

TEST REPORT

Reference No..... : WTU20X08054676W-1
FCC ID : 2AXAQRNSMU8220
Applicant : Anhui Grizzly vision Technology Co.,Ltd
Address..... : High-tech industrial park,high-tech zone,Huainan ,Anhui,China
Product Name : LED TV
Test Model. : RNSMU8220
Standards : FCC Part 15.247
Date of Receipt sample : Aug.11, 2020
Date of Test..... : Aug.11, 2020 to Nov.19, 2020
Date of Issue : Nov.19, 2020
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.

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TABLE OF CONTENTS

1. GENERAL INFORMATION	4
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....	4
1.2 TEST STANDARDS.....	5
1.3 TEST METHODOLOGY.....	5
1.4 TEST FACILITY.....	5
1.5 EUT SETUP AND TEST MODE.....	6
1.6 MEASUREMENT UNCERTAINTY.....	7
1.7 TEST EQUIPMENT LIST AND DETAILS.....	8
2. SUMMARY OF TEST RESULTS	10
3. ANTENNA REQUIREMENT	11
3.1 STANDARD APPLICABLE.....	11
3.2 EVALUATION INFORMATION.....	11
4. POWER SPECTRAL DENSITY	12
4.1 STANDARD APPLICABLE.....	12
4.2 TEST SETUP BLOCK DIAGRAM.....	12
4.3 TEST PROCEDURE.....	12
4.4 SUMMARY OF TEST RESULTS/PLOTS.....	12
5. DTS BANDWIDTH	13
5.1 STANDARD APPLICABLE.....	13
5.2 TEST SETUP BLOCK DIAGRAM.....	13
5.3 TEST PROCEDURE.....	13
5.4 SUMMARY OF TEST RESULTS/PLOTS.....	13
6. RF OUTPUT POWER	14
6.1 STANDARD APPLICABLE.....	14
6.2 TEST SETUP BLOCK DIAGRAM.....	14
6.3 TEST PROCEDURE.....	14
6.4 SUMMARY OF TEST RESULTS/PLOTS.....	14
7. FIELD STRENGTH OF SPURIOUS EMISSIONS	15
7.1 STANDARD APPLICABLE.....	15
7.2 TEST PROCEDURE.....	15
7.3 CORRECTED AMPLITUDE & MARGIN CALCULATION.....	17
7.4 SUMMARY OF TEST RESULTS/PLOTS.....	17
8. OUT OF BAND EMISSIONS	25
8.1 STANDARD APPLICABLE.....	25
8.2 TEST PROCEDURE.....	25
8.3 SUMMARY OF TEST RESULTS/PLOTS.....	26
9. CONDUCTED EMISSIONS	36
9.1 TEST PROCEDURE.....	36
9.2 BASIC TEST SETUP BLOCK DIAGRAM.....	36
9.3 TEST RECEIVER SETUP.....	36
9.4 SUMMARY OF TEST RESULTS/PLOTS.....	36
APPENDIX SUMMARY	39
APPENDIX A	40
APPENDIX B	49
APPENDIX C	58
APPENDIX D	67
APPENDIX PHOTOGRAPHS	84

Report version

Version No.	Date of issue	Description
Rev.00	Nov.19, 2020	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Anhui Grizzly vision Technology Co.,Ltd
 Address of applicant: High-tech industrial park,high-tech zone,Huainan ,
 Anhui,China

Manufacturer: Anhui Grizzly vision Technology Co.,Ltd
 Address of manufacturer: High-tech industrial park,high-tech zone,Huainan ,
 Anhui,China

General Description of EUT	
Product Name:	LED TV
Trade Name:	RCA
Model No.:	RNSMU8220
Adding Model(s):	PLED8220-UHDSM
Rated Voltage:	AC 120V 60Hz
Power Adapter Model:	/
Software Version:	KK-MSD6586PYU-ATSC
Hardware Version:	000223
<p><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 RNSMU8220, but the circuit and the electronic construction do not change, declared by the manufacturer.</i></p>	

Technical Characteristics of EUT	
Support Standards:	802.11b, 802.11g, 802.11n
Frequency Range:	2412-2462MHz for 802.11b/g/n(HT20) 2422-2452MHz for 802.11n(HT40)
RF Output Power:	16.63dBm (Conducted)
Type of Modulation:	DBPSK,BPSK,DQPSK,QPSK,16QAM,64QAM
Data Rate:	1-11Mbps, 6-54Mbps, up to 300Mbps
Quantity of Channels:	11 for 802.11b/g/n(HT20); 7 for 802.11n(HT40)
Channel Separation:	5MHz
Type of Antenna:	Integral Antenna
Antenna Gain:	Antenna 1/2: 1.89dBi

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.247: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.

558074 D01 15.247 Meas Guidance v05r02: Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating under section 15.247 of the Fcc rules.

662911 D01 Multiple Transmitter Output v02r01: Emissions Testing of Transmitters with Multiple Outputs in the Same Band.

ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.

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, KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 662911 D01 Multiple Transmitter Output 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 Test Facility

Address of the test laboratory

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

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

FCC – Registration No.: 125990

Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is 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.

1.5 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	802.11b	Low:2412MHz, Middle:2437MHz,High:2462MHz
TM2	802.11g	Low:2412MHz, Middle:2437MHz,High:2462MHz
TM3	802.11n-HT20	Low:2412MHz, Middle:2437MHz,High:2462MHz
TM4	802.11n-HT40	Low:2422MHz, Middle:2437MHz,High:2452MHz

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	1.8	Unshielded	Without Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
HDMI Cable	1.0	Shielded	With Ferrite
RJ45 Cable	1.0	Unshielded	Without Ferrite

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E445	EB12648265
Computer Host	DELL	OptiPlex 3050 Tower	/
USB flash disk	Sandisk	CZ50	/

1.6 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 $\pm 3.84\text{dB}$
		6-26GHz $\pm 3.92\text{dB}$

1.7 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2020-04-28	2021-04-27
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2020-04-28	2021-04-27
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2020-04-28	2021-04-27
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2020-04-28	2021-04-27
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2020-04-28	2021-04-27
SEMT-1011	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2019-05-05	2021-05-04
SEMT-1042	Horn Antenna	ETS	3117	00086197	2019-05-05	2021-05-04
SEMT-1121	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170582	2019-05-05	2021-05-04
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2019-05-05	2021-05-04
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2020-04-28	2021-04-27
SEMT-1003	L.I.S.N	Schwarz beck	NSLK8126	8126-224	2020-04-28	2021-04-27
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2020-04-28	2021-04-27
SEMT-1168	Pre-amplifier	Direction Systems Inc.	PAP-0126	14141-12838	2020-04-28	2021-04-27
SEMT-1169	Pre-amplifier	Direction Systems Inc.	PAP-2640	14145-14153	2020-04-28	2021-04-27
SEMT-1163	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2020-04-28	2021-04-27
SEMT-1170	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2019-05-05	2021-05-04
SEMT-1166	Power Limiter	Agilent	N9356B	MY45450376	2020-04-28	2021-04-27
SEMT-1048	RF Limiter	ATTEN	AT-BSF-2400~2500	/	2020-04-28	2021-04-27
SEMT-1076	RF Switcher	Top Precision	RCS03-A2	/	2020-04-28	2021-04-27
SEMT-C001	Cable	Zheng DI	LL142-07-07-10M(A)	/	2020-03-17	2021-03-16
SEMT-C002	Cable	Zheng DI	ZT40-2.92J-2.92J-6M	/	2020-03-17	2021-03-16
SEMT-C003	Cable	Zheng DI	ZT40-2.92J-2.92J-2.5M	/	2020-03-17	2021-03-16
SEMT-C004	Cable	Zheng DI	2M0RFC	/	2020-03-17	2021-03-16
SEMT-C005	Cable	Zheng DI	1M0RFC	/	2020-03-17	2021-03-16
SEMT-C006	Cable	Zheng DI	1M0RFC	/	2020-03-17	2021-03-16

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; §15.247(b)(4)(i)	Antenna Requirement	Compliant
§15.205	Restricted Band of Operation	Compliant
§15.207(a)	Conducted Emission	Compliant
§15.247(e)	Power Spectral Density	Compliant
§15.247(a)(2)	DTS Bandwidth	Compliant
§15.247(b)(3)	RF Output Power	Compliant
§15.209(a)	Radiated Emission	Compliant
§15.247(d)	Band Edge (Out of Band Emissions)	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

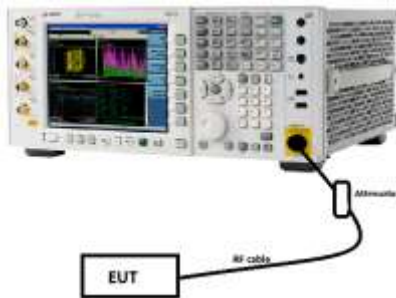
This product has two integral antennas, fulfill the requirement of this section. And the signals at the antennas are completely uncorrelated.

4. Power Spectral Density

4.1 Standard Applicable

According to 15.247(a)(1)(iii), for digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

4.2 Test Setup Block Diagram



4.3 Test Procedure

According to the KDB 558074 D01 v05r02 Subclause 8.4 and ANSI C63.10-2013 Subclause 11.10.3, such specifications require that the same method as used to determine the conducted output power shall also be used to determine the power spectral density. The test method of power spectral density as below:

- a) Set instrument center frequency to DTS channel center frequency.
- b) Set span to at least 1.5 times the OBW.
- c) Set RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- d) Set VBW $\geq 3 \times \text{RBW}$.
- e) Detector = power averaging (RMS) or sample detector (when RMS not available).
- f) Ensure that the number of measurement points in the sweep $\geq 2 \times \text{span}/\text{RBW}$.
- g) Sweep time = auto couple.
- h) Employ trace averaging (RMS) mode over a minimum of 100 traces.
- i) Use the peak marker function to determine the maximum amplitude level.
- j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span in order to meet the minimum measurement point requirement as the RBW is reduced).

4.4 Summary of Test Results/Plots

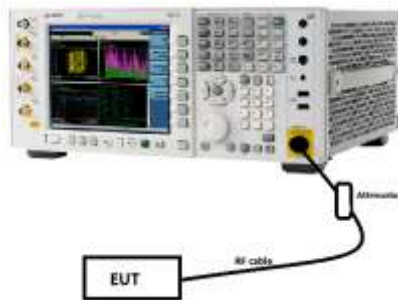
Please refer to Appendix A

5. DTS Bandwidth

5.1 Standard Applicable

According to 15.247(a)(2), systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

5.2 Test Setup Block Diagram



5.3 Test Procedure

According to the KDB 558074 D01 v05r02 Subclause 8.2 and ANSI C63.10-2013 Subclause 11.8.1, the test method of DTS Bandwidth as below:

- a) Set RBW = 100 kHz.
- 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.

5.4 Summary of Test Results/Plots

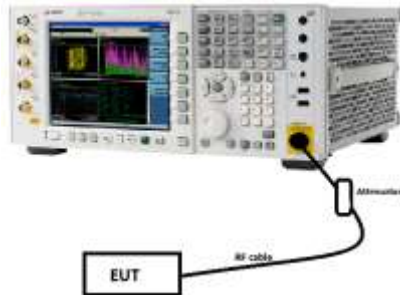
Please refer to Appendix B

6. RF Output Power

6.1 Standard Applicable

According to 15.247(b)(3), for systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

6.2 Test Setup Block Diagram



6.3 Test Procedure

According to the KDB-558074 D01 v05r02 Subclause 8.3.2.2 and ANSI C63.10-2013 Subclause 11.9.2.2, when this option is exercised, the measured power is to be referenced to the OBW rather than the DTS bandwidth

- a) Set span to at least 1.5 times the OBW.
- b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
- c) Set VBW $\geq 3 \times$ RBW.
- d) Number of points in sweep $\geq 2 \times$ span / RBW. (This gives bin-to-bin spacing \leq RBW/2, so that narrowband signals are not lost between frequency bins.)
- e) Sweep time = auto.
- f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
- g) If transmit duty cycle < 98 %, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 %, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run” .
- h) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
- i) Compute power by integrating the spectrum across the OBW of the signal using the instrument’s band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

6.4 Summary of Test Results/Plots

Please refer to Appendix C

7. Field Strength of Spurious Emissions

7.1 Standard Applicable

According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

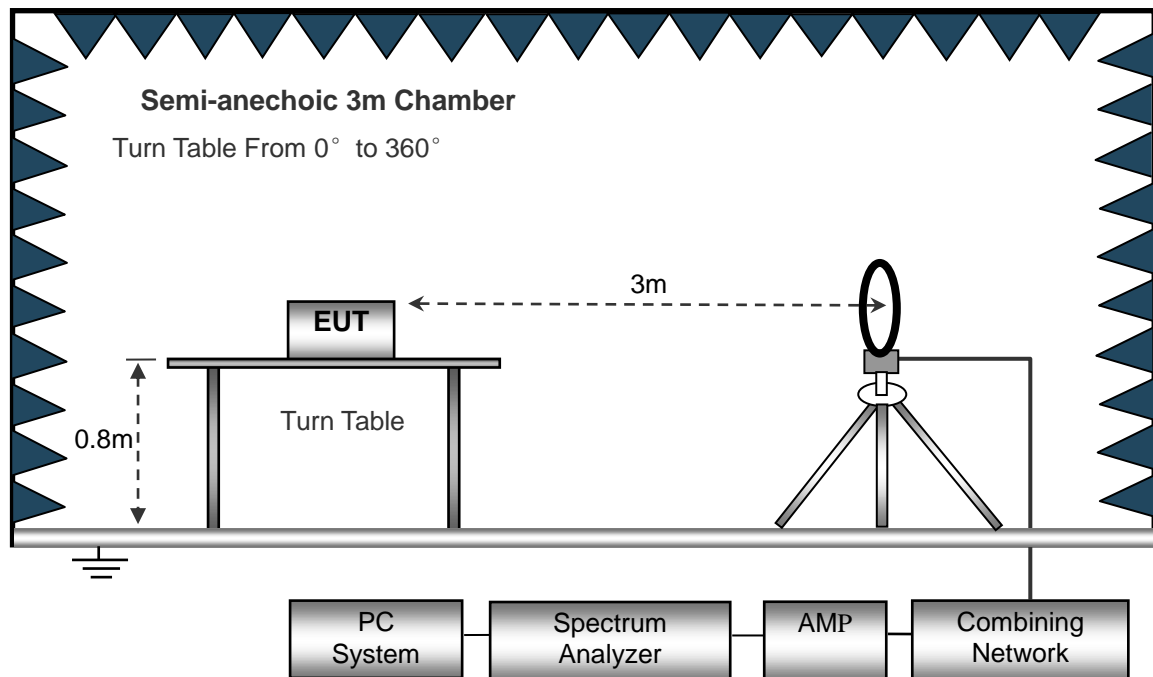
7.2 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.247(a) and FCC Part 15.209 Limit.

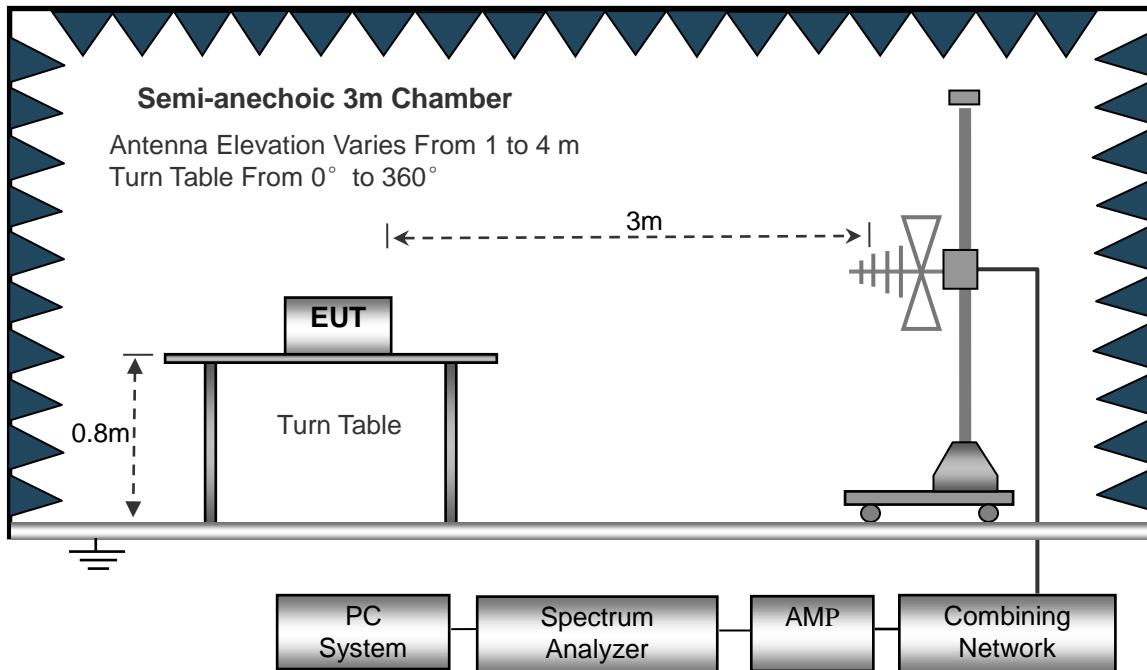
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

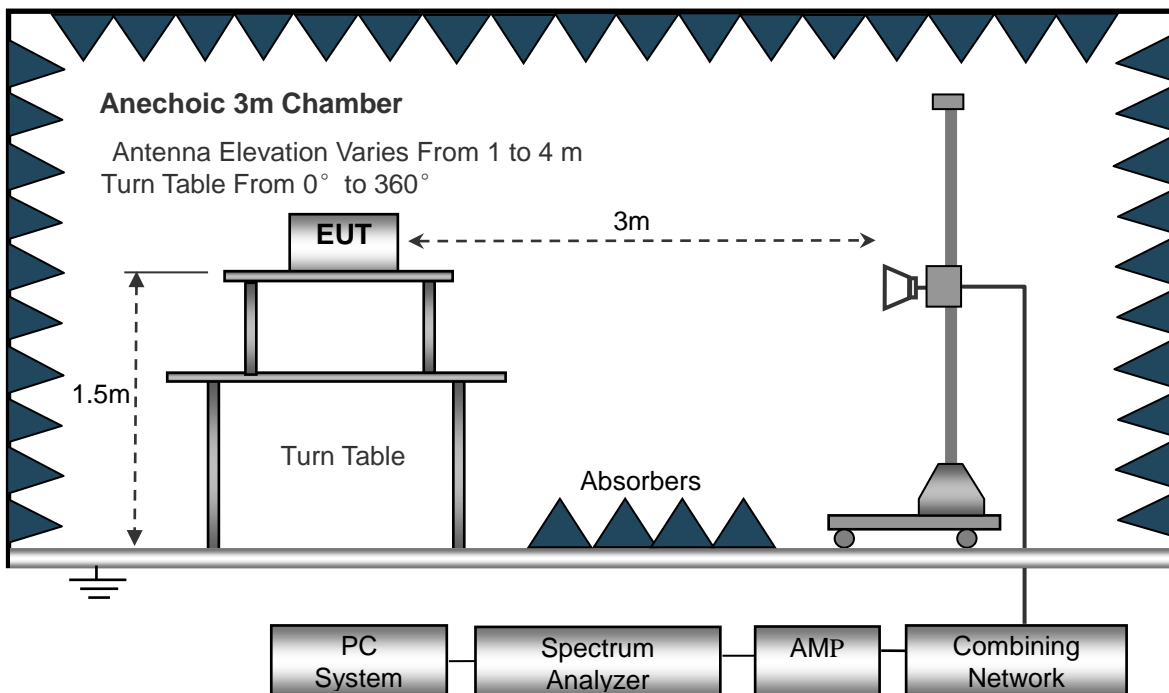
The test setup for emission measurement below 30MHz..



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



The test setup for emission measurement above 1 GHz..



Frequency :9kHz-30MHz
 RBW=10KHz,
 VBW =30KHz
 Sweep time= Auto
 Trace = max hold
 Detector function = peak

Frequency :30MHz-1GHz
 RBW=120KHz,
 VBW=300KHz
 Sweep time= Auto
 Trace = max hold
 Detector function = peak, QP

Frequency :Above 1GHz
 RBW=1MHz,
 VBW=3MHz(Peak), 10Hz(AV)
 Sweep time= Auto
 Trace = max hold
 Detector function = peak, AV

7.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by 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. The equation for margin calculation is as follows:

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

7.4 Summary of Test Results/Plots

Note: 1.This EUT was tested in 3 orthogonal positions and the worst case position data was reported.

All test modes (different data rate and different modulation) are performed, but only the worst case(802.11b_11Mbps) is recorded in this report.

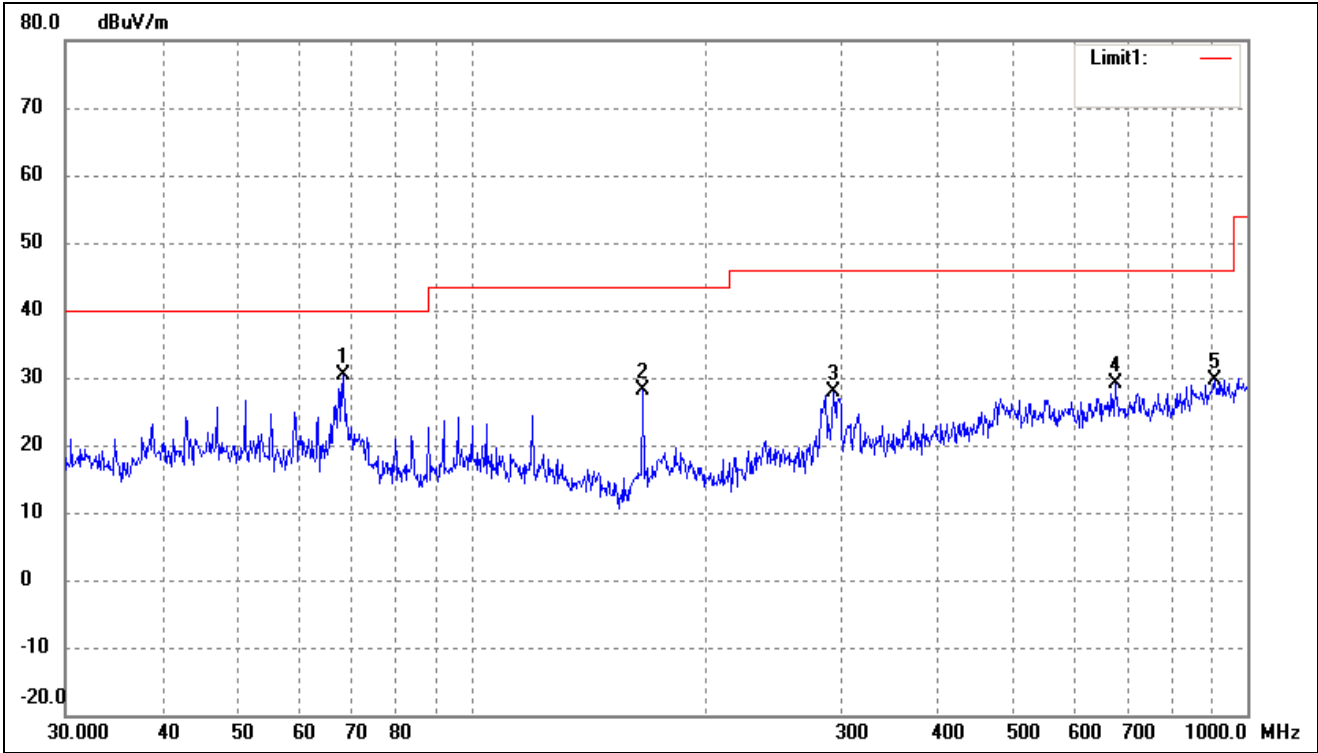
- Spurious Emissions Below 1GHz
- Worst case Antenna 1

802.11b_11Mbps			
Test Channel	Low	Polarity:	Horizontal



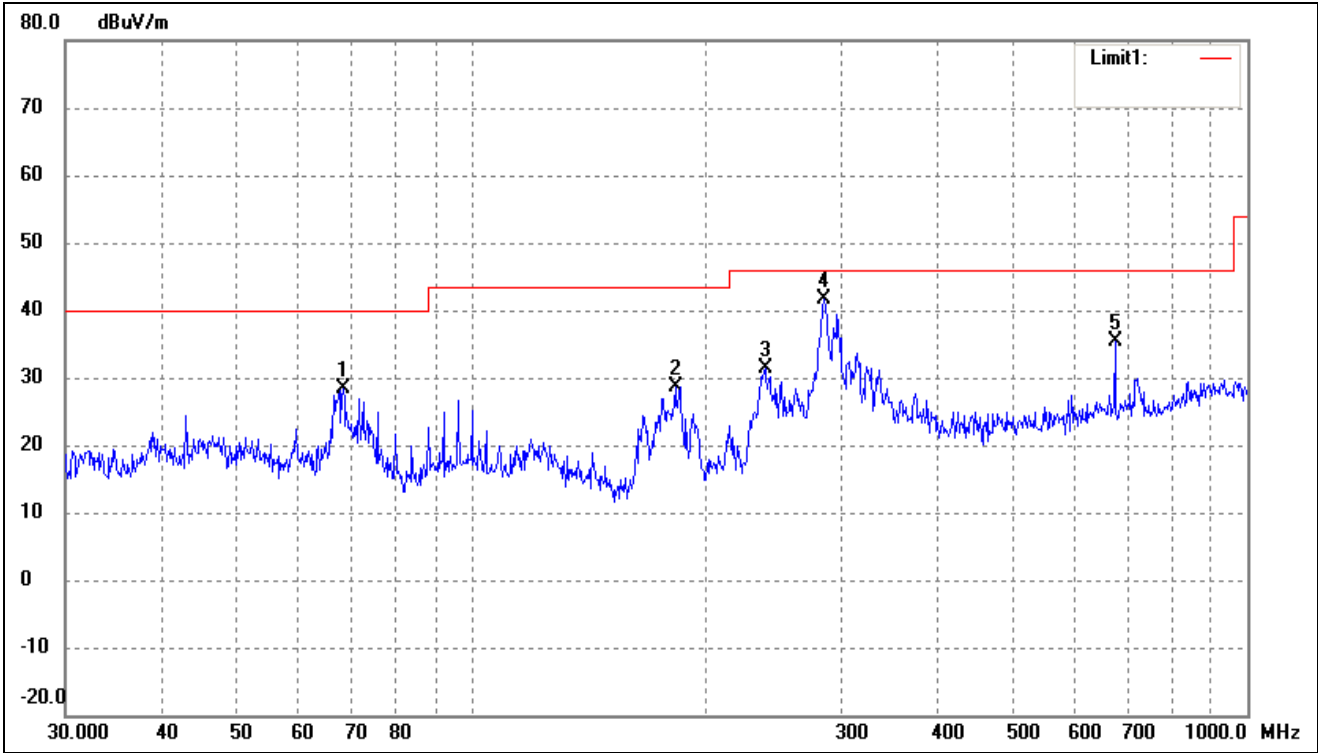
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	68.3908	43.22	-14.41	28.81	40.00	-11.19	-	-	peak
2	185.7882	42.70	-13.61	29.09	43.50	-14.41	-	-	peak
3	283.9792	51.38	-10.10	41.28	46.00	-4.72	-	-	peak
4	675.2080	37.13	-1.87	35.26	46.00	-10.74	-	-	peak
5	945.4399	29.12	1.45	30.57	46.00	-15.43	-	-	peak

802.11b_11Mbps			
Test Channel	Low	Polarity:	Vertical



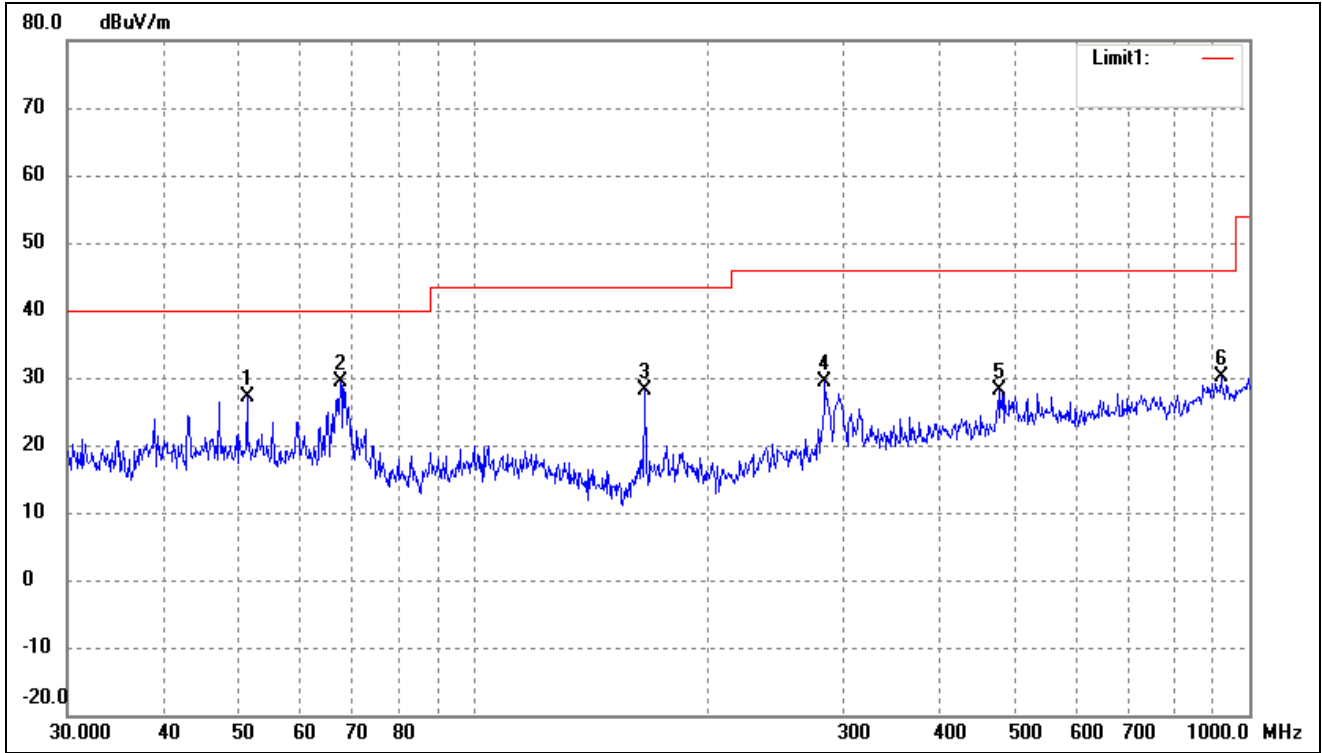
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	68.3908	44.70	-14.41	30.29	40.00	-9.71	-	-	peak
2	166.6514	43.35	-15.20	28.15	43.50	-15.35	-	-	peak
3	293.0842	37.26	-9.42	27.84	46.00	-18.16	-	-	peak
4	675.2080	30.92	-1.87	29.05	46.00	-16.95	-	-	peak
5	906.4824	28.11	1.62	29.73	46.00	-16.27	-	-	peak

