FCC Test Report

Product Name	Notebook
Model No	NU50;NUx0xx (x=0~9;A~Z;a~z;_-)
FCC ID.	WL6-NU509560D2W

Applicant	ELITEGROUP COMPUTER SYSTEMS CO., LTD
Address	No.239, Sec. 2, Ti Ding Blvd., Taipei, Taiwan

Date of Receipt	June 23, 2020
Issue Date	Dec. 21, 2020
Report No.	2060931R-E3032110113
Report Version	V1.0

Testing Laboratory
3023

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 of the equipment and evaluated measurement uncertainty herein.
This report must not be used to claim product endorsement by TAF or any agency of the government.
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. 21, 2020
Report No.: 2060931R-E3032110113

Product Name	Notebook
Applicant	ELITEGROUP COMPUTER SYSTEMS CO., LTD
Address	No.239, Sec. 2, Ti Ding Blvd., Taipei, Taiwan
Manufacturer	Golden Elite Technology (SHENZHEN) Co., Ltd.
Model No.	NU50;NUx0xx (x=0~9;A~Z;a~z;_-)
FCC ID.	WL6-NU509560D2W
EUT Rated Voltage	AC 100-240V, 50-60Hz
EUT Test Voltage	AC 120V / 60Hz
Trade Name	ECS ELITEGROUP
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

Documented By : Anita Chou

(Senior Engineering Adm. Specialist / Anita Chou)

Tested By : Yun Che Chen

(Engineer / Yunche Chen)

Approved By :

(Director / Vincent Lin)

TABLE OF CONTENTS

Revision History

Report No.	Version	Description	Issued Date
2060931R-E3032110113	V1.0	Initial issue of report.	2020-12-21

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Notebook
Trade Name	ECS ELITEGROUP
Model No.	NU50;NUx0xx (x=0~9;A~Z;a~z;_-)
FCC ID.	WL6-NU509560D2W
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW, 2422-2452MHz for 802.11n-40BW
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 300Mbps
Channel separation	802.11b/g/n: 5 MHz
Type of Modulation	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type	PIFA Antenna
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
Power Adapter	MFR: FSP, M/N: FSP065-A1BR3 Input: AC 100-240V，50-60Hz 1.7A Output: DC 5V, 3A; 9V, 3A; 12V, 3A; 15V, 3A; 20V, 3.25A Cable Out: Shielded, 1m Power cord: Non-shielded, 0.8m

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	WGT	13-130-XD2050 (Main) 13-130-XD2051 (Aux)	PIFA Antenna	2.00 dBi for 2.4GHz

Note: The antenna of EUT is conforming to FCC 15.203.

802.11b/g/n-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		

802.11n-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		

Note:

1. The EUT is a Notebook with a built-in 2.4 GHz and 5 GHz WLAN and Bluetooth V5.0, V3.0, V2.1+EDR transceiver, this report for 2.4GHz WLAN.
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. (802.11b is 1Mbps、802.11g is 6Mbps、802.11n(20M-BW) is 14.4Mbps and 802.11n(40M-BW) is 30Mbps)
4. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.

Test Mode:	Mode 1: Transmit (802.11b 1Mbps)
	Mode 2: Transmit (802.11g 6Mbps)
	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)
	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)

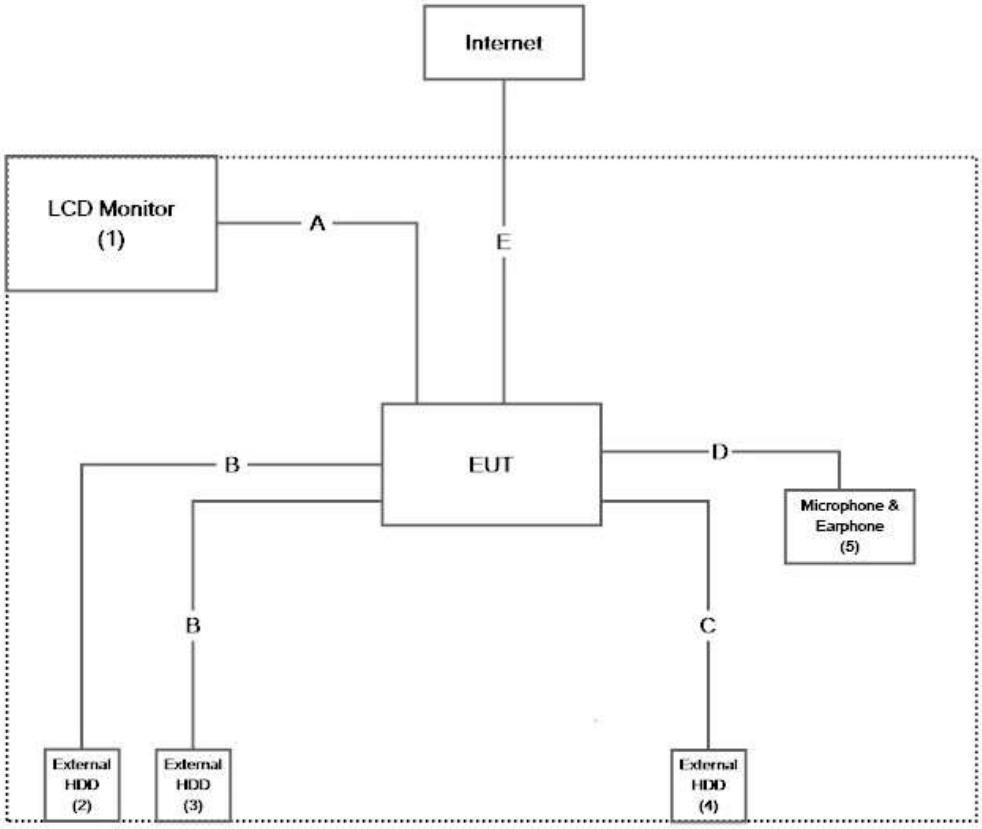
1.2. Tested System Details

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	LCD Monitor	DELL	ST2320Lf	CN-0M2NN6-72872-22I-C9VS	Non-Shielded, 1.8m
2	External HDD	Transcend	TS1TSJ25H3B	F21786-0125	N/A
3	External HDD	Transcend	TS1TSJ25H3B	F21786-0005	N/A
4	External HDD	Transcend	TS1TSJ25MC	F30467-0003	N/A
5	Microphone & Earphone	RONEVER	MOE241	N/A	N/A

Signal Cable Type		Signal cable Description
A	HDMI Cable	Non-shielded, 1.8m
B	USB Cable	Shielded, 0.5m, two PCS.
C	USB Type-C Cable	Shielded, 0.5m
D	Microphone & Earphone Cable	Non-shielded, 1.2m
E	LAN Cable	Non-shielded, 2.0m

1.3. Configuration of Tested System



1.4. EUT Exercise Software

1. Setup the EUT as shown in Section 1.4.
2. Execute software “DRTU V.11.1941.0-10270” on the EUT.
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 (℃)	10~40 ℃	26.5 ℃
	Humidity (%RH)	10~90 %	56.0 %
Radiated Emission	Temperature (℃)	10~40 ℃	26.1 ℃
	Humidity (%RH)	10~90 %	73.0 %
Conductive	Temperature (℃)	10~40 ℃	28.0 ℃
	Humidity (%RH)	10~90 %	72.9 %

USA : FCC Registration Number: TW3023
Canada : IC Registration Number: 4075A

Site Description: Accredited by TAF
Accredited Number: 3023

Test Laboratory: DEKRA Testing and Certification Co., Ltd
Address: No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.
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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
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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 Conducted measurements /CB3/SR8

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
	Temperature Chamber	WIT GROUP	TH-1S-B	EQ-201-00146	2020/04/06	2021/04/05
X	Spectrum Analyzer	Agilent	N9010A	MY53470892	2019/09/25	2020/09/24
X	Peak Power Analyzer	Keysight	8990B	MY51000410	2020/07/01	2021/06/30
X	Wideband Power Sensor	Keysight	N1923A	MY56080003	2020/07/01	2021/06/30
X	Wideband Power Sensor	Keysight	N1923A	MY56080004	2020/07/01	2021/06/30
X	EMI Test Receiver	R&S	ESCS 30	100369	2019/11/27	2020/11/26
X	LISN	R&S	ENV216	101105	2020/04/27	2021/04/26
X	LISN	R&S	ESH3-Z5	836679/014	2020/04/26	2021/04/25
X	Coaxial Cable	DEKRA	RG 400	LC018-RG	2020/06/19	2021/06/18

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 SystemV9.0.5.

For Radiated measurements /Site3/CB8

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
X	Test Receiver	R&S	ESR7	101602	2019/12/16	2020/12/15
X	Signal Analyzer	R&S	FSV40	101869	2020/06/24	2021/06/23
X	Loop Antenna	Teseq	HLA6121	37133	2019/10/15	2021/10/14
X	Bilog Antenna	Schaffner Chase	CBL6112B	2916	2020/01/20	2021/01/19
X	Coaxial Cable	DEKRA	L1907-001C	280280.F141.1000D	2020/07/09	2021/07/08
X	Amplifier	EMCI	EMC001330	980254	2020/07/28	2021/06/10
X	Horn Antenna	ETS-LINDGREN	3117	00228113	2020/05/28	2021/05/27
X	Coaxial Cable	DEKRA	L1907-002C	280280.F141.1000D	2020/07/09	2021/07/08
X	Amplifier	EMCI	EMC05820SE	980361	2019/09/23	2020/09/22
X	Amplifier	SGH	PRAMP118	20200202	2020/03/17	2021/03/16
X	Horn Antenna	Com-Power	AH-1840	101101	2019/10/31	2020/10/30
X	Amplifier + Cable	EMCI	EMC184045SE	980369	2020/04/23	2021/04/22
	Bilog Antenna	Schaffner Chase	CBL6112B	2916	2020/01/20	2021/01/19
	Coaxial Cable	DEKRA	L1907-003C	00100A1B3A120M	2020/07/09	2021/07/08
	Amplifier	EMCI	EMC001330	980255	2020/03/17	2021/03/16
	Horn Antenna	ETS-LINDGREN	3117	00228111	2020/05/28	2021/05/27
	Amplifier	SGH	PRAMP0510	20200206	2020/03/17	2021/03/16
	Amplifier	SGH	PRAMP118	20200202	2020/03/17	2021/03/16
X	Filter	MICRO-TRONICS	BRM50702	G270	2019/08/08	2020/08/07
X	Filter	MICRO-TRONICS	BRM50716	G196	2019/08/08	2020/08/07

Note:
1. Loop Antenna is calibrated every two years, the other 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 Test SystemV1.1.

For Conducted measurements /ASR2

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Spectrum Analyzer	R&S	FSV30	103464	2020.02.11	2021.02.10
X	Spectrum Analyzer	Agilent	N9010A	MY55150401	2020.09.15	2021.09.14
X	Power Meter	Anritsu	ML2496A	1548002	2020.02.10	2021.02.09
X	Power Sensor	Anritsu	MA2411B	1531023	2020.02.10	2021.02.09
X	Power Sensor	Anritsu	MA2411B	1531022	2020.02.10	2021.02.09

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 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	00203761	2020.11.23	2021.11.22
	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	EMC051845SE	SN980632	2020.08.21	2021.08.20
	Pre-Amplifier	EMCI	EMC184045SE	980314	2020.06.10	2021.06.09
X	Filter	MICRO-TRONICS	BRM50702	G270	2020.08.17	2021.08.16
	Filter	MICRO-TRONICS	BRM50716	G196	2020.08.17	2021.08.16
X	EMI Test Receiver	R&S	ESR7	101601	2020.05.21	2021.05.20
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.

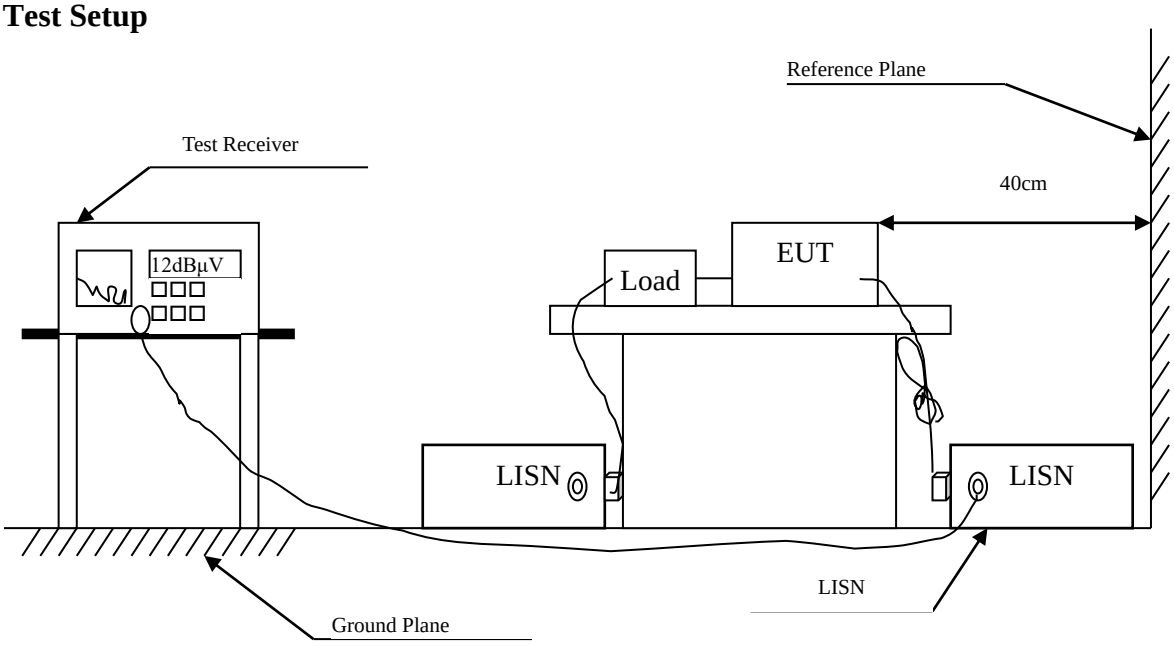
The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

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	±3.42dB	
Peak Power Output	Power Meter ±0.89dB	Spectrum Analyzer ±2.06dB
Radiated Emission	9kHz~30MHz: ±3.88dB 30MHz~1GHz: ±4.06dB 1GHz~18GHz: ±3.71dB 18GHz~40GHz: ±3.73dB 40GHz~50GHz: ±3.75dB 50GHz~325GHz: ±4.39dB	
RF antenna conducted test	±2.06dB	
Band Edge	9kHz~30MHz: ±3.88dB 30MHz~1GHz: ±4.06dB 1GHz~18GHz: ±3.71dB 18GHz~40GHz: ±3.73dB 40GHz~50GHz: ±3.75dB 50GHz~325GHz: ±4.39dB	
6dB Bandwidth	±1544.74Hz	
Power Density	±2.06dB	
Duty Cycle (2.4GHz)	±2.31msec	

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBµV) 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

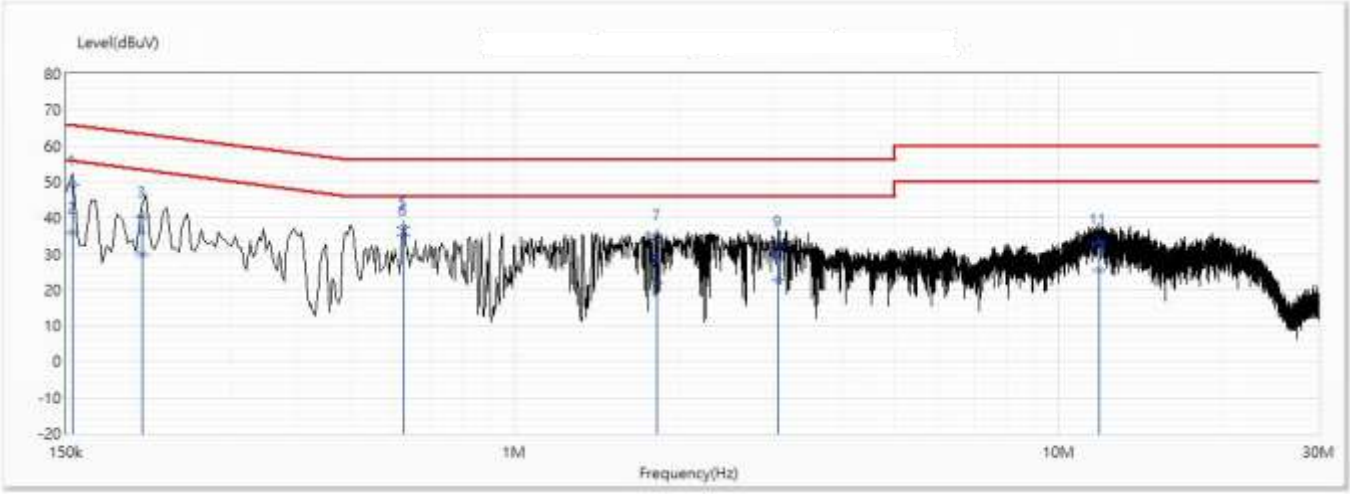
2.3. Test Procedure

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 invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.4. Test Result of Conducted Emission

Product : Notebook
Test Item : Conducted Emission Test
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2442MHz)
Test Date : 2020/08/15

Line1



No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.154	49.24	65.78	-16.54	39.43	9.81	QP
2	0.154	35.95	55.78	-19.83	26.14	9.81	AV
3	0.207	40.50	63.31	-22.82	30.70	9.80	QP
4	0.207	29.79	53.31	-23.52	19.99	9.80	AV
5	0.625	37.35	56.00	-18.65	27.55	9.80	QP
*6	0.625	35.20	46.00	-10.80	25.40	9.80	AV
7	1.829	33.88	56.00	-22.12	24.04	9.84	QP
8	1.829	22.03	46.00	-23.97	12.18	9.84	AV
9	3.045	32.24	56.00	-23.76	22.35	9.88	QP
10	3.045	22.81	46.00	-23.19	12.92	9.88	AV
11	11.831	32.92	60.00	-27.08	22.82	10.10	QP
12	11.831	25.29	50.00	-24.71	15.20	10.10	AV

Remark:

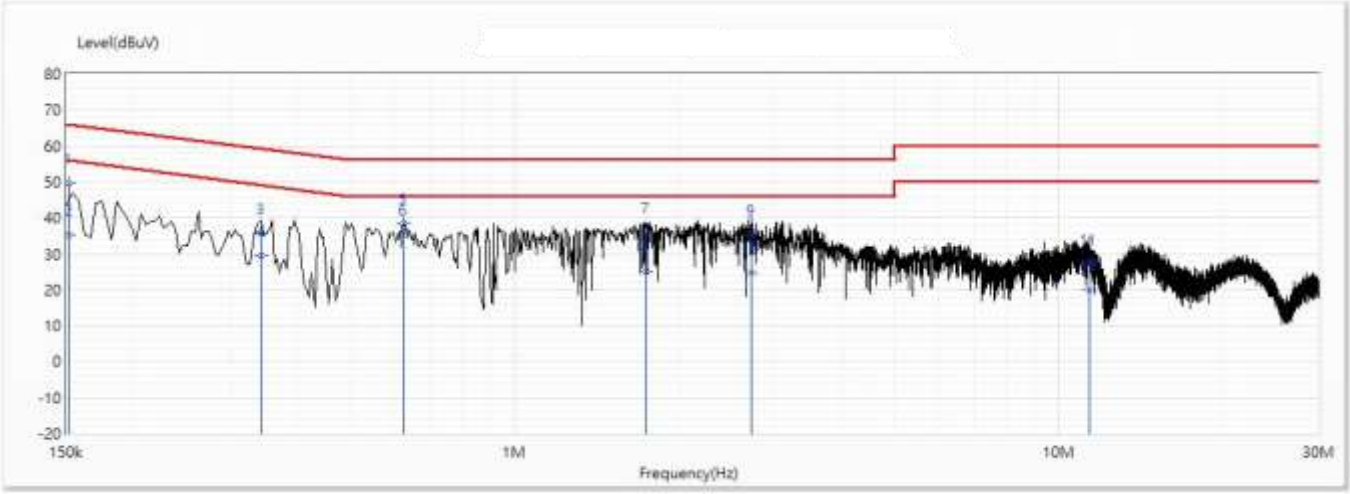
1. "*" means this data is the worst emission level;"!" means this data is over limit.

2. Emission Level=Reading Level + Correct Factor(Correct Factor=LISN Factor+Cable Loss).

3. Margin=Emission Level-Limit

Product : Notebook
Test Item : Conducted Emission Test
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2442MHz)
Test Date : 2020/08/15

Neutral



No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.152	49.54	65.91	-16.36	39.75	9.79	QP
2	0.152	35.34	55.91	-20.57	25.55	9.79	AV
3	0.342	35.52	59.16	-23.64	25.74	9.79	QP
4	0.342	29.43	49.16	-19.73	19.64	9.79	AV
5	0.625	38.33	56.00	-17.67	28.54	9.79	QP
*6	0.625	35.32	46.00	-10.68	25.53	9.79	AV
7	1.743	36.08	56.00	-19.92	26.25	9.83	QP
8	1.743	25.12	46.00	-20.88	15.29	9.83	AV
9	2.716	35.45	56.00	-20.55	25.59	9.86	QP
10	2.716	24.61	46.00	-21.39	14.74	9.86	AV
11	11.391	27.16	60.00	-32.84	17.03	10.13	QP
12	11.391	19.96	50.00	-30.04	9.83	10.13	AV

Remark:

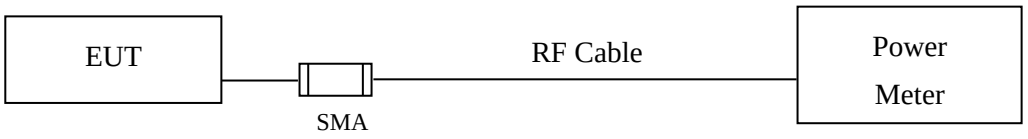
1. "*" means this data is the worst emission level;"!" means this data is over limit.

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
Test Item : Peak Power Output Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps)
Test Date : 2020/08/28

CHAIN A

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	18.32	--	--	--	20.60	<30dBm	Pass
07	2442	18.06	17.96	17.90	17.83	20.99	<30dBm	Pass
11	2462	18.05	--	--	--	20.70	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN B

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	18.35	--	--	--	20.67	<30dBm	Pass
07	2442	18.24	18.21	18.14	18.11	21.05	<30dBm	Pass
11	2462	18.42	--	--	--	20.73	<30dBm	Pass

Note: 1.Peak Power Output Value =Reading value on power meter + cable loss
2.CHAIN B is selected as the test mode

Product : Notebook
Test Item : Peak Power Output Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps)
Test Date : 2020/08/28

CHAIN A

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	15.76	--	--	--	--	--	--	--	20.48	<30dBm	Pass
02	2417	17.98	--	--	--	--	--	--	--	21.98		
07	2442	18.09	18	17.97	17.88	17.85	17.76	17.69	17.63	22.06	<30dBm	Pass
10	2457	17.89	--	--	--	--	--	--	--	21.76		
11	2462	16.14	--	--	--	--	--	--	--	21.20	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN B

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	16.08	--	--	--	--	--	--	--	21.03	<30dBm	Pass
02	2417	18.26	--	--	--	--	--	--	--	22.19		
07	2442	18.5	18.43	18.37	18.31	18.24	18.2	18.12	18.04	22.22	<30dBm	Pass
10	2457	18.3	--	--	--	--	--	--	--	22.05		
11	2462	16.22	--	--	--	--	--	--	--	21.32	<30dBm	Pass

Note: 1.Peak Power Output Value =Reading value on power meter + cable loss
2.CHAIN B is selected as the test mode

Product : Notebook
Test Item : Peak Power Output Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)
Test Date : 2020/08/28

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4
		Measurement Level (dBm)								
01	2412	15.05	--	--	--	--	--	--	--	19.85
02	2417	17.11	--	--	--	--	--	--	--	21.6
07	2442	17.22	17.14	17.05	17.01	16.92	16.84	16.76	16.68	21.67
10	2457	17.2	--	--	--	--	--	--	--	21.55
11	2462	14.88	--	--	--	--	--	--	--	19.73

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4
		Measurement Level (dBm)								
01	2412	14.98	--	--	--	--	--	--	--	19.80
02	2417	17.32	--	--	--	--	--	--	--	21.7
07	2442	17.62	17.58	17.54	17.51	17.46	17.42	17.37	17.34	21.92
10	2457	17.58	--	--	--	--	--	--	--	21.8
11	2462	14.33	--	--	--	--	--	--	--	19.27

Note: Peak Power Output Value =Reading value on power meter + cable loss

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
1	2412	14.4	19.85	19.80	22.84	<30dBm	Pass
2	2417	14.4	21.60	21.70	24.66	<30dBm	Pass
7	2442	14.4	21.67	21.92	24.81	<30dBm	Pass
10	2457	14.4	21.55	21.80	24.69	<30dBm	Pass
11	2462	14.4	19.73	19.27	22.52	<30dBm	Pass

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

Product : Notebook
Test Item : Peak Power Output Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)
Test Date : 2020/08/28

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		30	60	90	120	180	240	270	300	30
		Measurement Level (dBm)								
03	2422	13.47	--	--	--	--	--	--	--	18.91
07	2442	14.02	13.93	13.87	13.84	13.74	13.68	13.65	13.59	19.39
09	2452	13.38	--	--	--	--	--	--	--	18.85

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		30	60	90	120	180	240	270	300	30
		Measurement Level (dBm)								
03	2422	13.11	--	--	--	--	--	--	--	18.57
07	2442	14.03	13.99	13.96	13.9	13.85	13.81	13.73	13.67	19.36
09	2452	13.1	--	--	--	--	--	--	--	18.5

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN A+B

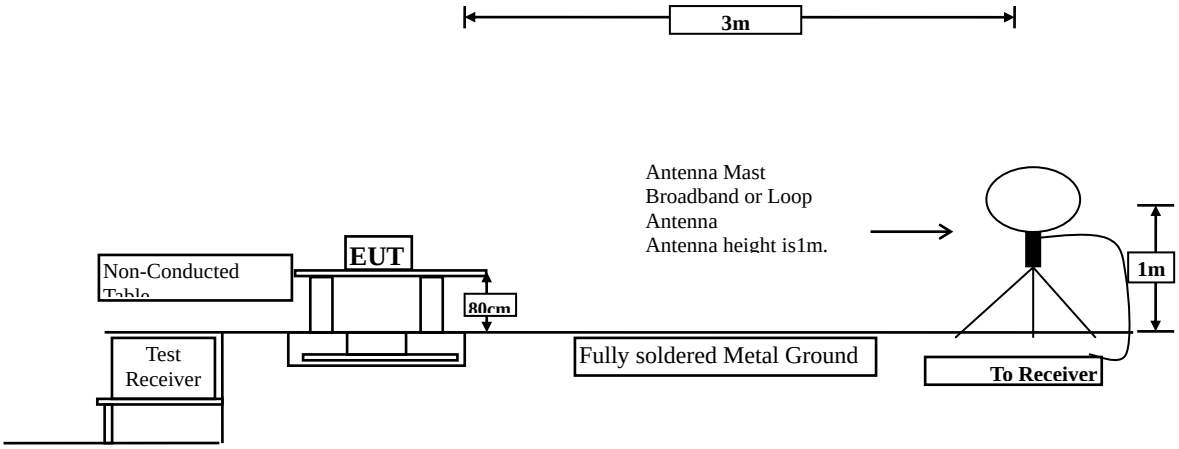
Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
3	2422	30	18.91	18.57	21.75	<30dBm	Pass
7	2442	30	19.39	19.36	22.39	<30dBm	Pass
9	2452	30	18.85	18.50	21.69	<30dBm	Pass

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

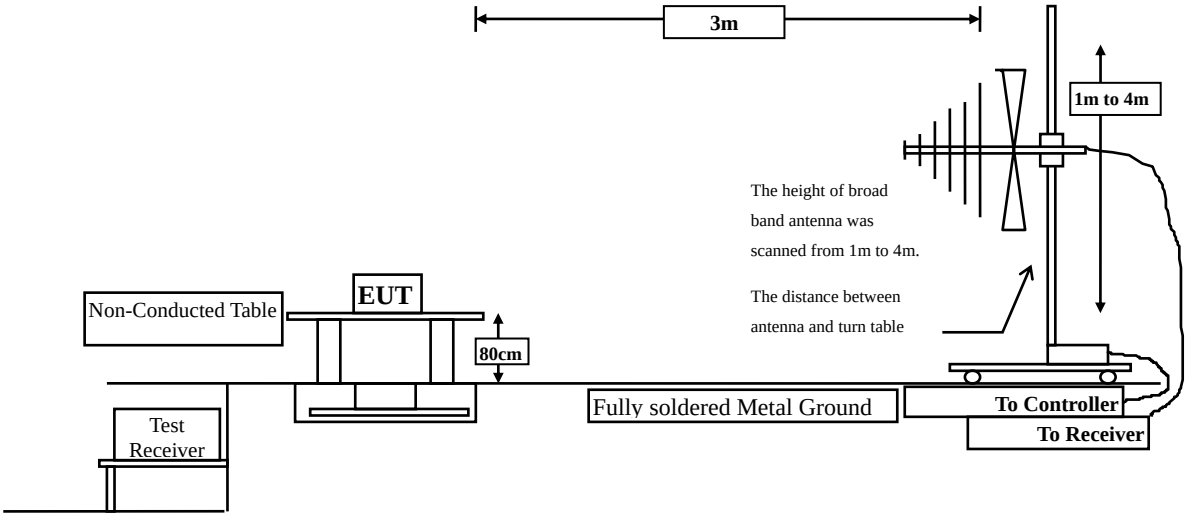
4. Radiated Emission

4.1. Test Setup

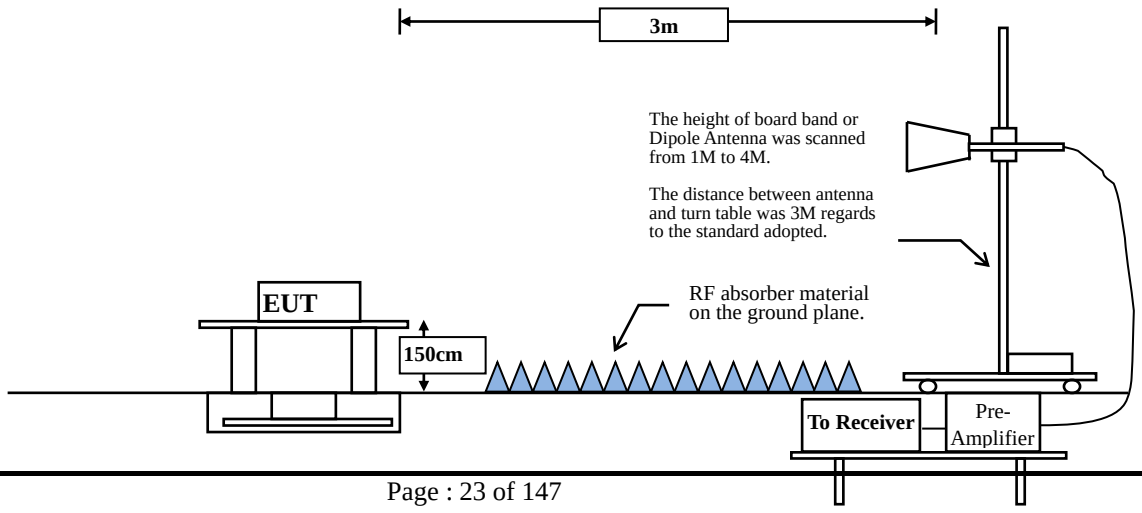
Radiated Emission Under 30MHz



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 form 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 ≥ 3 x 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 ≥ 98 %

VBW ≥ 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.)

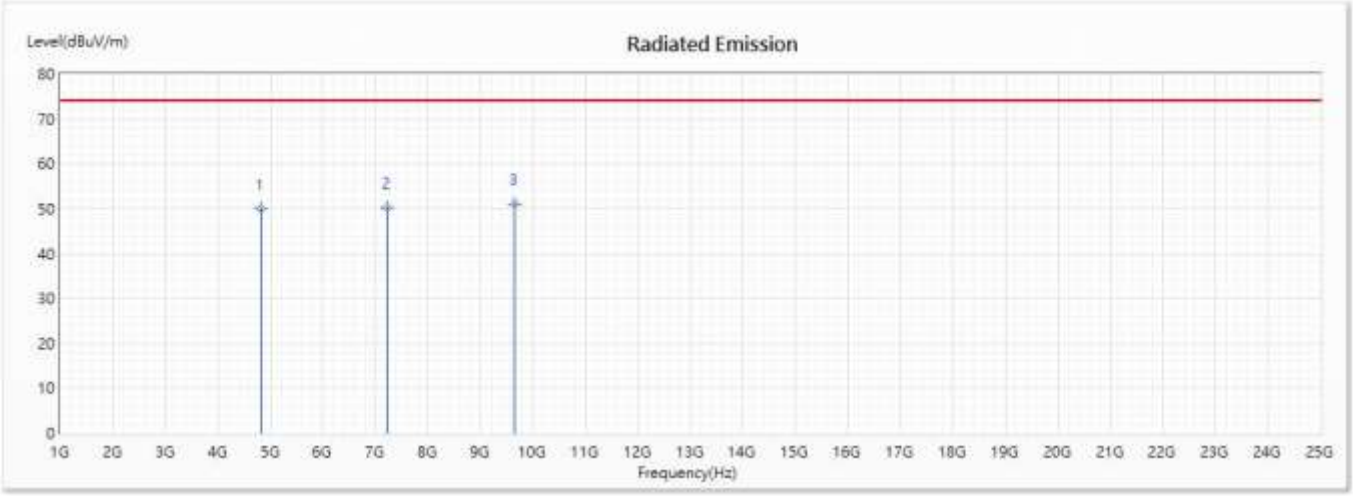
2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11b	98.84	12.3188	81	10
802.11g	97.22	2.0290	493	500
802.11n20	98.84	18.5217	54	10
802.11n40	98.40	8.9130	112	10

Note: Duty Cycle Refer to Section 9

4.4. Test Result of Radiated Emission

Product : Notebook
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date : 2020/07/28

Horizontal



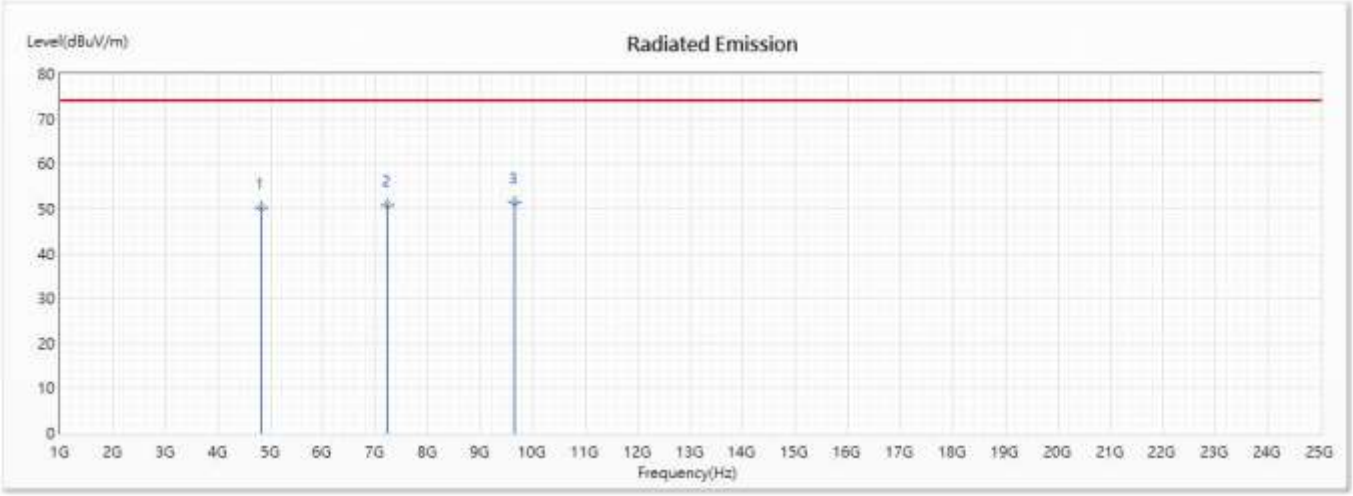
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4824	49.95	74.00	-24.05	61.94	-11.99	PK
2	7236	50.11	74.00	-23.89	62.91	-12.80	PK
* 3	9648	50.97	74.00	-23.03	63.97	-13.00	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date	:	2020/07/28

Vertical



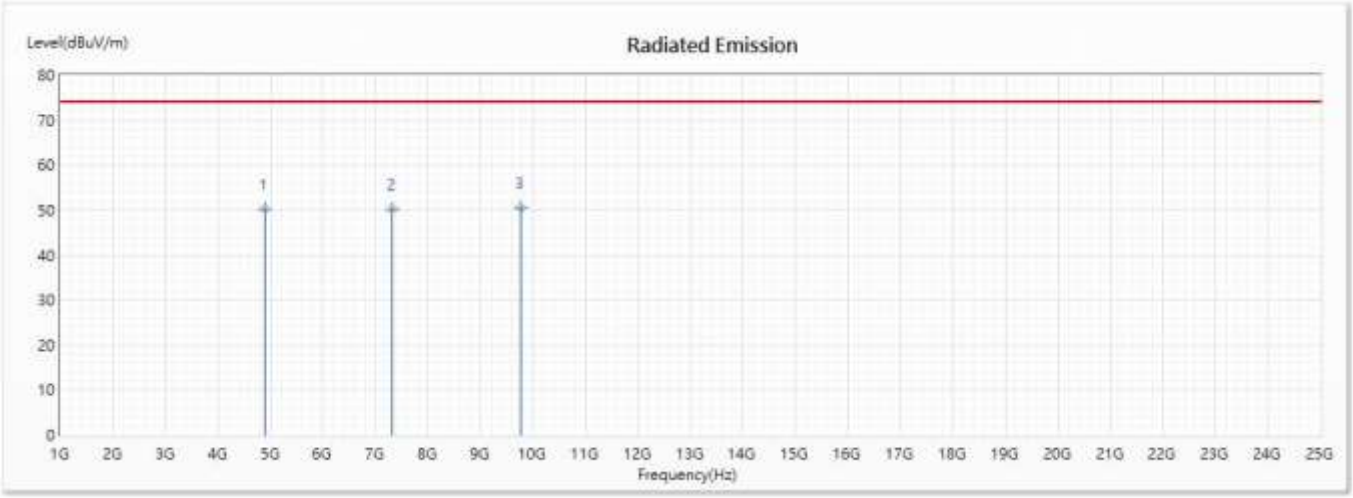
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4824	50.23	74.00	-23.77	62.22	-11.99	PK
2	7236	50.78	74.00	-23.22	63.58	-12.80	PK
* 3	9648	51.37	74.00	-22.63	64.37	-13.00	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2442 MHz)
Test Date	:	2020/07/28

Horizontal



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4884	50.15	74.00	-23.85	61.56	-11.41	PK
2	7326	50.32	74.00	-23.68	63.82	-13.50	PK
* 3	9768	50.45	74.00	-23.55	62.82	-12.37	PK

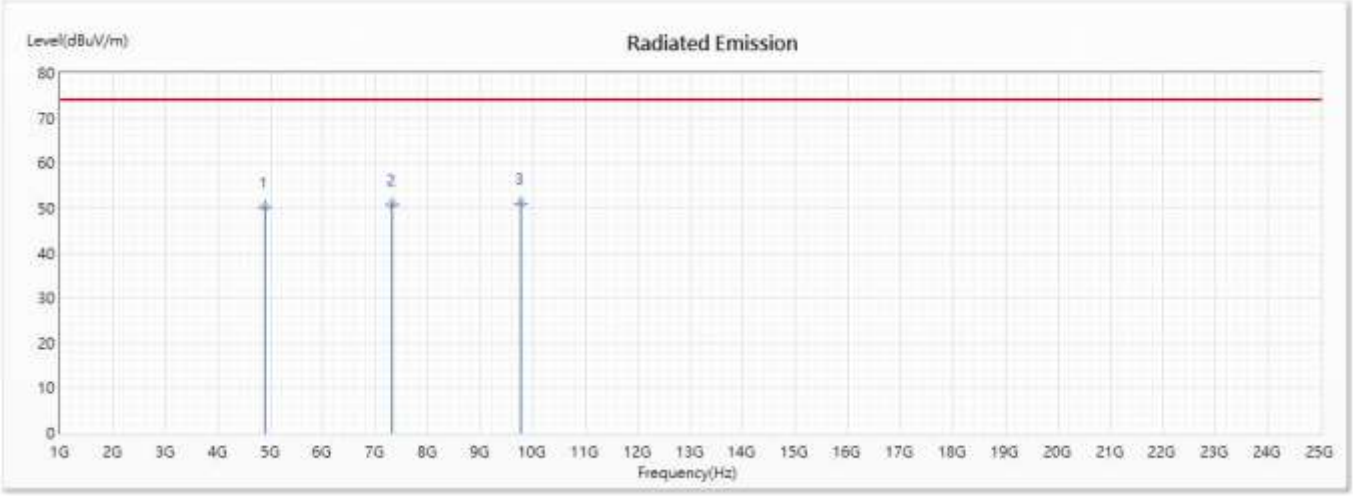
Remark:

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2442 MHz)
Test Date	:	2020/07/28

Vertical



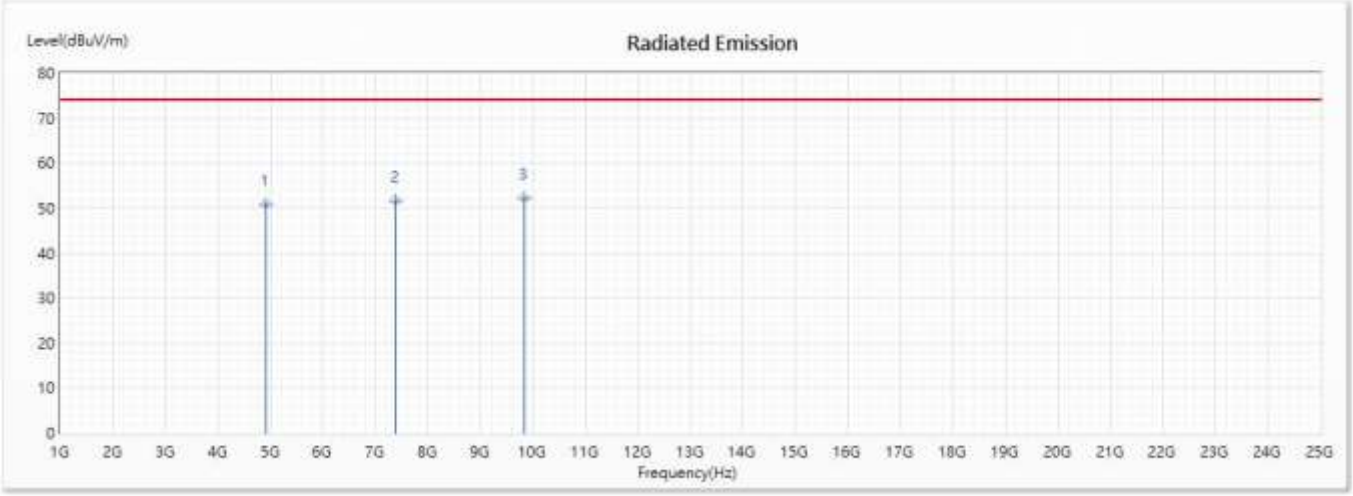
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4884	50.28	74.00	-23.72	61.69	-11.41	PK
2	7326	50.69	74.00	-23.31	64.19	-13.50	PK
* 3	9768	51.07	74.00	-22.93	63.44	-12.37	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)
Test Date	:	2020/07/28

Horizontal



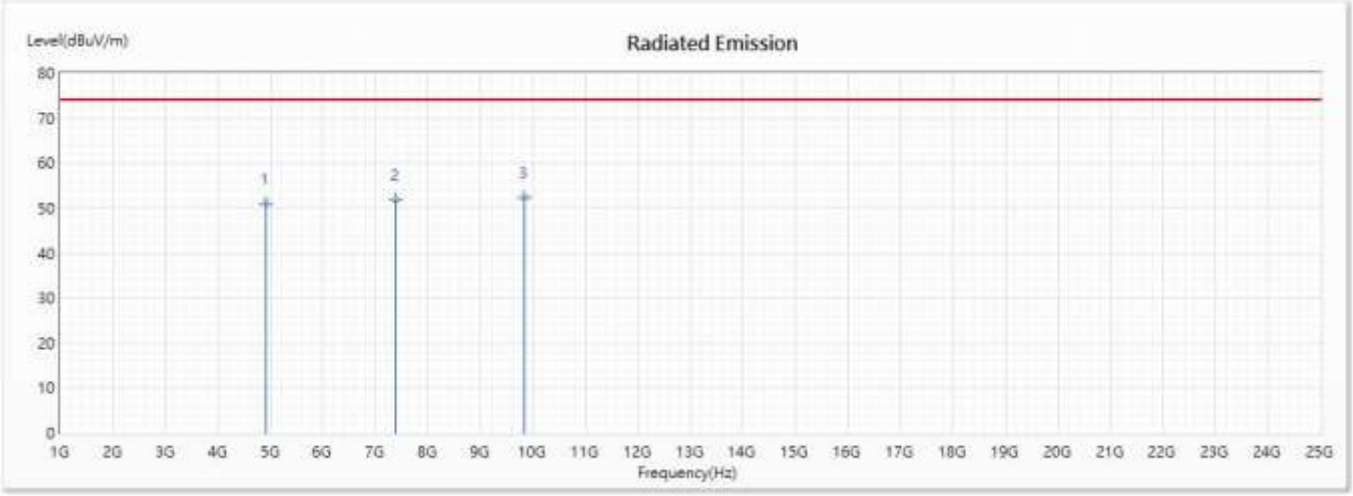
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4924	50.76	74.00	-23.24	61.80	-11.04	PK
2	7386	51.65	74.00	-22.35	65.65	-14.00	PK
* 3	9848	52.21	74.00	-21.79	65.45	-13.24	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)
Test Date	:	2020/07/28

