74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
TEL: +82-31-645-6300 FAX: +82-31-645-6401

FCC UNII REPORT

Certification

Applicant Name:
SAMSUNG Electronics Co., Ltd.

Address:
129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

Date of Issue:
December 14, 2021

Test Site/Location:
74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA

Report No.: HCT-RF-2112-FC007-R1

FCC ID:	**A3LSMX700**
APPLICANT:	**SAMSUNG Electronics Co., Ltd.**

According to the Evaluation report, all of the data contained herein is reused from the reference FCC ID : A3LSMX706B report.

Model:	SM-X700
EUT Type:	Tablet
Modulation type	OFDM
FCC Classification:	Unlicensed National Information Infrastructure(NII)
FCC Rule Part(s):	Part 15.407

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

REVIEWED BY

Report prepared by : Jeong Ho Kim
Engineer of Telecommunication Testing Center

Report approved by : Jong Seok Lee
Manager of Telecommunication Testing Center

This test results were applied only to the test methods required by the standard.

This laboratory is not accredited for the test results marked *.
The above Test Report is the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA. (HCT Accreditation No.: KT197)

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-2112-FC007	December 01, 2021	- First Approval Report
HCT-RF-2112-FC007-R1	December 14, 2021	- Page 6. Antenna configurations revised - Page 8. Add the sample calculation

Table of Contents

1. GENERAL INFORMATION

EUT DESCRIPTION

Model	SM-X700	
Additional Model	-	
EUT Type	Tablet	
Power Supply	DC 3.86 V	
Modulation Type	OFDM : 802.11a, 802.11n, 802.11ac	
Frequency Range (MHz)	U-NII-1	20 MHz BW : 5180 - 5240 40 MHz BW : 5190 - 5230 80 MHz BW : 5210
	U-NII-2A	20 MHz BW : 5260 - 5320 40 MHz BW : 5270 - 5310 80 MHz BW : 5290
	U-NII-2C	20 MHz BW : 5500 - 5720 40 MHz BW : 5510 - 5710 80 MHz BW : 5530 – 5690
	U-NII-3	20 MHz BW : 5745 - 5825 40 MHz BW : 5755 - 5795 80 MHz BW : 5775
	U-NII-4	20 MHz BW : 5845 - 5885 40 MHz BW : 5835 - 5875 80 MHz BW : 5855
Straddle channel	Supported	
TDWR Band	Supported	
Dynamic Frequency Selection	Slave without radar detection	
Date(s) of Tests	October 28, 2021 ~ November 25, 2021	
Serial number	Radiated: R32R8005JJT Conducted: R32R80056RR	

ANTENNA CONFIGURATIONS

Configurations	SISO		SDM	CDD
	Ant.1	Ant.2	Ant.1 + Ant.2	Ant.1 + Ant.2
802.11a	X	X	X	O
802.11n	X	X	O	O
802.11ac	X	X	O	O

Note:

(1) O = Support, X = Not Support

(2) SISO = Single Input Single Output

(3) SDM = Spatial Diversity Multiplexing

(4) CDD = Cyclic Delay Diversity

(5) SISO test was performed for the MIMO test result.

2.This device supports simultaneous transmission operation, which allows for two channels to operate independent of one another in the 2.4 GHz and 5 GHz bands simultaneously on each antenna.

RSDB Scenario	2.4 GHz WiFi Ant.1	2.4 GHz WiFi Ant.2	5 GHz WiFi Ant.1	5 GHz WiFi Ant.2	6 GHz WiFi Ant.1	6 GHz WiFi Ant.2	Bluetooth Ant.1	Bluetooth Ant.2	Test case
2.4 GHz WiFi MIMO + 6 GHz WiFi MIMO	on	on			on	on			
2.4 GHz WiFi MIMO + 5 GHz WiFi MIMO	on	on	on	on					Case 1
Bluetooth ANT.1 + 2.4 GHz WiFi ANT.2 + 5 GHz WiFi MIMO		on	on	on			on		
Bluetooth ANT.1 + 2.4 GHz WiFi ANT.2 + 6 GHz WiFi MIMO		on			on	on	on		

Non-DBS	2.4 GHz WiFi Ant.1	2.4 GHz WiFi Ant.2	5 GHz WiFi Ant.1	5 GHz WiFi Ant.2	6 GHz WiFi Ant.1	6 GHz WiFi Ant.2	Bluetooth Ant.1	Bluetooth Ant.2	Test case
Bluetooth ANT.2 + 6 GHz WiFi MIMO					on	on		on	
Bluetooth ANT.2 + 5GHz WiFi MIMO			on	on				on	
Bluetooth ANT.1 + 6 GHz WiFi MIMO					on	on	on		
Bluetooth ANT.1 + 5GHz WiFi MIMO			on	on	-	-	on	-	Case 2

3. Directional Gain Calculation

According to KDB 662911 D01 Multiple Transmitter Output v02r01 F) 2) f) (ii)

Directional gain =

$$\bullet \quad DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$$

Band	Ant Gain (dBi)		N_{ANT}/ N_{ss}	Directional Gain (dBi)
UNII 1	ANT1	-5.25	2 / 2	CDD : -3.69 SDM : -5.25
	ANT2	-8.44		
UNII 2A	ANT1	-4.84	2 / 2	CDD : -3.29 SDM : -4.84
	ANT2	-8.06		
UNII 2C	ANT1	-5.08	2 / 2	CDD : -3.28 SDM : -5.08
	ANT2	-7.69		
UNII 3	ANT1	-5.62	2 / 2	CDD : -3.86 SDM : -5.62
	ANT2	-8.32		
UNII 4	ANT1	-5.50	2 / 2	CDD : -3.52 SDM : -5.50
	ANT2	-7.70		

Sample Calculation

Directional Gain = 10*LOG(((10$^{(ANT1\ Gain/20)}$+10$^{(ANT2\ Gain/20)}$)^2)/2) dBi

2. MAXIMUM OUTPUT POWER

The transmitter has a maximum total conducted average output power as follows:

Band	Mode	Ant.1 Power		Ant.2 Power		MIMO Ant.1 + Ant.2 Power	
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)
UNII1	802.11a	17.26	0.053	17.75	0.060	20.52	0.113
	802.11n (HT20)	16.99	0.050	17.59	0.057	20.28	0.107
	802.11n (HT40)	15.56	0.036	15.99	0.040	18.79	0.076
	802.11ac (VHT20)	16.96	0.050	17.60	0.058	20.29	0.107
	802.11ac (VHT40)	15.53	0.036	15.97	0.040	18.77	0.075
	802.11ac (VHT80)	14.40	0.028	14.82	0.030	17.63	0.058
UNII2A	802.11a	17.62	0.058	17.69	0.059	20.67	0.117
	802.11n (HT20)	17.43	0.055	17.44	0.055	20.45	0.111
	802.11n (HT40)	16.78	0.048	16.71	0.047	19.75	0.094
	802.11ac (VHT20)	17.41	0.055	17.53	0.057	20.48	0.112
	802.11ac (VHT40)	16.81	0.048	16.89	0.049	19.86	0.097
	802.11ac (VHT80)	13.77	0.024	13.38	0.022	16.59	0.046
UNII2C	802.11a	17.84	0.061	17.71	0.059	20.79	0.120
	802.11n (HT20)	17.70	0.059	17.50	0.056	20.61	0.115
	802.11n (HT40)	16.77	0.048	16.80	0.048	19.80	0.095
	802.11ac (VHT20)	17.69	0.059	17.54	0.057	20.62	0.115
	802.11ac (VHT40)	16.69	0.047	16.76	0.047	19.73	0.094
	802.11ac (VHT80)	15.59	0.036	15.53	0.036	18.56	0.072
UNII3	802.11a	11.89	0.015	11.86	0.015	14.88	0.031
	802.11n (HT20)	11.77	0.015	11.63	0.015	14.67	0.029
	802.11n (HT40)	11.83	0.015	11.83	0.015	14.84	0.030
	802.11ac (VHT20)	11.76	0.015	11.67	0.015	14.68	0.029
	802.11ac (VHT40)	11.82	0.015	11.76	0.015	14.80	0.030
	802.11ac (VHT80)	11.12	0.013	10.61	0.012	13.88	0.024
UNII4 Conducted For inf.	802.11a	11.52	0.014	11.61	0.014	14.57	0.029
	802.11n (HT20)	11.31	0.014	11.40	0.014	14.37	0.027
	802.11n (HT40)	11.97	0.016	11.87	0.015	14.93	0.031
	802.11ac (VHT20)	11.29	0.013	11.38	0.014	14.34	0.027
	802.11ac (VHT40)	11.89	0.015	11.85	0.015	14.88	0.031
	802.11ac (VHT80)	11.75	0.015	11.83	0.015	14.80	0.030

Band	Mode	Ant.1 Power				Ant.2 Power				MIMO Ant.1 + Ant.2 Power			
		(dBm)	ANT Gain(dBi)	EIRP (dBm)	(W)	(dBm)	ANT Gain(dBi)	EIRP (dBm)	(W)	(dBm)	ANT Gain(dBi)	EIRP (dBm)	(W)
UNII4 (E.I.R.P)	802.11a	11.52	-5.50	6.02	0.004	11.61	-7.70	3.91	0.002	14.57	-3.52	11.05	0.013
	802.11n (HT20)	11.31	-5.50	5.81	0.004	11.40	-7.70	3.70	0.002	14.37	-3.52	10.85	0.012
	802.11n (HT40)	11.97	-5.50	6.47	0.004	11.87	-7.70	4.17	0.003	14.93	-3.52	11.41	0.014
	802.11ac (VHT20)	11.29	-5.50	5.79	0.004	11.38	-7.70	3.68	0.002	14.34	-3.52	10.82	0.012
	802.11ac (VHT40)	11.89	-5.50	6.39	0.004	11.85	-7.70	4.15	0.003	14.88	-3.52	11.36	0.014
	802.11ac (VHT80)	11.75	-5.50	6.25	0.004	11.83	-7.70	4.13	0.003	14.80	-3.52	11.28	0.013

3. TEST METHODOLOGY

The measurement procedure described in FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 dated December 14, 2017 entitled “Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part15, Subpart E” and ANSI C63.10(Version : 2013) ‘the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices’ were used in the measurement. Additionally, for U-NII-4 band, use the following measurement procedure KDB 291074 U-NII-4 5.9 Band DR01-44460

EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.407 under the FCC Rules Part 15 Subpart E.

GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10. (Version :2013) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1 GHz. Above 1 GHz with 1.5 m using absorbers between the EUT and receive antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 6.6.5 of ANSI C63.10. (Version: 2013)

DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

4. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment's, which is traceable to recognized national standards.
Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2014) and CISPR Publication 22.
Detailed description of test facility was submitted to the Commission and accepted dated April 02, 2018 (Registration Number: KR0032).

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.
Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.
All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

6. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203, §15.407:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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."

(1) The antennas of this E.U.T are permanently attached.

(2) The E.U.T Complies with the requirement of §15.203, §15.407

7. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013.

All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95 % level of confidence.

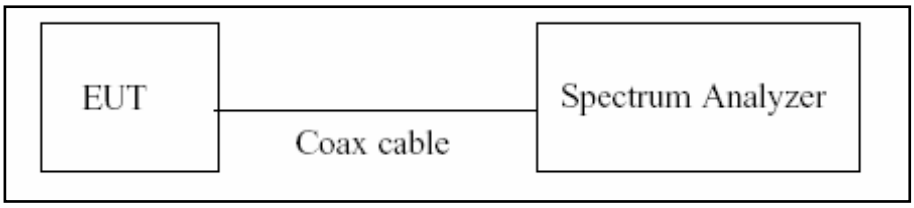
The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.82 (Confidence level about 95 %, k=2)
Radiated Disturbance (9 kHz ~ 30 MHz)	3.40 (Confidence level about 95 %, k=2)
Radiated Disturbance (30 MHz ~ 1 GHz)	4.80 (Confidence level about 95 %, k=2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.70 (Confidence level about 95 %, k=2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.05 (Confidence level about 95 %, k=2)

8. DESCRIPTION OF TESTS

8.1. Duty Cycle

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

We tested according to Procedure B.2 in KDB 789033 D02 v02r01.

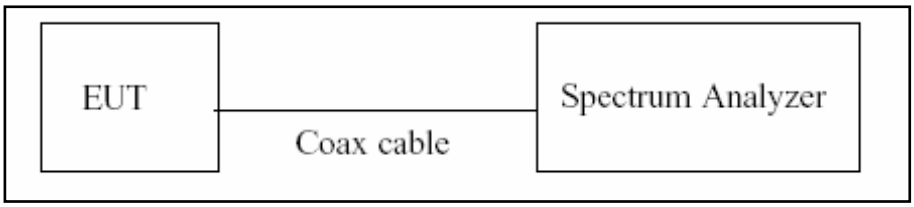
1. RBW = 8 MHz (the largest availble value)
2. VBW = 8 MHz (≥ RBW)
3. SPAN = 0 Hz
4. Detector = Peak
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = T_{on}/ T_{total} and Duty Cycle Factor = 10log(1/Duty Cycle)

8.2. 6 dB Bandwidth & 26 dB Bandwidth

Limit

Within the 5.725-5.85 GHz(NII-3) &5.85-5.925 GHz(NII-4) band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Test Configuration



Test Procedure(26 dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

We tested according to Procedure C.1 in KDB 789033 D02 v02r01.

1. RBW = approximately 1 % of the emission bandwidth
2. VBW > RBW
3. Detector = Peak
4. Trace mode = max hold
5. Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

Test Procedure (6 dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

We tested according to Procedure C.2 in KDB 789033 D02 v02r01.

1. RBW = 100 kHz
2. VBW ≥ 3 x RBW
3. Detector = Peak
4. Trace mode = max hold
5. Allow the trace to stabilize
6. 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 lever measured in the fundamental emission.

Note:

1. We tested X dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer.
2. DFS test channels should be defined. So, We performed the OBW test to prove that no part of the fundamental emissions of any channels belong to UNII1 and UNII3 band for DFS.
3. The 26 dB bandwidth is used to determine the conducted power limits.

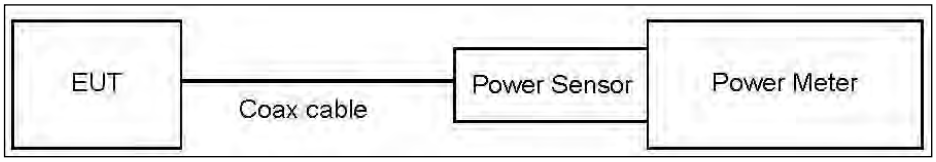
8.3. Output Power Measurement

Limit

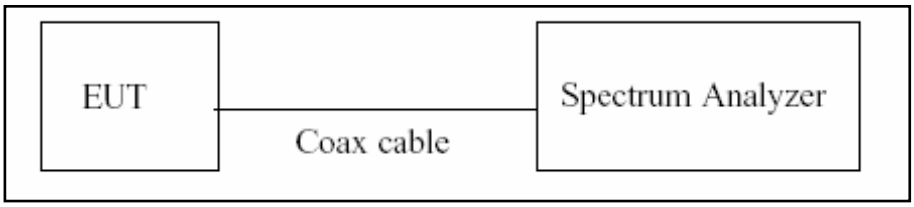
Band	Limit
UNII 1	- Master : Not exceed 1 W(=30 dBm) - Slave : Not exceed 250 mW(=23.98 dBm)
UNII 2A, 2C	Not exceed the lesser of 250 mW or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)
UNII 3	Not exceed 1 W(=30 dBm)
UNII 4	EIRP 30 dBm

Test Configuration

Power Meter



Spectrum Analyzer(Only Straddle Channel)



Test Procedure(Power Meter)

We tested according to Procedure E.3.a in KDB 789033 D02 v02r01.

1. Measure the duty cycle.
2. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
3. Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Test Procedure(Spectrum Analyzer)

The transmitter output is connected to the Spectrum Analyzer.

We use the spectrum analyzer's integrated band power measurement function.

We tested according to Procedure E.2.d) in KDB 789033 D02 v02r01.

1. Measure the duty cycle.
2. Set span to encompass the 26 dB EBW of the signal.
3. RBW = 1 MHz.
4. VBW ≥ 3 MHz.
5. Number of points in sweep ≥ 2 x span/RBW.
6. Sweep time = auto.
7. Detector = RMS.
8. Do not use sweep triggering. Allow the sweep to "free run".
9. Trace average at least 100 traces in power averaging(RMS) mode
10. Integrated bandwidth = OBW
11. Add 10log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Sample Calculation

Total Power(dBm) = Measured Level(dBm) + ATT loss(dB) + Cable loss(dB) + Duty Cycle Factor(dB)

Note

1. Spectrum Measured Levels are not plot data.
   The power results in plot is already including the actual values of loss for the attenuator and cable combination.
2. Spectrum offset
   Loss = Attenuator loss(20 dB) + Cable loss + EUT Cable loss
3. Actual value of loss for the attenuator and cable combination is below table.

