

TEST REPORT

FCC UNII Test for SM-X520
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2502-FC066

DATE OF ISSUE
February 20, 2025

Tested by
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Applicant	SAMSUNG Electronics Co., Ltd. 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
Product Name Model Name	Tablet SM-X520
FCC ID	A3LSMX520
Date of Test	December 23, 2024 ~ February 13, 2025
FCC Classification	Unlicensed National Information Infrastructure(NII)
Test Standard Used	FCC Rule Part(s): Part 15.407
Test Results	PASS
Location of Test	☒ Permanent Testing Lab ☐ On Site Testing Lab (Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	February 20, 2025	Initial Release

Notice

Content

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.

The laboratory is not accredited for the test results marked *.

Information provided by the applicant is marked **.

Test results provided by external providers are marked ***.

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

Data referencing : UNII Report (FCC ID: A3LSMX528U, Report No. HCT-RF-2502-FC032)

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1. GENERAL INFORMATION

EUT DESCRIPTION

Model	SM-X520	
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	
Antenna Specification	Type: Metal	
Serial number	Conducted : R32XC00A7QD Radiated : R32XC00A53E	

ANTENNA CONFIGURATIONS

1. Antenna configuration

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

Note:

- (1) O = Support, X = Not Support
- (2) SISO = Single Input Single Output
- (3) SDM = Spatial Diversity Multiplexing
- (4) CDD = Cyclic Delay Diversity

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.

Simultaneous transmission Scenario	5 GHz WiFi Ant.1	5 GHz WiFi Ant.2	BT	Test Case
Bluetooth + 5 GHz WiFi MIMO	on	on	on	Scenario1

2. Directional Gain Calculation

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

$$\text{Directional Gain(CDD)} = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$$

$$\text{Directional gain(SDM)} = G_{\max} + 10 \cdot \text{LOG}(N_{ANT} / N_{SS})$$

Band	Ant Gain (dBi)		N _{ANT} / N _{SS}	Directional Gain (dBi)	
	ANT1	ANT2		CDD	SDM
UNII 1	-6.40	-8.00	2 / 2	-4.15	-6.40
UNII 2A	-6.60	-7.50		-4.03	-6.60
UNII 2C	-7.40	-5.20		-3.22	-5.20
UNII 3	-7.10	-5.80		-3.42	-5.80
UNII 4	-7.60	-5.90		-3.70	-5.90

Note

According to ANSI C63.10-2013 section 14.4.3, the directional gain is calculated using the formula, where GN is the gain of the nth antenna and NANT is the total number of antennas used.

$$\text{Directional gain(CDD)} = 10 \cdot \log \left(\left(10^{(\text{ANT1 Gain}/20)} + 10^{(\text{ANT2 Gain}/20)} \right)^2 / 2 \right) \text{ dBi}$$

$$\text{Directional gain(SDM)} = G_{\max} + 10 \cdot \text{LOG}(N_{ANT} / N_{SS})$$

Sample Calculation (Conducted Power, MIMO):

Ex) ANT1 : 11.58 dBm ANT2 : 12.08 dBm

$$\text{ANT1} + \text{ANT 2} = \text{MIMO}$$

$$(11.58 \text{ dBm} + 12.08 \text{ dBm}) = (14.387 \text{ mW} + 16.143 \text{ mW}) = 30.53 \text{ mW} = 14.88 \text{ dBm}$$

Sample Calculation (E.I.R.P & E.I.R.P Spectral Density, MIMO):

Ex) ANT1 : 15.35 dBm , ANT2 : 15.12 dBm, Directional Gain : 3 dBi

$$\text{Conducted Power} = (15.35 \text{ dBm} + 15.12 \text{ dBm}) = (34.276 \text{ mW} + 32.508 \text{ mW}) = 66.784 \text{ mW} = 18.25 \text{ dBm}$$

$$\text{E.I.R.P} = 18.25 \text{ dBm} + 3 \text{ dBi} = 21.25 \text{ dBm}$$

2. MAXIMUM OUTPUT POWER

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

Band	Mode	MIMO (Ant.1+ Ant.2)					
		Ant.1 Power		Ant.2 Power		Ant.1 + Ant.2 Power	
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)
UNII1	802.11a	11.85	0.015	12.20	0.017	15.04	0.032
	802.11n (HT20)	11.34	0.014	12.30	0.017	14.86	0.031
	802.11n (HT40)	10.97	0.012	10.80	0.012	13.89	0.025
	802.11ac (VHT20)	11.29	0.013	11.76	0.015	14.54	0.028
	802.11ac (VHT40)	11.03	0.013	10.84	0.012	13.94	0.025
	802.11ac (VHT80)	9.11	0.008	8.74	0.007	11.93	0.016
UNII2A	802.11a	14.60	0.029	14.85	0.031	17.74	0.059
	802.11n (HT20)	13.98	0.025	14.93	0.031	17.49	0.056
	802.11n (HT40)	12.64	0.018	12.90	0.019	15.78	0.038
	802.11ac (VHT20)	13.93	0.025	14.18	0.026	17.07	0.051
	802.11ac (VHT40)	12.75	0.019	12.89	0.019	15.83	0.038
	802.11ac (VHT80)	11.36	0.014	10.99	0.013	14.19	0.026
UNII2C	802.11a	16.12	0.041	16.33	0.043	19.23	0.084
	802.11n (HT20)	14.78	0.030	15.34	0.034	18.08	0.064
	802.11n (HT40)	12.92	0.020	12.86	0.019	15.90	0.039
	802.11ac (VHT20)	14.81	0.030	14.76	0.030	17.80	0.060
	802.11ac (VHT40)	13.05	0.020	12.90	0.019	15.99	0.040
	802.11ac (VHT80)	12.16	0.016	12.11	0.016	15.15	0.033
UNII3	802.11a	16.46	0.044	16.48	0.044	19.48	0.089
	802.11n (HT20)	15.10	0.032	15.67	0.037	18.40	0.069
	802.11n (HT40)	13.13	0.021	13.21	0.021	16.18	0.041
	802.11ac (VHT20)	15.09	0.032	15.31	0.034	18.21	0.066
	802.11ac (VHT40)	13.30	0.021	13.22	0.021	16.27	0.042
	802.11ac (VHT80)	12.30	0.017	12.22	0.017	15.27	0.034
UNII4 (Conducted For inf.)	802.11a	16.26	0.042	16.40	0.044	19.34	0.086
	802.11n (HT20)	14.34	0.027	15.83	0.038	18.16	0.065
	802.11n (HT40)	13.46	0.022	13.30	0.021	16.39	0.044
	802.11ac (VHT20)	14.54	0.028	15.43	0.035	18.01	0.063
	802.11ac (VHT40)	13.55	0.023	13.43	0.022	16.50	0.045
	802.11ac (VHT80)	12.12	0.016	11.64	0.015	14.89	0.031

Band	Mode	MIMO(Ant.1+ Ant.2) (EIRP)											
		Ant.1 Power				Ant.2 Power				(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 (EIRP)	802.11a	16.26	-7.60	8.66	0.007	16.40	-5.90	10.50	0.011	19.34	-3.70	15.64	0.037
	802.11n (HT20)	14.34	-7.60	6.74	0.005	15.83	-5.90	9.93	0.010	18.16	-3.70	14.46	0.028
	802.11n (HT40)	13.46	-7.60	5.86	0.004	13.30	-5.90	7.40	0.005	16.39	-3.70	12.69	0.019
	802.11ac (VHT20)	14.54	-7.60	6.94	0.005	15.43	-5.90	9.53	0.009	18.01	-3.70	14.31	0.027
	802.11ac (VHT40)	13.55	-7.60	5.95	0.004	13.43	-5.90	7.53	0.006	16.50	-3.70	12.80	0.019
	802.11ac (VHT80)	12.12	-7.60	4.52	0.003	11.64	-5.90	5.74	0.004	14.89	-3.70	11.19	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 D02 EMC Measurement v01

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 Measurement Type or 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 March 11, 2024 (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 Measurement Typeors 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.

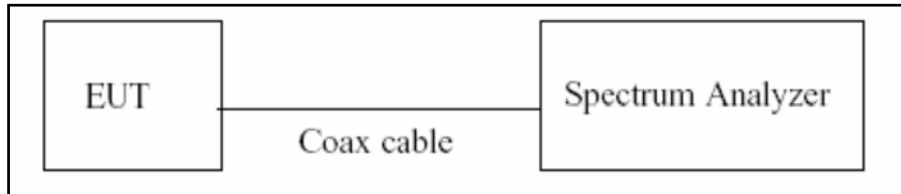
Parameter	Expanded Uncertainty ($\pm$ kHz)
X dB, 99% Bandwidth	95 (Confidence level about 95 %, $k=2$)
Frequency stability	28 (Confidence level about 95 %, $k=2$)

Parameter	Expanded Uncertainty ($\pm$ dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.98 (Confidence level about 95 %, $k=2$)
Conducted Output Power(Power Meter)	0.54 (Confidence level about 95 %, $k=2$)
Conducted Output Power(Signal Analyzer)	0.68 (Confidence level about 95 %, $k=2$)
Power Spectral Density	1.03 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.36 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.70 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.52 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.66 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (Above 40 GHz)	5.58 (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.

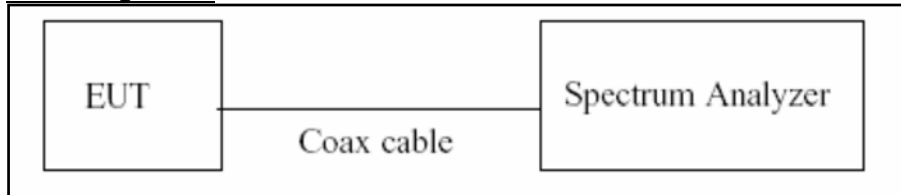
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz ($\geq$ RBW)
3. SPAN = 0 Hz
4. Measurement Type or = Peak
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = $T_{\text{on}} / T_{\text{total}}$ and Duty Cycle Factor = $10\log(1/\text{Duty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

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 $\geq 3 \times$ 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 level 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.

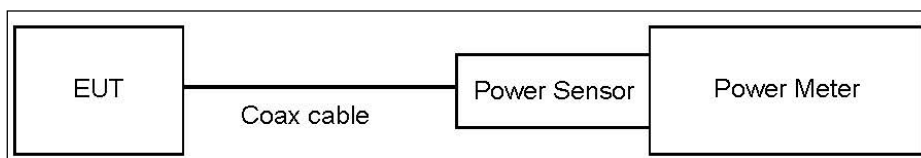
8.3. Output Power Measurement

Limit

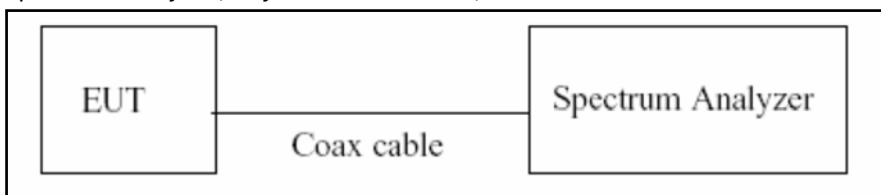
Band	Limit
UNII 1	- Master : Not exceed 1 W(=30 dBm) - Slave : Not exceed 250 mW(=23.98 dBm)
UNII 2A, 2C	Not exceed the lesser of 250 mW or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)
UNII 3	Not exceed 1 W(=30 dBm)
UNII 4	EIRP 30 dBm

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 $\geq$ 3 MHz.
5. Number of points in sweep $\geq 2 \times \text{span/RBW}$.
6. Sweep time = auto.
7. Measurement Type or = 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 $10\log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Sample Calculation

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

Note

1. Spectrum Measured Values are not plot data.

The power results in plot is already including the actual values of loss for the attenuator and cable combination.

2. Actual value of loss for the attenuator and cable combination is below table.

Band	Loss(dB)
UNII 1	11.35
UNII 2A	11.35
UNII 2C	11.35
UNII 3&4	11.35

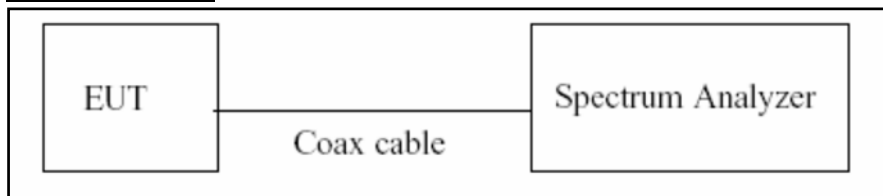
(Actual value of loss for the attenuator and cable combination)

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
3. VBW $\geq$ 3 MHz
4. Number of points in sweep $\geq$ 2 x span/RBW.
5. Sweep time = auto.
6. Measurement Typeor = RMS(i.e., power averaging), if available. Otherwise, use sample Measurement Typeor 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 Value(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. Actual value of loss for the attenuator and cable combination is below table.

Band	Loss(dB)
UNII 1	11.35
UNII 2A	11.35
UNII 2C	11.35
UNII 3&4	11.35

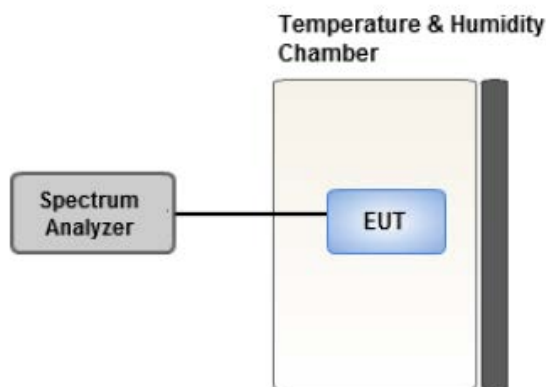
(Actual value of loss for the attenuator and cable combination)

8.5. Frequency Stability

Limit

Maintained within the band

Test Configuration



Test Procedure

1. The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -30 °C and 50 °C.
2. The temperature was incremented by 10 °C intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.
3. The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.
4. While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.

8.6. 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 μ H/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Limits (dB μ V)	
	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. Measurement Typeors : Quasi Peak and Average Measurement Typeor.

Sample Calculation

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

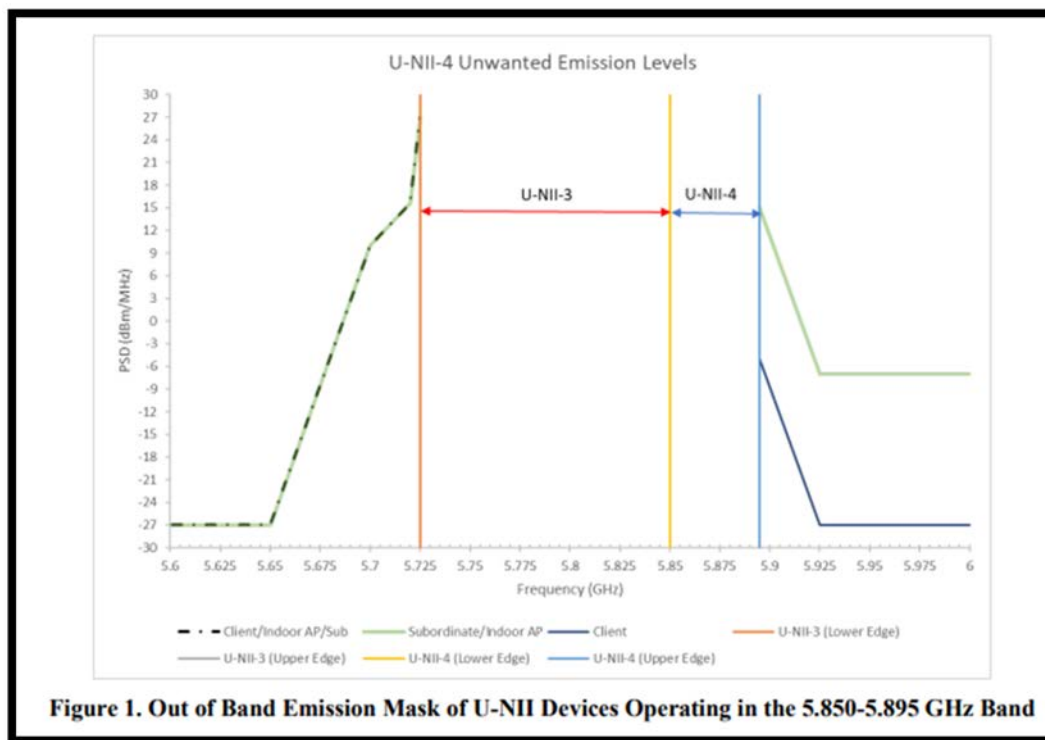
8.7. Radiated Test

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 a 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.

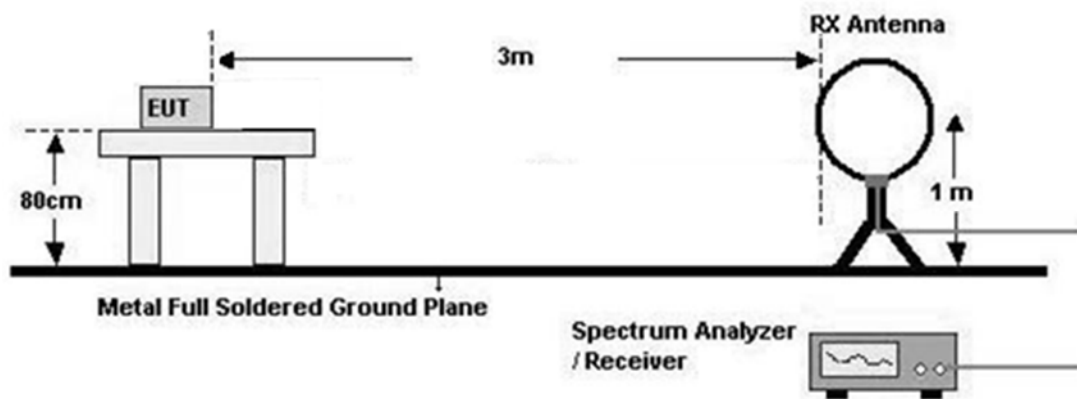


5. All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Section 15.209.

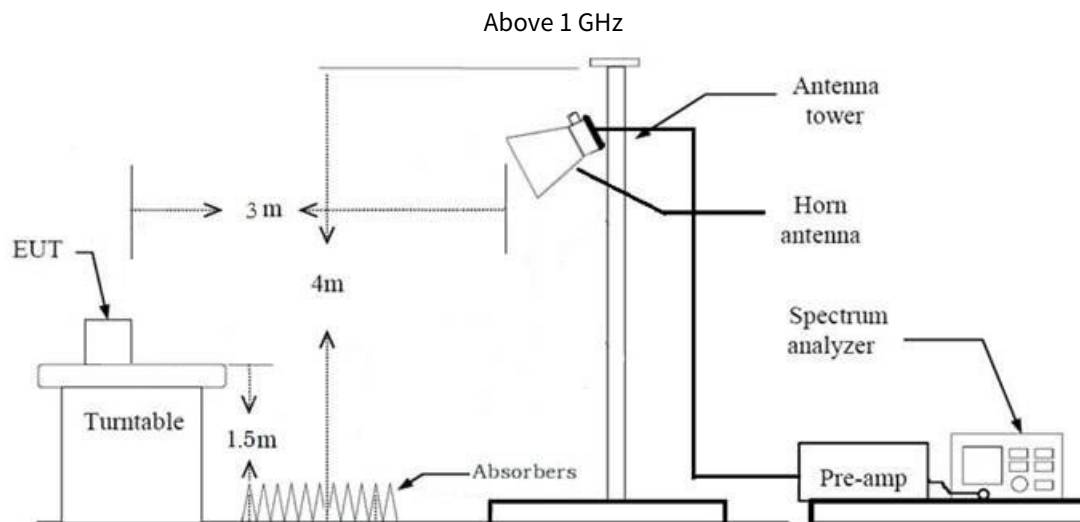
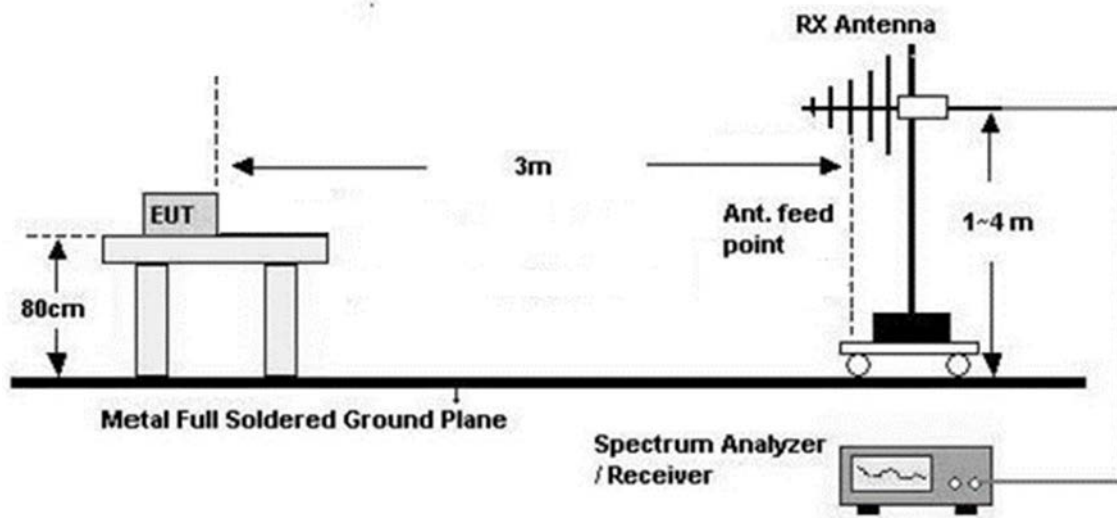
Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 – 0.490	$2400/F(\text{kHz})$	300
0.490 – 1.705	$24000/F(\text{kHz})$	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

Below 30 MHz



30 MHz - 1 GHz



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 0.8m 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) = $40\log(3 \text{ m}/300 \text{ m}) = - 80 \text{ dB}$
Measurement Distance : 3 m
7. Distance Correction Factor(0.490 MHz – 30 MHz) = $40\log(3 \text{ m}/30 \text{ m}) = - 40 \text{ dB}$

Measurement Distance : 3 m

8. Spectrum Setting

- Frequency Range = 9 kHz ~ 30 MHz
- Detector = Peak
- Trace = Max Hold
- RBW = 9 kHz
- VBW $\geq 3 \times$ RBW

9.Total = Measured Value + 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 0.8m 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 = Max Hold
- RBW = 100 kHz
- VBW $\geq 3 \times$ 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 Value + 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 $\geq$ 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 $\geq$ 98 percent) = VBW $\leq$ RBW/100(i.e., 10 kHz) but not less than 10 Hz.
- VBW(Duty cycle is < 98 percent) = VBW $\geq$ $1/T$, 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 percent duty cycle. For lower duty cycles, increase the minimum 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 = $20\log(\text{test distance} / \text{specific distance})$ (dB)
12. Total = Measured Value + 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 $\geq$ 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 $\geq$ 98 percent) = $\text{VBW} \leq \text{RBW}/100$ (i.e., 10 kHz) but not less than 10 Hz.
- VBW(Duty cycle is < 98 percent) = $\text{VBW} \geq 1/T$, 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 percent duty cycle. For lower duty cycles, increase the minimum 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 = $20\log(\text{test distance} / \text{specific distance})$ (dB)

11. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G) + Attenuator(ATT)
+ Distance Factor(D.F)

The actual setting value of VBW(SISO)

Mode	Worst Data rate (Mbps)	Duty Cycle	Duty Cycle Factor (dB)	The actual setting value of VBW (Hz)
802.11a	6	0.940	0.270	1 000
802.11n(HT20)	MCS0	0.937	0.283	1 000
802.11n(HT40)	MCS0	0.870	0.604	3 000
802.11ac(VHT20)	MCS0	0.931	0.308	1 000
802.11ac(VHT40)	MCS0	0.871	0.600	3 000
802.11ac(VHT80)	MCS0	0.771	1.127	5 000

The actual setting value of VBW(MIMO(Ant.1+ Ant.2))

Mode	Worst Data rate (Mbps)	Duty Cycle	Duty Cycle Factor (dB)	The actual setting value of VBW (Hz)
802.11a	6	0.940	0.270	1 000
802.11n(HT20)	MCS8	0.875	0.581	2 000
802.11n(HT40)	MCS8	0.783	1.062	5 000
802.11ac(VHT20)	MCS0	0.885	0.528	2 000
802.11ac(VHT40)	MCS0	0.784	1.057	5 000
802.11ac(VHT80)	MCS0	0.662	1.792	10 000

8.8. Worst case configuration and mode

Conducted test

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

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, etc)
 - Worstcase : Stand alone
2. All Antenna of operation were investigated and the worst case results are reported
 - Mode : SISO(Ant.2), MIMO_CDD(Ant.1+Ant.2), MIMO_SDM(Ant.1+Ant.2)
 - Worstcase : MIMO_CDD(Ant.1+Ant.2)
3. EUT Axis
 - Radiated Spurious Emissions : X
 - Radiated Restricted Band Edge : Z
4. All datarate of operation were investigated and the worst case datarate results are reported.
 - 802.11a : 6 Mbps [SISO(Ant.2), MIMO_CDD(Ant.1+Ant.2)]
 - 802.11n: MCS 0 [SISO(Ant.2)], MCS 8 [MIMO_SDM(Ant.1+Ant.2)]
 - 802.11ac: MCS 0 [SISO(Ant.2), MIMO_SDM(Ant.1+Ant.2)]
5. Radiated Spurious Emission
 - All modulation of operation were investigated and the worst case modulation results are reported.
 - 802.11a : 6 Mbps [SISO(Ant.2), MIMO_CDD(Ant.1+Ant.2)]
 - 802.11n: MCS 0 [SISO(Ant.2)], MCS 8 [MIMO_SDM(Ant.1+Ant.2)]
 - 802.11ac: MCS 0 [SISO(Ant.2), MIMO_SDM(Ant.1+Ant.2)]
 - Worst-case : 802.11a : 6 Mbps [MIMO_CDD(Ant.1+Ant.2)]
6. 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(Simultaneous transmission Scenario)

1. Please refer to the [BT], [UNII ax] Test Report.

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

9. SUMMARY OF TEST RESULTS & DATA REFERENCING

9.1. Test result

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)(3)(iii)	< EIRP 30dBm (5850-5895 MHz)		PASS
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
Frequency Stability	§ 15.407(g) § 2.1055	Maintained within the band		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

9.2. Data Referencing

Equipment Class	Rule Part	Test item	Data Referencing	Comments
NII	§ 15.407 (for Power)	26 dB Bandwidth	Y	-
	15.407(e)	6 dB Bandwidth	Y	-
	§ 15.407(a)(1),(2),(3)	Maximum Conducted output power	Y	Spot-check
	§ 15.407(a)(3)(iii)	Maximum EIRP Output Power	Y	-
	§ 15.407(a)(1),(2),(3)	Maximum Power Spectral Density	Y	-
	15.207 15.407(b)(8)	AC conducted Emission	Y	Spot-check
	§ 15.407(g) § 2.1055	Frequency Stability	Y	-
	§ 15.407(b) (1),(2),(3),(4) § 15.407(b)(5)(ii),(iii) § 15.35(b)	Undesirable Emissions	Y	Spot-check
	15.205, 15.407(b)(9),(10)	General Field Strength (Restricted bands and Radiated emission)	Y	Spot-check
	15.407(h)	DFS	Y	-

Spot-Check Result

1. Data was leveraged from model SM-X528U for the certification of SM-X520.
2. Please refer to the [FCC Evaluation] Report.

