TEST REPORT

Reference No.	:	WTX21X05051655W-1
FCC ID	:	2AABK-SKYV3
Applicant	:	Shenzhen Chuangwei Electronic Appliance Tech Co., Ltd.
Address	:	4F & 6F, Overseas plant south, Skyworth Industrial Park, Shiyan Street, Bao'an District, Shenzhen, China
Product Name	:	10 inch WIFI Digital Photo Frame
Test Model	:	SKYV3
Standards	:	FCC Part 15.407
Date of Receipt sample	:	May. 28, 2021
Date of Test	:	May. 28, 2021 to Jun. 11, 2021
Date of Issue	:	Jun. 11, 2021
Test Result	:	**Pass**

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:

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Mike Shi / Project Engineer	Lion Cai / RF Manager	Silin Chen / Manager

TABLE OF CONTENTS

Report version

Version No.	Date of issue	Description
Rev.00	Jun. 11, 2021	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	Shenzhen Chuangwei Electronic Appliance Tech Co., Ltd.
Address of applicant:	4F & 6F, Overseas plant south, Skyworth Industrial Park, Shiyan Street, Bao'an District, Shenzhen, China
Manufacturer:	Shenzhen Chuangwei Electronic Appliance Tech Co., Ltd.
Address of manufacturer:	4F & 6F, Overseas plant south, Skyworth Industrial Park, Shiyan Street, Bao'an District, Shenzhen, China

General Description of EUT	
Product Name:	10 inch WIFI Digital Photo Frame
Trade Name:	Skylight
Model No.:	SKYV3
Adding Model(s):	/
Rated Voltage:	DC 5V
Battery Capacity:	/
Power Adapter:	MODEL: S85A02 INPUT: AC100-240V, 50/60Hz, 0.5A OUTPUT: DC5V, 2.0A
Software Version:	/
Hardware Version:	/
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Support Standards:	802.11a, 802.11n(HT20), 802.11n-HT40,
Frequency Range:	5150-5250MHz, 5250-5350MHz, 5470-5725MHz, 5725-5850MHz
RF Output Power:	9.63dBm (Conducted)
Type of Modulation:	BPSK, QPSK,16QAM,64QAM
Quantity of Channels:	15
Type of Antenna:	Integral Antenna
Antenna Gain:	3.58dBi

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.407: General technical requirements.
ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.
KDB789033 D02 v02r01: GUIDELINES FOR COMPLIANCE TESTING OF UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE (U-NII) DEVICES PART 15, SUBPARTE.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, KDB789033 D02 v02r01
The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions.

1.4 Table for parameters of Test Software setting

Run adb commands and follow the instructions given by the manufacturer, you can start to test. During testing, Channel and Power Controlling commands provided by the customer was used to control the operating channel as well as the output power level. Test use the customer default power level, and to measure its highest possible emissions level, more detailed description as follows:

Mode	Test Frequency (MHz)												
	NCB: 20MHz												
	5180	5200	5240	5260	5300	5320	5500	5580	5700	5720	5745	5785	5825
802.11a 6Mbps	48	48	48	48	48	48	48	48	48	/	48	48	48
802.11n-HT20 MCS0	48	48	48	48	48	48	48	48	48	/	48	48	48
Mode	NCB: 40MHz									
	5190	5230	5270	5310	5510	5550	5670	5710	5755	5795
802.11n-HT40 MCS0	48	48	48	48	48	48	48	/	48	

1.5 EUT Operating during test

EUT was programmed to be in continuously transmitting mode. During the test, EUT operation to normal function and programs under Android were executed.

1.6 Test Facility

Address of the test laboratory

Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990

Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintain ed in our files. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

1.7 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, with a duty cycle equal to 100%, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	802.11a	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz,5500MHz, 5600MHz,5700MHz,5745MHz, 5785MHz,5825MHz
TM2	802.11n-HT20	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz,5500MHz, 5600MHz,5700MHz,5745MHz, 5785MHz,5825MHz
TM3	802.11n-HT40	5190MHz,5230MHz,5270MHz,5310MHz,5510MHz,5590MHz,5670MHz, 5755MHz,5795MHz
Note: All test modes (different data rate and different modulation) are performed, but only the worst case is recorded in this report.		

Test Conditions	
Temperature:	22~25 °C
Relative Humidity:	45~55 %.
ATM Pressure:	1019 mbar

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
DC Cable	1.8	Unshielded	Without Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
USB Cable	0.8	Shielded	Without Ferrite

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Computer	Lenovo	TianYi310-14ISK	/

1.8 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	±0.42dB
Occupied Bandwidth	Conducted	±1.5%
Power Spectral Density	Conducted	±1.8dB
Conducted Spurious Emission	Conducted	±2.17dB
Conducted Emissions	Conducted	9-150kHz ±3.74dB
		0.15-30MHz ±3.34dB
Transmitter Spurious Emissions	Radiated	30-200MHz ±4.52dB
		0.2-1GHz ±5.56dB
		1-6GHz ±3.84dB
		6-18GHz ±3.92dB

1.9 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
SEMT-1075	Communication Tester	Rohde & Schwarz	CMW500	148650	2021-03-27	2022-03-26
SEMT-1063	GSM Tester	Rohde & Schwarz	CMU200	114403	2021-03-27	2022-03-26
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2021-03-27	2022-03-26
SEMT-1079	Spectrum Analyzer	Agilent	N9020A	US47140102	2021-03-27	2022-03-26
SEMT-1080	Signal Generator	Agilent	83752A	3610A01453	2021-03-27	2022-03-26
SEMT-1081	Vector Signal Generator	Agilent	N5182A	MY47070202	2021-03-27	2022-03-26
SEMT-1028	Power Divider	Weinschel	1506A	PM204	2021-03-27	2022-03-26
SEMT-1082	Power Divider	RF-Lambda	RFLT4W5M18G	14110400027	2021-03-27	2022-03-26
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2021-03-27	2022-03-26
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2021-03-27	2022-03-26
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2021-04-12	2022-04-11
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2021-04-12	2022-04-11
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-19	2023-03-18
SEMT-1068	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2021-03-19	2023-03-18
SEMT-1042	Horn Antenna	ETS	3117	00086197	2021-03-19	2023-03-18
SEMT-1121	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170582	2021-04-27	2023-04-26
SEMT-1169	Pre-amplifier	Direction Systems Inc.	PAP-2640	14145-14153	2021-04-27	2022-04-26
SEMT-1163	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2021-03-27	2022-03-26
SEMT-1166	Power Limiter	Agilent	N9356B	MY45450376	2021-03-27	2022-03-26
SEMT-1076	RF Switcher	Top Precision	RCS03-A2	/	2021-03-19	2023-03-18
SEMT-C001	Cable	Zheng DI	LL142-07-07-10M(A)	/	/	/
SEMT-C002	Cable	Zheng DI	ZT40-2.92J-2.92J-6M	/	/	/
SEMT-C003	Cable	Zheng DI	ZT40-2.92J-2.92J-2.5M	/	/	/
SEMT-C004	Cable	Zheng DI	2M0RFC	/	/	/
SEMT-C005	Cable	Zheng DI	1M0RFC	/	/	/
SEMT-C006	Cable	Zheng DI	1M0RFC	/	/	/

Software List			
Description	**Manufacturer**	**Model**	**Version**
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission)*	Farad	EZ-EMC	RA-03A1

*Remark: indicates software version used in the compliance certification testing

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§15.203; §15.405	Antenna Requirement	Compliant
15.407 (c)	Automatically Discontinue Transmission	Compliant
§15.207; §15.407(b)(6)	Conducted Emission	Compliant
§15.407(a)(1),(2)	Power Spectral Density	Compliant
§15.407(e)	Emission Bandwidth and Occupied Bandwidth	Compliant
§15.407(a)(1),(2)	Maximum Conducted Output Power	Compliant
§15.407(b)(1),(2),(3),(4)	Undesirable emission	Compliant
§15.205; §15.407(b)(1),(2),(3)	Radiated Emission	Compliant
§15.407(g)	Frequency Stability	Compliant
§15.407(h)	Dynamic Frequency Selection (DFS)	Compliant

N/A: Not applicable

3. Antenna Requirement

3.1 Standard Applicable

According to FCC Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall 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.

3.2 Evaluation Information

This product has an integral antenna, fulfill the requirement of this section.

4. Automatically Discontinue Transmission

4.1 Standard Applicable

According to FCC Part 15.407(c), the device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

4.2 Summary of Test Results

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

5. Power Spectral Density

5.1 Standard Applicable

Section 15.407(a) Power limits:

(1) For the band 5.15-5.25 GHz.
(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

5.2 Test Procedure

According to 789033 D02 v02r01 General UNII Test Procedures New Rules v02, the following is the measurement procedure.
For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500

kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500kHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/T, where T is defined in section II.B.l.a).
b) Set VBW ≥ 3 RBW.
c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10log(1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 kHz for the sections 5.c) and 5.d) above, since RBW=100 kHZ is available on nearly all spectrum analyzers.

5.3 Summary of Test Results/Plots

Please refer to Appendix A

6. Emission Bandwidth and Occupied Bandwidth

6.1 Standard Applicable

According to 15.407(a) and (e):

(1) For the band 5.15-5.25 GHz.
(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

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

6.2 Test Procedure

According to 789033 D02 v02r0r section C&D, the following is the measurement procedure.

1. Emission Bandwidth (EBW)
a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = Peak.

d) Trace mode = max hold.
e) 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%.

2. Minimum Emission Bandwidth for the band 5.725-5.85 GHz
Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:
a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 × RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.
Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

D. 99 Percent Occupied Bandwidth
The 99-percent occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5 % of the total mean power of the given emission. Measurement of the 99-percent occupied bandwidth is required only as a condition for using the optional band-edge measurement techniques described in section II.G.3.d). Measurements of 99-percent occupied bandwidth may also optionally be used in lieu of the EBW to 789033 D02 v02r01 General UNII Test Procedures New Rules v01 define the minimum frequency range over which the spectrum is integrated when measuring maximum conducted output power as described in section II.E. However, the EBW must be measured to determine bandwidth dependent limits on maximum conducted output power in accordance with 15.407(a).

The following procedure shall be used for measuring (99 %) power bandwidth:
1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW ≥ 3 * RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

6.3 Summary of Test Results/Plots

Please refer to Appendix B

7. Maximum Conducted Output Power

7.1 Standard Applicable

Section 15.407(a) Power limits:

(1) For the band 5.15-5.25 GHz.
(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

7.2 Test Procedure

According to KDB789033 D02 v02r01 section E, the following is the measurement procedure.

(i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.

(ii) Set RBW = 1 MHz.

(iii) Set VBW ≥ 3 MHz.

(iv) Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)

(v) Sweep time = auto.

(vi) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.

(vii) If transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run".

(viii) Trace average at least 100 traces in power averaging (i.e., RMS) mode.

(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

7.3 Summary of Test Results/Plots

Please refer to Appendix C

8. Radiated Spurious Emissions

8.1 Standard Applicable

According to §15.407(b), undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) 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.

According to §15.407(b)(6), Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

According to §15.407(b)(7), The provisions of §15.205 apply to intentional radiators operating under this section.

789033 D02 v02r01 General UNII Test Procedures New Rules v01

If radiated measurements are performed, field strength is then converted to EIRP as follows:

EIRP = ((E*d)^2) / 30

where:

- E is the field strength in V/m;
- d is the measurement distance in meters;
- EIRP is the equivalent isotropically radiated power in watts.

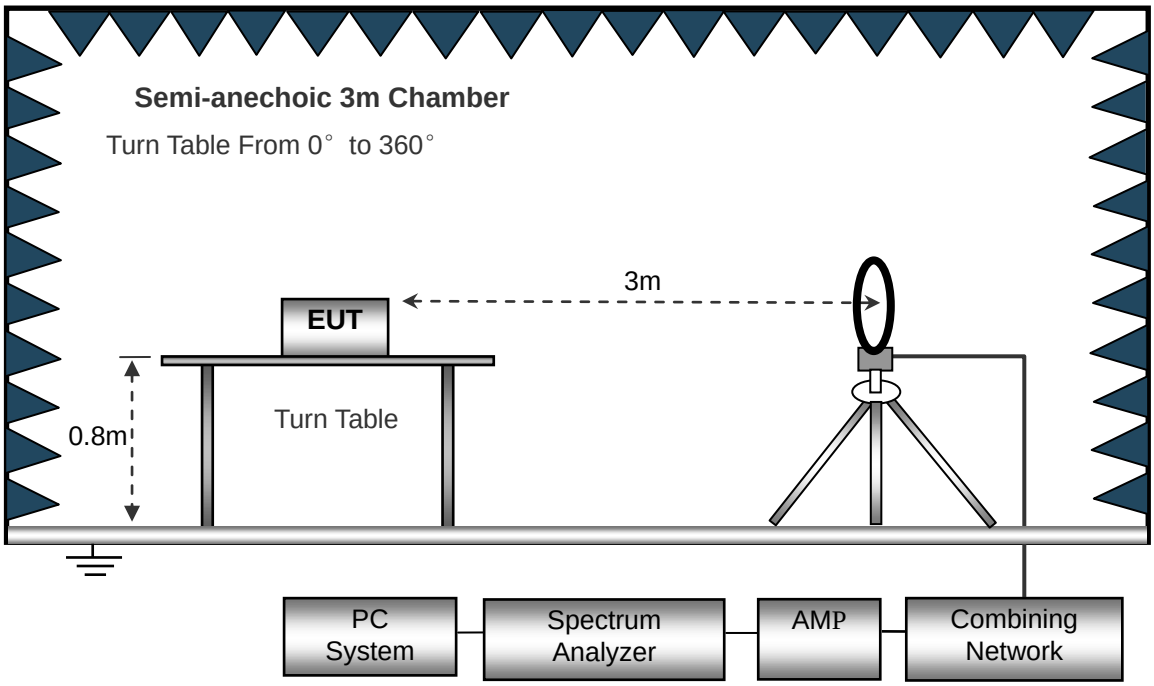
8.2 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.407(b)(6) and FCC Part 15.209 Limit..

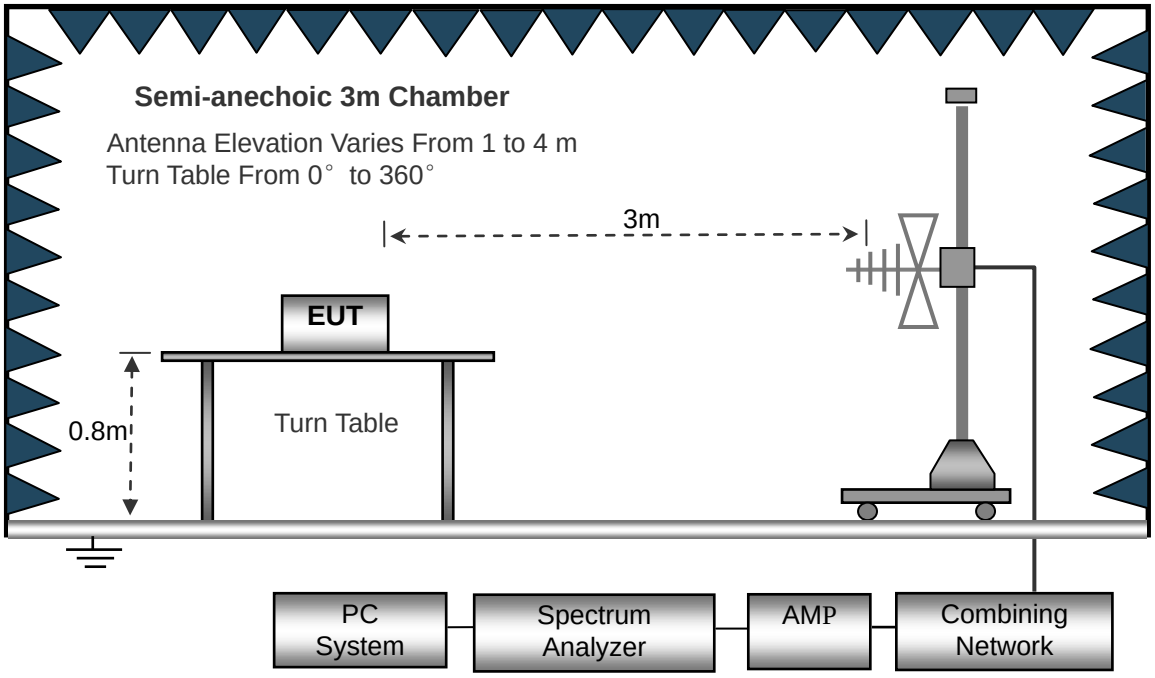
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

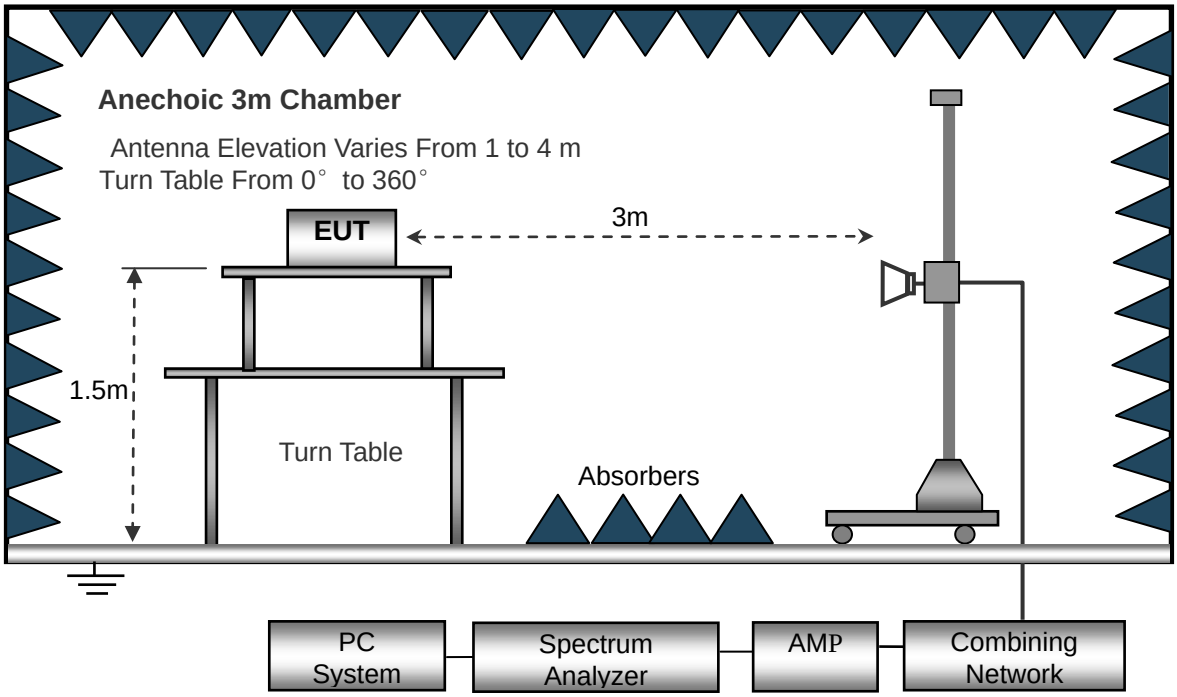
The test setup for emission measurement below 30MHz..



The test setup for emission measurement from 30 MHz to 1 GHz..



The test setup for emission measurement above 1 GHz..



8.3 Test Receiver Setup

During the radiated emission test for above 1GHz, the test receiver was set with the following configurations:

For peak detector:
RBW = 1000kHz, VBW = 3000kHz, Sweep Time = Auto

For average detector:
RBW = 1000kHz, VBW = 10Hz, Sweep Time = Auto

8.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Ant. Factor + Cable Loss – Ampl. Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

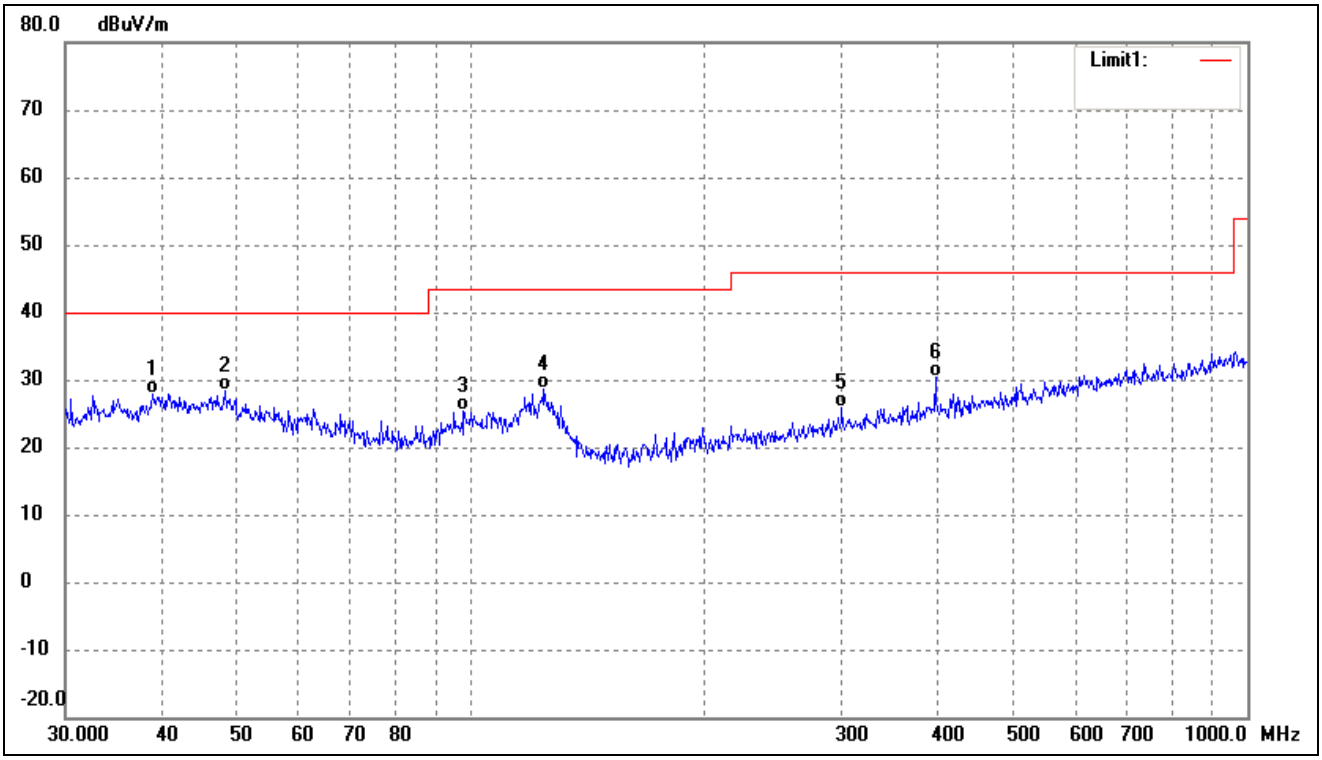
Margin = Corr. Ampl. – FCC Part 15 Limit

8.5 Summary of Test Results/Plots

Note: *this EUT was tested in 3 orthogonal positions and the worst case position data was reported.*

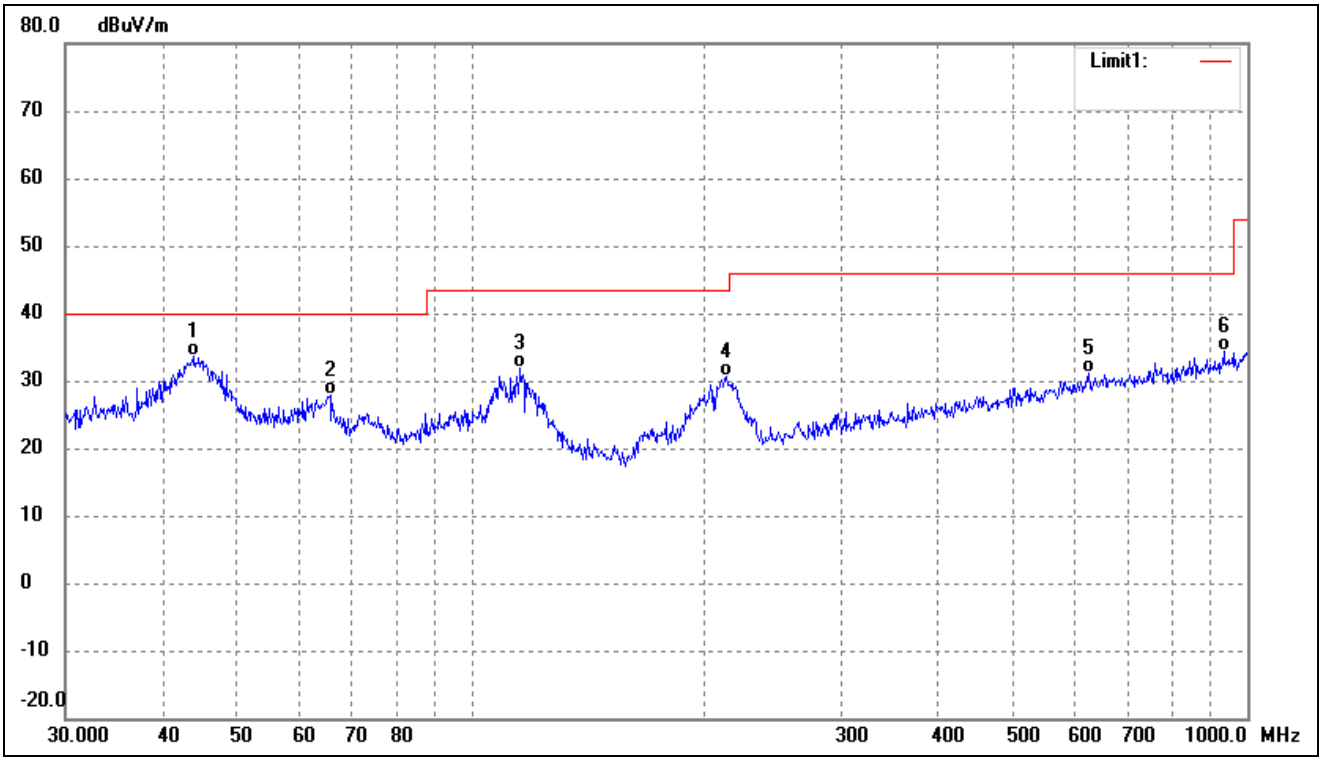
- Spurious Emission From 30 MHz to 1 GHz
- 5150-5250MHz

802.11a(Worst case)			
Test Channel	5180MHz(Worst case)	Polarity:	Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	38.8879	34.91	-7.06	27.85	40.00	-12.15	-	-	QP
2	48.1626	35.44	-7.06	28.38	40.00	-11.62	-	-	QP
3	97.7983	33.90	-8.42	25.48	43.50	-18.02	-	-	QP
4	124.1330	38.01	-9.49	28.52	43.50	-14.98	-	-	QP
5	300.3673	31.86	-6.01	25.85	46.00	-20.15	-	-	QP
6	396.2415	34.06	-3.65	30.41	46.00	-15.59	-	-	QP

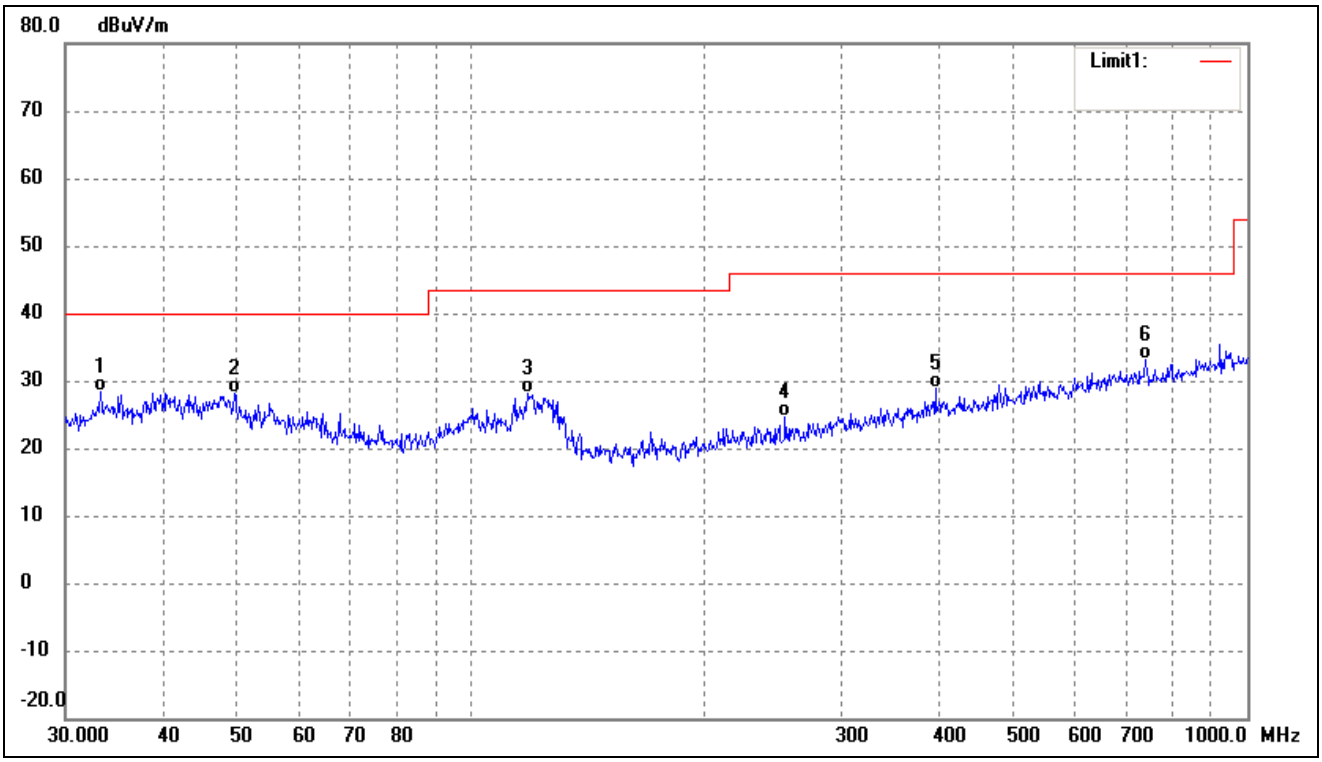
802.11a(Worst case)			
Test Channel	5180MHz(Worst case)	Polarity:	Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	43.9658	40.49	-6.93	33.56	40.00	-6.44	-	-	QP
2	65.8031	37.67	-9.90	27.77	40.00	-12.23	-	-	QP
3	115.7256	40.28	-8.41	31.87	43.50	-11.63	-	-	QP
4	213.0151	39.10	-8.49	30.61	43.50	-12.89	-	-	QP
5	625.0780	30.42	0.61	31.03	46.00	-14.97	-	-	QP
6	932.2715	29.94	4.51	34.45	46.00	-11.55	-	-	QP