Vertical



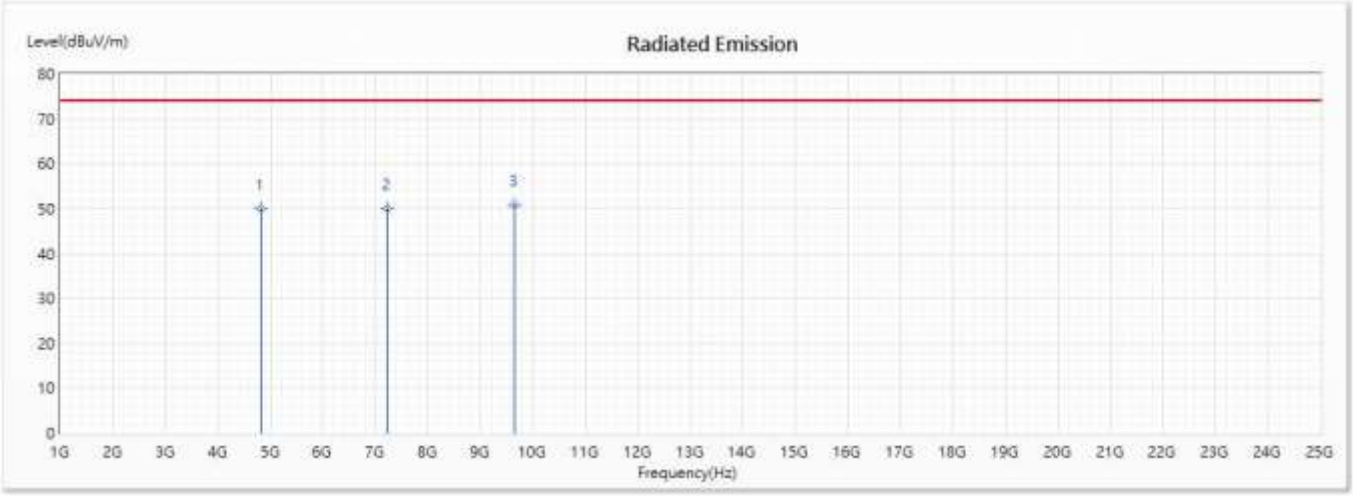
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4924	50.93	74.00	-23.07	61.97	-11.04	PK
2	7386	51.77	74.00	-22.23	65.77	-14.00	PK
* 3	9848	52.47	74.00	-21.53	65.71	-13.24	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date	:	2020/07/28

Horizontal



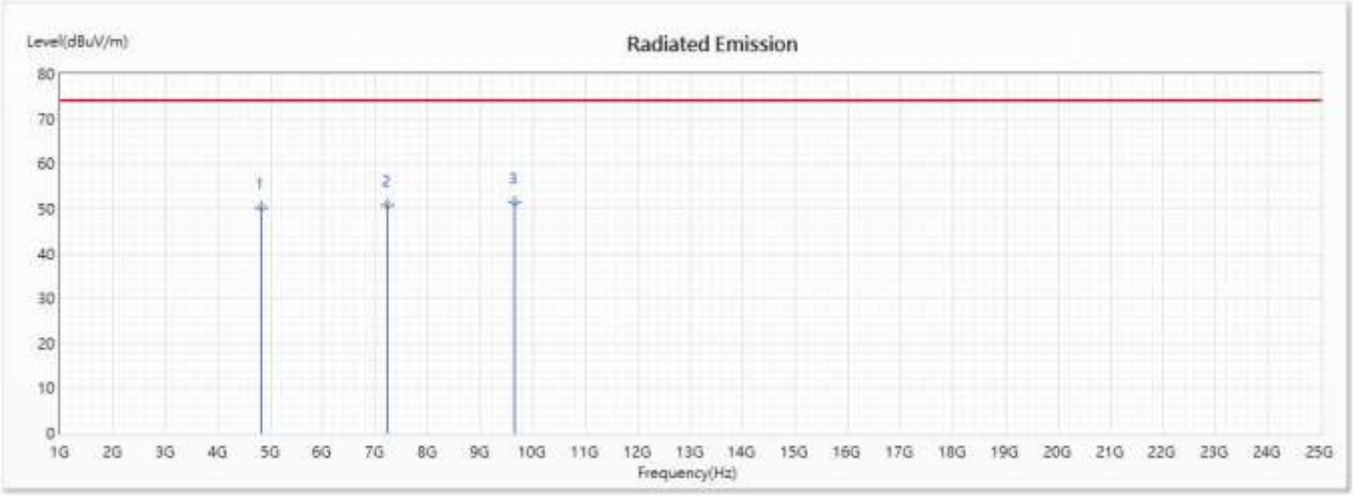
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4824	49.87	74.00	-24.13	61.86	-11.99	PK
2	7236	50.03	74.00	-23.97	62.83	-12.80	PK
* 3	9648	50.86	74.00	-23.14	63.86	-13.00	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date	:	2020/07/28

Vertical



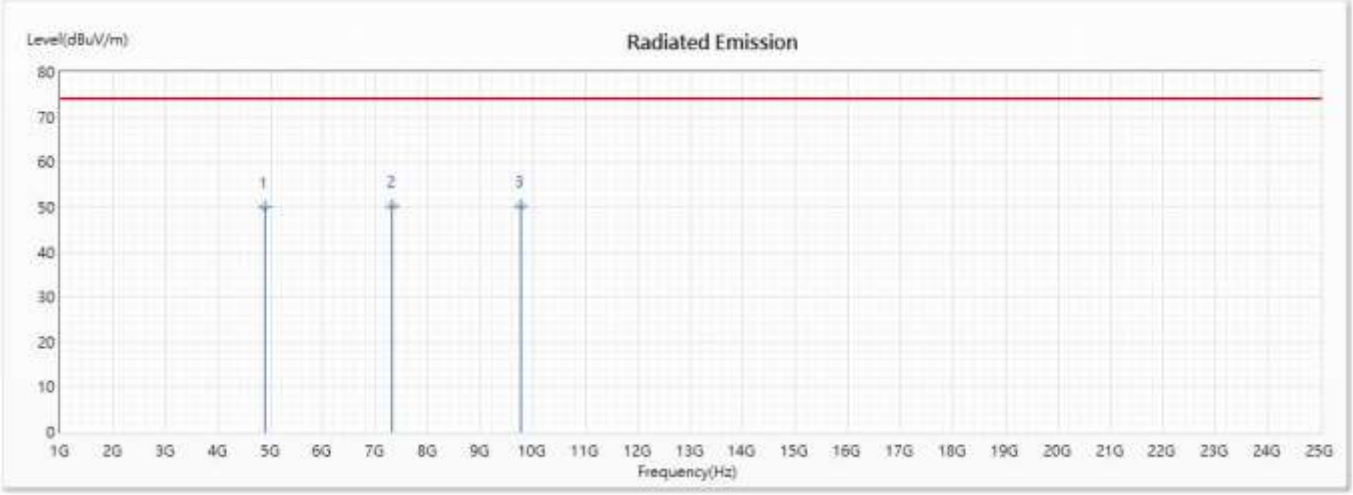
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4824	50.16	74.00	-23.84	62.15	-11.99	PK
2	7236	50.71	74.00	-23.29	63.51	-12.80	PK
* 3	9648	51.25	74.00	-22.75	64.25	-13.00	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2442 MHz)
Test Date	:	2020/07/28

Horizontal



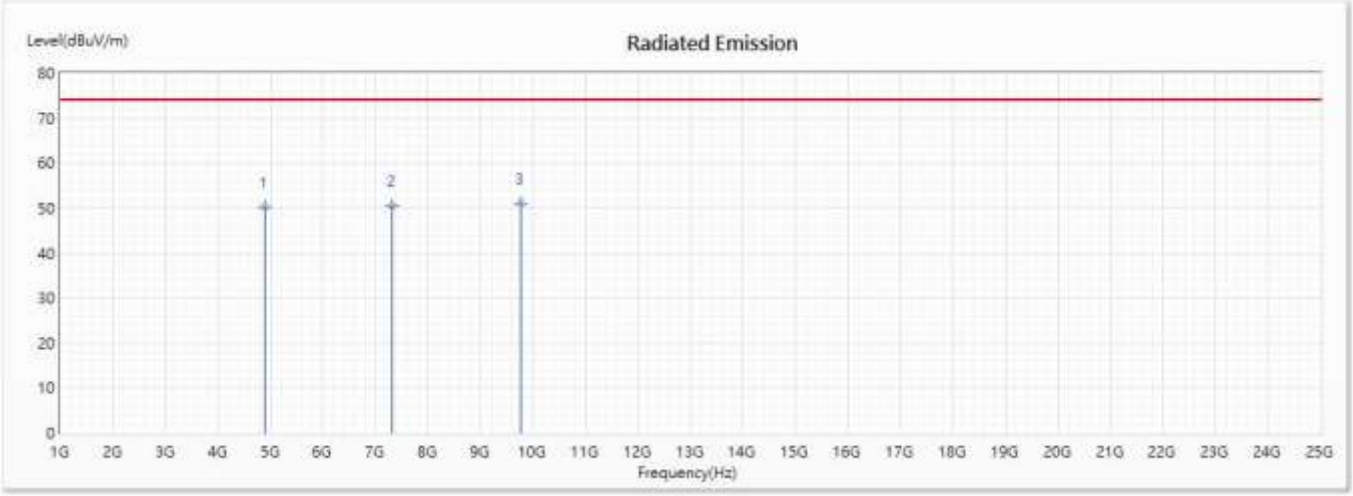
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4884	50.06	74.00	-23.94	61.47	-11.41	PK
2	7326	50.23	74.00	-23.77	63.73	-13.50	PK
* 3	9768	50.36	74.00	-23.64	62.73	-12.37	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2442 MHz)
Test Date	:	2020/07/28

Vertical



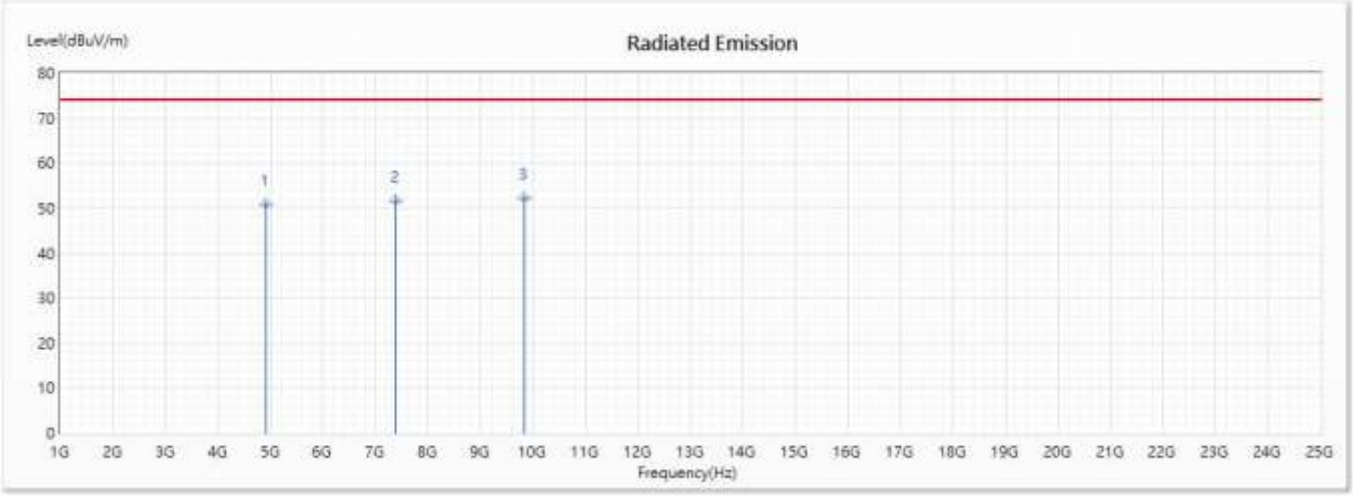
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4884	50.17	74.00	-23.83	61.58	-11.41	PK
2	7326	50.55	74.00	-23.45	64.05	-13.50	PK
* 3	9768	51.01	74.00	-22.99	63.38	-12.37	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)
Test Date	:	2020/07/28

Horizontal



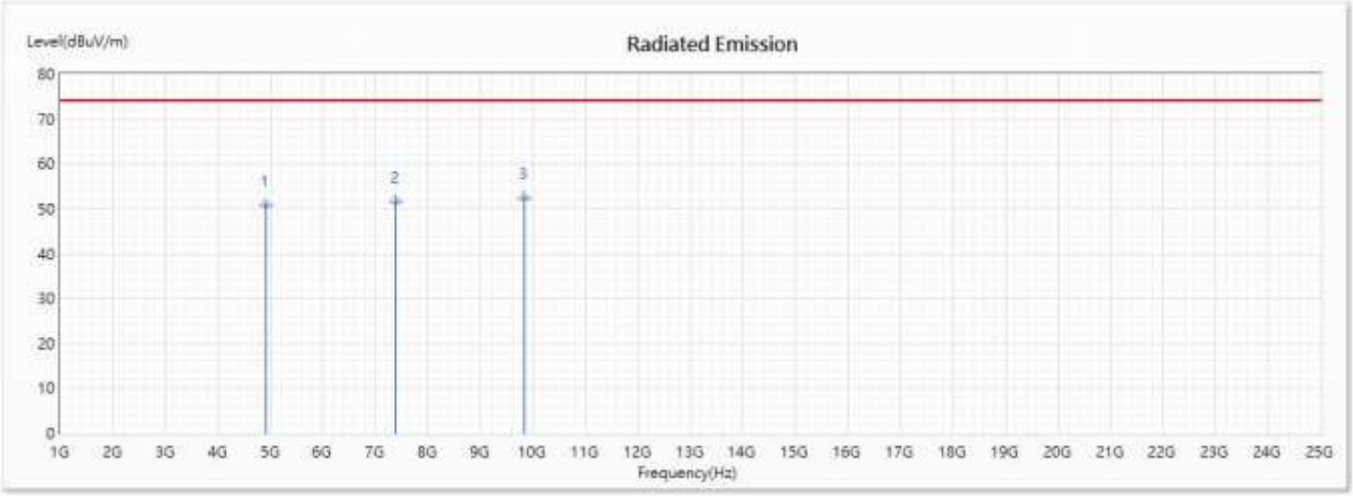
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4924	50.68	74.00	-23.32	61.72	-11.04	PK
2	7386	51.57	74.00	-22.43	65.57	-14.00	PK
* 3	9848	52.13	74.00	-21.87	65.37	-13.24	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)
Test Date	:	2020/07/28

Vertical



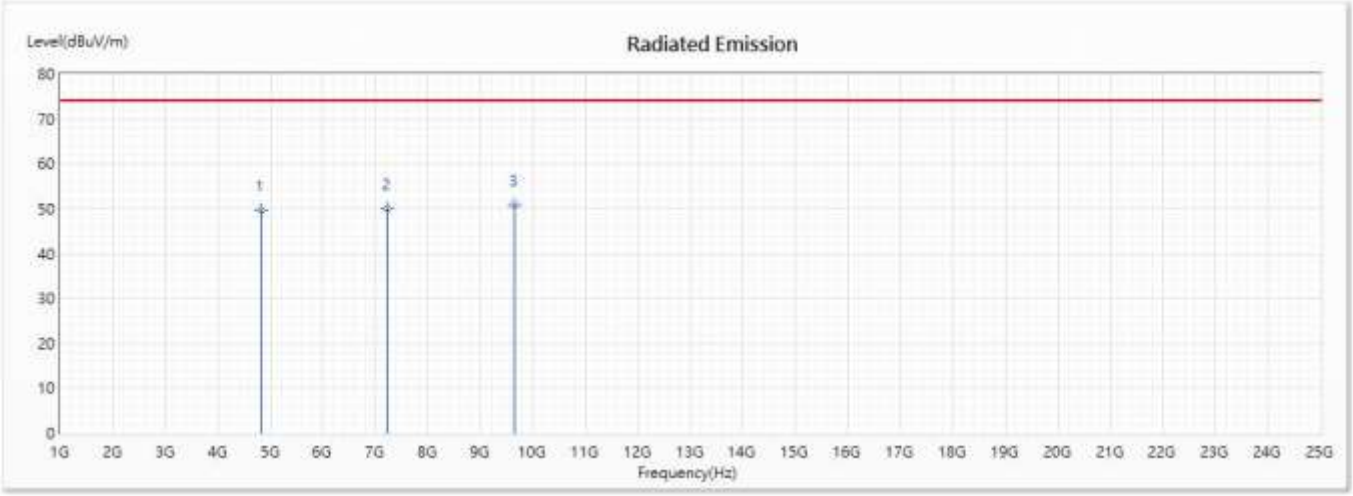
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4924	50.85	74.00	-23.15	61.89	-11.04	PK
2	7386	51.65	74.00	-22.35	65.65	-14.00	PK
* 3	9848	52.38	74.00	-21.62	65.62	-13.24	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2412MHz)
Test Date	:	2020/07/28

Horizontal



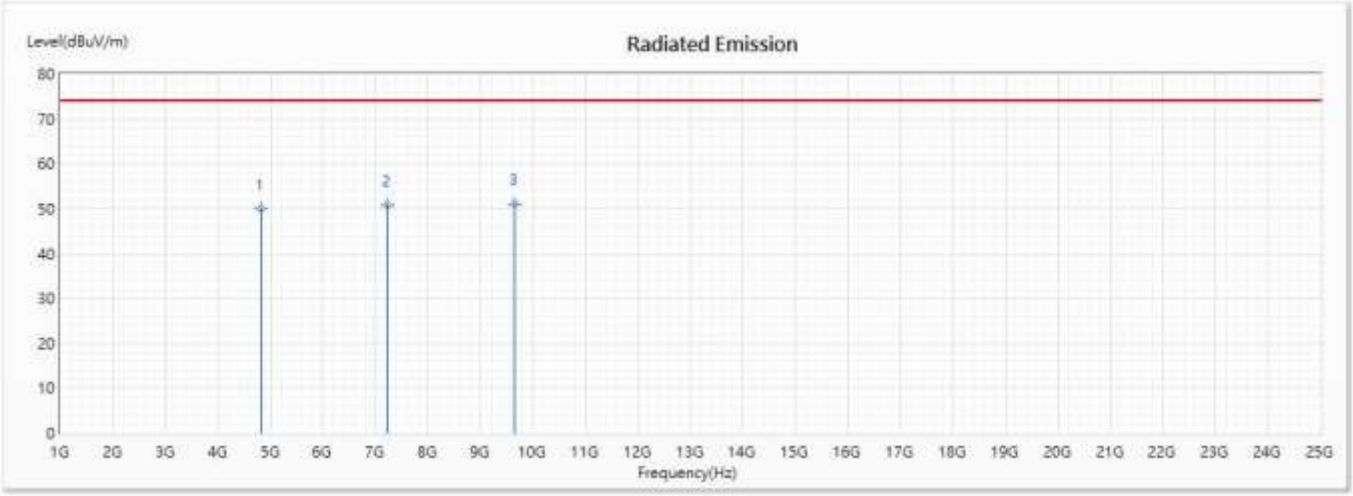
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4824	49.78	74.00	-24.22	61.77	-11.99	PK
2	7236	49.95	74.00	-24.05	62.75	-12.80	PK
* 3	9648	50.77	74.00	-23.23	63.77	-13.00	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2412MHz)
Test Date	:	2020/07/28

Vertical



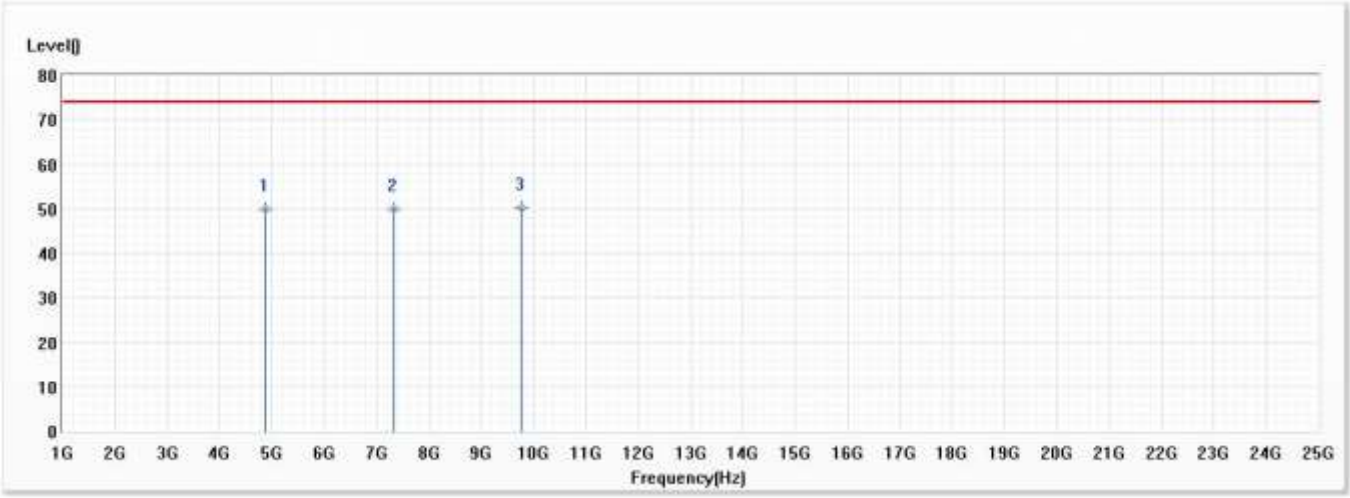
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4824	50.08	74.00	-23.92	62.07	-11.99	PK
2	7236	50.66	74.00	-23.34	63.46	-12.80	PK
* 3	9648	51.15	74.00	-22.85	64.15	-13.00	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2442 MHz)
Test Date	:	2020/12/21

Horizontal



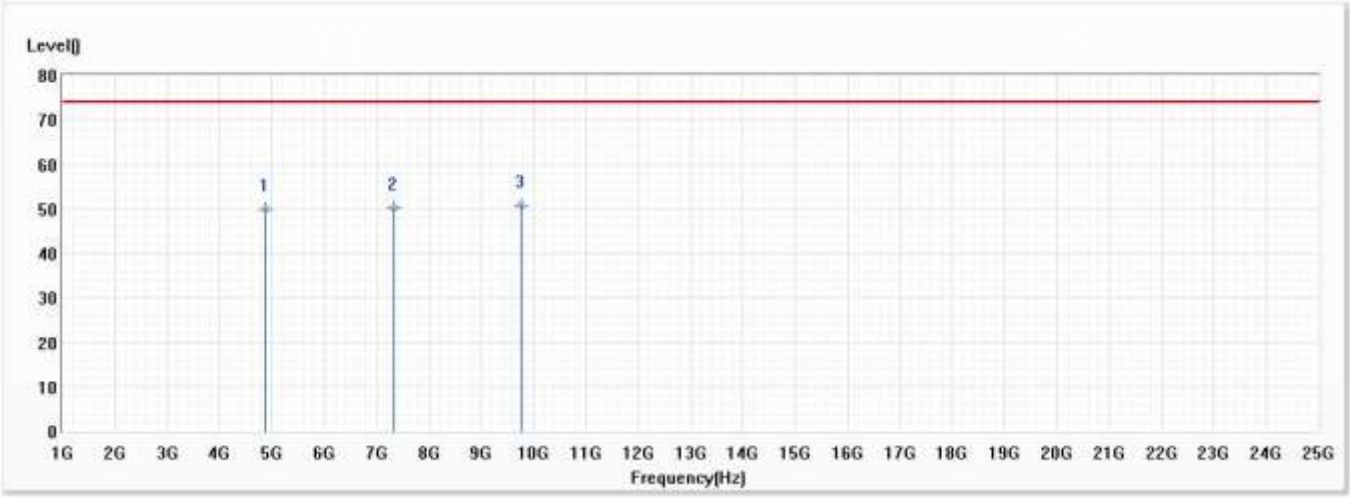
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4884	49.81	74.00	-24.19	62.93	-13.12	PK
2	7326	49.88	74.00	-24.12	61.89	-12.01	PK
* 3	9768	50.10	74.00	-23.90	61.17	-11.07	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2442 MHz)
Test Date	:	2020/12/21

Vertical



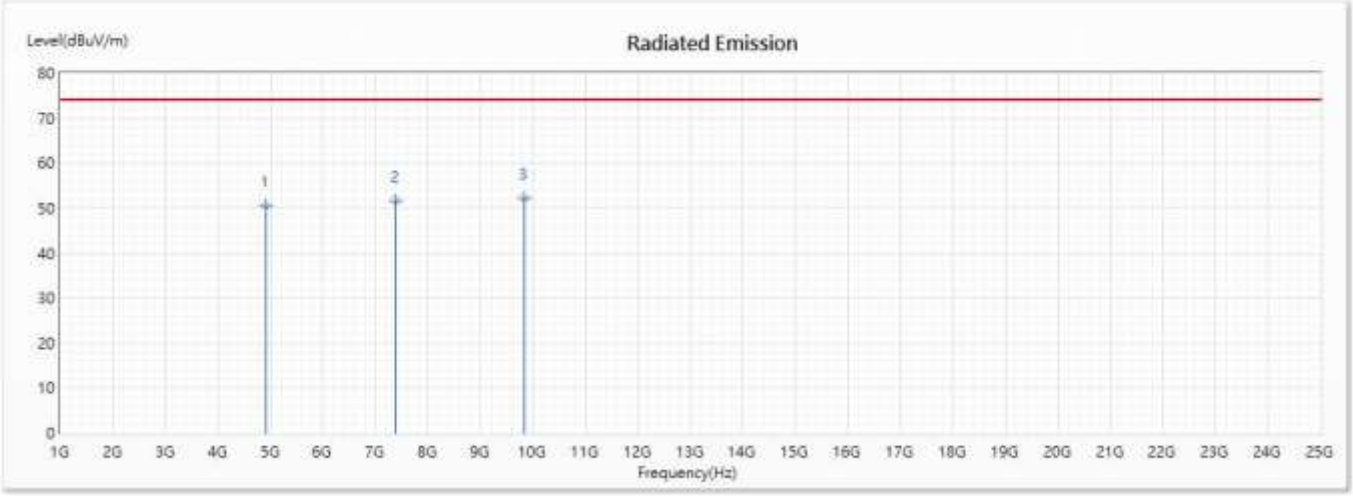
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4884	49.86	74.00	-24.14	62.98	-13.12	PK
2	7326	50.21	74.00	-23.79	62.22	-12.01	PK
* 3	9768	50.84	74.00	-23.16	61.91	-11.07	PK

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
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2462 MHz)
Test Date : 2020/07/28

Horizontal



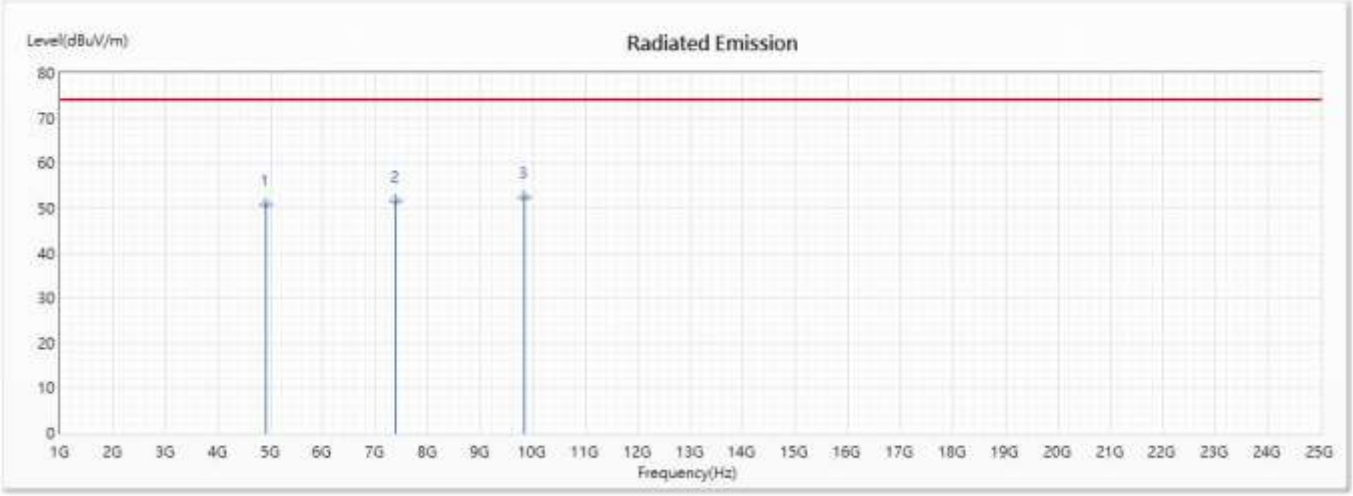
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4924	50.56	74.00	-23.44	61.60	-11.04	PK
2	7386	51.47	74.00	-22.53	65.47	-14.00	PK
* 3	9848	52.05	74.00	-21.95	65.29	-13.24	PK

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
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2462 MHz)
Test Date : 2020/07/28

Vertical



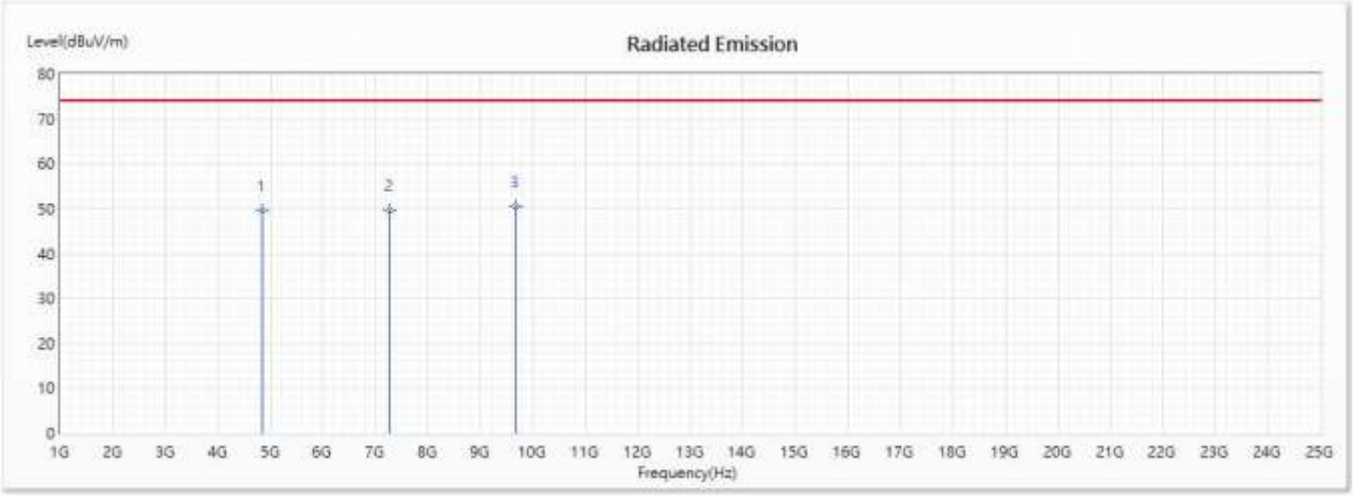
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4924	50.77	74.00	-23.23	61.81	-11.04	PK
2	7386	51.58	74.00	-22.42	65.58	-14.00	PK
* 3	9848	52.29	74.00	-21.71	65.53	-13.24	PK

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
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2422MHz)
Test Date : 2020/07/28

Horizontal



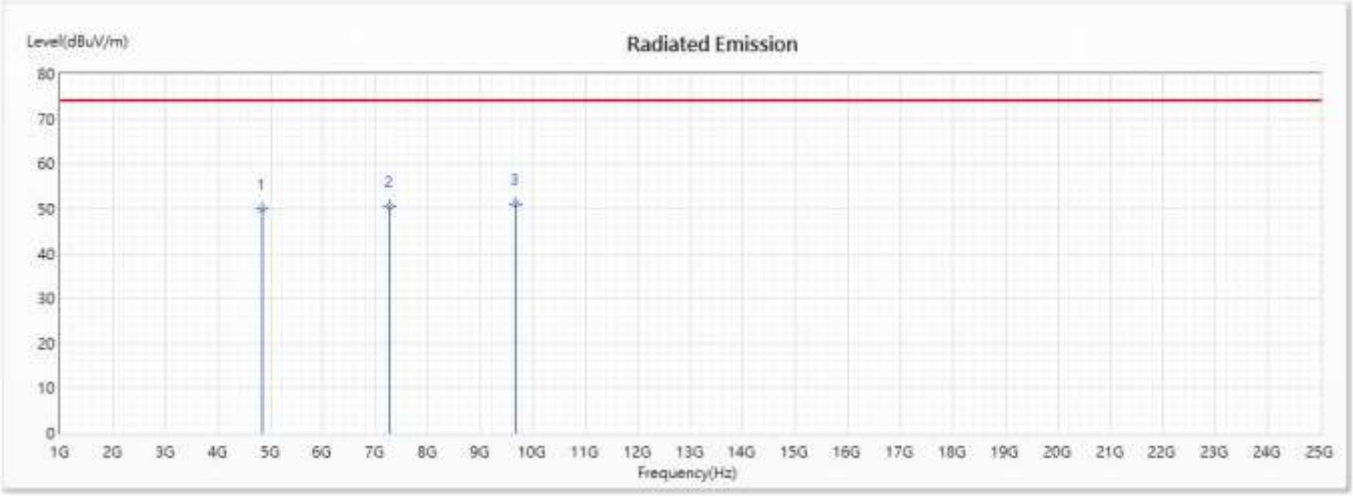
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4844	49.66	74.00	-24.34	61.41	-11.75	PK
2	7266	49.78	74.00	-24.22	62.71	-12.93	PK
* 3	9688	50.63	74.00	-23.37	63.31	-12.68	PK

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
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2422MHz)
Test Date : 2020/07/28

Vertical



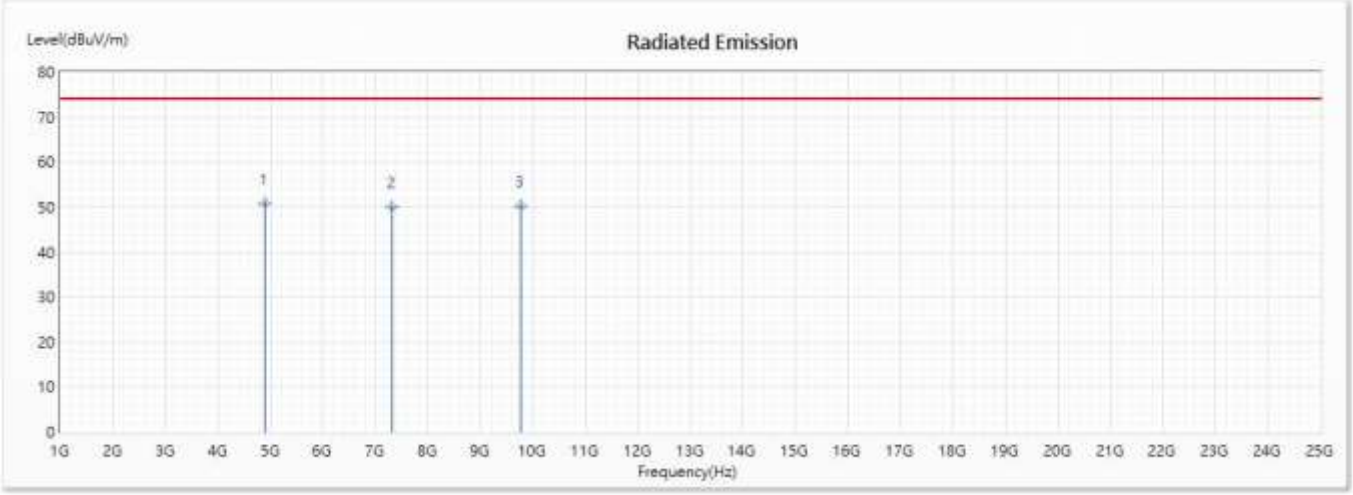
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4844	49.92	74.00	-24.08	61.67	-11.75	PK
2	7266	50.47	74.00	-23.53	63.40	-12.93	PK
* 3	9688	51.03	74.00	-22.97	63.71	-12.68	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2442 MHz)
Test Date	:	2020/07/28

Horizontal



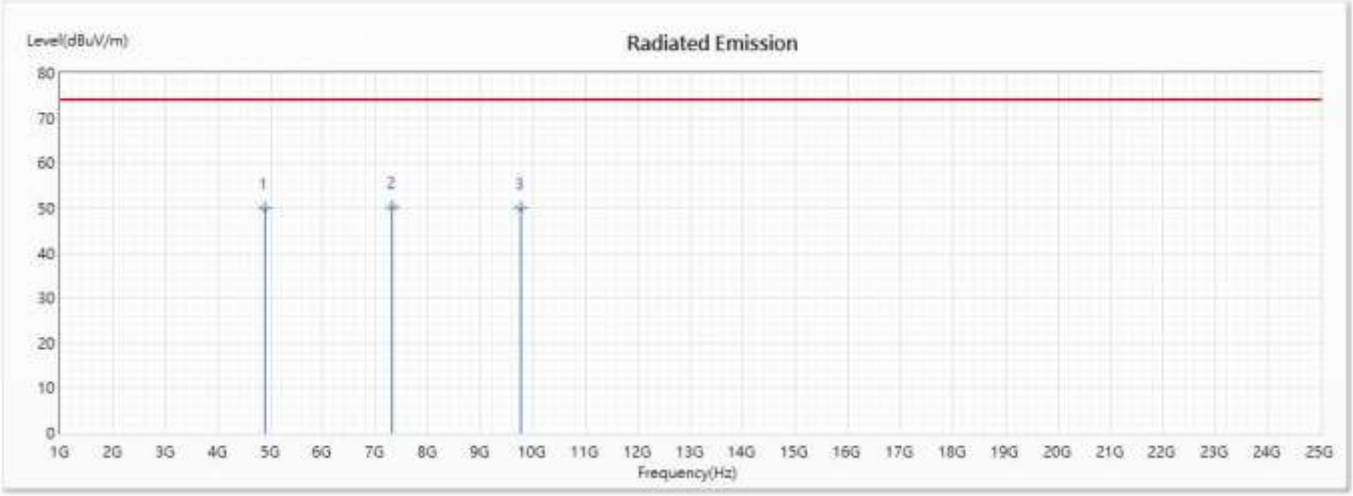
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4884	50.76	74.00	-23.24	62.17	-11.41	PK
2	7326	49.98	74.00	-24.02	63.48	-13.50	PK
3	9768	50.12	74.00	-23.88	62.49	-12.37	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2442 MHz)
Test Date	:	2020/07/28

Vertical



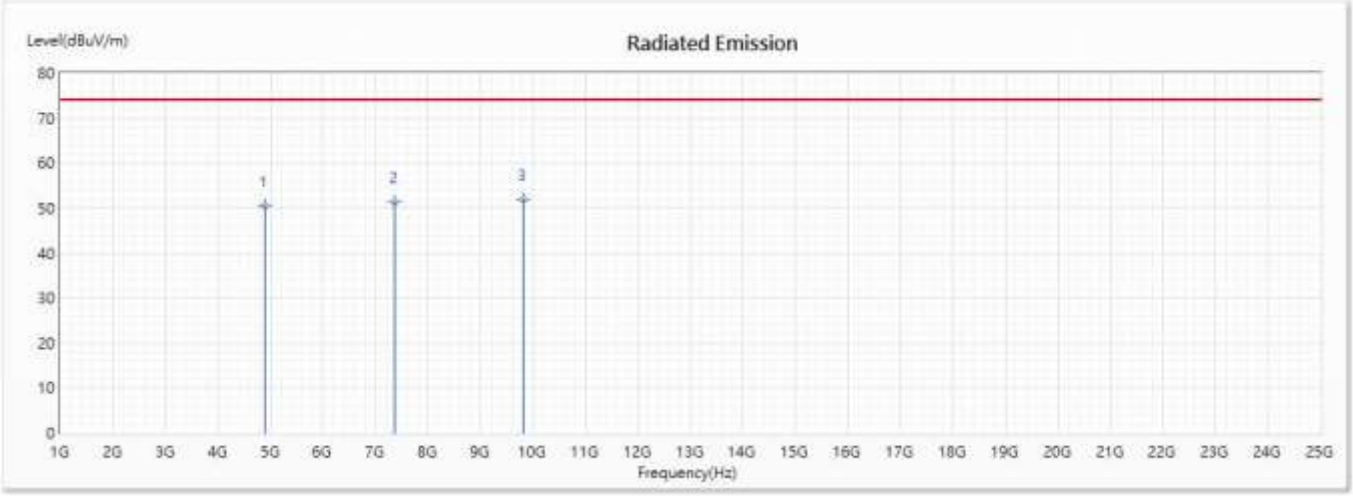
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4884	49.89	74.00	-24.11	61.30	-11.41	PK
* 2	7326	50.28	74.00	-23.72	63.78	-13.50	PK
3	9768	49.92	74.00	-24.08	62.29	-12.37	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2452 MHz)
Test Date	:	2020/07/28

Horizontal



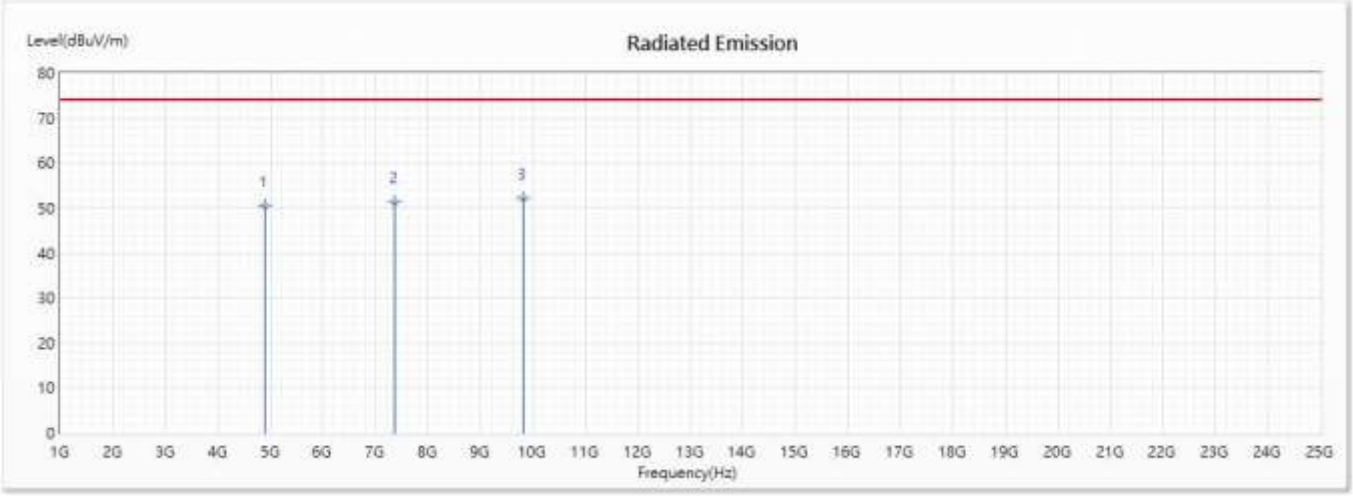
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4904	50.41	74.00	-23.59	61.65	-11.24	PK
2	7356	51.33	74.00	-22.67	65.07	-13.74	PK
* 3	9808	51.93	74.00	-22.07	64.73	-12.80	PK

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
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2452 MHz)
Test Date	:	2020/07/28

Vertical



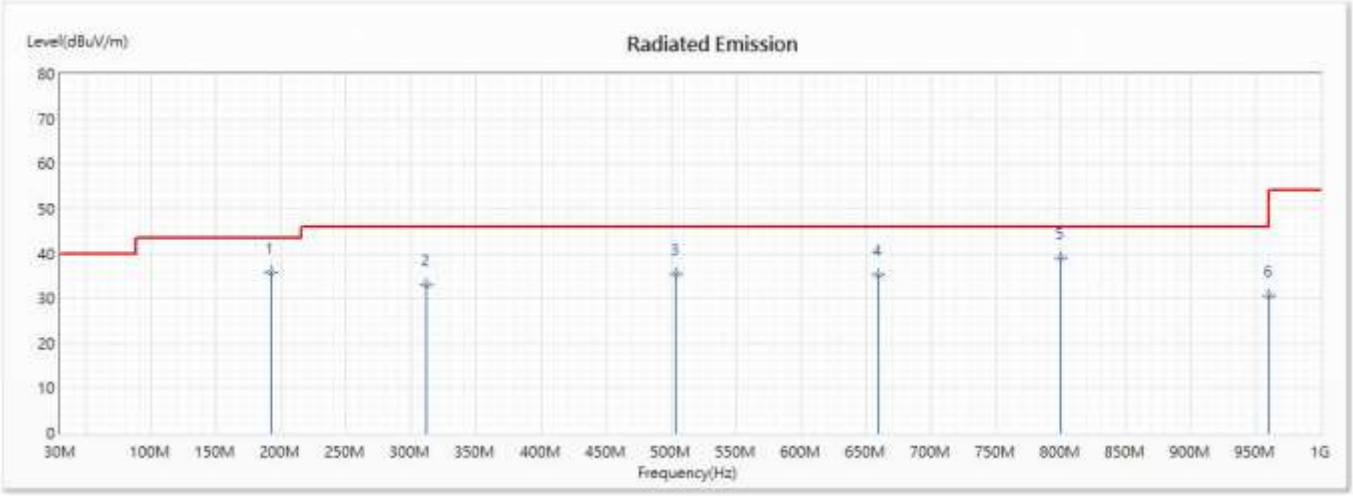
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4904	50.62	74.00	-23.38	61.86	-11.24	PK
2	7356	51.42	74.00	-22.58	65.16	-13.74	PK
* 3	9808	52.15	74.00	-21.85	64.95	-12.80	PK

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
Test Item	:	General Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)(2442 MHz)
Test Date	:	2020/07/28

Horizontal



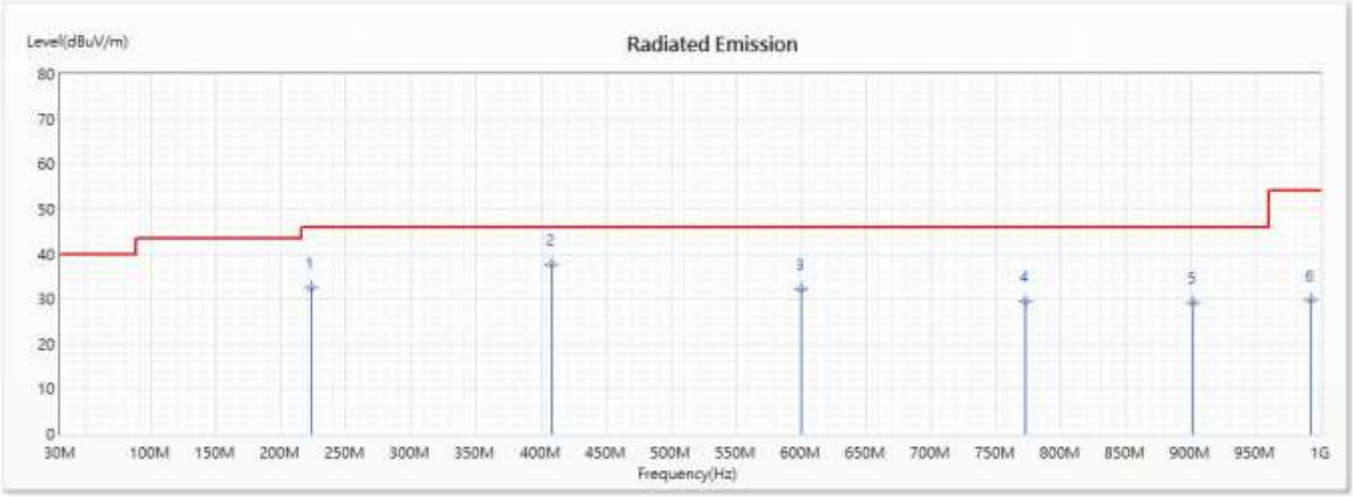
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	191.99	35.68	43.50	-7.82	46.34	-10.66	QP
2	312.27	32.92	46.00	-13.08	39.47	-6.55	QP
3	504.33	35.47	46.00	-10.53	38.89	-3.42	QP
4	659.53	35.27	46.00	-10.73	38.26	-2.99	QP
* 5	800.18	39.13	46.00	-6.87	41.07	-1.94	QP
6	960.23	30.48	54.00	-23.52	32.03	-1.55	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.