Band	Loss(dB)
UNII 1	21.43
UNII 2A	21.43
UNII 2C	21.43
UNII 3&4	21.43

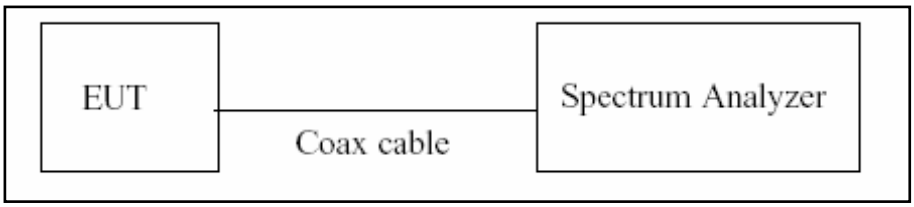
(Actual value of loss for the attenuator and cable combination)

8.4. Power Spectral Density

Limit

Band	Limit
UNII 1	11 dBm/MHz
UNII 2A, 2C	11 dBm/MHz
UNII 3	30 dBm/500 kHz
UNII 4	EIRP 14 dBm/MHz

Test Configuration



Test Procedure

We tested according to Procedure F in KDB 789033 D02 v02r01.

1. Set span to encompass the entire emission bandwidth(EBW) of the signal.
2. RBW = 1 MHz(510 kHz for UNII 3)
   ➔For portion within the NII-3 be used RBW 510kHz, for portion within the NII-4 be used RBW 1MHz
3. VBW ≥ 3 MHz
4. Number of points in sweep ≥ 2 x span/RBW.
5. Sweep time = auto.
6. Detector = RMS(i.e., power averaging), if available. Otherwise, use sample detector mode.
7. Do not use sweep triggering. Allow the sweep to “free run”.
8. Trace average at least 100 traces in power averaging(RMS) mode
9. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.
10. If Method SA-2 was used, add 10 log(1/x), where x is the duty cycle, to the peak of the spectrum.

Sample Calculation

Total PSD(dBm) = Measured Level(dBm) + ATT loss(dB) + Cable loss(dB) + Duty Cycle Factor(dB)

Note

1. Spectrum Measured Levels are not plot data.
   The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.
2. Spectrum offset
   Loss = Attenuator loss(20 dB) + Cable loss
3. Actual value of loss for the attenuator and cable combination is below table.

Band	Loss(dB)
UNII 1	21.43
UNII 2A	21.43
UNII 2C	21.43
UNII 3&4	21.43

(Actual value of loss for the attenuator and cable combination)

8.5. AC Power line Conducted Emissions

Limit

For an intentional radiator 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, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56[a]	56 to 46[a]
0.50 to 5	56	46
5 to 30	60	50

[a]Decreases with the logarithm of the frequency.

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Annex A for the actual connections between EUT and support equipment.

Test Procedure

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors : Quasi Peak and Average Detector.

Sample Calculation

Quasi-peak(Final Result) = Measured Level + Correction Factor

8.6. Radiated Test

Limit

1. UNII 1: All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of −27 dBm/MHz.
2. UNII 2A, 2C: All emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of −27 dBm/MHz.
3. UNII 3: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
4. UNII 4: [Low Channel O.O.B.E] measured with an Peak detector

   For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of −27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.

   [High Channel O.O.B.E] measured with an RMS detector

   For a client device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of −5 dBm/MHz and shall decrease linearly to an e.i.r.p. of −27 dBm/MHz at or above 5.925 GHz.

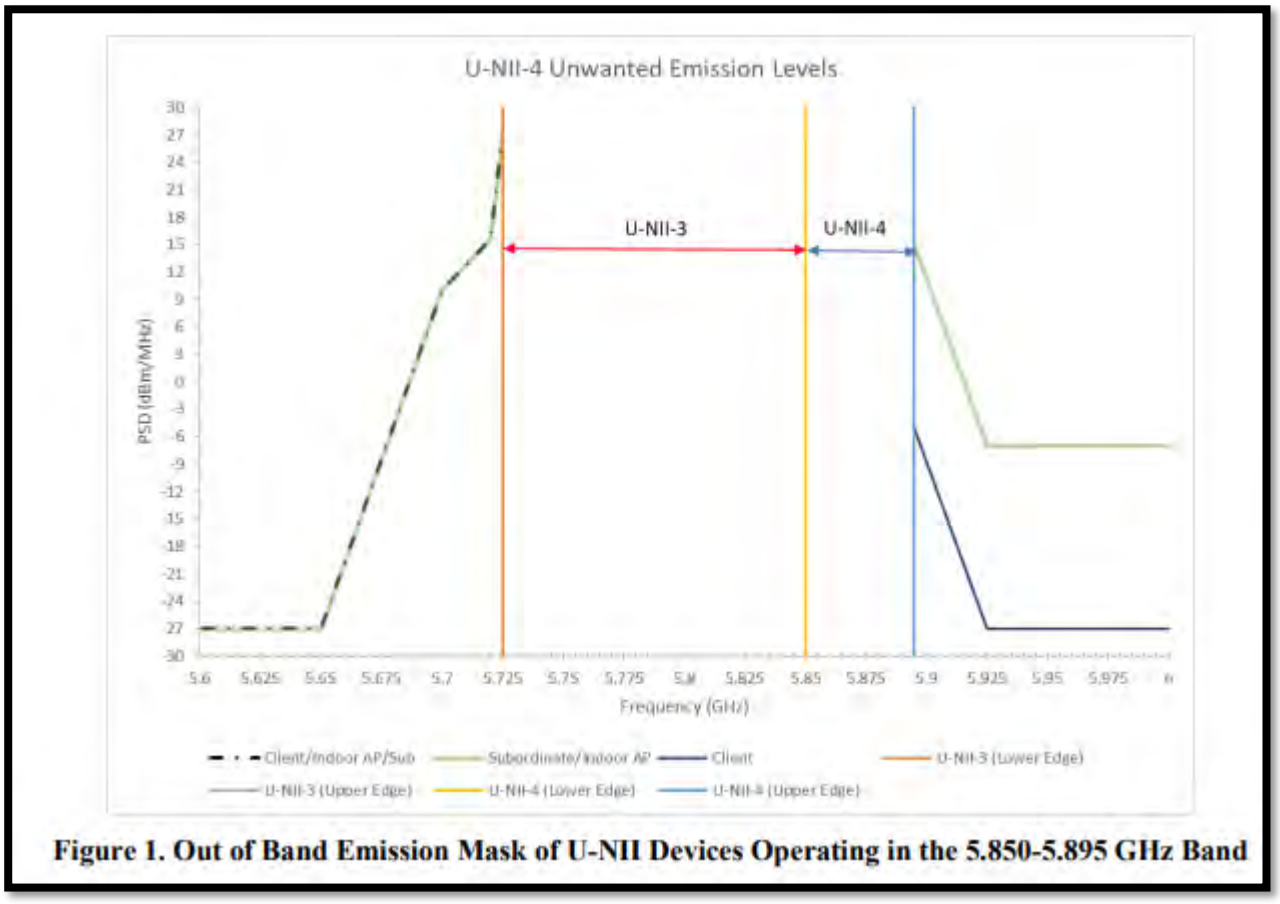


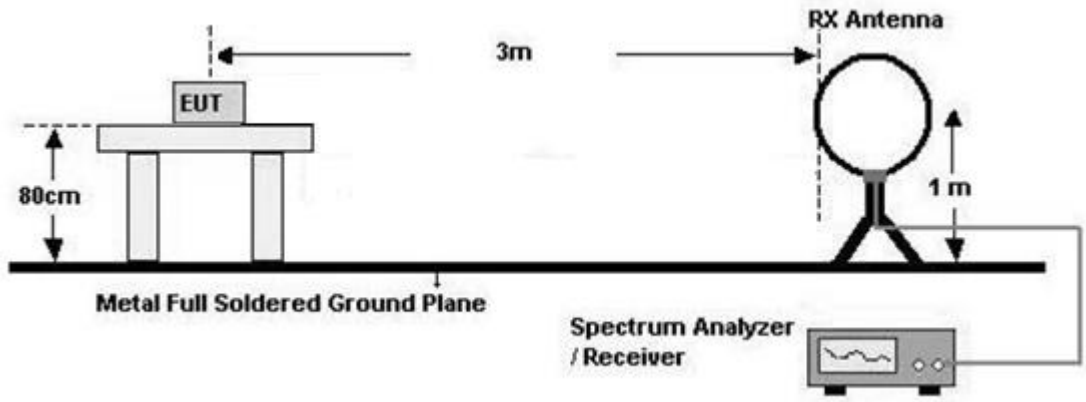
Figure 1. Out of Band Emission Mask of U-NII Devices Operating in the 5.850-5.895 GHz Band

5. All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Section 15.209.

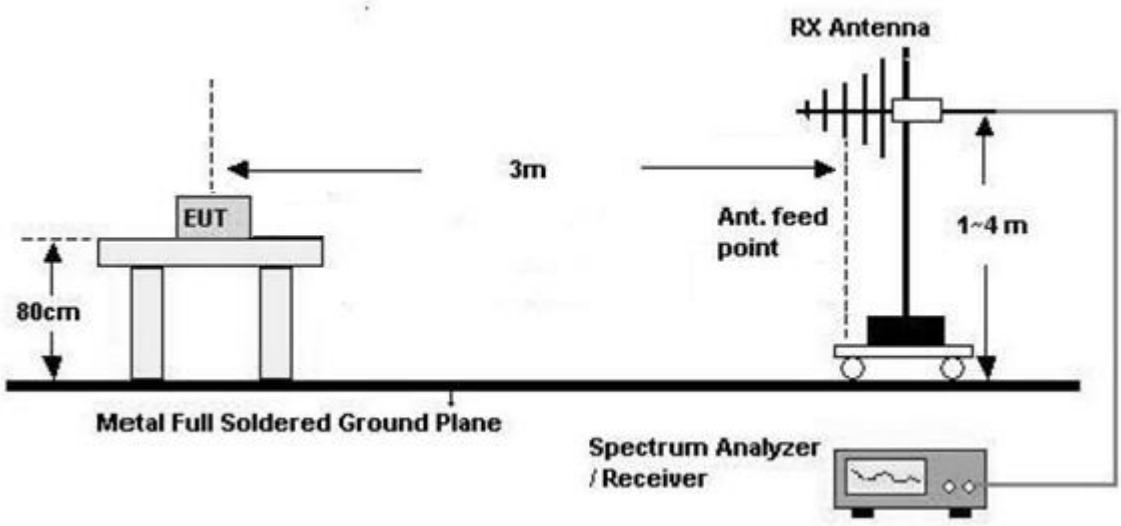
Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

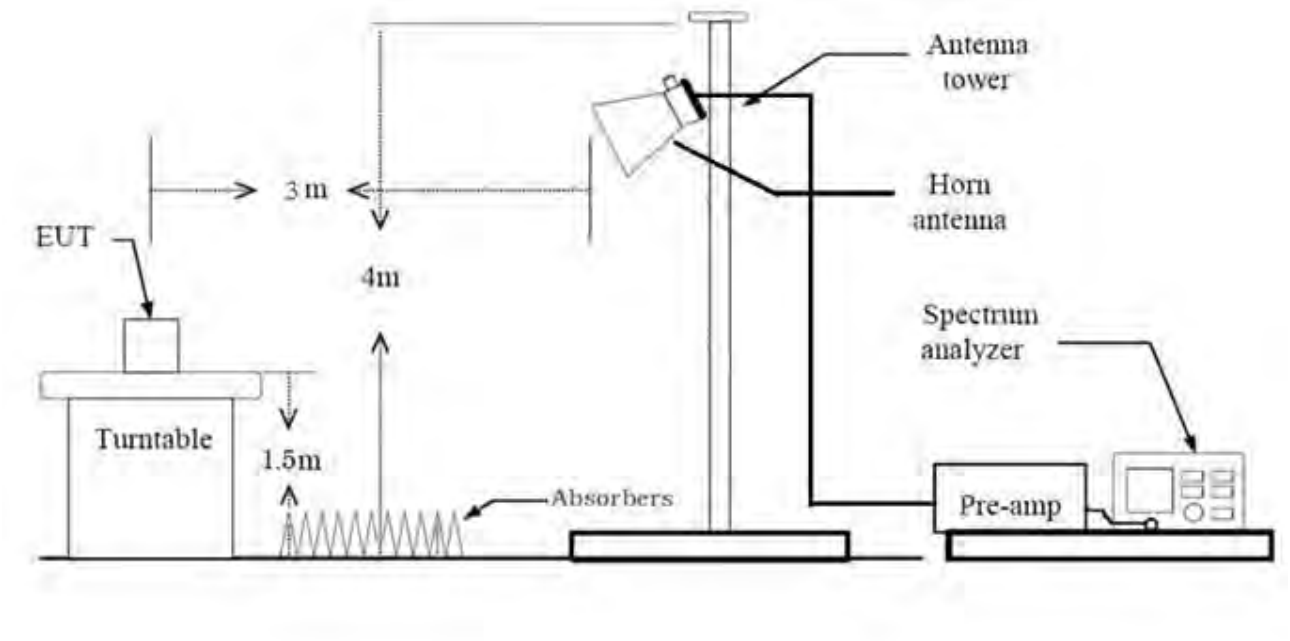
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



Test Procedure of Radiated spurious emissions(Below 30 MHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The loop antenna was placed at a location 3 m from the EUT
3. The EUT is placed on a turntable, which is 0.8 m above ground plane.
4. .We have done x, y, z planes in EUT and horizontal and vertical polarization and Parallel to the ground plane in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Distance Correction Factor(0.009 MHz – 0.490 MHz) = 40log(3 m/300 m) = - 80 dB
   Measurement Distance : 3 m
7. Distance Correction Factor(0.490 MHz – 30 MHz) = 40log(3 m/30 m) = - 40 dB
   Measurement Distance : 3 m
8. Spectrum Setting
   - Frequency Range = 9 kHz ~ 30 MHz
   - Detector = Peak
   - Trace = Maxhold
   - RBW = 9 kHz
   - VBW ≥ 3 x RBW
9. Total = Measured Level + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)
10. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

KDB 414788 OFS and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

Test Procedure of Radiated spurious emissions(Below 1 GHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The EUT is placed on a turntable, which is 0.8 m above ground plane.
3. The Hybrid antenna was placed at a location 3 m from the EUT, which is varied from 1 m to 4 m to find out the highest emissions.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Spectrum Setting
   (1) Measurement Type(Peak):
      - Measured Frequency Range : 30 MHz – 1 GHz
      - Detector = Peak
      - Trace = Maxhold
      - RBW = 100 kHz
      - VBW ≥ 3 x RBW
   (2) Measurement Type(Quasi-peak):
      - Measured Frequency Range : 30 MHz – 1 GHz
      - Detector = Quasi-Peak
      - RBW = 120 kHz

   ※ In general, (1) is used mainly
7. Total = Measured Level + Antenna Factor(A.F) + Cable Loss(C.L)
8. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

Test Procedure of Radiated spurious emissions (Above 1 GHz)

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. The unit was tested with its standard battery.
8. Spectrum Setting

(1) Measurement Type (Peak, G.5 in KDB 789033 v02r01):

- RBW = 1 MHz
- VBW ≥ 3 MHz
- Detector = Peak
- Sweep Time = auto
- Trace mode = max hold
- Allow sweeps to continue until the trace stabilizes.

Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle.

(2) Measurement Type (Average, G.6.d in KDB 789033 v02r01):

- RBW = 1 MHz
- VBW(Duty cycle ≥ 98 %) = VBW ≤ RBW/100(i.e., 10 kHz) but not less than 10 Hz.
- VBW(Duty cycle is < 98 %) = VBW ≥ 1/T, where T is the minimum transmission duration.
- The analyzer is set to linear detector mode.
- Detector = Peak.
- Sweep time = auto.
- Trace mode = max hold.
- Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 % duty cycle. For lower duty cycles, increase the minimym number of traces by a factor of 1/x, where x is the duty cycle.

9. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor
10. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency
11. Distance extrapolation factor = 20log (test distance / specific distance) (dB)
12. Total = Measured Level + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G) + Distance Factor(D.F)

Test Procedure of Radiated Restricted Band Edge

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. The unit was tested with its standard battery.
8. Spectrum Setting

(1) Measurement Type(Peak, G.5 in KDB 789033 v02r01):

- RBW = 1 MHz
- VBW ≥ 3 MHz
- Detector = Peak
- Sweep Time = auto
- Trace mode = max hold
- Allow sweeps to continue until the trace stabilizes.

Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle.

(2) Measurement Type(Average, G.6.d in KDB 789033 v02r01):

- RBW = 1 MHz
- VBW(Duty cycle ≥ 98 %) = VBW ≤ RBW/100(i.e., 10 kHz) but not less than 10 Hz.
- VBW(Duty cycle is < 98 %) = VBW ≥ 1/T, where T is the minimum transmission duration.
- The analyzer is set to linear detector mode.
- Detector = Peak.
- Sweep time = auto.
- Trace mode = max hold.
- Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 % duty cycle. For lower duty cycles, increase the minimym number of traces by a factor of 1/x, where x is the duty cycle.

