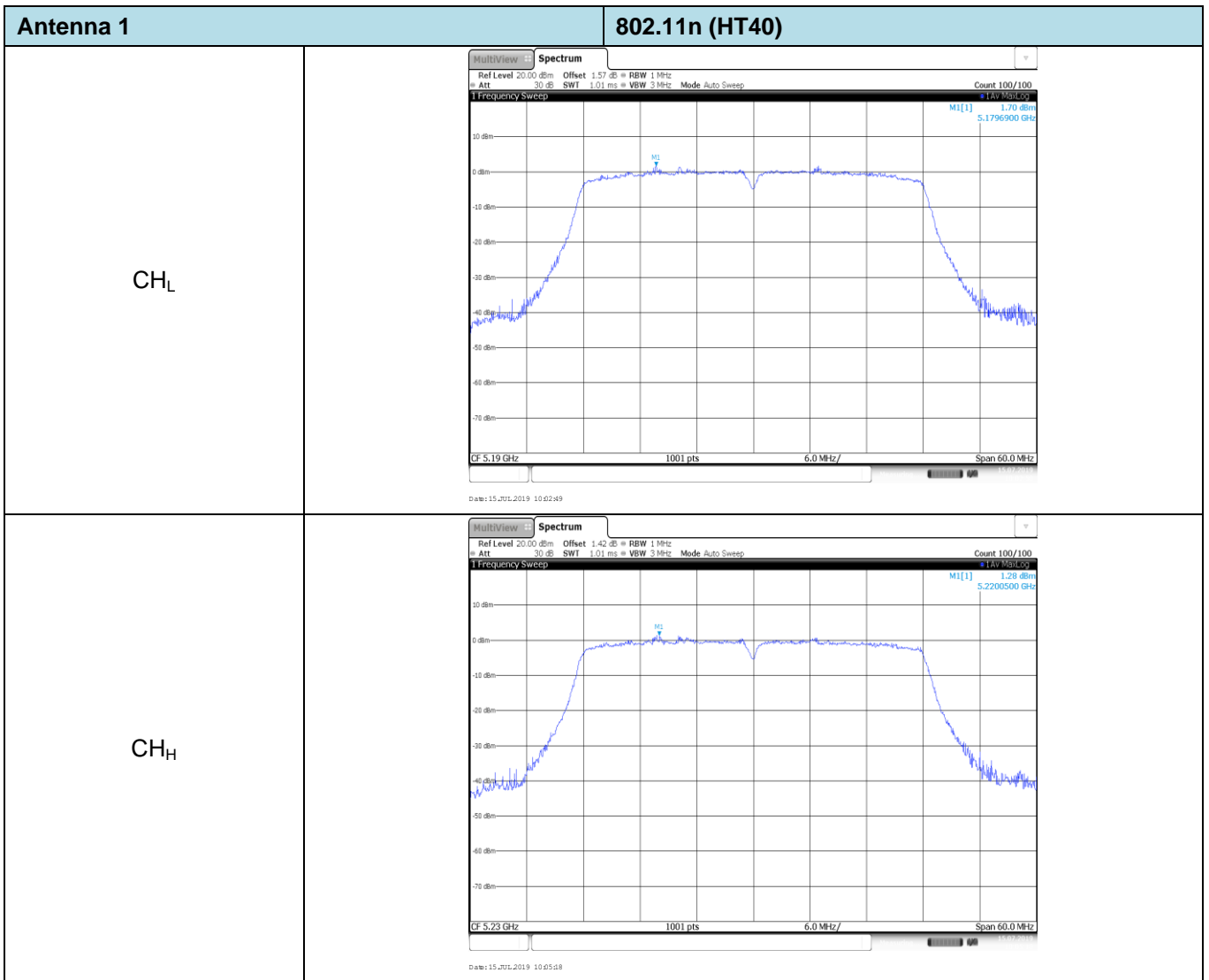


| Antenna 1 | | 802.11ac (HT20) |
|-----------------|---|-----------------|
| CH _L | <p>The spectrum plot for CH_L shows a signal centered around 5.18 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, with a span of 30.0 MHz. A peak is observed at 5.1864440 GHz with a power level of 4.80 dBm. The plot includes technical parameters: Ref Level 20.00 dBm, Offset 1.32 dB, RBW 1 MHz, Att 30 dB, SWI 1.01 ms, VSW 3.48Hz, Mode Auto Sweep, Count 100/100, and Date: 15 JUL 2019 10:22:33.</p> | |
| CH _M | <p>The spectrum plot for CH_M shows a signal centered around 5.22 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, with a span of 30.0 MHz. A peak is observed at 5.2166730 GHz with a power level of 4.63 dBm. The plot includes technical parameters: Ref Level 20.00 dBm, Offset 1.38 dB, RBW 1 MHz, Att 30 dB, SWI 1.01 ms, VSW 3.48Hz, Mode Auto Sweep, Count 100/100, and Date: 15 JUL 2019 10:24:30.</p> | |
| CH _H | <p>The spectrum plot for CH_H shows a signal centered around 5.24 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, with a span of 30.0 MHz. A peak is observed at 5.2355940 GHz with a power level of 5.10 dBm. The plot includes technical parameters: Ref Level 20.00 dBm, Offset 1.34 dB, RBW 1 MHz, Att 30 dB, SWI 1.01 ms, VSW 3.48Hz, Mode Auto Sweep, Count 100/100, and Date: 15 JUL 2019 10:26:17.</p> | |

| Antenna 1 | | 802.11n (HT20) |
|-----------------|--|----------------|
| CH _L | <p>The spectrum plot for channel CH_L shows a signal centered around 5.18 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, with a span of 30.0 MHz. The signal is a flat-topped pulse with a peak level of 4.01 dBm. A measurement point is marked at 5.1757740 GHz with a count of 100/100. The plot includes technical details: Ref Level 20.00 dBm, Offset 1.39 dB, RBW 1 MHz, Att 30 dB, SWF 1.01 ms, VSW 3.48Hz, Mode Auto Sweep.</p> | |
| CH _M | <p>The spectrum plot for channel CH_M shows a signal centered around 5.22 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, with a span of 30.0 MHz. The signal is a flat-topped pulse with a peak level of 4.64 dBm. A measurement point is marked at 5.232670 GHz with a count of 100/100. The plot includes technical details: Ref Level 20.00 dBm, Offset 1.38 dB, RBW 1 MHz, Att 30 dB, SWF 1.01 ms, VSW 3.48Hz, Mode Auto Sweep.</p> | |
| CH _H | <p>The spectrum plot for channel CH_H shows a signal centered around 5.24 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, with a span of 30.0 MHz. The signal is a flat-topped pulse with a peak level of 4.93 dBm. A measurement point is marked at 5.2368530 GHz with a count of 100/100. The plot includes technical details: Ref Level 20.00 dBm, Offset 1.24 dB, RBW 1 MHz, Att 30 dB, SWF 1.01 ms, VSW 3.48Hz, Mode Auto Sweep.</p> | |

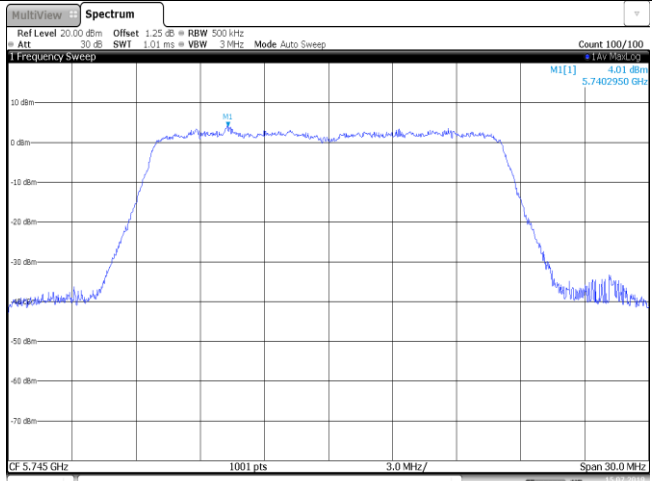
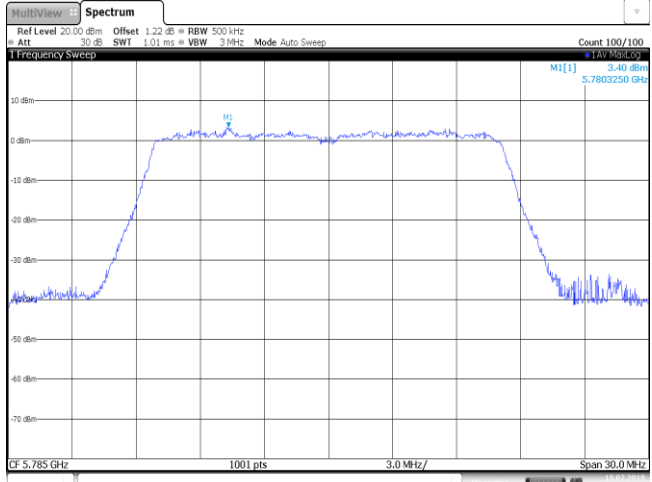
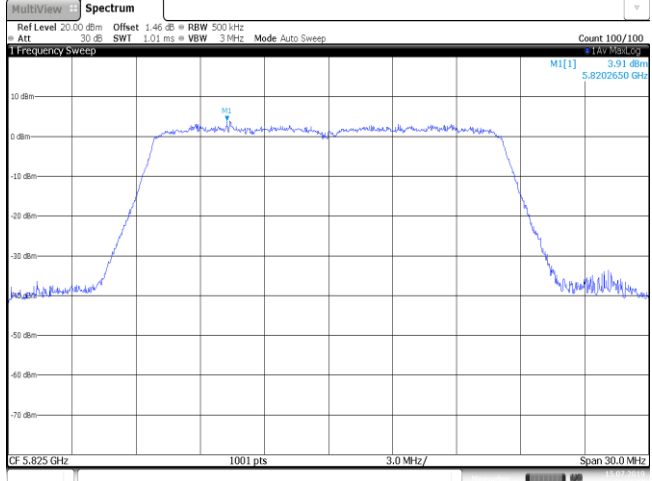
| Antenna 1 | 802.11a |
|-----------------|---|
| CH _L |  <p>Ref Level 20.00 dBm Offset 1.34 dB RBW 1 MHz Att 30 dB SWF 1.01 ms VSW 3.34Hz Mode Auto Sweep Count 100/100 MI(1) 4.68 dBm 5.1866530 GHz</p> <p>CF 5.18 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <p>Date: 15 JUL 2019 09:37:40</p> |
| CH _M |  <p>Ref Level 20.00 dBm Offset 1.36 dB RBW 1 MHz Att 30 dB SWF 1.01 ms VSW 3.34Hz Mode Auto Sweep Count 100/100 MI(1) 4.06 dBm 5.2262640 GHz</p> <p>CF 5.22 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <p>Date: 15 JUL 2019 09:39:53</p> |
| CH _H |  <p>Ref Level 20.00 dBm Offset 1.32 dB RBW 1 MHz Att 30 dB SWF 1.01 ms VSW 3.34Hz Mode Auto Sweep Count 100/100 MI(1) 4.06 dBm 5.2341560 GHz</p> <p>CF 5.24 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <p>Date: 15 JUL 2019 09:41:51</p> |

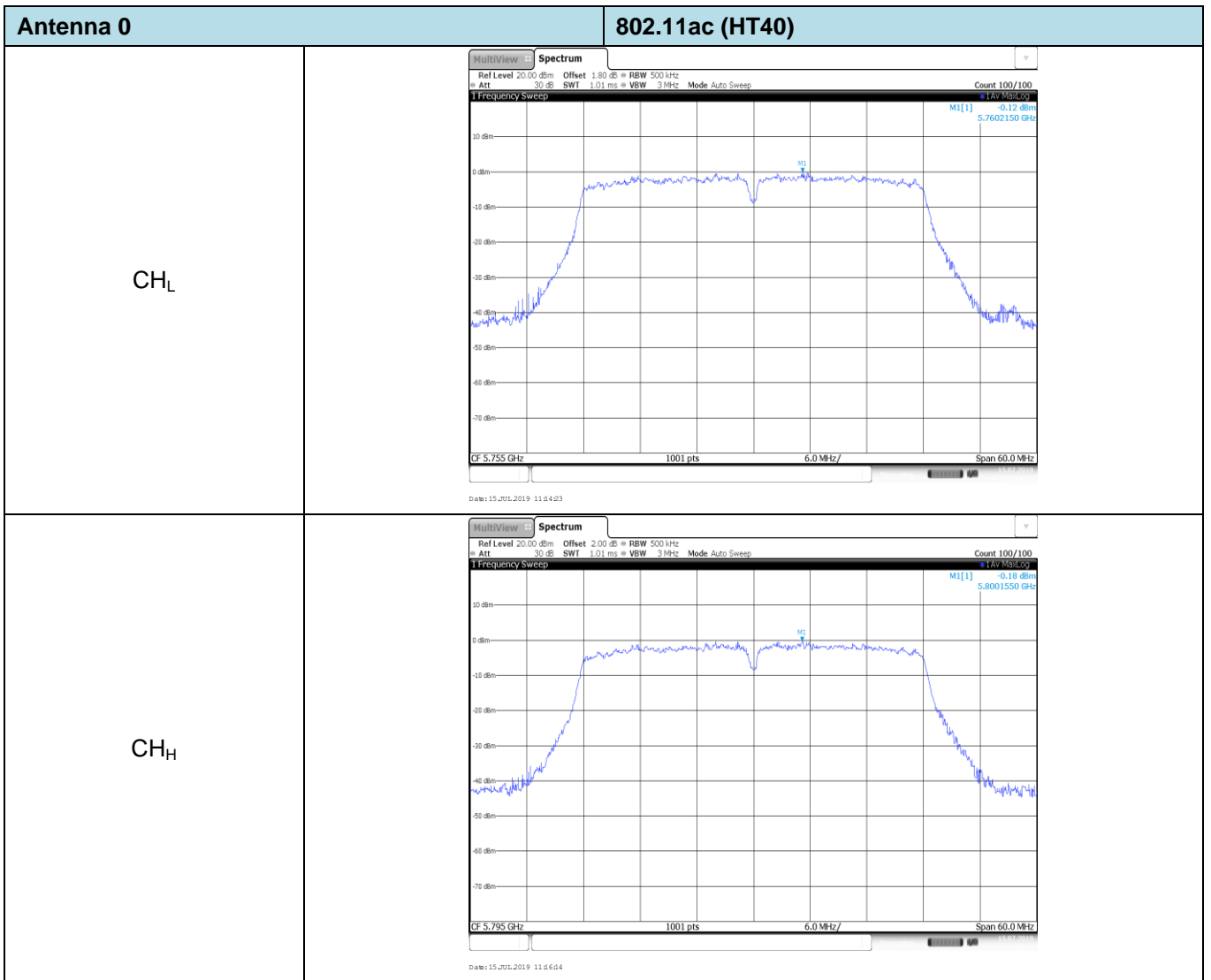
| Antenna 1 | | 802.11ac (HT40) |
|-----------------|---|-----------------|
| CH _L |  <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.62 dB RBW 1 MHz ATT 30 dB SWI 1.01 ms VSW 3.48Hz Mode Auto Sweep Count 100/100 MI[1] 0.60 dBm 5.1943760 GHz CF 5.19 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz Date: 15 JUL 2019 10:20:54</p> | |
| CH _H |  <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.80 dB RBW 1 MHz ATT 30 dB SWI 1.01 ms VSW 3.48Hz Mode Auto Sweep Count 100/100 MI[1] 1.00 dBm 5.2346150 GHz CF 5.23 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz Date: 15 JUL 2019 10:22:43</p> | |

