

TEST REPORT

Reference No...... : WTH21X08091780W-1
FCC ID : XOMQ50S218-U-A-I
Applicant : SHENZHEN QIYUE OPTRONICS COMPANY LIMITED
Address..... : Flat3,Tower 3, Excellence Meilin Center Plaza, Zhongkang Road 128,
Shangmeilin, Futian District, Shenzhen , China
Product Name : 50" SMART 4K UHD TV
Test Model. : Q50S218-U-A-I
Standards : FCC Part 15.407
Date of Receipt sample : Aug. 31, 2021
Date of Test..... : Aug. 31, 2021 to Sept. 09, 2021
Date of Issue : Sept. 09, 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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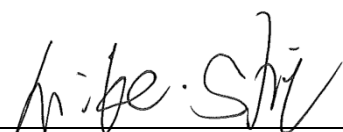
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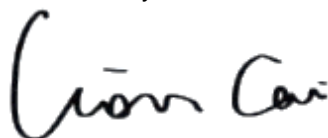
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Report version

Version No.	Date of issue	Description
Rev.00	Sept. 09, 2021	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: SHENZHEN QIYUE OPTRONICS COMPANY LIMITED
 Address of applicant: Flat3,Tower 3, Excellence Meilin Center Plaza, Zhongkang Road 128, Shangmeilin, Futian District, Shenzhen , China

Manufacturer: SHENZHEN QIYUE OPTRONICS COMPANY LIMITED
 BRANCH
 Address of manufacturer: A/B/C/D Building, Xitian Industrial Park, Dashuikeng Community,Guanlan Street, Longhua New District, Shenzhen City, China

General Description of EUT	
Product Name:	50" SMART 4K UHD TV
Trade Name:	RCA, PROSCAN, RCA SCENIUM, TECHNICOLOR, SYLVANIA, RCASMA TVIRTUOSO
Model No.:	Q50S218-U-A-I
Adding Model(s):	RWOSQU5050-B, RWOSQU5050,XXXXXXXXXX50XXXXXXXXXXXXXXXXX (Where "X" can be any alphanumeric of A-Z or 0-9 or blank or -, indicates different client)
Rated Voltage:	AC120V/60Hz
<i>Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model Q50S218-U-A-I, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

Technical Characteristics of EUT	
Support Standards:	802.11a, 802.11n(HT20) , 802.11n-HT40, 802.11ac-VHT80
Frequency Range:	5150-5250MHz, 5725-5850MHz
RF Output Power:	5150-5250MHz ANT 0:15.72dBm (Conducted) ANT 1: 16.05dBm (Conducted) 5725-5850MHz ANT 0:15.20dBm (Conducted) ANT 1: 15.57dBm (Conducted)
Type of Modulation:	BPSK, QPSK,16QAM,64QAM, 256QAM
Type of Antenna:	Integral Antenna
Antenna Gain:	2dBi

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.

KDB662911 D01 Multiple Transmitter Output v02r01: Emissions Testing of Transmitters with Multiple Outputs in the Same Band.

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

Enter “QATool_Dbg.exe” into the calculator to enter the engineer mode, you can start to test. During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Mode	Ant.	Test Frequency (MHz)												
		NCB: 20MHz												
		5180	5200	5240	5260	5300	5320	5500	5580	5700	5720	5745	5785	5825
802.11a 6Mbps	ANT 1	1F	1F	1F	/	/	/	/	/	/	/	22	22	22
	ANT 2	24	24	24	/	/	/	/	/	/	/	22	22	22
802.11n-HT20 MCS0	ANT 1	1F	1F	1F	/	/	/	/	/	/	/	21	22	22
	ANT 2	23	23	23	/	/	/	/	/	/	/	23	23	23
Mode	Ant.	NCB: 40MHz												
		5190	5230	5270	5310	5510	5550	5670	5710	5755	5795			
802.11n-HT40 MCS0	ANT 1	1F	1F	/	/	/	/	/	/	/	/	22	22	
	ANT 2	23	23	/	/	/	/	/	/	/	/	22	22	
Mode	Ant.	NCB: 80MHz												
		5210	5290	5530	5610	5690	5775							
802.11ac-VH80 MCS0/Nss2	ANT 1	1E	/	/	/	/	21							
	ANT 2	22	/	/	/	/	21							

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, Bao'an District, Shenzhen, P.R.C. (518101)

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 maintained 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, 5745MHz, 5785MHz,5825MHz
TM2	802.11n-HT20	5180MHz,5200MHz,5240MHz,5745MHz, 5785MHz,5825MHz
TM3	802.11n-HT40	5190MHz,5230MHz, 5755MHz,5795MHz
TM4	802.11ac-VH80	5210MHz ,5775 MHz

Note : 802.11ac-VHT20, 802.11ac-VHT40 covered by 802.11n-HT20 and 802.11n-HT40.

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
AC Cable	1.5	Unshielded	Without Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
HDMI	1.5	Shielded	Without Ferrit

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Computer	Dell	9MMJ442	/

1.8 Measurement Uncertainty

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

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 two integral antennas, fulfill the requirement of this section. And the signals at the antennas are completely uncorrelated.

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 5.15-5.25GHz.

(iv) For mobile and portable client devices in the 5.15-5.25GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250mW provided the maximum antenna gain does not exceed 6dBi. In addition, the maximum power spectral density shall not exceed 11dBm 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 6dBi.

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

(3) For the band 5.725-5.85GHz, 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 30dBm in any 500kHz band. If transmitting antennas of directional gain greater than 6dBi 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 6dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6dBi 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 5.15-5.25GHz, 5.25-5.35GHz, and 5.47-5.725GHz, the above procedures make use of 1MHz RBW to satisfy directly the 1MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85GHz, the rules specify a measurement bandwidth of 500kHz. Many spectrum analyzers do not have 500kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1MHz, or 500kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1MHz, or 500kHz). 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 $RBW \geq 1/T$, where T is defined in section II.B.1.a).
- b) Set $VBW \geq 3 RBW$.
- c) If measurement bandwidth of Maximum PSD is specified in 500kHz, add $10\log(500\text{kHz}/RBW)$ to the measured result, whereas $RBW (< 500\text{kHz})$ is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- d) If measurement bandwidth of Maximum PSD is specified in 1MHz, add $10\log(1\text{MHz}/RBW)$ to the measured result, whereas $RBW (< 1\text{MHz})$ 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 100kHz for the sections 5.c) and 5.d) above, since $RBW=100\text{kHz}$ 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 5.15-5.25GHz.

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

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

(3) For the band 5.725-5.85GHz, 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 30dBm in any 500kHz band. If transmitting antennas of directional gain greater than 6dBi 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 6dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6dBi 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 5.725-5.85GHz band, the minimum 6dB bandwidth of U-NII devices shall be at least 500kHz.

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 26dB 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 5.725-5.85GHz

Section 15.407(e) specifies the minimum 6dB emission bandwidth of at least 500KHz for the band 5.715-5.85GHz. The following procedure shall be used for measuring this bandwidth:

- a) Set RBW = 100kHz.
- b) Set the video bandwidth (VBW) $\geq 3 \times$ 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 $\geq 3 * RBW$
- 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 5.15-5.25GHz.

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

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

(3) For the band 5.725-5.85GHz, 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 30dBm in any 500kHz band. If transmitting antennas of directional gain greater than 6dBi 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 6dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6dBi 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 = 1MHz.
- (iii) Set VBW \geq 3MHz.
- (iv) Number of points in sweep \geq 2 Span / RBW. (This ensures that bin-to-bin spacing is \leq RBW/2, so that narrowband signals are not lost between frequency bins.)

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- (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 \geq 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 5.15-5.25GHz band: All emissions outside of the 5.15-5.35GHz band shall not exceed an e.i.r.p. of -27dBm/MHz .
- (2) For transmitters operating in the 5.25-5.35GHz band: All emissions outside of the 5.15-5.35GHz band shall not exceed an e.i.r.p. of -27dBm/MHz .
- (3) For transmitters operating in the 5.47-5.725GHz band: All emissions outside of the 5.47-5.725GHz band shall not exceed an e.i.r.p. of -27dBm/MHz .
- (4) For transmitters operating in the 5.725-5.85GHz band:
 - (i) All emissions shall be limited to a level of -27dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10dBm/MHz at 25MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6dBm/MHz at 5MHz above or below the band edge, and from 5MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.

According to §15.407(b)(6), Unwanted emissions below 1GHz 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:

$$\text{EIRP} = ((E*d)^2) / 30$$

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.

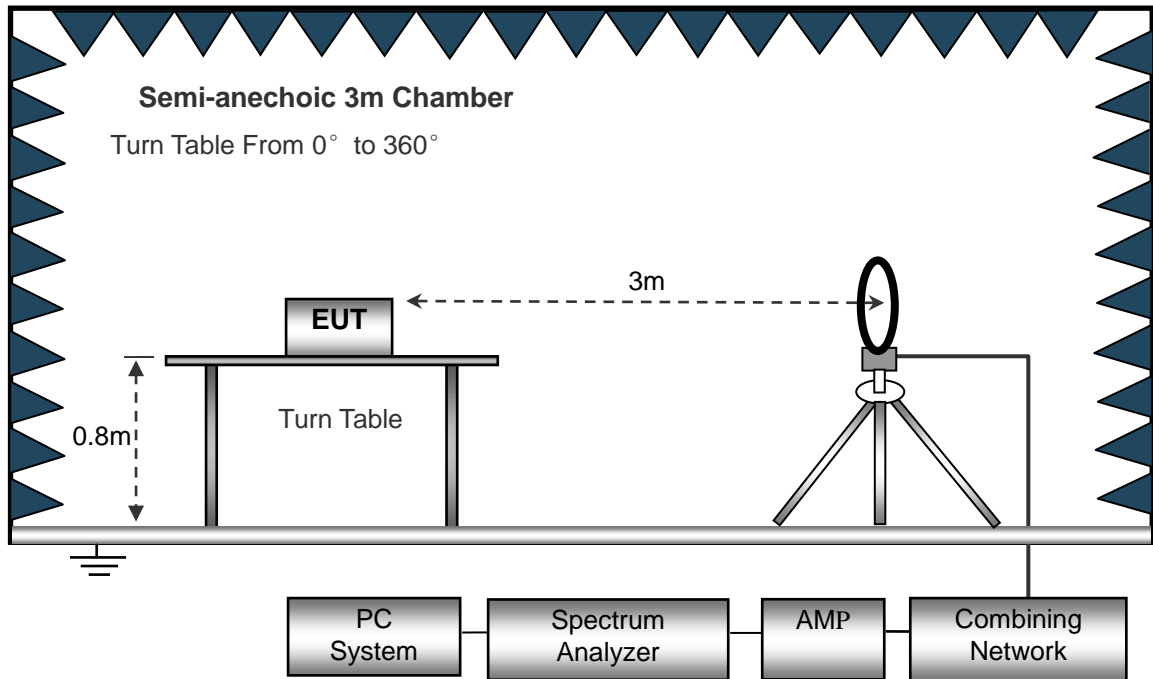
8.2 Test Procedure

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..

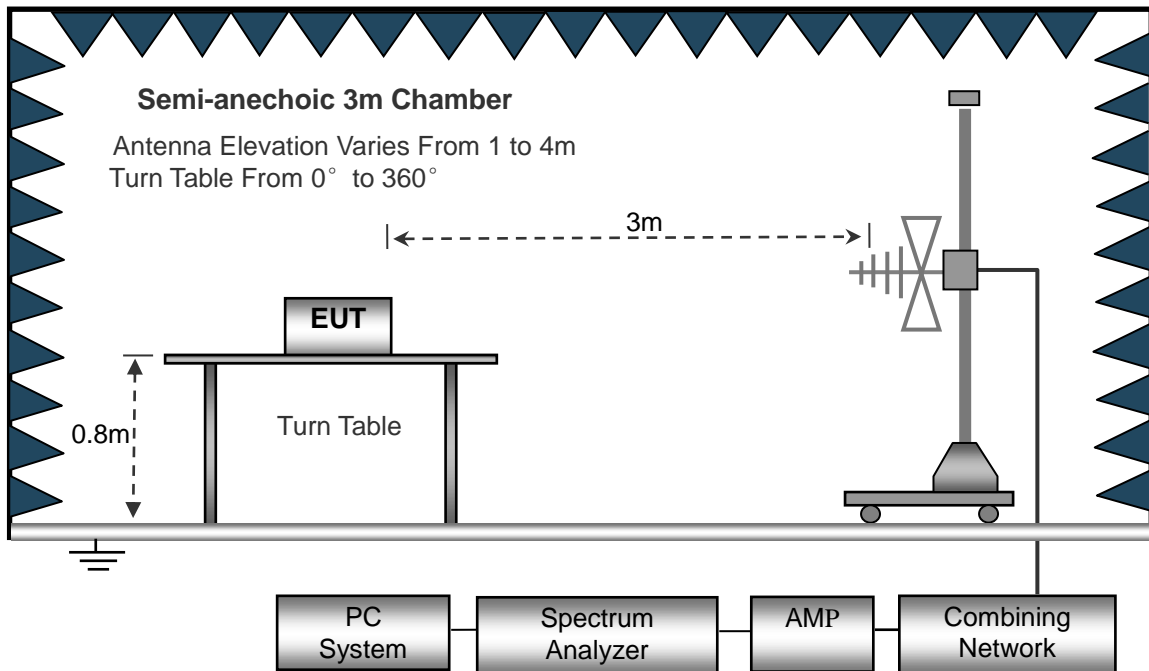
The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle.

The spacing between the peripherals was 10cm.

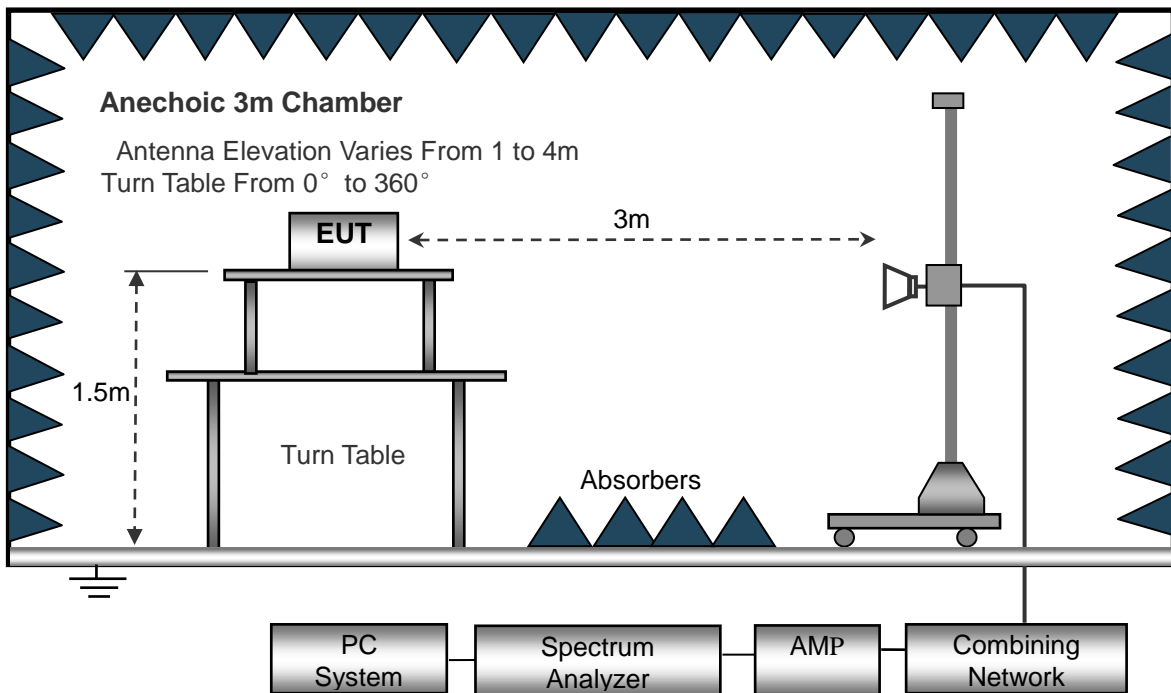
The test setup for emission measurement below 30MHz.



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



The test setup for emission measurement above 1GHz.



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:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Ant. Factor} + \text{Cable Loss} - \text{Ampl. Gain}$$

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

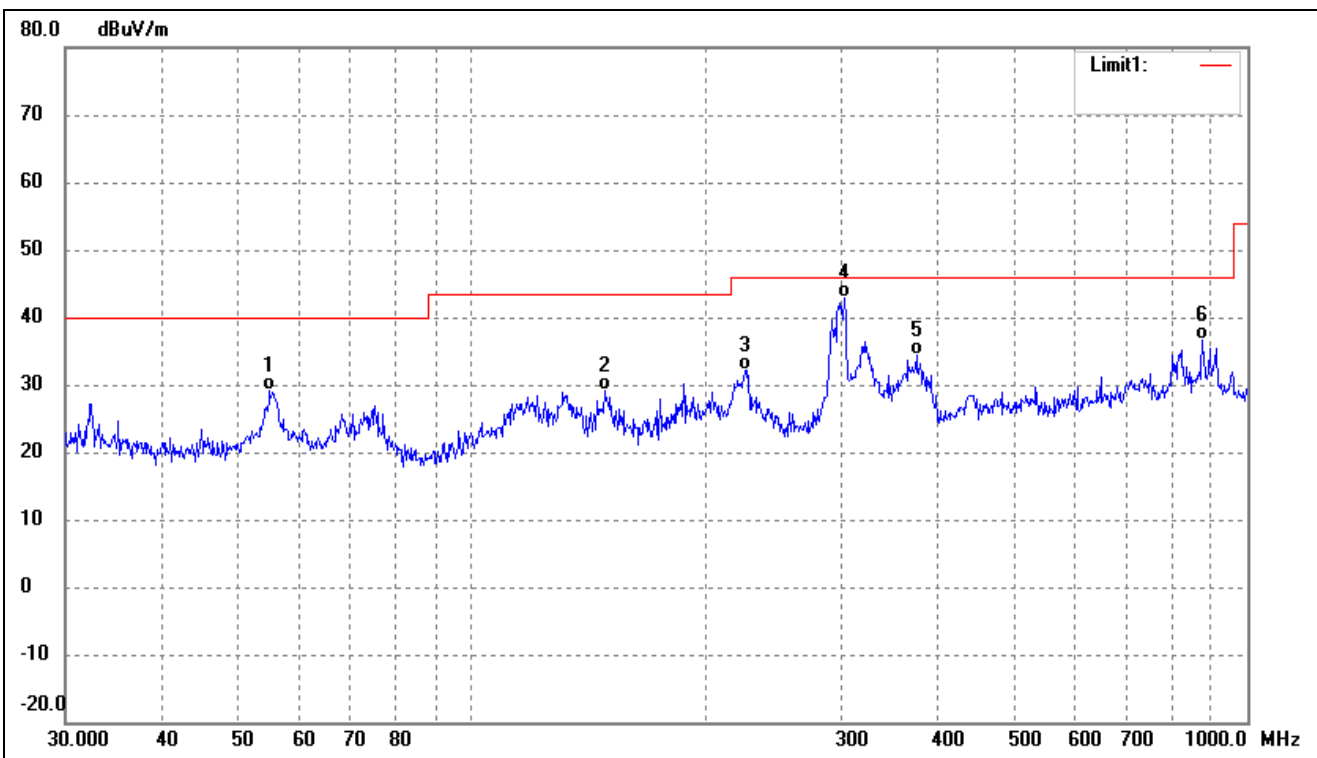
$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15 Limit}$$

8.5 Summary of Test Results/Plots

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

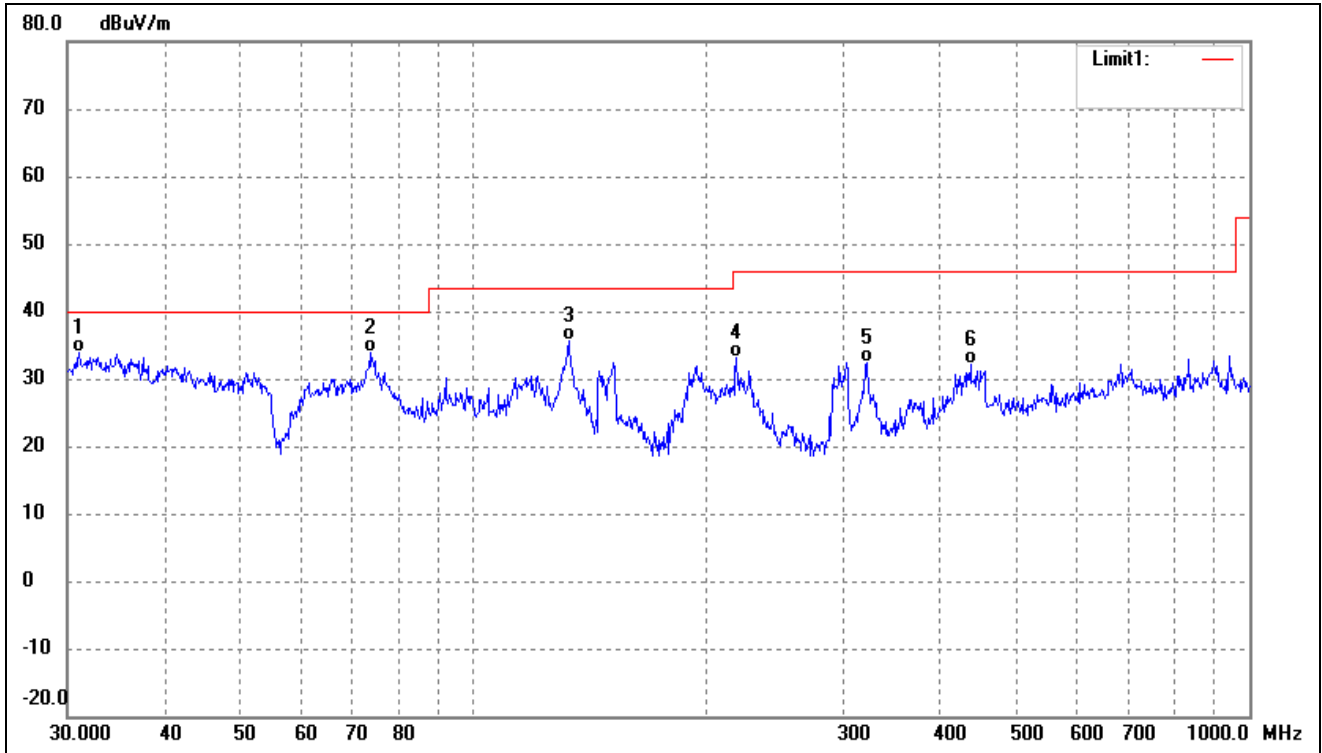
- Spurious Emission From 30MHz to 1GHz
- Antenna 0(Worst case)
- 5150-5250MHz

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



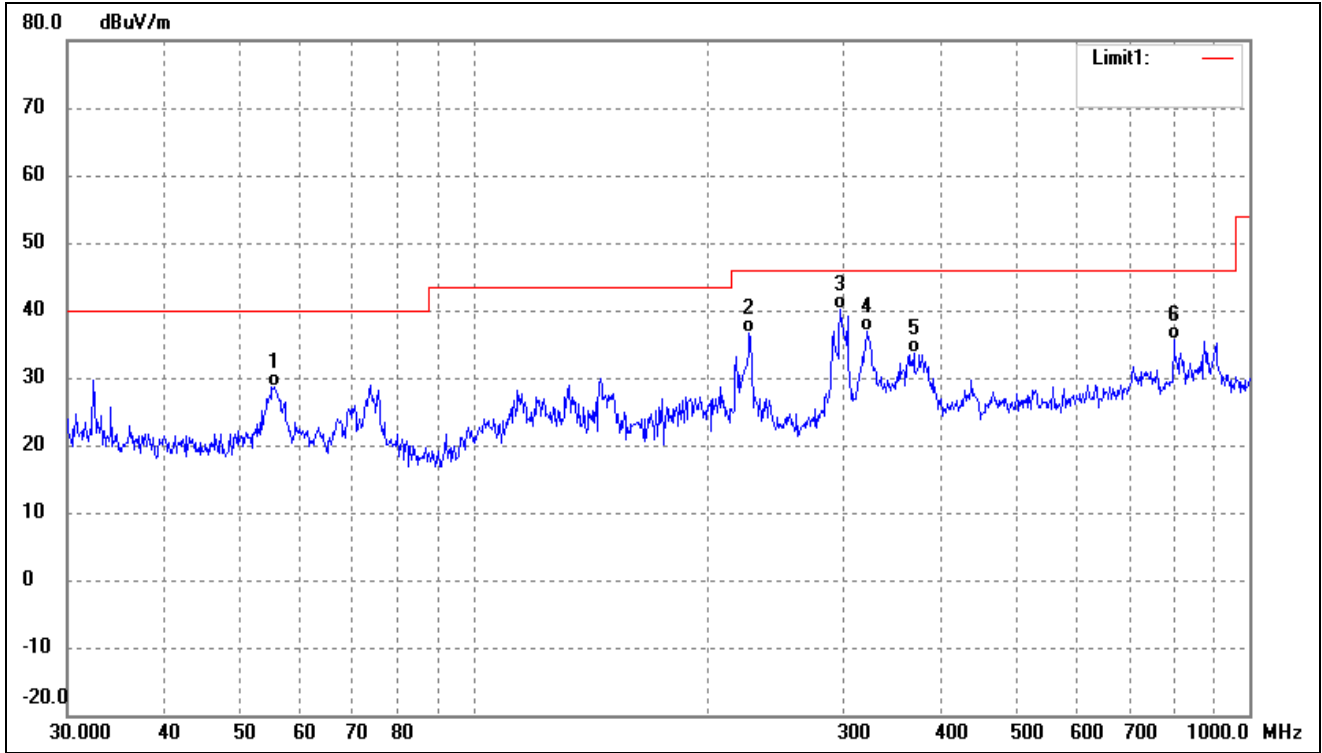
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	55.0274	36.80	-7.69	29.11	40.00	-10.89	-	-	QP
2	148.4410	41.78	-12.55	29.23	43.50	-14.27	-	-	QP
3	225.3080	41.18	-9.00	32.18	46.00	-13.82	-	-	QP
4	302.4812	49.88	-6.89	42.99	46.00	-3.01	-	-	QP
5	374.6226	38.97	-4.66	34.31	46.00	-11.69	-	-	QP
6	875.2470	34.03	2.57	36.60	46.00	-9.40	-	-	QP

