FCC Test Report

Product Name	Wireless Outdoor Router
Model No	BEC 4700A,BiPAC 4700A
FCC ID.	QI3BEC-4700A

Applicant	Billion Electric Co., Ltd.
Address	8F., No.192, Sec. 2, Zhongxing Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)

Date of Receipt	Jul. 16, 2020
Issue Date	Nov. 06, 2020
Report No.	2070587R-E3032110113
Report Version	V1.0

Testing Laboratory
3023

Test Report

Issue Date: Nov. 06, 2020
Report No.: 2070587R-E3032110113

Product Name	Wireless Outdoor Router
Applicant	Billion Electric Co., Ltd.
Address	8F., No.192, Sec. 2, Zhongxing Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)
Manufacturer	Billion Electric Co., Ltd.
Model No.	BEC 4700A,BiPAC 4700A
FCC ID.	QI3BEC-4700A
EUT Rated Voltage	AC 100-240V, 50/60Hz
EUT Test Voltage	AC 120V / 60Hz
Trade Name	BEC, Billion
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

Documented By : Joanne Lin

(Senior Adm. Specialist / Joanne Lin)

Tested By : Ivan Chuang

(Senior Engineer / Ivan Chuang)

Approved By :

(Director / Vincent Lin)

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Revision History

Report No.	Version	Description	Issued Date
2070587R-E3032110113	V1.0	Initial issue of report.	2020-11-06

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Wireless Outdoor Router
Trade Name	BEC, Billion
Model No.	BEC 4700A,BiPAC 4700A
FCC ID.	QI3BEC-4700A
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW, 2422-2452MHz for 802.11n-40BW
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 300Mbps
Channel separation	802.11b/g/n: 5 MHz
Type of Modulation	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type	Omni Antenna
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
Power Adapter	MFR: Billion, M/N: BP035-560063PAX Input: AC 100-240V~50/60Hz, 0.8A Output: 56V⎓0.625A Power Cord: Non-shielded, 1.8m

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Grand-Tek	OA-24-04-01-WI	Omni Antenna	4.0dBi for 2.4 GHz

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

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

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

802.11n-40MHz Center Frequency of Each Channel:

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

Note:

1. The EUT is a Wireless Outdoor Router with a built-in 2.4GHz & 5GHz WLAN transceiver, this report for 2.4GHz WLAN.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report.
4. It's declared by manufacture about all models are electrically identical, different model names for marketing purpose. The identification of test sample is BEC 4700A.
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.

Test Mode:	Mode 1: Transmit (802.11b)
	Mode 2: Transmit (802.11g)
	Mode 3: Transmit (802.11n-20MBW)
	Mode 4: Transmit (802.11n-40MBW)

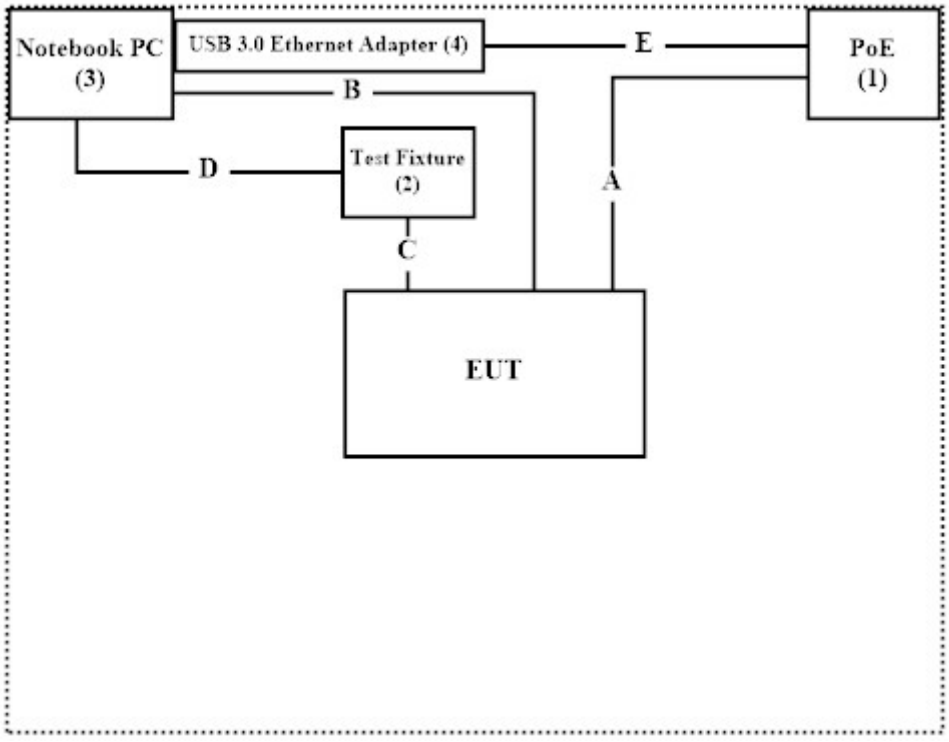
1.2. Tested System Details

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

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	PoE	Billion	BP035-560063PAX	N/A	N/A
2	Test Fixture	Billion	N/A	N/A	N/A
3	Notebook PC	DELL	Inspiron 15 3000	GT5JPJ2	N/A
4	USB 3.0 Ethernet Adapter	LGREEN	CR110	N/A	N/A

Signal Cable Type		Signal cable Description
A	LAN Cable	Non-shielded, 2m
B	LAN Cable	Non-shielded, 3m
C	Signal Cable	Non-shielded, 0.2m
D	USB to RS232 Cable	Non-shielded, 1m
E	LAN Cable	Non-shielded, 2m
F	Power Cable	Non-shielded, 1.8m

1.3. Configuration of Tested System



1.4. EUT Exercise Software

1. Setup the EUT as shown in Section 1.3.
2. Execute software “QATool_Dbg / 0.0.0.70” on the Notebook PC.
3. Configure the test mode, the test channel, and the data rate.
4. Press “OK” to start the continuous Transmit.
5. Verify that the EUT works properly.

1.5. Test Facility

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	10~40 °C	24.5°C
	Humidity (%RH)	10~90 %	62.3%
Radiated Emission	Temperature (°C)	10~40 °C	23.3°C
	Humidity (%RH)	10~90 %	67.1%
Conductive	Temperature (°C)	10~40 °C	22°C
	Humidity (%RH)	10~90 %	55%

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

1.6. List of Test Item and Equipment

For Conduction measurements /ASR1

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

Note:
1. All equipments are calibrated every one year.
2. The test instruments marked with "X" are used to measure the final test results.
3. Test Software version : DEKRA Testing System V1.2

For Conducted measurements /ASR4

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Spectrum Analyzer	R&S	FSV30	103464	2020.02.11	2021.02.10
X	Power Meter	Anritsu	ML2496A	1548003	2019.12.17	2020.12.16
X	Power Sensor	Anritsu	MA2411B	1531024	2019.12.17	2020.12.16
X	Power Sensor	Anritsu	MA2411B	1531025	2019.12.17	2020.12.16
	Bluetooth Tester	R&S	CBT	101238	2017.01.03	2018.01.02

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	TESEQ	HLA6121	37133	2020.03.16	2021.03.15
	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-674	2020.01.03	2021.01.02
X	Horn Antenna	ETS-Lindgren	3117	00203800	2019.12.12	2020.12.11
X	Horn Antenna	Com-Power	AH-840	101087	2020.06.08	2021.06.07
	Pre-Amplifier	EMCI	EMC001330	980316	2020.06.23	2021.06.22
	Pre-Amplifier	EMCI	EMC051835SE	980311	2020.06.23	2021.06.22
X	Pre-Amplifier	EMCI	EMC05820SE	980310	2020.06.24	2021.06.23
X	Pre-Amplifier	EMCI	EMC184045SE	980314	2020.06.10	2021.06.09
X	Filter	MICRO TRONICS	BRM50702	G251	2020.09.17	2021.09.16
	Filter	MICRO TRONICS	BRM50716	G188	2020.09.17	2021.09.16
X	EMI Test Receiver	R&S	ESR7	101602	2019.12.16	2020.12.15
X	Spectrum Analyzer	R&S	FSV40	101148	2020.03.16	2021.03.15
X	Coaxial Cable	SUHNER	SUCOFLEX 106	RF002	2020.07.03	2021.07.02
X	Mircoflex Cable	HUBER SUHNER	SUCOFLEX 102	MY3381/2	2020.06.10	2021.06.09

For Radiated measurements /Site5

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Broadband Antenna	Schwarzbeck	VULB 9168	0851	2020/02/18	2021/02/17
X	EMI Test Receiver	R&S	ESR3	102186	2020/05/04	2021/05/03
X	Coaxial Cable	DEKRA	RG 214	LC005-RG	2020/06/14	2021/06/13
X	Pre-Amplifier	Jet-Power	JPA-10M1G33	170101000330012	2020/06/14	2021/06/13
X	Site5 NSA	DEKRA	N/A	N/A	2020/06/14	2021/06/13

Note:

1. Loop Antenna is calibrated every two year, 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 V1.2

1.7. Uncertainty

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

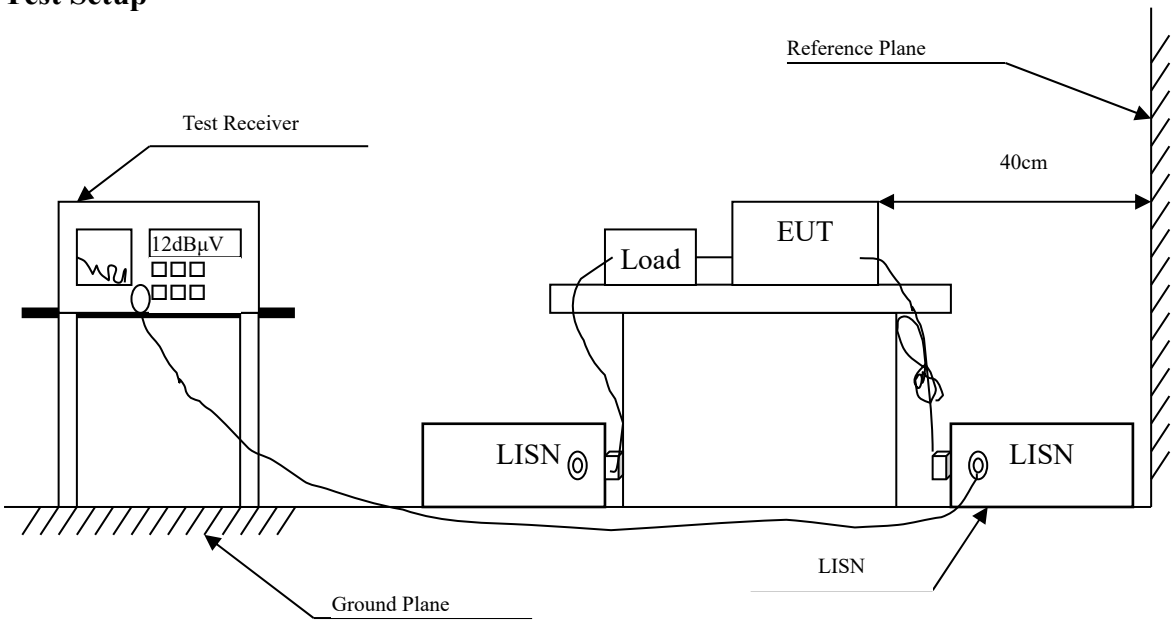
The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

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

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

2. Conducted Emission

2.1. Test Setup



2.2. Limits

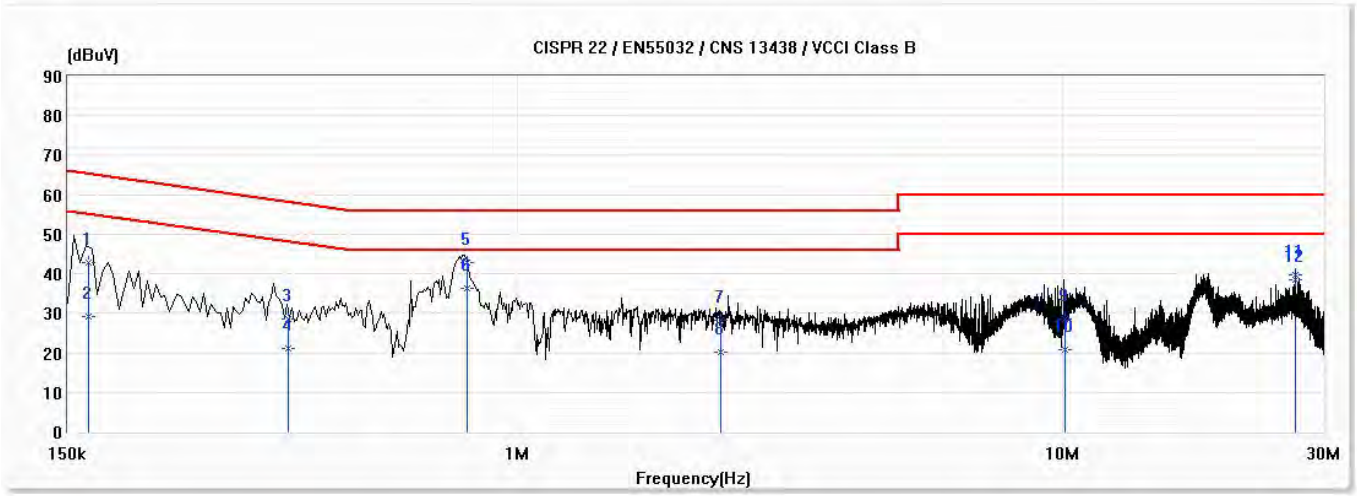
FCC Part 15 Subpart C Paragraph 15.207 (dBµV) Limit		
Frequency MHz	Limits	
	QP	AVG
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

2.3. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.4. Test Result of Conducted Emission

Product : Wireless Outdoor Router
Test Item : Conducted Emission Test
Power Line : L1
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2437MHz)
Test Date : 2020/10/27

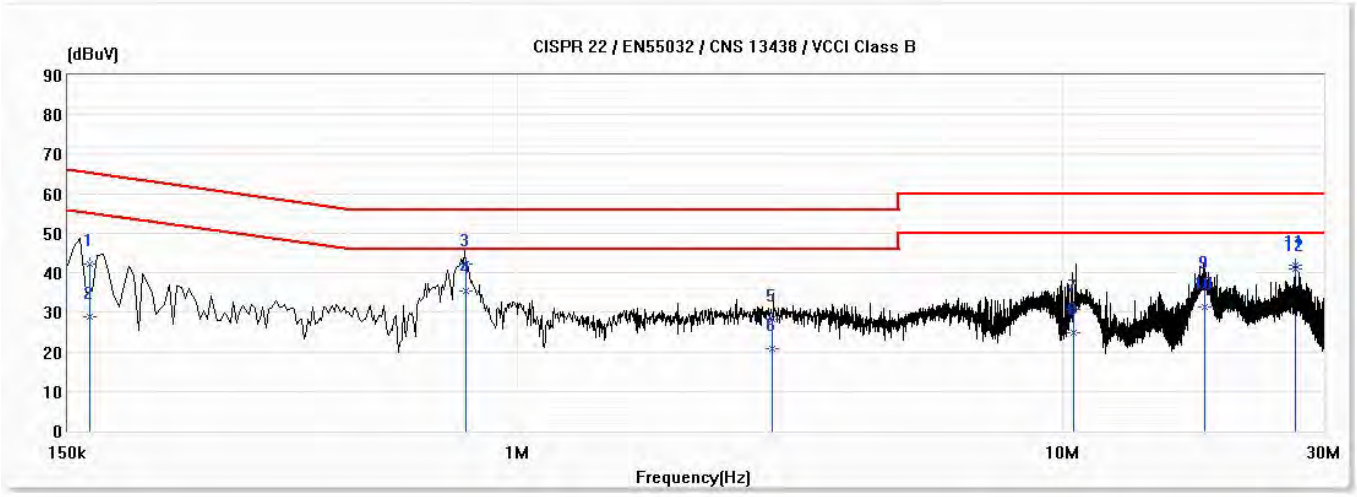


No	Frequency (MHz)	Emission Level (dBµV)	Limit (dBµV)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB)	Detector Type
1	0.164	42.92	65.25	-22.34	33.26	9.66	QP
2	0.164	29.18	55.25	-26.07	19.52	9.66	AV
3	0.380	28.59	58.28	-29.70	18.93	9.66	QP
4	0.380	21.13	48.28	-27.16	11.47	9.66	AV
5	0.807	42.92	56.00	-13.08	33.24	9.68	QP
*6	0.807	36.37	46.00	-9.63	26.69	9.68	AV
7	2.362	28.17	56.00	-27.83	18.44	9.73	QP
8	2.362	20.15	46.00	-25.85	10.43	9.73	AV
9	10.104	28.53	60.00	-31.47	18.64	9.89	QP
10	10.104	20.76	50.00	-29.24	10.87	9.89	AV
11	26.624	39.84	60.00	-20.16	29.88	9.96	QP
12	26.624	38.55	50.00	-11.45	28.60	9.96	AV

Note:

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

Product : Wireless Outdoor Router
Test Item : Conducted Emission Test
Power Line : N
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2437MHz)
Test Date : 2020/10/27



No	Frequency (MHz)	Emission Level (dBµV)	Limit (dBµV)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB)	Detector Type
1	0.165	42.27	65.21	-22.93	32.60	9.67	QP
2	0.165	28.87	55.21	-26.34	19.20	9.67	AV
3	0.804	42.14	56.00	-13.86	32.46	9.68	QP
4	0.804	35.23	46.00	-10.77	25.55	9.68	AV
5	2.934	28.16	56.00	-27.84	18.41	9.75	QP
6	2.934	20.82	46.00	-25.18	11.07	9.75	AV
7	10.441	30.68	60.00	-29.32	20.76	9.92	QP
8	10.441	24.72	50.00	-25.28	14.80	9.92	AV
9	18.160	36.62	60.00	-23.38	26.59	10.03	QP
10	18.160	31.39	50.00	-18.61	21.36	10.03	AV
11	26.624	41.91	60.00	-18.09	31.83	10.08	QP
*12	26.624	40.93	50.00	-9.07	30.84	10.08	AV

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ * “ means the worst emission level.
3. Emission 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 Outdoor Router
Test Item : Peak Power Output Data
Test Mode : Mode 1: Transmit (802.11b)
Test Date : 2020/10/14

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	20.23	--	--	--	22.11	<30dBm	Pass
06	2437	19.8	19.75	19.71	19.68	21.71	<30dBm	Pass
11	2462	20.81	--	--	--	22.73	<30dBm	Pass

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

Product : Wireless Outdoor Router
Test Item : Peak Power Output Data
Test Mode : Mode 2: Transmit (802.11g)
Test Date : 2020/10/14

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	21.71	--	--	--	--	--	--	--	29.86	<30dBm	Pass
06	2437	22.16	22.11	22.05	21.99	21.93	21.88	21.82	21.78	29.29	<30dBm	Pass
11	2462	22.06	--	--	--	--	--	--	--	29.68	<30dBm	Pass

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

Product : Wireless Outdoor Router
Test Item : Peak Power Output Data
Test Mode : Mode 3: Transmit (802.11n-20MBW)
Test Date : 2020/10/14

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (MCS index)								Peak Power	Required Limit	Result
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4		
		Measurement Level (dBm)										
01	2412	18.64	--	--	--	--	--	--	--	26.81	<30dBm	Pass
06	2437	19.2	19.16	19.12	19.05	19	18.95	18.91	18.85	26.51	<30dBm	Pass
11	2462	19.13	--	--	--	--	--	--	--	26.97	<30dBm	Pass

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

Chain B

Channel No	Frequency (MHz)	Average Power For different Data Rate (MCS index)								Peak Power	Required Limit	Result
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4		
		Measurement Level (dBm)										
01	2412	17.86	--	--	--	--	--	--	--	26.57	<30dBm	Pass
06	2437	18.42	18.39	18.33	18.29	18.25	18.19	18.14	18.11	25.79	<30dBm	Pass
11	2462	18.72	--	--	--	--	--	--	--	26.14	<30dBm	Pass

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

Chain A+B

Channel No	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
01	2412	26.81	26.57	29.70	<30dBm	Pass
06	2437	26.51	25.79	29.18	<30dBm	Pass
11	2462	26.97	26.14	29.59	<30dBm	Pass

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

Product : Wireless Outdoor Router
Test Item : Peak Power Output Data
Test Mode : Mode 4: Transmit (802.11n-40MBW)
Test Date : 2020/10/14

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (MCS index)								Peak Power	Required Limit	Result
		30	60	90	120	180	240	270	300	30		
		Measurement Level (dBm)										
03	2422	13.9	--	--	--	--	--	--	--	22.8	<30dBm	Pass
06	2437	14.21	14.15	14.09	14.04	13.97	13.92	13.87	13.83	22.9	<30dBm	Pass
09	2452	13.91	--	--	--	--	--	--	--	22.58	<30dBm	Pass

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

Chain B

Channel No	Frequency (MHz)	Average Power For different Data Rate (MCS index)								Peak Power	Required Limit	Result
		30	60	90	120	180	240	270	300	30		
		Measurement Level (dBm)										
03	2422	12.94	--	--	--	--	--	--	--	20.49	<30dBm	Pass
06	2437	13.9	13.85	13.79	13.76	13.7	13.66	13.61	13.57	21.81	<30dBm	Pass
09	2452	13.62	--	--	--	--	--	--	--	21.76	<30dBm	Pass

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

Chain A+B

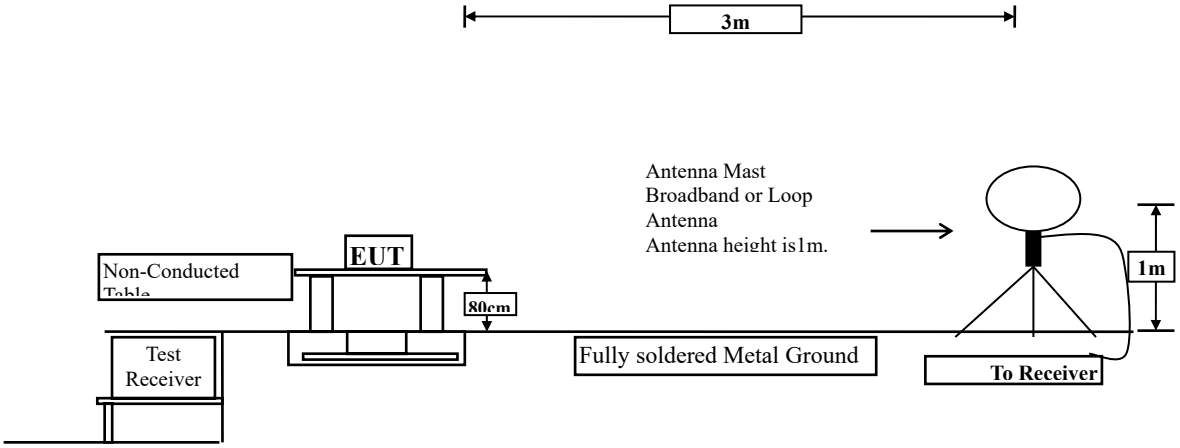
Channel No	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
03	2422	22.80	20.49	24.81	<30dBm	Pass
06	2437	22.90	21.81	25.40	<30dBm	Pass
09	2452	22.58	21.76	25.20	<30dBm	Pass

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

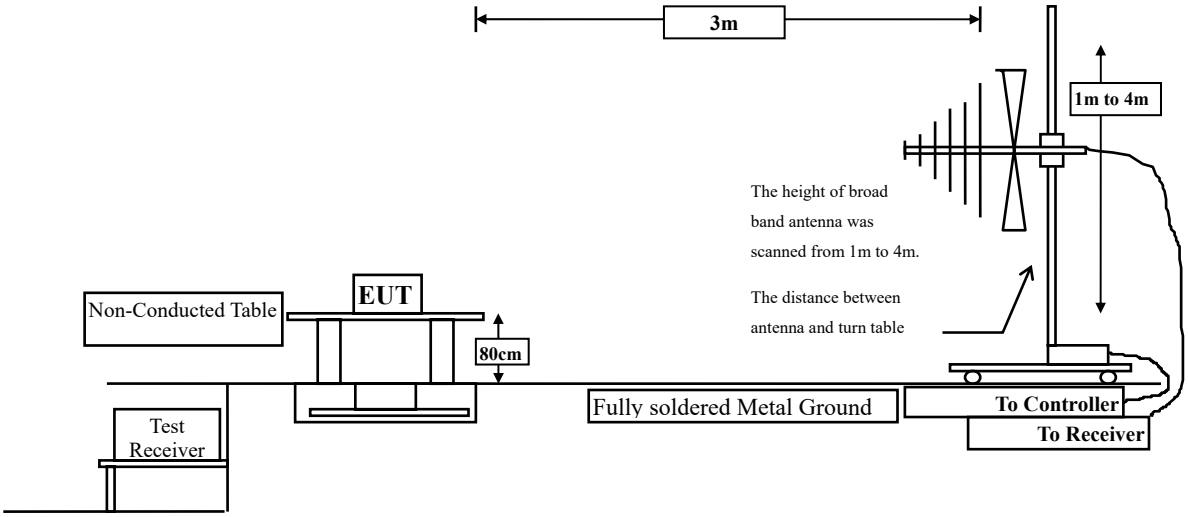
4. Radiated Emission

4.1. Test Setup

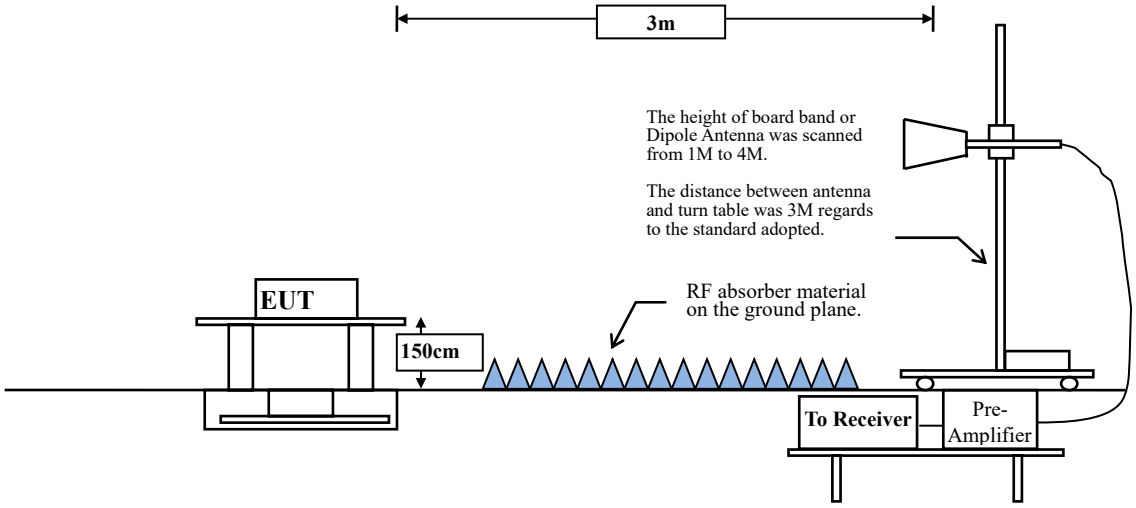
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.2. Limits

➢ General Radiated Emission Limits

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

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

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

4.3. Test Procedure

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

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

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

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

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

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

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

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

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

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

RBW and VBW Parameter setting:

According to C63.10 Section 11.12.2.4 Peak measurement procedure.

RBW = as specified in Table 1.

VBW ≥ 3 x RBW.

Table 1 —RBW as a function of frequency

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

According to C63.10 Section 11.12.2.5 Average measurement procedure.

RBW = 1MHz.

VBW = 10Hz, when duty cycle ≥ 98 %

VBW ≥ 1/T, when duty cycle < 98 %

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

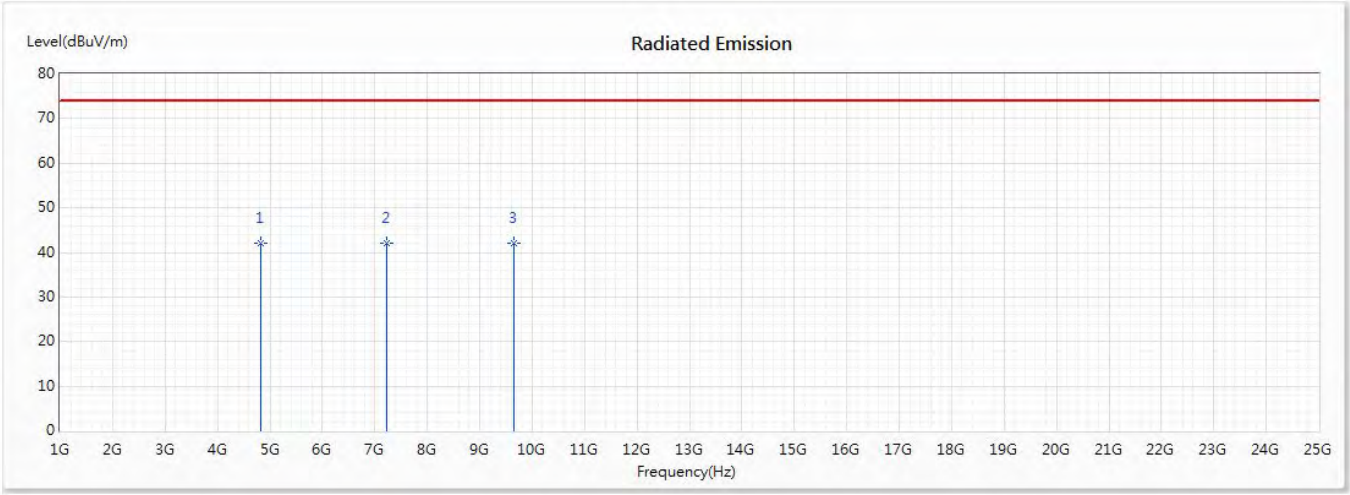
2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11b	99.32	8.4348	119	10
802.11g	92.72	1.3840	723	1k
802.11n20	81.27	0.6666	1500	2k
802.11n40	81.77	0.3507	2851	3k

Note: Duty Cycle Refer to Section 9.

4.4. Test Result of Radiated Emission

Product : Wireless Outdoor Router
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 1: Transmit (802.11b) (2412MHz)
Test Date : 2020/09/11

Horizontal



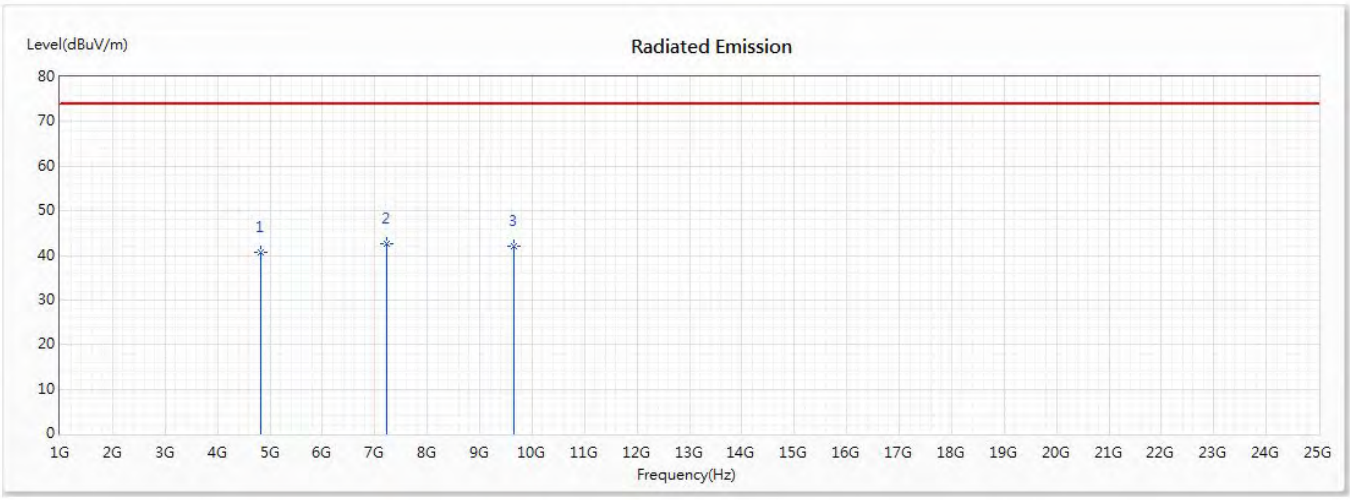
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
* 1	4824	42.19	74.00	-31.81	43.18	-0.99	PK
2	7236	42.01	74.00	-31.99	39.82	2.19	PK
3	9648	41.97	74.00	-32.03	37.81	4.16	PK

Note:

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

Product : Wireless Outdoor Router
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 1: Transmit (802.11b) (2412MHz)
Test Date : 2020/09/11

Vertical



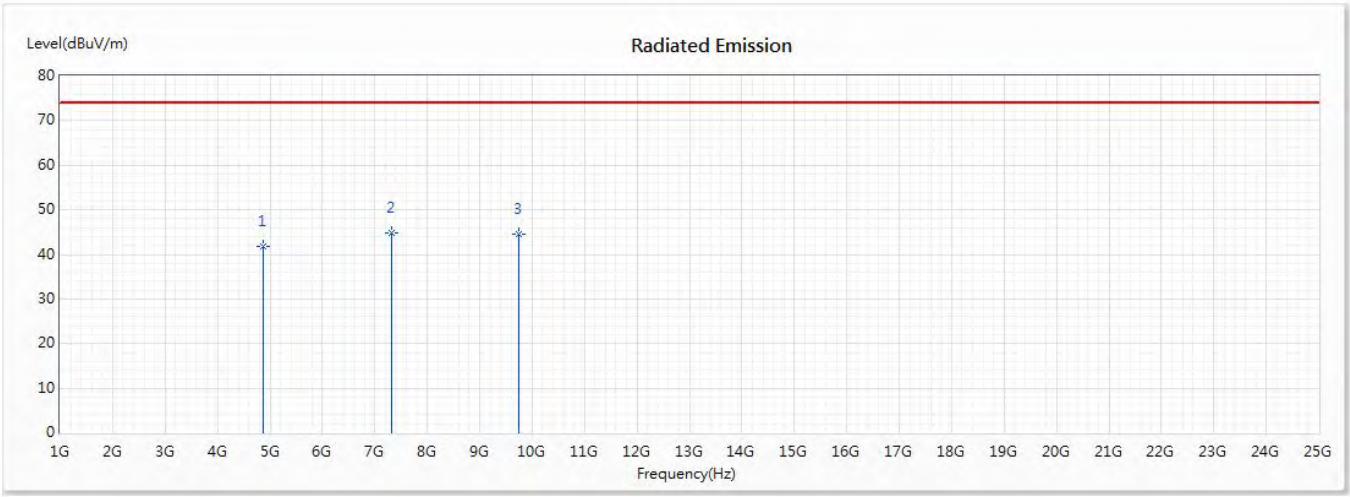
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4824	40.65	74.00	-33.35	41.64	-0.99	PK
* 2	7236	42.74	74.00	-31.26	40.55	2.19	PK
3	9648	42.03	74.00	-31.97	37.87	4.16	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b) (2437 MHz)
Test Date	:	2020/09/11

Horizontal



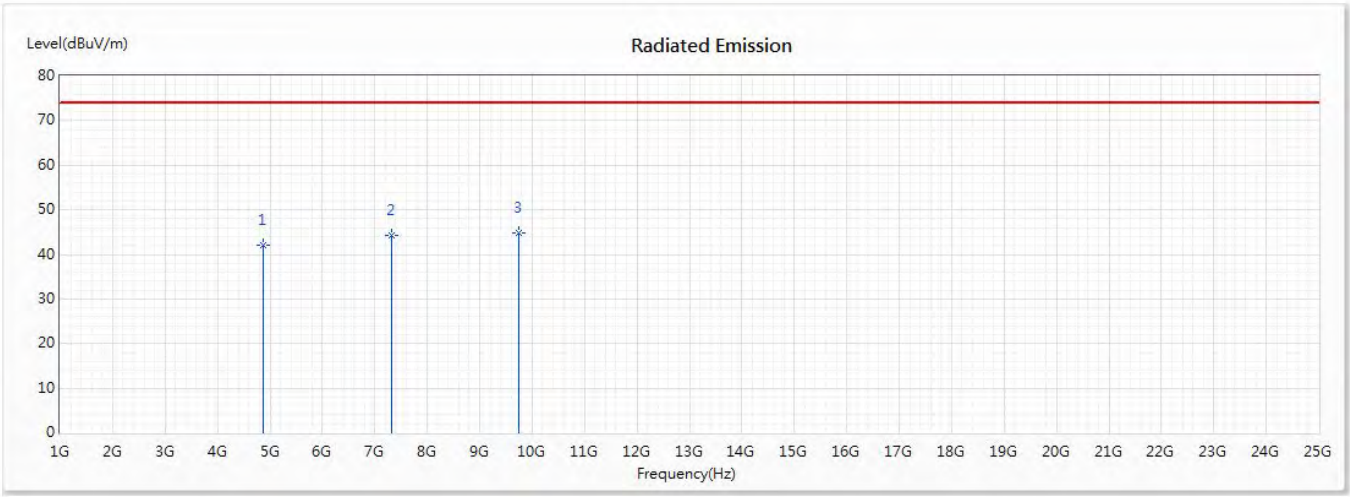
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	4874	41.75	74.00	-32.25	42.66	-0.91	PK
* 2	7311	44.74	74.00	-29.26	42.56	2.18	PK
3	9748	44.46	74.00	-29.54	40.06	4.40	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b) (2437 MHz)
Test Date	:	2020/09/11