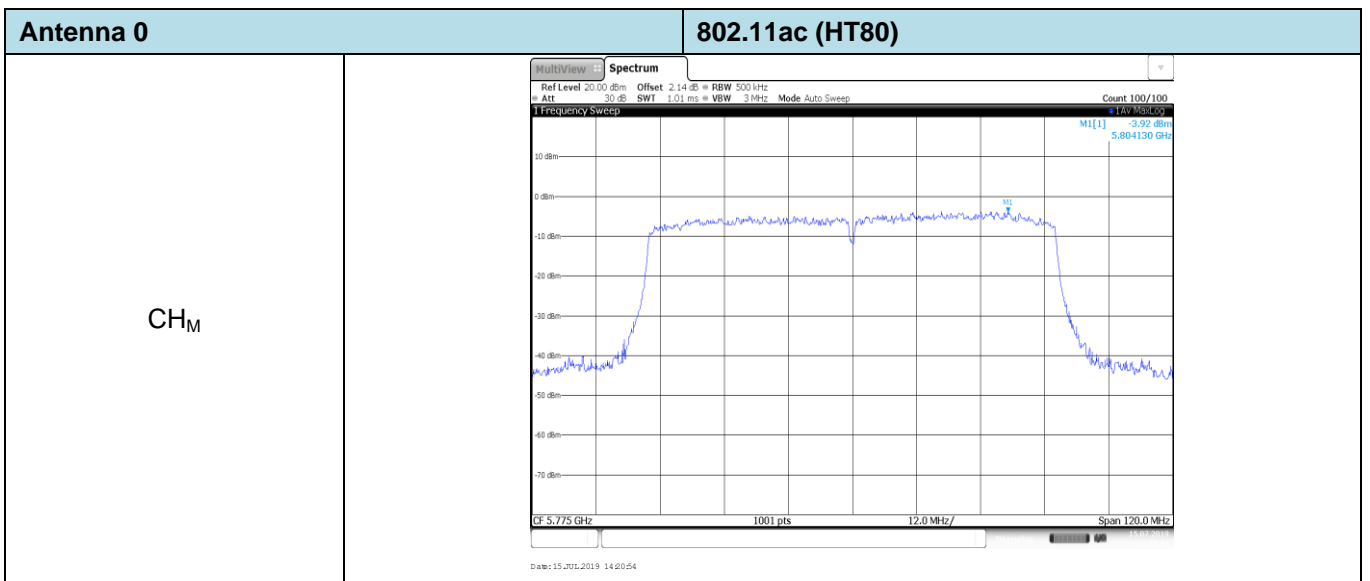
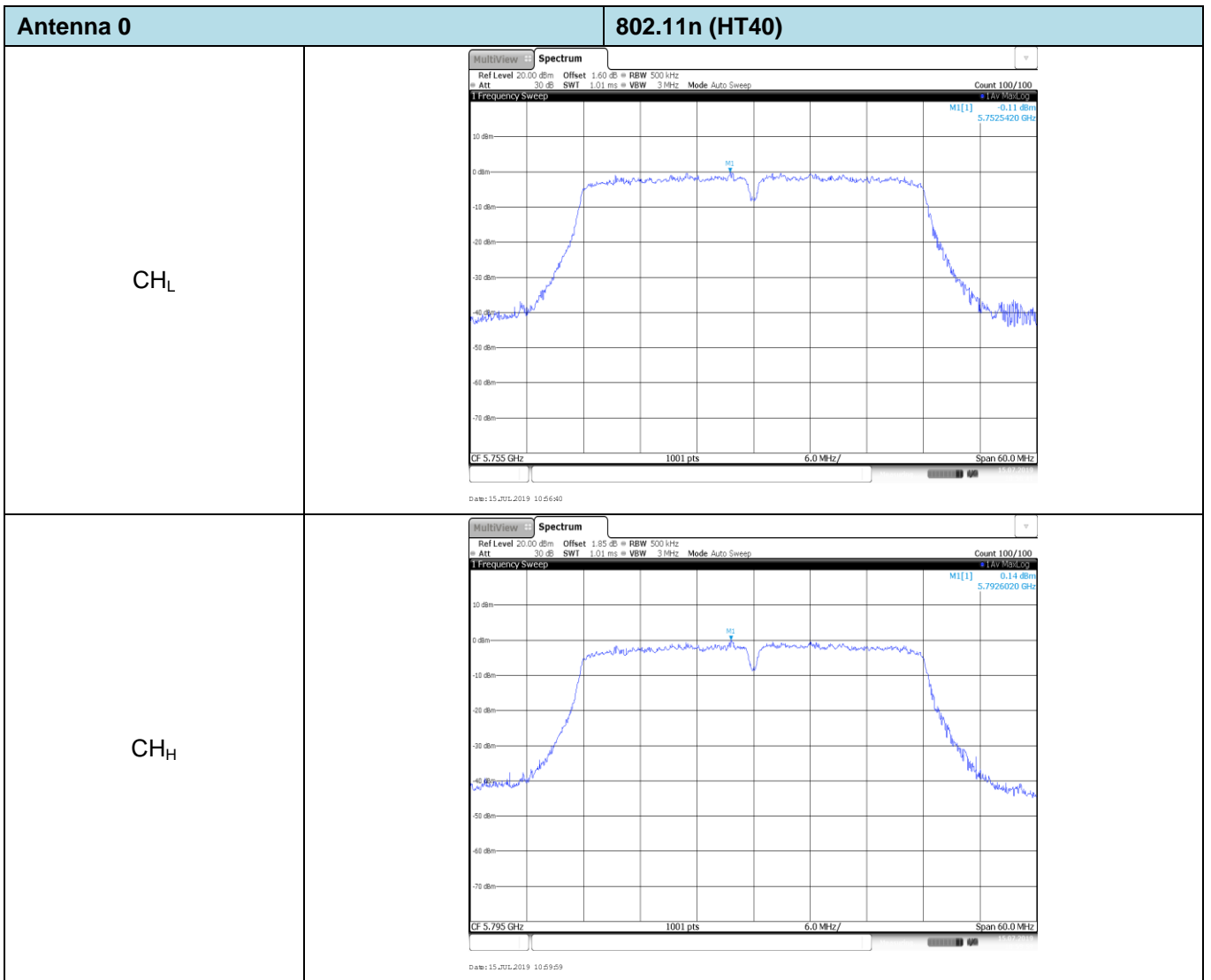


| Band IV | |
|-----------------|--|
| Antenna 0 | 802.11ac (HT20) |
| CH _L | <p>The spectrum plot for CH_L shows a signal centered at 5.745 GHz. The frequency span is 30.0 MHz, and the resolution bandwidth (RBW) is 3.0 MHz. The signal level is 3.52 dBm. The plot includes a grid and various measurement parameters such as Offset (1.27 dB), RBW (500 kHz), and Mode (Auto Sweep).</p> |
| CH _M | <p>The spectrum plot for CH_M shows a signal centered at 5.785 GHz. The frequency span is 30.0 MHz, and the resolution bandwidth (RBW) is 3.0 MHz. The signal level is 3.50 dBm. The plot includes a grid and various measurement parameters such as Offset (1.52 dB), RBW (500 kHz), and Mode (Auto Sweep).</p> |
| CH _H | <p>The spectrum plot for CH_H shows a signal centered at 5.825 GHz. The frequency span is 30.0 MHz, and the resolution bandwidth (RBW) is 3.0 MHz. The signal level is 3.23 dBm. The plot includes a grid and various measurement parameters such as Offset (1.34 dB), RBW (500 kHz), and Mode (Auto Sweep).</p> |

| Antenna 0 | | 802.11n (HT20) |
|-----------------|---|----------------|
| CH _L | <p>The spectrum plot for channel CH_L shows a signal centered at 5.750 GHz. The plot title is 'Spectrum' and it includes parameters: Ref Level 20.00 dBm, Offset 1.28 dB, RBW 500 kHz, Att 30 dB, SWF 1.01 ms, VSW 3.9Hz, Mode Auto Sweep, Count 100/100. The signal is measured at 5.7502450 GHz with a level of 3.61 dBm. The plot shows a flat signal between approximately 5.745 GHz and 5.750 GHz, with noise floor around -40 dBm. The x-axis is labeled 'CF 5.745 GHz', '1001 pts', '3.0 MHz/', and 'Span 30.0 MHz'. The y-axis is labeled from -70 dBm to 10 dBm. The date is 15 JUL 2019 10:48:06.</p> | |
| CH _M | <p>The spectrum plot for channel CH_M shows a signal centered at 5.790 GHz. The plot title is 'Spectrum' and it includes parameters: Ref Level 20.00 dBm, Offset 1.40 dB, RBW 500 kHz, Att 30 dB, SWF 1.01 ms, VSW 3.9Hz, Mode Auto Sweep, Count 100/100. The signal is measured at 5.7914440 GHz with a level of 2.76 dBm. The plot shows a flat signal between approximately 5.785 GHz and 5.790 GHz, with noise floor around -40 dBm. The x-axis is labeled 'CF 5.785 GHz', '1001 pts', '3.0 MHz/', and 'Span 30.0 MHz'. The y-axis is labeled from -70 dBm to 10 dBm. The date is 15 JUL 2019 10:49:58.</p> | |
| CH _H | <p>The spectrum plot for channel CH_H shows a signal centered at 5.830 GHz. The plot title is 'Spectrum' and it includes parameters: Ref Level 20.00 dBm, Offset 1.27 dB, RBW 500 kHz, Att 30 dB, SWF 1.01 ms, VSW 3.9Hz, Mode Auto Sweep, Count 100/100. The signal is measured at 5.8302450 GHz with a level of 3.19 dBm. The plot shows a flat signal between approximately 5.825 GHz and 5.830 GHz, with noise floor around -40 dBm. The x-axis is labeled 'CF 5.825 GHz', '1001 pts', '3.0 MHz/', and 'Span 30.0 MHz'. The y-axis is labeled from -70 dBm to 10 dBm. The date is 15 JUL 2019 10:51:44.</p> | |

| Antenna 0 | | 802.11a |
|-----------------|---|---------|
| CH _L |  <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.25 dB RBW 500 kHz Att 30 dB SWF 1.01 ms VSW 3.9MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep MI[1] 4.01 dBm 5.7402950 GHz CF 5.745 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 15 JUL 2019 10:42:05</p> | |
| CH _M |  <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.22 dB RBW 500 kHz Att 30 dB SWF 1.01 ms VSW 3.9MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep MI[1] 3.40 dBm 5.7803250 GHz CF 5.785 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 15 JUL 2019 10:44:19</p> | |
| CH _H |  <p>MultiView Spectrum Ref Level 20.00 dBm Offset 1.46 dB RBW 500 kHz Att 30 dB SWF 1.01 ms VSW 3.9MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep MI[1] 3.91 dBm 5.8202650 GHz CF 5.825 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 15 JUL 2019 10:46:07</p> | |

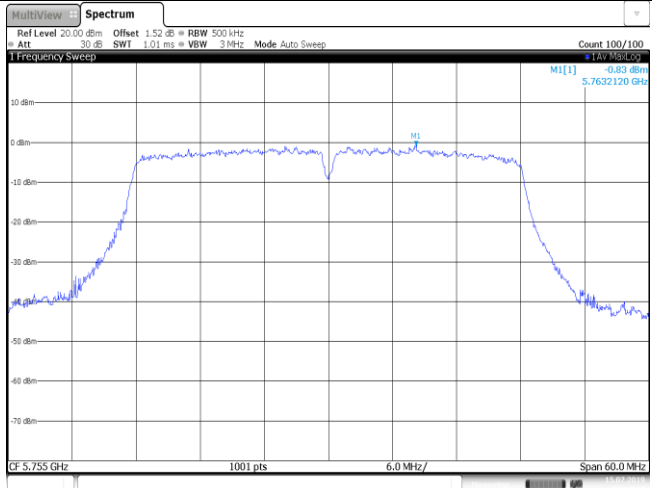
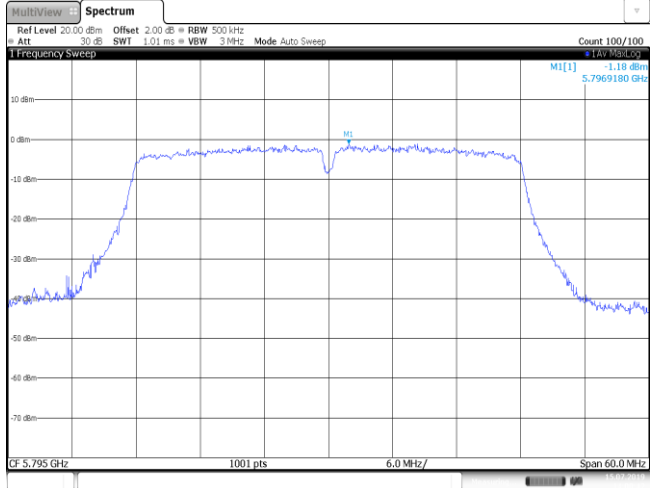


