HCT CO.,LTD.

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FCC UNII REPORT

Certification

Applicant Name:
SAMSUNG Electronics Co., Ltd.

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

Date of Issue:
February 27, 2023

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

Report No.: HCT-RF-2302-FC023

FCC ID:	**A3LSMA546JPN**
APPLICANT:	**SAMSUNG Electronics Co., Ltd.**
Model:	SC-53D
Additional Model:	SCG21
EUT Type:	Mobile Phone
Modulation type	OFDM
FCC Classification:	Unlicensed National Information Infrastructure(NII)
FCC Rule Part(s):	Part 15.407

Engineering Statement:

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

REVIEWED BY

Report prepared by : Jin Gwan Lee
Engineer of Telecommunication Testing Center

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

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

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

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-2302-FC023	February 27, 2023	- First Approval Report

Table of Contents

1. GENERAL INFORMATION

EUT DESCRIPTION

Model	SC-53D	
Additional Model	SCG21	
EUT Type	Mobile Phone	
Power Supply	DC 3.85 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
Straddle channel	Supported	
TDWR Band	Supported	
Dynamic Frequency Selection	Slave without radar detection	
Date(s) of Tests	February 01, 2023 ~ February 27, 2023	
Serial number	Radiated: R3CTC0EE7KJ Conducted: R3CTC0EE5RY	

ANTENNA CONFIGURATIONS

1. Antenna configuration

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

Note:

(1) O = Support, X = Not Support

(2) SISO = Single Input Single Output

(3) SDM = Spatial Diversity Multiplexing

(4) CDD = Cyclic Delay Diversity

3. Directional Gain Calculation

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

Directional gain(SDM) = G_{max} + 10· log(N_{ANT}/ N_{ss}),

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

Band	Ant Gain (dBi)		N_{ANT}/ N_{ss}	Directional Gain (dBi)	
				SDM	CDD
UNII 1	ANT1	-7.43	2 / 2	-6.93	-4.17
	ANT2	-6.93			
UNII 2A	ANT1	-7.30	2 / 2	-6.00	-3.62
	ANT2	-6.00			
UNII 2C	ANT1	-6.10	2 / 2	-6.10	-3.11
	ANT2	-6.14			
UNII 3	ANT1	-6.10	2 / 2	-6.03	-3.05
	ANT2	-6.03			

Note

According to Ansi C63.10-2013 section 14.4.3, the directional gain is calculated using the formula, where G_N is the gain of the nth antenna and N_{ANT} is the total number of antennas used.

Directional gain(SDM) = G_{max} + 10· log(N_{ANT}/ N_{ss}),

Directional Gain(CDD) = 10·log(((10$^{(ANT1\ Gain/20)}$+10$^{(ANT2\ Gain/20)}$)^2)/2) dBi

Sample MIMO Calculation:

Ex) Ant 1 : 11.58 dBm Ant 2 : 12.08 dBm

Ant.1 + Ant.2 = MIMO

(11.58 dBm + 12.08 dBm) = (14.387 mW + 16.143 mW) = 30.53 mW = 14.88 dBm

2. MAXIMUM OUTPUT POWER

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

Band	Mode	SISO(Ant. 2)		MIMO	
		(dBm)	(W)	(dBm)	(W)
UNII1	802.11a	15.96	0.039	18.98	0.079
	802.11n (HT20)	16.12	0.041	19.15	0.082
	802.11n (HT40)	13.92	0.025	17.11	0.051
	802.11ac (VHT20)	15.95	0.039	19.13	0.082
	802.11ac (VHT40)	14.04	0.025	17.16	0.052
	802.11ac (VHT80)	11.98	0.016	14.92	0.031
UNII2A	802.11a	15.61	0.036	18.74	0.075
	802.11n (HT20)	15.94	0.039	19.01	0.080
	802.11n (HT40)	13.61	0.023	16.93	0.049
	802.11ac (VHT20)	15.65	0.037	18.94	0.078
	802.11ac (VHT40)	13.62	0.023	16.91	0.049
	802.11ac (VHT80)	11.69	0.015	14.66	0.029
UNII2C	802.11a	15.99	0.040	19.31	0.085
	802.11n (HT20)	16.21	0.042	19.51	0.089
	802.11n (HT40)	13.32	0.021	17.04	0.051
	802.11ac (VHT20)	16.13	0.041	19.46	0.088
	802.11ac (VHT40)	13.41	0.022	17.06	0.051
	802.11ac (VHT80)	11.09	0.013	14.55	0.029
UNII3	802.11a	16.11	0.041	19.37	0.086
	802.11n (HT20)	16.42	0.044	19.60	0.091
	802.11n (HT40)	13.08	0.020	17.00	0.050
	802.11ac (VHT20)	16.11	0.041	19.46	0.088
	802.11ac (VHT40)	13.13	0.021	16.89	0.049
	802.11ac (VHT80)	10.95	0.012	14.49	0.028

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.

EUT CONFIGURATION

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

EUT EXERCISE

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

GENERAL TEST PROCEDURES

Conducted Emissions

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

Radiated Emissions

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

DESCRIPTION OF TEST MODES

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

4. INSTRUMENT CALIBRATION

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

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

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

5.2 EQUIPMENT

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

6. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203, §15.407:

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

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

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

7. MEASUREMENT UNCERTAINTY

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

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

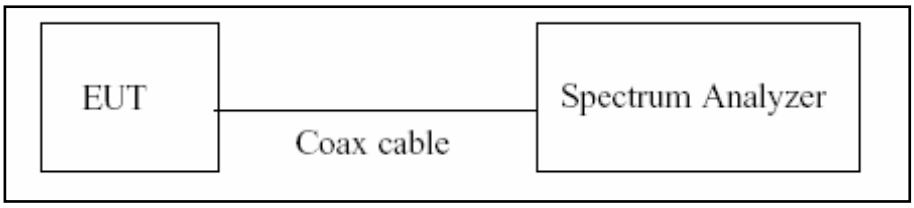
The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.90 (Confidence level about 95 %, k=2)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.14 (Confidence level about 95 %, k=2)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.82 (Confidence level about 95 %, k=2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.74 (Confidence level about 95 %, k=2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.76 (Confidence level about 95 %, k=2)
Radiated Disturbance (Above 40 GHz)	5.52 (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.

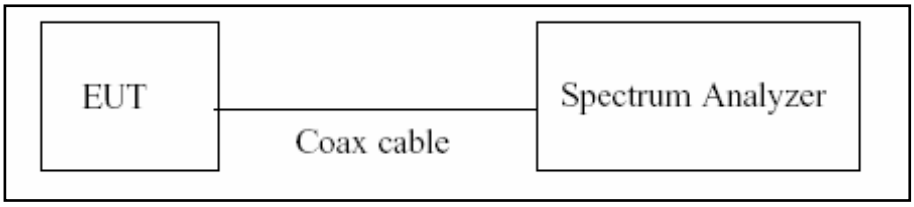
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz (≥ RBW)
3. SPAN = 0 Hz
4. Detector = Peak
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = T_{on}/ T_{total} and Duty Cycle Factor = 10log(1/Duty Cycle)

8.2. 6 dB Bandwidth & 26 dB Bandwidth

Limit

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

Test Configuration



Test Procedure(26 dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

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

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

Test Procedure (6 dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

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

1. RBW = 100 kHz
2. VBW ≥ 3 x RBW
3. Detector = Peak
4. Trace mode = max hold
5. Allow the trace to stabilize
6. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points(upper and lower frequencies) that are attenuated by 6 dB relative to the maximum lever measured in the fundamental emission.

Note:

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

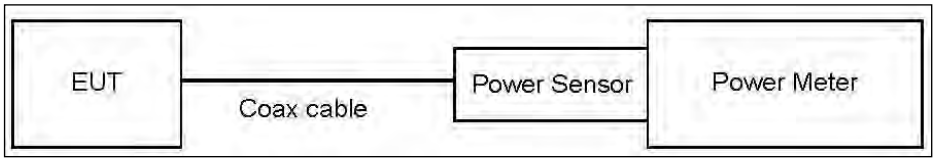
8.3. Output Power Measurement

Limit

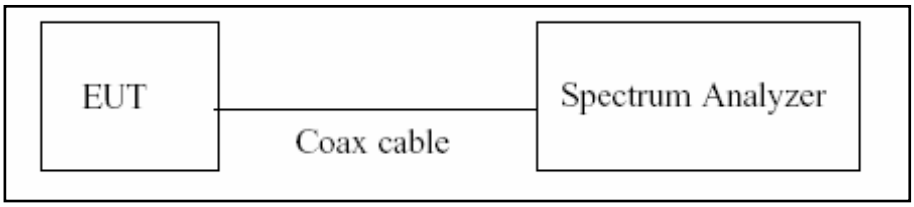
Band	Limit
UNII 1	- Master : Not exceed 1 W(=30 dBm) - Slave : Not exceed 250 mW(=23.98 dBm)
UNII 2A, 2C	Not exceed the lesser of 250 mW or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)
UNII 3	Not exceed 1 W(=30 dBm)

Test Configuration

Power Meter



Spectrum Analyzer(Only Straddle Channel)



Test Procedure(Power Meter)

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

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

Test Procedure(Spectrum Analyzer)

The transmitter output is connected to the Spectrum Analyzer.

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

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

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

Sample Calculation

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

Note

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

Band	Loss(dB)
UNII 1	20.82
UNII 2A	20.82
UNII 2C	20.82
UNII 3	20.82

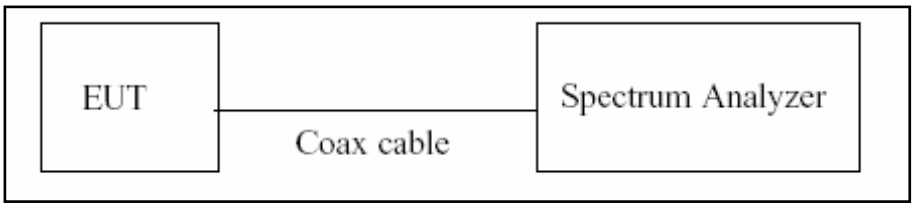
(Actual value of loss for the attenuator and cable combination)

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

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

Sample Calculation

Total PSD(dBm) = Measured 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. Spectrum offset Attenuator loss(20 dB) + Cable loss
3. Actual value of loss for the attenuator and cable combination is below table.

Band	Loss(dB)
UNII 1	20.82
UNII 2A	20.82
UNII 2C	20.82
UNII 3	20.82

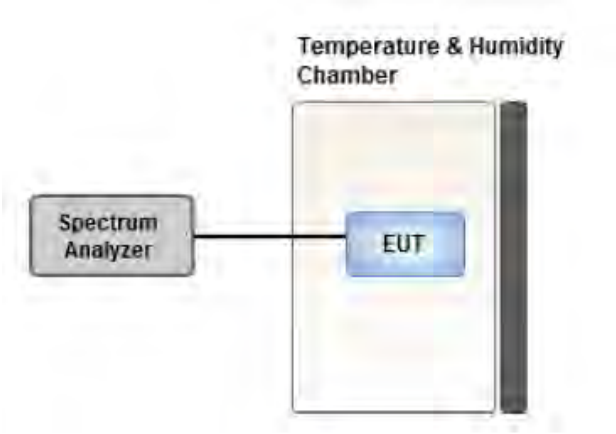
(Actual value of loss for the attenuator and cable combination)

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 ℃ and 50 ℃.
2. The temperature was incremented by 10 ℃ 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 μH/50 ohms line impedance stabilization network (LISN).

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

[a]Decreases with the logarithm of the frequency.

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

Test Configuration

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

Test Procedure

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

Sample Calculation

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

8.7. Radiated Test

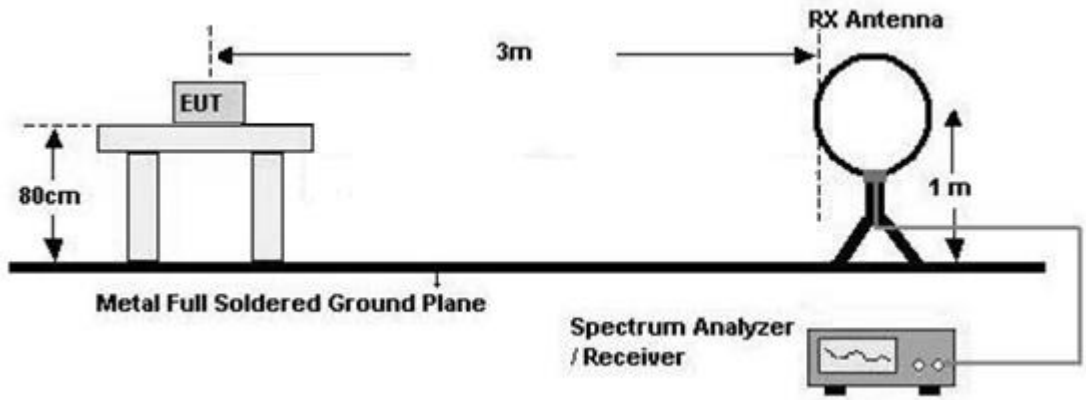
Limit

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

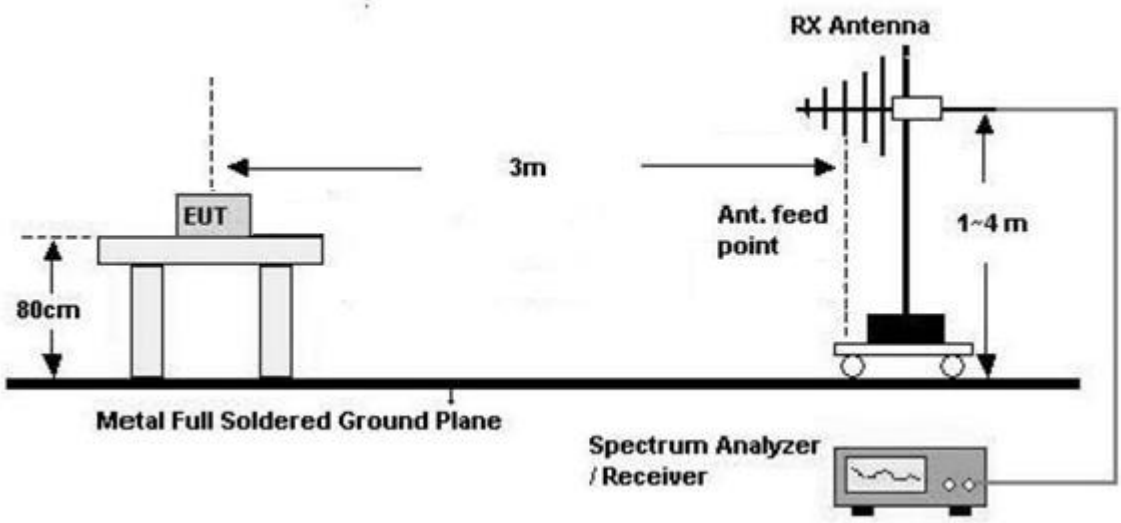
Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

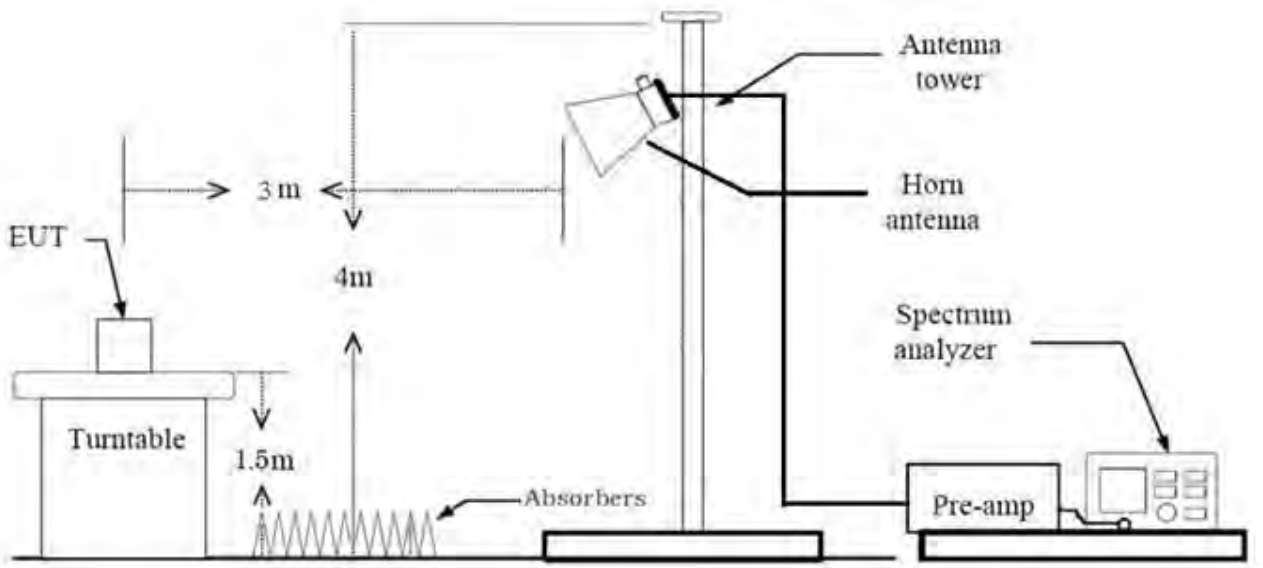
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



