FCC TEST REPORT

Application No:	ZR/2020/60017
Applicant:	LG Electronics USA, Inc.
Address of Applicant	111 Sylvan Avenue, North Building Englewood Cliffs, NJ 07632
Manufacturer:	Huaqin Telecom Technology Co.,Ltd.
Address of Manufacturer	No.1 Building, No.9 Building, No.399,Keyuan Road,Zhangjiang Hi-tech Park,Shanghai,P.R.China
EUT Description:	Mobile handset
Model No.:	LM-K420EMW
Trade Mark:	LG
FCC ID:	ZNFK420EMW
Standards:	47 CFR FCC Part 2, Subpart J 47 CFR Part 15, Subpart C
Test Method	KDB558074 D01 15.247 Meas Guidance v05r02 ANSI C63.10 (2013)
Date of Receipt:	2020/6/22
Date of Test:	2020/7/22 to 2020/7/29
Date of Issue:	2021/4/21
Test Result:	**PASS ***

.* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Simon Ling
Wireless Laboratory Manager

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Version

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2020/7/29		Original
02		2021/4/21	Leah Chen	1.Add test site Information 2.Modify data conversion error of antenna height 3.Update equipment list

This report supersedes our previous report ZR/2020/6001704, issued on 2020-07-29, which is hereby deemed null and void.

Authorized for issue by:		
Prepared By		Leah chen **(Leah Chen) /Engineer**
Checked By		Daniel Wang **(Daniel Wang) /Reviewer**

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Test Summary

Test Item	Test Requirement	Test method	Test Result	Result	Test Lab*
AC Power Line Conducted Emission	15.207	ANSI C63.10 2013	Clause 4.2	PASS	B
Duty Cycle	--	--	Clause 4.3	PASS	A
Conducted Output Power	15.247 (b)(3)	ANSI C63.10 2013	Clause 4.4	PASS	A
DTS (6 dB) Bandwidth & 99% Occupied Bandwidth	15.247 (a)(2)	ANSI C63.10 2013	Clause 4.5	PASS	A
Power Spectral Density	15.247 (e)	ANSI C63.10 2013	Clause 4.6	PASS	A
Band-edge for RF Conducted Emissions	15.247(d)	ANSI C63.10 2013	Clause 4.7	PASS	A
RF Conducted Spurious Emissions	15.247(d)	ANSI C63.10 2013	Clause 4.8	PASS	A
Radiated Spurious Emissions	15.247(d);15.205/15.209	ANSI C63.10 2013	Clause 4.9	PASS	B
Restricted bands around fundamental frequency (Radiated Emission)	15.247(d);15.205/15.209	ANSI C63.10 2013	Clause 4.10	PASS	B

Remark:
All test were performed by Lab A and B.
Parts of test items above were subcontracted to Lab A.
Lab A SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Lab B SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD.

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1 General Information

1.1 Client Information

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Address of Applicant:	111 Sylvan Avenue, North Building Englewood Cliffs, NJ 07632
Manufacturer:	Huaqin Telecom Technology Co.,Ltd.
Address of Manufacturer:	No.1 Building, No.9 Building, No.399,Keyuan Road,Zhangjiang Hi-tech Park,Shanghai,P.R.China

1.2 Test Location

Lab A:

Company:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address:	No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
Post code:	518057
Test engineer:	Dee Zheng, Mike Hu

Lab B:

Company:	SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD.
Address:	1/F, Unit D, Building 1, Kanghong Orange Technology Park, No.137, Keyuan 3rd Road, Fengdong New City, Xi'an, Shaanxi China
Post code:	710086
Test engineer:	Ben Huang, Leah Chen

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1.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

Lab A:

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

Lab B:

A2LA (Certificate No. 4854.01)

SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4854.01.

• FCC –Designation Number: CN1271

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1.4 General Description of EUT

EUT Description::	Mobile handset
Model No.:	LM-K420EMW
Trade Mark:	LG
IEEE 802.11 WLAN Mode Supported	☒ 802.11B (20 MHz channel bandwidth), ☒ 802.11G (20 MHz channel bandwidth) ☒ 802.11N (20 MHz channel bandwidth), ☐ 802.11N (40 MHz channel bandwidth)
Operation Frequency:	2400 MHz -2483.5MHz fc = 2407 MHz + N * 5 MHz, where: -fc = “Operating Frequency” in MHz, -N = “Channel Number” with the range from 1 to 11 for the 20 MHz channel bandwidth, or 3 to 9 for the 40 MHz channel bandwidth.
Type of Modulation:	IEEE for 802.11B: DSSS IEEE for 802.11G : OFDM IEEE for 802.11N(HT20) : OFDM IEEE for 802.11N(HT40) : OFDM
Sample Type:	☒ Portable Device, ☐Module
Antenna Type:	☐ External, ☒ Integrated
Antenna Ports	☒ Ant 1, ☐Ant 2, ☐ Ant 3
Smart System	☒ SISO (for 802.11B/G/N), ☐ MIMO (for 802.11N): 2 Tx &2 Rx, ☐ Diversity (for 802.11B/G) : Tx & Rx
Antenna Gain:	-3.8dBi
Power Supply	☒ AC/DC Adapter; ☒ Battery ☐ PoE:; ☐ Other:

Operation Frequency of each channel (802.11B/G/N HT20)							
Channel	**Frequency**	**Channel**	**Frequency**	**Channel**	**Frequency**	**Channel**	**Frequency**
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz	12	2467MHz
13	2472MHz						

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Remark:
In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the three highest frequency of channels were selected to perform the test, and the selected

channel see below:

Channel	Frequency for 802.11B/G/N (HT20)
CH 1	2412MHz
CH 6	2437MHz
CH 11	2462MHz
CH 12	2467MHz
CH 13	2472MHz

1.5 Test Environment and Mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	50 % RH
Atmospheric Pressure:	101.30KPa
Test mode:	
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.

1.6 Description of Support Units

The EUT has been tested independent unit.

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1.7 MCC Country code detection mechanism specification

Network mode	Description
No country code received	The device only operates with the default country code. (12 /13 channels enable)
Invalid country code received	The device can’t get invalid country code. If the network is connected, the country code is set in US. (12/13 channels disable) Otherwise, if the network is not connected, the device oper ates with the default country code. (12/13 channels enable)
US country code	If the network is connected, the country code is set in US. (12/13 channels disable) Otherwise, if the network is not connected, the device oper ates with the default country code. (12/13 channels enable)
US territories country code (Guam, Puerto Rico)	If the network is connected, the country code is set accordi ng to the network service. Otherwise, if the network is not connected, the device oper ates with the default country code. (12/13 channels enable)
Airplane mode	The device only operates with the default county code. (12/ 13 channels enable)
On loss of non- US country code (drop the link any verify device returns to default state)	The device only operates with the default county code. (12/ 13 channels enable)

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Remark:

1.Channel 12 and 13 are enable in default mode for this device. Channel 12 and 13 use lower target power.

2.The device always use country code as geo-location information and it is determined only when the device is attached to 2G/3G/LTE network. Additionally, in case of the invalid country code, Wi-Fi driver will revert to the NV Binary code in which channels 1-13 are enabled. Therefore there will be no problem with those scenarios.

3.The device always use the country code as location information and it periodically checks the information in a few seconds until the device is attached to 2G/3G/LTE network. For the multiple cell network environment with different MCC codes, there will be network roam search with intervals below and the device will get the updated country code when the device is attached to the different network.

For 2G/3G/LTE network: Every 2 seconds

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2 Test results and Measurement Data

2.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203 /247(c)
15.203 requirement: 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, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is -3.8dBi.	

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2.2 AC Power Line Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.207		
Test Method:	ANSI C63.10: 2013		
Test Frequency Range:	150kHz to 30MHz		
Limit:	Frequency range (MHz)	Limit (dBuV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
	* Decreases with the logarithm of the frequency.		
Test Procedure:	1)The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT wereconnected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 5) In order to find the maximum emission, the relative positions of equipmentand all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.		

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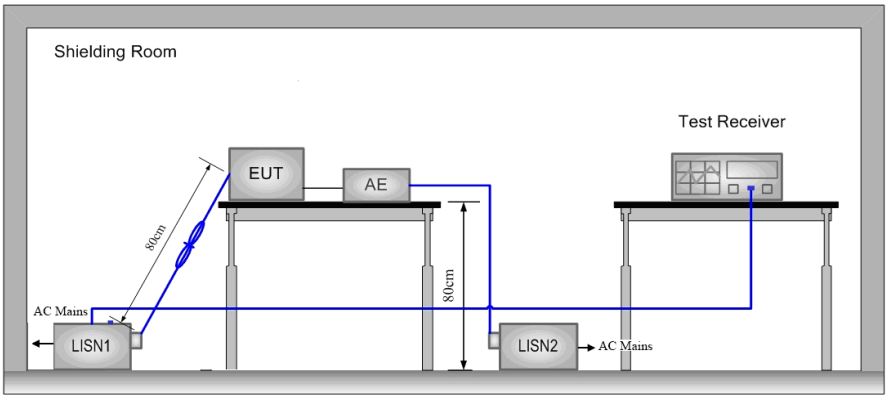
Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates at lowest, middle and highest channel. Charge + Transmitting mode.
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate of 802.11B at lowest channel is the worst case. Charge + Transmitting mode. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

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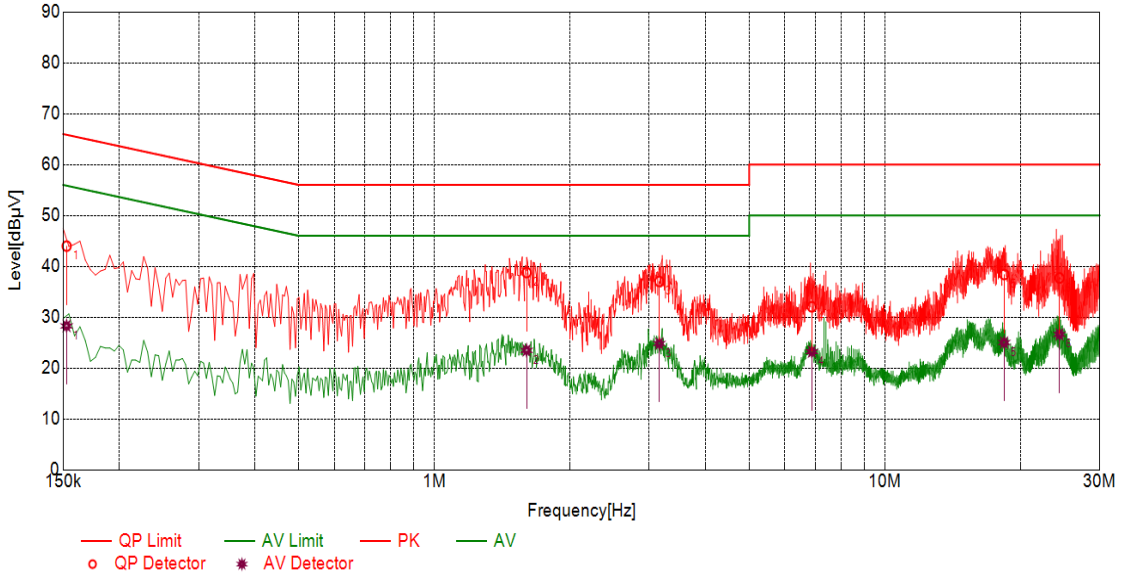
Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live Line:



Test Graph

Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Type
1	0.1527	10.10	43.98	65.85	21.87	28.28	55.85	27.57	L
2	1.6027	10.10	38.78	56.00	17.22	23.47	46.00	22.53	L
3	3.1575	10.10	37.03	56.00	18.97	24.82	46.00	21.18	L
4	6.8872	10.10	32.04	60.00	27.96	23.23	50.00	26.77	L
5	18.3952	10.11	38.40	60.00	21.60	25.01	50.00	24.99	L
6	24.4146	10.11	37.72	60.00	22.28	26.62	50.00	23.38	L

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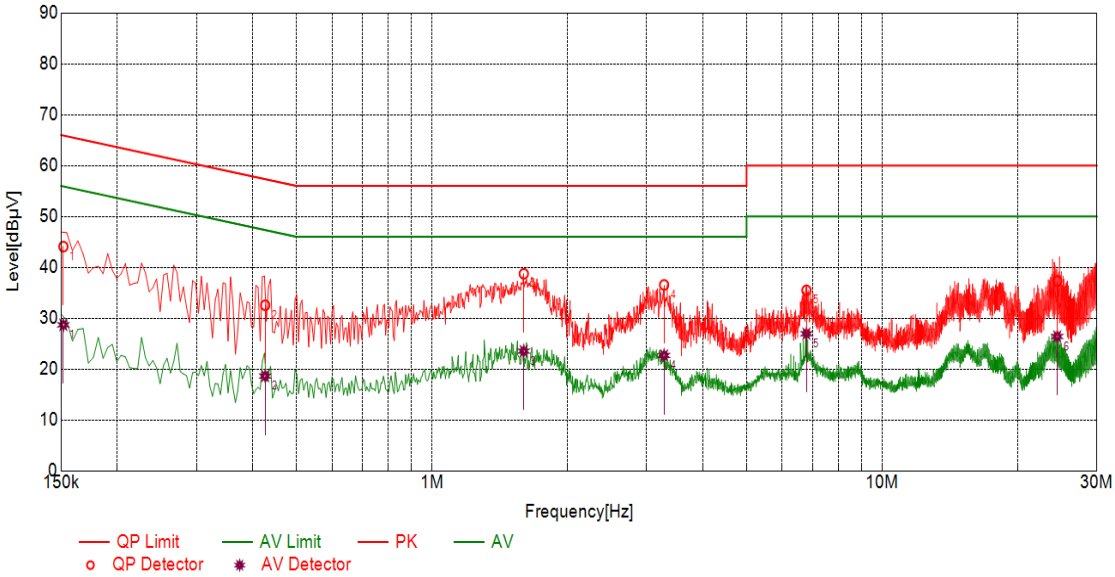
Neutral Line:



Test Graph

Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Type
1	0.1518	10.10	44.08	65.90	21.82	28.69	55.90	27.21	N
2	0.4262	10.10	32.55	57.33	24.78	18.62	47.33	28.71	N
3	1.5996	10.10	38.74	56.00	17.26	23.52	46.00	22.48	N
4	3.2791	10.10	36.55	56.00	19.45	22.67	46.00	23.33	N
5	6.7908	10.10	35.48	60.00	24.52	26.95	50.00	23.05	N
6	24.4988	10.11	37.29	60.00	22.71	26.41	50.00	23.59	N

Remarks:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

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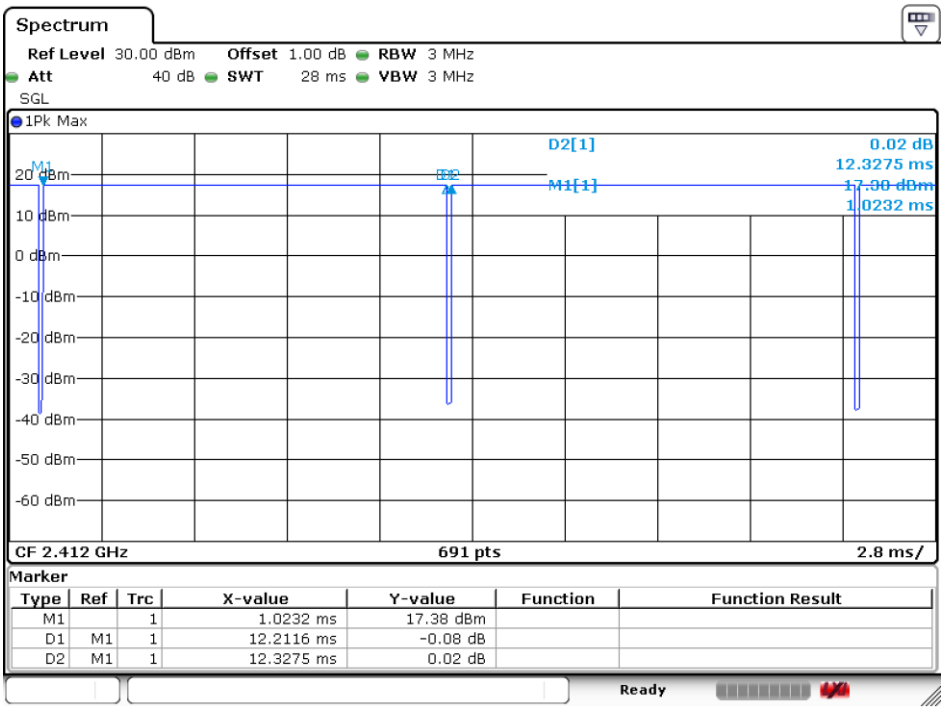
2.3 Duty Cycle

2.3.1 Test Results

Test Mode	TX Freq. [MHz]	Duty cycle [%]
11B	CH1	99.06
11G	CH1	95.94
11N20	CH1	95.65

2.3.1 Test Plots

2.3.1.1 11B



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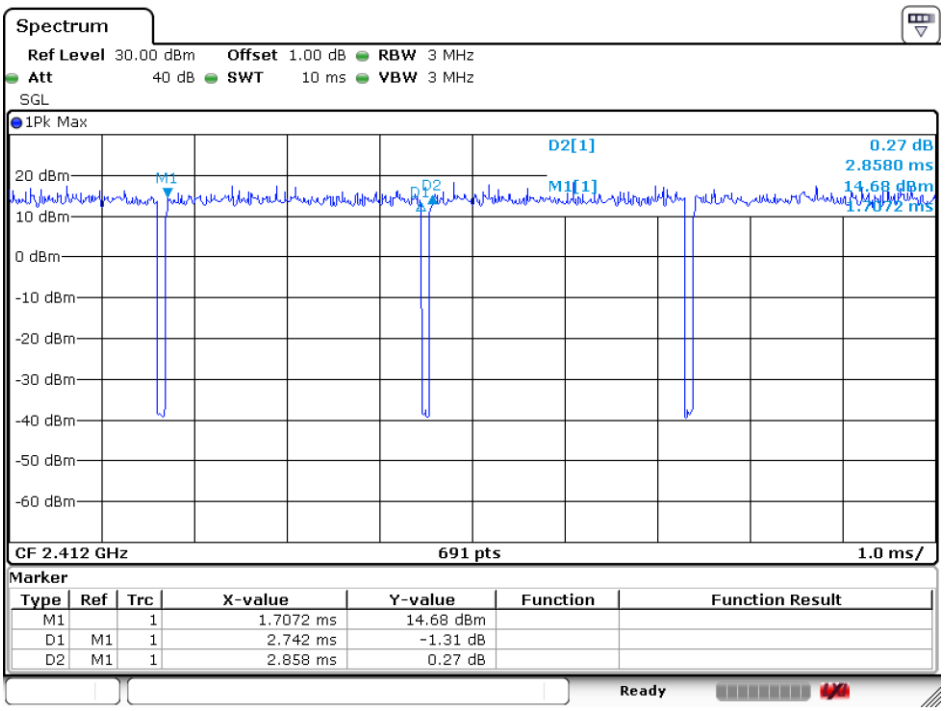
2.3.1.2 11G



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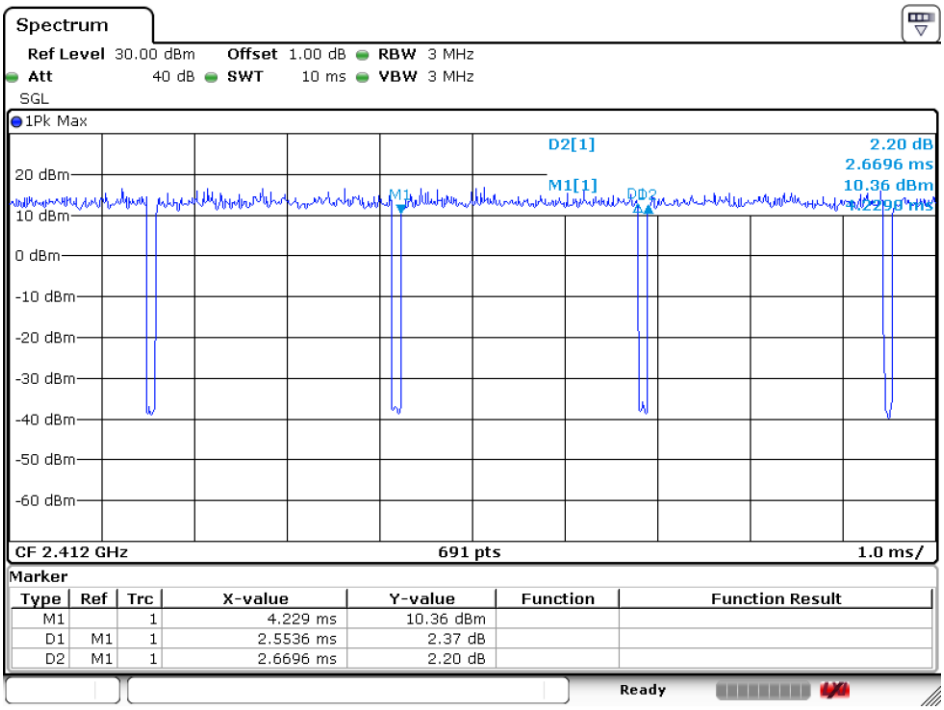
2.3.1.3 11N20



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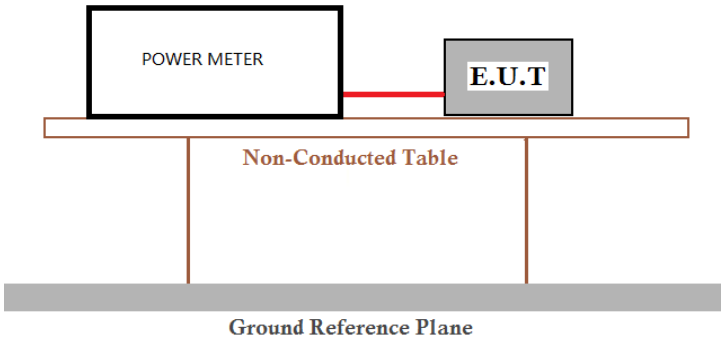
2.4 Conducted Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(3)
Test Method:	ANSI C63.10 :2013 Section 11.9.1.3
Test Setup:	
Test Instruments:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; 6.5Mbps of rate is the worst case of 802.11N(HT20);
Limit:	30dBm
Test Results:	Pass

