HCT CO.,LTD.

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FCC UNII REPORT

Certification

Applicant Name:
HYUNDAI MOBIS CO., LTD.

Address:
203, Teheran-ro, Gangnam-gu, Seoul, 135-977, South Korea

Date of Issue:
November 20, 2018

Test Site/Location:
HCT CO., LTD., 74,Seoicheon-ro 578beon-gil,Majang-myeo,Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

Report No.: HCT-RF-1811-FC013

FCC ID:	**TQ8-ATB40S9AN**
APPLICANT:	**HYUNDAI MOBIS CO., LTD.**

According to the Evaluation report, all of the data contained herein is reused from the reference FCC ID : TQ8-ATC40S9AN report.

Model:	ATB40S9AN
EUT Type:	Car Audio System
Modulation type	OFDM
FCC Classification:	Unlicensed National Information Infrastructure(UNII)
FCC Rule Part(s):	Part 15.407

Band	Mode	Frequency Range (MHz)	Power (dBm)	Power (W)
UNII1	802.11a	5180 – 5240	7.74	0.0059
	802.11n_HT20	5180 – 5240	7.62	0.0058
	802.11n_HT40	5190 - 5230	7.43	0.0055
	802.11ac_VHT20	5180 – 5240	7.58	0.0057
	802.11ac_VHT40	5190 - 5230	7.50	0.0056
	802.11ac_VHT80	5210	6.37	0.0043
UNII2A	802.11a	5260 – 5320	7.86	0.0061
	802.11n_HT20	5260 – 5320	7.70	0.0059
	802.11n_HT40	5270 – 5310	7.59	0.0057
	802.11ac_VHT20	5260 – 5320	7.92	0.0062
	802.11ac_VHT40	5270 – 5310	7.59	0.0057
	802.11ac_VHT80	5290	6.55	0.0045
UNII2C	802.11a	5500 – 5720	7.30	0.0054
	802.11n_HT20	5500 – 5720	7.13	0.0052
	802.11n_HT40	5510 – 5710	6.87	0.0049
	802.11ac_VHT20	5500 – 5720	7.27	0.0053
	802.11ac_VHT40	5510 – 5710	6.97	0.0050
	802.11ac_VHT80	5530 - 5690	6.78	0.0048
UNII3	802.11a	5745 – 5825	5.69	0.0037
	802.11n_HT20	5745 – 5825	5.52	0.0036
	802.11n_HT40	5755 – 5795	5.34	0.0034
	802.11ac_VHT20	5745 – 5825	5.62	0.0036
	802.11ac_VHT40	5755 – 5795	5.40	0.0035
	802.11ac_VHT80	5775	5.46	0.0035

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.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

Report prepared by : Jeong Ho Kim
Engineer of Telecommunication testing center

Approved by : Jong Seok Lee
Manager of Telecommunication testing center

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-1811-FC013	November 20, 2018	- First Approval Report

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1. GENERAL INFORMATION

Applicant:	HYUNDAI MOBIS CO., LTD.
Address:	203, Teheran-ro, Gangnam-gu, Seoul, 135-977, South Korea
FCC ID:	TQ8-ATB40S9AN
EUT Type:	Car Audio System
Model:	ATB40S9AN
Date(s) of Tests:	July 02, 2018 ~ September 10, 2018
Place of Tests:	HCT Co., Ltd. 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea

2. EUT DESCRIPTION

Model	ATB40S9AN	
EUT Type	Car Audio System	
Power Supply	DC 14.40 V	
Frequency Range	20 MHz BW	5180 MHz - 5240 MHz (UNII 1) / 5260 MHz - 5320 MHz (UNII 2A)/ 5500 MHz - 5720 MHz (UNII 2C) / 5745 MHz - 5825 MHz (UNII 3)
	40 MHz BW	5190 MHz - 5230 MHz (UNII 1) / 5270 MHz - 5310 MHz (UNII 2A)/ 5510 MHz - 5710 MHz (UNII 2C) / 5755 MHz - 5795 MHz (UNII 3)
	80 MHz BW	5210 MHz (UNII 1) / 5290 MHz (UNII 2A)/ 5530 MHz – 5690 MHz (UNII 2C) / 5775 MHz (UNII 3)
Modulation Type	OFDM(802.11a, 802.11n, 802.11ac)	
Antenna Specification	Antenna type: Intenna(METAL FRONT JPN) Peak Gain : 3.51 dBi (UNII 1) / 3.12 dBi(UNII 2A) / 2.28 dBi(UNII 2C) / -0.84 dBi(UNII 3)	

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.

3.1 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.

3.2 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.

3.3 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 30MHz 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 1GHz. Above 1GHz with 1.5m 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 3.75 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 8 of ANSI C63.10. (Version: 2013)

Conducted Antenna Terminal

See Section from 8.1 to 8.4.(KDB 789033 D02 v02r01)

3.4 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.

Channel low, mid and high with highest data rate (worst case) is chosen for full testing.

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 equipments, 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, 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 July 07, 2015 (Registration Number: 90661)

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.”

* The antennas of this E.U.T are permanently attached.

* The E.U.T Complies with the requirement of §15.203, §15.407

7. MEASUREMENT UNCERTAINTY

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

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

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

Parameter	Expanded Uncertainty (±dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.82
Radiated Disturbance (9 kHz ~ 30 MHz)	3.40
Radiated Disturbance (30 MHz ~ 1 GHz)	4.80
Radiated Disturbance (1 GHz ~ 18 GHz)	5.70
Radiated Disturbance (18 GHz ~ 40 GHz)	5.71

8. SUMMARY OF TEST RESULTS

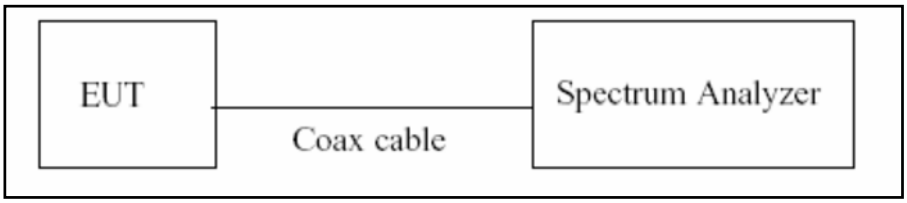
Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
26dB Bandwidth	§15.407 (for Power Measurement)	N/A	CONDUCTED	PASS
6 dB Bandwidth	§15.407(e)	>500 kHz (5725-5850 MHz)		PASS
Maximum Conducted Output Power	§15.407(a)(1)	< 250 mW (5150-5250 MHz) < 250 mW or 11+10 log log $_{10}$ (BW) dBm (5250-5350 MHz) < 250 mW or 11+10 log log $_{10}$ (BW) dBm (5470-5725 MHz) <1 W (5725-5850 MHz)		PASS
Peak Power Spectral Density	§15.407(a)(1),(5)	<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	NA		PASS
AC Conducted Emissions 150 kHz-30 MHz	15.207	<FCC 15.207 limits		PASS
Undesirable Emissions	§15.407(b)	<-27 dBm/MHz EIRP (UNII1, 2A, 2C) cf. Section 9.6.1 (UNII 3)	RADIATED	PASS
General Field Strength Limits(Restricted Bands and Radiated Emission Limits)	15.205, 15.407(b)(5), (6)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		PASS

9. TEST RESULT

9.1 DUTY CYCLE

The zero-span mode on a spectrum analyzer or EMI receiver ,if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set RBW ≥ EBW if possible; otherwise, set RBW to the largest available value. Set VBW ≥ RBW. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/*T*, where *T* is defined in section B)1)a), and the number of sweep points across duration *T* exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if *T* ≤ 16.7 microseconds.)

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

The transmitter output is connected to the Spectrum Analyzer. We tested according to the zero-span measurement method, (B.2 in KDB 789033 D02 v02r01)
The largest available value of RBW is 8 MHz and VBW is 50 MHz. The zero-span method of measuring duty cycle shall not be used if T ≤ 6.25 microseconds. (50/6.25 = 8)
The zero-span method was used becaure all measured T data are > 6.25 microseconds and both RBW and VBW are > 50/*T*.

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 = 10*log(1/Duty Cycle)

[Note]
We have specified the duty cycle for two cases. The reason is that the duty cycle factors are different for each channel.

▣ Duty Cycle Factor

Mode	Data Rate (Mbps)	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11a	6	1.429	1.530	0.93386788	0.297
	9	0.959	1.060	0.90448312	0.436
	12	0.723	0.825	0.87719258	0.569
	18	0.493	0.594	0.82944391	0.812
	24	0.372	0.474	0.78603674	1.046
	36	0.257	0.358	0.71721338	1.444
	48	0.196	0.298	0.65919209	1.810
	54	0.180	0.282	0.63980967	1.939
Mode	**MCS INDEX**	**T_{on} (ms)**	**T_{total} (ms)**	**Duty Cycle**	**Duty Cycle Factor (dB)**
802.11n_HT20	0	1.336	1.436	0.93014204	0.315
	1	0.688	0.788	0.87315005	0.589
	2	0.471	0.572	0.82376344	0.842
	3	0.364	0.465	0.78233423	1.066
	4	0.256	0.357	0.71663218	1.447
	5	0.200	0.301	0.66423358	1.777
	6	0.184	0.285	0.64524463	1.903
	7	0.168	0.269	0.62410023	2.047
802.11n_HT40	0	0.665	0.763	0.87142857	0.598
	1	0.352	0.453	0.77704194	1.096
	2	0.248	0.349	0.71060172	1.484
	3	0.196	0.297	0.65993266	1.805
	4	0.147	0.245	0.60000000	2.218
	5	0.116	0.217	0.53456221	2.720
	6	0.107	0.208	0.51442308	2.887
	7	0.098	0.199	0.49246231	3.076

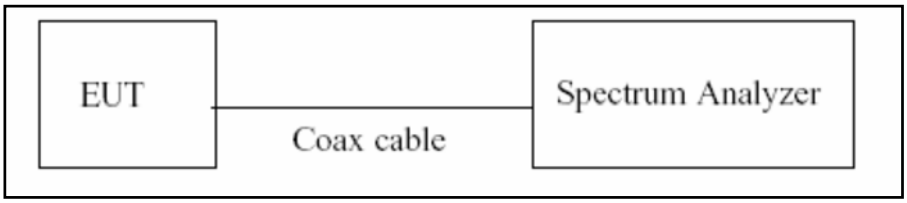
Mode	MCS INDEX	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11ac_VHT20	MCS 0	1.342	1.443	0.93000693	0.315
	MCS 1	0.692	0.793	0.87263556	0.592
	MCS 2	0.474	0.575	0.82434783	0.839
	MCS 3	0.368	0.469	0.78464819	1.053
	MCS 4	0.260	0.361	0.72022161	1.425
	MCS 5	0.205	0.306	0.66993464	1.740
	MCS 6	0.190	0.291	0.65292096	1.851
	MCS 7	0.171	0.272	0.62867647	2.016
	MCS 8	0.153	0.254	0.60236220	2.201
802.11ac_ VHT40	MCS 0	0.668	0.769	0.86866060	0.611
	MCS 1	0.358	0.456	0.78508772	1.051
	MCS 2	0.251	0.352	0.71306818	1.469
	MCS 3	0.199	0.300	0.66333333	1.783
	MCS 4	0.147	0.248	0.59274194	2.271
	MCS 5	0.119	0.220	0.54090909	2.669
	MCS 6	0.113	0.214	0.52803738	2.773
	MCS 7	0.107	0.205	0.52195122	2.824
	MCS 8	0.095	0.196	0.48469388	3.145
	MCS 9	0.085	0.187	0.45454545	3.424
802.11ac_ VHT80	MCS 0	0.334	0.438	0.76255708	1.177
	MCS 1	0.190	0.291	0.65292096	1.851
	MCS 2	0.141	0.239	0.58995816	2.292
	MCS 3	0.116	0.217	0.53456221	2.720
	MCS 4	0.095	0.193	0.49222798	3.078
	MCS 5	0.082	0.180	0.45555556	3.415
	MCS 6	0.076	0.177	0.42937853	3.672
	MCS 7	0.073	0.174	0.41954023	3.772
	MCS 8	0.070	0.168	0.41666667	3.802
	MCS 9	0.064	0.165	0.38787879	4.113

9.2 EMISSION BANDWIDTH AND MINIMUM EMISSION BANDWIDTH MEASUREMENT

The bandwidth at 26 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum power control level, as defined in KDB 789033 D02 v02r01, at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26 dB bandwidth.

The 26 dB bandwidth is used to determine the conducted power limits.

▣ TEST CONFIGURATION



▣ TEST PROCEDURE (26dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.
The Spectrum Analyzer is set to(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 %.

Note : We tested 26 dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer. X dB is set 26 dB.

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

▣ TEST PROCEDURE (for the band 5.725-5.85 GHz, 6 dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to(C.2 in KDB 789033 D02 v02r01)

1. RBW = 100 kHz
2. VBW ≥ 3*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 : We tested 6 dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer. X dB is set 6 dB.

▣ TEST RESULTS for 802.11a

Conducted 26 dB Bandwidth Measurements for 802.11a

802.11a Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5180	36	21.09	N/A	Pass
5200	40	21.07	N/A	Pass
5240	48	21.13	N/A	Pass

Conducted 26 dB Bandwidth Measurements for 802.11a

802.11a Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5260	52	21.04	N/A	Pass
5300	60	21.02	N/A	Pass
5320	64	21.04	N/A	Pass

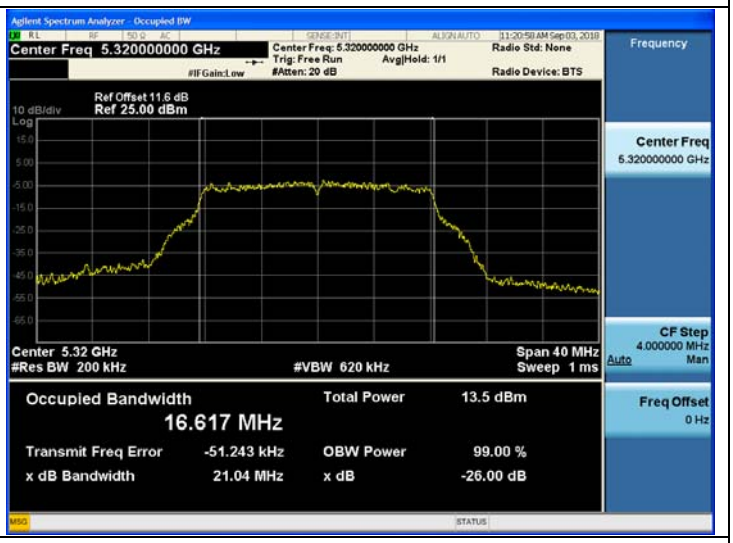
Conducted 26 dB Bandwidth Measurements for 802.11a

802.11a Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5500	100	21.40	N/A	Pass
5580	116	21.03	N/A	Pass
5720	144	20.80	N/A	Pass

Conducted 26 dB Bandwidth Measurements for 802.11a

802.11a Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	21.09	N/A	Pass
5785	157	21.13	N/A	Pass
5825	165	21.12	N/A	Pass

▣ TEST Plot for 802.11a

802.11a UNII 1 BAND 26dB Bandwidth (CH 48)	802.11a UNII 2A BAND 26dB Bandwidth (CH 64)
	
802.11a UNII 2C BAND 26dB Bandwidth (CH 100)	**802.11a UNII 3 BAND 26dB Bandwidth (CH 157)**
	

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

▣ TEST RESULTS for 802.11n_HT20

Conducted 26 dB Bandwidth Measurements for 802.11n_HT20

802.11n_HT20 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5180	36	21.31	N/A	Pass
5200	40	21.56	N/A	Pass
5240	48	21.41	N/A	Pass

Conducted 26 dB Bandwidth Measurements for 802.11n_HT20

802.11n_HT20 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5260	52	21.36	N/A	Pass
5300	60	21.57	N/A	Pass
5320	64	21.42	N/A	Pass

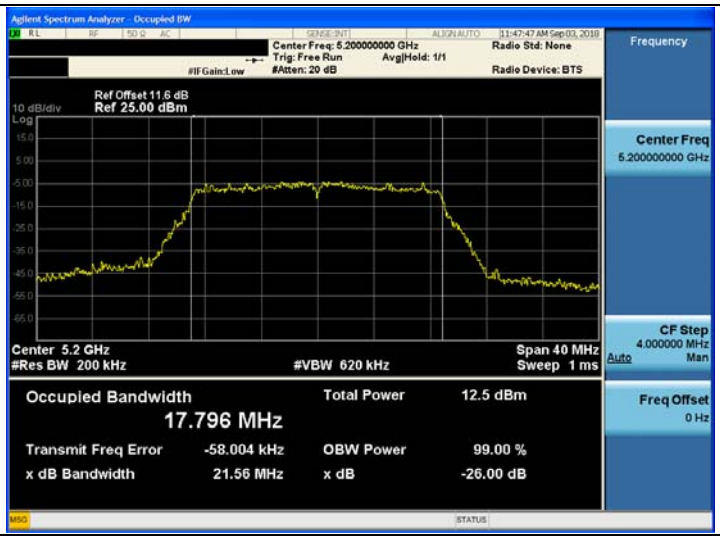
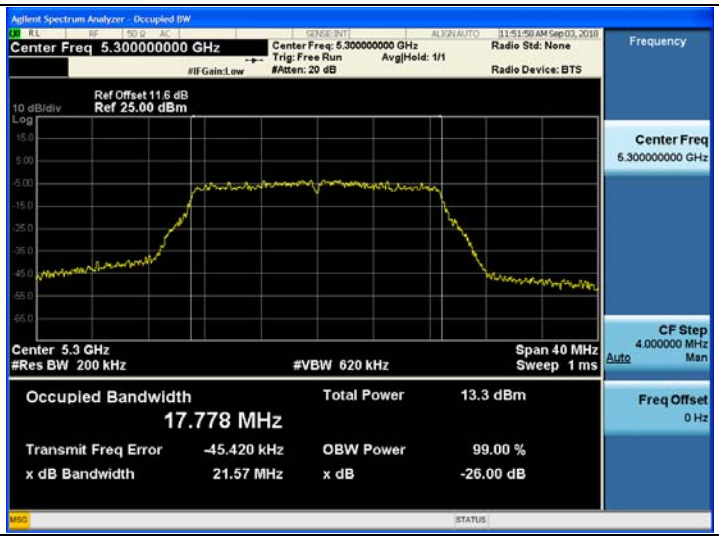
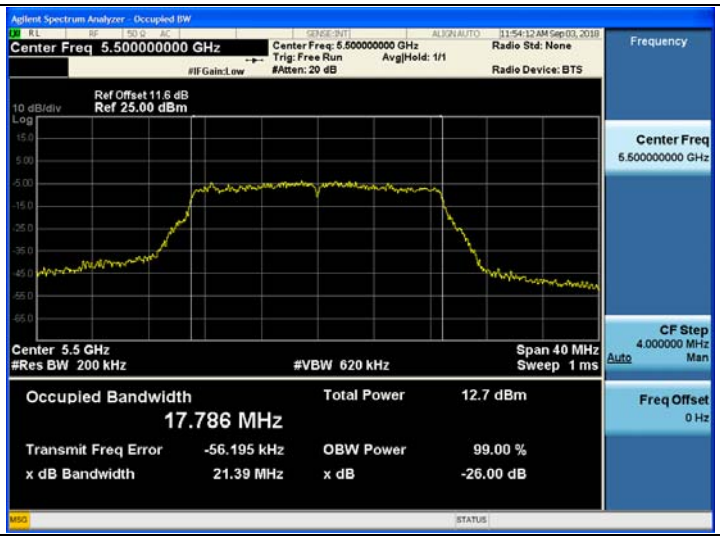
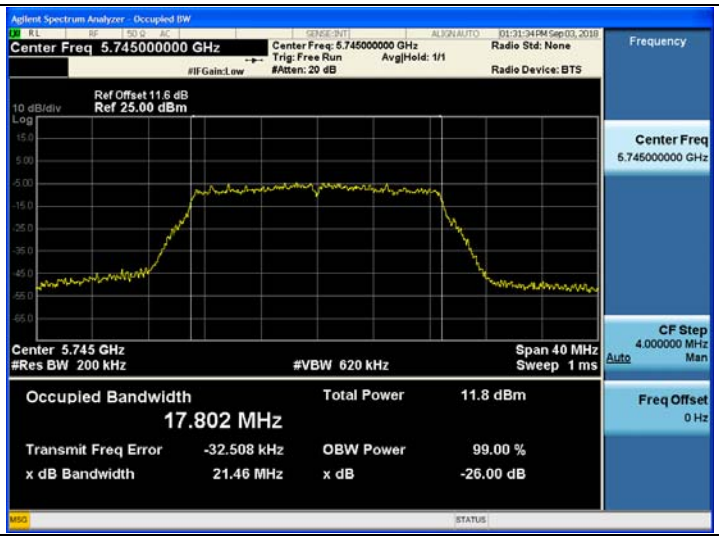
Conducted 26 dB Bandwidth Measurements for 802.11n_HT20

802.11n_HT20 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5500	100	21.39	N/A	Pass
5580	116	21.36	N/A	Pass
5720	144	21.23	N/A	Pass

Conducted 26 dB Bandwidth Measurements for 802.11n_HT20

802.11n_HT20 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	21.46	N/A	Pass
5785	157	21.29	N/A	Pass
5825	165	21.08	N/A	Pass

▣ TEST Plot for 802.11n_HT20

802.11n_HT20 UNII 1 BAND 26dB Bandwidth(CH 40)	802.11n_HT20 UNII 2A BAND 26dB Bandwidth(CH 60)
	
802.11n_HT20 UNII 2C BAND 26dB Bandwidth(CH 100)	**802.11n_HT20 UNII 3 BAND 26dB Bandwidth(CH 149)**
	

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

▣ TEST RESULTS for 802.11ac_VHT20

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT20

802.11ac_VHT20 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5180	36	21.35	N/A	Pass
5200	40	21.20	N/A	Pass
5240	48	21.34	N/A	Pass

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT20

802.11ac_VHT20 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5260	52	21.03	N/A	Pass
5300	60	21.32	N/A	Pass
5320	64	21.52	N/A	Pass

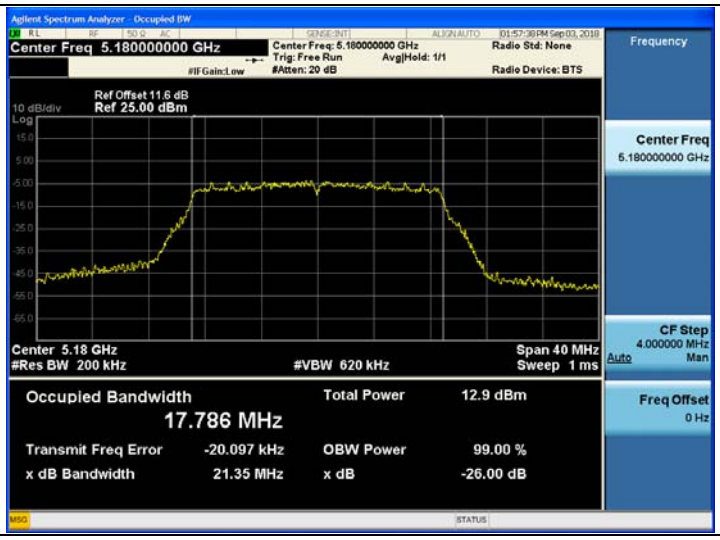
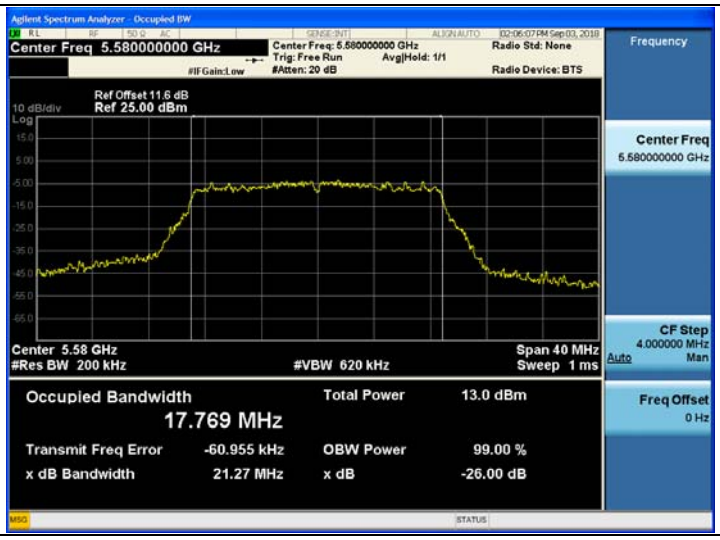
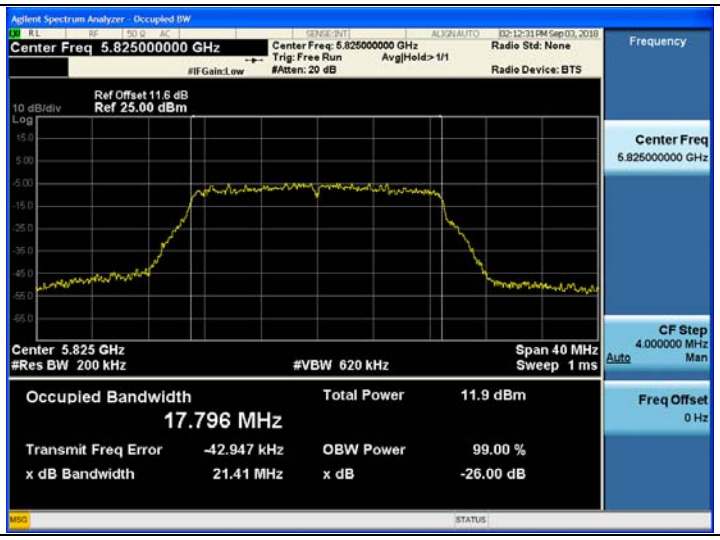
Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT20

802.11ac_VHT20 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5500	100	21.23	N/A	Pass
5580	116	21.27	N/A	Pass
5720	144	21.12	N/A	Pass

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT20

802.11ac_VHT20 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	21.09	N/A	Pass
5785	157	21.07	N/A	Pass
5825	165	21.41	N/A	Pass

▣ TEST Plot for 802.11ac_VHT20

802.11ac_VHT20 UNII 1 BAND 26dB Bandwidth(CH 36)	802.11ac_VHT20 UNII 2A BAND 26dB Bandwidth(CH 64)
	
802.11ac_VHT20 UNII 2C BAND 26dB Bandwidth(CH 116)	**802.11ac_VHT20 UNII 3 BAND 26dB Bandwidth(CH 165)**
	

