



RF TEST REPORT

Report No.: SET2021-00467

Product Name: DV601

IC: 25914-DV601

FCC ID: 2AEDLDV601

Model No. : DV601

Applicant: ROSCO,INC

Address: 90-21 144TH PLACE JAMAICA, NY 11435.

Dates of Testing: 12/01/2020 —03/02/2021

Issued by: CCIC Southern Testing Co., Ltd.

Lab Location: Electronic Testing Building, No. 43 Shahe Road, Xili Street,
Nanshan District, Shenzhen, Guangdong, China.

Tel: 86 755 26627338 **Fax:** 86 755 26627238

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Test Report

Product Name : DV601

Brand Name : DV6

Trade Name : DV6

Applicant : ROSCO,INC

Applicant Address : 90-21 144TH PLACE JAMAICA, NY 11435.

Manufacturer : ROSCO,INC

Manufacturer Address : 90-21 144TH PLACE JAMAICA, NY 11435.

Test Standards : 47 CFR Part 15 Subpart E 15.407
IC RSS-Gen(Issue 5, March 2019)
IC RSS-247(Issue 2, Feb. 2017)

Test Result : PASS

Tested by :

Vincent

2021.03.02

Vincent, Test Engineer

Reviewed by :

Chris You

2021.03.02

Chris You, Senior Engineer

Approved by :

Shuangwen Zhang

2021.03.02

Shuangwen Zhang, Manager

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Change History		
Issue	Date	Reason for change
1.0	2021.03.02	First edition

1. General Information

1.1. EUT Description

EUT Type	DV601
Hardware Version	REV A
Software Version	2.1.0
EUT supports Radios application	WLAN5.0GHz 802.11a/n (HT20/40)/ac(VHT20/40/80)
Product Type	OEM devices installed in vehicles
TPC	Support
Modulation Type	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6 Mbps 802.11n : up to 150 Mbps 802.11ac: up to 433.3Mbps
Frequency Range	Band UNII-1: 5150 ~ 5250MHz Band UNII-3: 5725 ~ 5850MHz
Channel Bandwidth	802.11a: 20MHz, 802.11n: 20MHz/40MHz 802.11ac: 20MHz/40MHz/80MHz
Antenna Type	PIFA
Antenna Gain	2.5dBi
Output Power (Max.)	Band UNII-1: 12.60 dBm Band UNII-3: 12.80dBm

1.2. Test Standards and Results

The objective of the report is to perform testing according to below standards for the EUT FCC ID/IC Certification:

No.	Identity	Document Title
1	47 CFR Part 15 Subpart E § 15.407	Radio Frequency Devices
2	789033 D02 General UNII Test Procedures New Rules v02r01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
3	IC RSS-Gen (Issue 5, March. 2019)	General Requirements for Compliance of Radio Apparatus
4	IC RSS-247 (Issue 2, Feb. 2017)	Digital Transmission Systems (DTSS), Frequency Hopping Systems(FHSS) and Licence-Exemp Local Area Network (LE-LAN) Devices
5	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

Test detailed items/section required by FCC /IC rules and results are as below:

No.	FCC Rule	IC Rule	Description	Result
1	15.203	-	Antenna Requirement	PASS
2	15.407(a)	RSS-247, 6.2	Maximum Conducted Output Power	PASS
3	15.407(a)	-	Emission Bandwidth(26 dB Bandwidth)	PASS
	15.407(e)	RSS-247, 6.2	Emission Bandwidth(6 dB Bandwidth)	PASS
	-	RSS GEN (6.7)	Emission Bandwidth(99%)	PASS
4	15.407(a)	RSS-247, 6.2	Power spectral density (PSD)	PASS
5	15.207	RSS-Gen, 8.8	AC Power Line Conducted Emission	PASS
6	15.209 15.407(b)	RSS-247, 6.2	Radiated Band Edges and Spurious Emission	PASS
7	15.407(g)	-	Frequency Stability	PASS

1.3. Channel List

Operated band in 5150 MHz ~ 5250MHz

4 channels are provided for 802.11a, 802.11n-HT20, and 802.11ac-VHT20

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n-HT40 and 802.11ac-VHT40

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel are provided for 802.11ac-VHT80

Channel	Frequency	Channel	Frequency
42	5210 MHz	/	/

Operated band in 5725 MHz ~ 5850MHz

5 channels are provided for 802.11a

Channel	Frequency	Channel	Frequency
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz	/	/

2 channels are provided for 802.11n-HT40 and 802.11ac-VHT40

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel are provided for 802.11ac-VHT80

Channel	Frequency	Channel	Frequency
155	5775 MHz	/	/

1.4. Test environment and mode

Operating Environment	
Temperature	24°C
Humidity	57 % RH
Atmospheric Pressure	1010 mbar
Test mode:	
Continuously transmitting mode	Keeps the EUT in 100% duty cycle transmitting with modulation in SISO, duty cycle factor is not required.

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

For Frequency band 5150 ~ 5250 MHz			
Mode	Modulation scheme / bandwidth		
	5180 MHz	5220 MHz	5240 MHz
802.11a	6 Mbps	6 Mbps	6 Mbps
802.11n/ac – HT20	MCS 0	MCS 0	MCS 0
Frequency	5190 MHz		5230 MHz
802.11n/ac – HT40	MCS 0		MCS 0
Frequency	5210 MHz		
802.11ac – VHT80	MCS 0		
For Frequency band 5725 ~ 5850 MHz			
Mode	Modulation scheme / bandwidth		
	5745 MHz	5785 MHz	5825 MHz
802.11a	6 Mbps	6 Mbps	6 Mbps
802.11n/ac – HT20	MCS 0	MCS 0	MCS 0
Frequency	5755 MHz		5795 MHz
802.11n/ac – HT40	MCS 0		MCS 0
Frequency	5775 MHz		
802.11ac – VHT80	MCS 0		

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation modes or test configuration modes mentioned above was evaluated respectively.

Pretest Test Mode	Description
Mode 1	TX A Mode / CH36, CH44, CH48 (UNII-1)
Mode 2	TX N20 Mode / CH36, CH44, CH48 (UNII-1)
Mode 3	TX N40 Mode / CH38, CH46 (UNII-1)
Mode 4	TX AC20 Mode / CH36, CH44, CH48 (UNII-1)
Mode 5	TX AC40 Mode / CH38, CH46 (UNII-1)
Mode 6	TX AC80 Mode / CH42 (UNII-1)
Mode 7	TX A Mode / CH149, CH157, CH165 (UNII-3)
Mode 8	TX N20 Mode / CH149, CH157, CH165 (UNII-3)
Mode 9	TX N40 Mode / CH151, CH159 (UNII-3)
Mode 10	TX AC20 Mode / CH149, CH157, CH165 (UNII-3)
Mode 11	TX AC40 Mode / CH151, CH159 (UNII-3)
Mode 12	TX AC80 Mode / CH155 (UNII-3)
Mode 13	TX Mode

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

For Conducted Test	
Final Test Mode	Description
Mode 13	TX Mode
For Radiated Test	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH44, CH48 (UNII-1)
Mode 2	TX AC20 Mode / CH36, CH44, CH48 (UNII-1)
Mode 3	TX AC40 Mode / CH38, CH46 (UNII-1)
Mode 4	TX AC80 Mode / CH42 (UNII-1)
Mode 5	TX A Mode / CH149, CH157, CH165 (UNII-3)
Mode 6	TX AC20 Mode / CH149, CH157, CH165 (UNII-3)
Mode 7	TX AC40 Mode / CH151, CH159 (UNII-3)
Mode 8	TX AC80 Mode / CH155 (UNII-3)

1.5. Power level setup in software

Power level setup in software for 5G wifi			
UNII-1			
Frequency (MHz)	5180	5220	5240
A mode	18	18	18
Frequency (MHz)	5180	5220	5240
N20 mode	18	18	18
Frequency (MHz)	5190	5230	\
N40 mode	18	18	\
Frequency (MHz)	5180	5220	5240
AC20 mode	17	17	17
Frequency (MHz)	5190	5230	\
AC40 mode	18	18	\
Frequency (MHz)	5210	\	\
AC80 mode	18	\	\
Power level setup in software for 5G wifi			
UNII-3			
Frequency (MHz)	5745	5785	5825
A mode	16	16	16
Frequency (MHz)	5745	5785	5825
N20 mode	16	16	16
Frequency (MHz)	5755	5795	\
N40 mode	16	16	\
Frequency (MHz)	5745	5785	5825
AC20 mode	16	16	16
Frequency (MHz)	5755	5795	\
AC40 mode	16	16	\
Frequency (MHz)	5775	\	\
AC80 mode	16	\	\

1.6. Laboratory Facilities

CNAS-Lab Code: L1659

CCIC-SET is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

FCC-Registration No.: CN1283

CCIC Southern Testing 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. Designation Number: CN1283, valid time is until June 30th, 2021

ISED Registration: 11185A-1

CAB identifier: CN0064

CCIC Southern Testing Co., Ltd. EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 11185A-1 on Aug. 04, 2016, valid time is until June 30th, 2021

A2LA Code: 5721.01

CCIC-SET is a third party testing organization accredited by A2LA according to ISO/IEC 17025. The accreditation certificate number is 5721.01.

2. Test Requirements

2.1. Antenna requirement

2.1.1. Applicable Standard

According to FCC 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

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

According to RSSGEN 6.8, The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

2.1.2. Antenna Information

Antenna Type	PIFA
EUT	DV601
Operating frequency range	5180-5320MHz,5745-5825 MHz
Antenna Gain	2.5dBi(Maximum)

2.1.3. Result: comply

The EUT has a permanently and irreplaceable attached antenna. Please refer to the EUT internal photos.

2.2. Output Power

2.2.1. Limit of Output Power

FCC 15.407(a)

The maximum conducted output power should not exceed:

Band	EUT Category	Limit
U-NII-1	☐ Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p. $\leq$ 125mW(21dBm) at any elevation angle above 30 degrees as measured from the horizon)
	☐ Fixed point-to-point Access device	1 Watt (30 dBm)
	☐ Indoor Access Point	1 Watt (30 dBm)
	☒ Mobile and portable client device	250mW (24 dBm)
U-NII-2A	☐	250mW (24 dBm) or 11dBm+10logB* Whichever is less.
U-NII-2C	☐	250mW (24 dBm) or 11dBm+10logB* Whichever is less.
U-NII-3	☒	1 Watt (30 dBm)

Note: B* is the 26 dB emission bandwidth in MHz.

RSS-247, 6.2

The maximum conducted output power shall not exceed:

Band	EUT Category	Limit
U-NII-1	☒ OEM devices installed in vehicles	30 mW or 1.76 + 10 log10B, dBm, whichever is less
U-NII-2A	☐	250mW (24 dBm) or 11dBm+10logB* Whichever is less.
U-NII-2C	☐	250mW (24 dBm) or 11dBm+10logB* Whichever is less.
U-NII-3	☒	1 Watt (30 dBm)

Note: B* is the 99% emission bandwidth in MHz.

The maximum e.i.r.p. shall not exceed:

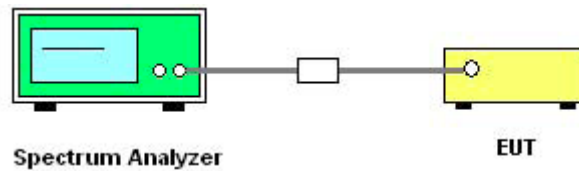
Band	EUT Category	Limit
U-NII-1	☒	200mW(23dBm) or 10dBm+10log B* Whichever is less.
U-NII-2A	☐	1W (30 dBm) or 17dBm+10logB* Whichever is less.
U-NII-2C	☐	1W (30 dBm) or 17dBm+10logB* Whichever is less.
U-NII-3	☒	N/A

Note: B* is the 99% emission bandwidth in MHz.

2.2.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.2.3. Test Setup



2.2.4. Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-1
2. The RF output of EUT was connected to spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector=average (RMS), Compute power by integrating the spectrum across the 99%OBW.
5. Measure the conducted output power and record the results in the test report.

2.2.5. Test Result

Please refer to APPENDIX A for detail

2.3. Emission Bandwidth

2.3.1. Limit of Bandwidth

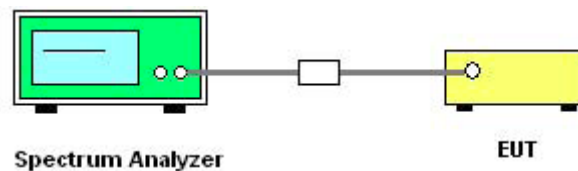
There is no limit bandwidth for bandU-NII-1, U-NII-2A and U-NII-2C.

The minimum of 6dB bandwidth measurement is 0.5 MHz for U-NII-3.

2.3.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.3.3. Test Setup



2.3.4. Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

3. Set to the maximum power setting and enable the EUT transmit continuously.

4. For 26dB bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = approximately 1%EBW, VBW $\geq$ 3RBW , Detector = Peak, Trace mode = max hold

Span > 26 dB bandwidth and Sweep time = auto

5. Use the spectrum analyzer N dB down function to find the 26dB bandwidth.

6. For 6 Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 100kHz
VBW = 300 kHz, Detector = Peak, Trace mode = max hold

7. Use the spectrum analyzer N dB down function to find the 6dB bandwidth

8. Measure and record the worst results in the test report.



2.3.5. Test Results Bandwidth

Please refer to APPENDIX A for detail

2.4. Power spectral density (PSD)

2.4.1. Limit of Power Spectral Density

FCC 15.407(a)

The maximum power spectral density should not exceed:

Band	EUT Category	Limit
U-NII-1	☐ Access Point (Master device)	17 dBm/MHz
	☐ Fixed point-to-point Access device	
	☒ Mobile and portable client device	11 dBm/MHz
U-NII-2A	☐	11 dBm/MHz
U-NII-2C	☐	11 dBm/MHz
U-NII-3	☒	30dBm/500kHz

RSS-247, 6.2

The maximum power spectral density should not exceed:

Band	EUT Category	Limit
U-NII-1	☒	N/A
U-NII-2A	☐	11 dBm/MHz
U-NII-2C	☐	11 dBm/MHz
U-NII-3	☒	30 dBm/500kHz

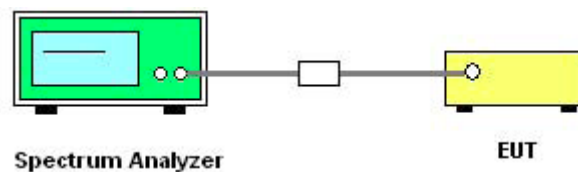
The e.i.r.p. spectral density should not exceed:

Band	EUT Category	Limit
U-NII-1	☒	10 dBm/MHz
U-NII-2A	☐	N/A
U-NII-2C	☐	N/A
U-NII-3	☒	N/A

2.4.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.4.3. Test Setup



2.4.4. Test Procedures

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.

4. For U-NII-1, U-NII-2A, U-NII-2C Band:

Using method SA-1

Set RBW=1MHz, VBW=3MHz, where span is enough to capture the entire bandwidth, Sweep time = Auto, detector = sample, traces 100 sweeps of averaging mode.

For U-NII-3 Band:

Set RBW=500 kHz, $VBW \geq 3RBW$, where span is enough to capture the entire bandwidth, Sweep time = Auto, detector = sample, traces 100 sweeps of averaging mode.

5. Use peak search function on the instrument to find the peak of the spectrum and record its value
6. Repeat above procedures until all default test channel (low, middle, and high) was complete.

2.4.5. Test Results of Power spectral density

Please refer to APPENDIX A for detail

2.5. Frequency Stability

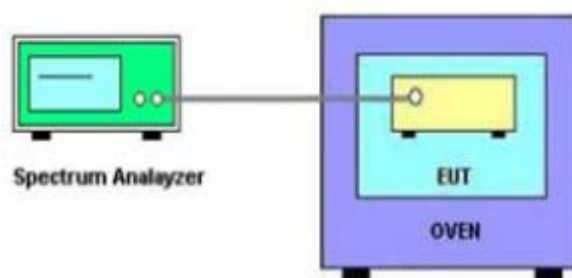
2.5.1. Limit

FCC 15.407(b) Frequency Stability	
Frequency Band(MHz)	Limit
5150~5250	Specified in the user's manual
5250~5350	
5470~5725	
5725~5850	

2.5.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.5.3. Test Setup



2.5.4. Test Procedures

1. The EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously.
3. The EUT is installed in an environment test chamber with external power source.
4. Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage of EUT.
5. A sufficient stabilization period at each temperatures in used prior to each frequency measurement.
6. The test shall be performed under -10 to 55 centigrade and 85 to 115 percent of the nominal voltage. Change setting of chamber and external power source to complete all conditions.
7. Measure and record the worst results in the test report.

2.5.5. Test Results of Frequency Stability

Please refer to APPENDIX A for detail

2.6. Radiated Band Edge and Spurious Emission

2.6.1. Limit of Radiated Band Edges and Spurious Emission

Radiated emission which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level ($\mu\text{V/m}$).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

Applicable To	Limit	
789033 D02 General UNII Test Procedures New Rules V02r01	Field Strength at 3m	
	PK:74(dB $\mu\text{V/m}$)	AV:54 (dB $\mu\text{V/m}$)

Frequency Band (MHz)	Frequency (MHz)	EIRP Limit (dBm)	Equivalent Field Strength (3m) (dB $\mu\text{V/m}$)
5150 - 5250	Outside of the 5.15~5.35 GHz	-27	68.2
5250 - 5350	Outside of the 5.15~5.35 GHz		
5470 -5725	Outside of the 5.47~5.725 GHz		

FCC 15.407			
Frequency Band (MHz)	Frequency (MHz)	EIRP Limit (dBm)	Equivalent Field Strength (3m) (dBμV/m)
5725 - 5850	<5650	-27	68.2
	5650~5700	-27~10	68.2~105.2
	5700~5720	10~15.6	105.2~110.8
	5720~5725	15.6~27	110.8~122.2
	5850~5855	27~15.6	122.2~110.8
	5855~5875	15.6~10	110.8~105.2
	5875~5925	10~-27	105.2~68.2
	>5925	-27	68.2

Note: 1. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000 \sqrt{30P}}{3} \mu\text{V/m, where } P \text{ is the eirp (Watts).}$$

For IC:

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

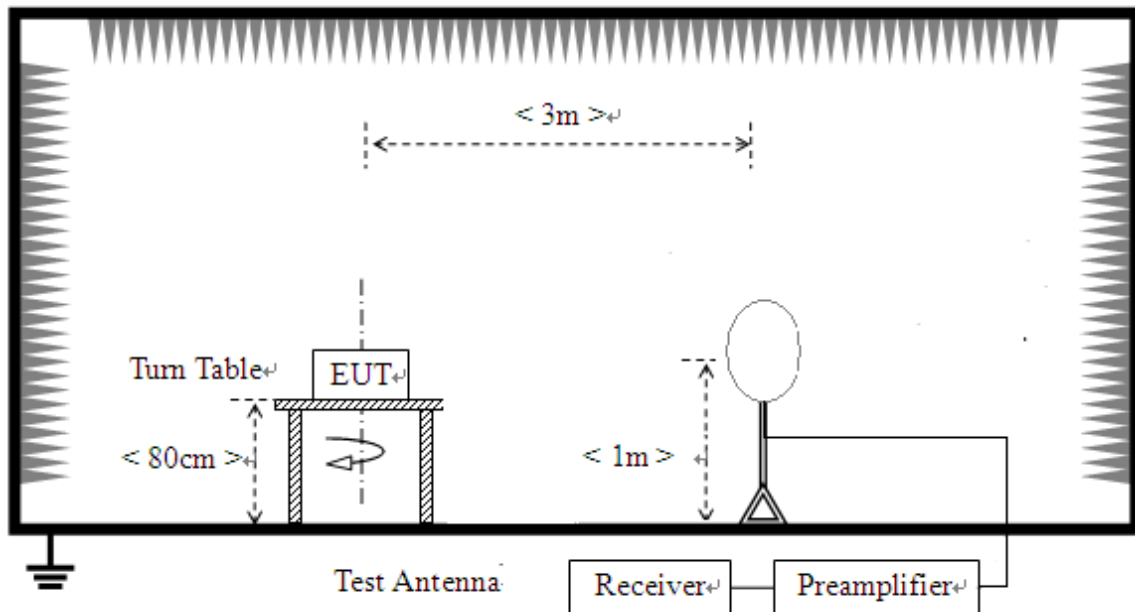
- 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;
- 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;
- 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and
- 27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

2.6.2. Measuring Instruments

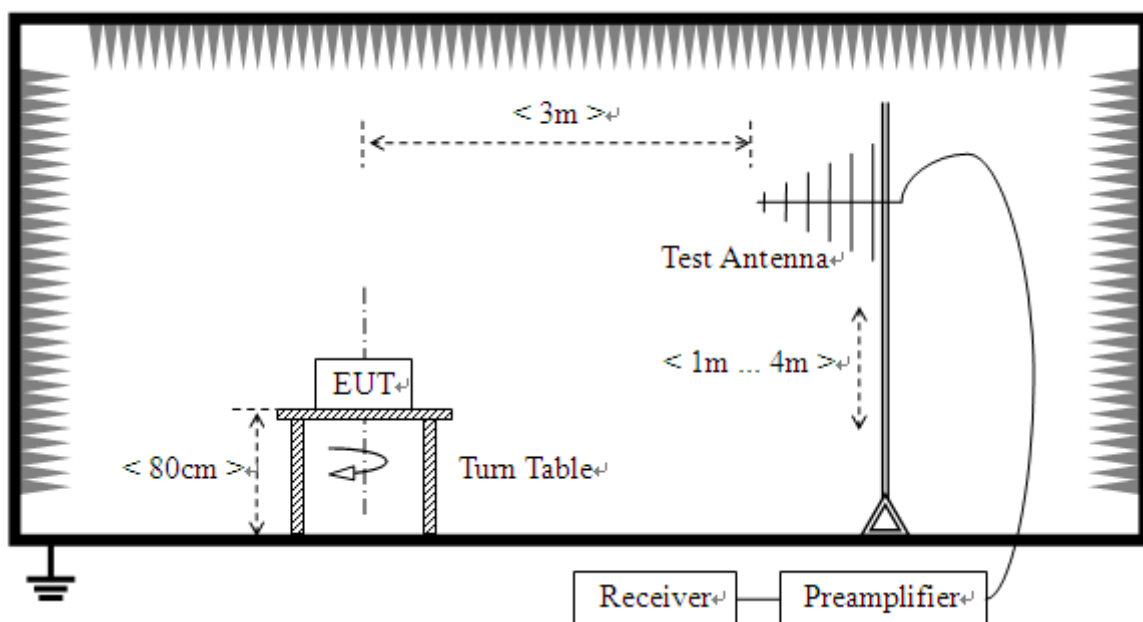
The measuring equipment is listed in the section 3 of this test report.

