HCT CO.,LTD.

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

FCC UNII REPORT

Certification

Applicant Name:
SAMSUNG Electronics Co., Ltd.

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

Date of Issue:
April 24, 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-1804-FC028-R1

FCC ID: **A3LSMG885F**

APPLICANT: **SAMSUNG Electronics Co., Ltd.**

Model: SM-G885F/DS

EUT Type: Mobile Phone

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	17.97	0.06267
	802.11n_HT20	5180 – 5240	18.79	0.07571
	802.11n_HT40	5190 - 5230	16.89	0.04888
	802.11ac_VHT20	5180 – 5240	18.99	0.07917
	802.11ac_VHT40	5190 - 5230	16.86	0.04848
	802.11ac_VHT80	5210	14.64	0.02914
UNII2A	802.11a	5260 – 5320	17.72	0.05911
	802.11n_HT20	5260 – 5320	18.60	0.07240
	802.11n_HT40	5270 – 5310	16.63	0.04607
	802.11ac_VHT20	5260 – 5320	18.95	0.07854
	802.11ac_VHT40	5270 – 5310	16.66	0.04633
	802.11ac_VHT80	5290	12.93	0.01964
UNII2C	802.11a	5500 – 5700	17.93	0.06209
	802.11n_HT20	5500 – 5700	18.80	0.07582
	802.11n_HT40	5510 – 5670	16.72	0.04704
	802.11ac_VHT20	5500 – 5700	18.53	0.07125
	802.11ac_VHT40	5510 – 5670	16.84	0.04825
	802.11ac_VHT80	5530 - 5610	16.10	0.04074
UNII3	802.11a	5745 – 5825	17.76	0.05965
	802.11n_HT20	5745 – 5825	18.46	0.07013
	802.11n_HT40	5755 – 5795	16.75	0.04734
	802.11ac_VHT20	5745 – 5825	18.18	0.06582
	802.11ac_VHT40	5755 – 5795	16.64	0.04616
	802.11ac_VHT80	5775	15.47	0.03526

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 : Jung Ki Lim
Engineer of Telecommunication testing center

Approved by : Jong Seok Lee
Manager of Telecommunication testing center

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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-1804-FC028	April 20, 2018	- First Approval Report
HCT-RF-1804-FC029-R1	April 24, 2018	- It indicates the date used for power meter and power sensor (on page 190.)

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1. GENERAL INFORMATION

Applicant:	SAMSUNG Electronics Co., Ltd.
Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
FCC ID:	A3LSMG885F
EUT Type:	Mobile Phone
Model:	SM-G885F/DS
Date(s) of Tests:	April 02, 2018 ~ April 19, 2018
Place of Tests:	HCT Co., Ltd. 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea

2. EUT DESCRIPTION

Model	SM-G885F/DS	
EUT Type	Mobile Phone	
Power Supply	DC 3.85 V	
Frequency Range	TX_20 MHz BW:	5180 MHz - 5240 MHz (UNII 1) / 5260 MHz - 5320 MHz (UNII 2A)/ 5500 MHz - 5700 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 - 5670 MHz (UNII 2C) / 5755 MHz - 5795 MHz (UNII 3)
	80 MHz BW:	5210 MHz (UNII 1) / 5290 MHz (UNII 2A)/ 5530 MHz – 5610 MHz (UNII 2C) / 5775 MHz (UNII 3)
	RX_20 MHz BW:	5180 MHz - 5240 MHz (UNII 1) / 5260 MHz - 5320 MHz (UNII 2A)/ 5500 MHz - 5700 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 - 5670 MHz (UNII 2C) / 5755 MHz - 5795 MHz (UNII 3)
	80 MHz BW:	5210 MHz (UNII 1) / 5290 MHz (UNII 2A)/ 5530 MHz – 5610 MHz (UNII 2C) / 5775 MHz (UNII 3)
Modulation Type	OFDM(802.11a, 802.11n, 802.11ac)	
Antenna Specification	Antenna type: METAL + TFA Peak Gain : -3.86 dBi (UNII 1) / -3.65 dBi(UNII 2A) / -3.71 dBi(UNII 2C) / -3.21 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 : 2006).

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 C63.4:2014.

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

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

8. SUMMARY OF TEST RESULTS

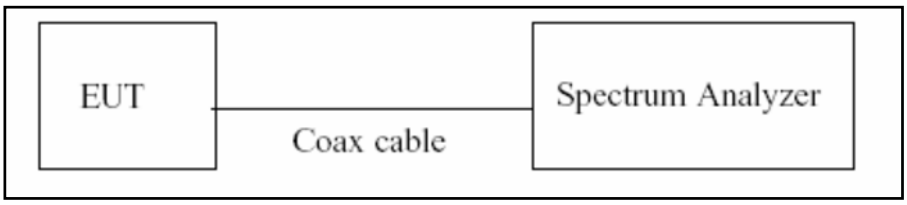
Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
26dB Bandwidth	§15.407 (for Power Measurement)	N/A	CONDUCTED	PASS
6 dB Bandwidth	§15.407(e)	>500 kHz (5725-5850 MHz)		PASS
Maximum Conducted Output Power	§15.407(a)(1)	< 250 mW (5150-5250 MHz) < 250 mW or 11+10 log $\log_{10}$ (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)	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)

▣ Duty Cycle Factor

Mode	Data Rate (Mbps)	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11a	6	1.434	1.540	0.93154377	0.308
	9	0.960	1.064	0.90263158	0.445
	12	0.729	0.847	0.86115702	0.649
	18	0.494	0.596	0.82785547	0.820
	24	0.377	0.475	0.79400736	1.002
	36	0.257	0.362	0.70960571	1.490
	48	0.201	0.301	0.66798014	1.752
	54	0.181	0.278	0.65056825	1.867
Mode	**MCS INDEX**	**T_{on} (ms)**	**T_{total} (ms)**	**Duty Cycle**	**Duty Cycle Factor (dB)**
802.11n_HT20	0	1.340	1.442	0.92895228	0.320
	1	0.689	0.791	0.87104930	0.600
	2	0.473	0.593	0.79763912	0.982
	3	0.365	0.468	0.78114131	1.073
	4	0.257	0.356	0.72171183	1.416
	5	0.201	0.304	0.65990553	1.805
	6	0.184	0.287	0.64009746	1.938
	7	0.169	0.265	0.63698690	1.959
802.11n_HT40	0	0.666	0.763	0.87272689	0.591
	1	0.353	0.451	0.78211308	1.067
	2	0.249	0.343	0.72509950	1.396
	3	0.197	0.289	0.68138563	1.666
	4	0.145	0.238	0.60919671	2.152
	5	0.117	0.218	0.53669725	2.703
	6	0.110	0.206	0.53284672	2.734
	7	0.101	0.196	0.51530612	2.879

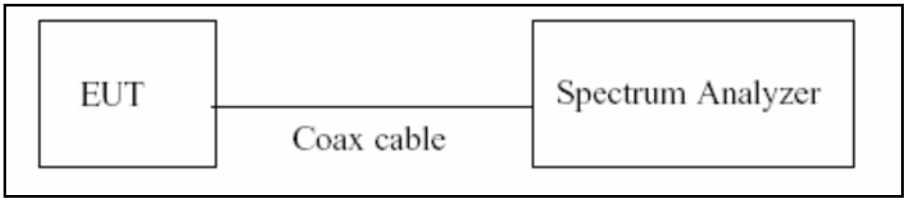
Mode	MCS INDEX	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11ac_VHT20	MCS 0	1.349	1.460	0.92450348	0.341
	MCS 1	0.697	0.795	0.87677245	0.571
	MCS 2	0.477	0.574	0.83081677	0.805
	MCS 3	0.369	0.474	0.77857248	1.087
	MCS 4	0.261	0.359	0.72755893	1.381
	MCS 5	0.207	0.301	0.68885191	1.619
	MCS 6	0.189	0.285	0.66129032	1.796
	MCS 7	0.174	0.265	0.65784499	1.819
	MCS 8	0.153	0.247	0.62064777	2.072
802.11ac_ VHT40	MCS 0	0.673	0.769	0.87517342	0.579
	MCS 1	0.358	0.453	0.78913317	1.028
	MCS 2	0.253	0.364	0.69565265	1.576
	MCS 3	0.201	0.294	0.68350917	1.653
	MCS 4	0.149	0.244	0.60960129	2.150
	MCS 5	0.121	0.214	0.56489781	2.480
	MCS 6	0.113	0.208	0.54260536	2.655
	MCS 7	0.105	0.199	0.52748820	2.778
	MCS 8	0.096	0.196	0.49104859	3.089
	MCS 9	0.089	0.184	0.48228883	3.167
802.11ac_ VHT80	MCS 0	0.333	0.425	0.78237640	1.066
	MCS 1	0.188	0.286	0.65872905	1.813
	MCS 2	0.140	0.234	0.60032490	2.216
	MCS 3	0.117	0.216	0.53940544	2.681
	MCS 4	0.093	0.189	0.48941799	3.103
	MCS 5	0.081	0.174	0.46264368	3.348
	MCS 6	0.077	0.168	0.45535714	3.416
	MCS 7	0.073	0.163	0.44478528	3.518
	MCS 8	0.069	0.162	0.42329020	3.734
	MCS 9	0.065	0.159	0.40489642	3.927

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	21.42	N/A	Pass
5200	40	21.46	N/A	Pass
5240	48	21.24	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	20.90	N/A	Pass
5300	60	21.03	N/A	Pass
5320	64	21.06	N/A	Pass

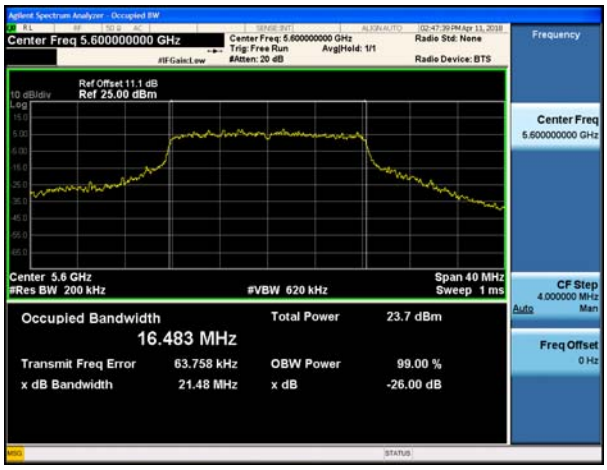
Conducted 26 dB Bandwidth Measurements for 802.11a

802.11a Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5500	100	21.12	N/A	Pass
5600	120	21.48	N/A	Pass
5700	140	21.35	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	20.74	N/A	Pass
5785	157	21.06	N/A	Pass
5825	165	20.75	N/A	Pass

▣ TEST Plot for 802.11a

802.11a UNII 1 BAND 26dB Bandwidth (CH 40)	802.11a UNII 2A BAND 26dB Bandwidth (CH 64)
802.11a UNII 2C BAND 26dB Bandwidth (CH120)	**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	23.29	N/A	Pass
5200	40	22.97	N/A	Pass
5240	48	22.25	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	22.89	N/A	Pass
5300	60	22.07	N/A	Pass
5320	64	21.47	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	21.32	N/A	Pass
5600	120	21.27	N/A	Pass
5700	140	21.28	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	22.64	N/A	Pass
5785	157	21.23	N/A	Pass
5825	165	22.04	N/A	Pass

▣ TEST Plot for 802.11n_HT20

802.11n_HT20 UNII 1 BAND 26dB Bandwidth(CH 36)	802.11n_HT20 UNII 2A BAND 26dB Bandwidth(CH 52)
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	23.83	N/A	Pass
5200	40	23.71	N/A	Pass
5240	48	23.39	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	22.76	N/A	Pass
5300	60	22.43	N/A	Pass
5320	64	21.65	N/A	Pass

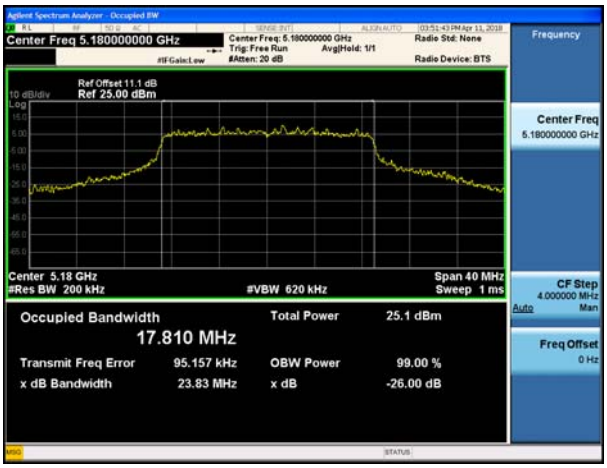
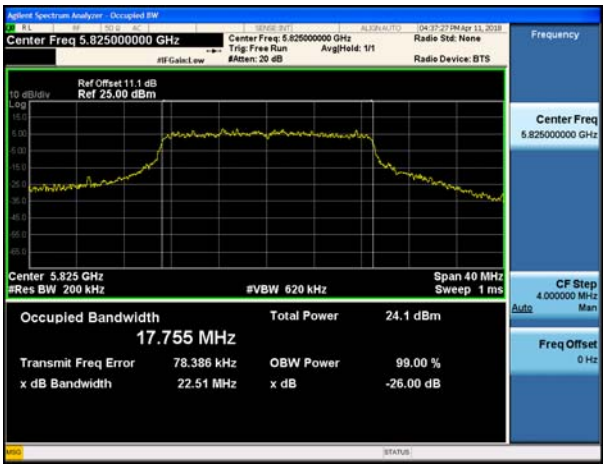
Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT20

802.11ac_VHT20 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5500	100	21.17	N/A	Pass
5600	120	22.31	N/A	Pass
5700	140	22.32	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	22.50	N/A	Pass
5785	157	22.17	N/A	Pass
5825	165	22.51	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 52)
	
802.11ac_VHT20 UNII 2C BAND 26dB Bandwidth(CH 140)	**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	41.22	N/A	Pass
5230	46	40.90	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	41.02	N/A	Pass
5310	62	40.64	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	40.89	N/A	Pass
5590	118	41.35	N/A	Pass
5670	134	41.16	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	40.94	N/A	Pass
5795	159	41.56	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 54)
802.11n_HT40 UNII 2C BAND 26dB Bandwidth(CH 118)	**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	41.01	N/A	Pass
5230	46	40.97	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	41.05	N/A	Pass
5310	62	41.17	N/A	Pass

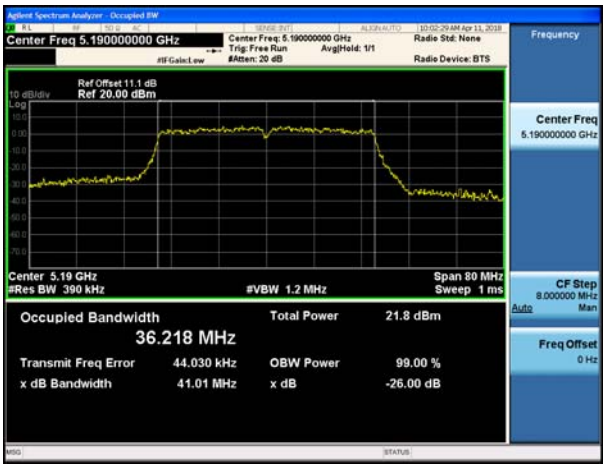
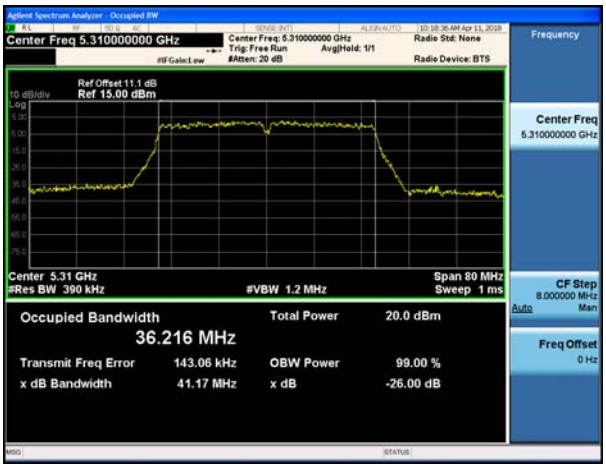
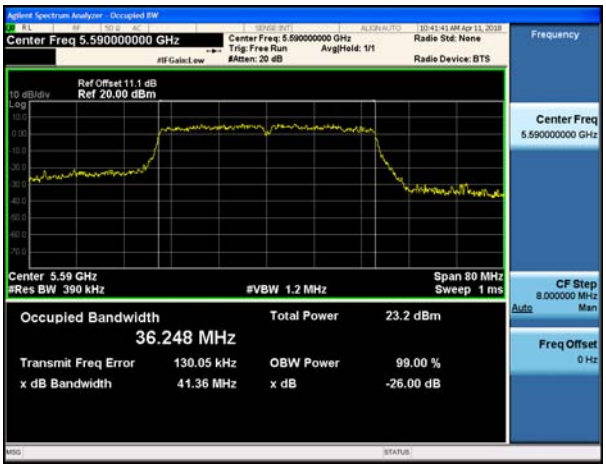
Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT40

802.11ac_VHT40 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5510	102	40.96	N/A	Pass
5590	118	41.36	N/A	Pass
5670	134	41.22	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	41.25	N/A	Pass
5795	159	41.34	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 118)	**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	83.70	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	83.59	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	83.70	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.			
5610	122	82.88	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	85.15	N/A	Pass

Note :

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.

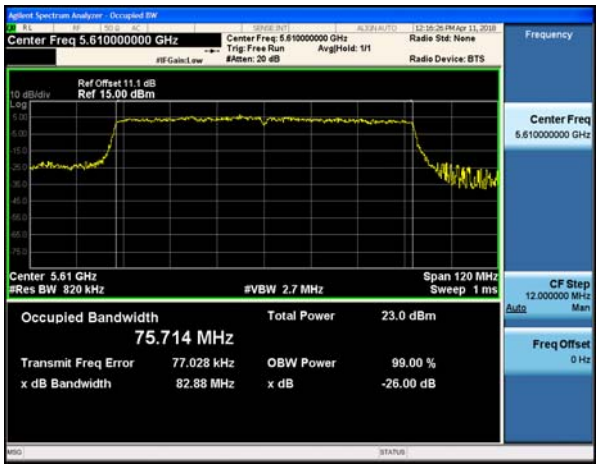
▣ TEST Plot for 802.11ac_VHT80

802.11ac_VHT80 UNII 1 BAND 26dB Bandwidth(CH 42)

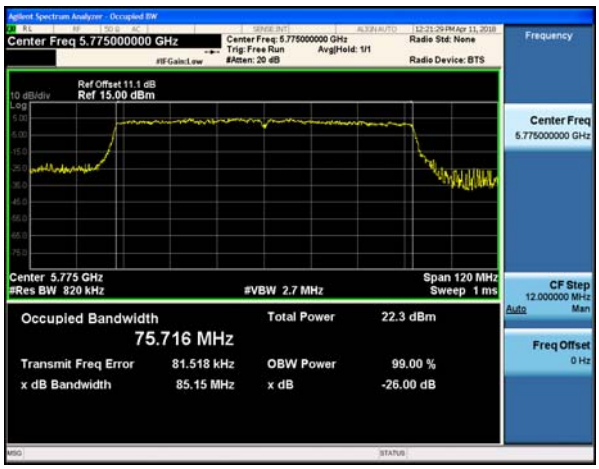
802.11ac_VHT80 UNII 2A BAND 26dB Bandwidth(CH 58)

802.11ac_VHT80 UNII 2C BAND 26dB Bandwidth(CH 106)

802.11ac_VHT80 UNII 3 BAND 26dB Bandwidth(CH 122)



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	15.11	0.5	Pass
5785	157	14.50	0.5	Pass
5825	165	15.57	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	15.99	0.5	Pass
5785	157	16.32	0.5	Pass
5825	165	15.40	0.5	Pass

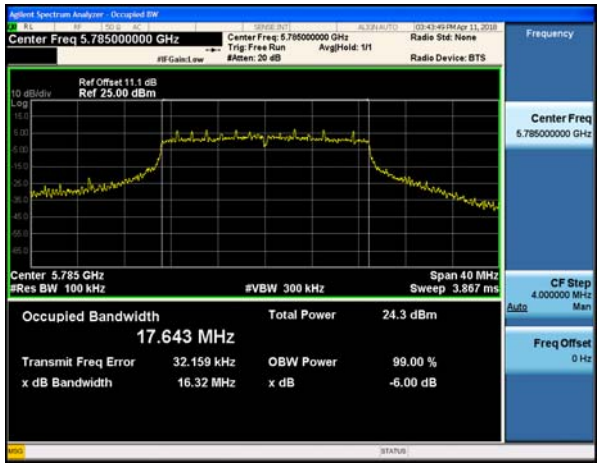
Conducted 6 dB Bandwidth Measurements for 802.11ac_VHT20

802.11ac_VHT20 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	16.04	0.5	Pass
5785	157	15.97	0.5	Pass
5825	165	15.14	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.149)

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

▣ TEST RESULTS for 802.11n_HT40/ac_VHT40

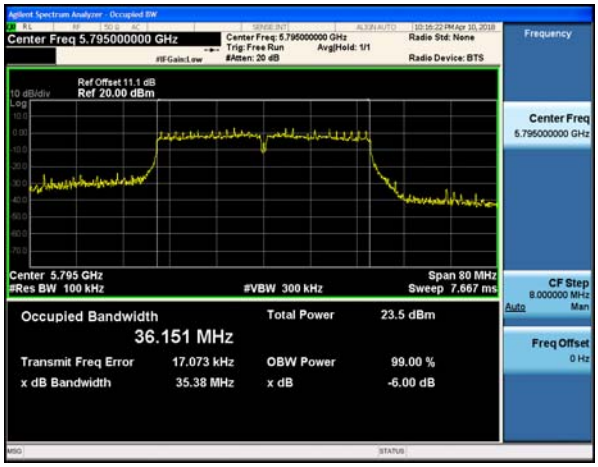
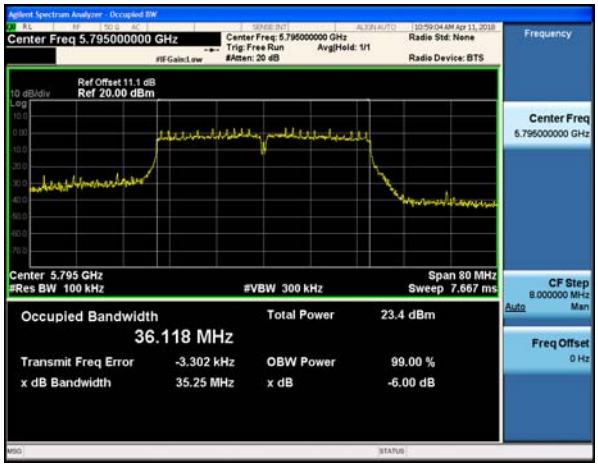
Conducted 6 dB Bandwidth Measurements for 802.11n_HT40

802.11n_HT40 Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	35.23	0.5	Pass
5795	159	35.38	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	35.22	0.5	Pass
5795	159	35.25	0.5	Pass

▣ TEST Plot for 802.11n_HT40/ac_VHT40

802.11n_HT40 UNII 3 BAND 6dB Bandwidth(CH.159)	802.11ac_VHT40 UNII 3 BAND 6dB Bandwidth(CH.159)
	

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

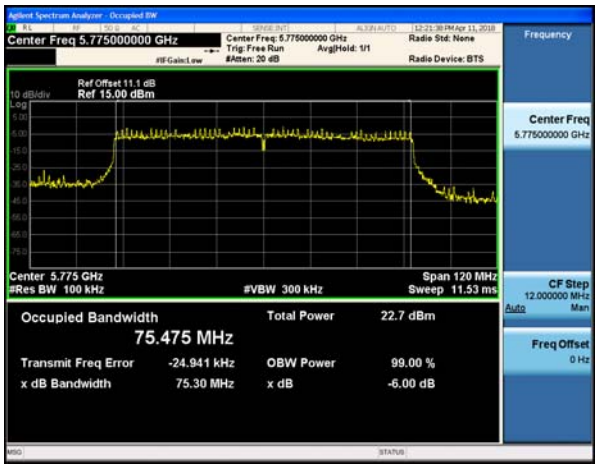
▣ TEST RESULTS for 802.11ac_VHT80

Conducted 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	75.30	0.5	Pass

▣ TEST Plot 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 wide channel.

9.3 OUTPUT POWER MEASUREMENT

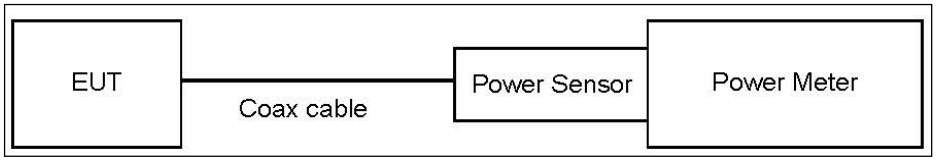
Test Requirements and limit, §15.407(a)(1)

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,ac	23.98
UNII 3	802.11a,n,ac	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.

