

FCC Test Report

Product Name	Notebook Computers
Model No	14T90P, 14TD90P, 14TG90P, 14TB90P
FCC ID.	BEJNT-14T90P

Applicant	LG Electronics USA
Address	111 Sylvan Avenue North Bulding Englewood Cliffs New Jerssy United States

Date of Receipt	Nov. 03, 2020
Issue Date	Dec. 08, 2020
Report No.	20B0091R-E3032110118
Report Version	V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

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The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test Report

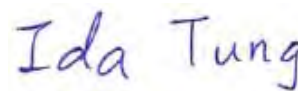
Issue Date: Dec. 08, 2020

Report No.: 20B0091R-E3032110118



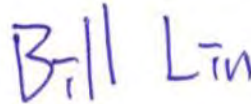
Product Name	Notebook Computers
Applicant	LG Electronics USA
Address	111 Sylvan Avenue North Bulding Englewood Cliffs New Jerssy United States
Manufacturer	LG Electronics Inc.
Model No.	14T90P, 14TD90P, 14TG90P, 14TB90P
FCC ID.	BEJNT-14T90P
EUT Rated Voltage	AC 100-240V, 50-60Hz
EUT Test Voltage	AC 120V / 60Hz
Trade Name	LG
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

Documented By :



(Adm. Specialist / Ida Tung)

Tested By :



(Senior Engineer / Bill Lin)

Approved By :



(Director / Vincent Lin)

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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

Revision History

Report No.	Version	Description	Issued Date
20B0091R-E3032110118	V1.0	Initial issue of report.	Dec. 08, 2020

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Notebook Computers
Trade Name	LG
Model No.	14T90P, 14TD90P, 14TG90P, 14TB90P
FCC ID.	BEJNT-14T90P
Frequency Range	802.11b/g/n/ax-20: 2412-2472MHz, 802.11n/ax-40: 2422-2462MHz
Number of Channels	802.11b/g/n/ax-20: 13CH, 802.11n/ax-40: 9CH
Data Rate	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 300Mbps, 802.11ax-20MHz : 17.2-286.8Mbps, 802.11ax-40MHz : 34.4-573.5Mbps
Channel Separation	802.11b/g/n/ax: 5 MHz
Type of Modulation	802.11b:DSSS, DBPSK, DQPSK, CCK 802.11g/n/ax: OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Antenna Type	PIFA Antenna
Antenna Gain	Refer to the table "Antenna List"
Channel Control	Auto
Power Adapter	MFR: HONOR, M/N: ADT-65DSU-D03-2 Input: AC 100-240V~1.6A, 50-60Hz Output: DC 20V, 3.25A, MAX 65.0W, DC 5.0V/9.0V/15.0V, 3.0A Cable IN: Non-shielded, 1.5m Cable Out: Non-shielded, 1.5m
Contain Module	Intel / AX201D2W

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Hong-Bo	260-23806 (Main) (Aux)	PIFA Antenna	0.24dBi for 2.4 GHz
2	Yageo	DQ601419200(ANTA0ZQ1419224551) (Main) (Aux)	PIFA Antenna	1.16dBi for 2.4 GHz

Note:

1. The antenna of EUT is conforming to FCC 15.203.
2. The EUT transmission signals in MIMO mode are completely uncorrelated.

802.11b/g/n/ax-20MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz	Channel 12:	2467 MHz
Channel 13:	2472 MHz						

802.11n/ax-40MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 03:	2422 MHz	Channel 04:	2427 MHz	Channel 05:	2432 MHz	Channel 06:	2437 MHz
Channel 07:	2442 MHz	Channel 08:	2447 MHz	Channel 09:	2452 MHz	Channel 10:	2457 MHz
Channel 11:	2462 MHz						

Note:

1. The EUT is a Notebook Computers with built-in WLAN and Bluetooth transceiver, this report for WLAN 2.4GHz.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report.
4. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n/ax transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.
5. At result of pretests, module supports dual-channel transmission, only the worst case is shown in the report.
6. It's declared by manufacture about all models are electrically identical, different model names for marketing purpose. The identification of test sample is 14T90P.

Test item:

2.4G	Peak Power Output	Power Density	RF antenna conducted test	6dB Bandwidth	Band Edge	Radiated Emission
SISOA-802.11b	✓	✓	✓	✓	✓	✓
SISOA-802.11g	✓					
SISOA-802.11n20	✓	✓				
SISOA-802.11n40	✓	✓				
SISOA-802.11ax20	✓	✓			✓	
SISOA-802.11ax40	✓	✓			✓	
SISOA-802.11ax20-RU	✓	✓				
SISOA-802.11ax40-RU	✓	✓				
SISOB-802.11b	✓					
SISOB-802.11g	✓					
SISOB-802.11n20	✓					
SISOB-802.11n40	✓					
SISOB-802.11ax20	✓					
SISOB-802.11ax40	✓					
SISOB-802.11ax20-RU	✓					
SISOB-802.11ax40-RU	✓					
MIMO-802.11n20	✓	✓				
MIMO-802.11n40	✓	✓				
MIMO-802.11ax20	✓	✓	✓	✓	✓	✓
MIMO-802.11ax40	✓	✓	✓	✓	✓	✓
MIMO-802.11ax20-RU	✓	✓				
MIMO-802.11ax40-RU	✓	✓				

Note:

1. The EUT applies to SISOA 、SISOB and MIMO mode. Each mode through the pretest, only the worst case (Please see Test item table) are shown in the test report.
2. RU config settings, please refer to each test item data.

Test Mode (2.4GHz)	Mode 1 SISO A: Transmit (802.11b_1Mbps) Mode 2 SISO A: Transmit (802.11g_6Mbps) Mode 3 SISO A: Transmit (802.11n-20BW_7.2Mbps) Mode 4 SISO A: Transmit (802.11n-40BW_15Mbps) Mode 5 SISO A: Transmit (802.11ax-20BW_8.6Mbps) Mode 6 SISO A: Transmit (802.11ax-40BW_17.2Mbps) Mode 7 SISO B: Transmit (802.11b_1Mbps) Mode 8 SISO B: Transmit (802.11g_6Mbps) Mode 9 SISO B: Transmit (802.11n-20BW_7.2Mbps) Mode 10 SISO B: Transmit (802.11n-40BW_15Mbps) Mode 11 SISO B: Transmit (802.11ax-20BW_8.6Mbps) Mode 12 SISO B: Transmit (802.11ax-40BW_17.2Mbps) Mode 13 MIMO: Transmit (802.11n-20BW_14.4Mbps) Mode 14 MIMO: Transmit (802.11n-40BW_30Mbps) Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps)
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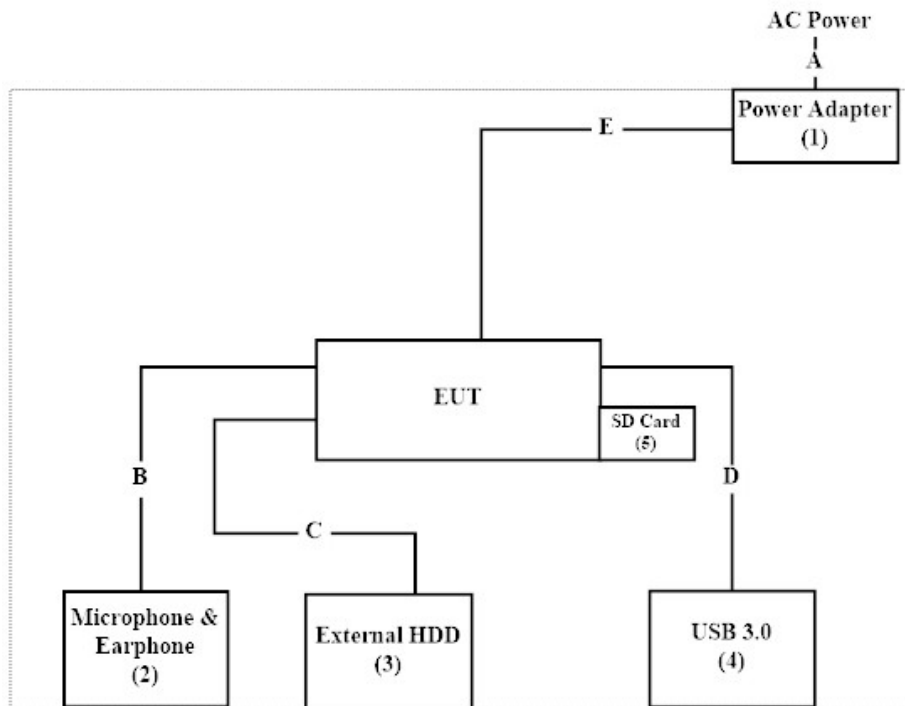
1.2. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Power Adapter	HONOR	ADT-65DSU-D03-2	N/A
2	Microphone & Earphone	Verbatim	N/A	N/A
3	External HDD	Transcend	TS1TSJ25H3B	F21786-0019
4	USB 3.0	Transcend	TS1TSJ25M3	D468623809
5	SD Card	Apacer	64GB R85	N/A

Signal Cable Type	Signal cable Description
A	Power Cable
B	Microphone & Earphone Cable
C	USB Cable
D	USB Cable
E	Power Cable

1.3. Configuration of Tested System



1.4. EUT Exercise Software

1. Setup the EUT as shown in Section 1.3.
2. Execute software “DRTU Ver. 11.1941.0-10270” on the Notebook PC.
3. Configure the test mode, the test channel, and the data rate.
4. Press “OK” to start the continuous Transmit.
5. Verify that the EUT works properly.

1.5. Test Facility

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	10~40 °C	21.2 °C
	Humidity (%RH)	10~90 %	65.1 %
Radiated Emission	Temperature (°C)	10~40 °C	26.1 °C
	Humidity (%RH)	10~90 %	51.0 %
Conductive	Temperature (°C)	10~40 °C	24.2 °C
	Humidity (%RH)	10~90 %	57.3 %

USA : FCC Registration Number: TW0023

Canada : IC Registration Number: 25880

Site Description : Accredited by TAF
Accredited Number: 3023

Test Laboratory : DEKRA Testing and Certification Co., Ltd
Address : No.159, Sec. 2, Wenhua 1st Rd., Linkou Dist.,
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Email address : info.tw@dekra.com
Website : <http://www.dekra.com.tw>

1.6. List of Test Item and Equipment

For Conduction measurements /ASR1

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	EMI Test Receiver	R&S	ESR7	101601	2020.05.28	2021.05.27
X	Two-Line V-Network	R&S	ENV216	101306	2020.03.25	2021.03.24
X	Two-Line V-Network	R&S	ENV216	101307	2020.04.17	2021.04.16
X	Coaxial Cable	Quietek	RG400_BNC	RF001	2020.05.24	2021.05.23

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version : DEKRA Testing System V2.0.

For Conducted measurements /ASR2

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Spectrum Analyzer	R&S	FSV30	103466	2019.12.16	2020.12.15
X	Peak Power Analyzer	KEYSIGHT	8900B	MY51000539	2020.05.13	2021.05.12
X	Power Sensor	KEYSIGHT	N1923A	MY59240002	2020.05.22	2021.05.21
X	Power Sensor	KEYSIGHT	N1923A	MY59240003	2020.05.22	2021.05.21
X	Spectrum Analyzer	Agilent	N9010A	MY55150401	2020.09.15	2021.09.14

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version : DEKRA Conduction Test System V9.0.5.

For Radiated measurements /ACB1

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Loop Antenna	AMETEK	HLA6121	49611	2020.03.16	2021.03.15
X	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-953	2020.01.03	2021.01.02
X	Horn Antenna	ETS-Lindgren	3117	00203800	2019.12.12	2020.12.11
X	Horn Antenna	Com-Power	AH-840	101087	2020.06.08	2021.06.07
X	Pre-Amplifier	EMCI	EMC001330	980316	2020.06.23	2021.06.22
X	Pre-Amplifier	EMCI	EMC051835SE	980311	2020.06.23	2021.06.22
X	Pre-Amplifier	EMCI	EMC05820SE	980310	2020.06.24	2021.06.23
X	Pre-Amplifier	EMCI	EMC184045SE	980314	2020.06.10	2021.06.09
X	Filter	MICRO TRONICS	BRM50702	G251	2020.09.17	2021.09.16
	Filter	MICRO TRONICS	BRM50716	G188	2020.09.17	2021.09.16
X	EMI Test Receiver	R&S	ESR7	101602	2019.12.16	2020.12.15
X	Spectrum Analyzer	R&S	FSV40	101148	2020.03.16	2021.03.15
X	Coaxial Cable	SUHNER	SUCOFLEX 106	RF002	2020.07.03	2021.07.02
X	Mircoflex Cable	HUBER SUHNER	SUCOFLEX 102	MY3381/2	2020.06.10	2021.06.09

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version : DEKRA Testing System V2.0.

1.7. Uncertainty

Uncertainties have been calculated according to the DEKRA internal document, and is described in each test chapter of this report.

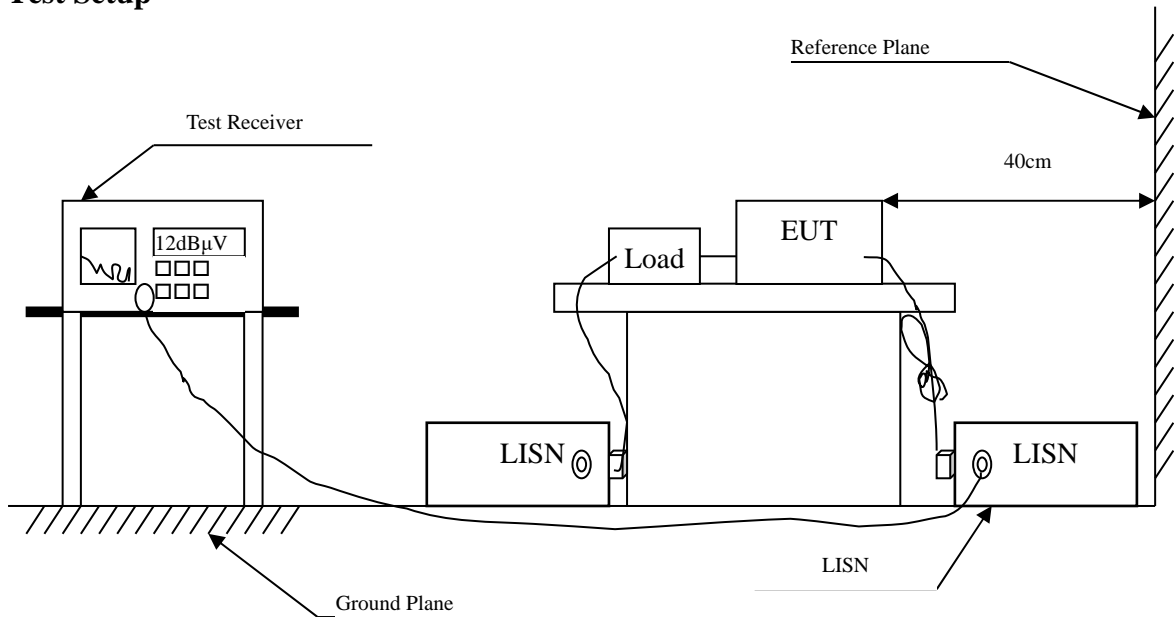
The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test item	Uncertainty	
Conducted Emission	±3.42 dB	
Peak Power Output	Power Meter ±0.91 dB	
Radiated Emission	Under 1GHz ±4.06 dB	Above 1GHz ±3.73 dB
RF Antenna Conducted Test	±2.53 dB	
Band Edge	±2.53 dB	
6dB Bandwidth	±682.83 Hz	
Power Density	±2.53 dB	
Duty Cycle	±2.31 ms	

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dB μ V) Limit		
Frequency MHz	Limits	
	QP	AVG
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

2.3. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

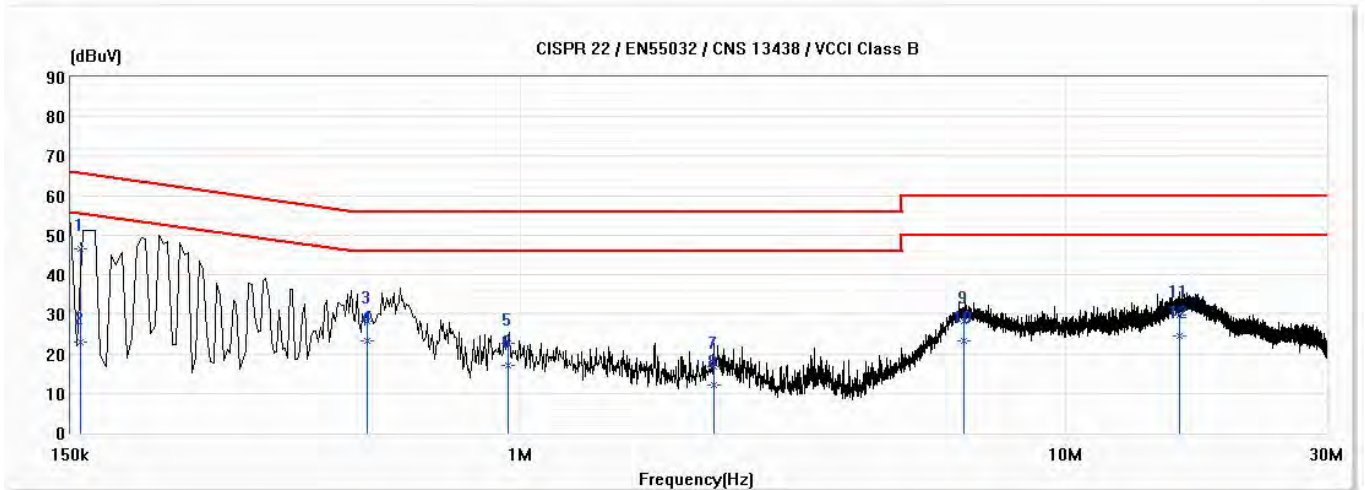
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.4. Test Result of Conducted Emission

Product : Notebook Computers
 Test Item : Conducted Emission Test
 Test date : 2020/12/09
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2442MHz)

Line1



No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.156	46.44	65.67	-19.23	36.78	9.66	QP
2	0.156	23.12	55.67	-32.55	13.46	9.66	AV
3	0.525	28.19	56.00	-27.81	18.52	9.66	QP
4	0.525	23.22	46.00	-22.78	13.56	9.66	AV
5	0.952	22.51	56.00	-33.49	12.82	9.69	QP
6	0.952	17.05	46.00	-28.95	7.36	9.69	AV
7	2.262	16.70	56.00	-39.30	6.97	9.73	QP
8	2.262	12.06	46.00	-33.94	2.34	9.73	AV
9	6.500	28.10	60.00	-31.90	18.27	9.83	QP
10	6.500	23.25	50.00	-26.75	13.43	9.83	AV
11	16.131	29.84	60.00	-30.16	19.89	9.95	QP
12	16.131	24.64	50.00	-25.36	14.69	9.95	AV

Remark:

1. "*" means this data is the worst emission level; "!" means this data is over limit.
2. Emission Level=Reading Level + Correct Factor(Correct Factor=LISN Factor+Cable Loss).
3. Margin=Emission Level-Limit

Product : Notebook Computers
 Test Item : Conducted Emission Test
 Test date : 2020/12/09
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2442MHz)

N



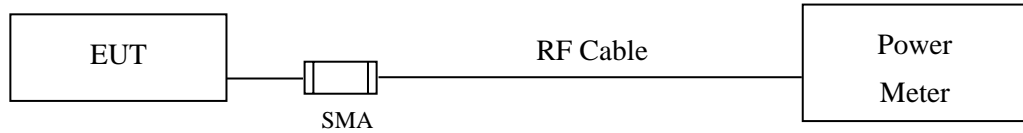
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.151	47.83	65.96	-18.13	38.16	9.67	QP
2	0.151	21.25	55.96	-34.70	11.58	9.67	AV
3	0.556	27.91	56.00	-28.09	18.24	9.67	QP
4	0.556	21.03	46.00	-24.97	11.35	9.67	AV
5	0.946	20.54	56.00	-35.46	10.86	9.69	QP
6	0.946	13.45	46.00	-32.55	3.76	9.69	AV
7	1.656	14.63	56.00	-41.37	4.91	9.72	QP
8	1.656	8.49	46.00	-37.51	-1.23	9.72	AV
9	6.264	27.25	60.00	-32.75	17.42	9.83	QP
10	6.264	22.22	50.00	-27.78	12.38	9.83	AV
11	17.381	32.56	60.00	-27.44	22.53	10.02	QP
12	17.381	27.34	50.00	-22.66	17.32	10.02	AV

Remark:

1. "*" means this data is the worst emission level; "!" means this data is over limit.
2. Emission Level=Reading Level + Correct Factor(Correct Factor=LISN Factor+Cable Loss).
3. Margin=Emission Level-Limit

3. Peak Power Output

3.1. Test Setup



3.2. Limits

The maximum peak power shall be less 1 Watt.

3.3. Test Procedure

The EUT was tested according to C63.10:2013 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using C63.10:2013 Section 11.9.1.3 PKPM1 Peak power meter method. The maximum average conducted output power using C63.10:2013 Section 11.9.2.3 Measurement using a power meter (PM). (Measurement using a gated RF average-reading power meter).

3.4. Test Result of Peak Power Output

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required Limit	Result
		1	2	5.5	11			
		Measurement Level (dBm)						
01	2412	14.4	--	--	--	18.53	<30dBm	Pass
07	2442	14.37	14.34	14.31	14.23	18.42	<30dBm	Pass
11	2462	14.41		--	--	18.4	<30dBm	Pass
12	2467	14.43	--	--	--	18.42	<30dBm	Pass
13	2472	14.42	--	--	--	18.63	<30dBm	Pass

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 2 SISO A: Transmit (802.11g_6Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	14.21	--	--	--	--	--	--	--	19.65	<30dBm	Pass
07	2442	14.11	14.05	14.01	13.94	13.86	13.82	13.77	13.69	19.5	<30dBm	Pass
11	2462	14.33	--	--	--	--	--	--	--	19.69	<30dBm	Pass
12	2467	14.49	--	--	--	--	--	--	--	20.2	<30dBm	Pass
13	2472	1.86	--	--	--	--	--	--	--	12.7	<30dBm	Pass

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 3 SISO A: Transmit (802.11n-20BW_7.2Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		HT0	HT1	HT2	HT3	HT4	HT5	HT6	HT7	HT0		
		Measurement Level (dBm)										
01	2412	14.21	--	--	--	--	--	--	--	19.85	<30dBm	Pass
07	2442	14.12	14.09	14.04	13.99	13.93	13.88	13.78	13.72	19.64	<30dBm	Pass
11	2462	14.44	--	--	--	--	--	--	--	20.09	<30dBm	Pass
12	2467	14.43	--	--	--	--	--	--	--	20.06	<30dBm	Pass
13	2472	1.97	--	--	--	--	--	--	--	12.85	<30dBm	Pass

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 4 SISO A: Transmit (802.11n-40BW_15Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		HT0	HT1	HT2	HT3	HT4	HT5	HT6	HT7	HT0		
		Measurement Level (dBm)										
03	2422	14.34	--	--	--	--	--	--	--	20.21	<30dBm	Pass
07	2442	14.38	14.35	14.29	14.20	14.10	14.00	13.93	13.87	20.35	<30dBm	Pass
09	2452	14.4	--	--	--	--	--	--	--	20.36	<30dBm	Pass
10	2457	12.86	--	--	--	--	--	--	--	18.86	<30dBm	Pass
11	2462	4.82	--	--	--	--	--	--	--	14.39	<30dBm	Pass

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 5 SISO A: Transmit (802.11ax-20BW_8.6Mbps)

RU config: Full

Channel No	Frequency (MHz)	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
01	2412	14.1	--	--	--	--	--	--	--	--	--	--	--	19.76	<30dBm	Pass		
07	2442	14.13	14.10	14.02	13.97	13.87	13.84	13.75	13.72	13.65	13.58	13.55	13.47	19.72	<30dBm	Pass		
11	2462	14.4	--	--	--	--	--	--	--	--	--	--	--	20.05	<30dBm	Pass		
12	2467	14.39	--	--	--	--	--	--	--	--	--	--	--	20.04	<30dBm	Pass		
13	2472	1.7	--	--	--	--	--	--	--	--	--	--	--	12.83	<30dBm	Pass		

RU config: Other

Frequency (MHz)	RU setting	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
2412	26/0	14.34	--	--	--	--	--	--	--	--	--	--	--	22.77	<30dBm	Pass		
	52/37	14.31	14.28	14.19	14.15	14.07	14.04	13.94	13.89	13.80	13.74	13.69	13.65	18.42	<30dBm	Pass		
	106/53	14.37	--	--	--	--	--	--	--	--	--	--	--	18.47	<30dBm	Pass		
2472	26/8	1.76	--	--	--	--	--	--	--	--	--	--	--	10.91	<30dBm	Pass		
	52/40	1.91	1.85	1.82	1.74	1.69	1.62	1.55	1.48	1.40	1.37	1.32	1.22	11.69	<30dBm	Pass		
	106/54	1.77	--	--	--	--	--	--	--	--	--	--	--	11.53	<30dBm	Pass		

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 6 SISO A: Transmit (802.11ax-40BW_17.2Mbps)

RU config: Full

Channel No	Frequency (MHz)	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
03	2422	14.17	--	--	--	--	--	--	--	--	--	--	--	20.33	<30dBm	Pass		
07	2442	14.31	14.26	14.17	14.09	14.05	13.98	13.95	13.87	13.77	13.71	13.65	13.59	20.76	<30dBm	Pass		
09	2452	14.29	--	--	--	--	--	--	--	--	--	--	--	20.28	<30dBm	Pass		
10	2457	12.94	--	--	--	--	--	--	--	--	--	--	--	19.07	<30dBm	Pass		
11	2462	4.88	--	--	--	--	--	--	--	--	--	--	--	15.92	<30dBm	Pass		

RU config: Other

Frequency (MHz)	RU setting	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
2422	242/61	14.34	14.30	14.26	14.18	14.11	14.08	14.03	13.98	13.88	13.84	13.80	13.73	19.61	<30dBm	Pass		
2462	242/62	4.9	4.82	4.72	4.63	4.54	4.47	4.38	4.28	4.19	4.10	4.07	4.01	14.33	<30dBm	Pass		

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 7 SISO B: Transmit (802.11b_1Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	14.21	--	--	--	16.75	<30dBm	Pass
07	2442	14.26	14.21	14.17	14.12	16.78	<30dBm	Pass
11	2462	14.29	--	--	--	17.23	<30dBm	Pass
12	2467	14.35	--	--	--	16.96	<30dBm	Pass
13	2472	14.43	--	--	--	17.15	<30dBm	Pass

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 8 SISO B: Transmit (802.11g_6Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	14.14	--	--	--	--	--	--	--	19.31	<30dBm	Pass
07	2442	14.23	14.15	14.09	14.02	13.95	13.86	13.81	13.74	19.23	<30dBm	Pass
11	2462	14.07	--	--	--	--	--	--	--	19.14	<30dBm	Pass
12	2467	14.18	--	--	--	--	--	--	--	19.34	<30dBm	Pass
13	2472	1.18	--	--	--	--	--	--	--	11.3	<30dBm	Pass

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 9 SISO B: Transmit (802.11n-20BW_7.2Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		HT0	HT1	HT2	HT3	HT4	HT5	HT6	HT7	HT0		
		Measurement Level (dBm)										
01	2412	14.14	--	--	--	--	--	--	--	19.42	<30dBm	Pass
07	2442	14.11	14.06	13.96	13.90	13.83	13.74	13.68	13.59	19.32	<30dBm	Pass
11	2462	14.06	--	--	--	--	--	--	--	19.33	<30dBm	Pass
12	2467	14.17	--	--	--	--	--	--	--	19.45	<30dBm	Pass
13	2472	1.18	--	--	--	--	--	--	--	10.84	<30dBm	Pass

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 10 SISO B: Transmit (802.11n-40BW_15Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		HT0	HT1	HT2	HT3	HT4	HT5	HT6	HT7	HT0		
		Measurement Level (dBm)										
03	2422	14.23	--	--	--	--	--	--	--	19.97	<30dBm	Pass
07	2442	14.24	14.17	14.12	14.03	13.93	13.89	13.80	13.75	20.05	<30dBm	Pass
09	2452	14.22	--	--	--	--	--	--	--	20.05	<30dBm	Pass
10	2457	12.39	--	--	--	--	--	--	--	18.24	<30dBm	Pass
11	2462	4.86	--	--	--	--	--	--	--	14.23	<30dBm	Pass

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 11 SISO B: Transmit (802.11ax-20BW_8.6Mbps)

RU config: Full

Channel No	Frequency (MHz)	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
01	2412	14.14	--	--	--	--	--	--	--	--	--	--	--	19.36	<30dBm	Pass		
07	2442	14.07	14.03	13.99	13.94	13.91	13.87	13.78	13.73	13.64	13.60	13.57	13.49	19.23	<30dBm	Pass		
11	2462	14.42	--	--	--	--	--	--	--	--	--	--	--	19.7	<30dBm	Pass		
12	2467	14.41	--	--	--	--	--	--	--	--	--	--	--	19.67	<30dBm	Pass		
13	2472	1.33	--	--	--	--	--	--	--	--	--	--	--	10.92	<30dBm	Pass		

RU config: Other

Frequency (MHz)	RU setting	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
2412	26/0	14.25	--	--	--	--	--	--	--	--	--	--	--	17.98	<30dBm	Pass		
	52/37	14.31	14.28	14.22	14.18	14.14	14.08	14.04	14.01	13.91	13.88	13.84	13.79	18.39	<30dBm	Pass		
	106/53	14.38	--	--	--	--	--	--	--	--	--	--	--	18.49	<30dBm	Pass		
2472	26/8	1.39	--	--	--	--	--	--	--	--	--	--	--	10.52	<30dBm	Pass		
	52/40	1.37	1.33	1.28	1.25	1.17	1.14	1.09	0.99	0.93	0.90	0.82	0.73	10.9	<30dBm	Pass		
	106/54	1.35	--	--	--	--	--	--	--	--	--	--	--	11.36	<30dBm	Pass		

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 12 SISO B: Transmit (802.11ax-40BW_17.2Mbps)

RU config: Full

Channel No	Frequency (MHz)	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
03	2422	14.16	--	--	--	--	--	--	--	--	--	--	--	19.86	<30dBm	Pass		
07	2442	14.2	14.15	14.12	14.06	14.01	13.96	13.87	13.77	13.67	13.62	13.59	13.51	20.03	<30dBm	Pass		
09	2452	14.17	--	--	--	--	--	--	--	--	--	--	--	19.93	<30dBm	Pass		
10	2457	12.23	--	--	--	--	--	--	--	--	--	--	--	18.17	<30dBm	Pass		
11	2462	4.94	--	--	--	--	--	--	--	--	--	--	--	14.413	<30dBm	Pass		

RU config: Other

Frequency (MHz)	RU setting	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
2422	242/61	14.26	14.17	14.13	14.03	13.97	13.88	13.83	13.80	13.75	13.72	13.64	13.54	19.53	<30dBm	Pass		
2462	242/62	4.82	4.72	4.67	4.64	4.58	4.52	4.49	4.39	4.36	4.33	4.29	4.21	14.42	<30dBm	Pass		

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 13 MIMO: Transmit (802.11n-20BW_14.4Mbps)

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)									Peak Power HT8	Required Limit	Result
		HT8	HT9	HT10	HT11	HT12	HT13	HT14	HT15				
		Measurement Level (dBm)											
01	2412	13.77	--	--	--	--	--	--	--	18.98	<30dBm	Pass	
07	2442	14.28	14.23	14.20	14.17	14.12	14.06	14.01	13.92	19.34	<30dBm	Pass	
11	2462	14.28	--	--	--	--	--	--	--	19.39	<30dBm	Pass	
12	2467	11.8	--	--	--	--	--	--	--	16.98	<30dBm	Pass	
13	2472	-0.85	--	--	--	--	--	--	--	8.55	<30dBm	Pass	

Chain B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)									Peak Power HT8	Required Limit	Result
		HT8	HT9	HT10	HT11	HT12	HT13	HT14	HT15				
		Measurement Level (dBm)											
01	2412	13.65	--	--	--	--	--	--	--	18.81	<30dBm	Pass	
07	2442	14.14	14.07	14.01	13.91	13.83	13.75	13.70	13.64	19.27	<30dBm	Pass	
11	2462	14.1	--	--	--	--	--	--	--	19.22	<30dBm	Pass	
12	2467	11.61	--	--	--	--	--	--	--	16.8	<30dBm	Pass	
13	2472	-0.63	--	--	--	--	--	--	--	8.14	<30dBm	Pass	

Chain A+B

Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Peak Power Output (dBm)	Limit (dBm)	Result
01	2412	HT8	18.98	18.81	21.91	<30dBm	Pass
07	2442	HT8	19.34	19.27	22.32	<30dBm	Pass
11	2462	HT8	19.39	19.22	22.32	<30dBm	Pass
12	2467	HT8	16.98	16.80	19.90	<30dBm	Pass
13	2472	HT8	8.55	8.14	11.36	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 14 MIMO: Transmit (802.11n-40BW_30Mbps)

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)									Peak Power	Required Limit	Result
		HT8	HT9	HT10	HT11	HT12	HT13	HT14	HT15	HT8			
		Measurement Level (dBm)											
03	2422	14.37	--	--	--	--	--	--	--	20.13	<30dBm	Pass	
07	2442	13.81	13.73	13.64	13.58	13.52	13.42	13.36	13.33	19.76	<30dBm	Pass	
09	2452	13.3	--	--	--	--	--	--	--	19.09	<30dBm	Pass	
10	2457	9.33	--	--	--	--	--	--	--	15.25	<30dBm	Pass	
11	2462	2.22	--	--	--	--	--	--	--	11.74	<30dBm	Pass	

Chain B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)									Peak Power	Required Limit	Result
		HT8	HT9	HT10	HT11	HT12	HT13	HT14	HT15	HT8			
		Measurement Level (dBm)											
03	2422	14.28	--	--	--	--	--	--	--	20.05	<30dBm	Pass	
07	2442	13.7	13.60	13.51	13.44	13.37	13.34	13.26	13.16	19.43	<30dBm	Pass	
09	2452	13.22	--	--	--	--	--	--	--	18.98	<30dBm	Pass	
10	2457	9.22	--	--	--	--	--	--	--	15.16	<30dBm	Pass	
11	2462	2.07	--	--	--	--	--	--	--	11.65	<30dBm	Pass	

Chain A+B

Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Peak Power Output (dBm)	Limit (dBm)	Result
03	2422	HT8	20.13	20.05	23.10	<30dBm	Pass
07	2442	HT8	19.76	19.43	22.61	<30dBm	Pass
09	2452	HT8	19.09	18.98	22.05	<30dBm	Pass
10	2457	HT8	15.25	15.16	18.22	<30dBm	Pass
11	2462	HT8	11.74	11.65	14.71	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps)

RU config: Full Chain A

Channel No	Frequency (MHz)	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
01	2412	13.81	--	--	--	--	--	--	--	--	--	--	--	19.51	<30dBm	Pass		
07	2442	14.29	14.26	14.22	14.15	14.11	14.04	13.94	13.90	13.82	13.74	13.66	13.60	19.83	<30dBm	Pass		
11	2462	13.91	--	--	--	--	--	--	--	--	--	--	--	19.62	<30dBm	Pass		
12	2467	11.79	--	--	--	--	--	--	--	--	--	--	--	17.55	<30dBm	Pass		
13	2472	-1.36	--	--	--	--	--	--	--	--	--	--	--	9.75	<30dBm	Pass		

RU config: Full Chain B

Channel No	Frequency (MHz)	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
01	2412	13.67	--	--	--	--	--	--	--	--	--	--	--	19.4	<30dBm	Pass		
07	2442	14.23	14.19	14.11	14.07	14.00	13.94	13.87	13.79	13.70	13.65	13.62	13.57	19.84	<30dBm	Pass		
11	2462	13.56	--	--	--	--	--	--	--	--	--	--	--	19.42	<30dBm	Pass		
12	2467	11.63	--	--	--	--	--	--	--	--	--	--	--	17.36	<30dBm	Pass		
13	2472	-1.24	--	--	--	--	--	--	--	--	--	--	--	8.92	<30dBm	Pass		

RU config: Full Chain A+B

Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
01	2412	MCS0	19.51	19.40	22.47	<30dBm	Pass
07	2442	MCS0	19.83	19.84	22.85	<30dBm	Pass
11	2462	MCS0	19.62	19.42	22.53	<30dBm	Pass
12	2467	MCS0	17.55	17.36	20.47	<30dBm	Pass
13	2472	MCS0	9.75	8.92	12.37	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))

RU config: Other Chain A

Frequency (MHz)	RU setting	Peak Power Output (dBm)															Required Limit	Result
		Average Power													Peak Power			
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
2412	26/0	13.85	--	--	--	--	--	--	--	--	--	--	--	22.73	<30dBm	Pass		
	52/37	13.7	13.65	13.58	13.49	13.39	13.32	13.26	13.23	13.14	13.05	13.01	12.95	22.6	<30dBm	Pass		
	106/53	13.88	--	--	--	--	--	--	--	--	--	--	--	23.3	<30dBm	Pass		
2472	26/8	13.73	--	--	--	--	--	--	--	--	--	--	--	23.16	<30dBm	Pass		
	52/40	13.76	13.71	13.61	13.57	13.48	13.40	13.36	13.27	13.22	13.12	13.09	13.02	23.14	<30dBm	Pass		
	106/54	13.84	--	--	--	--	--	--	--	--	--	--	--	23.27	<30dBm	Pass		

RU config: Other Chain B

Frequency (MHz)	RU setting	Peak Power Output (dBm)															Required Limit	Result
		Average Power													Peak Power			
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
2412	26/0	13.7	--	--	--	--	--	--	--	--	--	--	--	22.6	<30dBm	Pass		
	52/37	13.88	13.79	13.70	13.61	13.53	13.45	13.37	13.28	13.21	13.12	13.05	13.01	23.3	<30dBm	Pass		
	106/53	13.73	--	--	--	--	--	--	--	--	--	--	--	23.16	<30dBm	Pass		
2472	26/8	13.76	--	--	--	--	--	--	--	--	--	--	--	23.14	<30dBm	Pass		
	52/40	13.84	13.75	13.69	13.65	13.62	13.54	13.50	13.44	13.41	13.34	13.25	13.19	23.27	<30dBm	Pass		
	106/54	-1.43	--	--	--	--	--	--	--	--	--	--	--	7.22	<30dBm	Pass		

RU config: Other Chain A+B

Channel	Frequency (MHz)	RU settin	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
1	2412	26/0	22.73	22.60	25.68	<30dBm	Pass
		52/37	22.60	23.30	25.97	<30dBm	Pass
		106/53	23.30	23.16	26.24	<30dBm	Pass
13	2472	26/8	23.16	23.14	26.16	<30dBm	Pass
		52/40	23.14	23.27	26.22	<30dBm	Pass
		106/54	23.27	7.22	23.38	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))

Product : Notebook Computers
 Test Item : Peak Power Output
 Test Date : 2020/11/20
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps)

RU config: Full Chain A

Channel No	Frequency (MHz)	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
03	2422	14.3	--	--	--	--	--	--	--	--	--	--	--	20.72	<30dBm	Pass		
07	2442	13.78	13.71	13.64	13.56	13.52	13.48	13.44	13.36	13.27	13.22	13.12	13.09	20.11	<30dBm	Pass		
09	2452	13.3	--	--	--	--	--	--	--	--	--	--	--	19.73	<30dBm	Pass		
10	2457	9.23	--	--	--	--	--	--	--	--	--	--	--	15.77	<30dBm	Pass		
11	2462	1.69	--	--	--	--	--	--	--	--	--	--	--	12.63	<30dBm	Pass		

RU config: Full Chain B

Channel No	Frequency (MHz)	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
03	2422	14.16	--	--	--	--	--	--	--	--	--	--	--	20.57	<30dBm	Pass		
07	2442	13.61	13.58	13.50	13.42	13.32	13.28	13.22	13.15	13.11	13.04	12.97	12.88	20.03	<30dBm	Pass		
09	2452	13.19	--	--	--	--	--	--	--	--	--	--	--	19.65	<30dBm	Pass		
10	2457	9.15	--	--	--	--	--	--	--	--	--	--	--	15.62	<30dBm	Pass		
11	2462	1.68	--	--	--	--	--	--	--	--	--	--	--	12.72	<30dBm	Pass		

RU config: Full Chain A+B

Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
03	2422	MCS0	20.72	20.57	23.66	<30dBm	Pass
07	2442	MCS0	20.11	20.03	23.08	<30dBm	Pass
09	2452	MCS0	19.73	19.65	22.70	<30dBm	Pass
10	2457	MCS0	15.77	15.62	18.71	<30dBm	Pass
11	2462	MCS0	12.63	12.72	15.69	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))

RU config: Other Chain A

Frequency (MHz)	RU setting	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
2422	242/61	14.32	--	--	--	--	--	--	--	--	--	--	--	19.55	<30dBm	Pass		
2462	242/62	14.44	14.41	14.35	14.25	14.16	14.11	14.08	13.98	13.93	13.90	13.83	13.74	19.81	<30dBm	Pass		

RU config: Other Chain B

Frequency (MHz)	RU setting	Peak Power Output (dBm)														Peak Power	Required Limit	Result
		Average Power																
		For different Data Rate																
MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS0						
2422	242/61	14.44	--	--	--	--	--	--	--	--	--	--	--	19.81	<30dBm	Pass		
2462	242/62	1.7	1.61	1.57	1.49	1.46	1.41	1.31	1.21	1.15	1.07	1.04	0.97	11.59	<30dBm	Pass		

RU config: Other Chain A+B

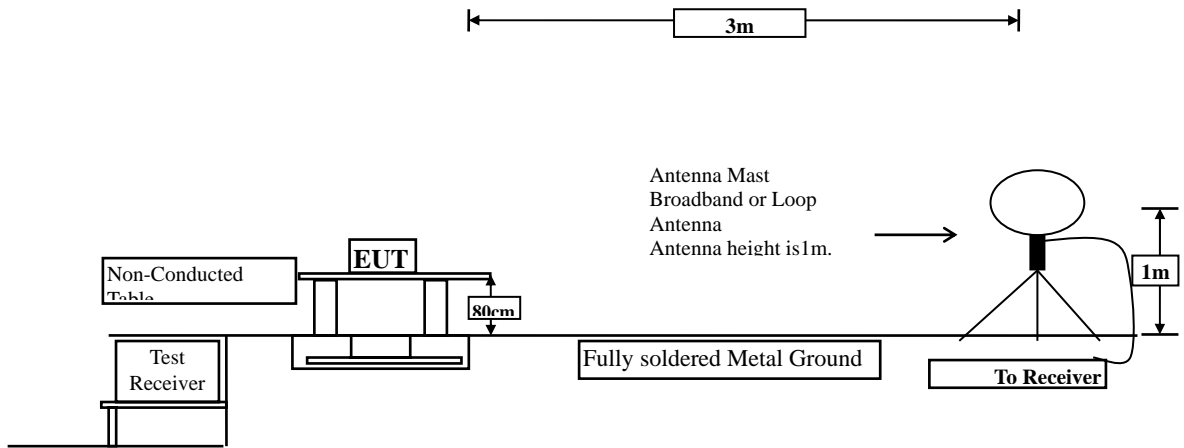
Channel	Frequency (MHz)	RU settin	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
3	2422	242/61	19.55	19.81	22.69	<30dBm	Pass
11	2462	242/62	19.81	11.59	20.42	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))

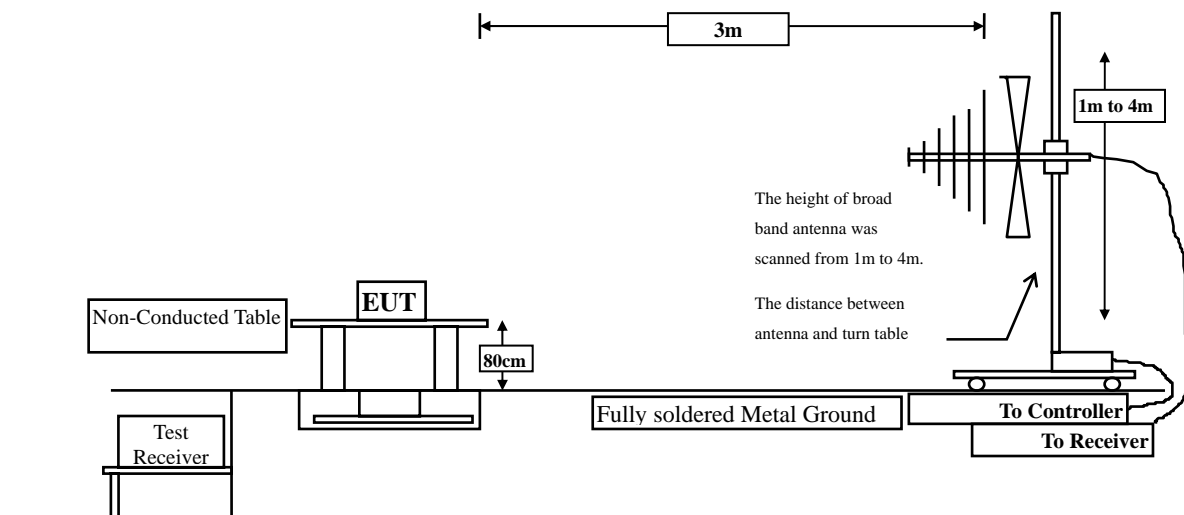
4. Radiated Emission

4.1. Test Setup

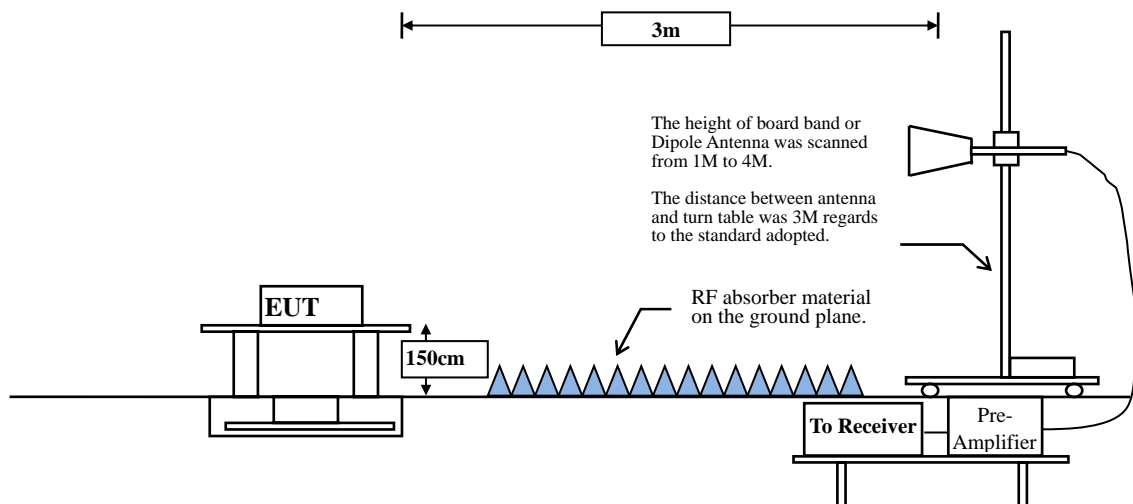
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.2. Limits

➤ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

- Remarks:
1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
 2. In the Above Table, the tighter limit applies at the band edges.
 3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

4.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to C63.10:2013 Section 11.12.1 for compliance to FCC 47CFR 15.247 requirements.