10. TEST RESULT

10.1 DUTY CYCLE

[SISO]

Mode	Data Rate	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11a	6M	1.428	1.519	0.940	0.270
802.11n(HT20)	MCS0	1.336	1.427	0.937	0.283
802.11n(HT40)	MCS0	0.664	0.763	0.870	0.604
802.11ac(VHT20)	MCS0	1.344	1.443	0.931	0.308
802.11ac(VHT40)	MCS0	0.668	0.767	0.871	0.600
802.11ac(VHT80)	MCS0	0.332	0.431	0.771	1.127

[MIMO (Ant.1+ Ant.2)]

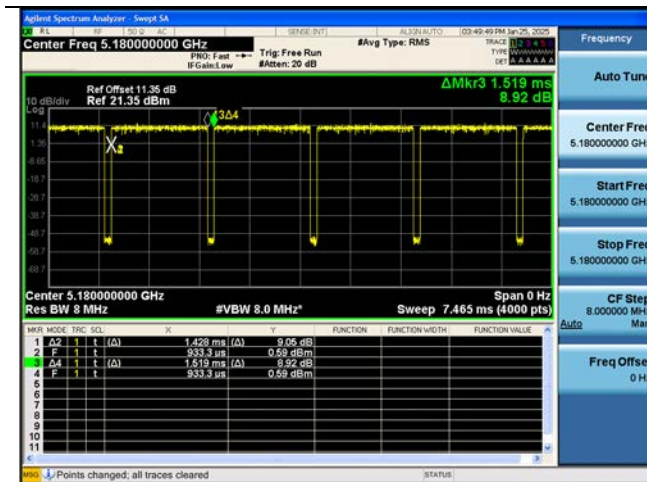
Mode	Data Rate	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11a	6M	1.428	1.519	0.940	0.270
802.11n(HT20)	MCS8	0.692	0.791	0.875	0.581
802.11n(HT40)	MCS8	0.356	0.455	0.783	1.062
802.11ac(VHT20)	MCS0	0.696	0.786	0.885	0.528
802.11ac(VHT40)	MCS0	0.360	0.459	0.784	1.057
802.11ac(VHT80)	MCS0	0.193	0.291	0.662	1.792

Note:

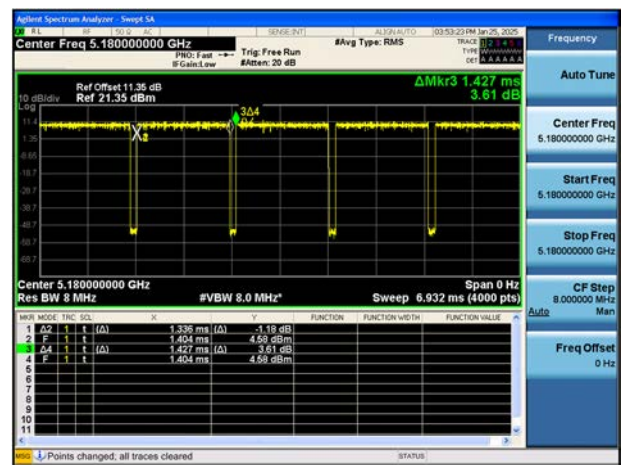
In order to simplify the report, attached plots were only the lowest data rate.

[SISO]

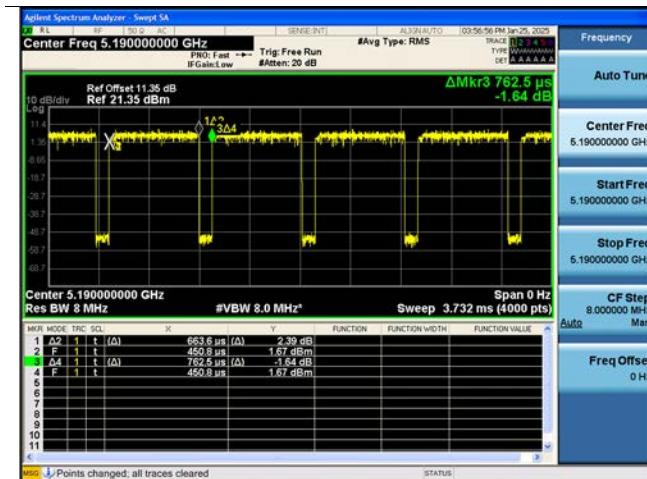
802.11a



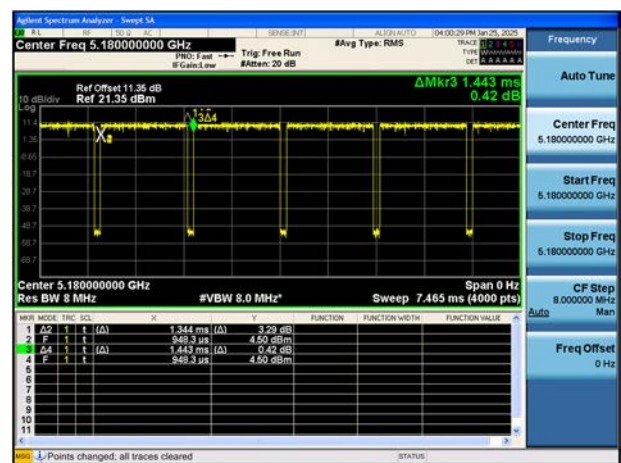
802.11n(HT20)



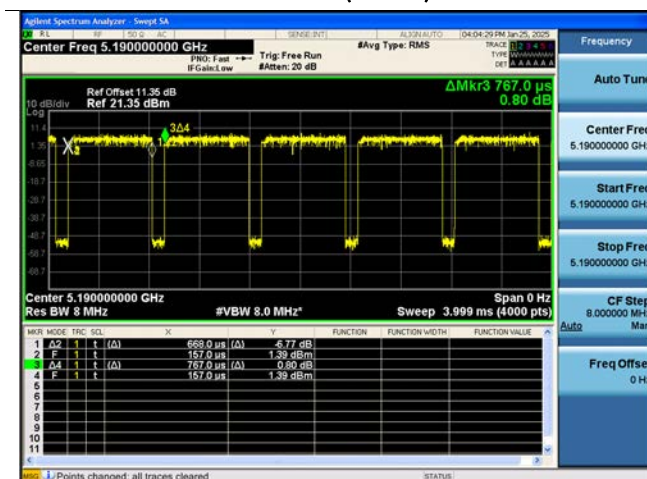
802.11n(HT40)



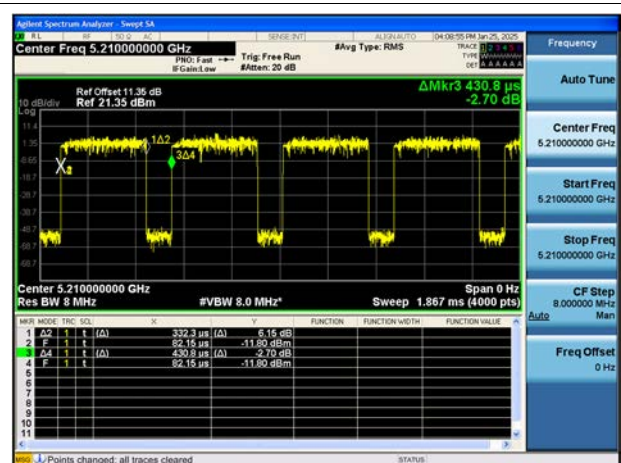
802.11ac(VHT20)



802.11ac(VHT40)

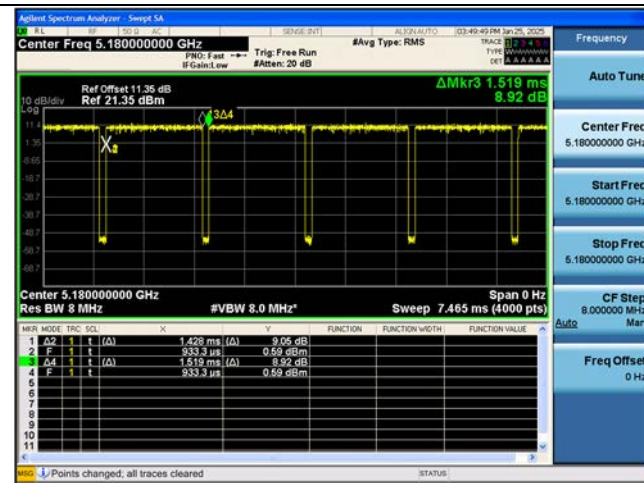


802.11ac(VHT80)

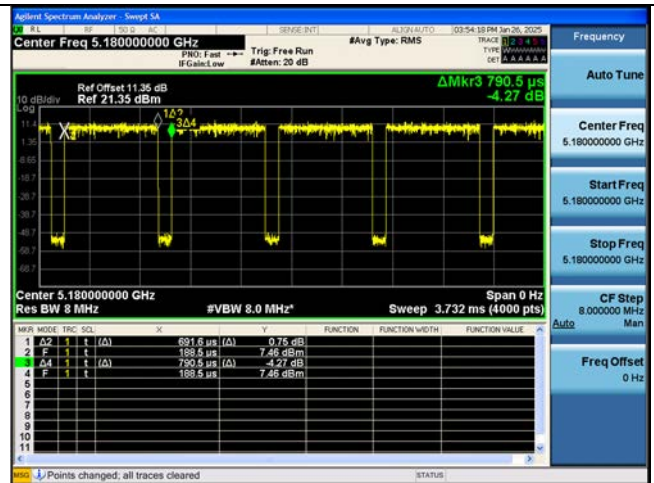


[MIMO (Ant.1+ Ant.2)]

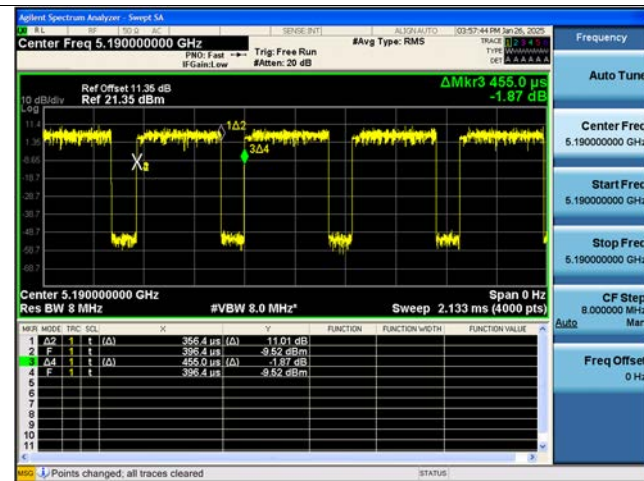
802.11a



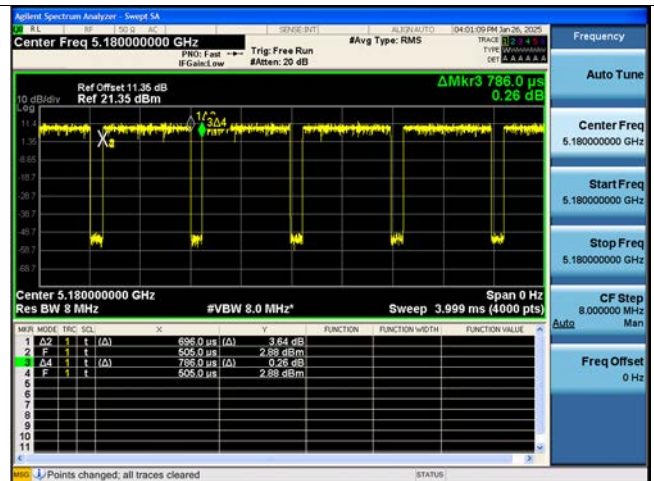
802.11n(HT20)



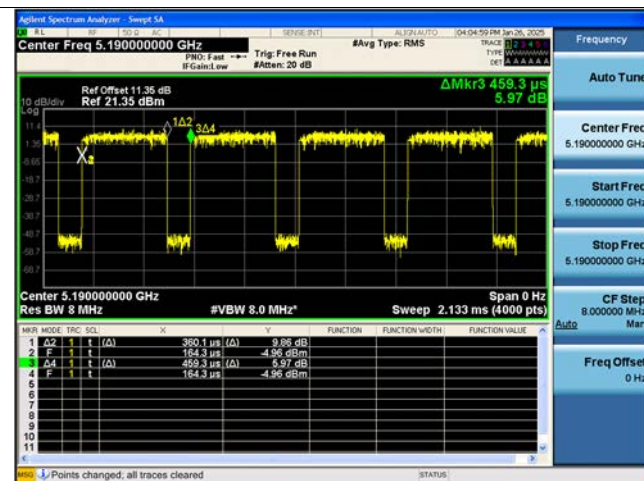
802.11n(HT40)



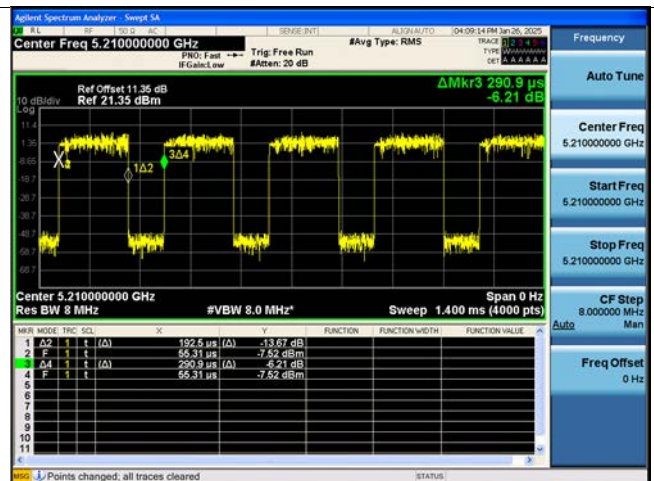
802.11ac(VHT20)



802.11ac(VHT40)



802.11ac(VHT80)



10.2 26 dB Bandwidth

Note:

Straddle channel data in the table below are for reporting purposes only. Straddle channel data were added in section 10.7.1.

[Ant.1]

Mode : 802.11a				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5180	36	21.90	16.648
	5200	40	21.75	16.673
	5240	48	21.07	16.651
UNII2A	5260	52	21.42	16.654
	5300	60	21.98	16.642
	5320	64	21.59	16.639
UNII2C	5500	100	21.75	16.649
	5580	116	21.35	16.640
	5720	144	21.38	16.626
UNII3	5745	149	21.39	16.643
	5785	157	22.04	16.651
	5825	165	21.68	16.626
UNII4	5845	169	21.41	16.641
	5865	173	21.54	16.638
	5885	177	21.25	16.623
Mode : 802.11n(HT20)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5180	36	22.60	17.777
	5200	40	22.46	17.796
	5240	48	22.43	17.787
UNII2A	5260	52	22.52	17.785
	5300	60	22.79	17.777
	5320	64	22.47	17.797
UNII2C	5500	100	22.35	17.774
	5580	116	22.02	17.794
	5720	144	22.39	17.780
UNII3	5745	149	22.60	17.781
	5785	157	22.63	17.790
	5825	165	22.33	17.793
UNII4	5845	169	22.62	17.801
	5865	173	22.50	17.802
	5885	177	22.47	17.779

Mode : 802.11ac(VHT20)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5180	36	22.46	17.777
	5200	40	22.53	17.777
	5240	48	22.50	17.785
UNII2A	5260	52	22.61	17.774
	5300	60	22.44	17.800
	5320	64	22.52	17.764
UNII2C	5500	100	22.26	17.788
	5580	116	22.36	17.796
	5720	144	22.15	17.778
UNII3	5745	149	22.18	17.774
	5785	157	22.19	17.799
	5825	165	22.32	17.790
UNII4	5845	169	22.75	17.814
	5865	173	22.29	17.793
	5885	177	22.46	17.782

Mode : 802.11n(HT40)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5190	38	40.73	35.998
	5230	46	40.30	35.971
UNII2A	5270	54	40.86	35.995
	5310	62	40.43	36.010
UNII2C	5510	102	40.91	35.938
	5550	110	40.40	35.949
	5710	142	40.33	35.944
UNII3	5755	151	40.49	36.049
	5795	159	40.56	35.994
UNII4	5835	167	40.85	36.022
	5875	175	40.35	36.001

Mode : 802.11ac(VHT40)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5190	38	40.46	35.941
	5230	46	40.28	35.931
UNII2A	5270	54	40.38	36.011
	5310	62	40.54	36.029
UNII2C	5510	102	39.95	36.008
	5550	110	40.68	35.967
	5710	142	40.81	35.944
UNII3	5755	151	40.21	35.999
	5795	159	40.81	35.946
UNII4	5835	167	40.63	36.003
	5875	175	40.57	36.027

Mode : 802.11ac(VHT80)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5210	42	80.62	75.241
UNII2A	5290	58	80.60	75.229
UNII2C	5530	106	81.04	75.209
	5610	122	80.79	75.291
	5690	138	80.79	75.245
UNII3	5775	155	80.95	75.222
UNII4	5855	171	80.89	75.169

[Ant.2]

Mode : 802.11a				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5180	36	21.74	16.663
	5200	40	21.89	16.657
	5240	48	21.51	16.645
UNII2A	5260	52	21.52	16.650
	5300	60	21.77	16.642
	5320	64	22.21	16.646
UNII2C	5500	100	21.08	16.652
	5580	116	21.51	16.646
	5720	144	21.86	16.626
UNII3	5745	149	21.61	16.643
	5785	157	21.63	16.658
	5825	165	21.76	16.667
UNII4	5845	169	21.49	16.639
	5865	173	21.63	16.652
	5885	177	21.48	16.648

Mode : 802.11n(HT20)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5180	36	22.52	17.792
	5200	40	22.34	17.807
	5240	48	22.16	17.774
UNII2A	5260	52	22.61	17.775
	5300	60	22.37	17.808
	5320	64	22.42	17.780
UNII2C	5500	100	22.36	17.778
	5580	116	22.39	17.788
	5720	144	22.19	17.800
UNII3	5745	149	22.41	17.769
	5785	157	22.74	17.789
	5825	165	22.23	17.787
UNII4	5845	169	22.19	17.781
	5865	173	22.53	17.796
	5885	177	22.45	17.784

Mode : 802.11ac(VHT20)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5180	36	22.31	17.821
	5200	40	22.49	17.820
	5240	48	22.29	17.784
UNII2A	5260	52	22.40	17.807
	5300	60	22.46	17.784
	5320	64	22.25	17.782
UNII2C	5500	100	22.25	17.780
	5580	116	22.11	17.770
	5720	144	22.33	17.780
UNII3	5745	149	22.32	17.767
	5785	157	22.21	17.803
	5825	165	22.48	17.787
UNII4	5845	169	22.72	17.776
	5865	173	22.36	17.777
	5885	177	22.38	17.765

Mode : 802.11n(HT40)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5190	38	40.29	35.979
	5230	46	40.16	35.991
UNII2A	5270	54	40.48	36.017
	5310	62	40.49	36.006
UNII2C	5510	102	40.58	35.946
	5550	110	40.32	35.987
	5710	142	40.12	35.997
UNII3	5755	151	40.53	35.973
	5795	159	40.75	35.928
UNII4	5835	167	40.58	35.982
	5875	175	40.31	35.959

Mode : 802.11ac(VHT40)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5190	38	40.74	35.990
	5230	46	40.60	36.003
UNII2A	5270	54	40.24	35.968
	5310	62	40.31	35.959
UNII2C	5510	102	40.12	35.933
	5550	110	40.42	35.953
	5710	142	40.79	35.975
UNII3	5755	151	40.38	35.981
	5795	159	40.33	36.001
UNII4	5835	167	40.30	35.946
	5875	175	40.31	35.986

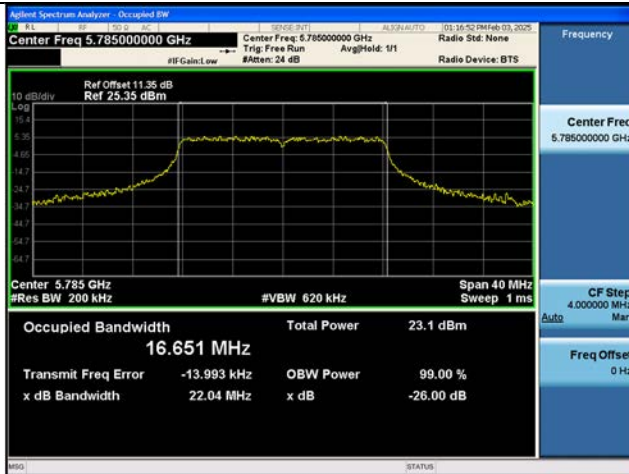
Mode : 802.11ac(VHT80)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5210	42	80.72	75.220
UNII2A	5290	58	80.79	75.250
UNII2C	5530	106	80.88	75.300
	5610	122	80.66	75.207
	5690	138	80.79	75.209
UNII3	5775	155	80.62	75.155
UNII4	5855	171	80.91	75.161

Test Plots

Note: In order to simplify the report, attached plots were only the widest channel per channel bandwidth.

[Ant.1]

802.11a 26 dB Bandwidth (CH 157)



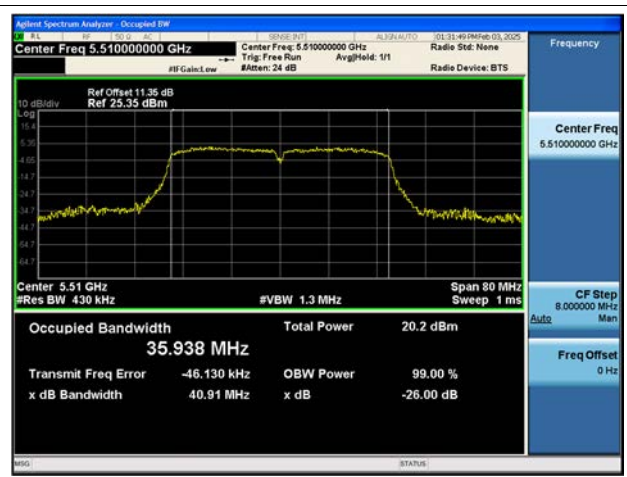
802.11n(HT20) 26 dB Bandwidth (CH 60)



802.11ac(VHT20) 26 dB Bandwidth (CH 169)



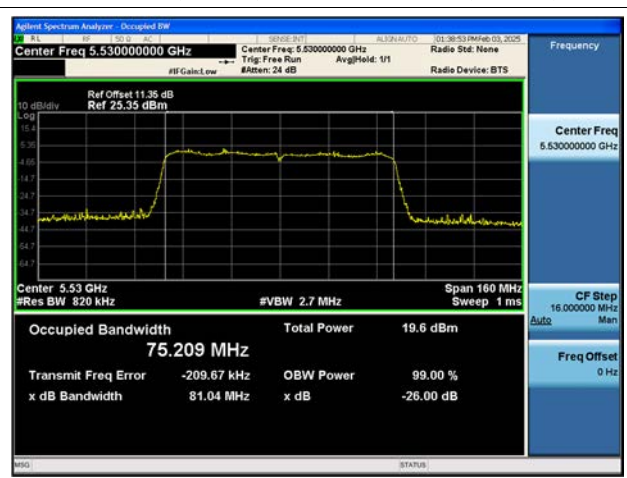
802.11n(HT40) 26 dB Bandwidth (CH 102)



802.11ac(VHT40) 26 dB Bandwidth (CH 142)

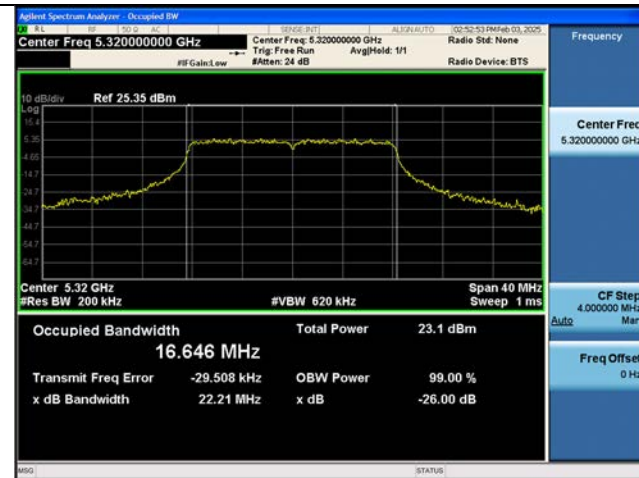


802.11ac(VHT80) 26 dB Bandwidth (CH 106)

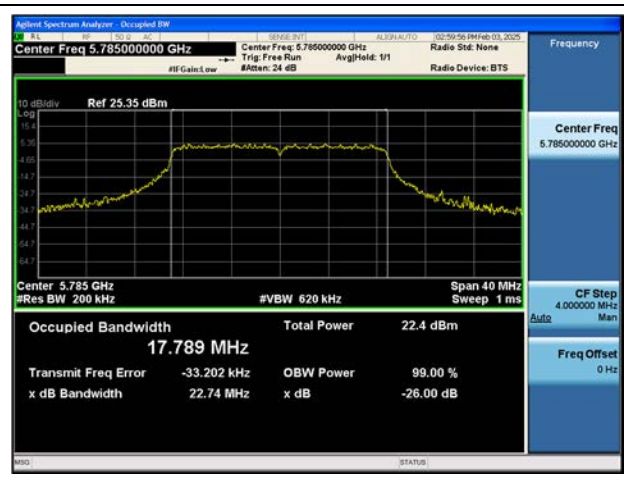


[Ant.2]

