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

FCC UNII REPORT

Certification

pplicant Name:
SAMSUNG Electronics Co., Ltd.

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

Date of Issue:
May 19, 2022

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

Report No.: HCT-RF-2205-FC015-R1

FCC ID:	**A3LSMG990U2**
APPLICANT:	**SAMSUNG Electronics Co., Ltd.**
Model:	SM-G990U2
Additional Model:	SM-G990U3/DS
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-2205-FC015	May 13, 2022	- First Approval Report
HCT-RF-2205-FC015-R1	May 19, 2022	- Page 27, Deleted No.6 of radiated test.

Table of Contents

1. GENERAL INFORMATION

EUT DESCRIPTION

Model	SM-G990U2	
Additional Model	SM-G990U3/DS	
EUT Type	Mobile Phone	
Power Supply	DC 3.88 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	April 06, 2022 ~ May 10, 2022	
Serial number	Radiated: R3CT30Q0R8W Conducted : 0e0b0f75a61f032c	

ANTENNA CONFIGURATIONS

1. The device employs MIMO technology. Below are the possible configurations

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

Note:

(1) O = Support, X = Not Support

(2) SISO = Single Input Single Output

(3) SDM = Spatial Diversity Multiplexing

(4) CDD = Cyclic Delay Diversity

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

RSDB Scenario	Bluetooth Ant.1	2.4 GHz WiFi Ant.1	2.4 GHz WiFi Ant.2	5GHz WiFi Ant.1	5GHz WiFi Ant.2
Bluetooth + 2.4 GHz WiFi + 5GHz WiFi MIMO	On	-	On	On	On
2.4 GHz WiFi MIMO + 5GHz WiFi MIMO	-	On	On	On	On

Non-DBS	5GHz WiFi Ant.1	5GHz WiFi Ant.2	Bluetooth Ant.1
5GHz WiFi MIMO + Bluetooth	On	On	On

3. Directional Gain Calculation

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

Directional gain =

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

Band	Ant Gain (dBi)		N_{ANT}/ N_{ss}	Directional Gain (dBi)
U-NII	ANT.1	-6.2	2 / 2	CDD : -4.84 SDM : -6.20
	ANT.2	-9.9		

Note

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

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

Sample MIMO Calculation:

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

Ant1 + 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	MIMO	
		Ant.1 + Ant.2 Power	
		(dBm)	(W)
UNII1	802.11a	20.61	0.115
	802.11n (HT20)	20.52	0.113
	802.11n (HT40)	19.49	0.089
	802.11ac (VHT20)	19.47	0.088
	802.11ac (VHT40)	18.49	0.071
	802.11ac (VHT80)	17.59	0.057
UNII2A	802.11a	20.78	0.120
	802.11n (HT20)	20.79	0.120
	802.11n (HT40)	19.77	0.095
	802.11ac (VHT20)	19.75	0.094
	802.11ac (VHT40)	18.68	0.074
	802.11ac (VHT80)	17.56	0.057
UNII2C	802.11a	20.43	0.110
	802.11n (HT20)	20.40	0.110
	802.11n (HT40)	19.50	0.089
	802.11ac (VHT20)	19.57	0.091
	802.11ac (VHT40)	18.67	0.074
	802.11ac (VHT80)	17.64	0.058
UNII3	802.11a	20.57	0.114
	802.11n (HT20)	20.54	0.113
	802.11n (HT40)	19.46	0.088
	802.11ac (VHT20)	19.70	0.093
	802.11ac (VHT40)	18.73	0.075
	802.11ac (VHT80)	17.76	0.060

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.

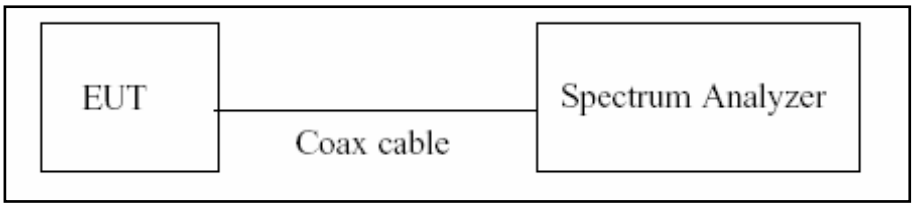
The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	2.00 (Confidence level about 95 %, k=2)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.40 (Confidence level about 95 %, k=2)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.74 (Confidence level about 95 %, k=2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.51 (Confidence level about 95 %, k=2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.92 (Confidence level about 95 %, k=2)
Radiated Disturbance (Above 40 GHz)	5.48 (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.

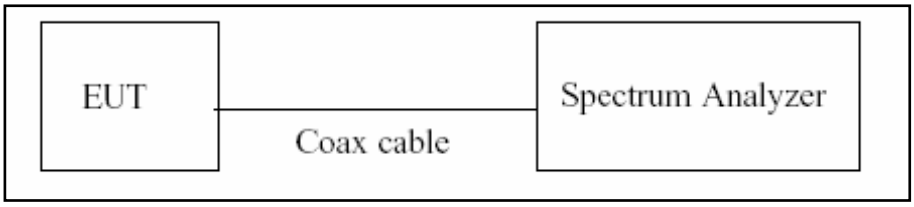
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz (≥ RBW)
3. SPAN = 0 Hz
4. Detector = Peak
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = T_{on}/ T_{total} and Duty Cycle Factor = 10log(1/Duty Cycle)

8.2. 6 dB Bandwidth & 26 dB Bandwidth

Limit

Within the 5.725-5.85 GHz(NII-3), 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.

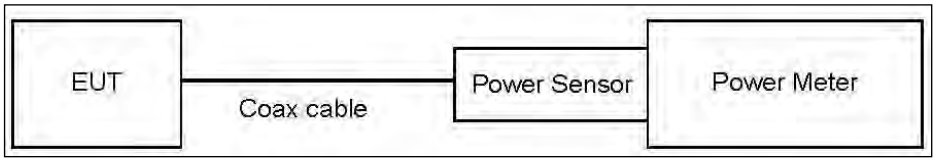
8.3. Output Power Measurement

Limit

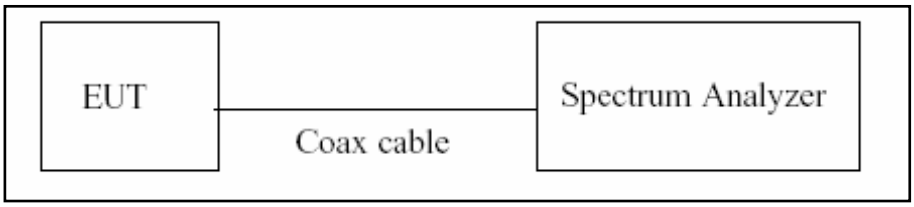
Band	Limit
UNII 1	- Master : Not exceed 1 W(=30 dBm) - Slave : Not exceed 250 mW(=23.98 dBm)
UNII 2A, 2C	Not exceed the lesser of 250 mW or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)
UNII 3	Not exceed 1 W(=30 dBm)

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
   Ant.1: Loss = Attenuator loss(10 dB) + Cable loss + EUT cable Loss
   Ant.2: Loss = Attenuator loss(10 dB) + Cable loss
3. Actual value of loss for the attenuator and cable combination is below table.

Band	Ant.1 Loss(dB)	Ant.2 Loss(dB)
UNII 1	11.69	10.87
UNII 2A	11.69	10.87
UNII 2C	11.69	10.87
UNII 3	11.69	10.87

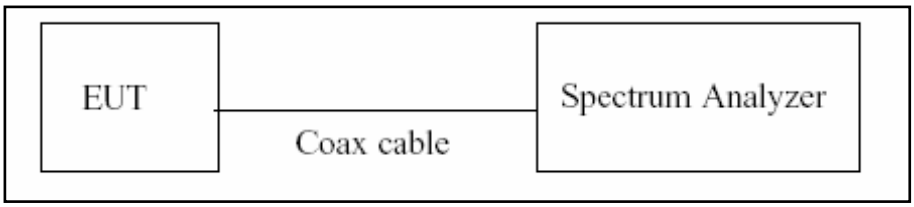
(Actual value of loss for the attenuator and cable combination)

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
   Ant.1: Loss = Attenuator loss(10 dB) + Cable loss + EUT cable Loss
   Ant.2: Loss = Attenuator loss(10 dB) + Cable loss
3. Actual value of loss for the attenuator and cable combination is below table.

Band	Ant.1 Loss(dB)	Ant.2 Loss(dB)
UNII 1	11.69	10.87
UNII 2A	11.69	10.87
UNII 2C	11.69	10.87
UNII 3	11.69	10.87

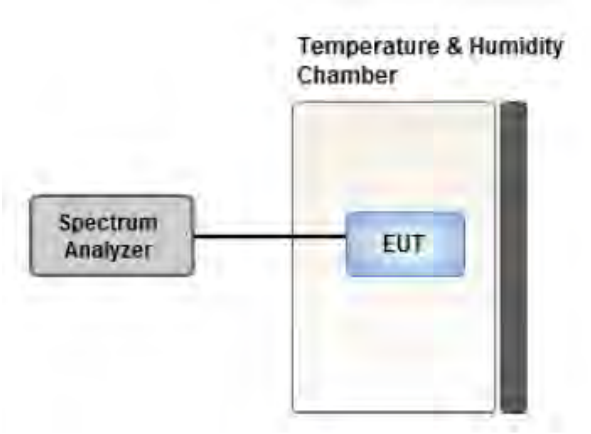
(Actual value of loss for the attenuator and cable combination)

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 battety 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

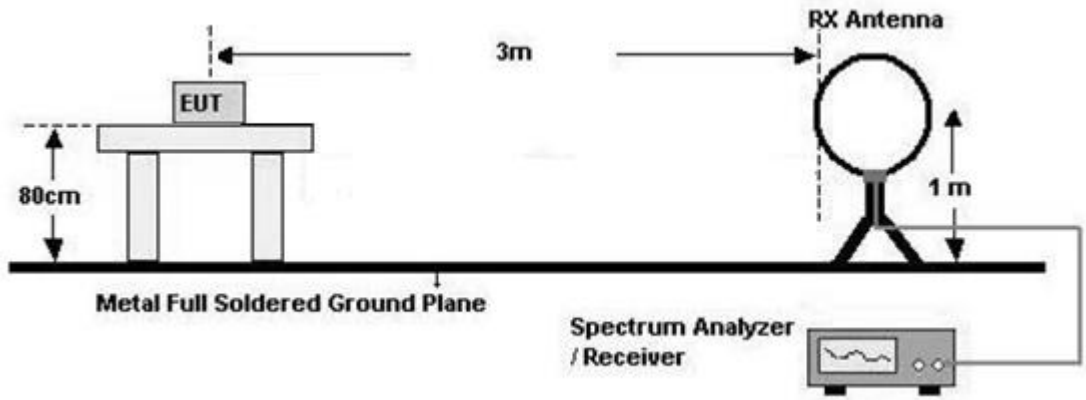
Limit

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.

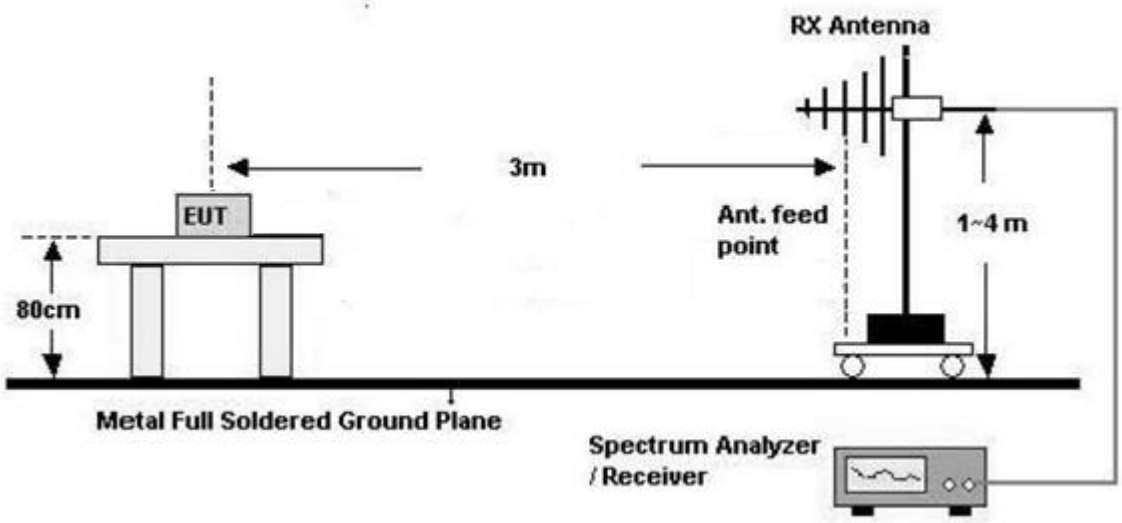
Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

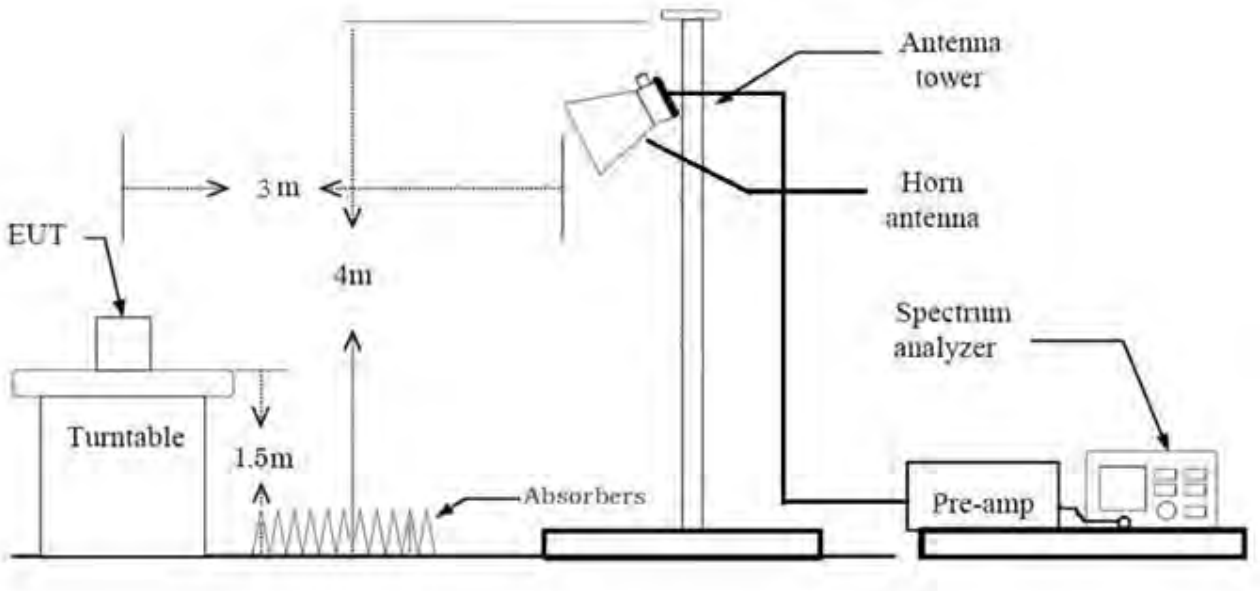
Below 30 MHz



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 minimum number of traces by a factor of 1/x, where x is the duty cycle.