802.11b_11Mbps			
Test Channel	Middle	Polarity:	Horizontal



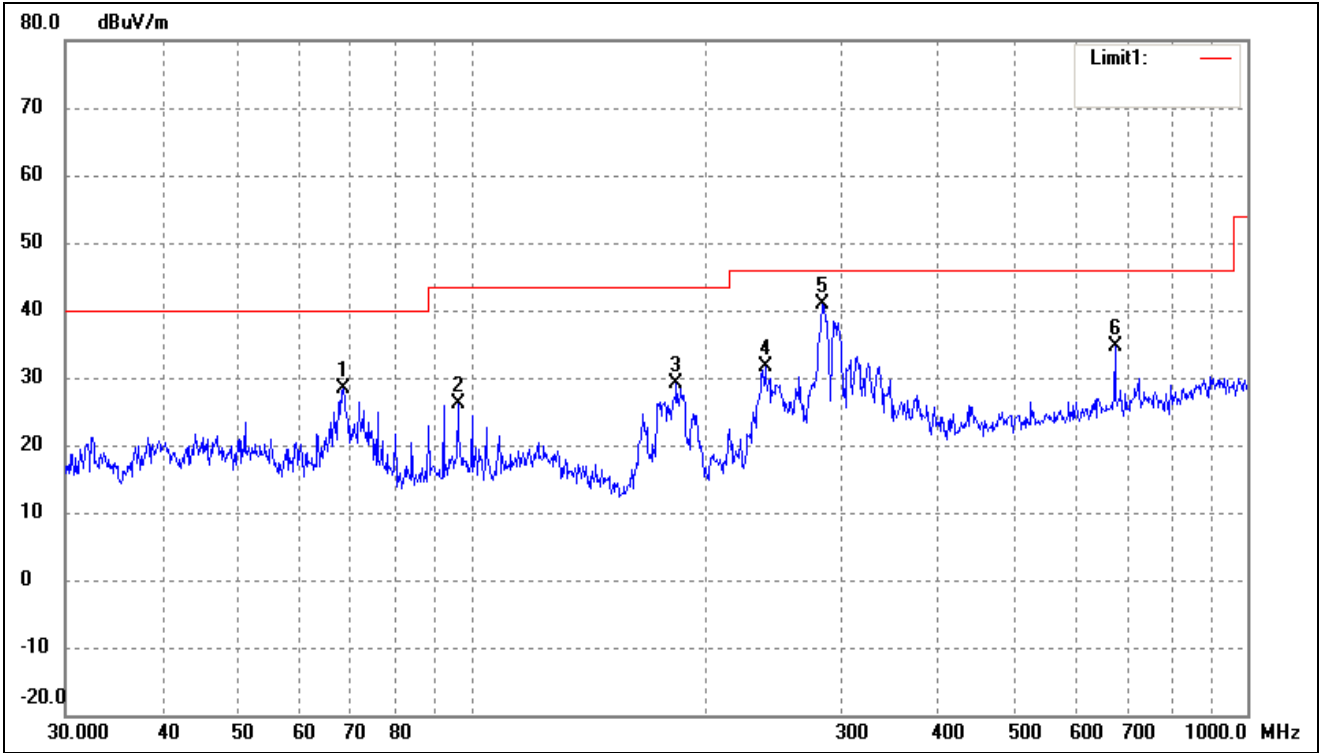
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	68.3908	42.89	-14.41	28.48	40.00	-11.52	-	-	peak
2	183.2005	42.63	-13.93	28.70	43.50	-14.80	-	-	peak
3	239.1473	42.75	-11.46	31.29	46.00	-14.71	-	-	peak
4	284.9767	51.67	-10.03	41.64	46.00	-4.36	-	-	peak
5	675.2080	37.23	-1.87	35.36	46.00	-10.64	-	-	peak

802.11b_11Mbps			
Test Channel	Middle	Polarity:	Vertical



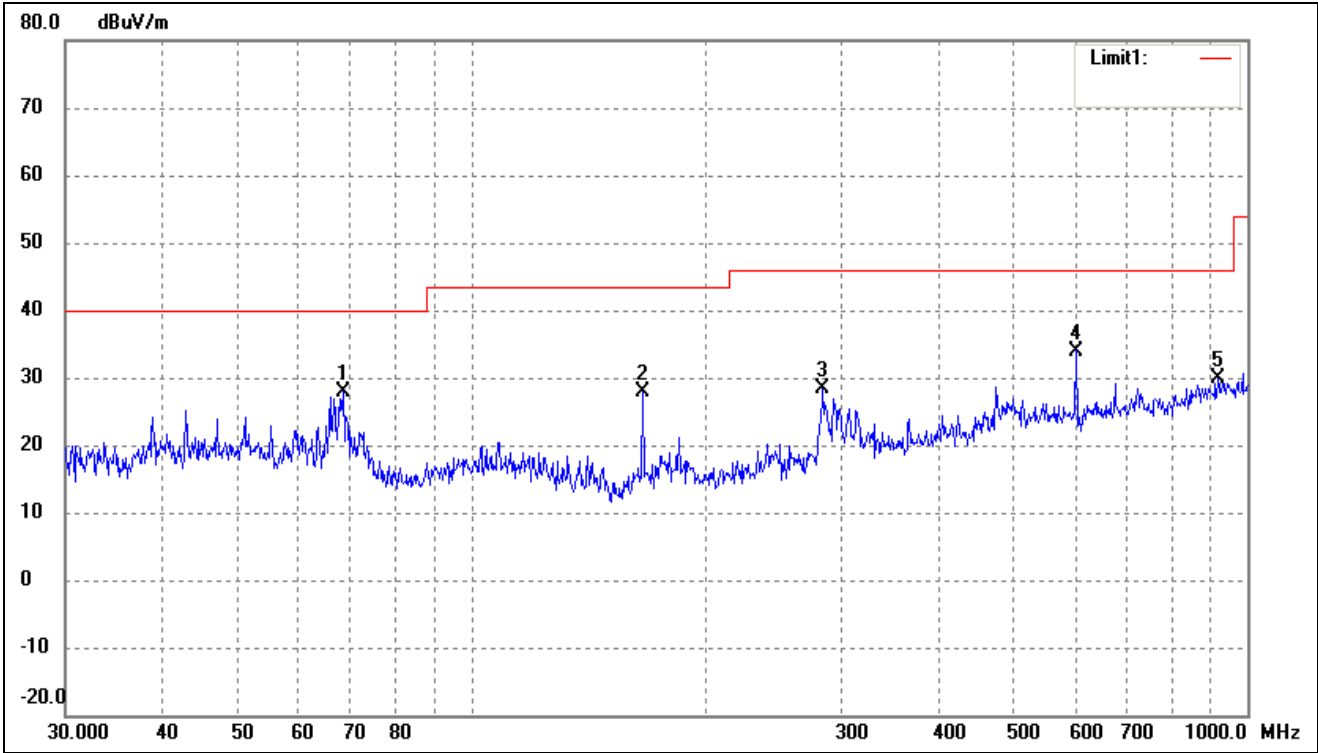
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	51.1208	38.88	-11.85	27.03	40.00	-12.97	-	-	peak
2	67.4381	43.54	-14.27	29.27	40.00	-10.73	-	-	peak
3	166.6513	43.43	-15.20	28.23	43.50	-15.27	-	-	peak
4	283.9791	39.44	-10.10	29.34	46.00	-16.66	-	-	peak
5	477.1693	32.80	-4.74	28.06	46.00	-17.94	-	-	peak
6	919.2866	28.32	1.78	30.10	46.00	-15.90	-	-	peak

802.11b_11Mbps			
Test Channel	High	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	68.3908	42.67	-14.41	28.26	40.00	-11.74	-	-	peak
2	96.0986	40.11	-13.96	26.15	43.50	-17.35	-	-	peak
3	183.8440	43.09	-13.86	29.23	43.50	-14.27	-	-	peak
4	239.1473	43.00	-11.46	31.54	46.00	-14.46	-	-	peak
5	282.9852	51.15	-10.17	40.98	46.00	-5.02	-	-	peak
6	675.2080	36.58	-1.87	34.71	46.00	-11.29	-	-	peak

802.11b_11Mbps			
Test Channel	High	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	68.3908	42.33	-14.41	27.92	40.00	-12.08	-	-	peak
2	166.0680	43.23	-15.23	28.00	43.50	-15.50	-	-	peak
3	283.9792	38.46	-10.10	28.36	46.00	-17.64	-	-	peak
4	601.4265	35.94	-1.94	34.00	46.00	-12.00	-	-	peak
5	916.0687	28.08	1.75	29.83	46.00	-16.17	-	-	peak

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 Emissions Above 1GHz
- Test Mode: 802.11b_11Mbps (Worst case ant 1)

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
5125.515	51.73	-4.33	47.40	74.00	-26.60	H	PK
6527.712	51.78	-2.29	49.49	74.00	-24.51	H	PK
8882.347	51.58	0.58	52.16	74.00	-21.84	H	PK
4536.000	52.78	-4.69	48.09	74.00	-25.91	V	PK
6267.190	51.87	-2.61	49.26	74.00	-24.74	V	PK
9088.189	51.35	0.96	52.31	74.00	-21.69	V	PK
Middle Channel-2437MHz							
4629.319	51.56	-4.63	46.93	74.00	-27.07	H	PK
6645.070	52.30	-2.28	50.02	74.00	-23.98	H	PK
9042.038	51.67	0.89	52.56	74.00	-21.44	H	PK
4256.330	52.20	-5.70	46.50	74.00	-27.50	V	PK
5646.079	52.59	-3.81	48.78	74.00	-25.22	V	PK
7900.858	51.64	-0.84	50.80	74.00	-23.20	V	PK
High Channel-2462MHz							
4908.444	51.82	-4.44	47.38	74.00	-26.62	H	PK
6544.350	51.79	-2.28	49.51	74.00	-24.49	H	PK
8637.084	51.31	0.04	51.35	74.00	-22.65	H	PK
4785.075	51.95	-4.53	47.42	74.00	-26.58	V	PK
6594.518	51.72	-2.27	49.45	74.00	-24.55	V	PK
8355.943	52.96	-0.33	52.63	74.00	-21.37	V	PK

Note: 1. 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.

2. Average measurement was not performed if peak level is lower than average limit(54 dBuV/m) for above 1GHz.

8. Out of Band Emissions

8.1 Standard Applicable

According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

8.2 Test Procedure

According to the KDB 558074D01 v05r02 Subclause 8.4 and ANSI C63.10-2013 Subclause 11.11, the Emissions in nonrestricted frequency bands test method as follows:

- a) Set the center frequency and span to encompass frequency range to be measured.
- b) Set the RBW = 100 kHz.
- c) Set the VBW $\geq [3 \times \text{RBW}]$.
- d) Detector = peak.
- e) Sweep time = auto couple.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use the peak marker function to determine the maximum amplitude level.

According to the KDB 558074 D01 v05r02 Subclause 8.5 and ANSI C63.10-2013 Subclause 11.12, the Emissions in restricted frequency bands test method as follows:

A. Radiated emission measurements:

Set span = wide enough to capture the peak level of the emission operating on the channel closest to the bandedge, as well as any modulation products which fall outside of the authorized band of operation (2310MHz to 2420MHz for low bandedge, 2460MHz to 2500MHz for the high bandedge)

RBW = 1MHz, VBW = 1MHz for peak value measured

RBW = 1MHz, VBW = 10Hz for average value measured

Sweep = auto; Detector function = peak/average; Trace = max hold

All the trace to stabilize, set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. Those emission must comply with the 15.209 limit for fall in the restricted bands listed in section 15.205. Note that the method of measurement

KDB publication number: 913591 may be used for the radiated bandedge measurements.

B. Antenna-port conducted measurements

Peak emission levels are measured by setting the instrument as follows:

- a) RBW = as specified in Table 9.
- b) VBW \geq $[3 \times \text{RBW}]$.
- c) Detector = peak.
- d) Sweep time = auto.
- e) Trace mode = max hold.
- f) Allow sweeps to continue until the trace stabilizes. (Note that the required measurement time may be lengthened for low-duty-cycle applications.)

Table 9—RBW as a function of frequency

Frequency	RBW
9 kHz to 150 kHz	200 Hz to 300 Hz
0.15 MHz to 30 MHz	9 kHz to 10 kHz
30 MHz to 1000 MHz	100 kHz to 120 kHz
>1000 MHz	1 MHz

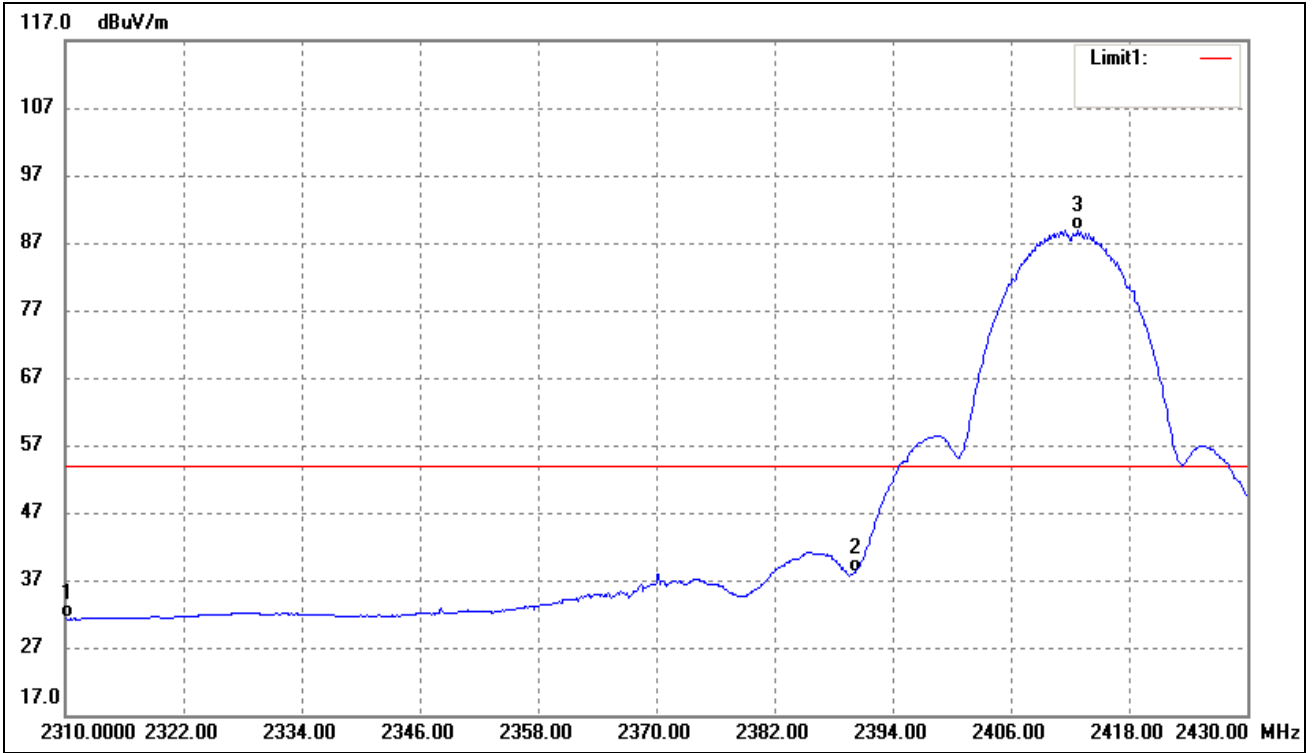
If the peak-detected amplitude can be shown to comply with the average limit, then it is not necessary to perform a separate average measurement.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements specified in section 8.1. Report the three highest emissions relative to the limit.

8.3 Summary of Test Results/Plots

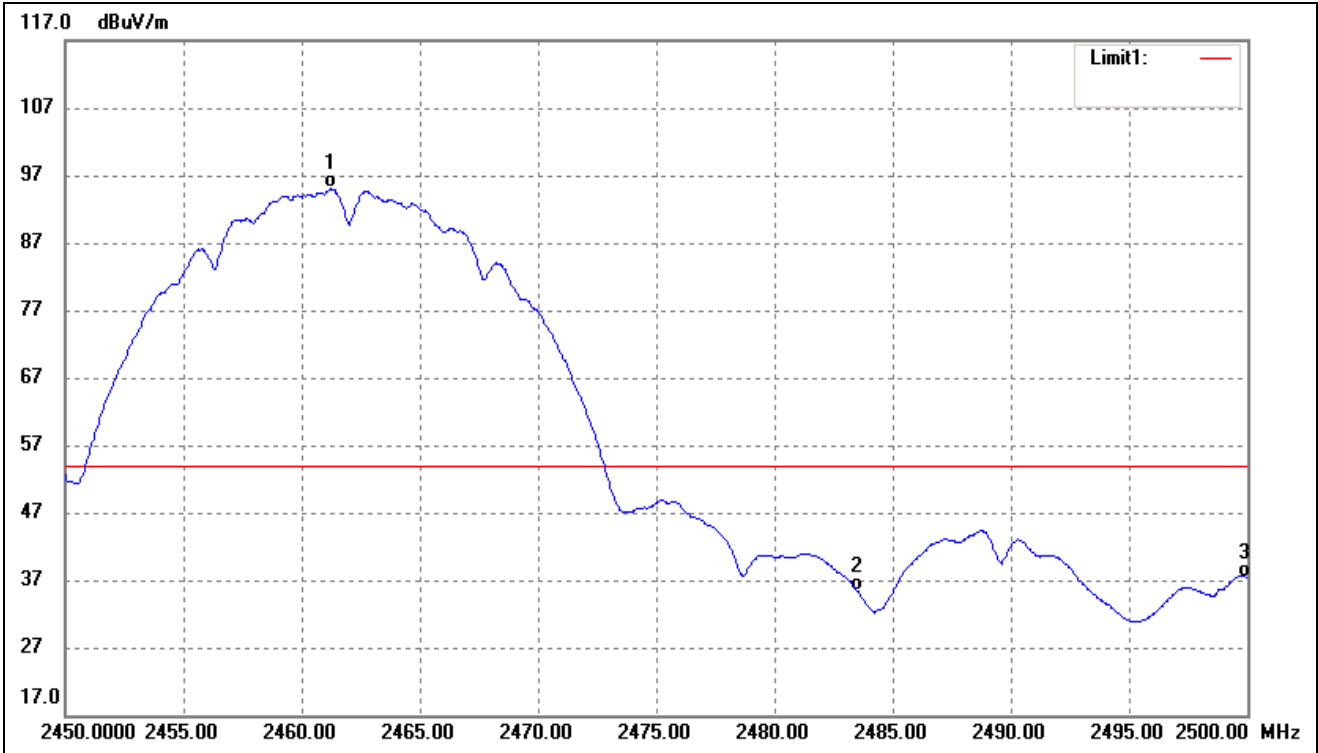
- Radiated test
- Antenna 1(worst case)

802.11b_11Mbps			
Test Channel	Low	Polarity:	Horizontal (worst case)



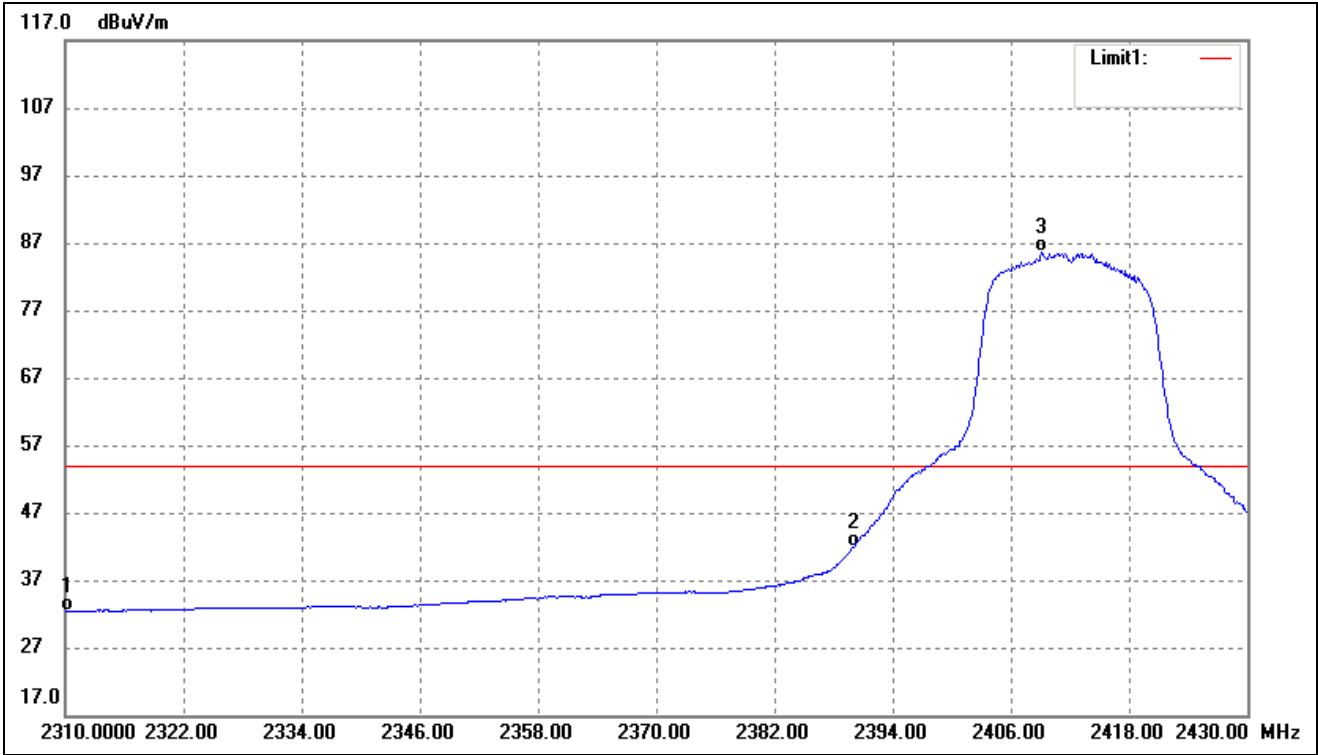
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	40.92	-9.66	31.26	54.00	-22.74	Average Detector
	2310.000	53.30	-9.66	43.64	74.00	-30.36	Peak Detector
2	2390.000	47.54	-9.50	38.04	54.00	-15.96	Average Detector
	2390.000	60.55	-9.50	51.05	74.00	-22.95	Peak Detector
3	2412.720	98.37	-9.46	88.91	/	/	Average Detector
	2411.880	115.05	-9.46	105.59	/	/	Peak Detector

802.11b_11Mbps			
Test Channel	High	Polarity:	Horizontal (worst case)



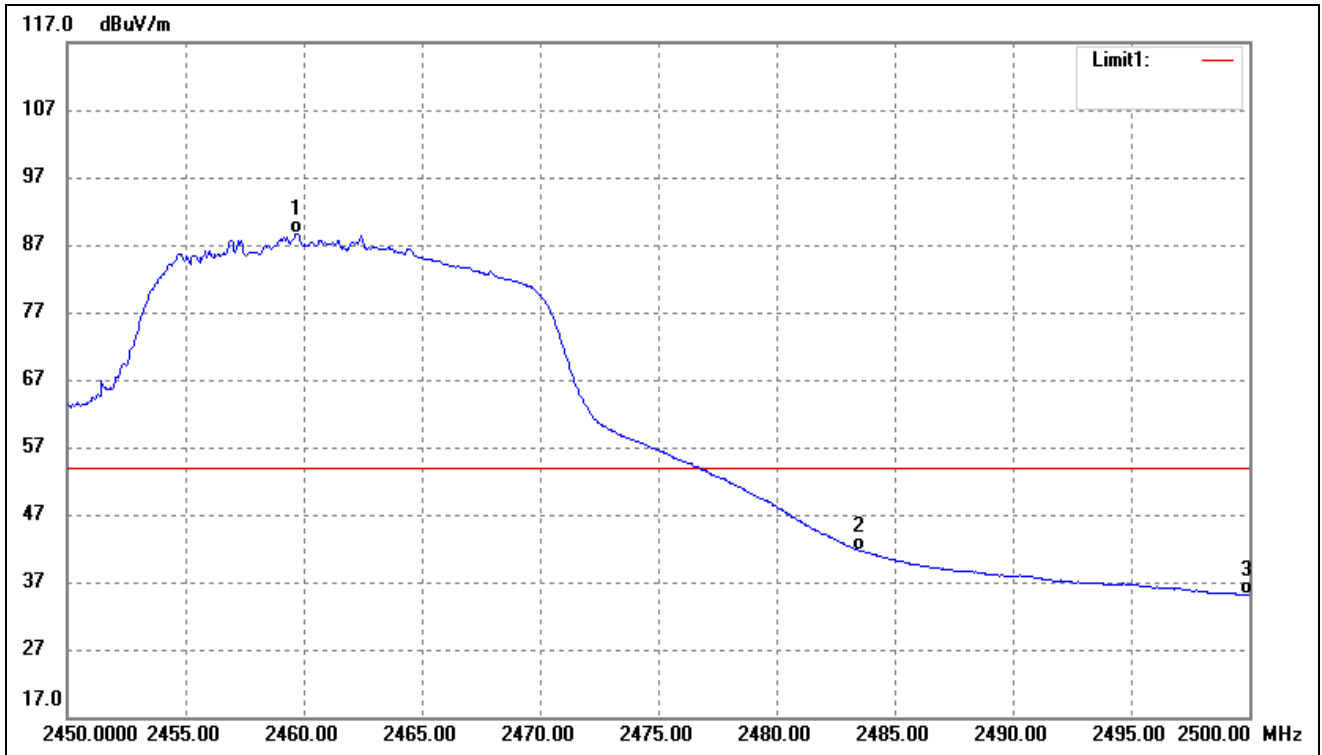
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2461.250	104.38	-9.36	95.02	/	/	Average Detector
	2460.850	109.90	-9.36	100.54	/	/	Peak Detector
2	2483.500	44.80	-9.31	35.49	54.00	-18.51	Average Detector
	2483.500	55.43	-9.31	46.12	74.00	-27.88	Peak Detector
3	2500.000	46.68	-9.28	37.40	54.00	-16.60	Average Detector
	2500.000	56.16	-9.28	46.88	74.00	-27.12	Peak Detector

802.11g_54Mbps			
Test Channel	Low	Polarity:	Horizontal (worst case)



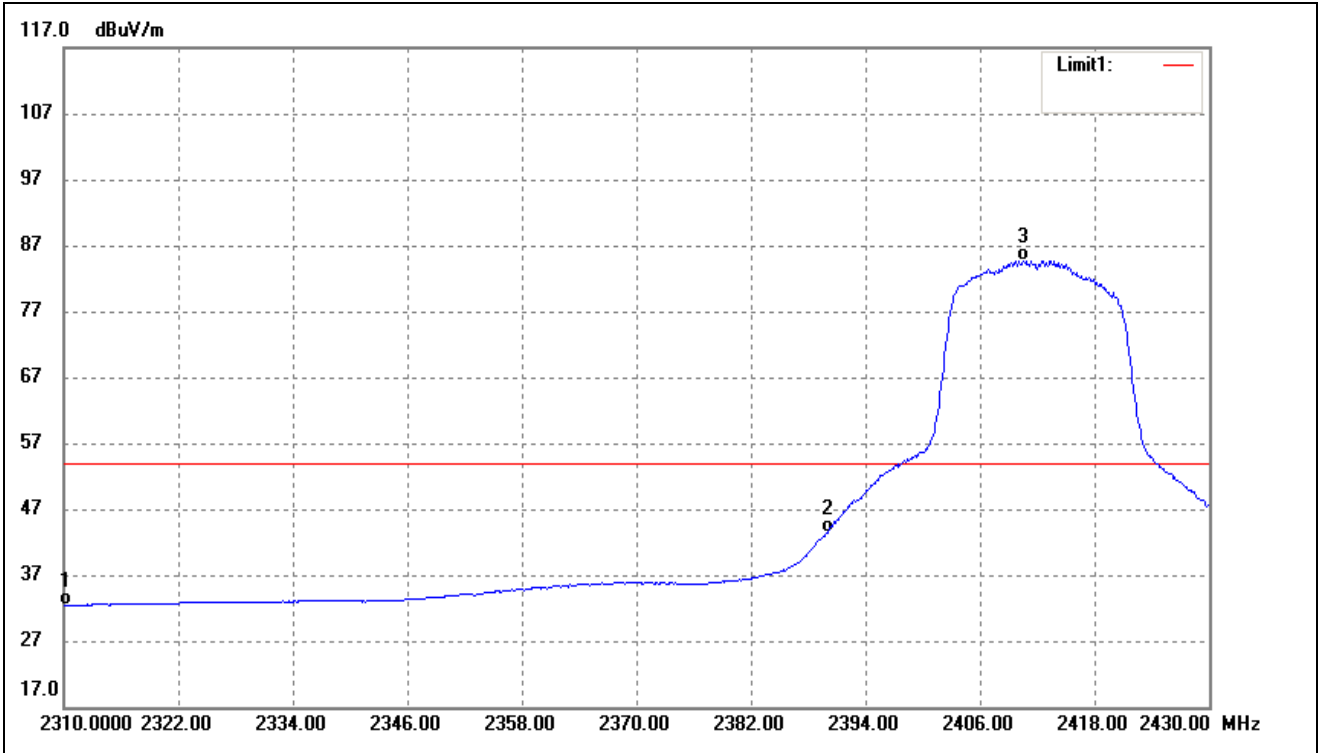
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	42.02	-9.66	32.36	54.00	-21.64	Average Detector
	2310.000	54.37	-9.66	44.71	74.00	-29.29	Peak Detector
2	2390.000	51.44	-9.50	41.94	54.00	-12.06	Average Detector
	2390.000	68.40	-9.50	58.90	74.00	-15.10	Peak Detector
3	2409.120	95.22	-9.47	85.75	/	/	Average Detector
	2410.200	111.07	-9.46	101.61	/	/	Peak Detector