802.11a 26 dB Bandwidth (CH 64)



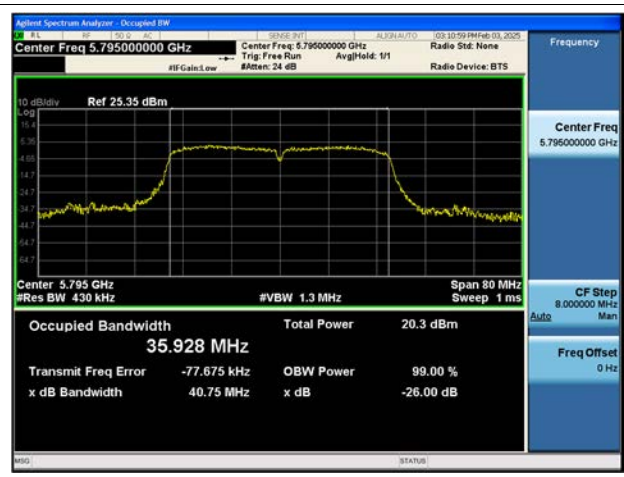
802.11n(HT20) 26 dB Bandwidth (CH 157)



802.11ac(VHT20) 26 dB Bandwidth (CH 169)



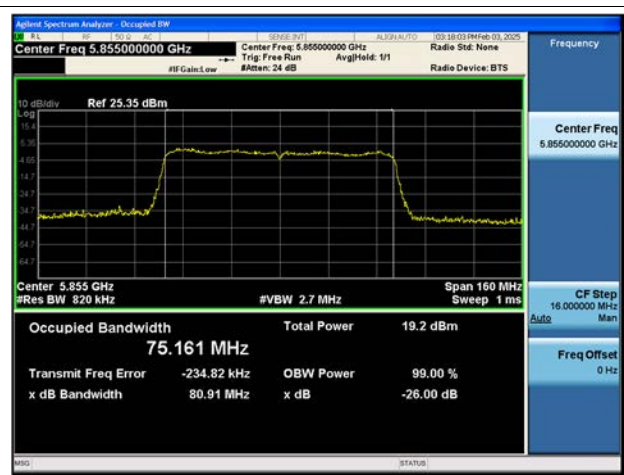
802.11n(HT40) 26 dB Bandwidth (CH 159)



802.11ac(VHT40) 26 dB Bandwidth (CH 142)



802.11ac(VHT80) 26 dB Bandwidth (CH 171)



10.3 6 dB BANDWIDTH

[Ant.1]

Mode : 802.11a				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5745	149	16.38	> 0.5
	5785	157	16.38	> 0.5
	5825	165	16.38	> 0.5
UNII4	5845	169	16.38	> 0.5
	5865	173	16.38	> 0.5
	5885	177	16.39	> 0.5

Mode : 802.11n(HT20)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5745	149	17.58	> 0.5
	5785	157	17.62	> 0.5
	5825	165	17.61	> 0.5
UNII4	5845	169	17.60	> 0.5
	5865	173	17.62	> 0.5
	5885	177	17.61	> 0.5

Mode : 802.11ac(VHT20)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5745	149	17.62	> 0.5
	5785	157	17.61	> 0.5
	5825	165	17.63	> 0.5
UNII4	5845	169	17.62	> 0.5
	5865	173	17.60	> 0.5
	5885	177	17.59	> 0.5

Mode : 802.11n(HT40)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5755	151	35.06	> 0.5
	5795	159	35.21	> 0.5
UNII4	5835	167	35.16	> 0.5
	5875	175	35.19	> 0.5

Mode : 802.11ac(VHT40)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5755	151	35.21	> 0.5
	5795	159	35.18	> 0.5
UNII4	5835	167	35.20	> 0.5
	5875	175	35.19	> 0.5
Mode : 802.11ac(VHT80)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5775	155	75.40	> 0.5
UNII4	5855	171	75.38	> 0.5

[Ant.2]

Mode : 802.11a				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5745	149	16.38	> 0.5
	5785	157	16.38	> 0.5
	5825	165	16.38	> 0.5
UNII4	5845	169	16.38	> 0.5
	5865	173	16.38	> 0.5
	5885	177	16.38	> 0.5

Mode : 802.11n(HT20)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5745	149	17.63	> 0.5
	5785	157	17.59	> 0.5
	5825	165	17.62	> 0.5
UNII4	5845	169	17.58	> 0.5
	5865	173	17.61	> 0.5
	5885	177	17.61	> 0.5

Mode : 802.11ac(VHT20)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5745	149	17.61	> 0.5
	5785	157	17.60	> 0.5
	5825	165	17.60	> 0.5
UNII4	5845	169	17.60	> 0.5
	5865	173	17.63	> 0.5
	5885	177	17.58	> 0.5

Mode : 802.11n(HT40)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5755	151	35.20	> 0.5
	5795	159	35.21	> 0.5
UNII4	5835	167	35.15	> 0.5
	5875	175	35.22	> 0.5

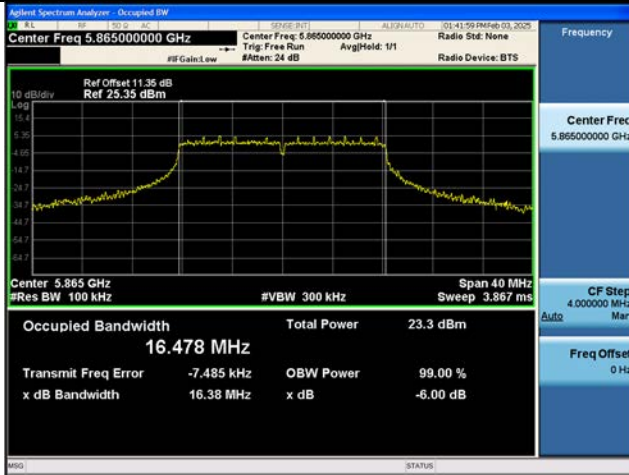
Mode : 802.11ac(VHT40)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5755	151	35.17	> 0.5
	5795	159	35.24	> 0.5
UNII4	5835	167	35.21	> 0.5
	5875	175	35.18	> 0.5
Mode : 802.11ac(VHT80)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5775	155	75.36	> 0.5
UNII4	5855	171	75.37	> 0.5

Test Plots

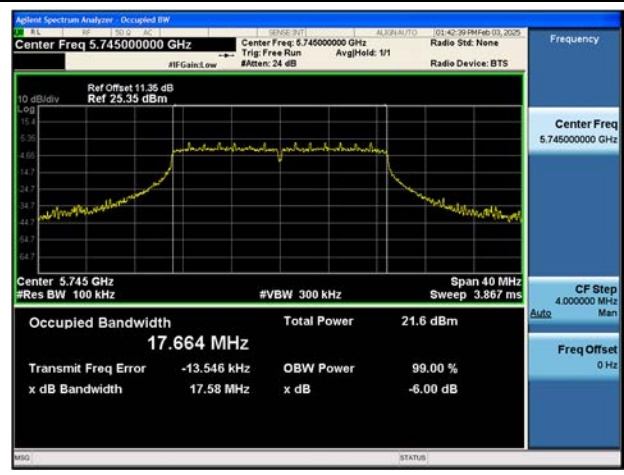
Note: In order to simplify the report, attached plots were only the narrowest channel.

[Ant.1]

802.11a 6 dB Bandwidth (CH 173)



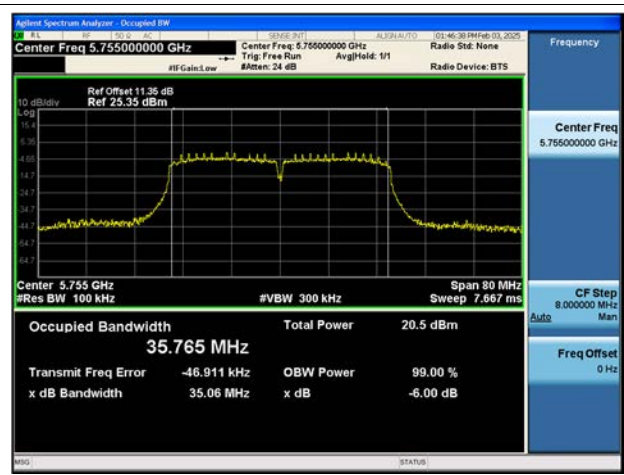
802.11n(HT20) 6 dB Bandwidth (CH 149)



802.11ac(VHT20) 6 dB Bandwidth (CH 177)



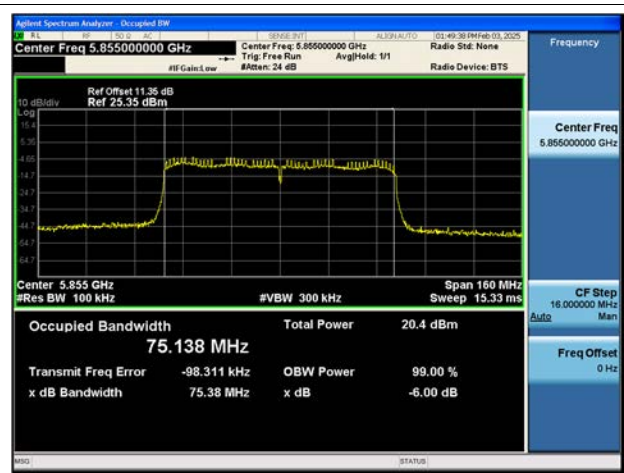
802.11n(HT40) 6 dB Bandwidth (CH 151)



802.11ac(VHT40) 6 dB Bandwidth (CH 159)

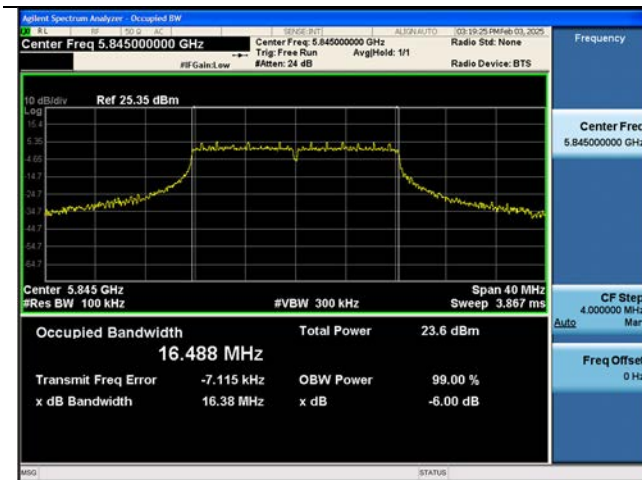


802.11ac(VHT80) 6 dB Bandwidth (CH 171)



[Ant.2]

802.11a 6 dB Bandwidth (CH 169)



802.11n(HT20) 6 dB Bandwidth (CH 169)



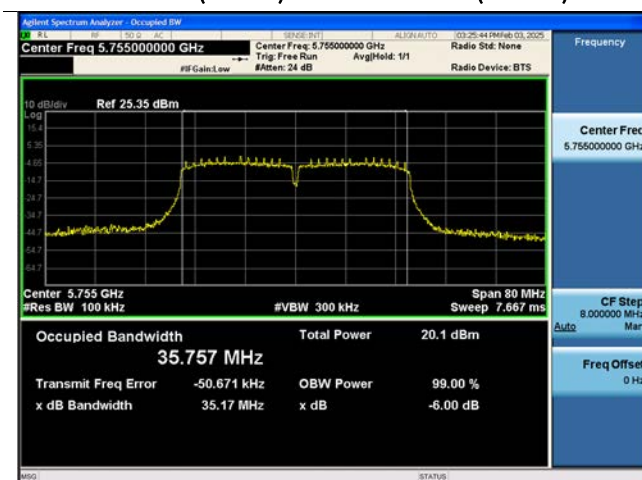
802.11ac(VHT20) 6 dB Bandwidth (CH 177)



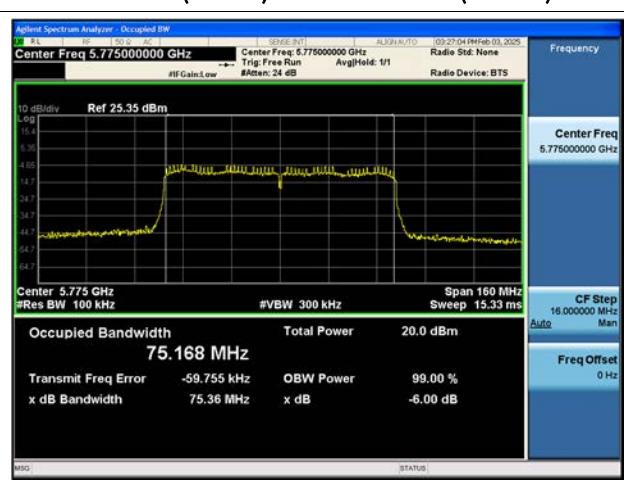
802.11n(HT40) 6 dB Bandwidth (CH 167)



802.11ac(VHT40) 6 dB Bandwidth (CH 151)



802.11ac(VHT80) 6 dB Bandwidth (CH 155)



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 $11 \text{ dBm} + 10 \log B$, (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 Total Power [dBm] = Measured Power [dBm] + Duty Cycle Factor [dB]

MIMO(Ant.1+ Ant.2) Total Power [dBm] = Ant.1 Total Power [dBm] + Ant.2 Total Power [dBm]

[SISO(Ant.2)]

Mode : 802.11a									
Band	Freq. [MHz]	CH.	Worstcase Datarate	Measured Power [dBm]	D.C.F [dB]	Total Power [dBm]	Peak Gain [dBi]	EIRP [dBm]	Limit [dBm]
UNII1	5180	36	6M	11.26	0.27	11.53	-	-	23.98
	5200	40	6M	11.25	0.27	11.52	-	-	23.98
	5220	44	6M	12.08	0.27	12.35	-	-	23.98
	5240	48	6M	11.93	0.27	12.20	-	-	23.98
UNII2A	5260	52	6M	14.22	0.27	14.49	-	-	23.98
	5280	56	6M	13.82	0.27	14.09	-	-	23.98
	5300	60	6M	14.58	0.27	14.85	-	-	23.98
	5320	64	6M	14.44	0.27	14.71	-	-	23.98
UNII2C	5500	100	6M	11.55	0.27	11.81	-	-	23.98
	5520	104	6M	11.44	0.27	11.71	-	-	23.98
	5540	108	6M	11.59	0.27	11.86	-	-	23.98
	5560	112	6M	13.17	0.27	13.44	-	-	23.98
	5580	116	6M	16.01	0.27	16.28	-	-	23.98
	5720	144	6M	16.06	0.27	16.33	-	-	23.98
UNII3	5745	149	6M	15.68	0.27	15.95	-	-	30.00
	5785	157	6M	16.20	0.27	16.47	-	-	30.00
	5825	165	6M	16.21	0.27	16.48	-	-	30.00
UNII4	5825	169	6M	16.38	0.27	16.65	-5.90	10.75	30 EIRP
	5825	173	6M	16.13	0.27	16.40	-5.90	10.50	30 EIRP
	5825	177	6M	13.93	0.27	14.20	-5.90	8.30	30 EIRP

Mode : 802.11n(HT20)									
Band	Freq. [MHz]	CH.	Worstcase Datarate	Measured Power [dBm]	D.C.F [dB]	Total Power [dBm]	Peak Gain [dBi]	EIRP [dBm]	Limit [dBm]
UNII1	5180	36	MCS0	11.39	0.28	11.67	-	-	23.98
	5200	40	MCS0	11.08	0.28	11.36	-	-	23.98
	5220	44	MCS0	11.84	0.28	12.12	-	-	23.98
	5240	48	MCS0	12.01	0.28	12.30	-	-	23.98
UNII2A	5260	52	MCS0	14.11	0.28	14.39	-	-	23.98
	5280	56	MCS0	13.95	0.28	14.23	-	-	23.98
	5300	60	MCS0	14.65	0.28	14.93	-	-	23.98
	5320	64	MCS0	14.46	0.28	14.75	-	-	23.98
UNII2C	5500	100	MCS0	11.31	0.28	11.59	-	-	23.98
	5520	104	MCS0	11.44	0.28	11.72	-	-	23.98
	5540	108	MCS0	11.56	0.28	11.85	-	-	23.98
	5560	112	MCS0	13.13	0.28	13.41	-	-	23.98
	5580	116	MCS0	15.06	0.28	15.34	-	-	23.98
	5720	144	MCS0	14.97	0.28	15.26	-	-	23.98
UNII3	5745	149	MCS0	15.09	0.28	15.37	-	-	30.00
	5785	157	MCS0	15.38	0.28	15.67	-	-	30.00
	5825	165	MCS0	15.03	0.28	15.31	-	-	30.00
UNII4	5825	169	MCS0	15.55	0.28	15.83	-5.90	9.93	30 EIRP
	5825	173	MCS0	15.13	0.28	15.41	-5.90	9.51	30 EIRP
	5825	177	MCS0	13.84	0.28	14.12	-5.90	8.22	30 EIRP

Mode : 802.11ac(VHT20)									
Band	Freq. [MHz]	CH.	Worstcase Datarate	Measured Power [dBm]	D.C.F [dB]	Total Power [dBm]	Peak Gain [dBi]	EIRP [dBm]	Limit [dBm]
UNII1	5180	36	MCS0	11.30	0.31	11.61	-	-	23.98
	5200	40	MCS0	11.13	0.31	11.44	-	-	23.98
	5220	44	MCS0	11.70	0.31	12.01	-	-	23.98
	5240	48	MCS0	11.73	0.31	12.03	-	-	23.98
UNII2A	5260	52	MCS0	14.29	0.31	14.60	-	-	23.98
	5280	56	MCS0	13.92	0.31	14.23	-	-	23.98
	5300	60	MCS0	14.63	0.31	14.94	-	-	23.98
	5320	64	MCS0	14.46	0.31	14.77	-	-	23.98
UNII2C	5500	100	MCS0	11.51	0.31	11.82	-	-	23.98
	5520	104	MCS0	11.45	0.31	11.76	-	-	23.98
	5540	108	MCS0	11.58	0.31	11.88	-	-	23.98
	5560	112	MCS0	13.14	0.31	13.44	-	-	23.98
	5580	116	MCS0	15.08	0.31	15.39	-	-	23.98
	5720	144	MCS0	15.03	0.31	15.34	-	-	23.98
UNII3	5745	149	MCS0	15.12	0.31	15.43	-	-	30.00
	5785	157	MCS0	15.35	0.31	15.66	-	-	30.00
	5825	165	MCS0	15.07	0.31	15.37	-	-	30.00
UNII4	5825	169	MCS0	15.56	0.31	15.87	-5.90	9.97	30 EIRP
	5825	173	MCS0	15.21	0.31	15.52	-5.90	9.62	30 EIRP
	5825	177	MCS0	13.88	0.31	14.19	-5.90	8.29	30 EIRP

Mode : 802.11n(HT40)									
Band	Freq. [MHz]	CH.	Worstcase Datarate	Measured Power [dBm]	Duty cycle Fcator [dB]	Total Power [dBm]	Peak Gain [dBi]	EIRP [dBm]	Limit [dBm]
UNII1	5190	38	MCS0	10.05	0.60	10.65	-	-	23.98
	5230	46	MCS0	10.65	0.60	11.26	-	-	23.98
UNII2A	5270	54	MCS0	12.81	0.60	13.41	-	-	23.98
	5310	62	MCS0	11.23	0.60	11.83	-	-	23.98
UNII2C	5510	102	MCS0	9.55	0.60	10.15	-	-	23.98
	5550	110	MCS0	10.24	0.60	10.84	-	-	23.98
	5710	142	MCS0	12.62	0.60	13.22	-	-	23.98
UNII3	5755	151	MCS0	12.60	0.60	13.20	-	-	30.00
	5795	159	MCS0	12.93	0.60	13.53	-	-	30.00
UNII4	5755	167	MCS0	12.85	0.60	13.46	-5.90	7.56	30 EIRP
	5795	175	MCS0	12.14	0.60	12.75	-5.90	6.85	30 EIRP

Mode : 802.11ac(VHT40)									
Band	Freq. [MHz]	CH.	Worstcase Datarate	Measured Power [dBm]	D.C.F [dB]	Total Power [dBm]	Peak Gain [dBi]	EIRP [dBm]	Limit [dBm]
UNII1	5190	38	MCS0	10.22	0.60	10.82	-	-	23.98
	5230	46	MCS0	10.45	0.60	11.05	-	-	23.98
UNII2A	5270	54	MCS0	12.75	0.60	13.35	-	-	23.98
	5310	62	MCS0	11.29	0.60	11.89	-	-	23.98
UNII2C	5510	102	MCS0	9.58	0.60	10.18	-	-	23.98
	5550	110	MCS0	10.26	0.60	10.86	-	-	23.98
	5710	142	MCS0	12.73	0.60	13.33	-	-	23.98
UNII3	5755	151	MCS0	12.69	0.60	13.29	-	-	30.00
	5795	159	MCS0	13.02	0.60	13.62	-	-	30.00
UNII4	5755	167	MCS0	13.04	0.60	13.64	-5.90	7.74	30 EIRP
	5795	175	MCS0	12.19	0.60	12.79	-5.90	6.89	30 EIRP

Mode : 802.11ac(VHT80)									
Band	Freq. [MHz]	CH.	Worstcase Datarate	Measured Power [dBm]	D.C.F [dB]	Total Power [dBm]	Peak Gain [dBi]	EIRP [dBm]	Limit [dBm]
UNII1	5210	42	MCS0	7.83	1.127	8.96	-	-	23.98
UNII2A	5290	58	MCS0	10.23	1.127	11.36	-	-	23.98
UNII2C	5530	106	MCS0	7.25	1.127	8.38	-	-	23.98
	5610	122	MCS0	11.37	1.127	12.49	-	-	23.98
	5690	138	MCS0	11.17	1.127	12.29	-	-	23.98
UNII3	5775	155	MCS0	11.40	1.127	12.52	-	-	30.00
UNII4	5775	171	MCS0	10.86	1.127	11.99	-5.90	6.09	30 EIRP

[MIMO(Ant.1+ Ant.2)]

Mode : 802.11a											
Band	Freq. [MHz]	CH.	Worstcase Datarate	Total Average Power [dBm]			Ant.1 Gain	Ant.2 Gain	Directional Gain	Max EIRP	Limit
				ANT1	ANT2	MIMO	[dBi]	[dBi]	[dBi]	[dBm]	[dBm]
UNII1	5180	36	6M	11.46	11.53	14.51	-	-	-	-	23.98
	5200	40	6M	10.81	11.52	14.19	-	-	-	-	23.98
	5220	44	6M	11.32	12.35	14.87	-	-	-	-	23.98
	5240	48	6M	11.85	12.20	15.04	-	-	-	-	23.98
UNII2A	5260	52	6M	14.58	14.49	17.54	-	-	-	-	23.98
	5280	56	6M	14.03	14.09	17.07	-	-	-	-	23.98
	5300	60	6M	14.60	14.85	17.74	-	-	-	-	23.98
	5320	64	6M	14.54	14.71	17.64	-	-	-	-	23.98
UNII2C	5500	100	6M	11.45	11.81	14.65	-	-	-	-	23.98
	5520	104	6M	11.28	11.71	14.51	-	-	-	-	23.98
	5540	108	6M	11.43	11.86	14.66	-	-	-	-	23.98
	5560	112	6M	13.17	13.44	16.32	-	-	-	-	23.98
	5580	116	6M	16.12	16.28	19.21	-	-	-	-	23.98
	5720	144	6M	16.12	16.33	19.23	-	-	-	-	23.98
UNII3	5745	149	6M	15.77	15.95	18.87	-	-	-	-	30.00
	5785	157	6M	16.44	16.47	19.46	-	-	-	-	30.00
	5825	165	6M	16.46	16.48	19.48	-	-	-	-	30.00
UNII4	5845	169	6M	15.97	16.65	19.33	-7.60	-5.90	-3.70	15.63	30 EIRP
	5865	173	6M	16.26	16.40	19.34	-7.60	-5.90	-3.70	15.64	30 EIRP
	5885	177	6M	14.25	14.20	17.24	-7.60	-5.90	-3.70	13.54	30 EIRP

Mode : 802.11n(HT20)											
Band	Freq. [MHz]	CH.	Worstcase Datarate	Total Average Power [dBm]			Ant.1 Gain	Ant.2 Gain	Directional Gain	Max EIRP	Limit
				ANT1	ANT2	MIMO	[dBi]	[dBi]	[dBi]	[dBm]	[dBm]
UNII1	5180	36	MCS8	10.96	11.67	14.34	-	-	-	-	23.98
	5200	40	MCS8	10.53	11.36	13.98	-	-	-	-	23.98
	5220	44	MCS8	10.75	11.85	14.35	-	-	-	-	23.98
	5240	48	MCS8	11.34	12.30	14.86	-	-	-	-	23.98
UNII2A	5260	52	MCS8	14.01	14.39	17.21	-	-	-	-	23.98
	5280	56	MCS8	13.83	13.71	16.78	-	-	-	-	23.98
	5300	60	MCS8	13.98	14.93	17.49	-	-	-	-	23.98
	5320	64	MCS8	14.06	14.75	17.42	-	-	-	-	23.98
UNII2C	5500	100	MCS8	11.04	11.59	14.34	-	-	-	-	23.98
	5520	104	MCS8	10.86	11.09	13.99	-	-	-	-	23.98
	5540	108	MCS8	10.97	11.21	14.10	-	-	-	-	23.98
	5560	112	MCS8	12.66	12.77	15.72	-	-	-	-	23.98
	5580	116	MCS8	14.78	15.34	18.08	-	-	-	-	23.98
	5720	144	MCS8	14.83	15.26	18.06	-	-	-	-	23.98
UNII3	5745	149	MCS8	14.52	15.37	17.98	-	-	-	-	30.00
	5785	157	MCS8	15.10	15.67	18.40	-	-	-	-	30.00
	5825	165	MCS8	14.79	15.31	18.07	-	-	-	-	30.00
UNII4	5845	169	MCS8	14.34	15.83	18.16	-7.60	-5.90	-5.90	12.26	30 EIRP
	5865	173	MCS8	14.85	15.41	18.15	-7.60	-5.90	-5.90	12.25	30 EIRP
	5885	177	MCS8	13.80	14.12	16.97	-7.60	-5.90	-5.90	11.07	30 EIRP