9. Measured Frequency Range :
   - 4 500 MHz ~ 5 150 MHz
   - 5 350 MHz ~ 5 460 MHz
   - 5 460 MHz ~ 5 470 MHz
   - (75 MHz or more below the 5 725 MHz) ~ 5 725 MHz
   - 5 850 MHz ~ (75 MHz or more above the 5 850 MHz)
10. Distance extrapolation factor = 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(cf. Section 10.1)

Mode	Worst Data rate (Mbps)	Duty Cycle	Duty Cycle Factor (dB)	The actual setting value of VBW (Hz)
802.11a	6	0.942	0.261	1 000
802.11n(HT20)	MCS0	0.929	0.319	1 000
802.11n(HT40)	MCS0	0.863	0.641	3 000
802.11ac(VHT20)	MCS0	0.929	0.322	1 000
802.11ac(VHT40)	MCS0	0.867	0.619	3 000
802.11ac(VHT80)	MCS0	0.765	1.161	10 000

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, Stand alone + External accessories(Earphone, etc)
   - Worstcase : Stand alone
2. EUT Axis
   - Radiated Spurious Emissions : Y
   - Radiated Restricted Band Edge : Z
3 . All datarate and Antennas of operation were investigated and the worst case datarate results are reported.
   - Antenna Configurations : Ant1+Ant2(CDD)
   - 802.11a : 6 Mbps
   - 802.11n_HT20 : MCS0
   - 802.11n_HT40 : MCS0
   - 802.11ac_VHT20 : MCS0
   - 802.11ac_VHT40 : MCS0
   - 802.11ac_VHT80 : MCS0
4. Radiated Spurious Emission
   - All modulation of operation were investigated and the worst case modulation results are reported.
     (Worstcase : 802.11a_6 Mbps)
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. SM-G990U2, SM-G990U3/DS were tested and the worst case results are reported. (Worst case : SM-G990U2)

Radiated test(DBS)

1. Please refer to the SM-G990U2 [UNII] 802.11 ax Test Report.
2. SM-G990U2, SM-G990U3/DS were tested and the worst case results are reported. (Worst case : SM-G990U2)

AC Power line Conducted Emissions

1. All modes of operation were investigated and the worst case configuration results are reported.
   - Mode : Stand alone + External accessories(Earphone,etc) + Travel Adapter,
     Stand alone + Travel Adapter
   - Worstcase : Stand alone + Travel Adapter
2. SM-G990U2, SM-G990U3/DS were tested and the worst case results are reported. (Worst case : SM-G990U2)

Conducted test

1. All datarate and Antennas of operation were investigated and the worst case datarate results are reported.
   - Antenna Configuration : Ant1+Ant2(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
2. SM-G990U2, SM-G990U3/DS were tested and the worst case results are reported. (Worst case : SM-G990U2)

9. SUMMARY OF TEST RESULTS

Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
26 dB Bandwidth	§15.407 (for Power Measurement)	N/A	Conducted	PASS
6 dB Bandwidth	§15.407(e)	>500 kHz (5725-5850 MHz)(UNII-3)		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
Frequency Stability	§15.407(g) §2.1055	Maintained within the band		PASS
AC Conducted Emissions 150 kHz-30 MHz	15.207 15.407(b)(9)	<FCC 15.207 limits		PASS
Undesirable Emissions	§15.407(b) (1),(2),(3),(4)	<-27 dBm/MHz EIRP (UNII1, 2A, 2C) cf. Section 8.6 (UNII 3)	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

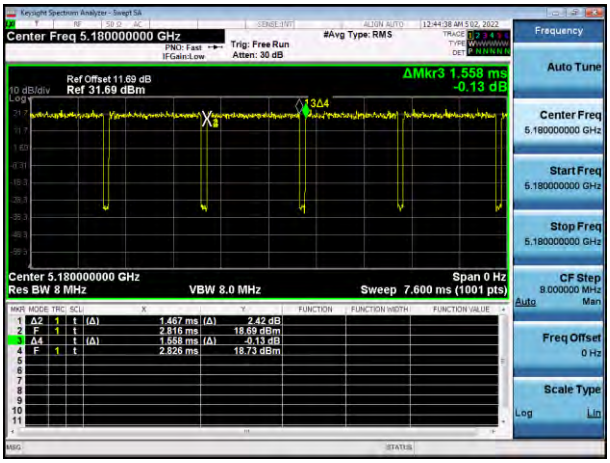
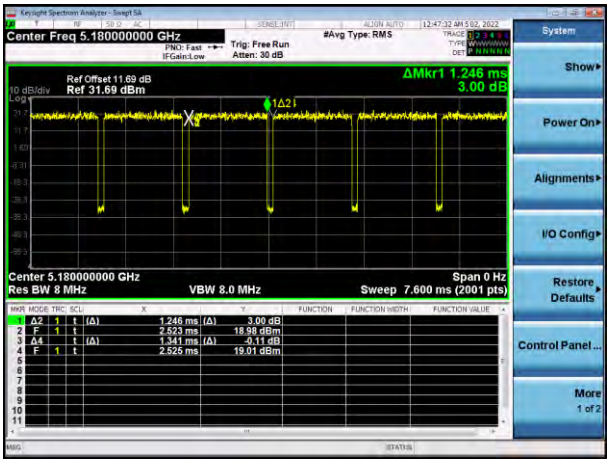
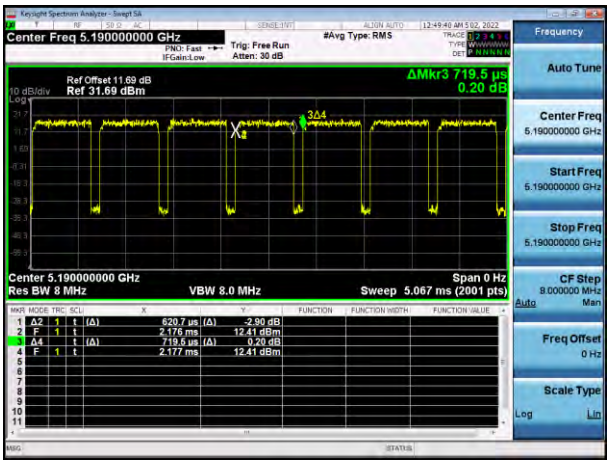
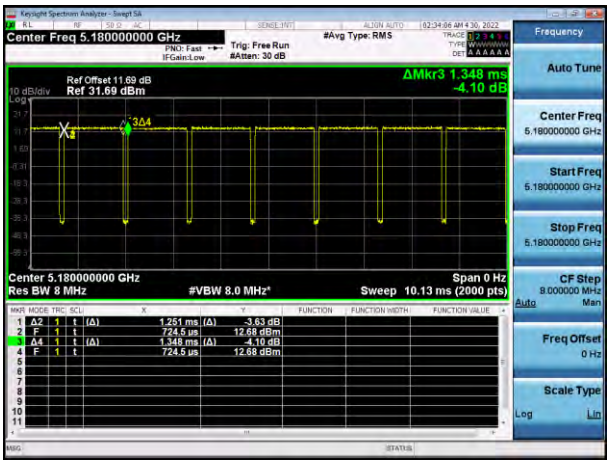
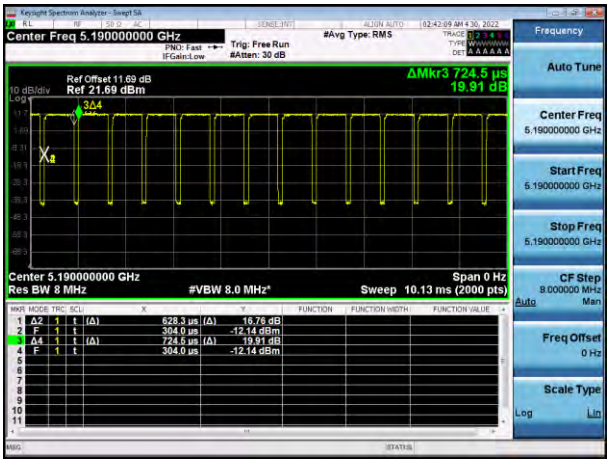
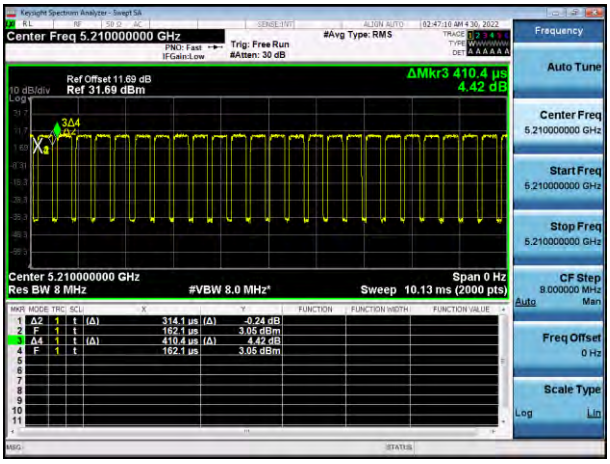
Mode	Data Rate (Mbps)	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor(dB)
802.11a	6	1.467	1.558	0.942	0.261
	9	0.988	1.084	0.911	0.404
	12	0.745	0.846	0.880	0.554
	18	0.502	0.603	0.832	0.799
	24	0.380	0.481	0.789	1.027
	36	0.263	0.365	0.722	1.413
	48	0.203	0.309	0.656	1.833
	54	0.182	0.309	0.590	2.290

Mode	MCS Index	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor(dB)
802.11n (HT20)	0	1.246	1.341	0.929	0.319
	1	0.649	0.745	0.871	0.601
	2	0.441	0.542	0.813	0.899
	3	0.334	0.436	0.767	1.150
	4	0.238	0.339	0.701	1.540
	5	0.187	0.329	0.569	2.447
	6	0.172	0.345	0.500	3.010
	7	0.157	0.319	0.492	3.080
802.11n (HT40)	0	0.621	0.720	0.863	0.641
	1	0.329	0.426	0.774	1.114
	2	0.228	0.355	0.643	1.919
	3	0.182	0.324	0.562	2.499
	4	0.137	0.330	0.415	3.824
	5	0.111	0.334	0.333	4.771
	6	0.106	0.350	0.304	5.166
	7	0.091	0.365	0.250	6.021

Mode	MCS Index	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor(dB)
802.11ac (VHT20)	0	1.251	1.348	0.929	0.322
	1	0.649	0.745	0.871	0.601
	2	0.441	0.542	0.813	0.899
	3	0.345	0.441	0.782	1.070
	4	0.243	0.339	0.716	1.448
	5	0.193	0.319	0.603	2.196
	6	0.177	0.309	0.574	2.413
	7	0.162	0.324	0.500	3.010
	8	0.147	0.324	0.453	3.438
802.11ac (VHT40)	0	0.628	0.725	0.867	0.619
	1	0.334	0.431	0.776	1.099
	2	0.238	0.334	0.712	1.474
	3	0.187	0.360	0.521	2.831
	4	0.142	0.365	0.389	4.102
	5	0.117	0.370	0.315	5.016
	6	0.111	0.370	0.301	5.209
	7	0.096	0.350	0.275	5.601
	8	0.091	0.356	0.256	5.915
	9	0.086	0.370	0.233	6.329
802.11ac (VHT80)	0	0.314	0.410	0.765	1.161
	1	0.177	0.390	0.455	3.424
	2	0.132	0.370	0.356	4.484
	3	0.106	0.400	0.266	5.754
	4	0.086	0.380	0.227	6.446
	5	0.076	0.390	0.195	7.104
	6	0.071	0.360	0.197	7.051
	7	0.071	0.375	0.189	7.231
	8	0.068	0.375	0.181	7.414
	9	0.066	0.370	0.178	7.494

Note:

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

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 10.6.1.