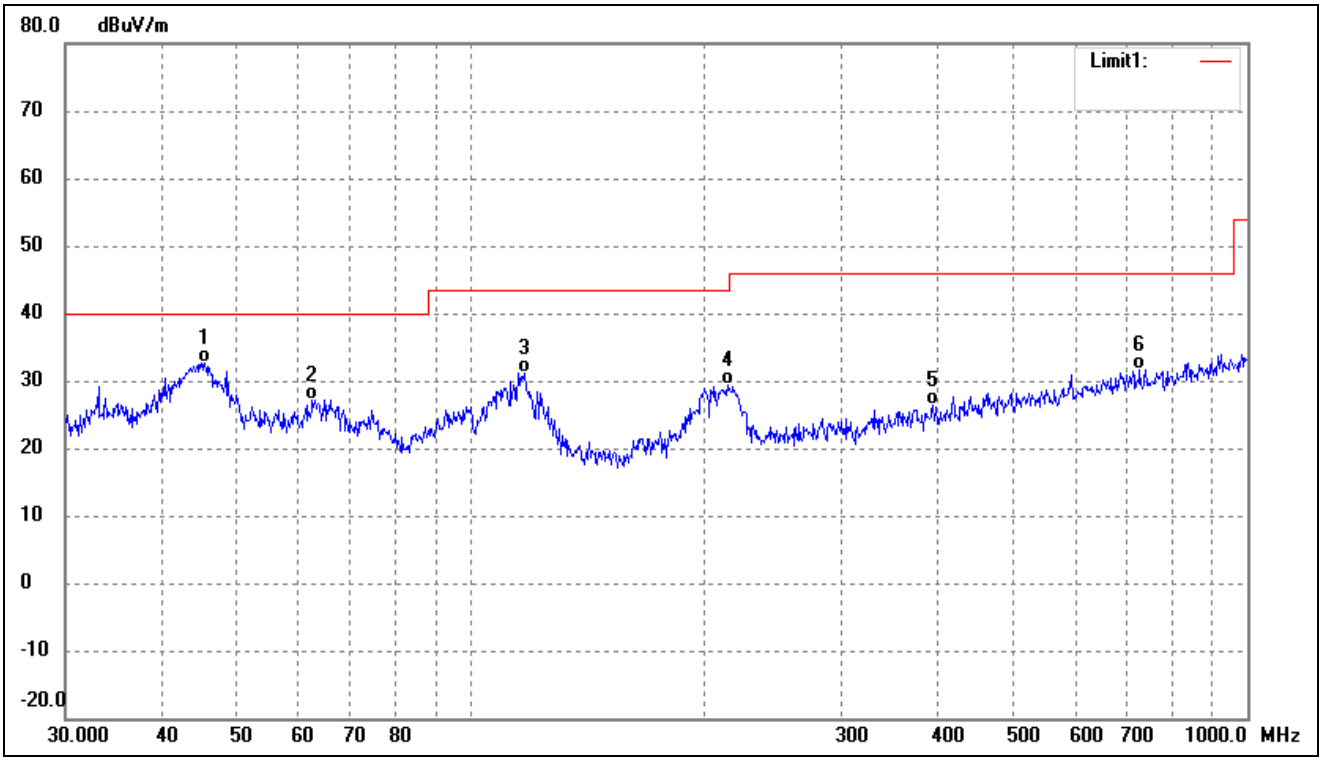
➢ 5250-5350MHz

802.11a(Worst case)			
Test Channel	5320MHz(Worst case)	Polarity:	Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	33.3279	36.67	-8.34	28.33	40.00	-11.67	-	-	QP
2	49.5328	35.35	-7.12	28.23	40.00	-11.77	-	-	QP
3	118.1862	36.65	-8.59	28.06	43.50	-15.44	-	-	QP
4	253.8367	31.88	-7.29	24.59	46.00	-21.41	-	-	QP
5	396.2415	32.50	-3.65	28.85	46.00	-17.15	-	-	QP
6	739.6605	30.98	2.07	33.05	46.00	-12.95	-	-	QP

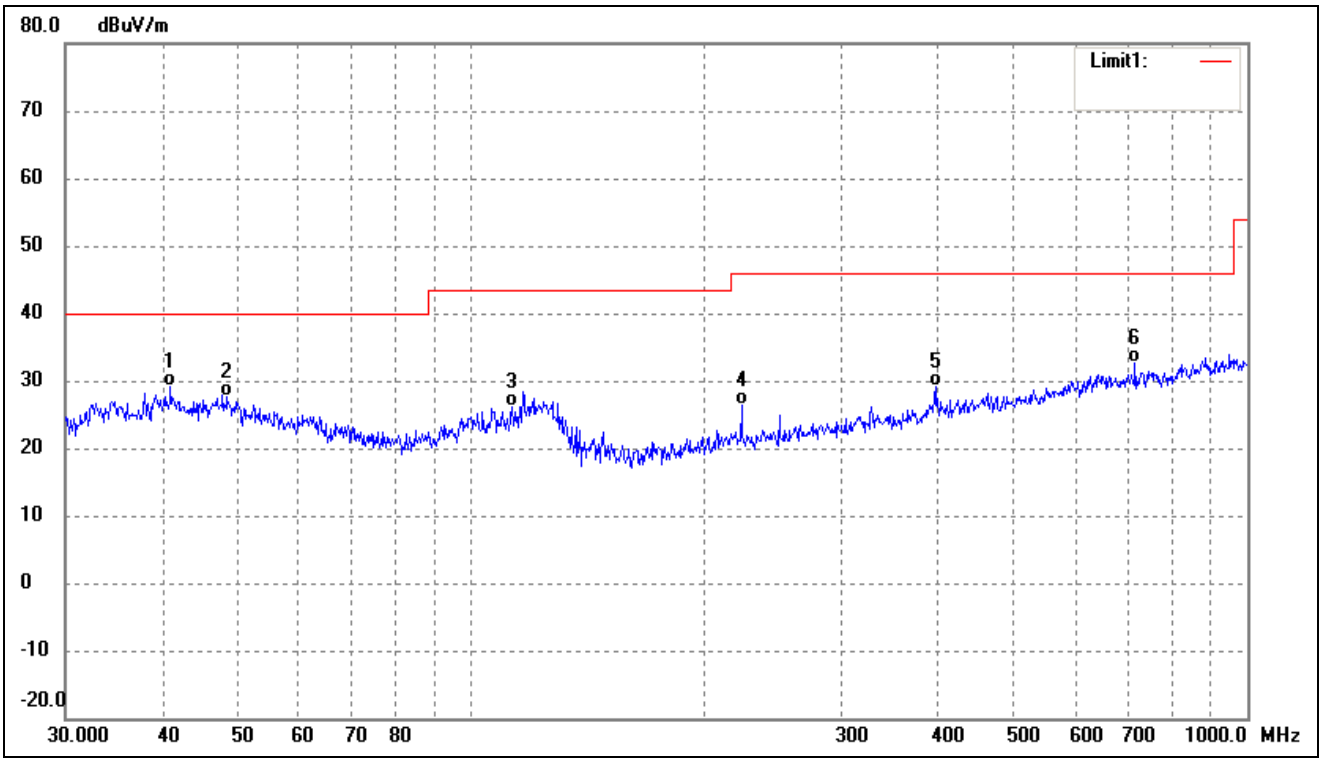
802.11a(Worst case)			
Test Channel	5260MHz(worst case)	Polarity:	Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	45.3755	39.65	-6.97	32.68	40.00	-7.32	-	-	QP
2	62.4314	36.48	-9.29	27.19	40.00	-12.81	-	-	QP
3	117.3603	39.70	-8.53	31.17	43.50	-12.33	-	-	QP
4	213.7634	37.91	-8.47	29.44	43.50	-14.06	-	-	QP
5	393.4724	30.10	-3.72	26.38	46.00	-19.62	-	-	QP
6	726.8052	29.75	1.94	31.69	46.00	-14.31	-	-	QP

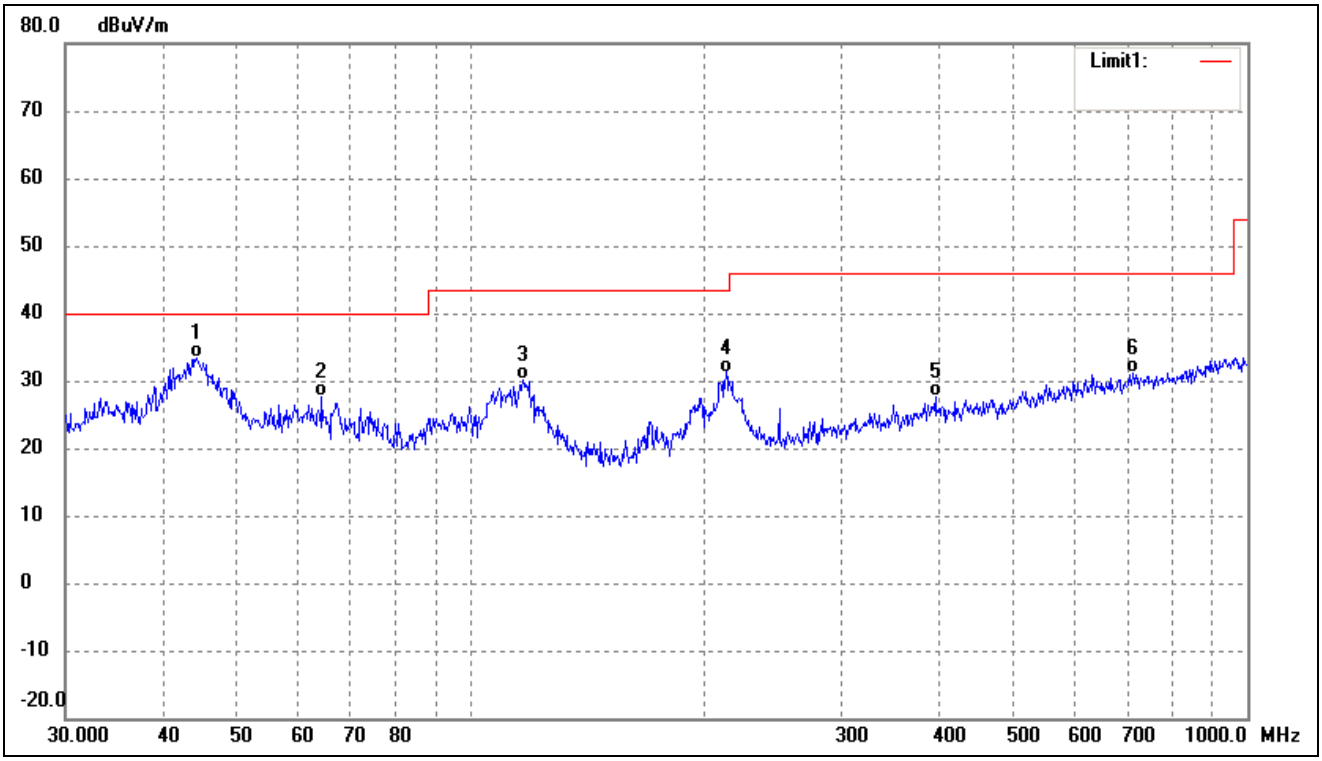
➢ 5470-5725MHz

802.11a(worst case)			
Test Channel	5500MHz(worst case)	Polarity:	Horizontal



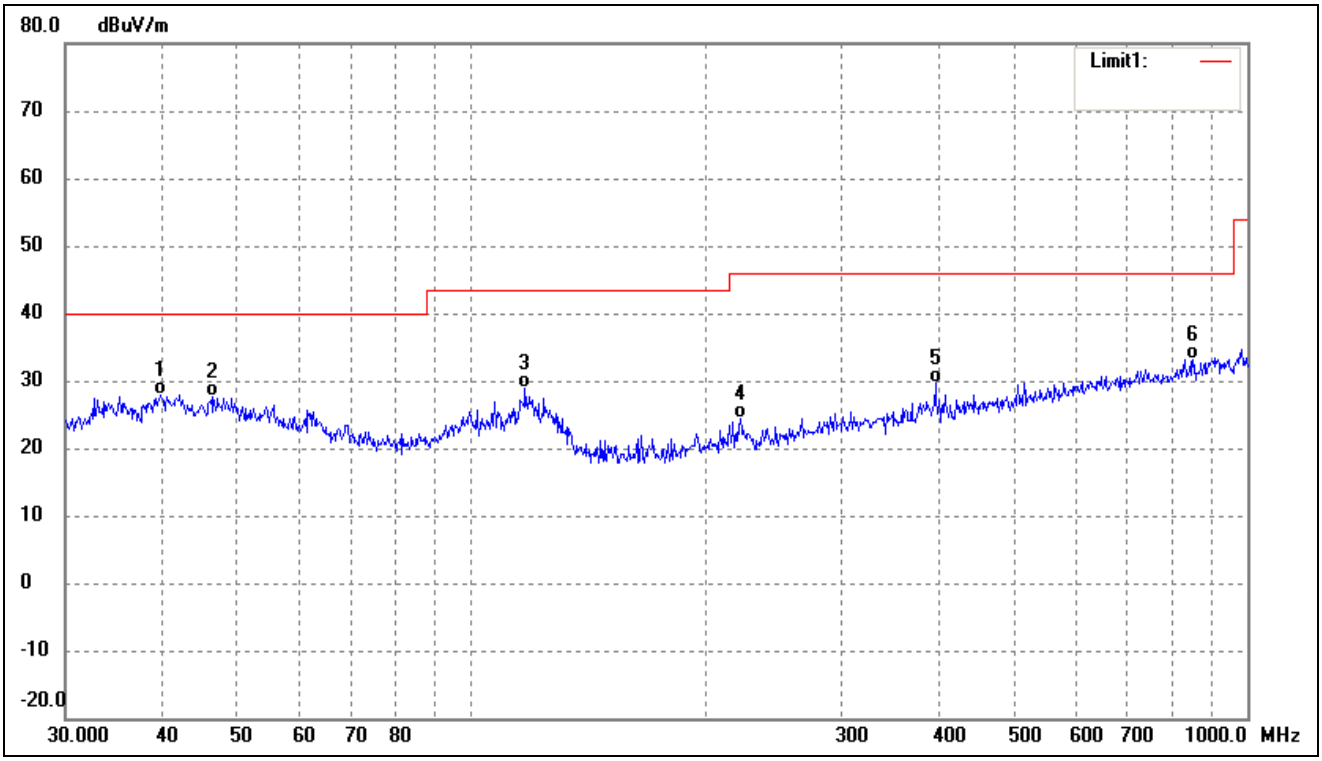
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	40.9881	36.08	-6.84	29.24	40.00	-10.76	-	-	QP
2	48.5016	34.82	-7.08	27.74	40.00	-12.26	-	-	QP
3	112.9196	34.33	-8.19	26.14	43.50	-17.36	-	-	QP
4	222.9502	34.48	-8.21	26.27	46.00	-19.73	-	-	QP
5	396.2415	32.68	-3.65	29.03	46.00	-16.97	-	-	QP
6	716.6820	30.79	1.84	32.63	46.00	-13.37	-	-	QP

802.11a(worst case)			
Test Channel	5500MHz(worst case)	Polarity:	Vertical



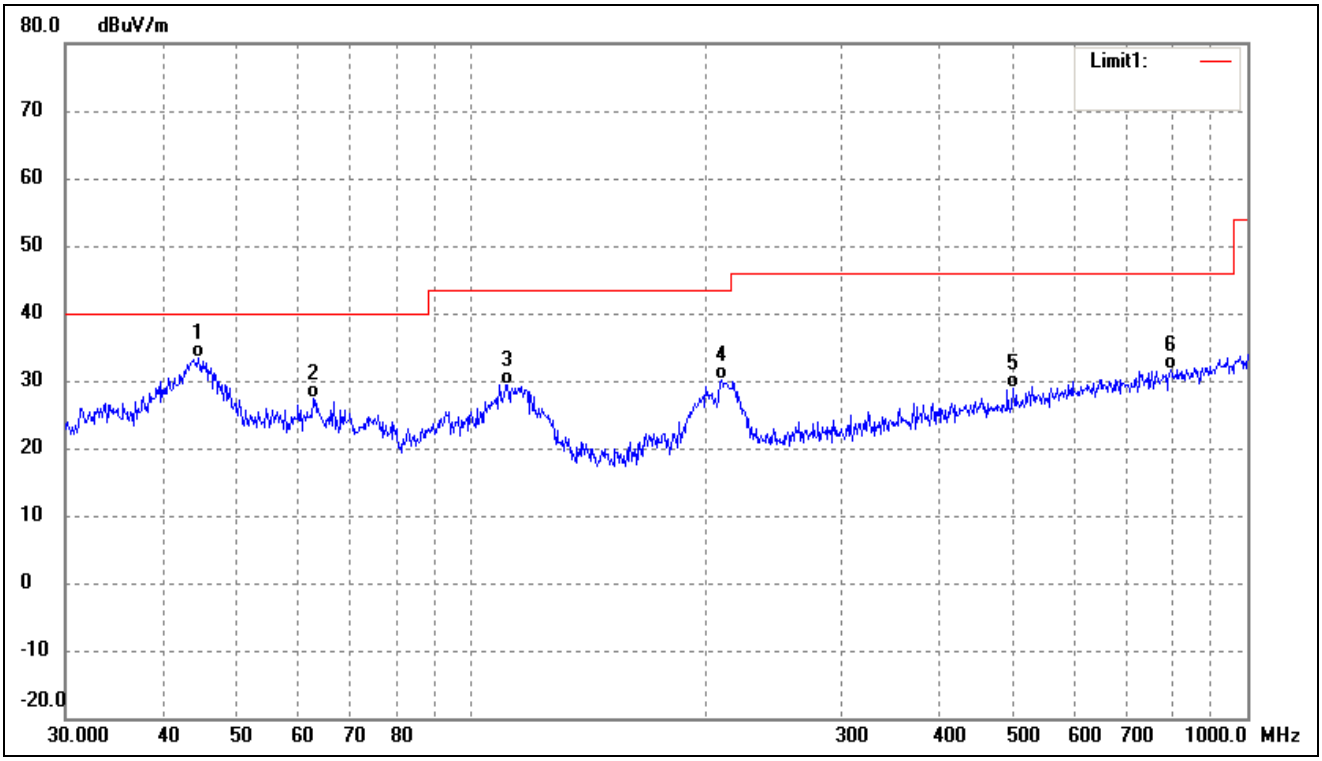
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	44.2752	40.38	-6.94	33.44	40.00	-6.56	-	-	QP
2	64.2075	37.22	-9.62	27.60	40.00	-12.40	-	-	QP
3	116.5401	38.53	-8.47	30.06	43.50	-13.44	-	-	QP
4	213.0151	39.74	-8.49	31.25	43.50	-12.25	-	-	QP
5	396.2415	31.29	-3.65	27.64	46.00	-18.36	-	-	QP
6	711.6734	29.41	1.78	31.19	46.00	-14.81	-	-	QP

802.11a(worst case)			
Test Channel	5700MHz(worst case)	Polarity:	Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	39.8542	34.70	-6.84	27.86	40.00	-12.14	-	-	QP
2	46.3402	34.74	-7.01	27.73	40.00	-12.27	-	-	QP
3	117.3603	37.46	-8.53	28.93	43.50	-14.57	-	-	QP
4	222.1698	32.57	-8.23	24.34	46.00	-21.66	-	-	QP
5	396.2415	33.17	-3.65	29.52	46.00	-16.48	-	-	QP
6	851.0353	29.64	3.48	33.12	46.00	-12.88	-	-	QP

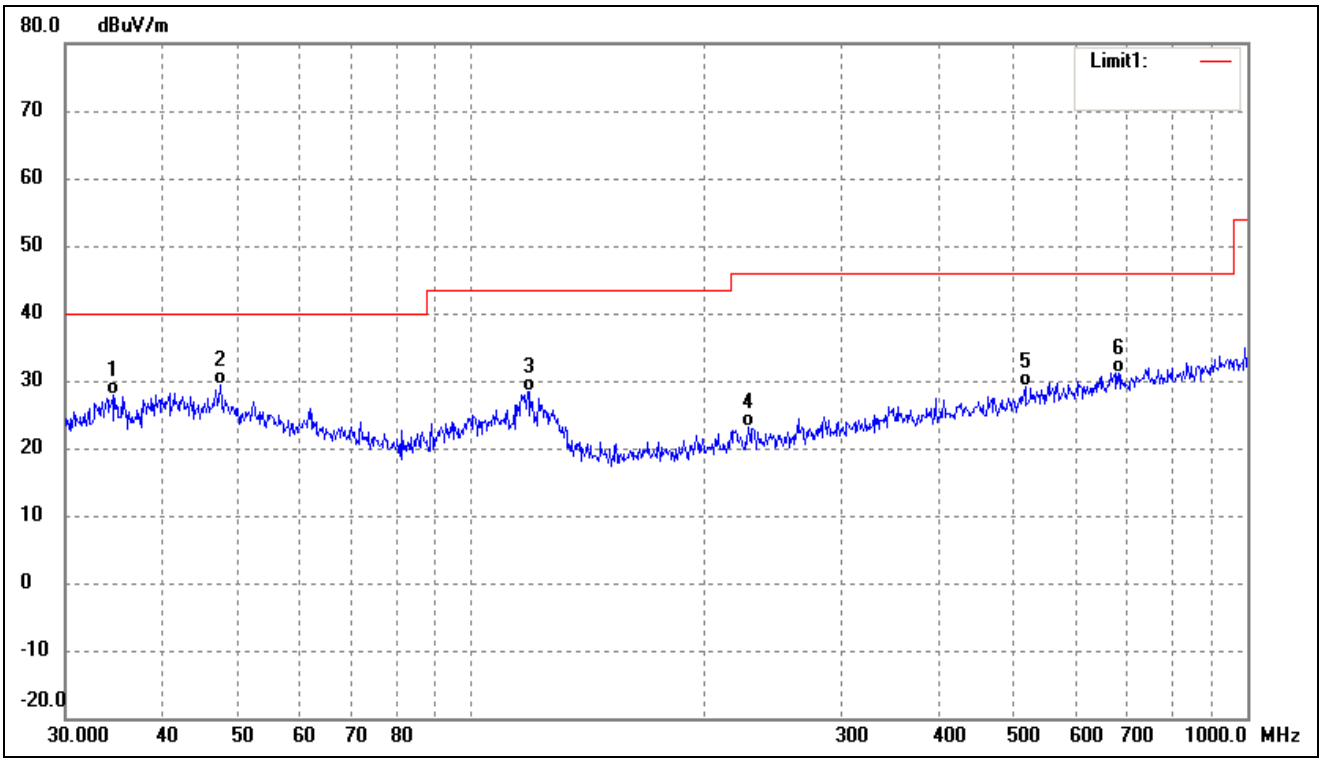
802.11a(worst case)			
Test Channel	5700MHz(worst case)	Polarity:	Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	44.4308	40.24	-6.94	33.30	40.00	-6.70	-	-	QP
2	62.6507	36.70	-9.33	27.37	40.00	-12.63	-	-	QP
3	111.3468	37.55	-8.08	29.47	43.50	-14.03	-	-	QP
4	210.0482	38.62	-8.58	30.04	43.50	-13.46	-	-	QP
5	499.4247	30.57	-1.66	28.91	46.00	-17.09	-	-	QP
6	796.1830	28.99	2.68	31.67	46.00	-14.33	-	-	QP

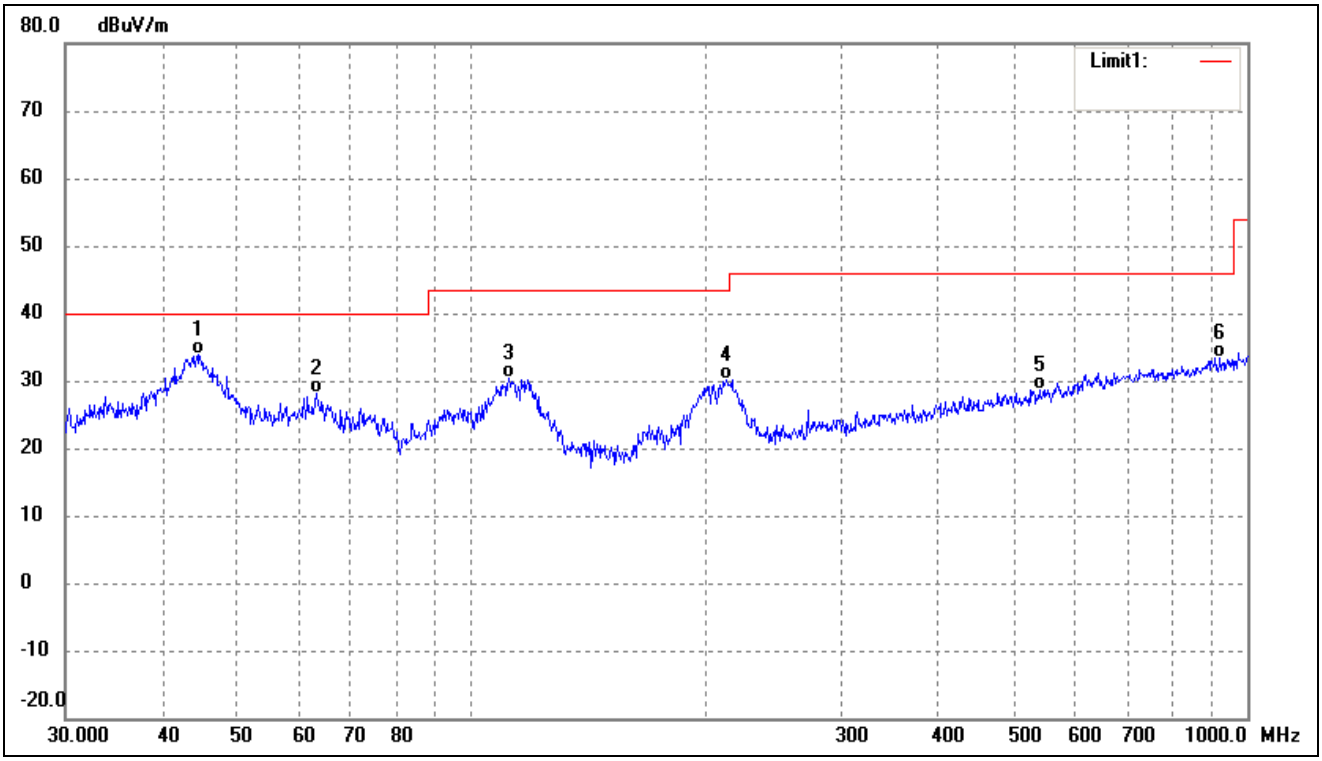
➢ 5725-5850MHz

802.11a(worst case)			
Test Channel	5745MHz(worst case)	Polarity:	Horizontal



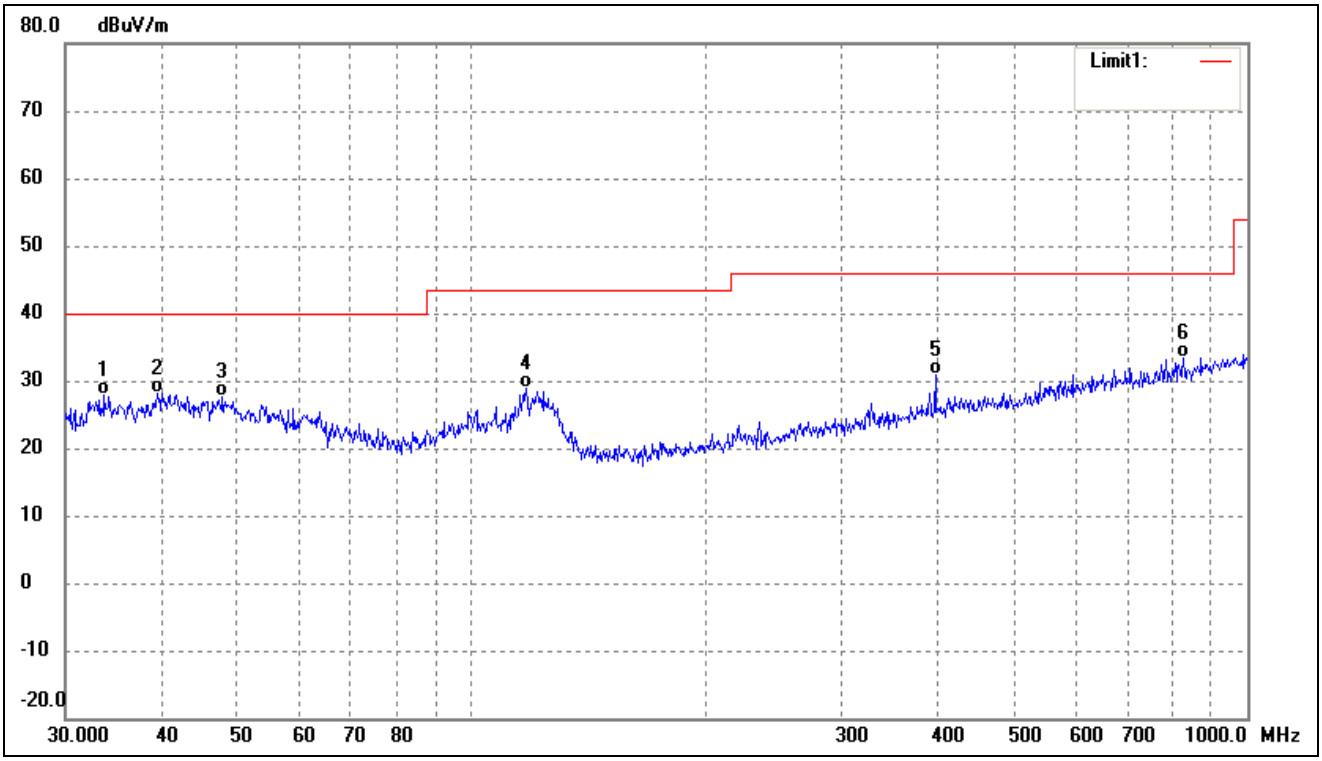
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	34.5173	36.04	-8.07	27.97	40.00	-12.03	-	-	QP
2	47.4918	36.54	-7.04	29.50	40.00	-10.50	-	-	QP
3	118.6014	36.98	-8.63	28.35	43.50	-15.15	-	-	QP
4	227.6906	31.14	-8.07	23.07	46.00	-22.93	-	-	QP
5	517.2480	30.40	-1.35	29.05	46.00	-16.95	-	-	QP
6	682.3485	29.78	1.43	31.21	46.00	-14.79	-	-	QP

802.11a(worst case)			
Test Channel	5745MHz(worst case)	Polarity:	Vertical



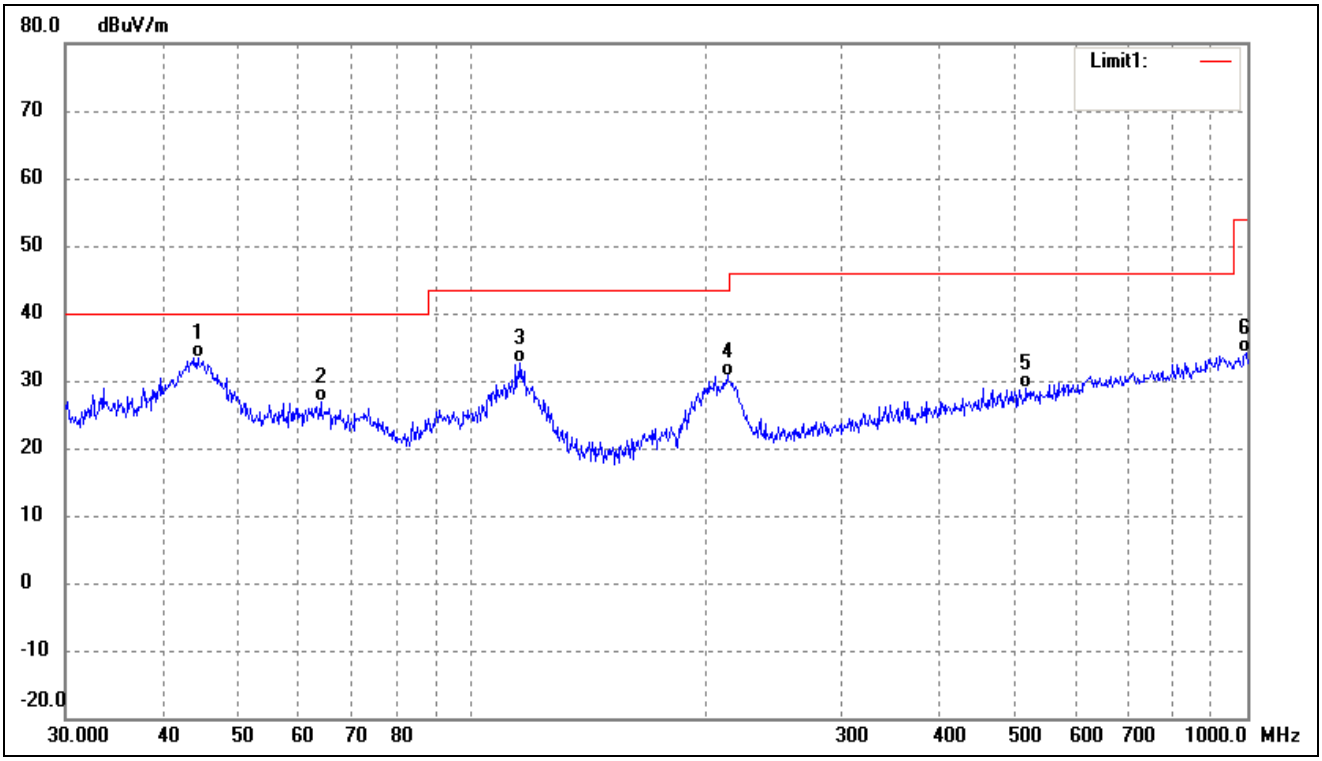
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	44.5868	40.81	-6.95	33.86	40.00	-6.14	-	-	QP
2	63.0916	37.44	-9.41	28.03	40.00	-11.97	-	-	QP
3	111.7380	38.53	-8.11	30.42	43.50	-13.08	-	-	QP
4	213.0151	38.57	-8.49	30.08	43.50	-13.42	-	-	QP
5	539.4775	29.58	-0.95	28.63	46.00	-17.37	-	-	QP
6	922.5157	28.93	4.44	33.37	46.00	-12.63	-	-	QP