Mode : 802.11ac(VHT20)											
Band	Freq. [MHz]	CH.	Worstcase Datarate	Total Average Power [dBm]			Ant.1 Gain	Ant.2 Gain	Directional Gain	Max EIRP	Limit
				ANT1	ANT2	MIMO	[dBi]	[dBi]	[dBi]	[dBm]	[dBm]
UNII1	5180	36	MCS0	10.76	11.25	14.02	-6.40	-8.00	-6.40	7.62	23.98
	5200	40	MCS0	10.30	11.01	13.68	-6.40	-8.00	-6.40	7.28	23.98
	5220	44	MCS0	10.56	11.69	14.17	-	-	-	-	23.98
	5240	48	MCS0	11.29	11.76	14.54	-6.40	-8.00	-6.40	8.14	23.98
UNII2A	5260	52	MCS0	13.95	13.85	16.91	-	-	-	-	23.98
	5280	56	MCS0	13.51	13.62	16.57	-	-	-	-	23.98
	5300	60	MCS0	13.93	14.18	17.07	-	-	-	-	23.98
	5320	64	MCS0	13.89	14.04	16.97	-	-	-	-	23.98
UNII2C	5500	100	MCS0	10.94	11.33	14.15	-	-	-	-	23.98
	5520	104	MCS0	11.01	11.02	14.02	-	-	-	-	23.98
	5540	108	MCS0	10.85	11.15	14.02	-	-	-	-	23.98
	5560	112	MCS0	12.85	12.75	15.81	-	-	-	-	23.98
	5580	116	MCS0	14.74	14.65	17.71	-	-	-	-	23.98
	5720	144	MCS0	14.81	14.76	17.80	-	-	-	-	23.98
UNII3	5745	149	MCS0	14.57	14.73	17.66	-	-	-	-	30.00
	5785	157	MCS0	15.09	15.31	18.21	-	-	-	-	30.00
	5825	165	MCS0	14.89	14.88	17.90	-	-	-	-	30.00
UNII4	5845	169	MCS0	14.54	15.43	18.01	-7.60	-5.90	-5.90	12.11	30 EIRP
	5865	173	MCS0	14.86	15.14	18.01	-7.60	-5.90	-5.90	12.11	30 EIRP
	5885	177	MCS0	13.68	13.65	16.68	-7.60	-5.90	-5.90	10.78	30 EIRP

Mode : 802.11n(HT40)											
Band	Freq. [MHz]	CH.	Worstcase Datarate	Total Average Power [dBm]			Ant.1 Gain	Ant.2 Gain	Directional Gain	Max EIRP	Limit
				ANT1	ANT2	MIMO	[dBi]	[dBi]	[dBi]	[dBm]	[dBm]
UNII1	5190	38	MCS8	9.95	10.36	13.17	-	-	-	-	23.98
	5230	46	MCS8	10.97	10.80	13.89	-	-	-	-	23.98
UNII2A	5270	54	MCS8	12.64	12.90	15.78	-	-	-	-	23.98
	5310	62	MCS8	11.18	11.24	14.22	-	-	-	-	23.98
UNII2C	5510	102	MCS8	9.66	9.69	12.68	-	-	-	-	23.98
	5550	110	MCS8	10.24	10.27	13.27	-	-	-	-	23.98
	5710	142	MCS8	12.92	12.86	15.90	-	-	-	-	23.98
UNII3	5755	151	MCS8	12.94	12.82	15.89	-	-	-	-	30.00
	5795	159	MCS8	13.13	13.21	16.18	-	-	-	-	30.00
UNII4	5835	167	MCS8	13.46	13.30	16.39	-7.60	-5.90	-5.90	10.49	30 EIRP
	5875	175	MCS8	12.47	12.32	15.40	-7.60	-5.90	-5.90	9.50	30 EIRP

Mode : 802.11ac(VHT40)											
Band	Freq. [MHz]	CH.	Worstcase Datarate	Total Average Power [dBm]			Ant.1 Gain	Ant.2 Gain	Directional Gain	Max EIRP	Limit
				ANT1	ANT2	MIMO	[dBi]	[dBi]	[dBi]	[dBm]	[dBm]
UNII1	5190	38	MCS0	9.98	10.19	13.09	-	-	-	-	23.98
	5230	46	MCS0	11.03	10.84	13.94	-	-	-	-	23.98
UNII2A	5270	54	MCS0	12.75	12.89	15.83	-	-	-	-	23.98
	5310	62	MCS0	11.23	11.32	14.29	-	-	-	-	23.98
UNII2C	5510	102	MCS0	9.68	9.75	12.72	-	-	-	-	23.98
	5550	110	MCS0	10.25	10.32	13.30	-	-	-	-	23.98
	5710	142	MCS0	13.05	12.90	15.99	-	-	-	-	23.98
UNII3	5755	151	MCS0	13.09	12.86	15.98	-	-	-	-	30.00
	5795	159	MCS0	13.30	13.22	16.27	-	-	-	-	30.00
UNII4	5835	167	MCS0	13.55	13.43	16.50	-7.60	-5.90	-5.90	10.60	30 EIRP
	5875	175	MCS0	12.53	12.39	15.47	-7.60	-5.90	-5.90	9.57	30 EIRP

Mode : 802.11ac(VHT80)											
Band	Freq. [MHz]	CH.	Worstcase Datarate	Total Average Power [dBm]			Ant.1 Gain	Ant.2 Gain	Directional Gain	Max EIRP	Limit
				ANT1	ANT2	MIMO	[dBi]	[dBi]	[dBi]	[dBm]	[dBm]
UNII1	5210	42	MCS0	9.11	8.74	11.93	-	-	-	-	23.98
UNII2A	5290	58	MCS0	11.36	10.99	14.19	-	-	-	-	23.98
UNII2C	5530	106	MCS0	8.40	8.11	11.27	-	-	-	-	23.98
	5610	122	MCS0	12.16	12.11	15.15	-	-	-	-	23.98
	5690	138	MCS0	12.23	11.95	15.10	-	-	-	-	23.98
UNII3	5775	155	MCS0	12.30	12.22	15.27	-	-	-	-	30.00
UNII4	5855	171	MCS0	12.12	11.64	14.89	-7.60	-5.90	-5.90	8.99	30 EIRP

10.5 POWER SPECTRAL DENSITY

Ant Total PSD [dBm/MHz] = Measured PSD [dBm/MHz] + Duty Cycle Factor [dB]

MIMO(Ant.1+ Ant.2)Total PSD [dBm/MHz] = Ant.1 Total PSD [dBm/MHz] + Ant.2 Total PSD [dB]

[SISO(Ant.2)]

Mode : 802.11a									
Band	Freq. [MHz]	CH.	Worstcase Datarate	Measured PSD [dBm/MHz]	D.C.F [dB]	Total PSD [dBm/MHz]	Peak Gain [dBi]	EIRP [dBm/MHz]	Limit [dBm/MHz]
UNII1	5180	36	6M	-0.043	0.270	0.227	-	-	11
	5200	40	6M	0.004	0.270	0.274	-	-	11
	5240	48	6M	0.869	0.270	1.139	-	-	11
UNII2A	5260	52	6M	3.317	0.270	3.587	-	-	11
	5300	60	6M	3.591	0.270	3.861	-	-	11
	5320	64	6M	3.282	0.270	3.552	-	-	11
UNII2C	5500	100	6M	0.243	0.270	0.513	-	-	11
	5580	116	6M	4.516	0.270	4.786	-	-	11
	5720	144	6M	4.833	0.270	5.103	-	-	11
UNII3	5745	149	6M	2.043	0.270	2.313	-	-	30 dBm/500kHz
	5785	157	6M	2.736	0.270	3.006	-	-	30 dBm/500kHz
	5825	165	6M	2.257	0.270	2.527	-	-	30 dBm/500kHz
UNII4	5845	169	6M	5.288	0.270	5.558	-5.90	-0.342	14 EIRP
	5865	173	6M	5.311	0.270	5.581	-5.90	-0.319	14 EIRP
	5885	177	6M	2.835	0.270	3.105	-5.90	-2.795	14 EIRP

Mode : 802.11n(HT20)									
Band	Freq. [MHz]	CH.	Worstcase Datarate	Measured PSD [dBm/MHz]	D.C.F [dB]	Total PSD [dBm/MHz]	Peak Gain [dBi]	EIRP [dBm/MHz]	Limit [dBm/MHz]
UNII1	5180	36	MCS0	-0.295	0.283	-0.012	-	-	11
	5200	40	MCS0	-0.503	0.283	-0.220	-	-	11
	5240	48	MCS0	0.801	0.283	1.084	-	-	11
UNII2A	5260	52	MCS0	2.727	0.283	3.010	-	-	11
	5300	60	MCS0	2.953	0.283	3.236	-	-	11
	5320	64	MCS0	3.358	0.283	3.641	-	-	11
UNII2C	5500	100	MCS0	-0.005	0.283	0.278	-	-	11
	5580	116	MCS0	3.477	0.283	3.760	-	-	11
	5720	144	MCS0	3.437	0.283	3.720	-	-	11
UNII3	5745	149	MCS0	0.688	0.283	0.971	-	-	30 dBm/500kHz
	5785	157	MCS0	1.419	0.283	1.702	-	-	30 dBm/500kHz
	5825	165	MCS0	0.971	0.283	1.254	-	-	30 dBm/500kHz
UNII4	5845	169	MCS0	4.173	0.283	4.456	-5.90	-1.444	14 dBm/EIRP
	5865	173	MCS0	3.952	0.283	4.235	-5.90	-1.665	14 dBm/EIRP
	5885	177	MCS0	2.389	0.283	2.672	-5.90	-3.228	14 dBm/EIRP

Mode : 802.11ac(VHT20)									
Band	Freq. [MHz]	CH.	Worstcase Datarate	Measured PSD [dBm/MHz]	D.C.F [dB]	Total PSD [dBm/MHz]	Peak Gain [dBi]	EIRP [dBm/MHz]	Limit [dBm/MHz]
UNII1	5180	36	MCS0	-0.146	0.308	0.162	-	-	11
	5200	40	MCS0	-0.199	0.308	0.109	-	-	11
	5240	48	MCS0	0.810	0.308	1.118	-	-	11
UNII2A	5260	52	MCS0	2.761	0.308	3.069	-	-	11
	5300	60	MCS0	3.238	0.308	3.546	-	-	11
	5320	64	MCS0	3.275	0.308	3.583	-	-	11
UNII2C	5500	100	MCS0	0.127	0.308	0.435	-	-	11
	5580	116	MCS0	3.511	0.308	3.819	-	-	11
	5720	144	MCS0	3.585	0.308	3.893	-	-	11
UNII3	5745	149	MCS0	0.779	0.308	1.087	-	-	30 dBm/500kHz
	5785	157	MCS0	1.301	0.308	1.609	-	-	30 dBm/500kHz
	5825	165	MCS0	0.865	0.308	1.173	-	-	30 dBm/500kHz
UNII4	5845	169	MCS0	4.704	0.308	5.012	-5.90	-0.888	14 EIRP
	5865	173	MCS0	4.084	0.308	4.392	-5.90	-1.508	14 EIRP
	5885	177	MCS0	2.473	0.308	2.781	-5.90	-3.119	14 EIRP

Mode : 802.11n(HT40)									
Band	Freq. [MHz]	CH.	Worstcase Datarate	Measured PSD [dBm/MHz]	D.C.F [dB]	Total PSD [dBm/MHz]	Peak Gain [dBi]	EIRP [dBm/MHz]	Limit [dBm/MHz]
UNII1	5190	38	MCS0	-3.379	0.604	-2.775	-	-	11
	5230	46	MCS0	-3.126	0.604	-2.522	-	-	11
UNII2A	5270	54	MCS0	-1.009	0.604	-0.405	-	-	11
	5310	62	MCS0	-2.228	0.604	-1.624	-	-	11
UNII2C	5510	102	MCS0	-4.130	0.604	-3.526	-	-	11
	5550	110	MCS0	-3.530	0.604	-2.926	-	-	11
	5710	142	MCS0	-1.163	0.604	-0.559	-	-	11
UNII3	5755	151	MCS0	-4.211	0.604	-3.607	-	-	30 dBm/500kHz
	5795	159	MCS0	-3.776	0.604	-3.172	-	-	30 dBm/500kHz
UNII4	5835	167	MCS0	-1.125	0.604	-0.521	-5.90	-6.421	14 EIRP
	5875	175	MCS0	-1.706	0.604	-1.102	-5.90	-7.002	14 EIRP

Mode : 802.11ac(VHT40)									
Band	Freq. [MHz]	CH.	Worstcase Datarate	Measured PSD [dBm/MHz]	D.C.F [dB]	Total PSD [dBm/MHz]	Peak Gain [dBi]	EIRP [dBm/MHz]	Limit [dBm/MHz]
UNII1	5190	38	MCS0	-3.227	0.600	-2.627	-	-	11
	5230	46	MCS0	-3.094	0.600	-2.494	-	-	11
UNII2A	5270	54	MCS0	-0.971	0.600	-0.371	-	-	11
	5310	62	MCS0	-2.651	0.600	-2.051	-	-	11
UNII2C	5510	102	MCS0	-4.149	0.600	-3.549	-	-	11
	5550	110	MCS0	-3.554	0.600	-2.954	-	-	11
	5710	142	MCS0	-1.121	0.600	-0.521	-	-	11
UNII3	5755	151	MCS0	-3.996	0.600	-3.396	-	-	30 dBm/500kHz
	5795	159	MCS0	-3.544	0.600	-2.944	-	-	30 dBm/500kHz
UNII4	5835	167	MCS0	-0.407	0.600	0.193	-5.90	-5.707	14 EIRP
	5875	175	MCS0	-1.408	0.600	-0.808	-5.90	-6.708	14 EIRP

Mode : 802.11ac(VHT80)									
Band	Freq. [MHz]	CH.	Worstcase Datarate	Measured PSD [dBm/MHz]	D.C.F [dB]	Total PSD [dBm/MHz]	Peak Gain [dBi]	EIRP [dBm/MHz]	Limit [dBm/MHz]
UNII1	5210	42	MCS0	-7.877	1.127	-6.750	-	-	11
UNII2A	5290	58	MCS0	-5.893	1.127	-4.766	-	-	11
UNII2C	5530	106	MCS0	-9.004	1.127	-7.877	-	-	11
	5610	122	MCS0	-4.866	1.127	-3.739	-	-	11
	5690	138	MCS0	-4.977	1.127	-3.850	-	-	11
UNII3	5775	155	MCS0	-8.255	1.127	-7.128	-	-	30 dBm/500kHz
UNII4	5855	171	MCS0	-5.140	1.127	-4.013	-5.90	-9.913	14 EIRP

[MIMO(Ant.1+ Ant.2)]

Mode : 802.11a											
BAND	Freq. [MHz]	CH.	Worstcase Datarate	Total Power Spectral Density [dBm/MHz]			Ant.1 Gain	Ant.2 Gain	Directional Gain	Max EIRP	Limit
				ANT1	ANT2	MIMO	[dBi]	[dBi]	[dBi]	[dBm/MHz]	[dBm/MHz]
UNII1	5180	36	6M	0.104	0.227	3.176	-	-	-	-	11.00
	5200	40	6M	-0.504	0.274	2.912	-	-	-	-	11.00
	5240	48	6M	0.673	1.139	3.922	-	-	-	-	11.00
UNII2A	5260	52	6M	3.553	3.587	6.580	-	-	-	-	11.00
	5300	60	6M	3.404	3.861	6.648	-	-	-	-	11.00
	5320	64	6M	3.342	3.552	6.458	-	-	-	-	11.00
UNII2C	5500	100	6M	0.048	0.513	3.297	-	-	-	-	11.00
	5580	116	6M	4.825	4.786	7.815	-	-	-	-	11.00
	5720	144	6M	4.749	5.103	7.940	-	-	-	-	11.00
UNII3	5745	149	6M	1.745	2.313	5.048	-	-	-	-	30 dBm/500kHz
	5785	157	6M	2.545	3.006	5.792	-	-	-	-	30 dBm/500kHz
	5825	165	6M	2.434	2.527	5.491	-	-	-	-	30 dBm/500kHz
UNII4	5845	169	6M	4.993	5.558	8.295	-7.60	-5.90	-3.70	4.595	14 EIRP
	5865	173	6M	5.174	5.581	8.392	-7.60	-5.90	-3.70	4.692	14 EIRP
	5885	177	6M	2.821	3.105	5.975	-7.60	-5.90	-3.70	2.275	14 EIRP

Mode : 802.11n(HT20)											
BAND	Freq. [MHz]	CH.	Worstcase Datarate	Total Power Spectral Density [dBm/MHz]			Ant.1 Gain	Ant.2 Gain	Directional Gain	Max EIRP	Limit
				ANT1	ANT2	MIMO	[dBi]	[dBi]	[dBi]	[dBm/MHz]	[dBm/MHz]
UNII1	5180	36	MCS8	-0.695	-0.267	2.534	-	-	-	-	11.00
	5200	40	MCS8	-0.652	-0.417	2.477	-	-	-	-	11.00
	5240	48	MCS8	0.212	0.642	3.442	-	-	-	-	11.00
UNII2A	5260	52	MCS8	2.885	2.719	5.813	-	-	-	-	11.00
	5300	60	MCS8	2.956	3.071	6.024	-	-	-	-	11.00
	5320	64	MCS8	3.007	2.846	5.937	-	-	-	-	11.00
UNII2C	5500	100	MCS8	0.026	-0.120	2.964	-	-	-	-	11.00
	5580	116	MCS8	3.183	3.223	6.213	-	-	-	-	11.00
	5720	144	MCS8	3.519	3.345	6.443	-	-	-	-	11.00
UNII3	5745	149	MCS8	0.537	0.504	3.530	-	-	-	-	30 dBm/500kHz
	5785	157	MCS8	0.977	1.165	4.082	-	-	-	-	30 dBm/500kHz
	5825	165	MCS8	1.036	0.735	3.898	-	-	-	-	30 dBm/500kHz
UNII4	5845	169	MCS8	3.381	4.010	6.717	-7.60	-5.90	-5.90	0.817	14 EIRP
	5865	173	MCS8	3.579	3.745	6.673	-7.60	-5.90	-5.90	0.773	14 EIRP
	5885	177	MCS8	2.308	2.386	5.357	-7.60	-5.90	-5.90	-0.543	14 EIRP

Mode : 802.11ac(VHT20)											
BAND	Freq. [MHz]	CH.	Worstcase Datarate	Total Power Spectral Density [dBm/MHz]			Ant.1 Gain	Ant.2 Gain	Directional Gain	Max EIRP	Limit
				ANT1	ANT2	MIMO	[dBi]	[dBi]	[dBi]	[dBm/MHz]	[dBm/MHz]
UNII1	5180	36	MCS0	-0.776	-0.405	2.424	-	-	-	-	11.00
	5200	40	MCS0	-1.220	-0.639	2.091	-	-	-	-	11.00
	5240	48	MCS0	0.204	0.308	3.267	-	-	-	-	11.00
UNII2A	5260	52	MCS0	3.011	2.662	5.850	-	-	-	-	11.00
	5300	60	MCS0	2.718	2.909	5.825	-	-	-	-	11.00
	5320	64	MCS0	2.783	2.922	5.863	-	-	-	-	11.00
UNII2C	5500	100	MCS0	-0.119	-0.404	2.751	-	-	-	-	11.00
	5580	116	MCS0	3.197	3.491	6.357	-	-	-	-	11.00
	5720	144	MCS0	3.258	3.513	6.398	-	-	-	-	11.00
UNII3	5745	149	MCS0	0.146	0.378	3.274	-	-	-	-	30 dBm/500kHz
	5785	157	MCS0	0.798	1.033	3.928	-	-	-	-	30 dBm/500kHz
	5825	165	MCS0	1.097	0.832	3.977	-	-	-	-	30 dBm/500kHz
UNII4	5845	169	MCS0	2.932	4.397	6.736	-7.60	-5.90	-5.90	0.836	14 EIRP
	5865	173	MCS0	3.383	3.688	6.549	-7.60	-5.90	-5.90	0.649	14 EIRP
	5885	177	MCS0	2.351	2.485	5.429	-7.60	-5.90	-5.90	-0.471	14 EIRP

Mode : 802.11n(HT40)											
BAND	Freq. [MHz]	CH.	Worstcase Datarate	Total Power Spectral Density [dBm/MHz]			Ant.1 Gain	Ant.2 Gain	Directional Gain	Max EIRP	Limit
				ANT1	ANT2	MIMO	[dBi]	[dBi]	[dBi]	[dBm/MHz]	[dBm/MHz]
UNII1	5190	38	MCS8	-3.441	-3.529	-0.475	-	-	-	-	11.00
	5230	46	MCS8	-2.561	-2.948	0.260	-	-	-	-	11.00
UNII2A	5270	54	MCS8	-0.645	-0.862	2.258	-	-	-	-	11.00
	5310	62	MCS8	-2.424	-2.328	0.634	-	-	-	-	11.00
UNII2C	5510	102	MCS8	-3.990	-3.532	-0.745	-	-	-	-	11.00
	5550	110	MCS8	-3.440	-2.850	-0.125	-	-	-	-	11.00
	5710	142	MCS8	-0.648	-0.735	2.319	-	-	-	-	11.00
UNII3	5755	151	MCS8	-3.709	-3.925	-0.806	-	-	-	-	30 dBm/500kHz
	5795	159	MCS8	-3.175	-3.042	-0.098	-	-	-	-	30 dBm/500kHz
UNII4	5835	167	MCS8	-0.255	-0.542	2.614	-7.60	-5.90	-5.90	-3.286	14 EIRP
	5875	175	MCS8	-1.033	-1.500	1.750	-7.60	-5.90	-5.90	-4.150	14 EIRP

Mode : 802.11ac(VHT40)											
BAND	Freq. [MHz]	CH.	Worstcase Datarate	Total Power Spectral Density [dBm/MHz]			Ant.1 Gain	Ant.2 Gain	Directional Gain	Max EIRP	Limit
				ANT1	ANT2	MIMO	[dBi]	[dBi]	[dBi]	[dBm/MHz]	[dBm/MHz]
UNII1	5190	38	MCS0	-3.578	-3.038	-0.289	-	-	-	-	11.00
	5230	46	MCS0	-3.027	-2.521	0.244	-	-	-	-	11.00
UNII2A	5270	54	MCS0	-0.207	-0.613	2.605	-	-	-	-	11.00
	5310	62	MCS0	-2.955	-1.907	0.611	-	-	-	-	11.00
UNII2C	5510	102	MCS0	-3.902	-3.931	-0.906	-	-	-	-	11.00
	5550	110	MCS0	-3.584	-3.491	-0.527	-	-	-	-	11.00
	5710	142	MCS0	-1.096	-1.161	1.882	-	-	-	-	11.00
UNII3	5755	151	MCS0	-3.475	-3.528	-0.491	-	-	-	-	30 dBm/500kHz
	5795	159	MCS0	-3.382	-3.384	-0.373	-	-	-	-	30 dBm/500kHz
UNII4	5835	167	MCS0	-0.311	-0.687	2.515	-7.60	-5.90	-5.90	-3.385	14 EIRP
	5875	175	MCS0	-1.565	-1.177	1.644	-7.60	-5.90	-5.90	-4.256	14 EIRP

Mode : 802.11ac(VHT80)

BAND	Freq. [MHz]	CH.	Worstcase Datarate	Total Power Spectral Density [dBm/MHz]			Ant.1 Gain	Ant.2 Gain	Directional Gain	Max EIRP	Limit
				ANT1	ANT2	MIMO	[dBi]	[dBi]	[dBi]	[dBm/MHz]	[dBm/MHz]
UNII1	5210	42	MCS0	-6.950	-7.657	-4.278	-	-	-	-	11.00
UNII2A	5290	58	MCS0	-5.288	-4.988	-2.125	-	-	-	-	11.00
UNII2C	5530	106	MCS0	-8.036	-8.559	-5.279	-	-	-	-	11.00
	5610	122	MCS0	-3.969	-4.558	-1.243	-	-	-	-	11.00
	5690	138	MCS0	-4.224	-4.327	-1.265	-	-	-	-	11.00
UNII3	5775	155	MCS0	-6.453	-7.220	-3.809	-	-	-	-	30 dBm/500kHz
UNII4	5855	171	MCS0	-3.916	-4.182	-1.036	-7.60	-5.90	-5.90	-6.936	14 EIRP

Test Plots

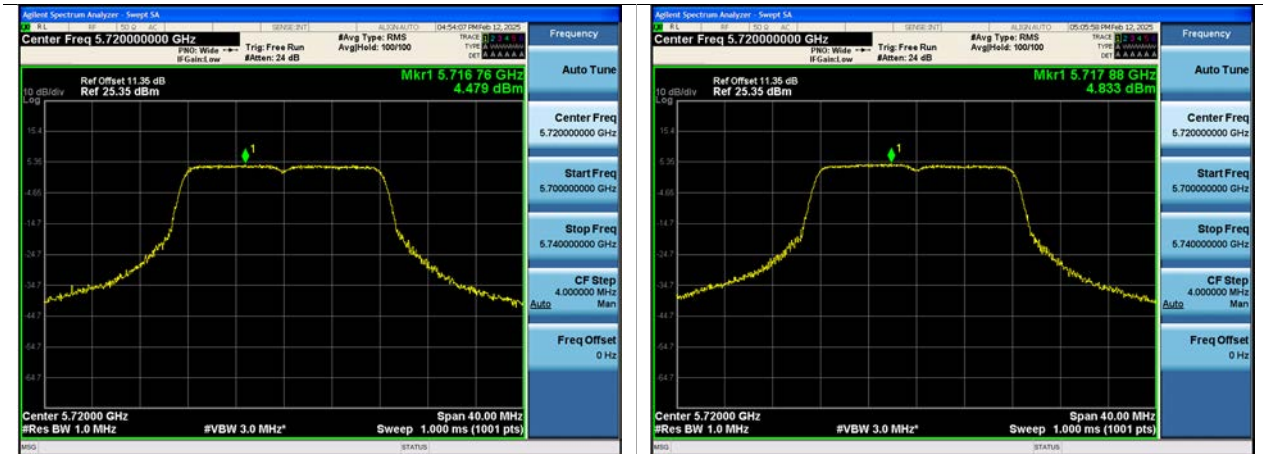
Note: In order to simplify the report, attached plots were only channel of the highest PSD.