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2.4.1 Test Results

Measurement Data of Peak Power:

Mode	Test Channel	Peak Output Power (dBm)	Limit (dBm)	Result
802.11B	CH1	17.20	30.00	Pass
	CH6	17.14	30.00	Pass
	CH11	17.22	30.00	Pass
	CH12	5.59	30.00	Pass
	CH13	5.33	30.00	Pass
802.11G	CH1	15.25	30.00	Pass
	CH6	16.03	30.00	Pass
	CH11	15.07	30.00	Pass
	CH12	5.17	30.00	Pass
	CH13	5.20	30.00	Pass
802.11N20	CH1	14.22	30.00	Pass
	CH6	15.94	30.00	Pass
	CH11	13.78	30.00	Pass
	CH12	5.14	30.00	Pass
	CH13	4.93	30.00	Pass

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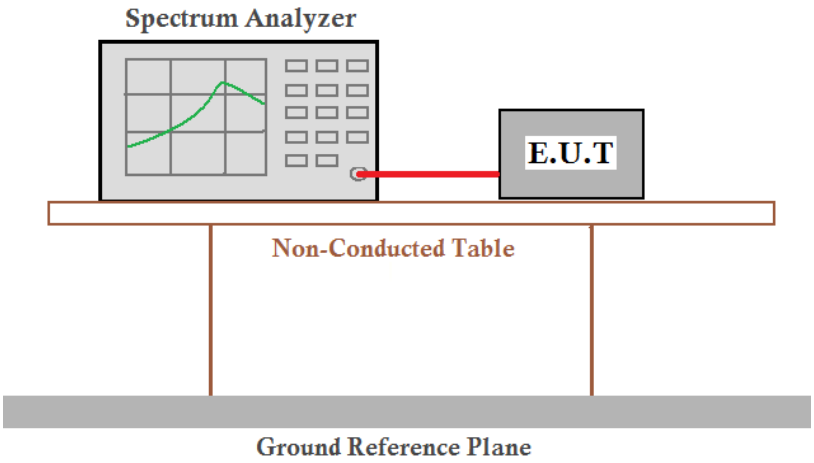
2.5 DTS (6 dB) Bandwidth&99% Occupied Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(2)
Test Method:	ANSI C63.10: 2013 Section 11.8.1 Option 1
Test Setup:	
Instruments Used:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G; 6.5Mbps of rate is the worst case of 802.11N(HT20);
Limit:	≥ 500 kHz
Test Results:	Pass

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2.5.1 Test Results For DTS (6 dB) Bandwidth&99% Occupied Bandwidth

Mode	Test Channel	Occupied Bandwidth (MHz)	6dB Emission Bandwidth (MHz)	Limit (kHz)	Result
802.11B	CH1	12.98	9.03	≥500	Pass
	CH6	12.89	9.03	≥500	Pass
	CH11	12.98	9.03	≥500	Pass
	CH12	12.55	8.51	≥500	Pass
	CH13	12.63	8.55	≥500	Pass
802.11G	CH1	16.85	16.02	≥500	Pass
	CH6	17.06	16.32	≥500	Pass
	CH11	16.89	16.23	≥500	Pass
	CH12	16.58	15.41	≥500	Pass
	CH13	16.67	15.72	≥500	Pass
802.11N20	CH1	17.80	17.15	≥500	Pass
	CH6	17.97	17.58	≥500	Pass
	CH11	17.84	17.54	≥500	Pass
	CH12	17.58	16.02	≥500	Pass
	CH13	17.67	16.32	≥500	Pass

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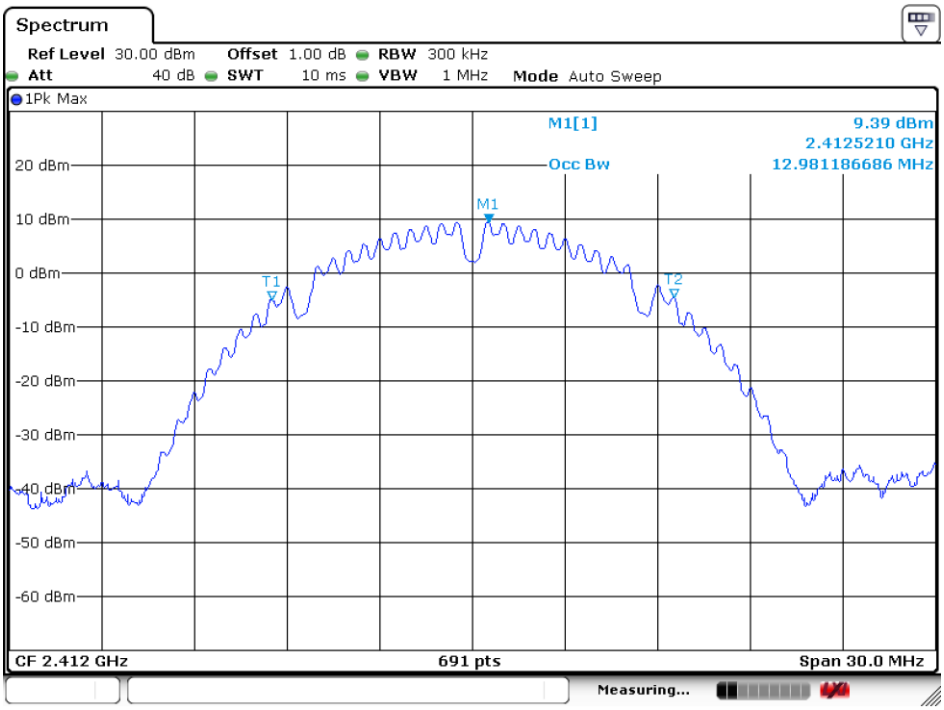
2.5.2 Test plots For Occupied Bandwidth

2.5.2.1 802.11B_CH1



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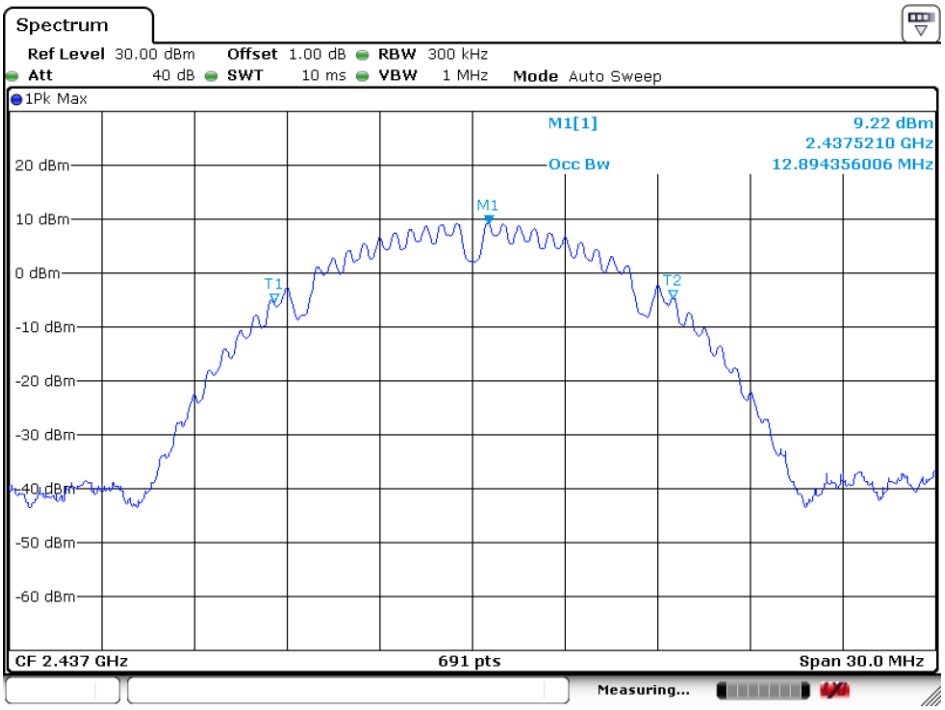
2.5.2.2 802.11B_CH6



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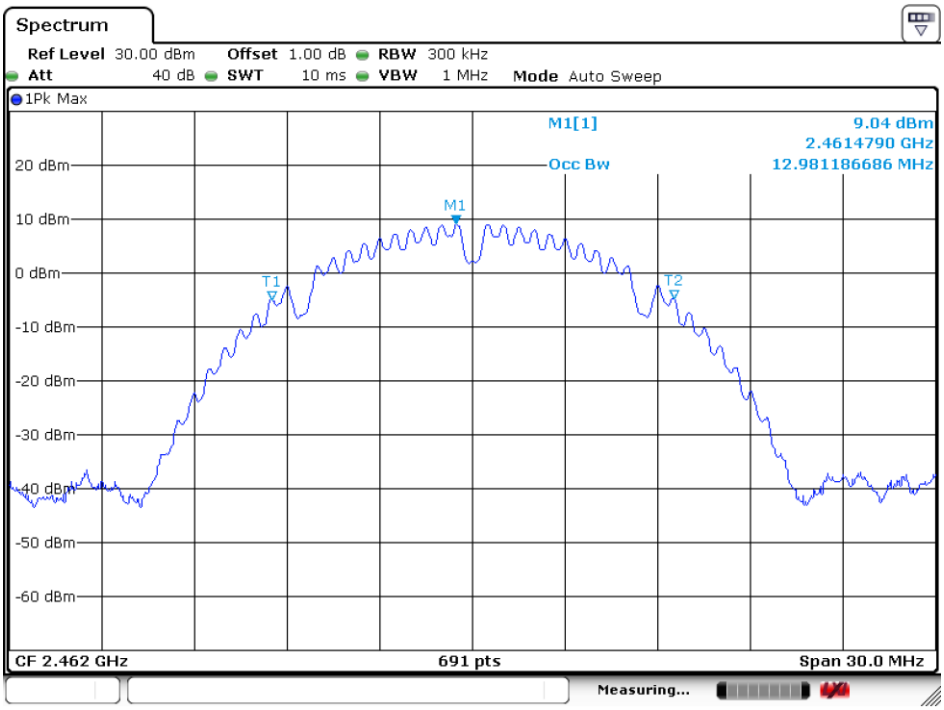
2.5.2.3 802.11B_CH11



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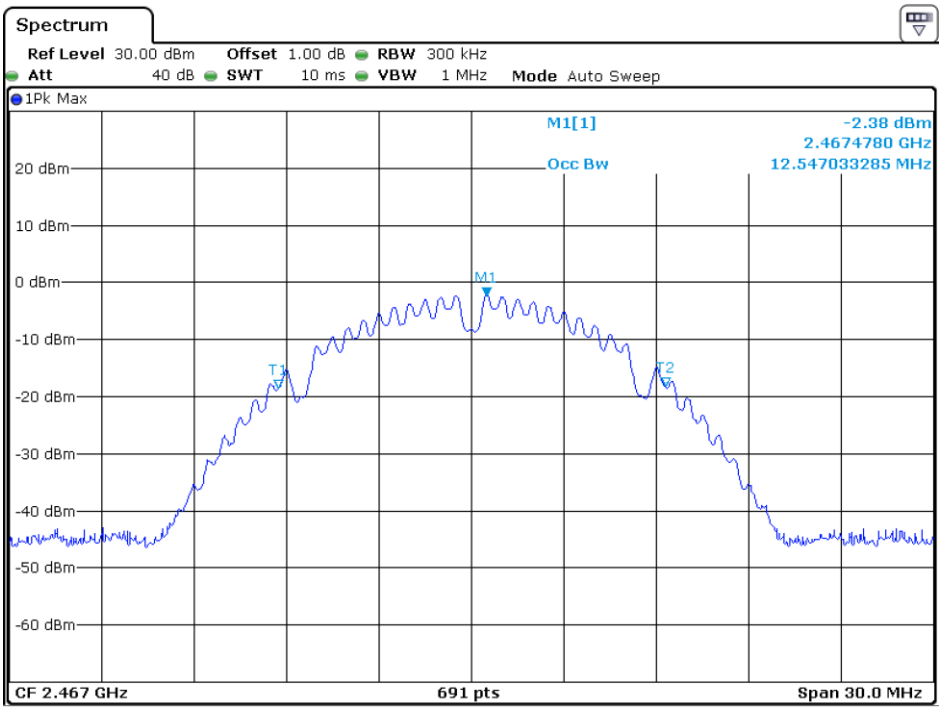
2.5.2.4 802.11B_CH12



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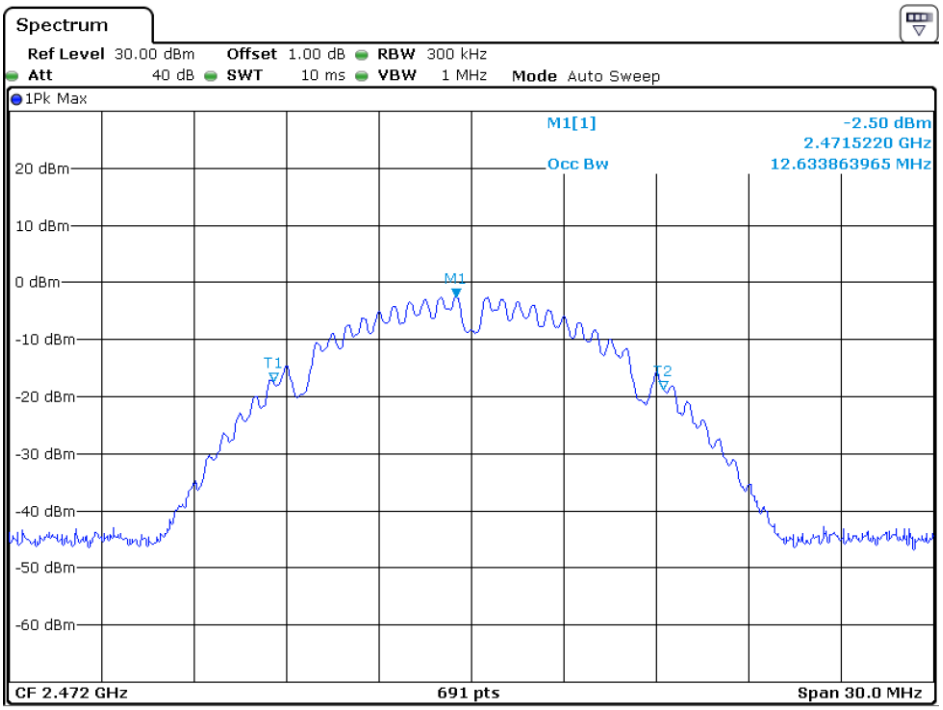
2.5.2.5 802.11B_CH13



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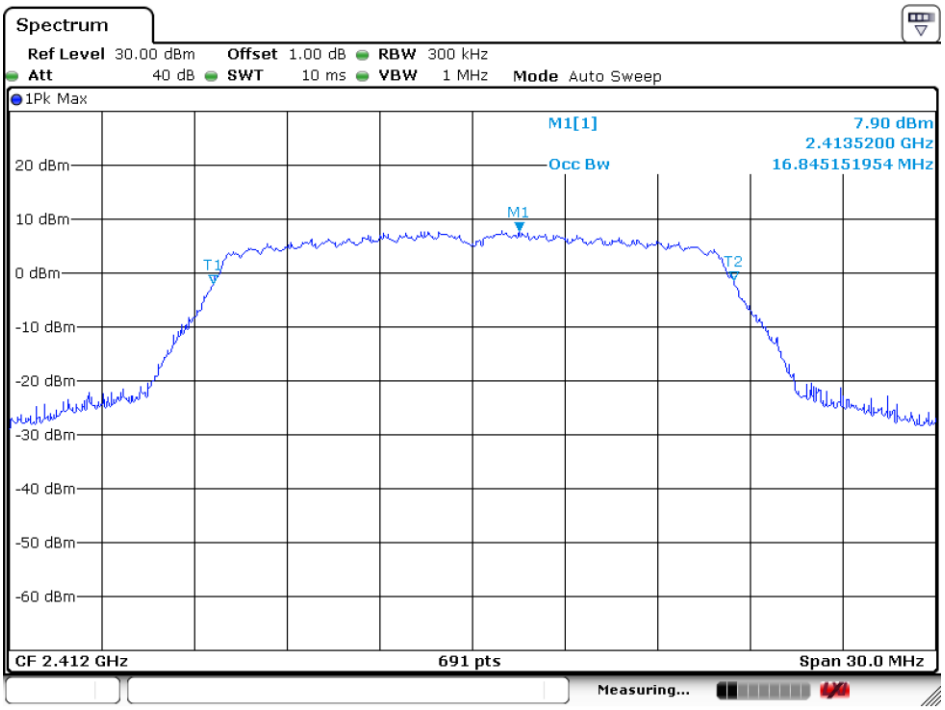
2.5.2.6 802.11G_CH1



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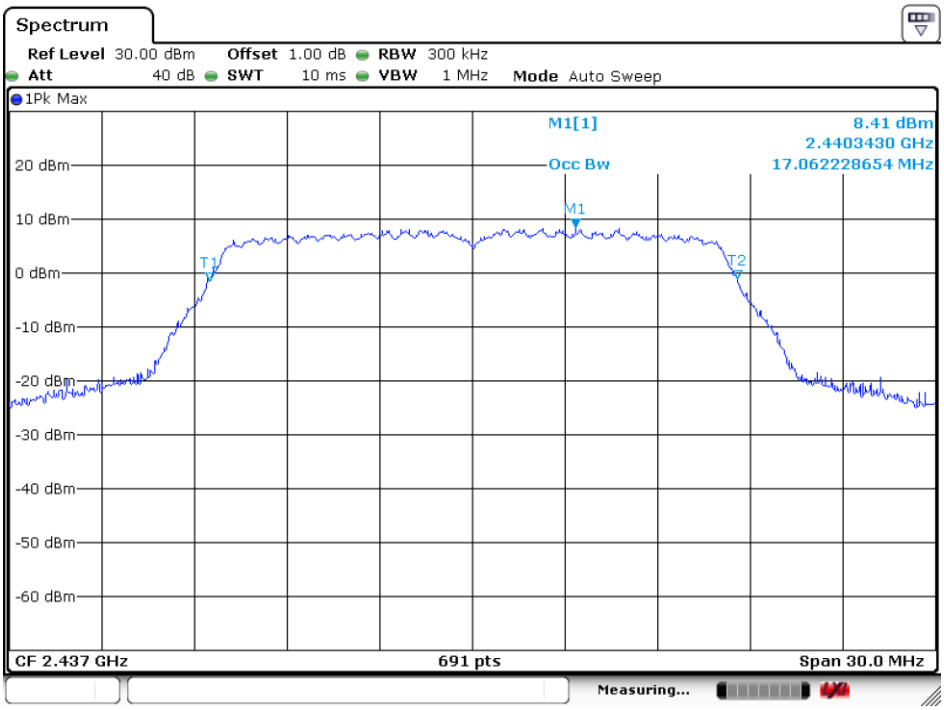
2.5.2.7 802.11G_CH6



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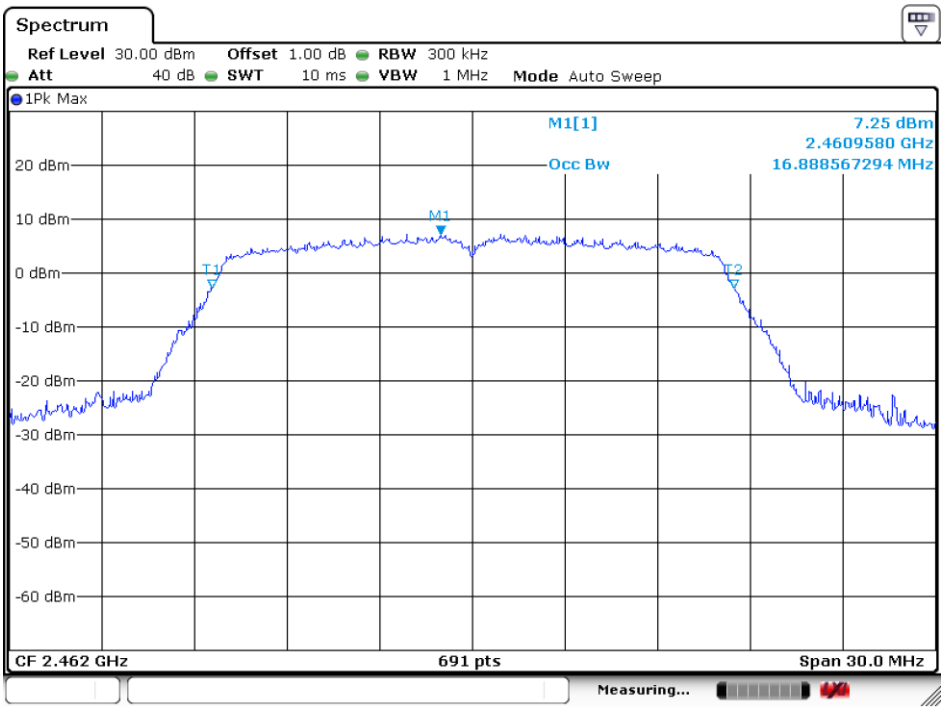
2.5.2.8 802.11G_CH11



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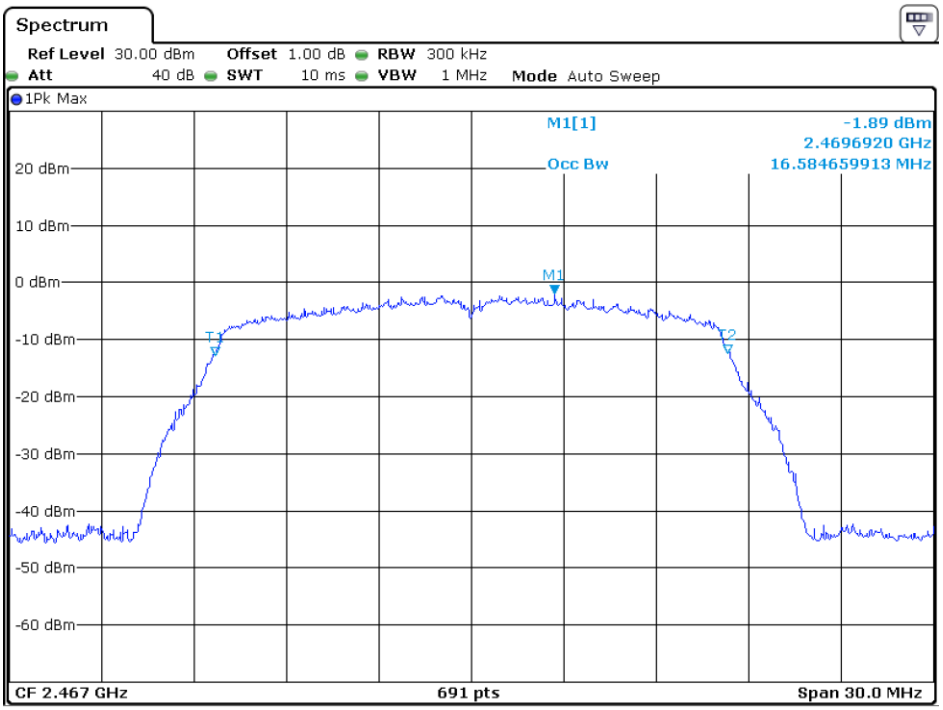
2.5.2.9 802.11G_CH12