Test Procedure of Radiated spurious emissions(Below 30 MHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The loop antenna was placed at a location 3 m from the EUT
3. The EUT is placed on a turntable, which is 0.8 m above ground plane.
4. .We have done x, y, z planes in EUT and horizontal and vertical polarization and Parallel to the ground plane in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Distance Correction Factor(0.009 MHz – 0.490 MHz) = 40log(3 m/300 m) = - 80 dB
   Measurement Distance : 3 m
7. Distance Correction Factor(0.490 MHz – 30 MHz) = 40log(3 m/30 m) = - 40 dB
   Measurement Distance : 3 m
8. Spectrum Setting
   - Frequency Range = 9 kHz ~ 30 MHz
   - Detector = Peak
   - Trace = Maxhold
   - RBW = 9 kHz
   - VBW ≥ 3 x RBW
9. Total = Measured 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 0.8 m above ground plane.
3. The Hybrid antenna was placed at a location 3 m from the EUT, which is varied from 1 m to 4 m to find out the highest emissions.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Spectrum Setting
   (1) Measurement Type(Peak):
      - Measured Frequency Range : 30 MHz – 1 GHz
      - Detector = Peak
      - Trace = Maxhold
      - RBW = 100 kHz
      - VBW ≥ 3 x RBW
   (2) Measurement Type(Quasi-peak):
      - Measured Frequency Range : 30 MHz – 1 GHz
      - Detector = Quasi-Peak
      - RBW = 120 kHz

   ※ In general, (1) is used mainly
7. Total = Measured 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 ≥ 3 MHz
   - Detector = Peak
   - Sweep Time = auto
   - Trace mode = max hold
   - Allow sweeps to continue until the trace stabilizes.
     Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle.

   (2) Measurement Type (Average, G.6.d in KDB 789033 v02r01):
   - RBW = 1 MHz
   - VBW(Duty cycle ≥ 98 %) = VBW ≤ RBW/100(i.e., 10 kHz) but not less than 10 Hz.
   - VBW(Duty cycle is < 98 %) = VBW ≥ 1/T, where T is the minimum transmission duration.
   - The analyzer is set to linear detector mode.
   - Detector = Peak.
   - Sweep time = auto.
   - Trace mode = max hold.
   - Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 % duty cycle. For lower duty cycles, increase the 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 = 20log (test distance / 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 ≥ 3 MHz
   - Detector = Peak
   - Sweep Time = auto
   - Trace mode = max hold
   - Allow sweeps to continue until the trace stabilizes.
     Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle.

   (2) Measurement Type(Average, G.6.d in KDB 789033 v02r01):
   - RBW = 1 MHz
   - VBW(Duty cycle ≥ 98 %) = VBW ≤ RBW/100(i.e., 10 kHz) but not less than 10 Hz.
   - VBW(Duty cycle is < 98 %) = VBW ≥ 1/T, where T is the minimum transmission duration.
   - The analyzer is set to linear detector mode.
   - Detector = Peak.
   - Sweep time = auto.
   - Trace mode = max hold.
   - Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 % duty cycle. For lower duty cycles, increase the minimym number of traces by a factor of 1/x, where x is the duty cycle.
9. Measured Frequency Range :
   - 4 500 MHz ~ 5 150 MHz
   - 5 350 MHz ~ 5 460 MHz
   - 5 460 MHz ~ 5 470 MHz
   - (75 MHz or more below the 5 725 MHz) ~ 5 725 MHz
   - 5 850 MHz ~ (75 MHz or more above the 5 850 MHz)
10. Distance extrapolation factor = 20log (test distance / specific distance) (dB)
11. Total = Measured 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

Mode	Worst Data rate (Mbps)	Duty Cycle	Duty Cycle Factor (dB)	The actual setting value of VBW (Hz)
802.11a	6	0.923	0.348	1000
802.11n(HT20)	MCS0	0.918	0.371	1000
802.11n(HT40)	MCS0	0.848	0.717	5000
802.11ac(VHT20)	MCS0	0.909	0.413	1000
802.11ac(VHT40)	MCS0	0.852	0.698	5000
802.11ac(VHT80)	MCS0	0.753	1.233	10000

8.8. Worst case configuration and mode

Radiated test

1. All modes of operation were investigated and the worst case configuration results are reported.
   - Mode : Stand alone, Standalone + External accessories(Earphone, etc)
   - Worst case : Stand alone
2. EUT Axis
   - Radiated Spurious Emissions : X
   - Radiated Restricted Band Edge : Y
3. All datarate of operation were investigated and the worst case datarate results are reported.
   - Mode : Ant2(SISO), MIMO(SDM), MIMO(CDD)
   - Worst case : MIMO(CDD)
   - 802.11a : 6 Mbps
   - 802.11n_HT20 : MCS0
   - 802.11n_HT40 : MCS0
   - 802.11ac_VHT20 : MCS0
   - 802.11ac_VHT40 : MCS0
   - 802.11ac_VHT80 : MCS0
4. Radiated Spurious Emission
   - All modulation of operation were investigated and the worst case modulation results are reported.
     (Worst case : 802.11a_6Mbps)
5. All position of loop antenna were investigated and the test result is a no critical peak found at all positions.
   - Position : Horizontal, Vertical, Parallel to the ground plane
6. SC-53D, SCG21 were tested and the worst case results are reported.

(Worst case : SC-53D)

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,
     Standalone + Travel Adapter
   - Worst case : Standalone + Travel Adapter
2. SC-53D, SCG21 were tested and the worst case results are reported.

(Worst case : SC-53D)

Conducted test

1. All datarate of operation were investigated and the worst case datarate results are reported.
2. SC-53D, SCG21 were tested and the worst case results are reported.

(Worst case : SC-53D)

9. SUMMARY OF TEST RESULTS

Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
26 dB Bandwidth	§15.407	N/A	Conducted	PASS
6 dB Bandwidth	§15.407(e)	>500 kHz (5725-5850 MHz)(UNII-3)		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 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)		PASS
AC Conducted Emissions 150 kHz-30 MHz	15.207 15.407(b)(9)	<FCC 15.207 limits		PASS
Frequency Stability	§15.407(g) §2.1055	Maintained within the band		PASS
Undesirable Emissions	§15.407(b) (1),(2),(3),(4)	<-27 dBm/MHz EIRP (UNII1, 2A, 2C)	Radiated	PASS
General Field Strength Limits(Restricted Bands and Radiated Emission Limits)	15.205, 15.407(b)(9),(10)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		PASS

10. TEST RESULT

10.1 DUTY CYCLE

Mode	Data Rate (Mbps)	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor(dB)
802.11a	6	1.429	1.548	0.923	0.348
	9	0.960	1.077	0.89	0.498
	12	0.725	0.841	0.86	0.648
	18	0.491	0.611	0.80	0.942
	24	0.372	0.489	0.76	1.182
	36	0.256	0.365	0.70	1.540
	48	0.198	0.324	0.61	2.151
	54	0.180	0.299	0.602	2.206

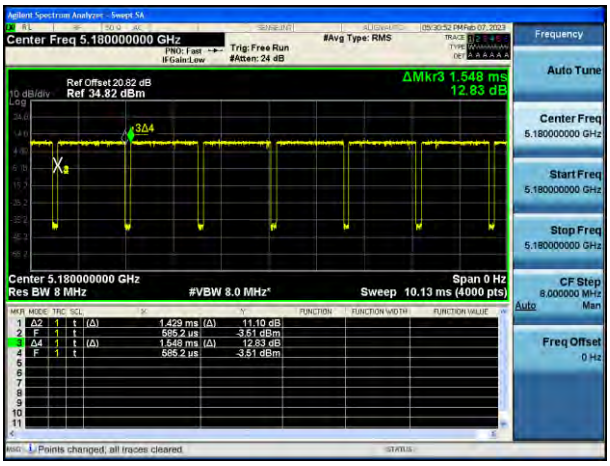
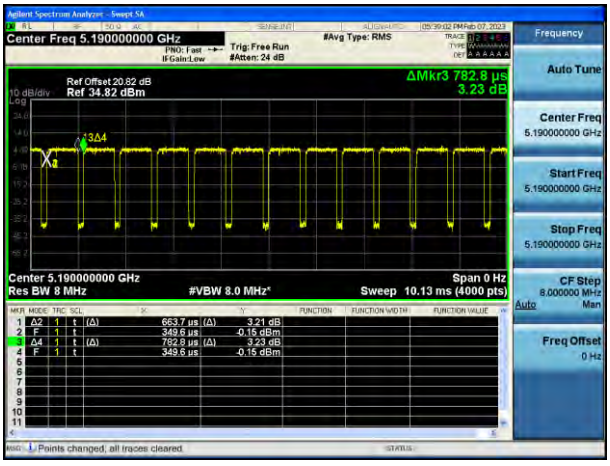
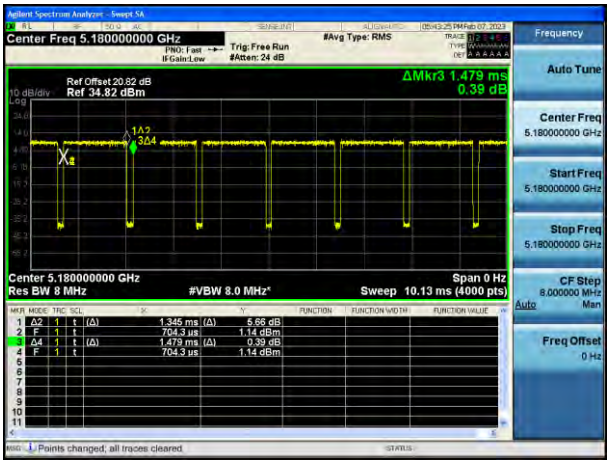
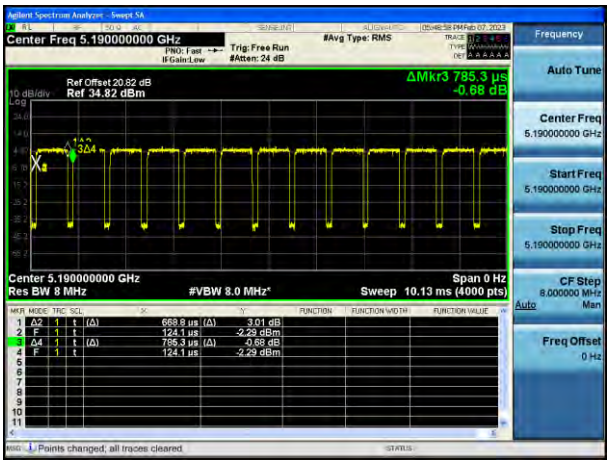
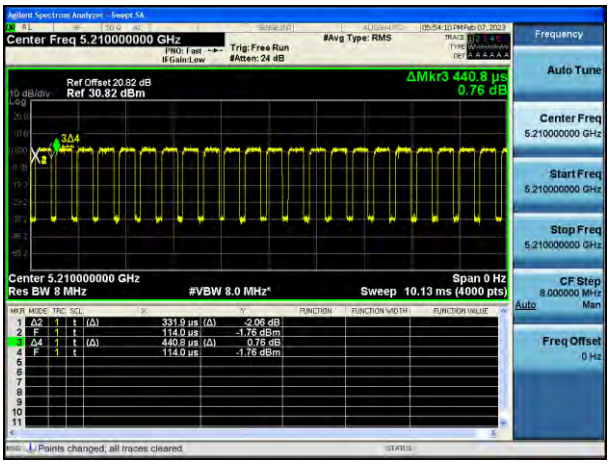
Mode	MCS Index	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor(dB)
802.11n (HT20)	0	1.335	1.454	0.918	0.371
	1	0.687	0.816	0.84	0.749
	2	0.471	0.598	0.79	1.034
	3	0.365	0.491	0.74	1.294
	4	0.256	0.372	0.69	1.630
	5	0.200	0.317	0.632	1.995
	6	0.185	0.294	0.629	2.011
	7	0.167	0.276	0.61	2.179
802.11n (HT40)	0	0.664	0.783	0.85	0.717
	1	0.352	0.469	0.751	1.242
	2	0.246	0.365	0.674	1.716
	3	0.195	0.314	0.621	2.069
	4	0.144	0.263	0.55	2.612
	5	0.114	0.243	0.47	3.288
	6	0.109	0.236	0.46	3.350
	7	0.099	0.218	0.45	3.432

Mode	MCS Index	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor(dB)
802.11ac (VHT20)	0	1.345	1.479	0.91	0.413
	1	0.694	0.793	0.88	0.578
	2	0.474	0.583	0.813	0.899
	3	0.370	0.497	0.745	1.279
	4	0.258	0.385	0.671	1.732
	5	0.205	0.322	0.638	1.953
	6	0.187	0.304	0.617	2.099
	7	0.170	0.281	0.604	2.192
	8	0.152	0.271	0.561	2.512
802.11ac (VHT40)	0	0.669	0.785	0.852	0.698
	1	0.357	0.466	0.766	1.156
	2	0.253	0.370	0.685	1.644
	3	0.200	0.317	0.632	1.993
	4	0.147	0.266	0.552	2.578
	5	0.122	0.238	0.511	2.919
	6	0.114	0.224	0.509	2.936
	7	0.104	0.220	0.471	3.267
	8	0.096	0.213	0.452	3.445
	9	0.086	0.213	0.405	3.928
802.11ac (VHT80)	0	0.332	0.441	0.753	1.233
	1	0.187	0.307	0.612	2.136
	2	0.142	0.258	0.549	2.604
	3	0.117	0.233	0.500	3.010
	4	0.091	0.208	0.439	3.575
	5	0.081	0.198	0.410	3.869
	6	0.076	0.193	0.395	4.037
	7	0.071	0.188	0.378	4.224
	8	0.066	0.175	0.377	4.239
	9	0.063	0.169	0.375	4.263

Note:

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

▣ Test Plots

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

10.2 26 dB Bandwidth

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

[Ant.1]

Mode	Frequency [MHz]	Channel No.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
802.11a	5180	36	24.57	17.604
	5200	40	23.88	17.657
	5240	48	26.21	17.677
	5260	52	25.01	17.697
	5300	60	25.14	17.575
	5320	64	24.71	17.866
	5500	100	24.30	17.627
	5600	120	24.07	17.816
	5720	144	24.33	17.734
	5745	149	25.18	17.765
	5785	157	24.40	17.627
	5825	165	23.22	17.151

Mode	Frequency [MHz]	Channel No.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
802.11n (HT20)	5180	36	30.30	19.426
	5200	40	30.25	19.162
	5240	48	30.14	19.047
	5260	52	30.68	19.314
	5300	60	30.76	19.136
	5320	64	30.48	19.064
	5500	100	30.52	18.964
	5600	120	30.08	19.111
	5720	144	30.45	19.628
	5745	149	29.96	19.509
	5785	157	30.48	19.417
	5825	165	30.34	19.464

Mode	Frequency [MHz]	Channel No.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
802.11ac (VHT20)	5180	36	30.50	19.190
	5200	40	29.97	19.318
	5240	48	30.46	19.257
	5260	52	30.67	19.417
	5300	60	30.67	19.325
	5320	64	30.44	19.165
	5500	100	30.52	19.292
	5600	120	30.61	19.334
	5720	144	30.53	19.209
	5745	149	30.22	18.973
	5785	157	30.42	19.411
	5825	165	29.90	19.430