Vertical



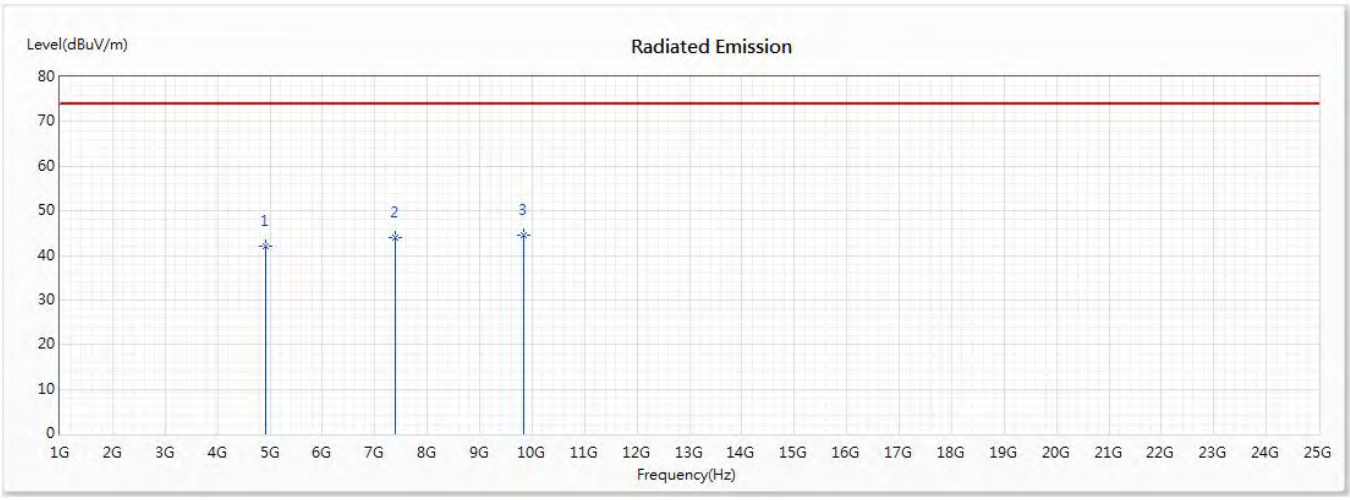
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4874	42.16	74.00	-31.84	43.07	-0.91	PK
2	7311	44.27	74.00	-29.73	42.09	2.18	PK
* 3	9748	44.73	74.00	-29.27	40.33	4.40	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b) (2462 MHz)
Test Date	:	2020/09/11

Horizontal



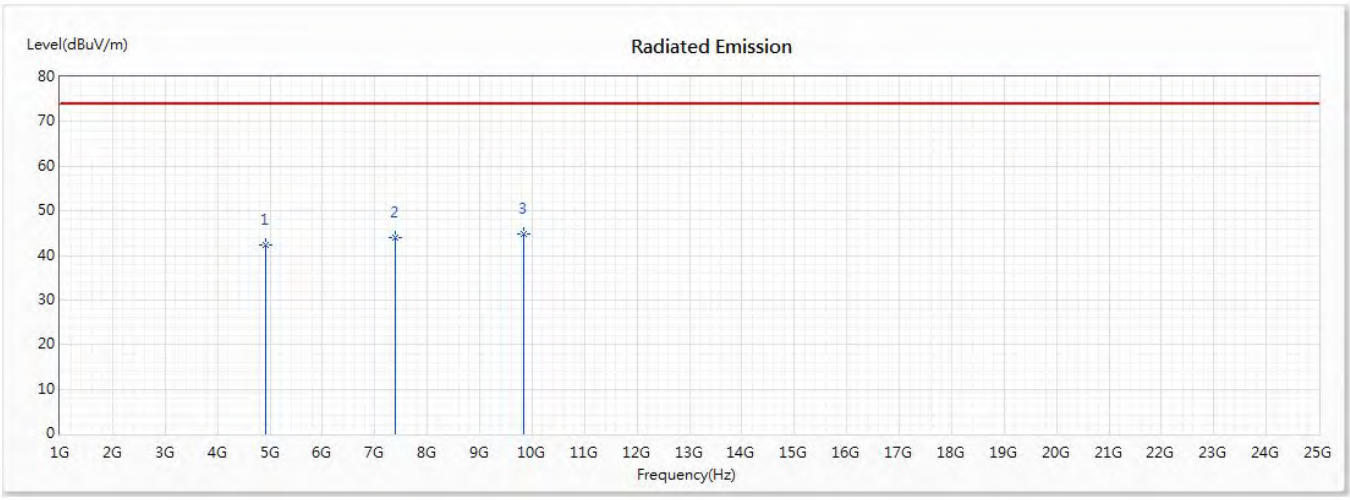
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4924	42.10	74.00	-31.90	42.99	-0.89	PK
2	7386	44.08	74.00	-29.92	41.93	2.15	PK
* 3	9848	44.64	74.00	-29.36	40.18	4.46	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b) (2462 MHz)
Test Date	:	2020/09/11

Vertical



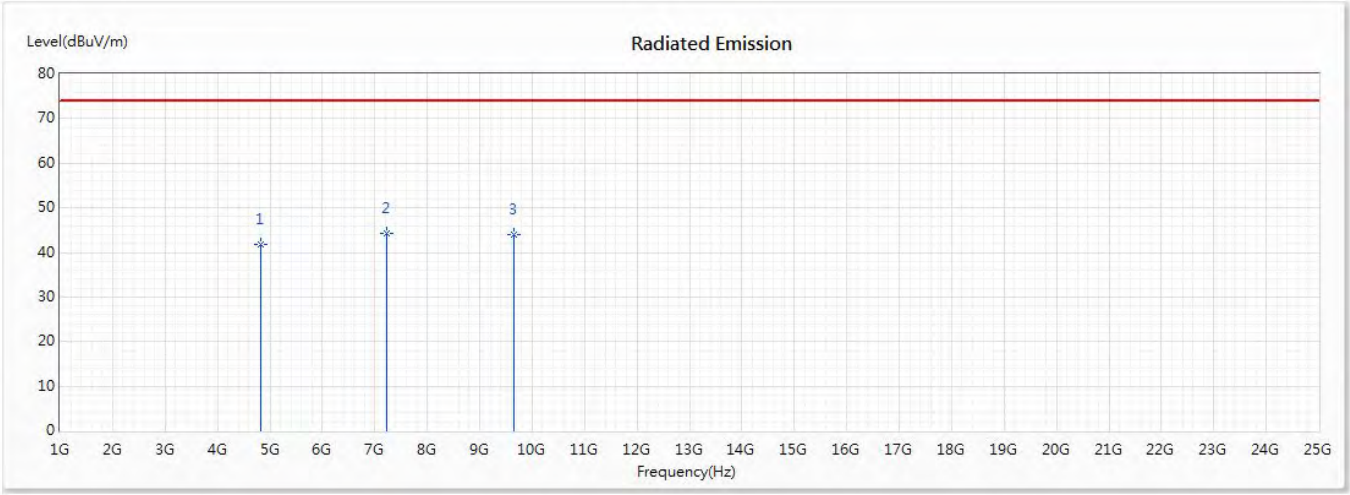
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4924	42.30	74.00	-31.70	43.19	-0.89	PK
2	7386	43.85	74.00	-30.15	41.70	2.15	PK
* 3	9848	44.84	74.00	-29.16	40.38	4.46	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g) (2412MHz)
Test Date	:	2020/09/11

Horizontal



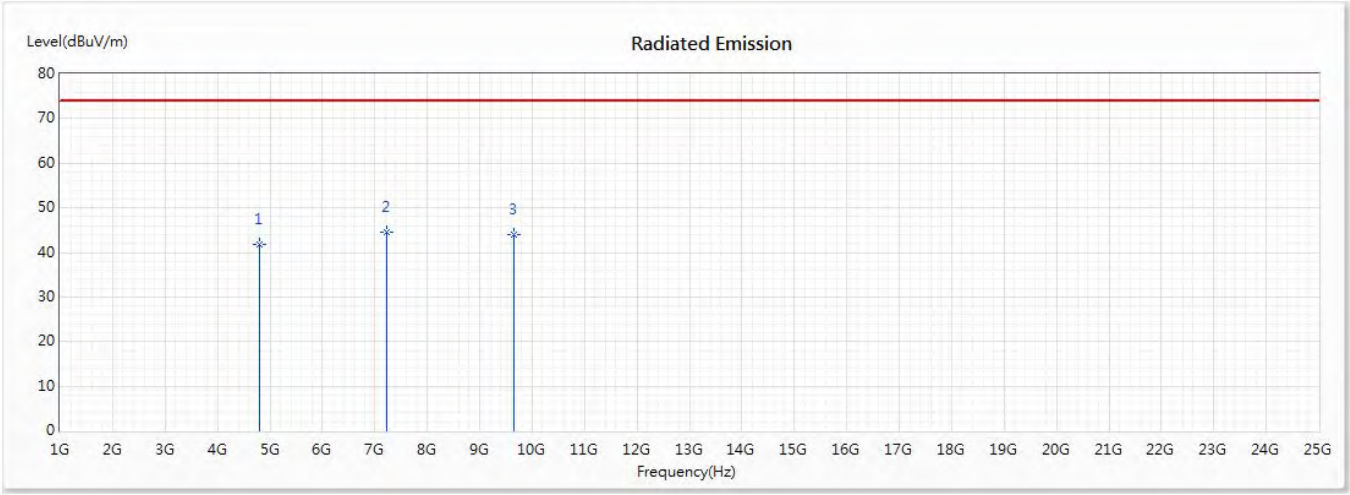
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4824	41.84	74.00	-32.16	42.83	-0.99	PK
* 2	7236	44.27	74.00	-29.73	42.08	2.19	PK
3	9648	44.00	74.00	-30.00	39.84	4.16	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g) (2412MHz)
Test Date	:	2020/09/11

Vertical



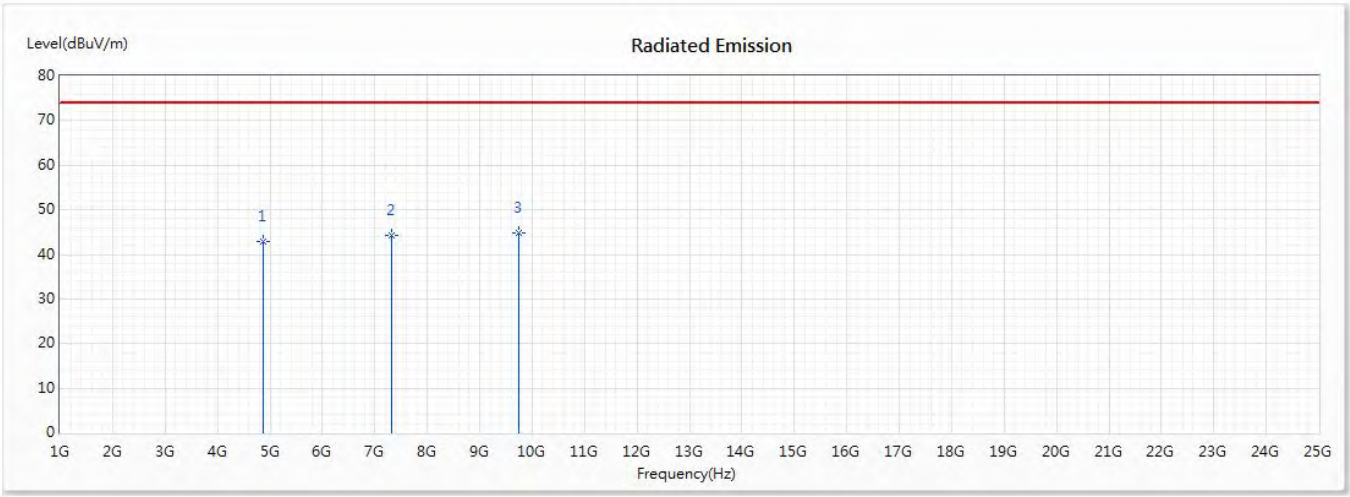
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	4824	41.92	74.00	-32.08	42.96	-1.04	PK
* 2	7236	44.64	74.00	-29.36	42.45	2.19	PK
3	9648	43.91	74.00	-30.09	39.75	4.16	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g) (2437 MHz)
Test Date	:	2020/09/11

Horizontal



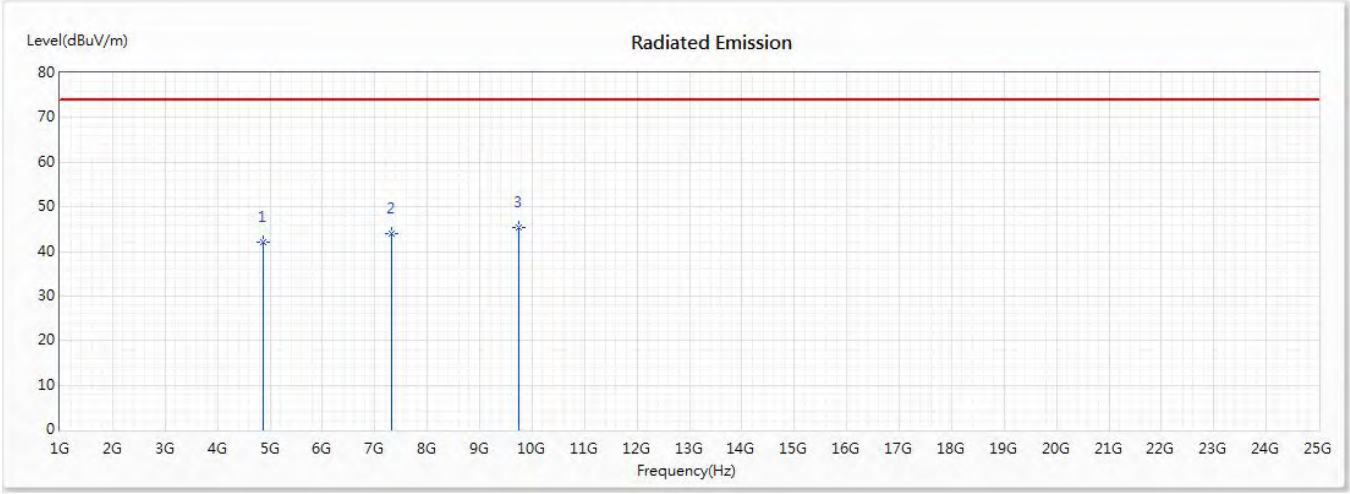
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4874	42.75	74.00	-31.25	43.66	-0.91	PK
2	7311	44.22	74.00	-29.78	42.04	2.18	PK
* 3	9748	44.78	74.00	-29.22	40.38	4.40	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g) (2437 MHz)
Test Date	:	2020/09/11

Vertical



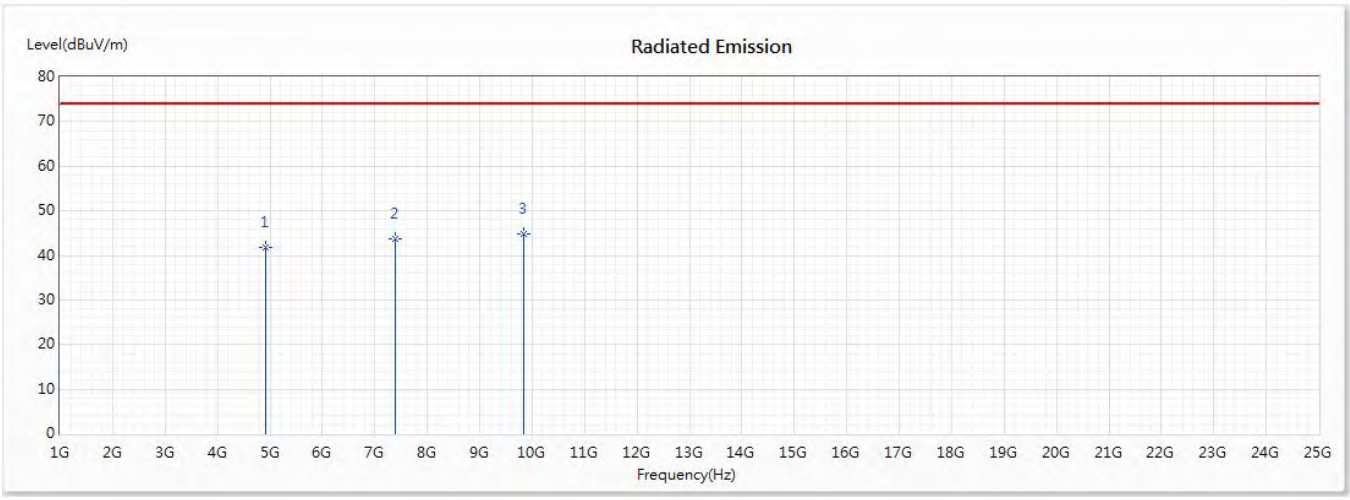
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4874	41.99	74.00	-32.01	42.90	-0.91	PK
2	7311	43.93	74.00	-30.07	41.75	2.18	PK
* 3	9748	45.26	74.00	-28.74	40.86	4.40	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g) (2462 MHz)
Test Date	:	2020/09/11

Horizontal



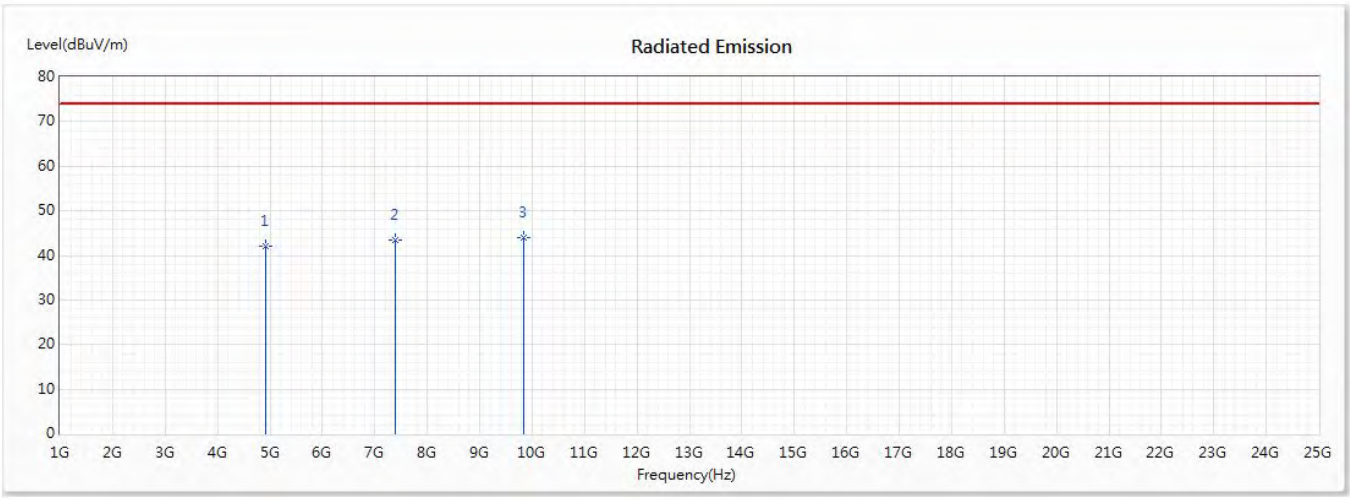
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4924	41.74	74.00	-32.26	42.63	-0.89	PK
2	7386	43.63	74.00	-30.37	41.48	2.15	PK
* 3	9848	44.78	74.00	-29.22	40.32	4.46	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g) (2462 MHz)
Test Date	:	2020/09/11

Vertical



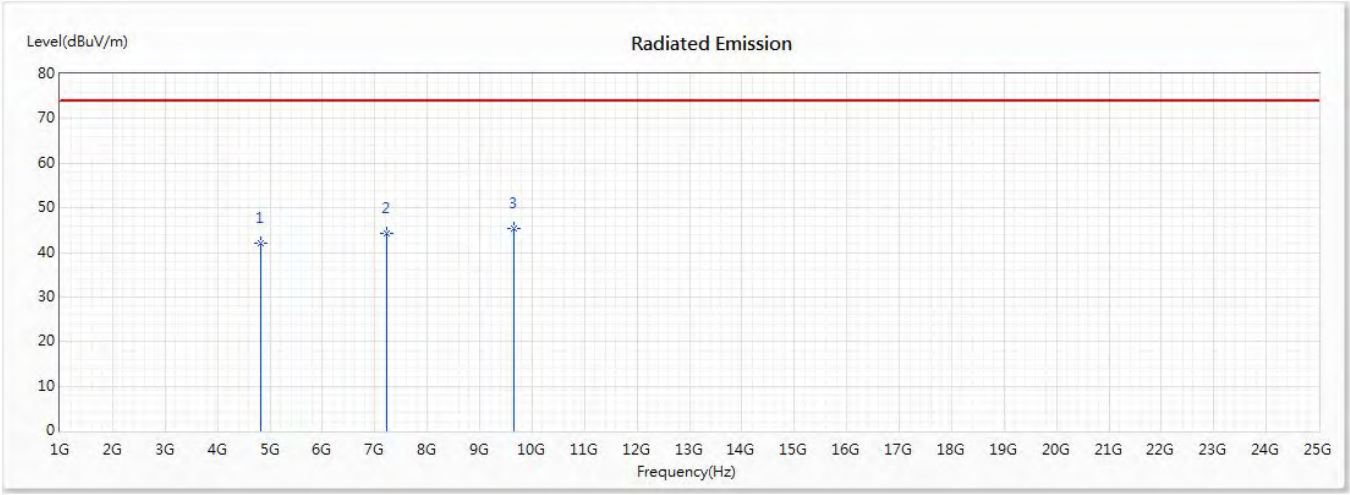
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4924	41.93	74.00	-32.07	42.82	-0.89	PK
2	7386	43.45	74.00	-30.55	41.30	2.15	PK
* 3	9848	44.12	74.00	-29.88	39.66	4.46	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 3: Transmit (802.11n-20MBW)(2412MHz)
Test Date	:	2020/09/11

Horizontal



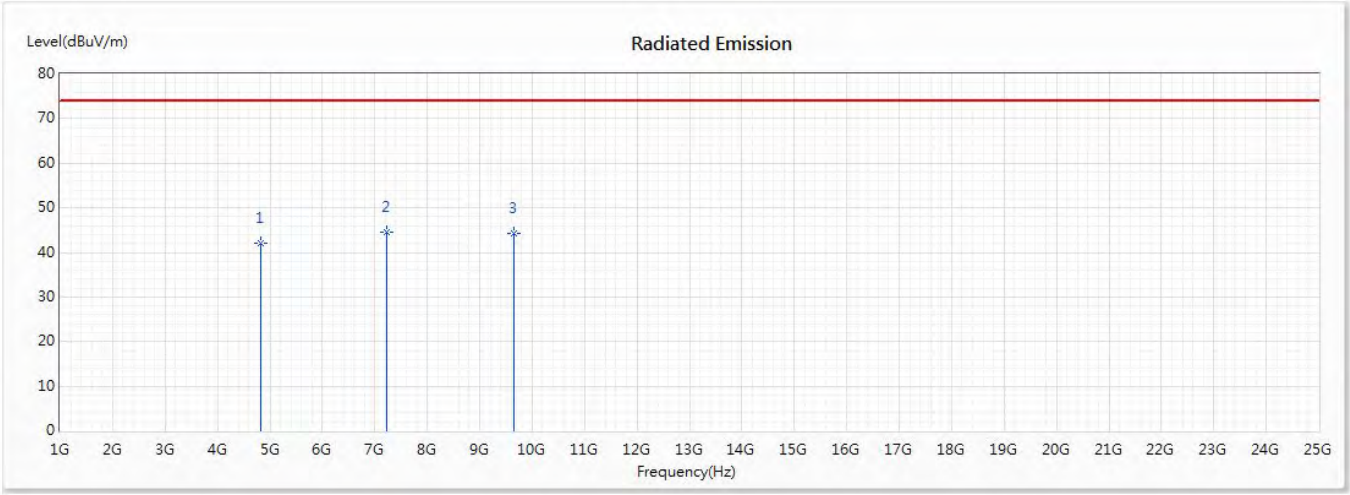
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4824	41.98	74.00	-32.02	42.97	-0.99	PK
2	7236	44.29	74.00	-29.71	42.10	2.19	PK
* 3	9648	45.25	74.00	-28.75	41.09	4.16	PK

Note:

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

Product : Wireless Outdoor Router
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n-20MBW)(2412MHz)
Test Date : 2020/09/11

Vertical



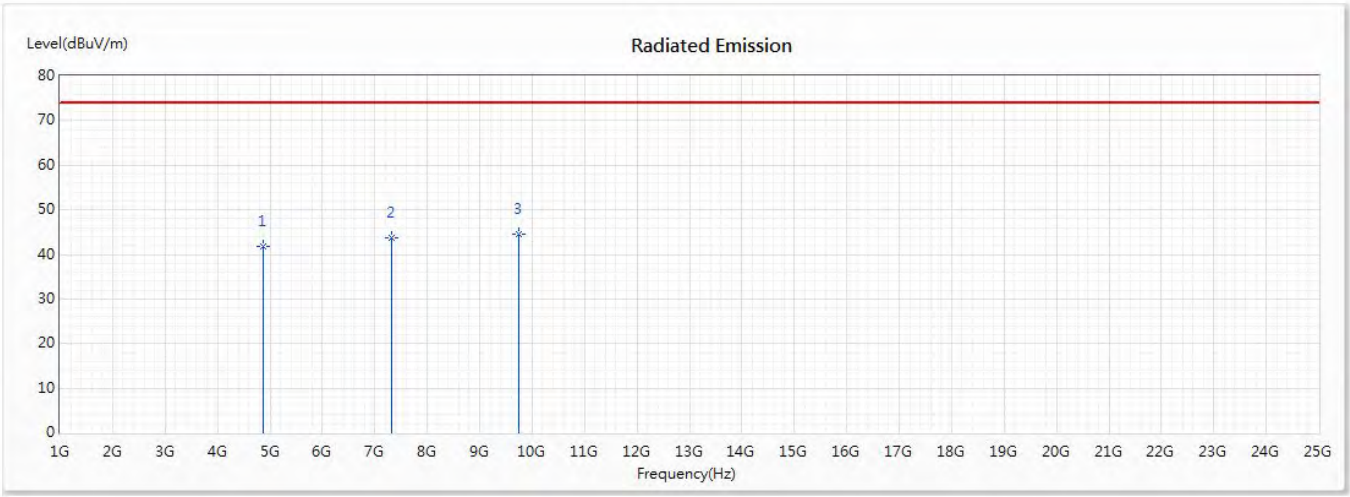
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	4824	41.98	74.00	-32.02	42.97	-0.99	PK
* 2	7236	44.56	74.00	-29.44	42.37	2.19	PK
3	9648	44.26	74.00	-29.74	40.10	4.16	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 3: Transmit (802.11n-20MBW) (2437 MHz)
Test Date	:	2020/09/11

Horizontal



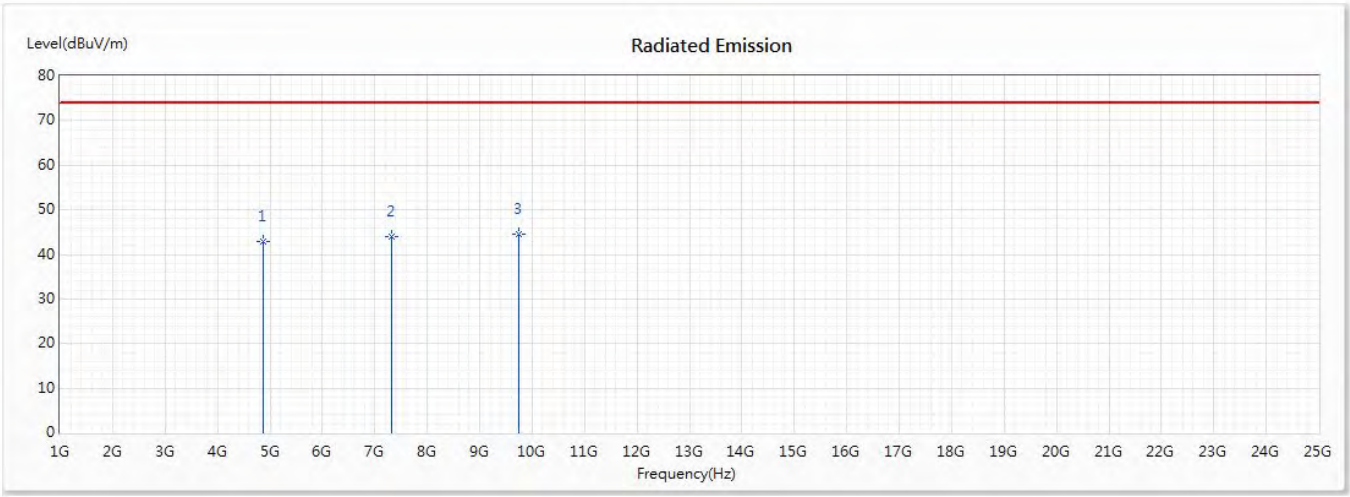
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4874	41.83	74.00	-32.17	42.74	-0.91	PK
2	7311	43.83	74.00	-30.17	41.65	2.18	PK
* 3	9748	44.54	74.00	-29.46	40.14	4.40	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 3: Transmit (802.11n-20MBW) (2437 MHz)
Test Date	:	2020/09/11

Vertical



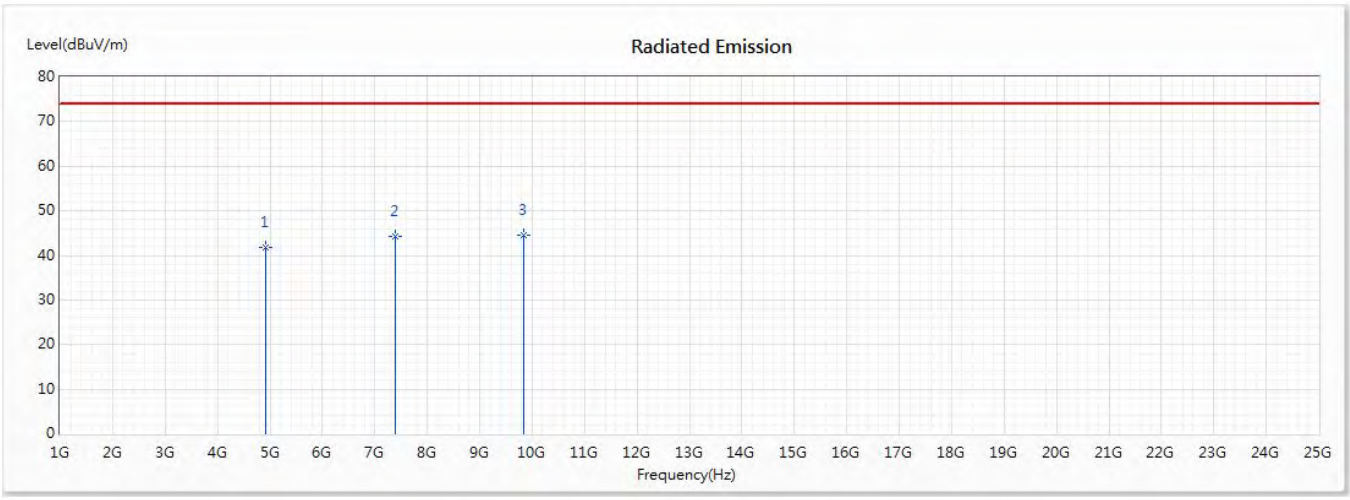
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4874	43.00	74.00	-31.00	43.91	-0.91	PK
2	7311	43.87	74.00	-30.13	41.69	2.18	PK
* 3	9748	44.50	74.00	-29.50	40.10	4.40	PK

Note:

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

Product : Wireless Outdoor Router
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n-20MBW) (2462 MHz)
Test Date : 2020/09/11

Horizontal



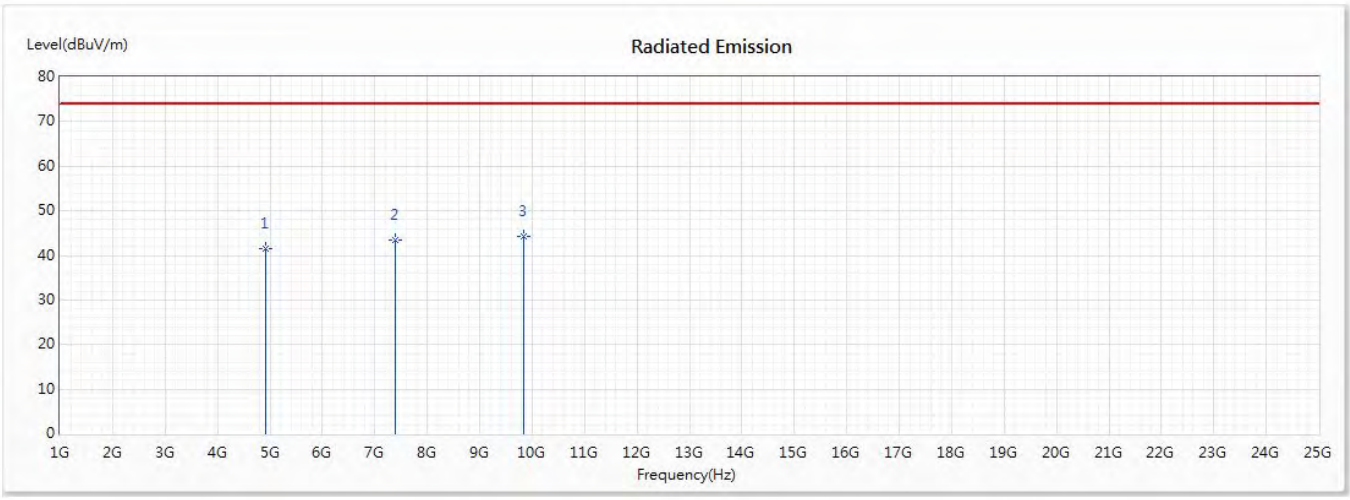
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4924	41.73	74.00	-32.27	42.62	-0.89	PK
2	7386	44.27	74.00	-29.73	42.12	2.15	PK
* 3	9848	44.55	74.00	-29.45	40.09	4.46	PK

Note:

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

Product : Wireless Outdoor Router
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n-20MBW) (2462 MHz)
Test Date : 2020/09/11

Vertical



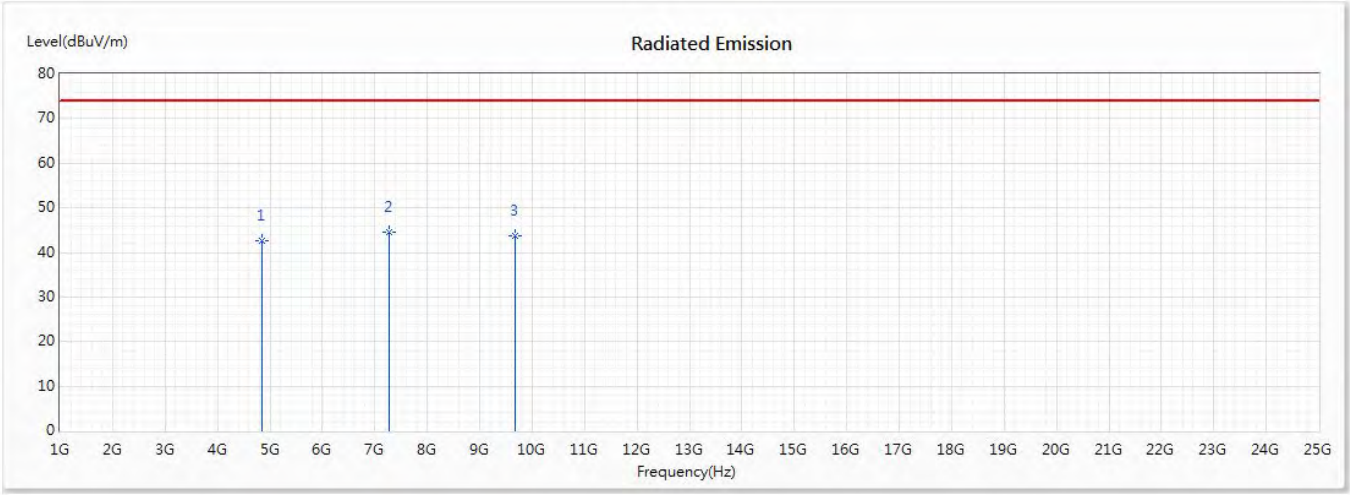
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4924	41.63	74.00	-32.37	42.52	-0.89	PK
2	7386	43.41	74.00	-30.59	41.26	2.15	PK
* 3	9848	44.39	74.00	-29.61	39.93	4.46	PK

Note:

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

Product : Wireless Outdoor Router
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2422MHz)
Test Date : 2020/09/11

Horizontal



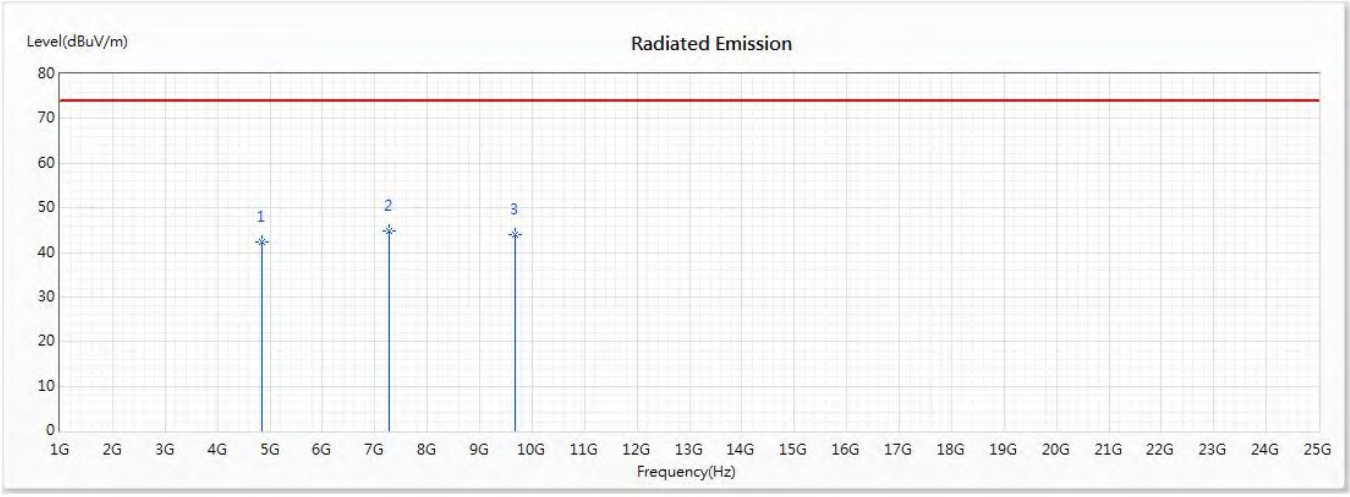
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	4844	42.62	74.00	-31.38	43.51	-0.89	PK
* 2	7266	44.67	74.00	-29.33	42.48	2.19	PK
3	9688	43.77	74.00	-30.23	39.59	4.18	PK