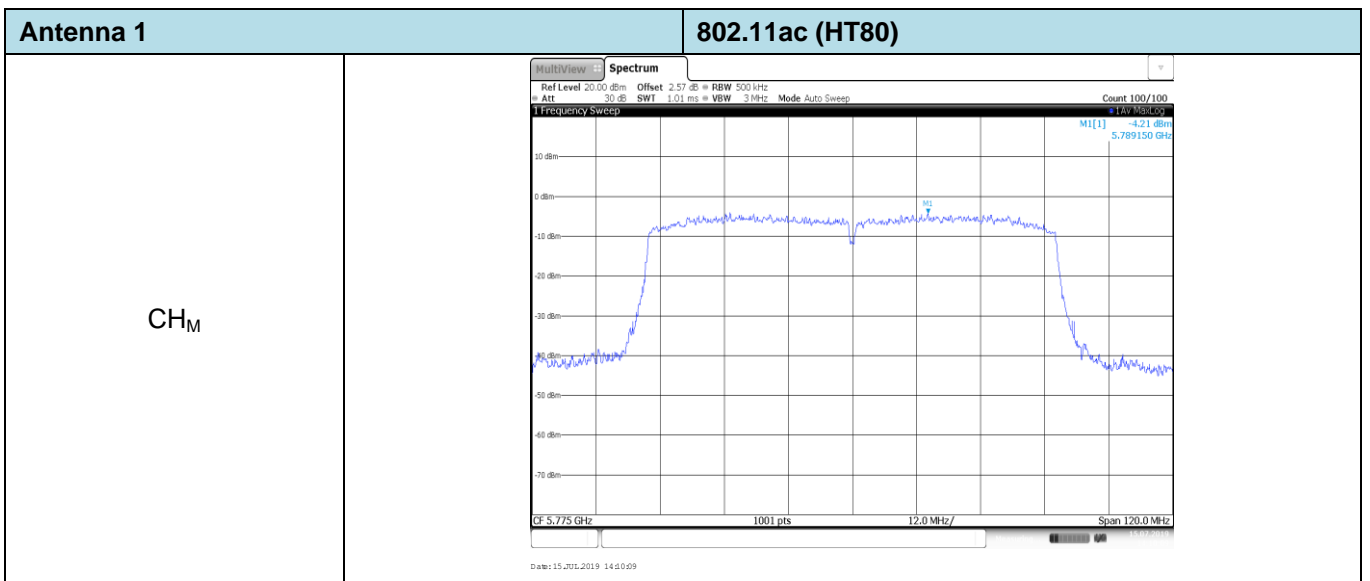
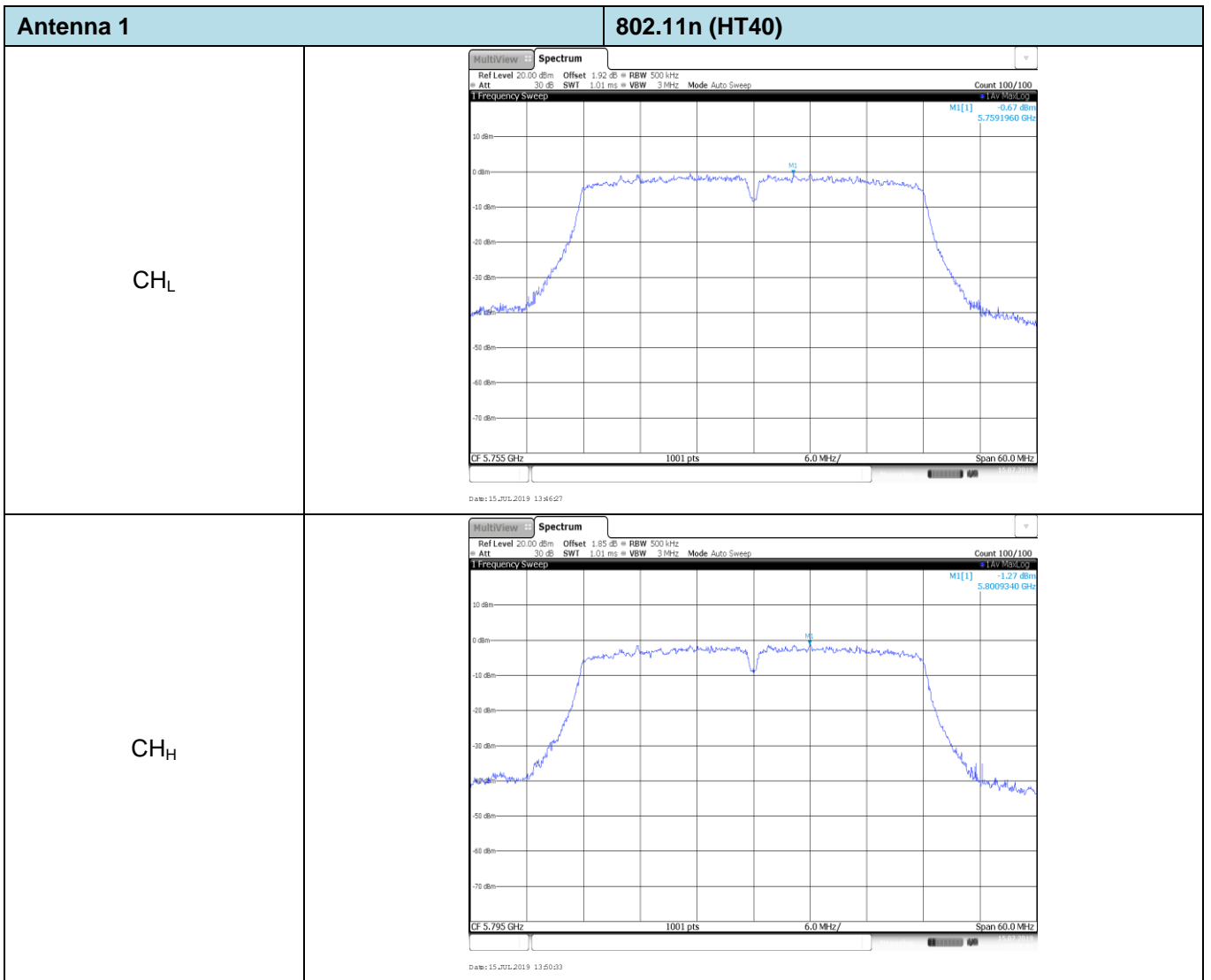


| Antenna 1 | | 802.11ac (HT20) |
|-----------------|---|-----------------|
| CH _L | <p>The spectrum plot for CH_L shows a signal centered around 5.745 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, with a span of 30.0 MHz. A peak is observed at 5.7422730 GHz with a power level of 3.73 dBm. The plot includes parameters: Ref Level 20.00 dBm, Offset 1.43 dB, RBW 500 kHz, Att 30 dB, SWF 1.01 ms, VSW 3.9Hz, Mode Auto Sweep, Count 100/100, and Date: 15.JUL.2019 13:52:27.</p> | |
| CH _M | <p>The spectrum plot for CH_M shows a signal centered around 5.785 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, with a span of 30.0 MHz. A peak is observed at 5.7821530 GHz with a power level of 2.08 dBm. The plot includes parameters: Ref Level 20.00 dBm, Offset 1.51 dB, RBW 500 kHz, Att 30 dB, SWF 1.01 ms, VSW 3.9Hz, Mode Auto Sweep, Count 100/100, and Date: 15.JUL.2019 13:54:25.</p> | |
| CH _H | <p>The spectrum plot for CH_H shows a signal centered around 5.825 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, with a span of 30.0 MHz. A peak is observed at 5.8221530 GHz with a power level of 2.98 dBm. The plot includes parameters: Ref Level 20.00 dBm, Offset 1.38 dB, RBW 500 kHz, Att 30 dB, SWF 1.01 ms, VSW 3.9Hz, Mode Auto Sweep, Count 100/100, and Date: 15.JUL.2019 13:56:47.</p> | |

| Antenna 1 | | 802.11n (HT20) |
|-----------------|--|----------------|
| CH _L | <p>The spectrum plot for CH_L shows a signal centered at 5.765 GHz. The frequency span is 30.0 MHz, with a resolution bandwidth of 3.0 MHz. The signal level is 3.64 dBm. The plot includes a peak marker M1 at 5.7384370 GHz.</p> | |
| CH _M | <p>The spectrum plot for CH_M shows a signal centered at 5.805 GHz. The frequency span is 30.0 MHz, with a resolution bandwidth of 3.0 MHz. The signal level is 1.32 dBm. The plot includes a peak marker M1 at 5.7784370 GHz.</p> | |
| CH _H | <p>The spectrum plot for CH_H shows a signal centered at 5.845 GHz. The frequency span is 30.0 MHz, with a resolution bandwidth of 3.0 MHz. The signal level is 2.05 dBm. The plot includes a peak marker M1 at 5.8289860 GHz.</p> | |

| Antenna 1 | | 802.11a |
|-----------------|--|---------|
| CH _L | <p>The spectrum plot for CH_L shows a signal centered at 5.745 GHz. The signal is a rectangular pulse with a bandwidth of 30.0 MHz. The peak level is 3.63 dBm. The plot includes parameters: Ref Level 20.00 dBm, Offset 1.31 dB, RBW 500 kHz, Att 30 dB, SWF 1.01 ms, VSW 3.9Hz, Mode Auto Sweep, Count 100/100. The date is 15 JUL 2019 11:08:06.</p> | |
| CH _M | <p>The spectrum plot for CH_M shows a signal centered at 5.785 GHz. The signal is a rectangular pulse with a bandwidth of 30.0 MHz. The peak level is 2.47 dBm. The plot includes parameters: Ref Level 20.00 dBm, Offset 1.20 dB, RBW 500 kHz, Att 30 dB, SWF 1.01 ms, VSW 3.9Hz, Mode Auto Sweep, Count 100/100. The date is 15 JUL 2019 13:20:04.</p> | |
| CH _H | <p>The spectrum plot for CH_H shows a signal centered at 5.825 GHz. The signal is a rectangular pulse with a bandwidth of 30.0 MHz. The peak level is 2.14 dBm. The plot includes parameters: Ref Level 20.00 dBm, Offset 1.24 dB, RBW 500 kHz, Att 30 dB, SWF 1.01 ms, VSW 3.9Hz, Mode Auto Sweep, Count 100/100. The date is 15 JUL 2019 13:22:04.</p> | |

| Antenna 1 | | 802.11ac (HT40) |
|-----------------|---|-----------------|
| CH _L |  <p>Ref Level 20.00 dBm Offset 1.52 dB RBW 500 kHz Att 30 dB SWI 1.01 ms VBW 3 kHz Mode Auto Sweep Count 100/100 MI(1) -0.83 dBm 5.7632120 GHz CF 5.755 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz Date: 15 JUL 2019 13:58:57</p> | |
| CH _H |  <p>Ref Level 20.00 dBm Offset 2.00 dB RBW 500 kHz Att 30 dB SWI 1.01 ms VBW 3 kHz Mode Auto Sweep Count 100/100 MI(1) -1.18 dBm 5.7969180 GHz CF 5.795 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz Date: 15 JUL 2019 14:50:41</p> | |

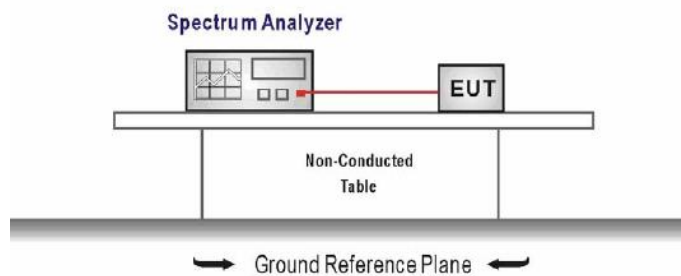


5.5. 26dB bandwidth and 99% Occupancy bandwidth

LIMIT

The bandwidth at 26dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in KDB 789033 D02 , and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26dB bandwidth.

TEST CONFIGURATION



TEST PROCEDURE

1. According KDB 789033 D02 – Section C
2. Connect the antenna port(s) to the spectrum analyzer input.
3. Configure the spectrum analyzer as shown below (enter all losses between the transmitter output and the spectrum analyzer).
 - Center Frequency = Channel center frequency
 - Span = 2 x emission bandwidth
 - RBW = 1% to 5% of the emission bandwidth
 - VBW > 3 x RBW
 - Sweep time = auto couple
 - Detector = Peak
 - Trace mode = max hold
4. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter wave form on the spectrum analyzer.
5. Measure the maximum width of the emission that is 26 dB down from the maximum of the emission, and use the 99 % power bandwidth function of the instrument

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

Passed Not Applicable

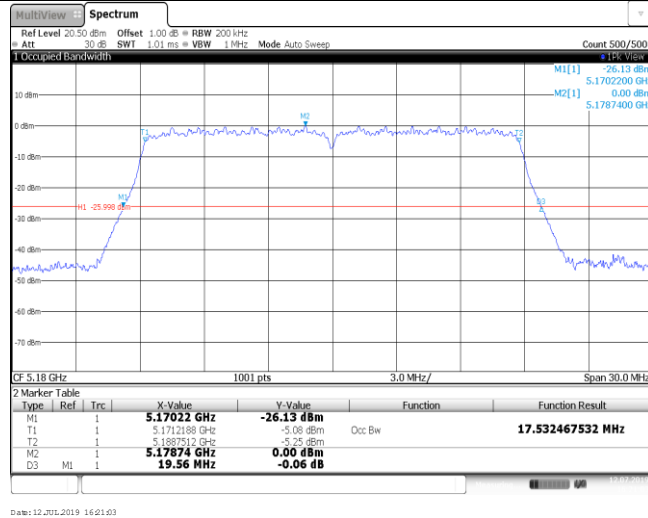
| Band | Bandwidth (MHz) | Type | Channel | 99% Occupy bandwidth (MHz) | 26dB bandwidth (MHz) | Result |
|-----------------|-----------------|-----------------|-----------------|----------------------------|----------------------|--------|
| | | | | Antenna 0 | Antenna 0 | |
| I | 20 | 802.11ac | CH _L | 17.53 | 19.56 | Pass |
| | | | CH _M | 17.50 | 19.56 | |
| | | | CH _H | 17.53 | 19.59 | |
| | | 802.11n | CH _L | 17.53 | 19.47 | Pass |
| | | | CH _M | 17.50 | 19.47 | |
| | | | CH _H | 17.53 | 19.44 | |
| | 802.11a | CH _L | 16.33 | 18.60 | Pass | |
| | | CH _M | 16.36 | 18.66 | | |
| | | CH _H | 16.36 | 18.66 | | |
| | 40 | 802.11ac | CH _L | 36.20 | 41.28 | Pass |
| | | | CH _H | 36.14 | 41.46 | |
| | | 802.11n | CH _L | 36.20 | 41.46 | Pass |
| CH _H | | | 36.32 | 41.76 | | |
| 80 | 802.11ac | CH _M | 74.81 | 81.72 | Pass | |

| Band | Bandwidth (MHz) | Type | Channel | 99% Occupy bandwidth (MHz) | 26dB bandwidth (MHz) | Result |
|-----------------|-----------------|-----------------|-----------------|----------------------------|----------------------|--------|
| | | | | Antenna 1 | Antenna 1 | |
| I | 20 | 802.11ac | CH _L | 17.53 | 19.47 | Pass |
| | | | CH _M | 17.50 | 19.50 | |
| | | | CH _H | 17.53 | 19.41 | |
| | | 802.11n | CH _L | 16.33 | 18.54 | Pass |
| | | | CH _M | 16.33 | 18.54 | |
| | | | CH _H | 16.33 | 18.60 | |
| | 802.11a | CH _L | 16.33 | 18.60 | Pass | |
| | | CH _M | 16.33 | 18.54 | | |
| | | CH _H | 16.33 | 18.57 | | |
| | 40 | 802.11ac | CH _L | 36.20 | 41.82 | Pass |
| | | | CH _H | 36.26 | 42.12 | |
| | | 802.11n | CH _L | 36.14 | 41.40 | Pass |
| CH _H | | | 36.20 | 41.58 | | |
| 80 | 802.11ac | CH _M | 75.29 | 82.92 | Pass | |