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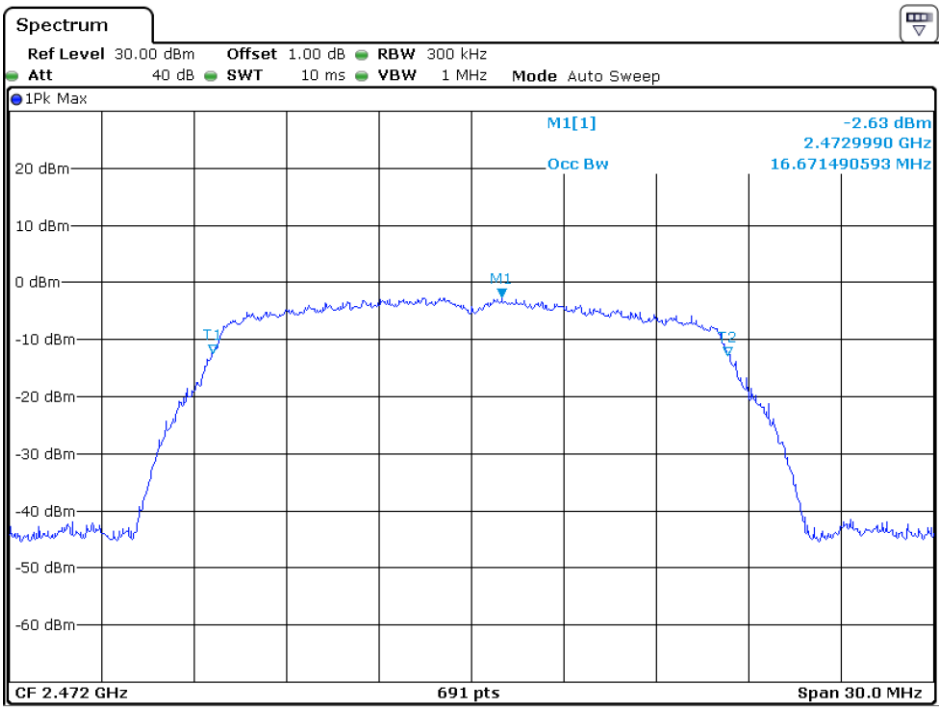
2.5.2.10 802.11G_CH13



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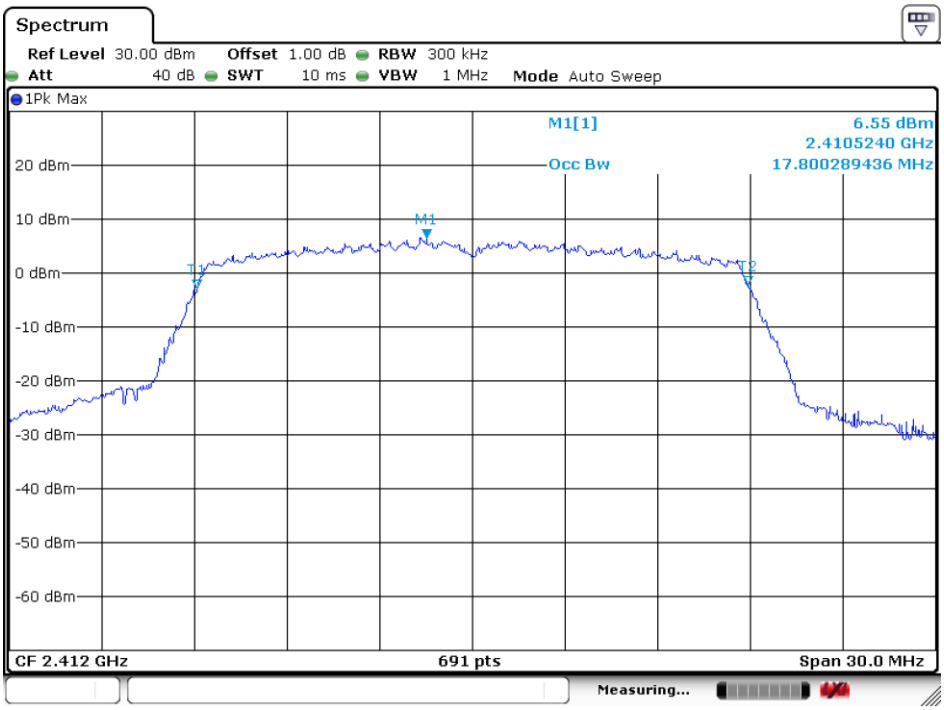
2.5.2.11 802.11N20_CH1



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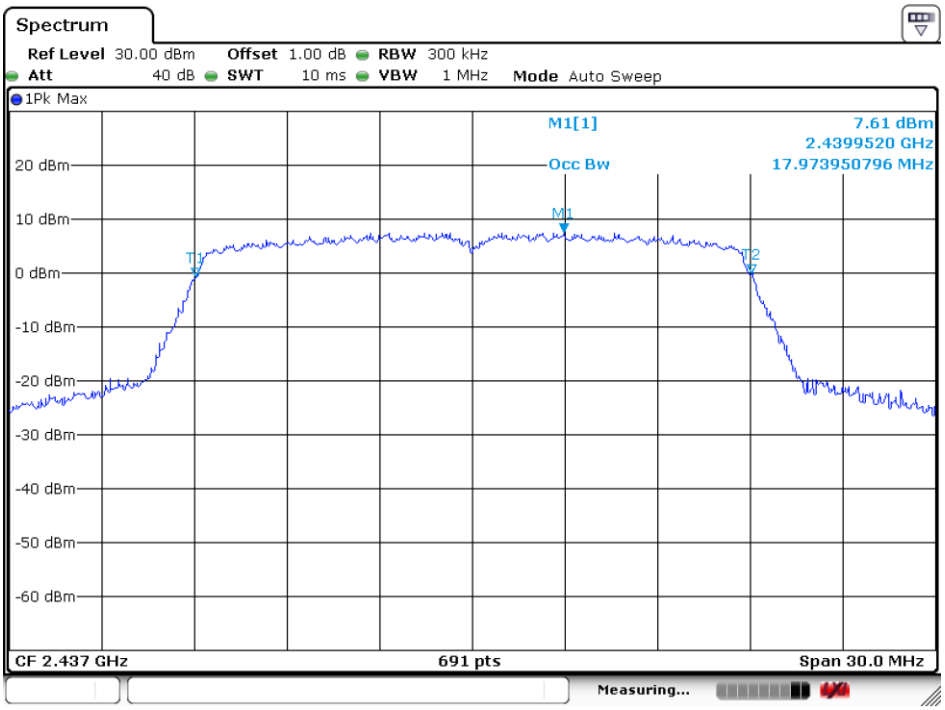
2.5.2.12 802.11N20_CH6



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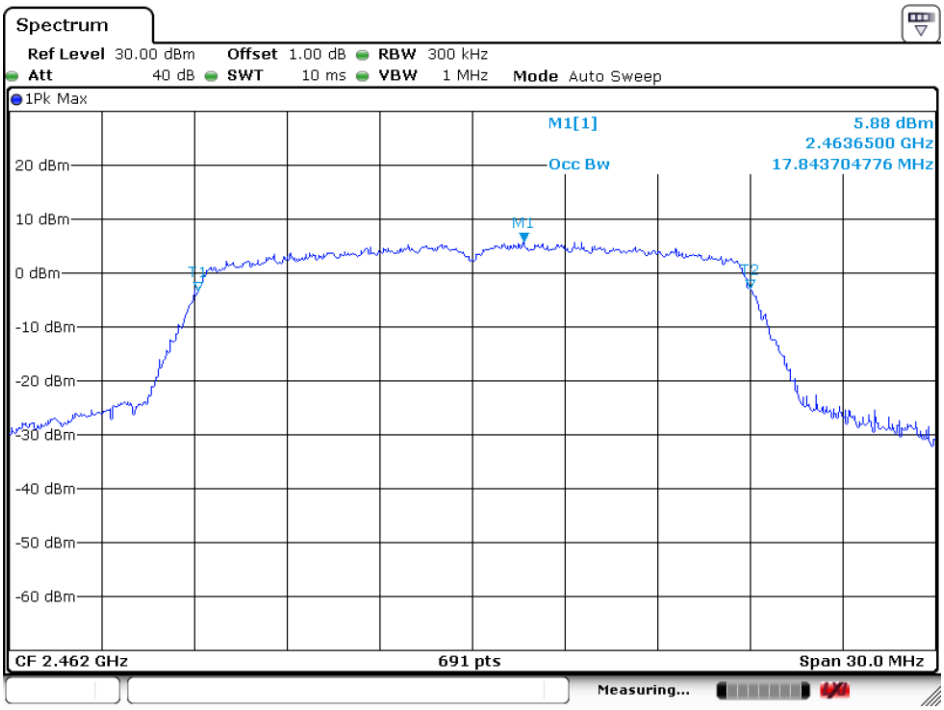
2.5.2.13 802.11N20_CH11



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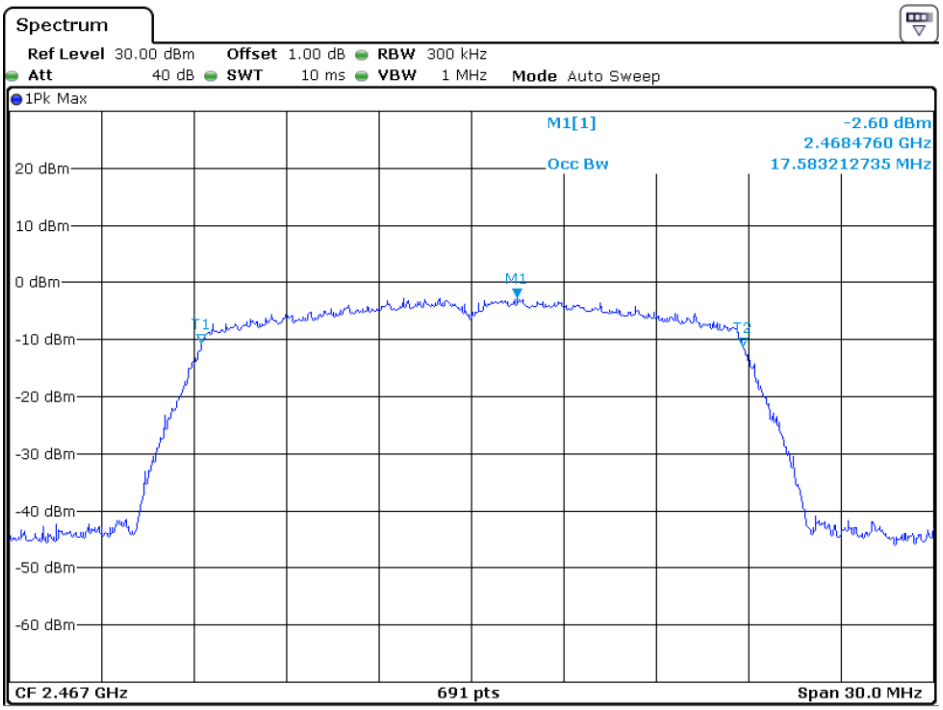
2.5.2.14 802.11N20_CH12



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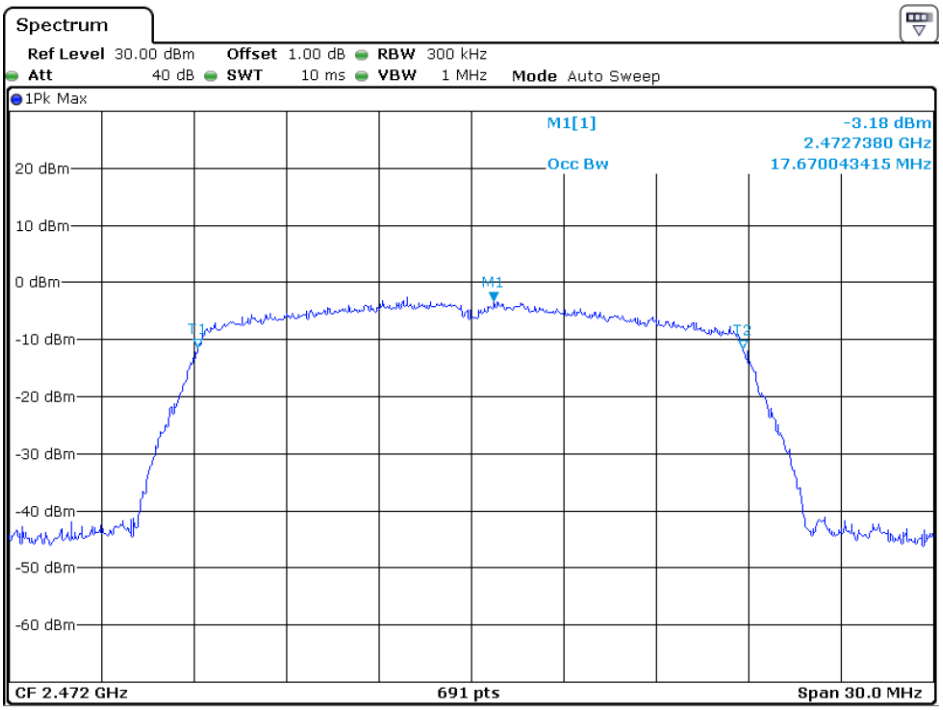
2.5.2.15 802.11N20_CH13



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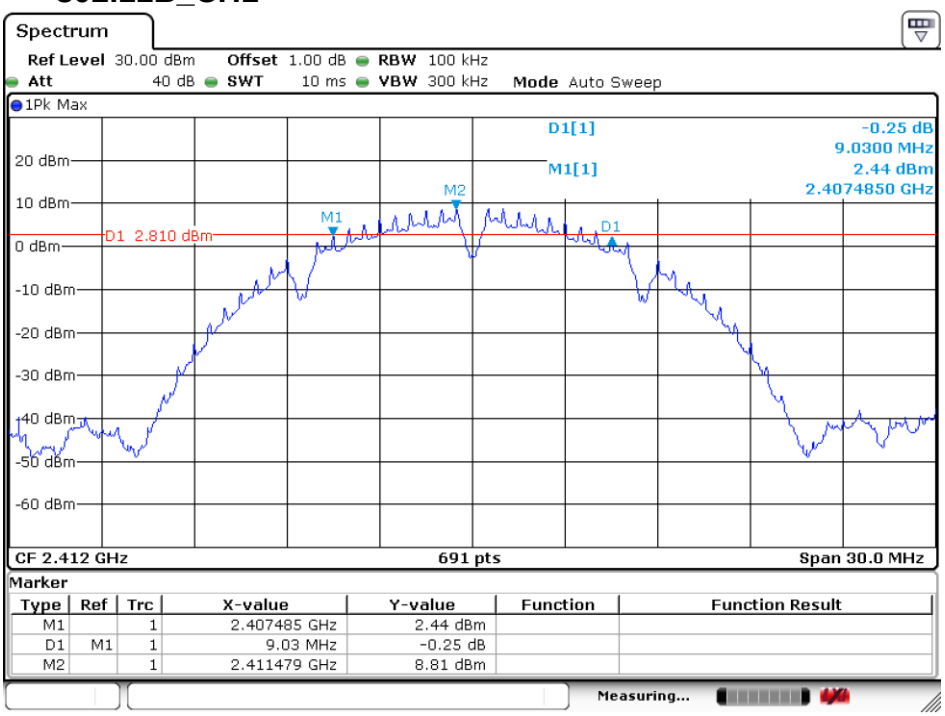
2.5.3 Test plots For 6dB Emission Bandwidth

2.5.3.1 802.11B_CH1



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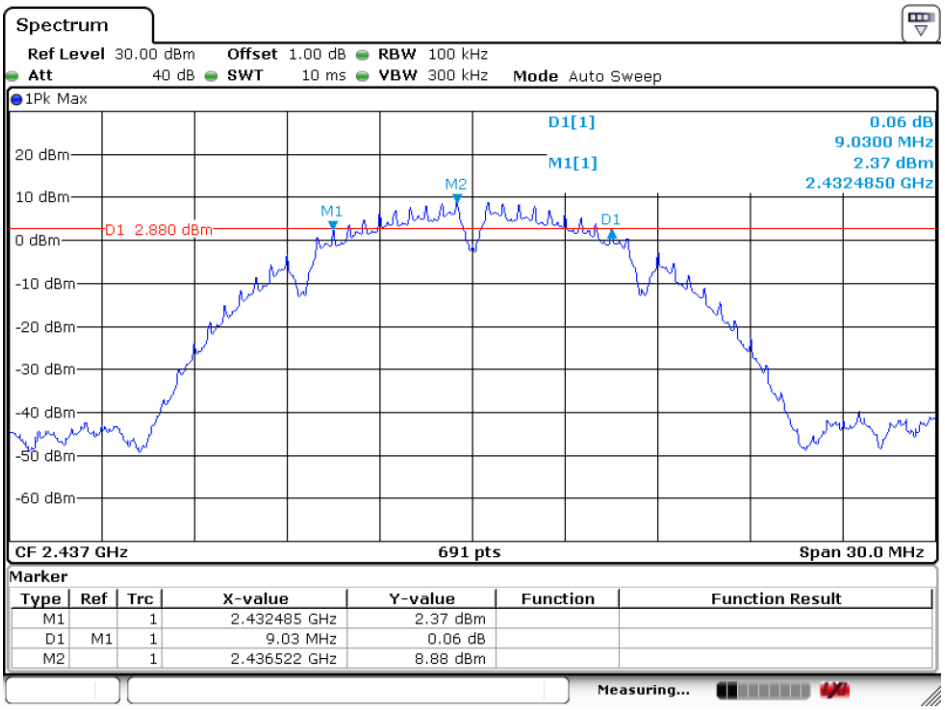
2.5.3.2 802.11B_CH6



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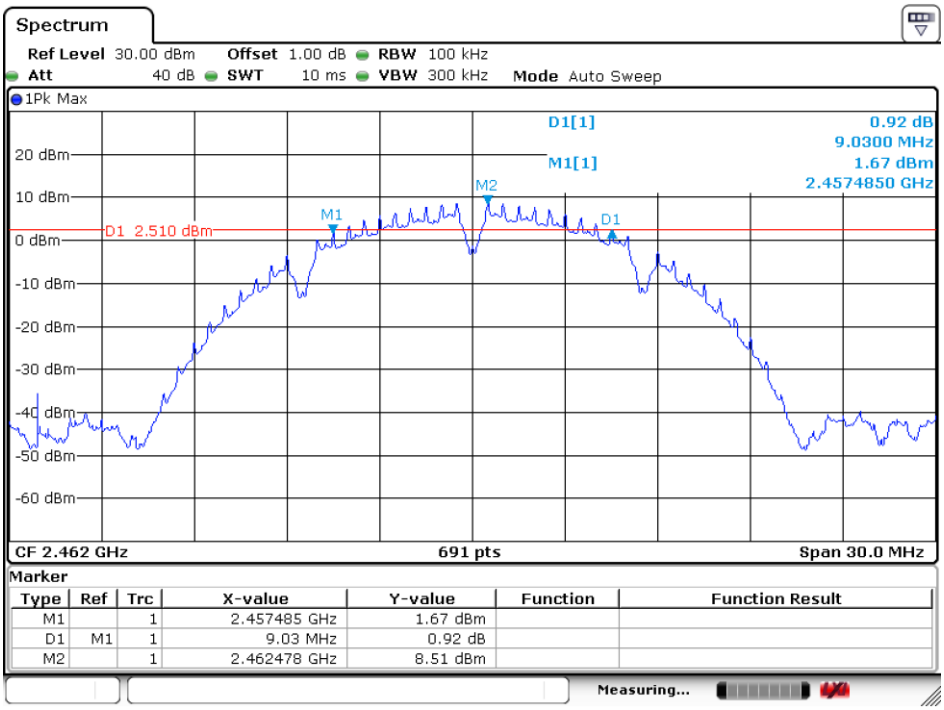
2.5.3.3 802.11B_CH11



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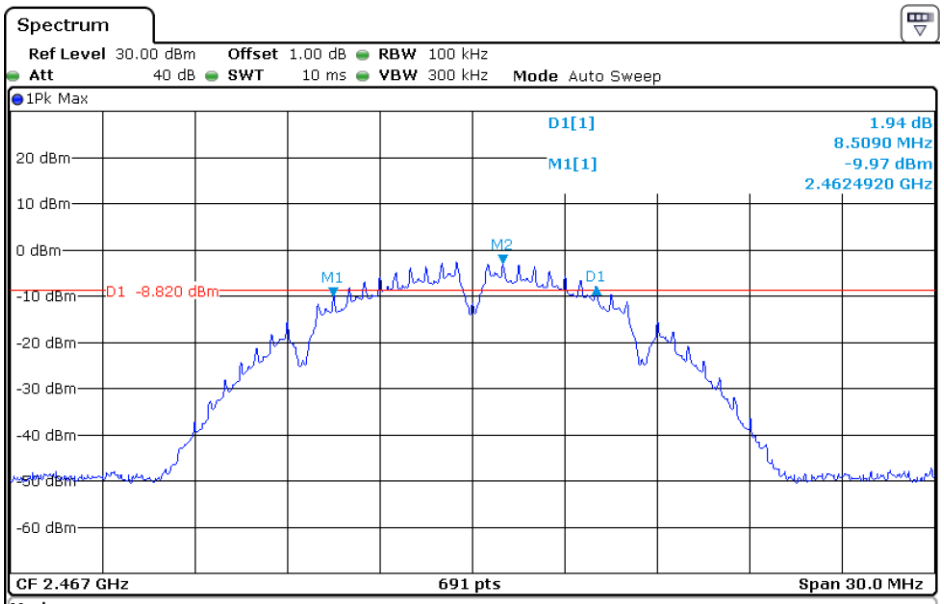
2.5.3.4 802.11B_CH12