802.11a(worst case)			
Test Channel	5825MHz(worst case)	Polarity:	Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	33.6803	36.13	-8.26	27.87	40.00	-12.13	-	-	QP
2	39.4372	35.08	-6.94	28.14	40.00	-11.86	-	-	QP
3	47.8260	34.60	-7.05	27.55	40.00	-12.45	-	-	QP
4	117.7725	37.38	-8.56	28.82	43.50	-14.68	-	-	QP
5	396.2415	34.55	-3.65	30.90	46.00	-15.10	-	-	QP
6	827.4934	30.14	3.13	33.27	46.00	-12.73	-	-	QP

802.11a(worst case)			
Test Channel	5825MHz(worst case)	Polarity:	Vertical

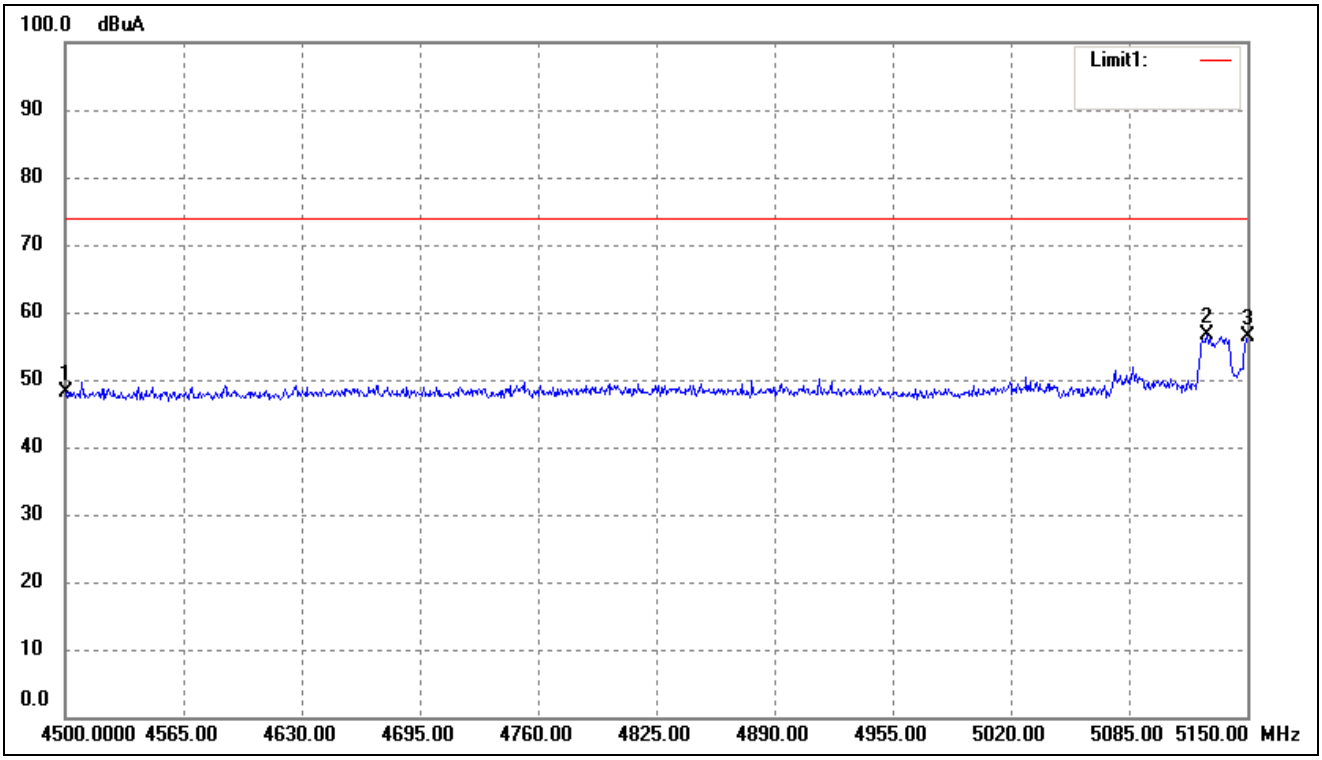


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	44.4308	40.31	-6.94	33.37	40.00	-6.63	-	-	QP
2	63.9828	36.50	-9.59	26.91	40.00	-13.09	-	-	QP
3	115.7256	40.98	-8.41	32.57	43.50	-10.93	-	-	QP
4	213.7634	39.22	-8.47	30.75	43.50	-12.75	-	-	QP
5	519.0649	30.11	-1.32	28.79	46.00	-17.21	-	-	QP
6	996.4996	29.07	5.06	34.13	54.00	-19.87	-	-	QP

Remark: '-'Means' the test Degree and Height are not recorded by the test software and only show the worst case in the test report.

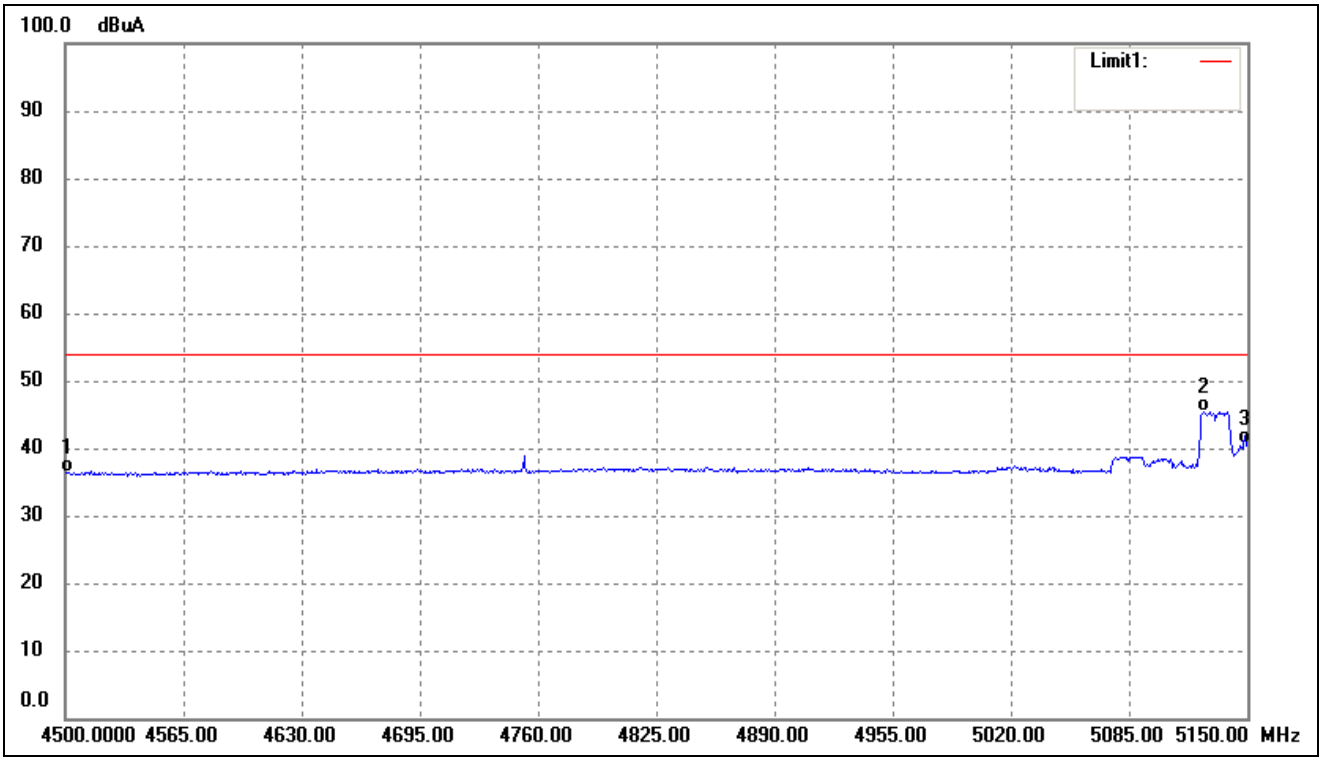
➢ Spurious Emission above 1GHz

802.11a- Restricted Bandedge (worst case)			
Test Channel	band 4.5-5.15GHz	Polarity:	Vertical(worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	4500.000	52.89	-4.71	48.18	74.00	-25.82	-	-	peak
2	5127.900	60.85	-4.32	56.53	74.00	-17.47	-	-	peak
3	5150.000	60.79	-4.32	56.47	74.00	-17.53	-	-	peak

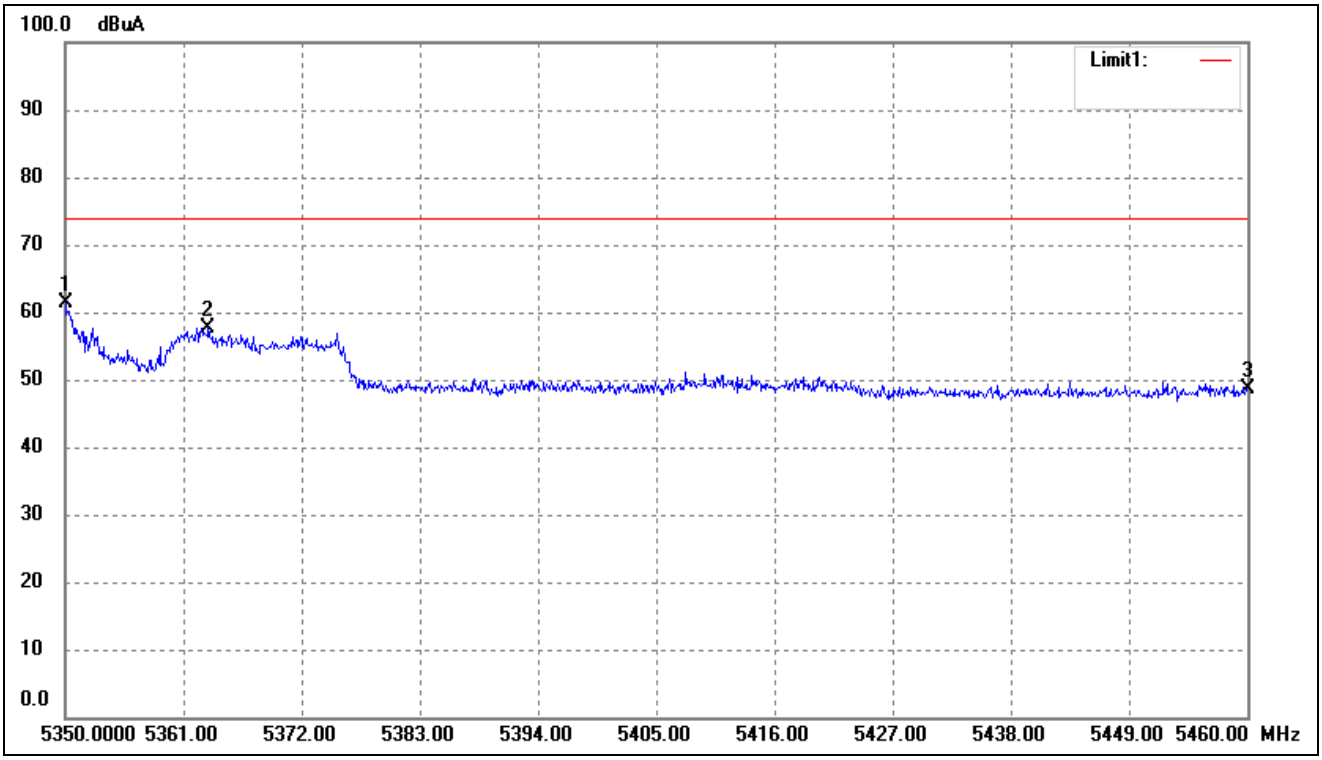
802.11a- Restricted Bandedge (worst case)			
Test Channel	band 4.5-5.15GHz	Polarity:	Vertical(worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	4500.000	41.16	-4.71	36.45	54.00	-17.55	-	-	AVG
2	5125.950	49.70	-4.33	45.37	54.00	-8.63	-	-	AVG
3	5150.000	44.98	-4.32	40.66	54.00	-13.34	-	-	AVG

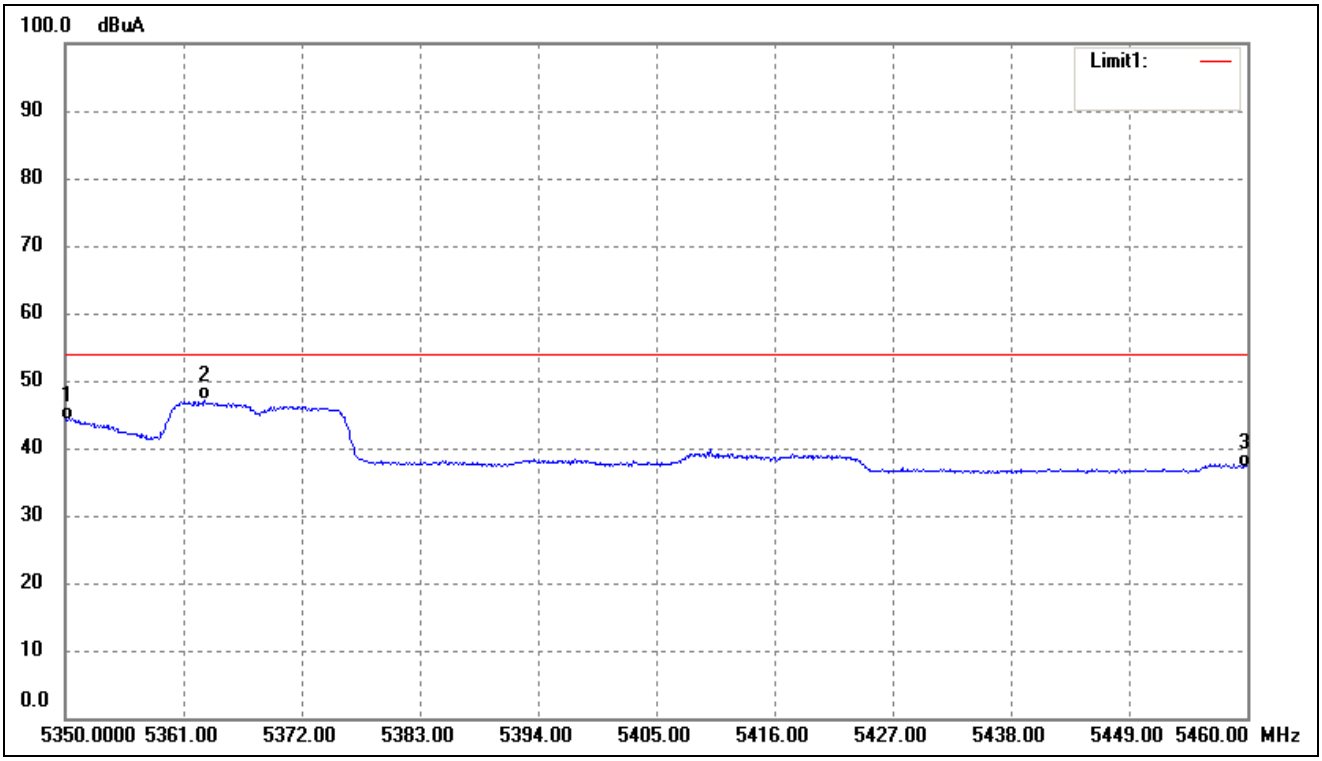
➢ 5250-5350MHz

802.11a- Restricted Bandedge (worst case)			
Test Channel	band 5.35-5.46GHz	Polarity:	Vertical(worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	65.52	-4.21	61.31	74.00	-12.69	-	-	peak
2	5363.310	61.96	-4.21	57.75	74.00	-16.25	-	-	peak
3	5460.000	52.68	-4.16	48.52	74.00	-25.48	-	-	peak

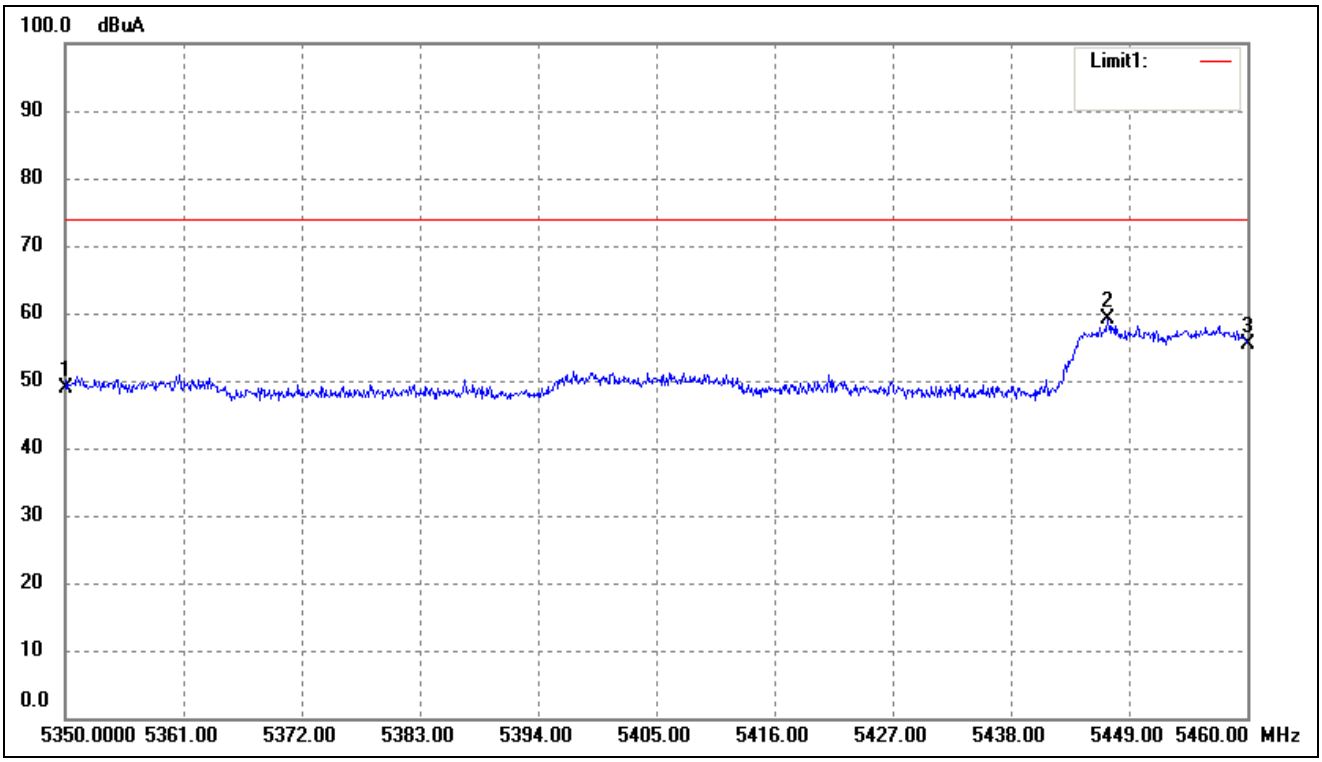
802.11a- Restricted Bandedge (worst case)			
Test Channel	band 5.35-5.46GHz	Polarity:	Vertical(worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	48.36	-4.21	44.15	54.00	-9.85	-	-	AVG
2	5362.980	51.23	-4.21	47.02	54.00	-6.98	-	-	AVG
3	5460.000	41.38	-4.16	37.22	54.00	-16.78	-	-	AVG

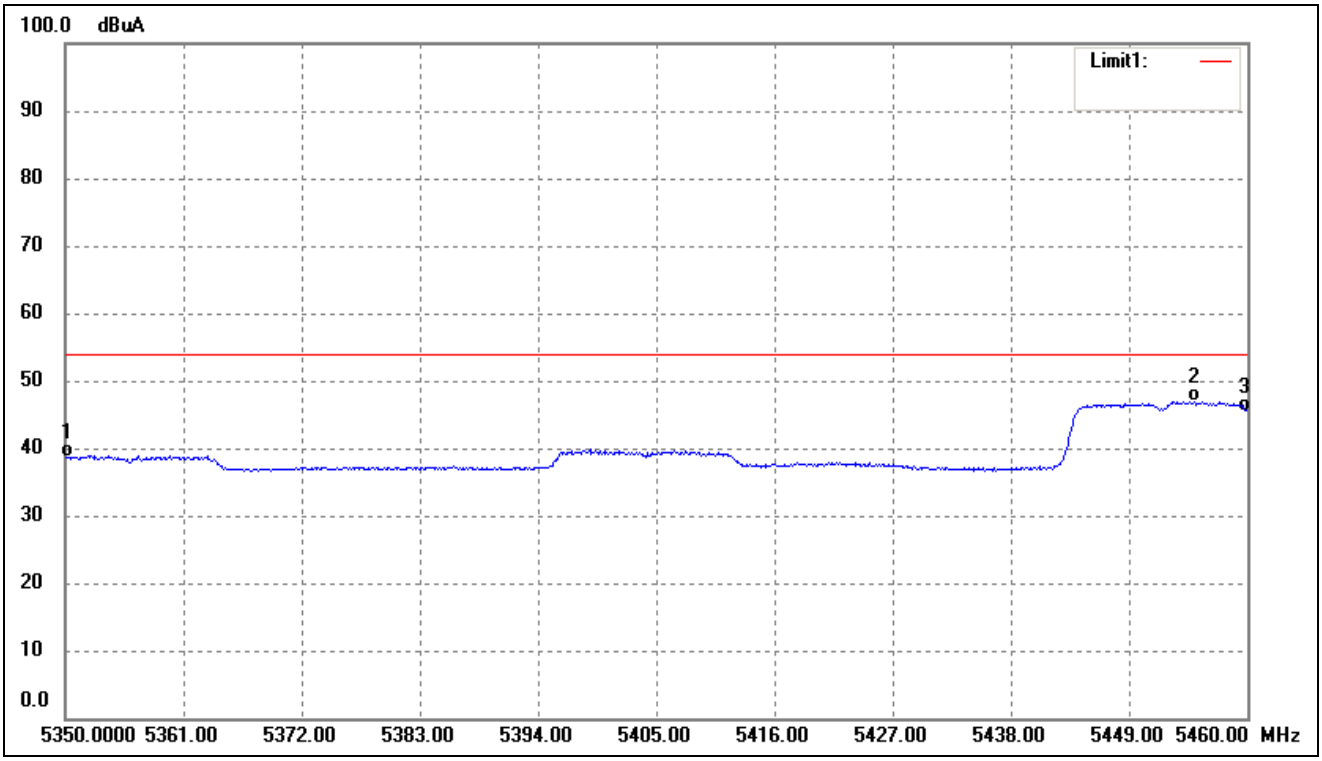
➢ 5470-5725MHz

802.11a- Restricted Bandedge (worst case)			
Test Channel	band 5.35-5.46GHz	Polarity:	Vertical(worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	53.10	-4.21	48.89	74.00	-25.11	-	-	peak
2	5447.020	63.19	-4.17	59.02	74.00	-14.98	-	-	peak
3	5460.000	59.62	-4.16	55.46	74.00	-18.54	-	-	peak

802.11a- Restricted Bandedge (worst case)			
Test Channel	band 5.35-5.46GHz	Polarity:	Vertical(worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	5350.000	42.81	-4.21	38.60	54.00	-15.40	-	-	AVG
2	5455.050	51.07	-4.16	46.91	54.00	-7.09	-	-	AVG
3	5460.000	49.59	-4.16	45.43	54.00	-8.57	-	-	AVG

Note: The Restricted Bandedge was tested in Horizontal /Vertical and the worst case position data was reported.

Remark: '-'Means' the test Degree and Height is not recorded by the test software and only show the worst case in the test report.

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.470-5.725GHz, 5.725-5.850GHz (802.11a)
- Harmonics And Spurious Emissions

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5180MHz)							
10360	60.02	7.11	67.13	74.00	-6.87	H	PK
15540	38.33	8.22	46.55	54.00	-7.45	H	AV
10360	59.83	7.11	66.94	74.00	-7.06	V	PK
15540	39.62	8.22	47.84	54.00	-6.16	V	AV
Middle Channel (5200MHz)							
10400	57.38	7.22	64.60	74	-9.40	H	PK
15600	33.32	8.67	41.99	54	-12.01	H	AV
10400	58.92	7.22	66.14	74	-7.86	V	PK
15600	37.51	8.67	46.18	54	-7.82	V	AV
High Channel (5240MHz)							
10480	56.42	7.69	64.11	74.00	-9.89	H	PK
15720	36.59	8.93	45.52	54.00	-8.48	H	AV
10480	59.70	7.69	67.39	74.00	-6.61	V	PK
15720	39.40	8.93	48.33	54.00	-5.67	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5260MHz)							
10520	56.88	7.96	64.84	74.00	-9.16	H	PK
15780	37.99	9.02	47.01	54.00	-6.99	H	AV
10520	61.45	7.96	69.41	74.00	-4.59	V	PK
15780	38.85	9.02	47.87	54.00	-6.13	V	AV
Middle Channel (5280MHz)							
10560	57.85	8.02	65.87	74.00	-8.13	H	PK
15840	37.51	9.42	46.93	54.00	-7.07	H	AV
10560	60.00	8.02	68.02	74.00	-5.98	V	PK
15840	36.17	9.42	45.59	54.00	-8.41	V	AV
High Channel (5320MHz)							
10640	58.66	8.35	67.01	74.00	-6.99	H	PK
15960	33.79	9.63	43.42	54.00	-10.58	H	AV
10640	57.72	8.35	66.07	74.00	-7.93	V	PK
15960	35.00	9.63	44.63	54.00	-9.37	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5500MHz)							
11000	55.81	8.82	64.63	74.00	-9.37	H	PK
16500	37.59	9.88	47.47	54.00	-6.53	H	AV
11000	56.44	8.82	65.26	74.00	-8.74	V	PK
16500	32.94	9.88	42.82	54.00	-11.18	V	AV
Middle Channel (5600MHz)							
11200	58.97	8.92	67.89	74.00	-6.11	H	PK
16800	35.44	10.03	45.47	54.00	-8.53	H	AV
11200	57.22	8.92	66.14	74.00	-7.86	V	PK
16800	38.51	10.03	48.54	54.00	-5.46	V	AV
High Channel (5700MHz)							
11400	53.58	9.36	62.94	74.00	-11.06	H	PK
17100	35.97	10.25	46.22	54.00	-7.78	H	AV
11400	58.42	9.36	67.78	74.00	-6.22	V	PK
17100	35.22	10.25	45.47	54.00	-8.53	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5745MHz)							
11490	56.88	9.45	66.33	74.00	-7.67	H	PK
17235	37.28	10.36	47.64	54.00	-6.36	H	AV
11490	55.37	9.45	64.82	74.00	-9.18	V	PK
17235	35.66	10.36	46.02	54.00	-7.98	V	AV
Middle Channel (5785MHz)							
11570	58.95	9.62	68.57	74.00	-5.43	H	PK
17355	36.66	10.67	47.33	54.00	-6.67	H	AV
11570	55.83	9.62	65.45	74.00	-8.55	V	PK
17355	35.64	10.67	46.31	54.00	-7.69	V	AV
High Channel (5825MHz)							
11650	57.08	9.84	66.92	74.00	-7.08	H	PK
17475	33.00	10.95	43.95	54.00	-10.05	H	AV
11650	56.27	9.84	66.11	74.00	-7.89	V	PK
17475	38.03	10.95	48.98	54.00	-5.02	V	AV

- Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-34.50	-27
Highest	Above 5350	-42.29	-27
Note: the data just list the worst cases			

- Out of Band edge for 5250-5350MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-33.81	-27
Highest	Above 5350	-36.20	-27
Note: the data just list the worst cases			

- Out of Band edge for 5470-5725MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5470	-37.56	-27
Highest	Above 5725	-35.33	-27
Note: the data just list the worst cases			

- Out of Band edge for 5725-5850MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5715	-36.62	-27
	5715 to 5725	-39.85	-17
Highest	5850 to 5860	-40.03	-17
	Above 5860	-42.92	-27
Note: the data just list the worst cases			

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.470-5.725GHz, 5.725-5.850GHz (802.11n HT20)
- Harmonics And Spurious Emissions

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5180MHz)							
10360	58.44	7.11	65.55	74.00	-8.45	H	PK
15540	39.47	8.22	47.69	54.00	-6.31	H	AV
10360	61.62	7.11	68.73	74.00	-5.27	V	PK
15540	40.31	8.22	48.53	54.00	-5.47	V	AV
Middle Channel (5200MHz)							
10400	58.56	7.22	65.78	74.00	-8.22	H	PK
15600	35.88	8.67	44.55	54.00	-9.45	H	AV
10400	57.51	7.22	64.73	74.00	-9.27	V	PK
15600	36.88	8.67	45.55	54.00	-8.45	V	AV
High Channel (5240MHz)							
10480	55.82	7.69	63.51	74.00	-10.49	H	PK
15720	39.34	8.93	48.27	54.00	-5.73	H	AV
10480	59.84	7.69	67.53	74.00	-6.47	V	PK
15720	37.16	8.93	46.09	54.00	-7.91	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5260MHz)							
10520	59.16	7.96	67.12	74.00	-6.88	H	PK
15780	34.97	9.02	43.99	54.00	-10.01	H	AV
10520	59.65	7.96	67.61	74.00	-6.39	V	PK
15780	37.77	9.02	46.79	54.00	-7.21	V	AV
Middle Channel (5280MHz)							
10560	54.72	8.02	62.74	74.00	-11.26	H	PK
15840	39.96	9.42	49.38	54.00	-4.62	H	AV
10560	57.73	8.02	65.75	74.00	-8.25	V	PK
15840	36.67	9.42	46.09	54.00	-7.91	V	AV
High Channel (5320MHz)							
10640	60.67	8.35	69.02	74.00	-4.98	H	PK
15960	36.96	9.63	46.59	54.00	-7.41	H	AV
10640	56.03	8.35	64.38	74.00	-9.62	V	PK
15960	35.18	9.63	44.81	54.00	-9.19	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5500MHz)							
11000	54.52	8.82	63.34	74.00	-10.66	H	PK
16500	37.64	9.88	47.52	54.00	-6.48	H	AV
11000	56.71	8.82	65.53	74.00	-8.47	V	PK
16500	33.67	9.88	43.55	54.00	-10.45	V	AV
Middle Channel (5600MHz)							
11200	58.33	8.92	67.25	74.00	-6.75	H	PK
16800	37.45	10.03	47.48	54.00	-6.52	H	AV
11200	56.20	8.92	65.12	74.00	-8.88	V	PK
16800	38.20	10.03	48.23	54.00	-5.77	V	AV
High Channel (5700MHz)							
11400	55.71	9.36	65.07	74.00	-8.93	H	PK
17100	36.79	10.25	47.04	54.00	-6.96	H	AV
11400	57.80	9.36	67.16	74.00	-6.84	V	PK
17100	33.68	10.25	43.93	54.00	-10.07	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5745MHz)							
11490	58.04	9.45	67.49	74.00	-6.51	H	PK
17235	36.67	10.36	47.03	54.00	-6.97	H	AV
11490	58.51	9.45	67.96	74.00	-6.04	V	PK
17235	38.73	10.36	49.09	54.00	-4.91	V	AV
Middle Channel (5785MHz)							
11570	59.43	9.62	69.05	74.00	-4.95	H	PK
17355	35.80	10.67	46.47	54.00	-7.53	H	AV
11570	55.90	9.62	65.52	74.00	-8.48	V	PK
17355	36.32	10.67	46.99	54.00	-7.01	V	AV
High Channel (5825MHz)							
11650	57.57	9.84	67.41	74.00	-6.59	H	PK
17475	33.90	10.95	44.85	54.00	-9.15	H	AV
11650	55.62	9.84	65.46	74.00	-8.54	V	PK
17475	37.88	10.95	48.83	54.00	-5.17	V	AV

- Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-30.39	-27
Highest	Above 5350	-38.34	-27
Note: the data just list the worst cases			

- Out of Band edge for 5250-5350MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-39.06	-27
Highest	Above 5350	-35.27	-27
Note: the data just list the worst cases			

- Out of Band edge for 5470-5725MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5470	-38.36	-27
Highest	Above 5725	-37.19	-27
Note: the data just list the worst cases			

- Out of Band edge for 5725-5850MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5715	-46.83	-27
	5715 to 5725	-33.89	-17
Highest	5850 to 5860	-33.98	-17
	Above 5860	-41.56	-27
Note: the data just list the worst cases			

Note: this EUT was tested in the low, high channel and the worst case position data was reported.