Product	:	Notebook
Test Item	:	General Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)(2442 MHz)
Test Date	:	2020/07/28

Vertical



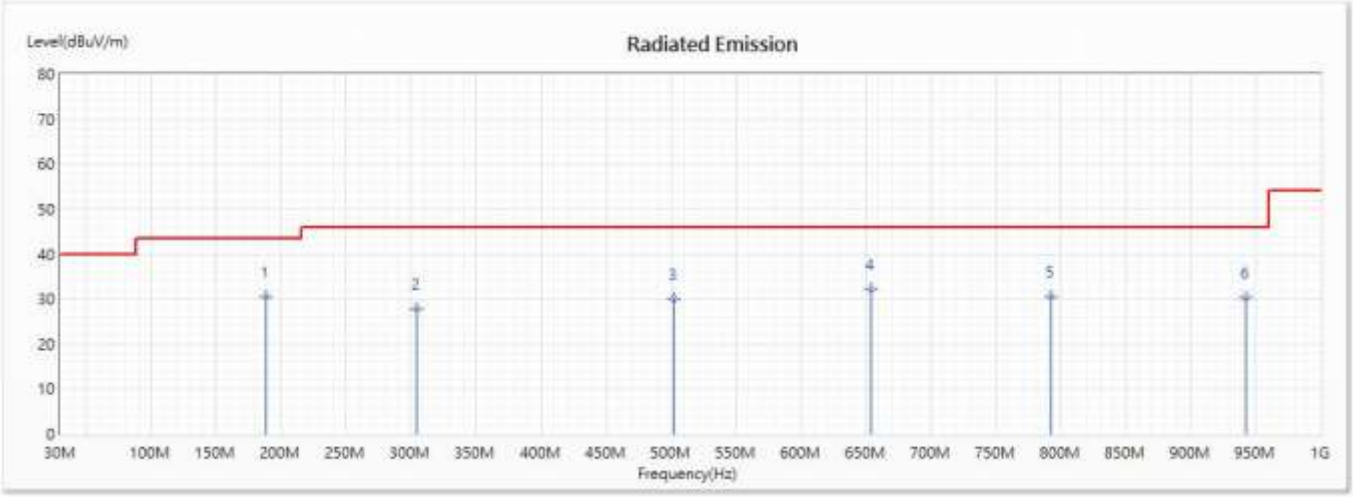
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	223.03	32.48	46.00	-13.52	42.48	-10.00	QP
* 2	408.3	37.64	46.00	-8.36	42.94	-5.30	QP
3	600.36	32.33	46.00	-13.67	31.56	0.77	QP
4	773.02	29.56	46.00	-16.44	30.86	-1.30	QP
5	902.03	29.17	46.00	-16.83	32.12	-2.95	QP
6	992.24	29.68	54.00	-24.32	30.86	-1.18	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.

Product	:	Notebook
Test Item	:	General Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)(2442 MHz)
Test Date	:	2020/07/28

Horizontal



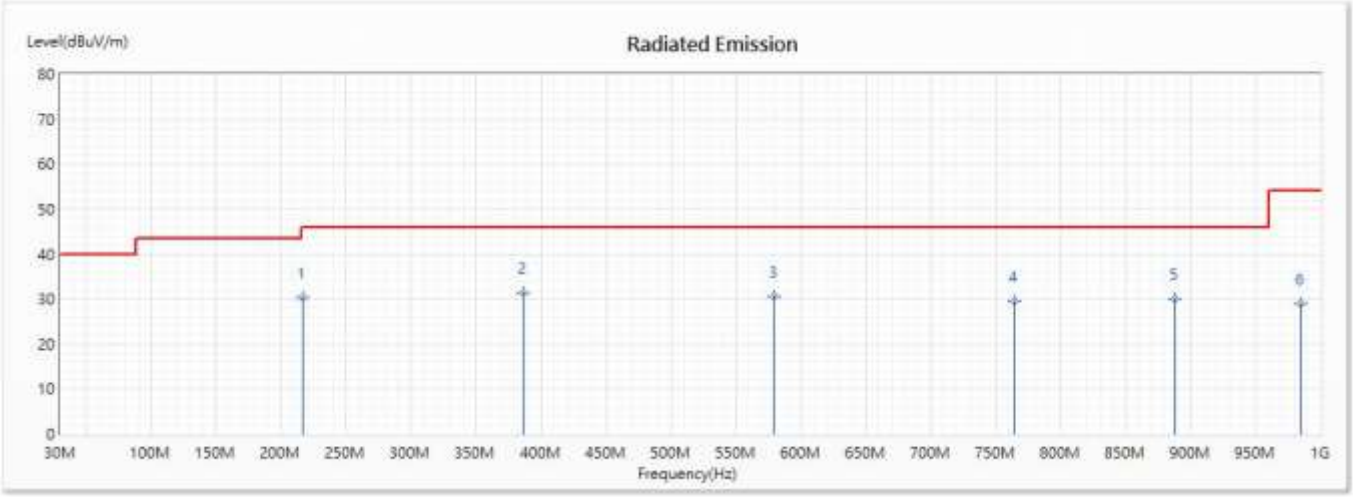
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	188.11	30.50	43.50	-13.00	41.42	-10.92	QP
2	304.51	27.88	46.00	-18.12	34.61	-6.73	QP
3	502.39	29.98	46.00	-16.02	33.37	-3.39	QP
4	653.71	32.13	46.00	-13.87	34.72	-2.59	QP
5	792.42	30.70	46.00	-15.30	32.50	-1.80	QP
6	942.77	30.29	46.00	-15.71	31.87	-1.58	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.

Product	:	Notebook
Test Item	:	General Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)(2442 MHz)
Test Date	:	2020/07/28

Vertical



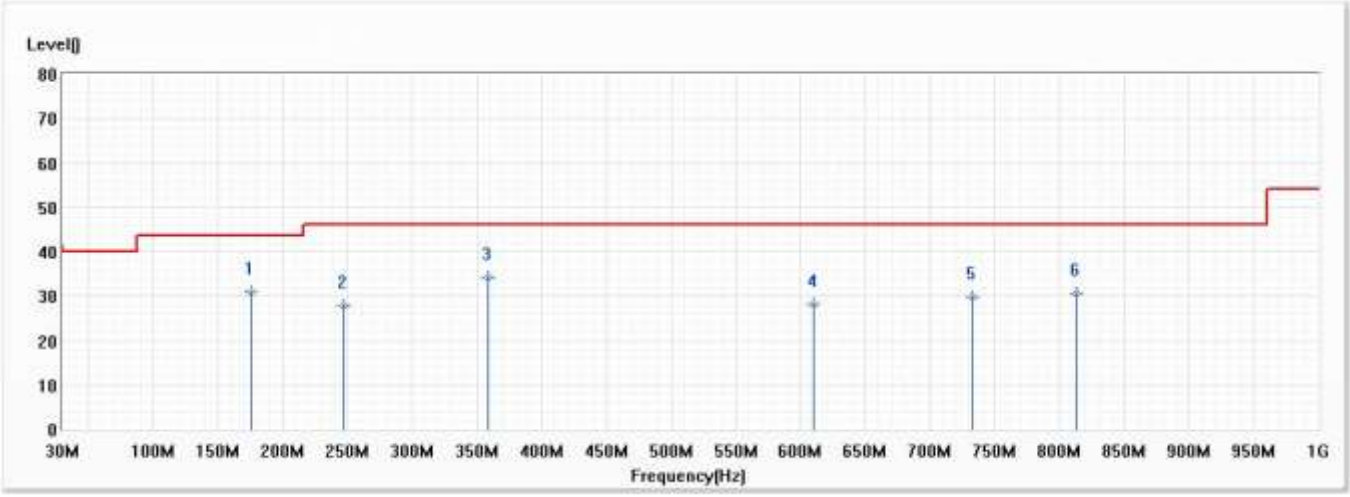
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	216.24	30.34	46.00	-15.66	40.51	-10.17	QP
* 2	385.99	31.32	46.00	-14.68	36.34	-5.02	QP
3	579.99	30.65	46.00	-15.35	30.72	-0.07	QP
4	764.29	29.61	46.00	-16.39	30.58	-0.97	QP
5	887.48	30.01	46.00	-15.99	31.99	-1.98	QP
6	984.48	28.94	54.00	-25.06	30.01	-1.07	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.

Product : Notebook
Test Item : General Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)(2442 MHz)
Test Date : 2020/12/21

Horizontal



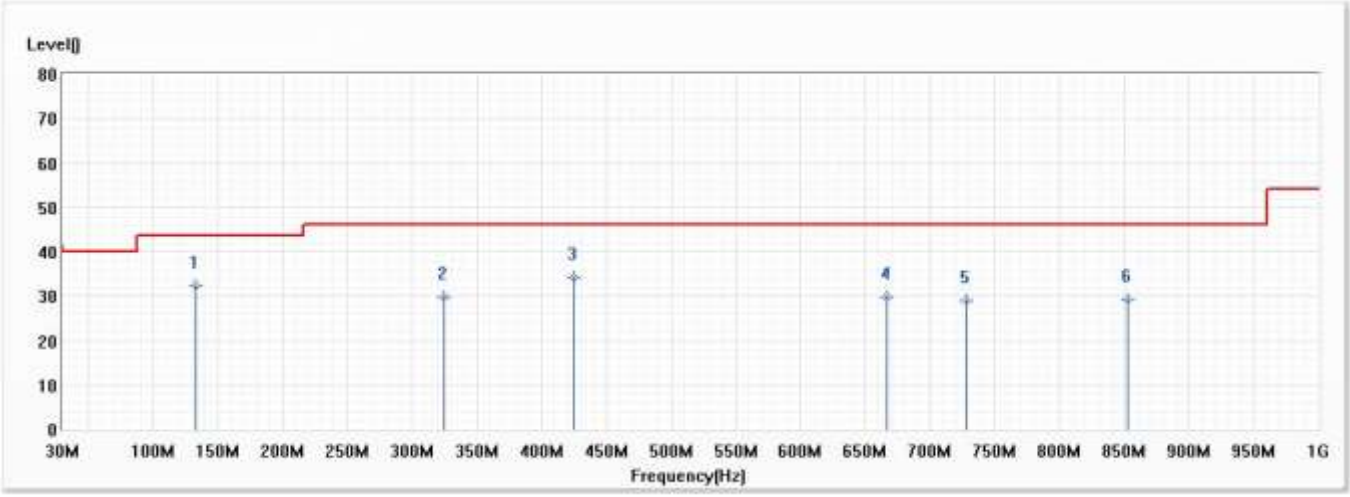
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	175.020	30.88	43.50	-12.62	42.06	-11.18	QP
2	247.560	27.91	46.00	-18.09	39.26	-11.35	QP
* 3	358.520	34.30	46.00	-11.70	42.35	-8.05	QP
4	609.880	28.20	46.00	-17.80	30.88	-2.68	QP
5	733.000	29.84	46.00	-16.16	31.04	-1.20	QP
6	812.740	30.66	46.00	-15.34	30.95	-0.29	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.

Product	:	Notebook
Test Item	:	General Radiated Emission Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)(2442 MHz)
Test Date	:	2020/12/21

Vertical



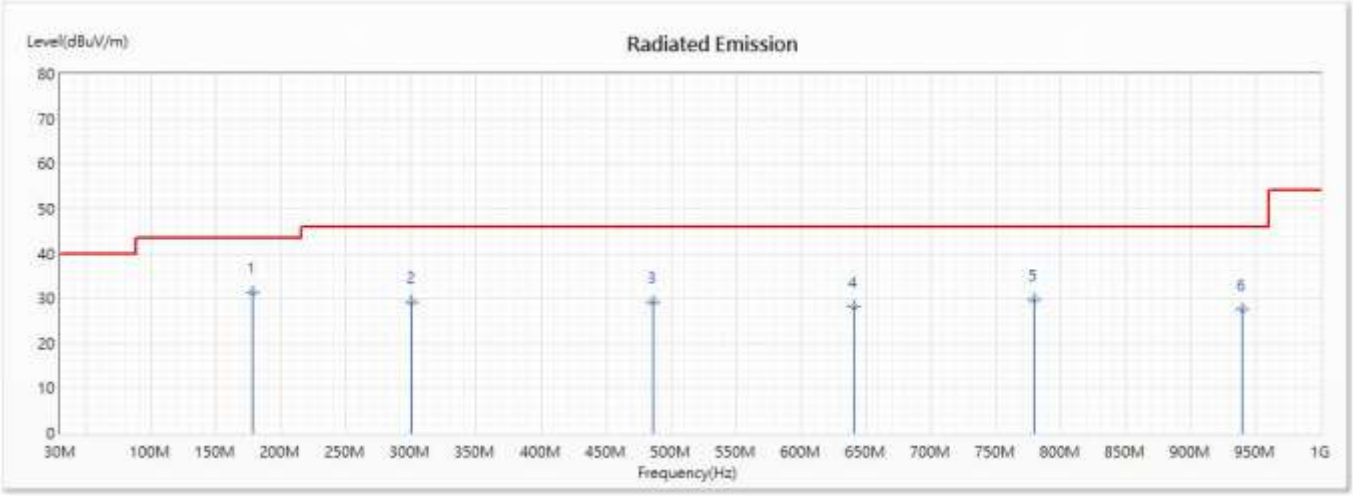
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	132.740	32.16	43.50	-11.34	44.21	-12.05	QP
2	324.940	29.87	46.00	-16.13	38.53	-8.66	QP
3	425.170	34.12	46.00	-11.88	40.69	-6.57	QP
4	666.260	29.81	46.00	-16.19	32.12	-2.31	QP
5	728.250	28.98	46.00	-17.02	30.20	-1.22	QP
6	852.530	29.19	46.00	-16.81	28.75	0.44	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.

Product	:	Notebook
Test Item	:	General Radiated Emission Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)(2442 MHz)
Test Date	:	2020/07/28

Horizontal



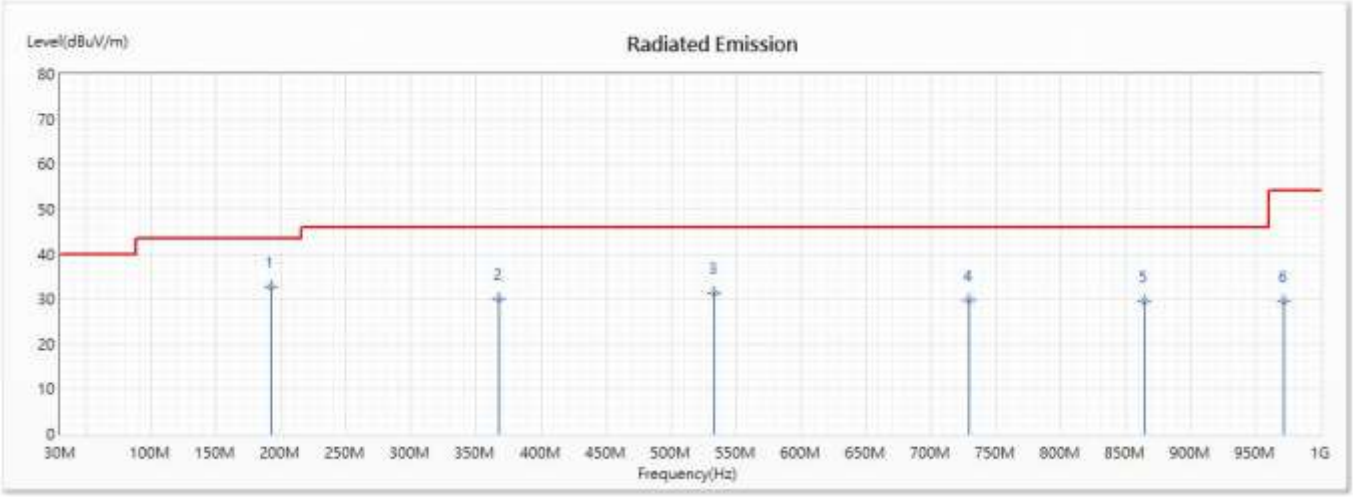
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	178.41	31.31	43.50	-12.19	42.73	-11.42	QP
2	300.63	29.25	46.00	-16.75	36.06	-6.81	QP
3	485.9	29.08	46.00	-16.92	33.29	-4.21	QP
4	641.1	28.14	46.00	-17.86	29.86	-1.72	QP
5	779.81	29.68	46.00	-16.32	31.24	-1.56	QP
6	939.86	27.49	46.00	-18.51	29.08	-1.59	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.

Product	:	Notebook
Test Item	:	General Radiated Emission Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)(2442 MHz)
Test Date	:	2020/07/28

Vertical



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	191.99	32.65	43.50	-10.85	43.31	-10.66	QP
2	367.56	30.11	46.00	-15.89	34.89	-4.78	QP
3	533.43	31.38	46.00	-14.62	35.23	-3.85	QP
4	729.37	29.78	46.00	-16.22	30.18	-0.40	QP
5	864.2	29.37	46.00	-16.63	30.78	-1.41	QP
6	971.87	29.40	54.00	-24.60	30.64	-1.24	QP

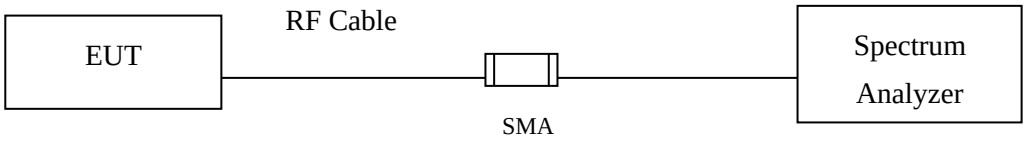
Note:

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.

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

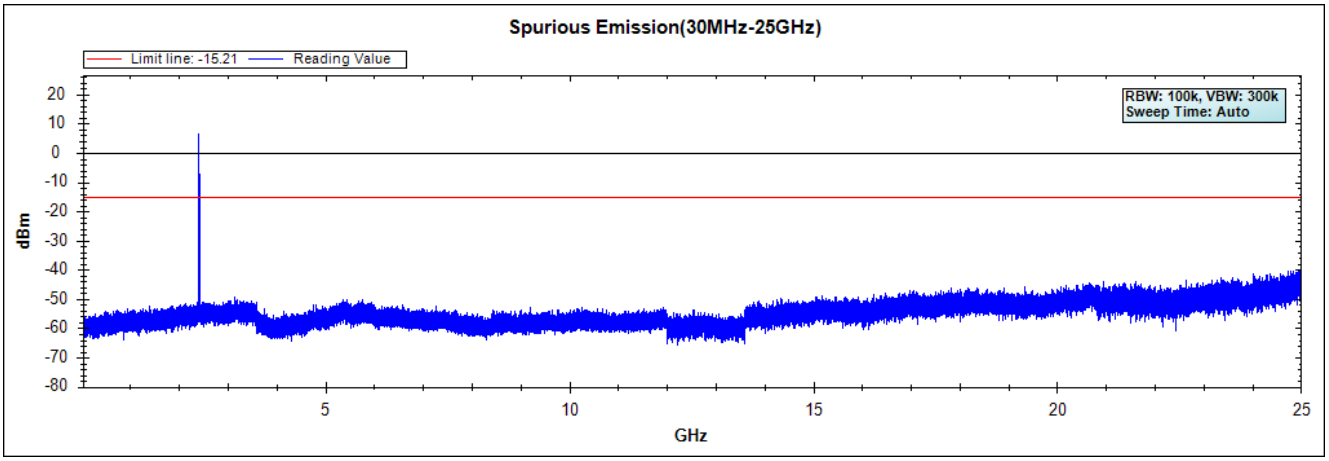
The EUT was tested according to C63.10:2013 Section 11.11 for compliance to FCC 47CFR 15.247 requirements.

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

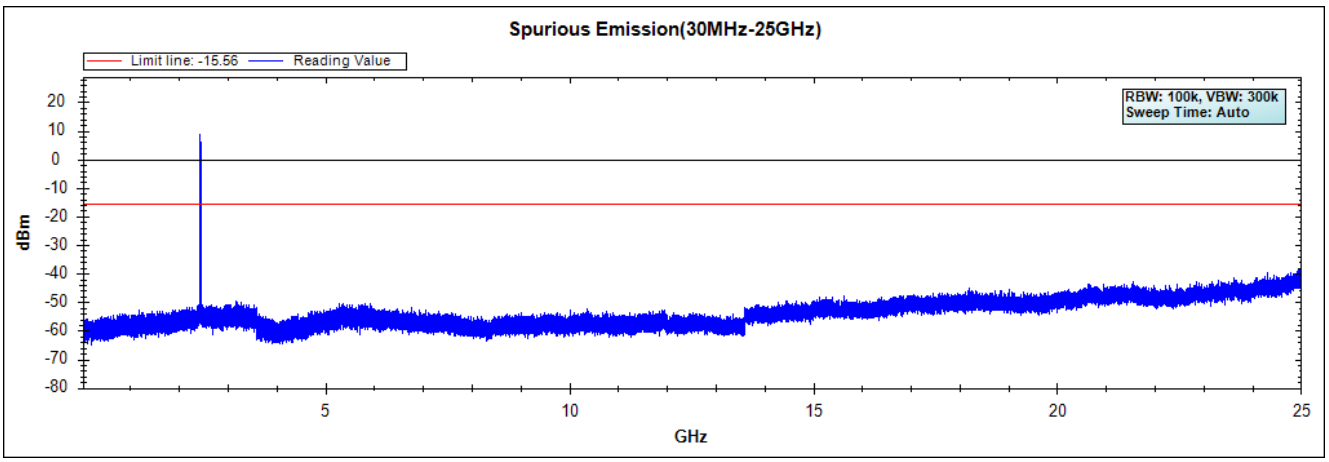
5.4. Test Result of RF antenna conducted test

Product	:	Notebook
Test Item	:	RF antenna conducted test
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)
Test Date	:	2020/07/01

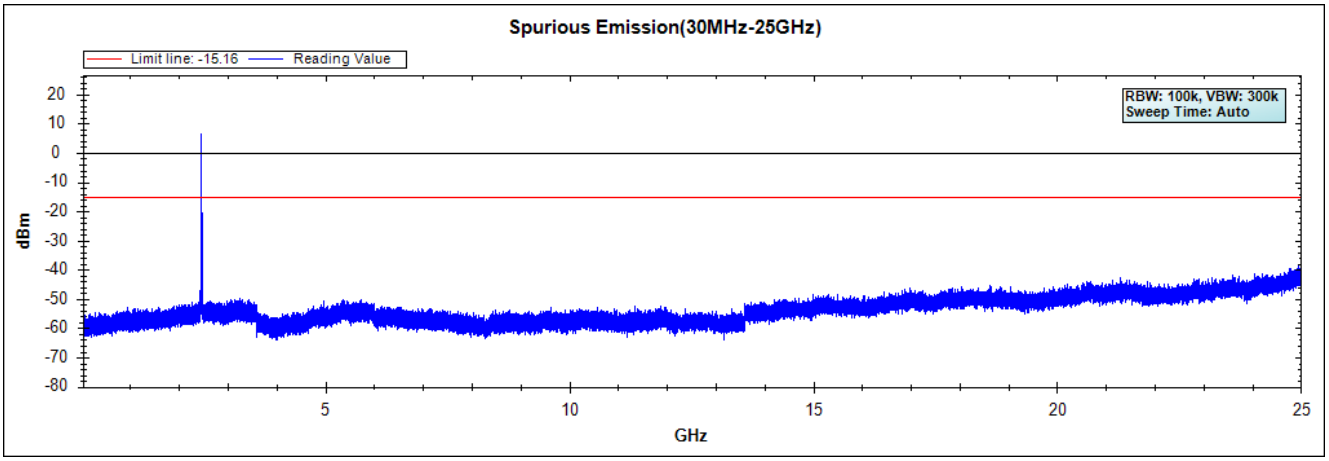
Channel 01 (2412MHz)



Channel 07 (2442MHz)



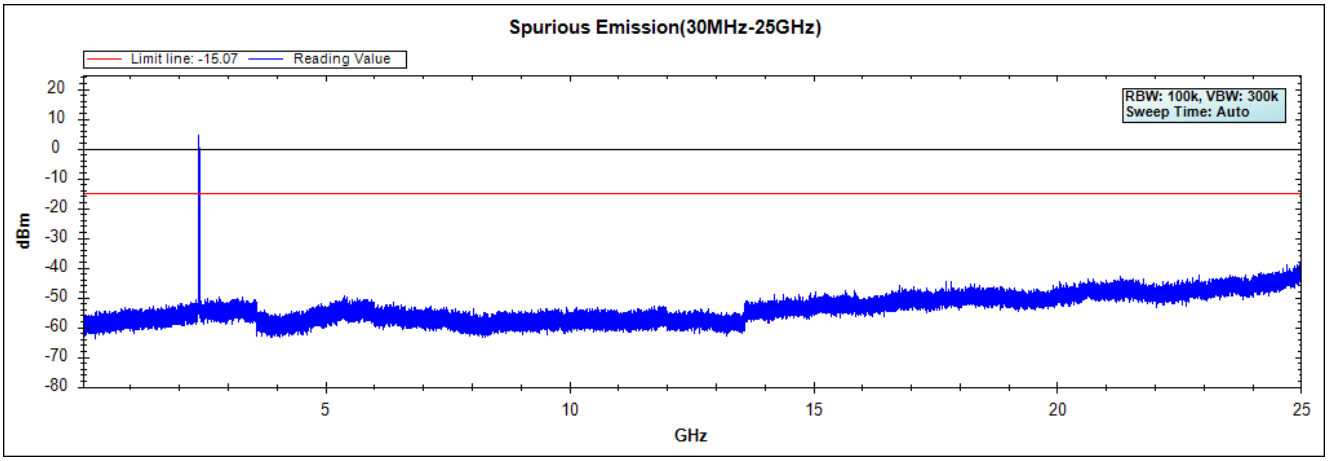
Channel 11 (2462MHz)



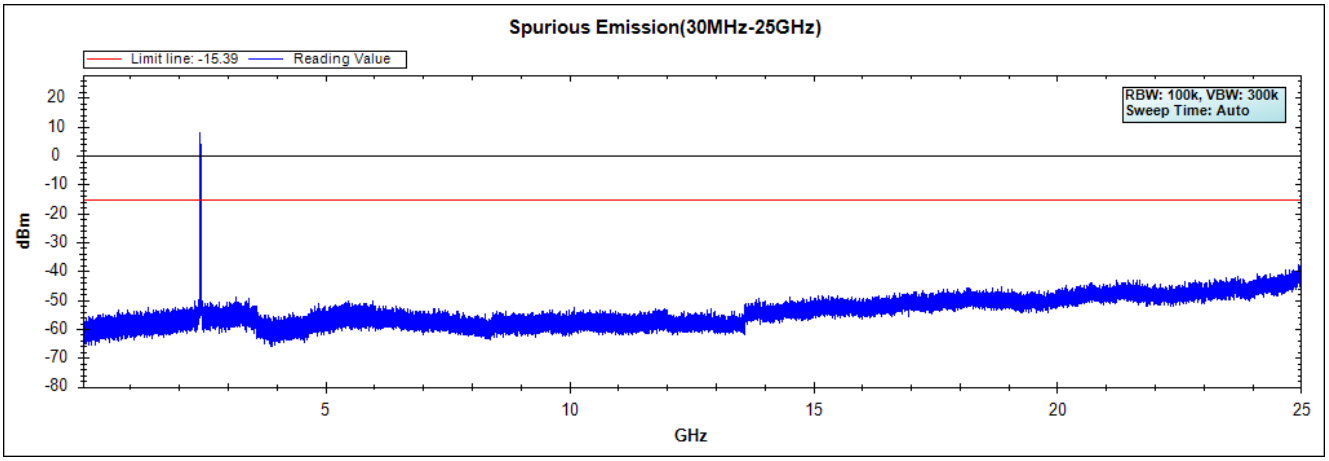
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	Notebook
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)
Test Date	:	2020/07/01

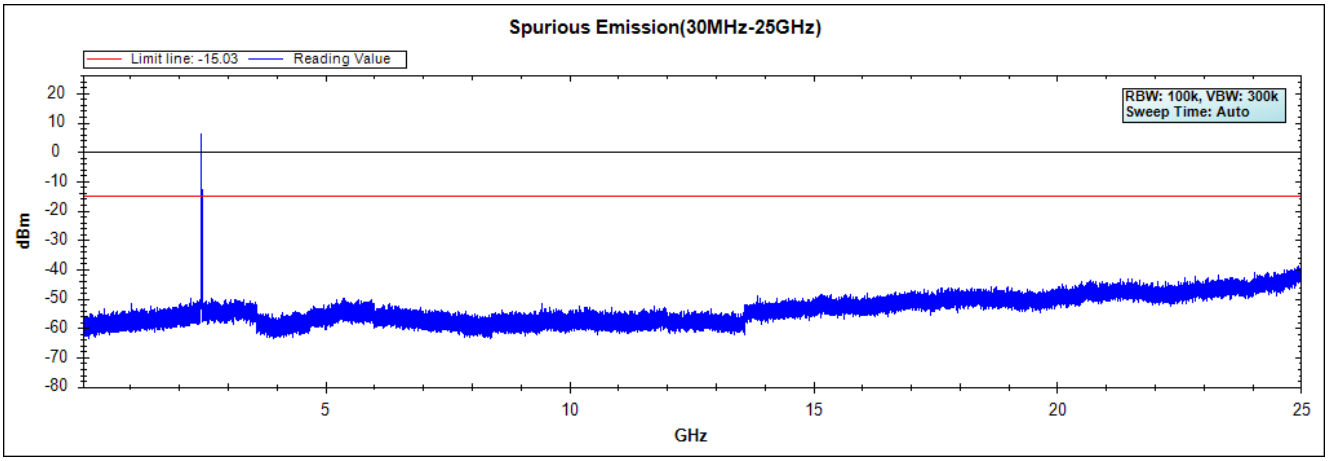
Channel 01 (2412MHz)



Channel 07 (2442MHz)



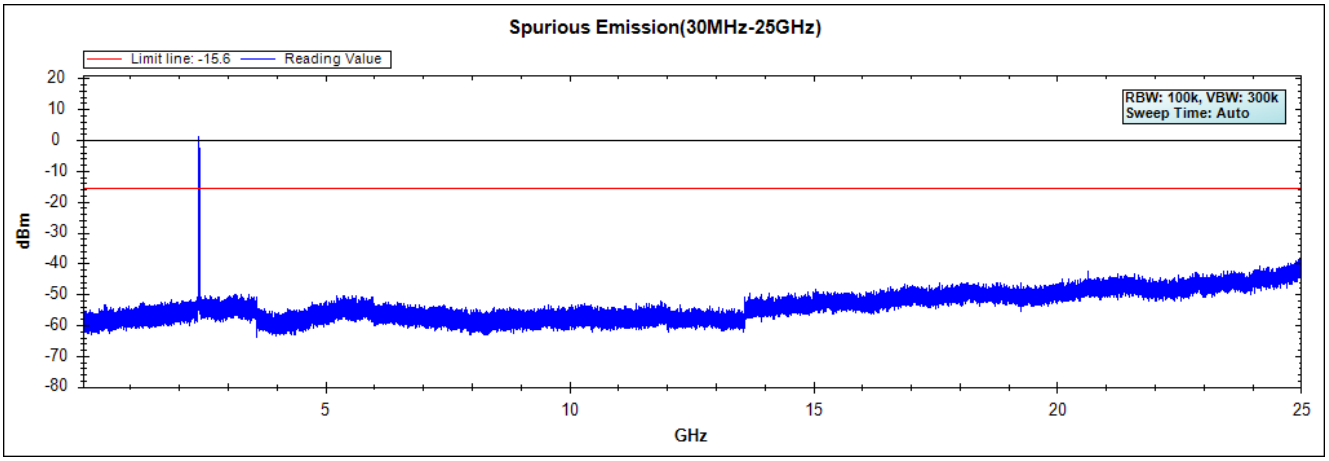
Channel 11 (2462MHz)



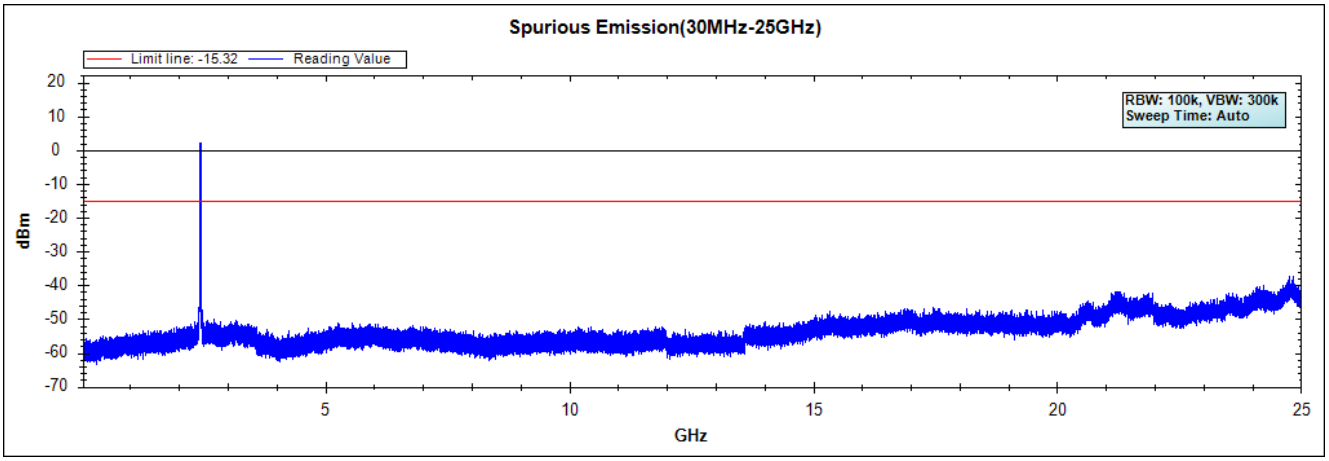
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	Notebook
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)
Test Date	:	2020/07/01

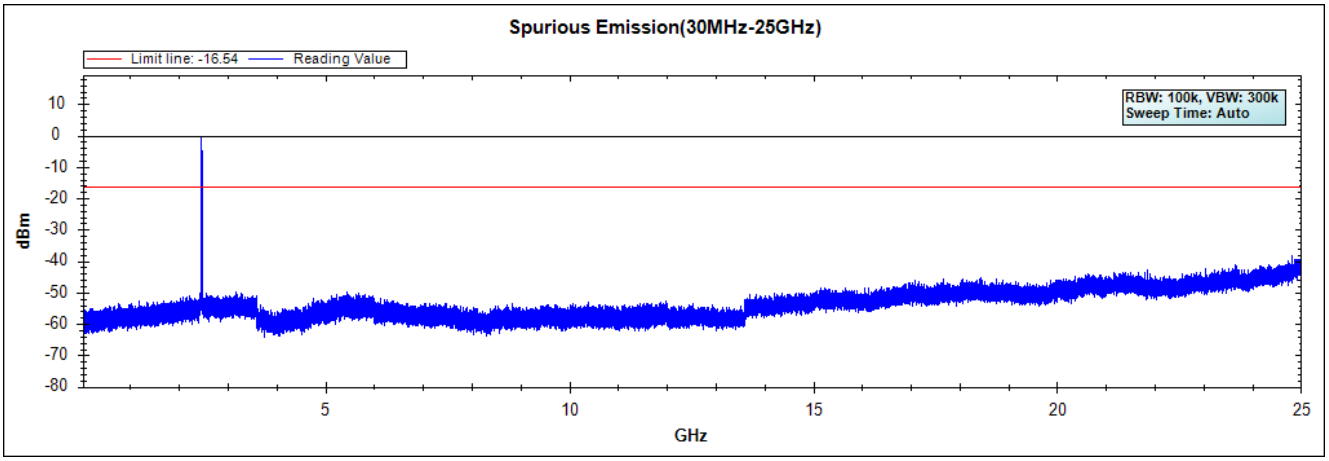
Channel 01 (2412MHz) (Chain A)



Channel 07 (2442MHz) (Chain A)



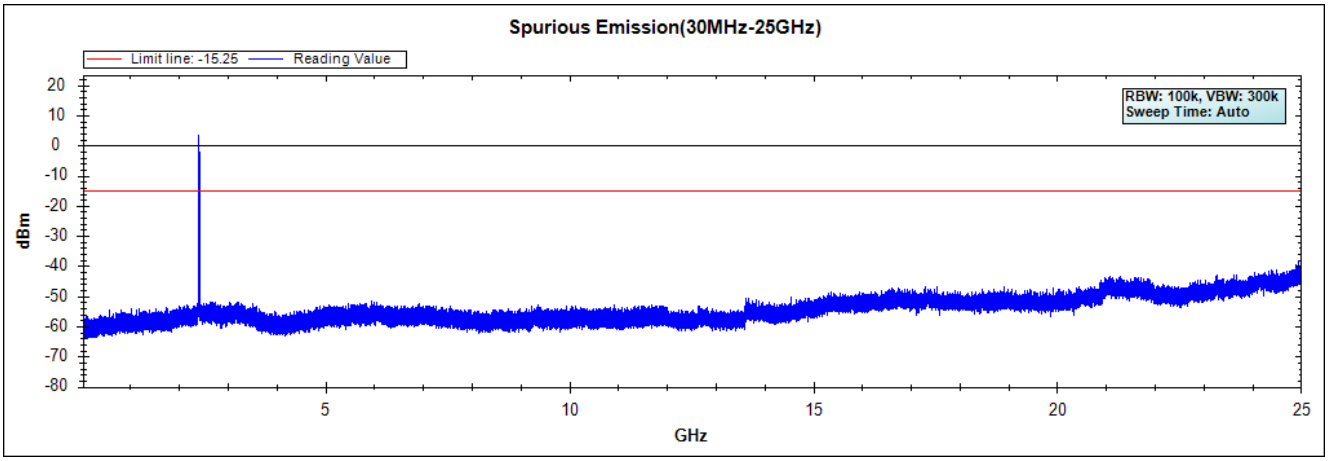
Channel 11 (2462MHz) (Chain A)



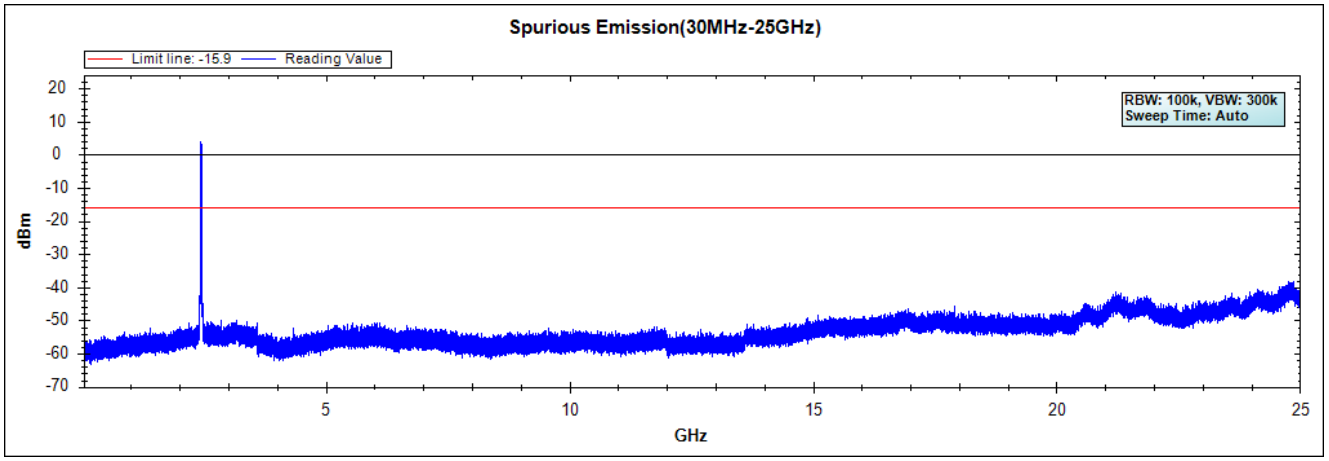
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	Notebook
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)
Test Date	:	2020/07/01

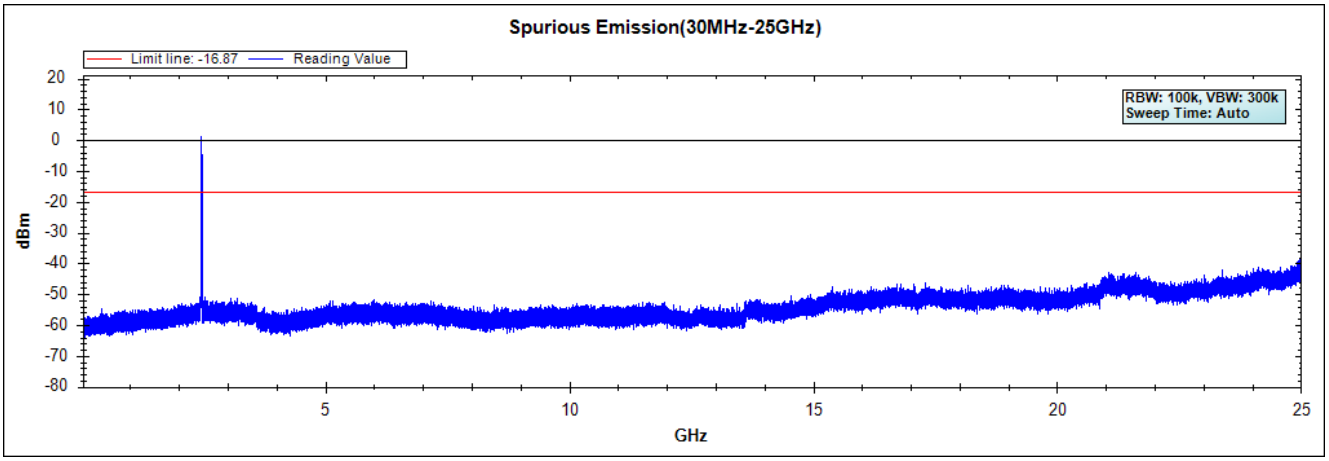
Channel 01 (2412MHz) (Chain B)



Channel 07 (2442MHz) (Chain B)



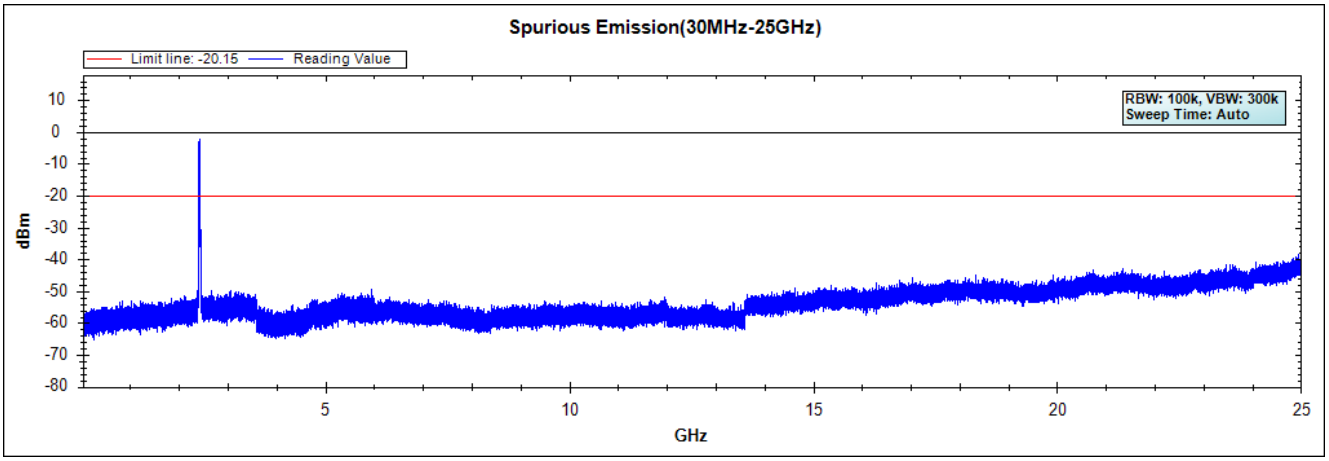
Channel 11 (2462MHz) (Chain B)



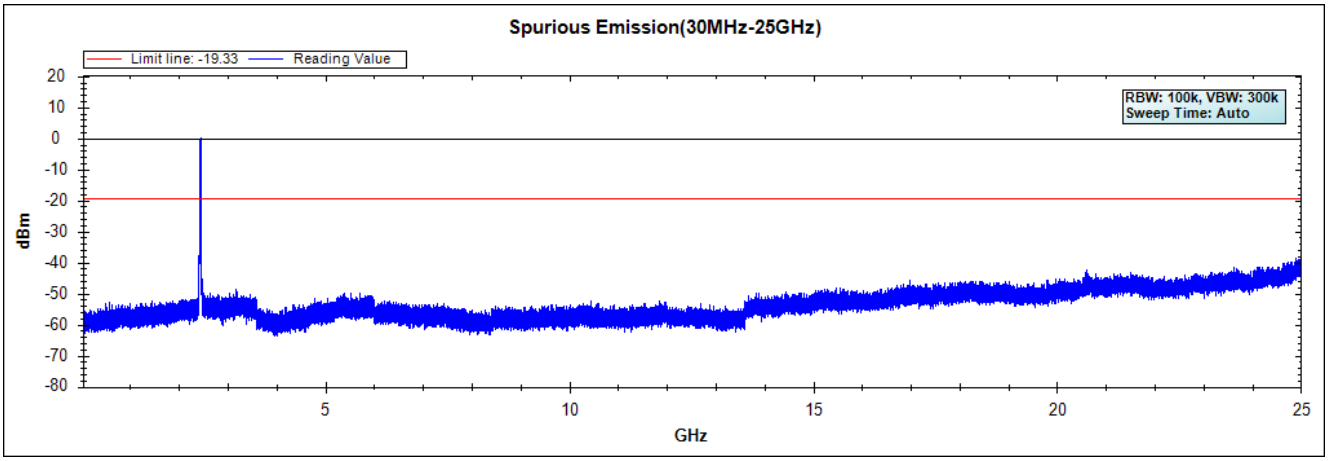
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	Notebook
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)
Test Date	:	2020/07/01