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.462492 GHz	-9.97 dBm		
D1	M1	1	8.509 MHz	1.94 dB		
M2		1	2.467999 GHz	-2.82 dBm		

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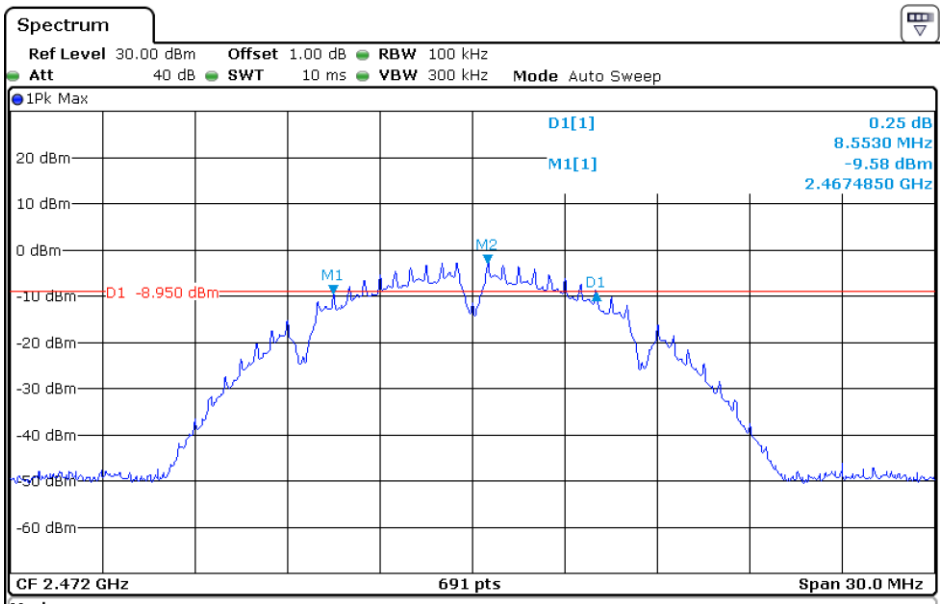
2.5.3.5 802.11B_CH13



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.467485 GHz	-9.58 dBm		
D1	M1	1	8.553 MHz	0.25 dB		
M2		1	2.472478 GHz	-2.95 dBm		

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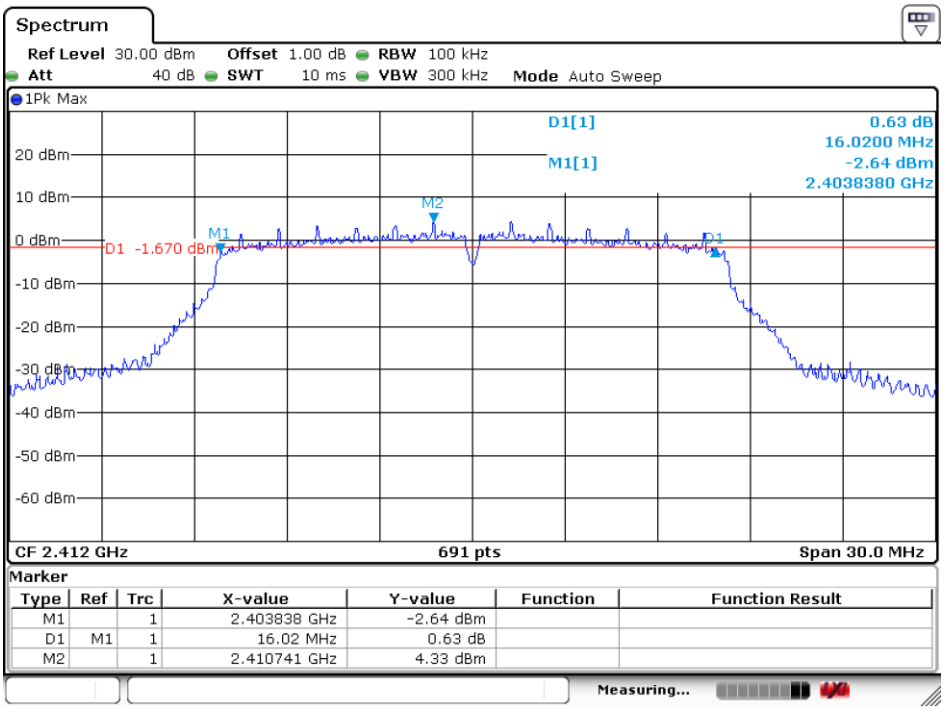
2.5.3.6 802.11G_CH1



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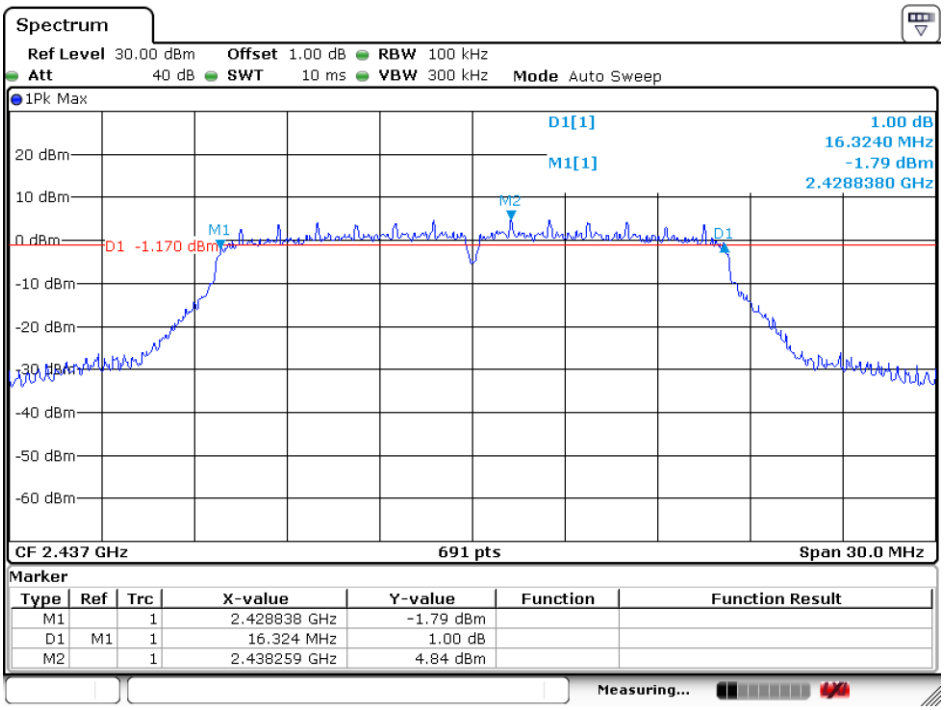
2.5.3.7 802.11G_CH6



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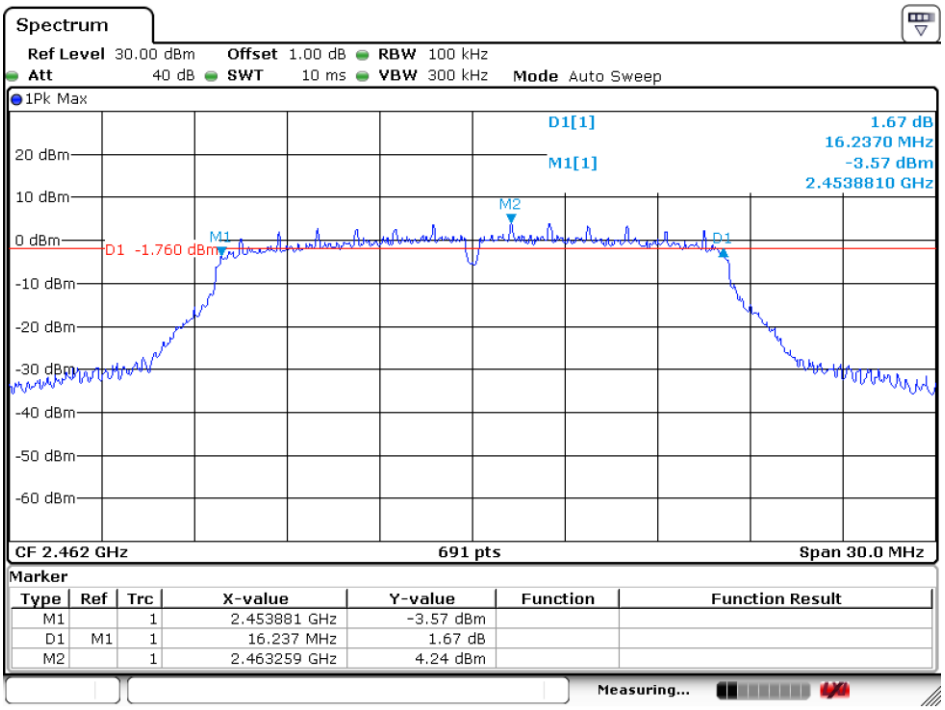
2.5.3.8 802.11G_CH11



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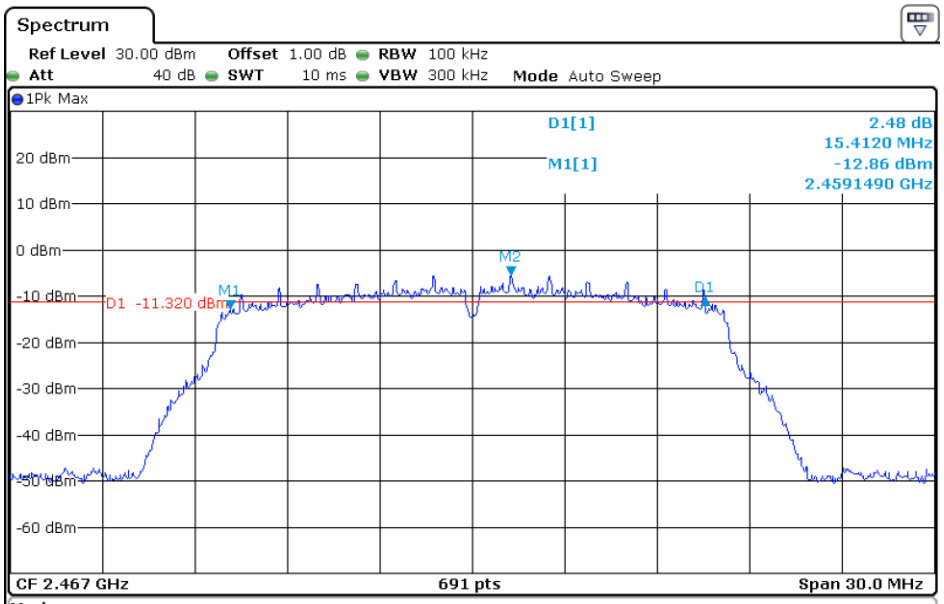
2.5.3.9 802.11G_CH12



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.459149 GHz	-12.86 dBm		
D1	M1	1	15.412 MHz	2.48 dB		
M2		1	2.468259 GHz	-5.32 dBm		

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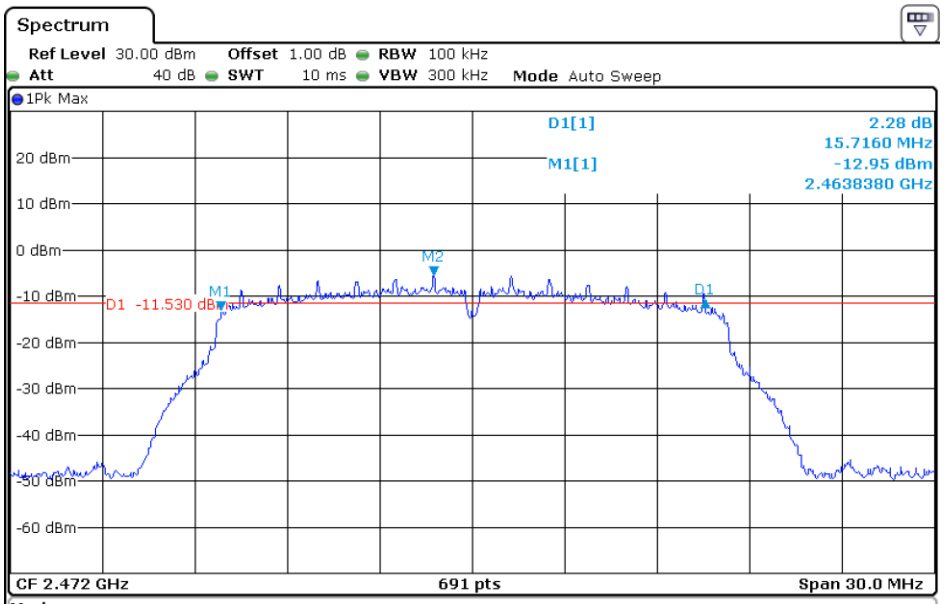
2.5.3.10 802.11G_CH13



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.463838 GHz	-12.95 dBm		
D1	M1	1	15.716 MHz	2.28 dB		
M2		1	2.470741 GHz	-5.53 dBm		

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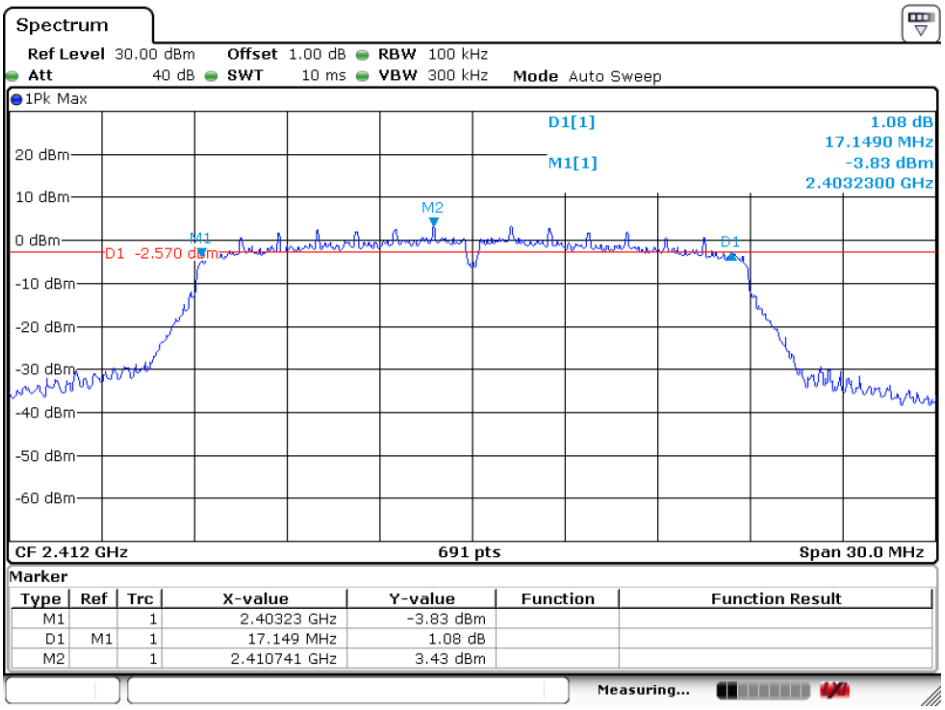
2.5.3.11 802.11N20_CH1



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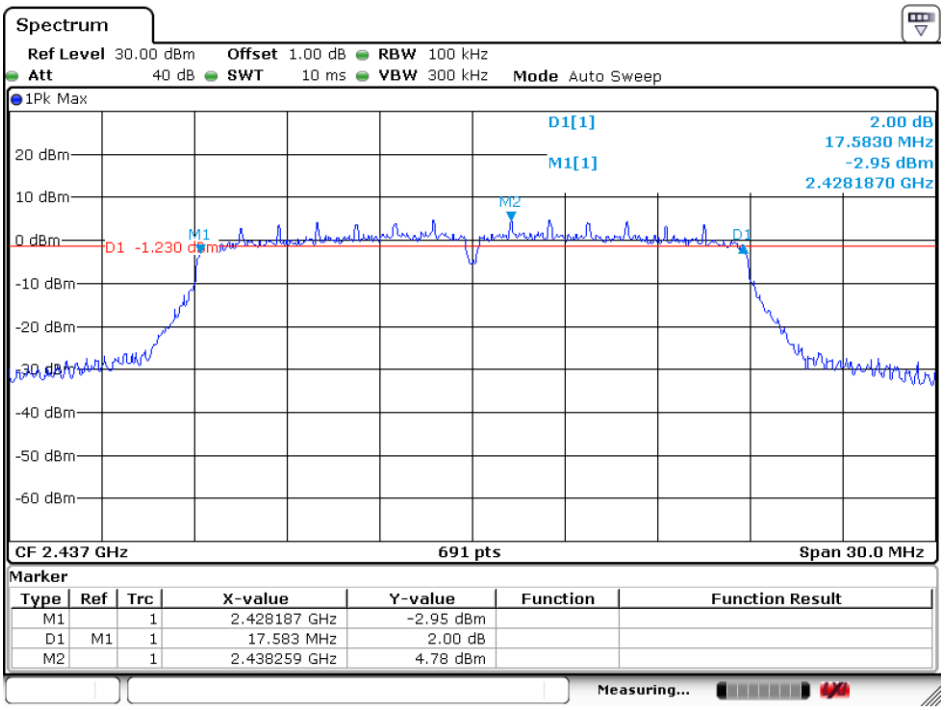
2.5.3.12 802.11N20_CH6



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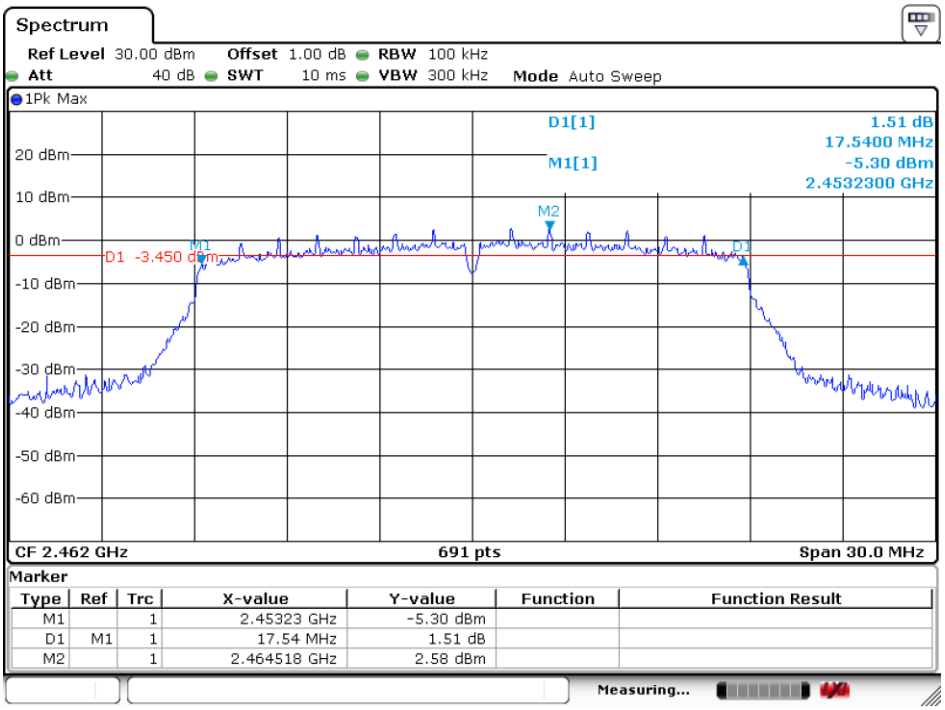
2.5.3.13 802.11N20_CH11



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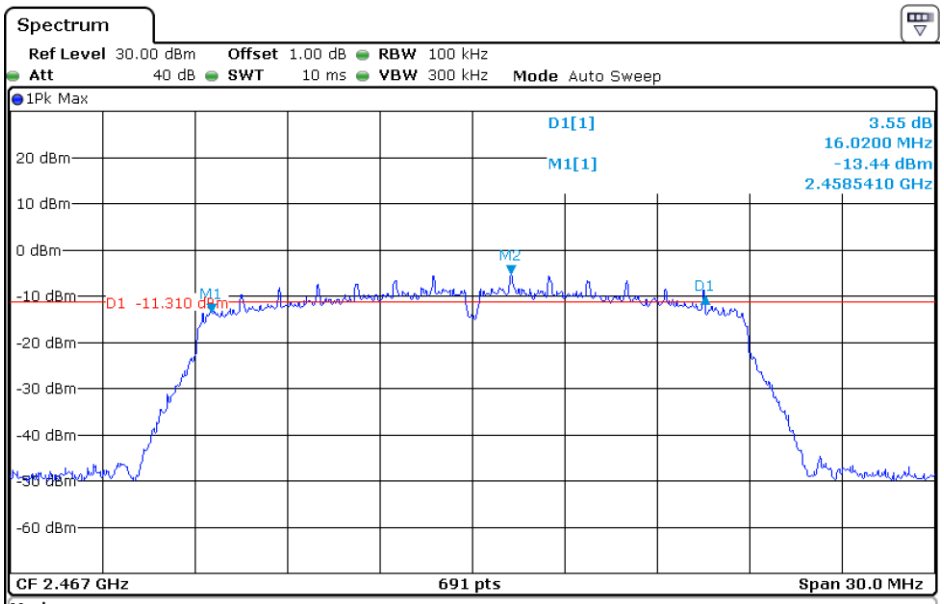
2.5.3.14 802.11N20_CH12



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.458541 GHz	-13.44 dBm		
D1	M1	1	16.02 MHz	3.55 dB		
M2		1	2.468259 GHz	-5.31 dBm		