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.470-5.725GHz, 5.725-5.850GHz (802.11n HT40)
- Harmonics And Spurious Emissions

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5190MHz)							
10380	56.39	7.25	63.64	74.00	-10.36	H	PK
15570	37.35	8.33	45.68	54.00	-8.32	H	AV
10380	61.58	7.25	68.83	74.00	-5.17	V	PK
15570	38.05	8.33	46.38	54.00	-7.62	V	AV
High Channel (5230MHz)							
10460	57.20	7.54	64.74	74.00	-9.26	H	PK
15690	40.89	8.86	49.75	54.00	-4.25	H	AV
10460	58.81	7.54	66.35	74.00	-7.65	V	PK
15690	38.79	8.86	47.65	54.00	-6.35	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5270MHz)							
10540	55.12	8.12	63.24	74.00	-10.76	H	PK
15810	37.94	9.24	47.18	54.00	-6.82	H	AV
10540	58.86	8.12	66.98	74.00	-7.02	V	PK
15810	38.19	9.24	47.43	54.00	-6.57	V	AV
High Channel (5310MHz)							
10620	60.32	8.30	68.62	74.00	-5.38	H	PK
15930	35.32	9.45	44.77	54.00	-9.23	H	AV
10620	55.83	8.30	64.13	74.00	-9.87	V	PK
15930	34.41	9.45	43.86	54.00	-10.14	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5510MHz)							
11020	56.03	8.95	64.98	74.00	-9.02	H	PK
16530	35.08	9.99	45.07	54.00	-8.93	H	AV
11020	58.44	8.95	67.39	74.00	-6.61	V	PK
16530	37.14	9.99	47.13	54.00	-6.87	V	AV
Middle Channel (5590MHz)							
11180	57.48	9.12	66.60	74.00	-7.40	H	PK
16770	36.41	10.12	46.53	54.00	-7.47	H	AV
11180	57.37	9.12	66.49	74.00	-7.51	V	PK
16770	37.13	10.12	47.25	54.00	-6.75	V	AV
High Channel (5670MHz)							
11340	54.79	9.39	64.18	74.00	-9.82	H	PK
17010	36.52	10.22	46.74	54.00	-7.26	H	AV
11340	54.07	9.39	63.46	74.00	-10.54	V	PK
17010	37.95	10.22	48.17	54.00	-5.83	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5755MHz)							
11510	57.08	9.65	66.73	74.00	-7.27	H	PK
17265	37.10	10.87	47.97	54.00	-6.03	H	AV
11510	58.72	9.65	68.37	74.00	-5.63	V	PK
17265	36.67	10.87	47.54	54.00	-6.46	V	AV
High Channel (5795MHz)							
11590	55.25	9.81	65.06	74.00	-8.94	H	PK
17385	33.60	10.89	44.49	54.00	-9.51	H	AV
11590	58.12	9.81	67.93	74.00	-6.07	V	PK
17385	38.14	10.89	49.03	54.00	-4.97	V	AV

- Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-38.81	-27
Highest	Above 5350	-42.87	-27
Note: the data just list the worst cases			

- Out of Band edge for 5250-5350MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-38.50	-27
Highest	Above 5350	-39.53	-27
Note: the data just list the worst cases			

- Out of Band edge for 5470-5725MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5470	-37.55	-27
Highest	Above 5725	-41.70	-27
Note: the data just list the worst cases			

- Out of Band edge for 5725-5850MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5715	-40.18	-27
	5715 to 5725	-39.98	-17
Highest	5850 to 5860	-44.42	-17
	Above 5860	-40.78	-27
Note: the data just list the worst cases			

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

9. Frequency Stability

9.1 Standard Applicable

According to §15.407(g), manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

9.2 Test Procedure

According to §2.1055, the following test procedure was performed.
The Frequency Stability is measured directly with a Frequency Domain Analyzer. Frequency Deviation in ppm is calculated from the measured peak to peak value.
The Carrier Frequency Stability over Power Supply Voltage and over Temperature is measured with a Frequency Domain Analyzer in histogram mode.

9.3 Summary of Test Results/Plots

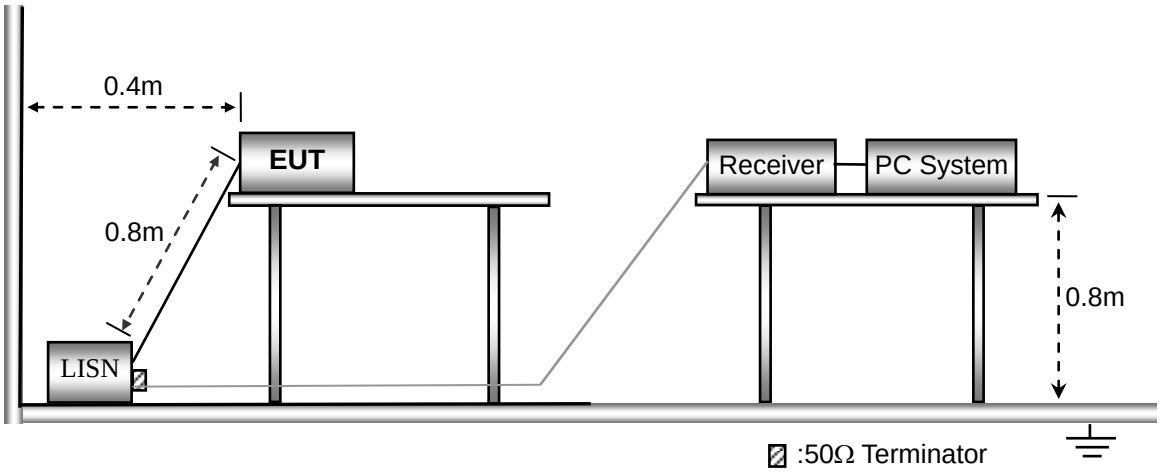
Please refer to Appendix D

10. Conducted Emissions

10.1 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.

10.2 Basic Test Setup Block Diagram



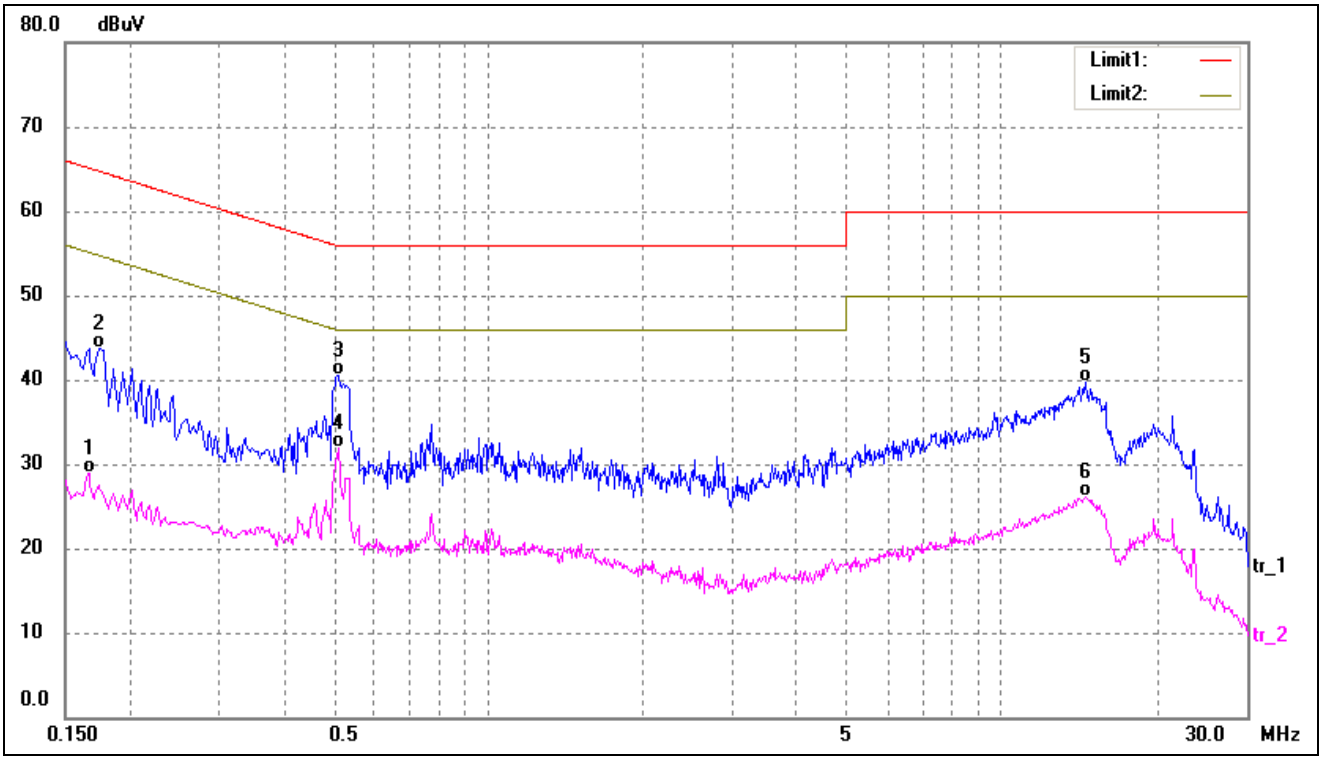
10.3 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency ..... 150 kHz
Stop Frequency ..... 30 MHz
Sweep Speed ..... Auto
IF Bandwidth..... 10 kHz
Quasi-Peak Adapter Bandwidth ..... 9 kHz
Quasi-Peak Adapter Mode ..... Normal

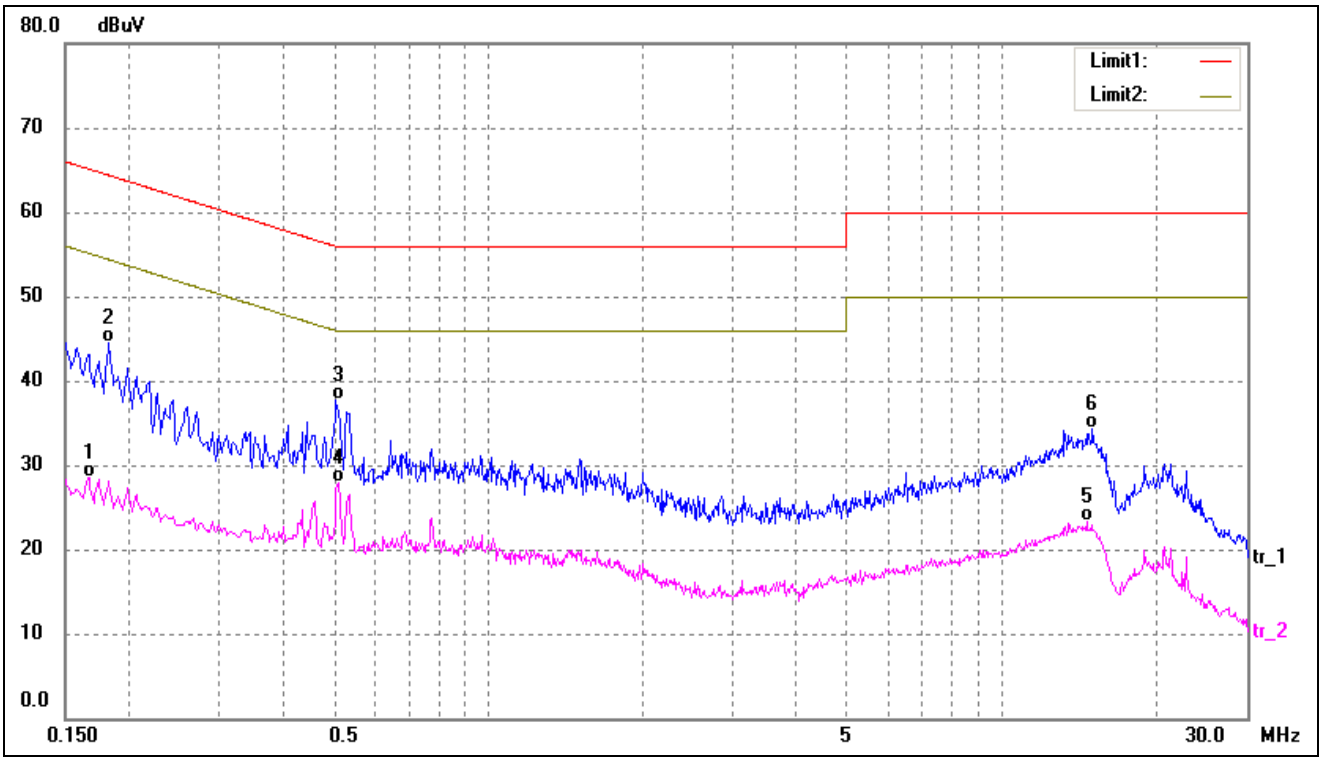
10.4 Summary of Test Results/Plots

Test Mode	Communication	AC120V 60Hz	Polarity:	Neutral



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1660	18.64	10.26	28.90	55.16	-26.26	AVG
2	0.1740	33.48	10.25	43.73	64.77	-21.04	QP
3	0.5100	30.30	10.22	40.52	56.00	-15.48	QP
4*	0.5100	21.71	10.22	31.93	46.00	-14.07	AVG
5	14.5940	29.17	10.56	39.73	60.00	-20.27	QP
6	14.5940	15.49	10.56	26.05	50.00	-23.95	AVG

Test Mode	Communication	AC120V 60Hz	Polarity:	Line



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1660	18.26	10.26	28.52	55.16	-26.64	AVG
2	0.1820	34.33	10.26	44.59	64.39	-19.80	QP
3	0.5060	27.55	10.22	37.77	56.00	-18.23	QP
4*	0.5100	17.64	10.22	27.86	46.00	-18.14	AVG
5	14.6460	12.70	10.56	23.26	50.00	-26.74	AVG
6	14.9860	23.65	10.58	34.23	60.00	-25.77	QP

APPENDIX SUMMARY

Project No.	WTX21X05051655W	Test Engineer	Moon
Start date	2021/6/1	Finish date	2021/6/2
Temperature	25℃	Humidity	49%
RF specifications	U-NII		

APPENDIX	Description of Test Item	Result
A	Power Spectral Density	Compliant
B	Emission Bandwidth and Occupied Bandwidth	Compliant
C	Maximum Conducted Output Power	Compliant
D	Frequency Stability	Compliant

APPENDIX A

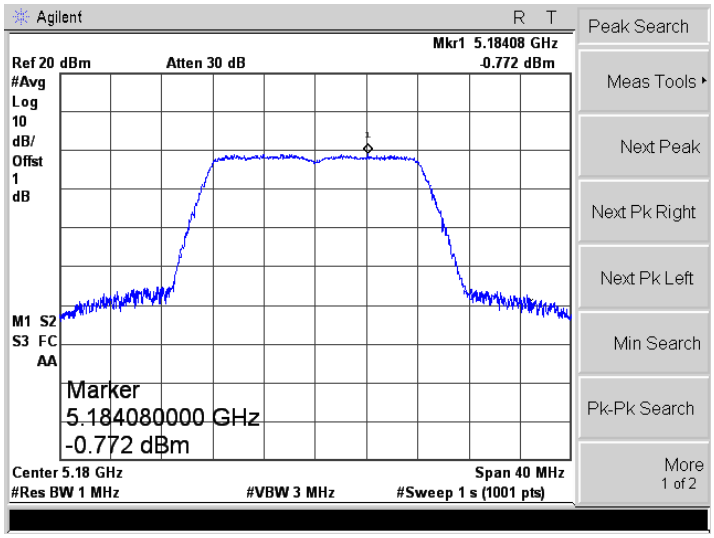
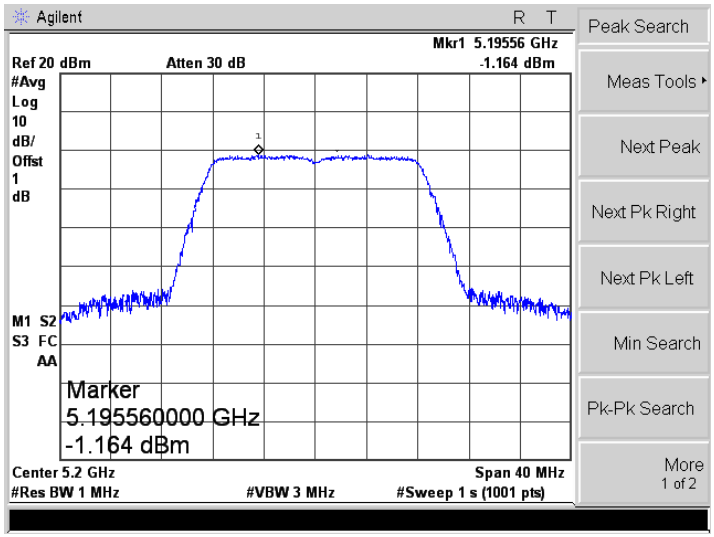
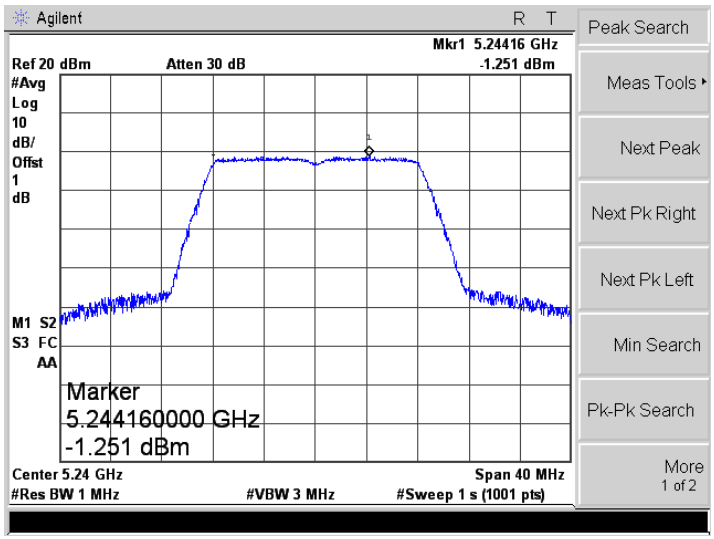
Power Spectral Density			
U-NII-1:5150-5250MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5180	-0.772	11
	5200	-1.164	11
	5240	-1.251	11
802.11n-HT20	5180	-0.264	11
	5200	-0.405	11
	5240	-0.389	11
802.11n-HT40	5190	-3.909	11
	5230	-4.181	11

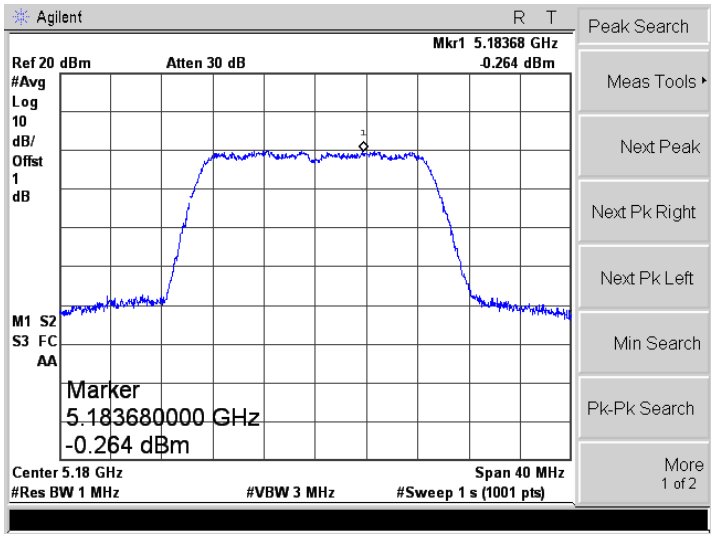
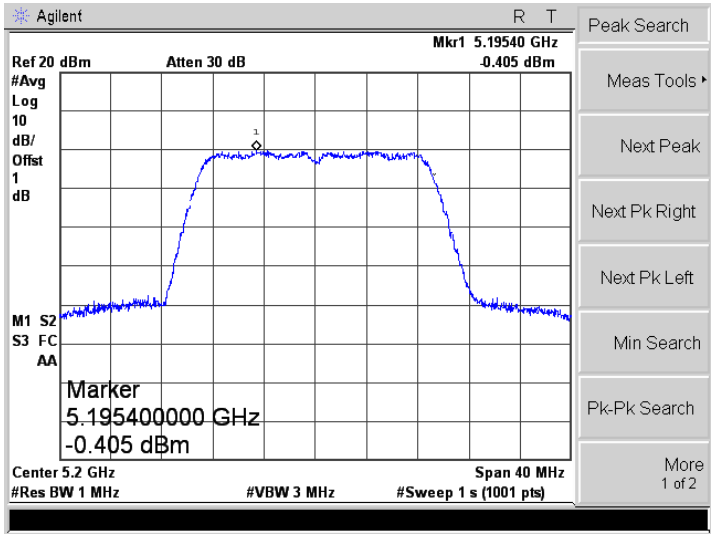
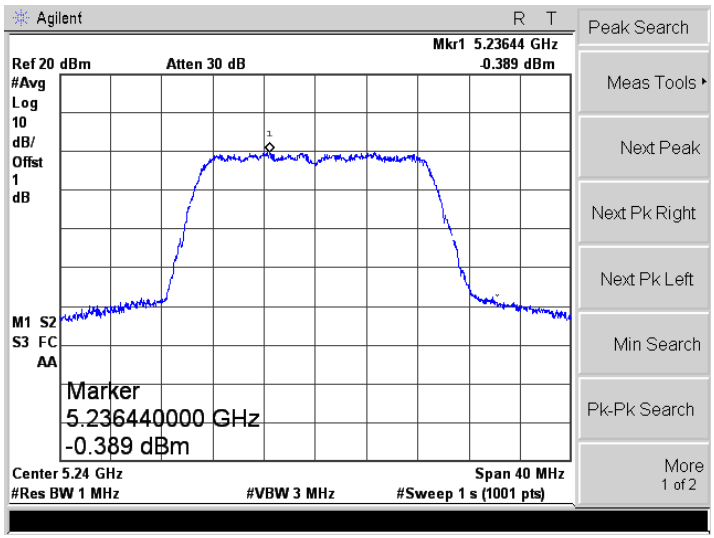
U-NII-2A: 5250-5350MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5260	-0.951	11
	5280	-1.009	11
	5320	-0.440	11
802.11n-HT20	5260	-0.215	11
	5280	-0.266	11
	5320	0.264	11
802.11n-HT40	5270	-3.487	11
	5310	-3.228	11

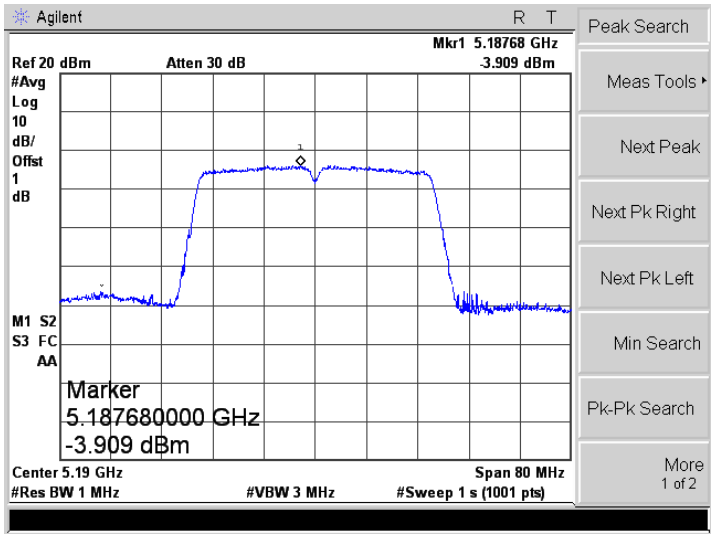
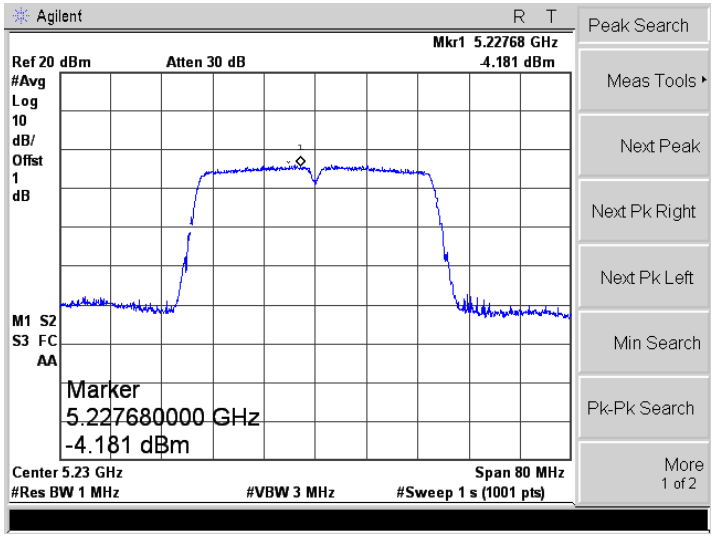
U-NII-2C: 5470-5725MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5500	-2.213	11
	5580	-4.694	11
	5700	-2.532	11
802.11n-HT20	5500	-1.349	11
	5580	-3.632	11
	5700	-1.916	11
802.11n-HT40	5510	-4.951	11
	5550	-7.363	11
	5670	-6.574	11

U-NII-3: 5725-5850MHz					
Operating mode	Test Channel	Power Spectral Density dBm/300kHz	Factor	Power Spectral Density* dBm/500kHz	Limit dBm/500kHz
802.11a	5745	-6.919	2.22	-4.699	30
	5785	-6.792	2.22	-4.572	30
	5825	-6.516	2.22	-4.296	30
802.11n-HT20	5745	-6.912	2.22	-4.692	30
	5785	-6.431	2.22	-4.211	30
	5825	-6.085	2.22	-3.865	30
802.11n HT40	5755	-9.535	2.22	-7.315	30
	5795	-9.433	2.22	-7.213	30
*Note: Maximum PSD=PSD(dBm/300kHz)+10log(500kHz/300kHz)=2.22					

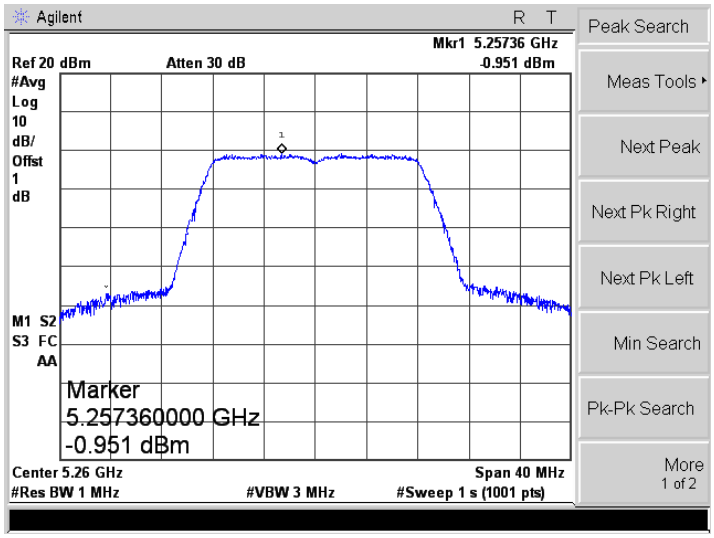
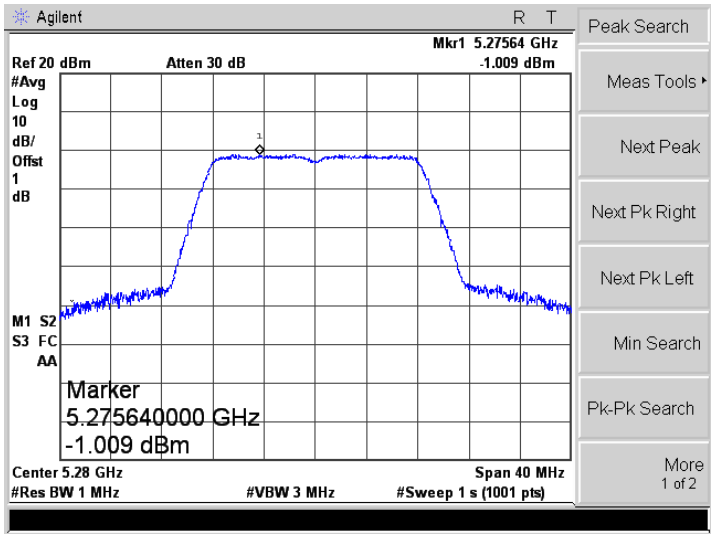
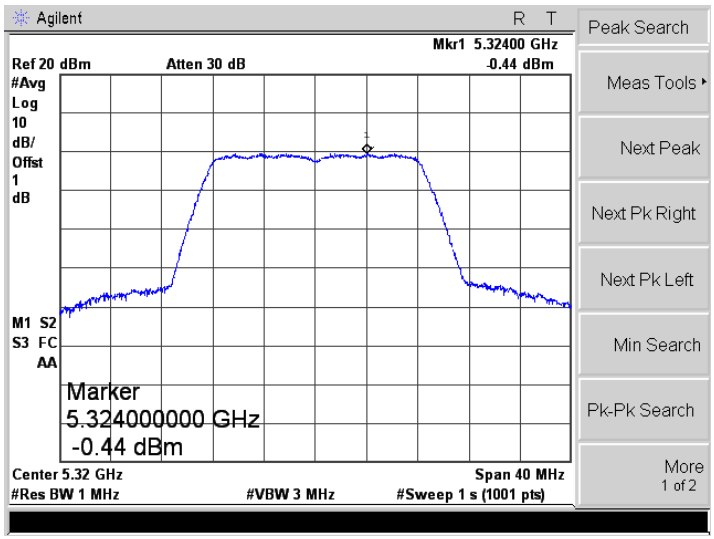
5150-5250MHz