[MIMO(Ant.1+ Ant.2)]

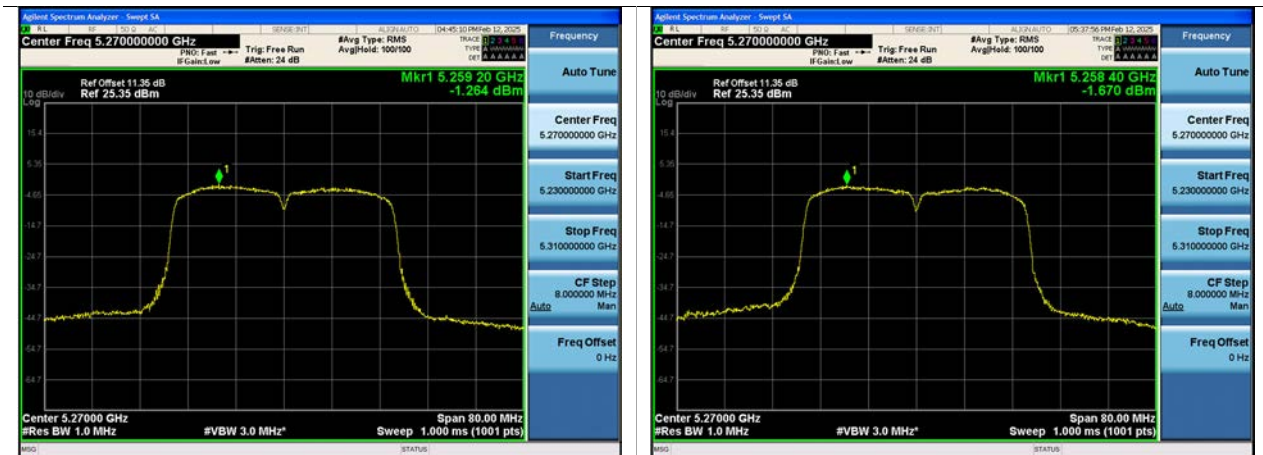
ANT. 1

ANT. 2

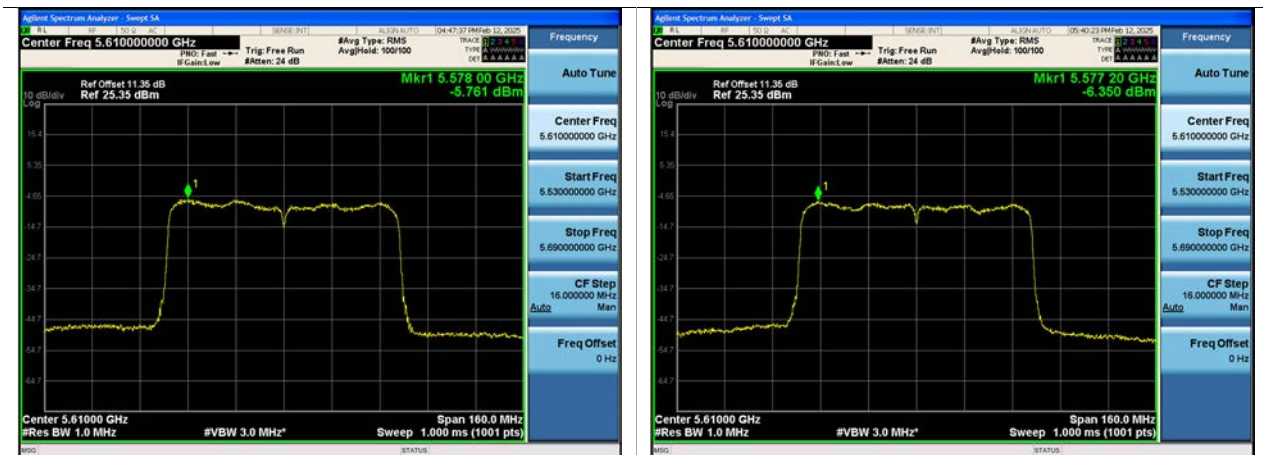
Bandwidth 20M, 802.11a(Ch. 144)



Bandwidth 40M, 802.11ac(VHT40) (Ch. 54)



Bandwidth 80M, 802.11ac(VHT80) (Ch. 122)



10.6 FREQUENCY STABILITY

Note:

1. All modes of operation were investigated and the worst case configuration results are reported.
2. 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.

10.6.1 80 MHz BW

[MIMO(Ant1+Ant2)]

REFERENCE VOLTAGE: 3.86 VDC

Startup after the EUT is energized

OPERATING BAND:			UNII Band 1		UNII Band 2A		UNII Band 2C	
OPERATING FREQUENCY:			5,210,000,000 Hz		5,290,000,000 Hz		5,530,000,000 Hz	
CHANNEL:			42		58		106	
Voltage	Power	Temp.	Frequency	Frequency Error	Frequency	Frequency Error	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)
100%	3.86	+20(Ref)	5210035.26	35.26	5290032.94	32.94	5530032.36	32.36
100%		-30	5210006.16	6.16	5290009.81	9.81	5530006.47	6.47
100%		-20	5210013.90	13.90	5290014.68	14.68	5530011.73	11.73
100%		-10	5210015.25	15.25	5290016.71	16.71	5530017.91	17.91
100%		0	5210025.61	25.61	5290020.44	20.44	5530023.61	23.61
100%		+10	5210027.05	27.05	5290028.13	28.13	5530026.90	26.90
100%		+30	5210040.80	40.80	5290035.81	35.81	5530039.21	39.21
100%		+40	5210040.41	40.41	5290050.89	50.89	5530047.34	47.34
100%		+50	5210050.33	50.33	5290057.07	57.07	5530056.33	56.33
Low	3.40	+20	5210033.77	33.77	5290033.19	33.19	5530033.56	33.56
High	4.40	+20	5210035.86	35.86	5290033.71	33.71	5530030.10	30.10

OPERATING BAND:			UNII Band 3		UNII Band 4	
OPERATING FREQUENCY:			5,775,000,000 Hz		5,855,000,000 Hz	
CHANNEL:			155		171	
Voltage	Power	Temp.	Frequency	Frequency Error	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)	(kHz)	(kHz)
100%	3.86	+20(Ref)	5775030.70	30.70	5855033.61	33.61
100%		-30	5775006.64	6.64	5855007.02	7.02
100%		-20	5775014.34	14.34	5855010.75	10.75
100%		-10	5775019.47	19.47	5855020.90	20.90
100%		0	5775023.98	23.98	5855025.14	25.14
100%		+10	5775026.07	26.07	5855025.07	25.07
100%		+30	5775040.88	40.88	5855038.36	38.36
100%		+40	5775045.25	45.25	5855045.51	45.51
100%		+50	5775058.77	58.77	5855050.57	50.57
Low	3.40	+20	5775030.43	30.43	5855034.96	34.96
High	4.40	+20	5775033.72	33.72	5855032.60	32.60

2 minutes after the EUT is energized

OPERATING BAND:			UNII Band 1		UNII Band 2A		UNII Band 2C	
OPERATING FREQUENCY:			5,210,000,000 Hz		5,290,000,000 Hz		5,530,000,000 Hz	
CHANNEL:			42		58		106	
Voltage	Power	Temp.	Frequency	Frequency Error	Frequency	Frequency Error	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)
100%	3.86	+20(Ref)	5210034.86	34.86	5290030.13	30.13	5530031.30	31.30
100%		-30	5210009.34	9.34	5290006.34	6.34	5530005.56	5.56
100%		-20	5210015.57	15.57	5290012.28	12.28	5530011.56	11.56
100%		-10	5210016.98	16.98	5290017.13	17.13	5530016.54	16.54
100%		0	5210021.84	21.84	5290024.69	24.69	5530023.64	23.64
100%		+10	5210027.67	27.67	5290029.26	29.26	5530030.66	30.66
100%		+30	5210037.06	37.06	5290037.23	37.23	5530039.98	39.98
100%		+40	5210042.09	42.09	5290041.41	41.41	5530043.15	43.15
100%		+50	5210052.07	52.07	5290056.30	56.30	5530051.51	51.51
Low	3.40	+20	5210033.02	33.02	5290030.31	30.31	5530031.05	31.05
High	4.40	+20	5210032.58	32.58	5290032.08	32.08	5530034.57	34.57

OPERATING BAND:			UNII Band 3		UNII Band 4	
OPERATING FREQUENCY:			5,775,000,000 Hz		5,855,000,000 Hz	
CHANNEL:			155		171	
Voltage	Power	Temp.	Frequency	Frequency Error	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)	(kHz)	(kHz)
100%	3.86	+20(Ref)	5775030.78	30.78	5855033.21	33.21
100%		-30	5775009.69	9.69	5855010.78	10.78
100%		-20	5775015.86	15.86	5855010.74	10.74
100%		-10	5775018.61	18.61	5855018.45	18.45
100%		0	5775021.69	21.69	5855023.59	23.59
100%		+10	5775029.95	29.95	5855026.98	26.98
100%		+30	5775038.08	38.08	5855040.21	40.21
100%		+40	5775046.91	46.91	5855043.15	43.15
100%		+50	5775058.65	58.65	5855059.14	59.14
Low	3.40	+20	5775035.75	35.75	5855034.13	34.13
High	4.40	+20	5775032.05	32.05	5855032.25	32.25

5 minutes after the EUT is energized

OPERATING BAND:			UNII Band 1		UNII Band 2A		UNII Band 2C	
OPERATING FREQUENCY:			5,210,000,000 Hz		5,290,000,000 Hz		5, 530,000,000 Hz	
CHANNEL:			42		58		106	
Voltage	Power	Temp.	Frequency	Frequency Error	Frequency	Frequency Error	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)
100%	3.86	+20(Ref)	5210030.87	30.87	5290035.93	35.93	5530033.41	33.41
100%		-30	5210009.72	9.72	5290009.18	9.18	5530010.31	10.31
100%		-20	5210015.80	15.80	5290011.33	11.33	5530012.29	12.29
100%		-10	5210019.86	19.86	5290017.67	17.67	5530020.58	20.58
100%		0	5210022.23	22.23	5290025.63	25.63	5530022.21	22.21
100%		+10	5210029.55	29.55	5290029.54	29.54	5530029.67	29.67
100%		+30	5210038.41	38.41	5290035.28	35.28	5530040.02	40.02
100%		+40	5210049.75	49.75	5290050.05	50.05	5530047.23	47.23
100%		+50	5210052.64	52.64	5290060.32	60.32	5530059.03	59.03
Low	3.40	+20	5210032.59	32.59	5290030.10	30.10	5530032.26	32.26
High	4.40	+20	5210034.74	34.74	5290034.99	34.99	5530035.54	35.54

OPERATING BAND:			UNII Band 3		UNII Band 4	
OPERATING FREQUENCY:			5,775,000,000 Hz		5,855,000,000 Hz	
CHANNEL:			155		171	
Voltage	Power	Temp.	Frequency	Frequency Error	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)	(kHz)	(kHz)
100%	3.86	+20(Ref)	5775031.32	31.32	5855034.68	34.68
100%		-30	5775010.79	10.79	5855008.71	8.71
100%		-20	5775010.09	10.09	5855014.45	14.45
100%		-10	5775016.23	16.23	5855018.20	18.20
100%		0	5775024.04	24.04	5855021.09	21.09
100%		+10	5775030.02	30.02	5855030.32	30.32
100%		+30	5775036.09	36.09	5855037.09	37.09
100%		+40	5775045.13	45.13	5855047.65	47.65
100%		+50	5775060.11	60.11	5855059.85	59.85
Low	3.40	+20	5775034.34	34.34	5855030.31	30.31
High	4.40	+20	5775034.03	34.03	5855031.69	31.69

10 minutes after the EUT is energized

OPERATING BAND:			UNII Band 1		UNII Band 2A		UNII Band 2C	
OPERATING FREQUENCY:			5,210,000,000 Hz		5,290,000,000 Hz		5,530,000,000 Hz	
CHANNEL:			42		58		106	
Voltage	Power	Temp.	Frequency	Frequency Error	Frequency	Frequency Error	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)
100%	3.86	+20(Ref)	5210030.38	30.38	5290033.61	33.61	5530031.34	31.34
100%		-30	5210006.59	6.59	5290010.08	10.08	5530005.45	5.45
100%		-20	5210012.13	12.13	5290010.41	10.41	5530014.93	14.93
100%		-10	5210016.31	16.31	5290015.27	15.27	5530018.24	18.24
100%		0	5210022.37	22.37	5290020.79	20.79	5530021.51	21.51
100%		+10	5210030.86	30.86	5290027.59	27.59	5530028.13	28.13
100%		+30	5210035.79	35.79	5290038.30	38.30	5530040.38	40.38
100%		+40	5210043.81	43.81	5290050.12	50.12	5530045.51	45.51
100%		+50	5210052.47	52.47	5290051.44	51.44	5530056.48	56.48
Low	3.40	+20	5210034.77	34.77	5290034.19	34.19	5530031.30	31.30
High	4.40	+20	5210030.42	30.42	5290034.66	34.66	5530033.25	33.25

OPERATING BAND:			UNII Band 3		UNII Band 4	
OPERATING FREQUENCY:			5,775,000,000 Hz		5,855,000,000 Hz	
CHANNEL:			155		171	
Voltage	Power	Temp.	Frequency	Frequency Error	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)	(kHz)	(kHz)
100%	3.86	+20(Ref)	5775030.88	30.88	5855034.12	34.12
100%		-30	5775006.36	6.36	5855007.58	7.58
100%		-20	5775015.87	15.87	5855014.86	14.86
100%		-10	5775019.74	19.74	5855016.87	16.87
100%		0	5775020.76	20.76	5855025.70	25.70
100%		+10	5775027.24	27.24	5855028.54	28.54
100%		+30	5775038.37	38.37	5855037.20	37.20
100%		+40	5775050.37	50.37	5855041.59	41.59
100%		+50	5775050.46	50.46	5855059.47	59.47
Low	3.40	+20	5775035.49	35.49	5855032.89	32.89
High	4.40	+20	5775033.47	33.47	5855030.75	30.75

10.7 STRADDLE CHANNEL

Test Description	Note
26 dB Bandwidth	[UNII 2C] 26 dB Bandwidth = 5725 MHz - Measured Frequency[MHz] [UNII 3] 26 dB Bandwidth = Measured Frequency[MHz] - 5725 MHz
6 dB Bandwidth	6 dB Bandwidth = Measured Frequency[MHz] - 5725 MHz - Limit : > 0.5 MHz
Output Power	- Limit(UNII2C) : 23.98 dBm or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.) - Limit(UNII 3) : 30.00 dBm - Total Power (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)
Power Spectral Density	- Limit(UNII 2C) : 11.0 dBm/MHz - Limit(UNII 3) : 30.0 dBm/500kHz - Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

[SISO(Ant.2)]

Mode	Band	Freq. [MHz]	CH.	26dB BW [MHz]	6dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11a	UNII2C	5720	144	15.88	-	14.87	23.01	4.507	11
802.11n(HT20)				16.32	-	13.66	23.13	3.197	11
802.11ac(VHT20)				16.36	-	13.68	23.14	3.224	11
802.11a	UNII3	5720	144	5.56	3.20	8.56	30.00	1.269	30 dBm/500kHz
802.11n(HT20)				6.24	3.84	7.82	30.00	-0.182	30 dBm/500kHz
802.11ac(VHT20)				6.16	3.84	7.83	30.00	0.068	30 dBm/500kHz

Mode	Band	Freq. [MHz]	CH.	26dB BW [MHz]	6dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11n(HT40)	UNII2C	5710	142	35.48	-	12.77	23.98	-0.884	11
802.11ac(VHT40)				35.48	-	12.76	23.98	-0.833	11
802.11n(HT40)	UNII3	5710	142	5.16	2.60	0.81	30.00	-5.703	30 dBm/500kHz
802.11ac(VHT40)				5.00	2.60	0.82	30.00	-5.236	30 dBm/500kHz

Mode	Band	Freq. [MHz]	CH.	26dB BW [MHz]	6dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11ac(VHT80)	UNII2C	5690	138	75.80	-	12.21	23.98	-4.177	11
802.11ac(VHT80)	UNII3	5690	138	5.64	2.76	-3.47	30.00	-9.624	30 dBm/500kHz

[MIMO(Ant.1)]

Mode	Band	Freq. [MHz]	CH.	26dB BW [MHz]	6dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11a	UNII2C	5720	144	15.88	-	14.91	23.01	4.699	11
802.11n(HT20)				16.20	-	13.16	23.10	2.572	11
802.11ac(VHT20)				16.16	-	13.05	23.08	2.887	11
802.11a	UNII3	5720	144	5.52	3.20	8.70	30.00	1.379	30 dBm/500kHz
802.11n(HT20)				6.20	3.80	7.37	30.00	-0.602	30 dBm/500kHz
802.11ac(VHT20)				6.24	3.80	7.28	30.00	-0.585	30 dBm/500kHz

Mode	Band	Freq. [MHz]	CH.	26dB BW [MHz]	6dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11n(HT40)	UNII2C	5710	142	35.40	-	12.37	23.98	-1.250	11
802.11ac(VHT40)				35.48	-	12.38	23.98	-1.126	11
802.11n(HT40)	UNII3	5710	142	5.24	2.60	0.43	30.00	-5.756	30 dBm/500kHz
802.11ac(VHT40)				5.08	2.60	0.51	30.00	-6.031	30 dBm/500kHz

Mode	Band	Freq. [MHz]	CH.	26dB BW [MHz]	6dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11ac(VHT80)	UNII2C	5690	138	75.64	-	11.98	23.98	-4.278	11
802.11ac(VHT80)	UNII3	5690	138	5.00	2.76	-3.54	30.00	-9.720	30 dBm/500kHz

[MIMO(Ant.2)]

Mode	Band	Freq. [MHz]	CH.	26dB BW [MHz]	6dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11a	UNII2C	5720	144	15.88	-	14.87	23.01	4.507	11
802.11n(HT20)				16.16	-	13.22	23.08	2.781	11
802.11ac(VHT20)				16.20	-	13.15	23.10	2.733	11
802.11a	UNII3	5720	144	5.56	3.24	8.56	30.00	1.269	30 dBm/500kHz
802.11n(HT20)				5.88	3.84	7.32	30.00	-0.408	30 dBm/500kHz
802.11ac(VHT20)				5.84	3.84	7.30	30.00	-0.630	30 dBm/500kHz

Mode	Band	Freq. [MHz]	CH.	26dB BW [MHz]	6dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11n(HT40)	UNII2C	5710	142	35.00	-	12.18	23.98	-1.014	11
802.11ac(VHT40)				34.84	-	12.18	23.98	-1.324	11
802.11n(HT40)	UNII3	5710	142	4.84	2.60	0.13	30.00	-6.256	30 dBm/500kHz
802.11ac(VHT40)				5.08	2.60	0.14	30.00	-6.073	30 dBm/500kHz

Mode	Band	Freq. [MHz]	CH.	26dB BW [MHz]	6dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11ac(VHT80)	UNII2C	5690	138	75.48	-	11.65	23.98	-4.283	11
802.11ac(VHT80)	UNII3	5690	138	5.16	2.76	-3.87	30.00	-9.365	30 dBm/500kHz

☐ Test Plots (26 dB Bandwidth)
[MIMO(Ant.1)]

802.11a UNII Band



802.11n(HT20) UNII Band



802.11ac(VHT20) UNII Band



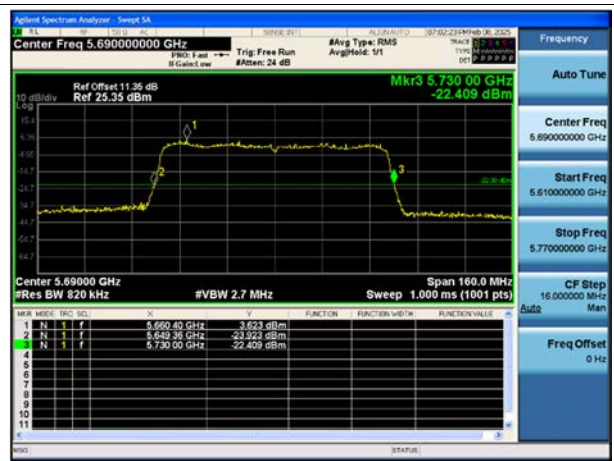
802.11n(HT40) UNII Band



802.11ac(VHT40) UNII Band



802.11ac(VHT80) UNII Band



[MIMO(Ant.2)]

802.11a UNII Band



802.11n(HT20) UNII Band



802.11ac(VHT20) UNII Band



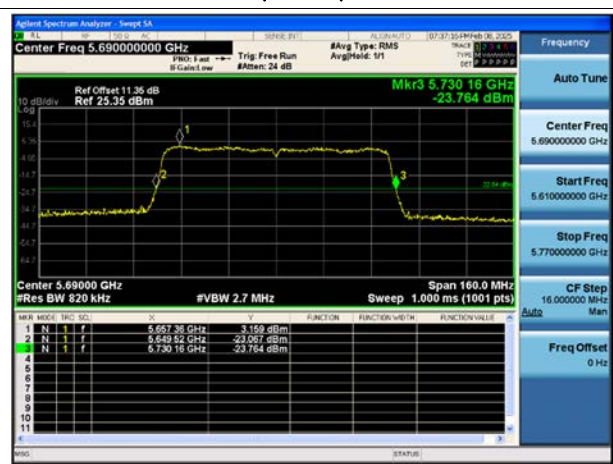
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802.11ac(VHT40) UNII Band

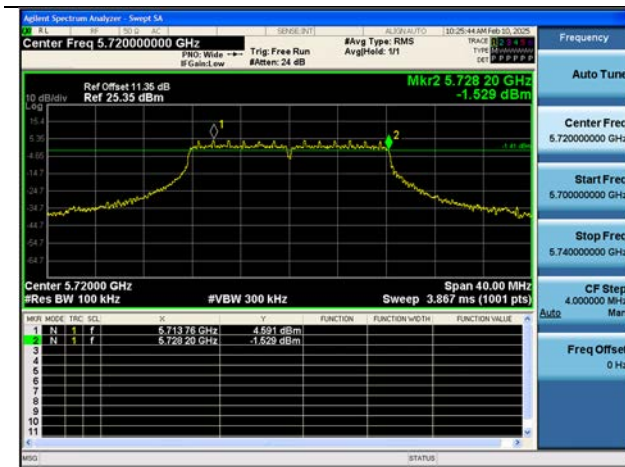


802.11ac(VHT80) UNII Band

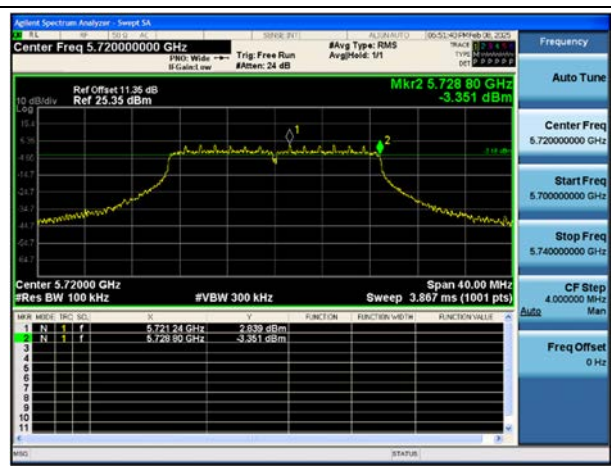


□ Test Plots(UNII 3 Band 6 dB Bandwidth)
[MIMO(Ant.1)]

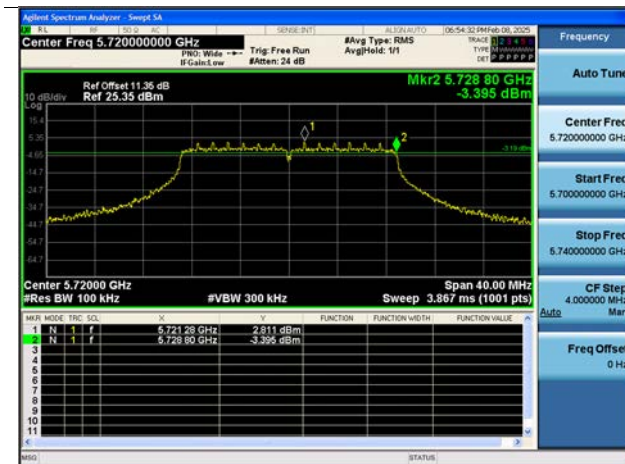
802.11a UNII Band



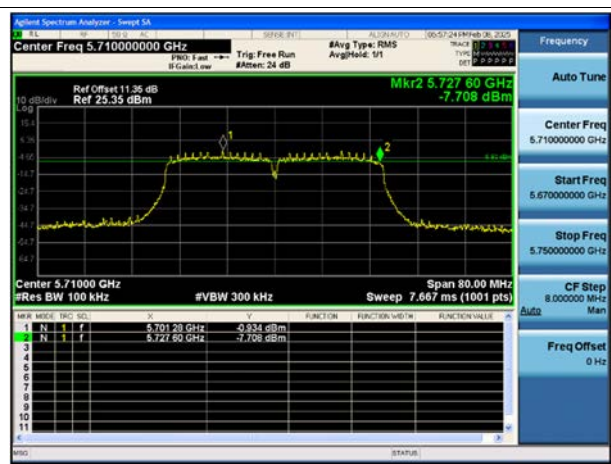
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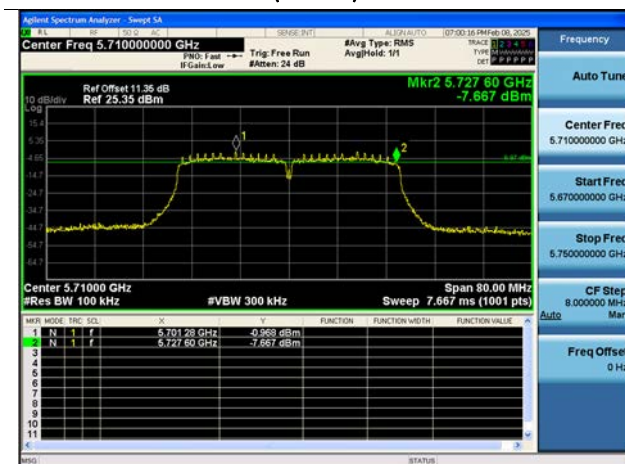
802.11ac(VHT20) UNII Band