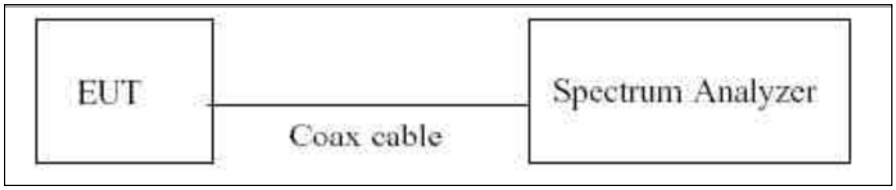
Note :

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 Mode		Power Level Setting	Rate (Mbps)	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5180	36	18	6	16.77	0.31	17.08	23.98
			9	16.63	0.44	17.08	23.98
			12	16.51	0.65	17.16	23.98
			18	17.01	0.82	17.83	23.98
			24	16.59	1.00	17.59	23.98
			36	16.39	1.49	17.88	23.98
			48	16.05	1.75	17.80	23.98
			54	15.89	1.87	17.75	23.98
5200	40	18	6	16.50	0.31	16.81	23.98
			9	16.39	0.44	16.83	23.98
			12	16.24	0.65	16.89	23.98
			18	16.78	0.82	17.60	23.98
			24	16.44	1.00	17.44	23.98
			36	16.27	1.49	17.76	23.98
			48	16.02	1.75	17.78	23.98
			54	15.85	1.87	17.71	23.98
5240	48	18	6	16.74	0.31	17.05	23.98
			9	16.57	0.44	17.02	23.98
			12	16.45	0.65	17.10	23.98
			18	16.98	0.82	17.80	23.98
			24	16.58	1.00	17.58	23.98
			36	16.39	1.49	17.88	23.98
			48	16.22	1.75	17.97	23.98
			54	16.00	1.87	17.87	23.98

802.11a (UNII 2A)

▣ TEST RESULTS

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

802.11a Mode		Power Level Setting	Rate (Mbps)	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5260	52	18	6	16.59	0.31	16.89	23.98
			9	16.38	0.44	16.82	23.98
			12	16.25	0.65	16.89	23.98
			18	16.83	0.82	17.65	23.98
			24	16.38	1.00	17.38	23.98
			36	16.20	1.49	17.69	23.98
			48	15.92	1.75	17.67	23.98
			54	15.78	1.87	17.65	23.98
5300	60	18	6	16.53	0.31	16.84	23.98
			9	16.33	0.44	16.78	23.98
			12	16.22	0.65	16.87	23.98
			18	16.77	0.82	17.59	23.98
			24	16.38	1.00	17.38	23.98
			36	16.19	1.49	17.68	23.98
			48	15.96	1.75	17.72	23.98
			54	15.75	1.87	17.62	23.98
5320	64	18	6	16.48	0.31	16.79	23.98
			9	16.32	0.44	16.76	23.98
			12	16.19	0.65	16.84	23.98
			18	16.75	0.82	17.57	23.98
			24	16.43	1.00	17.43	23.98
			36	16.18	1.49	17.67	23.98
			48	15.93	1.75	17.68	23.98
			54	15.76	1.87	17.62	23.98

802.11a (UNII 2C)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5500~5700)

802.11a Mode		Power Level Setting	Rate (Mbps)	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5500	100	16	6	14.51	0.31	14.82	23.98
			9	14.32	0.44	14.77	23.98
			12	14.22	0.65	14.87	23.98
			18	14.96	0.82	15.78	23.98
			24	14.66	1.00	15.66	23.98
			36	14.45	1.49	15.94	23.98
			48	14.11	1.75	15.86	23.98
			54	13.94	1.87	15.80	23.98
5600	120	18	6	16.83	0.31	17.14	23.98
			9	16.67	0.44	17.11	23.98
			12	16.52	0.65	17.17	23.98
			18	17.07	0.82	17.89	23.98
			24	16.72	1.00	17.73	23.98
			36	16.43	1.49	17.92	23.98
			48	16.18	1.75	17.93	23.98
			54	15.98	1.87	17.84	23.98
5700	140	16	6	14.56	0.31	14.86	23.98
			9	14.38	0.44	14.83	23.98
			12	14.26	0.65	14.91	23.98
			18	14.93	0.82	15.75	23.98
			24	14.58	1.00	15.58	23.98
			36	14.29	1.49	15.78	23.98
			48	14.02	1.75	15.77	23.98
			54	13.80	1.87	15.67	23.98

802.11a (UNII 3)

▣ TEST RESULTS

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

802.11a Mode		Power Level Setting	Rate (Mbps)	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5745	149	18	6	16.78	0.31	17.09	30
			9	16.62	0.44	17.06	30
			12	16.47	0.65	17.12	30
			18	16.94	0.82	17.76	30
			24	16.53	1.00	17.54	30
			36	16.25	1.49	17.74	30
			48	16.00	1.75	17.75	30
			54	15.82	1.87	17.69	30
5785	157	18	6	16.34	0.31	16.65	30
			9	16.20	0.44	16.65	30
			12	16.13	0.65	16.78	30
			18	16.65	0.82	17.47	30
			24	16.25	1.00	17.25	30
			36	15.97	1.49	17.46	30
			48	15.71	1.75	17.46	30
			54	15.56	1.87	17.43	30
5825	165	18	6	16.62	0.31	16.93	30
			9	16.49	0.44	16.93	30
			12	16.32	0.65	16.97	30
			18	16.85	0.82	17.67	30
			24	16.51	1.00	17.51	30
			36	16.25	1.49	17.74	30
			48	15.98	1.75	17.73	30
			54	15.79	1.87	17.66	30

802.11n_HT20 (UNII 1)

▣ TEST RESULTS

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

802.11n_HT20 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5180	36	19	0	17.48	0.32	17.80	23.98
			1	17.14	0.60	17.74	23.98
			2	17.65	0.98	18.64	23.98
			3	17.46	1.07	18.53	23.98
			4	17.17	1.42	18.59	23.98
			5	16.92	1.81	18.73	23.98
			6	16.85	1.94	18.79	23.98
			7	16.73	1.96	18.69	23.98
5200	40	19	0	17.24	0.32	17.56	23.98
			1	16.87	0.60	17.47	23.98
			2	17.42	0.98	18.40	23.98
			3	17.22	1.07	18.29	23.98
			4	16.98	1.42	18.40	23.98
			5	16.69	1.81	18.50	23.98
			6	16.65	1.94	18.59	23.98
			7	16.45	1.96	18.41	23.98
5240	48	19	0	17.36	0.32	17.68	23.98
			1	17.02	0.60	17.62	23.98
			2	17.59	0.98	18.57	23.98
			3	17.37	1.07	18.44	23.98
			4	17.15	1.42	18.56	23.98
			5	16.86	1.81	18.66	23.98
			6	16.76	1.94	18.69	23.98
			7	16.63	1.96	18.59	23.98

802.11n_HT20 (UNII 2A)

▣ TEST RESULTS

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

802.11n_HT20 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5260	52	19	0	17.26	0.32	17.58	23.98
			1	16.89	0.60	17.49	23.98
			2	17.45	0.98	18.43	23.98
			3	17.22	1.07	18.29	23.98
			4	17.00	1.42	18.42	23.98
			5	16.71	1.81	18.51	23.98
			6	16.59	1.94	18.52	23.98
			7	16.45	1.96	18.40	23.98
5300	60	19	0	17.15	0.32	17.47	23.98
			1	16.82	0.60	17.42	23.98
			2	17.34	0.98	18.32	23.98
			3	17.18	1.07	18.26	23.98
			4	16.95	1.42	18.36	23.98
			5	16.69	1.81	18.50	23.98
			6	16.66	1.94	18.60	23.98
			7	16.51	1.96	18.47	23.98
5320	64	17	0	15.32	0.32	15.64	23.98
			1	14.94	0.60	15.54	23.98
			2	15.73	0.98	16.72	23.98
			3	15.55	1.07	16.62	23.98
			4	15.46	1.42	16.87	23.98
			5	15.11	1.81	16.92	23.98
			6	15.01	1.94	16.94	23.98
			7	14.80	1.96	16.76	23.98

802.11n_HT20 (UNII 2C)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5500~5700)

802.11n_HT20 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5500	100	16	0	14.30	0.32	14.62	23.98
			1	13.93	0.60	14.53	23.98
			2	14.72	0.98	15.70	23.98
			3	14.54	1.07	15.62	23.98
			4	14.54	1.42	15.95	23.98
			5	14.18	1.81	15.99	23.98
			6	14.08	1.94	16.02	23.98
			7	13.86	1.96	15.82	23.98
5600	120	19	0	17.53	0.32	17.85	23.98
			1	17.22	0.60	17.82	23.98
			2	17.65	0.98	18.63	23.98
			3	17.48	1.07	18.55	23.98
			4	17.27	1.42	18.68	23.98
			5	16.97	1.81	18.78	23.98
			6	16.86	1.94	18.80	23.98
			7	16.72	1.96	18.68	23.98
5700	140	16	0	14.38	0.32	14.70	23.98
			1	13.98	0.60	14.58	23.98
			2	14.78	0.98	15.76	23.98
			3	14.55	1.07	15.62	23.98
			4	14.27	1.42	15.68	23.98
			5	13.85	1.81	15.66	23.98
			6	13.68	1.94	15.62	23.98
			7	13.56	1.96	15.52	23.98

802.11n_HT20 (UNII 3)

▣ TEST RESULTS

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

802.11n_HT20 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5745	149	19	0	17.07	0.32	17.39	30
			1	16.78	0.60	17.38	30
			2	17.25	0.98	18.23	30
			3	17.11	1.07	18.18	30
			4	16.89	1.42	18.30	30
			5	16.61	1.81	18.42	30
			6	16.52	1.94	18.46	30
			7	16.36	1.96	18.32	30
5785	157	19	0	16.90	0.32	17.22	30
			1	16.53	0.60	17.13	30
			2	17.02	0.98	18.01	30
			3	16.80	1.07	17.87	30
			4	16.59	1.42	18.00	30
			5	16.34	1.81	18.14	30
			6	16.22	1.94	18.16	30
			7	16.07	1.96	18.03	30
5825	165	19	0	17.06	0.32	17.38	30
			1	16.73	0.60	17.33	30
			2	17.21	0.98	18.19	30
			3	17.01	1.07	18.08	30
			4	16.75	1.42	18.17	30
			5	16.46	1.81	18.26	30
			6	16.40	1.94	18.33	30
			7	16.24	1.96	18.20	30

802.11ac_VHT20 (UNII 1)

▣ TEST RESULTS

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

802.11ac_VHT20 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5180	36	20	0	18.06	0.34	18.40	23.98
			1	17.73	0.57	18.30	23.98
			2	18.12	0.80	18.92	23.98
			3	17.81	1.09	18.90	23.98
			4	17.59	1.38	18.97	23.98
			5	17.33	1.62	18.94	23.98
			6	17.18	1.80	18.98	23.98
			7	17.09	1.82	18.91	23.98
			8	16.89	2.07	18.96	23.98
5200	40	20	0	17.83	0.34	18.17	23.98
			1	17.52	0.57	18.09	23.98
			2	17.95	0.80	18.76	23.98
			3	17.74	1.09	18.83	23.98
			4	17.55	1.38	18.93	23.98
			5	17.28	1.62	18.90	23.98
			6	17.17	1.80	18.96	23.98
			7	17.03	1.82	18.85	23.98
			8	16.87	2.07	18.94	23.98
5240	48	20	0	17.93	0.34	18.27	23.98
			1	17.66	0.57	18.23	23.98
			2	18.10	0.80	18.91	23.98
			3	17.89	1.09	18.98	23.98
			4	17.59	1.38	18.97	23.98
			5	17.36	1.62	18.98	23.98
			6	17.19	1.80	18.99	23.98
			7	17.15	1.82	18.97	23.98
			8	16.90	2.07	18.98	23.98

802.11ac_VHT20 (UNII 2A)

▣ TEST RESULTS

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

802.11ac_VHT20 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5260	52	20	0	17.73	0.34	18.07	23.98
			1	17.46	0.57	18.03	23.98
			2	17.88	0.80	18.68	23.98
			3	17.71	1.09	18.80	23.98
			4	17.50	1.38	18.88	23.98
			5	17.19	1.62	18.80	23.98
			6	17.10	1.80	18.90	23.98
			7	16.95	1.82	18.77	23.98
			8	16.79	2.07	18.86	23.98
5300	60	20	0	17.82	0.34	18.16	23.98
			1	17.53	0.57	18.10	23.98
			2	17.95	0.80	18.75	23.98
			3	17.77	1.09	18.85	23.98
			4	17.54	1.38	18.92	23.98
			5	17.26	1.62	18.88	23.98
			6	17.15	1.80	18.95	23.98
			7	17.01	1.82	18.83	23.98
			8	16.81	2.07	18.88	23.98
5320	64	17	0	15.27	0.34	15.61	23.98
			1	14.82	0.57	15.39	23.98
			2	15.52	0.80	16.32	23.98
			3	15.27	1.09	16.35	23.98
			4	15.12	1.38	16.50	23.98
			5	14.81	1.62	16.43	23.98
			6	14.75	1.80	16.55	23.98
			7	14.70	1.82	16.52	23.98
			8	14.57	2.07	16.64	23.98

802.11ac_VHT20 (UNII 2C)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5500~5700)

802.11ac_VHT20 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5500	100	16	0	14.41	0.34	14.75	23.98
			1	14.00	0.57	14.57	23.98
			2	14.79	0.80	15.59	23.98
			3	14.61	1.09	15.70	23.98
			4	14.51	1.38	15.90	23.98
			5	14.22	1.62	15.84	23.98
			6	14.11	1.80	15.91	23.98
			7	13.97	1.82	15.79	23.98
			8	13.90	2.07	15.97	23.98
5600	120	19	0	17.44	0.34	17.78	23.98
			1	17.12	0.57	17.69	23.98
			2	17.61	0.80	18.41	23.98
			3	17.35	1.09	18.44	23.98
			4	17.11	1.38	18.50	23.98
			5	16.85	1.62	18.47	23.98
			6	16.72	1.80	18.52	23.98
			7	16.65	1.82	18.47	23.98
			8	16.46	2.07	18.53	23.98
5700	140	14	0	12.17	0.34	12.51	23.98
			1	11.79	0.57	12.36	23.98
			2	12.55	0.80	13.36	23.98
			3	12.31	1.09	13.39	23.98
			4	12.24	1.38	13.62	23.98
			5	11.92	1.62	13.54	23.98
			6	11.83	1.80	13.62	23.98
			7	11.60	1.82	13.42	23.98
			8	11.43	2.07	13.50	23.98

802.11ac_VHT20 (UNII 3)

▣ TEST RESULTS

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

802.11ac_VHT20 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5745	149	19	0	16.94	0.34	17.28	30
			1	16.57	0.57	17.14	30
			2	17.19	0.80	17.99	30
			3	16.97	1.09	18.06	30
			4	16.76	1.38	18.15	30
			5	16.50	1.62	18.11	30
			6	16.39	1.80	18.18	30
			7	16.25	1.82	18.07	30
			8	16.06	2.07	18.13	30
5785	157	19	0	16.74	0.34	17.08	30
			1	16.39	0.57	16.96	30
			2	16.93	0.80	17.73	30
			3	16.64	1.09	17.73	30
			4	16.40	1.38	17.78	30
			5	16.11	1.62	17.73	30
			6	16.04	1.80	17.84	30
			7	15.85	1.82	17.67	30
			8	15.68	2.07	17.75	30
5825	165	19	0	16.66	0.34	17.00	30
			1	16.12	0.57	16.69	30
			2	17.03	0.80	17.83	30
			3	16.82	1.09	17.90	30
			4	16.63	1.38	18.01	30
			5	16.33	1.62	17.95	30
			6	16.14	1.80	17.93	30
			7	16.09	1.82	17.91	30
			8	15.88	2.07	17.95	30

802.11n_HT40 (UNII 1)

▣ TEST RESULTS

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

802.11n_HT40 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5190	38	16	0	14.82	0.59	15.42	23.98
			1	14.37	1.07	15.44	23.98
			2	14.11	1.40	15.50	23.98
			3	13.74	1.67	15.41	23.98
			4	13.32	2.15	15.47	23.98
			5	13.03	2.70	15.73	23.98
			6	12.86	2.73	15.59	23.98
			7	12.66	2.88	15.54	23.98
5230	46	17	0	16.09	0.59	16.69	23.98
			1	15.78	1.07	16.85	23.98
			2	15.38	1.40	16.78	23.98
			3	15.05	1.67	16.71	23.98
			4	14.60	2.15	16.75	23.98
			5	14.19	2.70	16.89	23.98
			6	14.09	2.73	16.83	23.98
			7	14.01	2.88	16.89	23.98

802.11n_HT40 (UNII 2A)

▣ TEST RESULTS

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

802.11n_HT40 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5270	54	17	0	15.87	0.59	16.46	23.98
			1	15.50	1.07	16.56	23.98
			2	15.17	1.40	16.57	23.98
			3	14.79	1.67	16.45	23.98
			4	14.37	2.15	16.52	23.98
			5	13.93	2.70	16.63	23.98
			6	13.81	2.73	16.54	23.98
			7	13.66	2.88	16.53	23.98
5310	62	14	0	13.11	0.59	13.70	23.98
			1	12.62	1.07	13.69	23.98
			2	12.37	1.40	13.77	23.98
			3	11.95	1.67	13.62	23.98
			4	11.61	2.15	13.76	23.98
			5	11.28	2.70	13.98	23.98
			6	11.13	2.73	13.86	23.98
			7	11.02	2.88	13.90	23.98

802.11n_HT40 (UNII 2C)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40 Mode: 5510~5670)

802.11n_HT40 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5510	102	12	0	10.90	0.59	11.50	23.98
			1	10.61	1.07	11.68	23.98
			2	10.24	1.40	11.64	23.98
			3	9.89	1.67	11.56	23.98
			4	9.51	2.15	11.66	23.98
			5	9.07	2.70	11.78	23.98
			6	8.98	2.73	11.72	23.98
			7	8.88	2.88	11.75	23.98
5590	118	17	0	16.04	0.59	16.63	23.98
			1	15.65	1.07	16.72	23.98
			2	15.24	1.40	16.63	23.98
			3	14.88	1.67	16.55	23.98
			4	14.37	2.15	16.52	23.98
			5	14.02	2.70	16.72	23.98
			6	13.93	2.73	16.66	23.98
			7	13.77	2.88	16.65	23.98
5670	134	16	0	15.11	0.59	15.70	23.98
			1	14.68	1.07	15.75	23.98
			2	14.27	1.40	15.67	23.98
			3	13.88	1.67	15.54	23.98
			4	13.41	2.15	15.57	23.98
			5	13.06	2.70	15.76	23.98
			6	12.96	2.73	15.69	23.98
			7	12.76	2.88	15.64	23.98

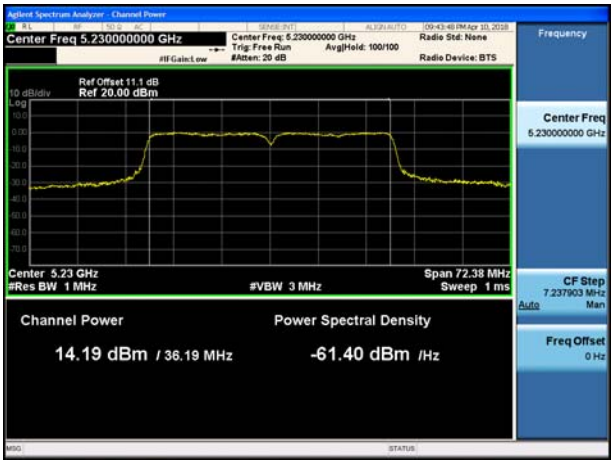
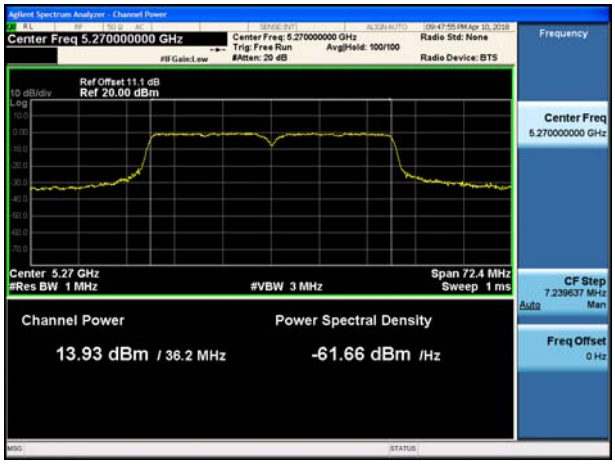
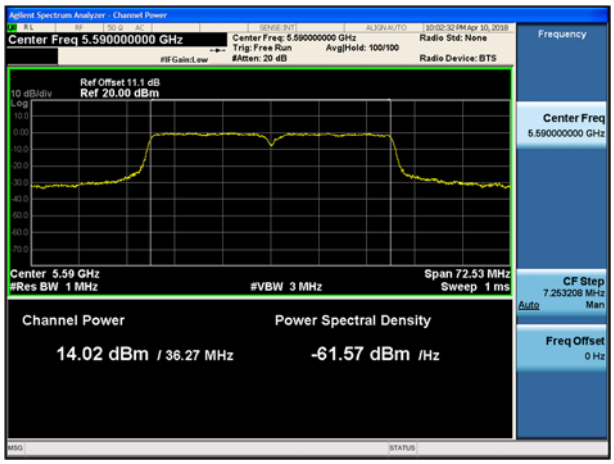
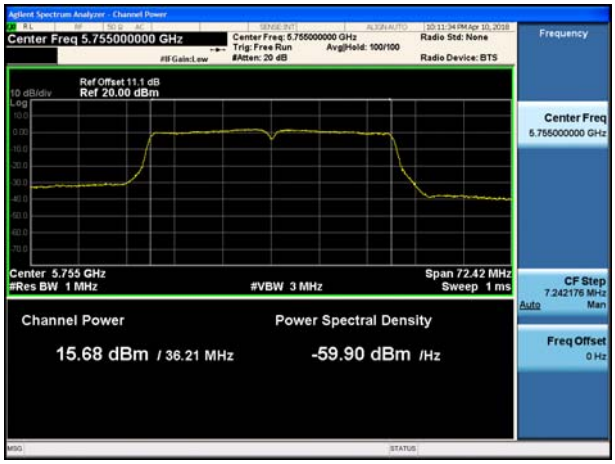
802.11n_HT40 (UNII 3)

▣ TEST RESULTS

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

802.11n_HT40 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5755	151	17	0	15.89	0.59	16.48	30
			1	15.68	1.07	16.75	30
			2	15.28	1.40	16.67	30
			3	14.92	1.67	16.59	30
			4	14.40	2.15	16.55	30
			5	13.97	2.70	16.67	30
			6	13.94	2.73	16.68	30
			7	13.75	2.88	16.63	30
5795	159	17	0	15.56	0.59	16.15	30
			1	15.35	1.07	16.41	30
			2	15.00	1.40	16.40	30
			3	14.59	1.67	16.26	30
			4	14.15	2.15	16.30	30
			5	13.74	2.70	16.44	30
			6	13.59	2.73	16.33	30
			7	13.46	2.88	16.34	30

▣ TEST Plot _802.11n_HT40

802.11n_HT40 UNII 1 BAND Average Power (5190 MHz ~5230 MHz) CH 46 MCS5	802.11n_HT40 UNII 2A BAND Average Power (5270 MHz ~5310 MHz) CH 54 MCS5
	
802.11n_HT40 UNII 2C BAND Average Power (5510 MHz ~5670 MHz) CH 118 MCS5	**802.11n_HT40 UNII 3 BAND Average Power (5755 MHz ~5795 MHz) CH 151 MCS1**
	

802.11ac_VHT40 (UNII 1)

▣ TEST RESULTS

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

802.11ac_VHT40 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5190	38	16	0	14.60	0.58	15.18	23.98
			1	14.22	1.03	15.25	23.98
			2	13.83	1.58	15.40	23.98
			3	13.54	1.65	15.19	23.98
			4	13.18	2.15	15.32	23.98
			5	12.83	2.48	15.31	23.98
			6	12.83	2.66	15.49	23.98
			7	12.68	2.78	15.46	23.98
			8	12.49	3.09	15.58	23.98
			9	12.20	3.17	15.37	23.98
5230	46	17	0	16.02	0.58	16.60	23.98
			1	15.64	1.03	16.67	23.98
			2	15.25	1.58	16.83	23.98
			3	14.92	1.65	16.57	23.98
			4	14.50	2.15	16.65	23.98
			5	14.05	2.48	16.53	23.98
			6	13.99	2.66	16.65	23.98
			7	13.92	2.78	16.70	23.98
			8	13.77	3.09	16.86	23.98
			9	13.45	3.17	16.62	23.98

802.11ac_VHT40 (UNII 2A)