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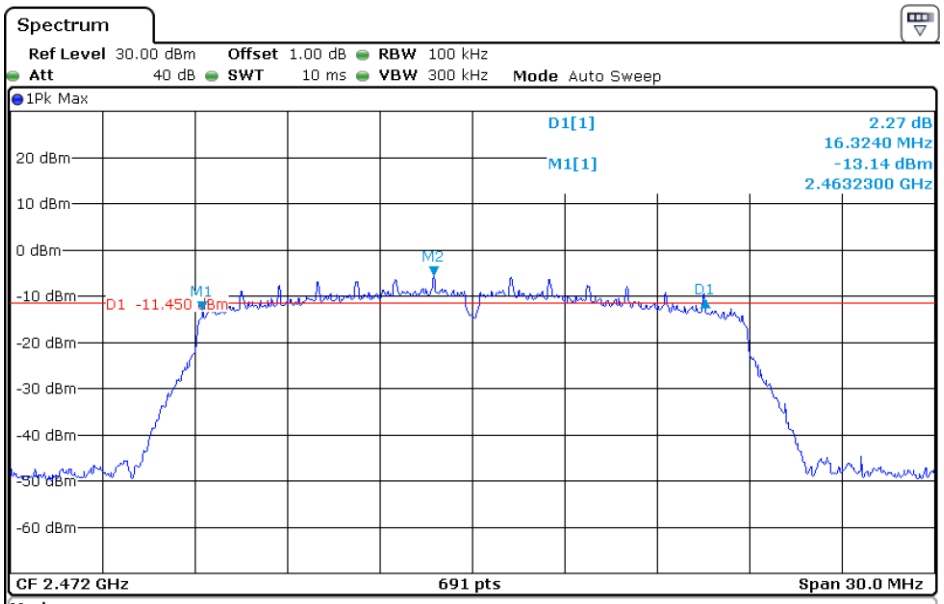
2.5.3.15 802.11N20_CH13



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Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46323 GHz	-13.14 dBm		
D1	M1	1	16.324 MHz	2.27 dB		
M2		1	2.470741 GHz	-5.45 dBm		

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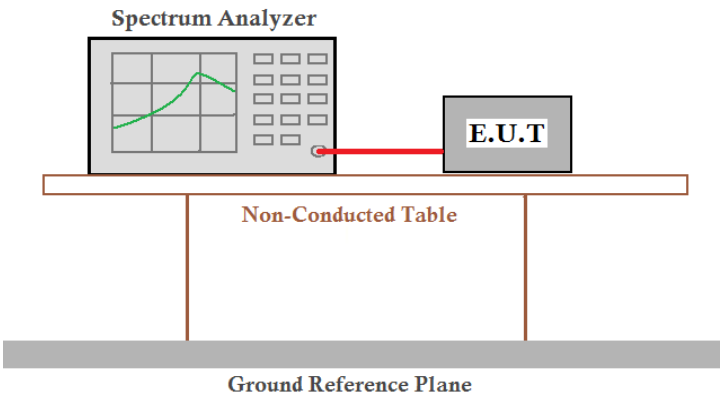
2.6 Power Spectral Density

Test Requirement:	47 CFR Part 15C Section 15.247 (e)
Test Method:	ANSI C63.10 :2013 Section 11.10.2
Test Setup:	
Test Instruments:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; 6.5Mbps of rate is the worst case of 802.11N(HT20);
Limit:	≤8.00dBm/3kHz
Test Results:	Pass

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2.6.1 Test Results

Mode	Test Channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
802.11B	CH1	-3.20	≤8.00	Pass
	CH6	-4.03	≤8.00	Pass
	CH11	-4.33	≤8.00	Pass
	CH12	-16.53	≤8.00	Pass
	CH13	-17.09	≤8.00	Pass
802.11G	CH1	-8.41	≤8.00	Pass
	CH6	-7.56	≤8.00	Pass
	CH11	-8.36	≤8.00	Pass
	CH12	-18.01	≤8.00	Pass
	CH13	-18.54	≤8.00	Pass
802.11N20	CH1	-7.64	≤8.00	Pass
	CH6	-7.64	≤8.00	Pass
	CH11	-10.50	≤8.00	Pass
	CH12	-18.91	≤8.00	Pass
	CH13	-19.22	≤8.00	Pass

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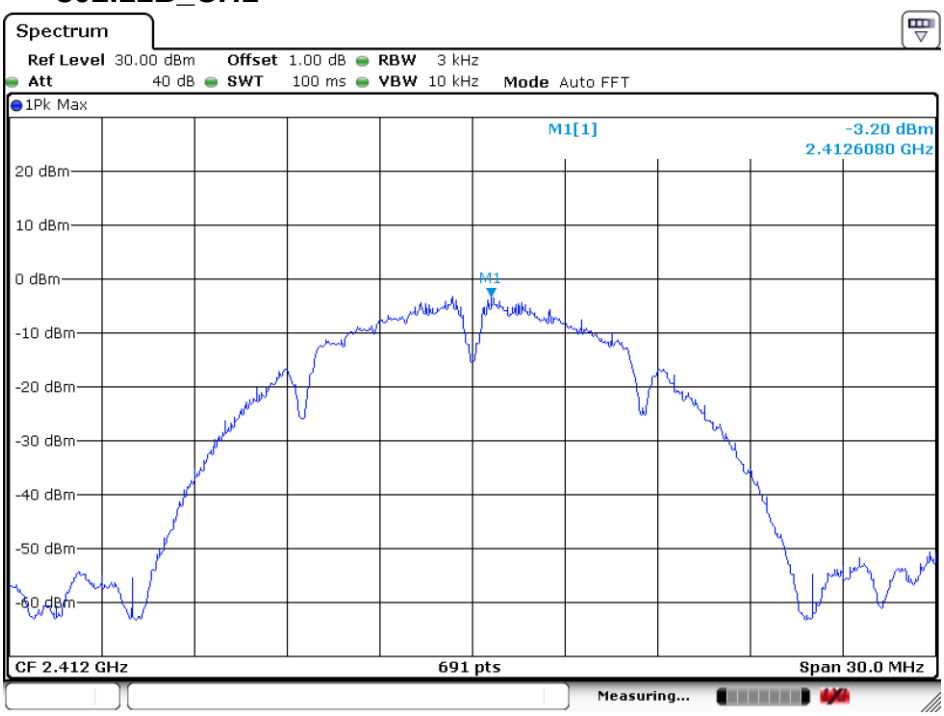
2.6.2 Test plots

2.6.2.1 802.11B_CH1



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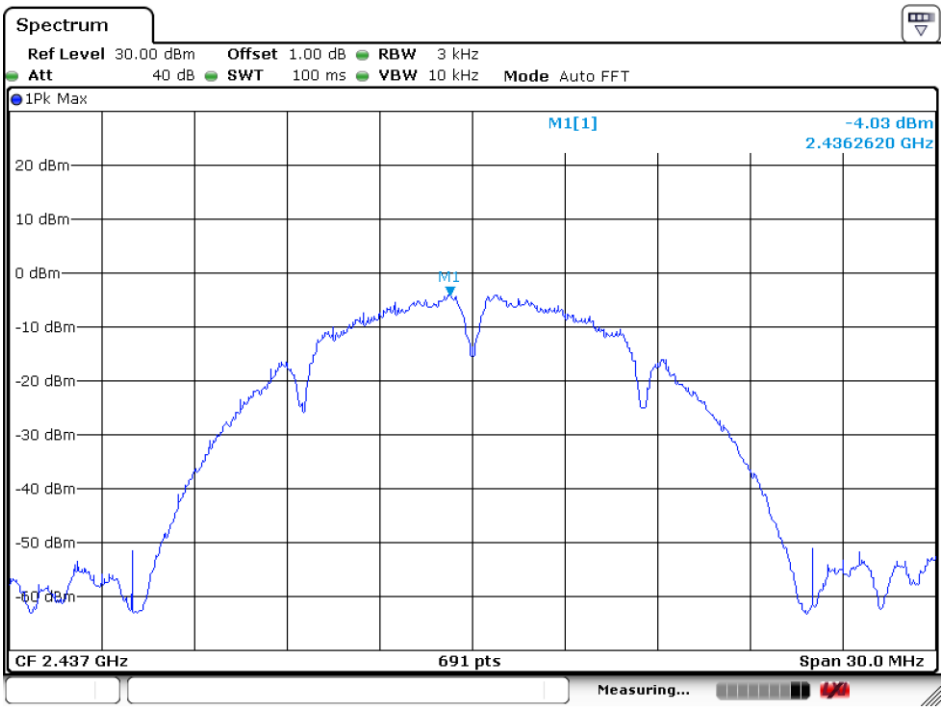
2.6.2.2 802.11B_CH6



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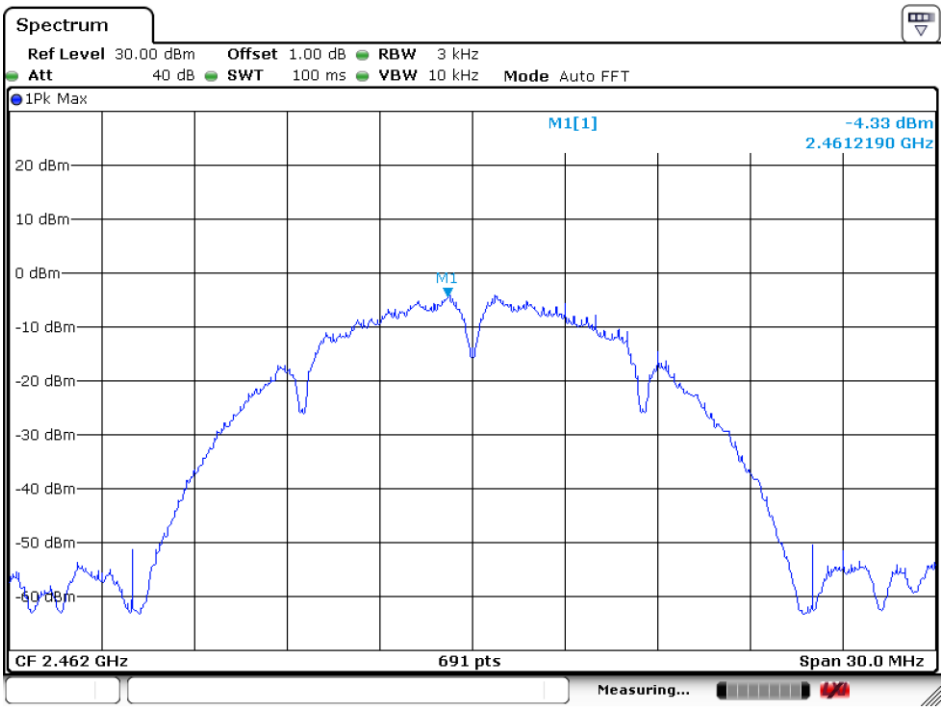
2.6.2.3 802.11B_CH11



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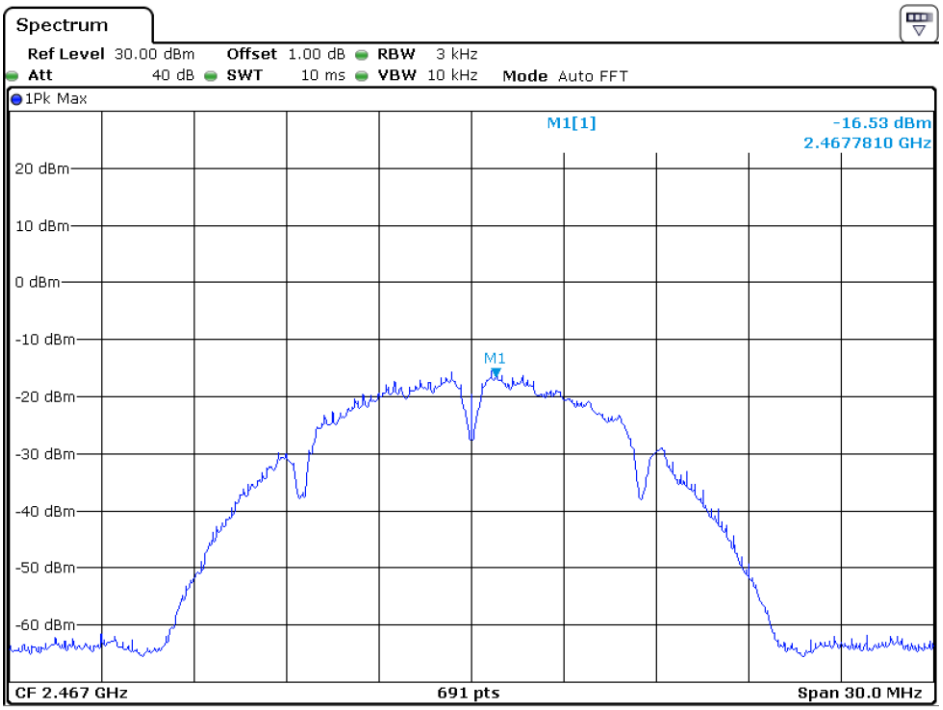
2.6.2.4 802.11B_CH12



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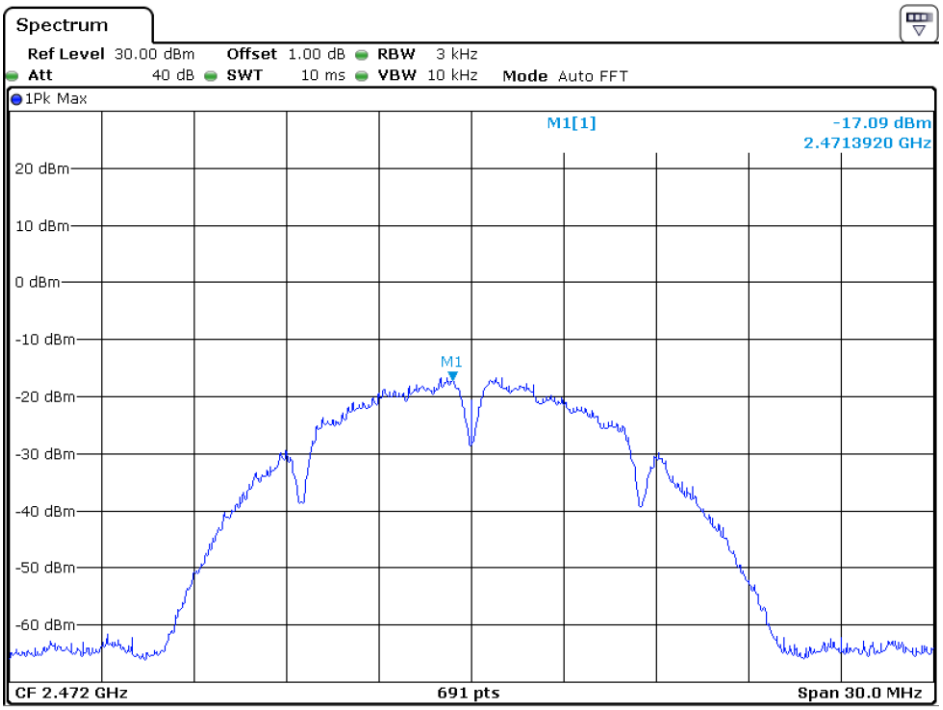
2.6.2.5 802.11B_CH13



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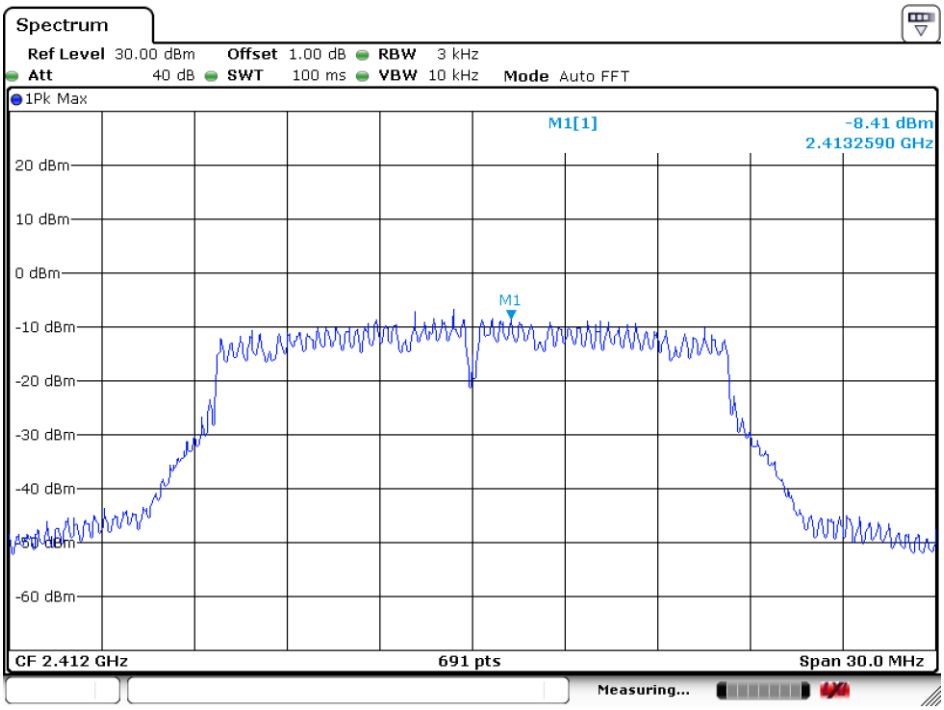
2.6.2.6 802.11G_CH1



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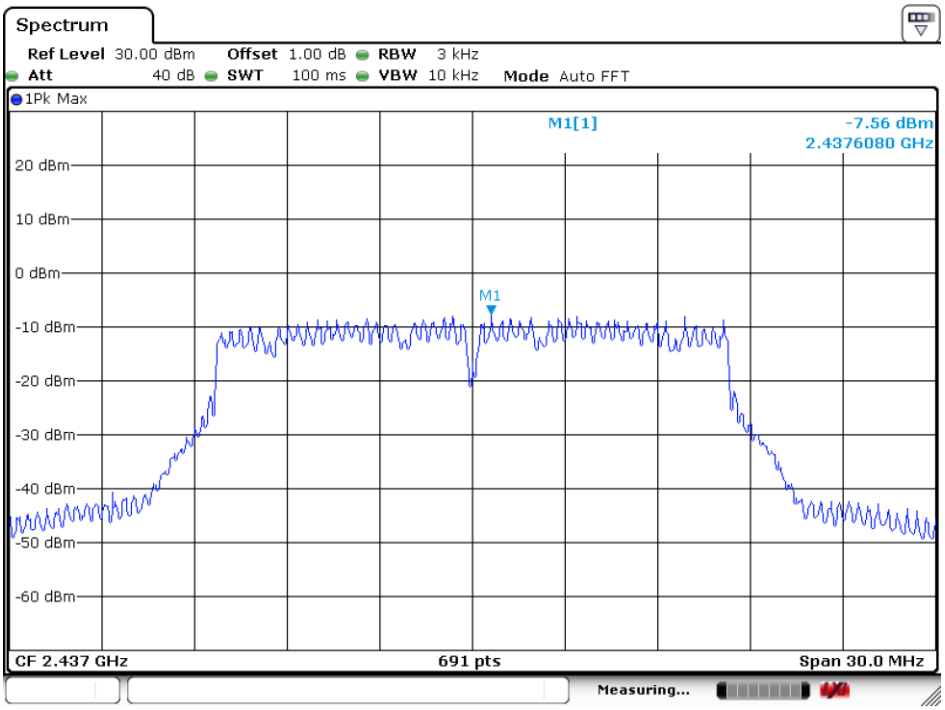
2.6.2.7 802.11G_CH6



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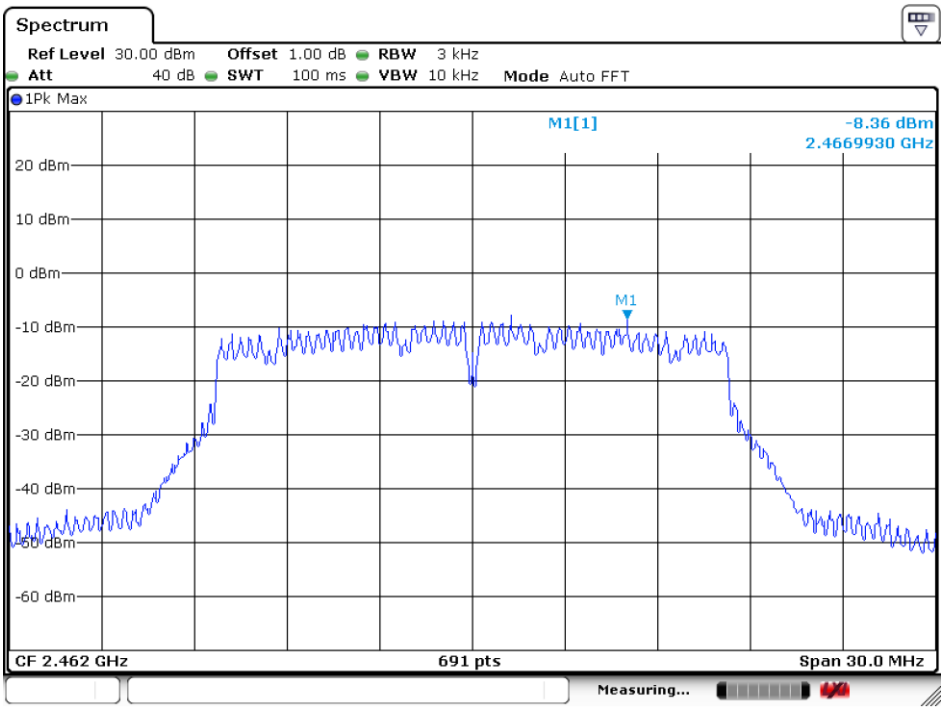
2.6.2.8 802.11G_CH11



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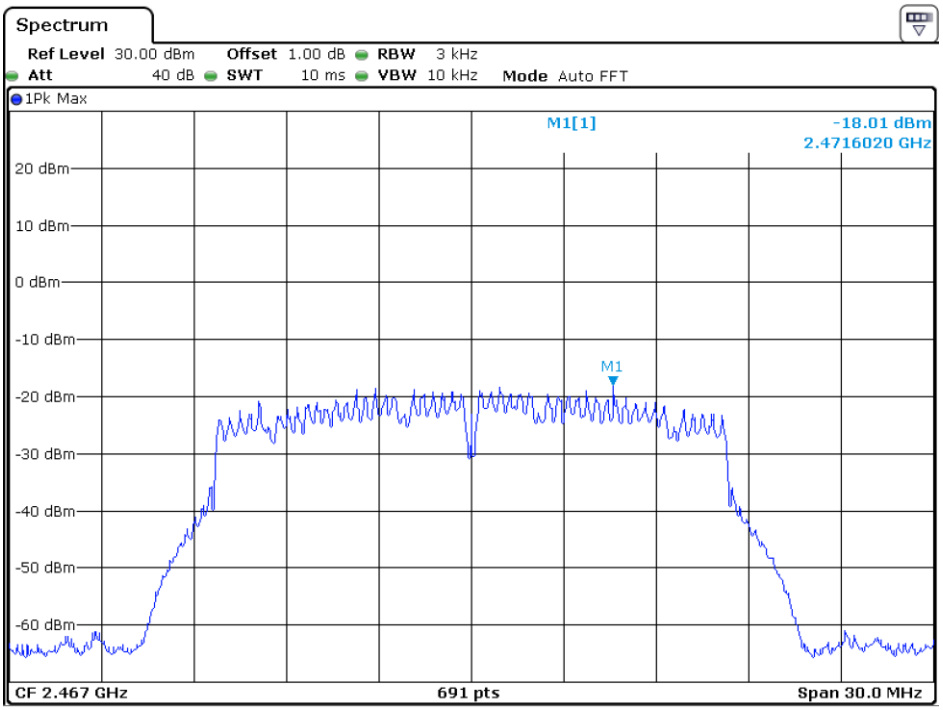