802.11g_54Mbps			
Test Channel	High	Polarity:	Horizontal (worst case)



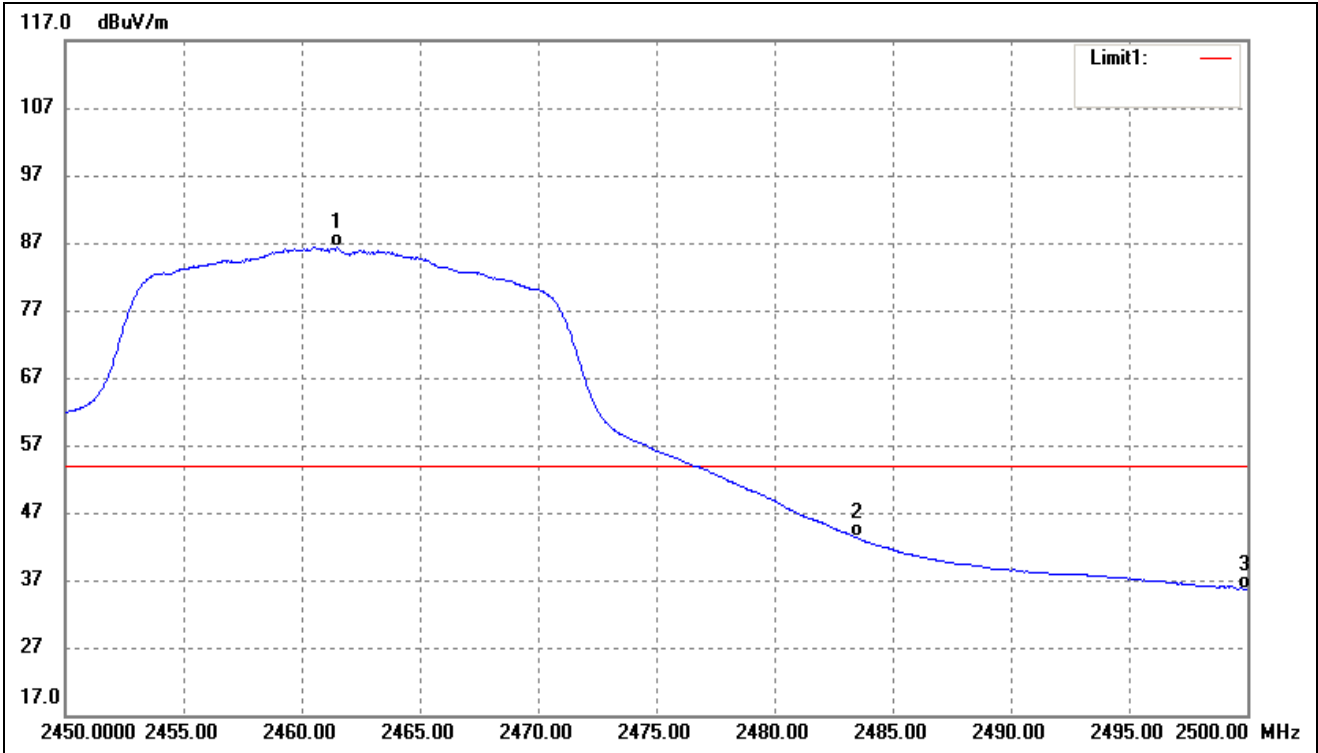
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2459.700	98.08	-9.35	88.73	/	/	Average Detector
	2460.800	113.07	-9.36	103.71	/	/	Peak Detector
2	2483.500	51.01	-9.31	41.70	54.00	-12.30	Average Detector
	2483.500	67.69	-9.31	58.38	74.00	-15.62	Peak Detector
3	2500.000	44.34	-9.28	35.06	54.00	-18.94	Average Detector
	2500.000	59.23	-9.28	49.95	74.00	-24.05	Peak Detector

802.11n-HT20_MCS7			
Test Channel	Low	Polarity:	Horizontal (worst case)



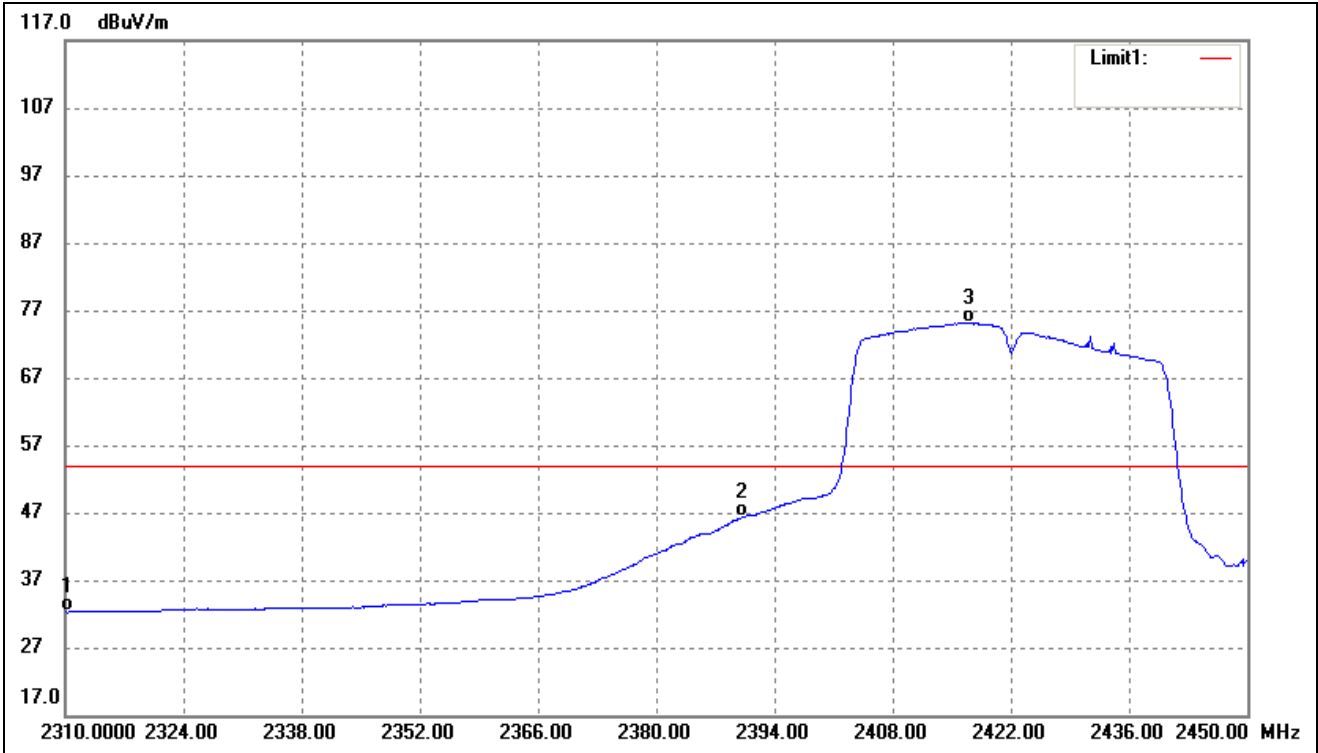
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	42.01	-9.66	32.35	54.00	-21.65	Average Detector
	2310.000	53.65	-9.66	43.99	74.00	-30.01	Peak Detector
2	2390.000	53.00	-9.50	43.50	54.00	-10.50	Average Detector
	2390.000	71.12	-9.50	61.62	74.00	-12.38	Peak Detector
3	2410.560	94.21	-9.46	84.75	/	/	Average Detector
	2410.920	110.61	-9.46	101.15	/	/	Peak Detector

802.11n-HT20_MCS7			
Test Channel	High	Polarity:	Horizontal (worst case)



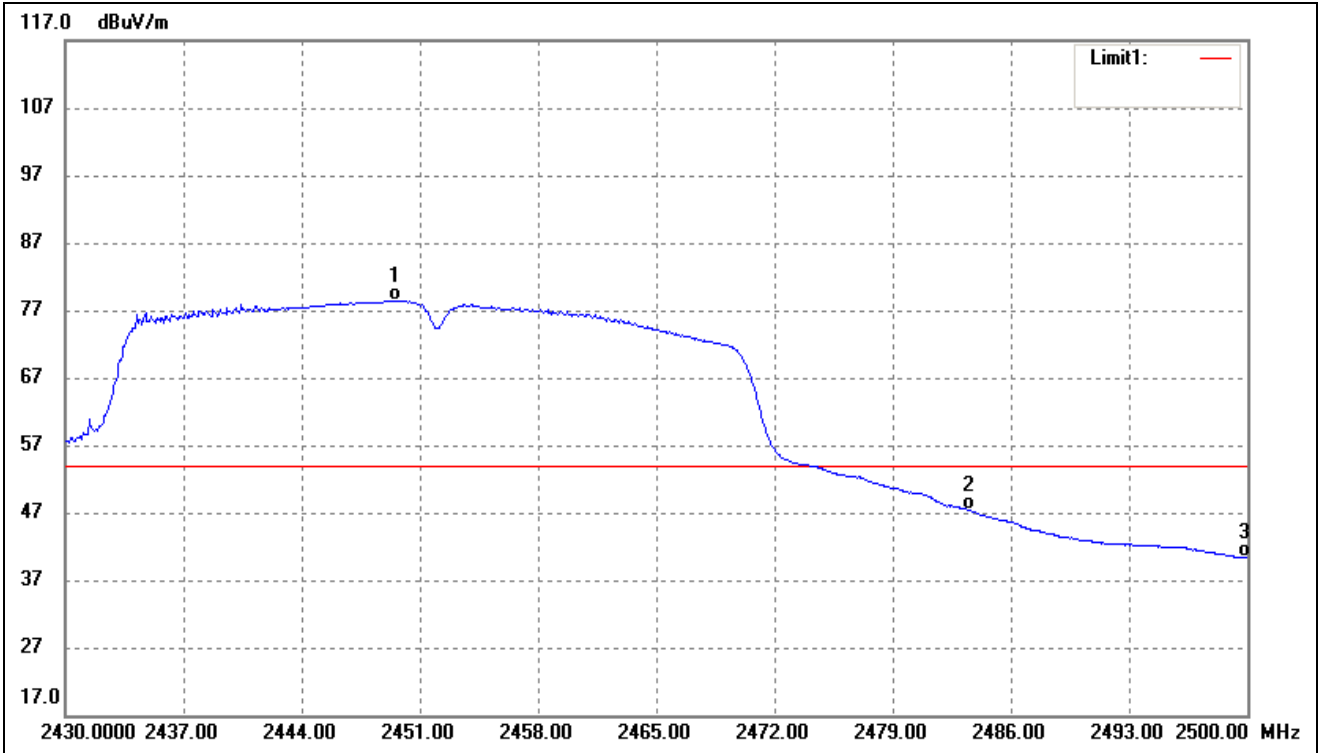
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2461.500	95.75	-9.36	86.39	/	/	Average Detector
	2463.450	112.42	-9.36	103.06	/	/	Peak Detector
2	2483.500	52.58	-9.31	43.27	54.00	-10.73	Average Detector
	2483.500	70.54	-9.31	61.23	74.00	-12.77	Peak Detector
3	2500.000	44.84	-9.28	35.56	54.00	-18.44	Average Detector
	2500.000	62.24	-9.28	52.96	74.00	-21.04	Peak Detector

802.11n-HT40_MCS7			
Test Channel	Low	Polarity:	Horizontal (worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	41.92	-9.66	32.26	54.00	-21.74	Average Detector
		53.88	-9.66	44.22	74.00	-29.78	Peak Detector
2	2390.000	55.81	-9.50	46.31	54.00	-7.69	Average Detector
		73.91	-9.50	64.41	74.00	-9.59	Peak Detector
3	2416.960	84.56	-9.45	75.11	/	/	Average Detector
		106.13	-9.46	96.67	/	/	Peak Detector

802.11n-HT40_MCS7			
Test Channel	High	Polarity:	Horizontal (worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2449.530	87.76	-9.39	78.37	/	/	Average Detector
	2449.250	110.26	-9.39	100.87	/	/	Peak Detector
2	2483.500	56.69	-9.31	47.38	54.00	-6.62	Average Detector
	2483.500	74.79	-9.31	65.48	74.00	-8.52	Peak Detector
3	2500.000	49.56	-9.28	40.28	54.00	-13.72	Average Detector
	2500.000	67.26	-9.28	57.98	74.00	-16.02	Peak Detector

➤ Conducted test

Please refer to Appendix D

9. Conducted Emissions

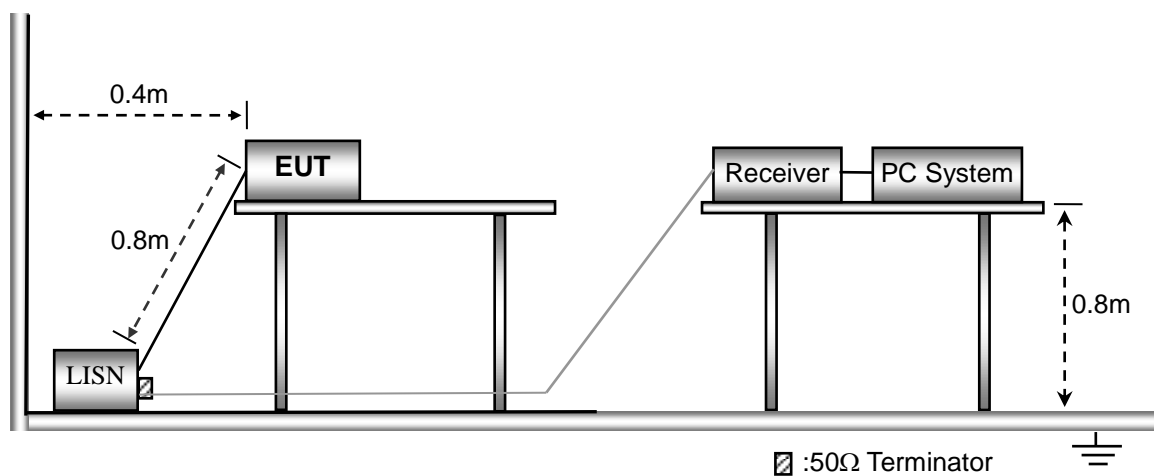
9.1 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 Limit.

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

The spacing between the peripherals was 10 cm.

9.2 Basic Test Setup Block Diagram



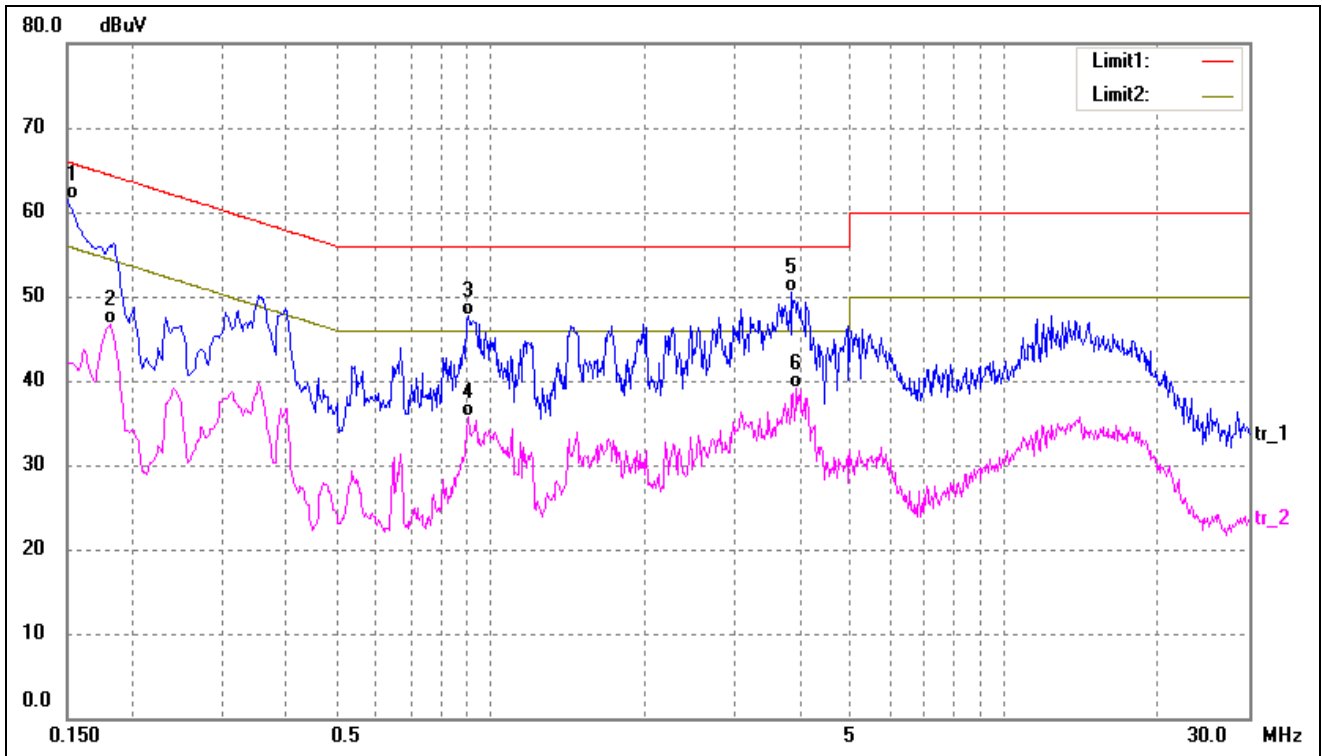
9.3 Test Receiver Setup

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

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

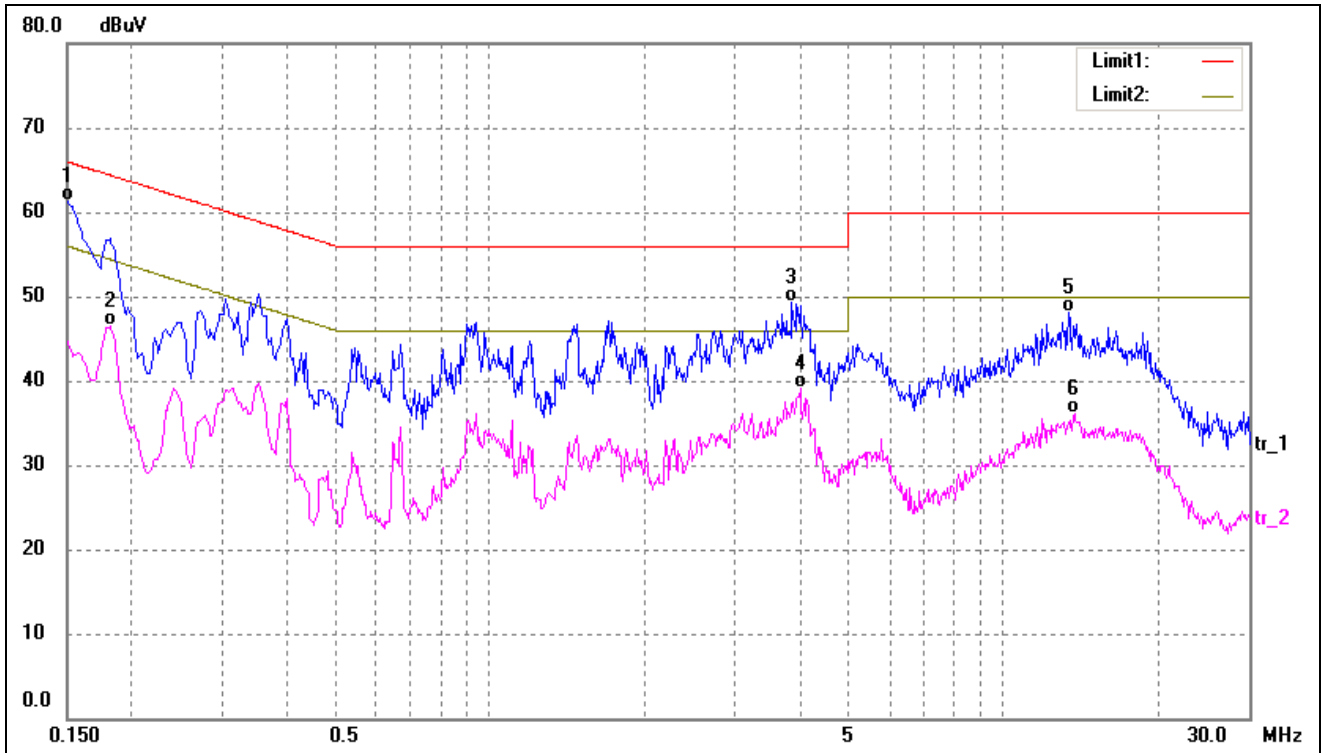
9.4 Summary of Test Results/Plots

Test Mode	Communication	AC120V 60Hz	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1499	51.17	10.25	61.42	66.00	-4.58	QP
2	0.1819	36.41	10.26	46.67	54.39	-7.72	AVG
3	0.9060	37.43	10.22	47.65	56.00	-8.35	QP
4	0.9060	25.39	10.22	35.61	46.00	-10.39	AVG
5	3.8780	40.34	10.25	50.59	56.00	-5.41	QP
6	3.9460	28.81	10.25	39.06	46.00	-6.94	AVG

Test Mode	Communication	AC120V 60Hz	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1499	51.12	10.25	61.37	66.00	-4.63	QP
2	0.1819	36.23	10.26	46.49	54.39	-7.90	AVG
3	3.8780	39.14	10.25	49.39	56.00	-6.61	QP
4	4.0179	28.77	10.24	39.01	46.00	-6.99	AVG
5	13.3779	37.56	10.48	48.04	60.00	-11.96	QP
6	13.7659	25.54	10.51	36.05	50.00	-13.95	AVG

APPENDIX SUMMARY

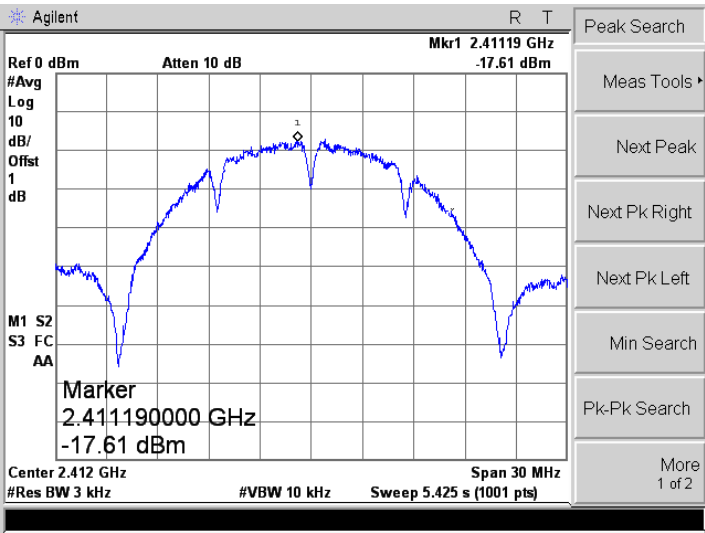
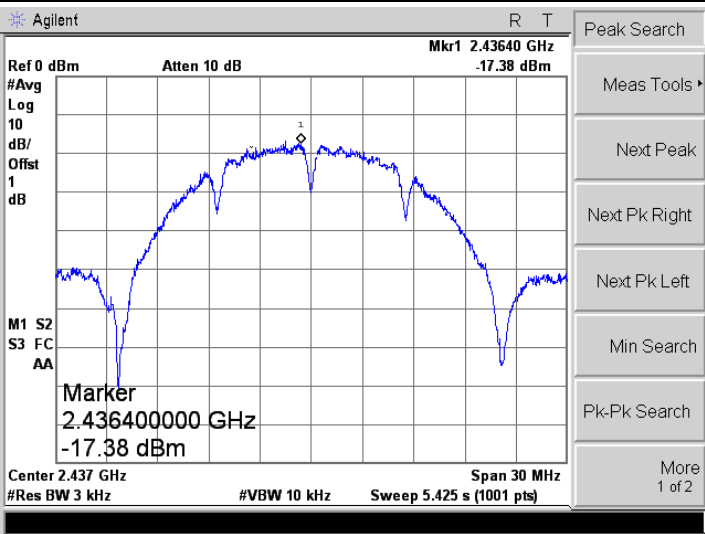
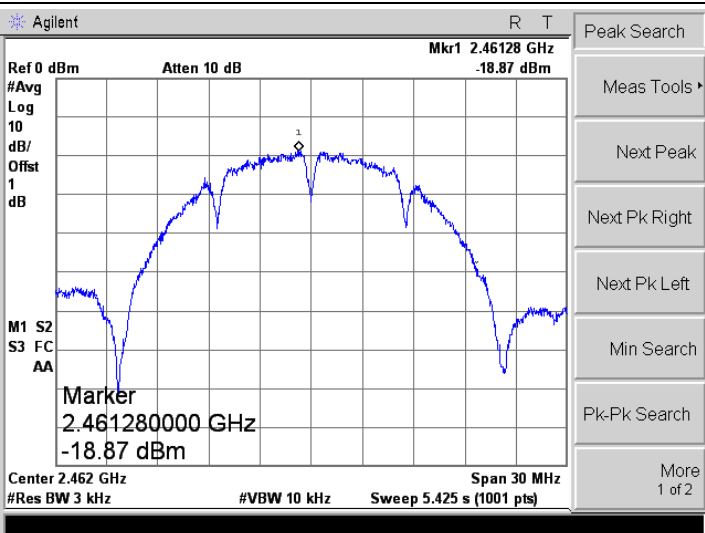
Project No.	WTU20X08054676W	Test Engineer	Moon
Start date	2020/8/18	Finish date	2020/11/09
Temperature	25.2℃	Humidity	50%
RF specifications	WIFI-2.4G		

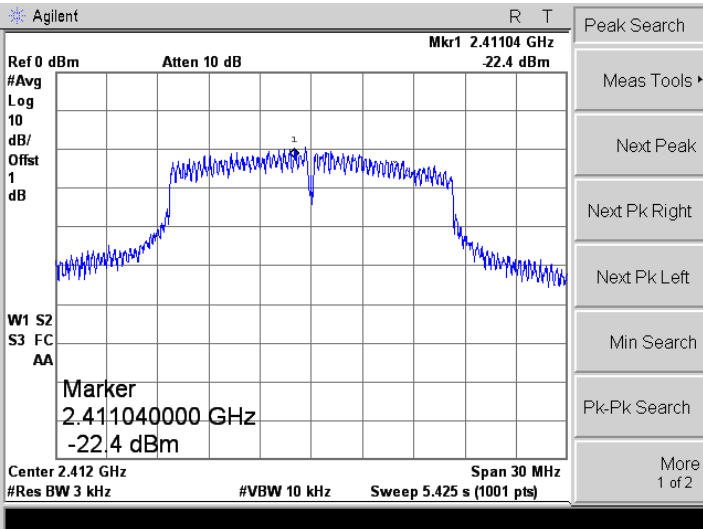
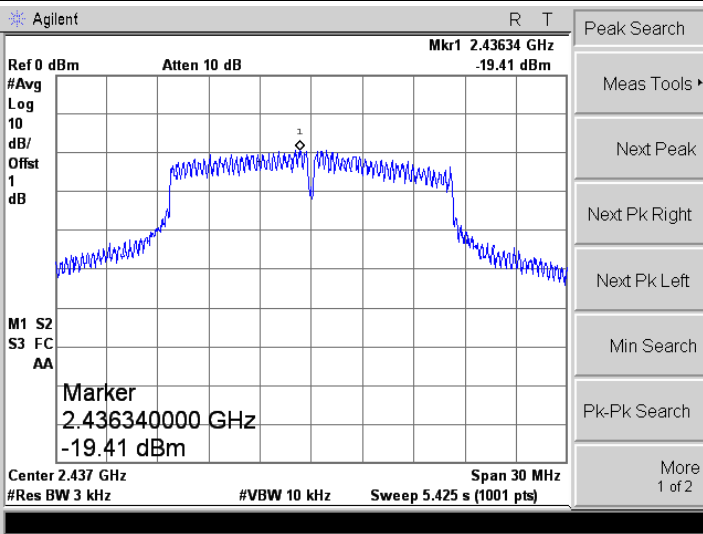
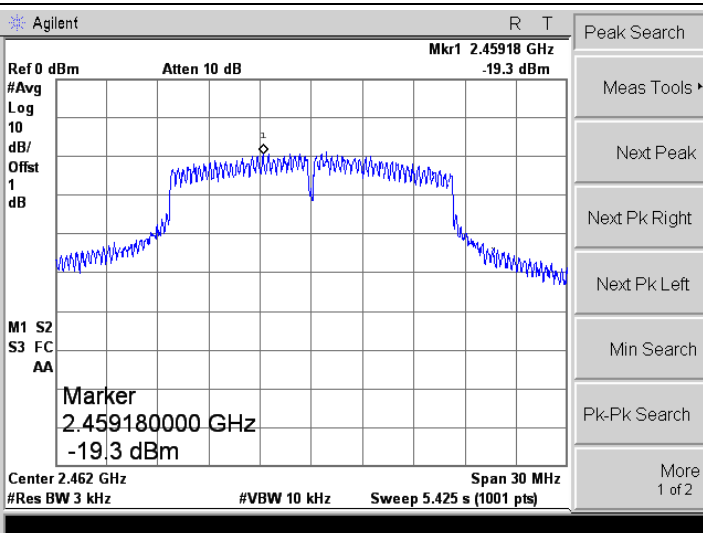
APPENDIX	Description of Test Item	Result
A	Power Spectral Density	Compliant
B	DTS Bandwidth	Compliant
C	RF Output Power	Compliant
D	Conducted Out of Band Emissions	Compliant