9. Measured Frequency Range :
   - 4 500 MHz ~ 5 150 MHz
   - 5 350 MHz ~ 5 460 MHz
   - 5 460 MHz ~ 5 470 MHz
   - (75 MHz or more below the 5 725 MHz) ~ 5 725 MHz
   - 5 850 MHz ~ (75 MHz or more above the 5 850 MHz)
10. Distance extrapolation factor = 20log (test distance / specific distance) (dB)
11. Total = Measured Level + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G) + Attenuator(ATT) + Distance Factor(D.F)

The actual setting value of VBW

Mode	Worst Data rate (Mbps)	Duty Cycle	Duty Cycle Factor (dB)	The actual setting value of VBW (Hz)
802.11a	6	0.937	0.284	1000
802.11n(HT20)	MCS0	0.927	0.330	1000
802.11n(HT40)	MCS0	0.865	0.630	3000
802.11ac(VHT20)	MCS0	0.927	0.329	1000
802.11ac(VHT40)	MCS0	0.866	0.627	3000
802.11ac(VHT80)	MCS0	0.766	1.158	5000

8.7. Worst case configuration and mode

Radiated test

1. All modes of operation were investigated and the worst case configuration results are reported.
   - Mode : Stand alone, Stand alone + External accessories(Earphone, Keyboard, etc)
   - Worstcase : Stand alone
2. EUT Axis
   - Radiated Spurious Emissions : X
   - Radiated Restricted Band Edge : Z
3. All datarate of operation were investigated and the worst case datarate results are reported.
   - Mode : Ant.1(SISO), Ant.2(SISO), Ant.1+Ant.2(SDM), Ant.1+Ant.2(CDD)
   - Worstcase : Ant.1+Ant.2(CDD)
   - 802.11a : 6 Mbps
   - 802.11n_HT20 : MCS0
   - 802.11n_HT40 : MCS0
   - 802.11ac_VHT20 : MCS0
   - 802.11ac_VHT40 : MCS0
   - 802.11ac_VHT80 : MCS0
4. Radiated Spurious Emission
   - All modulation of operation were investigated and the worst case modulation results are reported.
     (Worstcase : U-NII-1 Band & U-NII1~4 802.11a)
     (Worstresult : 802.11n(20M) MCS0 ch.36)
5. All position of loop antenna were investigated and the test result is a no critical peak found at all positions.
   - Position : Horizontal, Vertical, Parallel to the ground plane

Radiated test(DBS)

1. All modes of operation were investigated and the worst case configuration results are reported.
   - Mode : Stand alone, Stand alone + External accessories(Earphone, etc)
   - Worstcase : Stand alone
2. EUT Axis
   - Radiated Spurious Emissions : Y, Z
3. Test case

RSDB Scenario	2.4 GHz WiFi Ant.1	2.4 GHz WiFi Ant.2	5 GHz WiFi Ant.1	5 GHz WiFi Ant.2	6 GHz WiFi Ant.1	6 GHz WiFi Ant.2	Bluetooth Ant.1	Bluetooth Ant.2	Test case
2.4 GHz WiFi MIMO + 6 GHz WiFi MIMO	on	on			on	on			
2.4 GHz WiFi MIMO + 5 GHz WiFi MIMO	on	on	on	on					Case 1
Bluetooth ANT.1 + 2.4 GHz WiFi ANT.2 + 5 GHz WiFi MIMO		on	on	on			on		
Bluetooth ANT.1 + 2.4 GHz WiFi ANT.2 + 6 GHz WiFi MIMO		on			on	on	on		

Non-DBS	2.4 GHz WiFi Ant.1	2.4 GHz WiFi Ant.2	5 GHz WiFi Ant.1	5 GHz WiFi Ant.2	6 GHz WiFi Ant.1	6 GHz WiFi Ant.2	Bluetooth Ant.1	Bluetooth Ant.2	Test case
Bluetooth ANT.2 + 6 GHz WiFi MIMO					on	on		on	
Bluetooth ANT.2 + 5GHz WiFi MIMO			on	on				on	
Bluetooth ANT.1 + 6 GHz WiFi MIMO					on	on	on		
Bluetooth ANT.1 + 5GHz WiFi MIMO			on	on	-	-	on	-	Case 2

4. The following tables show the worst case configurations determined during testing.

(Worst case: The lowest margin condition the channels and modes were selected for test.)

(Test case 1,2 Result : Please refer to the SM-X700 [BT, UNII, DTS] Test Report.)

Case	Description	2.4GHz Emission	5 GHz Emission
1	Antenna	Ant All	Ant All
	Channel	6	36
	Data Rate	1 Mbps	MCS 0
	Mode	802.11b	802.11n

Case	Description	Bluetooth Emission	5 GHz Emission
2	Antenna	ANT1	Ant All
	Channel	39	36
	Data Rate	1 Mbps	MCS 0
	Mode	GFSK	802.11n

AC Power line Conducted Emissions

1. All modes of operation were investigated and the worst case configuration results are reported.

- Mode : Stand alone + External accessories(Earphone, etc) + Travel Adapter, Stand alone + Travel Adapter
- Worstcase : Stand alone + Travel Adapter

Conducted test

1. All datarate of operation were investigated and the worst case datarate results are reported.

9. SUMMARY OF TEST RESULTS

Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
26 dB Bandwidth	§15.407 (for Power Measurement)	N/A	Conducted	PASS
6 dB Bandwidth	§15.407(e)	>500 kHz (5725-5850 MHz)(UNII-3) (5850-5895 MHz)(UNII-4)		PASS
Maximum Conducted Output Power	§15.407(a)(1),(2),(3)	< 250 mW(5150-5250 MHz) < 250 mW or 11+10log$_{10}$ (BW) dBm (5250-5350 MHz) < 250 mW or 11+10log$_{10}$ (BW) dBm (5470-5725 MHz) <1 W (5725-5850 MHz)		PASS
Maximum EIRP Output Power	§15.407(a)(1)(3)(iii)	< EIRP 30dBm (5850-5925 MHz)		
Maximum Power Spectral Density	§15.407(a)(1),(2),(3)	<11 dBm/ MHz (5150-5250 MHz) <11 dBm/ MHz (5250-5350 MHz) <11 dBm/ MHz (5470-5725 MHz) <30 dBm/500 kHz(5725-5850 MHz) < EIRP 14 dBm/MHz(5850-5895 MHz)		PASS
AC Conducted Emissions 150 kHz-30 MHz	15.207 15.407(b)(8)	<FCC 15.207 limits		PASS
Undesirable Emissions	§15.407(b) (1),(2),(3),(4) §15.407(b)(5)(ii),(iii) §15.35(b)	<-27 dBm/MHz EIRP (UNII1, 2A, 2C) cf. Section 8.6 (UNII 3&4)	Radiated	PASS
General Field Strength Limits(Restricted Bands and Radiated Emission Limits)	15.205, 15.407(b)(9),(10)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		PASS

10. TEST RESULT

10.1 DUTY CYCLE

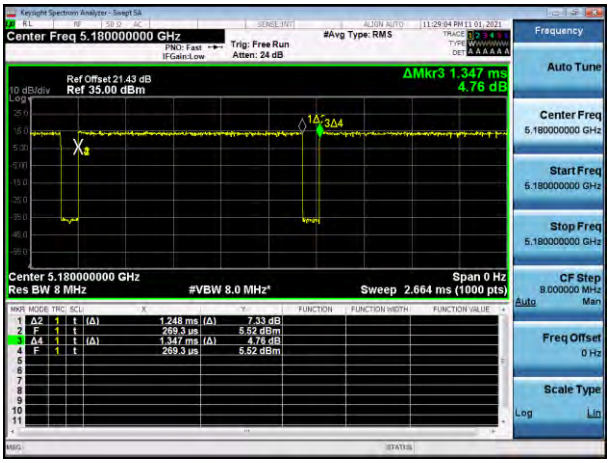
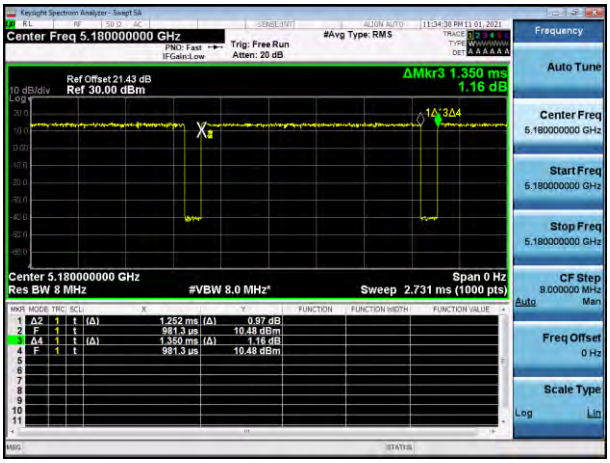
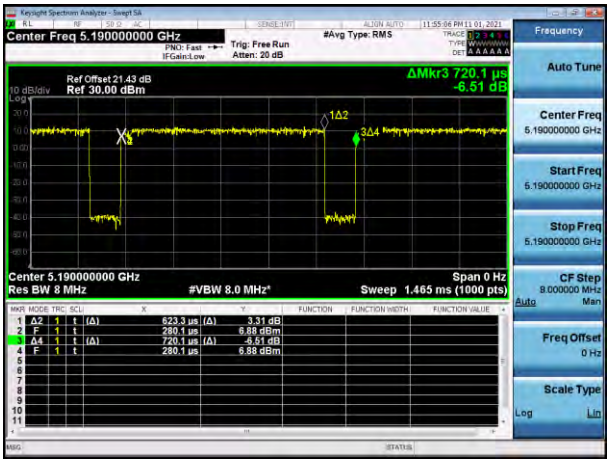
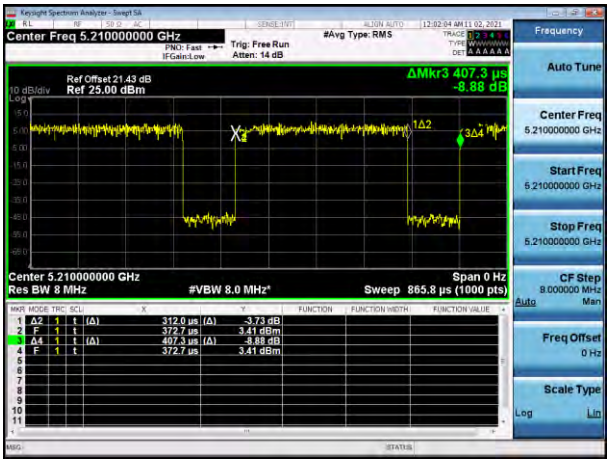
Mode	Data Rate (Mbps)	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor(dB)
802.11a	6	1.464	1.563	0.937	0.284
	9	0.986	1.084	0.909	0.414
	12	0.745	0.843	0.884	0.537
	18	0.504	0.604	0.835	0.783
	24	0.383	0.481	0.797	0.986
	36	0.263	0.361	0.729	1.370
	48	0.204	0.311	0.655	1.835
	54	0.184	0.308	0.597	2.237

Mode	MCS Index	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor(dB)
802.11n (HT20)	0	1.248	1.347	0.927	0.330
	1	0.644	0.743	0.867	0.619
	2	0.440	0.538	0.818	0.874
	3	0.340	0.438	0.776	1.101
	4	0.240	0.337	0.713	1.472
	5	0.188	0.321	0.586	2.322
	6	0.172	0.333	0.517	2.869
	7	0.160	0.330	0.486	3.134
802.11n (HT40)	0	0.620	0.717	0.865	0.630
	1	0.328	0.425	0.772	1.125
	2	0.231	0.355	0.652	1.859
	3	0.184	0.343	0.537	2.699
	4	0.136	0.342	0.399	3.991
	5	0.112	0.337	0.332	4.787
	6	0.103	0.336	0.308	5.121
	7	0.097	0.329	0.294	5.310

Mode	MCS Index	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor(dB)
802.11ac (VHT20)	0	1.252	1.350	0.927	0.329
	1	0.648	0.746	0.869	0.611
	2	0.443	0.541	0.819	0.867
	3	0.343	0.441	0.778	1.090
	4	0.245	0.342	0.716	1.452
	5	0.192	0.326	0.590	2.289
	6	0.176	0.318	0.553	2.569
	7	0.164	0.316	0.521	2.831
	8	0.144	0.314	0.457	3.396
802.11ac (VHT40)	0	0.623	0.720	0.866	0.627
	1	0.332	0.429	0.774	1.113
	2	0.236	0.334	0.709	1.496
	3	0.188	0.331	0.568	2.460
	4	0.140	0.330	0.423	3.733
	5	0.116	0.329	0.353	4.519
	6	0.108	0.328	0.329	4.824
	7	0.100	0.324	0.309	5.094
	8	0.092	0.323	0.286	5.444
	9	0.084	0.322	0.260	5.845
802.11ac (VHT80)	0	0.312	0.407	0.766	1.158
	1	0.176	0.371	0.474	3.239
	2	0.132	0.371	0.355	4.494
	3	0.108	0.368	0.295	5.305
	4	0.088	0.366	0.239	6.215
	5	0.075	0.361	0.209	6.796
	6	0.072	0.359	0.201	6.976
	7	0.068	0.353	0.192	7.175
	8	0.064	0.341	0.188	7.252
	9	0.064	0.340	0.189	7.228

Note:

In order to simplify the report, attached plots were only lowest datarate.

802.11a 6Mbps	802.11n(HT20) MCS0
	
802.11n(HT40) MCS0	**802.11ac(VHT20) MCS0**
	
802.11ac(VHT40) MCS0	**802.11ac(VHT80) MCS0**
	

10.2 26 dB Bandwidth

Straddle channel data in the table below are for reporting purposes only.

Straddle channel data were added in section 10.7.1.

[Ant.1]

802.11a Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	18.39	16.246
5200	40	18.42	16.254
5240	48	18.36	16.249
5260	52	18.66	16.259
5300	60	18.36	16.241
5320	64	18.30	16.251
5500	100	18.29	16.241
5580	116	18.32	16.254
5720	144	18.86	16.256
5745	149	18.53	16.249
5785	157	18.24	16.233
5825	165	18.32	16.264
5845	169	18.22	16.249
5865	173	18.25	16.255
5885	177	18.39	16.255

802.11n(HT20) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	19.23	17.439
5200	40	19.52	17.464
5240	48	19.90	17.446
5260	52	19.30	17.460
5300	60	19.62	17.441
5320	64	19.34	17.431
5500	100	19.34	17.442
5580	116	19.55	17.450
5720	144	19.36	17.429
5745	149	19.42	17.444
5785	157	19.61	17.419
5825	165	19.96	17.446
5845	169	19.38	17.420
5865	173	19.61	17.466
5885	177	19.44	17.444

802.11n(HT40) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5190	38	38.89	35.732
5230	46	39.10	35.762
5270	54	39.31	35.760
5310	62	38.94	35.733
5510	102	39.12	35.761
5550	110	38.81	35.745
5710	142	39.16	35.726
5755	151	38.95	35.718
5795	159	38.94	35.732
5835	167	39.07	35.764
5875	175	38.93	35.743

802.11ac(VHT20) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	19.52	17.451
5200	40	19.47	17.437
5240	48	19.61	17.444
5260	52	19.52	17.438
5300	60	19.51	17.474
5320	64	19.40	17.459
5500	100	19.52	17.437
5580	116	19.48	17.436
5720	144	19.31	17.412
5745	149	19.75	17.450
5785	157	19.85	17.450
5825	165	19.77	17.452
5845	169	19.48	17.430
5865	173	19.68	17.443
5885	177	19.45	17.442

802.11ac(VHT40) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5190	38	39.09	35.756
5230	46	38.81	35.755
5270	54	39.06	35.746
5310	62	39.20	35.750
5510	102	38.94	35.764
5550	110	39.07	35.771
5710	142	39.23	35.795
5755	151	39.19	35.729
5795	159	38.92	35.731
5835	167	39.06	35.739
5875	175	38.98	35.766

802.11ac(VHT80) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5210	42	80.25	74.943
5290	58	80.13	74.898
5530	106	80.08	74.840
5610	122	79.77	74.800
5690	138	79.73	74.825
5775	155	80.02	74.914
5855	171	79.89	74.835

Note:

For channels 169/167/171 included in U-NII3&4, please refer to the table below.