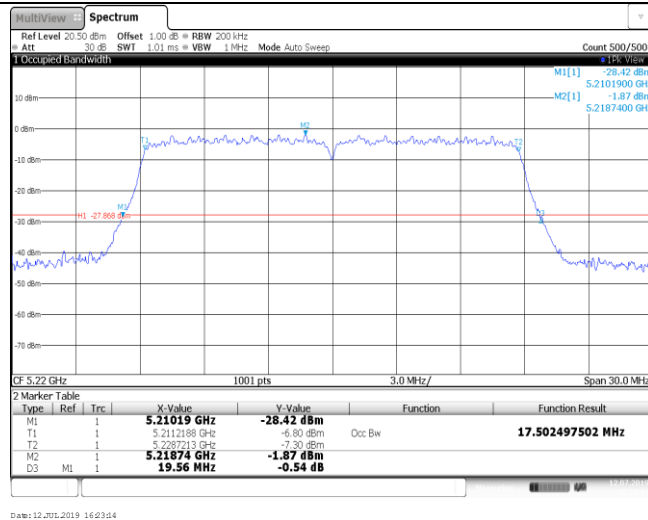
Band I

802.11ac (HT20) **Antenna 0**

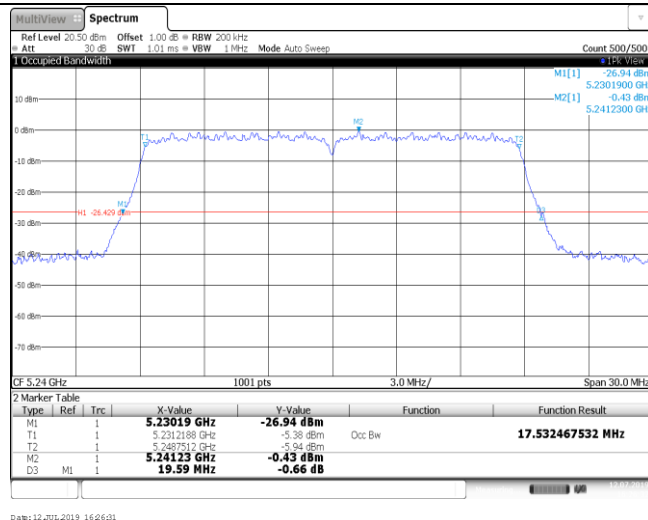
CH_L



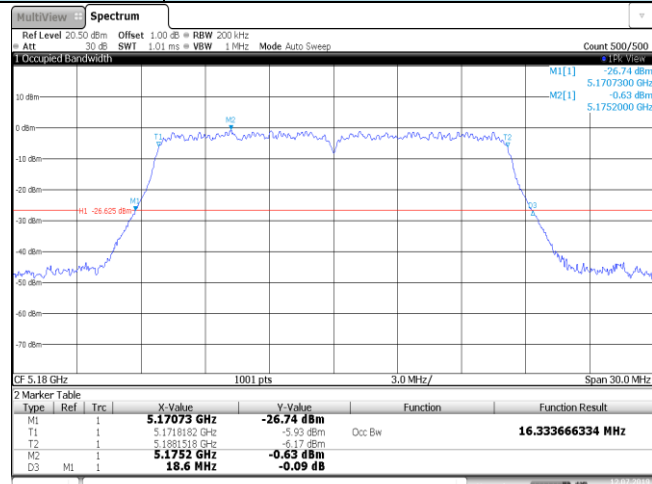
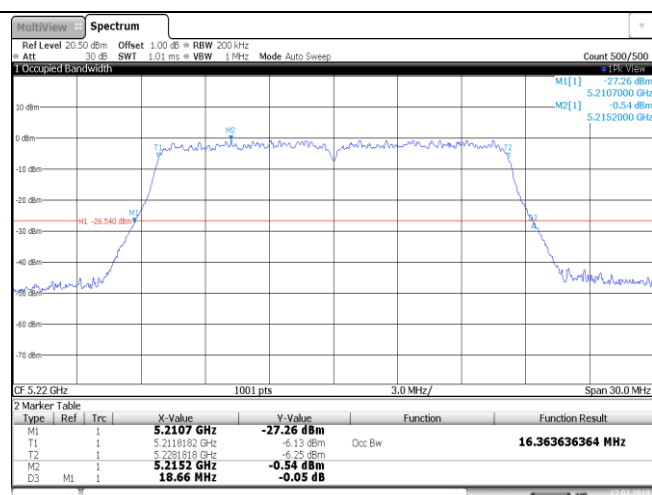
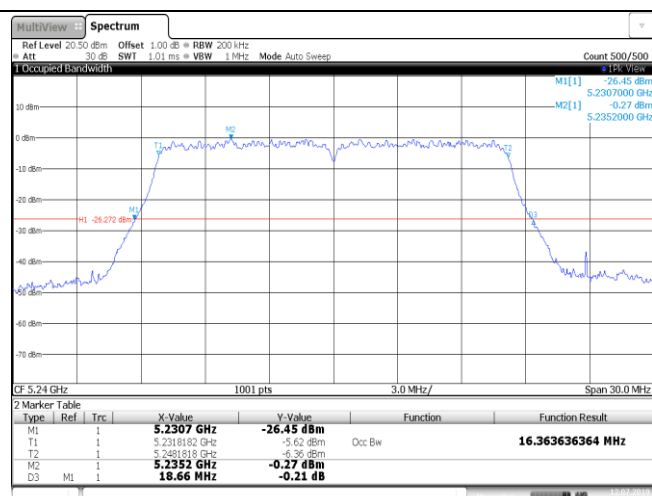
CH_M



CH_H



| 802.11n (HT20) | Antenna 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|------|---------------|------------|----------|------------------|----------|-----------------|----|---|--|-------------|------------|--|--|----|---|--|---------------|-----------|--|--|----|---|--|---------------|-----------|--------|------------------|----|---|--|-------------|-----------|--|--|----|----|---|-----------|----------|--|--|
| <p>CH_L</p> | <p>MultiView Spectrum</p> <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 200 kHz Att -30 dB SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <p>M1[1] -27.61 dBm 5.1702500 GHz M2[1] -0.95 dBm 5.1787400 GHz</p> <p>CF 5.18 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <p>2 Marker Table</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.17025 GHz</td> <td>-27.61 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.1712488 GHz</td> <td>-5.72 dBm</td> <td></td> <td></td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.1887512 GHz</td> <td>-6.21 dBm</td> <td>Occ Bw</td> <td>17.532467532 MHz</td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.17874 GHz</td> <td>-0.95 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>19.47 MHz</td> <td>-0.12 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 12 Jul 2019 15:45:59</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.17025 GHz | -27.61 dBm | | | T1 | 1 | | 5.1712488 GHz | -5.72 dBm | | | T2 | 1 | | 5.1887512 GHz | -6.21 dBm | Occ Bw | 17.532467532 MHz | M2 | 1 | | 5.17874 GHz | -0.95 dBm | | | D3 | M1 | 1 | 19.47 MHz | -0.12 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.17025 GHz | -27.61 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.1712488 GHz | -5.72 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.1887512 GHz | -6.21 dBm | Occ Bw | 17.532467532 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.17874 GHz | -0.95 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 19.47 MHz | -0.12 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>CH_M</p> | <p>MultiView Spectrum</p> <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 200 kHz Att -30 dB SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <p>M1[1] -26.81 dBm 5.2102800 GHz M2[1] -0.63 dBm 5.2212600 GHz</p> <p>CF 5.22 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <p>2 Marker Table</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.21028 GHz</td> <td>-26.81 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.2112488 GHz</td> <td>-5.83 dBm</td> <td></td> <td></td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.2287512 GHz</td> <td>-5.56 dBm</td> <td>Occ Bw</td> <td>17.502497502 MHz</td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.22126 GHz</td> <td>-0.63 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>19.47 MHz</td> <td>-0.57 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 12 Jul 2019 15:47:47</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.21028 GHz | -26.81 dBm | | | T1 | 1 | | 5.2112488 GHz | -5.83 dBm | | | T2 | 1 | | 5.2287512 GHz | -5.56 dBm | Occ Bw | 17.502497502 MHz | M2 | 1 | | 5.22126 GHz | -0.63 dBm | | | D3 | M1 | 1 | 19.47 MHz | -0.57 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.21028 GHz | -26.81 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.2112488 GHz | -5.83 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.2287512 GHz | -5.56 dBm | Occ Bw | 17.502497502 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.22126 GHz | -0.63 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 19.47 MHz | -0.57 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>CH_H</p> | <p>MultiView Spectrum</p> <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 200 kHz Att -30 dB SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <p>M1[1] -26.17 dBm 5.2302800 GHz M2[1] 0.09 dBm 5.2387400 GHz</p> <p>CF 5.24 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <p>2 Marker Table</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.23028 GHz</td> <td>-26.17 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.2312488 GHz</td> <td>-5.40 dBm</td> <td></td> <td></td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.2487512 GHz</td> <td>-5.01 dBm</td> <td>Occ Bw</td> <td>17.532467532 MHz</td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.23874 GHz</td> <td>0.09 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>19.44 MHz</td> <td>0.17 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 12 Jul 2019 15:45:46</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.23028 GHz | -26.17 dBm | | | T1 | 1 | | 5.2312488 GHz | -5.40 dBm | | | T2 | 1 | | 5.2487512 GHz | -5.01 dBm | Occ Bw | 17.532467532 MHz | M2 | 1 | | 5.23874 GHz | 0.09 dBm | | | D3 | M1 | 1 | 19.44 MHz | 0.17 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.23028 GHz | -26.17 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.2312488 GHz | -5.40 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.2487512 GHz | -5.01 dBm | Occ Bw | 17.532467532 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.23874 GHz | 0.09 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 19.44 MHz | 0.17 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| 802.11a | Antenna 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|------|---------------|------------|----------|------------------|----------|-----------------|----|---|--|-------------|------------|--|--|----|---|--|---------------|-----------|--------|------------------|----|---|--|---------------|-----------|--|--|----|---|--|------------|-----------|--|--|----|----|---|-----------|----------|--|--|
| CH _L |  <p>Ref Level 20.50 dBm Offset 1.00 dB BW 200 kHz Att 30 dB SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.17073 GHz</td> <td>-26.74 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.1718182 GHz</td> <td>-5.99 dBm</td> <td>Occ Bw</td> <td>16.333666334 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.1881818 GHz</td> <td>-6.17 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.1752 GHz</td> <td>-0.63 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>18.6 MHz</td> <td>-0.09 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 12-Jul-2019 15:08:47</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.17073 GHz | -26.74 dBm | | | T1 | 1 | | 5.1718182 GHz | -5.99 dBm | Occ Bw | 16.333666334 MHz | T2 | 1 | | 5.1881818 GHz | -6.17 dBm | | | M2 | 1 | | 5.1752 GHz | -0.63 dBm | | | D3 | M1 | 1 | 18.6 MHz | -0.09 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.17073 GHz | -26.74 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.1718182 GHz | -5.99 dBm | Occ Bw | 16.333666334 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.1881818 GHz | -6.17 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.1752 GHz | -0.63 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 18.6 MHz | -0.09 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CH _M |  <p>Ref Level 20.50 dBm Offset 1.00 dB BW 200 kHz Att 30 dB SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.2107 GHz</td> <td>-27.26 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.2118182 GHz</td> <td>-6.13 dBm</td> <td>Occ Bw</td> <td>16.363636364 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.2281818 GHz</td> <td>-6.25 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.2152 GHz</td> <td>-0.54 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>18.66 MHz</td> <td>-0.05 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 12-Jul-2019 15:42:01</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.2107 GHz | -27.26 dBm | | | T1 | 1 | | 5.2118182 GHz | -6.13 dBm | Occ Bw | 16.363636364 MHz | T2 | 1 | | 5.2281818 GHz | -6.25 dBm | | | M2 | 1 | | 5.2152 GHz | -0.54 dBm | | | D3 | M1 | 1 | 18.66 MHz | -0.05 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.2107 GHz | -27.26 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.2118182 GHz | -6.13 dBm | Occ Bw | 16.363636364 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.2281818 GHz | -6.25 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.2152 GHz | -0.54 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 18.66 MHz | -0.05 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CH _H |  <p>Ref Level 20.50 dBm Offset 1.00 dB BW 200 kHz Att 30 dB SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.2307 GHz</td> <td>-26.45 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.2318182 GHz</td> <td>-5.62 dBm</td> <td>Occ Bw</td> <td>16.363636364 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.2481818 GHz</td> <td>-6.36 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.2352 GHz</td> <td>-0.27 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>18.66 MHz</td> <td>-0.21 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 12-Jul-2019 15:43:47</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.2307 GHz | -26.45 dBm | | | T1 | 1 | | 5.2318182 GHz | -5.62 dBm | Occ Bw | 16.363636364 MHz | T2 | 1 | | 5.2481818 GHz | -6.36 dBm | | | M2 | 1 | | 5.2352 GHz | -0.27 dBm | | | D3 | M1 | 1 | 18.66 MHz | -0.21 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.2307 GHz | -26.45 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.2318182 GHz | -5.62 dBm | Occ Bw | 16.363636364 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.2481818 GHz | -6.36 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.2352 GHz | -0.27 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 18.66 MHz | -0.21 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