Note:

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

Product : Wireless Outdoor Router
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2422MHz)
Test Date : 2020/09/11

Vertical



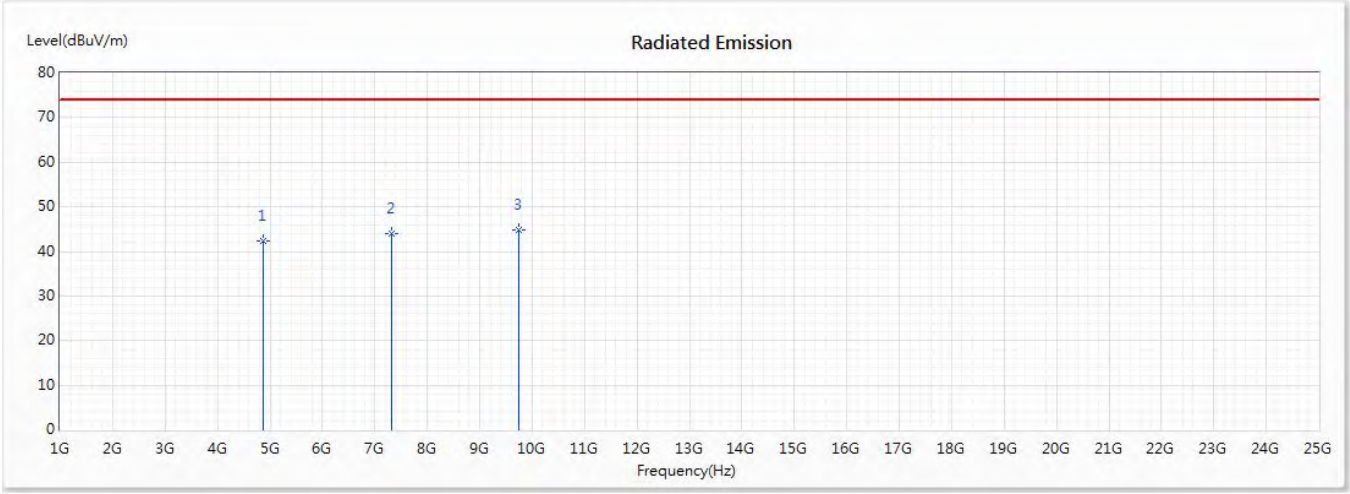
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	4844	42.42	74.00	-31.58	43.31	-0.89	PK
* 2	7266	44.88	74.00	-29.12	42.69	2.19	PK
3	9688	44.00	74.00	-30.00	39.82	4.18	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 4: Transmit (802.11n-40MBW) (2437 MHz)
Test Date	:	2020/09/11

Horizontal



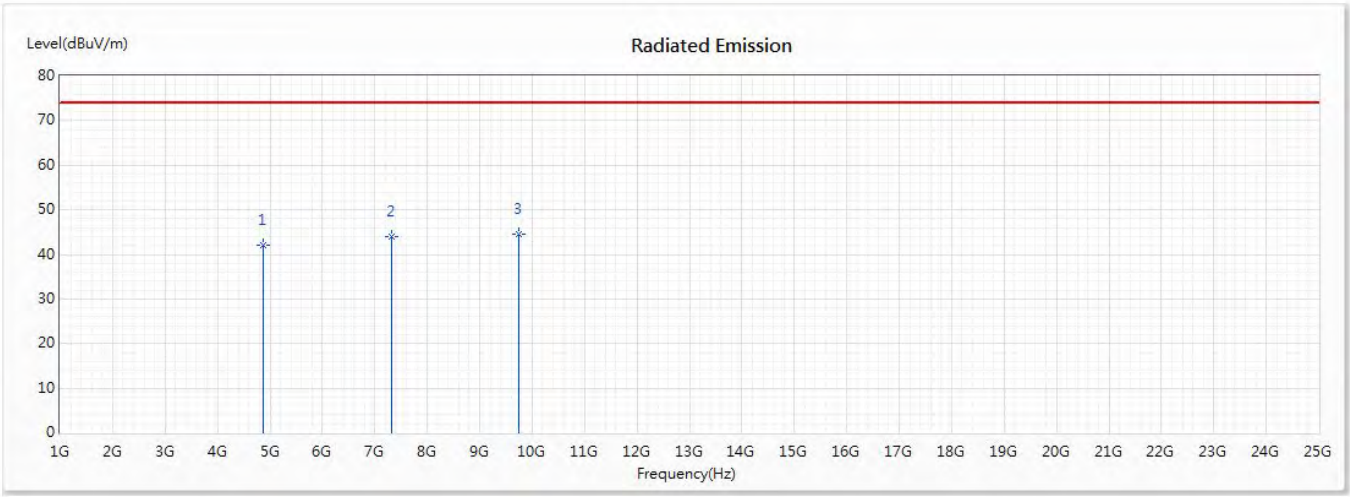
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4874	42.29	74.00	-31.71	43.20	-0.91	PK
2	7311	43.93	74.00	-30.07	41.75	2.18	PK
* 3	9748	44.77	74.00	-29.23	40.37	4.40	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 4: Transmit (802.11n-40MBW) (2437 MHz)
Test Date	:	2020/09/11

Vertical



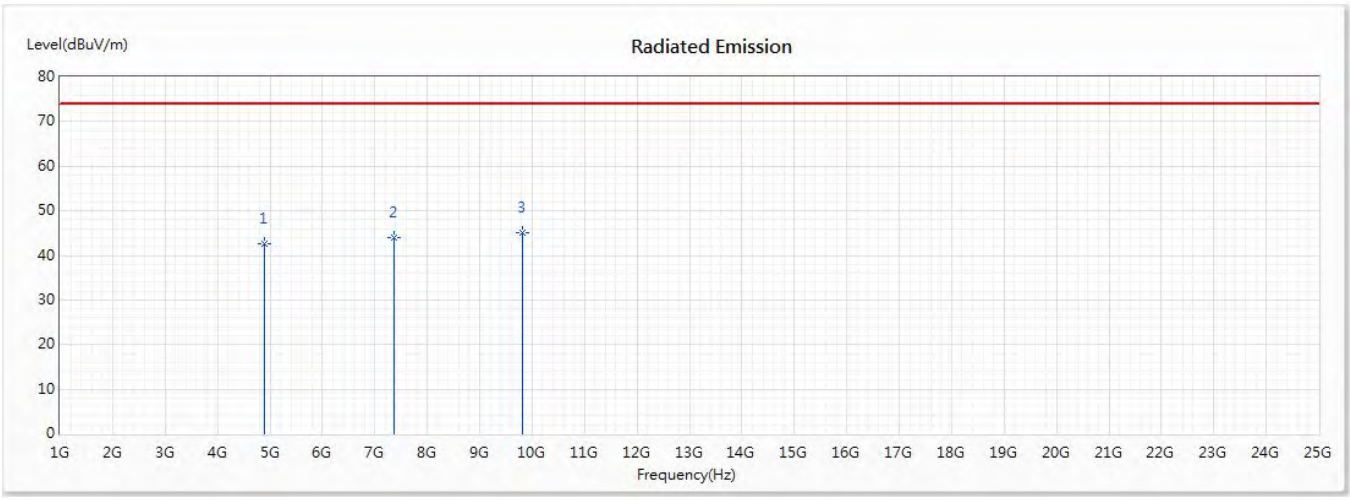
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	4874	42.09	74.00	-31.91	43.00	-0.91	PK
2	7311	44.02	74.00	-29.98	41.84	2.18	PK
* 3	9748	44.50	74.00	-29.50	40.10	4.40	PK

Note:

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

Product : Wireless Outdoor Router
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2452 MHz)
Test Date : 2020/09/11

Horizontal



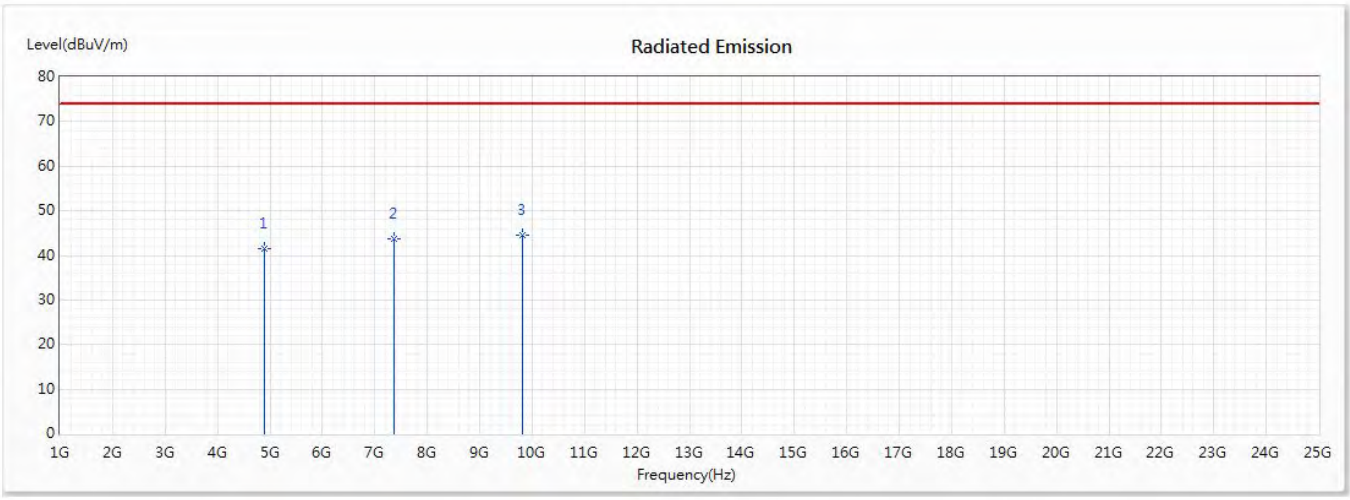
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	4904	42.58	74.00	-31.42	43.52	-0.94	PK
2	7356	44.06	74.00	-29.94	41.90	2.16	PK
* 3	9808	45.12	74.00	-28.88	40.68	4.44	PK

Note:

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

Product : Wireless Outdoor Router
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2452 MHz)
Test Date : 2020/09/11

Vertical



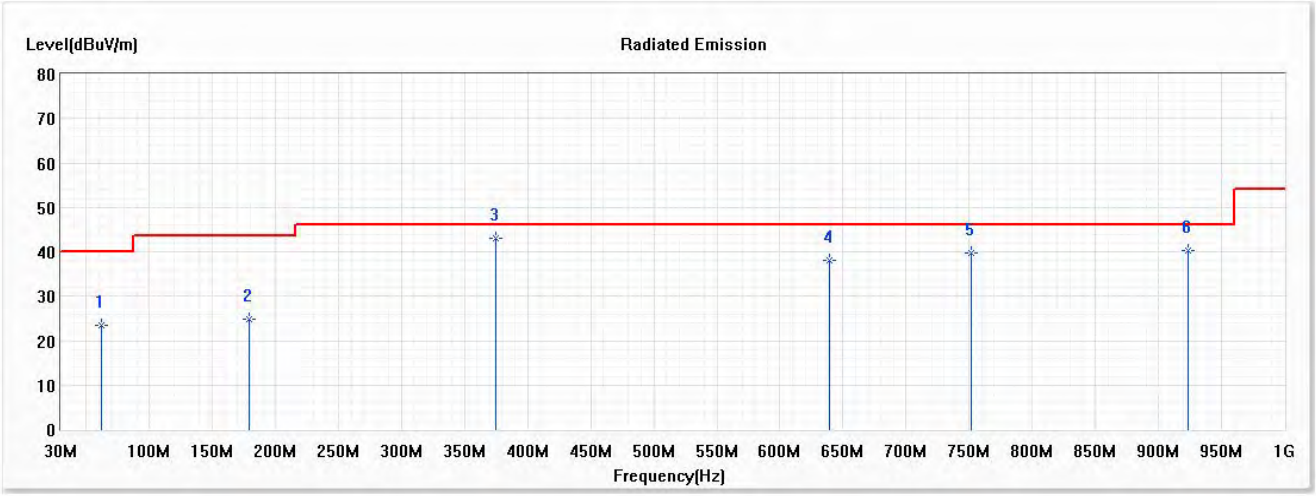
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	4904	41.50	74.00	-32.50	42.44	-0.94	PK
2	7356	43.83	74.00	-30.17	41.67	2.16	PK
* 3	9808	44.52	74.00	-29.48	40.08	4.44	PK

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	General Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b) (2437 MHz)
Test Date	:	2020/10/29

Horizontal



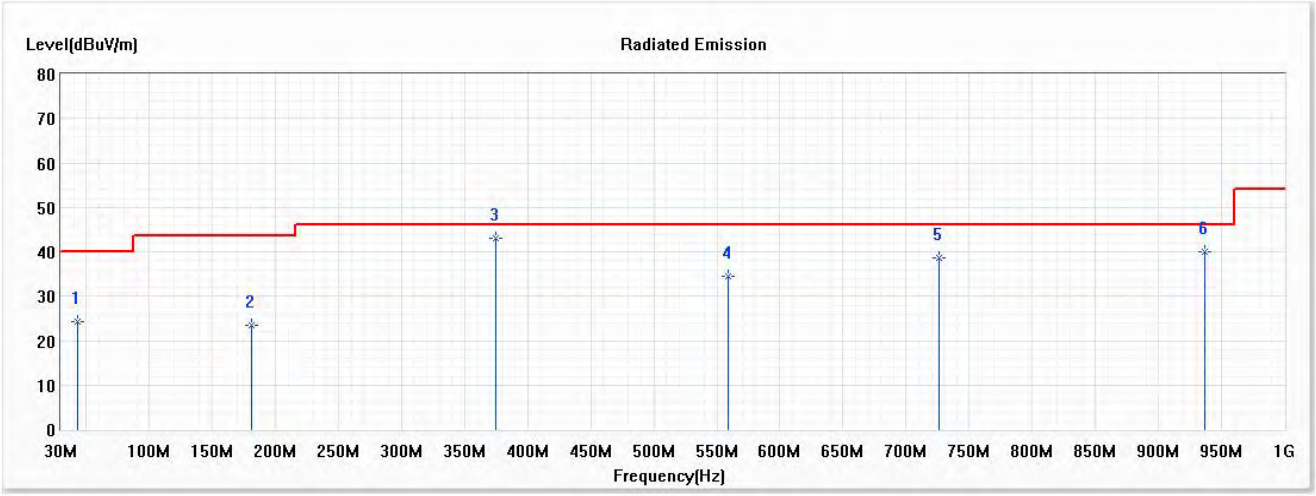
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB)	Detector Type
1	62.010	23.45	40.00	-16.55	34.72	-11.27	QP
2	179.380	24.73	43.50	-18.77	35.94	-11.21	QP
* 3	375.000	43.01	46.00	-2.99	48.84	-5.83	QP
4	639.160	38.10	46.00	-7.90	36.84	1.26	QP
5	751.680	39.79	46.00	-6.21	35.83	3.96	QP
6	923.370	40.41	46.00	-5.59	33.08	7.33	QP

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	General Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b) (2437 MHz)
Test Date	:	2020/10/29

Vertical



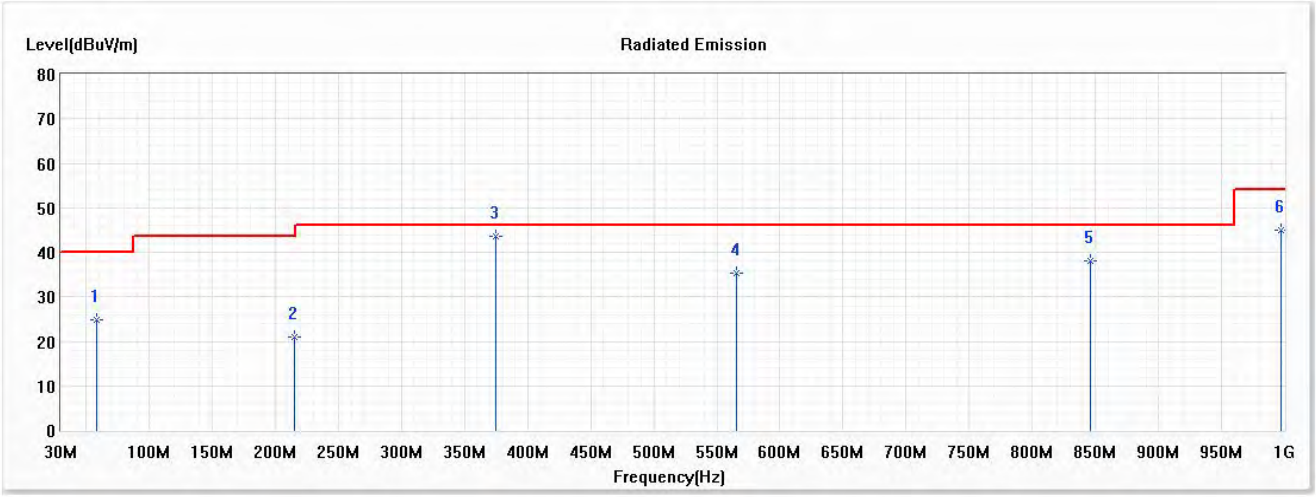
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB)	Detector Type
1	43.580	24.17	40.00	-15.83	34.52	-10.35	QP
2	181.320	23.44	43.50	-20.06	34.83	-11.39	QP
* 3	375.000	43.11	46.00	-2.89	48.94	-5.83	QP
4	558.650	34.58	46.00	-11.42	35.50	-0.92	QP
5	726.460	38.63	46.00	-7.37	35.34	3.29	QP
6	936.950	40.01	46.00	-5.99	32.38	7.63	QP

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	General Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g) (2437 MHz)
Test Date	:	2020/10/29

Horizontal



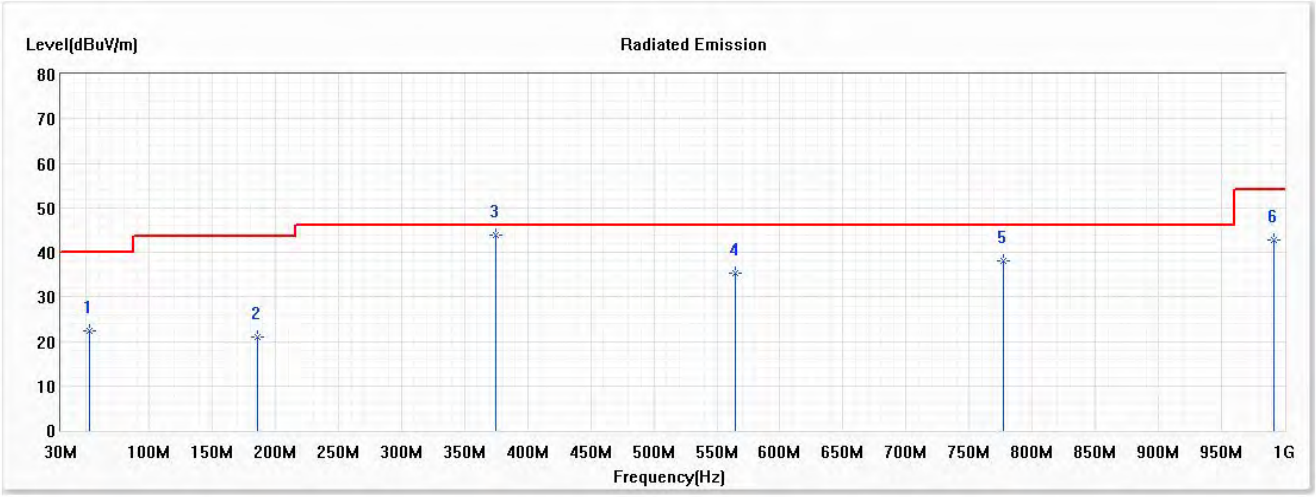
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB)	Detector Type
1	58.130	24.69	40.00	-15.31	35.49	-10.80	QP
2	215.270	21.04	43.50	-22.46	33.31	-12.27	QP
* 3	375.000	43.52	46.00	-2.48	49.35	-5.83	QP
4	565.440	35.32	46.00	-10.68	36.04	-0.72	QP
5	845.770	38.01	46.00	-7.99	32.51	5.50	QP
6	997.090	44.85	54.00	-9.15	36.08	8.77	QP

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	General Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g) (2437 MHz)
Test Date	:	2020/10/29

Vertical



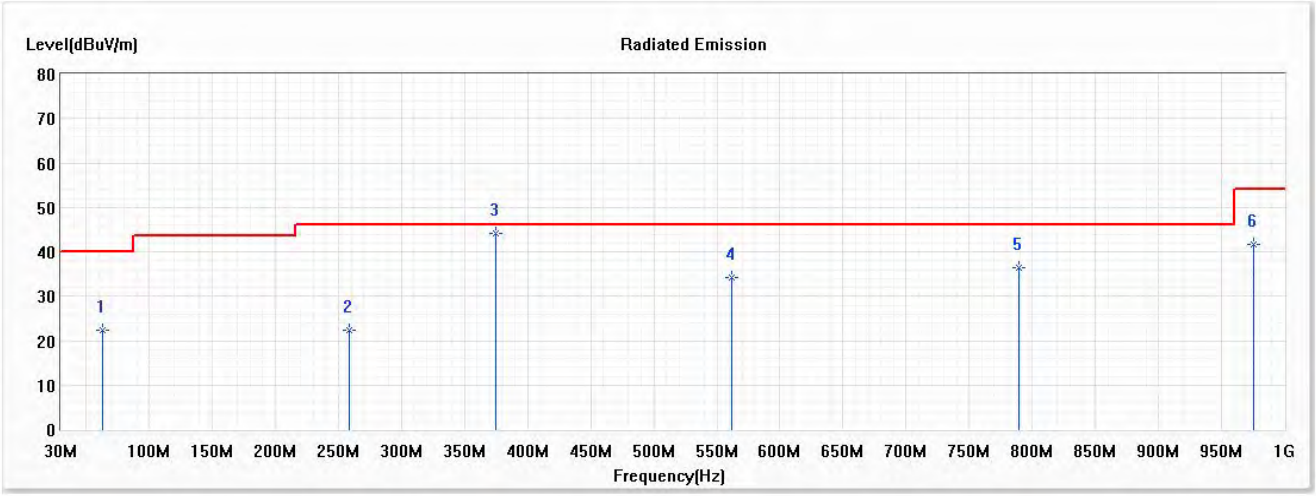
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB)	Detector Type
1	52.310	22.40	40.00	-17.60	32.72	-10.32	QP
2	186.170	20.96	43.50	-22.54	32.83	-11.87	QP
* 3	375.000	43.92	46.00	-2.08	49.75	-5.83	QP
4	564.470	35.37	46.00	-10.63	36.11	-0.74	QP
5	776.900	38.01	46.00	-7.99	33.49	4.52	QP
6	991.270	42.66	54.00	-11.34	33.95	8.71	QP

Note:

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

Product : Wireless Outdoor Router
Test Item : General Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n-20MBW) (2437 MHz)
Test Date : 2020/10/29

Horizontal



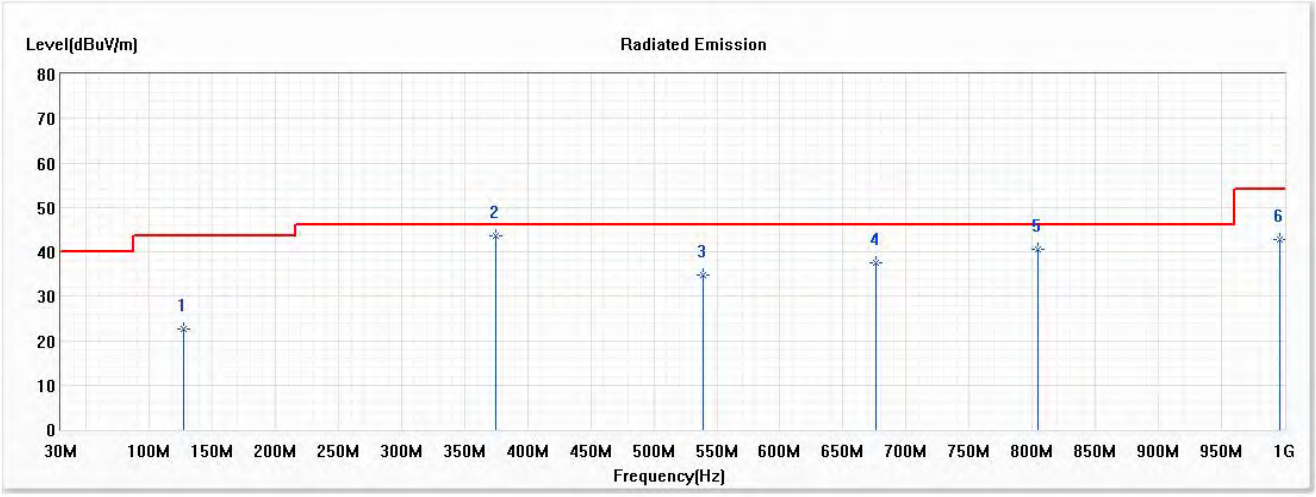
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB)	Detector Type
1	62.980	22.23	40.00	-17.77	33.69	-11.46	QP
2	258.920	22.48	46.00	-23.52	32.15	-9.67	QP
* 3	375.000	44.06	46.00	-1.94	49.89	-5.83	QP
4	561.560	34.24	46.00	-11.76	35.07	-0.83	QP
5	789.510	36.55	46.00	-9.45	31.82	4.73	QP
6	975.750	41.59	54.00	-12.41	33.16	8.43	QP

Note:

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

Product : Wireless Outdoor Router
Test Item : General Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n-20MBW) (2437 MHz)
Test Date : 2020/10/29

Vertical



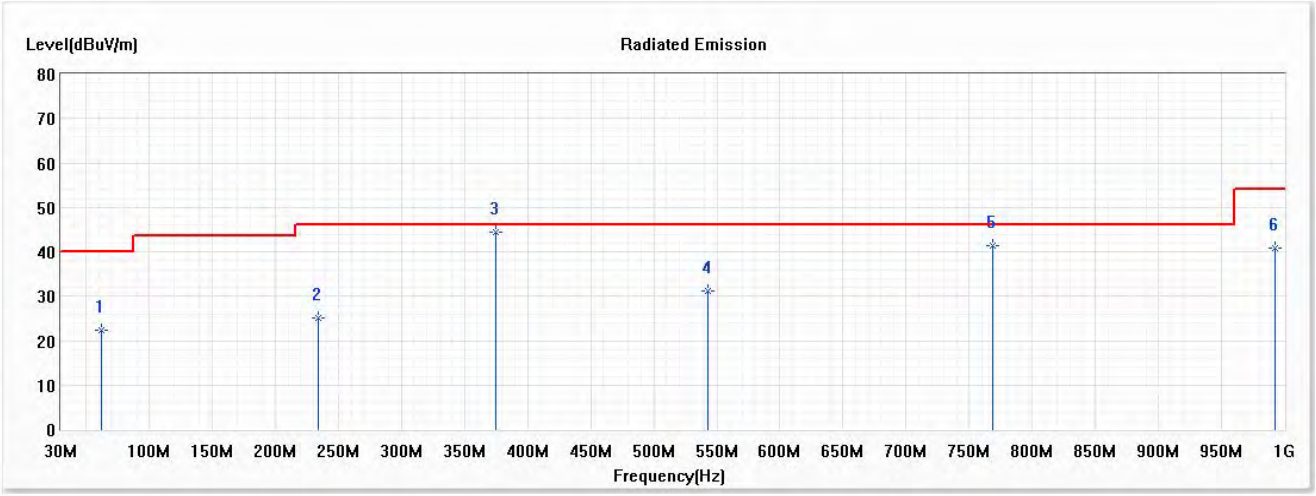
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB)	Detector Type
1	127.000	22.69	43.50	-20.81	34.45	-11.76	QP
* 2	375.000	43.55	46.00	-2.45	49.38	-5.83	QP
3	539.250	34.67	46.00	-11.33	36.05	-1.38	QP
4	676.020	37.50	46.00	-8.50	35.54	1.96	QP
5	804.060	40.50	46.00	-5.50	35.66	4.84	QP
6	996.120	42.74	54.00	-11.26	33.97	8.77	QP

Note:

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

Product : Wireless Outdoor Router
Test Item : General Radiated Emission Data
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2437 MHz)
Test Date : 2020/10/29

Horizontal



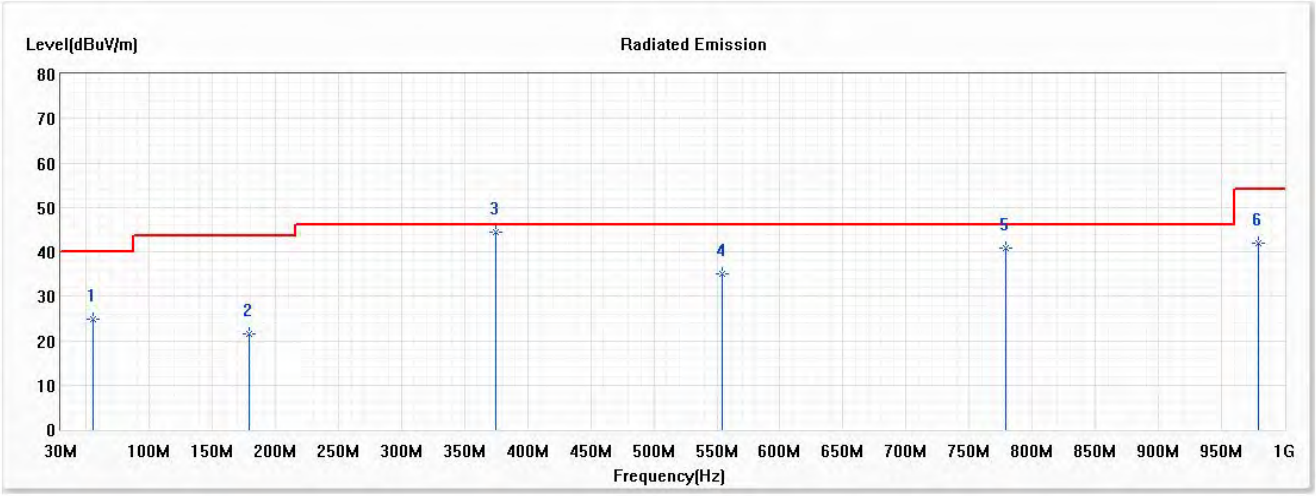
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB)	Detector Type
1	62.010	22.29	40.00	-17.71	33.56	-11.27	QP
2	233.700	25.14	46.00	-20.86	35.77	-10.63	QP
* 3	375.000	44.46	46.00	-1.54	50.29	-5.83	QP
4	543.130	31.08	46.00	-14.92	32.41	-1.33	QP
5	768.170	41.26	46.00	-4.74	36.92	4.34	QP
6	992.240	40.70	54.00	-13.30	31.98	8.72	QP

Note:

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

Product	:	Wireless Outdoor Router
Test Item	:	General Radiated Emission Data
Test Mode	:	Mode 4: Transmit (802.11n-40MBW) (2437 MHz)
Test Date	:	2020/10/29

Vertical



No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB)	Detector Type
1	55.220	24.83	40.00	-15.17	35.34	-10.51	QP
2	179.380	21.47	43.50	-22.03	32.68	-11.21	QP
* 3	375.000	44.32	46.00	-1.68	50.15	-5.83	QP
4	553.800	34.92	46.00	-11.08	36.00	-1.08	QP
5	778.840	40.81	46.00	-5.19	36.28	4.53	QP
6	979.630	41.90	54.00	-12.10	33.42	8.48	QP

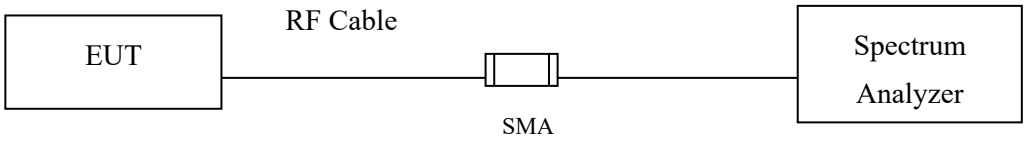
Note:

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

5. RF antenna conducted test

5.1. Test Setup

RF antenna Conducted Measurement:



5.2. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.3. Test Procedure

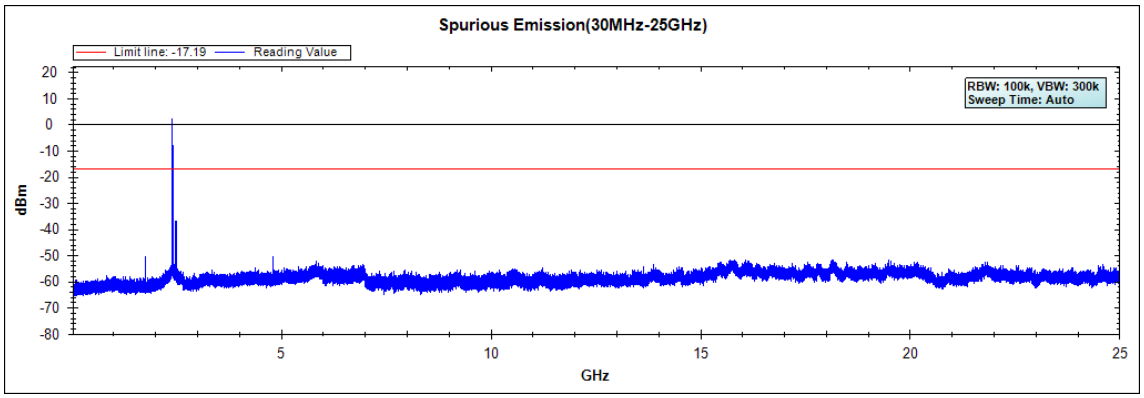
The EUT was tested according to C63.10:2013 Section 11.11 for compliance to FCC 47CFR 15.247 requirements.