2.6.3. Test Setup

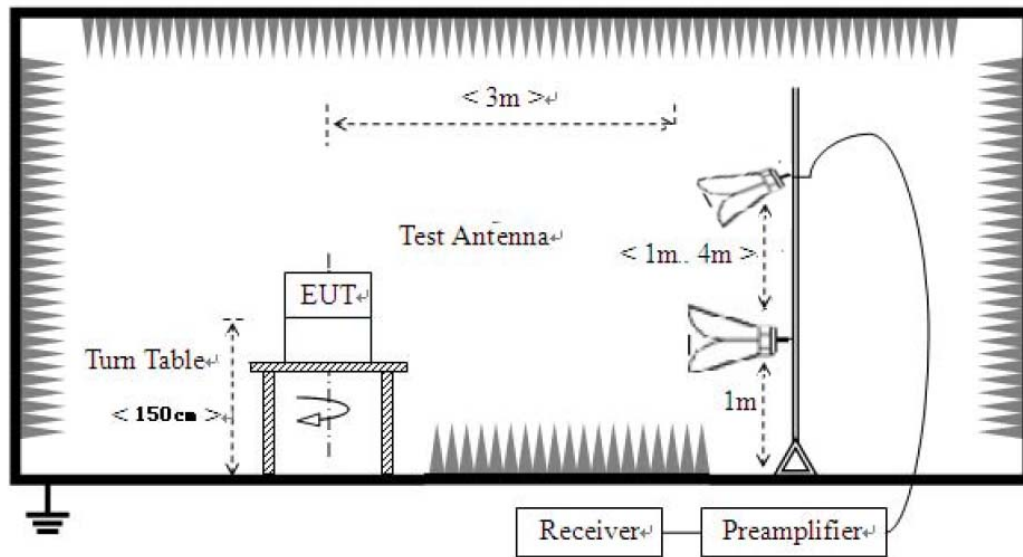
For radiated emissions from 9 KHz to 30 MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



2.6.4. Test Procedures

1. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
6. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

The worst mode as below:

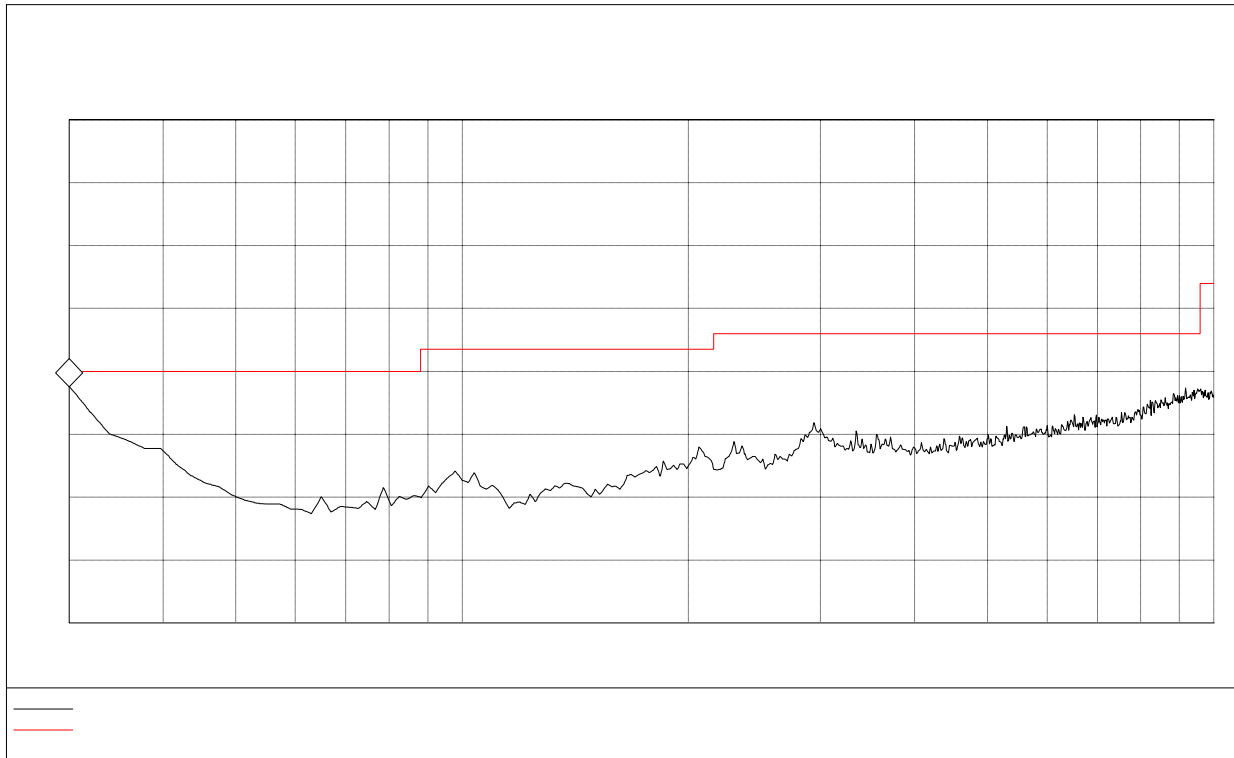
11a CH36 TX for below 1GHz

2.6.5. Test Results of Radiated Band Edge and Spurious Emission

For 9 KHz to 30MHz

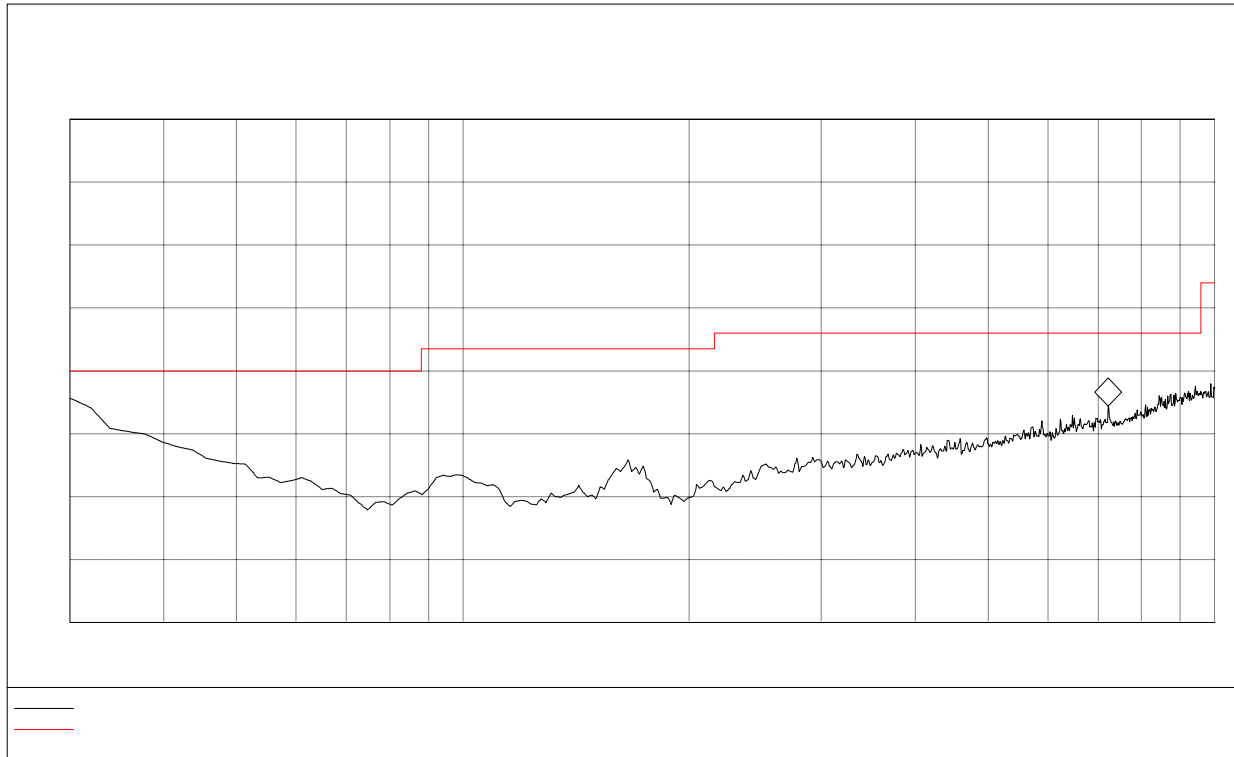
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

For 30MHz to 1000 MHz



30MHz to 1GHz, Antenna Horizontal

Frequency (MHz)	QuasiPeak (dBμV/m)	Bandwidth (kHz)	Corr. Factor (dB/m)	Antenna height (cm)	Limit (dBμV/m)	Margin	Antenna	Verdict
30.000000	35.36	120.000	17.9	100.0	40.0	4.64	Horizontal	Pass
39.70000	24.68	120.000	13.7	100.0	40.0	15.32	Horizontal	Pass
97.910000	21.66	120.000	10.6	100.0	43.5	21.84	Horizontal	Pass
206.540000	24.57	120.000	17.5	100.0	43.5	18.93	Horizontal	Pass
293.750000	27.18	120.000	17.5	100.0	46.0	18.82	Horizontal	Pass
334.500000	26.80	120.000	24.8	100.0	46.0	19.2	Horizontal	Pass



30MHz to 1GHz, Antenna Vertical

Frequency (MHz)	QuasiPeak (dB μ V/m)	Bandwidth (kHz)	Corr. Factor (dB μ V/m)	Antenna height (cm)	Limit (dB μ V/m)	Margin	Antenna	Verdict
30.000000	32.60	120.000	17.9	100.0	40.0	7.4	Vertical	Pass
37.750000	26.50	120.000	13.7	100.0	40.0	13.5	Vertical	Pass
99.840000	26.50	120.000	10.3	100.0	43.5	17	Vertical	Pass
165.800000	23.13	120.000	17.5	100.0	43.5	20.37	Vertical	Pass
278.290000	24.50	120.000	17.5	100.0	46.0	21.5	Vertical	Pass
722.580000	31.09	120.000	19.3	100.0	46.0	14.91	Vertical	Pass

For 1GHz to 40 GHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11a_5180MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5150.00	56.87	PK	68.20	-11.33	1.60	200	49.37	7.50
2	5150.00	45.39	AV	54.00	-8.61	1.60	200	37.89	7.50
3	10360.00	53.25	PK	68.20	-14.95	1.50	300	33.45	19.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11a_5180MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5150.00	55.95	PK	68.20	-12.25	1.70	180	48.45	7.50
2	5150.00	45.21	AV	54.00	-8.79	1.70	180	37.71	7.50
3	10360.00	55.84	PK	68.20	-12.36	1.70	180	36.04	19.80

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11a_5220MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	10400.00	56.95	PK	68.20	-11.25	1.50	300	37.05	19.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11a_5220MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	10400.00	57.48	PK	68.20	-10.72	1.70	180	37.58	19.90

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11a_5240MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5350.00	56.22	PK	68.20	-11.98	1.50	290	48.22	8.00
2	5350.00	45.67	AV	54.00	-8.33	1.50	290	37.67	8.00
3	10480.00	55.97	PK	68.20	-12.23	1.50	290	36.07	19.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11a_5240MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5350.00	56.74	PK	68.20	-11.46	1.70	320	48.74	8.00
2	5350.00	45.36	AV	54.00	-8.64	1.70	320	37.36	8.00
3	10480.00	54.26	PK	68.20	-13.94	1.70	320	34.36	19.90

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11a_5745MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5725.00	58.95	PK	68.20	-9.25	1.60	300	49.30	9.65
2	11490.00	57.25	PK	68.20	-10.95	1.60	300	35.55	21.70
3	11490.00	45.96	AV	54.00	-8.04	1.60	300	24.26	21.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11a_5745MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5725.00	57.81	PK	68.20	-10.39	1.70	200	48.16	9.65
2	11490.00	56.32	PK	68.20	-11.88	1.70	200	34.62	21.70
3	11490.00	43.58	AV	54.00	-10.42	1.70	200	21.88	21.70

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11a_5785MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	11570.00	57.98	PK	68.20	-10.22	1.80	300	36.28	21.70
2	11570.00	45.63	AV	54.00	-8.37	1.80	300	23.93	21.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11a_5785MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	11570.00	58.47	PK	68.20	-9.73	1.70	290	36.77	21.70
2	11570.00	46.09	AV	54.00	-7.91	1.70	290	24.39	21.70

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11a_5825MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5850.00	57.74	PK	68.20	-10.46	1.60	300	47.96	9.78
2	11650.00	58.24	PK	68.20	-9.96	1.60	270	36.34	21.90
3	11650.00	46.26	AV	54.00	-7.74	1.60	270	24.36	21.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11a_5825MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5850.00	57.95	PK	68.20	-10.25	1.80	290	48.17	9.78
2	11650.00	58.32	PK	68.20	-9.88	1.80	290	36.42	21.90
3	11650.00	46.17	AV	54.00	-7.83	1.80	290	24.27	21.90

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n20_5180MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5150.00	56.25	PK	68.20	-11.95	1.60	200	48.75	7.50
2	5150.00	44.96	AV	54.00	-9.04	1.60	200	37.46	7.50
3	10360.00	54.87	PK	68.20	-13.33	1.50	300	35.07	19.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n20_5180MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5150.00	56.95	PK	68.20	-11.25	1.70	180	49.45	7.50
2	5150.00	45.21	AV	54.00	-8.79	1.70	180	37.71	7.50
3	10360.00	57.36	PK	68.20	-10.84	1.70	180	37.56	19.80

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n20_5220MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	10400.00	57.84	PK	68.20	-10.36	1.50	300	37.94	19.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n20_5220MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	10400.00	56.94	PK	68.20	-11.26	1.70	180	37.04	19.90

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n20_5240MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5350.00	56.98	PK	68.20	-11.22	1.50	290	48.98	8.00
2	5350.00	45.59	AV	54.00	-8.41	1.50	290	37.59	8.00
3	10480.00	56.87	PK	68.20	-11.33	1.50	290	36.97	19.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n20_5240MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5350.00	57.49	PK	68.20	-10.71	1.70	320	49.49	8.00
2	5350.00	45.80	AV	54.00	-8.2	1.70	320	37.80	8.00
3	10480.00	56.95	PK	68.20	-11.25	1.70	320	37.05	19.90

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n20_5745MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5725.00	57.25	PK	68.20	-10.95	1.60	300	47.60	9.65
2	11490.00	56.95	PK	68.20	-11.25	1.60	300	35.25	21.70
3	11490.00	45.56	AV	54.00	-8.44	1.60	300	23.86	21.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n20_5745MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5725.00	57.36	PK	68.20	-10.84	1.70	200	47.71	9.65
2	11490.00	56.94	PK	68.20	-11.26	1.70	200	35.24	21.70
3	11490.00	44.92	AV	54.00	-9.08	1.70	200	23.22	21.70

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n20_5785MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	11570.00	58.36	PK	68.20	-9.84	1.80	300	36.66	21.70
2	11570.00	45.38	AV	54.00	-8.62	1.80	300	23.68	21.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n20_5785MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	11570.00	58.14	PK	68.20	-10.06	1.70	290	36.44	21.70
2	11570.00	45.70	AV	54.00	-8.3	1.70	290	24.00	21.70

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n20_5825MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5850.00	57.33	PK	68.20	-10.87	1.60	300	47.55	9.78
2	11650.00	56.95	PK	68.20	-11.25	1.60	270	35.05	21.90
3	11650.00	44.96	AV	54.00	-9.04	1.60	270	23.06	21.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n20_5825MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5850.00	56.95	PK	68.20	-11.25	1.80	290	47.17	9.78
2	11650.00	58.07	PK	68.20	-10.13	1.80	290	36.17	21.90
3	11650.00	45.80	AV	54.00	-8.2	1.80	290	23.90	21.90

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11ac20_5180MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5150.00	55.84	PK	68.20	-12.36	1.60	200	48.34	7.50
2	5150.00	44.45	AV	54.00	-9.55	1.60	200	36.95	7.50
3	10360.00	56.32	PK	68.20	-11.88	1.50	300	36.52	19.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11ac20_5180MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5150.00	57.48	PK	68.20	-10.72	1.70	180	49.98	7.50
2	5150.00	45.83	AV	54.00	-8.17	1.70	180	38.33	7.50
3	10360.00	56.36	PK	68.20	-11.84	1.70	180	36.56	19.80

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11ac20_5220MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	10400.00	56.98	PK	68.20	-11.22	1.50	300	37.08	19.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11ac20_5220MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	10400.00	57.06	PK	68.20	-11.14	1.70	180	37.16	19.90

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11ac20_5240MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5350.00	57.33	PK	68.20	-10.87	1.50	290	49.33	8.00
2	5350.00	45.17	AV	54.00	-8.83	1.50	290	37.17	8.00
3	10480.00	58.14	PK	68.20	-10.06	1.50	290	38.24	19.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11ac20_5240MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5350.00	56.94	PK	68.20	-11.26	1.70	320	48.94	8.00
2	5350.00	45.00	AV	54.00	-9	1.70	320	37.00	8.00
3	10480.00	56.95	PK	68.20	-11.25	1.70	320	37.05	19.90