▣ TEST RESULTS

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

802.11ac_VHT40 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5270	54	17	0	15.73	0.58	16.31	23.98
			1	15.40	1.03	16.42	23.98
			2	15.01	1.58	16.59	23.98
			3	14.68	1.65	16.34	23.98
			4	14.26	2.15	16.41	23.98
			5	13.89	2.48	16.37	23.98
			6	13.78	2.66	16.44	23.98
			7	13.65	2.78	16.43	23.98
			8	13.57	3.09	16.66	23.98
			9	13.33	3.17	16.50	23.98
5310	62	14	0	13.02	0.58	13.60	23.98
			1	12.56	1.03	13.59	23.98
			2	12.27	1.58	13.84	23.98
			3	11.89	1.65	13.54	23.98
			4	11.57	2.15	13.72	23.98
			5	11.26	2.48	13.74	23.98
			6	11.12	2.66	13.77	23.98
			7	10.90	2.78	13.68	23.98
			8	10.73	3.09	13.82	23.98
			9	10.64	3.17	13.80	23.98

802.11ac_VHT40 (UNII 2C)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5510~5670)

802.11ac_VHT40 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5510	102	12	0	10.90	0.58	11.48	23.98
			1	10.58	1.03	11.61	23.98
			2	10.25	1.58	11.82	23.98
			3	9.88	1.65	11.53	23.98
			4	9.56	2.15	11.71	23.98
			5	9.16	2.48	11.64	23.98
			6	9.08	2.66	11.73	23.98
			7	8.93	2.78	11.71	23.98
			8	8.79	3.09	11.88	23.98
			9	8.59	3.17	11.76	23.98
5590	118	17	0	16.02	0.58	16.59	23.98
			1	15.64	1.03	16.67	23.98
			2	15.26	1.58	16.84	23.98
			3	14.88	1.65	16.53	23.98
			4	14.39	2.15	16.54	23.98
			5	13.98	2.48	16.46	23.98
			6	13.90	2.66	16.56	23.98
			7	13.74	2.78	16.52	23.98
			8	13.67	3.09	16.76	23.98
			9	13.48	3.17	16.65	23.98
5670	134	16	0	15.08	0.58	15.66	23.98
			1	14.65	1.03	15.68	23.98
			2	14.26	1.58	15.84	23.98
			3	13.84	1.65	15.50	23.98
			4	13.44	2.15	15.59	23.98
			5	13.10	2.48	15.58	23.98
			6	13.01	2.66	15.67	23.98
			7	12.84	2.78	15.62	23.98
			8	12.68	3.09	15.77	23.98
			9	12.48	3.17	15.64	23.98

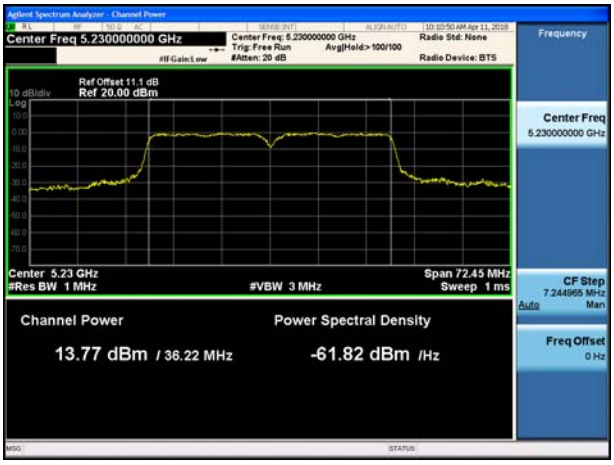
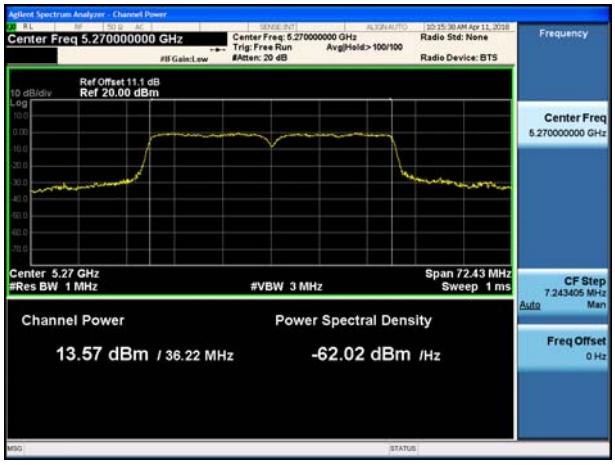
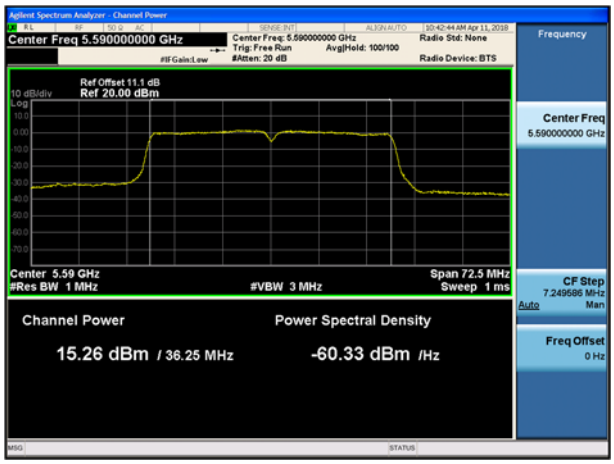
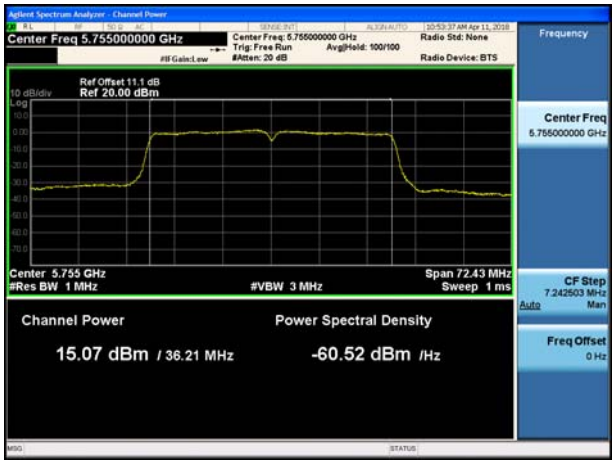
802.11ac_VHT40 (UNII 3)

▣ TEST RESULTS

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

802.11ac_VHT40 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5755	151	17	0	15.80	0.58	16.37	30
			1	15.41	1.03	16.44	30
			2	15.07	1.58	16.64	30
			3	14.73	1.65	16.38	30
			4	14.34	2.15	16.49	30
			5	13.94	2.48	16.42	30
			6	13.89	2.66	16.54	30
			7	13.68	2.78	16.46	30
			8	13.52	3.09	16.61	30
			9	13.25	3.17	16.41	30
5795	159	17	0	15.51	0.58	16.09	30
			1	15.08	1.03	16.11	30
			2	14.64	1.58	16.22	30
			3	14.37	1.65	16.03	30
			4	14.06	2.15	16.21	30
			5	13.68	2.48	16.16	30
			6	13.59	2.66	16.25	30
			7	13.46	2.78	16.24	30
			8	13.31	3.09	16.40	30
			9	13.06	3.17	16.22	30

▣ TEST Plot _802.11ac_VHT40

802.11ac_VHT40 UNII 1 BAND Average Power (5190 MHz ~5230 MHz) CH 46 MCS8	802.11ac_VHT40 UNII 2A BAND Average Power (5270 MHz ~5310 MHz) CH 54 MCS8
	
802.11ac_VHT40 UNII 2C BAND Average Power (5510 MHz ~5670 MHz) CH 118 MCS2	**802.11ac_VHT40 UNII 3 BAND Average Power (5755 MHz ~5795 MHz) CH 151 MCS2**
	

802.11ac_VHT80 (UNII 1)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5210)

802.11ac_VHT80 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5210	42	15	0	12.93	1.07	14.00	23.98
			1	12.41	1.81	14.22	23.98
			2	11.94	2.22	14.15	23.98
			3	11.61	2.68	14.29	23.98
			4	11.47	3.10	14.57	23.98
			5	11.18	3.35	14.53	23.98
			6	11.03	3.42	14.44	23.98
			7	10.89	3.52	14.41	23.98
			8	10.78	3.73	14.51	23.98
			9	10.72	3.93	14.64	23.98

802.11ac_VHT80 (UNII 2A)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5290)

802.11ac_VHT80 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5290	58	13	0	11.12	1.07	12.19	23.98
			1	10.55	1.81	12.36	23.98
			2	10.38	2.22	12.59	23.98
			3	10.03	2.68	12.71	23.98
			4	9.83	3.10	12.93	23.98
			5	9.44	3.35	12.79	23.98
			6	9.40	3.42	12.82	23.98
			7	9.23	3.52	12.75	23.98
			8	9.06	3.73	12.79	23.98
			9	8.89	3.93	12.81	23.98

802.11ac_VHT80 (UNII 2C)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5530 MHz~5610 MHz)

802.11ac_VHT80 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5530	106	11	0	9.47	1.07	10.54	23.98
			1	9.02	1.81	10.83	23.98
			2	8.71	2.22	10.92	23.98
			3	8.31	2.68	10.99	23.98
			4	8.14	3.10	11.24	23.98
			5	7.70	3.35	11.05	23.98
			6	7.66	3.42	11.08	23.98
			7	7.49	3.52	11.01	23.98
			8	7.40	3.73	11.13	23.98
			9	7.27	3.93	11.20	23.98
5610	122	16	0	14.50	1.07	15.57	23.98
			1	13.95	1.81	15.76	23.98
			2	13.66	2.22	15.88	23.98
			3	13.24	2.68	15.92	23.98
			4	12.99	3.10	16.09	23.98
			5	12.75	3.35	16.10	23.98
			6	12.67	3.42	16.09	23.98
			7	12.56	3.52	16.08	23.98
			8	12.21	3.73	15.94	23.98
			9	12.11	3.93	16.04	23.98

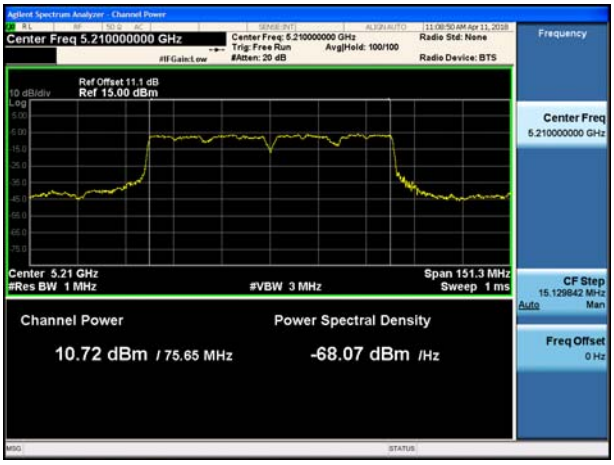
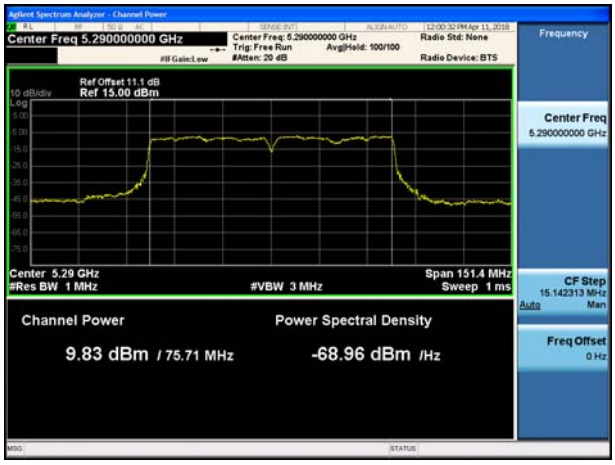
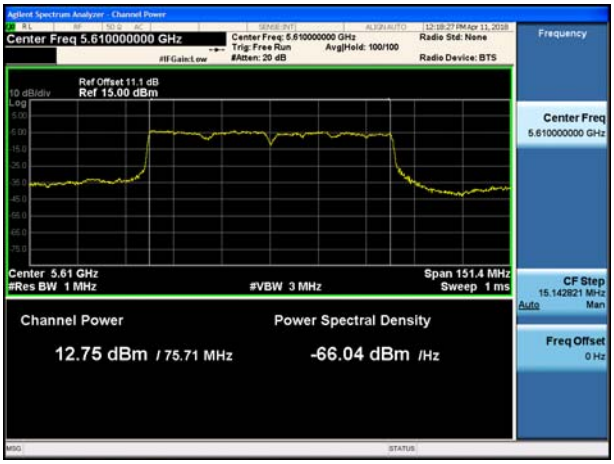
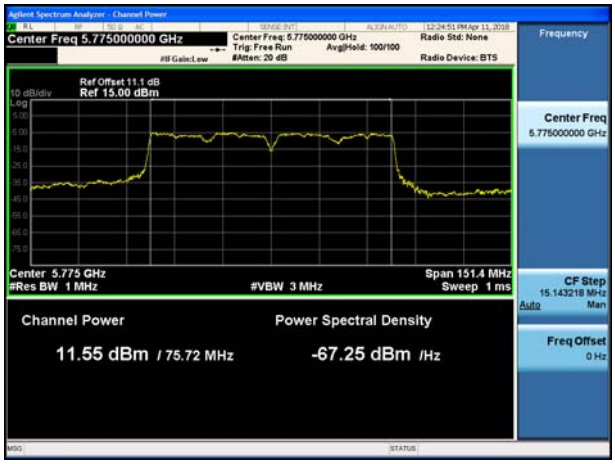
802.11ac_VHT80 (UNII 3)

▣ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5775 MHz)

802.11ac_VHT80 Mode		Power Level Setting	MCS Index	Measured Power (dBm)	Duty Cycle Factor (dB)	Measured Power(dBm) + Duty Cycle Factor(dB)	Limit (dBm)
Frequency [MHz]	Channel No.						
5775	155	16	0	13.77	1.07	14.84	30
			1	13.16	1.81	14.97	30
			2	12.79	2.22	15.00	30
			3	12.53	2.68	15.21	30
			4	12.21	3.10	15.31	30
			5	11.90	3.35	15.25	30
			6	11.84	3.42	15.25	30
			7	11.76	3.52	15.28	30
			8	11.68	3.73	15.41	30
			9	11.55	3.93	15.47	30

▣ TEST Plot for 802.11ac_VHT80

802.11ac_VHT80 UNII 1 BAND Average Power (5210 MHz) CH 42 MCS9	802.11ac_VHT80 UNII 2A BAND Average Power (5290 MHz) CH 58 MCS4
	
802.11ac_VHT80 UNII 2C BAND Average Power (5530 MHz~5610 MHz) CH 122 MCS5	**802.11ac_VHT80 UNII 3 BAND Average Power (5775 MHz) CH 155 MCS2**
	

9.4 POWER SPECTRAL DENSITY

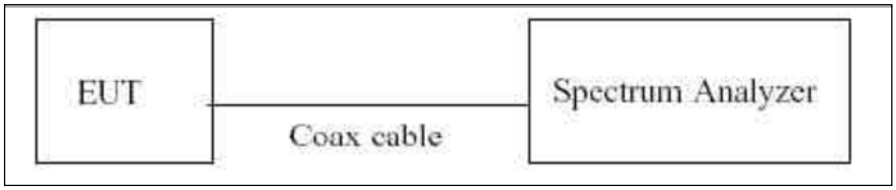
The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies. The maximum permissible peak power spectral density is 11 dBm/ MHz for UNII 1,2A, 2C and 30 dBm/500 kHz for UNII 3.

▣ 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)

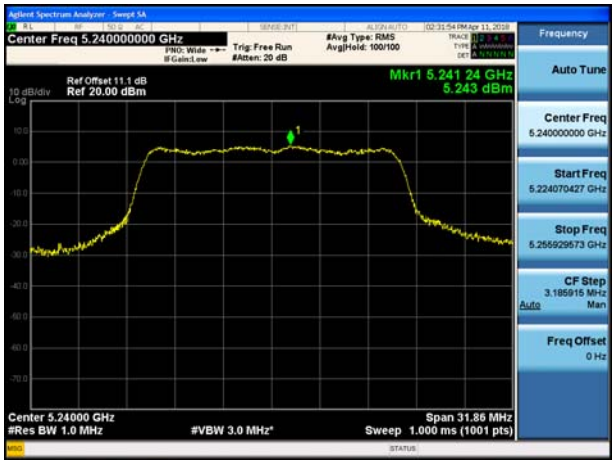
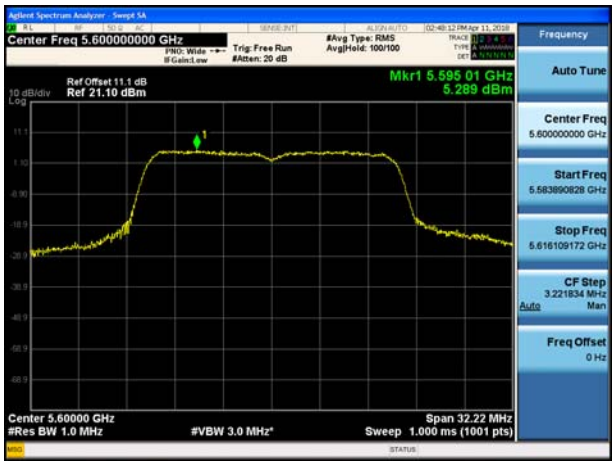
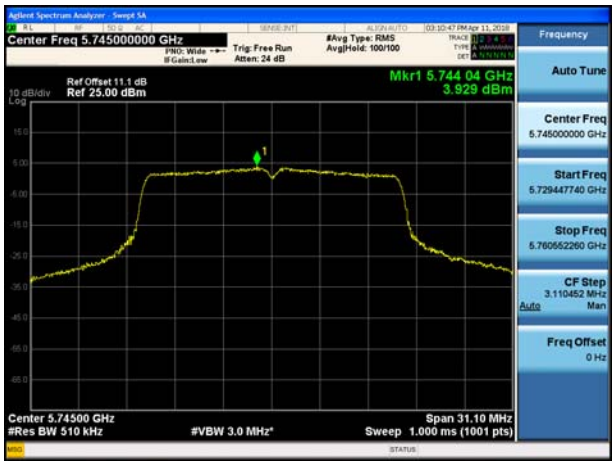
▣ 802.11a

▣ 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	4.888	1.490	6.378	11	Pass
5200	40		4.738	1.752	6.490		Pass
5240	48		5.243	1.752	6.995		Pass
5260	52		5.264	1.490	6.754	11	Pass
5300	60		5.295	1.752	7.047		Pass
5320	64		4.869	1.752	6.621		Pass
5500	100		3.270	1.490	4.760	11	Pass
5600	120		5.289	1.752	7.041		Pass
5700	140		5.224	1.752	6.976		Pass
5745	149		3.929	0.820	4.749	30	Pass
5785	157		3.668	0.820	4.488		Pass
5825	165		2.671	1.490	4.161		Pass

▣ TEST Plot for 802.11a

802.11a UNII 1 BAND PSD CH 48	802.11a UNII 2A BAND PSD CH 60
	
802.11a UNII 2C BAND PSD CH 120	**802.11a UNII 3 BAND PSD CH 149**
	

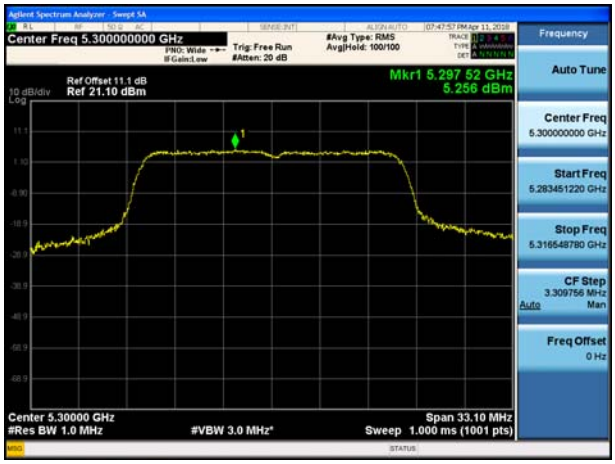
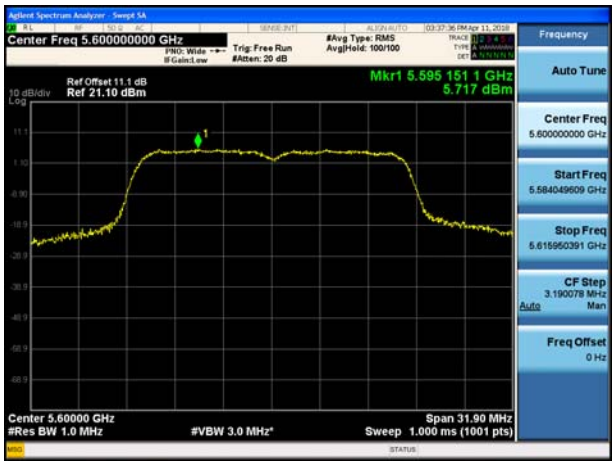
▣802.11n_HT20

▣ 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	5.128	1.938	7.066	11	Pass
5200	40		4.860	1.938	6.798		Pass
5240	48		5.463	1.938	7.401		Pass
5260	52		5.209	1.938	7.147	11	Pass
5300	60		5.256	1.938	7.194		Pass
5320	64		3.564	1.938	5.502		Pass
5500	100		3.122	1.938	5.060	11	Pass
5600	120		5.717	1.938	7.655		Pass
5700	140		5.464	1.938	7.402		Pass
5745	149		2.803	1.938	4.741	30	Pass
5785	157		2.436	1.938	4.374		Pass
5825	165		2.771	1.938	4.709		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 120	**802.11n_HT20 UNII 3 BAND PSD CH 149**
	

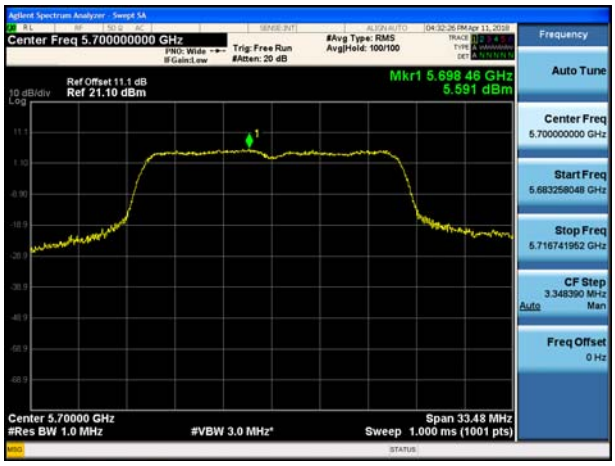
▣802.11ac_VHT20

▣ 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	6.220	1.796	8.016	11	Pass
5200	40		5.862	1.796	7.658		Pass
5240	48		6.204	1.796	8.000		Pass
5260	52		6.372	1.796	8.168	11	Pass
5300	60		5.917	1.796	7.713		Pass
5320	64		3.275	2.072	5.347		Pass
5500	100		2.371	2.072	4.443	11	Pass
5600	120		5.243	2.072	7.315		Pass
5700	140		5.591	1.796	7.387		Pass
5745	149		3.123	1.796	4.919	30	Pass
5785	157		2.517	1.796	4.313		Pass
5825	165		3.063	1.381	4.444		Pass

▣ TEST Plot for 802.11ac_VHT20

802.11ac_VHT20 UNII 1 BAND PSD CH 36	802.11ac_VHT20 UNII 2A BAND PSD CH 52
802.11ac_VHT20 UNII 2C BAND PSD CH 140	**802.11ac_VHT20 UNII 3 BAND PSD CH 149**
	

▣ 802.11n_HT40

▣ 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	-0.877	2.703	1.826	11	Pass
5230	46		0.443	2.879	3.322		Pass
5270	54		0.025	2.703	2.728	11	Pass
5310	62		-2.551	2.703	0.152		Pass
5510	102		-4.645	2.703	-1.942	11	Pass
5590	118		0.108	2.703	2.811		Pass
5670	134		1.904	1.067	2.971		Pass
5755	151		-0.742	1.067	0.325	30	Pass
5795	159		-2.422	2.703	0.281		Pass

▣ TEST Plot for 802.11n_HT40

802.11n_HT40 UNII 1 BAND PSD CH 46	802.11n_HT40 UNII 2A BAND PSD CH 54
802.11n_HT40 UNII 2C BAND PSD CH 134	**802.11n_HT40 UNII 3 BAND PSD CH 151**