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground, when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground.

The turn table is rotated 360 degrees to determine the position of the maximum emission level.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The measurement frequency range from 9kHz - 10th Harmonic of fundamental was investigated.

RBW and VBW Parameter setting:

According to C63.10 Section 11.12.2.4 Peak measurement procedure.

RBW = as specified in Table 1.

$VBW \geq 3 \times RBW$.

Table 1 —RBW as a function of frequency

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

According to C63.10 Section 11.12.2.5 Average measurement procedure.

RBW = 1MHz.

VBW = 10Hz, when duty cycle $\geq 98 \%$

$VBW \geq 1/T$, when duty cycle $< 98 \%$

(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

SISO A

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11 b	99.31	8.3623	120	10
802.11 n20	98.73	24.7826	40	10
802.11 n40	98.24	17.7681	56	10
802.11ax20	98.55	24.6380	41	10
802.11 ax40	98.39	18.6230	54	10
802.11 ax20-26/0-RU	94.30	5.3739	186	500
802.11 ax20-52/37-RU	93.93	5.3942	185	500
802.11 ax20-106/53-RU	94.45	5.4239	184	500
802.11 ax40-242/61-RU	94.45	5.4203	184	500

Note: Duty Cycle Refer to Section 9.

MIMO

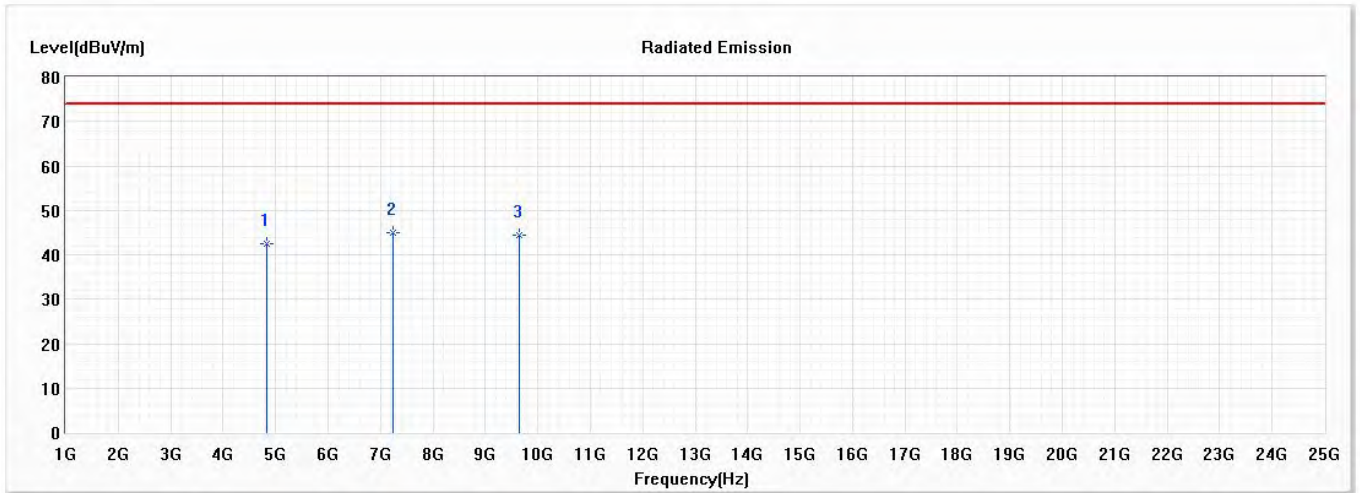
2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11 n20	98.30	18.4638	54	10
802.11 n40	96.52	8.8406	113	500
802.11ax20	98.32	18.6377	54	10
802.11 ax40	96.69	9.3043	107	500
802.11 ax20-26/0-RU	93.93	5.3942	185	500
802.11 ax20-52/37-RU	93.93	5.3942	185	500
802.11 ax20-106/53-RU	93.93	5.3942	185	500
802.11 ax40-242/61-RU	93.93	5.3942	185	500

Note: Duty Cycle Refer to Section 9.

4.4. Test Result of Radiated Emission

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps) (2412 MHz)
 Test Date : 2020/12/04

HORIZONTAL



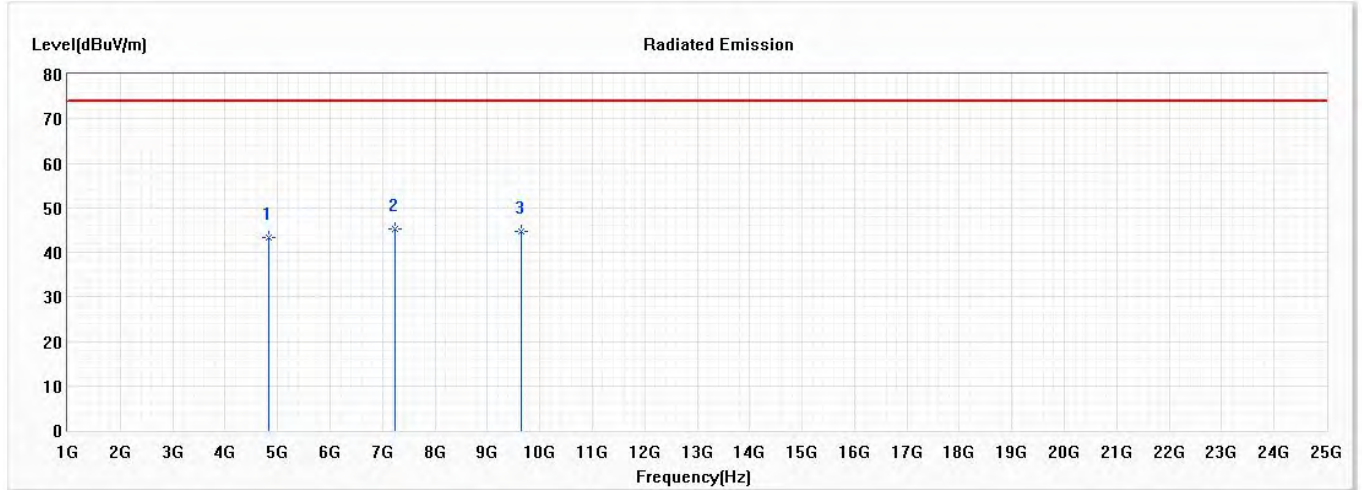
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	42.51	74.00	-31.49	55.50	-12.99	PK
* 2	7236.000	44.86	74.00	-29.14	56.77	-11.91	PK
3	9648.000	44.39	74.00	-29.61	55.56	-11.17	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps) (2412 MHz)
 Test Date : 2020/12/04

VERTICAL



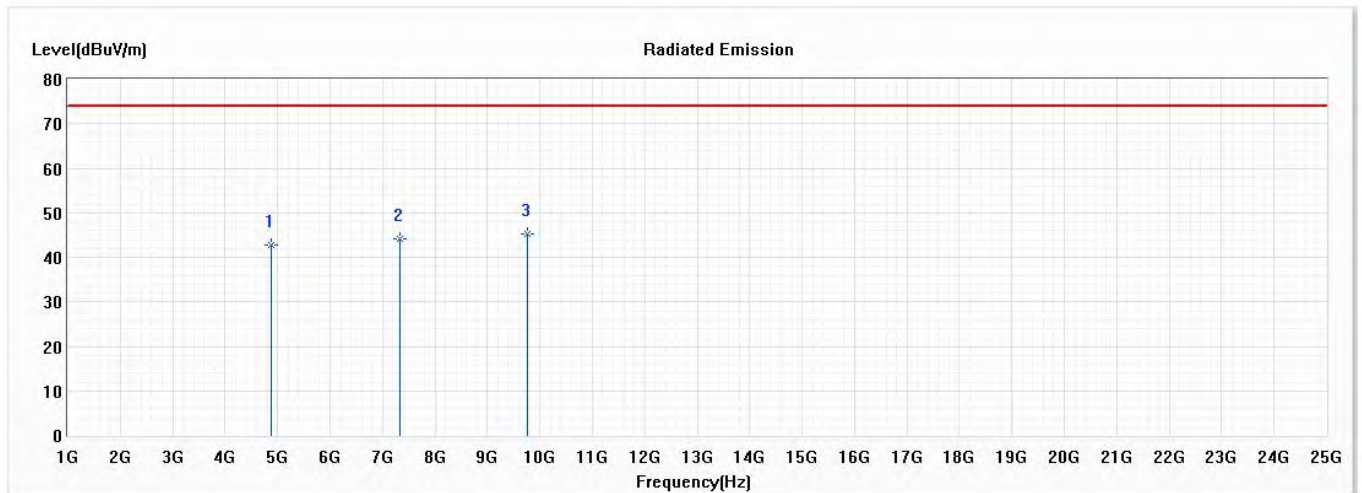
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	43.38	74.00	-30.62	56.37	-12.99	PK
* 2	7236.000	45.18	74.00	-28.82	57.09	-11.91	PK
3	9648.000	44.67	74.00	-29.33	55.84	-11.17	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps) (2442 MHz)
 Test Date : 2020/12/04

HORIZONTAL



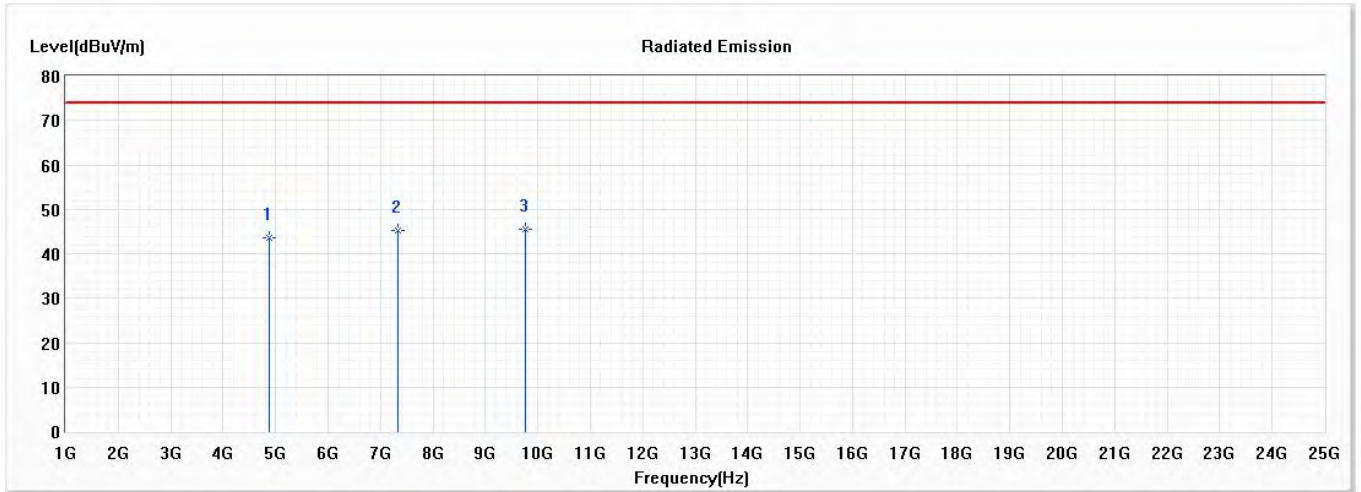
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4884.000	42.71	74.00	-31.29	55.63	-12.92	PK
2	7326.000	44.13	74.00	-29.87	56.09	-11.96	PK
* 3	9768.000	45.28	74.00	-28.72	56.25	-10.97	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps) (2442 MHz)
 Test Date : 2020/12/04

VERTICAL



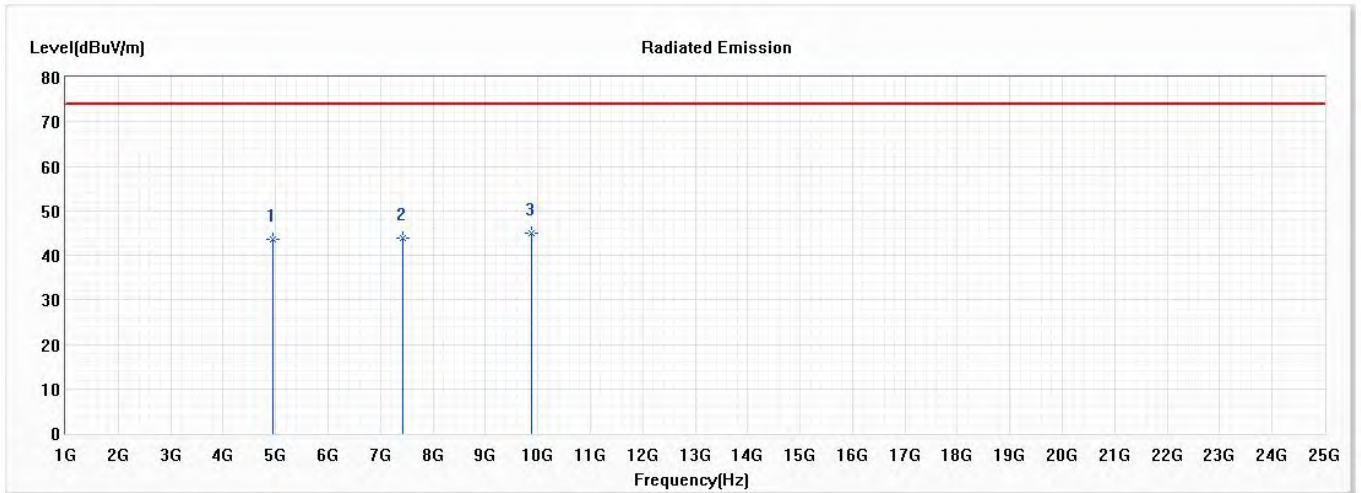
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4884.000	43.67	74.00	-30.33	56.59	-12.92	PK
2	7326.000	45.33	74.00	-28.67	57.29	-11.96	PK
* 3	9768.000	45.60	74.00	-28.40	56.57	-10.97	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps) (2472 MHz)
 Test Date : 2020/12/04

HORIZONTAL



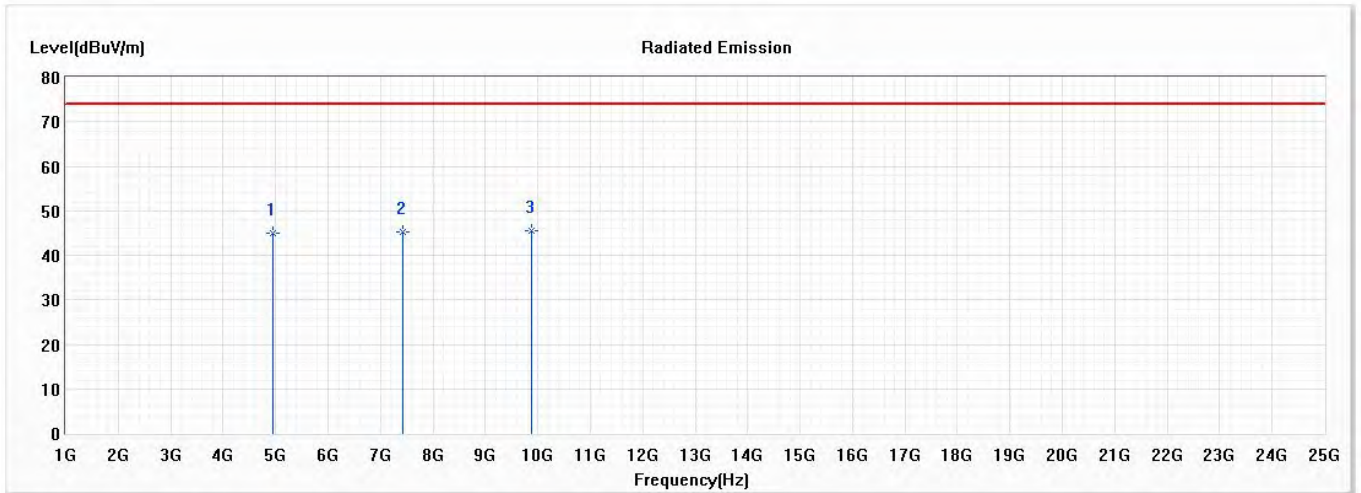
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4944.000	43.67	74.00	-30.33	56.41	-12.74	PK
2	7416.000	43.79	74.00	-30.21	55.76	-11.97	PK
* 3	9888.000	44.86	74.00	-29.14	55.61	-10.75	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps) (2472 MHz)
 Test Date : 2020/12/04

VERTICAL



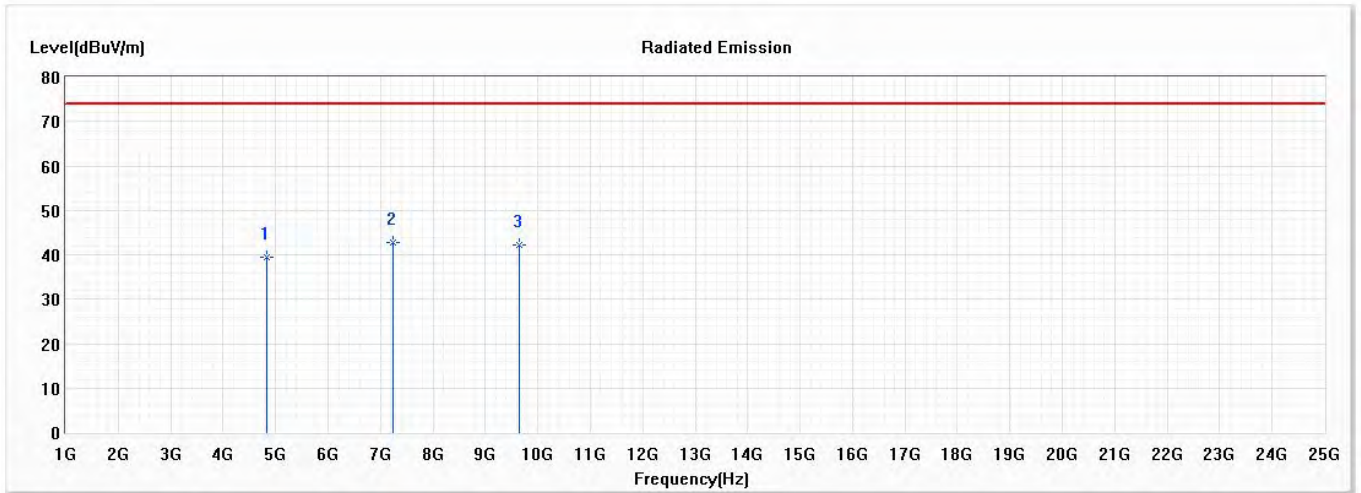
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4944.000	45.08	74.00	-28.92	57.82	-12.74	PK
2	7416.000	45.37	74.00	-28.63	57.34	-11.97	PK
* 3	9888.000	45.38	74.00	-28.62	56.13	-10.75	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2412MHz)
 Test Date : 2020/12/04

HORIZONTAL



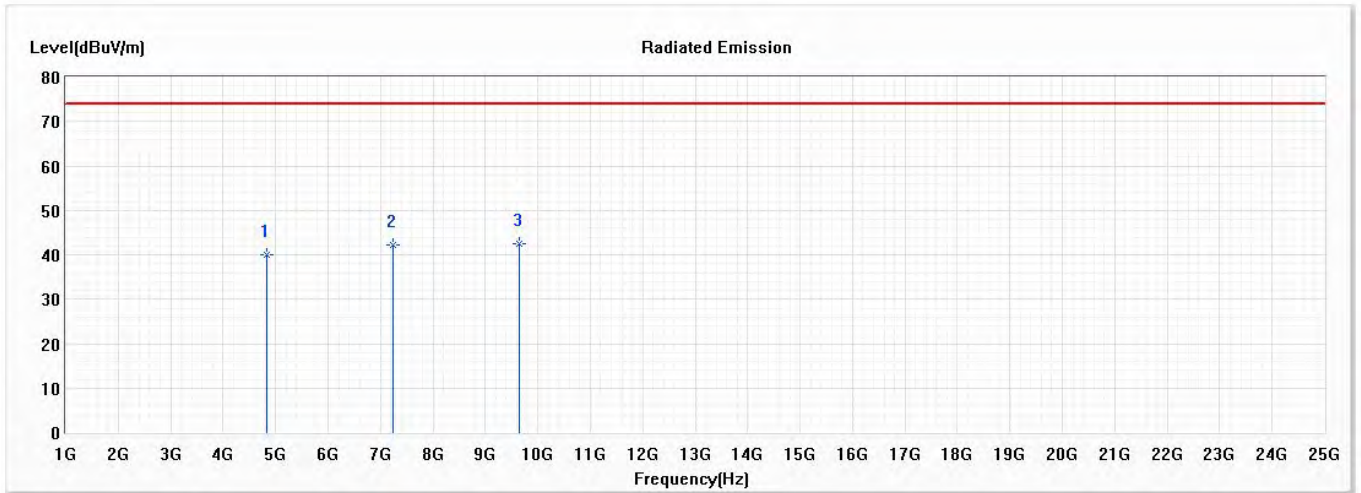
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	39.52	74.00	-34.48	52.51	-12.99	PK
* 2	7236.000	42.84	74.00	-31.16	54.75	-11.91	PK
3	9648.000	42.18	74.00	-31.82	53.35	-11.17	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2412MHz)
 Test Date : 2020/12/04

VERTICAL



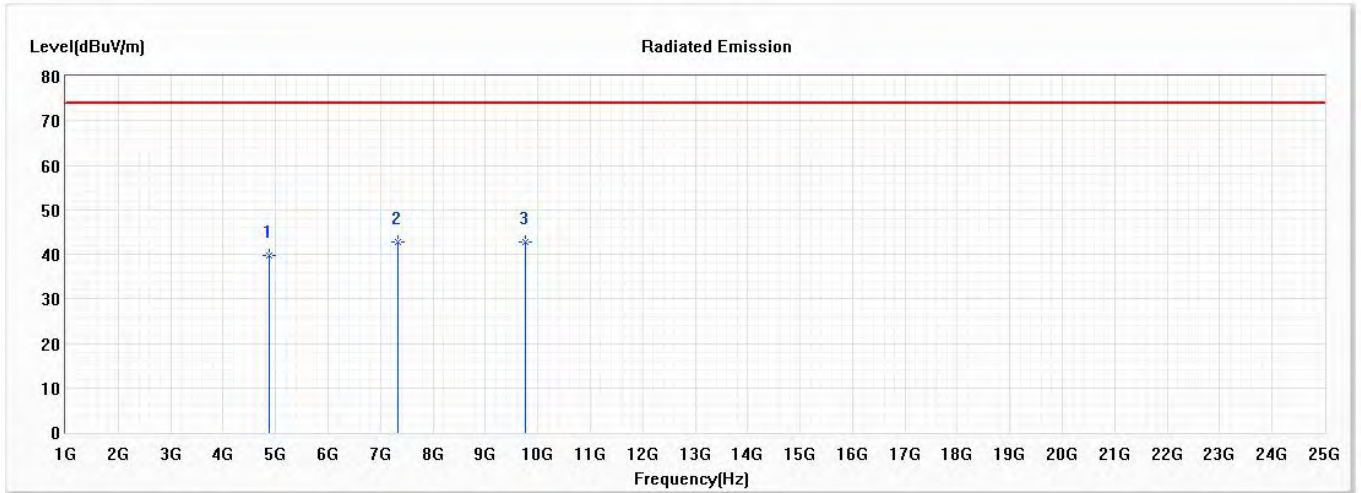
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	40.11	74.00	-33.89	53.10	-12.99	PK
2	7236.000	42.28	74.00	-31.72	54.19	-11.91	PK
* 3	9648.000	42.37	74.00	-31.63	53.54	-11.17	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2442 MHz)
 Test Date : 2020/12/04

HORIZONTAL



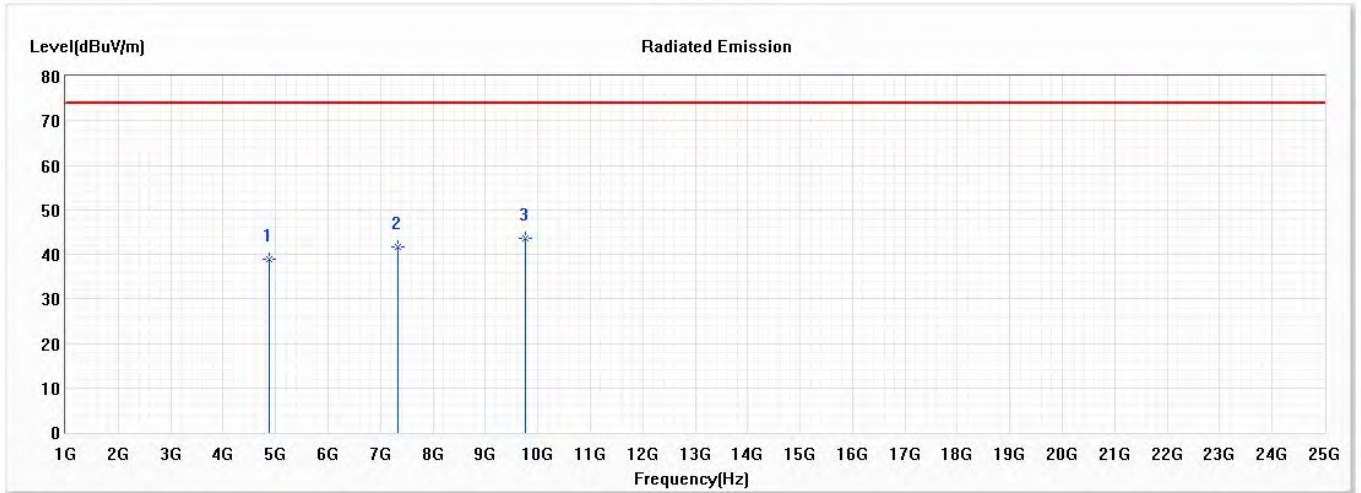
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4884.000	39.61	74.00	-34.39	52.53	-12.92	PK
* 2	7326.000	42.70	74.00	-31.30	54.66	-11.96	PK
3	9768.000	42.67	74.00	-31.33	53.64	-10.97	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2442 MHz)
 Test Date : 2020/12/04

VERTICAL



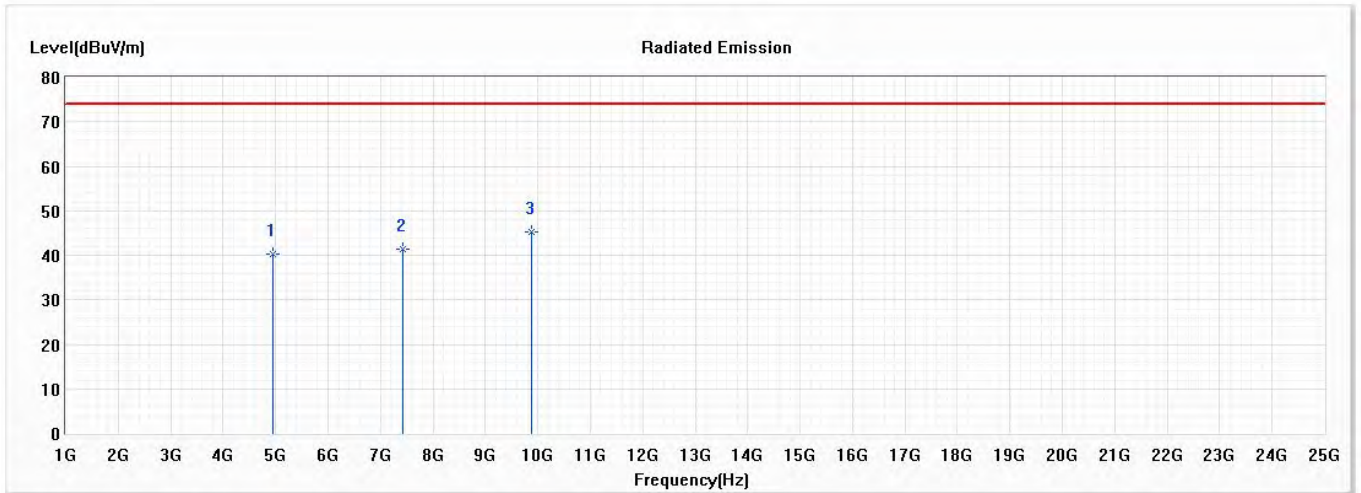
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4884.000	38.78	74.00	-35.22	51.70	-12.92	PK
2	7326.000	41.78	74.00	-32.22	53.74	-11.96	PK
* 3	9768.000	43.51	74.00	-30.49	54.48	-10.97	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2472 MHz)
 Test Date : 2020/12/04

HORIZONTAL



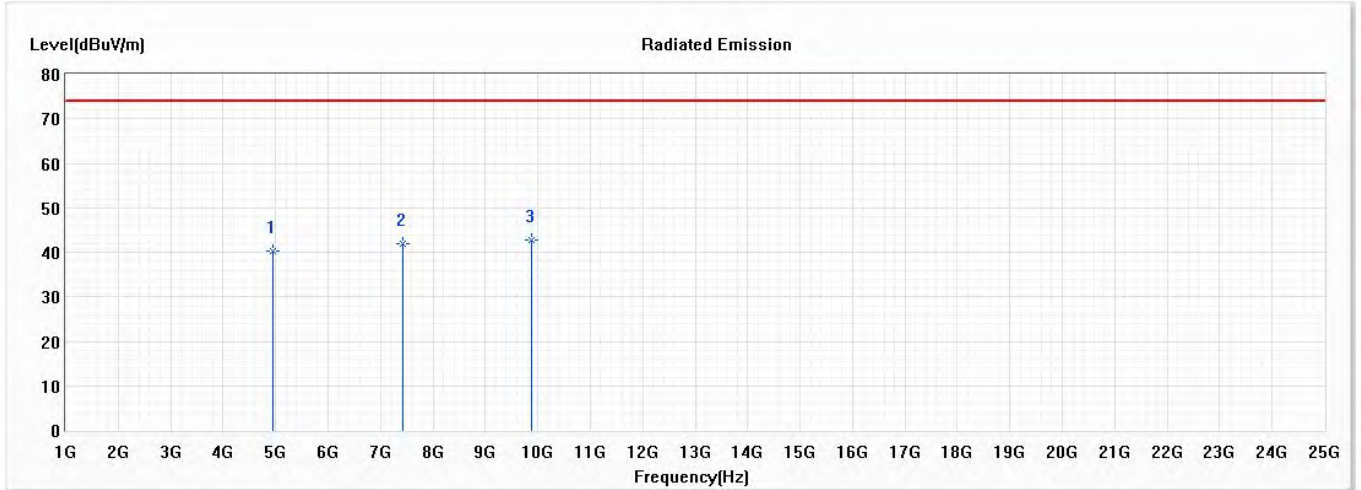
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4944.000	40.28	74.00	-33.72	53.02	-12.74	PK
2	7416.000	41.36	74.00	-32.64	53.33	-11.97	PK
* 3	9888.000	45.17	74.00	-28.83	55.92	-10.75	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2472 MHz)
 Test Date : 2020/12/04

VERTICAL



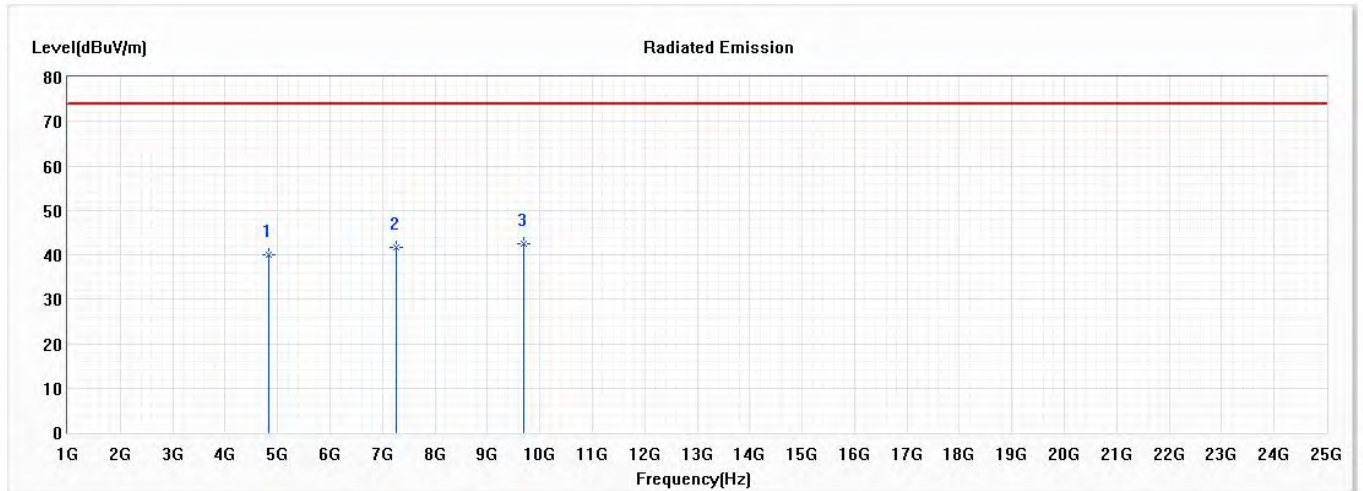
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4944.000	40.37	74.00	-33.63	53.11	-12.74	PK
2	7416.000	41.82	74.00	-32.18	53.79	-11.97	PK
* 3	9888.000	42.77	74.00	-31.23	53.52	-10.75	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2422MHz)
 Test Date : 2020/12/04

HORIZONTAL



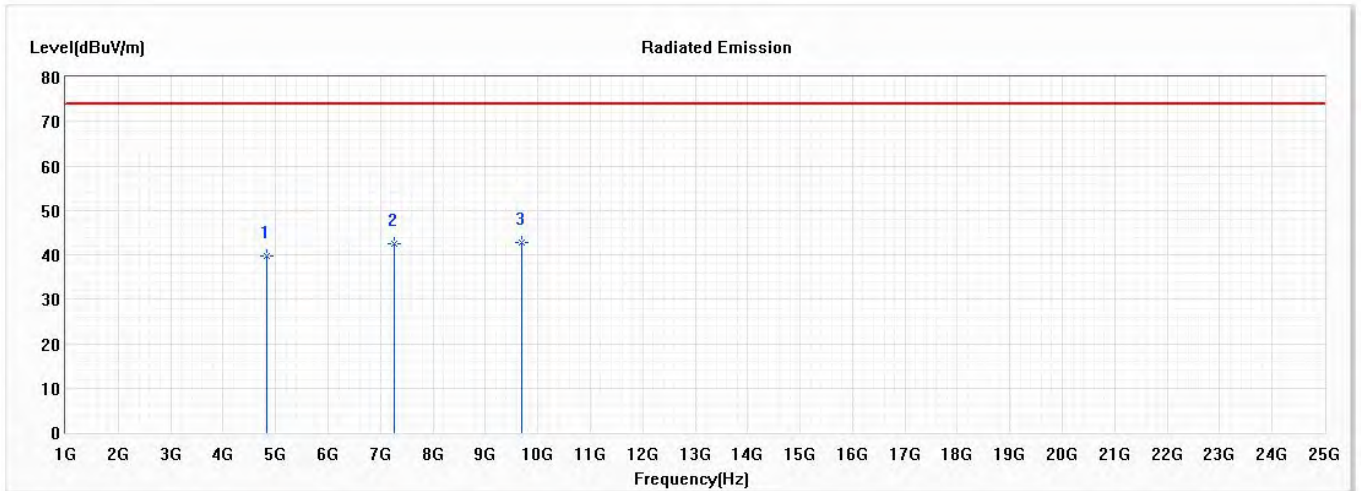
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4844.000	40.08	74.00	-33.92	53.02	-12.94	PK
2	7266.000	41.76	74.00	-32.24	53.63	-11.87	PK
* 3	9688.000	42.41	74.00	-31.59	53.57	-11.16	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2422MHz)
 Test Date : 2020/12/04

VERTICAL



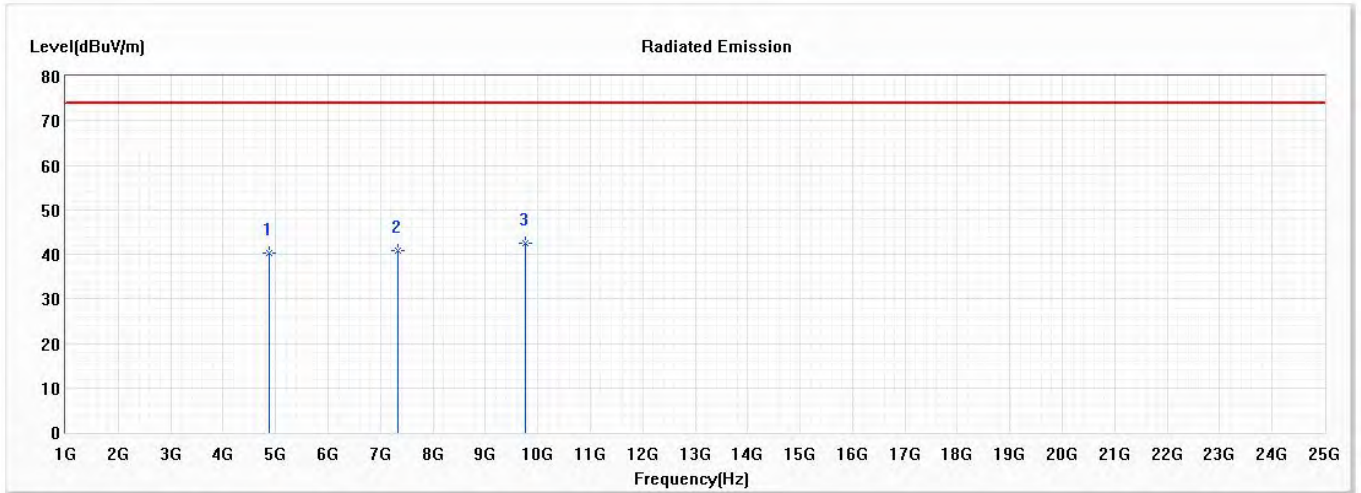
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4844.000	39.68	74.00	-34.32	52.62	-12.94	PK
2	7266.000	42.51	74.00	-31.49	54.38	-11.87	PK
* 3	9688.000	42.75	74.00	-31.25	53.91	-11.16	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2442 MHz)
 Test Date : 2020/12/04

HORIZONTAL



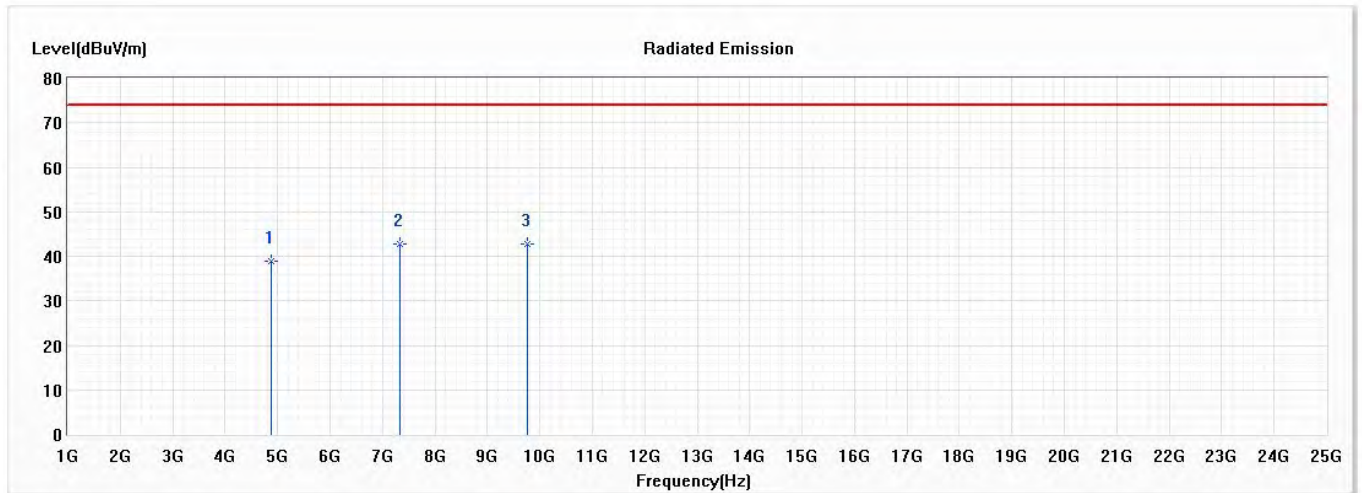
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4884.000	40.39	74.00	-33.61	53.31	-12.92	PK
2	7326.000	40.96	74.00	-33.04	52.92	-11.96	PK
* 3	9768.000	42.45	74.00	-31.55	53.42	-10.97	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2442 MHz)
 Test Date : 2020/12/04

VERTICAL



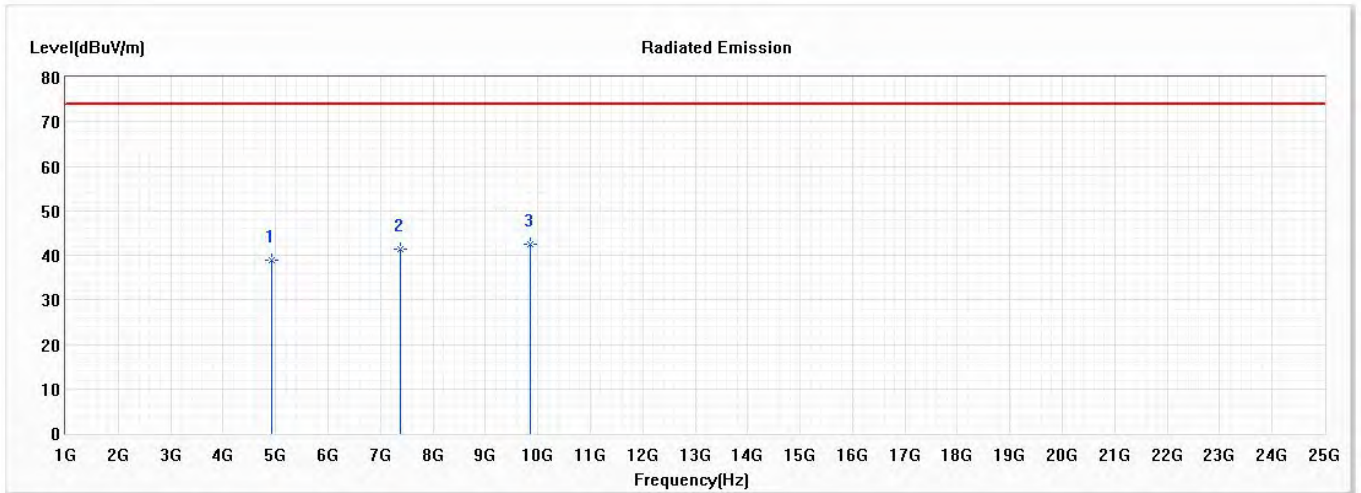
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4884.000	38.89	74.00	-35.11	51.81	-12.92	PK
* 2	7326.000	42.85	74.00	-31.15	54.81	-11.96	PK
3	9768.000	42.67	74.00	-31.33	53.64	-10.97	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2462 MHz)
 Test Date : 2020/12/04

HORIZONTAL



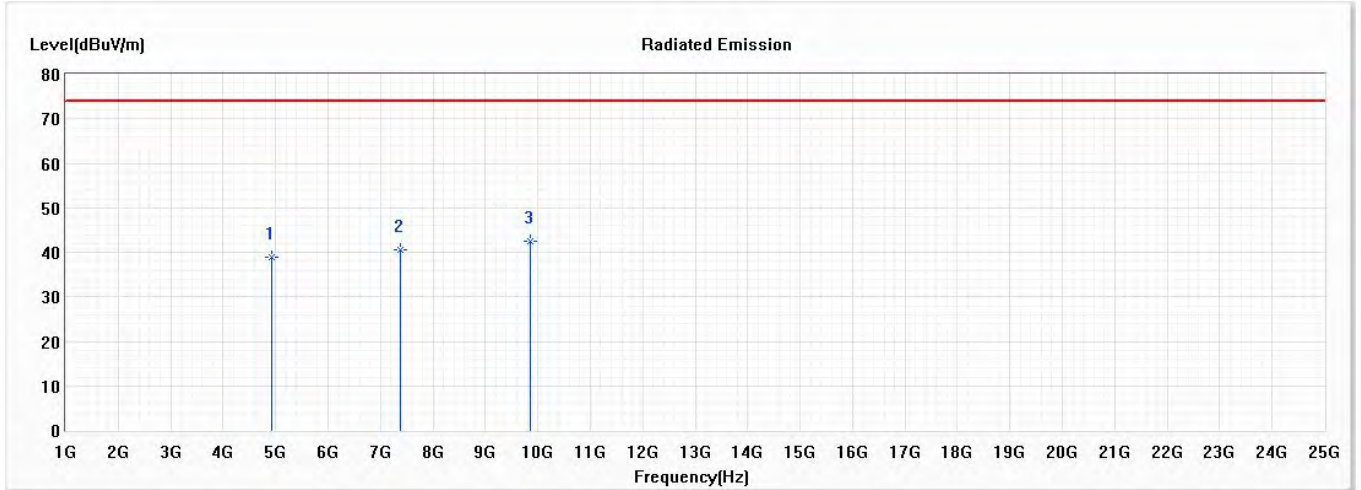
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	38.84	74.00	-35.16	51.76	-12.92	PK
2	7386.000	41.37	74.00	-32.63	53.28	-11.91	PK
* 3	9848.000	42.46	74.00	-31.54	53.43	-10.97	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2462 MHz)
 Test Date : 2020/12/04

VERTICAL



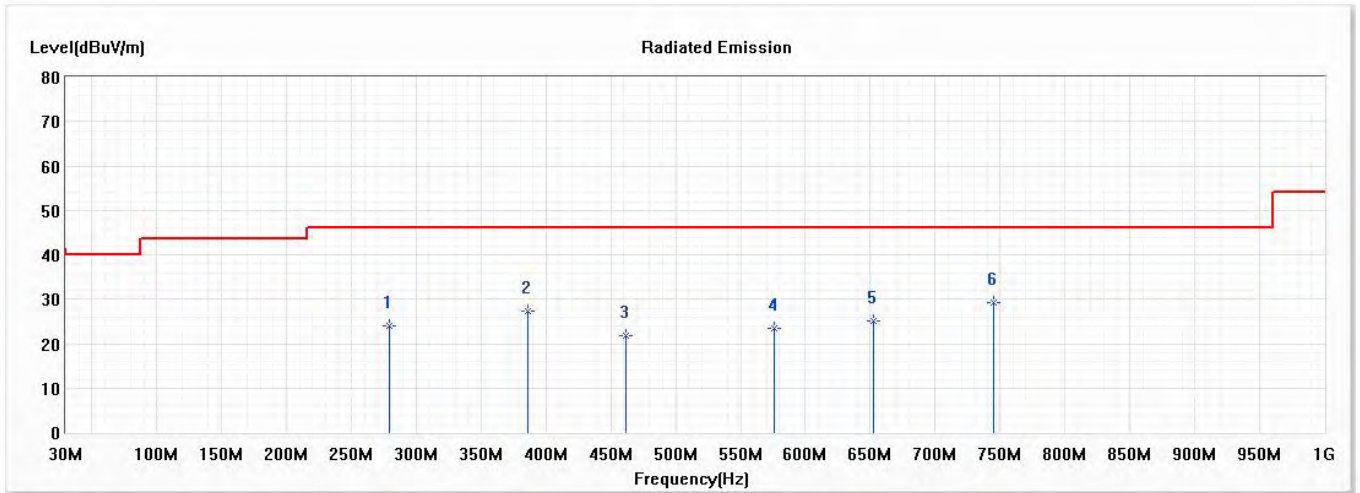
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	38.76	74.00	-35.24	51.68	-12.92	PK
2	7386.000	40.64	74.00	-33.36	52.55	-11.91	PK
* 3	9848.000	42.40	74.00	-31.60	53.37	-10.97	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook Computers
 Test Item : General Radiated Emission Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps) (2442 MHz)
 Test Date : 2020/12/07

HORIZONTAL



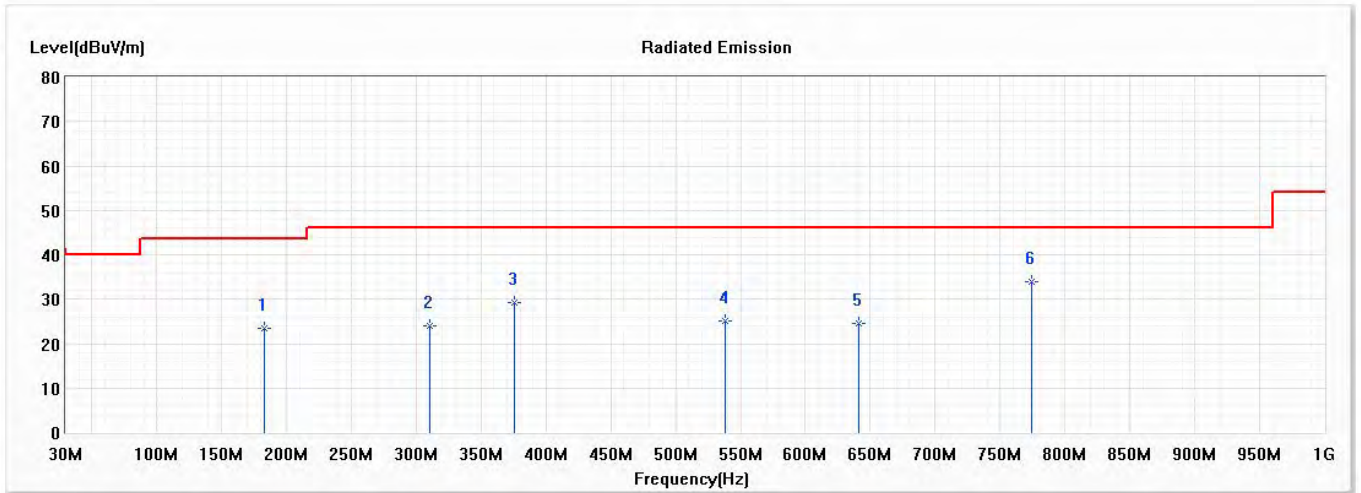
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	279.290	24.04	46.00	-21.96	34.05	-10.01	QP
2	385.690	27.44	46.00	-18.56	34.85	-7.41	QP
3	461.650	21.74	46.00	-24.26	27.35	-5.61	QP
4	576.100	23.51	46.00	-22.49	27.13	-3.62	QP
5	652.740	25.19	46.00	-20.81	27.57	-2.38	QP
* 6	744.890	29.35	46.00	-16.65	30.23	-0.88	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.
6. Each mode through the pretest, only the worst case is shown in the report.