Mode	Frequency [MHz]	Channel No.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
802.11n (HT40)	5190	38	44.98	36.652
	5230	46	45.41	36.609
	5270	54	44.42	36.610
	5310	62	44.79	36.679
	5510	102	44.30	36.693
	5590	118	45.30	36.622
	5710	142	45.33	36.685
	5755	151	46.00	36.713
	5795	159	71.32	36.754

Mode	Frequency [MHz]	Channel No.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
802.11ac (VHT40)	5190	38	44.91	36.614
	5230	46	45.28	36.641
	5270	54	44.31	36.624
	5310	62	45.04	36.614
	5510	102	45.42	36.645
	5590	118	45.41	36.594
	5710	142	45.11	36.700
	5755	151	45.11	36.603
	5795	159	58.20	36.705

Mode	Frequency [MHz]	Channel No.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
802.11ac (VHT80)	5210	42	87.44	76.263
	5290	58	85.53	76.255
	5530	106	85.85	76.458
	5610	122	85.69	76.395
	5690	138	85.93	76.272
	5775	155	85.76	76.194

[Ant.2]

Mode	Frequency [MHz]	Channel No.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
802.11a	5180	36	27.01	17.771
	5200	40	26.01	18.080
	5240	48	24.58	17.848
	5260	52	26.56	18.002
	5300	60	24.15	17.789
	5320	64	24.50	17.774
	5500	100	24.03	17.746
	5600	120	24.01	17.637
	5720	144	24.63	17.699
	5745	149	25.19	17.634
	5785	157	24.19	17.547
	5825	165	23.98	17.635

Mode	Frequency [MHz]	Channel No.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
802.11n (HT20)	5180	36	30.67	19.419
	5200	40	30.80	19.074
	5240	48	30.55	19.192
	5260	52	30.31	19.395
	5300	60	30.74	19.163
	5320	64	30.37	19.218
	5500	100	30.47	19.320
	5600	120	30.32	19.093
	5720	144	30.16	19.398
	5745	149	30.14	19.469
	5785	157	30.37	19.278
	5825	165	29.70	19.214

Mode	Frequency [MHz]	Channel No.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
802.11ac (VHT20)	5180	36	30.71	19.595
	5200	40	30.76	19.185
	5240	48	29.89	19.076
	5260	52	30.62	19.273
	5300	60	30.30	19.229
	5320	64	30.31	19.203
	5500	100	30.61	19.184
	5600	120	30.46	19.359
	5720	144	30.52	19.179
	5745	149	30.48	19.306
	5785	157	30.62	19.471
	5825	165	30.51	19.314

Mode	Frequency [MHz]	Channel No.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
802.11n (HT40)	5190	38	45.11	36.654
	5230	46	45.92	36.643
	5270	54	44.78	36.652
	5310	62	45.34	36.638
	5510	102	45.55	36.632
	5590	118	45.26	36.664
	5710	142	44.59	36.665
	5755	151	44.61	36.601
	5795	159	45.30	36.637

Mode	Frequency [MHz]	Channel No.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
802.11ac (VHT40)	5190	38	45.78	36.679
	5230	46	44.90	36.600
	5270	54	45.18	36.620
	5310	62	44.88	36.683
	5510	102	45.55	36.680
	5590	118	45.15	36.595
	5710	142	45.21	36.644
	5755	151	45.17	36.607
	5795	159	44.33	36.599

Mode	Frequency [MHz]	Channel No.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
802.11ac (VHT80)	5210	42	85.29	76.163
	5290	58	86.50	76.287
	5530	106	86.76	76.333
	5610	122	87.11	76.247
	5690	138	85.60	76.372
	5775	155	85.83	76.249

Note:

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

[Ant.1]

▣ Test Plots(802.11a)

802.11a UNII 1 BAND 26 dB Bandwidth (CH 48)	802.11a UNII 2A BAND 26 dB Bandwidth (CH 60)
	
802.11a UNII 2C BAND 26 dB Bandwidth (CH 144)	**802.11a UNII 3 BAND 26 dB Bandwidth (CH 149)**
	

▣ Test Plots(802.11n(HT20))

802.11n_HT20 UNII 1 BAND 26 dB Bandwidth(CH 36)	802.11n_HT20 UNII 2A BAND 26 dB Bandwidth(CH 60)
	
802.11n_HT20 UNII 2C BAND 26 dB Bandwidth(CH 100)	**802.11n_HT20 UNII 3 BAND 26 dB Bandwidth(CH 157)**
	

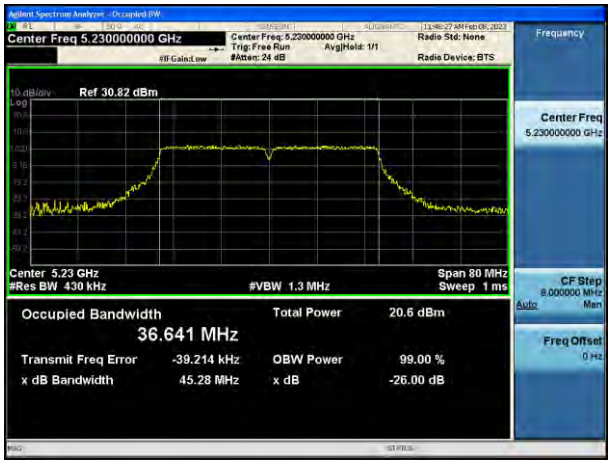
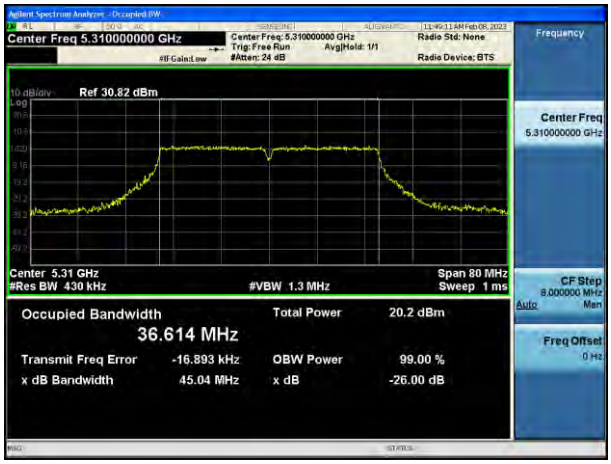
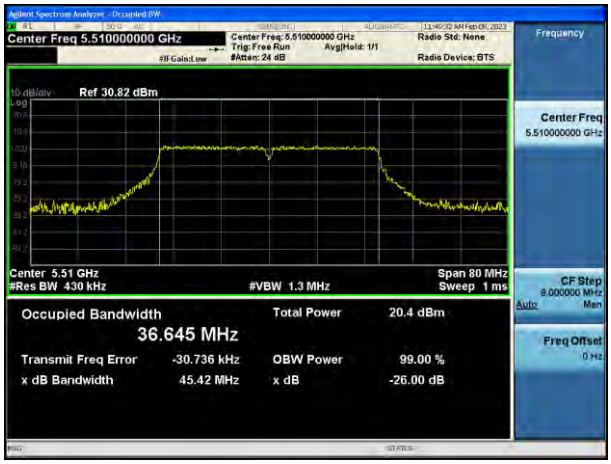
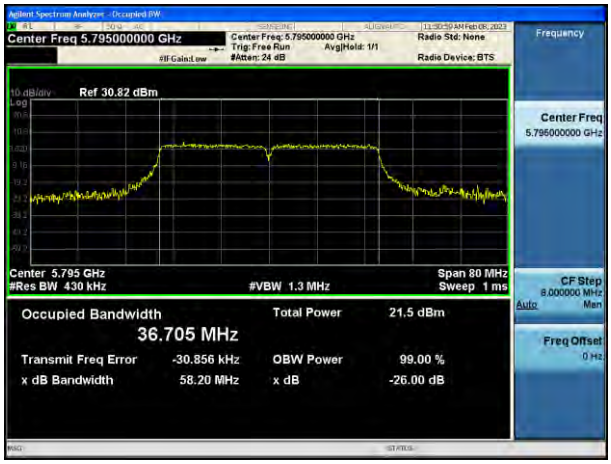
▣ Test Plots(802.11ac(VHT20))

802.11ac_VHT20 UNII 1 BAND 26 dB Bandwidth(CH 36)	802.11ac_VHT20 UNII 2A BAND 26 dB Bandwidth(CH 52)
	
802.11ac_VHT20 UNII 2C BAND 26 dB Bandwidth(CH 120)	**802.11ac_VHT20 UNII 3 BAND 26 dB Bandwidth(CH 157)**
	

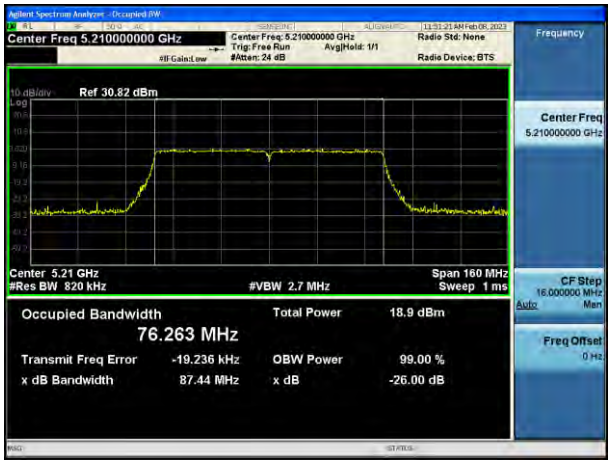
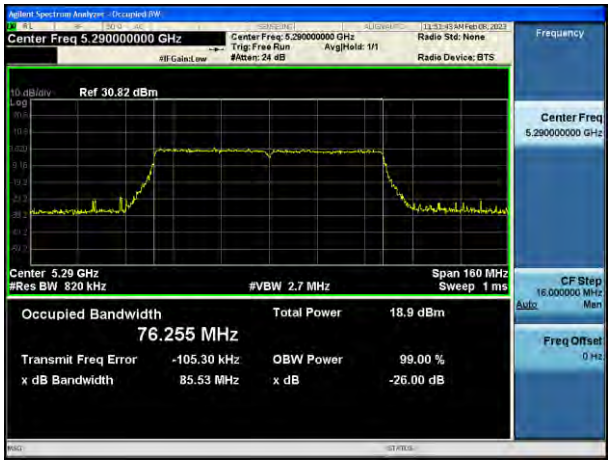
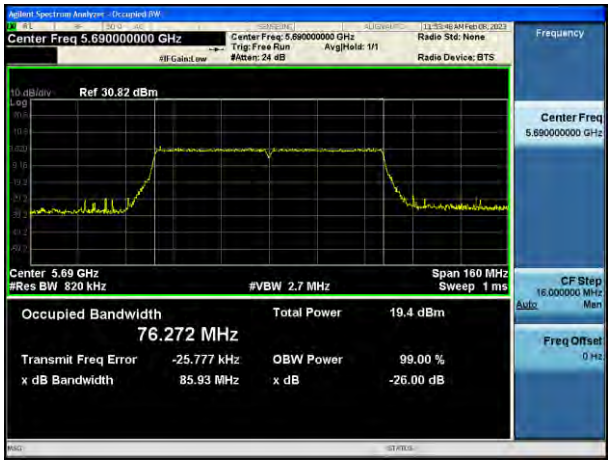
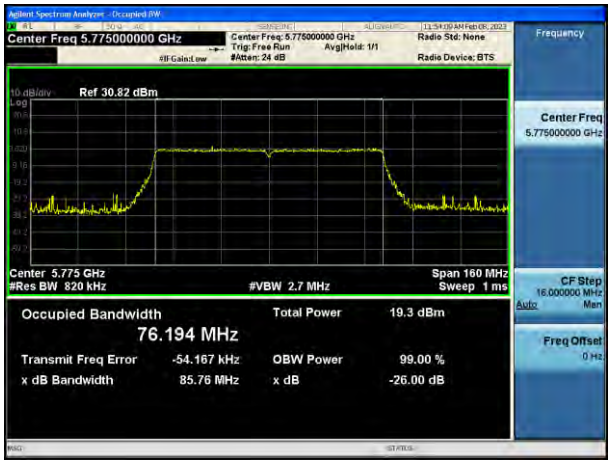
▣ Test Plots(802.11n(HT40))

802.11n_HT40 UNII 1 BAND 26 dB Bandwidth(CH 46)	802.11n_HT40 UNII 2A BAND 26 dB Bandwidth (CH 62)
	
802.11n_HT40 UNII 2C BAND 26 dB Bandwidth(CH 142)	**802.11n_HT40 UNII 3 BAND 26 dB Bandwidth (CH 159)**
	

▣ Test Plots(802.11ac(VHT40))

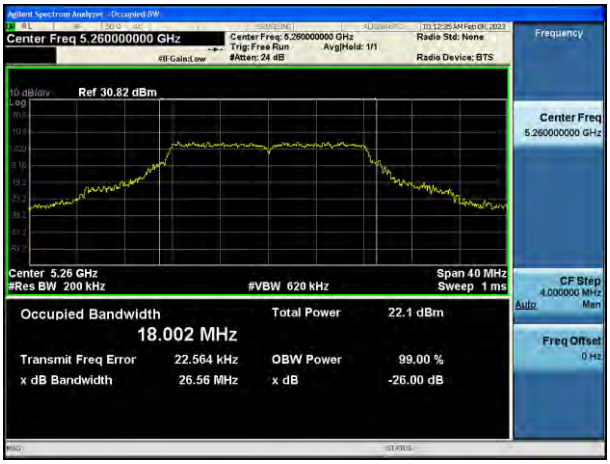
802.11ac_VHT40 UNII 1 BAND 26 dB Bandwidth(CH 46)	802.11ac_VHT40 UNII 2A BAND 26 dB Bandwidth (CH 62)
	
802.11ac_VHT40 UNII 2C BAND 26 dB Bandwidth(CH 102)	**802.11ac_VHT40 UNII 3 BAND 26 dB Bandwidth (CH 159)**
	

▣ Test Plots(802.11ac(VHT80))

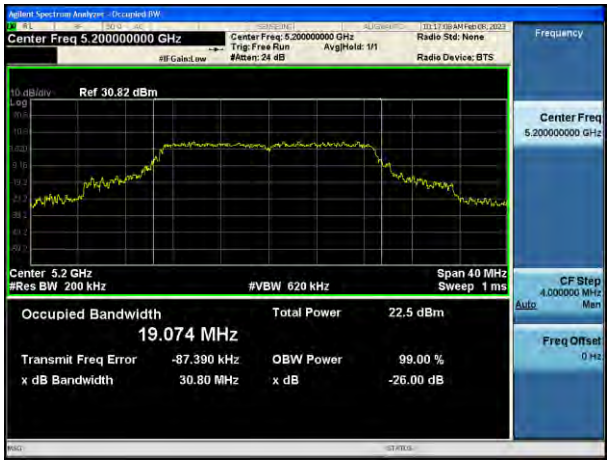
802.11ac_VHT80 UNII 1 BAND 26 dB Bandwidth(CH 42)	802.11ac_VHT80 UNII 2A BAND 26 dB Bandwidth (CH 58)
	
802.11ac_VHT80 UNII 2C BAND 26 dB Bandwidth(CH 138)	**802.11ac_VHT80 UNII 3 BAND 26 dB Bandwidth (CH 155)**
	

[Ant.2]

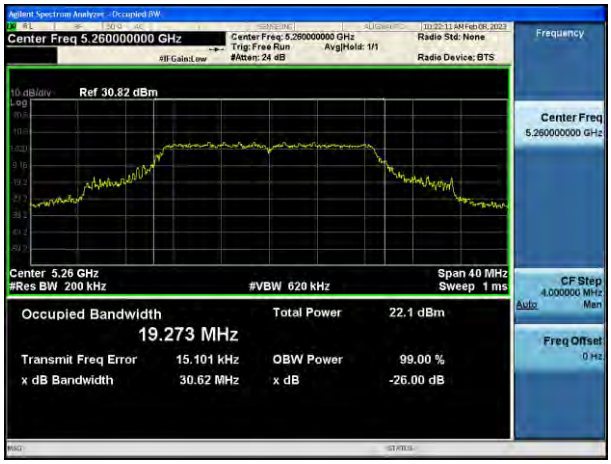
▣ Test Plots(802.11a)

802.11a UNII 1 BAND 26 dB Bandwidth (CH 36)	802.11a UNII 2A BAND 26 dB Bandwidth (CH 52)
	
802.11a UNII 2C BAND 26 dB Bandwidth (CH 144)	**802.11a UNII 3 BAND 26 dB Bandwidth (CH 149)**
	

