

FCC Test Report

Product Name	Wireless module
Model No	WAPC003
FCC ID.	SLE-WAPC003

Applicant	Moxa Inc.
Address	No. 1111, Heping Rd., Bade Dist., Taoyuan City 334004, Taiwan

Date of Receipt	Jan. 18, 2021
Issue Date	Mar. 08, 2021
Report No.	2110552R-E3032110118
Report Version	V1.0



The test results relate only to the samples tested.

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

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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

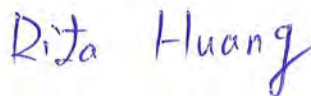
Issue Date: Mar. 08, 2021

Report No.: 2110552R-E3032110118



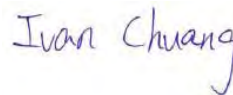
Product Name	Wireless module
Applicant	Moxa Inc.
Address	No. 1111, Heping Rd., Bade Dist., Taoyuan City 334004, Taiwan
Manufacturer	Moxa Inc.
Model No.	WAPC003
FCC ID.	SLE-WAPC003
EUT Rated Voltage	DC 3.3V
EUT Test Voltage	AC 120V/60Hz
Trade Name	MOXA
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

Documented By :



(Senior Adm. Specialist / Rita Huang)

Tested By :



(Senior Engineer / Ivan Chuang)

Approved By :



(Director / Vincent Lin)

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Revision History

Report No.	Version	Description	Issued Date
2110552R-E3032110118	V1.0	Initial issue of report.	2021-03-08

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Wireless module
Trade Name	MOXA
Model No.	WAPC003
FCC ID.	SLE-WAPC003
Frequency Range	2412-2462MHz for 802.11b/g/n/ac-20BW, 2422-2452MHz for 802.11n/ac-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, 802.11ac: up to 400Mbps
Channel separation	802.11b/g/n/ac: 5 MHz
Type of Modulation	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n/ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Antenna Type	Dipole Antenna, Panel Antenna
Antenna Gain	Refer to the table "Antenna List"
Channel Control	Auto

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	MOXA	ANT-WDB-ANM-0306	Dipole	3.80 dBi For 2.4GHz
2	MOXA	ANT-WDB-ANM-0502	Dipole	4.62 dBi For 2.4GHz
3	MOXA	ANT-WDB-ARM-02	Dipole	2.04 dBi For 2.4GHz
4	MOXA	ANT-WDB-ARM-0202	Dipole	1.80 dBi For 2.4GHz
5	MOXA	ANT-WSB-AHRM-05-1.5m	Dipole	5.00 dBi For 2.4GHz
6	MOXA	MAT-WDB-CA-RM-2-0205	Dipole	2.50 dBi For 2.4GHz
7	MOXA	MAT-WDB-DA-RM-2-0203-1m	Dipole	2.45 dBi For 2.4GHz
8	MOXA	MAT-WDB-PA-NF-2-0708	Panel	7.63 dBi For 2.4GHz
9	MOXA	ANT-WDB-PNF-1011	Panel	10.33 dBi For 2.4GHz
10	MOXA	ANT-WDB-ONM-0707	Dipole	7.10 dBi For 2.4GHz
11	MOXA	ANT-WDB-ONF-0709	Dipole	7.40 dBi For 2.4GHz
12	MOXA	ANT-WSB-PNF-12-02	Panel	12.34 dBi For 2.4GHz

Note:

1. The antenna of EUT is conforming to FCC 15.203.
2. Each antenna has been evaluated and only the worst case (higher gain antenna) is presented in the report.

802.11b/g/n/ac-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/ac-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 Wireless module with a built-in 2.4GHz WLAN transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report.
4. At result of pretests, module supports dual-channel transmission, only the worst case is shown in the report.(802.11b is chain A, 802.11g is chain A)
5. 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.
6. The radiation measurements are performed in high gain and different antenna type . Only the worst case is shown in the report.

Test Mode:	Mode 1: Transmit (802.11b 1Mbps)
	Mode 2: Transmit (802.11g 6Mbps)
	Mode 3: Transmit (802.11n-20MBW 14.4Mbps)
	Mode 4: Transmit (802.11n-40MBW 30Mbps)
	Mode 5: Transmit (802.11ac-20MBW 14.4Mbps)
	Mode 6: Transmit (802.11ac-40MBW 30Mbps)

1.2. Summary of Test Item

Test Condition			Test Item					
			Conducted				Radiated Emission	
Antenna No.	Antenna Type	Antenna Gain	Conducted Power	Power Density	Occupied Bandwidth	Conducted Emission (20dBc)	Radiated Emission	Band Edge
1	Dipole	3.80 dBi						
2	Dipole	4.62 dBi						
3	Dipole	2.04 dBi						
4	Dipole	1.80 dBi						
5	Dipole	5.00 dBi						
6	Dipole	2.50 dBi						
7	Dipole	2.45 dBi						
8	Panel	7.63 dBi						
9	Panel	10.33 dBi						
10	Dipole	7.10 dBi						
11	Dipole	7.40 dBi	✓	✓	✓	✓	✓	✓
12	Panel	12.34 dBi	✓	✓	✓	✓	✓	✓

Note:

- Transmitting antennas of directional gain greater than 6 dBi ,the conducted output power from the intentional radiator shall be reduced belowthe limit.
- Used exclusively for fixed,point-to-point operations the maximum conducted output power of the intentional radiator is reduced by1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

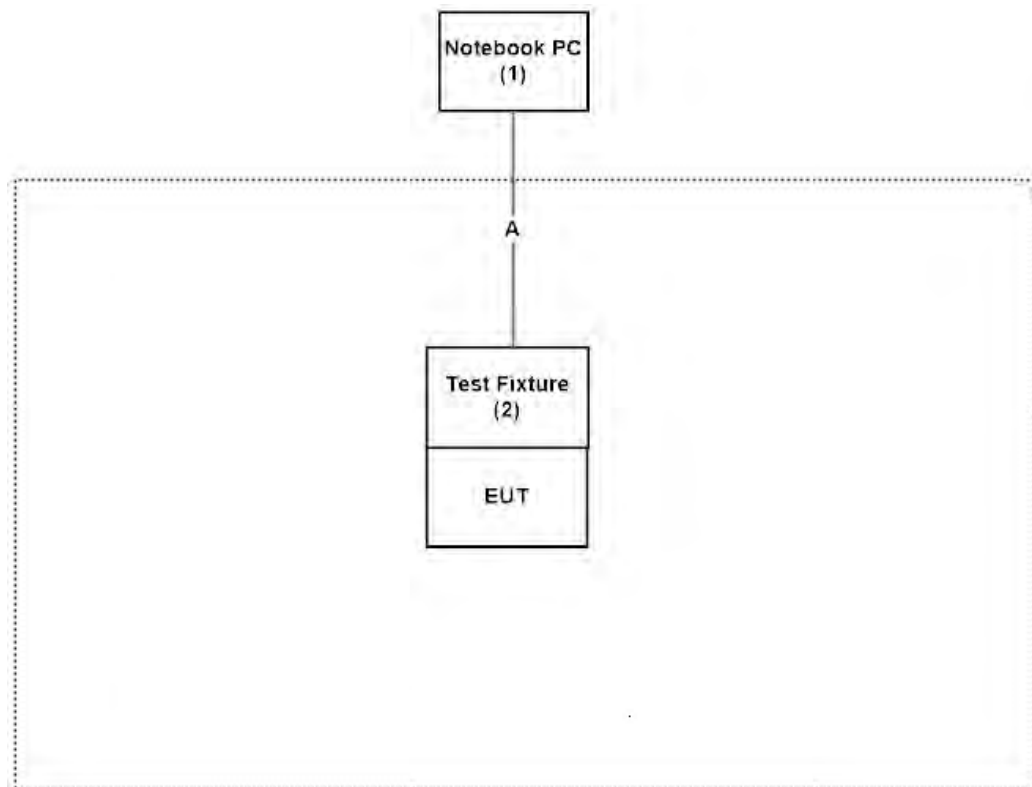
1.3. Tested System Details

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	Notebook PC	DELL	Latitude E5440	74BTK32	Non-Shielded, 0.8m
2	Test Fixture	Moxa	WAPC003	N/A	N/A

Signal Cable Type	Signal cable Description
A LAN Cable	Non-Shielded, 2.0m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

1. Setup the EUT as shown in Section 1.4.
2. Execute software “QCARCT V3.0.295.0” on the Notebook PC.
3. Configure the test mode, the test channel, and the data rate.
4. Press “OK” to start the continuous Transmit.
5. Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	10~40 °C	24.3 °C
	Humidity (%RH)	10~90 %	55.7 %
Radiated Emission	Temperature (°C)	10~40 °C	22.9 °C
	Humidity (%RH)	10~90 %	64 %
Conductive	Temperature (°C)	10~40 °C	26.2 °C
	Humidity (%RH)	10~90 %	45.7 %

USA : FCC Registration Number: TW0023

Canada : IC Registration Number: 25880

Site Description : Accredited by TAF
Accredited Number: 3023

Test Laboratory : DEKRA Testing and Certification Co., Ltd
Address : No.159, Sec. 2, Wenhua 1st Rd., Linkou Dist.,
New Taipei City 24457, Taiwan, R.O.C.
Phone number : 886-2-2602-7968
Fax number : 866-2-2602-3286
Email address : info.tw@dekra.com
Website : <http://www.dekra.com.tw>

1.7. List of Test Item and Equipment

For Conduction measurements /ASR1

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

Note:

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

For Conducted measurements /ASR2

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Spectrum Analyzer	Agilent	N9010A	MY55150401	2020.09.15	2021.09.14
X	Spectrum Analyzer	R&S	FSV30	103466	2020.12.28	2021.12.27
X	Power Meter	Anritsu	ML2496A	MY51000539	2020.05.13	2021.05.12
X	Power Sensor	Anritsu	MA2411B	MY59240002	2020.05.22	2021.05.21
X	Power Sensor	Anritsu	MA2411B	MY59240003	2020.05.22	2021.05.21

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	9168-675	2020.07.20	2021.07.19
X	Horn Antenna	ETS-Lindgren	3117	00201366	2020.09.21	2021.09.20
X	Horn Antenna	Com-Power	AH-840	101088	2020.09.11	2021.09.10
X	Pre-Amplifier	EMCI	EMC001330	980301	2020.06.04	2021.06.03
X	Pre-Amplifier	EMCI	EMC051845SE	980632	2020.08.21	2021.08.20
X	Pre-Amplifier	EMCI	EMC05820SE	980308	2020.09.18	2021.09.17
X	Pre-Amplifier	EMCI	EMC184045SE	980314	2020.06.10	2021.06.09
X	Filter	MICRO TRONICS	BRM50702	G251	2020.09.17	2021.09.16
	Filter	MICRO TRONICS	BRM50716	G188	2020.09.17	2021.09.16
X	EMI Test Receiver	R&S	ESR7	101601	2020.05.21	2021.05.20
X	Spectrum Analyzer	R&S	FSV40	101147	2020.04.20	2021.04.19
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. 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 Testing System V2.0

1.8. Uncertainty

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

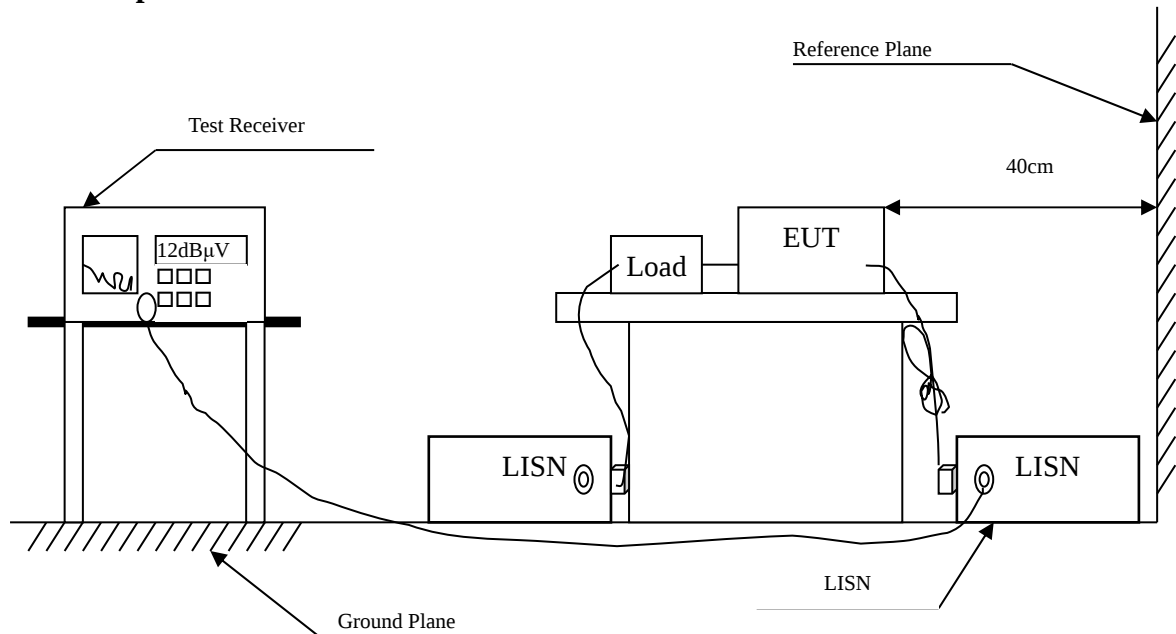
The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

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

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

2. Conducted Emission

2.1. Test Setup



2.2. Limits

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

2.3. Test Procedure

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

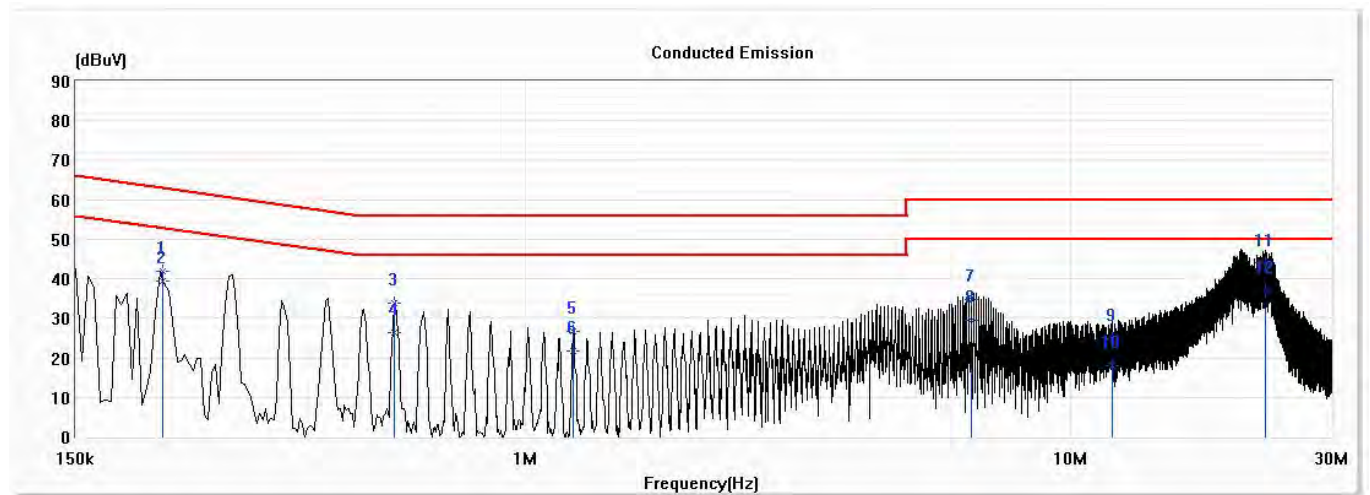
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.

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

2.4. Test Result of Conducted Emission

Product : Wireless module
 Test Item : Conducted Emission Test
 Power Line : L1
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2437MHz)
 Test Date : 2021/02/24

L1



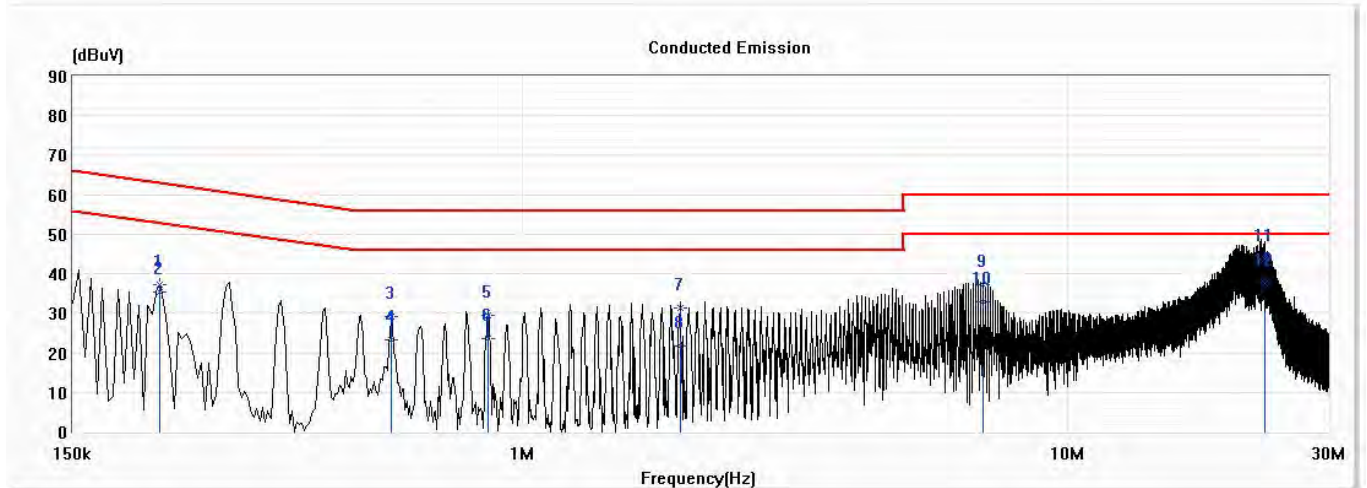
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.216	41.98	62.96	-20.98	32.33	9.65	QP
2	0.216	39.52	52.96	-13.43	29.87	9.65	AV
3	0.576	33.72	56.00	-22.28	24.05	9.66	QP
4	0.576	26.25	46.00	-19.75	16.58	9.66	AV
5	1.225	26.54	56.00	-29.46	16.84	9.70	QP
6	1.225	21.72	46.00	-24.28	12.03	9.70	AV
7	6.559	34.72	60.00	-25.28	24.89	9.83	QP
8	6.559	29.36	50.00	-20.64	19.54	9.83	AV
9	11.895	24.83	60.00	-35.17	14.92	9.91	QP
10	11.895	18.08	50.00	-31.92	8.17	9.91	AV
11	22.635	43.87	60.00	-16.13	33.91	9.97	QP
*12	22.635	37.05	50.00	-12.95	27.08	9.97	AV

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ * ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Wireless module
 Test Item : Conducted Emission Test
 Power Line : N
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2437MHz)
 Test Date : 2021/02/24

N



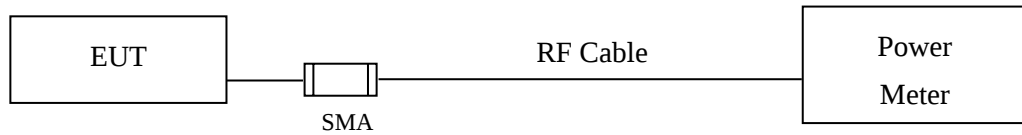
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.216	37.36	62.97	-25.61	27.69	9.67	QP
2	0.216	35.51	52.97	-17.47	25.83	9.67	AV
3	0.576	29.03	56.00	-26.97	19.36	9.67	QP
4	0.576	23.38	46.00	-22.62	13.71	9.67	AV
5	0.864	29.57	56.00	-26.43	19.88	9.68	QP
6	0.864	23.73	46.00	-22.27	14.05	9.68	AV
7	1.945	31.33	56.00	-24.67	21.60	9.73	QP
8	1.945	21.67	46.00	-24.33	11.95	9.73	AV
9	6.988	37.12	60.00	-22.88	27.27	9.85	QP
10	6.988	32.84	50.00	-17.16	22.99	9.85	AV
11	22.912	43.83	60.00	-16.17	33.76	10.07	QP
*12	22.912	37.45	50.00	-12.55	27.39	10.07	AV

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ * “ means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

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 : Wireless module
 Test Item : Peak Power Output Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) – Dipole Antenna
 Test Date : 2021/02/19

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	14.18	--	--	--	16.64	<28.6dBm	Pass
06	2437	14.2	14.17	14.13	14.07	16.62	<28.6dBm	Pass
11	2462	14.6	--	--	--	17.07	<28.6dBm	Pass

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

Product : Wireless module
 Test Item : Peak Power Output Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) – Dipole Antenna
 Test Date : 2021/02/19

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54			
		Measurement Level (dBm)										
01	2412	18.29	--	--	--	--	--	--	--	26.66	<28.6dBm	Pass
06	2437	20.73	20.69	20.61	20.53	20.45	20.42	20.33	20.27	28.34	<28.6dBm	Pass
11	2462	19.37	--	--	--	--	--	--	--	27.48	<28.6dBm	Pass

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

Product : Wireless module
 Test Item : Peak Power Output Data
 Test Mode : Mode 3: Transmit (802.11n-20MBW 14.4Mbps) – Dipole Antenna
 Test Date : 2021/02/19

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		HT8	HT9	HT10	HT11	HT12	HT13	HT14	HT15	HT8		
		Measurement Level (dBm)										
01	2412	15.68	--	--	--	--	--	--	--	25.45	<28.6dBm	Pass
06	2437	15.72	15.67	15.64	15.57	15.49	15.43	15.39	15.32	25.47	<28.6dBm	Pass
11	2462	16.08	--	--	--	--	--	--	--	25.68	<28.6dBm	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
		HT8	HT9	HT10	HT11	HT12	HT13	HT14	HT15	HT8		
		Measurement Level (dBm)										
01	2412	15.6	--	--	--	--	--	--	--	25.11	<28.6dBm	Pass
06	2437	15.62	15.52	15.46	15.38	15.32	15.28	15.22	15.14	25.17	<28.6dBm	Pass
11	2462	15.97	--	--	--	--	--	--	--	25.42	<28.6dBm	Pass

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

Chain A+B

Channel No	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
01	2412	HT8	25.45	25.11	28.29	<28.6dBm	Pass
06	2437	HT8	25.47	25.17	28.33	<28.6dBm	Pass
11	2462	HT8	25.68	25.42	28.56	<28.6dBm	Pass

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

Product : Wireless module
 Test Item : Peak Power Output Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) – Dipole Antenna
 Test Date : 2021/02/19

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)										Peak Power	Required Limit	Result
		MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15	MCS16	MCS8			
		Measurement Level (dBm)												
01	2412	15.76	--	--	--	--	--	--	--	--	25.49	<28.6dBm	Pass	
06	2437	15.75	15.69	15.59	15.56	15.48	15.43	15.4	15.33	15.28	25.57	<28.6dBm	Pass	
11	2462	16.1	--	--	--	--	--	--	--	--	25.7	<28.6dBm	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
		MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15	MCS16	MCS8			
		Measurement Level (dBm)												
01	2412	15.66	--	--	--	--	--	--	--	--	25.12	<28.6dBm	Pass	
06	2437	15.66	15.57	15.51	15.41	15.34	15.24	15.19	15.15	15.06	25.19	<28.6dBm	Pass	
11	2462	15.99	--	--	--	--	--	--	--	--	25.44	<28.6dBm	Pass	

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

Chain A+B

Channel No	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
01	2412	MCS8	25.49	25.12	28.32	<28.6dBm	Pass
06	2437	MCS8	25.57	25.19	28.39	<28.6dBm	Pass
11	2462	MCS8	25.70	25.44	28.58	<28.6dBm	Pass

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

Product : Wireless module
 Test Item : Peak Power Output Data
 Test Mode : Mode 4: Transmit (802.11n-40MBW 30Mbps) – Dipole Antenna
 Test Date : 2021/02/19

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		HT8	HT9	HT10	HT11	HT12	HT13	HT14	HT15	HT8		
		Measurement Level (dBm)										
03	2422	14.42	--	--	--	--	--	--	--	23.95	<28.6dBm	Pass
06	2437	15.48	15.45	15.37	15.32	15.26	15.22	15.14	15.04	25.02	<28.6dBm	Pass
09	2452	15.74	--	--	--	--	--	--	--	25.43	<28.6dBm	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
		HT8	HT9	HT10	HT11	HT12	HT13	HT14	HT15	HT8		
		Measurement Level (dBm)										
03	2422	14.5	--	--	--	--	--	--	--	24.14	<28.6dBm	Pass
06	2437	15.44	15.38	15.3	15.22	15.15	15.09	15.04	14.96	25.07	<28.6dBm	Pass
09	2452	15.51	--	--	--	--	--	--	--	25.14	<28.6dBm	Pass

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

Chain A+B

Channel No	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
03	2422	HT8	23.95	24.14	27.06	<28.6dBm	Pass
06	2437	HT8	25.02	25.07	28.06	<28.6dBm	Pass
09	2452	HT8	25.43	25.14	28.30	<28.6dBm	Pass

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

Product : Wireless module
 Test Item : Peak Power Output Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) – Dipole Antenna
 Test Date : 2021/02/19

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)										Peak Power	Required Limit	Result
		MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15	MCS16	MCS8			
		Measurement Level (dBm)												
03	2422	14.44	--	--	--	--	--	--	--	--	23.97	<28.6dBm	Pass	
06	2437	15.51	15.47	15.43	15.39	15.34	15.29	15.24	15.19	15.16	25.11	<28.6dBm	Pass	
09	2452	15.76	--	--	--	--	--	--	--	--	25.44	<28.6dBm	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
		MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15	MCS16	MCS8			
		Measurement Level (dBm)												
03	2422	14.53	--	--	--	--	--	--	--	--	24.16	<28.6dBm	Pass	
06	2437	15.46	15.36	15.31	15.23	15.19	15.12	15.02	14.98	14.95	25.13	<28.6dBm	Pass	
09	2452	15.52	--	--	--	--	--	--	--	--	25.18	<28.6dBm	Pass	

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

Chain A+B

Channel No	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
03	2422	MCS8	23.97	24.16	27.08	<28.6dBm	Pass
06	2437	MCS8	25.11	25.13	28.13	<28.6dBm	Pass
09	2452	MCS8	25.44	25.18	28.32	<28.6dBm	Pass

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

Product : Wireless module
 Test Item : Peak Power Output Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) – Panel Antenna
 Test Date : 2021/02/19

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	13.71	--	--	--	16.22	<28dBm	Pass
06	2437	13.67	13.6	13.56	13.47	16.21	<28dBm	Pass
11	2462	13.62	--	--	--	16.09	<28dBm	Pass

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

Product : Wireless module
 Test Item : Peak Power Output Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) – Panel Antenna
 Test Date : 2021/02/19

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54			
		Measurement Level (dBm)										
01	2412	12.93	--	--	--	--	--	--	--	21.48	<28dBm	Pass
06	2437	19.86	19.78	19.7	19.67	19.58	19.54	19.45	19.36	27.87	<28dBm	Pass
11	2462	12.73	--	--	--	--	--	--	--	21.39	<28dBm	Pass

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

Product : Wireless module
 Test Item : Peak Power Output Data
 Test Mode : Mode 3: Transmit (802.11n-20MBW 14.4Mbps) – Panel Antenna
 Test Date : 2021/02/19

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		HT8	HT9	HT10	HT11	HT12	HT13	HT14	HT15	HT8		
		Measurement Level (dBm)										
01	2412	9.88	--	--	--	--	--	--	--	19.46	<28dBm	Pass
06	2437	14.62	15.67	15.64	15.57	15.49	15.43	15.39	15.32	24.71	<28dBm	Pass
11	2462	10.57	--	--	--	--	--	--	--	20.31	<28dBm	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
		HT8	HT9	HT10	HT11	HT12	HT13	HT14	HT15			
		Measurement Level (dBm)										
01	2412	9.78	--	--	--	--	--	--	--	19.56	<28dBm	Pass
06	2437	14.66	15.52	15.46	15.38	15.32	15.28	15.22	15.14	24.88	<28dBm	Pass
11	2462	10.49	--	--	--	--	--	--	--	20.12	<28dBm	Pass

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

Chain A+B

Channel No	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
01	2412	HT8	19.46	19.56	22.52	<28dBm	Pass
06	2437	HT8	24.71	24.88	27.81	<28dBm	Pass
11	2462	HT8	20.31	20.12	23.23	<28dBm	Pass

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

Product : Wireless module
 Test Item : Peak Power Output Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) – Panel Antenna
 Test Date : 2021/02/19

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)									Peak Power	Required Limit	Result
		MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15	MCS16	MCS8		
		Measurement Level (dBm)											
01	2412	10	--	--	--	--	--	--	--	--	19.57	<28dBm	Pass
06	2437	14.71	14.68	14.58	14.5	14.44	14.34	14.25	14.22	14.15	24.82	<28dBm	Pass
11	2462	10.63	--	--	--	--	--	--	--	--	20.33	<28dBm	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
		MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15	MCS16	MCS8			
		Measurement Level (dBm)												
01	2412	9.81	--	--	--	--	--	--	--	--	19.61	<28dBm	Pass	
06	2437	14.72	14.65	14.56	14.53	14.46	14.43	14.36	14.3	14.2	24.92	<28dBm	Pass	
11	2462	10.53	--	--	--	--	--	--	--	--	20.14	<28dBm	Pass	

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

Chain A+B

Channel No	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
01	2412	MCS8	19.57	19.61	22.60	<28dBm	Pass
06	2437	MCS8	24.82	24.92	27.88	<28dBm	Pass
11	2462	MCS8	20.33	20.14	23.25	<28dBm	Pass

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

Product : Wireless module
 Test Item : Peak Power Output Data
 Test Mode : Mode 4: Transmit (802.11n-40MBW 30Mbps) – Panel Antenna
 Test Date : 2021/02/19

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		HT8	HT9	HT10	HT11	HT12	HT13	HT14	HT15			
		Measurement Level (dBm)										
03	2422	10.64	--	--	--	--	--	--	--	20.63	<28dBm	Pass
06	2437	14.89	15.45	15.37	15.32	15.26	15.22	15.14	15.04	24.9	<28dBm	Pass
09	2452	10.57	--	--	--	--	--	--	--	20.23	<28dBm	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
		HT8	HT9	HT10	HT11	HT12	HT13	HT14	HT15			
		Measurement Level (dBm)										
03	2422	10.4	--	--	--	--	--	--	--	20.39	<28dBm	Pass
06	2437	14.9	15.38	15.3	15.22	15.15	15.09	15.04	14.96	24.85	<28dBm	Pass
09	2452	10.45	--	--	--	--	--	--	--	20.12	<28dBm	Pass

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

Chain A+B

Channel No	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
03	2422	HT8	20.63	20.39	23.52	<28dBm	Pass
06	2437	HT8	24.90	24.85	27.89	<28dBm	Pass
09	2452	HT8	20.23	20.12	23.19	<28dBm	Pass

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

Product : Wireless module
 Test Item : Peak Power Output Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) – Panel Antenna
 Test Date : 2021/02/19

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)									Peak Power	Required Limit	Result
		MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15	MCS16			
		Measurement Level (dBm)											
03	2422	10.67	--	--	--	--	--	--	--	--	20.66	<28dBm	Pass
06	2437	14.93	14.84	14.8	14.7	14.64	14.6	14.5	14.44	14.39	24.92	<28dBm	Pass
09	2452	10.61	--	--	--	--	--	--	--	--	20.28	<28dBm	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
		MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15	MCS16	MCS8			
		Measurement Level (dBm)												
03	2422	10.44	--	--	--	--	--	--	--	--	20.43	<28dBm	Pass	
06	2437	14.93	14.83	14.8	14.72	14.63	14.54	14.44	14.34	14.31	24.89	<28dBm	Pass	
09	2452	10.49	--	--	--	--	--	--	--	--	20.17	<28dBm	Pass	

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

Chain A+B

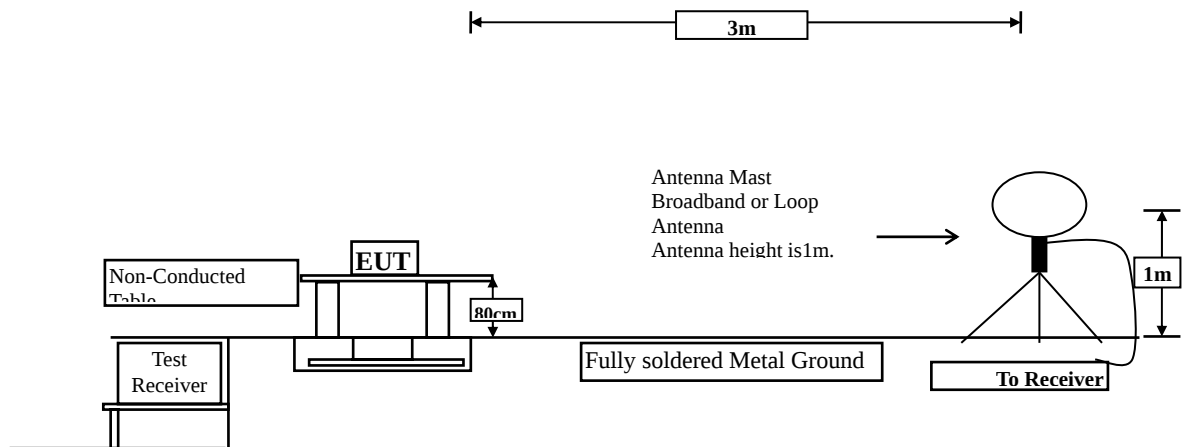
Channel No	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
03	2422	MCS8	20.66	20.43	23.56	<28dBm	Pass
06	2437	MCS8	24.92	24.89	27.92	<28dBm	Pass
09	2452	MCS8	20.28	20.17	23.24	<28dBm	Pass

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

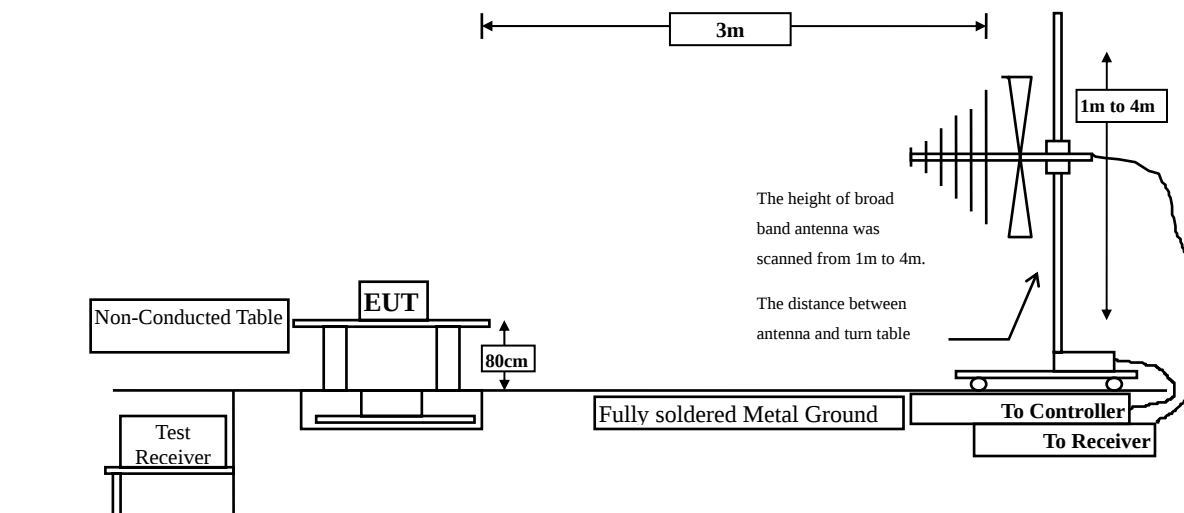
4. Radiated Emission

4.1. Test Setup

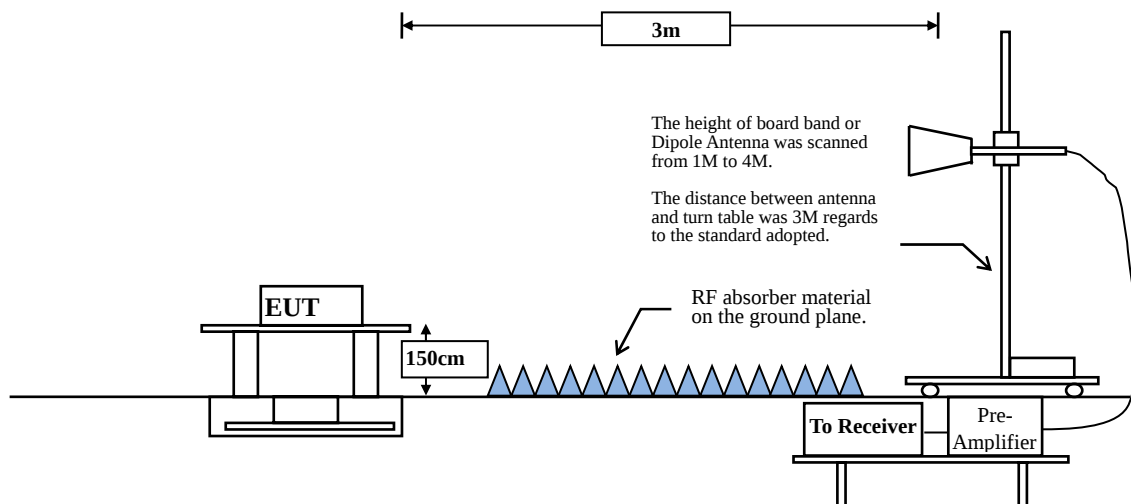
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.2. Limits

➤ General Radiated Emission Limits

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

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

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

4.3. Test Procedure

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

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

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

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

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

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

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

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

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna. The measurement frequency range from 9kHz - 10th Harmonic of fundamental was investigated.

RBW and VBW Parameter setting:

According to C63.10 Section 11.12.2.4 Peak measurement procedure.

RBW = as specified in Table 1.

$VBW \geq 3 \times RBW$.

Table 1 —RBW as a function of frequency

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

According to C63.10 Section 11.12.2.5 Average measurement procedure.

RBW = 1MHz.

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

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

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

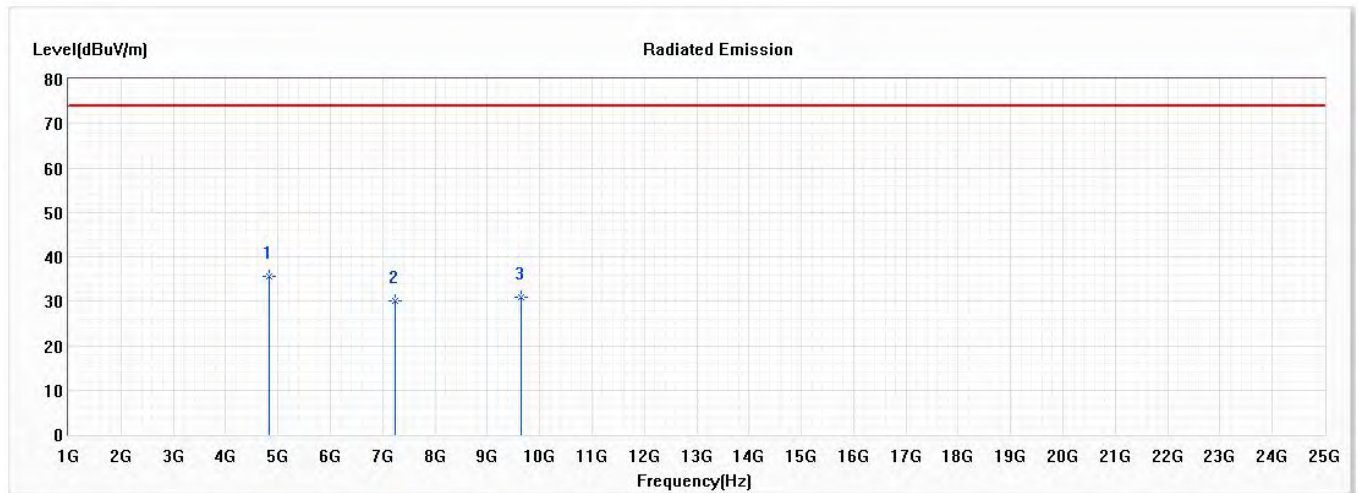
2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11 b	99.56	12.3050	81	10
802.11 g	95.93	2.1200	472	500
802.11 n20	97.01	2.6000	385	500
802.11 n40	93.93	1.3150	760	1k

Note: Duty Cycle Refer to Section 9

4.4. Test Result of Radiated Emission

Product : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/20

Horizontal



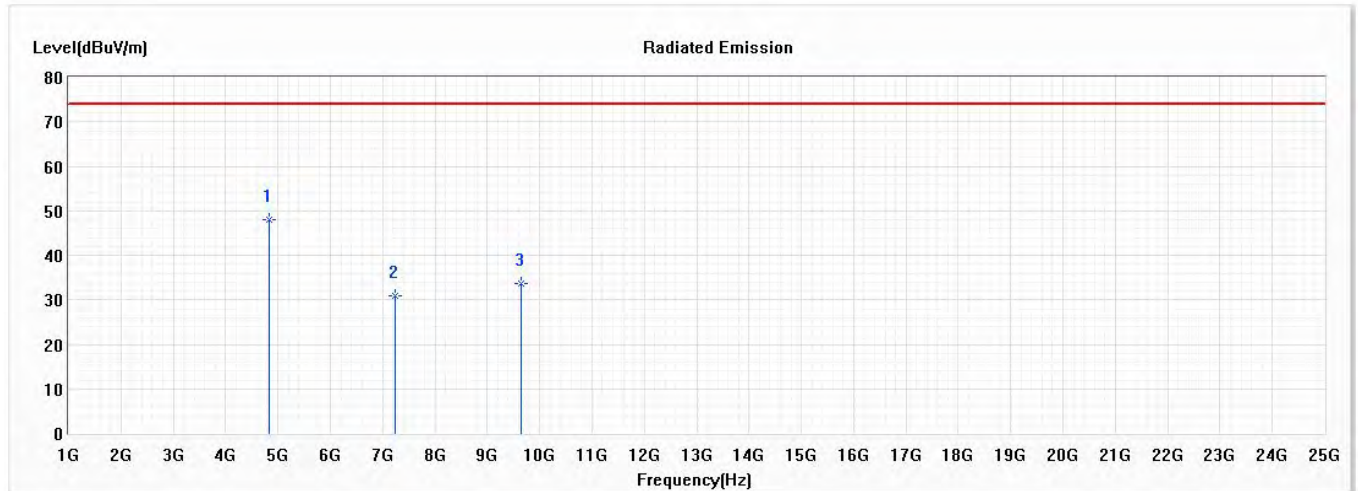
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	4824.000	35.48	74.00	-38.52	46.29	-10.81	PK
2	7236.000	29.99	74.00	-44.01	35.56	-5.57	PK
3	9648.000	30.97	74.00	-43.03	34.19	-3.22	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/20

Vertical



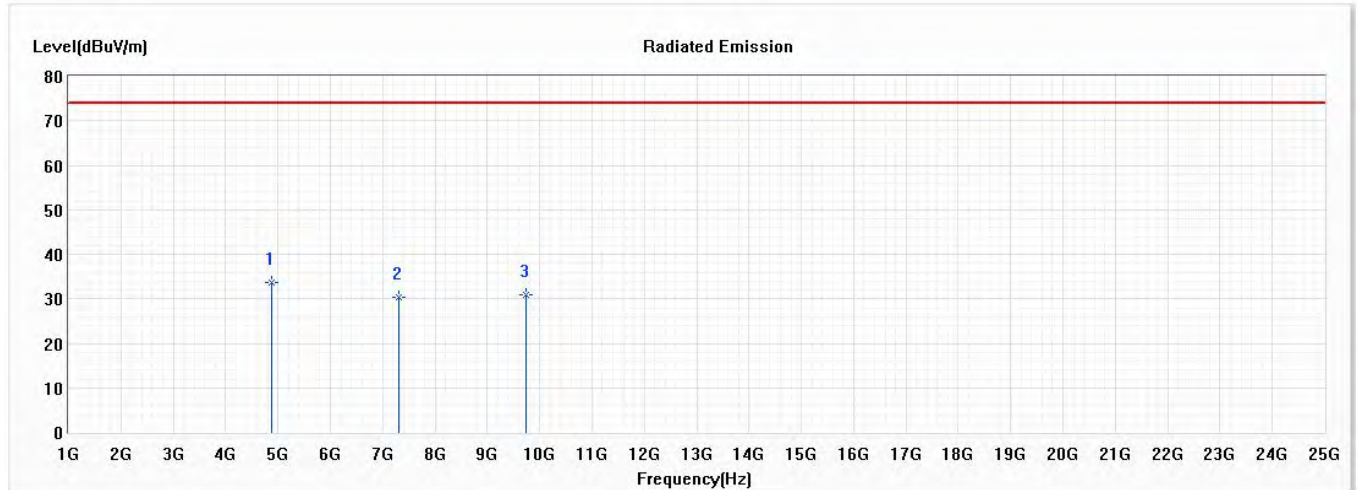
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	4824.000	48.13	74.00	-25.87	58.94	-10.81	PK
2	7236.000	31.01	74.00	-42.99	36.58	-5.57	PK
3	9648.000	33.73	74.00	-40.27	36.95	-3.22	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Horizontal



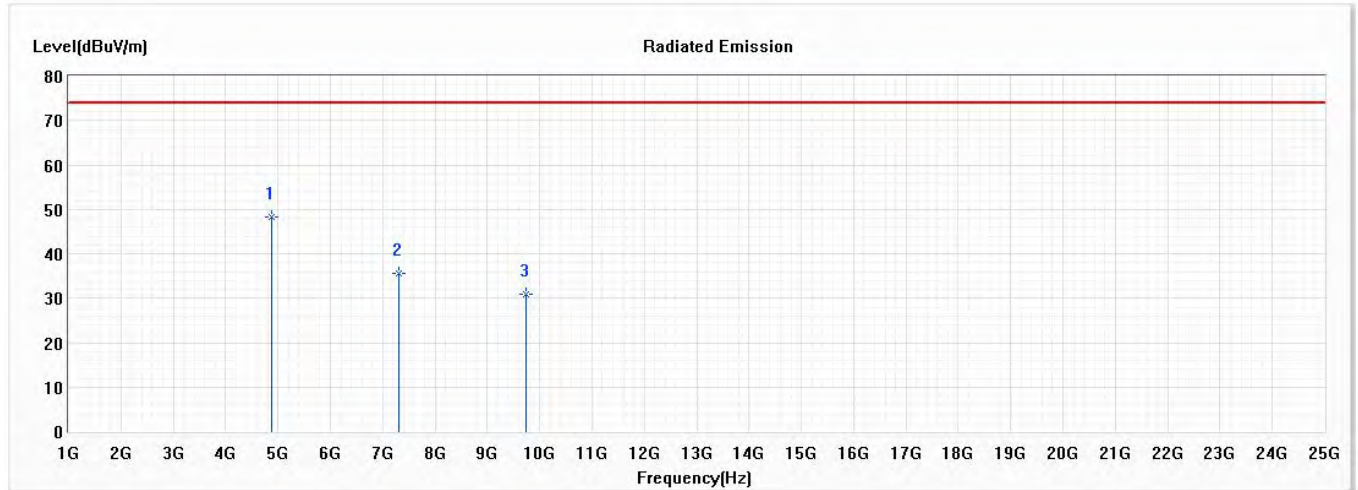
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	4874.000	33.55	74.00	-40.45	44.16	-10.61	PK
2	7311.000	30.27	74.00	-43.73	35.92	-5.65	PK
3	9748.000	30.82	74.00	-43.18	33.67	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Vertical



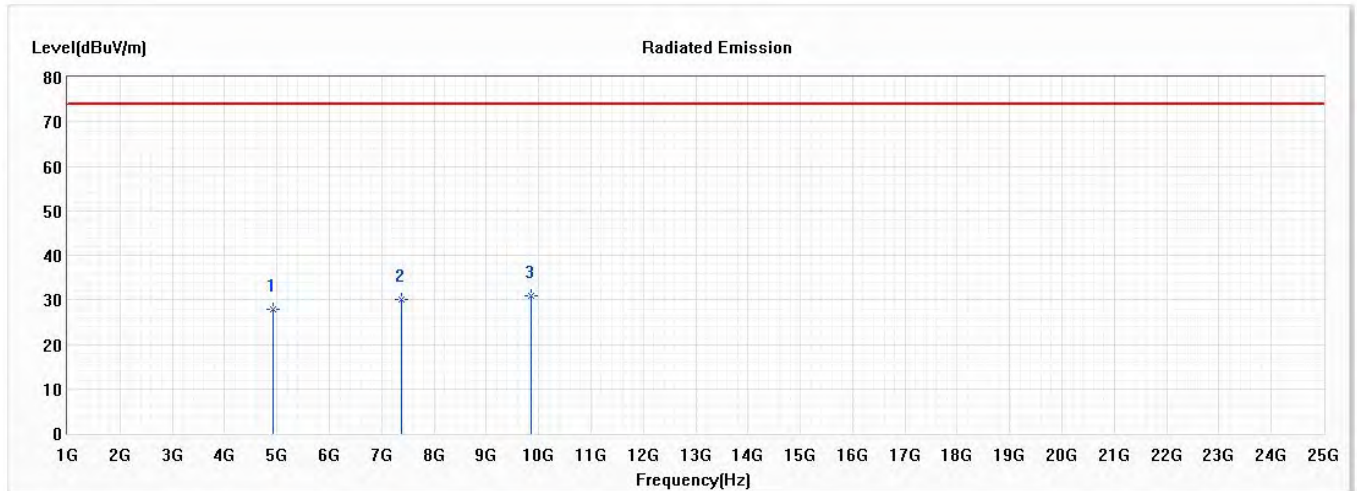
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	4874.000	48.21	74.00	-25.79	58.82	-10.61	PK
2	7311.000	35.50	74.00	-38.50	41.15	-5.65	PK
3	9748.000	30.79	74.00	-43.21	33.64	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Horizontal



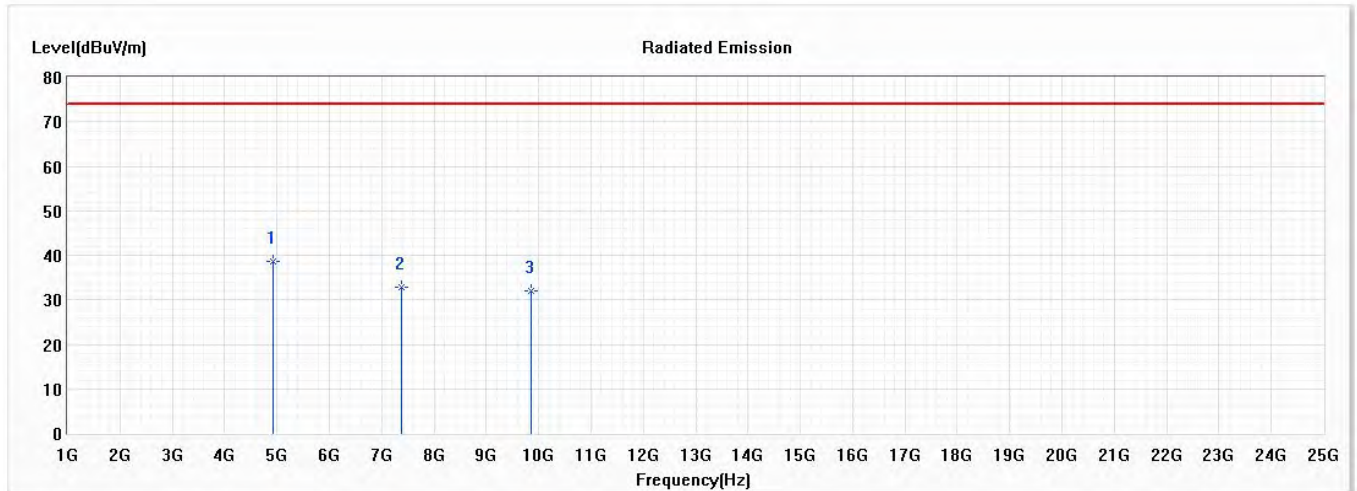
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	27.93	74.00	-46.07	38.43	-10.50	PK
2	7386.000	30.16	74.00	-43.84	35.67	-5.51	PK
* 3	9848.000	30.96	74.00	-43.04	33.70	-2.74	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Vertical