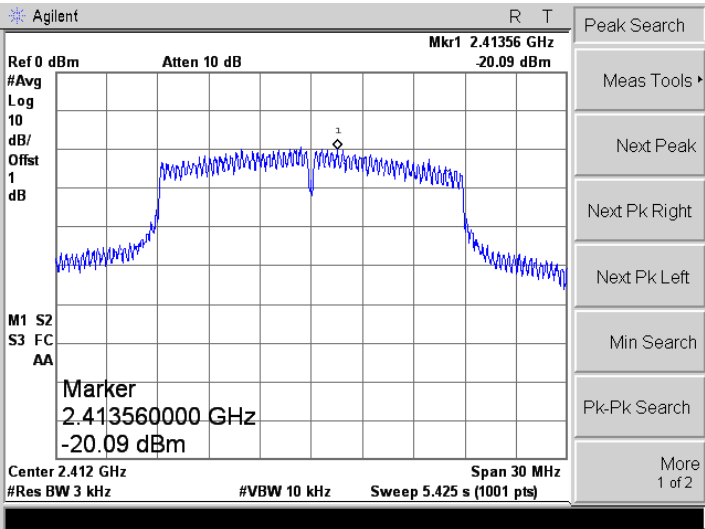
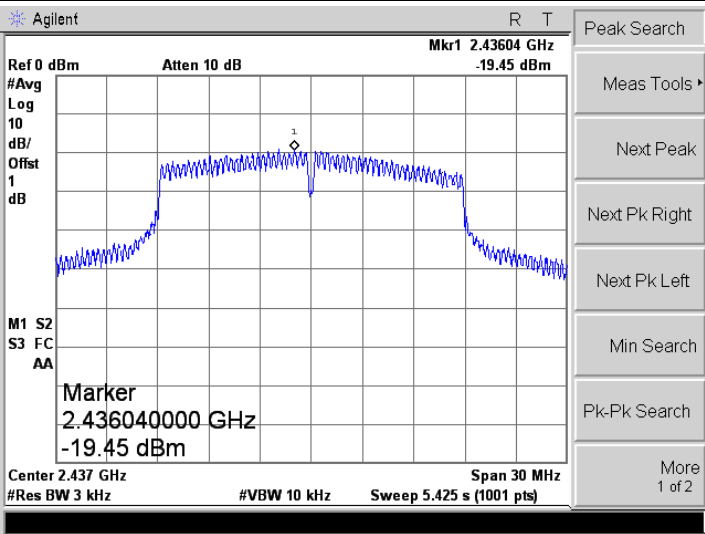
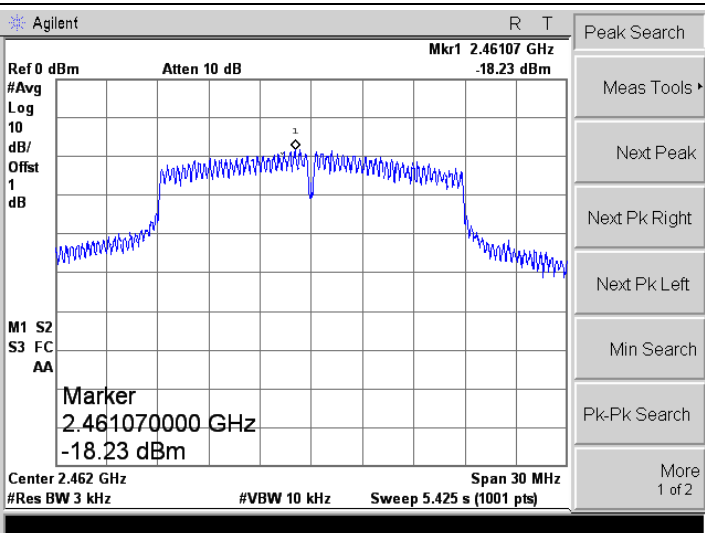
APPENDIX A

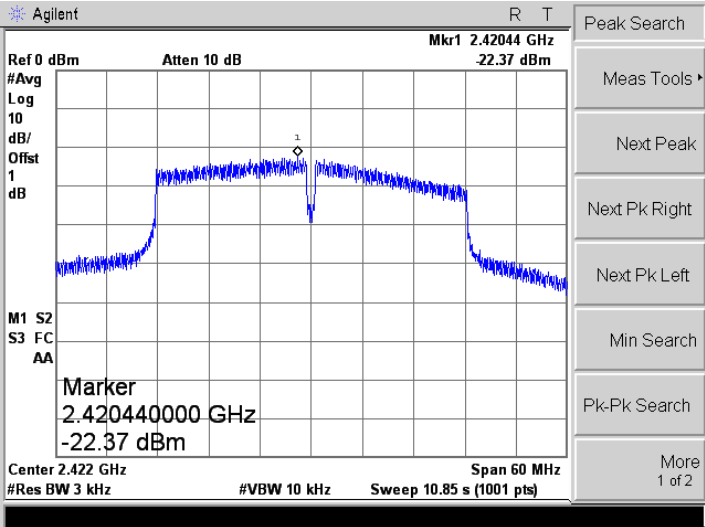
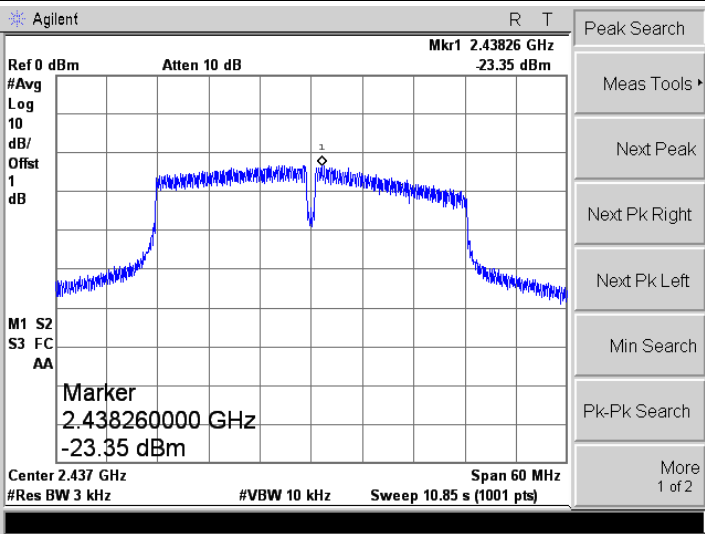
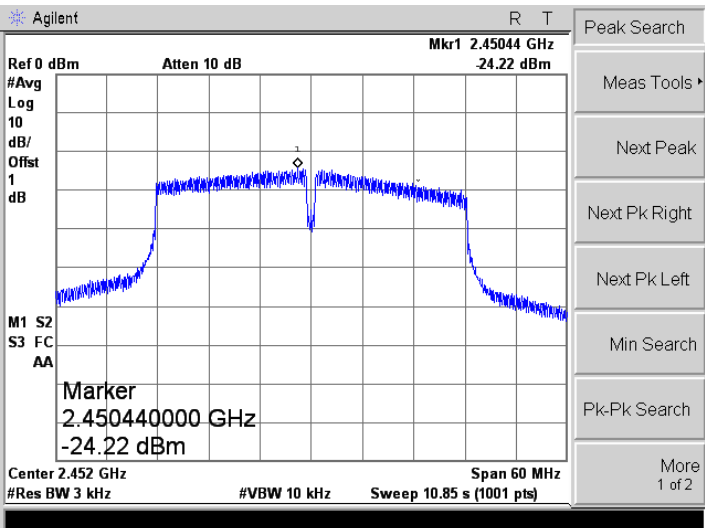
Power Spectral Density					
Test Mode	Test Channel MHz	Test Result(dBm/3kHz)		Total dBm	Limit dBm/3kHz
		Antenna 1	Antenna 2		
802.11b_11Mbps	2412	-17.61	-17.46	/	8
	2437	-17.38	-19.29	/	8
	2462	-18.87	-19.03	/	8
802.11g_54Mbps	2412	-22.4	-20.03	/	8
	2437	-19.41	-20.33	/	8
	2462	-19.30	-20.39	/	8
802.11n-HT20_MCS7	2412	-20.09	-19.46	-16.75	8
	2437	-19.45	-20.08	-16.74	8
	2462	-18.23	-20.13	-16.07	8
802.11n-HT40_MCS7	2422	-22.37	-25.16	-20.53	8
	2437	-23.35	-25.66	-21.34	8
	2452	-24.22	-24.98	-21.57	8

Antenna 1

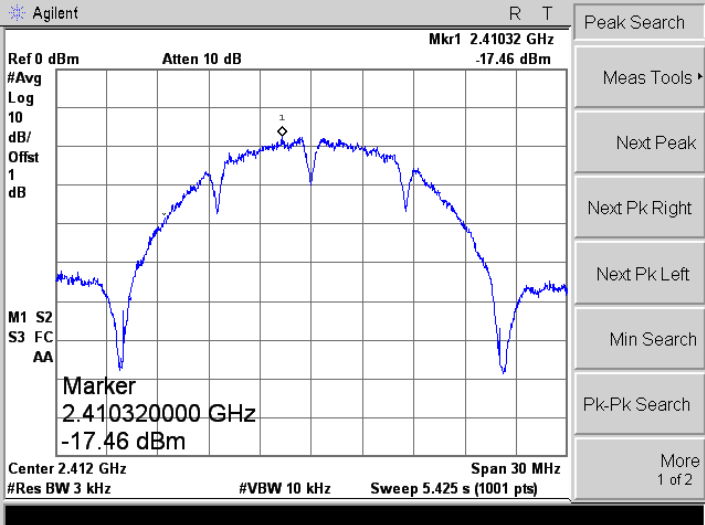
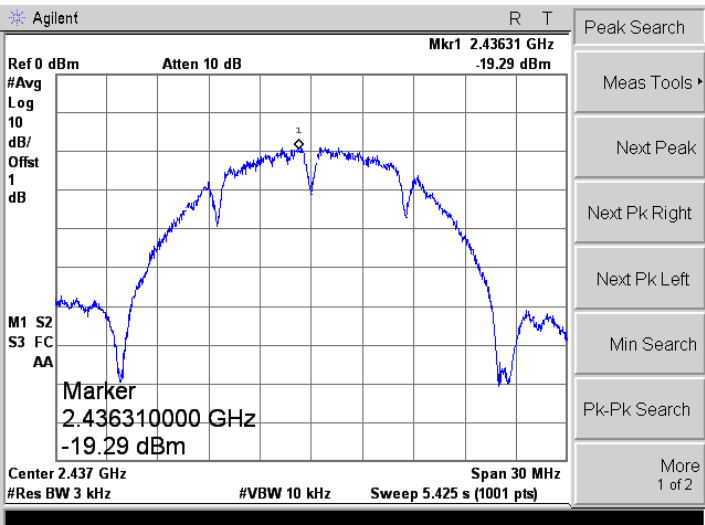
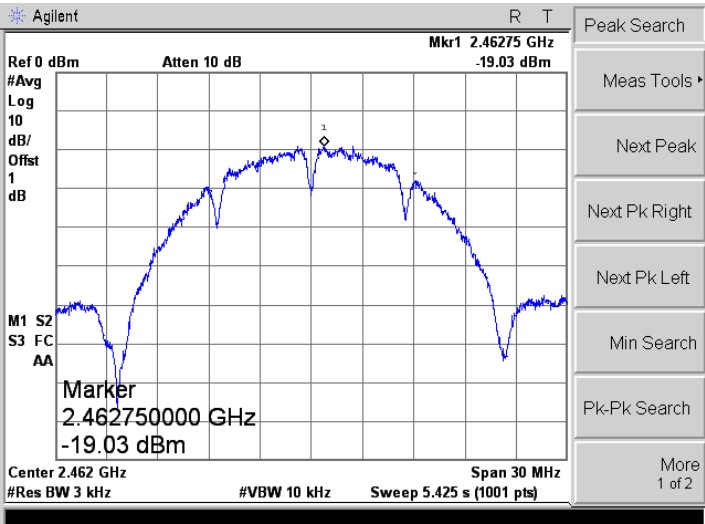
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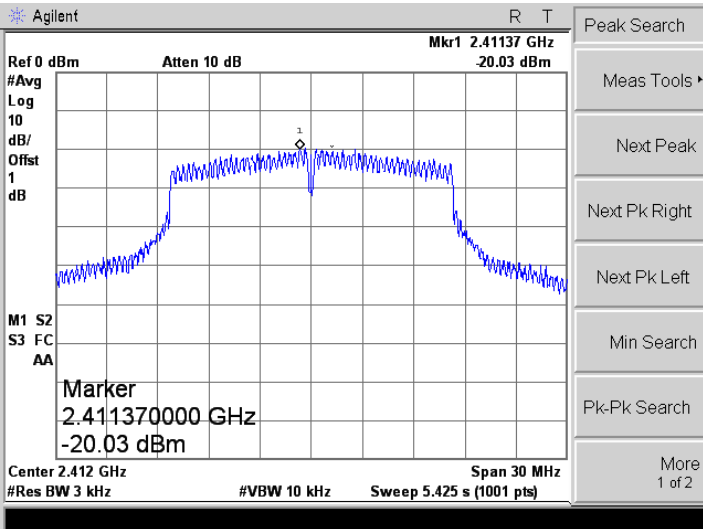
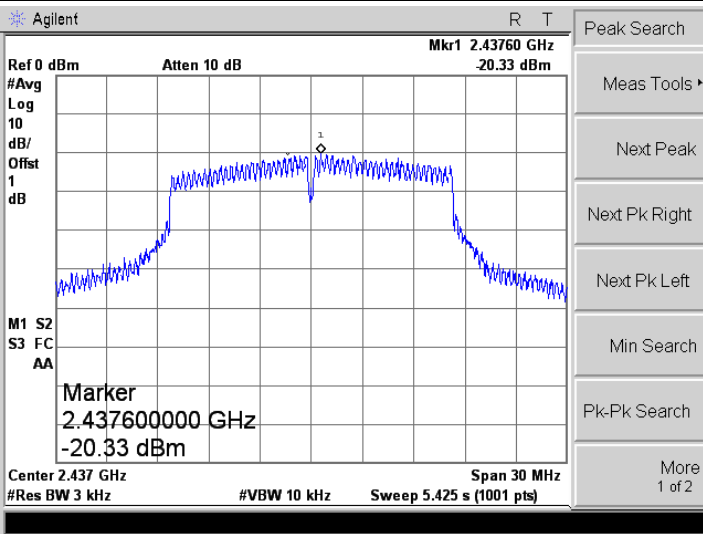
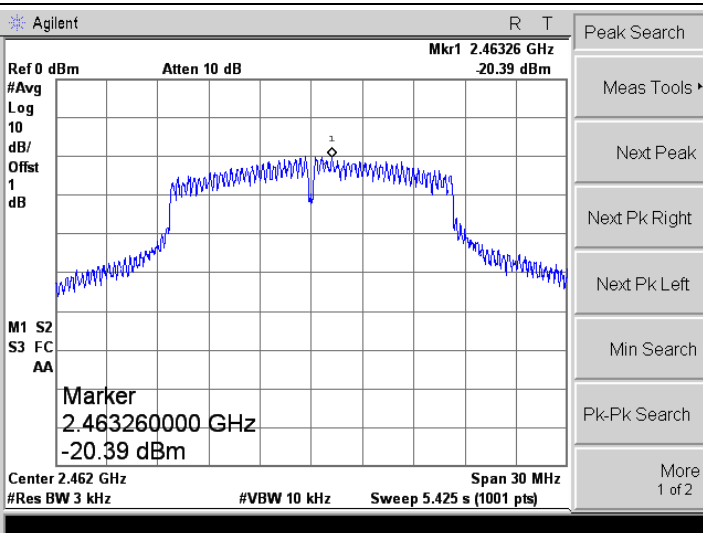
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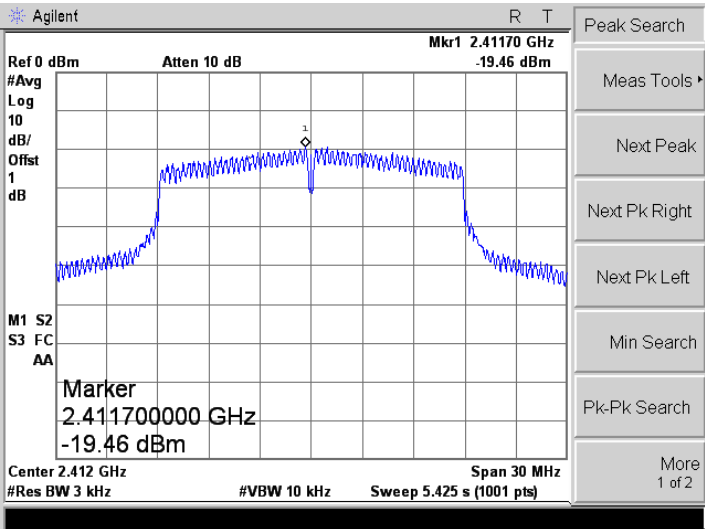
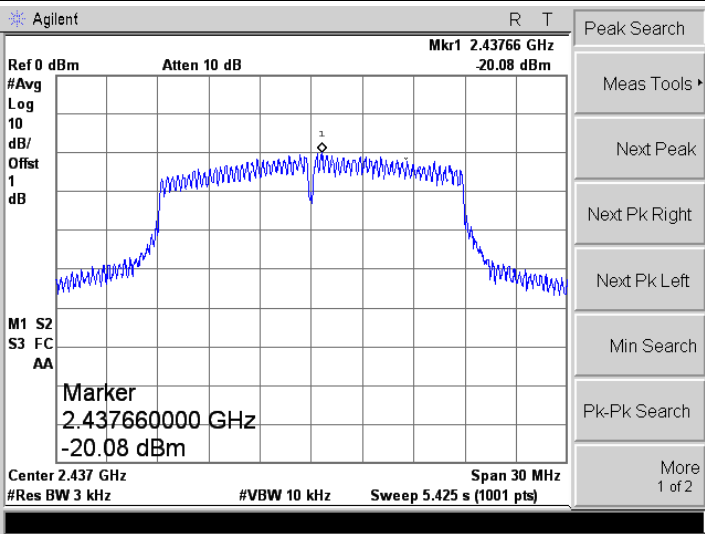
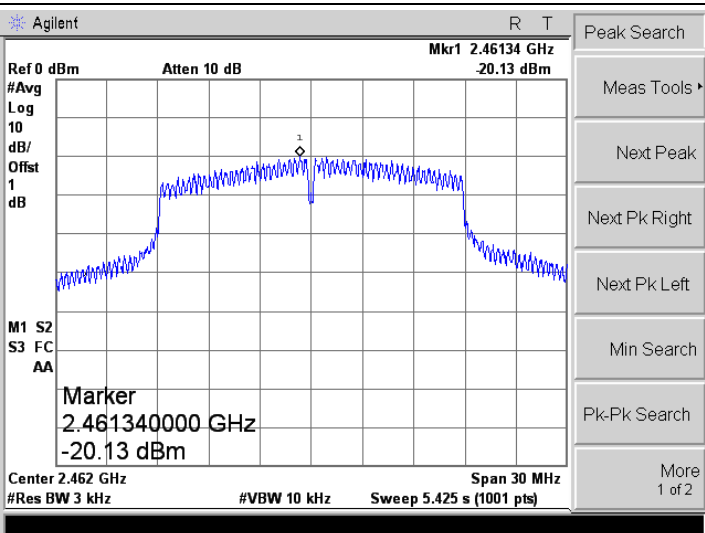
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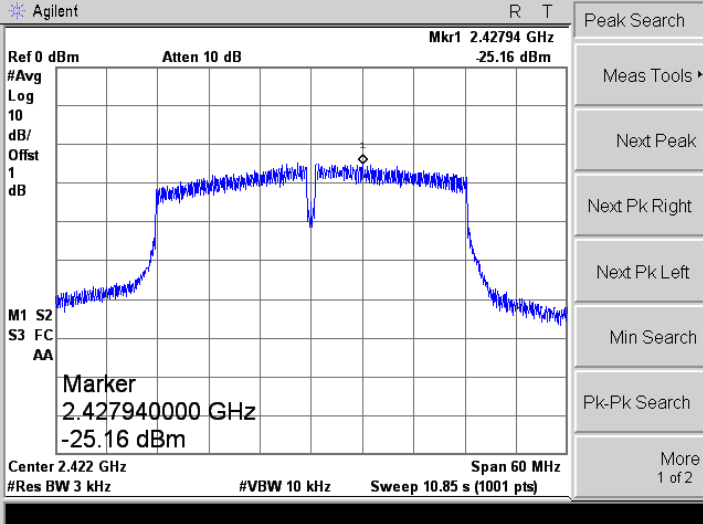
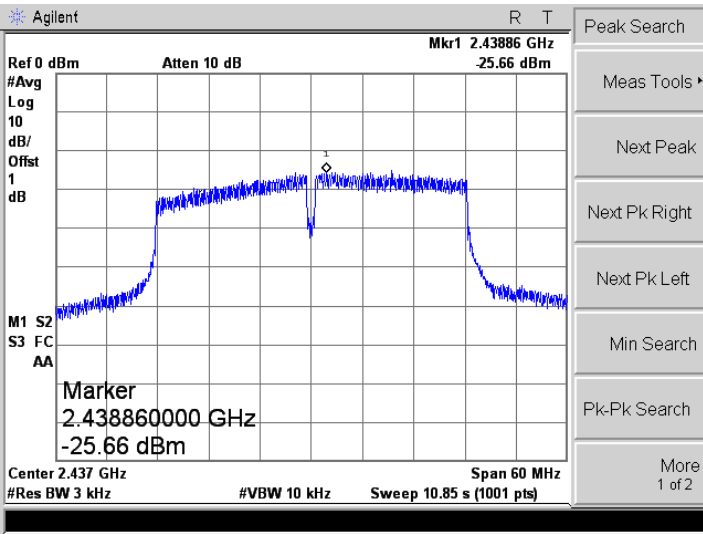
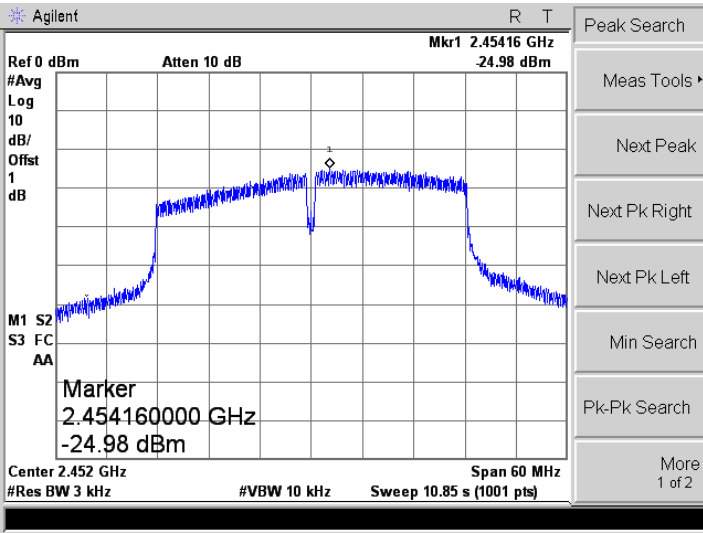
<p>802.11n-HT40-Low</p>	 <p>Agilent R T Ref 0 dBm Atten 10 dB Mkr1 2.42044 GHz -22.37 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 2.420440000 GHz -22.37 dBm Center 2.422 GHz Span 60 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 10.85 s (1001 pts)</p>
<p>802.11n-HT40-Middle</p>	 <p>Agilent R T Ref 0 dBm Atten 10 dB Mkr1 2.43826 GHz -23.35 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 2.438260000 GHz -23.35 dBm Center 2.437 GHz Span 60 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 10.85 s (1001 pts)</p>
<p>802.11n-HT40-High</p>	 <p>Agilent R T Ref 0 dBm Atten 10 dB Mkr1 2.45044 GHz -24.22 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 2.450440000 GHz -24.22 dBm Center 2.452 GHz Span 60 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 10.85 s (1001 pts)</p>

Antenna 2

<p>802.11b-Low</p>	 <p>Agilent R T</p> <p>Ref 0 dBm Atten 10 dB Mkr1 2.41032 GHz -17.46 dBm</p> <p>#Avg Log 10 dB/Offst 1 dB</p> <p>M1 S2 S3 FC AA</p> <p>Marker 2.410320000 GHz -17.46 dBm</p> <p>Center 2.412 GHz Span 30 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 5.425 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>802.11b-Middle</p>	 <p>Agilent R T</p> <p>Ref 0 dBm Atten 10 dB Mkr1 2.43631 GHz -19.29 dBm</p> <p>#Avg Log 10 dB/Offst 1 dB</p> <p>M1 S2 S3 FC AA</p> <p>Marker 2.436310000 GHz -19.29 dBm</p> <p>Center 2.437 GHz Span 30 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 5.425 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>802.11b-High</p>	 <p>Agilent R T</p> <p>Ref 0 dBm Atten 10 dB Mkr1 2.46275 GHz -19.03 dBm</p> <p>#Avg Log 10 dB/Offst 1 dB</p> <p>M1 S2 S3 FC AA</p> <p>Marker 2.462750000 GHz -19.03 dBm</p> <p>Center 2.462 GHz Span 30 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 5.425 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>802.11g-Low</p>	
<p>802.11g-Middle</p>	
<p>802.11g-High</p>	

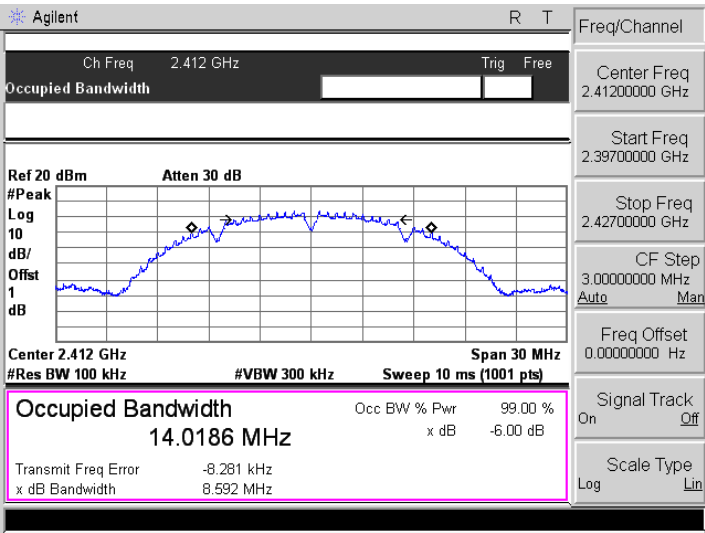
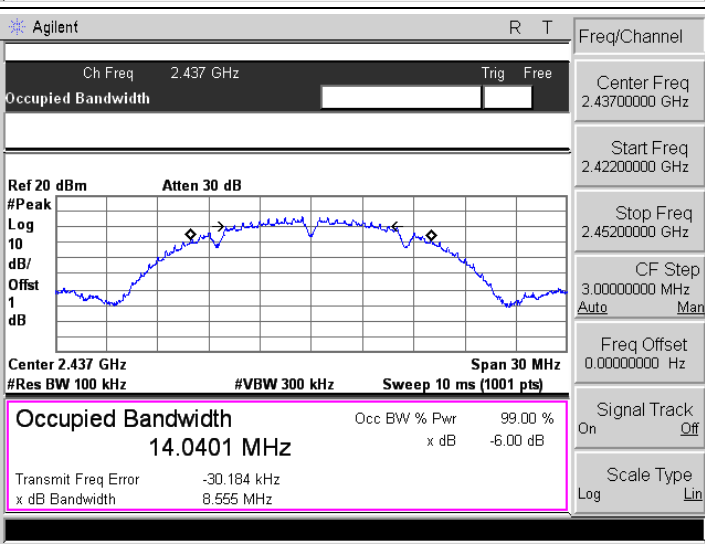
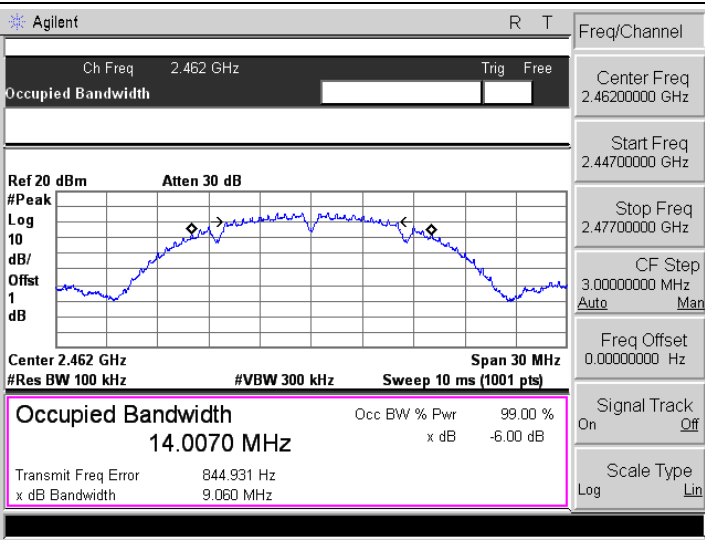
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<p>802.11n-HT20-High</p>	