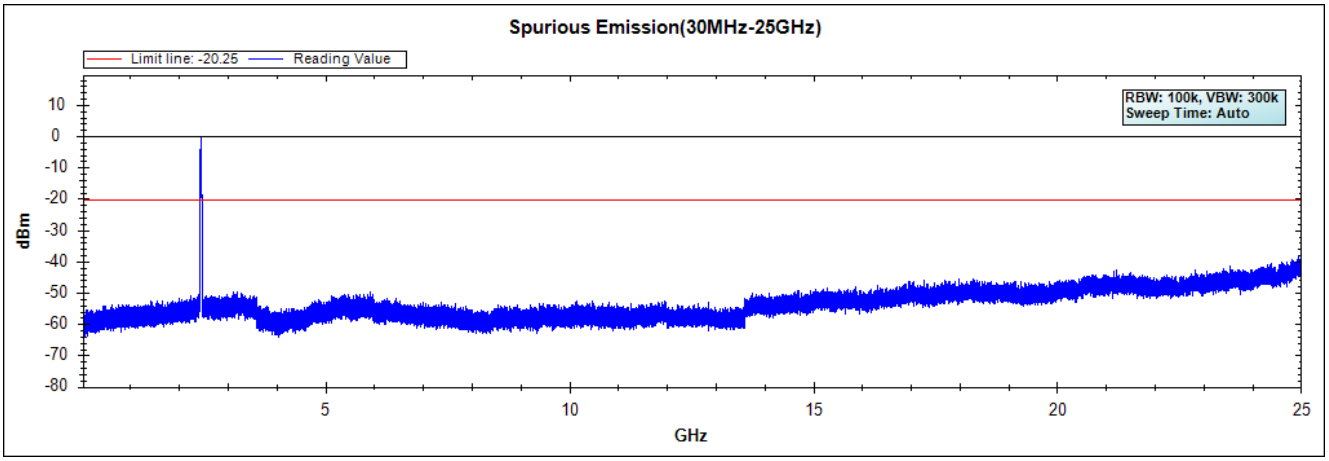
Channel 03 (2422MHz) (Chain A)



Channel 07 (2442MHz) (Chain A)



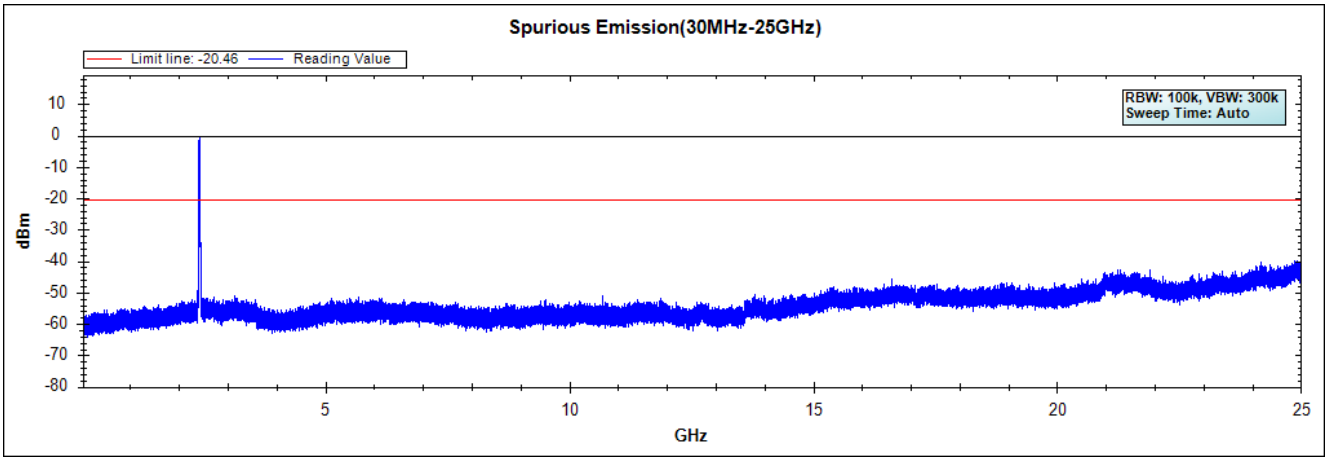
Channel 09 (2452MHz) (Chain A)



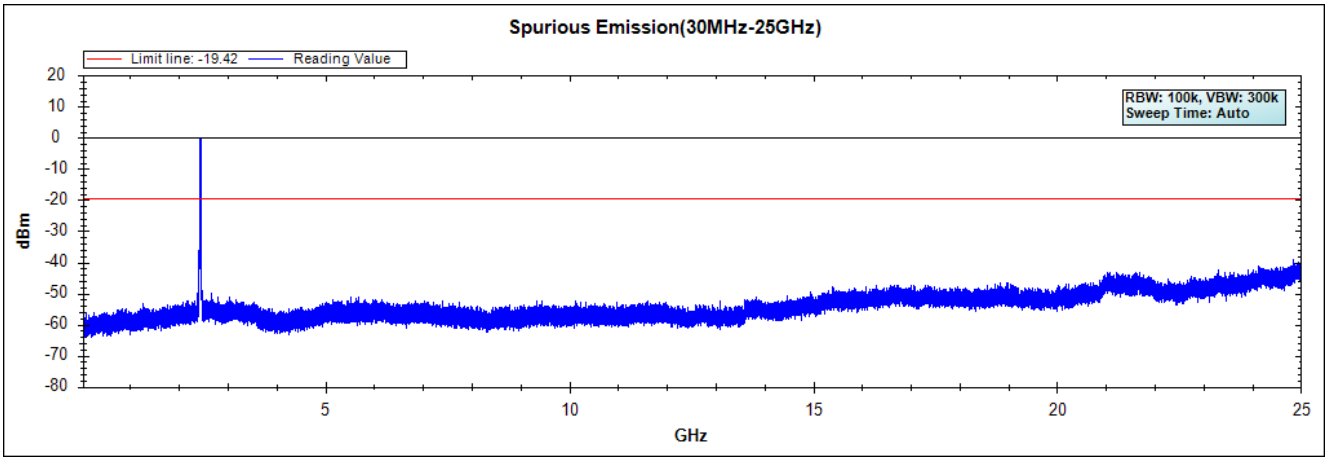
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	Notebook
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)
Test Date	:	2020/07/01

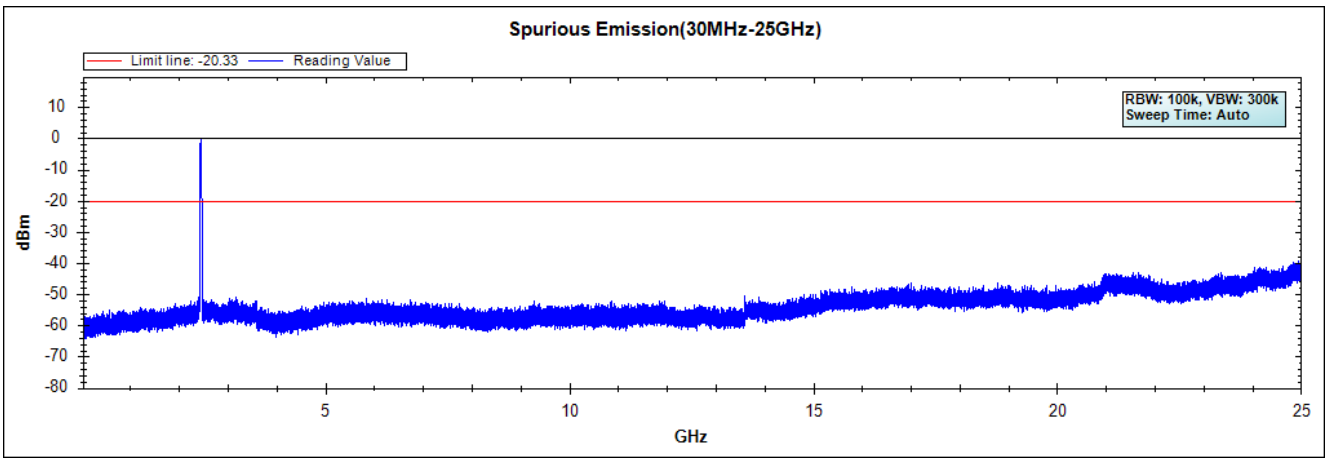
Channel 03 (2422MHz) (Chain B)



Channel 07 (2442MHz) (Chain B)



Channel 09 (2452MHz) (Chain B)

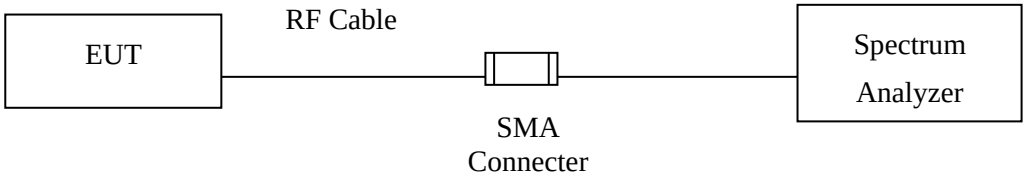


Note: The above test pattern is synthesized by multiple of the frequency range.

6. Band Edge

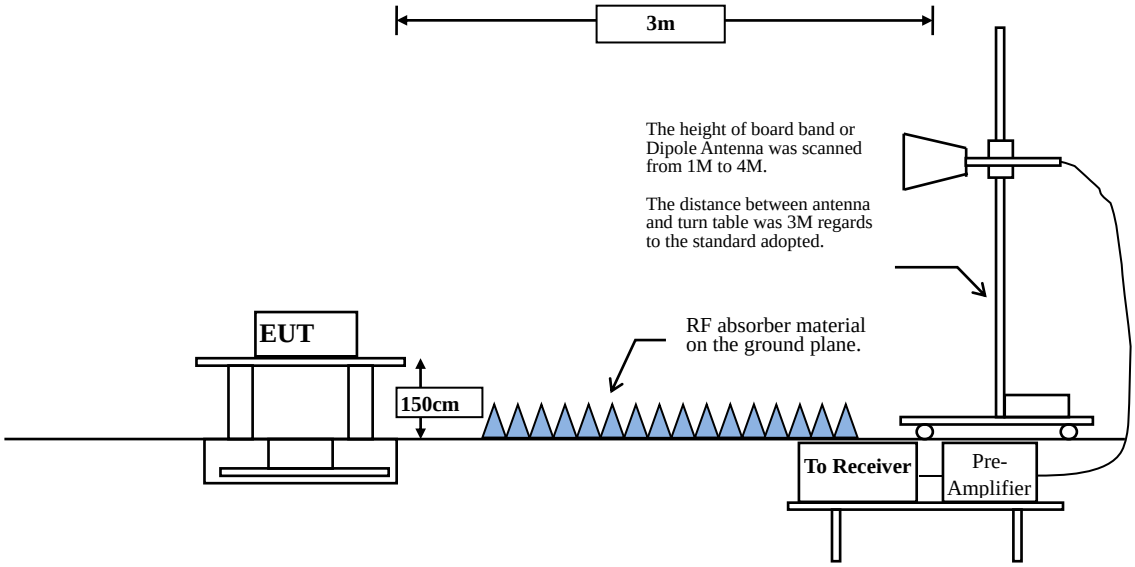
6.1. Test Setup

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 ≥ 3 x 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 ≥ 98 %

VBW ≥ 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.)

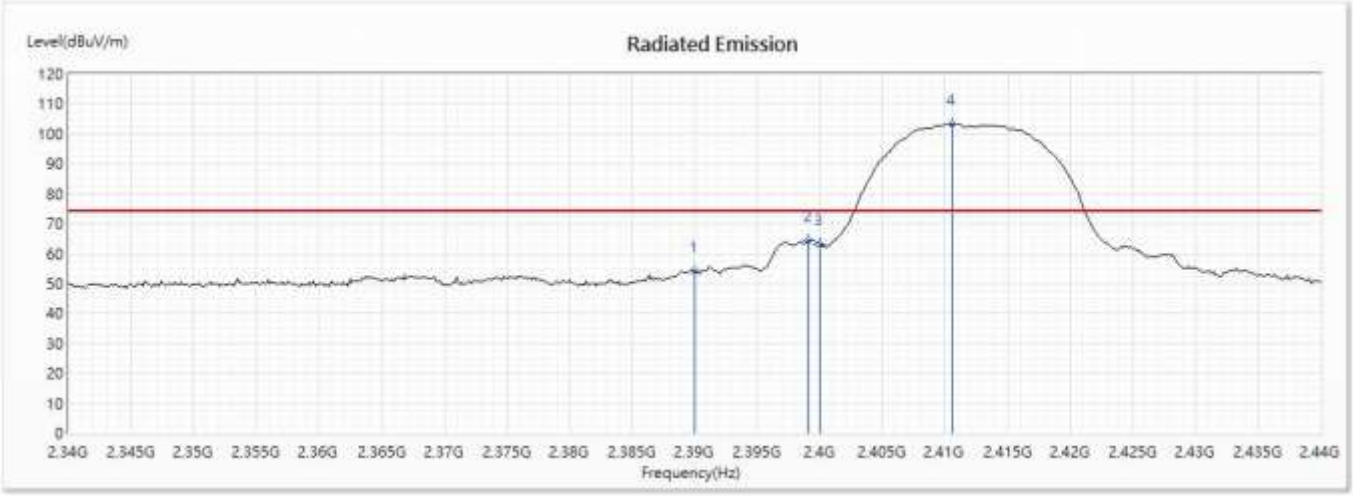
2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11b	98.84	12.3188	81	10
802.11g	97.22	2.0290	493	500
802.11n20	98.84	18.5217	54	10
802.11n40	98.40	8.9130	112	10

Note: Duty Cycle Refer to Section 9

6.4. Test Result of Band Edge

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date	:	2020/07/28

Horizontal



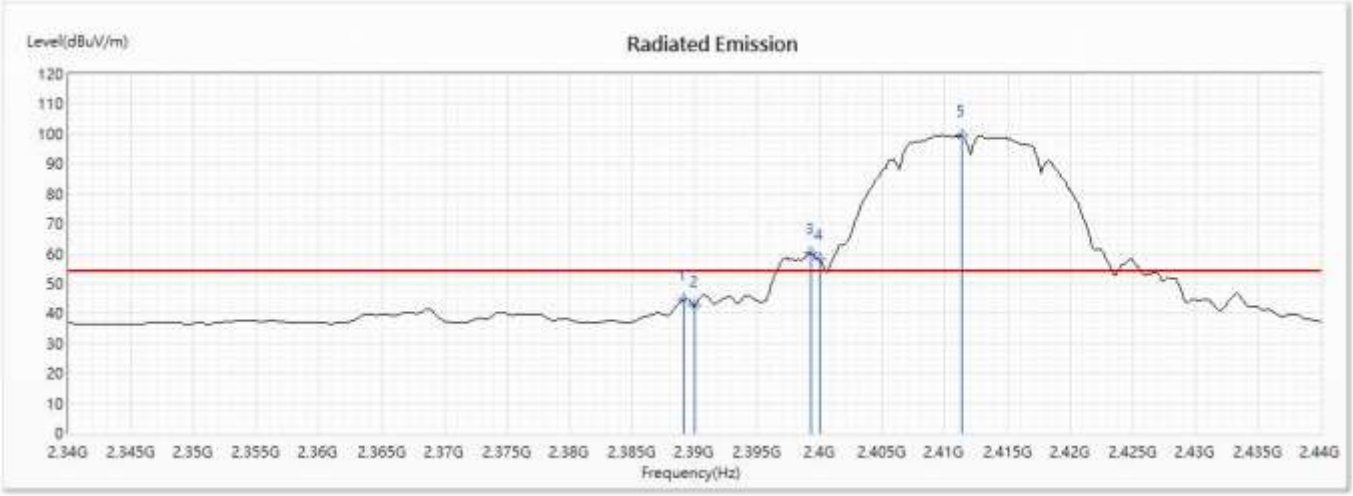
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	54.15	74.00	-19.85	41.31	12.84	PK
2	2399.13	64.23	--	--	51.32	12.91	PK
3	2400	63.23	--	--	50.31	12.92	PK
! 4	2410.58	103.17	--	--	90.20	12.97	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product : Notebook
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date : 2020/07/28

Horizontal



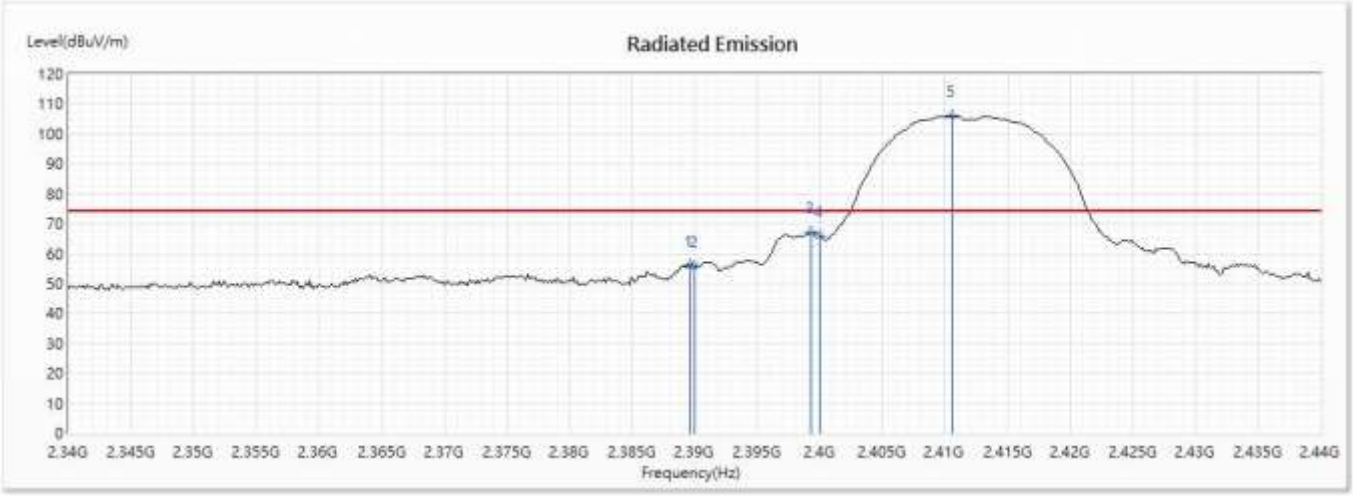
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2389.13	44.81	54.00	-9.19	31.97	12.84	AV
2	2390	42.59	54.00	-11.41	29.75	12.84	AV
! 3	2399.275	60.23	--	--	47.32	12.91	AV
! 4	2400	58.06	--	--	45.14	12.92	AV
! 5	2411.304	99.47	--	--	86.49	12.98	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product : Notebook
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date : 2020/07/28

Vertical



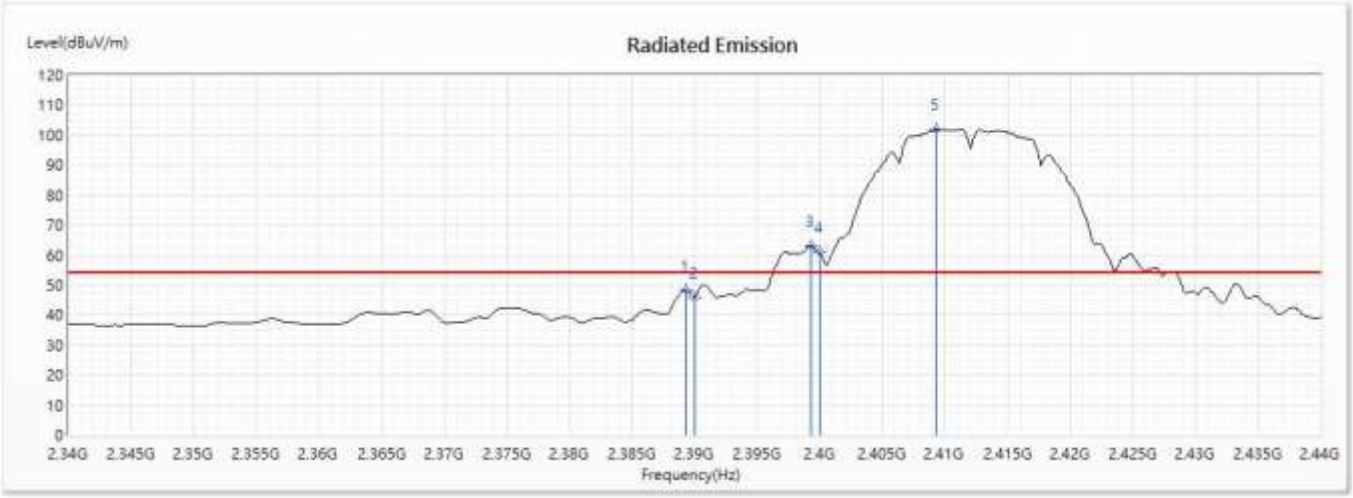
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2389.565	56.25	74.00	-17.75	43.41	12.84	PK
2	2390	55.55	74.00	-18.45	42.71	12.84	PK
3	2399.275	67.00	--	--	54.09	12.91	PK
4	2400	66.12	--	--	53.20	12.92	PK
! 5	2410.58	105.89	--	--	92.92	12.97	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product : Notebook
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date : 2020/07/28

Vertical



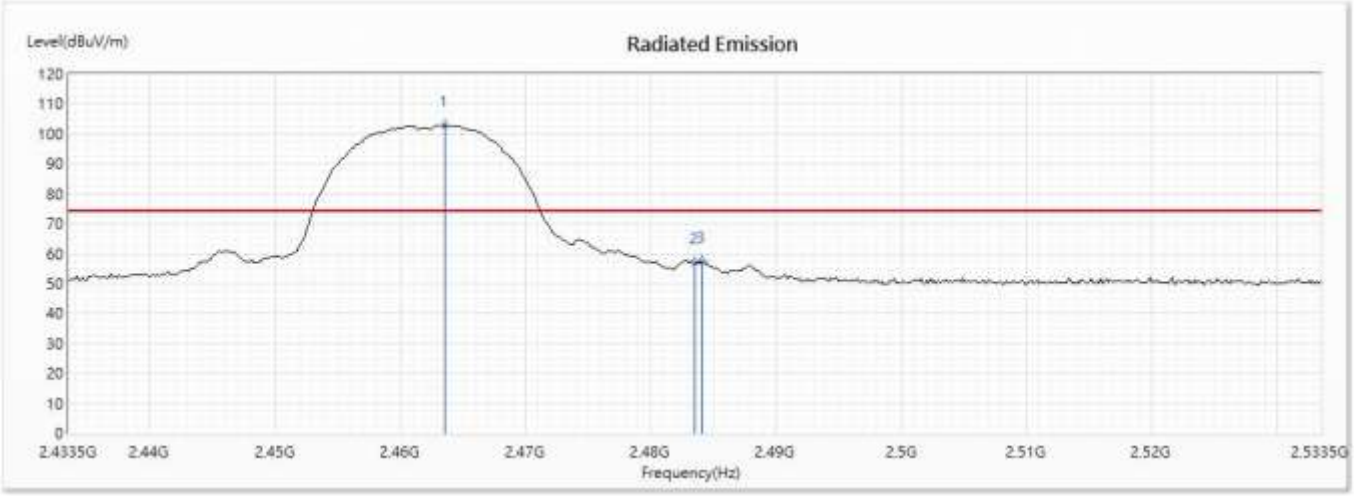
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2389.275	48.35	54.00	-5.65	35.51	12.84	AV
2	2390	45.91	54.00	-8.09	33.07	12.84	AV
! 3	2399.275	63.10	--	--	50.19	12.91	AV
! 4	2400	60.96	--	--	48.04	12.92	AV
! 5	2409.275	102.04	--	--	89.07	12.97	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product : Notebook
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)
Test Date : 2020/07/28

Horizontal



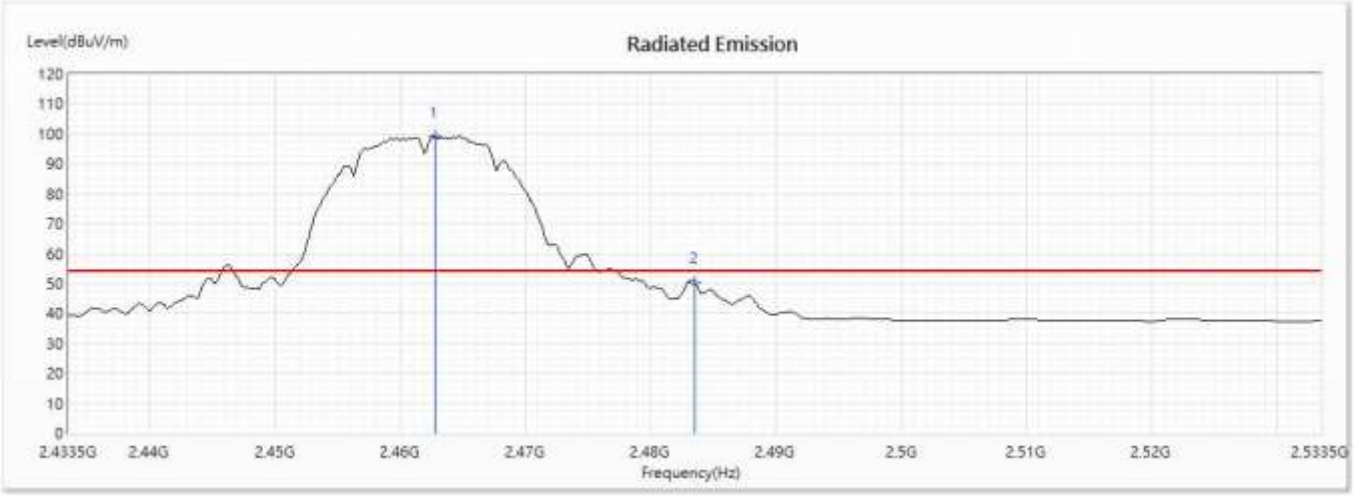
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2463.5	102.78	--	--	89.48	13.30	PK
2	2483.5	56.91	74.00	-17.09	43.46	13.45	PK
3	2484.08	57.39	74.00	-16.61	43.93	13.46	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product : Notebook
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)
Test Date : 2020/07/28

Horizontal



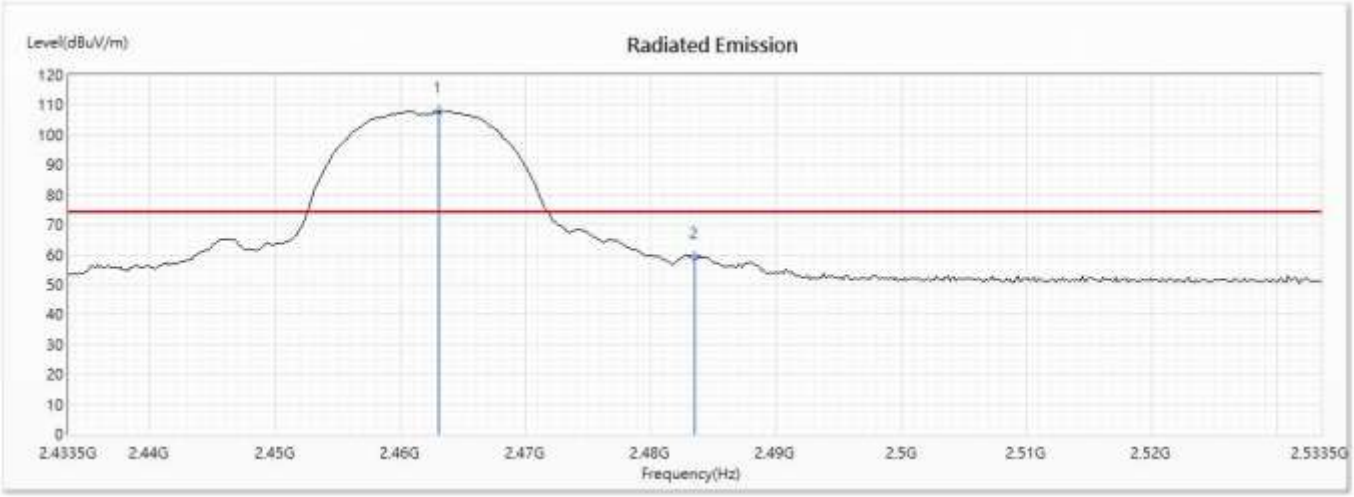
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2462.775	99.00	--	--	85.71	13.29	AV
2	2483.5	50.46	54.00	-3.54	37.01	13.45	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)
Test Date	:	2020/07/28

Vertical



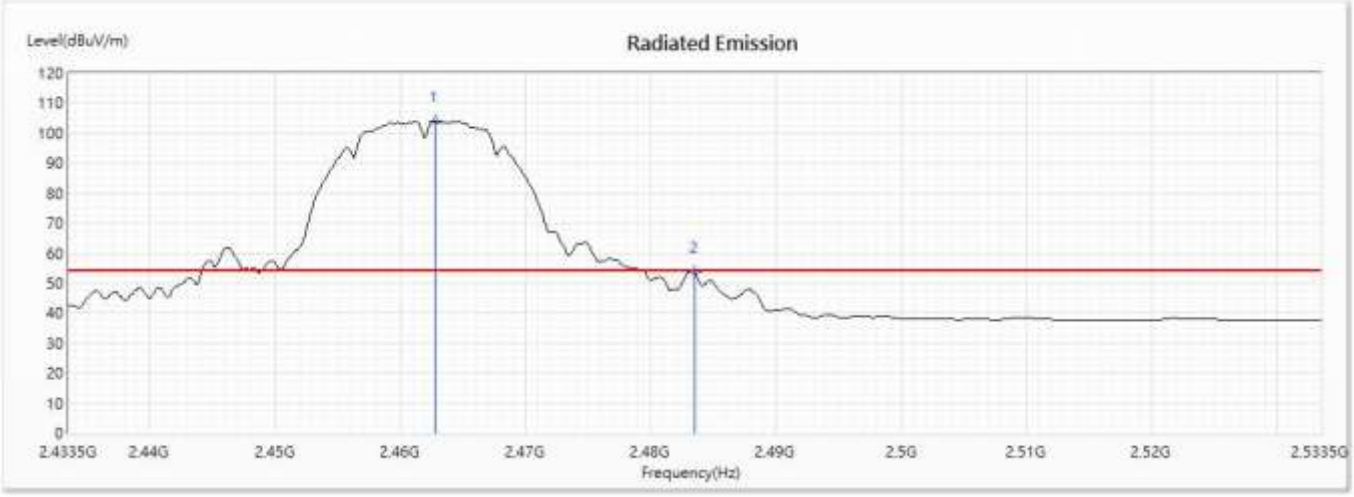
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2463.065	107.90	--	--	94.60	13.30	PK
2	2483.5	59.12	74.00	-14.88	45.67	13.45	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)
Test Date	:	2020/07/28

Vertical



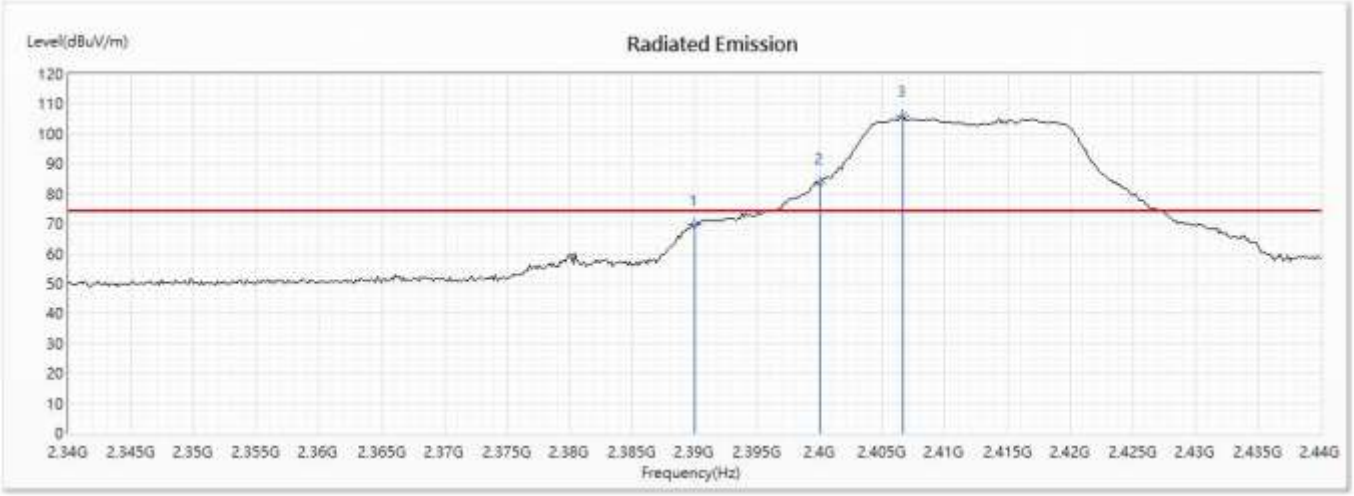
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2462.775	103.97	--	--	90.68	13.29	AV
2	2483.5	53.85	54.00	-0.15	40.40	13.45	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date	:	2020/07/28

Horizontal



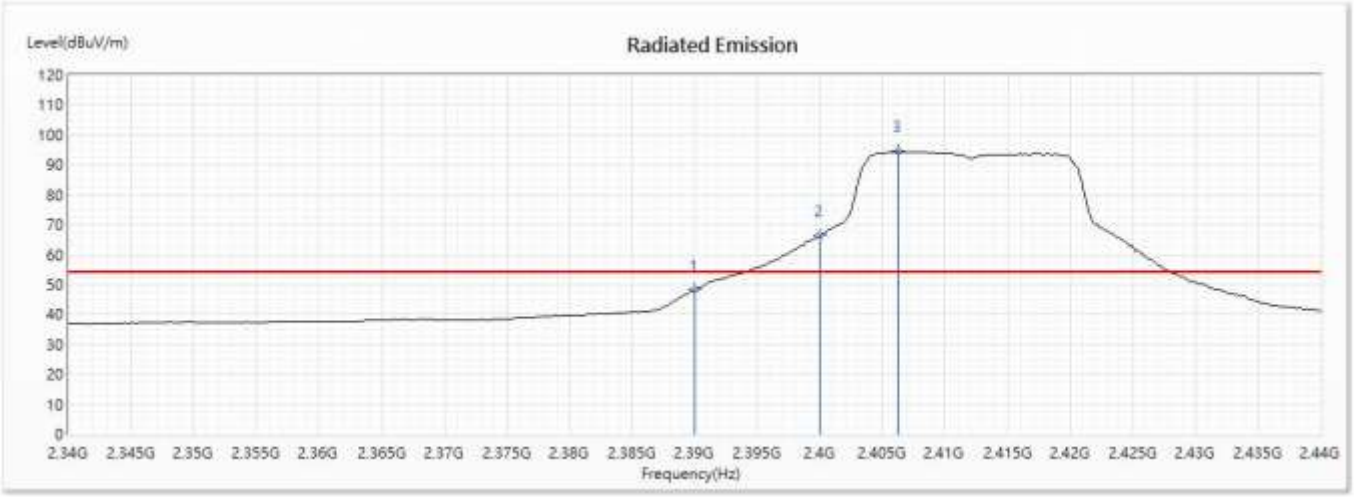
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	69.77	74.00	-4.23	56.93	12.84	PK
! 2	2400	83.54	--	--	70.62	12.92	PK
! 3	2406.667	105.91	--	--	92.96	12.95	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date	:	2020/07/28

Horizontal



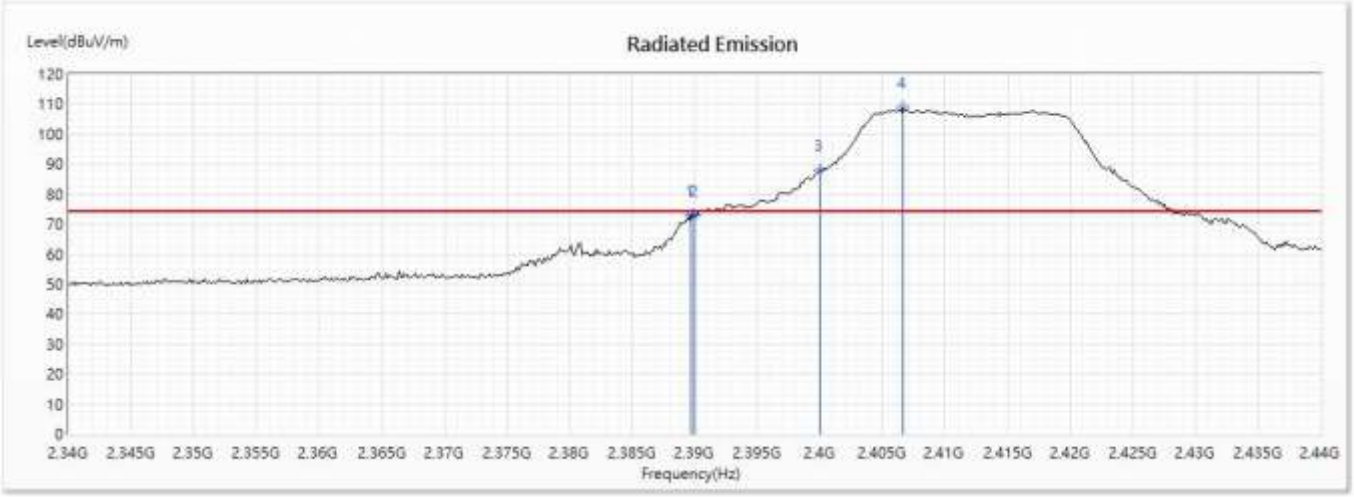
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	48.39	54.00	-5.61	35.55	12.84	AV
! 2	2400	66.51	--	--	53.59	12.92	AV
! 3	2406.232	94.42	--	--	81.47	12.95	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date	:	2020/07/28

Vertical



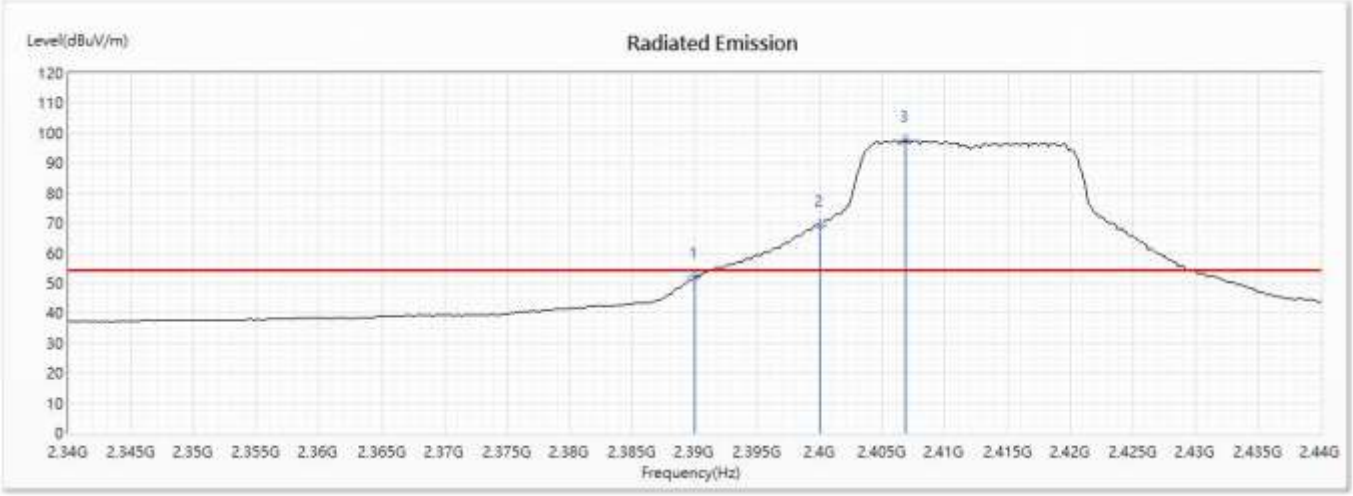
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2389.71	72.79	74.00	-1.21	59.95	12.84	PK
2	2390	73.07	74.00	-0.93	60.23	12.84	PK
! 3	2400	88.02	--	--	75.10	12.92	PK
! 4	2406.667	108.79	--	--	95.84	12.95	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product : Notebook
Test Item : Band Edge Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date : 2020/07/28

Vertical



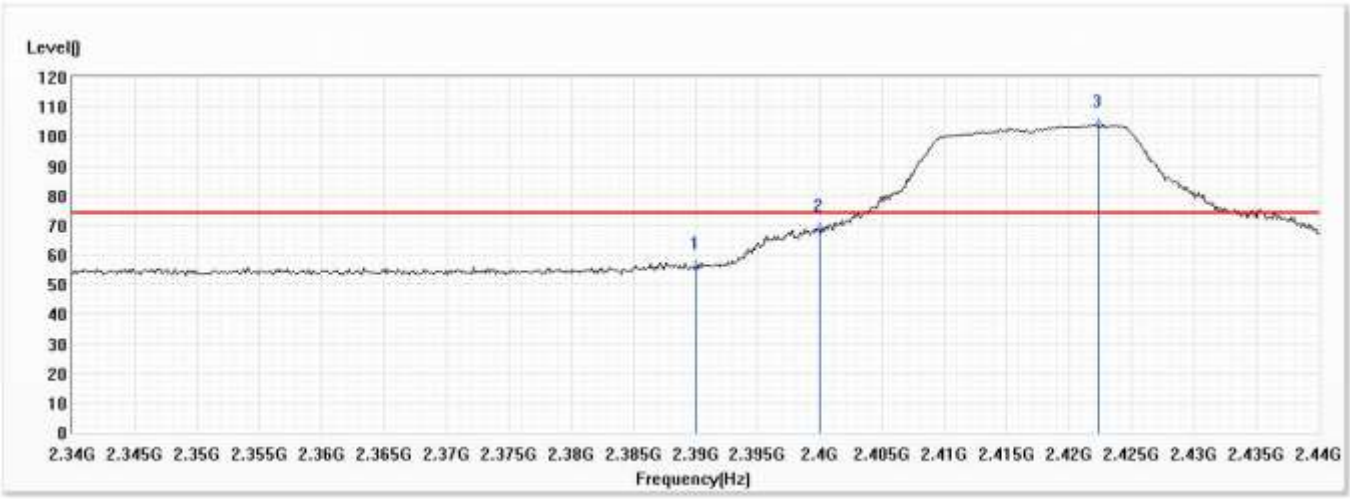
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	51.81	54.00	-2.19	38.97	12.84	AV
! 2	2400	69.29	--	--	56.37	12.92	AV
! 3	2406.812	97.36	--	--	84.41	12.95	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2417MHz)
Test Date	:	2020/12/18

Horizontal



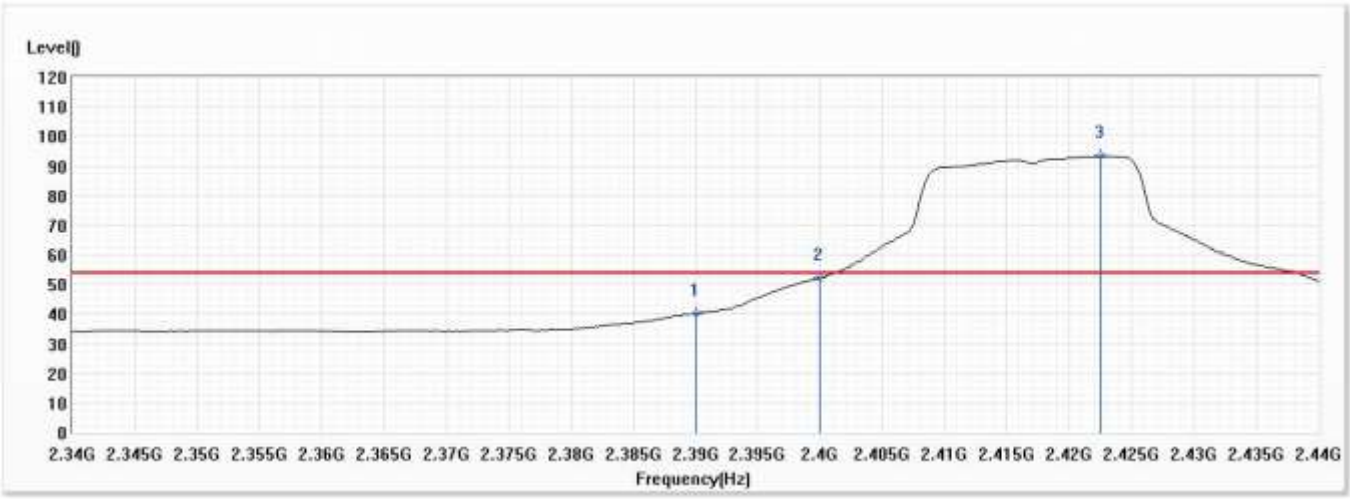
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	55.96	74.00	-18.04	44.73	11.23	PK
2	2400	68.86	--	--	57.64	11.22	PK
! 3	2422.3	104.04	--	--	92.81	11.23	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2417MHz)
Test Date	:	2020/12/18

Horizontal



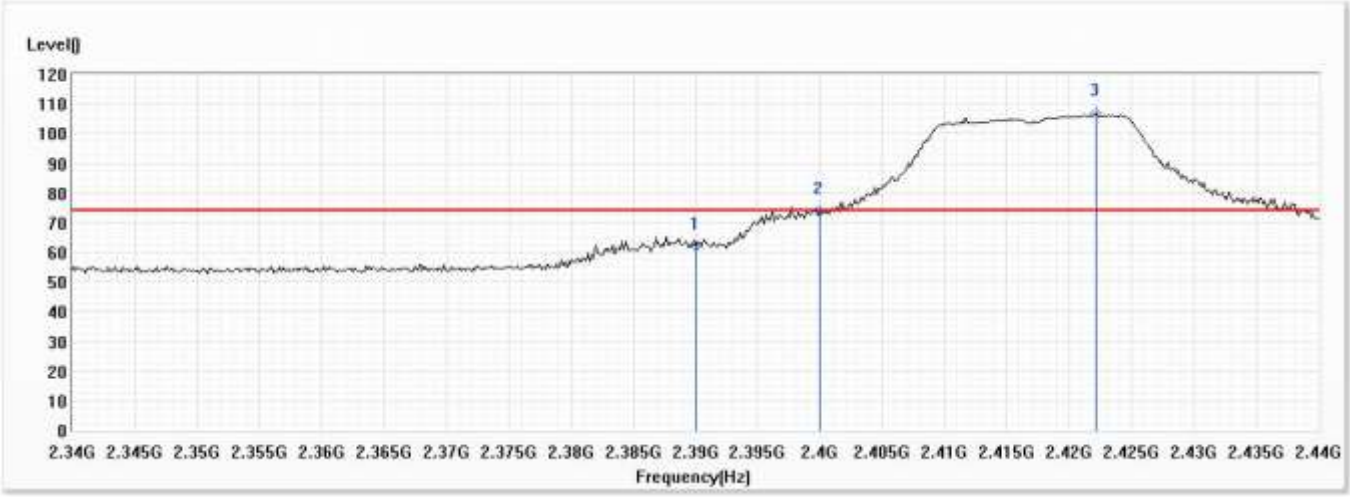
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	40.19	54.00	-13.81	28.96	11.23	AV
2	2400	52.34	--	--	41.12	11.22	AV
! 3	2422.5	93.38	--	--	82.15	11.23	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2417MHz)
Test Date	:	2020/12/18