[Ant.2]

802.11a Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	18.49	16.261
5200	40	18.48	16.251
5240	48	18.29	16.264
5260	52	18.76	16.262
5300	60	18.35	16.245
5320	64	18.36	16.254
5500	100	18.67	16.258
5580	116	18.72	16.241
5720	144	18.26	16.244
5745	149	18.37	16.260
5785	157	18.67	16.245
5825	165	18.43	16.247
5845	169	18.26	16.234
5865	173	18.43	16.255
5885	177	18.27	16.247

802.11n(HT20) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	19.49	17.446
5200	40	19.48	17.462
5240	48	19.82	17.451
5260	52	20.11	17.460
5300	60	19.49	17.443
5320	64	19.34	17.451
5500	100	19.91	17.429
5580	116	19.94	17.468
5720	144	19.38	17.431
5745	149	19.83	17.440
5785	157	19.37	17.423
5825	165	19.50	17.451
5845	169	19.38	17.450
5865	173	19.83	17.427
5885	177	19.59	17.455

802.11n(HT40) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5190	38	39.26	35.764
5230	46	39.07	35.740
5270	54	39.06	35.744
5310	62	39.26	35.752
5510	102	39.15	35.751
5550	110	39.11	35.787
5710	142	39.15	35.729
5755	151	38.75	35.728
5795	159	39.06	35.763
5835	167	38.87	35.736
5875	175	39.01	35.743

802.11ac(VHT20) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	19.60	17.443
5200	40	19.29	17.453
5240	48	19.88	17.448
5260	52	19.79	17.449
5300	60	19.43	17.452
5320	64	19.57	17.458
5500	100	19.82	17.456
5580	116	19.94	17.480
5720	144	19.71	17.451
5745	149	19.60	17.453
5785	157	19.39	17.441
5825	165	19.88	17.462
5845	169	19.41	17.455
5865	173	19.39	17.450
5885	177	20.01	17.463

802.11ac(VHT40) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5190	38	38.86	35.723
5230	46	38.87	35.735
5270	54	39.00	35.767
5310	62	39.49	35.768
5510	102	38.89	35.744
5550	110	38.86	35.760
5710	142	38.99	35.727
5755	151	39.29	35.762
5795	159	39.31	35.774
5835	167	39.09	35.722
5875	175	39.62	35.763

802.11ac(VHT80) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5210	42	80.10	74.841
5290	58	80.34	74.975
5530	106	79.93	74.823
5610	122	80.14	74.824
5690	138	80.28	74.881
5775	155	80.18	74.954
5855	171	80.05	74.832

Note:

For channels 169/167/171 included in U-NII3&4, please refer to the table below.

[Ant.1]

▣ Test Plots(802.11a)

Note:

In order to simplify the report, attached plots were only the most wide channel.

802.11a UNII 1 BAND 26 dB Bandwidth (CH 40)	802.11a UNII 2A BAND 26 dB Bandwidth (CH 52)
	
802.11a UNII 2C BAND 26 dB Bandwidth (CH 144)	**802.11a UNII 3 BAND 26 dB Bandwidth (CH 149)**
	
802.11a UNII 4 BAND 26 dB Bandwidth (CH 177)	
	

▣ Test Plots(802.11n(HT20))

Note:

In order to simplify the report, attached plots were only the most wide channel.

802.11n_HT20 UNII 1 BAND 26 dB Bandwidth(CH 48)	802.11n_HT20 UNII 2A BAND 26 dB Bandwidth(CH 60)
	
802.11n_HT20 UNII 2C BAND 26 dB Bandwidth(CH 116)	**802.11n_HT20 UNII 3 BAND 26 dB Bandwidth(CH 165)**
	
802.11n_HT20 UNII 4 BAND 26 dB Bandwidth(CH 173)	
	

▣ Test Plots(802.11n(HT40))

Note:

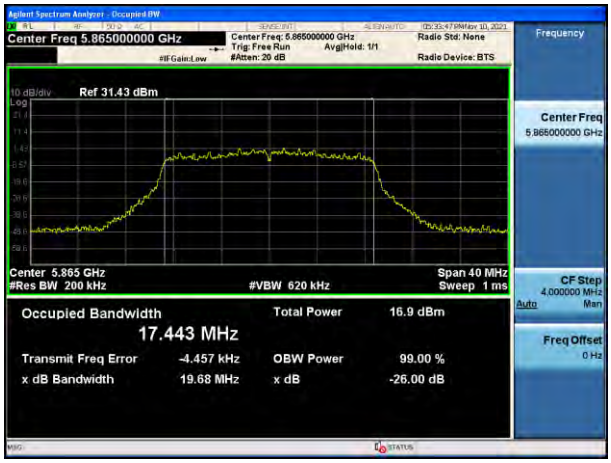
In order to simplify the report, attached plots were only the most wide channel.

802.11n_HT40 UNII 1 BAND 26 dB Bandwidth(CH 46)	802.11n_HT40 UNII 2A BAND 26 dB Bandwidth (CH 54)
	
802.11n_HT40 UNII 2C BAND 26 dB Bandwidth(CH 142)	**802.11n_HT40 UNII 3 BAND 26 dB Bandwidth (CH 151)**
	
802.11n_HT40 UNII 4 BAND 26 dB Bandwidth (CH 167)	
	

▣ Test Plots(802.11ac(VHT20))

Note:

In order to simplify the report, attached plots were only the most wide channel.

802.11ac_VHT20 UNII 1 BAND 26 dB Bandwidth(CH 48)	802.11ac_VHT20 UNII 2A BAND 26 dB Bandwidth(CH 52)
	
802.11ac_VHT20 UNII 2C BAND 26 dB Bandwidth(CH 100)	**802.11ac_VHT20 UNII 3 BAND 26 dB Bandwidth(CH 157)**
	
802.11ac_VHT20 UNII 4 BAND 26 dB Bandwidth(CH 173)	
	

▣ Test Plots(802.11ac(VHT40))

Note:

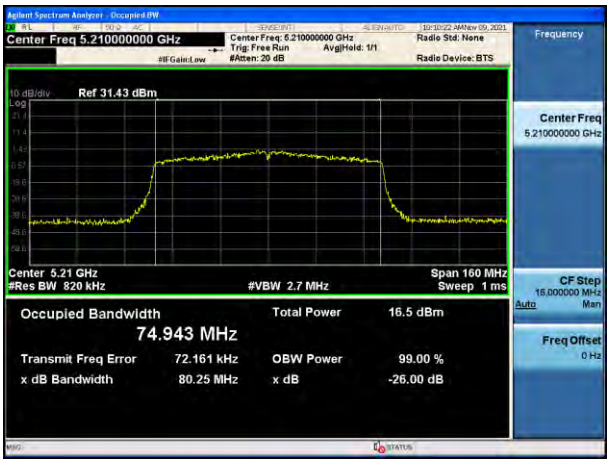
In order to simplify the report, attached plots were only the most wide channel.

802.11ac_VHT40 UNII 1 BAND 26 dB Bandwidth(CH 38)	802.11ac_VHT40 UNII 2A BAND 26 dB Bandwidth (CH 62)
	
802.11ac_VHT40 UNII 2C BAND 26 dB Bandwidth(CH 142)	**802.11ac_VHT40 UNII 3 BAND 26 dB Bandwidth (CH 151)**
	
802.11ac_VHT40 UNII 4 BAND 26 dB Bandwidth (CH 167)	
	

▣ Test Plots(802.11ac(VHT80))

Note:

In order to simplify the report, attached plots were only the most wide channel.

802.11ac_VHT80 UNII 1 BAND 26 dB Bandwidth(CH 42)	802.11ac_VHT80 UNII 2A BAND 26 dB Bandwidth (CH 58)
	
802.11ac_VHT80 UNII 2C BAND 26 dB Bandwidth(CH 106)	**802.11ac_VHT80 UNII 3 BAND 26 dB Bandwidth (CH 155)**
	
802.11ac_VHT80 UNII 4 BAND 26 dB Bandwidth (CH 171)	
	

[Ant.2]

▣ Test Plots(802.11a)

Note:

In order to simplify the report, attached plots were only the most wide channel.

802.11a UNII 1 BAND 26 dB Bandwidth (CH 36)	802.11a UNII 2A BAND 26 dB Bandwidth (CH 52)
	
802.11a UNII 2C BAND 26 dB Bandwidth (CH 116)	**802.11a UNII 3 BAND 26 dB Bandwidth (CH 157)**
	
802.11a UNII 4 BAND 26 dB Bandwidth (CH 173)	
	

▣ Test Plots(802.11n(HT20))

Note:

In order to simplify the report, attached plots were only the most wide channel.

802.11n_HT20 UNII 1 BAND 26 dB Bandwidth(CH 48)	802.11n_HT20 UNII 2A BAND 26 dB Bandwidth(CH 52)
	
802.11n_HT20 UNII 2C BAND 26 dB Bandwidth(CH 116)	**802.11n_HT20 UNII 3 BAND 26 dB Bandwidth(CH 149)**
	
802.11n_HT20 UNII 4 BAND 26 dB Bandwidth(CH 173)	
	

▣ Test Plots(802.11n(HT40))

Note:

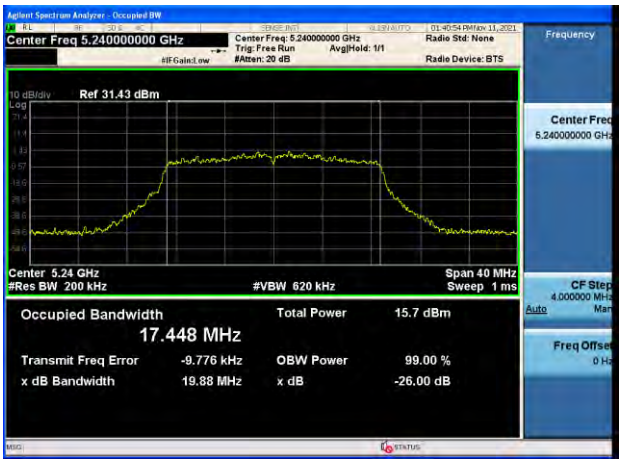
In order to simplify the report, attached plots were only the most wide channel.

802.11n_HT40 UNII 1 BAND 26 dB Bandwidth(CH 38)	802.11n_HT40 UNII 2A BAND 26 dB Bandwidth (CH 62)
	
802.11n_HT40 UNII 2C BAND 26 dB Bandwidth(CH 142)	**802.11n_HT40 UNII 3 BAND 26 dB Bandwidth (CH 159)**
	
802.11n_HT40 UNII 4 BAND 26 dB Bandwidth (CH 175)	
	

▣ Test Plots(802.11ac(VHT20))

Note:

In order to simplify the report, attached plots were only the most wide channel.

802.11ac_VHT20 UNII 1 BAND 26 dB Bandwidth(CH 48)	802.11ac_VHT20 UNII 2A BAND 26 dB Bandwidth(CH 52)
	
802.11ac_VHT20 UNII 2C BAND 26 dB Bandwidth(CH 116)	**802.11ac_VHT20 UNII 3 BAND 26 dB Bandwidth(CH 165)**
	
802.11ac_VHT20 UNII 4 BAND 26 dB Bandwidth(CH 177)	
	

▣ Test Plots(802.11ac(VHT40))

Note:

In order to simplify the report, attached plots were only the most wide channel.

802.11ac_VHT40 UNII 1 BAND 26 dB Bandwidth(CH 46)	802.11ac_VHT40 UNII 2A BAND 26 dB Bandwidth (CH 62)
	
802.11ac_VHT40 UNII 2C BAND 26 dB Bandwidth(CH 142)	**802.11ac_VHT40 UNII 3 BAND 26 dB Bandwidth (CH 159)**
	
802.11ac_VHT40 UNII 4 BAND 26 dB Bandwidth (CH 175)	
	

▣ Test Plots(802.11ac(VHT80))

Note:

In order to simplify the report, attached plots were only the most wide channel.

802.11ac_VHT80 UNII 1 BAND 26 dB Bandwidth(CH 42)	802.11ac_VHT80 UNII 2A BAND 26 dB Bandwidth (CH 58)
	
802.11ac_VHT80 UNII 2C BAND 26 dB Bandwidth(CH 138)	**802.11ac_VHT80 UNII 3 BAND 26 dB Bandwidth (CH 155)**
	
802.11ac_VHT80 UNII 4 BAND 26 dB Bandwidth (CH 171)	
	

10.3 6 dB BANDWIDTH

[Ant.1]

802.11a Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	12.66	> 0.5	Pass
5785	157	15.14	> 0.5	Pass
5825	165	15.10	> 0.5	Pass
5845	169	15.14	> 0.5	Pass
5865	173	14.68	> 0.5	Pass
5885	177	16.32	> 0.5	Pass

802.11n(HT20) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	15.14	> 0.5	Pass
5785	157	15.14	> 0.5	Pass
5825	165	14.92	> 0.5	Pass
5845	169	15.11	> 0.5	Pass
5865	173	15.11	> 0.5	Pass
5885	177	15.08	> 0.5	Pass

802.11n(HT40) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	35.12	> 0.5	Pass
5795	159	35.15	> 0.5	Pass
5835	167	32.67	> 0.5	Pass
5875	175	33.83	> 0.5	Pass

802.11ac(VHT20) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	13.81	> 0.5	Pass
5785	157	15.17	> 0.5	Pass
5825	165	15.15	> 0.5	Pass
5845	169	15.14	> 0.5	Pass
5865	173	11.56	> 0.5	Pass
5885	177	15.16	> 0.5	Pass

802.11ac(VHT40) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	35.13	> 0.5	Pass
5795	159	35.12	> 0.5	Pass
5835	167	35.01	> 0.5	Pass
5875	175	35.08	> 0.5	Pass

802.11ac(VHT80) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5775	155	71.40	> 0.5	Pass
5855	171	71.42	> 0.5	Pass

[Ant.2]

802.11a Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	15.13	> 0.5	Pass
5785	157	15.13	> 0.5	Pass
5825	165	15.83	> 0.5	Pass
5845	169	14.11	> 0.5	Pass
5865	173	15.43	> 0.5	Pass
5885	177	15.15	> 0.5	Pass

802.11n(HT20) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	13.94	> 0.5	Pass
5785	157	15.13	> 0.5	Pass
5825	165	15.09	> 0.5	Pass
5845	169	15.14	> 0.5	Pass
5865	173	15.16	> 0.5	Pass
5885	177	13.90	> 0.5	Pass

802.11n(HT40) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	35.09	> 0.5	Pass
5795	159	34.93	> 0.5	Pass
5835	167	33.92	> 0.5	Pass
5875	175	35.13	> 0.5	Pass

802.11ac(VHT20) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	16.03	> 0.5	Pass
5785	157	13.92	> 0.5	Pass
5825	165	15.09	> 0.5	Pass
5845	169	15.11	> 0.5	Pass
5865	173	15.12	> 0.5	Pass
5885	177	12.91	> 0.5	Pass

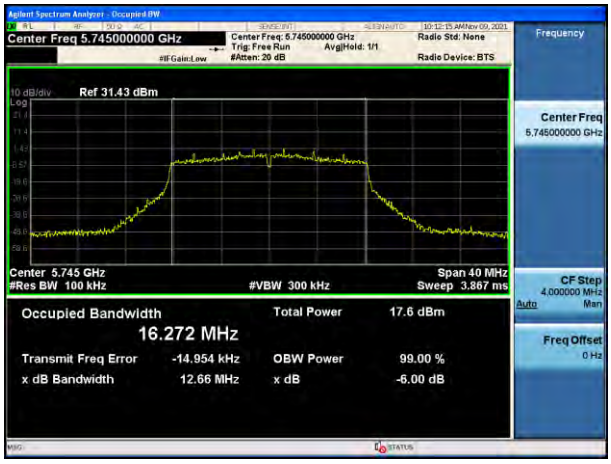
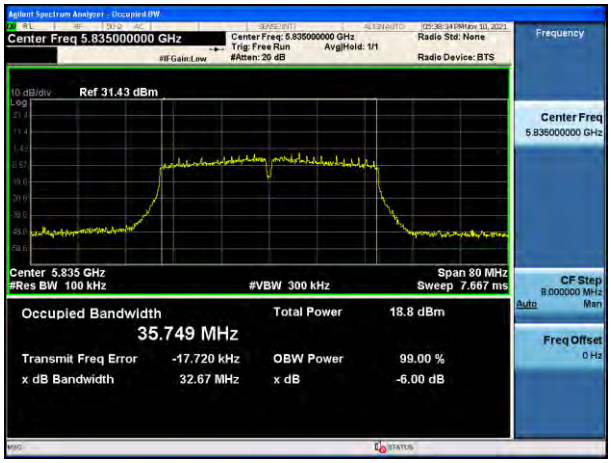
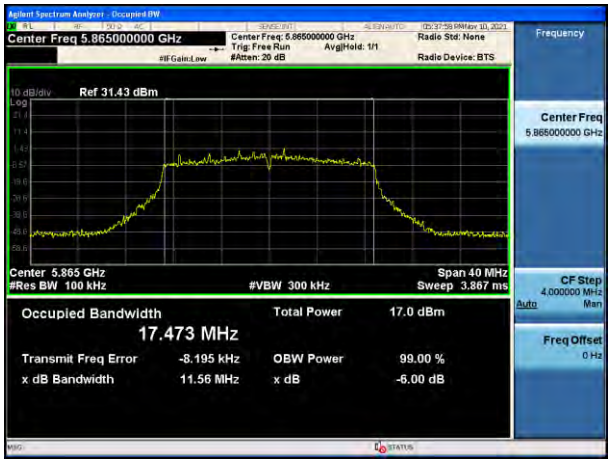
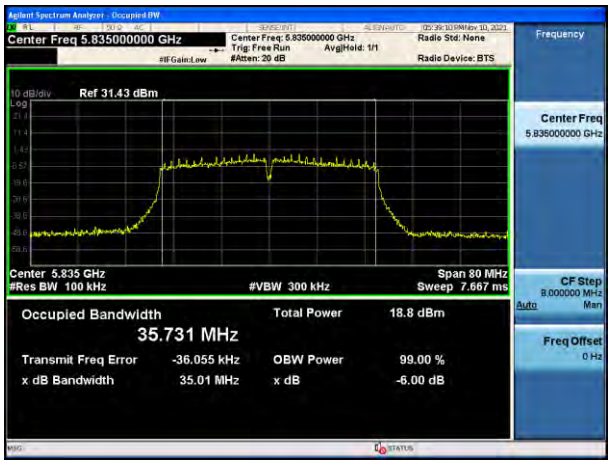
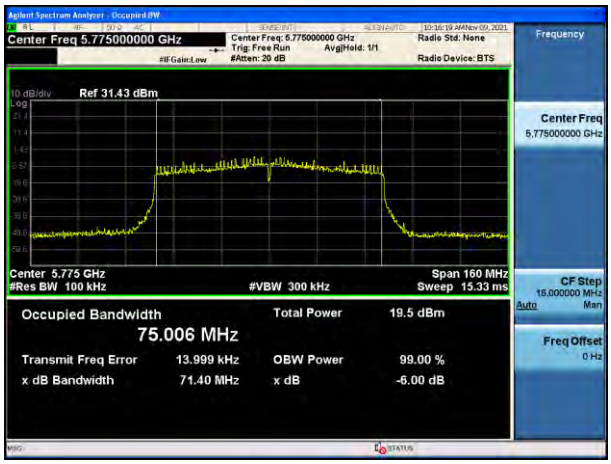
802.11ac(VHT40) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	35.12	> 0.5	Pass
5795	159	29.74	> 0.5	Pass
5835	167	35.14	> 0.5	Pass
5875	175	35.14	> 0.5	Pass