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11ac20_5745MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5725.00	57.18	PK	68.20	-11.02	1.60	300	47.53	9.65
2	11490.00	57.01	PK	68.20	-11.19	1.60	300	35.31	21.70
3	11490.00	45.14	AV	54.00	-8.86	1.60	300	23.44	21.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11ac20_5745MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5725.00	56.97	PK	68.20	-11.23	1.70	200	47.32	9.65
2	11490.00	57.32	PK	68.20	-10.88	1.70	200	35.62	21.70
3	11490.00	45.21	AV	54.00	-8.79	1.70	200	23.51	21.70

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11ac20_5785MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	11570.00	57.66	PK	68.20	-10.54	1.80	300	35.96	21.70
2	11570.00	45.48	AV	54.00	-8.52	1.80	300	23.78	21.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11ac20_5785MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	11570.00	57.95	PK	68.20	-10.25	1.70	290	36.25	21.70
2	11570.00	45.56	AV	54.00	-8.44	1.70	290	23.86	21.70

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11ac20_5825MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5850.00	59.03	PK	68.20	-9.17	1.60	300	49.25	9.78
2	11650.00	57.36	PK	68.20	-10.84	1.60	270	35.46	21.90
3	11650.00	45.62	AV	54.00	-8.38	1.60	270	23.72	21.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11ac20_5825MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5850.00	57.03	PK	68.20	-11.17	1.80	290	47.25	9.78
2	11650.00	58.24	PK	68.20	-9.96	1.80	290	36.34	21.90
3	11650.00	45.95	AV	54.00	-8.05	1.80	290	24.05	21.90

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n40_5190MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5150.00	57.25	PK	68.20	-10.95	1.80	300.00	49.75	7.50
2	5150.00	46.26	AV	54.00	-7.74	1.80	300.00	38.76	7.50
3	10380.00	55.69	PK	68.20	-12.51	1.80	320.00	35.89	19.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n40_5190MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5150.00	58.36	PK	68.20	-9.84	1.70	300.00	50.86	7.50
2	5150.00	47.71	AV	54.00	-6.29	1.70	300.00	40.21	7.50
3	10380.00	56.94	PK	68.20	-11.26	1.70	300.00	37.14	19.80

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n40_5230MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5350.00	56.94	PK	68.20	-11.26	1.80	300.00	48.94	8.00
2	5350.00	46.65	AV	54.00	-7.35	1.80	300.00	38.65	8.00
3	10460.00	57.95	PK	68.20	-10.25	1.80	300.00	38.05	19.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n40_5230MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5350.00	58.33	PK	68.20	-9.87	1.60	260.00	50.33	8.00
2	5350.00	47.59	AV	54.00	-6.41	1.60	260.00	39.59	8.00
3	10460.00	58.95	PK	68.20	-9.25	1.60	260.00	39.05	19.90

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n40_5755MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5725.00	57.48	PK	68.20	-10.72	1.80	300.00	47.83	9.65
2	5725.00	46.50	AV	54.00	-7.5	1.80	300.00	36.85	9.65
3	11510.00	58.95	PK	68.20	-9.25	1.80	300.00	37.25	21.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n40_5755MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5725.00	56.94	PK	68.20	-11.26	1.80	300.00	47.29	9.65
2	5725.00	45.85	AV	54.00	-8.15	1.80	300.00	36.20	9.65
3	11510.00	58.12	PK	68.20	-10.08	1.80	300.00	36.42	21.70

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11n40_5795MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5850.00	56.36	PK	68.20	-11.84	1.60	240.00	46.58	9.78
2	5850.00	45.51	AV	54.00	-8.49	1.60	240.00	35.73	9.78
3	11590.00	57.88	PK	68.20	-10.32	1.60	240.00	36.08	21.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11n40_5795MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5850.00	58.36	PK	68.20	-9.84	1.80	290.00	48.58	9.78
2	5850.00	47.58	AV	54.00	-6.42	1.80	290.00	37.80	9.78
3	11590.00	58.14	PK	68.20	-10.06	1.80	290.00	36.34	21.80

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11ac40_5190MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5150.00	57.14	PK	68.20	-11.06	1.80	300.00	49.64	7.50
2	5150.00	45.85	AV	54.00	-8.15	1.80	300.00	38.35	7.50
3	10380.00	58.97	PK	68.20	-9.23	1.80	320.00	39.17	19.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11ac40_5190MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5150.00	58.36	PK	68.20	-9.84	1.70	300.00	50.86	7.50
2	5150.00	47.03	AV	54.00	-6.97	1.70	300.00	39.53	7.50
3	10380.00	57.69	PK	68.20	-10.51	1.70	300.00	37.89	19.80

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11ac40_5230MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5350.00	57.84	PK	68.20	-10.36	1.80	300.00	49.84	8.00
2	5350.00	46.75	AV	54.00	-7.25	1.80	300.00	38.75	8.00
3	10460.00	58.36	PK	68.20	-9.84	1.80	300.00	38.46	19.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11ac40_5230MHz)

No.	Frequency (MHz)	Emssion Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5350.00	57.22	PK	68.20	-10.98	1.60	260.00	49.22	8.00
2	5350.00	46.22	AV	54.00	-7.78	1.60	260.00	38.22	8.00
3	10460.00	58.95	PK	68.20	-9.25	1.60	260.00	39.05	19.90

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11ac40_5755MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5725.00	58.25	PK	68.20	-9.95	1.80	300.00	48.60	9.65
2	5725.00	47.04	AV	54.00	-6.96	1.80	300.00	37.39	9.65
3	11510.00	57.36	PK	68.20	-10.84	1.80	300.00	35.66	21.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11ac40_5755MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5725.00	57.15	PK	68.20	-11.05	1.80	300.00	47.50	9.65
2	5725.00	45.96	AV	54.00	-8.04	1.80	300.00	36.31	9.65
3	11510.00	57.99	PK	68.20	-10.21	1.80	300.00	36.29	21.70

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11ac40_5795MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5850.00	57.16	PK	68.20	-11.04	1.60	240.00	47.38	9.78
2	5850.00	45.95	AV	54.00	-8.05	1.60	240.00	36.17	9.78
3	11590.00	58.16	PK	68.20	-10.04	1.60	240.00	36.36	21.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11ac40_5795MHz)

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5850.00	57.94	PK	68.20	-10.26	1.80	290.00	48.16	9.78
2	5850.00	46.91	AV	54.00	-7.09	1.80	290.00	37.13	9.78
3	11590.00	58.33	PK	68.20	-9.87	1.80	290.00	36.53	21.80

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11ac-VHT80_5210MHz)									
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5150.00	55.62	PK	68.20	-12.58	1.60	300.00	48.12	7.50
2	5150.00	43.37	AV	54.00	-10.63	1.60	300.00	35.87	7.50
3	10420.00	54.25	PK	68.20	-13.95	1.60	300.00	34.35	19.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11ac-VHT80_5210MHz)									
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5150.00	56.95	PK	68.20	-11.25	1.70	280.00	49.45	7.50
2	5150.00	44.56	AV	54.00	-9.44	1.70	280.00	37.06	7.50
3	10420.00	56.25	PK	68.20	-11.95	1.70	280.00	36.35	19.90

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M (802.11ac-VHT80_5775MHz)									
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5460.00	58.26	PK	68.20	-9.94	1.80	290.00	48.48	9.78
2	5460.00	46.52	AV	54.00	-7.48	1.80	290.00	36.74	9.78
3	11220.00	57.33	PK	68.20	-10.87	1.80	290.00	35.53	21.80
4	11220.00	46.85	AV	54.00	-7.15	1.80	290.00	25.05	21.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M (802.11ac-VHT80_5775MHz)									
No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)
1	5460.00	57.69	PK	68.20	-10.51	1.50	300.00	47.91	9.78
2	5460.00	46.04	AV	54.00	-7.96	1.50	300.00	36.26	9.78
3	11220.00	56.98	PK	68.20	-11.22	1.50	300.00	35.18	21.80
4	11220.00	46.09	AV	54.00	-7.91	1.50	300.00	24.29	21.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

2.7. Conducted Emission

2.7.1. Limit of Conducted Emission

FCC 15.207,

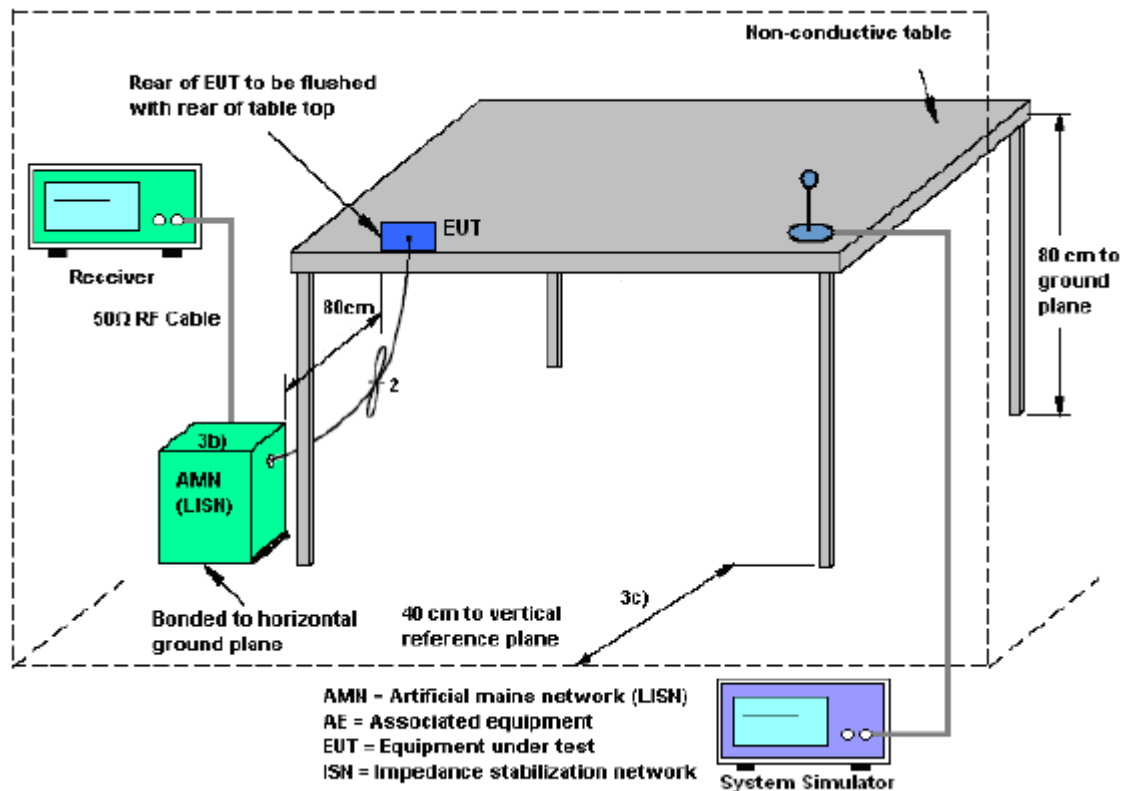
For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

2.7.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.7.3. Test Setup

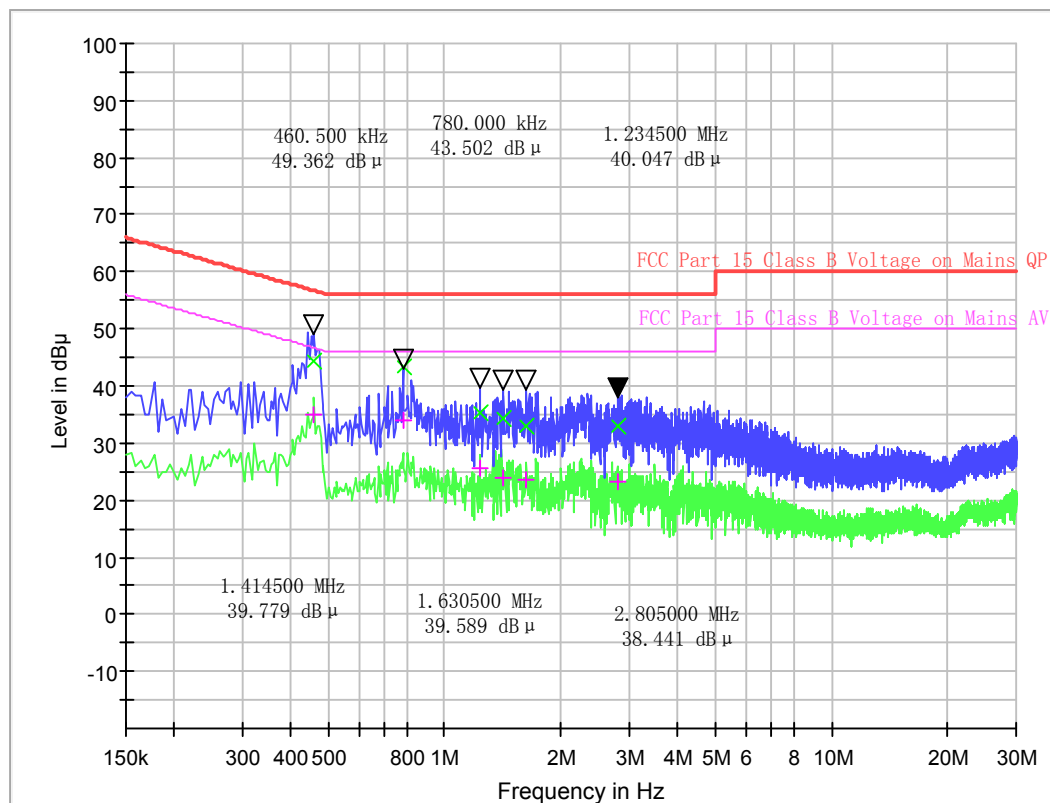


2.7.4. Test Procedures

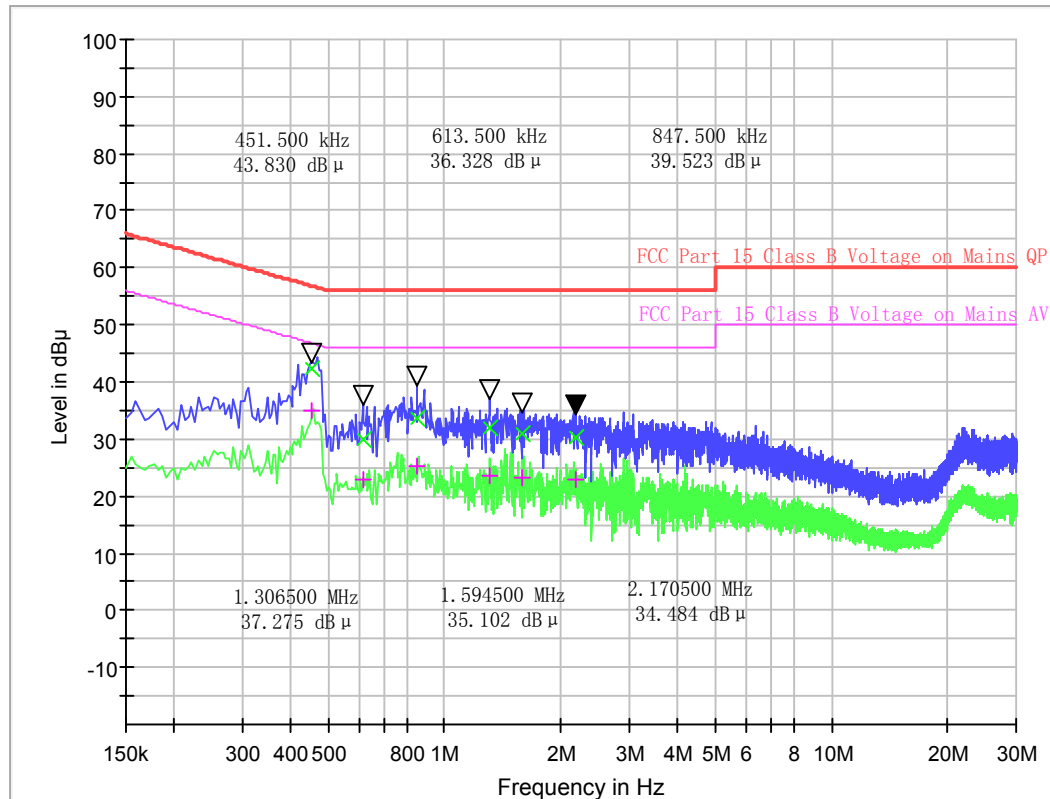
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

2.7.5. Test Results of Conducted Emission

The EUT configuration of the emission tests is 5G WLAN Link + USB Cable (Charging from Adapter)



Frequency (MHz)	QuasiPeak (dB μ V)	Average (dB μ V)	Cabel Loss (dB)	Corr. (dB)	Margin - QPK	Limit - QPK	Margin - AV	Limit - AV (dB μ V)
0.460500	44.30	34.81	0.1	10.1	12.38	56.7	11.87	46.7
0.780000	43.25	34.01	0.1	10.1	12.75	56.0	11.99	46.0
1.234500	35.31	25.53	0.1	10.1	20.69	56.0	20.47	46.0
1.414500	34.19	23.88	0.1	10.1	21.81	56.0	22.12	46.0
1.630500	33.04	23.43	0.2	10.2	22.96	56.0	22.57	46.0
2.805000	32.92	23.35	0.2	10.2	23.08	56.0	22.65	46.0



Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Cabel Loss (dB)	Corr. (dB)	Margin - QPK	Limit - QPK	Margin - AV	Limit - AV (dB μ V)
0.451500	42.36	34.87	0.1	10.1	14.49	56.8	11.98	46.8
0.613500	30.01	22.88	0.1	10.1	25.99	56.0	23.12	46.0
0.847500	33.71	25.10	0.1	10.1	22.29	56.0	20.90	46.0
1.306500	31.82	23.43	0.1	10.1	24.18	56.0	22.57	46.0
1.594500	30.84	23.12	0.2	10.2	25.16	56.0	22.88	46.0
2.170500	30.43	23.02	0.2	10.2	25.57	56.0	22.98	46.0

Test Result: PASS

**Note: Correction factor=Cabel loss+ attenuation factor
attenuation factor=10dB**

3. List of measuring equipment

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	EMI TEST RECEIVER	R&S	ESU8	A0805559	2020.04.03	2021.04.02
2	Power Meter	R&S	NRP-Z31	102872	2020.05.18	2021.05.17
3	TURNTABLE	ETS	2088	2149	N/A	N/A
4	ANTENNA MAST	ETS	2075	2346	N/A	N/A
5	EMI TEST Software	R&S	ESK1	N/A	N/A	N/A
6	Horn antenna (18GHz~26.5GHz)	AR	AT4003A	325306	2020.09.16	2022.09.15
7	Amplifier 30M~1GHz	MILMEGA	80RF1000-10004	A140101634	2020.03.24	2021.03.23
8	Amplifier 1G~18GHz	MILMEGA	AS0104R-800/40 0	A160302517	2020.03.24	2021.03.23
9	High pass filter	Compliance Direction systems	BSU-6	34202	2020.11.10	2021.11.09
10	Horn Antenna	R&S	HF906	A0304225	2019.04.17	2022.04.16
11	Horn Antenna	R&S	ESIB7	A0501375	2020.06.24	2021.06.23
12	ULTRA-BROADBAND ANTENNA	SCHWARZBEC K	VULB9160	A0805560	2019.05.24	2022.05.23
13	Passive Loop Antenna	R&S	HFH2-Z2	100047	2019.04.26	2022.04.25
14	Temperature chamber	XSM	DNF810C	A0501375	2020.05.26	2021.05.25
15	Spectrum Analyzer	KEYSIGHT	N9030A	A160702554	2020.05.18	2021.05.17
16	Power Supply	R&S	ESIB26	A0304218	2020.04.29	2021.04.28
17	LISN	ROHDE&SCH WARZ	ESH2-Z5	A0304221	2020.04.03	2021.04.02

4. Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013. All the measurement uncertainty value were shown with a coverage $K=2$ to indicate 95% level of confidence . The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Emission Measurement (150KHz~30MHz)

Measuring Uncertainty for a level of confidence of 95%($U=2U_c(y)$)	2.6dB
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Uncertainty of Radiated Emission Measurement (30MHz~1GHz)