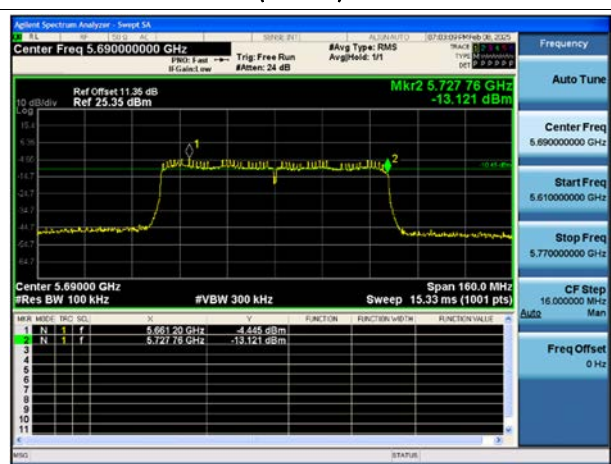
802.11n(HT40) UNII Band



802.11ac(VHT40) UNII Band

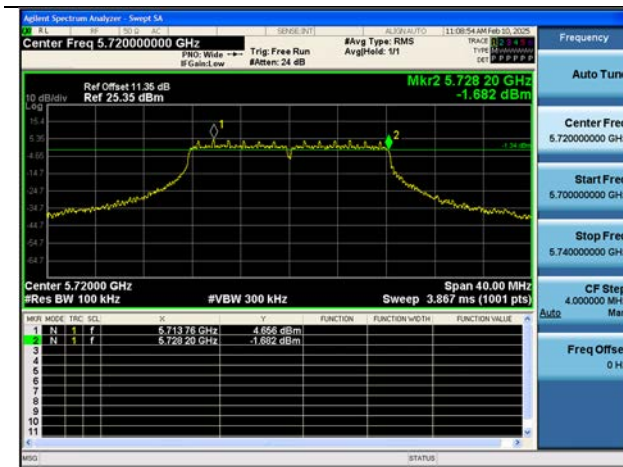


802.11ac(VHT80) UNII Band

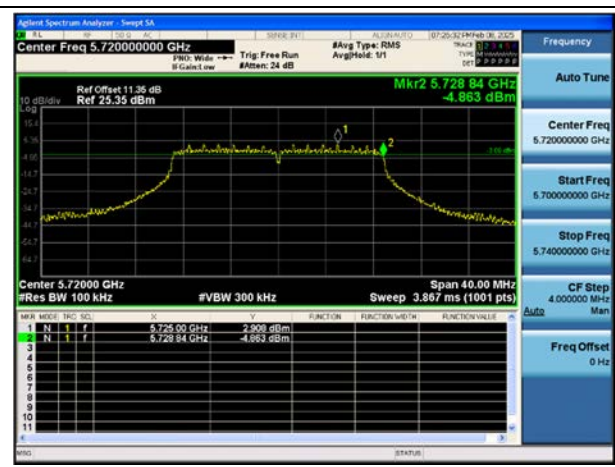


[MIMO(Ant.2)]

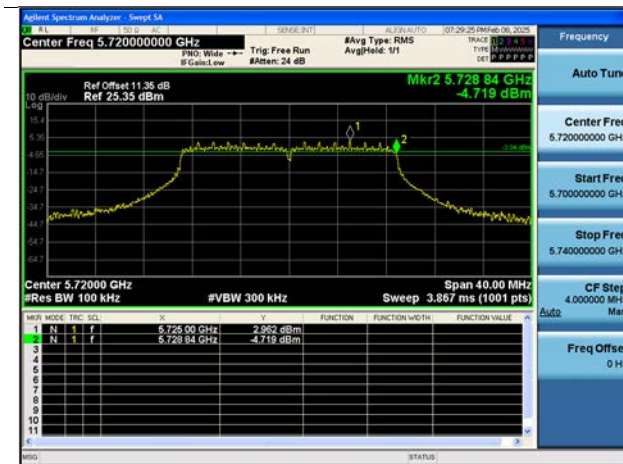
802.11a UNII Band



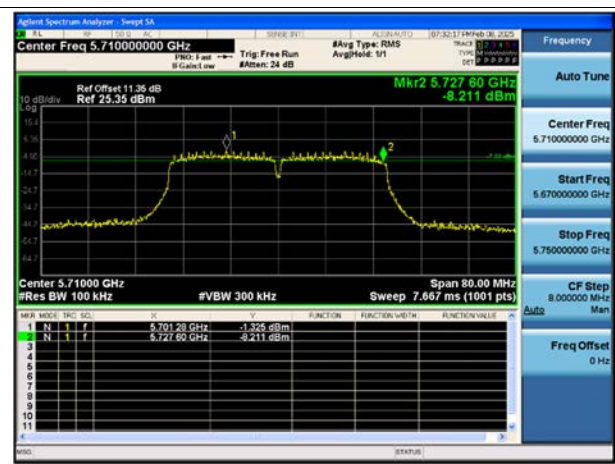
802.11n(HT20) UNII Band



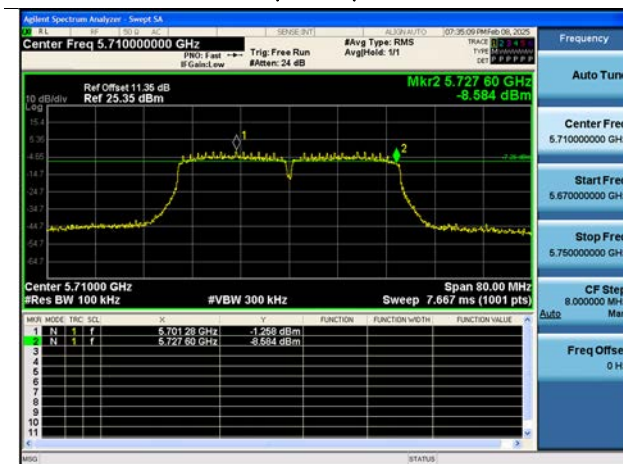
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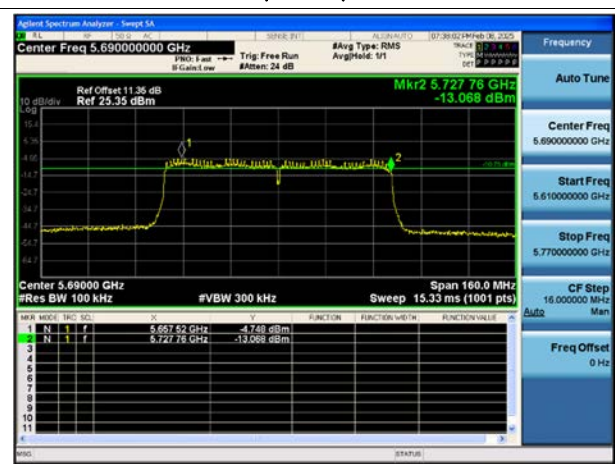
802.11n(HT40) UNII Band



802.11ac(VHT40) UNII Band

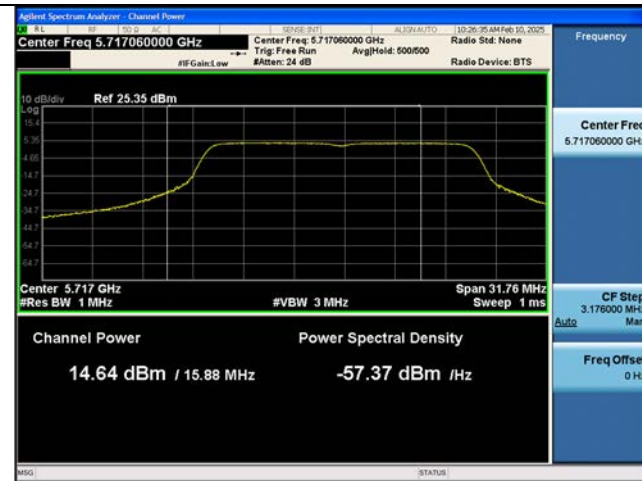


802.11ac(VHT80) UNII Band



Test Plots(Output Power)
[MIMO(Ant.1)]

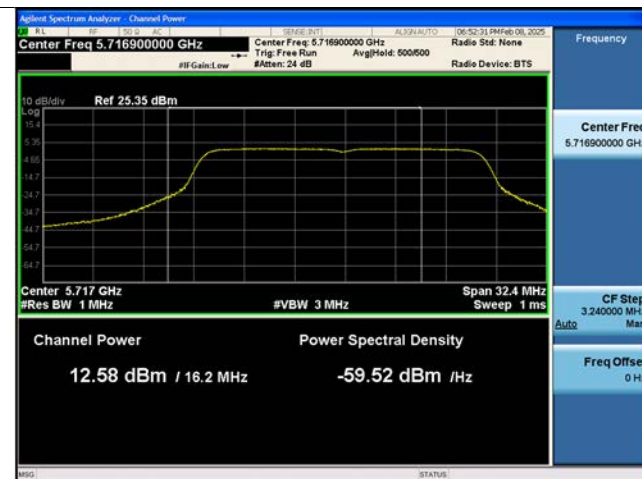
802.11a UNII 2C Band



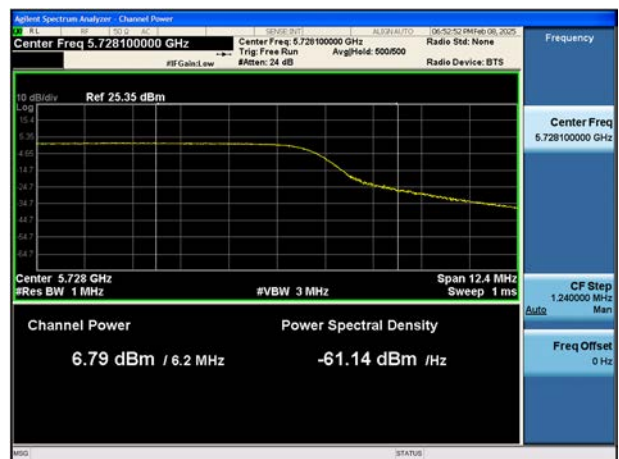
802.11a UNII 3 Band



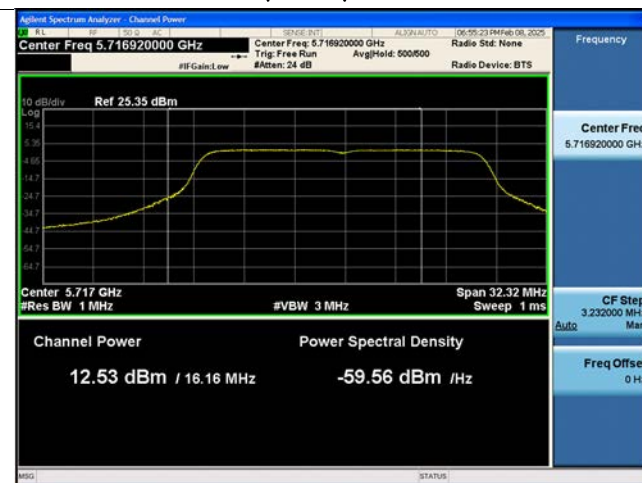
802.11n(HT20) UNII 2C Band



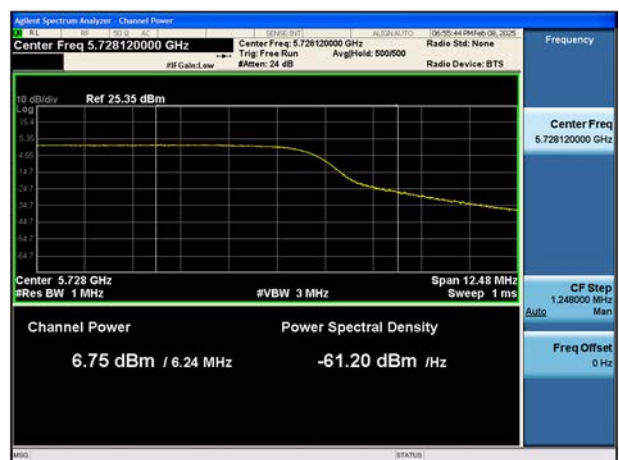
802.11n(HT20) UNII 3 Band



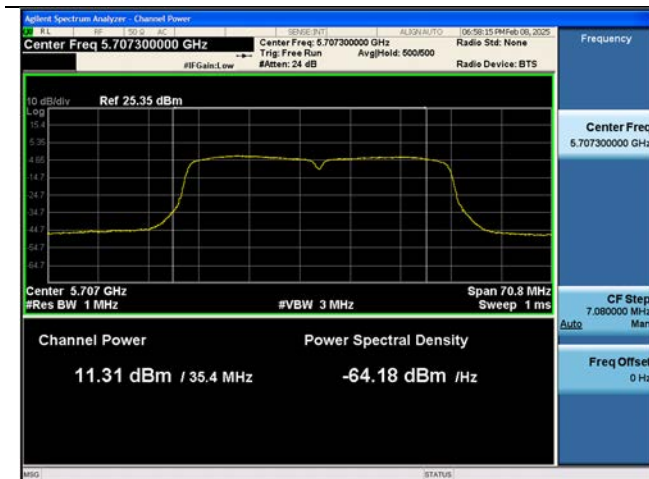
802.11ac(VHT20) UNII 2C Band



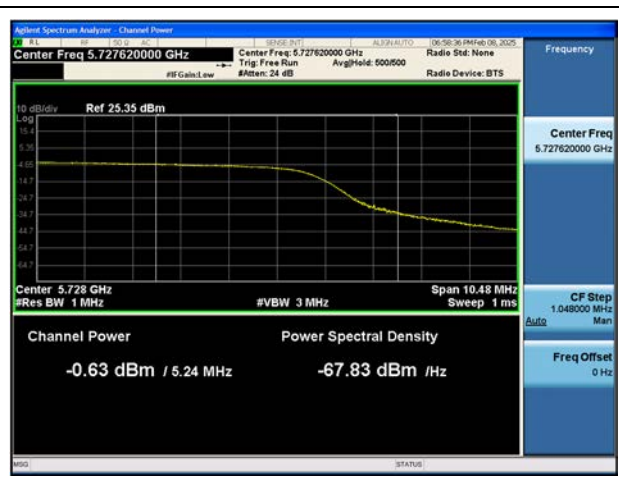
802.11ac(VHT20) UNII 3 Band



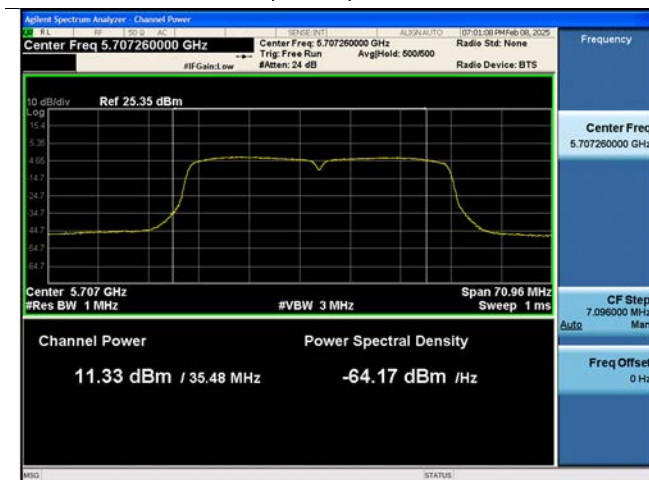
802.11n(HT40) UNII 2C Band



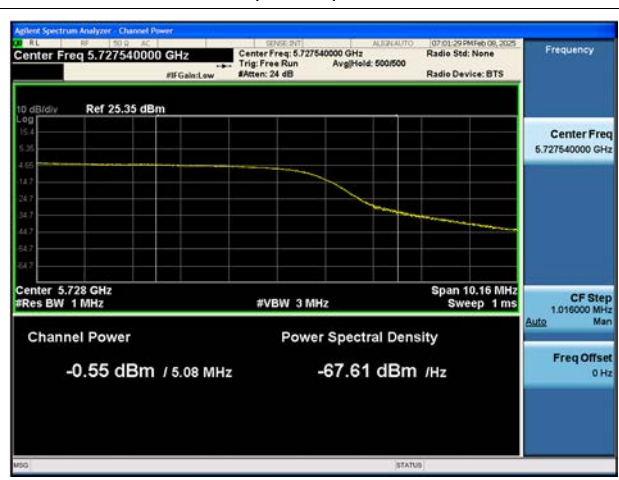
802.11n(HT40) UNII 3 Band



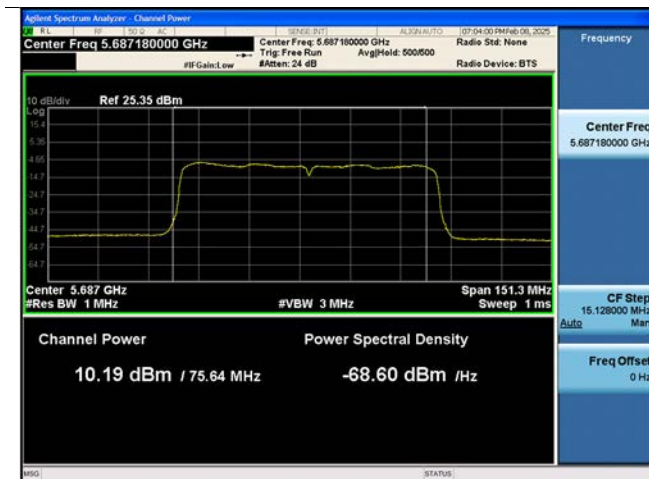
802.11ac(VHT40) UNII 2C Band



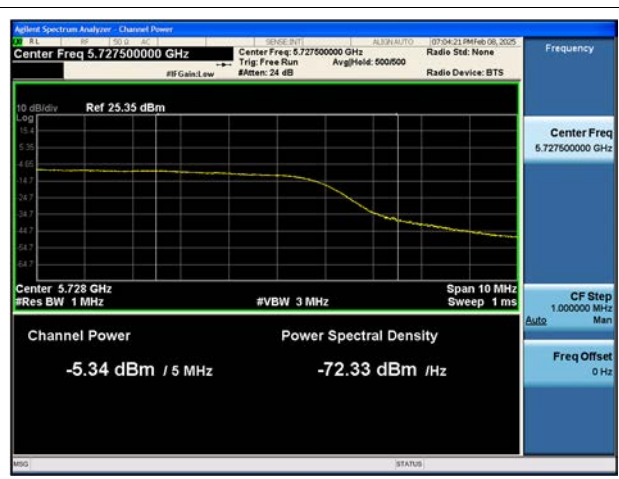
802.11ac(VHT40) UNII 3 Band



802.11ac(VHT80) UNII 2C Band

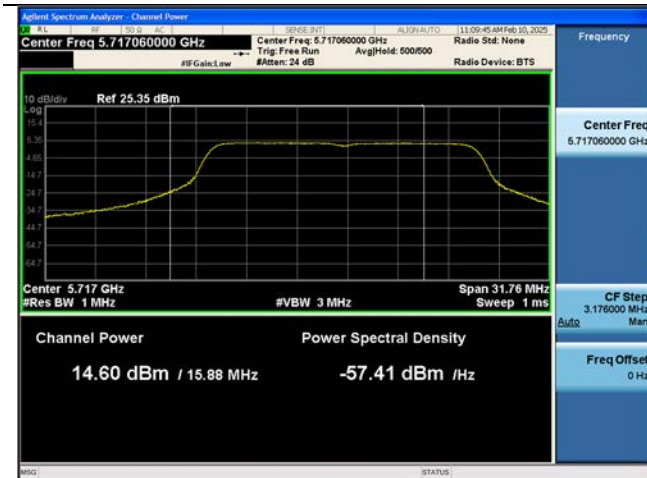


802.11ac(VHT80) UNII 3 Band



[MIMO(Ant.2)]

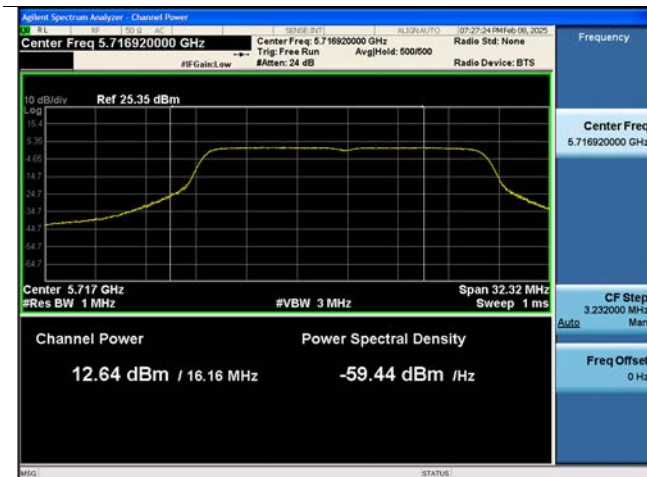
802.11a UNII 2C Band



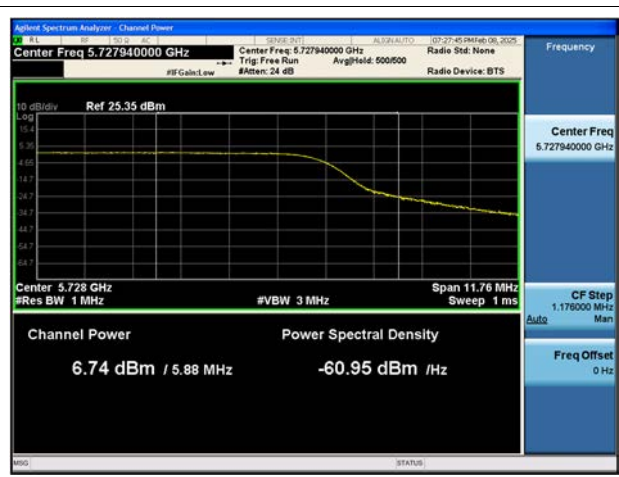
802.11a UNII 3 Band



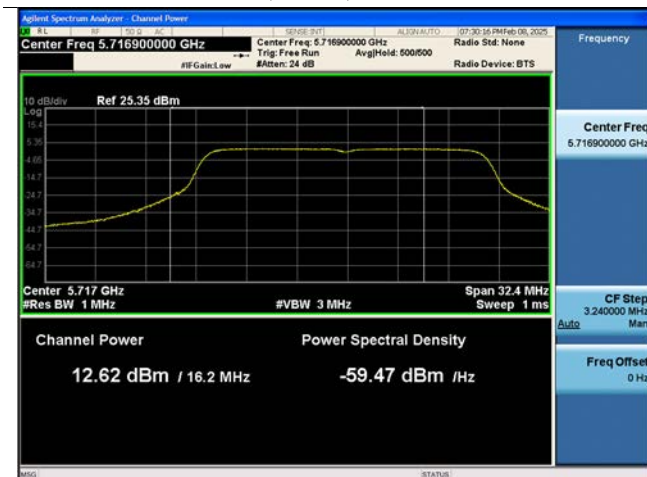
802.11n(HT20) UNII 2C Band



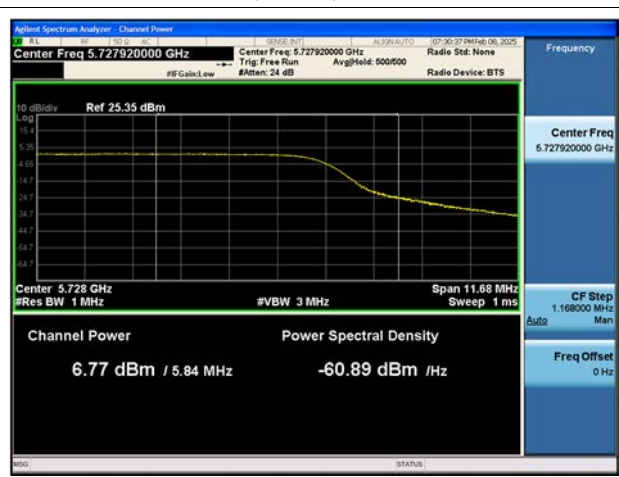
802.11n(HT20) UNII 3 Band



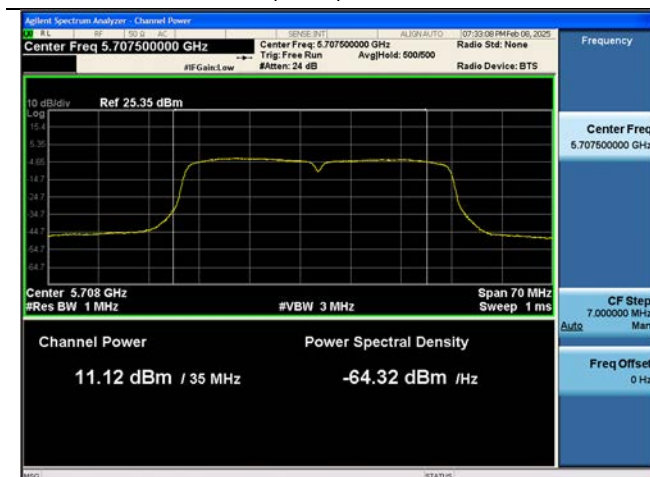
802.11ac(VHT20) UNII 2C Band



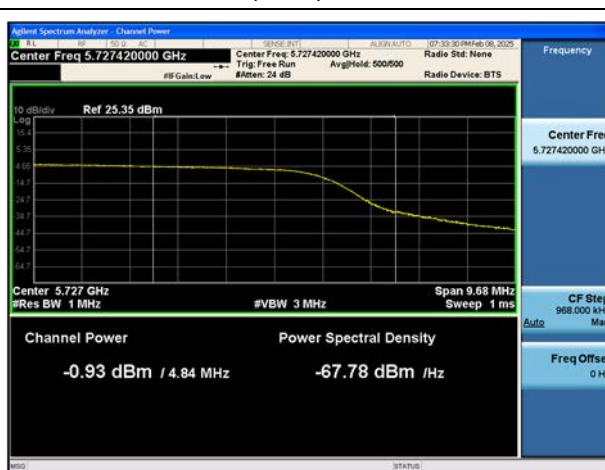
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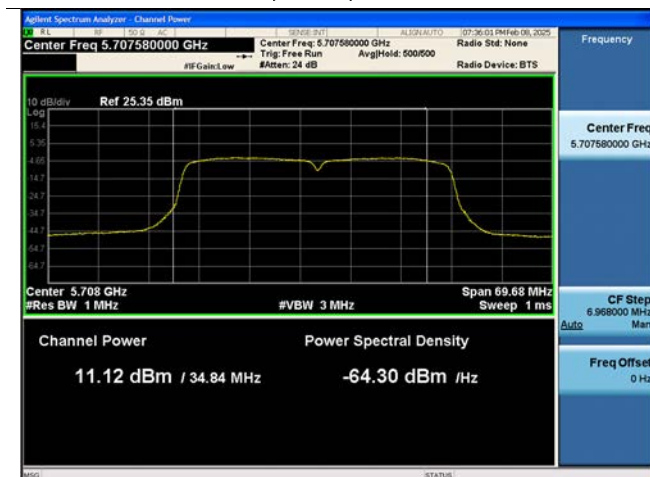
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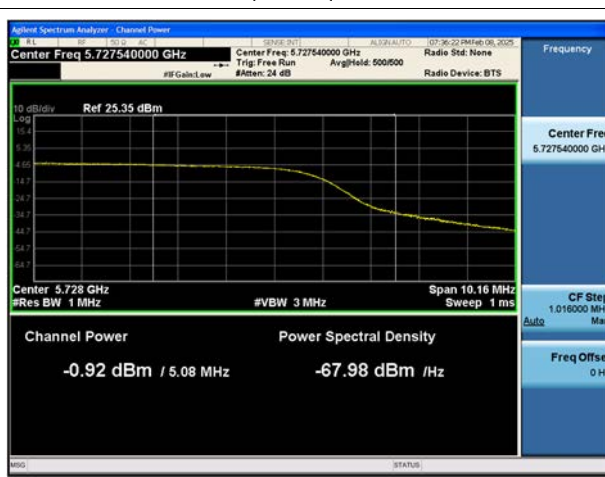
802.11n(HT40) UNII 3 Band