Vertical



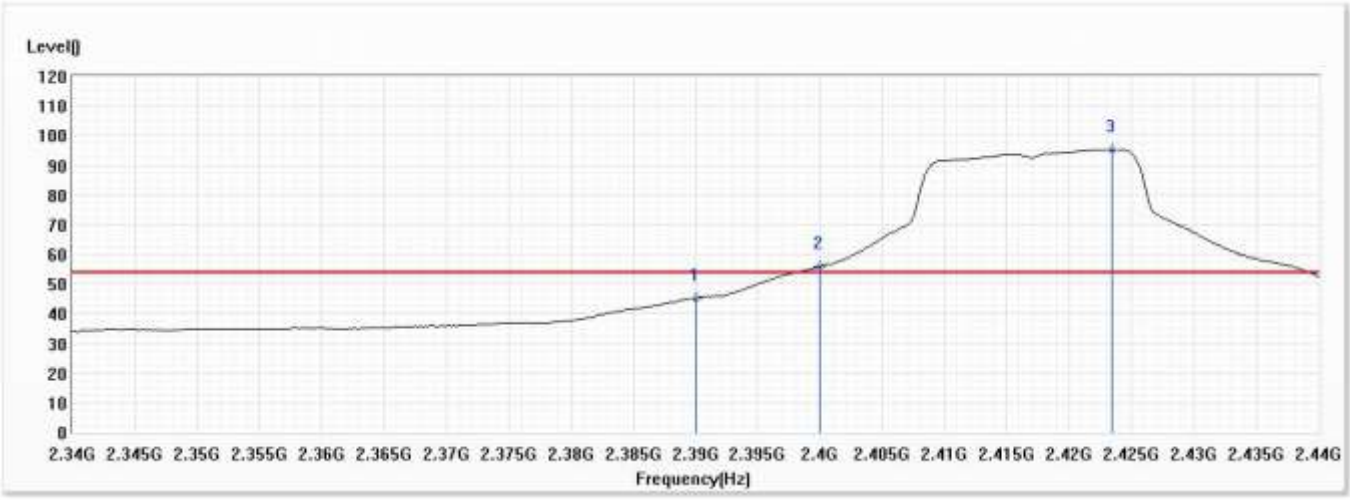
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	61.71	74.00	-12.29	50.48	11.23	PK
2	2400	73.56	--	--	62.34	11.22	PK
! 3	2422.1	106.93	--	--	95.70	11.23	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2417MHz)
Test Date	:	2020/12/18

Vertical



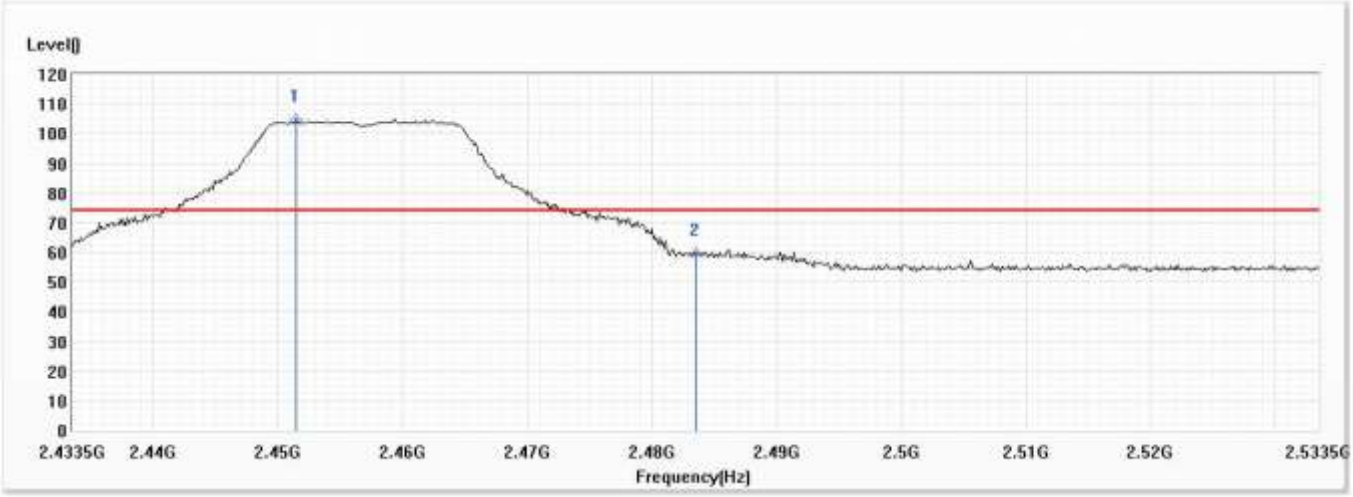
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	45.01	54.00	-8.99	33.78	11.23	AV
! 2	2400	55.85	--	--	44.63	11.22	AV
! 3	2423.4	95.34	--	--	84.10	11.24	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2457MHz)
Test Date	:	2020/12/18

Horizontal



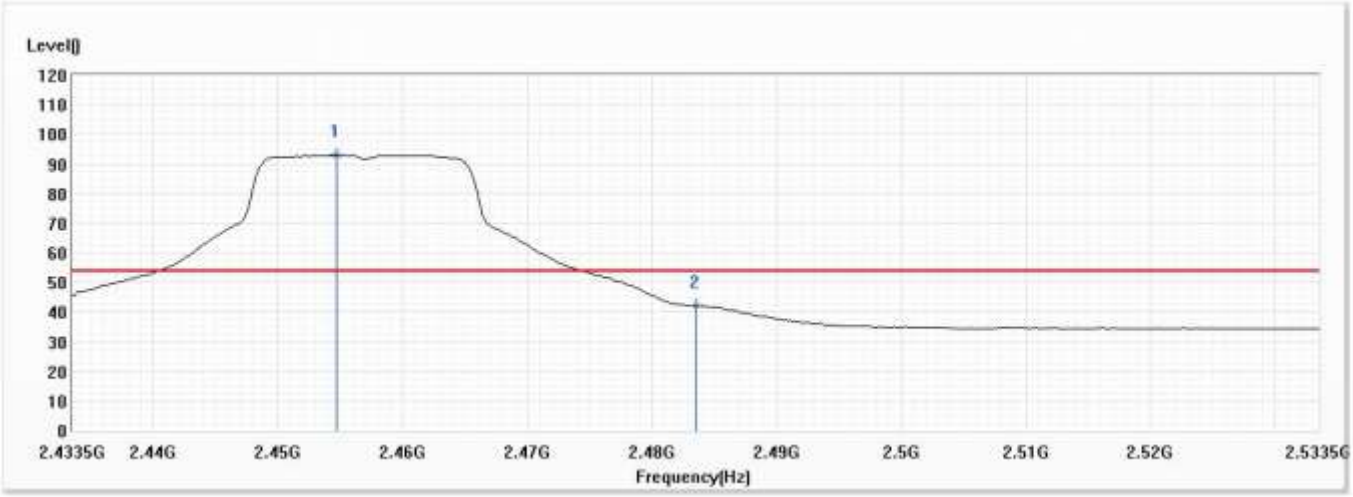
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2451.5	104.88	--	--	93.57	11.31	PK
2	2483.5	59.61	74.00	-14.39	48.23	11.38	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2457MHz)
Test Date	:	2020/12/18

Horizontal



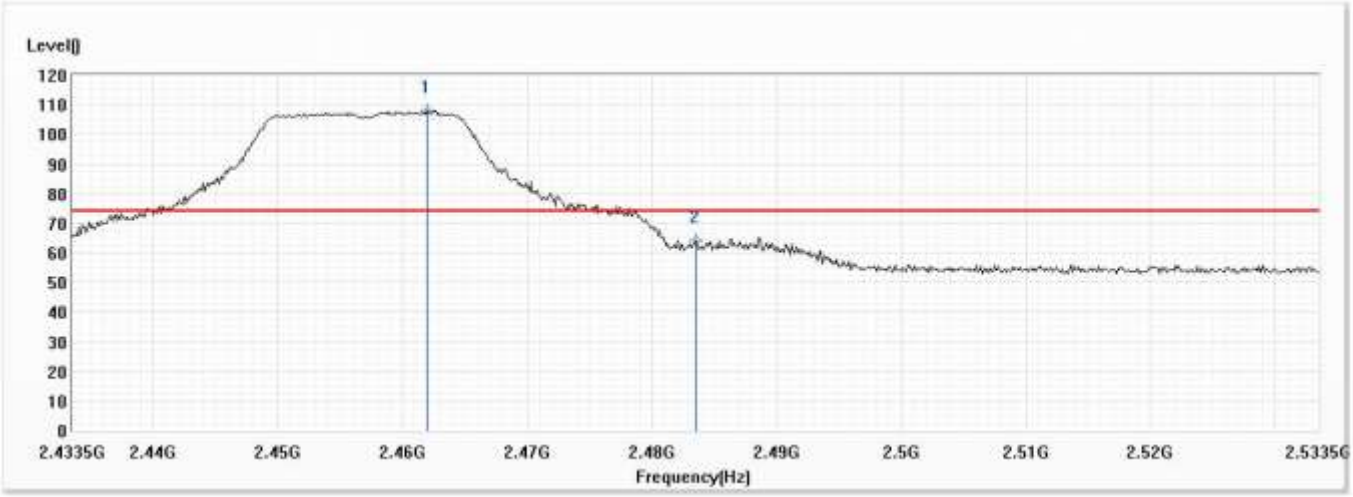
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2454.7	93.05	--	--	81.72	11.33	AV
2	2483.5	42.15	54.00	-11.85	30.77	11.38	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2457MHz)
Test Date	:	2020/12/18

Vertical



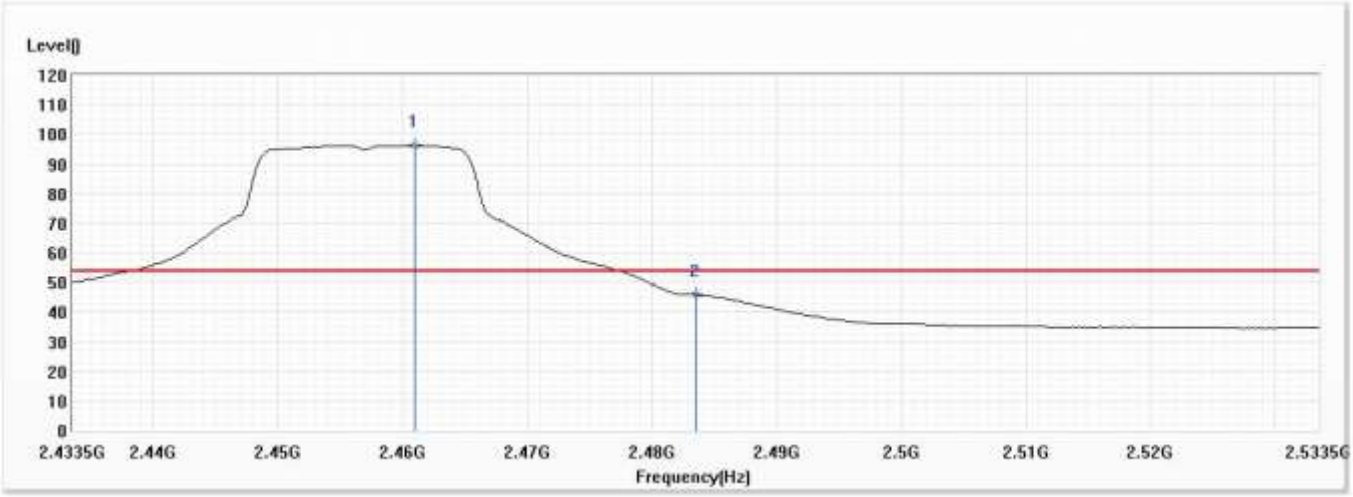
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2462	108.11	--	--	96.78	11.33	PK
2	2483.5	64.12	74.00	-9.88	52.74	11.38	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product : Notebook
Test Item : Band Edge Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2457MHz)
Test Date : 2020/12/18

Vertical



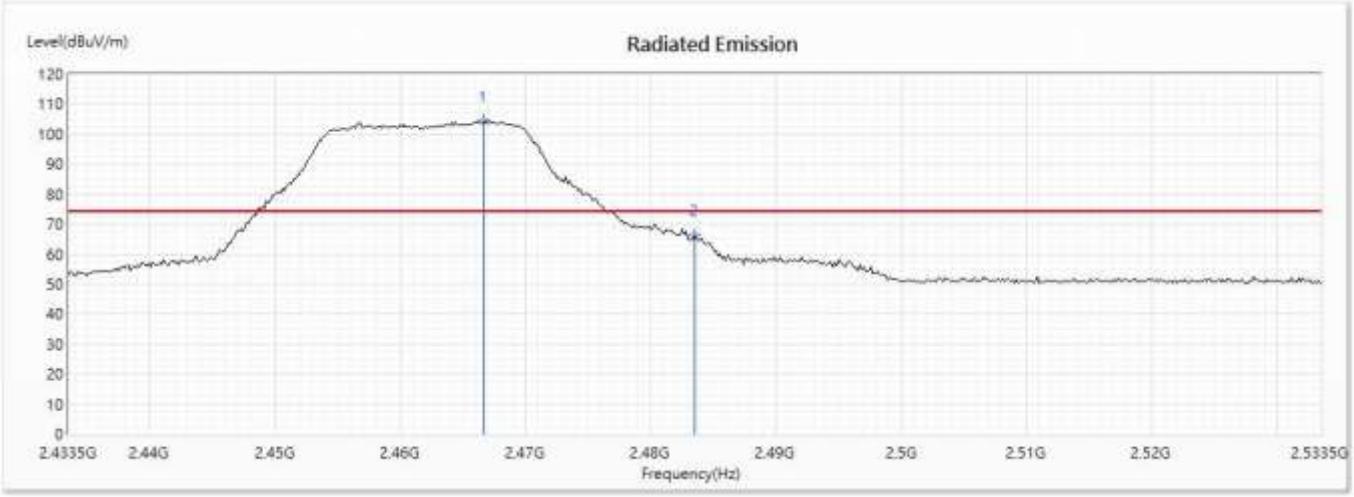
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2461	96.30	--	--	84.97	11.33	AV
2	2483.5	45.79	54.00	-8.21	34.41	11.38	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)
Test Date	:	2020/07/28

Horizontal



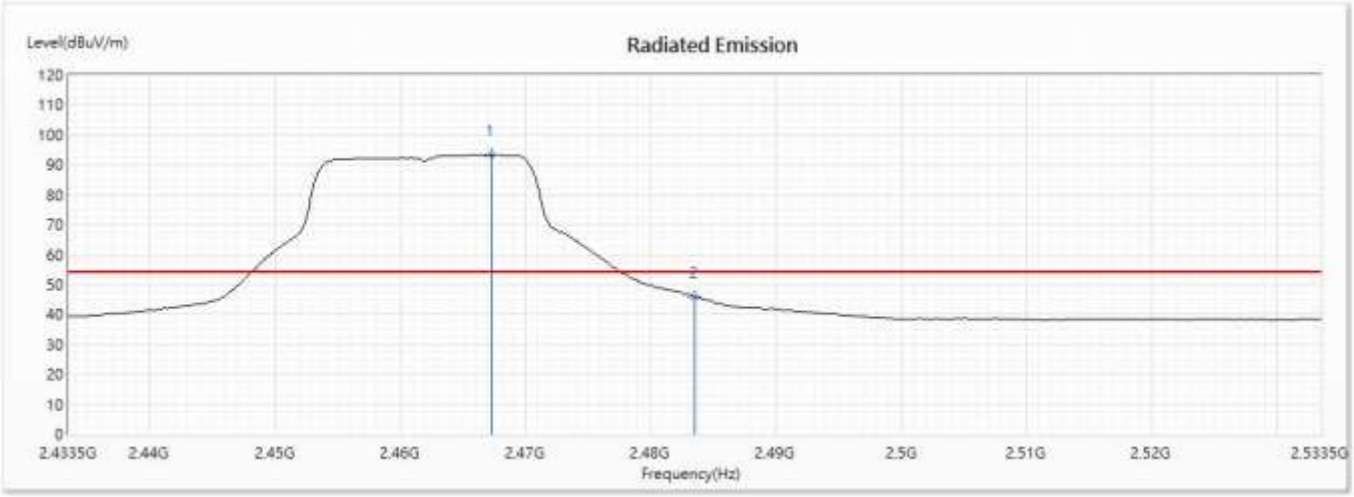
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2466.688	104.25	--	--	90.94	13.31	PK
2	2483.5	66.27	74.00	-7.73	52.82	13.45	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)
Test Date	:	2020/07/28

Horizontal



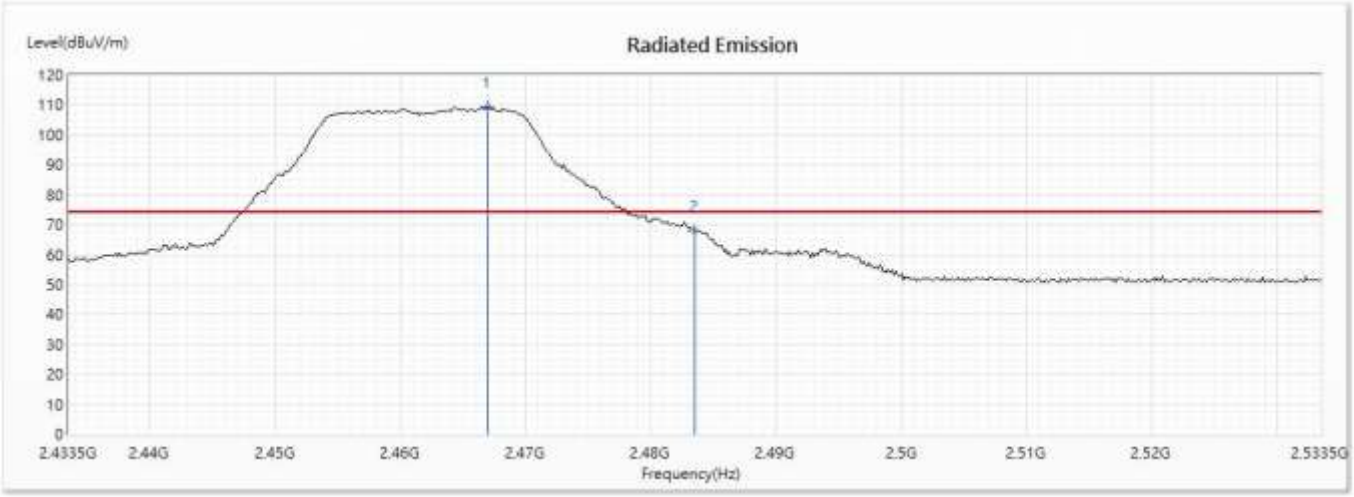
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2467.268	93.49	--	--	80.17	13.32	AV
2	2483.5	45.94	54.00	-8.06	32.49	13.45	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)
Test Date	:	2020/07/28

Vertical



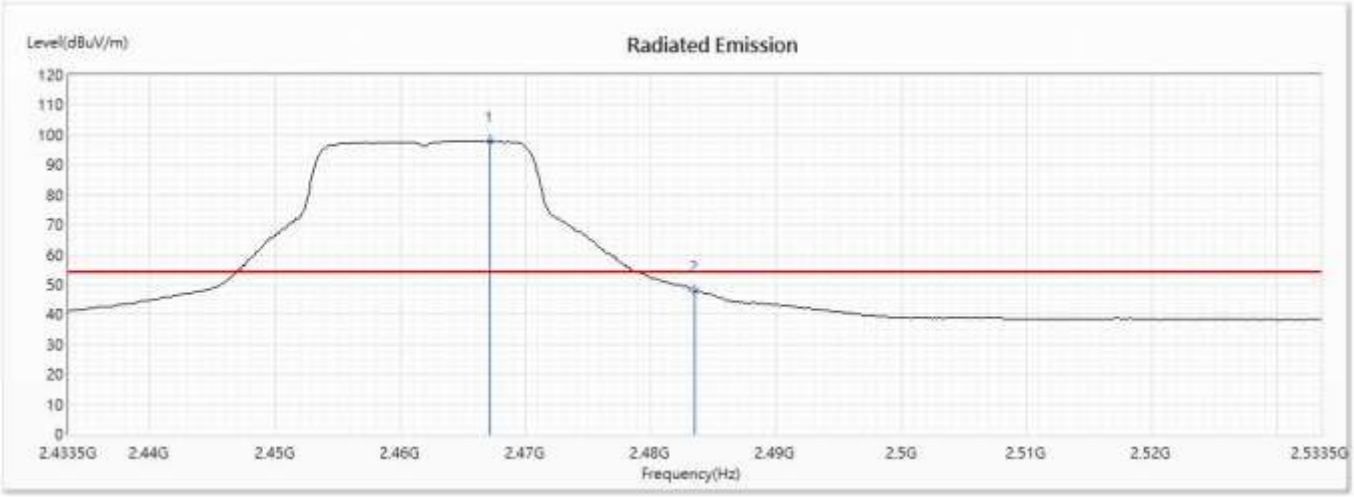
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2466.978	109.26	--	--	95.94	13.32	PK
2	2483.5	68.06	74.00	-5.94	54.61	13.45	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)
Test Date	:	2020/07/28

Vertical



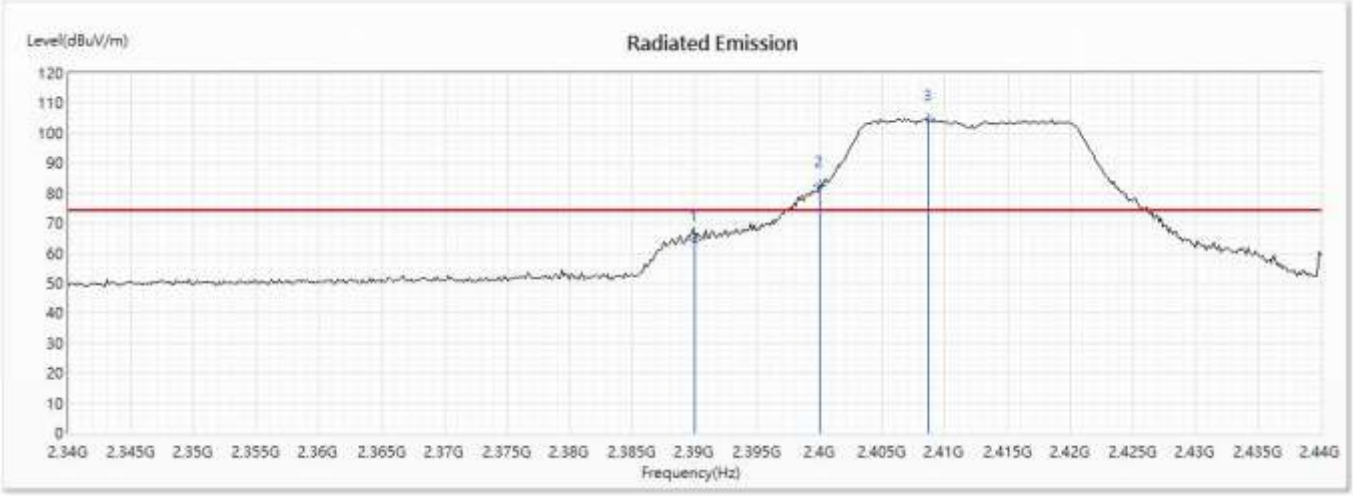
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2467.123	98.03	--	--	84.71	13.32	AV
2	2483.5	48.12	54.00	-5.88	34.67	13.45	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2412MHz)
Test Date	:	2020/07/28

Horizontal



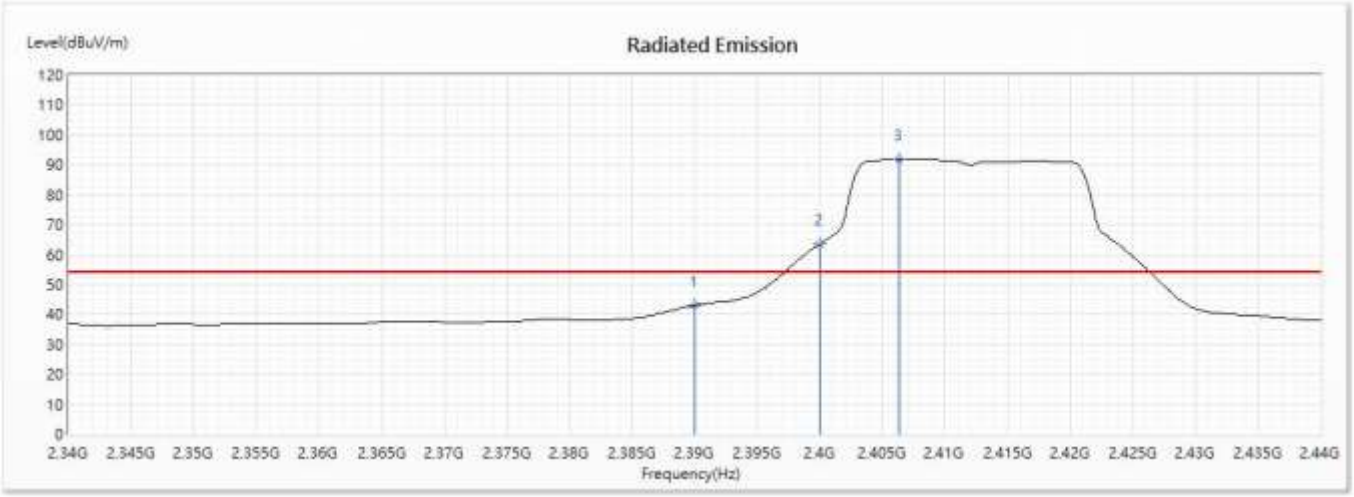
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	64.17	74.00	-9.83	51.33	12.84	PK
! 2	2400	82.24	--	--	69.32	12.92	PK
! 3	2408.696	104.38	--	--	91.42	12.96	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2412MHz)
Test Date	:	2020/07/28

Horizontal



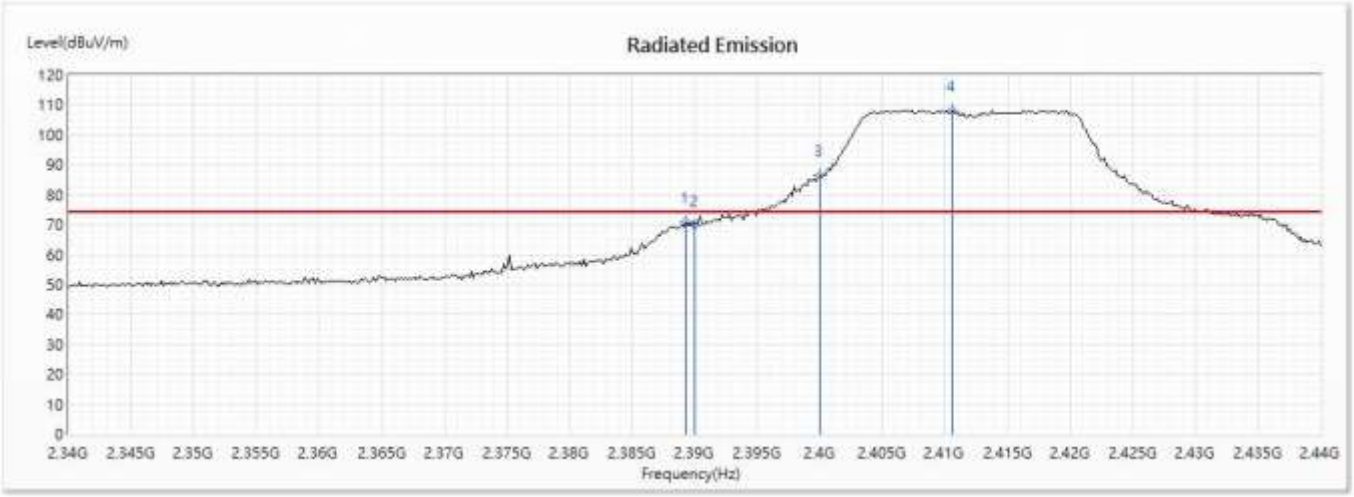
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	43.07	54.00	-10.93	30.23	12.84	AV
! 2	2400	63.66	--	--	50.74	12.92	AV
! 3	2406.377	91.79	--	--	78.84	12.95	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2412MHz)
Test Date	:	2020/07/28

Vertical



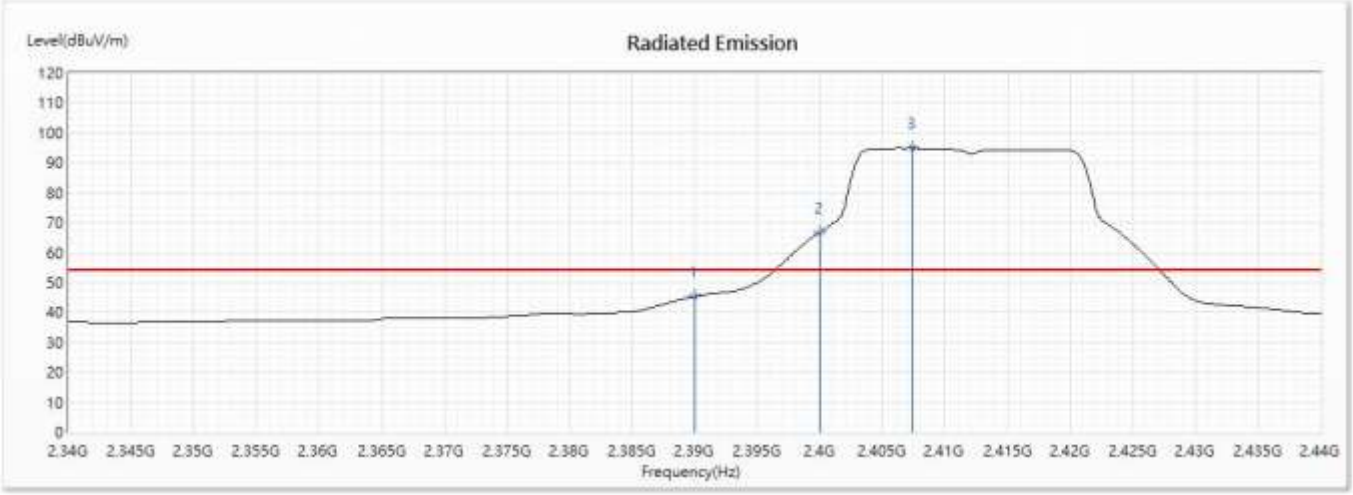
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2389.275	70.84	74.00	-3.16	58.00	12.84	PK
2	2390	69.61	74.00	-4.39	56.77	12.84	PK
! 3	2400	86.35	--	--	73.43	12.92	PK
! 4	2410.58	108.32	--	--	95.35	12.97	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2412MHz)
Test Date	:	2020/07/28

Vertical



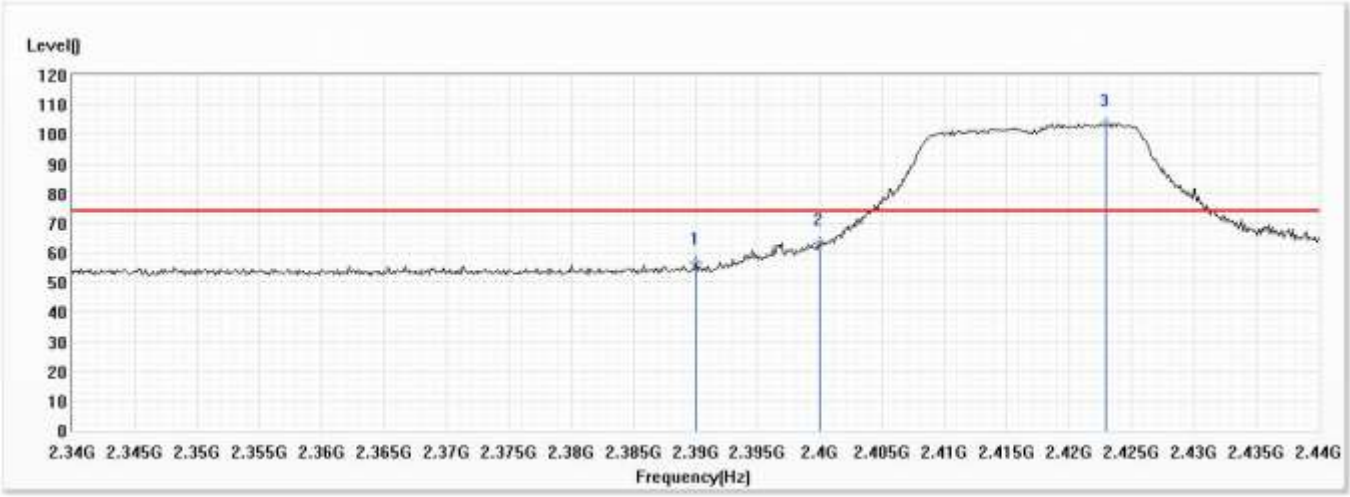
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	45.36	54.00	-8.64	32.52	12.84	AV
! 2	2400	66.79	--	--	53.87	12.92	AV
! 3	2407.391	94.85	--	--	81.89	12.96	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2417MHz)
Test Date	:	2020/12/18

Horizontal



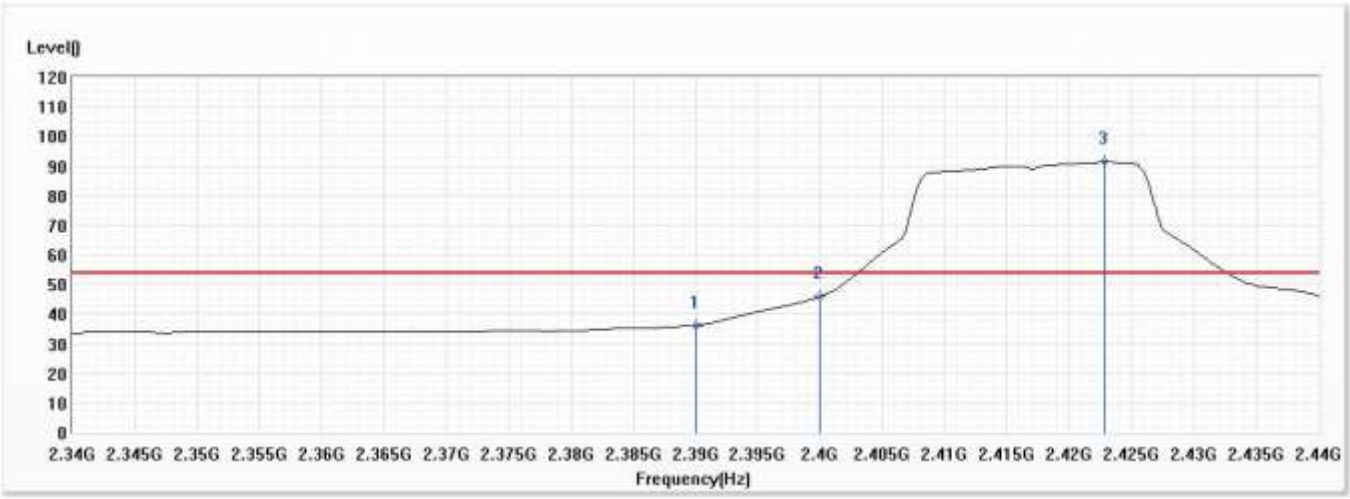
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	56.86	74.00	-17.14	45.63	11.23	PK
2	2400	63.41	--	--	52.19	11.22	PK
! 3	2422.9	103.51	--	--	92.28	11.23	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2417MHz)
Test Date	:	2020/12/18

Horizontal



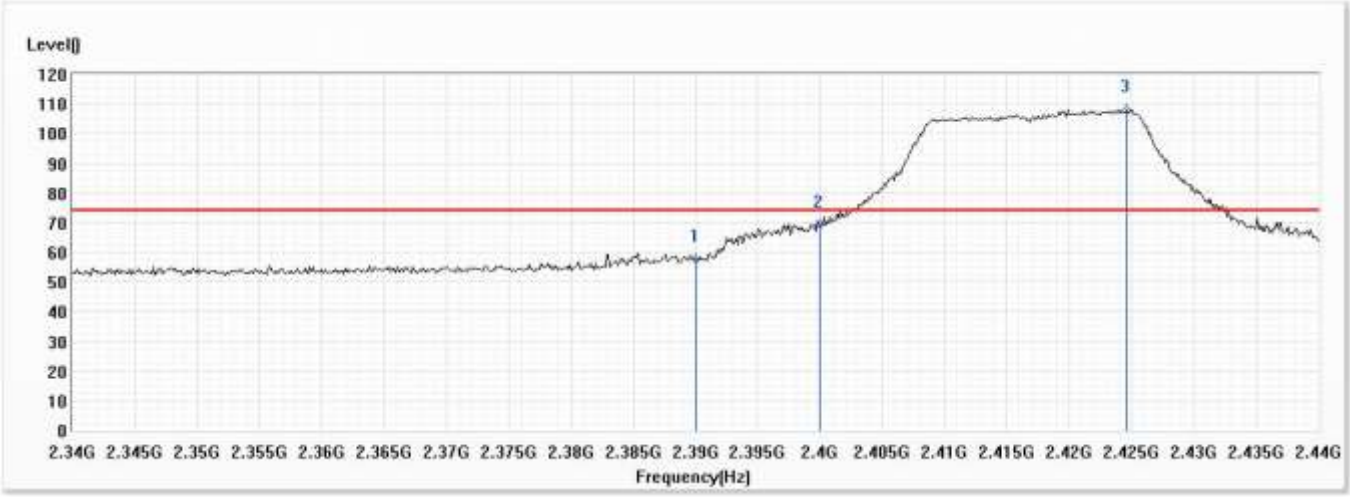
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	36.19	54.00	-17.81	24.96	11.23	AV
2	2400	45.87	--	--	34.65	11.22	AV
! 3	2422.8	91.33	--	--	80.10	11.23	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2417MHz)
Test Date	:	2020/12/18

Vertical



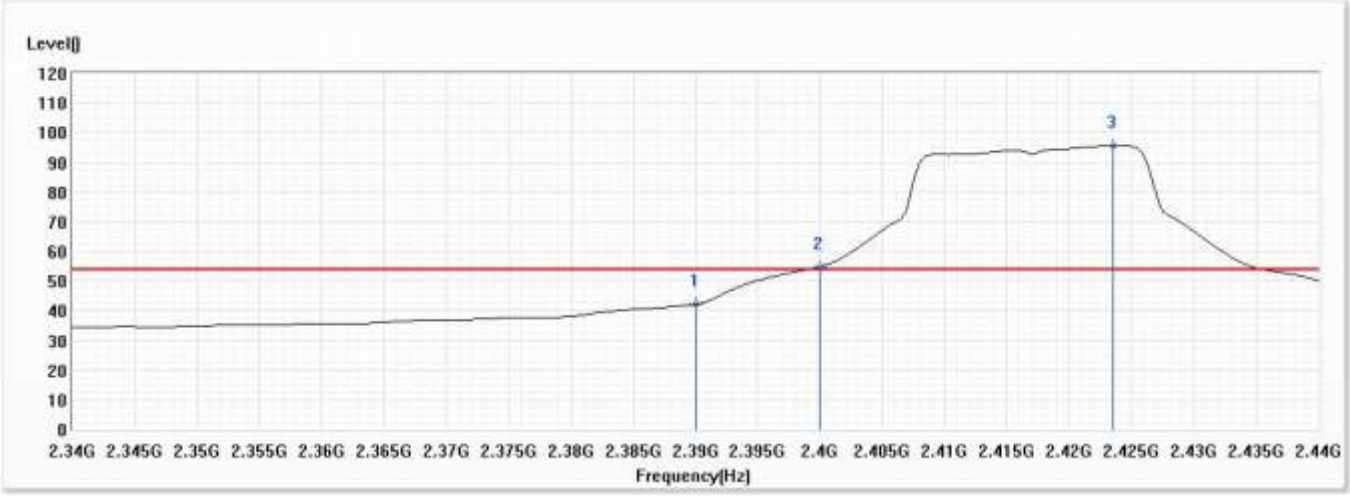
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	57.41	74.00	-16.59	46.18	11.23	PK
2	2400	69.12	--	--	57.90	11.22	PK
! 3	2424	108.14	--	--	96.89	11.25	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2417MHz)
Test Date	:	2020/12/18

Vertical



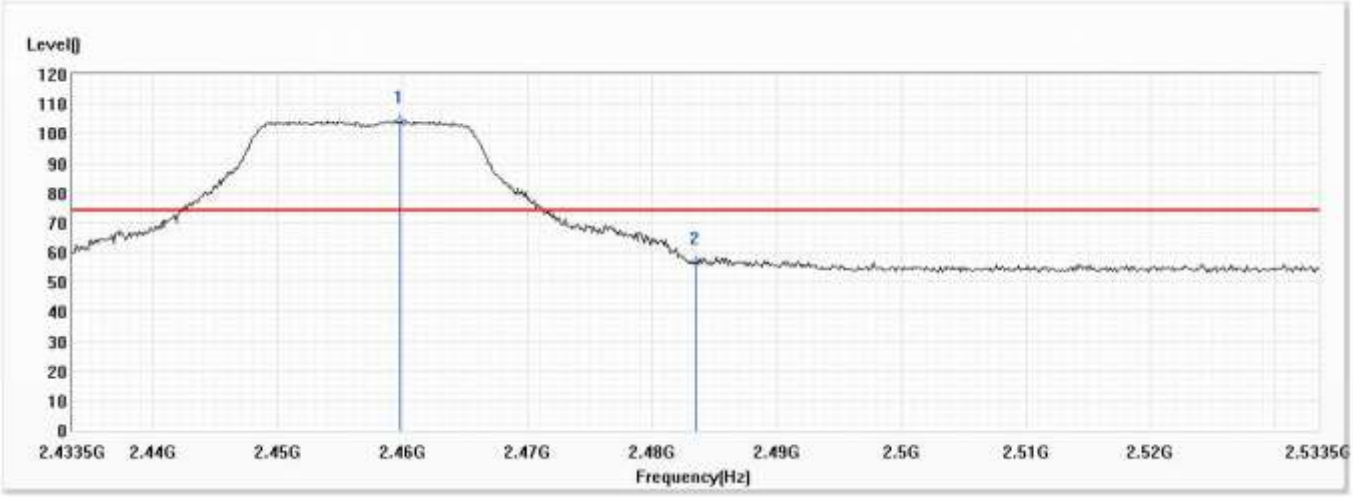
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	42.12	54.00	-11.88	30.89	11.23	AV
! 2	2400	54.81	--	--	43.59	11.22	AV
! 3	2423.5	95.53	--	--	84.29	11.24	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2457MHz)
Test Date	:	2020/12/18

Horizontal



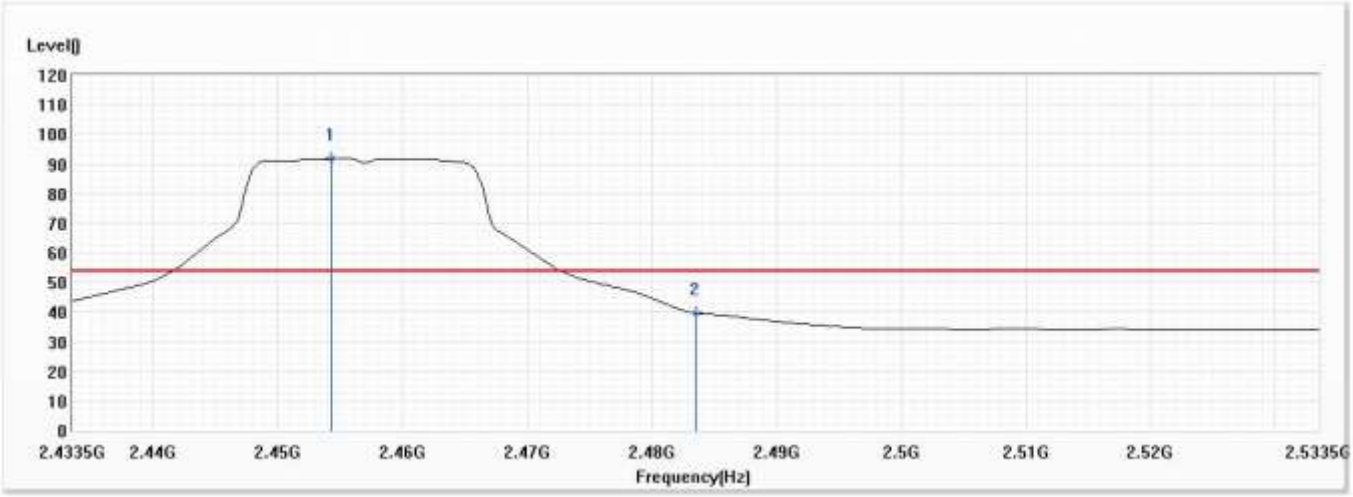
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2459.8	104.26	--	--	92.93	11.33	PK
2	2483.5	56.57	74.00	-17.43	45.19	11.38	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2457MHz)
Test Date	:	2020/12/18

Horizontal



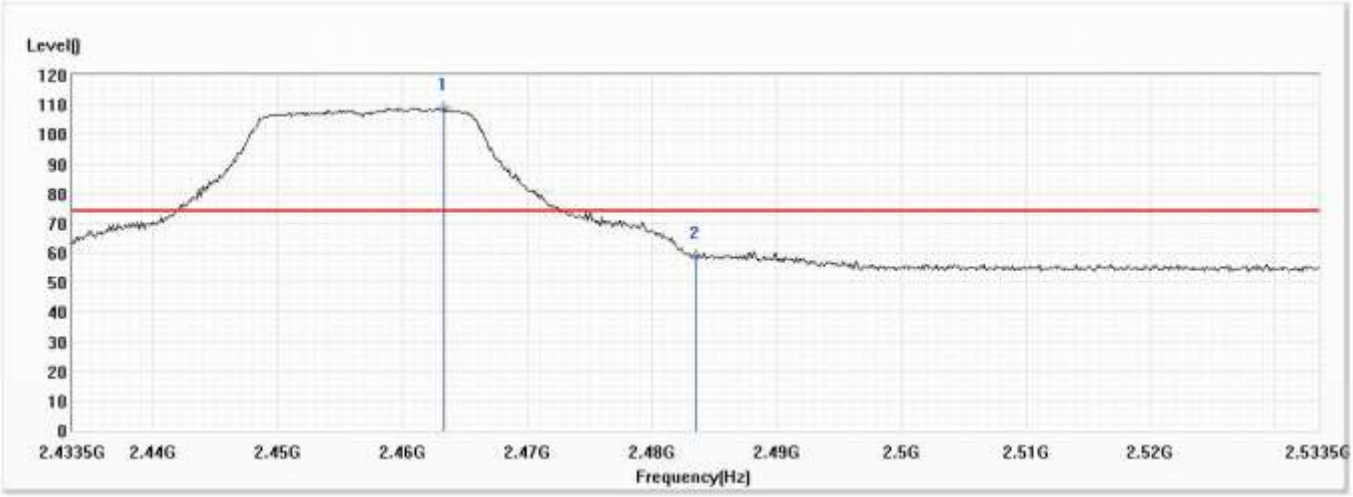
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2454.3	91.73	--	--	80.40	11.33	AV
2	2483.5	39.56	54.00	-14.44	28.18	11.38	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2457MHz)
Test Date	:	2020/12/18