Measuring Uncertainty for a level of confidence of 95%($U=2U_c(y)$)	2.4dB
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Uncertainty of Radiated Emission Measurement (1GHz~40GHz)

Measuring Uncertainty for a level of confidence of 95%($U=2U_c(y)$)	2.8dB
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Appendix A

Conducted output power

Test results

U-NII-1 AVGSA Output Power					
Mode	Test Frequency (MHz)	Max Power (dBm)	FCC Limit (dBm)	IC Limit (dBm)	Result
802.11n (20MHz)	5180	10.46	24	/	Pass
802.11n (20MHz)	5220	10.80			Pass
802.11n (20MHz)	5240	10.92			Pass
802.11n (40MHz)	5190	10.60			Pass
802.11n (40MHz)	5230	10.82			Pass
802.11ac (20MHz)	5180	10.43			Pass
802.11ac (20MHz)	5220	10.71			Pass
802.11ac (20MHz)	5240	10.72			Pass
802.11ac (40MHz)	5190	10.67			Pass
802.11ac (40MHz)	5230	10.90			Pass
802.11ac (80MHz)	5210	10.63			Pass
802.11a (20MHz)	5180	10.77			Pass
802.11a (20MHz)	5220	10.53			Pass
802.11a (20MHz)	5240	10.06			Pass
U-NII-1 AVGSA Output Power (With TPC) ,Powersetting=9					
Mode	Test Frequency (MHz)	Max Power (dBm)	IC Limit (dBm)		Result
802.11n (20MHz)	5180	8.23	Reported only		Pass
802.11n (20MHz)	5220	8.53			Pass
802.11n (20MHz)	5240	8.52			Pass
802.11n (40MHz)	5190	8.29			Pass
802.11n (40MHz)	5230	8.45			Pass
802.11ac (20MHz)	5180	8.47			Pass
802.11ac (20MHz)	5220	8.34			Pass
802.11ac (20MHz)	5240	8.99			Pass
802.11ac (40MHz)	5190	8.20			Pass
802.11ac (40MHz)	5230	8.53			Pass
802.11ac (80MHz)	5210	8.24			Pass
802.11a (20MHz)	5180	7.38			Pass
802.11a (20MHz)	5220	7.82			Pass
802.11a (20MHz)	5240	8.19			Pass

U-NII-1 Maximum e.i.r.p				
Mode	Test Frequency (MHz)	EIRP(dBm)	IC Limit (dBm)	Result
802.11n (20MHz)	5180	12.96	14.49	Pass
802.11n (20MHz)	5220	13.30	14.47	Pass
802.11n (20MHz)	5240	13.42	14.35	Pass
802.11n (40MHz)	5190	13.10	14.80	Pass
802.11n (40MHz)	5230	13.32	14.80	Pass
802.11ac (20MHz)	5180	12.93	14.60	Pass
802.11ac (20MHz)	5220	13.21	14.56	Pass
802.11ac (20MHz)	5240	13.22	14.48	Pass
802.11ac (40MHz)	5190	13.17	14.80	Pass
802.11ac (40MHz)	5230	13.40	14.80	Pass
802.11ac (80MHz)	5210	13.13	14.80	Pass
802.11a (20MHz)	5180	13.27	14.20	Pass
802.11a (20MHz)	5220	13.03	14.31	Pass
802.11a (20MHz)	5240	12.56	14.35	Pass
U-NII-1 Maximum e.i.r.p (With TPC), Powersetting=9				
Mode	Test Frequency (MHz)	EIRP(dBm)	IC Limit (dBm)	Result
802.11n (20MHz)	5180	10.73	11.8	Pass
802.11n (20MHz)	5220	11.03	11.8	Pass
802.11n (20MHz)	5240	11.02	11.8	Pass
802.11n (40MHz)	5190	10.79	11.8	Pass
802.11n (40MHz)	5230	10.95	11.8	Pass
802.11ac (20MHz)	5180	10.97	11.8	Pass
802.11ac (20MHz)	5220	10.84	11.8	Pass
802.11ac (20MHz)	5240	11.49	11.8	Pass
802.11ac (40MHz)	5190	10.7	11.8	Pass
802.11ac (40MHz)	5230	11.03	11.8	Pass
802.11ac (80MHz)	5210	10.74	11.8	Pass
802.11a (20MHz)	5180	9.88	11.8	Pass
802.11a (20MHz)	5220	10.32	11.8	Pass
802.11a (20MHz)	5240	10.69	11.8	Pass

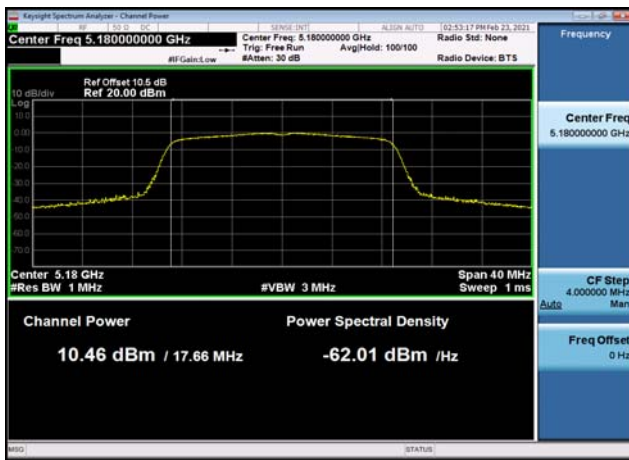
Note:1.According to RSS247 Clause6.2.1.1, For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW (14.8dBm) or $1.76 + 10 \log_{10} B$, dBm, B is 99%OBW, whichever is less. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.



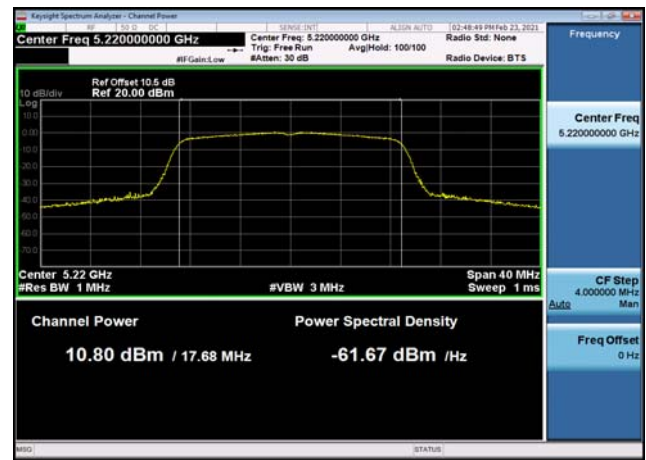
U-NII-3 AVGSA Output Power					
Mode	Test Frequency (MHz)	Max Power (dBm)	FCC Limit (dBm)	IC Limit (dBm)	Result
802.11n (20MHz)	5745	12.26	30	/	Pass
802.11n (20MHz)	5785	11.84			Pass
802.11n (20MHz)	5825	11.79			Pass
802.11n (40MHz)	5755	12.19			Pass
802.11n (40MHz)	5795	11.97			Pass
802.11ac (20MHz)	5745	12.12			Pass
802.11ac (20MHz)	5785	11.91			Pass
802.11ac (20MHz)	5825	11.71			Pass
802.11ac (40MHz)	5755	12.33			Pass
802.11ac (40MHz)	5795	12.11			Pass
802.11ac (80MHz)	5775	12.29			Pass
802.11a (20MHz)	5745	12.80			Pass
802.11a (20MHz)	5785	12.68			Pass
802.11a (20MHz)	5825	12.44			Pass

Test Plots

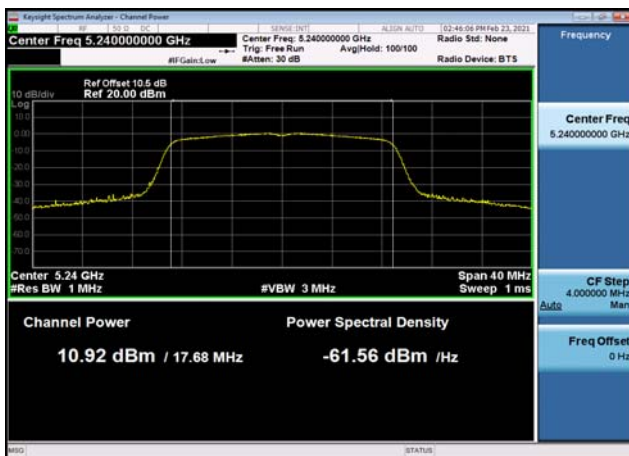
U-NII-1 Output Power-802.11n(20MHz)
,5180MHz



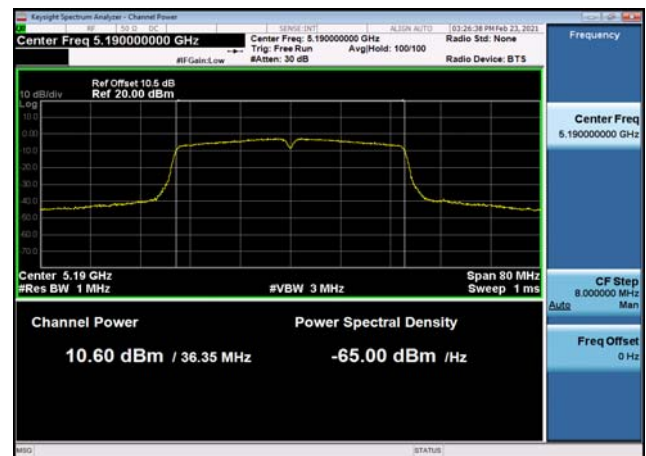
U-NII-1 Output Power-802.11n(20MHz)
,5220MHz



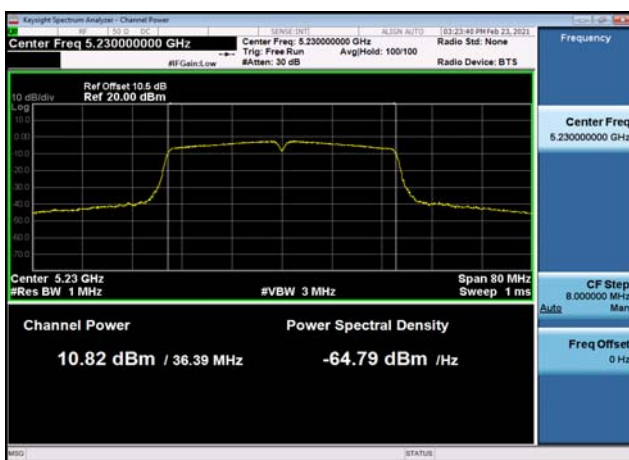
U-NII-1 Output Power-802.11n(20MHz)
,5240MHz



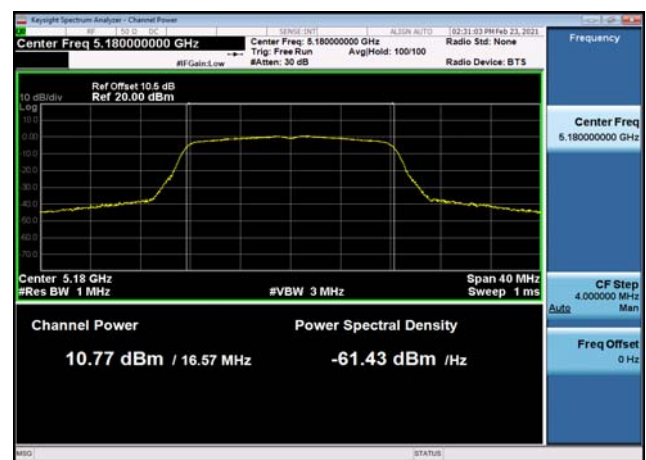
U-NII-1 Output Power-802.11n(40MHz)
,5190MHz



U-NII-1 Output Power-802.11n(40MHz)
,5230MHz



U-NII-1 Output Power-802.11a(20MHz)
,5180MHz



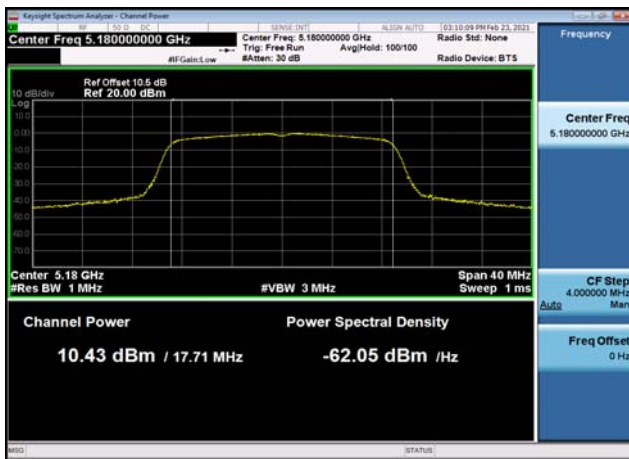
U-NII-1 Output Power-802.11a(20MHz)
,5220MHz



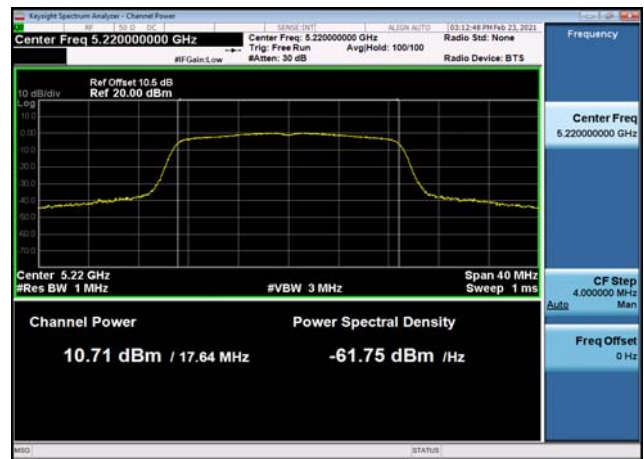
U-NII-1 Output Power-802.11a(20MHz)
,5240MHz



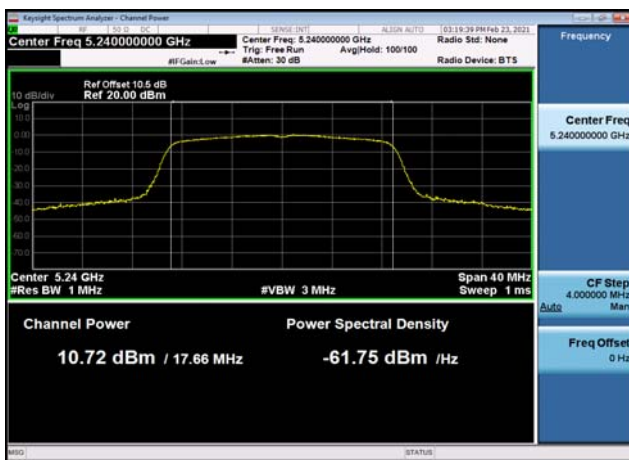
U-NII-1 Output Power-802.11ac(20MHz)
,5180MHz



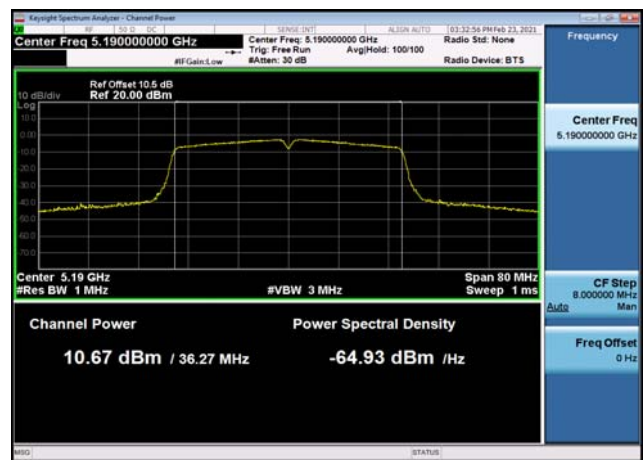
U-NII-1 Output Power-802.11ac(20MHz)
,5220MHz



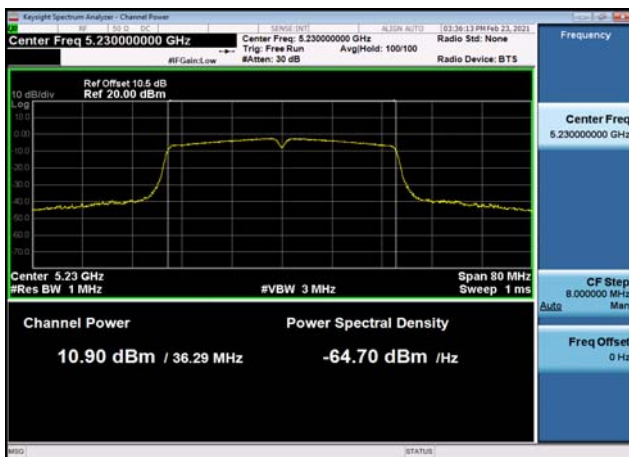
U-NII-1 Output Power-802.11ac(20MHz)
,5240MHz



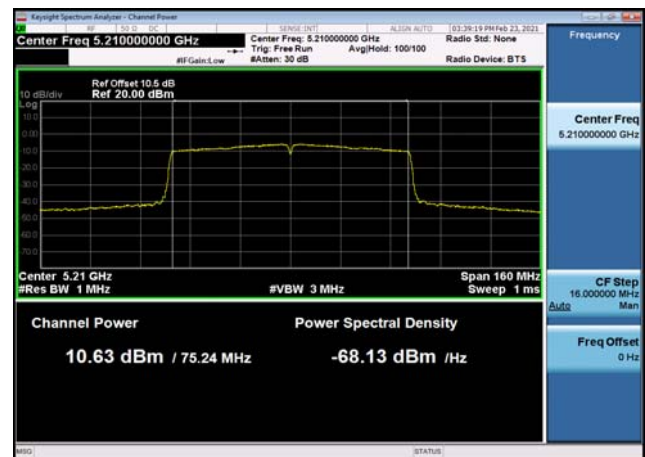
U-NII-1 Output Power-802.11ac(40MHz)
,5190MHz



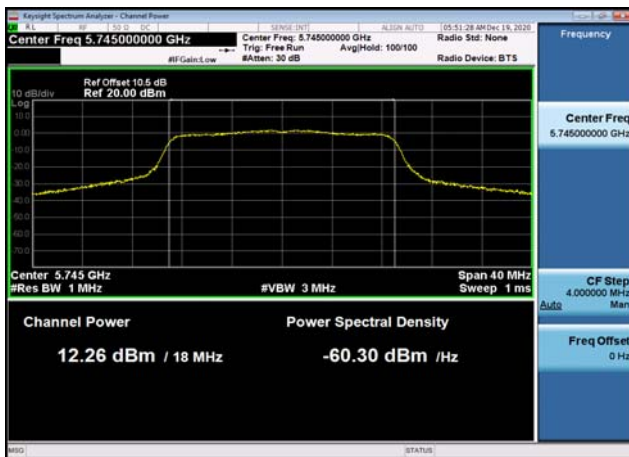
U-NII-1 Output Power-802.11ac(40MHz)
,5230MHz



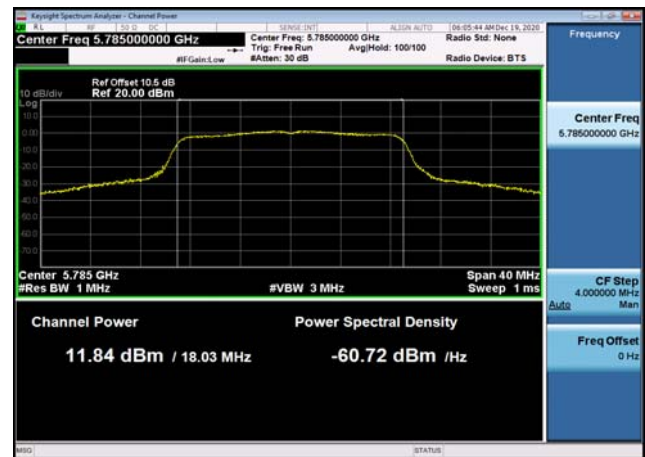
U-NII-1 Output Power-802.11ac(80MHz)
,5210MHz