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

▣ TEST RESULTS for 802.11n_HT40

Conducted 26 dB Bandwidth Measurements for 802.11n_HT40

802.11n_HT40 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5190	38	39.73	N/A	Pass
5230	46	39.54	N/A	Pass

Conducted 26 dB Bandwidth Measurements for 802.11n_HT40

802.11n_HT40 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5270	54	39.40	N/A	Pass
5310	62	39.68	N/A	Pass

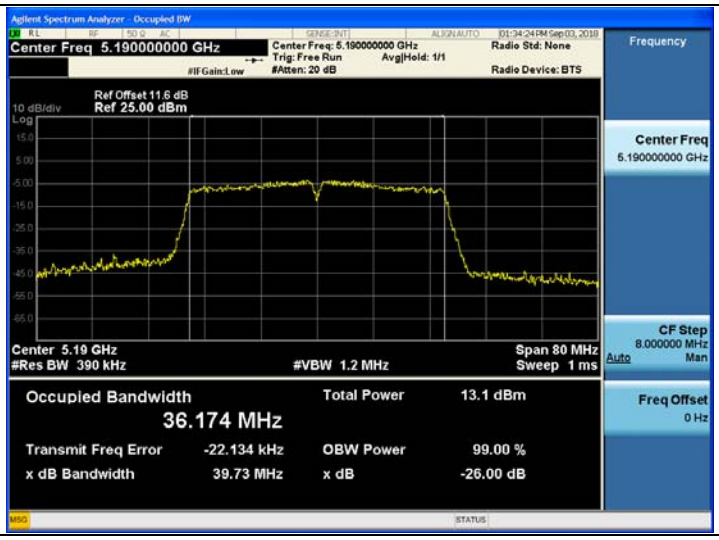
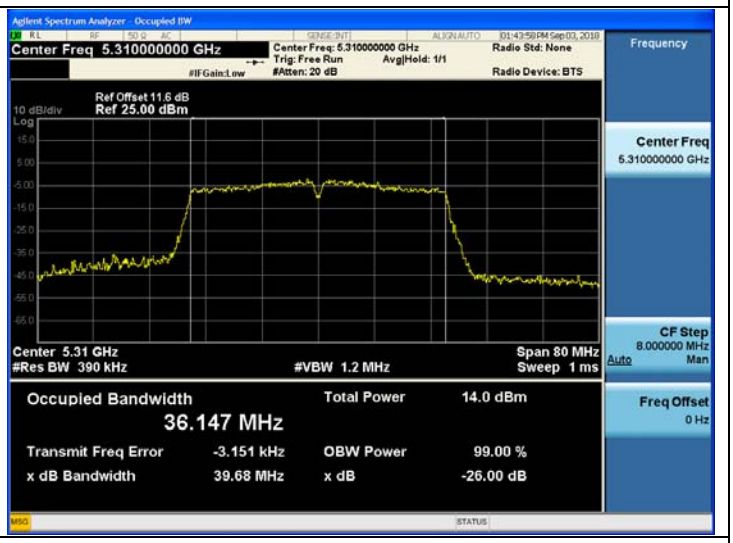
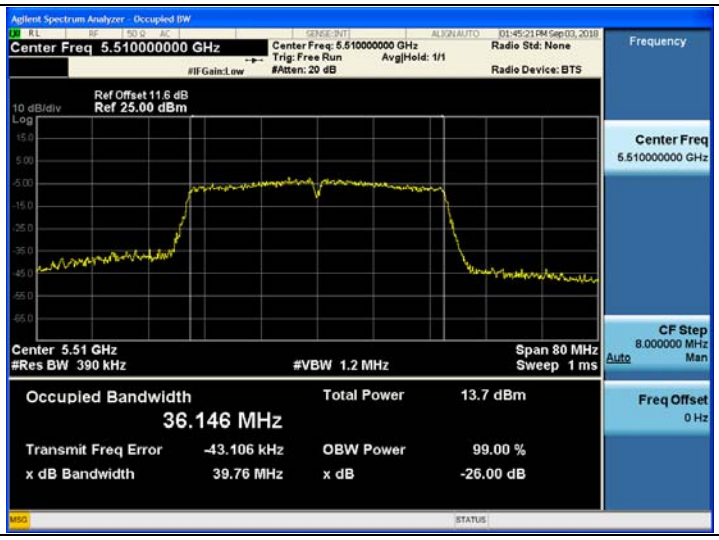
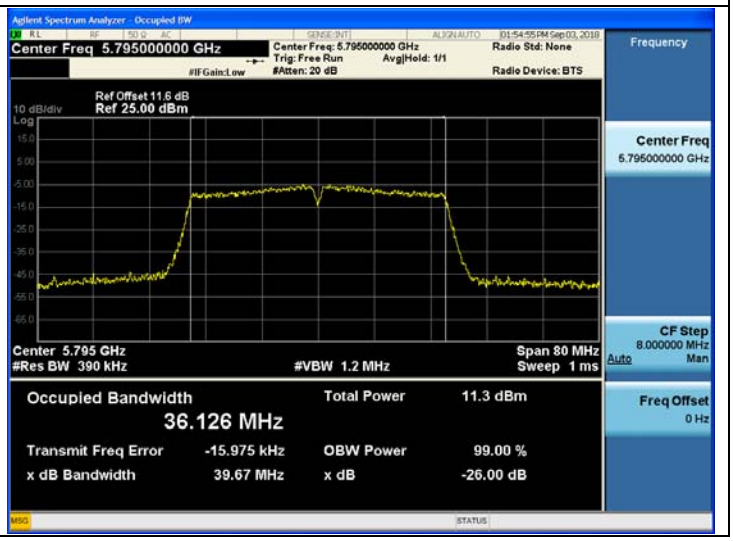
Conducted 26 dB Bandwidth Measurements for 802.11n_HT40

802.11n_HT40 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5510	102	39.76	N/A	Pass
5550	110	39.53	N/A	Pass
5710	142	39.15	N/A	Pass

Conducted 26 dB Bandwidth Measurements for 802.11n_HT40

802.11n_HT40 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	39.59	N/A	Pass
5795	159	39.67	N/A	Pass

▣ TEST Plot for 802.11n_HT40

802.11n_HT40 UNII 1 BAND 26dB Bandwidth(CH 38)	802.11n_HT40 UNII 2A BAND 26dB Bandwidth (CH 62)
	
802.11n_HT40 UNII 2C BAND 26dB Bandwidth(CH 102)	**802.11n_HT40 UNII 3 BAND 26dB Bandwidth (CH 159)**
	

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

▣ TEST RESULTS for 802.11ac_VHT40

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT40

802.11ac_VHT40 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5190	38	39.69	N/A	Pass
5230	46	39.11	N/A	Pass

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT40

802.11ac_VHT40 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5270	54	39.60	N/A	Pass
5310	62	39.69	N/A	Pass

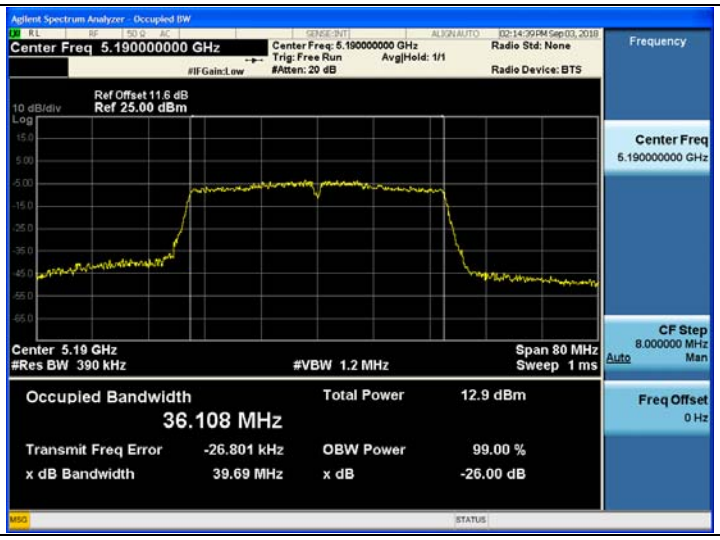
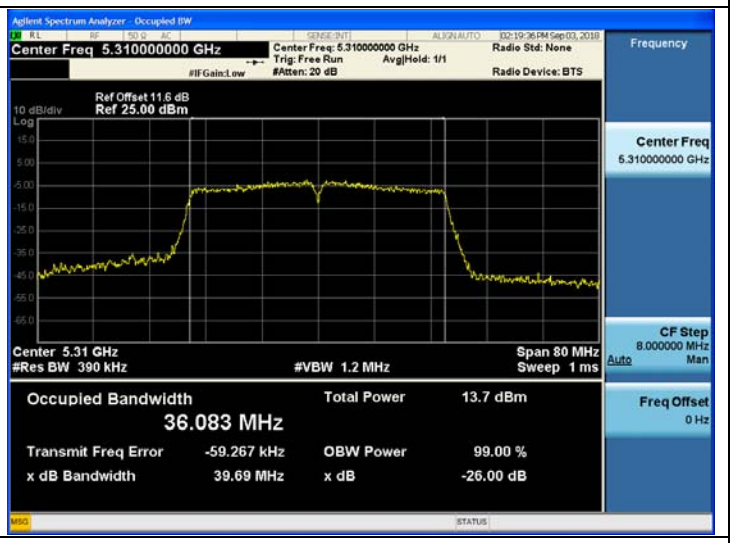
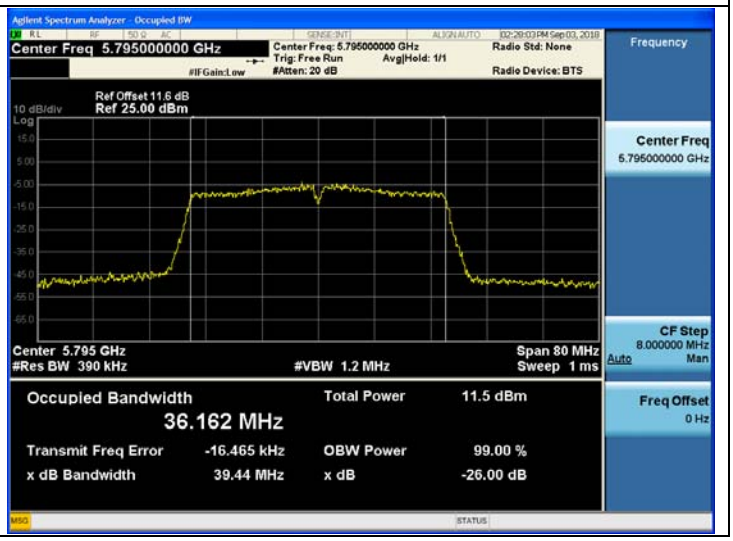
Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT40

802.11ac_VHT40 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5510	102	39.38	N/A	Pass
5550	110	39.37	N/A	Pass
5710	142	39.24	N/A	Pass

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT40

802.11ac_VHT40 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	39.34	N/A	Pass
5795	159	39.44	N/A	Pass

▣ TEST Plot for 802.11ac_VHT40

802.11ac_VHT40 UNII 1 BAND 26dB Bandwidth(CH 38)	802.11ac_VHT40 UNII 2A BAND 26dB Bandwidth (CH 62)
	
802.11ac_VHT40 UNII 2C BAND 26dB Bandwidth(CH 102)	**802.11ac_VHT40 UNII 3 BAND 26dB Bandwidth (CH 159)**
	

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

▣ TEST RESULTS for 802.11ac_VHT80

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT80

802.11ac_VHT80 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5210	42	80.85	N/A	Pass

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT80

802.11ac_VHT80 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5290	58	80.74	N/A	Pass

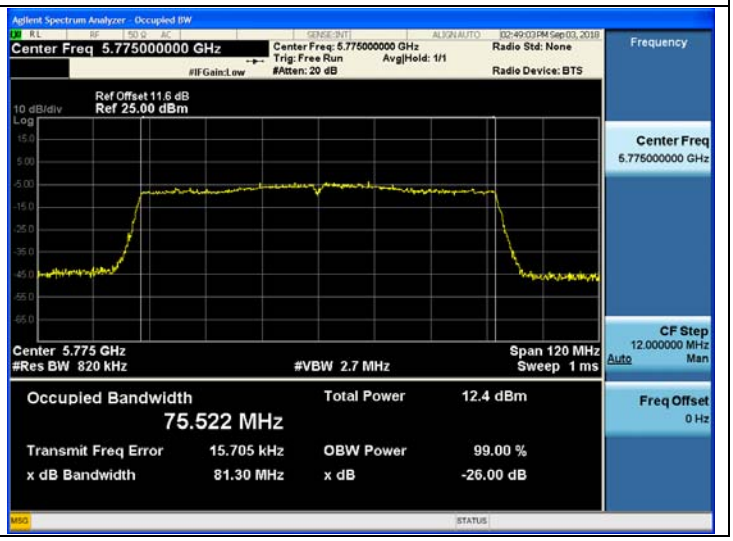
Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT80

802.11ac_VHT80 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5530	106	81.25	N/A	Pass
5690	138	80.69	N/A	Pass

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT80

802.11ac_VHT80 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5775	155	81.30	N/A	Pass

▣ TEST Plot for 802.11ac_VHT80

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

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

Conducted 6 dB Bandwidth

▣ TEST RESULTS for 802.11a/n_HT20/ac_VHT20

Conducted 6 dB Bandwidth Measurements for 802.11a

802.11a Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	16.36	0.5	Pass
5785	157	16.34	0.5	Pass
5825	165	16.29	0.5	Pass

Conducted 6 dB Bandwidth Measurements for 802.11n_HT20

802.11n_HT20 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	17.63	0.5	Pass
5785	157	17.22	0.5	Pass
5825	165	17.33	0.5	Pass

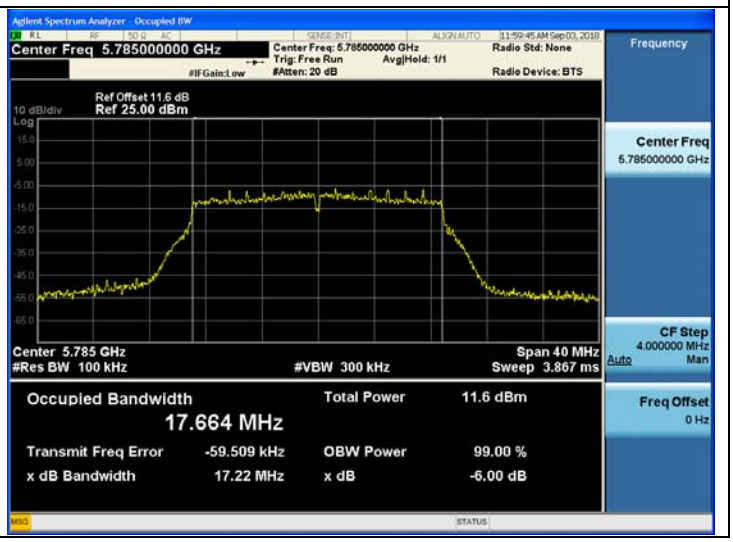
Conducted 6 dB Bandwidth Measurements for 802.11ac_VHT20

802.11ac_VHT20 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	17.61	0.5	Pass
5785	157	17.53	0.5	Pass
5825	165	17.59	0.5	Pass

▣ TEST PlotS for 802.11a/n_HT20/ac_VHT20

802.11a UNII 3 BAND 6dB Bandwidth (CH.165)

802.11n_HT20 UNII 3 BAND 6dB Bandwidth(CH.157)



802.11ac_VHT20 UNII 3 BAND 6dB Bandwidth(CH.157)

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

▣ TEST RESULTS for 802.11n_HT40/ac_VHT40

Conducted 6 dB Bandwidth Measurements for 802.11n_HT40

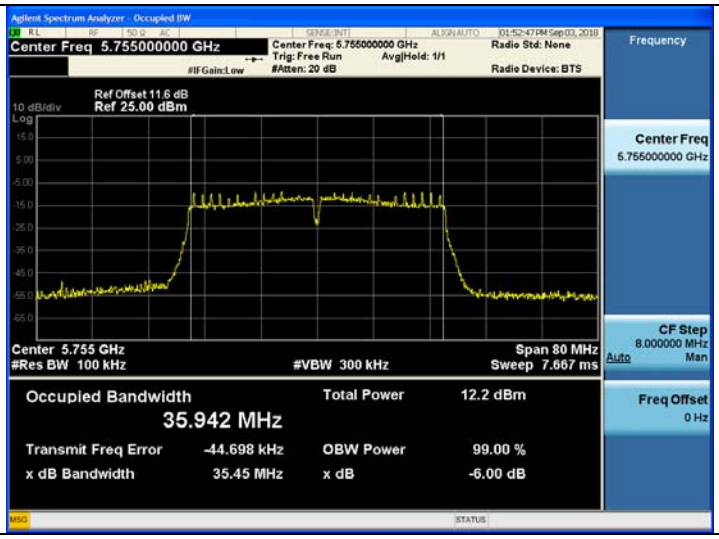
802.11n_HT40 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	35.45	0.5	Pass
5795	159	35.47	0.5	Pass

Conducted 6 dB Bandwidth Measurements for 802.11ac_VHT40

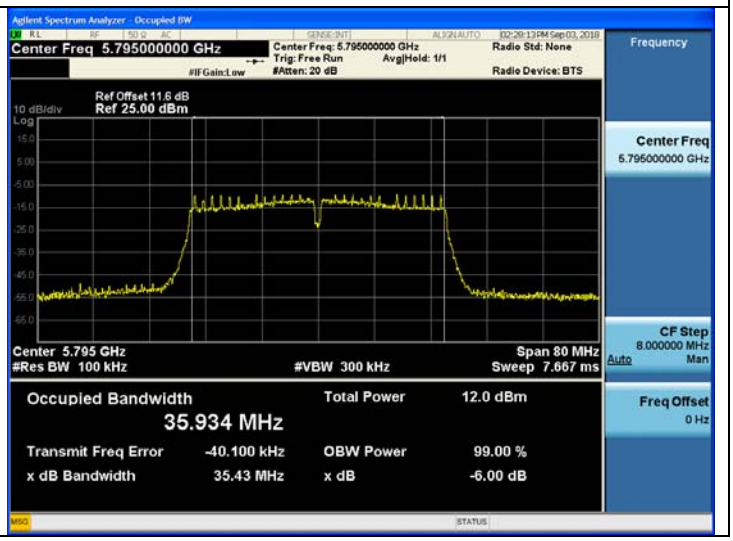
802.11ac_VHT40 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	35.70	0.5	Pass
5795	159	35.43	0.5	Pass

▣ TEST Plots for 802.11n_HT40/ac_VHT40

802.11n_40 MHz UNII 3 BAND 6dB Bandwidth (CH.151)



802.11ac_VHT40 UNII 3 BAND 6dB Bandwidth(CH.159)



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

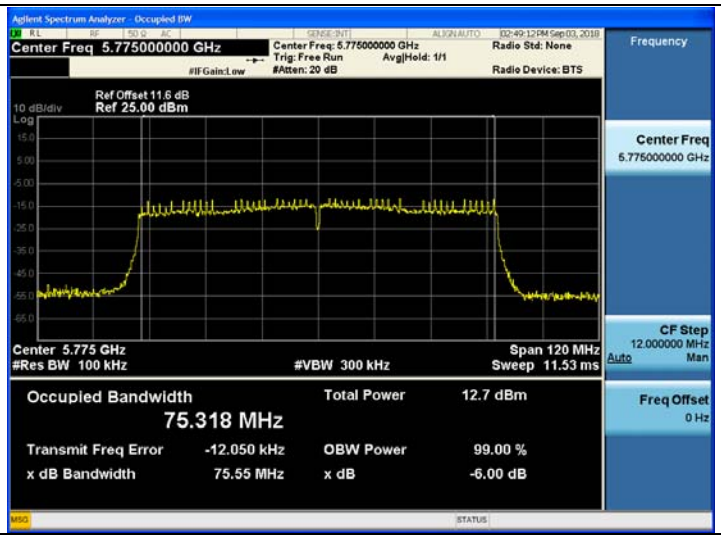
▣ TEST RESULTS for 802.11ac_VHT80

Conducted 6 dB Bandwidth Measurements for 802.11ac_VHT80

802.11ac_VHT80 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5775	155	75.55	0.5	Pass

▣ TEST Plots for 802.11ac_VHT80

802.11ac_VHT80 UNII 3 BAND 6dB Bandwidth(CH.155)



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

▣ Straddle channels TEST RESULTS

Conducted Bandwidth Measurements for 802.11a/n_HT20/ac_VHT20 (UNII 2C Band)

Mode	Frequency [MHz]	Channel No.	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
802.11a	5720	144	15.44	N/A	Pass
802.11n			15.56	N/A	Pass
802.11ac			15.64	N/A	Pass

Conducted Bandwidth Measurements for 802.11a/n_HT20/ac_VHT20 (UNII 3 Band)

Mode	Frequency [MHz]	Channel No.	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
802.11a	5720	144	5.44	N/A	Pass
802.11n			5.72	N/A	Pass
802.11ac			5.64	N/A	Pass

▣ Straddle channels TEST Plot for 802.11a/n_HT20/ac_VHT20

802.11a CH.144 Bandwidth	802.11n_HT20 CH.144 Bandwidth
	

802.11ac_VHT20 CH.144 Bandwidth


▣ Straddle channels TEST RESULTSConducted Bandwidth Measurements for 802.11n_HT40/ac_VHT40 (UNII 2C Band)

Mode	Frequency [MHz]	Channel No.	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
802.11n	5710	142	34.60	N/A	Pass
802.11ac			34.69	N/A	Pass

Conducted Bandwidth Measurements for 802.11n_HT40/ac_VHT40 (UNII 3 Band)

Mode	Frequency [MHz]	Channel No.	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
802.11n	5710	142	4.60	N/A	Pass
802.11ac			4.76	N/A	Pass

▣ Straddle channels TEST Plot for 802.11n_HT40/ac_VHT40

802.11n_HT40 CH.142 Bandwidth	802.11ac_VHT40 CH.142 Bandwidth
	

▣ Straddle channels TEST RESULTS

Conducted Bandwidth Measurements for 802.11ac_VHT80 (UNII 2C Band)

Mode	Frequency [MHz]	Channel No.	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
802.11ac	5690	138	75.20	N/A	Pass

Conducted Bandwidth Measurements for 802.11ac_VHT80 (UNII 3 Band)

Mode	Frequency [MHz]	Channel No.	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
802.11ac	5690	138	5.32	N/A	Pass

▣ Straddle channels TEST Plot for 802.11ac_VHT80

802.11ac_VHT80 CH.138 Bandwidth

9.3 OUTPUT POWER MEASUREMENT

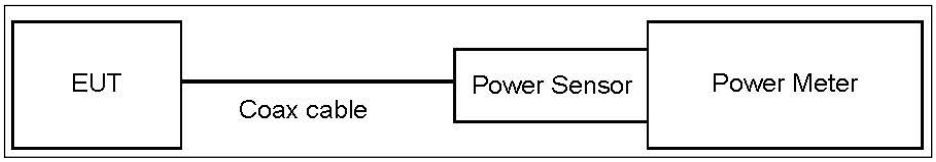
Test Requirements and limit, §15.407(a)(1)

A transmitter antenna terminal of EUT is connected to the input of a Power meter or Spectrum Analyzer .Measurement is made while the EUT is operating in transmission mode at the appropriate frequencies.

▣ Limit

Band	Mode	Limit (dBm)
UNII 1, 2A, 2C	802.11a,n	23.98
UNII 3	802.11a,n	30.00

▣ TEST CONFIGURATION(20 MHz BW)



▣ TEST PROCEDURE(20 MHz BW)

▪ Average Power (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.

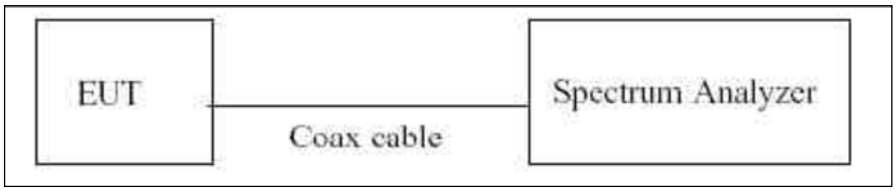
Note :

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

Band	Loss(dB)
UNII 1, 2A, 2C, 3	11.1

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

▣ TEST CONFIGURATION(40 MHz BW & 80 MHz BW)



▣ TEST PROCEDURE(40 MHz BW & 80 MHz BW)

▪ Average Power

The transmitter output is connected to the Spectrum Analyzer. We use the spectrum analyzer's integrated band power measurement function. We tested according to Method SA-2 in KDB 789033 D02 v02r01.

The Spectrum Analyzer is set to

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*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 (Conducted)

Output Power = Reading Value + ATT loss + Cable loss(1 ea) + Duty Cycle Factor

Note: 1. Spectrum reading values are not plot data. The power results in plot is already including the actual values of loss for the attenuator and cable combination.