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



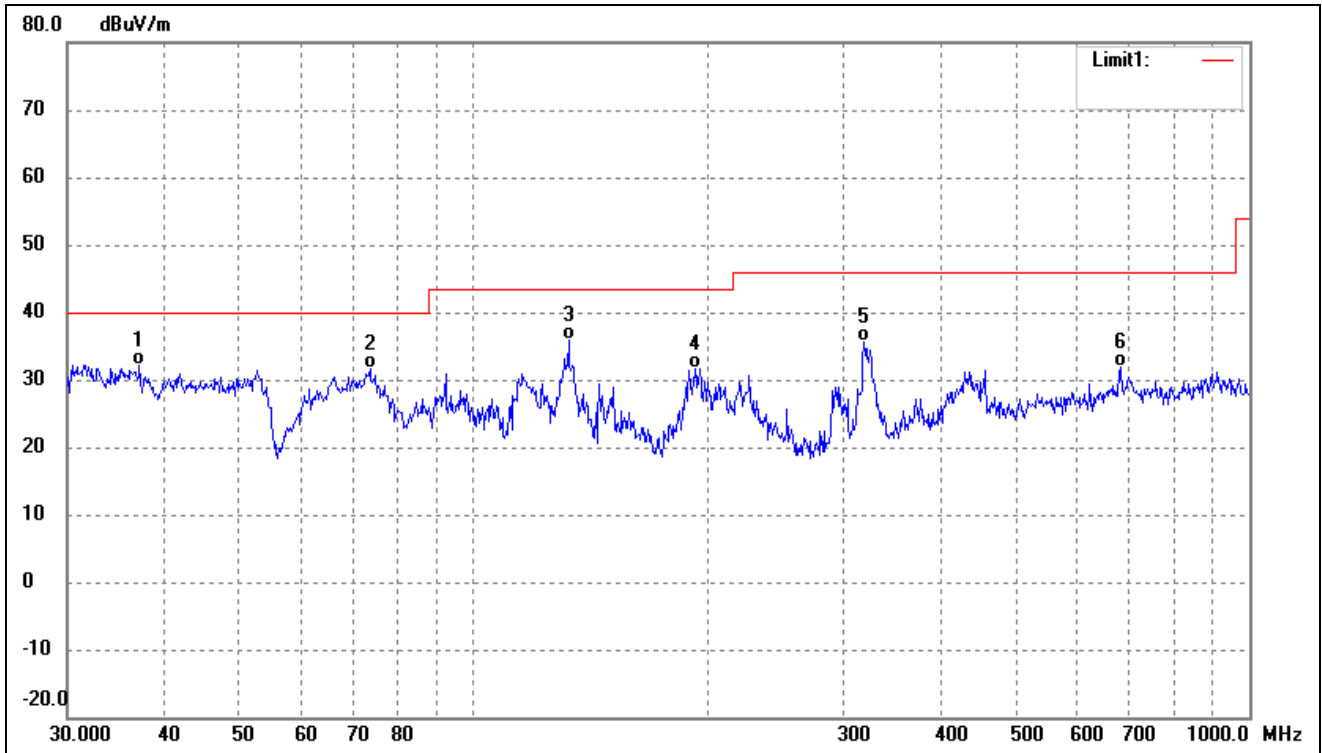
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	31.0706	43.17	-9.19	33.98	40.00	-6.02	-	-	QP
2	73.6170	44.34	-10.38	33.96	40.00	-6.04	-	-	QP
3	132.6850	47.20	-11.66	35.54	43.50	-7.96	-	-	QP
4	218.3085	42.26	-9.20	33.06	46.00	-12.94	-	-	QP
5	321.0608	38.68	-6.30	32.38	46.00	-13.62	-	-	QP
6	437.1199	35.04	-2.90	32.14	46.00	-13.86	-	-	QP

802.11a(Worst case)			
Test Channel	5200MHz	Polarity:	Horizontal



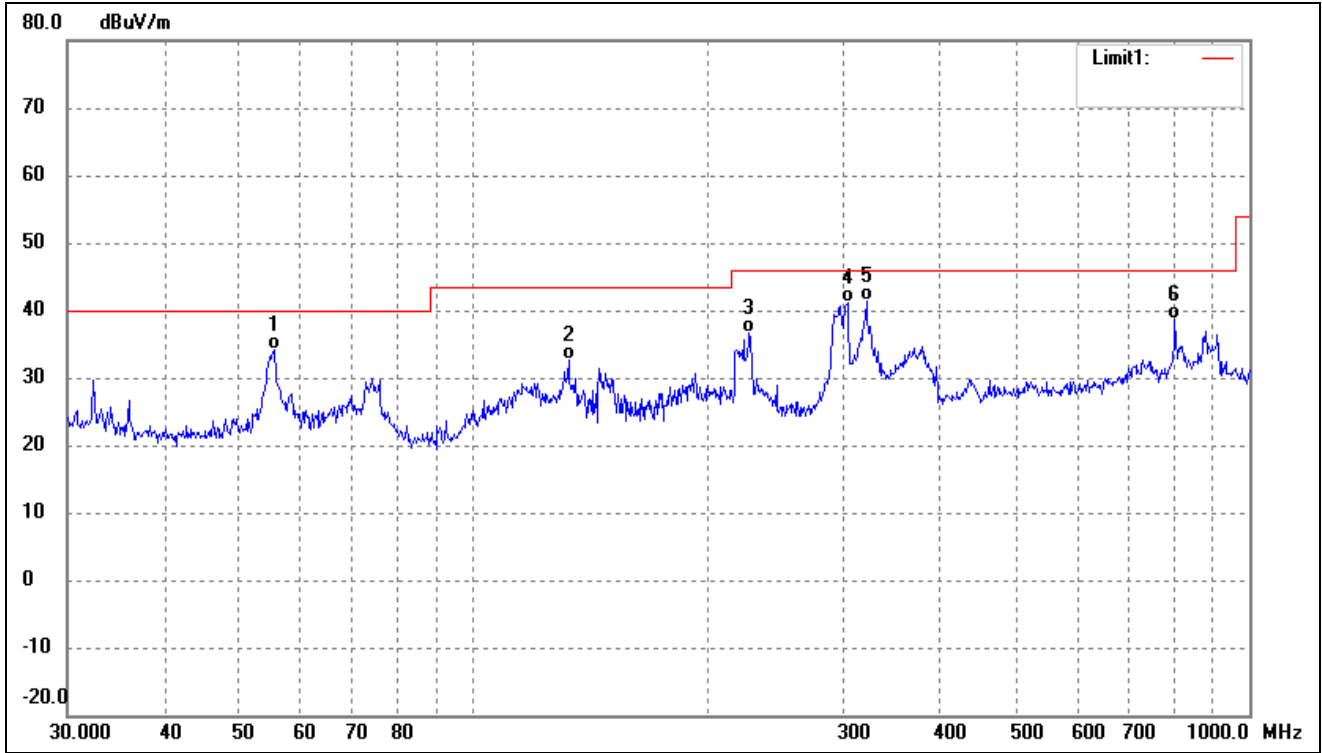
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	55.4147	36.36	-7.75	28.61	40.00	-11.39	-	-	QP
2	226.8936	45.61	-8.96	36.65	46.00	-9.35	-	-	QP
3	297.2241	47.10	-7.03	40.07	46.00	-5.93	-	-	QP
4	322.1886	43.25	-6.27	36.98	46.00	-9.02	-	-	QP
5	369.4047	38.33	-4.81	33.52	46.00	-12.48	-	-	QP
6	798.9797	33.59	2.09	35.68	46.00	-10.32	-	-	QP

802.11a(Worst case)			
Test Channel	5200MHz	Polarity:	Vertical



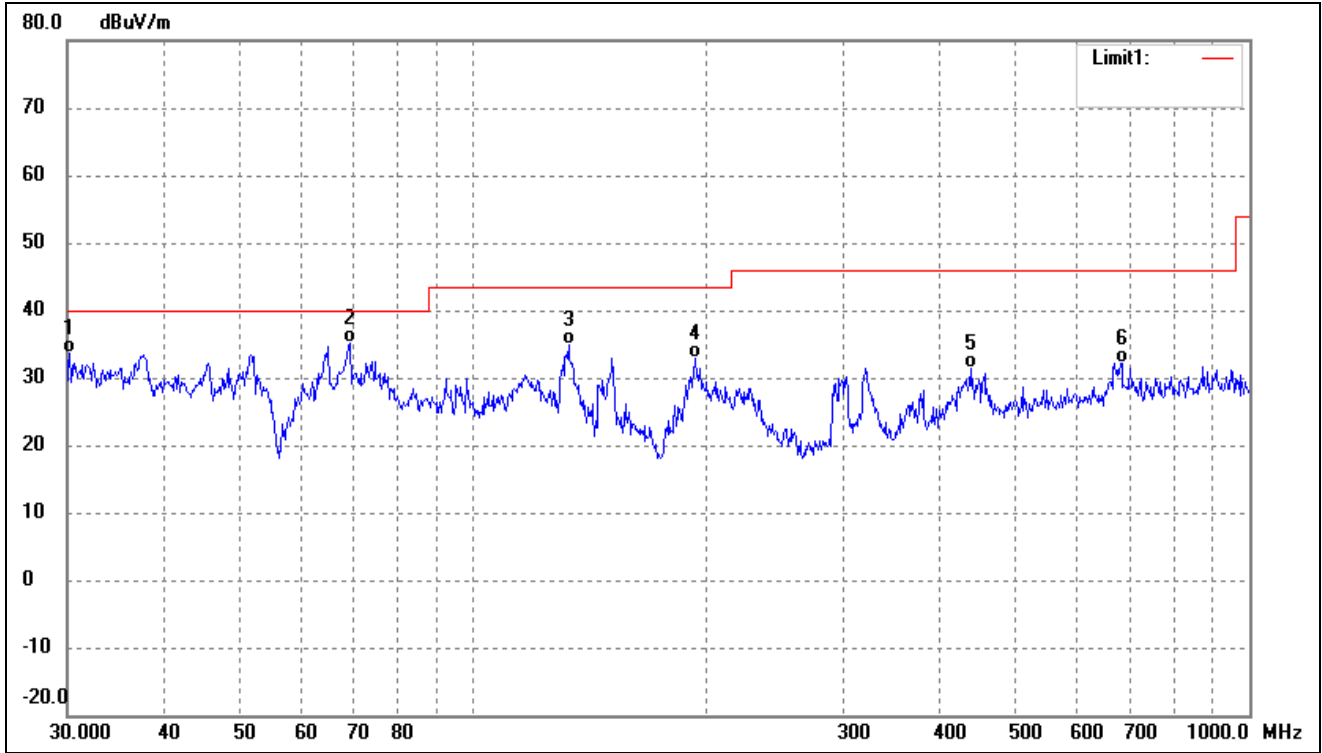
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	37.1550	39.92	-7.70	32.22	40.00	-7.78	-	-	QP
2	73.6170	42.05	-10.38	31.67	40.00	-8.33	-	-	QP
3	132.6850	47.43	-11.66	35.77	43.50	-7.73	-	-	QP
4	193.0945	41.51	-9.93	31.58	43.50	-11.92	-	-	QP
5	318.8170	41.92	-6.37	35.55	46.00	-10.45	-	-	QP
6	682.3485	30.70	1.25	31.95	46.00	-14.05	-	-	QP

802.11a(Worst case)			
Test Channel	5240MHz	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	55.4147	41.92	-7.75	34.17	40.00	-5.83	-	-	QP
2	132.6850	44.37	-11.66	32.71	43.50	-10.79	-	-	QP
3	226.8936	45.61	-8.96	36.65	46.00	-9.35	-	-	QP
4	303.5437	48.10	-6.85	41.25	46.00	-4.75	-	-	QP
5	321.0608	47.56	-6.30	41.26	46.00	-4.74	-	-	QP
6	801.7863	36.48	2.10	38.58	46.00	-7.42	-	-	QP

802.11a(Worst case)			
Test Channel	5240MHz	Polarity:	Vertical

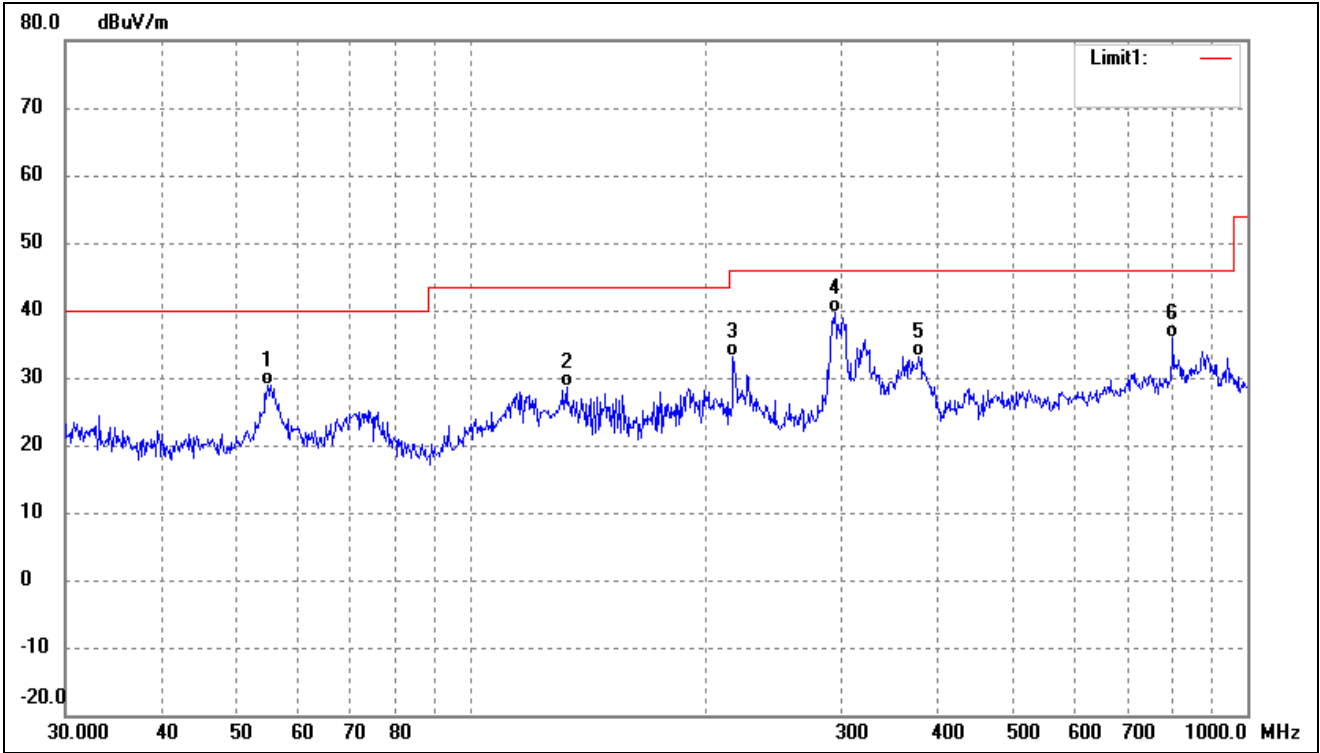


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	30.2111	42.92	-9.41	33.51	40.00	-6.49	-	-	QP
2	69.3568	45.08	-10.06	35.02	40.00	-4.98	-	-	QP
3	132.6850	46.56	-11.66	34.90	43.50	-8.60	-	-	QP
4	193.0945	42.88	-9.93	32.95	43.50	-10.55	-	-	QP
5	437.1199	34.31	-2.90	31.41	46.00	-14.59	-	-	QP
6	684.7454	30.93	1.27	32.20	46.00	-13.80	-	-	QP

5725-5850MHz

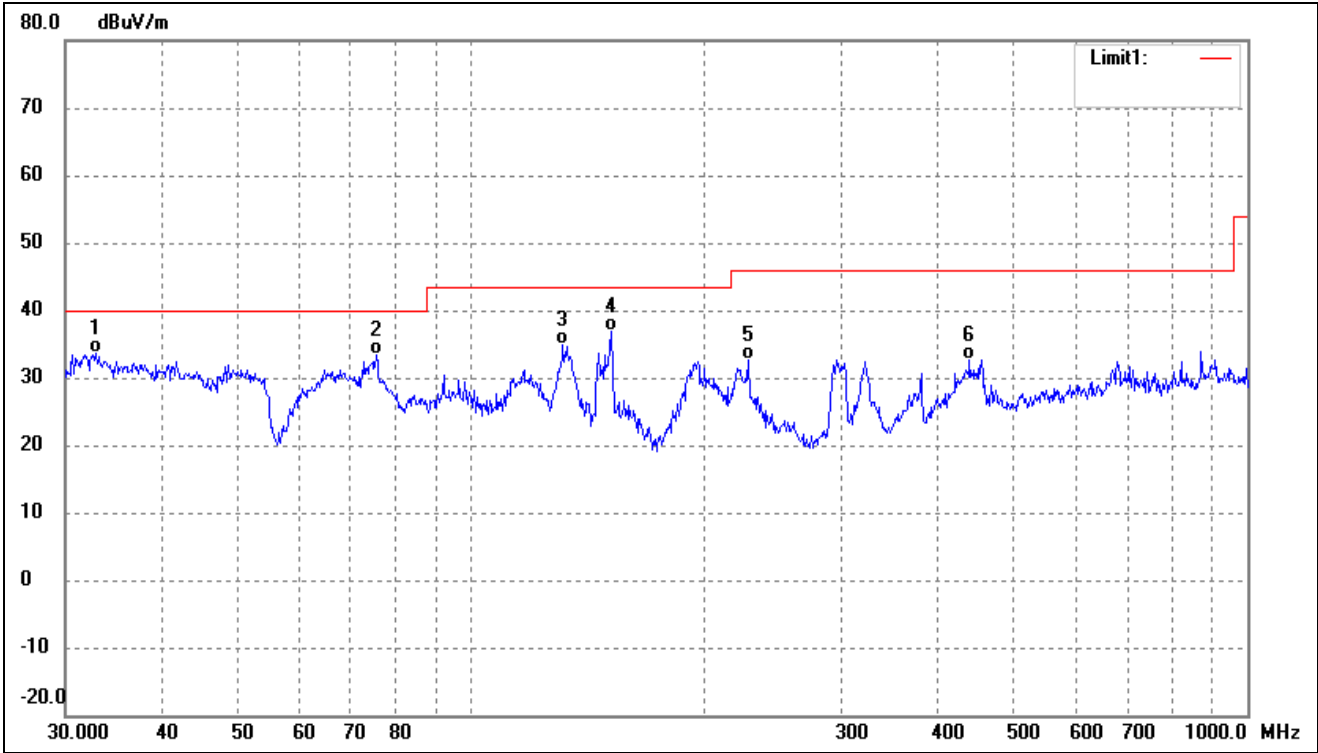
802.11a(worst case)

Test Channel	5745MHz	Polarity:	Horizontal
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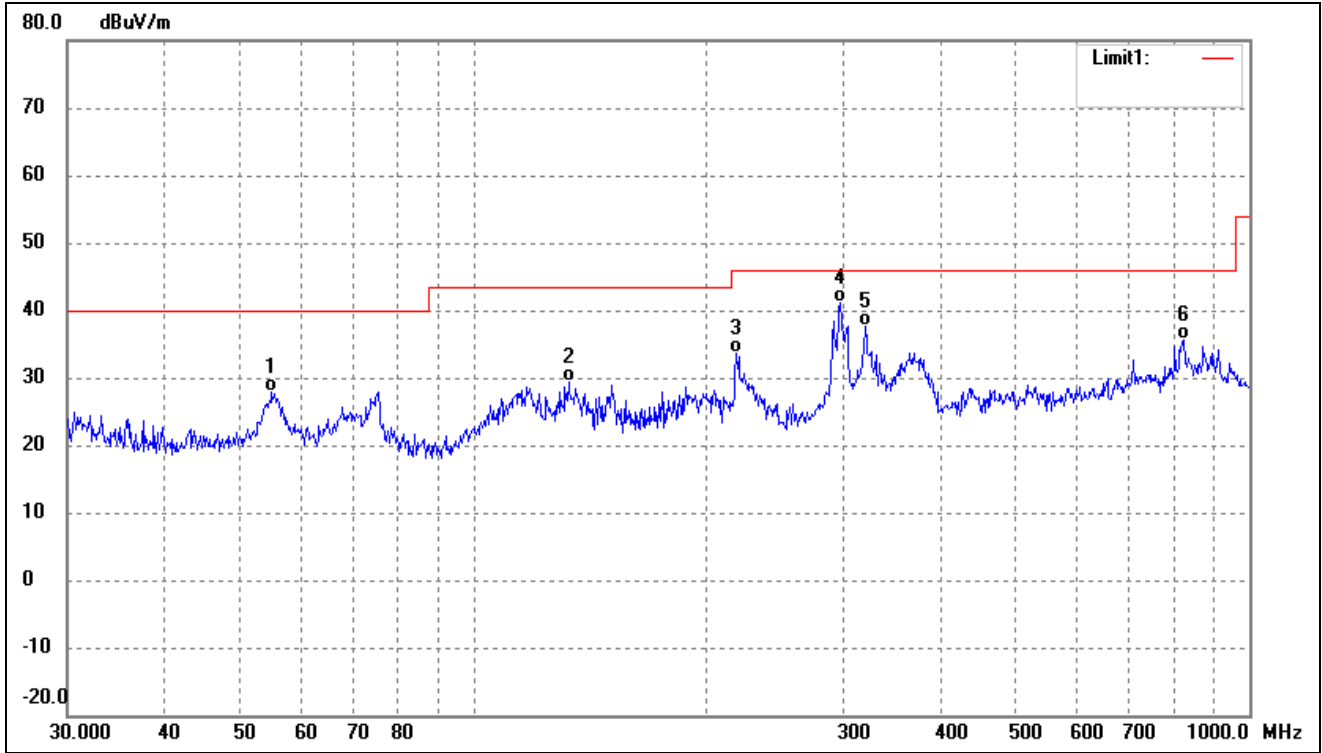
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	54.6429	36.56	-7.64	28.92	40.00	-11.08	-	-	QP
2	132.6850	40.36	-11.66	28.70	43.50	-14.80	-	-	QP
3	217.5443	42.36	-9.21	33.15	46.00	-12.85	-	-	QP
4	294.1137	46.63	-7.12	39.51	46.00	-6.49	-	-	QP
5	377.2591	37.63	-4.58	33.05	46.00	-12.95	-	-	QP
6	801.7863	33.76	2.10	35.86	46.00	-10.14	-	-	QP

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



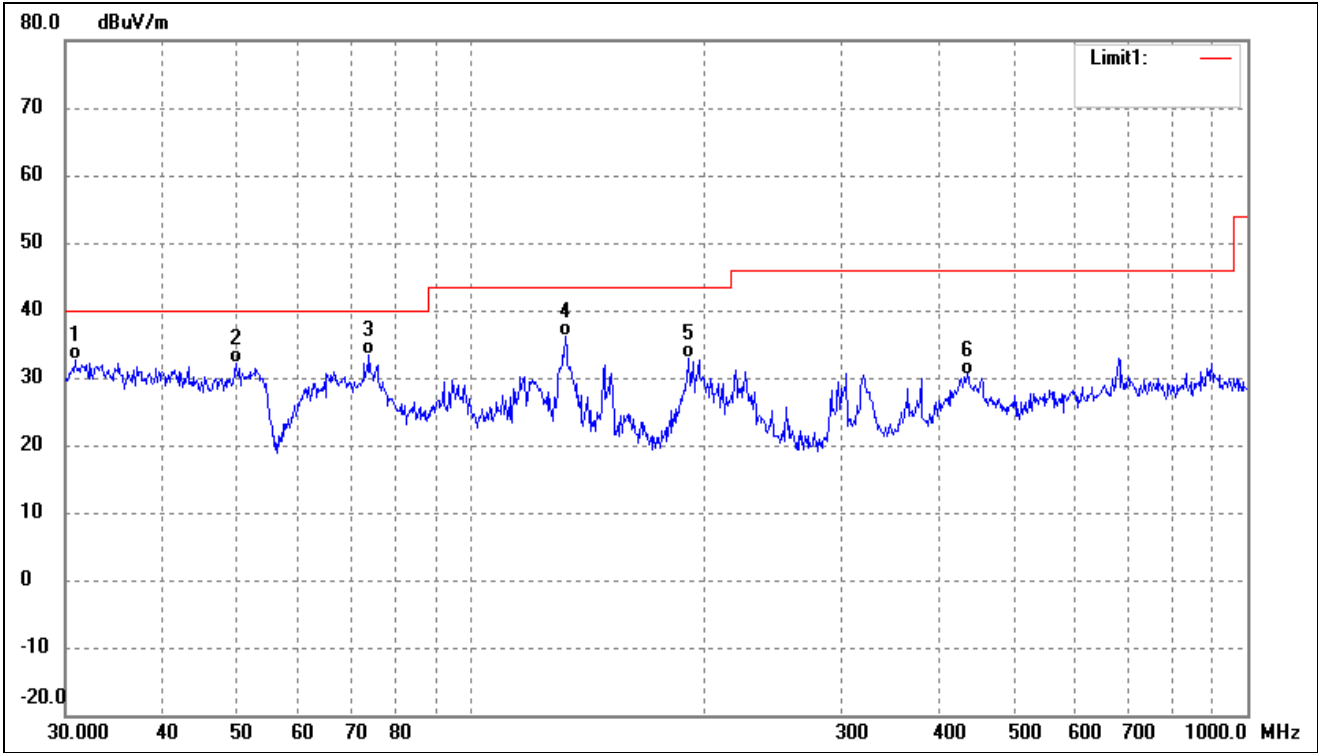
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	32.8637	42.33	-8.75	33.58	40.00	-6.42	-	-	QP
2	75.4464	43.76	-10.48	33.28	40.00	-6.72	-	-	QP
3	131.2965	46.32	-11.55	34.77	43.50	-8.73	-	-	QP
4	151.5972	49.41	-12.54	36.87	43.50	-6.63	-	-	QP
5	227.6906	41.60	-8.94	32.66	46.00	-13.34	-	-	QP
6	438.6554	35.50	-2.86	32.64	46.00	-13.36	-	-	QP

802.11a(worst case)			
Test Channel	5786MHz	Polarity:	Horizontal



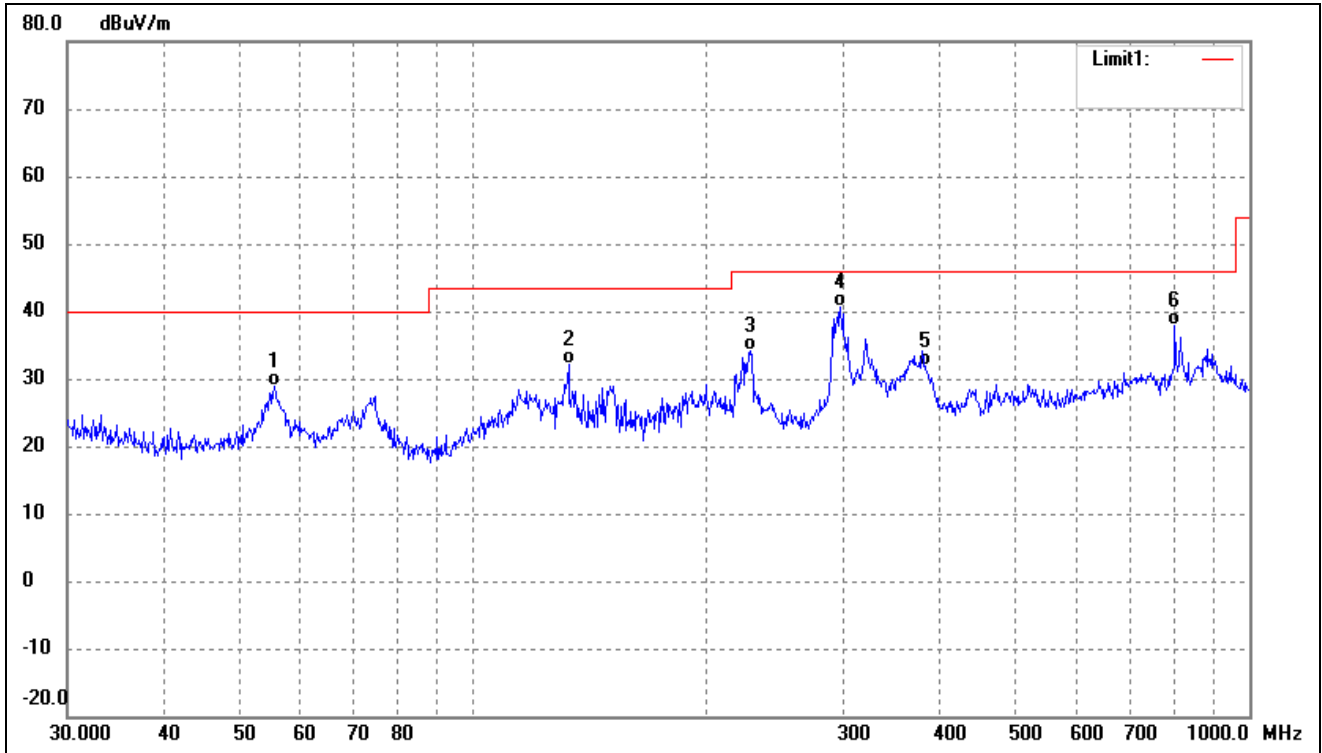
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	55.0274	35.49	-7.69	27.80	40.00	-12.20	-	-	QP
2	132.6850	41.09	-11.66	29.43	43.50	-14.07	-	-	QP
3	218.3085	42.90	-9.20	33.70	46.00	-12.30	-	-	QP
4	297.2241	48.26	-7.03	41.23	46.00	-4.77	-	-	QP
5	319.9370	43.86	-6.34	37.52	46.00	-8.48	-	-	QP
6	824.5968	33.33	2.23	35.56	46.00	-10.44	-	-	QP