[Ant.1]

802.11a Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	18.61	16.282
5200	40	18.65	16.283
5240	48	**18.74**	16.290
5260	52	**18.80**	16.290
5300	60	18.74	16.282
5320	64	18.79	16.308
5500	100	18.58	16.282
5600	120	**18.95**	16.296
5720	144	18.73	16.272
5745	149	18.76	16.294
5785	157	**18.80**	16.301
5825	165	18.72	16.276

802.11n(HT20) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	19.87	17.461
5200	40	19.82	17.464
5240	48	**19.91**	17.461
5260	52	**20.09**	17.471
5300	60	19.85	17.454
5320	64	19.80	17.457
5500	100	19.87	17.455
5600	120	**19.95**	17.478
5720	144	19.79	17.446
5745	149	**20.03**	17.470
5785	157	20.02	17.453
5825	165	19.89	17.453

802.11n(HT40) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5190	38	**39.19**	35.776
5230	46	39.07	35.800
5270	54	**39.24**	35.771
5310	62	38.94	35.778
5510	102	**39.16**	35.783
5590	118	39.07	35.755
5710	142	39.00	35.773
5755	151	38.93	35.746
5795	159	**39.25**	35.780

802.11ac(VHT20) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	19.80	17.456
5200	40	**19.96**	17.474
5240	48	19.82	17.465
5260	52	19.74	17.458
5300	60	**19.91**	17.473
5320	64	19.87	17.454
5500	100	19.76	17.455
5600	120	19.80	17.439
5720	144	**19.84**	17.476
5745	149	19.84	17.457
5785	157	19.87	17.452
5825	165	**19.99**	17.462

802.11ac(VHT40) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5190	38	39.11	35.756
5230	46	**39.35**	35.785
5270	54	39.08	35.784
5310	62	**39.09**	35.751
5510	102	**39.18**	35.758
5590	118	39.04	35.756
5710	142	39.00	35.759
5755	151	**39.18**	35.754
5795	159	38.89	35.779

802.11ac(VHT80) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5210	42	**80.13**	74.829
5290	58	**80.31**	74.801
5530	106	80.10	74.825
5610	122	80.31	74.802
5690	138	**80.64**	74.757
5775	155	**80.21**	74.874

[Ant.2]

802.11a Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	**18.84**	16.281
5200	40	18.78	16.280
5240	48	18.69	16.303
5260	52	18.68	16.306
5300	60	**18.71**	16.296
5320	64	18.61	16.274
5500	100	18.76	16.294
5600	120	18.67	16.296
5720	144	**18.77**	16.282
5745	149	18.67	16.286
5785	157	**18.69**	16.298
5825	165	18.61	16.277

802.11n(HT20) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	**19.99**	17.459
5200	40	19.95	17.464
5240	48	19.92	17.465
5260	52	19.73	17.463
5300	60	20.04	17.474
5320	64	**20.07**	17.463
5500	100	19.71	17.451
5600	120	**19.90**	17.462
5720	144	19.88	17.473
5745	149	19.76	17.460
5785	157	19.75	17.451
5825	165	**19.86**	17.455

802.11n(HT40) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5190	38	39.15	35.759
5230	46	**39.20**	35.768
5270	54	**39.14**	35.758
5310	62	39.09	35.794
5510	102	39.08	35.781
5590	118	39.04	35.745
5710	142	**39.41**	35.785
5755	151	**39.22**	35.792
5795	159	39.04	35.777

802.11ac(VHT20) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	19.87	17.472
5200	40	**20.07**	17.454
5240	48	19.86	17.465
5260	52	19.82	17.454
5300	60	**19.89**	17.463
5320	64	19.79	17.465
5500	100	**19.86**	17.474
5600	120	19.76	17.457
5720	144	19.74	17.466
5745	149	**20.02**	17.461
5785	157	19.95	17.461
5825	165	19.72	17.447

802.11ac(VHT40) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5190	38	**38.89**	35.786
5230	46	38.87	35.793
5270	54	**39.22**	35.805
5310	62	39.19	35.756
5510	102	**39.32**	35.748
5590	118	39.13	35.765
5710	142	39.30	35.814
5755	151	**39.43**	35.794
5795	159	39.30	35.764

802.11ac(VHT80) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5210	42	**80.69**	74.733
5290	58	**80.20**	74.767
5530	106	80.30	74.859
5610	122	80.44	74.763
5690	138	**80.63**	74.806
5775	155	**80.36**	74.864

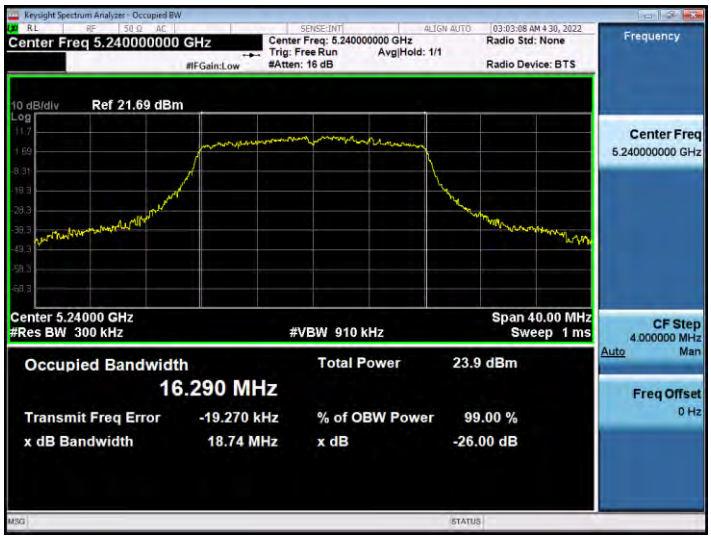
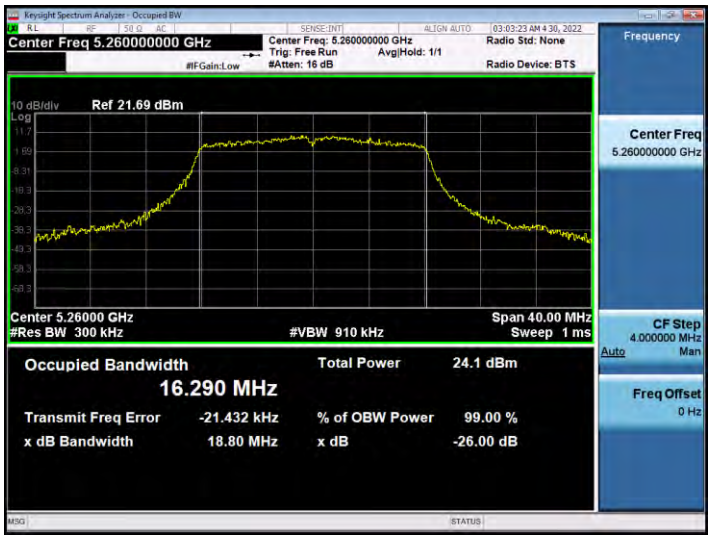
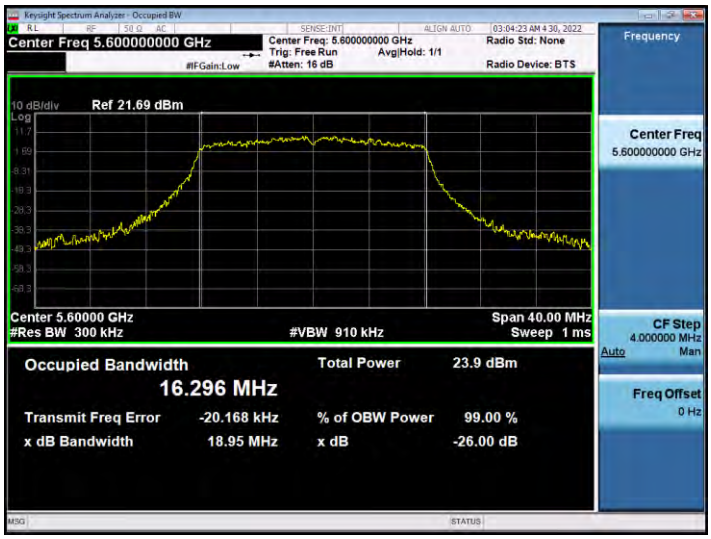
▣ Test Plots

Note

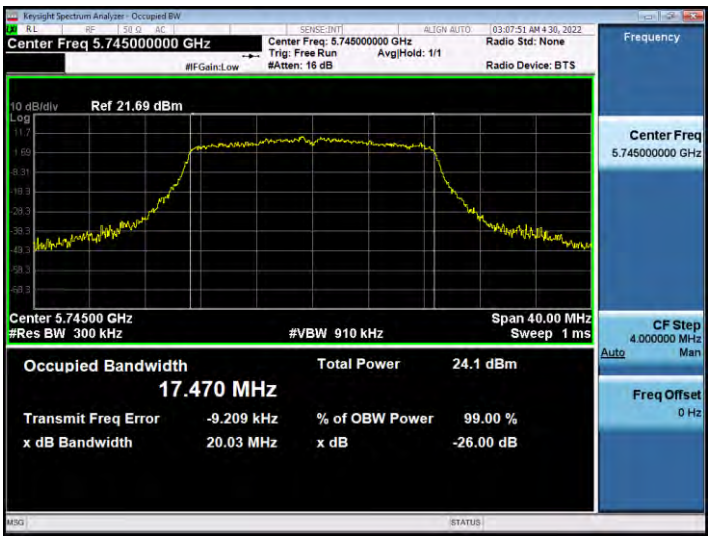
In order to simplify the report, attached plots were only the most wide channel.

[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 52)
	
802.11a UNII 2C BAND 26 dB Bandwidth (CH 120)	**802.11a UNII 3 BAND 26 dB Bandwidth (CH 157)**
	

▣ Test Plots(802.11n(HT20))

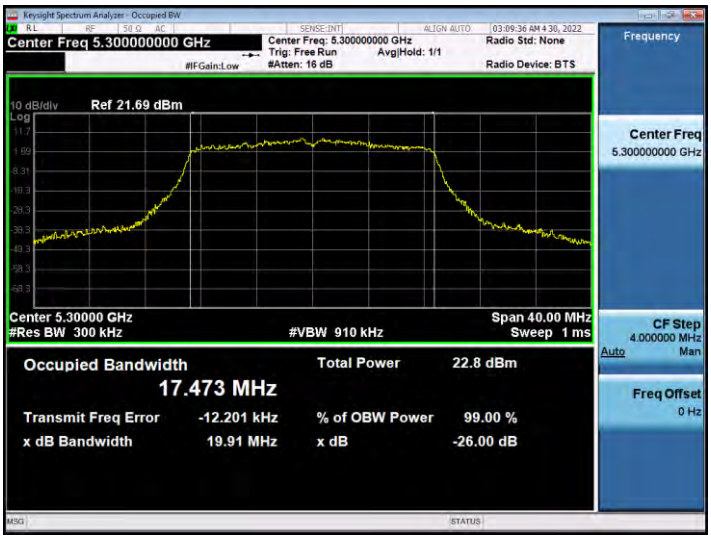
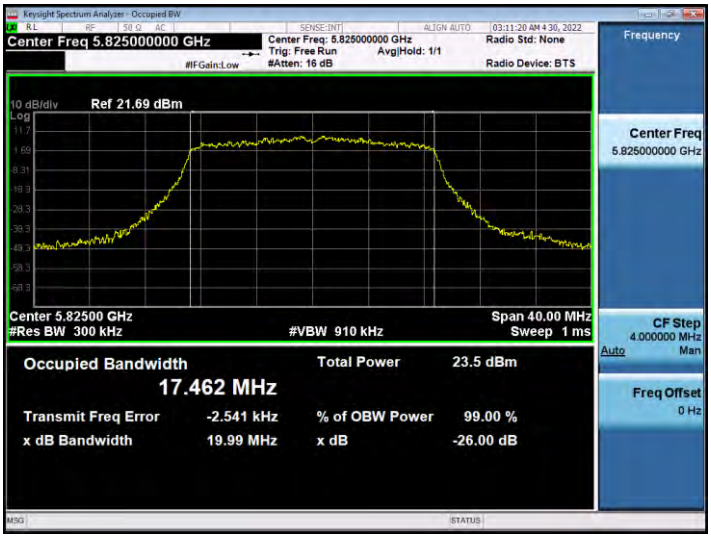
802.11n_HT20 UNII 1 BAND 26 dB Bandwidth(CH 48)	802.11n_HT20 UNII 2A BAND 26 dB Bandwidth(CH 52)
	
802.11n_HT20 UNII 2C BAND 26 dB Bandwidth(CH 120)	**802.11n_HT20 UNII 3 BAND 26 dB Bandwidth(CH 149)**
	

▣ Test Plots(802.11n(HT40))

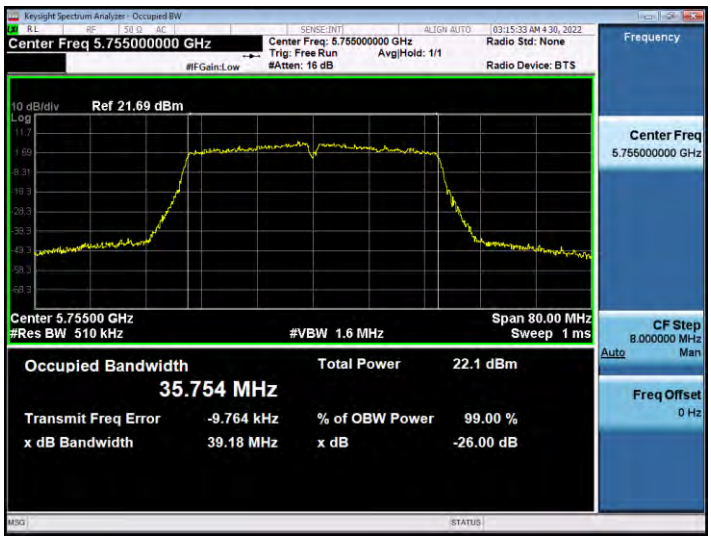
802.11n_HT40 UNII 1 BAND 26 dB Bandwidth(CH 38)	802.11n_HT40 UNII 2A BAND 26 dB Bandwidth (CH 54)
	
802.11n_HT40 UNII 2C BAND 26 dB Bandwidth(CH 102)	**802.11n_HT40 UNII 3 BAND 26 dB Bandwidth (CH 159)**
	

▣ Test Plots(802.11ac(VHT20))

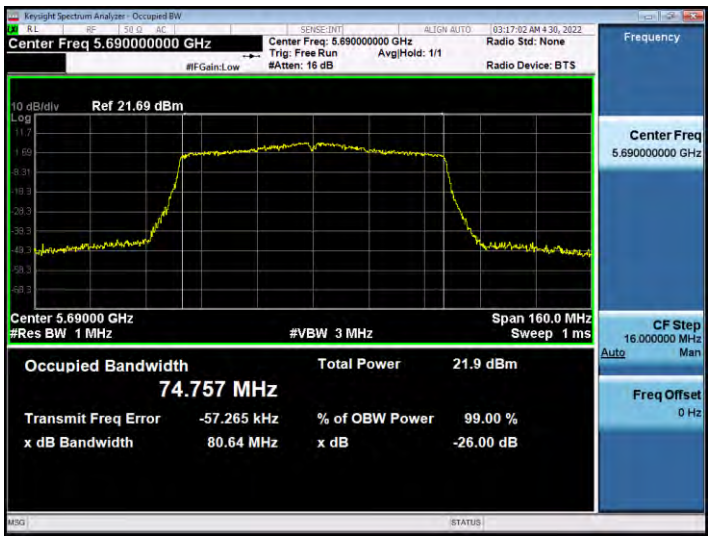
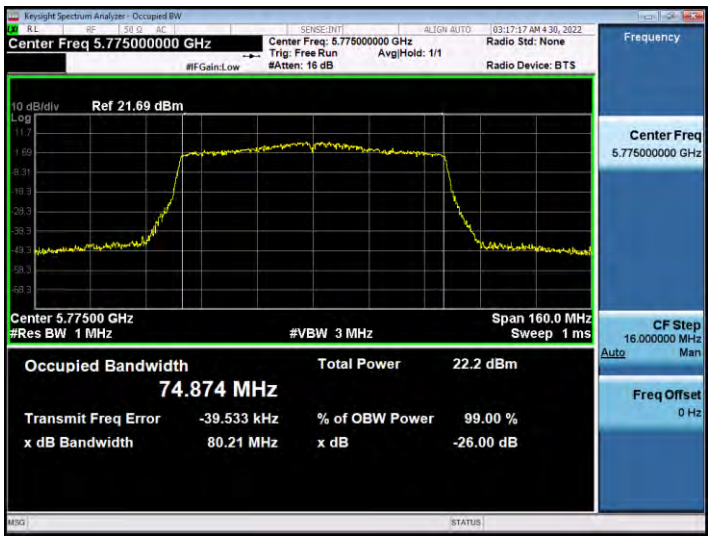
.