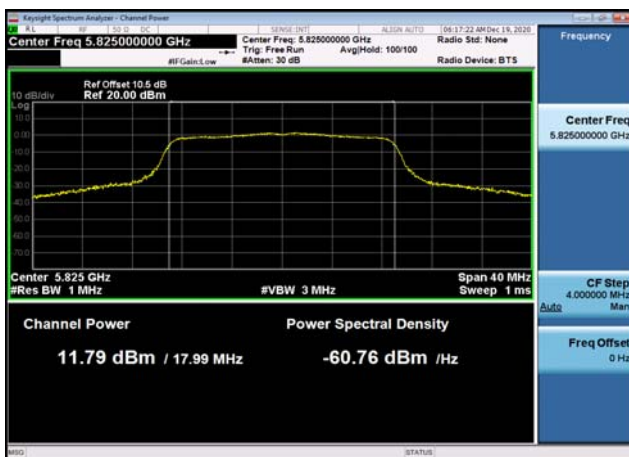
U-NII-3 Output Power-802.11n(20MHz)
,5745MHz



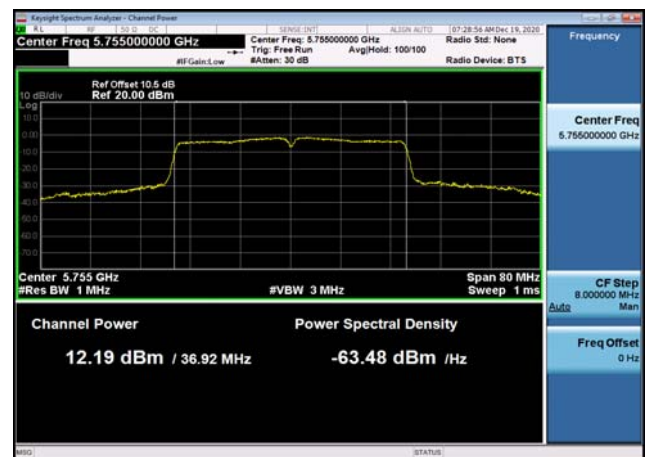
U-NII-3 Output Power-802.11n(20MHz)
,5785MHz



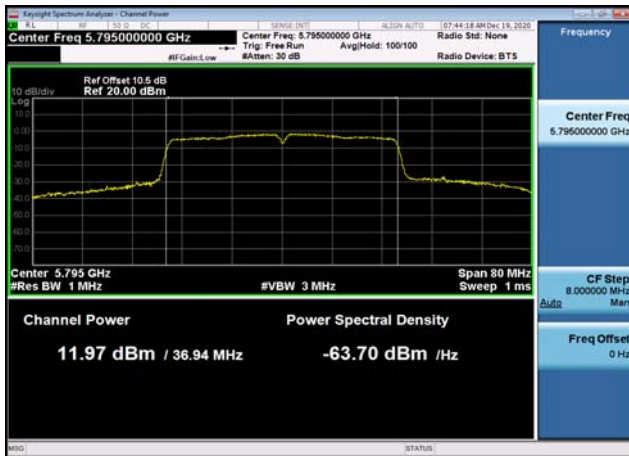
U-NII-3 Output Power-802.11n(20MHz)
,5825MHz



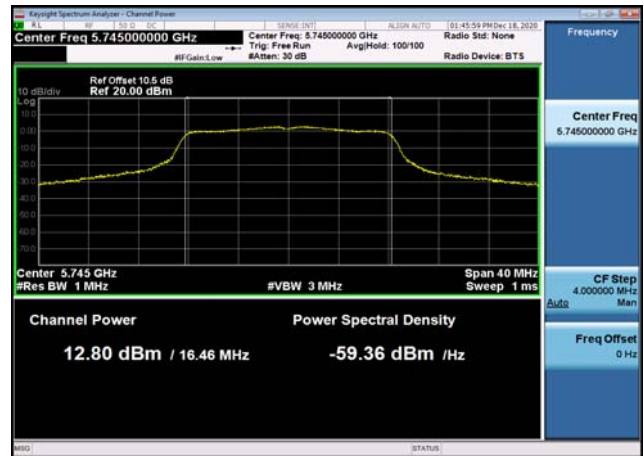
U-NII-3 Output Power-802.11n(40MHz)
,5755MHz



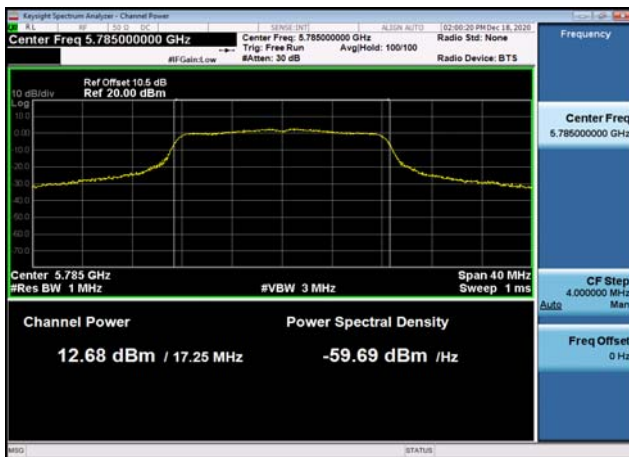
U-NII-3 Output Power-802.11n(40MHz)
,5795MHz



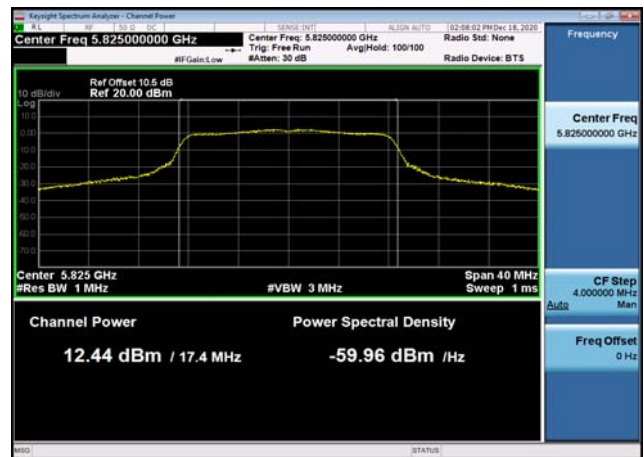
U-NII-3 Output Power-802.11a(20MHz)
,5745MHz



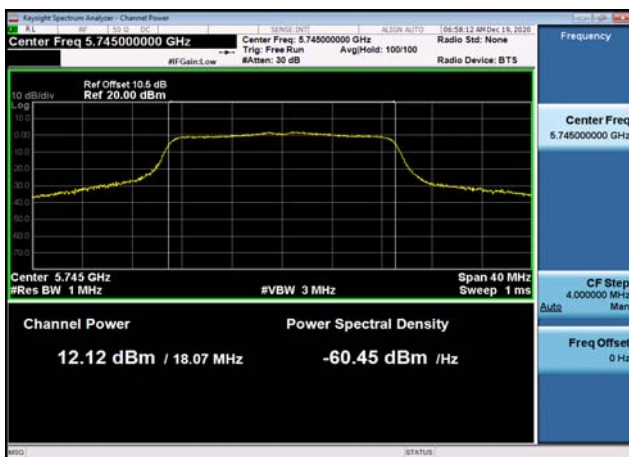
U-NII-3 Output Power-802.11a(20MHz)
,5785MHz



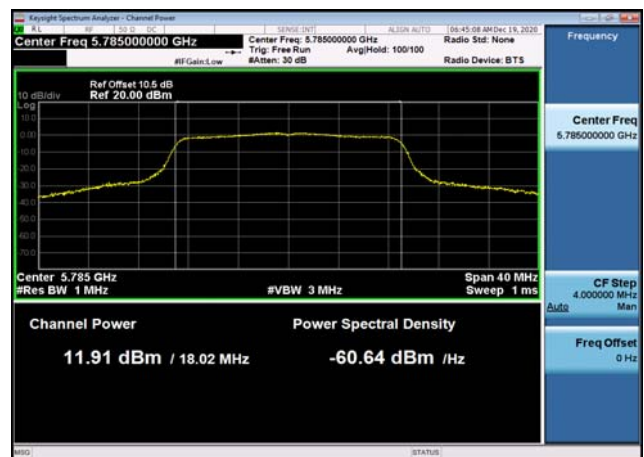
U-NII-3 Output Power-802.11a(20MHz)
,5825MHz



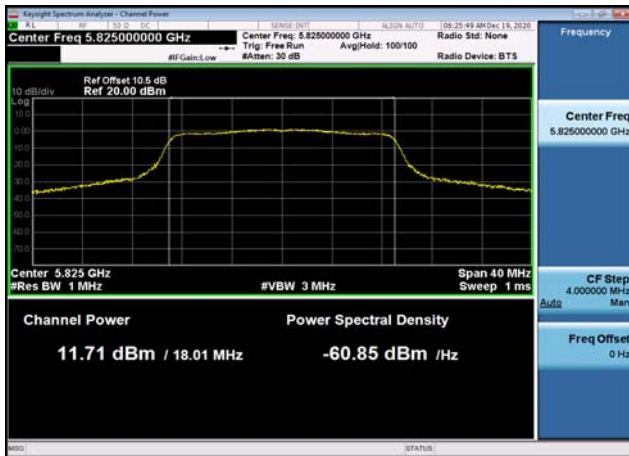
U-NII-3 Output Power-802.11ac(20MHz)
,5745MHz



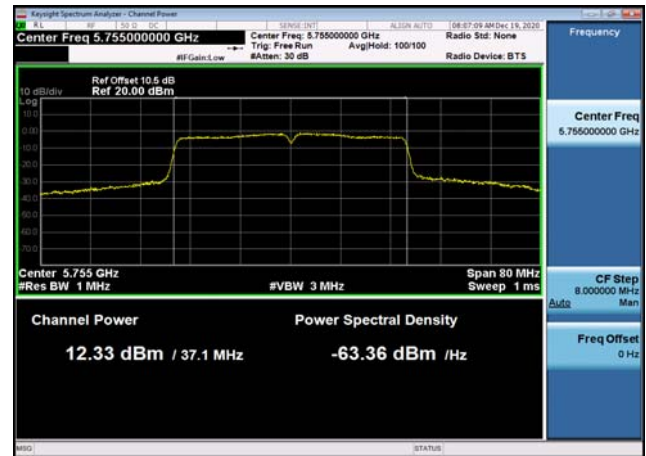
U-NII-3 Output Power-802.11ac(20MHz)
,5785MHz



U-NII-3 Output Power-802.11ac(20MHz)
,5825MHz



U-NII-3 Output Power-802.11ac(40MHz)
,5755MHz



U-NII-3 Output Power-802.11ac(40MHz)
,5795MHz

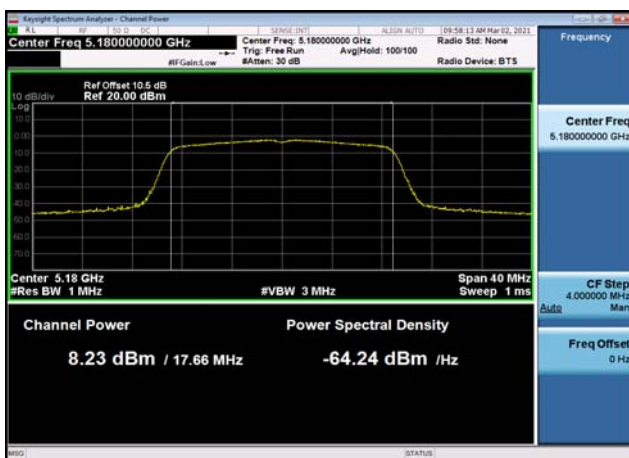


U-NII-3 Output Power-802.11ac(80MHz)
,5775MHz

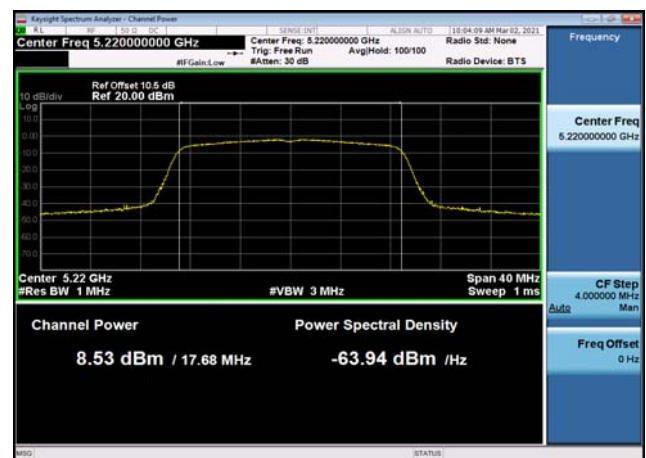


For U-NII-1 With TPC(Powersetting=9)

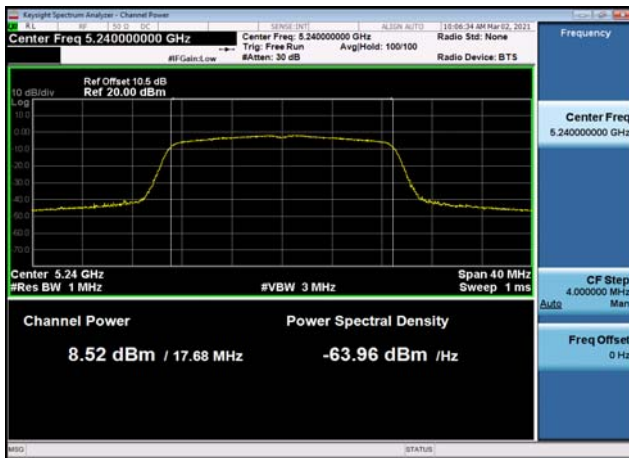
U-NII-1 Output Power-802.11n(20MHz)
,5180MHz



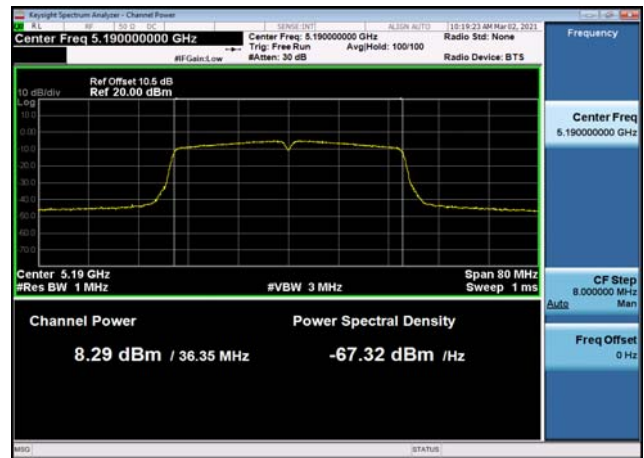
U-NII-1 Output Power-802.11n(20MHz)
,5220MHz



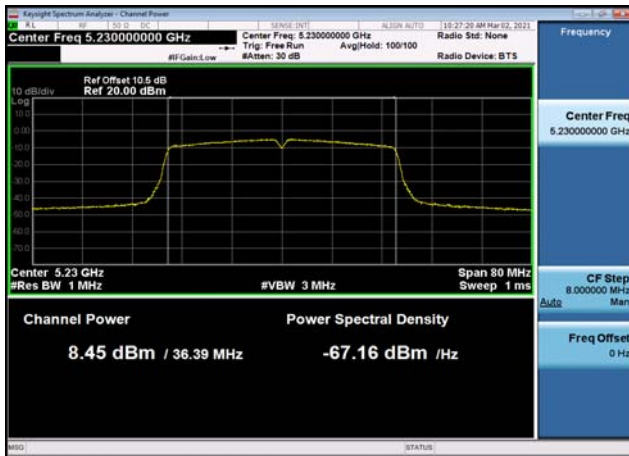
U-NII-1 Output Power-802.11n(20MHz)
,5240MHz



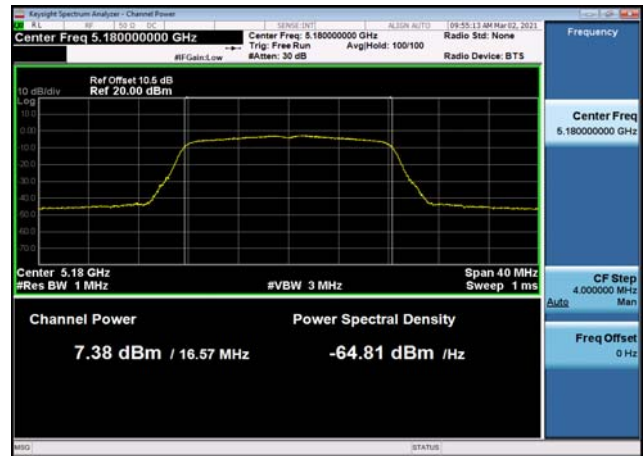
U-NII-1 Output Power-802.11n(40MHz)
,5190MHz



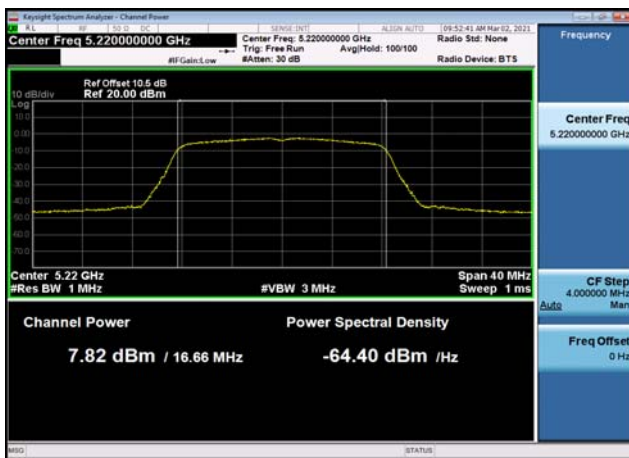
U-NII-1 Output Power-802.11n(40MHz)
,5230MHz



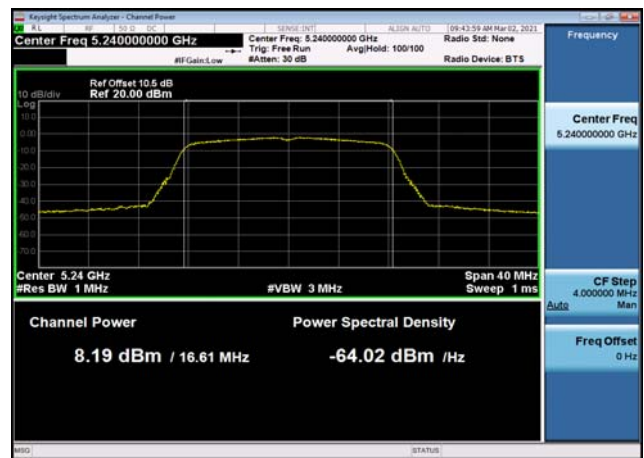
U-NII-1 Output Power-802.11a(20MHz)
,5180MHz



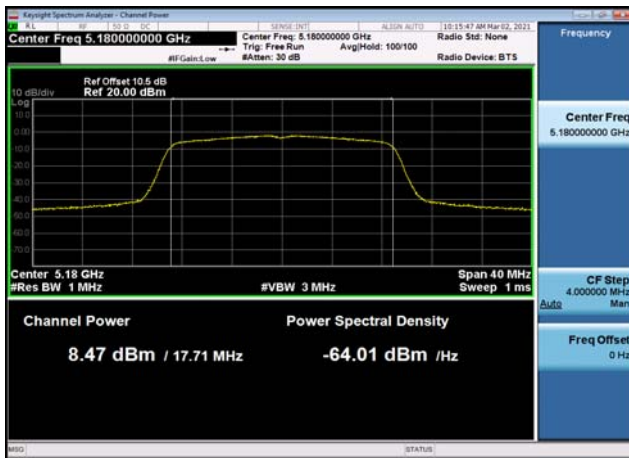
U-NII-1 Output Power-802.11a(20MHz)
,5220MHz