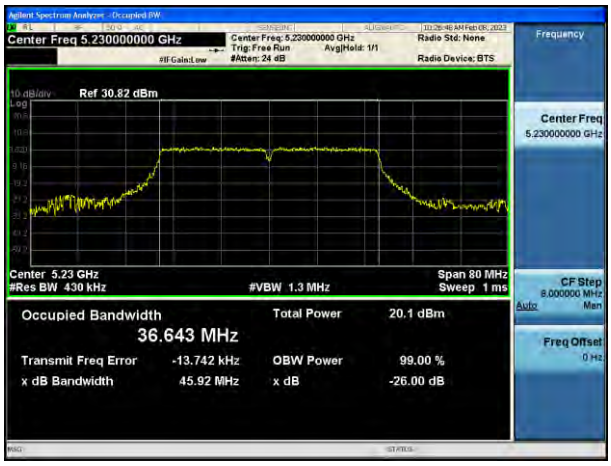
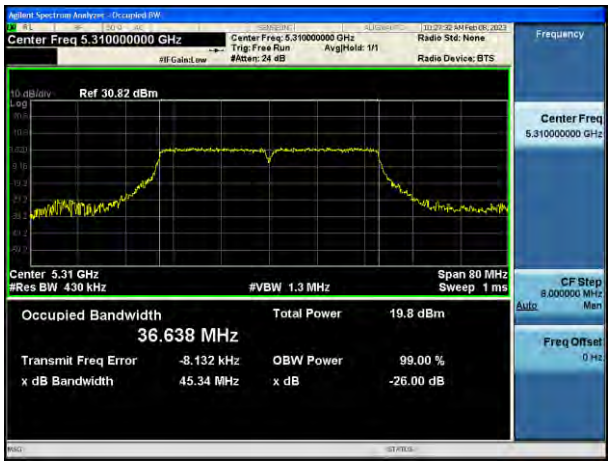
▣ Test Plots(802.11n(HT20))

802.11n_HT20 UNII 1 BAND 26 dB Bandwidth(CH 40)	802.11n_HT20 UNII 2A BAND 26 dB Bandwidth(CH 60)
	
802.11n_HT20 UNII 2C BAND 26 dB Bandwidth(CH 100)	**802.11n_HT20 UNII 3 BAND 26 dB Bandwidth(CH 157)**
	

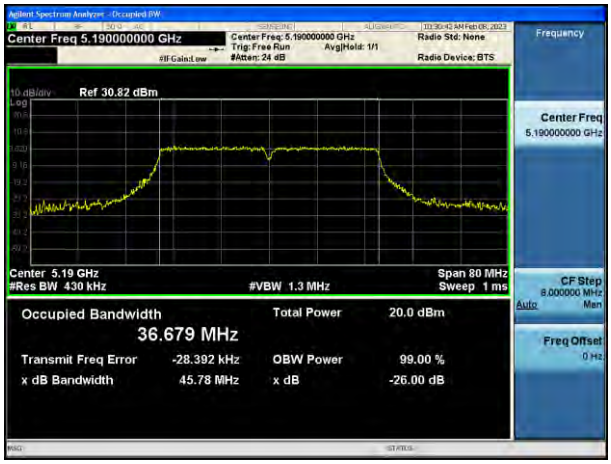
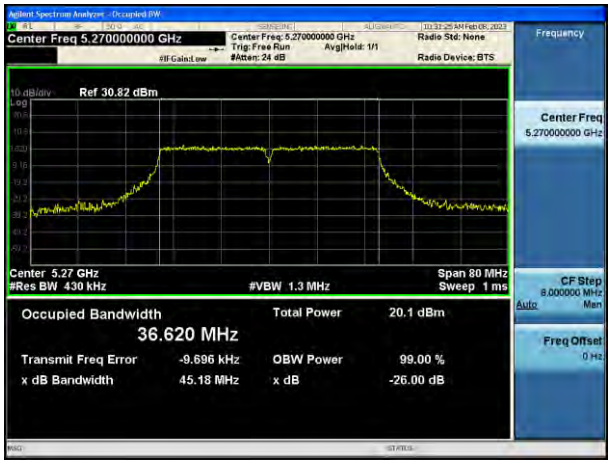
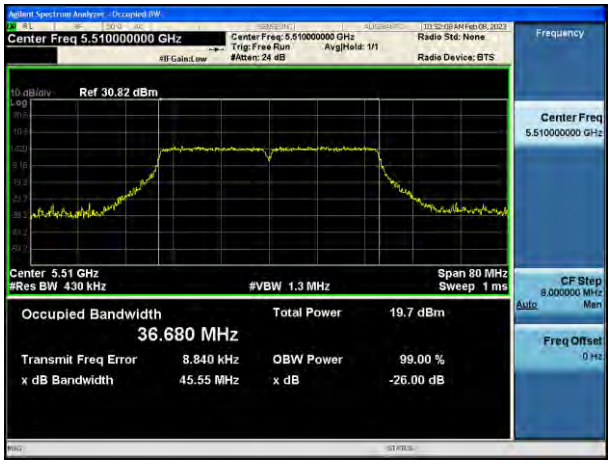
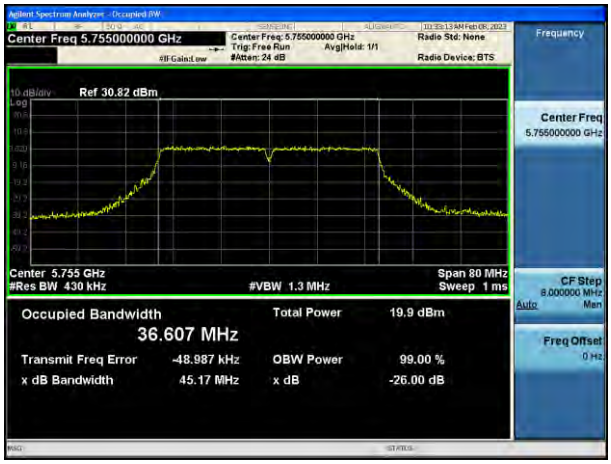
▣ Test Plots(802.11ac(VHT20))

802.11ac_VHT20 UNII 1 BAND 26 dB Bandwidth(CH 40)	802.11ac_VHT20 UNII 2A BAND 26 dB Bandwidth(CH 52)
	
802.11ac_VHT20 UNII 2C BAND 26 dB Bandwidth(CH 100)	**802.11ac_VHT20 UNII 3 BAND 26 dB Bandwidth(CH 157)**
	

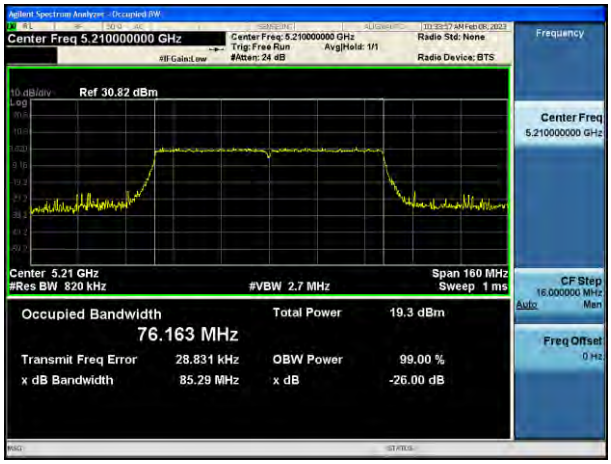
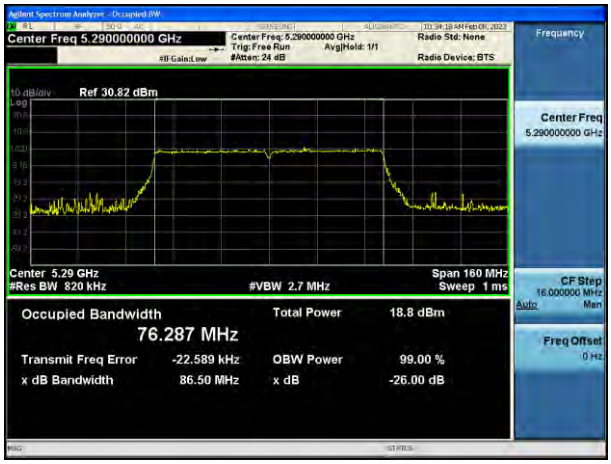
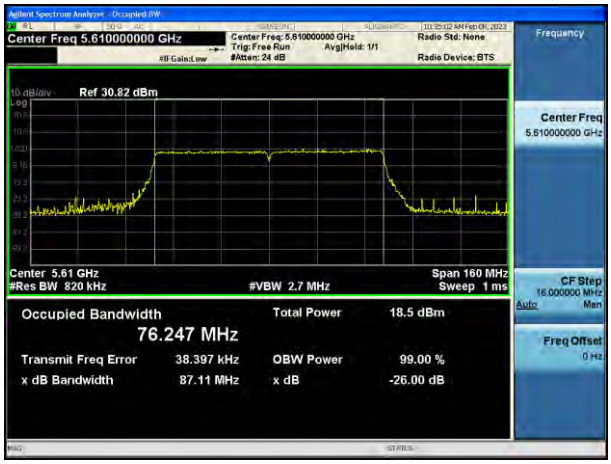
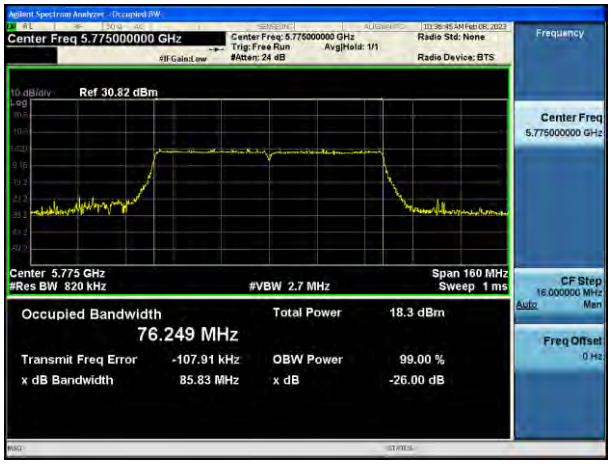
▣ Test Plots(802.11n(HT40))

802.11n_HT40 UNII 1 BAND 26 dB Bandwidth(CH 46)	802.11n_HT40 UNII 2A BAND 26 dB Bandwidth (CH 62)
	
802.11n_HT40 UNII 2C BAND 26 dB Bandwidth(CH 102)	**802.11n_HT40 UNII 3 BAND 26 dB Bandwidth (CH 159)**
	

▣ Test Plots(802.11ac(VHT40))

802.11ac_VHT40 UNII 1 BAND 26 dB Bandwidth(CH 38)	802.11ac_VHT40 UNII 2A BAND 26 dB Bandwidth (CH 54)
	
802.11ac_VHT40 UNII 2C BAND 26 dB Bandwidth(CH 102)	**802.11ac_VHT40 UNII 3 BAND 26 dB Bandwidth (CH 151)**
	

▣ Test Plots(802.11ac(VHT80))

802.11ac_VHT80 UNII 1 BAND 26 dB Bandwidth(CH 42)	802.11ac_VHT80 UNII 2A BAND 26 dB Bandwidth (CH 58)
	
802.11ac_VHT80 UNII 2C BAND 26 dB Bandwidth(CH 122)	**802.11ac_VHT80 UNII 3 BAND 26 dB Bandwidth (CH 155)**
	

10.3 6 dB BANDWIDTH

[Ant.1]

Mode	Frequency [MHz]	Channel No.	6 dB Bandwidth [MHz]	Limit [MHz]
802.11a	5745	149	16.43	0.50
	5785	157	16.43	0.50
	5825	165	16.44	0.50
802.11n(HT20)	5745	149	17.66	0.50
	5785	157	17.74	0.50
	5825	165	17.67	0.50
802.11ac(VHT20)	5745	149	17.69	0.50
	5785	157	17.68	0.50
	5825	165	17.67	0.50
802.11n(HT40)	5755	151	36.45	0.50
	5795	159	36.44	0.50
802.11ac(VHT40)	5755	151	36.43	0.50
	5795	159	36.43	0.50
802.11ac(VHT80)	5775	155	76.52	0.50

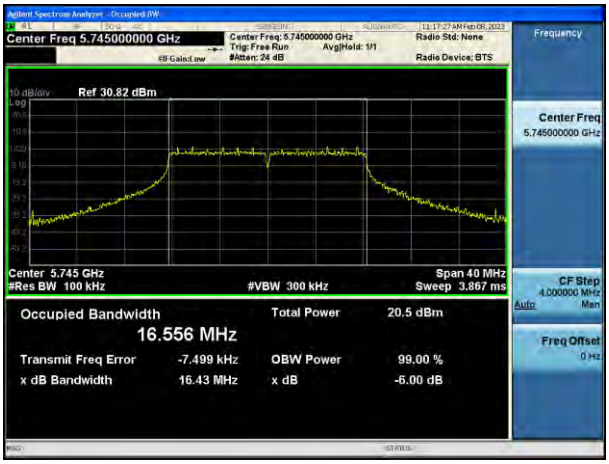
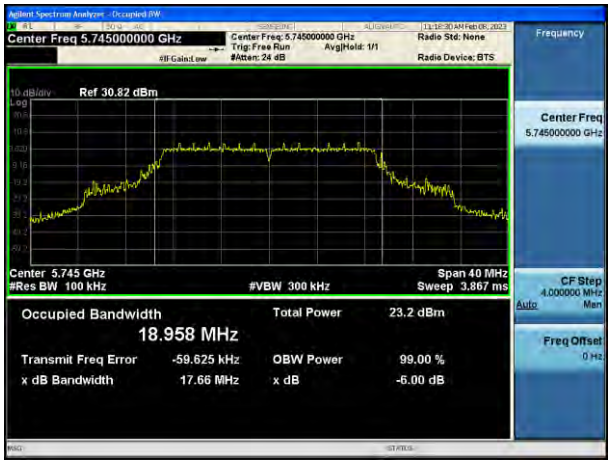
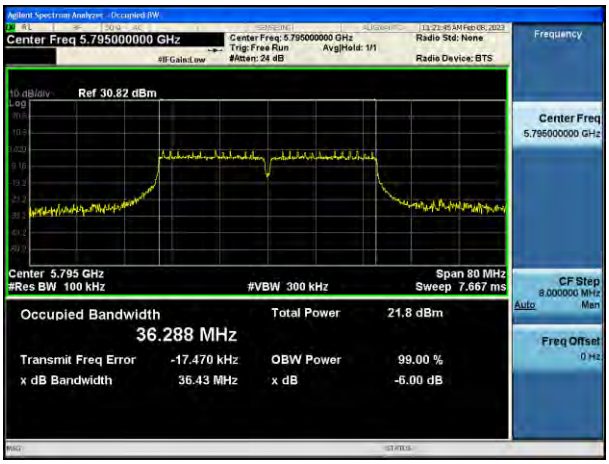
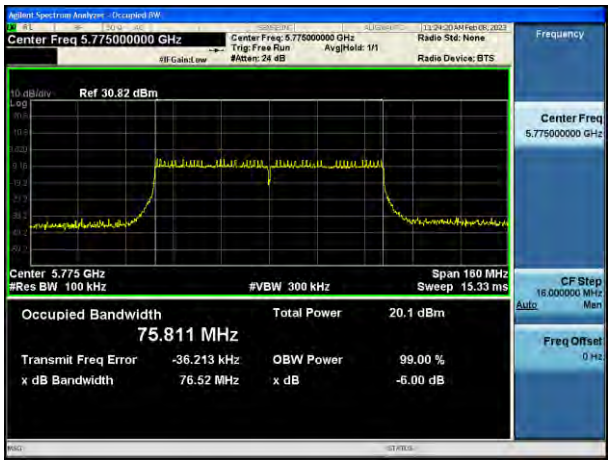
[Ant.2]

Mode	Frequency [MHz]	Channel No.	6 dB Bandwidth [MHz]	Limit [MHz]
802.11a	5745	149	16.42	0.50
	5785	157	16.43	0.50
	5825	165	16.41	0.50
802.11n(HT20)	5745	149	17.67	0.50
	5785	157	17.67	0.50
	5825	165	18.21	0.50
802.11ac(VHT20)	5745	149	17.67	0.50
	5785	157	17.72	0.50
	5825	165	17.67	0.50
802.11n(HT40)	5755	151	36.42	0.50
	5795	159	36.43	0.50
802.11ac(VHT40)	5755	151	36.45	0.50
	5795	159	36.43	0.50
802.11ac(VHT80)	5775	155	76.48	0.50