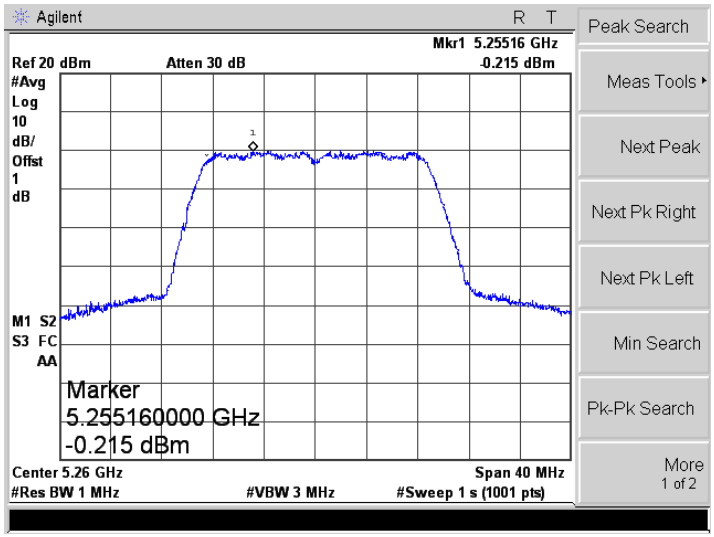
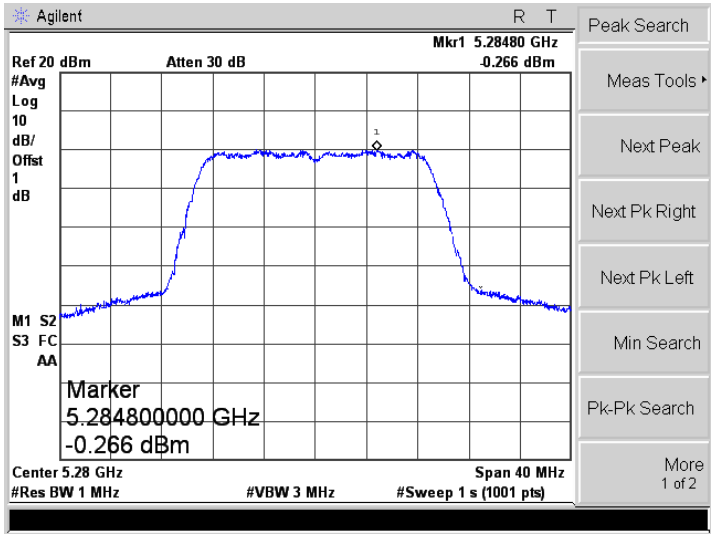
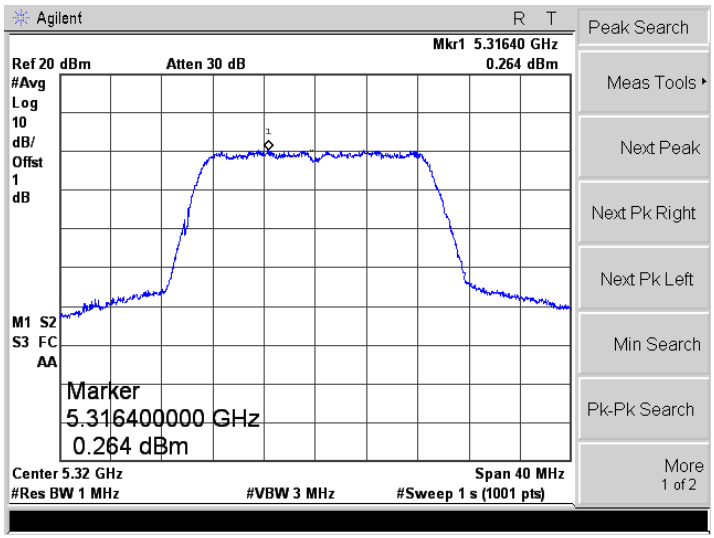
802.11a-Low	
802.11a-Middle	
802.11a-High	

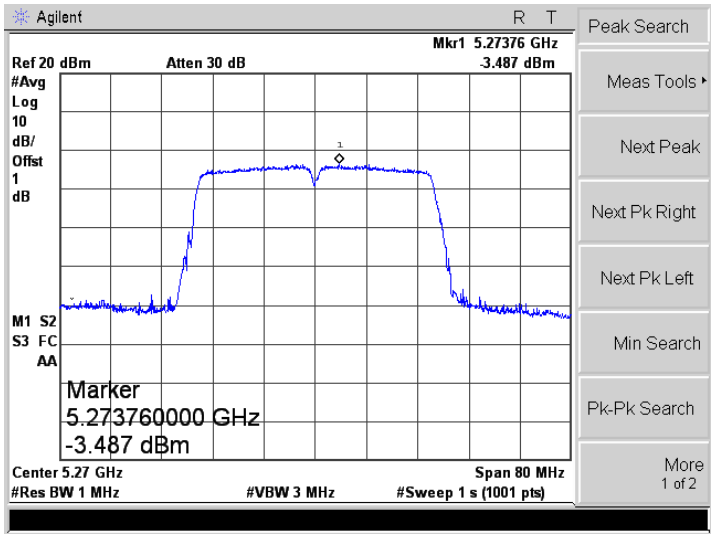
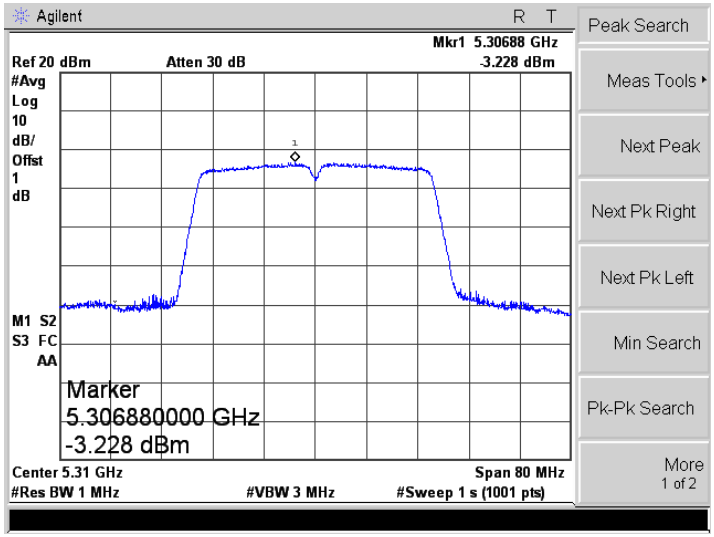
802.11n-HT20-Low	
802.11n-HT20-Middle	
802.11n-HT20-High	

802.11n-HT40-Low	
802.11n-HT40-High	

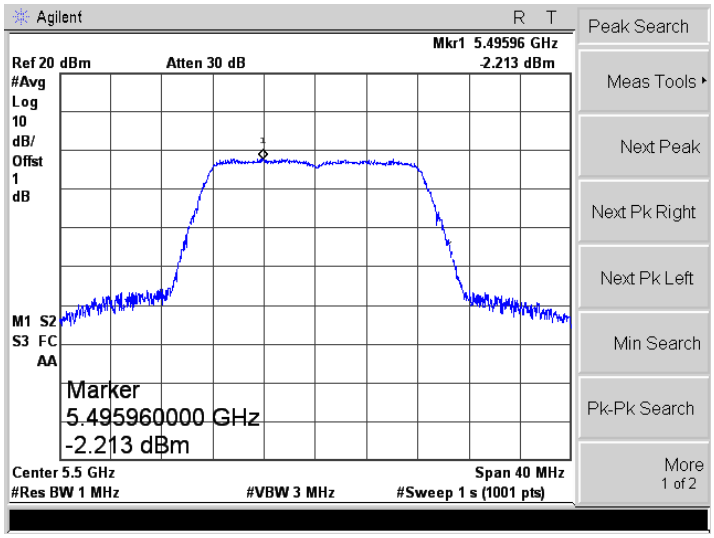
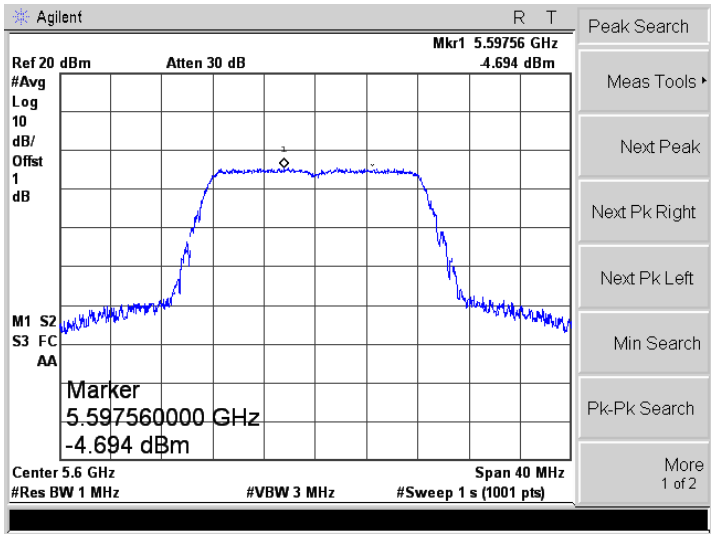
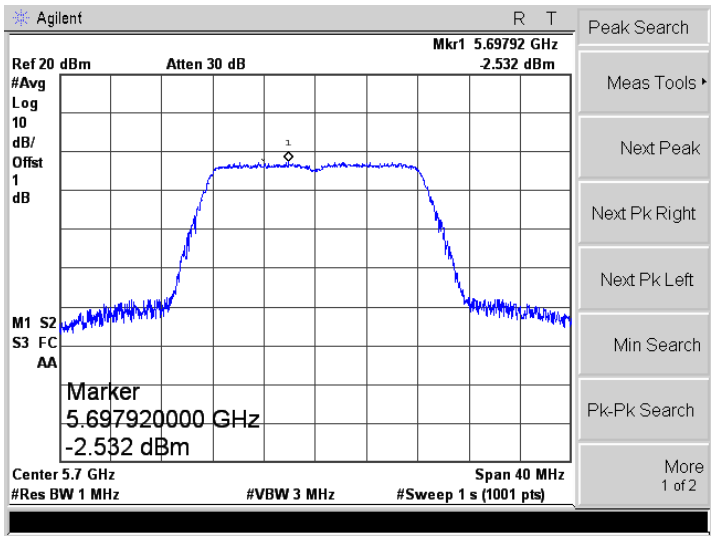
5250-5350MHz

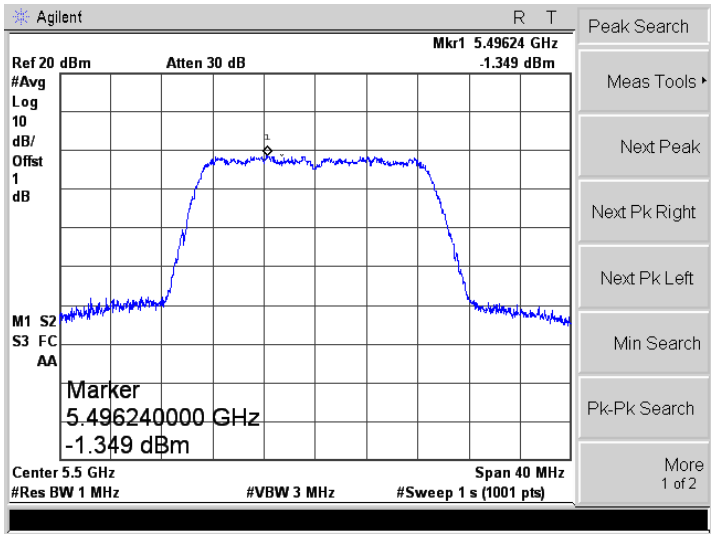
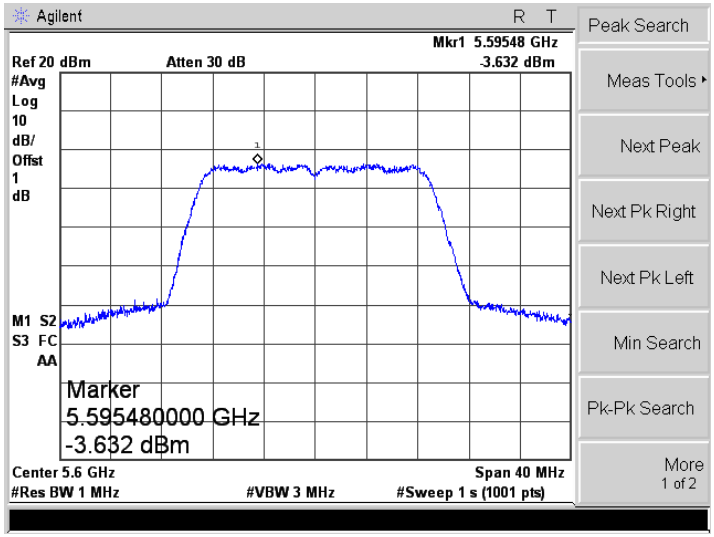
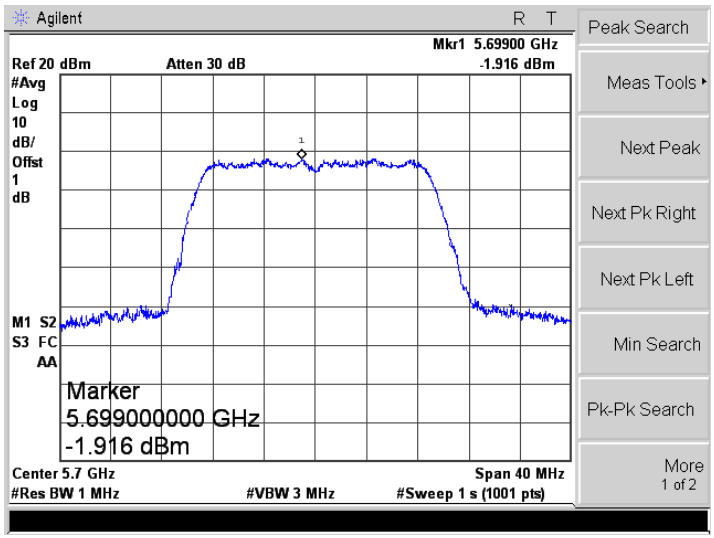
802.11a-Low	
802.11a-Middle	
802.11a-High	

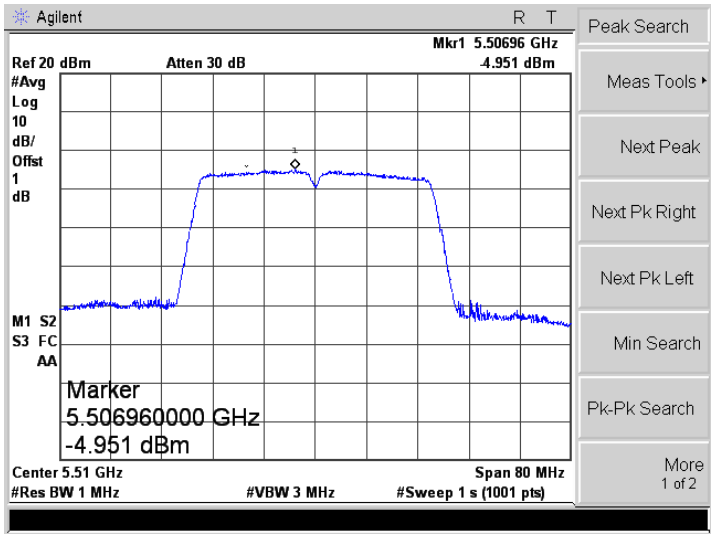
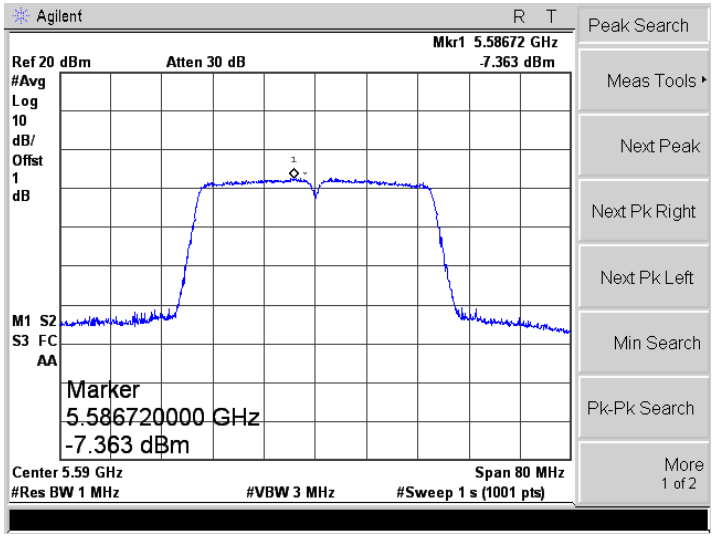
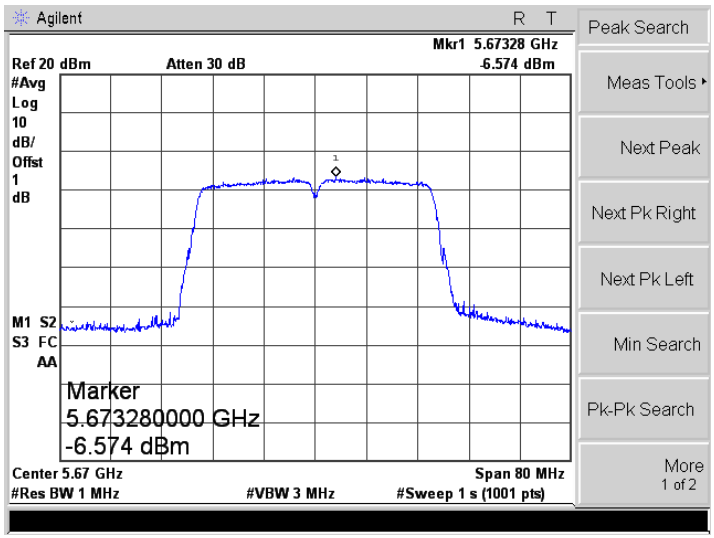
802.11n-HT20-Low	
802.11n-HT20-Middle	
802.11n-HT20-High	

802.11n-HT40-Low	
802.11n-HT40-High	

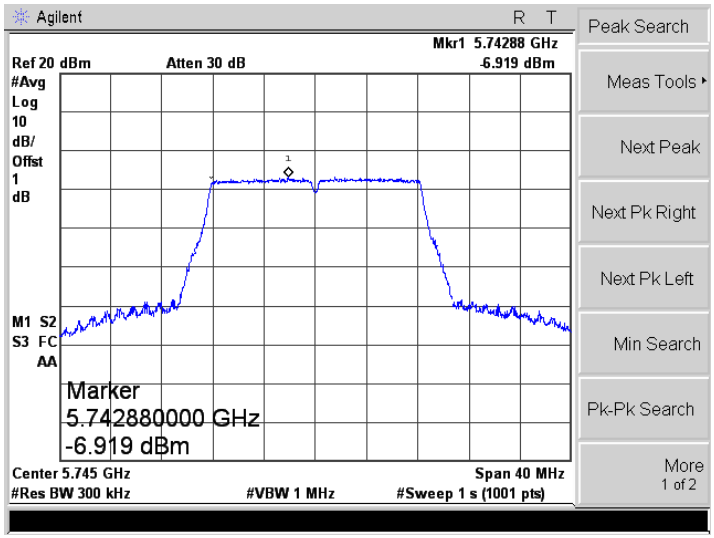
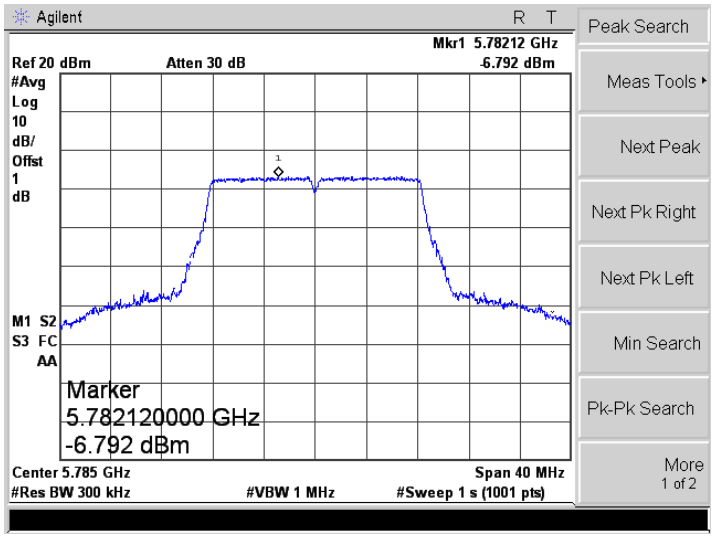
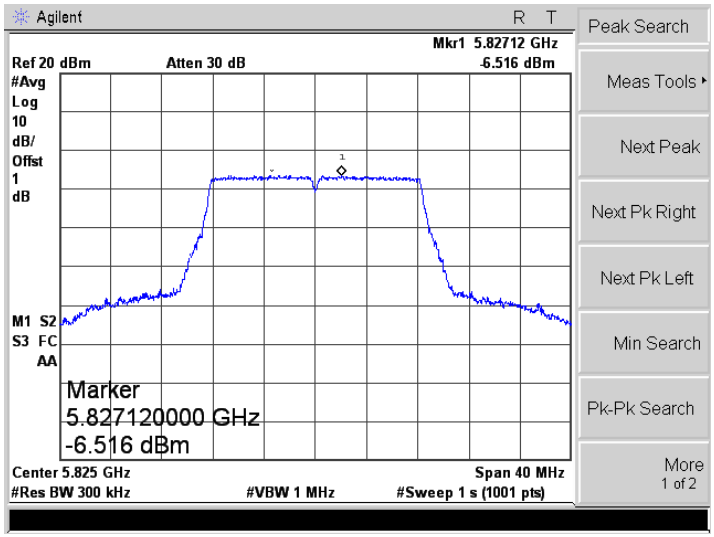
5470-5725MHz

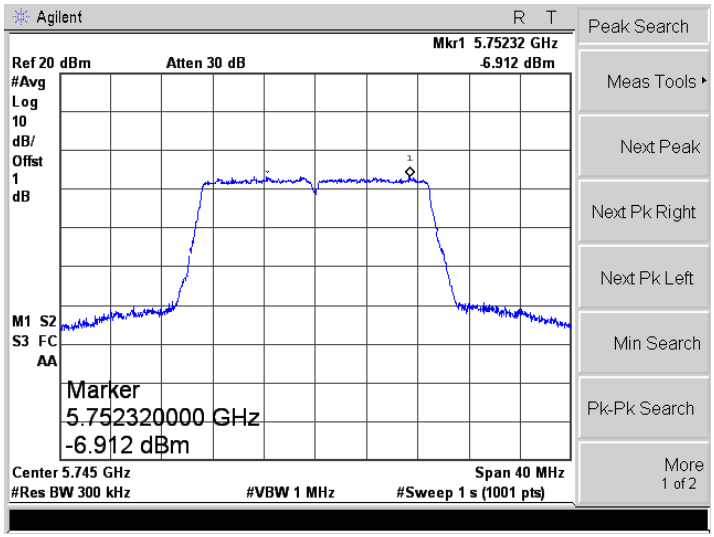
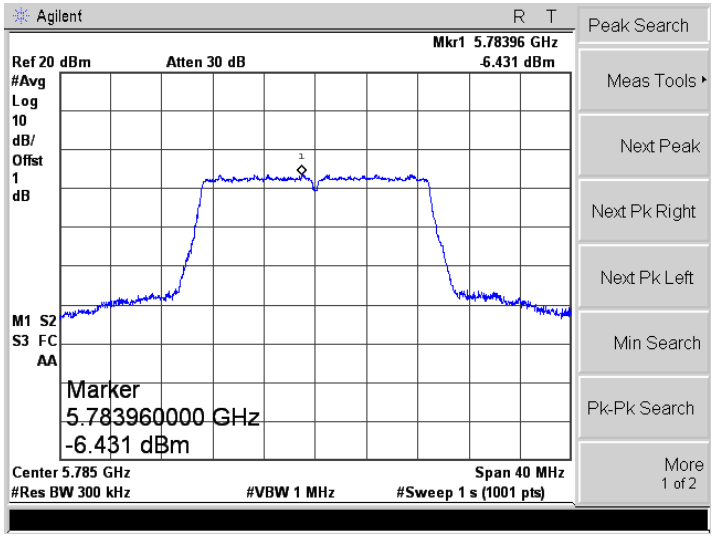
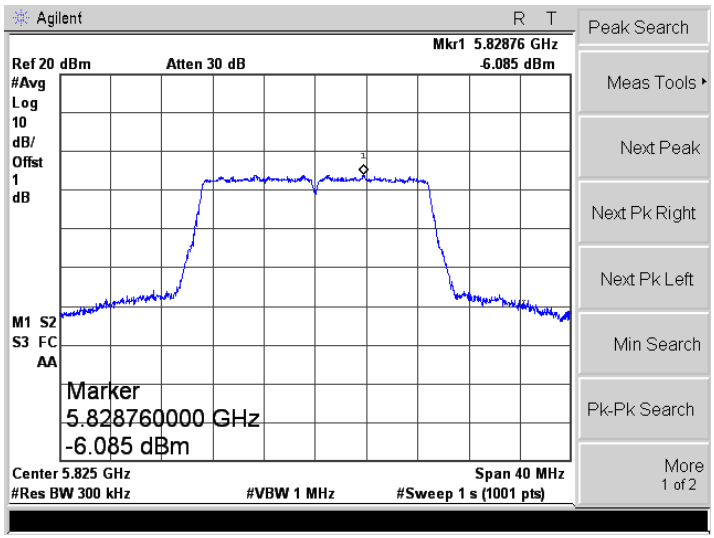
802.11a-Low	
802.11a-Middle	
802.11a-High	

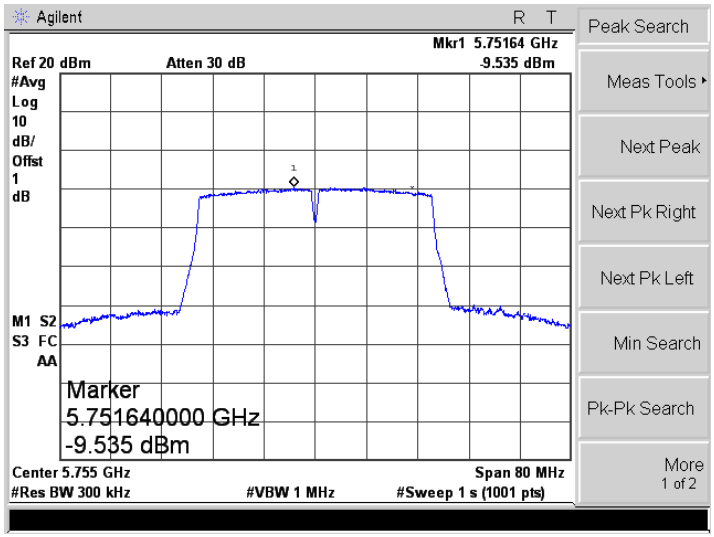
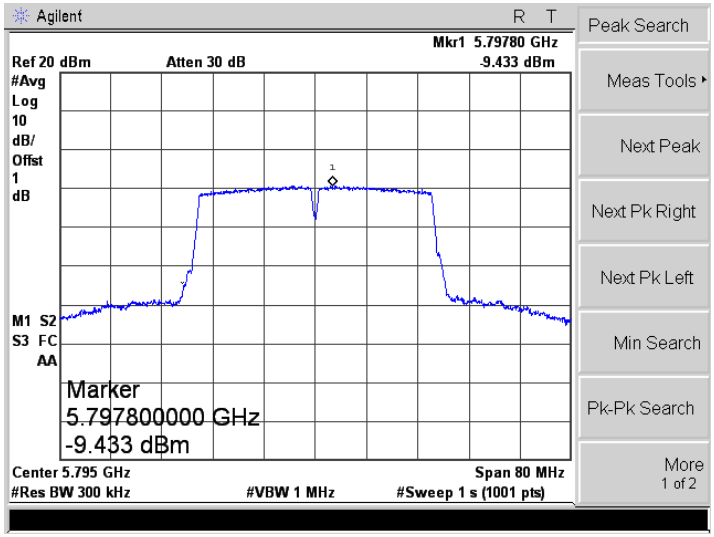
802.11n-HT20-Low	
802.11n-HT20-Middle	
802.11n-HT20-High	

802.11n-HT40-Low	
802.11n-HT40- Middle	
802.11n-HT40-High	

5725-5850MHz

802.11a-Low	
802.11a-Middle	
802.11a-High	

802.11n-HT20-Low	
802.11n-HT20-Middle	
802.11n-HT20-High	

802.11n-HT40-Low	
802.11n-HT40-High	

APPENDIX B

Emission Bandwidth and Occupied Bandwidth

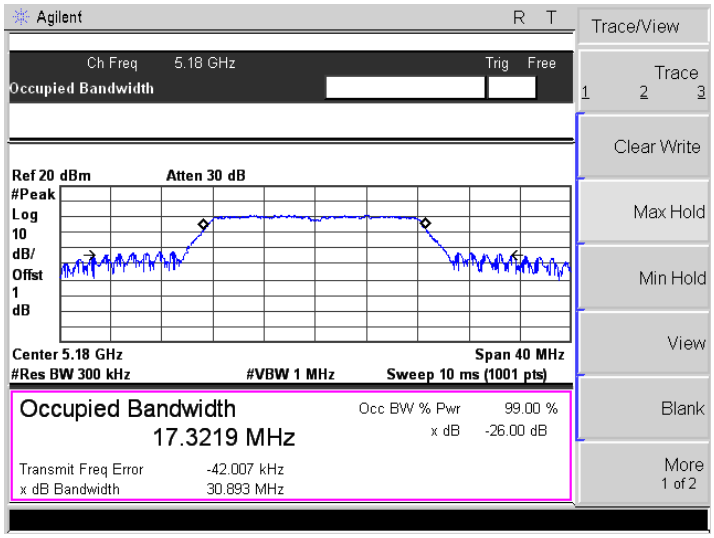
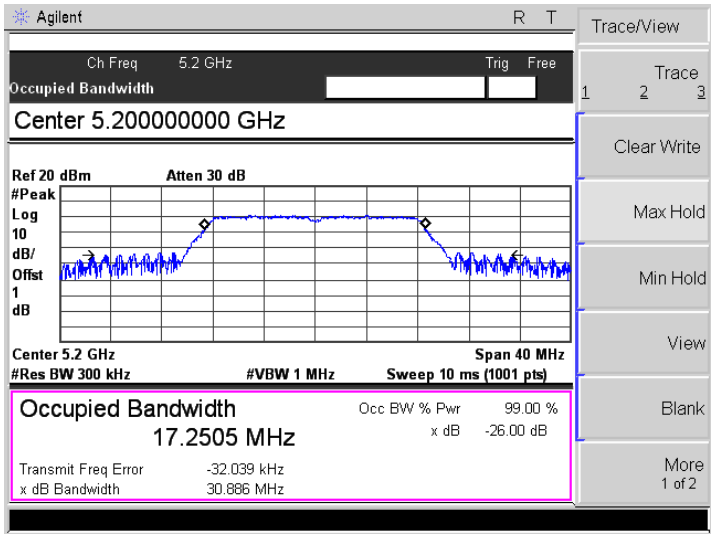
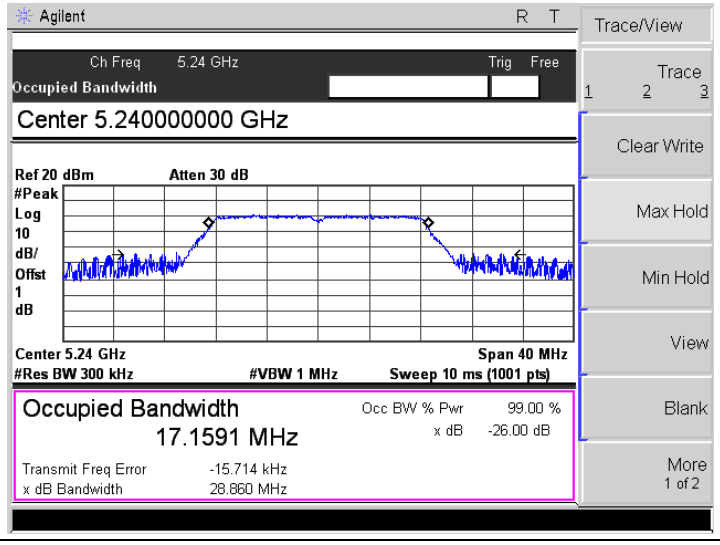
U-NII-1:5150-5250MHz				
Test Mode	**Test Channel MHz**	**26 dB Bandwidth MHz**	**99% Bandwidth MHz**	**Limit MHz**
802.11a	5180	30.8930	17.3219	Pass
	5200	30.8860	17.2505	Pass
	5240	28.8600	17.1591	Pass
802.11n-HT20	5180	20.9840	18.0181	Pass
	5200	20.8520	17.9903	Pass
	5240	20.9240	18.0013	Pass
802.11n-HT40	5190	46.0530	36.1987	Pass
	5230	44.8450	36.2510	Pass