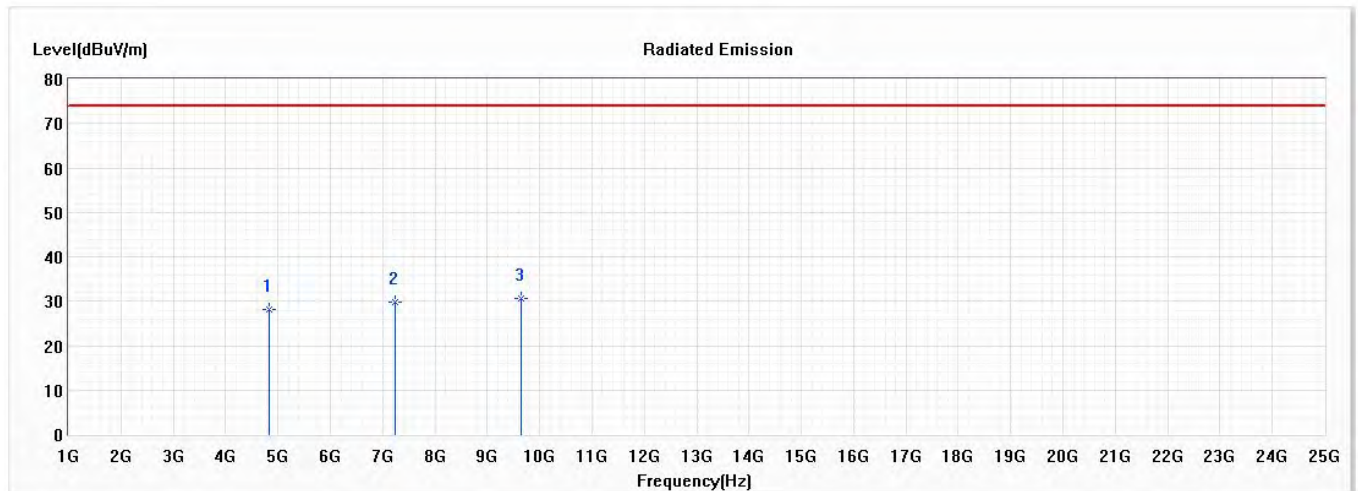
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	4924.000	38.51	74.00	-35.49	49.01	-10.50	PK
2	7386.000	32.70	74.00	-41.30	38.21	-5.51	PK
3	9848.000	31.96	74.00	-42.04	34.70	-2.74	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/20

Horizontal



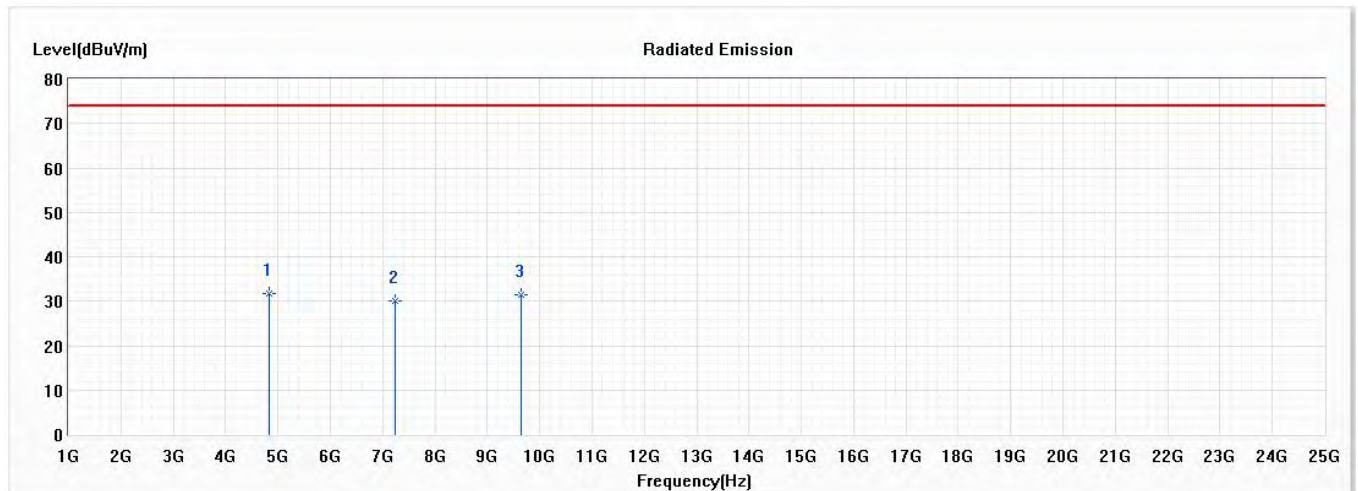
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	28.02	74.00	-45.98	38.83	-10.81	PK
2	7236.000	29.86	74.00	-44.14	35.43	-5.57	PK
* 3	9648.000	30.71	74.00	-43.29	33.93	-3.22	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/20

Vertical



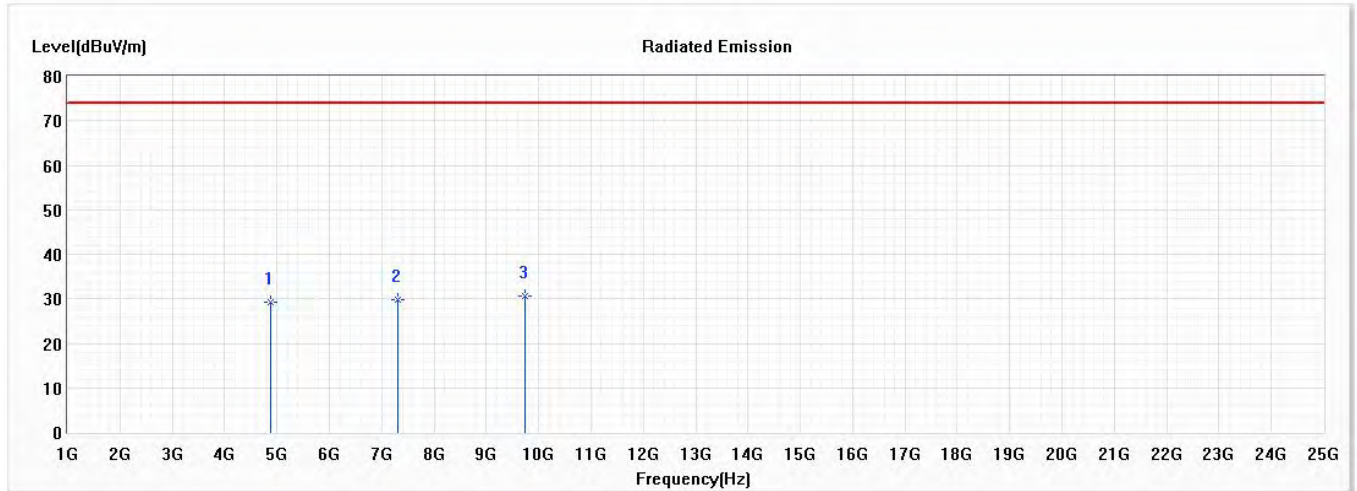
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	4824.000	31.65	74.00	-42.35	42.46	-10.81	PK
2	7236.000	30.18	74.00	-43.82	35.75	-5.57	PK
3	9648.000	31.58	74.00	-42.42	34.80	-3.22	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Horizontal



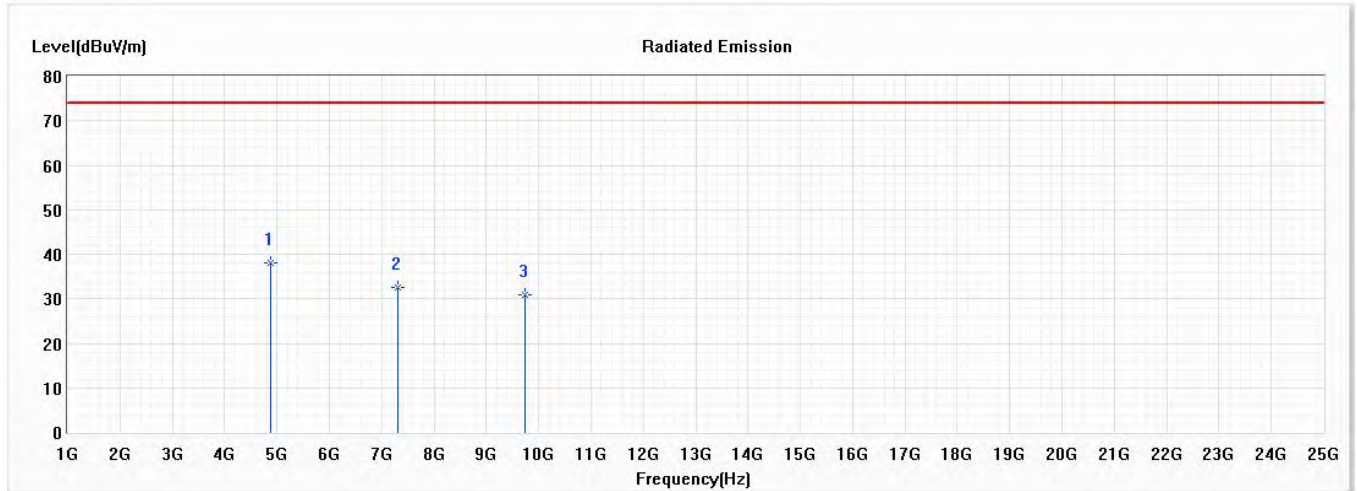
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	29.24	74.00	-44.76	39.85	-10.61	PK
2	7311.000	29.90	74.00	-44.10	35.55	-5.65	PK
* 3	9748.000	30.64	74.00	-43.36	33.49	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Vertical



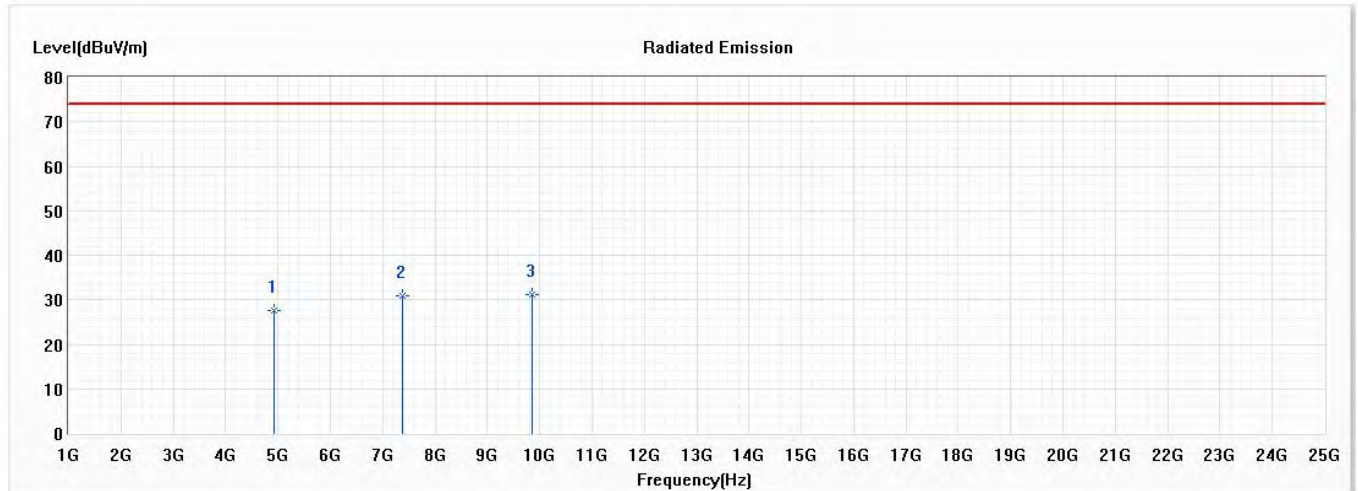
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	4874.000	38.03	74.00	-35.97	48.64	-10.61	PK
2	7311.000	32.51	74.00	-41.49	38.16	-5.65	PK
3	9748.000	30.87	74.00	-43.13	33.72	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Horizontal



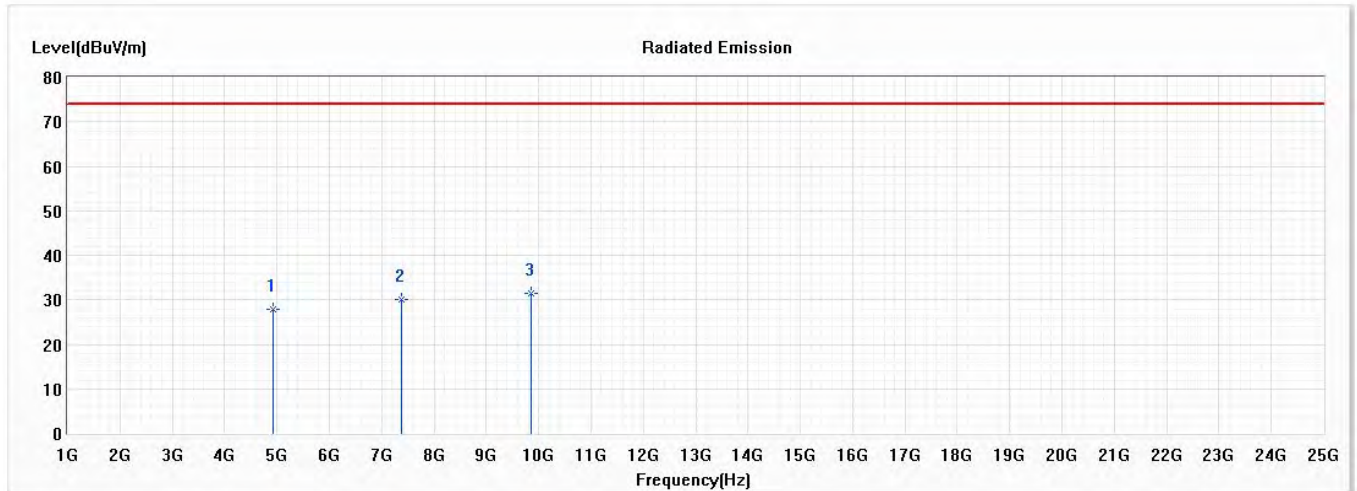
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	27.64	74.00	-46.36	38.14	-10.50	PK
2	7386.000	30.92	74.00	-43.08	36.43	-5.51	PK
* 3	9848.000	31.19	74.00	-42.81	33.93	-2.74	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Vertical



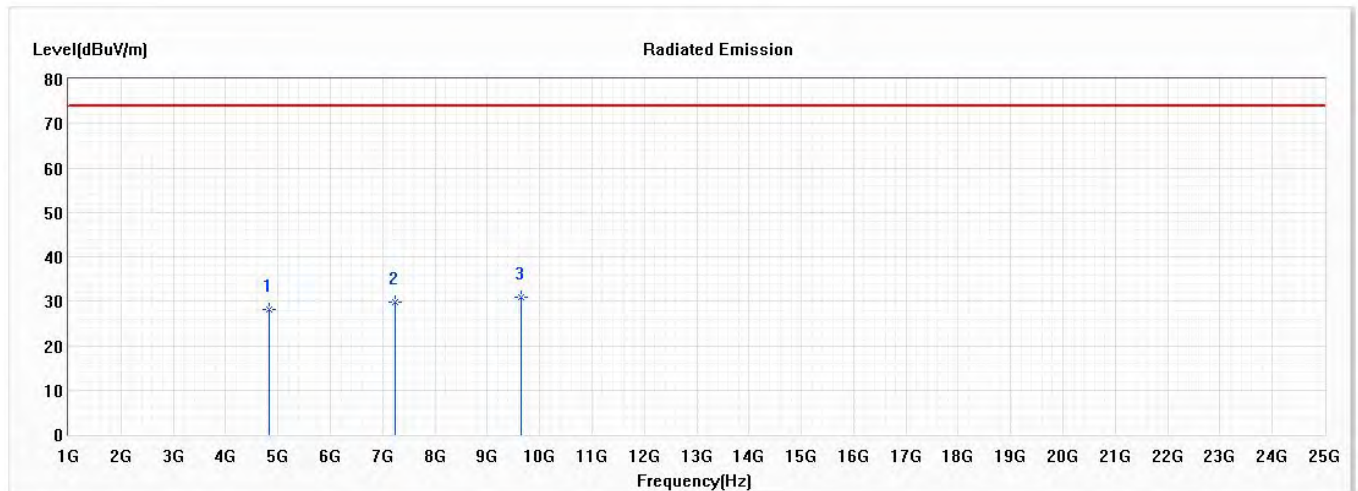
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	27.94	74.00	-46.06	38.44	-10.50	PK
2	7386.000	30.16	74.00	-43.84	35.67	-5.51	PK
* 3	9848.000	31.43	74.00	-42.57	34.17	-2.74	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps)(2412MHz) – Dipole Antenna
 Test Date : 2021/02/20

Horizontal



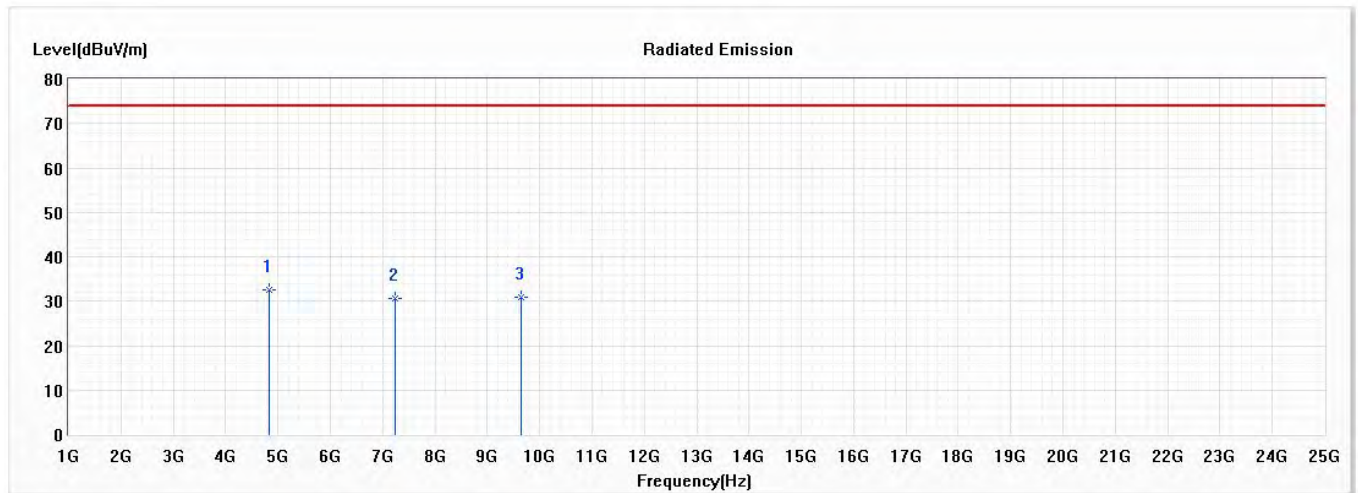
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	28.14	74.00	-45.86	38.95	-10.81	PK
2	7236.000	29.91	74.00	-44.09	35.48	-5.57	PK
* 3	9648.000	30.81	74.00	-43.19	34.03	-3.22	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/20

Vertical



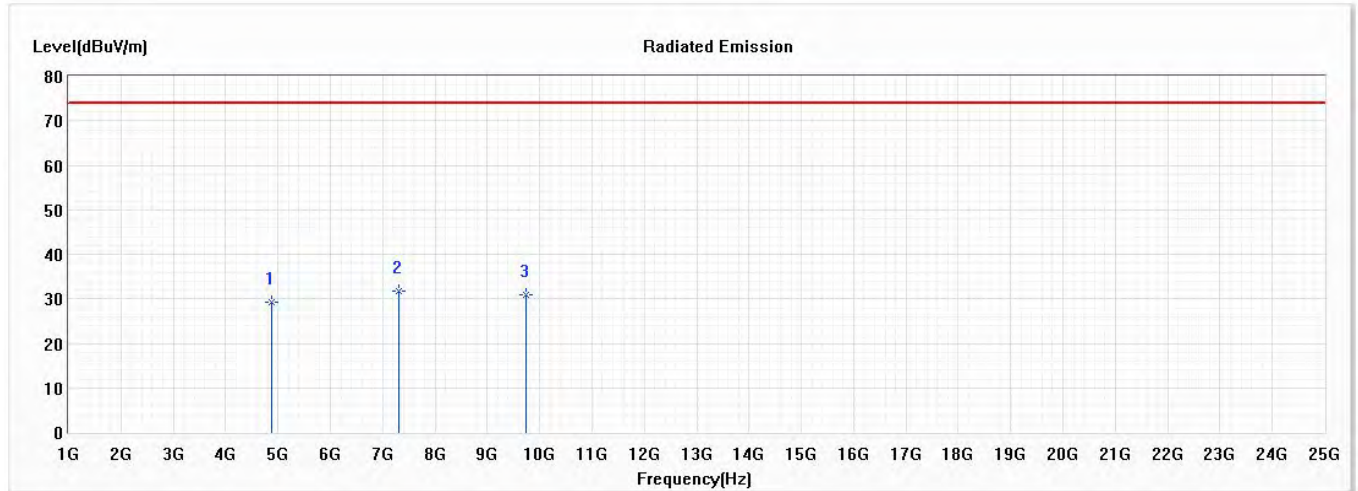
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	4824.000	32.51	74.00	-41.49	43.32	-10.81	PK
2	7236.000	30.57	74.00	-43.43	36.14	-5.57	PK
3	9648.000	30.97	74.00	-43.03	34.19	-3.22	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2437 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Horizontal



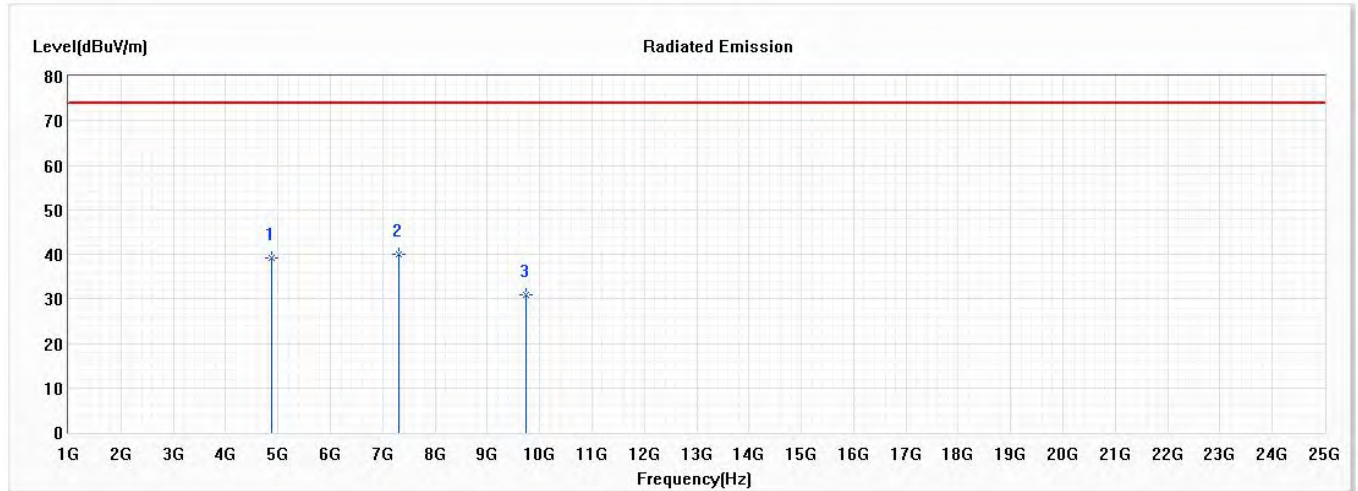
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	29.36	74.00	-44.64	39.97	-10.61	PK
* 2	7311.000	31.81	74.00	-42.19	37.46	-5.65	PK
3	9748.000	30.81	74.00	-43.19	33.66	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2437 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Vertical



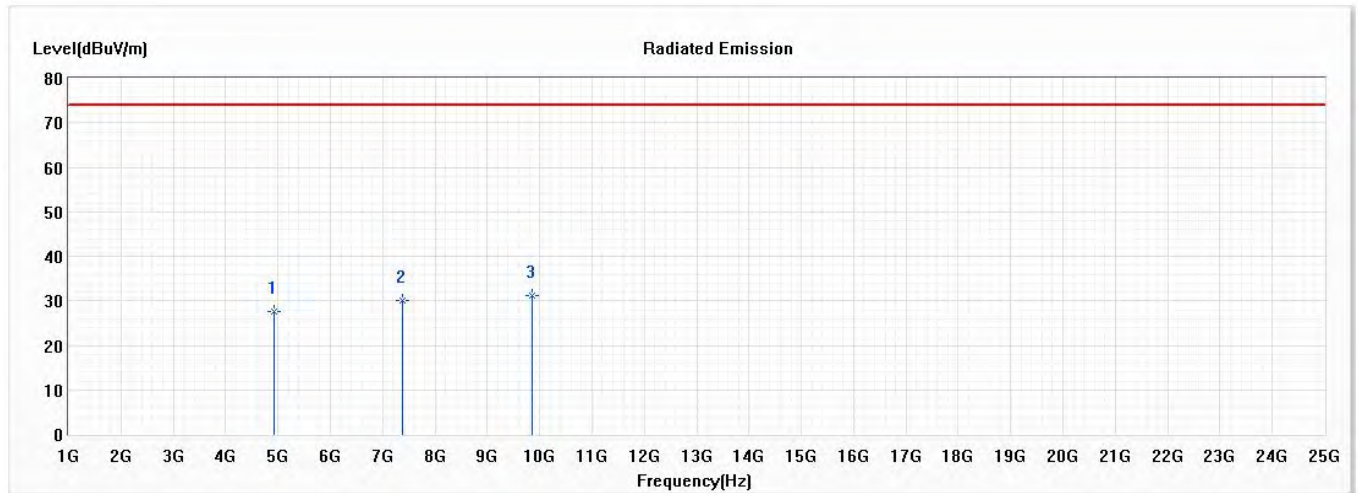
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	39.05	74.00	-34.95	49.66	-10.61	PK
* 2	7311.000	39.99	74.00	-34.01	45.64	-5.65	PK
3	9748.000	30.82	74.00	-43.18	33.67	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2462 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Horizontal

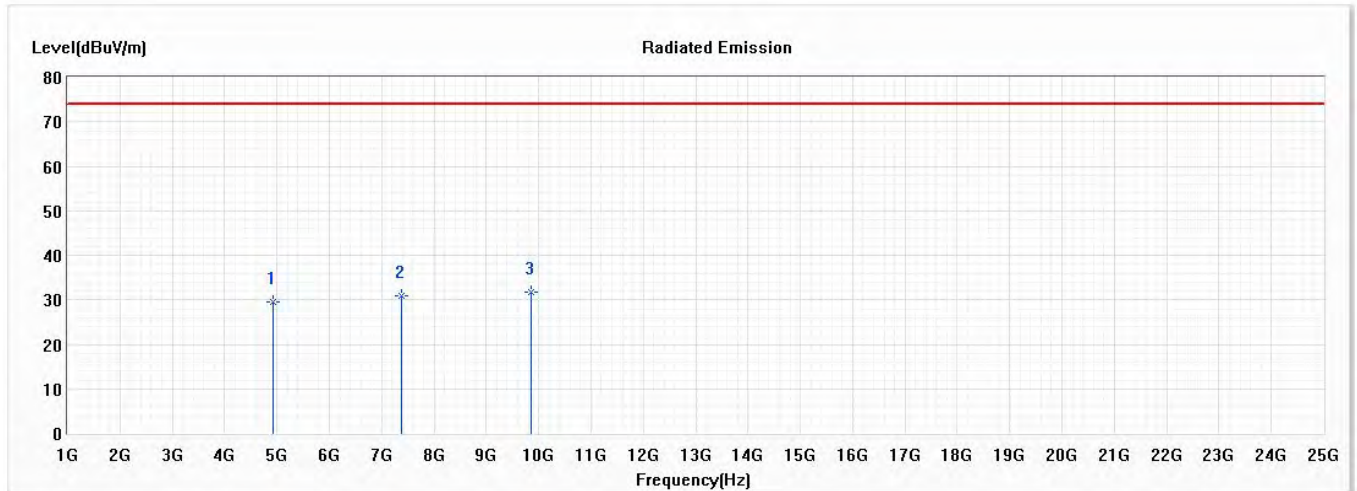


Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2462 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Vertical



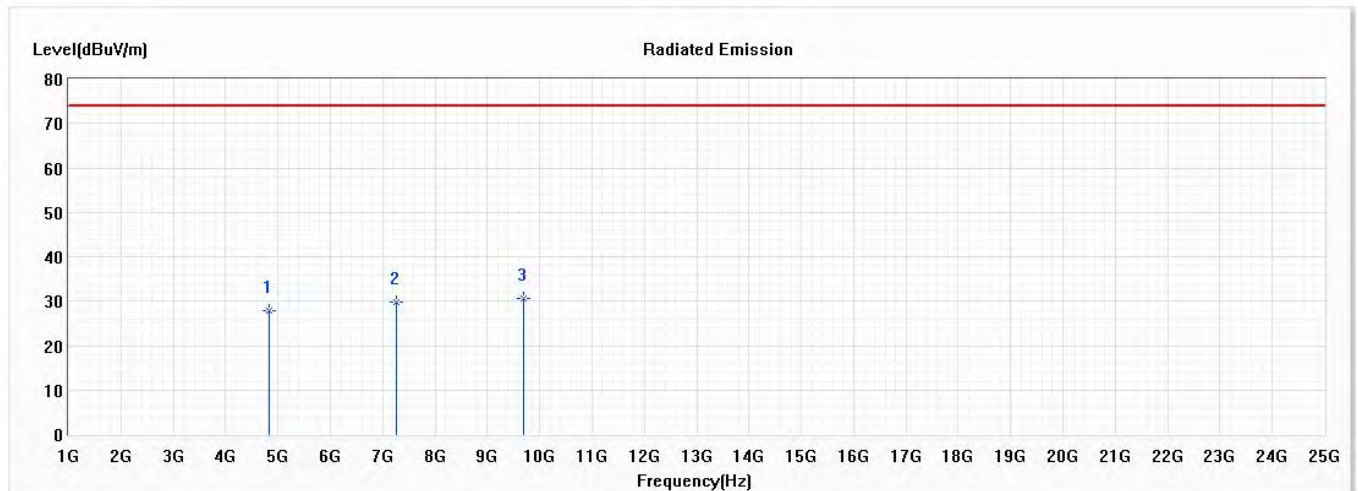
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	29.50	74.00	-44.50	40.00	-10.50	PK
2	7386.000	30.94	74.00	-43.06	36.45	-5.51	PK
* 3	9848.000	31.70	74.00	-42.30	34.44	-2.74	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps)(2422MHz) – Dipole Antenna
 Test Date : 2021/02/20

Horizontal



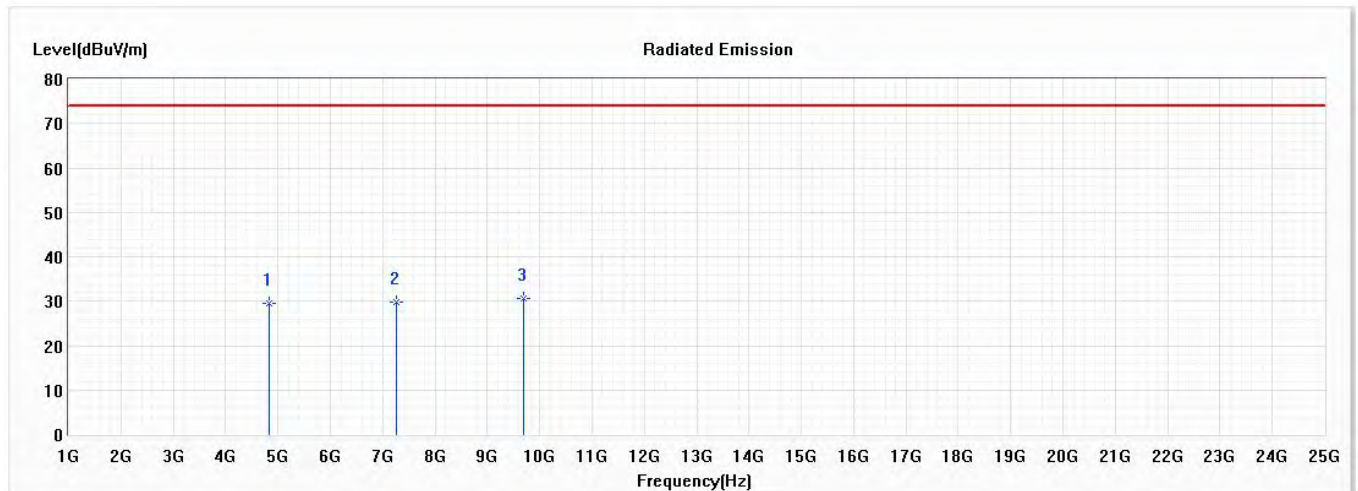
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4844.000	27.73	74.00	-46.27	38.48	-10.75	PK
2	7266.000	29.85	74.00	-44.15	35.47	-5.62	PK
* 3	9688.000	30.60	74.00	-43.40	33.68	-3.08	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2422MHz) – Dipole Antenna
 Test Date : 2021/02/20

Vertical



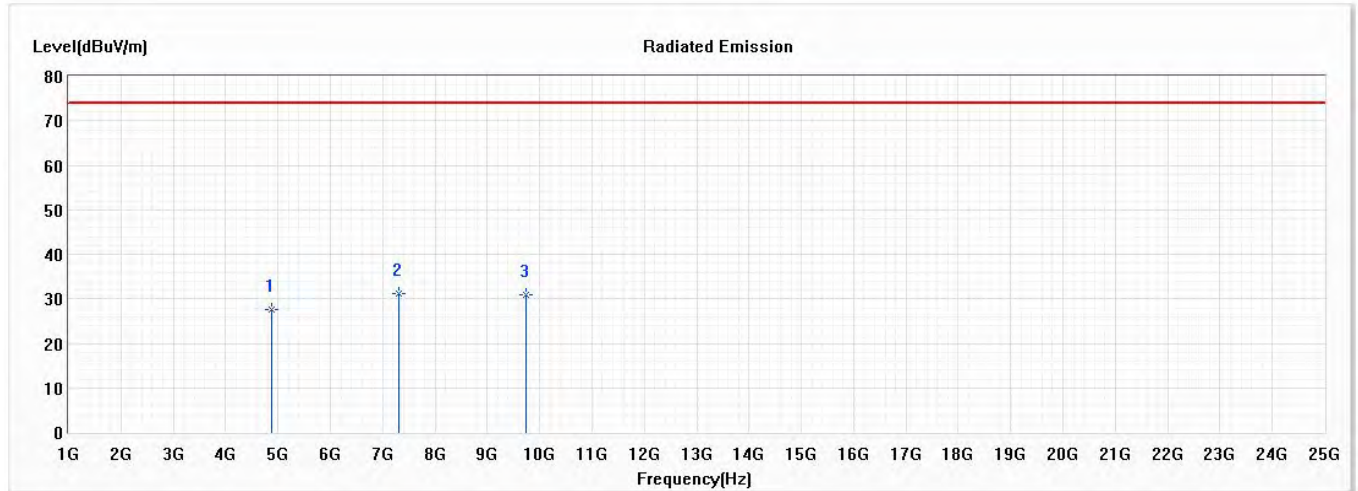
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4844.000	29.58	74.00	-44.42	40.33	-10.75	PK
2	7266.000	29.88	74.00	-44.12	35.50	-5.62	PK
* 3	9688.000	30.59	74.00	-43.41	33.67	-3.08	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2437 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Horizontal



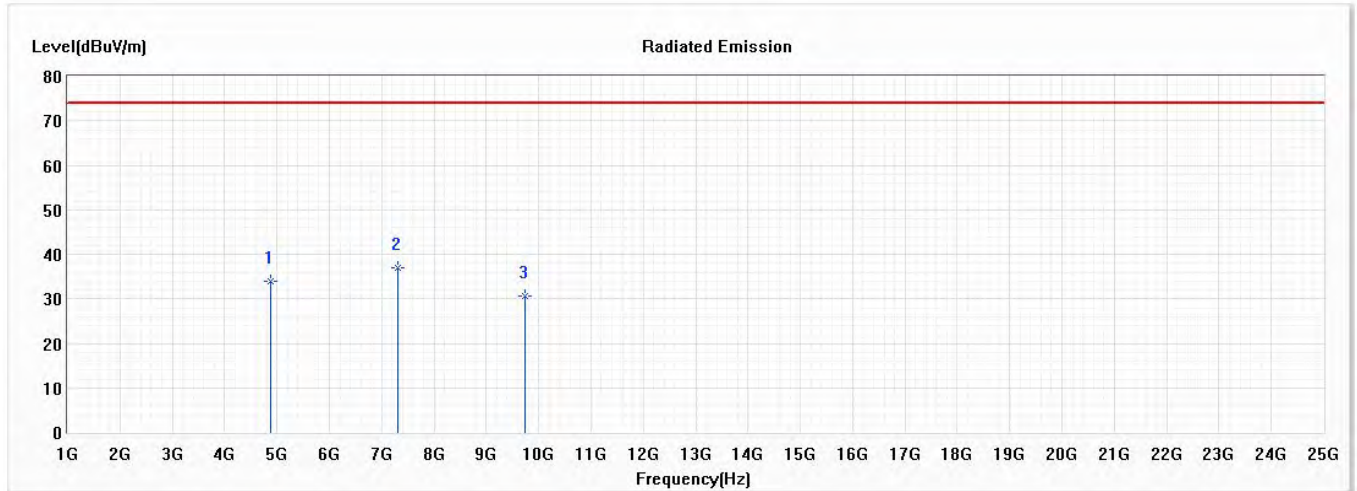
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	27.68	74.00	-46.32	38.29	-10.61	PK
* 2	7311.000	31.04	74.00	-42.96	36.69	-5.65	PK
3	9748.000	30.78	74.00	-43.22	33.63	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2437 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Vertical



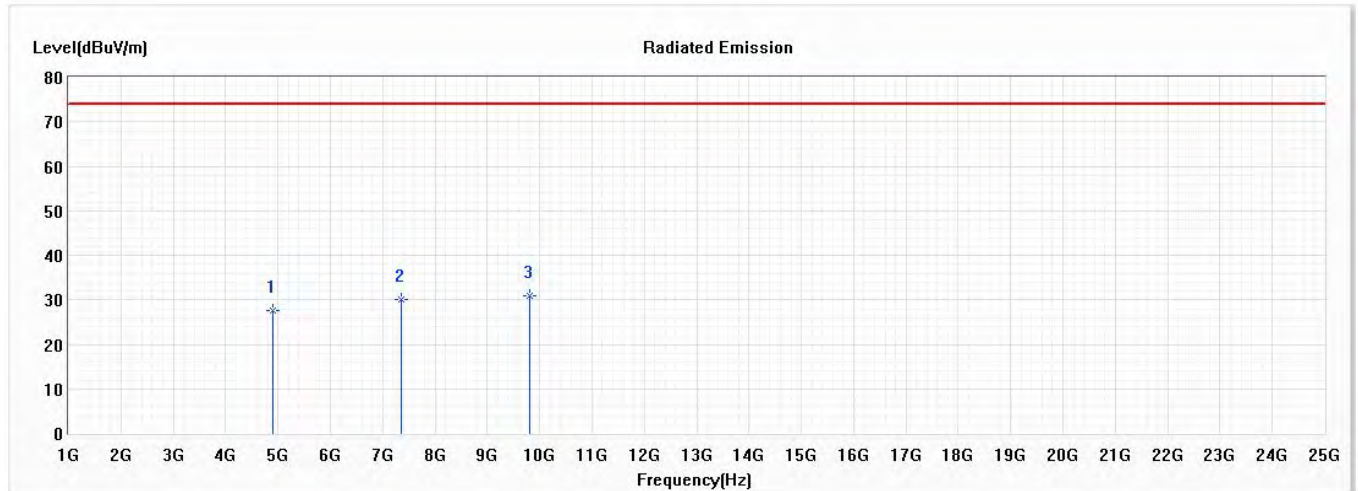
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	33.97	74.00	-40.03	44.58	-10.61	PK
* 2	7311.000	36.91	74.00	-37.09	42.56	-5.65	PK
3	9748.000	30.68	74.00	-43.32	33.53	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2452 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Horizontal



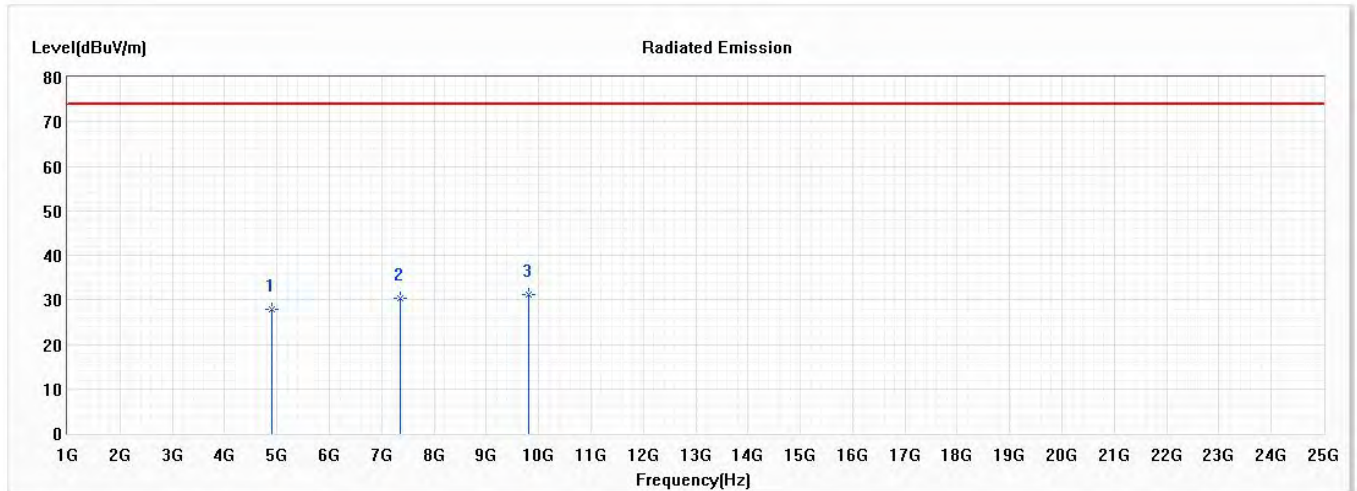
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4904.000	27.45	74.00	-46.55	37.97	-10.52	PK
2	7356.000	30.04	74.00	-43.96	35.57	-5.53	PK
* 3	9808.000	30.97	74.00	-43.03	33.78	-2.81	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2452 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Vertical



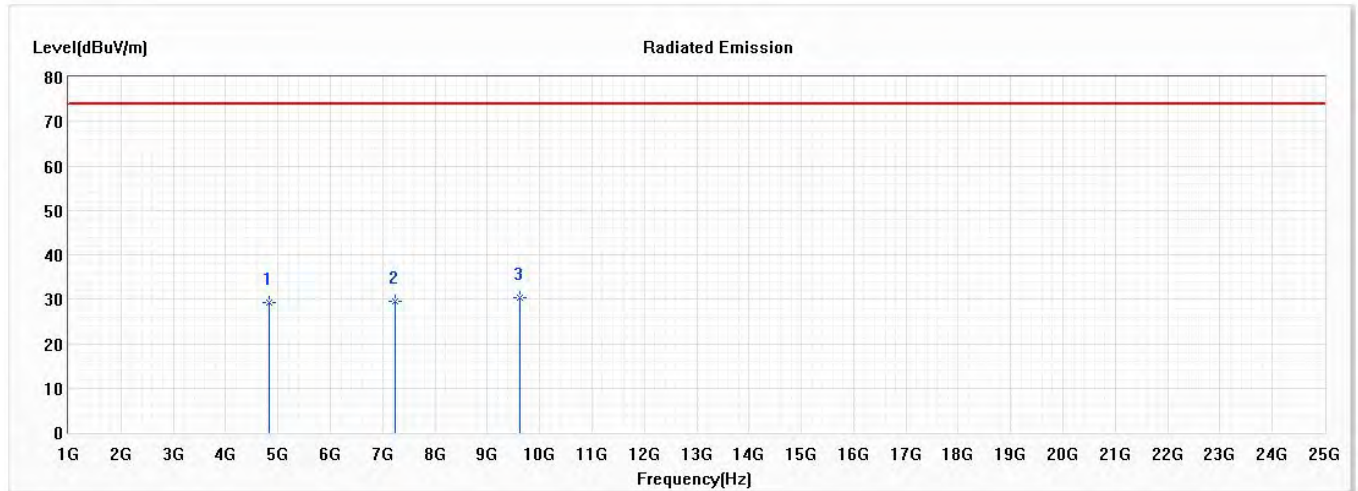
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4904.000	27.81	74.00	-46.19	38.33	-10.52	PK
2	7356.000	30.36	74.00	-43.64	35.89	-5.53	PK
* 3	9808.000	31.04	74.00	-42.96	33.85	-2.81	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/20

Horizontal



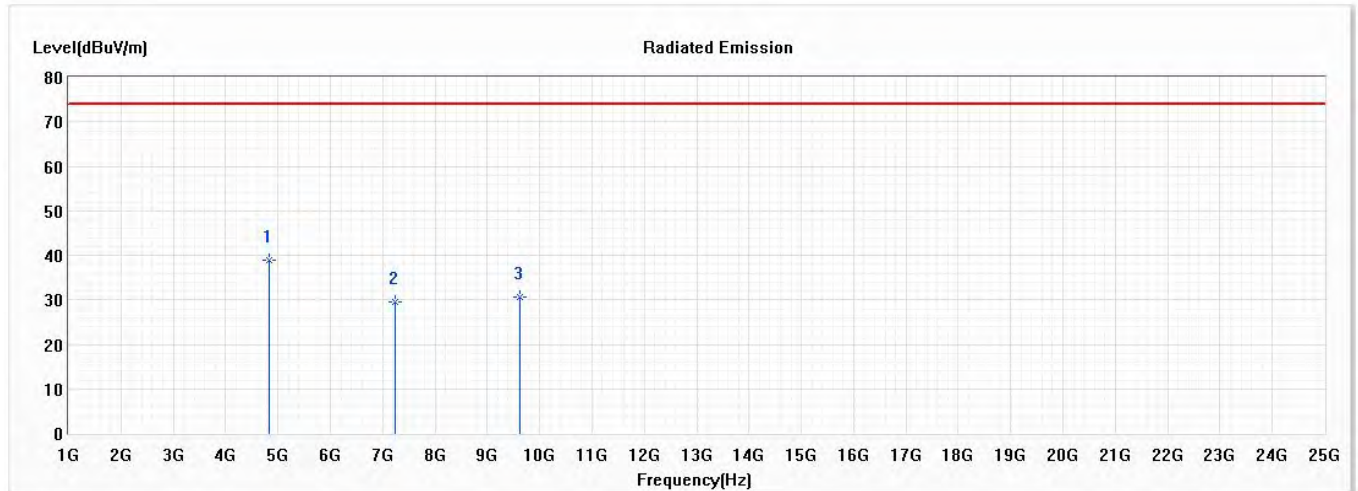
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	29.23	74.00	-44.77	40.04	-10.81	PK
2	7236.000	29.46	74.00	-44.54	35.03	-5.57	PK
* 3	9628.000	30.35	74.00	-43.65	33.63	-3.28	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/20

Vertical



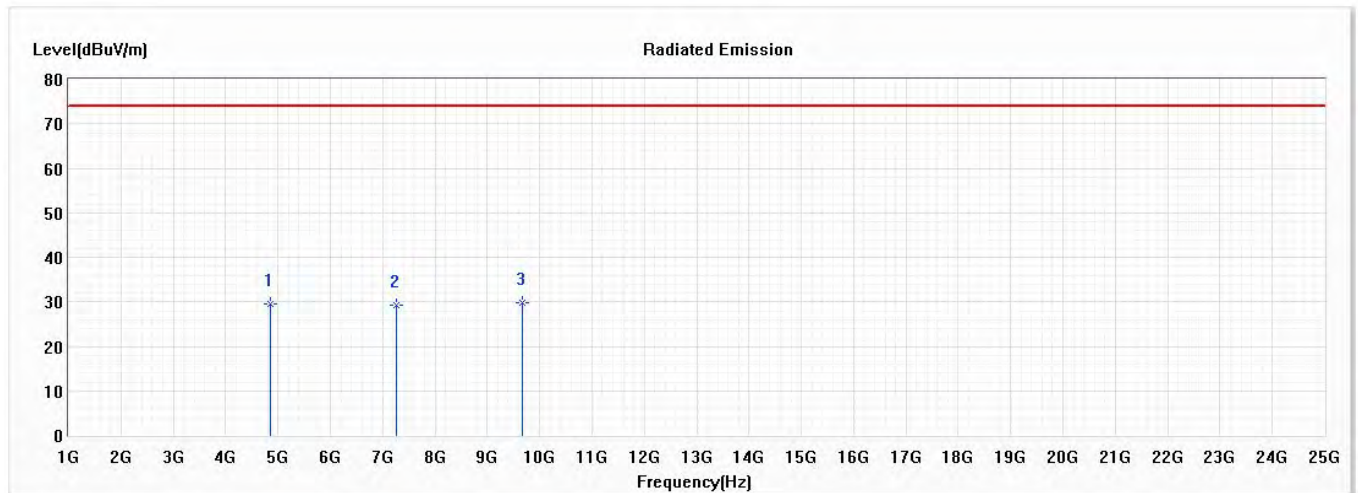
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	4824.000	38.96	74.00	-35.04	49.77	-10.81	PK
2	7236.000	29.57	74.00	-44.43	35.14	-5.57	PK
3	9628.000	30.57	74.00	-43.43	33.85	-3.28	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437 MHz) – Panel Antenna
 Test Date : 2021/02/20

Horizontal



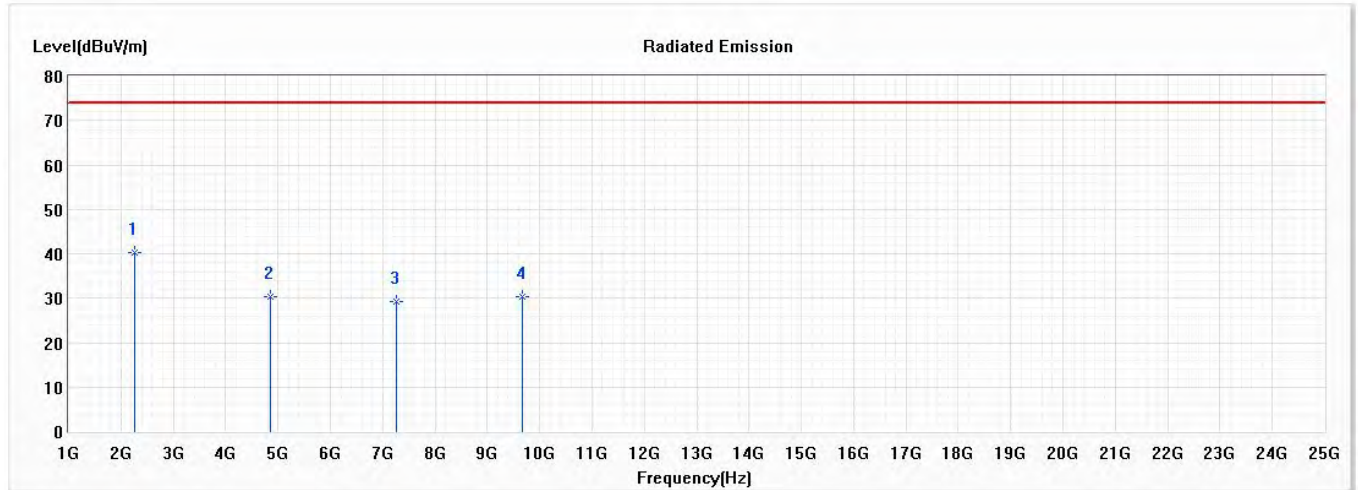
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4849.000	29.56	74.00	-44.44	40.29	-10.73	PK
2	7261.000	29.11	74.00	-44.89	34.72	-5.61	PK
* 3	9673.000	29.91	74.00	-44.09	33.05	-3.14	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437 MHz) – Panel Antenna
 Test Date : 2021/02/20