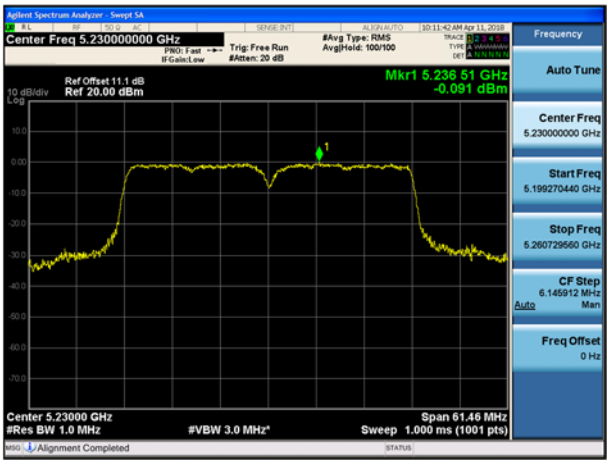
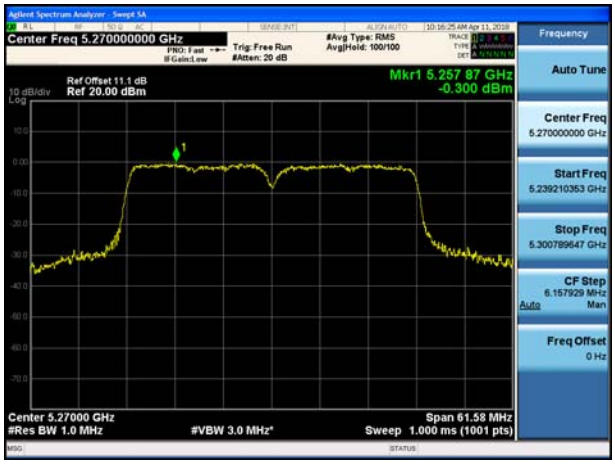
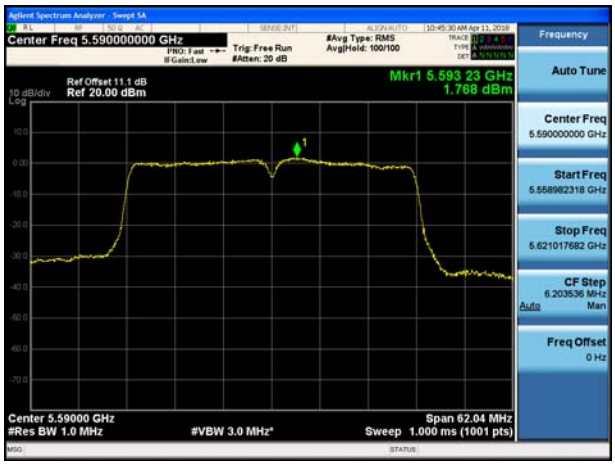
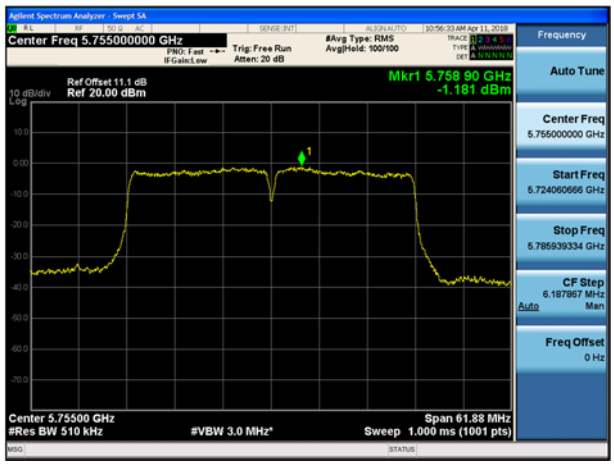
▣ 802.11ac_VHT40

▣ 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	-1.287	3.089	1.802	11	Pass
5230	46		-0.091	3.089	2.998		Pass
5270	54		-0.300	3.089	2.789	11	Pass
5310	62		-0.880	1.576	0.696		Pass
5510	102		-4.947	3.089	-1.858	11	Pass
5590	118		1.768	1.576	3.344		Pass
5670	134		-0.242	3.089	2.847		Pass
5755	151		-1.181	1.576	0.395	30	Pass
5795	159		-2.676	3.089	0.413		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 118	**802.11ac_VHT40 UNII 3 BAND PSD CH 159**
	

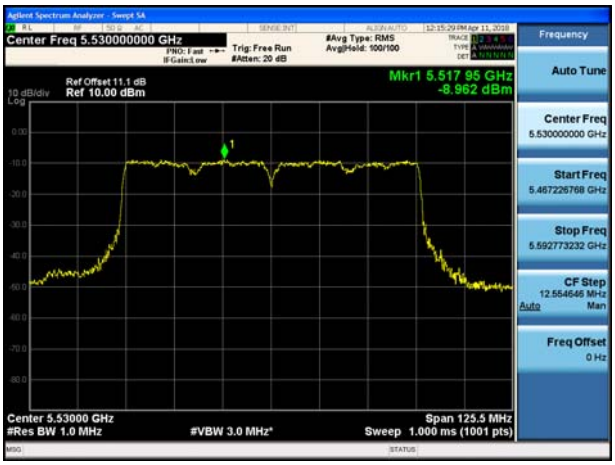
▣ 802.11ac_VHT80

▣ 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	-5.777	3.927	-1.850	11	Pass
5290	58		-7.189	3.103	-4.086		Pass
5530	106		-8.962	3.103	-5.859		Pass
5610	122		-4.007	3.348	-0.659		Pass
5775	155		-7.602	3.927	-3.675	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 122**
	
802.11ac_VHT80 UNII 3 BAND PSD CH 155	

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.

20 MHz BW

OPERATING BAND: UNII Band 1
OPERATING FREQUENCY: 5,180,000,000 Hz
CHANNEL: 36
REFERENCE VOLTAGE: 3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5180023.80	23.80
100%		-30	5180022.27	22.27
100%		-20	5180026.98	26.98
100%		-10	5180031.43	31.43
100%		0	5180035.30	35.30
100%		+10	5180040.03	40.03
100%		+30	5180048.14	48.14
100%		+40	5180052.32	52.32
100%		+50	5180055.50	55.50
High	4.40	+20	5180041.13	41.13
Low	3.60	+20	5180034.57	34.57

Note:

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

OPERATING BAND: UNII Band 2A
OPERATING FREQUENCY: 5,260,000,000 Hz
CHANNEL: 52
REFERENCE VOLTAGE: 3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5260030.10	30.10
100%		-30	5260023.39	23.39
100%		-20	5260028.40	28.40
100%		-10	5260032.38	32.38
100%		0	5260036.37	36.37
100%		+10	5260040.91	40.91
100%		+30	5260049.22	49.22
100%		+40	5260053.34	53.34
100%		+50	5260057.54	57.54
High	4.40	+20	5260036.63	36.63
Low	3.60	+20	5260040.01	40.01

Note:

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

OPERATING BAND: UNII Band 2C
OPERATING FREQUENCY: 5,500,000,000 Hz
CHANNEL: 100
REFERENCE VOLTAGE: 3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5500028.93	28.93
100%		-30	5500025.48	25.48
100%		-20	5500029.11	29.11
100%		-10	5500033.11	33.11
100%		0	5500036.36	36.36
100%		+10	5500041.13	41.13
100%		+30	5500048.75	48.75
100%		+40	5500053.68	53.68
100%		+50	5500058.53	58.53
High	4.40	+20	5500041.75	41.75
Low	3.60	+20	5500036.86	36.86

Note:

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

OPERATING BAND: UNII Band 3
OPERATING FREQUENCY: 5,745,000,000 Hz
CHANNEL: 149
REFERENCE VOLTAGE: 3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5745025.41	25.41
100%		-30	5745023.87	23.87
100%		-20	5745028.89	28.89
100%		-10	5745033.56	33.56
100%		0	5745036.73	36.73
100%		+10	5745041.71	41.71
100%		+30	5745049.82	49.82
100%		+40	5745053.44	53.44
100%		+50	5745057.35	57.35
High	4.40	+20	5745039.34	39.34
Low	3.60	+20	5745040.11	40.11

Note:

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

40 MHz BW

OPERATING BAND: UNII Band 1
OPERATING FREQUENCY: 5,190,000,000 Hz
CHANNEL: 38
REFERENCE VOLTAGE: 3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5190037.75	37.75
100%		-30	5190025.04	25.04
100%		-20	5190028.58	28.58
100%		-10	5190032.52	32.52
100%		0	5190037.38	37.38
100%		+10	5190041.80	41.80
100%		+30	5190049.73	49.73
100%		+40	5190054.64	54.64
100%		+50	5190059.16	59.16
High	4.40	+20	5190037.25	37.25
Low	3.60	+20	5190039.64	39.64

Note:

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

OPERATING BAND: UNII Band 2A
OPERATING FREQUENCY: 5,270,000,000 Hz
CHANNEL: 54
REFERENCE VOLTAGE: 3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5270029.66	29.66
100%		-30	5270023.38	23.38
100%		-20	5270028.47	28.47
100%		-10	5270032.71	32.71
100%		0	5270037.26	37.26
100%		+10	5270040.70	40.70
100%		+30	5270049.14	49.14
100%		+40	5270053.00	53.00
100%		+50	5270056.13	56.13
High	4.40	+20	5270040.45	40.45
Low	3.60	+20	5270036.85	36.85

Note:

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

OPERATING BAND: UNII Band 2C
OPERATING FREQUENCY: 5,510,000,000 Hz
CHANNEL: 102
REFERENCE VOLTAGE: 3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5510027.45	27.45
100%		-30	5510022.28	22.28
100%		-20	5510026.80	26.80
100%		-10	5510031.90	31.90
100%		0	5510035.48	35.48
100%		+10	5510040.50	40.50
100%		+30	5510048.89	48.89
100%		+40	5510053.79	53.79
100%		+50	5510057.48	57.48
High	4.40	+20	5510036.78	36.78
Low	3.60	+20	5510039.48	39.48

Note:

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

OPERATING BAND: UNII Band 3
OPERATING FREQUENCY: 5,755,000,000 Hz
CHANNEL: 151
REFERENCE VOLTAGE: 3.85 VDC

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5755026.74	26.74
100%		-30	5755024.19	24.19
100%		-20	5755028.97	28.97
100%		-10	5755033.66	33.66
100%		0	5755038.62	38.62
100%		+10	5755041.78	41.78
100%		+30	5755049.93	49.93
100%		+40	5755054.29	54.29
100%		+50	5755059.35	59.35
High	4.40	+20	5755040.04	40.04
Low	3.60	+20	5755038.59	38.59

Note:

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

80 MHz BW

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

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5210029.89	29.89
100%		-30	5210023.64	23.64
100%		-20	5210026.86	26.86
100%		-10	5210031.44	31.44
100%		0	5210036.10	36.10
100%		+10	5210040.99	40.99
100%		+30	5210048.92	48.92
100%		+40	5210053.09	53.09
100%		+50	5210057.15	57.15
High	4.40	+20	5210036.73	36.73
Low	3.60	+20	5210037.45	37.45

Note:

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

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

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5290030.76	30.76
100%		-30	5290025.60	25.60
100%		-20	5290029.59	29.59
100%		-10	5290033.06	33.06
100%		0	5290037.05	37.05
100%		+10	5290040.65	40.65
100%		+30	5290048.93	48.93
100%		+40	5290053.89	53.89
100%		+50	5290058.44	58.44
High	4.40	+20	5290041.01	41.01
Low	3.60	+20	5290040.57	40.57

Note:

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

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

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5530033.40	33.40
100%		-30	5530025.95	25.95
100%		-20	5530030.37	30.37
100%		-10	5530033.93	33.93
100%		0	5530038.04	38.04
100%		+10	5530041.70	41.70
100%		+30	5530049.66	49.66
100%		+40	5530053.54	53.54
100%		+50	5530057.68	57.68
High	4.40	+20	5530040.89	40.89
Low	3.60	+20	5530038.59	38.59

Note:

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

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

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	3.85	+20(Ref)	5775026.79	26.79
100%		-30	5775024.98	24.98
100%		-20	5775029.63	29.63
100%		-10	5775033.82	33.82
100%		0	5775037.69	37.69
100%		+10	5775040.92	40.92
100%		+30	5775048.40	48.40
100%		+40	5775052.65	52.65
100%		+50	5775056.34	56.34
High	4.40	+20	5775041.13	41.13
Low	3.60	+20	5775044.46	44.46

Note:

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

9.6 RADIATED MEASUREMENT

9.6.1 RADIATED SPURIOUS EMISSIONS.

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

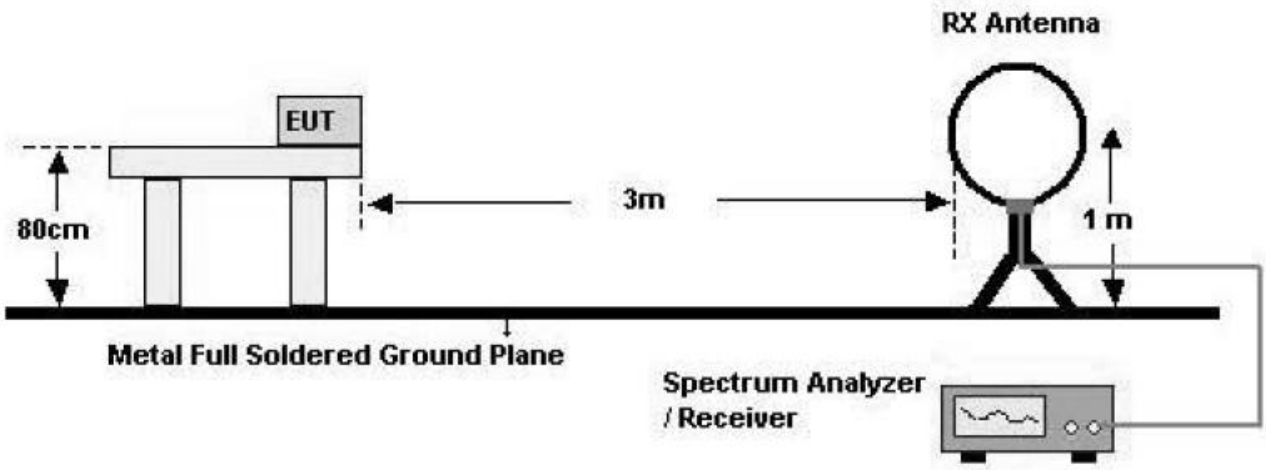
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

▣ §15.407, KDB 789033 D02v02

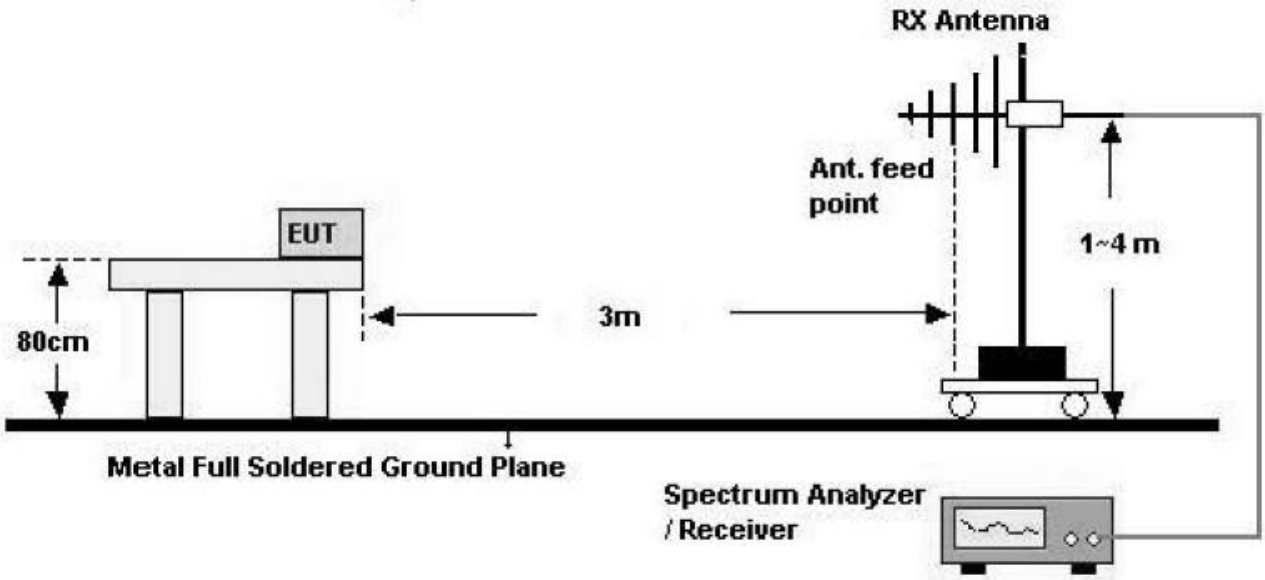
All harmonics that do not lie in a restricted band are subject to a peak limit of -27 dBm/MHz. At a distance of 3 meters the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2 dB to the EIRP limit of -27 dBm/MHz to obtain the limit for out of band spurious emissions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

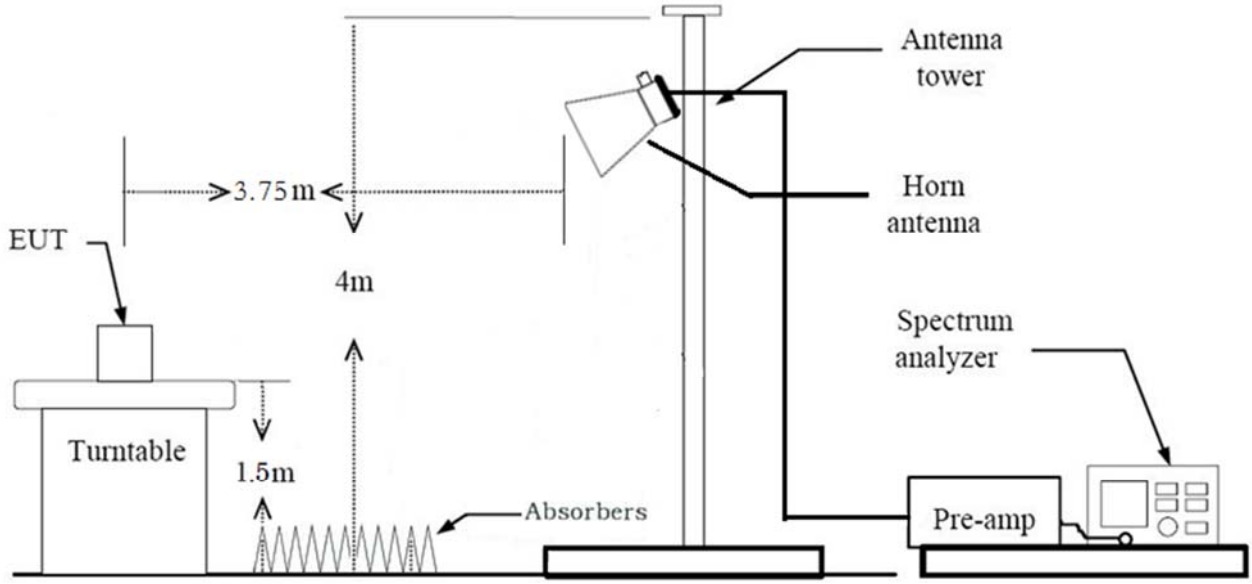
Below 30 MHz



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**	**1.434**	**1.540**	**0.93154377**	**697**	**1000**
n_HT20	**MCS 0**	**1.340**	**1.442**	**0.92895228**	**746**	**1000**
ac_VHT20	**MCS 0**	**1.349**	**1.460**	**0.92450348**	**741**	**1000**
n_HT40	**MCS 0**	**0.666**	**0.763**	**0.87272689**	**1502**	**3000**
ac_VHT40	**MCS 0**	**0.673**	**0.769**	**0.87517342**	**1486**	**3000**
ac_VHT80	**MCS 0**	**0.333**	**0.425**	**0.78237640**	**3006**	**10000**

TEST RESULTS

9 kHz – 30MHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dBμV	dB /m	dB	(H/V)	dBμV/m	dBμV/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.

TEST RESULTS

Below 1 GHz

Operation Mode: Normal Mode

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

Notes:

1. Measuring frequencies from 30 MHz to the 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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	52.79	6.98	V	59.77	68.20	8.43	PK
15540	45.37	12.50	V	57.87	73.98	16.11	PK
15540	33.02	12.50	V	45.52	53.98	8.46	AV
10360	51.18	6.98	H	58.16	68.20	10.04	PK
15540	45.49	12.50	H	57.99	73.98	15.99	PK
15540	33.01	12.50	H	45.51	53.98	8.47	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	51.07	7.08	V	58.15	68.20	10.05	PK
15600	44.79	11.70	V	56.49	73.98	17.49	PK
15600	31.50	11.70	V	43.20	53.98	10.78	AV
10400	51.57	7.08	H	58.65	68.20	9.55	PK
15600	44.66	11.70	H	56.36	73.98	17.62	PK
15600	31.53	11.70	H	43.23	53.98	10.75	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	50.09	7.75	V	57.84	68.20	10.36	PK
15720	43.48	11.90	V	55.38	73.98	18.60	PK
15720	30.57	11.90	V	42.47	53.98	11.51	AV
10480	51.07	7.75	H	58.82	68.20	9.38	PK
15720	44.29	11.90	H	56.19	73.98	17.79	PK
15720	30.50	11.90	H	42.40	53.98	11.58	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 802.11a. 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	53.37	6.98	V	60.35	68.20	7.85	PK
15540	48.80	12.50	V	61.30	73.98	12.68	PK
15540	32.31	12.50	V	44.81	53.98	9.17	AV
10360	54.52	6.98	H	61.50	68.20	6.70	PK
15540	50.52	12.50	H	63.02	73.98	10.96	PK
15540	33.80	12.50	H	46.30	53.98	7.68	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 802.11n_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	53.22	7.08	V	60.30	68.20	7.90	PK
15600	47.29	11.70	V	58.99	73.98	14.99	PK
15600	32.06	11.70	V	43.76	53.98	10.22	AV
10400	53.49	7.08	H	60.57	68.20	7.63	PK
15600	49.65	11.70	H	61.35	73.98	12.63	PK
15600	33.34	11.70	H	45.04	53.98	8.94	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	52.05	7.75	V	59.80	68.20	8.40	PK
15720	48.43	11.90	V	60.33	73.98	13.65	PK
15720	33.16	11.90	V	45.06	53.98	8.92	AV
10480	52.80	7.75	H	60.55	68.20	7.65	PK
15720	50.45	11.90	H	62.35	73.98	11.63	PK
15720	33.88	11.90	H	45.78	53.98	8.20	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	53.82	6.98	V	60.80	68.20	7.40	PK
15540	50.89	12.50	V	63.39	73.98	10.59	PK
15540	34.03	12.50	V	46.53	53.98	7.45	AV
10360	54.40	6.98	H	61.38	68.20	6.82	PK
15540	51.30	12.50	H	63.80	73.98	10.18	PK
15540	34.94	12.50	H	47.44	53.98	6.54	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	52.97	7.08	V	60.05	68.20	8.15	PK
15600	50.71	11.70	V	62.41	73.98	11.57	PK
15600	33.98	11.70	V	45.68	53.98	8.30	AV
10400	53.42	7.08	H	60.50	68.20	7.70	PK
15600	51.09	11.70	H	62.79	73.98	11.19	PK
15600	34.63	11.70	H	46.33	53.98	7.65	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 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	52.54	7.75	V	60.29	68.20	7.91	PK
15720	50.83	11.90	V	62.73	73.98	11.25	PK
15720	34.02	11.90	V	45.92	53.98	8.06	AV
10480	53.01	7.75	H	60.76	68.20	7.44	PK
15720	51.27	11.90	H	63.17	73.98	10.81	PK
15720	34.66	11.90	H	46.56	53.98	7.42	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	45.57	6.59	V	52.16	68.20	16.04	PK
15570	45.15	12.19	V	57.34	73.98	16.64	PK
15570	32.55	12.19	V	44.74	53.98	9.24	AV
10380	46.08	6.59	H	52.67	68.20	15.53	PK
15570	44.74	12.19	H	56.93	73.98	17.05	PK
15570	32.42	12.19	H	44.61	53.98	9.37	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	45.87	8.14	V	54.01	68.20	14.19	PK
15690	44.79	12.31	V	57.10	73.98	16.88	PK
15690	31.80	12.31	V	44.11	53.98	9.87	AV
10460	46.41	8.14	H	54.55	68.20	13.65	PK
15690	44.81	12.31	H	57.12	73.98	16.86	PK
15690	31.78	12.31	H	44.09	53.98	9.89	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	45.68	6.59	V	52.27	68.20	15.93	PK
15570	45.14	12.19	V	57.33	73.98	16.65	PK
15570	32.33	12.19	V	44.52	53.98	9.46	AV
10380	45.97	6.59	H	52.56	68.20	15.64	PK
15570	44.82	12.19	H	57.01	73.98	16.97	PK
15570	32.39	12.19	H	44.58	53.98	9.40	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	46.01	8.14	V	54.15	68.20	14.05	PK
15690	45.02	12.31	V	57.33	73.98	16.65	PK
15690	31.72	12.31	V	44.03	53.98	9.95	AV
10460	46.28	8.14	H	54.42	68.20	13.78	PK
15690	44.83	12.31	H	57.14	73.98	16.84	PK
15690	31.76	12.31	H	44.07	53.98	9.91	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	45.27	8.02	V	53.29	68.20	14.91	PK
15630	44.39	12.37	V	56.76	73.98	17.22	PK
15630	32.95	12.37	V	45.32	53.98	8.66	AV
10420	45.93	8.02	H	53.95	68.20	14.25	PK
15630	44.57	12.37	H	56.94	73.98	17.04	PK
15630	33.03	12.37	H	45.40	53.98	8.58	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_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	50.63	8.39	V	59.02	68.20	9.18	PK
15780	42.87	12.24	V	55.11	73.98	18.87	PK
15780	31.28	12.24	V	43.52	53.98	10.46	AV
10520	50.73	8.39	H	59.12	68.20	9.08	PK
15780	43.28	12.24	H	55.52	73.98	18.46	PK
15780	31.30	12.24	H	43.54	53.98	10.44	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 802.11a. 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	50.70	8.99	V	59.69	73.98	14.29	PK
10600	36.65	8.99	V	45.64	53.98	8.34	AV
15900	43.89	12.11	V	56.00	73.98	17.98	PK
15900	30.41	12.11	V	42.52	53.98	11.46	AV
10600	51.27	8.99	H	60.26	73.98	13.72	PK
10600	37.80	8.99	H	46.79	53.98	7.19	AV
15900	43.35	12.11	H	55.46	73.98	18.52	PK
15900	30.46	12.11	H	42.57	53.98	11.41	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	51.02	9.24	V	60.26	73.98	13.72	PK
10640	36.78	9.24	V	46.02	53.98	7.96	AV
15960	43.76	10.68	V	54.44	73.98	19.54	PK
15960	31.01	10.68	V	41.69	53.98	12.29	AV
10640	49.98	9.24	H	59.22	73.98	14.76	PK
10640	36.88	9.24	H	46.12	53.98	7.86	AV
15960	44.28	10.68	H	54.96	73.98	19.02	PK
15960	30.90	10.68	H	41.58	53.98	12.40	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	53.54	8.39	V	61.93	68.20	6.27	PK
15780	46.91	12.24	V	59.15	73.98	14.83	PK
15780	32.37	12.24	V	44.61	53.98	9.37	AV
10520	52.66	8.39	H	61.05	68.20	7.15	PK
15780	49.11	12.24	H	61.35	73.98	12.63	PK
15780	33.44	12.24	H	45.68	53.98	8.30	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	52.69	8.99	V	61.68	73.98	12.30	PK
10600	37.29	8.99	V	46.28	53.98	7.70	AV
15900	47.22	12.11	V	59.33	73.98	14.65	PK
15900	32.27	12.11	V	44.38	53.98	9.60	AV
10600	53.35	8.99	H	62.34	73.98	11.64	PK
10600	38.38	8.99	H	47.37	53.98	6.61	AV
15900	48.74	12.11	H	60.85	73.98	13.13	PK
15900	33.08	12.11	H	45.19	53.98	8.79	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	52.91	9.24	V	62.15	73.98	11.83	PK
10640	37.33	9.24	V	46.57	53.98	7.41	AV
15960	47.14	10.68	V	57.82	73.98	16.16	PK
15960	32.41	10.68	V	43.09	53.98	10.89	AV
10640	52.14	9.24	H	61.38	73.98	12.60	PK
10640	37.26	9.24	H	46.50	53.98	7.48	AV
15960	48.24	10.68	H	58.92	73.98	15.06	PK
15960	33.26	10.68	H	43.94	53.98	10.04	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	52.76	8.39	V	61.15	68.20	7.05	PK
15780	50.77	12.24	V	63.01	73.98	10.97	PK
15780	34.10	12.24	V	46.34	53.98	7.64	AV
10520	53.37	8.39	H	61.76	68.20	6.44	PK
15780	51.11	12.24	H	63.35	73.98	10.63	PK
15780	34.73	12.24	H	46.97	53.98	7.01	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	52.84	8.99	V	61.83	73.98	12.15	PK
10600	37.97	8.99	V	46.96	53.98	7.02	AV
15900	50.86	12.11	V	62.97	73.98	11.01	PK
15900	33.94	12.11	V	46.05	53.98	7.93	AV
10600	53.42	8.99	H	62.41	73.98	11.57	PK
10600	38.82	8.99	H	47.81	53.98	6.17	AV
15900	50.96	12.11	H	63.07	73.98	10.91	PK
15900	34.72	12.11	H	46.83	53.98	7.15	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	48.36	9.24	V	57.60	73.98	16.38	PK
10640	35.28	9.24	V	44.52	53.98	9.46	AV
15960	50.44	10.68	V	61.12	73.98	12.86	PK
15960	33.69	10.68	V	44.37	53.98	9.61	AV
10640	49.72	9.24	H	58.96	73.98	15.02	PK
10640	35.72	9.24	H	44.96	53.98	9.02	AV
15960	50.84	10.68	H	61.52	73.98	12.46	PK
15960	34.23	10.68	H	44.91	53.98	9.07	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	46.89	8.74	V	55.63	68.20	12.57	PK
15810	42.86	11.66	V	54.52	73.98	19.46	PK
15810	30.42	11.66	V	42.08	53.98	11.90	AV
10540	47.52	8.74	H	56.26	68.20	11.94	PK
15810	43.31	11.66	H	54.97	73.98	19.01	PK
15810	30.61	11.66	H	42.27	53.98	11.71	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	44.74	8.73	V	53.47	73.98	20.51	PK
10620	34.08	8.73	V	42.81	53.98	11.17	AV
15930	44.27	10.84	V	55.11	73.98	18.87	PK
15930	31.56	10.84	V	42.40	53.98	11.58	AV
10620	46.32	8.73	H	55.05	73.98	18.93	PK
10620	34.59	8.73	H	43.32	53.98	10.66	AV
15930	44.39	10.84	H	55.23	73.98	18.75	PK
15930	31.57	10.84	H	42.41	53.98	11.57	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_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	46.89	8.74	V	55.63	68.20	12.57	PK
15810	42.86	11.66	V	54.52	73.98	19.46	PK
15810	30.42	11.66	V	42.08	53.98	11.90	AV
10540	47.52	8.74	H	56.26	68.20	11.94	PK
15810	43.31	11.66	H	54.97	73.98	19.01	PK
15810	30.61	11.66	H	42.27	53.98	11.71	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	45.39	8.73	V	54.12	73.98	19.86	PK
10620	34.14	8.73	V	42.87	53.98	11.11	AV
15930	44.64	10.84	V	55.48	73.98	18.50	PK
15930	31.59	10.84	V	42.43	53.98	11.55	AV
10620	45.82	8.73	H	54.55	73.98	19.43	PK
10620	34.45	8.73	H	43.18	53.98	10.80	AV
15930	44.96	10.84	H	55.80	73.98	18.18	PK
15930	31.61	10.84	H	42.45	53.98	11.53	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	44.48	9.00	V	53.48	68.20	14.72	PK
15870	42.89	11.24	V	54.13	73.98	19.85	PK
15870	31.87	11.24	V	43.11	53.98	10.87	AV
10580	44.69	9.00	H	53.69	68.20	14.51	PK
15870	43.67	11.24	H	54.91	73.98	19.07	PK
15870	31.84	11.24	H	43.08	53.98	10.90	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	47.73	10.28	V	58.01	73.98	15.97	PK
11000	33.72	10.28	V	44.00	53.98	9.98	AV
16500	44.72	11.67	V	56.39	68.20	11.81	PK
11000	45.93	10.28	H	56.21	73.98	17.77	PK
11000	31.74	10.28	H	42.02	53.98	11.96	AV
16500	45.29	11.67	H	56.96	68.20	11.24	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	5600 MHz
Channel No.	120 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
11200	44.99	10.26	V	55.25	73.98	18.73	PK
11200	31.72	10.26	V	41.98	53.98	12.00	AV
16800	44.96	10.99	V	55.95	68.20	12.25	PK
11200	43.96	10.26	H	54.22	73.98	19.76	PK
11200	30.63	10.26	H	40.89	53.98	13.09	AV
16800	44.38	10.99	H	55.37	68.20	12.83	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 802.11a. 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	5700 MHz
Channel No.	140 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
11400	44.24	9.35	V	53.59	73.98	20.39	PK
11400	30.99	9.35	V	40.34	53.98	13.64	AV
17100	44.72	13.07	V	57.79	68.20	10.41	PK
11400	42.78	9.35	H	52.13	73.98	21.85	PK
11400	29.96	9.35	H	39.31	53.98	14.67	AV
17100	44.61	13.07	H	57.68	68.20	10.52	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	45.36	10.28	V	55.64	73.98	18.34	PK
11000	31.47	10.28	V	41.75	53.98	12.23	AV
16500	45.19	11.67	V	56.86	68.20	11.34	PK
11000	46.77	10.28	H	57.05	73.98	16.93	PK
11000	33.38	10.28	H	43.66	53.98	10.32	AV
16500	44.61	11.67	H	56.28	68.20	11.92	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 802.11n_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	5600 MHz
Channel No.	120 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
11200	46.56	10.26	V	56.82	73.98	17.16	PK
11200	32.29	10.26	V	42.55	53.98	11.43	AV
16800	46.17	10.99	V	57.16	68.20	11.04	PK
11200	45.76	10.26	H	56.02	73.98	17.96	PK
11200	31.22	10.26	H	41.48	53.98	12.50	AV
16800	46.46	10.99	H	57.45	68.20	10.75	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	5700 MHz
Channel No.	140 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
11400	46.11	9.35	V	55.46	73.98	18.52	PK
11400	31.58	9.35	V	40.93	53.98	13.05	AV
17100	44.98	13.07	V	58.05	68.20	10.15	PK
11400	43.96	9.35	H	53.31	73.98	20.67	PK
11400	30.57	9.35	H	39.92	53.98	14.06	AV
17100	45.23	13.07	H	58.30	68.20	9.90	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	44.98	10.28	V	55.26	73.98	18.72	PK
11000	31.64	10.28	V	41.92	53.98	12.06	AV
16500	45.27	11.67	V	56.94	68.20	11.26	PK
11000	46.83	10.28	H	57.11	73.98	16.87	PK
11000	33.42	10.28	H	43.70	53.98	10.28	AV
16500	44.62	11.67	H	56.29	68.20	11.91	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	5600 MHz
Channel No.	120 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
11200	46.66	10.26	V	56.92	73.98	17.06	PK
11200	31.85	10.26	V	42.11	53.98	11.87	AV
16800	46.39	10.99	V	57.38	68.20	10.82	PK
11200	45.60	10.26	H	55.86	73.98	18.12	PK
11200	31.32	10.26	H	41.58	53.98	12.40	AV
16800	46.77	10.99	H	57.76	68.20	10.44	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_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	5700 MHz
Channel No.	140 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
11400	46.11	9.35	V	55.46	73.98	18.52	PK
11400	31.58	9.35	V	40.93	53.98	13.05	AV
17100	44.98	13.07	V	58.05	68.20	10.15	PK
11400	43.96	9.35	H	53.31	73.98	20.67	PK
11400	30.57	9.35	H	39.92	53.98	14.06	AV
17100	45.23	13.07	H	58.30	68.20	9.90	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	45.17	10.00	V	55.17	73.98	18.81	PK
11020	30.30	10.00	V	40.30	53.98	13.68	AV
16530	44.53	11.54	V	56.07	68.20	12.13	PK
11020	45.28	10.00	H	55.28	73.98	18.70	PK
11020	30.35	10.00	H	40.35	53.98	13.63	AV
16530	44.71	11.54	H	56.25	68.20	11.95	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	5590 MHz
Channel No.	118 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
11180	42.49	10.01	V	52.50	73.98	21.48	PK
11180	30.24	10.01	V	40.25	53.98	13.73	AV
16770	45.17	11.78	V	56.95	68.20	11.25	PK
11180	43.81	10.01	H	53.82	73.98	20.16	PK
11180	30.37	10.01	H	40.38	53.98	13.60	AV
16770	45.12	11.78	H	56.90	68.20	11.30	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 802.11n_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	5670 MHz
Channel No.	134 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
11340	42.64	9.18	V	51.82	73.98	22.16	PK
11340	30.17	9.18	V	39.35	53.98	14.63	AV
17010	44.82	13.30	V	58.12	68.20	10.08	PK
11340	43.46	9.18	H	52.64	73.98	21.34	PK
11340	30.25	9.18	H	39.43	53.98	14.55	AV
17010	45.13	13.30	H	58.43	68.20	9.77	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	45.26	10.00	V	55.26	73.98	18.72	PK
11020	30.34	10.00	V	40.34	53.98	13.64	AV
16530	44.72	11.54	V	56.26	68.20	11.94	PK
11020	45.42	10.00	H	55.42	73.98	18.56	PK
11020	30.38	10.00	H	40.38	53.98	13.60	AV
16530	44.83	11.54	H	56.37	68.20	11.83	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 802.11ac_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	5590 MHz
Channel No.	118 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
11180	42.67	10.01	V	52.68	73.98	21.30	PK
11180	30.31	10.01	V	40.32	53.98	13.66	AV
16770	45.21	11.78	V	56.99	68.20	11.21	PK
11180	43.28	10.01	H	53.29	73.98	20.69	PK
11180	30.42	10.01	H	40.43	53.98	13.55	AV
16770	45.36	11.78	H	57.14	68.20	11.06	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 802.11ac_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	5670 MHz
Channel No.	134 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
11340	43.14	9.18	V	52.32	73.98	21.66	PK
11340	30.22	9.18	V	39.40	53.98	14.58	AV
17010	45.06	13.30	V	58.36	68.20	9.84	PK
11340	43.71	9.18	H	52.89	73.98	21.09	PK
11340	30.27	9.18	H	39.45	53.98	14.53	AV
17010	45.32	13.30	H	58.62	68.20	9.58	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_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	42.30	9.89	V	52.19	73.98	21.79	PK
11060	31.14	9.89	V	41.03	53.98	12.95	AV
16590	44.79	11.95	V	56.74	68.20	11.46	PK
11060	42.71	9.89	H	52.60	73.98	21.38	PK
11060	31.28	9.89	H	41.17	53.98	12.81	AV
16590	45.31	11.95	H	57.26	68.20	10.94	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	5610 MHz
Channel No.	122 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
11220	42.94	10.10	V	53.04	73.98	20.94	PK
11220	31.19	10.10	V	41.29	53.98	12.69	AV
16830	45.17	12.57	V	57.74	68.20	10.46	PK
11220	43.78	10.10	H	53.88	73.98	20.10	PK
11220	31.76	10.10	H	41.86	53.98	12.12	AV
16830	45.36	12.57	H	57.93	68.20	10.27	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	44.71	9.33	V	54.04	73.98	19.94	PK
11490	31.34	9.33	V	40.67	53.98	13.31	AV
17235	44.13	14.50	V	58.63	68.20	9.57	PK
11490	43.72	9.33	H	53.05	73.98	20.93	PK
11490	30.32	9.33	H	39.65	53.98	14.33	AV
17235	44.06	14.50	H	58.56	68.20	9.64	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	45.23	9.53	V	54.76	73.98	19.22	PK
11570	32.05	9.53	V	41.58	53.98	12.40	AV
17355	45.08	15.90	V	60.98	68.20	7.22	PK
11570	44.37	9.53	H	53.90	73.98	20.08	PK
11570	31.30	9.53	H	40.83	53.98	13.15	AV
17355	45.11	15.90	H	61.01	68.20	7.19	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 802.11a. 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	46.36	8.48	V	54.84	73.98	19.14	PK
11650	32.95	8.48	V	41.43	53.98	12.55	AV
17475	44.64	16.80	V	61.44	68.20	6.76	PK
11650	44.82	8.48	H	53.30	73.98	20.68	PK
11650	31.52	8.48	H	40.00	53.98	13.98	AV
17475	45.43	16.80	H	62.23	68.20	5.97	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	46.76	9.33	V	56.09	73.98	17.89	PK
11490	31.99	9.33	V	41.32	53.98	12.66	AV
17235	44.58	14.50	V	59.08	68.20	9.12	PK
11490	45.35	9.33	H	54.68	73.98	19.30	PK
11490	30.92	9.33	H	40.25	53.98	13.73	AV
17235	44.63	14.50	H	59.13	68.20	9.07	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_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	46.38	9.53	V	55.91	73.98	18.07	PK
11570	32.69	9.53	V	42.22	53.98	11.76	AV
17355	44.88	15.90	V	60.78	68.20	7.42	PK
11570	46.24	9.53	H	55.77	73.98	18.21	PK
11570	31.91	9.53	H	41.44	53.98	12.54	AV
17355	44.92	15.90	H	60.82	68.20	7.38	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	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	47.47	8.48	V	55.95	73.98	18.03	PK
11650	33.53	8.48	V	42.01	53.98	11.97	AV
17475	44.75	16.80	V	61.55	68.20	6.65	PK
11650	46.52	8.48	H	55.00	73.98	18.98	PK
11650	32.10	8.48	H	40.58	53.98	13.40	AV
17475	45.31	16.80	H	62.11	68.20	6.09	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	46.81	9.33	V	56.14	73.98	17.84	PK
11490	31.84	9.33	V	41.17	53.98	12.81	AV
17235	44.88	14.50	V	59.38	68.20	8.82	PK
11490	45.56	9.33	H	54.89	73.98	19.09	PK
11490	31.28	9.33	H	40.61	53.98	13.37	AV
17235	44.71	14.50	H	59.21	68.20	8.99	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	46.41	9.53	V	55.94	73.98	18.04	PK
11570	32.70	9.53	V	42.23	53.98	11.75	AV
17355	44.93	15.90	V	60.83	68.20	7.37	PK
11570	46.36	9.53	H	55.89	73.98	18.09	PK
11570	32.05	9.53	H	41.58	53.98	12.40	AV
17355	44.90	15.90	H	60.80	68.20	7.40	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	47.88	8.48	V	56.36	73.98	17.62	PK
11650	33.60	8.48	V	42.08	53.98	11.90	AV
17475	44.93	16.80	V	61.73	68.20	6.47	PK
11650	46.72	8.48	H	55.20	73.98	18.78	PK
11650	32.34	8.48	H	40.82	53.98	13.16	AV
17475	45.68	16.80	H	62.48	68.20	5.72	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	42.38	9.22	V	51.60	73.98	22.38	PK
11510	30.01	9.22	V	39.23	53.98	14.75	AV
17265	44.53	14.20	V	58.73	68.20	9.47	PK
11510	42.67	9.22	H	51.89	73.98	22.09	PK
11510	30.03	9.22	H	39.25	53.98	14.73	AV
17265	44.80	14.20	H	59.00	68.20	9.20	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	42.88	9.69	V	52.57	73.98	21.41	PK
11590	30.17	9.69	V	39.86	53.98	14.12	AV
17385	45.07	15.61	V	60.68	68.20	7.52	PK
11590	42.76	9.69	H	52.45	73.98	21.53	PK
11590	30.19	9.69	H	39.88	53.98	14.10	AV
17385	45.61	15.61	H	61.22	68.20	6.98	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	42.42	9.22	V	51.64	73.98	22.34	PK
11510	30.09	9.22	V	39.31	53.98	14.67	AV
17265	44.30	14.20	V	58.50	68.20	9.70	PK
11510	42.77	9.22	H	51.99	73.98	21.99	PK
11510	30.10	9.22	H	39.32	53.98	14.66	AV
17265	44.79	14.20	H	58.99	68.20	9.21	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	43.01	9.69	V	52.70	73.98	21.28	PK
11590	30.16	9.69	V	39.85	53.98	14.13	AV
17385	45.09	15.61	V	60.70	68.20	7.50	PK
11590	42.67	9.69	H	52.36	73.98	21.62	PK
11590	30.18	9.69	H	39.87	53.98	14.11	AV
17385	46.64	15.61	H	62.25	68.20	5.95	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	42.79	9.00	V	51.79	73.98	22.19	PK
11550	31.06	9.00	V	40.06	53.98	13.92	AV
17325	44.38	15.25	V	59.63	68.20	8.57	PK
11550	42.71	9.00	H	51.71	73.98	22.27	PK
11550	31.40	9.00	H	40.40	53.98	13.58	AV
17325	44.47	15.25	H	59.72	68.20	8.48	PK

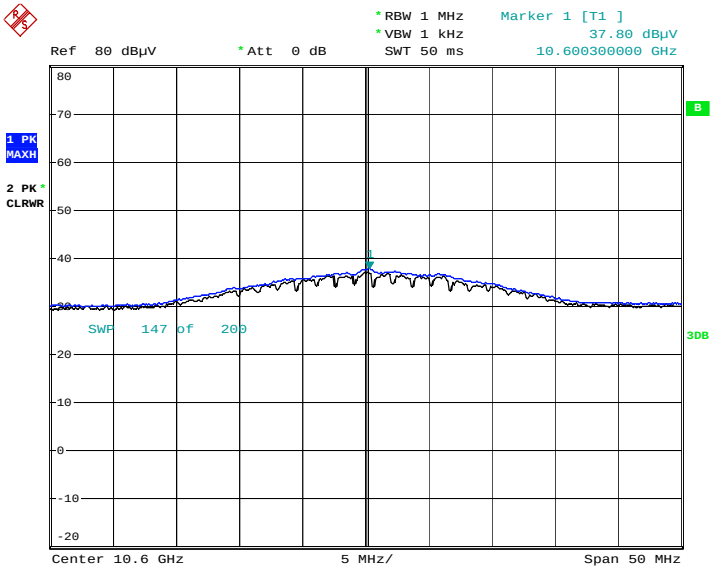
*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

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)

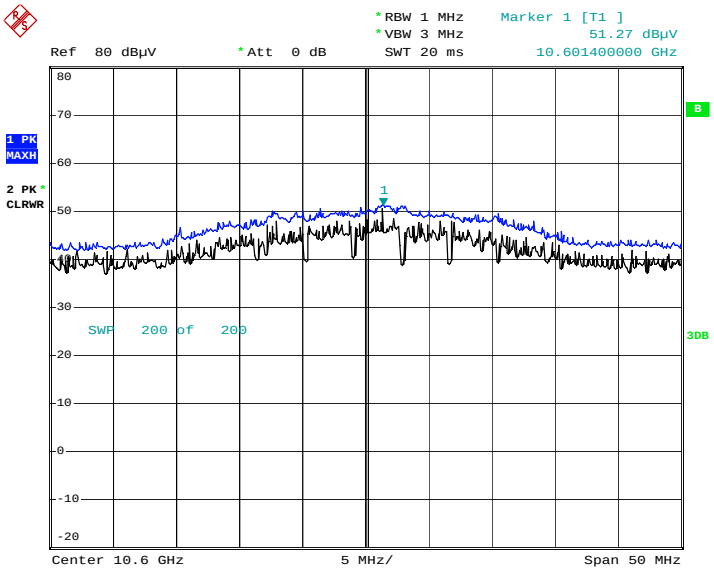
▣ RESULT PLOTS

Radiated Spurious Emissions plot –Average Reading (802.11a, Ch.60 2nd Harmonic, Y-H)



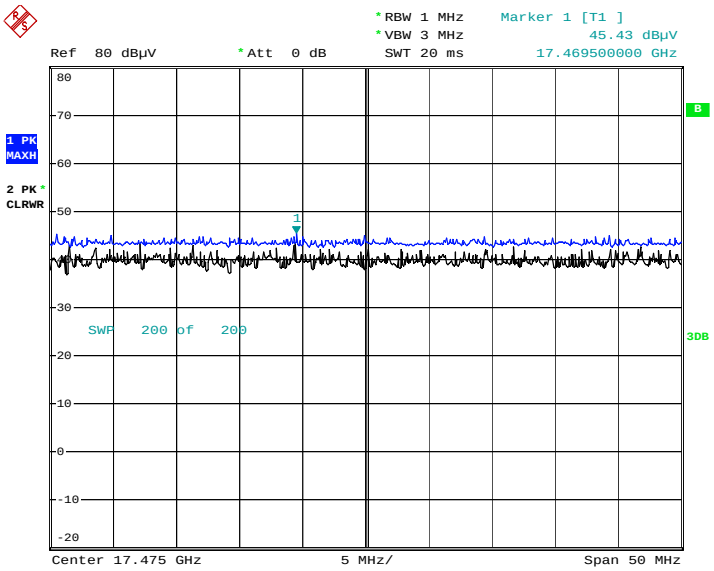
Date: 26.FEB.2003 03:47:51

Radiated Spurious Emissions plot –Peak Reading (802.11a, Ch.60 2nd Harmonic, Y-H)



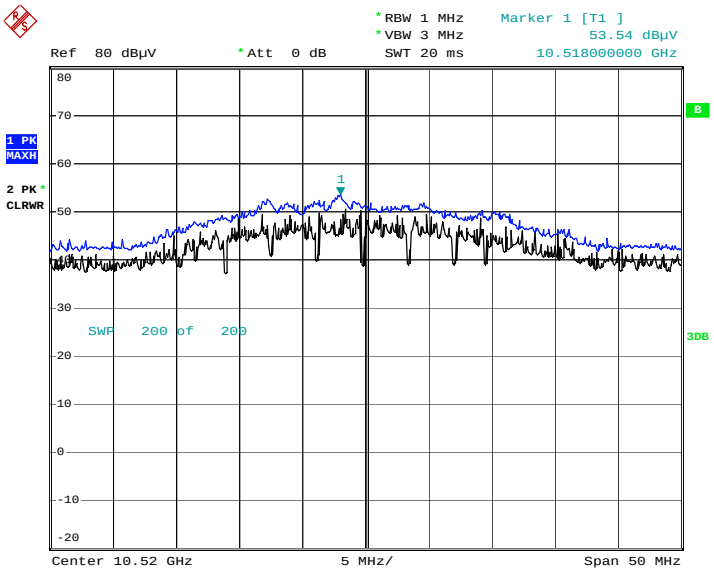
Date: 26.FEB.2003 03:47:05

Radiated Spurious Emissions plot –Peak Reading (802.11a, Ch.165 3rd Harmonic, Y-H)