802.11ac (HT40) Antenna 0

CH_L



Date: 12.01.2019 16:28:53

CH_H



Date: 12.01.2019 16:01:13

802.11n (HT40) Antenna 0

CH_L



Date: 12 JUL 2019 16:03:06

CH_H



Date: 12 JUL 2019 16:08:41

802.11ac (HT80) Antenna 0

CH_M



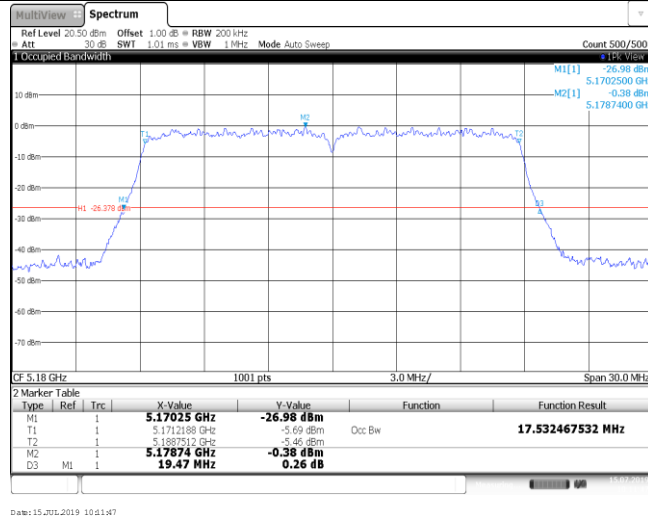
Date: 12 JUL 2019 16:06:38

Band I

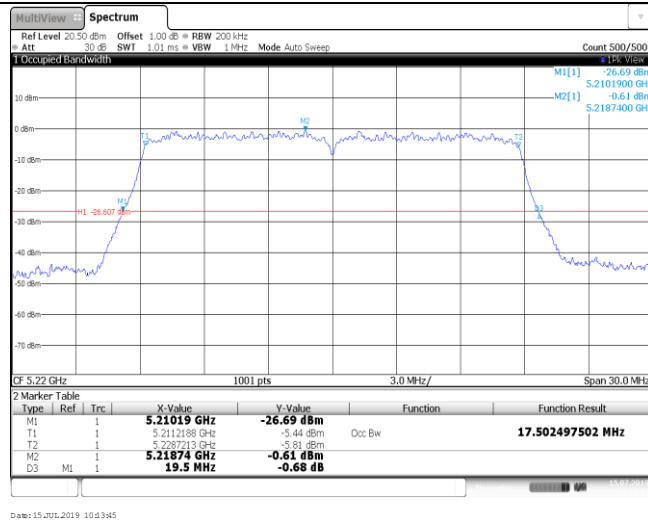
802.11ac (HT20)

Antenna 1

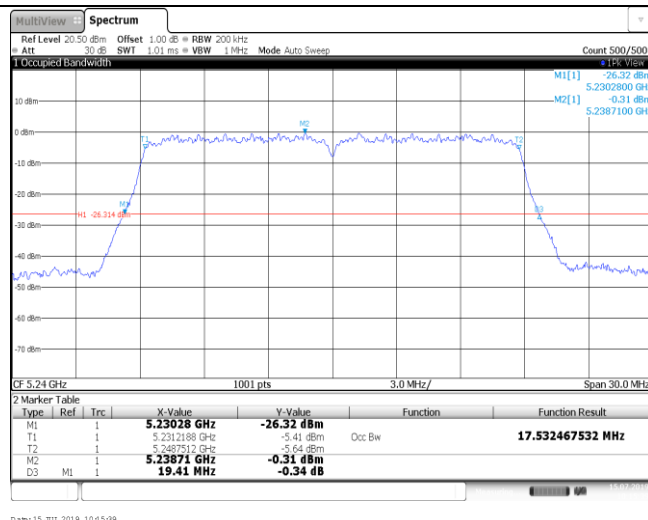
CH_L

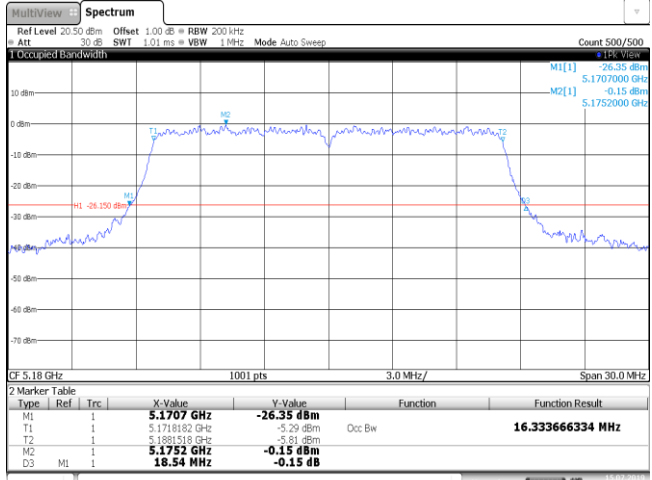




CH_M



CH_H

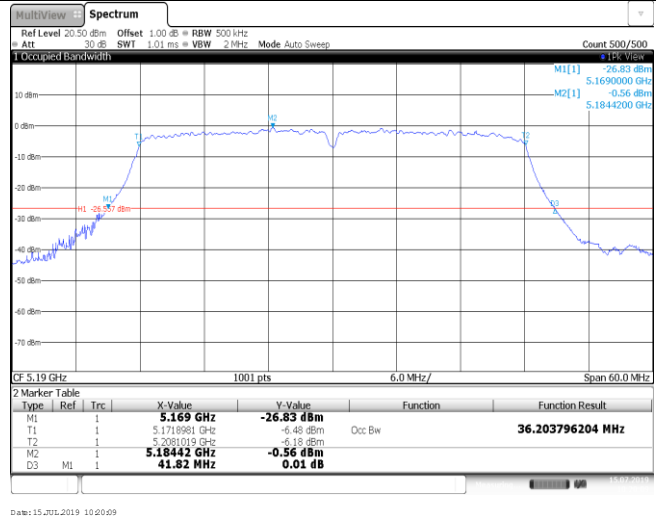


| 802.11n (HT20) | Antenna 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|------|---------------|------------|----------|------------------|----------|-----------------|----|---|--|-------------|------------|--|--|----|---|--|--------------|-----------|--------|------------------|----|---|--|---------------|-----------|--|--|----|---|--|-------------|-----------|--|--|----|----|---|-----------|----------|--|--|
| CH _L |  <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 200 kHz Att -30 dB SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <p>CF 5.18 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.1707 GHz</td> <td>-26.35 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.171882 GHz</td> <td>-5.29 dBm</td> <td>Occ Bw</td> <td>16.333666334 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.1881518 GHz</td> <td>-5.81 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.1752 GHz</td> <td>-0.15 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>18.54 MHz</td> <td>-0.15 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15 JUL 2019 09:46:22</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.1707 GHz | -26.35 dBm | | | T1 | 1 | | 5.171882 GHz | -5.29 dBm | Occ Bw | 16.333666334 MHz | T2 | 1 | | 5.1881518 GHz | -5.81 dBm | | | M2 | 1 | | 5.1752 GHz | -0.15 dBm | | | D3 | M1 | 1 | 18.54 MHz | -0.15 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.1707 GHz | -26.35 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.171882 GHz | -5.29 dBm | Occ Bw | 16.333666334 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.1881518 GHz | -5.81 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.1752 GHz | -0.15 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 18.54 MHz | -0.15 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CH _M |  <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 200 kHz Att -30 dB SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <p>CF 5.22 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.21067 GHz</td> <td>-26.03 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.211882 GHz</td> <td>-4.67 dBm</td> <td>Occ Bw</td> <td>16.333666334 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.2281518 GHz</td> <td>-5.41 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.21517 GHz</td> <td>0.06 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>18.54 MHz</td> <td>-0.14 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15 JUL 2019 09:48:17</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.21067 GHz | -26.03 dBm | | | T1 | 1 | | 5.211882 GHz | -4.67 dBm | Occ Bw | 16.333666334 MHz | T2 | 1 | | 5.2281518 GHz | -5.41 dBm | | | M2 | 1 | | 5.21517 GHz | 0.06 dBm | | | D3 | M1 | 1 | 18.54 MHz | -0.14 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.21067 GHz | -26.03 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.211882 GHz | -4.67 dBm | Occ Bw | 16.333666334 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.2281518 GHz | -5.41 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.21517 GHz | 0.06 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 18.54 MHz | -0.14 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CH _H |  <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 200 kHz Att -30 dB SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <p>CF 5.24 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.2307 GHz</td> <td>-26.35 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.231882 GHz</td> <td>-5.35 dBm</td> <td>Occ Bw</td> <td>16.333666334 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.2481518 GHz</td> <td>-5.48 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.2352 GHz</td> <td>-0.22 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>18.6 MHz</td> <td>-0.04 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15 JUL 2019 09:55:07</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.2307 GHz | -26.35 dBm | | | T1 | 1 | | 5.231882 GHz | -5.35 dBm | Occ Bw | 16.333666334 MHz | T2 | 1 | | 5.2481518 GHz | -5.48 dBm | | | M2 | 1 | | 5.2352 GHz | -0.22 dBm | | | D3 | M1 | 1 | 18.6 MHz | -0.04 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.2307 GHz | -26.35 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.231882 GHz | -5.35 dBm | Occ Bw | 16.333666334 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.2481518 GHz | -5.48 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.2352 GHz | -0.22 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 18.6 MHz | -0.04 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

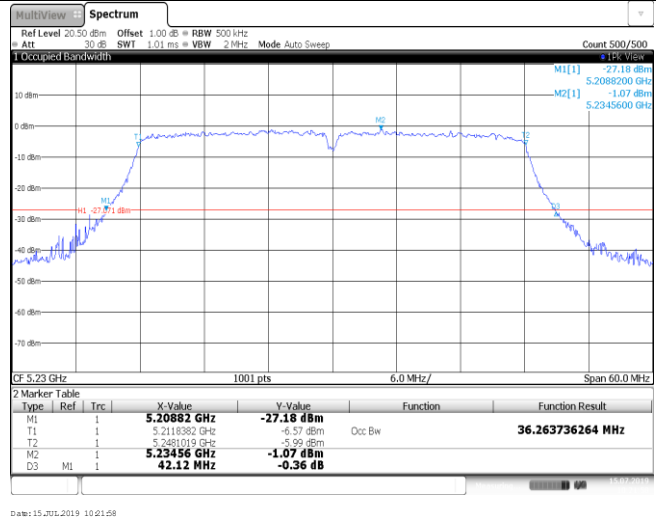
| 802.11a | Antenna 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|------|-------------|------------|----------|------------------|----------|-----------------|----|---|--|------------|------------|--|--|----|---|--|-------------|-----------|--------|------------------|----|---|--|-------------|-----------|--|--|----|----|---|-----------|----------|--|--|
| <p>CH_L</p> | <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 200 kHz Att 30 dB SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.1707 GHz</td> <td>-26.90 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.17874 GHz</td> <td>-0.75 dBm</td> <td>Occ Bw</td> <td>16.333666334 MHz</td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.17874 GHz</td> <td>-0.75 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>18.6 MHz</td> <td>-0.72 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>CF 5.18 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <p>Date: 15 Jul 2019 09:06:55</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.1707 GHz | -26.90 dBm | | | T1 | 1 | | 5.17874 GHz | -0.75 dBm | Occ Bw | 16.333666334 MHz | M2 | 1 | | 5.17874 GHz | -0.75 dBm | | | D3 | M1 | 1 | 18.6 MHz | -0.72 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.1707 GHz | -26.90 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.17874 GHz | -0.75 dBm | Occ Bw | 16.333666334 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.17874 GHz | -0.75 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 18.6 MHz | -0.72 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>CH_M</p> | <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 200 kHz Att 30 dB SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.2107 GHz</td> <td>-27.44 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.21517 GHz</td> <td>-1.29 dBm</td> <td>Occ Bw</td> <td>16.333666334 MHz</td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.21517 GHz</td> <td>-1.29 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>18.54 MHz</td> <td>-0.06 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>CF 5.22 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <p>Date: 15 Jul 2019 09:09:01</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.2107 GHz | -27.44 dBm | | | T1 | 1 | | 5.21517 GHz | -1.29 dBm | Occ Bw | 16.333666334 MHz | M2 | 1 | | 5.21517 GHz | -1.29 dBm | | | D3 | M1 | 1 | 18.54 MHz | -0.06 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.2107 GHz | -27.44 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.21517 GHz | -1.29 dBm | Occ Bw | 16.333666334 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.21517 GHz | -1.29 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 18.54 MHz | -0.06 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>CH_H</p> | <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 200 kHz Att 30 dB SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.2307 GHz</td> <td>-27.68 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.2392 GHz</td> <td>-1.14 dBm</td> <td>Occ Bw</td> <td>16.333666334 MHz</td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.2392 GHz</td> <td>-1.14 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>18.57 MHz</td> <td>0.44 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>CF 5.24 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <p>Date: 15 Jul 2019 09:41:05</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.2307 GHz | -27.68 dBm | | | T1 | 1 | | 5.2392 GHz | -1.14 dBm | Occ Bw | 16.333666334 MHz | M2 | 1 | | 5.2392 GHz | -1.14 dBm | | | D3 | M1 | 1 | 18.57 MHz | 0.44 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.2307 GHz | -27.68 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.2392 GHz | -1.14 dBm | Occ Bw | 16.333666334 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.2392 GHz | -1.14 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 18.57 MHz | 0.44 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

802.11ac (HT40) Antenna 1

CH_L



CH_H



802.11n (HT40) Antenna 1

CH_L



Date: 15 Jul 2019 10:02:04

CH_H



Date: 15 Jul 2019 10:04:23

802.11ac (HT80) Antenna 1

CH_M



Date: 15 Jul 2019 10:24:58

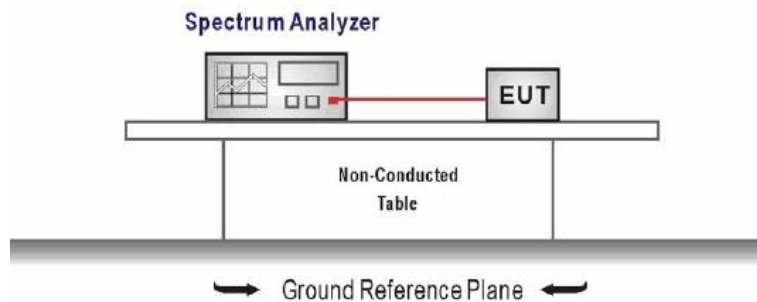
5.6. 6dB Bandwidth

LIMIT

FCC CFR Title 47 Part 15 Subpart E Section 15.407(e)