802.11ac(VHT80) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5775	155	68.83	> 0.5	Pass
5855	171	68.83	> 0.5	Pass

[Ant.1]

▣ Test Plots

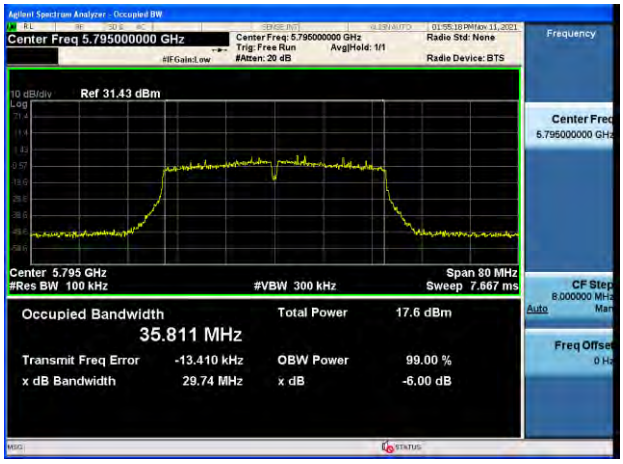
Note: In order to simplify the report, attached plots were only the most narrow channel.

802.11a (CH.149)	802.11n(HT20) (CH.165)
	
802.11n(HT40) (CH.167)	**802.11ac(VHT20) (CH.173)**
	
802.11ac(VHT40) (CH.167)	**802.11ac(VHT80) (CH.155)**
	

[Ant.2]

▣ Test Plots

Note: In order to simplify the report, attached plots were only the most narrow channel.

802.11a (CH.169)	802.11n(HT20) (CH.177)
	
802.11n(HT40) (CH.167)	**802.11ac(VHT20) (CH.177)**
	
802.11ac(VHT40) (CH.159)	**802.11ac(VHT80) (CH.171)**
	

10.4 OUTPUT POWER MEASUREMENT

Straddle channel data in the table below are for reporting purposes only.

Straddle channel data were added in section 10.7.3.

Limit

(UNII 1) : 23.98 dBm

(UNII 2A, 2C) : 23.98 dBm or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)

(UNII 3) : 30.00 dBm

(UNII 4) : EIRP 30.0 dBm/MHz

(UNII 3&4) : Worst limit 30.00 dBm ➔UNII 4 Band Antenna Gain Negative

[Ant.1]

802.11a Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase Datarate (Mbps)
Frequency [MHz]	Channel No.					
5180	36	16.98	0.284	17.26	23.98	6M
5200	40	16.97	0.284	17.25	23.98	6M
5240	48	9.01	0.284	9.29	23.98	6M
5260	52	17.29	0.284	17.57	23.62	6M
5300	60	17.16	0.284	17.45	23.62	6M
5320	64	17.34	0.284	17.62	23.62	6M
5500	100	17.55	0.284	17.84	23.62	6M
5600	116	17.37	0.284	17.66	23.62	6M
5720	144	17.21	0.284	17.49	23.62	6M
5745	149	11.60	0.284	11.88	30.00	6M
5785	157	11.61	0.284	11.89	30.00	6M
5825	165	11.30	0.284	11.59	30.00	6M
5845	169	11.23	0.284	11.52	EIRP ≤ 30dBm	6M
5865	173	11.00	0.284	11.28	EIRP ≤ 30dBm	6M
5885	177	11.18	0.284	11.46	EIRP ≤ 30dBm	6M

802.11n(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5180	36	16.66	0.330	16.99	23.98	MCS0
5200	40	16.59	0.330	16.92	23.98	MCS0
5240	48	8.73	0.330	9.06	23.98	MCS0
5260	52	17.06	0.330	17.39	23.86	MCS0
5300	60	16.88	0.330	17.21	23.86	MCS0
5320	64	17.10	0.330	17.43	23.86	MCS0
5500	100	17.37	0.330	17.70	23.86	MCS0
5600	116	17.18	0.330	17.51	23.86	MCS0
5720	144	16.94	0.330	17.27	23.86	MCS0
5745	149	11.35	0.330	11.68	30.00	MCS0
5785	157	11.44	0.330	11.77	30.00	MCS0
5825	165	11.04	0.330	11.37	30.00	MCS0
5845	169	10.98	0.330	11.31	EIRP ≤ 30dBm	MCS0
5865	173	10.76	0.330	11.09	EIRP ≤ 30dBm	MCS0
5885	177	10.90	0.330	11.23	EIRP ≤ 30dBm	MCS0

802.11n(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5190	38	14.93	0.630	15.56	23.98	MCS0
5230	46	11.77	0.630	12.40	23.98	MCS0
5270	54	16.15	0.630	16.78	23.98	MCS0
5310	62	13.38	0.630	14.01	23.98	MCS0
5510	102	13.53	0.630	14.16	23.98	MCS0
5590	110	15.56	0.630	16.19	23.98	MCS0
5710	142	16.14	0.630	16.77	23.98	MCS0
5755	151	11.20	0.630	11.83	30.00	MCS0
5795	159	10.33	0.630	10.96	30.00	MCS0
5835	167	11.34	0.630	11.97	EIRP ≤ 30dBm	MCS0
5875	175	10.88	0.630	11.51	EIRP ≤ 30dBm	MCS0

802.11ac(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5180	36	16.63	0.329	16.96	23.98	MCS0
5200	40	16.61	0.329	16.94	23.98	MCS0
5240	48	8.70	0.329	9.03	23.98	MCS0
5260	52	16.97	0.329	17.30	23.88	MCS0
5300	60	16.90	0.329	17.23	23.88	MCS0
5320	64	17.08	0.329	17.41	23.88	MCS0
5500	100	17.36	0.329	17.69	23.86	MCS0
5600	116	17.17	0.329	17.50	23.86	MCS0
5720	144	16.88	0.329	17.21	23.86	MCS0
5745	149	11.34	0.329	11.67	30.00	MCS0
5785	157	11.43	0.329	11.76	30.00	MCS0
5825	165	10.97	0.329	11.30	30.00	MCS0
5845	169	10.96	0.329	11.29	EIRP ≤ 30dBm	MCS0
5865	173	10.72	0.329	11.04	EIRP ≤ 30dBm	MCS0
5885	177	10.90	0.329	11.23	EIRP ≤ 30dBm	MCS0

802.11ac(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5190	38	14.90	0.627	15.53	23.98	MCS0
5230	46	11.75	0.627	12.38	23.98	MCS0
5270	54	16.18	0.627	16.81	23.98	MCS0
5310	62	13.44	0.627	14.06	23.98	MCS0
5510	102	13.57	0.627	14.20	23.98	MCS0
5590	110	15.60	0.627	16.22	23.98	MCS0
5710	142	16.06	0.627	16.69	23.98	MCS0
5755	151	11.19	0.627	11.82	30.00	MCS0
5795	159	10.38	0.627	11.00	30.00	MCS0
5835	167	11.27	0.627	11.89	EIRP ≤ 30dBm	MCS0
5875	175	10.96	0.627	11.59	EIRP ≤ 30dBm	MCS0

802.11ac(80 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5210	42	13.25	1.158	14.40	23.98	MCS0
5290	58	12.61	1.158	13.77	23.98	MCS0
5530	106	13.68	1.158	14.84	23.98	MCS0
5610	122	14.43	1.158	15.59	23.98	MCS0
5690	138	14.31	1.158	15.47	23.98	MCS0
5775	155	9.96	1.158	11.12	30.00	MCS0
5855	171	10.60	1.158	11.75	EIRP ≤ 30dBm	MCS0

[Ant.2]

802.11a Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase Datarate (Mbps)
Frequency [MHz]	Channel No.					
5180	36	17.39	0.284	17.67	23.98	6M
5200	40	17.46	0.284	17.75	23.98	6M
5240	48	9.68	0.284	9.97	23.98	6M
5260	52	17.36	0.284	17.64	23.64	6M
5300	60	17.08	0.284	17.36	23.64	6M
5320	64	17.41	0.284	17.69	23.64	6M
5500	100	17.43	0.284	17.71	23.62	6M
5600	116	17.31	0.284	17.60	23.62	6M
5720	144	17.27	0.284	17.55	23.62	6M
5745	149	11.58	0.284	11.86	30.00	6M
5785	157	11.10	0.284	11.38	30.00	6M
5825	165	11.34	0.284	11.62	30.00	6M
5845	169	11.33	0.284	11.61	EIRP ≤ 30dBm	6M
5865	173	11.12	0.284	11.40	EIRP ≤ 30dBm	6M
5885	177	10.98	0.284	11.26	EIRP ≤ 30dBm	6M

802.11n(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5180	36	17.16	0.330	17.49	23.98	MCS0
5200	40	17.26	0.330	17.59	23.98	MCS0
5240	48	9.62	0.330	9.95	23.98	MCS0
5260	52	17.08	0.330	17.41	23.87	MCS0
5300	60	16.93	0.330	17.26	23.87	MCS0
5320	64	17.11	0.330	17.44	23.87	MCS0
5500	100	17.17	0.330	17.50	23.87	MCS0
5600	116	17.06	0.330	17.39	23.87	MCS0
5720	144	17.01	0.330	17.34	23.87	MCS0
5745	149	11.30	0.330	11.63	30.00	MCS0
5785	157	10.80	0.330	11.13	30.00	MCS0
5825	165	11.09	0.330	11.42	30.00	MCS0
5845	169	11.07	0.330	11.40	EIRP ≤ 30dBm	MCS0
5865	173	10.83	0.330	11.16	EIRP ≤ 30dBm	MCS0
5885	177	10.69	0.330	11.02	EIRP ≤ 30dBm	MCS0

802.11n(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5190	38	15.36	0.630	15.99	23.98	MCS0
5230	46	12.31	0.630	12.94	23.98	MCS0
5270	54	16.08	0.630	16.71	23.98	MCS0
5310	62	13.33	0.630	13.96	23.98	MCS0
5510	102	13.59	0.630	14.22	23.98	MCS0
5590	110	15.46	0.630	16.09	23.98	MCS0
5710	142	16.17	0.630	16.80	23.98	MCS0
5755	151	11.20	0.630	11.83	30.00	MCS0
5795	159	10.16	0.630	10.79	30.00	MCS0
5835	167	11.24	0.630	11.87	EIRP ≤ 30dBm	MCS0
5875	175	10.95	0.630	11.58	EIRP ≤ 30dBm	MCS0

802.11ac(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5180	36	17.14	0.329	17.47	23.98	MCS0
5200	40	17.27	0.329	17.60	23.98	MCS0
5240	48	9.63	0.329	9.96	23.98	MCS0
5260	52	17.19	0.329	17.52	23.88	MCS0
5300	60	16.87	0.329	17.20	23.88	MCS0
5320	64	17.20	0.329	17.53	23.88	MCS0
5500	100	17.21	0.329	17.54	23.95	MCS0
5600	116	17.12	0.329	17.45	23.95	MCS0
5720	144	17.05	0.329	17.38	23.95	MCS0
5745	149	11.34	0.329	11.67	30.00	MCS0
5785	157	10.81	0.329	11.14	30.00	MCS0
5825	165	11.07	0.329	11.40	30.00	MCS0
5845	169	11.05	0.329	11.38	EIRP ≤ 30dBm	MCS0
5865	173	10.81	0.329	11.14	EIRP ≤ 30dBm	MCS0
5885	177	10.73	0.329	11.06	EIRP ≤ 30dBm	MCS0

802.11ac(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5190	38	15.35	0.627	15.97	23.98	MCS0
5230	46	12.28	0.627	12.91	23.98	MCS0
5270	54	16.27	0.627	16.89	23.98	MCS0
5310	62	13.34	0.627	13.97	23.98	MCS0
5510	102	13.51	0.627	14.13	23.98	MCS0
5590	110	15.36	0.627	15.99	23.98	MCS0
5710	142	16.13	0.627	16.76	23.98	MCS0
5755	151	11.13	0.627	11.76	30.00	MCS0
5795	159	10.10	0.627	10.73	30.00	MCS0
5835	167	11.22	0.627	11.85	EIRP ≤ 30dBm	MCS0
5875	175	11.08	0.627	11.70	EIRP ≤ 30dBm	MCS0

802.11ac(80 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5210	42	13.67	1.158	14.82	23.98	MCS0
5290	58	12.22	1.158	13.38	23.98	MCS0
5530	106	13.27	1.158	14.42	23.98	MCS0
5610	122	14.35	1.158	15.51	23.98	MCS0
5690	138	14.37	1.158	15.53	23.98	MCS0
5775	155	9.45	1.158	10.61	30.00	MCS0
5855	171	10.67	1.158	11.83	EIRP ≤ 30dBm	MCS0

[MIMO]

802.11a Mode		Ant.1 Measured Power (dBm) + Duty Cycle Factor	Ant.2 Measured Power (dBm) + Duty Cycle Factor	MIMO Total Power [dBm]	Limit (dBm)	Worstcase Datarate (Mbps)
Frequency [MHz]	Channel No.					
5180	36	17.26	17.67	20.48	23.98	6M
5200	40	17.25	17.75	20.52	23.98	6M
5240	48	9.29	9.97	12.65	23.98	6M
5260	52	17.57	17.64	20.62	23.98	6M
5300	60	17.45	17.36	20.42	23.98	6M
5320	64	17.62	17.69	20.67	23.98	6M
5500	100	17.84	17.71	20.79	23.98	6M
5600	116	17.66	17.60	20.64	23.98	6M
5720	144	17.49	17.55	20.53	23.98	6M
5745	149	11.88	11.86	14.88	30.00	6M
5785	157	11.89	11.38	14.65	30.00	6M
5825	165	11.59	11.62	14.61	30.00	6M
5845	169	11.52	11.61	14.57	EIRP ≤ 30dBm	6M
5865	173	11.28	11.40	14.35	EIRP ≤ 30dBm	6M
5885	177	11.46	11.26	14.37	EIRP ≤ 30dBm	6M

802.11n(20 MHz) Mode		Ant.1 Measured Power (dBm) + Duty Cycle Factor	Ant.2 Measured Power (dBm) + Duty Cycle Factor	MIMO Total Power [dBm]	Limit (dBm)	Worstcase Datarate (Mbps)
Frequency [MHz]	Channel No.					
5180	36	16.99	17.49	20.26	23.98	MCS0
5200	40	16.92	17.59	20.28	23.98	MCS0
5240	48	9.06	9.95	12.54	23.98	MCS0
5260	52	17.39	17.41	20.41	23.98	MCS0
5300	60	17.21	17.26	20.24	23.98	MCS0
5320	64	17.43	17.44	20.45	23.98	MCS0
5500	100	17.70	17.50	20.61	23.98	MCS0
5600	116	17.51	17.39	20.46	23.98	MCS0
5720	144	17.27	17.34	20.31	23.98	MCS0
5745	149	11.68	11.63	14.67	30.00	MCS0
5785	157	11.77	11.13	14.47	30.00	MCS0
5825	165	11.37	11.42	14.40	30.00	MCS0
5845	169	11.31	11.40	14.37	EIRP ≤ 30dBm	MCS0
5865	173	11.09	11.16	14.13	EIRP ≤ 30dBm	MCS0
5885	177	11.23	11.02	14.14	EIRP ≤ 30dBm	MCS0