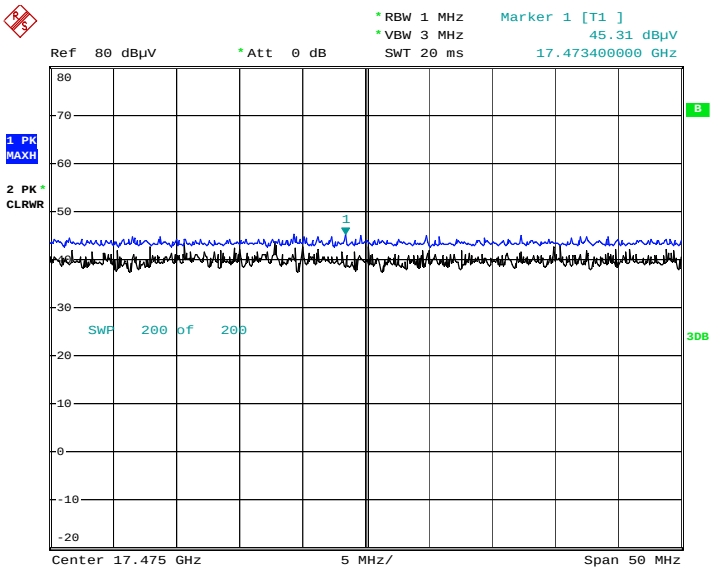
Date: 26.FEB.2003 03:48:45

Radiated Spurious Emissions plot –Peak Reading (802.11n_HT20, Ch.52 2nd Harmonic, X-V)



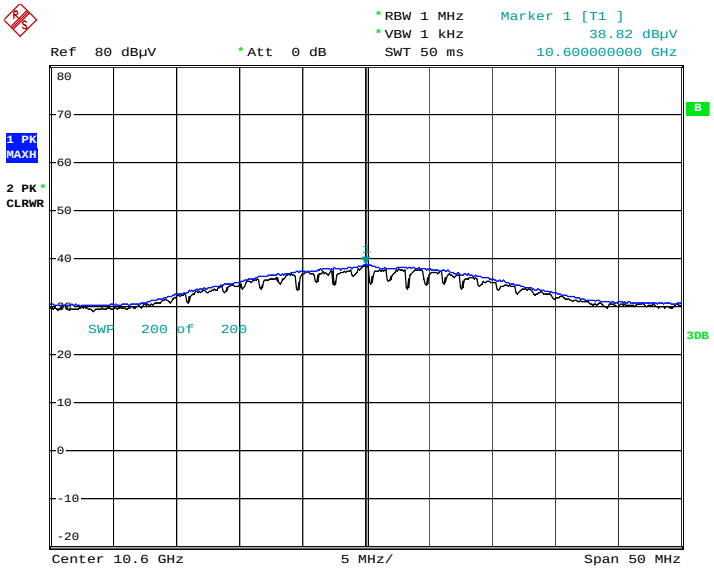
Date: 26.FEB.2003 03:53:05

Radiated Spurious Emissions plot –Peak Reading (802.11n_HT20, Ch.165 3rd Harmonic, Y-H)



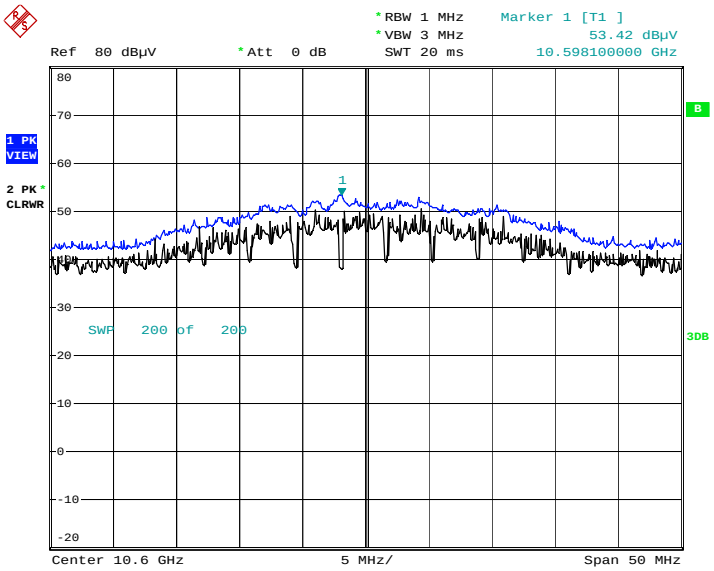
Date: 26.FEB.2003 03:53:56

Radiated Spurious Emissions plot –Average Reading (802.11ac_VHT20, Ch.60 2nd Harmonic, Y-H)



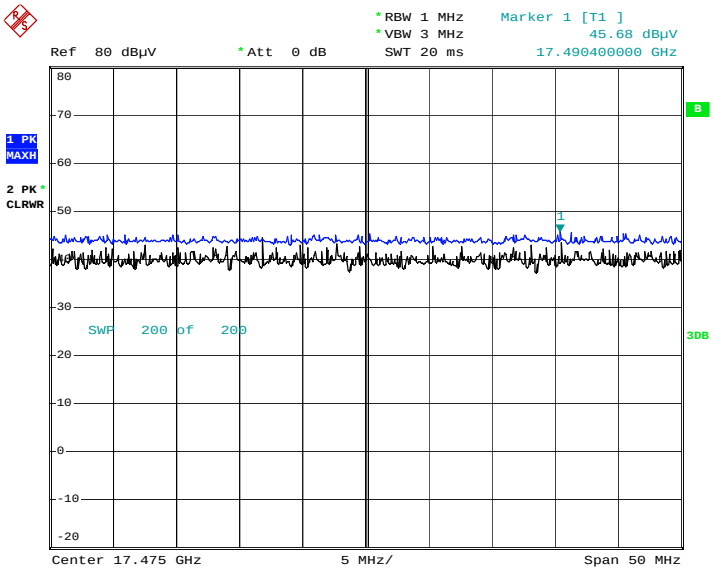
Date: 26.FEB.2003 04:02:29

Radiated Spurious Emissions plot –Peak Reading (802.11ac_VHT20, Ch.60 2nd Harmonic, Y-H)



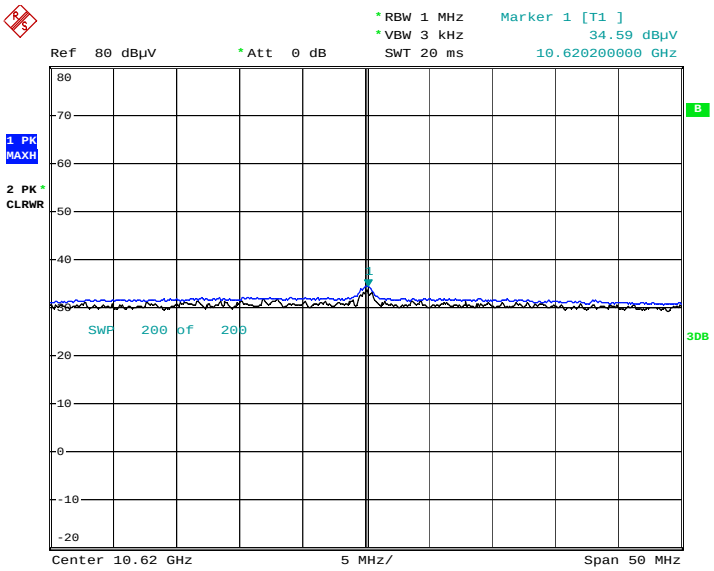
Date: 26.FEB.2003 04:03:30

Radiated Spurious Emissions plot –Peak Reading (802.11ac_VHT20, Ch.165 3rd Harmonic, Y-H)



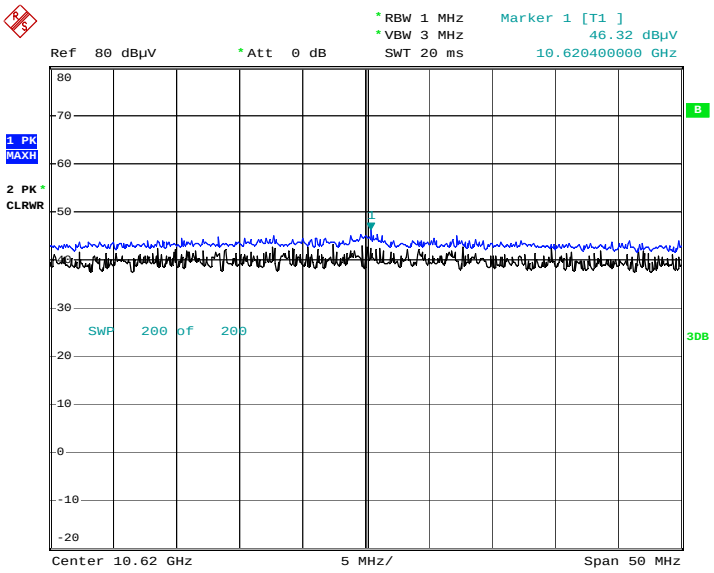
Date: 26.FEB.2003 04:14:25

Radiated Spurious Emissions plot –Average Reading (802.11n_HT40, Ch.62 2nd Harmonic, Y-H)



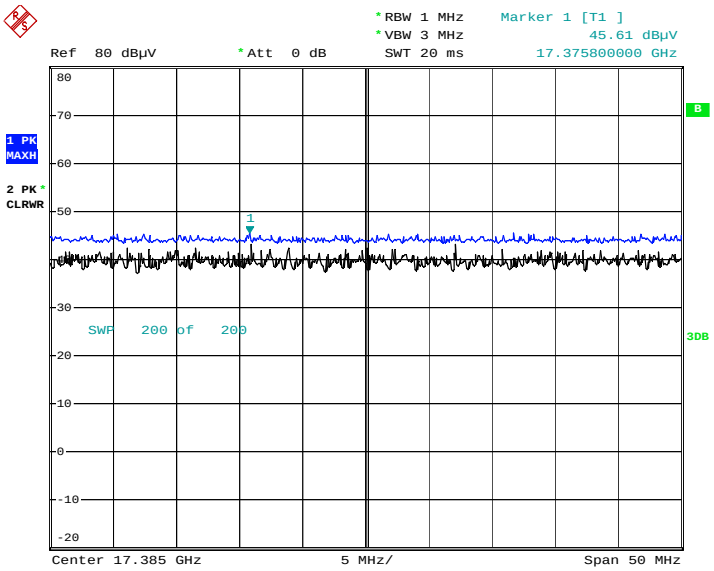
Date: 26.FEB.2003 05:43:29

Radiated Spurious Emissions plot –Peak Reading (802.11n_HT40, Ch.62 2nd Harmonic, Y-H)



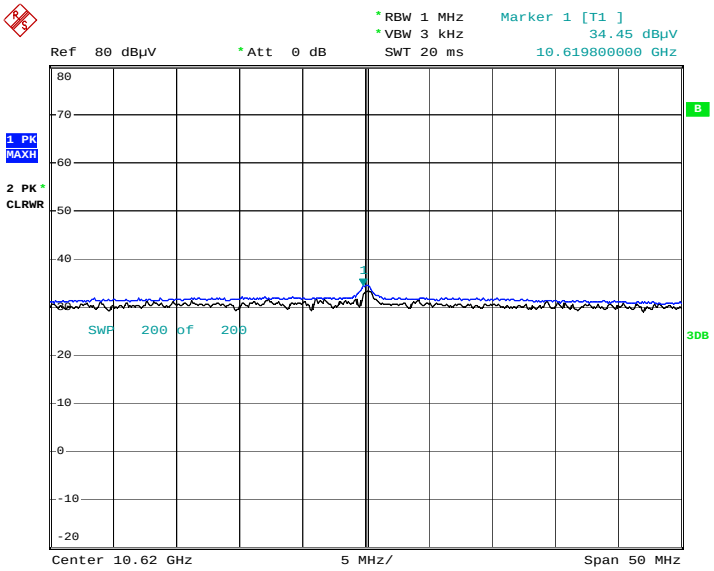
Date: 26.FEB.2003 05:44:19

Radiated Spurious Emissions plot –Peak Reading (802.11n_HT40, Ch.159 3rd Harmonic, Y-H)



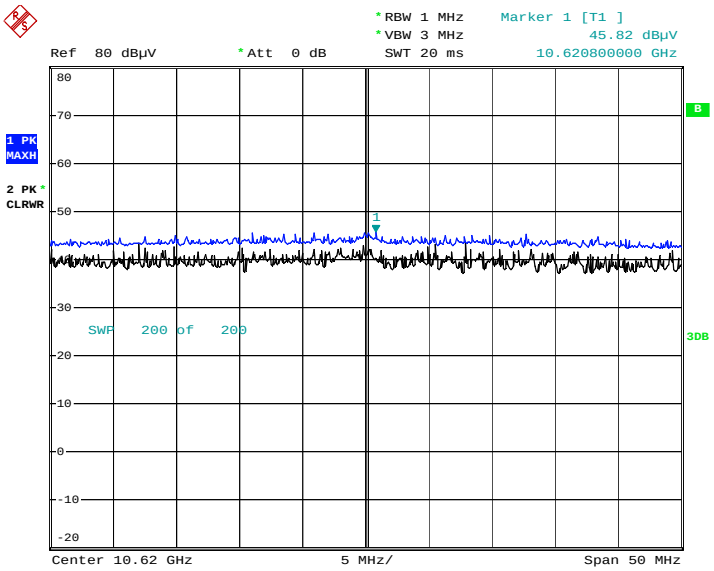
Date: 26.FEB.2003 05:41:32

Radiated Spurious Emissions plot –Average Reading (802.11ac_VHT40, Ch.62 2nd Harmonic, Y-H)



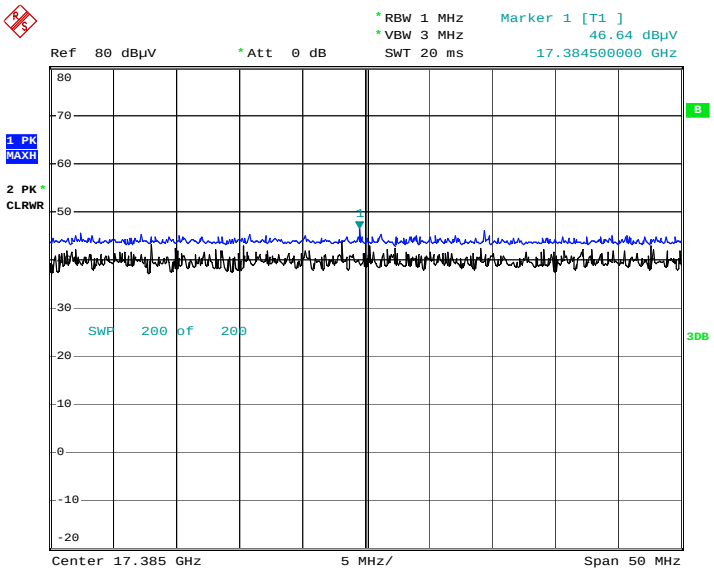
Date: 26.FEB.2003 05:57:43

Radiated Spurious Emissions plot –Peak Reading (802.11ac_VHT40, Ch.62 2nd Harmonic, Y-H)



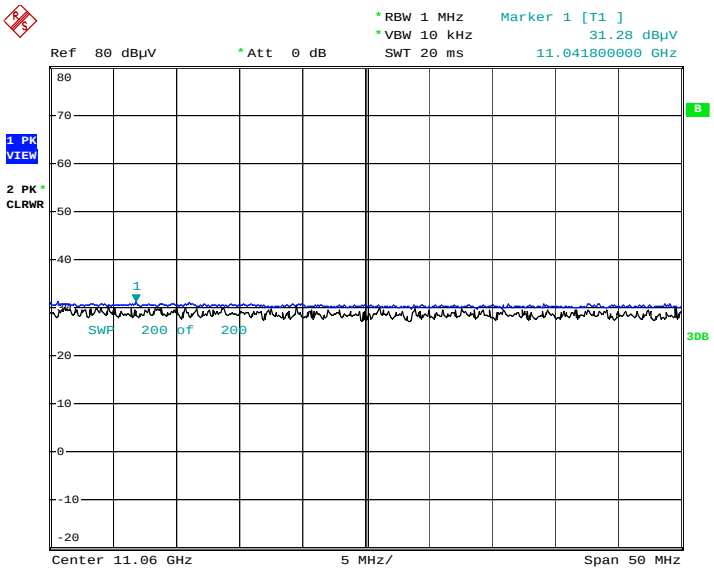
Date: 26.FEB.2003 05:57:02

Radiated Spurious Emissions plot –Peak Reading (802.11ac_VHT40, Ch.159 3rd Harmonic, Y-H)



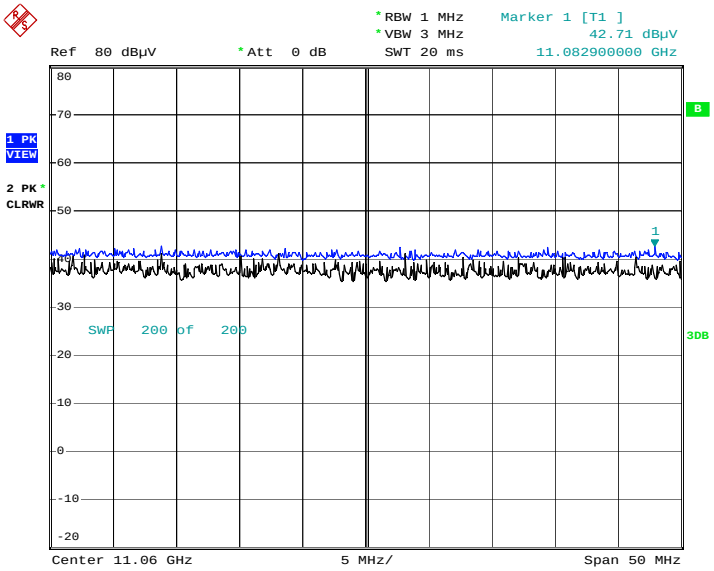
Date: 26.FEB.2003 05:59:07

Radiated Spurious Emissions plot –Average Reading (802.11ac_VHT80, Ch.106 2nd Harmonic, Y-H)



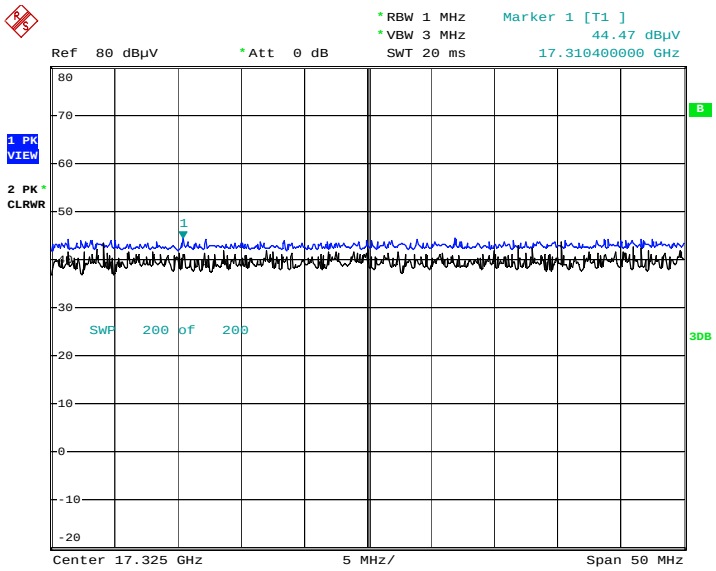
Date: 26.FEB.2003 06:24:34

Radiated Spurious Emissions plot –Peak Reading (802.11ac_VHT80, Ch.106 2nd Harmonic, Y-H)



Date: 26.FEB.2003 06:25:45

Radiated Spurious Emissions plot –Peak Reading (802.11ac_VHT80, Ch.155 3rd Harmonic, Y-H)



Date: 26.FEB.2003 06:22:43

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	56.30	5.97	H	62.27	73.98	11.71	PK
5150	39.44	5.97	H	45.41	53.98	8.57	AV
5150	55.74	5.97	V	61.71	73.98	12.27	PK
5150	38.53	5.97	V	44.5	53.98	9.48	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	57.22	5.97	H	63.19	73.98	10.79	PK
5150	43.90	5.97	H	49.87	53.98	4.11	AV
5150	56.33	5.97	V	62.3	73.98	11.68	PK
5150	41.80	5.97	V	47.77	53.98	6.21	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	55.66	5.97	H	61.63	73.98	12.35	PK
5150	43.55	5.97	H	49.52	53.98	4.46	AV
5150	54.38	5.97	V	60.35	73.98	13.63	PK
5150	42.17	5.97	V	48.14	53.98	5.84	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	57.36	5.97	H	63.33	73.98	10.65	PK
5150	45.33	5.97	H	51.3	53.98	2.68	AV
5150	55.68	5.97	V	61.65	73.98	12.33	PK
5150	43.89	5.97	V	49.86	53.98	4.12	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	57.41	5.97	H	63.38	73.98	10.60	PK
5150	45.53	5.97	H	51.5	53.98	2.48	AV
5150	55.33	5.97	V	61.3	73.98	12.68	PK
5150	43.82	5.97	V	49.79	53.98	4.19	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	55.35	5.97	H	61.32	73.98	12.66	PK
5150	45.13	5.97	H	51.1	53.98	2.88	AV
5150	54.79	5.97	V	60.76	73.98	13.22	PK
5150	43.96	5.97	V	49.93	53.98	4.05	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	61.63	6.98	H	68.61	73.98	5.37	PK
5350	44.80	6.98	H	51.78	53.98	2.20	AV
5350	60.15	6.98	V	67.13	73.98	6.85	PK
5350	42.37	6.98	V	49.35	53.98	4.63	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	61.83	6.98	H	68.81	73.98	5.17	PK
5350	44.14	6.98	H	51.12	53.98	2.86	AV
5350	59.96	6.98	V	66.94	73.98	7.04	PK
5350	43.17	6.98	V	50.15	53.98	3.83	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	61.48	6.98	H	68.46	73.98	5.52	PK
5350	43.73	6.98	H	50.71	53.98	3.27	AV
5350	59.98	6.98	V	66.96	73.98	7.02	PK
5350	42.35	6.98	V	49.33	53.98	4.65	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	61.77	6.98	H	68.75	73.98	5.23	PK
5350	43.01	6.98	H	49.99	53.98	3.99	AV
5350	59.98	6.98	V	66.96	73.98	7.02	PK
5350	41.88	6.98	V	48.86	53.98	5.12	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	61.45	6.98	H	68.43	73.98	5.55	PK
5350	42.84	6.98	H	49.82	53.98	4.16	AV
5350	60.42	6.98	V	67.4	73.98	6.58	PK
5350	41.94	6.98	V	48.92	53.98	5.06	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	57.94	6.98	H	64.92	73.98	9.06	PK
5350	44.45	6.98	H	51.43	53.98	2.55	AV
5350	55.82	6.98	V	62.8	73.98	11.18	PK
5350	43.24	6.98	V	50.22	53.98	3.76	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	59.31	6.17	H	65.48	73.98	8.50	PK
5460	39.27	6.17	H	45.44	53.98	8.54	AV
5470	60.68	6.23	H	66.91	73.98	7.07	PK
5470	41.18	6.23	H	47.41	53.98	6.57	AV
5460	58.89	6.17	V	65.06	73.98	8.92	PK
5460	39.16	6.17	V	45.33	53.98	8.65	AV
5470	59.74	6.23	V	65.97	73.98	8.01	PK
5470	40.77	6.23	V	47	53.98	6.98	AV

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	59.92	6.17	H	66.09	73.98	7.89	PK
5460	39.26	6.17	H	45.43	53.98	8.55	AV
5470	60.93	6.23	H	67.16	73.98	6.82	PK
5470	41.37	6.23	H	47.6	53.98	6.38	AV
5460	58.77	6.17	V	64.94	73.98	9.04	PK
5460	38.94	6.17	V	45.11	53.98	8.87	AV
5470	60.14	6.23	V	66.37	73.98	7.61	PK
5470	40.49	6.23	V	46.72	53.98	7.26	AV

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	59.71	6.17	H	65.88	73.98	8.10	PK
5460	39.62	6.17	H	45.79	53.98	8.19	AV
5470	60.88	6.23	H	67.11	73.98	6.87	PK
5470	41.89	6.23	H	48.12	53.98	5.86	AV
5460	59.62	6.17	V	65.79	73.98	8.19	PK
5460	39.54	6.17	V	45.71	53.98	8.27	AV
5470	60.36	6.23	V	66.59	73.98	7.39	PK
5470	40.93	6.23	V	47.16	53.98	6.82	AV

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	60.46	6.17	H	66.63	73.98	7.35	PK
5460	41.56	6.17	H	47.73	53.98	6.25	AV
5470	61.19	6.23	H	67.42	73.98	6.56	PK
5470	44.11	6.23	H	50.34	53.98	3.64	AV
5460	59.37	6.17	V	65.54	73.98	8.44	PK
5460	40.95	6.17	V	47.12	53.98	6.86	AV
5470	60.28	6.23	V	66.51	73.98	7.47	PK
5470	43.23	6.23	V	49.46	53.98	4.52	AV

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	59.90	6.17	H	66.07	73.98	7.91	PK
5460	41.58	6.17	H	47.75	53.98	6.23	AV
5470	61.67	6.23	H	67.9	73.98	6.08	PK
5470	44.29	6.23	H	50.52	53.98	3.46	AV
5460	59.45	6.17	V	65.62	73.98	8.36	PK
5460	40.97	6.17	V	47.14	53.98	6.84	AV
5470	60.79	6.23	V	67.02	73.98	6.96	PK
5470	43.21	6.23	V	49.44	53.98	4.54	AV

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	56.41	6.17	H	62.58	73.98	11.40	PK
5460	43.65	6.17	H	49.82	53.98	4.16	AV
5470	57.63	6.23	H	63.86	73.98	10.12	PK
5470	44.54	6.23	H	50.77	53.98	3.21	AV
5460	56.19	6.17	V	62.36	73.98	11.62	PK
5460	42.73	6.17	V	48.9	53.98	5.08	AV
5470	56.92	6.23	V	63.15	73.98	10.83	PK
5470	43.62	6.23	V	49.85	53.98	4.13	AV

Band :	UNII 2C
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5700 MHz
Channel No.	140 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
5725	64.41	7.32	H	71.73	73.98	2.25	PK
5725	43.66	7.32	H	50.98	53.98	3.00	AV
5725	62.44	7.32	V	69.76	73.98	4.22	PK
5725	42.79	7.32	V	50.11	53.98	3.87	AV

Band :	UNII 2C
Operation Mode:	802.11 n_HT20
Transfer Rate:	0
Operating Frequency	5700 MHz
Channel No.	140 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
5725	64.37	7.32	H	71.69	73.98	2.29	PK
5725	43.29	7.32	H	50.61	53.98	3.37	AV
5725	62.49	7.32	V	69.81	73.98	4.17	PK
5725	42.84	7.32	V	50.16	53.98	3.82	AV

Band :	UNII 2C
Operation Mode:	802.11 ac_VHT20
Transfer Rate:	0
Operating Frequency	5700 MHz
Channel No.	140 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
5725	58.91	7.32	H	66.23	73.98	7.75	PK
5725	41.26	7.32	H	48.58	53.98	5.40	AV
5725	57.61	7.32	V	64.93	73.98	9.05	PK
5725	40.33	7.32	V	47.65	53.98	6.33	AV

Band :	UNII 2C
Operation Mode:	802.11 n_HT40
Transfer Rate:	0
Operating Frequency	5670 MHz
Channel No.	134 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
5725	64.24	7.32	H	71.56	73.98	2.42	PK
5725	43.47	7.32	H	50.79	53.98	3.19	AV
5725	63.19	7.32	V	70.51	73.98	3.47	PK
5725	42.36	7.32	V	49.68	53.98	4.30	AV

Band :	UNII 2C
Operation Mode:	802.11 ac_VHT40
Transfer Rate:	0
Operating Frequency	5610 MHz
Channel No.	134 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
5725	64.34	7.32	H	71.66	73.98	2.32	PK
5725	43.61	7.32	H	50.93	53.98	3.05	AV
5725	63.87	7.32	V	71.19	73.98	2.79	PK
5725	42.39	7.32	V	49.71	53.98	4.27	AV

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.