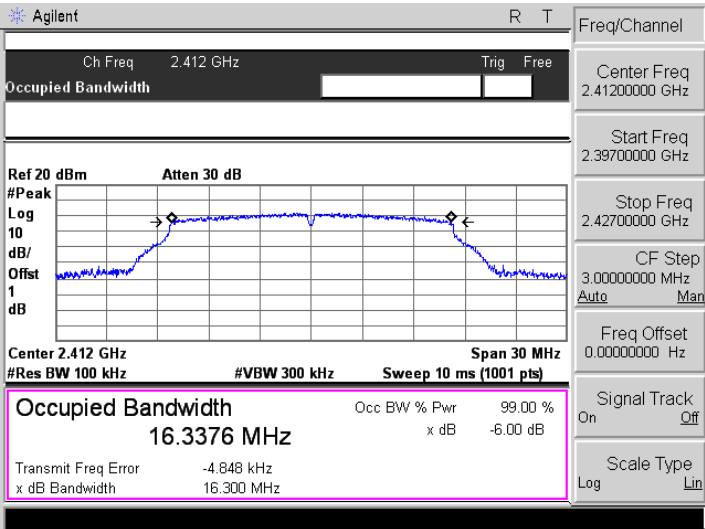
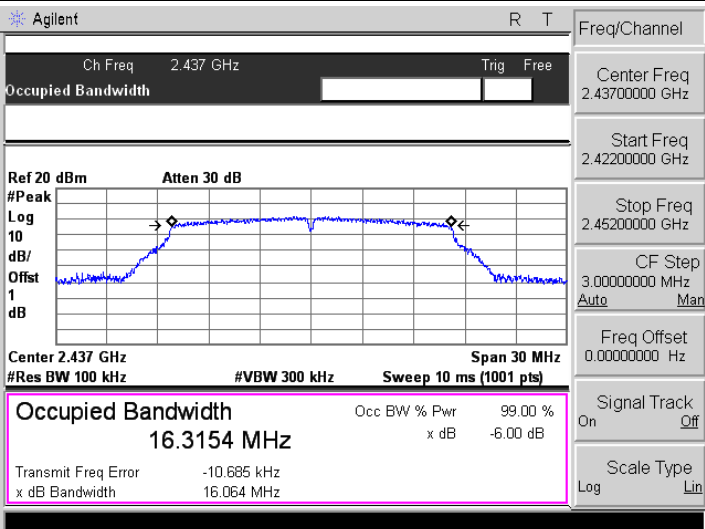
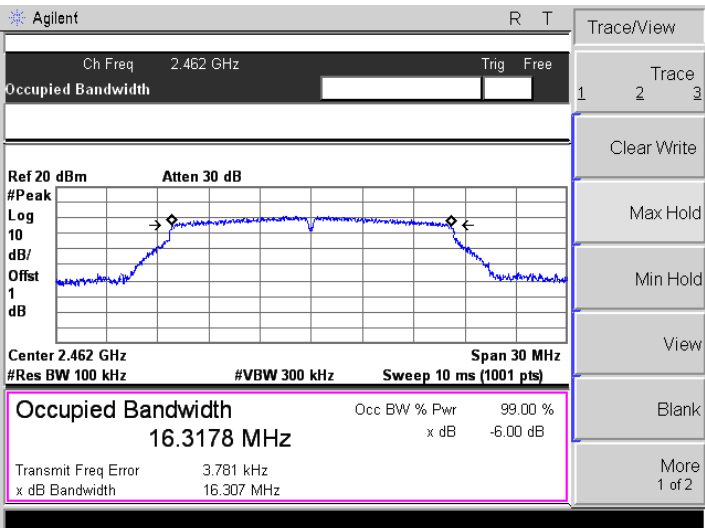
<p>802.11n-HT40-Low</p>	 <p>Agilent R T Ref 0 dBm Atten 10 dB Mkr1 2.42794 GHz -25.16 dBm #Avg 10 Log dB/Offst 1 dB M1 S2 S3 FC AA Marker 2.427940000 GHz -25.16 dBm Center 2.422 GHz Span 60 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 10.85 s (1001 pts)</p>
<p>802.11n-HT40-Middle</p>	 <p>Agilent R T Ref 0 dBm Atten 10 dB Mkr1 2.43886 GHz -25.66 dBm #Avg 10 Log dB/Offst 1 dB M1 S2 S3 FC AA Marker 2.438860000 GHz -25.66 dBm Center 2.437 GHz Span 60 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 10.85 s (1001 pts)</p>
<p>802.11n-HT40-High</p>	 <p>Agilent R T Ref 0 dBm Atten 10 dB Mkr1 2.45416 GHz -24.98 dBm #Avg 10 Log dB/Offst 1 dB M1 S2 S3 FC AA Marker 2.454160000 GHz -24.98 dBm Center 2.452 GHz Span 60 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 10.85 s (1001 pts)</p>

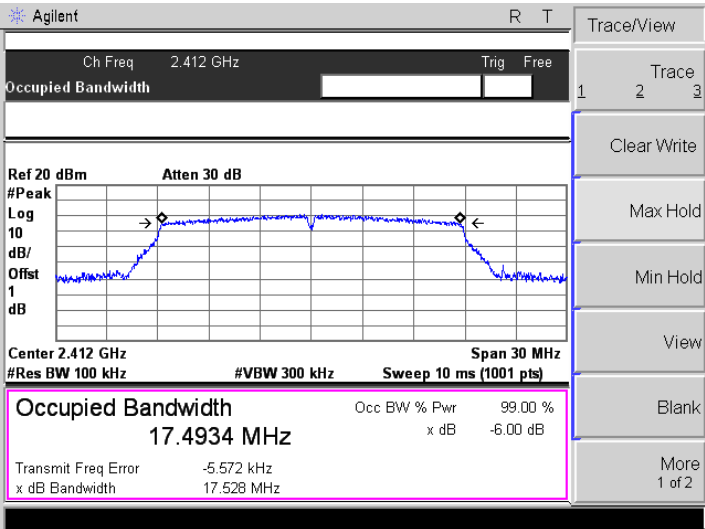
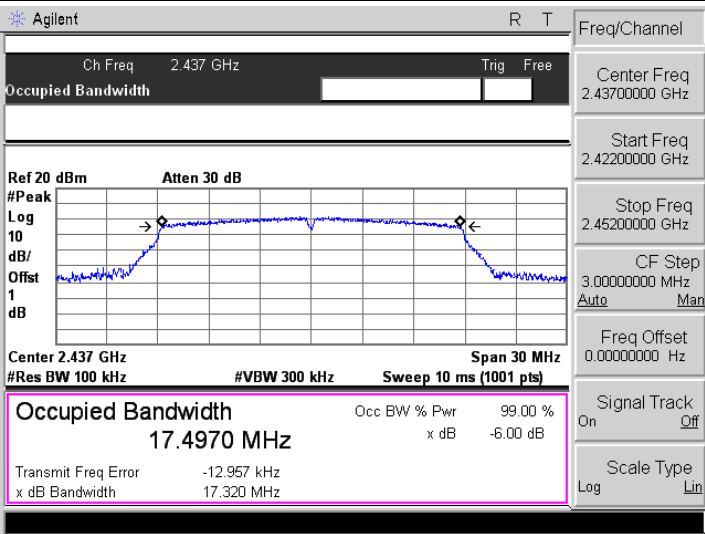
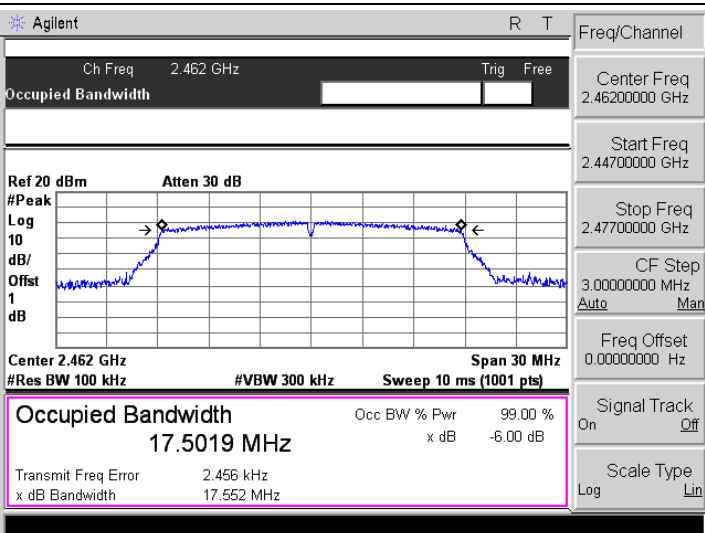
APPENDIX B

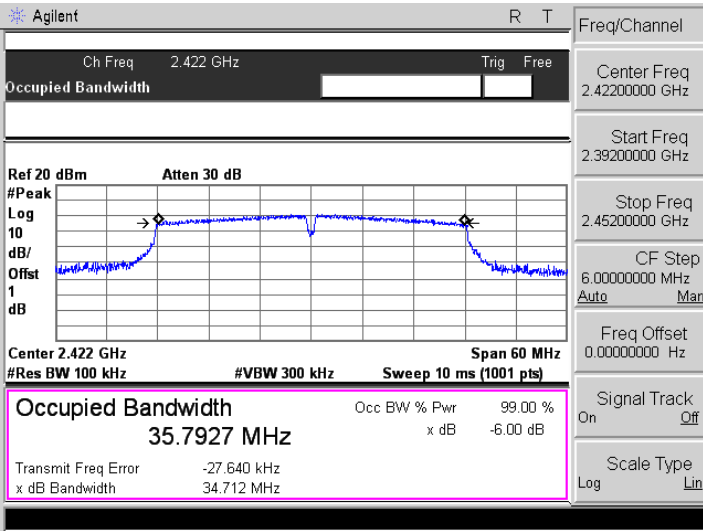
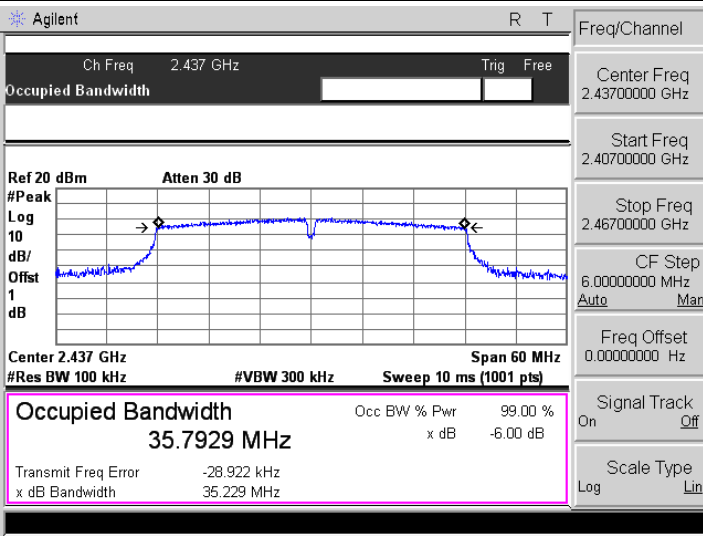
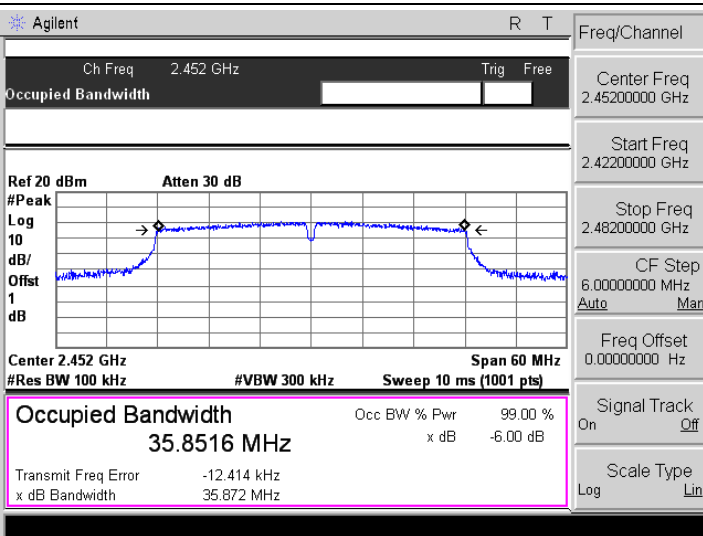
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802.11b_11Mbps	2412	8.592	9.531	≥500
	2437	8.555	9.035	≥500
	2462	9.060	9.052	≥500
802.11g_54Mbps	2412	16.300	15.910	≥500
	2437	16.046	16.075	≥500
	2462	16.307	16.057	≥500
802.11n-HT20_MCS7	2412	17.528	17.167	≥500
	2437	17.320	16.351	≥500
	2462	17.552	17.550	≥500
802.11n-HT40_MCS7	2422	34.712	33.165	≥500
	2437	35.229	34.052	≥500
	2452	35.872	35.313	≥500

Antenna 1

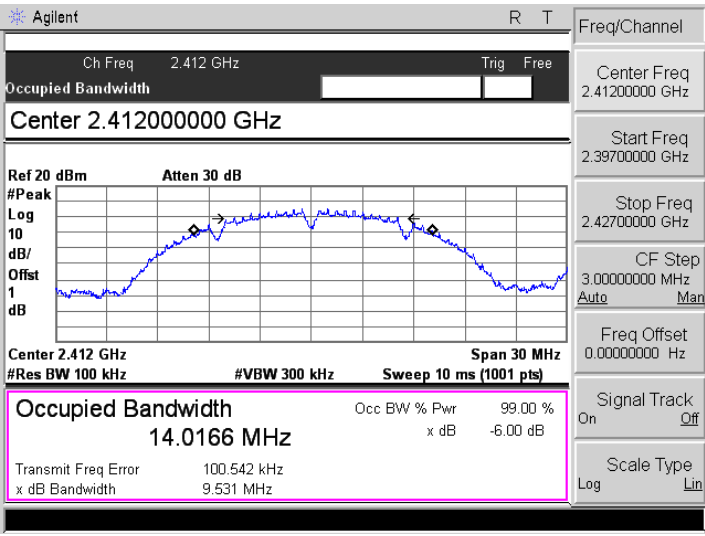
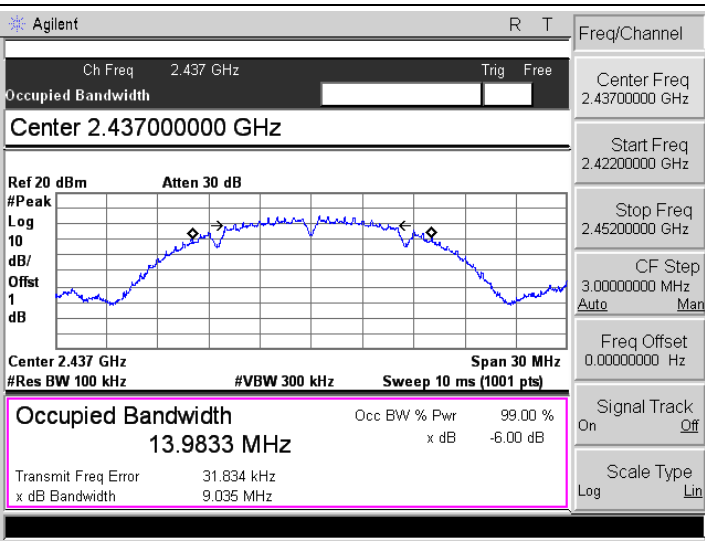
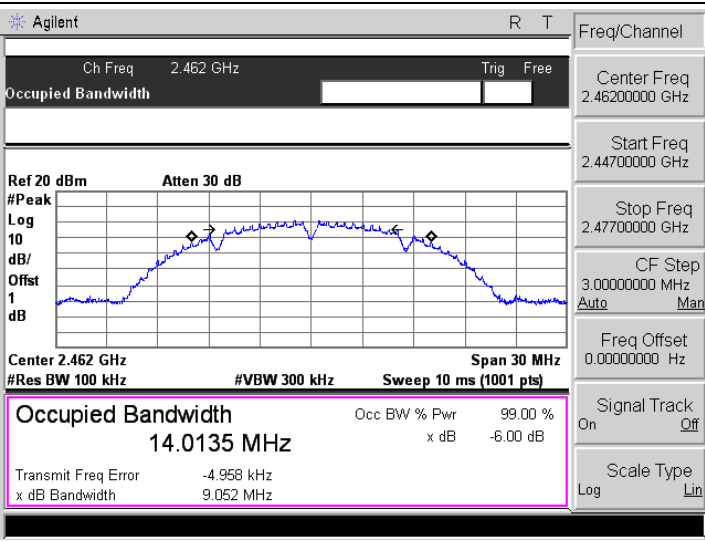
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<p>802.11b-High</p>	

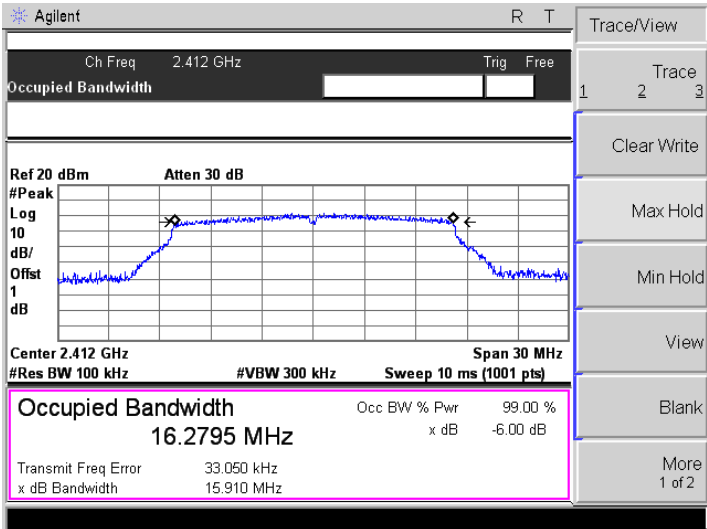
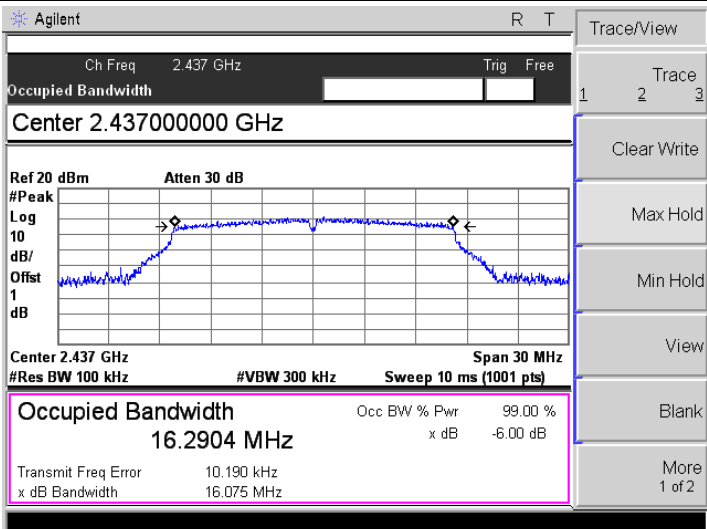
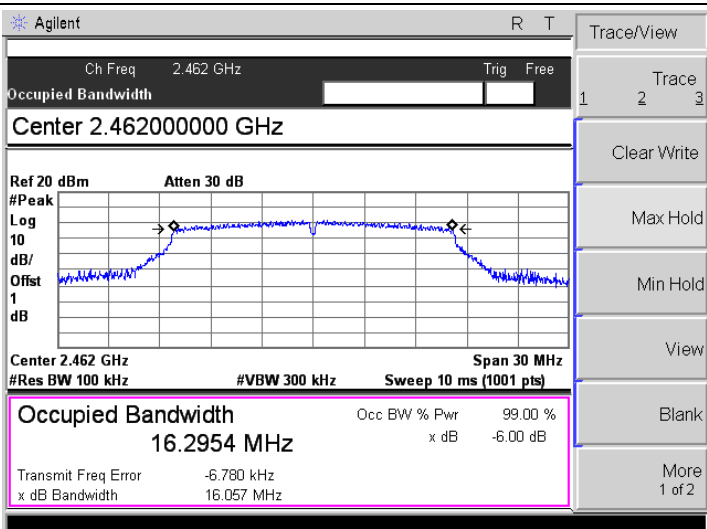
<p>802.11g-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/Offst 1 dB</p> <p>Center 2.412 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.3376 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -4.848 kHz x dB Bandwidth 16.300 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.39700000 GHz</p> <p>Stop Freq 2.42700000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>802.11g-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 2.437 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 2.437 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.3154 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -10.685 kHz x dB Bandwidth 16.064 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.42200000 GHz</p> <p>Stop Freq 2.45200000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>802.11g-High</p>	 <p>Agilent R T</p> <p>Ch Freq 2.462 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 2.462 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.3178 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error 3.781 kHz x dB Bandwidth 16.307 MHz</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>

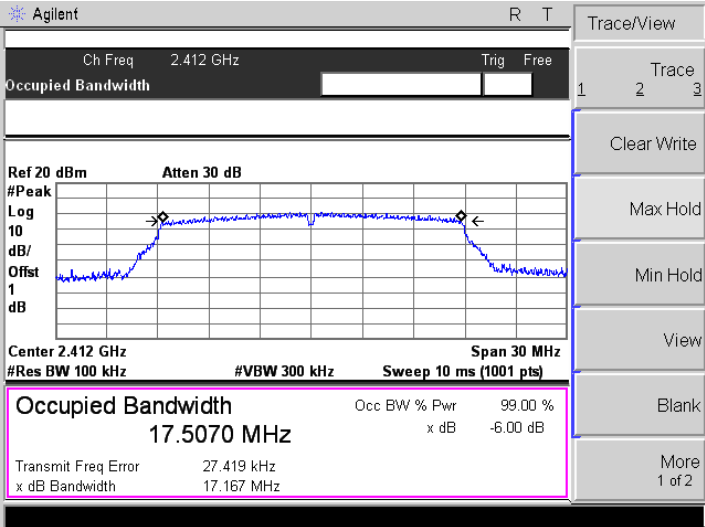
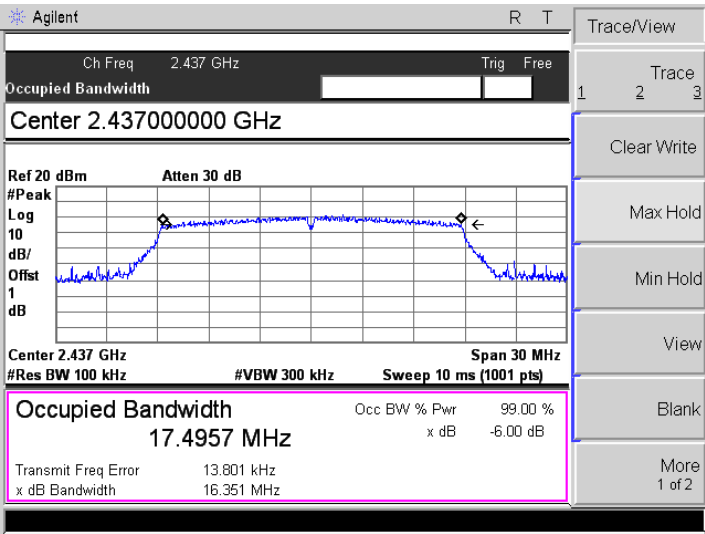
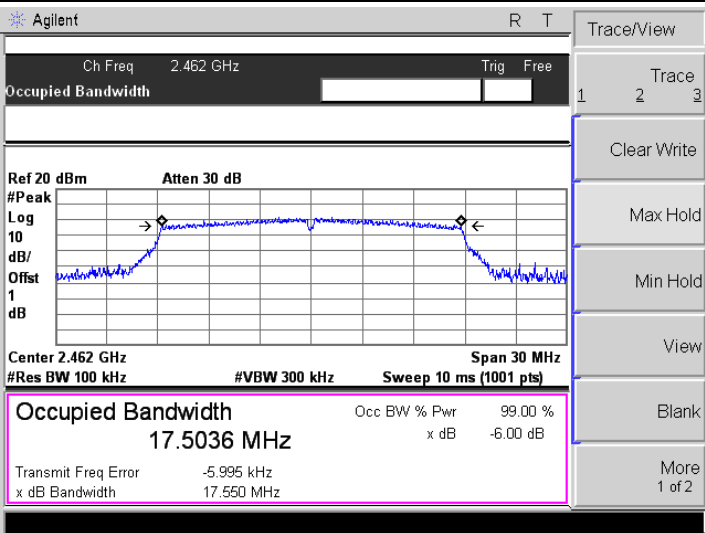
<p>802.11n-HT20-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 2.412 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.4934 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -5.572 kHz x dB Bandwidth 17.528 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-HT20-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 2.437 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 2.437 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.4970 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -12.957 kHz x dB Bandwidth 17.320 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.42200000 GHz</p> <p>Stop Freq 2.45200000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>802.11n-HT20-High</p>	 <p>Agilent R T</p> <p>Ch Freq 2.462 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 2.462 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 17.5019 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error 2.456 kHz x dB Bandwidth 17.552 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.44700000 GHz</p> <p>Stop Freq 2.47700000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

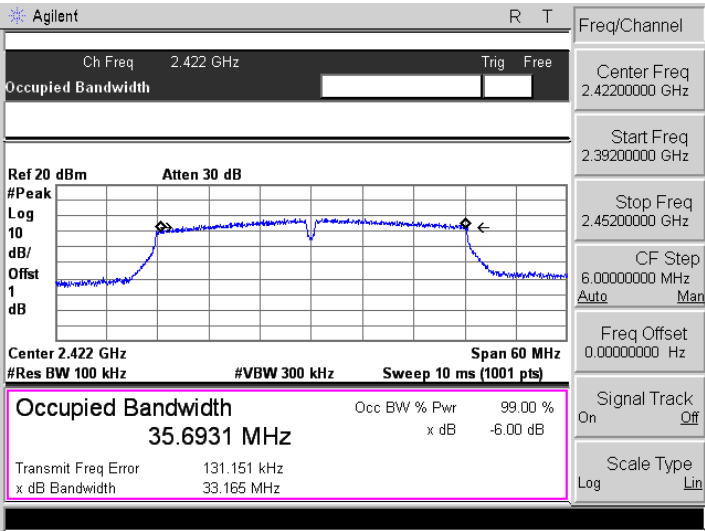
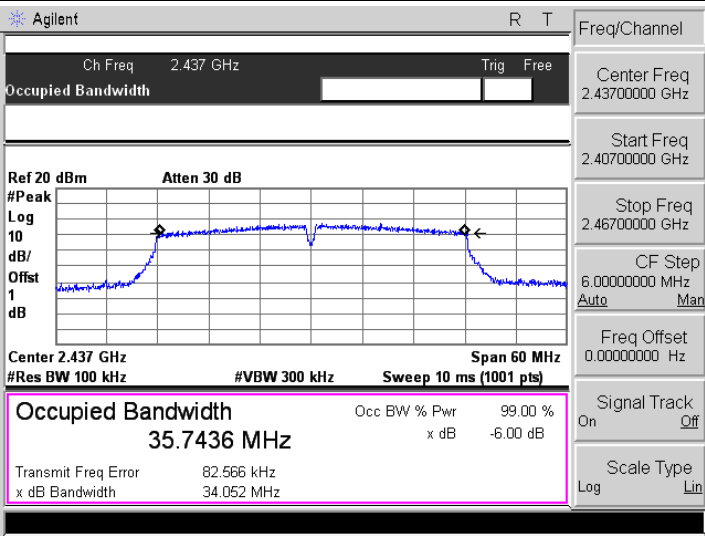
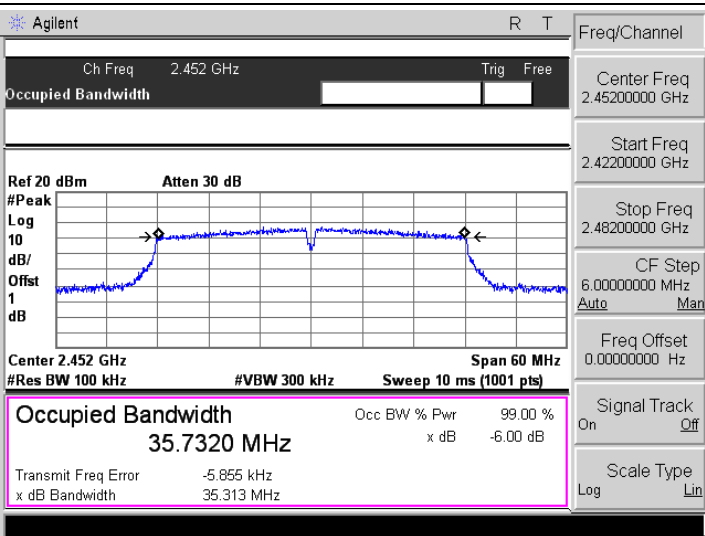
<p>802.11n-HT40-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 2.422 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/Offst 1 dB</p> <p>Center 2.422 GHz Span 60 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>35.7927 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -27.640 kHz</p> <p>x dB Bandwidth 34.712 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.4220000 GHz</p> <p>Start Freq 2.3920000 GHz</p> <p>Stop Freq 2.4520000 GHz</p> <p>CF Step 6.0000000 MHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>802.11n-HT40-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 2.437 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 2.437 GHz Span 60 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>35.7929 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -28.922 kHz</p> <p>x dB Bandwidth 35.229 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.4370000 GHz</p> <p>Start Freq 2.4070000 GHz</p> <p>Stop Freq 2.4670000 GHz</p> <p>CF Step 6.0000000 MHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>802.11n-HT40-High</p>	 <p>Agilent R T</p> <p>Ch Freq 2.452 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 2.452 GHz Span 60 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>35.8516 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -12.414 kHz</p> <p>x dB Bandwidth 35.872 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.4520000 GHz</p> <p>Start Freq 2.4220000 GHz</p> <p>Stop Freq 2.4820000 GHz</p> <p>CF Step 6.0000000 MHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