802.11ac_VHT20 UNII 1 BAND 26 dB Bandwidth(CH 40)	802.11ac_VHT20 UNII 2A BAND 26 dB Bandwidth(CH 60)
	
802.11ac_VHT20 UNII 2C BAND 26 dB Bandwidth(CH 144)	**802.11ac_VHT20 UNII 3 BAND 26 dB Bandwidth(CH 165)**
	

▣ Test Plots(802.11ac(VHT40))

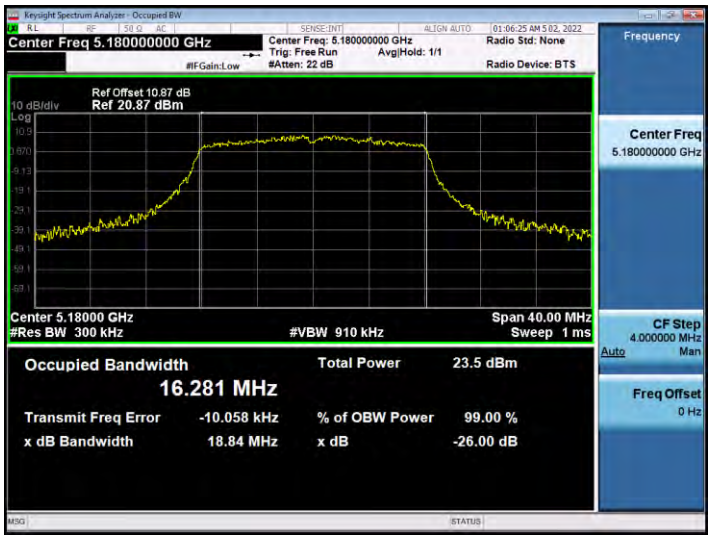
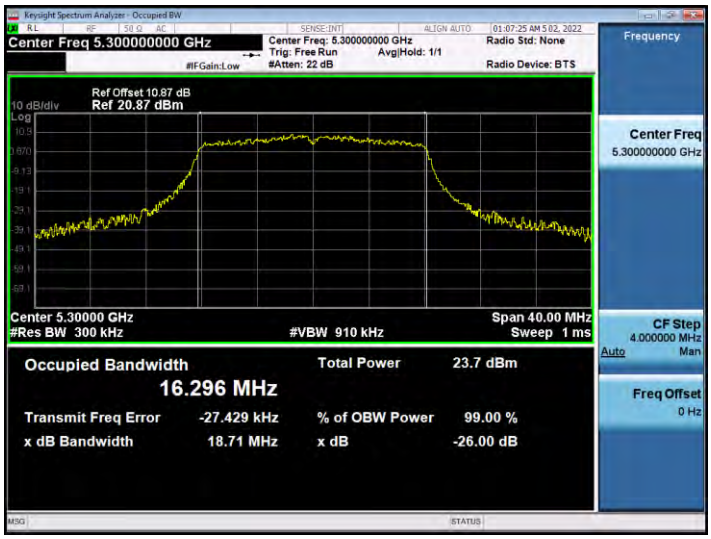
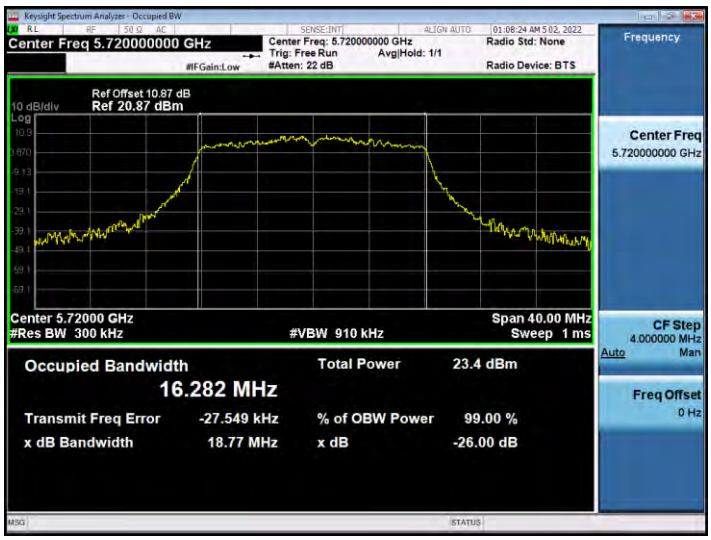
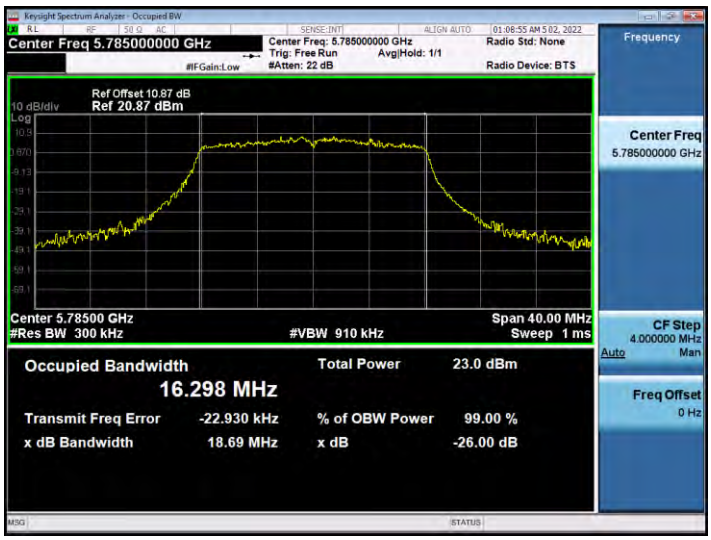
802.11ac_VHT40 UNII 1 BAND 26 dB Bandwidth(CH 46)	802.11ac_VHT40 UNII 2A BAND 26 dB Bandwidth (CH 62)
	
802.11ac_VHT40 UNII 2C BAND 26 dB Bandwidth(CH 102)	**802.11ac_VHT40 UNII 3 BAND 26 dB Bandwidth (CH 151)**
	

▣ Test Plots(802.11ac(VHT80))

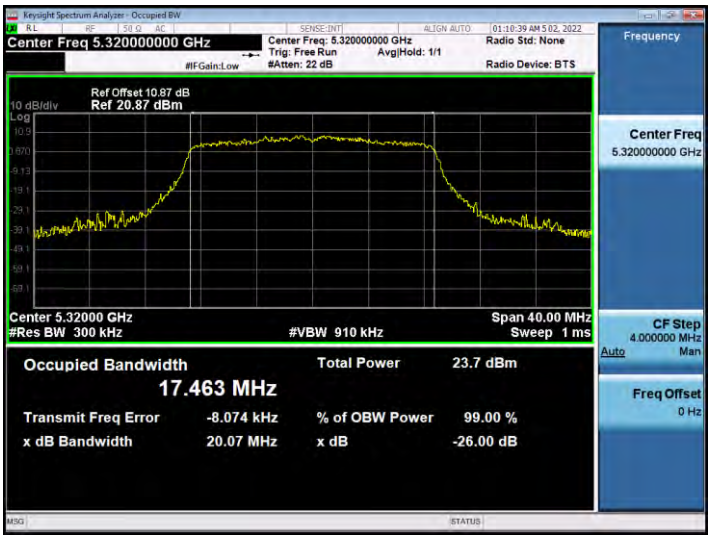
802.11ac_VHT80 UNII 1 BAND 26 dB Bandwidth(CH 42)	802.11ac_VHT80 UNII 2A BAND 26 dB Bandwidth (CH 58)
	
802.11ac_VHT80 UNII 2C BAND 26 dB Bandwidth(CH 138)	**802.11ac_VHT80 UNII 3 BAND 26 dB Bandwidth (CH 155)**
	

[Ant.2]

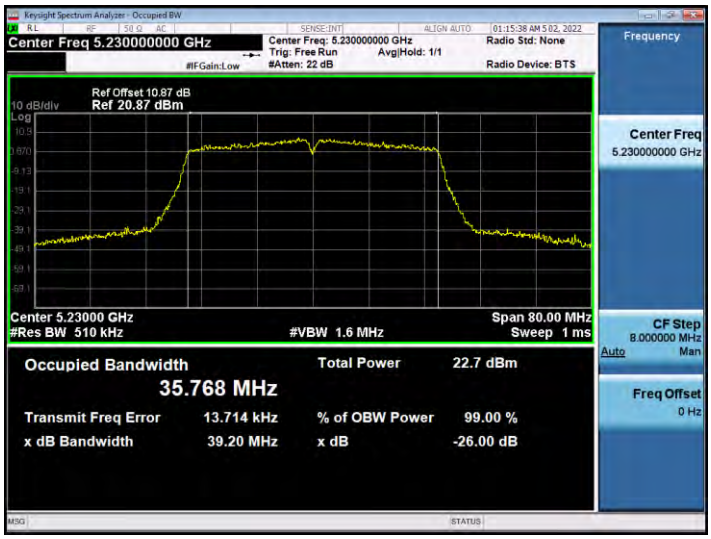
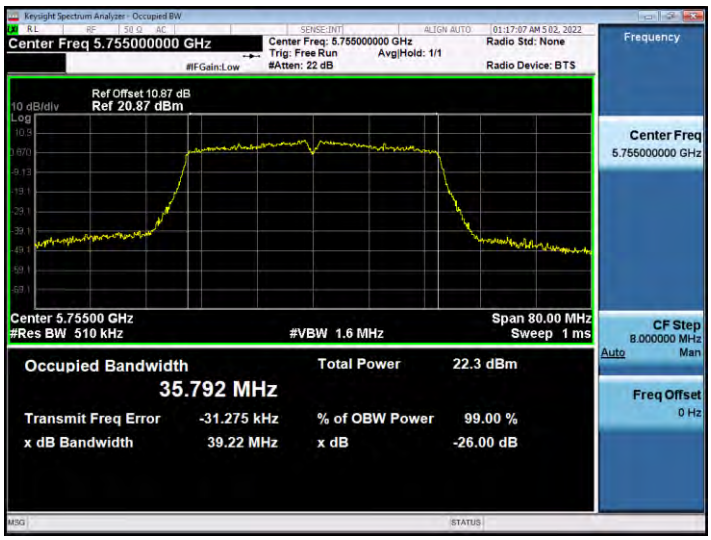
▣ Test Plots(802.11a)

802.11a UNII 1 BAND 26 dB Bandwidth (CH 36)	802.11a UNII 2A BAND 26 dB Bandwidth (CH 60)
	
802.11a UNII 2C BAND 26 dB Bandwidth (CH 144)	**802.11a UNII 3 BAND 26 dB Bandwidth (CH 157)**
	

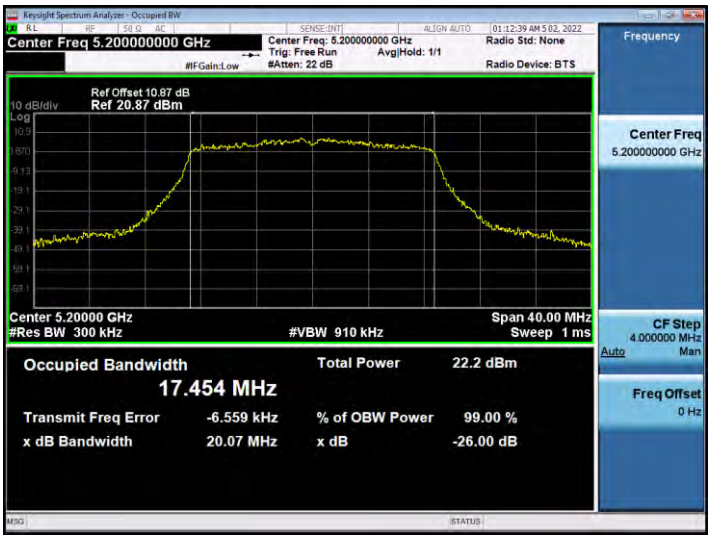
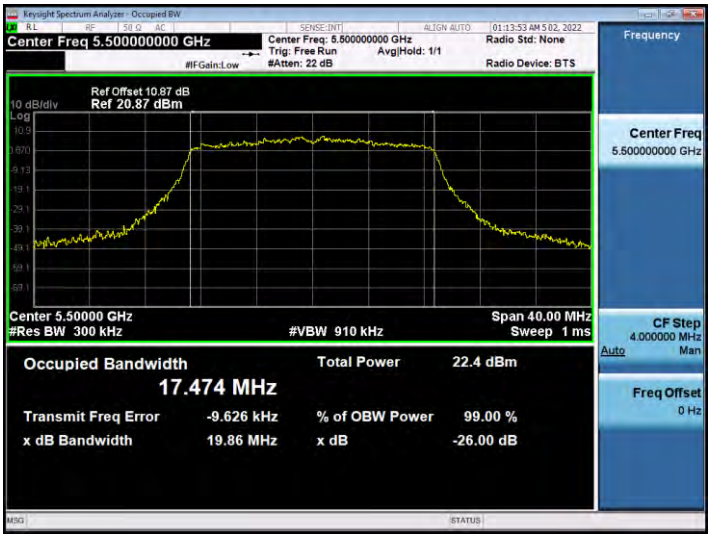
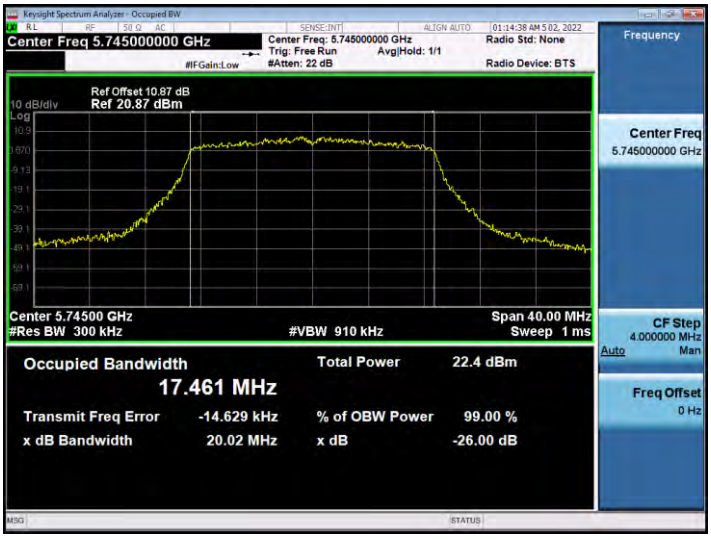
▣ Test Plots(802.11n(HT20))