Band :	UNII 2C
Operation Mode:	802.11 ac_VHT80
Transfer Rate:	0
Operating Frequency	5610 MHz
Channel No.	122 Ch

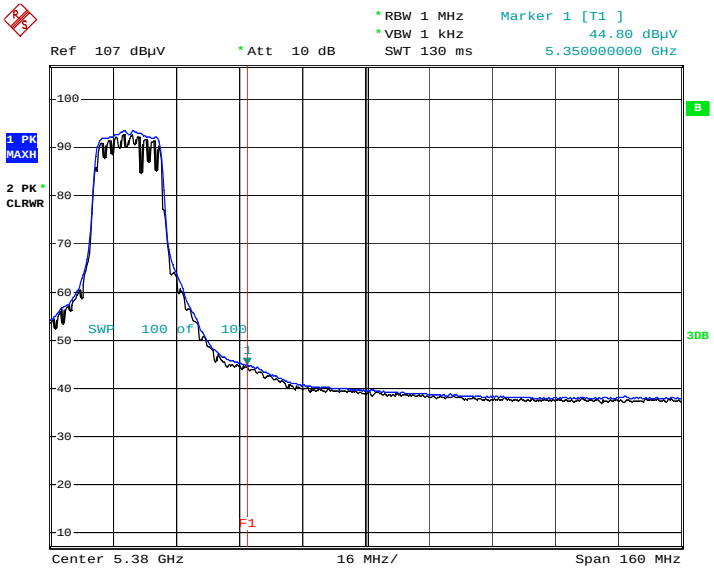
Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5725	52.51	7.32	H	59.83	68.20	8.37	PK
5725	51.93	7.32	V	59.25	68.20	8.95	PK

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.

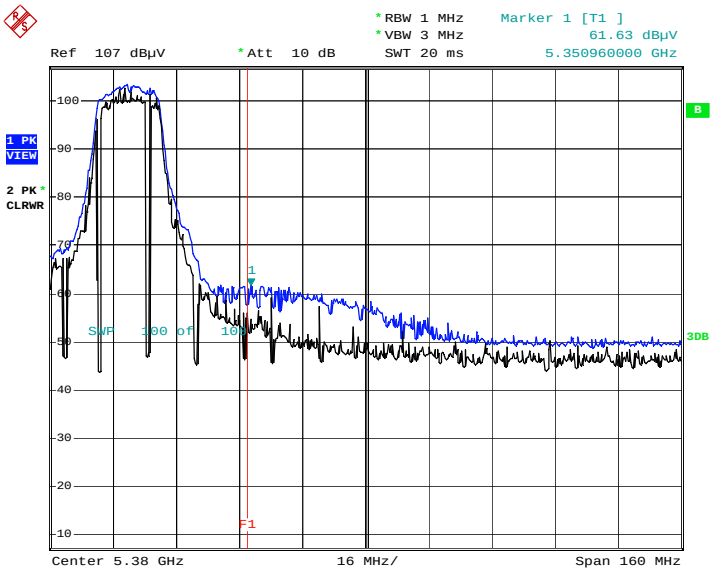
▣ RESULT PLOTS

Radiated Restricted Band Edges plot – Average Reading (802.11a, Ch.64, Y-H)



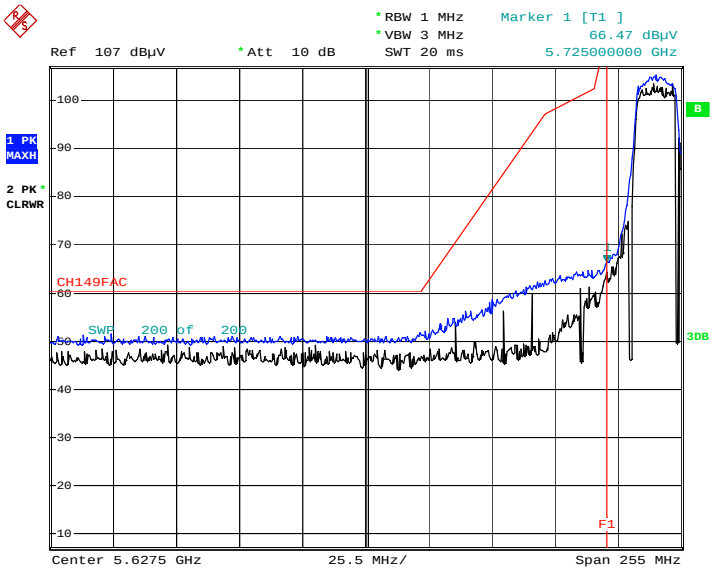
Date: 17.FEB.2003 08:06:46

Radiated Restricted Band Edges plot – Peak Reading (802.11a, Ch.64, Y-H)



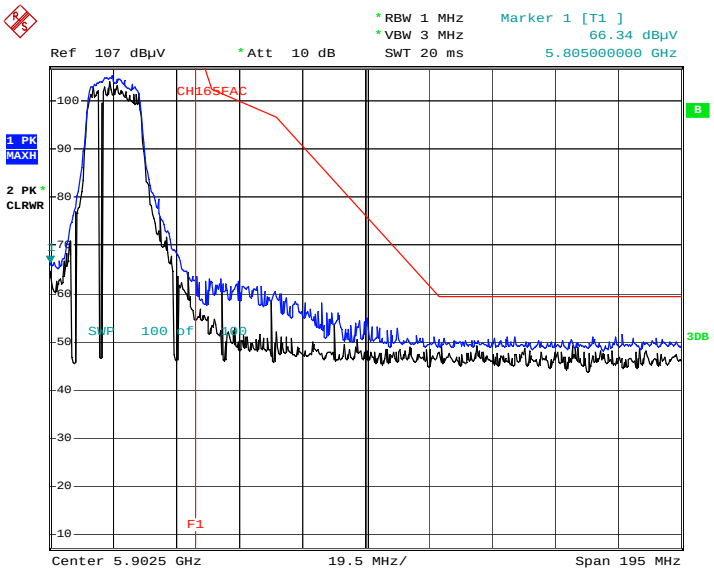
Date: 17.FEB.2003 08:07:42

Radiated Restricted Band Edges plot – Peak Reading (802.11a, Ch.149)



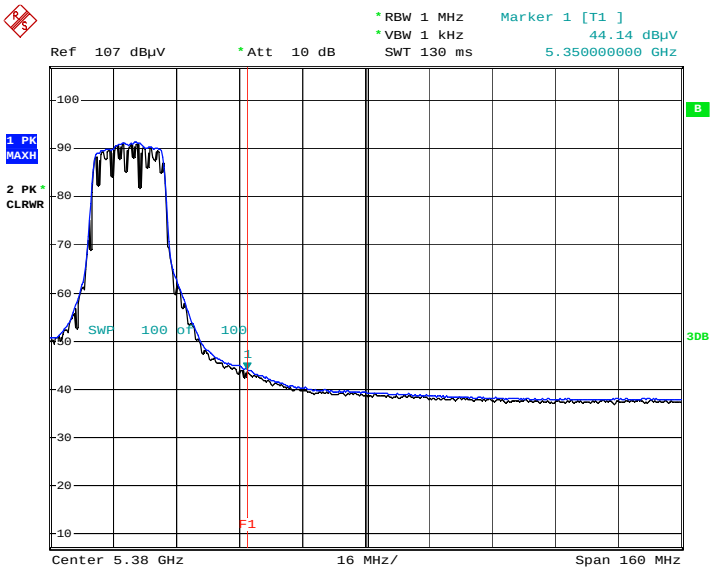
Date: 26.FEB.2003 09:48:54

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



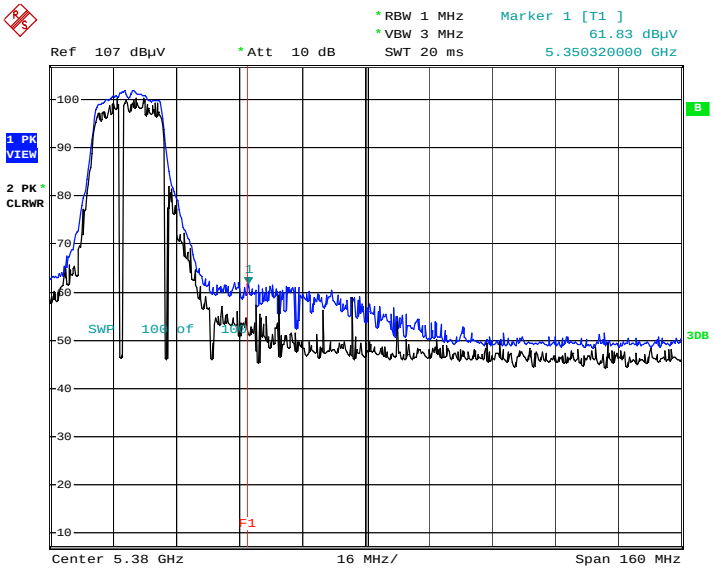
Date: 17.FEB.2003 08:46:18

Radiated Restricted Band Edges plot – Average Reading (802.11n_HT20, Ch.64, Y-H)



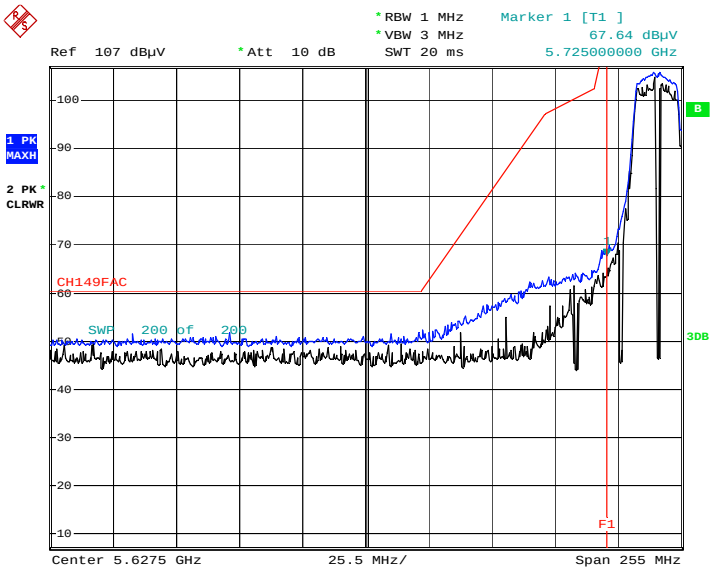
Date: 17.FEB.2003 08:09:34

Radiated Restricted Band Edges plot – Peak Reading (802.11n_HT20, Ch. Ch.64, Y-H)



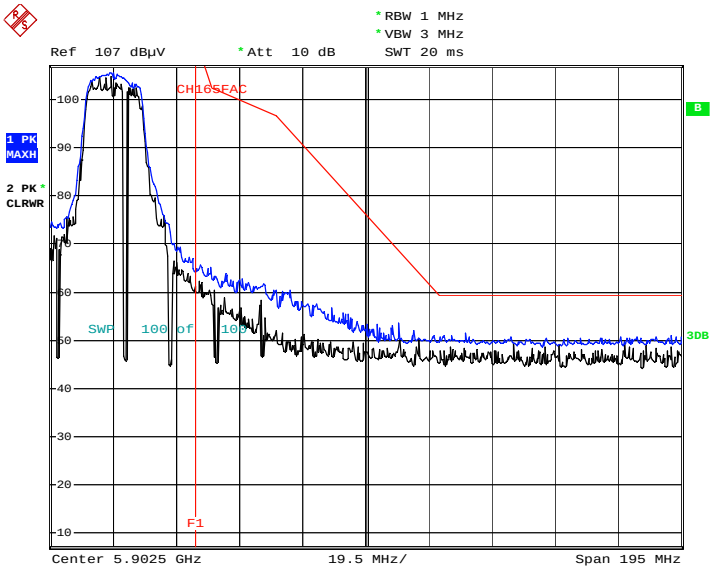
Date: 17.FEB.2003 08:10:02

Radiated Restricted Band Edges plot – Peak Reading (802.11n_HT20, Ch.149)



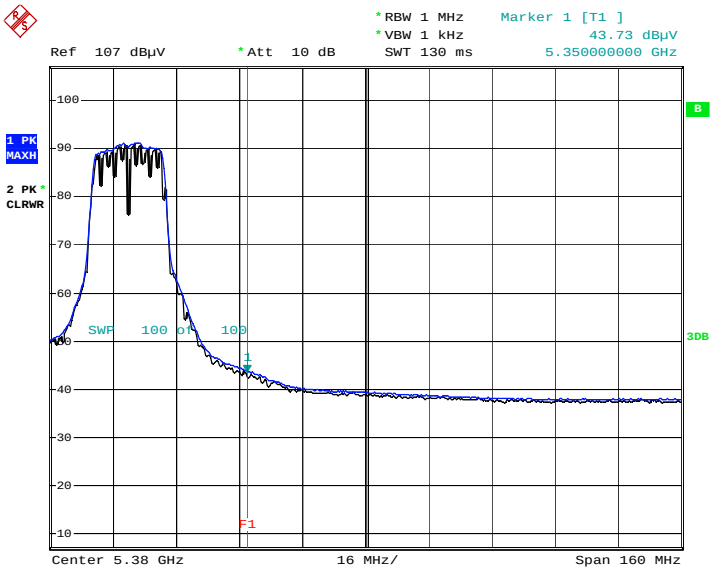
Date: 26.FEB.2003 09:52:51

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



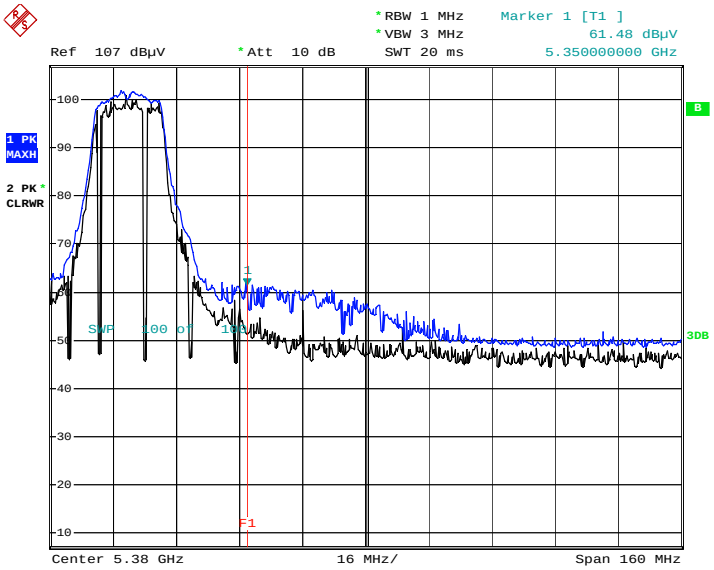
Date: 17.FEB.2003 08:47:44

Radiated Restricted Band Edges plot – Average Reading (802.11ac_VHT20, Ch.64, Y-H)



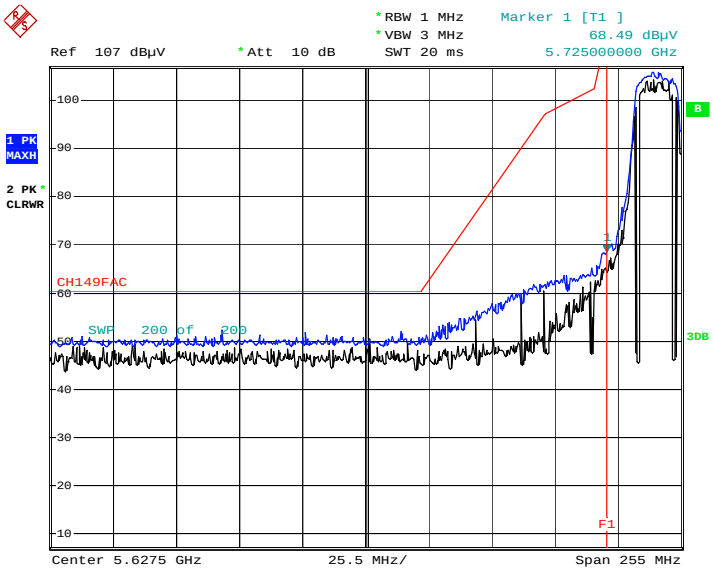
Date: 17.FEB.2003 08:11:00

Radiated Restricted Band Edges plot – Peak Reading (802.11ac_VHT20, Ch.64, Y-H)



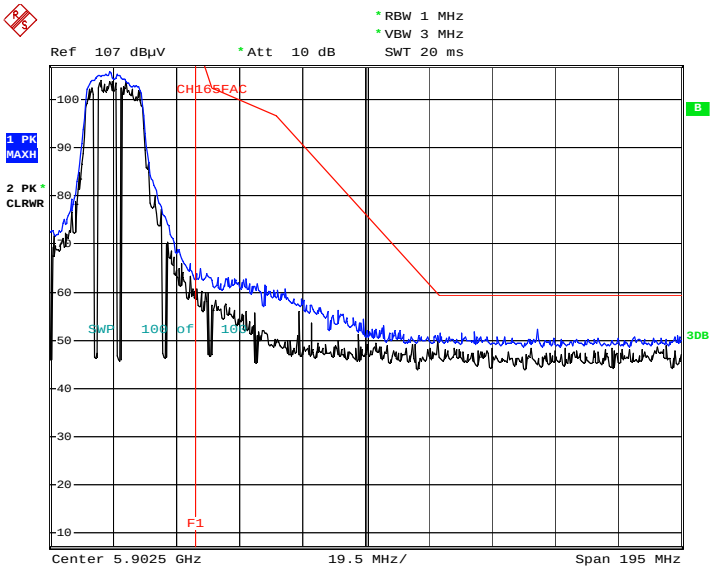
Date: 17.FEB.2003 08:11:30

Radiated Restricted Band Edges plot – Peak Reading (802.11ac_VHT20, Ch.149)



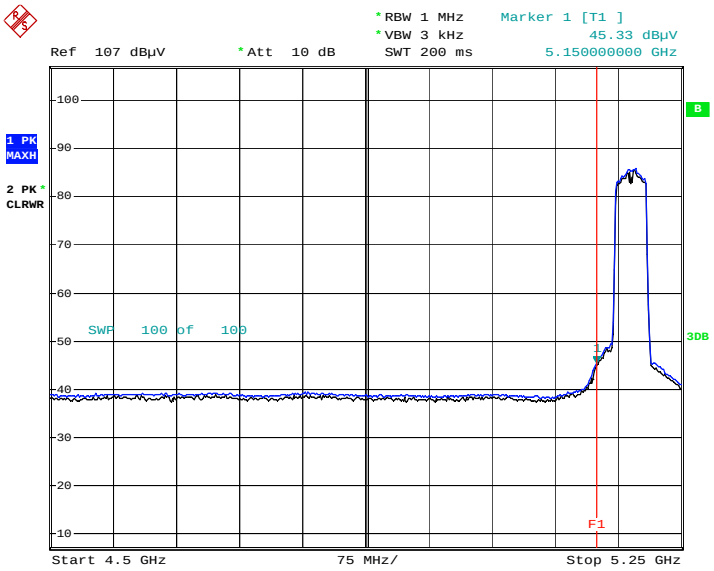
Date: 26.FEB.2003 09:54:05

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



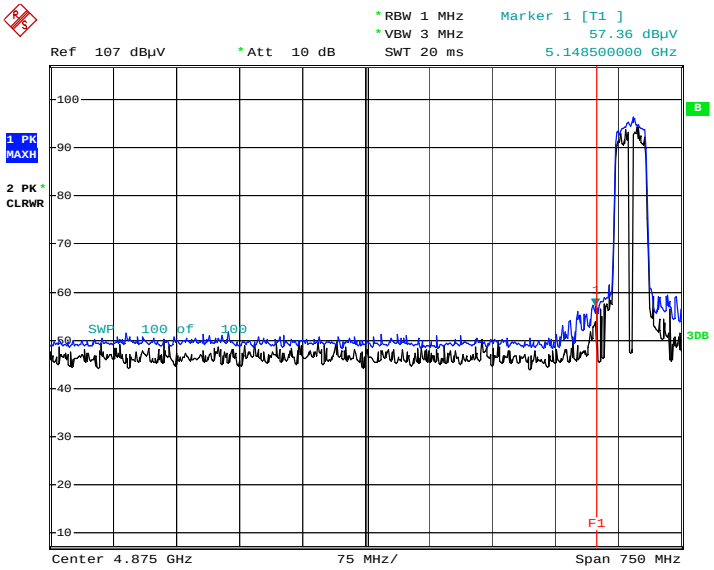
Date: 17.FEB.2003 08:48:31

Radiated Restricted Band Edges plot – Average Reading (802.11n_HT40, Ch.38, Y-H)



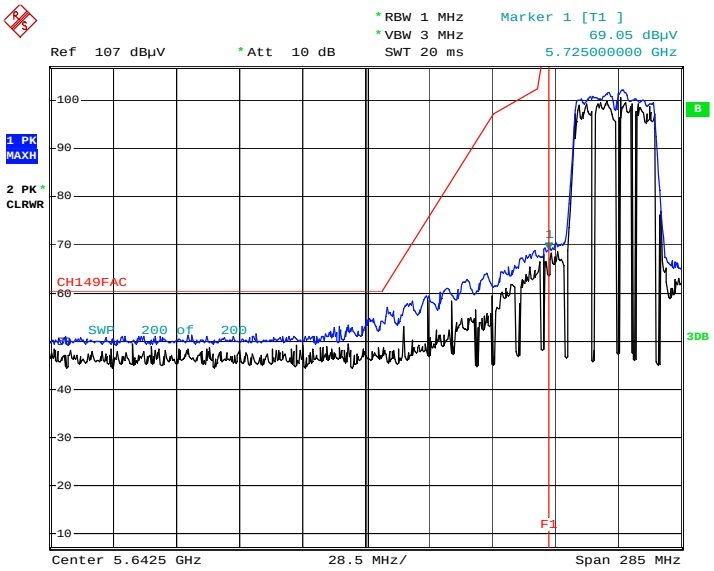
Date: 17.FEB.2003 08:13:12

Radiated Restricted Band Edges plot – Peak Reading (802.11n_HT40, Ch.38, Y-H)