Product : Notebook Computers
 Test Item : General Radiated Emission Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps) (2442 MHz)
 Test Date : 2020/12/07

VERTICAL



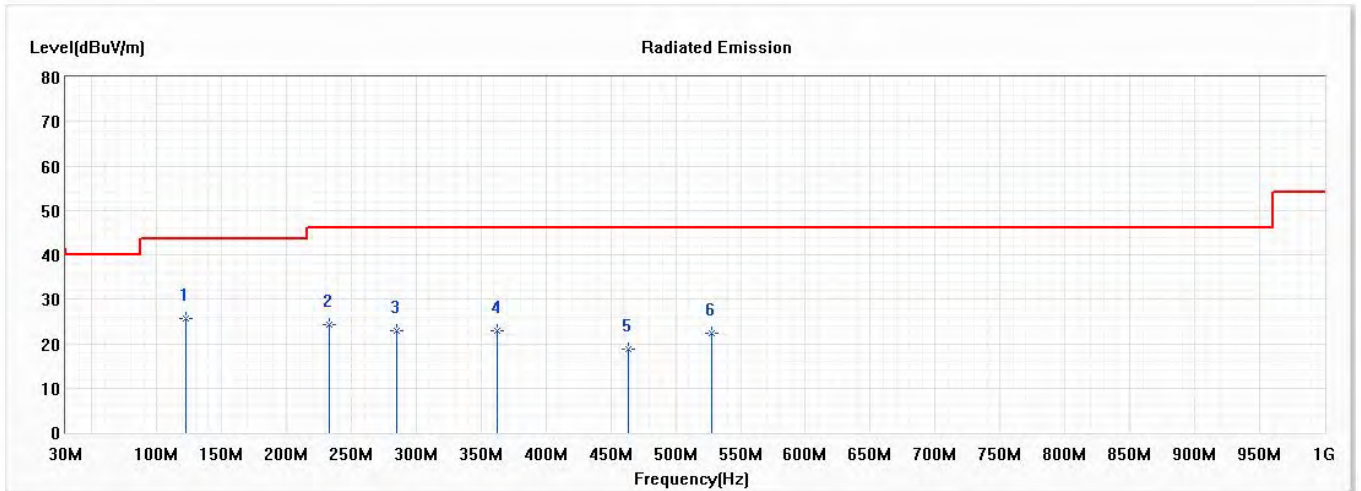
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	183.260	23.45	43.50	-20.05	35.39	-11.94	QP
2	310.330	23.97	46.00	-22.03	33.17	-9.20	QP
3	375.320	29.29	46.00	-16.71	36.84	-7.55	QP
4	538.280	25.19	46.00	-20.81	29.46	-4.27	QP
5	641.100	24.45	46.00	-21.55	27.00	-2.55	QP
* 6	773.990	33.89	46.00	-12.11	34.52	-0.63	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.
6. Each mode through the pretest, only the worst case is shown in the report.

Product : Notebook Computers
 Test Item : General Radiated Emission Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2442 MHz)
 Test Date : 2020/12/07

HORIZONTAL



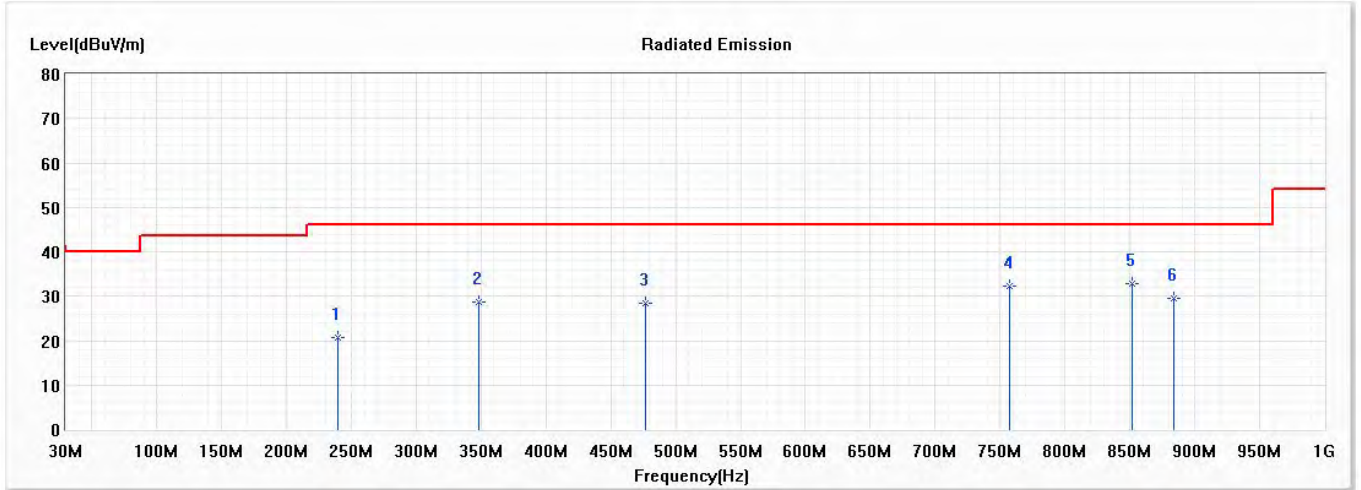
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	122.150	25.76	43.50	-17.74	39.02	-13.26	QP
2	232.730	24.14	46.00	-21.86	35.96	-11.82	QP
3	285.110	22.97	46.00	-23.03	32.75	-9.78	QP
4	362.710	22.81	46.00	-23.19	30.74	-7.93	QP
5	463.590	18.85	46.00	-27.15	24.43	-5.58	QP
6	527.610	22.35	46.00	-23.65	26.80	-4.45	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.
6. Each mode through the pretest, only the worst case is shown in the report.

Product : Notebook Computers
 Test Item : General Radiated Emission Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2442 MHz)
 Test Date : 2020/12/07

VERTICAL



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	239.520	20.70	46.00	-25.30	32.23	-11.53	QP
2	348.160	28.56	46.00	-17.44	36.88	-8.32	QP
3	477.170	28.51	46.00	-17.49	33.70	-5.19	QP
4	757.500	32.23	46.00	-13.77	32.89	-0.66	QP
* 5	851.590	32.84	46.00	-13.16	32.40	0.44	QP
6	883.600	29.64	46.00	-16.36	29.12	0.52	QP

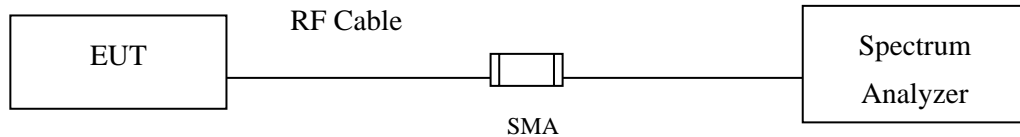
Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.
6. Each mode through the pretest, only the worst case is shown in the report.

5. RF antenna conducted test

5.1. Test Setup

RF antenna Conducted Measurement:



5.2. Limits

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. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.3. Test Procedure

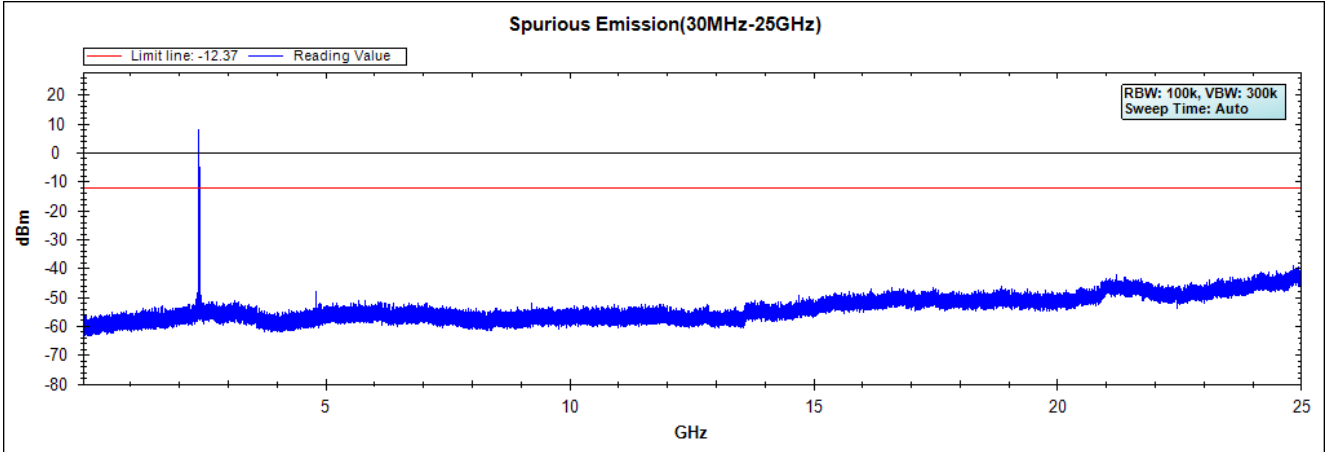
The EUT was tested according to C63.10:2013 Section 11.11 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

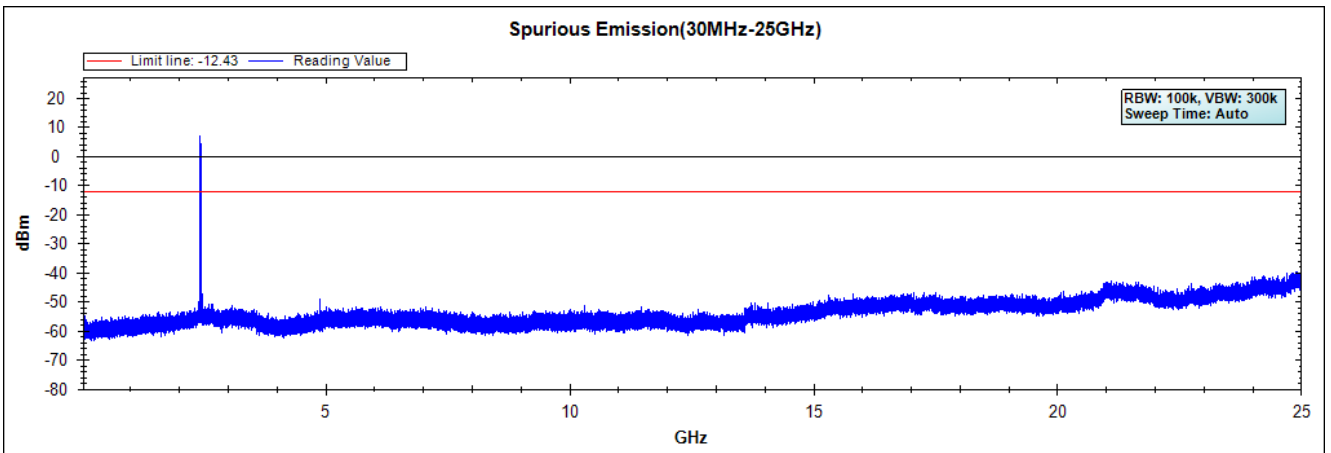
5.4. Test Result of RF antenna conducted test

Product : Notebook Computers
 Test Item : RF antenna conducted test
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps)
 Test Date : 2020/11/20

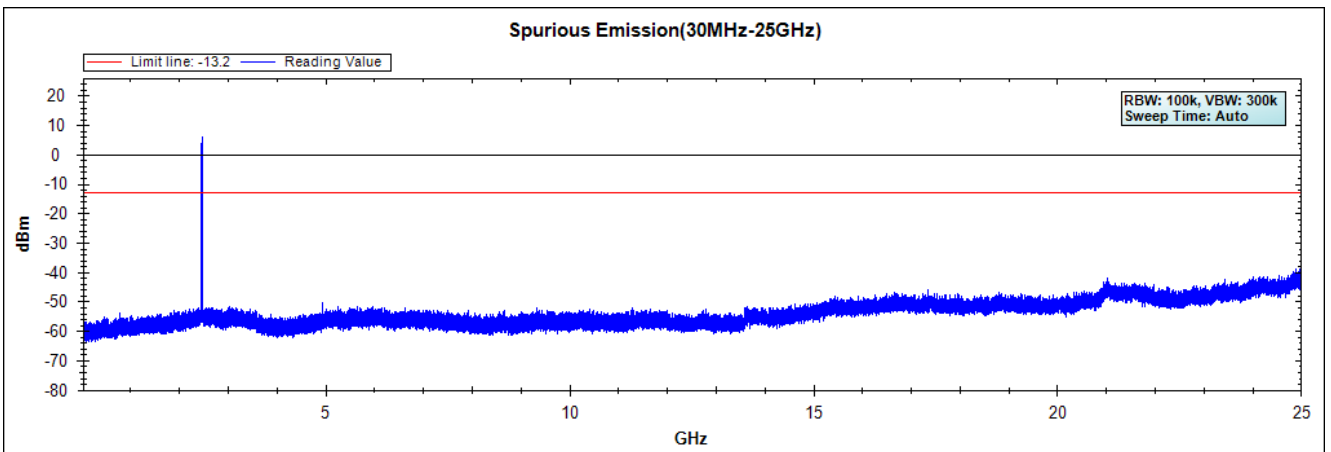
Channel 01 (2412MHz)



Channel 07 (2442MHz)



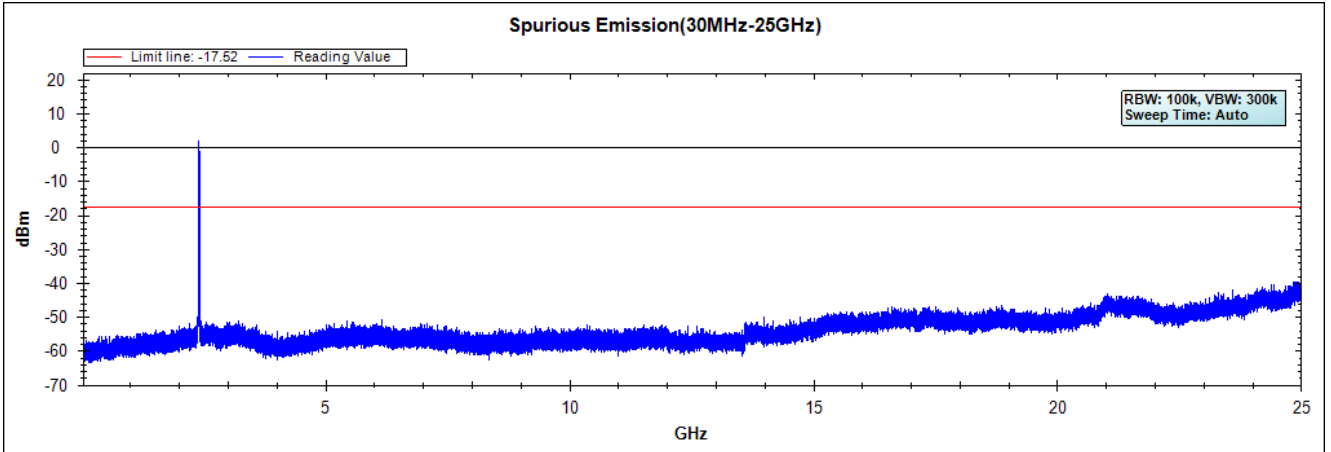
Channel 13 (2472MHz)



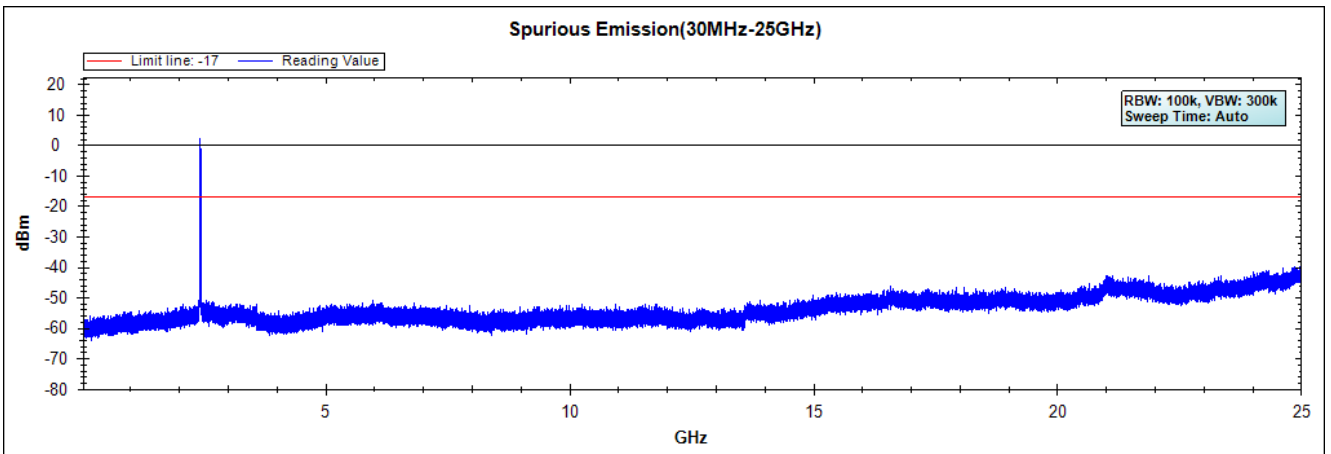
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Notebook Computers
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps)
Test Date : 2020/11/20

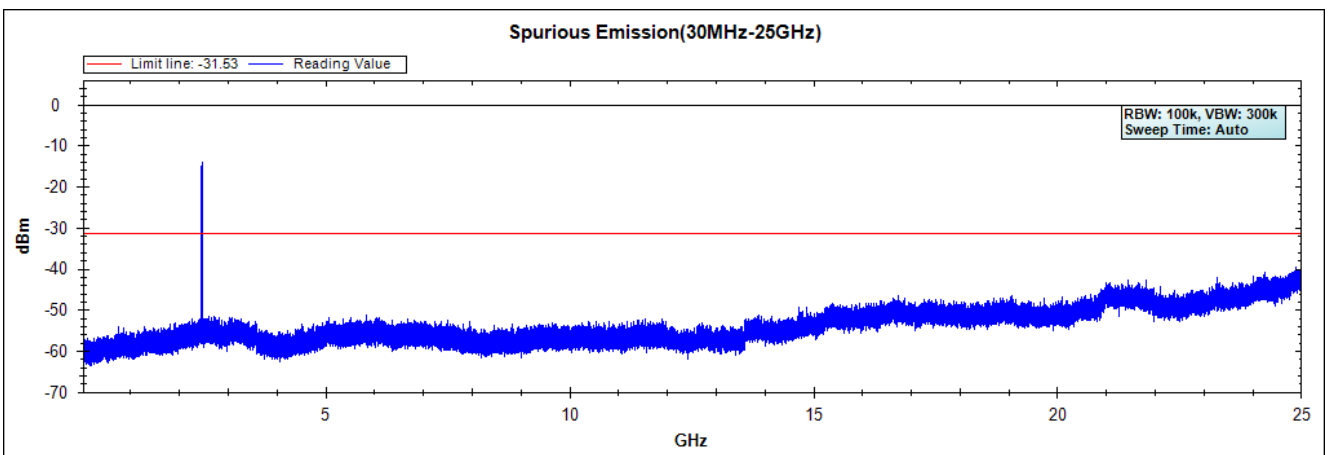
Channel 01 (2412MHz)-Chain A



Channel 07 (2442MHz)-Chain A



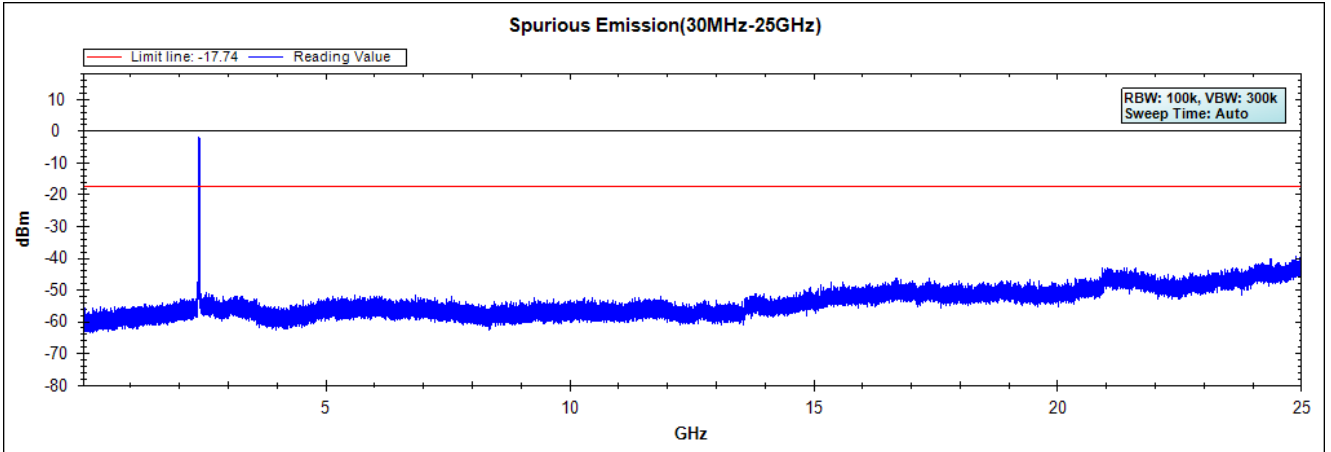
Channel 13 (2472MHz)-Chain A



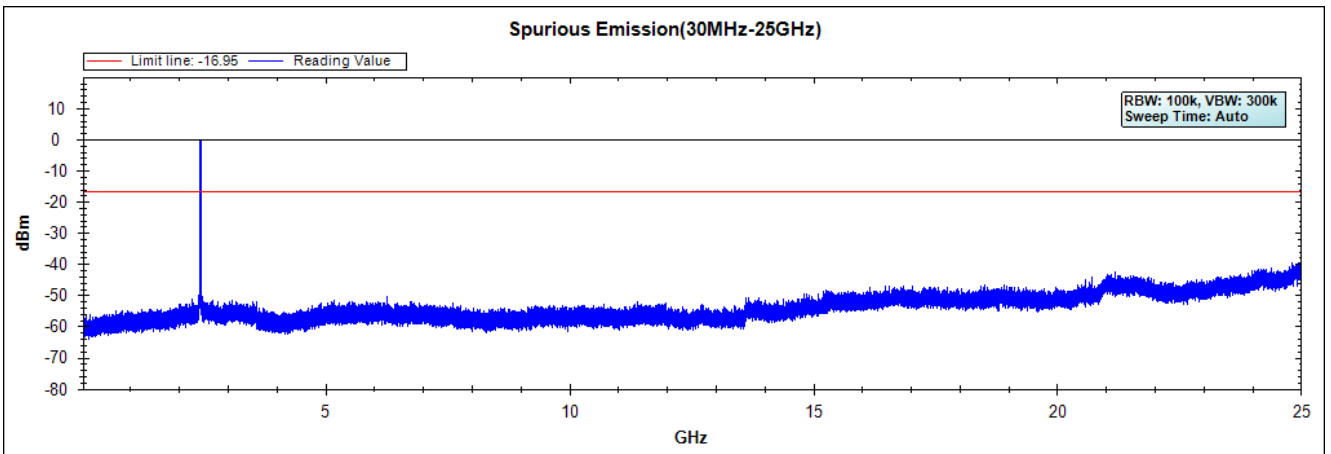
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Notebook Computers
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps)
Test Date : 2020/11/20

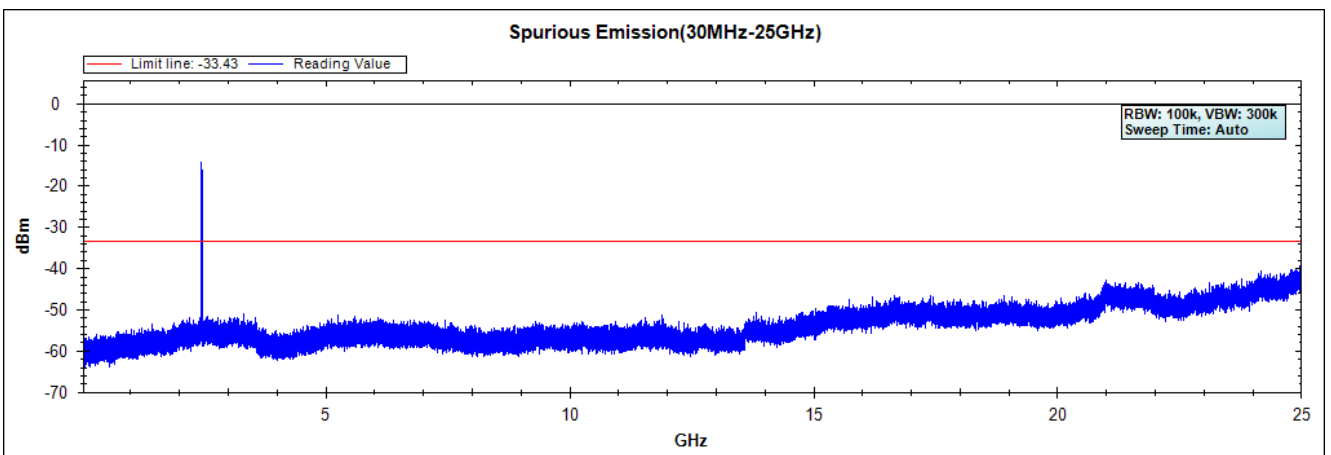
Channel 01 (2412MHz)-Chain B



Channel 07 (2442MHz)-Chain B



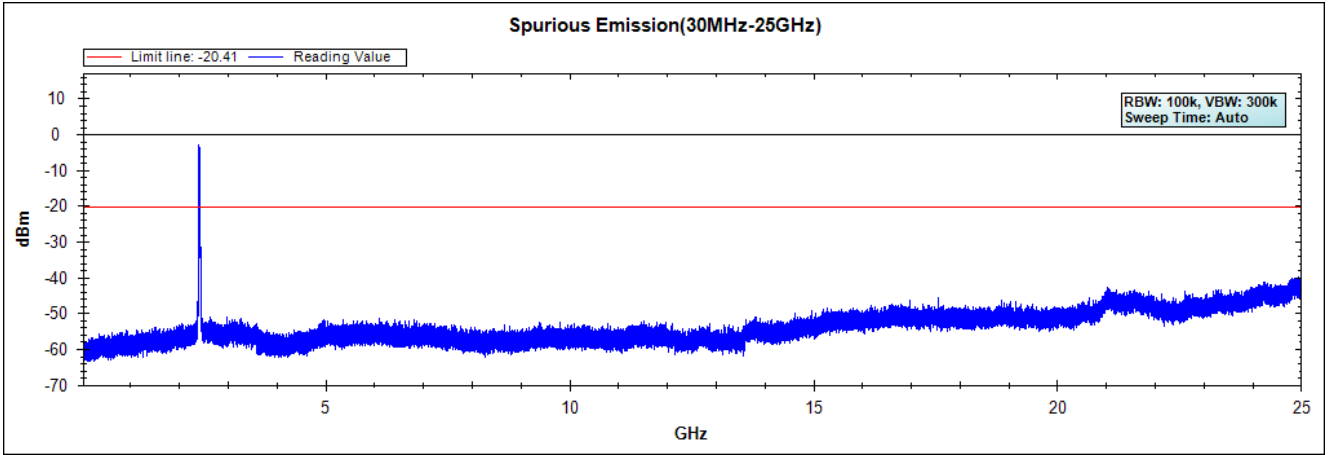
Channel 13 (2472MHz)-Chain B



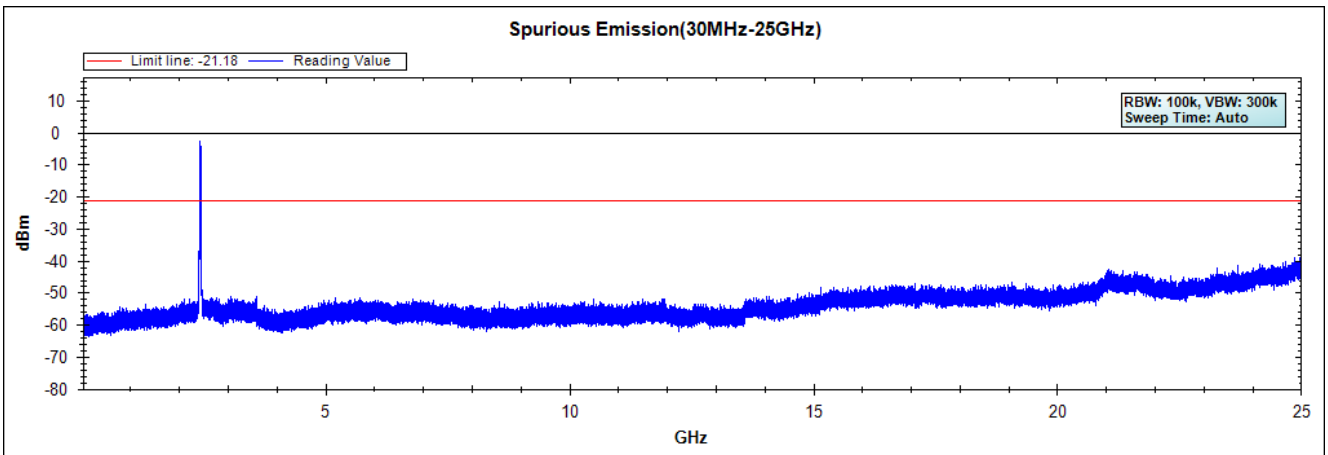
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Notebook Computers
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps)
Test Date : 2020/11/20

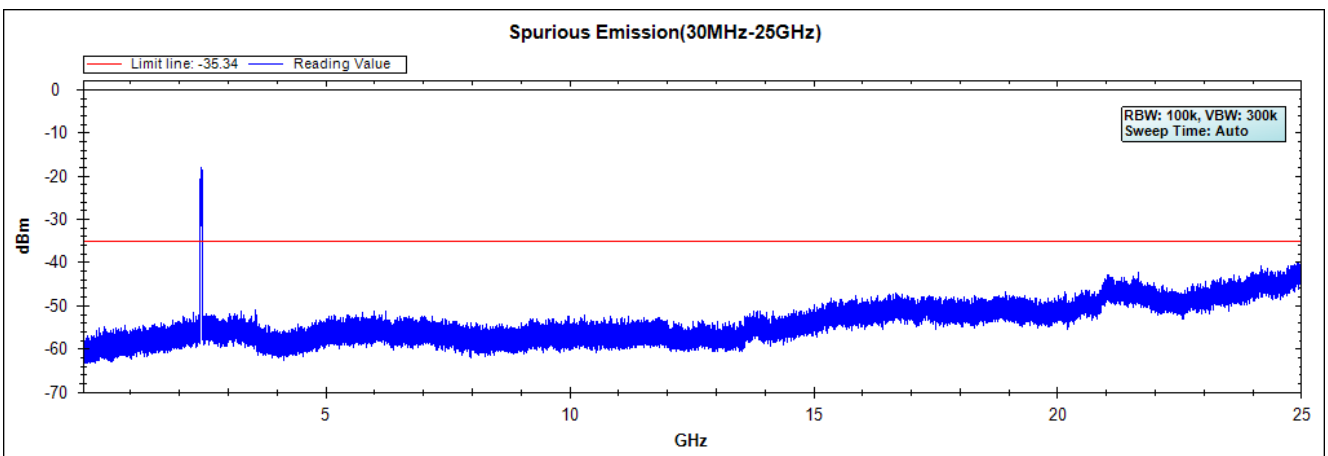
Channel 03 (2422MHz)-Chain A



Channel 07 (2442MHz)-Chain A



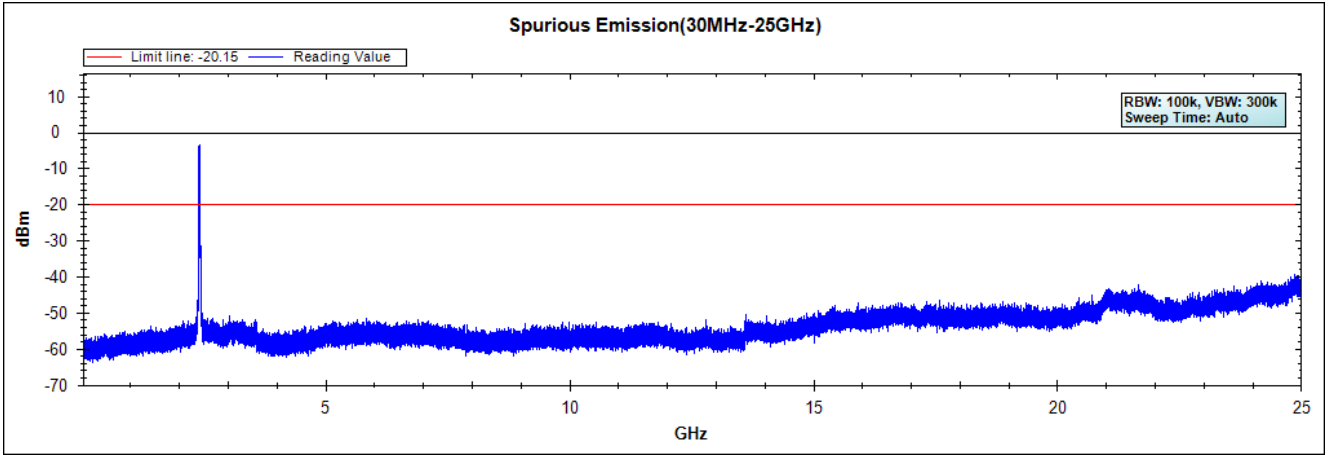
Channel 11 (2462MHz)-Chain A



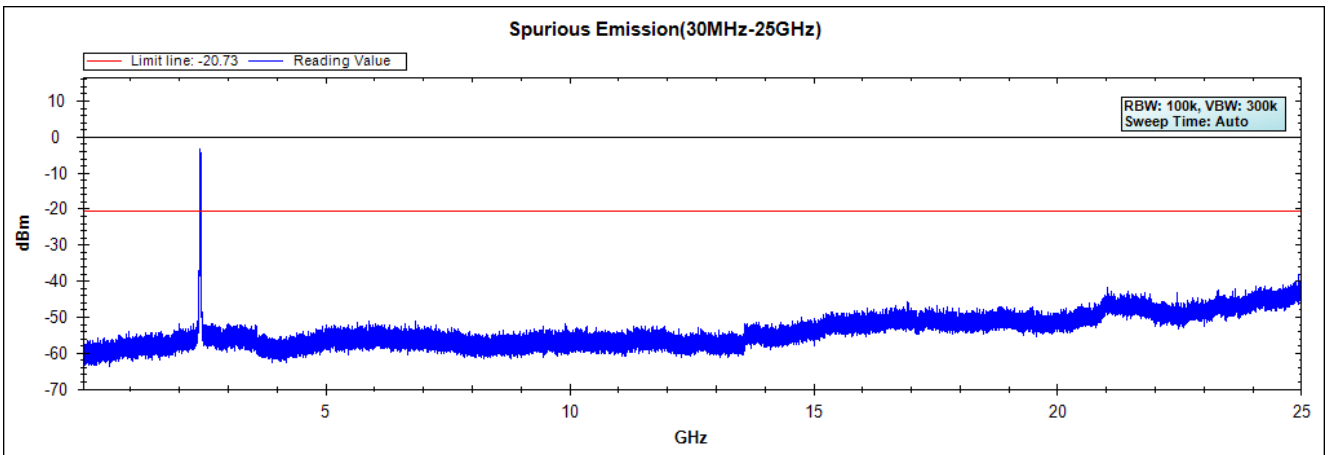
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Notebook Computers
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps)
Test Date : 2020/11/20

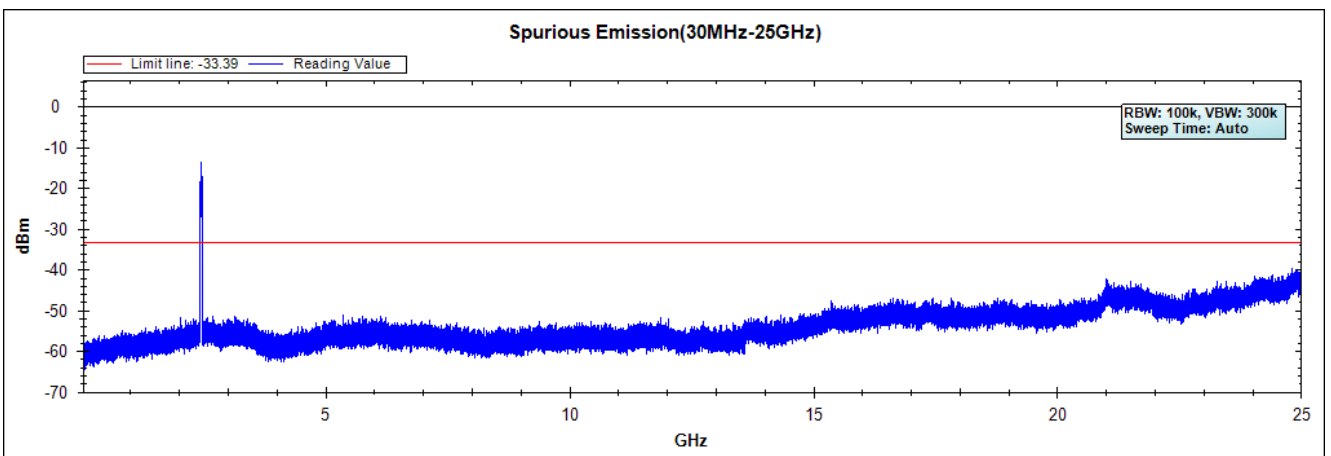
Channel 03 (2422MHz)-Chain A



Channel 07 (2442MHz)-Chain A



Channel 11 (2462MHz)-Chain A

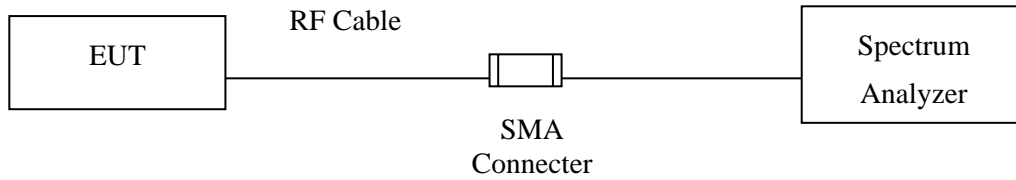


Note: The above test pattern is synthesized by multiple of the frequency range.