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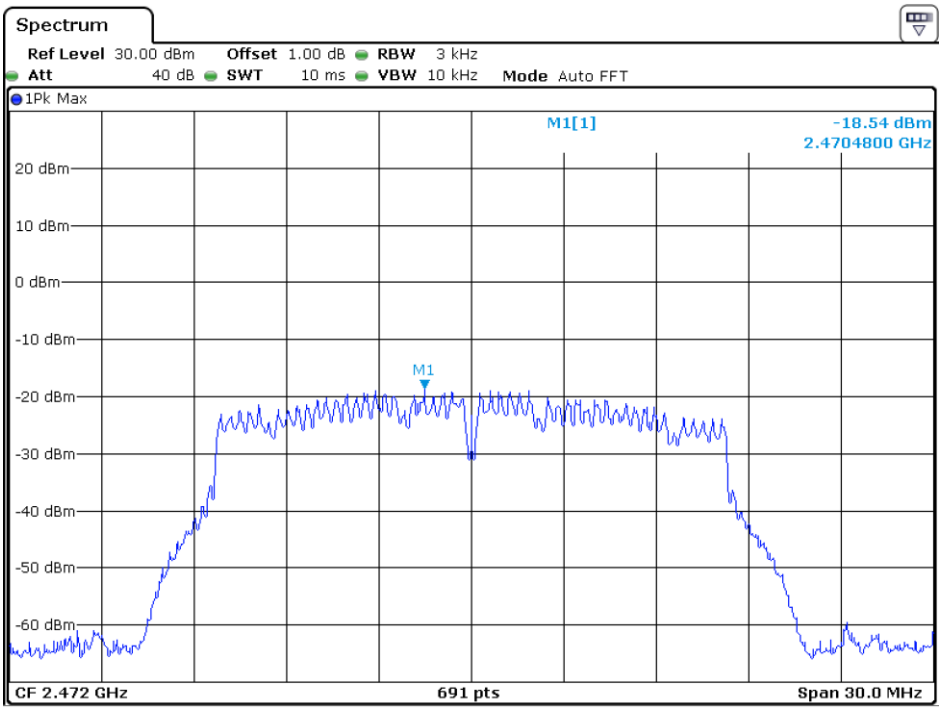

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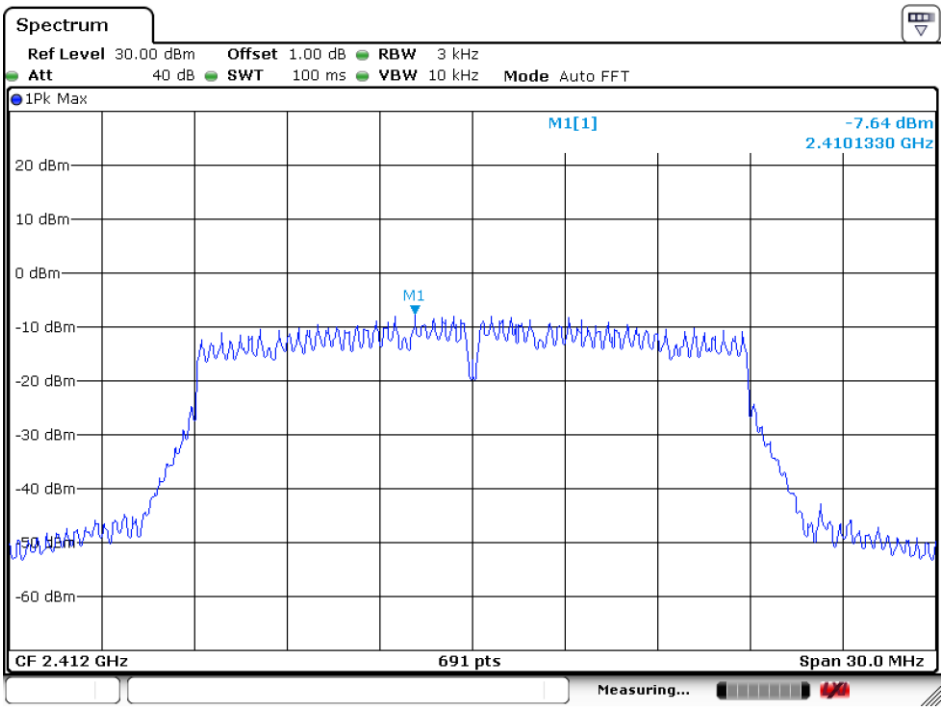
2.6.2.11 802.11N20_CH1



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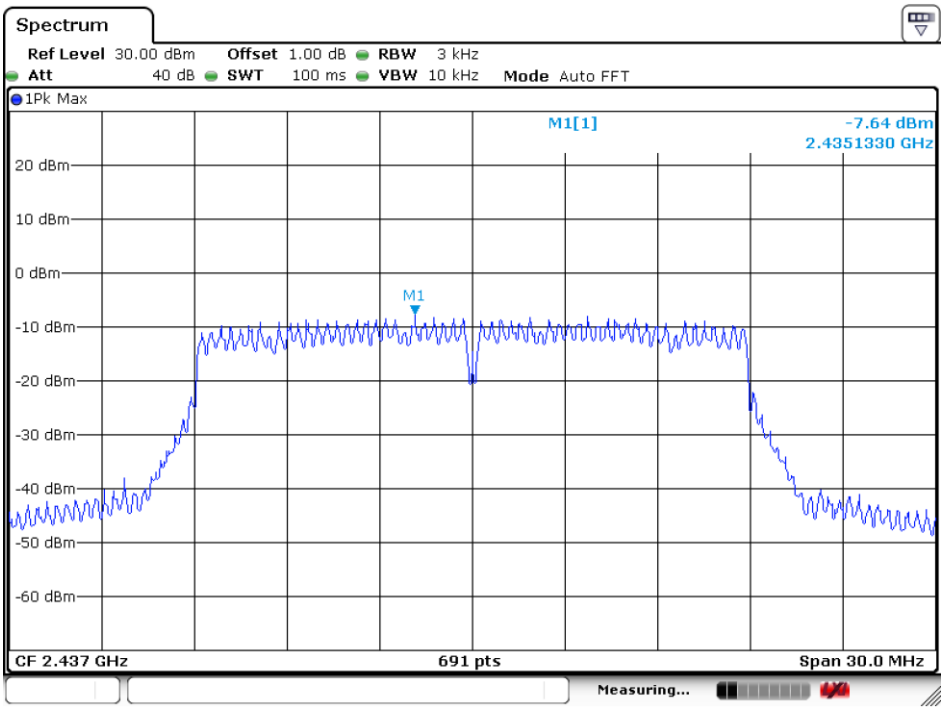

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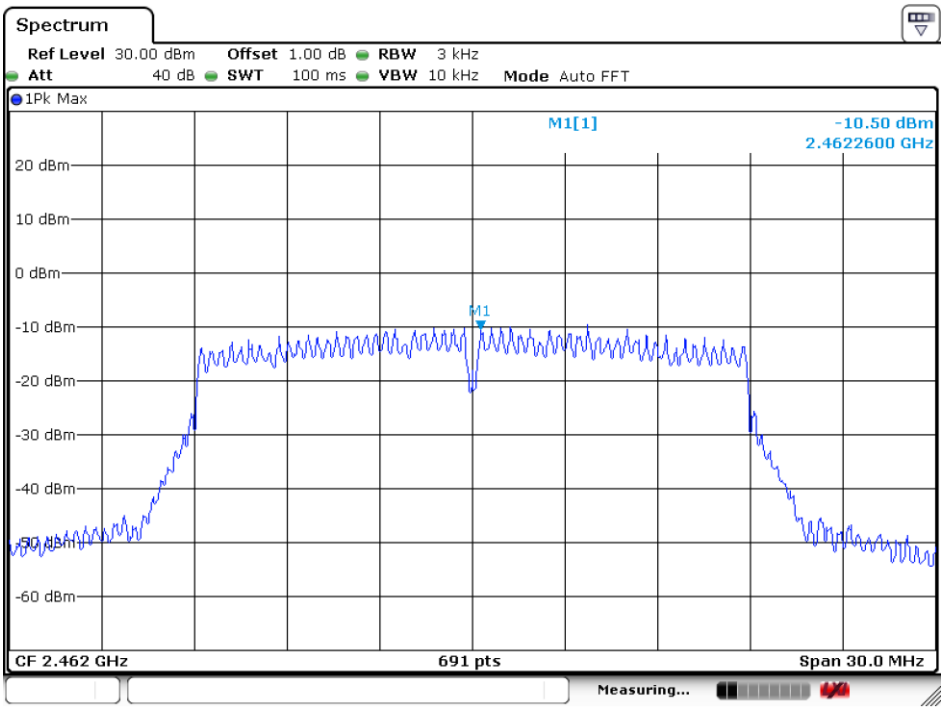

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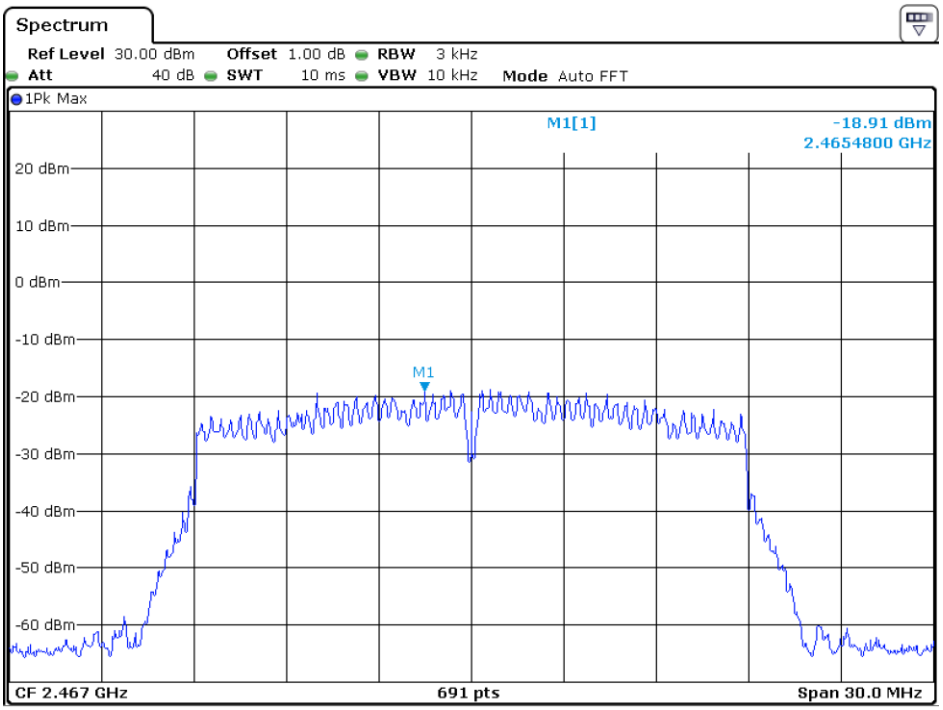
2.6.2.14 802.11N20_CH12



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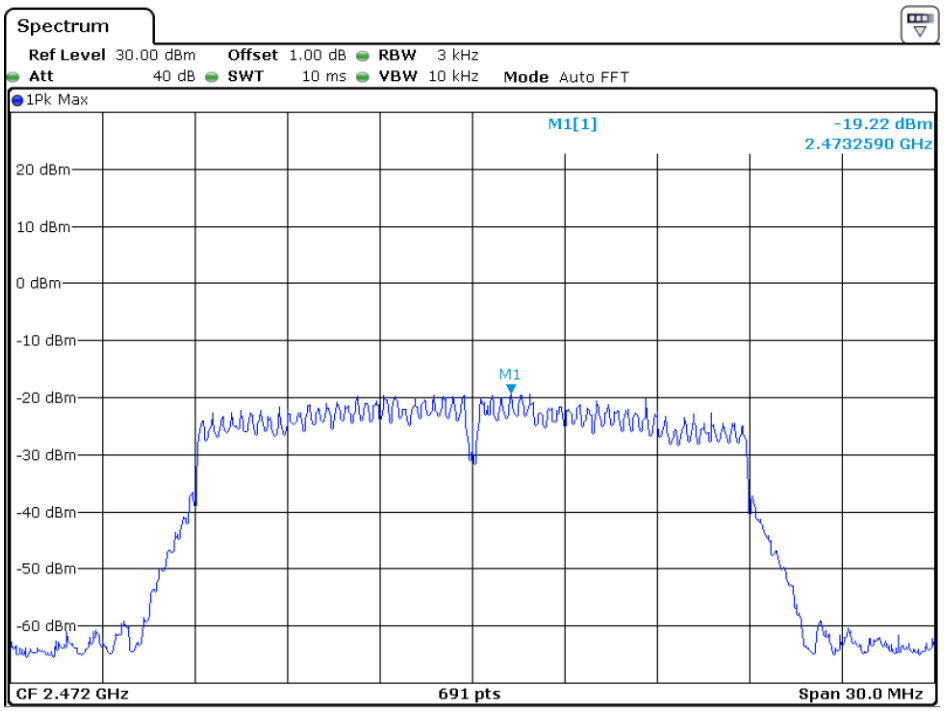
2.6.2.15 802.11N20_CH13



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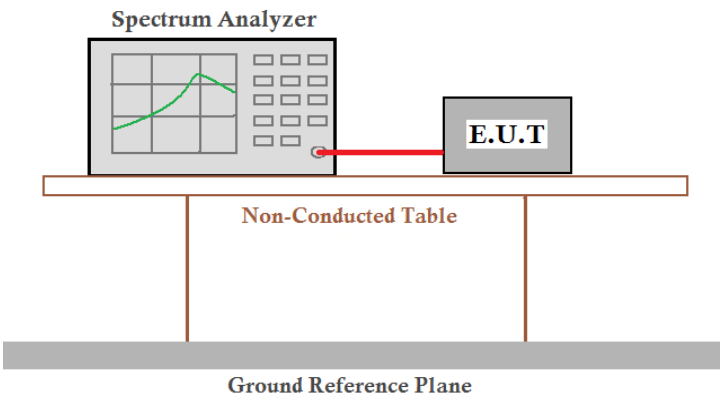
2.7 Band-edge for RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 11.13
Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; 6.5Mbps of rate is the worst case of 802.11N(HT20) ;
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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 radiatedmeasurement.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

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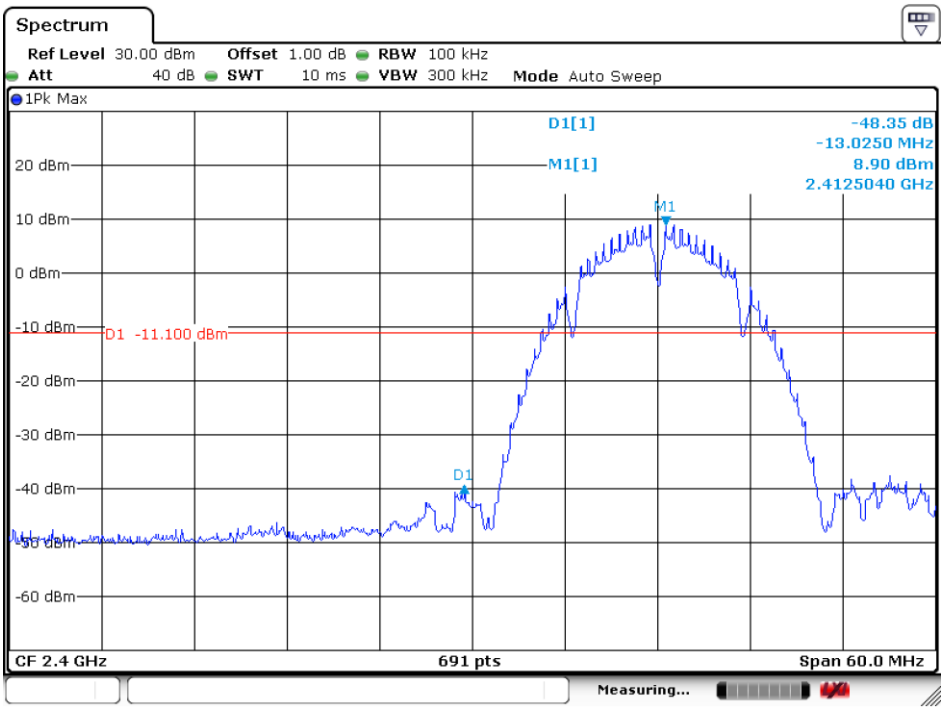
2.7.1 Test plots

2.7.1.1 1802.11B_CH1



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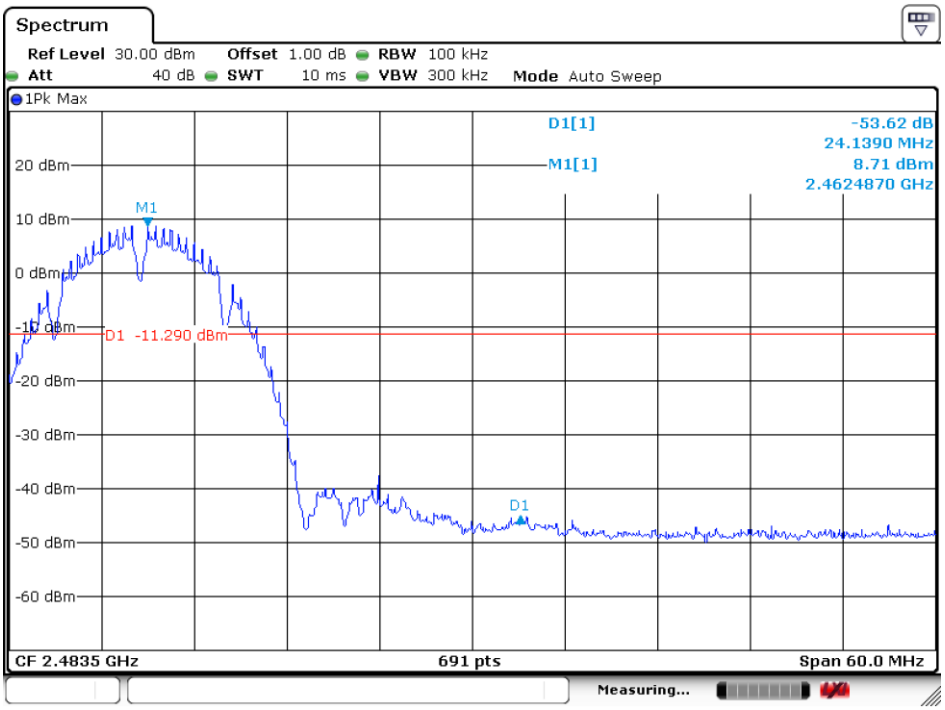
2.7.1.2 1802.11B_CH11



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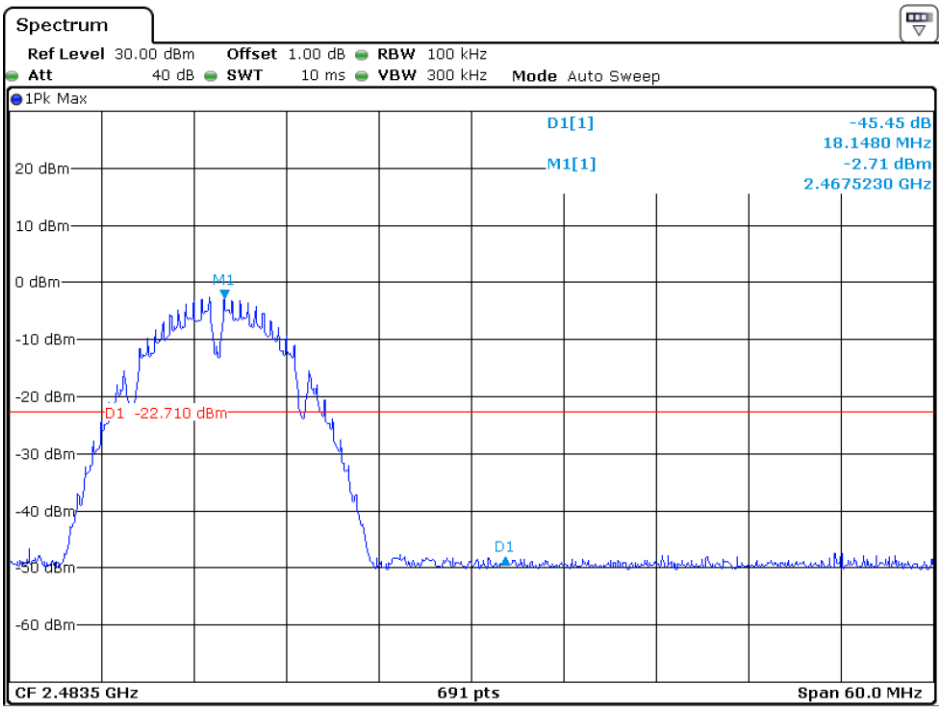
2.7.1.3 1802.11B_CH12