802.11a(worst case)			
Test Channel	5786MHz	Polarity:	Vertical



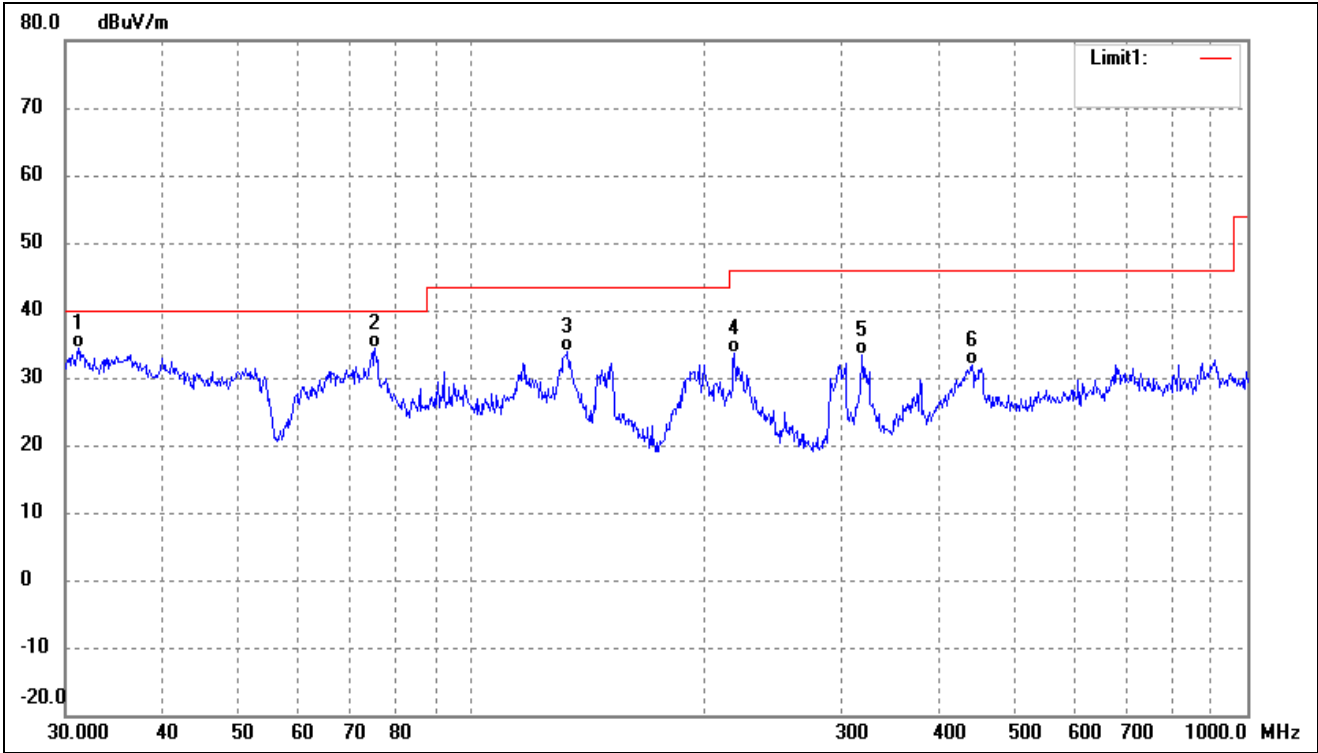
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	30.8535	41.80	-9.24	32.56	40.00	-7.44	-	-	QP
2	49.7068	39.12	-6.96	32.16	40.00	-7.84	-	-	QP
3	73.8756	43.65	-10.39	33.26	40.00	-6.74	-	-	QP
4	132.2206	47.72	-11.62	36.10	43.50	-7.40	-	-	QP
5	190.4050	42.97	-10.03	32.94	43.50	-10.56	-	-	QP
6	435.5898	33.45	-2.95	30.50	46.00	-15.50	-	-	QP

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



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	55.4147	36.54	-7.75	28.79	40.00	-11.21	-	-	QP
2	132.6850	43.82	-11.66	32.16	43.50	-11.34	-	-	QP
3	227.6906	43.12	-8.94	34.18	46.00	-11.82	-	-	QP
4	297.2241	47.74	-7.03	40.71	46.00	-5.29	-	-	QP
5	382.5879	36.35	-4.41	31.94	46.00	-14.06	-	-	QP
6	801.7863	35.69	2.10	37.79	46.00	-8.21	-	-	QP

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

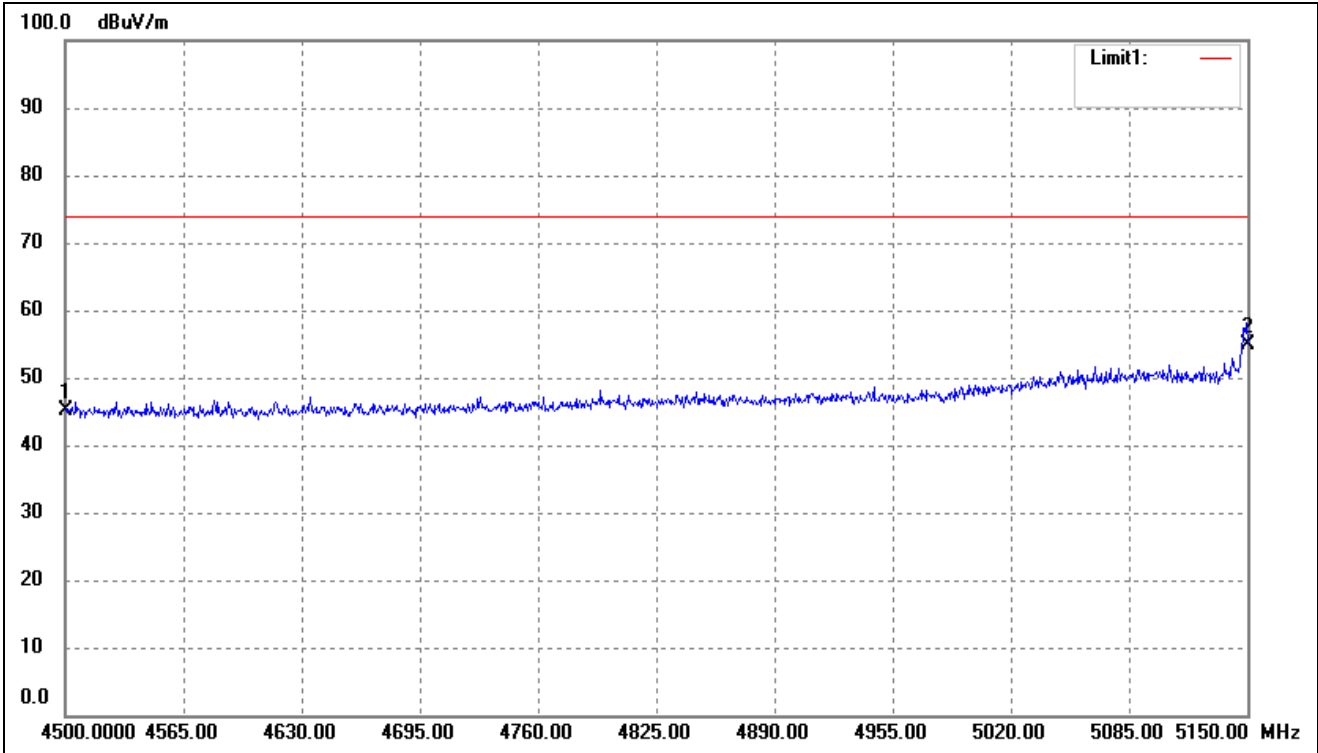


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	31.1798	43.48	-9.16	34.32	40.00	-5.68	-	-	QP
2	75.1823	44.73	-10.46	34.27	40.00	-5.73	-	-	QP
3	133.1511	45.46	-11.69	33.77	43.50	-9.73	-	-	QP
4	218.3085	42.73	-9.20	33.53	46.00	-12.47	-	-	QP
5	318.8170	39.77	-6.37	33.40	46.00	-12.60	-	-	QP
6	441.7426	34.58	-2.78	31.80	46.00	-14.20	-	-	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.

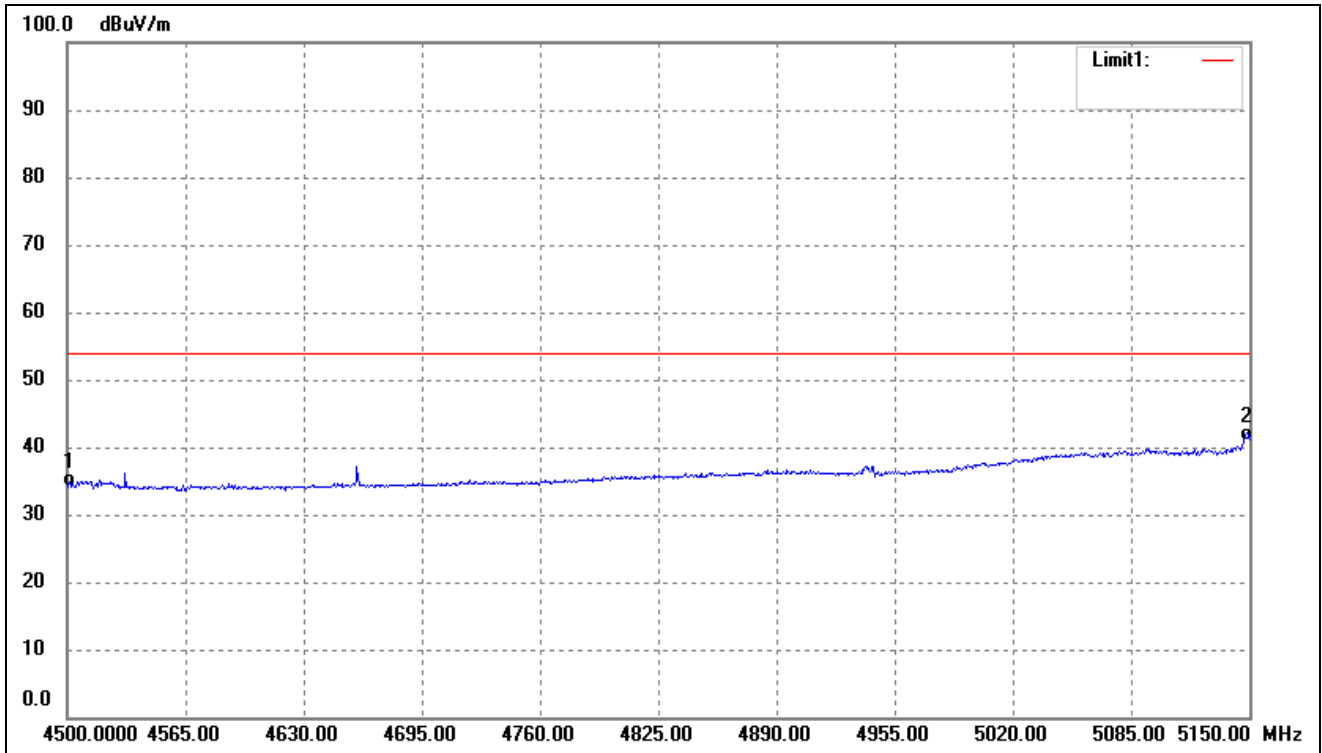
- Spurious Emission above 1GHz
- Antenna 0(worst case)

802.11a- Restricted Bandedge (worst case)			
Test Channel	band 4.50-5.15GHz	Polarity:	Horizontal (worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4500.000	52.15	-6.92	45.23	74.00	-28.77	-	-	peak
2	5150.000	60.27	-5.33	54.94	74.00	-19.06	-	-	peak

802.11a- Restricted Bandedge (worst case)			
Test Channel	band 5.15-5.25GHz	Polarity:	Horizontal (worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4500.000	41.01	-6.92	34.09	54.00	-19.91	-	-	AVG
2	5150.000	46.30	-5.33	40.97	54.00	-13.03	-	-	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, 5.725-5.850GHz (802.11a)
- Antenna 0(worst case)
- 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	58.51	7.11	65.62	74	-8.38	H	PK
15540	38.43	8.22	46.65	54	-7.35	H	AV
10360	59.10	7.11	66.21	74	-7.79	V	PK
15540	36.81	8.22	45.03	54	-8.97	V	AV
Middle Channel (5200MHz)							
10400	55.41	7.22	62.63	74	-11.37	H	PK
15600	35.52	8.67	44.19	54	-9.81	H	AV
10400	52.86	7.22	60.08	74	-13.92	V	PK
15600	37.14	8.67	45.81	54	-8.19	V	AV
High Channel (5240MHz)							
10480	55.81	7.69	63.50	74	-10.50	H	PK
15720	37.02	8.93	45.95	54	-8.05	H	AV
10480	54.80	7.22	62.02	74	-11.98	V	PK
15720	39.80	8.67	48.47	54	-5.53	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	54.74	9.45	64.19	74	-9.81	H	PK
17235	33.94	10.36	44.30	54	-9.70	H	AV
11490	58.68	9.45	68.13	74	-5.87	V	PK
17235	37.67	10.36	48.03	54	-5.97	V	AV
Middle Channel (5785MHz)							
11570	56.01	9.62	65.63	74	-8.37	H	PK
17355	37.41	10.67	48.08	54	-5.92	H	AV
11570	57.03	9.62	66.65	74	-7.35	V	PK
17355	31.73	10.67	42.40	54	-11.60	V	AV
High Channel (5825MHz)							
11650	55.83	9.84	65.67	74	-8.33	H	PK
17475	35.78	10.95	46.73	54	-7.27	H	AV
11650	52.35	9.84	62.19	74	-11.81	V	PK
17475	34.64	10.95	45.59	54	-8.41	V	AV

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-33.70	-27
Highest	Above 5350	-41.53	-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	-38.20	-27
	5715 to 5725	-40.26	-17
Highest	5850 to 5860	-38.90	-17
	Above 5860	-46.76	-27
Note: the data just list the worst cases			

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

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel (5180MHz)							
10360	58.92	7.11	66.03	74	-7.97	H	PK
15540	38.39	8.22	46.61	54	-7.39	H	AV
10360	60.31	7.11	67.42	74	-6.58	H	PK
15540	36.11	8.22	44.33	54	-9.67	H	AV
Middle Channel (5200MHz)							
10400	57.56	7.22	64.78	74	-9.22	H	PK
15600	36.67	8.67	45.34	54	-8.66	H	AV
10400	58.23	7.22	65.45	74	-8.55	V	PK
15600	37.57	8.67	46.24	54	-7.76	V	AV
High Channel (5240MHz)							
10480	56.06	7.69	63.75	74	-10.25	H	PK
15720	33.73	8.93	42.66	54	-11.34	H	AV
10480	58.97	7.69	66.66	74	-7.34	V	PK
15720	38.30	8.93	47.23	54	-6.77	V	AV

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel (5745MHz)							
11490	57.51	9.45	66.96	74	-7.04	H	PK
17235	36.24	10.36	46.60	54	-7.40	H	AV
11490	58.16	9.45	67.61	74	-6.39	V	PK
17235	35.58	10.36	45.94	54	-8.06	V	AV
Middle Channel (5785MHz)							
11570	59.29	9.62	68.91	74	-5.09	H	PK
17355	32.87	10.67	43.54	54	-10.46	H	AV
11570	57.18	9.62	66.80	74	-7.20	V	PK
17355	36.59	10.67	47.26	54	-6.74	V	AV
High Channel (5825MHz)							
11650	53.37	9.84	63.21	74	-10.79	H	PK
17475	33.39	10.95	44.34	54	-9.66	H	AV
11650	54.95	9.84	64.79	74	-9.21	V	PK
17475	38.02	10.95	48.97	54	-5.03	V	AV

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-32.43	-27
Highest	Above 5350	-40.20	-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	-44.72	-27
	5715 to 5725	-34.41	-17
Highest	5850 to 5860	-37.30	-17
	Above 5860	-40.76	-27
Note: the data just list the worst cases.			

- For the frequency band 5.15-5.25GHz, 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	58.15	7.25	65.40	74	-8.60	H	PK
15570	36.24	8.33	44.57	54	-9.43	H	AV
10380	60.68	7.25	67.93	74	-6.07	V	PK
15570	36.09	8.33	44.42	54	-9.58	V	AV
High Channel (5230MHz)							
10460	58.16	7.54	65.70	74	-8.30	H	PK
15690	35.82	8.86	44.68	54	-9.32	H	AV
10460	59.64	7.54	67.18	74	-6.82	V	PK
15690	36.92	8.86	45.78	54	-8.22	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	57.67	9.65	67.32	74	-6.68	H	PK
17265	35.32	10.87	46.19	54	-7.81	H	AV
11510	53.76	9.65	63.41	74	-10.59	V	PK
17265	35.85	10.87	46.72	54	-7.28	V	AV
High Channel (5795MHz)							
11590	54.63	9.81	64.44	74	-9.56	H	PK
17385	33.11	10.89	44.00	54	-10.00	H	AV
11590	56.99	9.81	66.80	74	-7.20	V	PK
17385	34.86	10.89	45.75	54	-8.25	V	AV

➤ Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-34.88	-27
Highest	Above 5350	-42.61	-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	-40.32	-27
	5715 to 5725	-40.00	-17
Highest	5850 to 5860	-43.06	-17
	Above 5860	-45.46	-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, 5.725-5.850GHz (802.11ac VH80)
- Harmonics And Spurious Emissions

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
5210MHz							
10420	59.96	7.33	67.29	74	-6.71	H	PK
15630	37.05	8.75	45.80	54	-8.20	H	AV
10420	56.01	7.33	63.34	74	-10.66	H	PK
15630	33.59	8.75	42.34	54	-11.66	H	AV

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
5775MHz							
11550	55.43	9.54	64.97	74	-9.03	H	PK
17325	37.24	10.59	47.83	54	-6.17	H	AV
11550	54.88	9.54	64.42	74	-9.58	H	PK
17325	33.51	10.59	44.10	54	-9.90	H	AV

- Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-32.87	-27
Highest	Above 5350	-36.10	-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	-45.35	-27
	5715 to 5725	-30.48	-17
Highest	5850 to 5860	-27.20	-17
	Above 5860	-38.67	-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

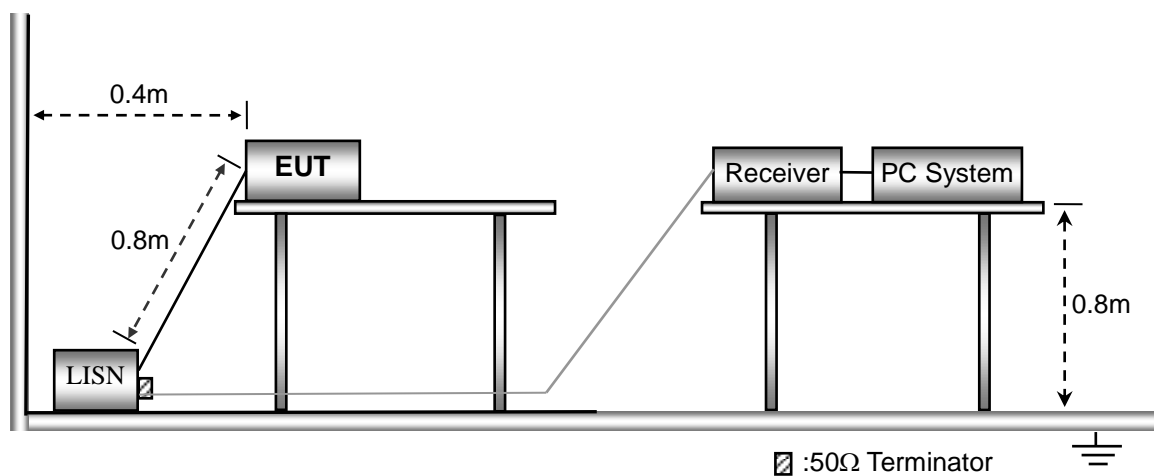
10.1 Test Procedure

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 40cm long in the middle.

The spacing between the peripherals was 10cm.

10.2 Basic Test Setup Block Diagram



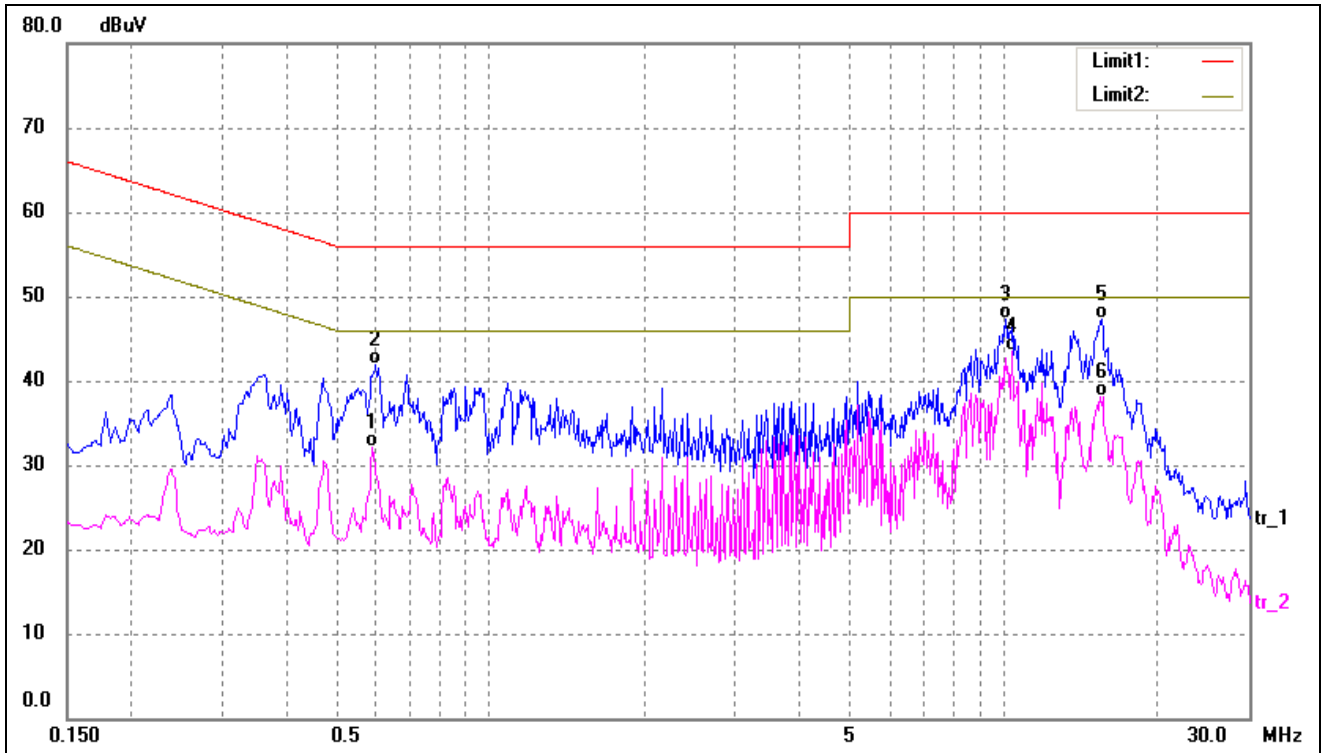
10.3 Test Receiver Setup

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

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

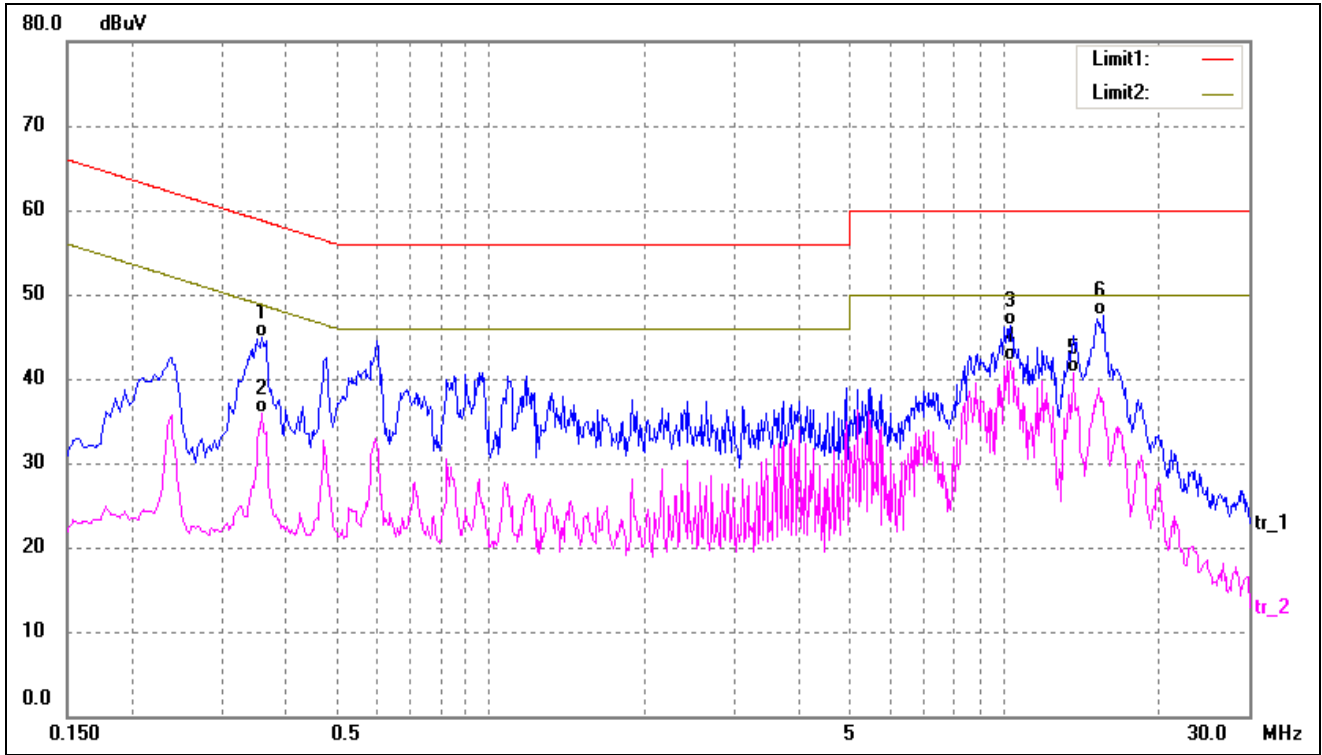
10.4 Summary of Test Results/Plots

Test Mode	Communication	AC120V 60Hz	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.5900	21.88	10.21	32.09	46.00	-13.91	AVG
2	0.5980	31.75	10.21	41.96	56.00	-14.04	QP
3	10.0940	37.09	10.28	47.37	60.00	-12.63	QP
4*	10.3500	33.17	10.30	43.47	50.00	-6.53	AVG
5	15.4940	36.63	10.58	47.21	60.00	-12.79	QP
6	15.5700	27.58	10.58	38.16	50.00	-11.84	AVG