6. Band Edge

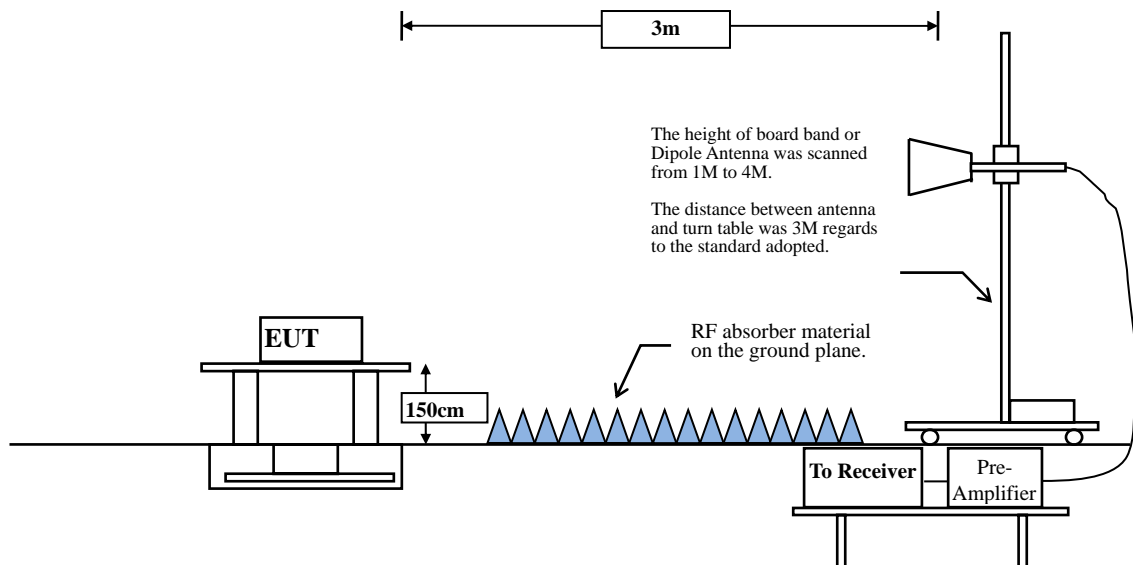
6.1. Test Setup

RF Conducted Measurement



RF Radiated Measurement:

Above 1GHz



6.2. Limits

According to FCC Section 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 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, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

6.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to C63.10:2013 Section 11.12.1 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

RBW and VBW Parameter setting:

According to C63.10 Section 11.12.2.4 Peak measurement procedure.

RBW = as specified in Table 1.

$VBW \geq 3 \times RBW$.

Table 1 —RBW as a function of frequency

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

According to C63.10 Section 11.12.2.5 Average measurement procedure.

RBW = 1MHz.

VBW = 10Hz, when duty cycle $\geq 98\%$

$VBW \geq 1/T$, when duty cycle $< 98\%$

(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

SISO A

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11 b	99.31	8.3623	120	10
802.11 n20	98.73	24.7826	40	10
802.11 n40	98.24	17.7681	56	10
802.11ax20	98.55	24.6380	41	10
802.11 ax40	98.39	18.6230	54	10
802.11 ax20-26/0-RU	94.30	5.3739	186	500
802.11 ax20-52/37-RU	93.93	5.3942	185	500
802.11 ax20-106/53-RU	94.45	5.4239	184	500
802.11 ax40-242/61-RU	94.45	5.4203	184	500

Note: Duty Cycle Refer to Section 9.

MIMO

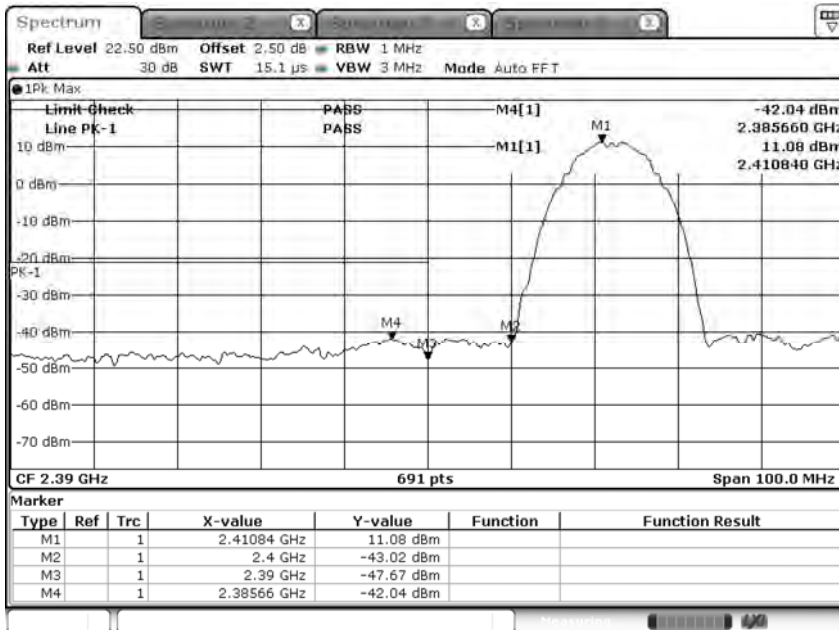
2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11 n20	98.30	18.4638	54	10
802.11 n40	96.52	8.8406	113	500
802.11ax20	98.32	18.6377	54	10
802.11 ax40	96.69	9.3043	107	500
802.11 ax20-26/0-RU	93.93	5.3942	185	500
802.11 ax20-52/37-RU	93.93	5.3942	185	500
802.11 ax20-106/53-RU	93.93	5.3942	185	500
802.11 ax40-242/61-RU	93.93	5.3942	185	500

Note: Duty Cycle Refer to Section 9.

6.4. Test Result of Band Edge

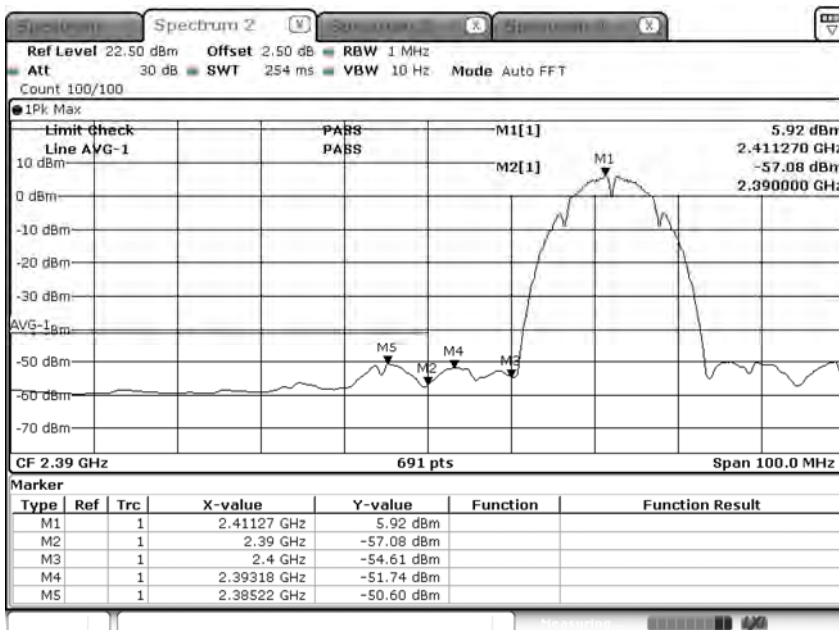
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps) (2412MHz)
 Test Date : 2020/11/25

Peak:



Date: 25.NOV.2020 02:00:21

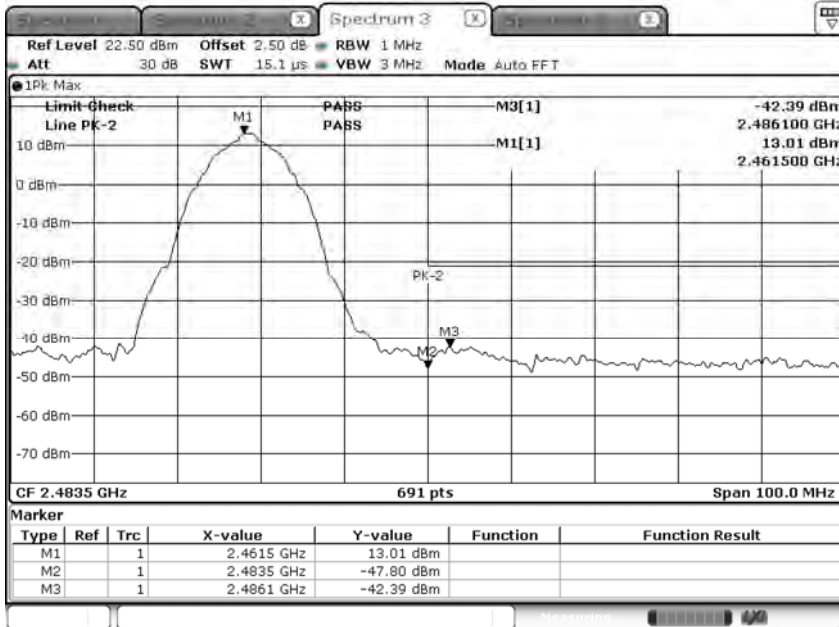
Average:



Date: 25.NOV.2020 01:53:08

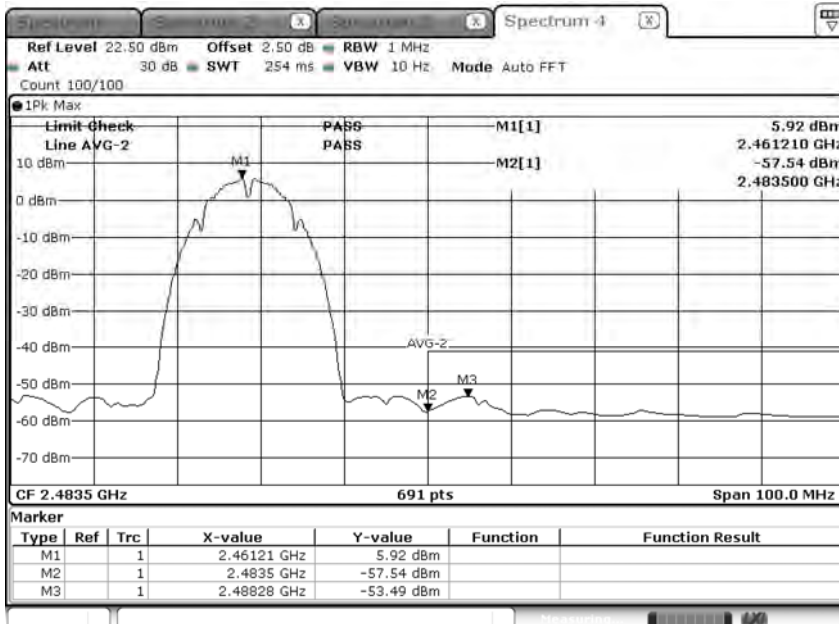
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps) (2462MHz)
 Test Date : 2020/11/25

Peak:



Date: 25.NOV.2020 02:13:06

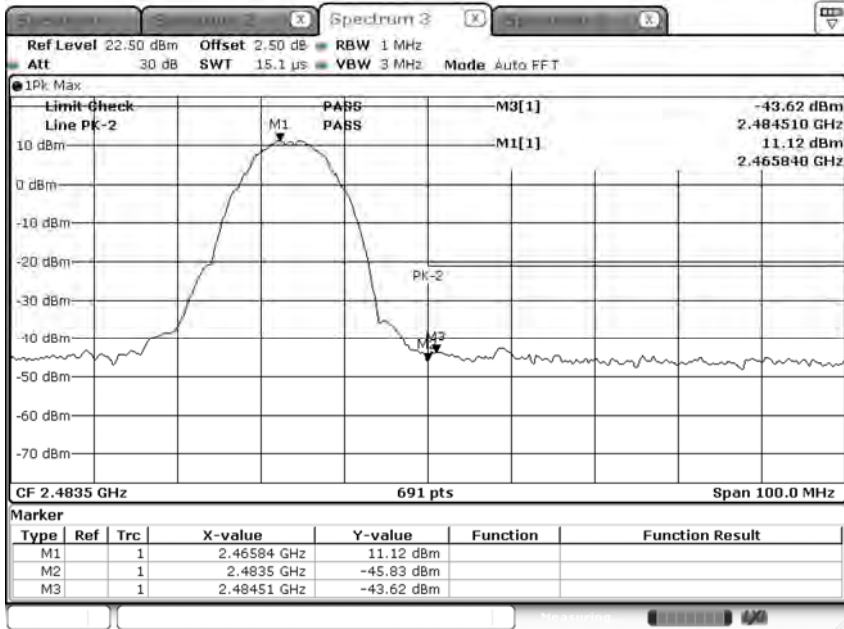
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Date: 25.NOV.2020 02:09:42

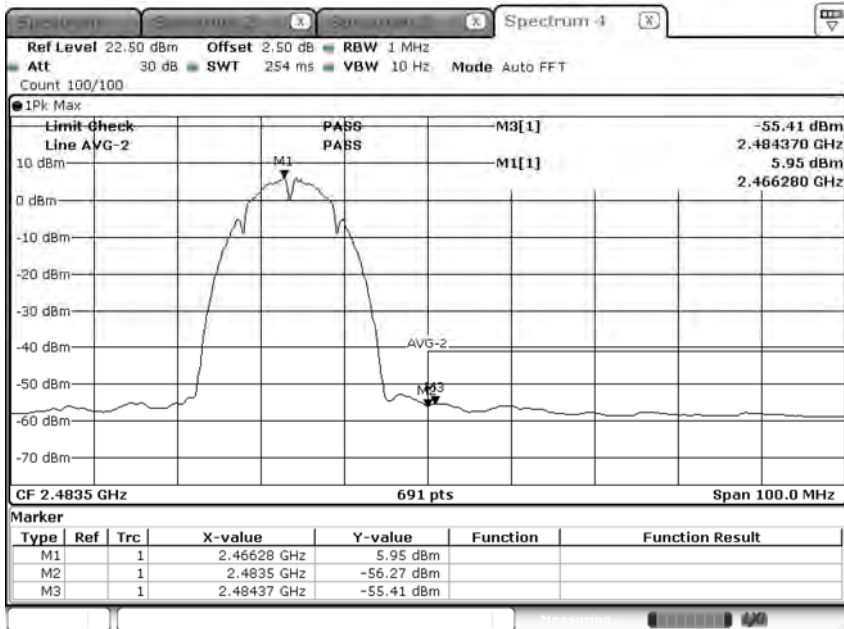
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps) (2467MHz)
 Test Date : 2020/11/25

Peak:



Date: 25.NOV.2020 02:28:16

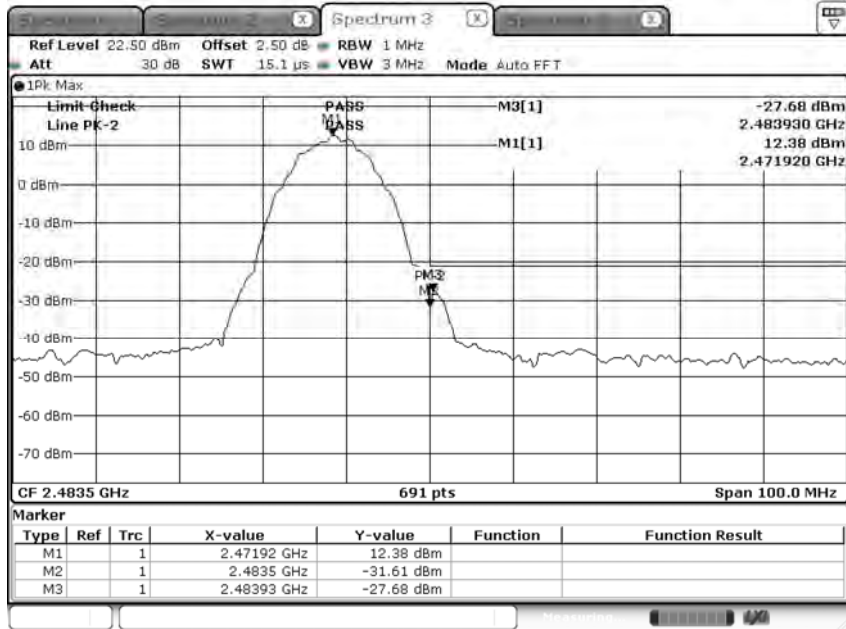
Average:



Date: 25.NOV.2020 02:26:11

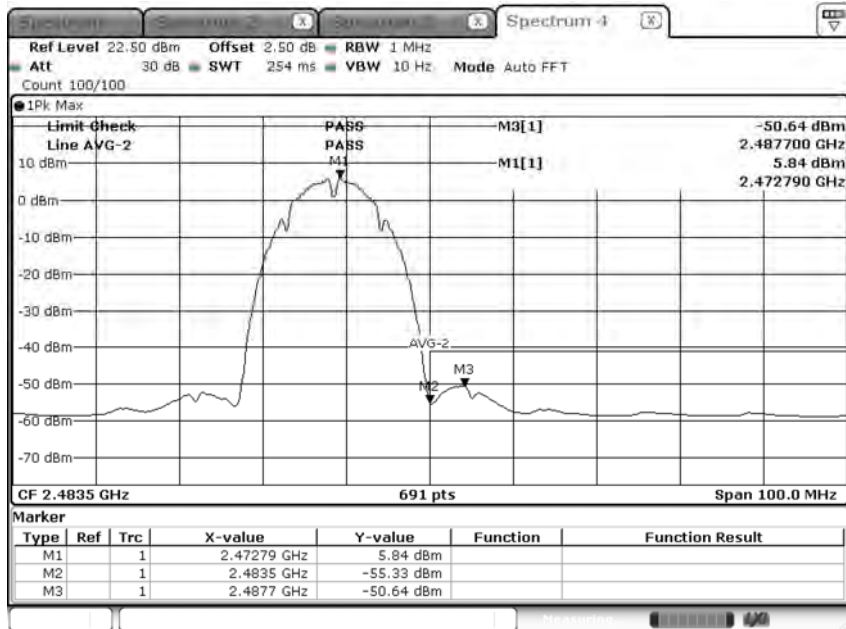
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps) (2472MHz)
 Test Date : 2020/11/25

Peak:



Date: 25.NOV.2020 02:36:57

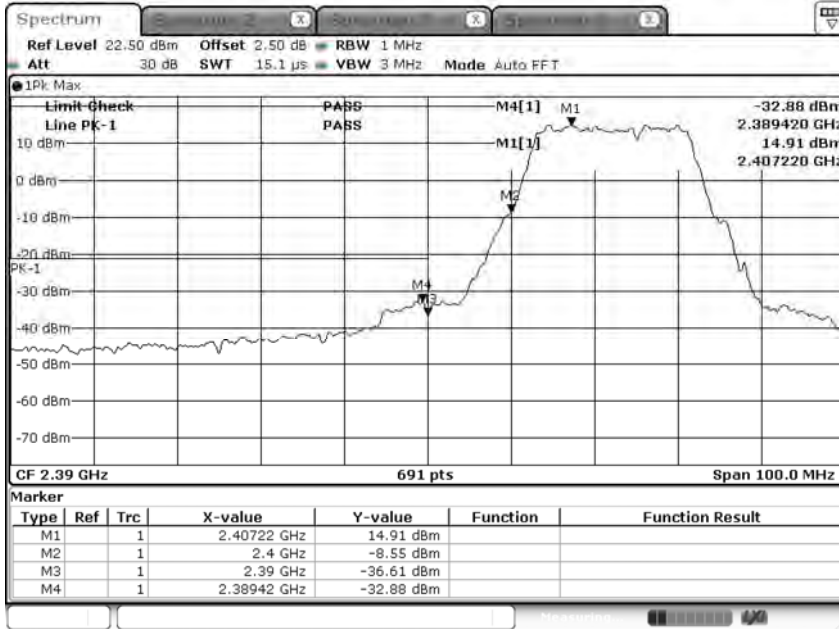
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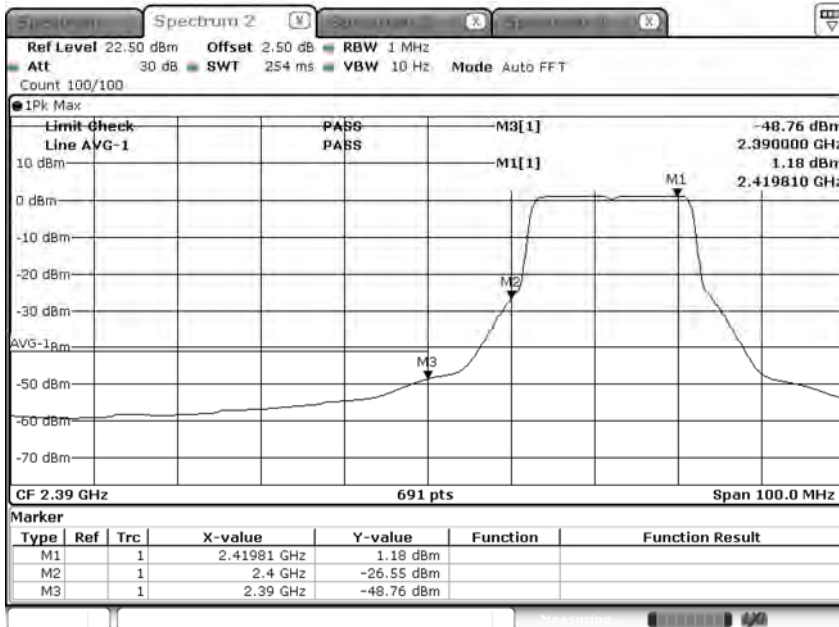
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 5 SISO A: Transmit (802.11ax-20BW_8.6Mbps) (2412MHz)
 Test Date : 2020/11/25

Peak:



Date: 25.NOV.2020 02:48:18

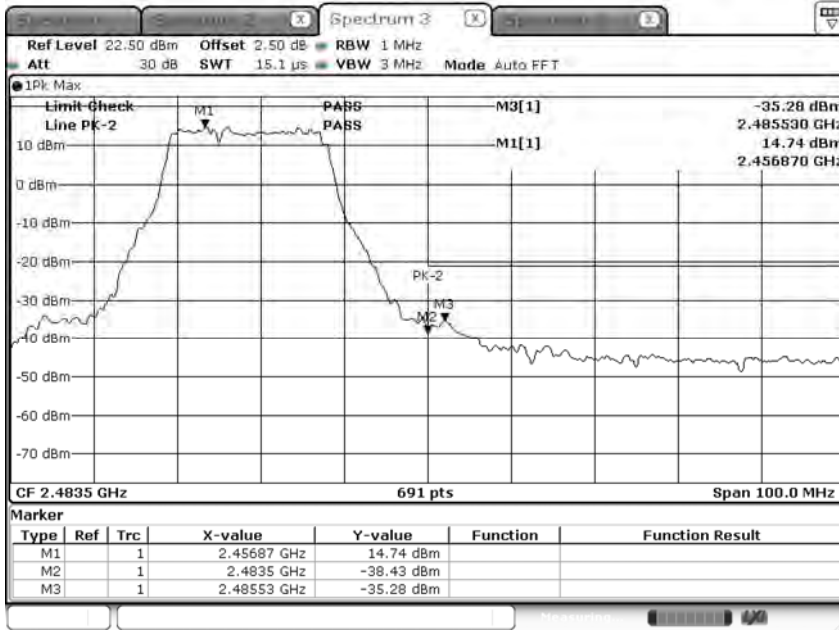
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Date: 25.NOV.2020 02:42:11

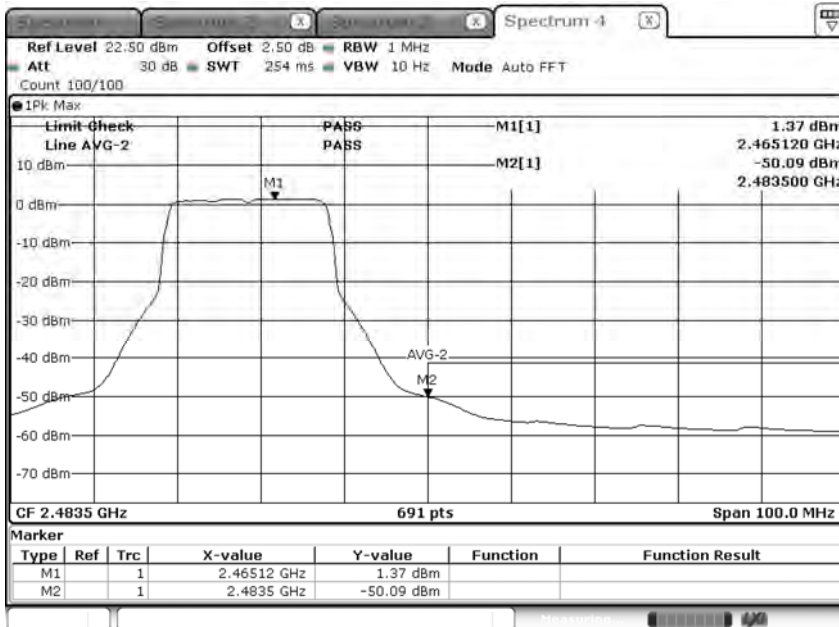
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 5 SISO A: Transmit (802.11ax-20BW_8.6Mbps) (2462MHz)
 Test Date : 2020/11/25

Peak:



Date: 25.NOV.2020 02:59:31

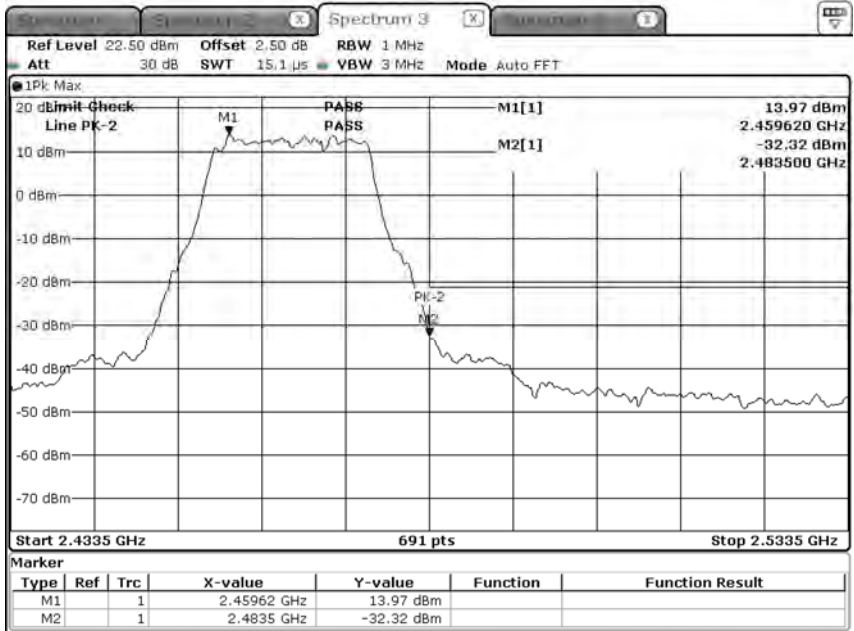
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Date: 25.NOV.2020 02:53:14

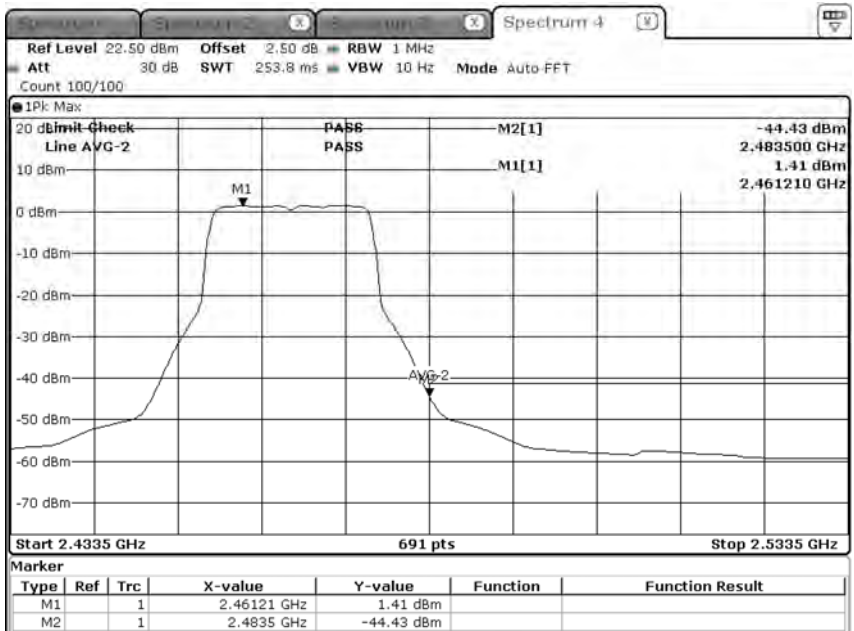
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 5 SISO A: Transmit (802.11ax-20BW_8.6Mbps) (2467MHz)
 Test Date : 2020/11/13

Peak:



Date: 17.NOV.2020 09:37:46

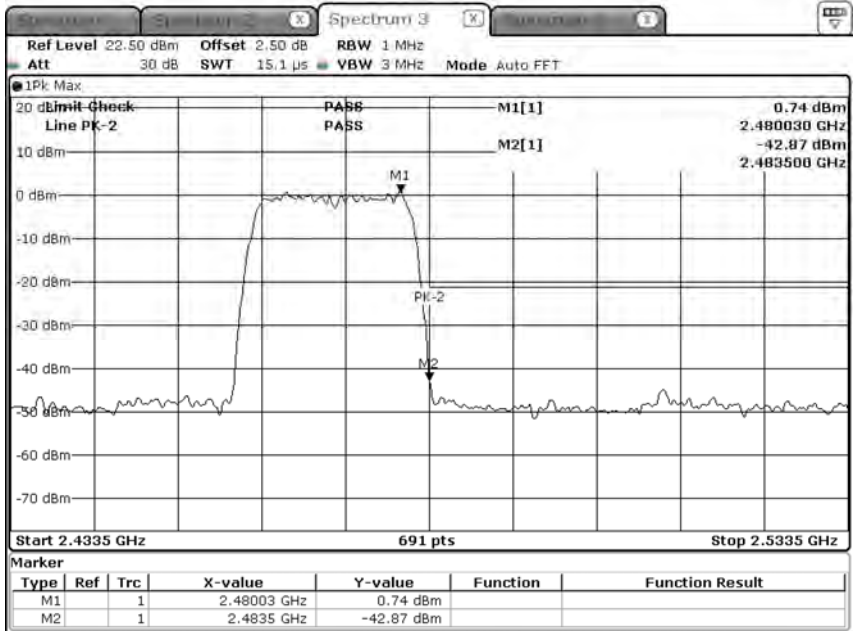
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Date: 13.NOV.2020 06:32:21

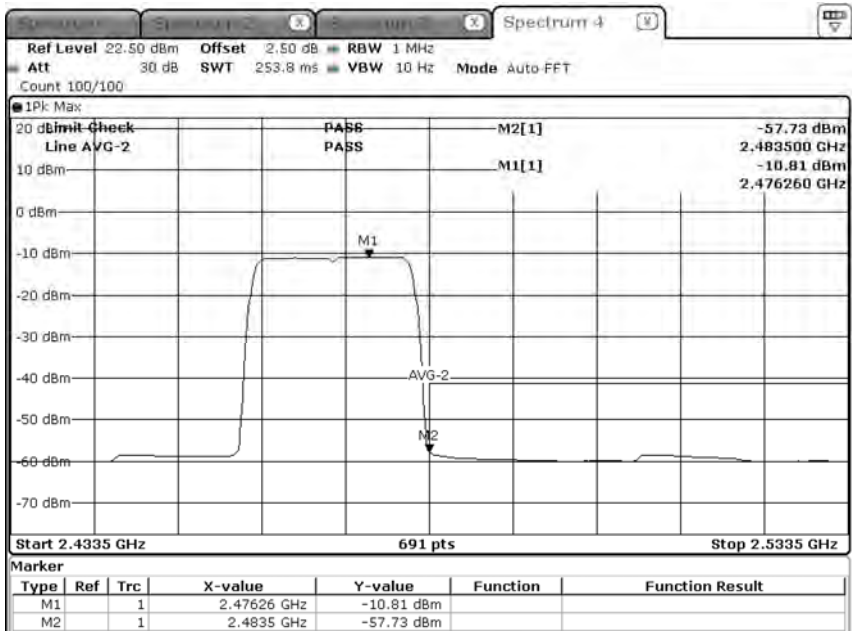
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 5 SISO A: Transmit (802.11ax-20BW_8.6Mbps) (2472MHz)
 Test Date : 2020/11/13

Peak:



Date: 17.NOV.2020 09:39:59

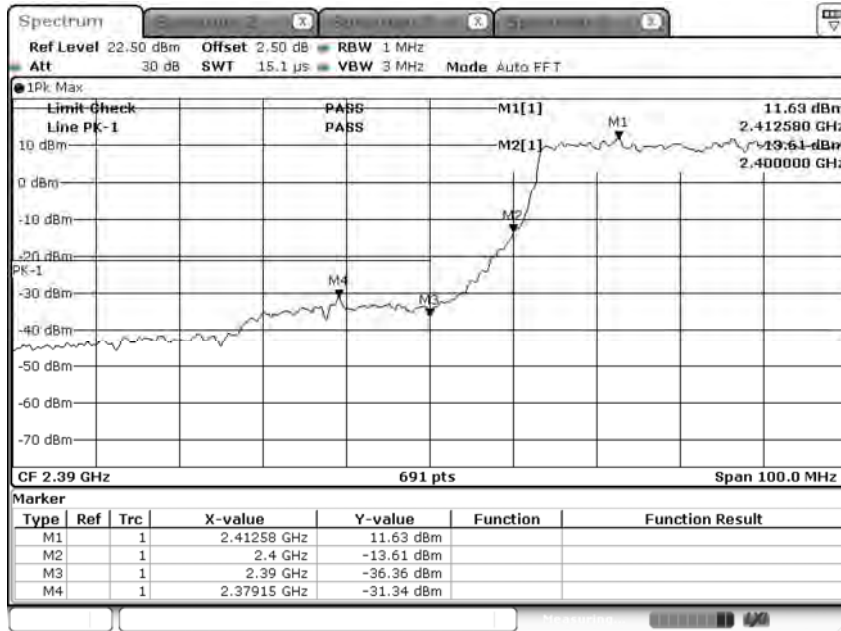
Average:



Date: 13.NOV.2020 06:38:10

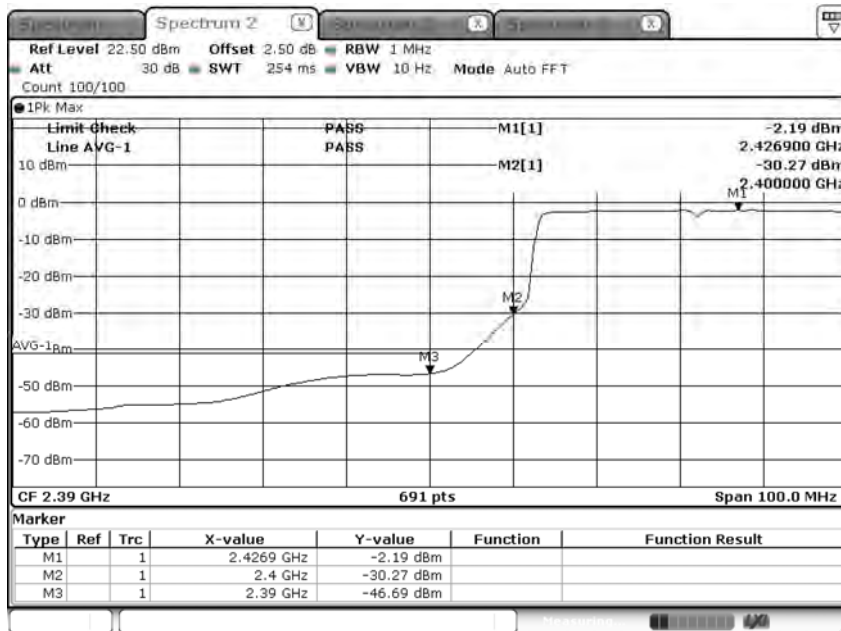
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 6 SISO A: Transmit (802.11ax-40BW_17.2Mbps) (2422MHz)
 Test Date : 2020/11/25

Peak:



Date: 25.NOV.2020 03:04:40

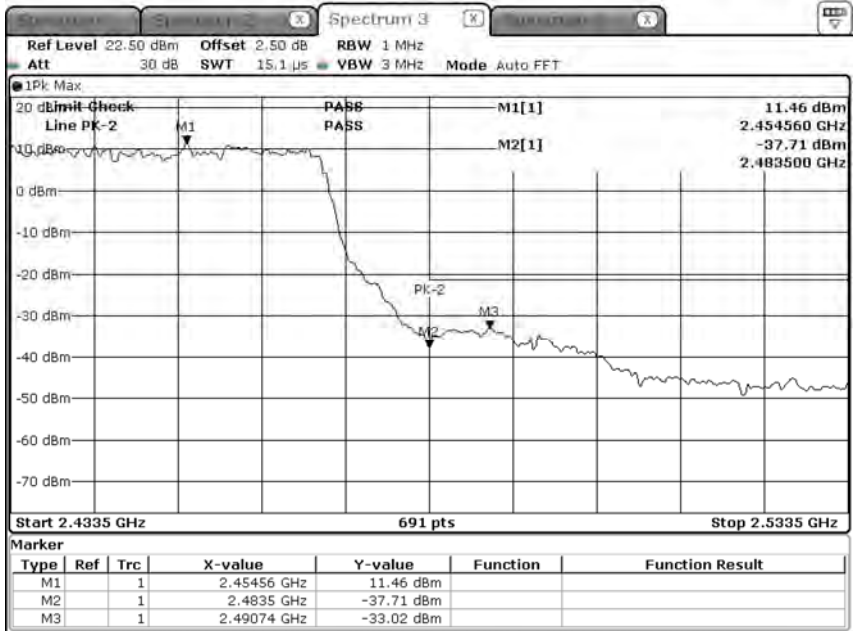
Average:



Date: 25.NOV.2020 03:03:26

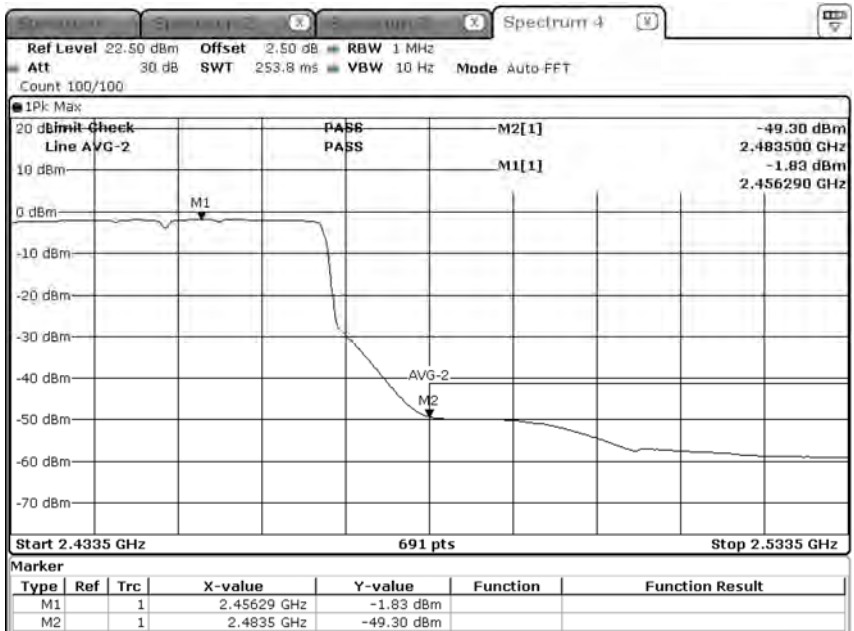
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 6 SISO A: Transmit (802.11ax-40BW_17.2Mbps) (2452MHz)
 Test Date : 2020/11/16

Peak:



Date: 16 NOV. 2020 12:20:27

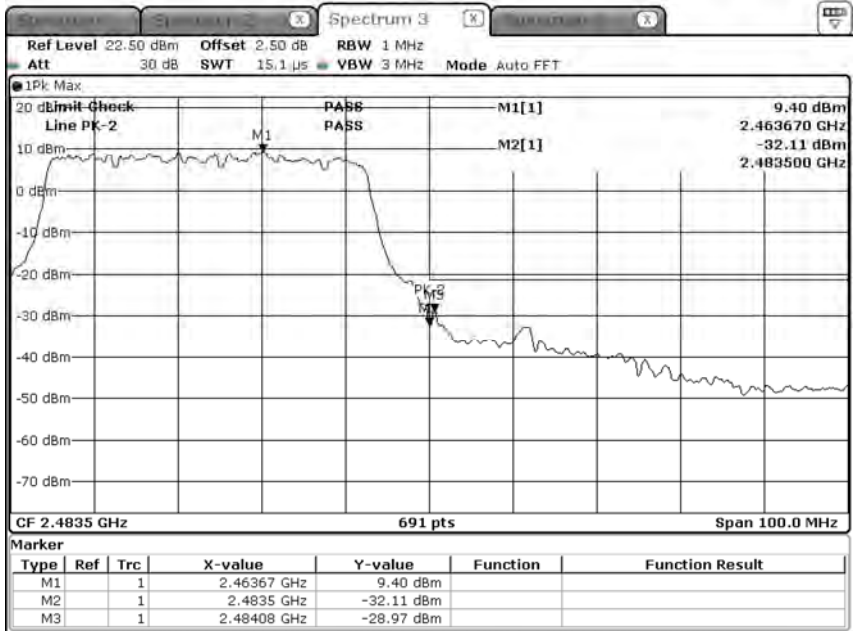
Average:



Date: 16 NOV. 2020 12:19:14

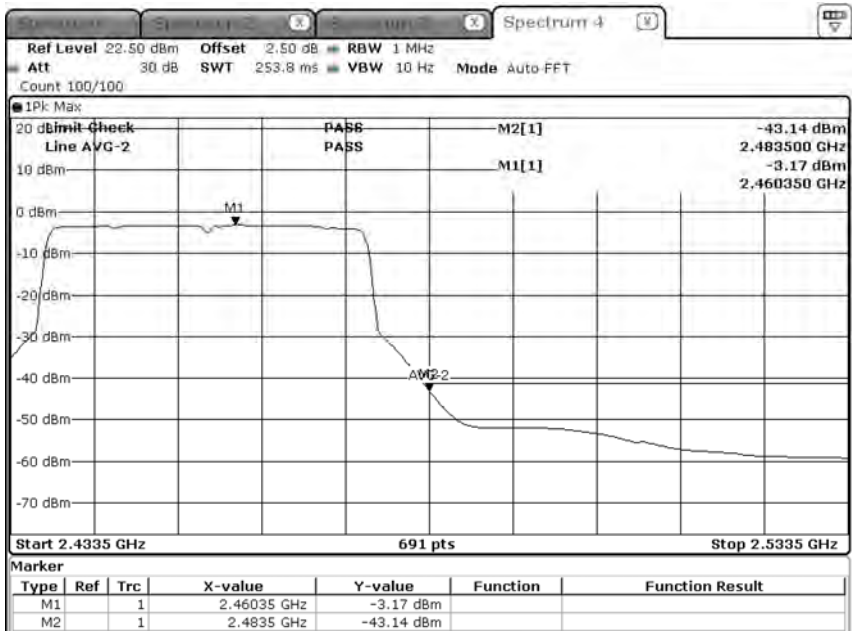
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 6 SISO A: Transmit (802.11ax-40BW_17.2Mbps) (2457MHz)
 Test Date : 2020/11/13

Peak:



Date: 17.NOV.2020 09:43:56

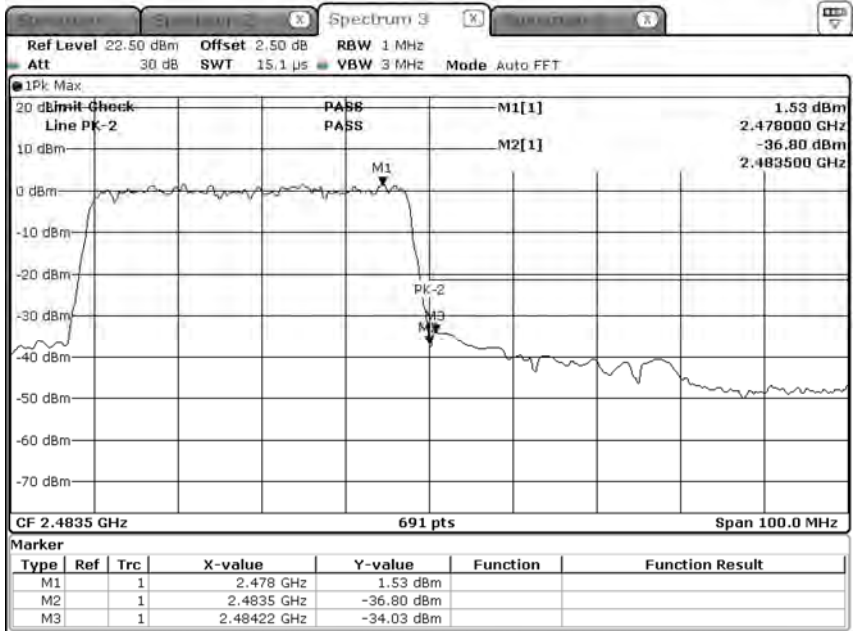
Average:



Date: 13.NOV.2020 07:14:27

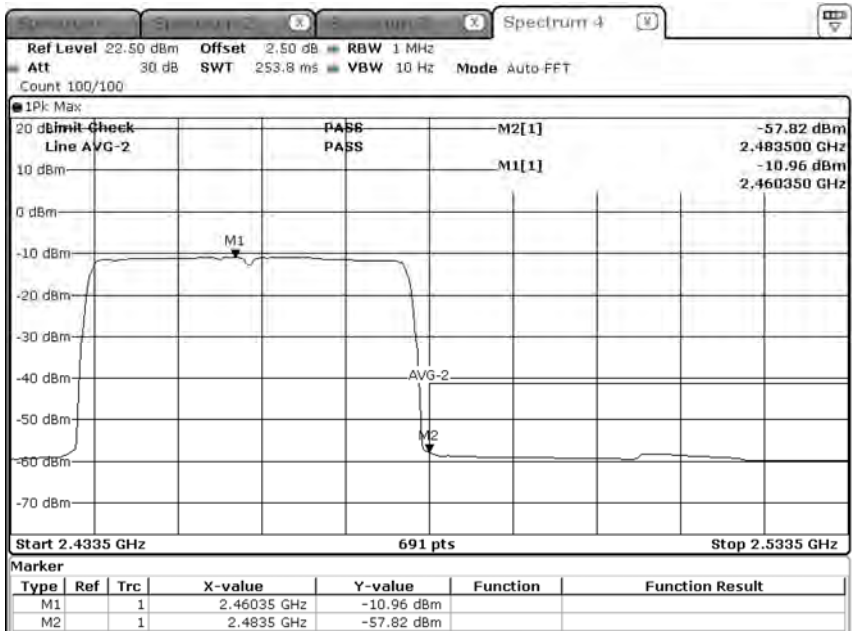
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 6 SISO A: Transmit (802.11ax-40BW_17.2Mbps) (2462MHz)
 Test Date : 2020/11/13