Antenna 2

<p>802.11b-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 2.41200000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/Offst 1 dB</p> <p>Center 2.412 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 14.0166 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error 100.542 kHz x dB Bandwidth 9.531 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.39700000 GHz</p> <p>Stop Freq 2.42700000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>802.11b-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 2.43700000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/Offst 1 dB</p> <p>Center 2.437 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 13.9833 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error 31.834 kHz x dB Bandwidth 9.035 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.42200000 GHz</p> <p>Stop Freq 2.45200000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>802.11b-High</p>	 <p>Agilent R T</p> <p>Ch Freq 2.462 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 2.46200000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/Offst 1 dB</p> <p>Center 2.462 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 14.0135 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -4.968 kHz x dB Bandwidth 9.052 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.44700000 GHz</p> <p>Stop Freq 2.47700000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

<p>802.11g-Low</p>	 <p>Agilent R T Trace/View</p> <p>Ch Freq 2.412 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 2.412 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.2795 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error 33.050 kHz x dB Bandwidth 15.910 MHz</p> <p>Trace/View 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>802.11g-Middle</p>	 <p>Agilent R T Trace/View</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 2.43700000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/Offst 1 dB</p> <p>Center 2.437 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.2904 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error 10.190 kHz x dB Bandwidth 16.075 MHz</p> <p>Trace/View 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>802.11g-High</p>	 <p>Agilent R T Trace/View</p> <p>Ch Freq 2.462 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 2.46200000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/Offst 1 dB</p> <p>Center 2.462 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.2954 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -6.780 kHz x dB Bandwidth 16.057 MHz</p> <p>Trace/View 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>

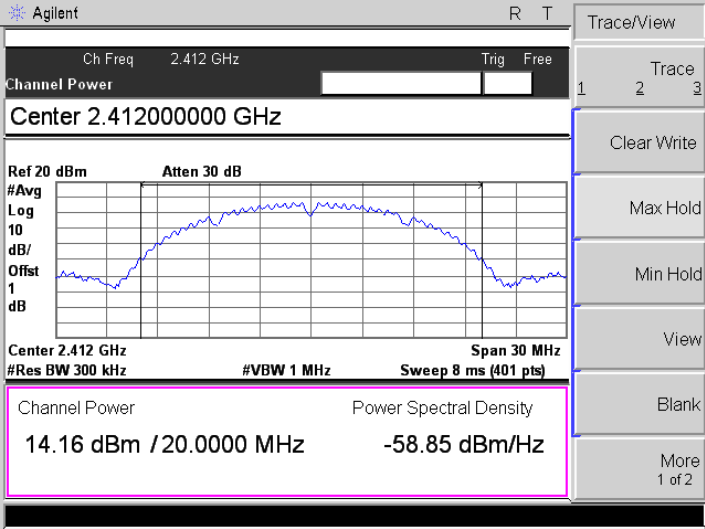
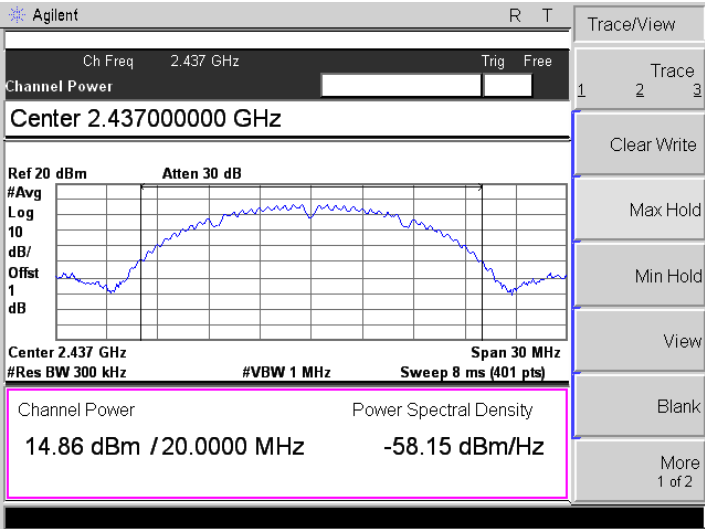
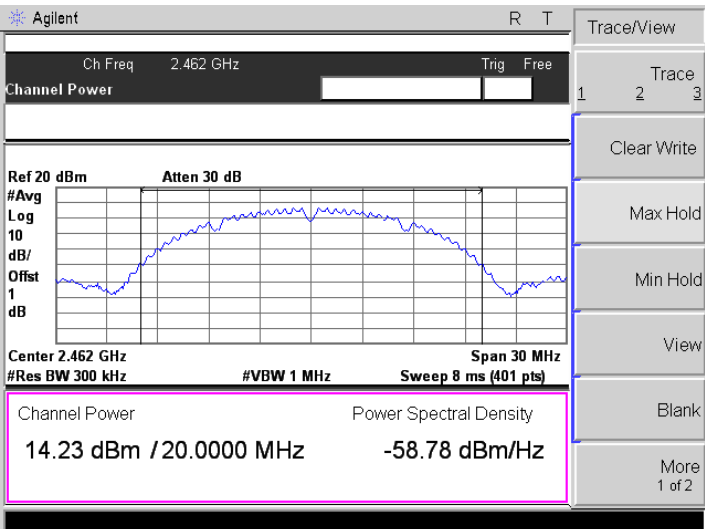
<p>802.11n-HT20-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/Offst 1 dB</p> <p>Center 2.412 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>17.5070 MHz x dB -6.00 dB</p> <p>Transmit Freq Error 27.419 kHz</p> <p>x dB Bandwidth 17.167 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-HT20-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 2.43700000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/Offst 1 dB</p> <p>Center 2.437 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>17.4957 MHz x dB -6.00 dB</p> <p>Transmit Freq Error 13.801 kHz</p> <p>x dB Bandwidth 16.351 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-HT20-High</p>	 <p>Agilent R T</p> <p>Ch Freq 2.462 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 2.462 GHz Span 30 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>17.5036 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -5.995 kHz</p> <p>x dB Bandwidth 17.550 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>

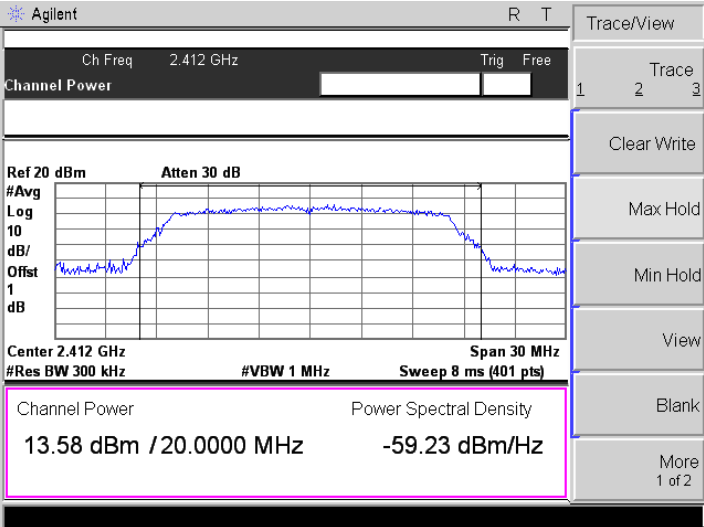
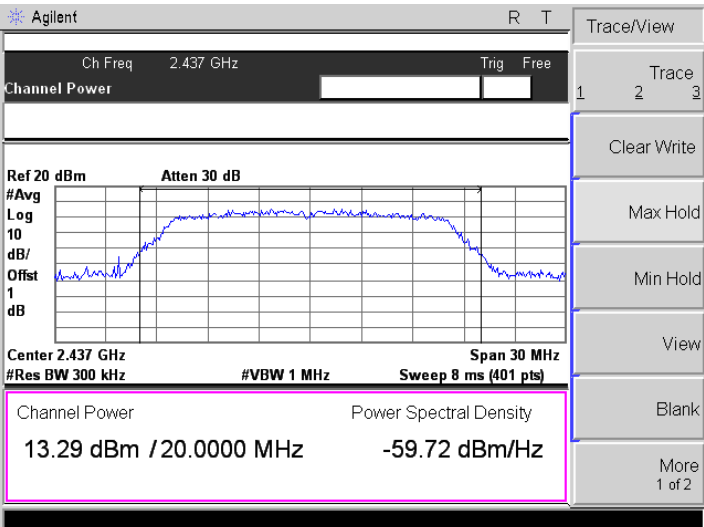
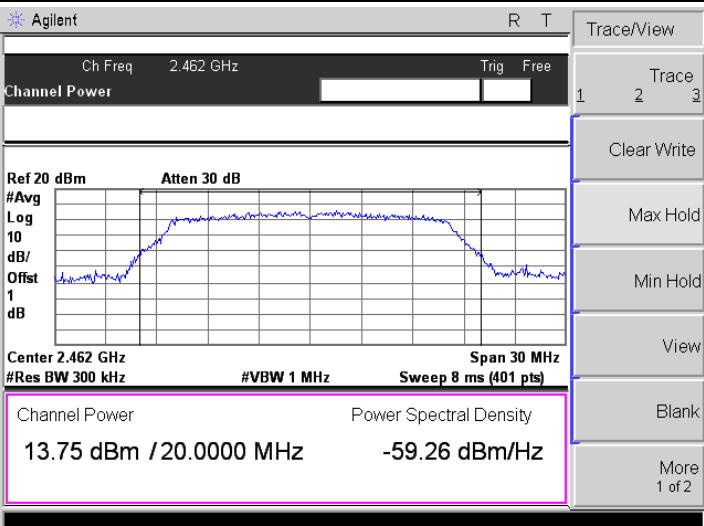
<p>802.11n-HT40-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 2.422 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 2.422 GHz Span 60 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 35.6931 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error 131.151 kHz x dB Bandwidth 33.165 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.42200000 GHz</p> <p>Start Freq 2.39200000 GHz</p> <p>Stop Freq 2.45200000 GHz</p> <p>CF Step 6.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>802.11n-HT40-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 2.437 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 2.437 GHz Span 60 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 35.7436 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error 82.566 kHz x dB Bandwidth 34.052 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.40700000 GHz</p> <p>Stop Freq 2.46700000 GHz</p> <p>CF Step 6.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>802.11n-HT40-High</p>	 <p>Agilent R T</p> <p>Ch Freq 2.452 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 2.452 GHz Span 60 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 35.7320 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -5.855 kHz x dB Bandwidth 35.313 MHz</p> <p>Freq/Channel</p> <p>Center Freq 2.45200000 GHz</p> <p>Start Freq 2.42200000 GHz</p> <p>Stop Freq 2.48200000 GHz</p> <p>CF Step 6.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

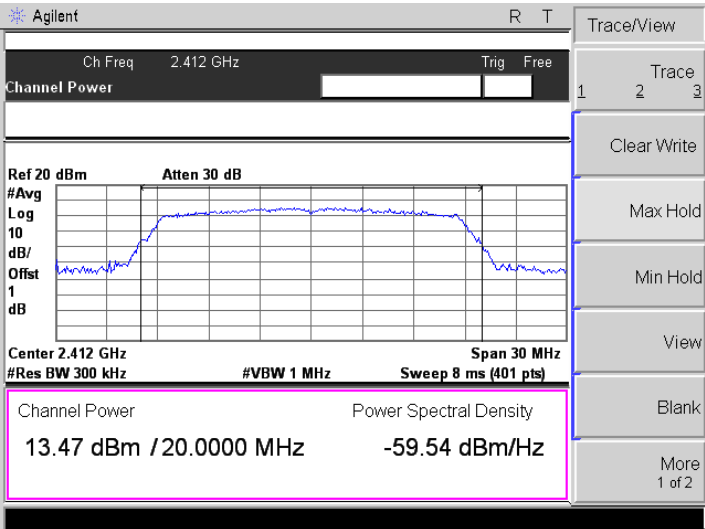
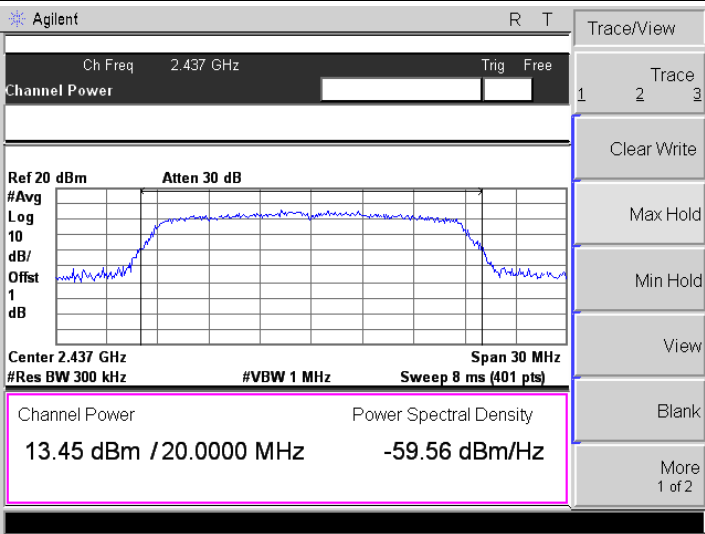
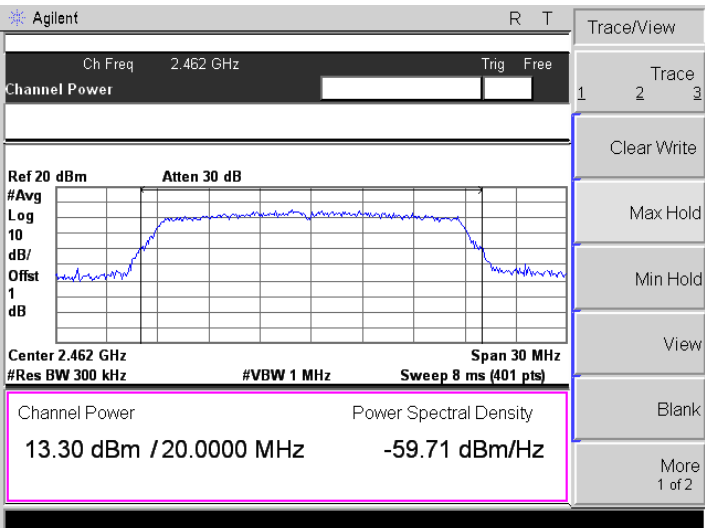
APPENDIX C

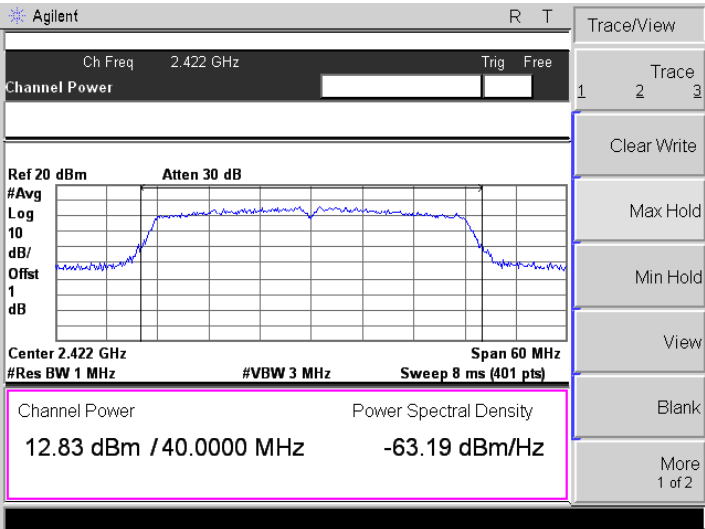
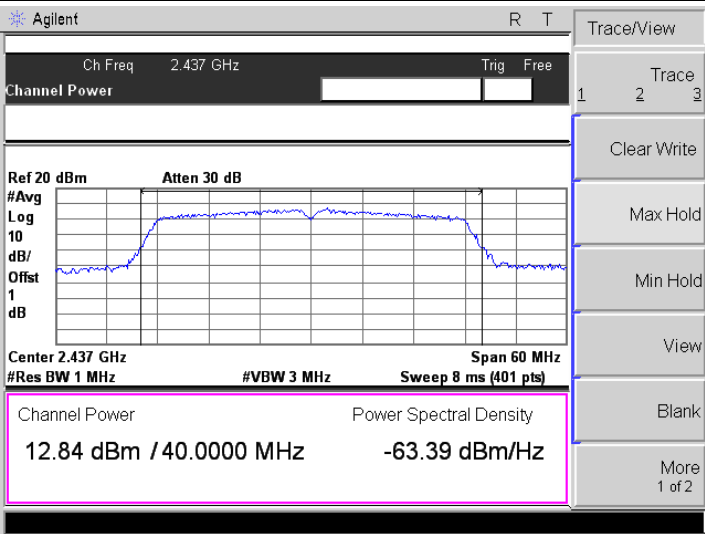
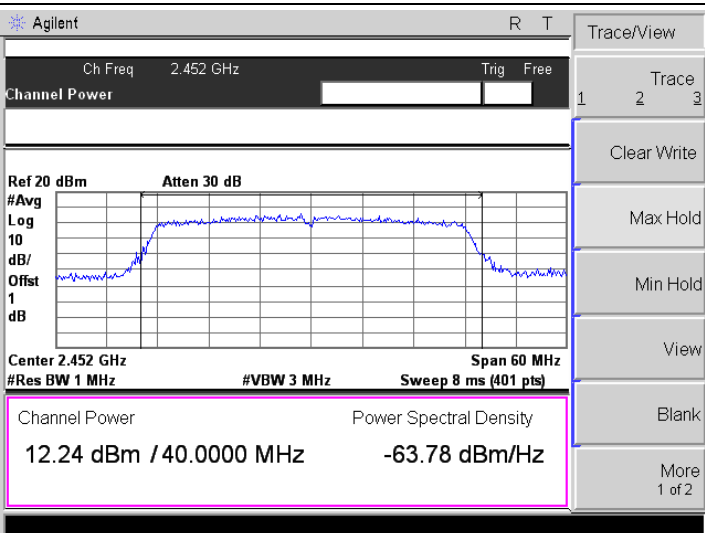
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	2437	14.86	14.66	/	30.00
	2462	14.23	14.22	/	30.00
802.11g _54Mbps	2412	13.58	13.10	/	30.00
	2437	13.29	13.48	/	30.00
	2462	13.75	13.59	/	30.00
802.11n HT20_MCS7	2412	13.47	13.45	16.47	30.00
	2437	13.45	13.44	16.46	30.00
	2462	13.30	13.91	16.63	30.00
802.11n HT40_MCS7	2422	12.83	12.82	15.84	30.00
	2437	12.84	12.64	15.75	30.00
	2452	12.24	12.68	15.48	30.00

Antenna 1

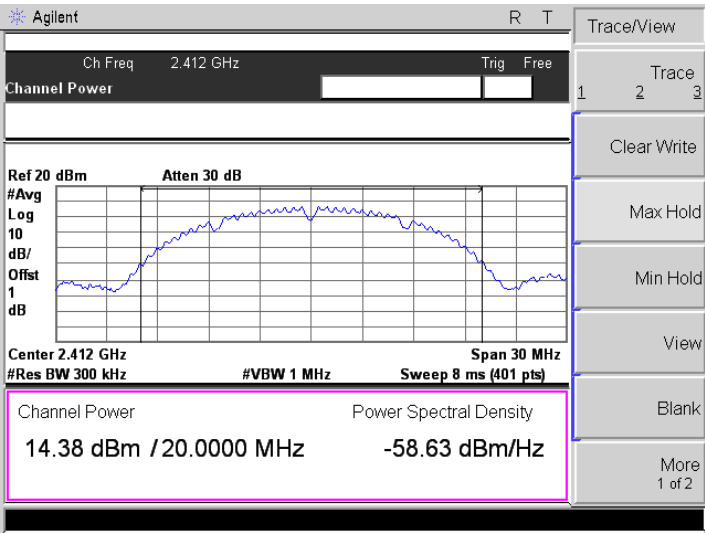
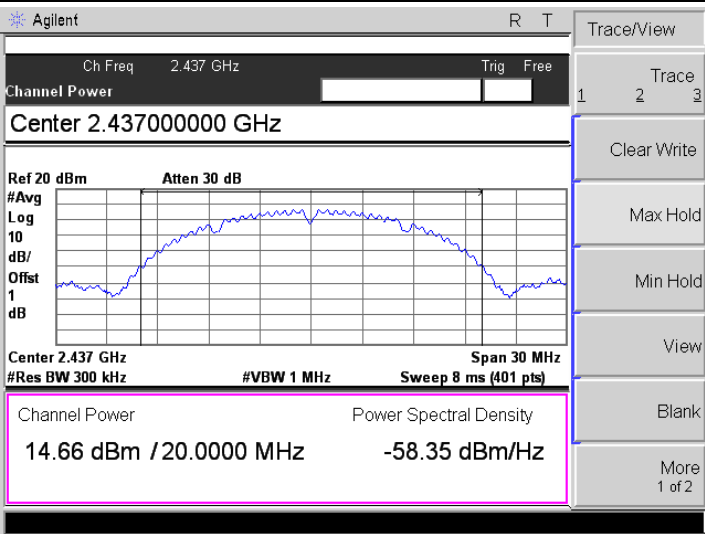
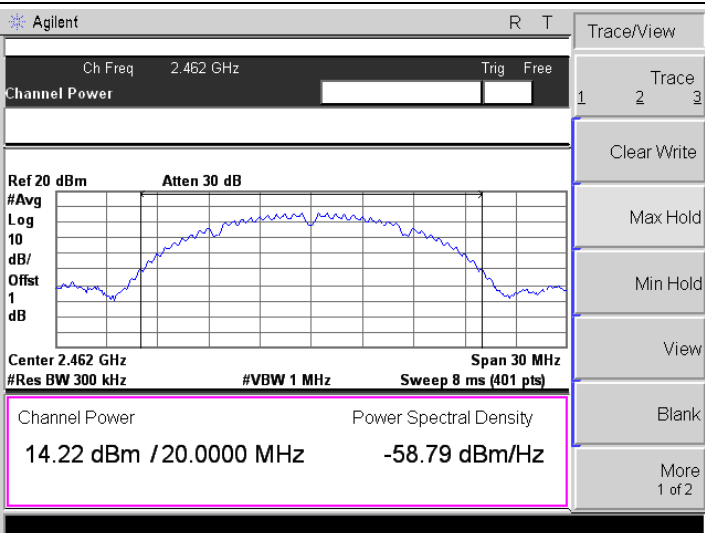
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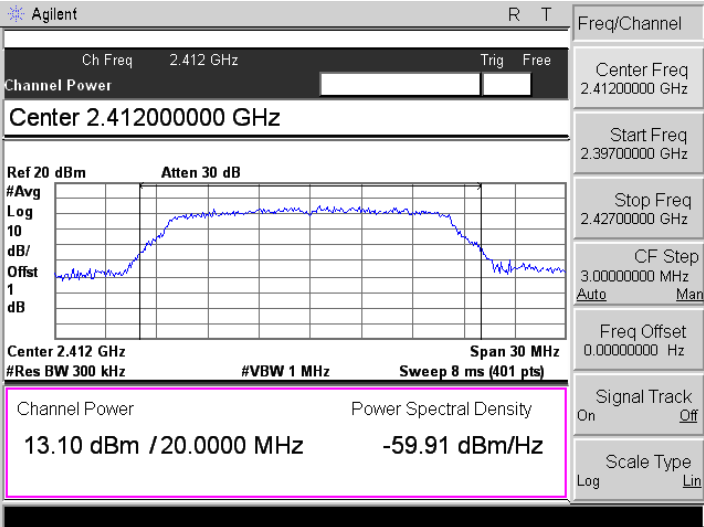
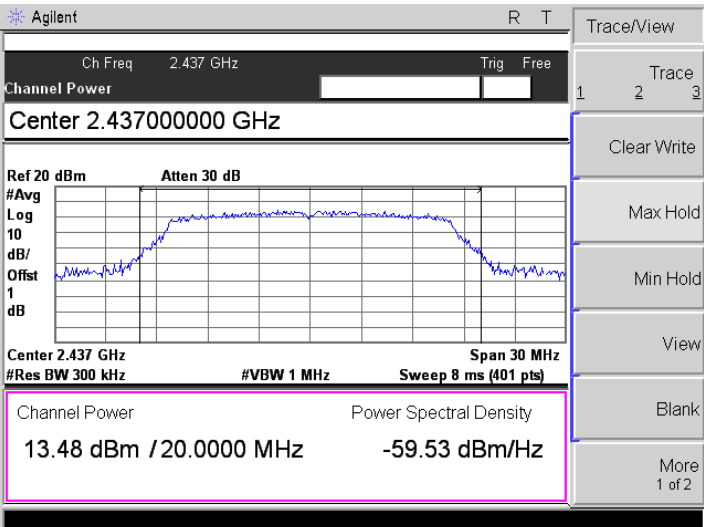
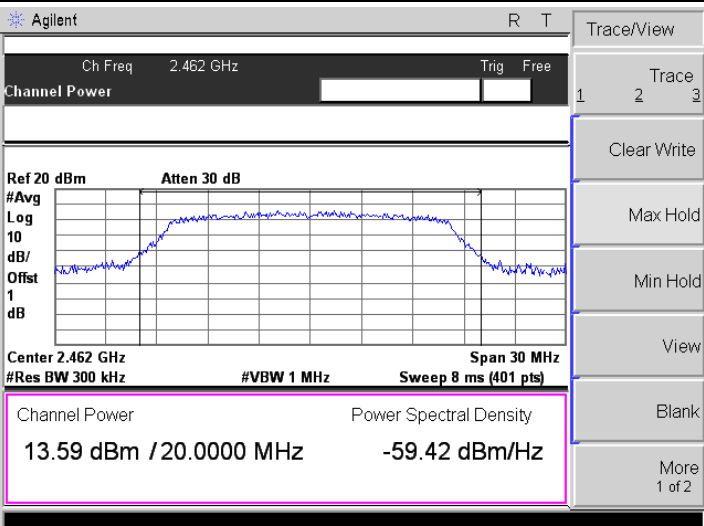
<p>802.11g-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Channel Power</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/Offset 1 dB</p> <p>Center 2.412 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 8 ms (401 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.58 dBm / 20.0000 MHz -59.23 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>802.11g-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 2.437 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 2.437 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 8 ms (401 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.29 dBm / 20.0000 MHz -59.72 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>802.11g-High</p>	 <p>Agilent R T</p> <p>Ch Freq 2.462 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 2.462 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 8 ms (401 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.75 dBm / 20.0000 MHz -59.26 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>

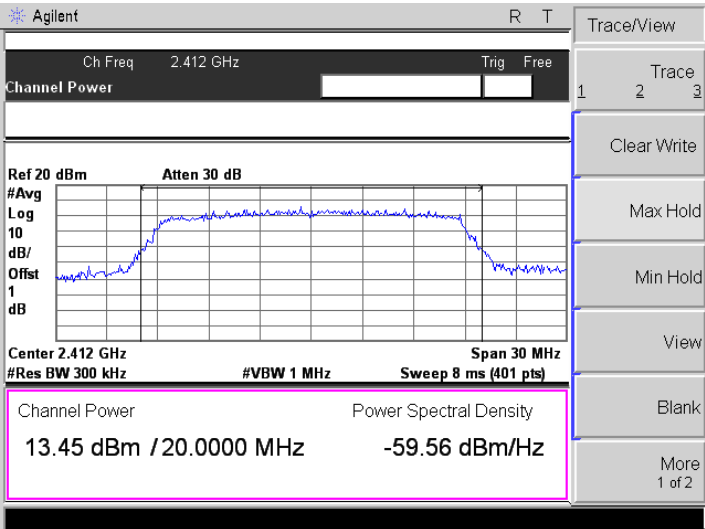
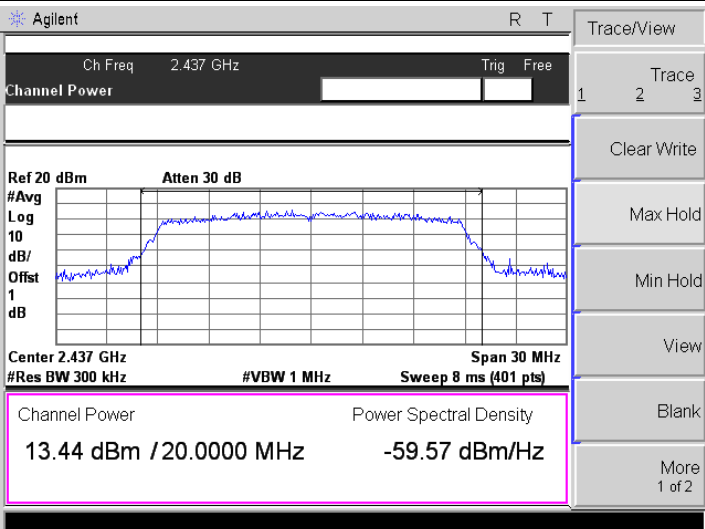
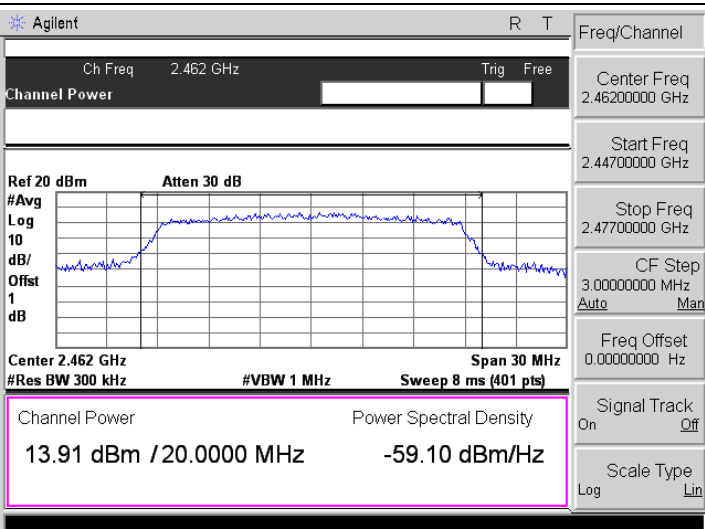
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<p>802.11n-HT20-High</p>	