Vertical



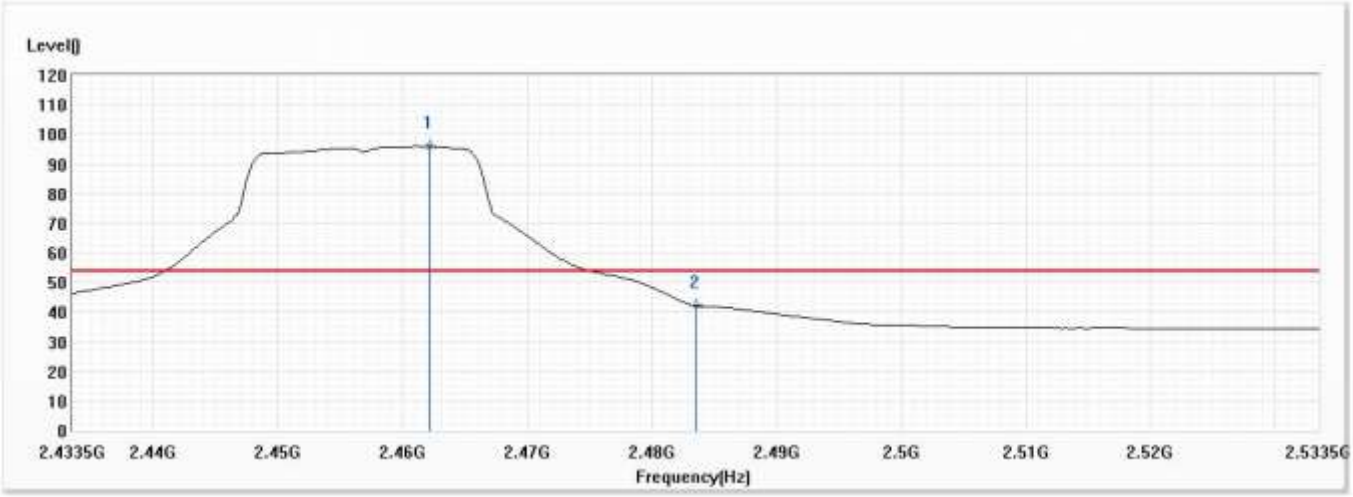
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2463.3	108.94	--	--	97.60	11.34	PK
2	2483.5	58.74	74.00	-15.26	47.36	11.38	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2457MHz)
Test Date	:	2020/12/18

Vertical



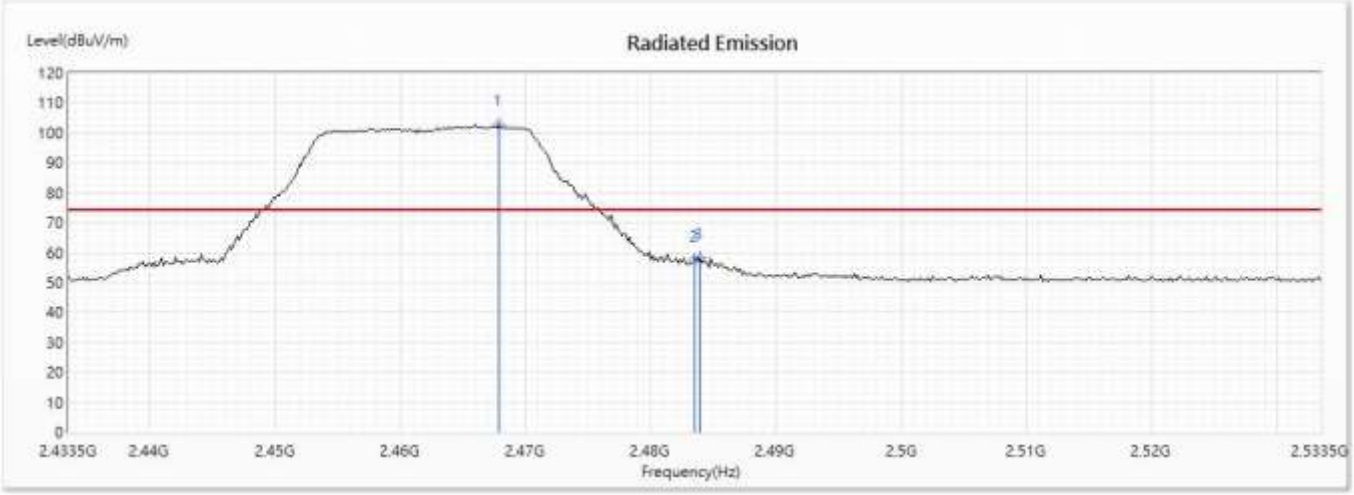
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2462.2	95.85	--	--	84.52	11.33	AV
2	2483.5	42.17	54.00	-11.83	30.79	11.38	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2462MHz)
Test Date	:	2020/07/28

Horizontal



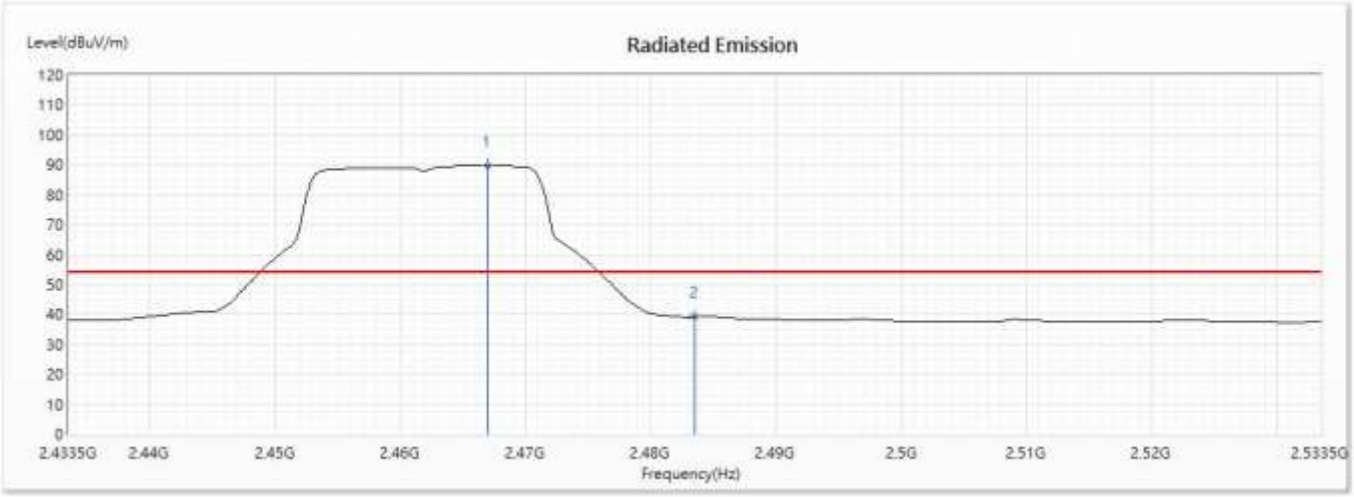
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2467.848	102.68	--	--	89.35	13.33	PK
2	2483.5	57.27	74.00	-16.73	43.82	13.45	PK
3	2483.935	58.07	74.00	-15.93	44.62	13.45	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2462MHz)
Test Date	:	2020/07/28

Horizontal



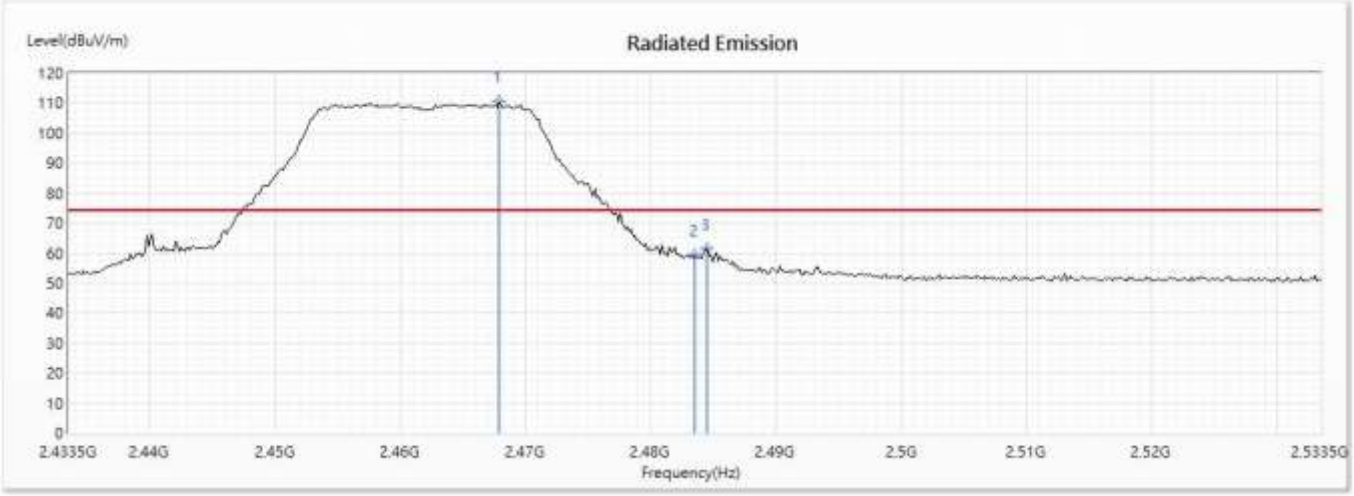
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2466.978	89.77	--	--	76.45	13.32	AV
2	2483.5	39.18	54.00	-14.82	25.73	13.45	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2462MHz)
Test Date	:	2020/07/28

Vertical



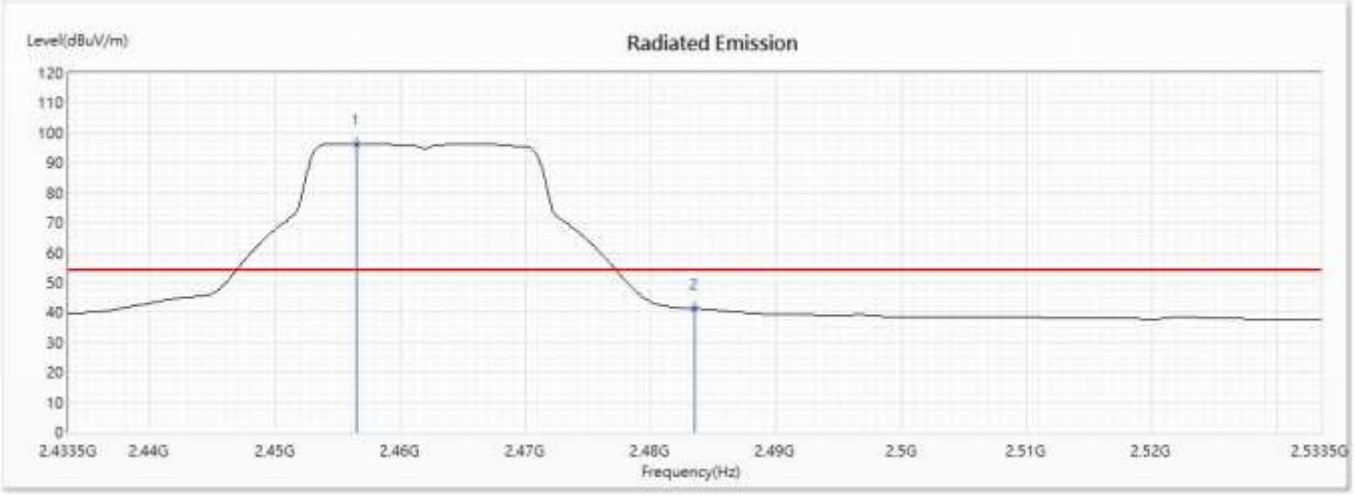
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2467.848	110.38	--	--	97.05	13.33	PK
2	2483.5	59.42	74.00	-14.58	45.97	13.45	PK
3	2484.514	61.48	74.00	-12.52	48.02	13.46	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2462MHz)
Test Date	:	2020/07/28

Vertical



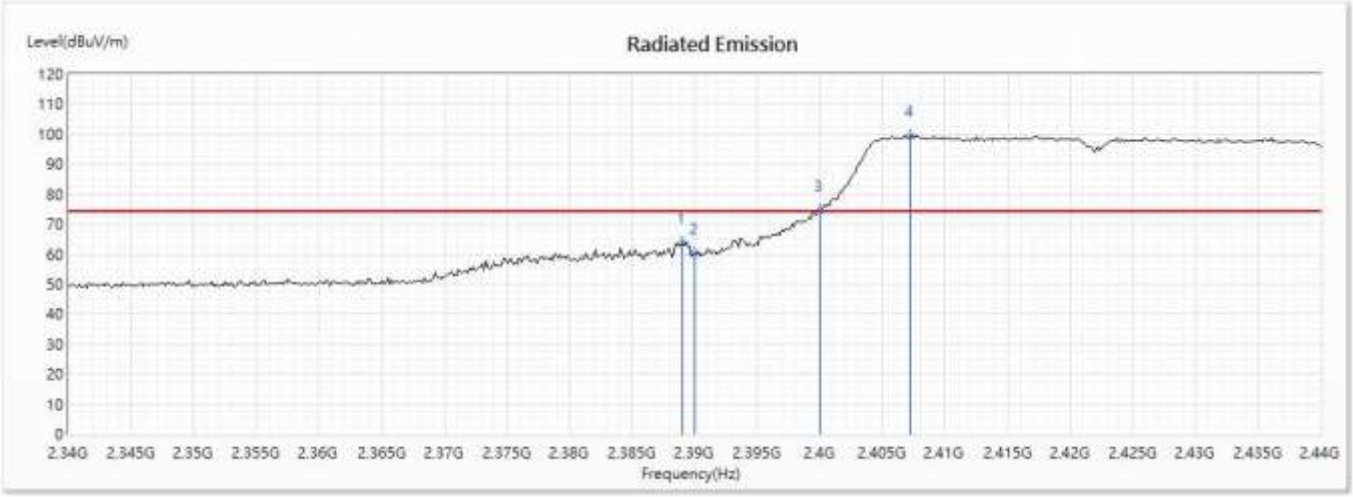
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2456.543	96.38	--	--	83.14	13.24	AV
2	2483.5	41.20	54.00	-12.80	27.75	13.45	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2422MHz)
Test Date	:	2020/07/28

Horizontal



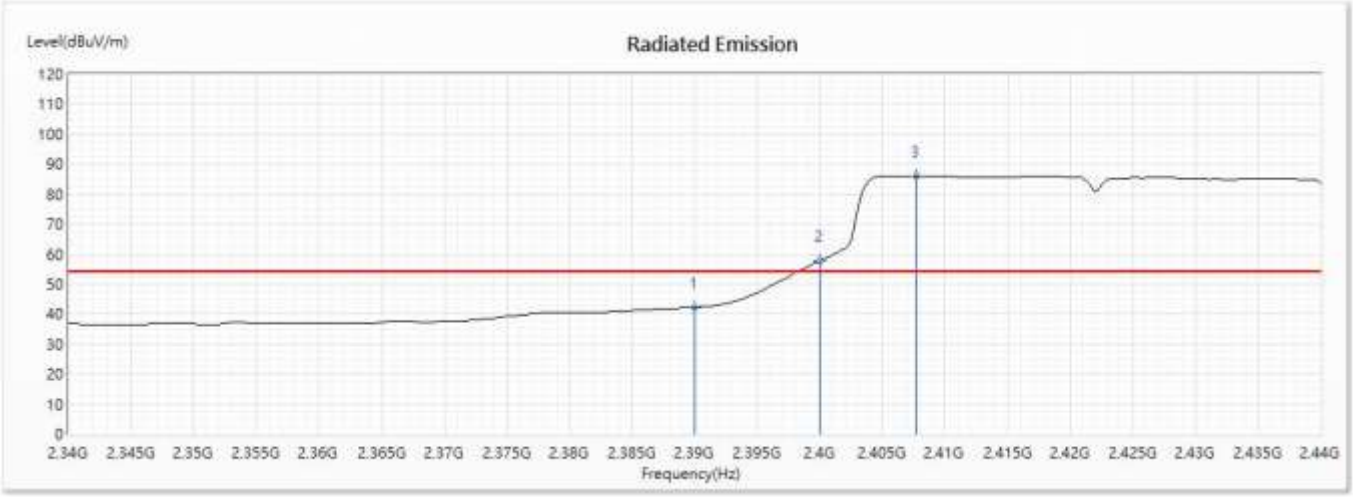
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2388.986	63.88	74.00	-10.12	51.04	12.84	PK
2	2390	60.16	74.00	-13.84	47.32	12.84	PK
! 3	2400	74.38	--	--	61.46	12.92	PK
! 4	2407.246	99.55	--	--	86.60	12.95	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2422MHz)
Test Date	:	2020/07/28

Horizontal



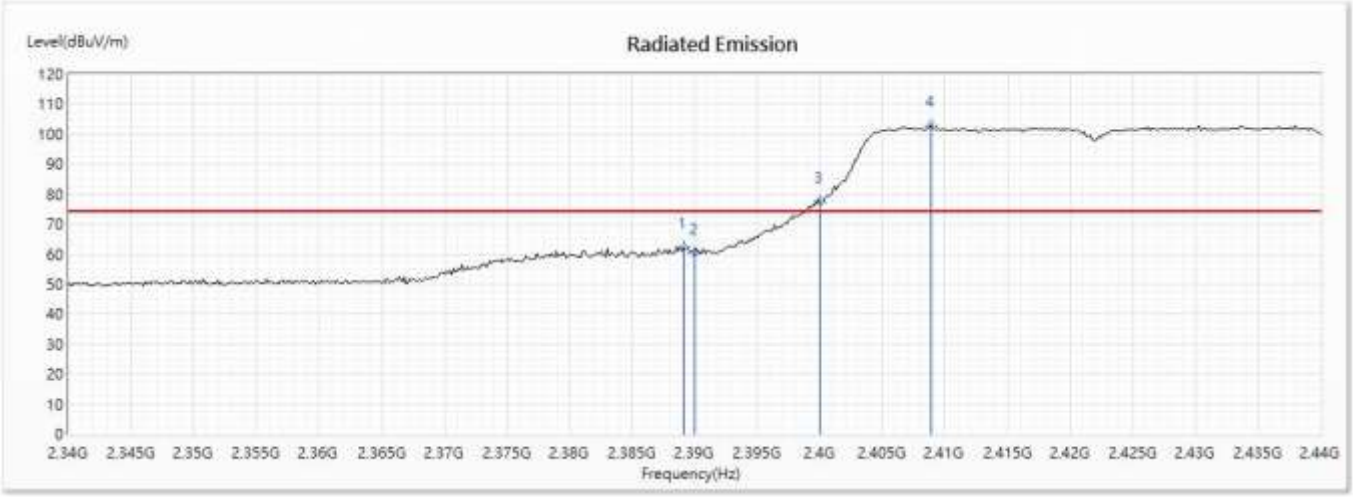
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	42.28	54.00	-11.72	29.44	12.84	AV
! 2	2400	57.74	--	--	44.82	12.92	AV
! 3	2407.681	86.18	--	--	73.22	12.96	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2422MHz)
Test Date	:	2020/07/28

Vertical



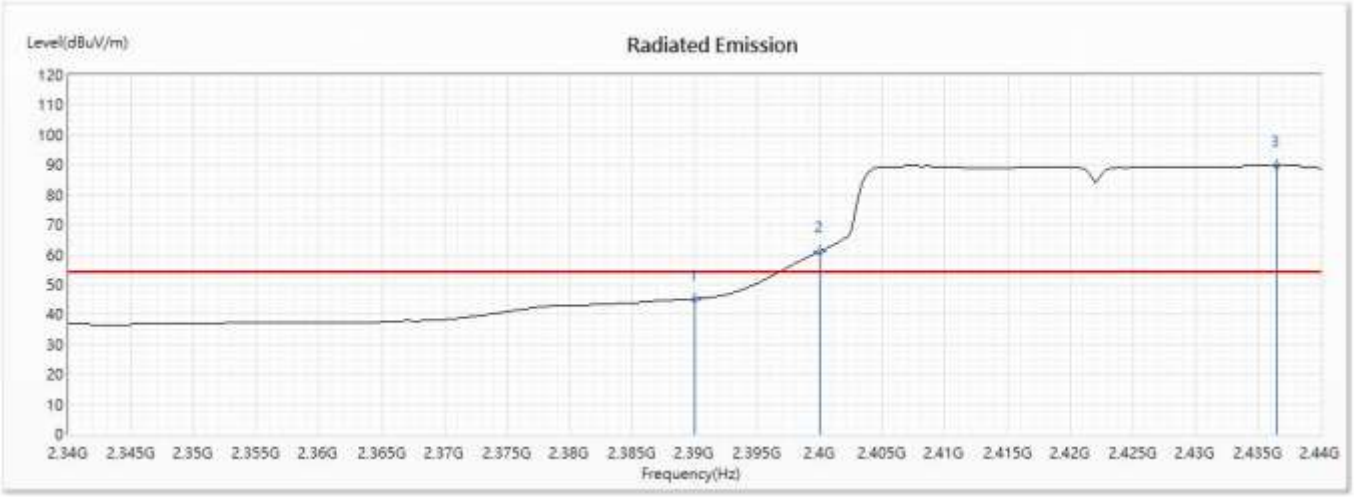
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2389.13	62.43	74.00	-11.57	49.59	12.84	PK
2	2390	60.31	74.00	-13.69	47.47	12.84	PK
! 3	2400	77.54	--	--	64.62	12.92	PK
! 4	2408.841	102.73	--	--	89.77	12.96	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2422MHz)
Test Date	:	2020/07/28

Vertical



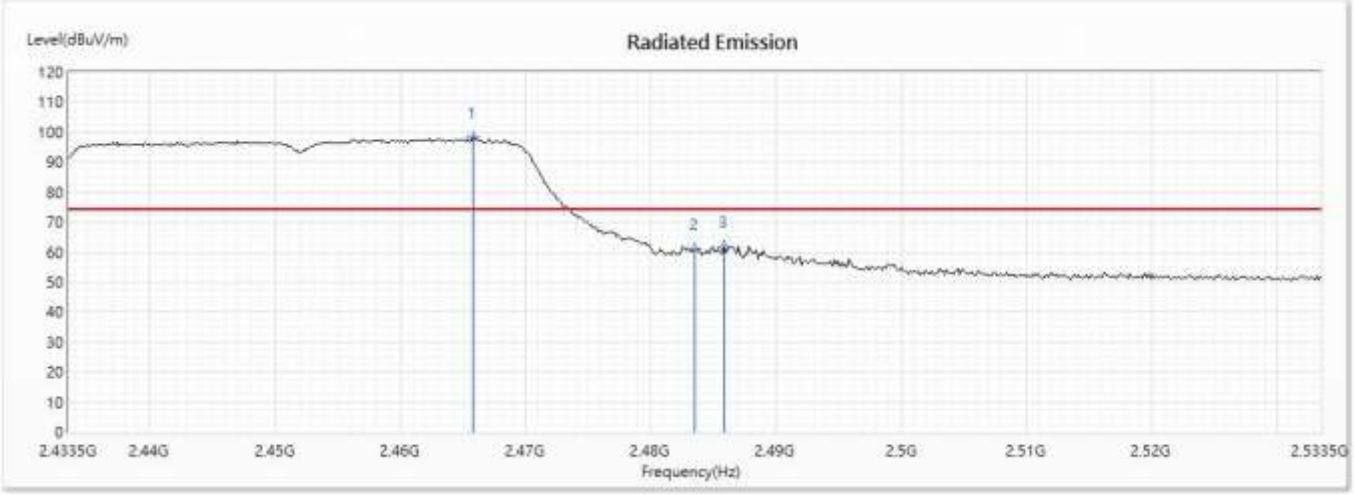
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2390	45.23	54.00	-8.77	32.39	12.84	AV
! 2	2400	61.01	--	--	48.09	12.92	AV
! 3	2436.522	89.71	--	--	76.59	13.12	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2452MHz)
Test Date	:	2020/07/28

Horizontal



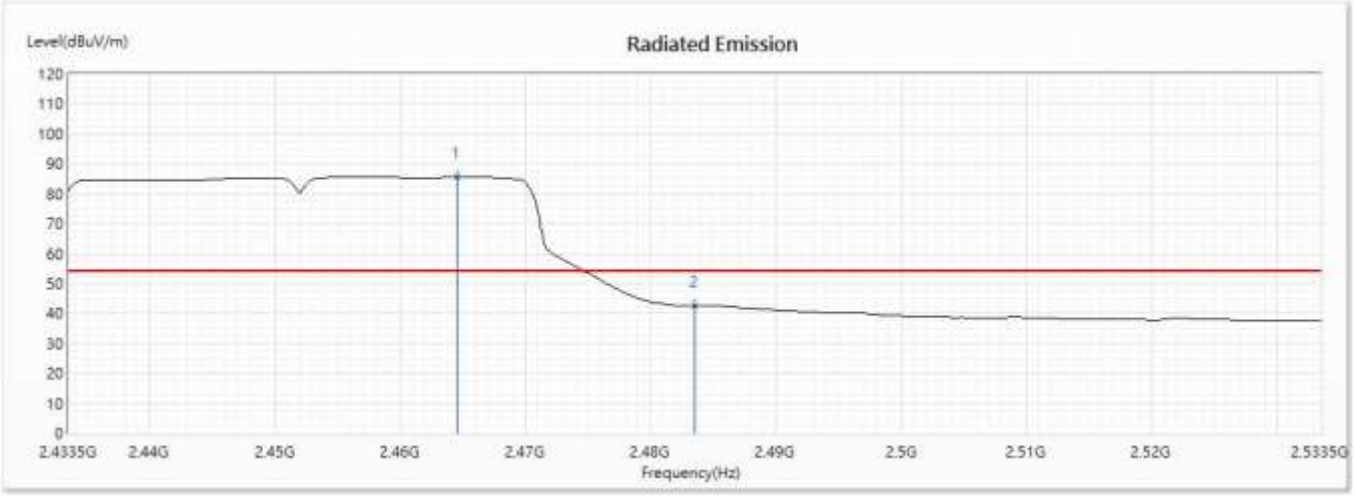
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2465.819	98.46	--	--	85.15	13.31	PK
2	2483.5	60.90	74.00	-13.10	47.45	13.45	PK
3	2485.819	61.90	74.00	-12.10	48.44	13.46	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2452MHz)
Test Date	:	2020/07/28

Horizontal



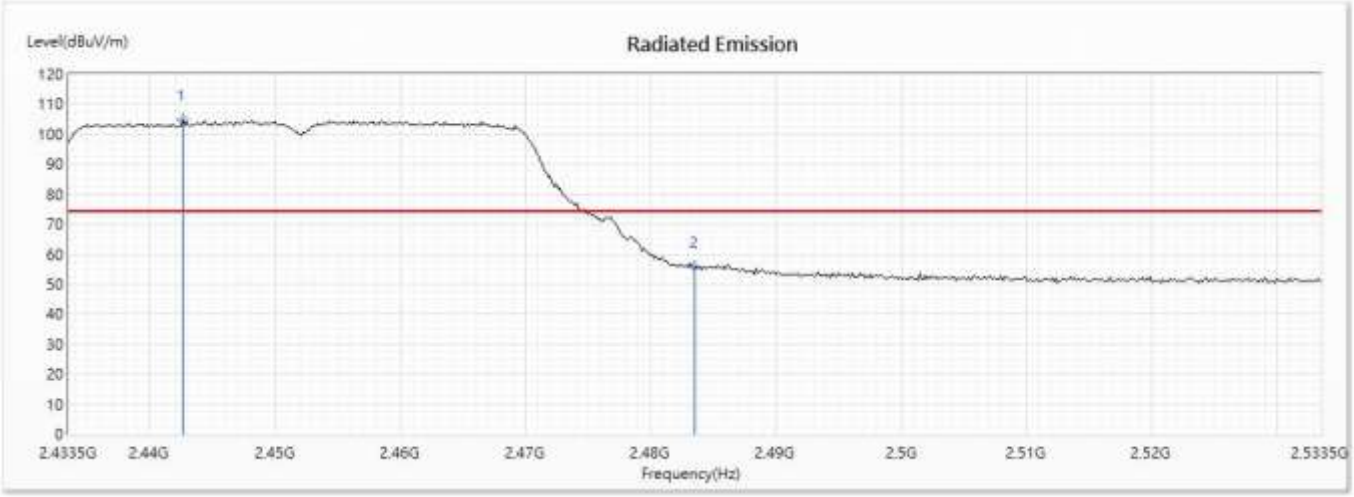
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2464.514	85.62	--	--	72.32	13.30	AV
2	2483.5	42.60	54.00	-11.40	29.15	13.45	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2452MHz)
Test Date	:	2020/07/28

Vertical



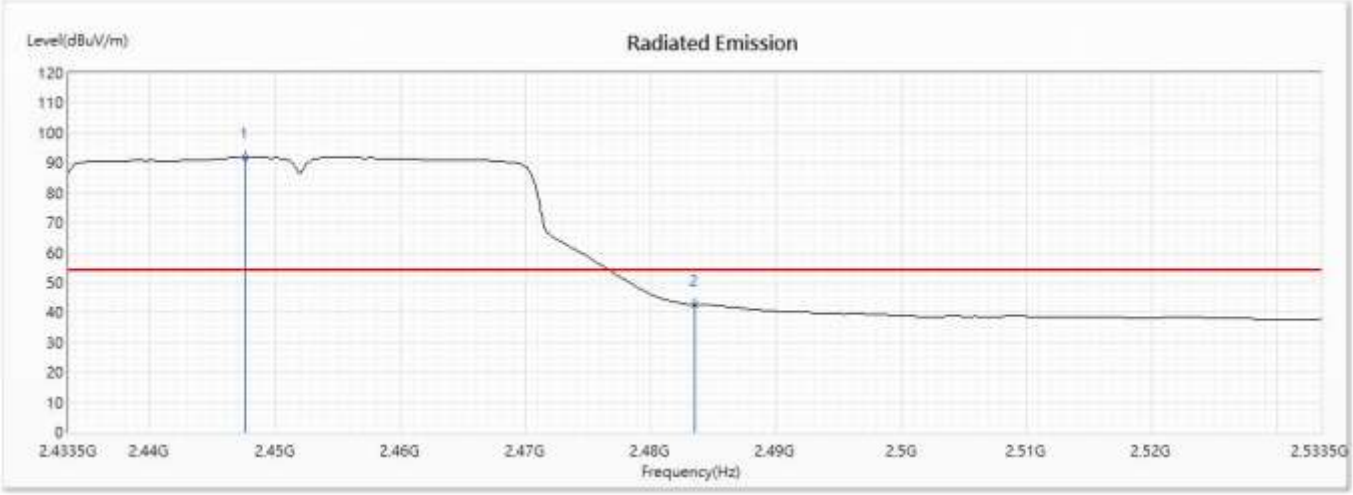
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2442.63	104.71	--	--	91.56	13.15	PK
2	2483.5	55.85	74.00	-18.15	42.40	13.45	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

Product	:	Notebook
Test Item	:	Band Edge Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2452MHz)
Test Date	:	2020/07/28

Vertical



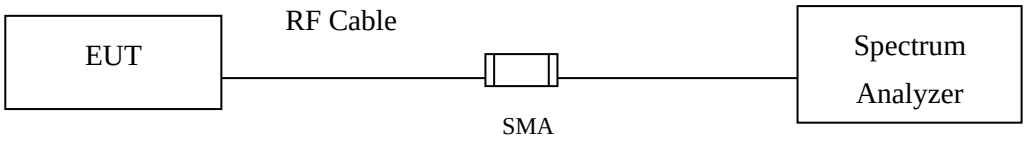
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
! 1	2447.558	91.70	--	--	78.53	13.17	AV
2	2483.5	42.66	54.00	-11.34	29.21	13.45	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.

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
Test Item : 6dB Bandwidth Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	9100	>500	Pass
07	2442	8650	>500	Pass
11	2462	9100	>500	Pass

Figure Channel 01:

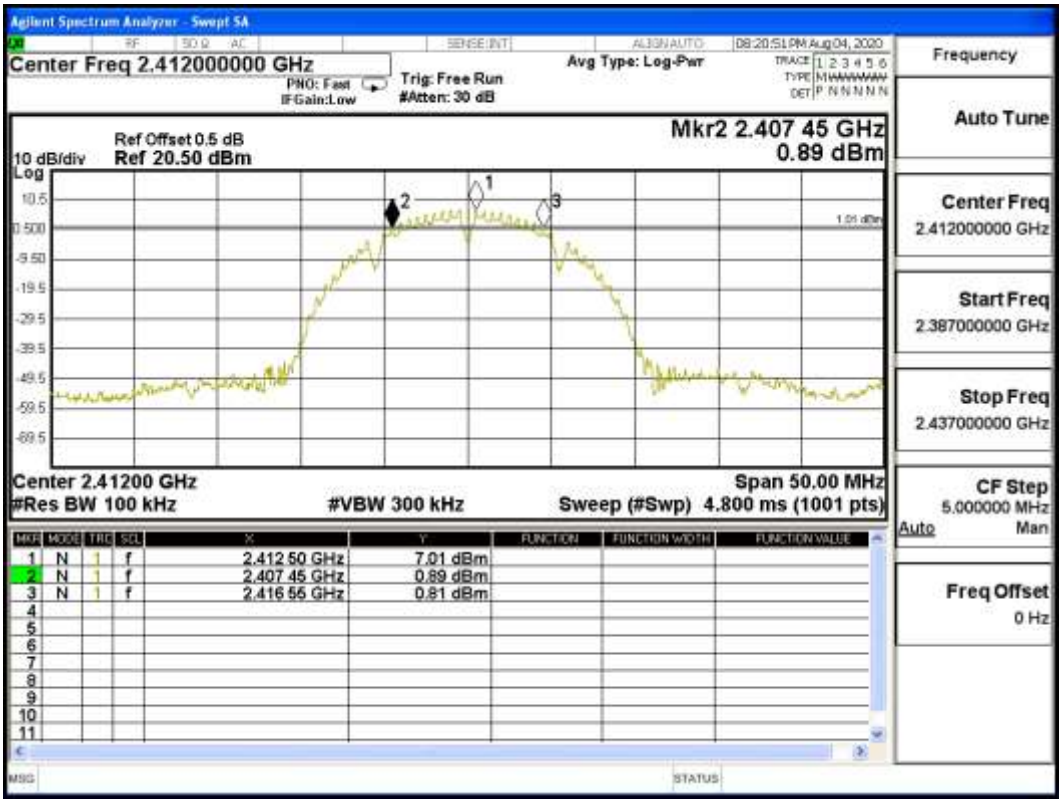


Figure Channel 07:

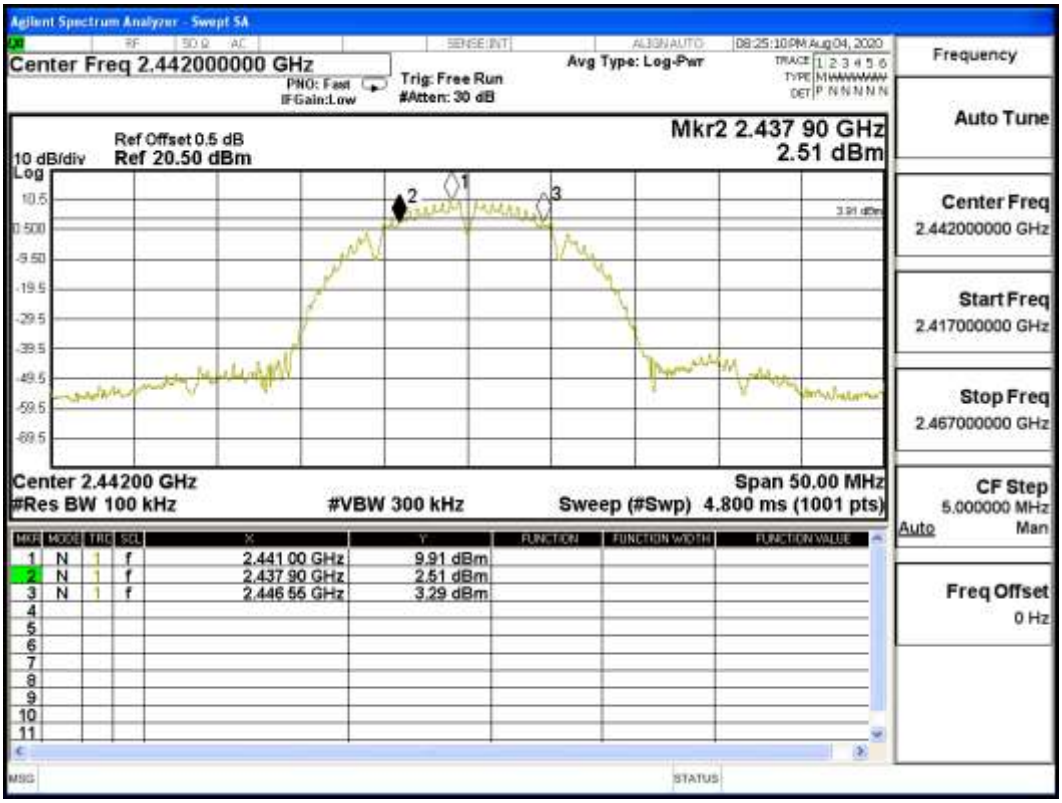
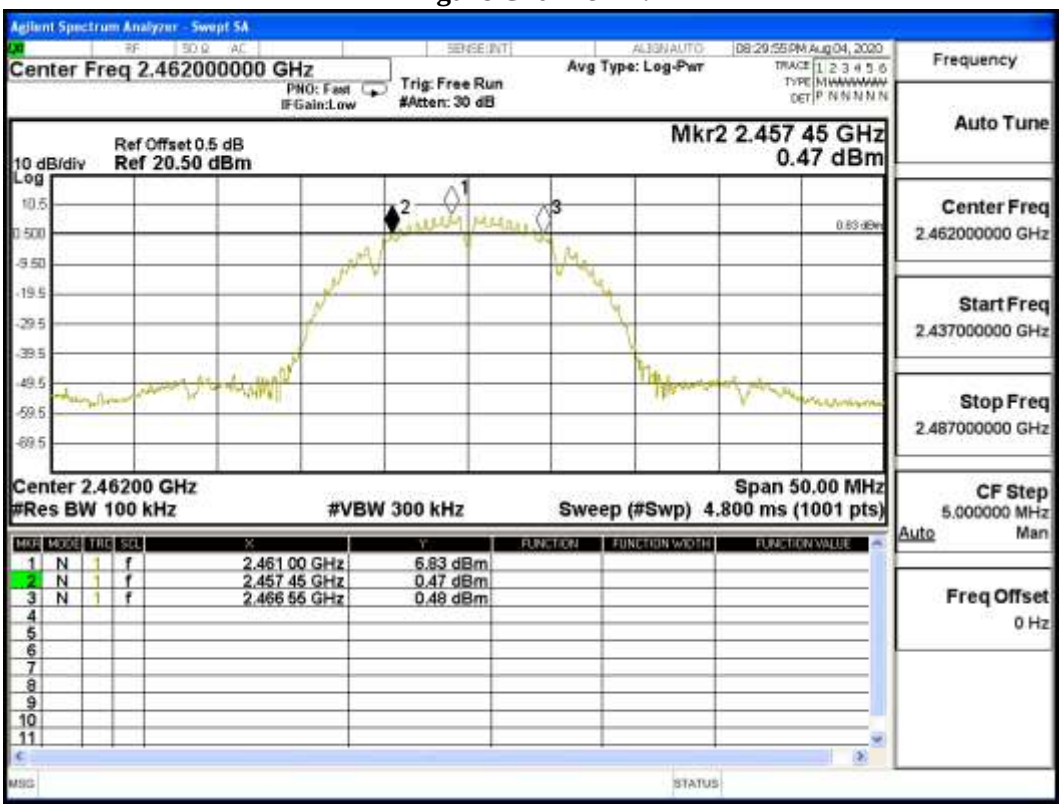


Figure Channel 11:



Product : Notebook
Test Item : 6dB Bandwidth Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	15200	>500	Pass
07	2442	15200	>500	Pass
11	2462	15200	>500	Pass

Figure Channel 01:

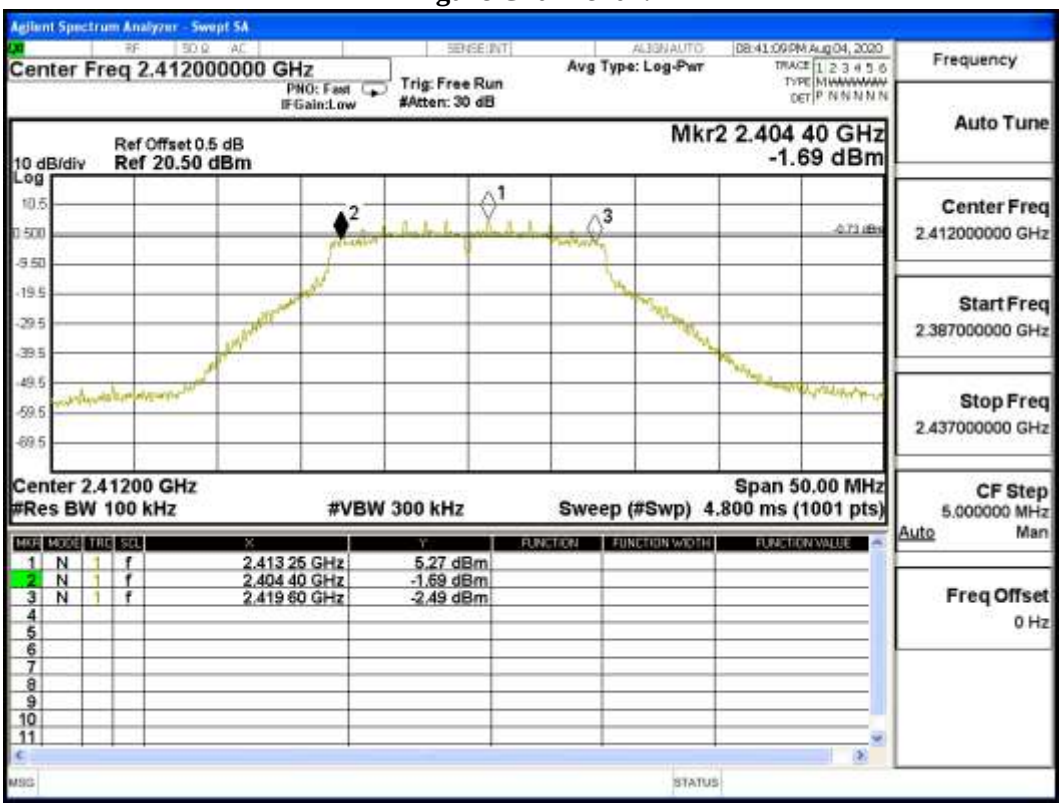


Figure Channel 07:

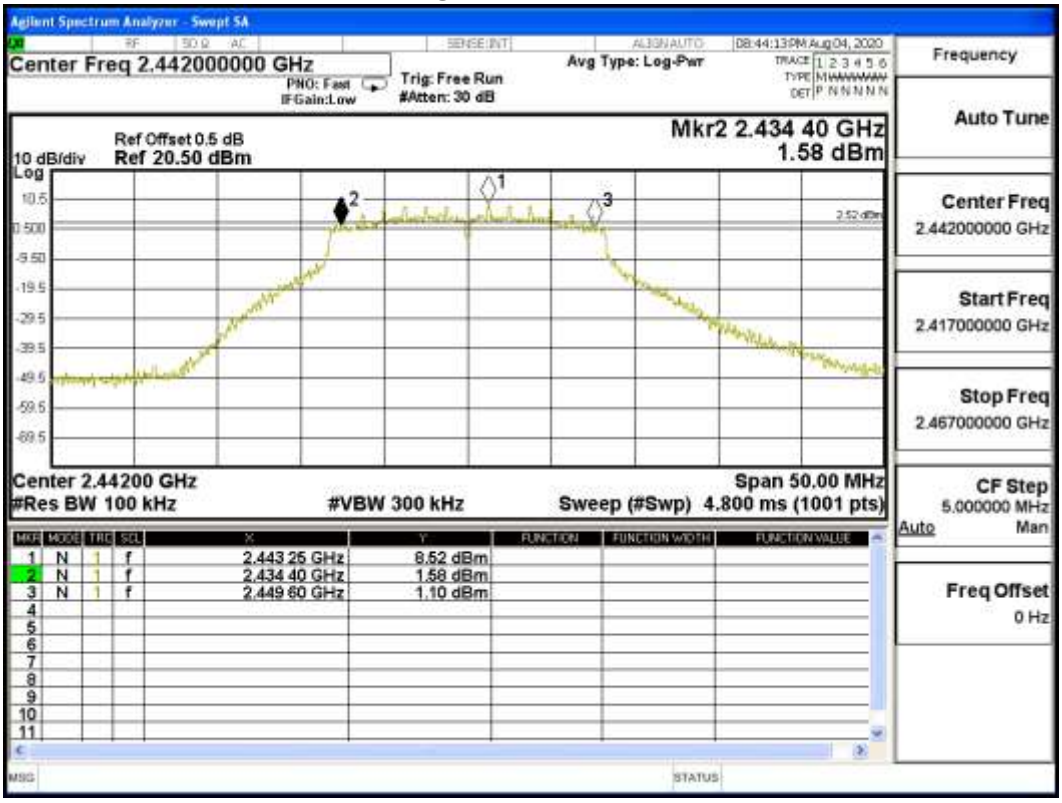
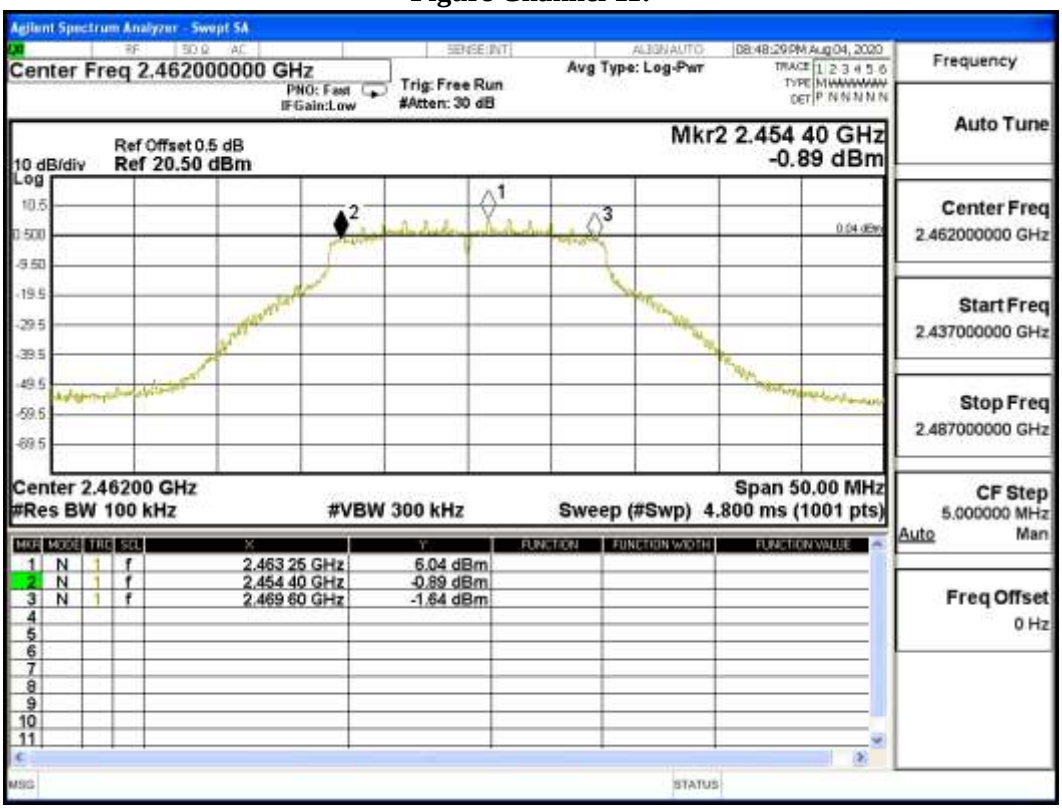