Peak:



Date: 17.NOV.2020 09:47:16

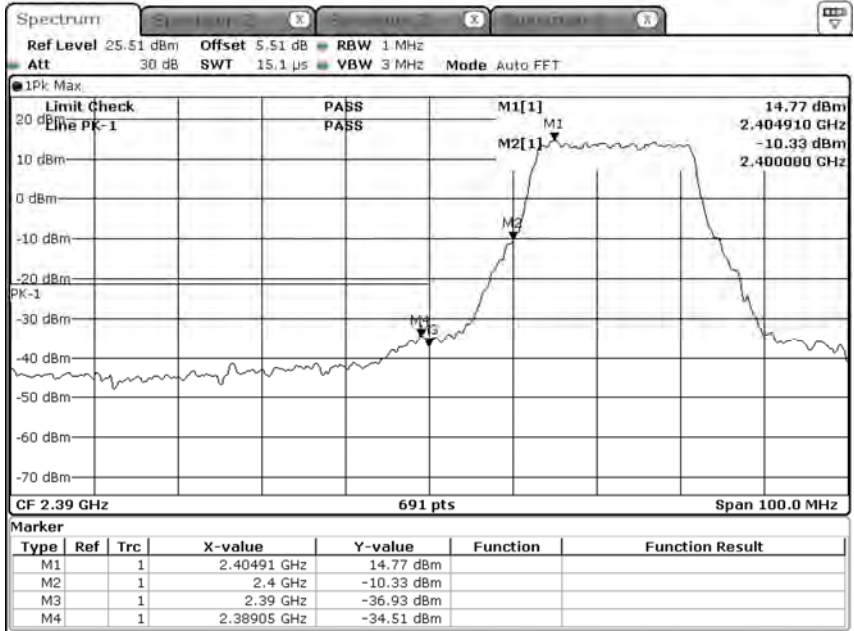
Average:



Date: 13.NOV.2020 07:23:44

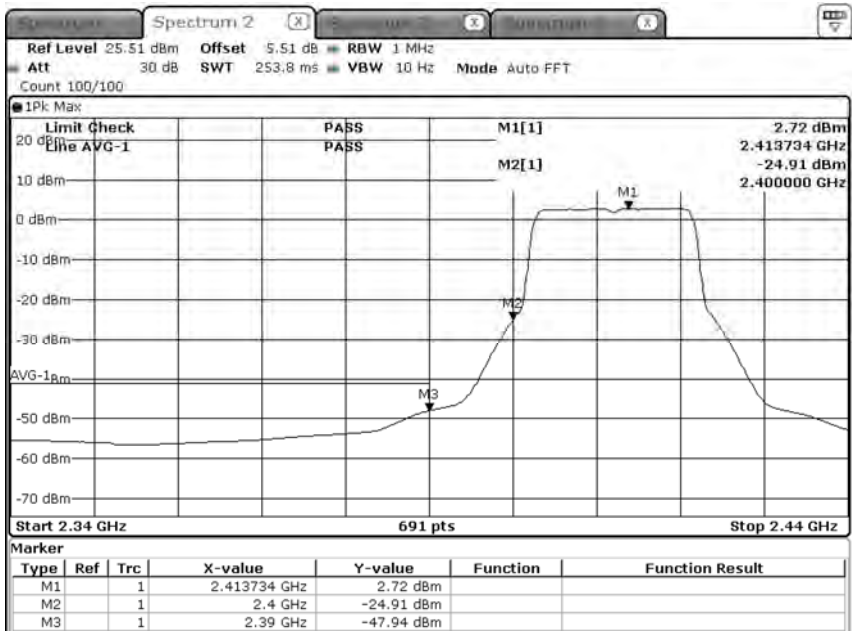
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2412MHz)
 Test Date : 2020/11/17

Peak: - Chain A



Date: 17.NOV.2020 09:50:15

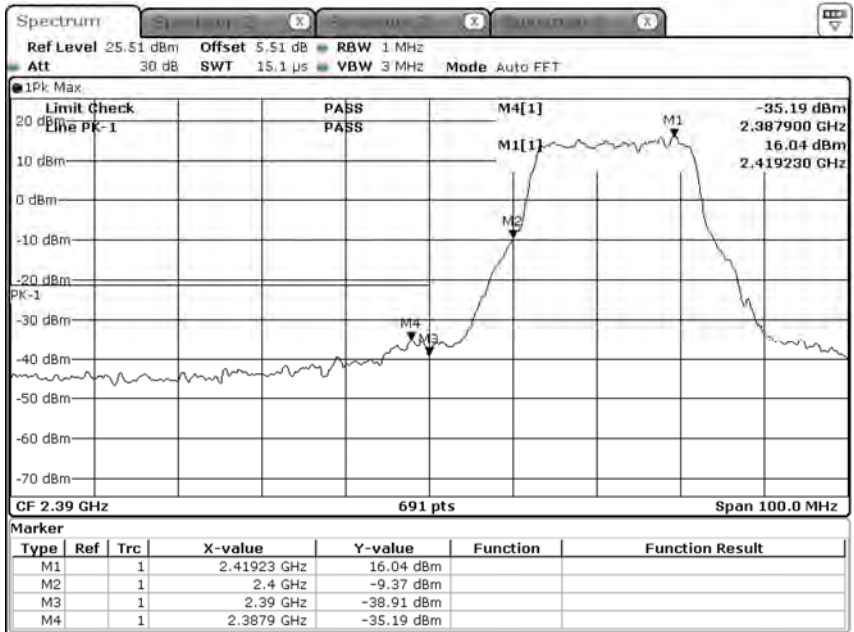
Average: - Chain A



Date: 17.NOV.2020 05:42:53

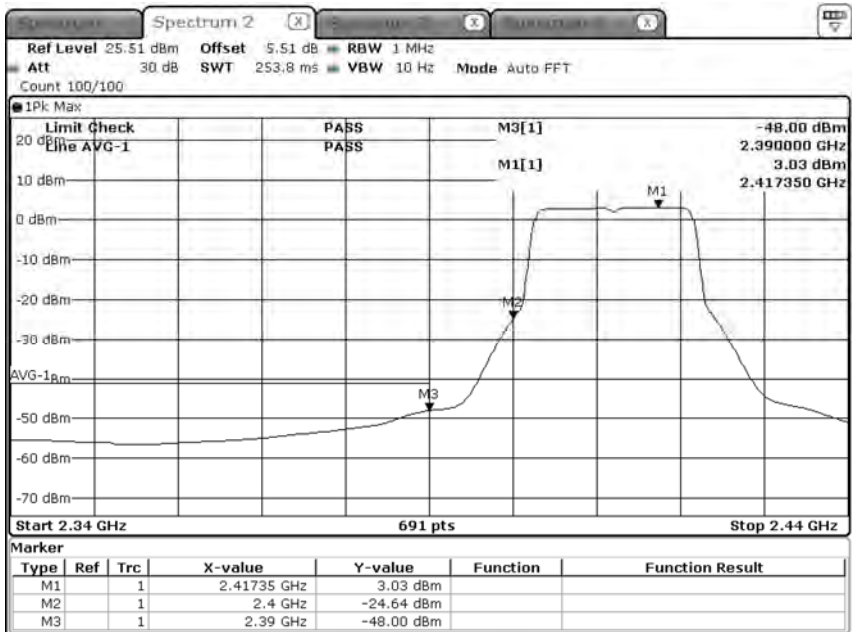
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2412MHz)
 Test Date : 2020/11/17

Peak: - Chain B



Date: 17.NOV.2020 09:52:03

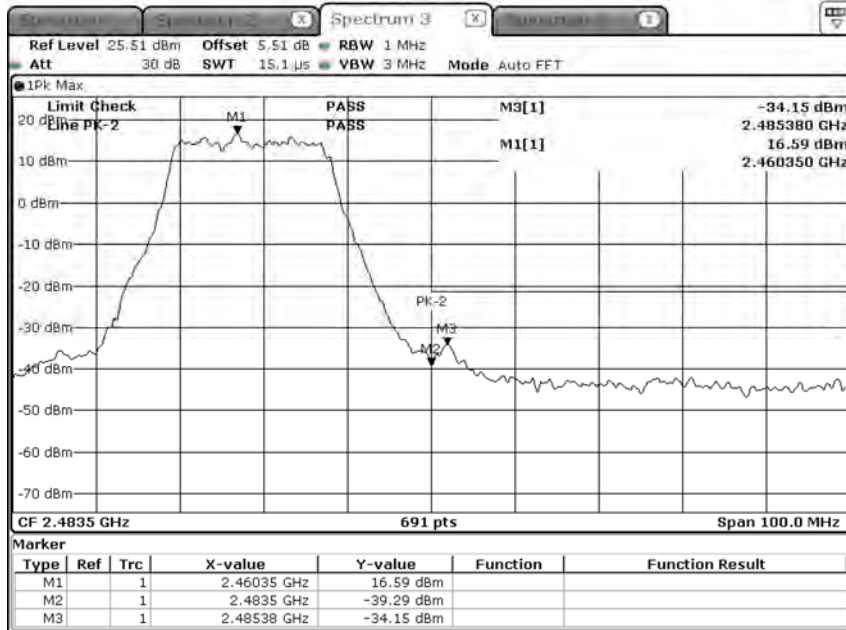
Average: - Chain B



Date: 14.NOV.2020 02:22:54

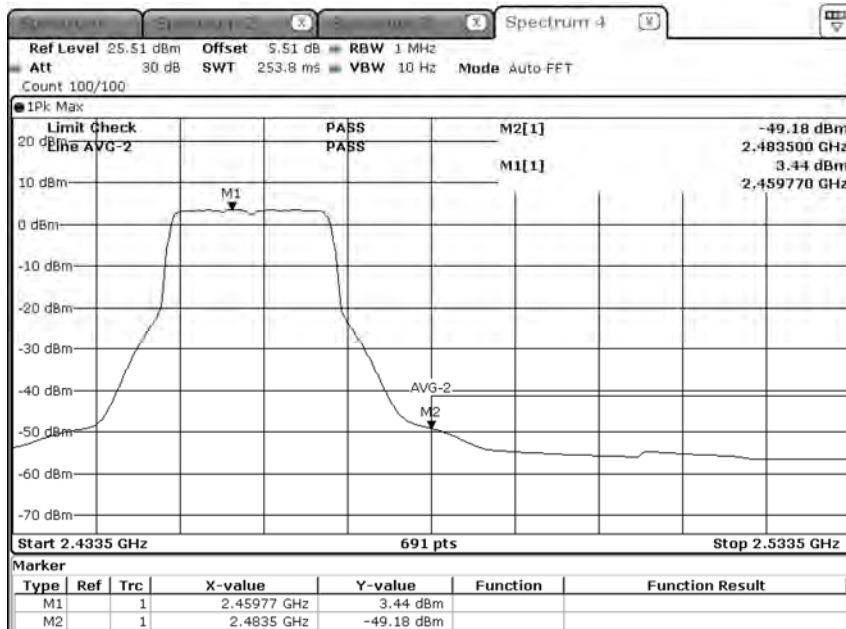
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2462MHz)
 Test Date : 2020/11/14

Peak: - Chain A



Date: 14.NOV.2020 02:45:50

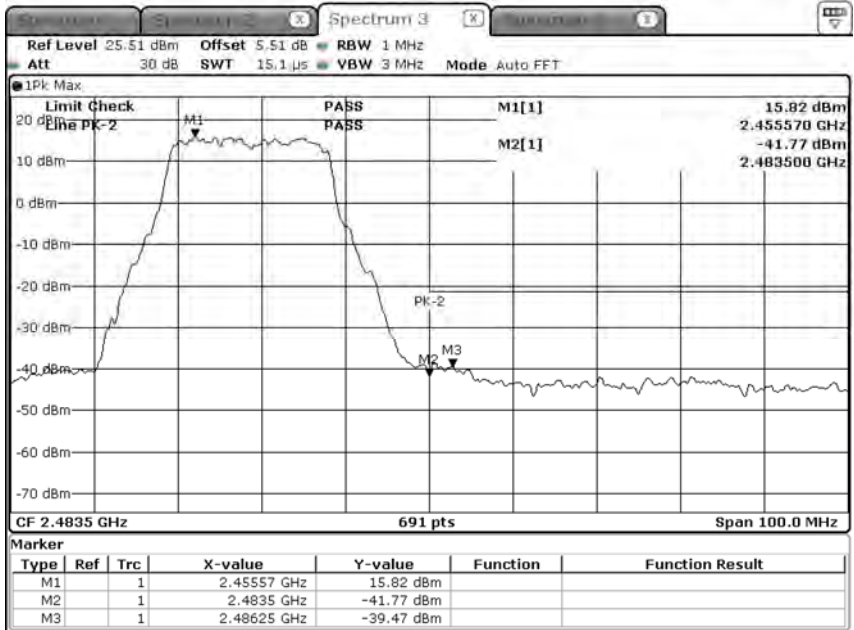
Average: - Chain A



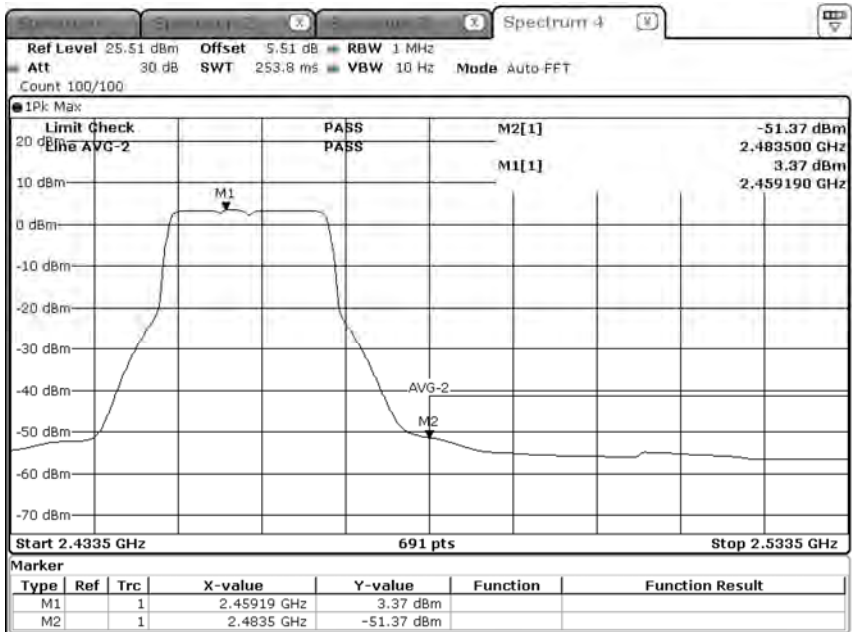
Date: 14.NOV.2020 02:44:10

Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2462MHz)
 Test Date : 2020/11/14

Peak: - Chain B

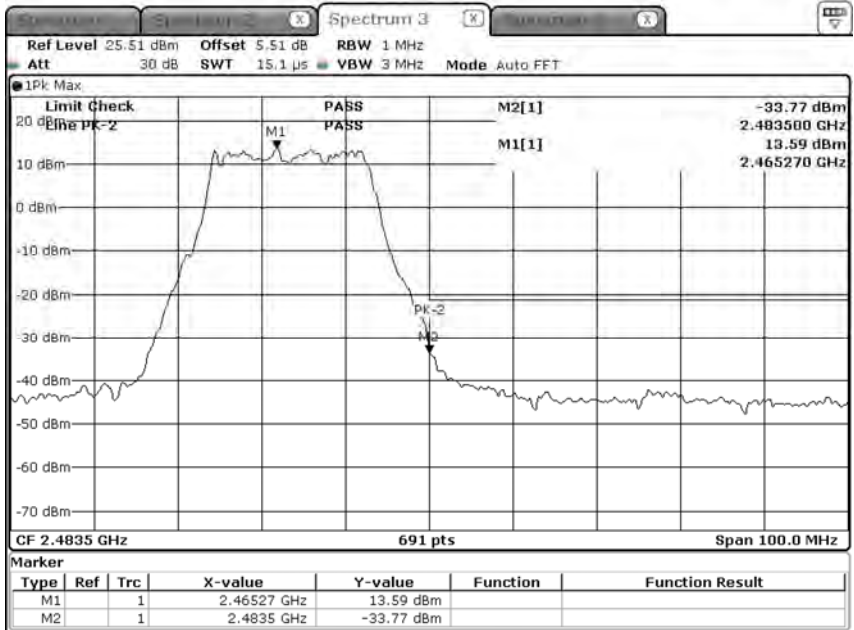


Average: - Chain B



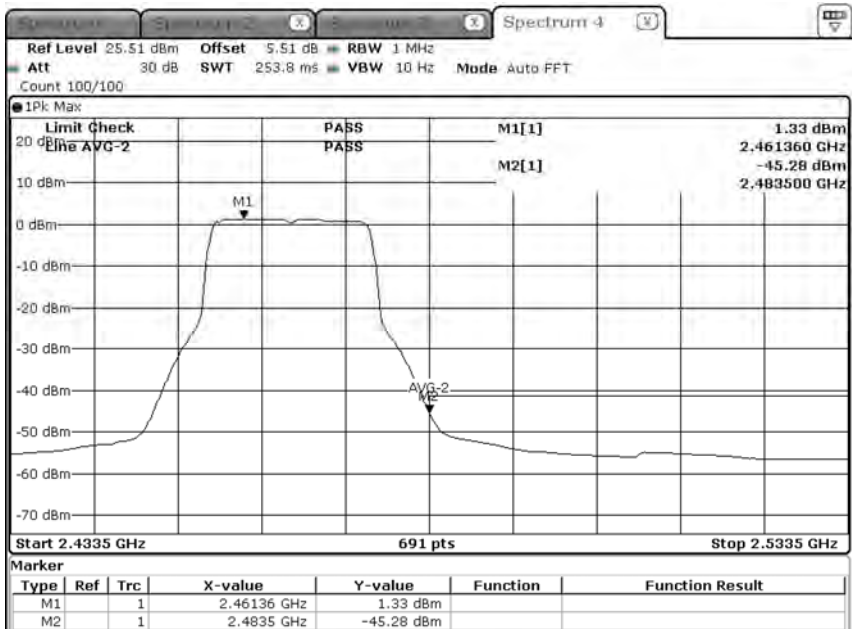
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2467MHz)
 Test Date : 2020/11/17

Peak: - Chain A



Date: 17.NOV.2020 09:56:48

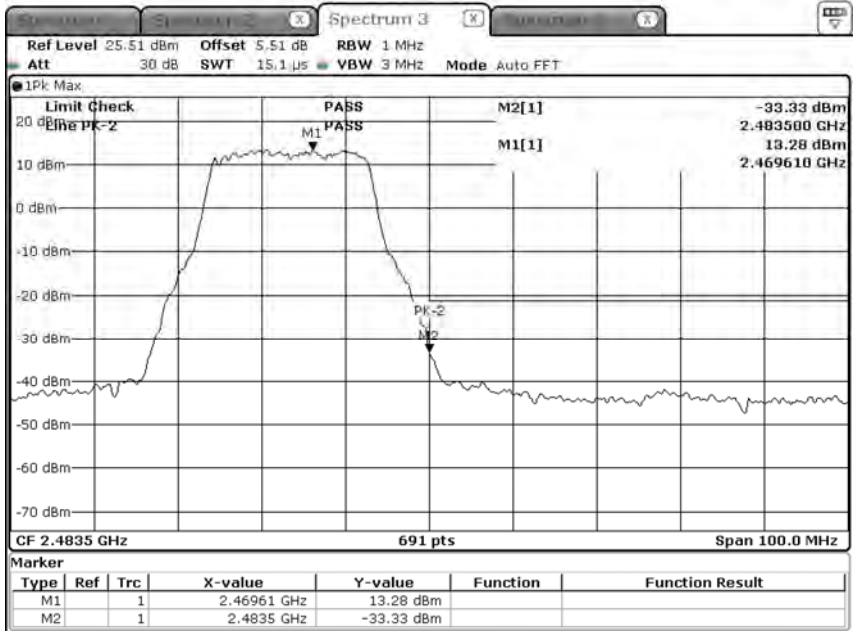
Average: - Chain A



Date: 17.NOV.2020 05:47:40

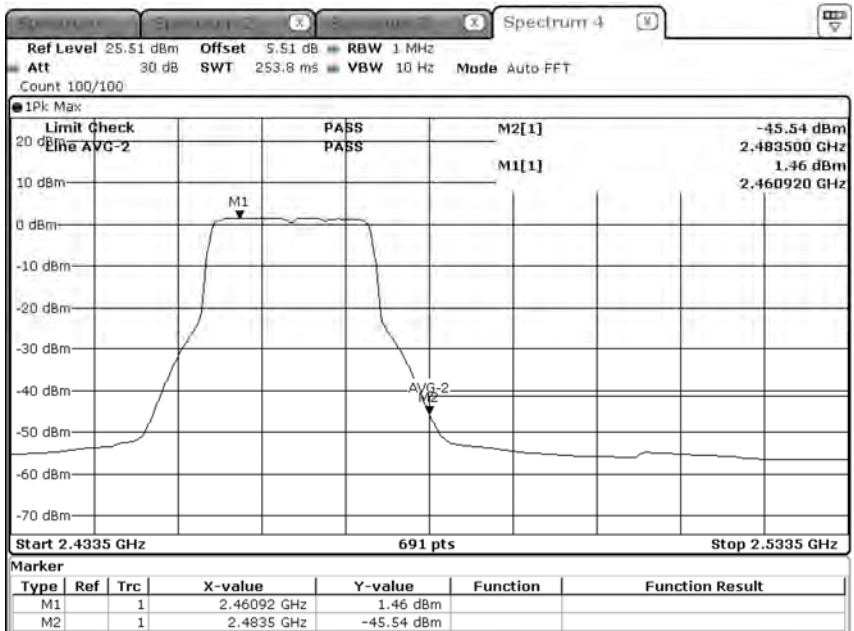
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2467MHz)
 Test Date : 2020/11/17

Peak: - Chain B



Date: 17.NOV.2020 09:54:58

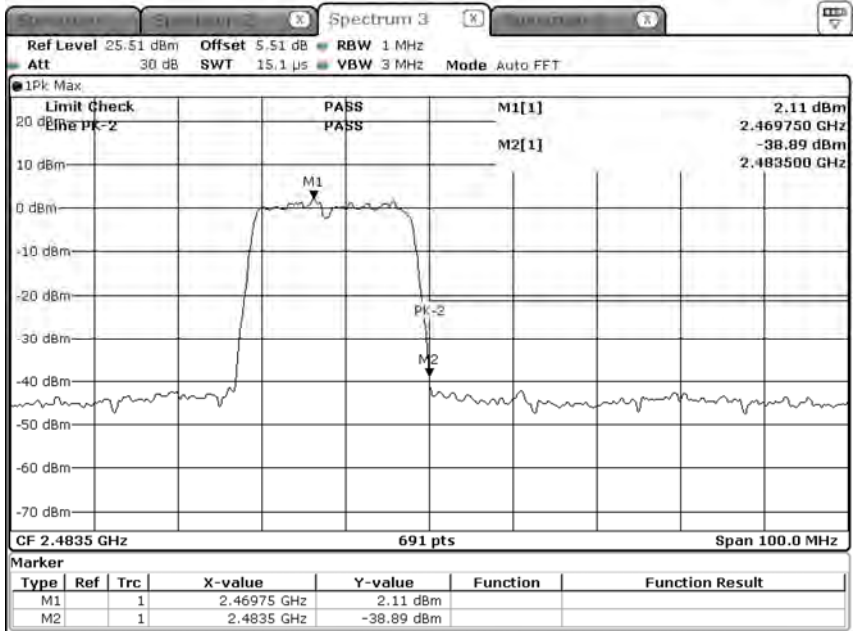
Average: - Chain B



Date: 14.NOV.2020 02:29:57

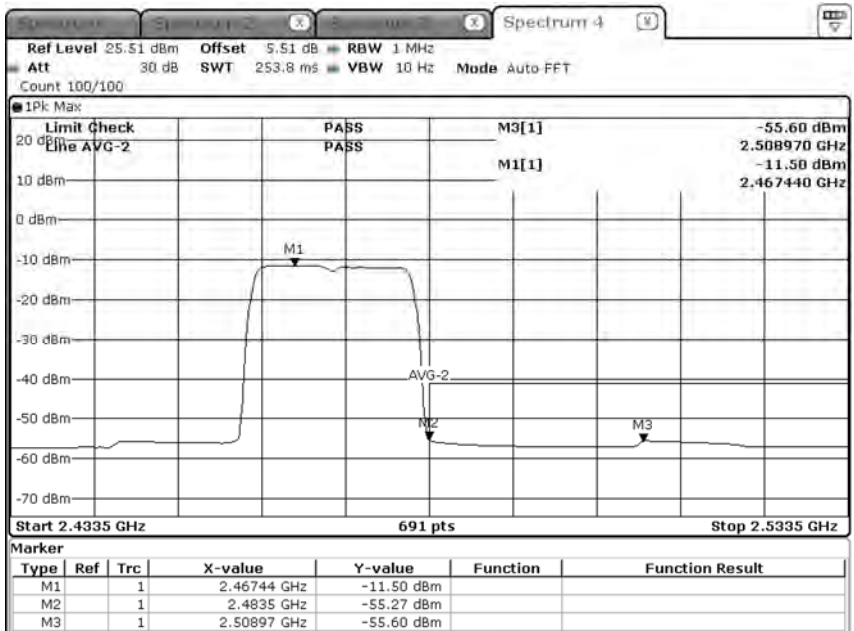
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2472MHz)
 Test Date : 2020/11/14

Peak: - Chain A



Date: 14.NOV.2020 02:38:56

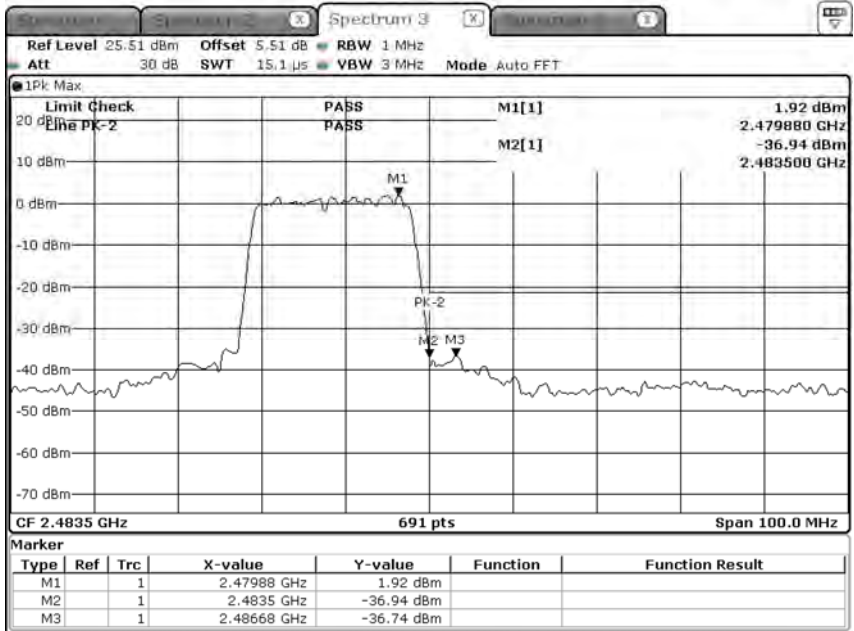
Average: - Chain A



Date: 17.NOV.2020 05:51:42

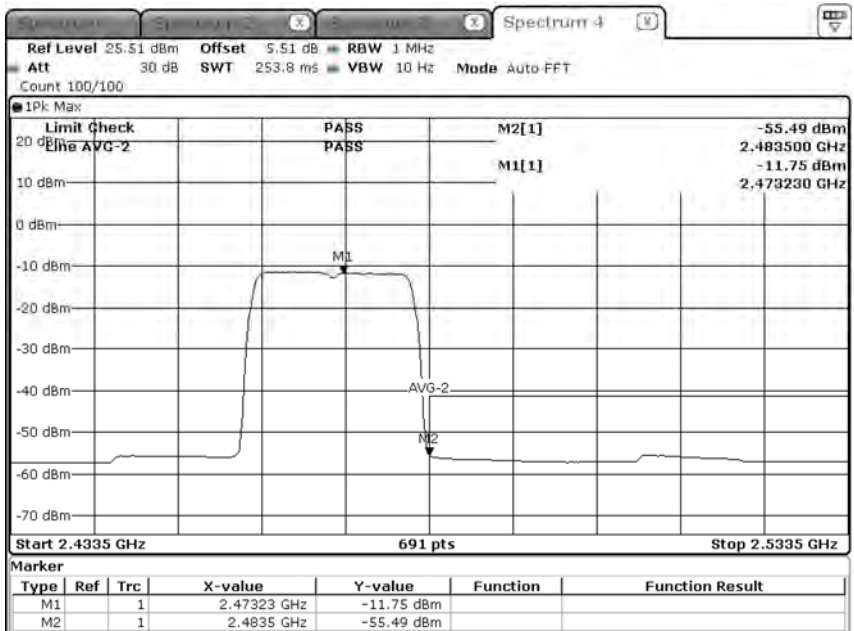
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps) (2472MHz)
 Test Date : 2020/11/14

Peak: - Chain B



Date: 14.NOV.2020 02:35:25

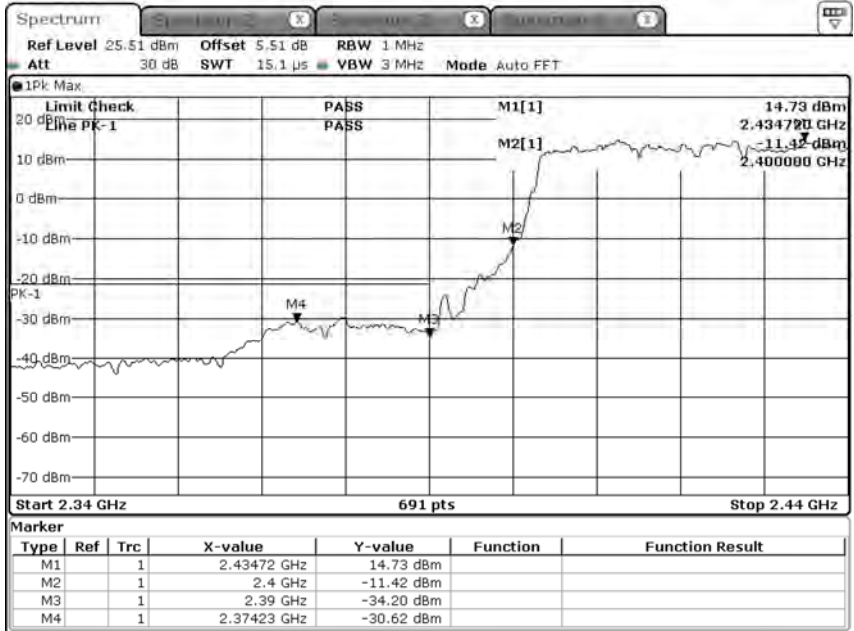
Average: - Chain B



Date: 14.NOV.2020 02:33:48

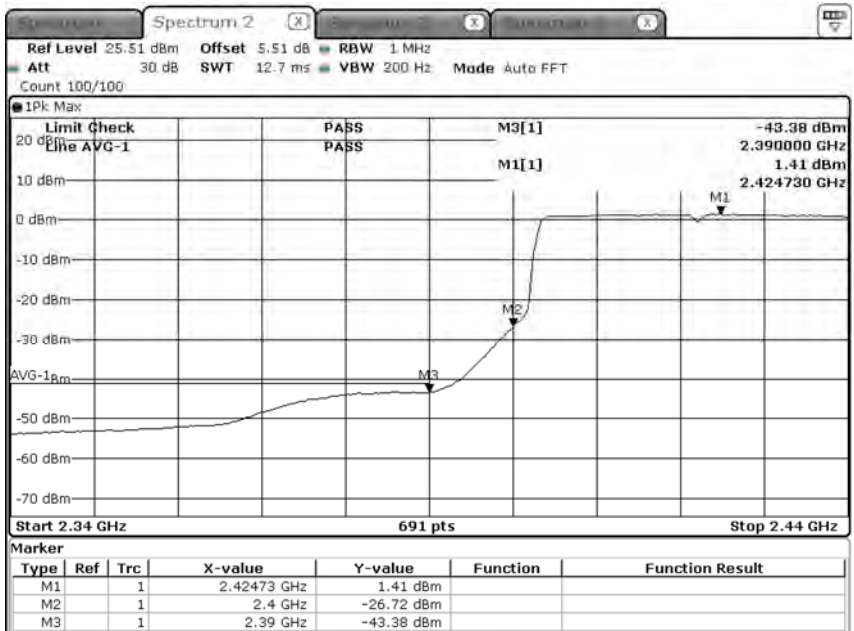
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2422MHz)
 Test Date : 2020/11/14

Peak: - Chain A



Date: 14.NOV.2020 02:58:51

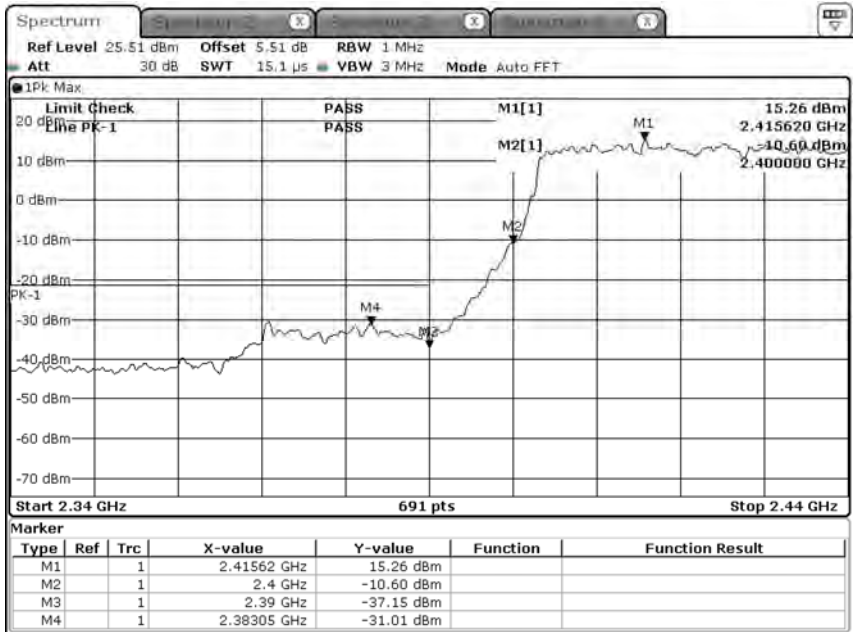
Average: - Chain A



Date: 14.NOV.2020 02:56:55

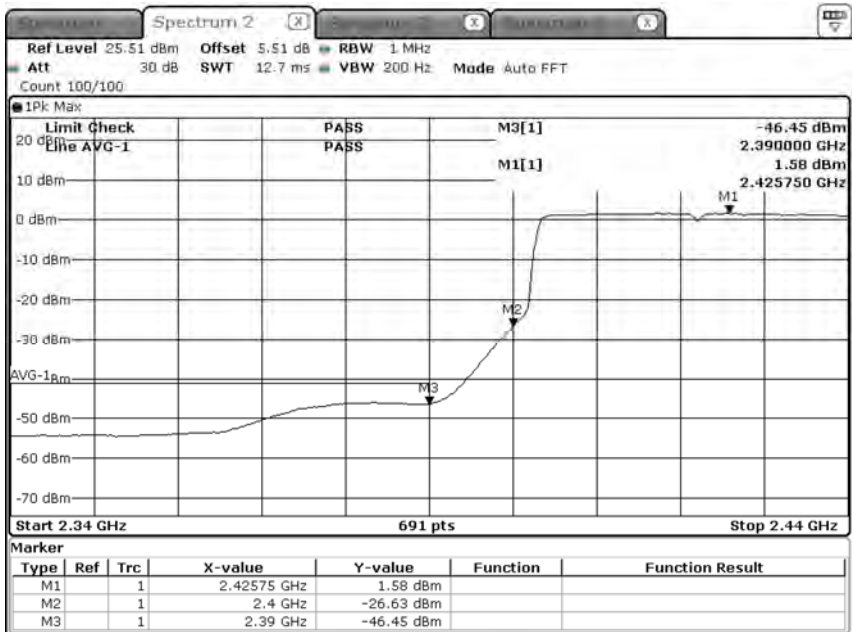
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2422MHz)
 Test Date : 2020/11/14

Peak: - Chain B



Date: 14.NOV.2020 03:20:01

Average: - Chain B



Date: 14.NOV.2020 03:18:29

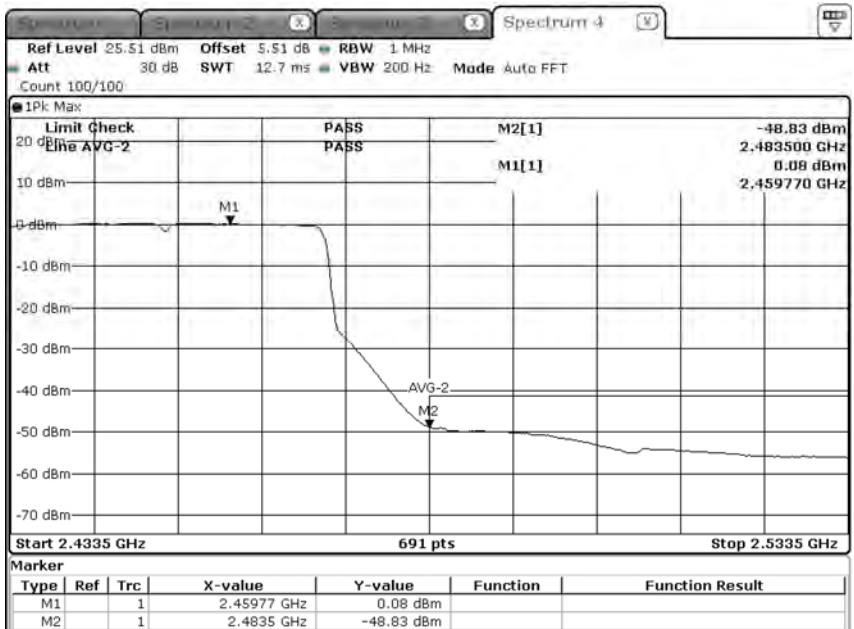
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2452MHz)
 Test Date : 2020/11/14

Peak: - Chain A



Date: 14.NOV.2020 03:01:51

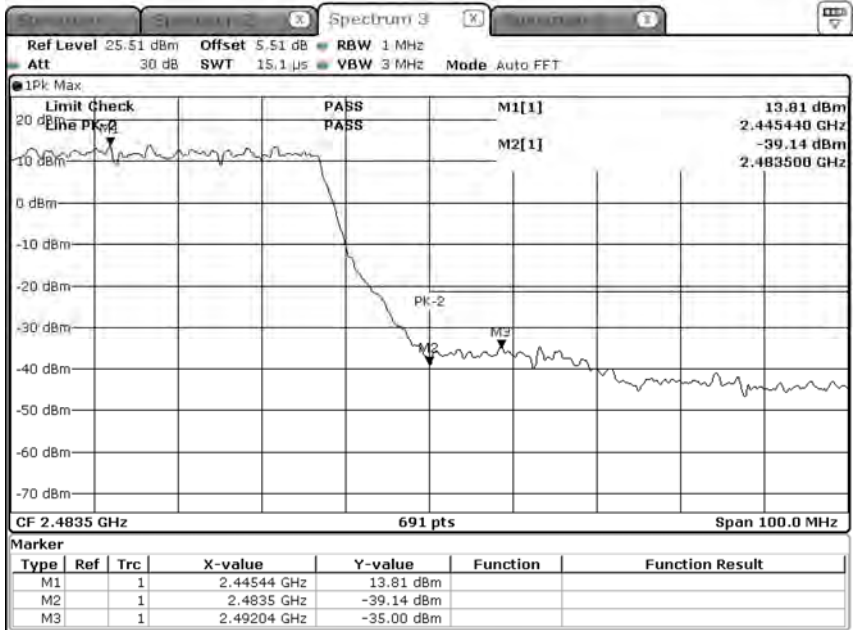
Average: - Chain A



Date: 14.NOV.2020 03:00:20

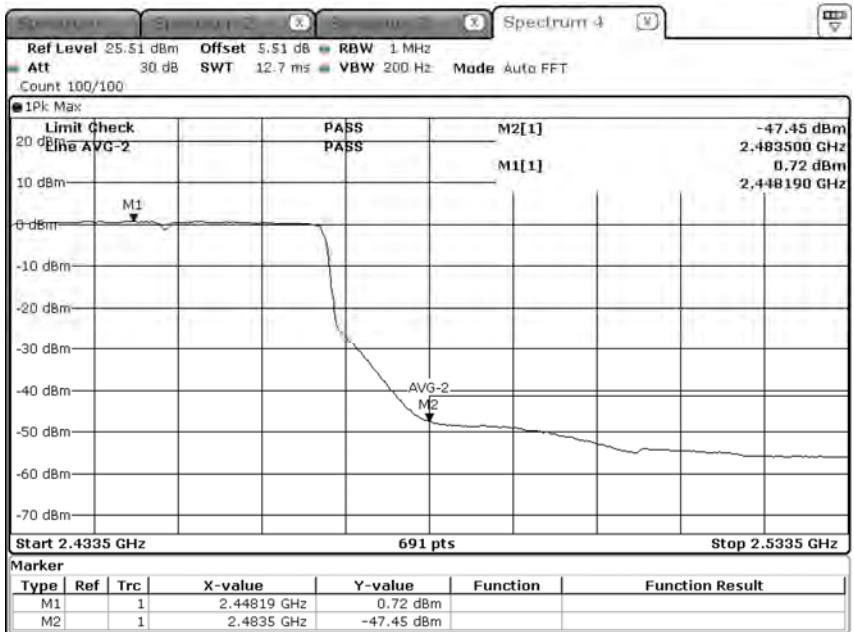
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2452MHz)
 Test Date : 2020/11/14

Peak: - Chain B



Date: 14.NOV.2020 03:16:52

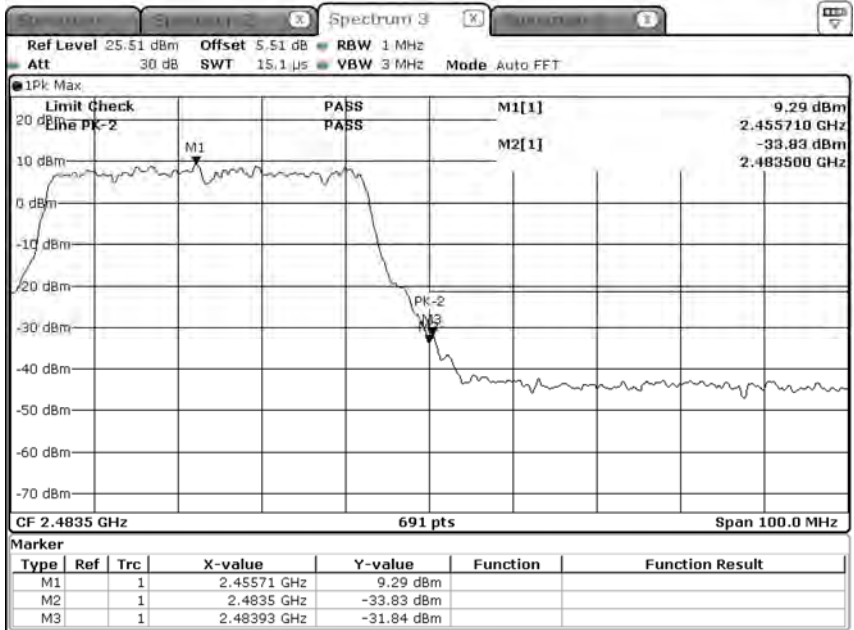
Average: - Chain B



Date: 14.NOV.2020 03:15:16

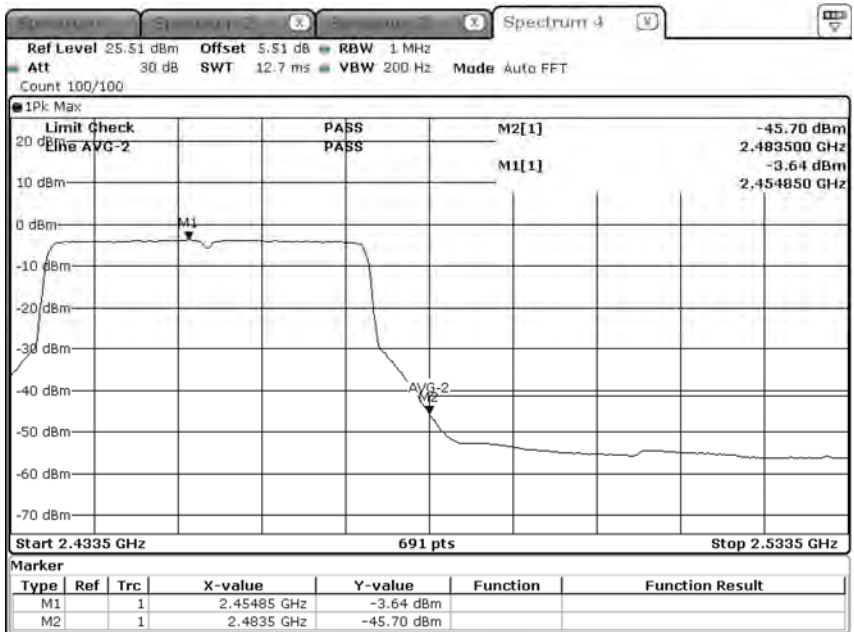
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2457MHz)
 Test Date : 2020/11/14