Vertical



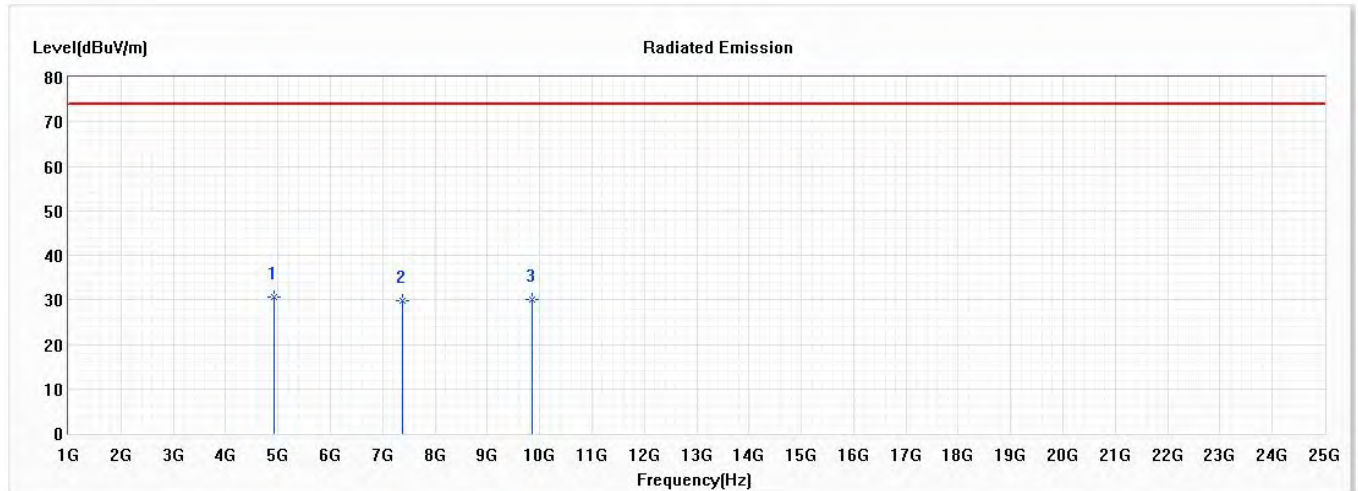
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	2255.900	40.15	74.00	-33.85	57.23	-17.08	PK
2	4849.000	30.41	74.00	-43.59	41.14	-10.73	PK
3	7261.000	29.29	74.00	-44.71	34.90	-5.61	PK
4	9673.000	30.22	74.00	-43.78	33.36	-3.14	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462 MHz) – Panel Antenna
 Test Date : 2021/02/20

Horizontal



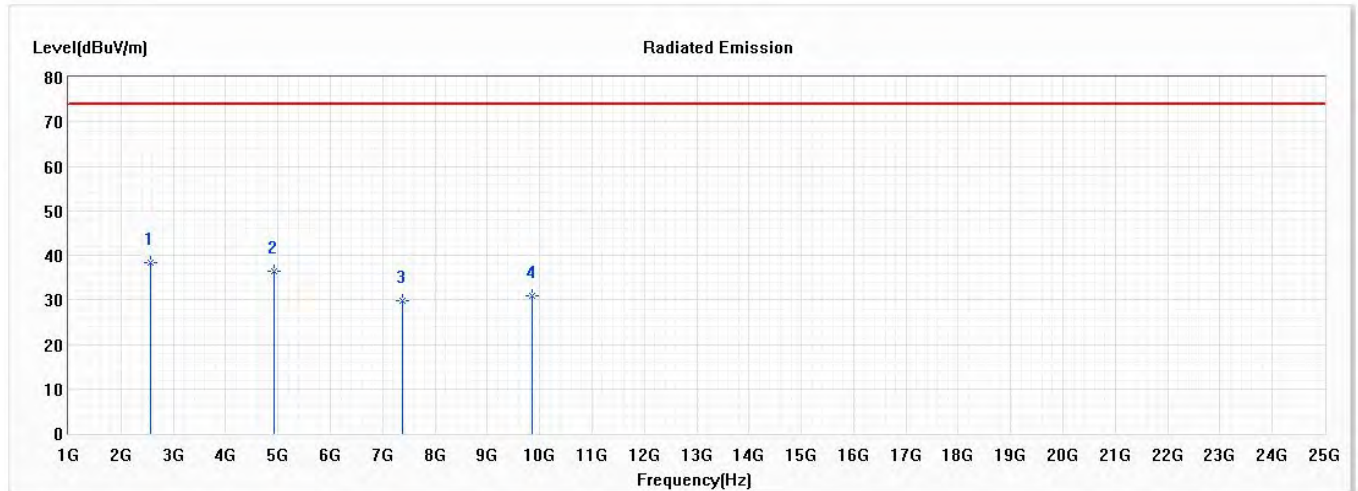
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	4924.000	30.57	74.00	-43.43	41.07	-10.50	PK
2	7386.000	29.69	74.00	-44.31	35.20	-5.51	PK
3	9848.000	30.13	74.00	-43.87	32.87	-2.74	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462 MHz) – Panel Antenna
 Test Date : 2021/02/20

Vertical



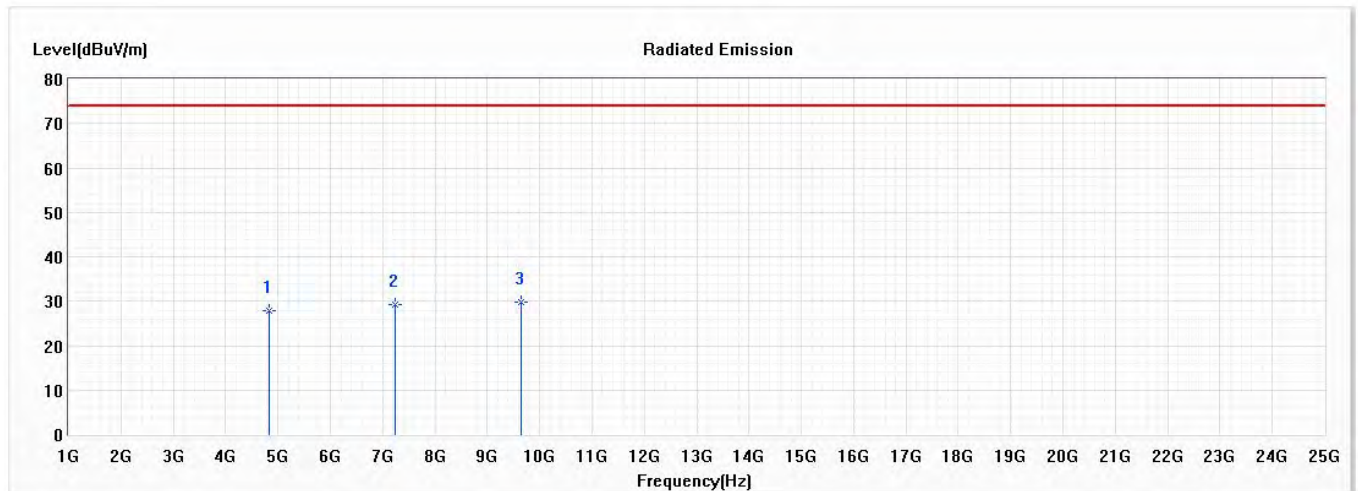
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	2556.000	38.31	74.00	-35.69	54.89	-16.58	PK
2	4924.000	36.35	74.00	-37.65	46.85	-10.50	PK
3	7386.000	29.84	74.00	-44.16	35.35	-5.51	PK
4	9848.000	30.85	74.00	-43.15	33.59	-2.74	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/20

Horizontal



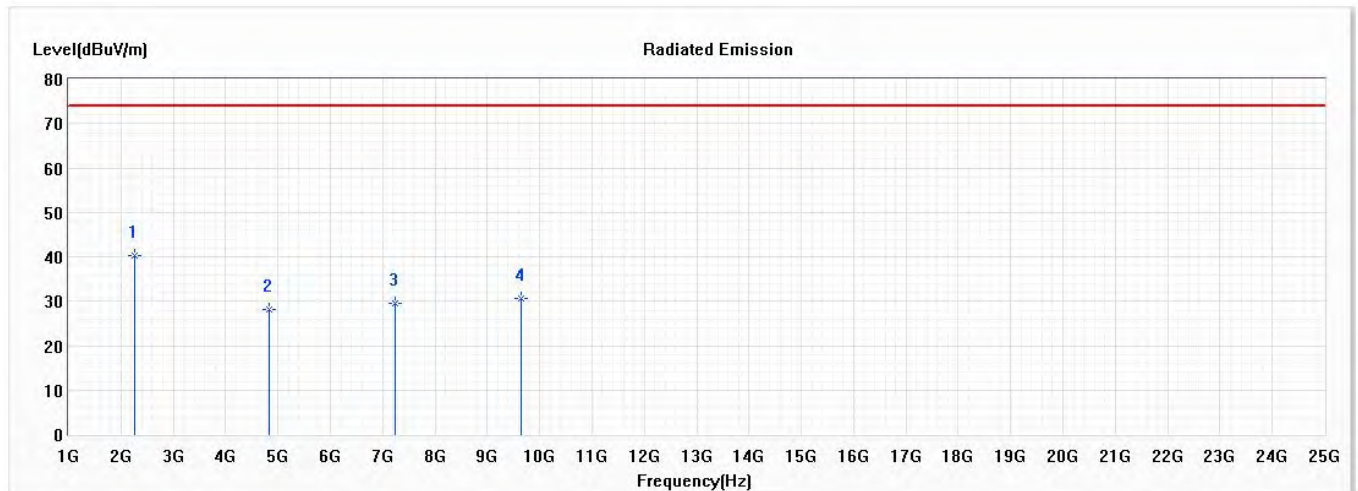
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	27.86	74.00	-46.14	38.67	-10.81	PK
2	7236.000	29.11	74.00	-44.89	34.68	-5.57	PK
* 3	9648.000	29.72	74.00	-44.28	32.94	-3.22	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/20

Vertical



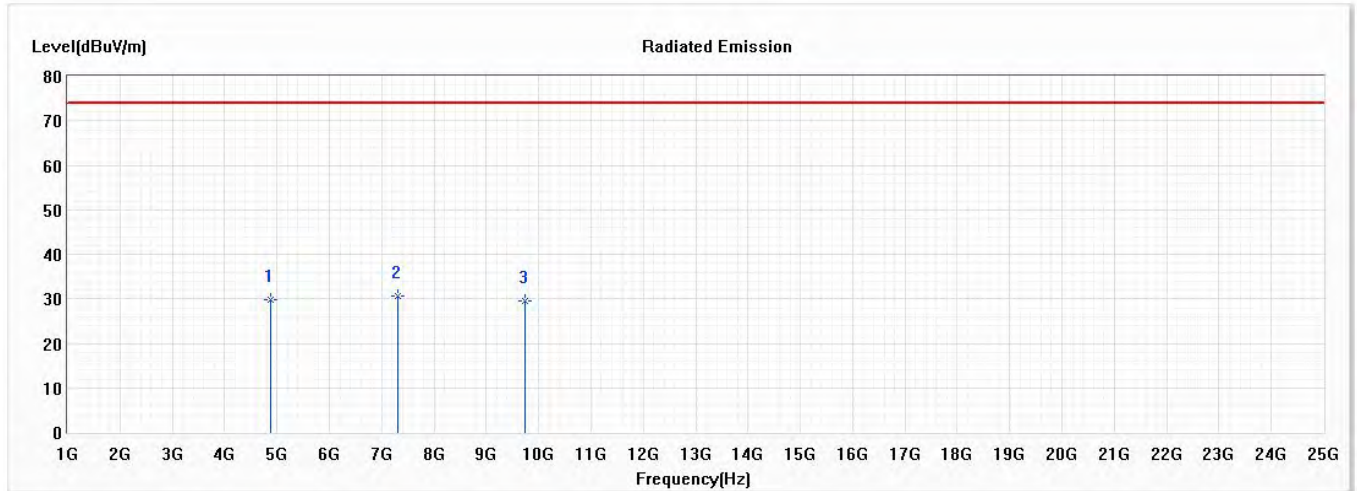
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	2255.900	40.21	74.00	-33.79	57.29	-17.08	PK
2	4824.000	28.02	74.00	-45.98	38.83	-10.81	PK
3	7236.000	29.49	74.00	-44.51	35.06	-5.57	PK
4	9648.000	30.60	74.00	-43.40	33.82	-3.22	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437 MHz) – Panel Antenna
 Test Date : 2021/02/20

Horizontal



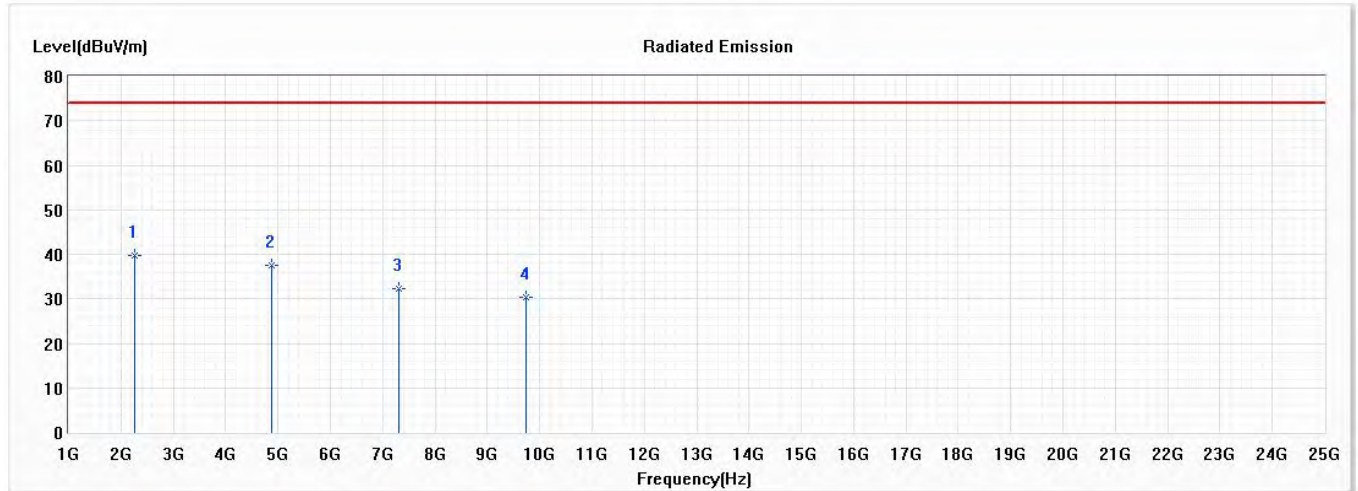
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	29.81	74.00	-44.19	40.42	-10.61	PK
* 2	7311.000	30.53	74.00	-43.47	36.18	-5.65	PK
3	9748.000	29.58	74.00	-44.42	32.43	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437 MHz) – Panel Antenna
 Test Date : 2021/02/20

Vertical



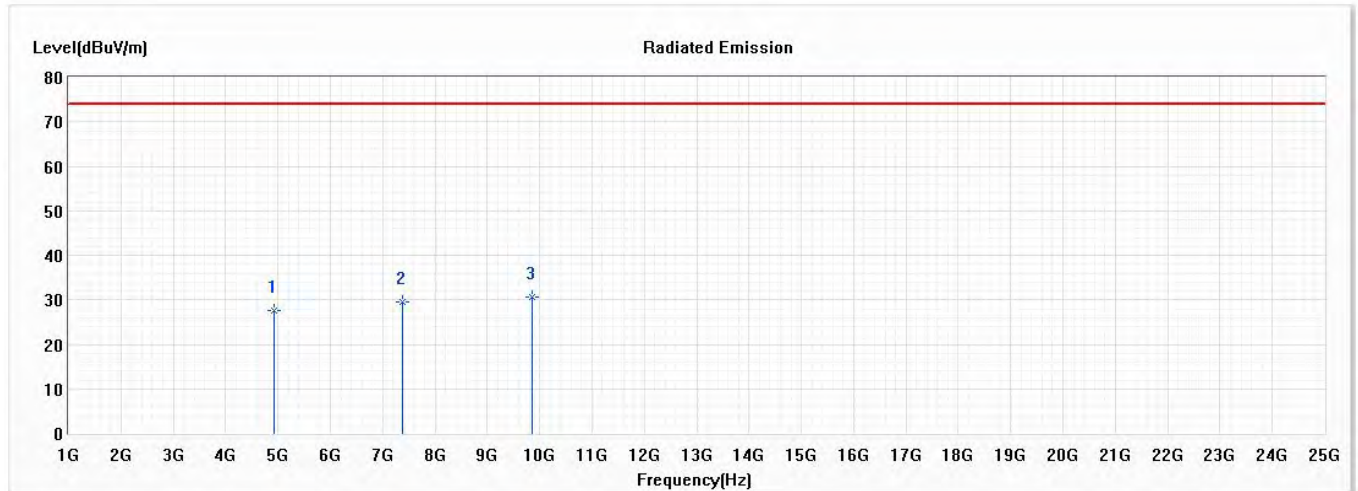
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	2255.900	39.86	74.00	-34.14	56.94	-17.08	PK
2	4874.000	37.44	74.00	-36.56	48.05	-10.61	PK
3	7311.000	32.22	74.00	-41.78	37.87	-5.65	PK
4	9748.000	30.35	74.00	-43.65	33.20	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz) – Panel Antenna
 Test Date : 2021/02/20

Horizontal



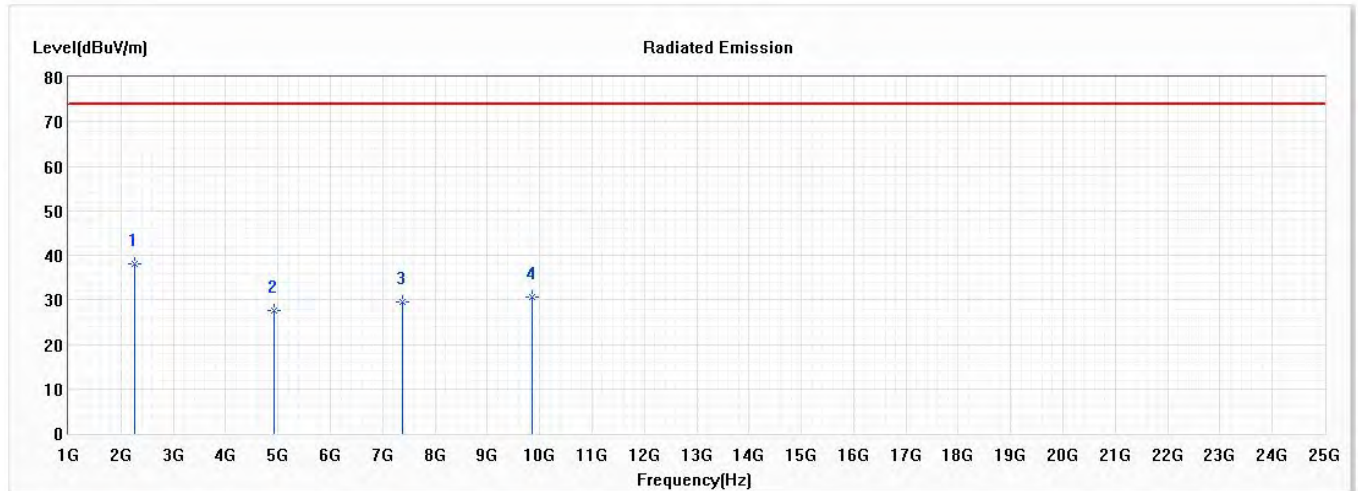
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	27.64	74.00	-46.36	38.14	-10.50	PK
2	7386.000	29.43	74.00	-44.57	34.94	-5.51	PK
* 3	9848.000	30.59	74.00	-43.41	33.33	-2.74	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz) – Panel Antenna
 Test Date : 2021/02/20

Vertical



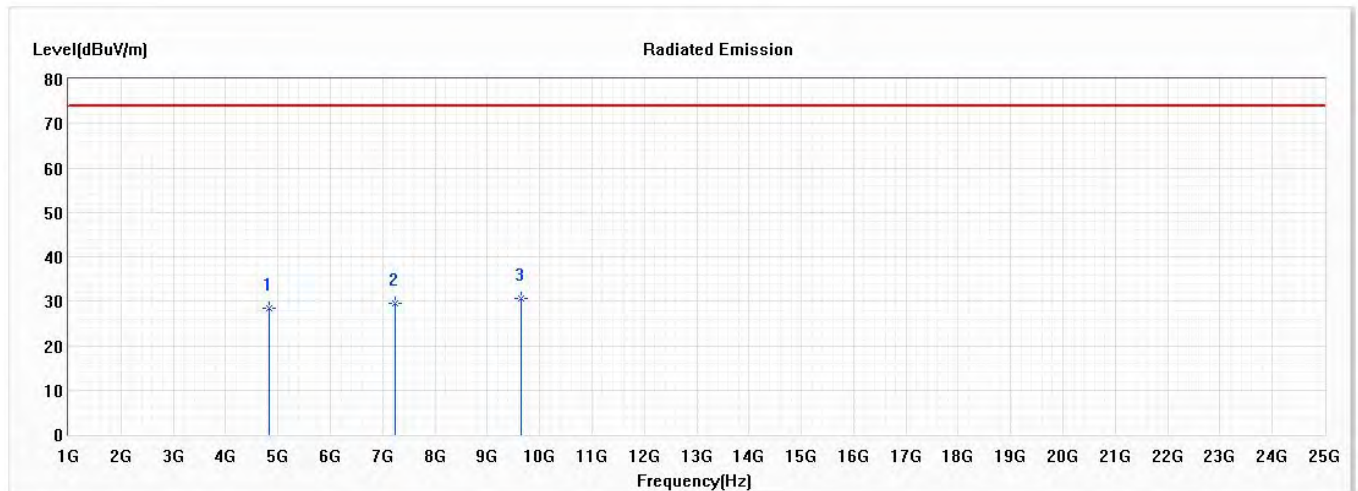
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	2255.900	38.20	74.00	-35.80	55.28	-17.08	PK
2	4924.000	27.50	74.00	-46.50	38.00	-10.50	PK
3	7386.000	29.59	74.00	-44.41	35.10	-5.51	PK
4	9848.000	30.69	74.00	-43.31	33.43	-2.74	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 3: Transmit (802.11n-20MBW 14.4Mbps)(2412MHz) – Panel Antenna
 Test Date : 2021/02/20

Horizontal



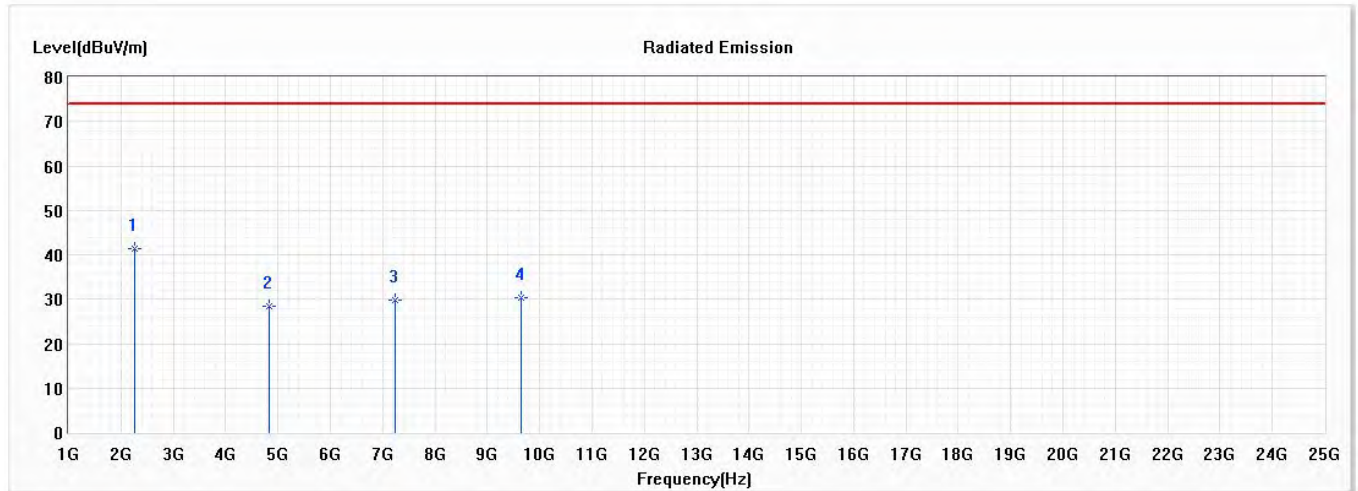
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	28.42	74.00	-45.58	39.23	-10.81	PK
2	7236.000	29.41	74.00	-44.59	34.98	-5.57	PK
* 3	9648.000	30.58	74.00	-43.42	33.80	-3.22	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 3: Transmit (802.11n-20MBW 14.4Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/20

Vertical



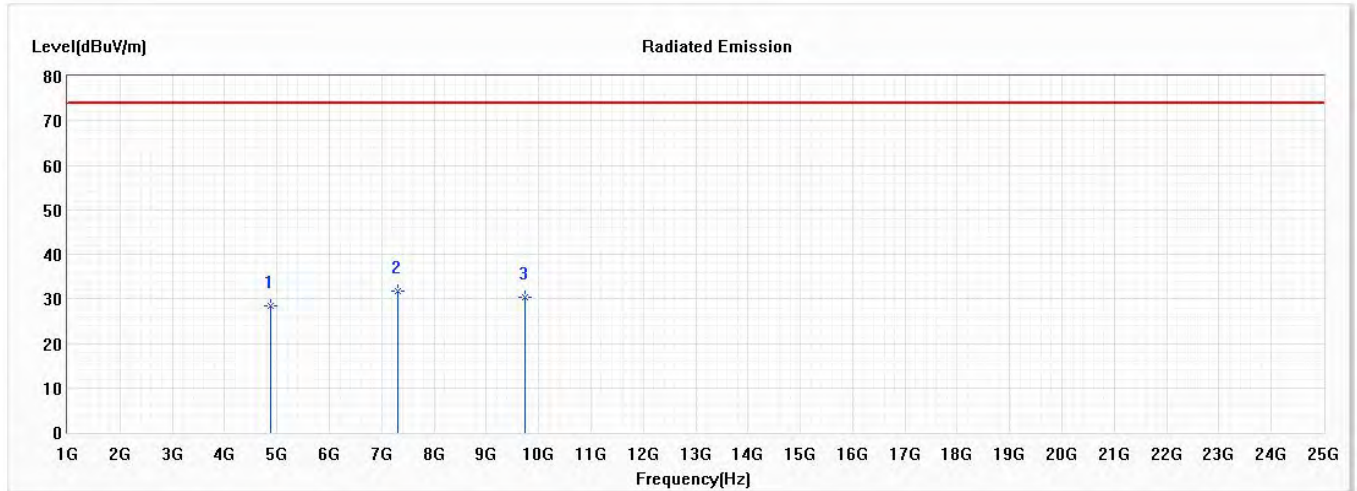
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	2255.900	41.38	74.00	-32.62	58.46	-17.08	PK
2	4824.000	28.48	74.00	-45.52	39.29	-10.81	PK
3	7236.000	29.69	74.00	-44.31	35.26	-5.57	PK
4	9648.000	30.36	74.00	-43.64	33.58	-3.22	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 3: Transmit (802.11n-20MBW 14.4Mbps) (2437 MHz) – Panel Antenna
 Test Date : 2021/02/20

Horizontal



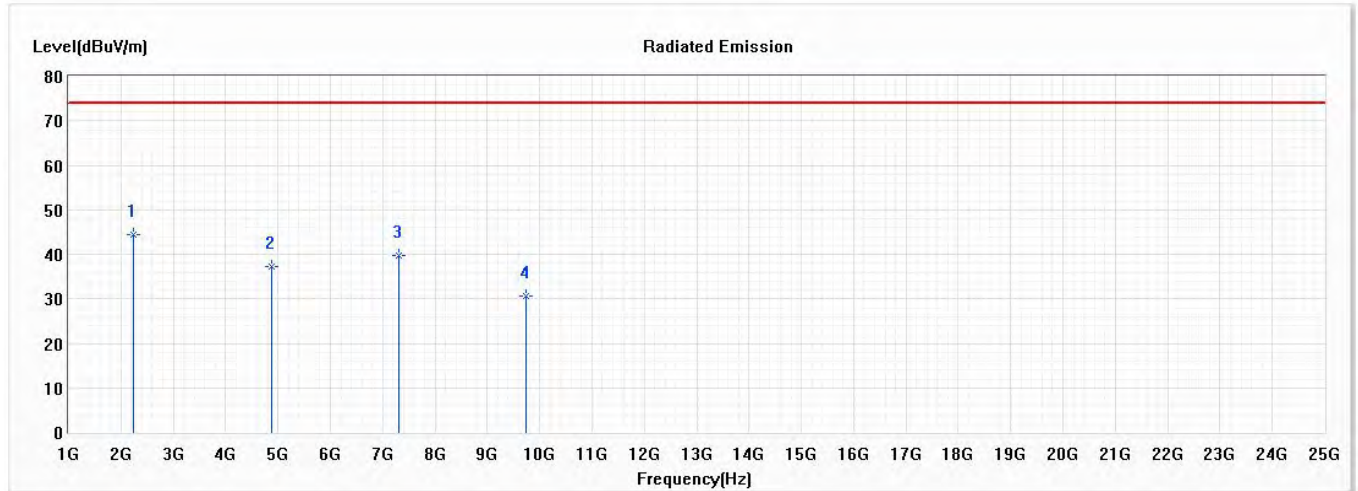
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	28.31	74.00	-45.69	38.92	-10.61	PK
* 2	7311.000	31.65	74.00	-42.35	37.30	-5.65	PK
3	9748.000	30.36	74.00	-43.64	33.21	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 3: Transmit (802.11n-20MBW 14.4Mbps) (2437 MHz) – Panel Antenna
 Test Date : 2021/02/20

Vertical



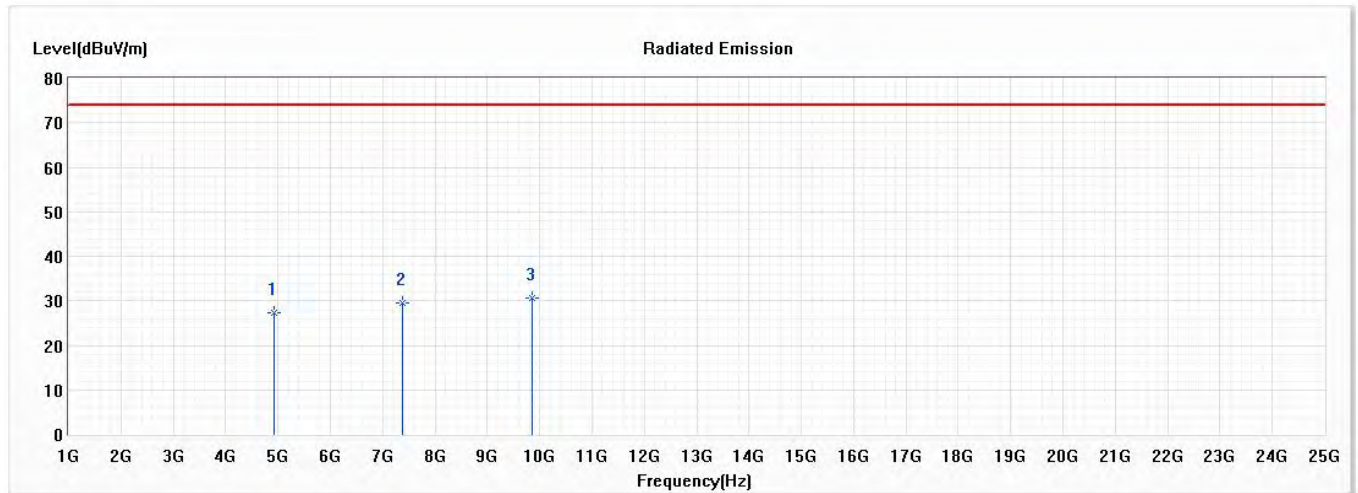
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	2240.000	44.38	74.00	-29.62	61.52	-17.14	PK
2	4874.000	37.32	74.00	-36.68	47.93	-10.61	PK
3	7311.000	39.63	74.00	-34.37	45.28	-5.65	PK
4	9748.000	30.54	74.00	-43.46	33.39	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 3: Transmit (802.11n-20MBW 14.4Mbps) (2462 MHz) – Panel Antenna
 Test Date : 2021/02/20

Horizontal



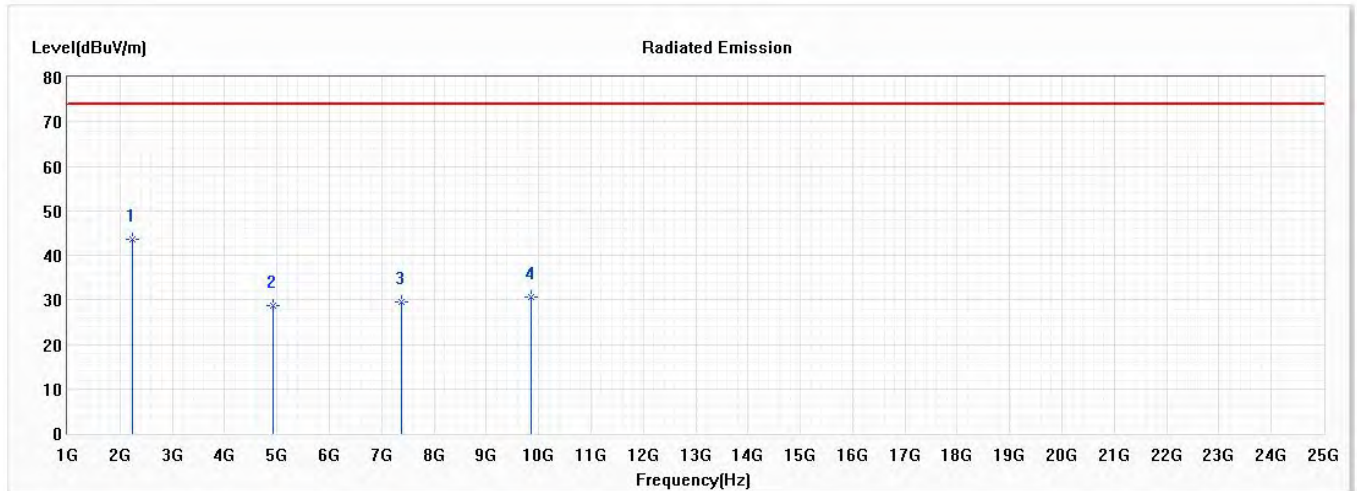
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	27.31	74.00	-46.69	37.81	-10.50	PK
2	7386.000	29.50	74.00	-44.50	35.01	-5.51	PK
* 3	9848.000	30.63	74.00	-43.37	33.37	-2.74	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 3: Transmit (802.11n-20MBW 14.4Mbps) (2462 MHz) – Panel Antenna
 Test Date : 2021/02/20

Vertical



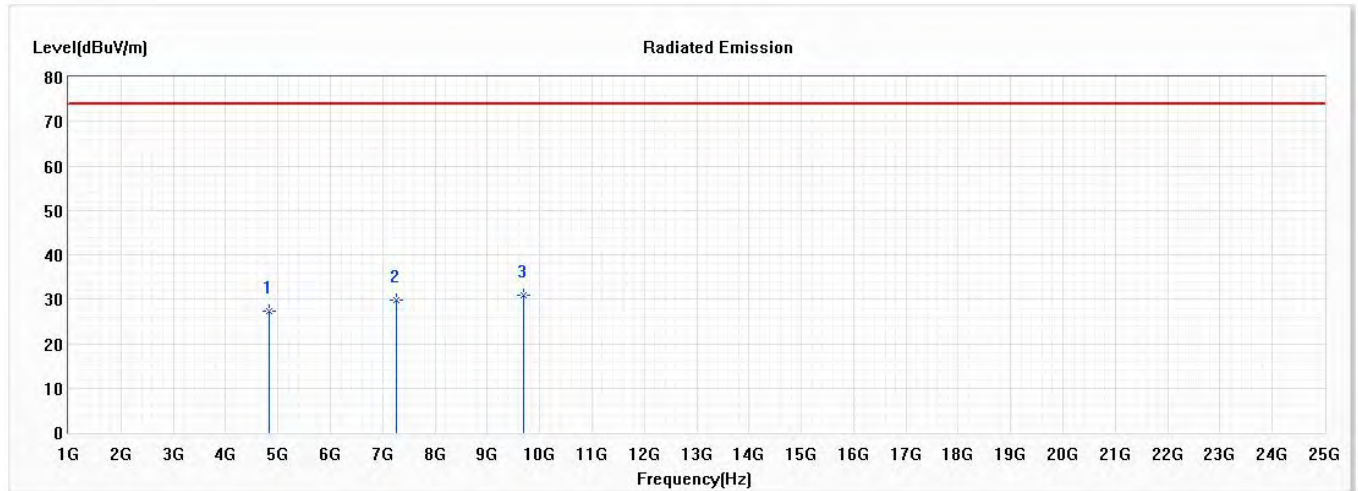
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	2240.000	43.66	74.00	-30.34	60.80	-17.14	PK
2	4924.000	28.56	74.00	-45.44	39.06	-10.50	PK
3	7386.000	29.65	74.00	-44.35	35.16	-5.51	PK
4	9848.000	30.58	74.00	-43.42	33.32	-2.74	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 4: Transmit (802.11n-40MBW 30Mbps) (2422MHz) – Panel Antenna
 Test Date : 2021/02/20

Horizontal



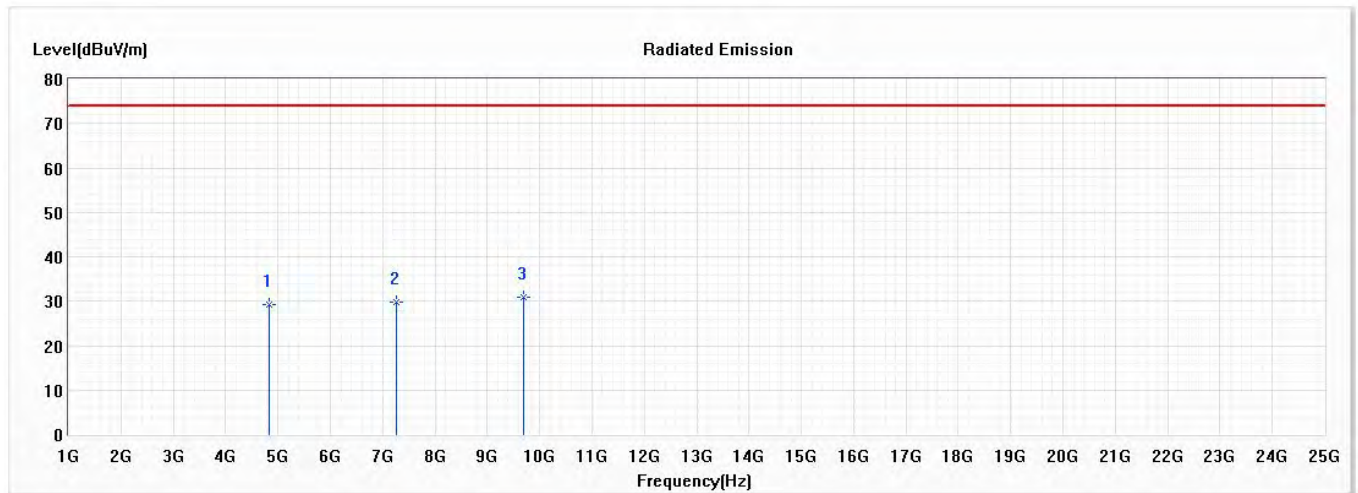
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4844.000	27.33	74.00	-46.67	38.08	-10.75	PK
2	7266.000	29.77	74.00	-44.23	35.39	-5.62	PK
* 3	9688.000	30.79	74.00	-43.21	33.87	-3.08	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 4: Transmit (802.11n-40MBW 30Mbps) (2422MHz) – Panel Antenna
 Test Date : 2021/02/20

Vertical



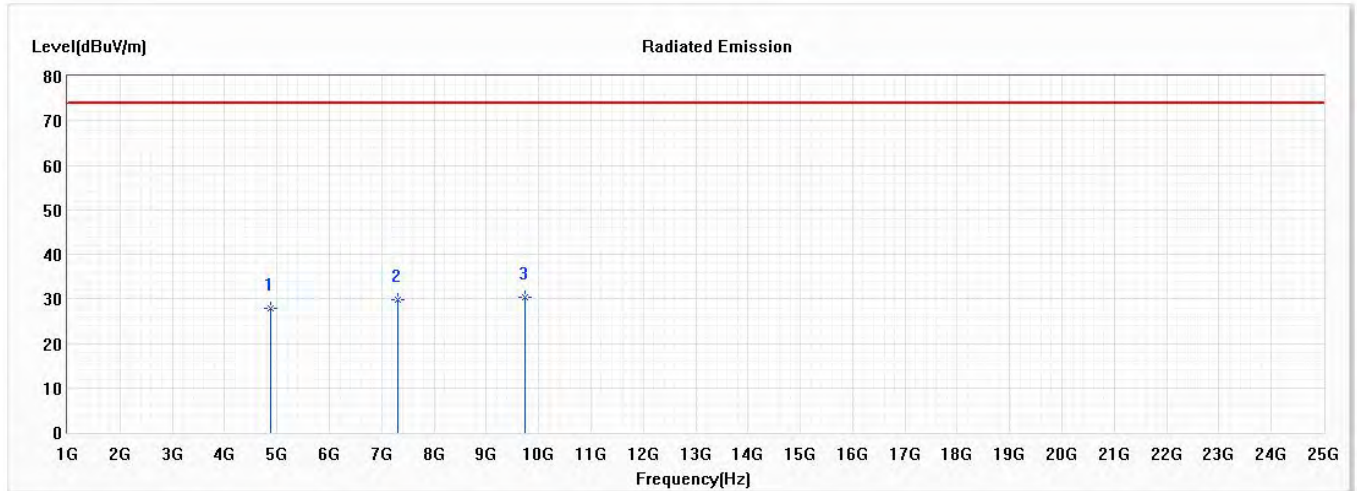
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4844.000	29.27	74.00	-44.73	40.02	-10.75	PK
2	7266.000	29.74	74.00	-44.26	35.36	-5.62	PK
* 3	9688.000	30.77	74.00	-43.23	33.85	-3.08	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 4: Transmit (802.11n-40MBW 30Mbps) (2437 MHz) – Panel Antenna
 Test Date : 2021/02/20

Horizontal



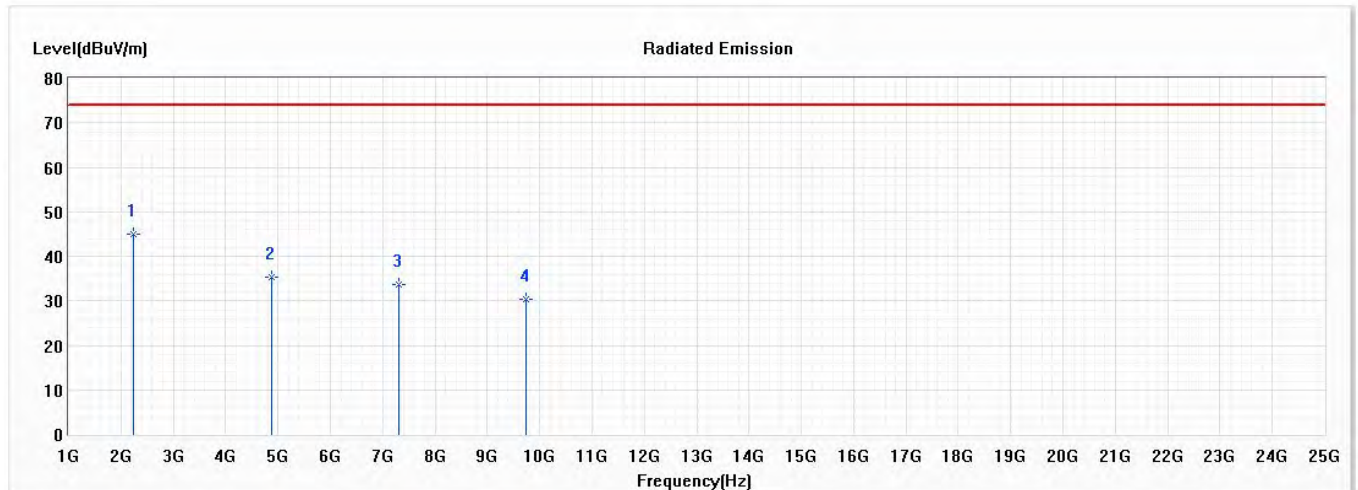
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	27.78	74.00	-46.22	38.39	-10.61	PK
2	7311.000	29.84	74.00	-44.16	35.49	-5.65	PK
* 3	9748.000	30.33	74.00	-43.67	33.18	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 4: Transmit (802.11n-40MBW 30Mbps) (2437 MHz) – Panel Antenna
 Test Date : 2021/02/20

Vertical



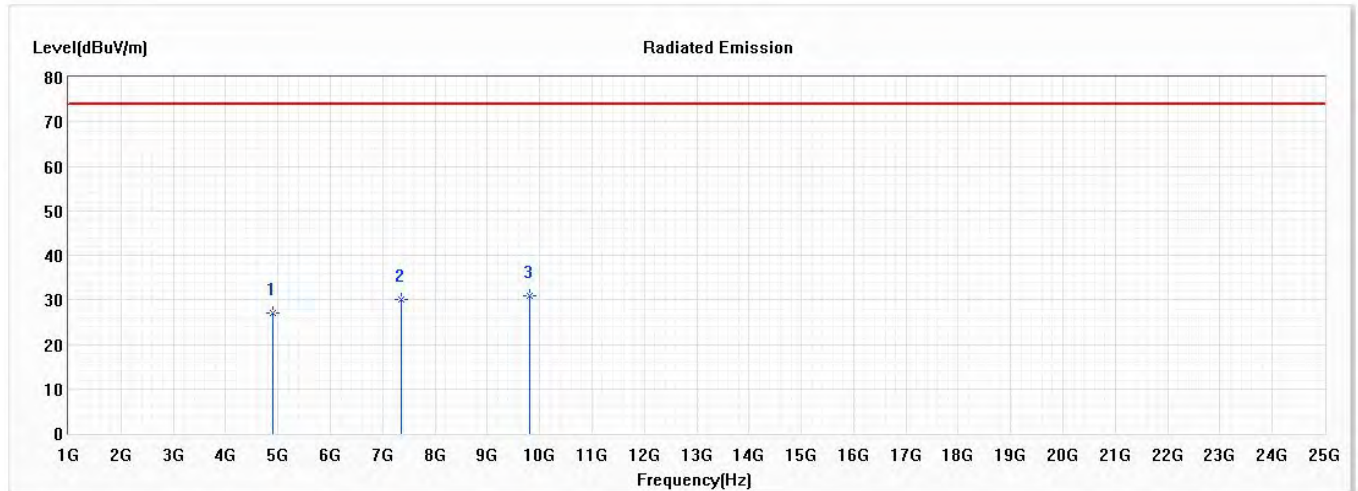
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	2239.990	45.07	74.00	-28.93	62.21	-17.14	PK
2	4874.000	35.38	74.00	-38.62	45.99	-10.61	PK
3	7311.000	33.75	74.00	-40.25	39.40	-5.65	PK
4	9748.000	30.45	74.00	-43.55	33.30	-2.85	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 4: Transmit (802.11n-40MBW 30Mbps) (2452 MHz) – Panel Antenna
 Test Date : 2021/02/20

Horizontal



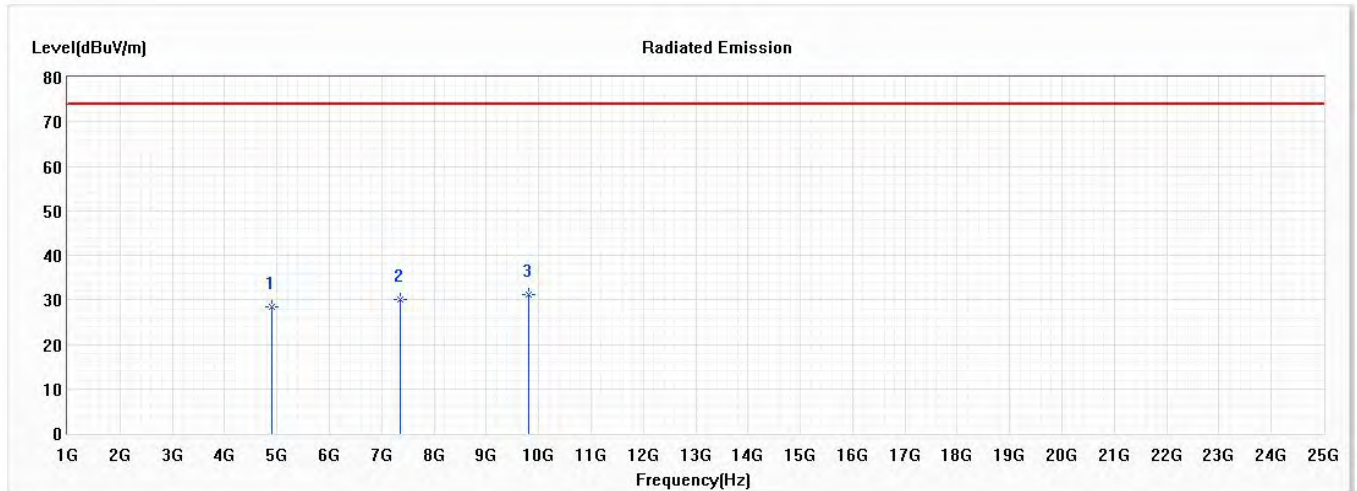
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4904.000	27.17	74.00	-46.83	37.69	-10.52	PK
2	7356.000	30.08	74.00	-43.92	35.61	-5.53	PK
* 3	9808.000	31.00	74.00	-43.00	33.81	-2.81	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : Harmonic Radiated Emission Data
 Test Mode : Mode 4: Transmit (802.11n-40MBW 30Mbps) (2452 MHz) – Panel Antenna
 Test Date : 2021/02/20

Vertical



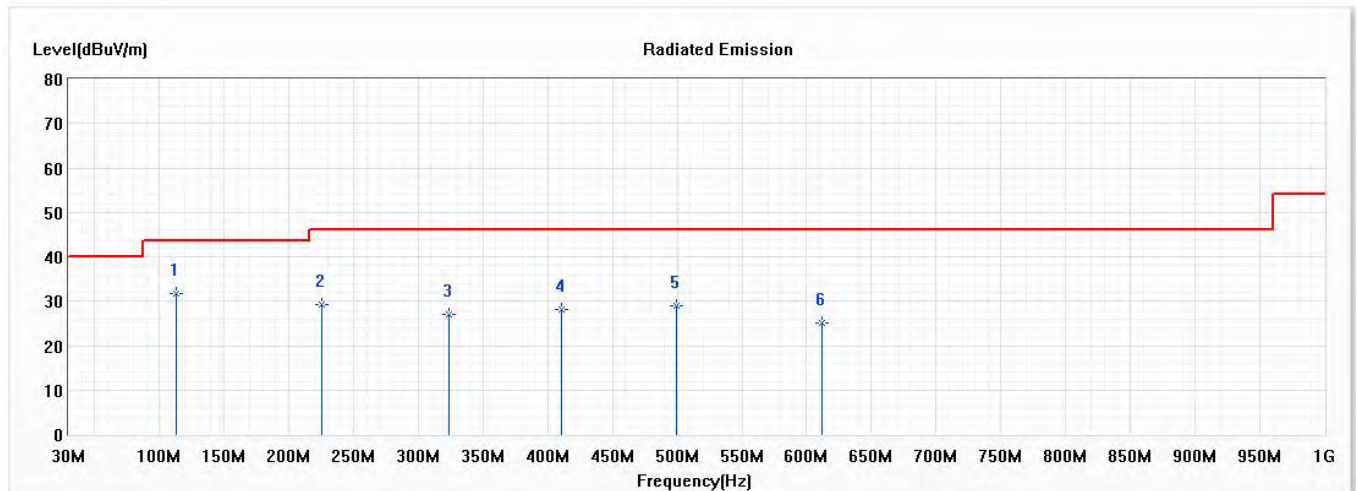
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4904.000	28.51	74.00	-45.49	39.03	-10.52	PK
2	7356.000	29.97	74.00	-44.03	35.50	-5.53	PK
* 3	9808.000	31.10	74.00	-42.90	33.91	-2.81	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : General Radiated Emission Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps)(2437 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Horizontal