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

TEST CONFIGURATION



TEST PROCEDURE

1. Connect the antenna port(s) to the spectrum analyzer input.
2. Configure the spectrum analyzer as shown below (enter all losses between the transmitter output and the spectrum analyzer).
Center Frequency = test channel center frequency
Span = 2 x emission bandwidth
RBW = 100 kHz, VBW \geq 3 x RBW
Sweep time = auto couple
Detector = Peak
Trace mode = max hold
3. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter wave form on the spectrum analyzer.
4. 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, and record the pertinent measurements.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

Passed Not Applicable

| Band | Bandwidth (MHz) | Type | Channel | 6dB bandwidth (MHz) | 99% Occupy bandwidth (MHz) | Result |
|------|-----------------|-----------------|-----------------|---------------------|----------------------------|--------|
| | | | | Antenna 0 | Antenna 0 | |
| IV | 20 | 802.11ac | CH _L | 17.64 | 17.53 | Pass |
| | | | CH _M | 17.61 | 17.53 | |
| | | | CH _H | 17.64 | 17.53 | |
| | | 802.11n | CH _L | 17.61 | 17.53 | Pass |
| | | | CH _M | 17.61 | 17.53 | |
| | | | CH _H | 17.61 | 17.53 | |
| | | 802.11a | CH _L | 16.41 | 16.33 | Pass |
| | | | CH _M | 16.41 | 16.33 | |
| | | | CH _H | 16.41 | 16.33 | |
| | 40 | 802.11ac | CH _L | 35.28 | 35.96 | Pass |
| | | | CH _H | 35.28 | 35.90 | |
| | | 802.11n | CH _L | 35.57 | 35.95 | Pass |
| | | | CH _H | 35.57 | 35.95 | |
| 80 | 802.11ac | CH _M | 75.48 | 75.29 | Pass | |

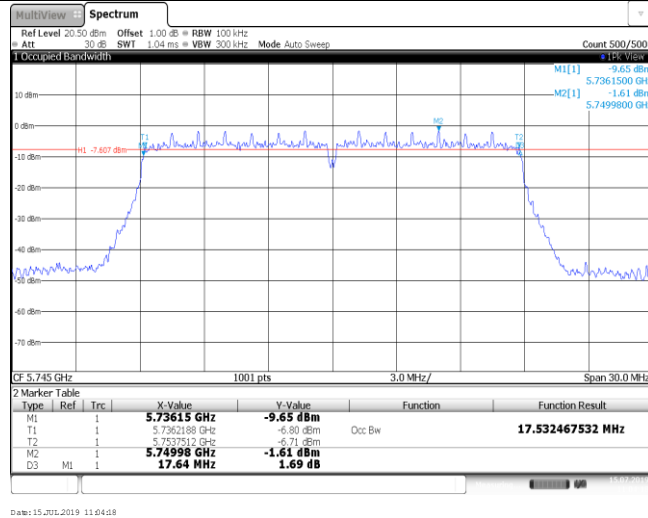
| Band | Bandwidth (MHz) | Type | Channel | 6dB bandwidth (MHz) | 99% Occupy bandwidth (MHz) | Result |
|------|-----------------|-----------------|-----------------|---------------------|----------------------------|--------|
| | | | | Antenna 1 | Antenna 1 | |
| IV | 20 | 802.11ac | CH _L | 17.64 | 17.50 | Pass |
| | | | CH _M | 17.61 | 17.53 | |
| | | | CH _H | 17.64 | 17.53 | |
| | | 802.11n | CH _L | 17.61 | 17.53 | Pass |
| | | | CH _M | 17.61 | 17.53 | |
| | | | CH _H | 17.61 | 17.50 | |
| | | 802.11a | CH _L | 16.38 | 16.33 | Pass |
| | | | CH _M | 16.41 | 16.33 | |
| | | | CH _H | 16.41 | 16.33 | |
| | 40 | 802.11ac | CH _L | 35.34 | 35.90 | Pass |
| | | | CH _H | 35.28 | 35.90 | |
| | | 802.11n | CH _L | 35.39 | 35.95 | Pass |
| | | | CH _H | 35.39 | 35.95 | |
| 80 | 802.11ac | CH _M | 75.48 | 75.17 | Pass | |

Band IV

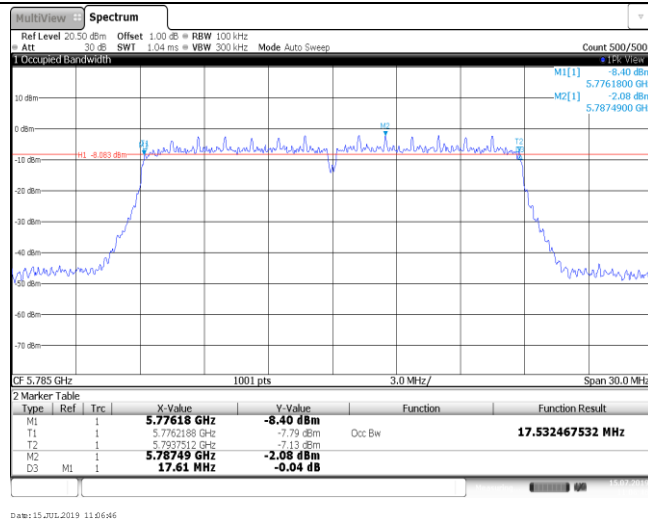
802.11ac (HT20)

Antenna 0

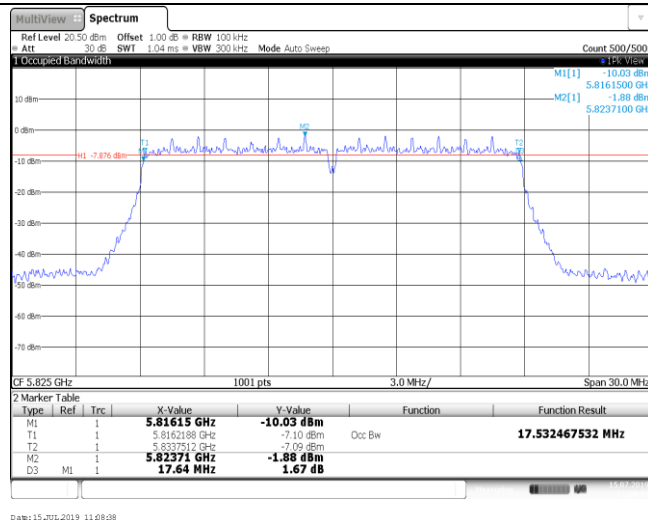
CH_L



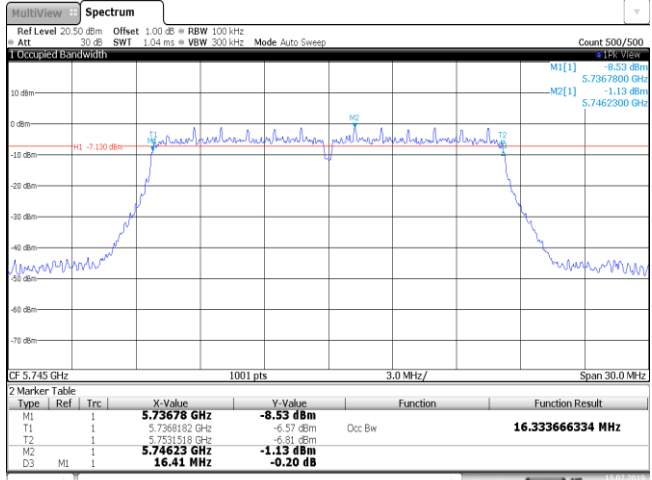
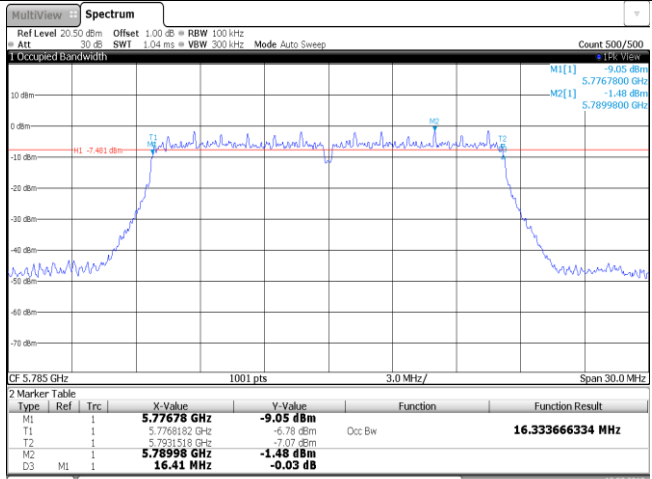
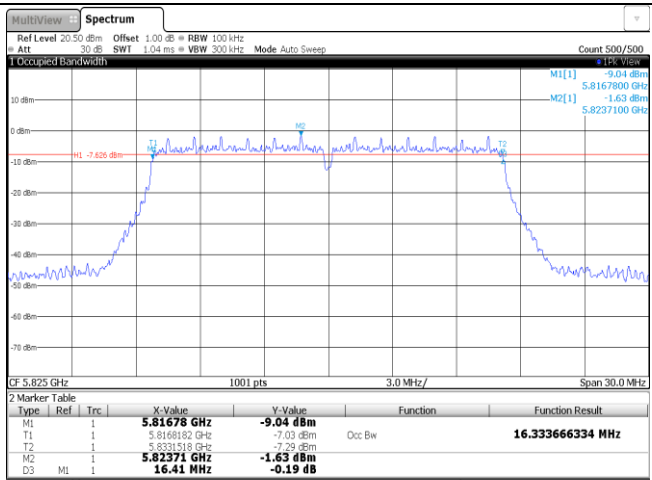
CH_M