2. Spectrum offset = Attenuator loss + Cable loss

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

Band	Loss(dB)
UNII 1, 2A, 2C, 3	11.1

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

802.11a (UNII 1)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5180~5240)

802.11a(20MHz) Mode		Rate (Mbps)	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5180	36	6	7.06	0.30	7.36	23.98
		9	7.07	0.44	7.50	23.98
		12	6.97	0.57	7.54	23.98
		18	6.31	0.81	7.12	23.98
		24	6.01	1.05	7.06	23.98
		36	5.70	1.44	7.14	23.98
		48	5.32	1.81	7.13	23.98
		54	5.16	1.94	7.10	23.98
5200	40	6	7.26	0.30	7.56	23.98
		9	7.03	0.44	7.47	23.98
		12	6.97	0.57	7.54	23.98
		18	6.39	0.81	7.20	23.98
		24	6.08	1.05	7.12	23.98
		36	5.69	1.44	7.13	23.98
		48	5.48	1.81	7.29	23.98
		54	5.31	1.94	7.25	23.98
5240	48	6	7.40	0.30	7.70	23.98
		9	7.31	0.44	7.74	23.98
		12	7.09	0.57	7.66	23.98
		18	6.46	0.81	7.28	23.98
		24	6.28	1.05	7.33	23.98
		36	5.67	1.44	7.11	23.98
		48	5.68	1.81	7.49	23.98
		54	5.41	1.94	7.35	23.98

802.11a (UNII 2A)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5260~5320)

802.11a Mode		Rate (Mbps)	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5260	52	6	7.51	0.30	7.80	23.98
		9	7.35	0.44	7.79	23.98
		12	7.17	0.57	7.74	23.98
		18	6.64	0.81	7.45	23.98
		24	6.34	1.05	7.39	23.98
		36	5.98	1.44	7.43	23.98
		48	5.69	1.81	7.50	23.98
		54	5.51	1.94	7.44	23.98
5300	60	6	7.49	0.30	7.79	23.98
		9	7.32	0.44	7.76	23.98
		12	7.23	0.57	7.80	23.98
		18	6.70	0.81	7.51	23.98
		24	6.30	1.05	7.35	23.98
		36	5.90	1.44	7.35	23.98
		48	5.71	1.81	7.52	23.98
		54	5.55	1.94	7.49	23.98
5320	64	6	7.49	0.30	7.79	23.98
		9	7.42	0.44	7.86	23.98
		12	7.19	0.57	7.76	23.98
		18	6.60	0.81	7.41	23.98
		24	6.37	1.05	7.42	23.98
		36	6.01	1.44	7.46	23.98
		48	5.89	1.81	7.70	23.98
		54	5.48	1.94	7.42	23.98

802.11a (UNII 2C)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5500~5720)

802.11a Mode		Rate (Mbps)	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5500	100	6	7.00	0.30	7.29	23.98
		9	6.87	0.44	7.30	23.98
		12	6.70	0.57	7.27	23.98
		18	6.05	0.81	6.86	23.98
		24	5.80	1.05	6.84	23.98
		36	5.41	1.44	6.86	23.98
		48	5.27	1.81	7.08	23.98
		54	4.85	1.94	6.79	23.98
5580	116	6	6.45	0.30	6.75	23.98
		9	6.35	0.44	6.78	23.98
		12	6.20	0.57	6.77	23.98
		18	5.74	0.81	6.55	23.98
		24	5.41	1.05	6.46	23.98
		36	4.88	1.44	6.32	23.98
		48	4.68	1.81	6.49	23.98
		54	4.49	1.94	6.42	23.98
5720	144	6	5.58	0.30	5.87	23.98
		9	5.46	0.44	5.90	23.98
		12	5.16	0.57	5.73	23.98
		18	4.63	0.81	5.45	23.98
		24	4.30	1.05	5.34	23.98
		36	4.16	1.44	5.60	23.98
		48	3.93	1.81	5.74	23.98
		54	3.70	1.94	5.64	23.98

802.11a (UNII 3)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5745~5825)

802.11a (20MHz) Mode		Rate (Mbps)	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5745	149	6	5.33	0.30	5.62	30
		9	5.25	0.44	5.69	30
		12	5.06	0.57	5.63	30
		18	4.52	0.81	5.33	30
		24	4.17	1.05	5.21	30
		36	3.94	1.44	5.38	30
		48	3.47	1.81	5.28	30
		54	3.48	1.94	5.42	30
5785	157	6	5.20	0.30	5.50	30
		9	5.08	0.44	5.52	30
		12	4.94	0.57	5.51	30
		18	4.42	0.81	5.23	30
		24	4.24	1.05	5.29	30
		36	3.84	1.44	5.29	30
		48	3.63	1.81	5.44	30
		54	3.31	1.94	5.25	30
5825	165	6	5.25	0.30	5.54	30
		9	5.04	0.44	5.48	30
		12	4.88	0.57	5.44	30
		18	4.37	0.81	5.18	30
		24	4.08	1.05	5.13	30
		36	3.81	1.44	5.25	30
		48	3.55	1.81	5.36	30
		54	3.29	1.94	5.23	30

802.11n _HT20 (UNII 1)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5180~5240)

802.11n_HT20 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5180	36	0	7.31	0.31	7.62	23.98
		1	6.94	0.59	7.53	23.98
		2	6.71	0.84	7.55	23.98
		3	6.27	1.07	7.33	23.98
		4	5.90	1.45	7.34	23.98
		5	5.65	1.78	7.43	23.98
		6	5.53	1.90	7.44	23.98
		7	5.38	2.05	7.42	23.98
5200	40	0	7.02	0.31	7.34	23.98
		1	6.94	0.59	7.53	23.98
		2	6.54	0.84	7.38	23.98
		3	6.13	1.07	7.19	23.98
		4	5.79	1.45	7.24	23.98
		5	5.40	1.78	7.18	23.98
		6	5.28	1.90	7.19	23.98
		7	5.09	2.05	7.14	23.98
5240	48	0	7.30	0.31	7.61	23.98
		1	6.92	0.59	7.51	23.98
		2	6.66	0.84	7.51	23.98
		3	6.23	1.07	7.30	23.98
		4	5.87	1.45	7.31	23.98
		5	5.45	1.78	7.23	23.98
		6	5.47	1.90	7.38	23.98
		7	5.17	2.05	7.22	23.98

802.11n_HT20 (UNII 2A)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5260~5320)

802.11n_HT20 Mode		Rate (Mbps)	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5260	52	0	7.37	0.31	7.68	23.98
		1	7.00	0.59	7.59	23.98
		2	6.75	0.84	7.59	23.98
		3	6.30	1.07	7.36	23.98
		4	5.92	1.45	7.37	23.98
		5	5.58	1.78	7.36	23.98
		6	5.52	1.90	7.42	23.98
		7	5.45	2.05	7.50	23.98
5300	60	0	7.32	0.31	7.64	23.98
		1	6.99	0.59	7.58	23.98
		2	6.74	0.84	7.58	23.98
		3	6.40	1.07	7.46	23.98
		4	5.93	1.45	7.38	23.98
		5	5.74	1.78	7.52	23.98
		6	5.55	1.90	7.45	23.98
		7	5.45	2.05	7.49	23.98
5320	64	0	7.37	0.31	7.69	23.98
		1	7.11	0.59	7.70	23.98
		2	6.81	0.84	7.65	23.98
		3	6.39	1.07	7.45	23.98
		4	6.01	1.45	7.46	23.98
		5	5.79	1.78	7.56	23.98
		6	5.62	1.90	7.52	23.98
		7	5.36	2.05	7.41	23.98

802.11n_HT20 (UNII 2C)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5500~5720)

802.11n_HT20 Mode		Rate (Mbps)	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5500	100	0	6.67	0.31	6.99	23.98
		1	6.54	0.59	7.13	23.98
		2	6.15	0.84	6.99	23.98
		3	5.83	1.07	6.89	23.98
		4	5.41	1.45	6.85	23.98
		5	5.11	1.78	6.88	23.98
		6	4.95	1.90	6.85	23.98
		7	4.84	2.05	6.88	23.98
5580	116	0	6.30	0.31	6.62	23.98
		1	6.05	0.59	6.64	23.98
		2	5.88	0.84	6.72	23.98
		3	5.44	1.07	6.51	23.98
		4	5.01	1.45	6.46	23.98
		5	4.61	1.78	6.38	23.98
		6	4.60	1.90	6.50	23.98
		7	4.44	2.05	6.49	23.98
5720	144	0	5.55	0.31	5.87	23.98
		1	5.27	0.59	5.86	23.98
		2	4.97	0.84	5.81	23.98
		3	4.36	1.07	5.43	23.98
		4	4.14	1.45	5.59	23.98
		5	3.78	1.78	5.56	23.98
		6	3.65	1.90	5.55	23.98
		7	3.55	2.05	5.60	23.98

802.11n_HT20 (UNII 3)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5745~5825)

802.11n_HT20 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5745	149	0	5.18	0.31	5.50	30
		1	4.86	0.59	5.45	30
		2	4.68	0.84	5.52	30
		3	4.32	1.07	5.39	30
		4	4.01	1.45	5.46	30
		5	3.65	1.78	5.43	30
		6	3.49	1.90	5.40	30
		7	3.42	2.05	5.46	30
5785	157	0	5.11	0.31	5.42	30
		1	4.78	0.59	5.37	30
		2	4.57	0.84	5.41	30
		3	4.13	1.07	5.20	30
		4	3.78	1.45	5.22	30
		5	3.50	1.78	5.28	30
		6	3.25	1.90	5.15	30
		7	3.17	2.05	5.22	30
5825	165	0	5.08	0.31	5.39	30
		1	4.76	0.59	5.35	30
		2	4.54	0.84	5.38	30
		3	4.23	1.07	5.30	30
		4	3.73	1.45	5.18	30
		5	3.47	1.78	5.25	30
		6	3.32	1.90	5.23	30
		7	3.24	2.05	5.29	30

802.11ac_VHT20 (UNII 1)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5180~5240)

802.11ac_VHT20 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5180	36	0	6.91	0.32	7.23	23.98
		1	6.63	0.59	7.22	23.98
		2	6.50	0.84	7.34	23.98
		3	6.03	1.05	7.08	23.98
		4	5.63	1.43	7.06	23.98
		5	5.31	1.74	7.05	23.98
		6	5.34	1.85	7.19	23.98
		7	5.14	2.02	7.15	23.98
		8	4.85	2.20	7.05	23.98
5200	40	0	7.04	0.32	7.35	23.98
		1	6.81	0.59	7.40	23.98
		2	6.63	0.84	7.47	23.98
		3	6.19	1.05	7.24	23.98
		4	5.74	1.43	7.16	23.98
		5	5.53	1.74	7.27	23.98
		6	5.52	1.85	7.37	23.98
		7	5.32	2.02	7.33	23.98
		8	4.94	2.20	7.14	23.98
5240	48	0	7.27	0.32	7.58	23.98
		1	6.92	0.59	7.52	23.98
		2	6.65	0.84	7.49	23.98
		3	6.26	1.05	7.31	23.98
		4	5.88	1.43	7.31	23.98
		5	5.60	1.74	7.34	23.98
		6	5.46	1.85	7.31	23.98
		7	5.33	2.02	7.34	23.98
		8	5.18	2.20	7.38	23.98

802.11ac_VHT20 (UNII 2A)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5260~5320)

802.11ac_VHT20 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5260	52	0	7.40	0.32	7.71	23.98
		1	7.17	0.59	7.76	23.98
		2	6.86	0.84	7.70	23.98
		3	6.43	1.05	7.49	23.98
		4	6.11	1.43	7.53	23.98
		5	5.77	1.74	7.51	23.98
		6	5.73	1.85	7.58	23.98
		7	5.51	2.02	7.53	23.98
		8	5.30	2.20	7.50	23.98
5300	60	0	7.35	0.32	7.67	23.98
		1	7.05	0.59	7.64	23.98
		2	7.04	0.84	7.88	23.98
		3	6.57	1.05	7.62	23.98
		4	6.04	1.43	7.47	23.98
		5	5.83	1.74	7.57	23.98
		6	5.61	1.85	7.46	23.98
		7	5.70	2.02	7.71	23.98
		8	5.39	2.20	7.59	23.98
5320	64	0	7.60	0.32	7.92	23.98
		1	7.13	0.59	7.72	23.98
		2	6.88	0.84	7.71	23.98
		3	6.50	1.05	7.56	23.98
		4	6.03	1.43	7.45	23.98
		5	5.73	1.74	7.47	23.98
		6	5.60	1.85	7.46	23.98
		7	5.47	2.02	7.48	23.98
		8	5.42	2.20	7.62	23.98

802.11ac_VHT20 (UNII 2C)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5500~5720)

802.11ac_VHT20 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5500	100	0	6.89	0.32	7.20	23.98
		1	6.66	0.59	7.25	23.98
		2	6.43	0.84	7.27	23.98
		3	5.94	1.05	6.99	23.98
		4	5.49	1.43	6.91	23.98
		5	5.30	1.74	7.04	23.98
		6	5.15	1.85	7.01	23.98
		7	4.89	2.02	6.90	23.98
		8	4.84	2.20	7.04	23.98
5580	116	0	6.36	0.32	6.67	23.98
		1	6.23	0.59	6.83	23.98
		2	5.95	0.84	6.78	23.98
		3	5.46	1.05	6.52	23.98
		4	5.03	1.43	6.45	23.98
		5	4.69	1.74	6.43	23.98
		6	4.63	1.85	6.48	23.98
		7	4.41	2.02	6.43	23.98
		8	4.24	2.20	6.44	23.98
5720	144	0	5.43	0.32	5.75	23.98
		1	5.28	0.59	5.87	23.98
		2	4.92	0.84	5.76	23.98
		3	4.51	1.05	5.57	23.98
		4	4.10	1.43	5.52	23.98
		5	3.73	1.74	5.47	23.98
		6	3.63	1.85	5.49	23.98
		7	3.52	2.02	5.54	23.98
		8	3.34	2.20	5.55	23.98

802.11ac_VHT20 (UNII 3)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5745~5825)

802.11ac_VHT20 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5745	149	0	5.24	0.32	5.55	30
		1	4.99	0.59	5.59	30
		2	4.78	0.84	5.62	30
		3	4.34	1.05	5.39	30
		4	3.89	1.43	5.32	30
		5	3.58	1.74	5.32	30
		6	3.47	1.85	5.32	30
		7	3.33	2.02	5.35	30
		8	3.19	2.20	5.39	30
5785	157	0	5.11	0.32	5.42	30
		1	4.86	0.59	5.45	30
		2	4.64	0.84	5.48	30
		3	4.22	1.05	5.27	30
		4	3.76	1.43	5.18	30
		5	3.43	1.74	5.17	30
		6	3.47	1.85	5.32	30
		7	3.30	2.02	5.32	30
		8	3.09	2.20	5.29	30
5825	165	0	5.13	0.32	5.45	30
		1	4.75	0.59	5.34	30
		2	4.73	0.84	5.57	30
		3	4.30	1.05	5.35	30
		4	3.74	1.43	5.17	30
		5	3.41	1.74	5.15	30
		6	3.30	1.85	5.15	30
		7	3.23	2.02	5.25	30
		8	3.03	2.20	5.23	30

802.11n_HT40 (UNII 1)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40 Mode: 5190~5230)

802.11n_HT40 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5190	38	0	6.56	0.60	7.16	23.98
		1	6.11	1.10	7.21	23.98
		2	5.73	1.48	7.21	23.98
		3	5.45	1.81	7.26	23.98
		4	4.96	2.22	7.18	23.98
		5	4.58	2.72	7.30	23.98
		6	4.42	2.89	7.31	23.98
		7	4.26	3.08	7.34	23.98
5230	46	0	6.81	0.60	7.41	23.98
		1	6.31	1.10	7.41	23.98
		2	5.95	1.48	7.43	23.98
		3	5.58	1.81	7.39	23.98
		4	5.11	2.22	7.33	23.98
		5	4.68	2.72	7.40	23.98
		6	4.53	2.89	7.42	23.98
		7	4.16	3.08	7.24	23.98

802.11n_HT40 (UNII 2A)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40 Mode: 5270~5310)

802.11n_HT40 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5270	54	0	6.78	0.60	7.38	23.98
		1	6.28	1.10	7.38	23.98
		2	6.02	1.48	7.50	23.98
		3	5.71	1.81	7.52	23.98
		4	5.22	2.22	7.44	23.98
		5	4.76	2.72	7.48	23.98
		6	4.65	2.89	7.54	23.98
		7	4.51	3.08	7.59	23.98
5310	62	0	6.85	0.60	7.45	23.98
		1	6.39	1.10	7.49	23.98
		2	6.01	1.48	7.49	23.98
		3	5.59	1.81	7.40	23.98
		4	5.08	2.22	7.30	23.98
		5	4.67	2.72	7.39	23.98
		6	4.61	2.89	7.50	23.98
		7	4.39	3.08	7.47	23.98

802.11n_HT40 (UNII 2C)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40 Mode: 5510~5710)

802.11n_HT40 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5510	102	0	6.11	0.60	6.71	23.98
		1	5.63	1.10	6.73	23.98
		2	5.28	1.48	6.76	23.98
		3	4.90	1.81	6.71	23.98
		4	4.43	2.22	6.65	23.98
		5	4.04	2.72	6.76	23.98
		6	3.95	2.89	6.84	23.98
		7	3.79	3.08	6.87	23.98
5550	110	0	5.94	0.60	6.54	23.98
		1	5.42	1.10	6.52	23.98
		2	5.04	1.48	6.52	23.98
		3	4.78	1.81	6.59	23.98
		4	4.31	2.22	6.53	23.98
		5	3.83	2.72	6.55	23.98
		6	3.72	2.89	6.61	23.98
		7	3.57	3.08	6.65	23.98
5710	142	0	4.98	0.60	5.58	23.98
		1	4.41	1.10	5.51	23.98
		2	3.90	1.48	5.38	23.98
		3	3.70	1.81	5.51	23.98
		4	3.15	2.22	5.37	23.98
		5	2.70	2.72	5.42	23.98
		6	2.62	2.89	5.51	23.98
		7	2.49	3.08	5.57	23.98

802.11n_HT40 (UNII 3)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40 Mode: 5755~5795)

802.11n_HT40 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5755	151	0	4.65	0.60	5.25	30
		1	4.13	1.10	5.23	30
		2	3.82	1.48	5.30	30
		3	3.46	1.81	5.27	30
		4	2.88	2.22	5.10	30
		5	2.48	2.72	5.20	30
		6	2.38	2.89	5.27	30
		7	2.15	3.08	5.23	30
5795	159	0	4.58	0.60	5.18	30
		1	4.05	1.10	5.15	30
		2	3.75	1.48	5.23	30
		3	3.35	1.81	5.16	30
		4	2.97	2.22	5.19	30
		5	2.42	2.72	5.14	30
		6	2.43	2.89	5.32	30
		7	2.26	3.08	5.34	30

802.11ac _VHT40 (UNII 1)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5190~5230)

802.11ac_VHT40 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5190	38	0	6.78	0.61	7.39	23.98
		1	6.15	1.05	7.21	23.98
		2	5.56	1.47	7.02	23.98
		3	5.53	1.78	7.31	23.98
		4	4.85	2.27	7.12	23.98
		5	4.50	2.67	7.17	23.98
		6	4.49	2.77	7.26	23.98
		7	4.18	2.82	7.01	23.98
		8	4.06	3.15	7.21	23.98
		9	4.01	3.42	7.43	23.98
5230	46	0	6.71	0.61	7.33	23.98
		1	6.18	1.05	7.23	23.98
		2	5.71	1.47	7.18	23.98
		3	5.51	1.78	7.30	23.98
		4	4.98	2.27	7.25	23.98
		5	4.74	2.67	7.41	23.98
		6	4.62	2.77	7.39	23.98
		7	4.53	2.82	7.36	23.98
		8	4.17	3.15	7.32	23.98
		9	4.08	3.42	7.50	23.98

802.11ac _VHT40 (UNII 2A)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5270~5310)

802.11ac_VHT40 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5270	54	0	6.86	0.61	7.47	23.98
		1	6.26	1.05	7.31	23.98
		2	6.02	1.47	7.49	23.98
		3	5.65	1.78	7.43	23.98
		4	5.32	2.27	7.59	23.98
		5	4.72	2.67	7.39	23.98
		6	4.64	2.77	7.42	23.98
		7	4.42	2.82	7.25	23.98
		8	4.32	3.15	7.47	23.98
		9	4.07	3.42	7.49	23.98
5310	62	0	6.88	0.61	7.50	23.98
		1	6.26	1.05	7.32	23.98
		2	5.99	1.47	7.46	23.98
		3	5.56	1.78	7.35	23.98
		4	5.26	2.27	7.53	23.98
		5	4.88	2.67	7.55	23.98
		6	4.65	2.77	7.42	23.98
		7	4.52	2.82	7.34	23.98
		8	4.40	3.15	7.55	23.98
		9	4.14	3.42	7.57	23.98

802.11ac _VHT40 (UNII 2C)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5510~5710)

802.11ac_VHT40 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5510	102	0	6.21	0.61	6.82	23.98
		1	5.75	1.05	6.80	23.98
		2	5.32	1.47	6.79	23.98
		3	4.95	1.78	6.73	23.98
		4	4.53	2.27	6.80	23.98
		5	4.12	2.67	6.79	23.98
		6	4.03	2.77	6.80	23.98
		7	3.84	2.82	6.66	23.98
		8	3.71	3.15	6.85	23.98
		9	3.55	3.42	6.97	23.98
5550	110	0	5.90	0.61	6.52	23.98
		1	5.48	1.05	6.54	23.98
		2	5.19	1.47	6.66	23.98
		3	4.77	1.78	6.55	23.98
		4	4.47	2.27	6.74	23.98
		5	4.04	2.67	6.71	23.98
		6	3.68	2.77	6.46	23.98
		7	3.66	2.82	6.48	23.98
		8	3.48	3.15	6.62	23.98
		9	3.24	3.42	6.67	23.98
5710	142	0	5.01	0.61	5.63	23.98
		1	4.58	1.05	5.63	23.98
		2	4.14	1.47	5.61	23.98
		3	3.77	1.78	5.55	23.98
		4	3.32	2.27	5.59	23.98
		5	3.03	2.67	5.70	23.98
		6	2.87	2.77	5.65	23.98
		7	2.57	2.82	5.40	23.98
		8	2.46	3.15	5.60	23.98
		9	2.29	3.42	5.71	23.98

802.11ac_VHT40 (UNII 3)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5755~5795)

802.11ac_VHT40 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5755	151	0	4.55	0.61	5.16	30
		1	4.19	1.05	5.24	30
		2	3.71	1.47	5.18	30
		3	3.48	1.78	5.26	30
		4	2.92	2.27	5.19	30
		5	2.52	2.67	5.18	30
		6	2.61	2.77	5.38	30
		7	2.41	2.82	5.24	30
		8	2.26	3.15	5.40	30
		9	1.96	3.42	5.39	30
5795	159	0	4.49	0.61	5.11	30
		1	4.07	1.05	5.12	30
		2	3.77	1.47	5.24	30
		3	3.51	1.78	5.29	30
		4	2.97	2.27	5.24	30
		5	2.57	2.67	5.24	30
		6	2.50	2.77	5.28	30
		7	2.26	2.82	5.08	30
		8	2.03	3.15	5.18	30
		9	1.66	3.42	5.08	30

802.11ac_VHT80 (UNII 1)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5210)

802.11ac_VHT80 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5210	42	0	5.03	1.18	6.20	23.98
		1	4.52	1.85	6.37	23.98
		2	4.00	2.29	6.29	23.98
		3	3.59	2.72	6.31	23.98
		4	2.96	3.08	6.04	23.98
		5	2.71	3.41	6.12	23.98
		6	2.57	3.67	6.24	23.98
		7	2.45	3.77	6.23	23.98
		8	2.41	3.80	6.22	23.98
		9	2.17	4.11	6.29	23.98

802.11ac_VHT80 (UNII 2A)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5290)

802.11ac_VHT80 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5290	58	0	5.36	1.18	6.54	23.98
		1	4.54	1.85	6.39	23.98
		2	4.08	2.29	6.38	23.98
		3	3.73	2.72	6.45	23.98
		4	3.23	3.08	6.31	23.98
		5	3.01	3.41	6.42	23.98
		6	2.88	3.67	6.55	23.98
		7	2.61	3.77	6.38	23.98
		8	2.35	3.80	6.15	23.98
		9	2.35	4.11	6.46	23.98

802.11ac_VHT80 (UNII 2C)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5530 ~ 5690 MHz)

802.11ac_VHT80 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5530	106	0	5.52	1.18	6.70	23.98
		1	4.93	1.85	6.78	23.98
		2	4.32	2.29	6.62	23.98
		3	3.93	2.72	6.65	23.98
		4	3.48	3.08	6.56	23.98
		5	3.12	3.41	6.53	23.98
		6	3.10	3.67	6.77	23.98
		7	2.89	3.77	6.66	23.98
		8	2.74	3.80	6.54	23.98
		9	2.61	4.11	6.72	23.98
5690	138	0	4.64	1.18	5.82	23.98
		1	3.98	1.85	5.84	23.98
		2	3.41	2.29	5.70	23.98
		3	2.99	2.72	5.71	23.98
		4	2.44	3.08	5.52	23.98
		5	2.25	3.41	5.67	23.98
		6	2.04	3.67	5.71	23.98
		7	1.80	3.77	5.57	23.98
		8	1.65	3.80	5.45	23.98
		9	1.54	4.11	5.65	23.98

802.11ac_VHT80 (UNII 3)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5775)

802.11ac_VHT80 Mode		MCS Index	Duty Cycle Factor (dB)	Measured Power (dBm)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.					
5775	155	0	4.13	1.18	5.31	30
		1	3.61	1.85	5.46	30
		2	2.84	2.29	5.14	30
		3	2.40	2.72	5.12	30
		4	2.01	3.08	5.09	30
		5	1.64	3.41	5.06	30
		6	1.52	3.67	5.19	30
		7	1.49	3.77	5.26	30
		8	1.31	3.80	5.11	30
		9	1.10	4.11	5.21	30

▣Straddle channels TEST RESULTS

Conducted Output Power Measurements (802.11a/n_HT20/ac_VHT20 Mode: UNII 2C Band 5720MHz)

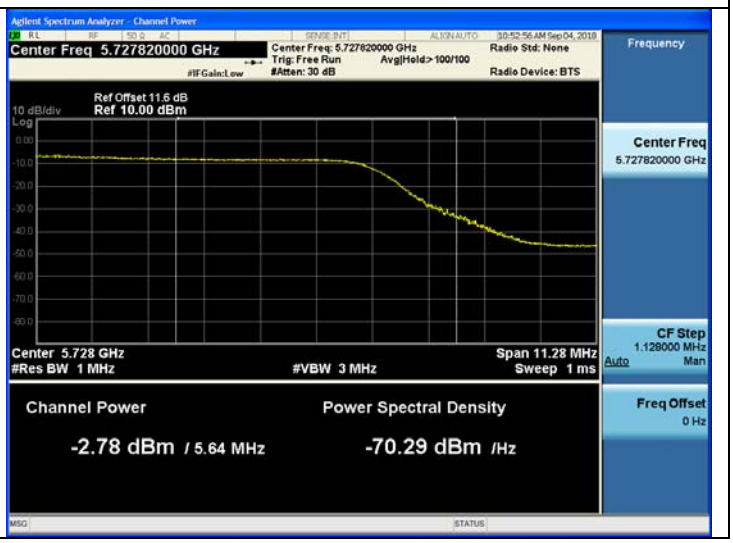
Mode	Frequency [MHz]	Channel No.	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
802.11a	5720	144	4.31	0.436	4.75	22.67
802.11n			4.19	0.315	4.50	22.62
802.11ac			3.94	0.592	4.53	22.64

Conducted Output Power Measurements (802.11a/n_HT20/ac_VHT20 Mode: UNII 3 Band 5720MHz)

Mode	Frequency [MHz]	Channel No.	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
802.11a	5720	144	-3.00	0.436	-2.56	24.16
802.11n			-2.54	0.315	-2.23	24.29
802.11ac			-2.78	0.592	-2.19	24.23

▣Straddle channels TEST Plot for 802.11a/n_HT20/ac_VHT20

802.11a UNII 2C Band Average Power CH.144	802.11a UNII 3 Band Average Power CH.144
	
802.11n_HT20 UNII 2C Band Average Power CH.144	**802.11n_HT20 UNII 3 Band Average Power CH.144**
	

802.11ac_VHT20 UNII 2C Band Average Power CH.144	802.11ac_VHT20 UNII 3 Band Average Power CH.144
	

▣Straddle channels TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40/ac_VHT40 Mode: UNII 2C Band 5710MHz)

Mode	Frequency [MHz]	Channel No.	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
802.11n	5710	142	4.09	0.598	4.69	23.44
802.11ac			1.29	3.424	4.71	23.42

Conducted Output Power Measurements (802.11n_HT40/ac_VHT40 Mode: UNII 3 Band 5710MHz)

Mode	Frequency [MHz]	Channel No.	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
802.11n	5710	142	-7.57	0.598	-6.97	20.69
802.11ac			-9.79	3.424	-6.37	20.82

▣Straddle channels TEST Plot for 802.11n_HT40/ac_VHT40

802.11n_HT40 UNII 2C Band Average Power CH.142	802.11n_HT40 UNII 3 Band Average Power CH.142
	
802.11ac_VHT40 UNII 2C Band Average Power CH.142	**802.11ac_VHT40 UNII 3 Band Average Power CH.142**
	

▣Straddle channels TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: UNII 2C Band 5690MHz)

Mode	Frequency [MHz]	Channel No.	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
802.11ac	5690	138	3.05	1.851	4.90	23.68

Conducted Output Power Measurements (802.11ac_VHT80 Mode: UNII 3 Band 5690MHz)

Mode	Frequency [MHz]	Channel No.	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
802.11ac	5690	138	-11.46	1.851	-9.61	18.20

▣Straddle channels TEST Plot for 802.11ac_VHT80

802.11ac_VHT80 UNII 2C Band Average Power CH.138	802.11ac_VHT80 UNII 3 Band Average Power CH.138
	

9.4 POWER SPECTRAL DENSITY

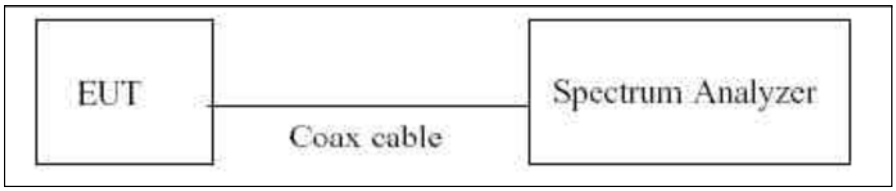
The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies. The maximum permissible peak power spectral density is 11 dBm/ MHz for UNII 1,2A, 2C and 30 dBm/500 kHz for UNII 3.