Test Mode	Communication	AC120V 60Hz	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.3580	34.74	10.25	44.99	58.77	-13.78	QP
2	0.3580	25.58	10.25	35.83	48.77	-12.94	AVG
3	10.2900	36.00	10.29	46.29	60.00	-13.71	QP
4*	10.2900	31.90	10.29	42.19	50.00	-7.81	AVG
5	13.6660	30.12	10.50	40.62	50.00	-9.38	AVG
6	15.6460	37.01	10.58	47.59	60.00	-12.41	QP

APPENDIX SUMMARY

Project No.	WTH21X08091780W	Test Engineer	Gala
Start date	2021/09/06	Finish date	2021/09/06
Temperature	24°C	Humidity	47%
RF specifications	U-NII-1,U-NII-3		

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	ANT 0 dBm/MHz	ANT 1 dBm/MHz	Total dBm/MHz	Limit (dBm/MHz)
802.11a	5180	5.533	5.044	/	11
	5200	6.507	4.933	/	11
	5240	6.768	5.121	/	11
802.11n-HT20	5180	5.744	5.004	8.40	11
	5200	6.079	4.529	8.38	11
	5240	5.130	4.858	8.01	11
802.11n-HT40	5190	0.862	0.458	3.67	11
	5230	0.429	0.559	3.50	11
802.11ac-HT80	5210	-2.134	-2.227	0.83	11

Power Spectral Density							
U-NII-3: 5725-5850MHz							
Operating mode	Test Channel	ANT 0 dBm/300kHz	ANT 1 dBm/300kHz	Factor	ANT 0 dBm/500kHz*	ANT 1 dBm/500kHz*	Limit dBm/500kHz
802.11a	5745	1.600	1.699	2.22	3.820	3.919	30
	5785	1.189	2.127	2.22	3.409	4.347	30
	5825	1.155	3.084	2.22	3.375	4.239	30

*Note: Maximum PSD=PSD(dBm/300kHz)+10log(500kHz/300kHz)=2.22

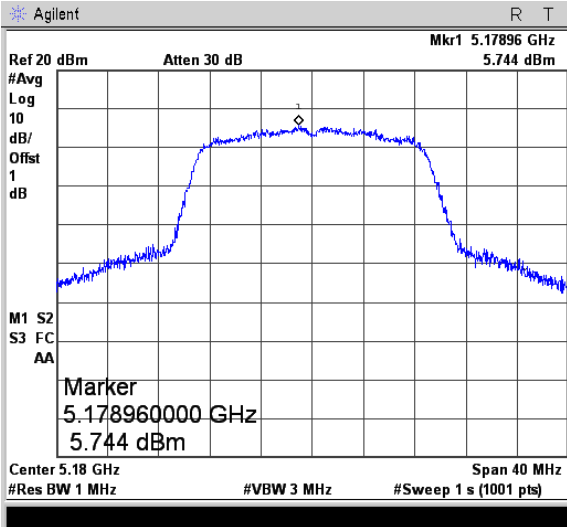
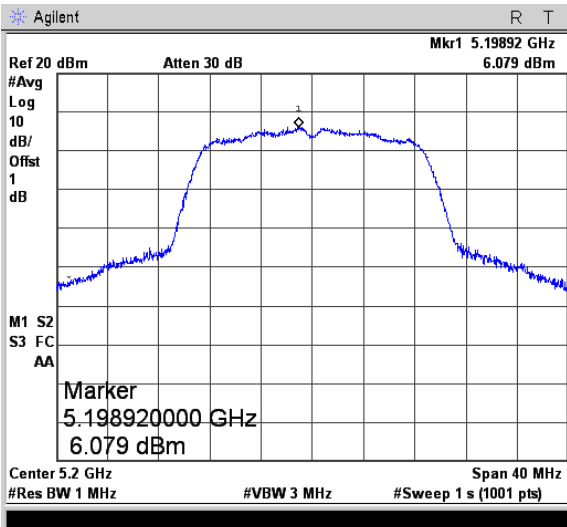
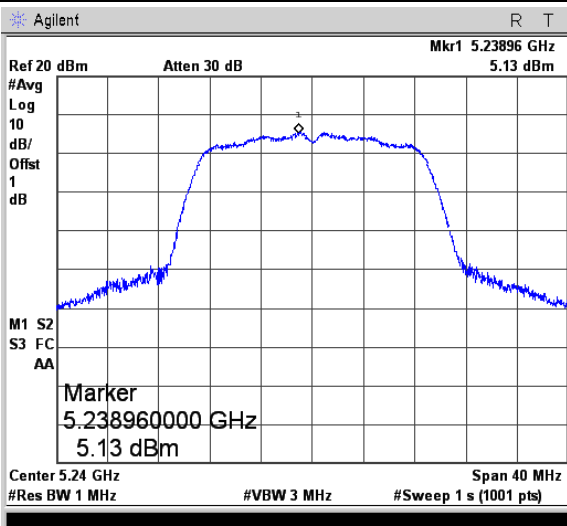
Power Spectral Density							
U-NII-3: 5725-5850MHz							
Operating mode	Test Channel	ANT 0 dBm/300kHz	ANT 1 dBm/300kHz	Factor	Total dBm/500kHz*	Limit dBm/500kHz	
802.11n-HT20	5745	0.331	0.754	2.22	5.78	30	
	5785	0.318	0.827	2.22	5.81	30	
	5825	0.232	-0.435	2.22	5.14	30	
802.11n HT40	5755	-3.504	-3.047	2.22	1.96	30	
	5795	-3.681	-2.417	2.22	2.23	30	
802.11ac VH80	5775	-7.148	-6.624	2.22	-1.65	30	

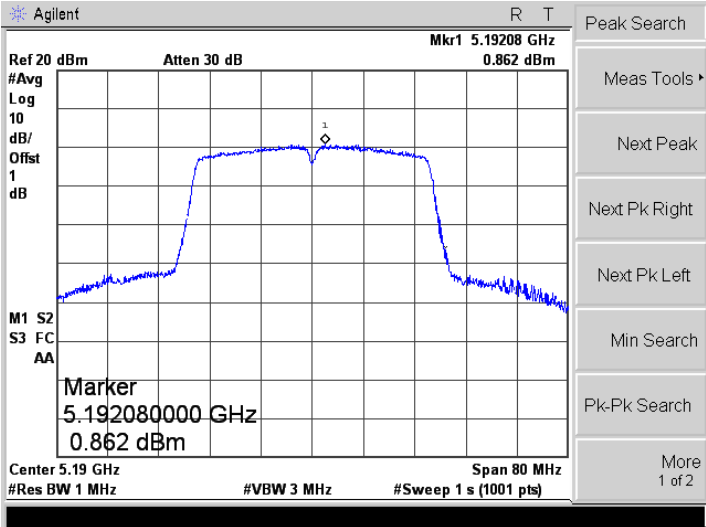
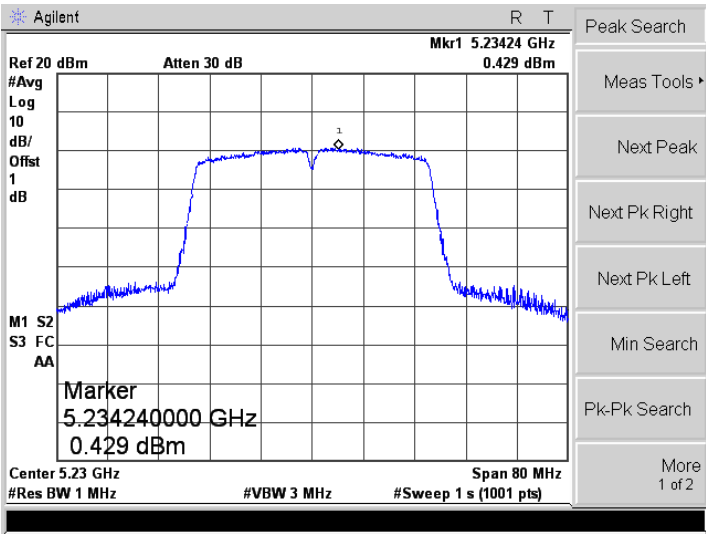
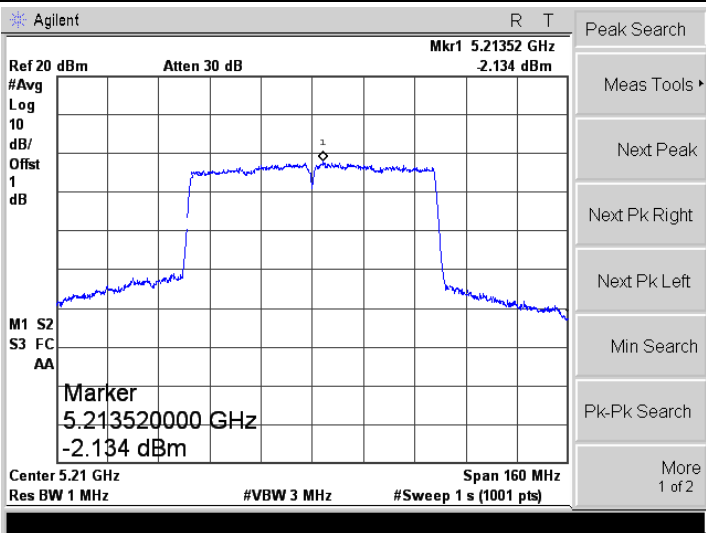
*Note: Maximum PSD=PSD(dBm/300kHz)+10log(500kHz/300kHz)=2.22

ANT 0

5150-5250MHz

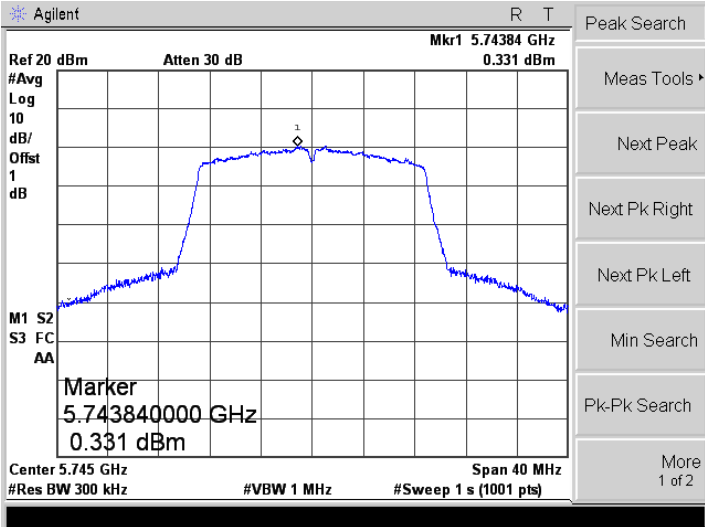
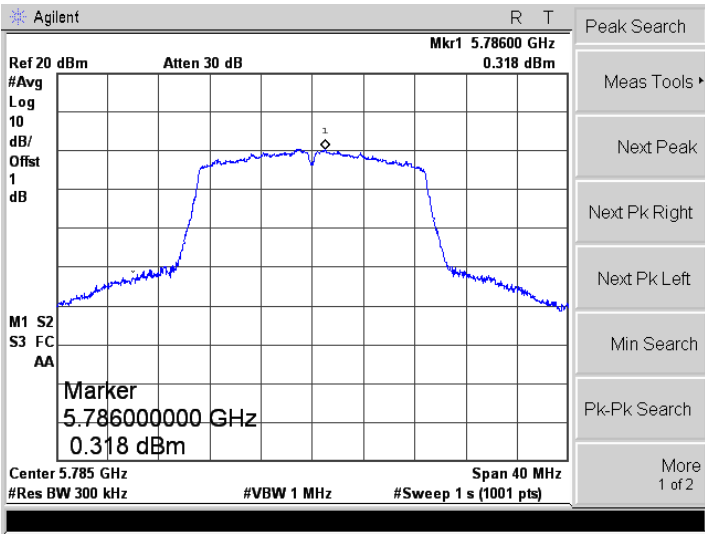
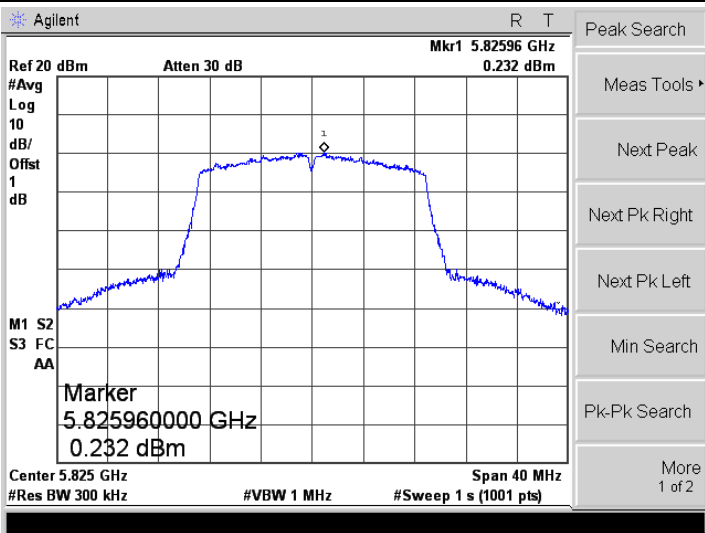
<p>802.11a-Low</p>	<p>Agilent R T</p> <p>Ref 20 dBm Atten 30 dB Mkr1 5.18088 GHz 5.533 dBm</p> <p>#Avg 10 Log dB/Offst 1 dB</p> <p>M1 S2 S3 FC AA</p> <p>RBW 1.000000000 MHz</p> <p>Center 5.18 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p> <p>Trace/View: Trace 1, 2, 3; Clear Write; Max Hold; Min Hold; View; Blank; More 1 of 2</p>
<p>802.11a-Middle</p>	<p>Agilent R T</p> <p>Ref 20 dBm Atten 30 dB Mkr1 5.20092 GHz 6.507 dBm</p> <p>#Avg 10 Log dB/Offst 1 dB</p> <p>M1 S2 S3 FC AA</p> <p>Marker 5.200920000 GHz 6.507 dBm</p> <p>Center 5.2 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p> <p>Peak Search; Meas Tools; Next Peak; Next Pk Right; Next Pk Left; Min Search; Pk-Pk Search; More 1 of 2</p>
<p>802.11a-High</p>	<p>Agilent R T</p> <p>Ref 20 dBm Atten 30 dB Mkr1 5.24160 GHz 6.768 dBm</p> <p>#Avg 10 Log dB/Offst 1 dB</p> <p>M1 S2 S3 FC AA</p> <p>Center 5.24 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p> <p>Peak Search; Meas Tools; Next Peak; Next Pk Right; Next Pk Left; Min Search; Pk-Pk Search; More 1 of 2</p>

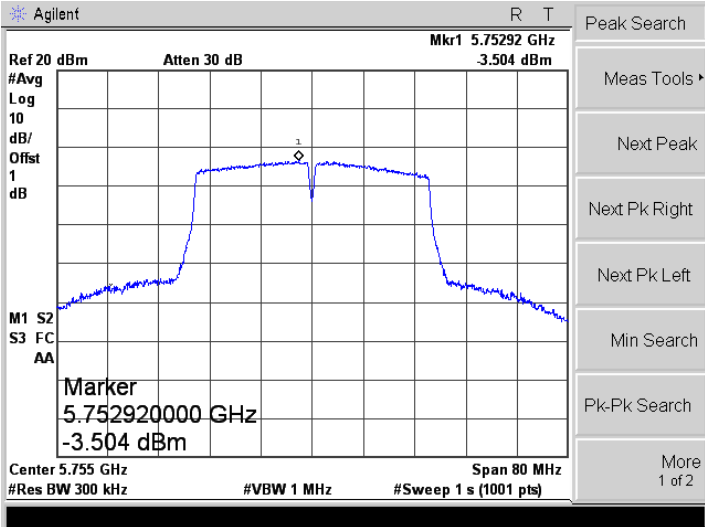
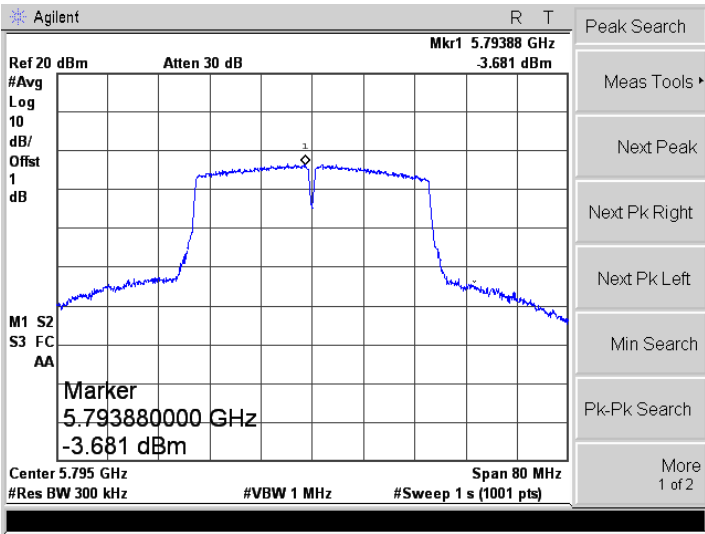
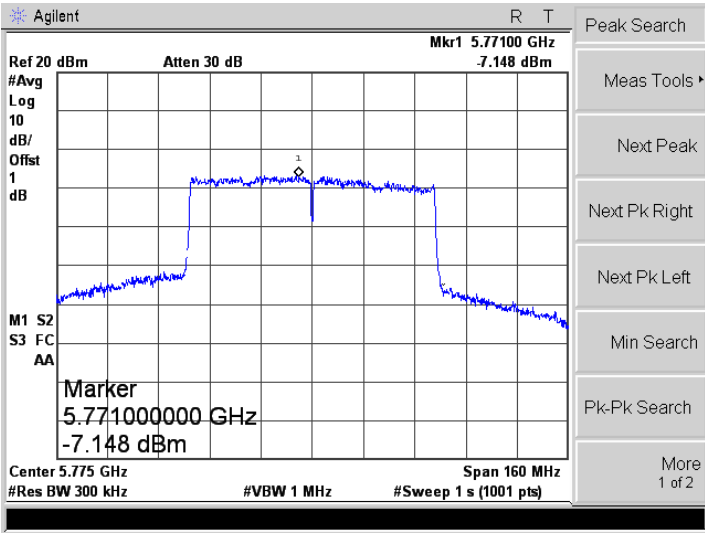
<p>802.11n-HT20-Low</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.17896 GHz 5.744 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.178960000 GHz 5.744 dBm Center 5.18 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11n-HT20-Middle</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.19892 GHz 6.079 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.198920000 GHz 6.079 dBm Center 5.2 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11n-HT20-High</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.23896 GHz 5.13 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.238960000 GHz 5.13 dBm Center 5.24 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>

<p>802.11n-HT40-Low</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.19208 GHz 0.862 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.192080000 GHz 0.862 dBm Center 5.19 GHz Span 80 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11n-HT40-High</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.23424 GHz 0.429 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.234240000 GHz 0.429 dBm Center 5.23 GHz Span 80 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11ac-HT80</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.21352 GHz -2.134 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.213520000 GHz -2.134 dBm Center 5.21 GHz Span 160 MHz Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>

5725-5850MHz

<p>802.11a-Low</p>	<p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.74436 GHz 1.6 dBm #Avg Log 10 dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.744360000 GHz 1.6 dBm Center 5.745 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11a-Middle</p>	<p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.78448 GHz 1.189 dBm #Avg Log 10 dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.784480000 GHz 1.189 dBm Center 5.785 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11a-High</p>	<p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.82432 GHz 1.155 dBm #Avg Log 10 dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.824320000 GHz 1.155 dBm Center 5.825 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz #Sweep 1 s (1001 pts)</p>

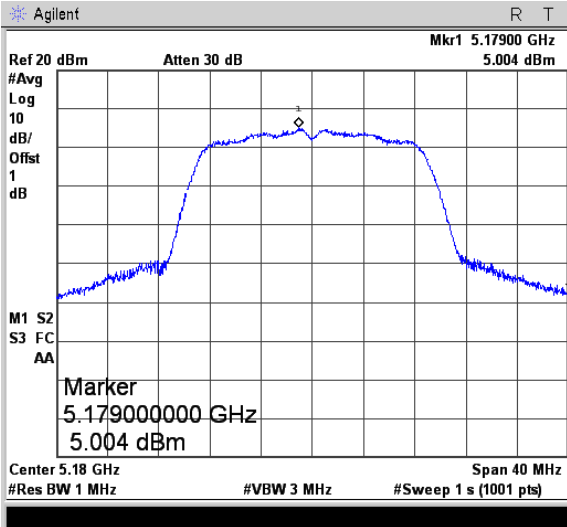
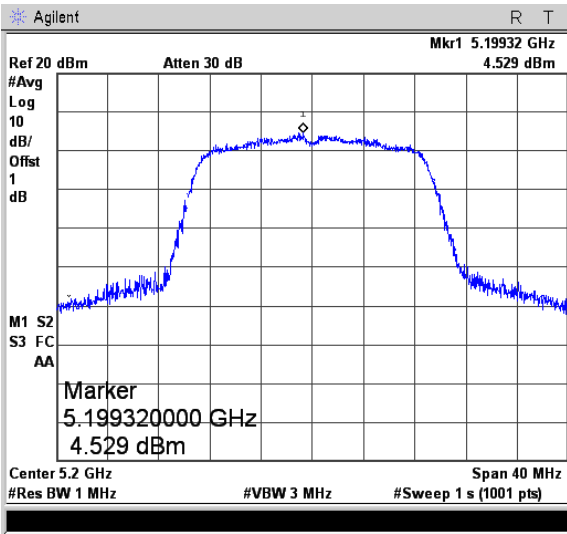
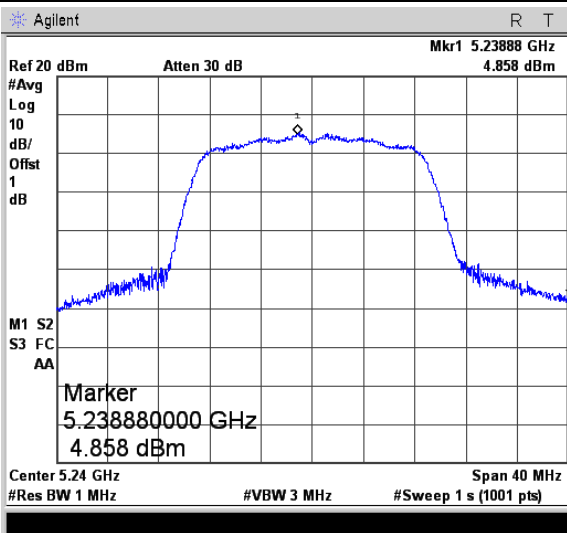
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<p>802.11n-HT20-Middle</p>	
<p>802.11n-HT20-High</p>	

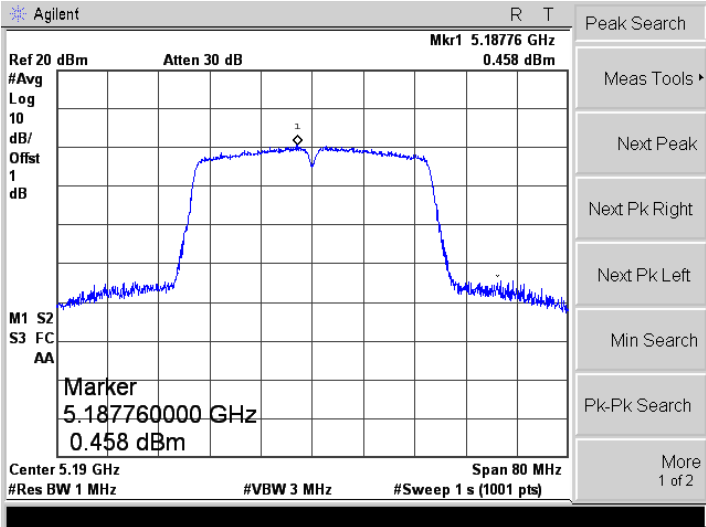
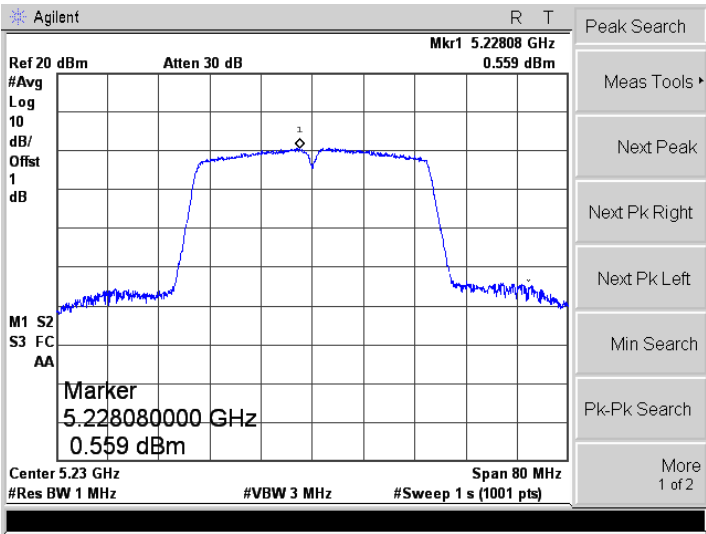
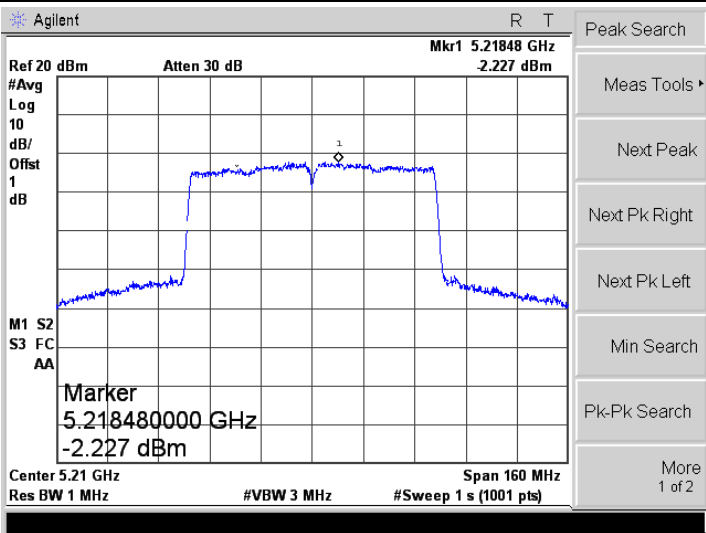
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ANT 1