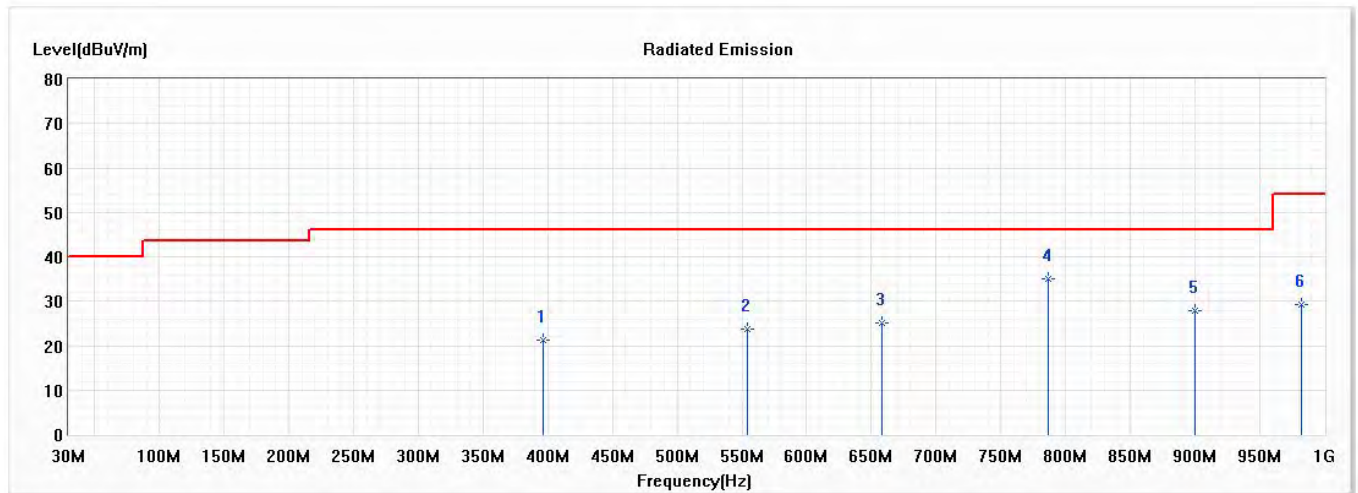


Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : General Radiated Emission Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2437 MHz) – Dipole Antenna
 Test Date : 2021/02/20

Vertical



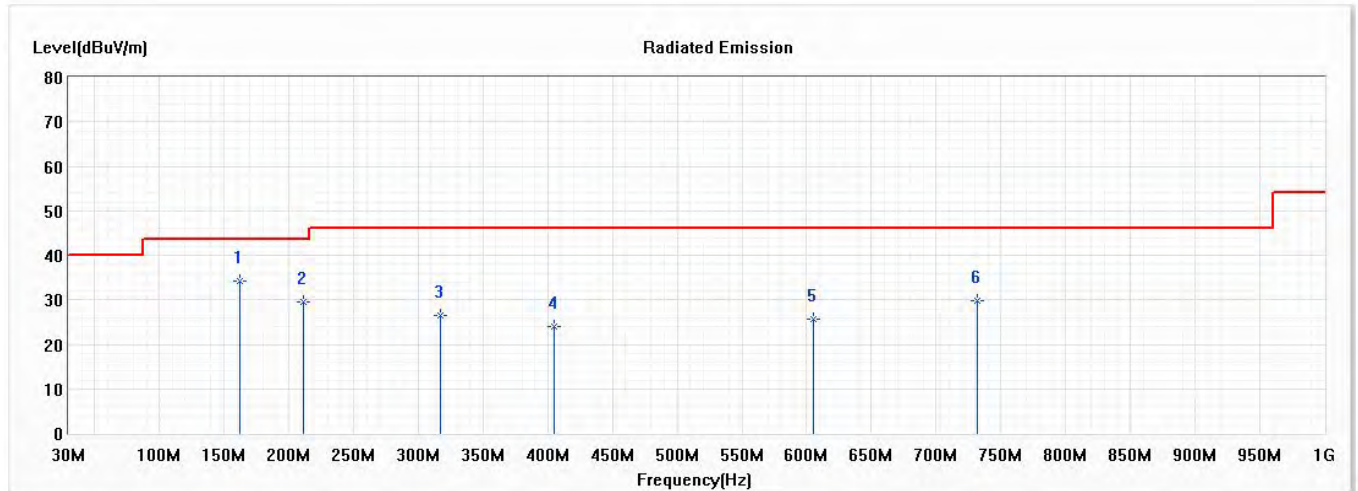
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	396.913	21.37	46.00	-24.63	36.77	-15.40	QP
2	554.362	23.60	46.00	-22.40	35.67	-12.07	QP
3	658.391	25.00	46.00	-21.00	35.20	-10.20	QP
* 4	786.319	34.92	46.00	-11.08	34.61	0.31	QP
5	900.188	27.93	46.00	-18.07	34.58	-6.65	QP
6	981.725	29.35	54.00	-24.65	35.00	-5.65	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : General Radiated Emission Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps)(2437 MHz) – Panel Antenna
 Test Date : 2021/02/20

Horizontal



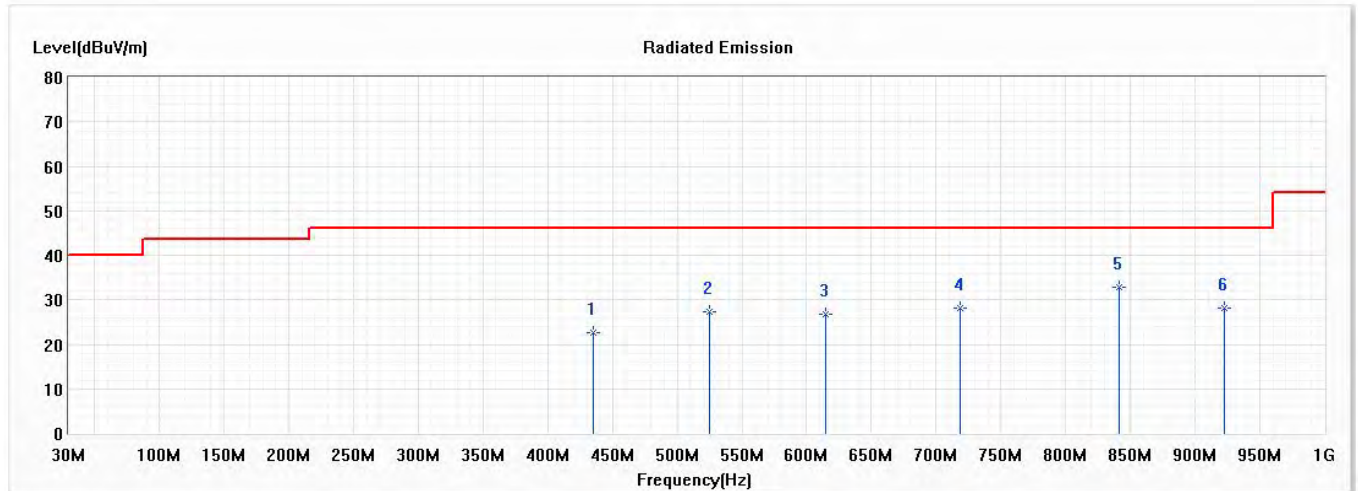
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	162.145	34.16	43.50	-9.34	52.88	-18.72	QP
2	211.348	29.49	43.50	-14.01	50.67	-21.18	QP
3	316.783	26.36	46.00	-19.64	43.99	-17.63	QP
4	405.348	24.03	46.00	-21.97	39.35	-15.32	QP
5	604.971	25.70	46.00	-20.30	36.51	-10.81	QP
6	731.493	29.91	46.00	-16.09	35.81	-5.90	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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 : Wireless module
 Test Item : General Radiated Emission Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps)(2437 MHz) – Panel Antenna
 Test Date : 2021/02/20

Vertical



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	434.870	22.61	46.00	-23.39	37.14	-14.53	QP
2	524.841	27.42	46.00	-18.58	39.98	-12.56	QP
3	614.812	26.79	46.00	-19.21	37.47	-10.68	QP
4	718.841	28.02	46.00	-17.98	35.39	-7.37	QP
* 5	841.145	32.76	46.00	-13.24	34.51	-1.75	QP
6	922.681	28.20	46.00	-17.80	34.58	-6.38	QP

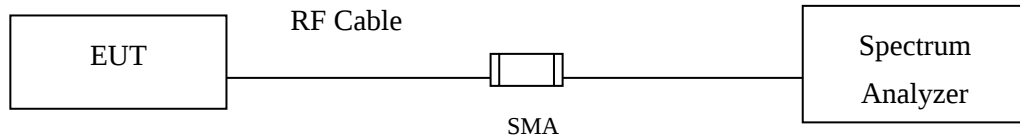
Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement 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

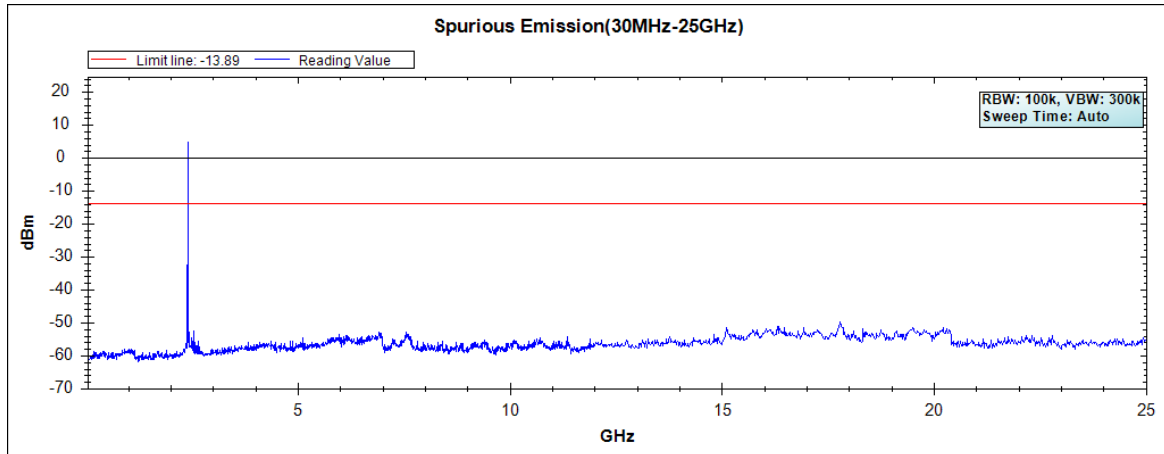
The EUT was tested according to C63.10:2013 Section 11.11 for compliance to FCC 47CFR 15.247 requirements.

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

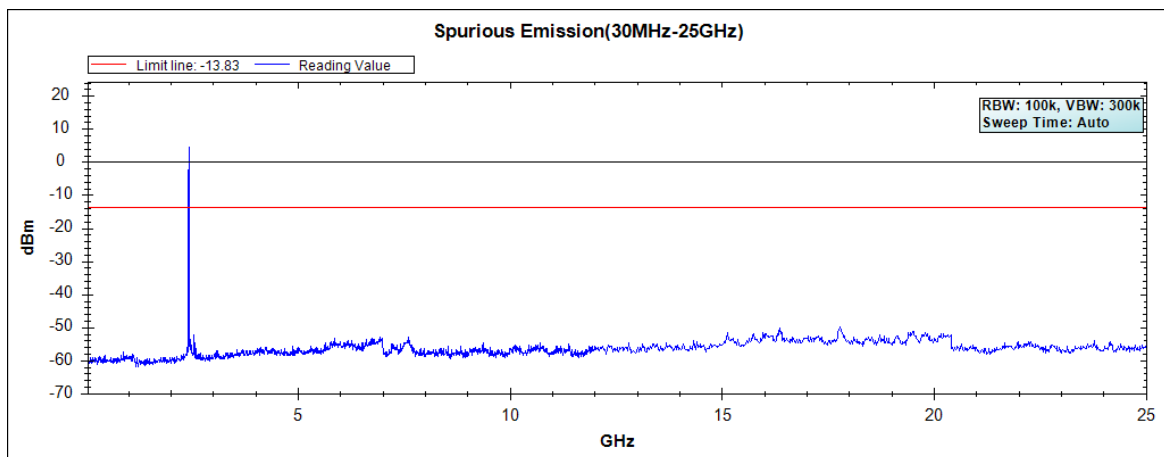
5.4. Test Result of RF antenna conducted test

Product : Wireless module
Test Item : RF antenna conducted test
Test Mode : Mode 1: Transmit (802.11b 1Mbps) – Dipole Antenna
Test Date : 2021/02/19

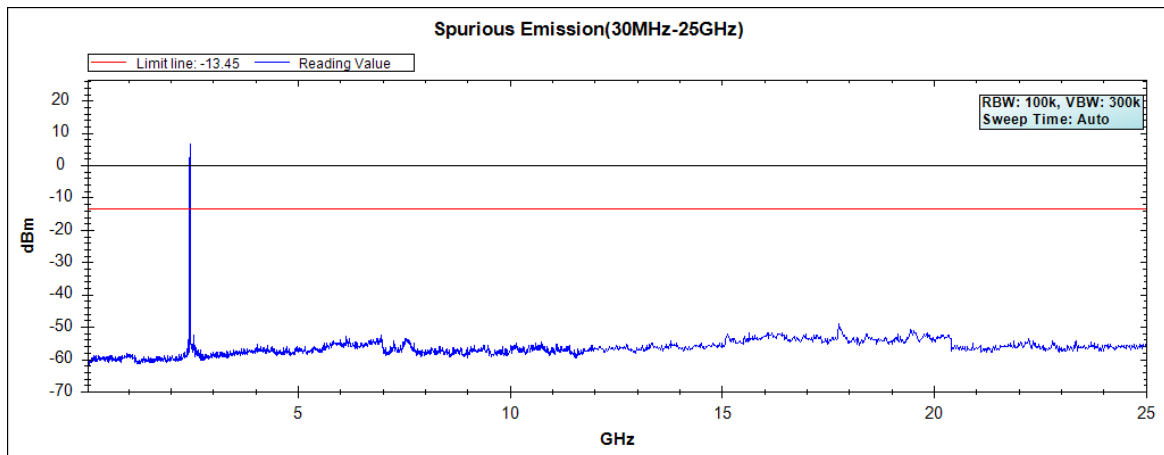
Channel 01 (2412MHz)



Channel 06 (2437MHz)

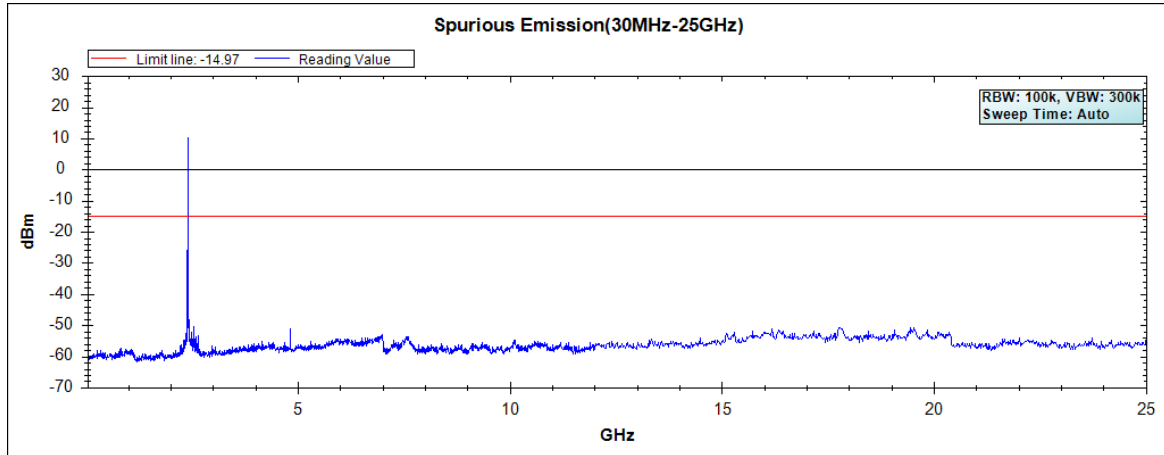
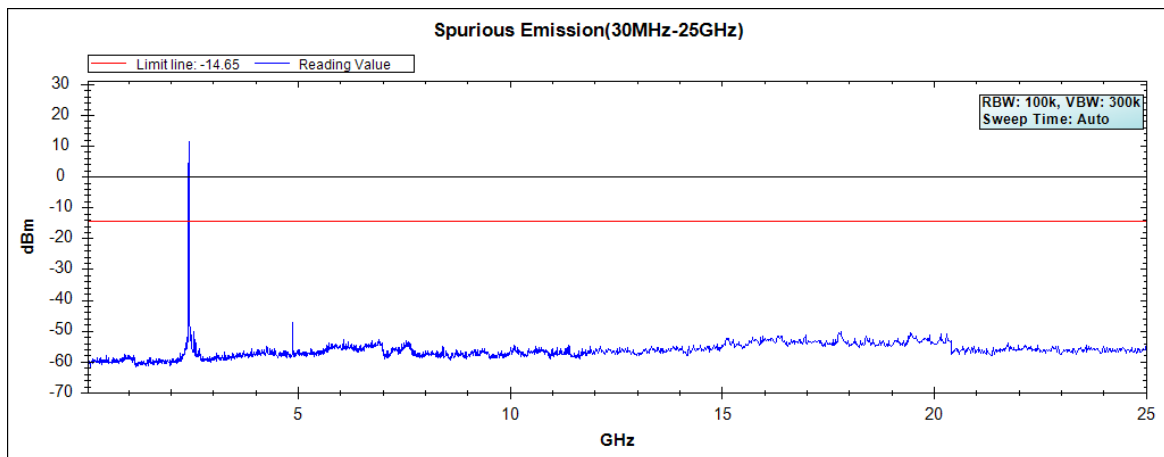
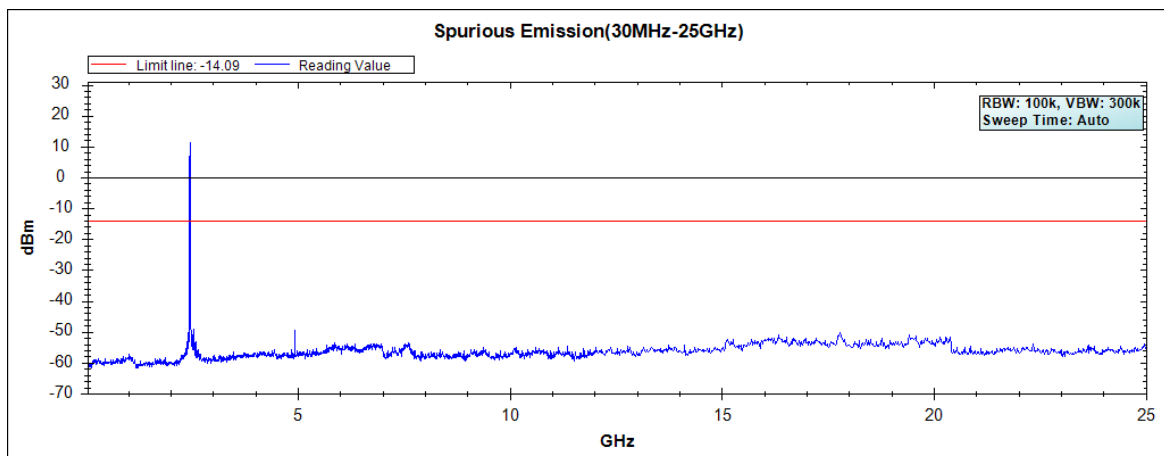


Channel 11 (2462MHz)



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

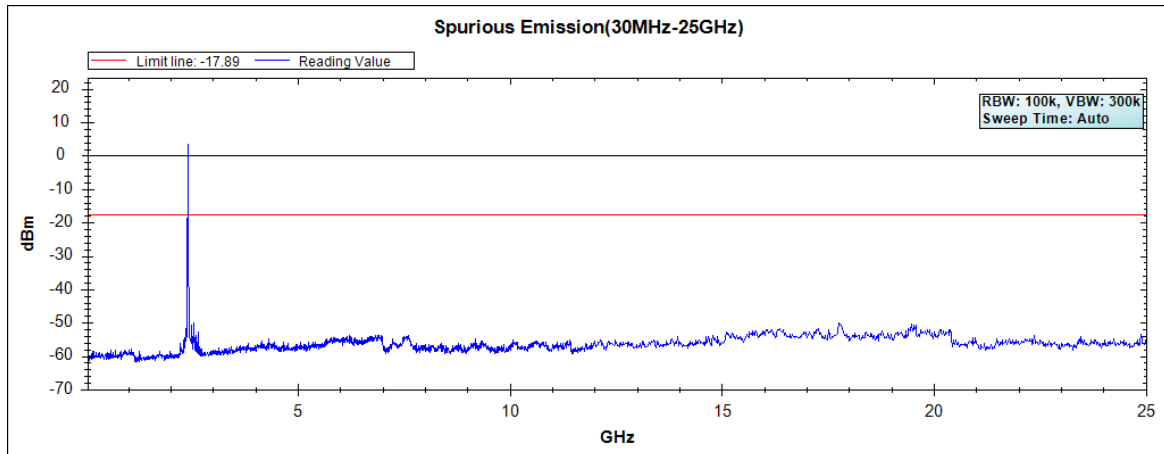
Product : Wireless module
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 2: Transmit (802.11g 6Mbps) – Dipole Antenna
Test Date : 2021/02/19

Channel 01 (2412MHz)**Channel 06 (2437MHz)****Channel 11 (2462MHz)**

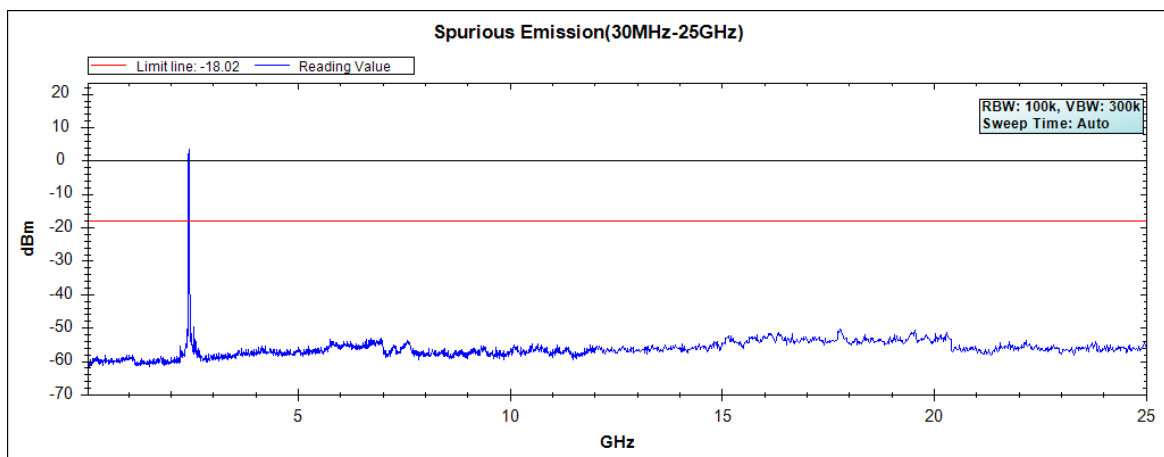
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Wireless module
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) – Dipole Antenna
Test Date : 2021/02/19

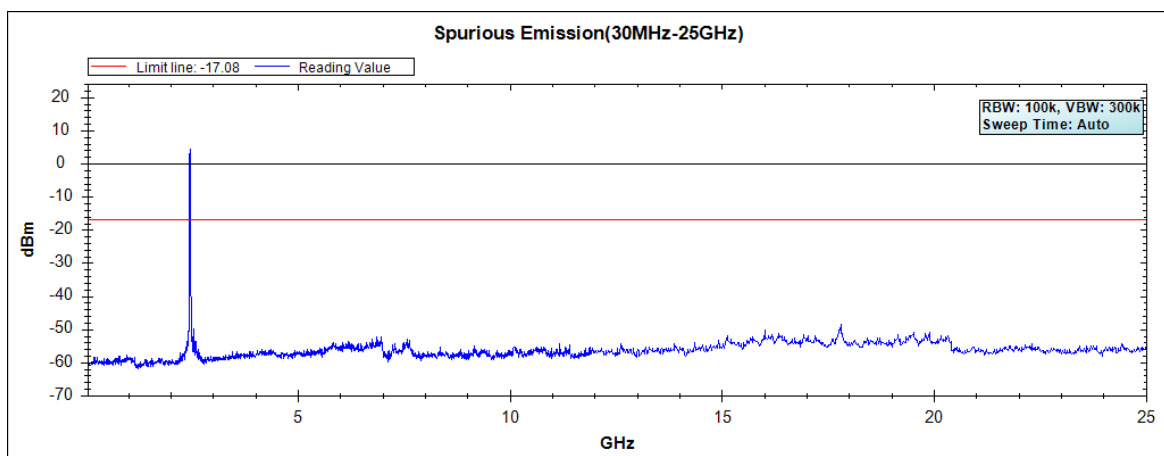
Channel 01 (2412MHz)-Chain A



Channel 06 (2437MHz)-Chain A



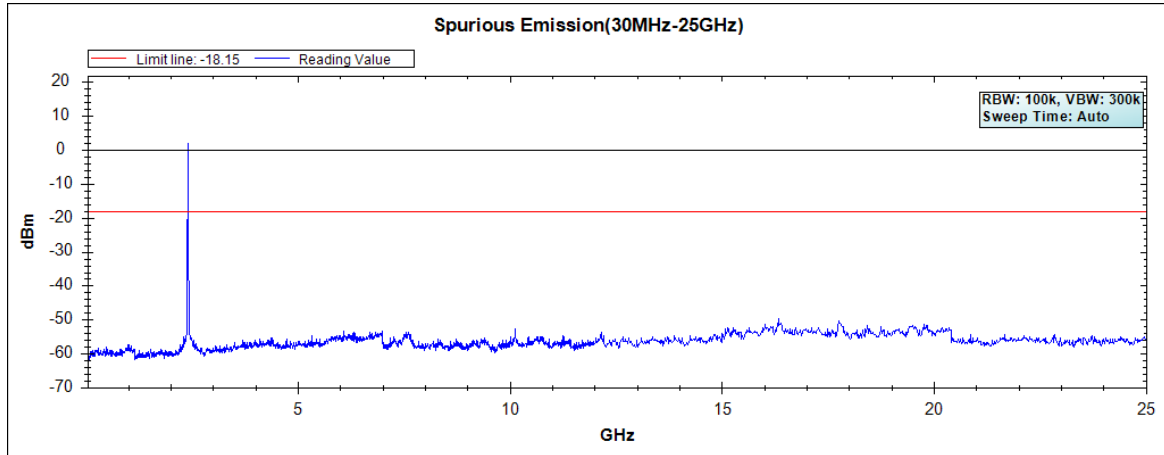
Channel 11 (2462MHz)-Chain A



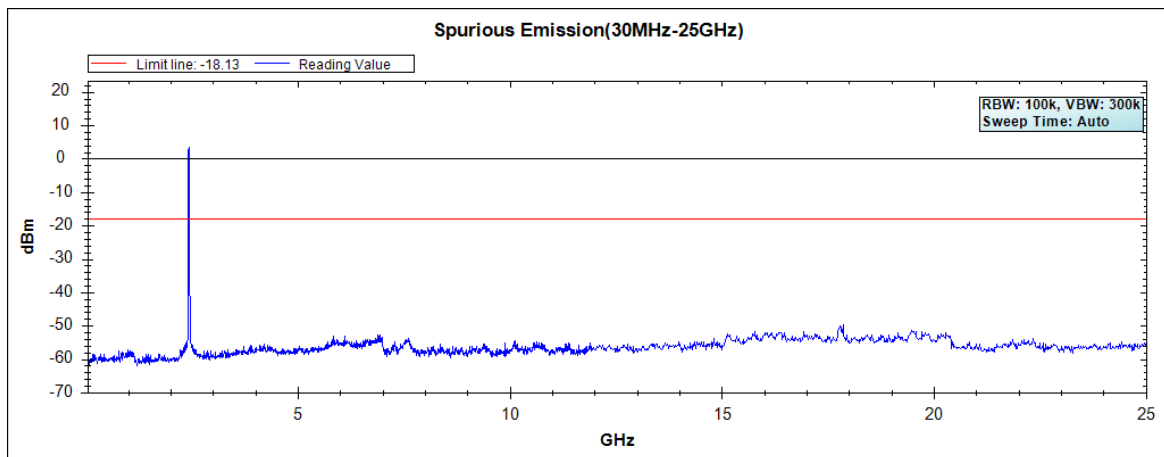
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Wireless module
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) – Dipole Antenna
Test Date : 2021/02/19

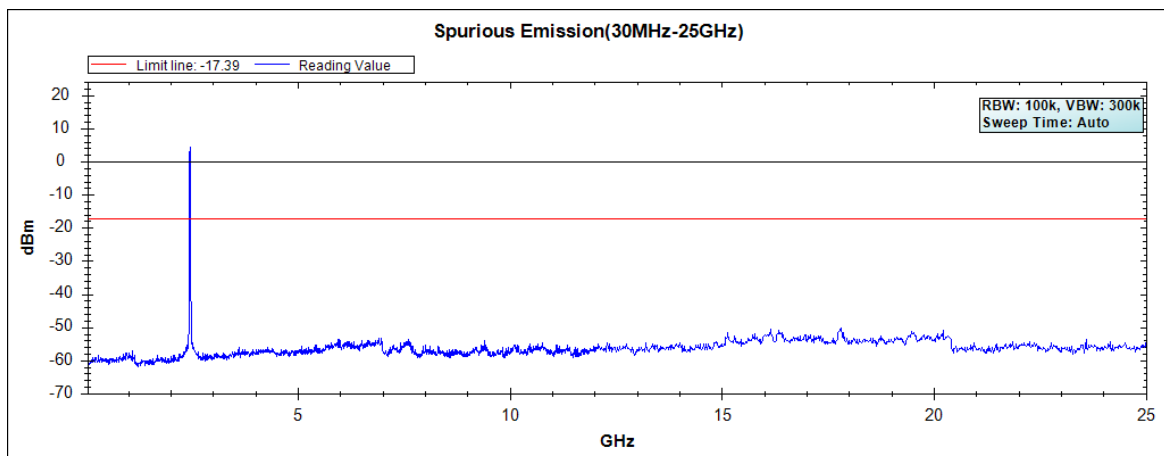
Channel 01 (2412MHz)-Chain B



Channel 06 (2437MHz)-Chain B

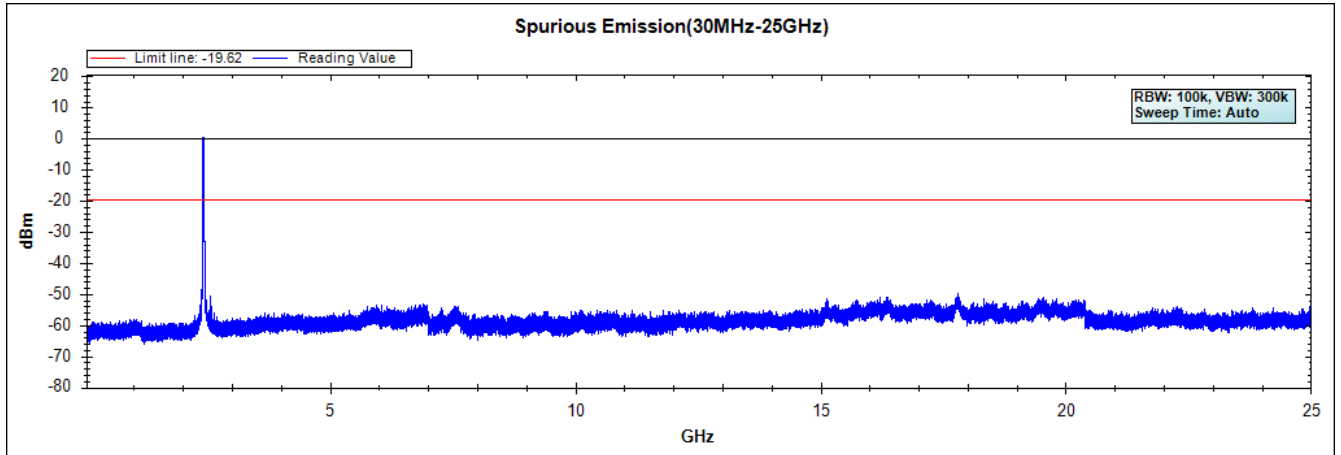
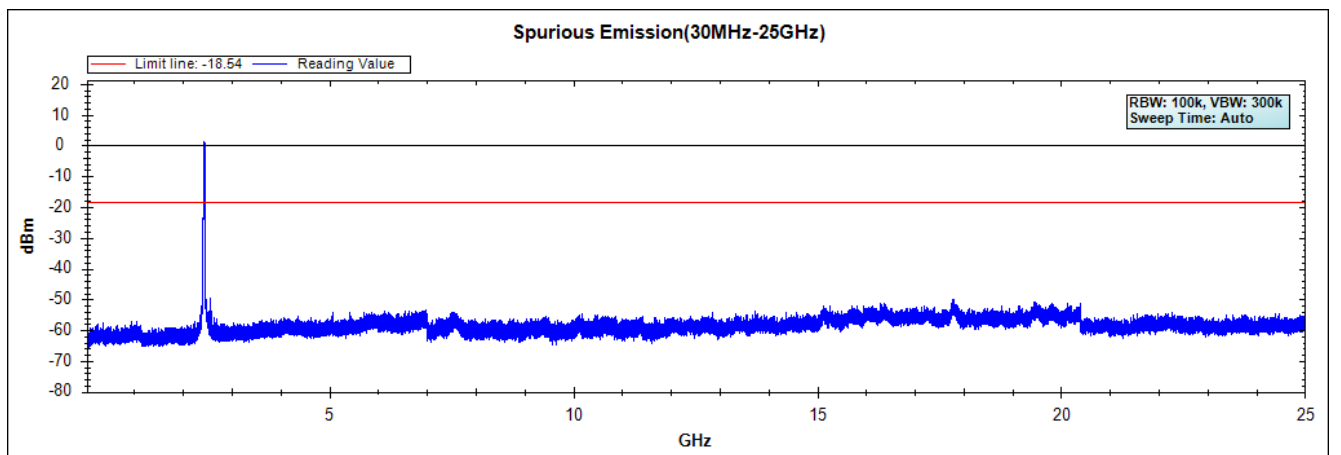
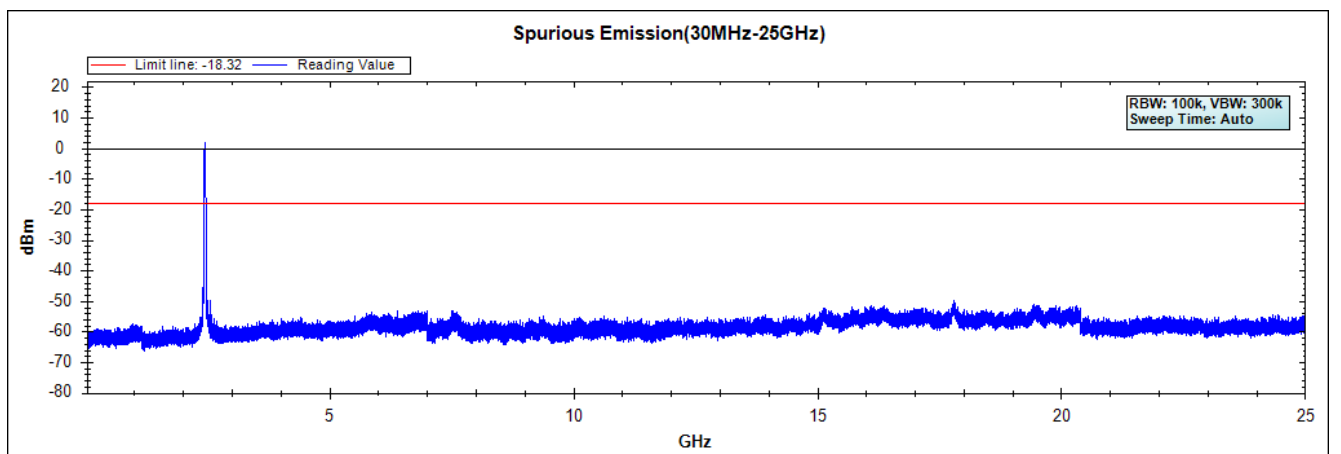


Channel 11 (2462MHz)-Chain B



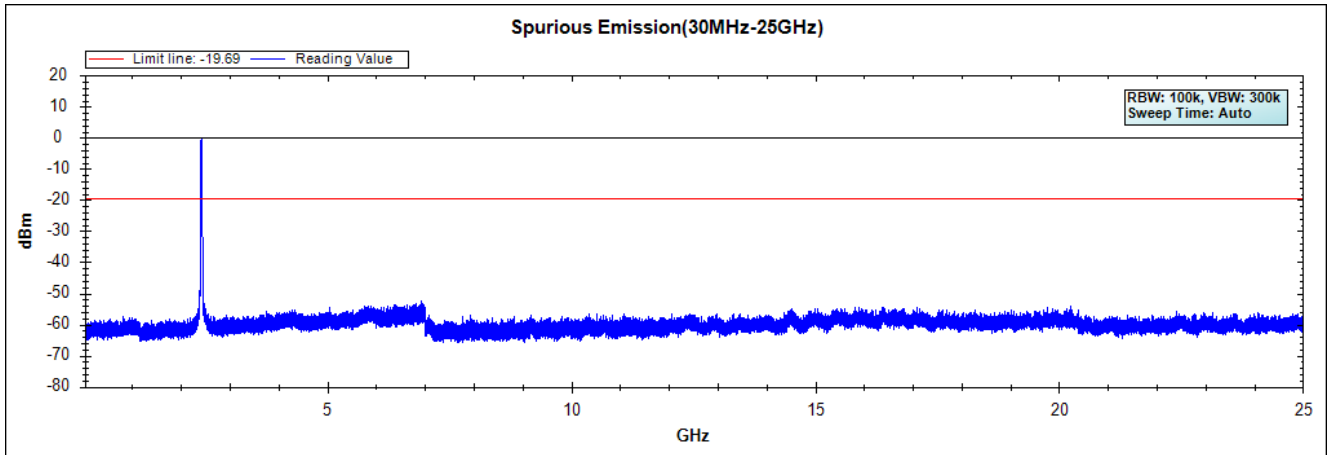
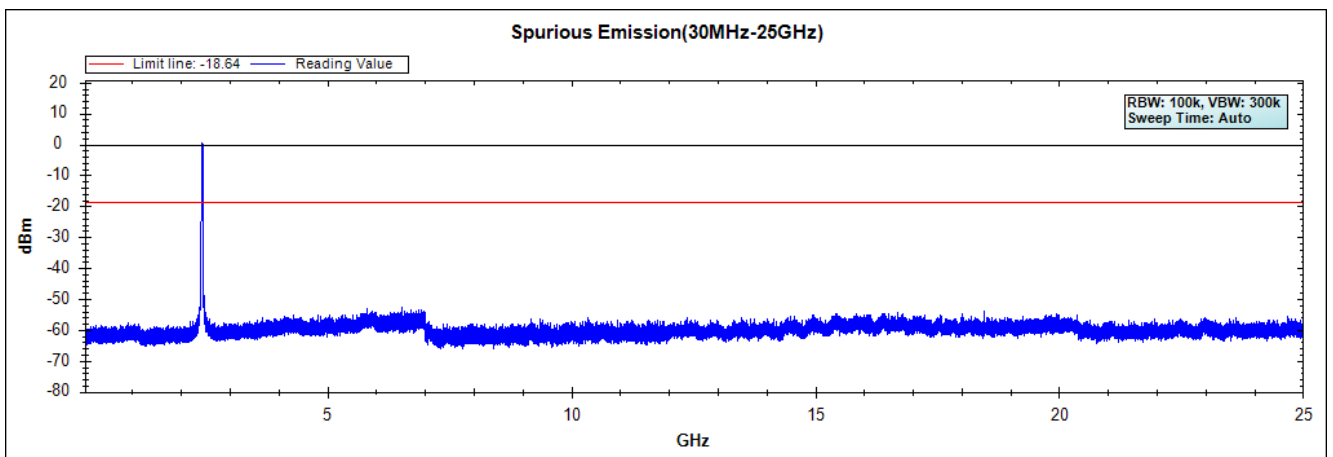
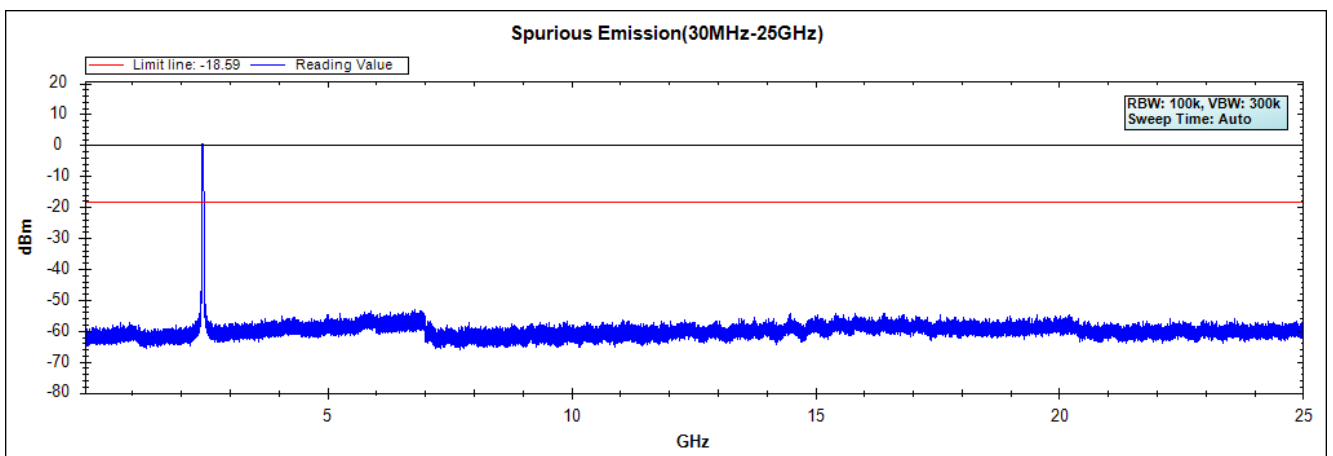
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Wireless module
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) – Dipole Antenna
Test Date : 2021/02/19

Channel 03 (2422MHz)-Chain A**Channel 06 (2437MHz)-Chain A****Channel 09 (2452MHz)-Chain A**

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

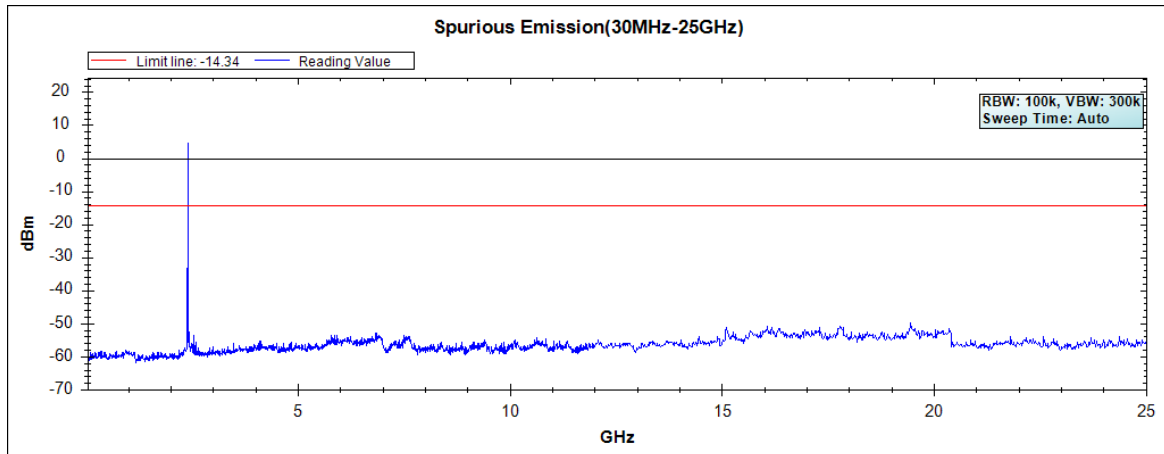
Product : Wireless module
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) – Dipole Antenna
Test Date : 2021/02/19

Channel 03 (2422MHz)-Chain B**Channel 06 (2437MHz)-Chain B****Channel 09 (2452MHz)-Chain B**

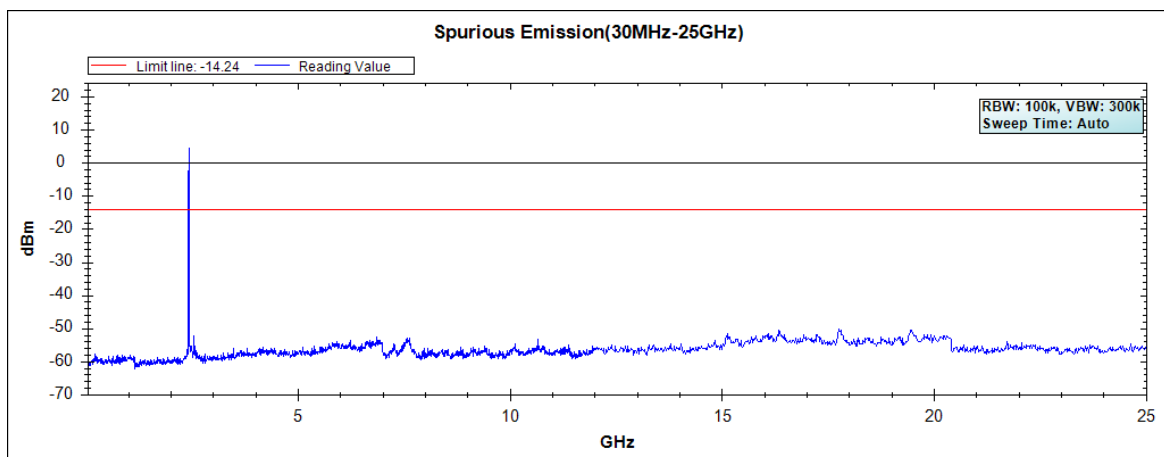
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Wireless module
Test Item : RF antenna conducted test
Test Mode : Mode 1: Transmit (802.11b 1Mbps) – Panel Antenna
Test Date : 2021/02/19

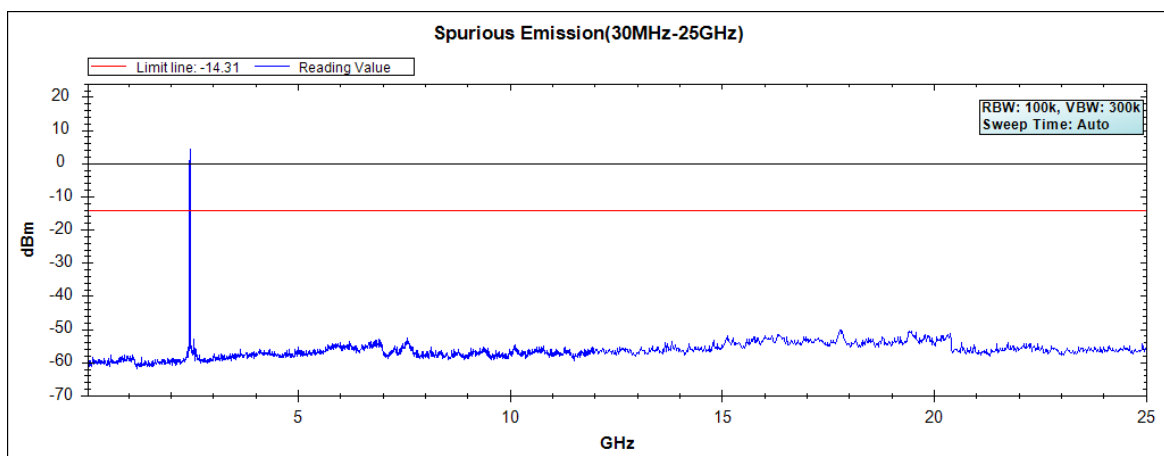
Channel 01 (2412MHz)



Channel 06 (2437MHz)

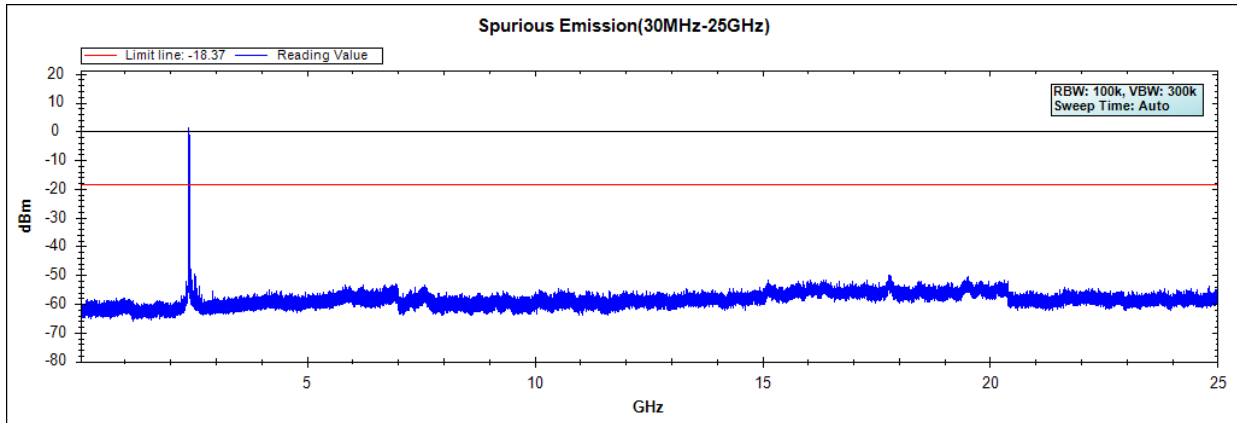
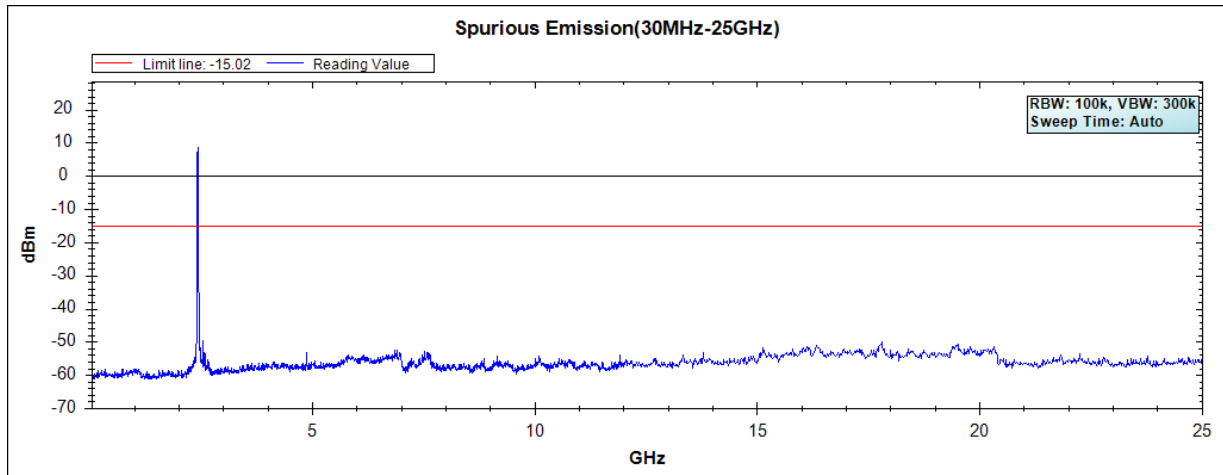
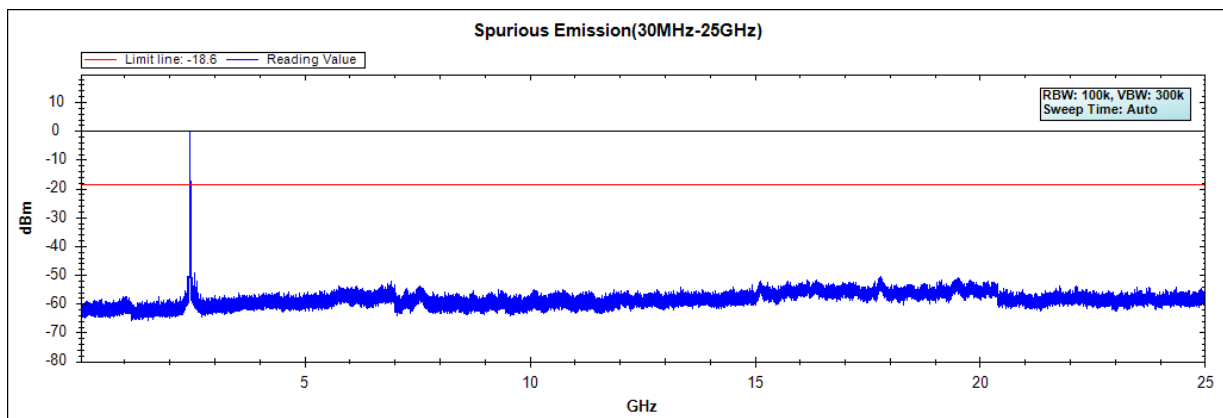