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

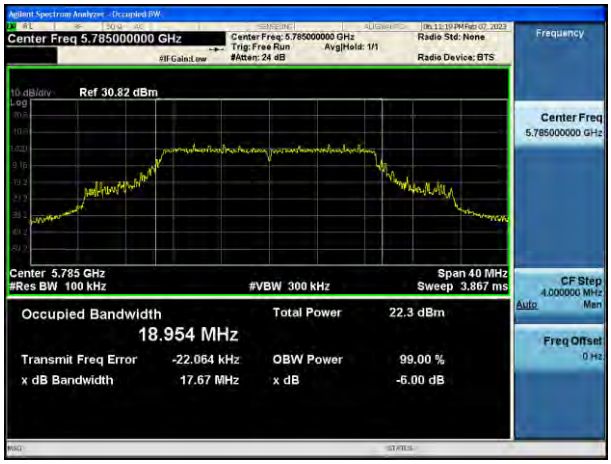
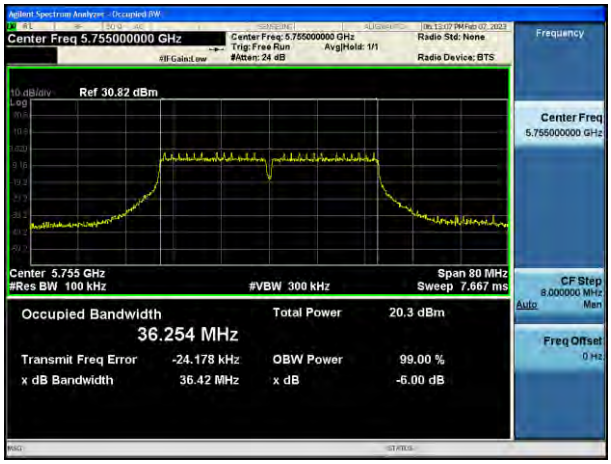
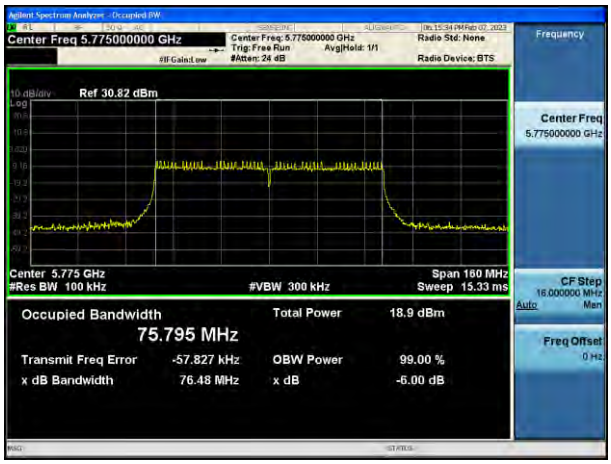
[Ant.1]

▣ Test Plots

802.11a (CH.149)	802.11n(HT20) (CH.149)
	
802.11ac(VHT20) (CH.165)	**802.11n(HT40) (CH.159)**
	
802.11ac(VHT40) (CH.159)	**802.11ac(VHT80) (CH.155)**
	

[Ant.2]

▣ Test Plots

802.11a (CH.165)	802.11n(HT20) (CH.157)
	
802.11ac(VHT20) (CH.149)	**802.11n(HT40) (CH.151)**
	
802.11ac(VHT40) (CH.159)	**802.11ac(VHT80) (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 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)

(UNII 3) : 30.00 dBm

[Ant.1]

802.11a Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	14.95	0.942	15.89	23.98	18M
5200	40	14.84	0.942	15.79	23.98	18M
5240	48	15.04	0.942	15.98	23.98	18M
5260	52	14.91	0.942	15.85	23.98	18M
5300	60	14.83	0.942	15.77	23.98	18M
5320	64	14.93	0.942	15.87	23.98	18M
5500	100	14.90	0.942	15.84	23.98	18M
5600	120	15.39	0.942	16.33	23.98	18M
5720	144	15.64	0.942	16.58	23.98	18M
5745	149	15.64	0.942	16.58	30.00	18M
5785	157	15.85	0.942	16.79	30.00	18M
5825	165	15.65	0.942	16.59	30.00	18M

802.11n(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit [dBm]	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	14.32	1.630	15.95	23.98	MCS4
5200	40	14.27	1.630	15.90	23.98	MCS4
5240	48	14.54	1.630	16.17	23.98	MCS4
5260	52	14.41	1.630	16.04	23.98	MCS4
5300	60	14.30	1.630	15.93	23.98	MCS4
5320	64	14.42	1.630	16.05	23.98	MCS4
5500	100	14.31	1.630	15.94	23.98	MCS4
5600	120	14.60	1.630	16.23	23.98	MCS4
5720	144	15.13	1.630	16.76	23.98	MCS4
5745	149	15.11	1.630	16.74	30.00	MCS4
5785	157	15.27	1.630	16.90	30.00	MCS4
5825	165	15.10	1.630	16.73	30.00	MCS4

802.11ac(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	14.27	1.732	16.00	23.98	MCS4
5200	40	14.27	1.732	16.00	23.98	MCS4
5240	48	14.55	1.732	16.28	23.98	MCS4
5260	52	14.35	1.732	16.08	23.98	MCS4
5300	60	14.29	1.732	16.02	23.98	MCS4
5320	64	14.46	1.732	16.19	23.98	MCS4
5500	100	14.34	1.732	16.08	23.98	MCS4
5600	120	14.62	1.732	16.35	23.98	MCS4
5720	144	15.02	1.732	16.75	23.98	MCS4
5745	149	14.78	1.732	16.51	30.00	MCS4
5785	157	15.16	1.732	16.89	30.00	MCS4
5825	165	15.03	1.732	16.77	30.00	MCS4

802.11n(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5190	38	11.45	2.612	14.06	23.98	MCS4
5230	46	11.66	2.612	14.27	23.98	MCS4
5270	54	11.60	2.612	14.21	23.98	MCS4
5310	62	11.34	2.612	13.95	23.98	MCS4
5510	102	11.44	2.612	14.06	23.98	MCS4
5590	118	11.86	2.612	14.47	23.98	MCS4
5710	142	12.03	2.612	14.64	23.98	MCS4
5755	151	11.75	2.612	14.36	30.00	MCS4
5795	159	12.12	2.612	14.73	30.00	MCS4

802.11ac(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5190	38	11.52	2.578	14.10	23.98	MCS4
5230	46	11.68	2.578	14.26	23.98	MCS4
5270	54	11.58	2.578	14.16	23.98	MCS4
5310	62	11.04	2.578	13.62	23.98	MCS4
5510	102	11.51	2.578	14.09	23.98	MCS4
5590	118	11.80	2.578	14.37	23.98	MCS4
5710	142	12.02	2.578	14.60	23.98	MCS4
5755	151	11.76	2.578	14.34	30.00	MCS4
5795	159	11.94	2.578	14.52	30.00	MCS4

802.11ac(80 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5210	42	8.27	3.575	11.85	23.98	MCS4
5290	58	8.03	3.575	11.60	23.98	MCS4
5530	106	8.15	3.575	11.73	23.98	MCS4
5610	122	8.37	3.575	11.95	23.98	MCS4
5690	138	8.40	3.575	11.98	23.98	MCS4
5775	155	8.38	3.575	11.96	30.00	MCS4

[Ant.2]

802.11a Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	14.25	0.942	15.19	23.98	18M
5200	40	14.93	0.942	15.88	23.98	18M
5240	48	15.01	0.942	15.96	23.98	18M
5260	52	14.67	0.942	15.61	23.98	18M
5300	60	14.30	0.942	15.24	23.98	18M
5320	64	14.45	0.942	15.39	23.98	18M
5500	100	14.63	0.942	15.58	23.98	18M
5600	120	14.63	0.942	15.57	23.98	18M
5720	144	15.05	0.942	15.99	23.98	18M
5745	149	15.10	0.942	16.04	30.00	18M
5785	157	14.77	0.942	15.72	30.00	18M
5825	165	15.16	0.942	16.11	30.00	18M

802.11n(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit [dBm]	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	14.00	1.630	15.63	23.98	MCS4
5200	40	14.32	1.630	15.95	23.98	MCS4
5240	48	14.49	1.630	16.12	23.98	MCS4
5260	52	14.13	1.630	15.76	23.98	MCS4
5300	60	13.88	1.630	15.51	23.98	MCS4
5320	64	14.31	1.630	15.94	23.98	MCS4
5500	100	13.97	1.630	15.60	23.98	MCS4
5600	120	14.23	1.630	15.86	23.98	MCS4
5720	144	14.58	1.630	16.21	23.98	MCS4
5745	149	14.79	1.630	16.42	30.00	MCS4
5785	157	14.23	1.630	15.86	30.00	MCS4
5825	165	14.63	1.630	16.26	30.00	MCS4

802.11ac(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	13.67	1.732	15.40	23.98	MCS4
5200	40	14.15	1.732	15.88	23.98	MCS4
5240	48	14.22	1.732	15.95	23.98	MCS4
5260	52	13.88	1.732	15.61	23.98	MCS4
5300	60	13.60	1.732	15.33	23.98	MCS4
5320	64	13.91	1.732	15.65	23.98	MCS4
5500	100	14.01	1.732	15.74	23.98	MCS4
5600	120	13.99	1.732	15.73	23.98	MCS4
5720	144	14.39	1.732	16.13	23.98	MCS4
5745	149	14.53	1.732	16.26	30.00	MCS4
5785	157	14.08	1.732	15.81	30.00	MCS4
5825	165	14.38	1.732	16.11	30.00	MCS4

802.11n(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5190	38	10.90	2.612	13.52	23.98	MCS4
5230	46	11.31	2.612	13.92	23.98	MCS4
5270	54	11.00	2.612	13.61	23.98	MCS4
5310	62	10.81	2.612	13.42	23.98	MCS4
5510	102	10.56	2.612	13.18	23.98	MCS4
5590	118	10.50	2.612	13.12	23.98	MCS4
5710	142	10.70	2.612	13.32	23.98	MCS4
5755	151	10.39	2.612	13.00	30.00	MCS4
5795	159	10.47	2.612	13.08	30.00	MCS4

802.11ac(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5190	38	11.07	2.578	13.64	23.98	MCS4
5230	46	11.46	2.578	14.04	23.98	MCS4
5270	54	11.04	2.578	13.62	23.98	MCS4
5310	62	10.87	2.578	13.45	23.98	MCS4
5510	102	10.61	2.578	13.18	23.98	MCS4
5590	118	10.46	2.578	13.03	23.98	MCS4
5710	142	10.84	2.578	13.41	23.98	MCS4
5755	151	10.54	2.578	13.12	30.00	MCS4
5795	159	10.55	2.578	13.13	30.00	MCS4

802.11ac(80 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor (dB)	Total Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5210	42	8.40	3.575	11.98	23.98	MCS4
5290	58	8.12	3.575	11.69	23.98	MCS4
5530	106	7.63	3.575	11.21	23.98	MCS4
5610	122	7.52	3.575	11.09	23.98	MCS4
5690	138	7.31	3.575	10.88	23.98	MCS4
5775	155	7.38	3.575	10.95	30.00	MCS4

[MIMO]

802.11a Mode		Ant.1 Power (dBm)	Ant.2 Power (dBm)	MIMO Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	15.89	15.19	18.56	23.98	18M
5200	40	15.79	15.88	18.84	23.98	18M
5240	48	15.98	15.96	18.98	23.98	18M
5260	52	15.85	15.61	18.74	23.98	18M
5300	60	15.77	15.24	18.52	23.98	18M
5320	64	15.87	15.39	18.65	23.98	18M
5500	100	15.84	15.58	18.72	23.98	18M
5600	120	16.33	15.57	18.98	23.98	18M
5720	144	16.58	15.99	19.31	23.98	18M
5745	149	16.58	16.04	19.33	30.00	18M
5785	157	16.79	15.72	19.30	30.00	18M
5825	165	16.59	16.11	19.37	30.00	18M

802.11n(20 MHz) Mode		Ant.1 Power (dBm)	Ant.2 Power (dBm)	MIMO Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	15.95	15.63	18.80	23.98	MCS4
5200	40	15.90	15.95	18.94	23.98	MCS4
5240	48	16.17	16.12	19.15	23.98	MCS4
5260	52	16.04	15.76	18.91	23.98	MCS4
5300	60	15.93	15.51	18.74	23.98	MCS4
5320	64	16.05	15.94	19.01	23.98	MCS4
5500	100	15.94	15.60	18.78	23.98	MCS4
5600	120	16.23	15.86	19.06	23.98	MCS4
5720	144	16.76	16.21	19.51	23.98	MCS4
5745	149	16.74	16.42	19.60	30.00	MCS4
5785	157	16.90	15.86	19.42	30.00	MCS4
5825	165	16.73	16.26	19.51	30.00	MCS4

802.11ac(20 MHz) Mode		Ant.1 Power (dBm)	Ant.2 Power (dBm)	MIMO Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	16.00	15.40	18.72	23.98	MCS4
5200	40	16.00	15.88	18.95	23.98	MCS4
5240	48	16.28	15.95	19.13	23.98	MCS4
5260	52	16.08	15.61	18.86	23.98	MCS4
5300	60	16.02	15.33	18.70	23.98	MCS4
5320	64	16.19	15.65	18.94	23.98	MCS4
5500	100	16.08	15.74	18.92	23.98	MCS4
5600	120	16.35	15.73	19.06	23.98	MCS4
5720	144	16.75	16.13	19.46	23.98	MCS4
5745	149	16.51	16.26	19.40	30.00	MCS4
5785	157	16.89	15.81	19.39	30.00	MCS4
5825	165	16.77	16.11	19.46	30.00	MCS4

802.11n(40 MHz) Mode		Ant.1 Power (dBm)	Ant.2 Power (dBm)	MIMO Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5190	38	14.06	13.52	16.81	23.98	MCS4
5230	46	14.27	13.92	17.11	23.98	MCS4
5270	54	14.21	13.61	16.93	23.98	MCS4
5310	62	13.95	13.42	16.70	23.98	MCS4
5510	102	14.06	13.18	16.65	23.98	MCS4
5590	118	14.47	13.12	16.85	23.98	MCS4
5710	142	14.64	13.32	17.04	23.98	MCS4
5755	151	14.36	13.00	16.74	23.98	MCS4
5795	159	14.73	13.08	17.00	23.98	MCS4

802.11ac(40 MHz) Mode		Ant.1 Power (dBm)	Ant.2 Power (dBm)	MIMO Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5190	38	14.10	13.64	16.89	23.98	MCS4
5230	46	14.26	14.04	17.16	23.98	MCS4
5270	54	14.16	13.62	16.91	23.98	MCS4
5310	62	13.62	13.45	16.54	23.98	MCS4
5510	102	14.09	13.18	16.67	23.98	MCS4
5590	118	14.37	13.03	16.77	23.98	MCS4
5710	142	14.60	13.41	17.06	23.98	MCS4
5755	151	14.34	13.12	16.78	30.00	MCS4
5795	159	14.52	13.13	16.89	30.00	MCS4

802.11ac(80 MHz) Mode		Ant.1 Power (dBm)	Ant.2 Power (dBm)	MIMO Power [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5210	42	11.85	11.98	14.92	23.98	MCS4
5290	58	11.60	11.69	14.66	23.98	MCS4
5530	106	11.73	11.21	14.49	23.98	MCS4
5610	122	11.95	11.09	14.55	23.98	MCS4
5690	138	11.98	10.88	14.48	23.98	MCS4
5775	155	11.96	10.95	14.49	30.00	MCS4

10.5 POWER SPECTRAL DENSITY

[Ant.1]

802.11a Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	3.627	0.942	4.569	11 dBm/MHz	18M
5200	40	3.860	0.942	4.802	11 dBm/MHz	18M
5240	48	3.746	0.942	4.688	11 dBm/MHz	18M
5260	52	4.042	0.942	4.984	11 dBm/MHz	18M
5300	60	3.513	0.942	4.455	11 dBm/MHz	18M
5320	64	4.013	0.942	4.955	11 dBm/MHz	18M
5500	100	3.789	0.942	4.731	11 dBm/MHz	18M
5600	120	3.986	0.942	4.928	11 dBm/MHz	18M
5720	144	4.362	0.942	5.304	11 dBm/MHz	18M
5745	149	1.374	0.942	2.316	30 dBm/500kHz	18M
5785	157	1.630	0.942	2.572	30 dBm/500kHz	18M
5825	165	1.689	0.942	2.631	30 dBm/500kHz	18M