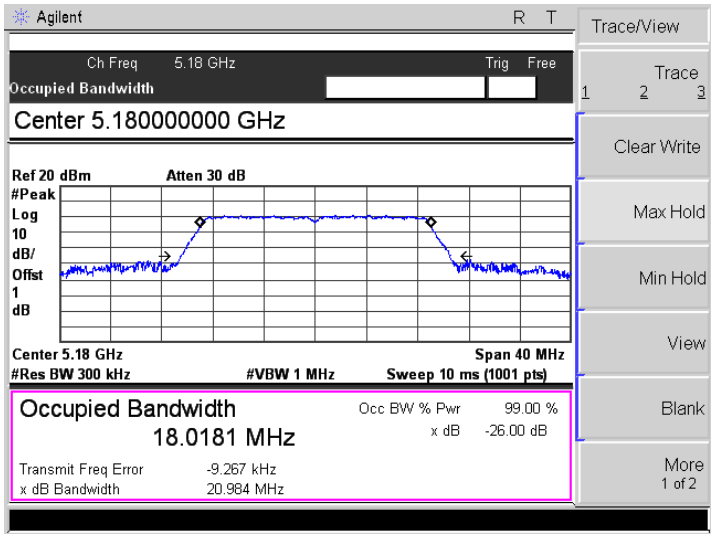
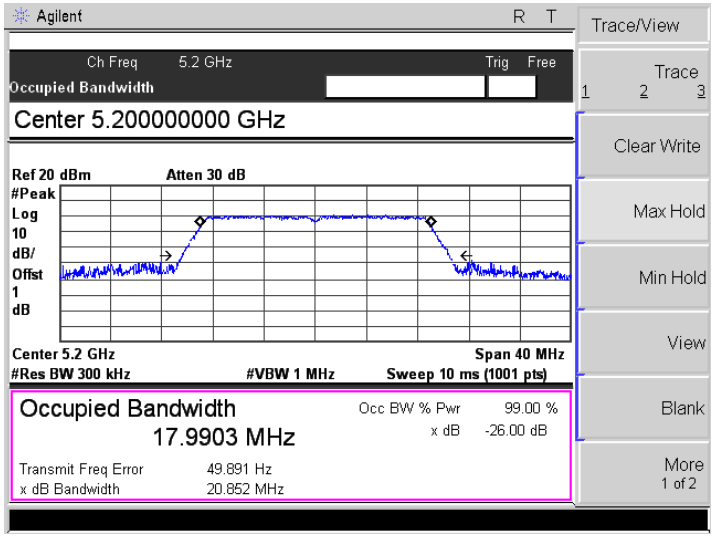
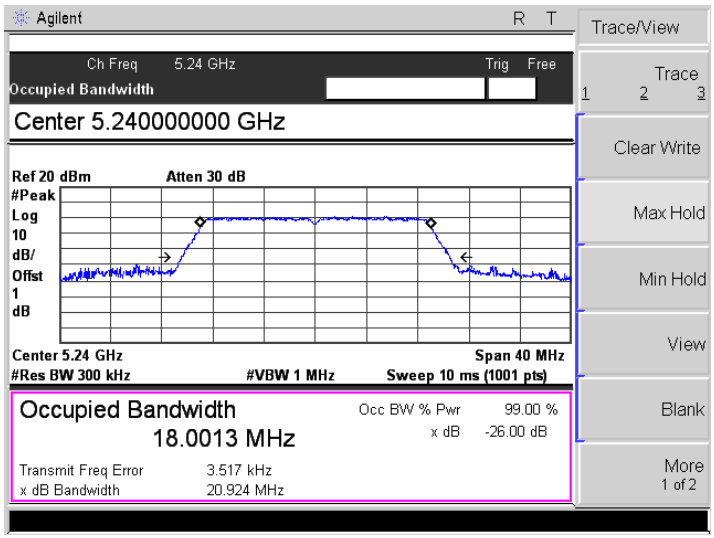
U-NII-2A: 5250-5350MHz				
Test Mode	**Test Channel MHz**	**26 dB Bandwidth MHz**	**99% Bandwidth MHz**	**Limit MHz**
802.11a	5260	28.7360	17.2282	Pass
	5280	26.5210	17.1596	Pass
	5320	28.8140	17.2531	Pass
802.11n-HT20	5260	21.0070	18.0294	Pass
	5280	20.9170	18.0008	Pass
	5320	20.9410	17.9856	Pass
802.11n-HT40	5270	44.0530	36.2554	Pass
	5310	44.1830	36.2589	Pass

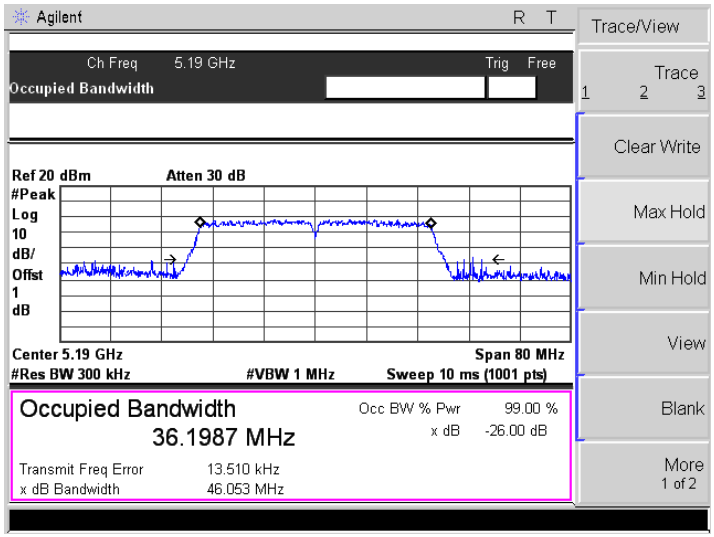
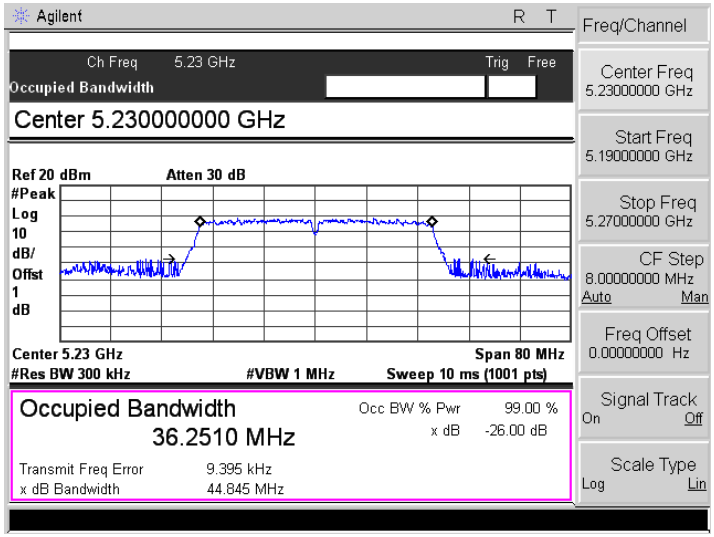
U-NII-2C: 5470-5725MHz				
Test Mode	**Test Channel MHz**	**26 dB Bandwidth MHz**	**99% Bandwidth MHz**	**Limit MHz**
802.11a	5500	30.9630	17.3761	Pass
	5580	30.6010	17.2288	Pass
	5700	28.8140	17.2762	Pass
802.11n-HT20	5500	20.8300	18.0118	Pass
	5580	20.8980	18.0011	Pass
	5700	20.8970	18.0305	Pass
802.11n-HT40	5510	62.8030	37.1439	Pass
	5550	54.0270	36.8631	Pass
	5670	54.6500	36.8031	Pass

U-NII-3: 5725-5850MHz				
Test Mode	**Test Channel MHz**	**6 dB Bandwidth MHz**	**99% Bandwidth MHz**	**Limit MHz**
802.11a	5745	16.3630	17.4193	≥500
	5785	16.3440	17.3149	≥500
	5825	16.3600	17.3576	≥500
802.11n-HT20	5745	17.6010	18.0954	≥500
	5785	17.6190	18.1796	≥500
	5825	17.5720	18.1685	≥500
802.11n-HT40	5755	35.5840	36.3807	≥500
	5795	35.6700	36.4061	≥500

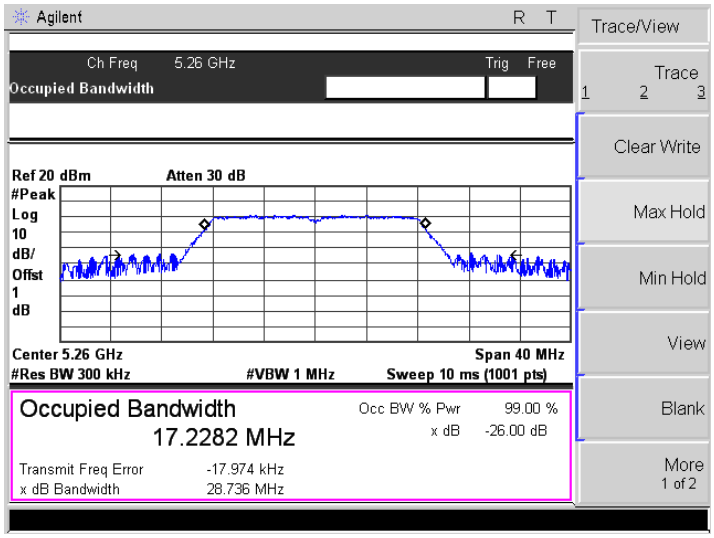
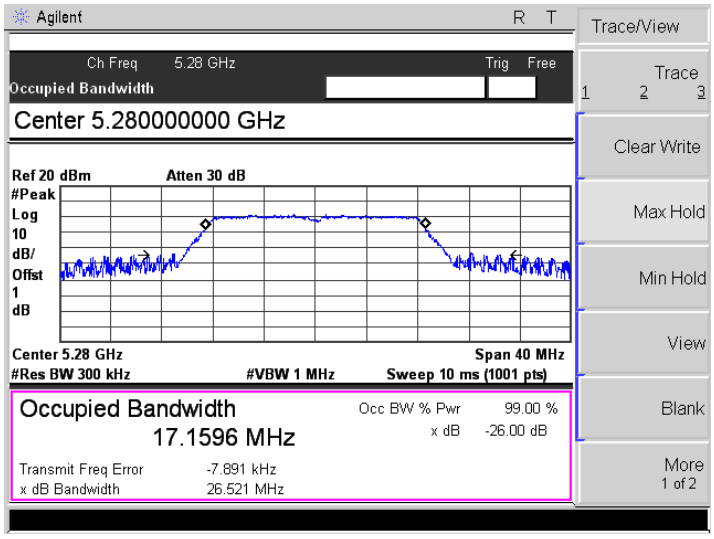
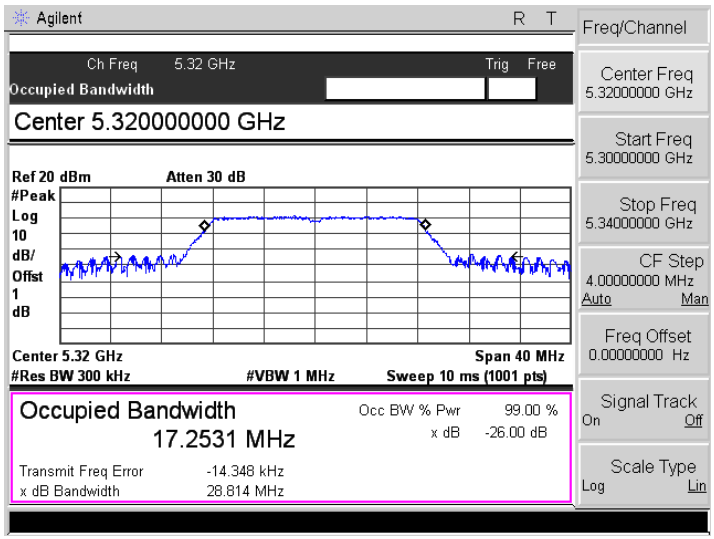
5150-5250MHz

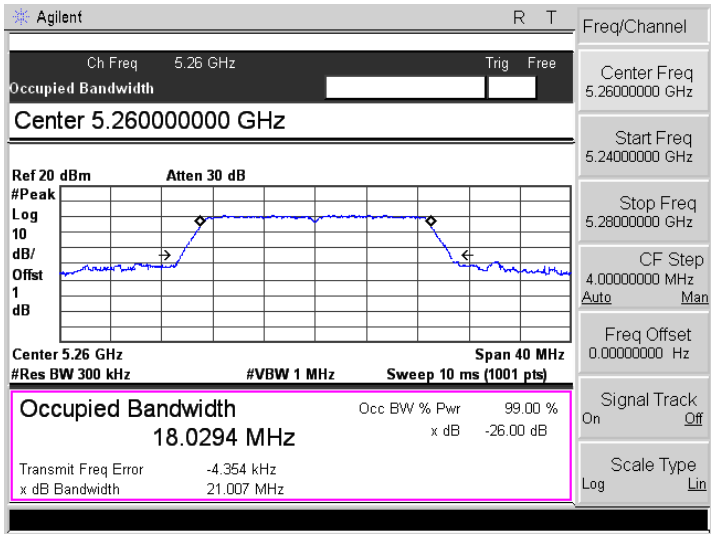
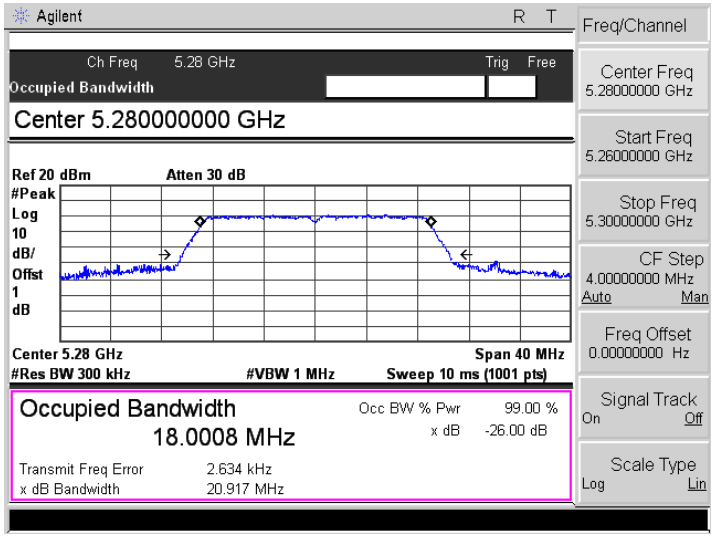
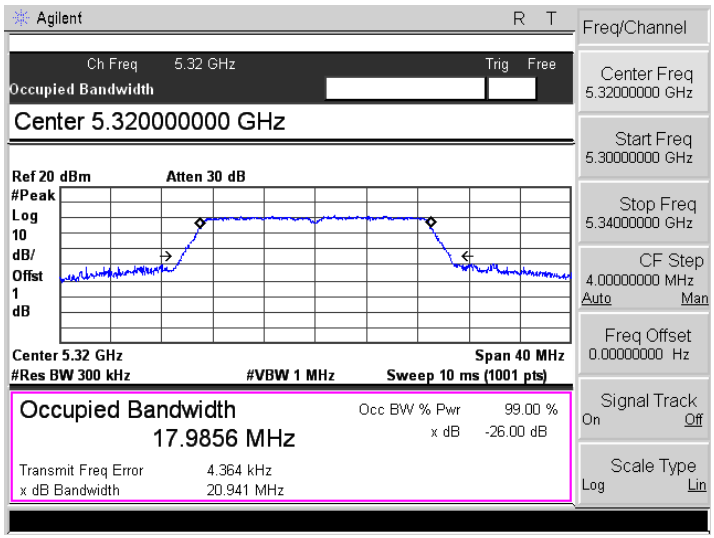
802.11a-Low	
802.11a-Middle	
802.11a-High	

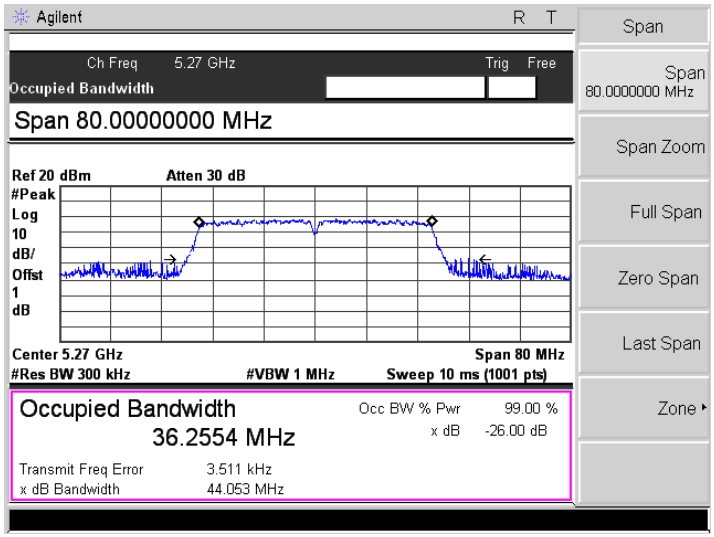
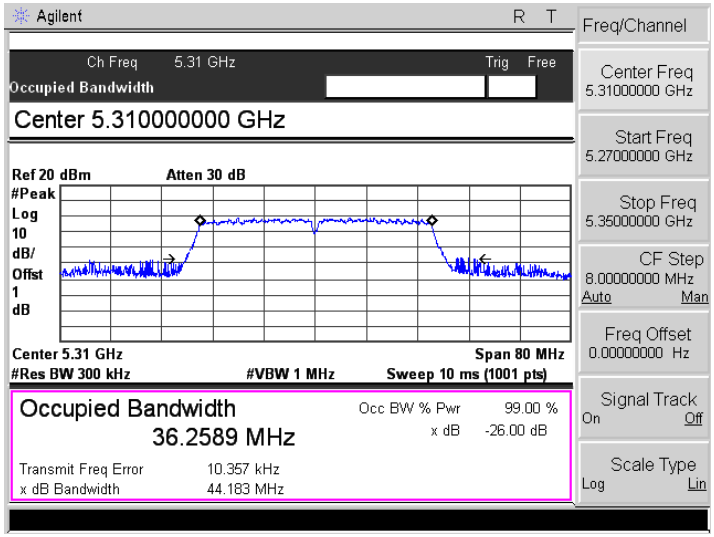
802.11n-HT20-Low	
802.11n-HT20-Middle	
802.11n-HT20-High	

802.11n-HT40-Low	
802.11n-HT40-High	

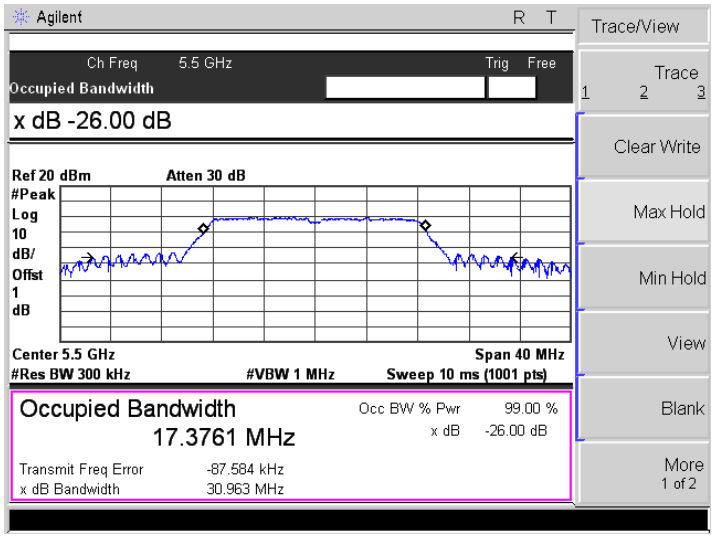
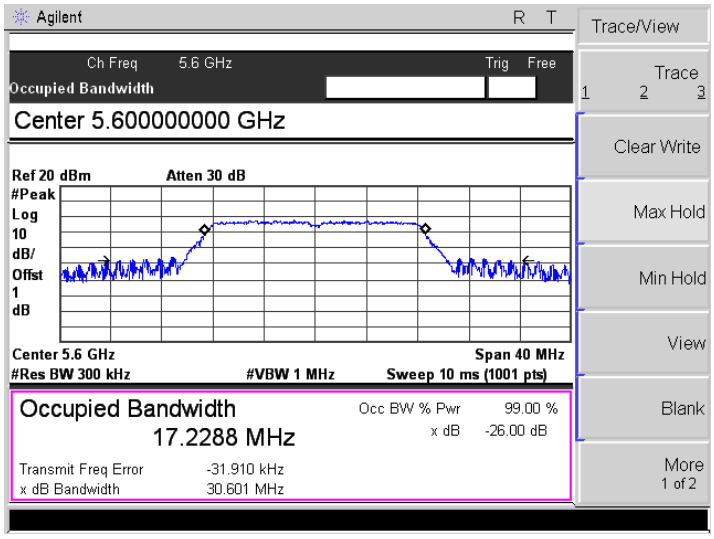
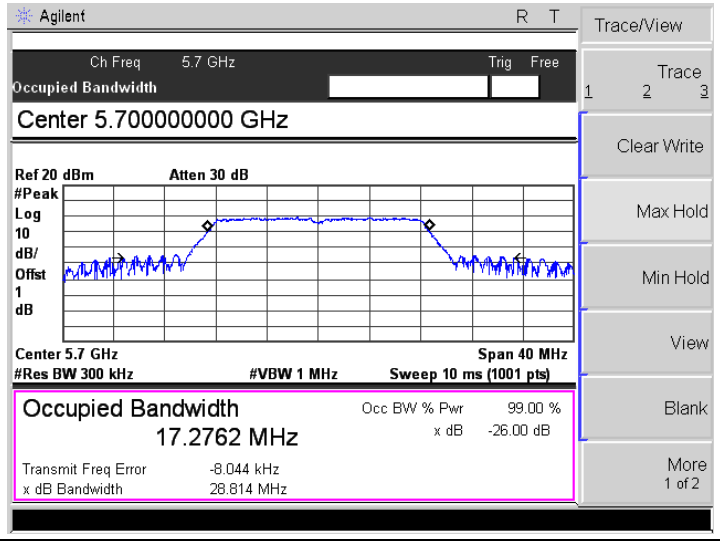
5250-5350MHz

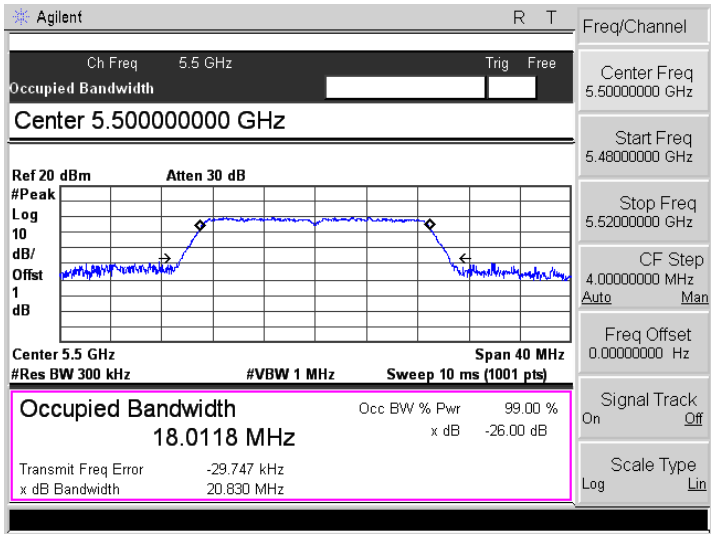
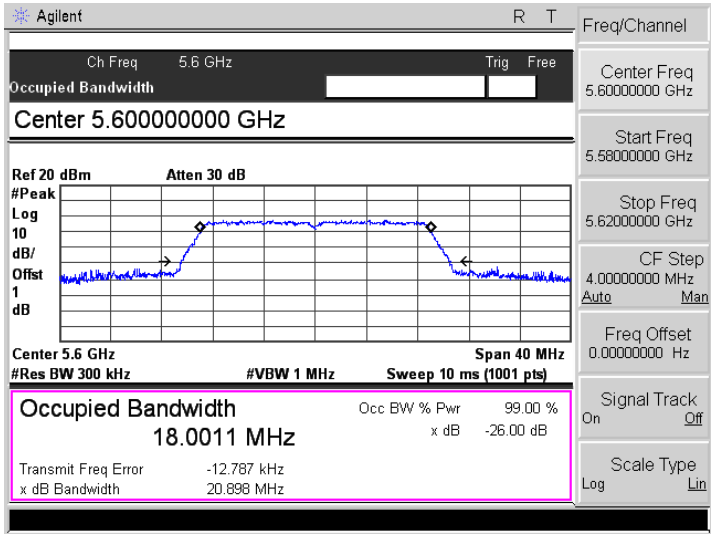
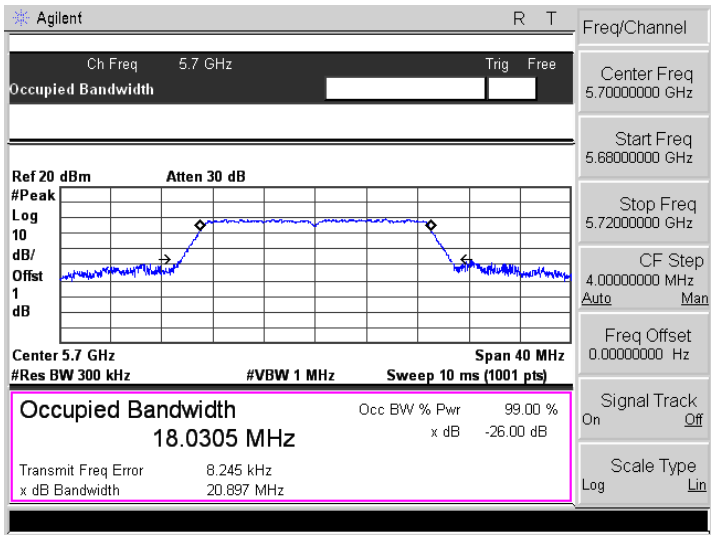
802.11a-Low	
802.11a-Middle	
802.11a-High	

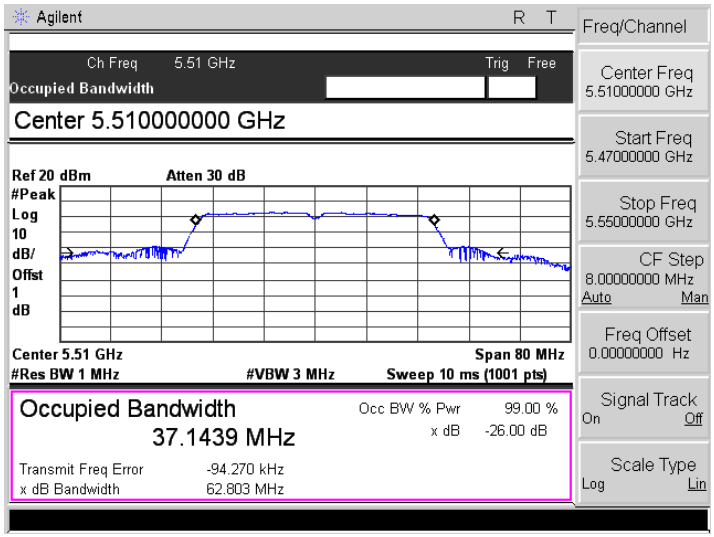
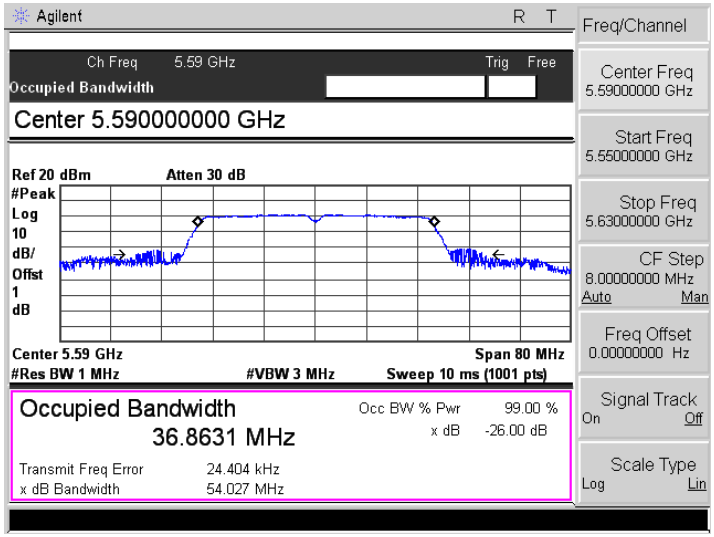
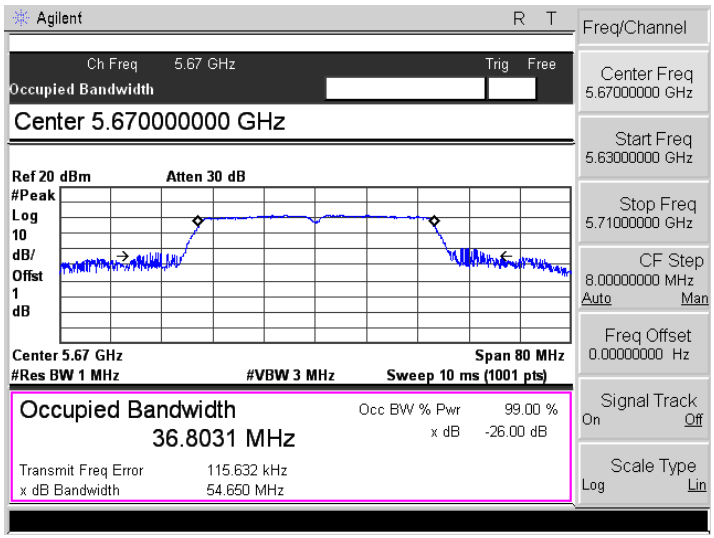
802.11n-HT20-Low	
802.11n-HT20-Middle	
802.11n-HT20-High	

802.11n-HT40-Low	
802.11n-HT40-High	

5470-5725MHz

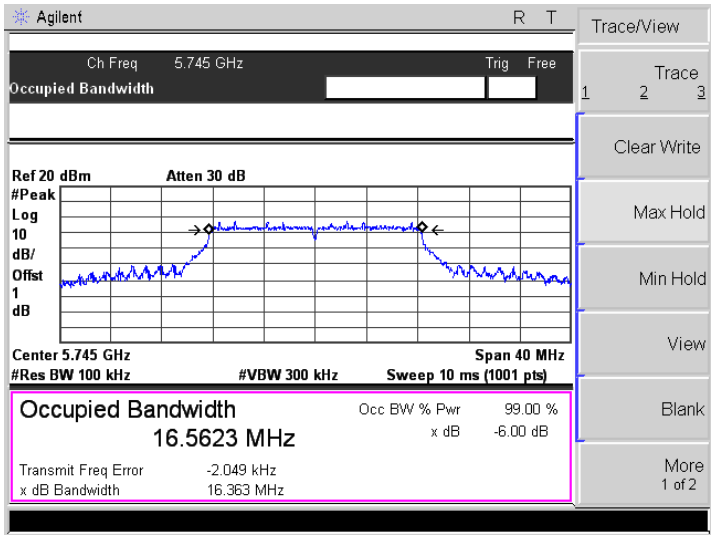
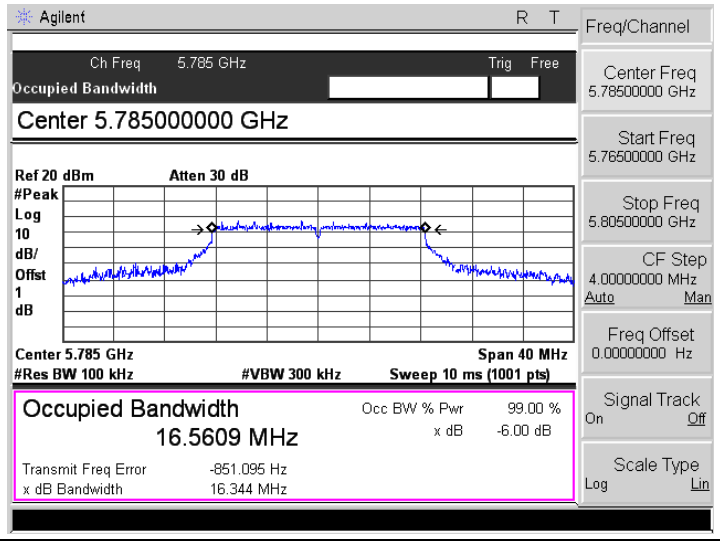
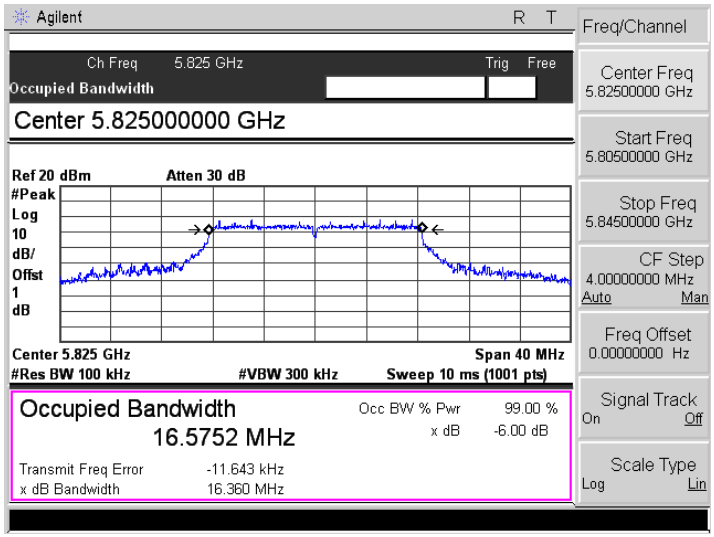
802.11a-Low	
802.11a-Middle	
802.11a-High	