Channel 11 (2462MHz)



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

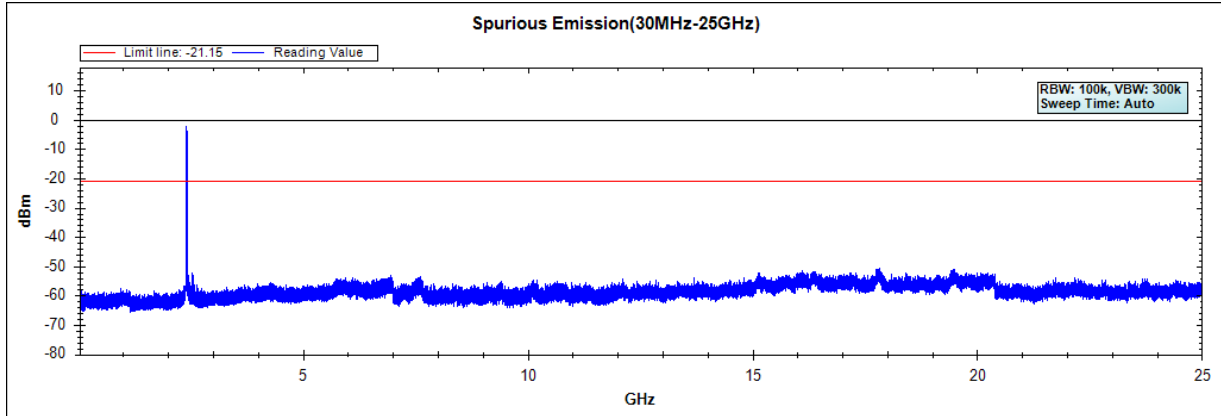
Product : Wireless module
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 2: Transmit (802.11g 6Mbps) – Panel Antenna
Test Date : 2021/02/19

Channel 01 (2412MHz)**Channel 06 (2437MHz)****Channel 11 (2462MHz)**

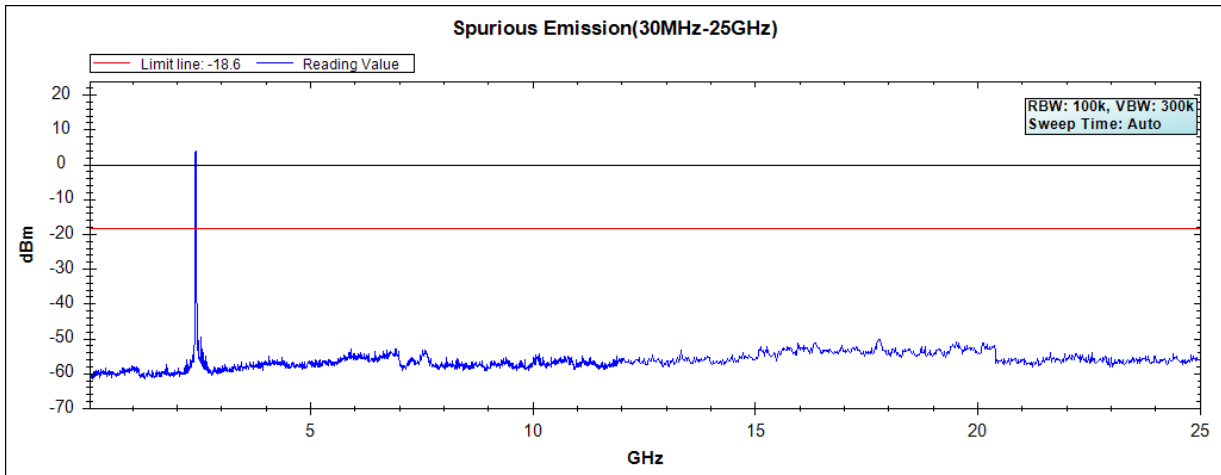
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Wireless module
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) – Panel Antenna
Test Date : 2021/02/19

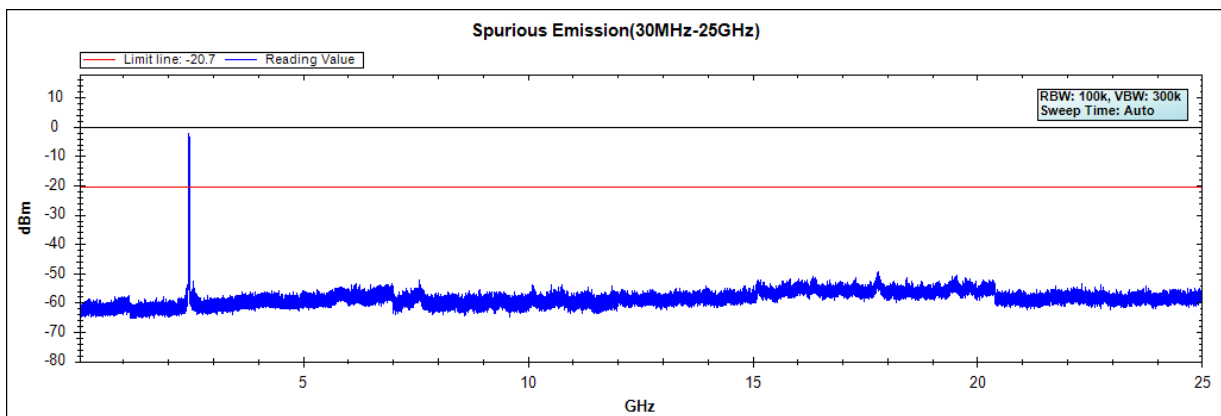
Channel 01 (2412MHz)-Chain A



Channel 06 (2437MHz)-Chain A



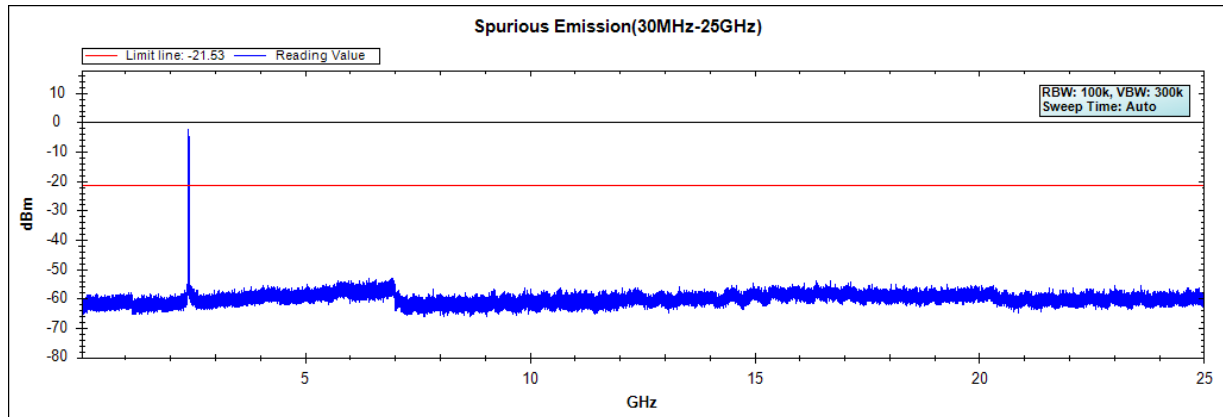
Channel 11 (2462MHz)-Chain A



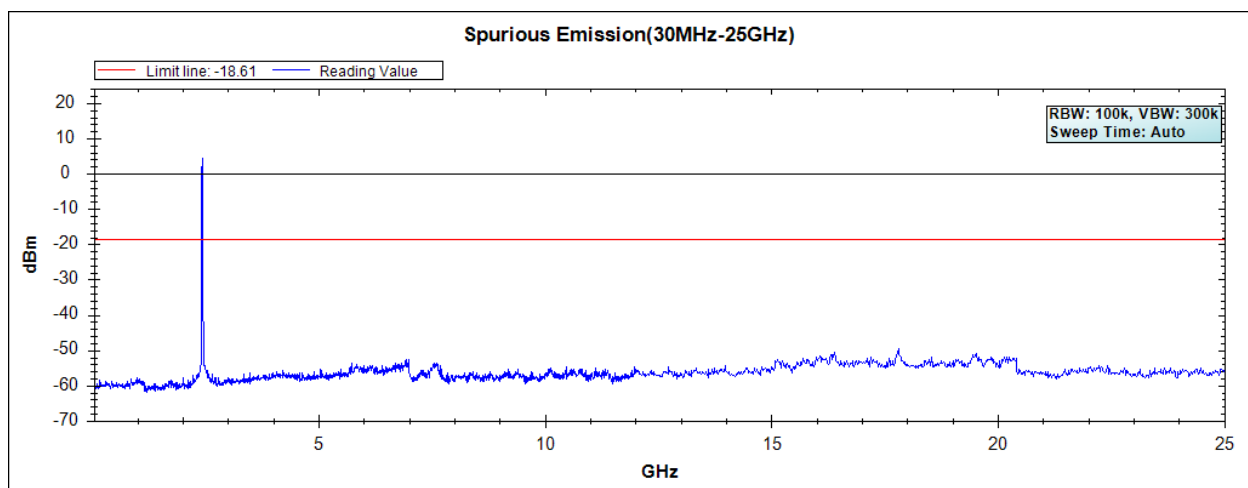
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Wireless module
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) – Panel Antenna
Test Date : 2021/02/19

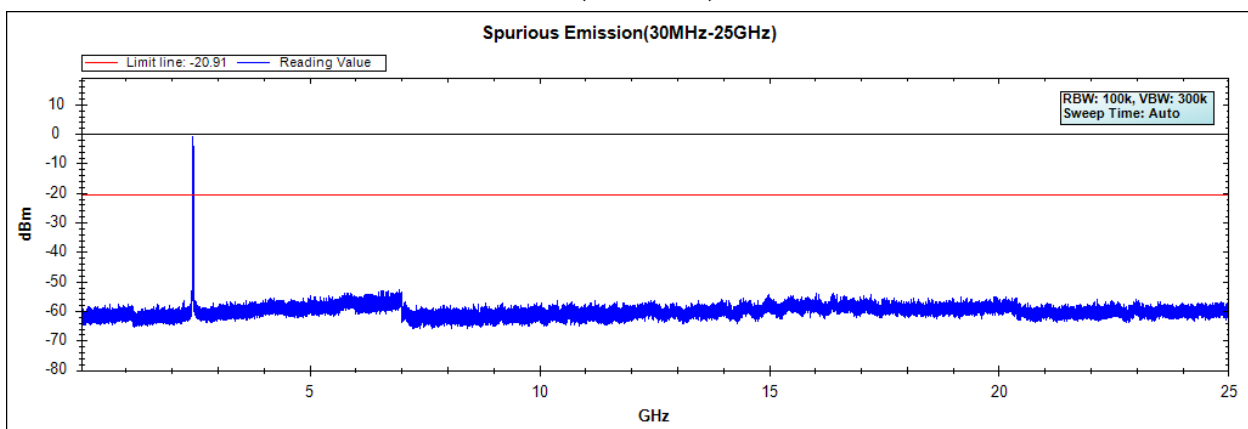
Channel 01 (2412MHz)-Chain B



Channel 06 (2437MHz)-Chain B

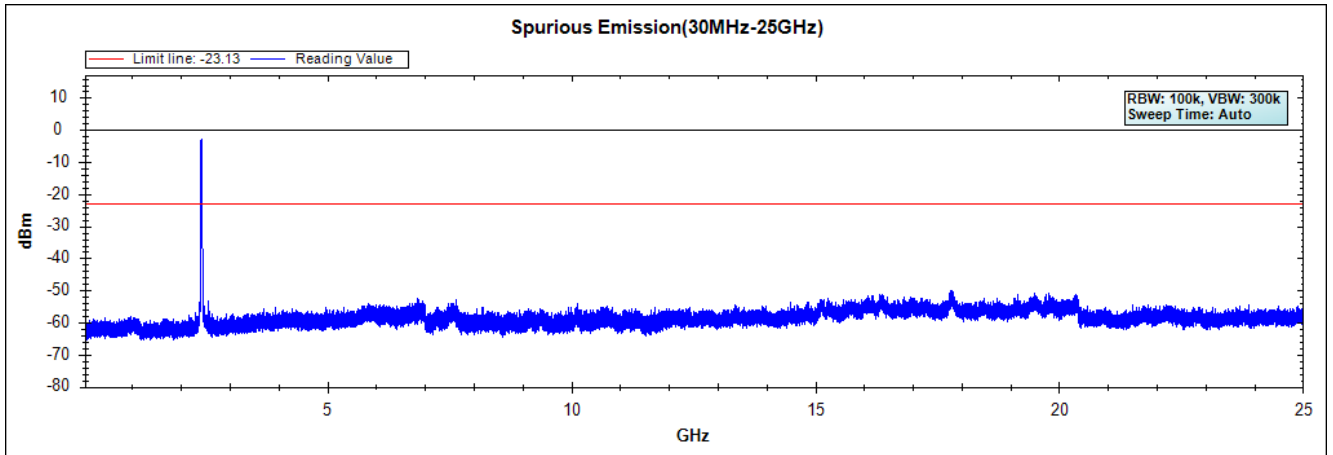
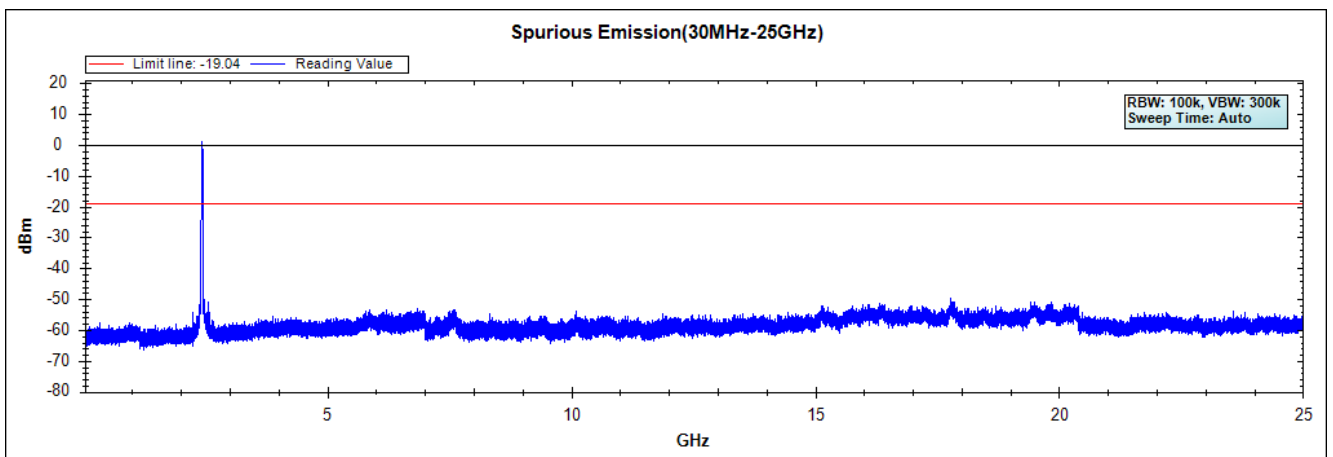
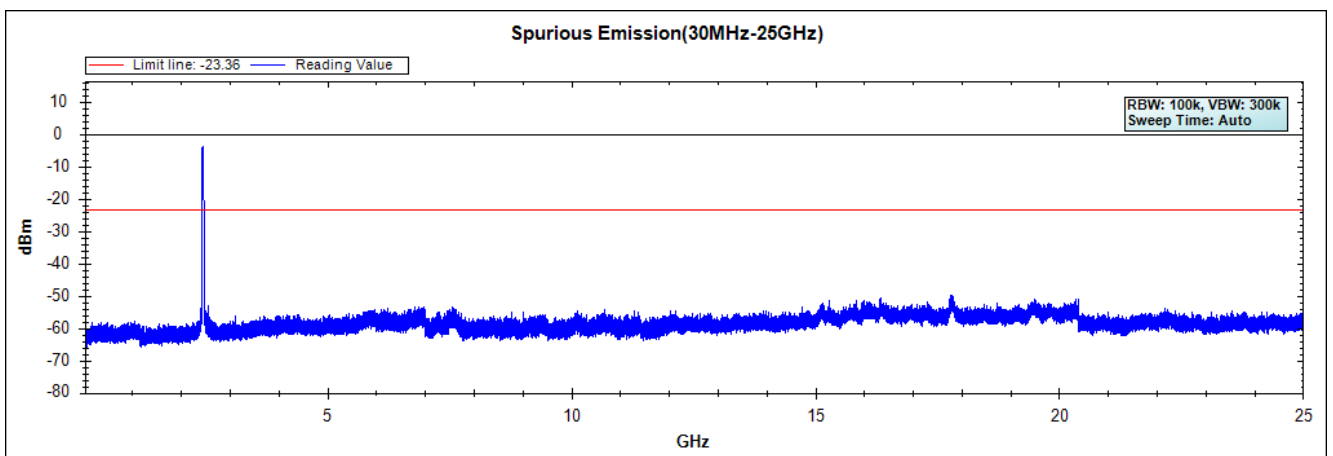


Channel 11 (2462MHz)-Chain B



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

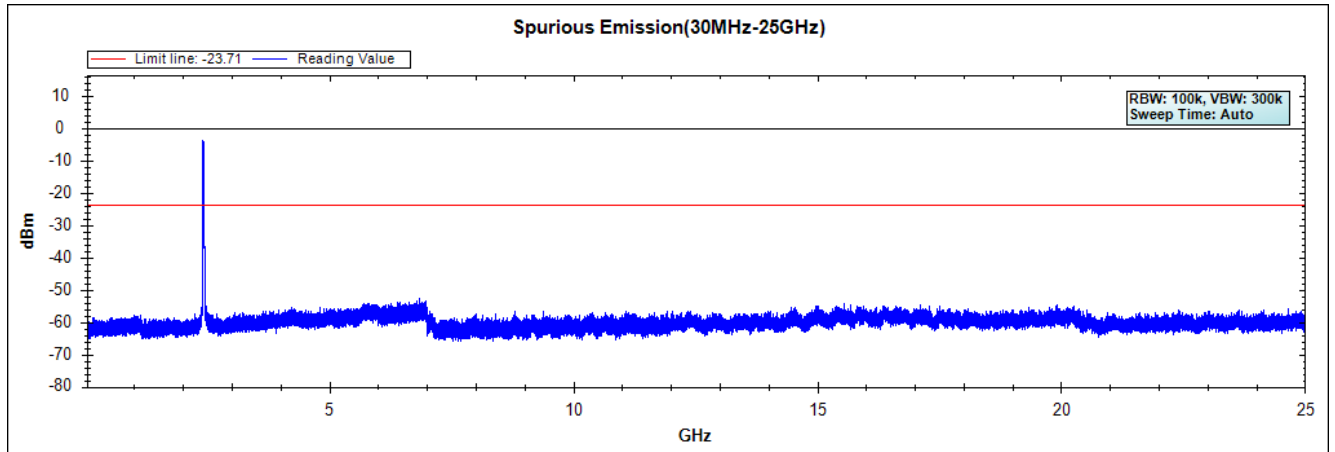
Product : Wireless module
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) – Panel Antenna
Test Date : 2021/02/19

Channel 03 (2422MHz)-Chain A**Channel 06 (2437MHz)-Chain A****Channel 09 (2452MHz)-Chain A**

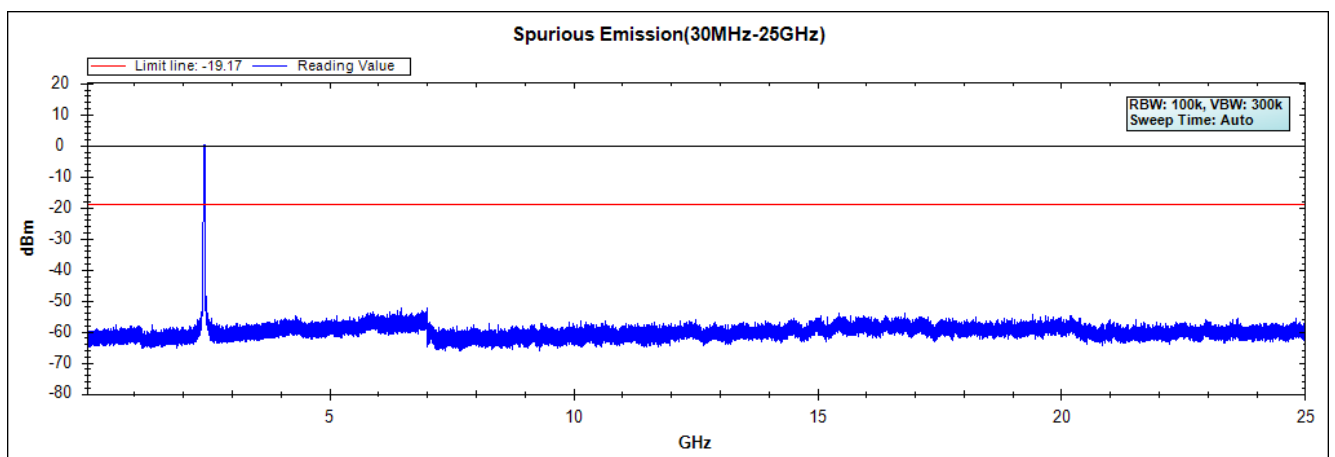
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Wireless module
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) – Panel Antenna
Test Date : 2021/02/19

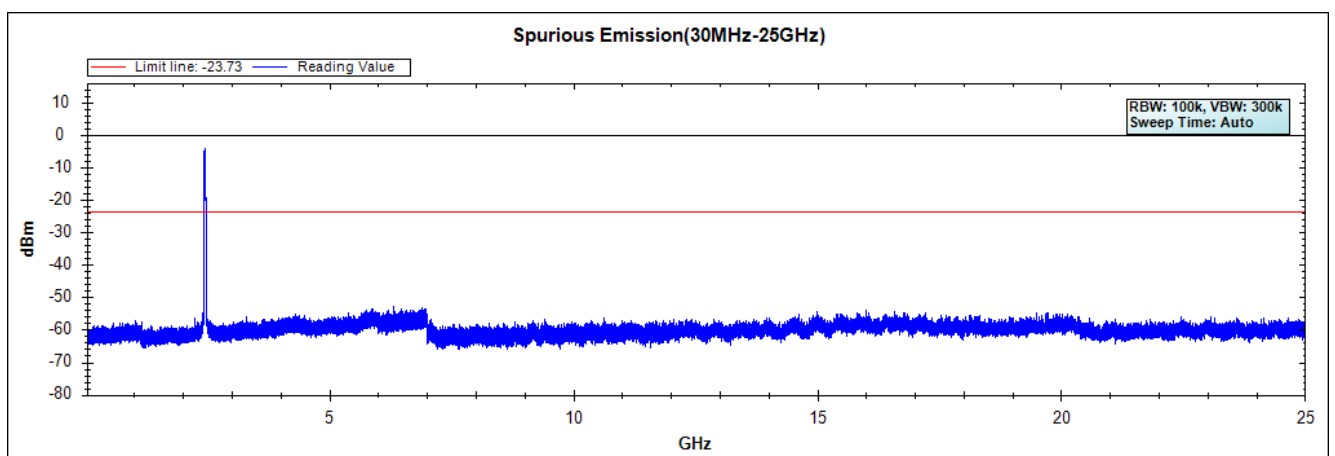
Channel 03 (2422MHz)-Chain B



Channel 06 (2437MHz)-Chain B



Channel 09 (2452MHz)-Chain B

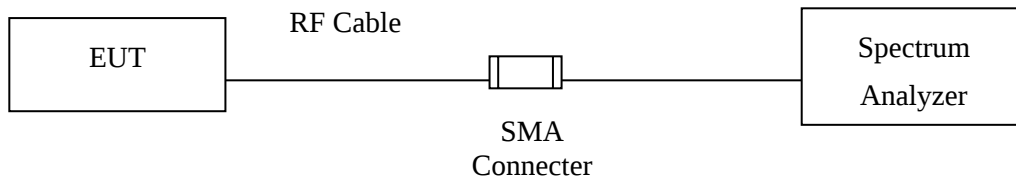


Note: The above test pattern is synthesized by multiple of the frequency range.

6. Band Edge

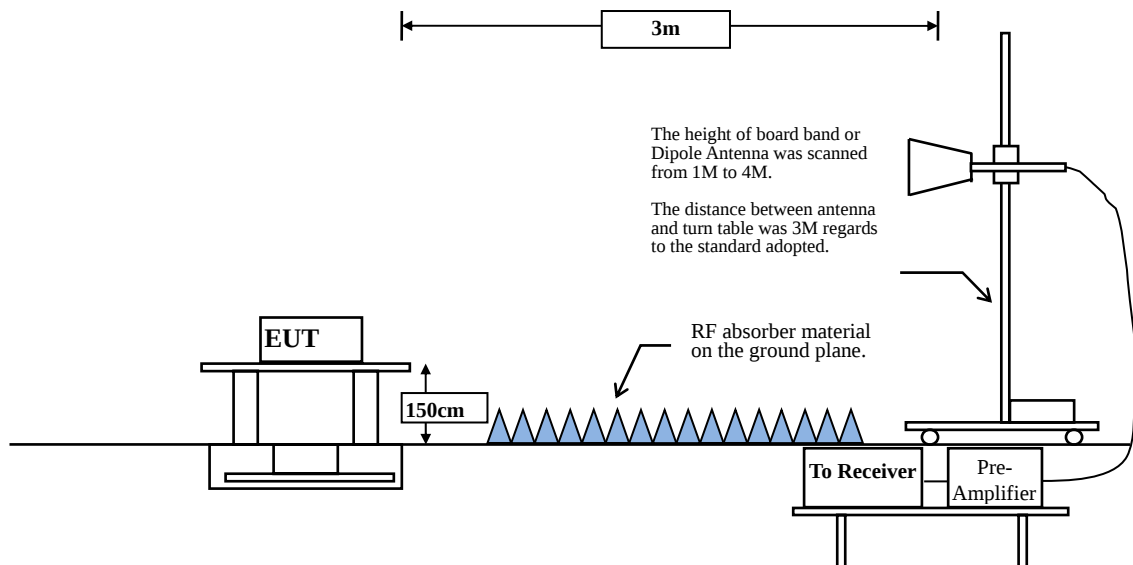
6.1. Test Setup

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.

$VBW \geq 3 \times RBW$.

Table 1 —RBW as a function of frequency

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

According to C63.10 Section 11.12.2.5 Average measurement procedure.

RBW = 1MHz.

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

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

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

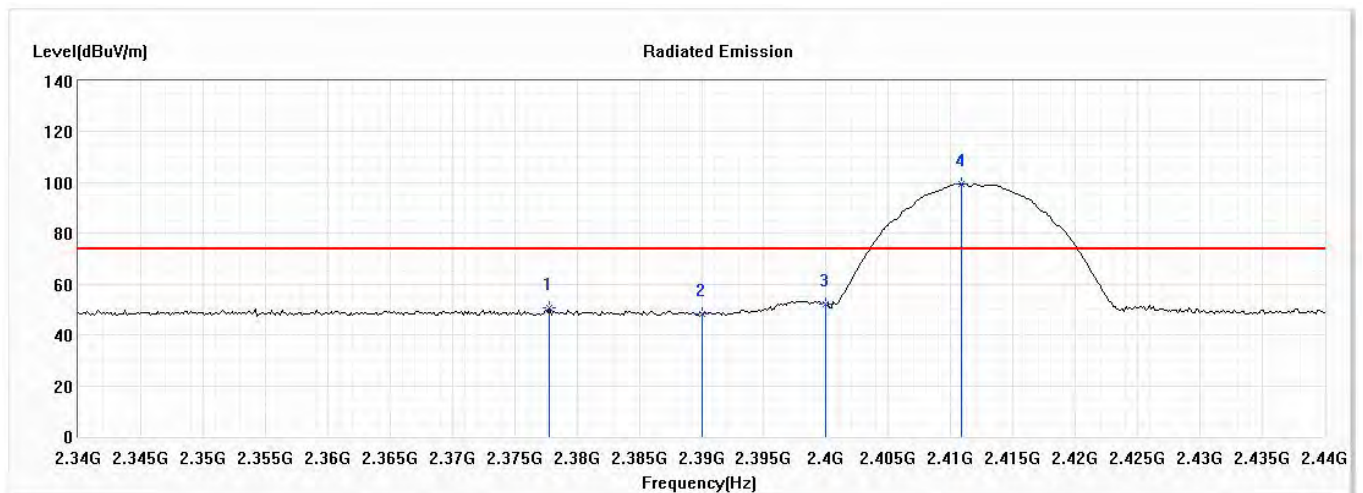
2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11 b	99.56	12.3050	81	10
802.11 g	95.93	2.1200	472	500
802.11 n20	97.01	2.6000	385	500
802.11 n40	93.93	1.3150	760	1k

Note: Duty Cycle Refer to Section 9

6.4. Test Result of Band Edge

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



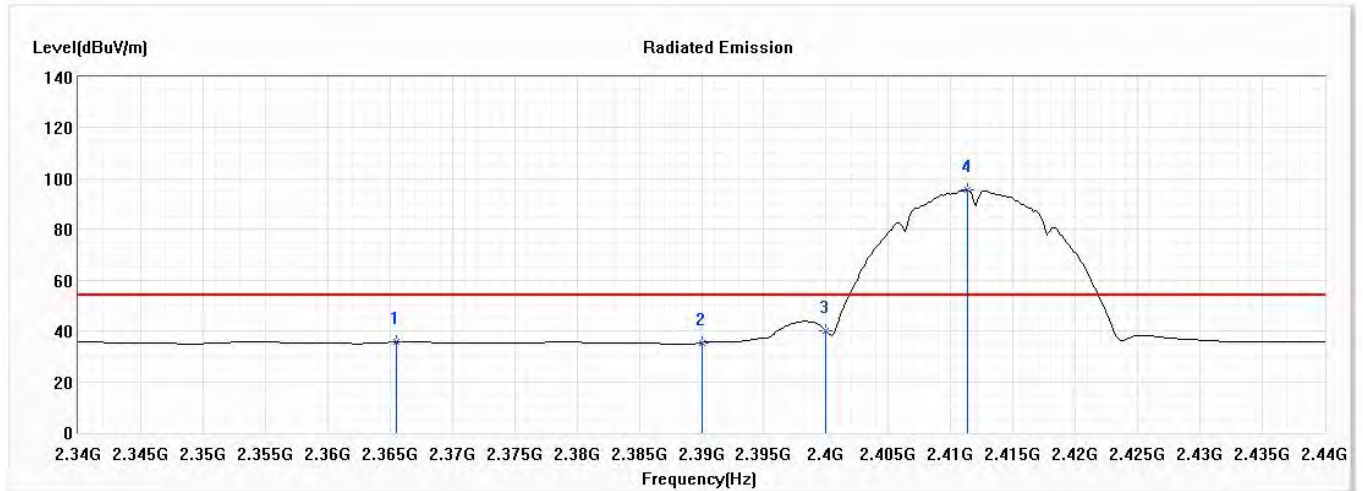
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2377.826	50.54	74.00	-23.46	37.94	12.60	PK
2	2390.000	48.36	74.00	-25.64	35.81	12.55	PK
3	2400.000	52.09	74.00	-21.91	39.56	12.53	PK
! 4	2410.870	99.57	74.00	25.57	86.95	12.62	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



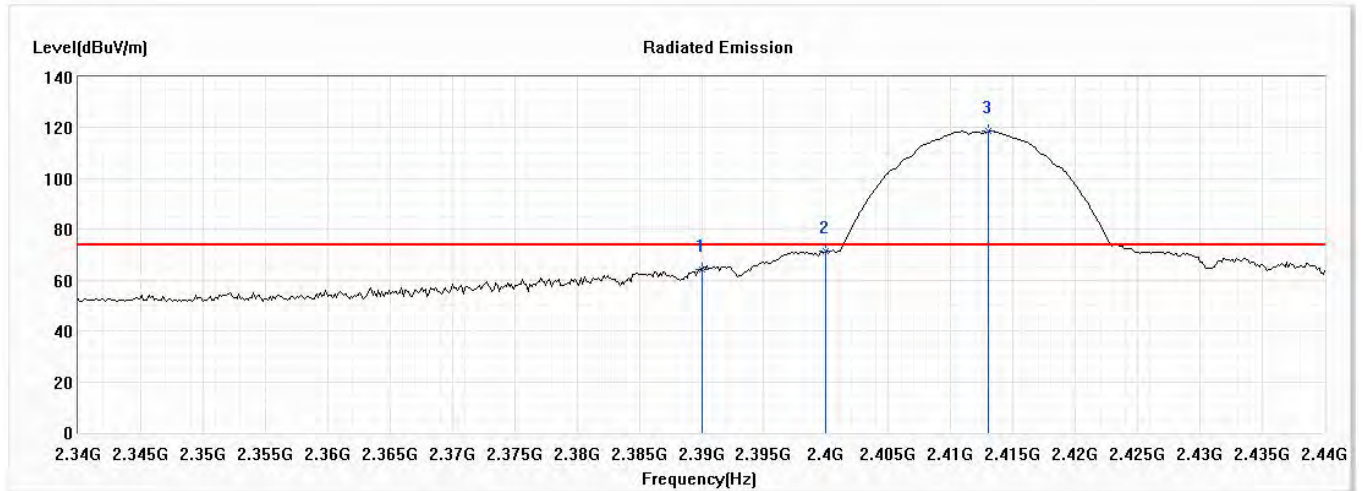
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2365.507	35.93	54.00	-18.07	23.28	12.65	AV
2	2390.000	35.40	54.00	-18.60	22.85	12.55	AV
3	2400.000	39.87	54.00	-14.13	27.34	12.53	AV
! 4	2411.304	95.60	54.00	41.60	82.98	12.62	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



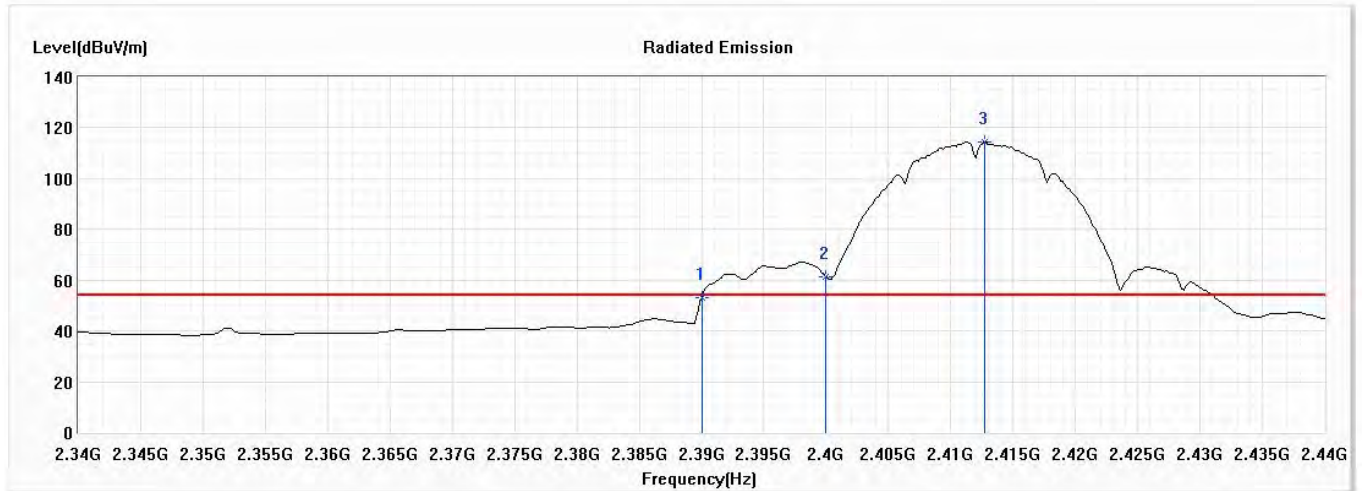
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	64.17	74.00	-9.83	51.62	12.55	PK
2	2400.000	71.40	74.00	-2.60	58.87	12.53	PK
! 3	2413.043	118.66	74.00	44.66	106.02	12.64	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



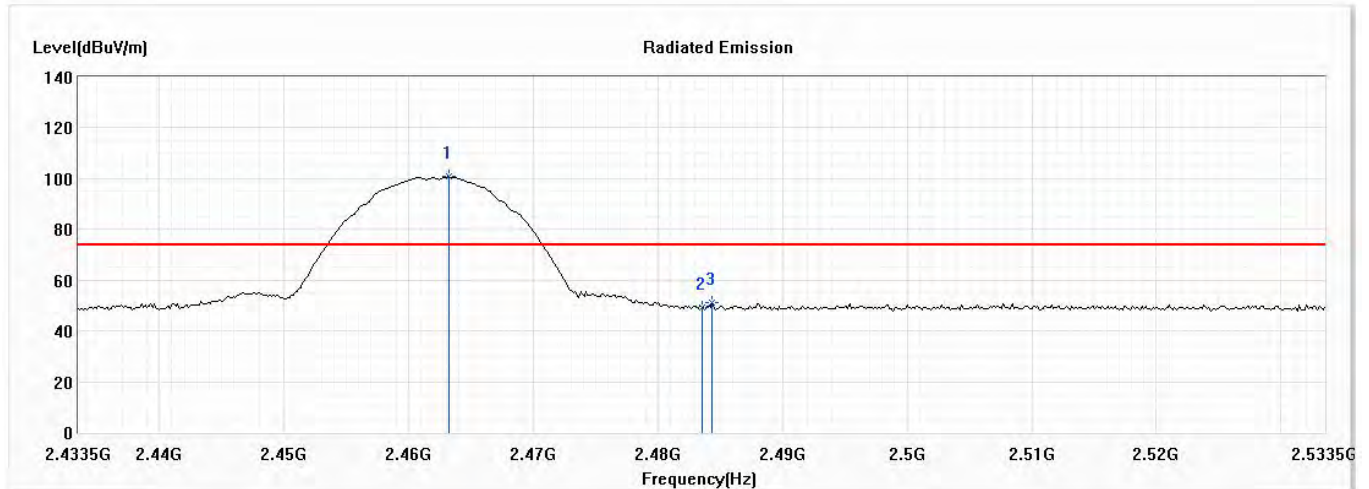
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	53.33	54.00	-0.67	40.78	12.55	AV
! 2	2400.000	61.33	54.00	7.33	48.80	12.53	AV
! 3	2412.754	114.35	54.00	60.35	101.72	12.63	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



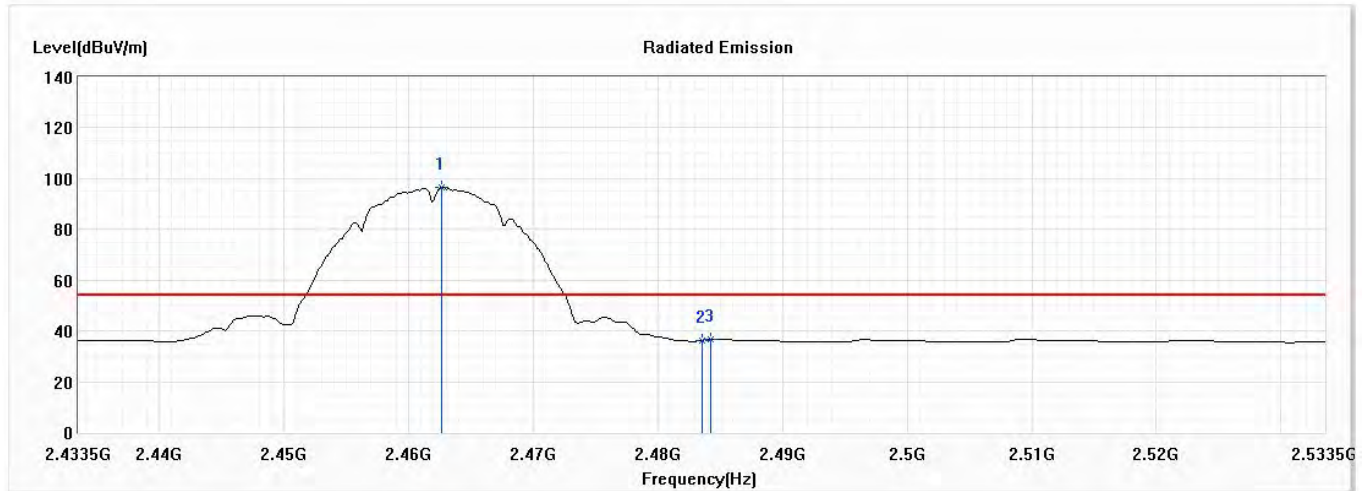
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2463.210	100.68	74.00	26.68	87.77	12.91	PK
2	2483.500	49.17	74.00	-24.83	36.37	12.80	PK
3	2484.370	50.96	74.00	-23.04	38.17	12.79	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



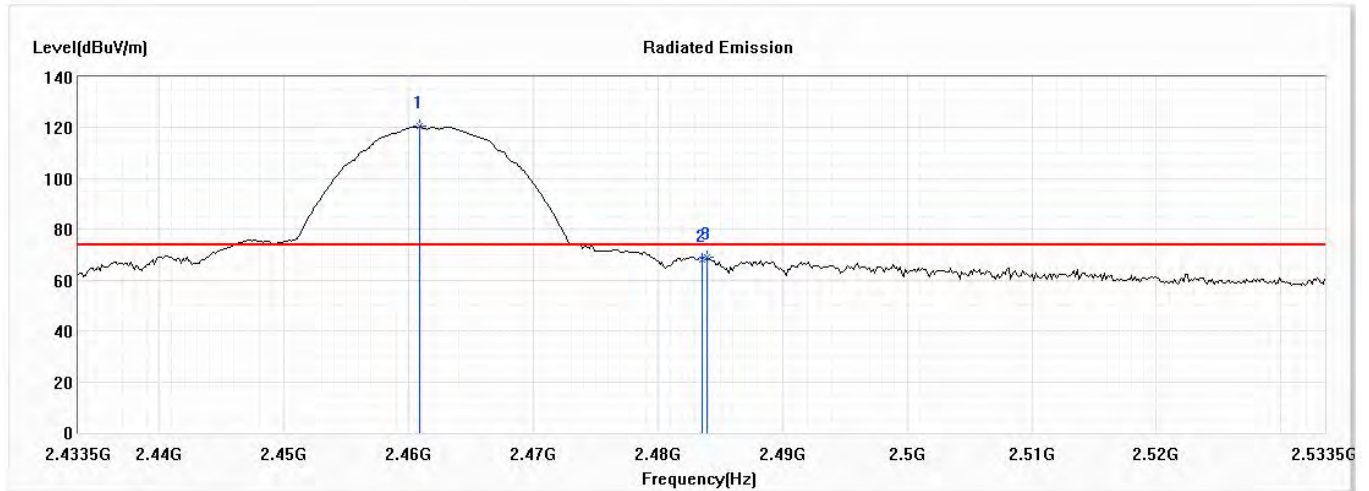
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2462.630	96.50	54.00	42.50	83.59	12.91	AV
2	2483.500	36.24	54.00	-17.76	23.44	12.80	AV
3	2484.225	36.65	54.00	-17.35	23.86	12.79	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



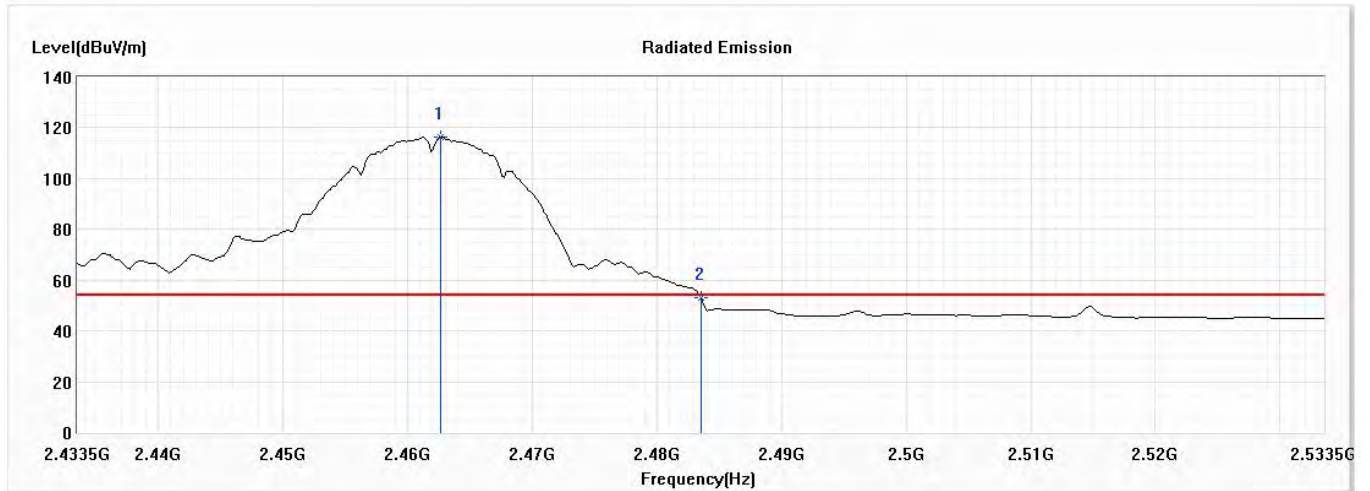
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2460.891	120.45	74.00	46.45	107.53	12.92	PK
2	2483.500	68.05	74.00	-5.95	55.25	12.80	PK
3	2483.935	69.02	74.00	-4.98	56.22	12.80	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



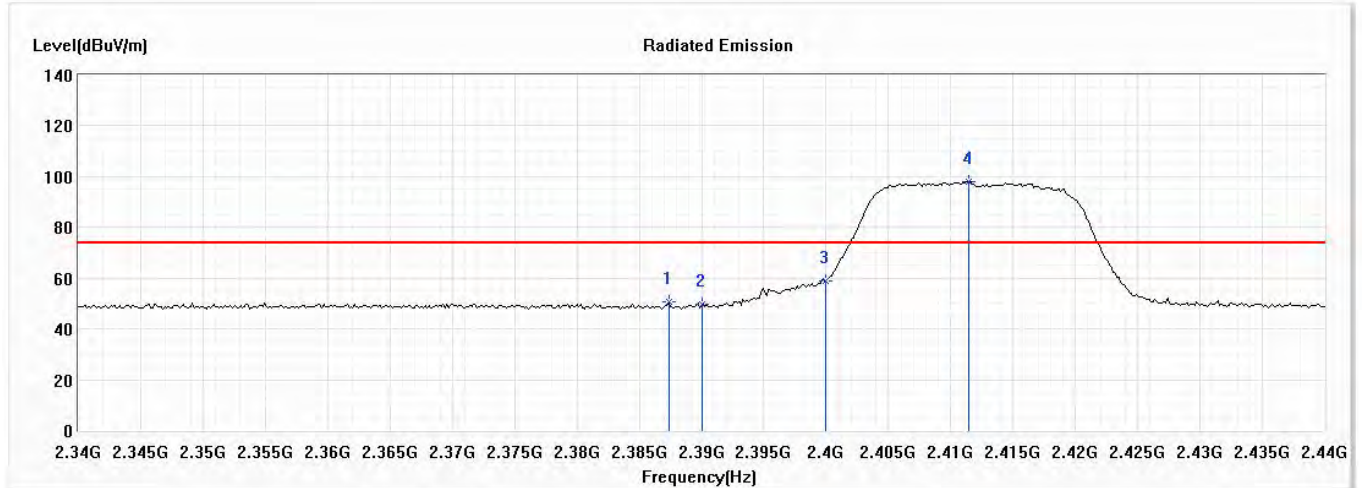
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2462.630	116.23	54.00	62.23	103.32	12.91	AV
2	2483.500	53.25	54.00	-0.75	40.45	12.80	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



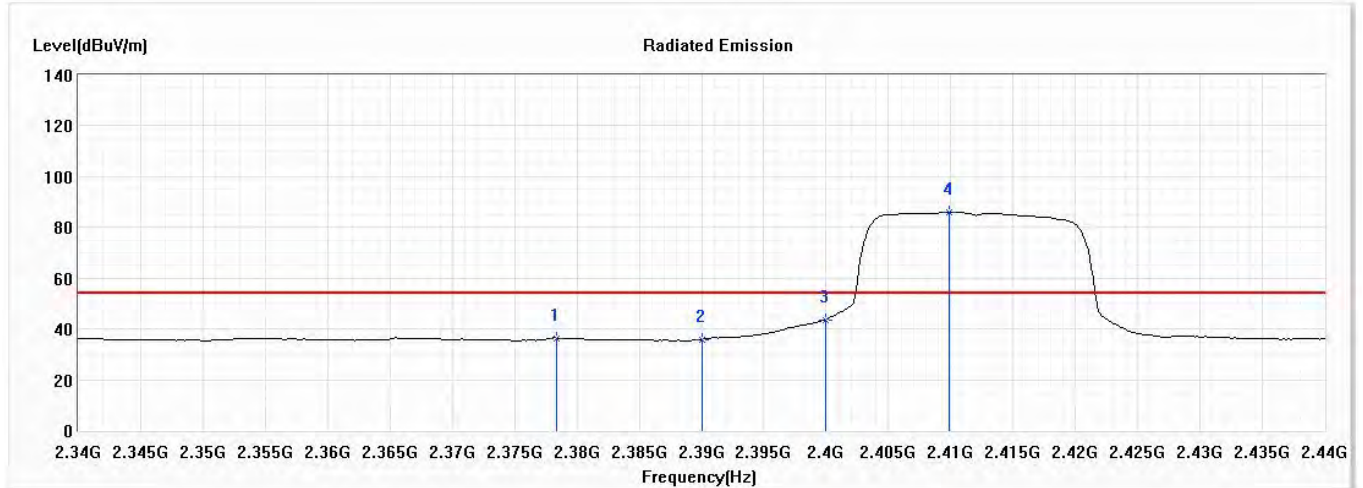
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2387.391	50.51	74.00	-23.49	37.94	12.57	PK
2	2390.000	49.50	74.00	-24.50	36.95	12.55	PK
3	2400.000	58.85	74.00	-15.15	46.32	12.53	PK
! 4	2411.449	97.91	74.00	23.91	85.29	12.62	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



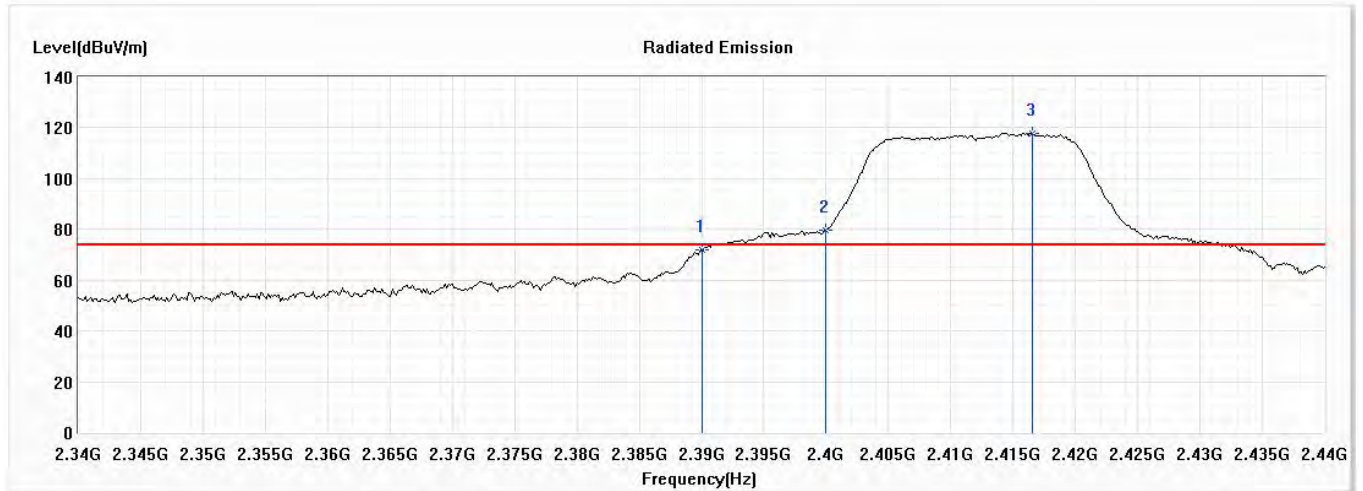
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2378.406	36.44	54.00	-17.56	23.84	12.60	AV
2	2390.000	35.84	54.00	-18.16	23.29	12.55	AV
3	2400.000	43.62	54.00	-10.38	31.09	12.53	AV
! 4	2409.855	86.17	54.00	32.17	73.55	12.62	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