Peak: - Chain A



Date: 14.NOV.2020 03:04:27

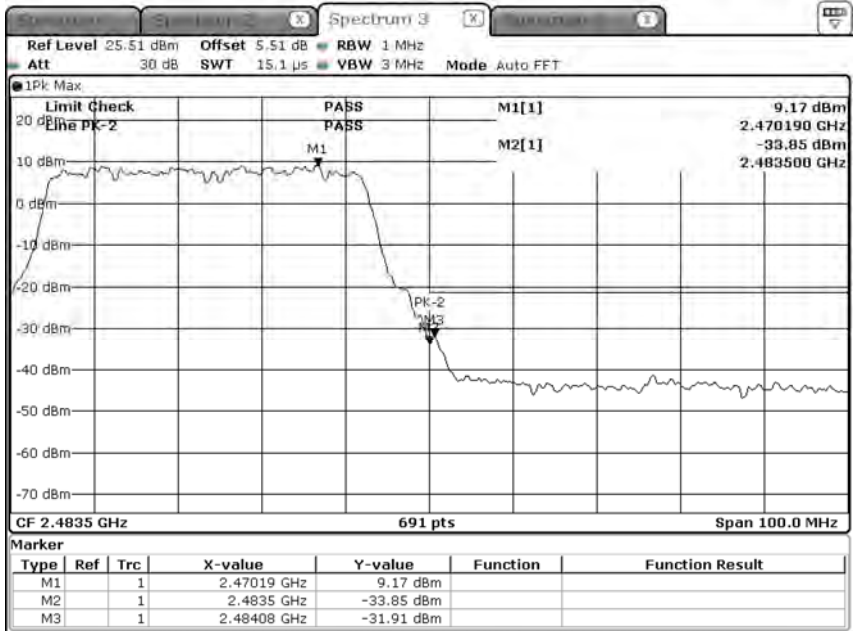
Average: - Chain A



Date: 14.NOV.2020 03:03:00

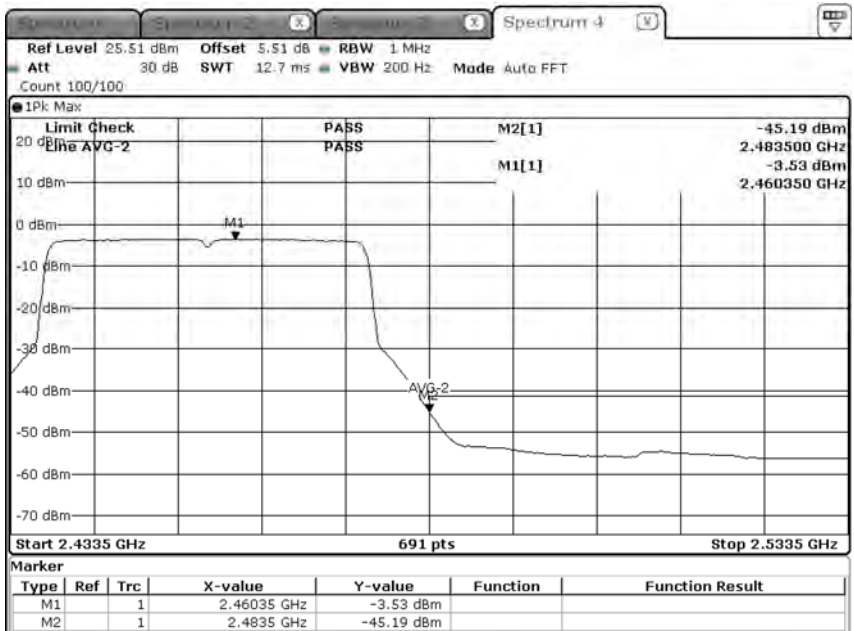
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2457MHz)
 Test Date : 2020/11/14

Peak: - Chain B



Date: 14.NOV.2020 03:13:54

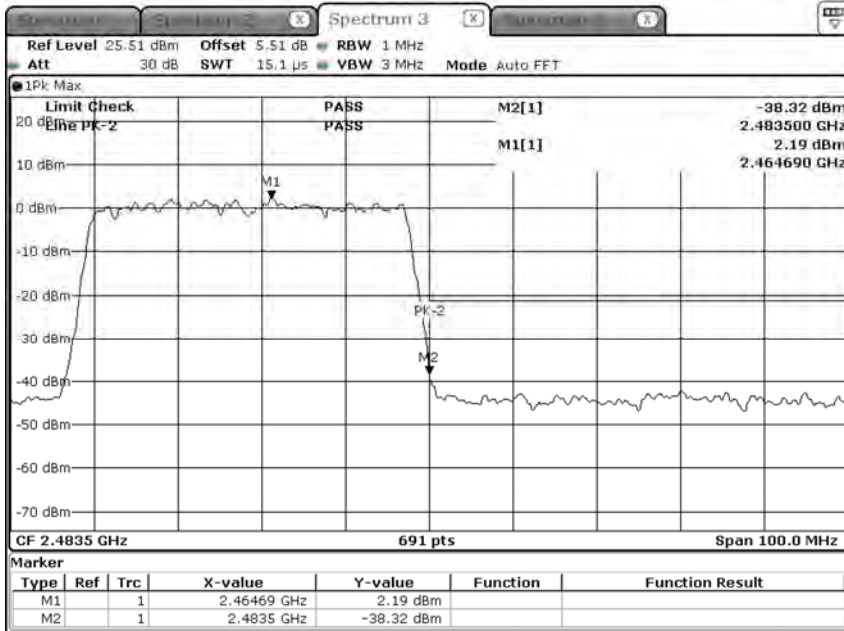
Average: - Chain B



Date: 14.NOV.2020 03:12:38

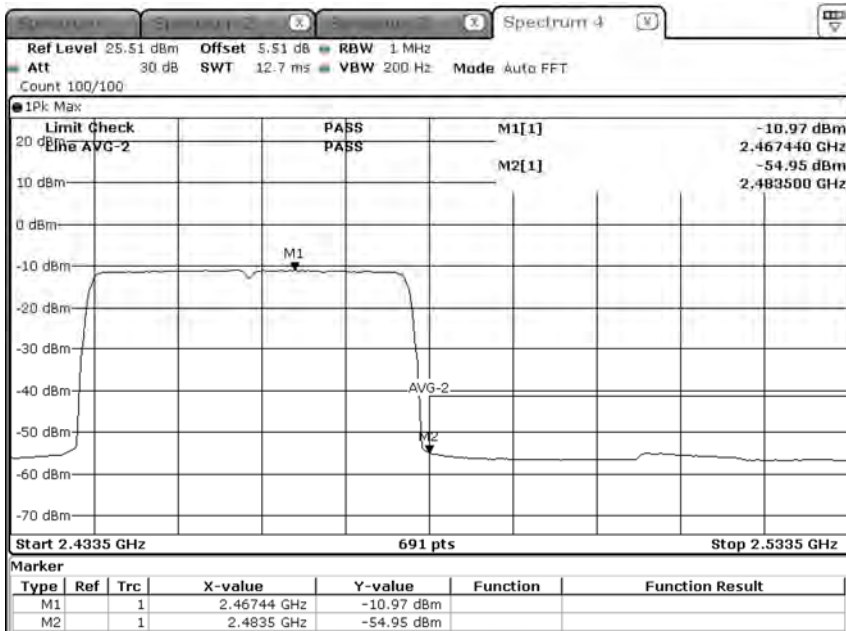
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2462MHz)
 Test Date : 2020/11/14

Peak: - Chain A



Date: 14.NOV.2020 03:08:18

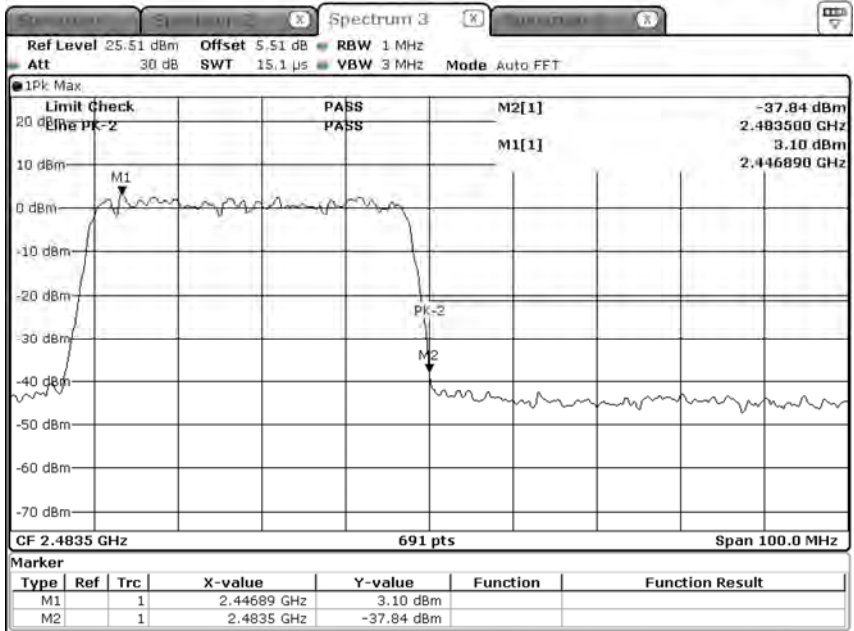
Average: - Chain A



Date: 14.NOV.2020 03:06:42

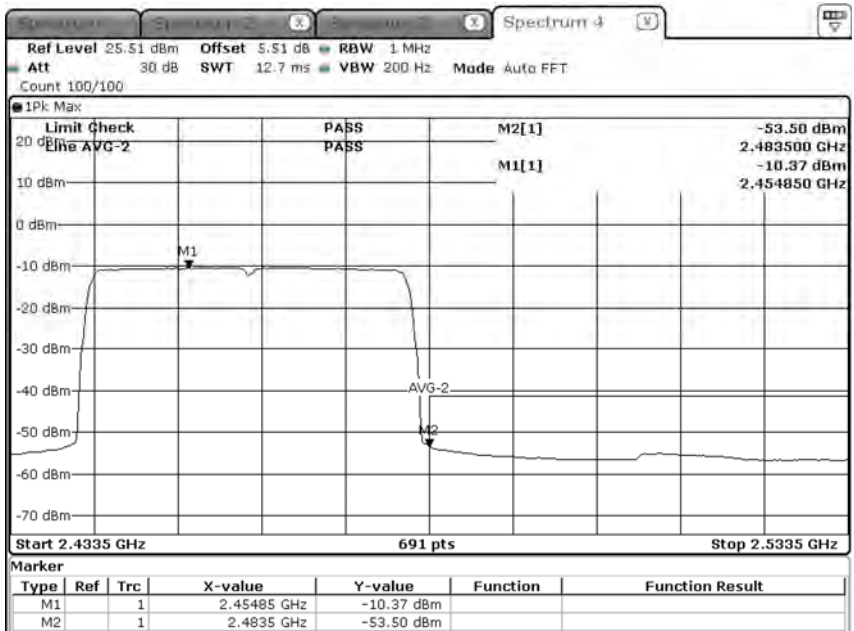
Product : Notebook Computers
 Test Item : Band Edge Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps) (2462MHz)
 Test Date : 2020/11/14

Peak: - Chain B



Date: 14.NOV.2020 03:11:17

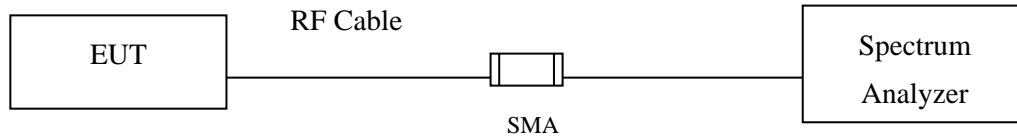
Average: - Chain B



Date: 14.NOV.2020 03:10:07

7. 6dB Bandwidth

7.1. Test Setup



7.2. Limits

The minimum bandwidth shall be at least 500 kHz.

7.3. Test Procedure

The EUT was setup according to ANSI C63.4, 2014; tested according to ANSI C63.10 Section 11.8 for compliance to FCC 47CFR 15.247 requirements.

7.4. Test Result of 6dB Bandwidth

Product : Notebook Computers
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	9100	>500	Pass
07	2442	9150	>500	Pass
13	2472	9100	>500	Pass

Figure Channel 01:

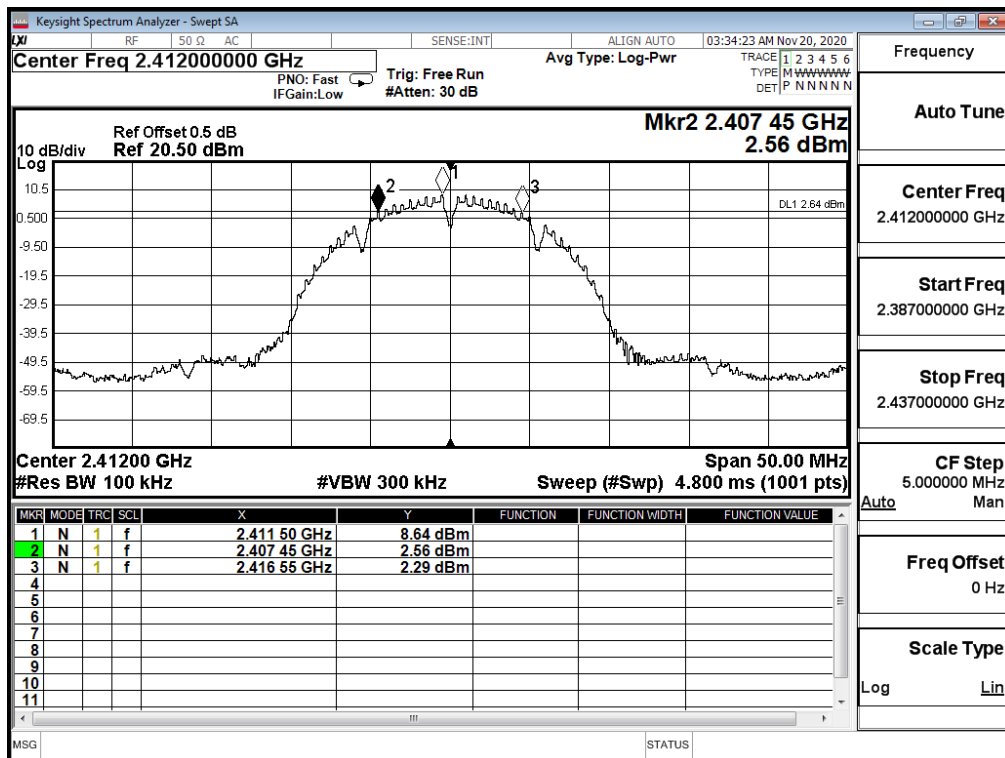


Figure Channel 07:

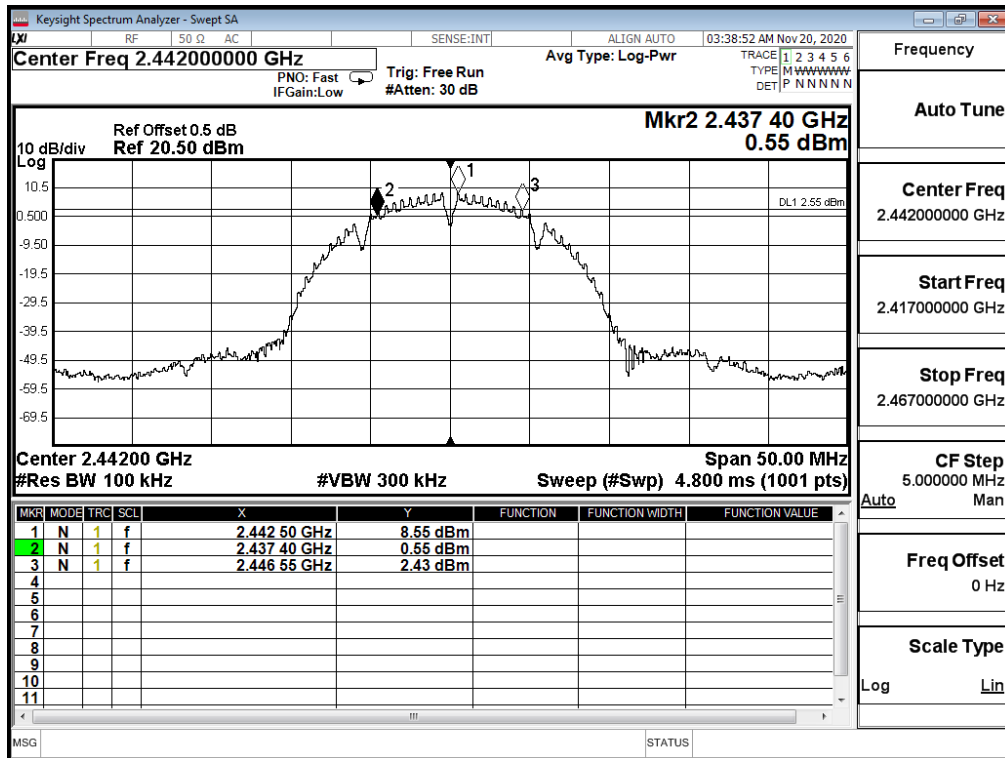
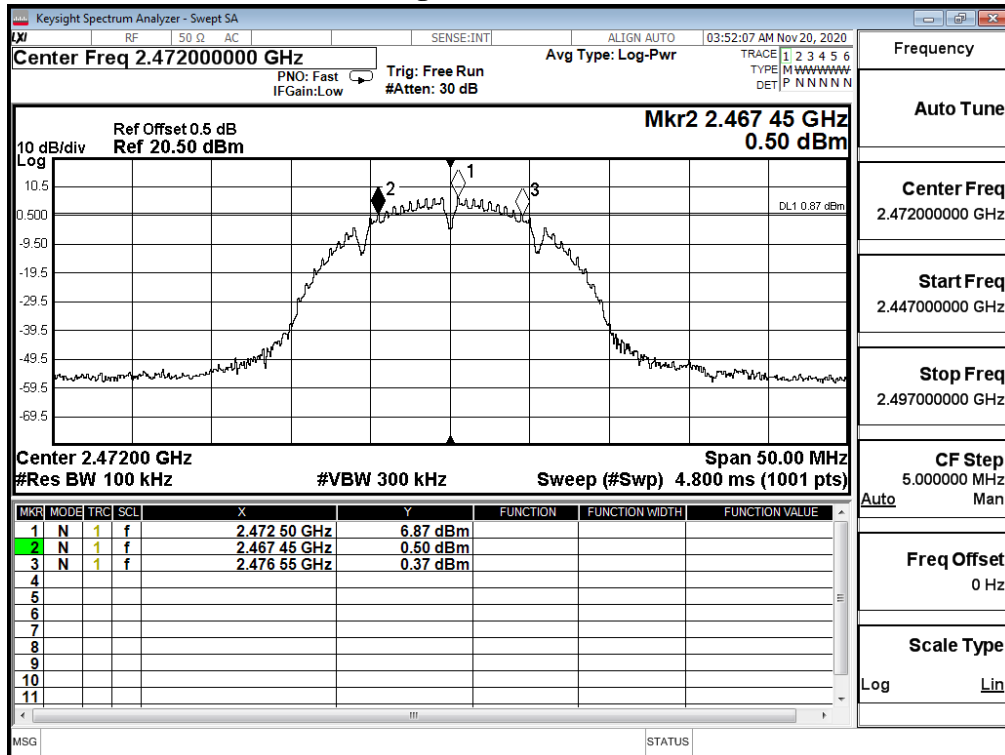


Figure Channel 13:



Product : Notebook Computers
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps)

Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	19000	>500	Pass
07	2442	19000	>500	Pass
13	2472	18550	>500	Pass

Figure Channel 01: (Chain A)

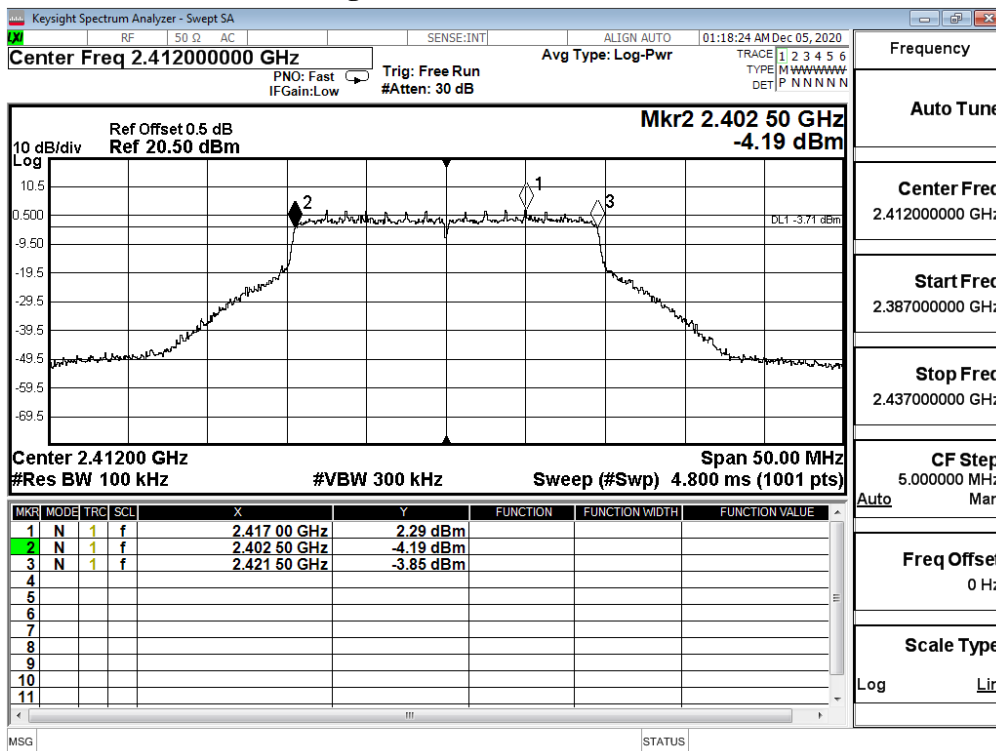


Figure Channel 07: (Chain A)

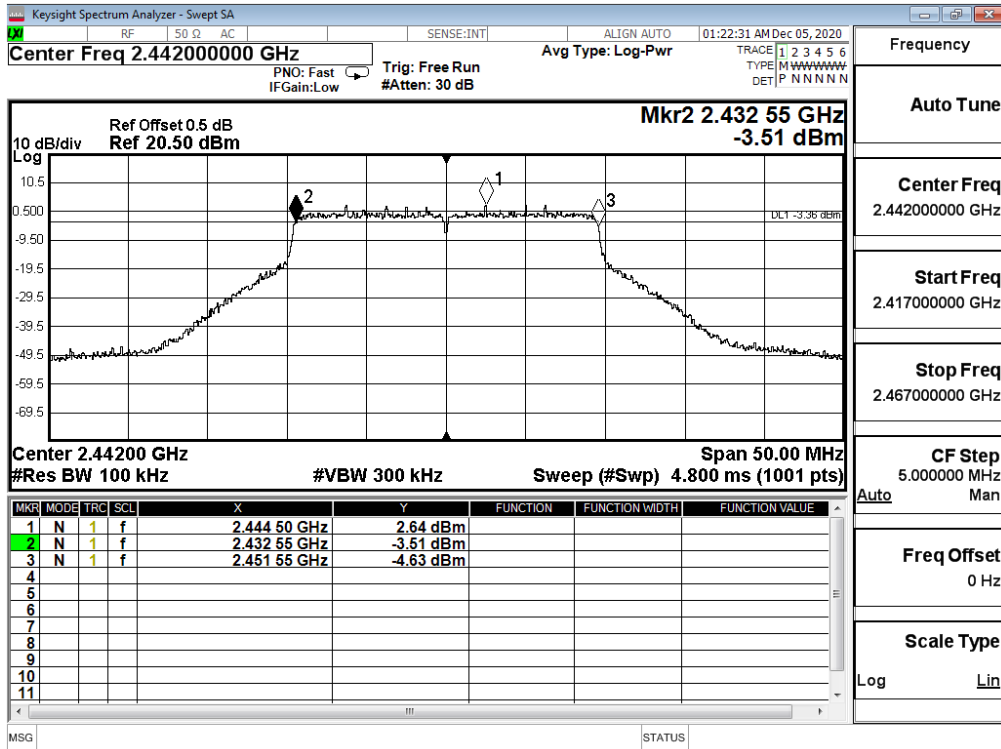


Figure Channel 13: (Chain A)

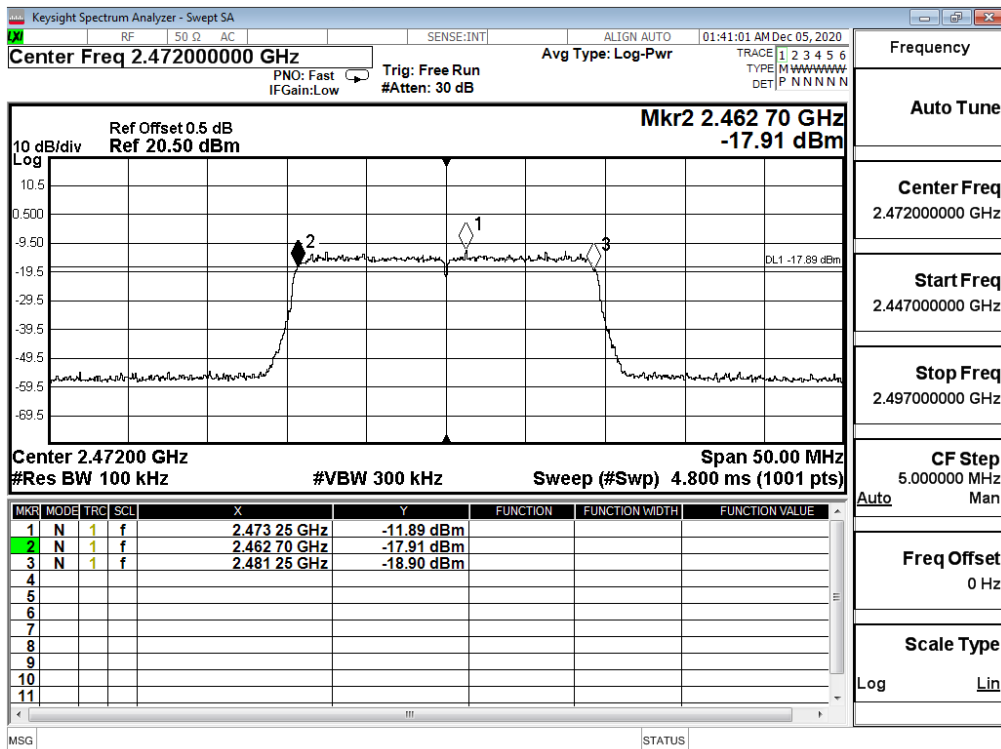


Figure Channel 07: (Chain B)

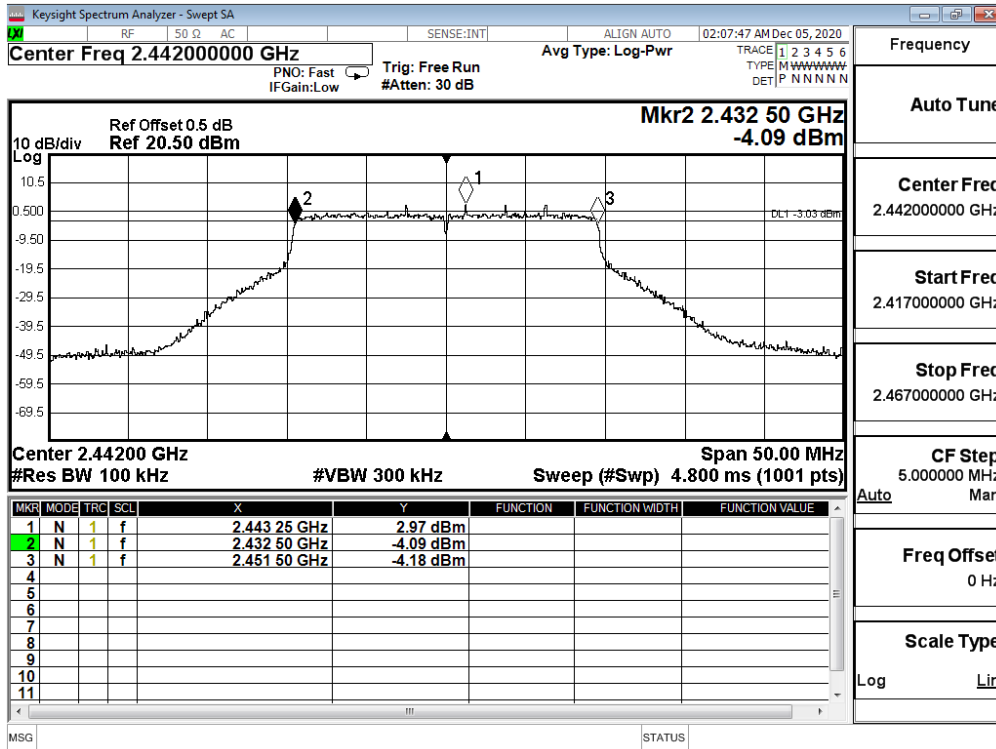
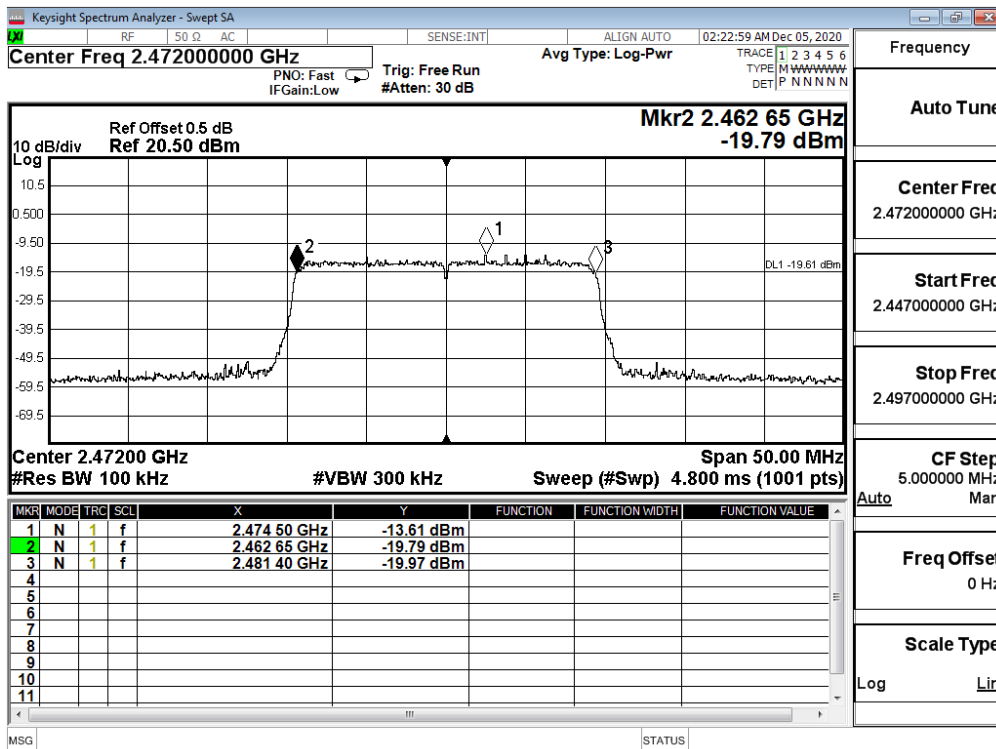


Figure Channel 13: (Chain B)



Product : Notebook Computers
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps)

Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	37700	>500	Pass
07	2442	38100	>500	Pass
11	2462	37800	>500	Pass

Figure Channel 03: (Chain A)

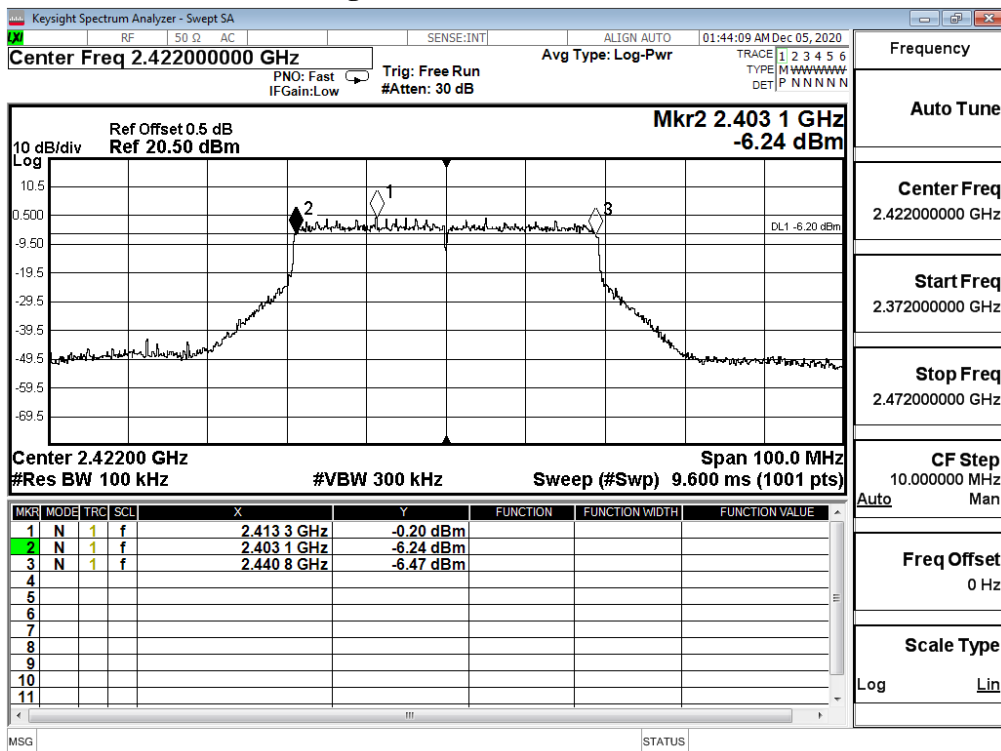


Figure Channel 07: (Chain A)

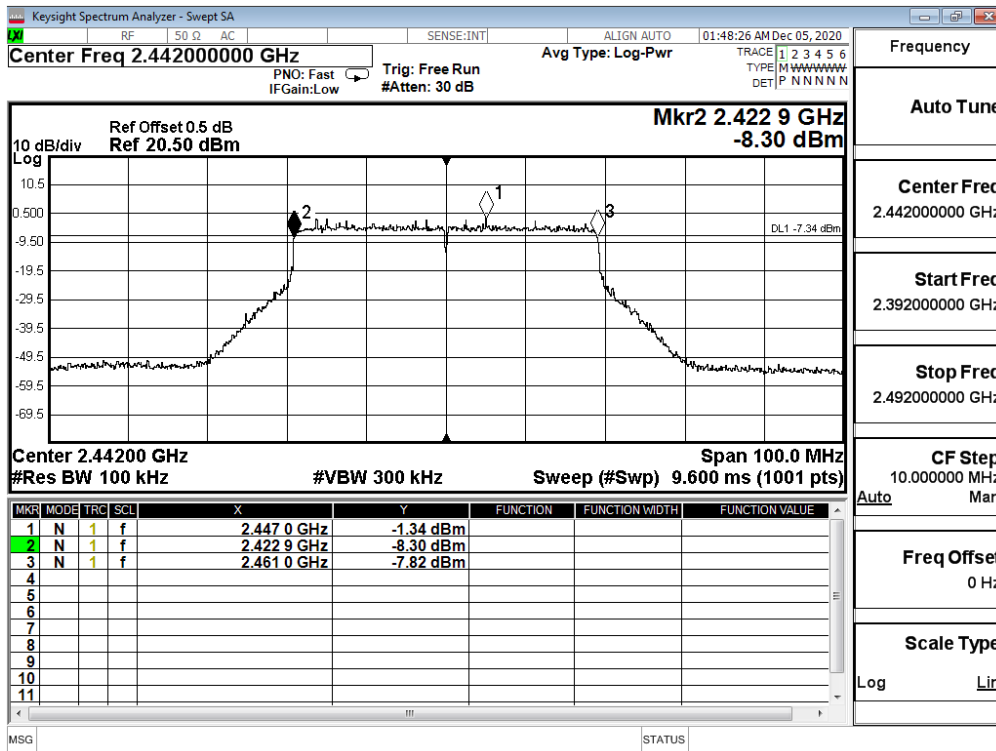
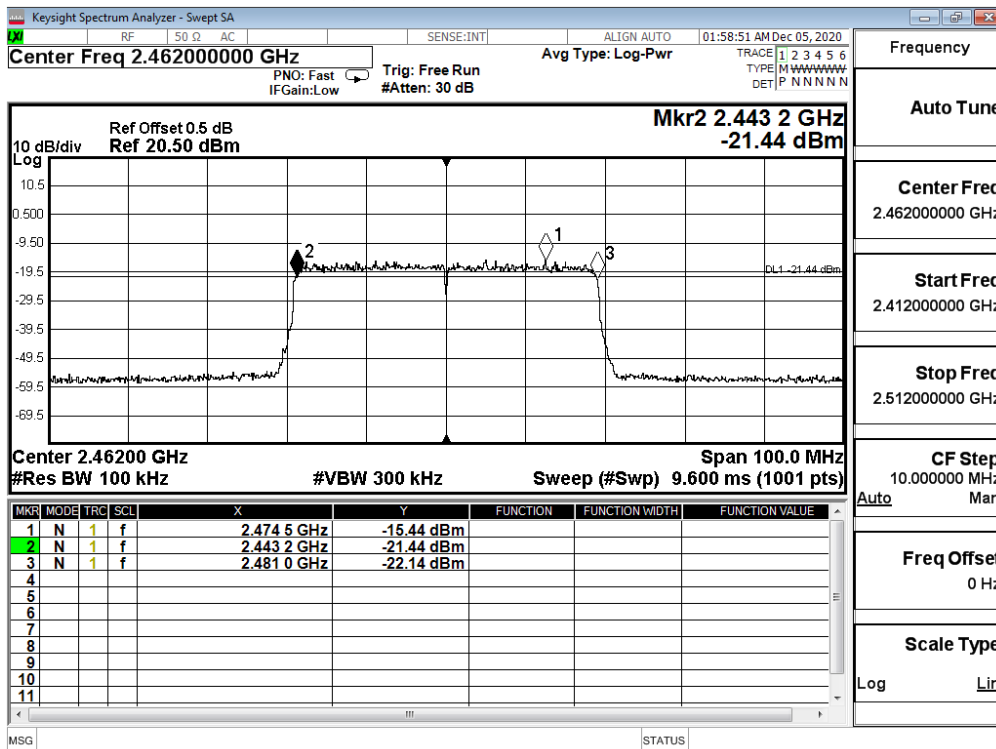


Figure Channel 11: (Chain A)



Product : Notebook Computers
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 16 MIMO: Transmit (802.11ax-40BW_34.4Mbps)

Chain B

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	38000	>500	Pass
07	2442	38000	>500	Pass
11	2462	37600	>500	Pass

Figure Channel 03: (Chain B)

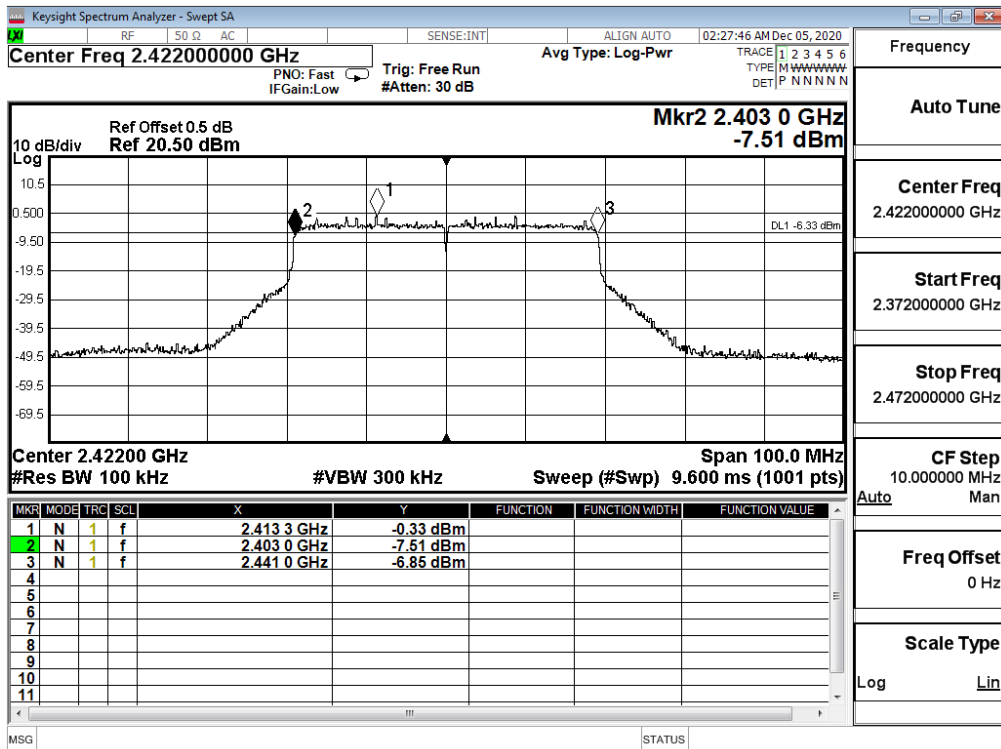


Figure Channel 07: (Chain B)

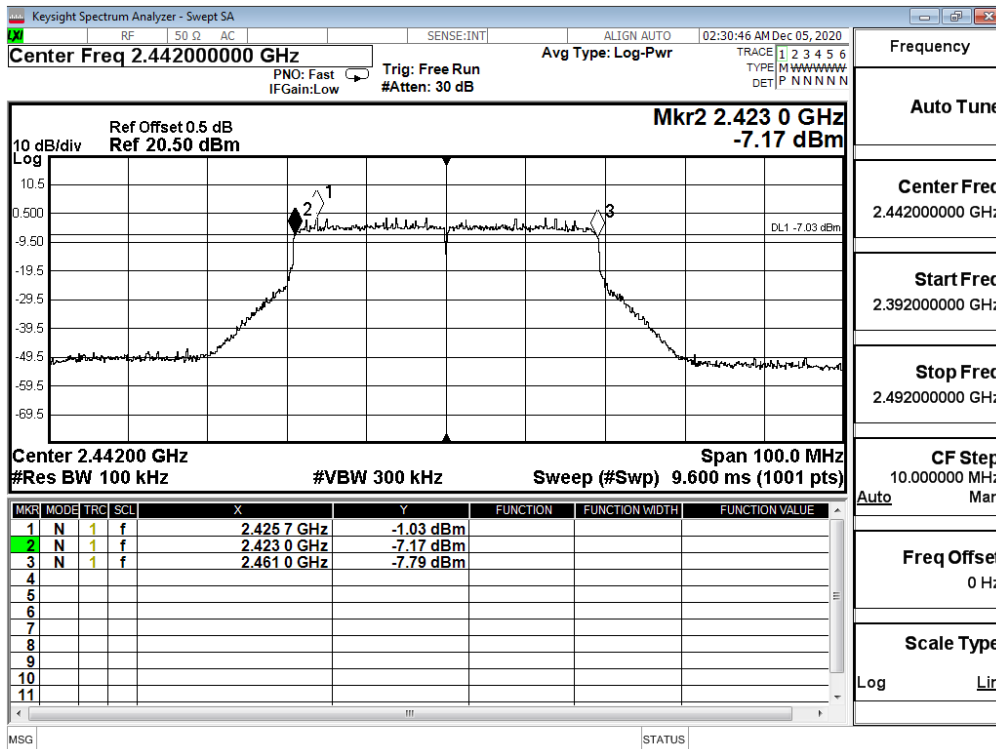
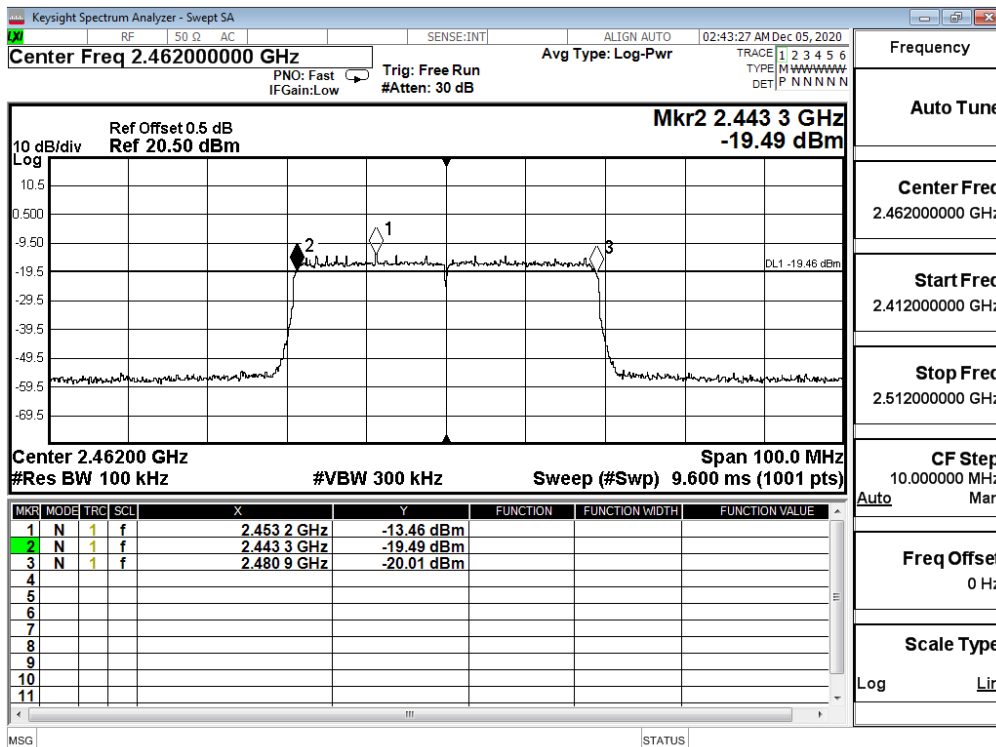
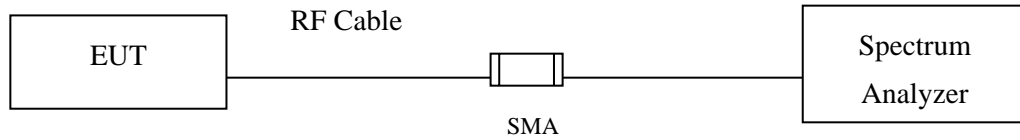