802.11n(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	2.883	1.630	4.513	11 dBm/MHz	MCS4
5200	40	2.700	1.630	4.330	11 dBm/MHz	MCS4
5240	48	3.013	1.630	4.643	11 dBm/MHz	MCS4
5260	52	2.867	1.630	4.497	11 dBm/MHz	MCS4
5300	60	3.011	1.630	4.641	11 dBm/MHz	MCS4
5320	64	3.142	1.630	4.772	11 dBm/MHz	MCS4
5500	100	2.710	1.630	4.340	11 dBm/MHz	MCS4
5600	120	3.491	1.630	5.121	11 dBm/MHz	MCS4
5720	144	3.619	1.630	5.249	11 dBm/MHz	MCS4
5745	149	0.769	1.630	2.399	30 dBm/500kHz	MCS4
5785	157	1.520	1.630	3.150	30 dBm/500kHz	MCS4
5825	165	0.978	1.630	2.608	30 dBm/500kHz	MCS4

802.11ac(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	3.145	1.732	4.877	11 dBm/MHz	MCS4
5200	40	2.998	1.732	4.730	11 dBm/MHz	MCS4
5240	48	3.041	1.732	4.773	11 dBm/MHz	MCS4
5260	52	3.024	1.732	4.756	11 dBm/MHz	MCS4
5300	60	2.790	1.732	4.522	11 dBm/MHz	MCS4
5320	64	3.219	1.732	4.951	11 dBm/MHz	MCS4
5500	100	3.247	1.732	4.979	11 dBm/MHz	MCS4
5600	120	3.282	1.732	5.014	11 dBm/MHz	MCS4
5720	144	3.662	1.732	5.394	11 dBm/MHz	MCS4
5745	149	1.026	1.732	2.758	30 dBm/500kHz	MCS4
5785	157	1.116	1.732	2.848	30 dBm/500kHz	MCS4
5825	165	1.004	1.732	2.736	30 dBm/500kHz	MCS4

802.11n(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5190	38	-2.527	2.612	0.085	11 dBm/MHz	MCS4
5230	46	-2.615	2.612	-0.003	11 dBm/MHz	MCS4
5270	54	-2.619	2.612	-0.007	11 dBm/MHz	MCS4
5310	62	-3.220	2.612	-0.608	11 dBm/MHz	MCS4
5510	102	-3.127	2.612	-0.515	11 dBm/MHz	MCS4
5590	118	-2.304	2.612	0.308	11 dBm/MHz	MCS4
5710	142	-1.842	2.612	0.770	11 dBm/MHz	MCS4
5755	151	-4.873	2.612	-2.261	30 dBm/500kHz	MCS4
5795	159	-4.310	2.612	-1.698	30 dBm/500kHz	MCS4

802.11ac(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5190	38	-2.760	2.578	-0.182	11 dBm/MHz	MCS4
5230	46	-2.569	2.578	0.009	11 dBm/MHz	MCS4
5270	54	-2.906	2.578	-0.328	11 dBm/MHz	MCS4
5310	62	-3.061	2.578	-0.483	11 dBm/MHz	MCS4
5510	102	-2.489	2.578	0.089	11 dBm/MHz	MCS4
5590	118	-2.179	2.578	0.399	11 dBm/MHz	MCS4
5710	142	-2.147	2.578	0.431	11 dBm/MHz	MCS4
5755	151	-4.920	2.578	-2.342	30 dBm/500kHz	MCS4
5795	159	-4.335	2.578	-1.757	30 dBm/500kHz	MCS4

802.11ac(80 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5210	42	-8.704	3.575	-5.129	11 dBm/MHz	MCS4
5290	58	-8.967	3.575	-5.392	11 dBm/MHz	MCS4
5530	106	-8.382	3.575	-4.807	11 dBm/MHz	MCS4
5610	122	-8.470	3.575	-4.895	11 dBm/MHz	MCS4
5690	138	-8.515	3.575	-4.940	11 dBm/MHz	MCS4
5775	155	-11.270	3.575	-7.695	30 dBm/500kHz	MCS4

[Ant.2]

802.11a Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	2.933	0.942	3.875	11 dBm/MHz	18M
5200	40	3.696	0.942	4.638	11 dBm/MHz	18M
5240	48	4.016	0.942	4.958	11 dBm/MHz	18M
5260	52	3.418	0.942	4.360	11 dBm/MHz	18M
5300	60	3.284	0.942	4.226	11 dBm/MHz	18M
5320	64	3.278	0.942	4.220	11 dBm/MHz	18M
5500	100	3.196	0.942	4.138	11 dBm/MHz	18M
5600	120	3.475	0.942	4.417	11 dBm/MHz	18M
5720	144	3.819	0.942	4.761	11 dBm/MHz	18M
5745	149	1.182	0.942	2.124	30 dBm/500kHz	18M
5785	157	0.973	0.942	1.915	30 dBm/500kHz	18M
5825	165	1.026	0.942	1.968	30 dBm/500kHz	18M

802.11n(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	2.458	1.630	4.088	11 dBm/MHz	MCS4
5200	40	3.022	1.630	4.652	11 dBm/MHz	MCS4
5240	48	2.936	1.630	4.566	11 dBm/MHz	MCS4
5260	52	2.877	1.630	4.507	11 dBm/MHz	MCS4
5300	60	2.182	1.630	3.812	11 dBm/MHz	MCS4
5320	64	2.622	1.630	4.252	11 dBm/MHz	MCS4
5500	100	2.406	1.630	4.036	11 dBm/MHz	MCS4
5600	120	2.514	1.630	4.144	11 dBm/MHz	MCS4
5720	144	3.069	1.630	4.699	11 dBm/MHz	MCS4
5745	149	0.725	1.630	2.355	30 dBm/500kHz	MCS4
5785	157	0.149	1.630	1.779	30 dBm/500kHz	MCS4
5825	165	0.177	1.630	1.807	30 dBm/500kHz	MCS4

802.11ac(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	2.376	1.732	4.108	11 dBm/MHz	MCS4
5200	40	2.960	1.732	4.692	11 dBm/MHz	MCS4
5240	48	3.176	1.732	4.908	11 dBm/MHz	MCS4
5260	52	3.145	1.732	4.877	11 dBm/MHz	MCS4
5300	60	2.241	1.732	3.973	11 dBm/MHz	MCS4
5320	64	2.564	1.732	4.296	11 dBm/MHz	MCS4
5500	100	2.335	1.732	4.067	11 dBm/MHz	MCS4
5600	120	2.742	1.732	4.474	11 dBm/MHz	MCS4
5720	144	3.194	1.732	4.926	11 dBm/MHz	MCS4
5745	149	0.408	1.732	2.140	30 dBm/500kHz	MCS4
5785	157	0.229	1.732	1.961	30 dBm/500kHz	MCS4
5825	165	0.099	1.732	1.831	30 dBm/500kHz	MCS4

802.11n(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5190	38	-3.286	2.612	-0.674	11 dBm/MHz	MCS4
5230	46	-3.144	2.612	-0.532	11 dBm/MHz	MCS4
5270	54	-3.337	2.612	-0.725	11 dBm/MHz	MCS4
5310	62	-3.211	2.612	-0.599	11 dBm/MHz	MCS4
5510	102	-3.673	2.612	-1.061	11 dBm/MHz	MCS4
5590	118	-3.908	2.612	-1.296	11 dBm/MHz	MCS4
5710	142	-3.487	2.612	-0.875	11 dBm/MHz	MCS4
5755	151	-6.438	2.612	-3.826	30 dBm/500kHz	MCS4
5795	159	-5.594	2.612	-2.982	30 dBm/500kHz	MCS4

802.11ac(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5190	38	-2.988	2.578	-0.410	11 dBm/MHz	MCS4
5230	46	-2.942	2.578	-0.364	11 dBm/MHz	MCS4
5270	54	-3.090	2.578	-0.512	11 dBm/MHz	MCS4
5310	62	-3.542	2.578	-0.964	11 dBm/MHz	MCS4
5510	102	-3.582	2.578	-1.004	11 dBm/MHz	MCS4
5590	118	-3.181	2.578	-0.603	11 dBm/MHz	MCS4
5710	142	-3.142	2.578	-0.564	11 dBm/MHz	MCS4
5755	151	-6.071	2.578	-3.493	30 dBm/500kHz	MCS4
5795	159	-6.111	2.578	-3.533	30 dBm/500kHz	MCS4

802.11ac(80 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5210	42	-8.681	3.575	-5.106	11 dBm/MHz	MCS4
5290	58	-9.129	3.575	-5.554	11 dBm/MHz	MCS4
5530	106	-9.652	3.575	-6.077	11 dBm/MHz	MCS4
5610	122	-9.314	3.575	-5.739	11 dBm/MHz	MCS4
5690	138	-9.676	3.575	-6.101	11 dBm/MHz	MCS4
5775	155	-12.516	3.575	-8.941	30 dBm/500kHz	MCS4

[MIMO]

802.11a Mode		Ant.1 PSD (dBm)	Ant.2 PSD (dBm)	MIMO PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	4.569	3.875	7.246	11 dBm/MHz	18M
5200	40	4.802	4.638	7.731	11 dBm/MHz	18M
5240	48	4.688	4.958	7.836	11 dBm/MHz	18M
5260	52	4.984	4.360	7.694	11 dBm/MHz	18M
5300	60	4.455	4.226	7.352	11 dBm/MHz	18M
5320	64	4.955	4.220	7.806	11 dBm/MHz	18M
5500	100	4.731	4.138	7.455	11 dBm/MHz	18M
5600	120	4.928	4.417	6.503	11 dBm/MHz	18M
5720	144	5.304	4.761	6.813	11 dBm/MHz	18M
5745	149	2.316	2.124	5.232	30 dBm/500kHz	18M
5785	157	2.572	1.915	5.266	30 dBm/500kHz	18M
5825	165	2.631	1.968	5.323	30 dBm/500kHz	18M

802.11n(20 MHz) Mode		Ant.1 PSD (dBm)	Ant.2 PSD (dBm)	MIMO PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	4.513	4.088	7.316	11 dBm/MHz	MCS4
5200	40	4.330	4.652	7.504	11 dBm/MHz	MCS4
5240	48	4.643	4.566	7.615	11 dBm/MHz	MCS4
5260	52	4.497	4.507	7.512	11 dBm/MHz	MCS4
5300	60	4.641	3.812	7.257	11 dBm/MHz	MCS4
5320	64	4.772	4.252	7.530	11 dBm/MHz	MCS4
5500	100	4.340	4.036	7.201	11 dBm/MHz	MCS4
5600	120	5.121	4.144	7.670	11 dBm/MHz	MCS4
5720	144	5.249	4.699	7.993	11 dBm/MHz	MCS4
5745	149	2.399	2.355	5.387	30 dBm/500kHz	MCS4
5785	157	3.150	1.779	5.529	30 dBm/500kHz	MCS4
5825	165	2.608	1.807	5.236	30 dBm/500kHz	MCS4

802.11ac(20 MHz) Mode		Ant.1 PSD (dBm)	Ant.2 PSD (dBm)	MIMO PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5180	36	4.877	4.108	7.520	11 dBm/MHz	MCS4
5200	40	4.730	4.692	7.722	11 dBm/MHz	MCS4
5240	48	4.773	4.908	7.852	11 dBm/MHz	MCS4
5260	52	4.756	4.877	7.828	11 dBm/MHz	MCS4
5300	60	4.522	3.973	7.267	11 dBm/MHz	MCS4
5320	64	4.951	4.296	7.647	11 dBm/MHz	MCS4
5500	100	4.979	4.067	7.558	11 dBm/MHz	MCS4
5600	120	5.014	4.474	7.763	11 dBm/MHz	MCS4
5720	144	5.394	4.926	8.177	11 dBm/MHz	MCS4
5745	149	2.758	2.140	5.471	30 dBm/500kHz	MCS4
5785	157	2.848	1.961	5.438	30 dBm/500kHz	MCS4
5825	165	2.736	1.831	5.318	30 dBm/500kHz	MCS4

802.11n(40 MHz) Mode		Ant.1 PSD (dBm)	Ant.2 PSD (dBm)	MIMO PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5190	38	0.085	-0.674	2.732	11 dBm/MHz	MCS4
5230	46	-0.003	-0.532	2.750	11 dBm/MHz	MCS4
5270	54	-0.007	-0.725	2.659	11 dBm/MHz	MCS4
5310	62	-0.608	-0.599	2.406	11 dBm/MHz	MCS4
5510	102	-0.515	-1.061	2.230	11 dBm/MHz	MCS4
5590	118	0.308	-1.296	2.590	11 dBm/MHz	MCS4
5710	142	0.770	-0.875	3.035	11 dBm/MHz	MCS4
5755	151	-2.261	-3.826	0.037	30 dBm/500kHz	MCS4
5795	159	-1.698	-2.982	0.717	30 dBm/500kHz	MCS4

802.11ac(40 MHz) Mode		Ant.1 PSD (dBm)	Ant.2 PSD (dBm)	MIMO PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5190	38	-0.182	-0.410	2.715	11 dBm/MHz	MCS4
5230	46	0.009	-0.364	2.836	11 dBm/MHz	MCS4
5270	54	-0.328	-0.512	2.591	11 dBm/MHz	MCS4
5310	62	-0.483	-0.964	2.293	11 dBm/MHz	MCS4
5510	102	0.089	-1.004	2.587	11 dBm/MHz	MCS4
5590	118	0.399	-0.603	2.937	11 dBm/MHz	MCS4
5710	142	0.431	-0.564	2.972	11 dBm/MHz	MCS4
5755	151	-2.342	-3.493	0.130	30 dBm/500kHz	MCS4
5795	159	-1.757	-3.533	0.455	30 dBm/500kHz	MCS4

802.11ac(80 MHz) Mode		Ant.1 PSD (dBm)	Ant.2 PSD (dBm)	MIMO PSD [dBm]	Limit (dBm)	Worstcase Datarate
Frequency [MHz]	Channel No.					
5210	42	-5.129	-5.106	-2.107	11 dBm/MHz	MCS4
5290	58	-5.392	-5.554	-2.462	11 dBm/MHz	MCS4
5530	106	-4.807	-6.077	-2.385	11 dBm/MHz	MCS4
5610	122	-4.895	-5.739	-2.286	11 dBm/MHz	MCS4
5690	138	-4.940	-6.101	-2.471	11 dBm/MHz	MCS4
5775	155	-7.695	-8.941	-5.263	30 dBm/500kHz	MCS4

Note:

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

[Ant.1]

▣ Test Plots(802.11a)

UNII 1 (Ch. 40)	UNII 2A (Ch. 52)
	
UNII 2C (Ch. 144)	**UNII 3 (Ch. 165)**
	

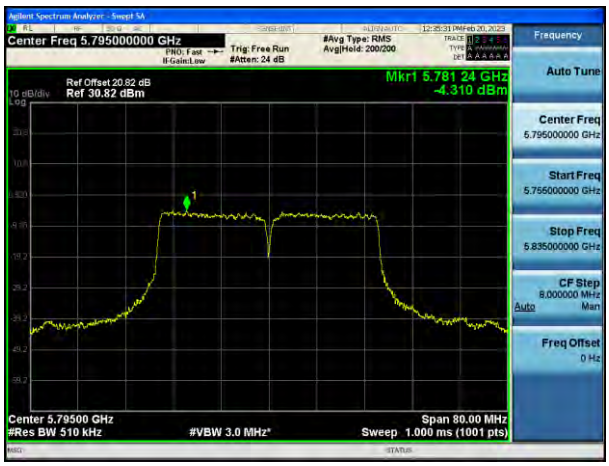
▣ Test Plots(802.11n(HT20))

UNII 1 (Ch. 48)	UNII 2A (Ch. 64)
	
UNII 2C (Ch. 144)	**UNII 3 (Ch. 157)**
	

▣ Test Plots(802.11ac(VHT20)

UNII 1 (Ch. 36)	UNII 2A (Ch. 64)
	