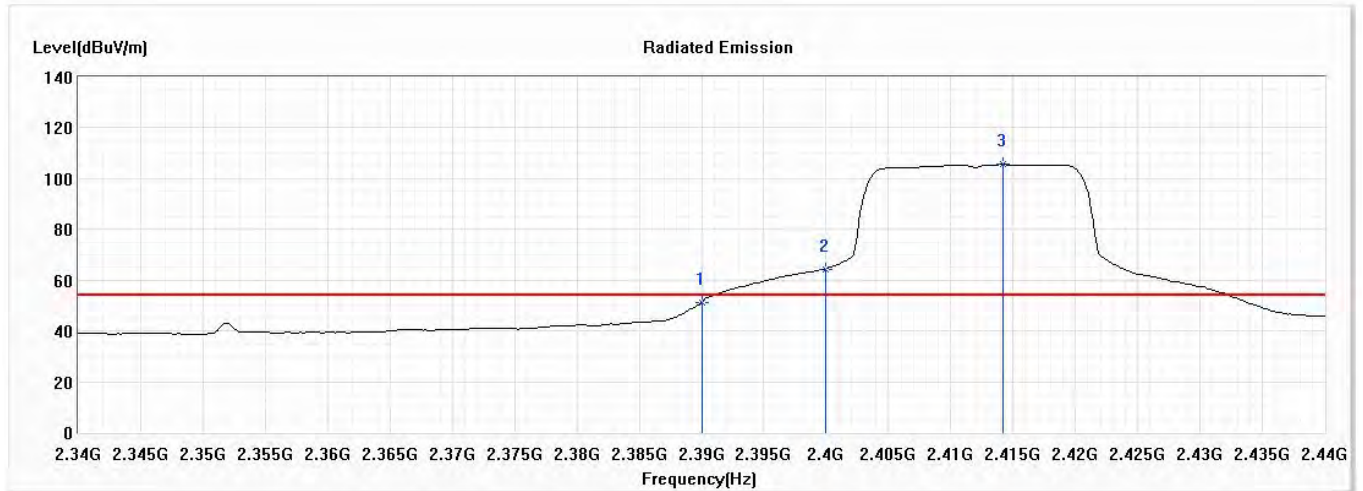
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	71.82	74.00	-2.18	59.27	12.55	PK
! 2	2400.000	79.48	74.00	5.48	66.95	12.53	PK
! 3	2416.522	117.83	74.00	43.83	105.16	12.67	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



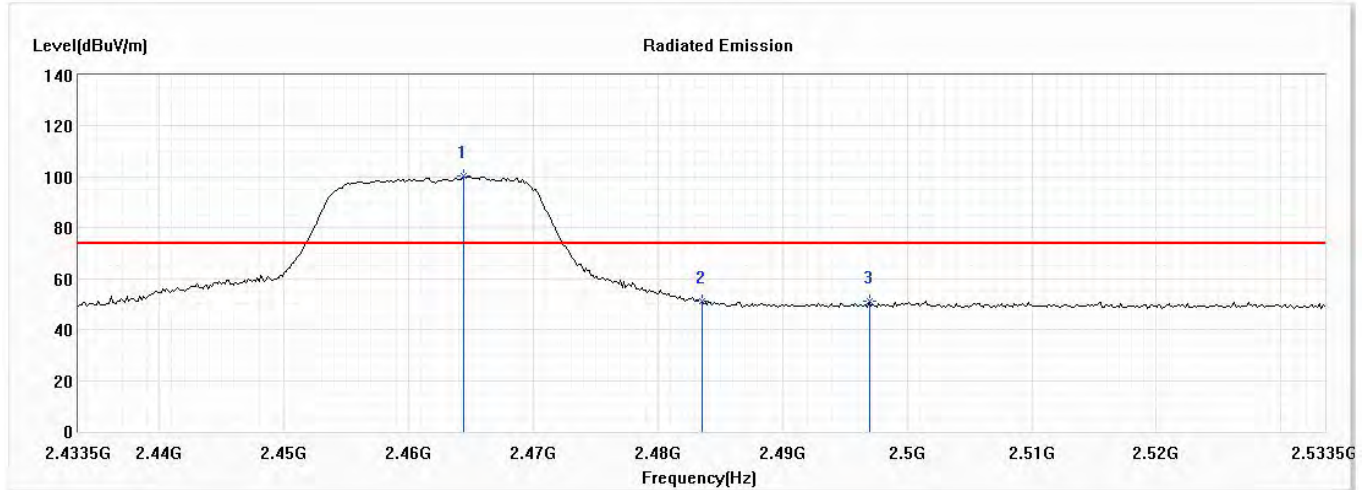
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	51.02	54.00	-2.98	38.47	12.55	AV
! 2	2400.000	64.44	54.00	10.44	51.91	12.53	AV
! 3	2414.203	105.61	54.00	51.61	92.96	12.65	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



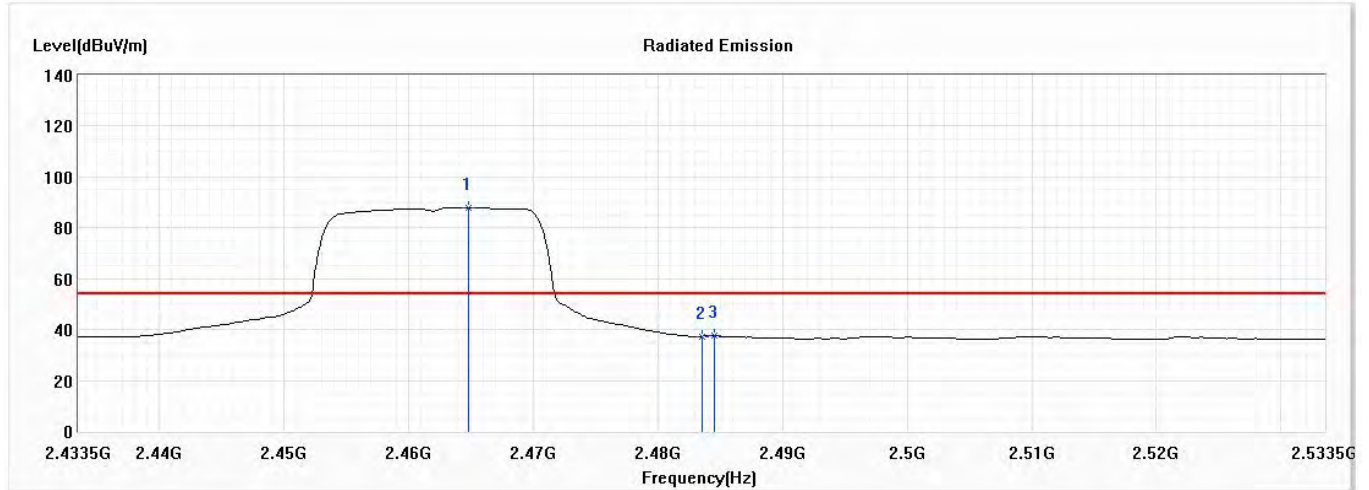
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2464.370	100.29	74.00	26.29	87.39	12.90	PK
2	2483.500	50.97	74.00	-23.03	38.17	12.80	PK
3	2496.978	51.34	74.00	-22.66	38.61	12.73	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



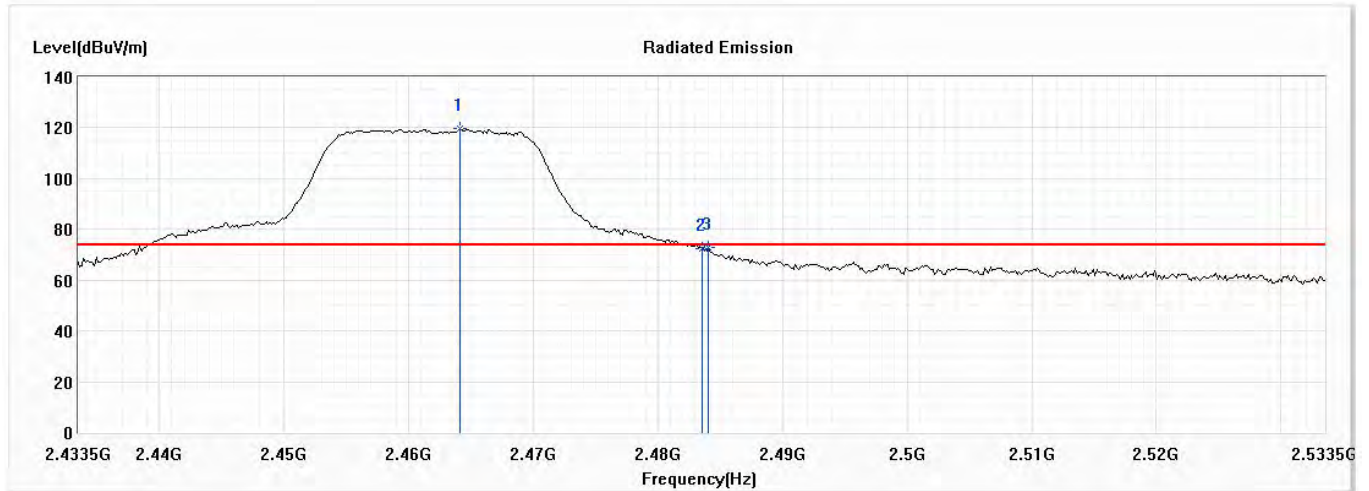
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2464.804	88.06	54.00	34.06	75.16	12.90	AV
2	2483.500	37.26	54.00	-16.74	24.46	12.80	AV
3	2484.514	37.65	54.00	-16.35	24.86	12.79	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



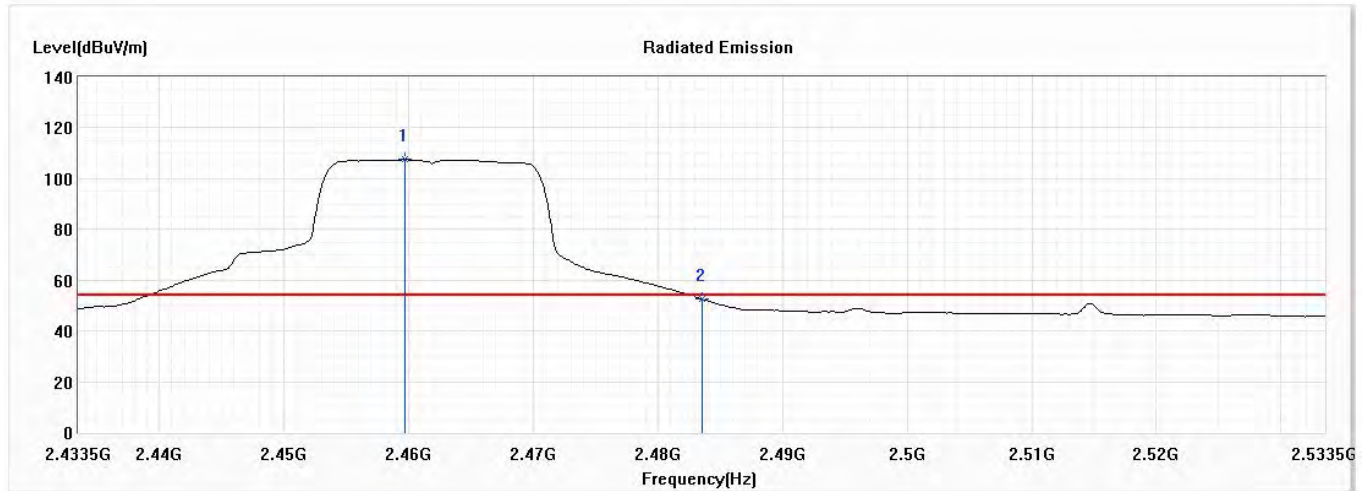
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2464.080	119.69	74.00	45.69	106.78	12.91	PK
2	2483.500	72.22	74.00	-1.78	59.42	12.80	PK
3	2484.080	72.72	74.00	-1.28	59.92	12.80	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



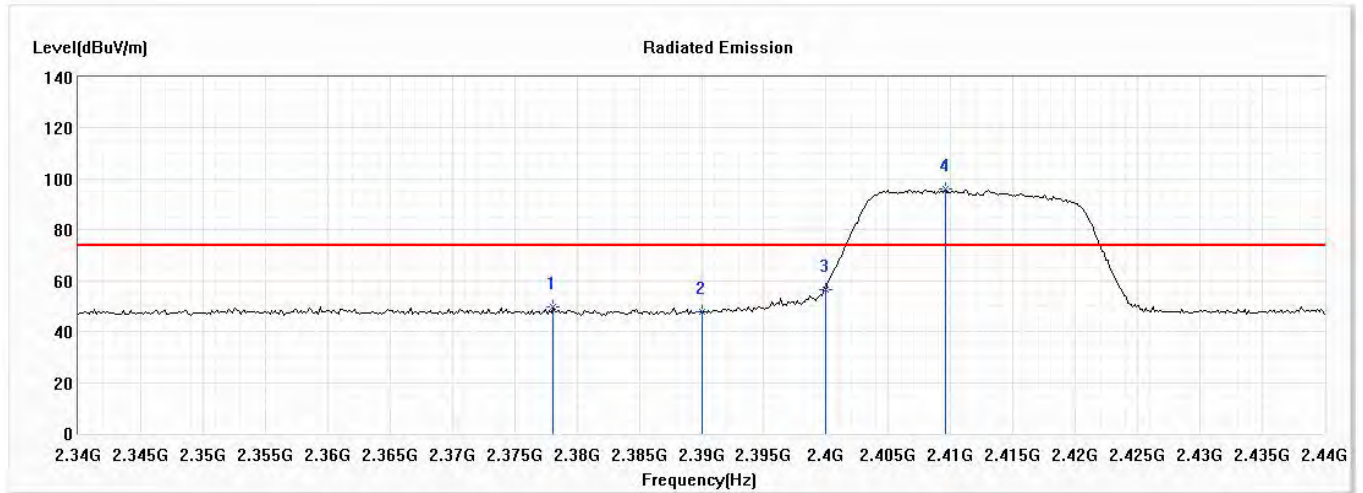
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2459.732	107.46	54.00	53.46	94.53	12.93	AV
2	2483.500	52.46	54.00	-1.54	39.66	12.80	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



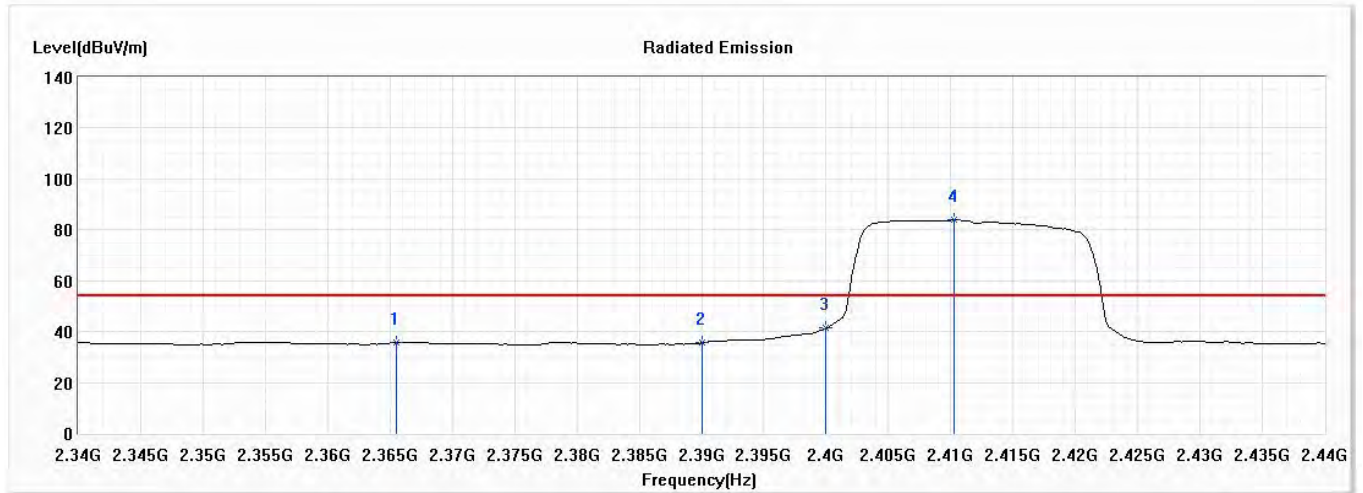
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2378.116	49.61	74.00	-24.39	37.01	12.60	PK
2	2390.000	47.86	74.00	-26.14	35.31	12.55	PK
3	2400.000	56.59	74.00	-17.41	44.06	12.53	PK
! 4	2409.565	95.88	74.00	21.88	83.26	12.62	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



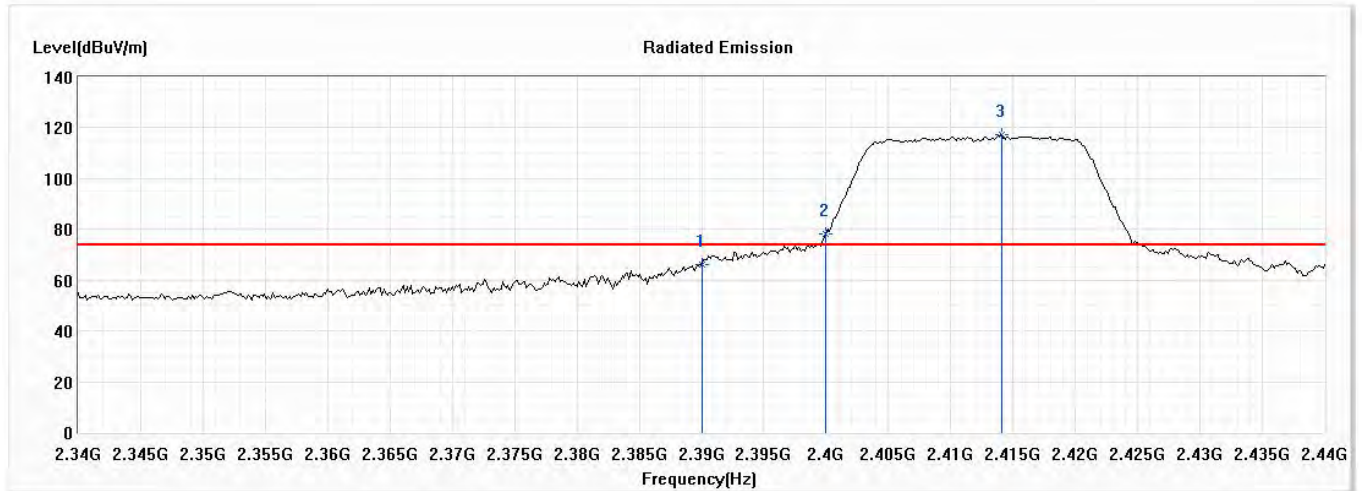
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2365.507	35.96	54.00	-18.04	23.31	12.65	AV
2	2390.000	35.51	54.00	-18.49	22.96	12.55	AV
3	2400.000	41.29	54.00	-12.71	28.76	12.53	AV
! 4	2410.290	83.86	54.00	29.86	71.25	12.61	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



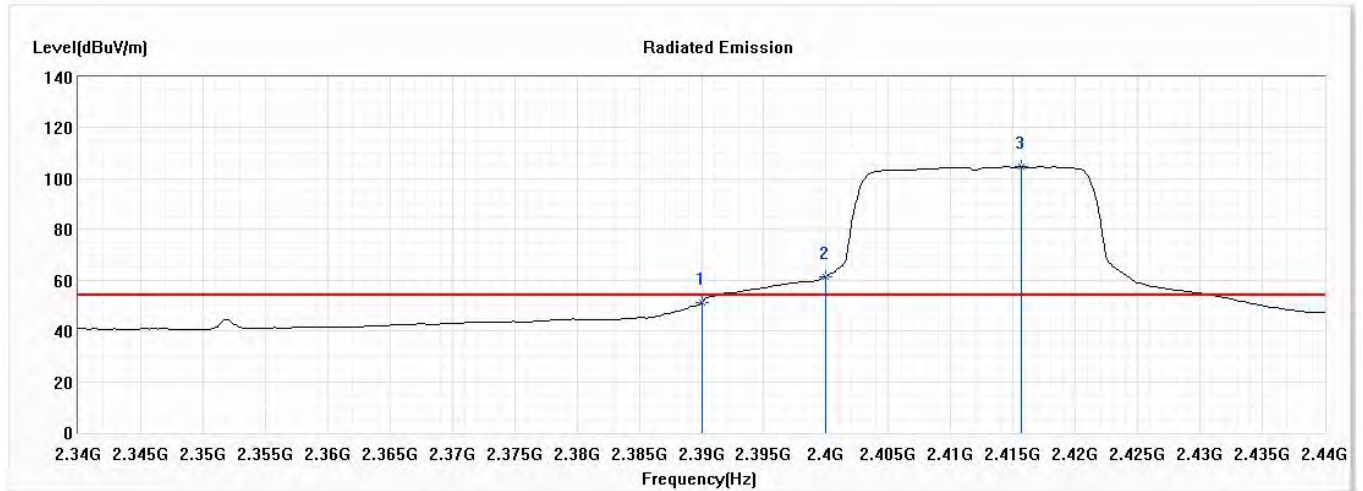
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	66.29	74.00	-7.71	53.74	12.55	PK
! 2	2400.000	78.20	74.00	4.20	65.67	12.53	PK
! 3	2414.058	117.36	74.00	43.36	104.71	12.65	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2412MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



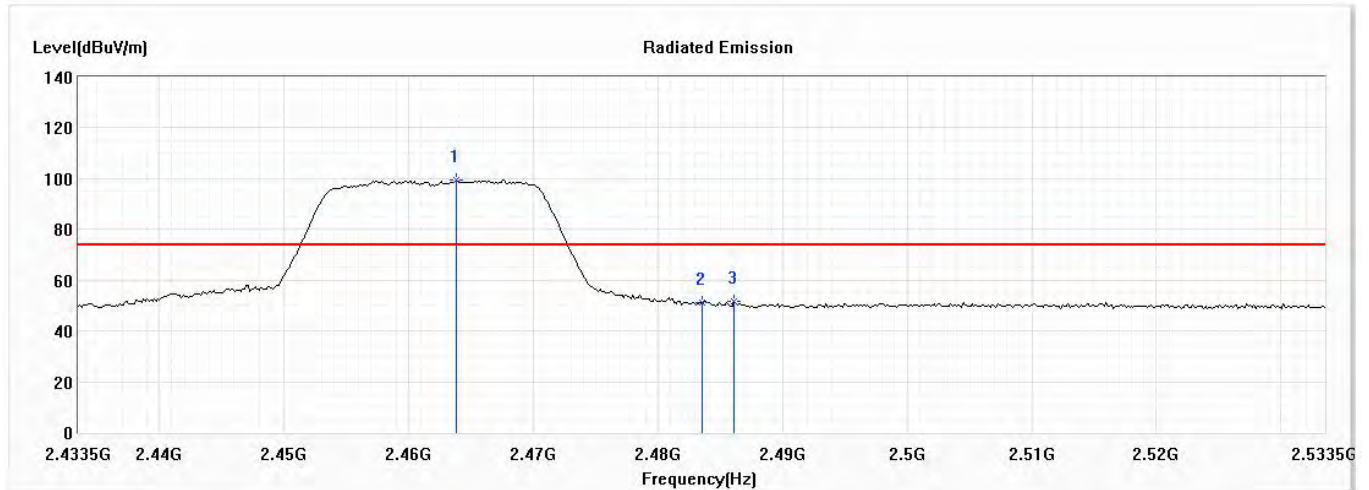
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	51.28	54.00	-2.72	38.73	12.55	AV
! 2	2400.000	61.35	54.00	7.35	48.82	12.53	AV
! 3	2415.652	104.65	54.00	50.65	91.98	12.67	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2462MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



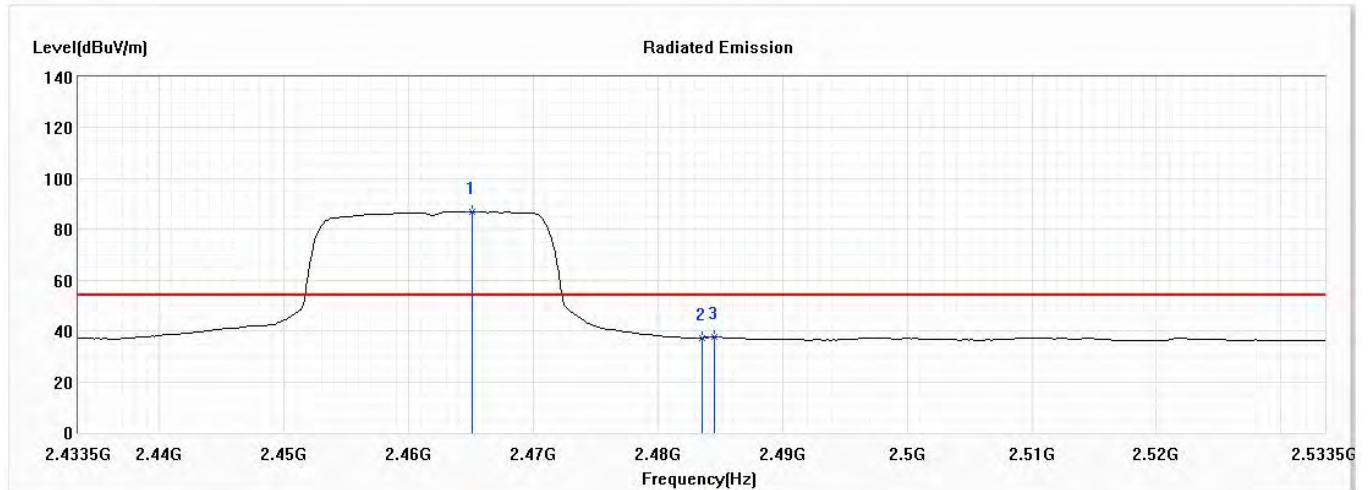
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2463.790	99.56	74.00	25.56	86.65	12.91	PK
2	2483.500	51.09	74.00	-22.91	38.29	12.80	PK
3	2486.109	51.79	74.00	-22.21	39.00	12.79	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2462MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



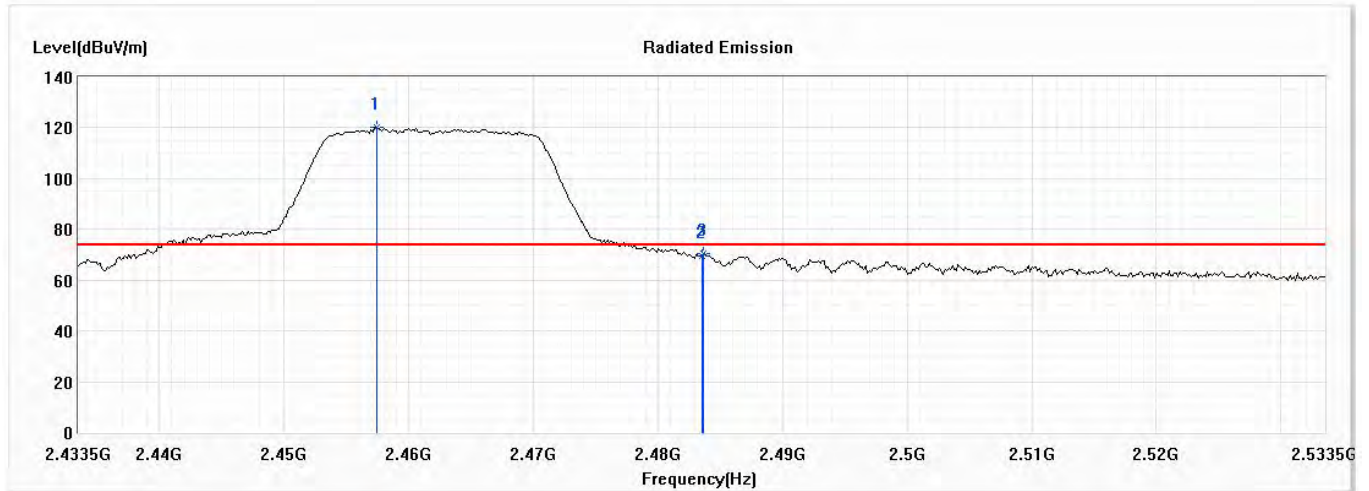
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2465.094	87.10	54.00	33.10	74.20	12.90	AV
2	2483.500	37.28	54.00	-16.72	24.48	12.80	AV
3	2484.514	37.70	54.00	-16.30	24.91	12.79	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2462MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



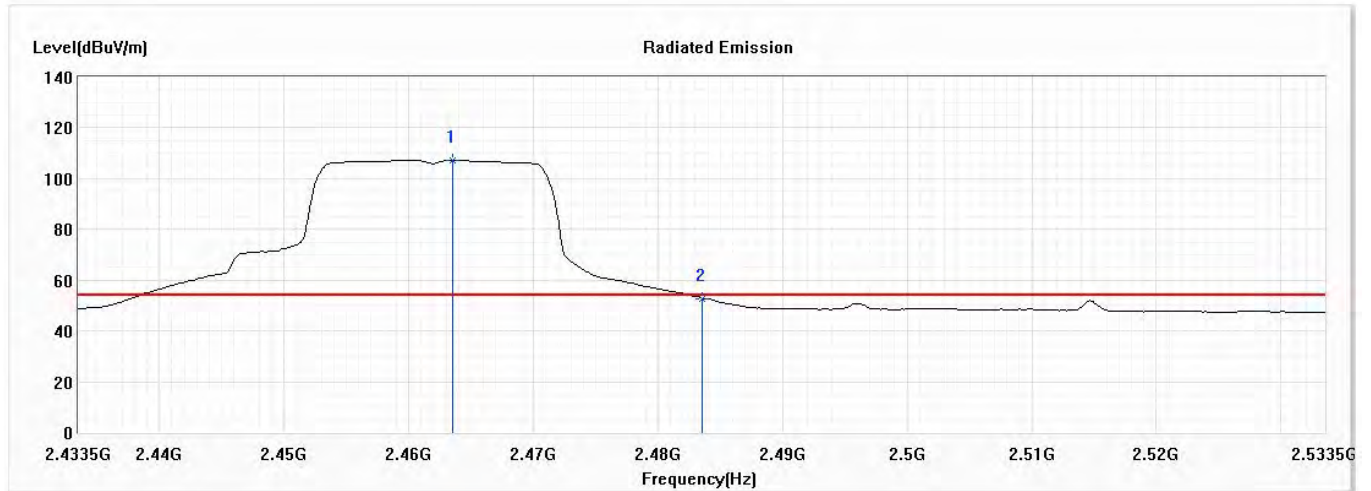
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2457.413	120.17	74.00	46.17	107.22	12.95	PK
2	2483.500	69.62	74.00	-4.38	56.82	12.80	PK
3	2483.645	70.35	74.00	-3.65	57.55	12.80	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2462MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



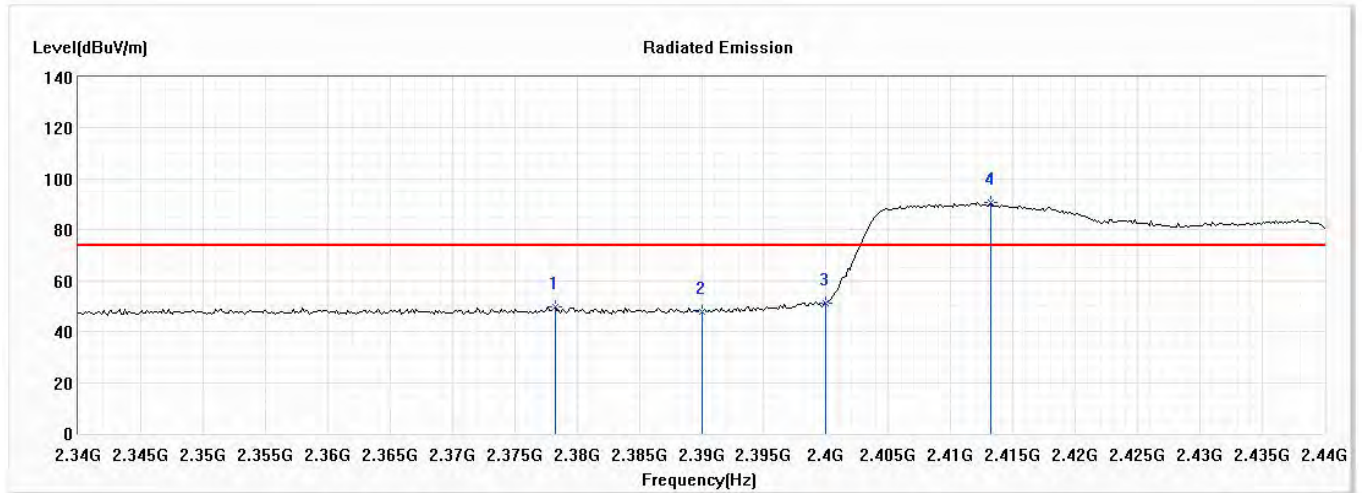
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2463.500	107.17	54.00	53.17	94.26	12.91	AV
2	2483.500	52.82	54.00	-1.18	40.02	12.80	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2422MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



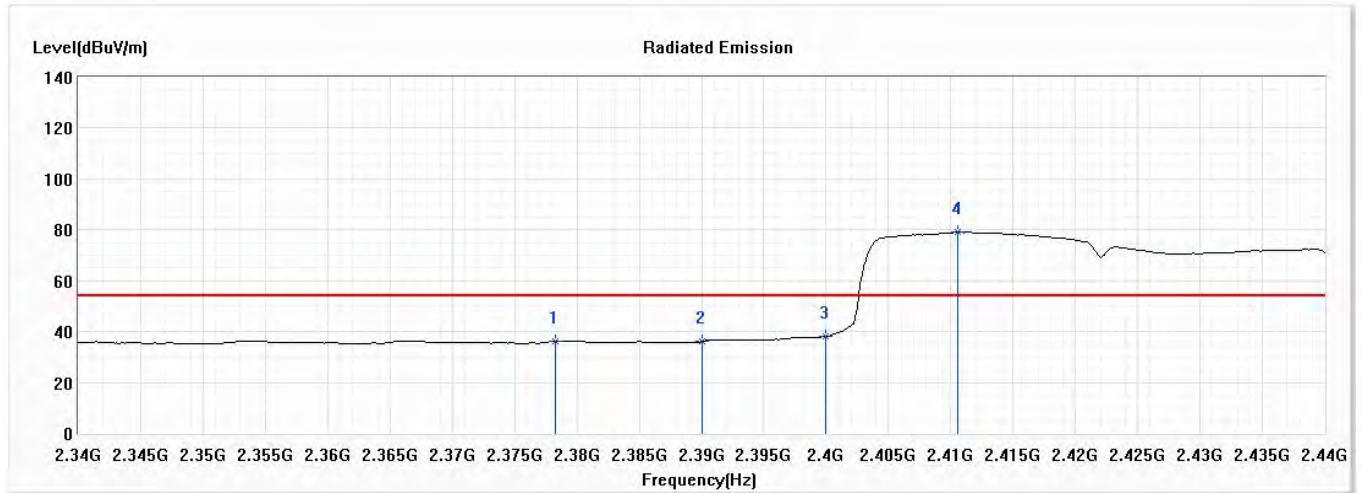
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2378.261	49.56	74.00	-24.44	36.96	12.60	PK
2	2390.000	47.82	74.00	-26.18	35.27	12.55	PK
3	2400.000	51.30	74.00	-22.70	38.77	12.53	PK
! 4	2413.188	90.91	74.00	16.91	78.26	12.65	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2422MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



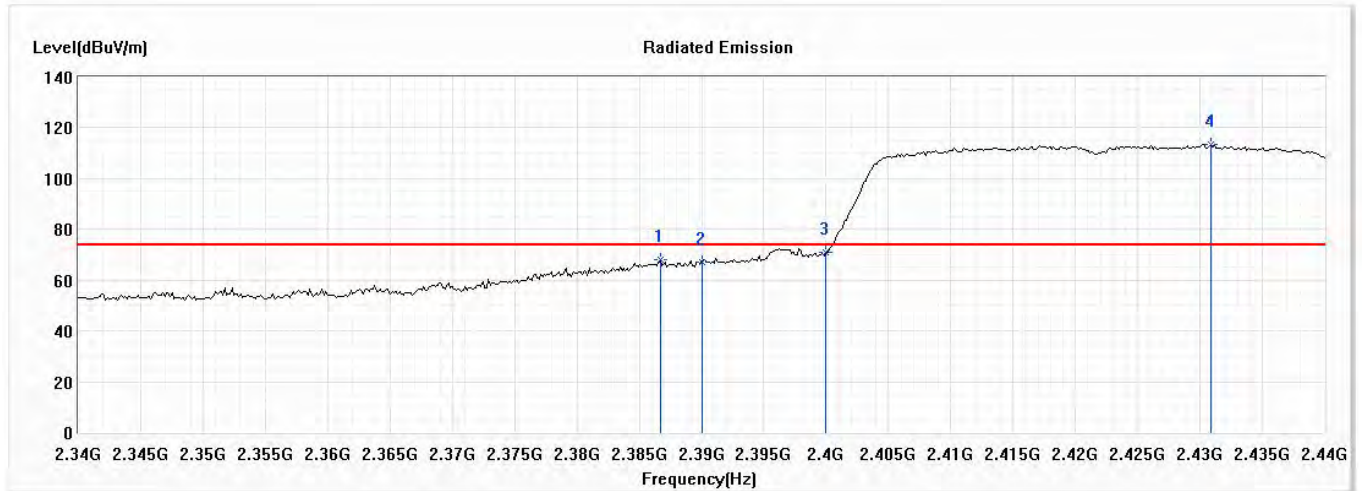
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2378.261	36.43	54.00	-17.57	23.83	12.60	AV
2	2390.000	36.01	54.00	-17.99	23.46	12.55	AV
3	2400.000	38.00	54.00	-16.00	25.47	12.53	AV
! 4	2410.580	79.14	54.00	25.14	66.53	12.61	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2422MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



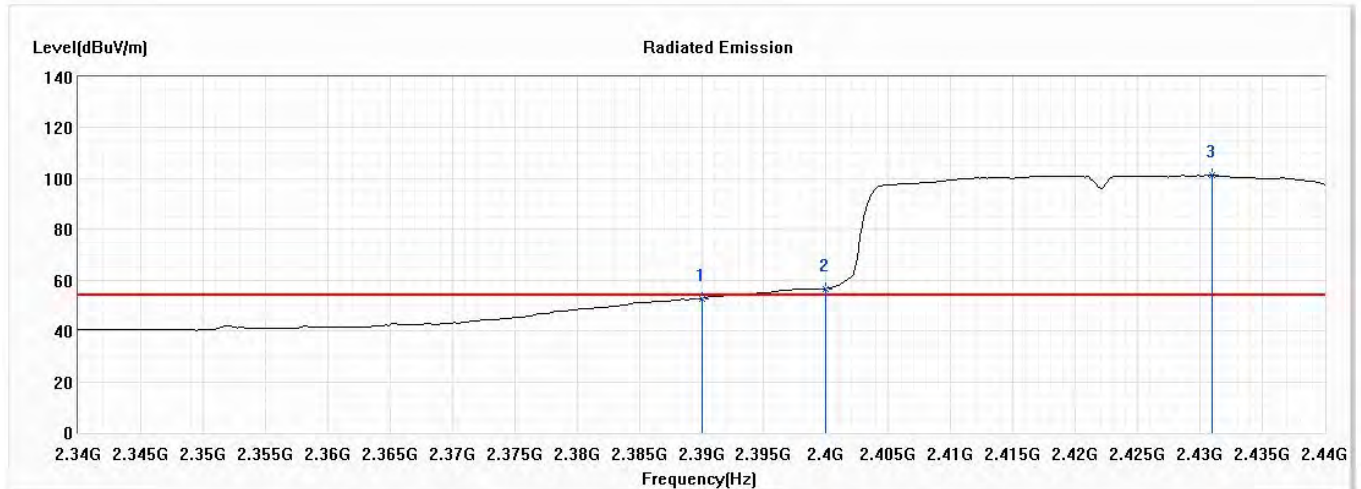
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2386.667	67.90	74.00	-6.10	55.34	12.56	PK
2	2390.000	66.99	74.00	-7.01	54.44	12.55	PK
3	2400.000	70.95	74.00	-3.05	58.42	12.53	PK
! 4	2430.870	113.68	74.00	39.68	100.88	12.80	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2422MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



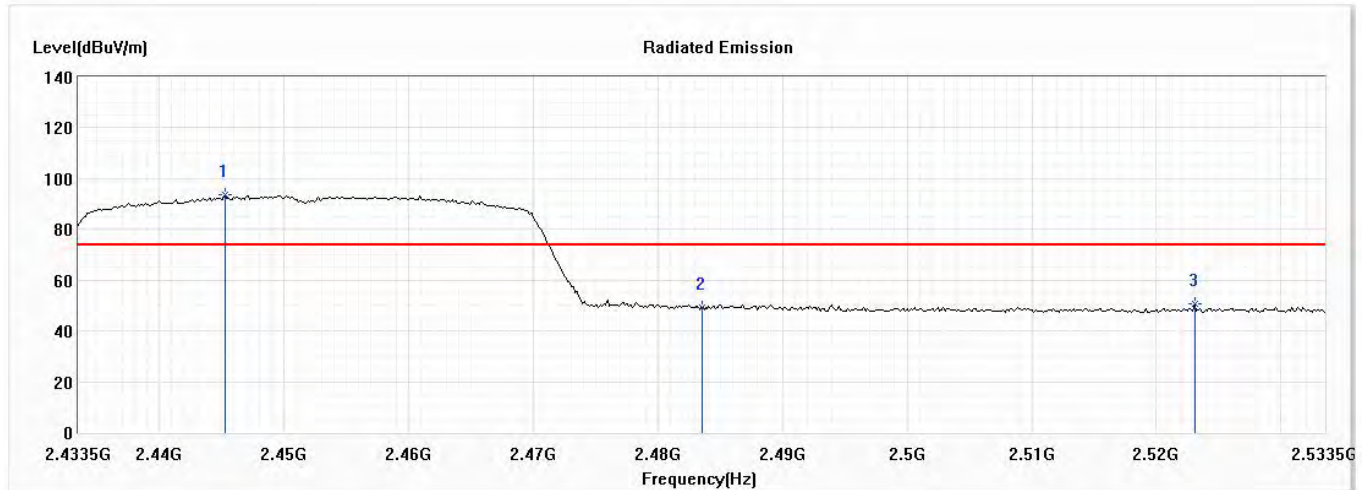
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	52.77	54.00	-1.23	40.22	12.55	AV
! 2	2400.000	56.70	54.00	2.70	44.17	12.53	AV
! 3	2431.014	101.20	54.00	47.20	88.40	12.80	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2452MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



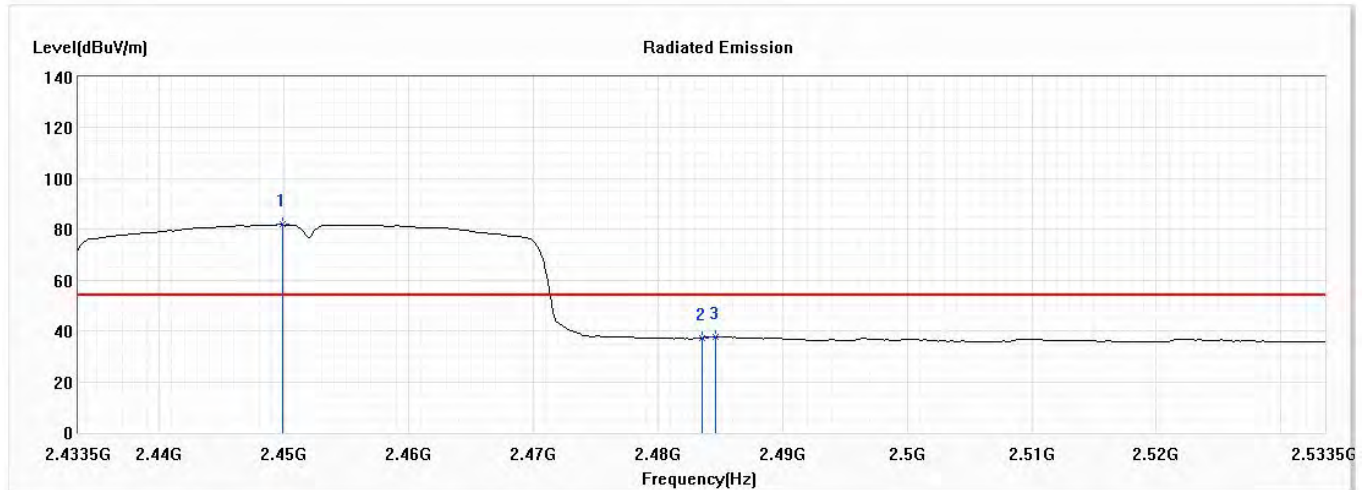
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2445.239	93.59	74.00	19.59	80.66	12.93	PK
2	2483.500	49.04	74.00	-24.96	36.24	12.80	PK
3	2523.065	50.80	74.00	-23.20	37.98	12.82	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2452MHz) – Dipole Antenna
 Test Date : 2021/02/03

Horizontal



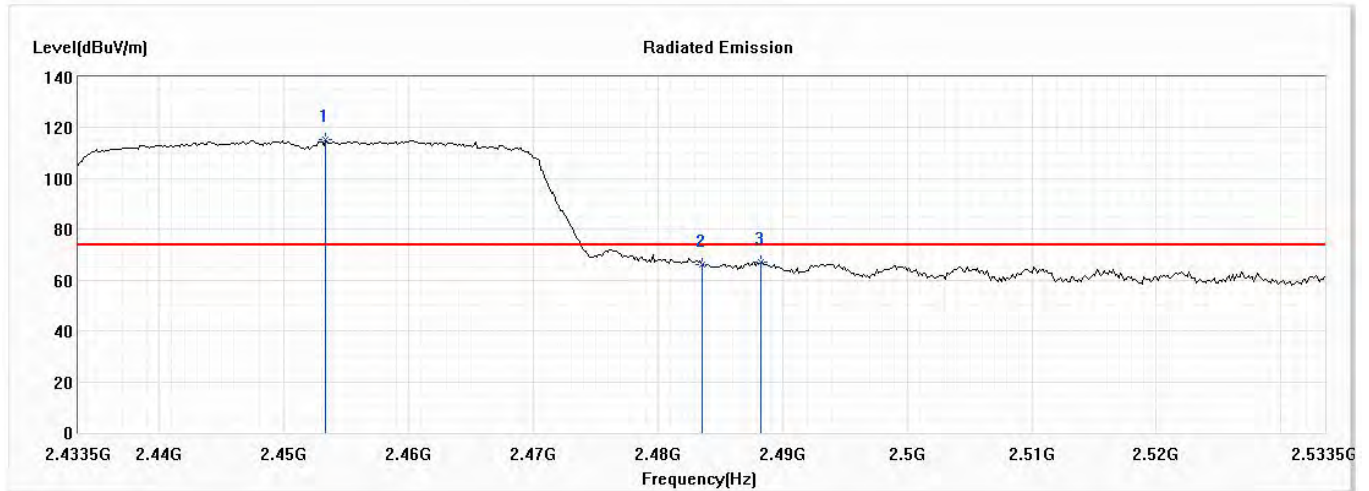
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2449.877	81.91	54.00	27.91	68.93	12.98	AV
2	2483.500	37.12	54.00	-16.88	24.32	12.80	AV
3	2484.659	37.83	54.00	-16.17	25.04	12.79	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2452MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



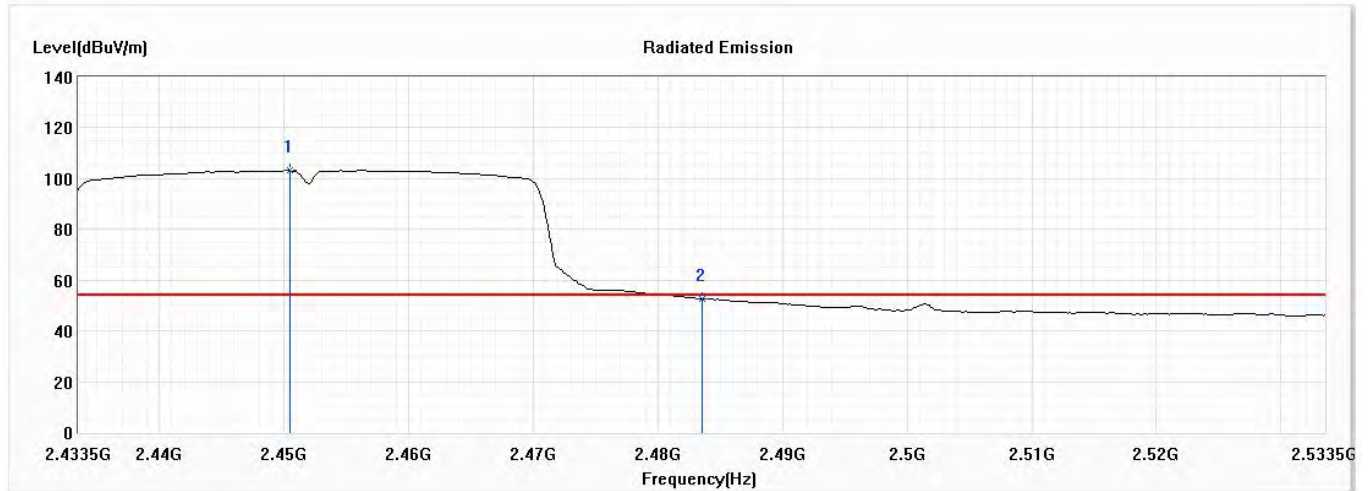
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2453.355	115.32	74.00	41.32	102.36	12.96	PK
2	2483.500	66.33	74.00	-7.67	53.53	12.80	PK
3	2488.283	67.24	74.00	-6.76	54.46	12.78	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2452MHz) – Dipole Antenna
 Test Date : 2021/02/03

Vertical



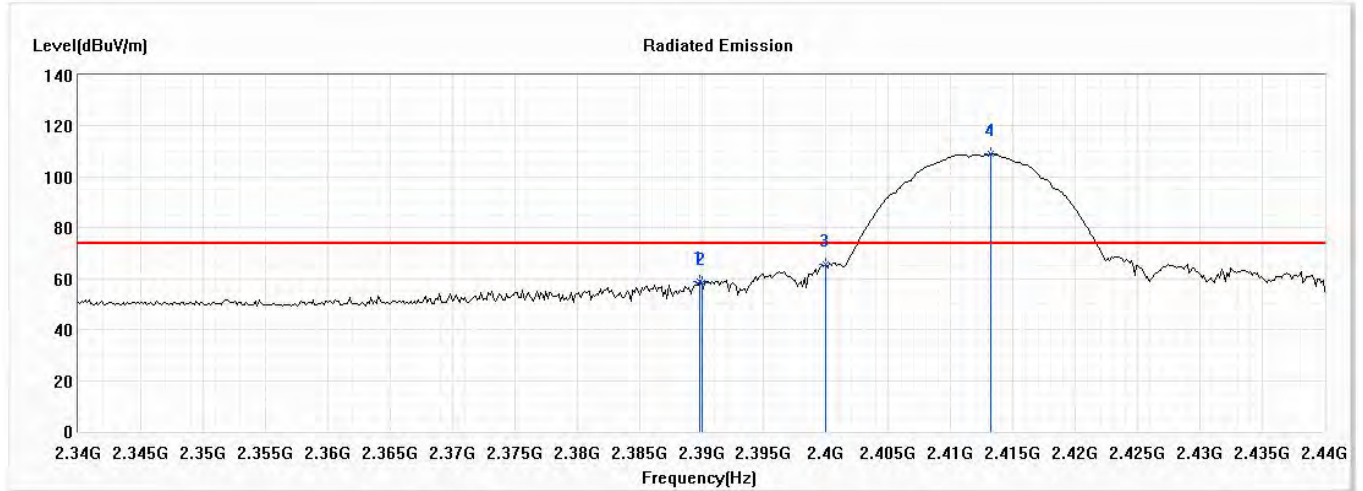
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2450.457	103.21	54.00	49.21	90.24	12.97	AV
2	2483.500	52.41	54.00	-1.59	39.61	12.80	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