▣ Limit

Power Spectral Density

Band	Mode	Limit
UNII 1	802.11a,n,ac	11 dBm/MHz
UNII 2A	802.11a,n,ac	11 dBm/MHz
UNII 2C	802.11a,n,ac	11 dBm/MHz
UNII 3	802.11a,n,ac	30 dBm/500 kHz

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

We tested according to Method in KDB 789033 D02 v02r01.

The spectrum analyzer is set to :

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*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

PSD = Reading Value + ATT loss + Cable loss(1 ea) + Duty Cycle Factor

Output Power = 5 dBm + 10 dB + 0.8 dB + 0.21 dB = 16.01 dBm

Note :

1. Spectrum reading values are not plot data. The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.
2. Spectrum offset = Attenuator loss + Cable loss
3. We apply to the offset in the 5.2 GHz, 5.3 GHz and 5.6 GHz range that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table.

Band	Loss(dB)
UNII 1, 2A , 2C, 3	11.1

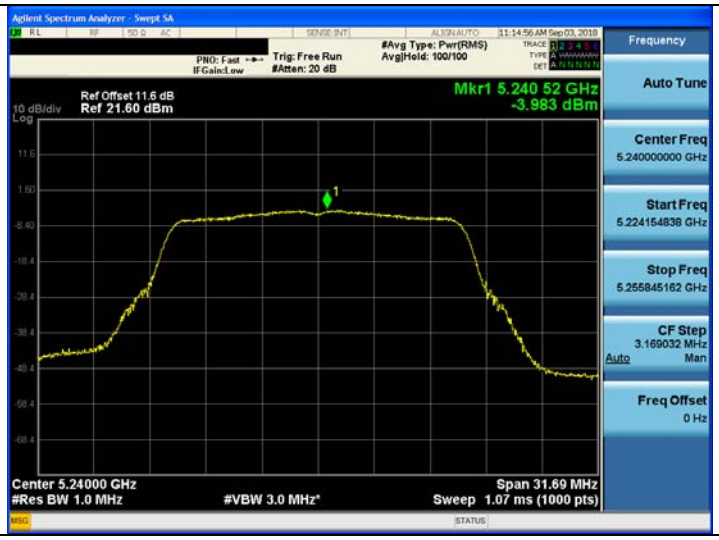
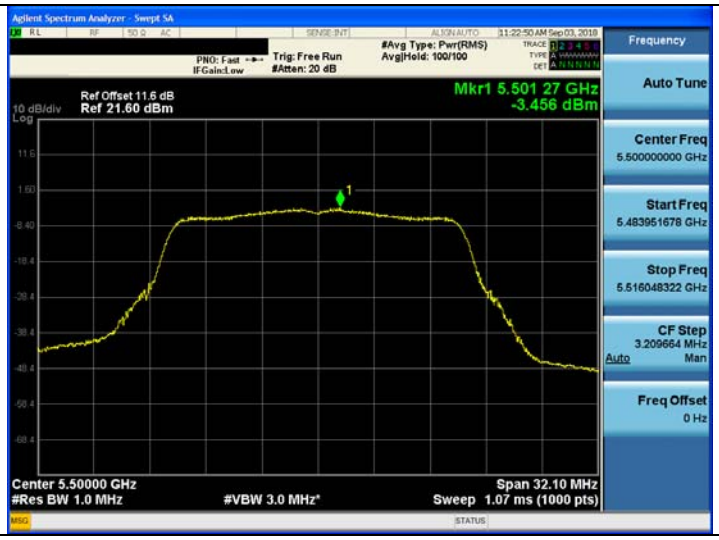
(Actual value of loss for the attenuator and cable combination)

▣ TEST RESULTS

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5180	36	802.11a	-4.459	0.569	-3.890	11	Pass
5200	40		-4.072	0.297	-3.775		Pass
5240	48		-3.983	0.436	-3.547		Pass
5260	52		-3.294	0.297	-2.997	11	Pass
5300	60		-3.501	0.569	-2.932		Pass
5320	64		-3.428	0.436	-2.992		Pass
5500	100		-3.456	0.436	-3.020	11	Pass
5580	116		-3.999	0.436	-3.563		Pass
5720	144		-5.198	0.436	-4.762		Pass
5745	149		-8.360	0.436	-7.924	30	Pass
5785	157		-8.125	0.436	-7.689		Pass
5825	165		-7.999	0.297	-7.702		Pass

▣ TEST Plot for 802.11a 20MHz BW

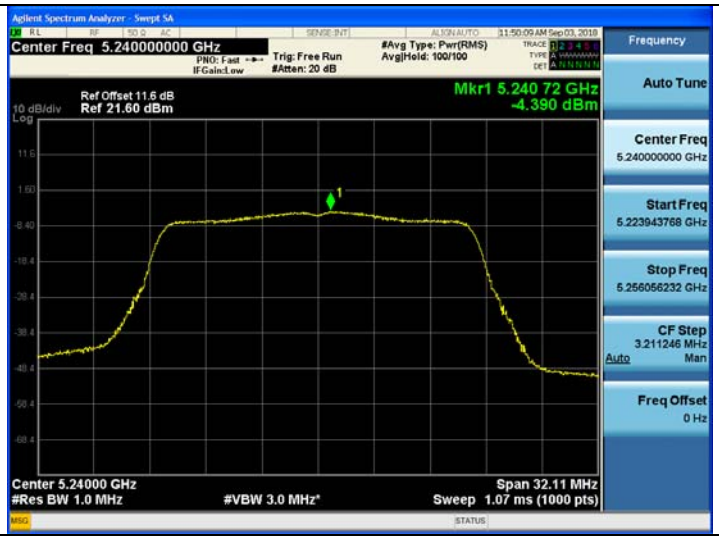
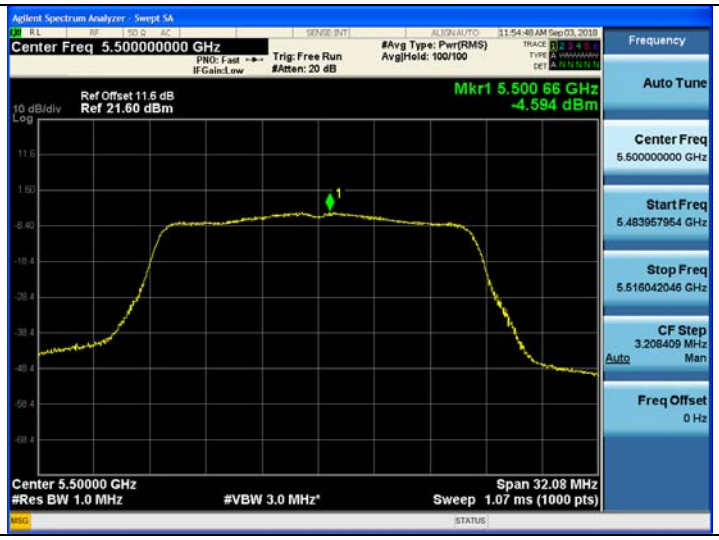
802.11a UNII 1 BAND PSD CH 48	802.11a UNII 2A BAND PSD CH 60
	
802.11a UNII 2C BAND PSD CH 100	**802.11a UNII 3 BAND PSD CH 157**
	

▣ TEST RESULTS

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5180	36	802.11n_ HT20	-4.908	0.315	-4.593	11	Pass
5200	40		-4.720	0.589	-4.131		Pass
5240	48		-4.390	0.315	-4.075		Pass
5260	52		-4.092	0.315	-3.777	11	Pass
5300	60		-3.923	0.315	-3.608		Pass
5320	64		-4.450	0.589	-3.861		Pass
5500	100		-4.594	0.589	-4.005	11	Pass
5580	116		-5.315	0.842	-4.473		Pass
5720	144		-5.543	0.315	-5.228		Pass
5745	149		-8.501	0.842	-7.659	30	Pass
5785	157		-8.568	0.315	-8.253		Pass
5825	165		-8.140	0.315	-7.825		Pass

▣ TEST Plot for 802.11n_HT20

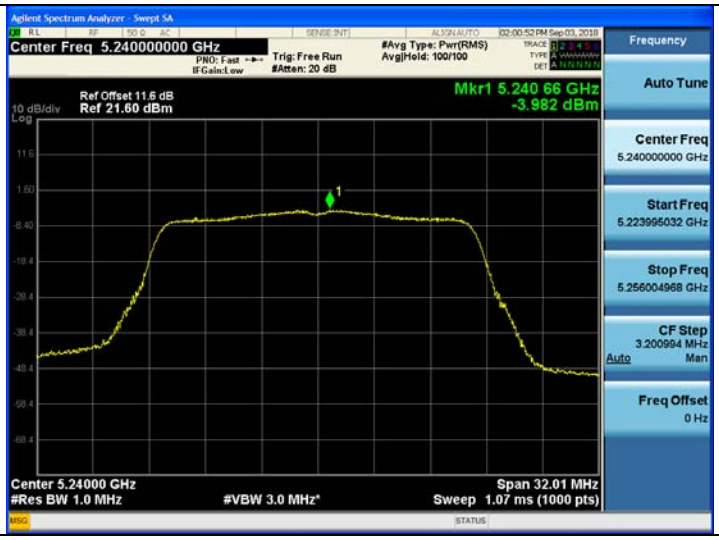
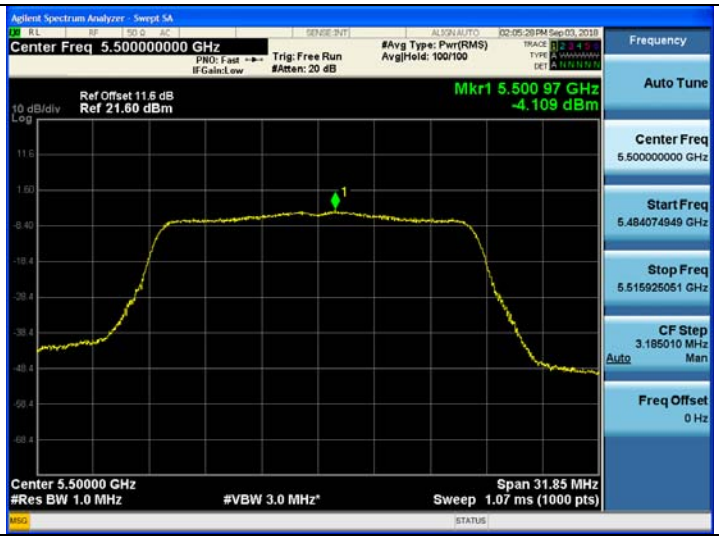
802.11n_HT20 UNII 1 BAND PSD CH 48	802.11n_HT20 UNII 2A BAND PSD CH 60
	
802.11n_HT20 UNII 2C BAND PSD CH 100	**802.11n_HT20 UNII 3 BAND PSD CH 149**
	

▣ TEST RESULTS

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5180	36	802.11ac _VHT20	-4.864	0.839	-4.025	11	Pass
5200	40		-4.996	0.839	-4.157		Pass
5240	48		-3.982	0.315	-3.667		Pass
5260	52		-3.923	0.592	-3.331	11	Pass
5300	60		-4.241	0.839	-3.402		Pass
5320	64		-3.477	0.315	-3.162		Pass
5500	100		-4.109	0.839	-3.270	11	Pass
5580	116		-4.524	0.592	-3.932		Pass
5720	144		-5.815	0.592	-5.223		Pass
5745	149		-8.597	0.839	-7.758	30	Pass
5785	157		-8.736	0.839	-7.897		Pass
5825	165		-8.898	0.839	-8.059		Pass

▣ TEST Plot for 802.11ac_VHT20

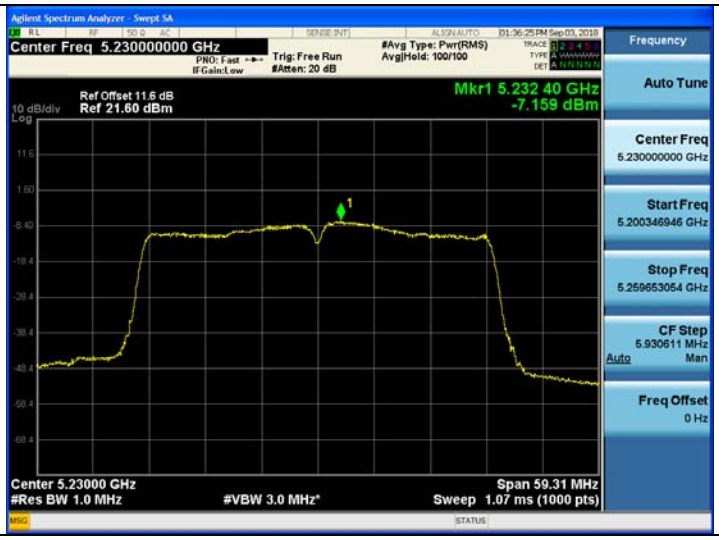
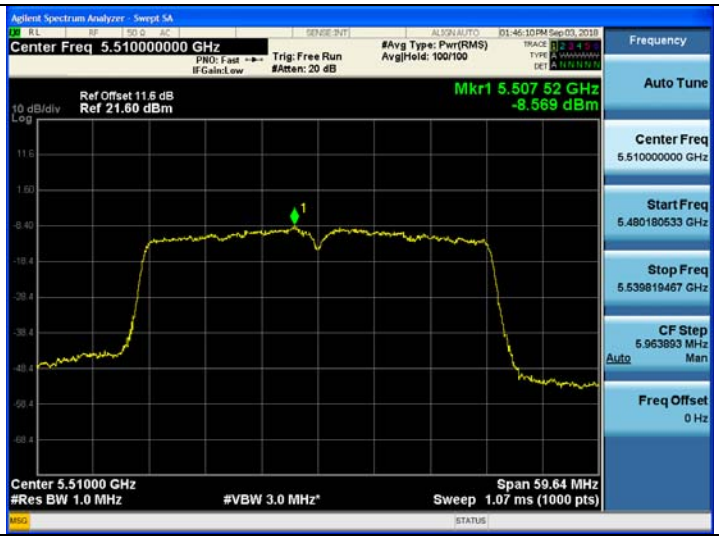
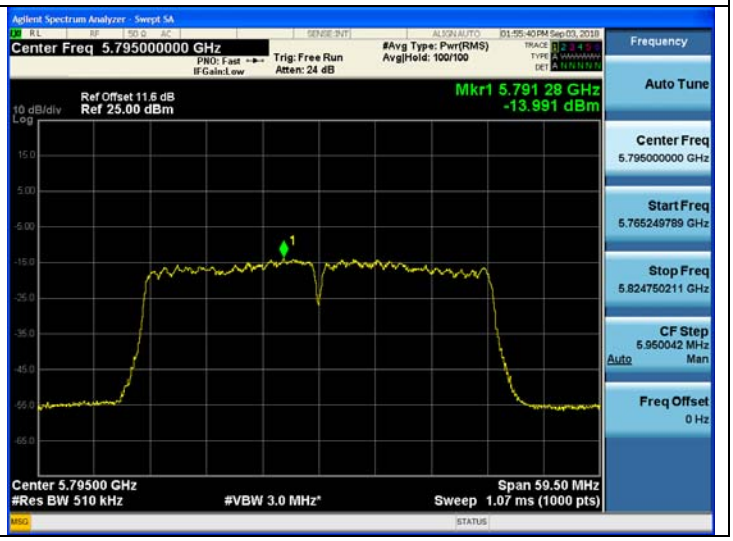
802.11ac_VHT20 UNII 1 BAND PSD CH 48	802.11ac_VHT20 UNII 2A BAND PSD CH 64
	
802.11ac_VHT20 UNII 2C BAND PSD CH 100	**802.11ac_VHT20 UNII 3 BAND PSD CH 149**
	

▣ TEST RESULTS

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5190	38	802.11n _HT40	-9.363	3.076	-6.287	11	Pass
5230	46		-7.159	1.484	-5.675		Pass
5270	54		-8.643	3.076	-5.567	11	Pass
5310	62		-7.834	2.887	-4.947		Pass
5510	102		-8.569	3.076	-5.493	11	Pass
5550	110		-8.909	3.076	-5.833		Pass
5710	142		-8.506	0.598	-7.908		Pass
5755	151		-12.544	1.484	-11.060	30	Pass
5795	159		-13.991	3.076	-10.915		Pass

▣ TEST Plot for 802.11n_HT40

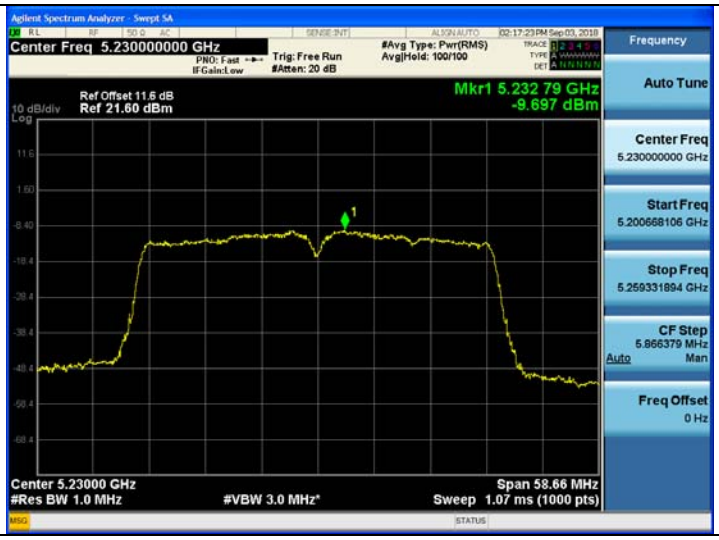
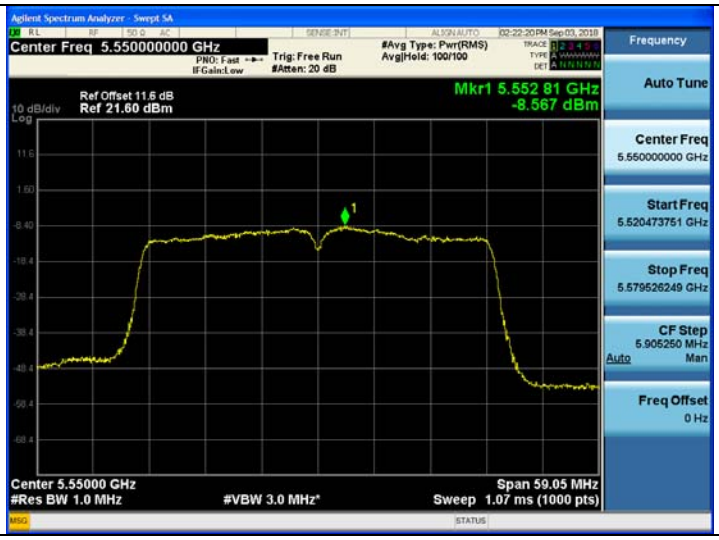
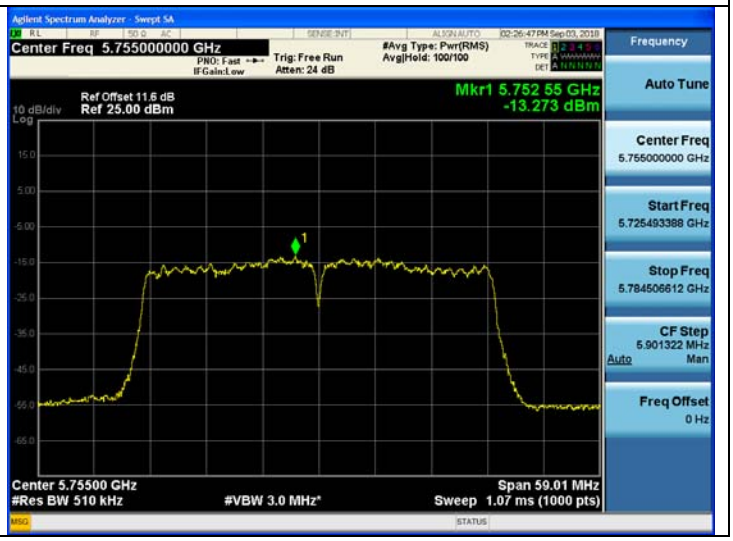
802.11n_HT40 UNII 1 BAND PSD CH 46	802.11n_HT40 UNII 2A BAND PSD CH 62
	
802.11n_HT40 UNII 2C BAND PSD CH 102	**802.11n_HT40 UNII 3 BAND PSD CH 159**
	

▣ TEST RESULTS

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5190	38	802.11ac _VHT40	-9.937	3.424	-6.513	11	Pass
5230	46		-9.697	3.424	-6.273		Pass
5270	54		-8.156	2.271	-5.885	11	Pass
5310	62		-9.329	3.424	-5.905		Pass
5510	102		-9.785	3.424	-6.361	11	Pass
5550	110		-8.567	2.271	-6.296		Pass
5710	142		-10.577	3.424	-7.153		Pass
5755	151		-13.273	3.145	-10.128	30	Pass
5795	159		-12.485	1.783	-10.702		Pass

▣ TEST Plot for 802.11ac_VHT40

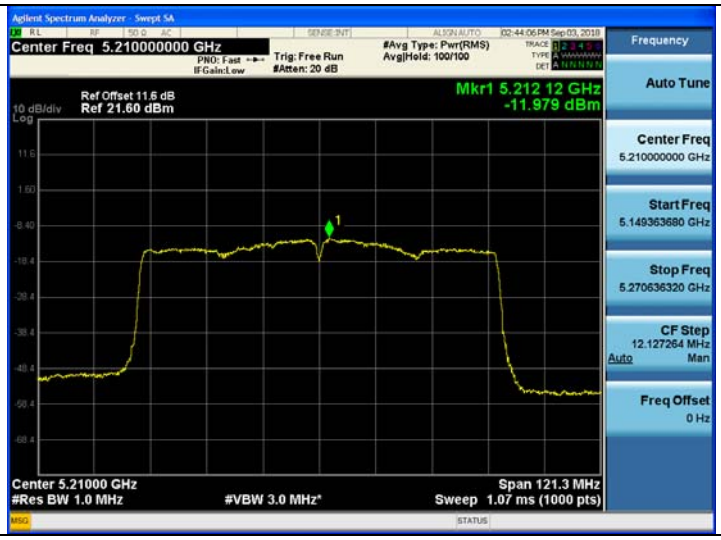
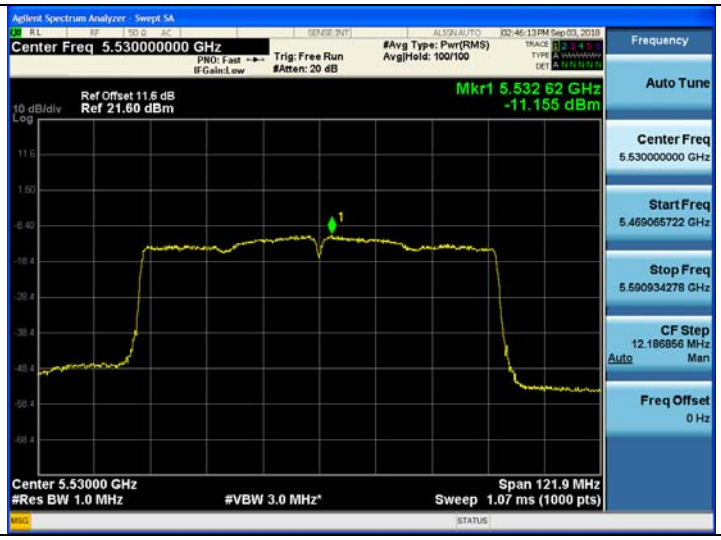
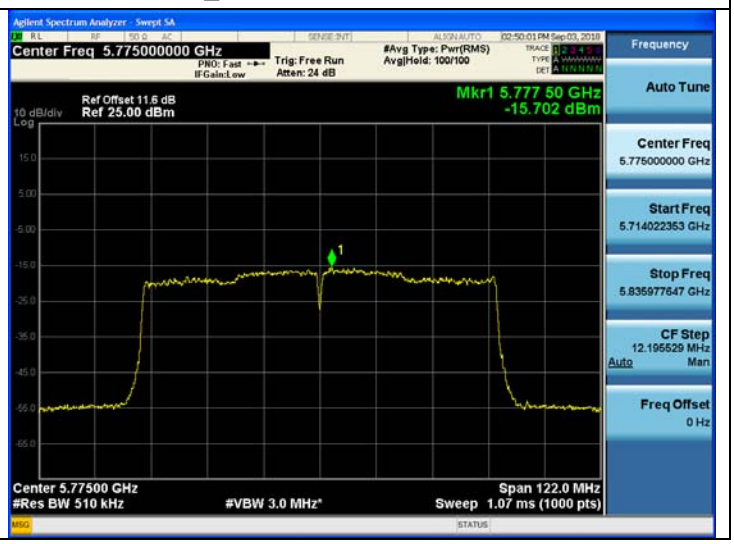
802.11ac_VHT40 UNII 1 BAND PSD CH 46	802.11ac_VHT40 UNII 2A BAND PSD CH 54
	