5150-5250MHz

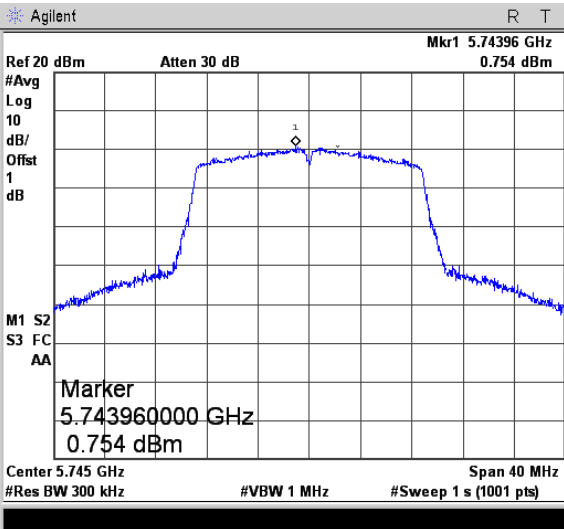
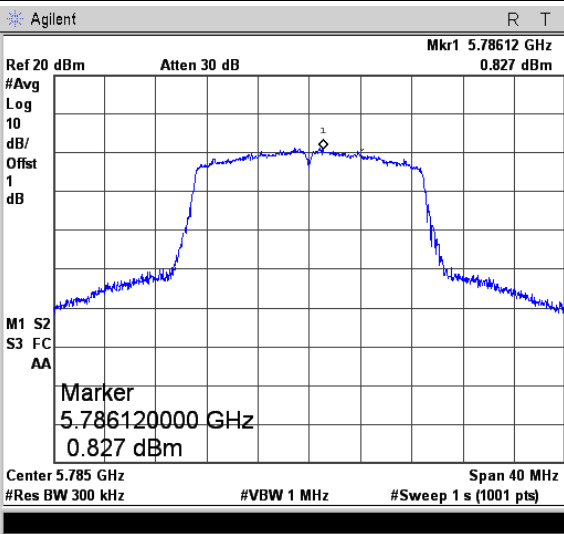
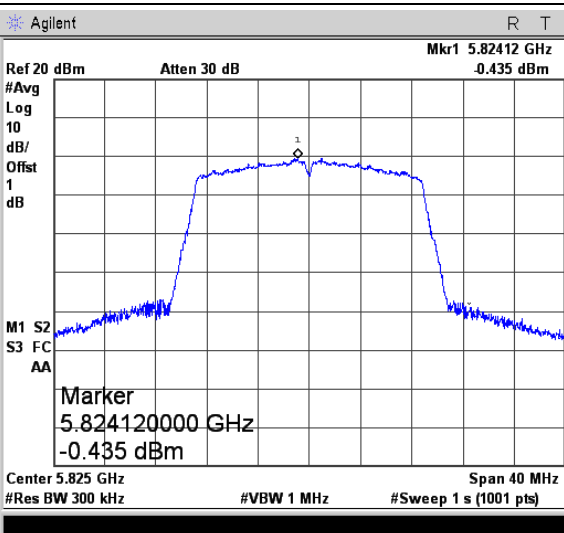
<p>802.11a-Low</p>	<p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.18080 GHz 5.044 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.18080000 GHz 5.044 dBm Center 5.18 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11a-Middle</p>	<p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.20152 GHz 4.933 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.20152000 GHz 4.933 dBm Center 5.2 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11a-High</p>	<p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.24172 GHz 5.121 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.24172000 GHz 5.121 dBm Center 5.24 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>

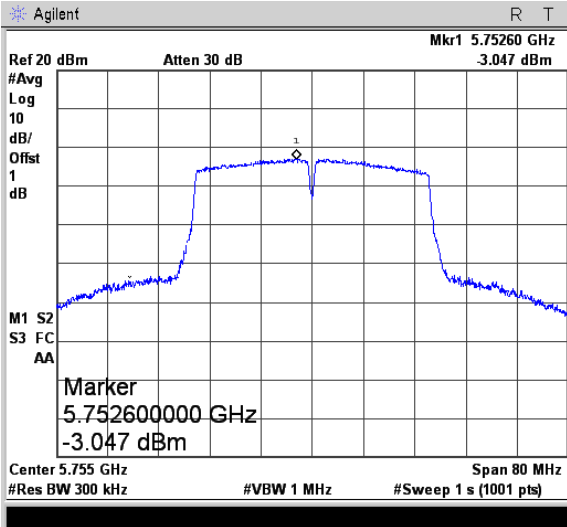
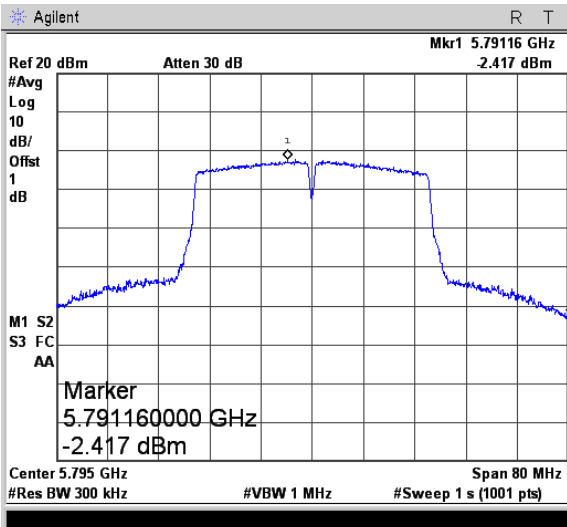
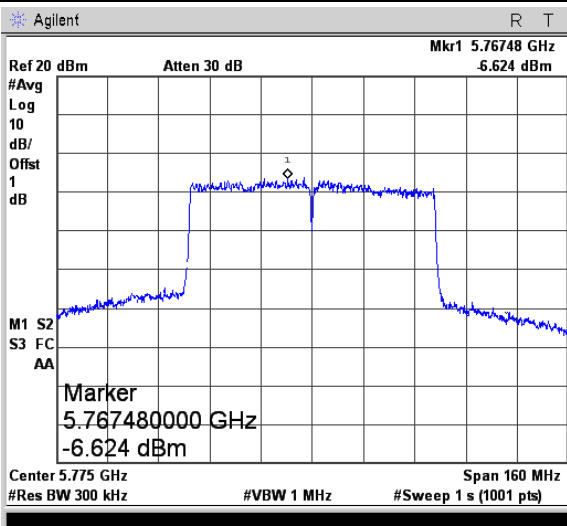
<p>802.11n-HT20-Low</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.17900 GHz #Avg 10 Log dB/Offst 1 dB M1 S2 S3 FC AA Marker 5.17900000 GHz 5.004 dBm Center 5.18 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11n-HT20-Middle</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.19932 GHz #Avg 10 Log dB/Offst 1 dB M1 S2 S3 FC AA Marker 5.19932000 GHz 4.529 dBm Center 5.2 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11n-HT20-High</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.23888 GHz #Avg 10 Log dB/Offst 1 dB M1 S2 S3 FC AA Marker 5.23888000 GHz 4.858 dBm Center 5.24 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>

<p>802.11n-HT40-Low</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.18776 GHz 0.458 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.187760000 GHz 0.458 dBm Center 5.19 GHz Span 80 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11n-HT40-High</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.22808 GHz 0.559 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.228080000 GHz 0.559 dBm Center 5.23 GHz Span 80 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11ac-HT80</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.21848 GHz -2.227 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.218480000 GHz -2.227 dBm Center 5.21 GHz Span 160 MHz Res BW 1 MHz #VBW 3 MHz #Sweep 1 s (1001 pts)</p>

5725-5850MHz

<p>802.11a-Low</p>	<p>Agilent R T</p> <p>Ref 20 dBm Atten 30 dB Mkr1 5.74568 GHz 1.699 dBm</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>M1 S2 S3 FC AA</p> <p>Marker 5.745680000 GHz 1.699 dBm</p> <p>Center 5.745 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz #Sweep 1 s (1001 pts)</p> <p>Peak Search Meas Tools ▶ Next Peak Next Pk Right Next Pk Left Min Search Pk-Pk Search More 1 of 2</p>
<p>802.11a-Middle</p>	<p>Agilent R T</p> <p>Ref 20 dBm Atten 30 dB Mkr1 5.78436 GHz 2.127 dBm</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>M1 S2 S3 FC AA</p> <p>Marker 5.784360000 GHz 2.127 dBm</p> <p>Center 5.785 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz #Sweep 1 s (1001 pts)</p> <p>Peak Search Meas Tools ▶ Next Peak Next Pk Right Next Pk Left Min Search Pk-Pk Search More 1 of 2</p>
<p>802.11a-High</p>	<p>Agilent R T</p> <p>Ref 20 dBm Atten 30 dB Mkr1 5.82504 GHz 3.084 dBm</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>M1 S2 S3 FC AA</p> <p>Marker 5.825040000 GHz 3.084 dBm</p> <p>Center 5.825 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz #Sweep 1 s (1001 pts)</p> <p>Peak Search Meas Tools ▶ Next Peak Next Pk Right Next Pk Left Min Search Pk-Pk Search More 1 of 2</p>

<p>802.11n-HT20-Low</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.74396 GHz 0.754 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.743960000 GHz 0.754 dBm Center 5.745 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11n-HT20-Middle</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.78612 GHz 0.827 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.786120000 GHz 0.827 dBm Center 5.785 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11n-HT20-High</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.82412 GHz -0.435 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.824120000 GHz -0.435 dBm Center 5.825 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz #Sweep 1 s (1001 pts)</p>

<p>802.11n-HT40-Low</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.75260 GHz -3.047 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.75260000 GHz -3.047 dBm Center 5.755 GHz Span 80 MHz #Res BW 300 kHz #VBW 1 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11n-HT40-High</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.79116 GHz -2.417 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.79116000 GHz -2.417 dBm Center 5.795 GHz Span 80 MHz #Res BW 300 kHz #VBW 1 MHz #Sweep 1 s (1001 pts)</p>
<p>802.11ac-HT80</p>	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.76748 GHz -6.624 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.76748000 GHz -6.624 dBm Center 5.775 GHz Span 160 MHz #Res BW 300 kHz #VBW 1 MHz #Sweep 1 s (1001 pts)</p>

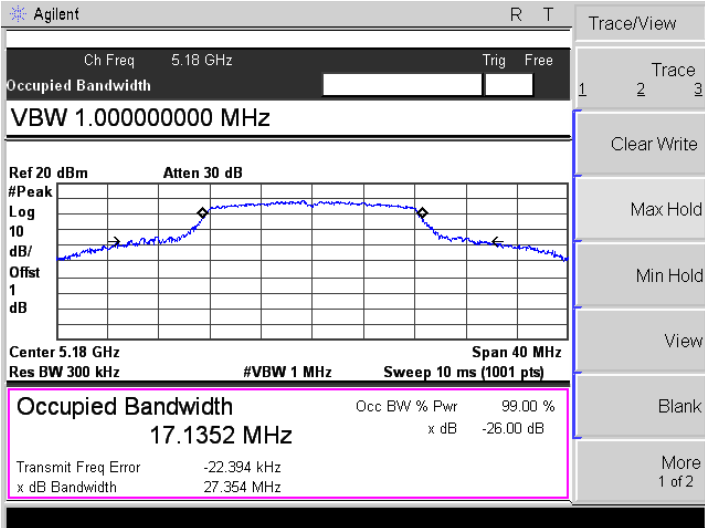
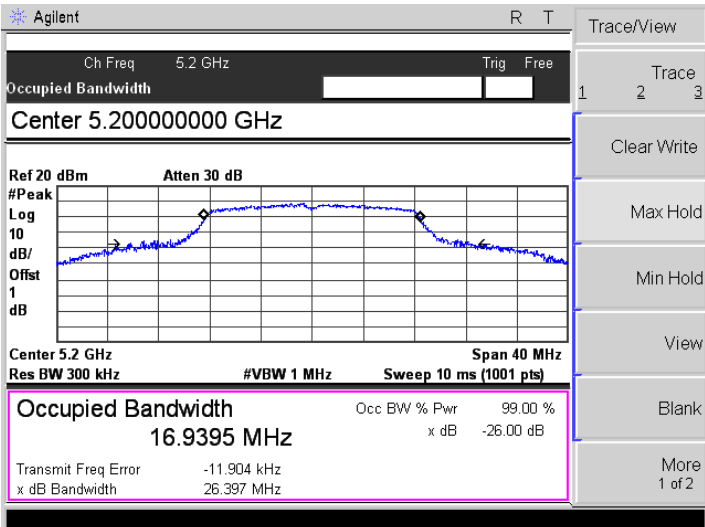
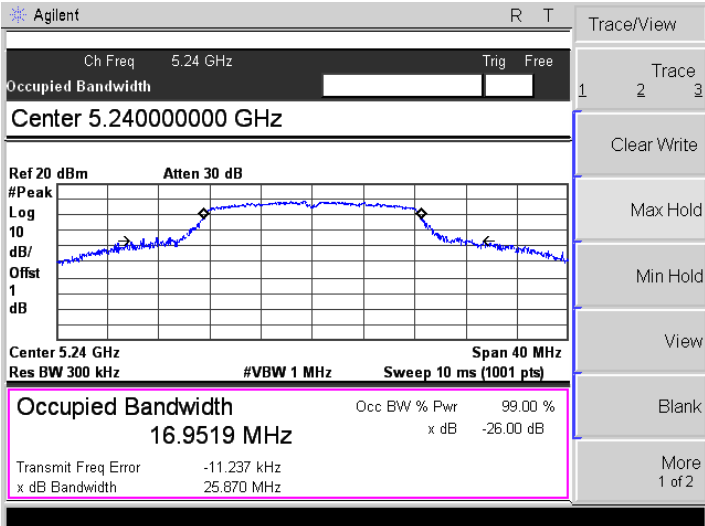
APPENDIX B**Emission Bandwidth and Occupied Bandwidth**

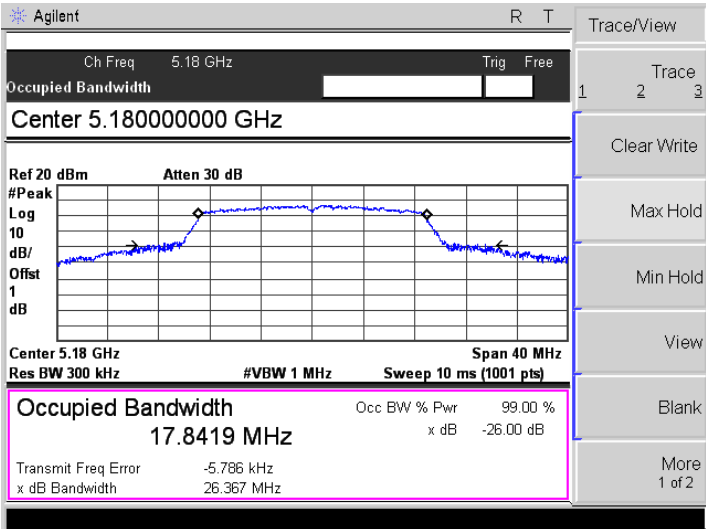
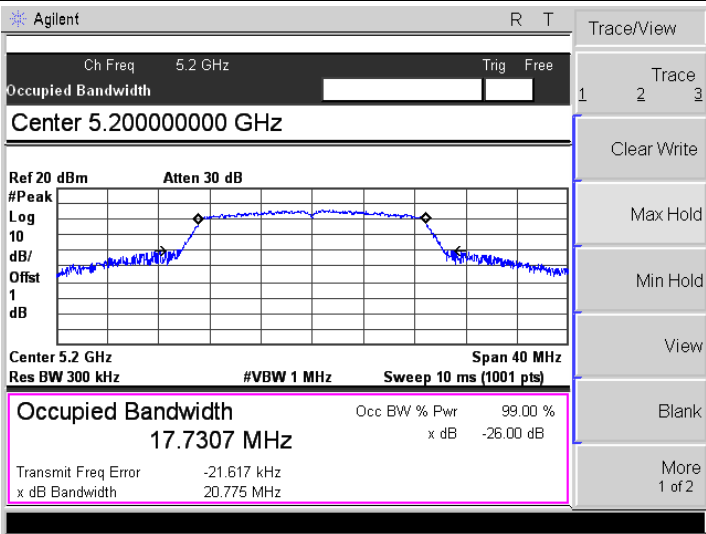
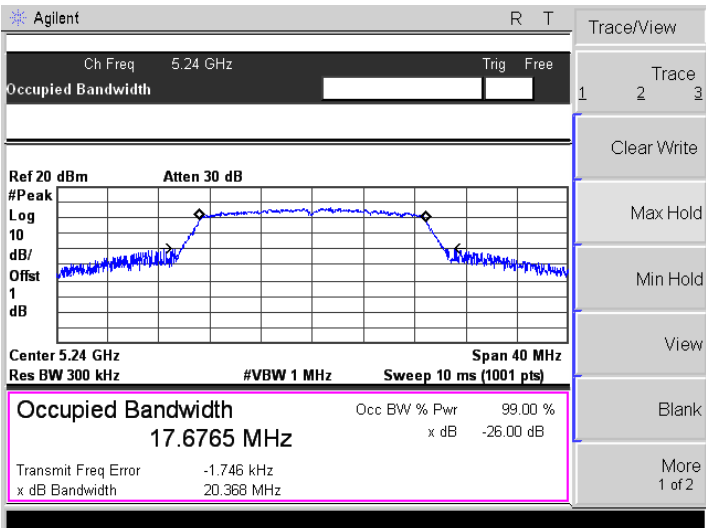
U-NII-1:5150-5250MHz						
Test Mode	Test Channel MHz	ANT 0		ANT 1		Result
		26 dB Bandwidth MHz	99% Bandwidth MHz	26 dB Bandwidth MHz	99% Bandwidth MHz	
802.11a	5180	27.354	17.1352	29.891	17.3051	Pass
	5200	26.397	16.9395	29.723	17.4593	Pass
	5240	25.870	16.9519	29.592	17.4054	Pass
802.11n-HT20	5180	26.367	17.8419	28.746	17.0737	Pass
	5200	20.775	17.7307	27.670	17.0879	Pass
	5240	20.368	17.6765	20.975	17.5944	Pass
802.11n-HT40	5190	40.640	36.1734	39.895	36.2015	Pass
	5230	40.723	36.0964	44.677	36.1839	Pass
802.11ac-HT80	5210	85.084	75.9303	113.335	76.1575	Pass

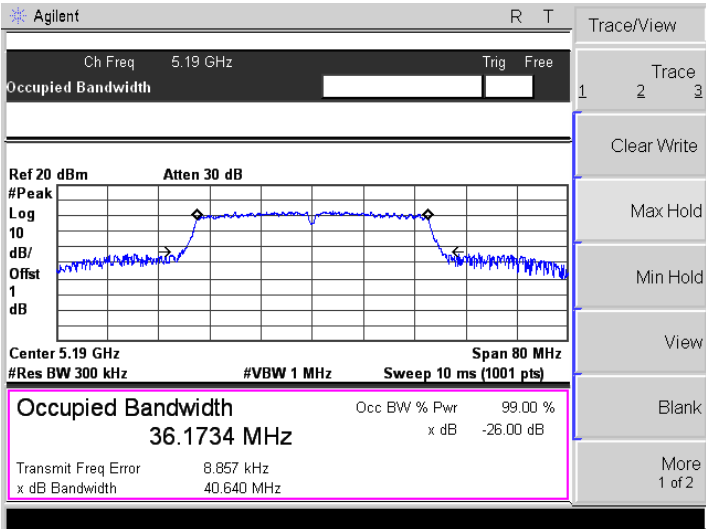
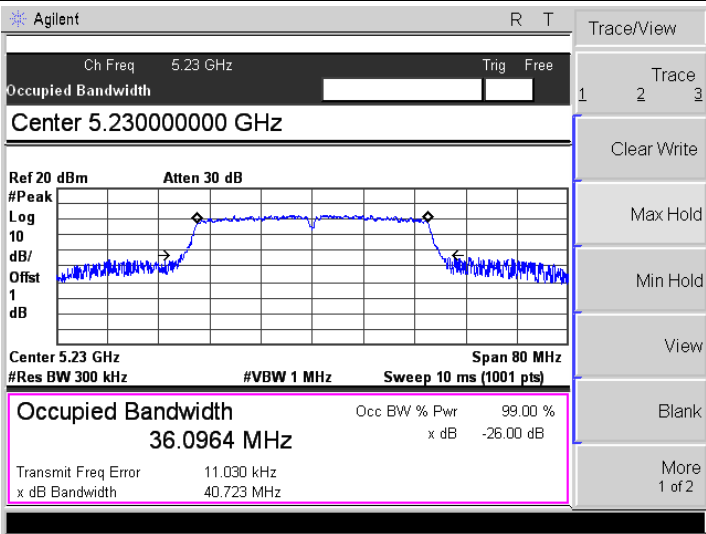
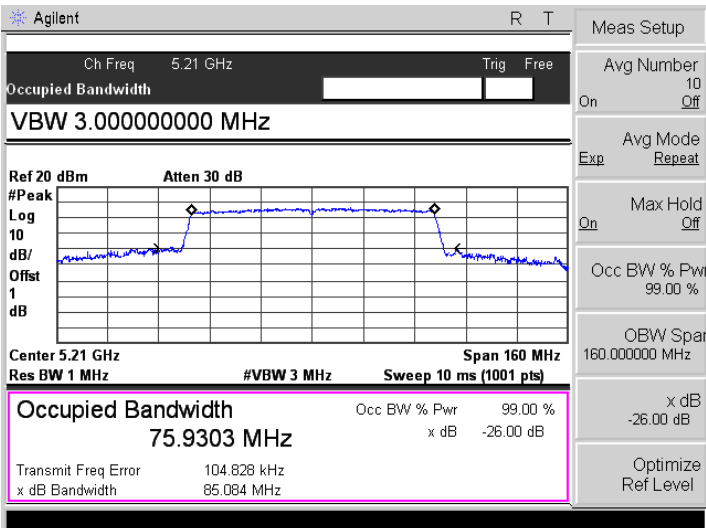
U-NII-3: 5725-5850MHz						
Test Mode	Test Channel MHz	ANT 0		ANT 1		Limit kHz
		6 dB Bandwidth MHz	99% Bandwidth MHz	6 dB Bandwidth MHz	99% Bandwidth MHz	
802.11a	5745	15.090	17.0090	15.158	17.0421	≥500
	5785	15.059	17.0652	15.043	16.9787	≥500
	5825	15.129	17.1114	13.884	16.9558	≥500
802.11n-HT20	5745	15.148	17.7904	15.163	17.8167	≥500
	5785	15.159	17.7696	15.105	17.7975	≥500
	5825	15.034	17.8197	15.094	17.7130	≥500
802.11n-HT40	5755	35.121	36.1757	35.097	36.1789	≥500
	5795	35.024	36.2485	33.941	36.2225	≥500
802.11ac-HT80	5775	75.943	76.3043	76.448	75.9323	≥500

ANT 0

5150-5250MHz

<p>802.11a-Low</p>	 <p>Agilent R T Trace/View</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>VBW 1.00000000 MHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.18 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.1352 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -22.394 kHz x dB Bandwidth 27.354 MHz</p>
<p>802.11a-Middle</p>	 <p>Agilent R T Trace/View</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.20000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.2 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.9395 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -11.904 kHz x dB Bandwidth 26.397 MHz</p>
<p>802.11a-High</p>	 <p>Agilent R T Trace/View</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.24000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.24 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.9519 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -11.237 kHz x dB Bandwidth 25.870 MHz</p>

<p>802.11n-HT20-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.18000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.18 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.8419 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -5.786 kHz</p> <p>x dB Bandwidth 26.367 MHz</p>
<p>802.11n-HT20-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.20000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.2 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.7307 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -21.617 kHz</p> <p>x dB Bandwidth 20.775 MHz</p>
<p>802.11n-HT20-High</p>	 <p>Agilent R T</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.24000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.24 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.6765 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -1.746 kHz</p> <p>x dB Bandwidth 20.368 MHz</p>

<p>802.11n-HT40-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 5.19 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.19 GHz Span 80 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 36.1734 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 8.857 kHz x dB Bandwidth 40.640 MHz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11n-HT40-High</p>	 <p>Agilent R T</p> <p>Ch Freq 5.23 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.230000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.23 GHz Span 80 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 36.0964 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 11.030 kHz x dB Bandwidth 40.723 MHz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11ac-HT80</p>	 <p>Agilent R T</p> <p>Ch Freq 5.21 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>VBW 3.000000000 MHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.21 GHz Span 160 MHz</p> <p>Res BW 1 MHz #VBW 3 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 75.9303 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 104.828 kHz x dB Bandwidth 85.084 MHz</p> <p>Meas Setup</p> <p>Avg Number 10</p> <p>On Off</p> <p>Avg Mode</p> <p>Exp Repeat</p> <p>Max Hold</p> <p>On Off</p> <p>Occ BW % Pwr 99.00 %</p> <p>OBW Spar 160.000000 MHz</p> <p>x dB -26.00 dB</p> <p>Optimize Ref Level</p>

5725-5850MHz
6dB

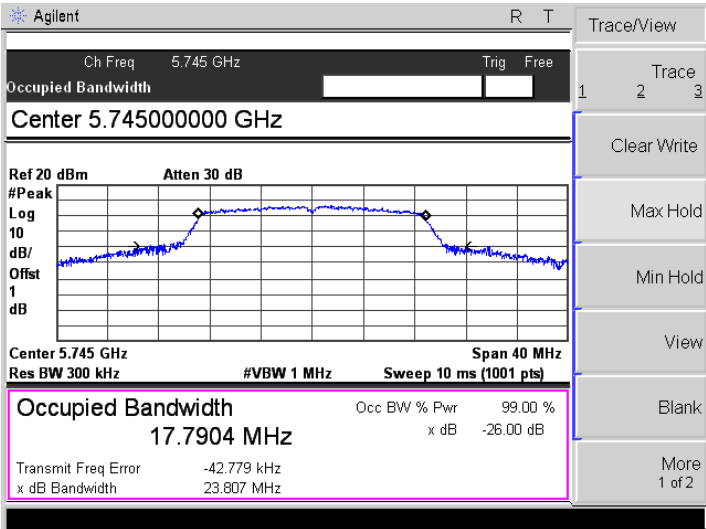
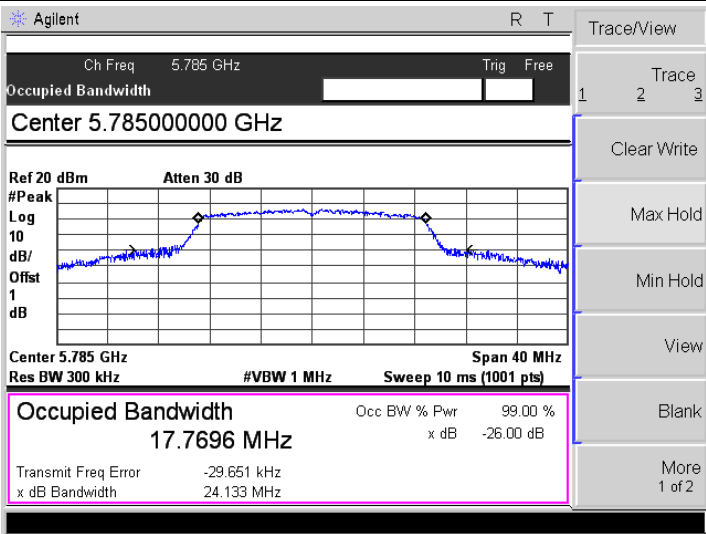
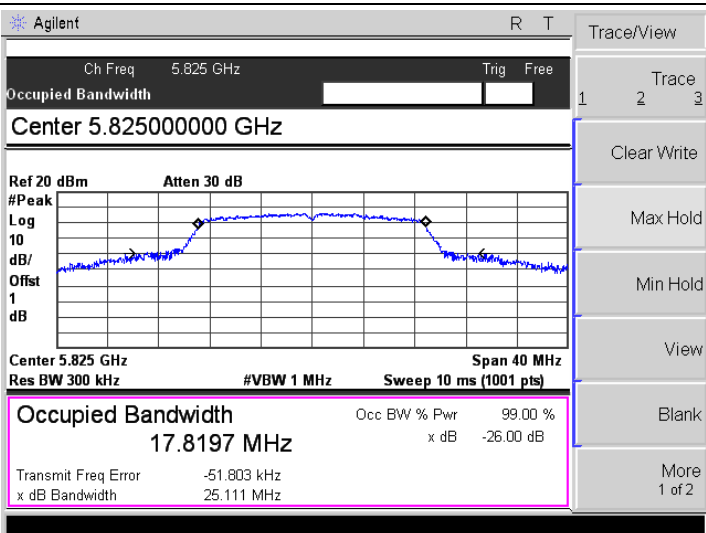
<p>802.11a-Low</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.745 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Span 40.00000000 MHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/Offset 1 dB</p> <p>Center 5.745 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.4472 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -45.399 kHz x dB Bandwidth 15.090 MHz</p>
<p>802.11a-Middle</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.785 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.78500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/Offset 1 dB</p> <p>Center 5.785 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.4782 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -41.175 kHz x dB Bandwidth 15.059 MHz</p>
<p>802.11a-High</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.825 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.82500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/Offset 1 dB</p> <p>Center 5.825 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.4891 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -47.586 kHz x dB Bandwidth 15.129 MHz</p>