Figure Channel 11:



Product : Notebook
Test Item : 6dB Bandwidth Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	15150	>500	Pass
07	2442	17700	>500	Pass
11	2462	15200	>500	Pass

Figure Channel 01: (Chain A)

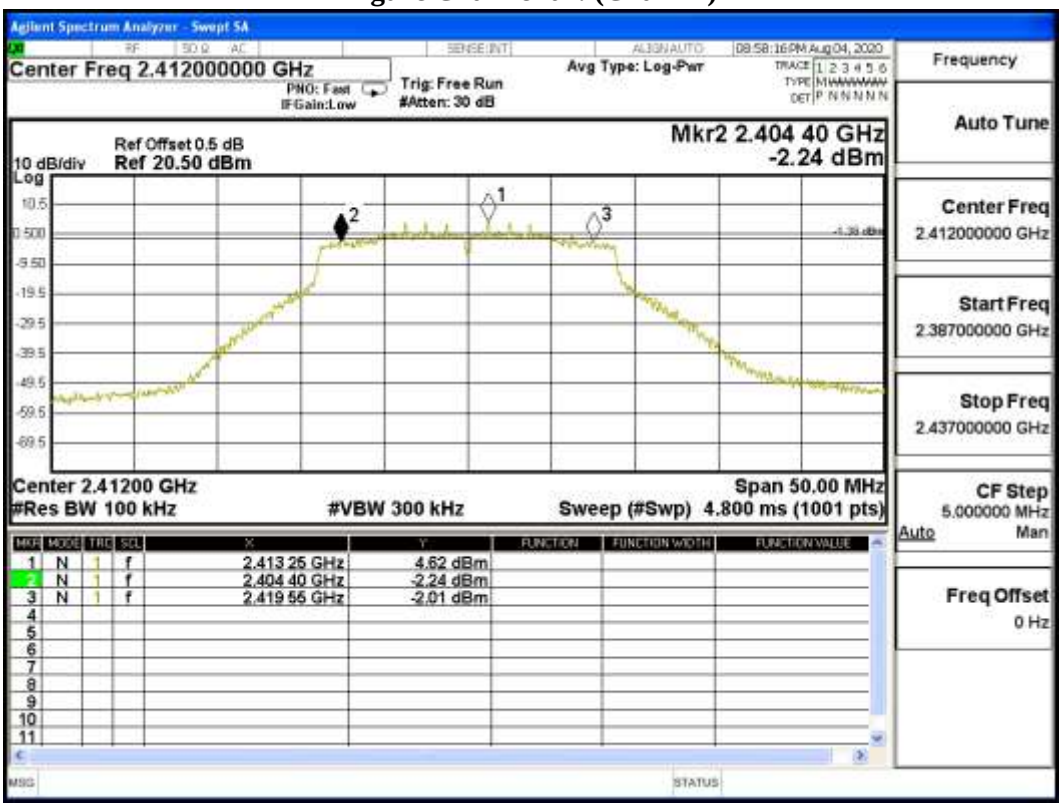


Figure Channel 07: (Chain A)

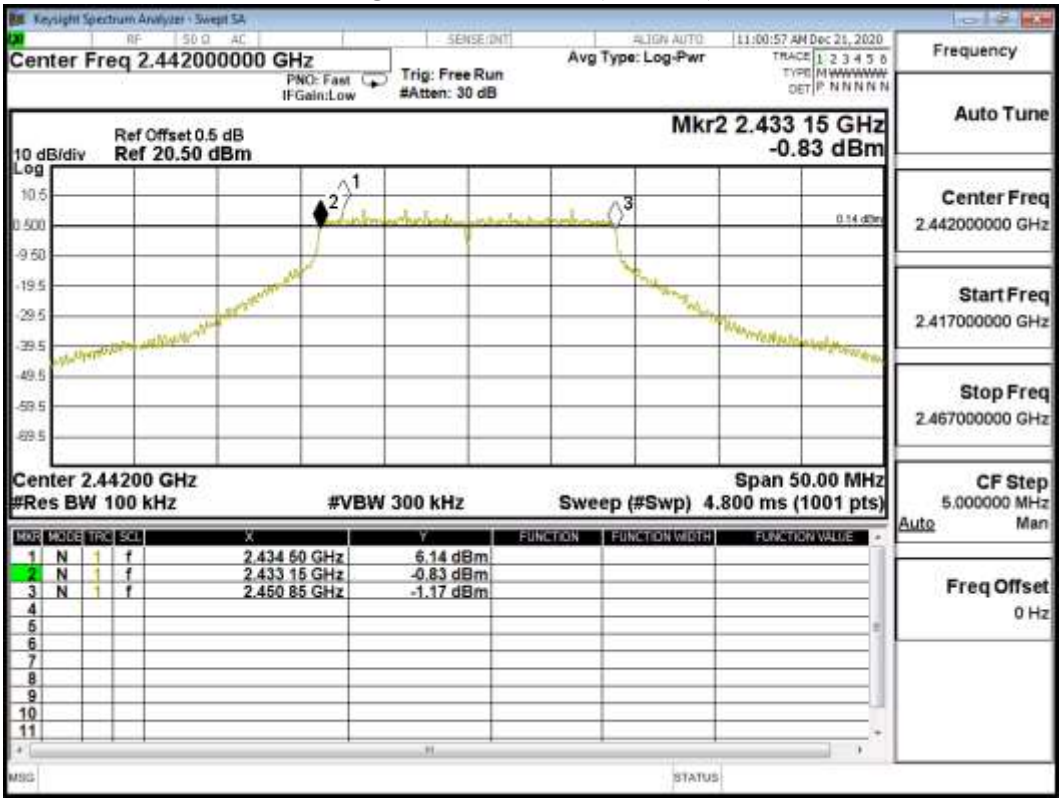
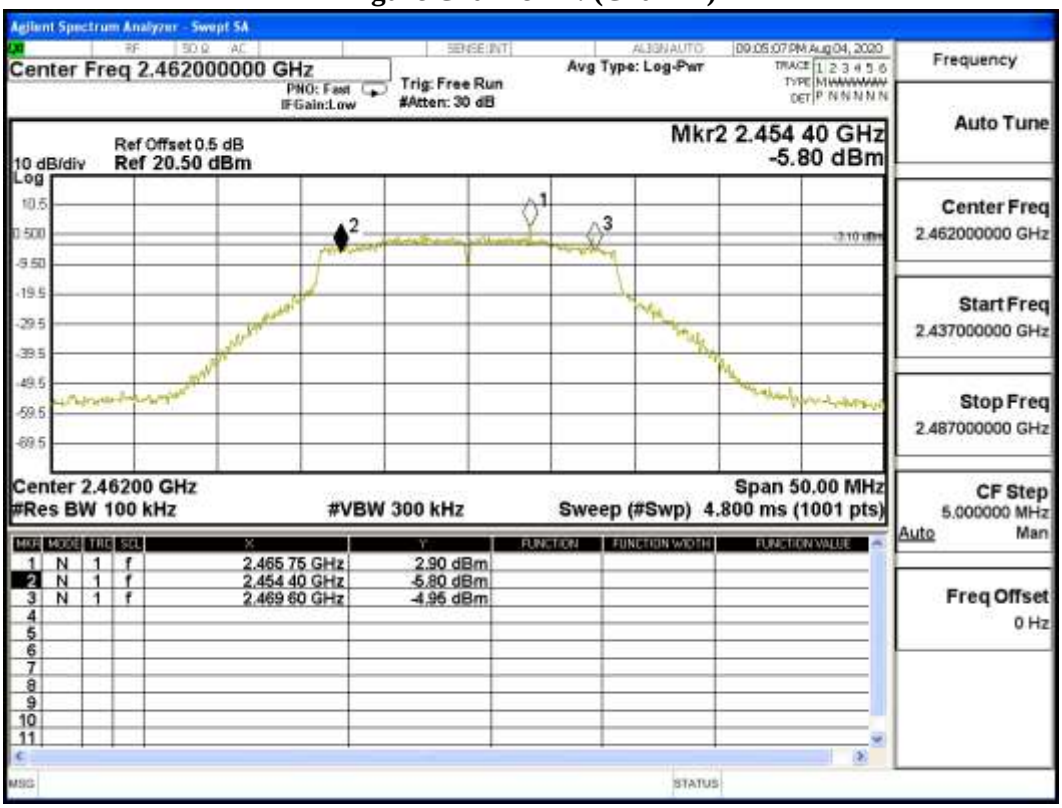


Figure Channel 11: (Chain A)



Product : Notebook
Test Item : 6dB Bandwidth Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	15550	>500	Pass
07	2442	17700	>500	Pass
11	2462	15200	>500	Pass

Figure Channel 01: (Chain B)

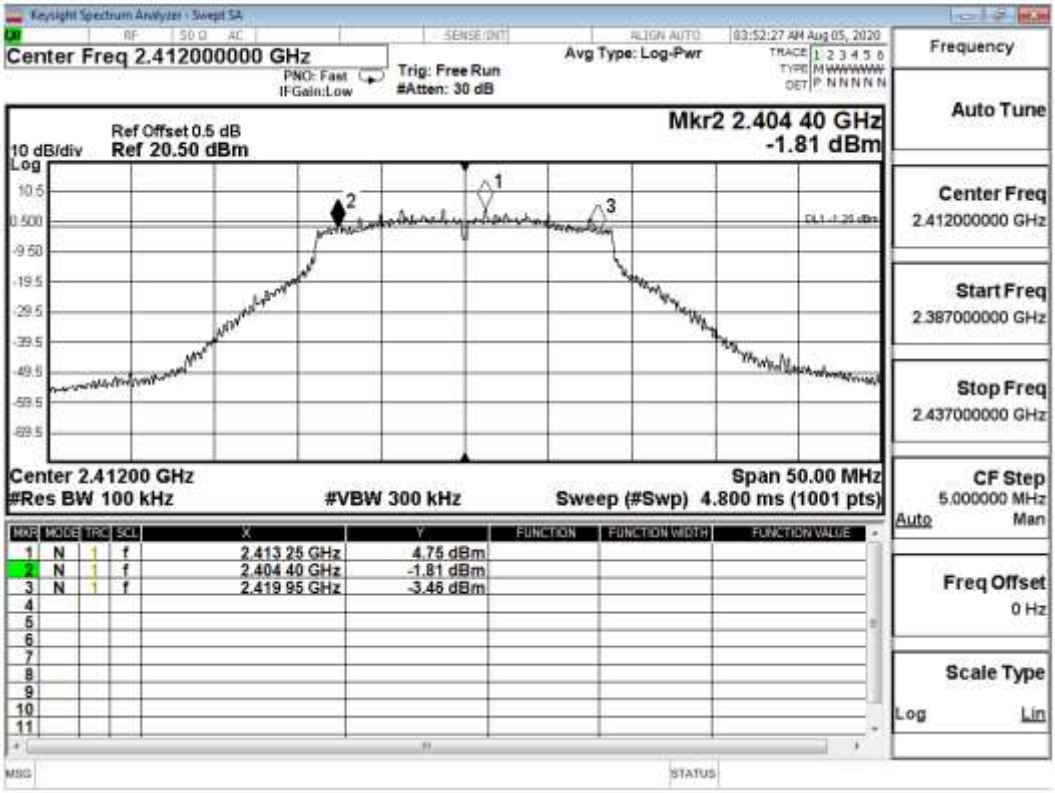


Figure Channel 07: (Chain B)

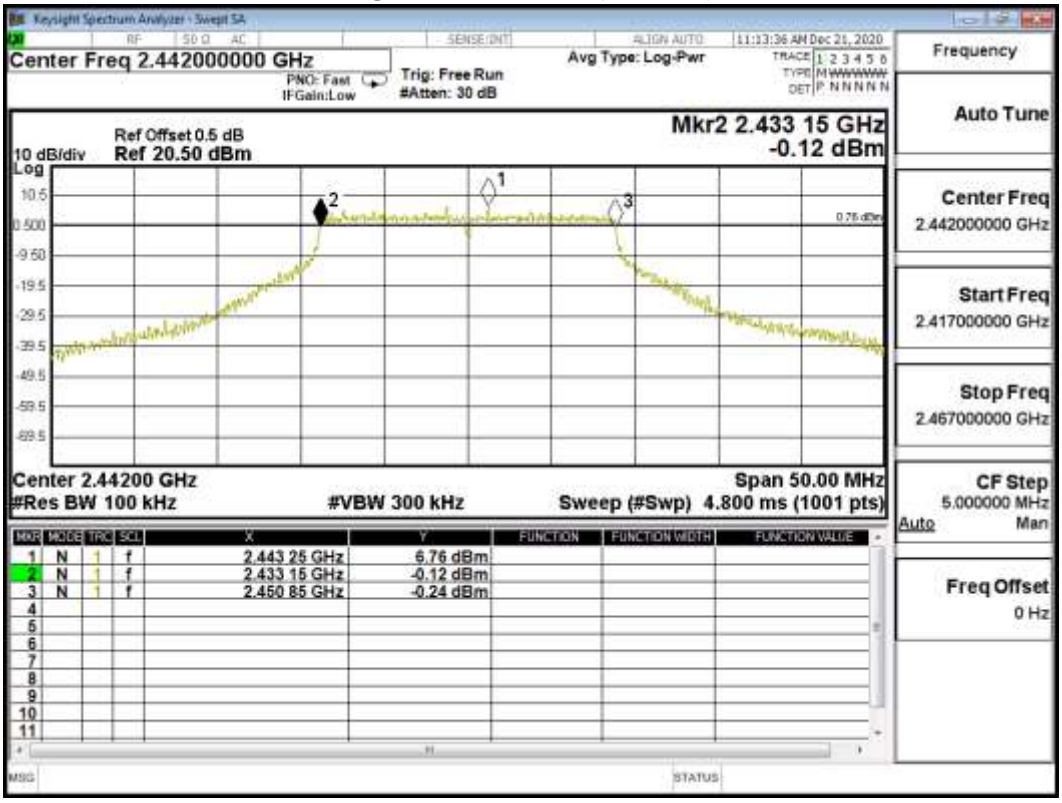
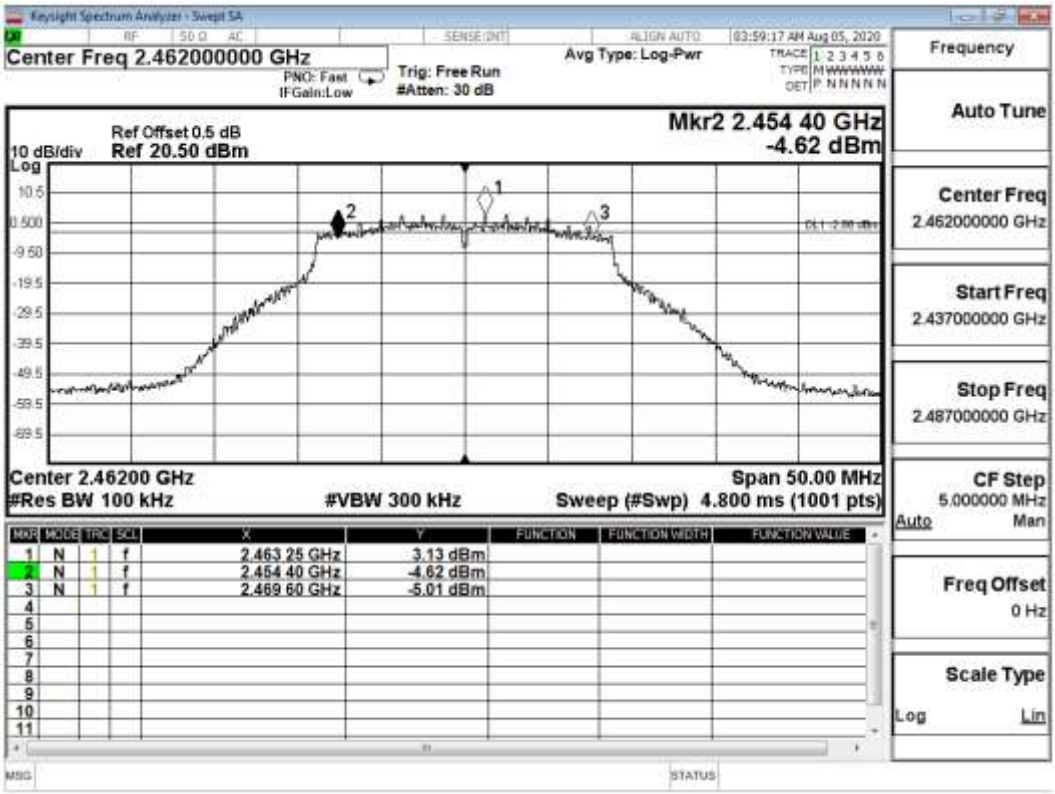


Figure Channel 11: (Chain B)



Product : Notebook
Test Item : 6dB Bandwidth Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	35200	>500	Pass
07	2442	35200	>500	Pass
09	2452	35200	>500	Pass

Figure Channel 03: (Chain A)

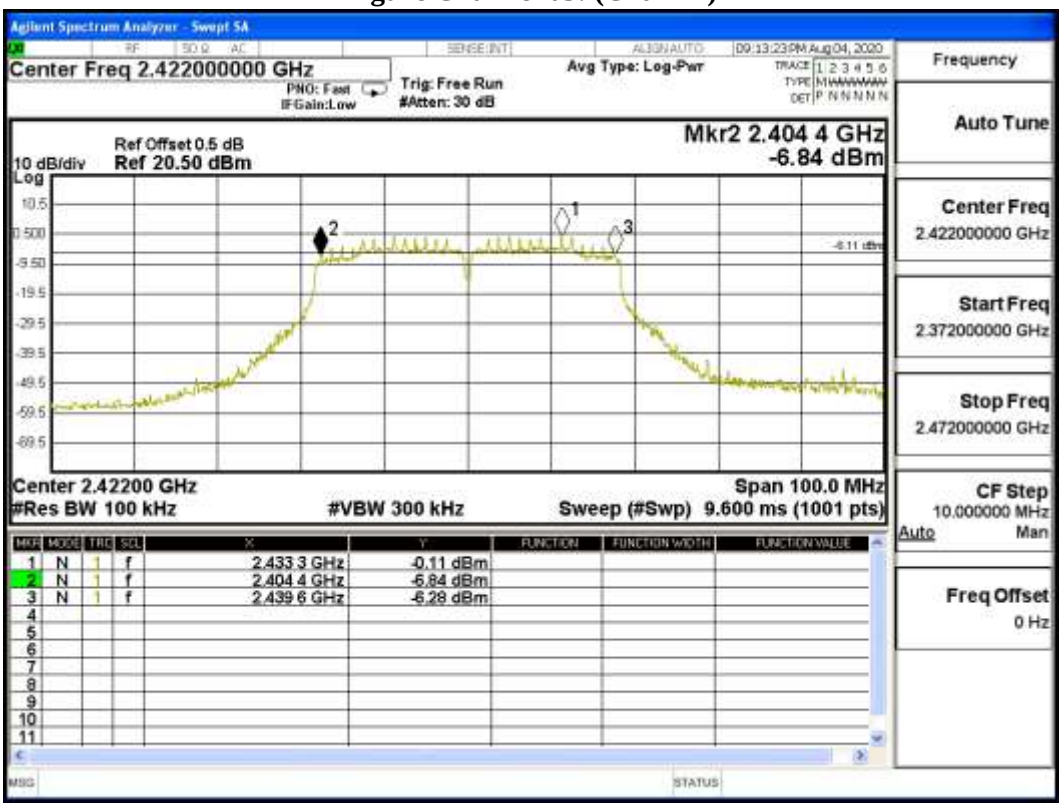


Figure Channel 07: (Chain A)

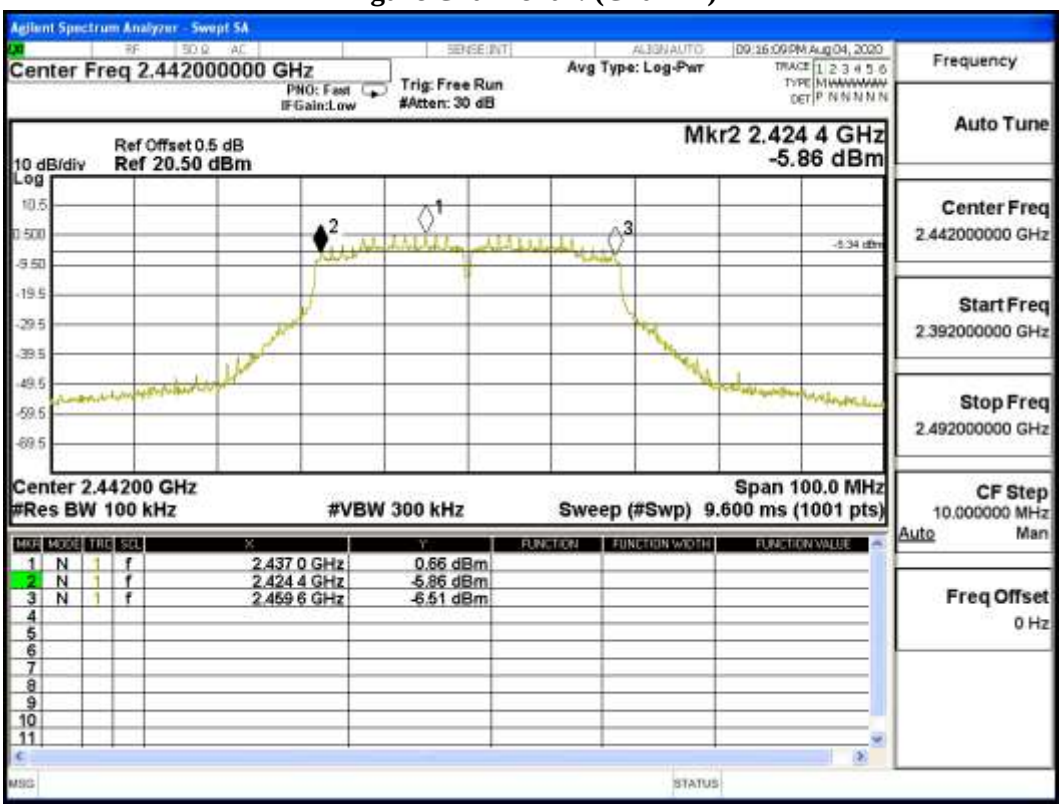
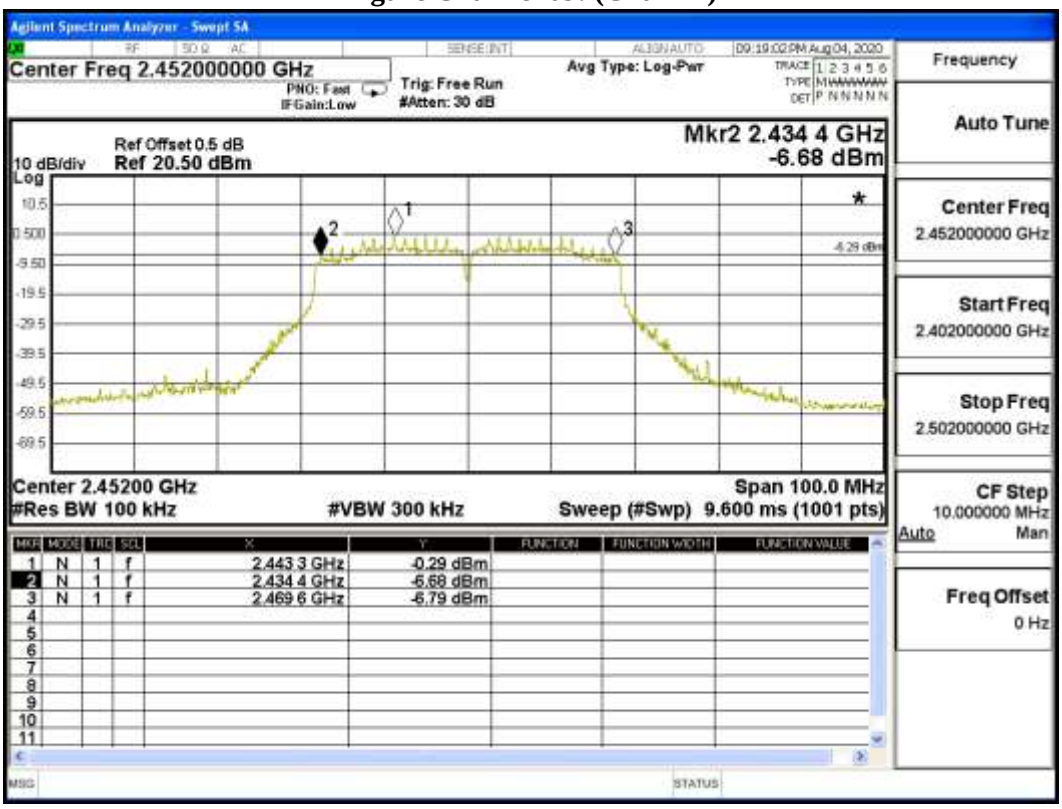


Figure Channel 09: (Chain A)



Product : Notebook
Test Item : 6dB Bandwidth Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	35200	>500	Pass
07	2442	35300	>500	Pass
09	2452	35300	>500	Pass

Figure Channel 03: (Chain B)

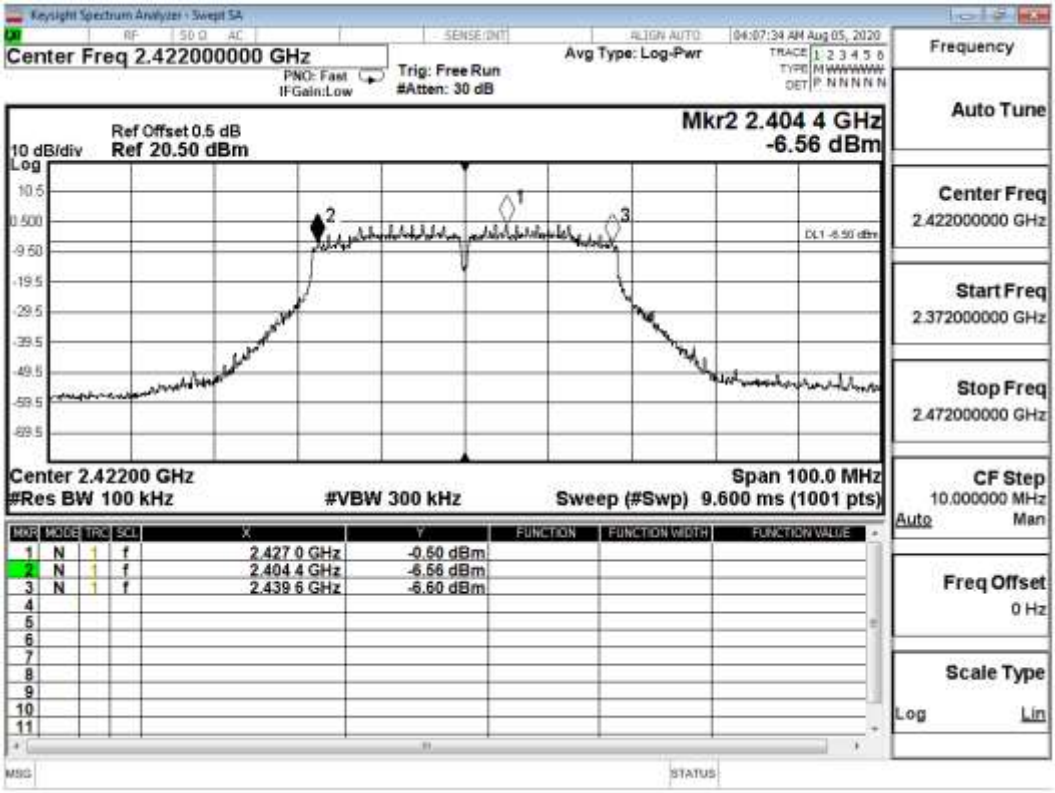


Figure Channel 07: (Chain B)

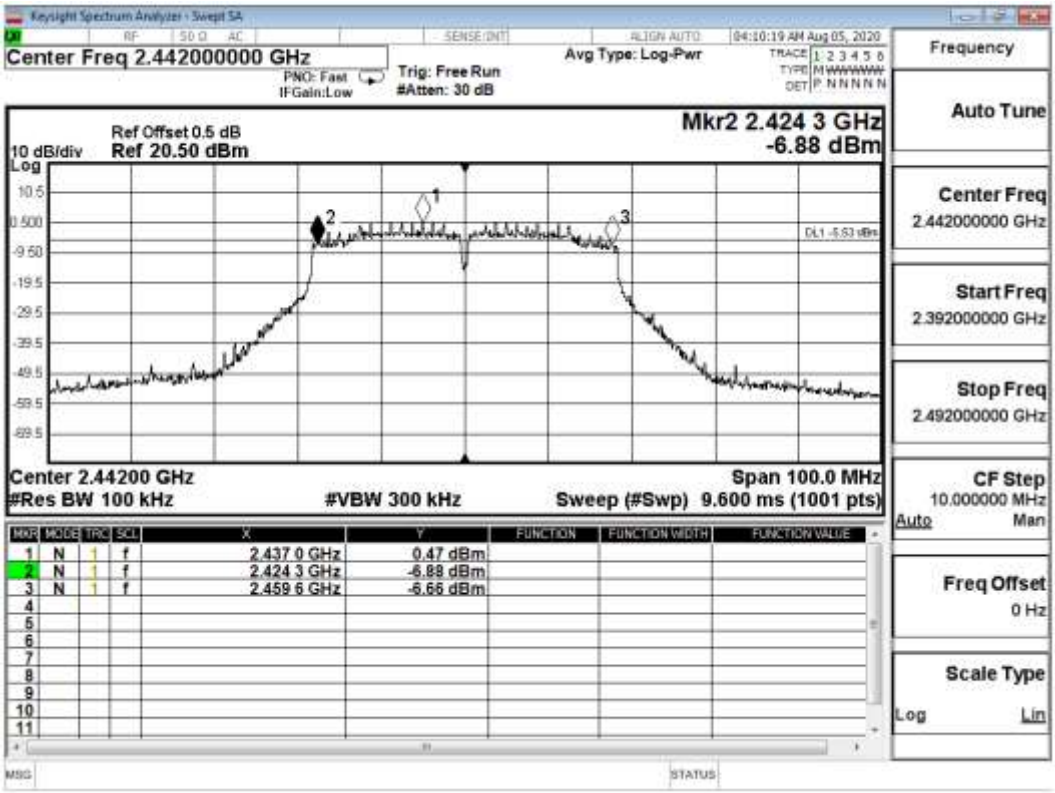
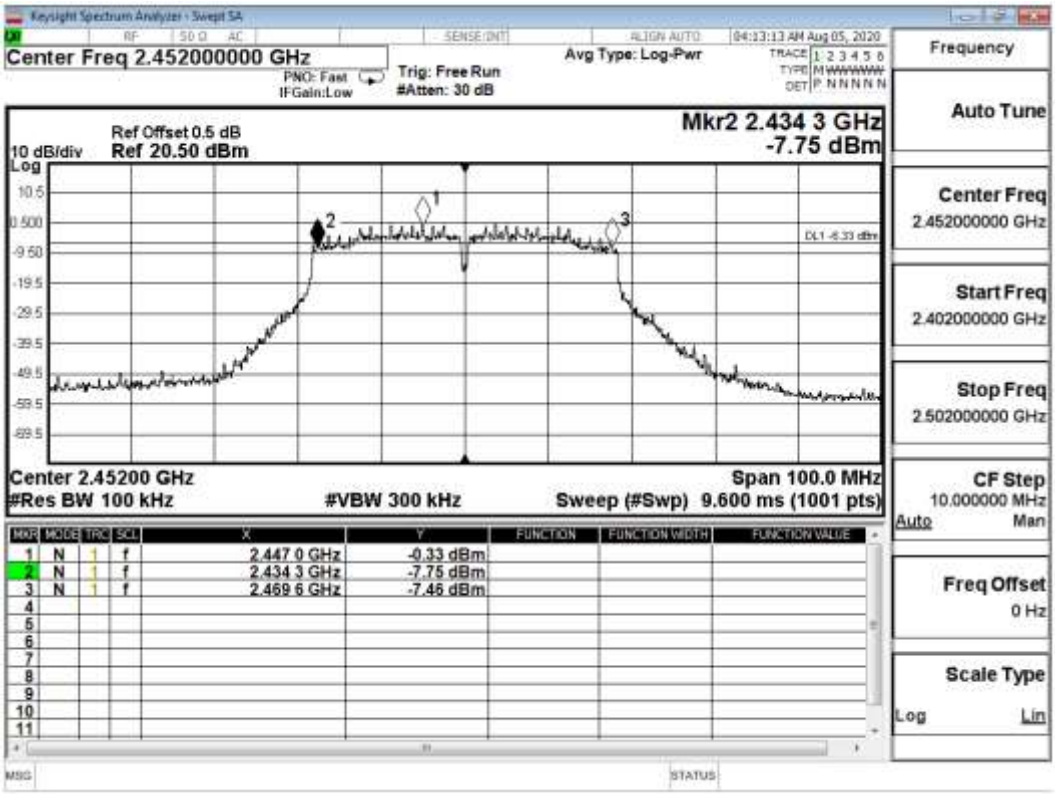
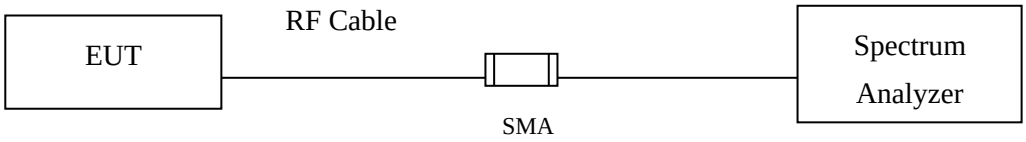


Figure Channel 09: (Chain B)



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
Test Item : Power Density Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	4.790	≦8dBm	Pass
7	2442	4.440	≦8dBm	Pass
11	2462	4.840	≦8dBm	Pass

Figure Channel 01:

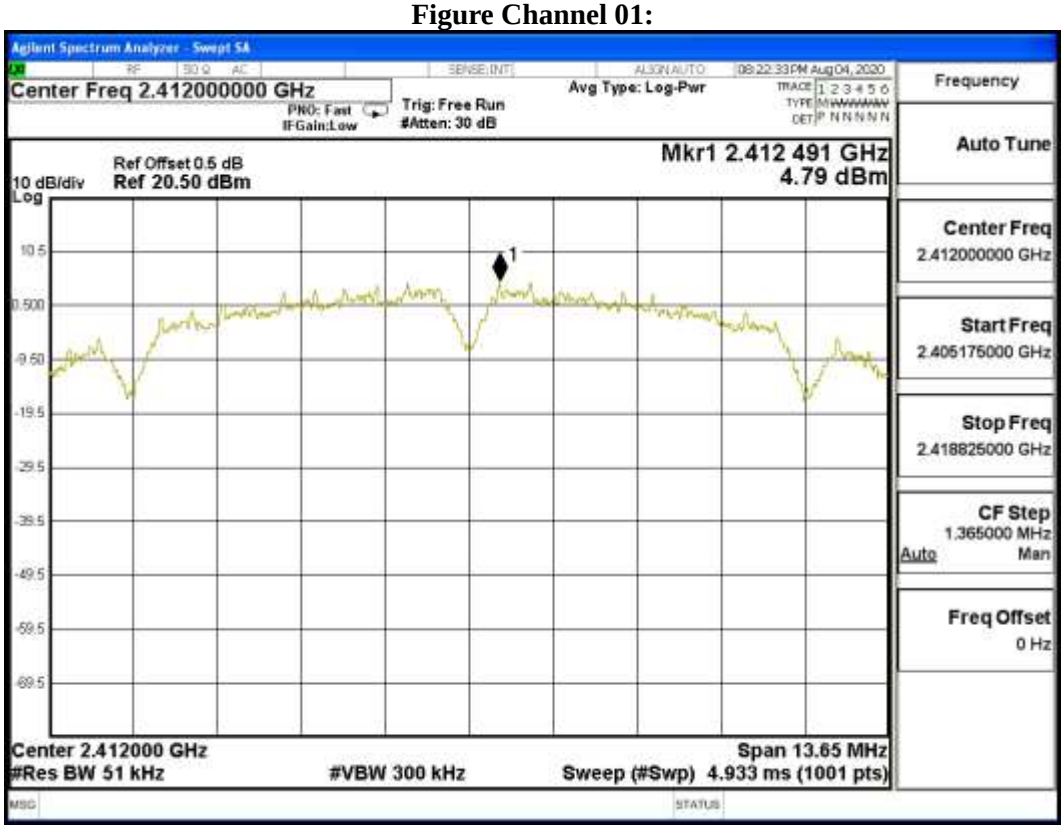


Figure Channel 07:

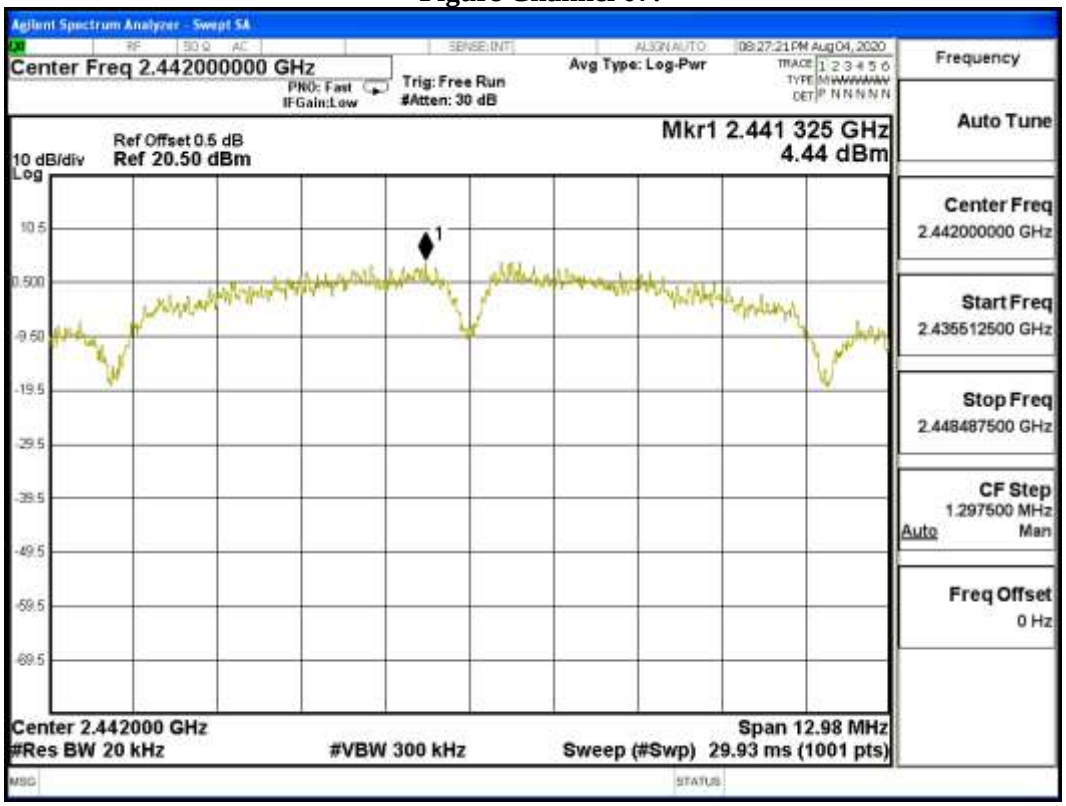


Figure Channel 11:

Product : Notebook
Test Item : Power Density Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	4.930	≦8dBm	Pass
7	2442	4.610	≦8dBm	Pass
11	2462	4.970	≦8dBm	Pass

Figure Channel 01:

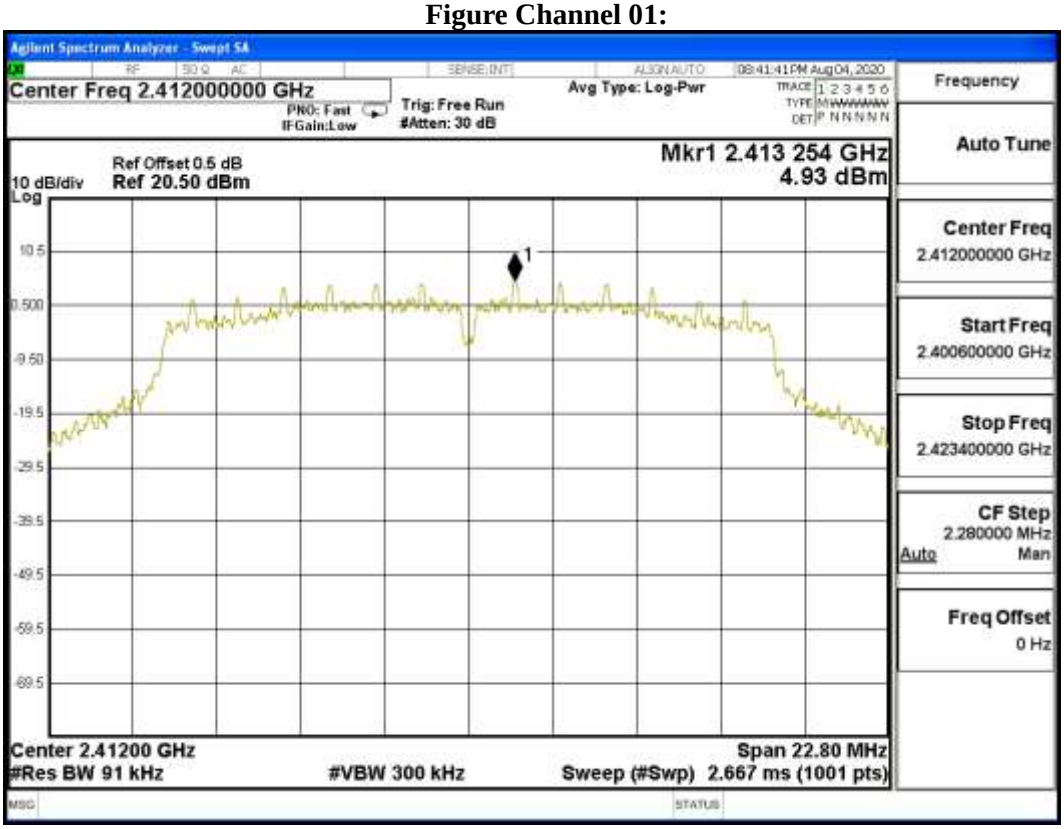


Figure Channel 07:

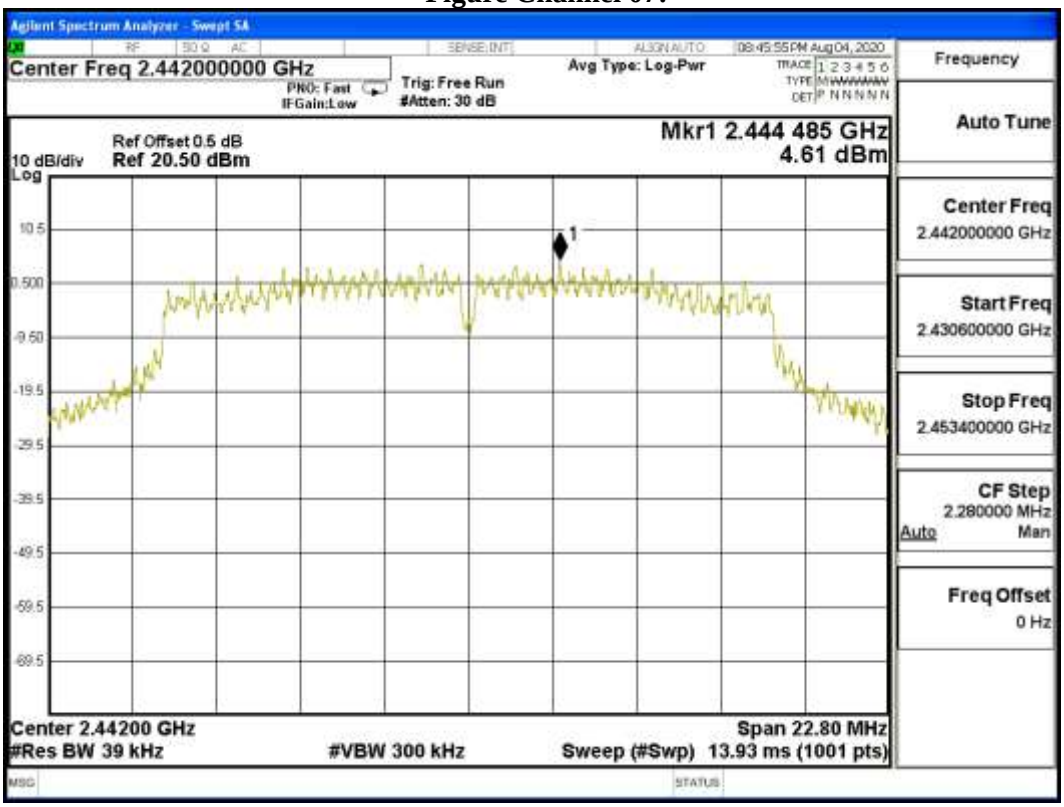
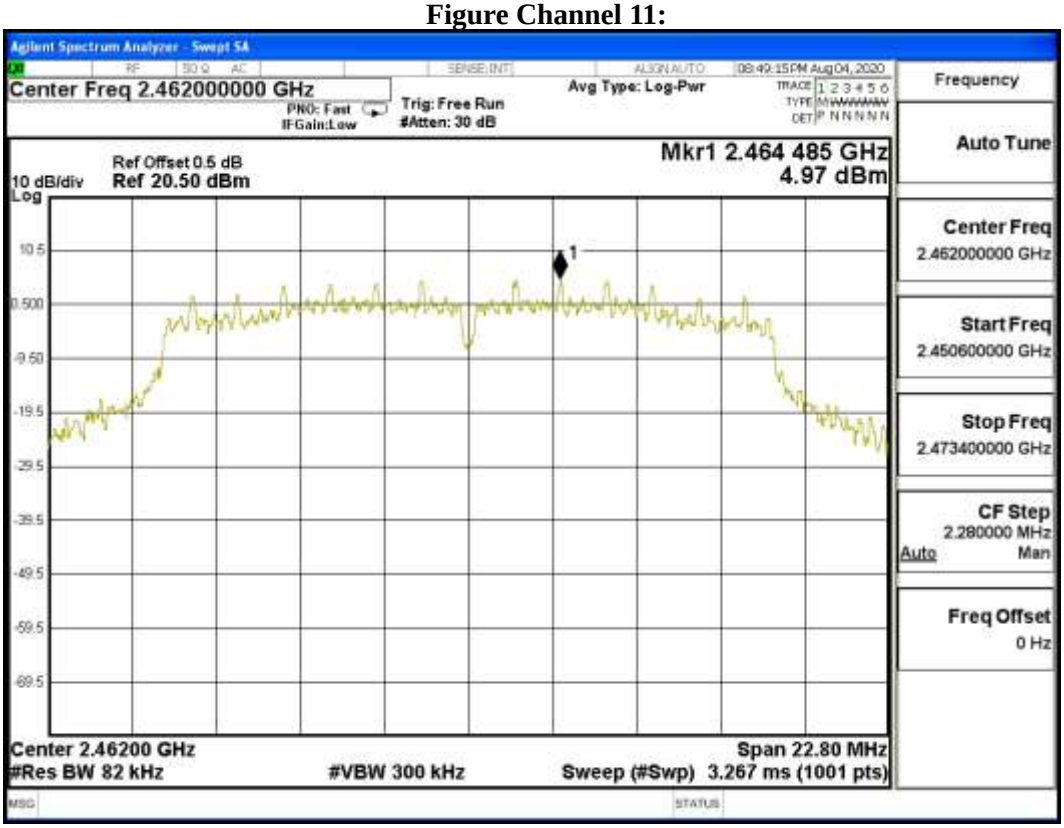