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

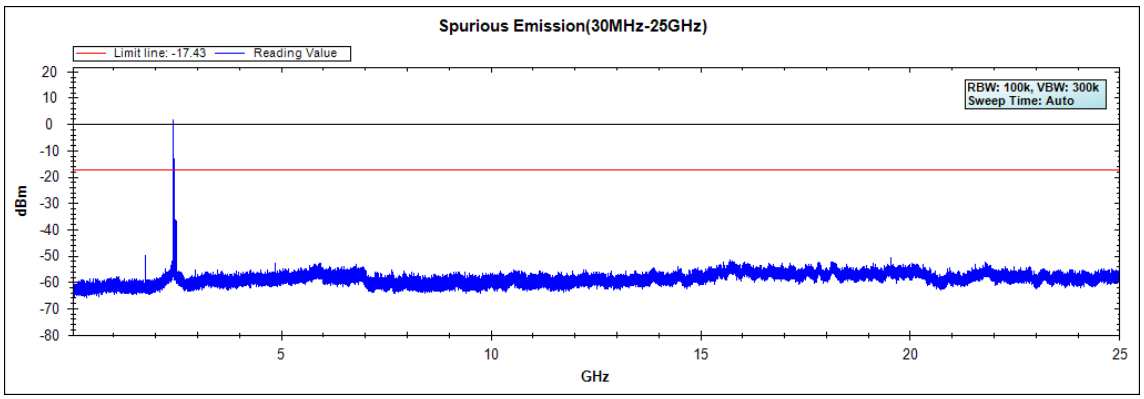
5.4. Test Result of RF antenna conducted test

Product	:	Wireless Outdoor Router
Test Item	:	RF antenna conducted test
Test Mode	:	Mode 1: Transmit (802.11b)
Test Date	:	2020/10/15

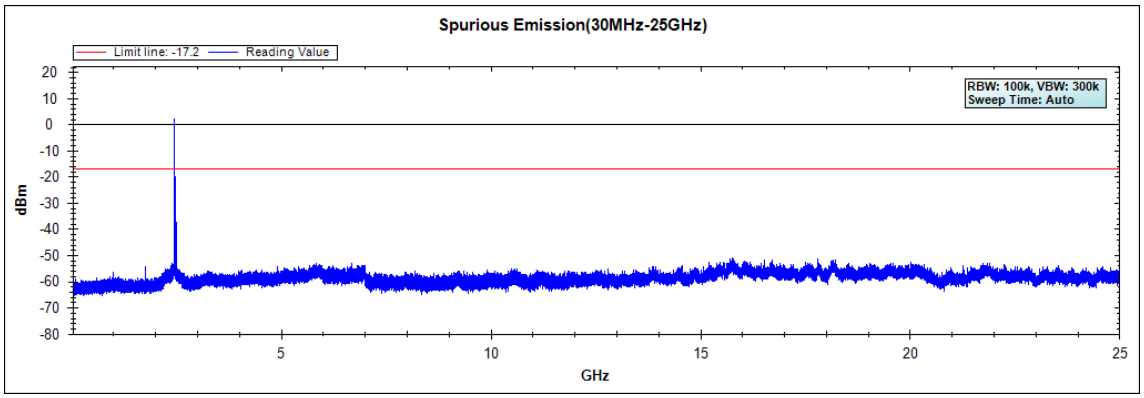
Channel 01 (2412MHz)



Channel 06 (2437MHz)



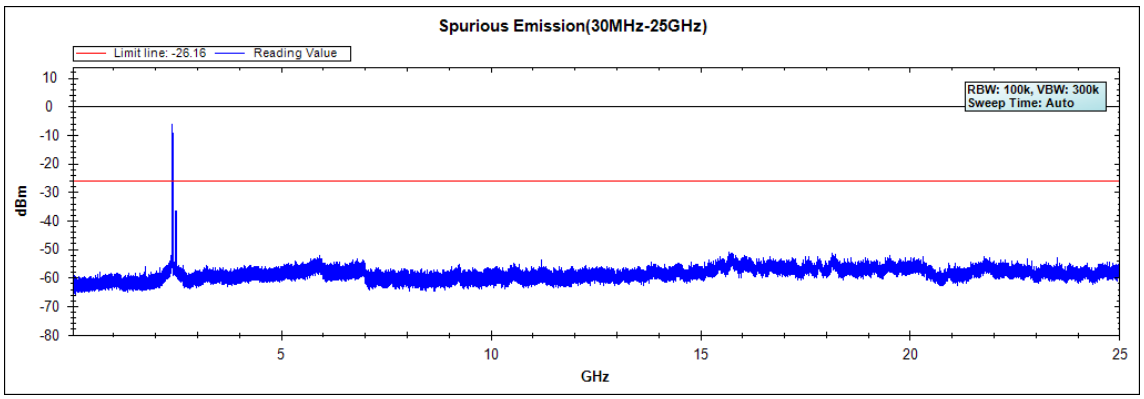
Channel 11 (2462MHz)



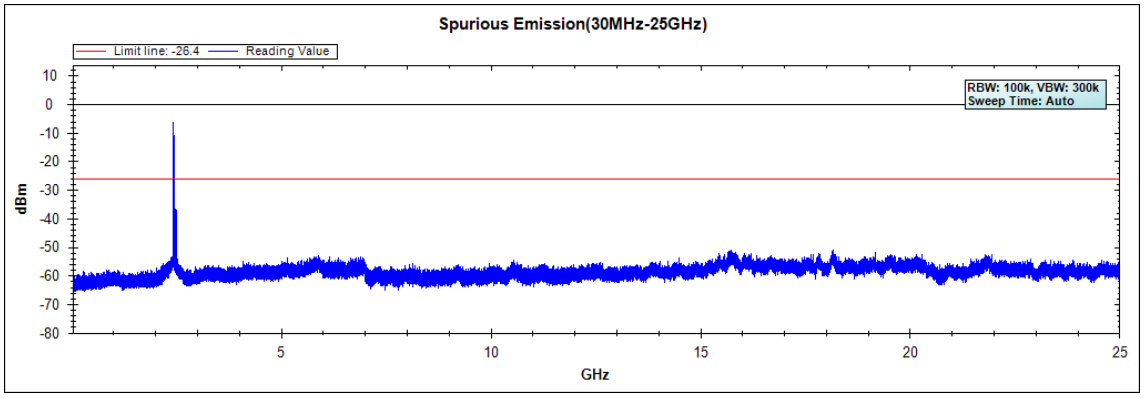
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	Wireless Outdoor Router
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 2: Transmit (802.11g)
Test Date	:	2020/10/15

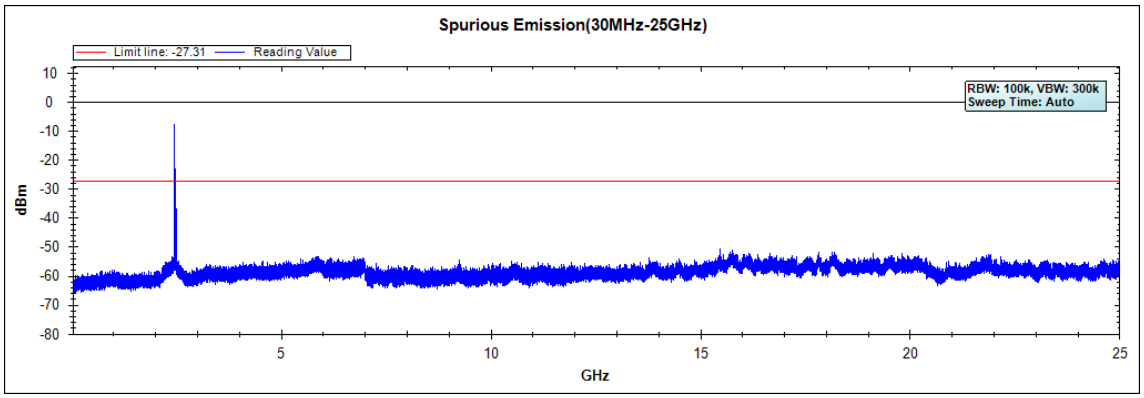
Channel 01 (2412MHz)



Channel 06 (2437MHz)



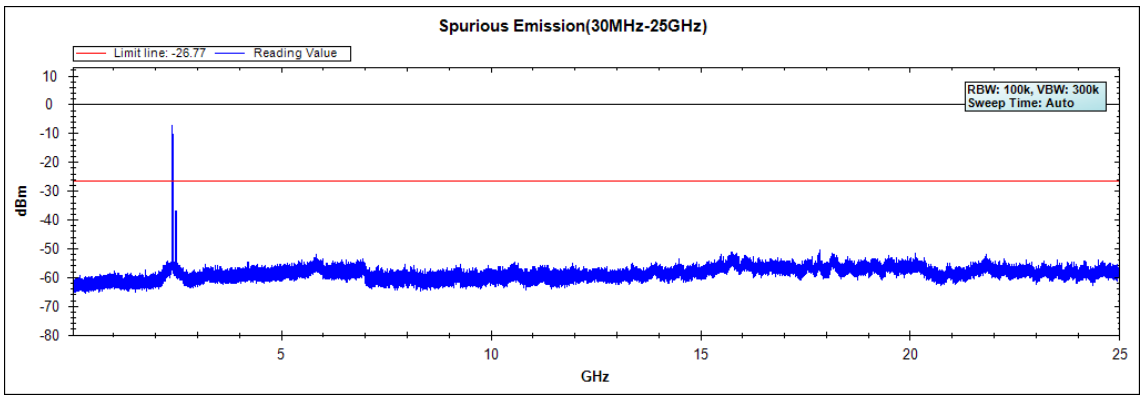
Channel 11 (2462MHz)



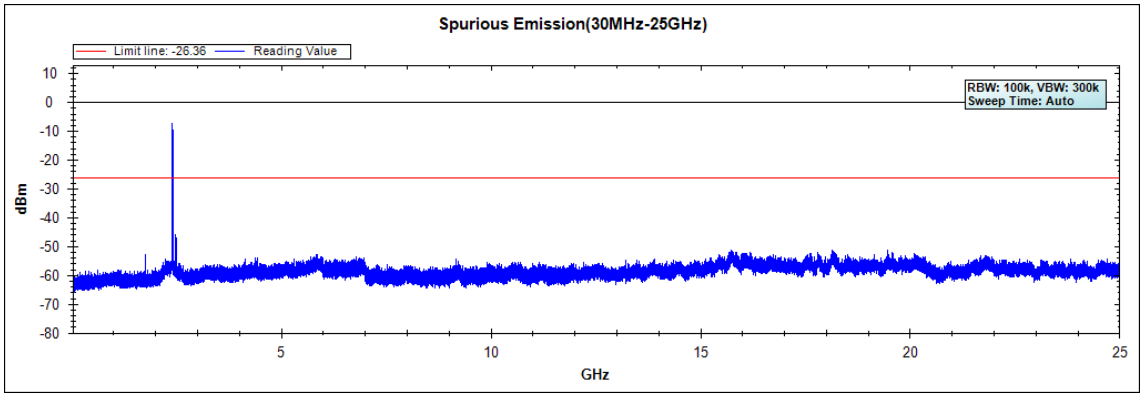
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Wireless Outdoor Router
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 3: Transmit (802.11n-20MBW)
Test Date : 2020/10/15

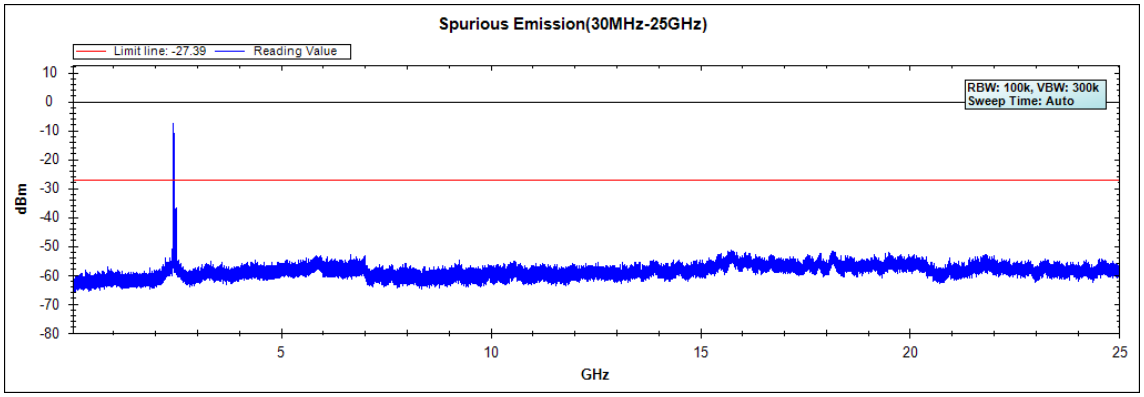
Channel 01 (2412MHz) (Chain A)



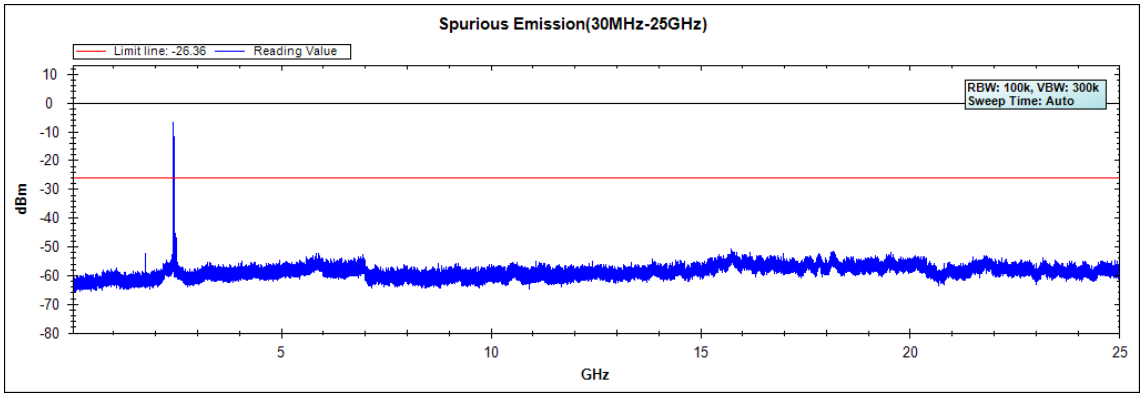
Channel 01 (2412MHz) (Chain B)



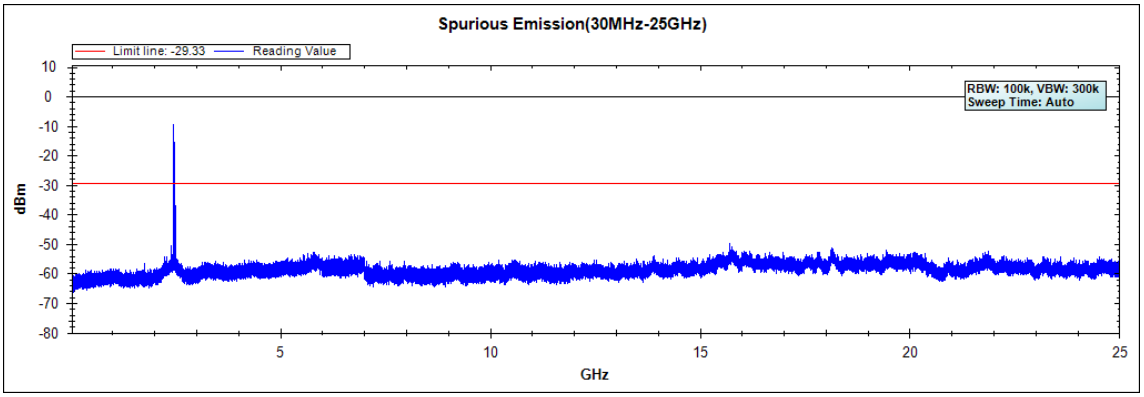
Channel 06 (2437MHz) (Chain A)



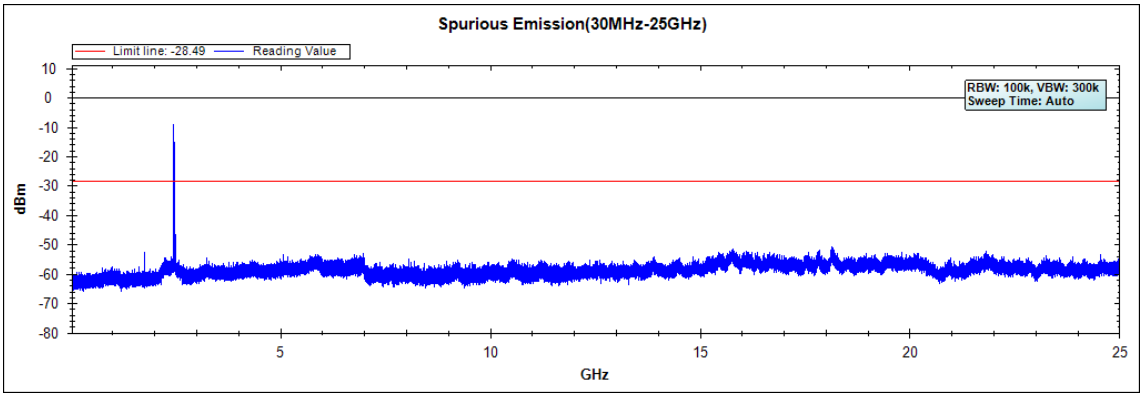
Channel 06 (2437MHz) (Chain B)



Channel 11 (2462MHz) (Chain A)



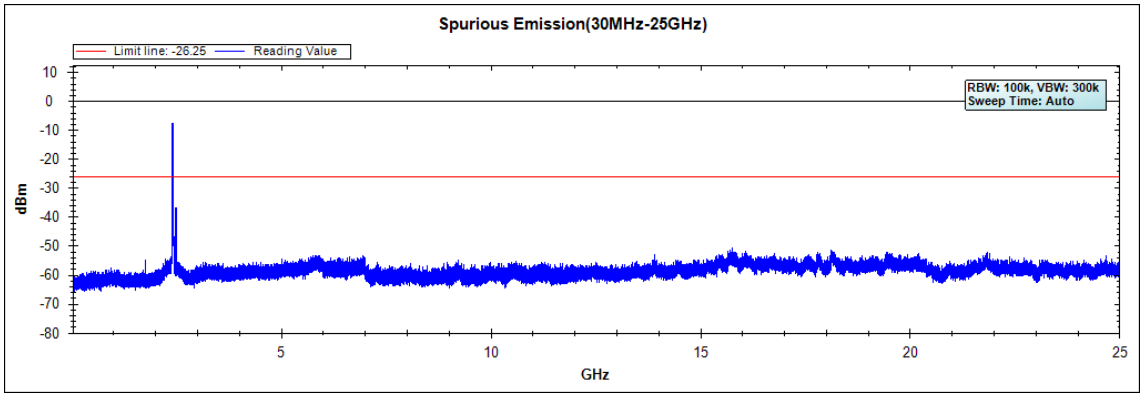
Channel 11 (2462MHz) (Chain B)



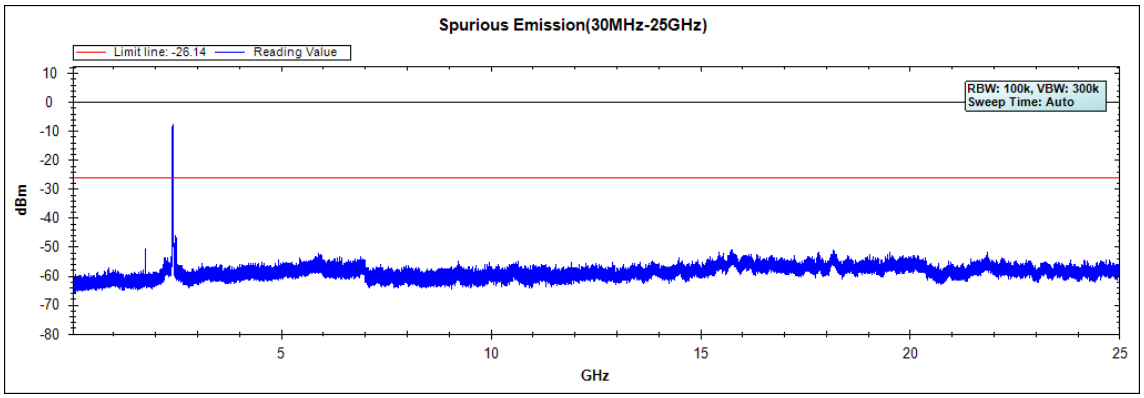
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Wireless Outdoor Router
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 4: Transmit (802.11n-40MBW)
Test Date : 2020/10/15

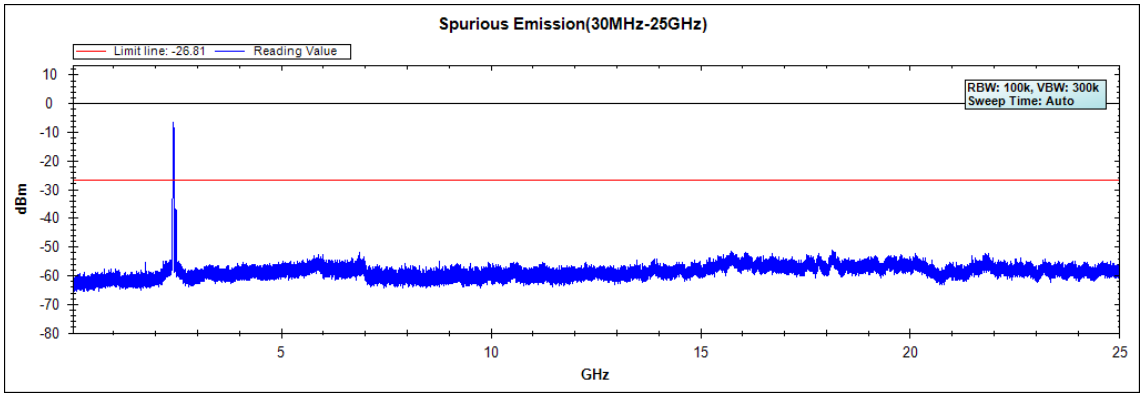
Channel 03 (2422MHz) (Chain A)



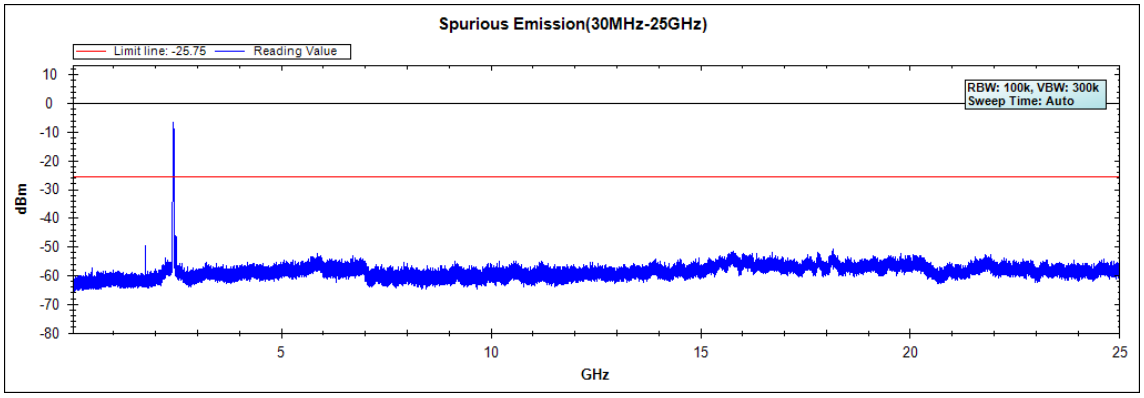
Channel 03 (2422MHz) (Chain B)



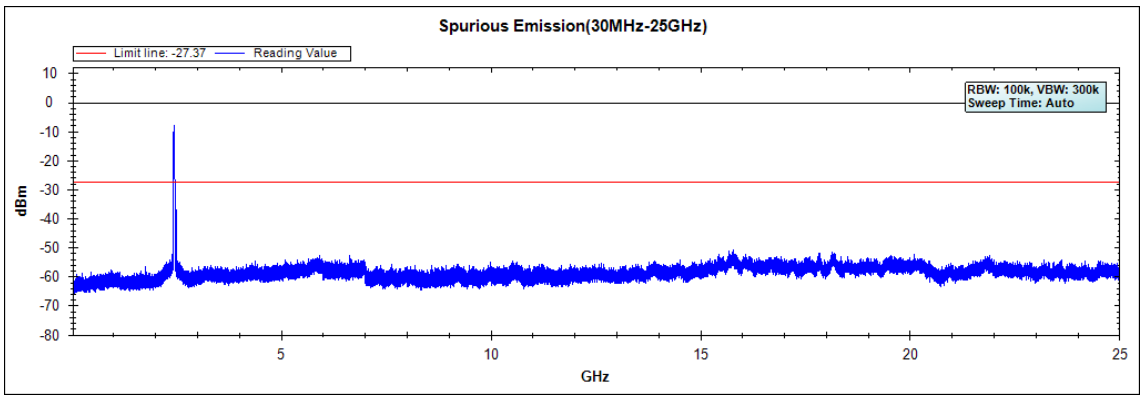
Channel 06 (2437MHz) (Chain A)



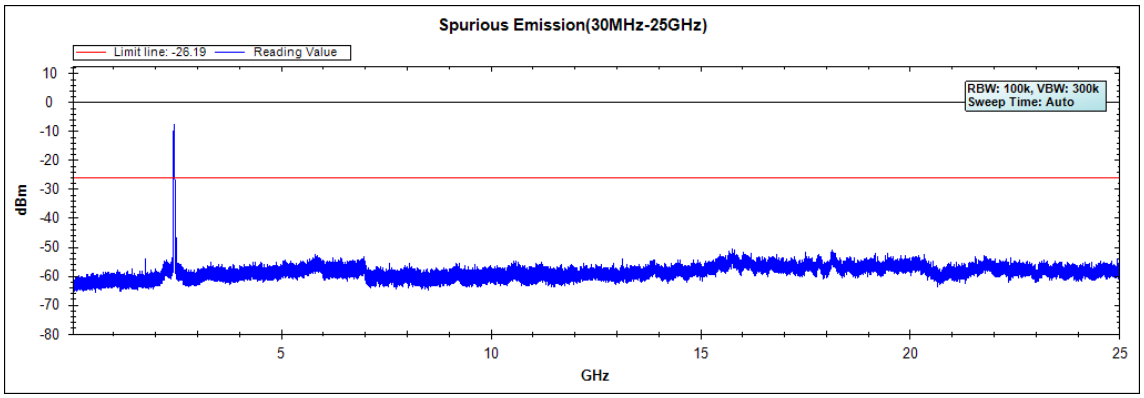
Channel 06 (2437MHz) (Chain B)



Channel 09 (2452MHz) (Chain A)



Channel 09 (2452MHz) (Chain B)

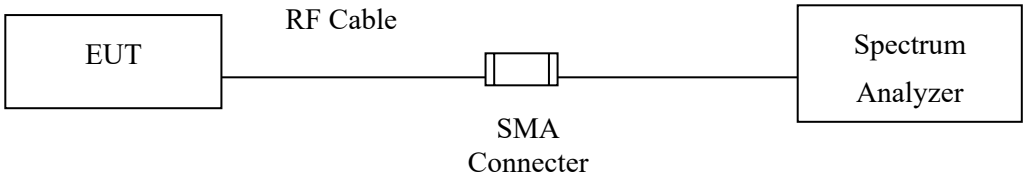


Note: The above test pattern is synthesized by multiple of the frequency range.

6. Band Edge

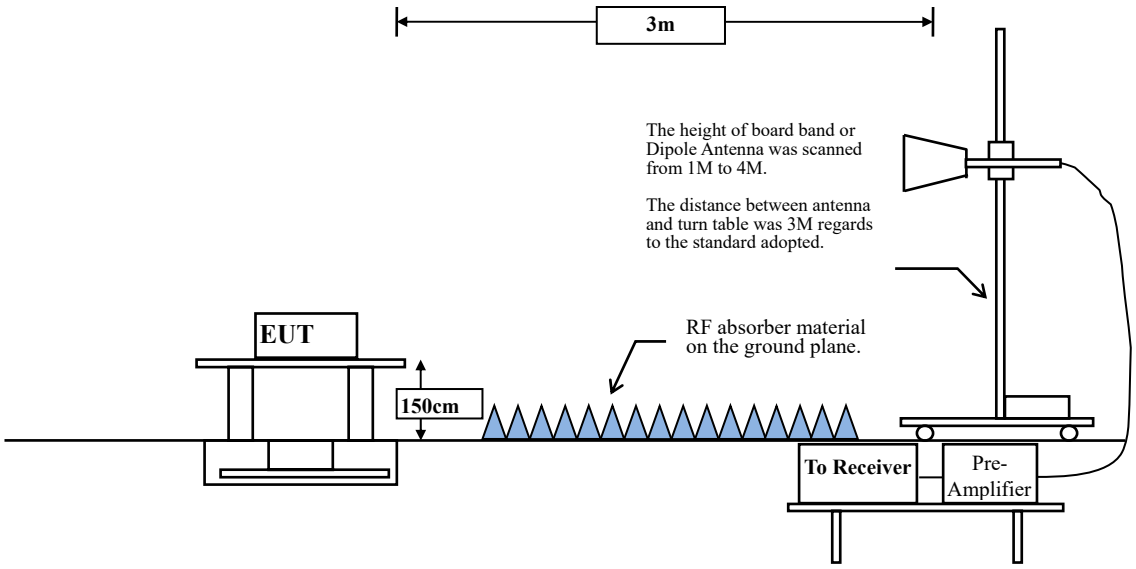
6.1. Test Setup

RF Conducted Measurement



RF Radiated Measurement:

Above 1GHz



6.2. Limits

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

6.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to C63.10:2013 Section 11.12.1 for compliance to FCC 47CFR 15.247 requirements.
The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

RBW and VBW Parameter setting:

According to C63.10 Section 11.12.2.4 Peak measurement procedure.

RBW = as specified in Table 1.

VBW ≥ 3 x RBW.

Table 1 —RBW as a function of frequency

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

According to C63.10 Section 11.12.2.5 Average measurement procedure.

RBW = 1MHz.

VBW = 10Hz, when duty cycle ≥ 98 %

VBW ≥ 1/T, when duty cycle < 98 %

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

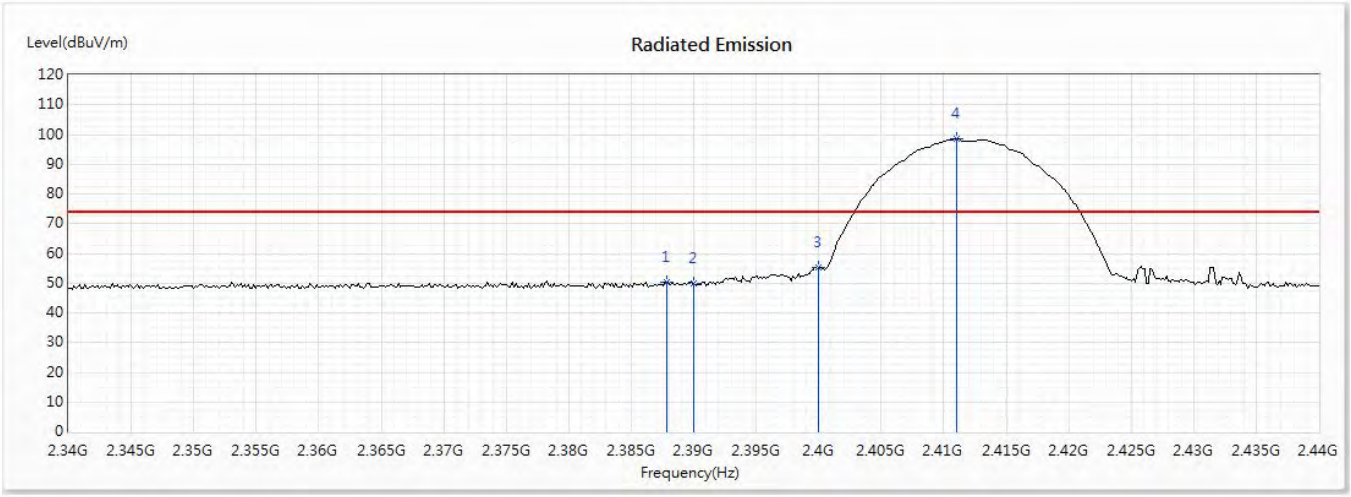
2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11b	99.32	8.4348	119	10
802.11g	92.72	1.3840	723	1k
802.11n20	81.27	0.6666	1500	2k
802.11n40	81.77	0.3507	2851	3k

Note: Duty Cycle Refer to Section 9

6.4. Test Result of Band Edge

Product	:	Wireless Outdoor Router
Test Item	:	Band Edge Data
Test Mode	:	Mode 1: Transmit (802.11b) (2412MHz)
Test Date	:	2020/09/11

Horizontal



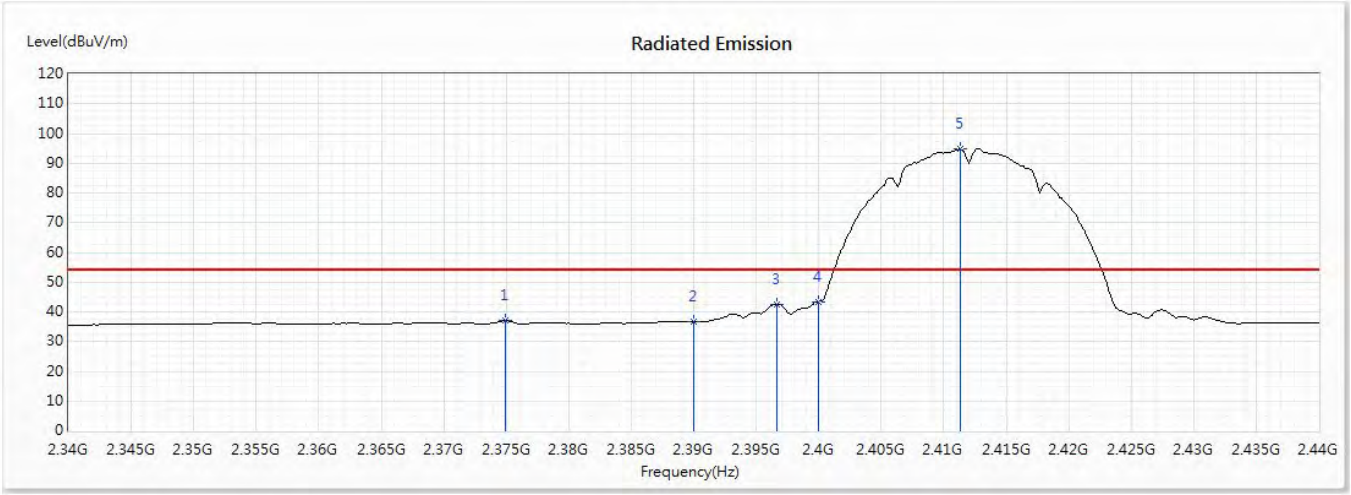
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	2387.826	50.36	74.00	-23.64	36.91	13.45	PK
2	2390	49.72	74.00	-24.28	36.26	13.46	PK
3	2400	55.20	--	--	41.71	13.49	PK
4	2411.014	98.47	--	--	84.94	13.53	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b) (2412MHz)
Test Date : 2020/09/11

Horizontal



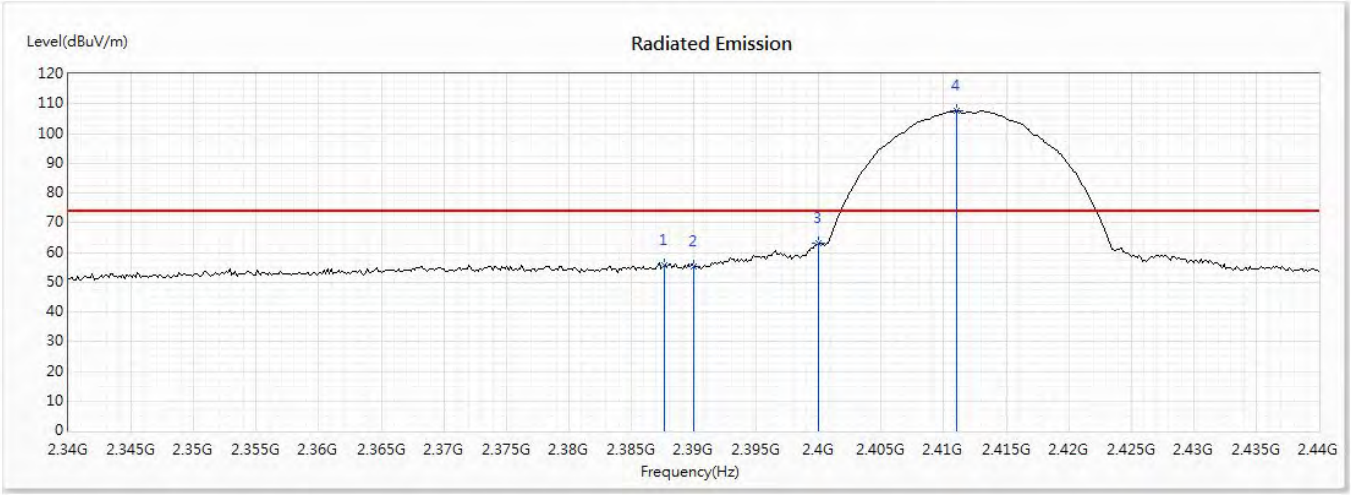
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2374.928	36.96	54.00	-17.04	23.54	13.42	AV
2	2390	36.62	54.00	-17.38	23.16	13.46	AV
3	2396.667	42.63	--	--	29.15	13.48	AV
4	2400	43.46	--	--	29.97	13.49	AV
5	2411.304	94.81	--	--	81.28	13.53	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item	:	Band Edge Data
Test Mode	:	Mode 1: Transmit (802.11b) (2412MHz)
Test Date	:	2020/09/11

Vertical



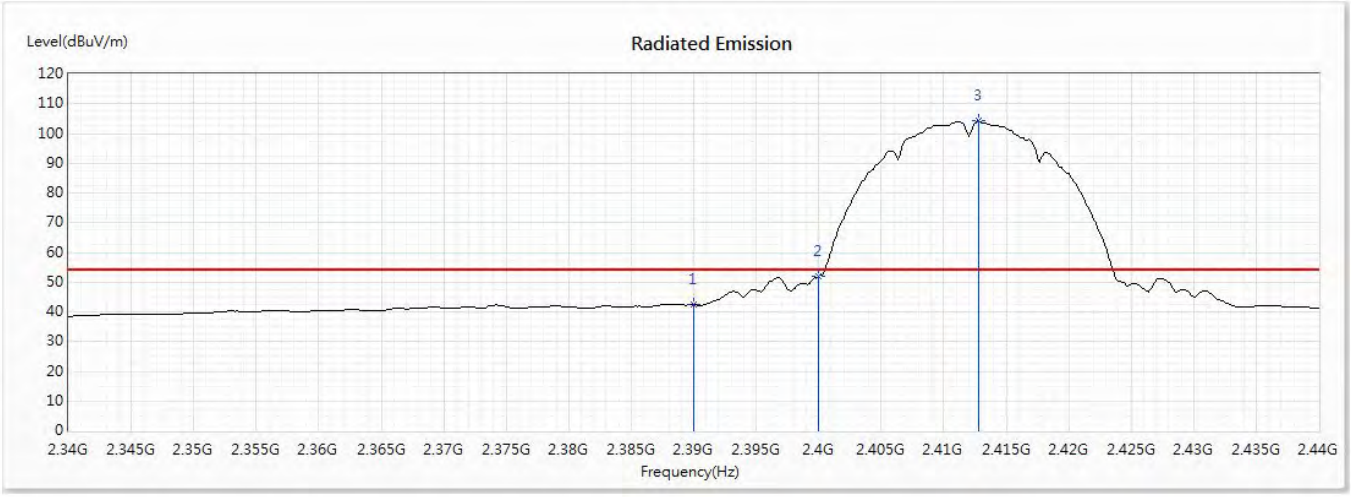
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	2387.681	55.66	74.00	-18.34	42.21	13.45	PK
2	2390	55.23	74.00	-18.77	41.77	13.46	PK
3	2400	62.92	--	--	49.43	13.49	PK
4	2411.014	107.57	--	--	94.04	13.53	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item	:	Band Edge Data
Test Mode	:	Mode 1: Transmit (802.11b) (2412MHz)
Test Date	:	2020/09/11

Vertical



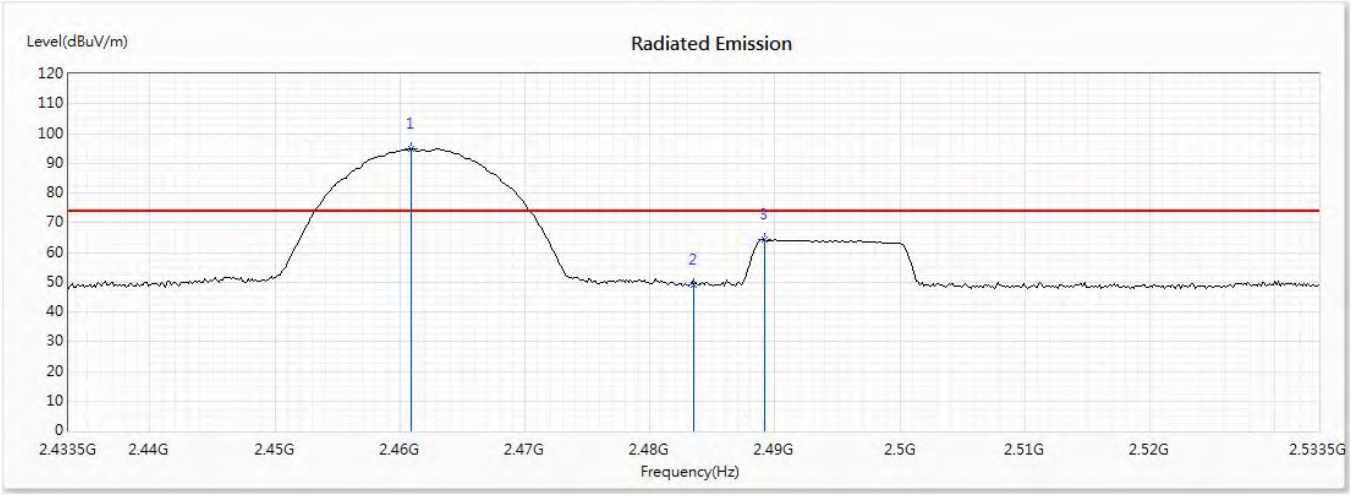
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2390	42.34	54.00	-11.66	28.88	13.46	AV
2	2400	51.84	--	--	38.35	13.49	AV
3	2412.754	104.13	--	--	90.58	13.55	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b) (2462MHz)
Test Date : 2020/09/11