802.11n_HT20 UNII 1 BAND 26 dB Bandwidth(CH 36)	802.11n_HT20 UNII 2A BAND 26 dB Bandwidth(CH 64)
	
802.11n_HT20 UNII 2C BAND 26 dB Bandwidth(CH 120)	**802.11n_HT20 UNII 3 BAND 26 dB Bandwidth(CH 165)**
	

▣ 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 54)
	
802.11n_HT40 UNII 2C BAND 26 dB Bandwidth(CH 142)	**802.11n_HT40 UNII 3 BAND 26 dB Bandwidth (CH 151)**
	

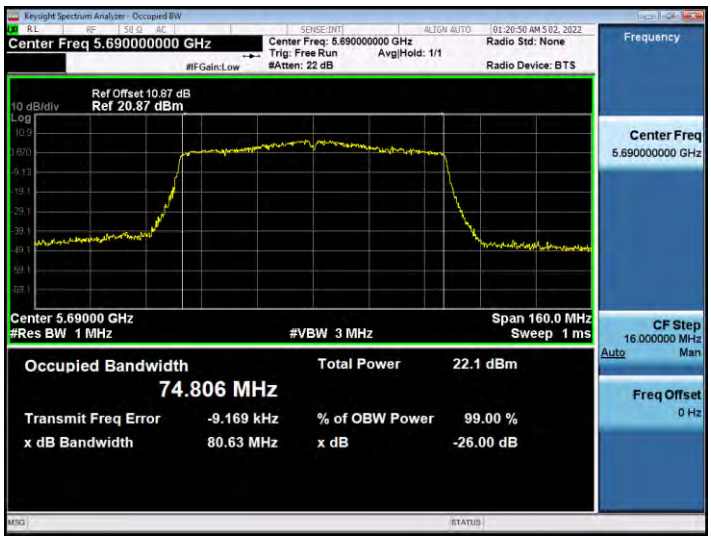
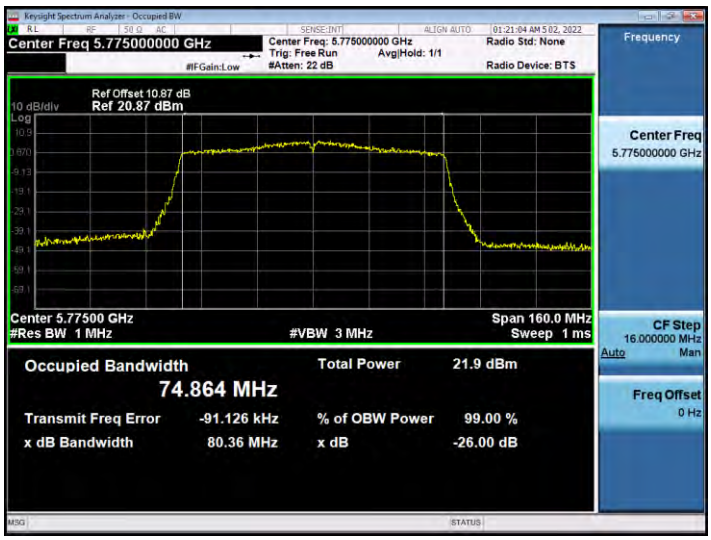
▣ Test Plots(802.11ac(VHT20))

802.11ac_VHT20 UNII 1 BAND 26 dB Bandwidth(CH 40)	802.11ac_VHT20 UNII 2A BAND 26 dB Bandwidth(CH 60)
	
802.11ac_VHT20 UNII 2C BAND 26 dB Bandwidth(CH 100)	**802.11ac_VHT20 UNII 3 BAND 26 dB Bandwidth(CH 149)**
	

▣ 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 138)	**802.11ac_VHT80 UNII 3 BAND 26 dB Bandwidth (CH 155)**
	

10.3 6 dB BANDWIDTH

[Ant.1]

802.11a Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	14.76	> 0.5	Pass
5785	157	**14.44**	> 0.5	Pass
5825	165	15.11	> 0.5	Pass

802.11n(HT20) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	**15.04**	> 0.5	Pass
5785	157	15.13	> 0.5	Pass
5825	165	15.48	> 0.5	Pass

802.11n(HT40) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	**35.12**	> 0.5	Pass
5795	159	35.13	> 0.5	Pass

802.11ac(VHT20) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	13.89	> 0.5	Pass
5785	157	15.47	> 0.5	Pass
5825	165	**13.88**	> 0.5	Pass

802.11ac(VHT40) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	35.13	> 0.5	Pass
5795	159	**35.09**	> 0.5	Pass

802.11ac(VHT80) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5775	155	**72.65**	> 0.5	Pass

[Ant.2]

802.11a Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	**12.97**	> 0.5	Pass
5785	157	15.09	> 0.5	Pass
5825	165	15.16	> 0.5	Pass

802.11n(HT20) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	**15.15**	> 0.5	Pass
5785	157	15.17	> 0.5	Pass
5825	165	15.44	> 0.5	Pass

802.11n(HT40) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	35.10	> 0.5	Pass
5795	159	**33.92**	> 0.5	Pass

802.11ac(VHT20) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	**13.92**	> 0.5	Pass
5785	157	14.13	> 0.5	Pass
5825	165	15.91	> 0.5	Pass

802.11ac(VHT40) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	**35.07**	> 0.5	Pass
5795	159	35.13	> 0.5	Pass

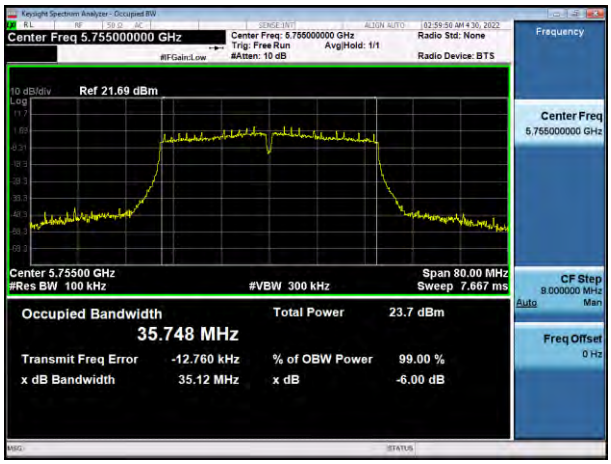
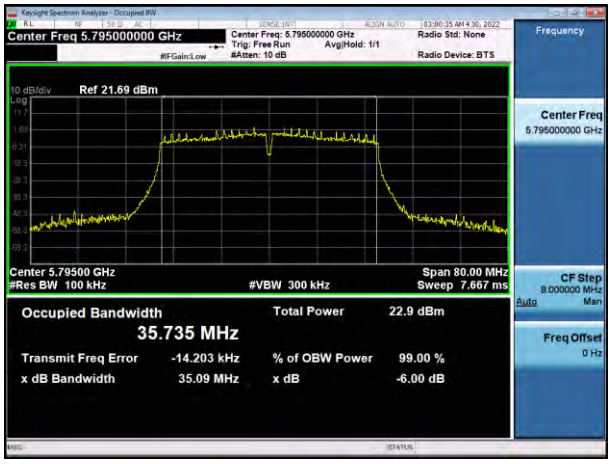
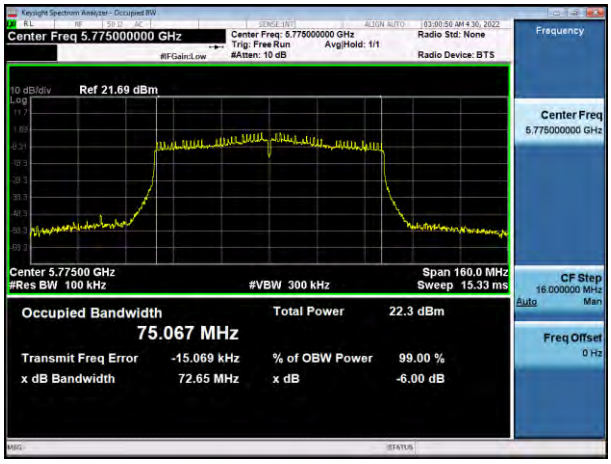
802.11ac(VHT80) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5775	155	**67.75**	> 0.5	Pass

▣ Test Plots

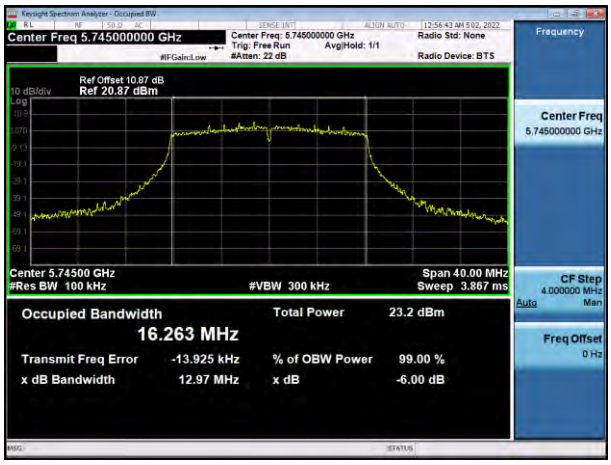
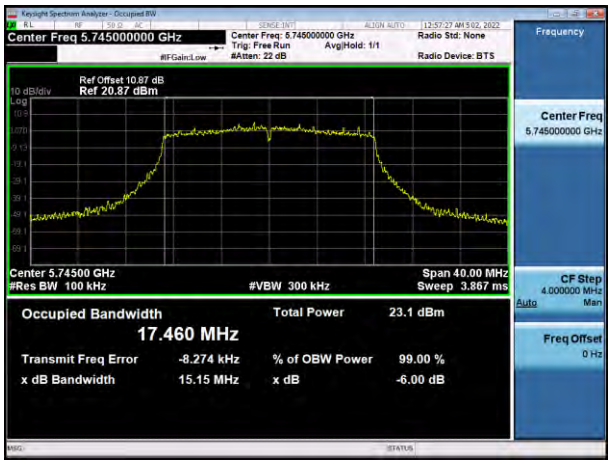
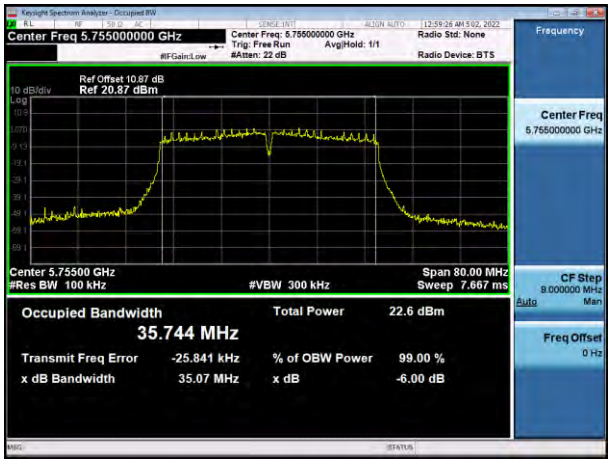
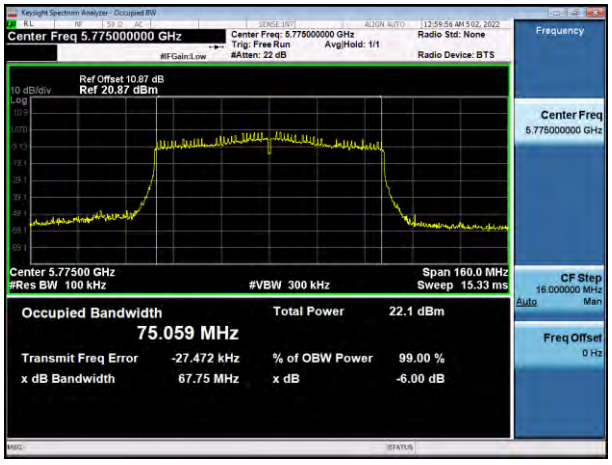
Note

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

[Ant.1]

802.11a (CH.157)	802.11n(HT20) (CH.149)
	
802.11n(HT40) (CH.151)	**802.11ac(VHT20) (CH.165)**
	
802.11ac(VHT40) (CH.159)	**802.11ac(VHT80) (CH.155)**
	

[Ant.2]

802.11a (CH.149)	802.11n(HT20) (CH.149)
	
802.11n(HT40) (CH.159)	**802.11ac(VHT20) (CH.149)**
	
802.11ac(VHT40) (CH.151)	**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]

Note:

1. Reporting for MIMO calculation

802.11a Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase Datarate [Mbps]
Frequency [MHz]	Channel No.					
5180	36	17.20	0.261	17.46	23.98	6M
5200	40	17.16	0.261	17.42	23.98	6M
5240	48	17.40	0.261	17.66	23.98	6M
5260	52	17.48	0.261	17.74	23.74	6M
5300	60	17.35	0.261	17.61	23.73	6M
5320	64	17.63	0.261	17.89	23.74	6M
5500	100	17.58	0.261	17.84	23.69	6M
5600	120	17.22	0.261	17.48	23.78	6M
5720	144	17.31	0.261	17.57	23.73	6M
5745	149	17.60	0.261	17.86	30.00	6M
5785	157	17.63	0.261	17.89	30.00	6M
5825	165	17.66	0.261	17.92	30.00	6M

802.11n(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5180	36	16.96	0.319	17.28	23.98	MCS0
5200	40	16.90	0.319	17.22	23.98	MCS0
5240	48	17.14	0.319	17.46	23.98	MCS0
5260	52	17.22	0.319	17.54	23.98	MCS0
5300	60	17.11	0.319	17.43	23.98	MCS0
5320	64	17.59	0.319	17.91	23.97	MCS0
5500	100	17.48	0.319	17.80	23.98	MCS0
5600	120	16.99	0.319	17.31	23.98	MCS0
5720	144	17.06	0.319	17.38	23.96	MCS0
5745	149	17.47	0.319	17.79	30.00	MCS0
5785	157	17.52	0.319	17.84	30.00	MCS0
5825	165	17.61	0.319	17.93	30.00	MCS0

802.11n(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5190	38	15.58	0.641	16.22	23.98	MCS0
5230	46	15.84	0.641	16.48	23.98	MCS0
5270	54	15.91	0.641	16.55	23.98	MCS0
5310	62	16.21	0.641	16.85	23.98	MCS0
5510	102	16.00	0.641	16.64	23.98	MCS0
5590	118	15.69	0.641	16.33	23.98	MCS0
5710	142	15.66	0.641	16.30	23.98	MCS0
5755	151	16.11	0.641	16.75	30.00	MCS0
5795	159	16.16	0.641	16.80	30.00	MCS0