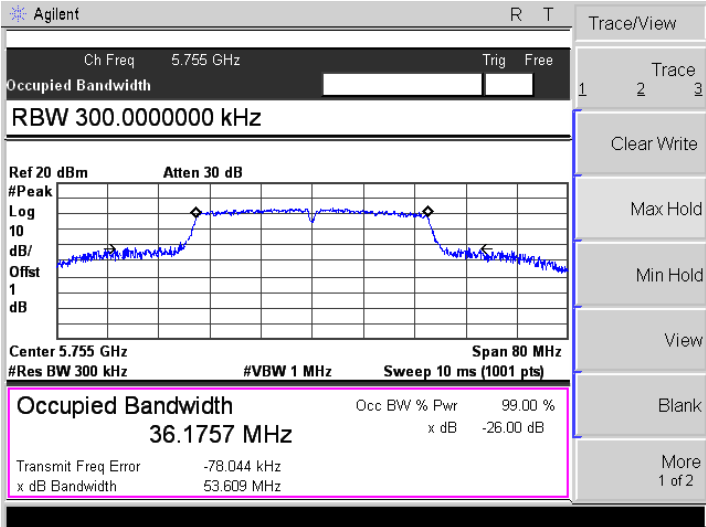
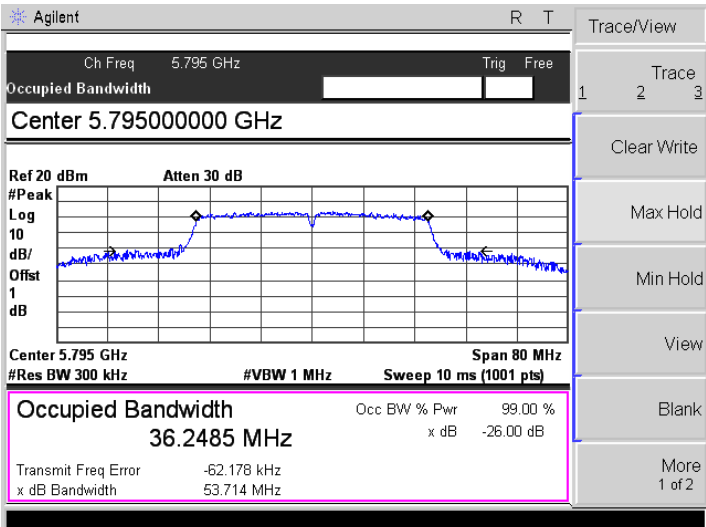
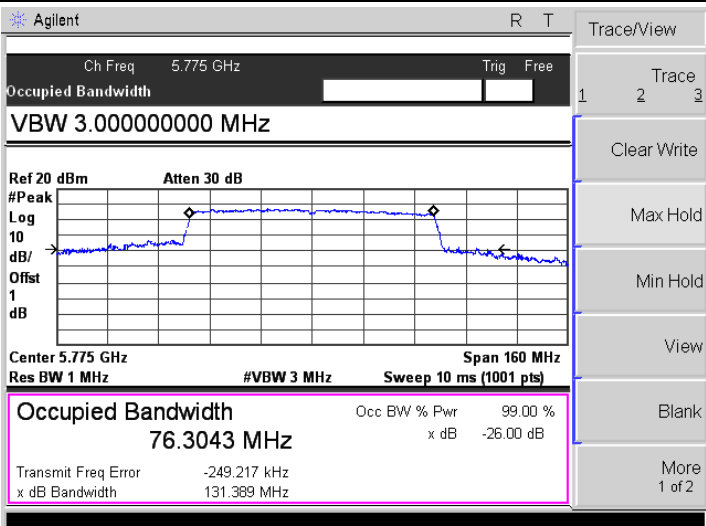
<p>802.11n-HT20-Low</p>	<p>Agilent R T</p> <p>Ch Freq 5.745 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.74500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.745 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.5174 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -36.511 kHz</p> <p>x dB Bandwidth 15.148 MHz</p>
<p>802.11n-HT20-Middle</p>	<p>Agilent R T</p> <p>Ch Freq 5.785 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.78500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.785 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.5406 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -35.191 kHz</p> <p>x dB Bandwidth 15.159 MHz</p>
<p>802.11n-HT20-High</p>	<p>Agilent R T</p> <p>Ch Freq 5.825 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.82500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.825 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.5408 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -29.386 kHz</p> <p>x dB Bandwidth 15.034 MHz</p>

<p>802.11n-HT40-Low</p>	<p>Agilent R T</p> <p>Ch Freq 5.755 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/Offst 1 dB</p> <p>Center 5.755 GHz Span 80 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 36.0483 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -86.577 kHz</p> <p>x dB Bandwidth 35.121 MHz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11n-HT40-High</p>	<p>Agilent R T</p> <p>Ch Freq 5.795 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.79500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/Offst 1 dB</p> <p>Center 5.795 GHz Span 80 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 36.0442 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -75.342 kHz</p> <p>x dB Bandwidth 35.024 MHz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11ac-HT80</p>	<p>Agilent R T</p> <p>Ch Freq 5.775 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/Offst 1 dB</p> <p>Center 5.775 GHz Span 160 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 16.58 ms (1001 pts)</p> <p>Occupied Bandwidth 75.6668 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -211.673 kHz</p> <p>x dB Bandwidth 75.943 MHz</p> <p>Marker</p> <p>Select Marker 1 2 3 4</p> <p>Normal</p> <p>Delta</p> <p>Delta Pair (Tracking Ref) Ref Delta</p> <p>Span Pair Span Center</p> <p>Off</p> <p>More 1 of 2</p>

99%

<p>802.11a-Low</p>	<p>Agilent R T</p> <p>Ch Freq 5.745 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>VBW 1.00000000 MHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log</p> <p>10 dB/</p> <p>Offst</p> <p>1 dB</p> <p>Center 5.745 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.0090 MHz</p> <p>Occ BW % Pwr 99.00 %</p> <p>x dB -26.00 dB</p> <p>Transmit Freq Error -70.932 kHz</p> <p>x dB Bandwidth 26.466 MHz</p>
<p>802.11a-Middle</p>	<p>Agilent R T</p> <p>Ch Freq 5.785 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.78500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log</p> <p>10 dB/</p> <p>Offst</p> <p>1 dB</p> <p>Center 5.785 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.0652 MHz</p> <p>Occ BW % Pwr 99.00 %</p> <p>x dB -26.00 dB</p> <p>Transmit Freq Error -71.498 kHz</p> <p>x dB Bandwidth 27.816 MHz</p>
<p>802.11a-High</p>	<p>Agilent R T</p> <p>Ch Freq 5.825 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.82500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log</p> <p>10 dB/</p> <p>Offst</p> <p>1 dB</p> <p>Center 5.825 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.1114 MHz</p> <p>Occ BW % Pwr 99.00 %</p> <p>x dB -26.00 dB</p> <p>Transmit Freq Error -64.540 kHz</p> <p>x dB Bandwidth 29.893 MHz</p>

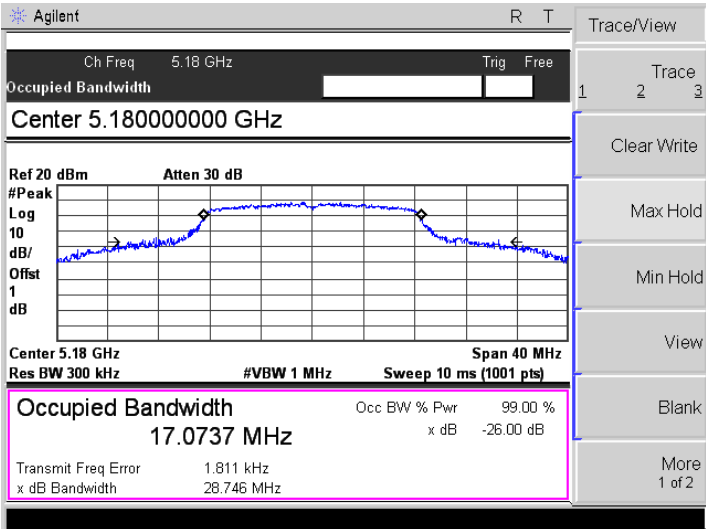
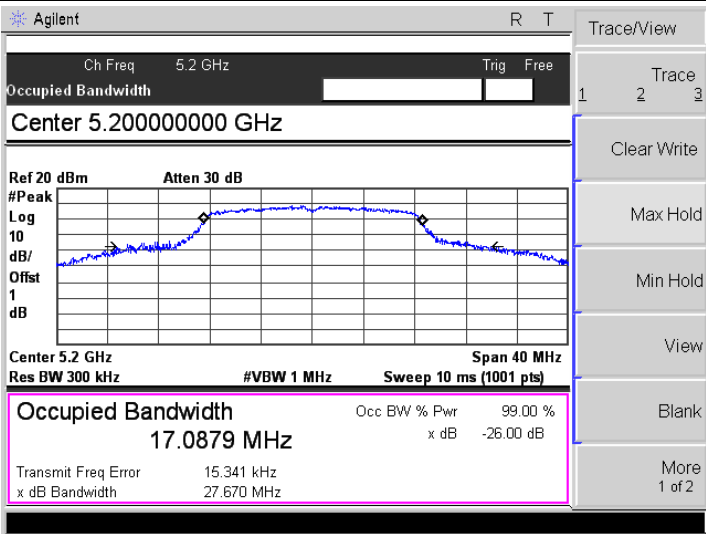
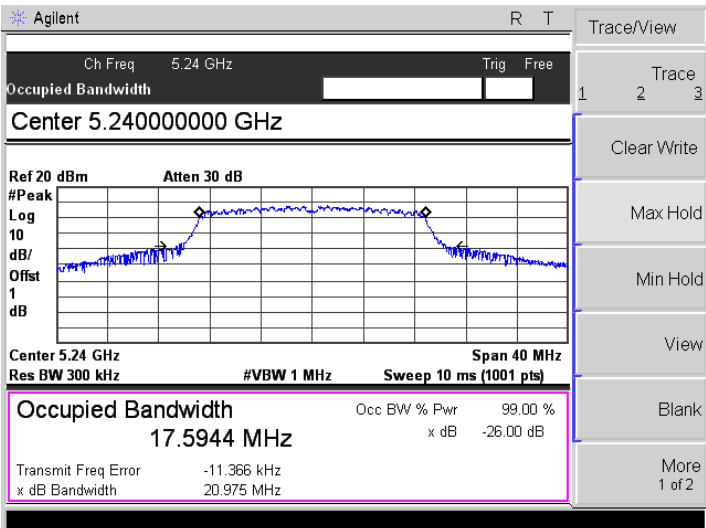
<p>802.11n-HT20-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 5.745 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.74500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.745 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.7904 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -42.779 kHz</p> <p>x dB Bandwidth 23.807 MHz</p>
<p>802.11n-HT20-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 5.785 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.78500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.785 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.7696 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -29.651 kHz</p> <p>x dB Bandwidth 24.133 MHz</p>
<p>802.11n-HT20-High</p>	 <p>Agilent R T</p> <p>Ch Freq 5.825 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.82500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.825 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.8197 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -51.803 kHz</p> <p>x dB Bandwidth 25.111 MHz</p>

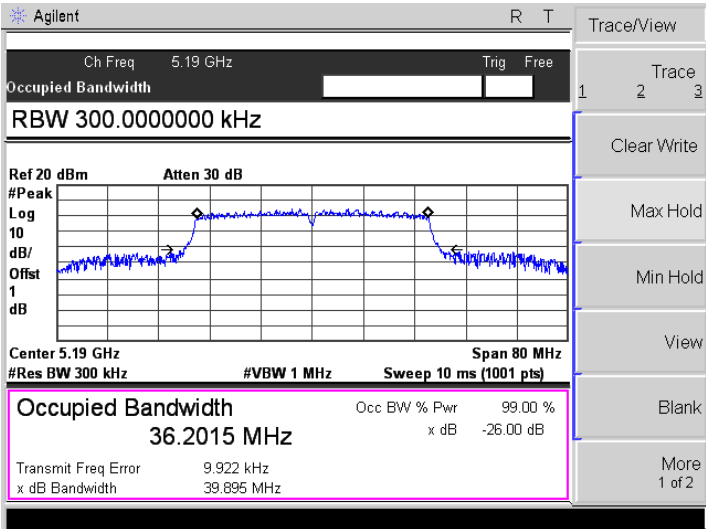
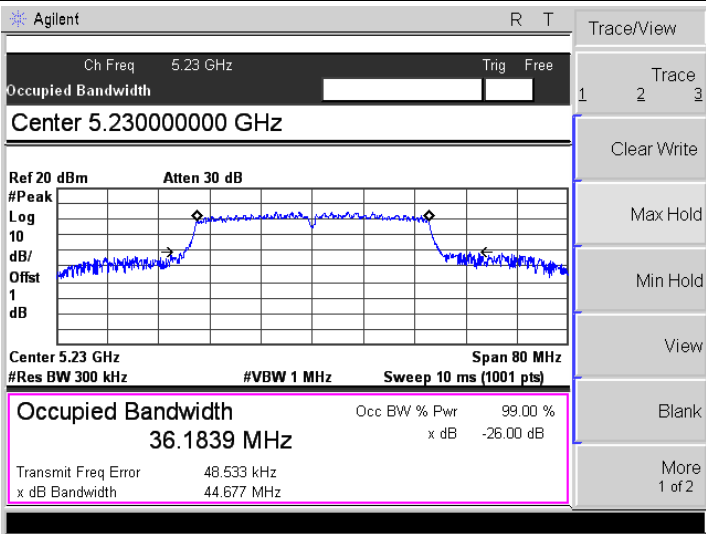
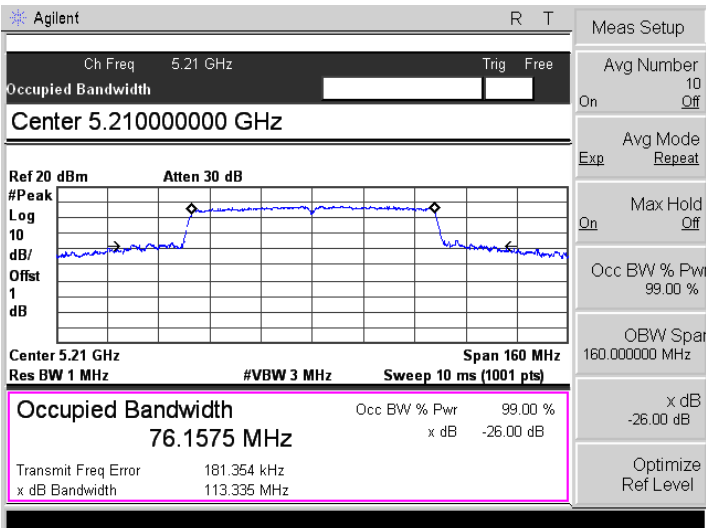
<p>802.11n-HT40-Low</p>	 <p>Agilent R T Trace/View</p> <p>Ch Freq 5.755 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>RBW 300.0000000 kHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log</p> <p>10 dB/</p> <p>Offst</p> <p>1 dB</p> <p>Center 5.755 GHz Span 80 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>36.1757 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -78.044 kHz</p> <p>x dB Bandwidth 53.609 MHz</p> <p>Trace/View</p> <p>1 2 3 Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11n-HT40-High</p>	 <p>Agilent R T Trace/View</p> <p>Ch Freq 5.795 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.79500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log</p> <p>10 dB/</p> <p>Offst</p> <p>1 dB</p> <p>Center 5.795 GHz Span 80 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>36.2485 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -62.178 kHz</p> <p>x dB Bandwidth 53.714 MHz</p> <p>Trace/View</p> <p>1 2 3 Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11ac-HT80</p>	 <p>Agilent R T Trace/View</p> <p>Ch Freq 5.775 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>VBW 3.000000000 MHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log</p> <p>10 dB/</p> <p>Offst</p> <p>1 dB</p> <p>Center 5.775 GHz Span 160 MHz</p> <p>Res BW 1 MHz #VBW 3 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>76.3043 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -249.217 kHz</p> <p>x dB Bandwidth 131.389 MHz</p> <p>Trace/View</p> <p>1 2 3 Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>

ANT 1

5150-5250MHz

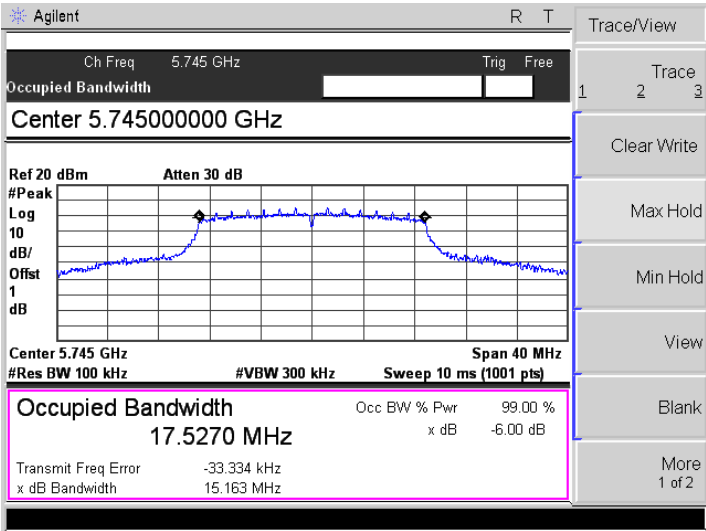
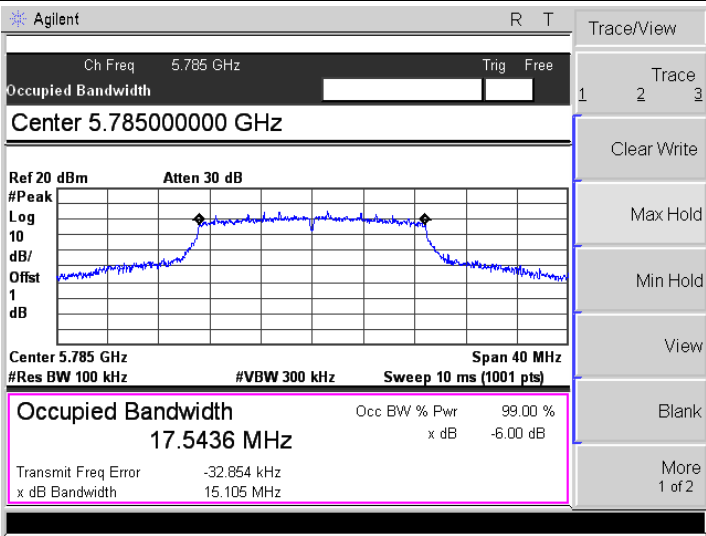
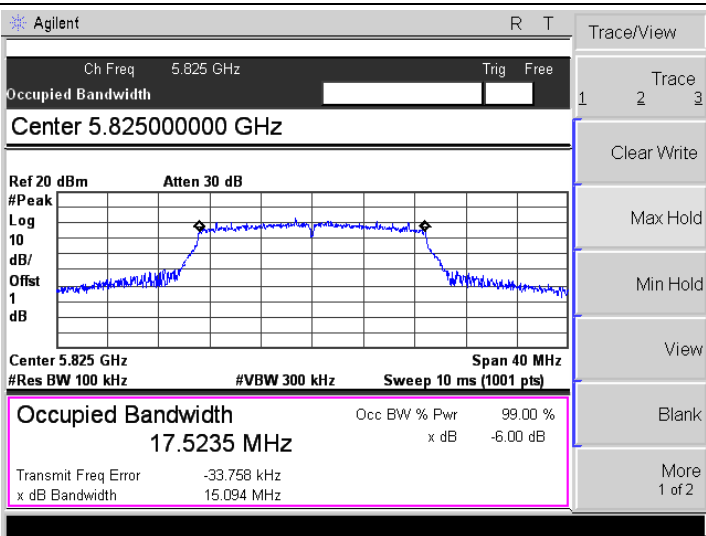
<p>802.11a-Low</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.18 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 17.3051 MHz x dB -26.00 dB</p> <p>Transmit Freq Error 110.674 kHz x dB Bandwidth 29.891 MHz</p>
<p>802.11a-Middle</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.20000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.2 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 17.4593 MHz x dB -26.00 dB</p> <p>Transmit Freq Error 88.111 kHz x dB Bandwidth 29.723 MHz</p>
<p>802.11a-High</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.24000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.24 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 % 17.4054 MHz x dB -26.00 dB</p> <p>Transmit Freq Error 34.772 kHz x dB Bandwidth 29.592 MHz</p>

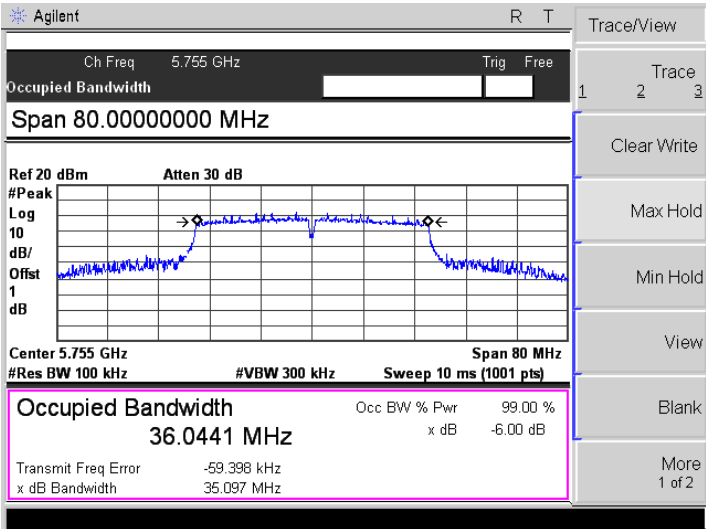
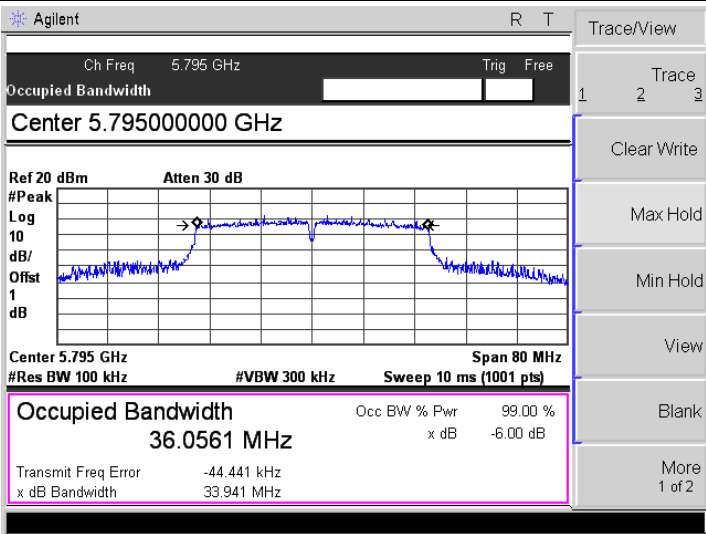
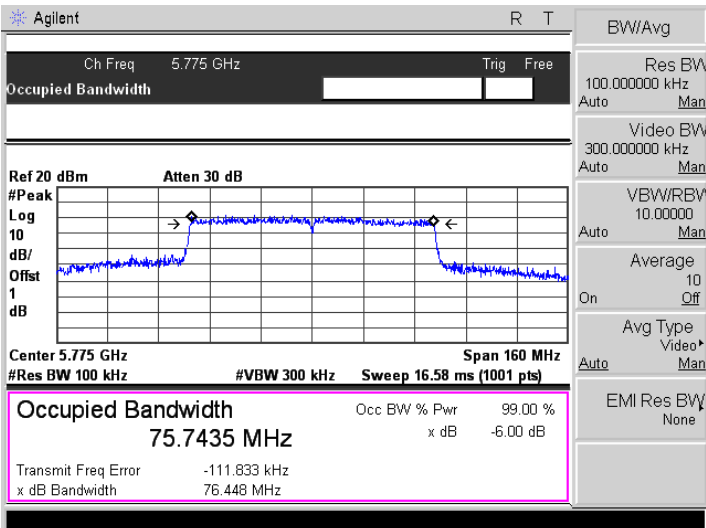
<p>802.11n-HT20-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.18000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.18 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.0737 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 1.811 kHz</p> <p>x dB Bandwidth 28.746 MHz</p>
<p>802.11n-HT20-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.20000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.2 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.0879 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 15.341 kHz</p> <p>x dB Bandwidth 27.670 MHz</p>
<p>802.11n-HT20-High</p>	 <p>Agilent R T</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.24000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.24 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.5944 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -11.366 kHz</p> <p>x dB Bandwidth 20.975 MHz</p>

<p>802.11n-HT40-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 5.19 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>RBW 300.000000 kHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.19 GHz Span 80 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 36.2015 MHz</p> <p>Occ BW % Pwr 99.00 %</p> <p>x dB -26.00 dB</p> <p>Transmit Freq Error 9.922 kHz</p> <p>x dB Bandwidth 39.895 MHz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11n-HT40-High</p>	 <p>Agilent R T</p> <p>Ch Freq 5.23 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.23000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.23 GHz Span 80 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 36.1839 MHz</p> <p>Occ BW % Pwr 99.00 %</p> <p>x dB -26.00 dB</p> <p>Transmit Freq Error 48.533 kHz</p> <p>x dB Bandwidth 44.677 MHz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11ac-HT80</p>	 <p>Agilent R T</p> <p>Ch Freq 5.21 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.21000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.21 GHz Span 160 MHz</p> <p>Res BW 1 MHz #VBW 3 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 76.1575 MHz</p> <p>Occ BW % Pwr 99.00 %</p> <p>x dB -26.00 dB</p> <p>Transmit Freq Error 181.354 kHz</p> <p>x dB Bandwidth 113.335 MHz</p> <p>Meas Setup</p> <p>Avg Number 10</p> <p>On Off</p> <p>Avg Mode</p> <p>Exp Repeat</p> <p>Max Hold</p> <p>On Off</p> <p>Occ BW % Pwr 99.00 %</p> <p>OBW Spar 160.000000 MHz</p> <p>x dB -26.00 dB</p> <p>Optimize Ref Level</p>