Figure Channel 11: (Chain B)



8. Power Density

8.1. Test Setup



8.2. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

8.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

The maximum power spectral density using C63.10 Section 11.10.2 Method PKPSD (peak PSD)

8.4. Test Result of Power Density

Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 1 SISO A: Transmit (802.11b_1Mbps)

Channel No.	Frequency (MHz)	PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412	7.63	≤ 8dBm	Pass
07	2442	7.57	≤ 8dBm	Pass
13	2472	6.80	≤ 8dBm	Pass

Figure Channel 01:

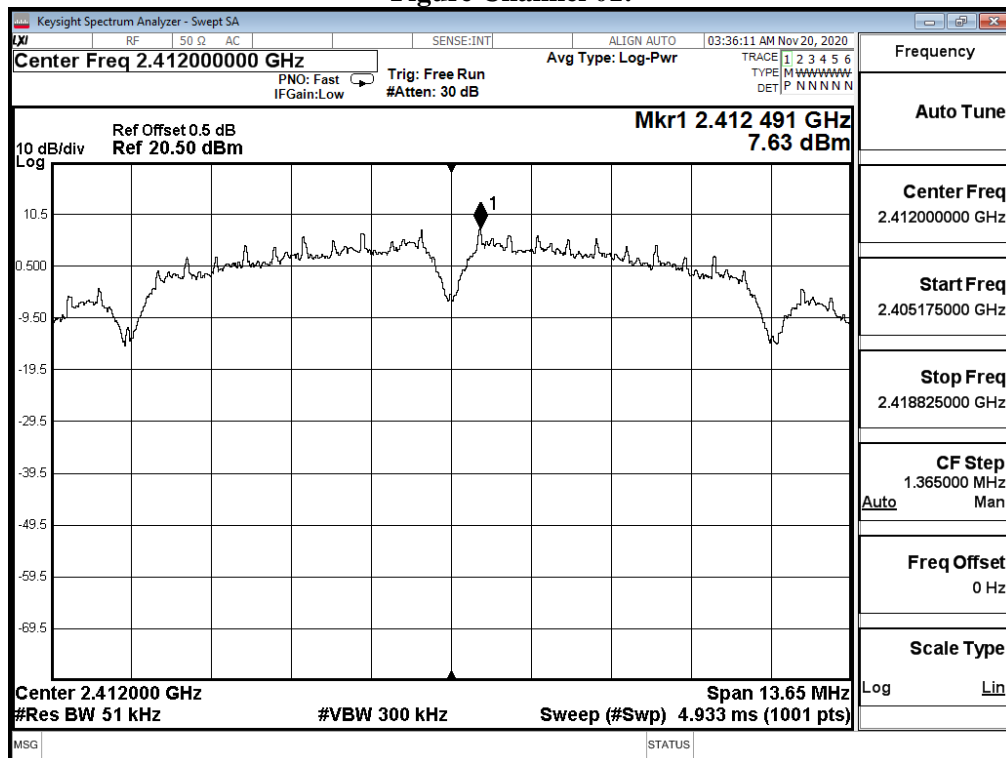


Figure Channel 07:

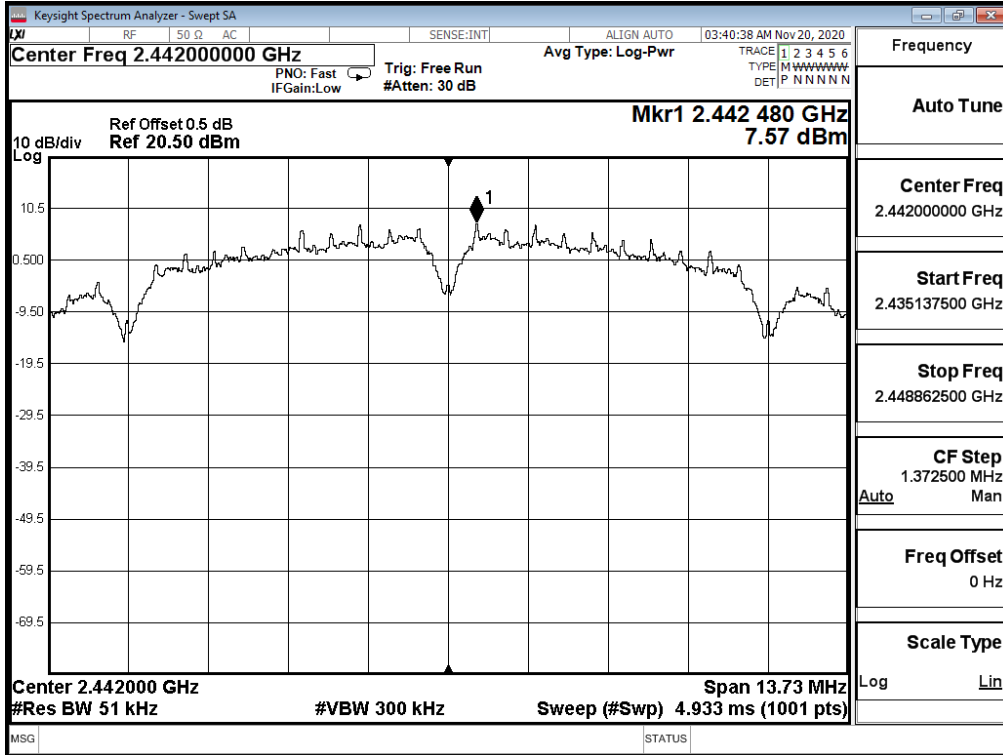
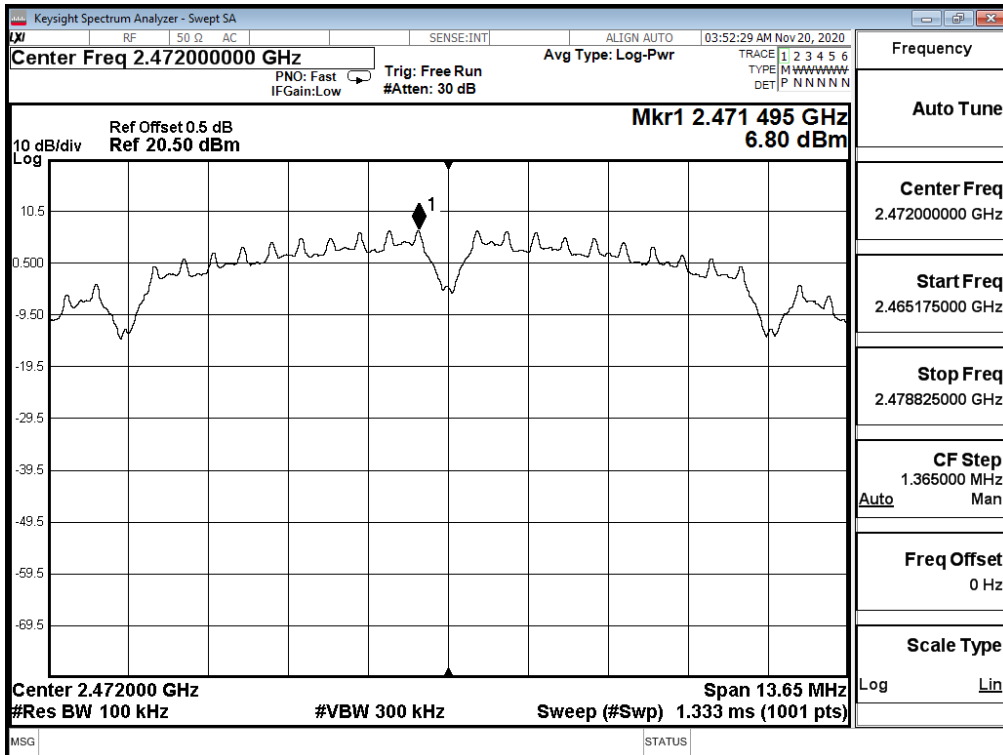


Figure Channel 13:



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 3 SISO A: Transmit (802.11n-20BW_7.2Mbps)

Channel No.	Frequency (MHz)	PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412	4.83	≤ 8dBm	Pass
07	2442	6.06	≤ 8dBm	Pass
13	2472	-10.10	≤ 8dBm	Pass

Figure Channel 01:

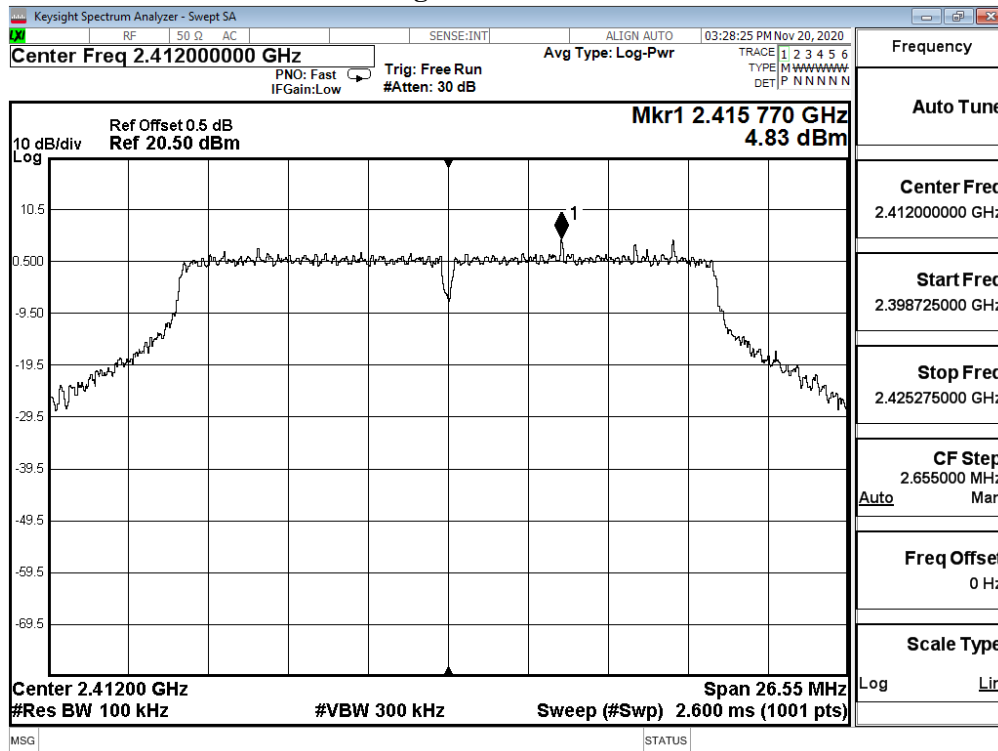


Figure Channel 07:

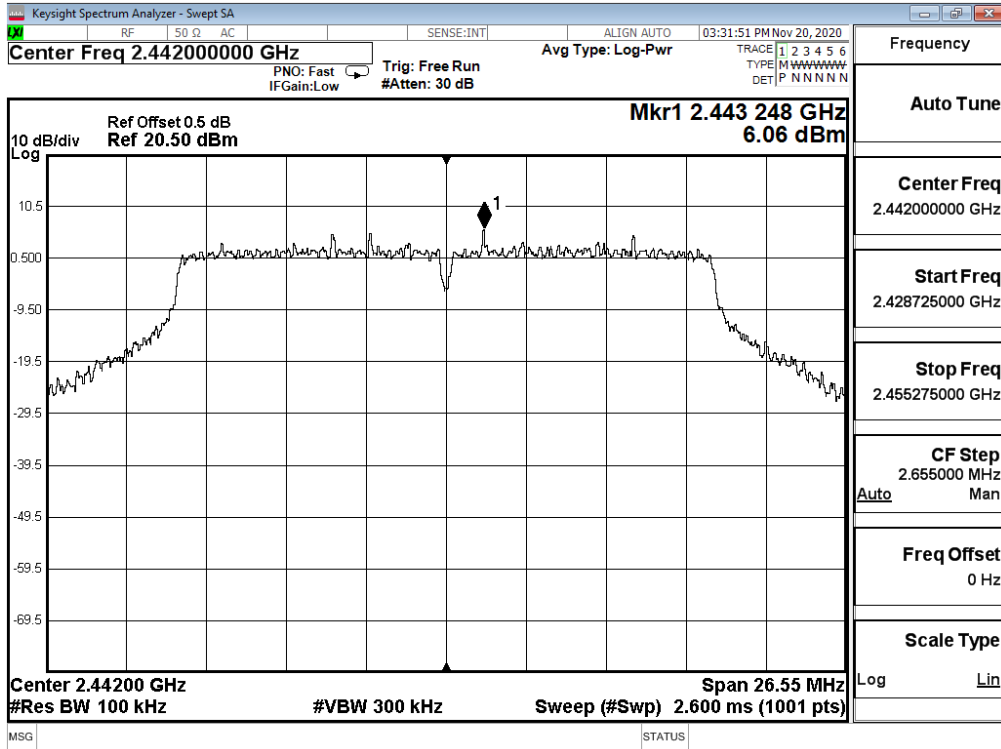
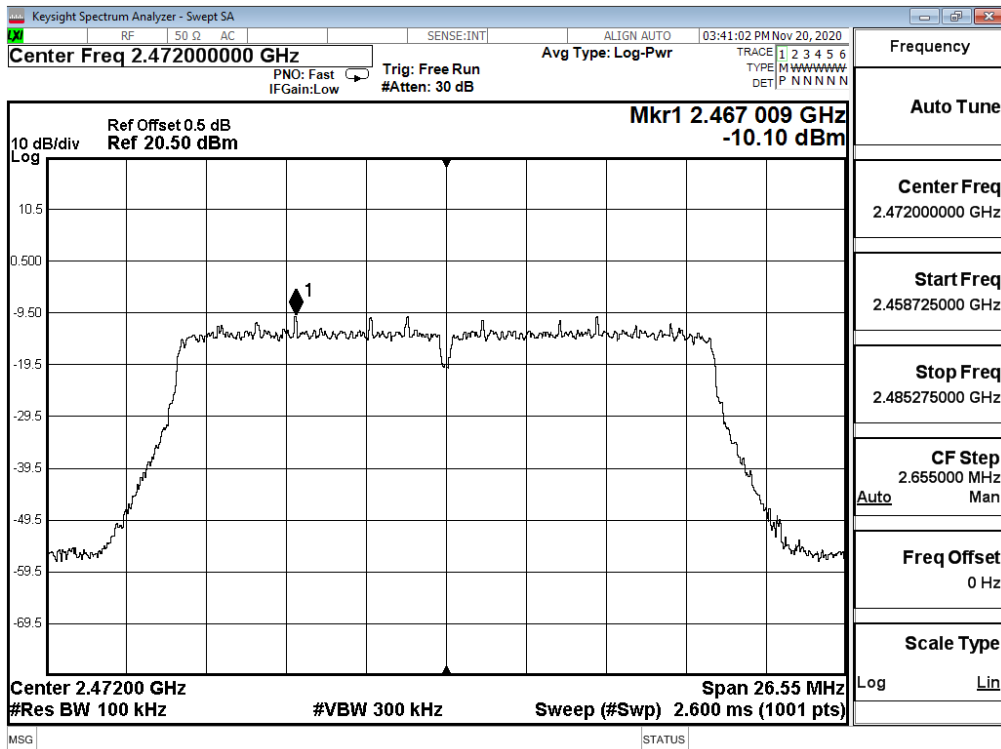


Figure Channel 13:



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 4 SISO A: Transmit (802.11n-40BW_15Mbps)

Channel No.	Frequency (MHz)	PPSD/MHz (dBm)	Limit (dBm)	Result
03	2422	1.65	≤ 8dBm	Pass
07	2442	0.97	≤ 8dBm	Pass
11	2462	-10.22	≤ 8dBm	Pass

Figure Channel 03:

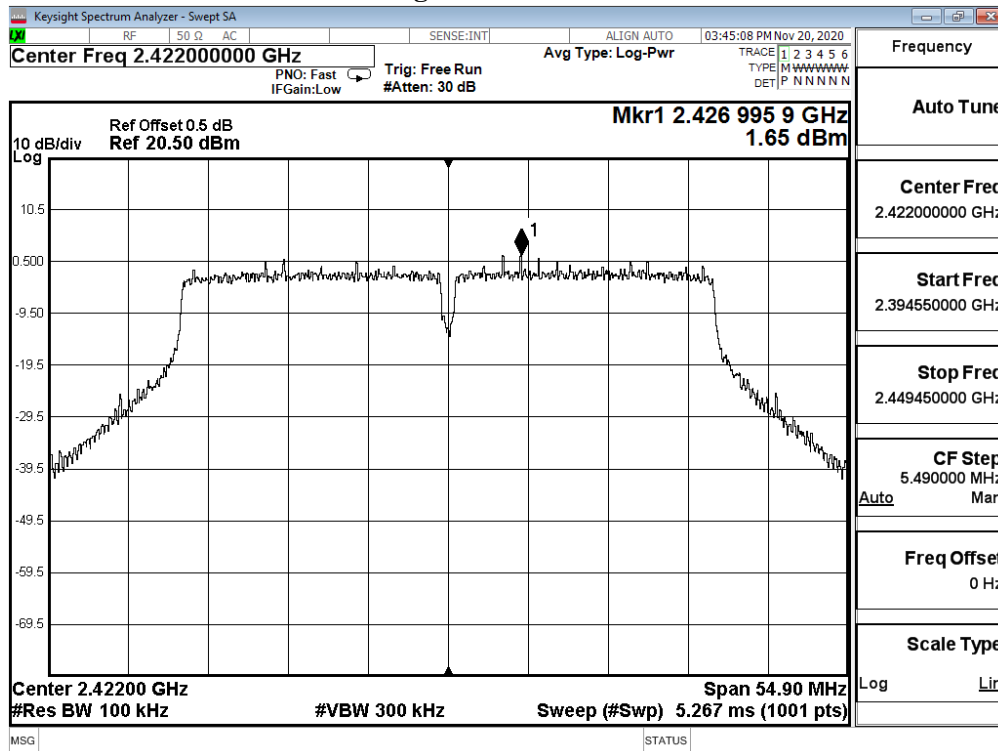


Figure Channel 07:

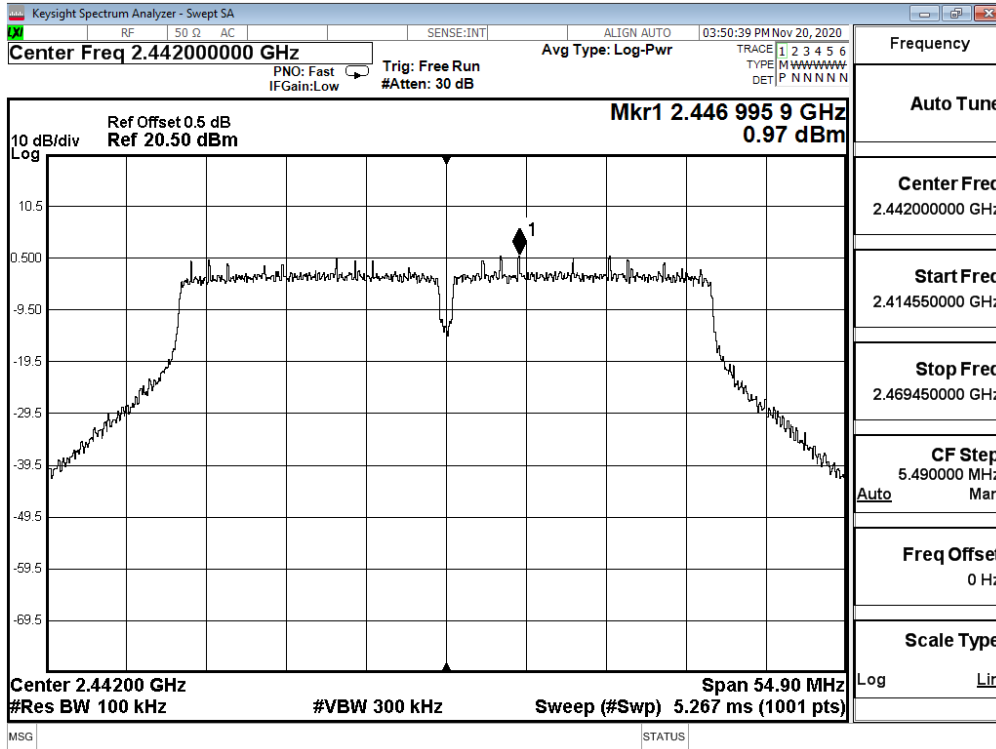
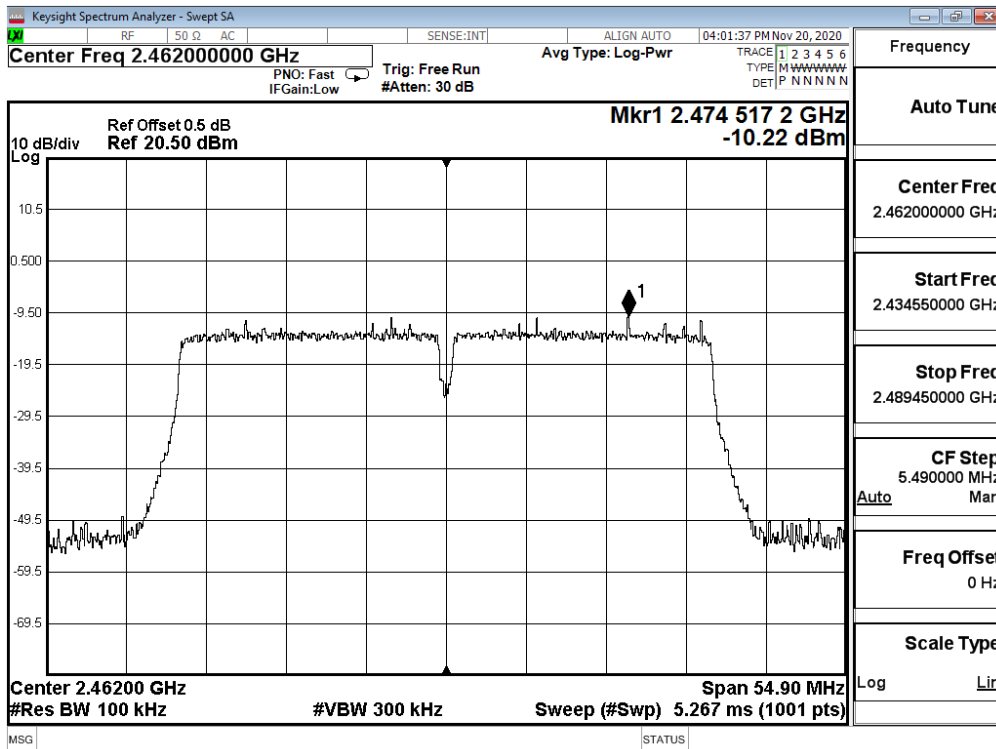


Figure Channel 11:



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 5 SISO A: Transmit (802.11ax-20BW_8.6Mbps)

RU config: Full

Channel No.	Frequency (MHz)	PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412	5.24	≤ 8dBm	Pass
07	2442	5.60	≤ 8dBm	Pass
13	2472	-11.11	≤ 8dBm	Pass

Figure Channel 01:

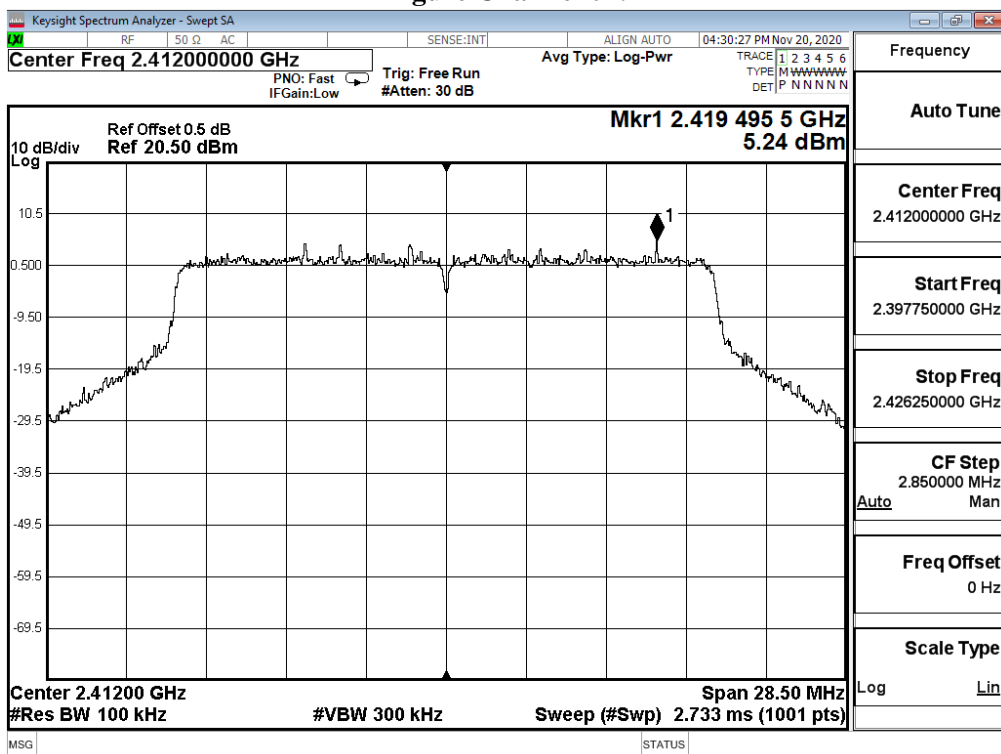


Figure Channel 07:

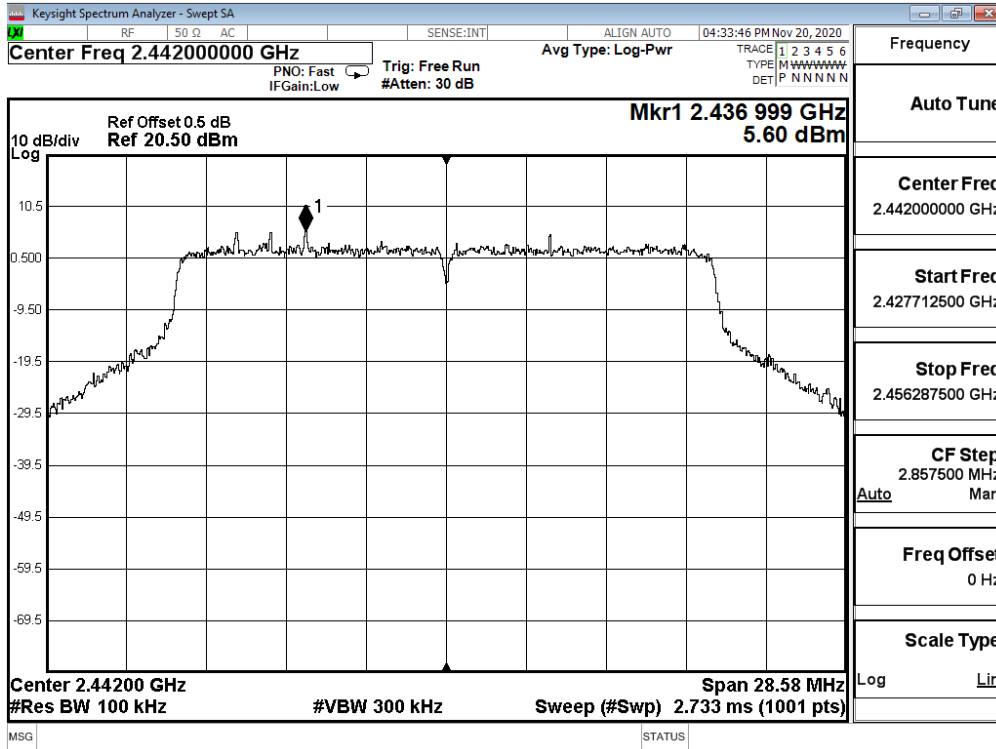
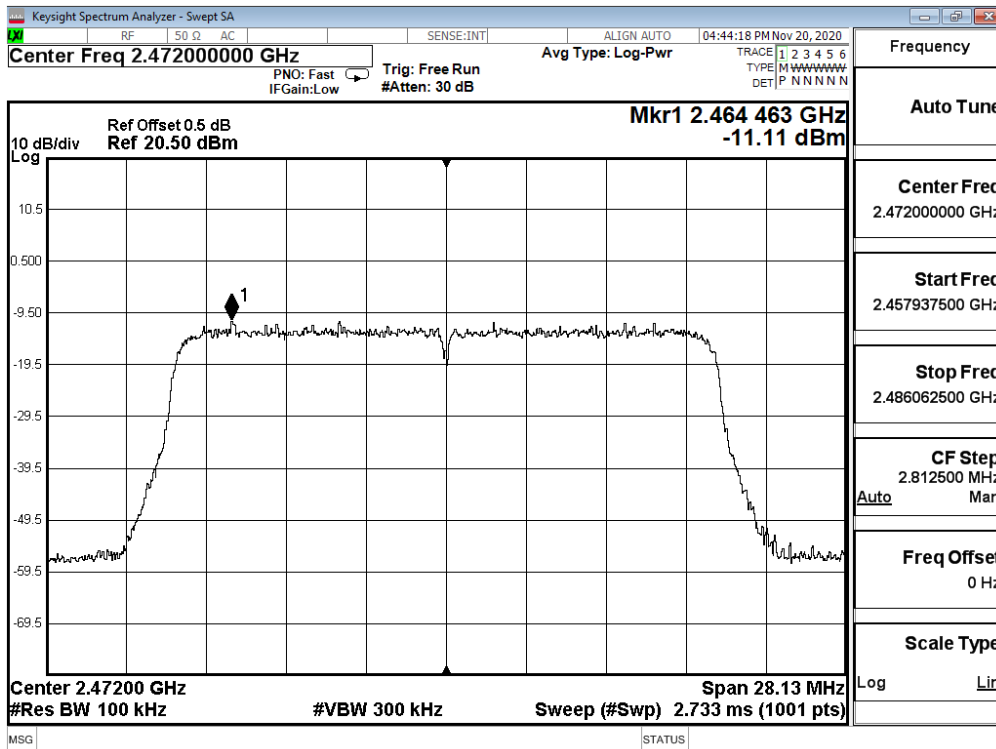


Figure Channel 13:



Product : Notebook Computers
Test Item : Power Density Data
Test Mode : Mode 5 SISO A: Transmit (802.11ax-20BW_8.6Mbps)

RU config: Other

Channel No.	Frequency (MHz)	RU Config	Measurement Level (dBm)	Required Limit (dBm)	Result
01	2412	26/0	4.62	≤ 8	Pass
		52/37	3.84	≤ 8	Pass
		106/53	-1.00	≤ 8	Pass
13	2472	26/8	-1.79	≤ 8	Pass
		52/40	-4.90	≤ 8	Pass
		106/54	-7.67	≤ 8	Pass

Figure Channel 01 (RU Config 26/0):



Figure Channel 01 (RU Config 52/37):



Figure Channel 01 (RU Config 106/53):

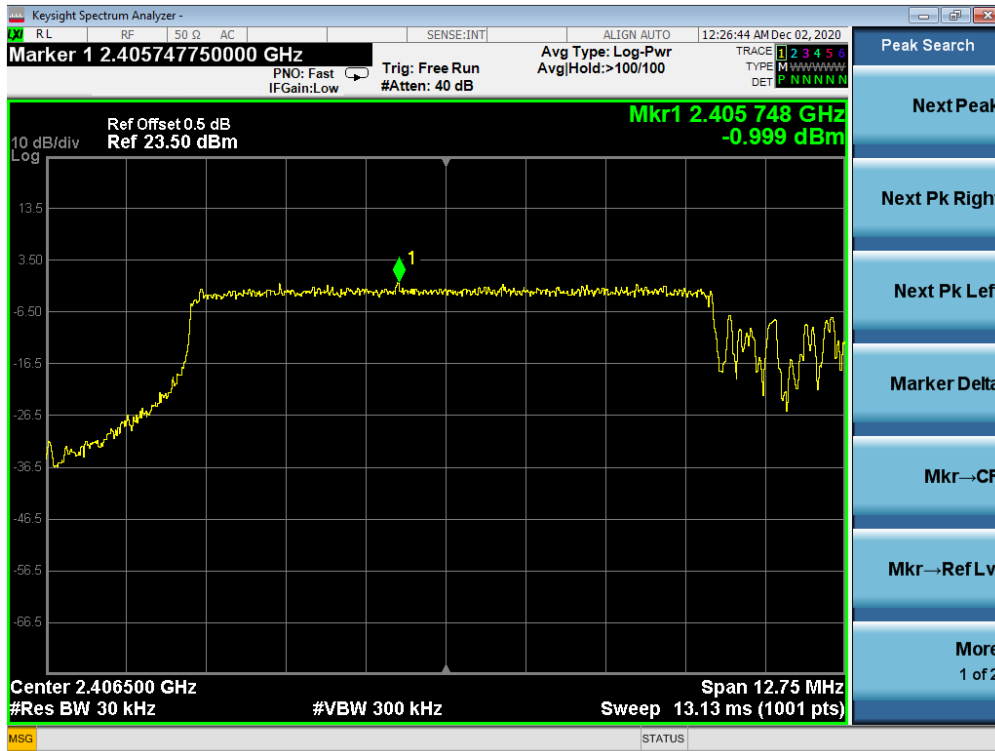


Figure Channel 13 (RU Config 26/8):



Figure Channel 13 (RU Config 52/40):



Figure Channel 13 (RU Config 106/54):



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 6 SISO A: Transmit (802.11ax-40BW_17.2Mbps)

RU config: Full

Channel No.	Frequency (MHz)	PPSD/MHz (dBm)	Limit (dBm)	Result
03	2422	1.51	≤ 8dBm	Pass
07	2442	0.75	≤ 8dBm	Pass
11	2462	-10.48	≤ 8dBm	Pass

Figure Channel 03:

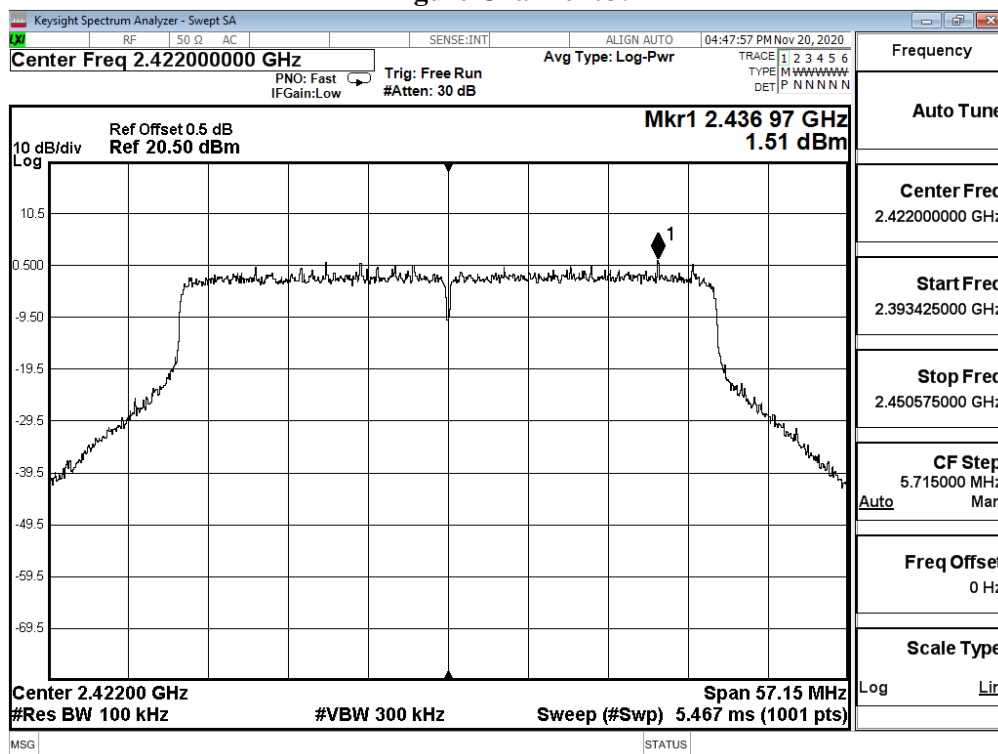


Figure Channel 07:

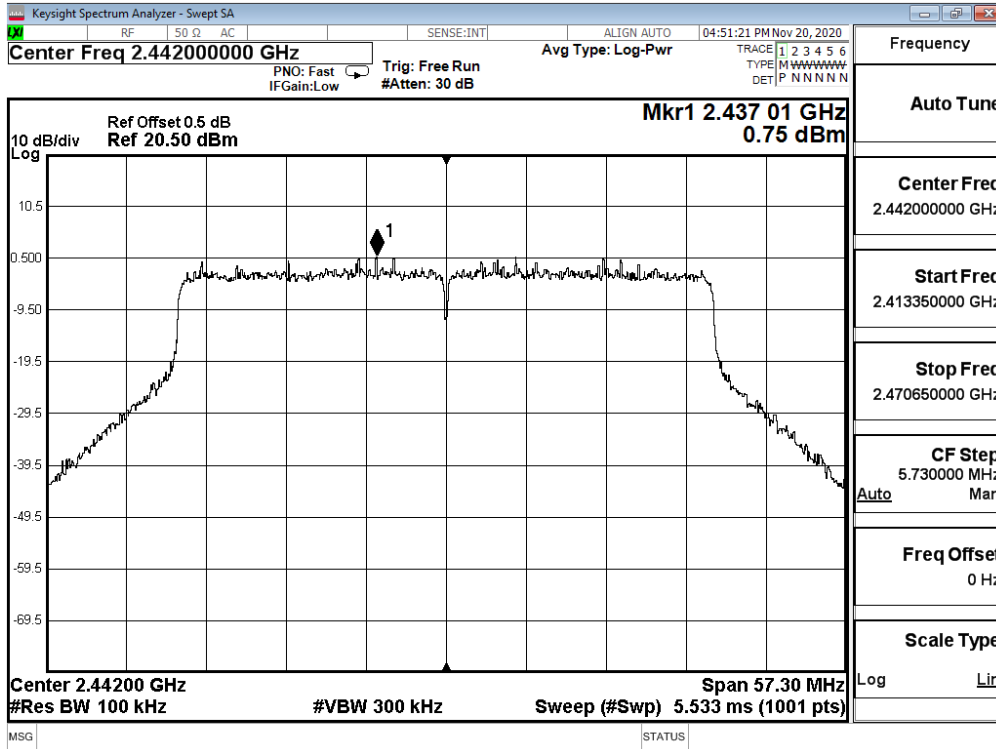
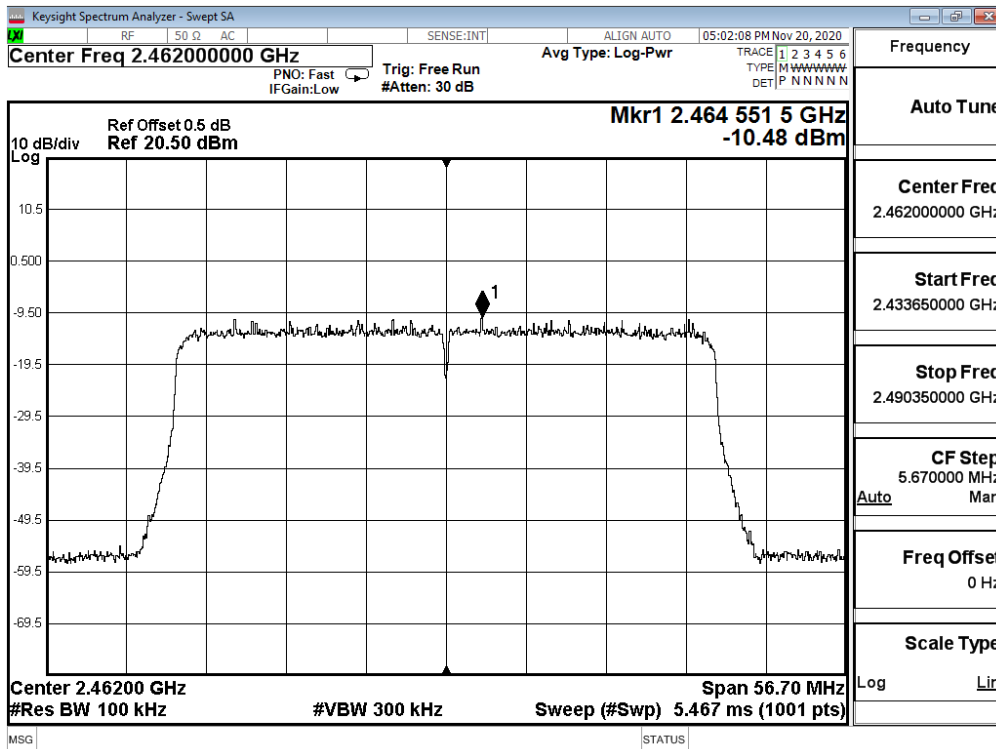


Figure Channel 11:



Product : Notebook Computers
Test Item : Power Density Data
Test Mode : Mode 6 SISO A: Transmit (802.11ax-40BW_17.2Mbps)

RU config: Other

Channel No.	Frequency (MHz)	RU Config	Measurement Level (dBm)	Required Limit (dBm)	Result
03	2422	242/61	2.97	≤ 8	Pass
11	2462	242/62	-7.18	≤ 8	Pass

Figure Channel 03 (RU Config 242/61):

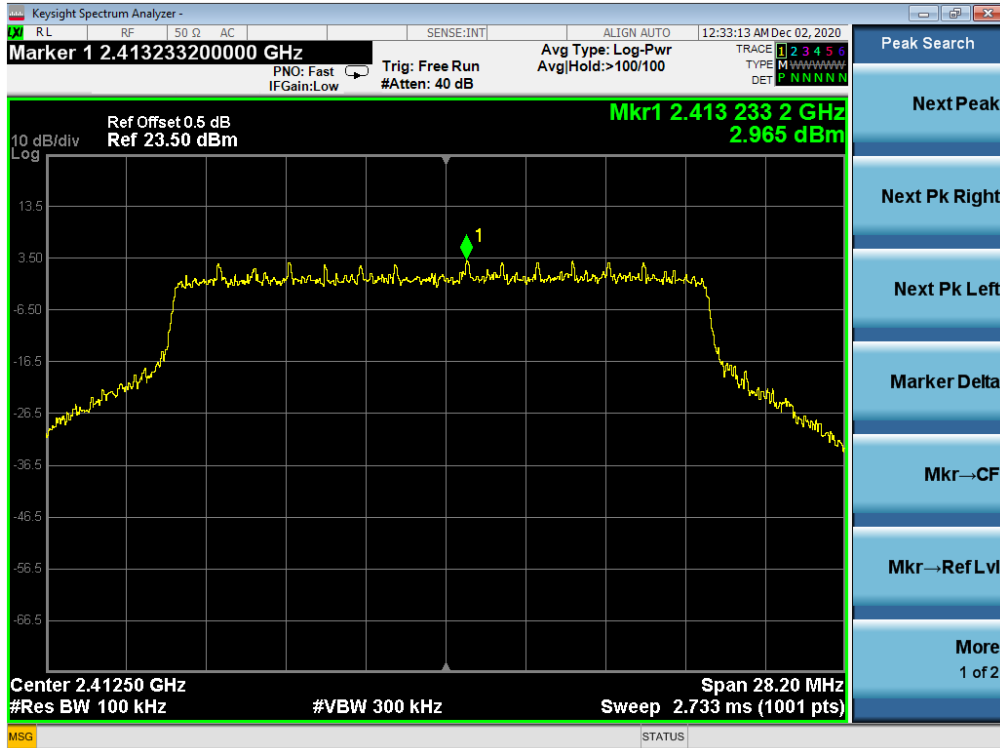


Figure Channel 11 (RU Config 242/62):



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 13 MIMO: Transmit (802.11n-20BW_14.4Mbps)

Channel No.	Frequency (MHz)	Chain	PPSD (dBm)	10*log(2) (dB)	Total PPSD (dBm)	Limit (dBm)	Result
01	2412	A	2.67	3.01	5.68	≤ 8	Pass
		B	2.93	3.01	5.94	≤ 8	Pass
07	2442	A	4.80	3.01	7.81	≤ 8	Pass
		B	4.73	3.01	7.74	≤ 8	Pass
13	2472	A	-12.63	3.01	-9.62	≤ 8	Pass
		B	-12.30	3.01	-9.29	≤ 8	Pass