802.11n(40 MHz) Mode		Ant.1 Measured Power (dBm) + Duty Cycle Factor	Ant.2 Measured Power (dBm) + Duty Cycle Factor	MIMO Total Power [dBm]	Limit (dBm)	Worstcase Datarate (Mbps)
Frequency [MHz]	Channel No.					
5190	38	15.56	15.99	18.79	23.98	MCS0
5230	46	12.40	12.94	15.69	23.98	MCS0
5270	54	16.78	16.71	19.75	23.98	MCS0
5310	62	14.01	13.96	17.00	23.98	MCS0
5510	102	14.16	14.22	17.20	23.98	MCS0
5590	110	16.19	16.09	19.15	23.98	MCS0
5710	142	16.77	16.80	19.80	23.98	MCS0
5755	151	11.83	11.83	14.84	30.00	MCS0
5795	159	10.96	10.79	13.89	30.00	MCS0
5835	167	11.97	11.87	14.93	EIRP ≤ 30dBm	MCS0
5875	175	11.51	11.58	14.56	EIRP ≤ 30dBm	MCS0

802.11ac(20 MHz) Mode		Ant.1 Measured Power (dBm) + Duty Cycle Factor	Ant.2 Measured Power (dBm) + Duty Cycle Factor	MIMO Total Power [dBm]	Limit (dBm)	Worstcase Datarate (Mbps)
Frequency [MHz]	Channel No.					
5180	36	16.96	17.47	20.23	23.98	MCS0
5200	40	16.94	17.60	20.29	23.98	MCS0
5240	48	9.03	9.96	12.53	23.98	MCS0
5260	52	17.30	17.52	20.42	23.98	MCS0
5300	60	17.23	17.20	20.22	23.98	MCS0
5320	64	17.41	17.53	20.48	23.98	MCS0
5500	100	17.69	17.54	20.62	23.98	MCS0
5600	116	17.50	17.45	20.49	23.98	MCS0
5720	144	17.21	17.38	20.30	23.98	MCS0
5745	149	11.67	11.67	14.68	30.00	MCS0
5785	157	11.76	11.14	14.47	30.00	MCS0
5825	165	11.30	11.40	14.36	30.00	MCS0
5845	169	11.29	11.38	14.34	EIRP ≤ 30dBm	MCS0
5865	173	11.04	11.14	14.10	EIRP ≤ 30dBm	MCS0
5885	177	11.23	11.06	14.16	EIRP ≤ 30dBm	MCS0

802.11ac(40 MHz) Mode		Ant.1 Measured Power (dBm) + Duty Cycle Factor	Ant.2 Measured Power (dBm) + Duty Cycle Factor	MIMO Total Power [dBm]	Limit (dBm)	Worstcase Datarate (Mbps)
Frequency [MHz]	Channel No.					
5190	38	15.53	15.97	18.77	23.98	MCS0
5230	46	12.38	12.91	15.66	23.98	MCS0
5270	54	16.81	16.89	19.86	23.98	MCS0
5310	62	14.06	13.97	17.03	23.98	MCS0
5510	102	14.20	14.13	17.18	23.98	MCS0
5590	110	16.22	15.99	19.12	23.98	MCS0
5710	142	16.69	16.76	19.73	23.98	MCS0
5755	151	11.82	11.76	14.80	30.00	MCS0
5795	159	11.00	10.73	13.88	30.00	MCS0
5835	167	11.89	11.85	14.88	EIRP ≤ 30dBm	MCS0
5875	175	11.59	11.70	14.66	EIRP ≤ 30dBm	MCS0

802.11ac(80 MHz) Mode		Ant.1 Measured Power (dBm) + Duty Cycle Factor	Ant.2 Measured Power (dBm) + Duty Cycle Factor	MIMO Total Power [dBm]	Limit (dBm)	Worstcase Datarate (Mbps)
Frequency [MHz]	Channel No.					
5210	42	14.40	14.82	17.63	23.98	MCS0
5290	58	13.77	13.38	16.59	23.98	MCS0
5530	106	14.84	14.42	17.65	23.98	MCS0
5610	122	15.59	15.51	18.56	23.98	MCS0
5690	138	15.47	15.53	18.51	23.98	MCS0
5775	155	11.12	10.61	13.88	30.00	MCS0
5855	171	11.75	11.83	14.80	EIRP ≤ 30dBm	MCS0

10.5 POWER SPECTRAL DENSITY

[Ant.1] UNII1 ~ 3

802.11a Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase Datarate [Mbps]	Limit
Frequency [MHz]	Channel No.					
5180	36	6.599	0.284	***6.883***	6M	11 dBm/MHz
5200	40	6.455	0.284	6.739	6M	
5240	48	-1.126	0.284	-0.842	6M	
5260	52	7.046	0.284	***7.330***	6M	
5300	60	6.813	0.284	7.097	6M	
5320	64	6.990	0.284	7.274	6M	
5500	100	7.508	0.284	***7.792***	6M	
5580	116	6.888	0.284	7.172	6M	
5720	144	6.594	0.284	6.878	6M	
5745	149	-1.377	0.284	***-1.093***	6M	30 dBm/500 kHz
5785	157	-1.468	0.284	-1.184	6M	
5825	165	-1.837	0.284	-1.553	6M	

802.11n(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	5.920	0.330	***6.250***	MCS0	11 dBm/MHz
5200	40	5.670	0.330	6.000	MCS0	
5240	48	-1.821	0.330	-1.491	MCS0	
5260	52	6.430	0.330	6.760	MCS0	
5300	60	6.211	0.330	6.541	MCS0	
5320	64	6.482	0.330	***6.812***	MCS0	
5500	100	6.882	0.330	***7.212***	MCS0	
5580	116	6.828	0.330	7.158	MCS0	
5720	144	6.040	0.330	6.370	MCS0	
5745	149	-1.733	0.330	***-1.403***	MCS0	30 dBm/500 kHz
5785	157	-1.956	0.330	-1.626	MCS0	
5825	165	-2.535	0.330	-2.205	MCS0	

802.11n(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	1.913	0.630	***2.543***	MCS0	11 dBm/MHz
5230	46	-1.175	0.630	-0.545	MCS0	
5270	54	3.476	0.630	***4.106***	MCS0	
5310	62	0.550	0.630	1.180	MCS0	
5510	102	0.768	0.630	1.398	MCS0	
5550	110	2.636	0.630	***3.266***	MCS0	
5710	142	2.566	0.630	3.196	MCS0	
5755	151	-4.724	0.630	***-4.094***	MCS0	30 dBm /500 kHz
5795	159	-4.832	0.630	-4.202	MCS0	

802.11ac(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	5.943	0.329	6.272	MCS0	11 dBm/MHz
5200	40	6.314	0.329	***6.643***	MCS0	
5240	48	-1.843	0.329	-1.514	MCS0	
5260	52	6.514	0.329	6.843	MCS0	
5300	60	6.542	0.329	***6.871***	MCS0	
5320	64	6.392	0.329	6.721	MCS0	
5500	100	6.469	0.329	6.798	MCS0	
5580	116	6.593	0.329	***6.922***	MCS0	
5720	144	6.395	0.329	6.724	MCS0	
5745	149	-1.878	0.329	***-1.549***	MCS0	30 dBm/500 kHz
5785	157	-1.895	0.329	-1.566	MCS0	
5825	165	-2.500	0.329	-2.171	MCS0	

802.11ac(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	2.074	0.627	***2.701***	MCS0	11 dBm/MHz
5230	46	-1.065	0.627	-0.438	MCS0	
5270	54	3.231	0.627	***3.858***	MCS0	
5310	62	0.550	0.627	1.177	MCS0	
5510	102	0.612	0.627	1.239	MCS0	
5550	110	3.127	0.627	3.754	MCS0	
5710	142	3.334	0.627	***3.961***	MCS0	
5755	151	-4.154	0.627	***-3.527***	MCS0	30 dBm/500 kHz
5795	159	-5.408	0.627	-4.781	MCS0	

802.11ac(80 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5210	42	-2.338	1.158	***-1.180***	MCS0	11 dBm/MHz
5290	58	-2.663	1.158	***-1.505***	MCS0	
5530	106	-2.041	1.158	-0.883	MCS0	
5610	122	-1.560	1.158	-0.402	MCS0	
5690	138	-1.271	1.158	***-0.113***	MCS0	
5775	155	-8.355	1.158	***-7.197***	MCS0	30 dBm/500 kHz

[Ant.1] UNII4

802.11a Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Ant Gain [dBi]	E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase Datarate [Mbps]
Frequency [MHz]	Channel No.							
5845	169	1.330	2.237	3.567	-5.50	***-1.933***	14	6M
5865	173	0.482	2.237	2.719	-5.50	-2.781	14	6M
5885	177	1.009	2.237	3.246	-5.50	-2.254	14	6M

802.11n(20MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Ant Gain [dBi]	E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5845	169	0.351	3.134	3.485	-5.50	***-2.015***	14	MCS0
5865	173	0.221	3.134	3.355	-5.50	-2.145	14	MCS0
5885	177	0.242	3.134	3.376	-5.50	-2.124	14	MCS0

802.11n(40MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Ant Gain [dBi]	E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5835	167	-1.595	5.310	3.715	-5.50	***-1.785***	14	MCS0
5875	175	-1.731	5.310	3.579	-5.50	-1.921	14	MCS0

802.11ac(20MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Ant Gain [dBi]	E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5845	169	0.367	3.134	3.501	-5.50	-1.999	14	MCS0
5865	173	0.248	3.134	3.382	-5.50	-2.118	14	MCS0
5885	177	0.376	3.134	3.510	-5.50	***-1.990***	14	MCS0

802.11ac(40MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Ant Gain [dBi]	E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5835	167	-1.557	5.845	4.288	-5.50	***-1.212***	14	MCS0
5875	175	-2.074	5.845	3.771	-5.50	-1.729	14	MCS0

802.11ac(80MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Ant Gain [dBi]	E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5855	171	-4.891	7.252	2.361	-5.50	***-3.139***	14	MCS0

[Ant.2] UNII1 ~ 3

802.11a Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase Datarate (Mbps)	Limit
Frequency [MHz]	Channel No.					
5180	36	7.154	0.284	7.438	6M	11 dBm/MHz
5200	40	7.374	0.284	***7.658***	6M	
5240	48	-0.510	0.284	-0.226	6M	
5260	52	7.163	0.284	7.447	6M	
5300	60	6.937	0.284	7.221	6M	
5320	64	7.196	0.284	***7.480***	6M	
5500	100	7.307	0.284	***7.591***	6M	
5580	116	6.944	0.284	7.228	6M	
5720	144	7.256	0.284	7.540	6M	
5745	149	-1.396	0.284	***-1.112***	6M	30 dBm/500 kHz
5785	157	-1.523	0.284	-1.239	6M	
5825	165	-1.494	0.284	-1.210	6M	

802.11n(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	6.756	0.330	7.086	MCS0	11 dBm/MHz
5200	40	6.810	0.330	***7.140***	MCS0	
5240	48	-0.873	0.330	-0.543	MCS0	
5260	52	6.568	0.330	6.898	MCS0	
5300	60	6.379	0.330	6.709	MCS0	
5320	64	6.661	0.330	***6.991***	MCS0	
5500	100	6.464	0.330	6.794	MCS0	
5580	116	6.333	0.330	6.663	MCS0	
5720	144	6.651	0.330	***6.981***	MCS0	
5745	149	-1.913	0.330	***-1.583***	MCS0	30 dBm/500 kHz
5785	157	-2.309	0.330	-1.979	MCS0	
5825	165	-2.034	0.330	-1.704	MCS0	

802.11n(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	2.275	1.125	***3.400***	MCS1	11 dBm/MHz
5230	46	-0.499	0.630	0.131	MCS0	
5270	54	3.388	0.630	***4.018***	MCS0	
5310	62	0.530	0.630	1.160	MCS0	
5510	102	0.814	0.630	1.444	MCS0	
5550	110	2.662	0.630	3.292	MCS0	
5710	142	3.370	0.630	***4.000***	MCS0	
5755	151	-4.619	0.630	***-3.989***	MCS0	30 dBm /500 kHz
5795	159	-5.455	0.630	-4.825	MCS0	

802.11ac(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	6.746	0.329	***7.075***	MCS0	11 dBm/MHz
5200	40	6.697	0.329	7.026	MCS0	
5240	48	-0.872	0.329	-0.543	MCS0	
5260	52	6.720	0.329	7.049	MCS0	
5300	60	6.562	0.329	6.891	MCS0	
5320	64	6.867	0.329	***7.196***	MCS0	
5500	100	6.306	0.329	6.635	MCS0	
5580	116	6.456	0.329	6.785	MCS0	
5720	144	6.730	0.329	***7.059***	MCS0	
5745	149	-1.834	0.329	***-1.505***	MCS0	30 dBm/500 kHz
5785	157	-2.694	0.329	-2.365	MCS0	
5825	165	-1.870	0.329	-1.541	MCS0	

802.11ac(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	2.601	0.627	***3.228***	MCS0	11 dBm/MHz
5230	46	-0.360	0.627	0.267	MCS0	
5270	54	3.656	0.627	***4.283***	MCS0	
5310	62	0.423	0.627	1.050	MCS0	
5510	102	0.466	0.627	1.093	MCS0	
5550	110	2.408	0.627	3.035	MCS0	
5710	142	3.506	0.627	***4.133***	MCS0	
5755	151	-4.353	0.627	***-3.726***	MCS0	30 dBm/500 kHz
5795	159	-5.575	0.627	-4.948	MCS0	

802.11ac(80 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5210	42	-2.251	1.158	***-1.093***	MCS0	11 dBm/MHz
5290	58	-2.838	1.158	***-1.680***	MCS0	
5530	106	-2.351	1.158	-1.193	MCS0	
5610	122	-1.577	1.158	-0.419	MCS0	
5690	138	-1.203	1.158	***-0.045***	MCS0	
5775	155	-8.712	1.158	***-7.554***	MCS0	30 dBm/500 kHz

[Ant.2] UNII4

802.11a Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Ant Gain [dBi]	E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase Datarate [Mbps]
Frequency [MHz]	Channel No.							
5845	169	1.316	2.237	3.553	-7.70	***-4.147***	14	6M
5865	173	1.076	2.237	3.313	-7.70	-4.387	14	6M
5885	177	0.916	2.237	3.153	-7.70	-4.547	14	6M

802.11n(20MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Ant Gain [dBi]	E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5845	169	0.663	3.134	3.797	-7.70	***-3.903***	14	MCS0
5865	173	0.472	3.134	3.606	-7.70	-4.094	14	MCS0
5885	177	0.591	3.134	3.725	-7.70	-3.975	14	MCS0

802.11n(40MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Ant Gain [dBi]	E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5835	167	-1.225	5.310	4.085	-7.70	***-3.615***	14	MCS0
5875	175	-1.256	5.310	4.054	-7.70	-3.646	14	MCS0

802.11ac(20MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Ant Gain [dBi]	E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5845	169	0.460	3.134	3.594	-7.70	***-4.106***	14	MCS0
5865	173	0.366	3.134	3.500	-7.70	-4.200	14	MCS0
5885	177	0.280	3.134	3.414	-7.70	-4.286	14	MCS0

802.11ac(40MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Ant Gain [dBi]	E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5835	167	-1.219	5.845	4.626	-7.70	***-3.074***	14	MCS0
5875	175	-1.379	5.845	4.466	-7.70	-3.234	14	MCS0

802.11ac(80MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Ant Gain [dBi]	E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5855	171	-4.410	7.252	2.842	-7.70	***-4.858***	14	MCS0

[MIMO] UNII1 ~ 3

802.11a Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm]	Worstcase Datarate [Mbps]	Limit
Frequency [MHz]	Channel No.					
5180	36	6.883	7.438	10.180	6M	11 dBm/MHz
5200	40	6.739	7.658	10.233	6M	
5240	48	-0.842	-0.226	2.487	6M	
5260	52	7.330	7.447	10.399	6M	
5300	60	7.097	7.221	10.170	6M	
5320	64	7.274	7.480	10.389	6M	
5500	100	7.792	7.591	10.703	6M	
5580	116	7.172	7.228	10.211	6M	
5720	144	6.878	7.540	10.232	6M	
5745	149	-1.093	-1.112	1.908	6M	30 dBm/500 kHz
5785	157	-1.184	-1.239	1.799	6M	
5825	165	-1.553	-1.210	1.632	6M	

802.11n(20 MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	6.250	7.086	9.699	MCS0	11 dBm/MHz
5200	40	6.000	7.140	9.618	MCS0	
5240	48	-1.491	-0.543	2.020	MCS0	
5260	52	6.760	6.898	9.840	MCS0	
5300	60	6.541	6.709	9.637	MCS0	
5320	64	6.812	6.991	9.913	MCS0	
5500	100	7.212	6.794	10.019	MCS0	
5580	116	7.158	6.663	9.928	MCS0	
5720	144	6.370	6.981	9.697	MCS0	
5745	149	-1.403	-1.583	1.519	MCS0	30 dBm/500 kHz
5785	157	-1.626	-1.979	1.212	MCS0	
5825	165	-2.205	-1.704	1.063	MCS0	