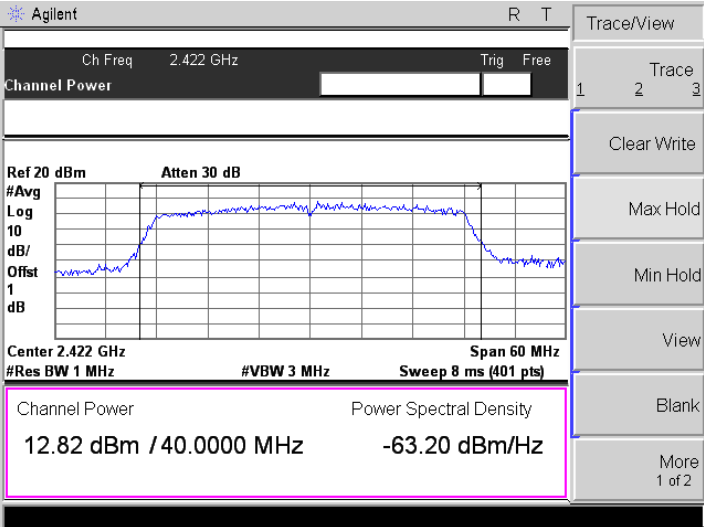
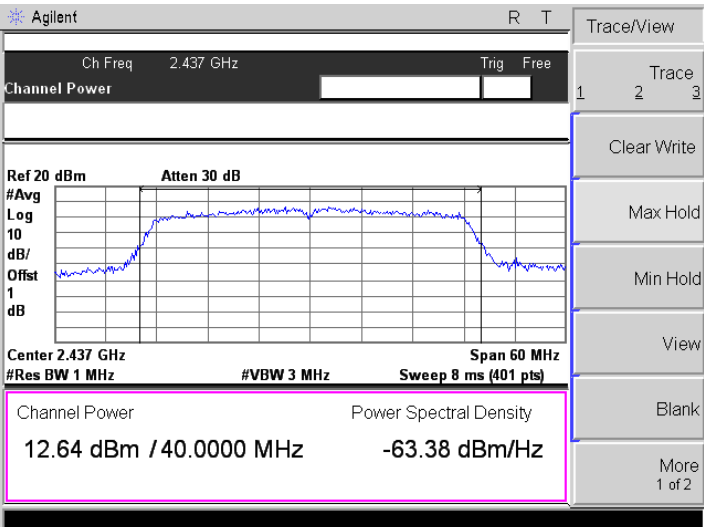
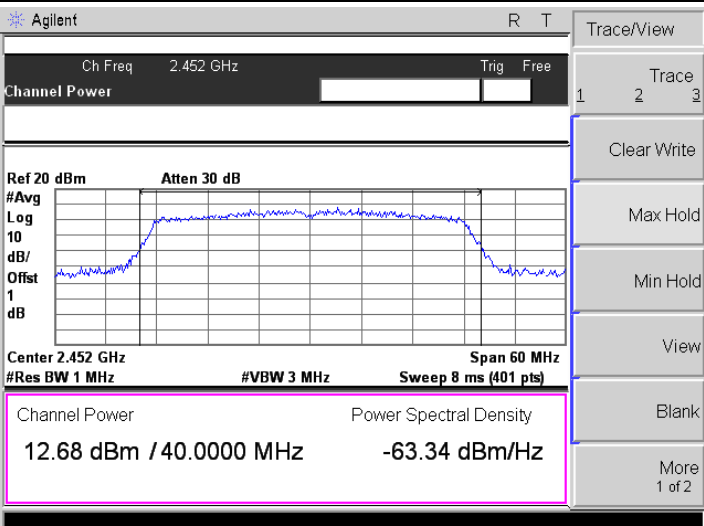
<p>802.11n-HT40-Low</p>	 <p>Agilent Channel Power measurement at 2.422 GHz. Channel Power: 12.83 dBm / 40.0000 MHz. Power Spectral Density: -63.19 dBm/Hz. Span: 60 MHz. Res BW: 1 MHz. VBW: 3 MHz. Sweep: 8 ms (401 pts). Ref: 20 dBm, Atten: 30 dB.</p>
<p>802.11n-HT40-Middle</p>	 <p>Agilent Channel Power measurement at 2.437 GHz. Channel Power: 12.84 dBm / 40.0000 MHz. Power Spectral Density: -63.39 dBm/Hz. Span: 60 MHz. Res BW: 1 MHz. VBW: 3 MHz. Sweep: 8 ms (401 pts). Ref: 20 dBm, Atten: 30 dB.</p>
<p>802.11n-HT40-High</p>	 <p>Agilent Channel Power measurement at 2.452 GHz. Channel Power: 12.24 dBm / 40.0000 MHz. Power Spectral Density: -63.78 dBm/Hz. Span: 60 MHz. Res BW: 1 MHz. VBW: 3 MHz. Sweep: 8 ms (401 pts). Ref: 20 dBm, Atten: 30 dB.</p>

Antenna 2

<p>802.11b-Low</p>	 <p>Agilent R T Trace/View</p> <p>Ch Freq 2.412 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 2.412 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 8 ms (401 pts)</p> <p>Channel Power Power Spectral Density</p> <p>14.38 dBm / 20.0000 MHz -58.63 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>802.11b-Middle</p>	 <p>Agilent R T Trace/View</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Channel Power</p> <p>Center 2.43700000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/Offst 1 dB</p> <p>Center 2.437 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 8 ms (401 pts)</p> <p>Channel Power Power Spectral Density</p> <p>14.66 dBm / 20.0000 MHz -58.35 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>802.11b-High</p>	 <p>Agilent R T Trace/View</p> <p>Ch Freq 2.462 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 2.462 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 8 ms (401 pts)</p> <p>Channel Power Power Spectral Density</p> <p>14.22 dBm / 20.0000 MHz -58.79 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>802.11g-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Channel Power</p> <p>Center 2.41200000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/Offset 1 dB</p> <p>Center 2.412 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 8 ms (401 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.10 dBm / 20.0000 MHz -59.91 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.39700000 GHz</p> <p>Stop Freq 2.42700000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
<p>802.11g-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 2.437 GHz Trig Free</p> <p>Channel Power</p> <p>Center 2.43700000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/Offset 1 dB</p> <p>Center 2.437 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 8 ms (401 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.48 dBm / 20.0000 MHz -59.53 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>802.11g-High</p>	 <p>Agilent R T</p> <p>Ch Freq 2.462 GHz Trig Free</p> <p>Channel Power</p> <p>Center 2.46200000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/Offset 1 dB</p> <p>Center 2.462 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 8 ms (401 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.59 dBm / 20.0000 MHz -59.42 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>

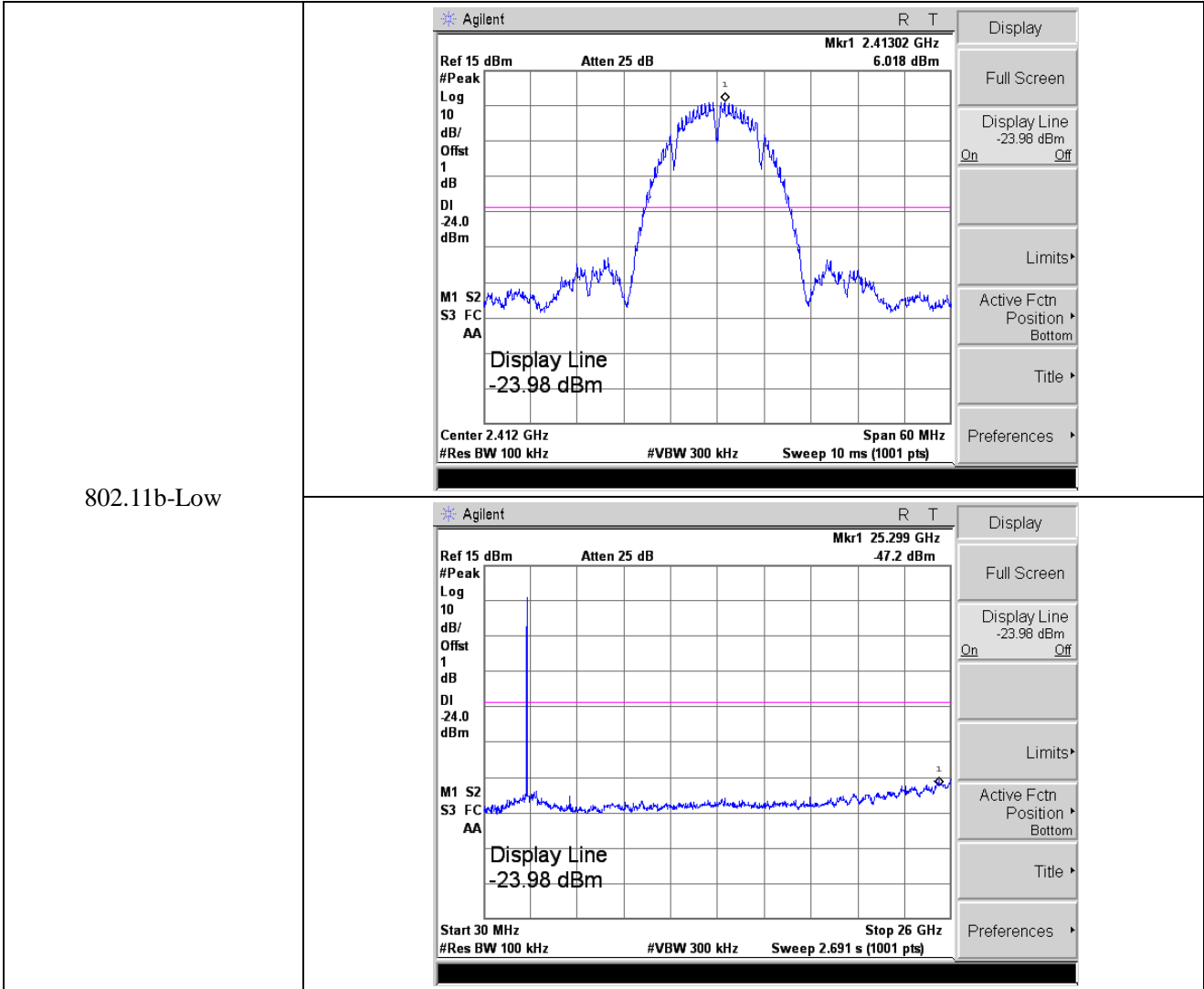
<p>802.11n-HT20-Low</p>	 <p>Agilent R T</p> <p>Ch Freq 2.412 GHz Trig Free</p> <p>Channel Power</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/Offset 1 dB</p> <p>Center 2.412 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 8 ms (401 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.45 dBm / 20.0000 MHz -59.56 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-HT20-Middle</p>	 <p>Agilent R T</p> <p>Ch Freq 2.437 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 2.437 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 8 ms (401 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.44 dBm / 20.0000 MHz -59.57 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-HT20-High</p>	 <p>Agilent R T</p> <p>Ch Freq 2.462 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 2.462 GHz Span 30 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 8 ms (401 pts)</p> <p>Channel Power Power Spectral Density</p> <p>13.91 dBm / 20.0000 MHz -59.10 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.44700000 GHz</p> <p>Stop Freq 2.47700000 GHz</p> <p>CF Step 3.00000000 MHz</p> <p>Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

<p>802.11n-HT40-Low</p>	 <p>Agilent Channel Power measurement results for 802.11n-HT40-Low:</p> <ul style="list-style-type: none"> Ch Freq: 2.422 GHz Channel Power: 12.82 dBm / 40.0000 MHz Power Spectral Density: -63.20 dBm/Hz Center: 2.422 GHz Res BW: 1 MHz VBW: 3 MHz Sweep: 8 ms (401 pts) Span: 60 MHz Attenuation: 30 dB
<p>802.11n-HT40-Middle</p>	 <p>Agilent Channel Power measurement results for 802.11n-HT40-Middle:</p> <ul style="list-style-type: none"> Ch Freq: 2.437 GHz Channel Power: 12.64 dBm / 40.0000 MHz Power Spectral Density: -63.38 dBm/Hz Center: 2.437 GHz Res BW: 1 MHz VBW: 3 MHz Sweep: 8 ms (401 pts) Span: 60 MHz Attenuation: 30 dB
<p>802.11n-HT40-High</p>	 <p>Agilent Channel Power measurement results for 802.11n-HT40-High:</p> <ul style="list-style-type: none"> Ch Freq: 2.452 GHz Channel Power: 12.68 dBm / 40.0000 MHz Power Spectral Density: -63.34 dBm/Hz Center: 2.452 GHz Res BW: 1 MHz VBW: 3 MHz Sweep: 8 ms (401 pts) Span: 60 MHz Attenuation: 30 dB

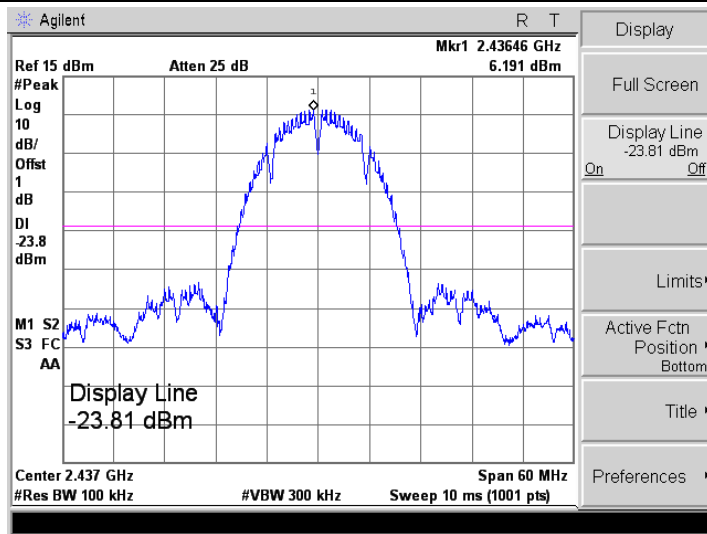
APPENDIX D

Conducted Out of Band Emissions

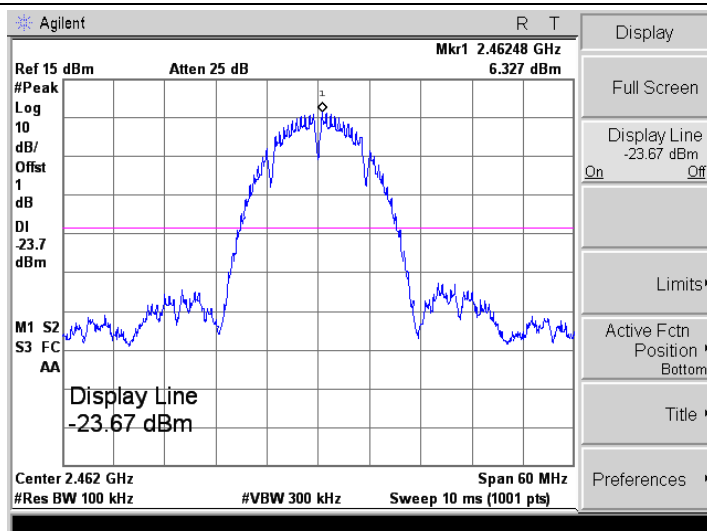
Antenna 1

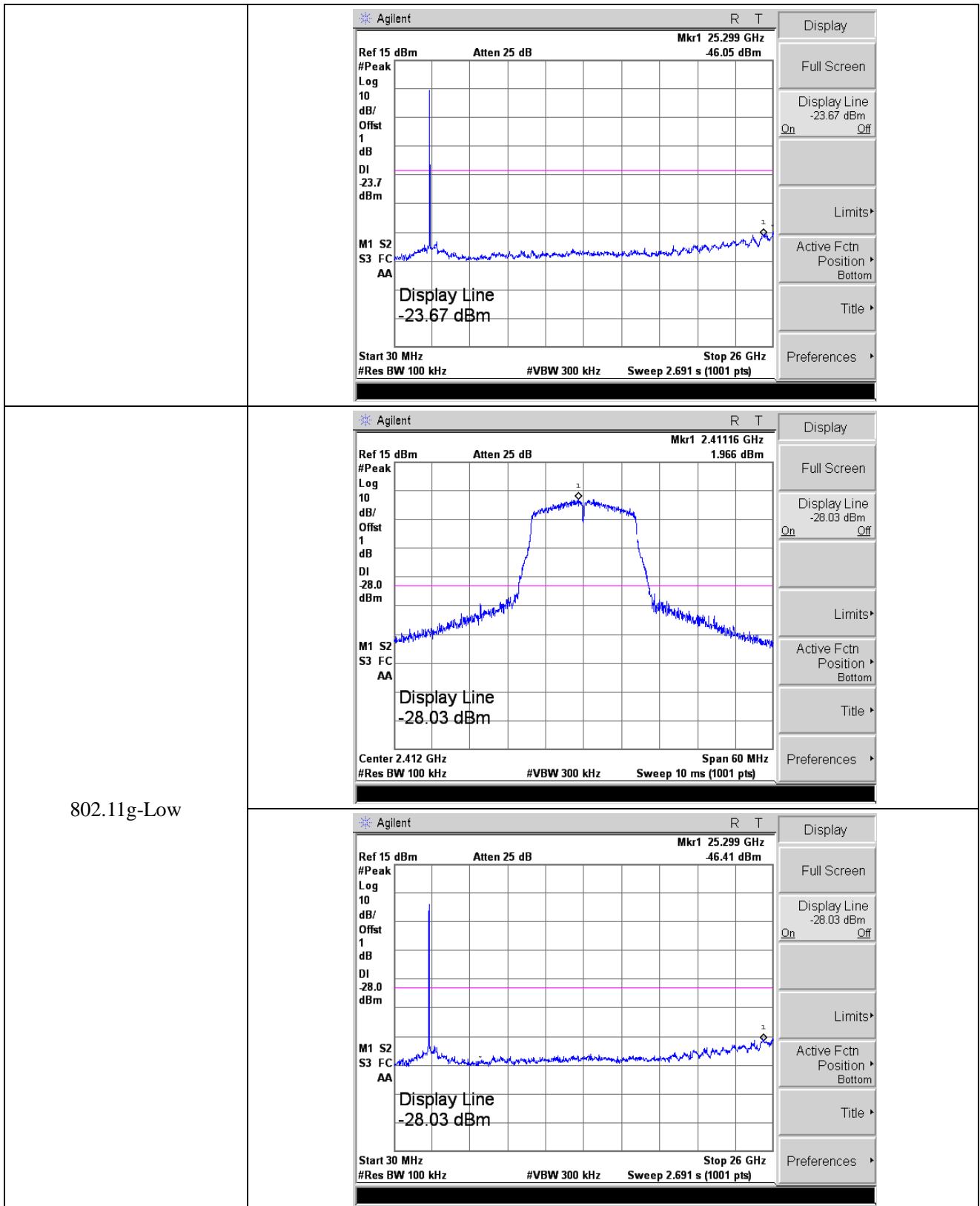


802.11b-Middle

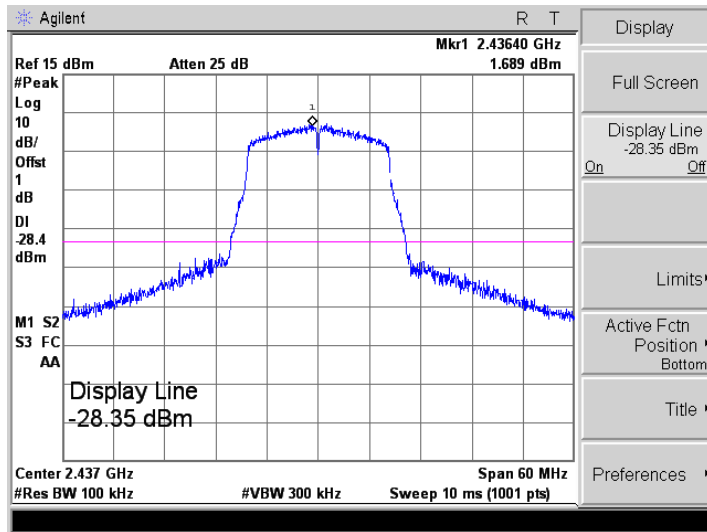


802.11b-High

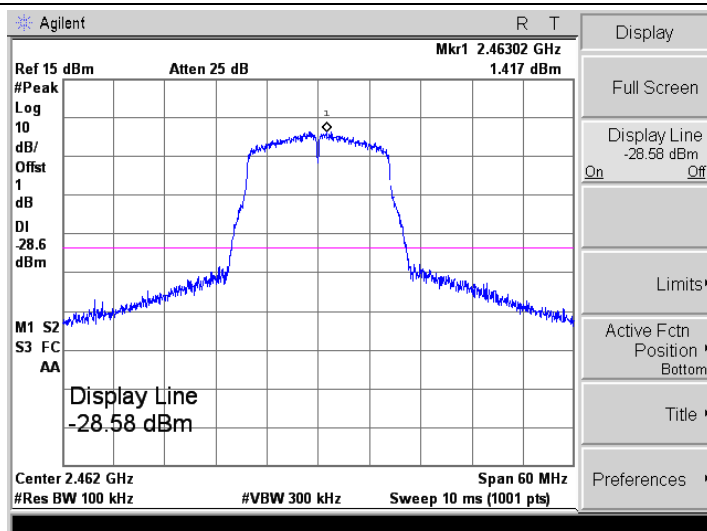


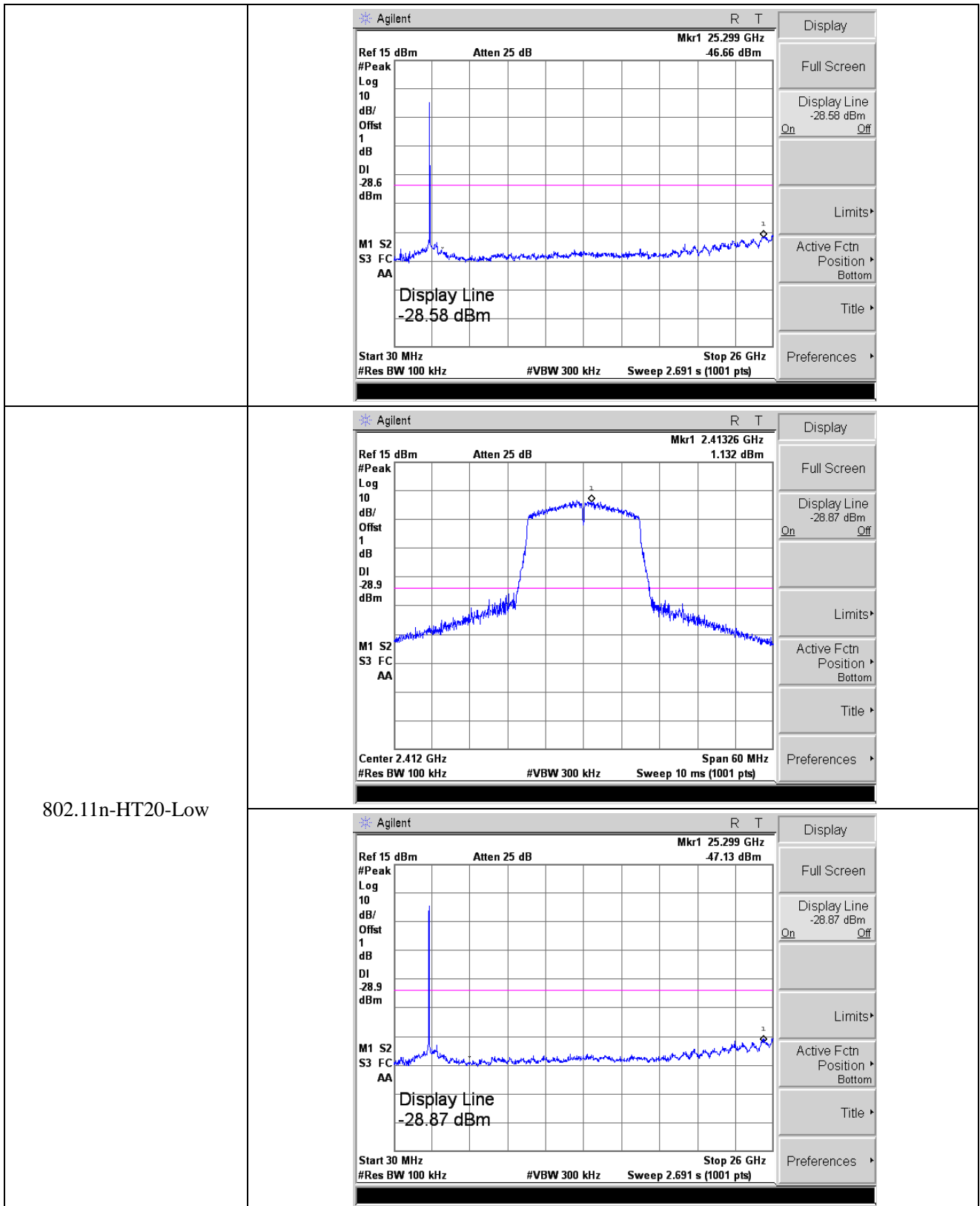


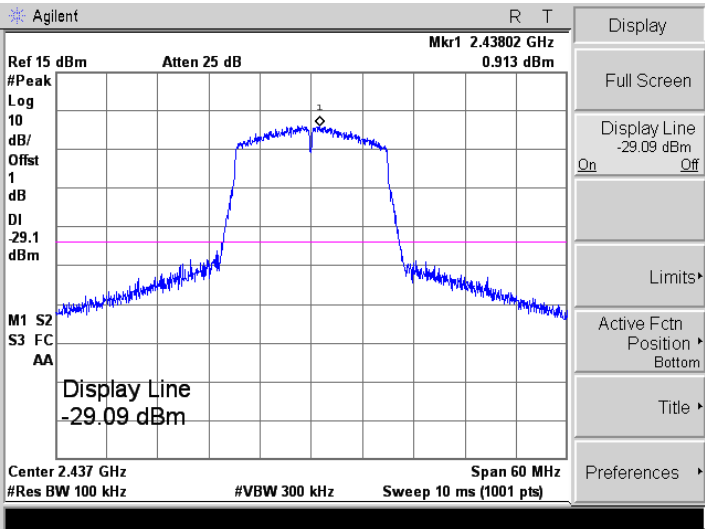
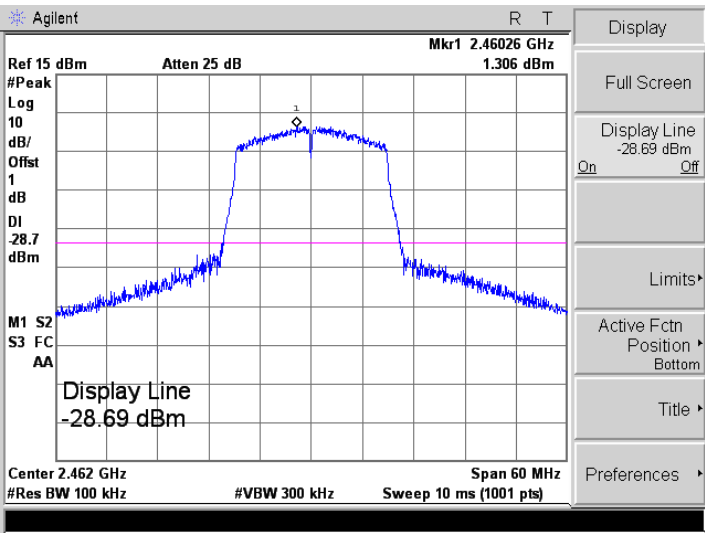
802.11g-Middle