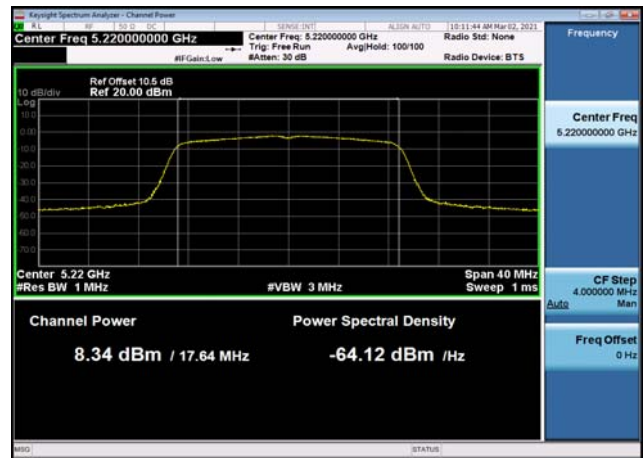
U-NII-1 Output Power-802.11a(20MHz)
,5240MHz



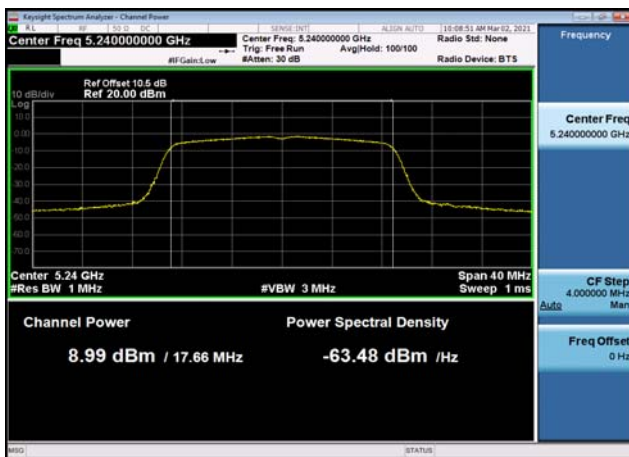
U-NII-1 Output Power-802.11ac(20MHz)
,5180MHz



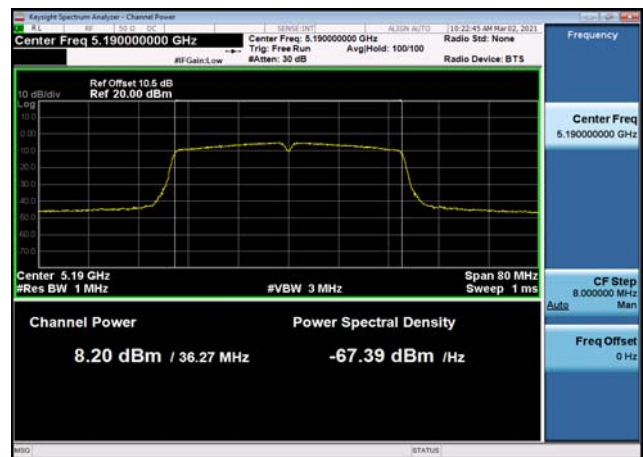
U-NII-1 Output Power-802.11ac(20MHz)
,5220MHz



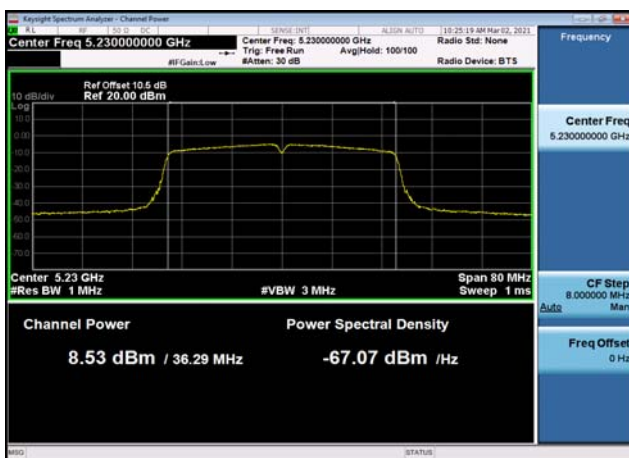
U-NII-1 Output Power-802.11ac(20MHz)
,5240MHz



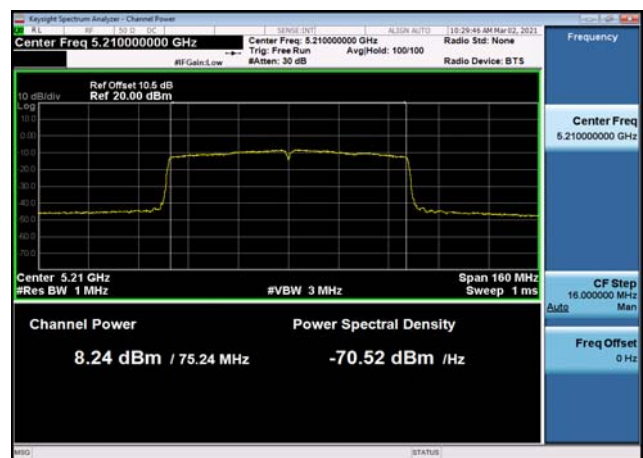
U-NII-1 Output Power-802.11ac(40MHz)
,5190MHz



U-NII-1 Output Power-802.11ac(40MHz)
,5230MHz



U-NII-1 Output Power-802.11ac(80MHz)
,5210MHz



AVGSA Power Spectral Density

Test Result and Data

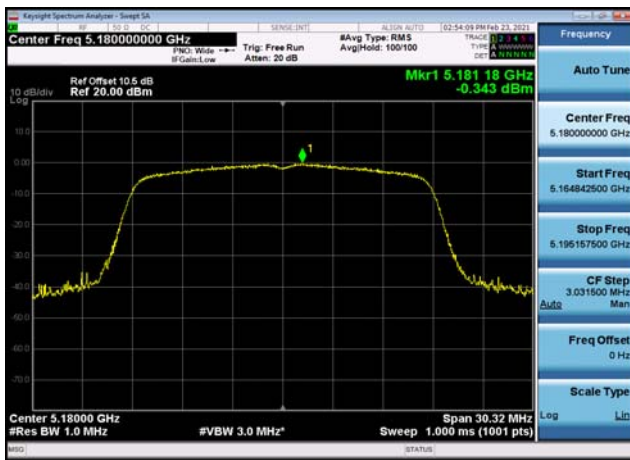
U-NII-1 AVGSA Power Spectral Density				
Mode	Test Frequency (MHz)	PSD (dBm/1MHz)	Limit (dBm/1MHz)	Result
802.11n (20MHz)	5180	-0.343	11	Pass
802.11n (20MHz)	5220	0.169	11	Pass
802.11n (20MHz)	5240	0.362	11	Pass
802.11n (40MHz)	5190	-2.375	11	Pass
802.11n (40MHz)	5230	-2.302	11	Pass
802.11ac (20MHz)	5180	-0.166	11	Pass
802.11ac (20MHz)	5220	0.121	11	Pass
802.11ac (20MHz)	5240	0.282	11	Pass
802.11ac (40MHz)	5190	-2.616	11	Pass
802.11ac (40MHz)	5230	-2.282	11	Pass
802.11ac (80MHz)	5210	-5.651	11	Pass
802.11a (20MHz)	5180	0.538	11	Pass
802.11a (20MHz)	5220	0.377	11	Pass
802.11a (20MHz)	5240	-0.423	11	Pass

U-NII-1 AVGSA EIRP Power Spectral Density				
Mode	Test Frequency (MHz)	EIRP PSD (dBm/1MHz)	Limit (dBm/1MHz)	Result
802.11n (20MHz)	5180	2.157	10	Pass
802.11n (20MHz)	5220	2.669	10	Pass
802.11n (20MHz)	5240	2.862	10	Pass
802.11n (40MHz)	5190	0.125	10	Pass
802.11n (40MHz)	5230	0.198	10	Pass
802.11ac (20MHz)	5180	2.334	10	Pass
802.11ac (20MHz)	5220	2.621	10	Pass
802.11ac (20MHz)	5240	2.782	10	Pass
802.11ac (40MHz)	5190	-0.116	10	Pass
802.11ac (40MHz)	5230	0.218	10	Pass
802.11ac (80MHz)	5210	-3.151	10	Pass
802.11a (20MHz)	5180	3.038	10	Pass
802.11a (20MHz)	5220	2.877	10	Pass
802.11a (20MHz)	5240	2.077	10	Pass

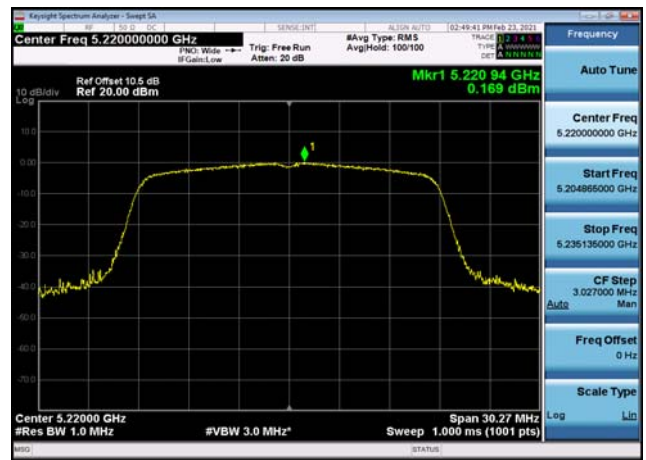
U-NII-3 AVGSA Power Spectral Density				
Mode	Test Frequency (MHz)	PSD (dBm/510KHz)	Limit (dBm/500KHz)	Result
802.11n (20MHz)	5745	-0.887	30	Pass
802.11n (20MHz)	5785	-1.068	30	Pass
802.11n (20MHz)	5825	-1.183	30	Pass
802.11n (40MHz)	5755	-3.341	30	Pass
802.11n (40MHz)	5795	-3.866	30	Pass
802.11ac (20MHz)	5745	-1.053	30	Pass
802.11ac (20MHz)	5785	-1.113	30	Pass
802.11ac (20MHz)	5825	-1.248	30	Pass
802.11ac (40MHz)	5755	-3.441	30	Pass
802.11ac (40MHz)	5795	-3.528	30	Pass
802.11ac (80MHz)	5775	-6.579	30	Pass
802.11a (20MHz)	5745	-0.046	30	Pass
802.11a (20MHz)	5785	0.132	30	Pass
802.11a (20MHz)	5825	-0.002	30	Pass

Test Plots

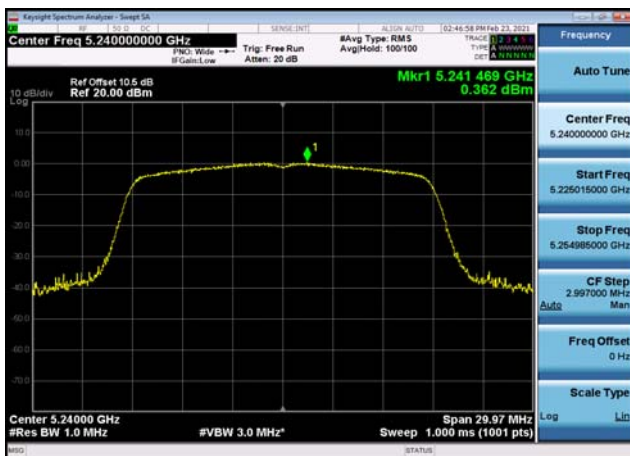
U-NII-1 Power spectral density-802.11
n(20MHz),5180MHz



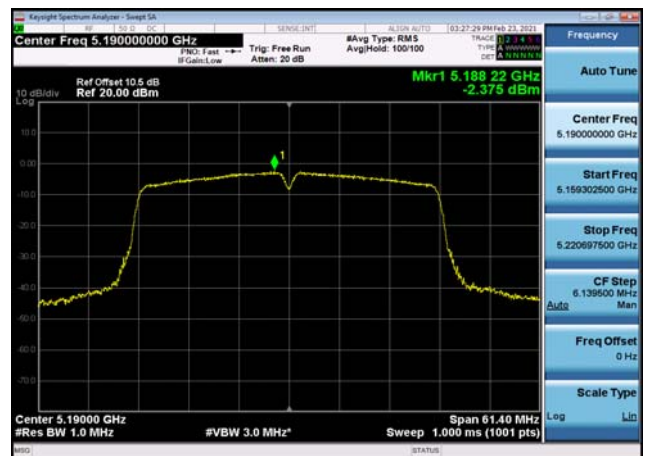
U-NII-1 Power spectral density-802.11
n(20MHz),5220MHz



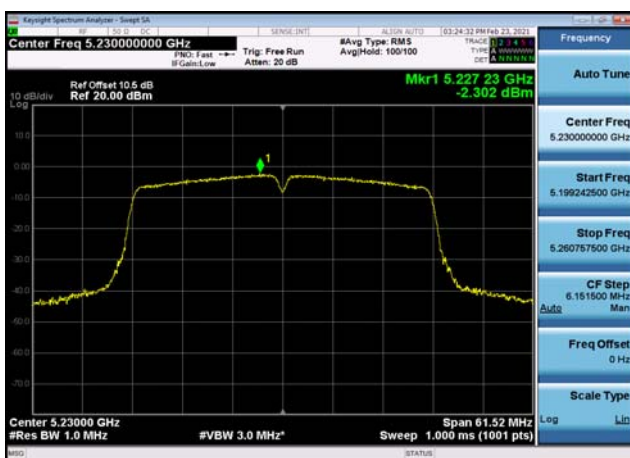
U-NII-1 Power spectral density-802.11
n(20MHz),5240MHz



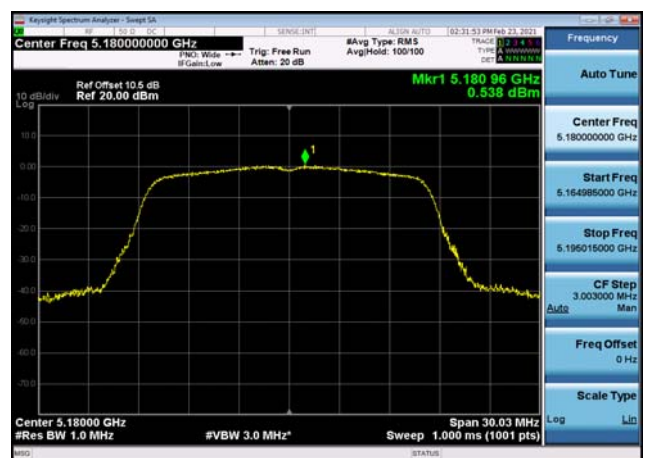
U-NII-1 Power spectral density-802.11
n(40MHz),5190MHz



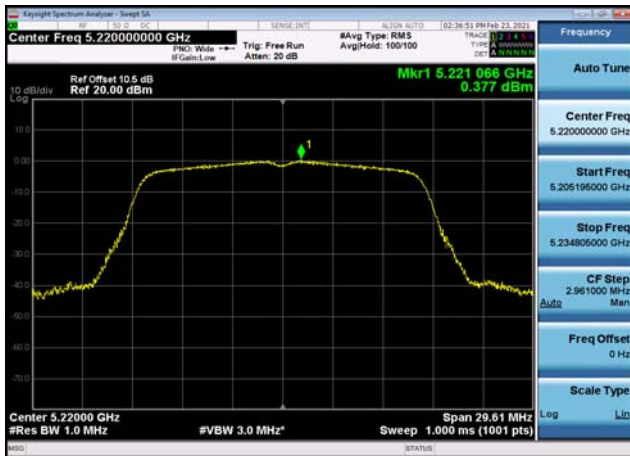
U-NII-1 Power spectral density-802.11
n(40MHz),5230MHz



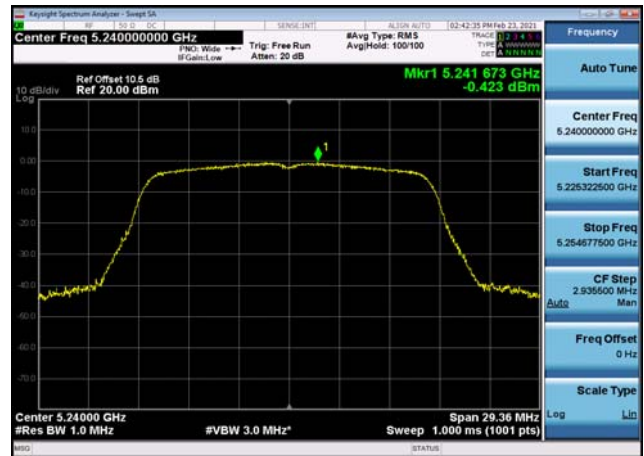
U-NII-1 Power spectral density-802.11
a(20MHz),5180MHz



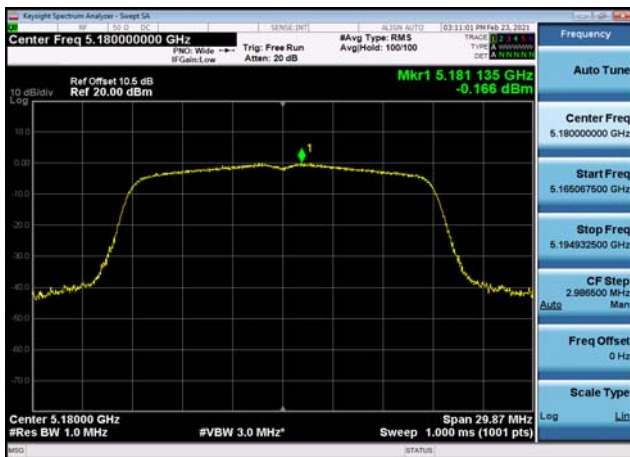
U-NII-1 Power spectral density-802.11
a(20MHz),5220MHz



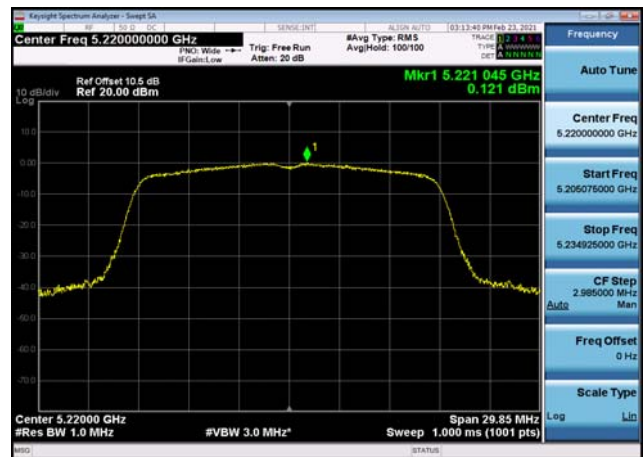
U-NII-1 Power spectral density-802.11
a(20MHz),5240MHz



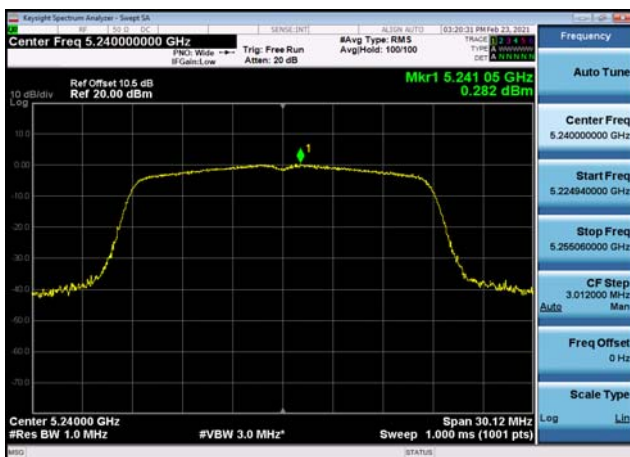
U-NII-1 Power spectral density-802.11
ac(20MHz),5180MHz