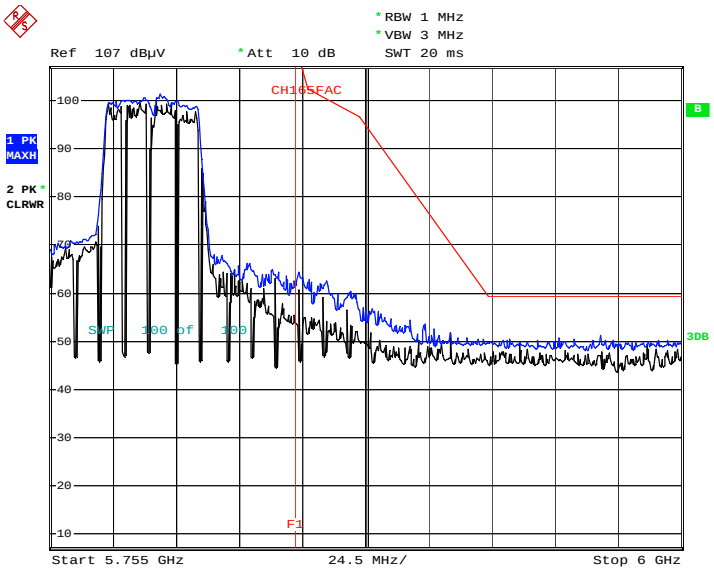
Date: 17.FEB.2003 08:13:54

Radiated Restricted Band Edges plot – Peak Reading (802.11n_HT40, Ch.151)



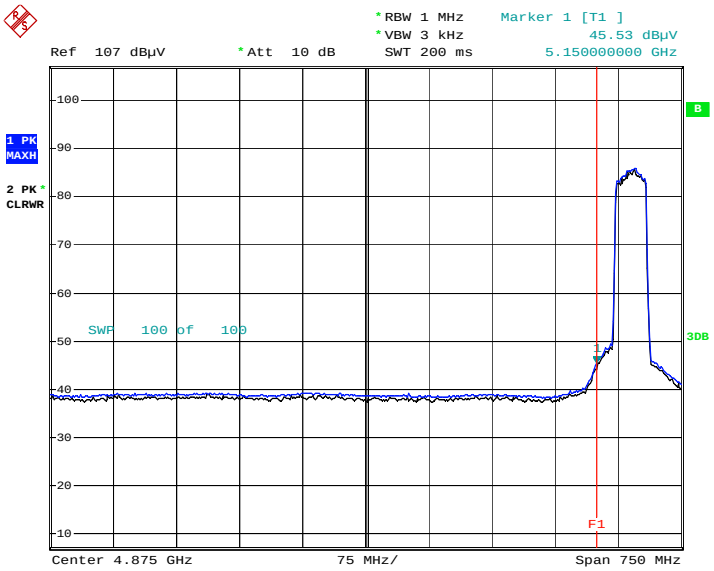
Date: 26.FEB.2003 10:03:40

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



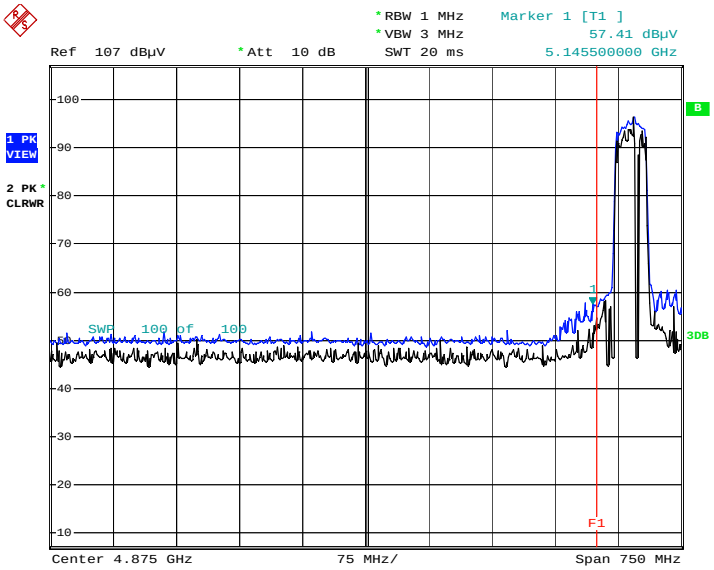
Date: 17.FEB.2003 08:49:17

Radiated Restricted Band Edges plot – Average Reading (802.11ac_VHT40, Ch.38, Y-H)



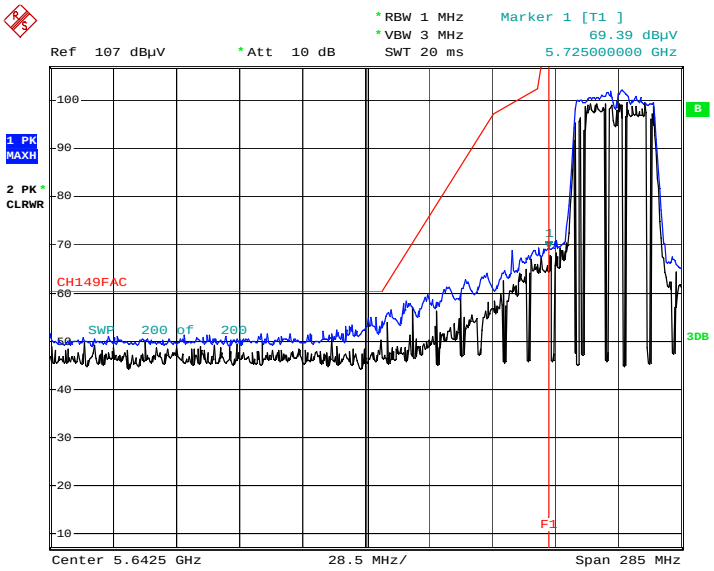
Date: 17.FEB.2003 08:15:06

Radiated Restricted Band Edges plot – Peak Reading (802.11ac_VHT40, Ch.38, Y-H)



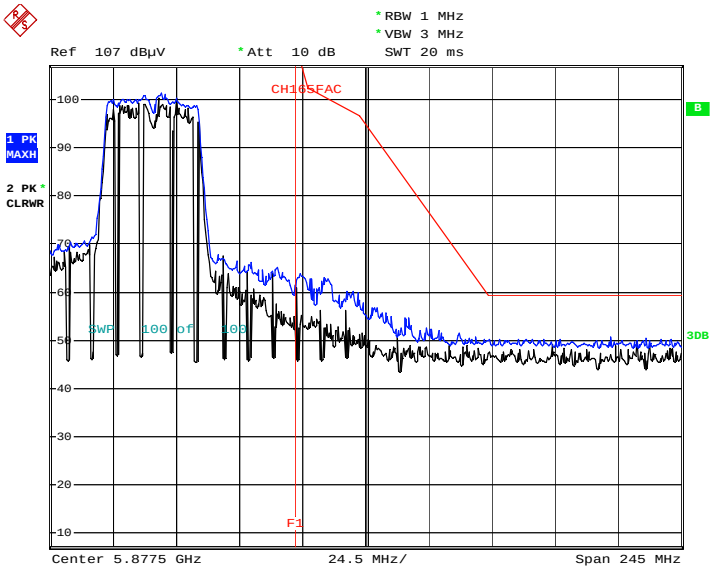
Date: 17.FEB.2003 08:15:58

Radiated Restricted Band Edges plot – Peak Reading (802.11ac_VHT40, Ch.151)



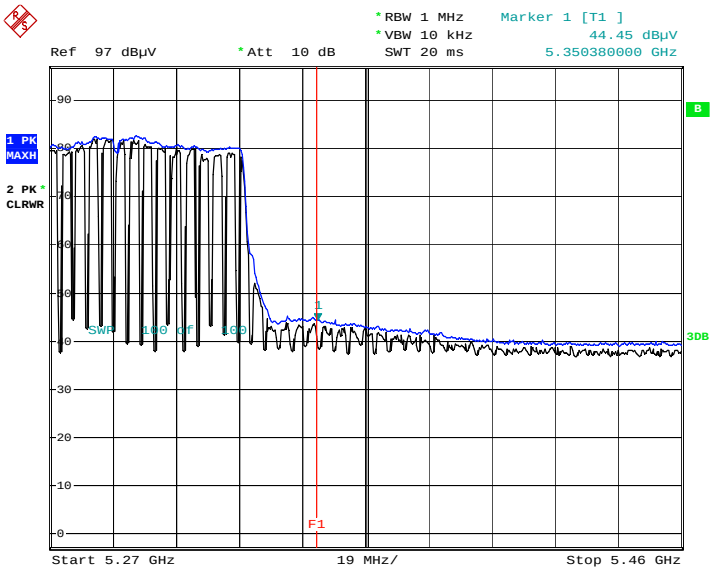
Date: 26.FEB.2003 10:05:21

Radiated Restricted Band Edges plot – Peak Reading (802.11ac_VHT40, Ch.159)



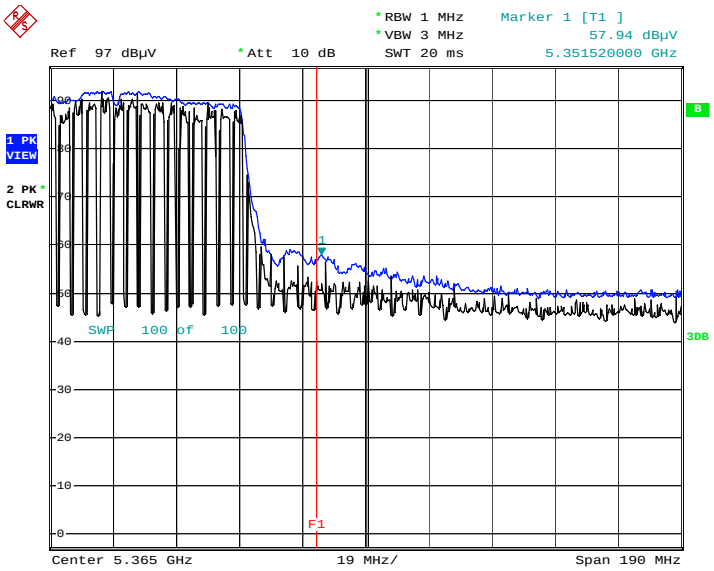
Date: 17.FEB.2003 08:49:56

Radiated Restricted Band Edges plot – Average Reading (802.11ac_VHT80, Ch.58, Y-H)



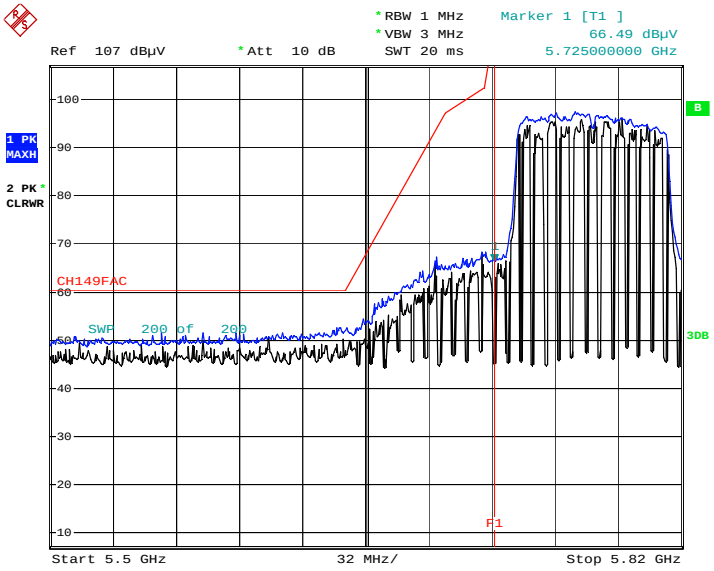
Date: 17.FEB.2003 08:03:57

Radiated Restricted Band Edges plot – Peak Reading (802.11ac_VHT80, Ch.58, Y-H)



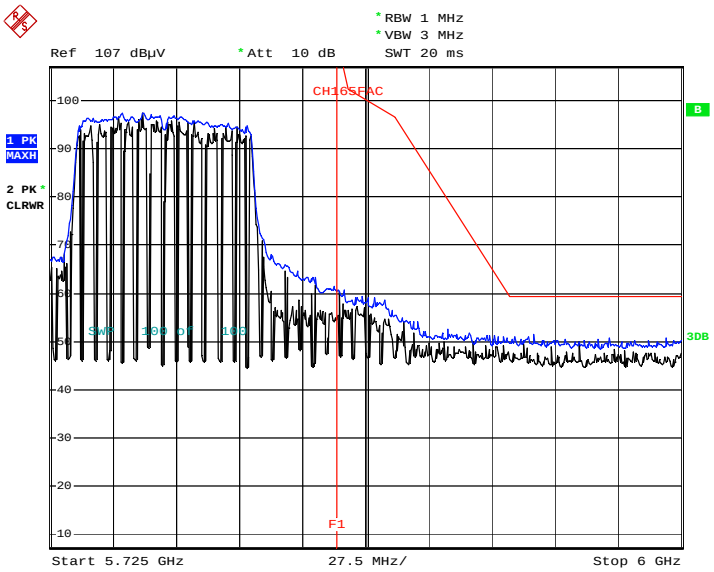
Date: 17.FEB.2003 08:04:43

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



Date: 26.FEB.2003 10:07:04

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



Date: 17.FEB.2003 08:50:58

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

▣ RESULT PLOTS

Conducted Emissions (Line 1)

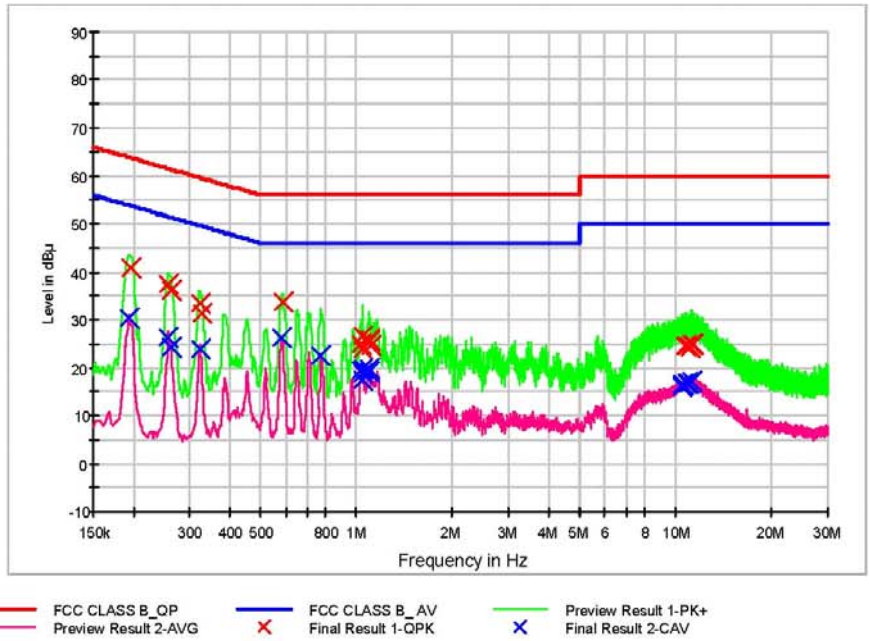
EMI Auto Test(20) 1 / 2

HCT TEST Report

Common Information

EUT:	SM-G885F
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	WLAN 5G MODE

FCC CLASS B_Exten Cable



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.196000	41.0	9.000	Off	N	9.7	22.8	63.8
0.258000	37.6	9.000	Off	N	9.7	23.9	61.5
0.262000	36.0	9.000	Off	N	9.7	25.3	61.4
0.324000	33.4	9.000	Off	N	9.7	26.2	59.6
0.328000	31.3	9.000	Off	N	9.7	28.2	59.5
0.588000	33.7	9.000	Off	N	9.7	22.3	56.0
1.032000	24.8	9.000	Off	N	9.8	31.2	56.0
1.044000	26.7	9.000	Off	N	9.8	29.3	56.0
1.048000	23.9	9.000	Off	N	9.8	32.1	56.0
1.092000	26.1	9.000	Off	N	9.8	29.9	56.0
1.096000	25.6	9.000	Off	N	9.8	30.4	56.0
1.102000	24.6	9.000	Off	N	9.8	31.4	56.0
10.774000	24.7	9.000	Off	N	10.3	35.3	60.0
10.824000	24.5	9.000	Off	N	10.3	35.5	60.0
11.130000	24.1	9.000	Off	N	10.3	35.9	60.0
11.170000	24.8	9.000	Off	N	10.3	35.2	60.0
11.198000	25.0	9.000	Off	N	10.3	35.0	60.0
11.310000	24.9	9.000	Off	N	10.3	35.1	60.0

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EMI Auto Test(20) 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.194000	30.4	9.000	Off	N	9.7	23.5	53.9
0.258000	26.2	9.000	Off	N	9.7	25.3	51.5
0.262000	24.2	9.000	Off	N	9.7	27.1	51.4
0.324000	23.9	9.000	Off	N	9.7	25.7	49.6
0.584000	26.3	9.000	Off	N	9.7	19.7	46.0
0.774000	22.7	9.000	Off	N	9.7	23.3	46.0
1.032000	19.6	9.000	Off	N	9.8	26.4	46.0
1.040000	19.7	9.000	Off	N	9.8	26.3	46.0
1.044000	18.9	9.000	Off	N	9.8	27.1	46.0
1.048000	17.4	9.000	Off	N	9.8	28.6	46.0
1.092000	19.2	9.000	Off	N	9.8	26.8	46.0
1.096000	19.7	9.000	Off	N	9.8	26.3	46.0
10.416000	16.2	9.000	Off	N	10.3	33.8	50.0
10.464000	16.4	9.000	Off	N	10.3	33.6	50.0
10.532000	16.5	9.000	Off	N	10.3	33.5	50.0
10.824000	16.6	9.000	Off	N	10.3	33.4	50.0
10.944000	16.7	9.000	Off	N	10.3	33.3	50.0
11.170000	17.1	9.000	Off	N	10.3	32.9	50.0

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Conducted Emissions (Line 2)

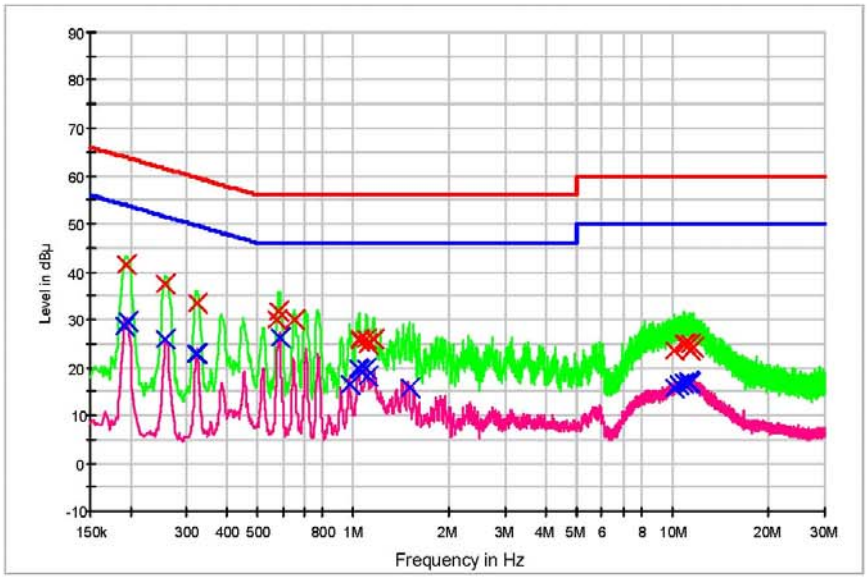
EMI Auto Test(20) 1 / 2

HCT TEST Report

Common Information

EUT:	SM-G885F
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	WLAN 5G MODE

FCC CLASS B_Exten Cable



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.194000	41.5	9.000	Off	L1	9.7	22.4	63.9
0.258000	37.4	9.000	Off	L1	9.7	24.1	61.5
0.324000	33.3	9.000	Off	L1	9.7	26.3	59.6
0.578000	29.9	9.000	Off	L1	9.7	26.1	56.0
0.584000	31.9	9.000	Off	L1	9.7	24.1	56.0
0.654000	29.9	9.000	Off	L1	9.7	26.1	56.0
1.040000	25.9	9.000	Off	L1	9.8	30.1	56.0
1.046000	25.6	9.000	Off	L1	9.8	30.4	56.0
1.094000	26.1	9.000	Off	L1	9.8	29.9	56.0
1.102000	24.9	9.000	Off	L1	9.8	31.1	56.0
1.108000	24.9	9.000	Off	L1	9.8	31.1	56.0
1.156000	25.9	9.000	Off	L1	9.8	30.1	56.0
10.100000	23.6	9.000	Off	L1	10.2	36.4	60.0
10.800000	24.8	9.000	Off	L1	10.2	35.2	60.0
10.908000	24.9	9.000	Off	L1	10.2	35.1	60.0
11.306000	24.8	9.000	Off	L1	10.2	35.2	60.0
11.380000	23.6	9.000	Off	L1	10.2	36.4	60.0
11.696000	24.2	9.000	Off	L1	10.2	35.8	60.0

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EMI Auto Test(20) 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.192000	28.7	9.000	Off	L1	9.7	25.2	53.9
0.196000	29.6	9.000	Off	L1	9.7	24.2	53.8
0.258000	25.9	9.000	Off	L1	9.7	25.6	51.5
0.322000	23.0	9.000	Off	L1	9.7	26.7	49.7
0.326000	22.9	9.000	Off	L1	9.7	26.6	49.6
0.586000	26.4	9.000	Off	L1	9.7	19.6	46.0
0.976000	16.6	9.000	Off	L1	9.8	29.4	46.0
1.036000	19.9	9.000	Off	L1	9.8	26.1	46.0
1.040000	19.5	9.000	Off	L1	9.8	26.5	46.0
1.094000	19.7	9.000	Off	L1	9.8	26.3	46.0
1.110000	18.0	9.000	Off	L1	9.8	28.0	46.0
1.496000	15.6	9.000	Off	L1	9.8	30.4	46.0
10.100000	15.7	9.000	Off	L1	10.2	34.3	50.0
10.512000	16.3	9.000	Off	L1	10.2	33.7	50.0
10.800000	16.7	9.000	Off	L1	10.2	33.3	50.0
11.172000	17.0	9.000	Off	L1	10.2	33.0	50.0
11.288000	16.7	9.000	Off	L1	10.2	33.3	50.0
11.308000	16.7	9.000	Off	L1	10.2	33.3	50.0

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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	06/27/2017	Annual	100033
ESPAC	SU-642 /Temperature Chamber	03/30/2018	Annual	0093008124
Agilent	N9020A / Signal Analyzer	06/13/2017	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	06/12/2017	Annual	05001
Hewlett Packard	E3632A / DC Power Supply	06/30/2017	Annual	KR75303960
Agilent	8493C / Attenuator(10 dB)	07/10/2017	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

* [Note]_Test date using a Power Meter and Power Sensor : April 02, 2018 ~ April 15, 2018

* Previous Calibration Date : : April 17, 2017

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-ET / Antenna Position Tower	N/A	N/A	N/A
Audix	EM1000 / Controller	N/A	N/A	060520
Audix	Turn Table	N/A	N/A	N/A
Rohde & Schwarz	Loop Antenna	04/06/2017	Biennial	1513-175
Schwarzbeck	VULB 9168 / Hybrid Antenna	04/06/2017	Biennial	760
Schwarzbeck	BBHA 9120D / Horn Antenna	06/30/2017	Biennial	9120D-1300
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	12/04/2017	Biennial	BBHA9170541
Rohde & Schwarz	FSP(9 kHz ~ 30 GHz) / Spectrum Analyzer	07/27/2017	Annual	100843
Rohde & Schwarz	FSV40-N / Spectrum Analyzer	09/27/2017	Annual	101068-SZ
Wainwright Instruments	F6_HPF3.0 / High Pass Filter	01/03/2018	Annual	F6
Wainwright Instruments	WHKX8-6090-7000-18000-40SS / High Pass Filter	10/27/2017	Annual	24
Wainwright Instruments	WRCJV2400/2483.5-2370/2520-60/12SS / Band Reject Filter	06/30/2017	Annual	2
Wainwright Instruments	WRCJV5100/5850-40/50-8EEK / Band Reject Filter	01/03/2018	Annual	2
Api tech.	18B-03 / Attenuator (3 dB)	06/12/2017	Annual	1
Agilent	8493C-10 / Attenuator(10 dB)	07/19/2017	Annual	08285
CERNEX	CBLU1183540B-01 / Power Amplifier	12/26/2017	Annual	25540
CERNEX	CBL06185030 / Power Amplifier	03/28/2018	Annual	28550
CERNEX	CBL18265035 / Power Amplifier	01/10/2018	Annual	22966
CERNEX	CBL26405040 / Power Amplifier	06/30/2017	Annual	25956