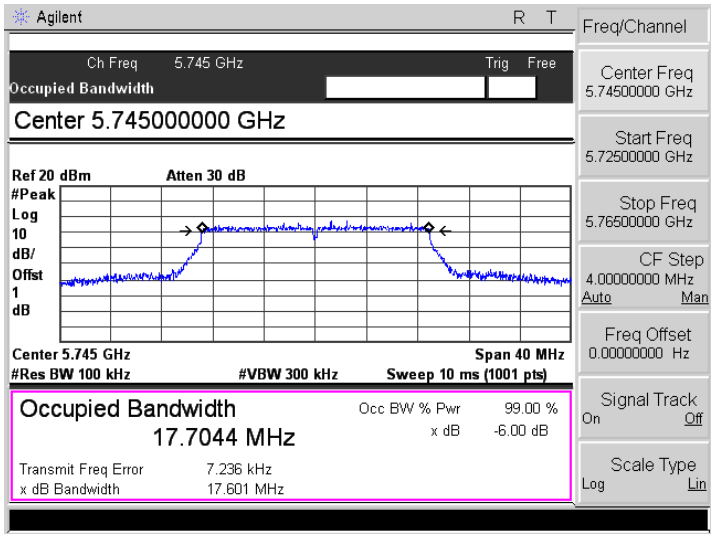
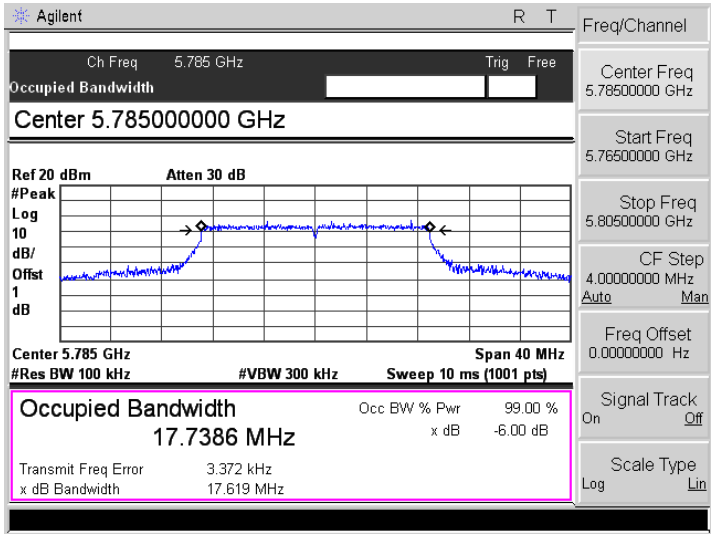
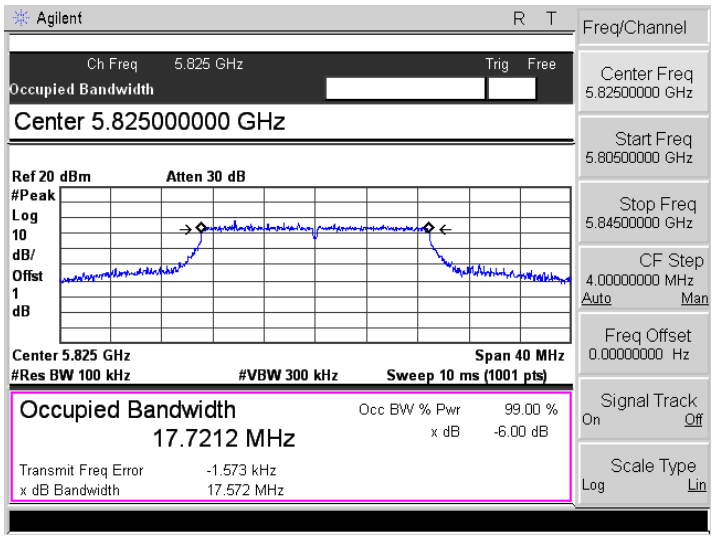
802.11n-HT20-Low	
802.11n-HT20-Middle	
802.11n-HT20-High	

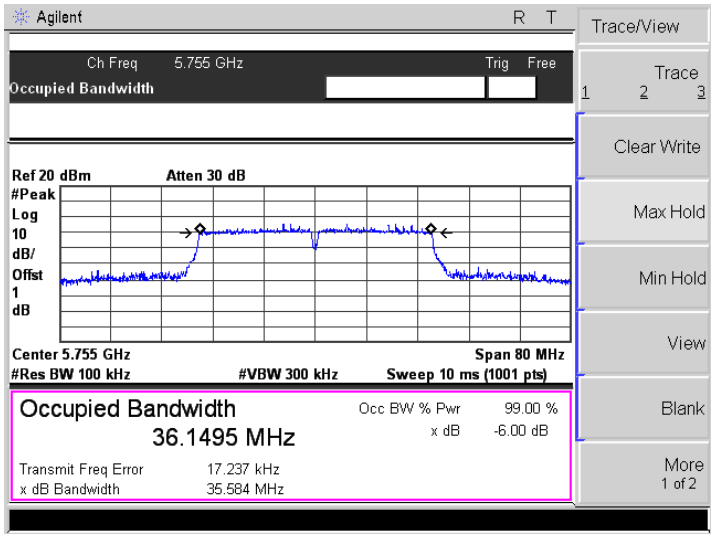
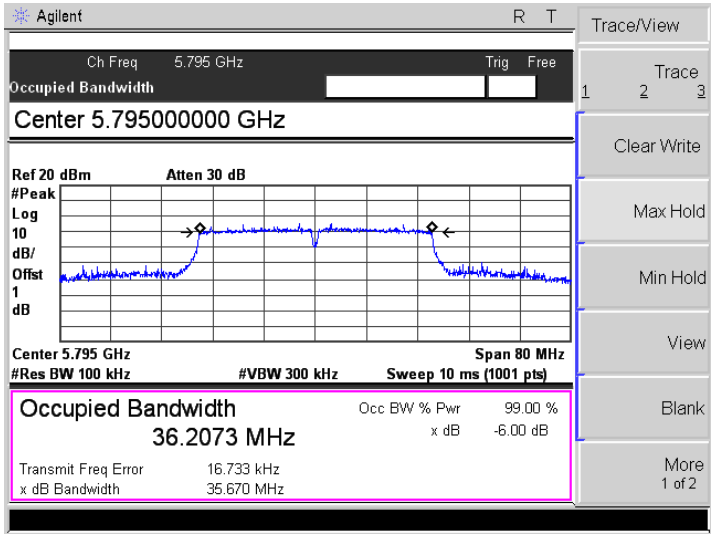
802.11n-HT40-Low	
802.11n-HT40- Middle	
802.11n-HT40-High	

5725-5850MHz

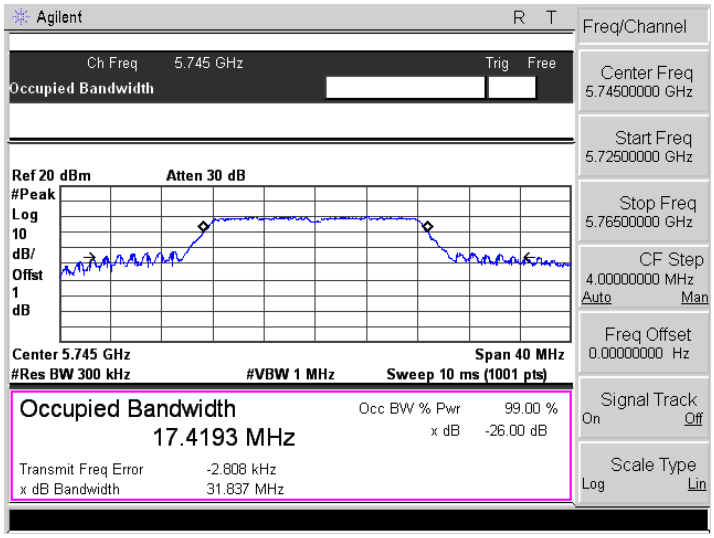
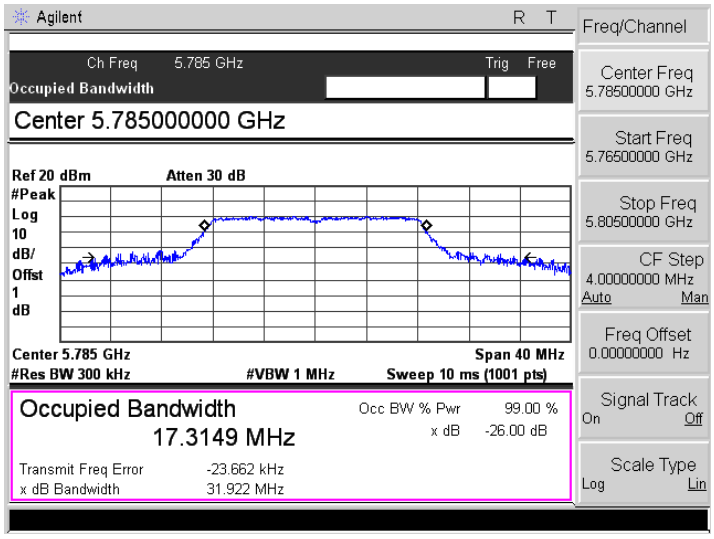
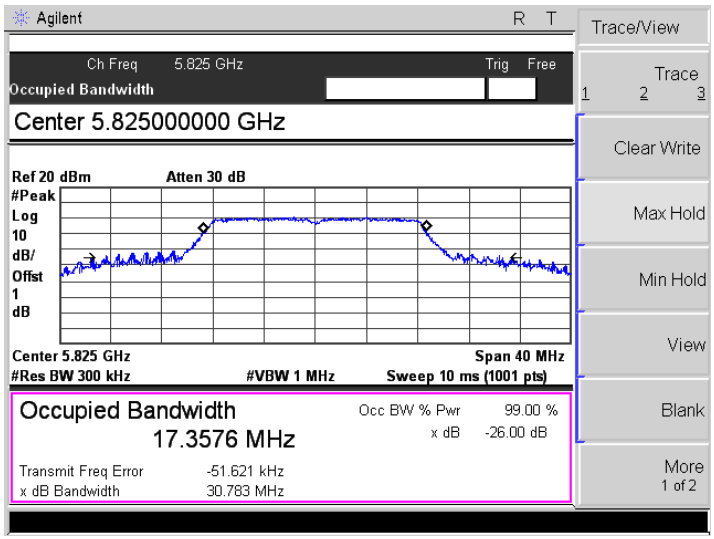
6 dB Bandwidth

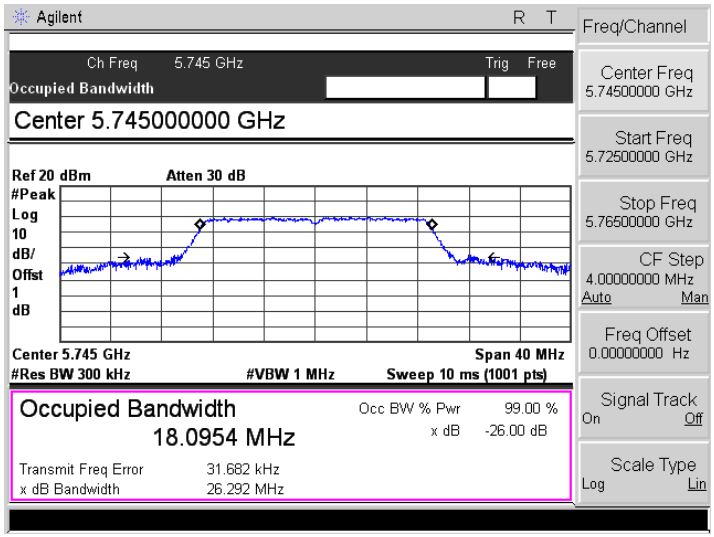
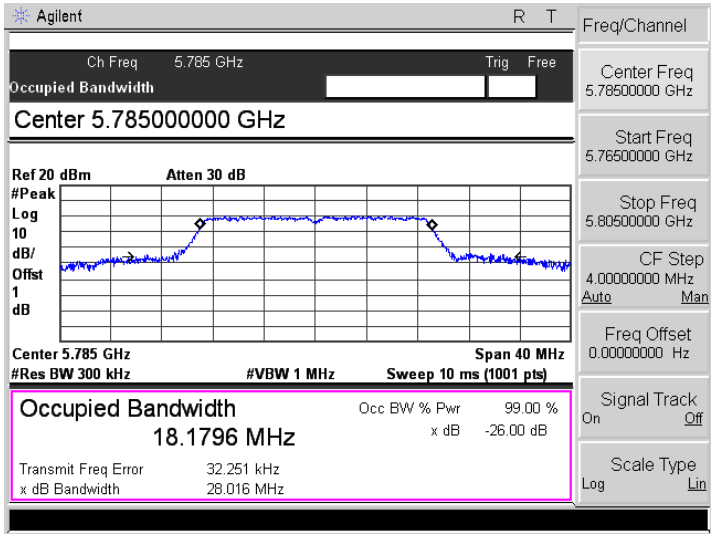
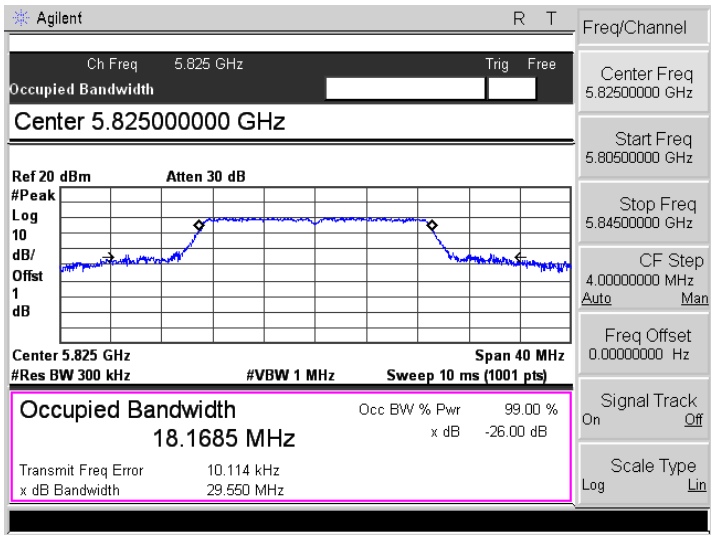
802.11a-Low	
802.11a-Middle	
802.11a-High	

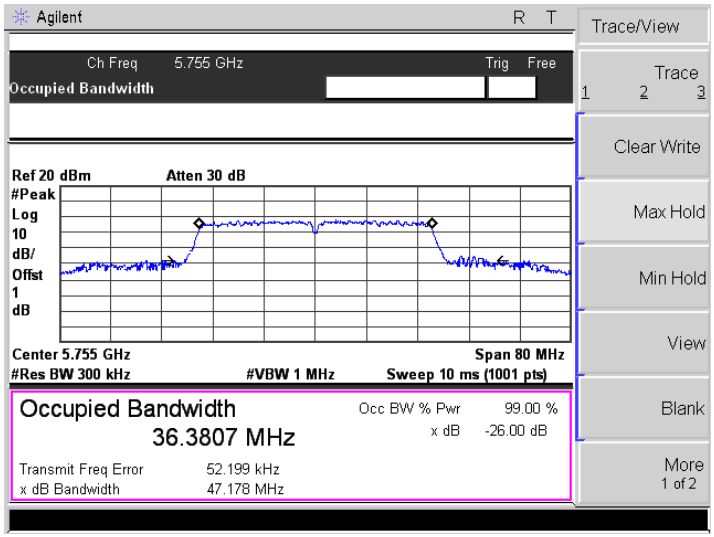
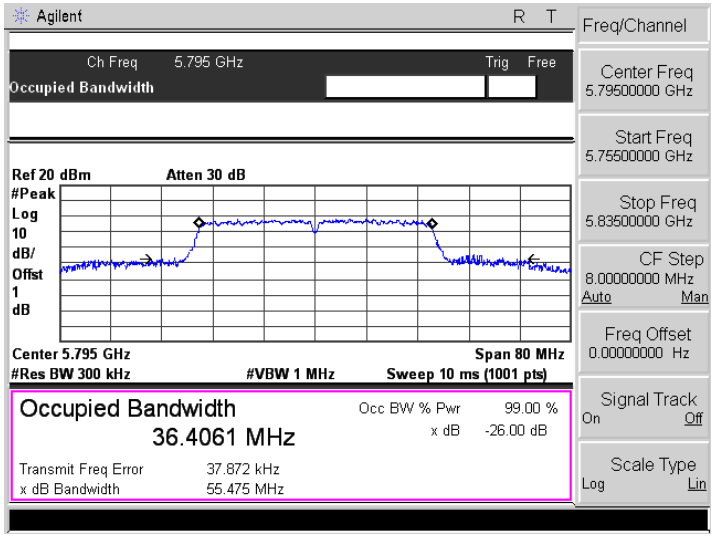
802.11n-HT20-Low	
802.11n-HT20-Middle	
802.11n-HT20-High	

802.11n-HT40-Low	
802.11n-HT40-High	

99% Bandwidth

802.11a-Low	
802.11a-Middle	
802.11a-High	

802.11n-HT20-Low	
802.11n-HT20-Middle	
802.11n-HT20-High	

802.11n-HT40-Low	
802.11n-HT40-High	

APPENDIX C

Maximum Conducted Output Power

U-NII-1:5150-5250MHz			
Test mode	Frequency MHz	Output Power dBm	Limit dBm
802.11a	5180	8.89	23.98
	5200	8.87	23.98
	5240	8.62	23.98
802.11n-HT20	5180	8.51	23.98
	5200	8.23	23.98
	5240	8.52	23.98
802.11n-HT40	5190	8.93	23.98
	5230	9.04	23.98

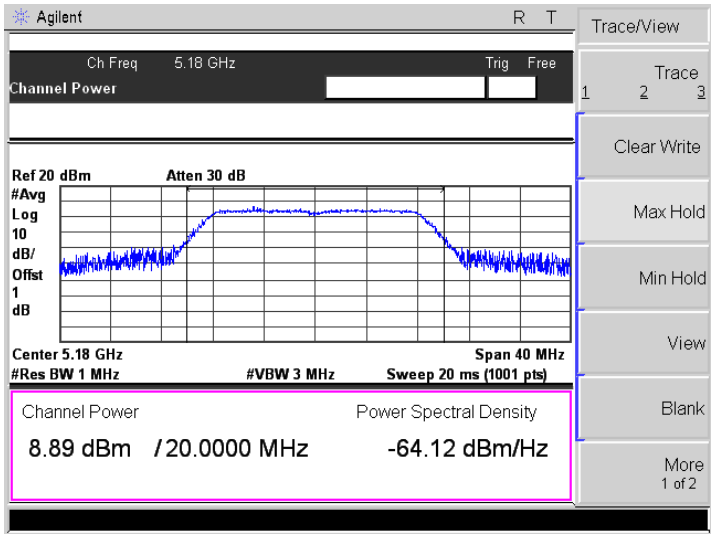
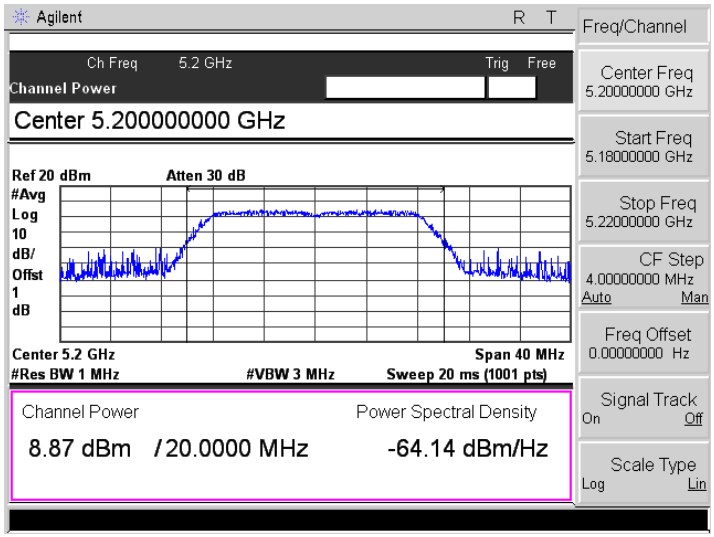
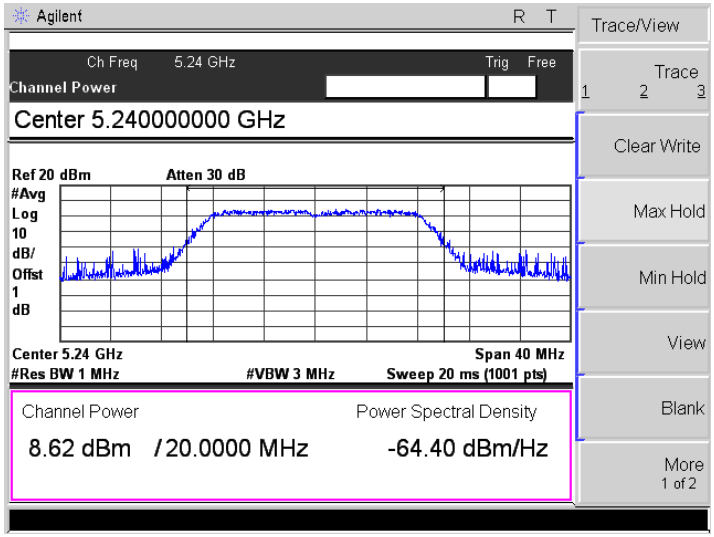
U-NII-2A: 5250-5350MHz			
Test mode	Frequency MHz	Output Power dBm	Limit dBm
802.11a	5260	8.84	23.98
	5280	8.72	23.98
	5320	9.14	23.98
802.11n-HT20	5260	9.63	23.98
	5280	8.45	23.98
	5320	9.07	23.98
802.11n-HT40	5270	9.08	23.98
	5310	9.32	23.98

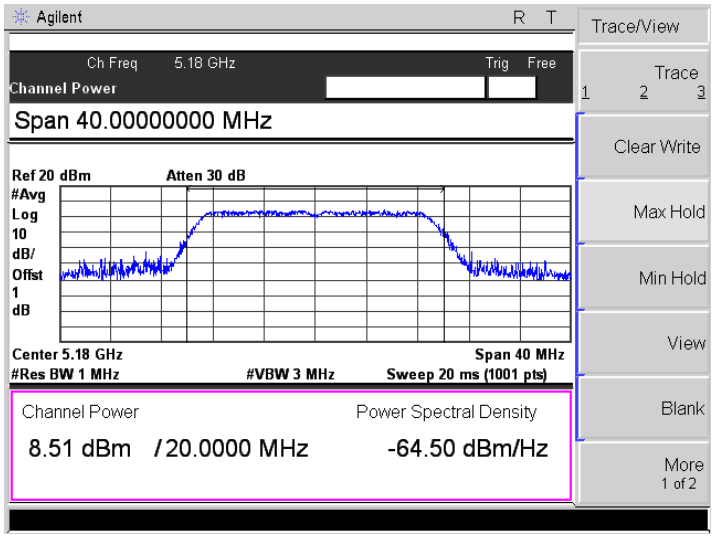
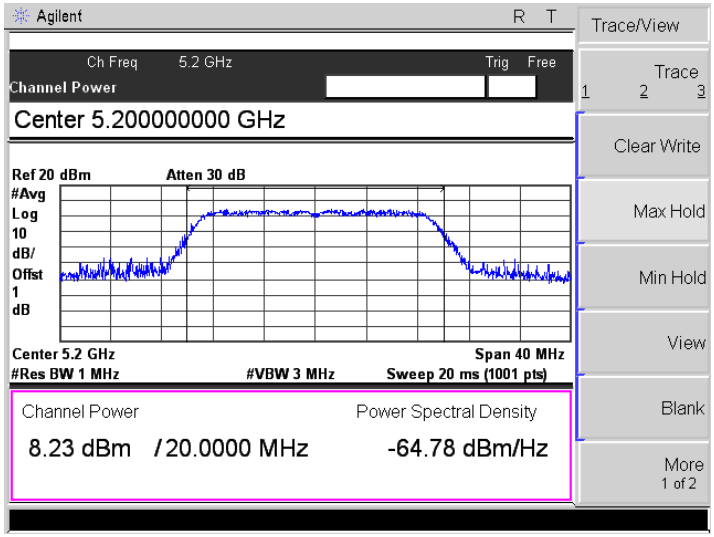
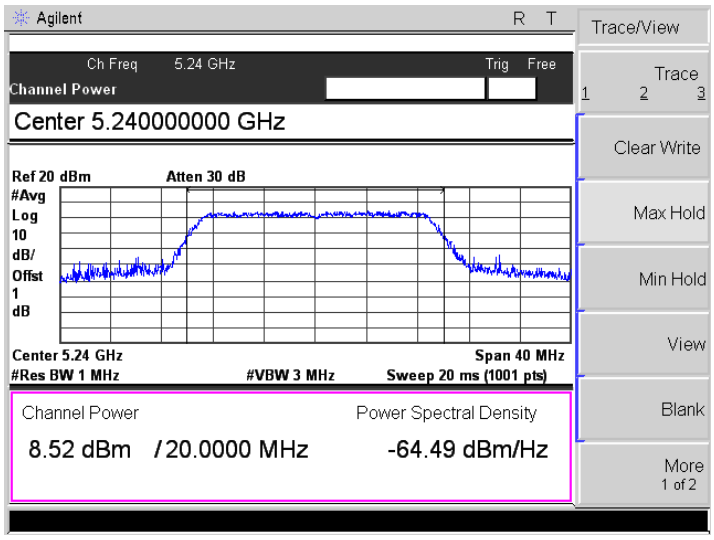
U-NII-2C: 5470-5725MHz			
Test mode	Frequency MHz	Output Power dBm	Limit dBm
802.11a	5500	7.49	23.98
	5580	5.38	23.98
	5700	6.72	23.98
802.11n-HT20	5500	7.98	23.98
	5580	4.76	23.98
	5700	7.19	23.98
802.11n-HT40	5510	7.63	23.98
	5550	5.74	23.98
	5670	6.15	23.98

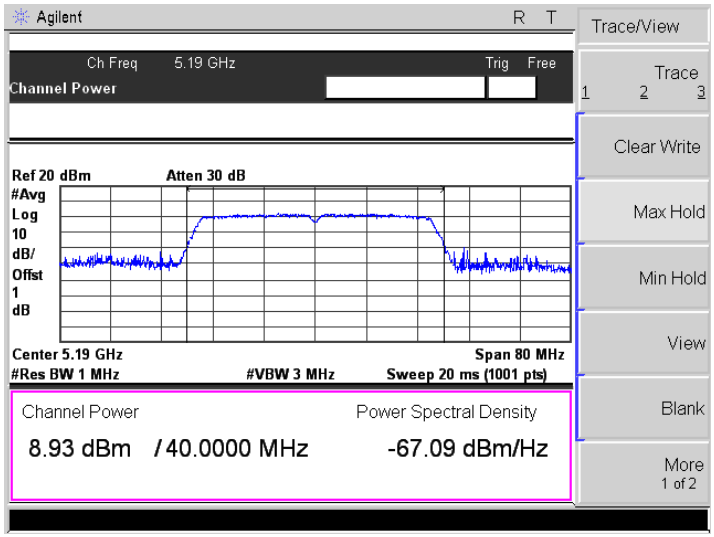
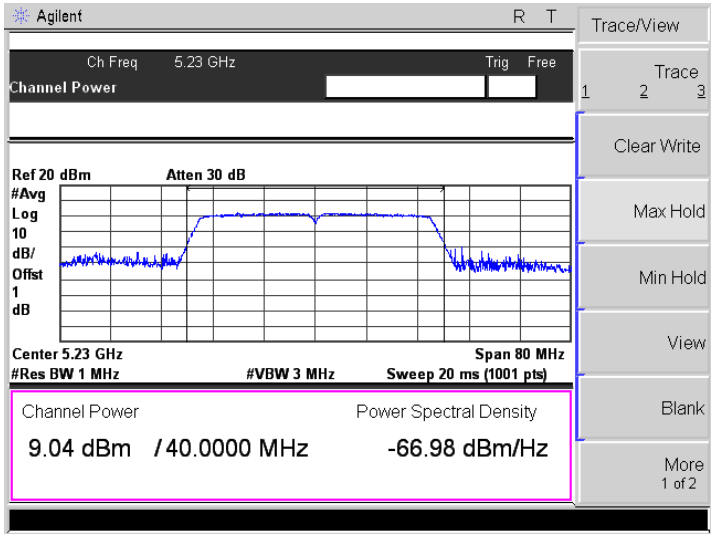
U-NII-3: 5725-5850MHz			
Test mode	Frequency MHz	Output Power dBm	Limit dBm
802.11a	5745	7.81	30.00
	5785	8.02	30.00
	5825	8.50	30.00
802.11n-HT20	5745	8.17	30.00
	5785	7.54	30.00
	5825	8.98	30.00
802.11n-HT40	5755	8.14	30.00
	5795	8.54	30.00

Note: the EUT does not support transmit power control (TPC) required.