Horizontal



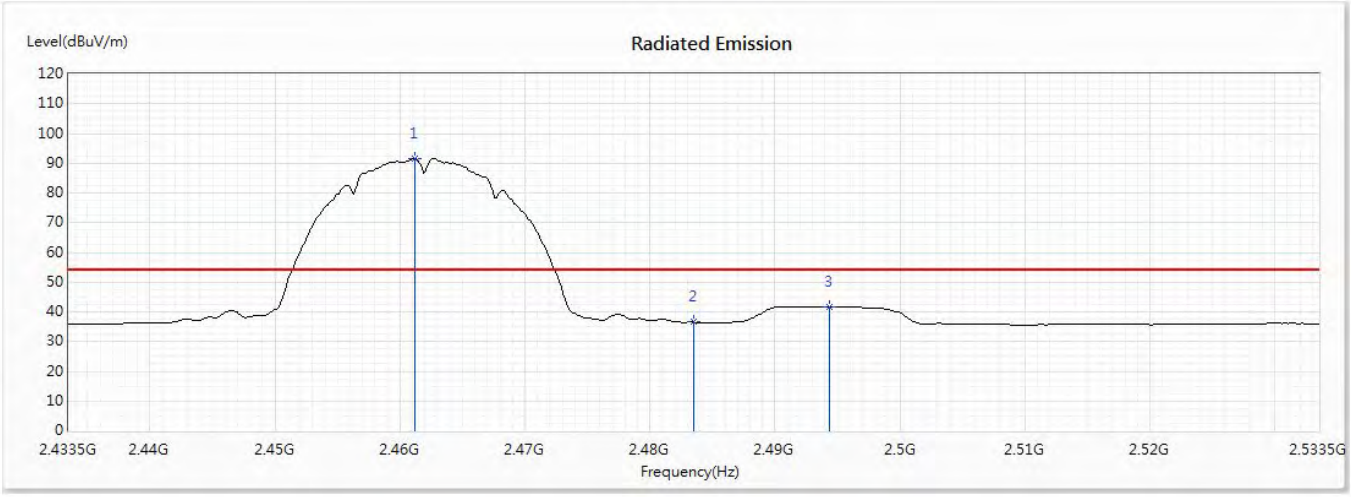
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2460.891	94.81	--	--	81.03	13.78	PK
2	2483.5	49.05	74.00	-24.95	35.13	13.92	PK
3	2489.152	64.32	74.00	-9.68	50.34	13.98	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b) (2462MHz)
Test Date : 2020/09/11

Horizontal



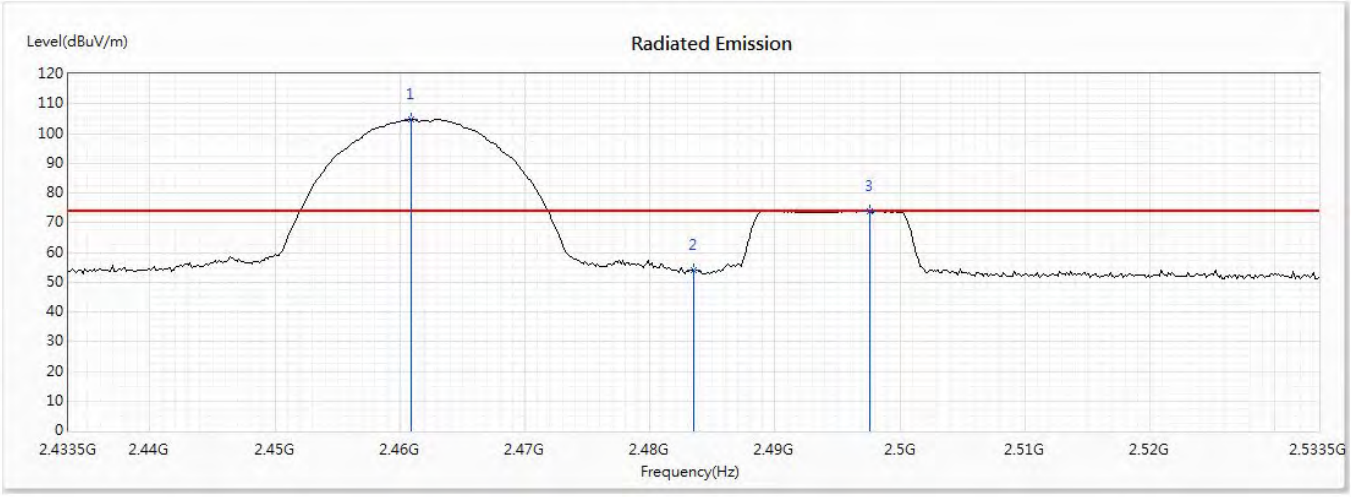
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2461.181	91.56	--	--	77.78	13.78	AV
2	2483.5	36.50	54.00	-17.50	22.58	13.92	AV
3	2494.37	41.81	54.00	-12.19	27.80	14.01	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b) (2462MHz)
Test Date : 2020/09/11

Vertical



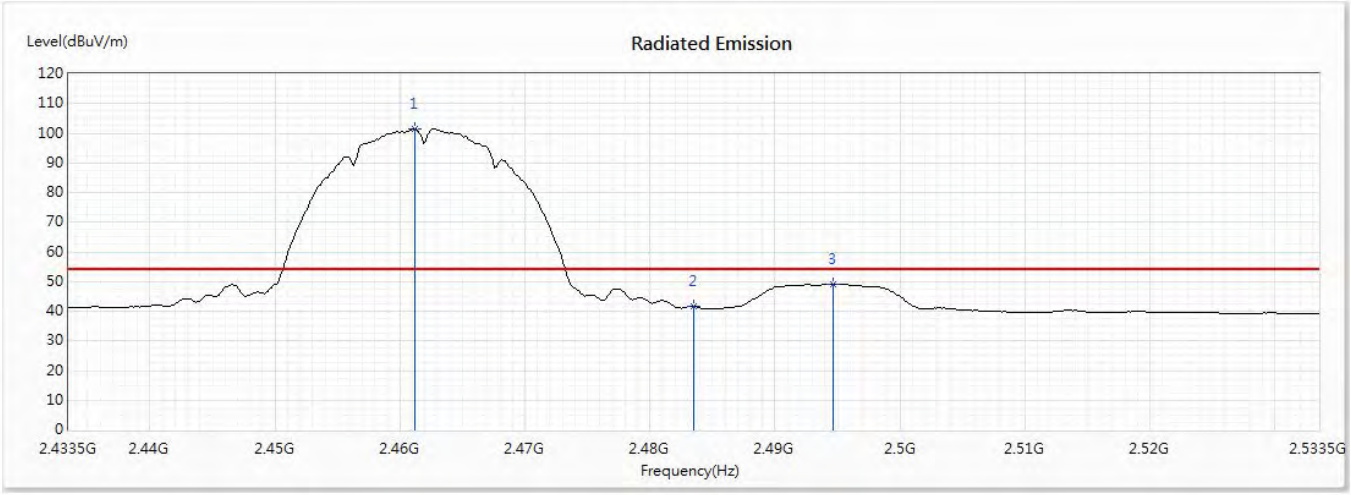
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	2460.891	104.77	--	--	90.99	13.78	PK
2	2483.5	53.98	74.00	-20.02	40.06	13.92	PK
3	2497.558	73.89	74.00	-0.11	59.87	14.02	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item	:	Band Edge Data
Test Mode	:	Mode 1: Transmit (802.11b) (2462MHz)
Test Date	:	2020/09/11

Vertical



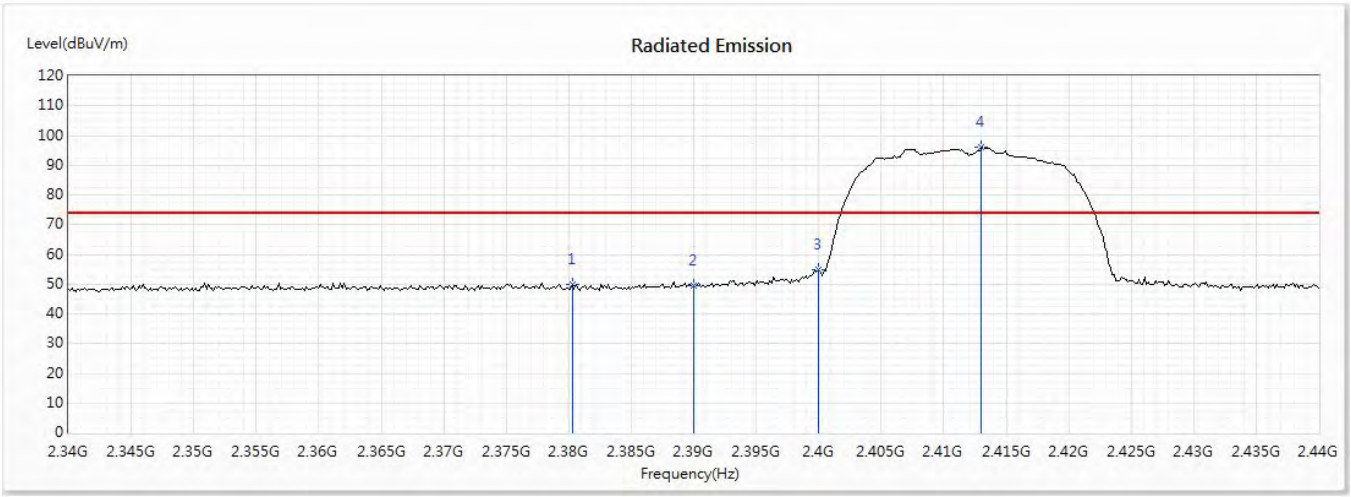
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	2461.181	101.51	--	--	87.73	13.78	AV
2	2483.5	41.59	54.00	-12.41	27.67	13.92	AV
3	2494.659	49.12	54.00	-4.88	35.11	14.01	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g) (2412MHz)
Test Date	:	2020/09/11

Horizontal



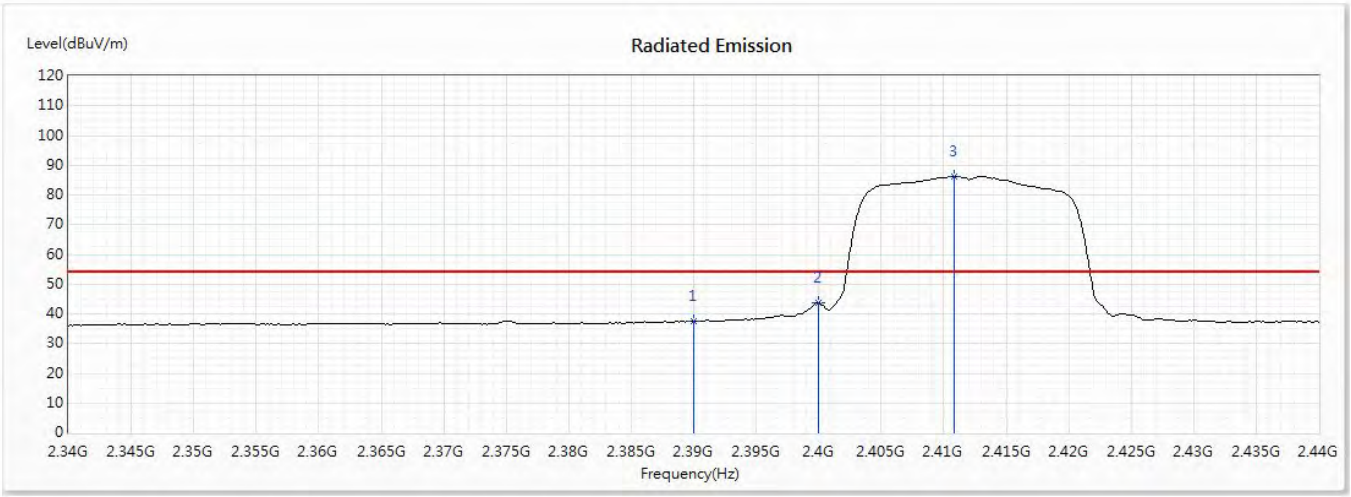
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	2380.29	50.05	74.00	-23.95	36.61	13.44	PK
2	2390	49.35	74.00	-24.65	35.89	13.46	PK
3	2400	55.03	--	--	41.54	13.49	PK
4	2413.043	96.07	--	--	82.52	13.55	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 2: Transmit (802.11g) (2412MHz)
Test Date : 2020/09/11

Horizontal



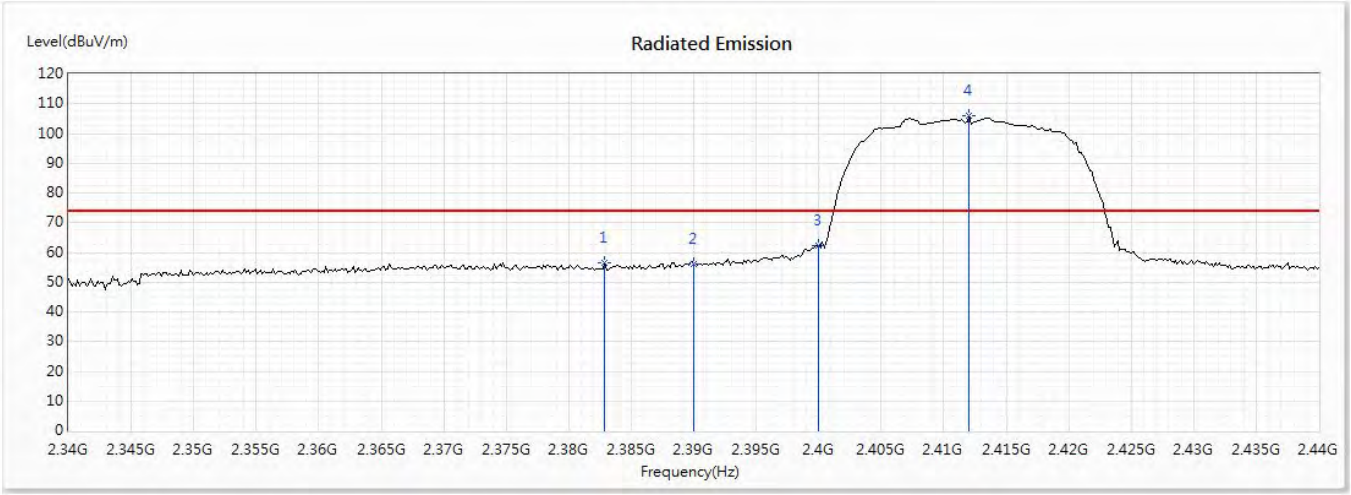
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2390	37.58	54.00	-16.42	24.12	13.46	AV
2	2400	43.56	--	--	30.07	13.49	AV
3	2410.87	86.27	--	--	72.74	13.53	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g) (2412MHz)
Test Date	:	2020/09/11

Vertical



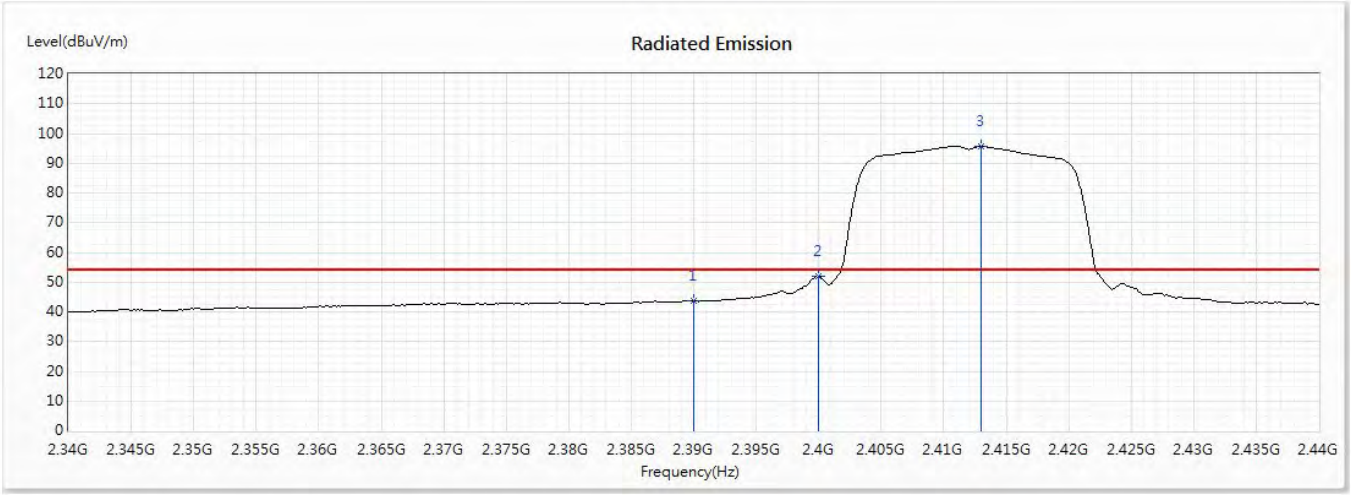
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	2382.899	56.60	74.00	-17.40	43.16	13.44	PK
2	2390	55.95	74.00	-18.05	42.49	13.46	PK
3	2400	62.26	--	--	48.77	13.49	PK
4	2412.029	105.90	--	--	92.36	13.54	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g) (2412MHz)
Test Date	:	2020/09/11

Vertical



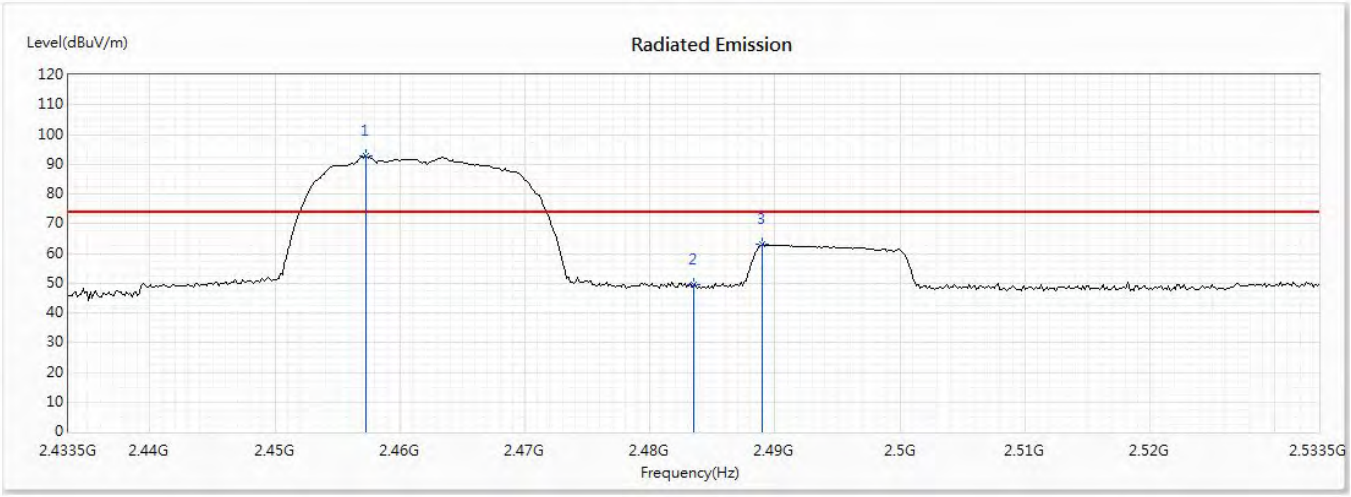
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	2390	43.53	54.00	-10.47	30.07	13.46	AV
2	2400	52.04	--	--	38.55	13.49	AV
3	2413.043	95.75	--	--	82.20	13.55	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 2: Transmit (802.11g) (2462MHz)
Test Date : 2020/09/11

Horizontal



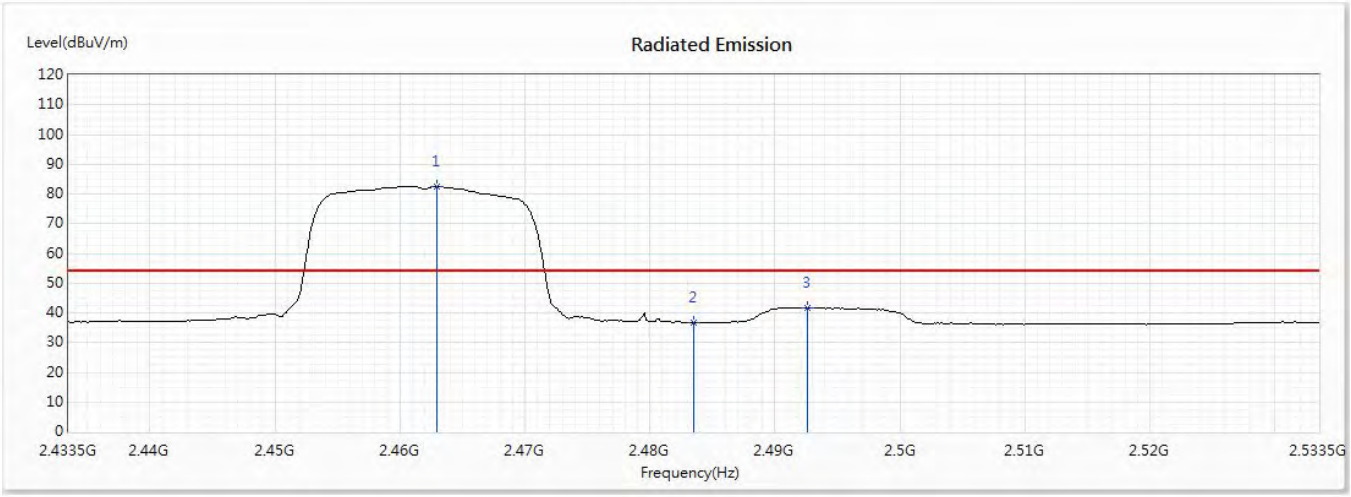
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2457.268	92.59	--	--	78.82	13.77	PK
2	2483.5	49.53	74.00	-24.47	35.61	13.92	PK
3	2489.007	62.90	74.00	-11.10	48.92	13.98	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 2: Transmit (802.11g) (2462MHz)
Test Date : 2020/09/11

Horizontal



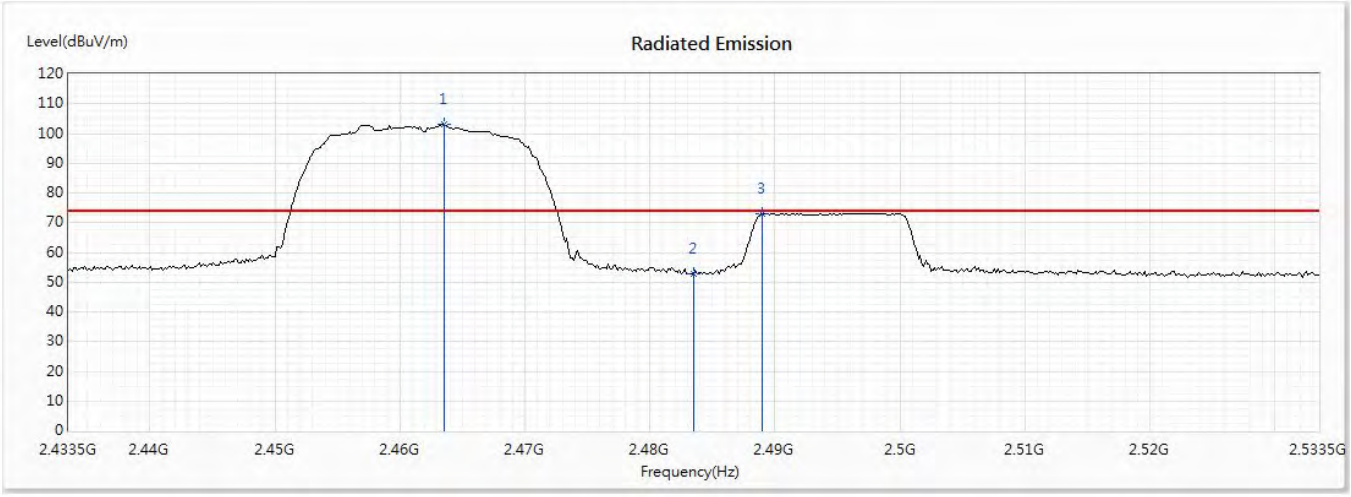
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	2462.92	82.67	--	--	68.87	13.80	AV
2	2483.5	36.71	54.00	-17.29	22.79	13.92	AV
3	2492.63	41.77	54.00	-12.23	27.78	13.99	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g) (2462MHz)
Test Date	:	2020/09/11

Vertical



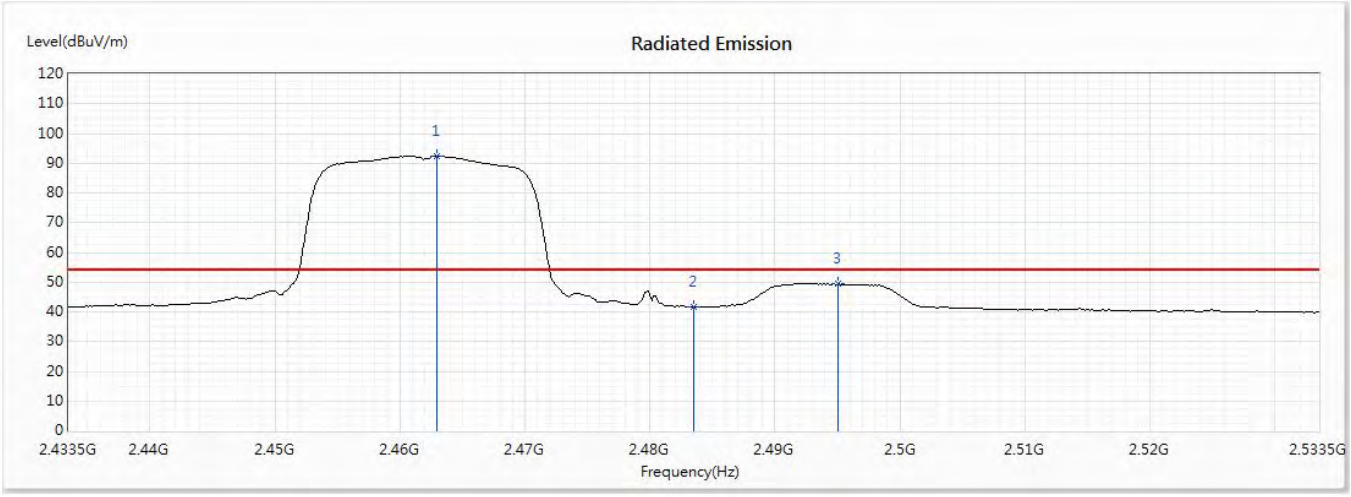
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2463.5	102.97	--	--	89.17	13.80	PK
2	2483.5	53.68	74.00	-20.32	39.76	13.92	PK
3	2489.007	73.09	74.00	-0.91	59.11	13.98	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g) (2462MHz)
Test Date	:	2020/09/11

Vertical



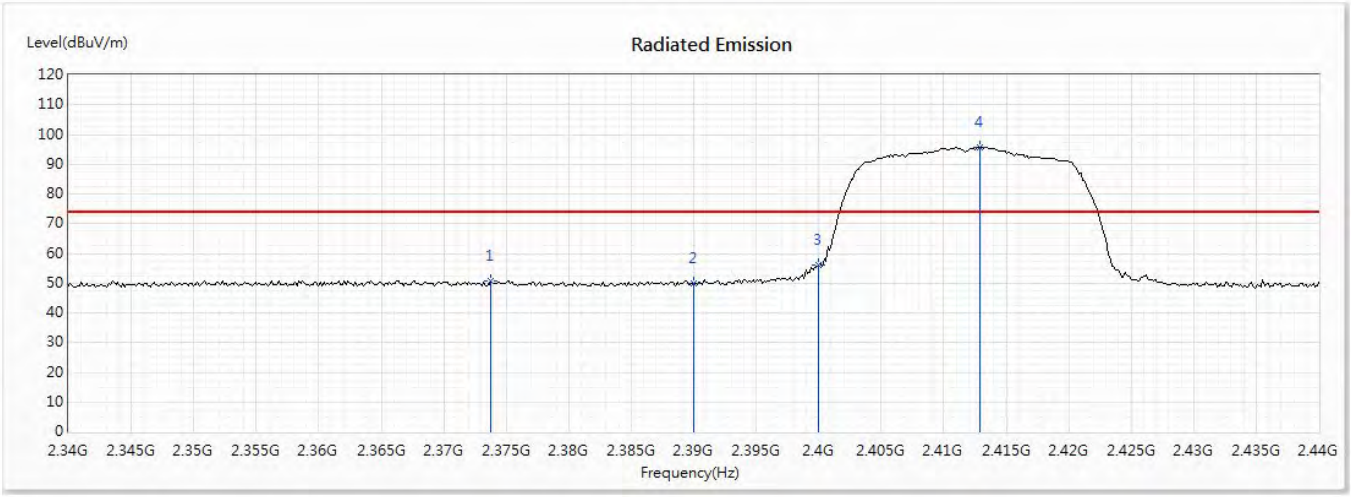
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2462.92	92.48	--	--	78.68	13.80	AV
2	2483.5	41.67	54.00	-12.33	27.75	13.92	AV
3	2495.094	49.54	54.00	-4.46	35.53	14.01	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n-20MBW) (2412MHz)
Test Date : 2020/09/11

Horizontal



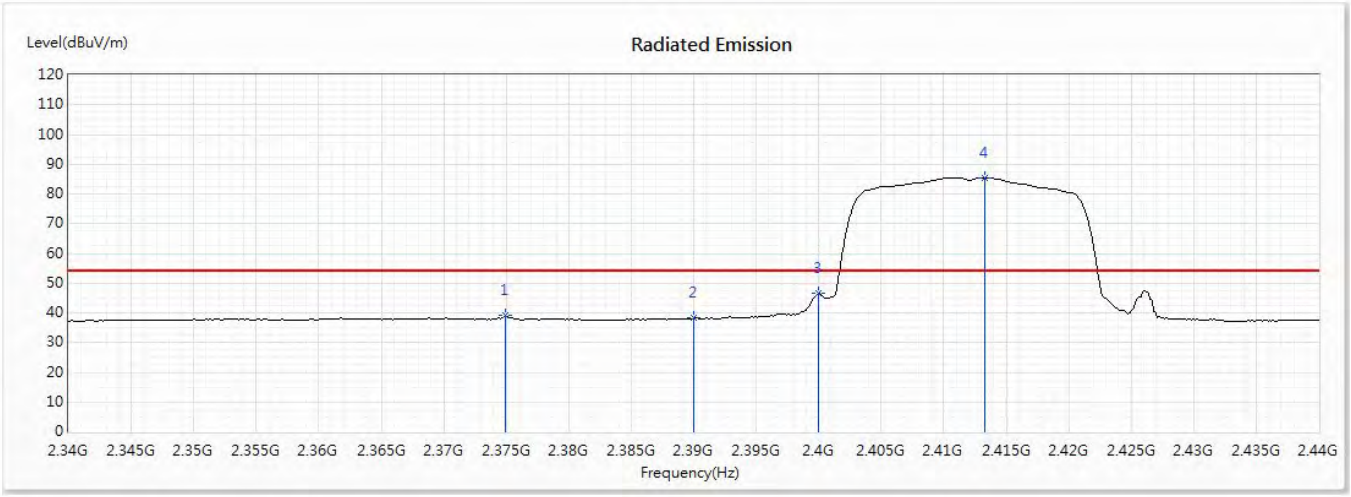
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	2373.768	50.88	74.00	-23.12	37.46	13.42	PK
2	2390	49.87	74.00	-24.13	36.41	13.46	PK
3	2400	56.00	--	--	42.51	13.49	PK
4	2412.899	95.65	--	--	82.10	13.55	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n-20MBW) (2412MHz)
Test Date : 2020/09/11

Horizontal



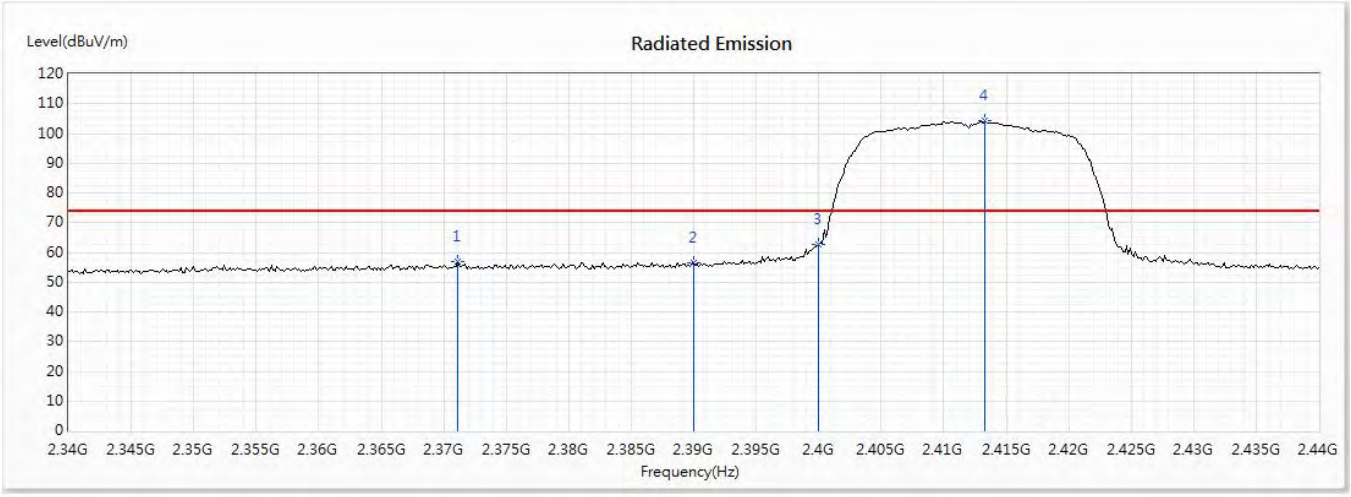
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	2374.928	39.03	54.00	-14.97	25.61	13.42	AV
2	2390	38.34	54.00	-15.66	24.88	13.46	AV
3	2400	46.54	--	--	33.05	13.49	AV
4	2413.333	85.55	--	--	72.00	13.55	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n-20MBW) (2412MHz)
Test Date : 2020/09/11

Vertical



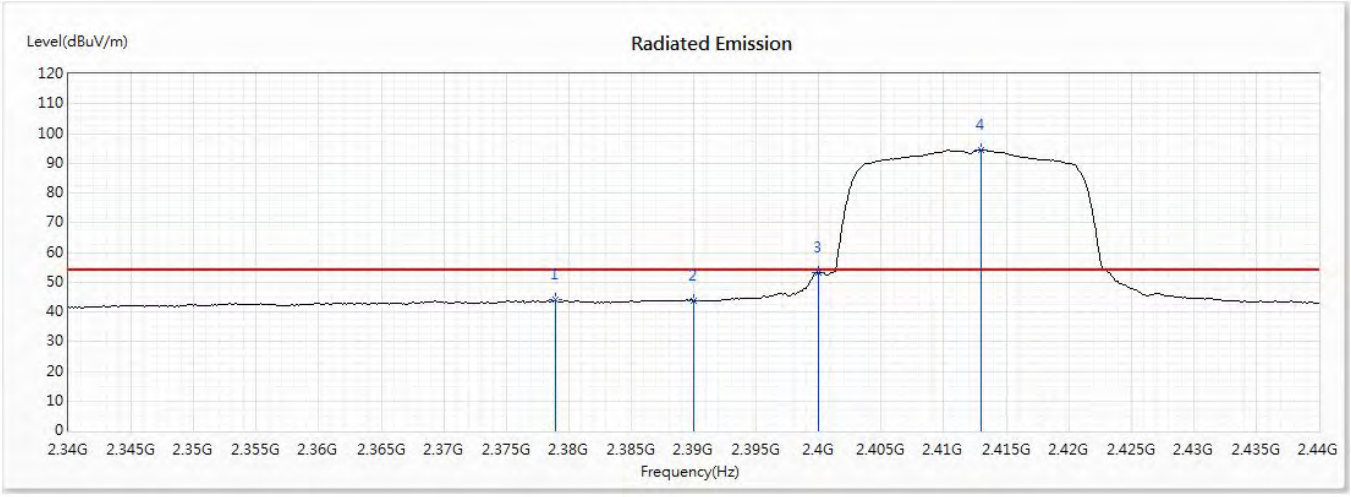
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	2371.159	56.73	74.00	-17.27	43.31	13.42	PK
2	2390	56.45	74.00	-17.55	42.99	13.46	PK
3	2400	62.83	--	--	49.34	13.49	PK
4	2413.333	104.15	--	--	90.60	13.55	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n-20MBW) (2412MHz)
Test Date : 2020/09/11

Vertical



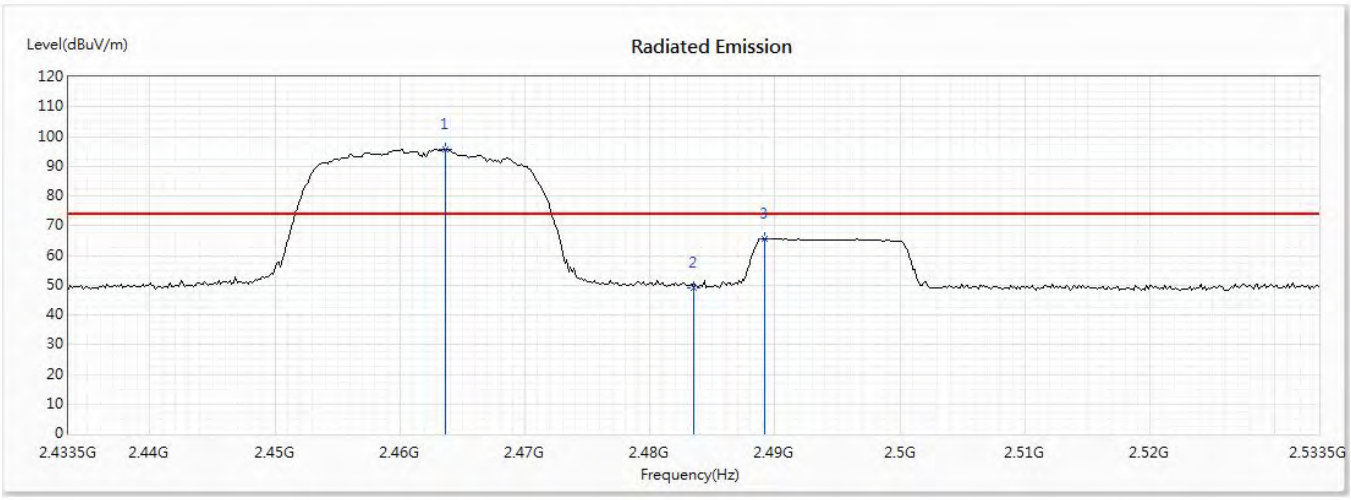
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2378.986	43.95	54.00	-10.05	30.52	13.43	AV
2	2390	43.77	54.00	-10.23	30.31	13.46	AV
3	2400	53.23	--	--	39.74	13.49	AV
4	2413.043	94.36	--	--	80.81	13.55	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n-20MBW) (2462MHz)
Test Date : 2020/09/11