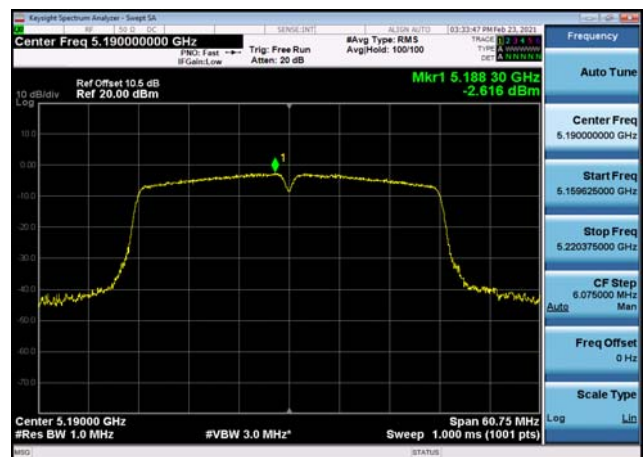
U-NII-1 Power spectral density-802.11
ac(20MHz),5220MHz



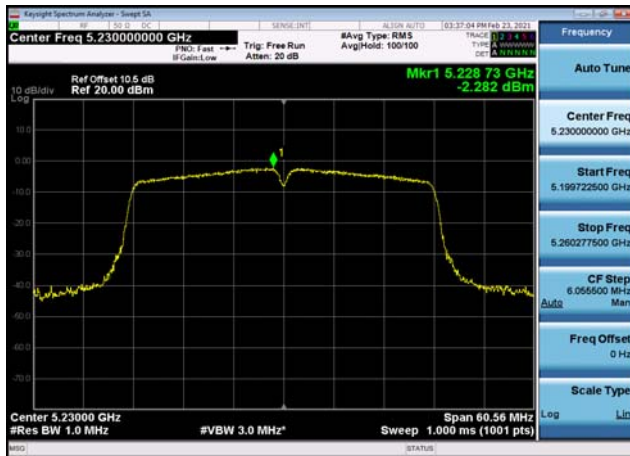
U-NII-1 Power spectral density-802.11
ac(20MHz),5240MHz



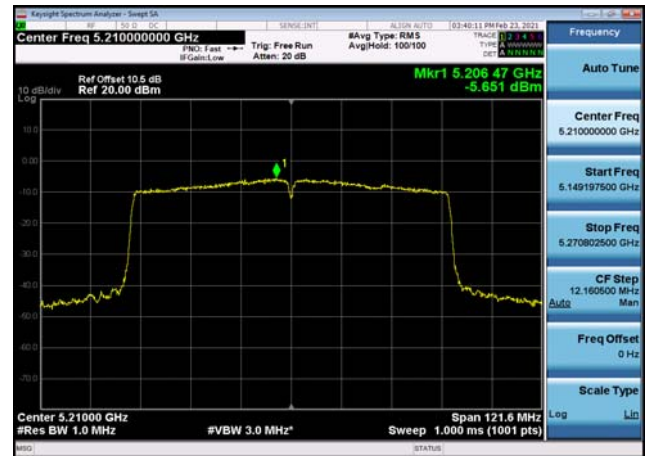
U-NII-1 Power spectral density-802.11
ac(40MHz),5190MHz



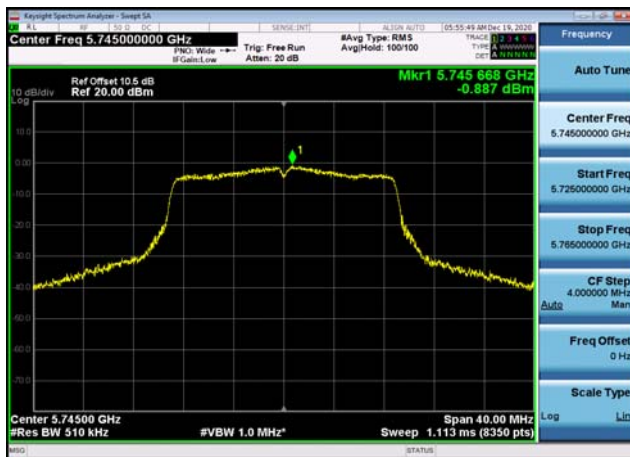
U-NII-1 Power spectral density-802.11
ac(40MHz),5230MHz



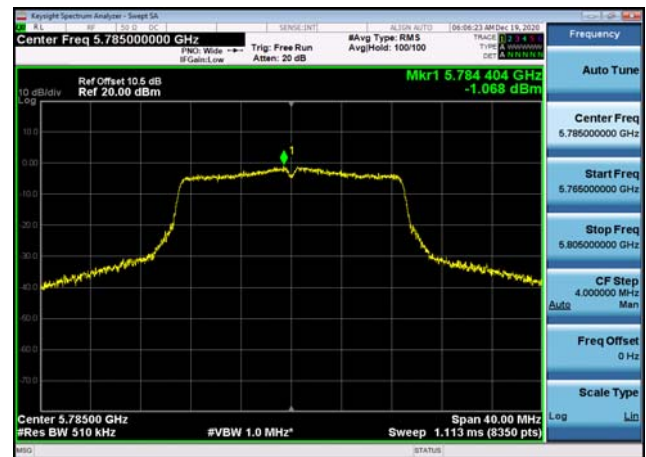
U-NII-1 Power spectral density-802.11
ac(80MHz),5210MHz



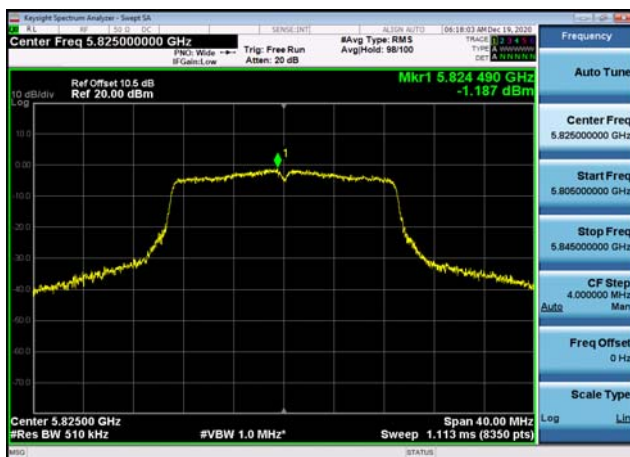
U-NII-3 Power spectral density-802.11
n(20MHz),5745MHz



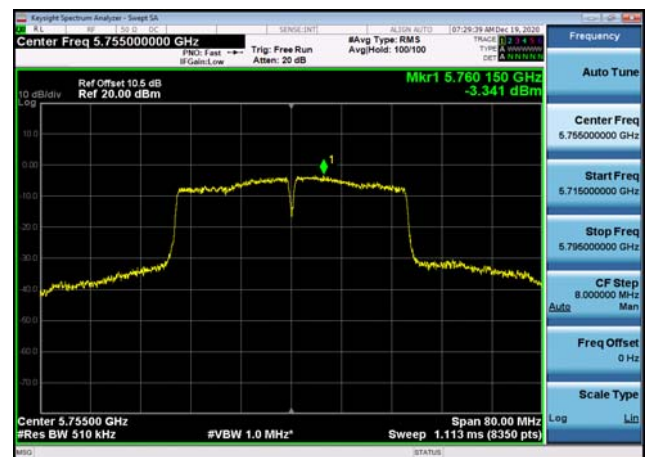
U-NII-3 Power spectral density-802.11
n(20MHz),5785MHz



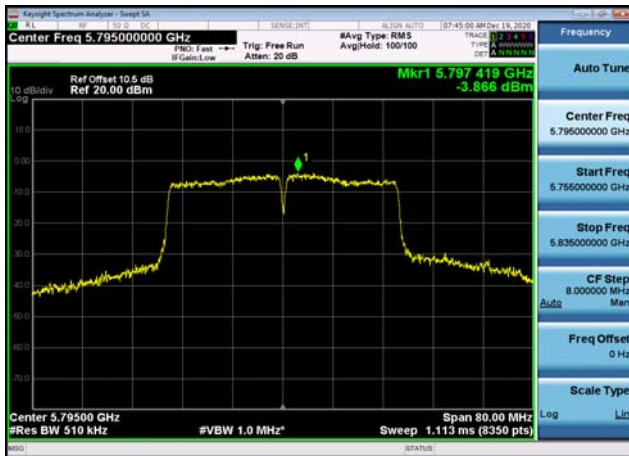
U-NII-3 Power spectral density-802.11
n(20MHz),5825MHz



U-NII-3 Power spectral density-802.11
n(40MHz),5755MHz



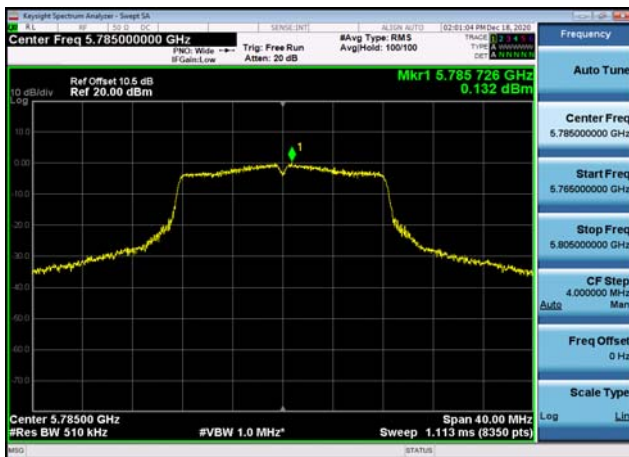
U-NII-3 Power spectral density-802.11
n(40MHz),5795MHz



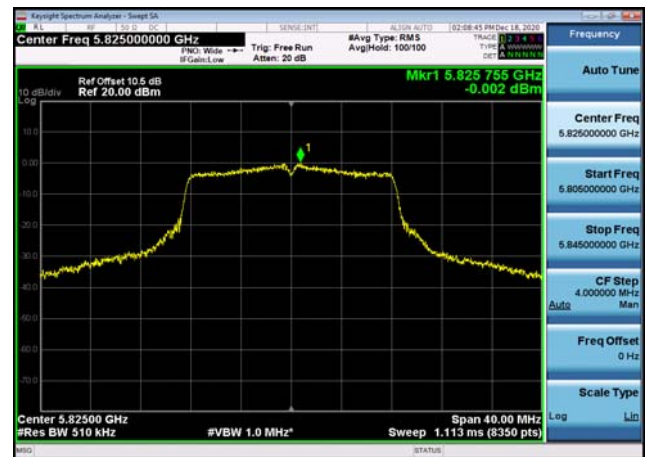
U-NII-3 Power spectral density-802.11
a(20MHz),5745MHz



U-NII-3 Power spectral density-802.11
a(20MHz),5785MHz



U-NII-3 Power spectral density-802.11
a(20MHz),5825MHz



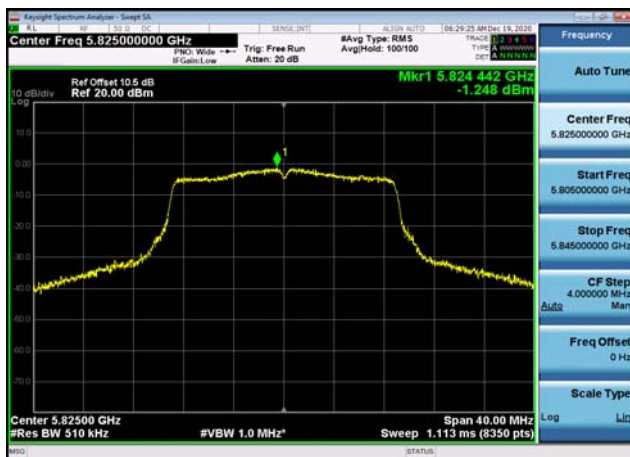
U-NII-3 Power spectral density-802.11
ac(20MHz),5745MHz



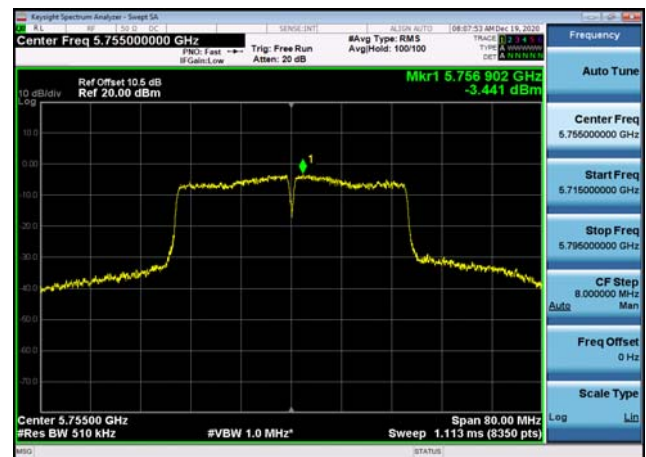
U-NII-3 Power spectral density-802.11
ac(20MHz),5785MHz



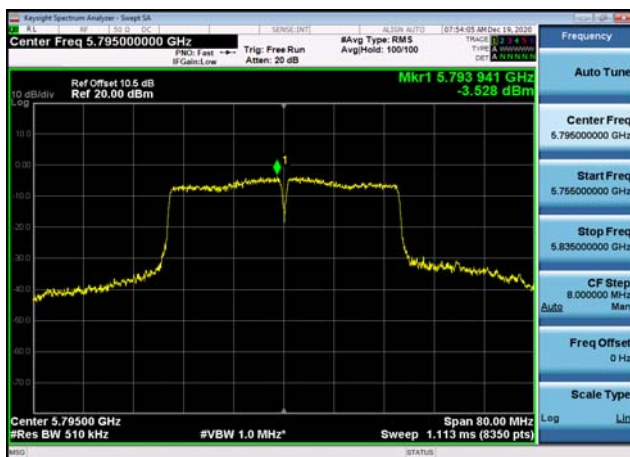
U-NII-3 Power spectral density-802.11
ac(20MHz),5825MHz



U-NII-3 Power spectral density-802.11
ac(40MHz),5755MHz



U-NII-3 Power spectral density-802.11
ac(40MHz),5795MHz



U-NII-3 Power spectral density-802.11
ac(80MHz),5775MHz



6dB and 26dB Down Bandwidth

Test Result and Data

U-NII-1 Occupied 26dB Bandwidth			
Mode	Test Frequency (MHz)	Occupied Bandwidth (MHz)	Result
802.11n (20MHz)	5180	27.08	Pass
802.11n (20MHz)	5220	29.90	Pass
802.11n (20MHz)	5240	25.77	Pass
802.11n (40MHz)	5190	64.06	Pass
802.11n (40MHz)	5230	61.94	Pass
802.11ac (20MHz)	5180	27.21	Pass
802.11ac (20MHz)	5220	27.77	Pass
802.11ac (20MHz)	5240	27.65	Pass
802.11ac (40MHz)	5190	67.52	Pass
802.11ac (40MHz)	5230	56.84	Pass
802.11ac (80MHz)	5210	132.05	Pass
802.11a (20MHz)	5180	27.33	Pass
802.11a (20MHz)	5220	27.39	Pass
802.11a (20MHz)	5240	27.35	Pass
U-NII-1 99% Occupied Bandwidth			
Mode	Test Frequency (MHz)	Occupied Bandwidth (MHz)	Result
802.11n (20MHz)	5180	18.740	Report only
802.11n (20MHz)	5220	18.679	
802.11n (20MHz)	5240	18.156	
802.11n (40MHz)	5190	37.256	
802.11n (40MHz)	5230	37.351	
802.11ac (20MHz)	5180	19.216	
802.11ac (20MHz)	5220	19.040	
802.11ac (20MHz)	5240	18.721	
802.11ac (40MHz)	5190	37.240	
802.11ac (40MHz)	5230	37.428	
802.11ac (80MHz)	5210	76.446	
802.11a (20MHz)	5180	17.548	
802.11a (20MHz)	5220	17.979	
802.11a (20MHz)	5240	18.159	

U-NII-3 Occupied 6dB Bandwidth				
Mode	Test Frequency (MHz)	Occupied Bandwidth (MHz)	Limit (KHz)	Result
802.11n (20MHz)	5745	16.11	500	Pass
802.11n (20MHz)	5785	17.31	500	Pass
802.11n (20MHz)	5825	17.61	500	Pass
802.11n (40MHz)	5755	35.76	500	Pass
802.11n (40MHz)	5795	35.35	500	Pass
802.11ac (20MHz)	5745	16.57	500	Pass
802.11ac (20MHz)	5785	16.95	500	Pass
802.11ac (20MHz)	5825	17.54	500	Pass
802.11ac (40MHz)	5755	35.80	500	Pass
802.11ac (40MHz)	5795	35.46	500	Pass
802.11ac (80MHz)	5775	75.42	500	Pass
802.11a (20MHz)	5745	16.31	500	Pass
802.11a (20MHz)	5785	16.34	500	Pass
802.11a (20MHz)	5825	16.35	500	Pass
U-NII-3 99% Occupied Bandwidth				
Mode	Test Frequency (MHz)	Occupied Bandwidth (MHz)	Report only	
802.11n (20MHz)	5745	17.981		
802.11n (20MHz)	5785	18.031		
802.11n (20MHz)	5825	17.994		
802.11n (40MHz)	5755	36.924		
802.11n (40MHz)	5795	36.937		
802.11ac (20MHz)	5745	18.073		
802.11ac (20MHz)	5785	18.021		
802.11ac (20MHz)	5825	18.148		
802.11ac (40MHz)	5755	37.104		
802.11ac (40MHz)	5795	36.875		
802.11ac (80MHz)	5775	75.931		
802.11a (20MHz)	5745	17.637		
802.11a (20MHz)	5785	17.247		
802.11a (20MHz)	5825	17.397		

Test Plots

U-NII-1 26dB Bandwidth-802.11n(20MHz)
,5180MHz



U-NII-1 26dB Bandwidth-802.11n(20MHz)
,5220MHz



U-NII-1 26dB Bandwidth-802.11n(20MHz)
,5240MHz



U-NII-1 26dB Bandwidth-802.11n(40MHz)
,5190MHz



U-NII-1 26dB Bandwidth-802.11n(40MHz)
,5230MHz



U-NII-1 26dB Bandwidth-802.11a(20MHz)
,5180MHz



U-NII-1 26dB Bandwidth-802.11a(20MHz)
,5220MHz



U-NII-1 26dB Bandwidth-802.11a(20MHz)
,5240MHz



U-NII-1 26dB Bandwidth-802.11ac(20MHz)
,5180MHz



U-NII-1 26dB Bandwidth-802.11ac(20MHz)
,5220MHz



U-NII-1 26dB Bandwidth-802.11ac(20MHz)
,5240MHz



U-NII-1 26dB Bandwidth-802.11ac(40MHz)
,5190MHz



U-NII-1 26dB Bandwidth-802.11ac(40MHz)
,5230MHz



U-NII-1 26dB Bandwidth-802.11ac(80MHz)
,5210MHz



U-NII-3 6dB Bandwidth-802.11n(20MHz)
,5745MHz



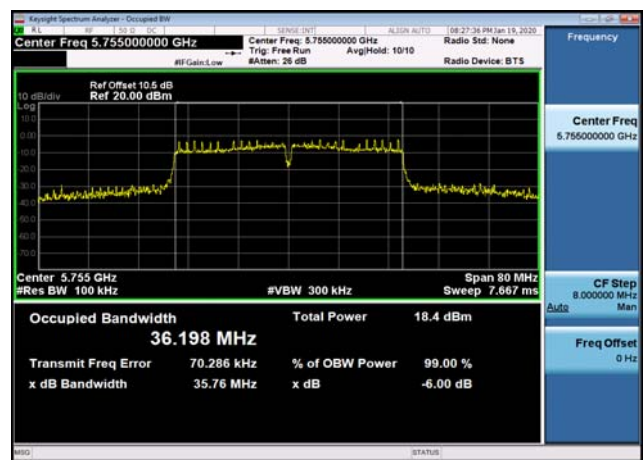
U-NII-3 6dB Bandwidth-802.11n(20MHz)
,5785MHz