UNII 2C (Ch. 144)	**UNII 3 (Ch. 157)**
	

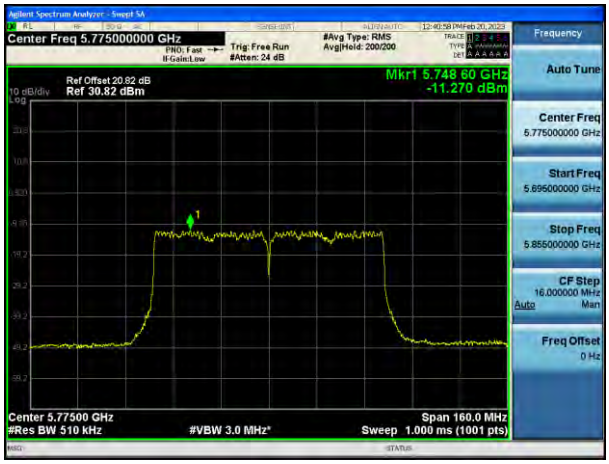
▣ Test Plots(802.11n(HT40))

UNII 1 (Ch. 38)	UNII 2A (Ch. 54)
	
UNII 2C (Ch. 142)	**UNII 3 (Ch. 159)**
	

▣ Test Plots(802.11ac(VHT40))

UNII 1 (Ch. 46)	UNII 2A (Ch. 54)
	
UNII 2C (Ch. 142)	**UNII 3 (Ch. 159)**
	

▣ Test Plots(802.11ac(VHT80))

UNII 1 (Ch. 42)	UNII 2A (Ch. 58)
	
UNII 2C (Ch. 106)	**UNII 3 (Ch. 155)**
	

[Ant.2]

▣ Test Plots(802.11a)

UNII 1 (Ch. 48)	UNII 2A (Ch. 52)
	
UNII 2C (Ch. 144)	**UNII 3 (Ch. 149)**
	

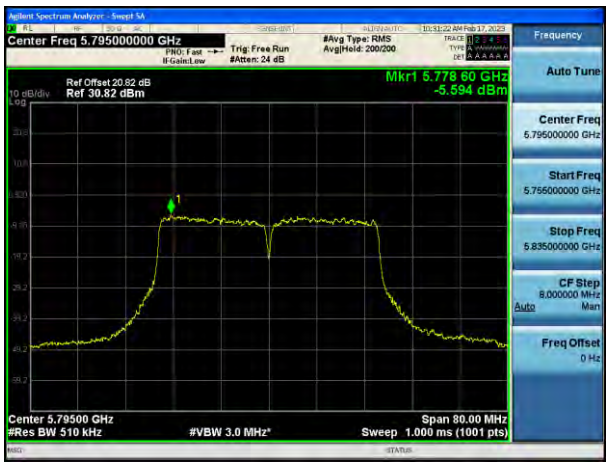
▣ Test Plots(802.11n(HT20))

UNII 1 (Ch. 40)	UNII 2A (Ch. 52)
	
UNII 2C (Ch. 144)	**UNII 3 (Ch. 149)**
	

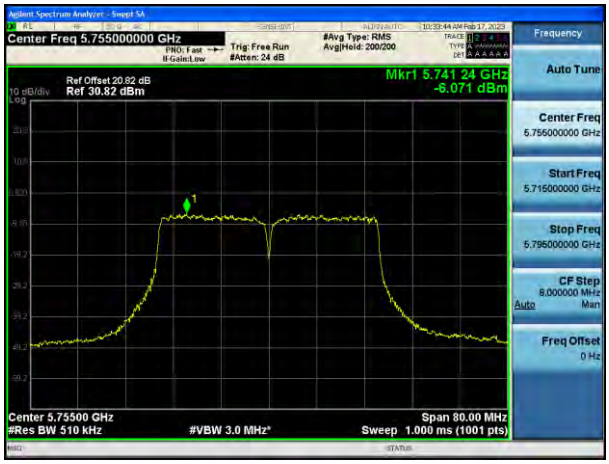
▣ Test Plots(802.11ac(VHT20))

UNII 1 (Ch. 48)	UNII 2A (Ch. 52)
	
UNII 2C (Ch. 144)	**UNII 3 (Ch. 149)**
	

▣ Test Plots(802.11n(HT40))

UNII 1 (Ch. 46)	UNII 2A (Ch. 62)
	
UNII 2C (Ch. 142)	**UNII 3 (Ch. 159)**
	

▣ Test Plots(802.11ac(VHT40))

UNII 1 (Ch. 46)	UNII 2A (Ch. 54)
	
UNII 2C (Ch. 142)	**UNII 3 (Ch. 151)**
	

▣ Test Plots(802.11ac(VHT80))

UNII 1 (Ch. 42)	UNII 2A (Ch. 58)
	
UNII 2C (Ch. 122)	**UNII 3 (Ch. 155)**
	

10.6 FREQUENCY STABILITY.

10.6.1 80 MHz BW

[Ant.1]

Startup after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5210062.58	62.58
100%		-30	5210082.62	82.62
100%		-20	5210079.96	79.96
100%		-10	5210074.31	74.31
100%		0	5210070.37	70.37
100%		+10	5210066.69	66.69
100%		+30	5210066.44	66.44
100%		+40	5210076.22	76.22
100%		+50	5210080.24	80.24
High	4.40	+20	5210080.60	80.60
Low	3.65	+20	5210082.39	82.39

Note:

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

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5290060.49	60.49
100%		-30	5290081.36	81.36
100%		-20	5290077.77	77.77
100%		-10	5290072.14	72.14
100%		0	5290067.72	67.72
100%		+10	5290064.53	64.53
100%		+30	5290063.62	63.62
100%		+40	5290073.63	73.63
100%		+50	5290077.36	77.36
High	4.40	+20	5290078.22	78.22
Low	3.65	+20	5290078.30	78.30

Note:

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

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5530065.01	65.01
100%		-30	5530084.85	84.85
100%		-20	5530082.60	82.60
100%		-10	5530077.33	77.33
100%		0	5530074.08	74.08
100%		+10	5530071.04	71.04
100%		+30	5530067.96	67.96
100%		+40	5530077.18	77.18
100%		+50	5530083.23	83.23
High	4.40	+20	5530085.06	85.06
Low	3.65	+20	5530082.80	82.80

Note:

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

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5775066.72	66.72
100%		-30	5775086.19	86.19
100%		-20	5775083.65	83.65
100%		-10	5775076.63	76.63
100%		0	5775072.67	72.67
100%		+10	5775070.48	70.48
100%		+30	5775070.43	70.43
100%		+40	5775079.93	79.93
100%		+50	5775084.92	84.92
High	4.40	+20	5775085.71	85.71
Low	3.65	+20	5775085.46	85.46

Note:

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

2 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5210069.24	69.24
100%		-30	5210089.38	89.38
100%		-20	5210085.86	85.86
100%		-10	5210079.60	79.60
100%		0	5210074.88	74.88
100%		+10	5210071.66	71.66
100%		+30	5210072.65	72.65
100%		+40	5210081.05	81.05
100%		+50	5210084.19	84.19
High	4.40	+20	5210086.38	86.38
Low	3.65	+20	5210088.92	88.92

Note:

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

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5290073.06	73.06
100%		-30	5290092.91	92.91
100%		-20	5290089.12	89.12
100%		-10	5290083.33	83.33
100%		0	5290079.37	79.37
100%		+10	5290076.60	76.60
100%		+30	5290075.58	75.58
100%		+40	5290084.93	84.93
100%		+50	5290090.87	90.87
High	4.40	+20	5290093.00	93.00
Low	3.65	+20	5290091.25	91.25

Note:

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

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5530071.82	71.82
100%		-30	5530092.17	92.17
100%		-20	5530089.27	89.27
100%		-10	5530083.60	83.60
100%		0	5530079.42	79.42
100%		+10	5530076.99	76.99
100%		+30	5530074.36	74.36
100%		+40	5530084.42	84.42
100%		+50	5530088.68	88.68
High	4.40	+20	5530090.08	90.08
Low	3.65	+20	5530089.63	89.63

Note:

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

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5775074.54	74.54
100%		-30	5775093.80	93.80
100%		-20	5775090.19	90.19
100%		-10	5775084.05	84.05
100%		0	5775080.70	80.70
100%		+10	5775077.21	77.21
100%		+30	5775078.08	78.08
100%		+40	5775087.65	87.65
100%		+50	5775092.48	92.48
High	4.40	+20	5775093.37	93.37
Low	3.65	+20	5775091.61	91.61

Note:

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

5 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5210077.12	77.12
100%		-30	5210097.51	97.51
100%		-20	5210094.43	94.43
100%		-10	5210087.79	87.79
100%		0	5210083.62	83.62
100%		+10	5210079.90	79.90
100%		+30	5210079.46	79.46
100%		+40	5210089.77	89.77
100%		+50	5210093.25	93.25
High	4.40	+20	5210094.60	94.60
Low	3.65	+20	5210095.07	95.07

Note:

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

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5290079.65	79.65
100%		-30	5290099.32	99.32
100%		-20	5290095.62	95.62
100%		-10	5290089.93	89.93
100%		0	5290086.55	86.55
100%		+10	5290083.41	83.41
100%		+30	5290082.14	82.14
100%		+40	5290091.28	91.28
100%		+50	5290094.65	94.65
High	4.40	+20	5290097.02	97.02
Low	3.65	+20	5290099.35	99.35

Note:

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

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5530077.44	77.44
100%		-30	5530096.49	96.49
100%		-20	5530093.57	93.57
100%		-10	5530087.00	87.00
100%		0	5530082.58	82.58
100%		+10	5530079.15	79.15
100%		+30	5530080.18	80.18
100%		+40	5530088.22	88.22
100%		+50	5530092.49	92.49
High	4.40	+20	5530095.71	95.71
Low	3.65	+20	5530096.54	96.54

Note:

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

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5775078.91	78.91
100%		-30	5775099.63	99.63
100%		-20	5775096.62	96.62
100%		-10	5775090.82	90.82
100%		0	5775086.13	86.13
100%		+10	5775082.61	82.61
100%		+30	5775082.82	82.82
100%		+40	5775092.71	92.71
100%		+50	5775096.94	96.94
High	4.40	+20	5775097.14	97.14
Low	3.65	+20	5775096.53	96.53

Note:

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

10 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5210082.68	82.68
100%		-30	5210101.81	101.81
100%		-20	5210097.72	97.72
100%		-10	5210092.50	92.50
100%		0	5210088.82	88.82
100%		+10	5210085.92	85.92
100%		+30	5210086.67	86.67
100%		+40	5210094.55	94.55
100%		+50	5210097.82	97.82
High	4.40	+20	5210099.95	99.95
Low	3.65	+20	5210100.38	100.38

Note:

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

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5290088.64	88.64
100%		-30	5290107.69	107.69
100%		-20	5290104.93	104.93
100%		-10	5290099.01	99.01
100%		0	5290095.56	95.56
100%		+10	5290092.14	92.14
100%		+30	5290092.65	92.65
100%		+40	5290101.94	101.94
100%		+50	5290106.02	106.02
High	4.40	+20	5290106.72	106.72
Low	3.65	+20	5290106.77	106.77

Note:

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

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5530083.16	83.16
100%		-30	5530103.25	103.25
100%		-20	5530099.33	99.33
100%		-10	5530092.92	92.92
100%		0	5530089.15	89.15
100%		+10	5530086.53	86.53
100%		+30	5530086.36	86.36
100%		+40	5530094.84	94.84
100%		+50	5530100.34	100.34
High	4.40	+20	5530102.66	102.66
Low	3.65	+20	5530102.04	102.04

Note:

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

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5775084.75	84.75
100%		-30	5775103.74	103.74
100%		-20	5775101.00	101.00
100%		-10	5775094.08	94.08
100%		0	5775089.33	89.33
100%		+10	5775085.54	85.54
100%		+30	5775088.53	88.53
100%		+40	5775097.67	97.67
100%		+50	5775101.02	101.02
High	4.40	+20	5775102.10	102.10
Low	3.65	+20	5775101.90	101.90

Note:

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

[Ant.2]

Startup after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5210067.22	67.22
100%		-30	5210087.60	87.60
100%		-20	5210084.38	84.38
100%		-10	5210077.28	77.28
100%		0	5210073.22	73.22
100%		+10	5210071.11	71.11
100%		+30	5210069.36	69.36
100%		+40	5210079.07	79.07
100%		+50	5210082.35	82.35
High	4.40	+20	5210084.50	84.50
Low	3.65	+20	5210085.84	85.84

Note:

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

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5290062.35	62.35
100%		-30	5290083.00	83.00
100%		-20	5290079.11	79.11
100%		-10	5290073.25	73.25
100%		0	5290068.73	68.73
100%		+10	5290066.34	66.34
100%		+30	5290064.81	64.81
100%		+40	5290073.75	73.75
100%		+50	5290078.89	78.89
High	4.40	+20	5290081.49	81.49
Low	3.65	+20	5290079.47	79.47

Note:

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

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5530064.18	64.18
100%		-30	5530084.98	84.98
100%		-20	5530082.08	82.08
100%		-10	5530076.68	76.68
100%		0	5530072.31	72.31
100%		+10	5530068.63	68.63
100%		+30	5530066.46	66.46
100%		+40	5530074.26	74.26
100%		+50	5530077.53	77.53
High	4.40	+20	5530081.45	81.45
Low	3.65	+20	5530081.99	81.99

Note:

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

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5775065.34	65.34
100%		-30	5775085.00	85.00
100%		-20	5775081.02	81.02
100%		-10	5775075.53	75.53
100%		0	5775071.80	71.80
100%		+10	5775069.30	69.30
100%		+30	5775067.91	67.91
100%		+40	5775076.94	76.94
100%		+50	5775082.30	82.30
High	4.40	+20	5775084.70	84.70
Low	3.65	+20	5775083.44	83.44

Note:

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

2 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5210075.92	75.92
100%		-30	5210095.70	95.70
100%		-20	5210091.64	91.64
100%		-10	5210085.46	85.46
100%		0	5210081.96	81.96
100%		+10	5210078.81	78.81
100%		+30	5210079.67	79.67
100%		+40	5210087.91	87.91
100%		+50	5210092.91	92.91
High	4.40	+20	5210094.92	94.92
Low	3.65	+20	5210093.38	93.38

Note:

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

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5290074.88	74.88
100%		-30	5290095.24	95.24
100%		-20	5290092.07	92.07
100%		-10	5290085.34	85.34
100%		0	5290080.39	80.39
100%		+10	5290078.16	78.16
100%		+30	5290078.14	78.14
100%		+40	5290088.51	88.51
100%		+50	5290092.47	92.47
High	4.40	+20	5290092.84	92.84
Low	3.65	+20	5290094.11	94.11

Note:

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

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5530071.16	71.16
100%		-30	5530091.24	91.24
100%		-20	5530089.09	89.09
100%		-10	5530083.92	83.92
100%		0	5530078.98	78.98
100%		+10	5530075.24	75.24
100%		+30	5530074.88	74.88
100%		+40	5530083.98	83.98
100%		+50	5530089.10	89.10
High	4.40	+20	5530090.28	90.28
Low	3.65	+20	5530089.86	89.86

Note:

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

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5775073.42	73.42
100%		-30	5775094.17	94.17
100%		-20	5775090.10	90.10
100%		-10	5775084.41	84.41
100%		0	5775079.41	79.41
100%		+10	5775076.22	76.22
100%		+30	5775075.90	75.90
100%		+40	5775086.40	86.40
100%		+50	5775091.81	91.81
High	4.40	+20	5775092.83	92.83
Low	3.65	+20	5775091.42	91.42

Note:

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

5 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5210076.88	76.88
100%		-30	5210095.92	95.92
100%		-20	5210093.04	93.04
100%		-10	5210087.21	87.21
100%		0	5210084.10	84.10
100%		+10	5210081.00	81.00
100%		+30	5210080.64	80.64
100%		+40	5210089.26	89.26
100%		+50	5210092.58	92.58
High	4.40	+20	5210094.20	94.20
Low	3.65	+20	5210095.32	95.32

Note:

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

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5290079.43	79.43
100%		-30	5290098.52	98.52
100%		-20	5290096.06	96.06
100%		-10	5290089.42	89.42
100%		0	5290084.94	84.94
100%		+10	5290081.26	81.26
100%		+30	5290081.54	81.54
100%		+40	5290089.84	89.84
100%		+50	5290094.92	94.92
High	4.40	+20	5290098.51	98.51
Low	3.65	+20	5290099.19	99.19

Note:

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

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5530078.54	78.54
100%		-30	5530099.22	99.22
100%		-20	5530095.94	95.94
100%		-10	5530089.80	89.80
100%		0	5530086.45	86.45
100%		+10	5530082.66	82.66
100%		+30	5530081.72	81.72
100%		+40	5530089.94	89.94
100%		+50	5530093.32	93.32
High	4.40	+20	5530095.92	95.92
Low	3.65	+20	5530096.24	96.24

Note:

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

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5775076.69	76.69
100%		-30	5775096.48	96.48
100%		-20	5775093.32	93.32
100%		-10	5775086.40	86.40
100%		0	5775081.90	81.90
100%		+10	5775079.22	79.22
100%		+30	5775078.87	78.87
100%		+40	5775087.81	87.81
100%		+50	5775092.22	92.22
High	4.40	+20	5775095.10	95.10
Low	3.65	+20	5775095.91	95.91

Note:

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

10 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5210082.35	82.35
100%		-30	5210101.89	101.89
100%		-20	5210097.89	97.89
100%		-10	5210092.68	92.68
100%		0	5210089.21	89.21
100%		+10	5210085.22	85.22
100%		+30	5210085.95	85.95
100%		+40	5210094.30	94.30
100%		+50	5210097.42	97.42
High	4.40	+20	5210099.47	99.47
Low	3.65	+20	5210100.82	100.82

Note:

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

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5290085.60	85.60
100%		-30	5290105.32	105.32
100%		-20	5290101.60	101.60
100%		-10	5290095.82	95.82
100%		0	5290091.62	91.62
100%		+10	5290087.79	87.79
100%		+30	5290088.45	88.45
100%		+40	5290098.88	98.88
100%		+50	5290102.57	102.57
High	4.40	+20	5290103.29	103.29
Low	3.65	+20	5290105.16	105.16

Note:

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

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5530087.43	87.43
100%		-30	5530108.11	108.11
100%		-20	5530104.31	104.31
100%		-10	5530098.81	98.81
100%		0	5530094.17	94.17
100%		+10	5530090.98	90.98
100%		+30	5530091.04	91.04
100%		+40	5530099.92	99.92
100%		+50	5530103.25	103.25
High	4.40	+20	5530104.76	104.76
Low	3.65	+20	5530104.51	104.51

Note:

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

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5775086.11	86.11
100%		-30	5775106.00	106.00
100%		-20	5775103.04	103.04
100%		-10	5775097.57	97.57
100%		0	5775093.03	93.03
100%		+10	5775088.95	88.95
100%		+30	5775088.70	88.70
100%		+40	5775096.32	96.32
100%		+50	5775101.35	101.35
High	4.40	+20	5775105.14	105.14
Low	3.65	+20	5775105.08	105.08

Note:

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

10.7 STRADDLE CHANNEL

10.7.1 26 dB Bandwidth

[Ant.1]

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11a	UNII 2C	5720	144	5708.24	16.76
802.11n(HT20)				5704.96	20.04
802.11ac(VHT20)				5704.60	20.40
802.11a	UNII 3	5720	144	5731.56	6.56
802.11n(HT20)				5734.92	9.92
802.11ac(VHT20)				5733.72	8.72

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11n(HT40)	UNII 2C	5710	142	5688.16	36.84
802.11ac(VHT40)				5688.00	37.00
802.11n(HT40)	UNII 3	5710	142	5731.76	6.76
802.11ac(VHT40)				5731.44	6.44

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11ac(VHT80)	UNII 2C	5690	138	5647.28	77.72
	UNII 3	5690	138	5732.56	7.56

Note:

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

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

[Ant.2]

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11a	UNII 2C	5720	144	5707.92	17.08
802.11n(HT20)				5706.44	18.56
802.11ac(VHT20)				5705.12	19.88
802.11a	UNII 3	5720	144	5731.64	6.64
802.11n(HT20)				5735.04	10.04
802.11ac(VHT20)				5733.56	8.56

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11n(HT40)	UNII 2C	5710	142	5688.00	37.00
802.11ac(VHT40)				5688.08	36.92
802.11n(HT40)	UNII 3	5710	142	5731.84	6.84
802.11ac(VHT40)				5731.60	6.60

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11ac(VHT80)	UNII 2C	5690	138	5647.28	77.72
	UNII 3	5690	138	5732.56	7.56

Note:

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

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

[Ant.1]

▣ Test Plots (26 dB Bandwidth)

802.11a UNII Band	802.11n(HT20) UNII Band
	

802.11ac(VHT20) UNII Band


▣ Test Plots (26 dB Bandwidth)

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

802.11ac(VHT80) UNII Band


[Ant.2]

▣ Test Plots (26 dB Bandwidth)

802.11a UNII Band	802.11n(HT20) UNII Band
	
802.11ac(VHT20) UNII Band	
	

▣ Test Plots (26 dB Bandwidth)

802.11n(HT40) UNII Band	802.11ac(VHT40) UNII Band
	
802.11ac(VHT80) UNII Band	
	

10.7.2 6 dB Bandwidth

Note:

1. 6 dB Bandwidth = Measured Frequency[MHz] – 5 725MHz
2. Limit [MHz]: > 0.5

[Ant.1]

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6dB Bandwidth [MHz]
802.11a	UNII3	5720	144	5728.28	3.28
802.11n(HT20)				5728.92	3.92
802.11ac(VHT20)				5728.92	3.92
802.11n(HT40)	UNII3	5710	142	5728.32	3.32
802.11ac(VHT40)				5728.32	3.32
802.11ac(VHT80)	UNII3	5690	138	5728.40	3.40

[Ant.2]

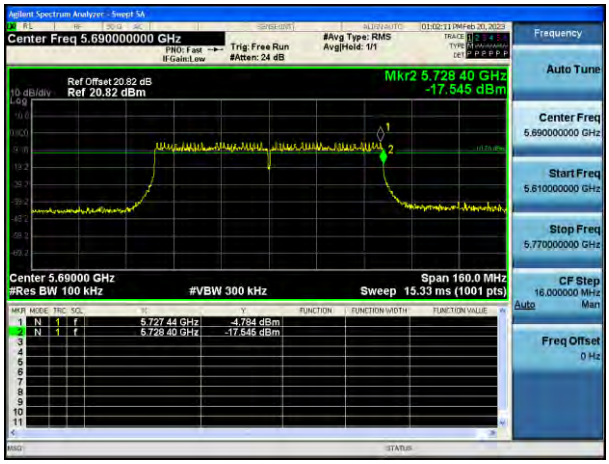
Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	6dB Bandwidth [MHz]
802.11a	UNII3	5720	144	5728.24	3.24
802.11n(HT20)				5728.92	3.92
802.11ac(VHT20)				5728.92	3.92
802.11n(HT40)	UNII3	5710	142	5728.32	3.32
802.11ac(VHT40)				5728.32	3.32
802.11ac(VHT80)	UNII3	5690	138	5728.40	3.40

[Ant.1]

▣ Test Plots(Straddle 6 dB Bandwidth)

802.11a UNII Band	802.11n(HT20) UNII Band
	
802.11ac(VHT20) UNII Band	
	

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

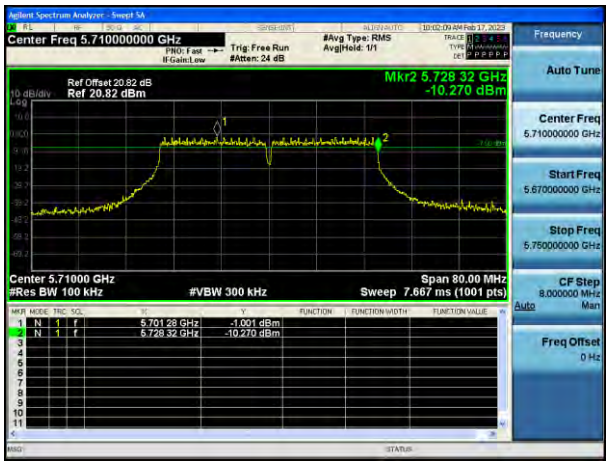
802.11ac(VHT80) UNII Band


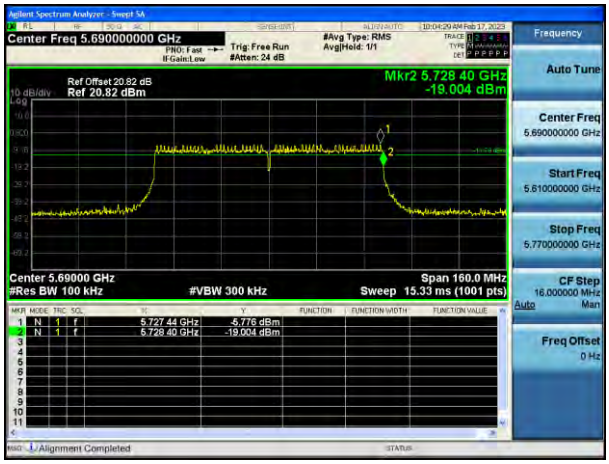
[Ant.2]

▣ Test Plots(Straddle 6 dB Bandwidth)

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


10.7.3 Output Power

[Ant.1]

Mode	Frequency [MHz]	Channel	Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase Datarate
802.11a	5720 (UNII 2C Band)	144	14.71	0.94	15.66	23.24	18 Mbps
802.11n(HT20)			13.92	1.63	15.55	23.98	MCS4
802.11ac(VHT20)			13.91	1.73	15.64	23.98	MCS4
802.11a	5720 (UNII 3 Band)	144	8.70	0.94	9.65	30.00	18 Mbps
802.11n(HT20)			8.39	1.63	10.02	30.00	MCS4
802.11ac(VHT20)			8.41	1.73	10.14	30.00	MCS4

Mode	Frequency [MHz]	Channel	Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase Datarate
802.11n(HT40)	5710 (UNII 2C Band)	142	11.67	2.61	14.28	23.98	MCS4
802.11ac(VHT40)			11.69	2.58	14.27	23.98	MCS4
802.11n(HT40)	5710 (UNII 3 Band)	142	1.87	2.61	4.48	30.00	MCS4
802.11ac(VHT40)			1.82	2.58	4.40	30.00	MCS4

Mode	Frequency [MHz]	Channel	Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase Datarate
802.11ac(VHT80)	5690 (UNII 2C Band)	138	8.18	3.58	11.76	23.98	MCS4
	5690 (UNII 3 Band)	138	-4.50	3.58	-0.92	30.00	MCS4

[Ant.2]

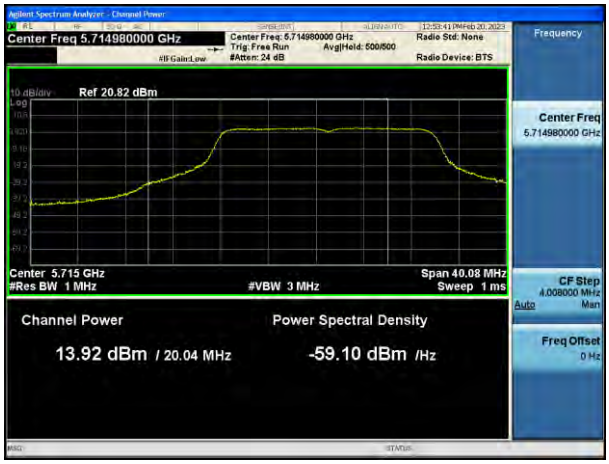
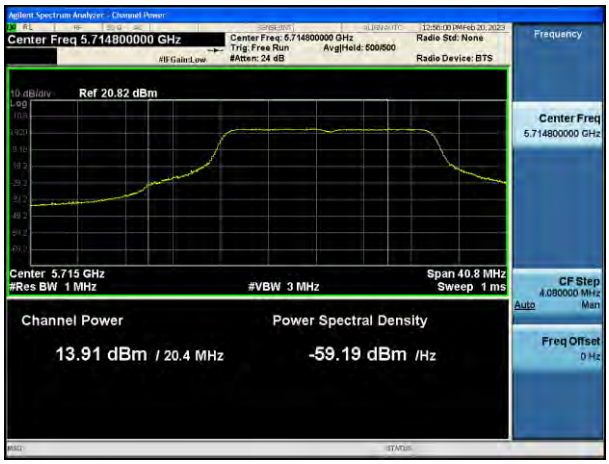
Mode	Frequency [MHz]	Channel	Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase Datarate
802.11a	5720 (UNII 2C Band)	144	13.24	0.94	14.19	23.32	18 Mbps
802.11n(HT20)			13.09	1.63	14.72	23.69	MCS4
802.11ac(VHT20)			13.15	1.73	14.89	23.98	MCS4
802.11a	5720 (UNII 3 Band)	144	7.22	0.94	8.16	30.00	18 Mbps
802.11n(HT20)			7.60	1.63	9.23	30.00	MCS4
802.11ac(VHT20)			7.54	1.73	9.27	30.00	MCS4

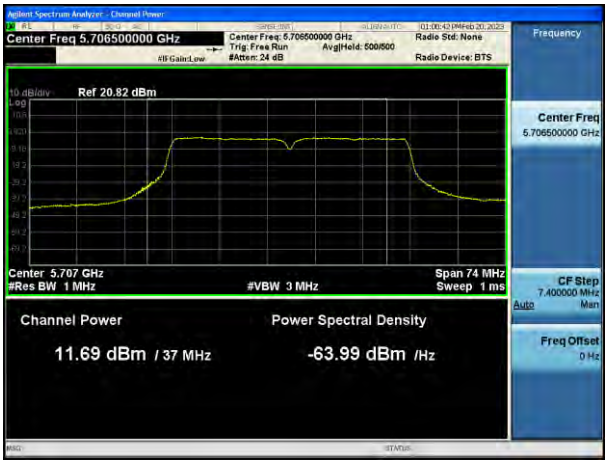
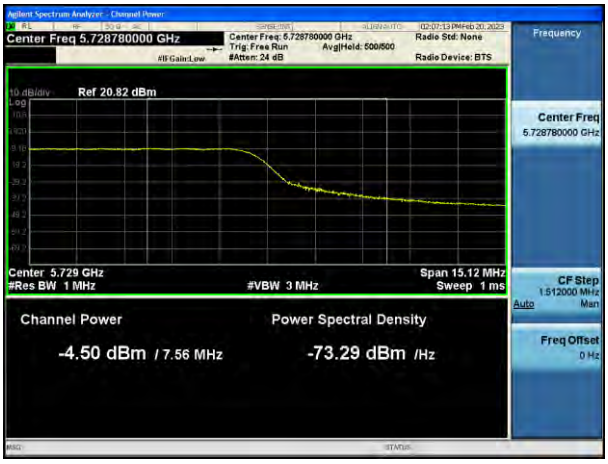
Mode	Frequency [MHz]	Channel	Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase Datarate
802.11n(HT40)	5710 (UNII 2C Band)	142	10.40	2.61	13.01	23.98	MCS4
802.11ac(VHT40)			10.41	2.58	12.99	23.98	MCS4
802.11n(HT40)	5710 (UNII 3 Band)	142	0.63	2.61	3.24	30.00	MCS4
802.11ac(VHT40)			0.51	2.58	3.08	30.00	MCS4

Mode	Frequency [MHz]	Channel	Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase Datarate
802.11ac(VHT80)	5690 (UNII 2C Band)	138	7.18	3.58	10.75	23.98	MCS4
	5690 (UNII 3 Band)	138	-5.25	3.58	-1.68	30.00	MCS4

[Ant.1]

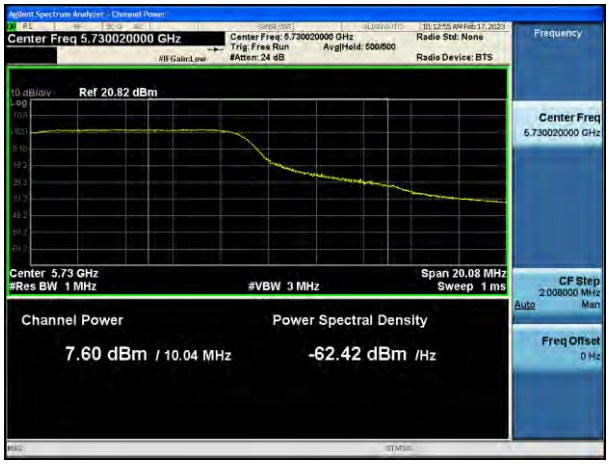
▣ Test Plots

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

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**
	

[Ant.2]

▣ Test Plots

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