Horizontal



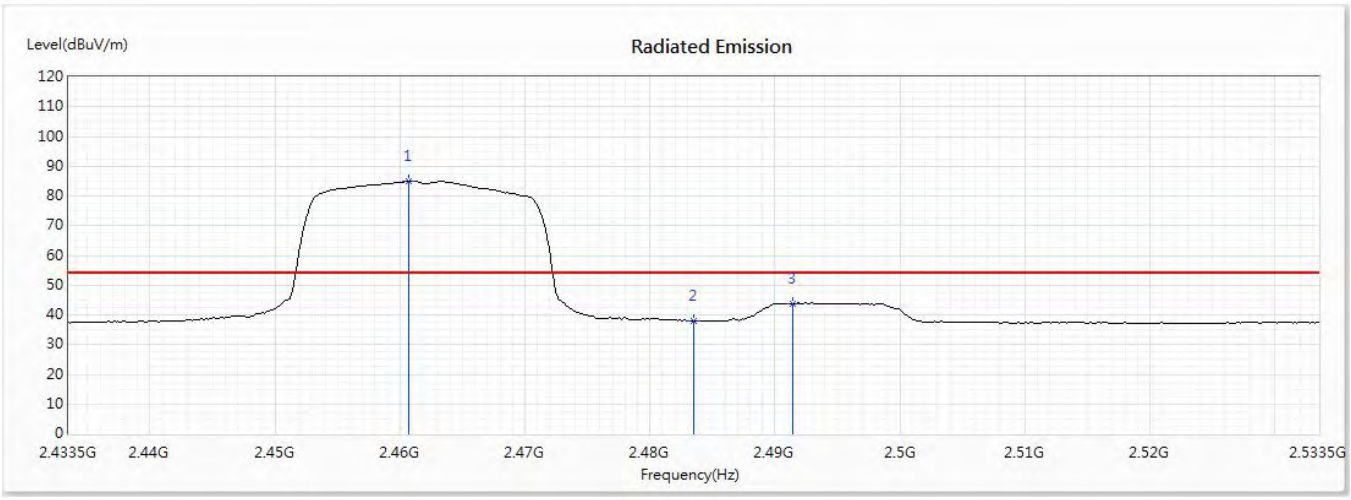
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2463.645	95.68	--	--	81.88	13.80	PK
2	2483.5	49.26	74.00	-24.74	35.34	13.92	PK
3	2489.152	65.71	74.00	-8.29	51.73	13.98	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n-20MBW) (2462MHz)
Test Date : 2020/09/11

Horizontal



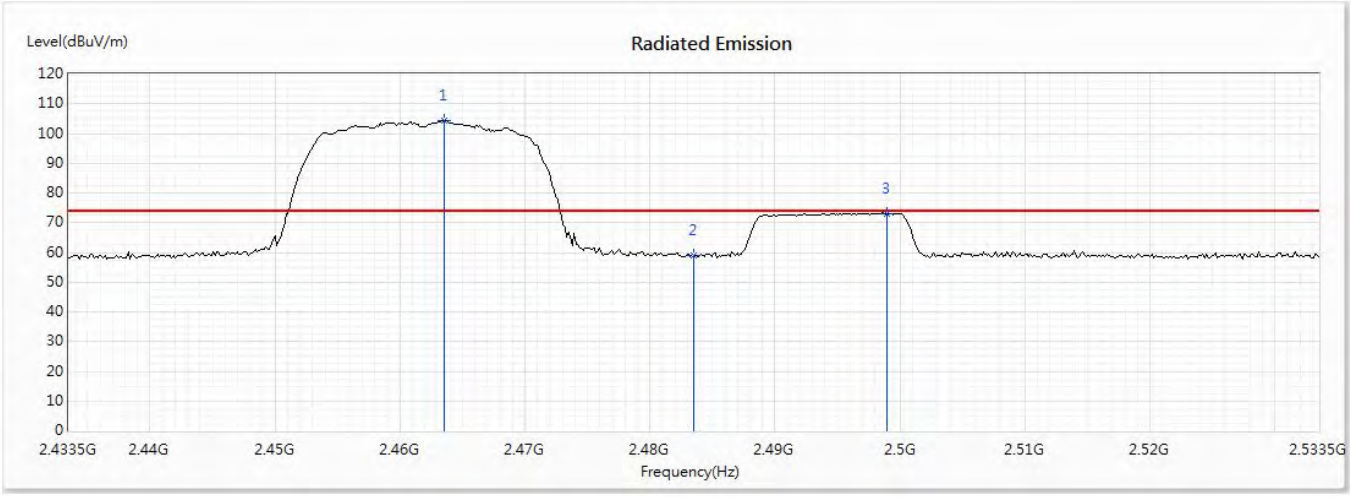
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2460.746	84.98	--	--	71.20	13.78	AV
2	2483.5	37.96	54.00	-16.04	24.04	13.92	AV
3	2491.471	43.81	54.00	-10.19	29.82	13.99	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n-20MBW) (2462MHz)
Test Date : 2020/09/10

Vertical



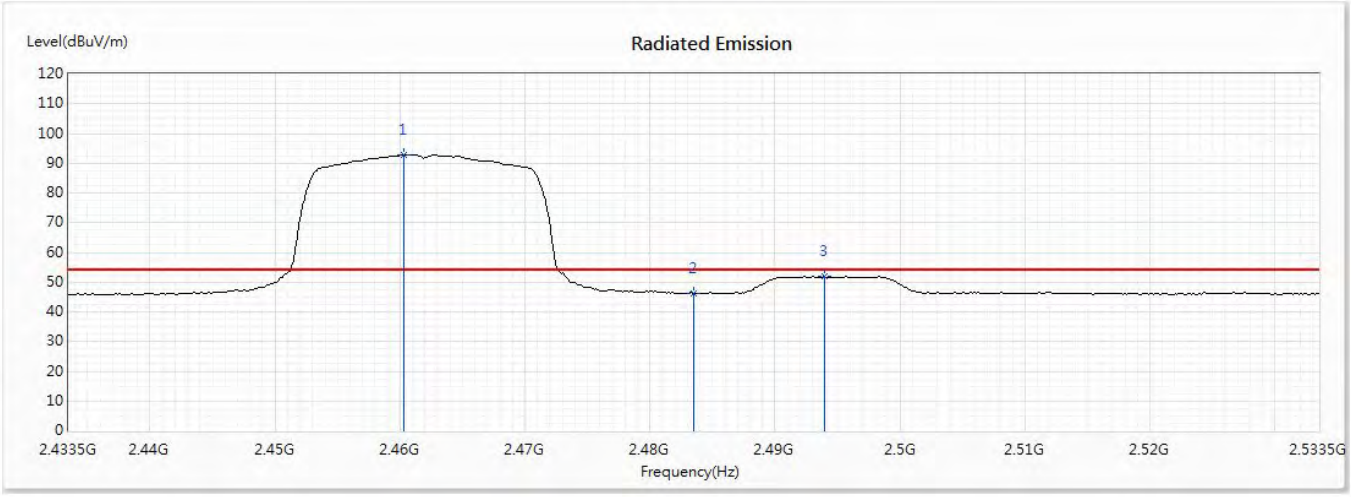
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2463.5	104.35	--	--	90.55	13.80	PK
2	2483.5	58.93	74.00	-15.07	45.01	13.92	PK
3	2499.007	73.08	74.00	-0.92	59.04	14.04	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n-20MBW) (2462MHz)
Test Date : 2020/09/10

Vertical



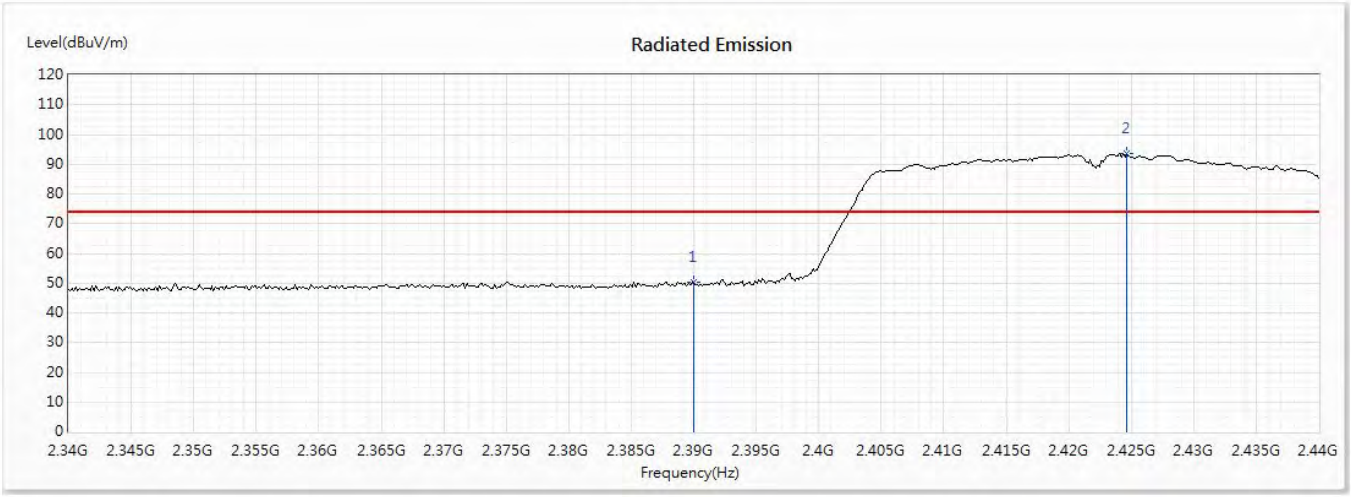
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2460.312	92.90	--	--	79.12	13.78	AV
2	2483.5	46.27	54.00	-7.73	32.35	13.92	AV
3	2493.935	51.80	54.00	-2.20	37.79	14.01	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2422MHz)
Test Date : 2020/09/11

Horizontal



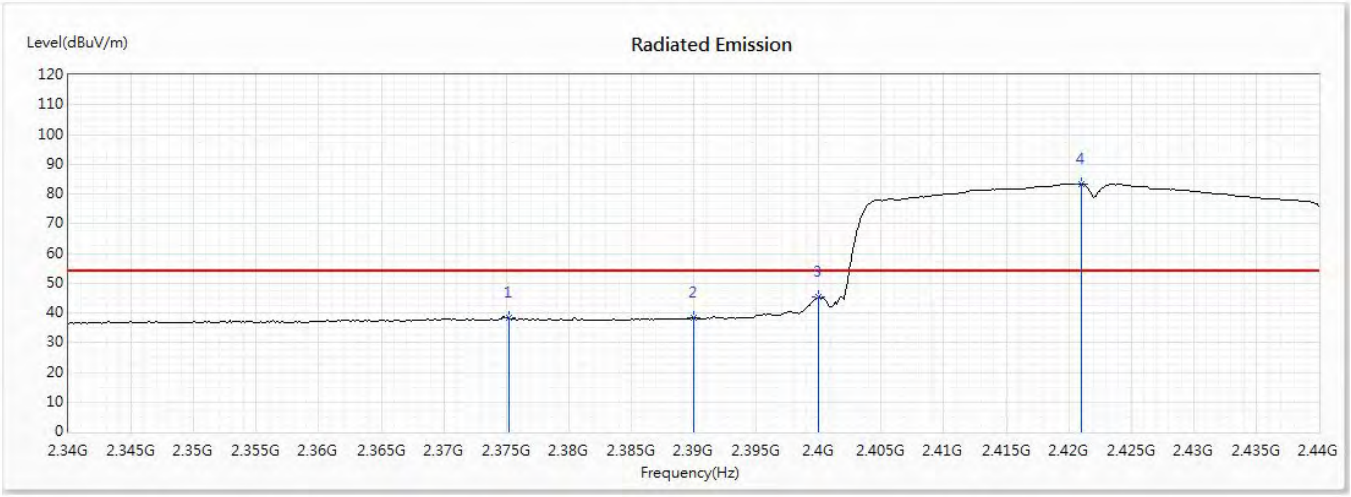
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2390	50.44	74.00	-23.56	36.98	13.46	PK
2	2424.638	93.78	--	--	80.18	13.60	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2422MHz)
Test Date : 2020/09/11

Horizontal



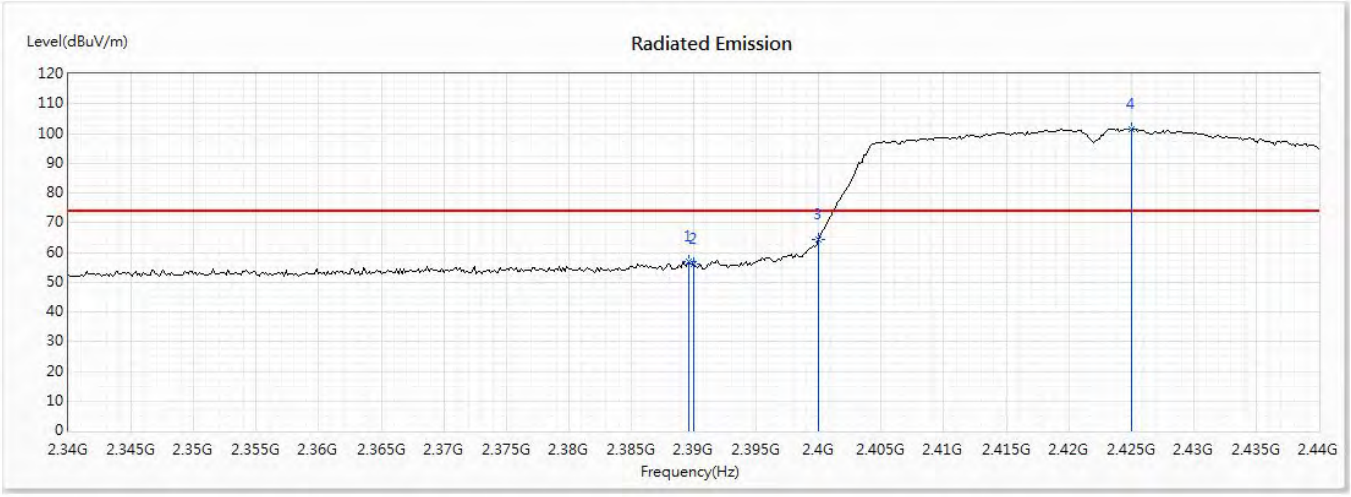
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	2375.217	38.40	54.00	-15.60	24.97	13.43	AV
2	2390	38.25	54.00	-15.75	24.79	13.46	AV
3	2400	45.48	--	--	31.99	13.49	AV
4	2421.014	83.47	--	--	69.89	13.58	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2422MHz)
Test Date : 2020/09/11

Vertical



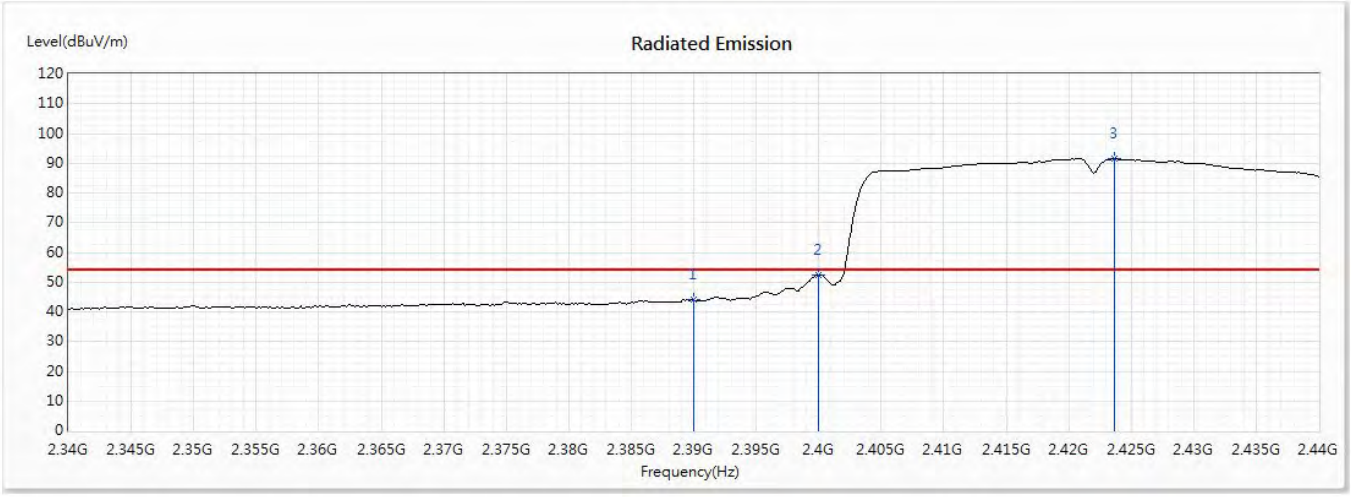
No	Frequency (MHz)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Reading Level (dBµV)	Correct Factor (dB/m)	Detector Type
1	2389.565	56.97	74.00	-17.03	43.51	13.46	PK
2	2390	56.08	74.00	-17.92	42.62	13.46	PK
3	2400	64.13	--	--	50.64	13.49	PK
4	2425.072	101.52	--	--	87.91	13.61	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2422MHz)
Test Date : 2020/09/11

Vertical



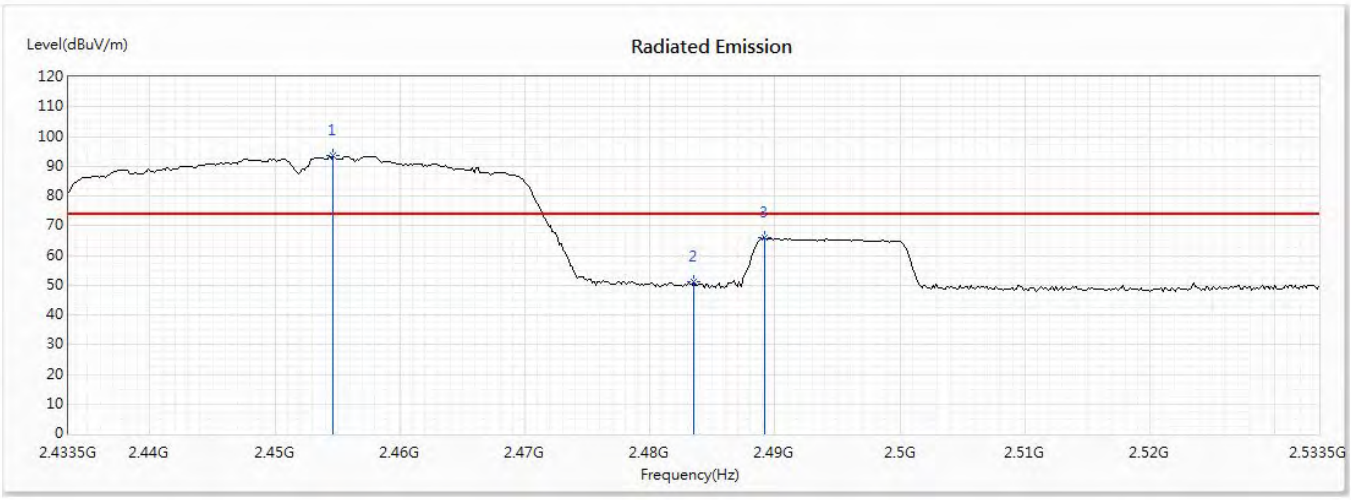
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2390	44.00	54.00	-10.00	30.54	13.46	AV
2	2400	52.45	--	--	38.96	13.49	AV
3	2423.623	91.60	--	--	78.00	13.60	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2452MHz)
Test Date : 2020/09/11

Horizontal



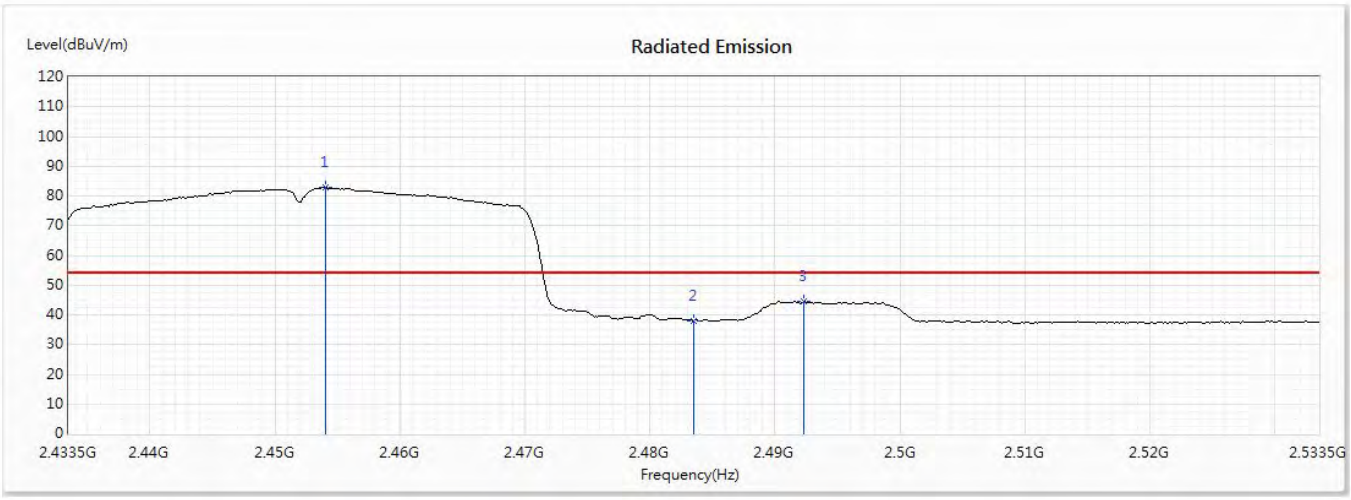
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2454.659	93.80	--	--	80.05	13.75	PK
2	2483.5	51.16	74.00	-22.84	37.24	13.92	PK
3	2489.152	65.98	74.00	-8.02	52.00	13.98	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2452MHz)
Test Date : 2020/09/11

Horizontal



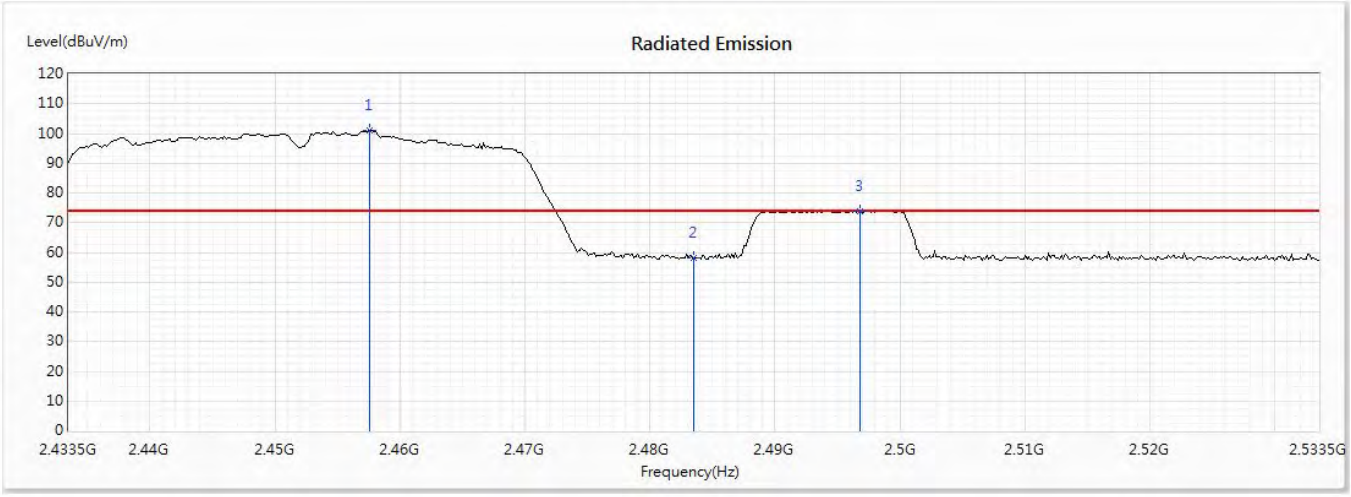
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2454.08	82.81	--	--	69.06	13.75	AV
2	2483.5	38.09	54.00	-15.91	24.17	13.92	AV
3	2492.341	44.45	54.00	-9.55	30.46	13.99	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2452MHz)
Test Date : 2020/09/10

Vertical



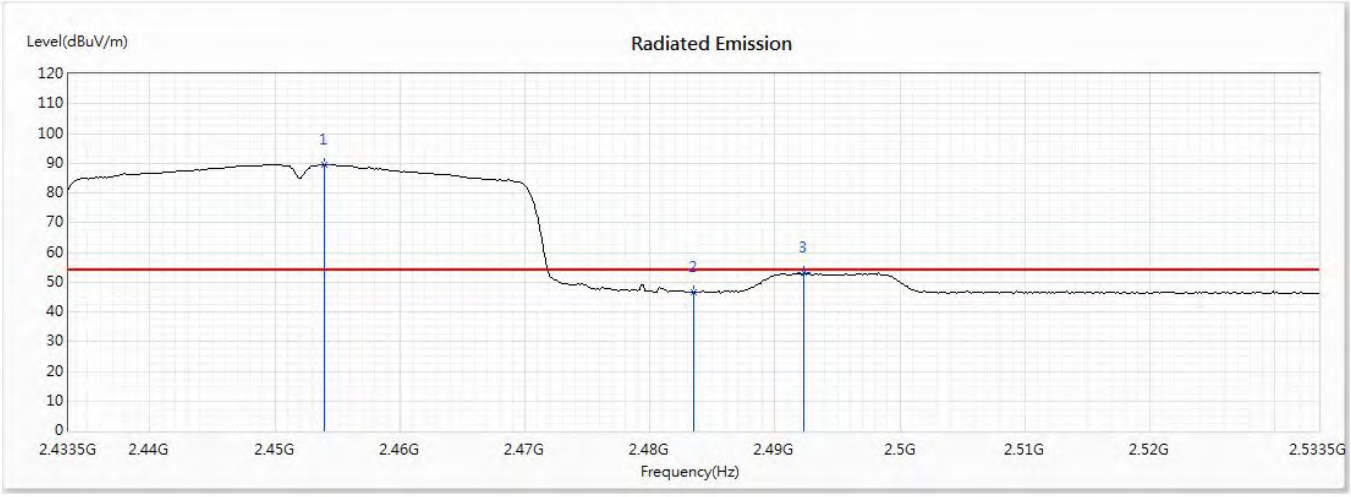
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2457.558	100.87	--	--	87.10	13.77	PK
2	2483.5	58.05	74.00	-15.95	44.13	13.92	PK
3	2496.833	73.92	74.00	-0.08	59.90	14.02	PK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n-40MBW) (2452MHz)
Test Date : 2020/09/10

Vertical



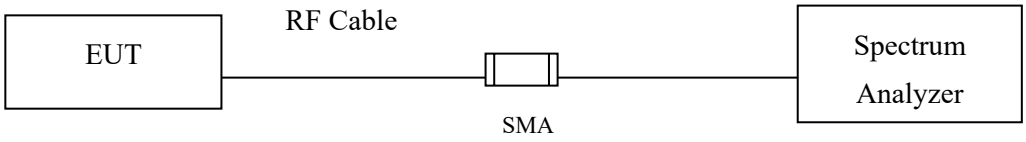
No	Frequency (MHz)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Reading Level (dBμV)	Correct Factor (dB/m)	Detector Type
1	2453.935	89.56	--	--	75.81	13.75	AV
2	2483.5	46.62	54.00	-7.38	32.70	13.92	AV
3	2492.341	53.02	54.00	-0.98	39.03	13.99	AV

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Emission 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 Outdoor Router
Test Item : 6dB Bandwidth Data
Test Mode : Mode 1: Transmit (802.11b)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	9200	>500	Pass
06	2437	9200	>500	Pass
11	2462	9600	>500	Pass

Figure Channel 01:

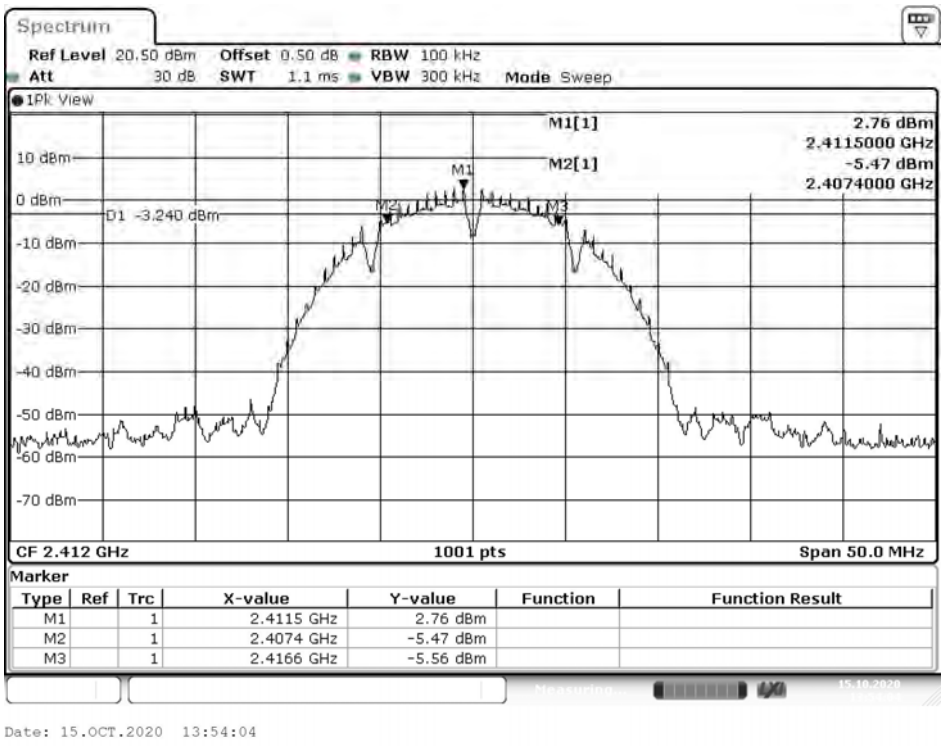


Figure Channel 06:

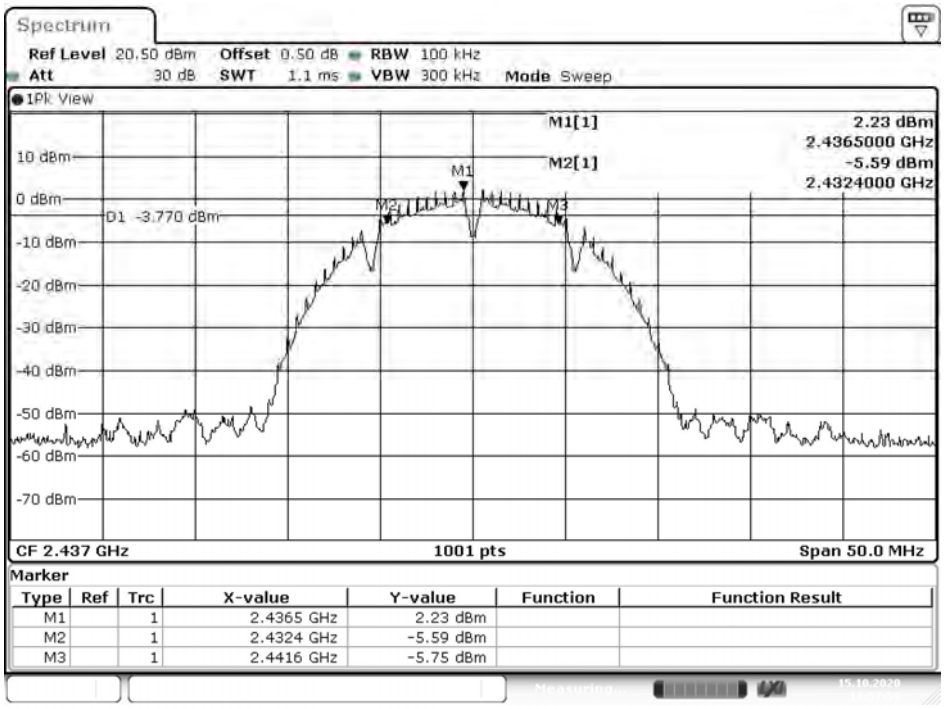
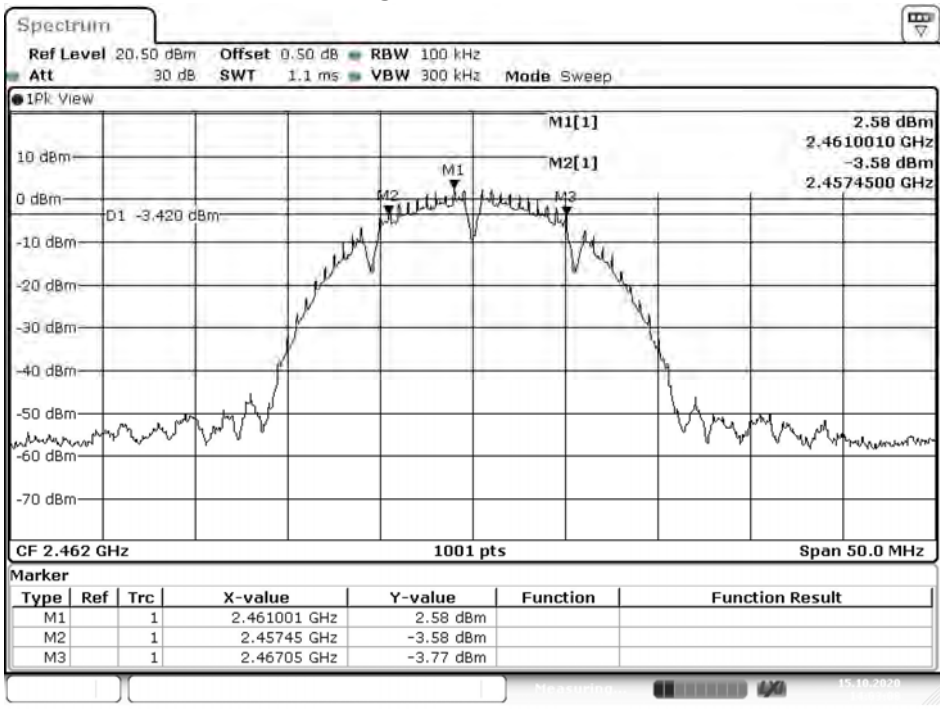


Figure Channel 11:



Product : Wireless Outdoor Router
Test Item : 6dB Bandwidth Data
Test Mode : Mode 2: Transmit (802.11g)