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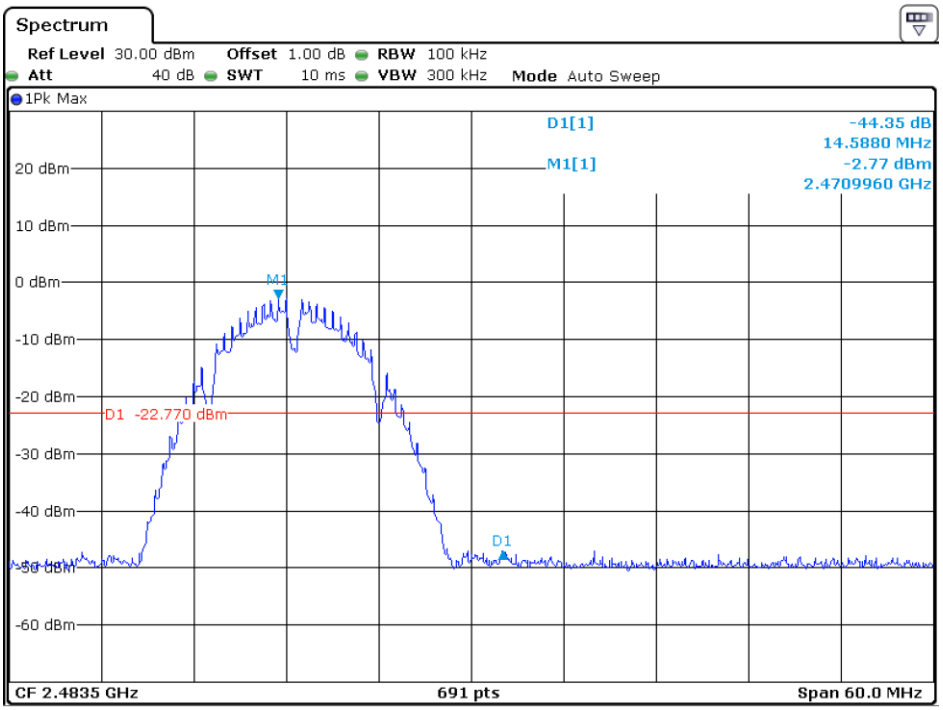
2.7.1.4 1802.11B_CH13



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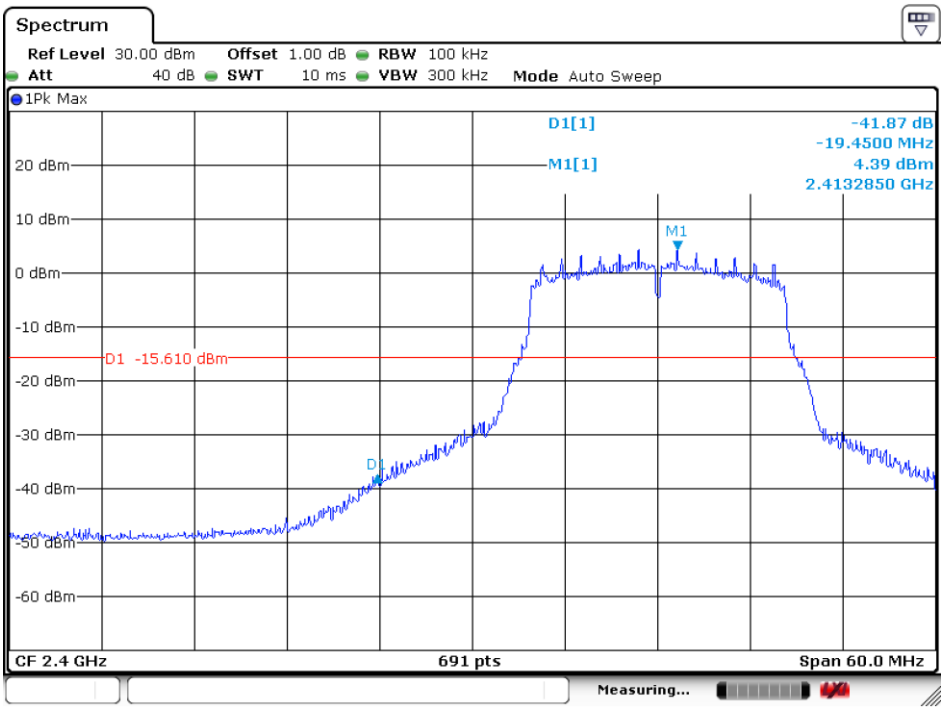
2.7.1.5 1802.11G_CH1



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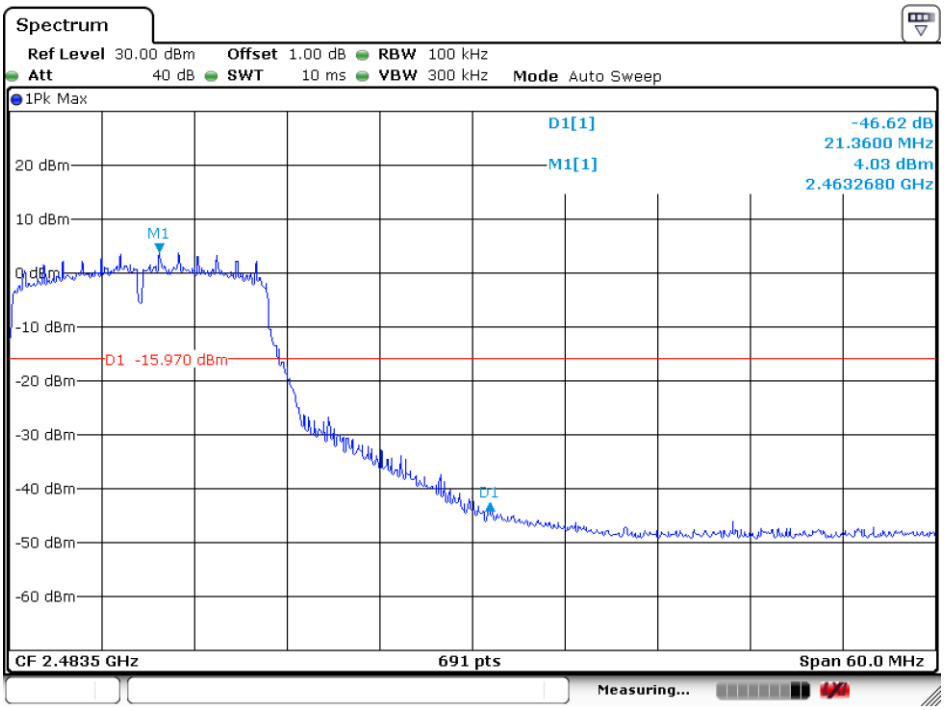
2.7.1.6 1802.11G_CH11



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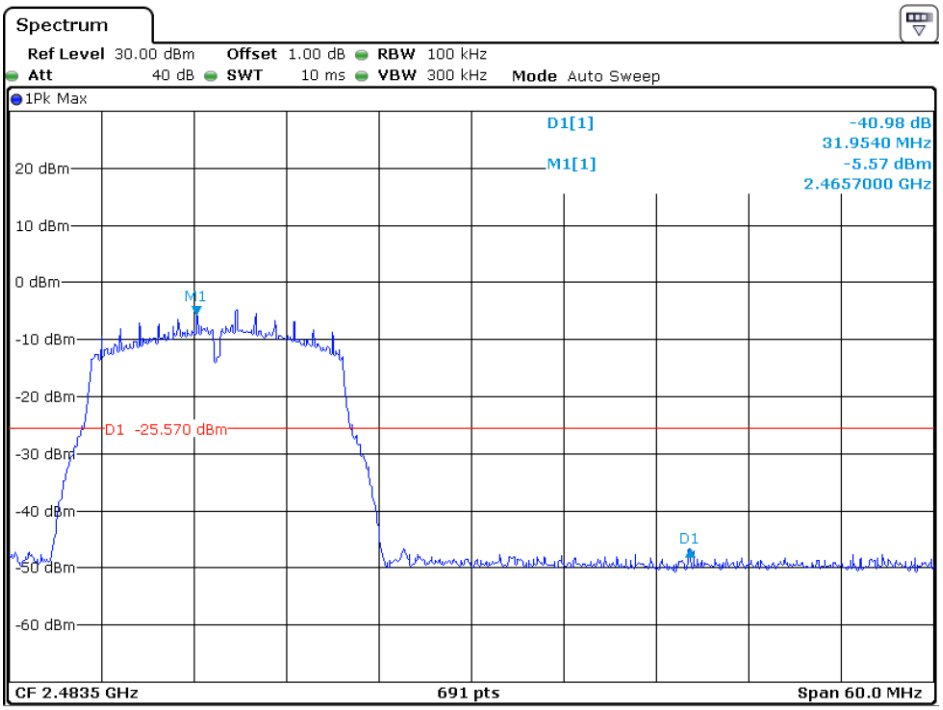
2.7.1.7 1802.11G_CH12



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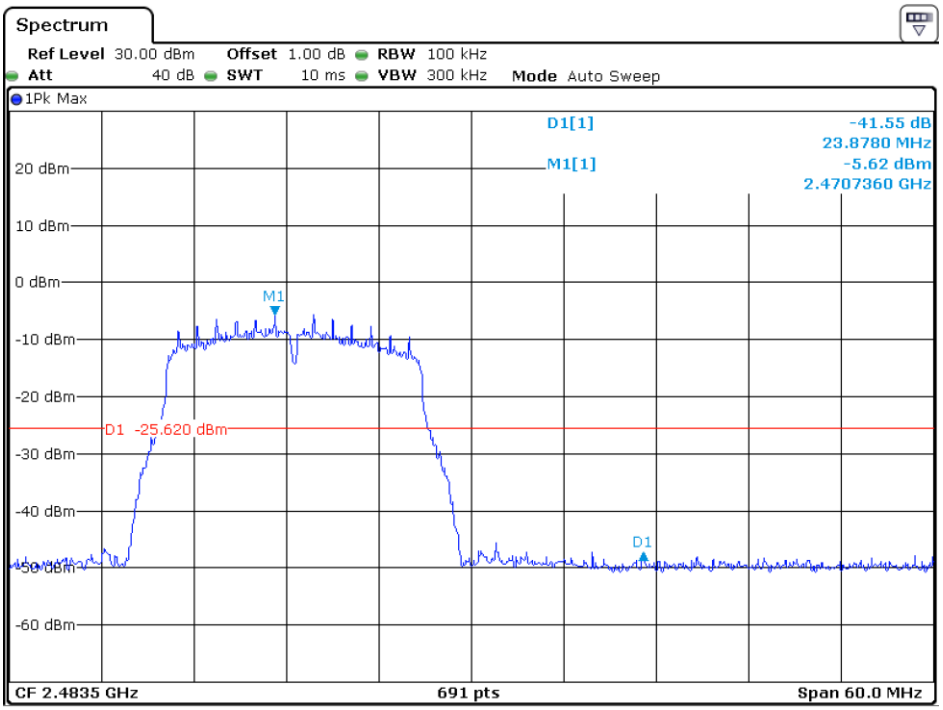
2.7.1.8 1802.11G_CH13



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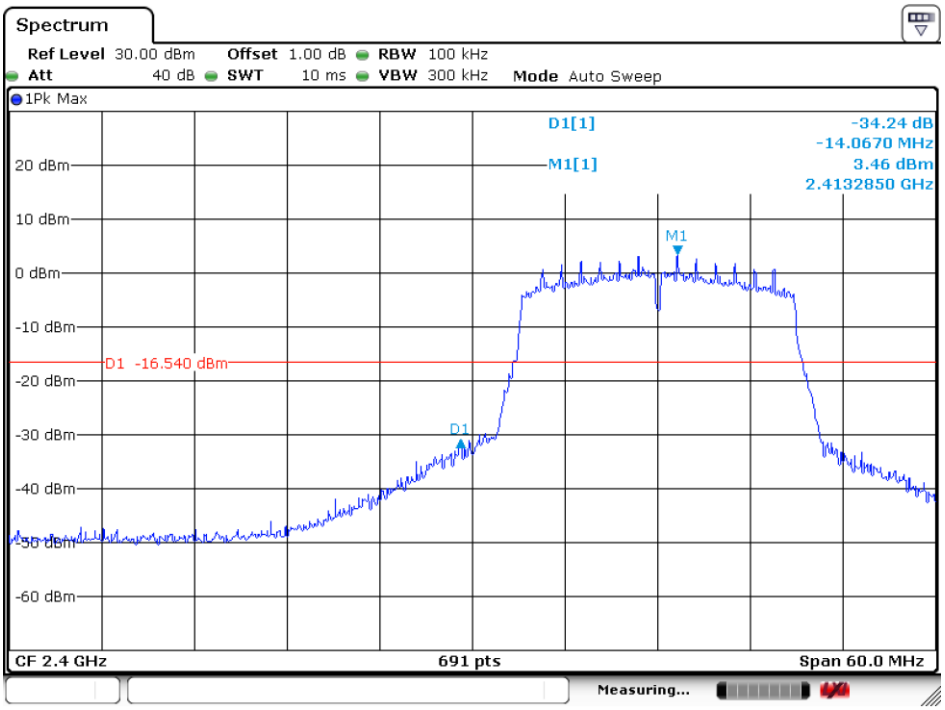
2.7.1.9 1802.11N20_CH1



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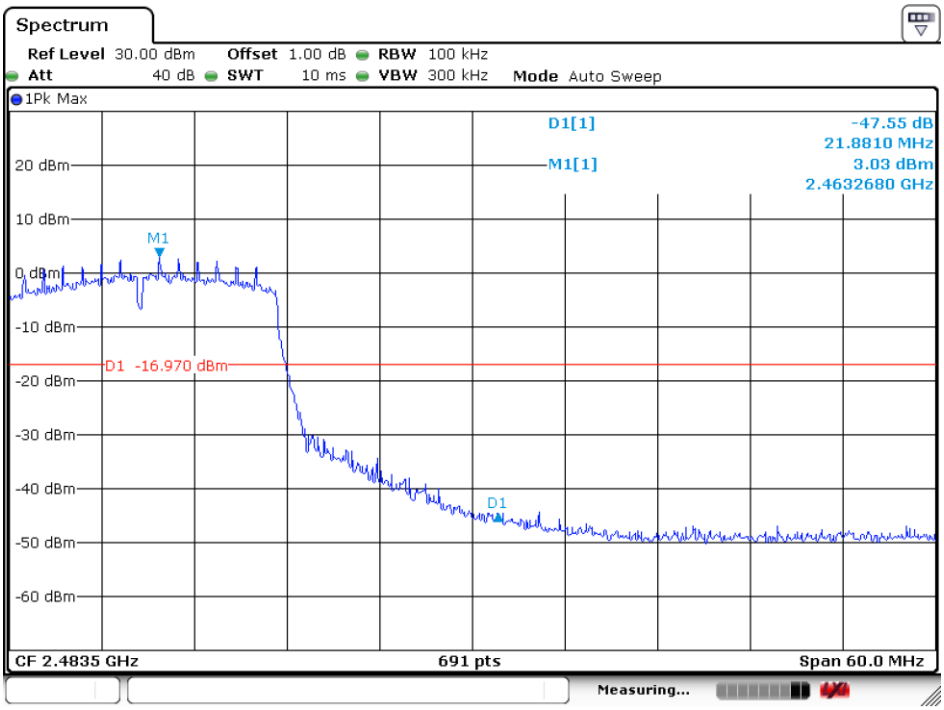
2.7.1.10 1802.11N20_CH11



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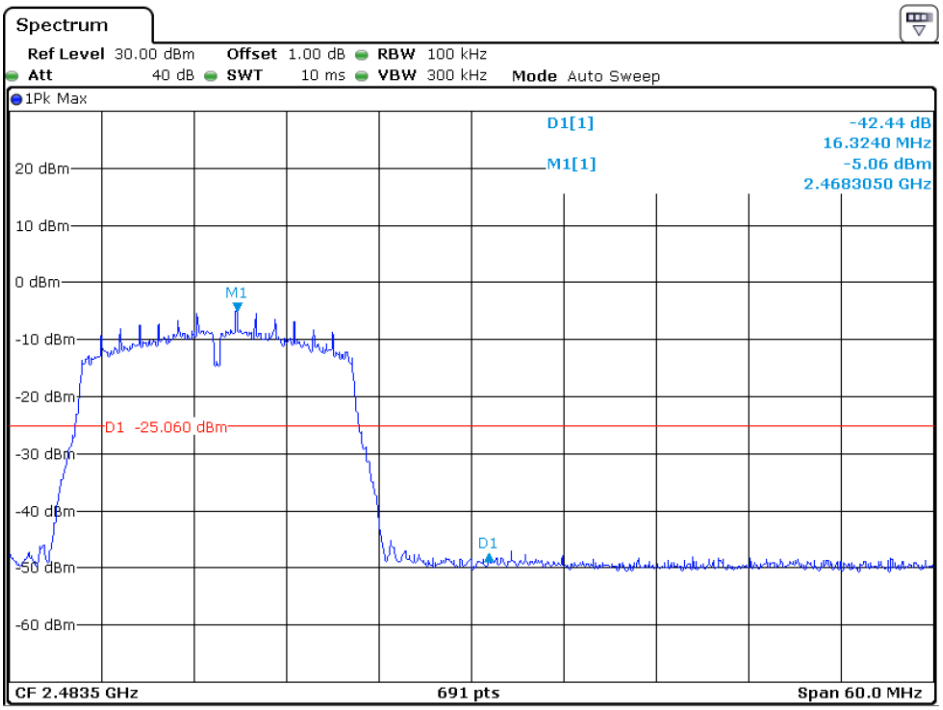
2.7.1.11 1802.11N20_CH12



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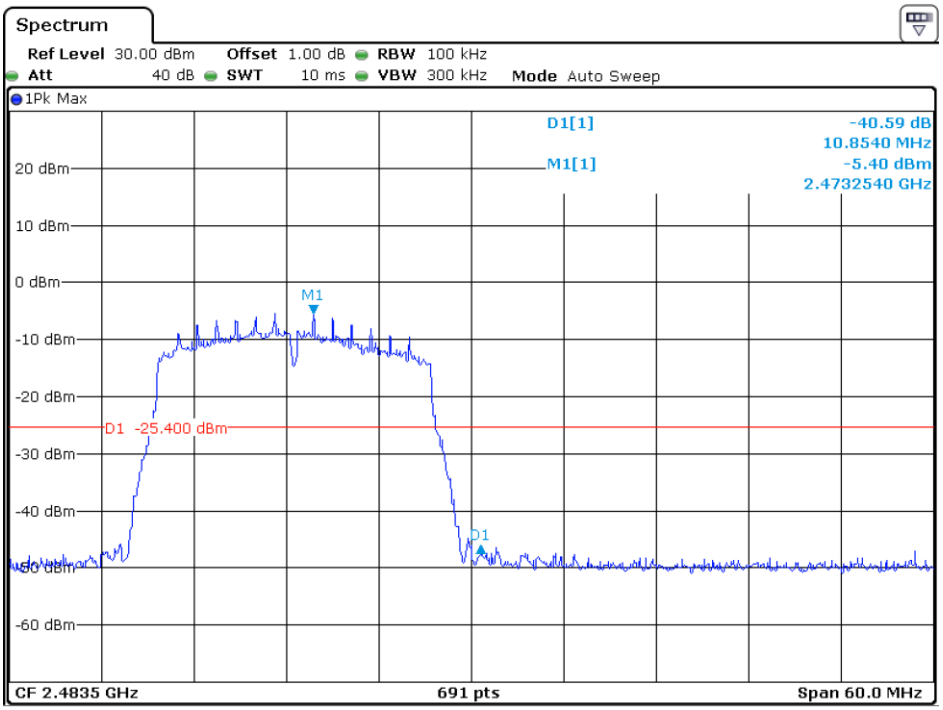
2.7.1.12 1802.11N20_CH13



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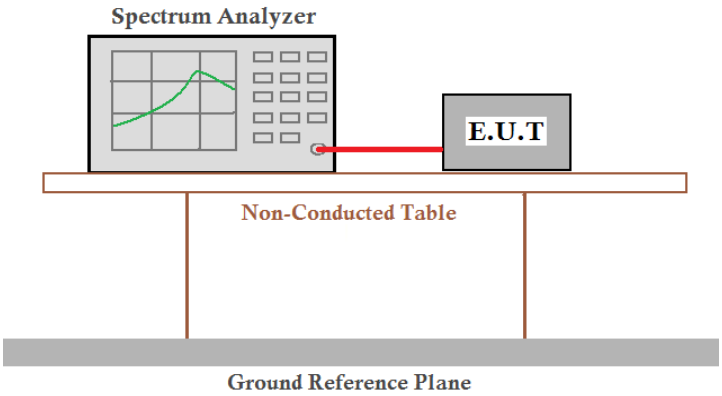
2.8 RF Conducted Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 11.11
Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G; 6.5Mbps of rate is the worst case of 802.11N(HT20);
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

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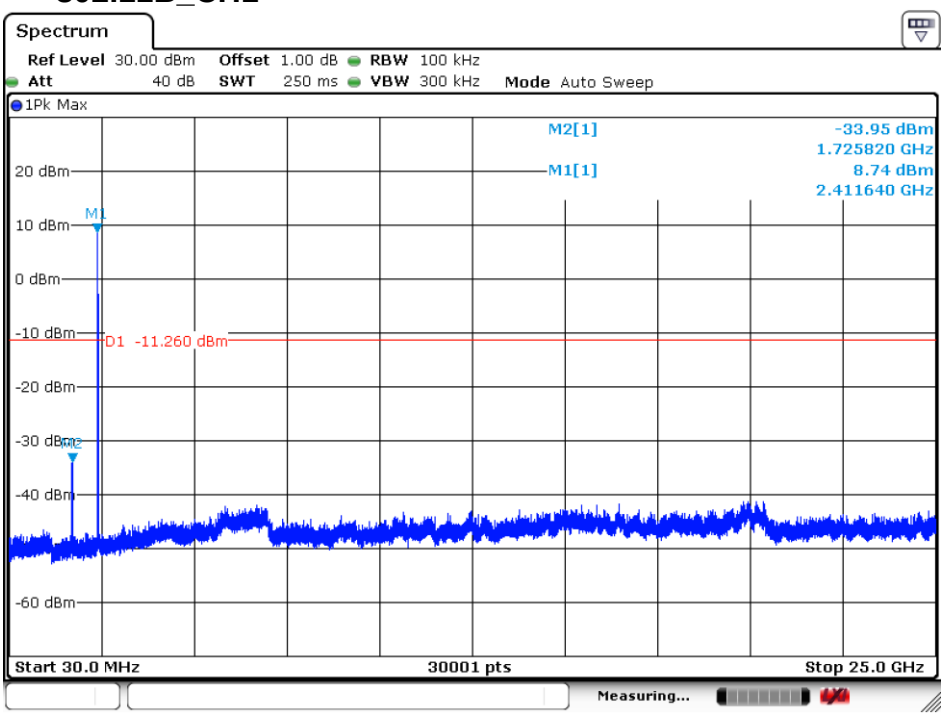
2.8.1 Test plots