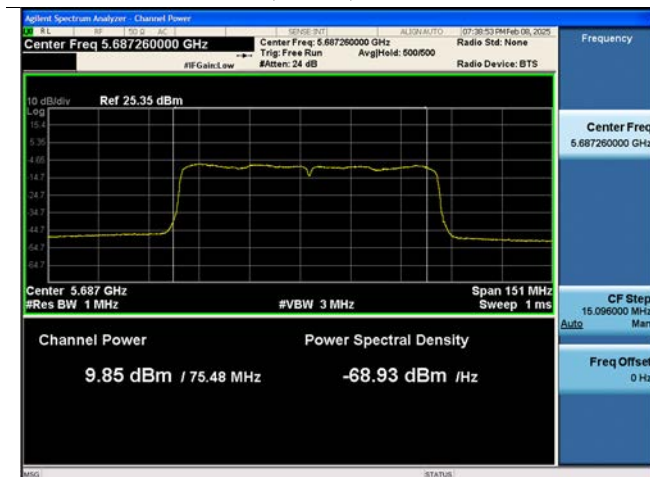
802.11ac(VHT40) UNII 2C Band



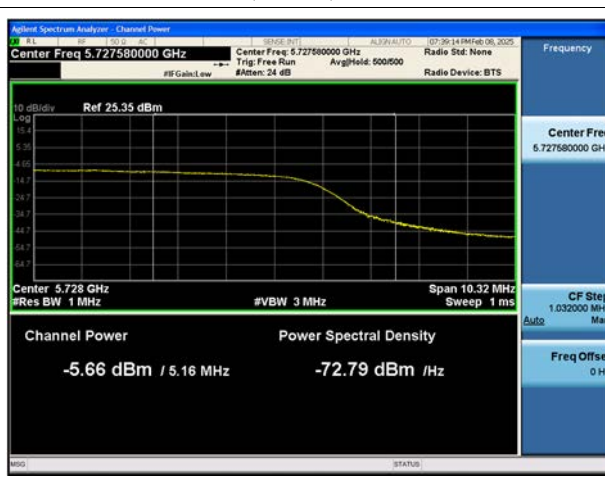
802.11ac(VHT40) UNII 3 Band



802.11ac(VHT80) UNII 2C Band

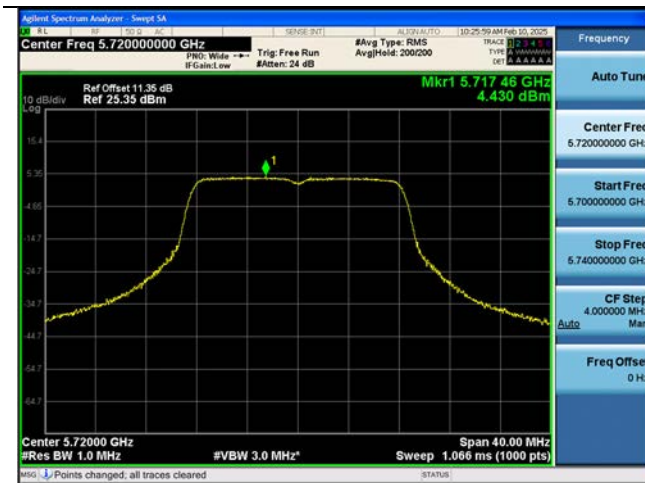


802.11ac(VHT80) UNII 3 Band



Test Plots(Power Spectral Density)
[MIMO(Ant.1)]

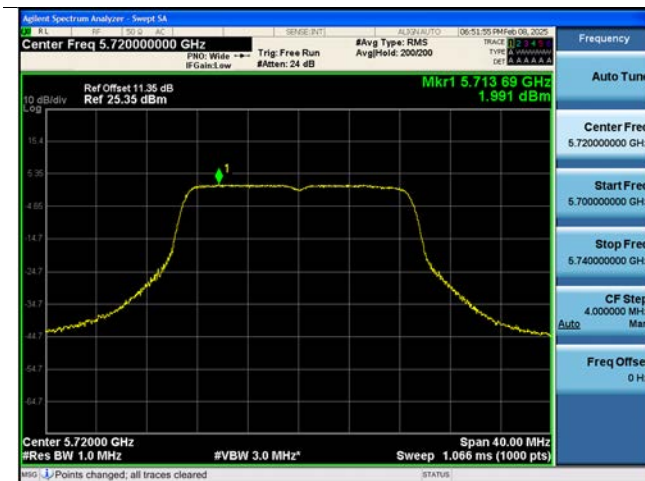
802.11a UNII 2C Band



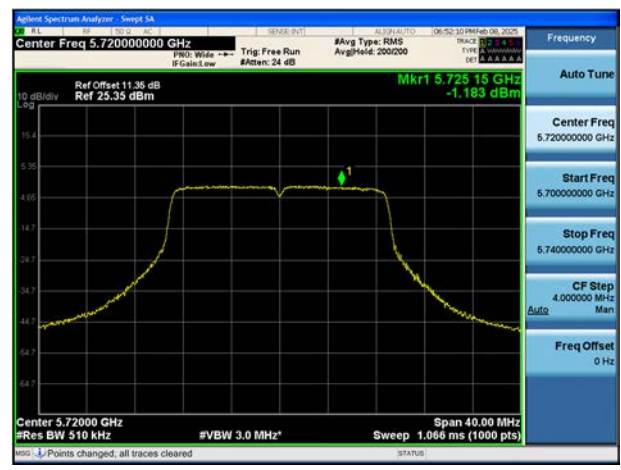
802.11a UNII 3 Band



802.11n(HT20) UNII 2C Band



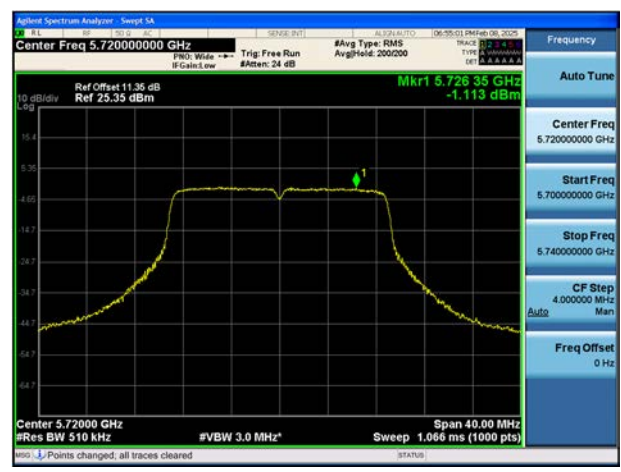
802.11n(HT20) UNII 3 Band



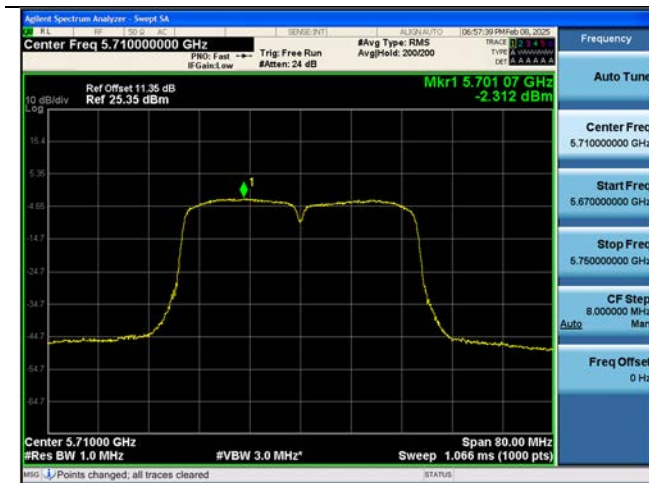
802.11ac(VHT20) UNII 2C Band



802.11ac(VHT20) UNII 3 Band



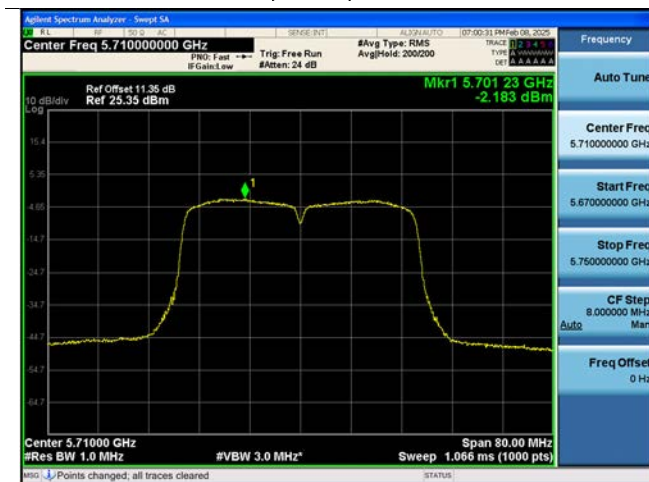
802.11n(HT40) UNII 2C Band



802.11n(HT40) UNII 3 Band



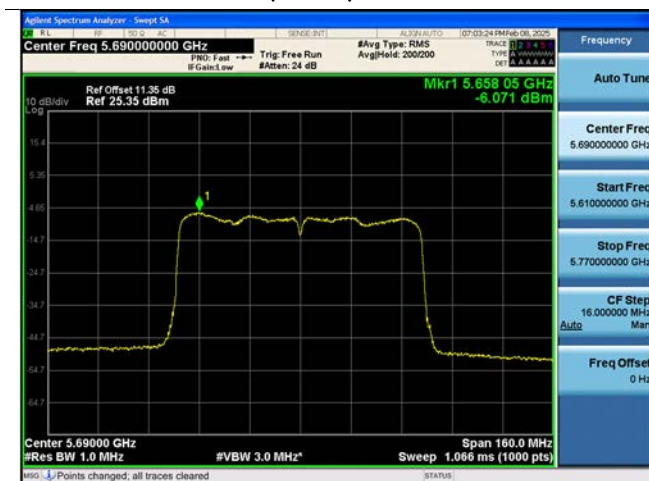
802.11ac(VHT40) UNII 2C Band



802.11ac(VHT40) UNII 3 Band



802.11ac(VHT80) UNII 2C Band

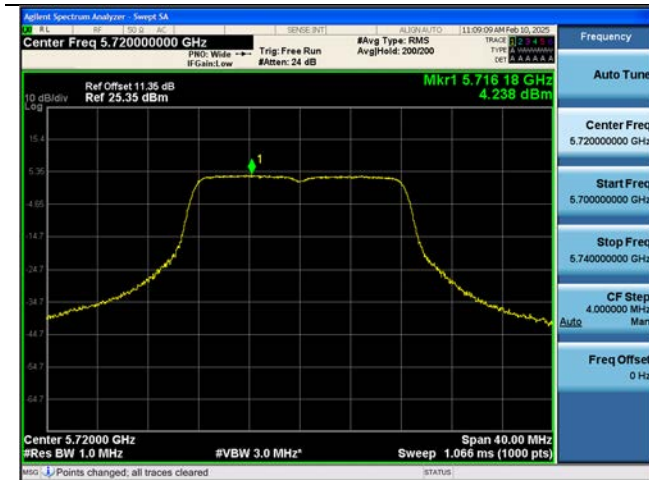


802.11ac(VHT80) UNII 3 Band

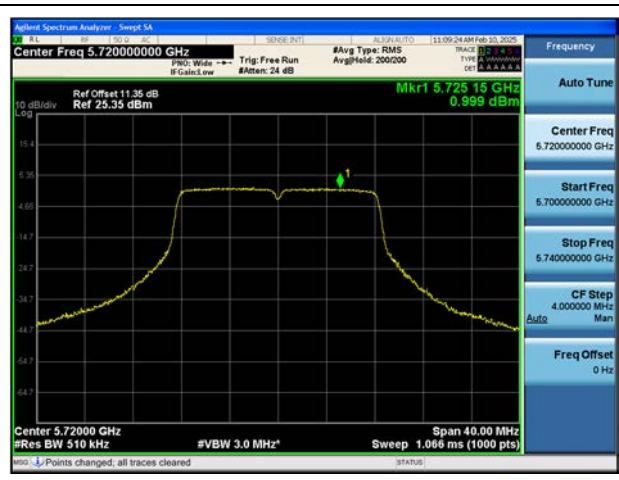


[MIMO(Ant.2)]

802.11a UNII 2C Band



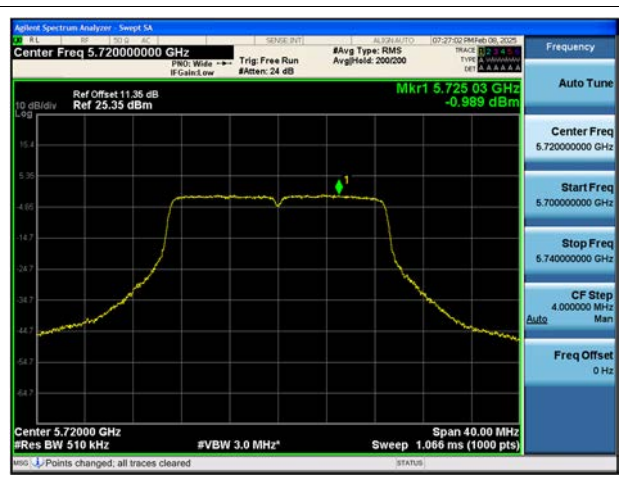
802.11a UNII 3 Band



802.11n(HT20) UNII 2C Band



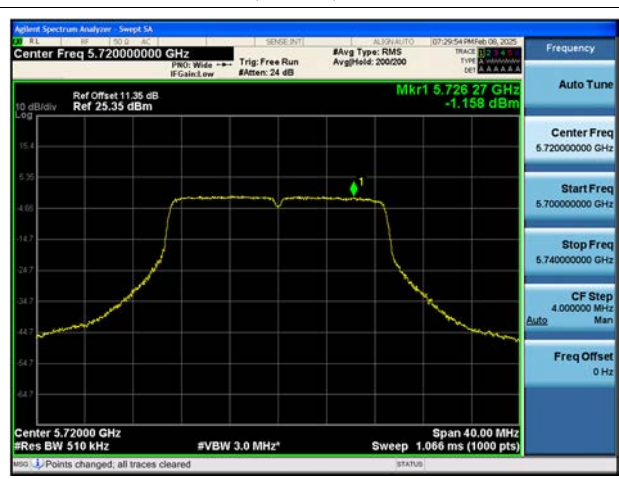
802.11n(HT20) UNII 3 Band



802.11ac(VHT20) UNII 2C Band



802.11ac(VHT20) UNII 3 Band



802.11n(HT40) UNII 2C Band



802.11n(HT40) UNII 3 Band



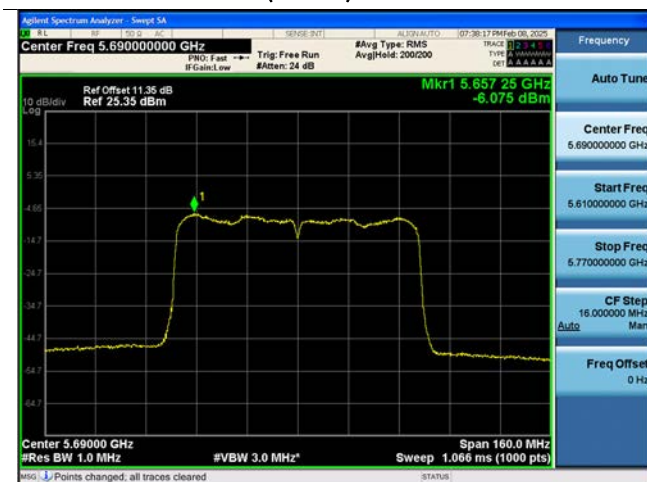
802.11ac(VHT40) UNII 2C Band



802.11ac(VHT40) UNII 3 Band



802.11ac(VHT80) UNII 2C Band



802.11ac(VHT80) UNII 3 Band



10.8 RADIATED SPURIOUS EMISSIONS

Frequency Range : 9 kHz – 30 MHz

Frequency	Measured Value	CL+AF+DF-AG	ANT. POL	Total	Limit	Margin
[MHz]	[dB μ V]	[dB/m]	[H/V]	[dB μ V/m]	[dB μ V/m]	[dB]
No Critical peaks found						

Note:

1. The Measured Value of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
2. Distance extrapolation factor = $40\log(\text{specific distance} / \text{test distance})$ (dB)
3. Limit line = specific Limits (dB μ V) + Distance extrapolation factor

Frequency Range : Below 1 GHz

Frequency	Measured Value	A.F+C.L	ANT. POL	Total	Limit	Margin
[MHz]	[dB μ V]	[dB/m]	[H/V]	[dB μ V/m]	[dB μ V/m]	[dB]
No Critical peaks found						

Note:

1. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode

Frequency Range : Above 1 GHz

[MIMO(Ant1+Ant2)]

802.11a_6Mbps							
Band : UNII 1			Operation Mode : 802.11a_6Mbps				
CH.36 5180 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
10360	52.63	-0.35	V	52.28	68.20	15.92	PK
15540	49.01	2.39	V	51.40	73.98	22.58	PK
15540	35.68	2.39	V	38.07	53.98	15.91	AV
10360	52.58	-0.35	H	52.23	68.20	15.97	PK
15540	49.11	2.39	H	51.50	73.98	22.48	PK
15540	35.91	2.39	H	38.30	53.98	15.68	AV

802.11a_6Mbps							
Band : UNII 1			Operation Mode : 802.11a_6Mbps				
CH.40 5200 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
10400	51.85	0.65	V	52.50	68.20	15.70	PK
15600	49.52	2.12	V	51.64	73.98	22.34	PK
15600	37.17	2.12	V	39.29	53.98	14.69	AV
10400	51.58	0.65	H	52.23	68.20	15.97	PK
15600	49.72	2.12	H	51.84	73.98	22.14	PK
15600	37.01	2.12	H	39.13	53.98	14.85	AV

802.11a_6Mbps							
Band : UNII 1			Operation Mode : 802.11a_6Mbps				
CH.48 5240 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
10480	51.65	-0.56	V	51.09	68.20	17.11	PK
15720	49.38	1.18	V	50.56	73.98	23.42	PK
15720	36.77	1.18	V	37.95	53.98	16.03	AV
10480	51.48	-0.56	H	50.92	68.20	17.28	PK
15720	49.84	1.18	H	51.02	73.98	22.96	PK
15720	36.62	1.18	H	37.80	53.98	16.18	AV

802.11a_6Mbps							
Band : UNII 2A			Operation Mode : 802.11a_6Mbps				
CH.52 5260 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
10520	52.14	-0.68	V	51.46	68.20	16.74	PK
15780	48.39	1.35	V	49.74	73.98	24.24	PK
15780	36.04	1.35	V	37.39	53.98	16.59	AV
10520	52.03	-0.68	H	51.35	68.20	16.85	PK
15780	49.63	1.35	H	50.98	73.98	23.00	PK
15780	35.81	1.35	H	37.16	53.98	16.82	AV

Band : UNII 2A			Operation Mode : 802.11a_6Mbps				
CH.60 5300 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
10600	51.79	-0.16	V	51.63	73.98	22.35	PK
10600	40.54	-0.16	V	40.38	53.98	13.60	AV
15900	49.49	0.84	V	50.33	73.98	23.65	PK
15900	35.81	0.84	V	36.65	53.98	17.33	AV
10600	51.81	-0.16	H	51.65	73.98	22.33	PK
10600	39.32	-0.16	H	39.16	53.98	14.82	AV
15900	49.58	0.84	H	50.42	73.98	23.56	PK
15900	35.71	0.84	H	36.55	53.98	17.43	AV

Band : UNII 2A			Operation Mode : 802.11a_6Mbps				
CH.64 5320 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
10640	54.66	-0.36	V	54.30	73.98	19.68	PK
10640	42.18	-0.36	V	41.82	53.98	12.16	AV
15960	49.14	1.21	V	50.35	73.98	23.63	PK
15960	36.34	1.21	V	37.55	53.98	16.43	AV
10640	53.22	-0.36	H	52.86	73.98	21.12	PK
10640	39.54	-0.36	H	39.18	53.98	14.80	AV
15960	49.67	1.21	H	50.88	73.98	23.10	PK
15960	36.07	1.21	H	37.28	53.98	16.70	AV

Band : UNII 2C			Operation Mode : 802.11a_6Mbps				
CH.100 5500 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11000	51.03	0.06	V	51.09	73.98	22.89	PK
11000	39.24	0.06	V	39.30	53.98	14.68	AV
16500	49.52	1.03	V	50.55	68.20	17.65	PK
11000	51.30	0.06	H	51.36	73.98	22.62	PK
11000	39.04	0.06	H	39.10	53.98	14.88	AV
16500	49.58	1.03	H	50.61	68.20	17.59	PK

Band : UNII 2C			Operation Mode : 802.11a_6Mbps				
CH.116 5580 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11160	52.29	-0.10	V	52.19	73.98	21.79	PK
11160	38.91	-0.10	V	38.81	53.98	15.17	AV
16740	49.28	1.00	V	50.28	68.20	17.92	PK
11160	50.86	-0.10	H	50.76	73.98	23.22	PK
11160	38.21	-0.10	H	38.11	53.98	15.87	AV
16740	50.06	1.00	H	51.06	68.20	17.14	PK

Band : UNII 2C			Operation Mode : 802.11a_6Mbps				
CH.144 5720 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11440	51.77	0.45	V	52.22	73.98	21.76	PK
11440	40.25	0.45	V	40.70	53.98	13.28	AV
17160	49.30	1.55	V	50.85	68.20	17.35	PK
11440	51.63	0.45	H	52.08	73.98	21.90	PK
11440	38.82	0.45	H	39.27	53.98	14.71	AV
17160	49.27	1.55	H	50.82	68.20	17.38	PK

Band : UNII 3			Operation Mode : 802.11a_6Mbps				
CH.149 5745 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11490	52.16	0.13	V	52.29	73.98	21.69	PK
11490	40.87	0.13	V	41.00	53.98	12.98	AV
17235	49.54	1.62	V	51.16	68.20	17.04	PK
11490	52.01	0.13	H	52.14	73.98	21.84	PK
11490	39.00	0.13	H	39.13	53.98	14.85	AV
17235	49.35	1.62	H	50.97	68.20	17.23	PK

Band : UNII 3			Operation Mode : 802.11a_6Mbps				
CH.157 5785 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11570	52.72	0.36	V	53.08	73.98	20.90	PK
11570	40.91	0.36	V	41.27	53.98	12.71	AV
17355	49.15	1.64	V	50.79	68.20	17.41	PK
11570	53.17	0.36	H	53.53	73.98	20.45	PK
11570	39.70	0.36	H	40.06	53.98	13.92	AV
17355	49.52	1.64	H	51.16	68.20	17.04	PK

Band : UNII 3			Operation Mode : 802.11a_6Mbps				
CH.165 5825 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11650	53.74	-0.53	V	53.21	73.98	20.77	PK
11650	42.75	-0.53	V	42.22	53.98	11.76	AV
17475	48.18	3.06	V	51.24	68.20	16.96	PK
11650	53.23	-0.53	H	52.70	73.98	21.28	PK
11650	41.57	-0.53	H	41.04	53.98	12.94	AV
17475	48.93	3.06	H	51.99	68.20	16.21	PK

Band : UNII 4			Operation Mode : 802.11a_6Mbps				
CH.169 5845 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11690	53.14	-0.38	V	52.76	73.98	21.22	PK
11690	41.25	-0.38	V	40.87	53.98	13.11	AV
17535	48.63	3.82	V	52.45	68.20	15.75	PK
11690	52.47	-0.38	H	52.09	73.98	21.89	PK
11690	40.51	-0.38	H	40.13	53.98	13.85	AV
17535	48.51	3.82	H	52.33	68.20	15.87	PK

Band : UNII 4			Operation Mode : 802.11a_6Mbps				
CH.173 5865 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11730	53.17	-0.49	V	52.68	73.98	21.30	PK
11730	41.15	-0.49	V	40.66	53.98	13.32	AV
17595	48.43	4.38	V	52.81	68.20	15.39	PK
11730	53.52	-0.49	H	53.03	73.98	20.95	PK
11730	40.18	-0.49	H	39.69	53.98	14.29	AV
17595	48.46	4.38	H	52.84	68.20	15.36	PK

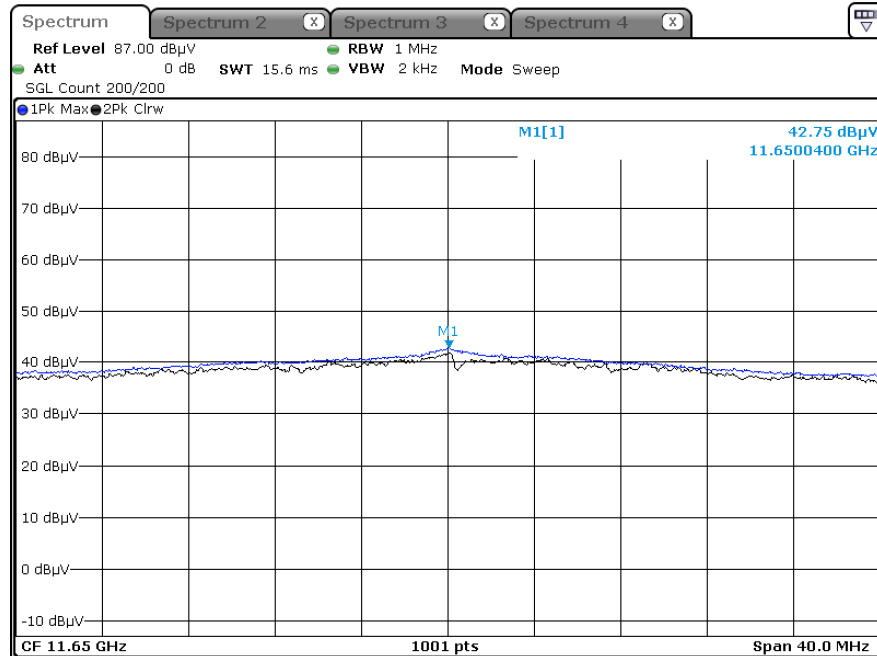
Band : UNII 4			Operation Mode : 802.11a_6Mbps				
CH.177 5885 MHz			Transfer Rate : 6Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11770	51.99	0.03	V	52.02	73.98	21.96	PK
11770	39.81	0.03	V	39.84	53.98	14.14	AV
17655	47.99	5.32	V	53.31	68.20	14.89	PK
11770	51.67	0.03	H	51.70	73.98	22.28	PK
11770	39.55	0.03	H	39.58	53.98	14.40	AV
17655	48.57	5.32	H	53.89	68.20	14.31	PK

Test Plots

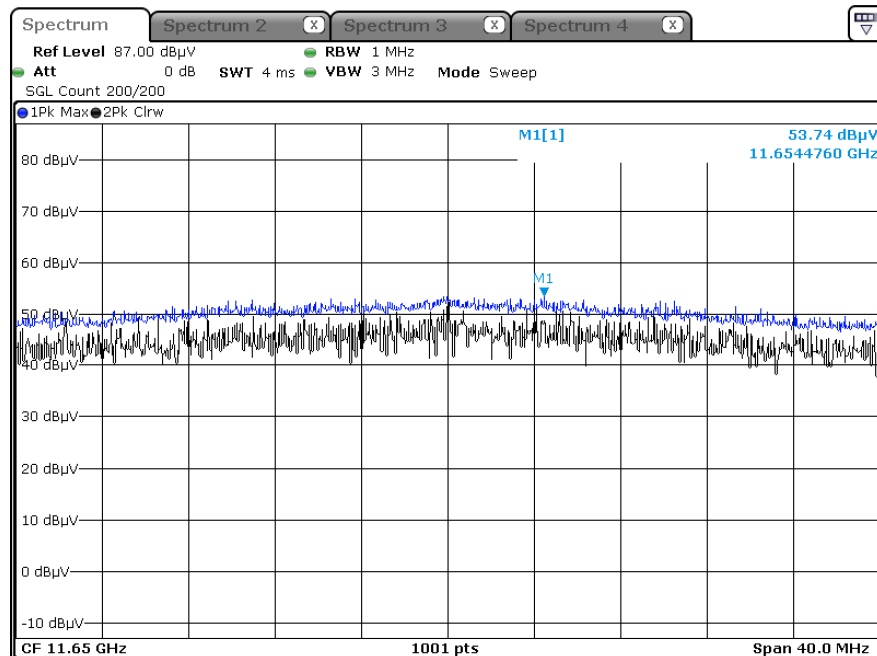
Note: Only the worst case plots for Radiated Spurious Emissions.