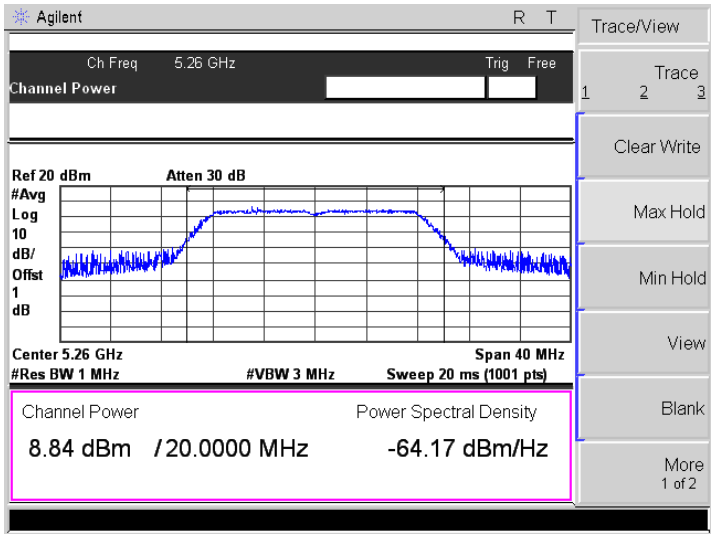
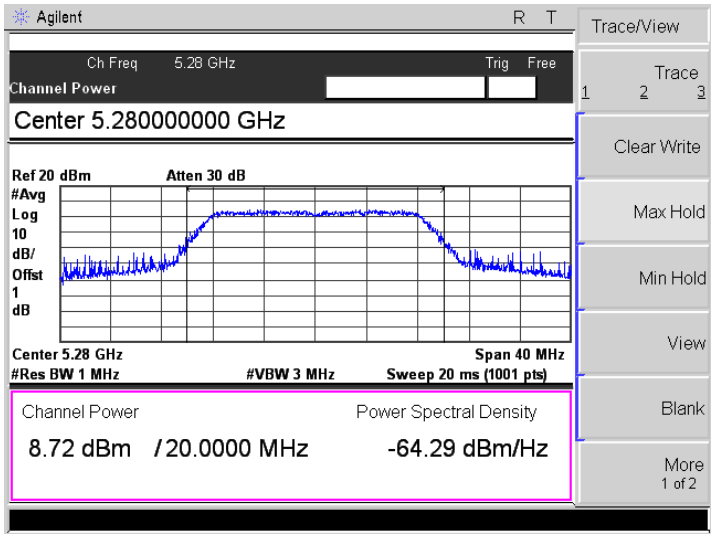
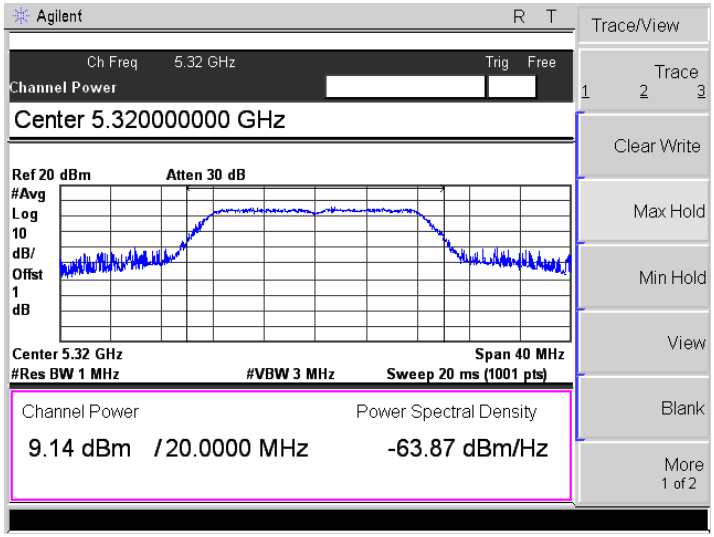
5150-5250MHz

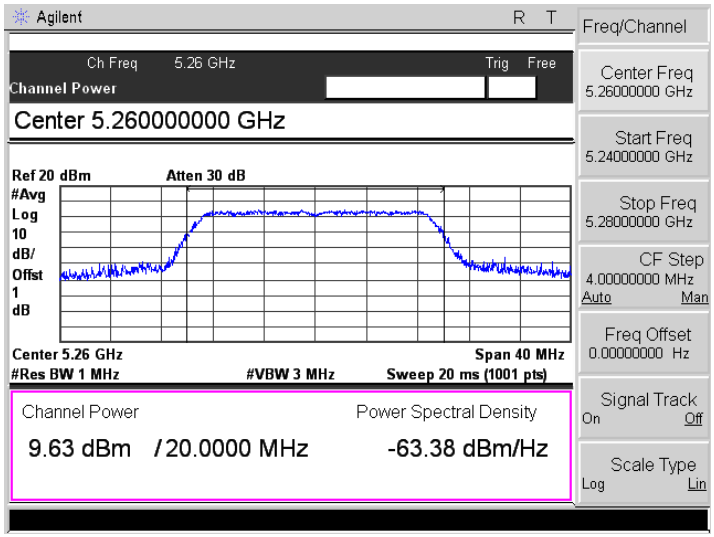
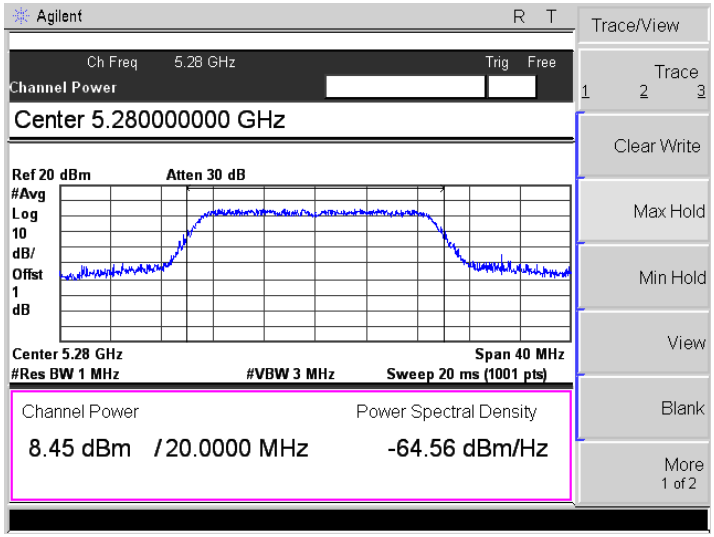
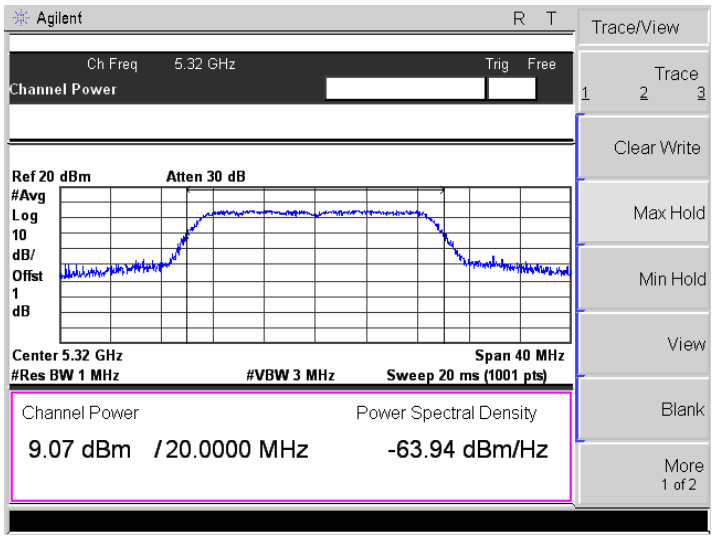
802.11a-Low	
802.11a-Middle	
802.11a-High	

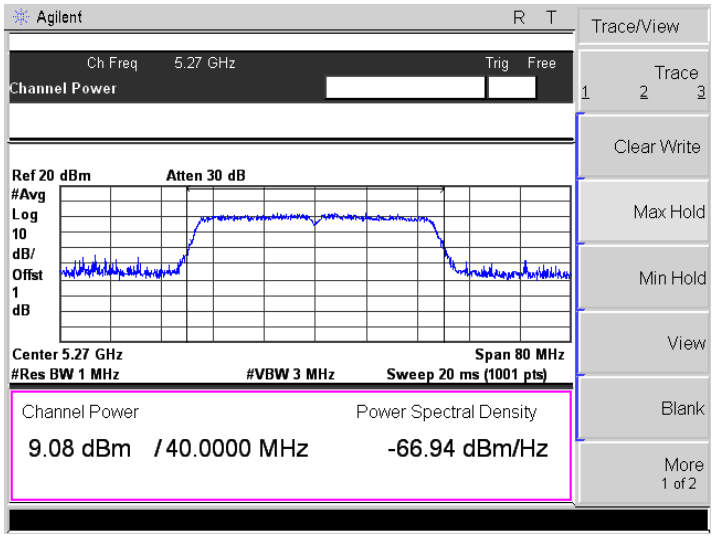
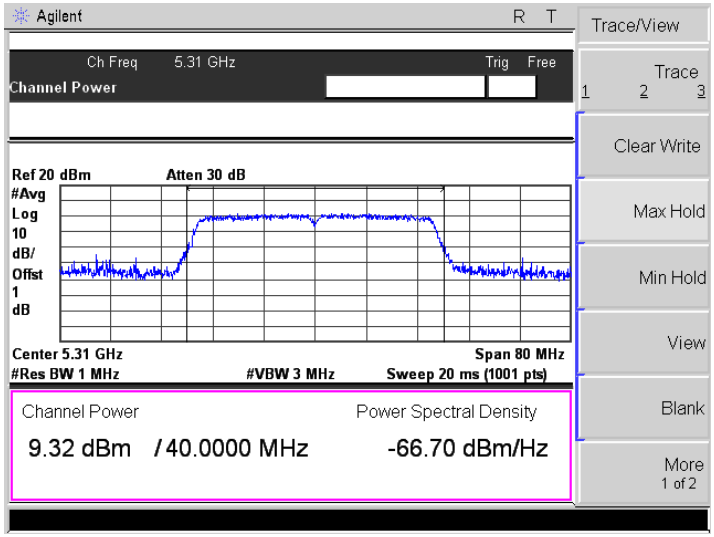
802.11n-HT20-Low	
802.11n-HT20-Middle	
802.11n-HT20-High	

802.11n-HT40-Low	
802.11n-HT40-High	

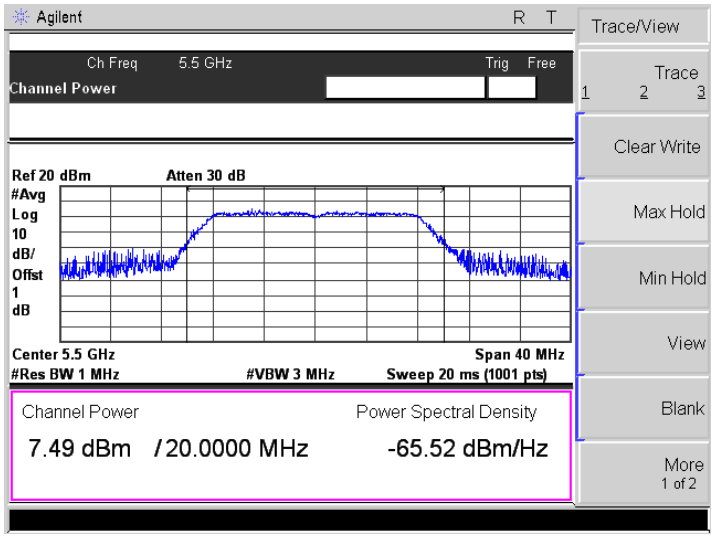
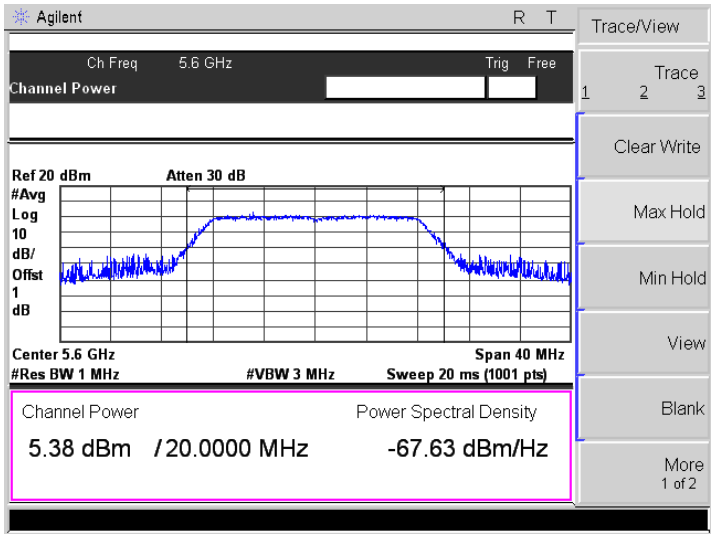
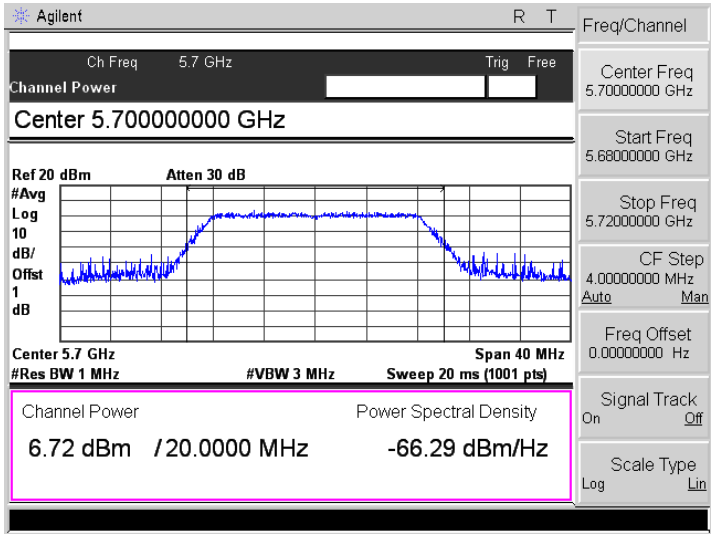
5250-5350MHz

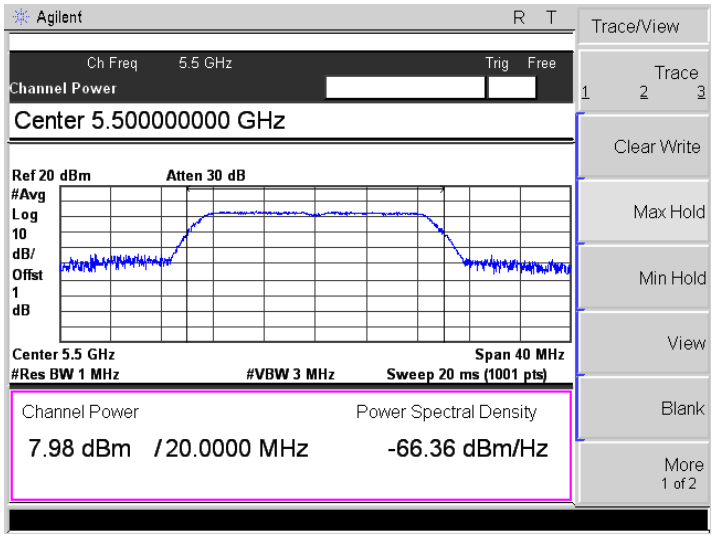
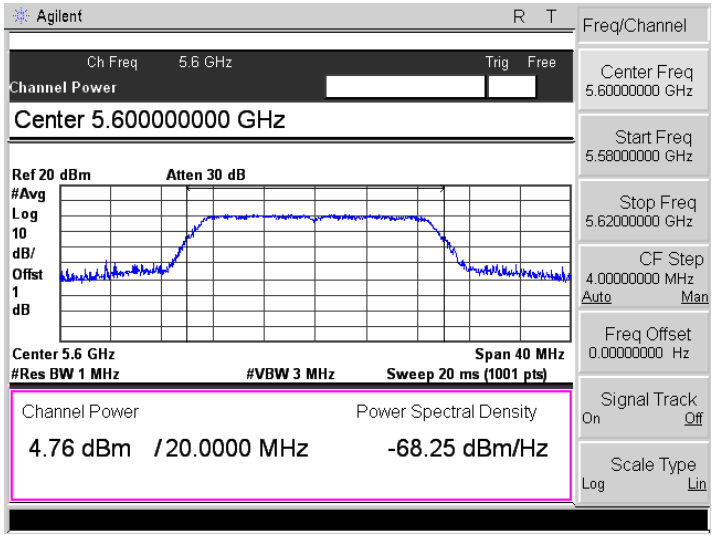
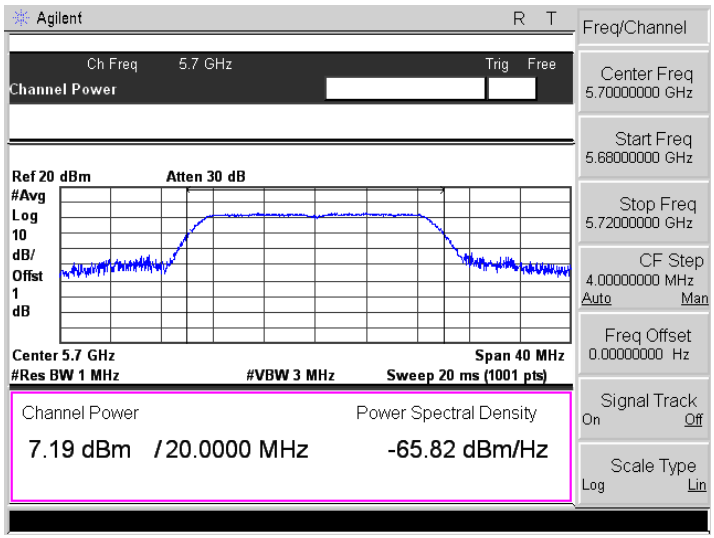
802.11a-Low	
802.11a-Middle	
802.11a-High	

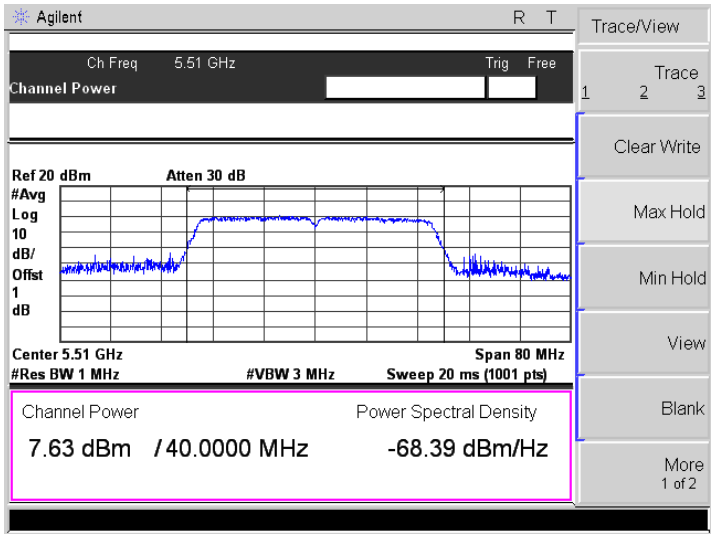
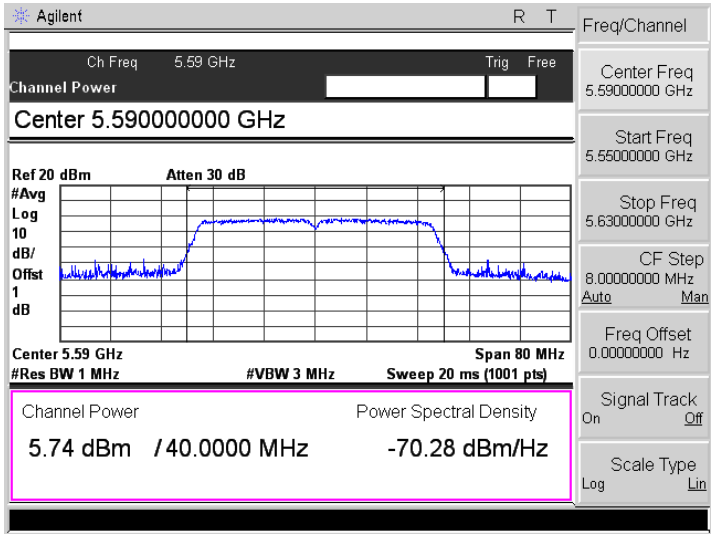
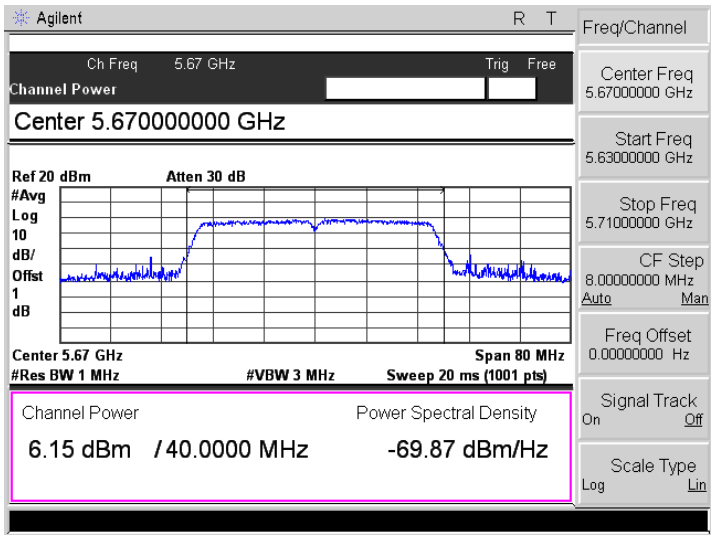
802.11n-HT20-Low	
802.11n-HT20-Middle	
802.11n-HT20-High	

802.11n-HT40-Low	
802.11n-HT40-High	

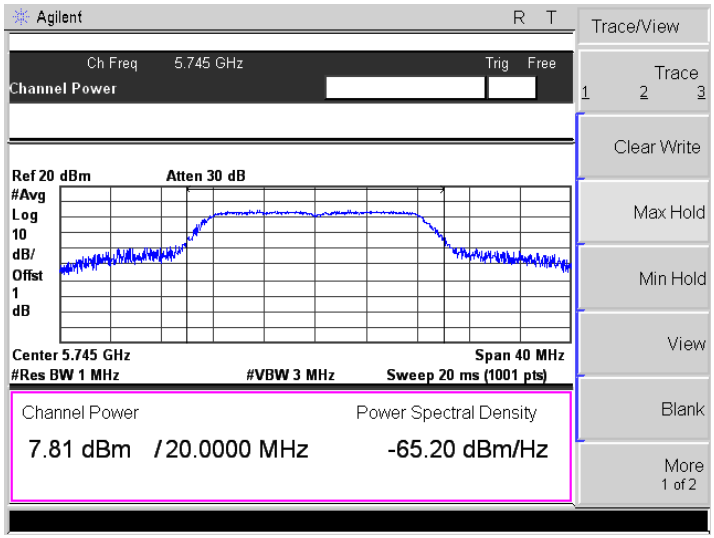
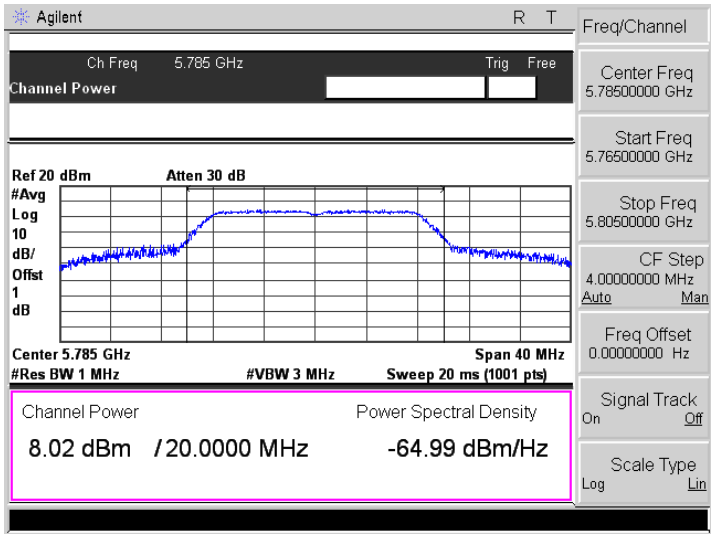
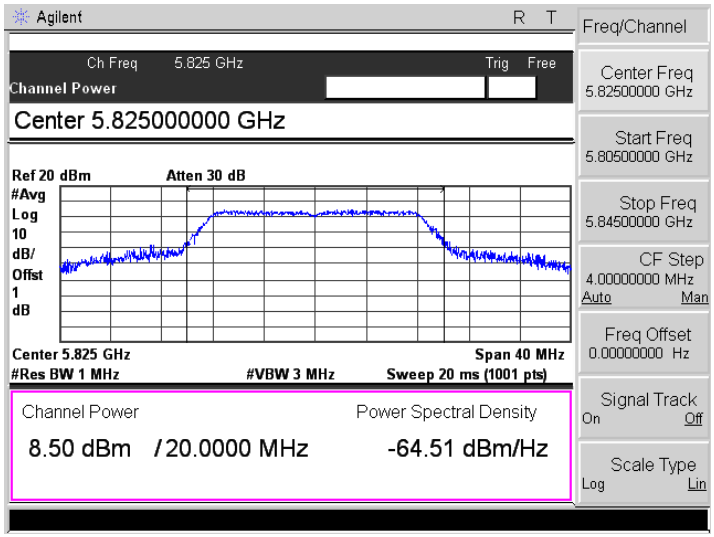
5470-5725MHz

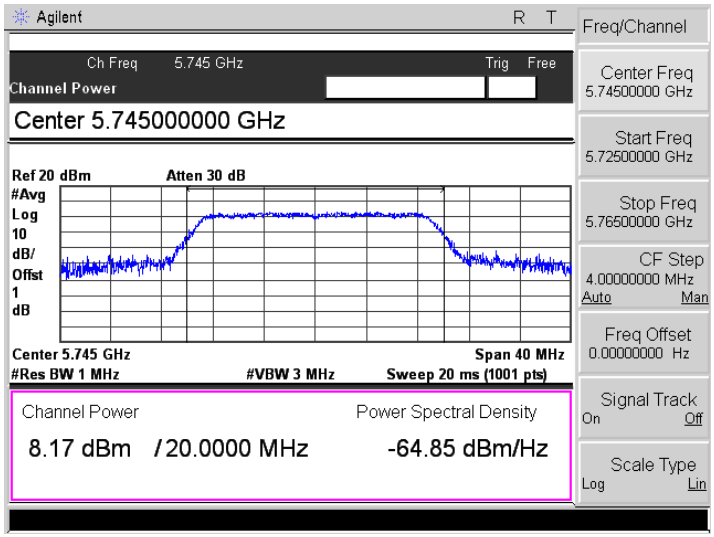
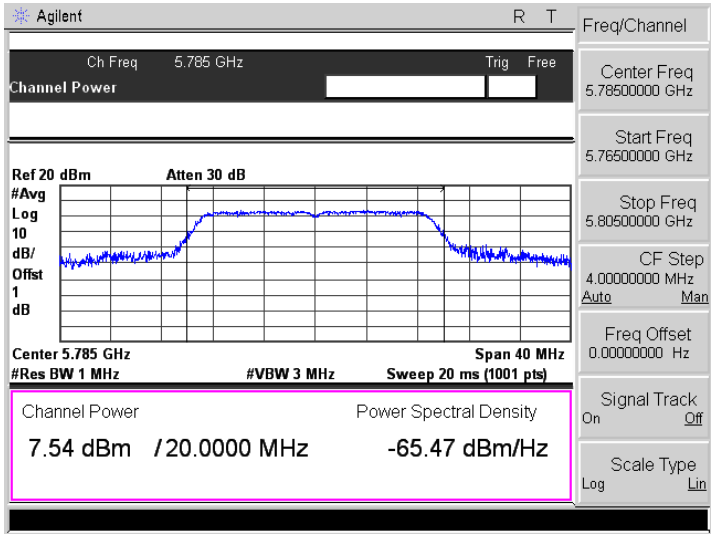
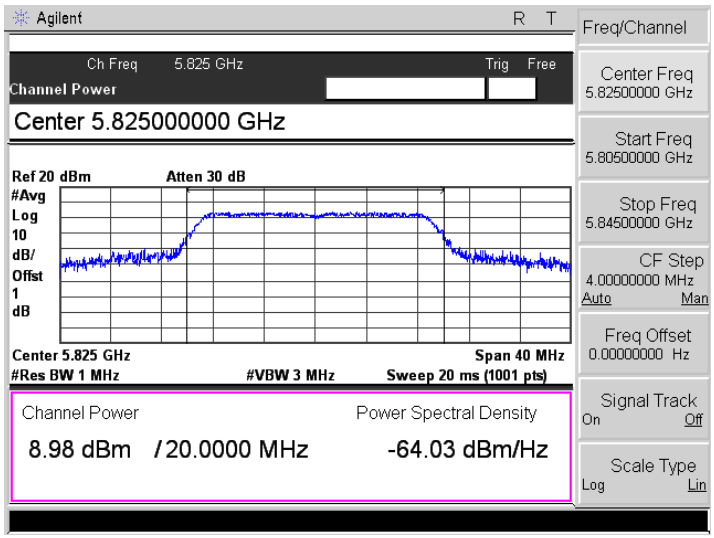
802.11a-Low	
802.11a-Middle	
802.11a-High	

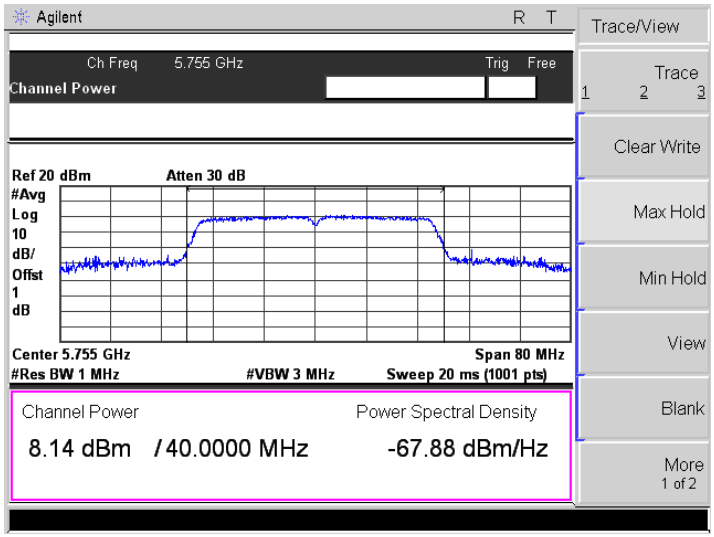
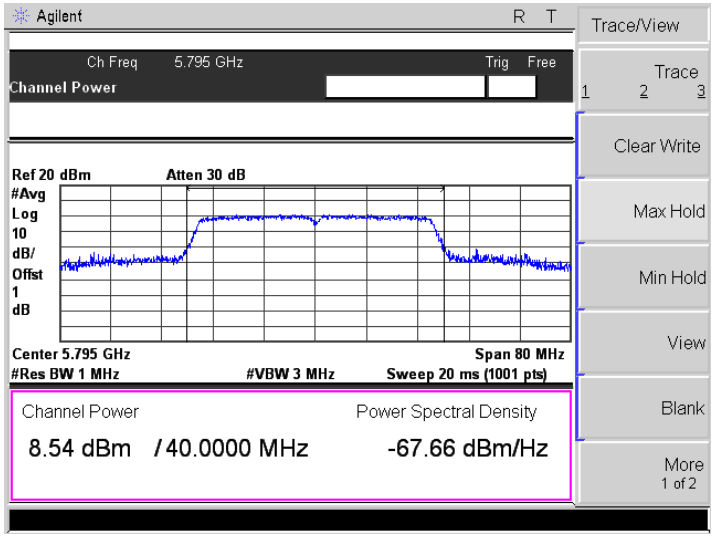
802.11n-HT20-Low	
802.11n-HT20-Middle	
802.11n-HT20-High	

802.11n-HT40-Low	
802.11n-HT40- Middle	
802.11n-HT40-High	

5725-5850MHz

802.11a-Low	
802.11a-Middle	
802.11a-High	

802.11n-HT20-Low	
802.11n-HT20-Middle	
802.11n-HT20-High	

802.11n-HT40-Low	
802.11n-HT40-High	

APPENDIX D

Frequency Stability

U-NII-1:5150-5250MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(℃)	Freq.Dev(Hz)	Deviation
100%	5.0	-30	1138	0.2189
100%		-20	1130	0.2174
100%		-10	1137	0.2186
100%		0	1130	0.2174
100%		+10	1137	0.2187
100%		+20	1139	0.2191
100%		+30	1132	0.2176
100%		+40	1139	0.2190
100%		+50	1130	0.2173
Low Battery power	5.50	+20	1131	0.2175
High Battery power	4.50	+20	1136	0.2185

U-NII-2A: 5250-5350MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(℃)	Freq.Dev(Hz)	Deviation
100%	5.0	-30	1136	0.2152
100%		-20	1132	0.2144
100%		-10	1138	0.2156
100%		0	1138	0.2155
100%		+10	1135	0.2149
100%		+20	1133	0.2146
100%		+30	1135	0.2150
100%		+40	1138	0.2155
100%		+50	1139	0.2158
Low Battery power	5.50	+20	1134	0.2147
High Battery power	4.50	+20	1134	0.2148

U-NII-2C: 5470-5725MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(℃)	Freq.Dev(Hz)	Deviation
100%	5.0	-30	1137	0.2031
100%		-20	1131	0.2020
100%		-10	1138	0.2032
100%		0	1135	0.2027
100%		+10	1136	0.2028
100%		+20	1138	0.2032
100%		+30	1133	0.2024
100%		+40	1136	0.2029
100%		+50	1137	0.2030
Low Battery power	5.50	+20	1139	0.2035
High Battery power	4.50	+20	1138	0.2033

U-NII-3:5725-5850MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(℃)	Freq.Dev(Hz)	Deviation
100%	5.0	-30	1132	0.1957
100%		-20	1135	0.1962
100%		-10	1136	0.1964
100%		0	1138	0.1967
100%		+10	1134	0.1960
100%		+20	1132	0.1957
100%		+30	1131	0.1955
100%		+40	1138	0.1967
100%		+50	1130	0.1954
Low Battery power	5.50	+20	1135	0.1962
High Battery power	4.50	+20	1138	0.1967

APPENDIX PHOTOGRAPHS

Please refer to "ANNEX"

******* END OF REPORT *******