5725-5850MHz
6dB

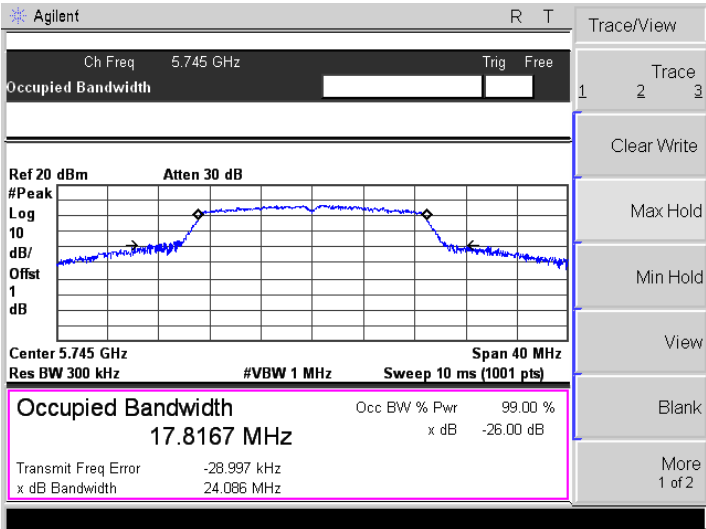
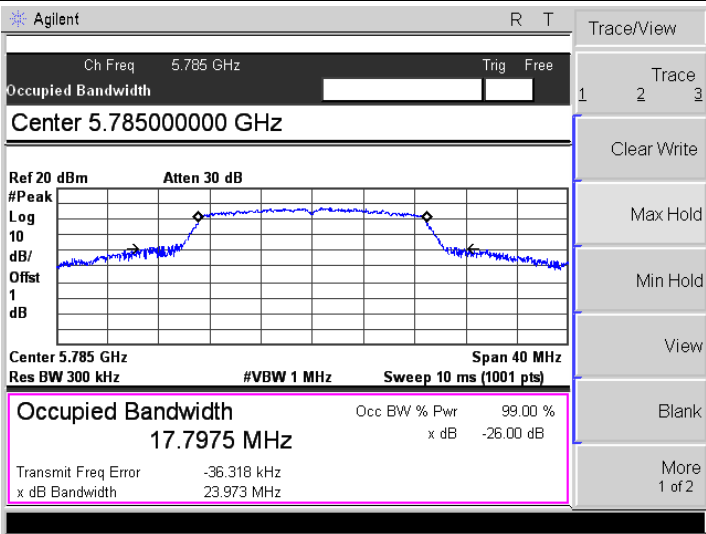
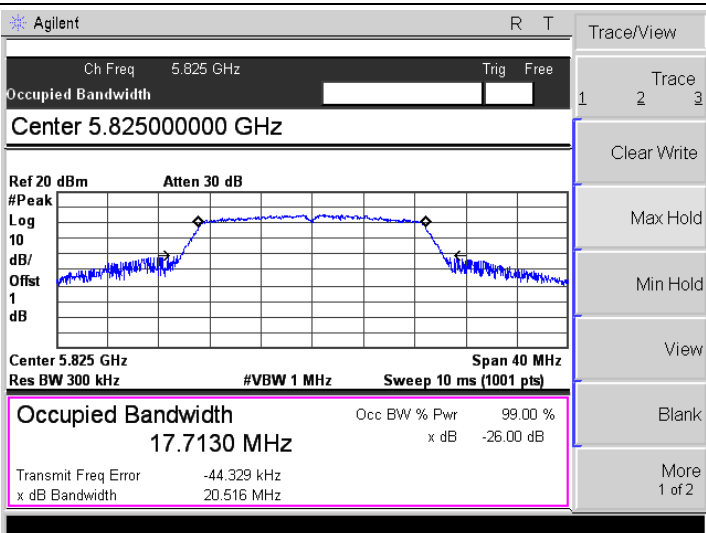
<p>802.11a-Low</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.745 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Span 40.00000000 MHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10</p> <p>dB/</p> <p>Offset 1</p> <p>dB</p> <p>Center 5.745 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.4434 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -43.986 kHz</p> <p>x dB Bandwidth 15.158 MHz</p>
<p>802.11a-Middle</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.785 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.78500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10</p> <p>dB/</p> <p>Offset 1</p> <p>dB</p> <p>Center 5.785 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.4282 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -28.488 kHz</p> <p>x dB Bandwidth 15.043 MHz</p>
<p>802.11a-High</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.825 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.82500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10</p> <p>dB/</p> <p>Offset 1</p> <p>dB</p> <p>Center 5.825 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.3582 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -36.689 kHz</p> <p>x dB Bandwidth 13.884 MHz</p>

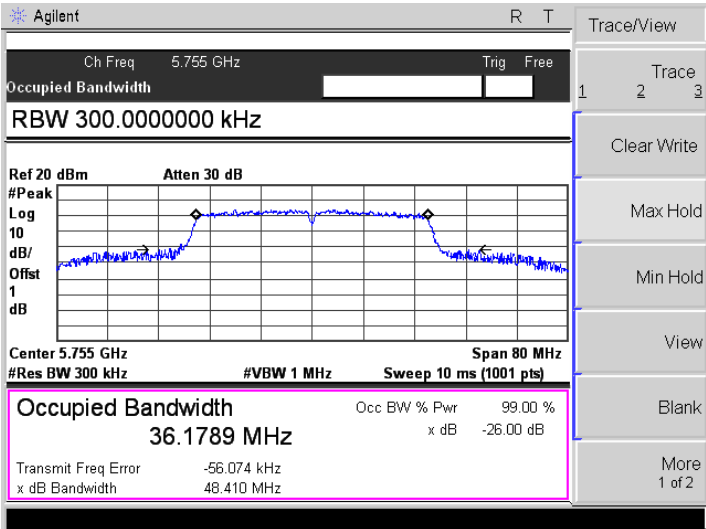
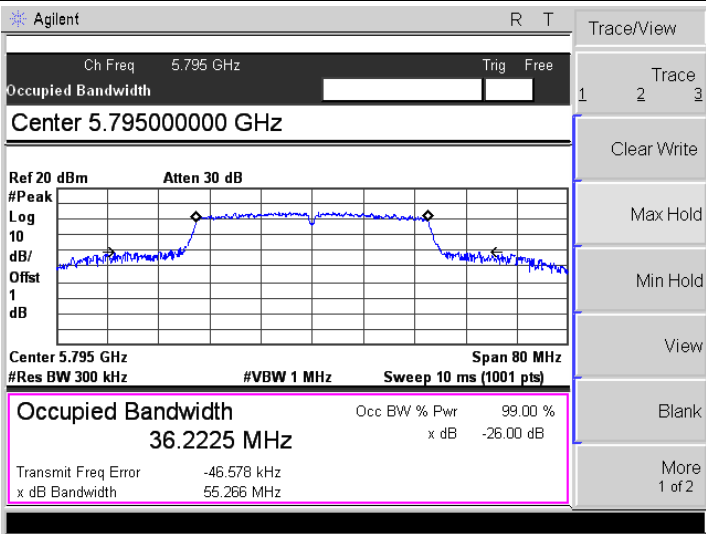
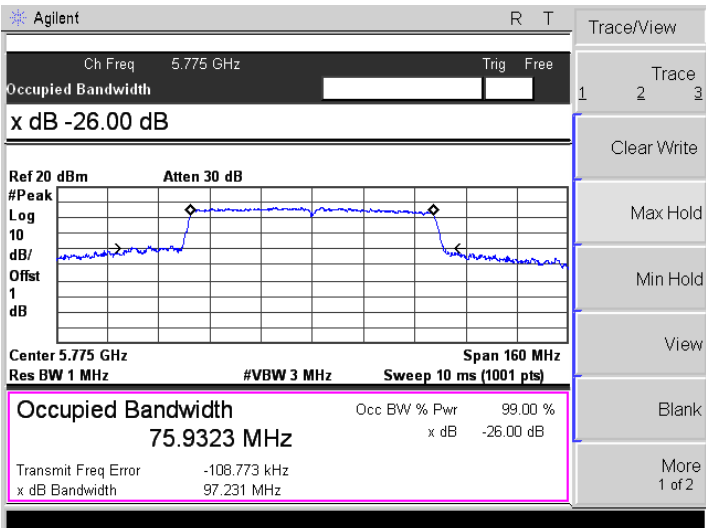
<p>802.11n-HT20-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 5.745 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.74500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.745 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.5270 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -33.334 kHz</p> <p>x dB Bandwidth 15.163 MHz</p>
<p>802.11n-HT20-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 5.785 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.78500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.785 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.5436 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -32.854 kHz</p> <p>x dB Bandwidth 15.105 MHz</p>
<p>802.11n-HT20-High</p>	 <p>Agilent R T</p> <p>Ch Freq 5.825 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.82500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.825 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.5235 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -33.758 kHz</p> <p>x dB Bandwidth 15.094 MHz</p>

<p>802.11n-HT40-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 5.755 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Span 80.00000000 MHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/Offst 1 dB</p> <p>Center 5.755 GHz Span 80 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 36.0441 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -69.398 kHz x dB Bandwidth 35.097 MHz</p>
<p>802.11n-HT40-High</p>	 <p>Agilent R T</p> <p>Ch Freq 5.795 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.79500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/Offst 1 dB</p> <p>Center 5.795 GHz Span 80 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 36.0561 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -44.441 kHz x dB Bandwidth 33.941 MHz</p>
<p>802.11ac-HT80</p>	 <p>Agilent R T</p> <p>Ch Freq 5.775 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/Offst 1 dB</p> <p>Center 5.775 GHz Span 160 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 16.58 ms (1001 pts)</p> <p>Occupied Bandwidth 75.7435 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -111.833 kHz x dB Bandwidth 76.448 MHz</p> <p>BW/Avg</p> <p>Res BW 100.000000 kHz Auto Man</p> <p>Video BW 300.000000 kHz Auto Man</p> <p>VBW/RBW 10.000000 Auto Man</p> <p>Average 10 On Off</p> <p>Avg Type Video Auto Man</p> <p>EMI Res BW None</p>

99%

<p>802.11a-Low</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.745 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>VBW 1.00000000 MHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.745 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.0421 MHz Occ BW % Pwr 99.00 %</p> <p>Transmit Freq Error -74.469 kHz x dB -26.00 dB</p> <p>x dB Bandwidth 26.478 MHz</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11a-Middle</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.785 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.78500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.785 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.9787 MHz Occ BW % Pwr 99.00 %</p> <p>Transmit Freq Error -65.726 kHz x dB -26.00 dB</p> <p>x dB Bandwidth 26.583 MHz</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11a-High</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.825 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.82500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.825 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.9558 MHz Occ BW % Pwr 99.00 %</p> <p>Transmit Freq Error -65.968 kHz x dB -26.00 dB</p> <p>x dB Bandwidth 22.426 MHz</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>

<p>802.11n-HT20-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 5.745 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.745 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.8167 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -28.997 kHz</p> <p>x dB Bandwidth 24.086 MHz</p>
<p>802.11n-HT20-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 5.785 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.78500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.785 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.7975 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -36.318 kHz</p> <p>x dB Bandwidth 23.973 MHz</p>
<p>802.11n-HT20-High</p>	 <p>Agilent R T</p> <p>Ch Freq 5.825 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.82500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak</p> <p>Log 10 dB/</p> <p>Offst 1 dB</p> <p>Center 5.825 GHz Span 40 MHz</p> <p>Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.7130 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -44.329 kHz</p> <p>x dB Bandwidth 20.516 MHz</p>

<p>802.11n-HT40-Low</p>	
<p>802.11n-HT40-High</p>	
<p>802.11ac-HT80</p>	

APPENDIX C

Maximum Conducted Output Power

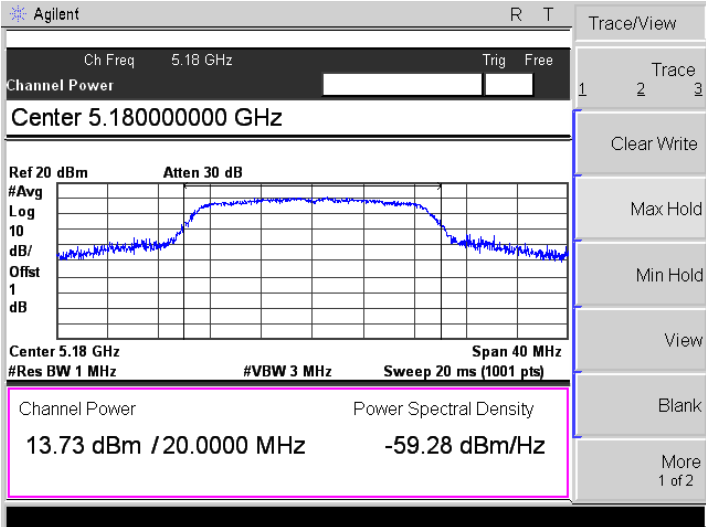
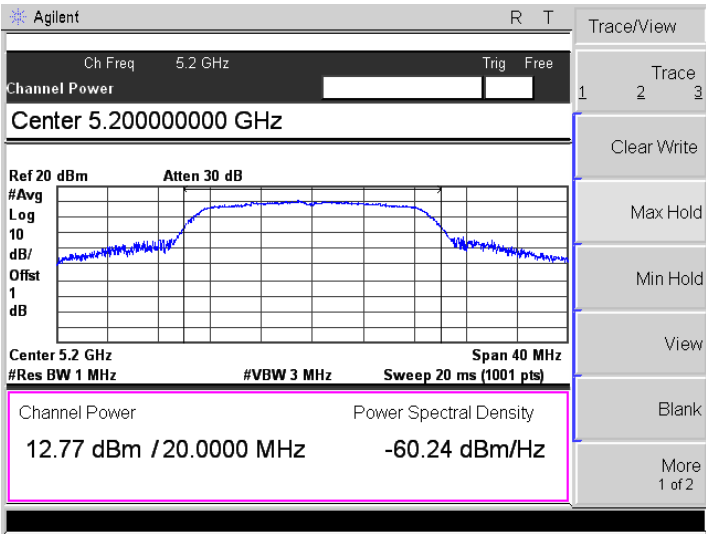
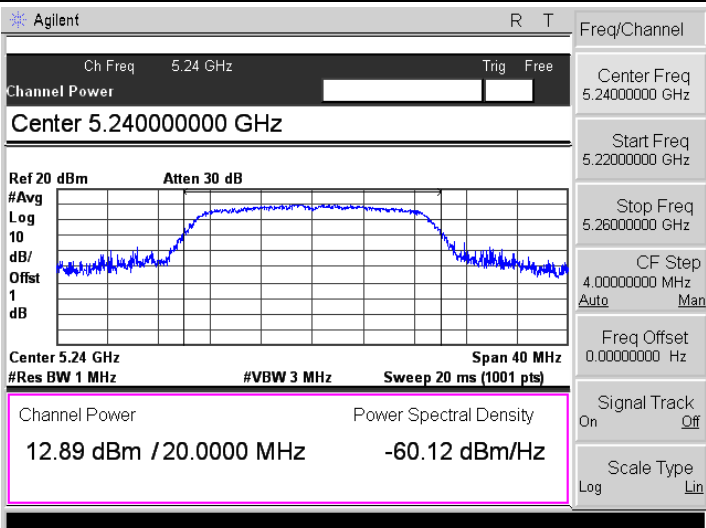
U-NII-1:5150-5250MHz					
Test mode	Frequency MHz	Output Power dBm		Total dBm	Limit dBm
		ANT 0	ANT 1		
802.11a	5180	15.57	15.18	/	23.98
	5200	15.72	15.54	/	23.98
	5240	15.57	16.05	/	23.98
802.11n-HT20	5180	13.73	12.60	16.21	23.98
	5200	12.77	12.51	15.65	23.98
	5240	12.89	12.76	15.84	23.98
802.11n-HT40	5190	13.16	12.63	15.91	23.98
	5230	13.40	13.03	16.23	23.98
802.11ac VH80	5210	11.95	11.87	14.92	23.98

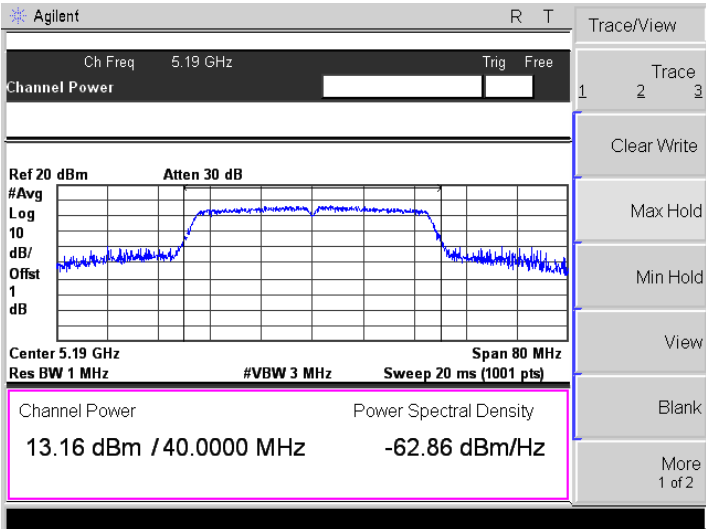
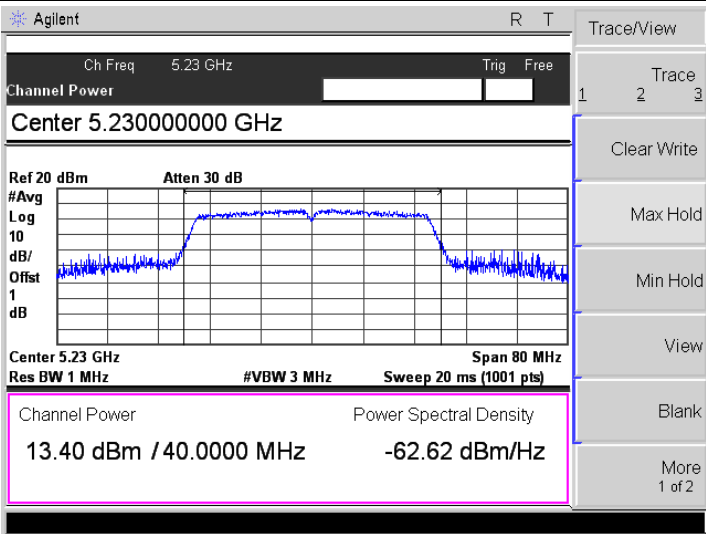
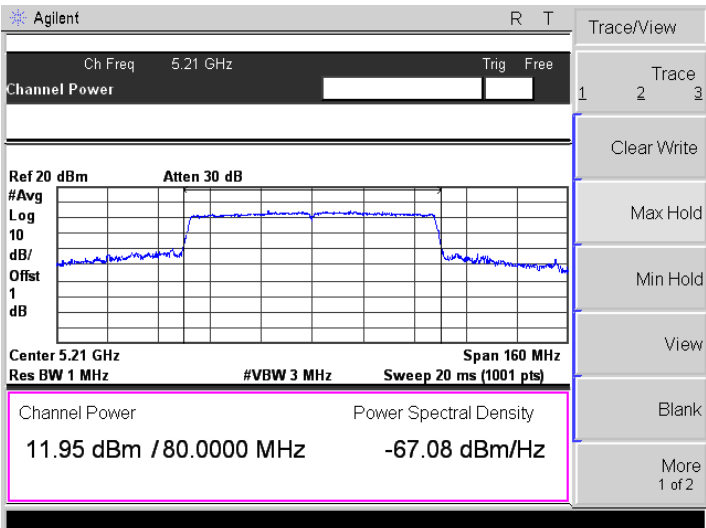
U-NII-3: 5725-5850MHz					
Test mode	Frequency MHz	Output Power dBm		Total dBm	Limit dBm
		ANT 0	ANT 1		
802.11a	5745	15.16	15.26	/	30
	5785	15.20	15.57	/	30
	5825	14.90	13.92	/	30
802.11n-HT20	5745	13.63	13.83	16.74	30
	5785	13.18	14.26	16.76	30
	5825	13.66	12.03	15.93	30
802.11n-HT40	5755	13.72	13.81	16.78	30
	5795	13.90	14.70	17.33	30
802.11ac VH80	5775	12.04	12.07	15.07	30

ANT 0

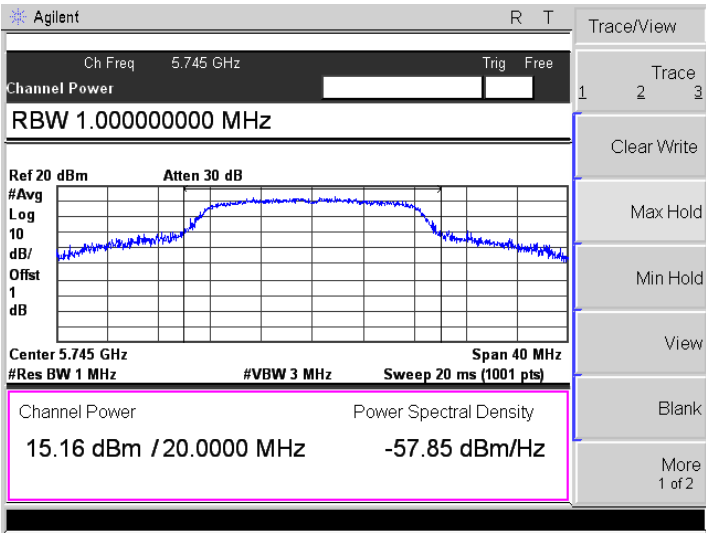
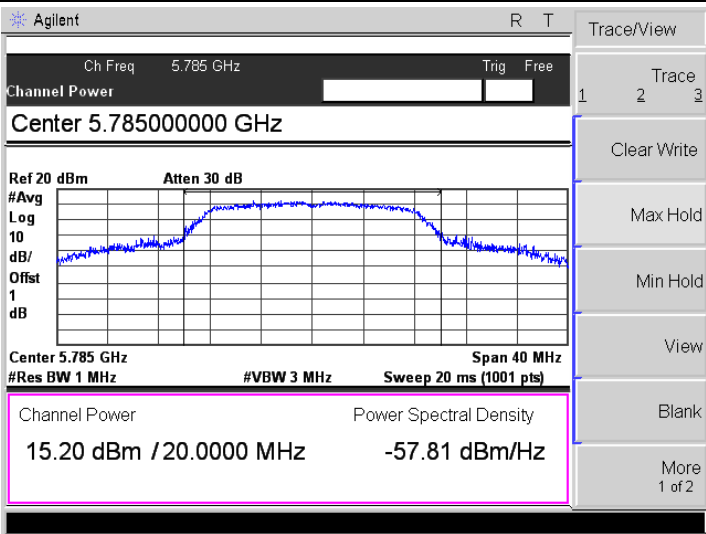
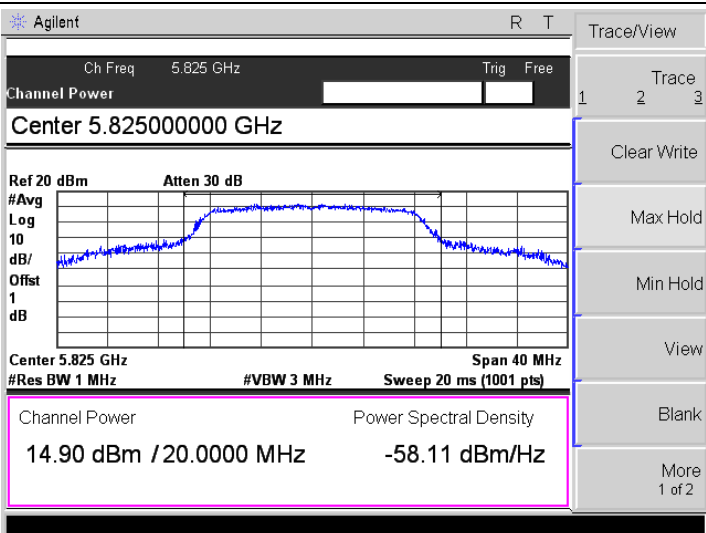
5150-5250MHz

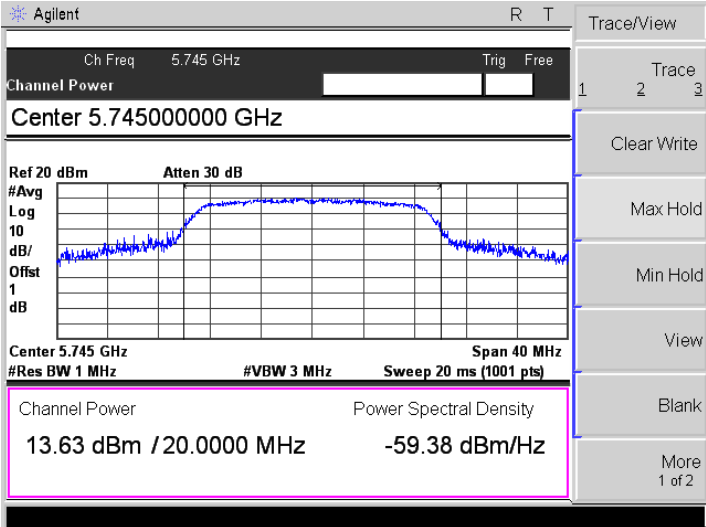
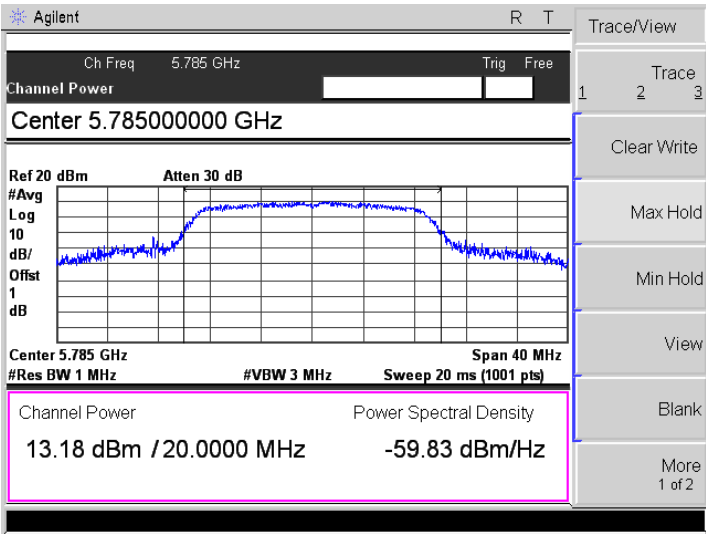
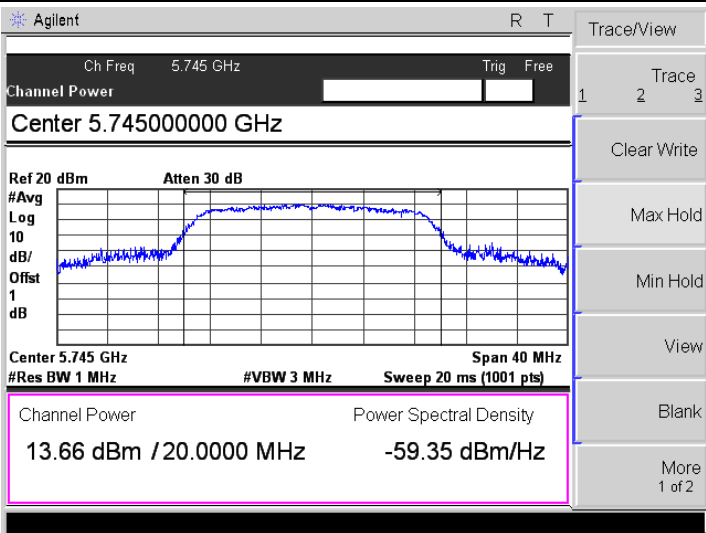
<p>802.11a-Low</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Channel Power</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.18 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>15.57 dBm / 20.0000 MHz -57.45 dBm/Hz</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11a-Middle</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.20000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.2 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>15.72 dBm / 20.0000 MHz -57.29 dBm/Hz</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11a-High</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.24000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.24 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>15.57 dBm / 20.0000 MHz -57.45 dBm/Hz</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>