802.11ac_VHT40 UNII 2C BAND PSD CH 110	**802.11ac_VHT40 UNII 3 BAND PSD CH 151**
	

▣ TEST RESULTS

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5210	42	802.11ac _VHT80	-11.979	1.851	-10.128	11	Pass
5290	58		-13.343	3.672	-9.671	11	Pass
5530	106		-11.155	1.851	-9.304	11	Pass
5690	138		-12.860	1.851	-11.009		Pass
5775	155		-15.702	1.851	-13.851	30	Pass

▣ TEST Plot for 802.11ac_VHT80

802.11ac_VHT80 UNII 1 BAND PSD CH 42	802.11ac_VHT80 UNII 2A BAND PSD CH 58
	
802.11ac_VHT80 UNII 2C BAND PSD CH 106	**802.11ac_VHT80 UNII 3 BAND PSD CH 155**
	

▣Straddle channels TEST RESULTS for 802.11a/n_HT20/ac_VHT20

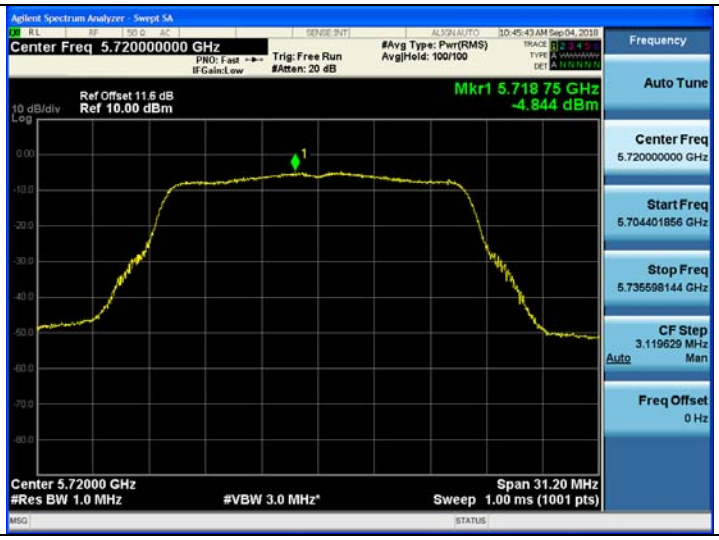
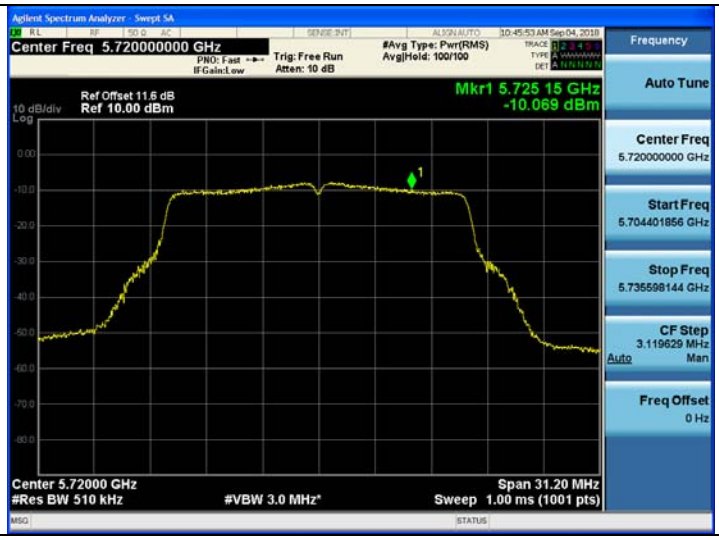
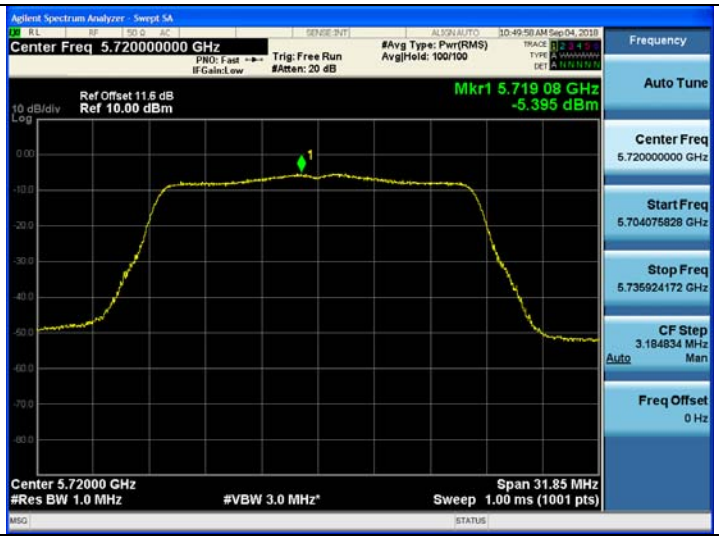
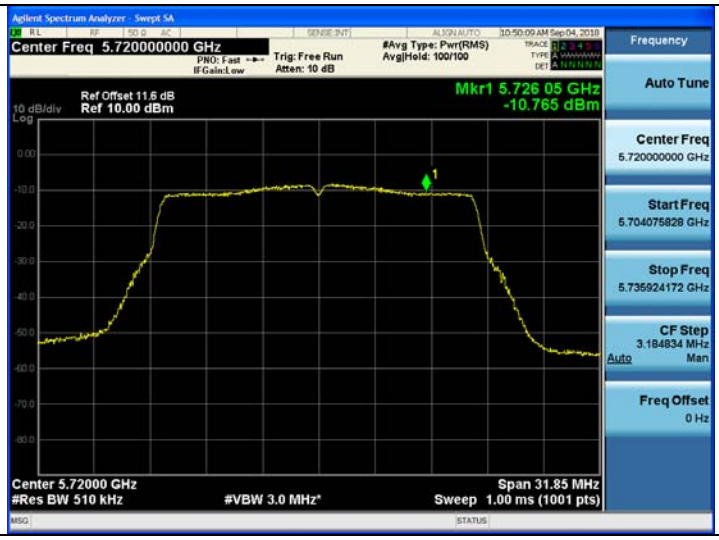
Conducted Power Density Measurements (UNII 2C Band 5720MHz)

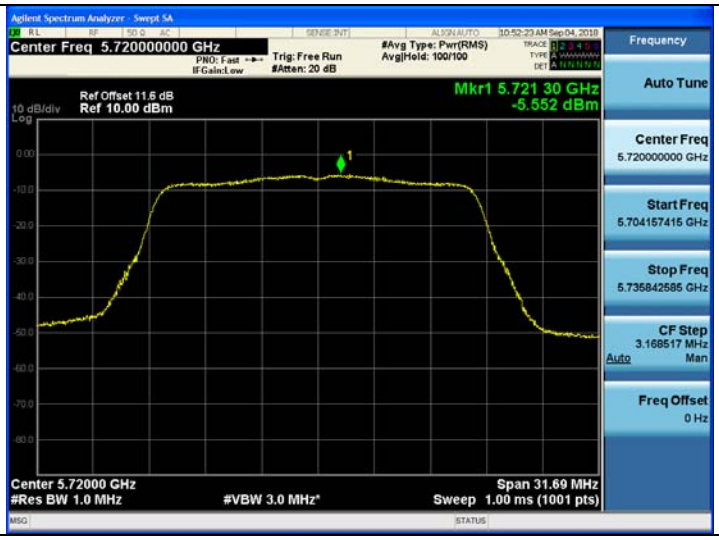
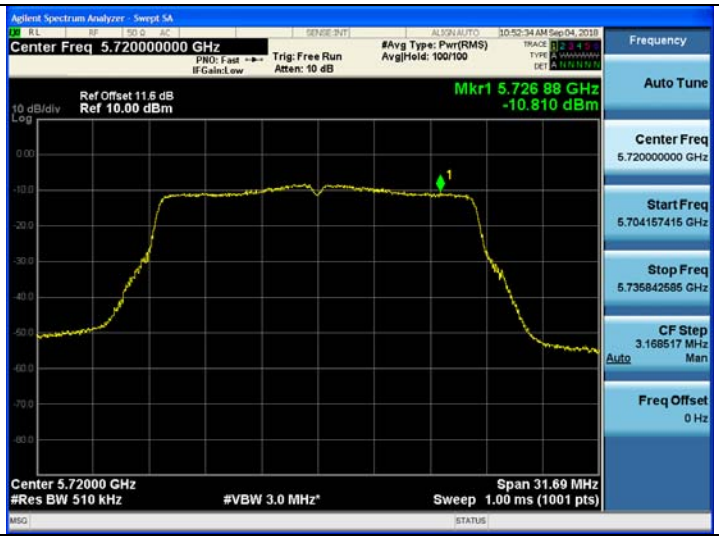
Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5720	144	802.11a	-4.844	0.436	-4.408	11.00	Pass
		802.11n	-5.395	0.315	-5.080	11.00	Pass
		802.11ac	-5.552	0.592	-4.960	11.00	Pass

Conducted Power Density Measurements (UNII 3 Band 5720MHz)

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5720	144	802.11a	-10.069	0.436	-9.633	30.00	Pass
		802.11n	-10.765	0.315	-10.450	30.00	Pass
		802.11ac	-10.810	0.592	-10.218	30.00	Pass

▣Straddle channels TEST Plot for 802.11a/n_HT20/ac_VHT20

802.11a UNII 2C Band PSD CH.144	802.11a UNII 3 Band PSD CH.144
	
802.11n_HT20 UNII 2C Band PSD CH.144	**802.11n_HT20 UNII 3 Band PSD CH.144**
	

802.11ac_VHT20 UNII 2C Band PSD CH.144	802.11ac_VHT20 UNII 3 Band PSD CH.144
	

▣Straddle channels TEST RESULTS for 802.11n_HT40/ac_VHT40

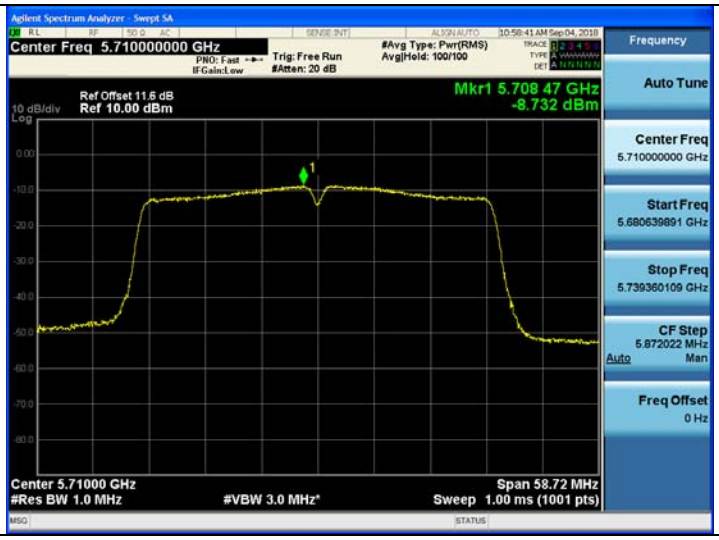
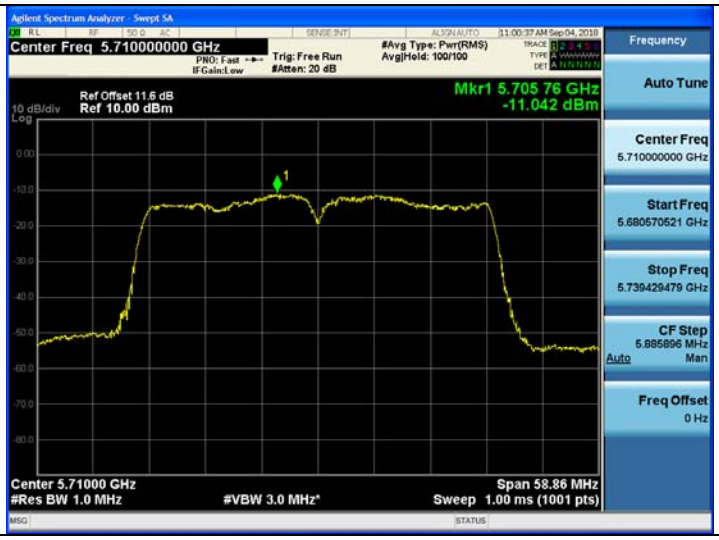
Conducted Power Density Measurements (UNII 2C Band 5710MHz)

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5710	142	802.11n	-8.732	0.598	-8.134	11.00	Pass
		802.11ac	-11.042	3.424	-7.618	11.00	Pass

Conducted Power Density Measurements (UNII 3 Band 5710MHz)

Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5710	142	802.11n	-14.675	0.598	-14.077	30.00	Pass
		802.11ac	-15.862	3.424	-12.438	30.00	Pass

▣Straddle channels TEST Plot for 802.11n_HT40/ac_VHT40

802.11n_HT40 UNII 2C Band PSD CH.142	802.11n_HT40 UNII 3 Band PSD CH.142
	
802.11ac_VHT40 UNII 2C Band PSD CH.142	**802.11ac_VHT40 UNII 3 Band PSD CH.142**
	

▣Straddle channels TEST RESULTS

Conducted Power Density Measurements (UNII 2C Band 5690MHz)

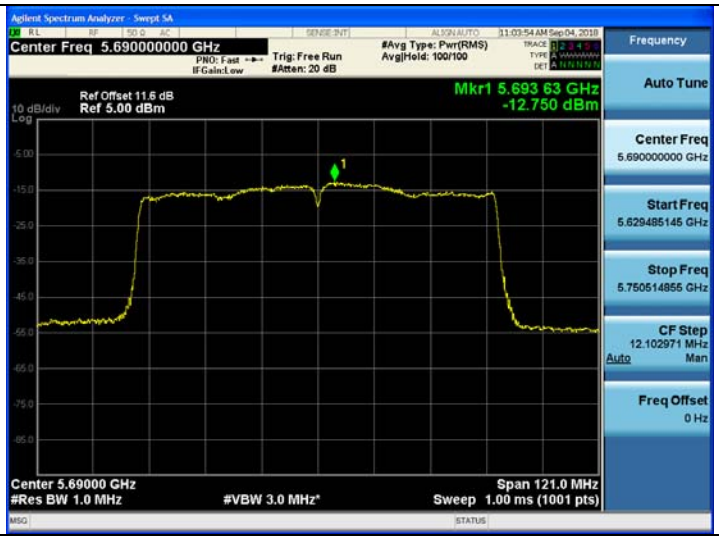
Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5690	138	802.11ac	-12.750	1.851	-10.899	11.00	Pass

Conducted Power Density Measurements (UNII 3 Band 5690MHz)

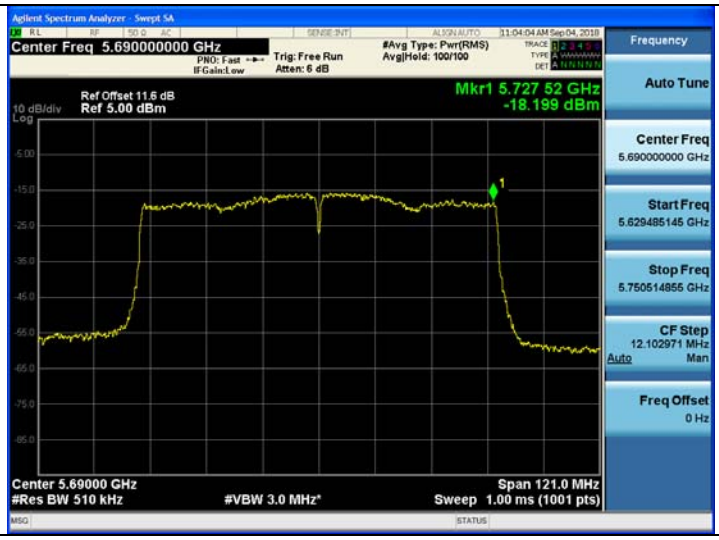
Frequency (MHz)	Channel No.	Mode	Test Result				
			Measured Power Density (dBm)	Duty Cycle Factor (dB)	Measured Power Density(dBm) + Duty Cycle Factor	Limit (dBm)	Pass/Fail
5690	138	802.11ac	-18.199	1.851	-16.348	30.00	Pass

▣Straddle channels TEST Plot for 802.11ac_VHT80

802.11ac_VHT80 UNII 2C Band PSD CH.138



802.11ac_VHT80 UNII 3 Band PSD CH.138



9.5 FREQUENCY STABILITY.

The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -30 ℃ and 50 ℃. 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.

§2.1055 Measurements required: Frequency stability.

The primary supply voltage is varied from 85% to High 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.

20 MHz BW_ Startup

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,180,000,000 Hz

CHANNEL: 36

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5180024.55	24.55
100%		-30	5180025.65	25.65
100%		-20	5180030.22	30.22
100%		-10	5180033.54	33.54
100%		0	5180038.41	38.41
100%		+10	5180040.23	40.23
100%		+30	5180046.12	46.12
100%		+40	5180050.33	50.33
100%		+50	5180056.14	56.14
High	16	+20	5180040.25	40.25
Low	9	+20	5180035.97	35.97

OPERATING BAND: UNII Band 2A

OPERATING FREQUENCY: 5,260,000,000 Hz

CHANNEL: 52

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5260025.14	25.14
100%		-30	5260023.21	23.21
100%		-20	5260025.36	25.36
100%		-10	5260029.36	29.36
100%		0	5260035.31	35.31
100%		+10	5260040.23	40.23
100%		+30	5260045.36	45.36
100%		+40	5260051.23	51.23
100%		+50	5260053.36	53.36
High	16	+20	5260033.45	33.45
Low	9	+20	5260038.98	38.98

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,500,000,000 Hz

CHANNEL: 100

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5500029.65	29.65
100%		-30	5500025.23	25.23
100%		-20	5500028.36	28.36
100%		-10	5500031.24	31.24
100%		0	5500035.63	35.63
100%		+10	5500042.36	42.36
100%		+30	5500046.12	46.12
100%		+40	5500051.23	51.23
100%		+50	5500055.36	55.36
High	16	+20	5500034.23	34.23
Low	9	+20	5500040.25	40.25

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,745,000,000 Hz

CHANNEL: 149

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5745028.53	28.53
100%		-30	5745023.64	23.64
100%		-20	5745026.35	26.35
100%		-10	5745030.36	30.36
100%		0	5745036.48	36.48
100%		+10	5745040.22	40.22
100%		+30	5745045.36	45.36
100%		+40	5745051.23	51.23
100%		+50	5745057.31	57.31
High	16	+20	5745028.36	28.36
Low	9	+20	5745032.36	32.36

2 minutes

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,180,000,000 Hz

CHANNEL: 36

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5180025.36	25.36
100%		-30	5180023.64	23.64
100%		-20	5180030.12	30.12
100%		-10	5180033.35	33.35
100%		0	5180036.45	36.45
100%		+10	5180040.25	40.25
100%		+30	5180046.78	46.78
100%		+40	5180050.25	50.25
100%		+50	5180055.36	55.36
High	16	+20	5180040.32	40.32
Low	9	+20	5180035.36	35.36

OPERATING BAND: UNII Band 2A

OPERATING FREQUENCY: 5,260,000,000 Hz

CHANNEL: 52

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5260025.32	25.32
100%		-30	5260023.25	23.25
100%		-20	5260029.36	29.36
100%		-10	5260031.25	31.25
100%		0	5260036.35	36.35
100%		+10	5260041.25	41.25
100%		+30	5260048.25	48.25
100%		+40	5260051.25	51.25
100%		+50	5260055.36	55.36
High	16	+20	5260035.36	35.36
Low	9	+20	5260039.35	39.35

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,500,000,000 Hz

CHANNEL: 100

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5500028.53	28.53
100%		-30	5500022.36	22.36
100%		-20	5500025.36	25.36
100%		-10	5500030.25	30.25
100%		0	5500035.36	35.36
100%		+10	5500040.25	40.25
100%		+30	5500045.89	45.89
100%		+40	5500050.25	50.25
100%		+50	5500055.36	55.36
High	16	+20	5500035.36	35.36
Low	9	+20	5500038.67	38.67

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,745,000,000 Hz

CHANNEL: 149

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5745030.25	30.25
100%		-30	5745025.36	25.36
100%		-20	5745029.35	29.35
100%		-10	5745031.25	31.25
100%		0	5745034.25	34.25
100%		+10	5745038.36	38.36
100%		+30	5745042.23	42.23
100%		+40	5745048.44	48.44
100%		+50	5745051.25	51.25
High	16	+20	5745040.23	40.23
Low	9	+20	5745036.82	36.82

5 minutes

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,180,000,000 Hz

CHANNEL: 36

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5180025.36	25.36
100%		-30	5180023.43	23.43
100%		-20	5180028.36	28.36
100%		-10	5180031.56	31.56
100%		0	5180033.87	33.87
100%		+10	5180040.25	40.25
100%		+30	5180045.78	45.78
100%		+40	5180050.36	50.36
100%		+50	5180055.78	55.78
High	16	+20	5180040.25	40.25
Low	9	+20	5180035.39	35.39

OPERATING BAND: UNII Band 2A

OPERATING FREQUENCY: 5,260,000,000 Hz

CHANNEL: 52

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5260029.54	29.54
100%		-30	5260025.36	25.36
100%		-20	5260028.35	28.35
100%		-10	5260035.36	35.36
100%		0	5260038.34	38.34
100%		+10	5260040.23	40.23
100%		+30	5260045.36	45.36
100%		+40	5260051.36	51.36
100%		+50	5260055.36	55.36
High	16	+20	5260035.36	35.36
Low	9	+20	5260040.97	40.97

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,500,000,000 Hz

CHANNEL: 100

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5500031.25	31.25
100%		-30	5500025.36	25.36
100%		-20	5500027.35	27.35
100%		-10	5500033.45	33.45
100%		0	5500039.34	39.34
100%		+10	5500041.25	41.25
100%		+30	5500048.86	48.86
100%		+40	5500051.23	51.23
100%		+50	5500056.12	56.12
High	16	+20	5500035.89	35.89
Low	9	+20	5500039.68	39.68

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,745,000,000 Hz

CHANNEL: 149

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5745028.54	28.54
100%		-30	5745022.35	22.35
100%		-20	5745026.35	26.35
100%		-10	5745031.25	31.25
100%		0	5745036.32	36.32
100%		+10	5745040.25	40.25
100%		+30	5745046.36	46.36
100%		+40	5745051.25	51.25
100%		+50	5745057.12	57.12
High	16	+20	5745039.63	39.63
Low	9	+20	5745035.36	35.36

10 minutes

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,180,000,000 Hz

CHANNEL: 36

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5180026.36	26.36
100%		-30	5180024.36	24.36
100%		-20	5180029.54	29.54
100%		-10	5180031.25	31.25
100%		0	5180035.36	35.36
100%		+10	5180039.35	39.35
100%		+30	5180044.25	44.25
100%		+40	5180049.36	49.36
100%		+50	5180051.32	51.32
High	16	+20	5180040.36	40.36
Low	9	+20	5180036.54	36.54

OPERATING BAND: UNII Band 2A

OPERATING FREQUENCY: 5,260,000,000 Hz

CHANNEL: 52

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5260029.65	29.65
100%		-30	5260025.36	25.36
100%		-20	5260031.25	31.25
100%		-10	5260035.36	35.36
100%		0	5260039.45	39.45
100%		+10	5260044.25	44.25
100%		+30	5260049.36	49.36
100%		+40	5260054.23	54.23
100%		+50	5260059.36	59.36
High	16	+20	5260045.36	45.36
Low	9	+20	5260036.48	36.48

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,500,000,000 Hz

CHANNEL: 100

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5500036.54	36.54
100%		-30	5500031.25	31.25
100%		-20	5500035.23	35.23
100%		-10	5500039.65	39.65
100%		0	5500044.31	44.31
100%		+10	5500049.35	49.35
100%		+30	5500052.38	52.38
100%		+40	5500056.15	56.15
100%		+50	5500061.23	61.23
High	16	+20	5500042.87	42.87
Low	9	+20	5500039.35	39.35

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,745,000,000 Hz

CHANNEL: 149

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5745030.25	30.25
100%		-30	5745026.87	26.87
100%		-20	5745031.25	31.25
100%		-10	5745036.35	36.35
100%		0	5745041.25	41.25
100%		+10	5745046.23	46.23
100%		+30	5745049.36	49.36
100%		+40	5745052.36	52.36
100%		+50	5745059.87	59.87
High	16	+20	5745041.36	41.36
Low	9	+20	5745032.98	32.98

40 MHz BW_ Startup

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,190,000,000 Hz

CHANNEL: 38

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5190038.52	38.52
100%		-30	5190029.36	29.36
100%		-20	5190031.25	31.25
100%		-10	5190035.36	35.36
100%		0	5190040.25	40.25
100%		+10	5190044.25	44.25
100%		+30	5190051.25	51.25
100%		+40	5190055.36	55.36
100%		+50	5190056.35	56.35
High	16	+20	5190040.25	40.25
Low	9	+20	5190035.36	35.36

OPERATING BAND: UNII Band 2A
OPERATING FREQUENCY: 5,270,000,000 Hz
CHANNEL: 54
REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5270026.36	26.36
100%		-30	5270024.25	24.25
100%		-20	5270029.36	29.36
100%		-10	5270032.54	32.54
100%		0	5270035.36	35.36
100%		+10	5270038.56	38.56
100%		+30	5270042.27	42.27
100%		+40	5270048.36	48.36
100%		+50	5270051.25	51.25
High	16	+20	5270035.36	35.36
Low	9	+20	5270040.25	40.25

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,510,000,000 Hz

CHANNEL: 102

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5510033.65	33.65
100%		-30	5510025.36	25.36
100%		-20	5510029.87	29.87
100%		-10	5510032.25	32.25
100%		0	5510035.69	35.69
100%		+10	5510040.23	40.23
100%		+30	5510042.36	42.36
100%		+40	5510051.28	51.28
100%		+50	5510056.36	56.36
High	16	+20	5510040.36	40.36
Low	9	+20	5510036.58	36.58