Figure Channel 11:



Product : Notebook
Test Item : Power Density Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)

Channel No.	Frequency (MHz)	Chain (dBm)	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412	A	4.400	7.410	≦8dBm	Pass
		B	4.750	7.760	≦8dBm	Pass
07	2442	A	4.680	7.690	≦8dBm	Pass
		B	4.100	7.110	≦8dBm	Pass
11	2462	A	3.450	6.460	≦8dBm	Pass
		B	3.130	6.140	≦8dBm	Pass

Note 1: The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 01: (Chain A)

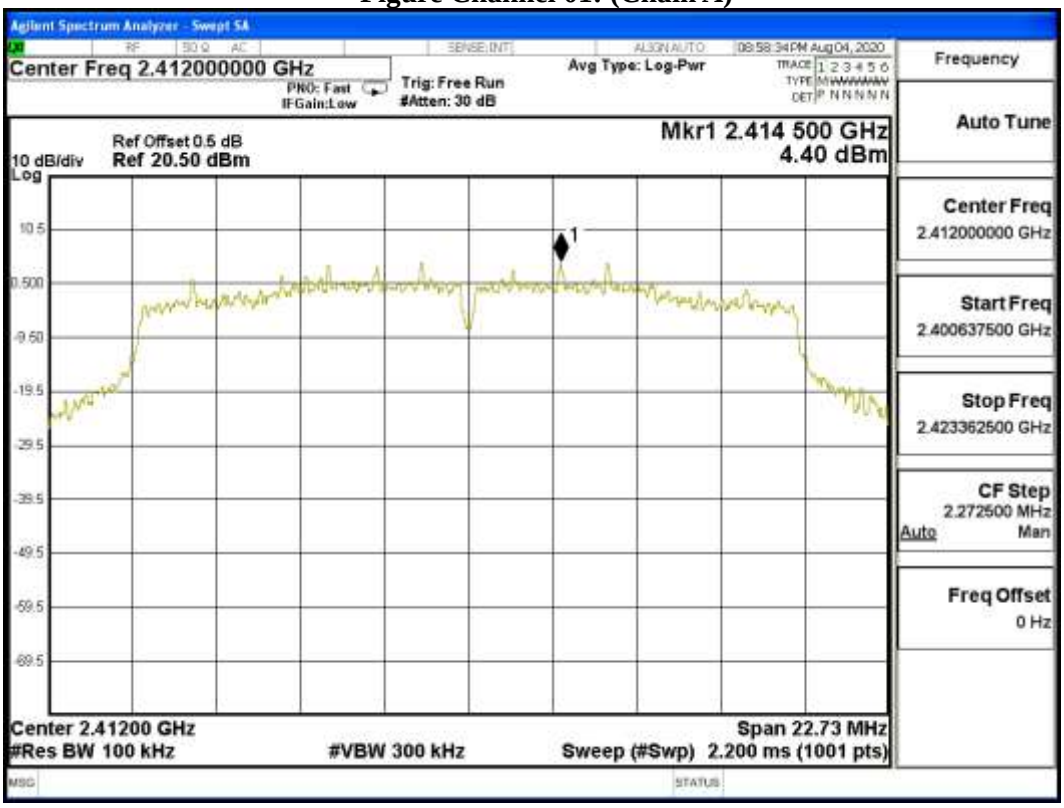


Figure Channel 01: (Chain B)

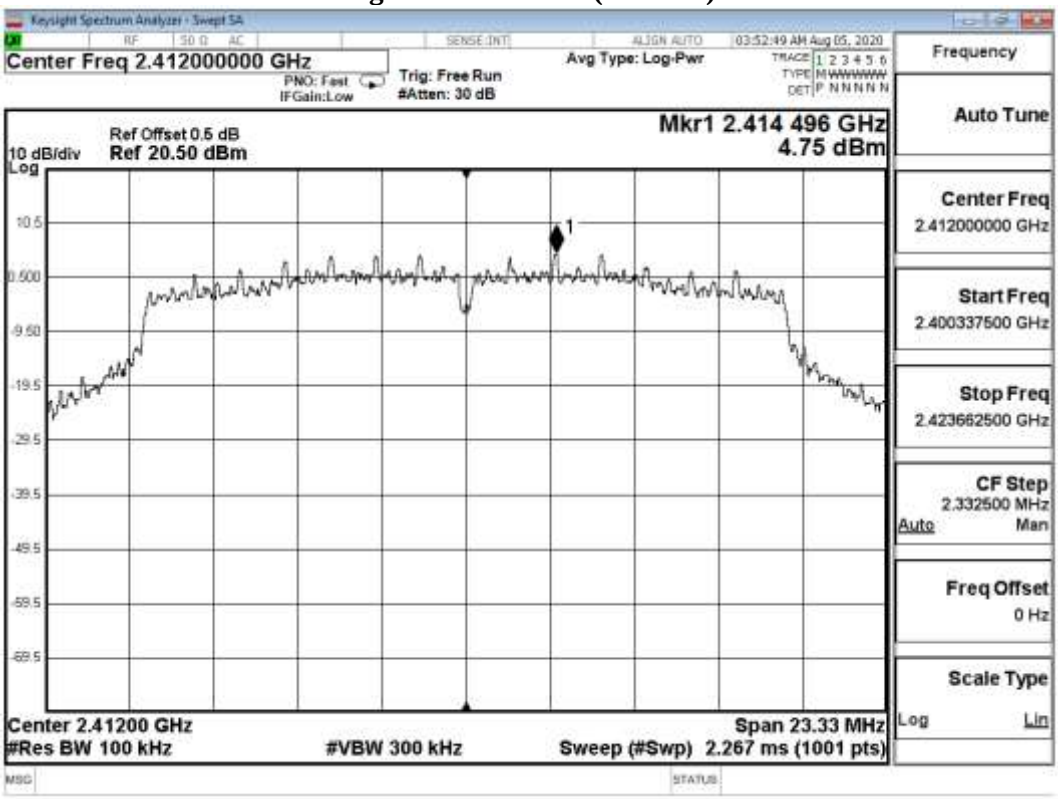


Figure Channel 07: (Chain A)

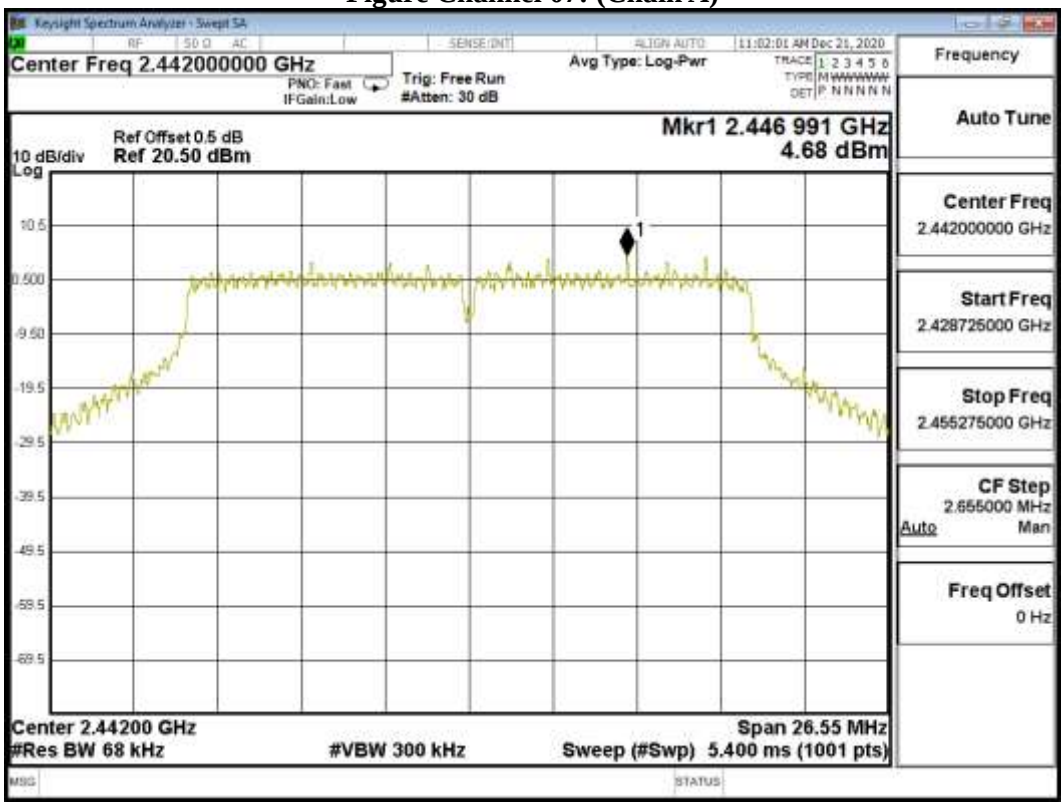


Figure Channel 07: (Chain B)

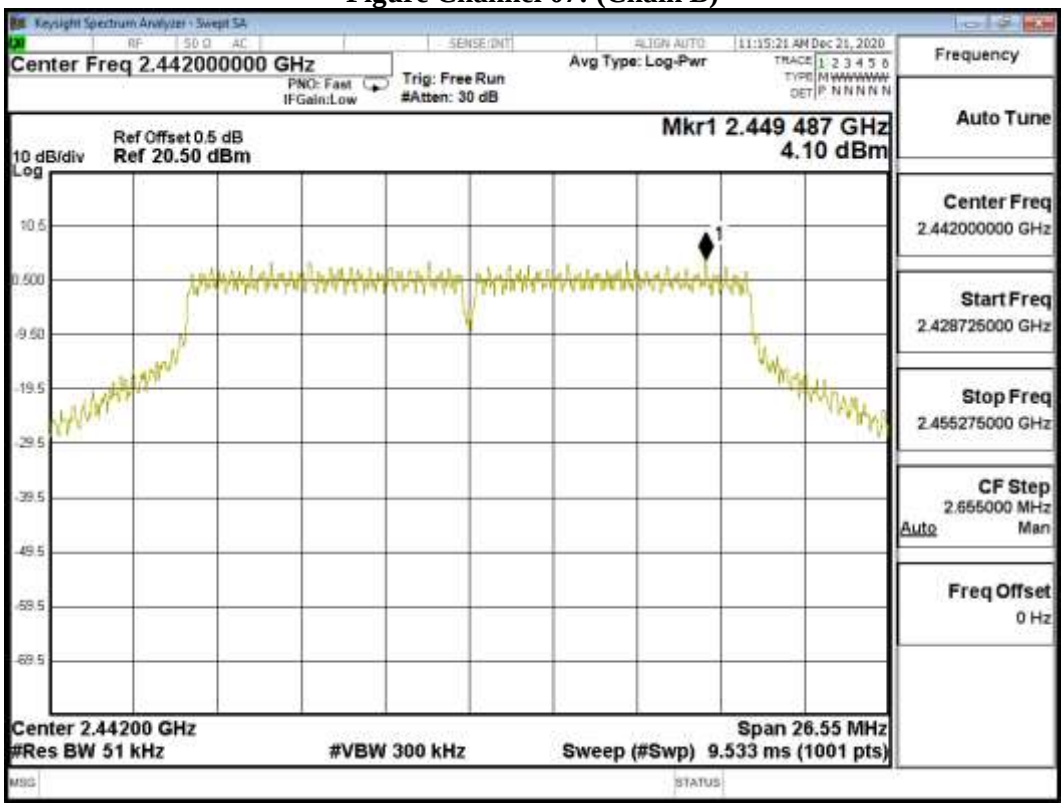


Figure Channel 11: (Chain A)

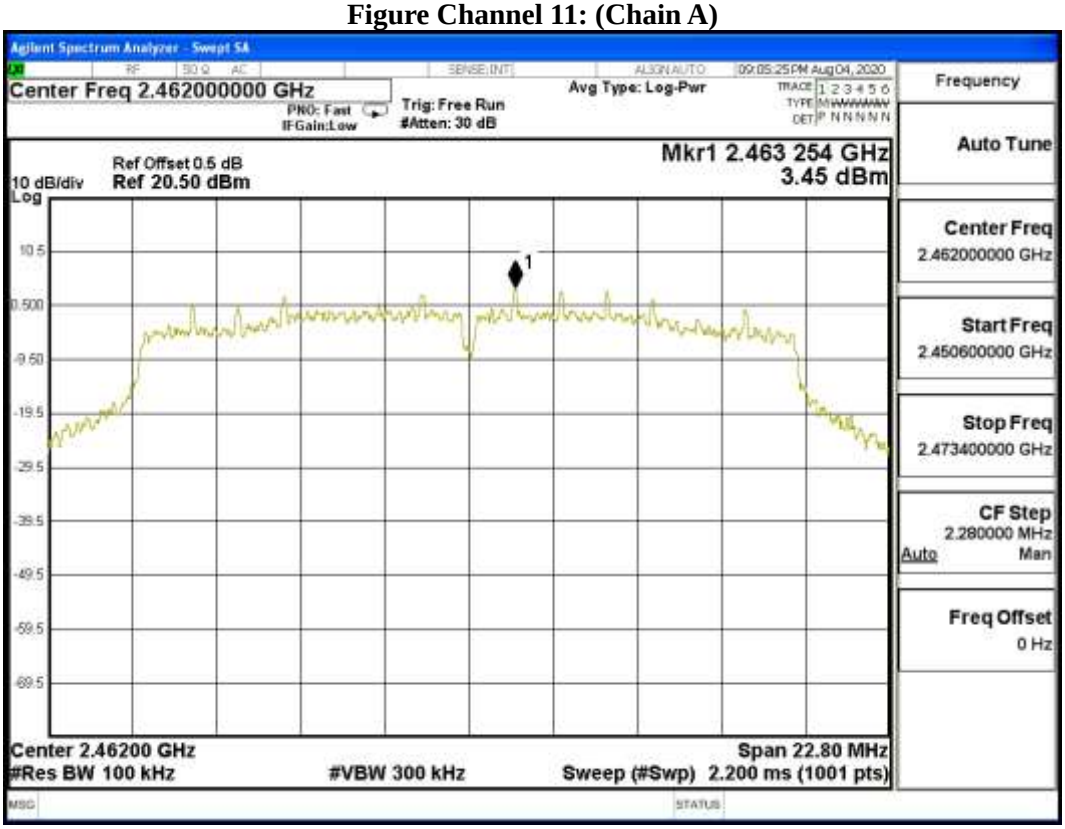
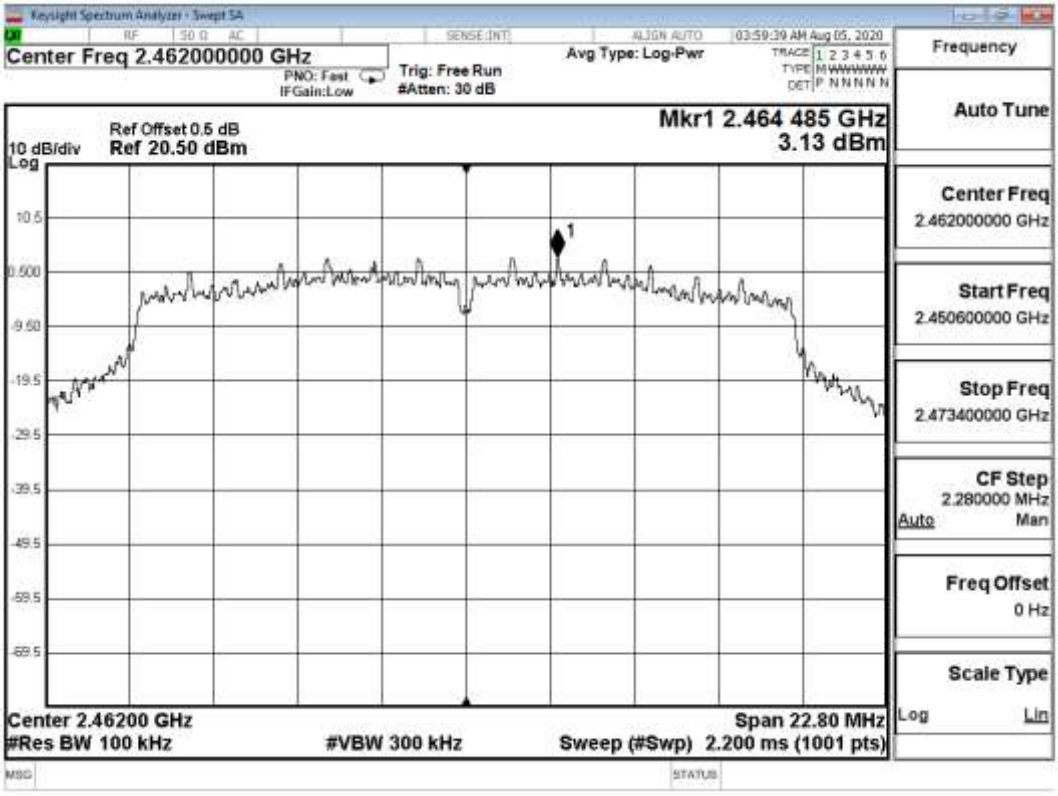


Figure Channel 11: (Chain B)



Product : Notebook
Test Item : Power Density Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)

Channel No.	Frequency (MHz)	Chain (dBm)	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
03	2422	A	-0.150	2.860	≦8dBm	Pass
		B	-0.460	2.550	≦8dBm	Pass
07	2442	A	0.670	3.680	≦8dBm	Pass
		B	0.580	3.590	≦8dBm	Pass
09	2452	A	-0.250	2.760	≦8dBm	Pass
		B	-0.330	2.680	≦8dBm	Pass

Note 1: The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 03: (Chain A)

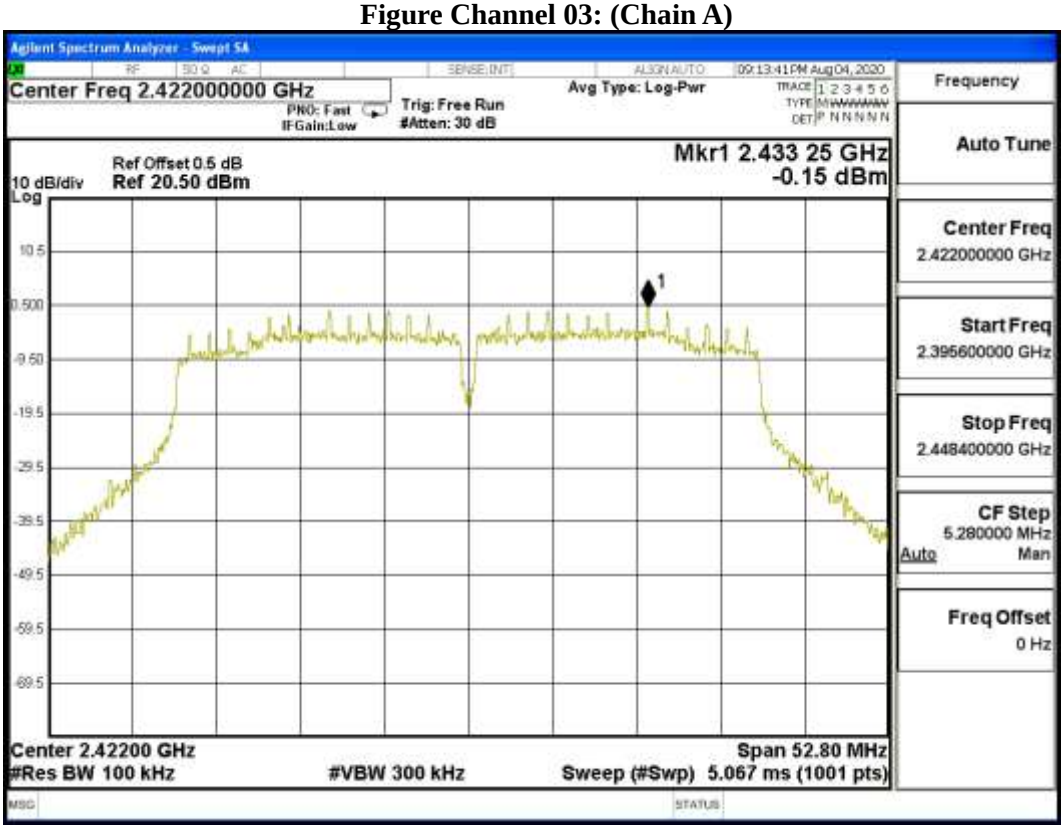


Figure Channel 03: (Chain B)

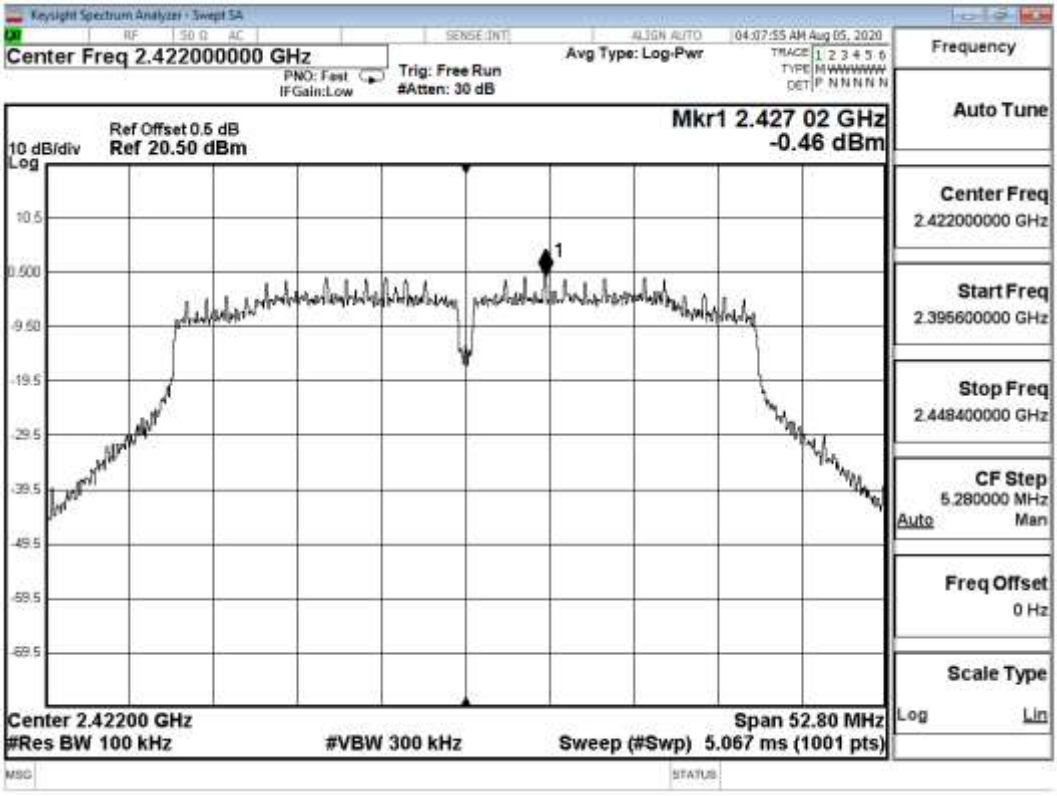


Figure Channel 07: (Chain A)

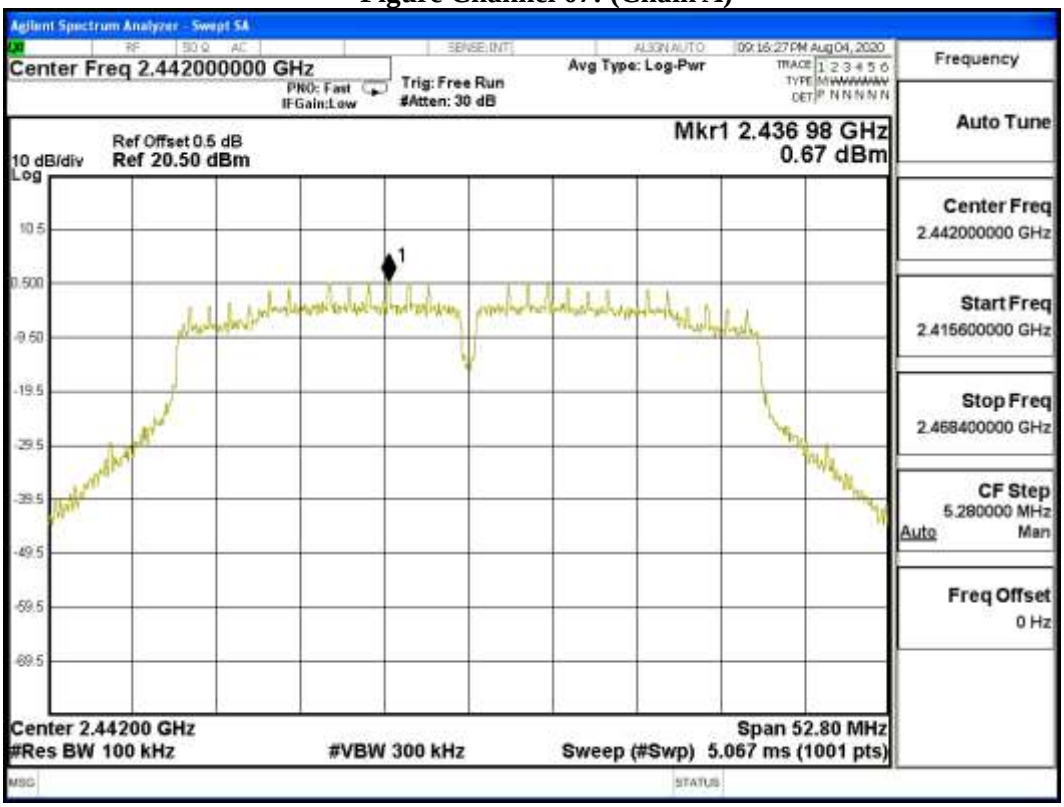


Figure Channel 07: (Chain B)

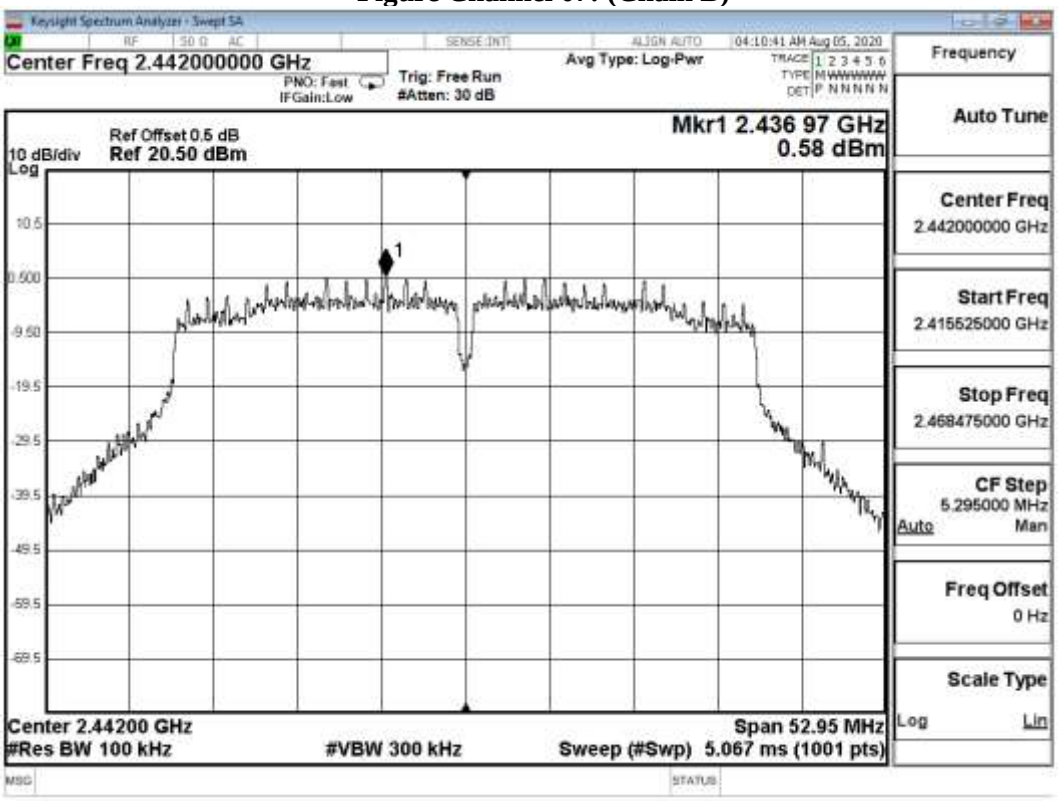


Figure Channel 09: (Chain A)

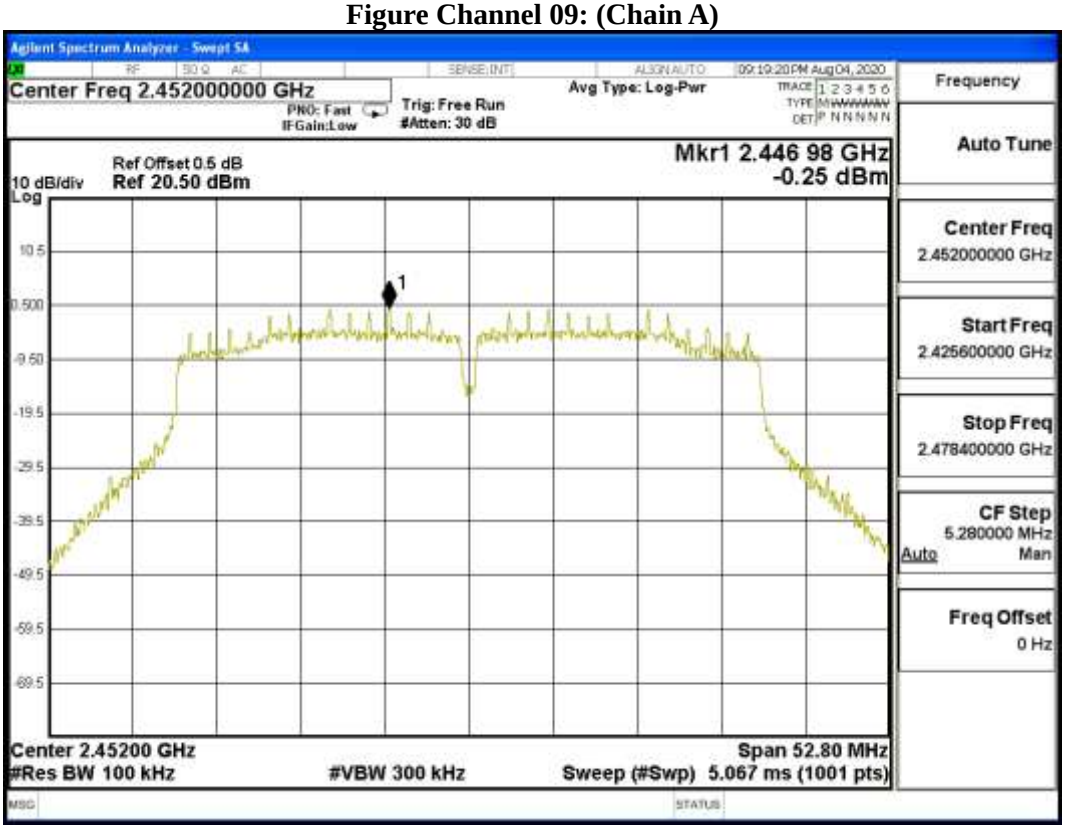
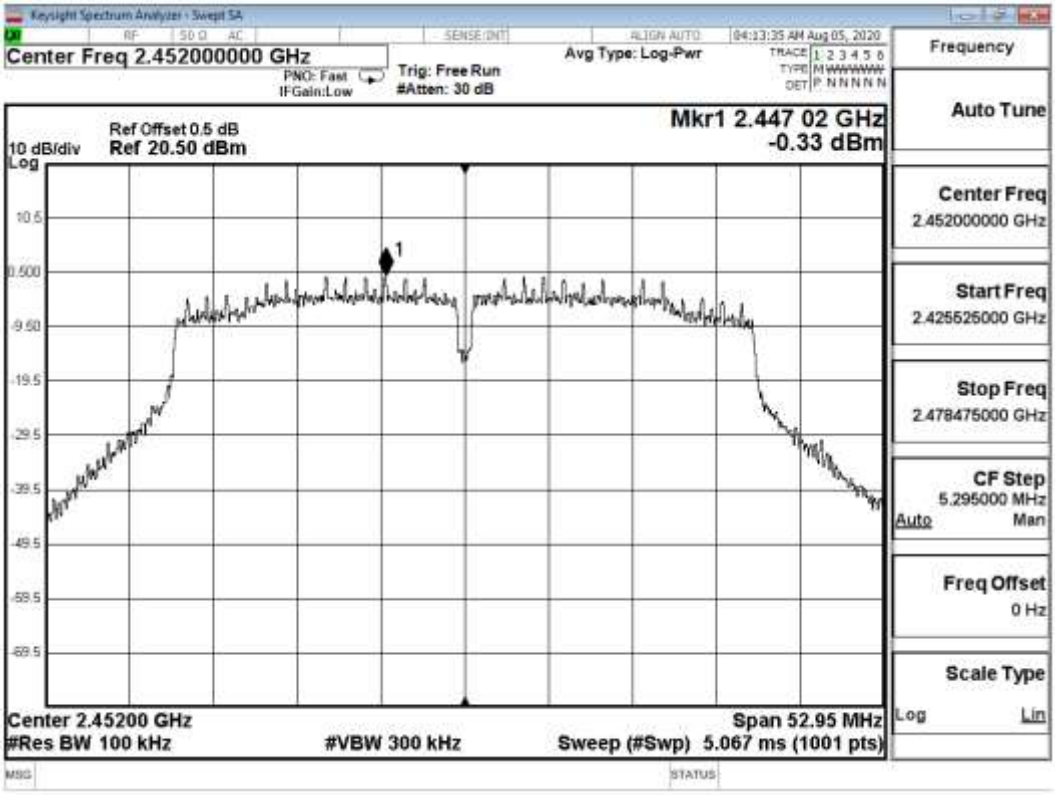
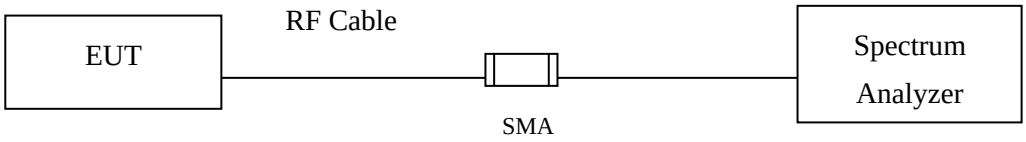


Figure Channel 09: (Chain B)



9. Duty Cycle

9.1. Test Setup



9.2. Test Procedure

The EUT was setup according to ANSI C63.10 2013; tested according to ANSI C63.10 2013 for compliance to FCC 47CFR 15.247 requirements.

9.3. Test Result of Duty Cycle

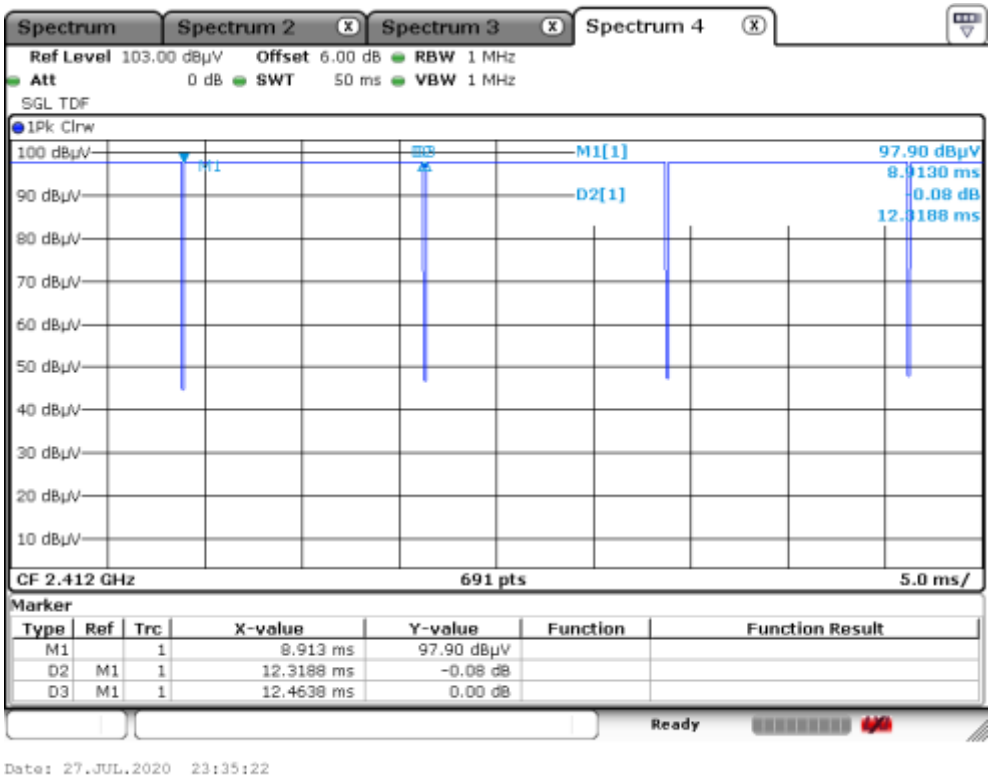
Product : Notebook
Test Item : Duty Cycle
Test Mode : Transmit

Duty Cycle Formula:
Duty Cycle = Ton / (Ton + Toff)
Duty Factor = 10 Log (1/Duty Cycle)

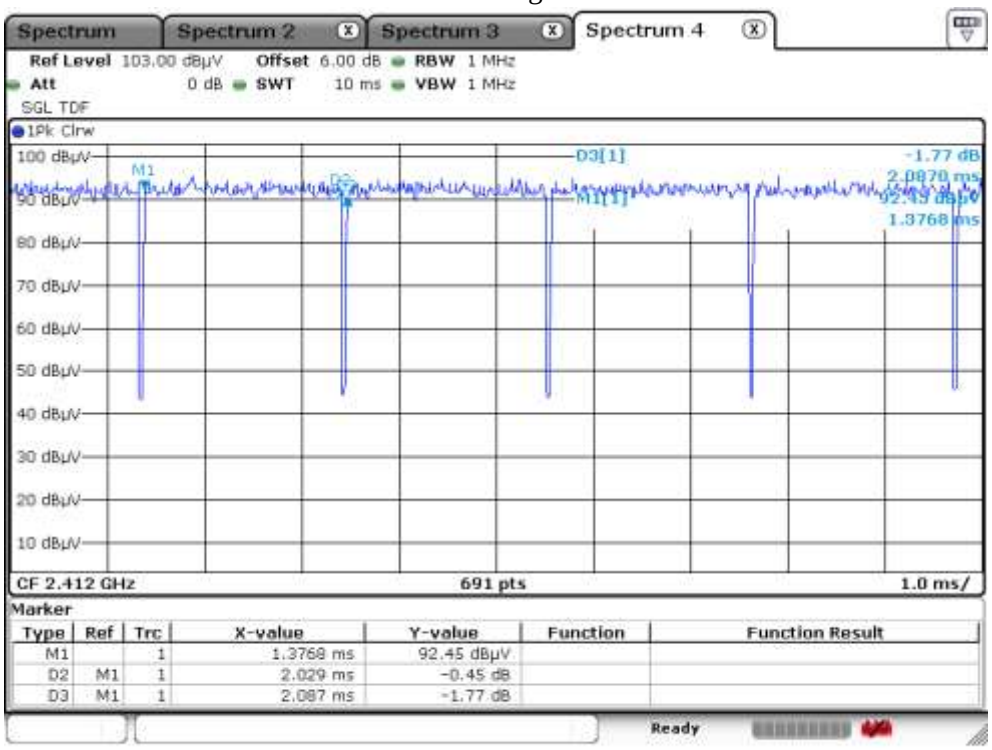
Results:

2.4GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11 b	12.3188	12.4638	98.84	0.05
802.11 g	2.0290	2.0870	97.22	0.12
802.11 n20	18.5217	18.7391	98.84	0.05
802.11 n40	8.9130	9.0580	98.40	0.07

802.11b

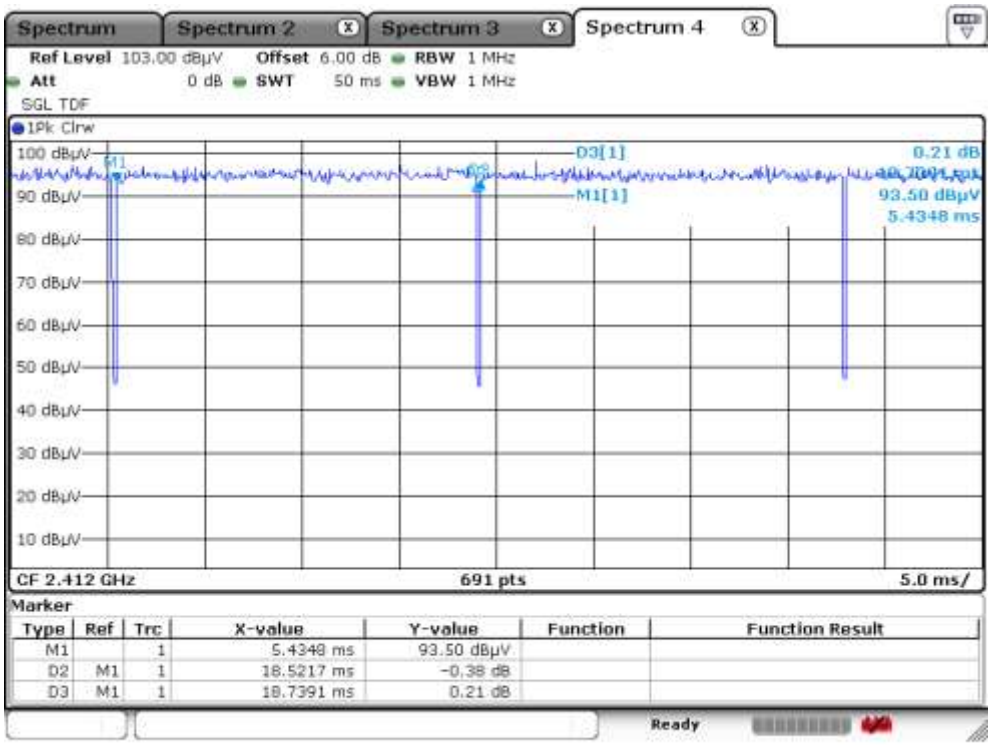


802.11g



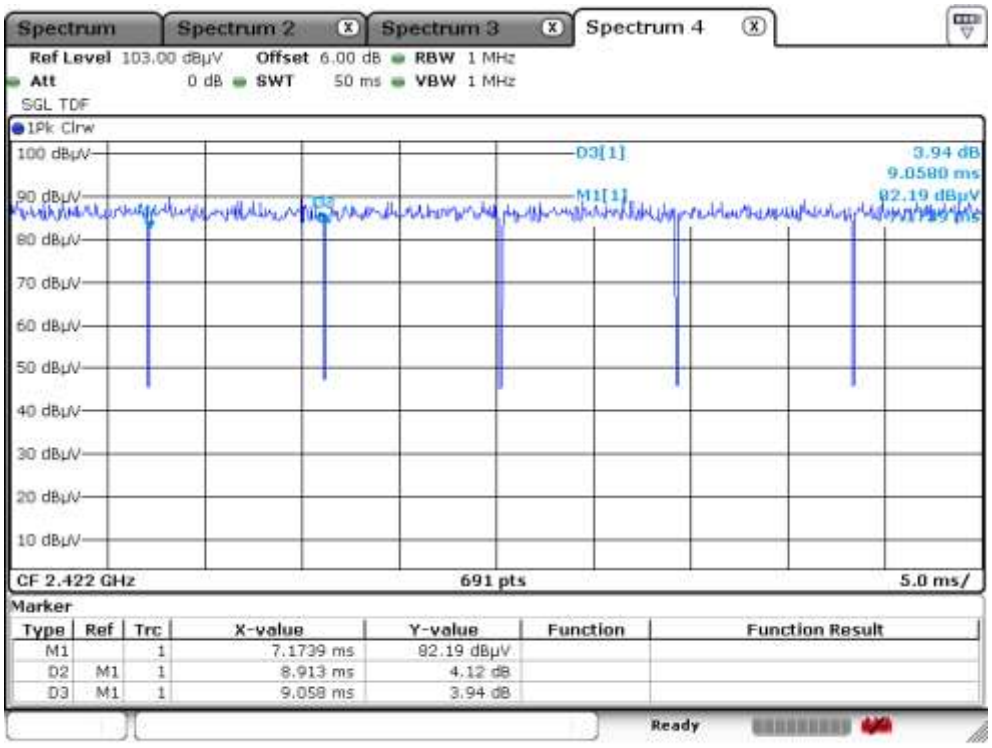
Date: 27.JUL.2020 23:59:53

802.11n20



Date: 28.JUL.2020 00:02:38

802.11n40


Spectrum
Spectrum 2
Spectrum 3
Spectrum 4
Ref Level 103.00 dBµV Offset 6.00 dB RBW 1 MHz
Att 0 dB SWT 50 ms VBW 1 MHz
SGL TDF
1Pk Clrw
100 dBµV
90 dBµV
80 dBµV
70 dBµV
60 dBµV
50 dBµV
40 dBµV
30 dBµV
20 dBµV
10 dBµV
D3[1] 3.94 dB
9.0580 ms
M1[1] 82.19 dBµV
CF 2.422 GHz
691 pts
5.0 ms/
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 7.1739 ms 82.19 dBµV
D2 M1 1 8.913 ms 4.12 dB
D3 M1 1 9.058 ms 3.94 dB
Ready
Date: 28.JUL.2020 00:05:50

10. EMI Reduction Method During Compliance Testing

No modification was made during testing.