802.11n(40 MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	2.543	3.400	6.003	MCS0	11 dBm/MHz
5230	46	-0.545	0.131	2.816	MCS0	
5270	54	4.106	4.018	7.072	MCS0	
5310	62	1.180	1.160	4.180	MCS0	
5510	102	1.398	1.444	4.431	MCS0	
5550	110	3.266	3.292	6.289	MCS0	
5710	142	3.196	4.000	6.627	MCS0	
5755	151	-4.094	-3.989	-1.031	MCS0	30 dBm/500 kHz
5795	159	-4.202	-4.825	-1.492	MCS0	

802.11ac(20 MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	6.272	7.075	9.702	MCS0	11 dBm/MHz
5200	40	6.643	7.026	9.849	MCS0	
5240	48	-1.514	-0.543	2.008	MCS0	
5260	52	6.843	7.049	9.957	MCS0	
5300	60	6.871	6.891	9.891	MCS0	
5320	64	6.721	7.196	9.975	MCS0	
5500	100	6.798	6.635	9.727	MCS0	
5580	116	6.922	6.785	9.864	MCS0	
5720	144	6.724	7.059	9.905	MCS0	
5745	149	-1.549	-1.505	1.483	MCS0	30 dBm/500 kHz
5785	157	-1.566	-2.365	1.063	MCS0	
5825	165	-2.171	-1.541	1.165	MCS0	

802.11ac(40 MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	2.701	3.228	5.983	MCS0	11 dBm/MHz
5230	46	-0.438	0.267	2.939	MCS0	
5270	54	3.858	4.283	7.086	MCS0	
5310	62	1.177	1.050	4.124	MCS0	
5510	102	1.239	1.093	4.177	MCS0	
5550	110	3.754	3.035	6.420	MCS0	
5710	142	3.961	4.133	7.058	MCS0	
5755	151	-3.527	-3.726	-0.615	MCS0	30 dBm/500 kHz
5795	159	-4.781	-4.948	-1.853	MCS0	

802.11ac(80 MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5210	42	-1.180	-1.093	1.874	MCS0	11 dBm/MHz
5290	58	-1.505	-1.680	1.419	MCS0	
5530	106	-0.883	-1.193	1.975	MCS0	
5610	122	-0.402	-0.419	2.600	MCS0	
5690	138	-0.113	-0.045	2.931	MCS0	
5775	155	-7.197	-7.554	-4.362	MCS0	30 dBm/500 kHz

[MIMO] UNII4

802.11a Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm]	Ant Gain [dBi]	MIMO Total E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase Datarate [Mbps]
Frequency [MHz]	Channel No.							
5845	169	1.614	1.600	4.617	-3.52	1.097	14	6M
5865	173	0.766	1.360	4.084	-3.52	0.564	14	6M
5885	177	1.293	1.200	4.257	-3.52	0.737	14	6M

802.11n(20MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm]	Ant Gain [dBi]	MIMO Total E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5845	169	0.681	0.993	3.851	-3.52	0.331	14	MCS0
5865	173	0.551	0.802	3.689	-3.52	0.169	14	MCS0
5885	177	0.572	0.921	3.761	-3.52	0.241	14	MCS0

802.11n(40MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm]	Ant Gain [dBi]	MIMO Total E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5865	173	-0.965	-0.595	2.234	-3.52	-1.286	14	MCS0
5885	177	-1.101	-0.626	2.153	-3.52	-1.367	14	MCS0

802.11ac(20MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm]	Ant Gain [dBi]	MIMO Total E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5845	169	0.696	0.789	3.753	-3.52	0.233	14	MCS0
5865	173	0.577	0.695	3.646	-3.52	0.126	14	MCS0
5885	177	0.705	0.609	3.667	-3.52	0.147	14	MCS0

802.11ac(40MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm]	Ant Gain [dBi]	MIMO Total E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5865	173	-0.930	-0.592	2.253	-3.52	-1.267	14	MCS0
5885	177	-1.447	-0.752	1.925	-3.52	-1.595	14	MCS0

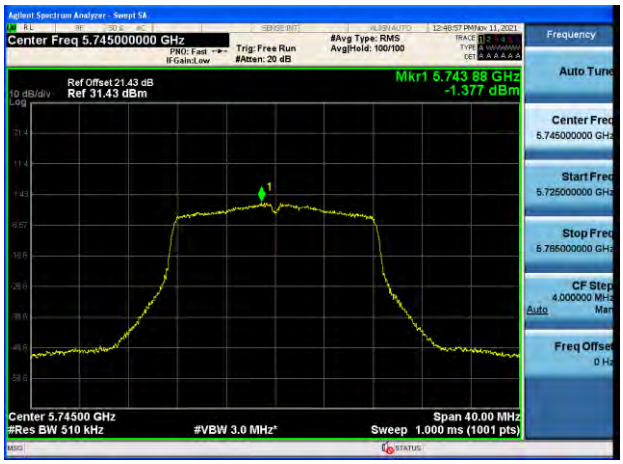
802.11ac(80MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm]	Ant Gain [dBi]	MIMO Total E.I.R.P PSD [dBm/MHz]	Limit [dBm/MHz]	Worstcase MCS Index
Frequency [MHz]	Channel No.							
5855	171	-3.733	-3.252	-0.476	-3.52	-3.996	14	MCS0

[Ant.1]

▣ Test Plots(802.11a)

Note:

In order to simplify the report, attached plots were only channel of highest power.

UNII 1 (Ch. 36)	UNII 2A (Ch. 52)
	
UNII 2C (Ch. 100)	**UNII 3 (Ch. 149)**
	
UNII 4 (Ch. 169)	
	

▣ Test Plots(802.11n(HT20))

Note:

In order to simplify the report, attached plots were only channel of highest power.

UNII 1 (Ch. 36)	UNII 2A (Ch. 64)
	
UNII 2C (Ch. 100)	**UNII 3 (Ch. 149)**
	
UNII 4 (Ch. 169)	
	

▣ Test Plots(802.11n(HT40))

Note:

In order to simplify the report, attached plots were only channel of highest power.

UNII 1 (Ch. 38)	UNII 2A (Ch. 54)
	
UNII 2C (Ch. 110)	**UNII 3 (Ch. 151)**
	
UNII 4 (Ch. 167)	
	

▣ Test Plots(802.11ac(VHT20))

Note:

In order to simplify the report, attached plots were only channel of highest power.

UNII 1 (Ch. 40)	UNII 2A (Ch. 60)
	
UNII 2C (Ch. 116)	**UNII 3 (Ch. 149)**
	
UNII 4 (Ch. 177)	
	

▣ Test Plots(802.11ac(VHT40))

Note:

In order to simplify the report, attached plots were only channel of highest power.

UNII 1 (Ch. 38)	UNII 2A (Ch. 54)
	
UNII 2C (Ch. 142)	**UNII 3 (Ch. 151)**
	
UNII 4 (Ch. 167)	
	

▣ Test Plots(802.11ac(VHT80))

Note:

In order to simplify the report, attached plots were only channel of highest power.

UNII 1 (Ch. 42)	UNII 2A (Ch. 58)
	
UNII 2C (Ch. 138)	**UNII 3 (Ch. 155)**
	
UNII 4 (Ch. 171)	
	

[Ant.2]

▣ Test Plots(802.11a)

Note:

In order to simplify the report, attached plots were only channel of highest power.

UNII 1 (Ch. 40)	UNII 2A (Ch. 64)
	
UNII 2C (Ch. 100)	**UNII 3 (Ch. 149)**
	
UNII 4 (Ch. 169)	
	

▣ Test Plots(802.11n(HT20))

Note:

In order to simplify the report, attached plots were only channel of highest power.

UNII 1 (Ch. 40)	UNII 2A (Ch. 64)
	
UNII 2C (Ch. 144)	**UNII 3 (Ch. 149)**
	
UNII 4 (Ch. 169)	
	

▣ Test Plots(802.11n(HT40))

Note:

In order to simplify the report, attached plots were only channel of highest power.

UNII 1 (Ch. 38)	UNII 2A (Ch. 54)
	
UNII 2C (Ch. 142)	**UNII 3 (Ch. 151)**
	
UNII 4 (Ch. 167)	
	

▣ Test Plots(802.11ac(VHT20))

Note:

In order to simplify the report, attached plots were only channel of highest power.

UNII 1 (Ch. 36)	UNII 2A (Ch. 64)
	
UNII 2C (Ch. 144)	**UNII 3 (Ch. 149)**
	
UNII 4 (Ch. 169)	
	

▣ Test Plots(802.11ac(VHT40))

Note:

In order to simplify the report, attached plots were only channel of highest power.

UNII 1 (Ch. 38)	UNII 2A (Ch. 54)
	
UNII 2C (Ch. 142)	**UNII 3 (Ch. 151)**
	
UNII 4 (Ch. 167)	
	

▣ Test Plots(802.11ac(VHT80))

Note:

In order to simplify the report, attached plots were only channel of highest power.

UNII 1 (Ch. 42)	UNII 2A (Ch. 58)
	
UNII 2C (Ch. 138)	**UNII 3 (Ch. 155)**
	
UNII 4 (Ch. 171)	
	

10.6 FREQUENCY STABILITY.

10.6.1 80 MHz BW

[Ant.1]

Startup after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5210038.96	38.96
100%		-30	5210058.09	58.09
100%		-20	5210054.51	54.51
100%		-10	5210048.09	48.09
100%		0	5210043.31	43.31
100%		+10	5210040.51	40.51
100%		+30	5210041.22	41.22
100%		+40	5210049.56	49.56
100%		+50	5210052.94	52.94
High	4.43	+20	5210056.34	56.34
Low	3.65	+20	5210057.31	57.31

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5290040.27	40.27
100%		-30	5290060.26	60.26
100%		-20	5290056.33	56.33
100%		-10	5290049.34	49.34
100%		0	5290044.51	44.51
100%		+10	5290042.26	42.26
100%		+30	5290043.43	43.43
100%		+40	5290053.43	53.43
100%		+50	5290057.62	57.62
High	4.43	+20	5290058.46	58.46
Low	3.65	+20	5290059.15	59.15

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5530040.69	40.69
100%		-30	5530060.26	60.26
100%		-20	5530057.23	57.23
100%		-10	5530051.22	51.22
100%		0	5530047.69	47.69
100%		+10	5530044.11	44.11
100%		+30	5530044.76	44.76
100%		+40	5530053.00	53.00
100%		+50	5530057.71	57.71
High	4.43	+20	5530059.40	59.40
Low	3.65	+20	5530057.88	57.88

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5775039.72	39.72
100%		-30	5775059.25	59.25
100%		-20	5775056.05	56.05
100%		-10	5775049.35	49.35
100%		0	5775045.86	45.86
100%		+10	5775042.92	42.92
100%		+30	5775041.94	41.94
100%		+40	5775051.08	51.08
100%		+50	5775055.90	55.90
High	4.43	+20	5775058.54	58.54
Low	3.65	+20	5775058.10	58.10

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

2 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5210041.20	41.20
100%		-30	5210060.30	60.30
100%		-20	5210057.54	57.54
100%		-10	5210051.92	51.92
100%		0	5210048.23	48.23
100%		+10	5210044.51	44.51
100%		+30	5210044.98	44.98
100%		+40	5210054.75	54.75
100%		+50	5210058.43	58.43
High	4.43	+20	5210058.88	58.88
Low	3.65	+20	5210060.05	60.05

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5290040.88	40.88
100%		-30	5290060.56	60.56
100%		-20	5290058.07	58.07
100%		-10	5290051.08	51.08
100%		0	5290047.76	47.76
100%		+10	5290043.87	43.87
100%		+30	5290043.69	43.69
100%		+40	5290052.76	52.76
100%		+50	5290057.52	57.52
High	4.43	+20	5290059.64	59.64
Low	3.65	+20	5290060.48	60.48

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5530042.07	42.07
100%		-30	5530061.42	61.42
100%		-20	5530058.98	58.98
100%		-10	5530052.67	52.67
100%		0	5530048.10	48.10
100%		+10	5530045.64	45.64
100%		+30	5530045.45	45.45
100%		+40	5530055.36	55.36
100%		+50	5530059.78	59.78
High	4.43	+20	5530060.49	60.49
Low	3.65	+20	5530059.17	59.17

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5775041.96	41.96
100%		-30	5775061.69	61.69
100%		-20	5775058.11	58.11
100%		-10	5775051.79	51.79
100%		0	5775048.08	48.08
100%		+10	5775045.29	45.29
100%		+30	5775046.05	46.05
100%		+40	5775055.08	55.08
100%		+50	5775060.12	60.12
High	4.43	+20	5775061.00	61.00
Low	3.65	+20	5775061.85	61.85

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

5 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5210043.17	43.17
100%		-30	5210063.76	63.76
100%		-20	5210061.46	61.46
100%		-10	5210055.13	55.13
100%		0	5210050.15	50.15
100%		+10	5210046.66	46.66
100%		+30	5210045.96	45.96
100%		+40	5210056.14	56.14
100%		+50	5210060.68	60.68
High	4.43	+20	5210061.71	61.71
Low	3.65	+20	5210061.32	61.32

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5290042.82	42.82
100%		-30	5290063.30	63.30
100%		-20	5290059.59	59.59
100%		-10	5290053.98	53.98
100%		0	5290050.65	50.65
100%		+10	5290048.38	48.38
100%		+30	5290046.15	46.15
100%		+40	5290054.36	54.36
100%		+50	5290057.83	57.83
High	4.43	+20	5290060.29	60.29
Low	3.65	+20	5290060.20	60.20

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5530043.10	43.10
100%		-30	5530063.55	63.55
100%		-20	5530060.86	60.86
100%		-10	5530054.81	54.81
100%		0	5530050.59	50.59
100%		+10	5530047.00	47.00
100%		+30	5530045.29	45.29
100%		+40	5530055.95	55.95
100%		+50	5530059.07	59.07
High	4.43	+20	5530060.22	60.22
Low	3.65	+20	5530061.08	61.08

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5775043.12	43.12
100%		-30	5775063.30	63.30
100%		-20	5775059.61	59.61
100%		-10	5775053.78	53.78
100%		0	5775050.08	50.08
100%		+10	5775046.17	46.17
100%		+30	5775046.46	46.46
100%		+40	5775055.20	55.2
100%		+50	5775058.70	58.70
High	4.43	+20	5775060.62	60.62
Low	3.65	+20	5775062.87	62.87

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

10 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5210044.38	44.38
100%		-30	5210064.02	64.02
100%		-20	5210061.36	61.36
100%		-10	5210055.98	55.98
100%		0	5210052.32	52.32
100%		+10	5210048.74	48.74
100%		+30	5210047.84	47.84
100%		+40	5210056.49	56.49
100%		+50	5210059.88	59.88
High	4.43	+20	5210061.77	61.77
Low	3.65	+20	5210062.58	62.58

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5290043.65	43.65
100%		-30	5290063.53	63.53
100%		-20	5290061.26	61.26
100%		-10	5290054.59	54.59
100%		0	5290050.98	50.98
100%		+10	5290048.55	48.55
100%		+30	5290046.42	46.42
100%		+40	5290055.99	55.99
100%		+50	5290060.37	60.37
High	4.43	+20	5290062.03	62.03
Low	3.65	+20	5290061.86	61.86

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5530043.39	43.39
100%		-30	5530063.34	63.34
100%		-20	5530059.78	59.78
100%		-10	5530054.37	54.37
100%		0	5530050.94	50.94
100%		+10	5530047.40	47.40
100%		+30	5530045.85	45.85
100%		+40	5530055.67	55.67
100%		+50	5530059.83	59.83
High	4.43	+20	5530061.55	61.55
Low	3.65	+20	5530061.84	61.84

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5775042.75	42.75
100%		-30	5775063.58	63.58
100%		-20	5775060.91	60.91
100%		-10	5775055.06	55.06
100%		0	5775049.97	49.97
100%		+10	5775045.91	45.91
100%		+30	5775045.86	45.86
100%		+40	5775054.21	54.21
100%		+50	5775057.68	57.68
High	4.43	+20	5775060.22	60.22
Low	3.65	+20	5775060.38	60.38

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

[Ant.2]

Startup after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5210038.94	38.94
100%		-30	5210058.76	58.76
100%		-20	5210055.72	55.72
100%		-10	5210049.30	49.30
100%		0	5210044.61	44.61
100%		+10	5210042.20	42.20
100%		+30	5210042.68	42.68
100%		+40	5210052.40	52.40
100%		+50	5210057.32	57.32
High	4.43	+20	5210057.86	57.86
Low	3.65	+20	5210056.64	56.64

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5290039.46	39.46
100%		-30	5290059.34	59.34
100%		-20	5290056.89	56.89
100%		-10	5290050.54	50.54
100%		0	5290047.40	47.40
100%		+10	5290043.31	43.31
100%		+30	5290042.55	42.55
100%		+40	5290050.96	50.96
100%		+50	5290056.17	56.17
High	4.43	+20	5290058.67	58.67
Low	3.65	+20	5290058.53	58.53