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,755,000,000 Hz

CHANNEL: 151

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5755036.35	36.35
100%		-30	5755026.45	26.45
100%		-20	5755028.36	28.36
100%		-10	5755033.25	33.25
100%		0	5755035.45	35.45
100%		+10	5755037.89	37.89
100%		+30	5755041.23	41.23
100%		+40	5755044.58	44.58
100%		+50	5755049.63	49.63
High	16	+20	5755038.24	38.24
Low	9	+20	5755035.36	35.36

2 minutes

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,190,000,000 Hz

CHANNEL: 38

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5190039.52	39.52
100%		-30	5190025.25	25.25
100%		-20	5190028.36	28.36
100%		-10	5190031.24	31.24
100%		0	5190035.78	35.78
100%		+10	5190039.35	39.35
100%		+30	5190041.78	41.78
100%		+40	5190045.36	45.36
100%		+50	5190051.23	51.23
High	16	+20	5190040.23	40.23
Low	9	+20	5190034.36	34.36

OPERATING BAND: UNII Band 2A

OPERATING FREQUENCY: 5,270,000,000 Hz

CHANNEL: 54

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5270028.36	28.36
100%		-30	5270024.23	24.23
100%		-20	5270026.36	26.36
100%		-10	5270031.25	31.25
100%		0	5270035.36	35.36
100%		+10	5270039.74	39.74
100%		+30	5270042.25	42.25
100%		+40	5270049.34	49.34
100%		+50	5270051.36	51.36
High	16	+20	5270040.36	40.36
Low	9	+20	5270035.69	35.69

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,510,000,000 Hz

CHANNEL: 102

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5510033.69	33.69
100%		-30	5510026.35	26.35
100%		-20	5510028.36	28.36
100%		-10	5510031.25	31.25
100%		0	5510036.98	36.98
100%		+10	5510040.29	40.29
100%		+30	5510045.36	45.36
100%		+40	5510049.36	49.36
100%		+50	5510050.25	50.25
High	16	+20	5510040.78	40.78
Low	9	+20	5510035.48	35.48

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,755,000,000 Hz

CHANNEL: 151

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5755039.65	39.65
100%		-30	5755031.25	31.25
100%		-20	5755034.58	34.58
100%		-10	5755036.35	36.35
100%		0	5755040.25	40.25
100%		+10	5755044.25	44.25
100%		+30	5755049.25	49.25
100%		+40	5755051.25	51.25
100%		+50	5755056.38	56.38
High	16	+20	5755038.52	38.52
Low	9	+20	5755035.78	35.78

5 minutes

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,190,000,000 Hz

CHANNEL: 38

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5190038.52	38.52
100%		-30	5190031.25	31.25
100%		-20	5190035.36	35.36
100%		-10	5190039.56	39.56
100%		0	5190041.25	41.25
100%		+10	5190044.25	44.25
100%		+30	5190049.35	49.35
100%		+40	5190051.25	51.25
100%		+50	5190056.78	56.78
High	16	+20	5190039.65	39.65
Low	9	+20	5190034.25	34.25

OPERATING BAND: UNII Band 2A

OPERATING FREQUENCY: 5,270,000,000 Hz

CHANNEL: 54

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5270026.36	26.36
100%		-30	5270024.23	24.23
100%		-20	5270030.25	30.25
100%		-10	5270033.45	33.45
100%		0	5270036.85	36.85
100%		+10	5270039.48	39.48
100%		+30	5270042.36	42.36
100%		+40	5270046.25	46.25
100%		+50	5270051.24	51.24
High	16	+20	5270035.28	35.28
Low	9	+20	5270040.25	40.25

OPERATING BAND: UNII Band 2C
OPERATING FREQUENCY: 5,510,000,000 Hz
CHANNEL: 102
REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5510035.26	35.26
100%		-30	5510025.36	25.36
100%		-20	5510028.39	28.39
100%		-10	5510030.25	30.25
100%		0	5510033.41	33.41
100%		+10	5510036.25	36.25
100%		+30	5510039.35	39.35
100%		+40	5510042.25	42.25
100%		+50	5510049.36	49.36
High	16	+20	5510040.25	40.25
Low	9	+20	5510036.25	36.25

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,755,000,000 Hz

CHANNEL: 151

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5755039.45	39.45
100%		-30	5755035.36	35.36
100%		-20	5755039.52	39.52
100%		-10	5755042.25	42.25
100%		0	5755045.15	45.15
100%		+10	5755049.36	49.36
100%		+30	5755052.36	52.36
100%		+40	5755055.36	55.36
100%		+50	5755059.87	59.87
High	16	+20	5755040.25	40.25
Low	9	+20	5755035.34	35.34

10 minutes

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,190,000,000 Hz

CHANNEL: 38

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5190039.63	39.63
100%		-30	5190025.36	25.36
100%		-20	5190029.65	29.65
100%		-10	5190031.25	31.25
100%		0	5190033.58	33.58
100%		+10	5190036.57	36.57
100%		+30	5190039.25	39.25
100%		+40	5190045.28	45.28
100%		+50	5190049.27	49.27
High	16	+20	5190040.25	40.25
Low	9	+20	5190034.25	34.25

OPERATING BAND: UNII Band 2A
OPERATING FREQUENCY: 5,270,000,000 Hz
CHANNEL: 54
REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5270029.65	29.65
100%		-30	5270026.32	26.32
100%		-20	5270029.58	29.58
100%		-10	5270031.25	31.25
100%		0	5270033.25	33.25
100%		+10	5270036.24	36.24
100%		+30	5270041.25	41.25
100%		+40	5270045.27	45.27
100%		+50	5270051.26	51.26
High	16	+20	5270036.25	36.25
Low	9	+20	5270040.24	40.24

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,510,000,000 Hz

CHANNEL: 102

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5510032.78	32.78
100%		-30	5510029.57	29.57
100%		-20	5510035.25	35.25
100%		-10	5510037.24	37.24
100%		0	5510039.78	39.78
100%		+10	5510042.36	42.36
100%		+30	5510045.24	45.24
100%		+40	5510049.25	49.25
100%		+50	5510051.23	51.23
High	16	+20	5510040.25	40.25
Low	9	+20	5510036.54	36.54

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,755,000,000 Hz

CHANNEL: 151

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5755039.54	39.54
100%		-30	5755035.24	35.24
100%		-20	5755036.58	36.58
100%		-10	5755039.65	39.65
100%		0	5755042.36	42.36
100%		+10	5755045.15	45.15
100%		+30	5755049.25	49.25
100%		+40	5755053.24	53.24
100%		+50	5755055.87	55.87
High	16	+20	5755035.36	35.36
Low	9	+20	5755034.25	34.25

80 MHz BW_ Startup

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,210,000,000 Hz

CHANNEL: 42

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5210028.45	28.45
100%		-30	5210026.25	26.25
100%		-20	5210027.25	27.25
100%		-10	5210029.35	29.35
100%		0	5210035.24	35.24
100%		+10	5210041.25	41.25
100%		+30	5210044.26	44.26
100%		+40	5210046.38	46.38
100%		+50	5210050.29	50.29
High	16	+20	5210040.39	40.39
Low	9	+20	5210035.36	35.36

OPERATING BAND: UNII Band 2A

OPERATING FREQUENCY: 5,290,000,000 Hz

CHANNEL: 58

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5290035.25	35.25
100%		-30	5290026.98	26.98
100%		-20	5290029.57	29.57
100%		-10	5290031.25	31.25
100%		0	5290035.69	35.69
100%		+10	5290040.47	40.47
100%		+30	5290045.36	45.36
100%		+40	5290051.36	51.36
100%		+50	5290055.36	55.36
High	16	+20	5290040.39	40.39
Low	9	+20	5290035.27	35.27

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,530,000,000 Hz

CHANNEL: 106

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5530029.36	29.36
100%		-30	5530025.24	25.24
100%		-20	5530031.25	31.25
100%		-10	5530033.65	33.65
100%		0	5530041.25	41.25
100%		+10	5530045.78	45.78
100%		+30	5530049.25	49.25
100%		+40	5530051.22	51.22
100%		+50	5530058.25	58.25
High	16	+20	5530035.36	35.36
Low	9	+20	5530040.23	40.23

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,775,000,000 Hz

CHANNEL: 155

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5775034.26	34.26
100%		-30	5775031.25	31.25
100%		-20	5775033.56	33.56
100%		-10	5775035.27	35.27
100%		0	5775037.25	37.25
100%		+10	5775039.45	39.45
100%		+30	5775041.25	41.25
100%		+40	5775044.36	44.36
100%		+50	5775050.25	50.25
High	16	+20	5775040.36	40.36
Low	9	+20	5775035.15	35.15

2 minutes

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,210,000,000 Hz

CHANNEL: 42

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5210029.36	29.36
100%		-30	5210025.36	25.36
100%		-20	5210031.27	31.27
100%		-10	5210035.48	35.48
100%		0	5210039.52	39.52
100%		+10	5210042.36	42.36
100%		+30	5210045.15	45.15
100%		+40	5210049.25	49.25
100%		+50	5210051.36	51.36
High	16	+20	5210040.39	40.39
Low	9	+20	5210035.36	35.36

OPERATING BAND: UNII Band 2A

OPERATING FREQUENCY: 5,290,000,000 Hz

CHANNEL: 58

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5290035.45	35.45
100%		-30	5290031.25	31.25
100%		-20	5290036.25	36.25
100%		-10	5290041.25	41.25
100%		0	5290043.69	43.69
100%		+10	5290045.28	45.28
100%		+30	5290047.18	47.18
100%		+40	5290049.36	49.36
100%		+50	5290051.36	51.36
High	16	+20	5290040.36	40.36
Low	9	+20	5290035.24	35.24

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,530,000,000 Hz

CHANNEL: 106

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5530026.36	26.36
100%		-30	5530025.24	25.24
100%		-20	5530029.36	29.36
100%		-10	5530031.45	31.45
100%		0	5530035.78	35.78
100%		+10	5530038.15	38.15
100%		+30	5530042.98	42.98
100%		+40	5530045.15	45.15
100%		+50	5530051.78	51.78
High	16	+20	5530040.69	40.69
Low	9	+20	5530035.15	35.15

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,775,000,000 Hz

CHANNEL: 155

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5775034.12	34.12
100%		-30	5775030.25	30.25
100%		-20	5775035.12	35.12
100%		-10	5775038.47	38.47
100%		0	5775042.36	42.36
100%		+10	5775045.85	45.85
100%		+30	5775049.25	49.25
100%		+40	5775051.24	51.24
100%		+50	5775055.96	55.96
High	16	+20	5775040.25	40.25
Low	9	+20	5775036.54	36.54

5 minutes

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,210,000,000 Hz

CHANNEL: 42

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5210028.53	28.53
100%		-30	5210024.56	24.56
100%		-20	5210029.68	29.68
100%		-10	5210031.25	31.25
100%		0	5210035.78	35.78
100%		+10	5210039.58	39.58
100%		+30	5210044.78	44.78
100%		+40	5210048.25	48.25
100%		+50	5210051.34	51.34
High	16	+20	5210040.36	40.36
Low	9	+20	5210035.19	35.19

OPERATING BAND: UNII Band 2A

OPERATING FREQUENCY: 5,290,000,000 Hz

CHANNEL: 58

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5290034.15	34.15
100%		-30	5290030.87	30.87
100%		-20	5290033.42	33.42
100%		-10	5290035.51	35.51
100%		0	5290036.85	36.85
100%		+10	5290039.24	39.24
100%		+30	5290045.18	45.18
100%		+40	5290049.24	49.24
100%		+50	5290053.27	53.27
High	16	+20	5290040.23	40.23
Low	9	+20	5290035.27	35.27

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,530,000,000 Hz

CHANNEL: 106

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5530024.25	24.25
100%		-30	5530022.97	22.97
100%		-20	5530026.38	26.38
100%		-10	5530031.24	31.24
100%		0	5530036.24	36.24
100%		+10	5530039.58	39.58
100%		+30	5530042.36	42.36
100%		+40	5530045.84	45.84
100%		+50	5530049.24	49.24
High	16	+20	5530036.38	36.38
Low	9	+20	5530040.36	40.36

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,775,000,000 Hz

CHANNEL: 155

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5775035.26	35.26
100%		-30	5775031.29	31.29
100%		-20	5775035.78	35.78
100%		-10	5775039.58	39.58
100%		0	5775042.15	42.15
100%		+10	5775045.87	45.87
100%		+30	5775046.36	46.36
100%		+40	5775049.25	49.25
100%		+50	5775056.84	56.84
High	16	+20	5775040.36	40.36
Low	9	+20	5775035.94	35.94

10 minutes

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,210,000,000 Hz

CHANNEL: 42

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5210027.36	27.36
100%		-30	5210022.36	22.36
100%		-20	5210026.38	26.38
100%		-10	5210034.26	34.26
100%		0	5210039.52	39.52
100%		+10	5210042.58	42.58
100%		+30	5210046.87	46.87
100%		+40	5210053.25	53.25
100%		+50	5210056.24	56.24
High	16	+20	5210041.26	41.26
Low	9	+20	5210035.87	35.87

OPERATING BAND: UNII Band 2A

OPERATING FREQUENCY: 5,290,000,000 Hz

CHANNEL: 58

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5290035.25	35.25
100%		-30	5290028.36	28.36
100%		-20	5290031.23	31.23
100%		-10	5290036.35	36.35
100%		0	5290039.54	39.54
100%		+10	5290042.36	42.36
100%		+30	5290045.15	45.15
100%		+40	5290049.27	49.27
100%		+50	5290055.25	55.25
High	16	+20	5290048.25	48.25
Low	9	+20	5290036.27	36.27

OPERATING BAND: UNII Band 2C

OPERATING FREQUENCY: 5,530,000,000 Hz

CHANNEL: 106

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5530028.35	28.35
100%		-30	5530024.15	24.15
100%		-20	5530029.65	29.65
100%		-10	5530031.24	31.24
100%		0	5530035.69	35.69
100%		+10	5530044.54	44.54
100%		+30	5530049.52	49.52
100%		+40	5530053.24	53.24
100%		+50	5530059.63	59.63
High	16	+20	5530040.36	40.36
Low	9	+20	5530039.54	39.54

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,775,000,000 Hz

CHANNEL: 155

REFERENCE VOLTAGE: 14.40 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	14.40	+20(Ref)	5775035.69	35.69
100%		-30	5775030.69	30.69
100%		-20	5775033.54	33.54
100%		-10	5775036.98	36.98
100%		0	5775039.84	39.84
100%		+10	5775042.36	42.36
100%		+30	5775049.35	49.35
100%		+40	5775055.63	55.63
100%		+50	5775059.61	59.61
High	16	+20	5775039.58	39.58
Low	9	+20	5775036.89	36.89

Note 1.

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.

9.6 RADIATED MEASUREMENT

9.6.1 RADIATED SPURIOUS EMISSIONS.

Test Requirements and limit, §15.205, §15.209, §15.407

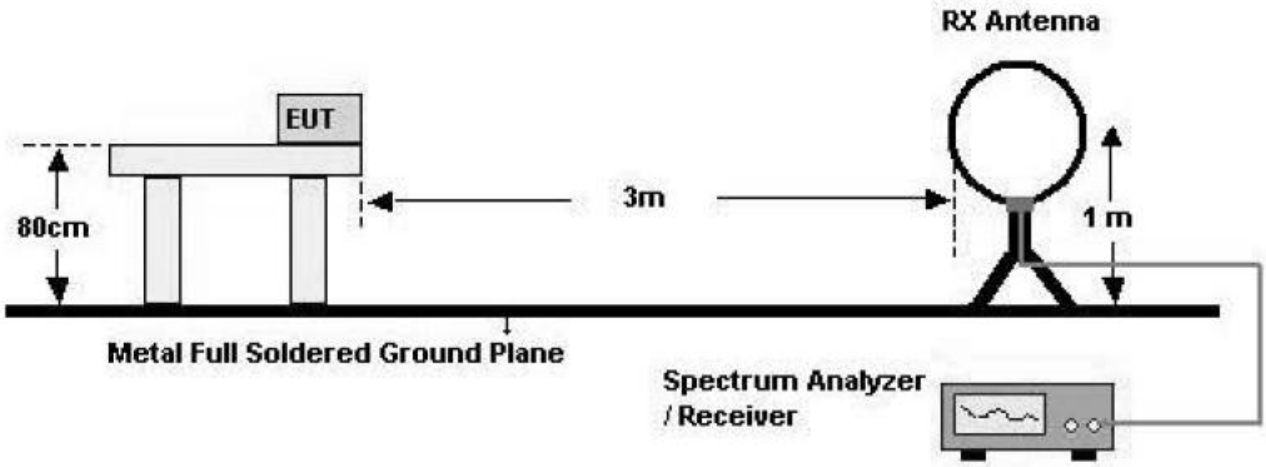
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

▣ §15.407, KDB 789033 D02v02r01

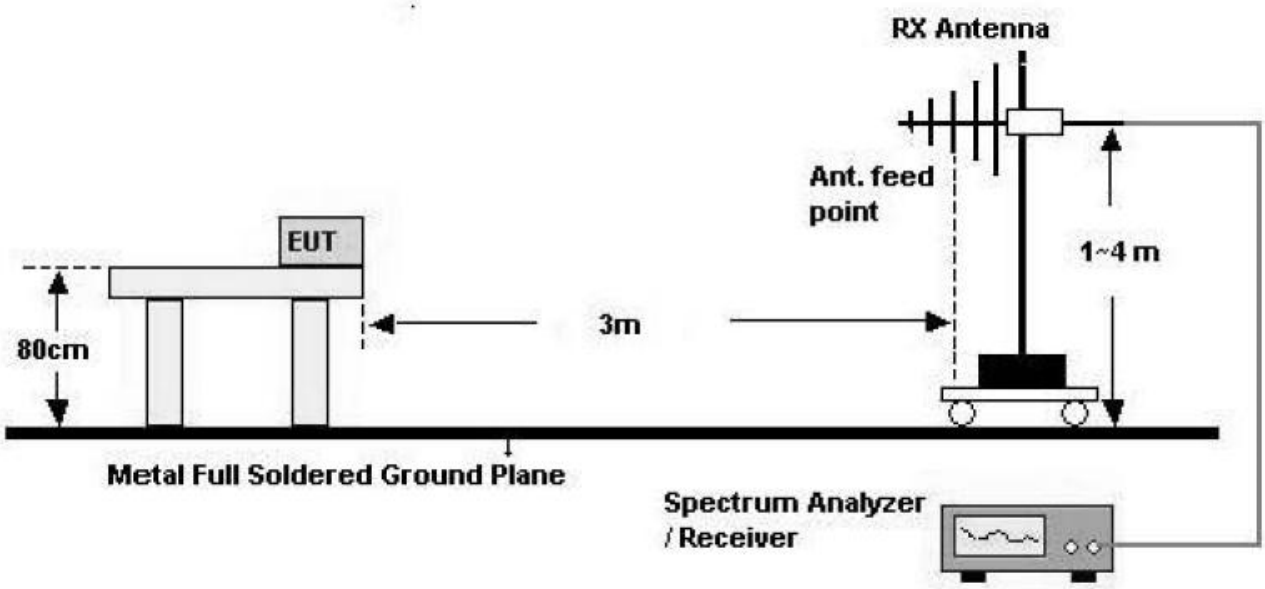
All harmonics that do not lie in a restricted band are subject to a peak limit of -27 dBm/MHz. At a distance of 3 meters the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2 dB to the EIRP limit of -27 dBm/MHz to obtain the limit for out of band spurious emissions of 68.2 dBμV/m. Espectally, for transmitter operating in the 5725 Mhz – 5850 MHz : 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.

Test Configuration

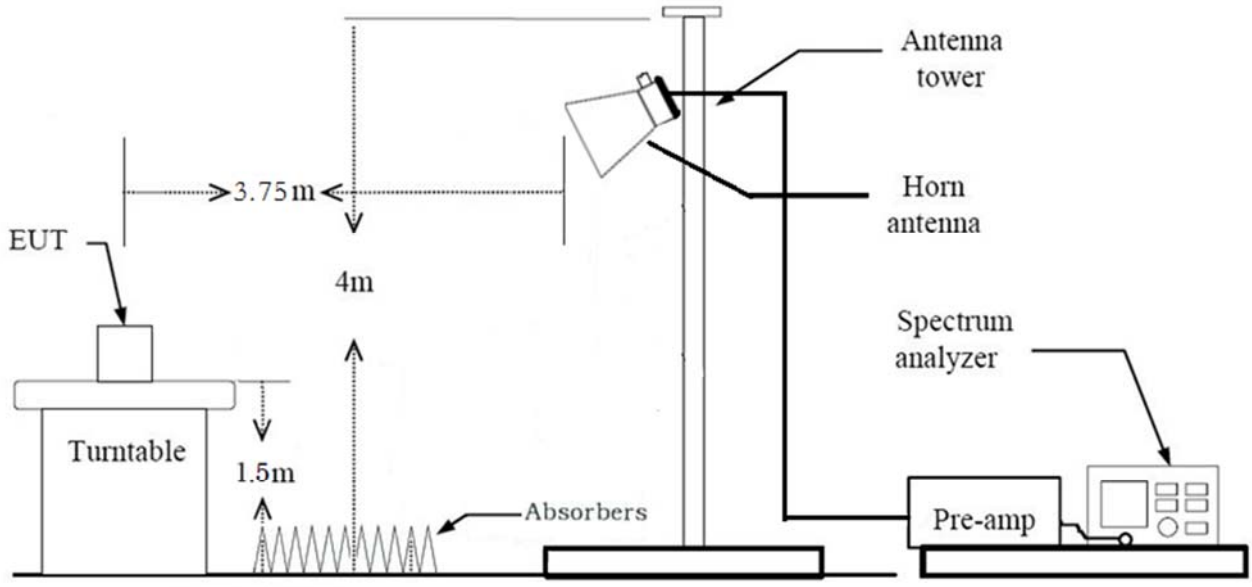
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



TEST PROCEDURE USED

ANSI C63.10:2013

Method G)5) in KDB 789033 D02 v02r01 (Peak)

Method G)6)d) in KDB 789033 D02 v02r01 (Average)

. Spectrum setting:

- Peak.

1. RBW = 1 MHz
2. VBW ≥ 3 MHz
3. Detector = Peak
4. Sweep Time = auto
5. Trace mode = max hold
6. Allow sweeps to continue until the trace stabilizes.
7. 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.

- Average (Method VB :Averaging using reduced video bandwidth)

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

Note :

1. We used the Method VB for 802.11a/n_HT20, n_HT40, ac_VHT20, 40, 80 mode to perform the average filed strength measurements.
2. The actual setting value of VBW for 802.11a/n_HT20, n_HT40, ac_VHT20, 40, 80
3. According to SVSWR requirement in ANSI 63.4-2014, We performed the radiated test at 3.75 m distance from center of turn table. So, we applied the distance factor(reference distance : 3 m).
4. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Mode	Worst Data rate (Mbps)	T_{on} (ms)	T_{total} (ms)	Duty Cycle (%)	VBW(1/T) (Hz)	The actual setting value of VBW (Hz)
a	**6**	**1.429**	**1.530**	**0.93386788**	**700**	**1000**
n_HT20	**MCS 0**	**1.336**	**1.436**	**0.93014204**	**749**	**1000**
ac_VHT20	**MCS 0**	**1.342**	**1.443**	**0.93000693**	**745**	**1000**
n_HT40	**MCS 0**	**0.665**	**0.763**	**0.87142857**	**1504**	**3000**
ac_VHT40	**MCS 0**	**0.668**	**0.769**	**0.86866060**	**1497**	**3000**
ac_VHT80	**MCS 0**	**0.334**	**0.438**	**0.76255708**	**2994**	**10000**

TEST RESULTS

9 kHz – 30MHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
㎒	dB㎶	dB /m	dB	(H/V)	dB㎶/m	dB㎶/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 9 kHz to the 30MHz.
2. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
3. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)
4. Limit line = specific Limits (dBuV) + Distance extrapolation factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. The test results for below 30 MHz is correlated to an open site.
   The result on OATS is about 2 dB higher than semi-anechoic chamber(10 m chamber)

TEST RESULTS

Below 1 GHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
㎒	dB㎶	dB /m	dB	(H/V)	dB㎶/m	dB㎶/m	dB
No Critical peaks found							

Notes:

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

Above 1 GHz

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10360	53.61	4.47	V	58.08	68.20	10.12	PK
15540	49.15	1.80	V	50.95	73.98	23.03	PK
15540	35.71	1.80	V	37.51	53.98	16.47	AV
10360	53.11	4.47	H	57.58	68.20	10.62	PK
15540	48.99	1.80	H	50.79	73.98	23.19	PK
15540	35.69	1.80	H	37.49	53.98	16.49	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5200 MHz
Channel No.	40 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10400	53.79	3.22	V	57.01	68.20	11.19	PK
15600	48.86	1.06	V	49.92	73.98	24.06	PK
15600	34.41	1.06	V	35.47	53.98	18.51	AV
10400	53.56	3.22	H	56.78	68.20	11.42	PK
15600	48.56	1.06	H	49.62	73.98	24.36	PK
15600	34.31	1.06	H	35.37	53.98	18.61	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5240 MHz
Channel No.	48 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10480	53.23	3.53	V	56.76	68.20	11.44	PK
15720	49.26	1.54	V	50.80	73.98	23.18	PK
15720	35.35	1.54	V	36.89	53.98	17.09	AV
10480	53.11	3.53	H	56.64	68.20	11.56	PK
15720	49.12	1.54	H	50.66	73.98	23.32	PK
15720	35.21	1.54	H	36.75	53.98	17.23	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10360	53.11	4.47	V	57.58	68.20	10.62	PK
15540	48.96	1.80	V	50.76	73.98	23.22	PK
15540	35.75	1.80	V	37.55	53.98	16.43	AV
10360	52.89	4.47	H	57.36	68.20	10.84	PK
15540	48.55	1.80	H	50.35	73.98	23.63	PK
15540	35.48	1.80	H	37.28	53.98	16.70	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT20. Worst case is MCS0 in 802.11n_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5200 MHz
Channel No.	40 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10400	53.75	3.22	V	56.97	68.20	11.23	PK
15600	48.69	1.06	V	49.75	73.98	24.23	PK
15600	34.55	1.06	V	35.61	53.98	18.37	AV
10400	53.45	3.22	H	56.67	68.20	11.53	PK
15600	48.63	1.06	H	49.69	73.98	24.29	PK
15600	34.26	1.06	H	35.32	53.98	18.66	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT20. Worst case is MCS0 in 802.11n_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5240 MHz
Channel No.	48 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10480	53.31	3.53	V	56.84	68.20	11.36	PK
15720	49.31	1.54	V	50.85	73.98	23.13	PK
15720	35.12	1.54	V	36.66	53.98	17.32	AV
10480	53.23	3.53	H	56.76	68.20	11.44	PK
15720	48.96	1.54	H	50.50	73.98	23.48	PK
15720	35.05	1.54	H	36.59	53.98	17.39	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT20. Worst case is MCS0 in 802.11n_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10360	53.40	4.47	V	57.87	68.20	10.33	PK
15540	48.99	1.80	V	50.79	73.98	23.19	PK
15540	35.49	1.80	V	37.29	53.98	16.69	AV
10360	52.95	4.47	H	57.42	68.20	10.78	PK
15540	48.72	1.80	H	50.52	73.98	23.46	PK
15540	35.21	1.80	H	37.01	53.98	16.97	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT20. Worst case is MCS0 in 802.11ac_VHT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5200 MHz
Channel No.	40 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10400	53.66	3.22	V	56.88	68.20	11.32	PK
15600	48.81	1.06	V	49.87	73.98	24.11	PK
15600	34.58	1.06	V	35.64	53.98	18.34	AV
10400	53.27	3.22	H	56.49	68.20	11.71	PK
15600	48.51	1.06	H	49.57	73.98	24.41	PK
15600	34.29	1.06	H	35.35	53.98	18.63	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT20. Worst case is MCS0 in 802.11ac_VHT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5240 MHz
Channel No.	48 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10480	53.21	3.53	V	56.74	68.20	11.46	PK
15720	49.23	1.54	V	50.77	73.98	23.21	PK
15720	35.06	1.54	V	36.60	53.98	17.38	AV
10480	53.04	3.53	H	56.57	68.20	11.63	PK
15720	48.97	1.54	H	50.51	73.98	23.47	PK
15720	34.84	1.54	H	36.38	53.98	17.60	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT20. Worst case is MCS0 in 802.11ac_VHT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	802.11n_HT40
Transfer MCS Index:	0
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10380	53.52	2.88	V	56.40	68.20	11.80	PK
15570	48.72	1.57	V	50.29	73.98	23.69	PK
15570	35.06	1.57	V	36.63	53.98	17.35	AV
10380	52.98	2.88	H	55.86	68.20	12.34	PK
15570	48.53	1.57	H	50.10	73.98	23.88	PK
15570	34.95	1.57	H	36.52	53.98	17.46	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT40. Worst case is MCS0 in 802.11n_HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	802.11n_HT40
Transfer MCS Index:	0
Operating Frequency	5230 MHz
Channel No.	46 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10460	52.58	3.56	V	56.14	68.20	12.06	PK
15690	49.03	1.38	V	50.41	73.98	23.57	PK
15690	35.17	1.38	V	36.55	53.98	17.43	AV
10460	52.51	3.56	H	56.07	68.20	12.13	PK
15690	48.95	1.38	H	50.33	73.98	23.65	PK
15690	35.11	1.38	H	36.49	53.98	17.49	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT40. Worst case is MCS0 in 802.11n_HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	802.11ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10380	53.43	2.88	V	56.31	68.20	11.89	PK
15570	48.66	1.57	V	50.23	73.98	23.75	PK
15570	35.02	1.57	V	36.59	53.98	17.39	AV
10380	53.12	2.88	H	56.00	68.20	12.20	PK
15570	48.22	1.57	H	49.79	73.98	24.19	PK
15570	34.84	1.57	H	36.41	53.98	17.57	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT40. Worst case is MCS0 in 802.11ac_VHT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	802.11ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5230 MHz
Channel No.	46 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10460	52.39	3.56	V	55.95	68.20	12.25	PK
15690	48.91	1.38	V	50.29	73.98	23.69	PK
15690	35.11	1.38	V	36.49	53.98	17.49	AV
10460	52.12	3.56	H	55.68	68.20	12.52	PK
15690	48.64	1.38	H	50.02	73.98	23.96	PK
15690	35.02	1.38	H	36.40	53.98	17.58	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT40. Worst case is MCS0 in 802.11ac_VHT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	802.11ac_VHT80
Transfer MCS Index:	0
Operating Frequency	5210 MHz
Channel No.	42 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10420	52.63	2.64	V	55.27	68.20	12.93	PK
15630	48.51	1.84	V	50.35	73.98	23.63	PK
15630	34.96	1.84	V	36.80	53.98	17.18	AV
10420	51.96	2.64	H	54.60	68.20	13.60	PK
15630	48.23	1.84	H	50.07	73.98	23.91	PK
15630	34.55	1.84	H	36.39	53.98	17.59	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT80. Worst case is MCS0 in 802.11ac_VHT80.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11 a
Transfer MCS Index:	6 Mbps
Operating Frequency	5260 MHz
Channel No.	52 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10520	52.55	2.35	V	54.90	68.20	13.30	PK
15780	48.81	2.07	V	50.88	73.98	23.10	PK
15780	35.99	2.07	V	38.06	53.98	15.92	AV
10520	52.23	2.35	H	54.58	68.20	13.62	PK
15780	48.65	2.07	H	50.72	73.98	23.26	PK
15780	35.64	2.07	H	37.71	53.98	16.27	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5300 MHz
Channel No.	60 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10600	52.06	3.16	V	55.22	73.98	18.76	PK
10600	44.39	3.16	V	47.55	53.98	6.43	AV
15900	48.23	1.23	V	49.46	73.98	24.52	PK
15900	35.73	1.23	V	36.96	53.98	17.02	AV
10600	52.10	3.16	H	55.26	73.98	18.72	PK
10600	43.96	3.16	H	47.12	53.98	6.86	AV
15900	48.13	1.23	H	49.36	73.98	24.62	PK
15900	35.69	1.23	H	36.92	53.98	17.06	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10640	52.34	3.07	V	55.41	73.98	18.57	PK
10640	44.73	3.07	V	47.80	53.98	6.18	AV
15960	48.50	2.06	V	50.56	73.98	23.42	PK
15960	34.79	2.06	V	36.85	53.98	17.13	AV
10640	52.30	3.07	H	55.37	73.98	18.61	PK
10640	44.33	3.07	H	47.40	53.98	6.58	AV
15960	48.23	2.06	H	50.29	73.98	23.69	PK
15960	34.61	2.06	H	36.67	53.98	17.31	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5260 MHz
Channel No.	52 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10520	52.69	2.35	V	55.04	68.20	13.16	PK
15780	48.13	2.07	V	50.20	73.98	23.78	PK
15780	35.44	2.07	V	37.51	53.98	16.47	AV
10520	52.61	2.35	H	54.96	68.20	13.24	PK
15780	48.11	2.07	H	50.18	73.98	23.80	PK
15780	35.34	2.07	H	37.41	53.98	16.57	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT20. Worst case is MCS0 in 802.11n_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5300 MHz
Channel No.	60 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10600	51.89	3.16	V	55.05	73.98	18.93	PK
10600	44.23	3.16	V	47.39	53.98	6.59	AV
15900	49.40	1.23	V	50.63	73.98	23.35	PK
15900	35.47	1.23	V	36.70	53.98	17.28	AV
10600	51.68	3.16	H	54.84	73.98	19.14	PK
10600	44.12	3.16	H	47.28	53.98	6.70	AV
15900	49.31	1.23	H	50.54	73.98	23.44	PK
15900	35.32	1.23	H	36.55	53.98	17.43	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT20. Worst case is MCS0 in 802.11n_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10640	52.22	3.07	V	55.29	73.98	18.69	PK
10640	44.65	3.07	V	47.72	53.98	6.26	AV
15960	48.66	2.06	V	50.72	73.98	23.26	PK
15960	34.47	2.06	V	36.53	53.98	17.45	AV
10640	52.14	3.07	H	55.21	73.98	18.77	PK
10640	44.13	3.07	H	47.20	53.98	6.78	AV
15960	48.52	2.06	H	50.58	73.98	23.40	PK
15960	34.26	2.06	H	36.32	53.98	17.66	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT20. Worst case is MCS0 in 802.11n_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5260MHz
Channel No.	52 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10520	52.71	2.35	V	55.06	68.20	13.14	PK
15780	48.22	2.07	V	50.29	73.98	23.69	PK
15780	35.45	2.07	V	37.52	53.98	16.46	AV
10520	51.98	2.35	H	54.33	68.20	13.87	PK
15780	48.12	2.07	H	50.19	73.98	23.79	PK
15780	35.23	2.07	H	37.30	53.98	16.68	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT20. Worst case is MCS0 in 802.11ac_VHT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5300 MHz
Channel No.	60 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10600	52.12	3.16	V	55.28	73.98	18.70	PK
10600	44.30	3.16	V	47.46	53.98	6.52	AV
15900	48.93	1.23	V	50.16	73.98	23.82	PK
15900	35.29	1.23	V	36.52	53.98	17.46	AV
10600	51.92	3.16	H	55.08	73.98	18.90	PK
10600	43.94	3.16	H	47.10	53.98	6.88	AV
15900	48.69	1.23	H	49.92	73.98	24.06	PK
15900	35.05	1.23	H	36.28	53.98	17.70	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT20. Worst case is MCS0 in 802.11ac_VHT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10640	52.17	3.07	V	55.24	73.98	18.74	PK
10640	44.68	3.07	V	47.75	53.98	6.23	AV
15960	48.56	2.06	V	50.62	73.98	23.36	PK
15960	34.41	2.06	V	36.47	53.98	17.51	AV
10640	51.94	3.07	H	55.01	73.98	18.97	PK
10640	44.12	3.07	H	47.19	53.98	6.79	AV
15960	48.22	2.06	H	50.28	73.98	23.70	PK
15960	34.27	2.06	H	36.33	53.98	17.65	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT20. Worst case is MCS0 in 802.11ac_VHT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11n_HT40
Transfer MCS Index:	0
Operating Frequency	5270 MHz
Channel No.	54 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10540	52.52	3.85	V	56.37	68.20	11.83	PK
15810	47.98	2.79	V	50.77	73.98	23.21	PK
15810	34.01	2.79	V	36.80	53.98	17.18	AV
10540	52.24	3.85	H	56.09	68.20	12.11	PK
15810	47.64	2.79	H	50.43	73.98	23.55	PK
15810	34.02	2.79	H	36.81	53.98	17.17	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT40. Worst case is MCS0 in 802.11n_HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11n_HT40
Transfer MCS Index:	0
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10620	52.16	2.96	V	55.12	73.98	18.86	PK
10620	44.18	2.96	V	47.14	53.98	6.84	AV
15930	48.82	1.43	V	50.25	73.98	23.73	PK
15930	35.09	1.43	V	36.52	53.98	17.46	AV
10620	52.07	2.96	H	55.03	73.98	18.95	PK
10620	44.15	2.96	H	47.11	53.98	6.87	AV
15930	48.51	1.43	H	49.94	73.98	24.04	PK
15930	34.86	1.43	H	36.29	53.98	17.69	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT40. Worst case is MCS0 in 802.11n_HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5270 MHz
Channel No.	54 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10540	52.16	3.85	V	56.01	68.20	12.19	PK
15810	47.99	2.79	V	50.78	73.98	23.20	PK
15810	34.11	2.79	V	36.90	53.98	17.08	AV
10540	51.69	3.85	H	55.54	68.20	12.66	PK
15810	47.54	2.79	H	50.33	73.98	23.65	PK
15810	34.05	2.79	H	36.84	53.98	17.14	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT40. Worst case is MCS0 in 802.11ac_VHT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10620	52.14	2.96	V	55.10	73.98	18.88	PK
10620	44.15	2.96	V	47.11	53.98	6.87	AV
15930	48.90	1.43	V	50.33	73.98	23.65	PK
15930	35.14	1.43	V	36.57	53.98	17.41	AV
10620	52.11	2.96	H	55.07	73.98	18.91	PK
10620	44.01	2.96	H	46.97	53.98	7.01	AV
15930	48.48	1.43	H	49.91	73.98	24.07	PK
15930	35.11	1.43	H	36.54	53.98	17.44	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT40. Worst case is MCS0 in 802.11ac_VHT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2A
Operation Mode:	802.11ac_VHT80
Transfer MCS Index:	0
Operating Frequency	5290 MHz
Channel No.	58 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10580	52.18	2.79	V	54.97	68.20	13.23	PK
15870	48.56	2.47	V	51.03	73.98	22.95	PK
15870	34.03	2.47	V	36.50	53.98	17.48	AV
10580	52.11	2.79	H	54.90	68.20	13.30	PK
15870	48.21	2.47	H	50.68	73.98	23.30	PK
15870	33.59	2.47	H	36.06	53.98	17.92	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT80. Worst case is MCS0 in 802.11ac_VHT80.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11000	52.71	3.36	V	56.07	73.98	17.91	PK
11000	44.22	3.36	V	47.58	53.98	6.40	AV
16500	48.66	5.07	V	53.73	68.20	14.47	PK
11000	52.36	3.36	H	55.72	73.98	18.26	PK
11000	43.96	3.36	H	47.32	53.98	6.66	AV
16500	48.51	5.07	H	53.58	68.20	14.62	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5580 MHz
Channel No.	116 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11160	51.06	4.07	V	55.13	73.98	18.85	PK
11160	42.56	4.07	V	46.63	53.98	7.35	AV
16740	46.78	4.79	V	51.57	68.20	16.63	PK
11160	50.69	4.07	H	54.76	73.98	19.22	PK
11160	42.51	4.07	H	46.58	53.98	7.40	AV
16740	46.35	4.79	H	51.14	68.20	17.06	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5720 MHz
Channel No.	144 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11440	52.01	3.57	V	55.58	73.98	18.40	PK
11440	43.42	3.57	V	46.99	53.98	6.99	AV
17160	48.26	5.24	V	53.50	68.20	14.70	PK
11440	51.96	3.57	H	55.53	73.98	18.45	PK
11440	43.12	3.57	H	46.69	53.98	7.29	AV
17160	47.96	5.24	H	53.20	68.20	15.00	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11000	52.64	3.36	V	56.00	73.98	17.98	PK
11000	44.18	3.36	V	47.54	53.98	6.44	AV
16500	48.47	5.07	V	53.54	68.20	14.66	PK
11000	51.98	3.36	H	55.34	73.98	18.64	PK
11000	44.06	3.36	H	47.42	53.98	6.56	AV
16500	46.87	5.07	H	51.94	68.20	16.26	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT20. Worst case is MCS0 in 802.11n_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5580 MHz
Channel No.	116 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11160	51.22	4.07	V	55.29	73.98	18.69	PK
11160	42.61	4.07	V	46.68	53.98	7.30	AV
16740	46.78	4.79	V	51.57	68.20	16.63	PK
11160	51.02	4.07	H	55.09	73.98	18.89	PK
11160	41.96	4.07	H	46.03	53.98	7.95	AV
16740	46.58	4.79	H	51.37	68.20	16.83	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT20. Worst case is MCS0 in 802.11n_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5720 MHz
Channel No.	144 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11440	51.98	3.57	V	55.55	73.98	18.43	PK
11440	43.16	3.57	V	46.73	53.98	7.25	AV
17160	48.16	5.24	V	53.40	68.20	14.80	PK
11440	51.91	3.57	H	55.48	73.98	18.50	PK
11440	42.88	3.57	H	46.45	53.98	7.53	AV
17160	47.77	5.24	H	53.01	68.20	15.19	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT20. Worst case is MCS0 in 802.11n_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5500MHz
Channel No.	100 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11000	52.40	3.36	V	55.76	73.98	18.22	PK
11000	44.06	3.36	V	47.42	53.98	6.56	AV
16500	48.90	5.07	V	53.97	68.20	14.23	PK
11000	51.94	3.36	H	55.30	73.98	18.68	PK
11000	43.51	3.36	H	46.87	53.98	7.11	AV
16500	48.55	5.07	H	53.62	68.20	14.58	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT20. Worst case is MCS0 in 802.11ac_VHT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5580 MHz
Channel No.	116 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11160	51.94	4.07	V	56.01	73.98	17.97	PK
11160	42.36	4.07	V	46.43	53.98	7.55	AV
16740	47.06	4.79	V	51.85	68.20	16.35	PK
11160	51.80	4.07	H	55.87	73.98	18.11	PK
11160	42.24	4.07	H	46.31	53.98	7.67	AV
16740	47.02	4.79	H	51.81	68.20	16.39	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT20. Worst case is MCS0 in 802.11ac_VHT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5720 MHz
Channel No.	144 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11440	52.42	3.57	V	55.99	73.98	17.99	PK
11440	43.22	3.57	V	46.79	53.98	7.19	AV
17160	48.33	5.24	V	53.57	68.20	14.63	PK
11440	52.31	3.57	H	55.88	73.98	18.10	PK
11440	42.44	3.57	H	46.01	53.98	7.97	AV
17160	48.15	5.24	H	53.39	68.20	14.81	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT20. Worst case is MCS0 in 802.11ac_VHT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11n_HT40
Transfer MCS Index:	0
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11020	51.55	2.97	V	54.52	73.98	19.46	PK
11020	43.58	2.97	V	46.55	53.98	7.43	AV
16530	48.54	4.15	V	52.69	68.20	15.51	PK
11020	51.28	2.97	H	54.25	73.98	19.73	PK
11020	43.26	2.97	H	46.23	53.98	7.75	AV
16530	48.39	4.15	H	52.54	68.20	15.66	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT40. Worst case is MCS0 in 802.11n_HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11n_HT40
Transfer MCS Index:	0
Operating Frequency	5550 MHz
Channel No.	110 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11100	51.38	2.79	V	54.17	73.98	19.81	PK
11100	41.77	2.79	V	44.56	53.98	9.42	AV
16650	47.94	7.19	V	55.13	68.20	13.07	PK
11100	51.21	2.79	H	54.00	73.98	19.98	PK
11100	41.56	2.79	H	44.35	53.98	9.63	AV
16650	47.46	7.19	H	54.65	68.20	13.55	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT40. Worst case is MCS0 in 802.11n_HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11n_HT40
Transfer MCS Index:	0
Operating Frequency	5710 MHz
Channel No.	142 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11420	51.29	3.36	V	54.65	73.98	19.33	PK
11420	43.25	3.36	V	46.61	53.98	7.37	AV
17130	48.21	7.02	V	55.23	68.20	12.97	PK
11420	51.17	3.36	H	54.53	73.98	19.45	PK
11420	43.12	3.36	H	46.48	53.98	7.50	AV
17130	48.11	7.02	H	55.13	68.20	13.07	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT40. Worst case is MCS0 in 802.11n_HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11020	51.23	2.97	V	54.20	73.98	19.78	PK
11020	43.42	2.97	V	46.39	53.98	7.59	AV
16530	48.31	4.15	V	52.46	68.20	15.74	PK
11020	51.11	2.97	H	54.08	73.98	19.90	PK
11020	42.96	2.97	H	45.93	53.98	8.05	AV
16530	48.12	4.15	H	52.27	68.20	15.93	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT40. Worst case is MCS0 in 802.11ac_VHT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5550 MHz
Channel No.	110 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11100	51.25	2.79	V	54.04	73.98	19.94	PK
11100	41.75	2.79	V	44.54	53.98	9.44	AV
16650	47.84	7.19	V	55.03	68.20	13.17	PK
11100	51.03	2.79	H	53.82	73.98	20.16	PK
11100	41.04	2.79	H	43.83	53.98	10.15	AV
16650	47.23	7.19	H	54.42	68.20	13.78	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss – Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT40. Worst case is MCS0 in 802.11ac_VHT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5710 MHz
Channel No.	142 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11420	52.03	3.36	V	55.39	73.98	18.59	PK
11420	42.94	3.36	V	46.30	53.98	7.68	AV
17130	47.99	7.02	V	55.01	68.20	13.19	PK
11420	51.96	3.36	H	55.32	73.98	18.66	PK
11420	42.56	3.36	H	45.92	53.98	8.06	AV
17130	47.74	7.02	H	54.76	68.20	13.44	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss – Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT40. Worst case is MCS0 in 802.11ac_VHT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11ac_VHT80
Transfer MCS Index:	0
Operating Frequency	5530 MHz
Channel No.	106 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11060	51.02	3.46	V	54.48	73.98	19.50	PK
11060	42.65	3.46	V	46.11	53.98	7.87	AV
16590	48.10	4.11	V	52.21	68.20	15.99	PK
11060	51.21	3.46	H	54.67	73.98	19.31	PK
11060	43.11	3.46	H	46.57	53.98	7.41	AV
16590	48.22	4.11	H	52.33	68.20	15.87	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss – Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT80. Worst case is MCS0 in 802.11ac_VHT80.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 2C
Operation Mode:	802.11ac_VHT80
Transfer MCS Index:	0
Operating Frequency	5690 MHz
Channel No.	138 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11380	51.31	3.41	V	54.72	73.98	19.26	PK
11380	42.15	3.41	V	45.56	53.98	8.42	AV
17070	47.23	5.78	V	53.01	68.20	15.19	PK
11380	51.86	3.41	H	55.27	73.98	18.71	PK
11380	42.55	3.41	H	45.96	53.98	8.02	AV
17070	47.55	5.78	H	53.33	68.20	14.87	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss – Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT80. Worst case is MCS0 in 802.11ac_VHT80.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5745MHz
Channel No.	149 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11490	51.21	2.87	V	54.08	73.98	19.90	PK
11490	42.13	2.87	V	45.00	53.98	8.98	AV
17235	47.23	7.44	V	54.67	68.20	13.54	PK
11490	51.13	2.51	H	53.64	73.98	20.34	PK
11490	42.37	2.51	H	44.88	53.98	9.10	AV
17235	47.47	7.44	H	54.91	68.20	13.30	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11570	51.31	2.48	V	53.79	73.98	20.19	PK
11570	44.37	2.48	V	46.85	53.98	7.13	AV
17355	48.23	7.86	V	56.09	68.20	12.12	PK
11570	51.68	2.48	H	54.16	73.98	19.82	PK
11570	45.00	2.48	H	47.48	53.98	6.50	AV
17355	48.55	7.86	H	56.41	68.20	11.80	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11650	52.96	3.24	V	56.20	73.98	17.78	PK
11650	47.60	3.24	V	50.84	53.98	3.14	AV
17475	48.57	8.14	V	56.71	68.20	11.50	PK
11650	53.32	3.24	H	56.56	73.98	17.42	PK
11650	48.21	3.24	H	51.45	53.98	2.53	AV
17475	49.15	8.14	H	57.29	68.20	10.92	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5745 MHz
Channel No.	149 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11490	51.13	2.87	V	54.00	73.98	19.98	PK
11490	41.95	2.87	V	44.82	53.98	9.16	AV
17235	47.29	7.44	V	54.73	68.20	13.48	PK
11490	51.32	2.51	H	53.83	73.98	20.15	PK
11490	42.15	2.51	H	44.66	53.98	9.32	AV
17235	47.39	7.44	H	54.83	68.20	13.38	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT20. Worst case is MCS0 in 802.11n_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11570	52.05	2.48	V	54.53	73.98	19.45	PK
11570	44.24	2.48	V	46.72	53.98	7.26	AV
17355	47.53	7.86	V	55.39	68.20	12.82	PK
11570	52.10	2.48	H	54.58	73.98	19.40	PK
11570	44.88	2.48	H	47.36	53.98	6.62	AV
17355	48.66	7.86	H	56.52	68.20	11.69	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT20. Worst case is MCS0 in 802.11n_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11650	53.33	3.24	V	56.57	73.98	17.41	PK
11650	47.71	3.24	V	50.95	53.98	3.03	AV
17475	47.96	8.14	V	56.10	68.20	12.11	PK
11650	53.63	3.24	H	56.87	73.98	17.11	PK
11650	48.29	3.24	H	51.53	53.98	2.45	AV
17475	48.94	8.14	H	57.08	68.20	11.13	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT20. Worst case is MCS0 in 802.11n_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5745 MHz
Channel No.	149 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11490	51.95	2.87	V	54.82	73.98	19.16	PK
11490	42.15	2.87	V	45.02	53.98	8.96	AV
17235	47.52	7.44	V	54.96	68.20	13.25	PK
11490	52.02	2.51	H	54.53	73.98	19.45	PK
11490	42.30	2.51	H	44.81	53.98	9.17	AV
17235	47.62	7.44	H	55.06	68.20	13.15	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT20. Worst case is MCS0 in 802.11ac_VHT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11570	52.23	2.48	V	54.71	73.98	19.27	PK
11570	44.31	2.48	V	46.79	53.98	7.19	AV
17355	48.51	7.86	V	56.37	68.20	11.84	PK
11570	52.32	2.48	H	54.80	73.98	19.18	PK
11570	44.79	2.48	H	47.27	53.98	6.71	AV
17355	48.86	7.86	H	56.72	68.20	11.49	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT20. Worst case is MCS0 in 802.11ac_VHT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11650	53.64	3.24	V	56.88	73.98	17.10	PK
11650	47.95	3.24	V	51.19	53.98	2.79	AV
17475	48.23	8.14	V	56.37	68.20	11.84	PK
11650	53.83	3.24	H	57.07	73.98	16.91	PK
11650	48.42	3.24	H	51.66	53.98	2.32	AV
17475	48.50	8.14	H	56.64	68.20	11.57	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT20. Worst case is MCS0 in 802.11ac_VHT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII3
Operation Mode:	802.11n_HT40
Transfer MCS Index:	0
Operating Frequency	5755 MHz
Channel No.	151 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11510	52.99	2.90	V	55.89	73.98	18.09	PK
11510	47.51	2.90	V	50.41	53.98	3.57	AV
17265	47.87	6.80	V	54.67	68.20	13.53	PK
11510	53.59	2.90	H	56.49	73.98	17.49	PK
11510	47.64	2.90	H	50.54	53.98	3.44	AV
17265	48.07	6.80	H	54.87	68.20	13.33	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT40. Worst case is MCS0 in 802.11n_HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	802.11n_HT40
Transfer MCS Index:	0
Operating Frequency	5795 MHz
Channel No.	159 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11590	53.01	3.72	V	56.73	73.98	17.25	PK
11590	45.84	3.72	V	49.56	53.98	4.42	AV
17385	48.13	7.21	V	55.34	68.20	12.87	PK
11590	53.12	3.72	H	56.84	73.98	17.14	PK
11590	46.30	3.72	H	50.02	53.98	3.96	AV
17385	48.34	7.21	H	55.55	68.20	12.66	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11n_HT40. Worst case is MCS0 in 802.11n_HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	802.11ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5755 MHz
Channel No.	151 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11510	51.88	2.90	V	54.78	73.98	19.20	PK
11510	47.02	2.90	V	49.92	53.98	4.06	AV
17265	47.51	6.80	V	54.31	68.20	13.89	PK
11510	52.96	2.90	H	55.86	73.98	18.12	PK
11510	47.16	2.90	H	50.06	53.98	3.92	AV
17265	48.02	6.80	H	54.82	68.20	13.38	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT40. Worst case is MCS0 in 802.11ac_VHT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	802.11ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5795 MHz
Channel No.	159 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11590	51.97	3.72	V	55.69	73.98	18.29	PK
11590	45.57	3.72	V	49.29	53.98	4.69	AV
17385	47.65	7.21	V	54.86	68.20	13.35	PK
11590	52.86	3.72	H	56.58	73.98	17.40	PK
11590	46.12	3.72	H	49.84	53.98	4.14	AV
17385	48.21	7.21	H	55.42	68.20	12.79	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT40. Worst case is MCS0 in 802.11ac_VHT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	802.11ac_VHT80
Transfer MCS Index:	0
Operating Frequency	5775 MHz
Channel No.	155 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11550	51.98	3.32	V	55.30	73.98	18.68	PK
11550	45.86	3.32	V	49.18	53.98	4.80	AV
17325	47.39	8.09	V	55.48	68.20	12.73	PK
11550	52.03	3.32	H	55.35	73.98	18.63	PK
11550	46.13	3.32	H	49.45	53.98	4.53	AV
17325	47.63	8.09	H	55.72	68.20	12.49	PK