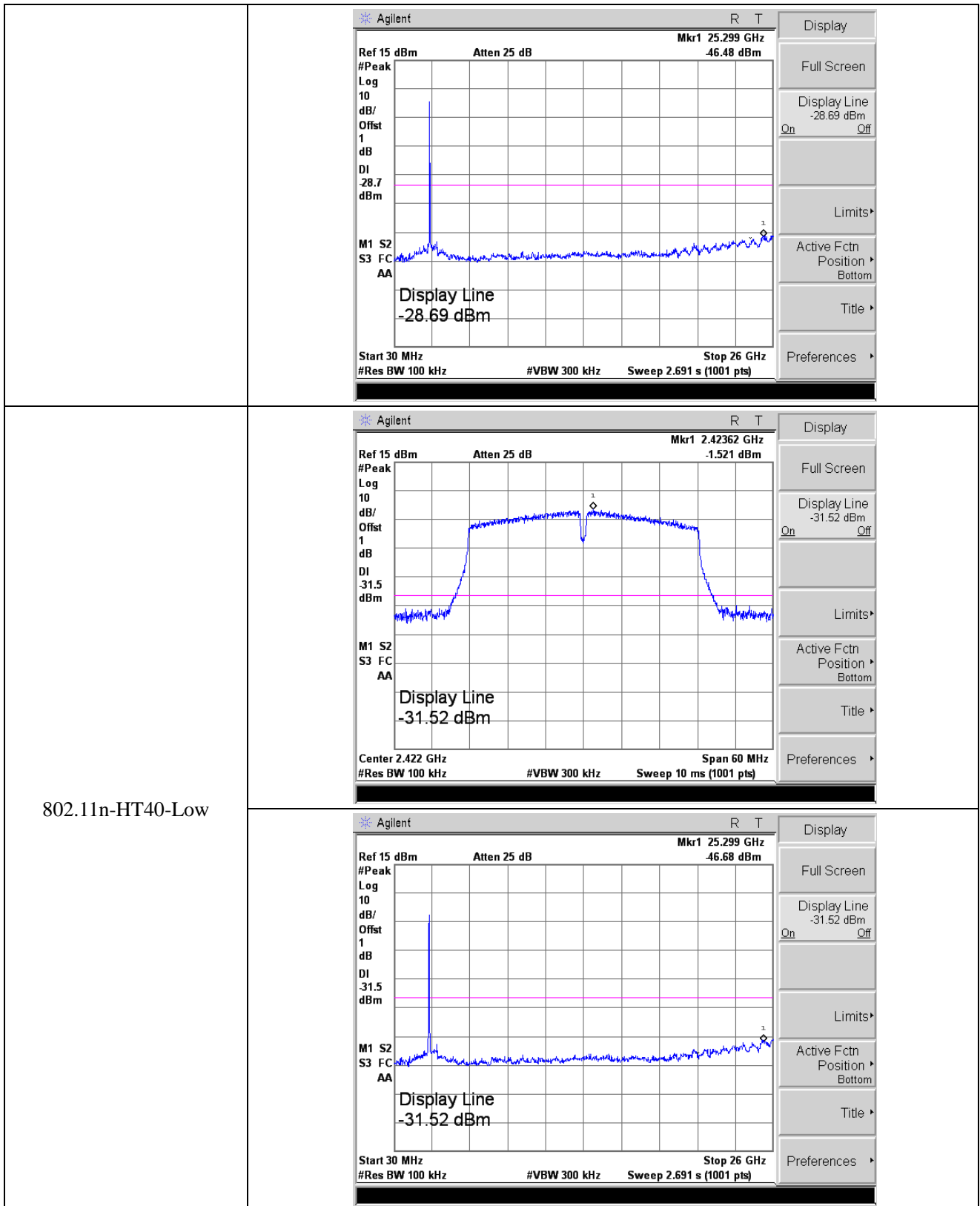


802.11g-High

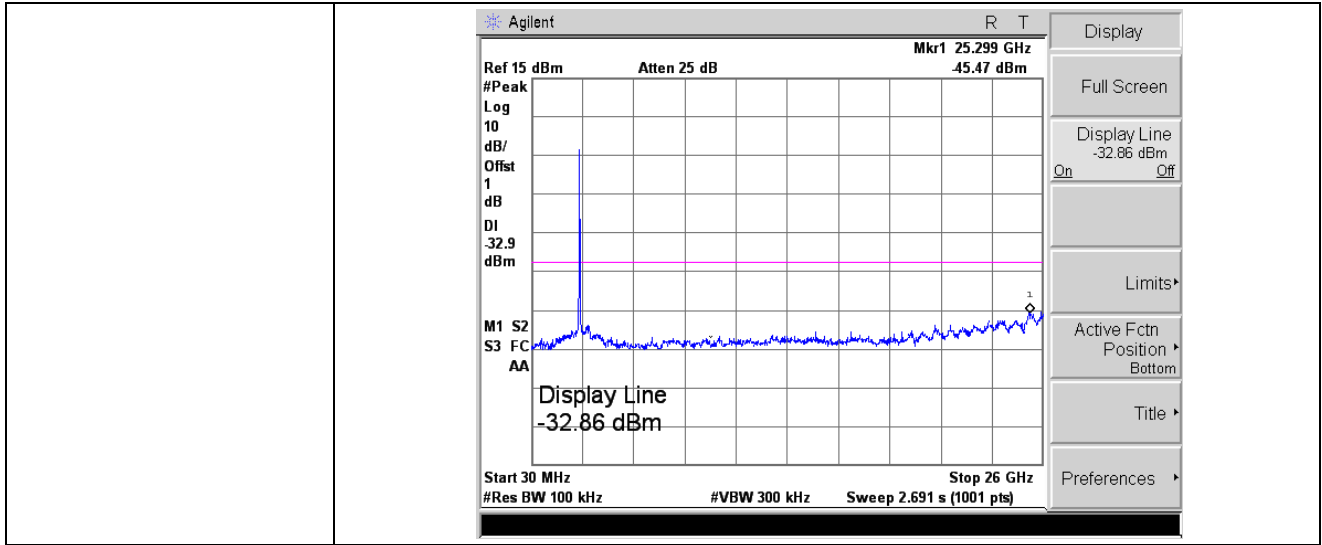




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<p>802.11n-HT20-High</p>	

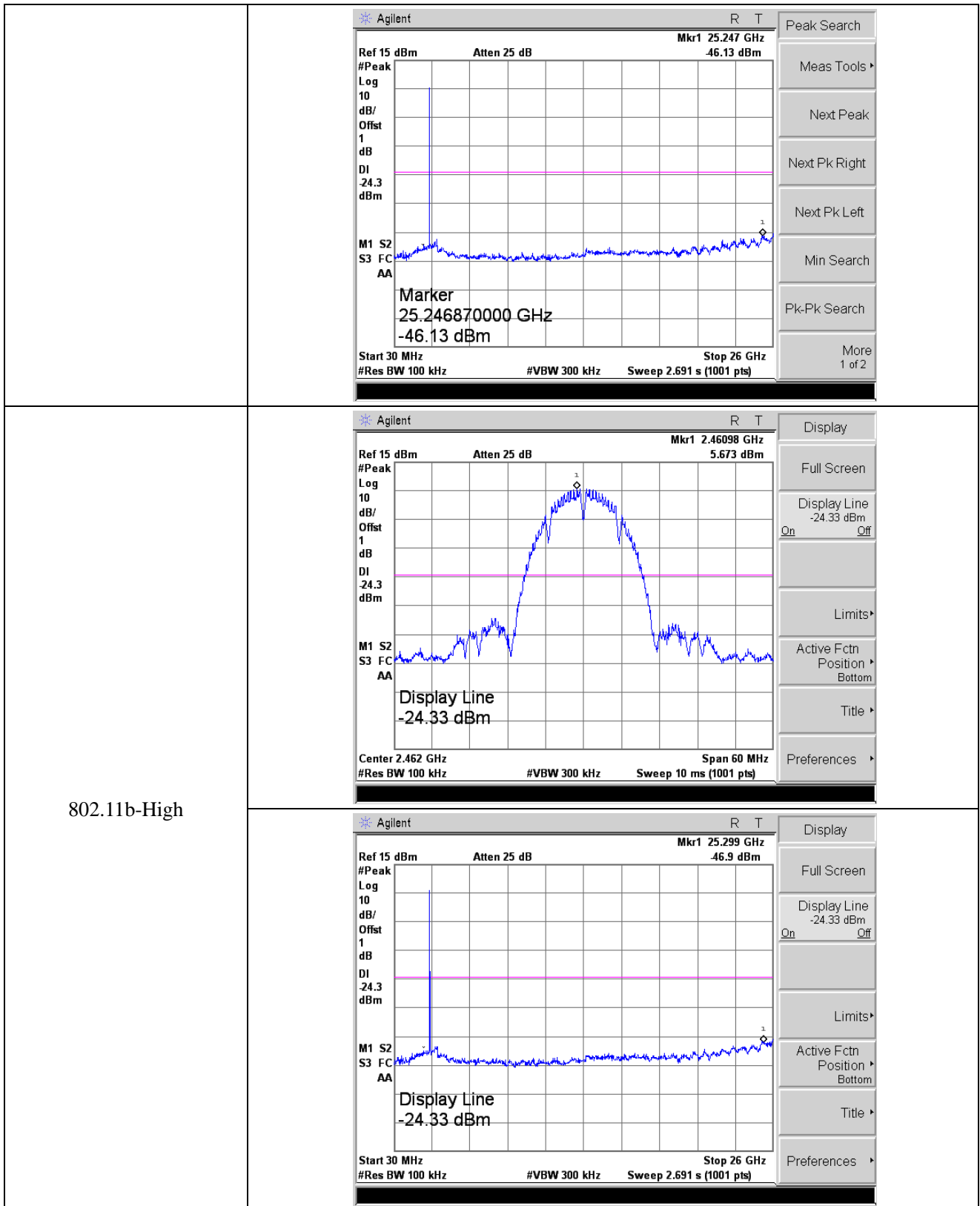


<p>802.11n-HT40-Middle</p>	
<p>802.11n-HT40-Middle</p>	
<p>802.11n-HT40-High</p>	

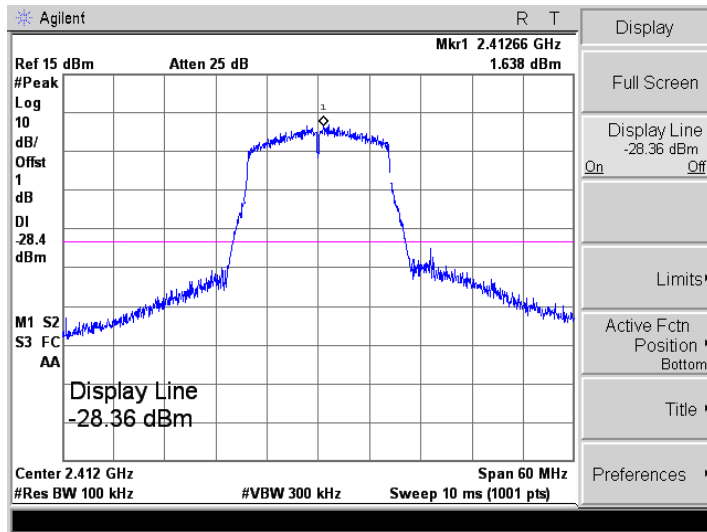


Antenna 2

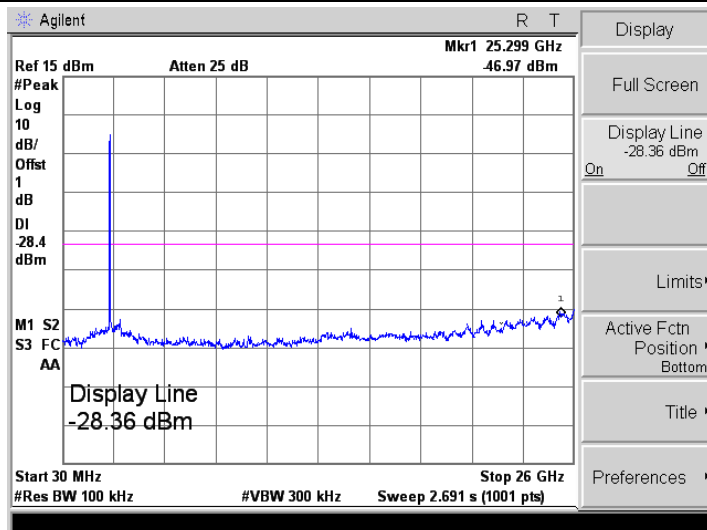
<p>802.11b-Low</p>	
<p>802.11b-Middle</p>	

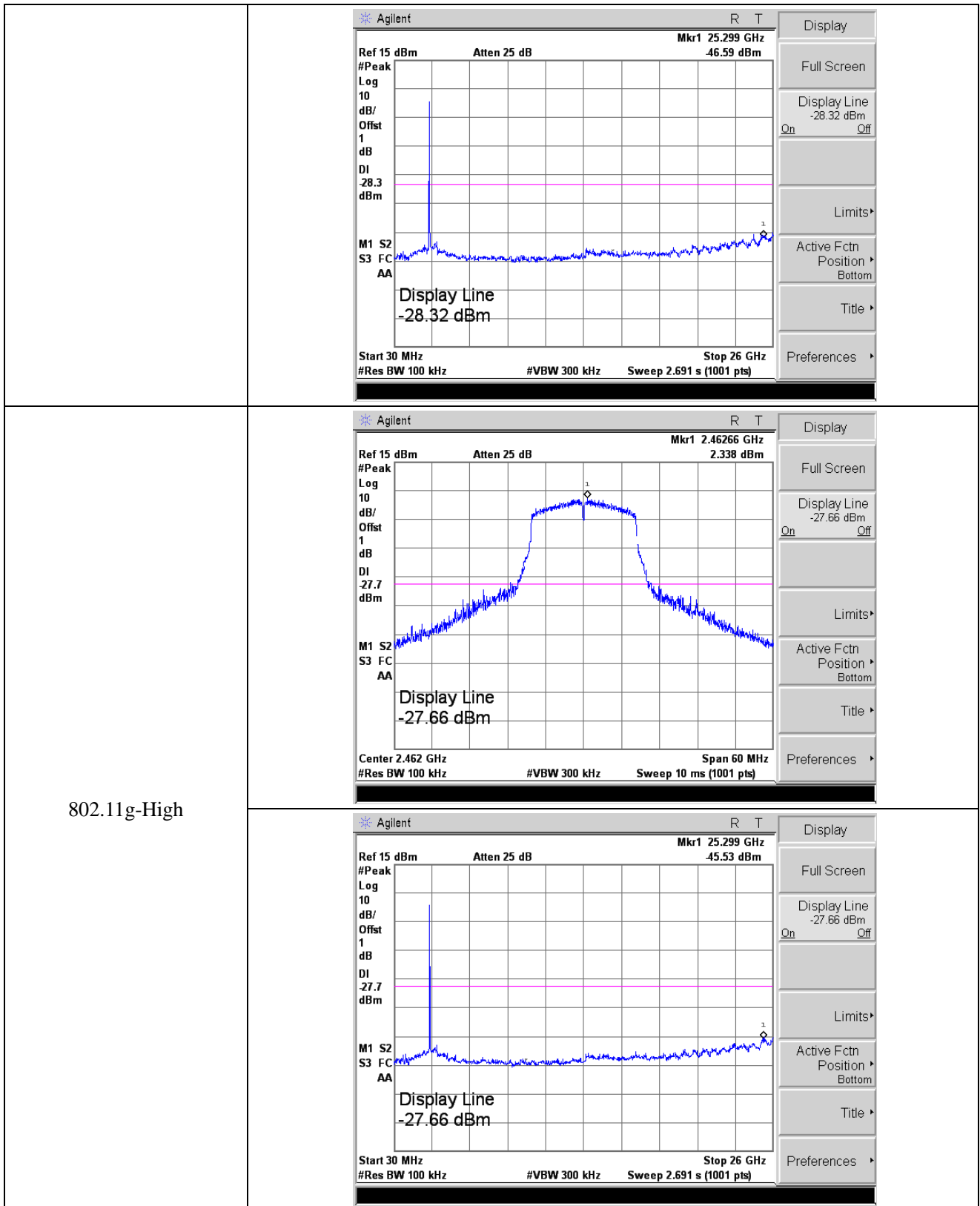


802.11g-Low

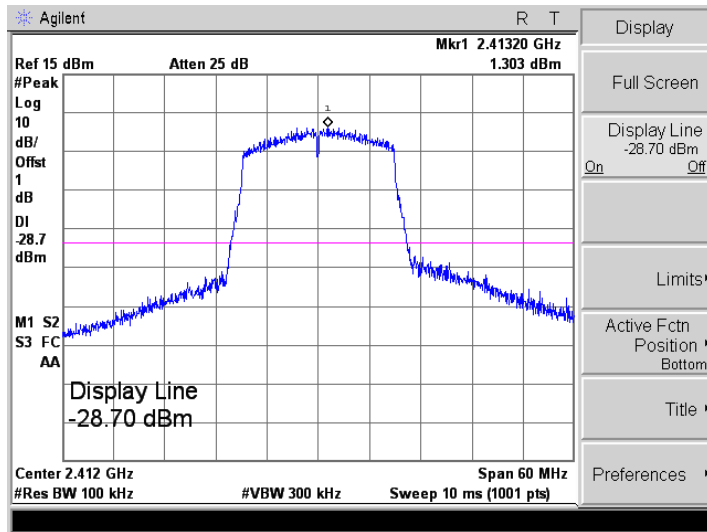


802.11g-Middle

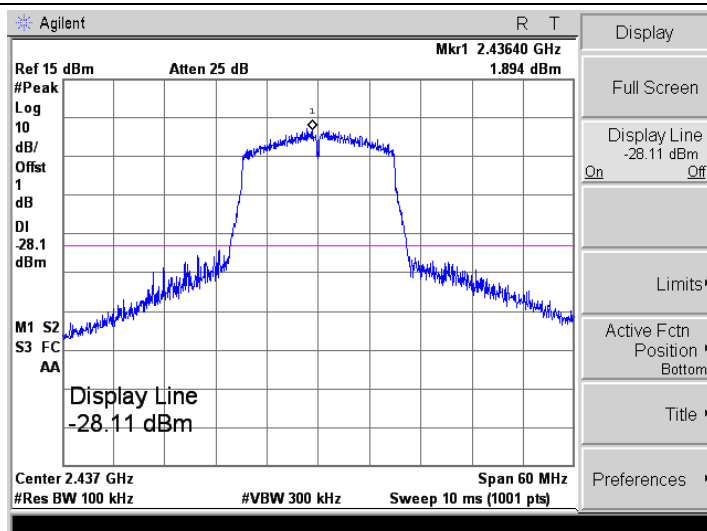
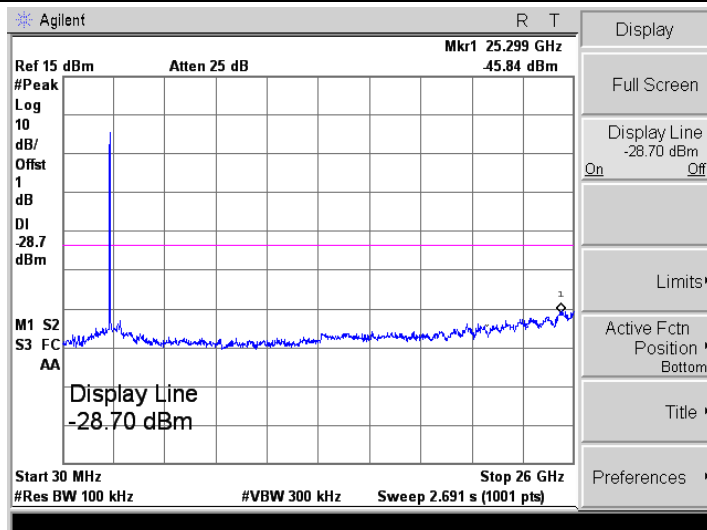


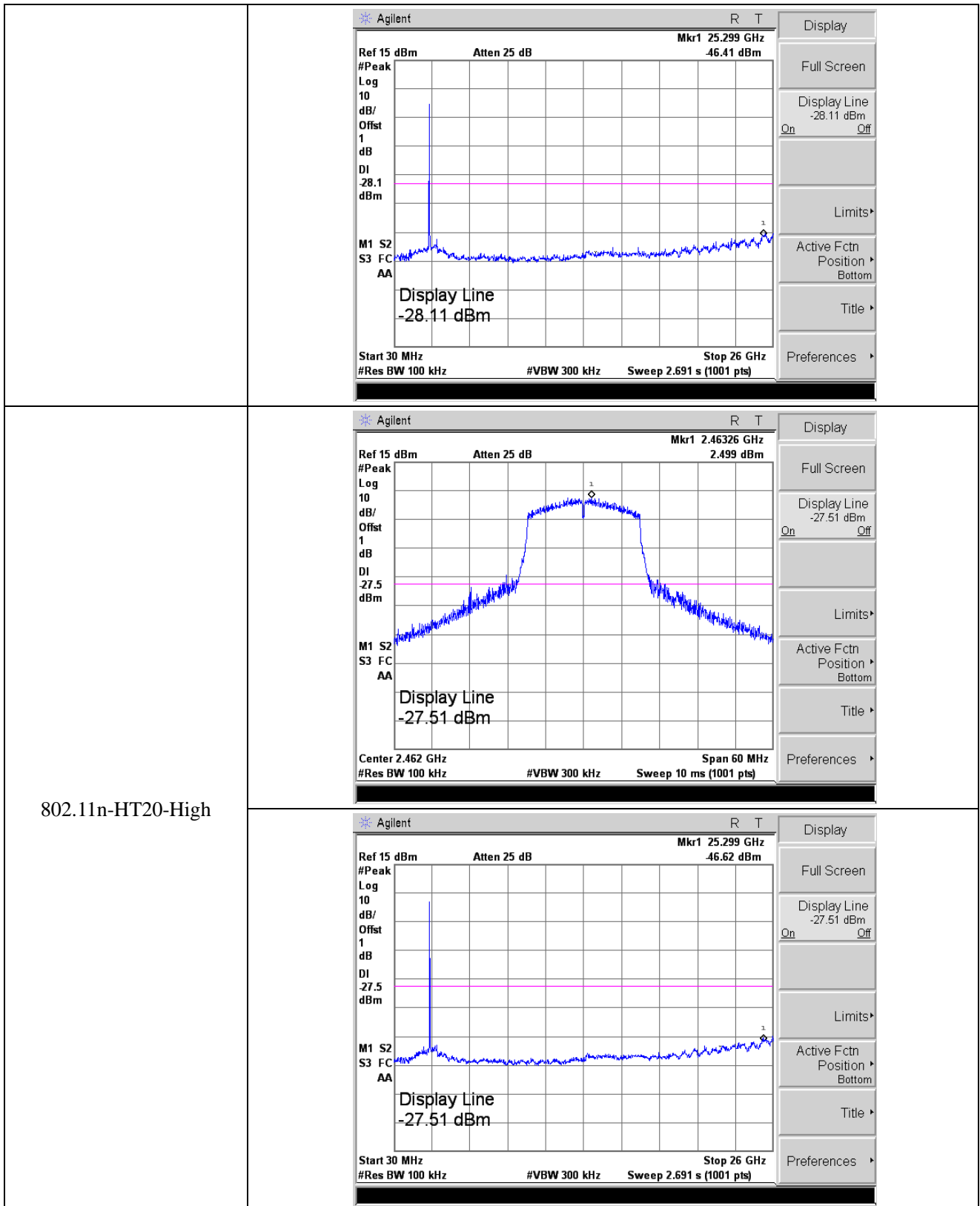


802.11n-HT20-Low

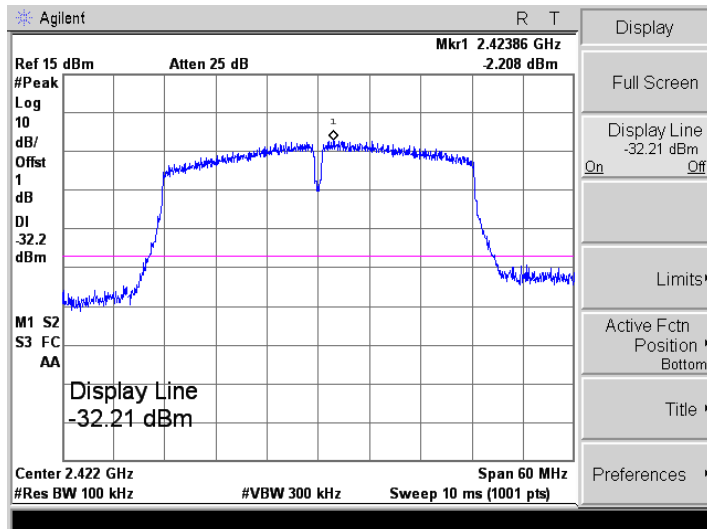


802.11n-HT20-Middle

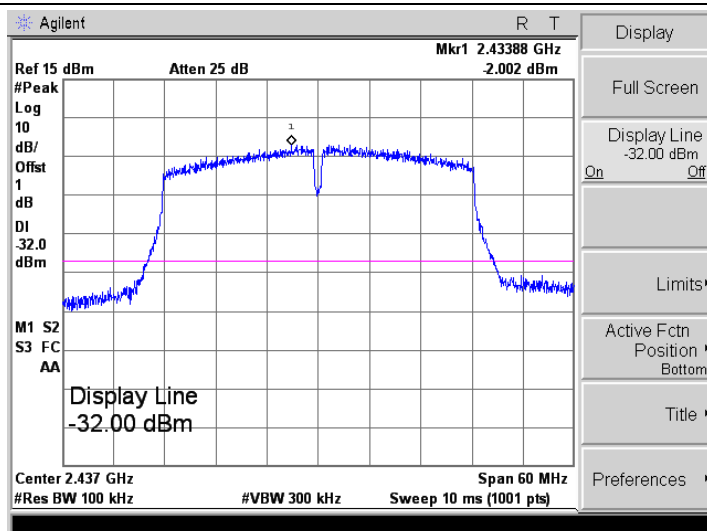
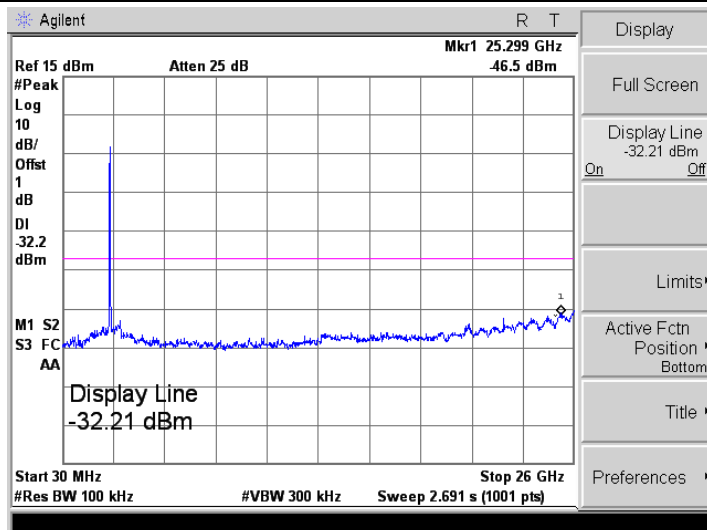


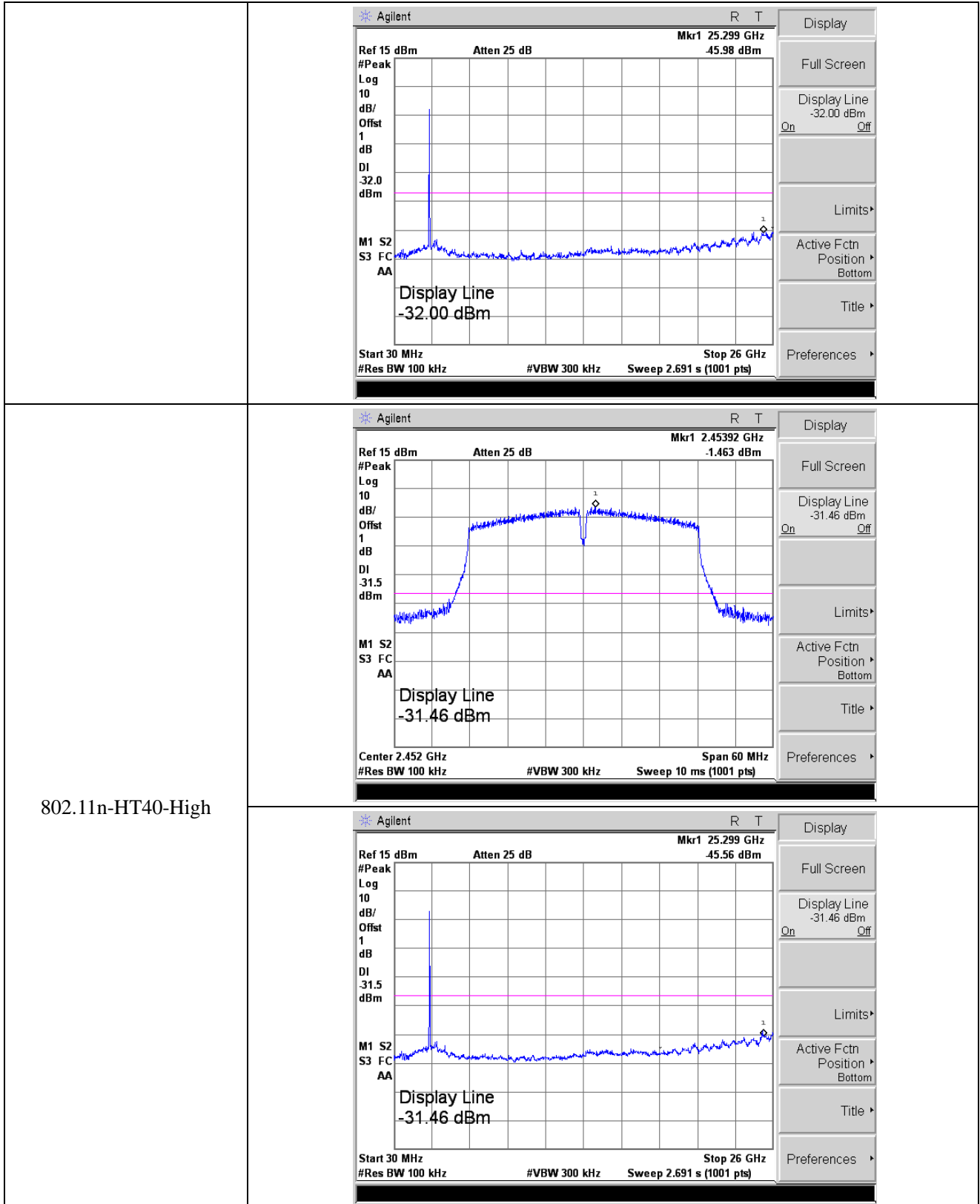


802.11n-HT40-Low



802.11n-HT40-Middle





802.11n-HT40-High

APPENDIX PHOTOGRAPHS

Please refer to “ANNEX”

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