2.8.1.1 802.11B_CH1



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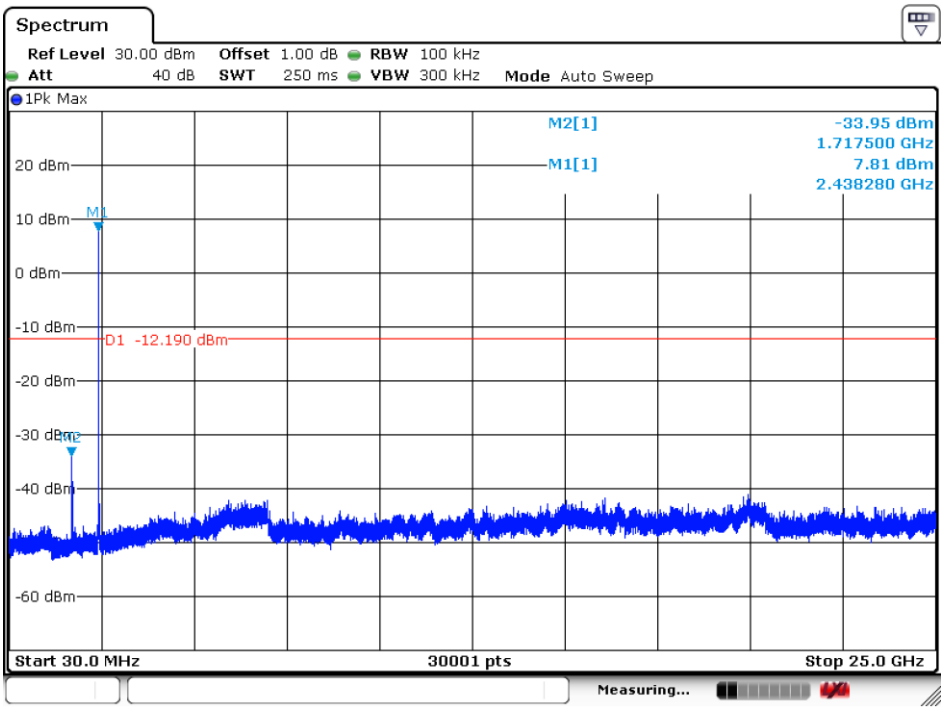
2.8.1.2 802.11B_CH6



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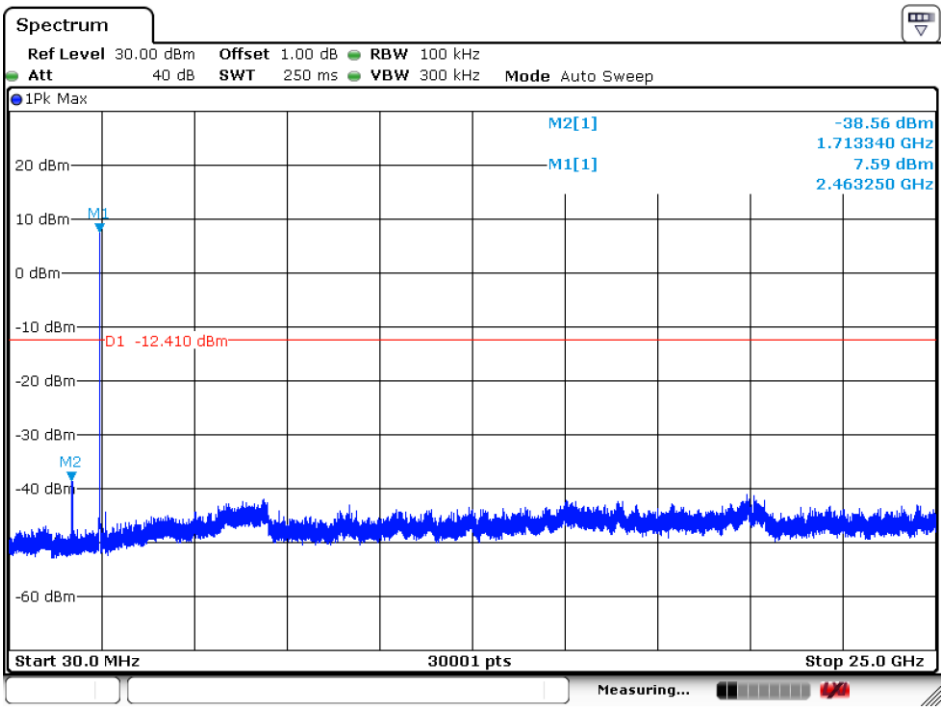
2.8.1.3 802.11B_CH11



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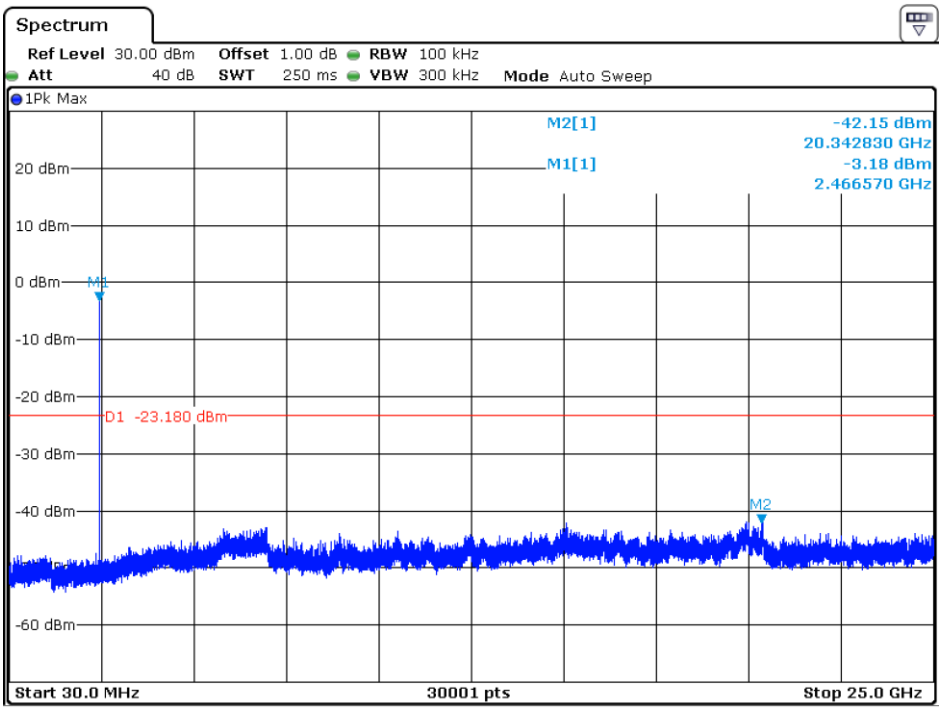
2.8.1.4 802.11B_CH12



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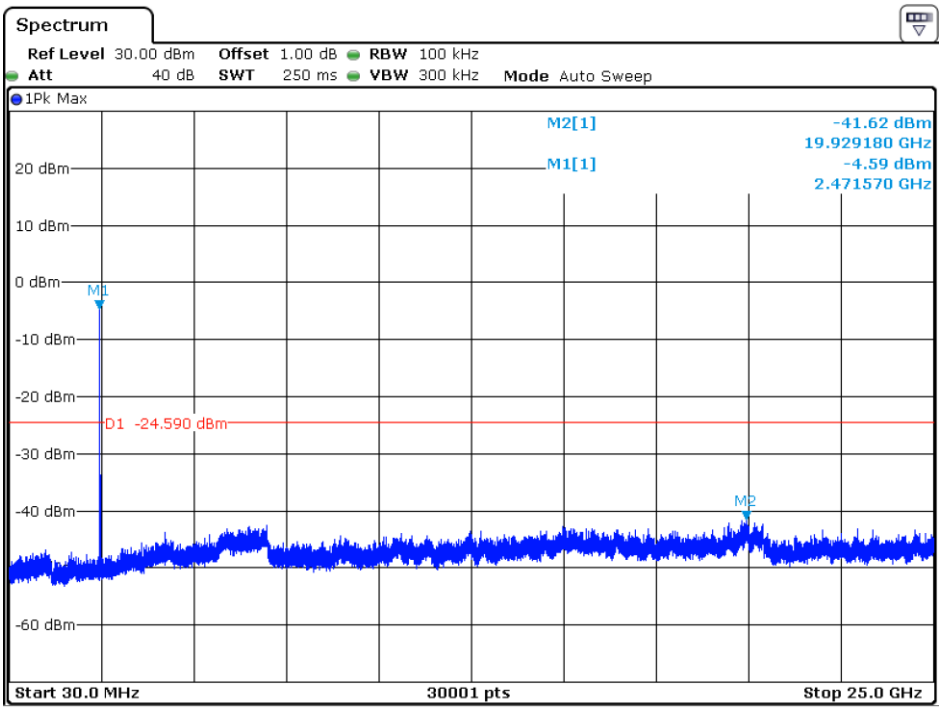
2.8.1.5 802.11B_CH13



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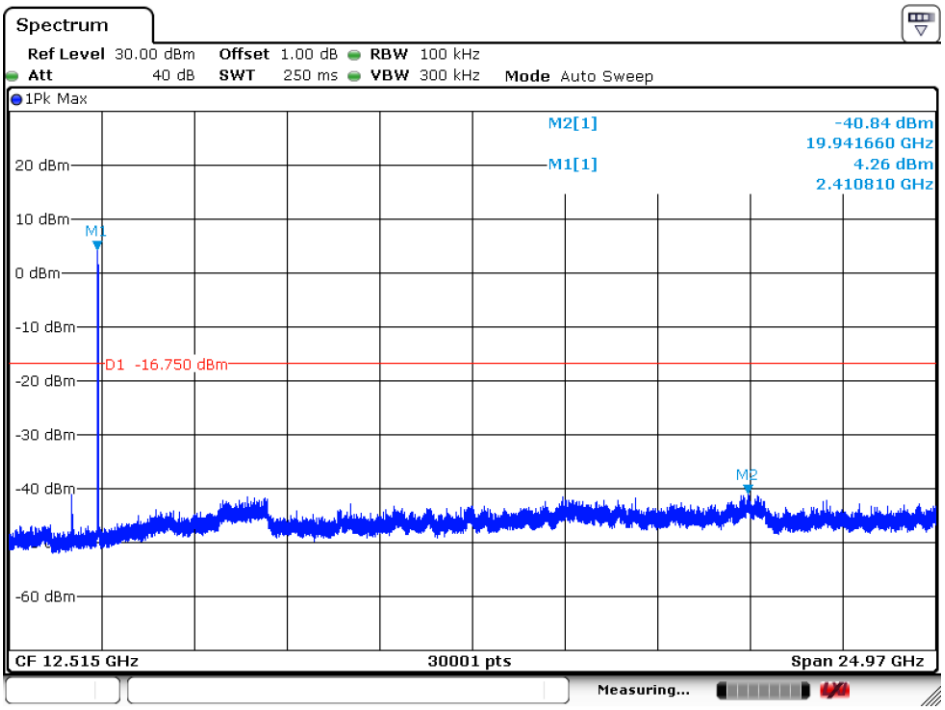
2.8.1.6 802.11G_CH1



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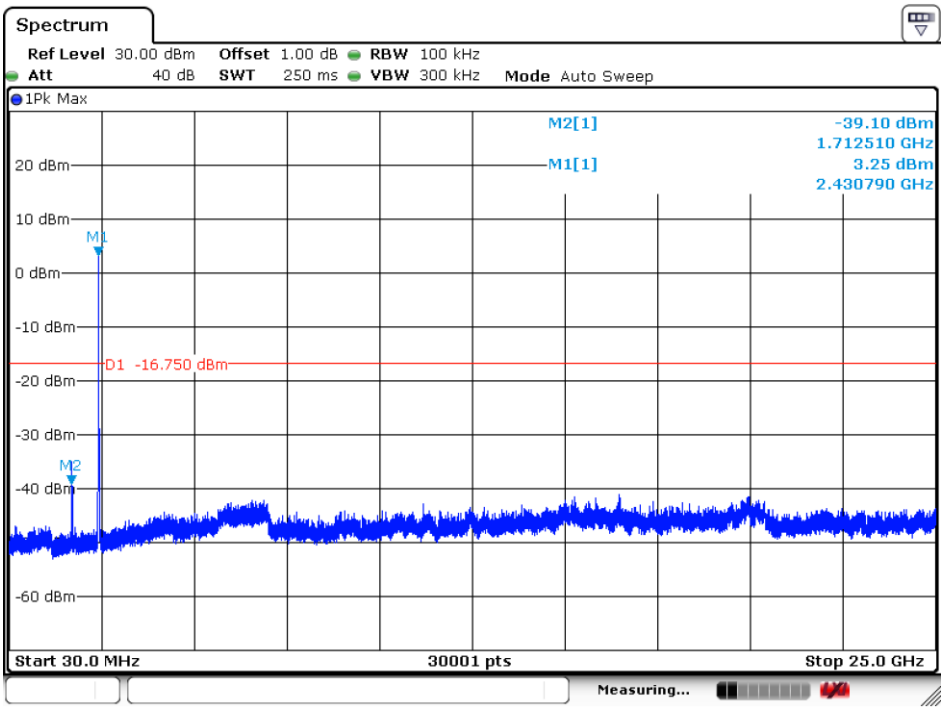
2.8.1.7 802.11G_CH6



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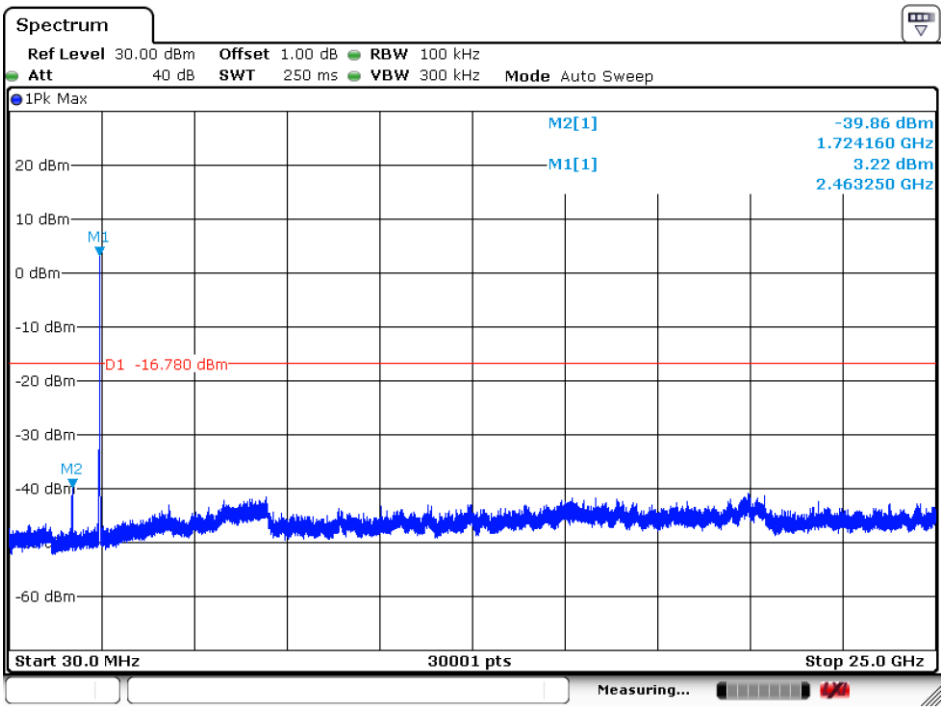
2.8.1.8 802.11G_CH11



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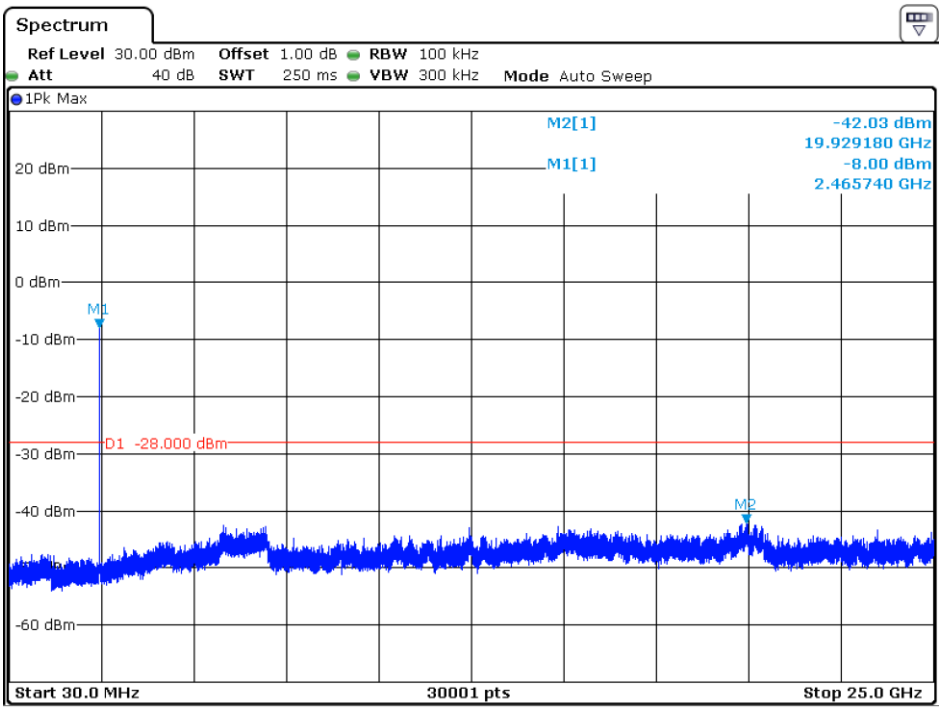
2.8.1.9 802.11G_CH12



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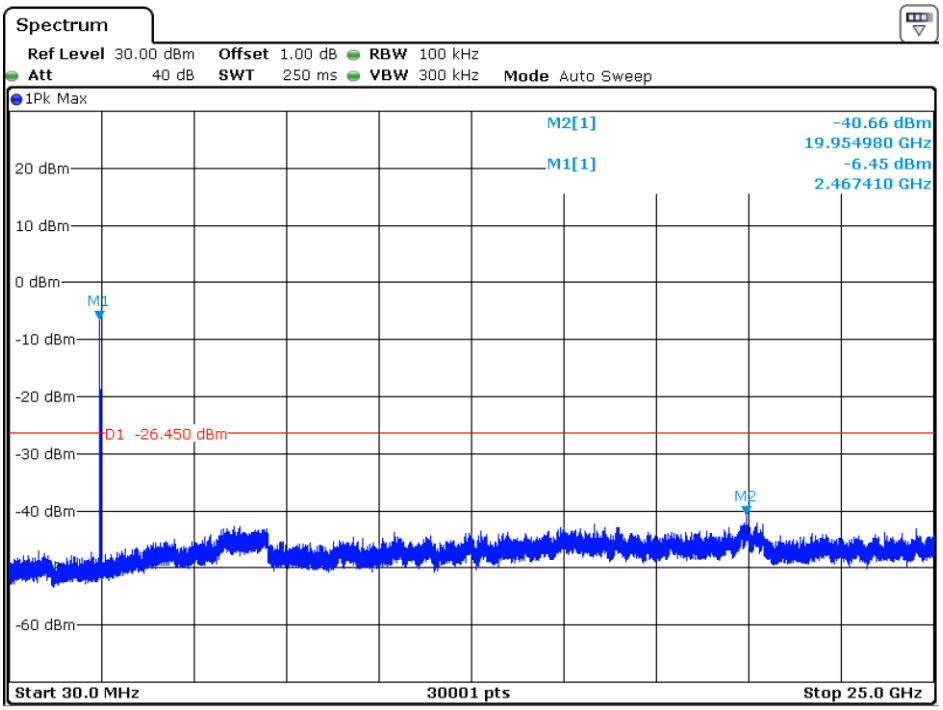
2.8.1.10 802.11G_CH13



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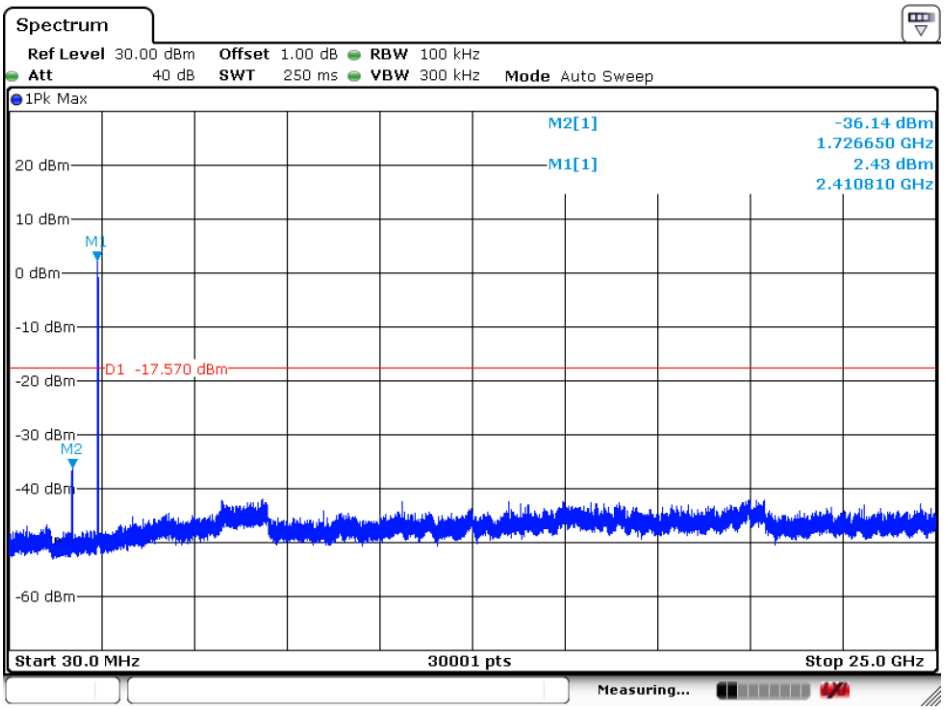
2.8.1.11 802.11N20_CH1



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