CH_H

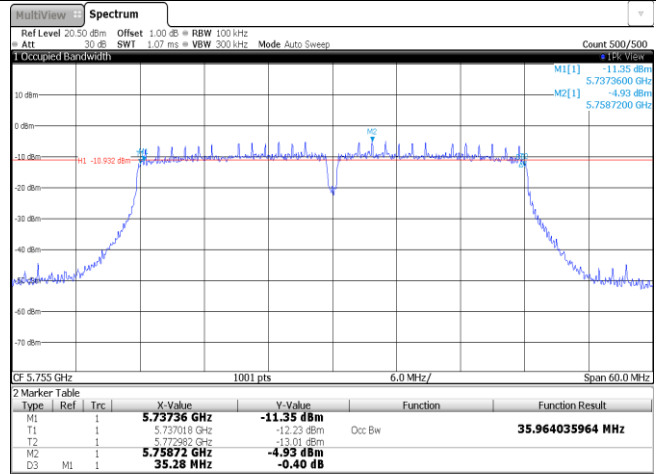


| 802.11n (HT20) | Antenna 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|--|------|---------------|-----------|----------|------------------|----------|-----------------|----|---|--|-------------|-----------|--|--|----|---|--|---------------|-----------|--------|------------------|----|---|--|---------------|-----------|--|--|----|---|--|-------------|-----------|--|--|----|----|---|-----------|----------|--|--|
| <p>CH_L</p> | <p>MultiView Spectrum</p> <p>Ref Level 20.50 dBm Offset 1.00 dB BW 100 kHz Count 500/500 Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep</p> <p>1 Occupied Bandwidth</p> <p>M1[1] -6.88 dBm 5.7361800 GHz M2[1] -0.73 dBm 5.7474900 GHz</p> <p>CF 5.745 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.73618 GHz</td> <td>-6.88 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.7362188 GHz</td> <td>-5.50 dBm</td> <td>Occ Bw</td> <td>17.532467532 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.737512 GHz</td> <td>-5.98 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.74749 GHz</td> <td>-0.73 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>17.61 MHz</td> <td>-0.47 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15 JUL 2019 10:47:21</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.73618 GHz | -6.88 dBm | | | T1 | 1 | | 5.7362188 GHz | -5.50 dBm | Occ Bw | 17.532467532 MHz | T2 | 1 | | 5.737512 GHz | -5.98 dBm | | | M2 | 1 | | 5.74749 GHz | -0.73 dBm | | | D3 | M1 | 1 | 17.61 MHz | -0.47 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.73618 GHz | -6.88 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.7362188 GHz | -5.50 dBm | Occ Bw | 17.532467532 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.737512 GHz | -5.98 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.74749 GHz | -0.73 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 17.61 MHz | -0.47 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>CH_M</p> | <p>MultiView Spectrum</p> <p>Ref Level 20.50 dBm Offset 1.00 dB BW 100 kHz Count 500/500 Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep</p> <p>1 Occupied Bandwidth</p> <p>M1[1] -8.53 dBm 5.7761800 GHz M2[1] -1.92 dBm 5.7899800 GHz</p> <p>CF 5.785 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.77618 GHz</td> <td>-8.53 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.7762188 GHz</td> <td>-7.49 dBm</td> <td>Occ Bw</td> <td>17.532467532 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.7937512 GHz</td> <td>-7.10 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.78998 GHz</td> <td>-1.92 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>17.61 MHz</td> <td>0.10 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15 JUL 2019 10:49:14</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.77618 GHz | -8.53 dBm | | | T1 | 1 | | 5.7762188 GHz | -7.49 dBm | Occ Bw | 17.532467532 MHz | T2 | 1 | | 5.7937512 GHz | -7.10 dBm | | | M2 | 1 | | 5.78998 GHz | -1.92 dBm | | | D3 | M1 | 1 | 17.61 MHz | 0.10 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.77618 GHz | -8.53 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.7762188 GHz | -7.49 dBm | Occ Bw | 17.532467532 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.7937512 GHz | -7.10 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.78998 GHz | -1.92 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 17.61 MHz | 0.10 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>CH_H</p> | <p>MultiView Spectrum</p> <p>Ref Level 20.50 dBm Offset 1.00 dB BW 100 kHz Count 500/500 Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep</p> <p>1 Occupied Bandwidth</p> <p>M1[1] -8.01 dBm 5.8161800 GHz M2[1] -1.68 dBm 5.8237100 GHz</p> <p>CF 5.825 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.81618 GHz</td> <td>-8.01 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.8162188 GHz</td> <td>-6.95 dBm</td> <td>Occ Bw</td> <td>17.532467532 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.8337512 GHz</td> <td>-6.97 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.82371 GHz</td> <td>-1.68 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>17.61 MHz</td> <td>-0.35 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15 JUL 2019 10:51:00</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.81618 GHz | -8.01 dBm | | | T1 | 1 | | 5.8162188 GHz | -6.95 dBm | Occ Bw | 17.532467532 MHz | T2 | 1 | | 5.8337512 GHz | -6.97 dBm | | | M2 | 1 | | 5.82371 GHz | -1.68 dBm | | | D3 | M1 | 1 | 17.61 MHz | -0.35 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.81618 GHz | -8.01 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.8162188 GHz | -6.95 dBm | Occ Bw | 17.532467532 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.8337512 GHz | -6.97 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.82371 GHz | -1.68 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 17.61 MHz | -0.35 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| 802.11a | Antenna 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|------|---------------|-----------|----------|------------------|----------|-----------------|----|---|--|-------------|-----------|--|--|----|---|--|--------------|-----------|--------|------------------|----|---|--|---------------|-----------|--|--|----|---|--|-------------|-----------|--|--|----|----|---|-----------|----------|--|--|
| <p>CH_L</p> |  <p>1 Occupied Bandwidth</p> <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Count 500/500 Att -30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep</p> <p>CF 5.745 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.73678 GHz</td> <td>-8.53 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.736982 GHz</td> <td>-6.57 dBm</td> <td>Occ Bw</td> <td>16.333666334 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.7531518 GHz</td> <td>-6.81 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.74623 GHz</td> <td>-1.13 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>16.41 MHz</td> <td>-0.20 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15 JUL 2019 10:41:51</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.73678 GHz | -8.53 dBm | | | T1 | 1 | | 5.736982 GHz | -6.57 dBm | Occ Bw | 16.333666334 MHz | T2 | 1 | | 5.7531518 GHz | -6.81 dBm | | | M2 | 1 | | 5.74623 GHz | -1.13 dBm | | | D3 | M1 | 1 | 16.41 MHz | -0.20 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.73678 GHz | -8.53 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.736982 GHz | -6.57 dBm | Occ Bw | 16.333666334 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.7531518 GHz | -6.81 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.74623 GHz | -1.13 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 16.41 MHz | -0.20 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>CH_M</p> |  <p>1 Occupied Bandwidth</p> <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Count 500/500 Att -30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep</p> <p>CF 5.785 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.77678 GHz</td> <td>-9.05 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.776982 GHz</td> <td>-6.79 dBm</td> <td>Occ Bw</td> <td>16.333666334 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.7931518 GHz</td> <td>-7.07 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.78998 GHz</td> <td>-1.48 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>16.41 MHz</td> <td>-0.03 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15 JUL 2019 10:43:24</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.77678 GHz | -9.05 dBm | | | T1 | 1 | | 5.776982 GHz | -6.79 dBm | Occ Bw | 16.333666334 MHz | T2 | 1 | | 5.7931518 GHz | -7.07 dBm | | | M2 | 1 | | 5.78998 GHz | -1.48 dBm | | | D3 | M1 | 1 | 16.41 MHz | -0.03 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.77678 GHz | -9.05 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.776982 GHz | -6.79 dBm | Occ Bw | 16.333666334 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.7931518 GHz | -7.07 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.78998 GHz | -1.48 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 16.41 MHz | -0.03 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>CH_H</p> |  <p>1 Occupied Bandwidth</p> <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Count 500/500 Att -30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep</p> <p>CF 5.825 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.81678 GHz</td> <td>-9.04 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.816982 GHz</td> <td>-7.03 dBm</td> <td>Occ Bw</td> <td>16.333666334 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.8331518 GHz</td> <td>-7.29 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.82371 GHz</td> <td>-1.63 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>16.41 MHz</td> <td>-0.19 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15 JUL 2019 10:45:22</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.81678 GHz | -9.04 dBm | | | T1 | 1 | | 5.816982 GHz | -7.03 dBm | Occ Bw | 16.333666334 MHz | T2 | 1 | | 5.8331518 GHz | -7.29 dBm | | | M2 | 1 | | 5.82371 GHz | -1.63 dBm | | | D3 | M1 | 1 | 16.41 MHz | -0.19 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.81678 GHz | -9.04 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.816982 GHz | -7.03 dBm | Occ Bw | 16.333666334 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.8331518 GHz | -7.29 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.82371 GHz | -1.63 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 16.41 MHz | -0.19 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

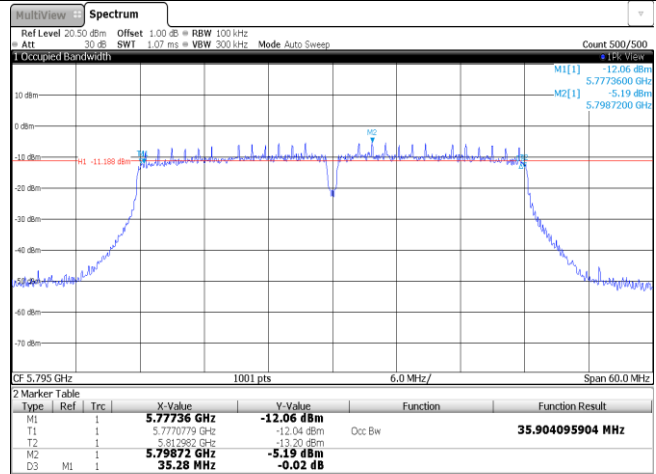
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CH_L



Date: 15 Jul 2019 11:03:08

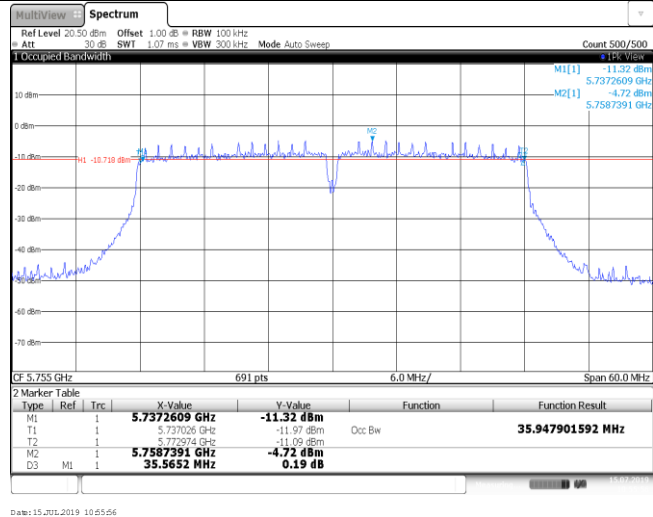
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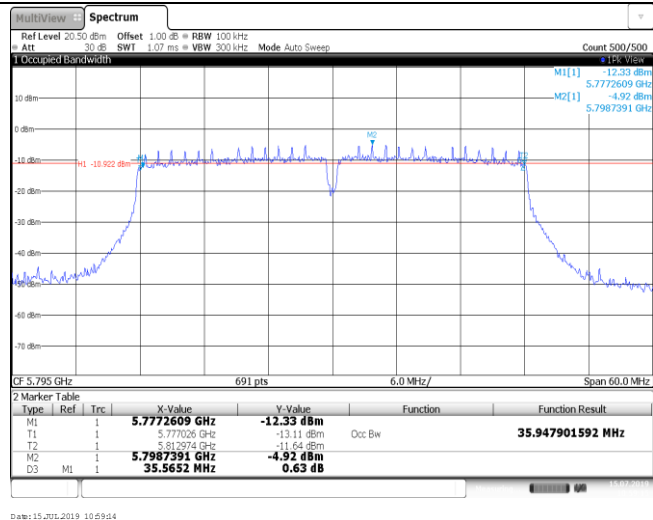
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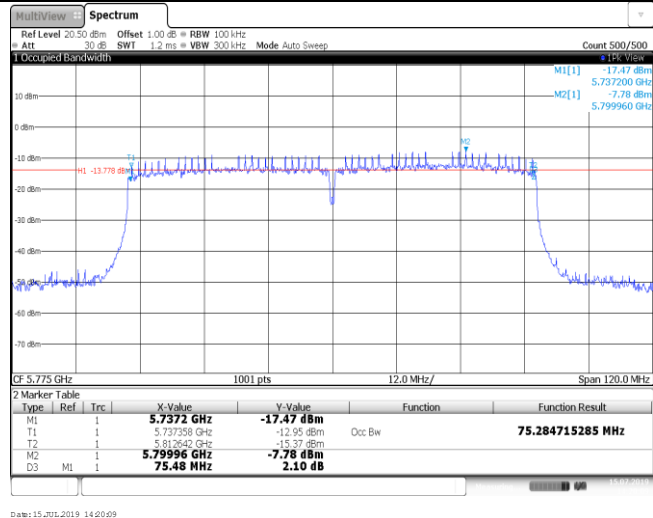


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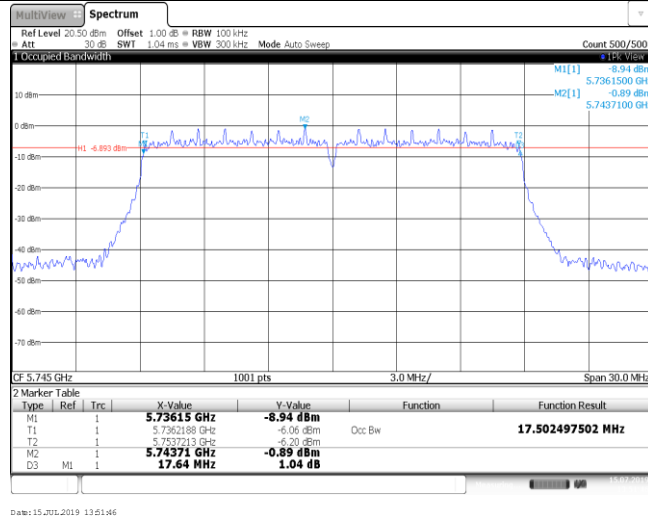


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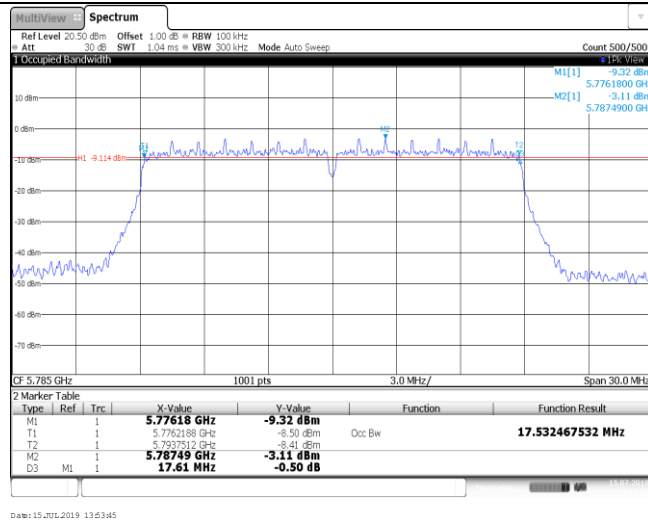
802.11ac (HT20)

Antenna 1

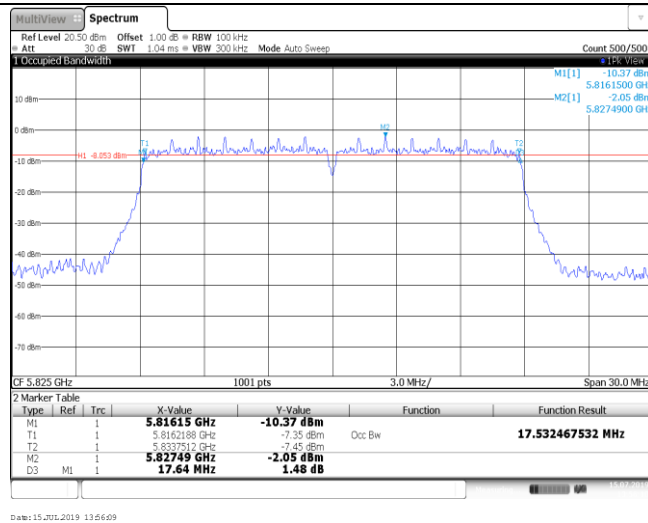
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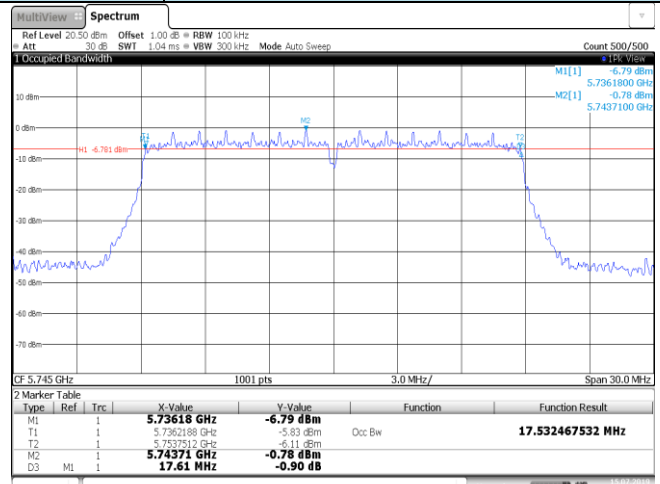
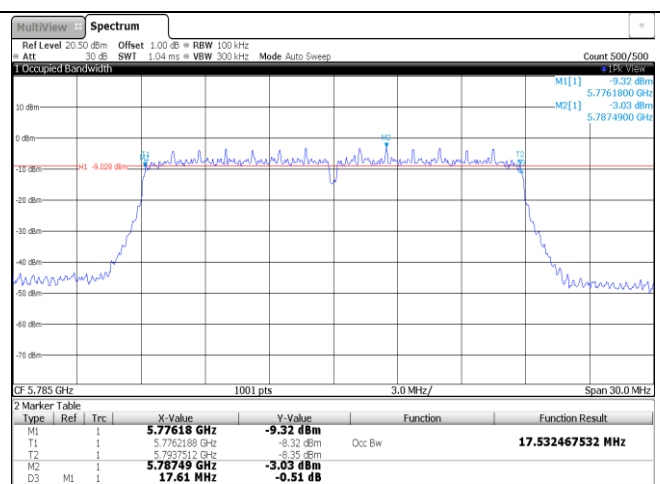
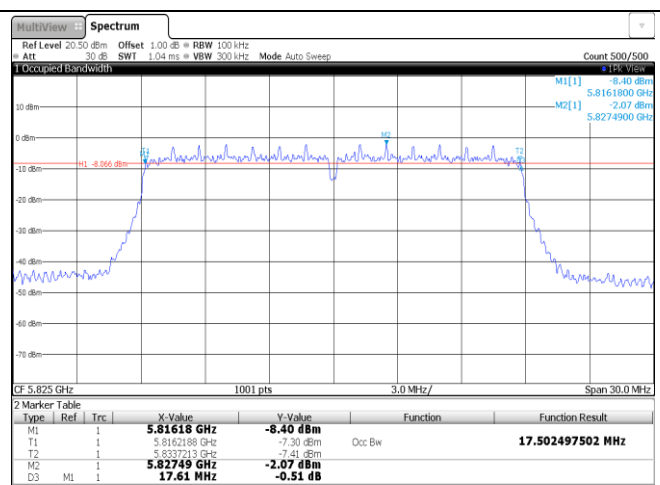