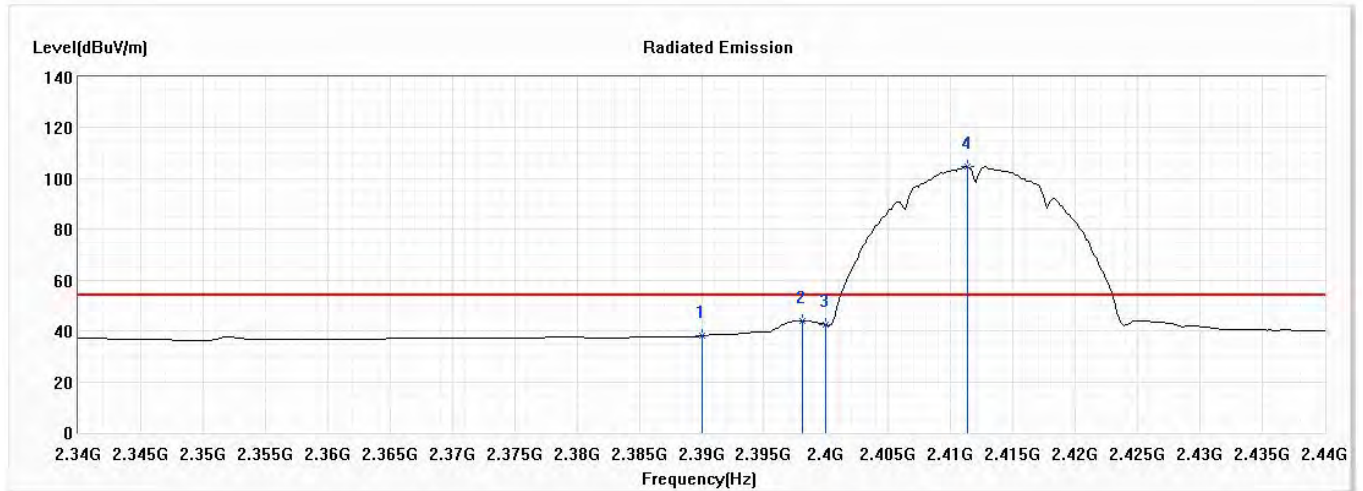
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2389.855	58.98	74.00	-15.02	46.42	12.56	PK
2	2390.000	58.61	74.00	-15.39	46.06	12.55	PK
3	2400.000	65.67	74.00	-8.33	53.14	12.53	PK
! 4	2413.188	108.89	74.00	34.89	96.24	12.65	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



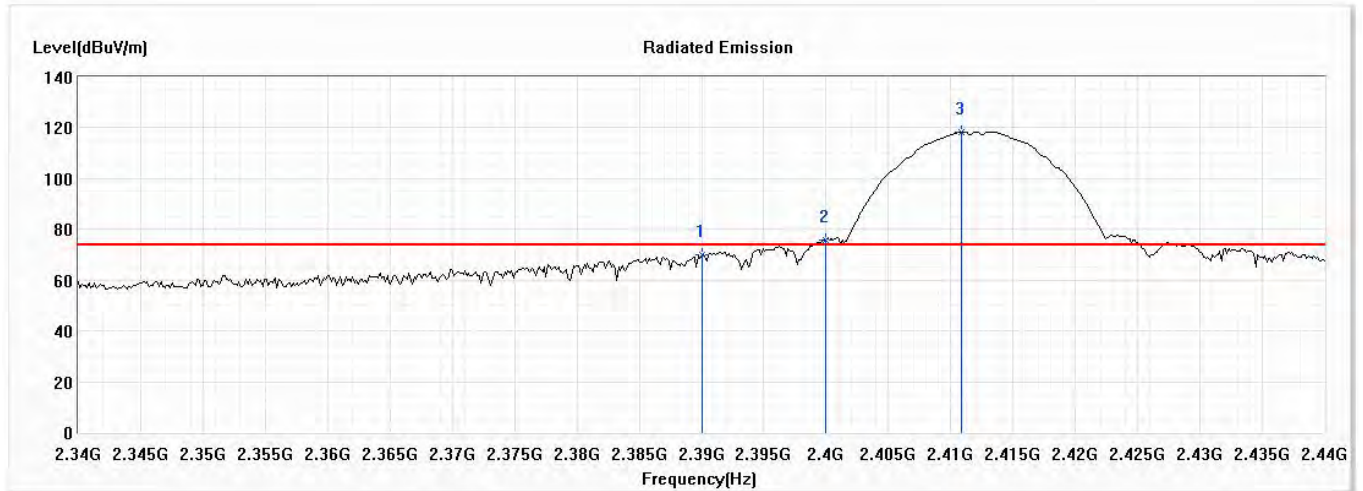
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	38.05	54.00	-15.95	25.50	12.55	AV
2	2398.116	44.11	54.00	-9.89	31.57	12.54	AV
3	2400.000	42.28	54.00	-11.72	29.75	12.53	AV
! 4	2411.304	104.62	54.00	50.62	92.00	12.62	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



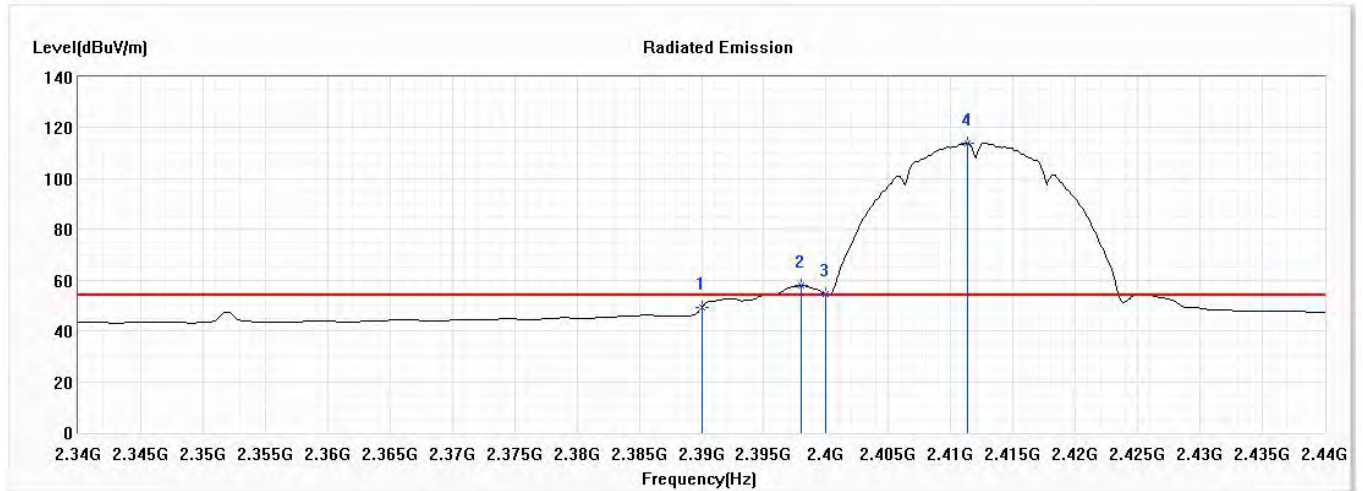
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	69.92	74.00	-4.08	57.37	12.55	PK
! 2	2400.000	75.98	74.00	1.98	63.45	12.53	PK
! 3	2410.870	118.36	74.00	44.36	105.74	12.62	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



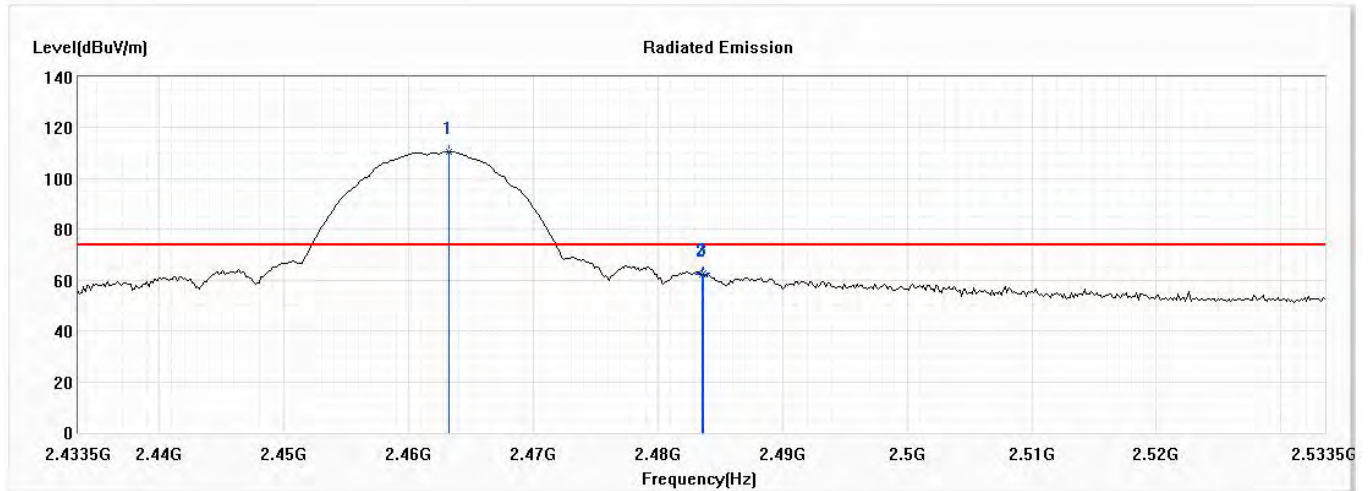
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	49.24	54.00	-4.76	36.69	12.55	AV
! 2	2397.971	57.81	54.00	3.81	45.27	12.54	AV
! 3	2400.000	54.38	54.00	0.38	41.85	12.53	AV
! 4	2411.304	114.16	54.00	60.16	101.54	12.62	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



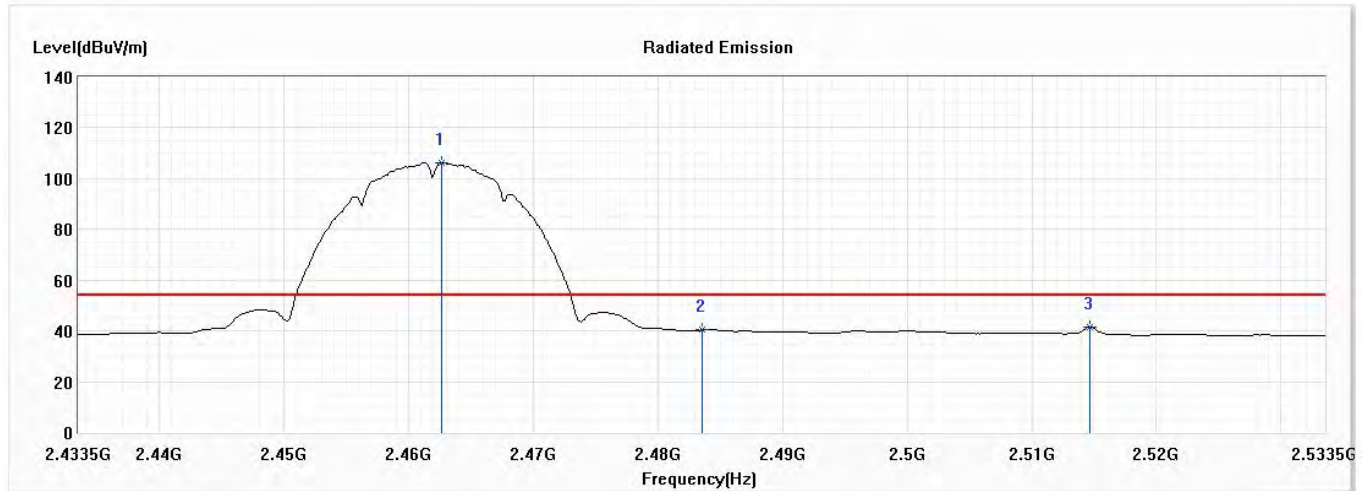
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2463.210	110.59	74.00	36.59	97.68	12.91	PK
2	2483.500	62.27	74.00	-11.73	49.47	12.80	PK
3	2483.645	62.84	74.00	-11.16	50.04	12.80	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



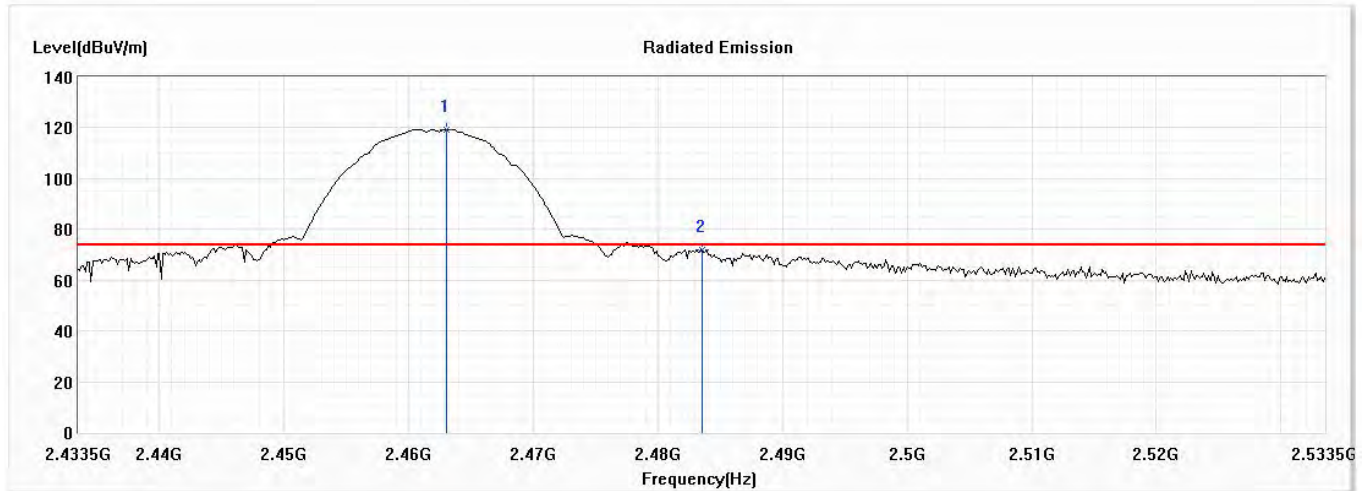
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2462.630	106.44	54.00	52.44	93.53	12.91	AV
2	2483.500	40.39	54.00	-13.61	27.59	12.80	AV
3	2514.659	41.57	54.00	-12.43	28.79	12.78	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



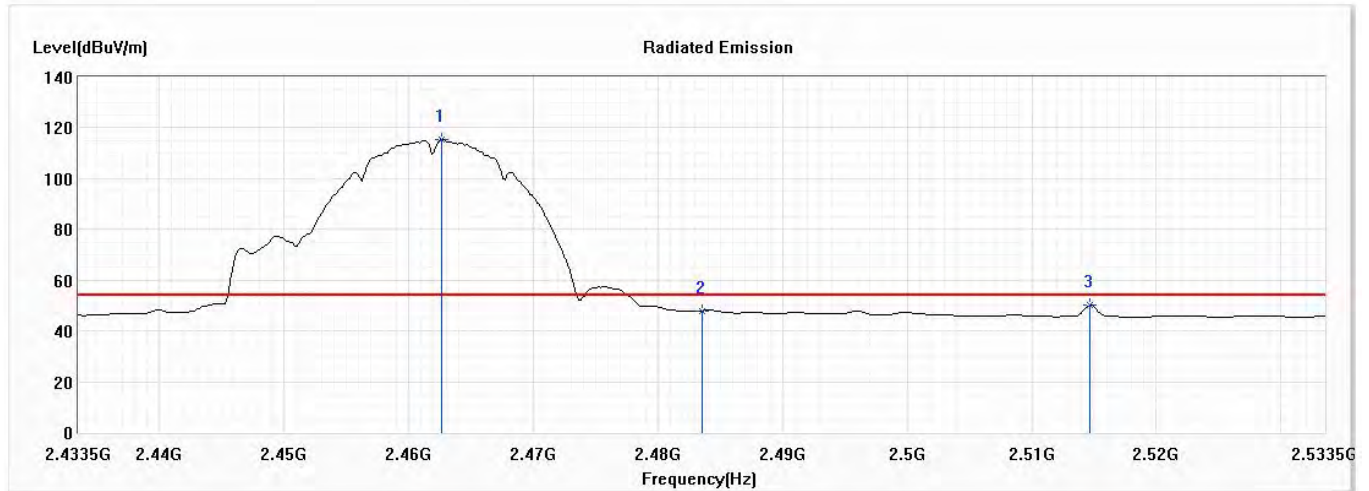
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2463.065	119.40	74.00	45.40	106.49	12.91	PK
2	2483.500	72.04	74.00	-1.96	59.24	12.80	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



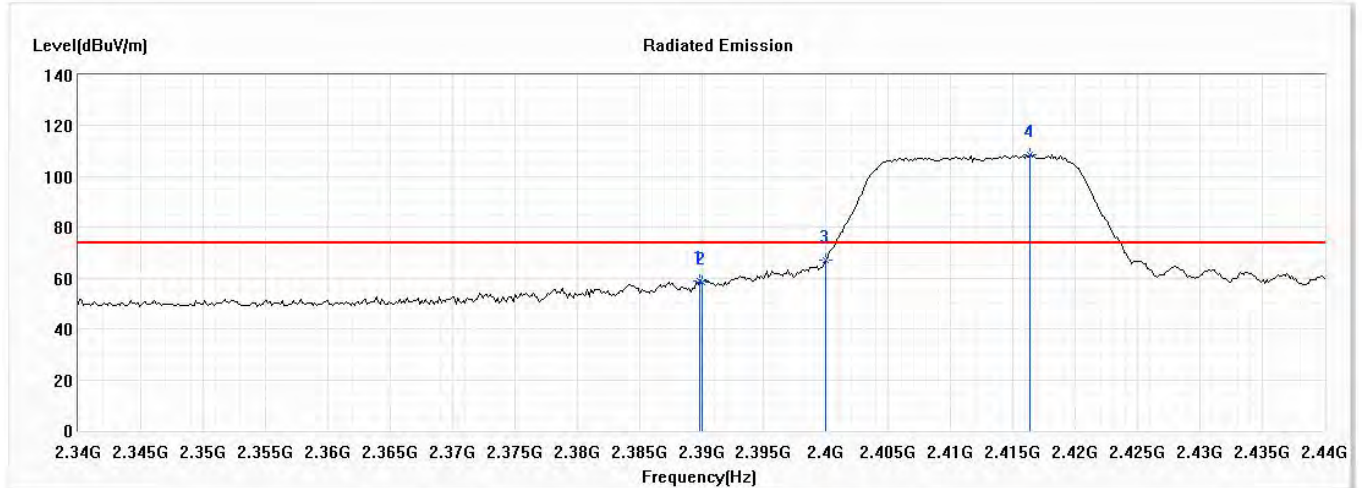
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2462.630	115.21	54.00	61.21	102.30	12.91	AV
2	2483.500	47.84	54.00	-6.16	35.04	12.80	AV
3	2514.659	50.09	54.00	-3.91	37.31	12.78	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



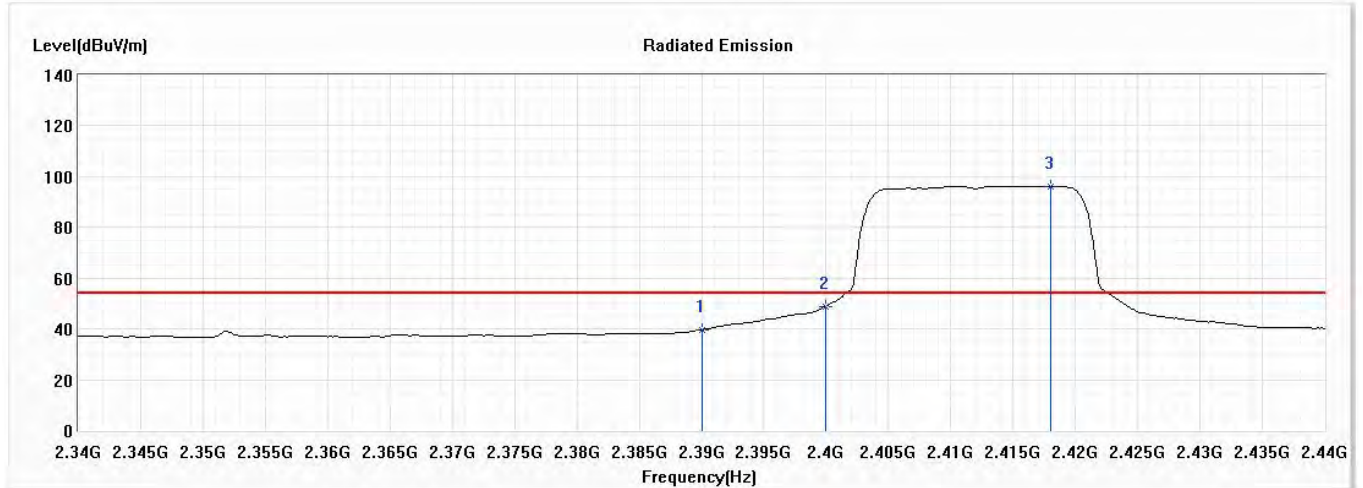
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2389.855	58.79	74.00	-15.21	46.23	12.56	PK
2	2390.000	58.31	74.00	-15.69	45.76	12.55	PK
3	2400.000	66.97	74.00	-7.03	54.44	12.53	PK
! 4	2416.377	108.54	74.00	34.54	95.87	12.67	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



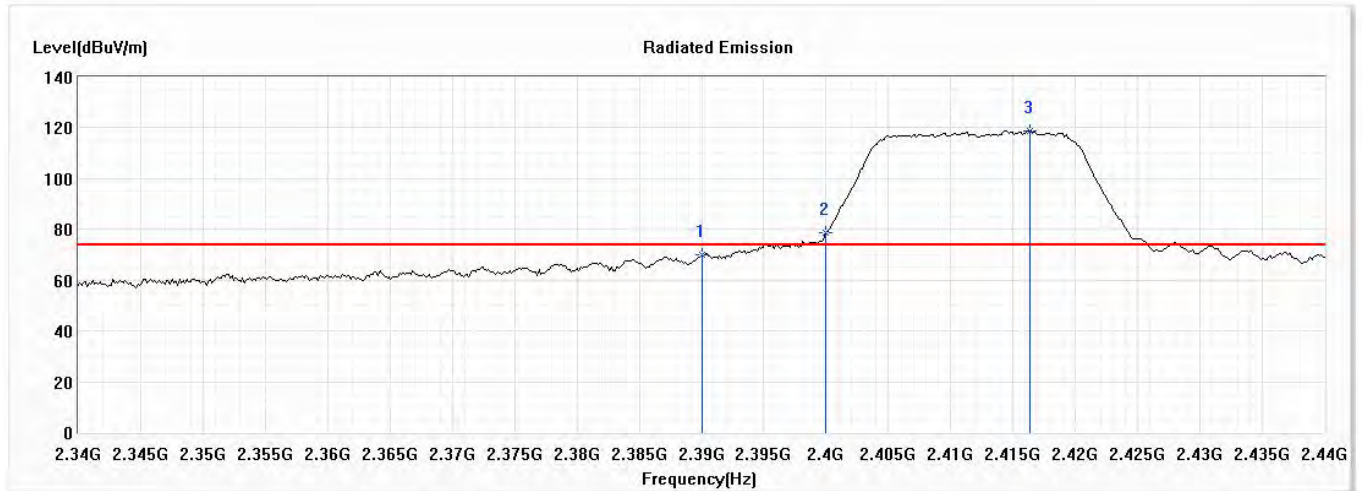
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	39.56	54.00	-14.44	27.01	12.55	AV
2	2400.000	48.92	54.00	-5.08	36.39	12.53	AV
! 3	2417.971	96.16	54.00	42.16	83.48	12.68	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



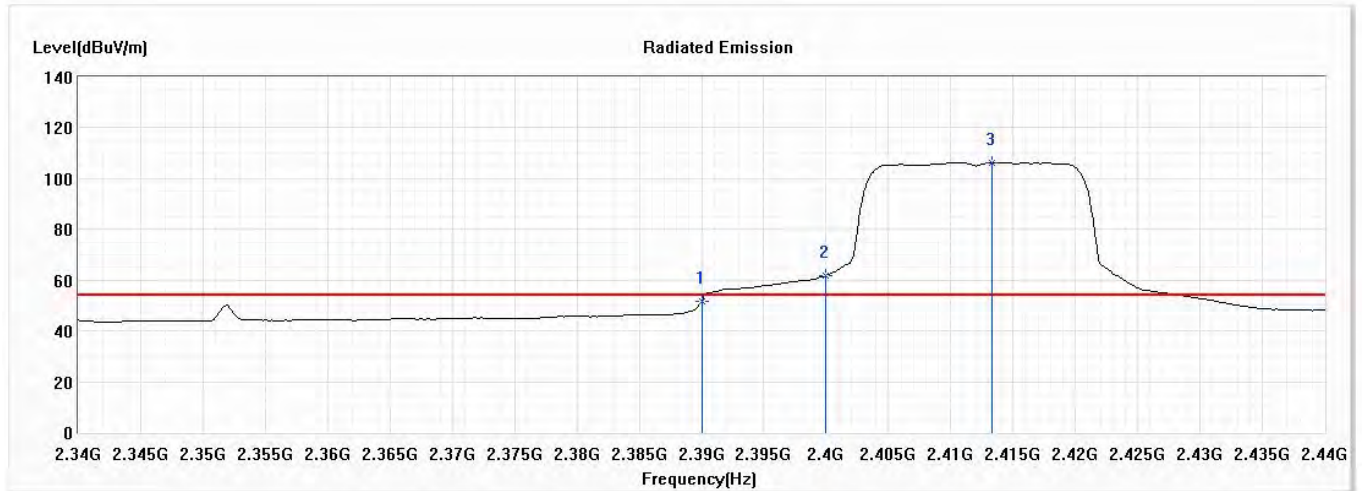
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	69.86	74.00	-4.14	57.31	12.55	PK
! 2	2400.000	78.52	74.00	4.52	65.99	12.53	PK
! 3	2416.377	118.67	74.00	44.67	106.00	12.67	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



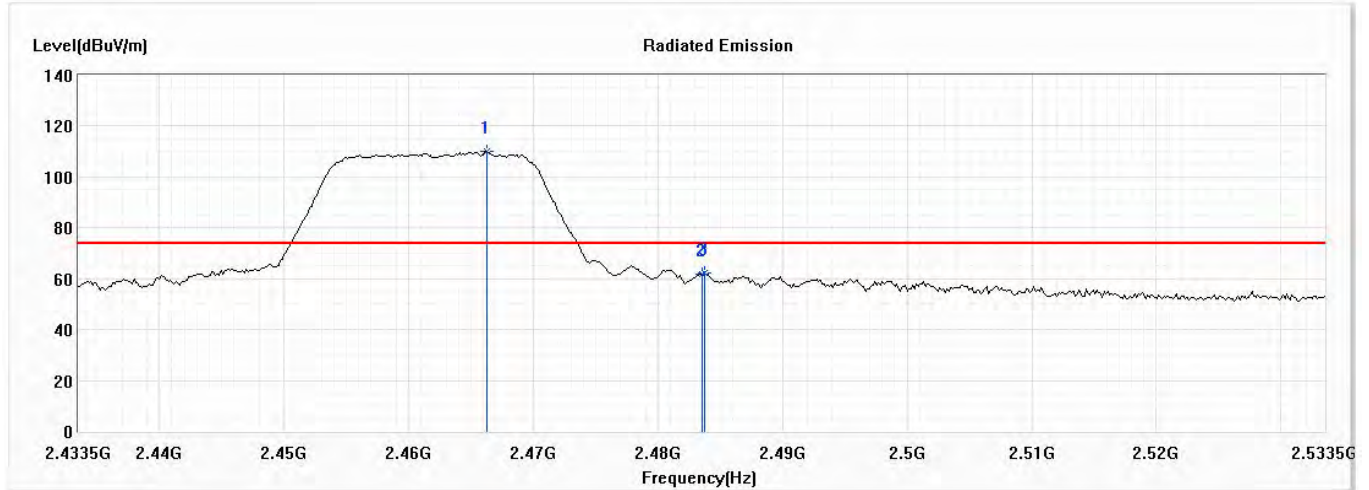
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	51.85	54.00	-2.15	39.30	12.55	AV
! 2	2400.000	61.87	54.00	7.87	49.34	12.53	AV
! 3	2413.333	106.27	54.00	52.27	93.62	12.65	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



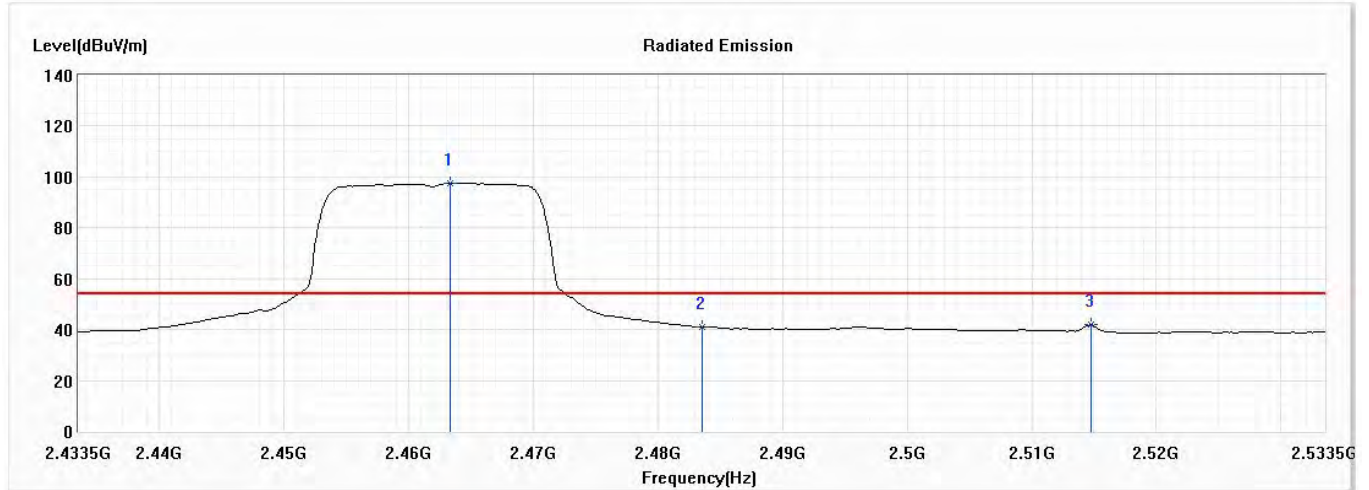
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2466.254	109.88	74.00	35.88	96.99	12.89	PK
2	2483.500	62.01	74.00	-11.99	49.21	12.80	PK
3	2483.790	62.33	74.00	-11.67	49.53	12.80	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



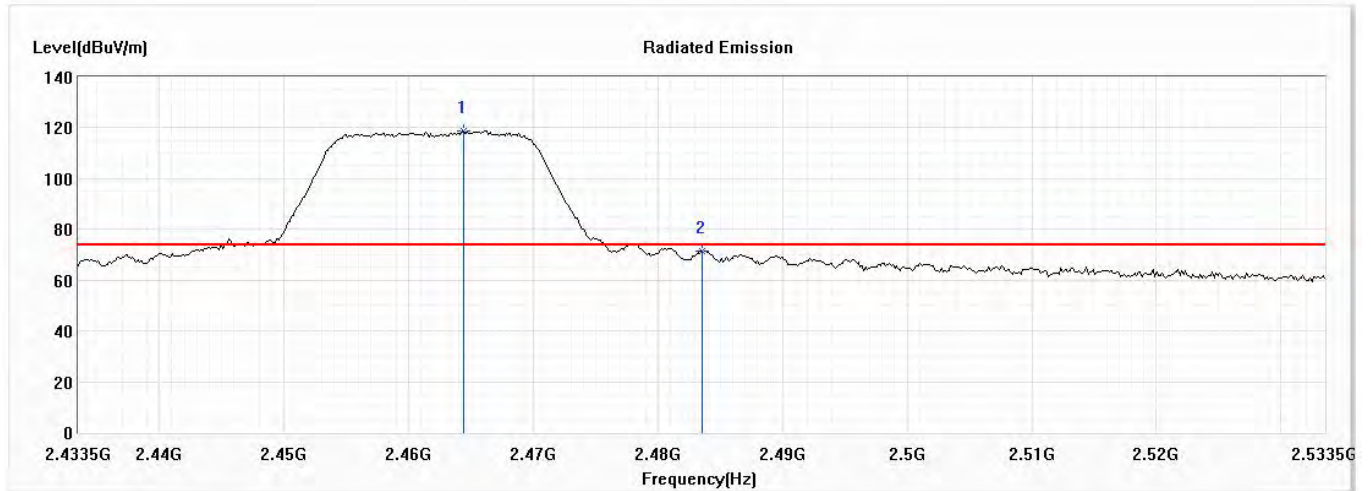
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2463.355	97.68	54.00	43.68	84.77	12.91	AV
2	2483.500	40.95	54.00	-13.05	28.15	12.80	AV
3	2514.804	41.85	54.00	-12.15	29.07	12.78	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



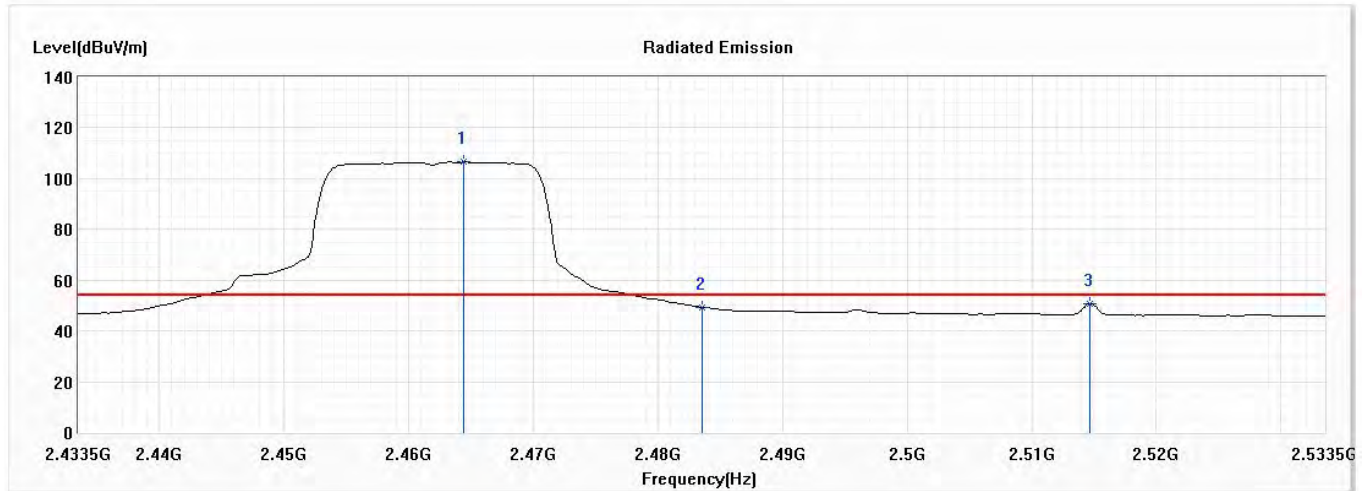
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2464.370	118.93	74.00	44.93	106.03	12.90	PK
2	2483.500	71.52	74.00	-2.48	58.72	12.80	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



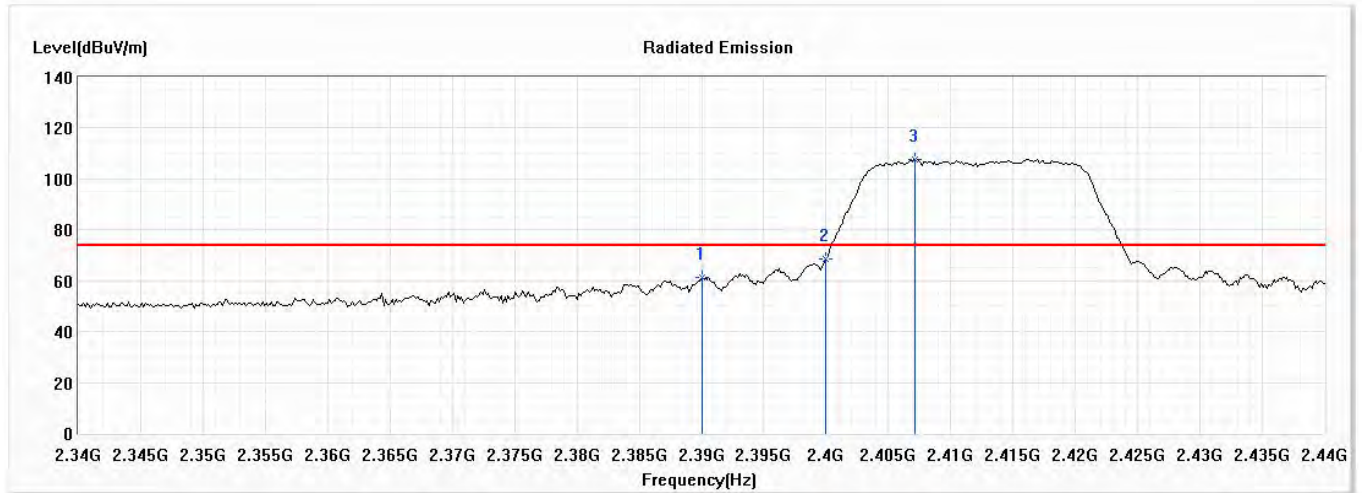
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2464.370	106.56	54.00	52.56	93.66	12.90	AV
2	2483.500	49.14	54.00	-4.86	36.34	12.80	AV
3	2514.659	50.85	54.00	-3.15	38.07	12.78	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



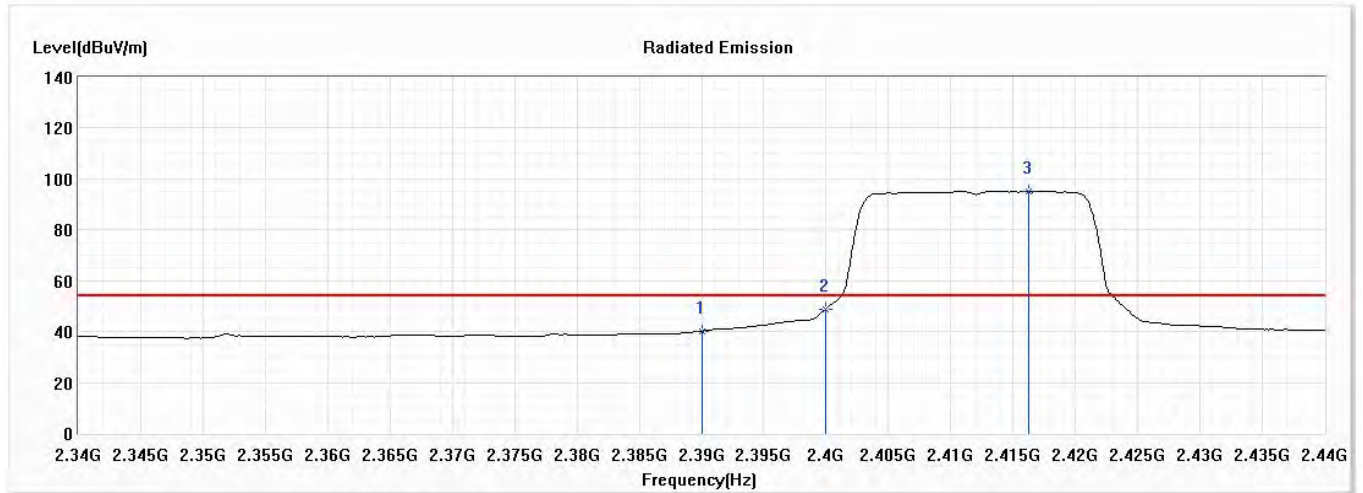
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	61.16	74.00	-12.84	48.61	12.55	PK
2	2400.000	68.68	74.00	-5.32	56.15	12.53	PK
! 3	2407.101	107.46	74.00	33.46	94.86	12.60	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



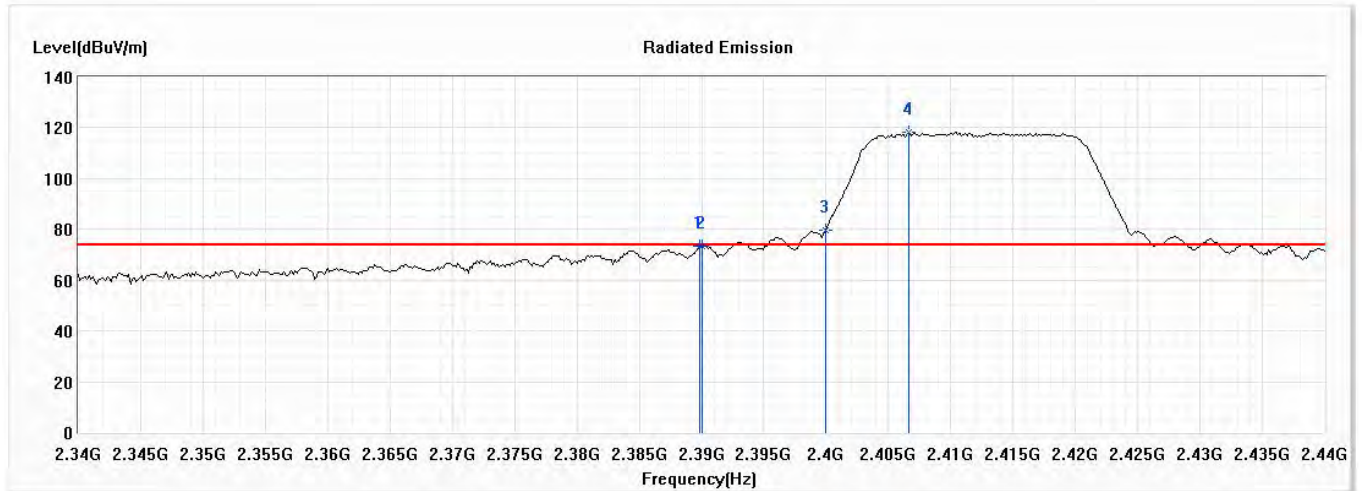
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	40.02	54.00	-13.98	27.47	12.55	AV
2	2400.000	48.96	54.00	-5.04	36.43	12.53	AV
! 3	2416.232	95.08	54.00	41.08	82.41	12.67	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



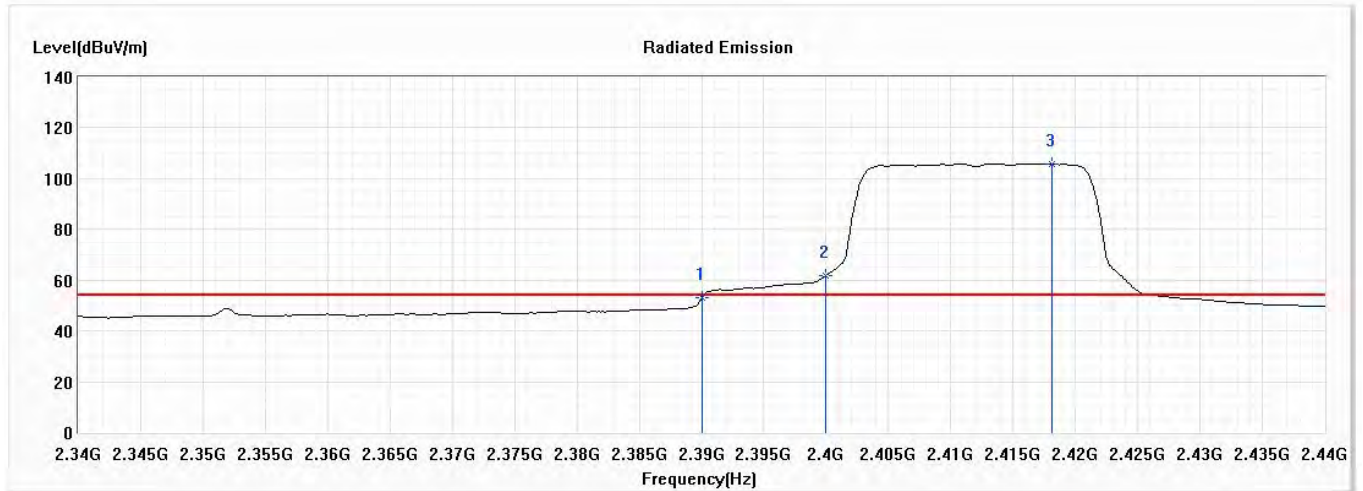
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2389.855	73.29	74.00	-0.71	60.73	12.56	PK
2	2390.000	73.24	74.00	-0.76	60.69	12.55	PK
! 3	2400.000	79.53	74.00	5.53	67.00	12.53	PK
! 4	2406.667	118.17	74.00	44.17	105.58	12.59	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2412MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



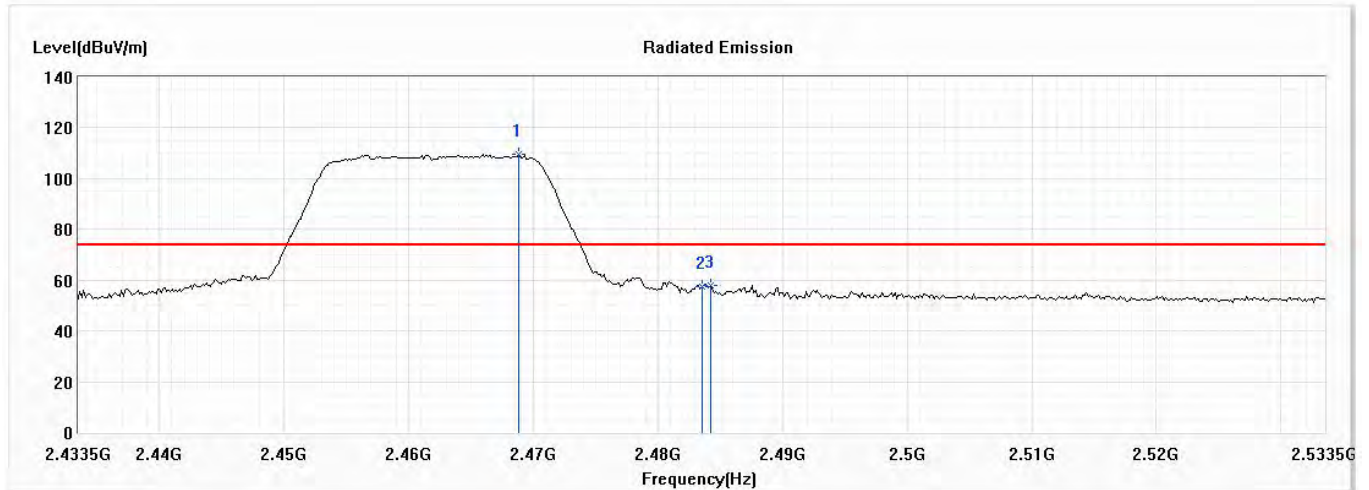
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	52.92	54.00	-1.08	40.37	12.55	AV
! 2	2400.000	61.73	54.00	7.73	49.20	12.53	AV
! 3	2418.116	105.84	54.00	51.84	93.16	12.68	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2462MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



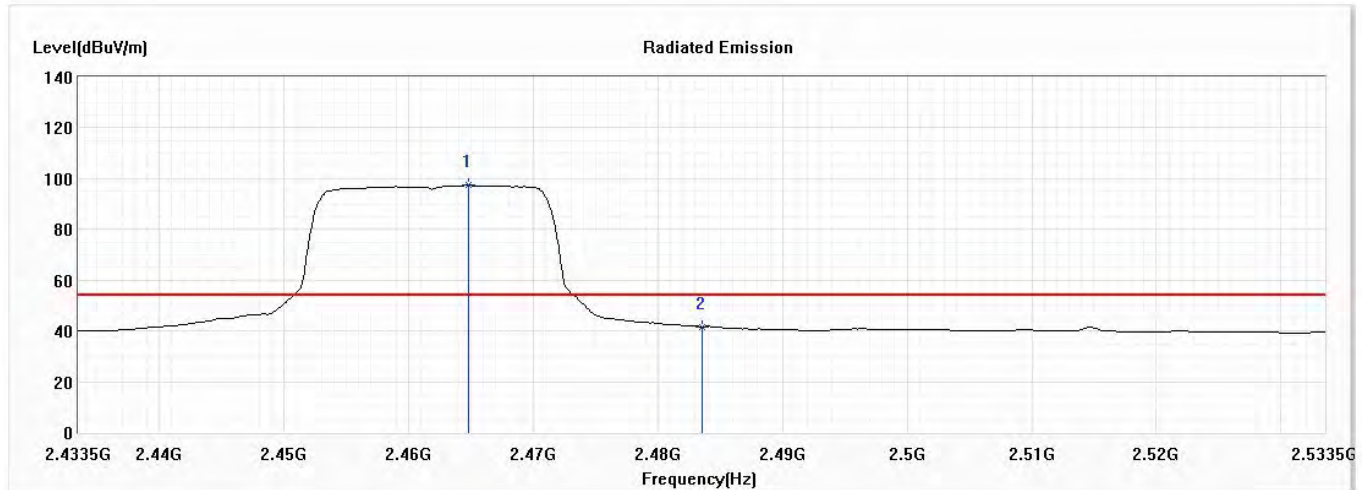
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2468.862	109.58	74.00	35.58	96.69	12.89	PK
2	2483.500	57.49	74.00	-16.51	44.69	12.80	PK
3	2484.225	58.02	74.00	-15.98	45.23	12.79	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2462MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



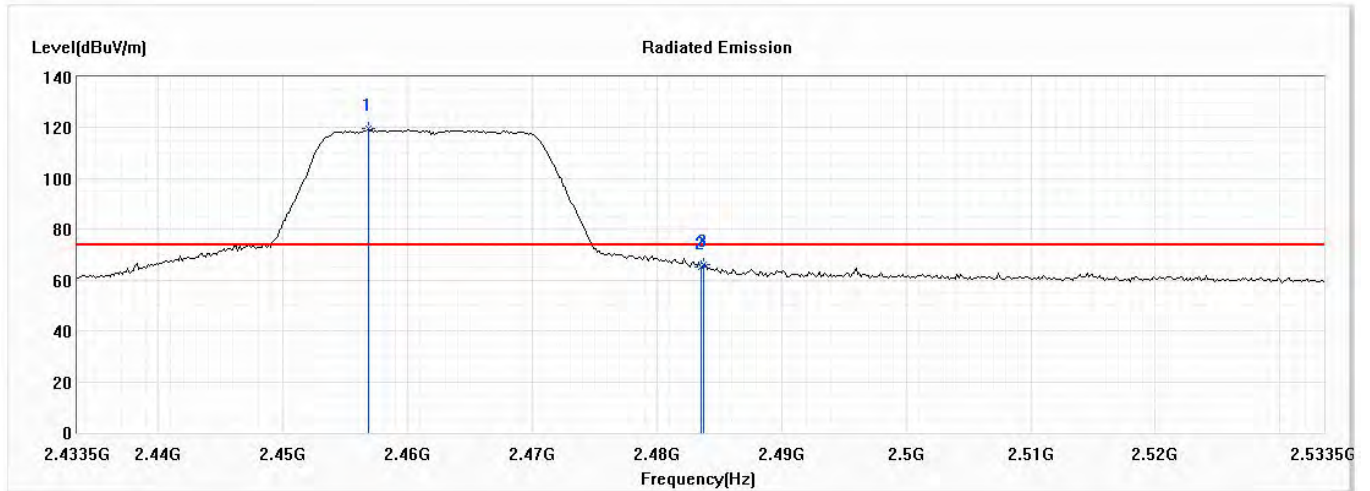
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2464.804	97.35	54.00	43.35	84.45	12.90	AV
2	2483.500	41.63	54.00	-12.37	28.83	12.80	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2462MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