802.11ac(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5180	36	15.93	0.322	16.25	23.98	MCS0
5200	40	15.95	0.322	16.27	23.98	MCS0
5240	48	16.18	0.322	16.50	23.98	MCS0
5260	52	16.31	0.322	16.63	23.95	MCS0
5300	60	16.17	0.322	16.49	23.98	MCS0
5320	64	16.52	0.322	16.84	23.98	MCS0
5500	100	16.53	0.322	16.85	23.96	MCS0
5600	120	16.05	0.322	16.37	23.97	MCS0
5720	144	16.10	0.322	16.42	23.98	MCS0
5745	149	16.49	0.322	16.81	30.00	MCS0
5785	157	16.54	0.322	16.86	30.00	MCS0
5825	165	16.59	0.322	16.91	30.00	MCS0

802.11ac(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5190	38	14.75	0.619	15.37	23.98	MCS0
5230	46	14.92	0.619	15.54	23.98	MCS0
5270	54	15.04	0.619	15.66	23.98	MCS0
5310	62	15.22	0.619	15.84	23.98	MCS0
5510	102	14.97	0.619	15.59	23.98	MCS0
5590	118	14.75	0.619	15.37	23.98	MCS0
5710	142	14.86	0.619	15.48	23.98	MCS0
5755	151	15.08	0.619	15.70	30.00	MCS0
5795	159	15.20	0.619	15.82	30.00	MCS0

802.11ac(80 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5210	42	13.60	1.161	14.76	23.98	MCS0
5290	58	13.59	1.161	14.75	23.98	MCS0
5530	106	13.47	1.161	14.63	23.98	MCS0
5610	122	13.48	1.161	14.64	23.98	MCS0
5690	138	13.52	1.161	14.68	23.98	MCS0
5775	155	13.72	1.161	14.88	30.00	MCS0

[Ant.2]

Note:

1. Reporting for MIMO calculation

802.11a Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase Datarate [Mbps]
Frequency [MHz]	Channel No.					
5180	36	16.82	0.261	17.08	23.98	6M
5200	40	16.73	0.261	16.99	23.98	6M
5240	48	17.28	0.261	17.54	23.98	6M
5260	52	17.36	0.261	17.62	23.71	6M
5300	60	17.06	0.261	17.32	23.72	6M
5320	64	17.39	0.261	17.65	23.70	6M
5500	100	16.69	0.261	16.95	23.73	6M
5600	120	16.78	0.261	17.04	23.71	6M
5720	144	16.71	0.261	16.97	23.73	6M
5745	149	16.70	0.261	16.96	30.00	6M
5785	157	16.65	0.261	16.91	30.00	6M
5825	165	16.90	0.261	17.16	30.00	6M

802.11n(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5180	36	16.81	0.319	17.13	23.98	MCS0
5200	40	16.74	0.319	17.06	23.98	MCS0
5240	48	17.25	0.319	17.57	23.98	MCS0
5260	52	17.33	0.319	17.65	23.95	MCS0
5300	60	17.05	0.319	17.37	23.98	MCS0
5320	64	17.32	0.319	17.64	23.98	MCS0
5500	100	16.61	0.319	16.93	23.95	MCS0
5600	120	16.72	0.319	17.04	23.98	MCS0
5720	144	16.61	0.319	16.93	23.98	MCS0
5745	149	16.42	0.319	16.74	30.00	MCS0
5785	157	16.41	0.319	16.73	30.00	MCS0
5825	165	16.76	0.319	17.08	30.00	MCS0

802.11n(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5190	38	15.36	0.641	16.00	23.98	MCS0
5230	46	15.83	0.641	16.47	23.98	MCS0
5270	54	15.82	0.641	16.46	23.98	MCS0
5310	62	16.02	0.641	16.66	23.98	MCS0
5510	102	15.48	0.641	16.12	23.98	MCS0
5590	118	15.40	0.641	16.04	23.98	MCS0
5710	142	16.03	0.641	16.67	23.98	MCS0
5755	151	15.48	0.641	16.12	30.00	MCS0
5795	159	15.36	0.641	16.00	30.00	MCS0

802.11ac(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5180	36	15.83	0.322	16.15	23.98	MCS0
5200	40	15.78	0.322	16.10	23.98	MCS0
5240	48	16.09	0.322	16.41	23.98	MCS0
5260	52	16.38	0.322	16.70	23.97	MCS0
5300	60	16.05	0.322	16.37	23.98	MCS0
5320	64	16.31	0.322	16.63	23.96	MCS0
5500	100	15.93	0.322	16.25	23.98	MCS0
5600	120	15.78	0.322	16.10	23.96	MCS0
5720	144	16.33	0.322	16.65	23.95	MCS0
5745	149	15.88	0.322	16.20	30.00	MCS0
5785	157	15.75	0.322	16.07	30.00	MCS0
5825	165	16.13	0.322	16.45	30.00	MCS0

802.11ac(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5190	38	14.55	0.619	15.17	23.98	MCS0
5230	46	14.81	0.619	15.43	23.98	MCS0
5270	54	14.79	0.619	15.41	23.98	MCS0
5310	62	14.87	0.619	15.49	23.98	MCS0
5510	102	14.53	0.619	15.15	23.98	MCS0
5590	118	14.44	0.619	15.06	23.98	MCS0
5710	142	15.22	0.619	15.84	23.98	MCS0
5755	151	15.10	0.619	15.72	30.00	MCS0
5795	159	14.99	0.619	15.61	30.00	MCS0

802.11ac(80 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5210	42	13.23	1.161	14.39	23.98	MCS0
5290	58	13.17	1.161	14.33	23.98	MCS0
5530	106	12.95	1.161	14.11	23.98	MCS0
5610	122	12.84	1.161	14.00	23.98	MCS0
5690	138	13.42	1.161	14.58	23.98	MCS0
5775	155	13.45	1.161	14.61	30.00	MCS0

[MIMO]

802.11a Mode		Ant.1 Measured Power [dBm] + Duty Cycle Factor[dB]	Ant.2 Measured Power (dBm) + Duty Cycle Factor[dB]	MIMO Total Power [dBm]	Limit [dBm]	Worstcase Datarate [Mbps]
Frequency [MHz]	Channel No.					
5180	36	17.46	17.08	20.29	23.98	6M
5200	40	17.42	16.99	20.22	23.98	6M
5240	48	17.66	17.54	20.61	23.98	6M
5260	52	17.74	17.62	20.69	23.71	6M
5300	60	17.61	17.32	20.48	23.72	6M
5320	64	17.89	17.65	20.78	23.70	6M
5500	100	17.84	16.95	20.43	23.69	6M
5600	120	17.48	17.04	20.28	23.71	6M
5720	144	17.57	16.97	20.29	23.73	6M
5745	149	17.86	16.96	20.44	30.00	6M
5785	157	17.89	16.91	20.44	30.00	6M
5825	165	17.92	17.16	20.57	30.00	6M

802.11n(20 MHz) Mode		Ant.1 Measured Power [dBm] + Duty Cycle Factor[dB]	Ant.2 Measured Power (dBm) + Duty Cycle Factor[dB]	MIMO Total Power [dBm]	Limit [dBm]	Worstcase MCS INDEX
Frequency [MHz]	Channel No.					
5180	36	17.28	17.13	20.22	23.98	MCS0
5200	40	17.22	17.06	20.15	23.98	MCS0
5240	48	17.46	17.57	20.52	23.98	MCS0
5260	52	17.54	17.65	20.60	23.95	MCS0
5300	60	17.43	17.37	20.41	23.98	MCS0
5320	64	17.91	17.64	20.79	23.97	MCS0
5500	100	17.80	16.93	20.40	23.95	MCS0
5600	120	17.31	17.04	20.19	23.98	MCS0
5720	144	17.38	16.93	20.17	23.96	MCS0
5745	149	17.79	16.74	20.31	30.00	MCS0
5785	157	17.84	16.73	20.33	30.00	MCS0
5825	165	17.93	17.08	20.54	30.00	MCS0

802.11n(40 MHz) Mode		Ant.1 Measured Power [dBm] + Duty Cycle Factor[dB]	Ant.2 Measured Power (dBm) + Duty Cycle Factor[dB]	MIMO Total Power [dBm]	Limit [dBm]	Worstcase MCS INDEX
Frequency [MHz]	Channel No.					
5190	38	16.22	16.00	19.12	23.98	MCS0
5230	46	16.48	16.47	19.49	23.98	MCS0
5270	54	16.55	16.46	19.52	23.98	MCS0
5310	62	16.85	16.66	19.77	23.98	MCS0
5510	102	16.64	16.12	19.40	23.98	MCS0
5590	118	16.33	16.04	19.20	23.98	MCS0
5710	142	16.30	16.67	19.50	23.98	MCS0
5755	151	16.75	16.12	19.46	30.00	MCS0
5795	159	16.80	16.00	19.43	30.00	MCS0

802.11ac(20 MHz) Mode		Ant.1 Measured Power [dBm] + Duty Cycle Factor[dB]	Ant.2 Measured Power (dBm) + Duty Cycle Factor[dB]	MIMO Total Power [dBm]	Limit [dBm]	Worstcase MCS INDEX
Frequency [MHz]	Channel No.					
5180	36	16.25	16.15	19.21	23.98	MCS0
5200	40	16.27	16.10	19.20	23.98	MCS0
5240	48	16.50	16.41	19.47	23.98	MCS0
5260	52	16.63	16.70	19.68	23.95	MCS0
5300	60	16.49	16.37	19.44	23.98	MCS0
5320	64	16.84	16.63	19.75	23.96	MCS0
5500	100	16.85	16.25	19.57	23.96	MCS0
5600	120	16.37	16.10	19.25	23.96	MCS0
5720	144	16.42	16.65	19.55	23.95	MCS0
5745	149	16.81	16.20	19.53	30.00	MCS0
5785	157	16.86	16.07	19.50	30.00	MCS0
5825	165	16.91	16.45	19.70	30.00	MCS0

802.11ac(40 MHz) Mode		Ant.1 Measured Power [dBm] + Duty Cycle Factor[dB]	Ant.2 Measured Power (dBm) + Duty Cycle Factor[dB]	MIMO Total Power [dBm]	Limit [dBm]	Worstcase MCS INDEX
Frequency [MHz]	Channel No.					
5190	38	15.37	15.17	18.28	23.98	MCS0
5230	46	15.54	15.43	18.49	23.98	MCS0
5270	54	15.66	15.41	18.55	23.98	MCS0
5310	62	15.84	15.49	18.68	23.98	MCS0
5510	102	15.59	15.15	18.39	23.98	MCS0
5590	118	15.37	15.06	18.23	23.98	MCS0
5710	142	15.48	15.84	18.67	23.98	MCS0
5755	151	15.70	15.72	18.72	30.00	MCS0
5795	159	15.82	15.61	18.73	30.00	MCS0

802.11ac(80 MHz) Mode		Ant.1 Measured Power [dBm] + Duty Cycle Factor[dB]	Ant.2 Measured Power (dBm) + Duty Cycle Factor[dB]	MIMO Total Power [dBm]	Limit [dBm]	Worstcase MCS INDEX
Frequency [MHz]	Channel No.					
5210	42	14.76	14.39	17.59	23.98	MCS0
5290	58	14.75	14.33	17.56	23.98	MCS0
5530	106	14.63	14.11	17.39	23.98	MCS0
5610	122	14.64	14.00	17.34	23.98	MCS0
5690	138	14.68	14.58	17.64	23.98	MCS0
5775	155	14.88	14.61	17.76	30.00	MCS0

10.5 POWER SPECTRAL DENSITY

[Ant.1]

Note:

1. Reporting for MIMO calculation

802.11a Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm/MHz]	Worstcase Datarate [Mbps]	Limit
Frequency [MHz]	Channel No.					
5180	36	7.073	0.261	7.334	6M	11 dBm/MHz
5200	40	**7.388**	0.261	**7.649**	6M	
5240	48	7.375	0.261	7.636	6M	
5260	52	7.406	0.261	7.667	6M	
5300	60	**7.484**	0.261	**7.745**	6M	
5320	64	7.474	0.261	7.735	6M	
5500	100	**7.732**	0.261	**7.993**	6M	
5600	120	7.275	0.261	7.536	6M	
5720	144	7.389	0.261	7.650	6M	
5745	149	5.176	0.261	5.437	6M	30 dBm/500 kHz
5785	157	5.171	0.261	5.432	6M	
5825	165	**5.260**	0.261	**5.521**	6M	

802.11n(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	6.787	0.319	7.106	MCS0	11 dBm/MHz
5200	40	7.002	0.319	7.321	MCS0	
5240	48	**7.056**	0.319	**7.375**	MCS0	
5260	52	7.130	0.319	7.449	MCS0	
5300	60	7.249	0.319	7.568	MCS0	
5320	64	**7.517**	0.319	**7.836**	MCS0	
5500	100	**7.365**	0.319	**7.684**	MCS0	
5600	120	7.120	0.319	7.439	MCS0	
5720	144	7.027	0.319	7.346	MCS0	
5745	149	4.747	0.319	5.066	MCS0	30 dBm/500 kHz
5785	157	4.734	0.319	5.053	MCS0	
5825	165	**5.186**	0.319	**5.505**	MCS0	

802.11n(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	2.375	0.641	3.016	MCS0	11 dBm/MHz
5230	46	**2.732**	0.641	**3.373**	MCS0	
5270	54	2.878	0.641	3.519	MCS0	
5310	62	**3.112**	0.641	**3.753**	MCS0	
5510	102	**2.826**	0.641	**3.467**	MCS0	
5590	118	2.798	0.641	3.439	MCS0	
5710	142	2.457	0.641	3.098	MCS0	
5755	151	0.018	0.641	0.659	MCS0	30 dBm /500 kHz
5795	159	**0.641**	0.641	**1.282**	MCS0	

802.11ac(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	5.816	0.322	6.138	MCS0	11 dBm/MHz
5200	40	5.707	0.322	6.029	MCS0	
5240	48	**5.940**	0.322	**6.262**	MCS0	
5260	52	6.213	0.322	6.535	MCS0	
5300	60	5.960	0.322	6.282	MCS0	
5320	64	**6.460**	0.322	**6.782**	MCS0	
5500	100	**6.480**	0.322	**6.802**	MCS0	
5600	120	5.875	0.322	6.197	MCS0	
5720	144	6.015	0.322	6.337	MCS0	
5745	149	3.951	0.322	4.273	MCS0	30 dBm/500 kHz
5785	157	3.921	0.322	4.243	MCS0	
5825	165	**4.137**	0.322	**4.459**	MCS0	