U-NII-3 6dB Bandwidth-802.11n(20MHz)
,5825MHz



U-NII-3 6dB Bandwidth-802.11n(40MHz)
,5755MHz



U-NII-3 6dB Bandwidth-802.11n(40MHz)
,5795MHz



U-NII-3 6dB Bandwidth-802.11a(20MHz)
,5745MHz



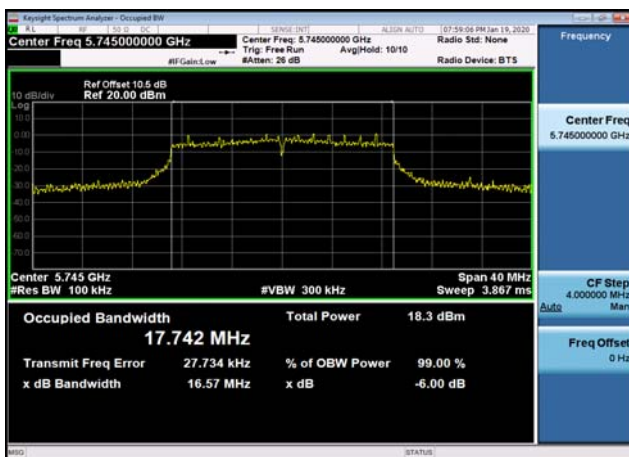
U-NII-3 6dB Bandwidth-802.11a(20MHz)
,5785MHz



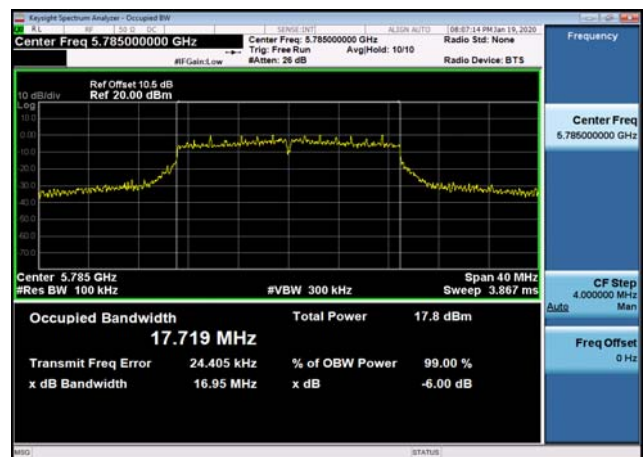
U-NII-3 6dB Bandwidth-802.11a(20MHz)
,5825MHz



U-NII-3 6dB Bandwidth-802.11ac(20MHz)
,5745MHz



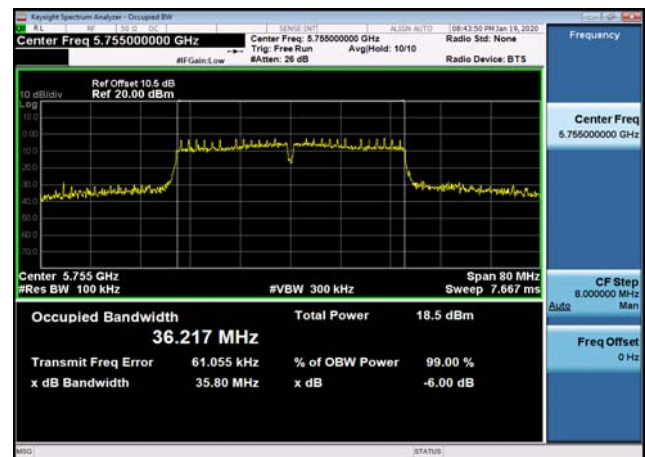
U-NII-3 6dB Bandwidth-802.11ac(20MHz)
,5785MHz



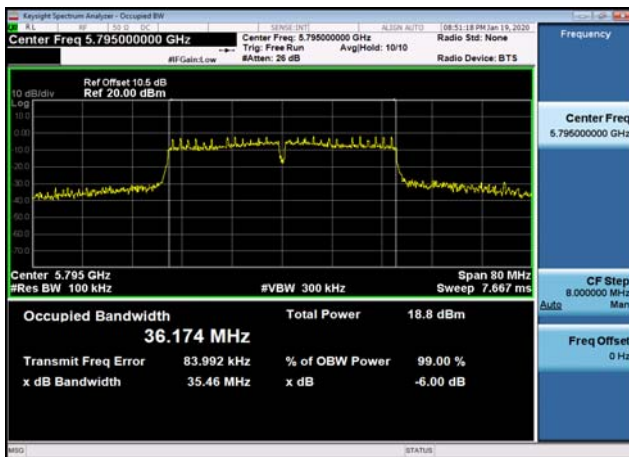
U-NII-3 6dB Bandwidth-802.11ac(20MHz)
,5825MHz



U-NII-3 6dB Bandwidth-802.11ac(40MHz)
,5755MHz



U-NII-3 6dB Bandwidth-802.11ac(40MHz)
,5795MHz



U-NII-3 6dB Bandwidth-802.11ac(80MHz)
,5775MHz



Frequency Stability

U-NII-1

U-NII-1 Centre Frequency							
Mode	Test Frequency (MHz)	Ant	LF (MHz)	HF (MHz)	CF (MHz)	Freq Stability (ppm)	Test Result
802.11n (20MHz)	5180	Ant1	5171.138	5188.839	5179.989	-2.170	Pass
802.11n (20MHz)	5220	Ant1	5211.138	5228.881	5220.010	1.840	Pass
802.11n (20MHz)	5240	Ant1	5231.123	5248.858	5239.990	-1.830	Pass
802.11n (40MHz)	5190	Ant1	5171.729	5208.221	5189.975	-4.910	Pass
802.11n (40MHz)	5230	Ant1	5211.738	5248.251	5229.994	-1.150	Pass
802.11ac (20MHz)	5180	Ant1	5171.118	5188.847	5179.983	-3.380	Pass
802.11ac (20MHz)	5220	Ant1	5211.101	5228.899	5220.000	0.000	Pass
802.11ac (20MHz)	5240	Ant1	5231.114	5248.860	5239.987	-2.470	Pass
802.11ac (40MHz)	5190	Ant1	5171.705	5208.207	5189.956	-8.530	Pass
802.11ac (40MHz)	5230	Ant1	5211.700	5248.237	5229.969	-6.020	Pass
802.11ac (80MHz)	5210	Ant1	5171.790	5248.163	5209.977	-4.480	Pass
802.11a (20MHz)	5180	Ant1	5171.698	5188.297	5179.997	-0.560	Pass
802.11a (20MHz)	5220	Ant1	5211.733	5228.241	5219.987	-2.470	Pass
802.11a (20MHz)	5240	Ant1	5231.704	5248.265	5239.985	-2.940	Pass

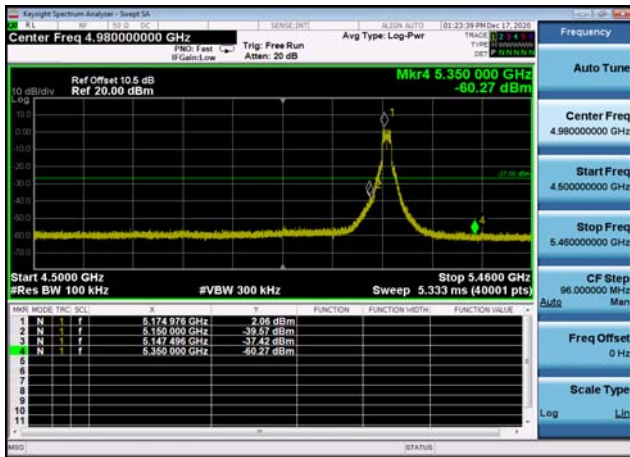
U-NII-3

U-NII-3 Centre Frequency							
Mode	Test Frequency (MHz)	Ant	LF (MHz)	HF (MHz)	CF (MHz)	Freq Stability (ppm)	Test Result
802.11n (20MHz)	5745	Ant1	5736.149	5753.903	5745.026	4.570	Pass
802.11n (20MHz)	5785	Ant1	5776.100	5793.878	5784.989	-1.870	Pass
802.11n (20MHz)	5825	Ant1	5816.115	5833.896	5825.005	0.930	Pass
802.11n (40MHz)	5755	Ant1	5736.789	5773.261	5755.025	4.300	Pass
802.11n (40MHz)	5795	Ant1	5776.771	5813.266	5795.018	3.110	Pass
802.11ac (20MHz)	5745	Ant1	5736.143	5753.867	5745.005	0.800	Pass
802.11ac (20MHz)	5785	Ant1	5776.177	5793.897	5785.037	6.340	Pass
802.11ac (20MHz)	5825	Ant1	5816.143	5833.908	5825.026	4.430	Pass
802.11ac (40MHz)	5755	Ant1	5736.756	5773.263	5755.009	1.560	Pass
802.11ac (40MHz)	5795	Ant1	5776.753	5813.269	5795.011	1.810	Pass
802.11ac (80MHz)	5775	Ant1	5736.863	5813.320	5775.092	15.870	Pass
802.11a (20MHz)	5745	Ant1	5736.726	5753.209	5744.968	-5.660	Pass
802.11a (20MHz)	5785	Ant1	5776.718	5793.276	5784.997	-0.580	Pass
802.11a (20MHz)	5825	Ant1	5816.711	5833.284	5824.998	-0.430	Pass

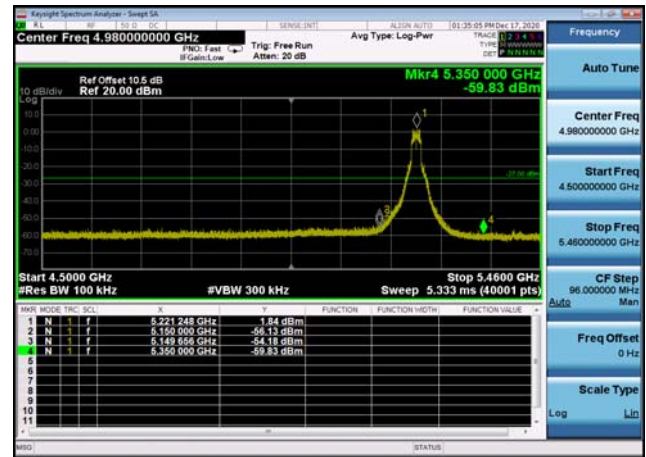
Note: The worst data reported only.

Bandedge and spurious Emission

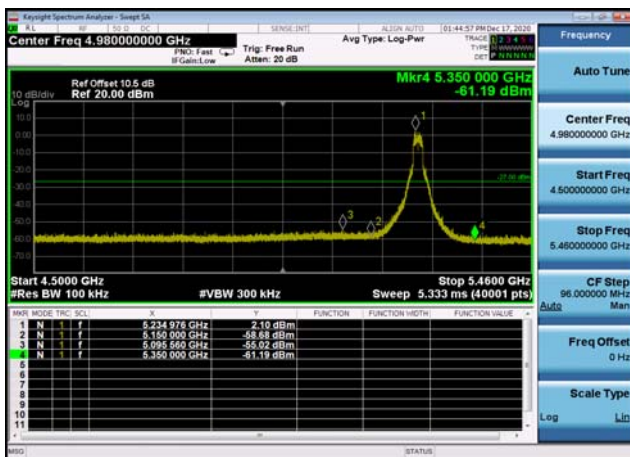
U-NII-1 ,Plot 1,Band Edge-802.11n(20M
Hz),5180MHz



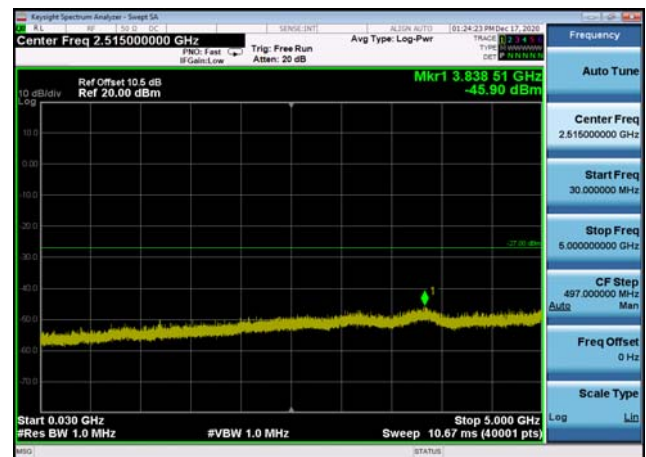
U-NII-1 ,Plot 1,Band Edge-802.11n(20M
Hz),5220MHz



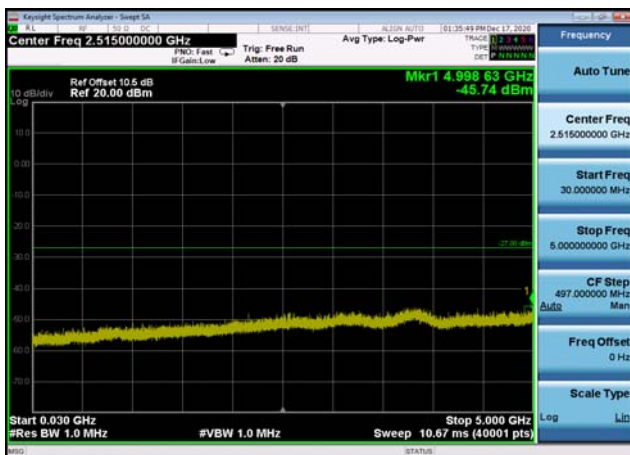
U-NII-1 ,Plot 1,Band Edge-802.11n(20M
Hz),5240MHz



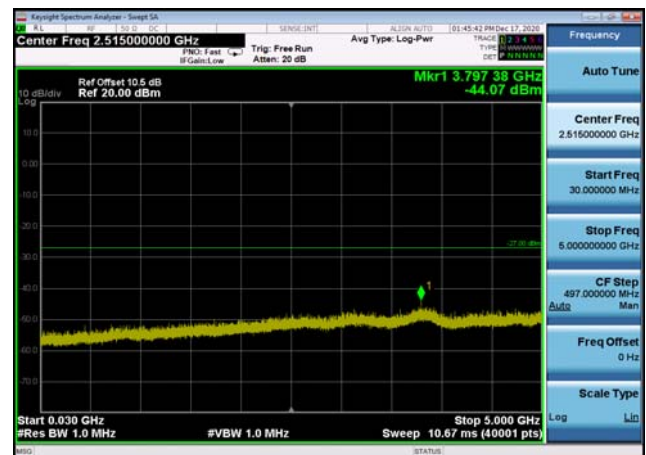
U-NII-1 ,Plot 2,30MHz~5000MHz-802.11n
(20MHz),5180MHz



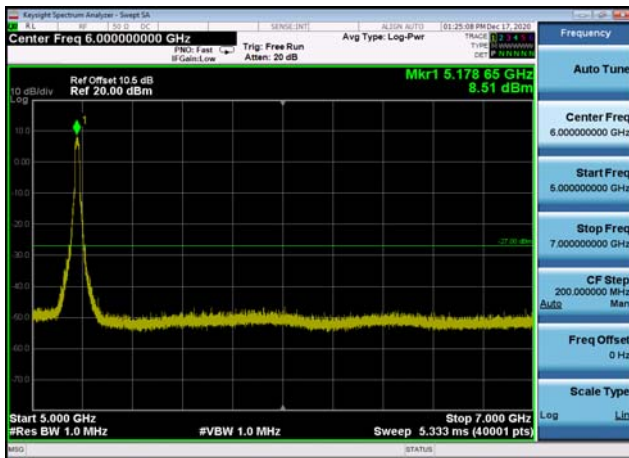
U-NII-1 ,Plot 2,30MHz~5000MHz-802.11n
(20MHz),5220MHz



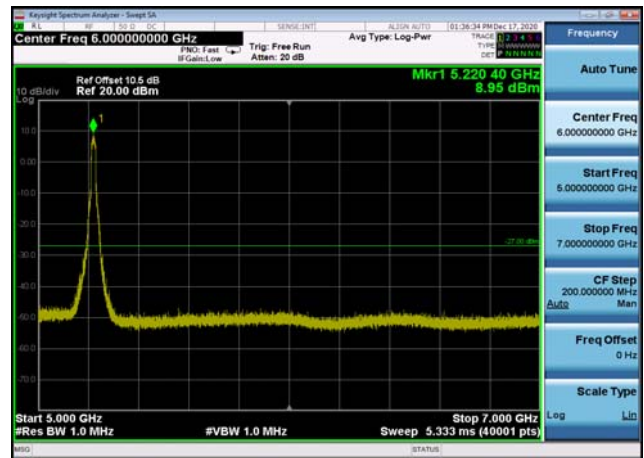
U-NII-1 ,Plot 2,30MHz~5000MHz-802.11n
(20MHz),5240MHz



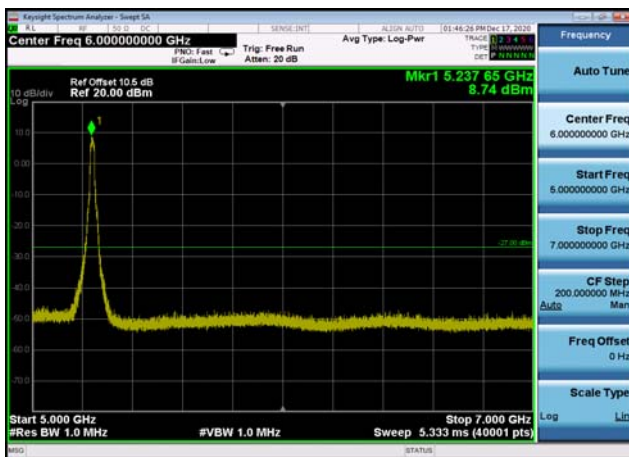
U-NII-1 ,Plot 3,5000MHz~7000MHz-802.1
1n(20MHz),5180MHz



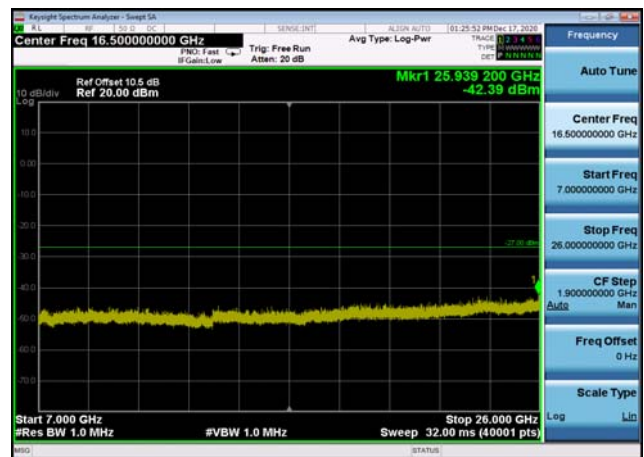
U-NII-1 ,Plot 3,5000MHz~7000MHz-802.1
1n(20MHz),5220MHz



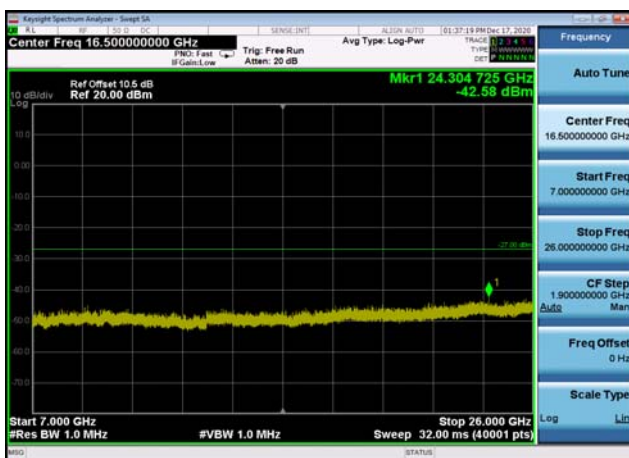
U-NII-1 ,Plot 3,5000MHz~7000MHz-802.1
1n(20MHz),5240MHz



U-NII-1 ,Plot 4,7000MHz~26000MHz-802.
11n(20MHz),5180MHz



U-NII-1 ,Plot 4,7000MHz~26000MHz-802.
11n(20MHz),5220MHz



U-NII-1 ,Plot 4,7000MHz~26000MHz-802.
11n(20MHz),5240MHz