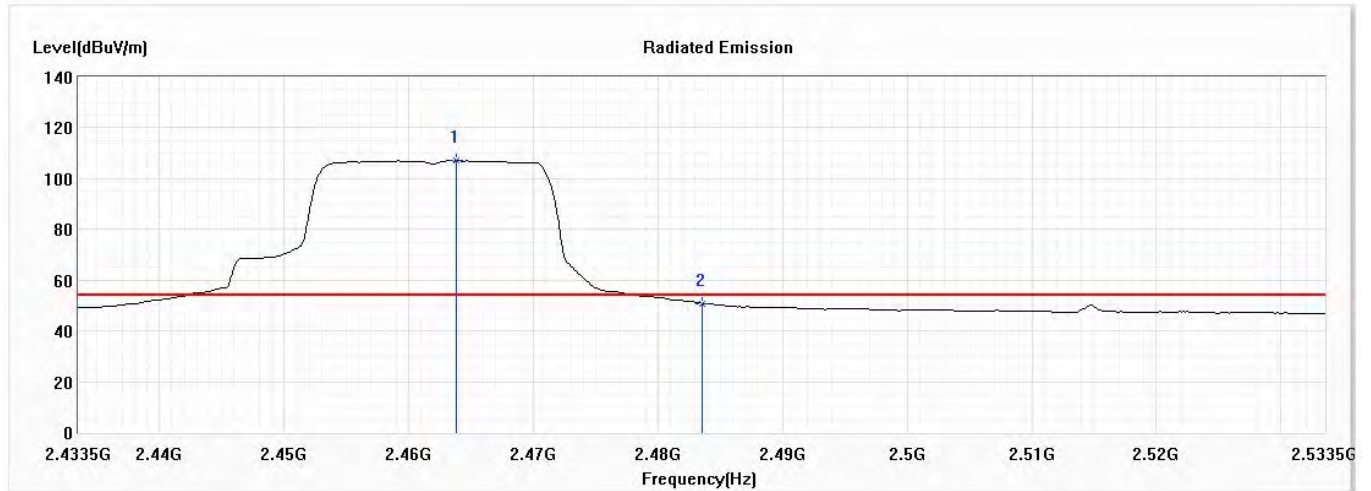
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2456.833	119.60	74.00	45.60	106.66	12.94	PK
2	2483.500	65.15	74.00	-8.85	52.35	12.80	PK
3	2483.790	66.19	74.00	-7.81	53.39	12.80	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) (2462MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



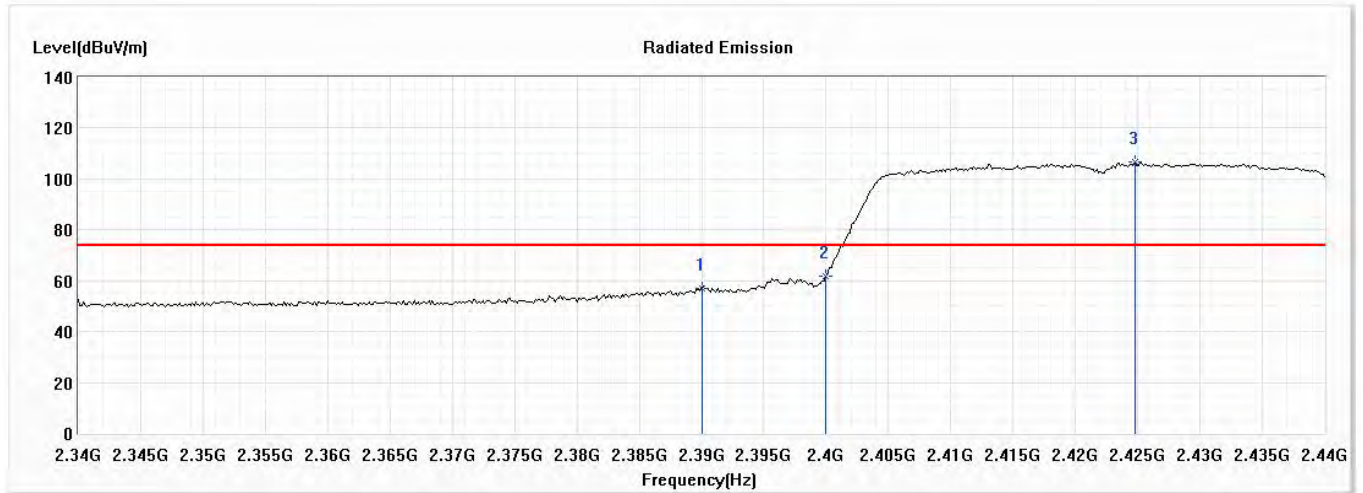
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2463.790	107.01	54.00	53.01	94.10	12.91	AV
2	2483.500	50.90	54.00	-3.10	38.10	12.80	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2422MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



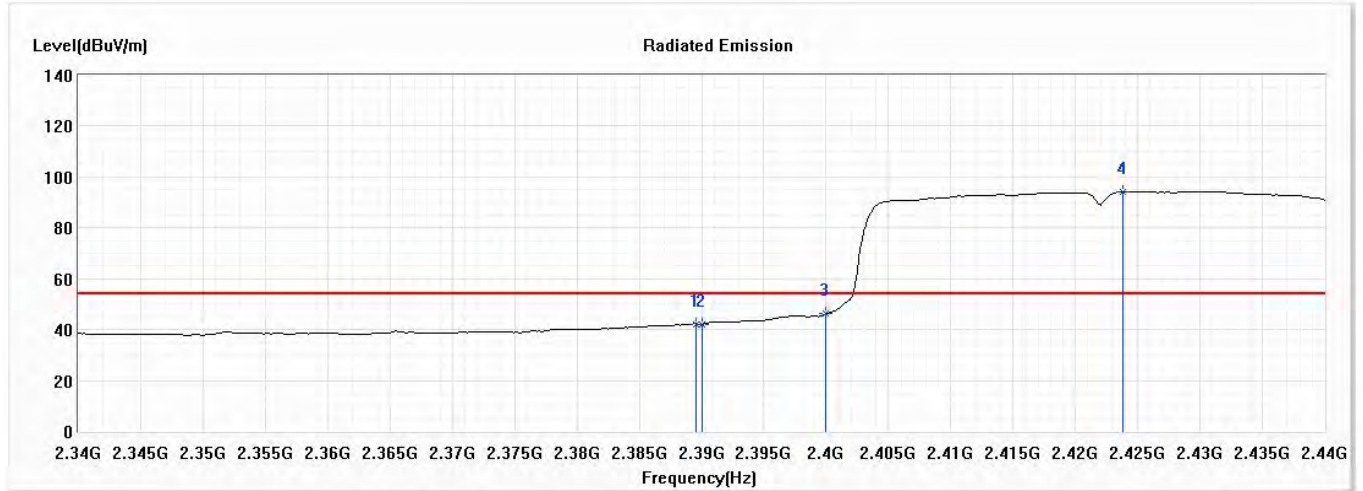
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	56.75	74.00	-17.25	44.20	12.55	PK
2	2400.000	61.75	74.00	-12.25	49.22	12.53	PK
! 3	2424.783	106.51	74.00	32.51	93.76	12.75	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2422MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



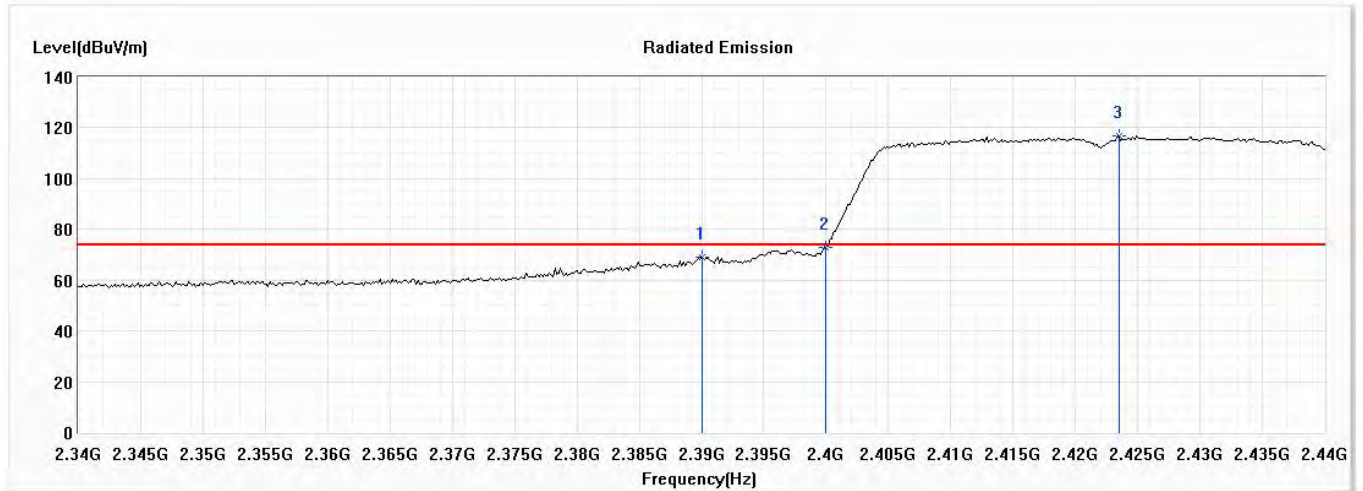
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2389.565	42.24	54.00	-11.76	29.68	12.56	AV
2	2390.000	42.14	54.00	-11.86	29.59	12.55	AV
3	2400.000	46.13	54.00	-7.87	33.60	12.53	AV
! 4	2423.768	94.25	54.00	40.25	81.51	12.74	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2422MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



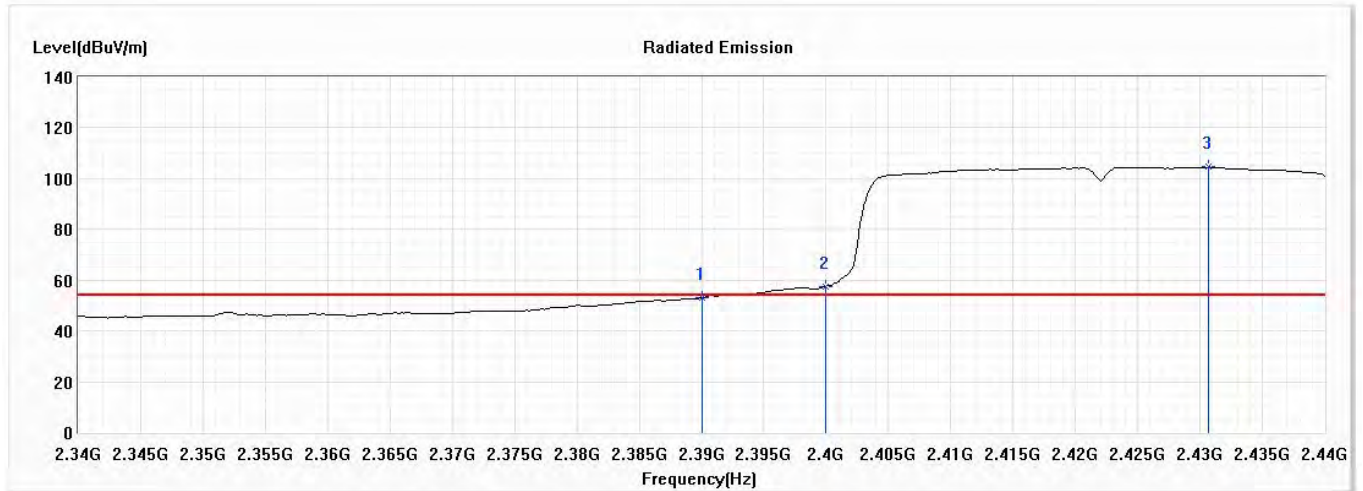
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	69.25	74.00	-4.75	56.70	12.55	PK
2	2400.000	73.07	74.00	-0.93	60.54	12.53	PK
! 3	2423.478	116.74	74.00	42.74	104.00	12.74	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2422MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



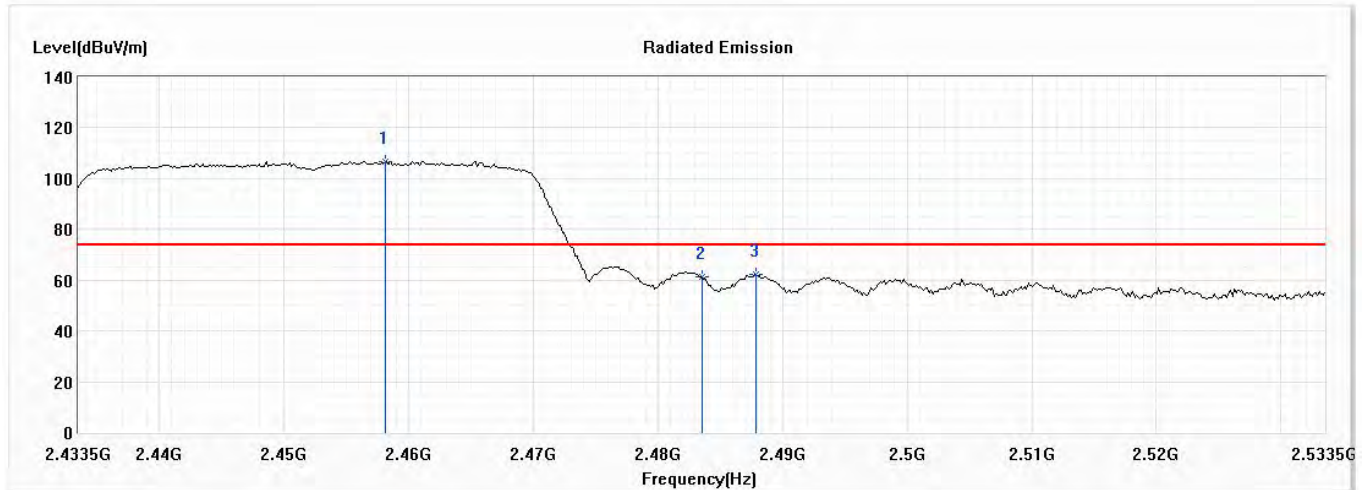
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	53.07	54.00	-0.93	40.52	12.55	AV
! 2	2400.000	57.46	54.00	3.46	44.93	12.53	AV
! 3	2430.725	104.56	54.00	50.56	91.76	12.80	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2452MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



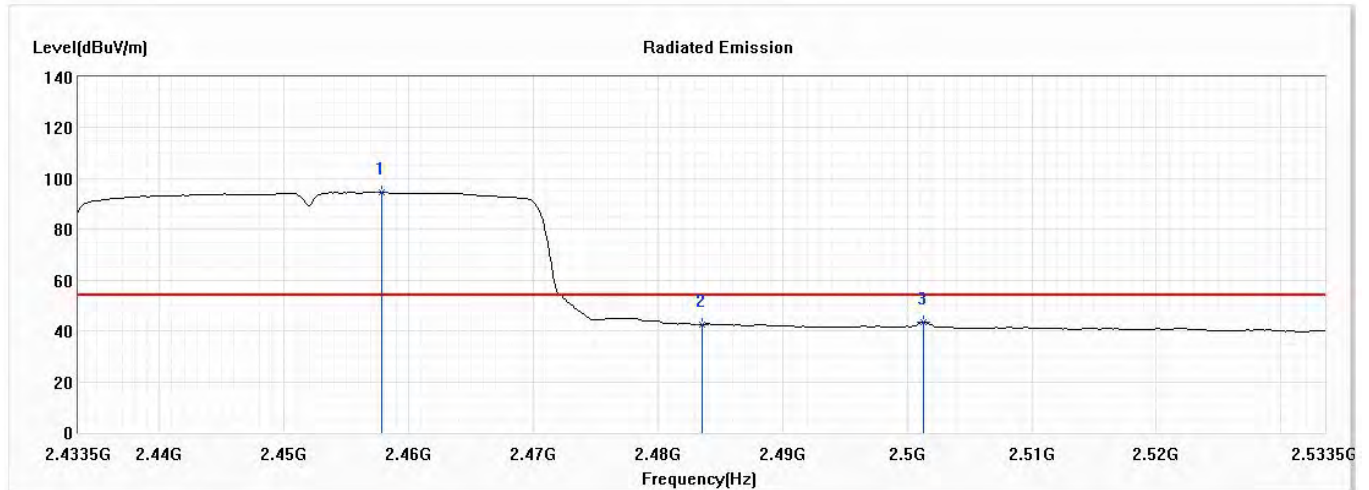
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2458.138	106.85	74.00	32.85	93.91	12.94	PK
2	2483.500	61.33	74.00	-12.67	48.53	12.80	PK
3	2487.848	62.13	74.00	-11.87	49.35	12.78	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2452MHz) – Panel Antenna
 Test Date : 2021/02/09

Horizontal



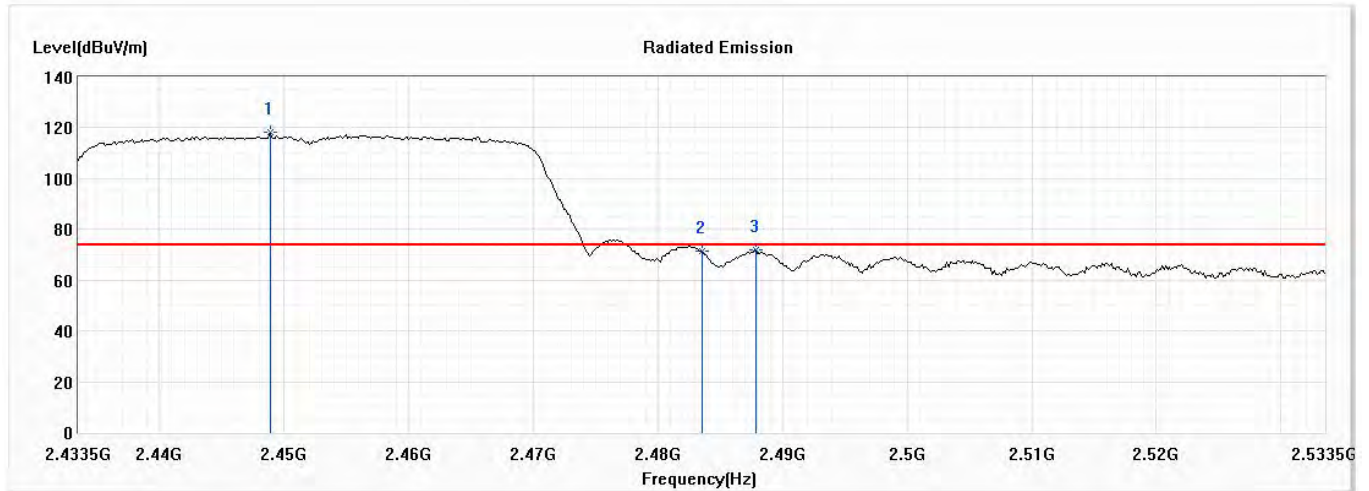
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2457.848	94.61	54.00	40.61	81.67	12.94	AV
2	2483.500	42.33	54.00	-11.67	29.53	12.80	AV
3	2501.326	43.29	54.00	-10.71	30.56	12.73	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2452MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



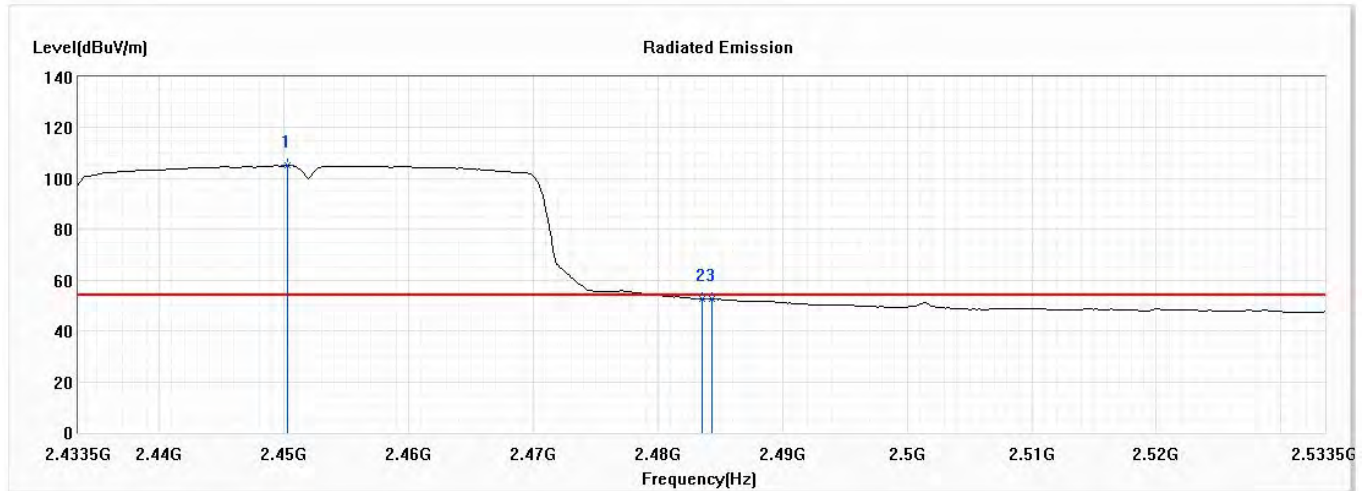
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2448.862	118.06	74.00	44.06	105.09	12.97	PK
2	2483.500	71.48	74.00	-2.52	58.68	12.80	PK
3	2487.848	71.70	74.00	-2.30	58.92	12.78	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless module
 Test Item : Band Edge Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) (2452MHz) – Panel Antenna
 Test Date : 2021/02/09

Vertical



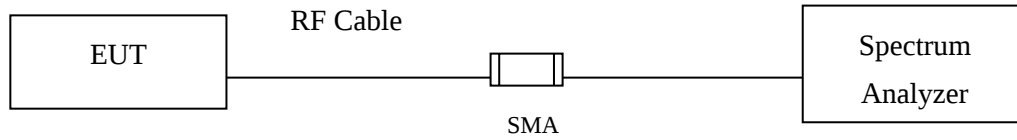
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2450.312	105.15	54.00	51.15	92.18	12.97	AV
2	2483.500	52.41	54.00	-1.59	39.61	12.80	AV
3	2484.370	52.63	54.00	-1.37	39.84	12.79	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

7. 6dB Bandwidth

7.1. Test Setup



7.2. Limits

The minimum bandwidth shall be at least 500 kHz.

7.3. Test Procedure

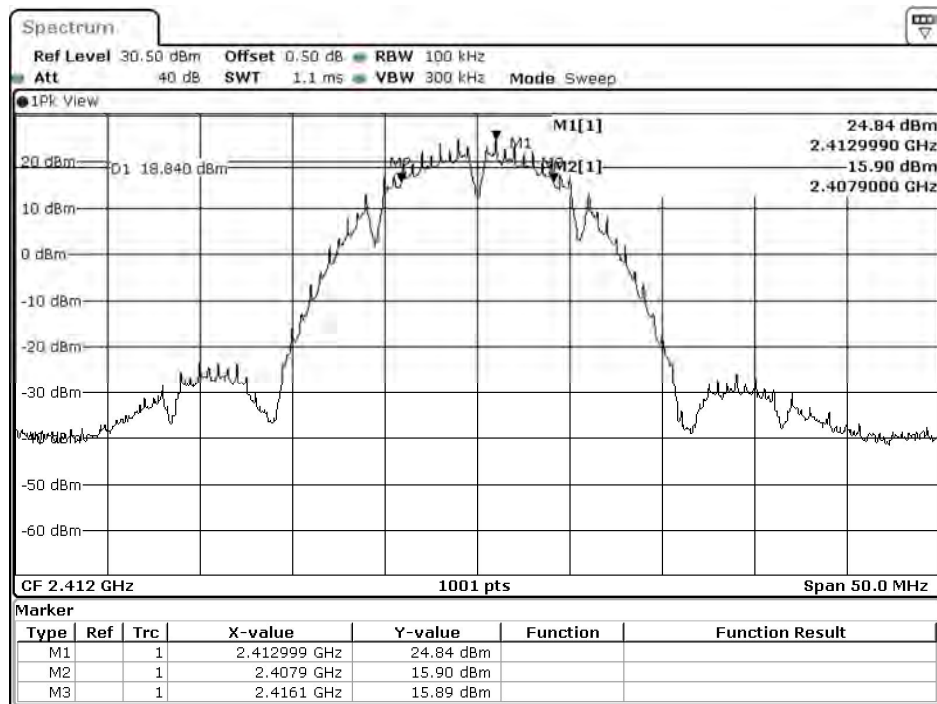
The EUT was setup according to ANSI C63.4, 2014; tested according to ANSI C63.10 Section 11.8 for compliance to FCC 47CFR 15.247 requirements.

7.4. Test Result of 6dB Bandwidth

Product : Wireless module
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) – Dipole Antenna

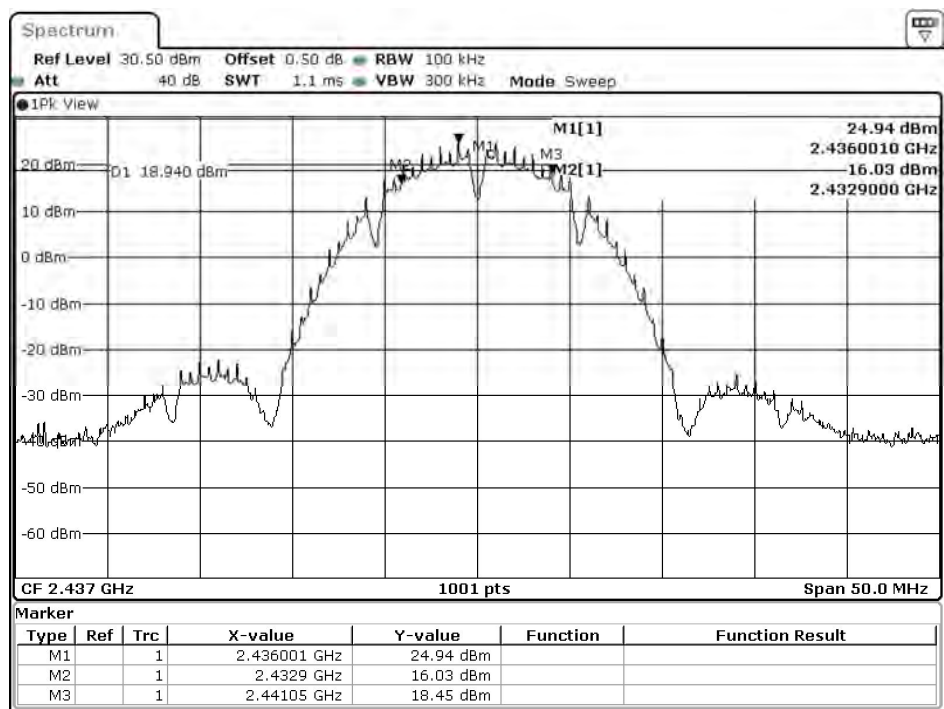
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	8200	>500	Pass
06	2437	8150	>500	Pass
11	2462	8150	>500	Pass

Figure Channel 01:



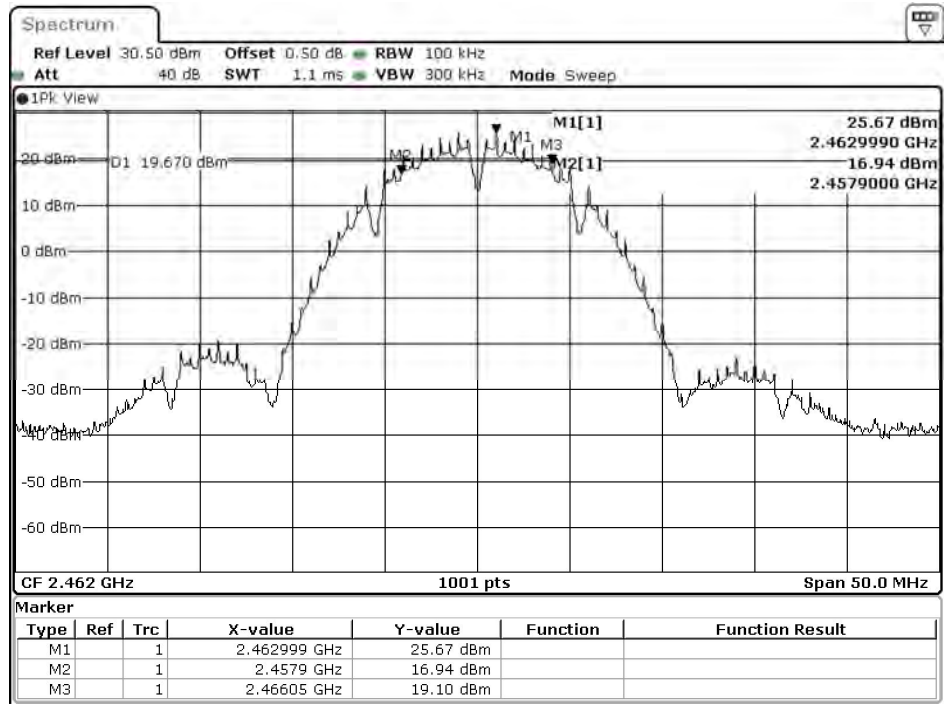
Date: 19.FEB.2021 08:00:54

Figure Channel 06:



Date: 19.FEB.2021 08:07:53

Figure Channel 11:

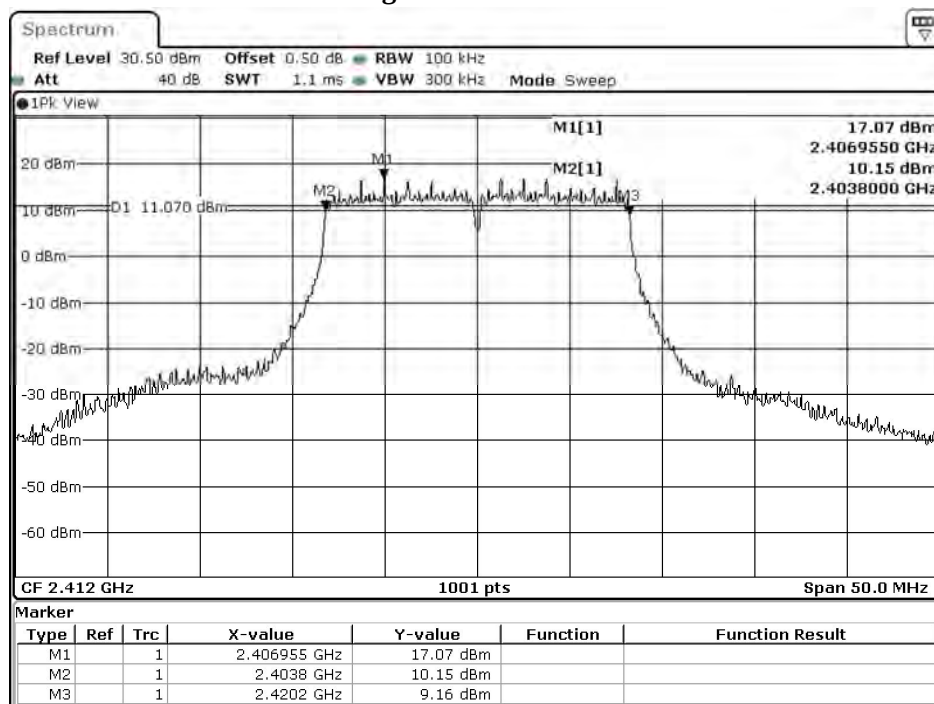


Date: 19.FEB.2021 08:08:52

Product : Wireless module
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) – Dipole Antenna

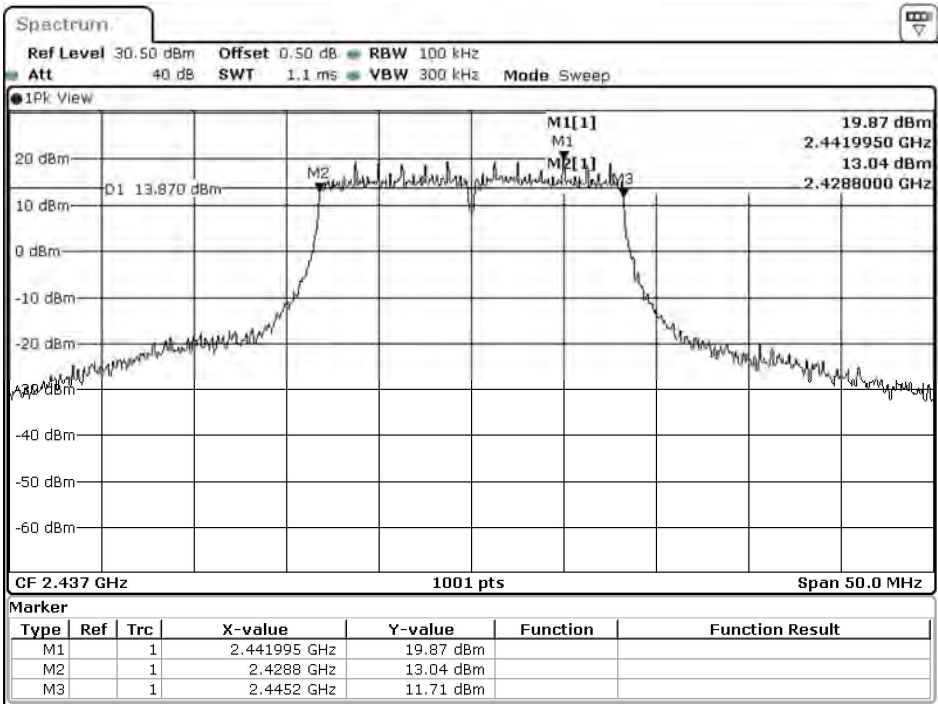
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	16400	>500	Pass
06	2437	16400	>500	Pass
11	2462	16450	>500	Pass

Figure Channel 01:



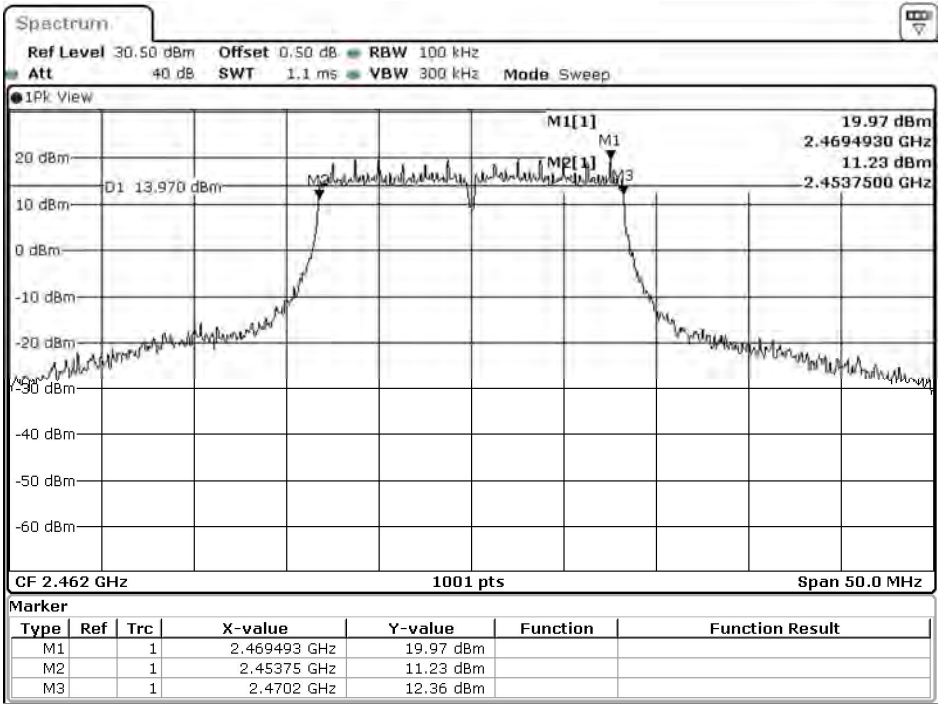
Date: 19.FEB.2021 08:09:52

Figure Channel 06:



Date: 19.FEB.2021 08:14:46

Figure Channel 11:

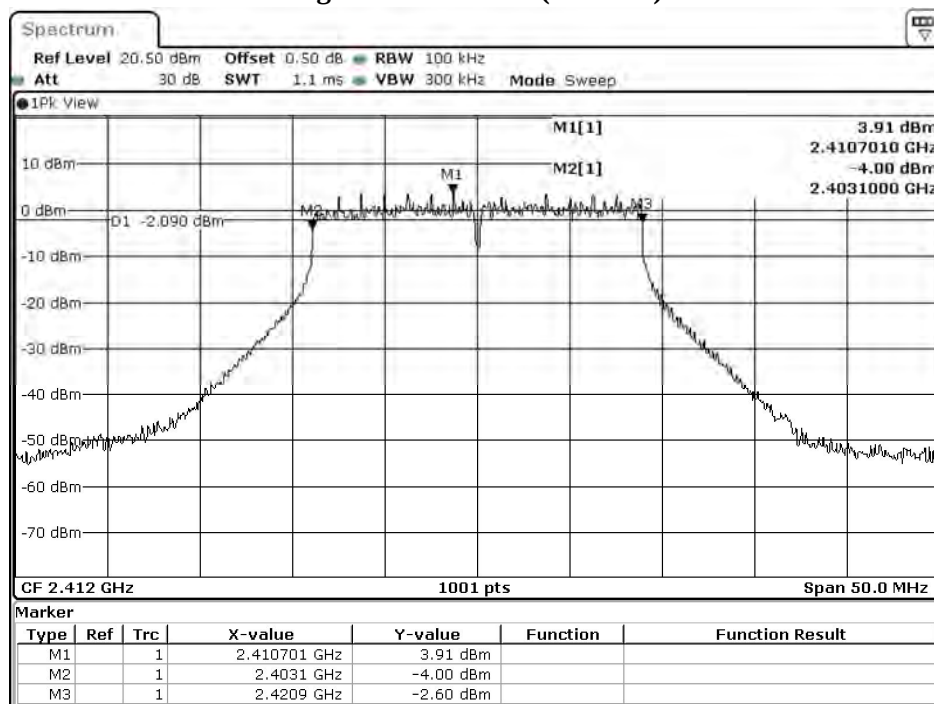


Date: 19.FEB.2021 08:15:44

Product : Wireless module
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) – Dipole Antenna

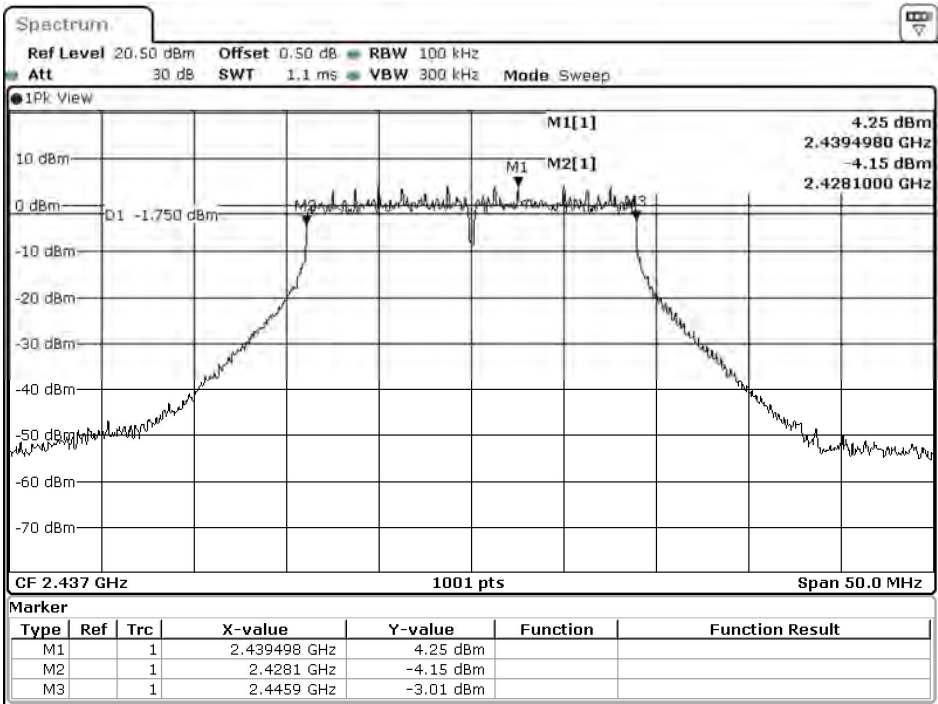
Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	17800	>500	Pass
06	2437	17800	>500	Pass
11	2462	17800	>500	Pass

Figure Channel 01: (Chain A)

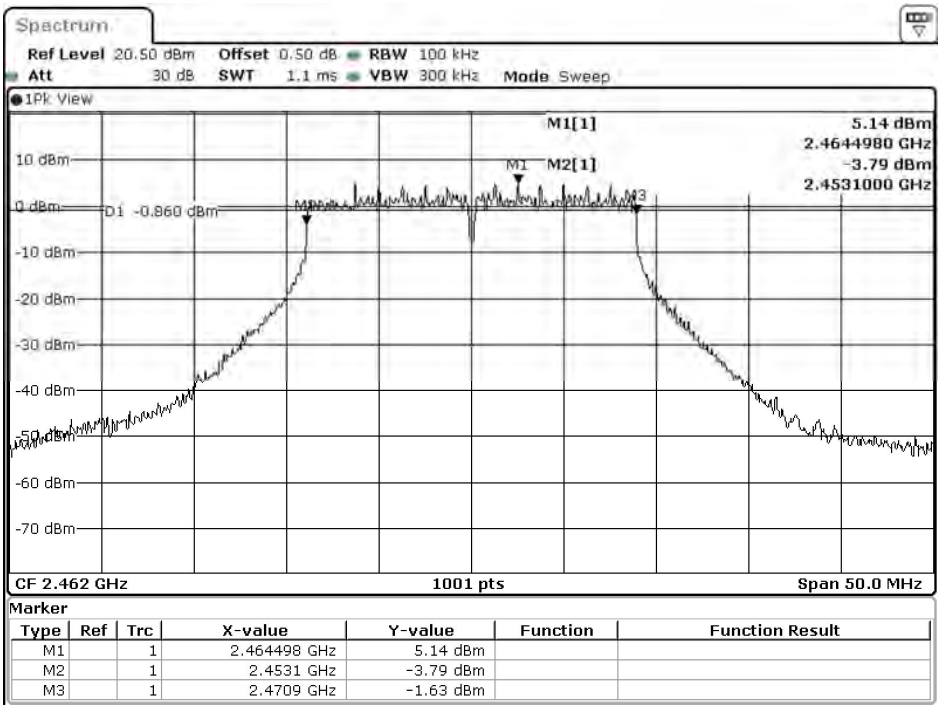
Date: 19.FEB.2021 08:45:50

Figure Channel 06: (Chain A)



Date: 19.FEB.2021 08:49:08

Figure Channel 11: (Chain A)

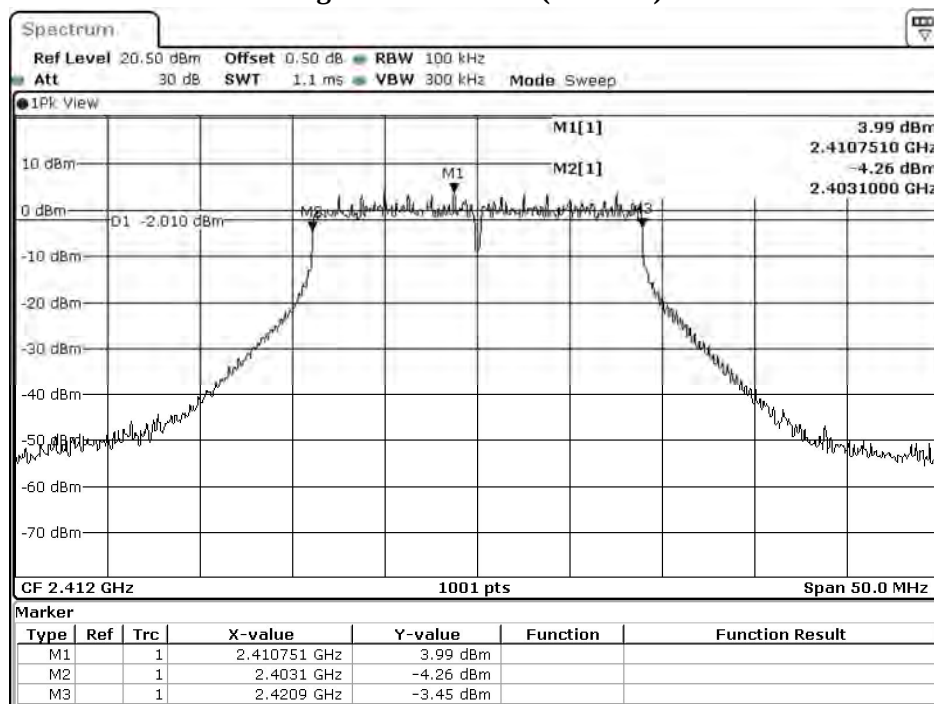


Date: 19.FEB.2021 08:51:50

Product : Wireless module
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 5: Transmit (802.11ac-20MBW 14.4Mbps) – Dipole Antenna

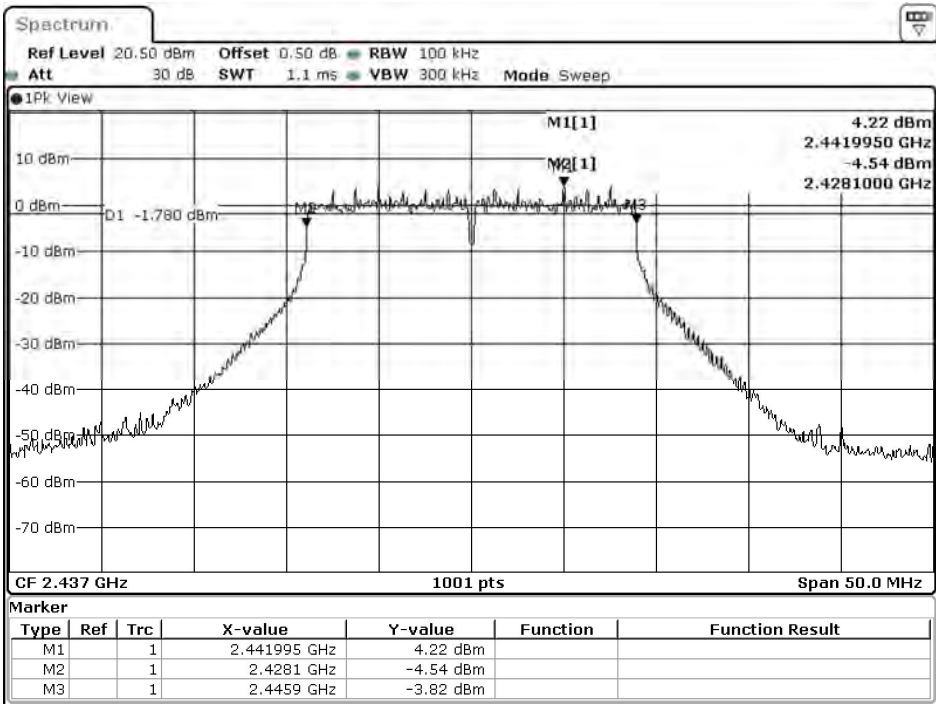
Chain B

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	17800	>500	Pass
06	2437	17800	>500	Pass
11	2462	17800	>500	Pass

Figure Channel 01: (Chain B)

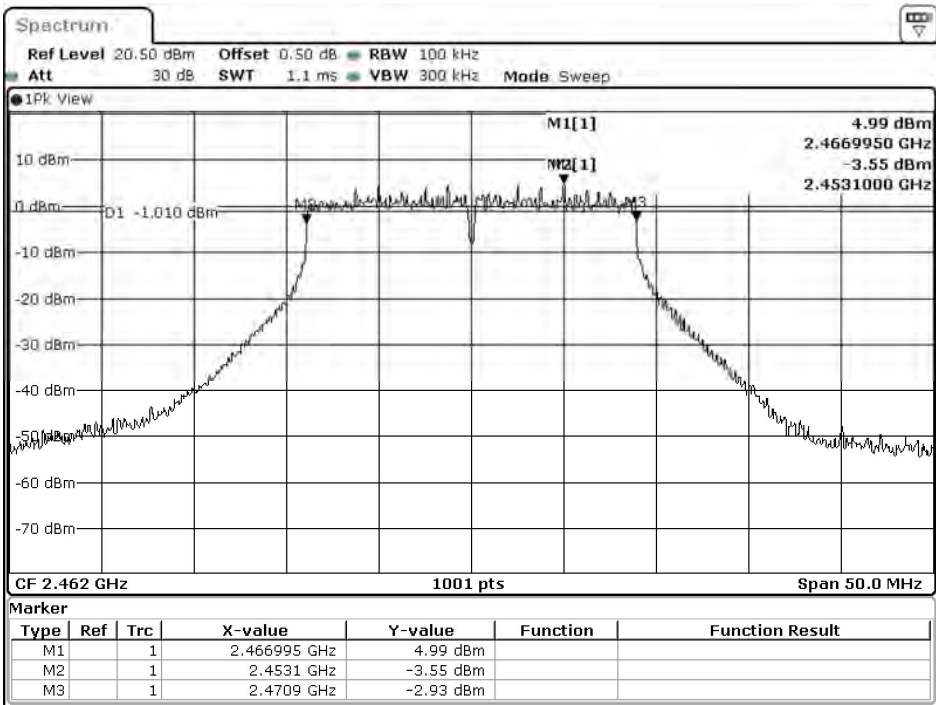
Date: 19.FEB.2021 10:51:15

Figure Channel 06: (Chain B)



Date: 19.FEB.2021 10:54:34

Figure Channel 11: (Chain B)

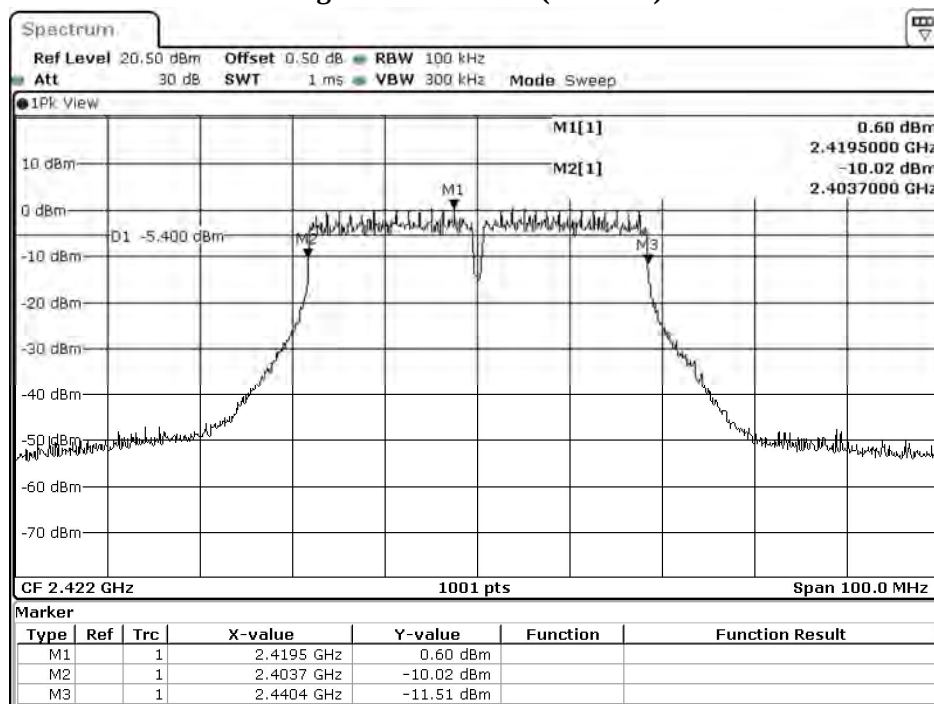


Date: 19.FEB.2021 10:57:15

Product : Wireless module
 Test Item : 6dB Bandwidth Data
 Test Mode : Mode 6: Transmit (802.11ac-40MBW 30Mbps) – Dipole Antenna

Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	36700	>500	Pass
06	2437	36600	>500	Pass
09	2452	36600	>500	Pass

Figure Channel 03: (Chain A)

Date: 19.FEB.2021 08:56:14