802.11ac(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	1.377	0.619	1.996	MCS0	11 dBm/MHz
5230	46	**1.837**	0.619	**2.456**	MCS0	
5270	54	2.009	0.619	2.628	MCS0	
5310	62	**2.204**	0.619	**2.823**	MCS0	
5510	102	**1.913**	0.619	**2.532**	MCS0	
5590	118	1.511	0.619	2.130	MCS0	
5710	142	1.746	0.619	2.365	MCS0	
5755	151	**-0.510**	0.619	**0.109**	MCS0	30 dBm/500 kHz
5795	159	-0.857	0.619	-0.238	MCS0	

802.11ac(80 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5210	42	**-2.359**	1.161	**-1.198**	MCS0	11 dBm/MHz
5290	58	**-2.457**	1.161	**-1.296**	MCS0	
5530	106	-2.362	1.161	-1.201	MCS0	
5610	122	**-2.220**	1.161	**-1.059**	MCS0	
5690	138	-2.268	1.161	-1.107	MCS0	
5775	155	**-4.941**	1.161	**-3.780**	MCS0	30 dBm/500 kHz

[Ant.2]

Note:

1. Reporting for MIMO calculation

802.11a Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm/MHz]	Worstcase Datarate [Mbps]	Limit
Frequency [MHz]	Channel No.					
5180	36	7.308	0.261	7.569	6M	11 dBm/MHz
5200	40	6.910	0.261	7.171	6M	
5240	48	**7.503**	0.261	**7.764**	6M	
5260	52	7.514	0.261	7.775	6M	
5300	60	7.560	0.261	7.821	6M	
5320	64	**7.590**	0.261	**7.851**	6M	
5500	100	6.901	0.261	7.162	6M	
5600	120	**7.115**	0.261	**7.376**	6M	
5720	144	7.094	0.261	7.355	6M	
5745	149	4.016	0.261	4.277	6M	30 dBm/500 kHz
5785	157	4.147	0.261	4.408	6M	
5825	165	**4.448**	0.261	**4.709**	6M	

802.11n(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	6.651	0.319	6.970	MCS0	11 dBm/MHz
5200	40	6.642	0.319	6.961	MCS0	
5240	48	**7.236**	0.319	**7.555**	MCS0	
5260	52	7.297	0.319	7.616	MCS0	
5300	60	7.079	0.319	7.398	MCS0	
5320	64	**7.380**	0.319	**7.699**	MCS0	
5500	100	**6.699**	0.319	**7.018**	MCS0	
5600	120	6.650	0.319	6.969	MCS0	
5720	144	6.625	0.319	6.944	MCS0	
5745	149	3.628	0.319	3.947	MCS0	30 dBm/500 kHz
5785	157	3.740	0.319	4.059	MCS0	
5825	165	**4.182**	0.319	**4.501**	MCS0	

802.11n(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	2.649	0.641	3.290	MCS0	11 dBm/MHz
5230	46	**3.021**	0.641	**3.662**	MCS0	
5270	54	**3.048**	0.641	**3.689**	MCS0	
5310	62	2.918	0.641	3.559	MCS0	
5510	102	2.606	0.641	3.247	MCS0	
5590	118	2.459	0.641	3.100	MCS0	
5710	142	**3.163**	0.641	**3.804**	MCS0	
5755	151	-0.550	0.641	0.091	MCS0	30 dBm /500 kHz
5795	159	**-0.332**	0.641	**0.309**	MCS0	

802.11ac(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	6.026	0.322	6.348	MCS0	11 dBm/MHz
5200	40	5.540	0.322	5.862	MCS0	
5240	48	**6.166**	0.322	**6.488**	MCS0	
5260	52	6.226	0.322	6.548	MCS0	
5300	60	5.913	0.322	6.235	MCS0	
5320	64	**6.307**	0.322	**6.629**	MCS0	
5500	100	5.841	0.322	6.163	MCS0	
5600	120	5.689	0.322	6.011	MCS0	
5720	144	**6.324**	0.322	**6.646**	MCS0	
5745	149	3.461	0.322	3.783	MCS0	30 dBm/500 kHz
5785	157	3.020	0.322	3.342	MCS0	
5825	165	**3.464**	0.322	**3.786**	MCS0	

802.11ac(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	1.446	0.619	2.065	MCS0	11 dBm/MHz
5230	46	**1.505**	0.619	**2.124**	MCS0	
5270	54	1.811	0.619	2.430	MCS0	
5310	62	**2.066**	0.619	**2.685**	MCS0	
5510	102	1.481	0.619	2.100	MCS0	
5590	118	1.511	0.619	2.130	MCS0	
5710	142	**2.388**	0.619	**3.007**	MCS0	
5755	151	**-0.643**	0.619	**-0.024**	MCS0	30 dBm/500 kHz
5795	159	-0.951	0.619	-0.332	MCS0	

802.11ac(80 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5210	42	**-2.511**	1.161	**-1.350**	MCS0	11 dBm/MHz
5290	58	**-2.520**	1.161	**-1.359**	MCS0	
5530	106	-2.869	1.161	-1.708	MCS0	
5610	122	-3.183	1.161	-2.022	MCS0	
5690	138	**-1.433**	1.161	**-0.272**	MCS0	
5775	155	**-4.795**	1.161	**-3.634**	MCS0	30 dBm/500 kHz

[MIMO]

802.11a Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm/MHz]	Worstcase Datarate [Mbps]	Limit
Frequency [MHz]	Channel No.					
5180	36	7.334	7.569	10.464	6M	11 dBm/MHz
5200	40	7.649	7.171	10.427	6M	
5240	48	7.636	7.764	10.711	6M	
5260	52	7.667	7.775	10.732	6M	
5300	60	7.745	7.821	10.794	6M	
5320	64	7.703	7.851	10.788	6M	
5500	100	7.993	7.162	10.608	6M	
5600	120	7.536	7.376	10.467	6M	
5720	144	7.650	7.355	10.516	6M	
5745	149	5.437	4.277	7.906	6M	30 dBm/500 kHz
5785	157	5.432	4.408	7.961	6M	
5825	165	5.521	4.709	8.145	6M	

802.11n(20 MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	7.106	6.970	10.049	MCS0	11 dBm/MHz
5200	40	7.321	6.961	10.155	MCS0	
5240	48	7.375	7.555	10.476	MCS0	
5260	52	7.449	7.616	10.544	MCS0	
5300	60	7.568	7.398	10.494	MCS0	
5320	64	7.836	7.699	10.778	MCS0	
5500	100	7.684	7.018	10.374	MCS0	
5600	120	7.439	6.969	10.221	MCS0	
5720	144	7.346	6.944	10.160	MCS0	
5745	149	5.066	3.947	7.553	MCS0	30 dBm/500 kHz
5785	157	5.053	4.059	7.595	MCS0	
5825	165	5.505	4.501	8.042	MCS0	

802.11n(40 MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	3.016	3.290	6.166	MCS0	11 dBm/MHz
5230	46	3.373	3.662	6.531	MCS0	
5270	54	3.519	3.689	6.616	MCS0	
5310	62	3.753	3.559	6.668	MCS0	
5510	102	3.467	3.247	6.369	MCS0	
5590	118	3.439	3.100	6.284	MCS0	
5710	142	3.098	3.804	6.476	MCS0	
5755	151	0.659	0.091	3.395	MCS0	30 dBm/500 kHz
5795	159	1.282	0.309	3.833	MCS0	

802.11ac(20 MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	6.138	6.348	9.254	MCS0	11 dBm/MHz
5200	40	6.029	5.862	8.956	MCS0	
5240	48	6.262	6.488	9.387	MCS0	
5260	52	6.535	6.548	9.552	MCS0	
5300	60	6.282	6.235	9.269	MCS0	
5320	64	6.782	6.629	9.716	MCS0	
5500	100	6.802	6.163	9.504	MCS0	
5600	120	6.197	6.011	9.115	MCS0	
5720	144	6.337	6.646	9.504	MCS0	
5745	149	4.273	3.783	7.045	MCS0	30 dBm/500 kHz
5785	157	4.243	3.342	6.826	MCS0	
5825	165	4.459	3.786	7.146	MCS0	

802.11ac(40 MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	1.996	2.065	5.041	MCS0	11 dBm/MHz
5230	46	2.456	2.124	5.304	MCS0	
5270	54	2.628	2.430	5.541	MCS0	
5310	62	2.823	2.685	5.765	MCS0	
5510	102	2.532	2.100	5.332	MCS0	
5590	118	2.130	2.130	5.140	MCS0	
5710	142	2.365	3.007	5.708	MCS0	
5755	151	0.109	-0.024	3.053	MCS0	30 dBm/500 kHz
5795	159	-0.238	-0.332	2.726	MCS0	

802.11ac(80 MHz) Mode		ANT.1 Measured PSD[dBm] + Duty Cycle Factor [dB]	ANT.2 Measured PSD[dBm] + Duty Cycle Factor [dB]	MIMO Total PSD [dBm/MHz]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5210	42	-1.198	-1.350	1.737	MCS0	11 dBm/MHz
5290	58	-1.296	-1.359	1.683	MCS0	
5530	106	-1.201	-1.708	1.563	MCS0	
5610	122	-1.059	-2.022	1.496	MCS0	
5690	138	-1.107	-0.272	2.341	MCS0	
5775	155	-3.780	-3.634	-0.696	MCS0	30 dBm/500 kHz

[Ant.1]

▣ Test Plots(802.11a)

Note:

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

UNII 1 (Ch. 40)	UNII 2A (Ch. 60)
	
UNII 2C (Ch. 100)	**UNII 3 (Ch. 165)**
	

▣ Test Plots(802.11n(HT20))

UNII 1 (Ch. 48)	UNII 2A (Ch. 64)
	
UNII 2C (Ch. 100)	**UNII 3 (Ch. 165)**
	

▣ Test Plots(802.11n(HT40))

UNII 1 (Ch. 46)	UNII 2A (Ch. 62)
	
UNII 2C (Ch. 102)	**UNII 3 (Ch. 159)**
	

▣ Test Plots(802.11ac(VHT20))

UNII 1 (Ch. 48)	UNII 2A (Ch. 64)
	
UNII 2C (Ch. 100)	**UNII 3 (Ch. 165)**
	

▣ Test Plots(802.11ac(VHT40))

UNII 1 (Ch. 46)	UNII 2A (Ch. 62)
	
UNII 2C (Ch. 102)	**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)**
	

[Ant.2]

▣ Test Plots(802.11a)

UNII 1 (Ch. 48)	UNII 2A (Ch. 64)
	
UNII 2C (Ch. 120)	**UNII 3 (Ch. 165)**
	

▣ Test Plots(802.11n(HT20))

UNII 1 (Ch. 48)	UNII 2A (Ch. 64)
	
UNII 2C (Ch. 100)	**UNII 3 (Ch. 165)**
	

▣ Test Plots(802.11n(HT40))

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

▣ Test Plots(802.11ac(VHT20))

UNII 1 (Ch. 48)	UNII 2A (Ch. 64)
	
UNII 2C (Ch. 144)	**UNII 3 (Ch. 165)**
	

▣ Test Plots(802.11ac(VHT40))

UNII 1 (Ch. 46)	UNII 2A (Ch. 62)
	
UNII 2C (Ch. 142)	**UNII 3 (Ch. 151)**
	

▣ Test Plots(802.11ac(VHT80))

UNII 1 (Ch. 42)	UNII 2A (Ch. 58)
	
UNII 2C (Ch. 138)	**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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5210039.52	39.52
100%		-30	5210012.75	12.75
100%		-20	5210034.60	34.60
100%		-10	5210051.71	51.71
100%		0	5210096.46	96.46
100%		+10	5210044.03	44.03
100%		+30	5210005.36	5.36
100%		+40	5210079.65	79.65
100%		+50	5210080.14	80.14
High	4.47	+20	5210022.13	22.13
Low	3.65	+20	5210019.98	19.98

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5290071.93	71.93
100%		-30	5290029.14	29.14
100%		-20	5290063.53	63.53
100%		-10	5290088.64	88.64
100%		0	5290042.83	42.83
100%		+10	5290034.75	34.75
100%		+30	5290014.19	14.19
100%		+40	5290062.26	62.26
100%		+50	5290087.89	87.89
High	4.47	+20	5210021.86	21.86
Low	3.65	+20	5210040.47	40.47

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5530017.13	17.13
100%		-30	5530061.09	61.09
100%		-20	5530036.18	36.18
100%		-10	5530053.24	53.24
100%		0	5530089.21	89.21
100%		+10	5530081.16	81.16
100%		+30	5530055.85	55.85
100%		+40	5530027.29	27.29
100%		+50	5530044.38	44.38
High	4.47	+20	5210020.45	20.45
Low	3.65	+20	5210068.36	68.36

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5775099.27	99.27
100%		-30	5775089.19	89.19
100%		-20	5775059.90	59.9
100%		-10	5775051.13	51.13
100%		0	5775058.28	58.28
100%		+10	5775083.83	83.83
100%		+30	5775069.24	69.24
100%		+40	5775083.32	83.32
100%		+50	5775087.64	87.64
High	4.47	+20	5210054.70	54.70
Low	3.65	+20	5210076.35	76.35

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.