<p>802.11n-HT20-Low</p>	
<p>802.11n-HT20-Middle</p>	
<p>802.11n-HT20-High</p>	

<p>802.11n-HT40-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 5.19 GHz Trig Free</p> <p>Channel Power</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.19 GHz Span 80 MHz</p> <p>Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.16 dBm / 40.0000 MHz -62.86 dBm/Hz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11n-HT40-High</p>	 <p>Agilent R T</p> <p>Ch Freq 5.23 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.23000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.23 GHz Span 80 MHz</p> <p>Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.40 dBm / 40.0000 MHz -62.62 dBm/Hz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11ac-HT80</p>	 <p>Agilent R T</p> <p>Ch Freq 5.21 GHz Trig Free</p> <p>Channel Power</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.21 GHz Span 160 MHz</p> <p>Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>11.95 dBm / 80.0000 MHz -67.08 dBm/Hz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>

5725-5850MHz

<p>802.11a-Low</p>	
<p>802.11a-Middle</p>	
<p>802.11a-High</p>	

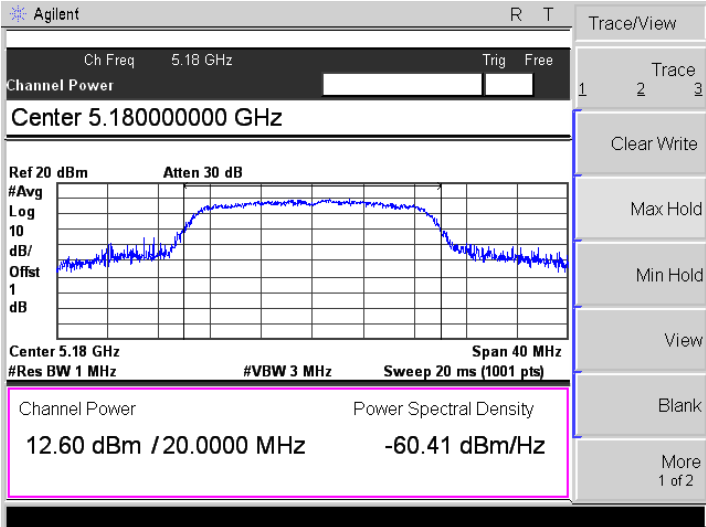
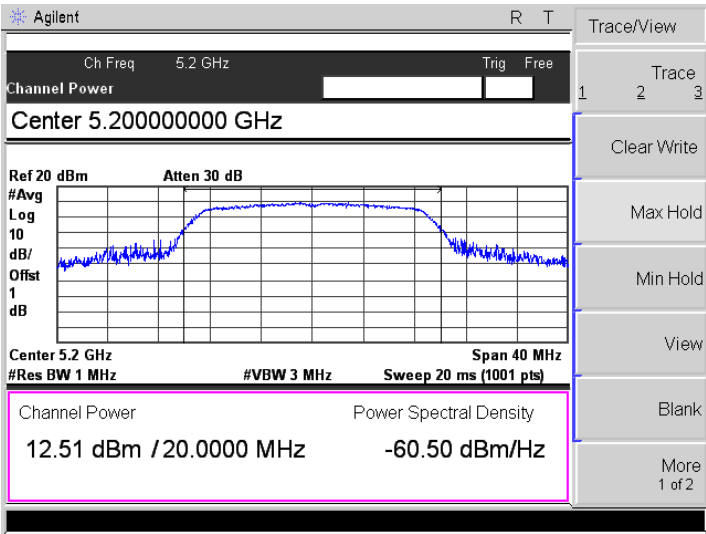
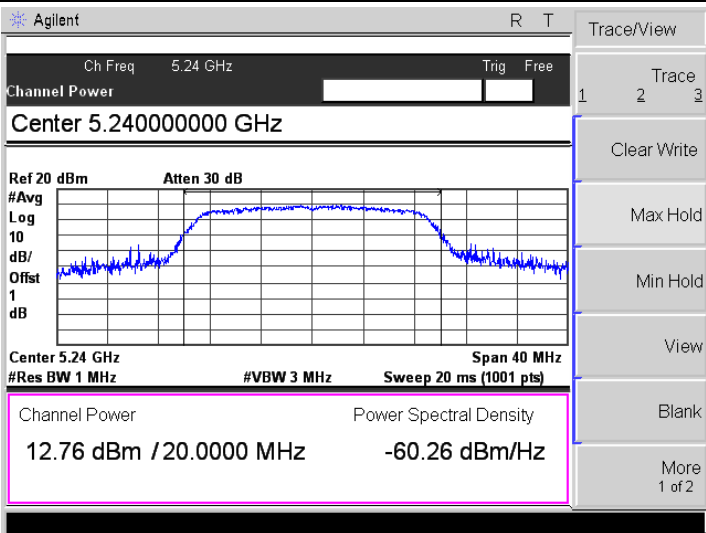
<p>802.11n-HT20-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 5.745 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.74500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.745 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.63 dBm / 20.0000 MHz -59.38 dBm/Hz</p> <p>Trace/View</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11n-HT20-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 5.785 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.78500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.785 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.18 dBm / 20.0000 MHz -59.83 dBm/Hz</p> <p>Trace/View</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11n-HT20-High</p>	 <p>Agilent R T</p> <p>Ch Freq 5.745 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.74500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.745 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.66 dBm / 20.0000 MHz -59.35 dBm/Hz</p> <p>Trace/View</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>

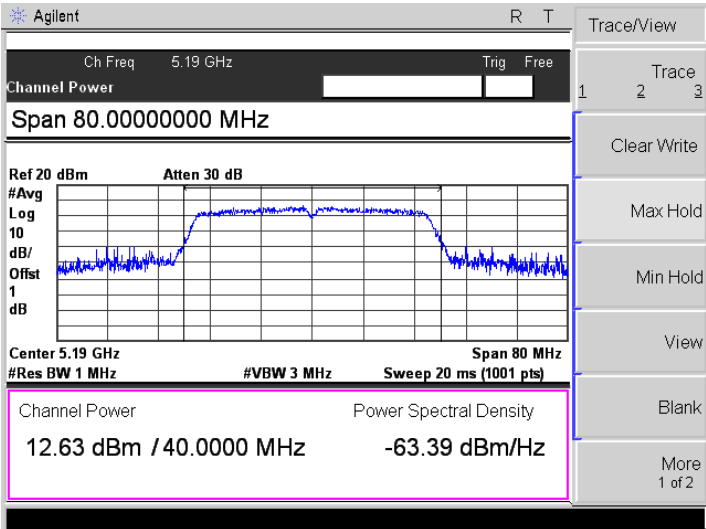
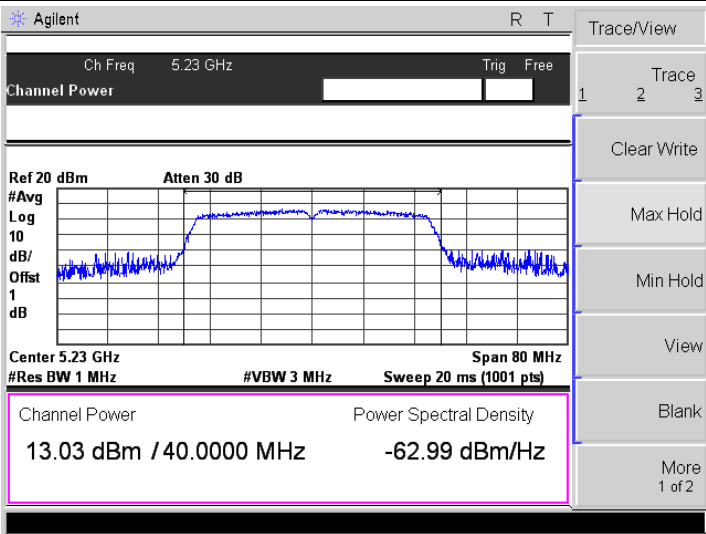
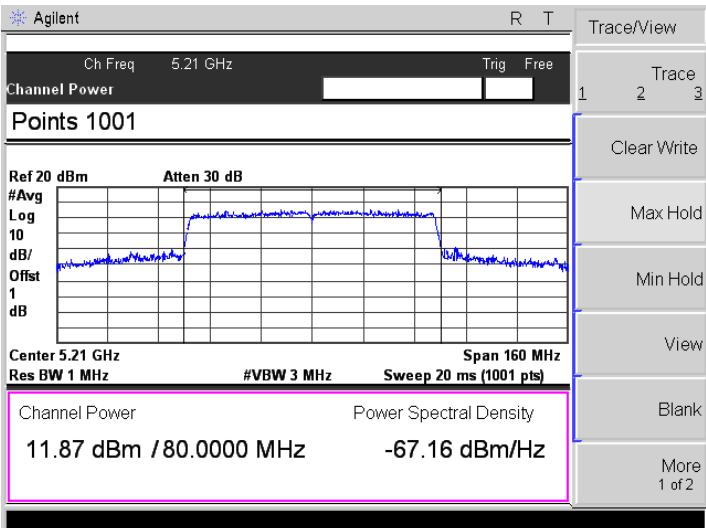
<p>802.11n-HT40-Low</p>	<p>Agilent Channel Power measurement screenshot for 802.11n-HT40-Low. The display shows a channel power of 13.72 dBm / 40.0000 MHz and a power spectral density of -62.30 dBm/Hz. The center frequency is 5.755 GHz, resolution bandwidth is 1 MHz, and span is 80 MHz.</p>
<p>802.11n-HT40-High</p>	<p>Agilent Channel Power measurement screenshot for 802.11n-HT40-High. The display shows a channel power of 13.90 dBm / 40.0000 MHz and a power spectral density of -62.12 dBm/Hz. The center frequency is 5.795 GHz, resolution bandwidth is 1 MHz, and span is 80 MHz.</p>
<p>802.11ac-HT80</p>	<p>Agilent Channel Power measurement screenshot for 802.11ac-HT80. The display shows a channel power of 12.04 dBm / 80.0000 MHz and a power spectral density of -66.99 dBm/Hz. The center frequency is 5.775 GHz, resolution bandwidth is 1 MHz, and span is 160 MHz.</p>

ANT 1

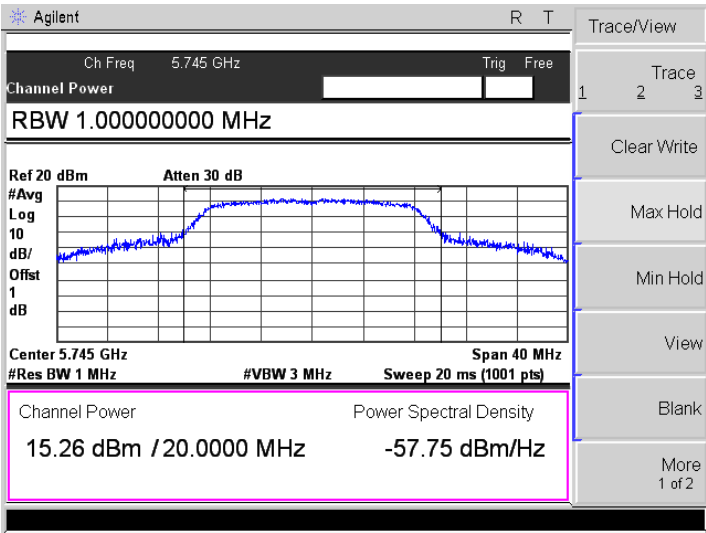
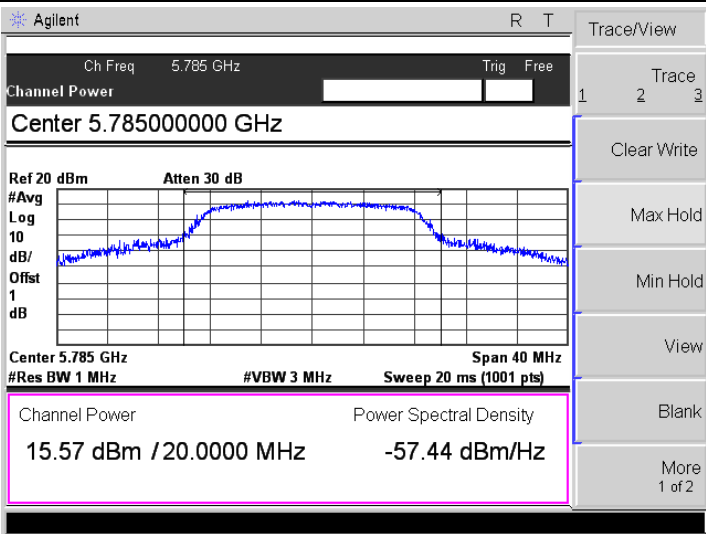
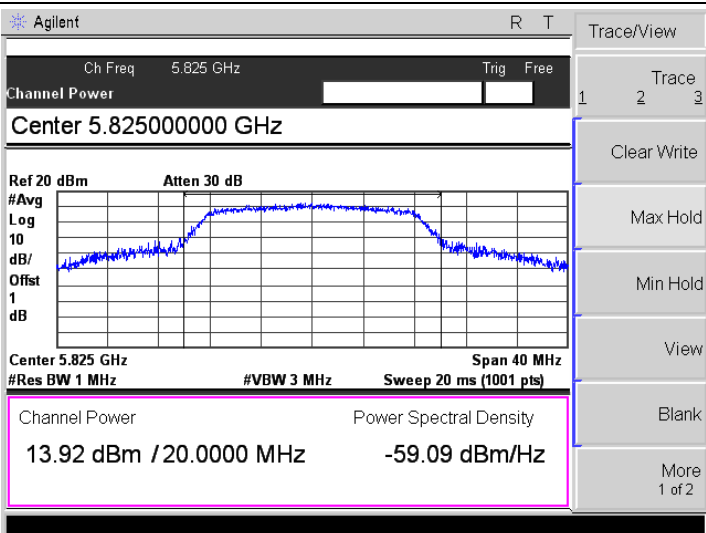
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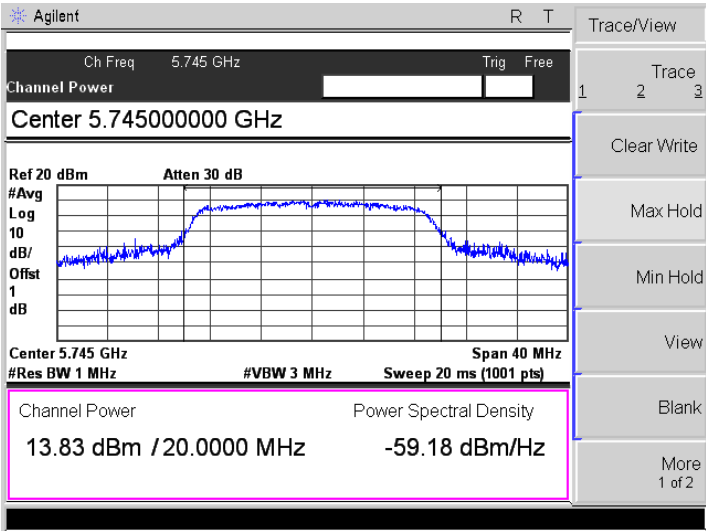
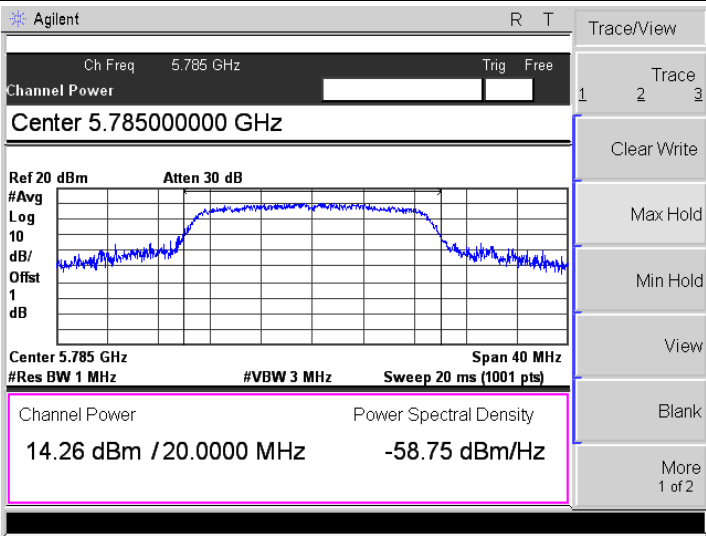
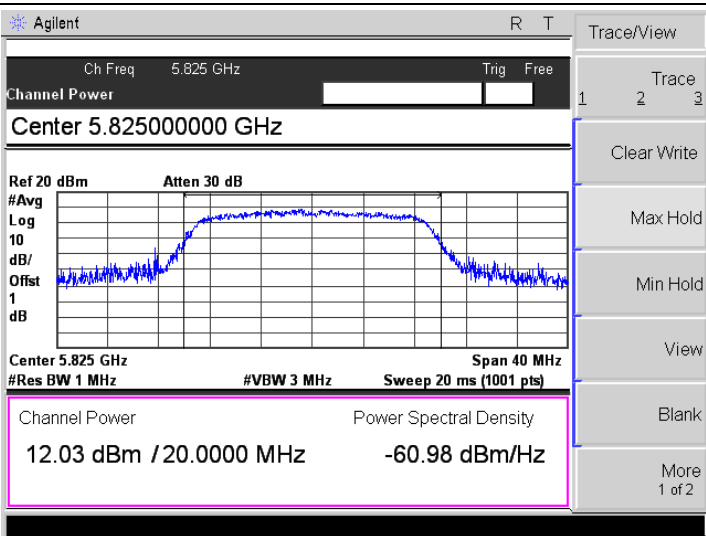
<p>802.11a-Low</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Channel Power [] []</p> <p>RBW 1.00000000 MHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.18 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>15.18 dBm / 20.0000 MHz -57.83 dBm/Hz</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11a-Middle</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Channel Power [] []</p> <p>Center 5.20000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.2 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>15.54 dBm / 20.0000 MHz -57.47 dBm/Hz</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11a-High</p>	<p>Agilent R T Trace/View</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Channel Power [] []</p> <p>Center 5.24000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.24 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>16.05 dBm / 20.0000 MHz -56.96 dBm/Hz</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>

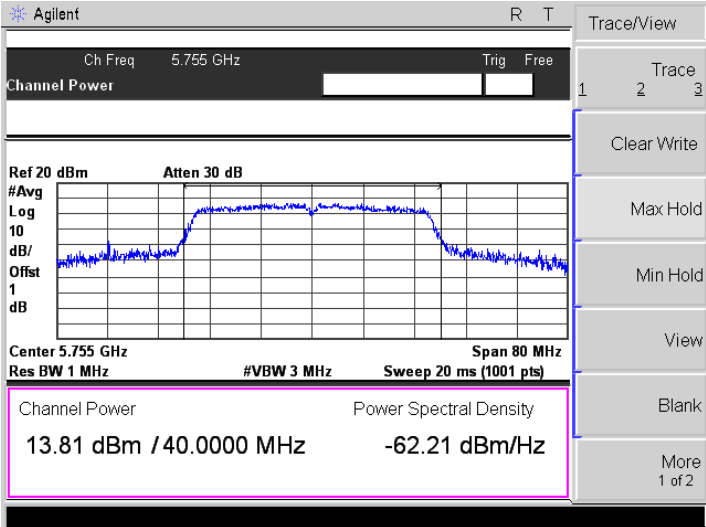
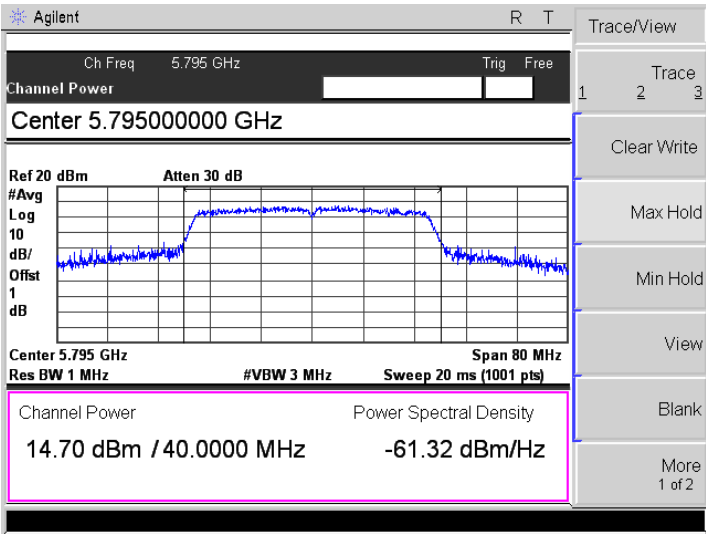
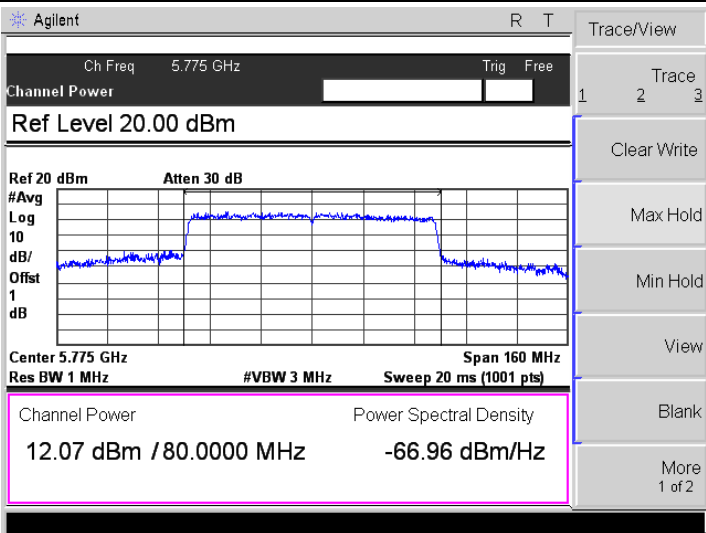
<p>802.11n-HT20-Low</p>	 <p>Agilent Channel Power measurement for 802.11n-HT20-Low. Center: 5.18000000 GHz. Channel Power: 12.60 dBm / 20.0000 MHz. Power Spectral Density: -60.41 dBm/Hz.</p>
<p>802.11n-HT20-Middle</p>	 <p>Agilent Channel Power measurement for 802.11n-HT20-Middle. Center: 5.20000000 GHz. Channel Power: 12.51 dBm / 20.0000 MHz. Power Spectral Density: -60.50 dBm/Hz.</p>
<p>802.11n-HT20-High</p>	 <p>Agilent Channel Power measurement for 802.11n-HT20-High. Center: 5.24000000 GHz. Channel Power: 12.76 dBm / 20.0000 MHz. Power Spectral Density: -60.26 dBm/Hz.</p>

<p>802.11n-HT40-Low</p>	 <p>Agilent Channel Power measurement for 802.11n-HT40-Low. The display shows a channel power of 12.63 dBm / 40.0000 MHz and a power spectral density of -63.39 dBm/Hz. The center frequency is 5.19 GHz, span is 80 MHz, and resolution bandwidth is 1 MHz.</p>
<p>802.11n-HT40-High</p>	 <p>Agilent Channel Power measurement for 802.11n-HT40-High. The display shows a channel power of 13.03 dBm / 40.0000 MHz and a power spectral density of -62.99 dBm/Hz. The center frequency is 5.23 GHz, span is 80 MHz, and resolution bandwidth is 1 MHz.</p>
<p>802.11ac-HT80</p>	 <p>Agilent Channel Power measurement for 802.11ac-HT80. The display shows a channel power of 11.87 dBm / 80.0000 MHz and a power spectral density of -67.16 dBm/Hz. The center frequency is 5.21 GHz, span is 160 MHz, and resolution bandwidth is 1 MHz.</p>

5725-5850MHz

<p>802.11a-Low</p>	
<p>802.11a-Middle</p>	
<p>802.-High</p>	

<p>802.11n-HT20-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 5.745 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.74500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.745 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.83 dBm / 20.0000 MHz -59.18 dBm/Hz</p> <p>Trace/View</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11n-HT20-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 5.785 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.78500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.785 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>14.26 dBm / 20.0000 MHz -58.75 dBm/Hz</p> <p>Trace/View</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11n-HT20-High</p>	 <p>Agilent R T</p> <p>Ch Freq 5.825 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.82500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.825 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>12.03 dBm / 20.0000 MHz -60.98 dBm/Hz</p> <p>Trace/View</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>

<p>802.11n-HT40-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 5.755 GHz Trig Free</p> <p>Channel Power</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/Offset 1 dB</p> <p>Center 5.755 GHz Span 80 MHz</p> <p>Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.81 dBm / 40.0000 MHz -62.21 dBm/Hz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11n-HT40-High</p>	 <p>Agilent R T</p> <p>Ch Freq 5.795 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.79500000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/Offset 1 dB</p> <p>Center 5.795 GHz Span 80 MHz</p> <p>Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>14.70 dBm / 40.0000 MHz -61.32 dBm/Hz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
<p>802.11ac-HT80</p>	 <p>Agilent R T</p> <p>Ch Freq 5.775 GHz Trig Free</p> <p>Channel Power</p> <p>Ref Level 20.00 dBm</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/Offset 1 dB</p> <p>Center 5.775 GHz Span 160 MHz</p> <p>Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>12.07 dBm / 80.0000 MHz -66.96 dBm/Hz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Trace</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>

APPENDIX D

Frequency Stability

ANT 0

U-NII-1:5150-5250MHz worst case at 802.11a middle channel				
Voltage(%)	Power(V AC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	120	-30	1515	0.2913
100%		-20	1290	0.2481
100%		-10	1462	0.2812
100%		0	1353	0.2602
100%		+10	1231	0.2367
100%		+20	1540	0.2962
100%		+30	1051	0.2021
100%		+40	1579	0.3037
100%		+50	1336	0.2569
Low Voltage power		102	+20	1584
High Voltage power	138	+20	1508	0.2900

U-NII-3:5725-5850MHz worst case at 802.11a middle channel				
Voltage(%)	Power(V AC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	120	-30	1518	0.2624
100%		-20	1288	0.2226
100%		-10	1456	0.2517
100%		0	1352	0.2337
100%		+10	1224	0.2116
100%		+20	1534	0.2652
100%		+30	1050	0.1815
100%		+40	1575	0.2723
100%		+50	1336	0.2309
Low Voltage power		102	+20	1580
High Voltage power	138	+20	1507	0.2605

ANT 1

U-NII-1:5150-5250MHz worst case at 802.11a middle channel				
Voltage(%)	Power(V AC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	120	-30	1519	0.2921
100%		-20	1294	0.2488
100%		-10	1457	0.2802
100%		0	1358	0.2612
100%		+10	1232	0.2369
100%		+20	1542	0.2965
100%		+30	1044	0.2008
100%		+40	1579	0.3037
100%		+50	1330	0.2558
Low Voltage power		102	+20	1576
High Voltage power	138	+20	1506	0.2896

U-NII-3:5725-5850MHz worst case at 802.11a middle channel				
Voltage(%)	Power(V AC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	120	-30	1513	0.2615
100%		-20	1293	0.2235
100%		-10	1462	0.2527
100%		0	1357	0.2346
100%		+10	1234	0.2133
100%		+20	1537	0.2657
100%		+30	1050	0.1815
100%		+40	1572	0.2717
100%		+50	1328	0.2296
Low Voltage power		102	+20	1582
High Voltage power	138	+20	1508	0.2607

APPENDIX PHOTOGRAPHS

Please refer to “ANNEX”

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