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

Figure Channel 01

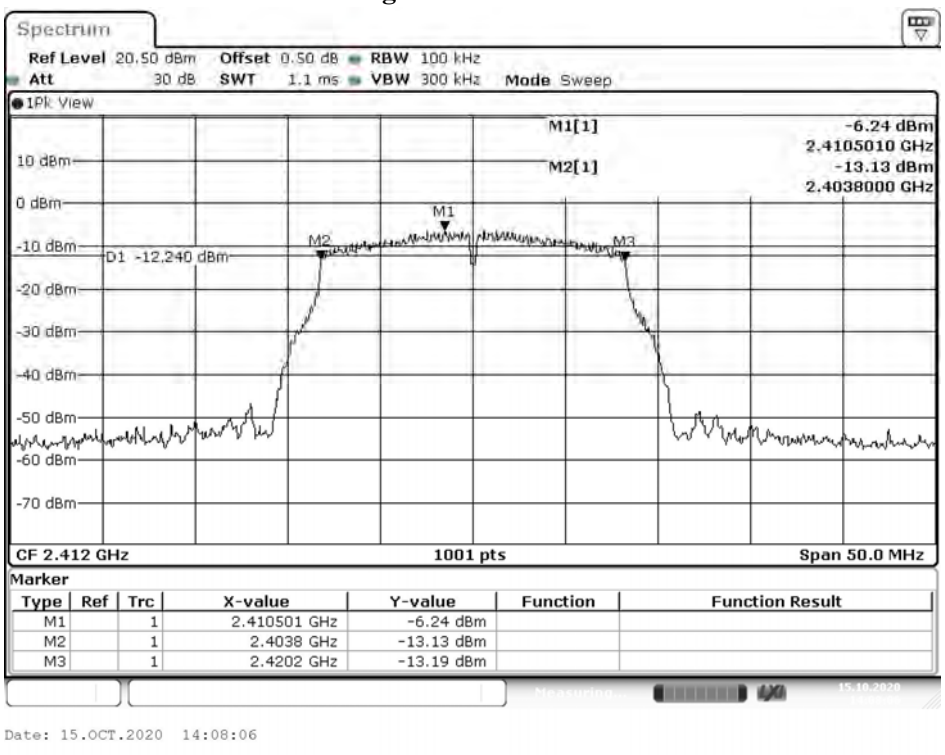
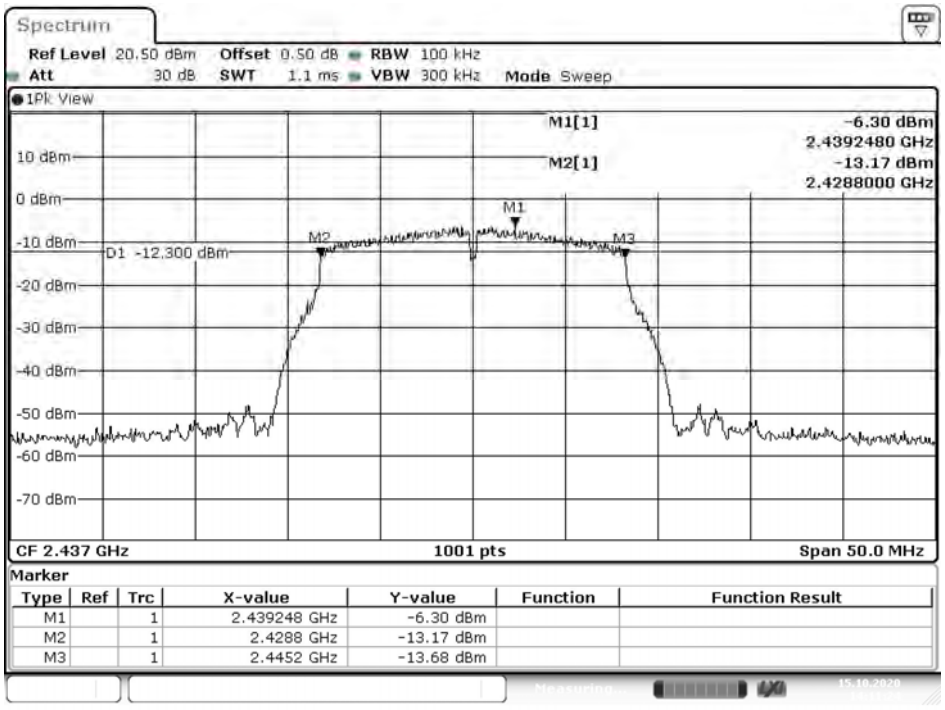
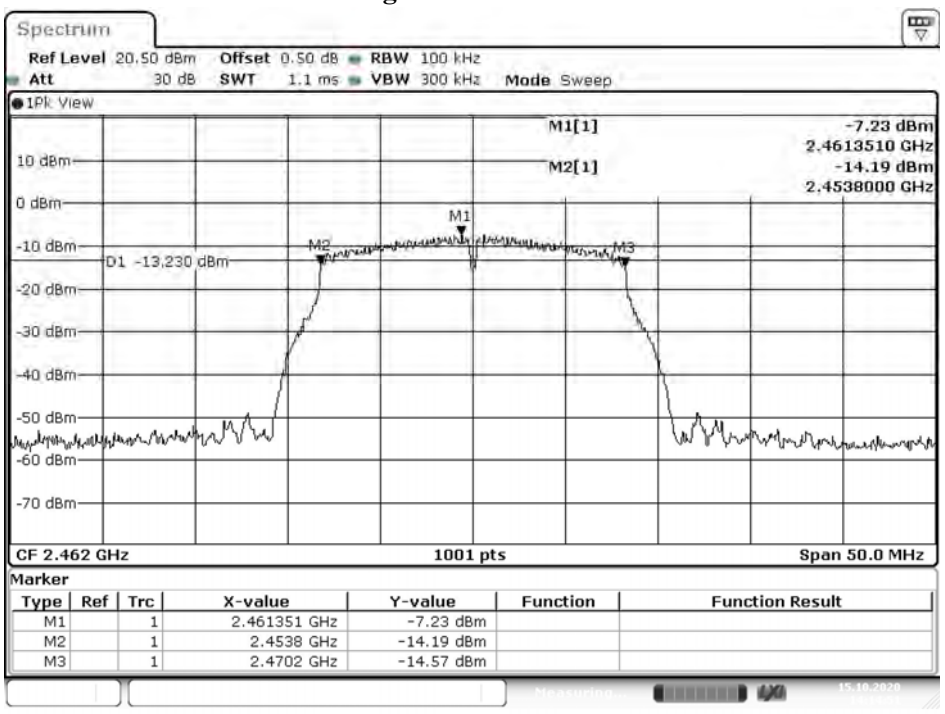


Figure Channel 06



Date: 15.OCT.2020 14:11:24

Figure Channel 11



Date: 15.OCT.2020 14:14:52

Product : Wireless Outdoor Router
Test Item : 6dB Bandwidth Data
Test Mode : Mode 3: Transmit (802.11n-20MBW)

Channel No.	Frequency (MHz)	Chain	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	A	17150	>500	Pass
06	2437	A	17150	>500	Pass
11	2462	A	16600	>500	Pass
01	2412	B	17650	>500	Pass
06	2437	B	16400	>500	Pass
11	2462	B	17650	>500	Pass

Figure Channel 01: (Chain A)

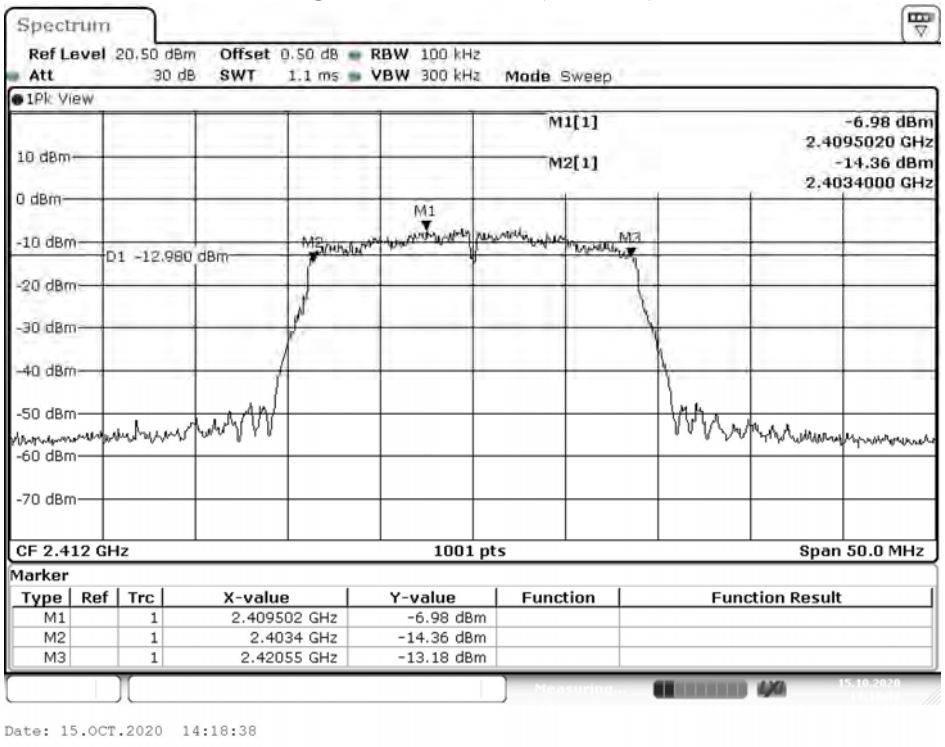
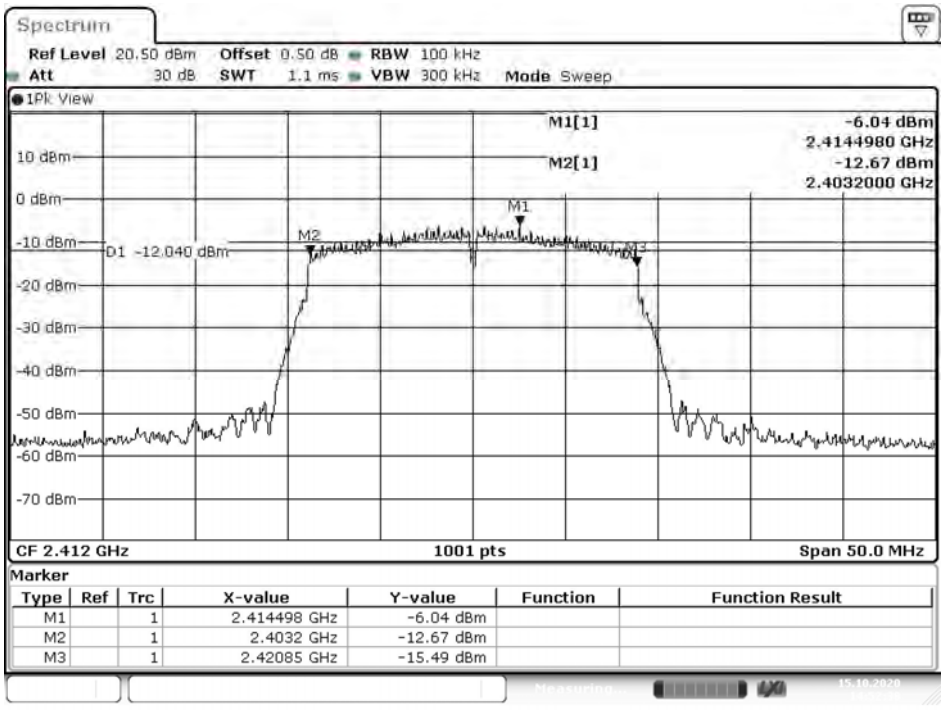
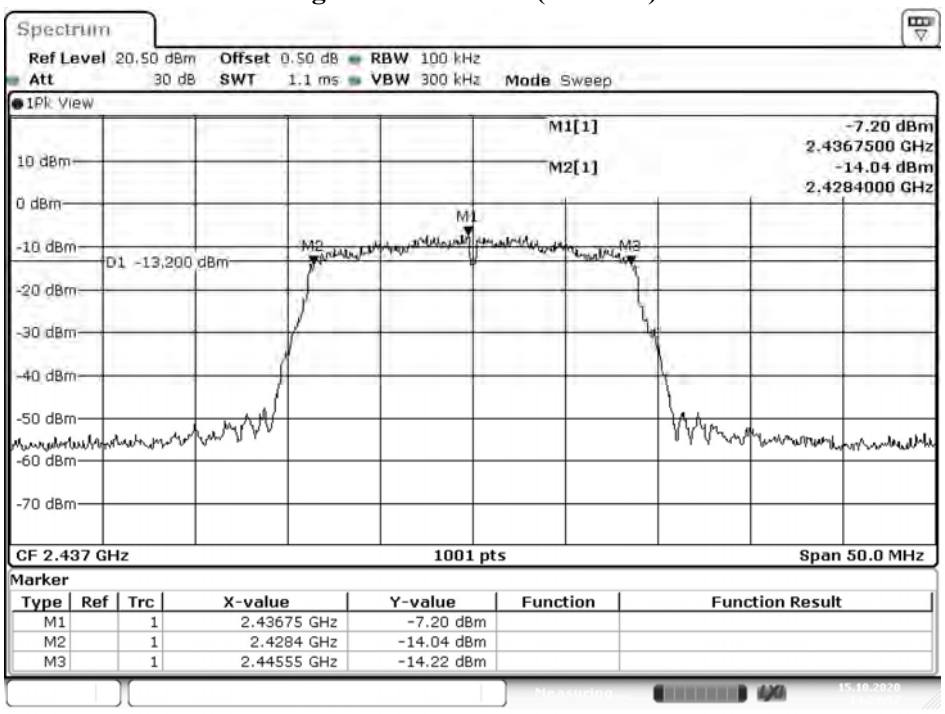


Figure Channel 01: (Chain B)



Date: 15.OCT.2020 14:52:38

Figure Channel 06: (Chain A)



Date: 15.OCT.2020 14:23:58

Figure Channel 06: (Chain B)

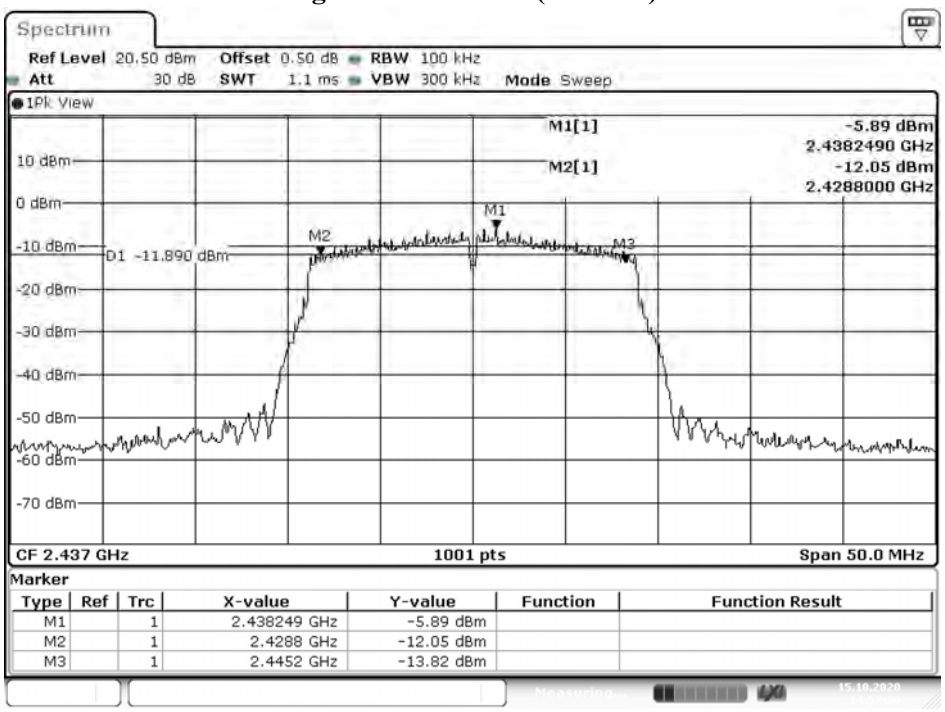


Figure Channel 11: (Chain A)

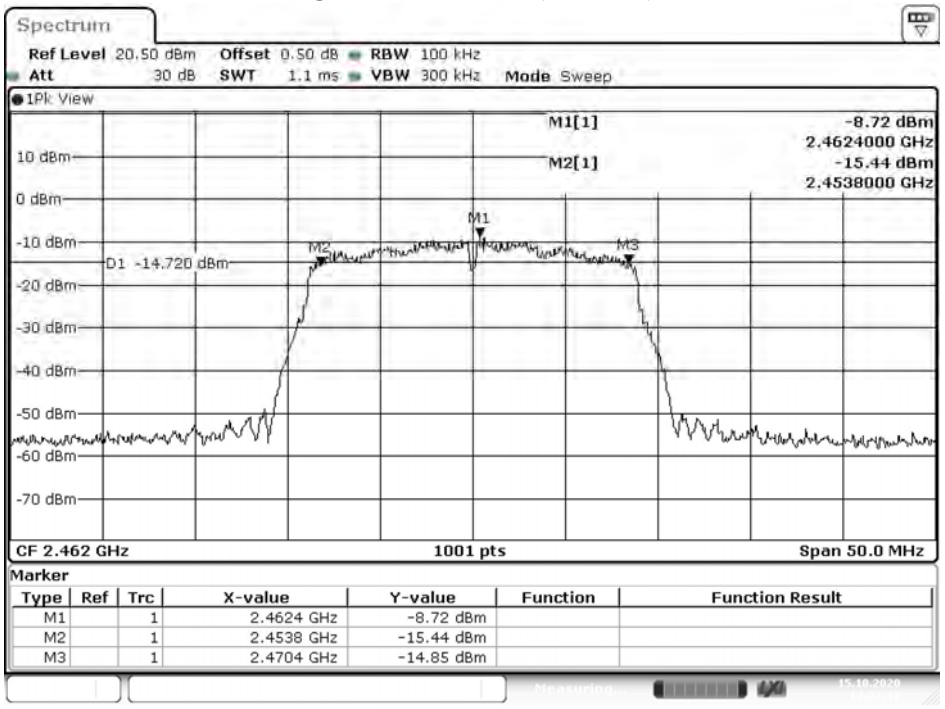
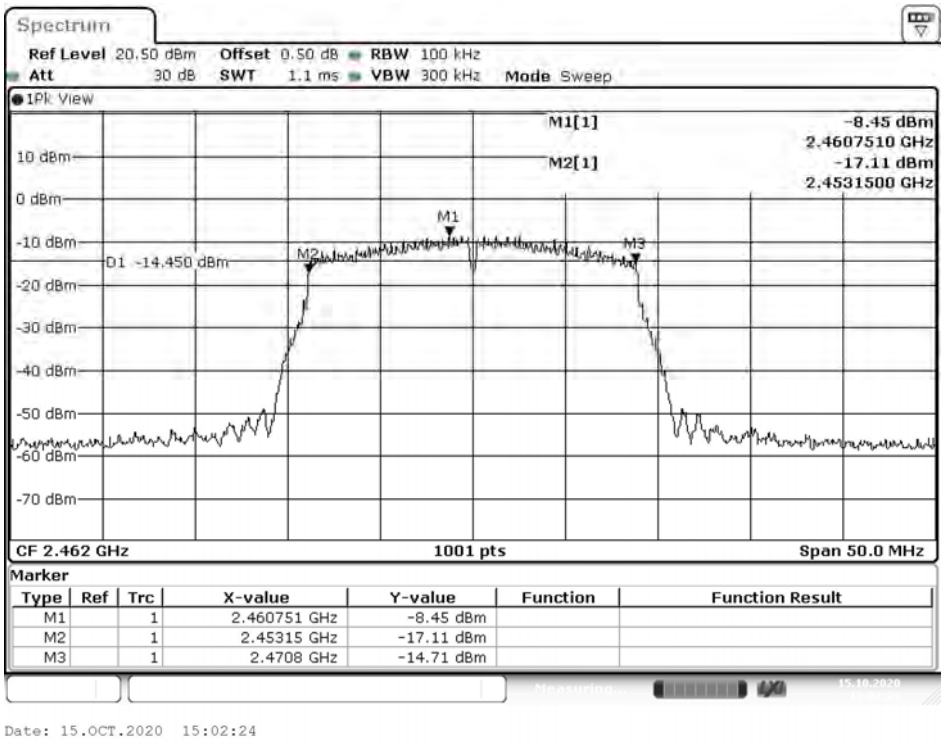


Figure Channel 11: (Chain B)



Product : Wireless Outdoor Router
Test Item : 6dB Bandwidth Data
Test Mode : Mode 4: Transmit (802.11n-40MBW)

Channel No.	Frequency (MHz)	Chain	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	A	36200	>500	Pass
06	2437	A	35900	>500	Pass
09	2452	A	36000	>500	Pass
03	2422	B	35200	>500	Pass
06	2437	B	35200	>500	Pass
09	2452	B	35200	>500	Pass

Figure Channel 03: (Chain A)

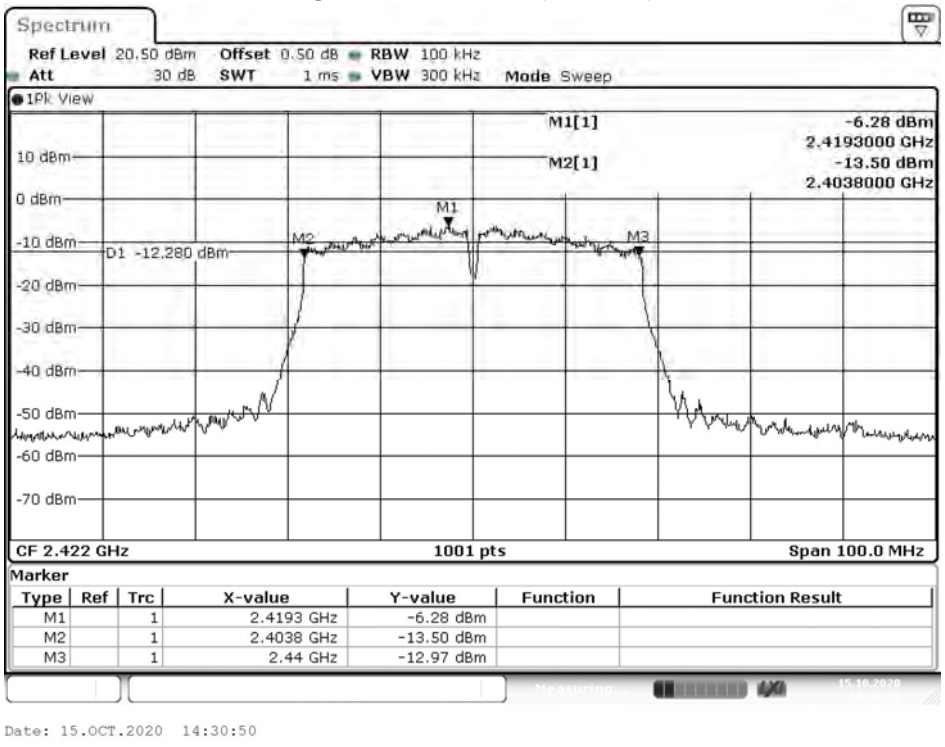
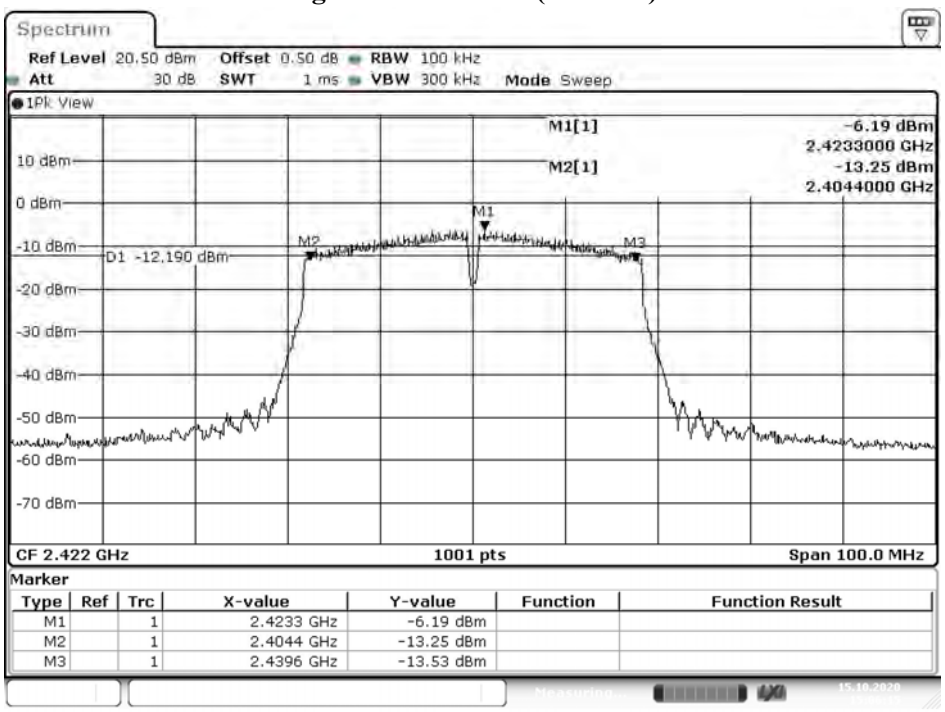
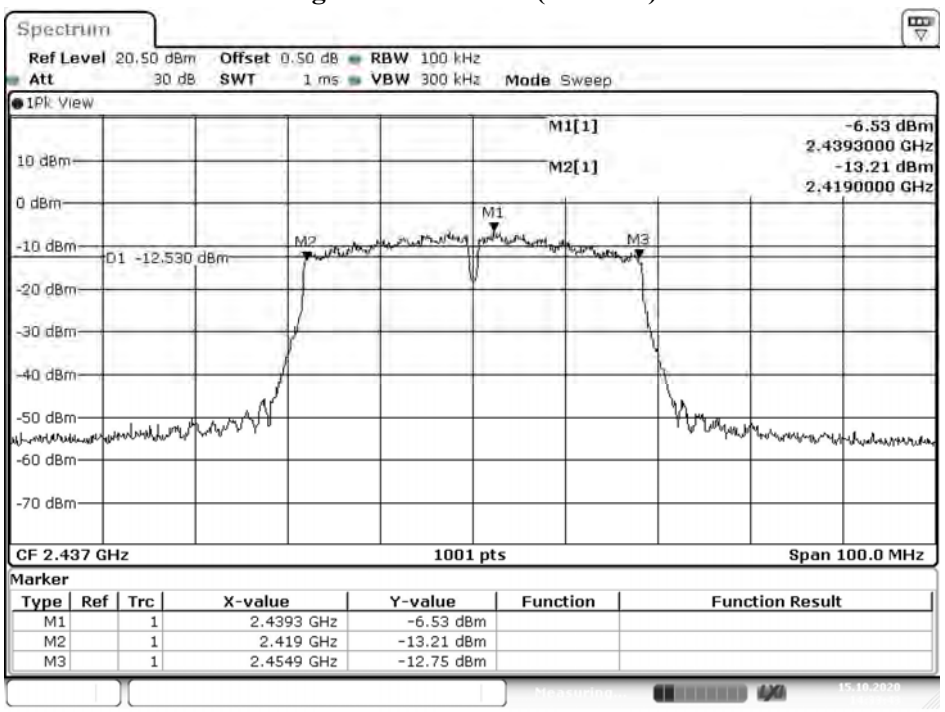


Figure Channel 03: (Chain B)



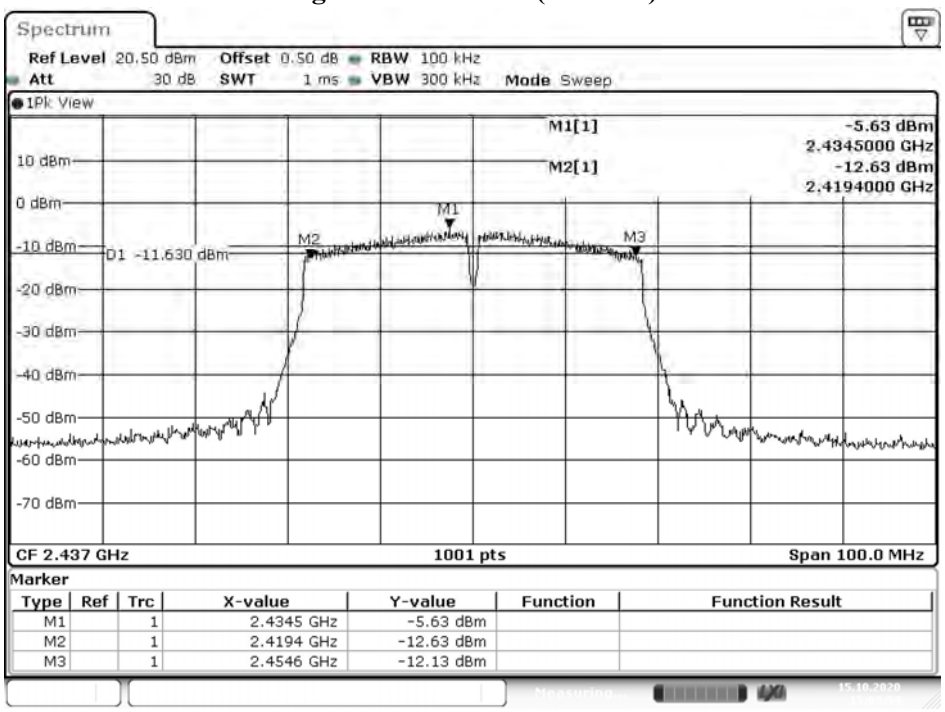
Date: 15.OCT.2020 15:06:16

Figure Channel 06: (Chain A)



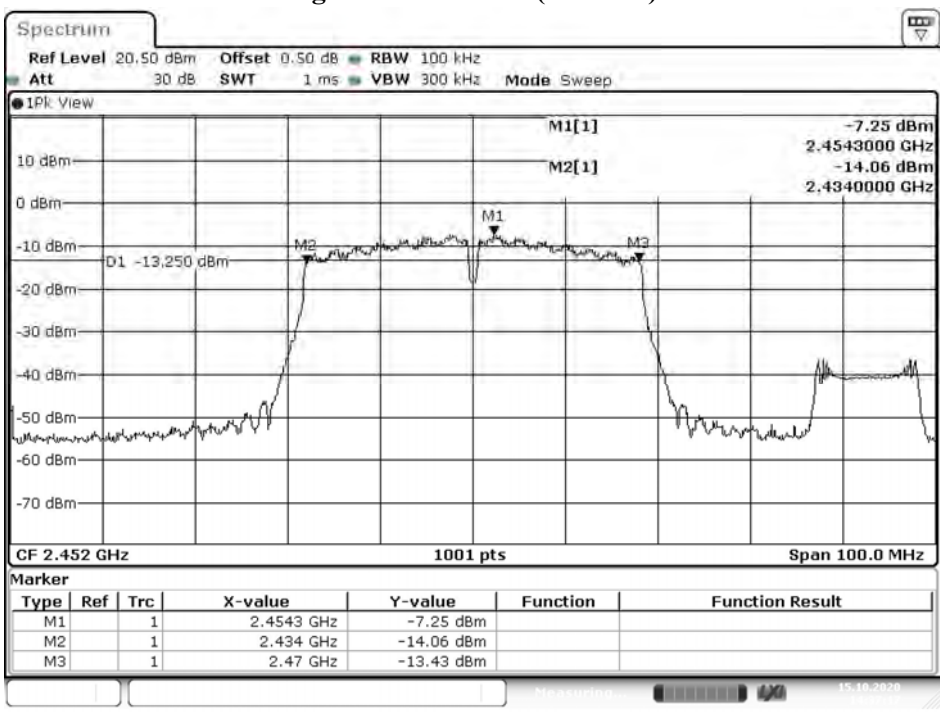
Date: 15.OCT.2020 14:33:43

Figure Channel 06: (Chain B)



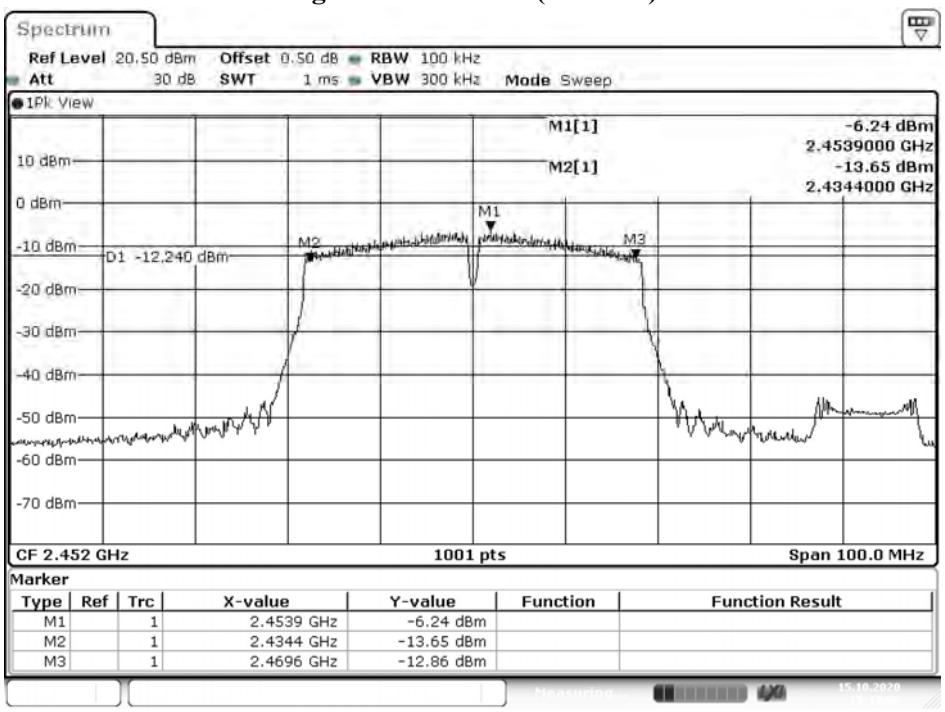
Date: 15.OCT.2020 15:09:55

Figure Channel 09: (Chain A)



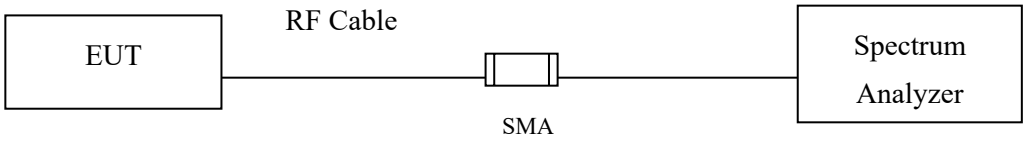
Date: 15.OCT.2020 14:37:18

Figure Channel 09: (Chain B)



8. Power Density

8.1. Test Setup



8.2. Limits

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

8.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.
The maximum power spectral density using C63.10 Section 11.10.2 Method PKPSD (peak PSD)

8.4. Test Result of Power Density

Product : Wireless Outdoor Router
Test Item : Power Density Data
Test Mode : Mode 1: Transmit (802.11b)

Channel No.	Frequency (MHz)	PPSD/MHz (dBm)	Duty Factor (dB)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412	2.810	0.03	2.84	≦8dBm	Pass
06	2437	2.570	0.03	2.60	≦8dBm	Pass
11	2462	2.800	0.03	2.83	≦8dBm	Pass

Figure Channel 01:

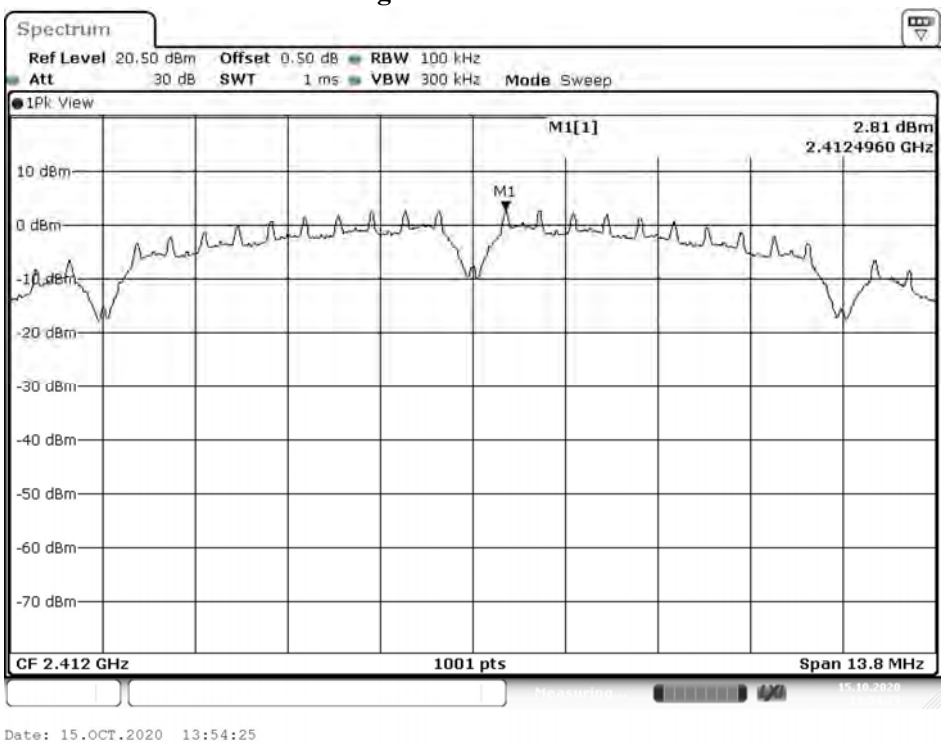


Figure Channel 06:

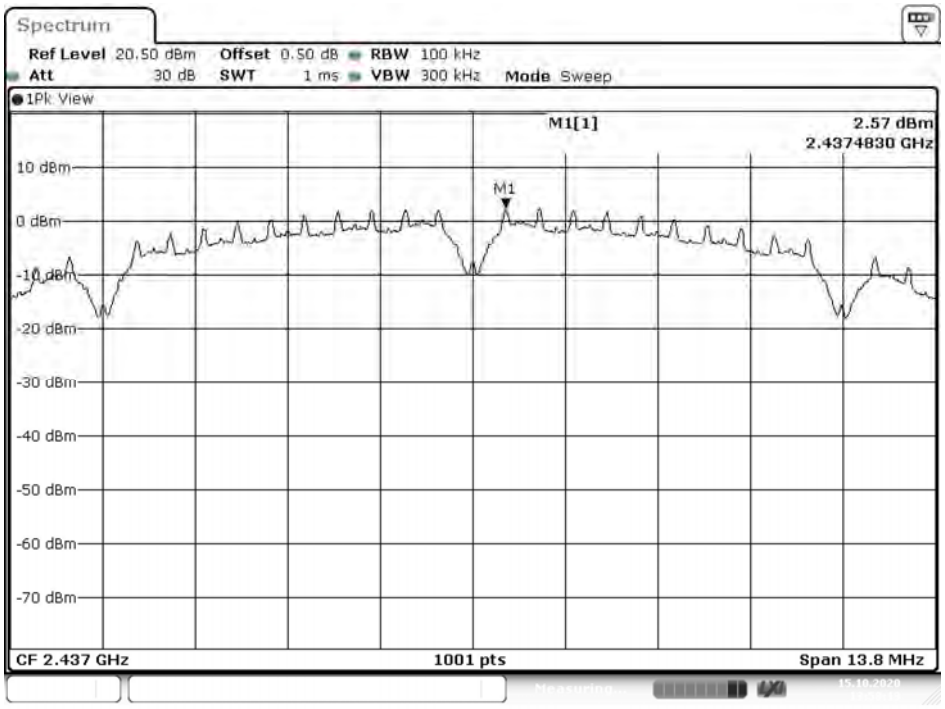
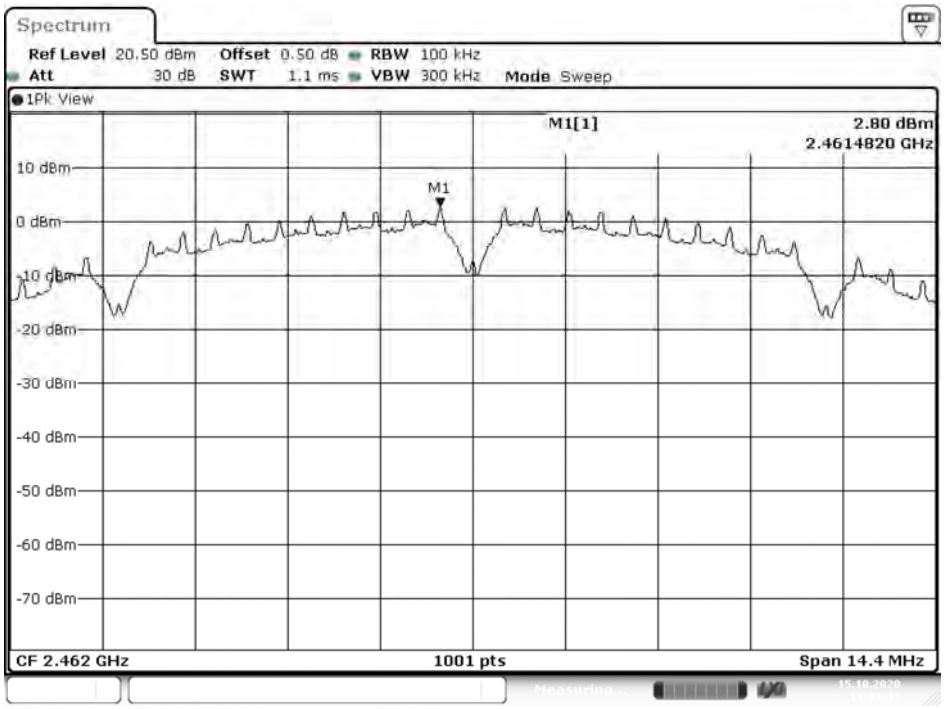