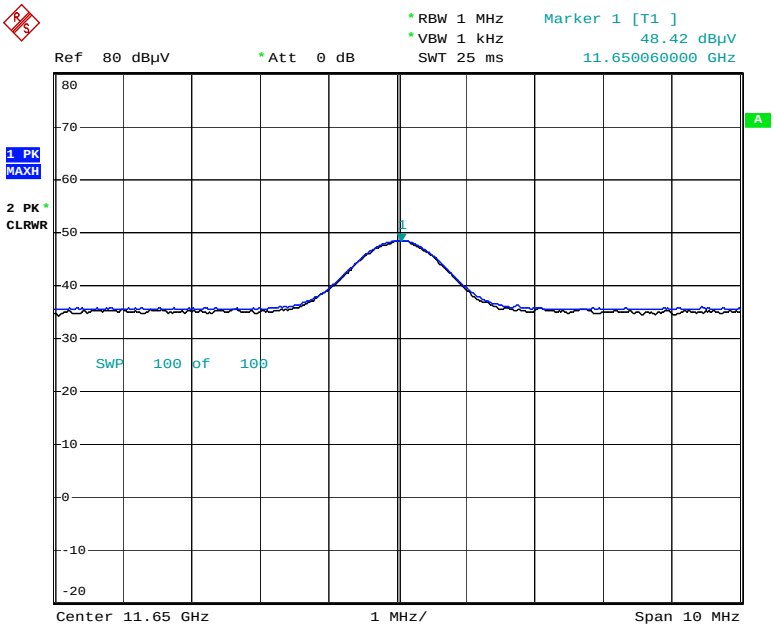
*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done all data rate in 802.11ac_VHT80. Worst case is MCS0 in 802.11ac_VHT80.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

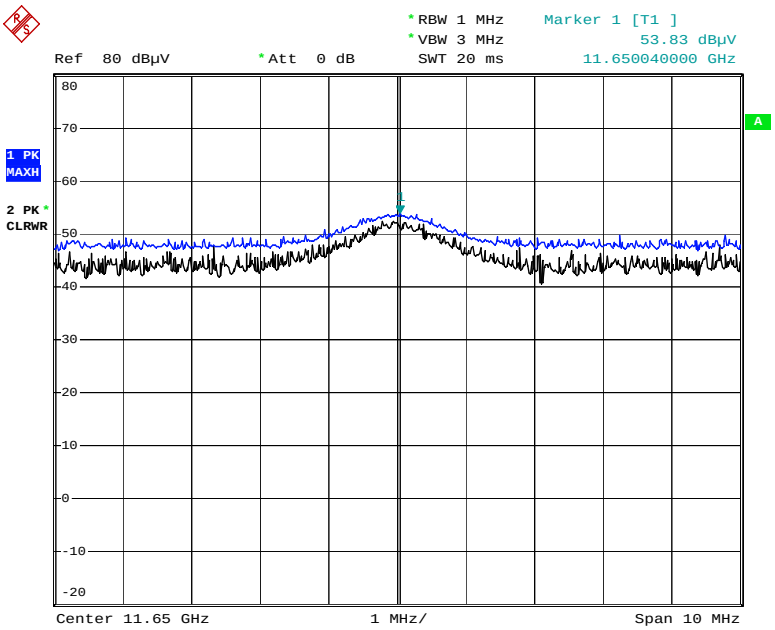
▣ RESULT PLOTS (Worst case : X-H)

Radiated Spurious Emissions plot – Average Reading (802.11ac_VHT20, Ch.165 2nd Harmonic)



Date: 4.SEP.2018 10:03:18

Radiated Spurious Emissions plot – Peak Reading (802.11ac_VHT20, Ch.165 2nd Harmonic)



Date: 30.AUG.2018 07:00:00

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

9.6.2 RADIATED RESTRICTED BAND EDGE MEASUREMENTS

Test Requirements and limit, §15.247(d) §15.205, §15.209

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (See section 15.205(c)).

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	53.95	3.07	H	57.02	73.98	16.96	PK
5150	41.01	3.07	H	44.08	53.98	9.90	AV
5150	54.03	3.07	V	57.1	73.98	16.88	PK
5150	41.86	3.07	V	44.93	53.98	9.05	AV

Band :	UNII 1
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	53.56	3.07	H	56.63	73.98	17.35	PK
5150	40.98	3.07	H	44.05	53.98	9.93	AV
5150	53.76	3.07	V	56.83	73.98	17.15	PK
5150	41.72	3.07	V	44.79	53.98	9.19	AV

Band :	UNII 1
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	53.20	3.07	H	56.27	73.98	17.71	PK
5150	40.69	3.07	H	43.76	53.98	10.22	AV
5150	53.08	3.07	V	56.15	73.98	17.83	PK
5150	41.42	3.07	V	44.49	53.98	9.49	AV

Band :	UNII 1
Operation Mode:	802.11 n_HT40
Transfer MCS Index:	0
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	55.93	3.07	H	59.00	73.98	14.98	PK
5150	41.36	3.07	H	44.43	53.98	9.55	AV
5150	56.15	3.07	V	59.22	73.98	14.76	PK
5150	42.63	3.07	V	45.7	53.98	8.28	AV

Band :	UNII 1
Operation Mode:	802.11 ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	56.48	3.07	H	59.55	73.98	14.43	PK
5150	42.10	3.07	H	45.17	53.98	8.81	AV
5150	56.88	3.07	V	59.95	73.98	14.03	PK
5150	42.72	3.07	V	45.79	53.98	8.19	AV

Band :	UNII 1
Operation Mode:	802.11 ac_VHT80
Transfer MCS Index:	0
Operating Frequency	5210 MHz
Channel No.	42 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	56.74	3.07	H	59.81	73.98	14.17	PK
5150	43.14	3.07	H	46.21	53.98	7.77	AV
5150	57.43	3.07	V	60.5	73.98	13.48	PK
5150	44.37	3.07	V	47.44	53.98	6.54	AV

Band :	UNII 2A
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	54.11	2.59	H	56.70	73.98	17.28	PK
5350	41.55	2.59	H	44.14	53.98	9.84	AV
5350	54.25	2.59	V	56.84	73.98	17.14	PK
5350	42.00	2.59	V	44.59	53.98	9.39	AV

Band :	UNII 2A
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	54.20	2.59	H	56.79	73.98	17.19	PK
5350	41.56	2.59	H	44.15	53.98	9.83	AV
5350	54.81	2.59	V	57.4	73.98	16.58	PK
5350	41.98	2.59	V	44.57	53.98	9.41	AV

Band :	UNII 2A
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	55.39	2.59	H	57.98	73.98	16.00	PK
5350	41.94	2.59	H	44.53	53.98	9.45	AV
5350	55.53	2.59	V	58.12	73.98	15.86	PK
5350	42.00	2.59	V	44.59	53.98	9.39	AV

Band :	UNII 2A
Operation Mode:	802.11 n_HT40
Transfer MCS Index:	0
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	56.11	2.59	H	58.70	73.98	15.28	PK
5350	42.18	2.59	H	44.77	53.98	9.21	AV
5350	56.20	2.59	V	58.79	73.98	15.19	PK
5350	42.55	2.59	V	45.14	53.98	8.84	AV

Band :	UNII 2A
Operation Mode:	802.11 ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	55.10	2.59	H	57.69	73.98	16.29	PK
5350	41.99	2.59	H	44.58	53.98	9.40	AV
5350	55.24	2.59	V	57.83	73.98	16.15	PK
5350	42.36	2.59	V	44.95	53.98	9.03	AV

Band :	UNII 2A
Operation Mode:	802.11 ac_VHT80
Transfer MCS Index:	0
Operating Frequency	5290 MHz
Channel No.	58 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	55.12	2.59	H	57.71	73.98	16.27	PK
5350	42.87	2.59	H	45.46	53.98	8.52	AV
5350	55.32	2.59	V	57.91	73.98	16.07	PK
5350	43.37	2.59	V	45.96	53.98	8.02	AV

Band :	UNII 2C
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	54.29	3.13	H	57.42	73.98	16.56	PK
5460	40.31	3.13	H	43.44	53.98	10.54	AV
5470	54.54	3.40	H	57.94	68.20	10.26	PK
5460	54.37	3.13	V	57.5	73.98	16.48	PK
5460	40.37	3.13	V	43.5	53.98	10.48	AV
5470	54.63	3.40	V	58.03	68.20	10.17	PK

Band :	UNII 2C
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	54.39	3.13	H	57.52	73.98	16.46	PK
5460	41.51	3.13	H	44.64	53.98	9.34	AV
5470	54.55	3.40	H	57.95	68.20	10.25	PK
5460	54.53	3.13	V	57.66	73.98	16.32	PK
5460	41.60	3.13	V	44.73	53.98	9.25	AV
5470	54.95	3.40	V	58.35	68.20	9.85	PK

Band :	UNII 2C
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	54.26	3.13	H	57.39	73.98	16.59	PK
5460	41.26	3.13	H	44.39	53.98	9.59	AV
5470	54.97	3.40	H	58.37	68.20	9.83	PK
5460	54.44	3.13	V	57.57	73.98	16.41	PK
5460	41.49	3.13	V	44.62	53.98	9.36	AV
5470	55.18	3.40	V	58.58	68.20	9.62	PK

Band :	UNII 2C
Operation Mode:	802.11 n_HT40
Transfer MCS Index:	0
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	55.18	3.13	H	58.31	73.98	15.67	PK
5460	42.24	3.13	H	45.37	53.98	8.61	AV
5470	59.95	3.40	H	63.35	68.20	4.85	PK
5460	55.44	3.13	V	58.57	73.98	15.41	PK
5460	42.47	3.13	V	45.6	53.98	8.38	AV
5470	60.65	3.40	V	64.05	68.20	4.15	PK

Band :	UNII 2C
Operation Mode:	802.11 ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	55.70	3.13	H	58.83	73.98	15.15	PK
5460	42.13	3.13	H	45.26	53.98	8.72	AV
5470	58.69	3.40	H	62.09	68.20	6.11	PK
5460	55.98	3.13	V	59.11	73.98	14.87	PK
5460	42.36	3.13	V	45.49	53.98	8.49	AV
5470	59.61	3.40	V	63.01	68.20	5.19	PK

Band :	UNII 2C
Operation Mode:	802.11 ac_VHT80
Transfer MCS Index:	0
Operating Frequency	5530 MHz
Channel No.	106 Ch

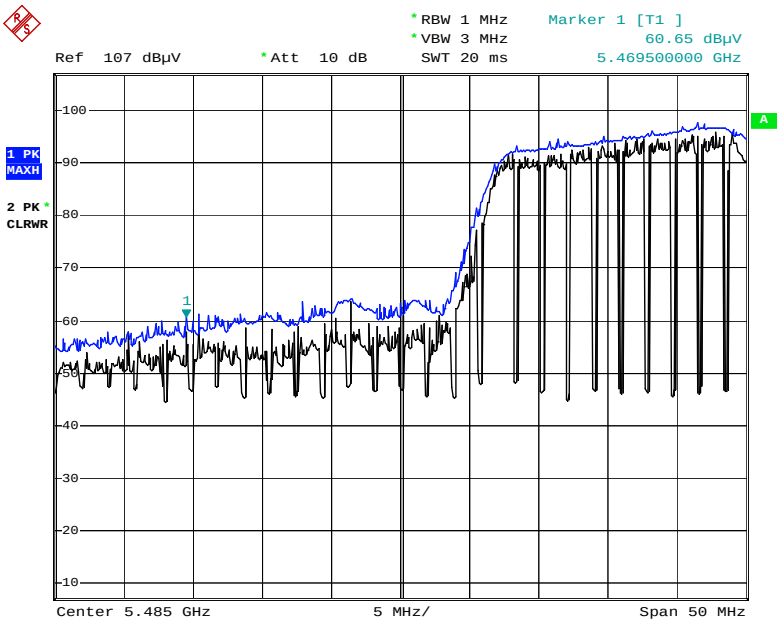
Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	56.86	3.13	H	59.99	73.98	13.99	PK
5460	44.23	3.13	H	47.36	53.98	6.62	AV
5470	58.95	3.40	H	62.35	68.20	5.85	PK
5460	57.38	3.13	V	60.51	73.98	13.47	PK
5460	44.80	3.13	V	47.93	53.98	6.05	AV
5470	59.63	3.40	V	63.03	68.20	5.17	PK

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + ATT + Distance Factor
2. We have done all data rate in 802.11a/n/ac mode test. . Worst case of EUT is lowest data rate in 802.11a/n/ac.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

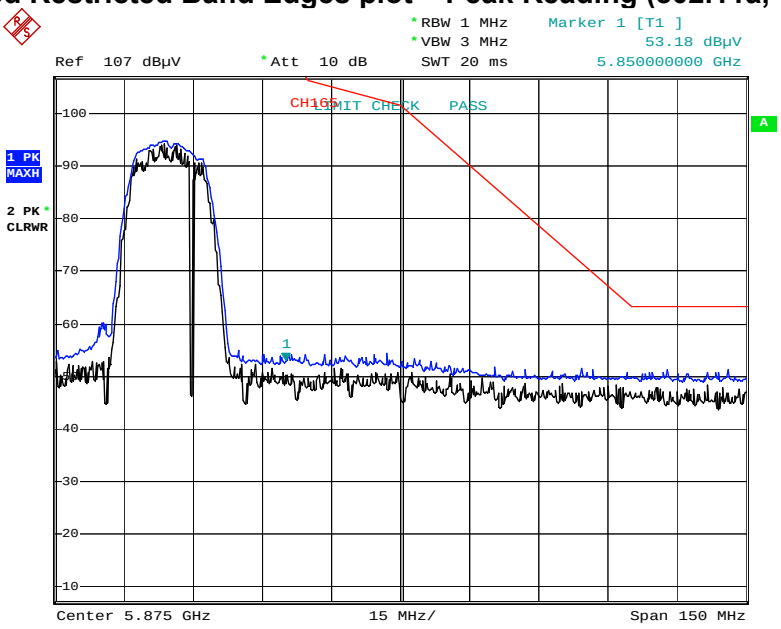
▣ RESULT PLOTS (Worst Case: X-V)

Radiated Restricted Band Edges plot – Peak Reading (802.11n_HT40, Ch.102)



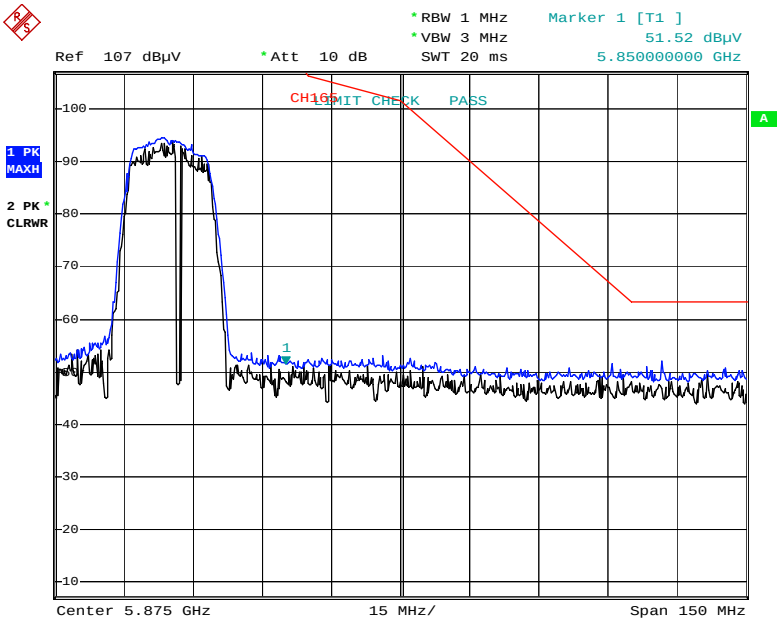
▣ RESULT PLOTS (UNII 3)

Radiated Restricted Band Edges plot – Peak Reading (802.11a, Ch.165)



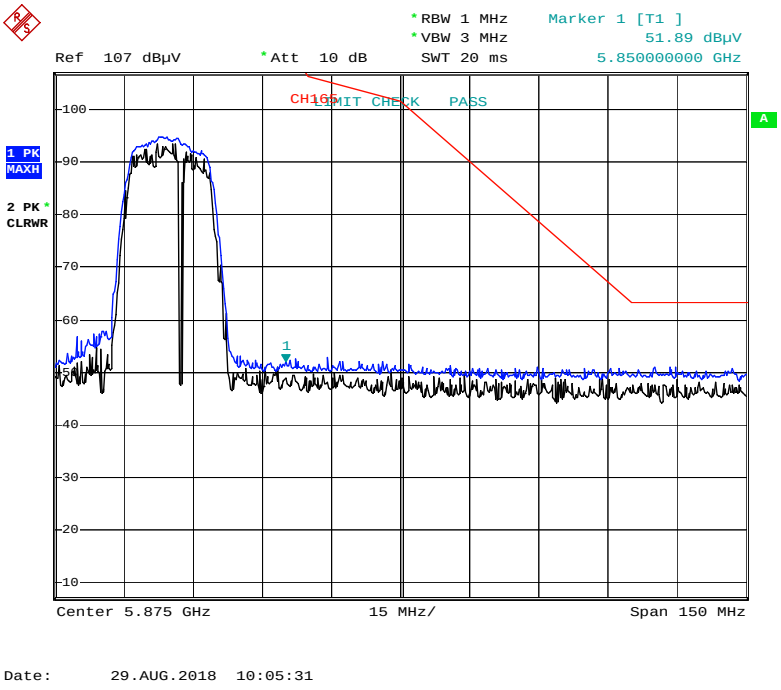
Date: 29.AUG.2018 09:57:35

Radiated Restricted Band Edges plot – Peak Reading (802.11n_HT20, Ch.165)



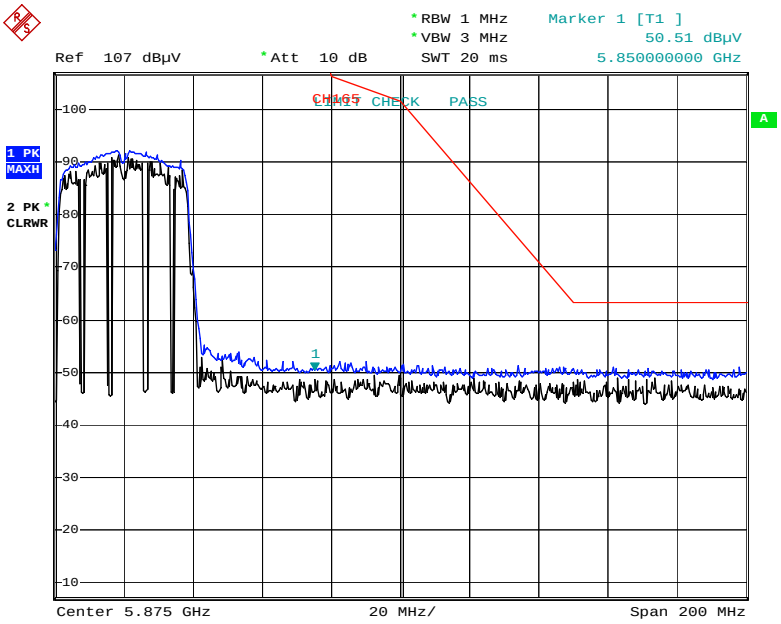
Date: 29.AUG.2018 10:04:35

Radiated Restricted Band Edges plot – Peak Reading (802.11ac_VHT20, Ch.165)



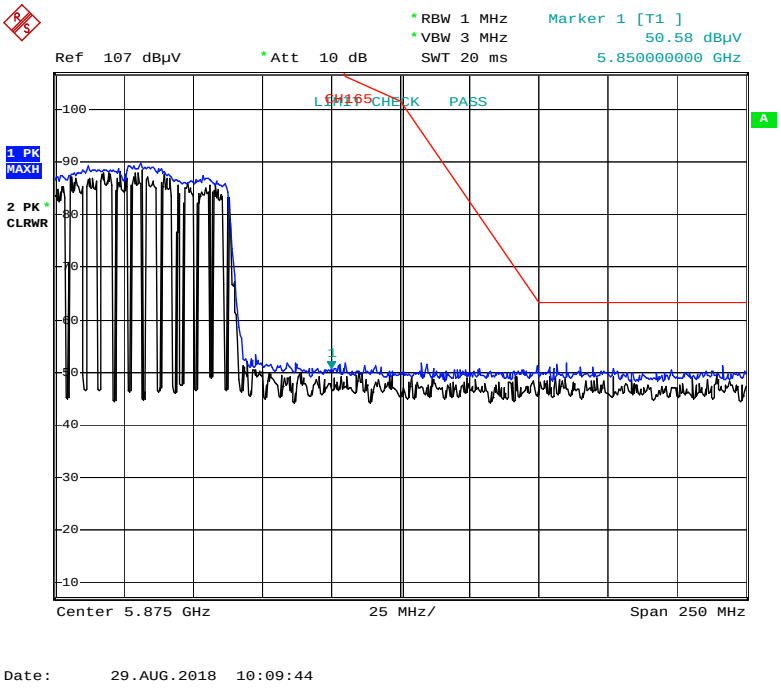
Date: 29.AUG.2018 10:05:31

Radiated Restricted Band Edges plot – Peak Reading (802.11n_HT40, Ch.159)



Date: 29.AUG.2018 10:07:08

Radiated Restricted Band Edges plot – Peak Reading (802.11ac_VHT80, Ch.155)



9.7 POWERLINE CONDUCTED EMISSIONS

Test Requirements and limit, §15.207

For an intentional radiator which 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 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

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

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 Appendix 1 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 groundplane.
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) = Reading Value + Correction Factor

[NOTE]

Note : We don’t perform powerline conducted emission test. Because this EUT is used with vehicle.

10. LIST OF TEST EQUIPMENT

10.1 LIST OF TEST EQUIPMENT(Conducted Test)

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Rohde & Schwarz	ENV216 / LISN	12/20/2017	Annual	102245
Rohde & Schwarz	ESCI / Test Receiver	06/27/2018	Annual	100033
ESPAC	SU-642 /Temperature Chamber	03/30/2018	Annual	0093008124
Agilent	N9020A / Signal Analyzer	06/08/2018	Annual	MY51110085
Agilent	N9030A / Signal Analyzer	11/22/2017	Annual	MY49431210
Agilent	N1911A / Power Meter	04/16/2018	Annual	MY45100523
Agilent	N1921A / Power Sensor	04/16/2018	Annual	MY52260025
Agilent	87300B / Directional Coupler	11/20/2017	Annual	3116A03621
Hewlett Packard	11667B / Power Splitter	06/07/2018	Annual	05001
Hewlett Packard	E3632A / DC Power Supply	06/26/2018	Annual	KR75303960
Agilent	8493C / Attenuator(10 dB)	07/10/2018	Annual	07560
Rohde & Schwarz	EMC32 / Software	N/A	N/A	N/A
HCT CO., LTD.	FCC WLAN&BT&BLE Conducted Test Software v3.0	N/A	N/A	N/A
Rohde & Schwarz	CBT / Bluetooth Tester	05/17/2018	Annual	100422

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.

2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

10.2 LIST OF TEST EQUIPMENT(Radiated Test)

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Innco system	CO3000 / Controller(Antenna mast)	N/A	N/A	CO3000-4p
Innco system	MA4640/800-XP-EP / Antenna Position Tower	N/A	N/A	N/A
Emco	2090 / Controller	N/A	N/A	060520
Ets	Turn Table	N/A	N/A	N/A
Rohde & Schwarz	Loop Antenna	04/19/2017	Biennial	1513-175
Schwarzbeck	VULB 9160 / Hybrid Antenna	08/09/2018	Biennial	3368
Schwarzbeck	BBHA 9120D / Horn Antenna	11/21/2017	Biennial	9120D-1191
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	12/04/2017	Biennial	BBHA9170541
Rohde & Schwarz	FSP(9 kHz ~ 30 GHz) / Spectrum Analyzer	09/21/2017	Annual	836650/016
Rohde & Schwarz	FSV40-N / Spectrum Analyzer	09/27/2017	Annual	101068-SZ
Wainwright Instruments	WHKX10-2700-3000-18000-40SS / High Pass Filter	07/16/2018	Annual	4
Wainwright Instruments	WHKX8-6090-7000-18000-40SS / High Pass Filter	07/10/2018	Annual	5
Wainwright Instruments	WRCJV2400/2483.5-2370/2520-60/12SS / Band Reject Filter	01/03/2018	Annual	2
Wainwright Instruments	WRCJV5100/5850-40/50-8EEK / Band Reject Filter	01/03/2018	Annual	2
Api tech.	18B-03 / Attenuator (3 dB)	06/07/2018	Annual	2
WEINSCHEL	56-10 / Attenuator(10 dB)	10/13/2017	Annual	72316
CERNEX	CBLU1183540 / Broadband Low Noise Amplifier	01/03/2018	Annual	24613
CERNEX	CBL06185030 / Broadband Low Noise Amplifier	01/03/2018	Annual	24615
CERNEX	CBL18265035 / Power Amplifier	01/10/2018	Annual	22966
CERNEX	CBL26405040 / Power Amplifier	06/29/2018	Annual	25956
TESCOM	TC-3000C / Bluetooth Tester	03/27/2018	Annual	3000C000276

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

11. ANNEX A_ TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

No.	Description
1	HCT-RF-1811-FC005-P
2	HCT-RF-1811-FC012-P
3	HCT-RF-1811-FC013-P
4	HCT-RF-1811-FC014-P