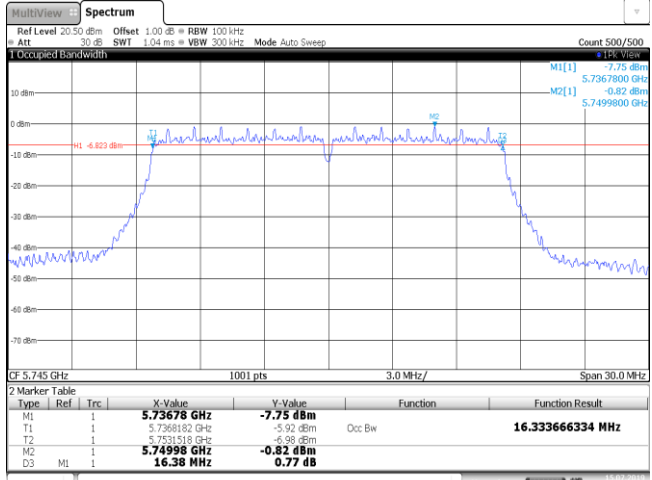
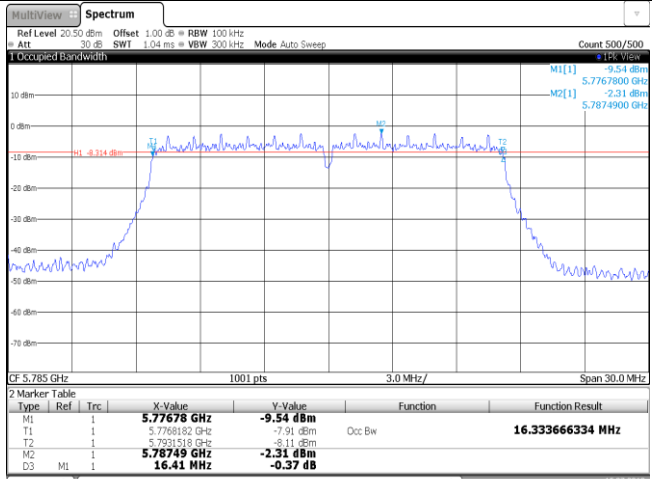
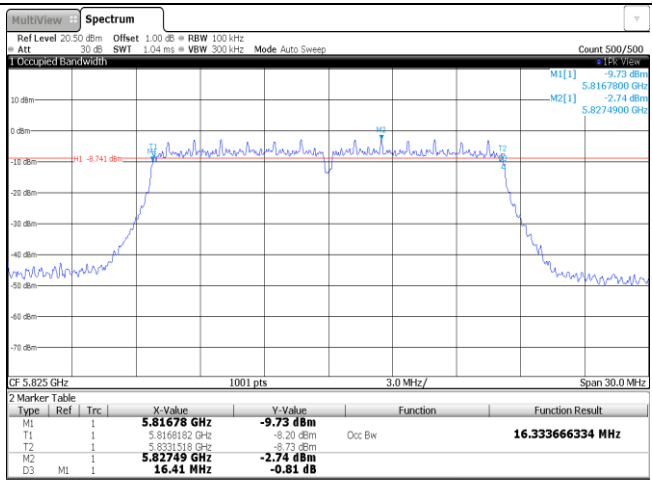
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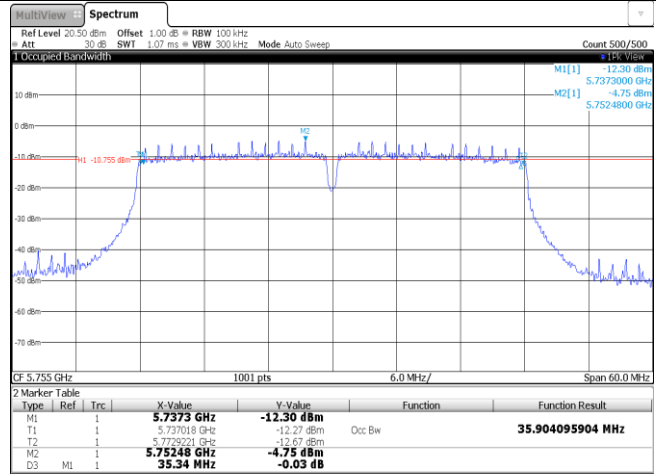


| 802.11n (HT20) | Antenna 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|--|------|---------------|-----------|----------|------------------|----------|-----------------|----|---|--|-------------|-----------|--|--|----|---|--|---------------|-----------|--------|------------------|----|---|--|---------------|-----------|--|--|----|---|--|-------------|-----------|--|--|----|----|---|-----------|----------|--|--|
| <p>CH_L</p> |  <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <p>MI(1) -6.79 dBm 5.7361800 GHz M2(1) -0.78 dBm 5.7437100 GHz</p> <p>CF 5.745 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.73618 GHz</td> <td>-6.79 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.7362188 GHz</td> <td>-8.33 dBm</td> <td>Occ Bw</td> <td>17.532467532 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.737512 GHz</td> <td>-6.11 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.74371 GHz</td> <td>-0.78 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>17.61 MHz</td> <td>-0.90 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15_JUL_2019 13:04:48</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.73618 GHz | -6.79 dBm | | | T1 | 1 | | 5.7362188 GHz | -8.33 dBm | Occ Bw | 17.532467532 MHz | T2 | 1 | | 5.737512 GHz | -6.11 dBm | | | M2 | 1 | | 5.74371 GHz | -0.78 dBm | | | D3 | M1 | 1 | 17.61 MHz | -0.90 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.73618 GHz | -6.79 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.7362188 GHz | -8.33 dBm | Occ Bw | 17.532467532 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.737512 GHz | -6.11 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.74371 GHz | -0.78 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 17.61 MHz | -0.90 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>CH_M</p> |  <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <p>MI(1) -9.32 dBm 5.7761800 GHz M2(1) -3.03 dBm 5.7874900 GHz</p> <p>CF 5.785 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.77618 GHz</td> <td>-9.32 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.7762188 GHz</td> <td>-8.32 dBm</td> <td>Occ Bw</td> <td>17.532467532 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.7937512 GHz</td> <td>-8.35 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.78749 GHz</td> <td>-3.03 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>17.61 MHz</td> <td>-0.51 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15_JUL_2019 13:06:26</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.77618 GHz | -9.32 dBm | | | T1 | 1 | | 5.7762188 GHz | -8.32 dBm | Occ Bw | 17.532467532 MHz | T2 | 1 | | 5.7937512 GHz | -8.35 dBm | | | M2 | 1 | | 5.78749 GHz | -3.03 dBm | | | D3 | M1 | 1 | 17.61 MHz | -0.51 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.77618 GHz | -9.32 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.7762188 GHz | -8.32 dBm | Occ Bw | 17.532467532 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.7937512 GHz | -8.35 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.78749 GHz | -3.03 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 17.61 MHz | -0.51 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>CH_H</p> |  <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 500/500</p> <p>1 Occupied Bandwidth</p> <p>MI(1) -8.40 dBm 5.8161800 GHz M2(1) -2.07 dBm 5.8274900 GHz</p> <p>CF 5.825 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.81618 GHz</td> <td>-8.40 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.8162188 GHz</td> <td>-7.30 dBm</td> <td>Occ Bw</td> <td>17.502497502 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.8337213 GHz</td> <td>-7.41 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.82749 GHz</td> <td>-2.07 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>17.61 MHz</td> <td>-0.51 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15_JUL_2019 13:09:29</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.81618 GHz | -8.40 dBm | | | T1 | 1 | | 5.8162188 GHz | -7.30 dBm | Occ Bw | 17.502497502 MHz | T2 | 1 | | 5.8337213 GHz | -7.41 dBm | | | M2 | 1 | | 5.82749 GHz | -2.07 dBm | | | D3 | M1 | 1 | 17.61 MHz | -0.51 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.81618 GHz | -8.40 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.8162188 GHz | -7.30 dBm | Occ Bw | 17.502497502 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.8337213 GHz | -7.41 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.82749 GHz | -2.07 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 17.61 MHz | -0.51 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| 802.11a | Antenna 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|------|---------------|-----------|----------|------------------|----------|-----------------|----|---|--|-------------|-----------|--|--|----|---|--|--------------|-----------|--------|------------------|----|---|--|---------------|-----------|--|--|----|---|--|-------------|-----------|--|--|----|----|---|-----------|----------|--|--|
| <p>CH_L</p> |  <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Count 500/500 Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep</p> <p>1 Occupied Bandwidth</p> <p>MI(1) -7.75 dBm 5.7367800 GHz M2(1) -8.82 dBm 5.7499800 GHz</p> <p>CF 5.745 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.73678 GHz</td> <td>-7.75 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.736682 GHz</td> <td>-9.92 dBm</td> <td>Occ Bw</td> <td>16.333666334 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.7531518 GHz</td> <td>-6.98 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.74998 GHz</td> <td>-0.82 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>16.38 MHz</td> <td>0.77 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15 Jul 2019 11:07:05</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.73678 GHz | -7.75 dBm | | | T1 | 1 | | 5.736682 GHz | -9.92 dBm | Occ Bw | 16.333666334 MHz | T2 | 1 | | 5.7531518 GHz | -6.98 dBm | | | M2 | 1 | | 5.74998 GHz | -0.82 dBm | | | D3 | M1 | 1 | 16.38 MHz | 0.77 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.73678 GHz | -7.75 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.736682 GHz | -9.92 dBm | Occ Bw | 16.333666334 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.7531518 GHz | -6.98 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.74998 GHz | -0.82 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 16.38 MHz | 0.77 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>CH_M</p> |  <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Count 500/500 Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep</p> <p>1 Occupied Bandwidth</p> <p>MI(1) -9.54 dBm 5.7767800 GHz M2(1) -2.31 dBm 5.7874900 GHz</p> <p>CF 5.785 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.77678 GHz</td> <td>-9.54 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.776682 GHz</td> <td>-7.91 dBm</td> <td>Occ Bw</td> <td>16.333666334 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.7931518 GHz</td> <td>-8.11 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.78749 GHz</td> <td>-2.31 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>16.41 MHz</td> <td>-0.37 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15 Jul 2019 13:09:53</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.77678 GHz | -9.54 dBm | | | T1 | 1 | | 5.776682 GHz | -7.91 dBm | Occ Bw | 16.333666334 MHz | T2 | 1 | | 5.7931518 GHz | -8.11 dBm | | | M2 | 1 | | 5.78749 GHz | -2.31 dBm | | | D3 | M1 | 1 | 16.41 MHz | -0.37 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.77678 GHz | -9.54 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.776682 GHz | -7.91 dBm | Occ Bw | 16.333666334 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.7931518 GHz | -8.11 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.78749 GHz | -2.31 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 16.41 MHz | -0.37 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>CH_H</p> |  <p>Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Count 500/500 Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep</p> <p>1 Occupied Bandwidth</p> <p>MI(1) -9.73 dBm 5.8167800 GHz M2(1) -2.74 dBm 5.8274900 GHz</p> <p>CF 5.825 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-Value</th> <th>Y-Value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>5.81678 GHz</td> <td>-9.73 dBm</td> <td></td> <td></td> </tr> <tr> <td>T1</td> <td>1</td> <td></td> <td>5.816682 GHz</td> <td>-8.20 dBm</td> <td>Occ Bw</td> <td>16.333666334 MHz</td> </tr> <tr> <td>T2</td> <td>1</td> <td></td> <td>5.8331518 GHz</td> <td>-8.73 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>5.82749 GHz</td> <td>-2.74 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td>16.41 MHz</td> <td>-0.81 dB</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 15 Jul 2019 13:21:44</p> | Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | M1 | 1 | | 5.81678 GHz | -9.73 dBm | | | T1 | 1 | | 5.816682 GHz | -8.20 dBm | Occ Bw | 16.333666334 MHz | T2 | 1 | | 5.8331518 GHz | -8.73 dBm | | | M2 | 1 | | 5.82749 GHz | -2.74 dBm | | | D3 | M1 | 1 | 16.41 MHz | -0.81 dB | | |
| Type | Ref | Trc | X-Value | Y-Value | Function | Function Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | 1 | | 5.81678 GHz | -9.73 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1 | | 5.816682 GHz | -8.20 dBm | Occ Bw | 16.333666334 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2 | 1 | | 5.8331518 GHz | -8.73 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | 1 | | 5.82749 GHz | -2.74 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | M1 | 1 | 16.41 MHz | -0.81 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

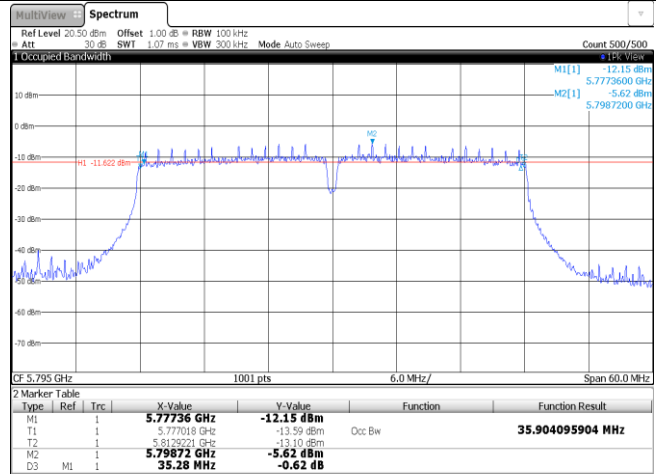
802.11ac (HT40) Antenna 1

CH_L



Date: 15 Jul 2019 13:58:12

CH_H



Date: 15 Jul 2019 13:59:56