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5530040.21	40.21
100%		-30	5530060.14	60.14
100%		-20	5530056.35	56.35
100%		-10	5530050.39	50.39
100%		0	5530045.91	45.91
100%		+10	5530042.26	42.26
100%		+30	5530043.19	43.19
100%		+40	5530052.85	52.85
100%		+50	5530056.78	56.78
High	4.43	+20	5530058.14	58.14
Low	3.65	+20	5530059.95	59.95

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5775040.85	40.85
100%		-30	5775061.41	61.41
100%		-20	5775058.25	58.25
100%		-10	5775052.25	52.25
100%		0	5775048.33	48.33
100%		+10	5775045.52	45.52
100%		+30	5775043.91	43.91
100%		+40	5775054.30	54.30
100%		+50	5775059.87	59.87
High	4.43	+20	5775060.42	60.42
Low	3.65	+20	5775059.59	59.59

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

2 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5210041.22	41.22
100%		-30	5210060.74	60.74
100%		-20	5210057.53	57.53
100%		-10	5210052.19	52.19
100%		0	5210048.77	48.77
100%		+10	5210045.51	45.51
100%		+30	5210045.02	45.02
100%		+40	5210052.73	52.73
100%		+50	5210056.92	56.92
High	4.43	+20	5210059.41	59.41
Low	3.65	+20	5210058.18	58.18

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5290042.09	42.09
100%		-30	5290061.09	61.09
100%		-20	5290057.95	57.95
100%		-10	5290052.30	52.30
100%		0	5290047.51	47.51
100%		+10	5290043.51	43.51
100%		+30	5290045.30	45.30
100%		+40	5290055.86	55.86
100%		+50	5290059.09	59.09
High	4.43	+20	5290059.32	59.32
Low	3.65	+20	5290061.01	61.01

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5530041.63	41.63
100%		-30	5530060.72	60.72
100%		-20	5530058.31	58.31
100%		-10	5530052.56	52.56
100%		0	5530049.24	49.24
100%		+10	5530045.16	45.16
100%		+30	5530044.19	44.19
100%		+40	5530053.05	53.05
100%		+50	5530056.18	56.18
High	4.43	+20	5530058.76	58.76
Low	3.65	+20	5530058.88	58.88

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5775042.28	42.28
100%		-30	5775062.85	62.85
100%		-20	5775060.66	60.66
100%		-10	5775054.95	54.95
100%		0	5775051.48	51.48
100%		+10	5775047.54	47.54
100%		+30	5775044.50	44.50
100%		+40	5775053.71	53.71
100%		+50	5775058.05	58.05
High	4.43	+20	5775060.62	60.62
Low	3.65	+20	5775060.48	60.48

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

5 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5210043.51	43.51
100%		-30	5210063.71	63.71
100%		-20	5210060.85	60.85
100%		-10	5210054.64	54.64
100%		0	5210050.82	50.82
100%		+10	5210048.10	48.10
100%		+30	5210047.52	47.52
100%		+40	5210056.28	56.28
100%		+50	5210062.25	62.25
High	4.43	+20	5210063.48	63.48
Low	3.65	+20	5210062.99	62.99

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5290042.91	42.91
100%		-30	5290062.86	62.86
100%		-20	5290058.98	58.98
100%		-10	5290051.96	51.96
100%		0	5290047.42	47.42
100%		+10	5290044.37	44.37
100%		+30	5290045.98	45.98
100%		+40	5290054.87	54.87
100%		+50	5290059.17	59.17
High	4.43	+20	5290061.21	61.21
Low	3.65	+20	5290062.19	62.19

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5530043.23	43.23
100%		-30	5530062.24	62.24
100%		-20	5530058.28	58.28
100%		-10	5530051.83	51.83
100%		0	5530048.25	48.25
100%		+10	5530045.90	45.90
100%		+30	5530047.25	47.25
100%		+40	5530055.40	55.40
100%		+50	5530058.89	58.89
High	4.43	+20	5530060.72	60.72
Low	3.65	+20	5530060.38	60.38

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5775042.84	42.84
100%		-30	5775061.94	61.94
100%		-20	5775058.03	58.03
100%		-10	5775052.69	52.69
100%		0	5775048.93	48.93
100%		+10	5775046.06	46.06
100%		+30	5775045.16	45.16
100%		+40	5775053.91	53.91
100%		+50	5775057.86	57.86
High	4.43	+20	5775060.79	60.79
Low	3.65	+20	5775062.16	62.16

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

10 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5210043.02	43.02
100%		-30	5210063.85	63.85
100%		-20	5210061.42	61.42
100%		-10	5210056.19	56.19
100%		0	5210051.18	51.18
100%		+10	5210048.23	48.23
100%		+30	5210046.41	46.41
100%		+40	5210056.63	56.63
100%		+50	5210062.50	62.50
High	4.43	+20	5210062.89	62.89
Low	3.65	+20	5210061.41	61.41

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5290043.37	43.37
100%		-30	5290062.90	62.90
100%		-20	5290058.83	58.83
100%		-10	5290052.37	52.37
100%		0	5290048.46	48.46
100%		+10	5290045.93	45.93
100%		+30	5290046.38	46.38
100%		+40	5290055.89	55.89
100%		+50	5290061.17	61.17
High	4.43	+20	5290062.65	62.65
Low	3.65	+20	5290060.34	60.34

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5530044.19	44.19
100%		-30	5530064.55	64.55
100%		-20	5530061.08	61.08
100%		-10	5530054.11	54.11
100%		0	5530050.32	50.32
100%		+10	5530047.39	47.39
100%		+30	5530048.27	48.27
100%		+40	5530057.61	57.61
100%		+50	5530061.81	61.81
High	4.43	+20	5530062.39	62.39
Low	3.65	+20	5530061.40	61.40

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.86 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.86	+20(Ref)	5775043.87	43.87
100%		-30	5775064.37	64.37
100%		-20	5775060.52	60.52
100%		-10	5775053.50	53.50
100%		0	5775049.91	49.91
100%		+10	5775047.68	47.68
100%		+30	5775047.34	47.34
100%		+40	5775056.44	56.44
100%		+50	5775061.68	61.68
High	4.43	+20	5775063.11	63.11
Low	3.65	+20	5775061.55	61.55

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

10.7 STRADDLE CHANNEL

10.7.1 26 dB Bandwidth

[U-NII 2C & 3]

[Ant.1]

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11a	UNII 2C	5720	144	5710.88	14.12
802.11n(HT20)				5710.36	14.64
802.11ac(VHT20)				5710.36	14.64
802.11a	UNII 3	5720	144	5729.16	4.16
802.11n(HT20)				5729.64	4.64
802.11ac(VHT20)				5729.76	4.76

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11n(HT40)	UNII 2C	5710	142	5690.64	34.36
802.11ac(VHT40)				5690.72	34.28
802.11n(HT40)	UNII 3	5710	142	5729.68	4.68
802.11ac(VHT40)				5729.60	4.60

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11ac(VHT80)	UNII 2C	5690	138	5650.16	74.84
	UNII 3	5690	138	5730.16	5.16

Note:

[UNII 2C] 26 dB Bandwidth = 5 725 MHz - Measured Frequency[MHz]

[UNII 3C] 26 dB Bandwidth = Measured Frequency[MHz] – 5 725 MHz

[Ant.2]

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11a	UNII 2C	5720	144	5710.80	14.20
802.11n(HT20)				5710.08	14.92
802.11ac(VHT20)				5710.40	14.60
802.11a	UNII 3	5720	144	5729.48	4.48
802.11n(HT20)				5729.84	4.84
802.11ac(VHT20)				5729.72	4.72

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11n(HT40)	UNII 2C	5710	142	5690.40	34.60
802.11ac(VHT40)				5690.80	34.20
802.11n(HT40)	UNII 3	5710	142	5729.60	4.60
802.11ac(VHT40)				5729.44	4.44

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11ac(VHT80)	UNII 2C	5690	138	5649.84	75.16
	UNII 3	5690	138	5730.16	5.16

Note:

[UNII 2C] 26 dB Bandwidth = 5 725 MHz - Measured Frequency[MHz]

[UNII 3C] 26 dB Bandwidth = Measured Frequency[MHz] – 5 725 MHz

[Ant.1]

▣ Test Plots (26 dB Bandwidth)

802.11a UNII Band	802.11n(HT20) UNII Band
	

802.11ac(VHT20) UNII Band


▣ Test Plots (26 dB Bandwidth)

802.11n(HT40) UNII Band	802.11ac(VHT40) UNII Band
	

802.11ac(VHT80) UNII Band


[Ant.2]

▣ Test Plots (26 dB Bandwidth)

802.11a UNII Band	802.11n(HT20) UNII Band
	

802.11ac(VHT20) UNII Band


▣ Test Plots (26 dB Bandwidth)

802.11n(HT40) UNII Band	802.11ac(VHT40) UNII Band
	

802.11ac(VHT80) UNII Band


10.7.2 6 dB Bandwidth

[Ant.1]

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
802.11a	UNII 3	5720	144	5728.16	3.16	> 0.5
802.11n(HT20)				5727.92	2.92	> 0.5
802.11ac(VHT20)				5728.00	3.00	> 0.5

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
802.11n(HT40)	UNII 3	5710	142	5727.60	2.60	> 0.5
802.11ac(VHT40)				5727.52	2.52	> 0.5

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
802.11ac(VHT80)	UNII 3	5690	138	5727.60	2.60	> 0.5

Note:

6 dB Bandwidth = Measured Frequency[MHz] – 5 725MHz

[Ant.2]

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
802.11a	UNII 3	5720	144	5727.76	2.76	> 0.5
802.11n(HT20)				5727.96	2.96	> 0.5
802.11ac(VHT20)				5728.48	3.48	> 0.5

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
802.11n(HT40)	UNII 3	5710	142	5727.60	2.60	> 0.5
802.11ac(VHT40)				5727.60	2.60	> 0.5

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
802.11ac(VHT80)	UNII 3	5690	138	5727.60	2.60	> 0.5

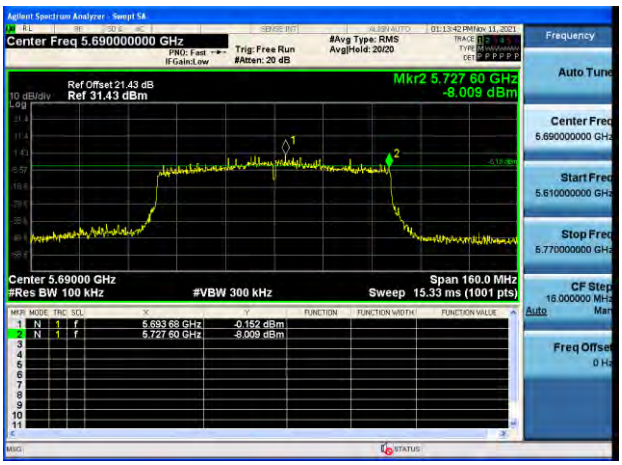
Note:

6 dB Bandwidth = Measured Frequency[MHz] – 5725MHz

[Ant.1]

▣ Test Plots(UNII 3 Band 6 dB Bandwidth)

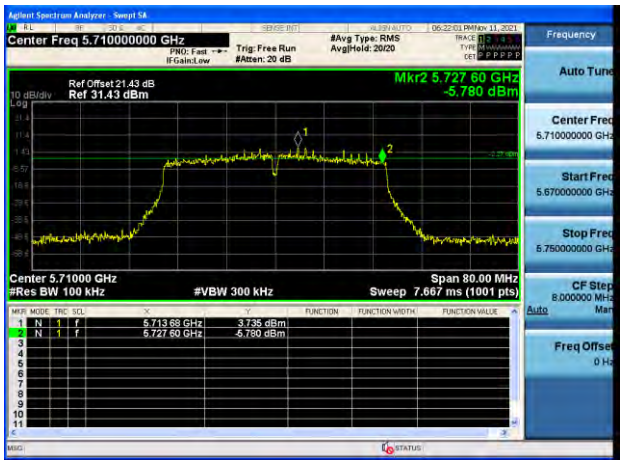
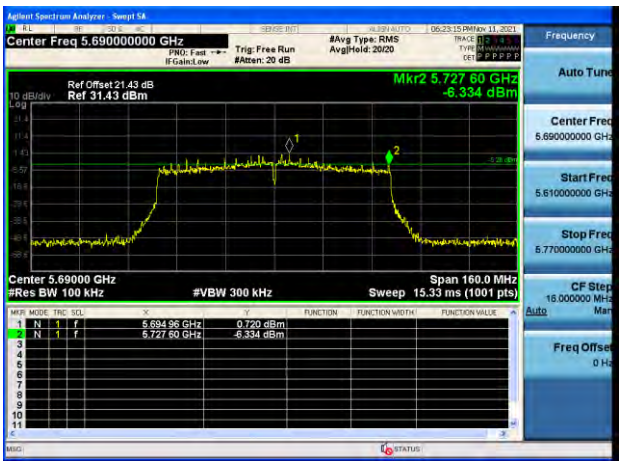
802.11a CH.144	802.11n_HT20 CH.144
	
802.11ac_VHT20 CH.144	
	

802.11n_HT40 CH.142	802.11ac_VHT40 CH.142
	
802.11ac_VHT80 CH.138	
	

[Ant.2]

▣ Test Plots(UNII 3 Band 6 dB Bandwidth)

802.11a CH.144	802.11n_HT20 CH.144
	
802.11ac_VHT20 CH.144	
	

802.11n_HT40 CH.142	802.11ac_VHT40 CH.142
	
802.11ac_VHT80 CH.138	
	

10.7.3 Output Power

[UNII 2C & 3]

[Ant.1]

Mode	Frequency [MHz]	Channel	Measured Power (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	Limit (dBm)	Worstcase Datarate
802.11a	5720 (UNII 2C Band)	144	15.82	0.284	16.11	22.50	6 Mbps
802.11n(HT20)			15.25	0.330	15.58	22.66	MCS0
802.11ac(VHT20)			15.27	0.329	15.60	22.66	MCS0
802.11a	5720 (UNII 3 Band)	144	8.03	0.284	8.31	30.00	6 Mbps
802.11n(HT20)			7.89	0.330	8.22	30.00	MCS0
802.11ac(VHT20)			7.89	0.329	8.22	30.00	MCS0

Mode	Frequency [MHz]	Channel	Measured Power (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	Limit (dBm)	Worstcase Datarate
802.11n(HT40)	5710 (UNII 2C Band)	142	15.76	0.630	16.39	23.98	MCS0
802.11ac(VHT40)			15.59	0.627	16.21	23.98	MCS0
802.11n(HT40)	5710 (UNII 3 Band)	142	3.49	0.630	4.12	30.00	MCS0
802.11ac(VHT40)			3.50	0.627	4.13	30.00	MCS0

Mode	Frequency [MHz]	Channel	Measured Power (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	Limit (dBm)	Worstcase Datarate
802.11ac(VHT80)	5690 (UNII 2C Band)	138	13.64	1.158	14.80	23.98	MCS0
	5690 (UNII 3 Band)	138	-2.07	1.158	-0.91	30.00	MCS0

[Ant.2]

Mode	Frequency [MHz]	Channel	Measured Power (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	Limit (dBm)	Worstcase Datarate
802.11a	5720 (UNII 2C Band)	144	16.00	0.284	16.29	22.52	6 Mbps
802.11n(HT20)			15.49	0.330	15.82	22.74	MCS0
802.11ac(VHT20)			15.52	0.329	15.85	22.64	MCS0
802.11a	5720 (UNII 3 Band)	144	8.24	0.284	8.52	30.00	6 Mbps
802.11n(HT20)			8.19	0.330	8.52	30.00	MCS0
802.11ac(VHT20)			8.16	0.329	8.48	30.00	MCS0

Mode	Frequency [MHz]	Channel	Measured Power (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	Limit (dBm)	Worstcase Datarate
802.11n(HT40)	5710 (UNII 2C Band)	142	15.79	0.630	16.42	15.79	MCS0
802.11ac(VHT40)			15.70	0.627	16.33	15.70	MCS0
802.11n(HT40)	5710 (UNII 3 Band)	142	3.75	0.630	4.38	3.75	MCS0
802.11ac(VHT40)			3.72	0.627	4.35	3.72	MCS0

Mode	Frequency [MHz]	Channel	Measured Power (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	Limit (dBm)	Worstcase Datarate
802.11ac(VHT80)	5690 (UNII 2C Band)	138	13.57	1.158	14.73	23.98	MCS0
	5690 (UNII 3 Band)	138	-1.95	1.158	-0.79	30.00	MCS0

[Ant.1]

▣ Test Plots_

802.11a UNII 2C Band	802.11a UNII 3 Band
	
802.11n(HT20) UNII 2C Band	**802.11n(HT20) UNII 3 Band**
	
802.11ac(VHT20) UNII 2C Band	**802.11ac(VHT20) UNII 3 Band**