2 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5210035.91	35.91
100%		-30	5210048.98	48.98
100%		-20	5210025.83	25.83
100%		-10	5210066.09	66.09
100%		0	5210083.84	83.84
100%		+10	5210018.80	18.80
100%		+30	5210086.12	86.12
100%		+40	5210079.86	79.86
100%		+50	5210091.54	91.54
High	4.47	+20	5210052.83	52.83
Low	3.65	+20	5210083.21	83.21

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5290024.03	24.03
100%		-30	5290032.58	32.58
100%		-20	5290078.61	78.61
100%		-10	5290069.68	69.68
100%		0	5290063.36	63.36
100%		+10	5290061.67	61.67
100%		+30	5290081.97	81.97
100%		+40	5290025.13	25.13
100%		+50	5290044.04	44.04
High	4.47	+20	5210031.60	31.60
Low	3.65	+20	5210092.32	92.32

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 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5530065.39	65.39
100%		-30	5530024.77	24.77
100%		-20	5530066.92	66.92
100%		-10	5530045.87	45.87
100%		0	5530083.84	83.84
100%		+10	5530053.57	53.57
100%		+30	5530038.24	38.24
100%		+40	5530055.66	55.66
100%		+50	5530073.53	73.53
High	4.47	+20	5210078.57	78.57
Low	3.65	+20	5210010.48	10.48

Note:

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

OPERATING BAND:	UNII Band 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5775047.52	47.52
100%		-30	5775035.40	35.40
100%		-20	5775077.22	77.22
100%		-10	5775004.10	4.1
100%		0	5775064.17	64.17
100%		+10	5775076.28	76.28
100%		+30	5775059.18	59.18
100%		+40	5775058.69	58.69
100%		+50	5775043.67	43.67
High	4.47	+20	5210047.40	47.40
Low	3.65	+20	5210019.02	19.02

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5210031.43	31.43
100%		-30	5210070.81	70.81
100%		-20	5210083.56	83.56
100%		-10	5210062.19	62.19
100%		0	5210006.81	6.81
100%		+10	5210068.57	68.57
100%		+30	5210077.45	77.45
100%		+40	5210059.31	59.31
100%		+50	5210010.78	10.78
High	4.47	+20	5210091.88	91.88
Low	3.65	+20	5210059.68	59.68

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5290024.82	24.82
100%		-30	5290043.38	43.38
100%		-20	5290050.65	50.65
100%		-10	5290045.32	45.32
100%		0	5290034.68	34.68
100%		+10	5290064.67	64.67
100%		+30	5290076.82	76.82
100%		+40	5290065.06	65.06
100%		+50	5290071.85	71.85
High	4.47	+20	5210077.36	77.36
Low	3.65	+20	5210051.18	51.18

Note:

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

OPERATING BAND:	UNII Band 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5530058.71	58.71
100%		-30	5530074.78	74.78
100%		-20	5530055.49	55.49
100%		-10	5530029.81	29.81
100%		0	5530028.91	28.91
100%		+10	5530073.69	73.69
100%		+30	5530093.77	93.77
100%		+40	5530038.78	38.78
100%		+50	5530095.72	95.72
High	4.47	+20	5210070.15	70.15
Low	3.65	+20	5210076.33	76.33

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5775054.13	54.13
100%		-30	5775005.05	5.05
100%		-20	5775091.06	91.06
100%		-10	5775042.82	42.82
100%		0	5775037.29	37.29
100%		+10	5775072.12	72.12
100%		+30	5775040.75	40.75
100%		+40	5775037.98	37.98
100%		+50	5775020.46	20.46
High	4.47	+20	5210074.04	74.04
Low	3.65	+20	5210053.62	53.62

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5210060.77	60.77
100%		-30	5210059.96	59.96
100%		-20	5210009.74	9.74
100%		-10	5210051.85	51.85
100%		0	5210086.21	86.21
100%		+10	5210066.07	66.07
100%		+30	5210086.65	86.65
100%		+40	5210091.38	91.38
100%		+50	5210093.54	93.54
High	4.47	+20	5210044.99	44.99
Low	3.65	+20	5210037.65	37.65

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5290015.52	15.52
100%		-30	5290051.92	51.92
100%		-20	5290039.63	39.63
100%		-10	5290061.34	61.34
100%		0	5290091.83	91.83
100%		+10	5290042.59	42.59
100%		+30	5290075.52	75.52
100%		+40	5290088.94	88.94
100%		+50	5290034.95	34.95
High	4.47	+20	5210032.75	32.75
Low	3.65	+20	5210094.77	94.77

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5530058.34	58.34
100%		-30	5530027.07	27.07
100%		-20	5530052.31	52.31
100%		-10	5530057.52	57.52
100%		0	5530081.50	81.5
100%		+10	5530053.22	53.22
100%		+30	5530011.52	11.52
100%		+40	5530054.33	54.33
100%		+50	5530080.84	80.84
High	4.47	+20	5210006.51	6.51
Low	3.65	+20	5210012.92	12.92

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 3
OPERATING FREQUENCY:	5,775,000,000 Hz
CHANNEL:	155
REFERENCE VOLTAGE:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5775008.19	8.19
100%		-30	5775078.19	78.19
100%		-20	5775076.75	76.75
100%		-10	5775068.68	68.68
100%		0	5775065.15	65.15
100%		+10	5775069.03	69.03
100%		+30	5775002.71	2.71
100%		+40	5775041.76	41.76
100%		+50	5775037.04	37.04
High	4.47	+20	5210022.50	22.50
Low	3.65	+20	5210069.87	69.87

Note:

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

[Ant.2]

Startup after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5210045.40	45.40
100%		-30	5210065.48	65.48
100%		-20	5210019.30	19.30
100%		-10	5210028.47	28.47
100%		0	5210067.43	67.43
100%		+10	5210047.29	47.29
100%		+30	5210065.52	65.52
100%		+40	5210037.12	37.12
100%		+50	5210048.96	48.96
High	4.47	+20	5210009.37	9.37
Low	3.65	+20	5210096.98	96.98

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5290064.80	64.80
100%		-30	5290004.10	4.10
100%		-20	5290062.41	62.41
100%		-10	5290073.79	73.79
100%		0	5290053.35	53.35
100%		+10	5290015.24	15.24
100%		+30	5290030.22	30.22
100%		+40	5290036.39	36.39
100%		+50	5290099.05	99.05
High	4.47	+20	5210079.70	79.70
Low	3.65	+20	5210001.57	1.57

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5530004.23	4.23
100%		-30	5530043.46	43.46
100%		-20	5530015.84	15.84
100%		-10	5530091.64	91.64
100%		0	5530088.47	88.47
100%		+10	5530054.81	54.81
100%		+30	5530004.26	4.26
100%		+40	5530087.76	87.76
100%		+50	5530027.59	27.59
High	4.47	+20	5210077.28	77.28
Low	3.65	+20	5210047.56	47.56

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5775019.02	19.02
100%		-30	5775099.41	99.41
100%		-20	5775018.46	18.46
100%		-10	5775080.04	80.04
100%		0	5775097.65	97.65
100%		+10	5775008.61	8.61
100%		+30	5775051.02	51.02
100%		+40	5775053.28	53.28
100%		+50	5775093.48	93.48
High	4.47	+20	5210069.81	69.81
Low	3.65	+20	5210081.25	81.25

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.

2 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5210013.32	13.32
100%		-30	5210053.90	53.90
100%		-20	5210050.53	50.53
100%		-10	5210033.91	33.91
100%		0	5210028.99	28.99
100%		+10	5210011.76	11.76
100%		+30	5210014.05	14.05
100%		+40	5210067.87	67.87
100%		+50	5210093.72	93.72
High	4.47	+20	5210043.90	43.90
Low	3.65	+20	5210073.92	73.92

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5290004.11	4.11
100%		-30	5290068.23	68.23
100%		-20	5290022.02	22.02
100%		-10	5290046.80	46.8
100%		0	5290011.31	11.31
100%		+10	5290042.05	42.05
100%		+30	5290062.22	62.22
100%		+40	5290077.68	77.68
100%		+50	5290097.41	97.41
High	4.47	+20	5210095.46	95.46
Low	3.65	+20	5210049.72	49.72

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5530018.79	18.79
100%		-30	5530014.97	14.97
100%		-20	5530013.45	13.45
100%		-10	5530026.85	26.85
100%		0	5530076.99	76.99
100%		+10	5530027.40	27.4
100%		+30	5530092.99	92.99
100%		+40	5530051.31	51.31
100%		+50	5530094.21	94.21
High	4.47	+20	5210073.47	73.47
Low	3.65	+20	5210054.28	54.28

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5775004.10	4.10
100%		-30	5775046.81	46.81
100%		-20	5775055.21	55.21
100%		-10	5775007.23	7.23
100%		0	5775075.18	75.18
100%		+10	5775012.57	12.57
100%		+30	5775032.95	32.95
100%		+40	5775063.67	63.67
100%		+50	5775087.08	87.08
High	4.47	+20	5210063.46	63.46
Low	3.65	+20	5210001.63	1.63

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.

5 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5210053.65	53.65
100%		-30	5210058.85	58.85
100%		-20	5210023.65	23.65
100%		-10	5210044.07	44.07
100%		0	5210045.90	45.90
100%		+10	5210092.28	92.28
100%		+30	5210061.99	61.99
100%		+40	5210083.92	83.92
100%		+50	5210091.76	91.76
High	4.47	+20	5210090.90	90.90
Low	3.65	+20	5210078.35	78.35

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 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5290004.05	4.05
100%		-30	5290068.18	68.18
100%		-20	5290023.66	23.66
100%		-10	5290092.05	92.05
100%		0	5290073.95	73.95
100%		+10	5290034.56	34.56
100%		+30	5290083.65	83.65
100%		+40	5290059.04	59.04
100%		+50	5290049.30	49.30
High	4.47	+20	5210003.16	3.16
Low	3.65	+20	5210018.24	18.24

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 2C
OPERATING FREQUENCY:	5,530,000,000 Hz
CHANNEL:	106
REFERENCE VOLTAGE:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5530013.69	13.69
100%		-30	5530030.33	30.33
100%		-20	5530097.73	97.73
100%		-10	5530060.10	60.1
100%		0	5530012.94	12.94
100%		+10	5530003.40	3.4
100%		+30	5530055.50	55.5
100%		+40	5530013.38	13.38
100%		+50	5530042.11	42.11
High	4.47	+20	5210067.08	67.08
Low	3.65	+20	5210095.23	95.23

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5775035.99	35.99
100%		-30	5775090.76	90.76
100%		-20	5775098.88	98.88
100%		-10	5775089.78	89.78
100%		0	5775044.95	44.95
100%		+10	5775071.51	71.51
100%		+30	5775078.46	78.46
100%		+40	5775075.33	75.33
100%		+50	5775021.56	21.56
High	4.47	+20	5210019.62	19.62
Low	3.65	+20	5210092.17	92.17

Note:

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

10 minutes after the EUT is energized

OPERATING BAND:	UNII Band 1
OPERATING FREQUENCY:	5,210,000,000 Hz
CHANNEL:	42
REFERENCE VOLTAGE:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5210091.08	91.08
100%		-30	5210090.40	90.40
100%		-20	5210007.60	7.60
100%		-10	5210092.98	92.98
100%		0	5210063.86	63.86
100%		+10	5210009.29	9.29
100%		+30	5210018.77	18.77
100%		+40	5210052.49	52.49
100%		+50	5210025.59	25.59
High	4.47	+20	5210026.68	26.68
Low	3.65	+20	5210010.85	10.85

Note:

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

OPERATING BAND:	UNII Band 2A
OPERATING FREQUENCY:	5,290,000,000 Hz
CHANNEL:	58
REFERENCE VOLTAGE:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5290037.23	37.23
100%		-30	5290066.64	66.64
100%		-20	5290060.25	60.25
100%		-10	5290029.02	29.02
100%		0	5290026.61	26.61
100%		+10	5290013.81	13.81
100%		+30	5290097.03	97.03
100%		+40	5290025.77	25.77
100%		+50	5290087.14	87.14
High	4.47	+20	5210052.44	52.44
Low	3.65	+20	5210075.70	75.70

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5530012.19	12.19
100%		-30	5530009.80	9.80
100%		-20	5530033.97	33.97
100%		-10	5530051.33	51.33
100%		0	5530011.07	11.07
100%		+10	5530013.10	13.1
100%		+30	5530002.04	2.04
100%		+40	5530058.03	58.03
100%		+50	5530035.76	35.76
High	4.47	+20	5210014.10	14.10
Low	3.65	+20	5210075.75	75.75

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:	3.88 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.88	+20(Ref)	5775049.98	49.98
100%		-30	5775075.86	75.86
100%		-20	5775028.28	28.28
100%		-10	5775008.86	8.86
100%		0	5775096.88	96.88
100%		+10	5775072.06	72.06
100%		+30	5775013.88	13.88
100%		+40	5775030.38	30.38
100%		+50	5775026.96	26.96
High	4.47	+20	5210044.71	44.71
Low	3.65	+20	5210051.06	51.06

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	5710.36	14.64
802.11n(HT20)				5709.76	15.24
802.11ac(VHT20)				5710.04	14.96
802.11a	UNII 3	5720	144	5729.20	4.20
802.11n(HT20)				5729.92	4.92
802.11ac(VHT20)				5729.96	4.96

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11n(HT40)	UNII 2C	5710	142	5690.48	34.52
802.11ac(VHT40)				5690.48	34.52
802.11n(HT40)	UNII 3	5710	142	5729.60	4.60
802.11ac(VHT40)				5729.68	4.68

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11ac(VHT80)	UNII 2C	5690	138	5649.52	75.48
	UNII 3	5690	138	5730.32	5.32

Note:

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

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

[Ant.2]

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11a	UNII 2C	5720	144	5710.40	14.60
802.11n(HT20)				5710.08	14.92
802.11ac(VHT20)				5709.96	15.04
802.11a	UNII 3	5720	144	5729.28	4.28
802.11n(HT20)				5729.84	4.84
802.11ac(VHT20)				5729.92	4.92

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11n(HT40)	UNII 2C	5710	142	5690.32	34.68
802.11ac(VHT40)				5690.48	34.52
802.11n(HT40)	UNII 3	5710	142	5729.68	4.68
802.11ac(VHT40)				5729.60	4.60

Mode	Band	Frequency [MHz]	Channel	Measured Frequency [MHz]	26 dB Bandwidth [MHz]
802.11ac(VHT80)	UNII 2C	5690	138	5649.84	75.16
	UNII 3	5690	138	5730.32	5.32

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]

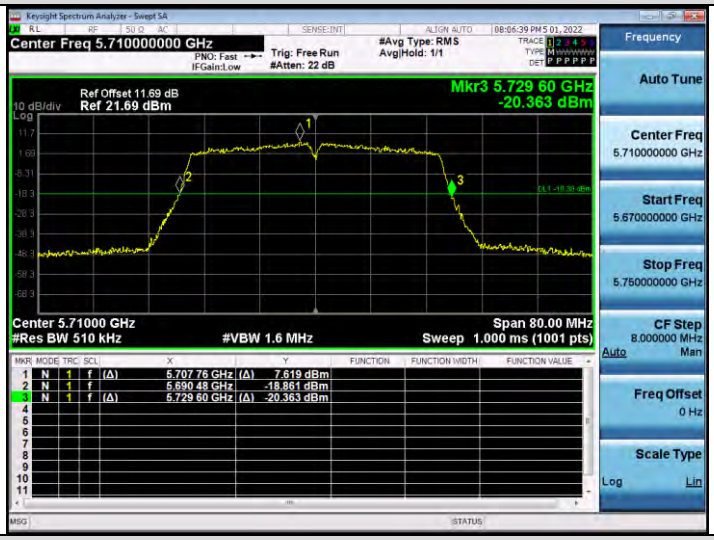
▣ Test Plots (26 dB Bandwidth)

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