[MIMO(Ant1+Ant2)]

Radiated Spurious Emissions plot – Average Result (802.11a, Ch.165 Spurious Emissions, X-V)



Radiated Spurious Emissions plot – Peak Result (802.11a, Ch.165 Spurious Emissions, X-V)



10.9 RADIATED RESTRICTED BAND EDGE

Note : integration method Used (KDB 789033 D02 v02r01 Section 3) d) (ii))

[MIMO(Ant1+Ant2)]

802.11 a		Transfer Rate: 6 Mbps					
Channel	Ch.36	5180 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	49.86	14.41	H	64.27	73.98	9.71	PK
5150	35.49	14.41	H	49.90	53.98	4.08	AV

802.11 a		Transfer Rate: 6 Mbps					
Channel	Ch. 64	5320 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	48.87	14.92	H	63.79	73.98	10.19	PK
5350	36.73	14.92	H	51.65	53.98	2.33	AV

802.11 a		Transfer Rate: 6 Mbps					
Channel	Ch. 100	5500 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	51.31	15.43	H	66.74	73.98	7.24	PK
5460	36.43	15.43	H	51.86	53.98	2.12	AV
#5460~5470	45.64	15.66	H	61.30	68.20	6.90	PK

802.11 a		Transfer Rate: 6 Mbps					
Channel	Ch.40	5200 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	48.81	14.41	H	63.22	73.98	10.76	PK
5150	36.89	14.41	H	51.30	53.98	2.68	AV

802.11 a		Transfer Rate: 6 Mbps					
Channel	Ch. 60	5300 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	47.57	14.92	H	62.49	73.98	11.49	PK
5350	34.92	14.92	H	49.84	53.98	4.14	AV

802.11 a		Transfer Rate: 6 Mbps					
Channel	Ch. 104	5520 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	48.78	15.43	H	64.21	73.98	9.77	PK
5460	36.27	15.43	H	51.70	53.98	2.28	AV
#5460~5470	46.69	15.66	H	62.35	68.20	5.85	PK

802.11 n_HT20		Transfer MCS Index: MCS 8					
Channel	Ch. 36	5180 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	48.58	14.41	H	62.99	73.98	10.99	PK
5150	36.93	14.41	H	51.34	53.98	2.64	AV

802.11 n_HT20		Transfer MCS Index: MCS 8					
Channel	Ch. 64	5320 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	48.50	14.92	H	63.42	73.98	10.56	PK
5350	35.58	14.92	H	50.50	53.98	3.48	AV

802.11 n_HT20		Transfer MCS Index: MCS 8					
Channel	Ch. 100	5500 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	50.61	15.43	H	66.04	73.98	7.94	PK
5460	36.50	15.43	H	51.93	53.98	2.05	AV
5470	45.52	15.66	H	61.18	68.20	7.02	PK

802.11 n_HT20		Transfer MCS Index: MCS 8					
Channel	Ch.40	5200 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	49.62	14.41	H	64.03	73.98	9.95	PK
5150	37.22	14.41	H	51.63	53.98	2.35	AV

802.11 n_HT20		Transfer MCS Index: MCS 8					
Channel	Ch. 104	5520 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	50.43	15.43	H	65.86	73.98	8.12	PK
5460	36.32	15.43	H	51.75	53.98	2.23	AV
#5460~5470	46.27	15.66	H	61.93	68.20	6.27	PK

802.11 ac_VHT20		Transfer MCS Index: MCS 0					
Channel	Ch. 36	5180 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	47.97	14.41	H	62.38	73.98	11.60	PK
5150	37.15	14.41	H	51.56	53.98	2.42	AV

802.11 ac_VHT20		Transfer MCS Index: MCS 0					
Channel	Ch. 64	5320 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	51.53	14.92	H	66.45	73.98	7.53	PK
5350	36.08	14.92	H	51.00	53.98	2.98	AV

802.11 ac_VHT20		Transfer MCS Index: MCS 0					
Channel	Ch. 100	5500 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	50.24	15.43	H	65.67	73.98	8.31	PK
5460	36.33	15.43	H	51.76	53.98	2.22	AV
#5460~5470	46.39	15.66	H	62.05	68.20	6.15	PK

802.11 ac_VHT20		Transfer MCS Index: MCS 0					
Channel	Ch.40	5200 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	49.16	14.41	H	63.57	73.98	10.41	PK
5150	37.18	14.41	H	51.59	53.98	2.39	AV

802.11 ac_VHT20		Transfer MCS Index: MCS 0					
Channel	Ch. 104	5520 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	52.42	15.43	H	67.85	73.98	6.13	PK
5460	36.37	15.43	H	51.80	53.98	2.18	AV
#5460~5470	47.19	15.66	H	62.85	68.20	5.35	PK

802.11 n_HT40		Transfer MCS Index: MCS 8					
Channel	Ch. 38	5190 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	52.94	14.41	H	67.35	73.98	6.63	PK
5150	37.16	14.41	H	51.57	53.98	2.41	AV

802.11 n_HT40		Transfer MCS Index: MCS 8					
Channel	Ch. 62	5310 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	49.84	14.92	H	64.76	73.98	9.22	PK
5350	36.87	14.92	H	51.79	53.98	2.19	AV

802.11 n_HT40		Transfer MCS Index: MCS 8					
Channel	Ch. 102	5510 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	50.83	15.43	H	66.26	73.98	7.72	PK
5460	35.67	15.43	H	51.10	53.98	2.88	AV
#5460~5470	43.96	15.66	H	59.62	68.20	8.58	PK

802.11 n_HT40		Transfer MCS Index: MCS 8					
Channel	Ch. 46	5230 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	50.63	14.41	H	65.04	73.98	8.94	PK
5150	37.39	14.41	H	51.80	53.98	2.18	AV

802.11 n_HT40		Transfer MCS Index: MCS 8					
Channel	Ch. 110	5550 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	47.16	15.43	H	62.59	73.98	11.39	PK
5460	35.87	15.43	H	51.30	53.98	2.68	AV
#5460~5470	44.91	15.66	H	60.57	68.20	7.63	PK

802.11 ac_VHT40		Transfer MCS Index: MCS 0					
Channel	Ch. 38	5190 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	49.77	14.41	H	64.18	73.98	9.80	PK
5150	37.46	14.41	H	51.87	53.98	2.11	AV

802.11 ac_VHT40		Transfer MCS Index: MCS 0					
Channel	Ch. 62	5310 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	51.89	14.92	H	66.81	73.98	7.17	PK
5350	36.53	14.92	H	51.45	53.98	2.53	AV

802.11 ac_VHT40		Transfer MCS Index: MCS 0					
Channel	Ch. 102	5510 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	49.10	15.43	H	64.53	73.98	9.45	PK
5460	36.04	15.43	H	51.47	53.98	2.51	AV
#5460~5470	44.79	15.66	H	60.45	68.20	7.75	PK

802.11 ac_VHT40		Transfer MCS Index: MCS 0					
Channel	Ch. 46	5230 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	48.13	14.41	H	62.54	73.98	11.44	PK
5150	37.43	14.41	H	51.84	53.98	2.14	AV

802.11 ac_VHT40		Transfer MCS Index: MCS 0					
Channel	Ch. 110	5550 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	46.73	15.43	H	62.16	73.98	11.82	PK
5460	35.85	15.43	H	51.28	53.98	2.70	AV
5470	45.18	15.66	H	60.84	68.20	7.36	PK

802.11 ac_VHT80		Transfer MCS Index: MCS 0					
Channel	Ch. 42	5210 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	53.46	14.41	H	67.87	73.98	6.11	PK
5150	37.26	14.41	H	51.67	53.98	2.31	AV

802.11 ac_VHT80		Transfer MCS Index: MCS 0					
Channel	Ch. 58	5290 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	51.84	14.92	H	66.76	73.98	7.22	PK
5350	36.39	14.92	H	51.31	53.98	2.67	AV

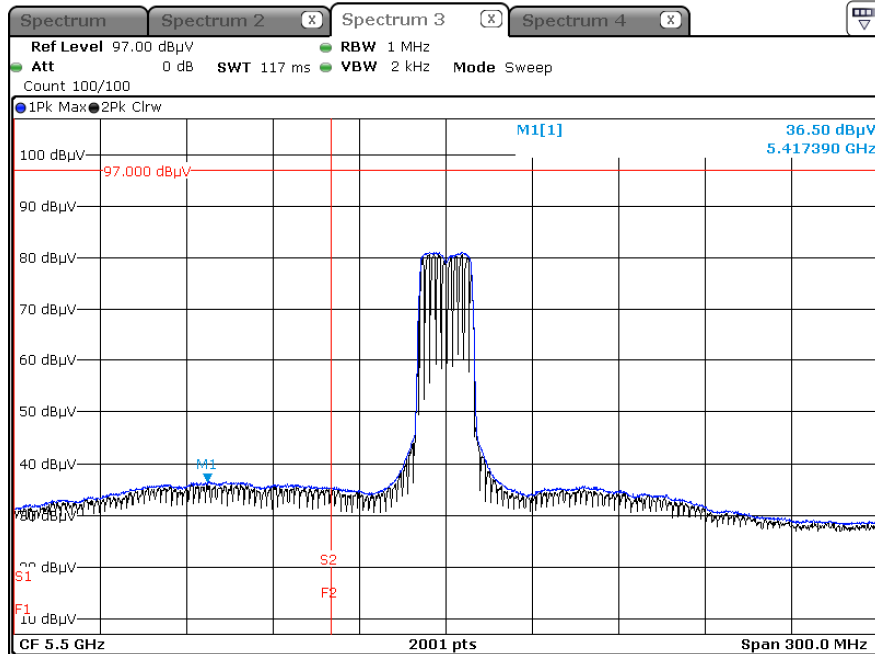
802.11 ac_VHT80		Transfer MCS Index: MCS 0					
Channel	Ch. 106	5530 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	47.42	15.43	H	62.85	73.98	11.13	PK
5460	35.99	15.43	H	51.42	53.98	2.56	AV
#5460~5470	44.19	15.66	H	59.85	68.20	8.35	PK

802.11 ac_VHT80		Transfer MCS Index: MCS 0					
Channel	Ch. 122	5610 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	45.47	15.43	H	60.90	73.98	13.08	PK
5460	35.27	15.43	H	50.70	53.98	3.28	AV
5470	45.07	15.66	H	60.73	68.20	7.47	PK

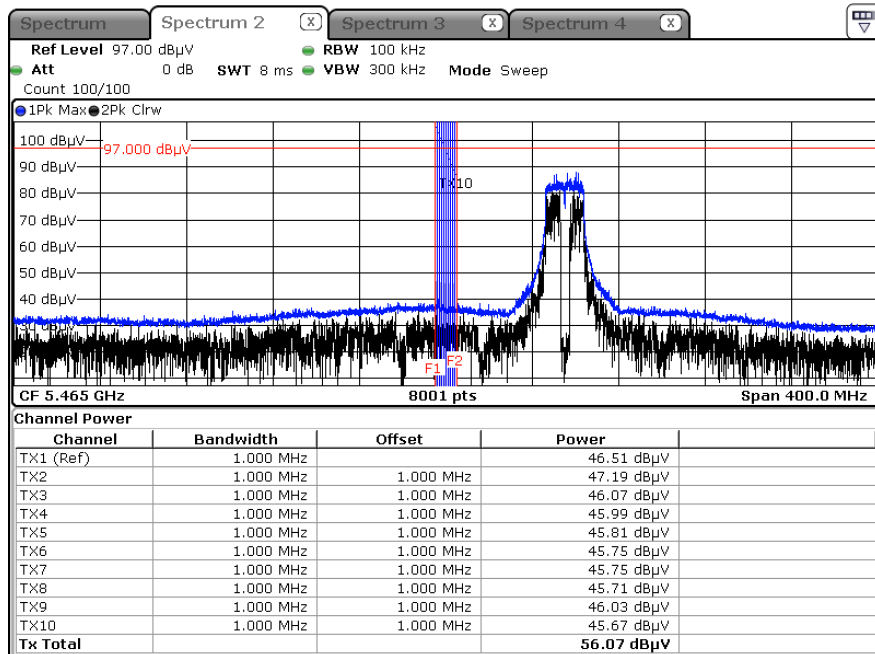
[MIMO(Ant1+Ant2)]

▣ Test Plots(UNII 1, 2A, 2C)

Average Result (802.11 n_HT20_ MCS8, Ch.100, Z-H)



Peak Result (802.11 ac_VHT20_ MCS0, Ch.104, Z-H)

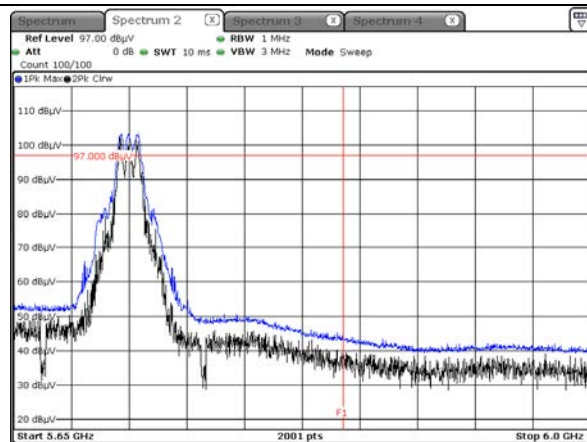


Note:

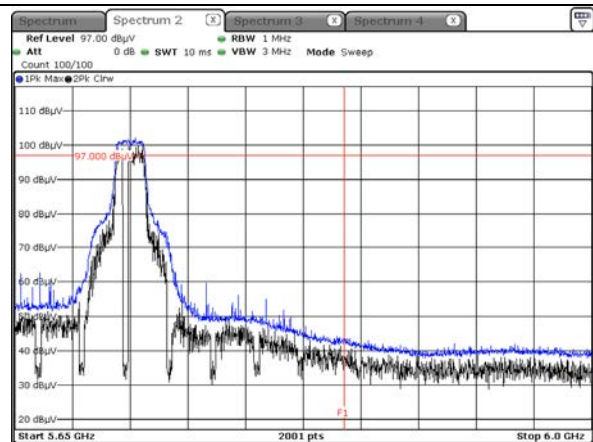
Only the worst case plots for Radiated Restricted Band Edge.

Test Plots(Straddle Channel)

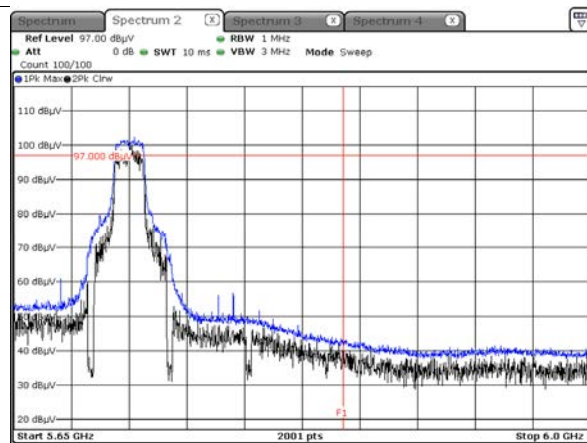
Peak Result (802.11a, Ch.144, Z-H)



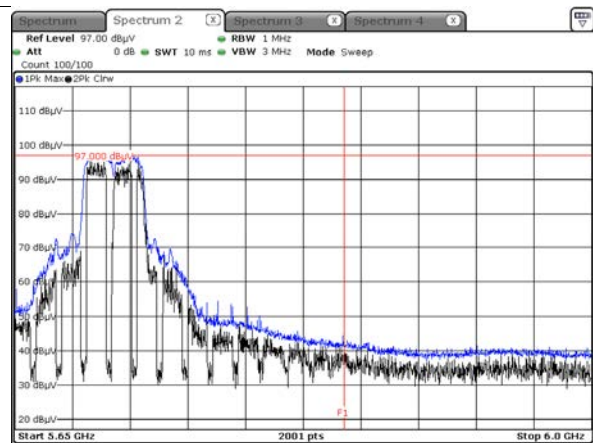
Peak Result (802.11n_HT20, Ch.144, Z-H)



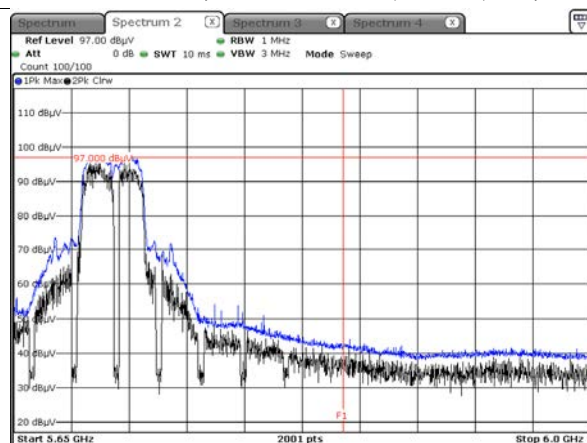
Peak Result (802.11ac_VHT20, Ch.144, Z-H)



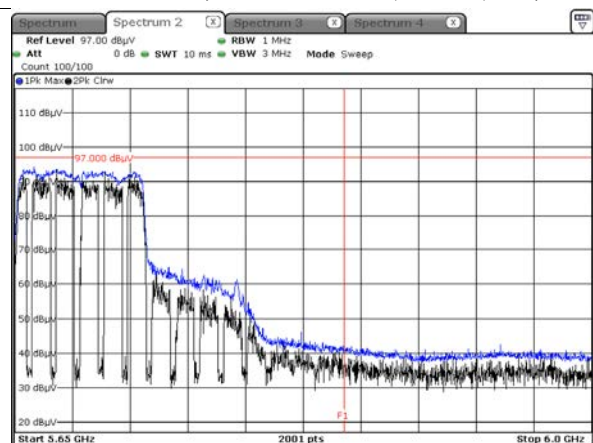
Peak Result (802.11n_HT40, Ch.142, Z-H)



Peak Result (802.11ac_VHT40, Ch.142, Z-H)



Peak Result (802.11ac_VHT80, Ch.138, Z-H)

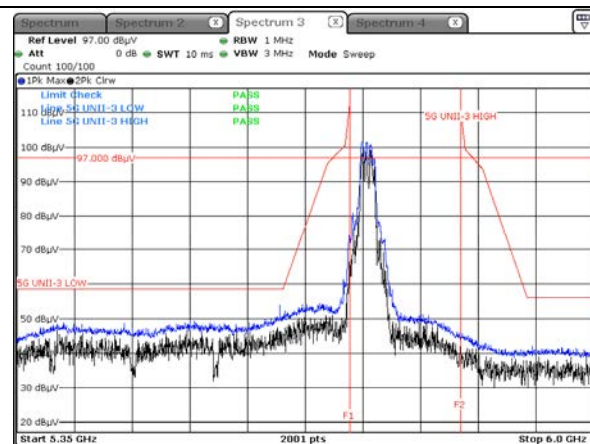


Note :

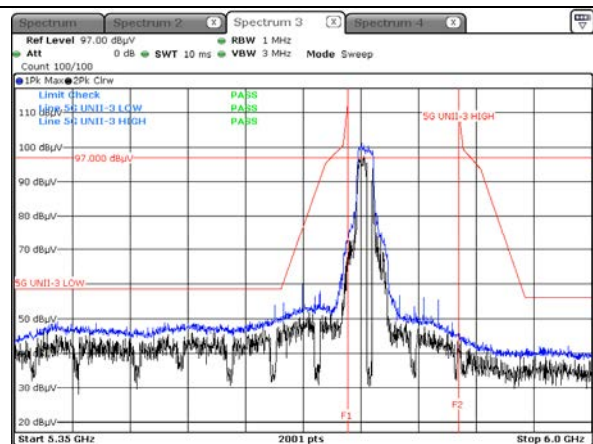
1. Only the worst case plots for Radiated Restricted Band Edge.
2. Red line : 5 850 MHz
3. Ambient Noise (Because of ambient noise, We attached only the worst plot without a data table)

Test Plots(UNII 3)

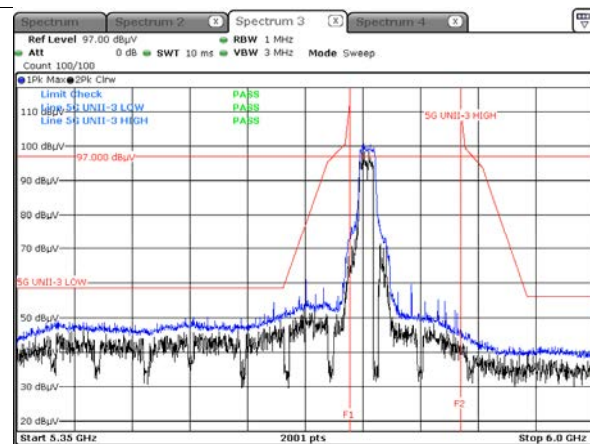
Peak Result (802.11a, Ch.149, Z-H)



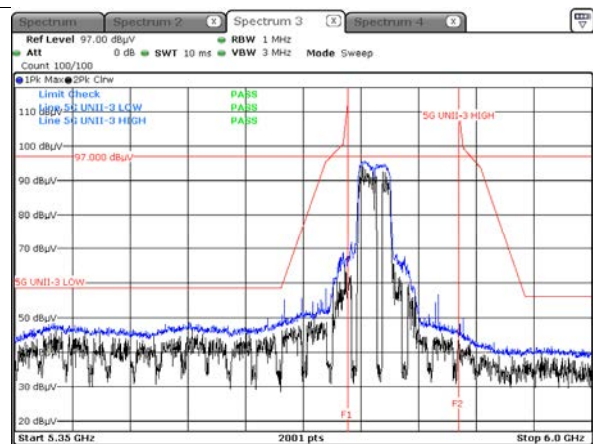
Peak Result (802.11n_HT20, Ch.149, Z-H)



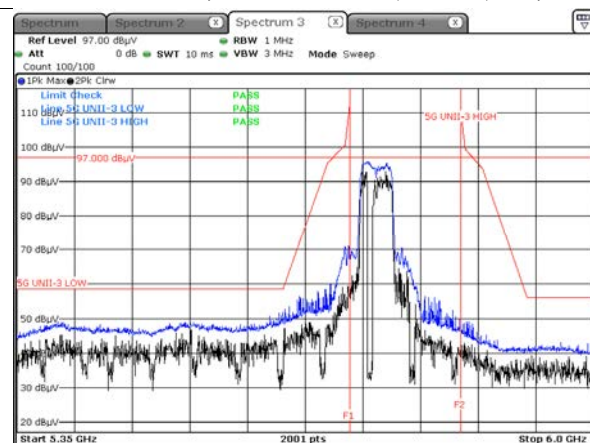
Peak Result (802.11ac_VHT20, Ch.149, Z-H)



Peak Result (802.11n_HT40, Ch.151, Z-H)



Peak Result (802.11ac_VHT40, Ch.151, Z-H)



Peak Result (802.11ac_VHT80, Ch.155, Z-H)