Note:

The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 01: (Chain A)

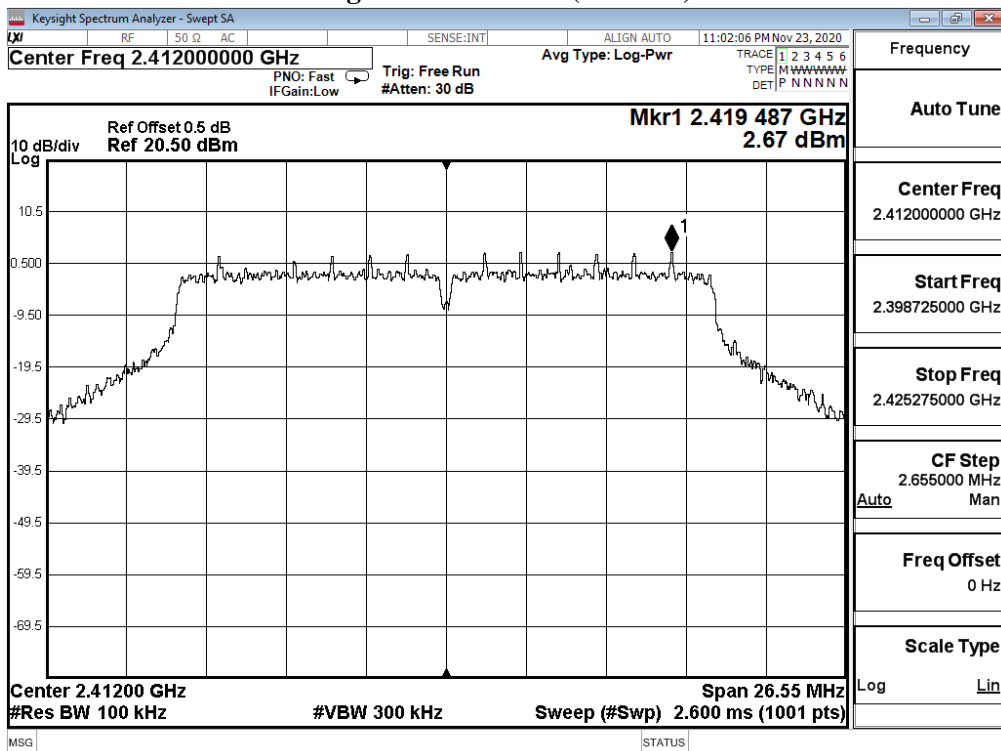


Figure Channel 07: (Chain A)

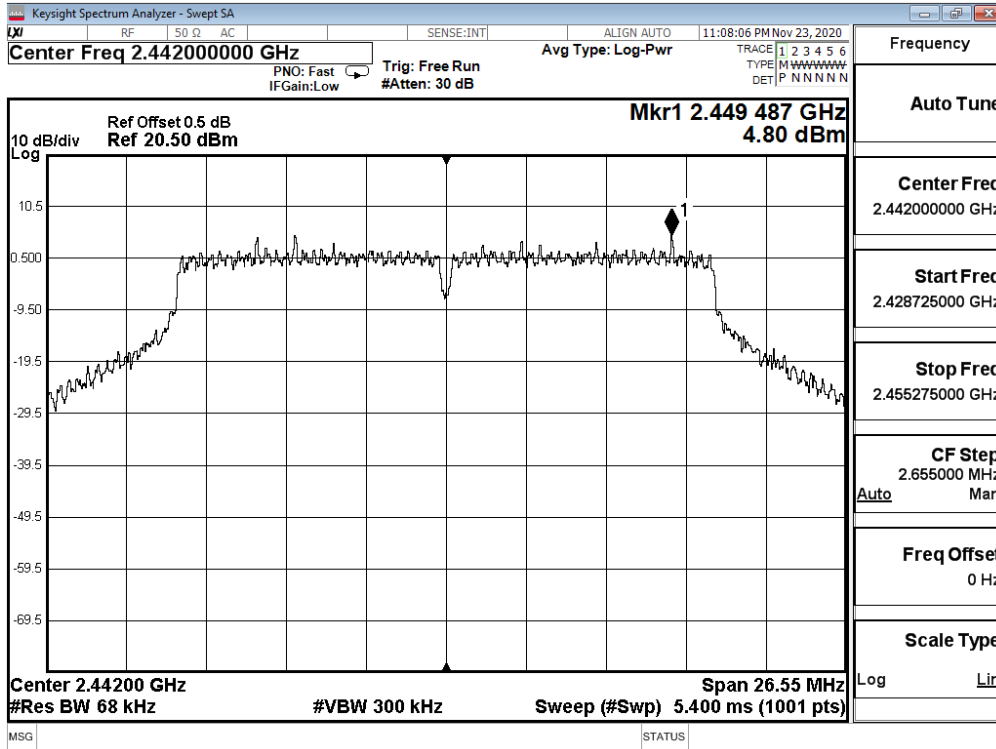


Figure Channel 13: (Chain A)

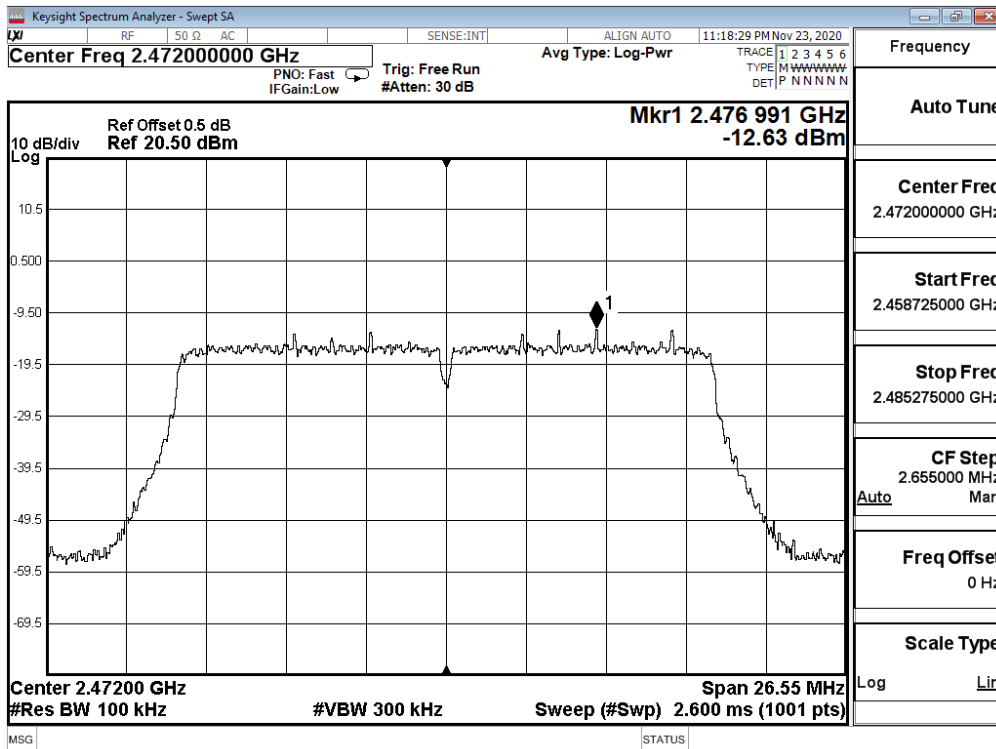


Figure Channel 01: (Chain B)

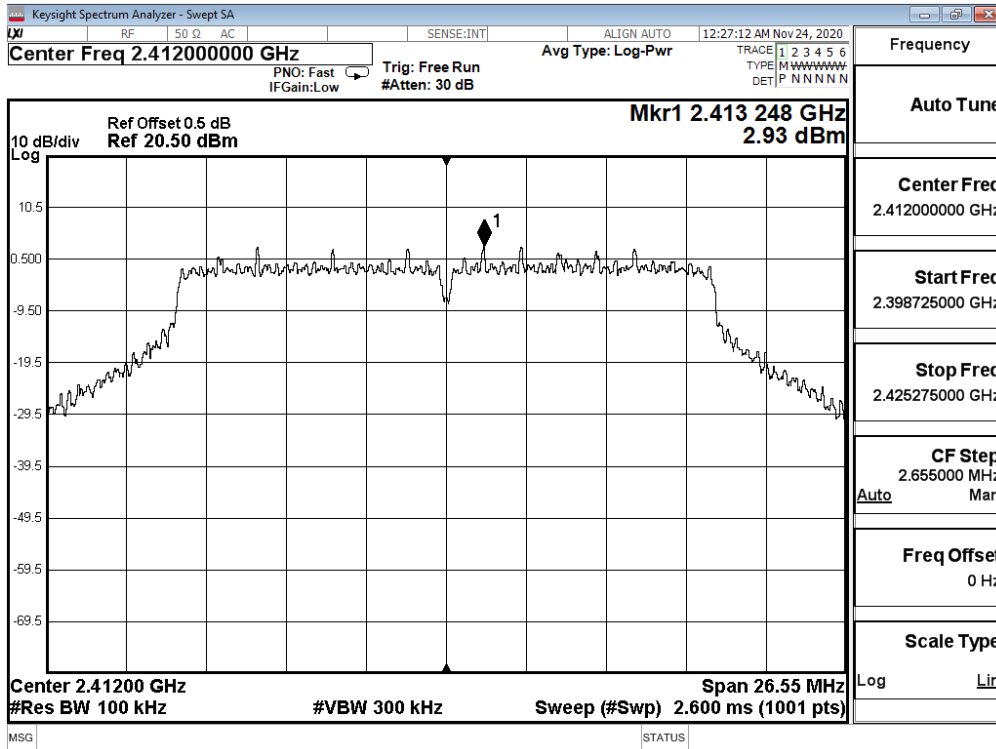


Figure Channel 07: (Chain B)

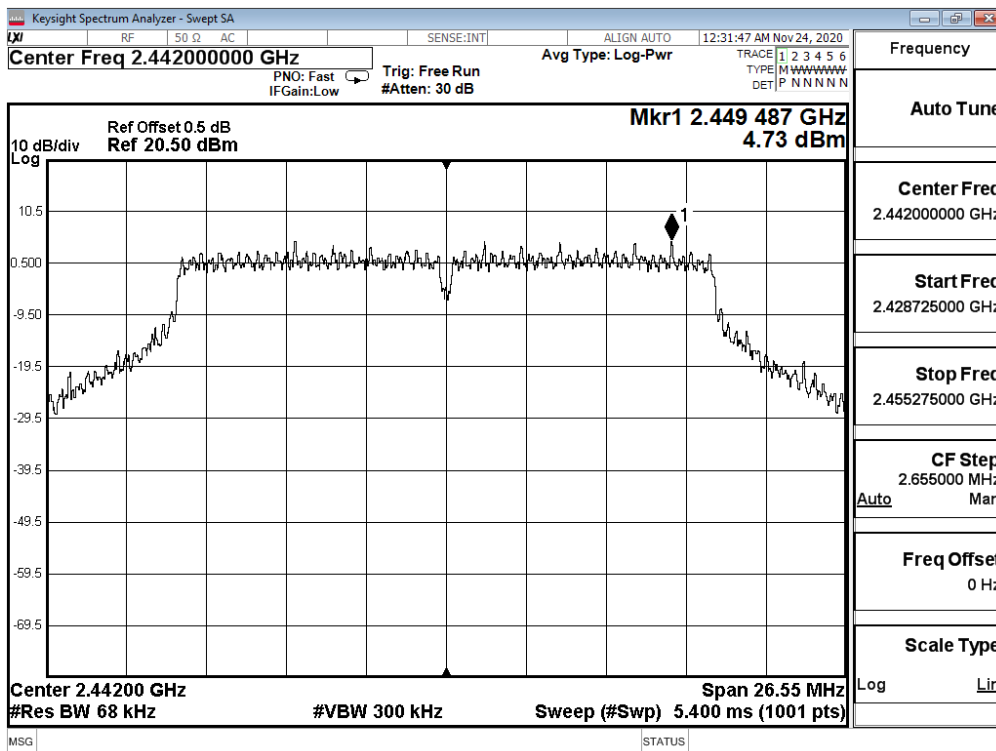
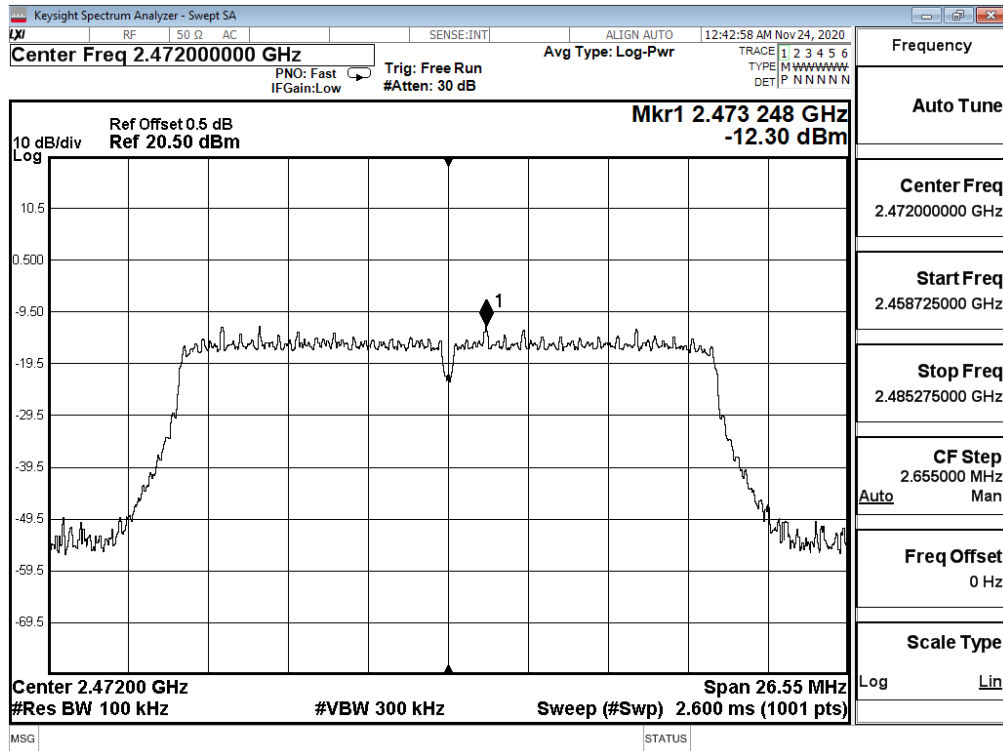


Figure Channel 11: (Chain B)



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 14 MIMO: Transmit (802.11n-40BW_30Mbps)

Channel No.	Frequency (MHz)	Chain	PPSD (dBm)	10*log(2) (dB)	Total PPSD (dBm)	Limit (dBm)	Result
03	2422	A	0.03	3.01	3.04	≤ 8	Pass
		B	0.04	3.01	3.05	≤ 8	Pass
07	2442	A	-0.93	3.01	2.08	≤ 8	Pass
		B	-0.45	3.01	2.56	≤ 8	Pass
11	2462	A	-12.70	3.01	-9.69	≤ 8	Pass
		B	-12.73	3.01	-9.72	≤ 8	Pass

Note:

The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 03: (Chain A)

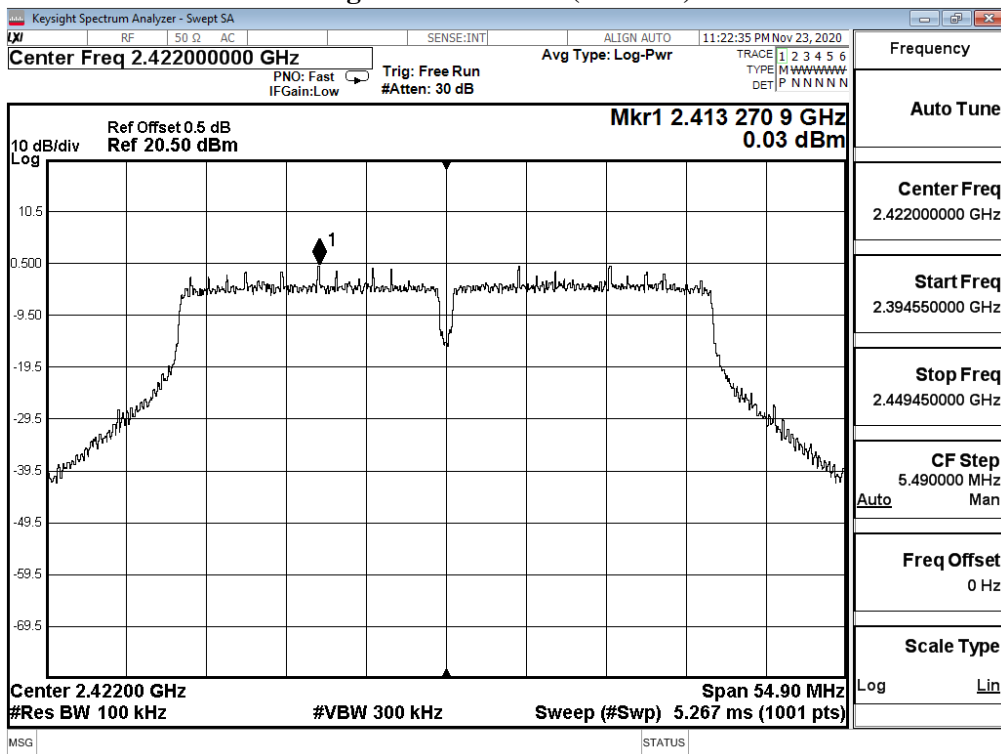


Figure Channel 07: (Chain A)

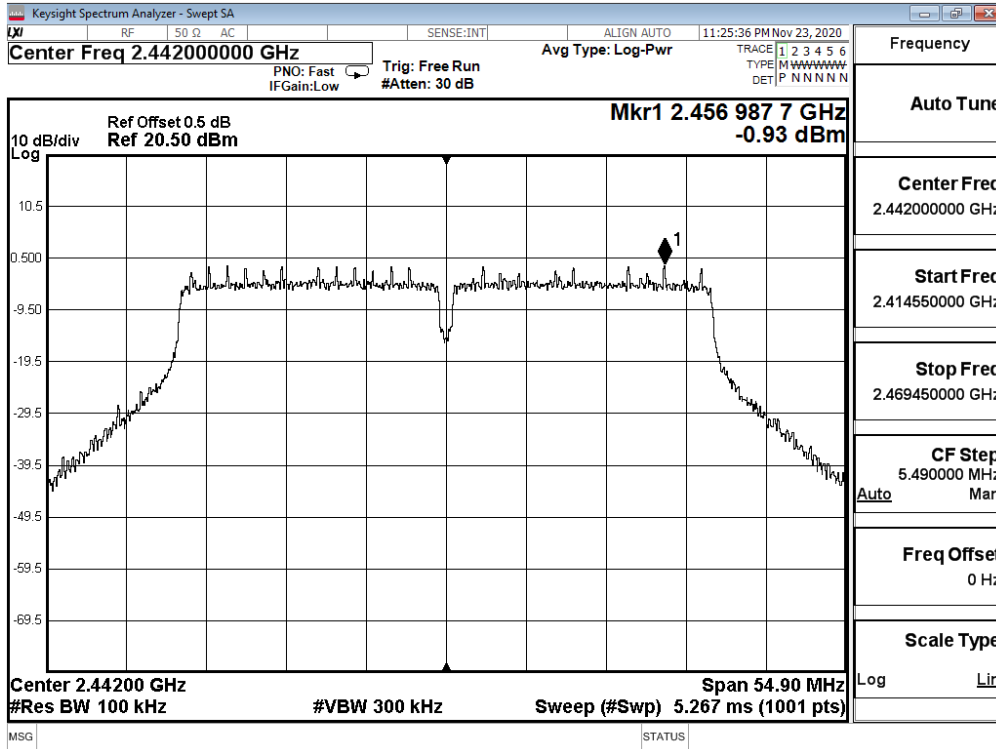


Figure Channel 11: (Chain A)

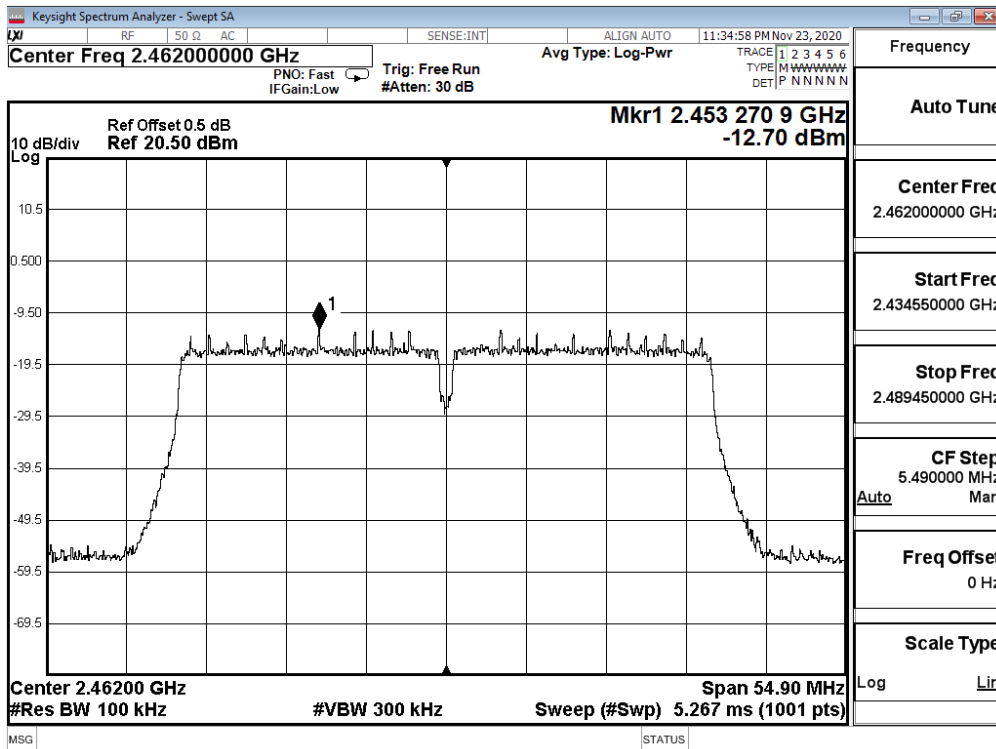


Figure Channel 03: (Chain B)

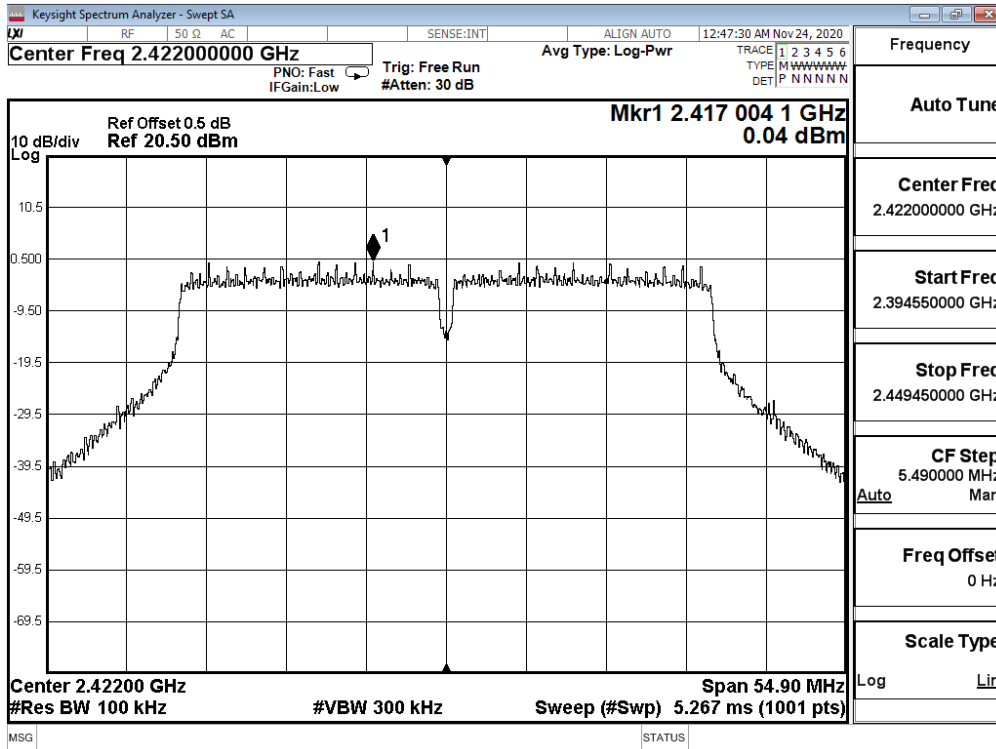


Figure Channel 07: (Chain B)

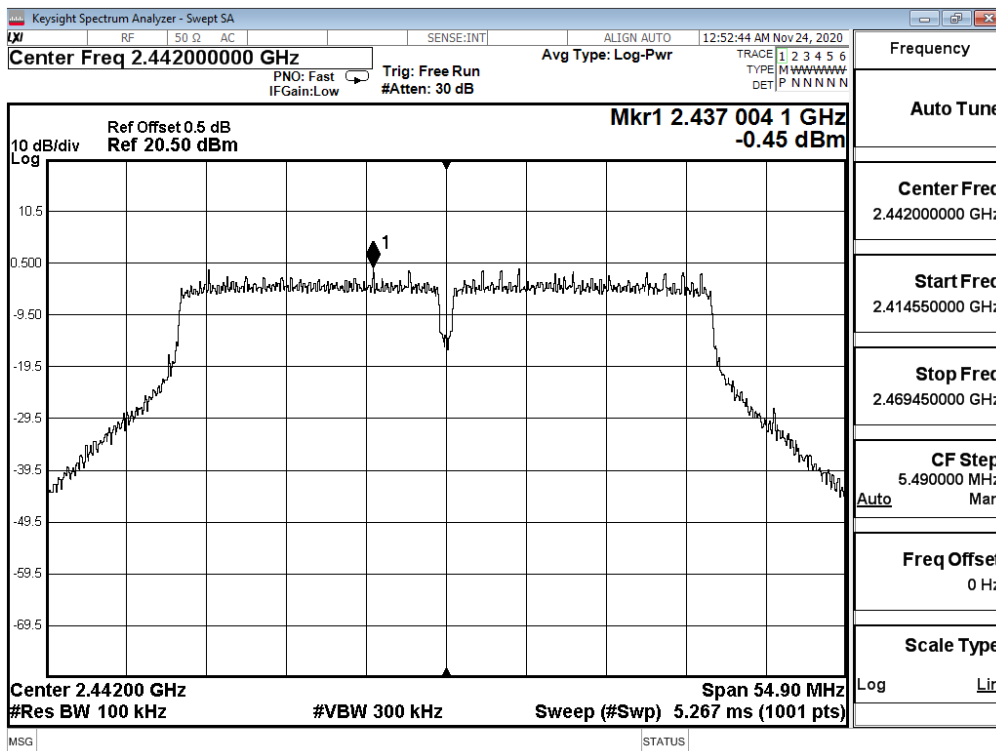
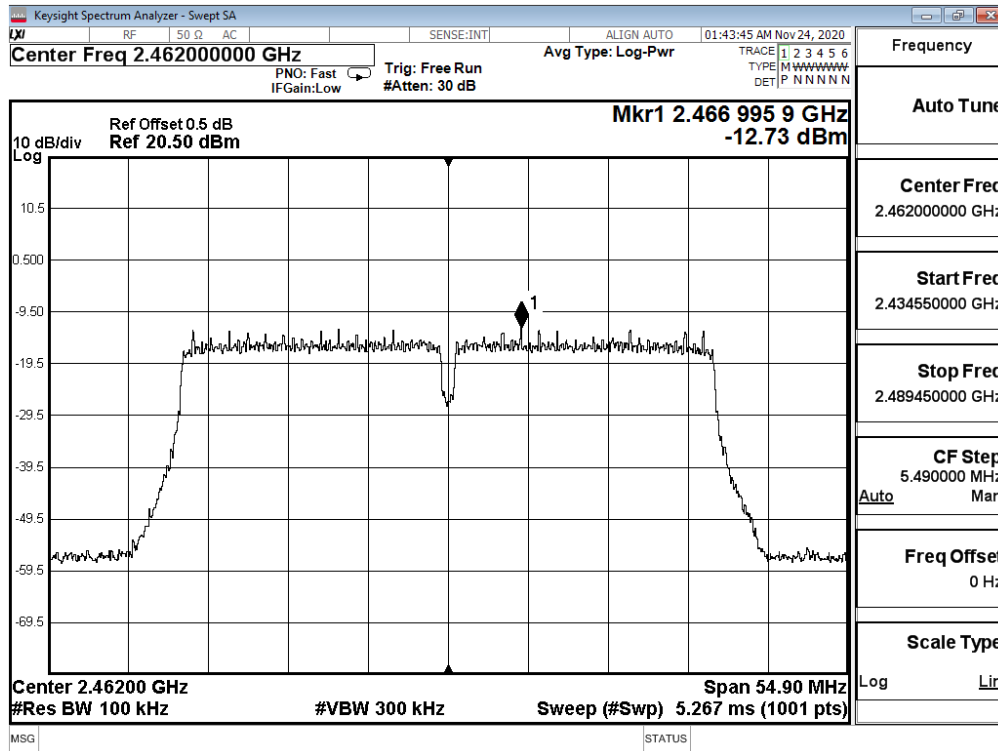


Figure Channel 11: (Chain B)



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps)

RU config: Full

Channel No.	Frequency (MHz)	Chain	PPSD (dBm)	10*log(2) (dB)	Total PPSD (dBm)	Limit (dBm)	Result
01	2412	A	2.48	3.01	5.49	≤ 8	Pass
		B	2.26	3.01	5.27	≤ 8	Pass
07	2442	A	3.00	3.01	6.01	≤ 8	Pass
		B	3.05	3.01	6.06	≤ 8	Pass
13	2472	A	-12.11	3.01	-9.10	≤ 8	Pass
		B	-13.43	3.01	-10.42	≤ 8	Pass

Note:

The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 01: (Chain A)

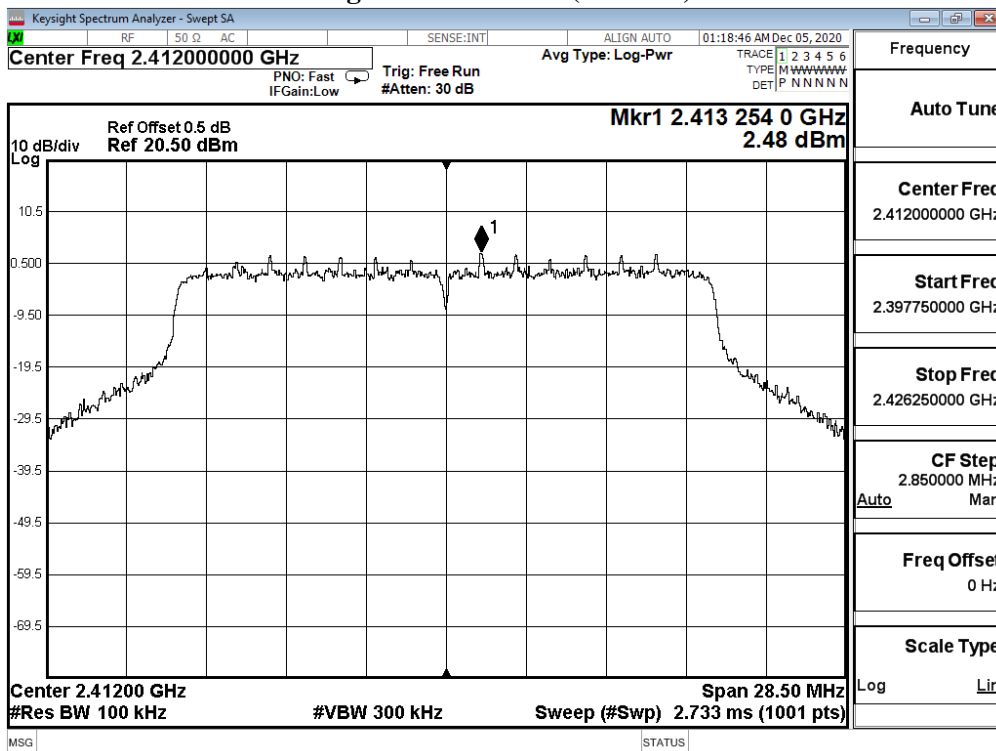


Figure Channel 07: (Chain A)

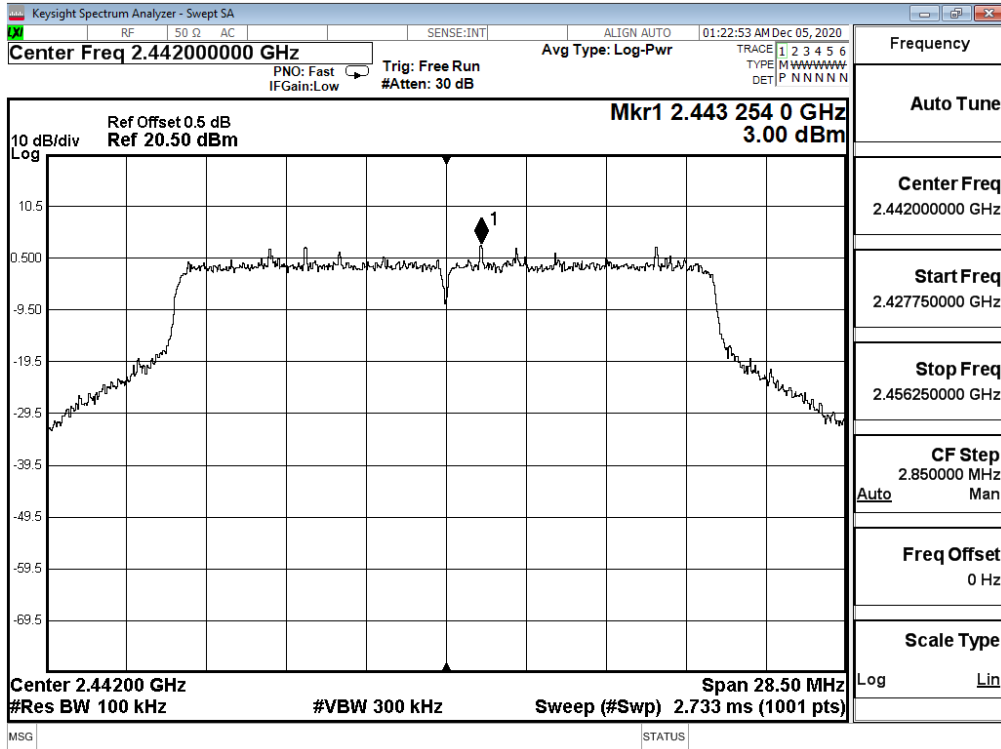


Figure Channel 13: (Chain A)

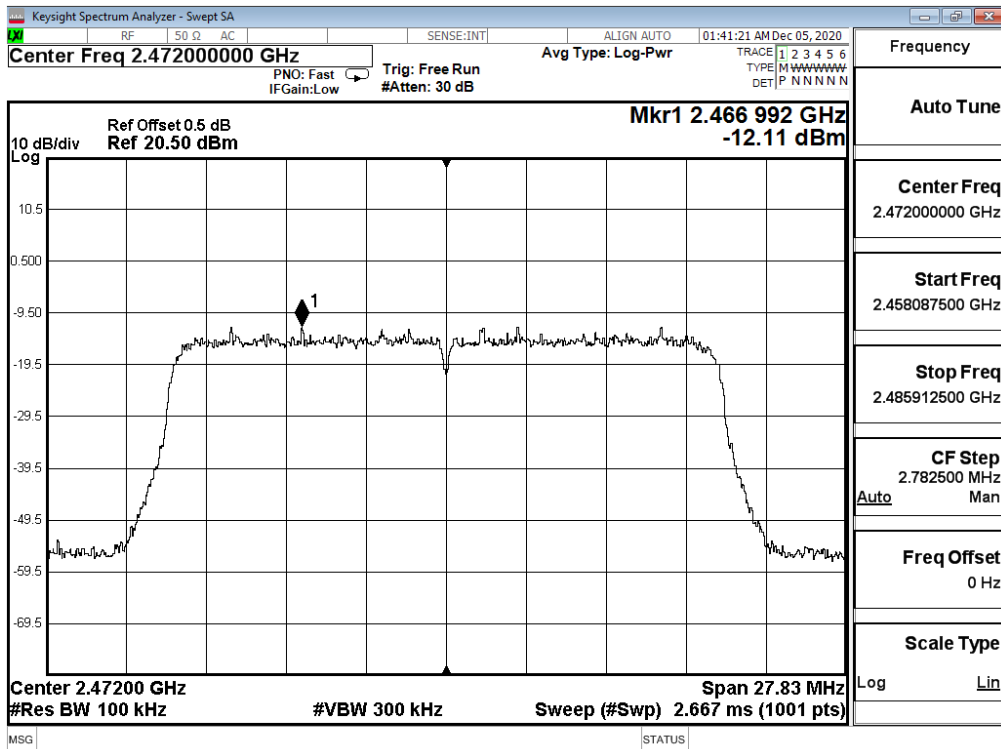


Figure Channel 01: (Chain B)

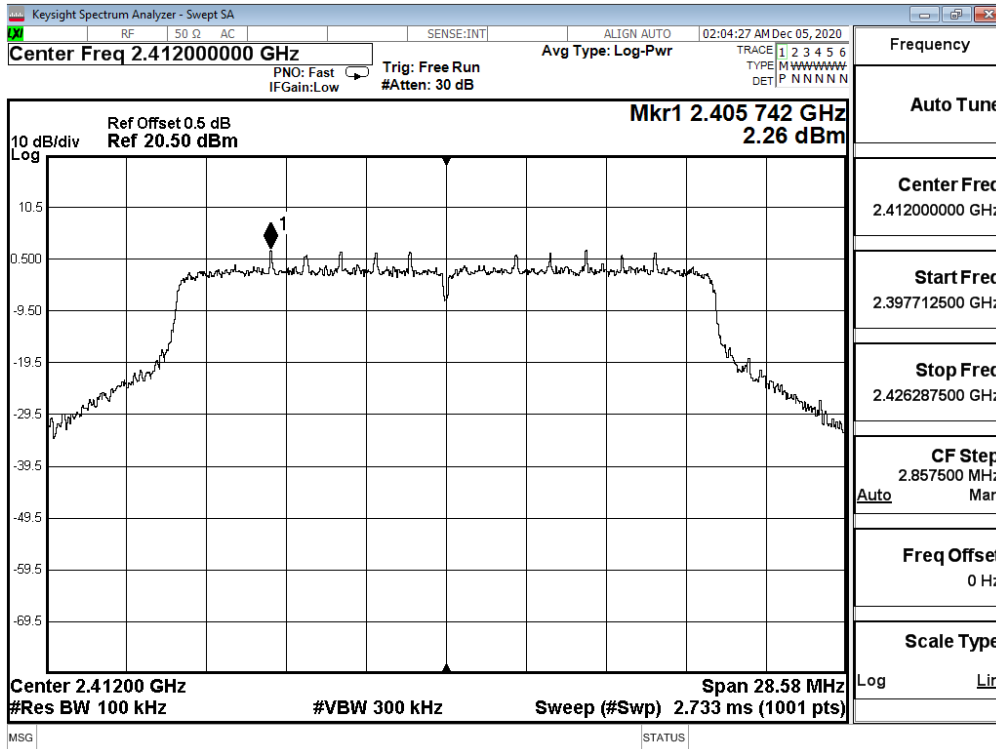


Figure Channel 07: (Chain B)

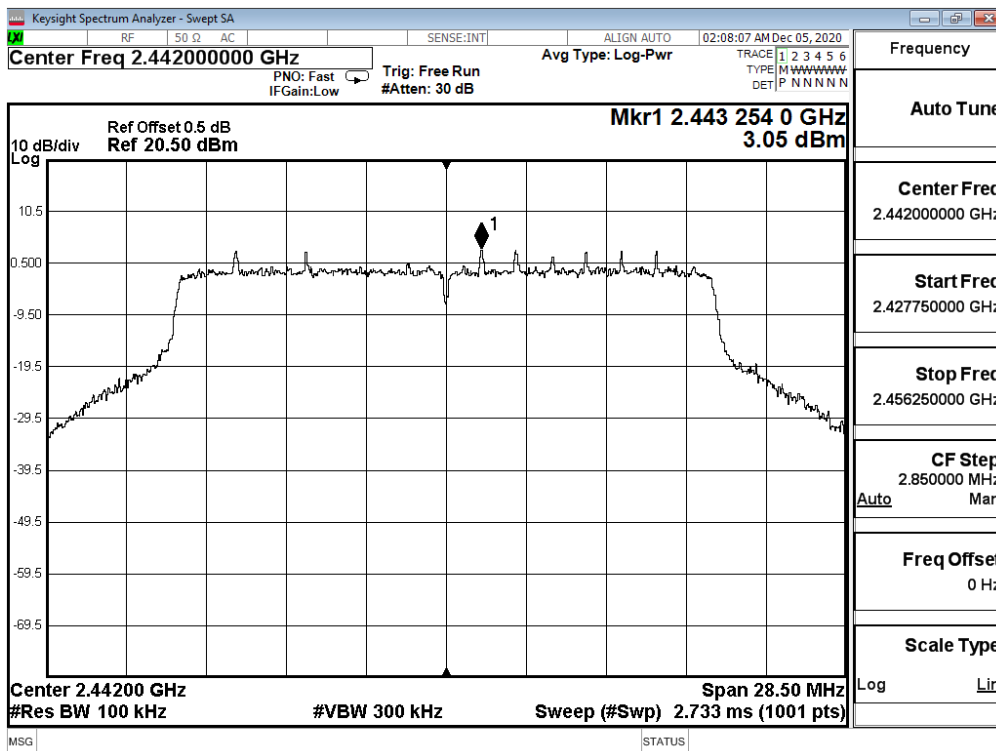
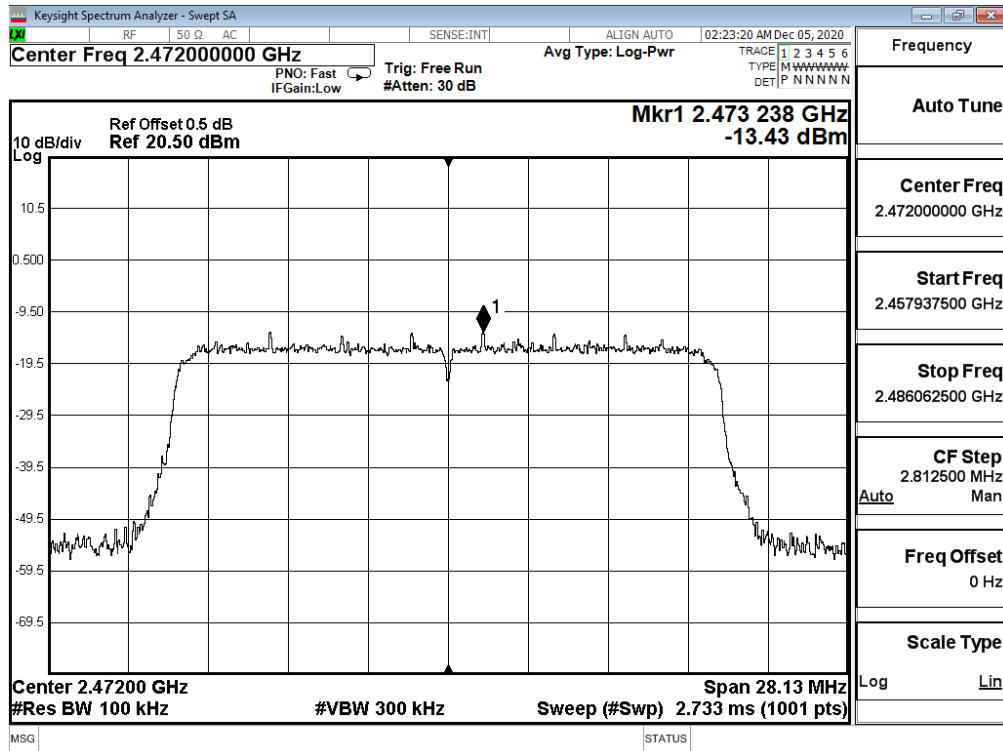


Figure Channel 11: (Chain B)



Product : Notebook Computers
 Test Item : Power Density Data
 Test Mode : Mode 15 MIMO: Transmit (802.11ax-20BW_17.2Mbps)

RU config: Other

Channel No.	Frequency (MHz)	RU Config	Chain (dBm)	PPSD (dBm)	10*log(2) (dB)	Total PPSD (dBm)	Limit (dBm)	Result
01	2412	26/0	A	3.23	3.01	6.24	≤ 8	Pass
			B	3.73	3.01	6.74		Pass
		52/37	A	0.23	3.01	3.24	≤ 8	Pass
			B	1.22	3.01	4.23		Pass
		106/53	A	-2.64	3.01	0.37	≤ 8	Pass
			B	1.25	3.01	4.26		Pass
13	2472	26/8	A	-11.36	3.01	-8.34	≤ 8	Pass
			B	-11.62	3.01	-8.61		Pass
		52/40	A	-14.46	3.01	-11.45	≤ 8	Pass
			B	-14.01	3.01	-11.00		Pass
		106/54	A	-17.48	3.01	-14.47	≤ 8	Pass
			B	-17.70	3.01	-14.69		Pass

Note:

The quantity $10 \cdot \log 2$ (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 01 (RU Config 26/0) (Chain A):



Figure Channel 01 (RU Config 52/37) (Chain A):