Figure Channel 11:



Product : Wireless Outdoor Router
Test Item : Power Density Data
Test Mode : Mode 2: Transmit (802.11g)

Channel No.	Frequency (MHz)	PPSD/MHz (dBm)	Duty Factor (dB)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412	-6.160	0.33	-5.83	≦8dBm	Pass
06	2437	-6.400	0.33	-6.07	≦8dBm	Pass
11	2462	-7.310	0.33	-6.98	≦8dBm	Pass

Figure Channel 01:

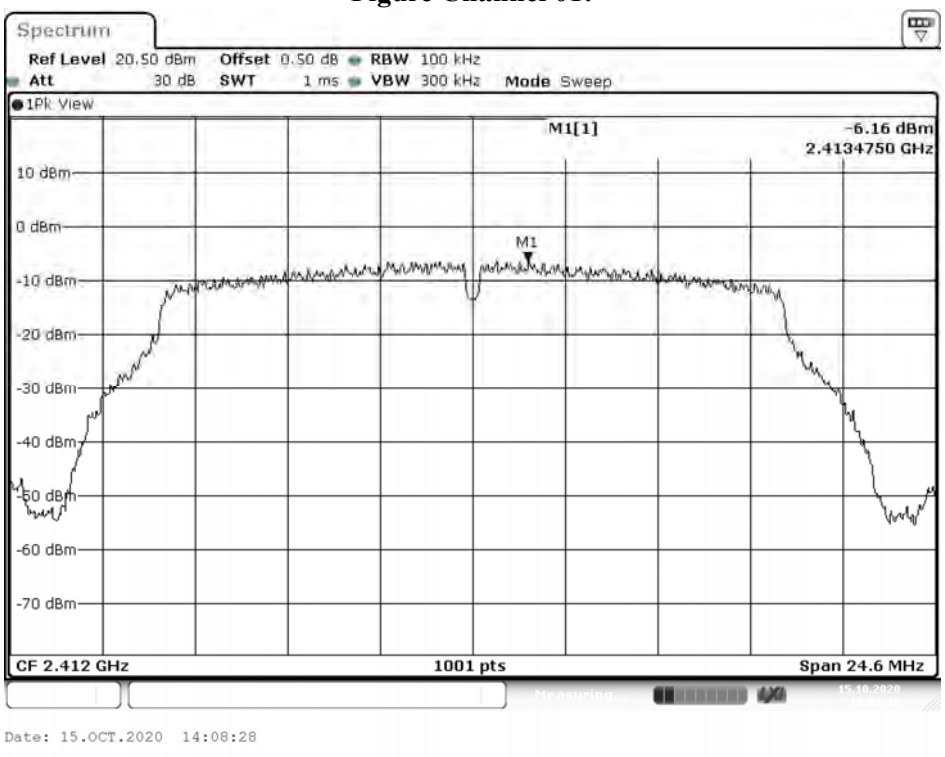


Figure Channel 06:

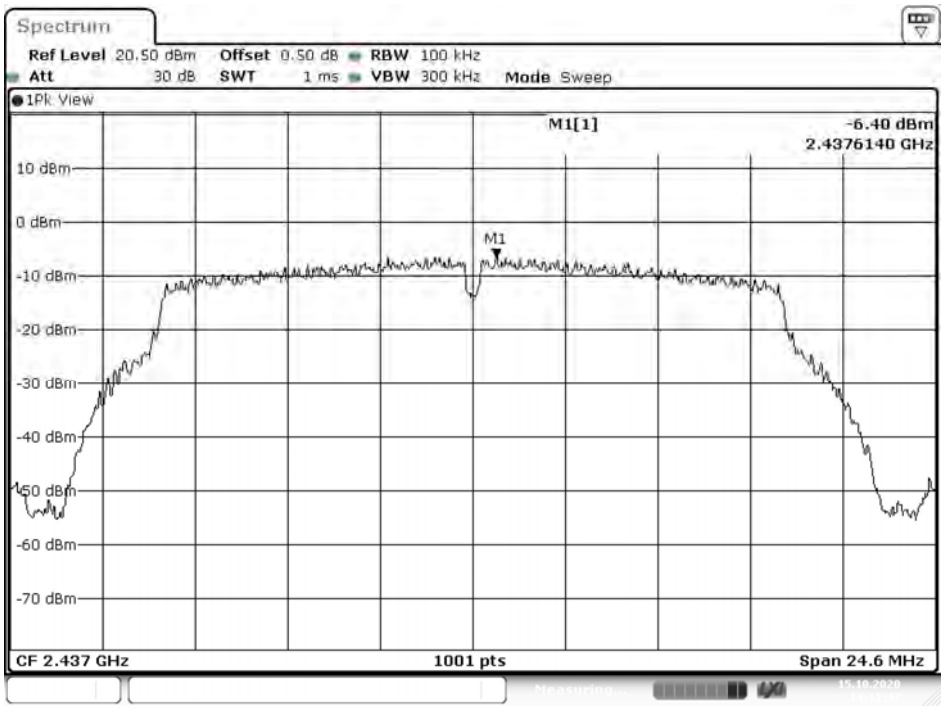
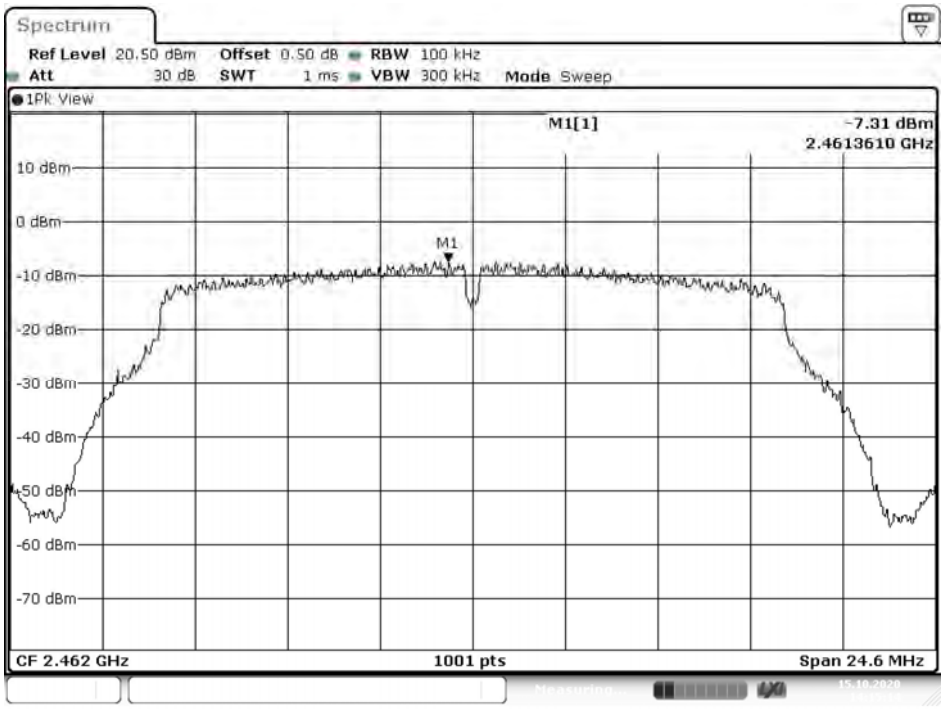


Figure Channel 11:



Product : Wireless Outdoor Router
Test Item : Power Density Data
Test Mode : Mode 3: Transmit (802.11n-20MBW)

Channel No.	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Duty Factor (dB)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412	A	-6.770	0.900	-2.860	≦8dBm	Pass
		B	-6.360	0.900	-2.450	≦8dBm	Pass
06	2437	A	-7.390	0.900	-3.480	≦8dBm	Pass
		B	-6.360	0.900	-2.450	≦8dBm	Pass
11	2462	A	-9.330	0.900	-5.420	≦8dBm	Pass
		B	-8.490	0.900	-4.580	≦8dBm	Pass

Note :

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

Figure Channel 01: (Chain A)

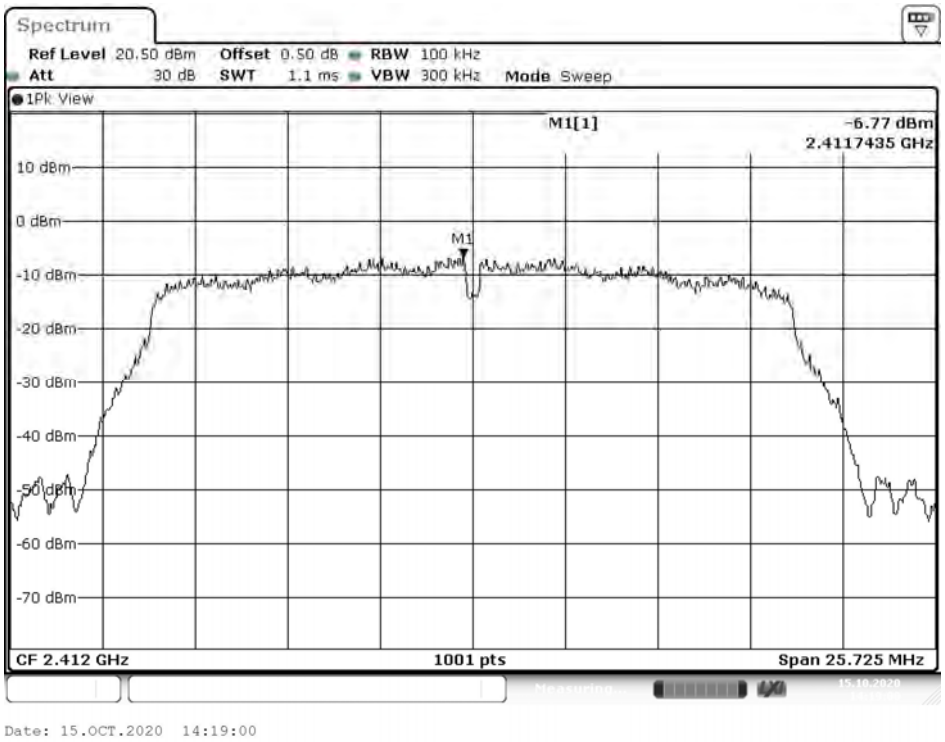


Figure Channel 01: (Chain B)

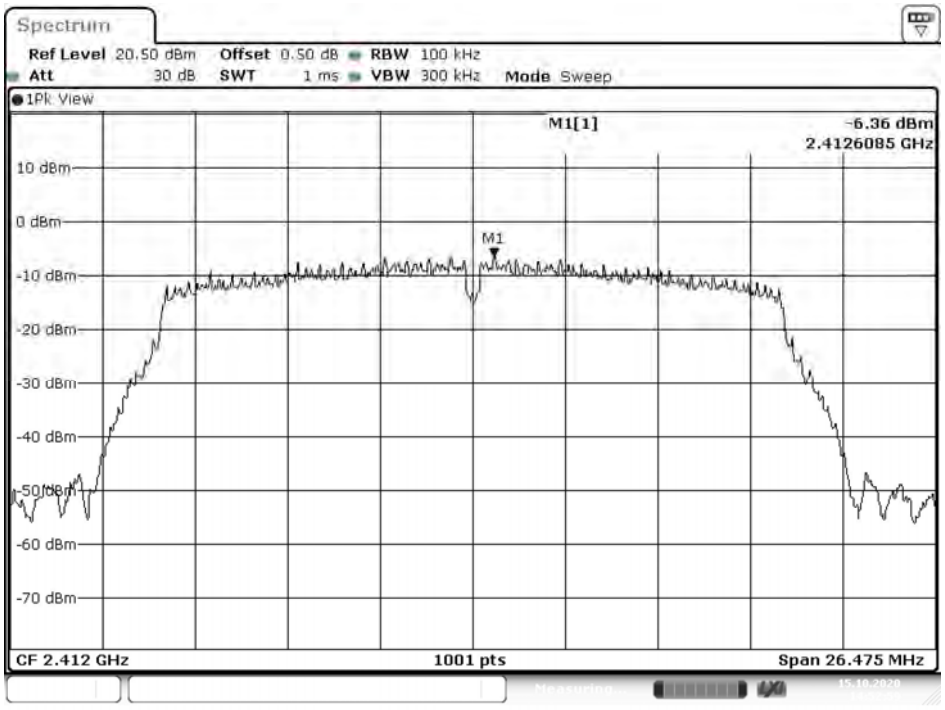


Figure Channel 06: (Chain A)

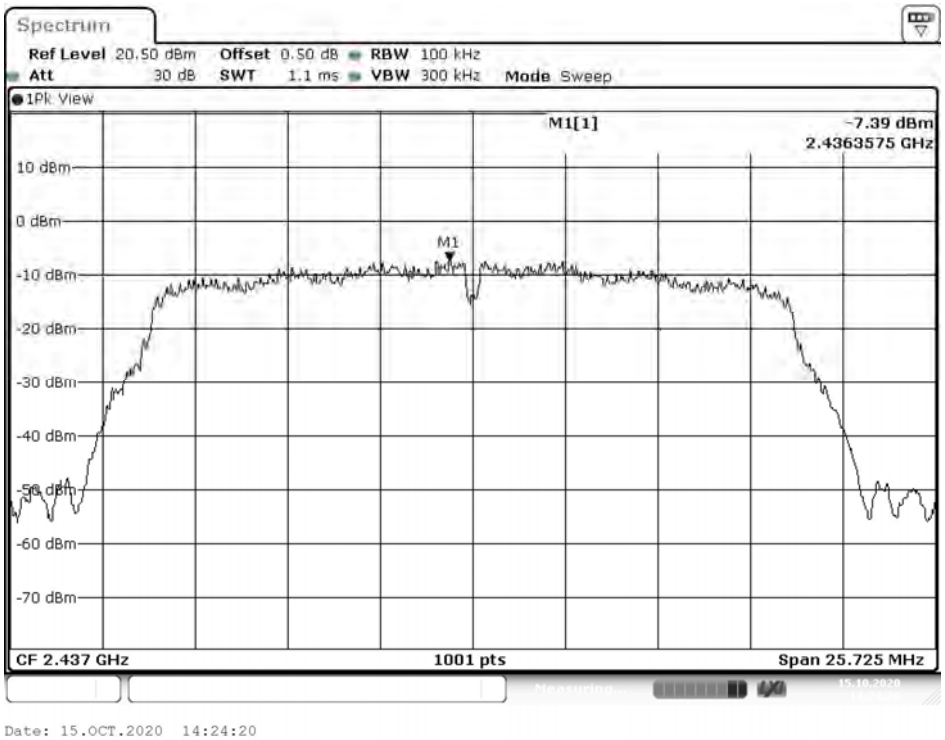


Figure Channel 06: (Chain B)

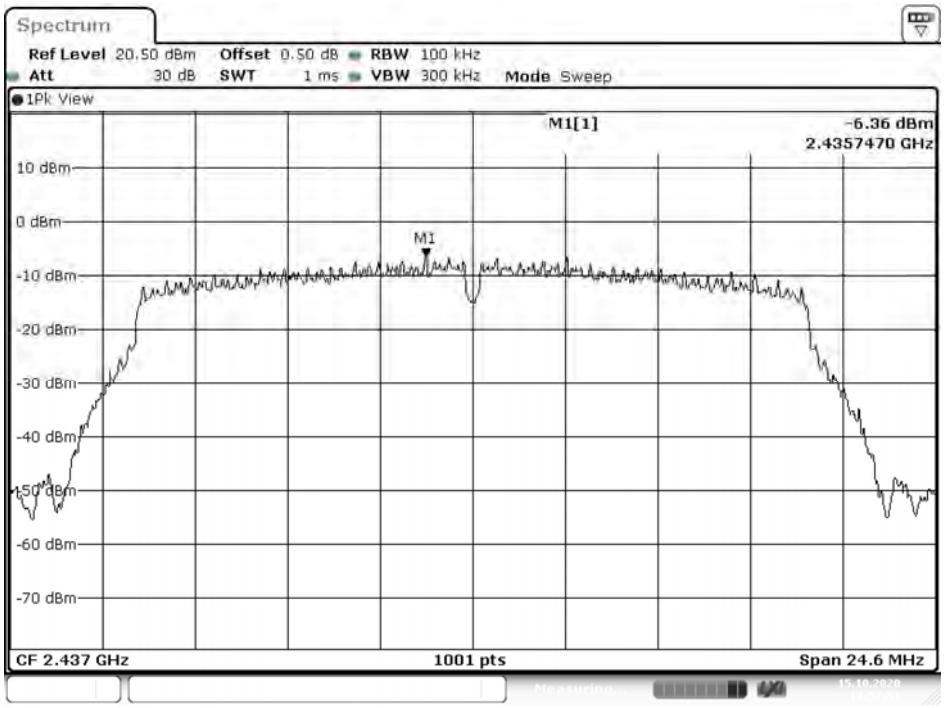


Figure Channel 11: (Chain A)

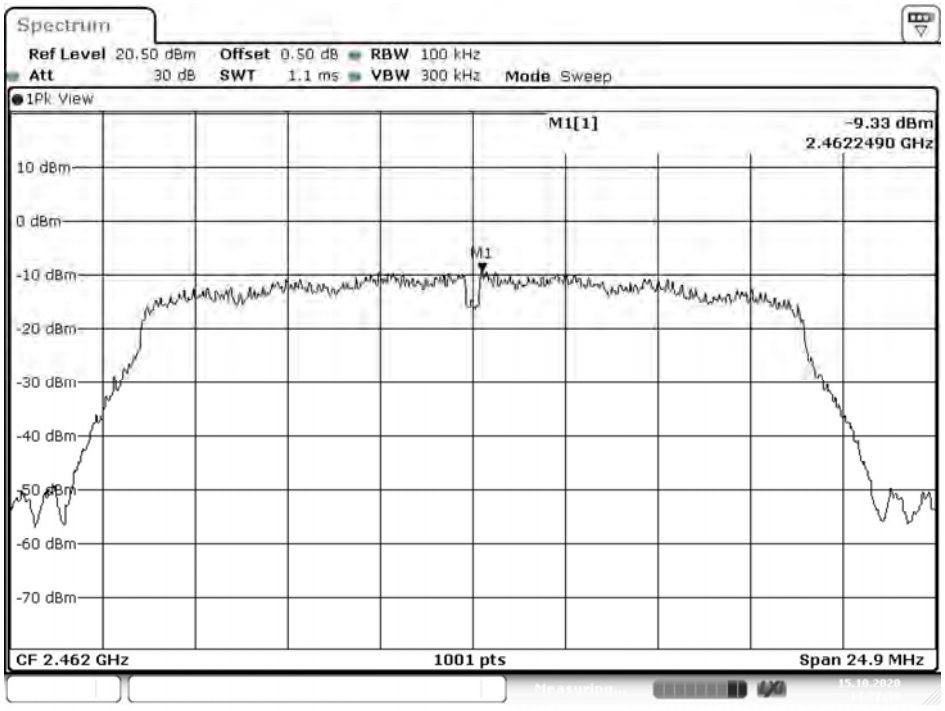
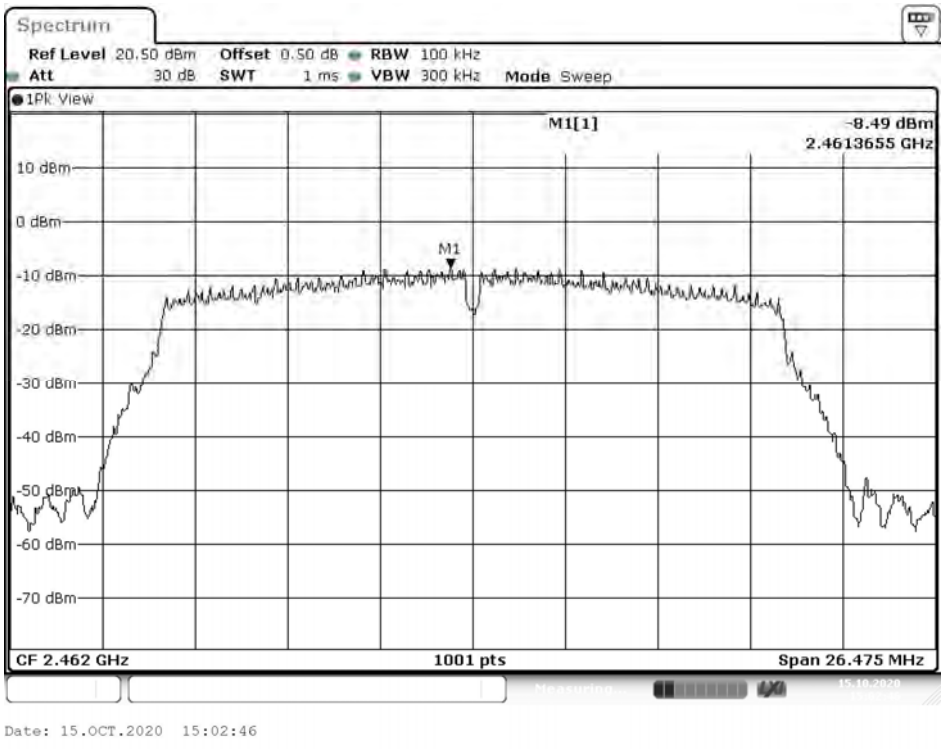


Figure Channel 11: (Chain B)



Product : Wireless Outdoor Router
Test Item : Power Density Data
Test Mode : Mode 4: Transmit (802.11n-40MBW)

Channel No.	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Duty Factor (dB)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
03	2422	A	-6.250	0.870	-2.370	≦8dBm	Pass
		B	-6.140	0.870	-2.260	≦8dBm	Pass
06	2437	A	-6.810	0.870	-2.930	≦8dBm	Pass
		B	-5.750	0.870	-1.870	≦8dBm	Pass
09	2452	A	-7.370	0.870	-3.490	≦8dBm	Pass
		B	-6.190	0.870	-2.310	≦8dBm	Pass

Note :

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

Figure Channel 03: (Chain A)

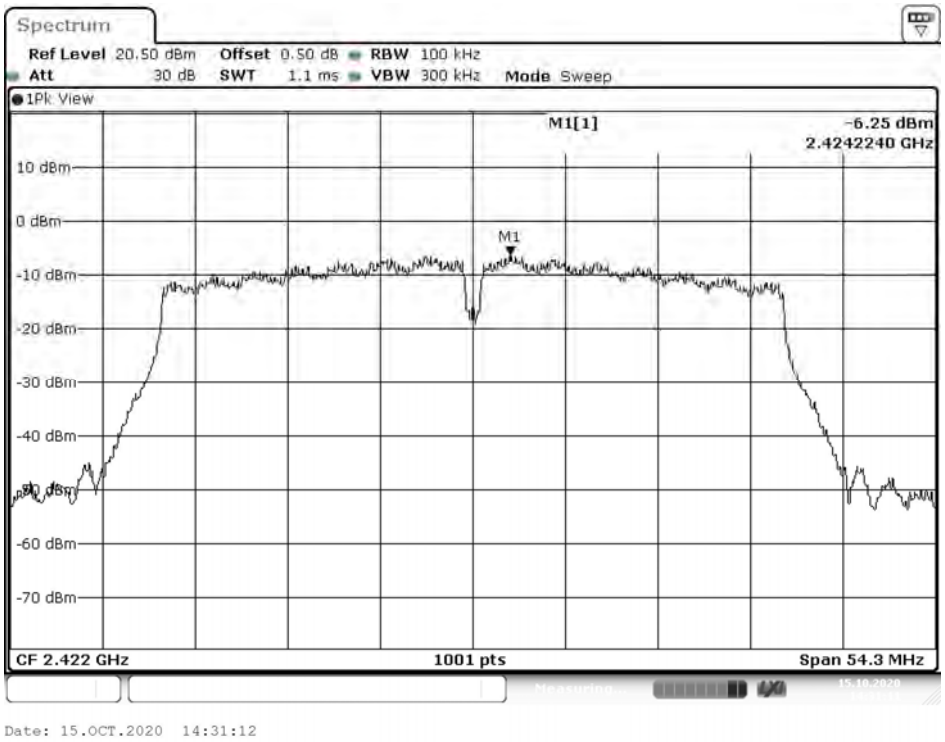
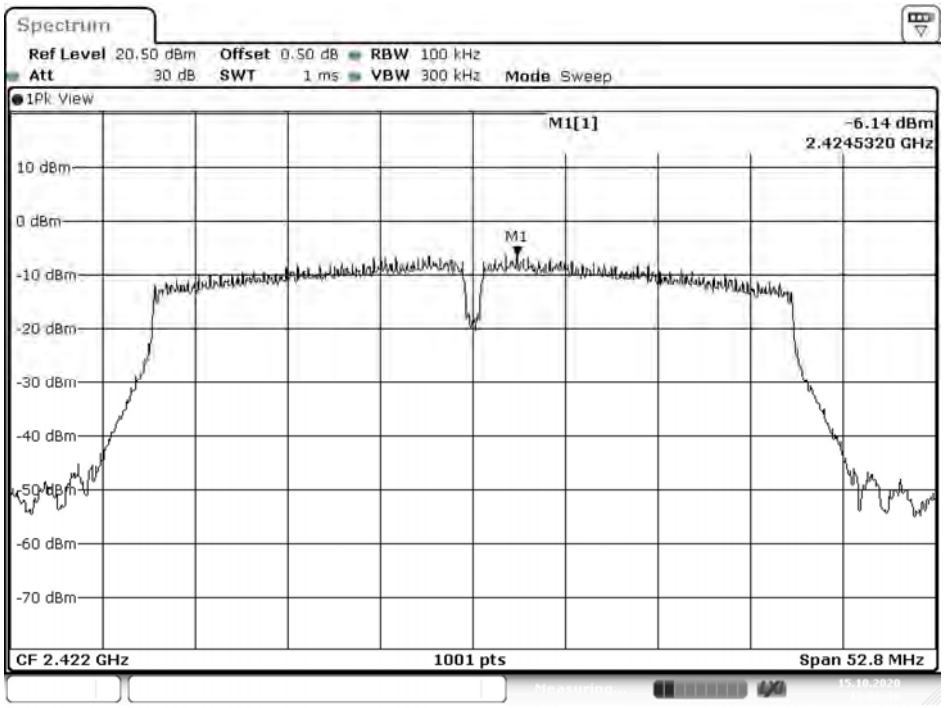
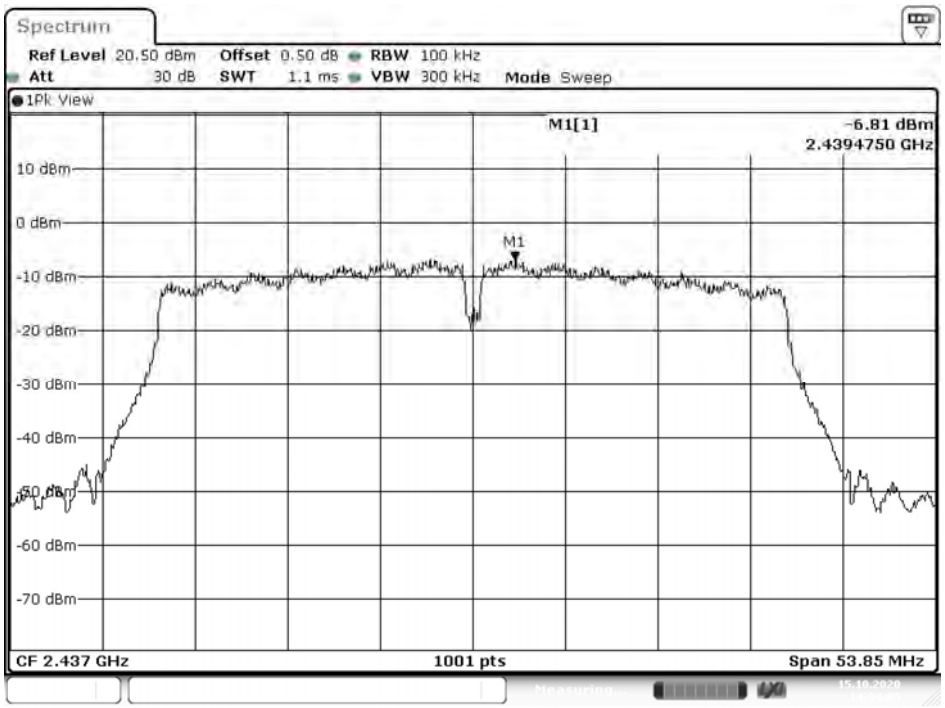


Figure Channel 03: (Chain B)



Date: 15.OCT.2020 15:06:38

Figure Channel 06: (Chain A)



Date: 15.OCT.2020 14:34:06

Figure Channel 06: (Chain B)

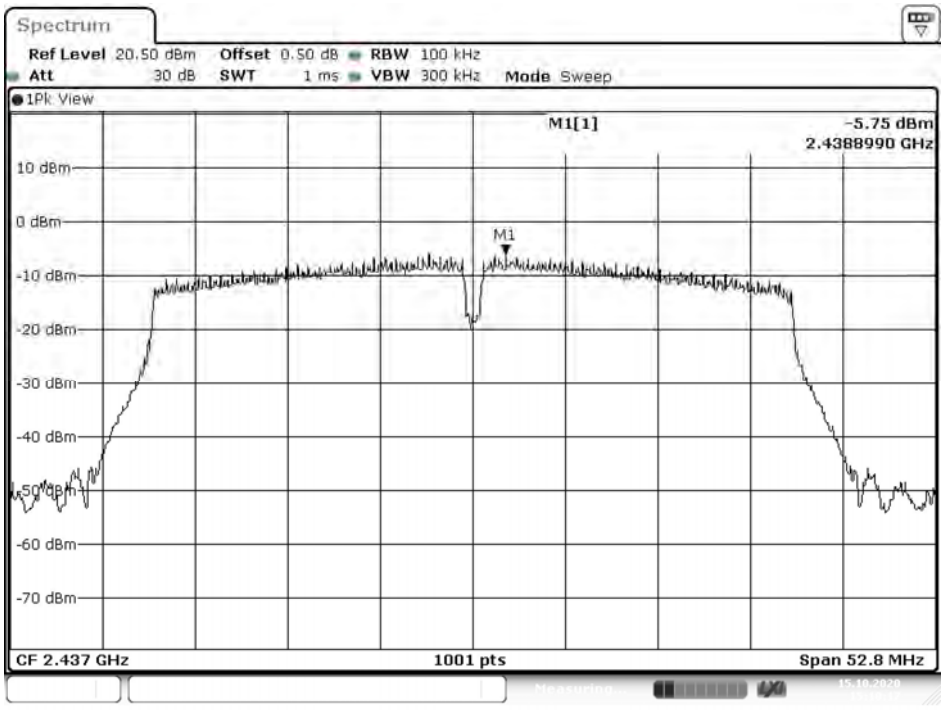


Figure Channel 09: (Chain A)

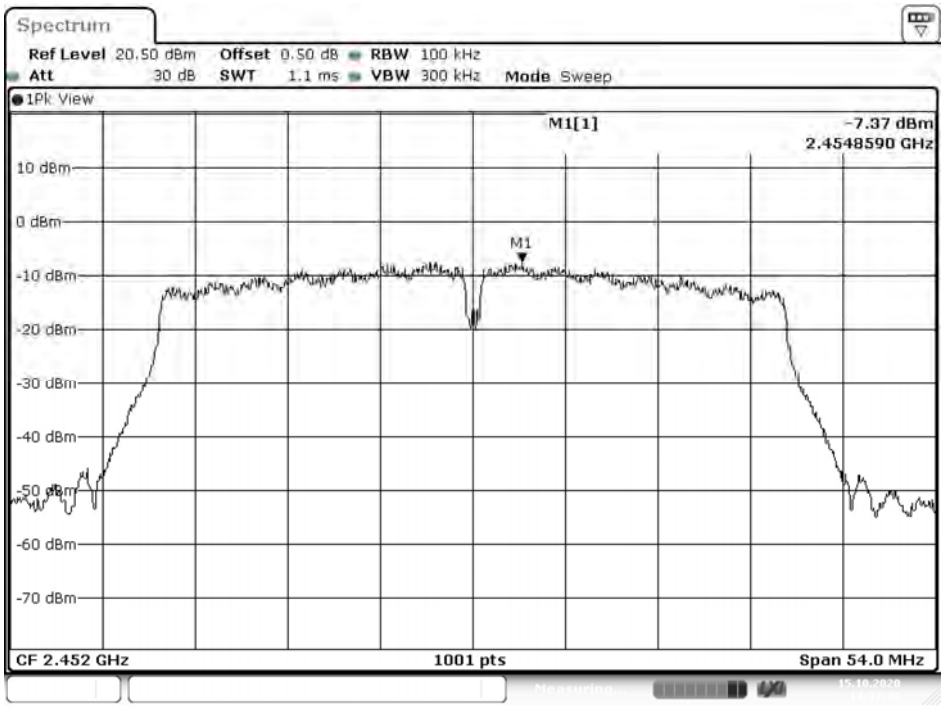
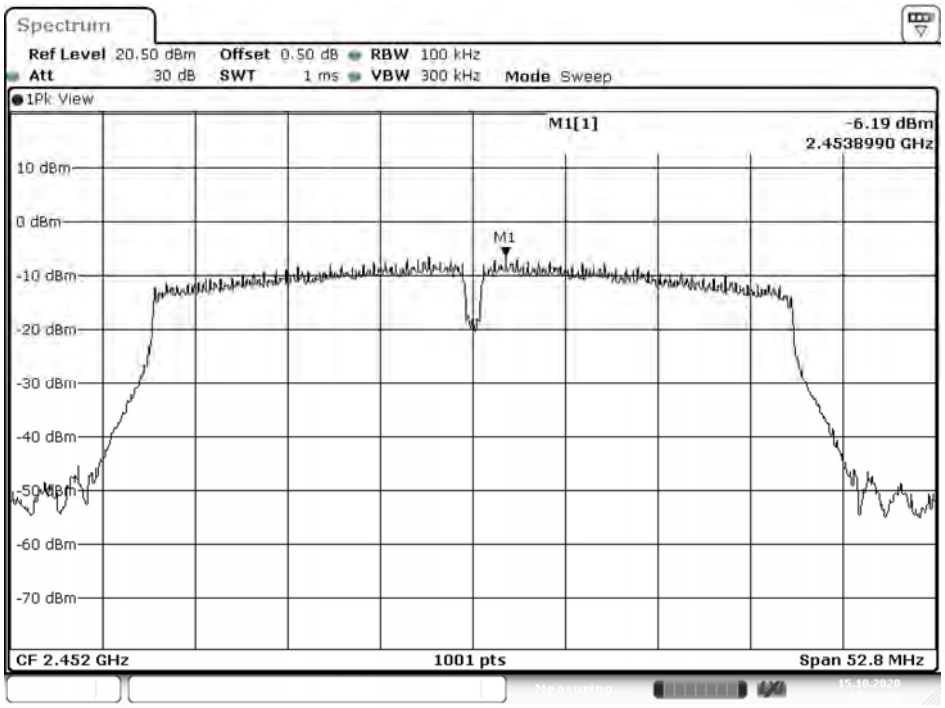
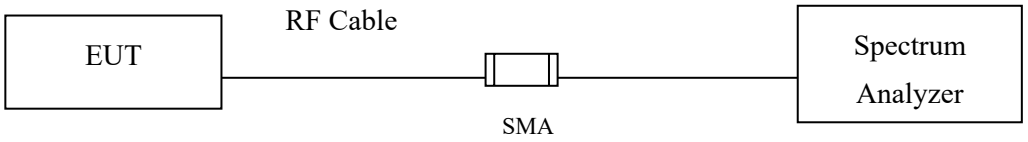


Figure Channel 09: (Chain B)



9. Duty Cycle

9.1. Test Setup



9.2. Test Procedure

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

9.3. Test Result of Duty Cycle

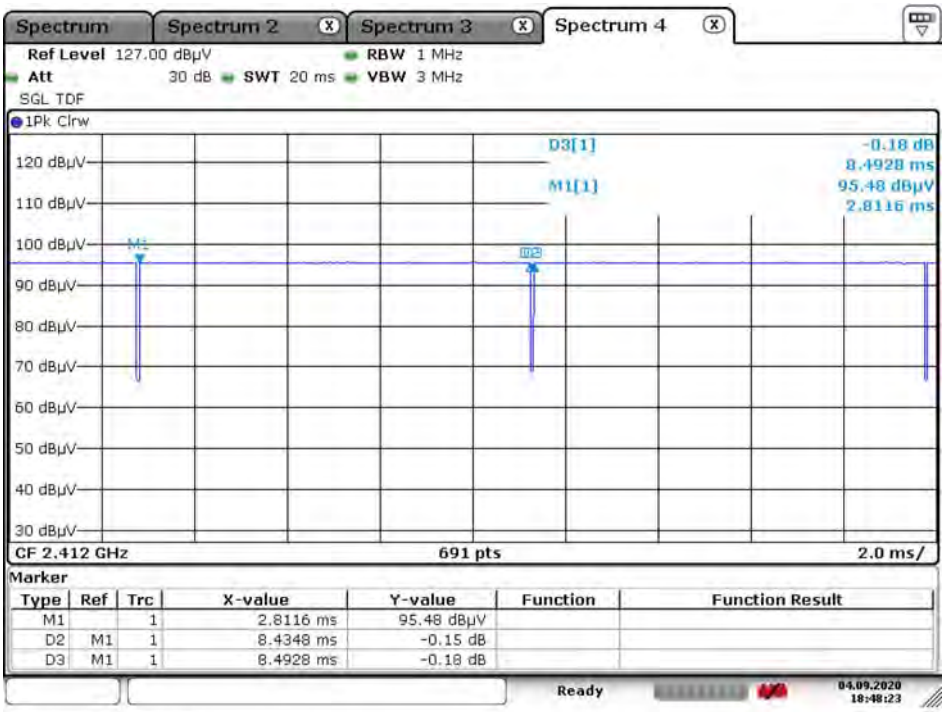
Product : Wireless Outdoor Router
Test Item : Duty Cycle
Test Mode : Transmit

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

Results:

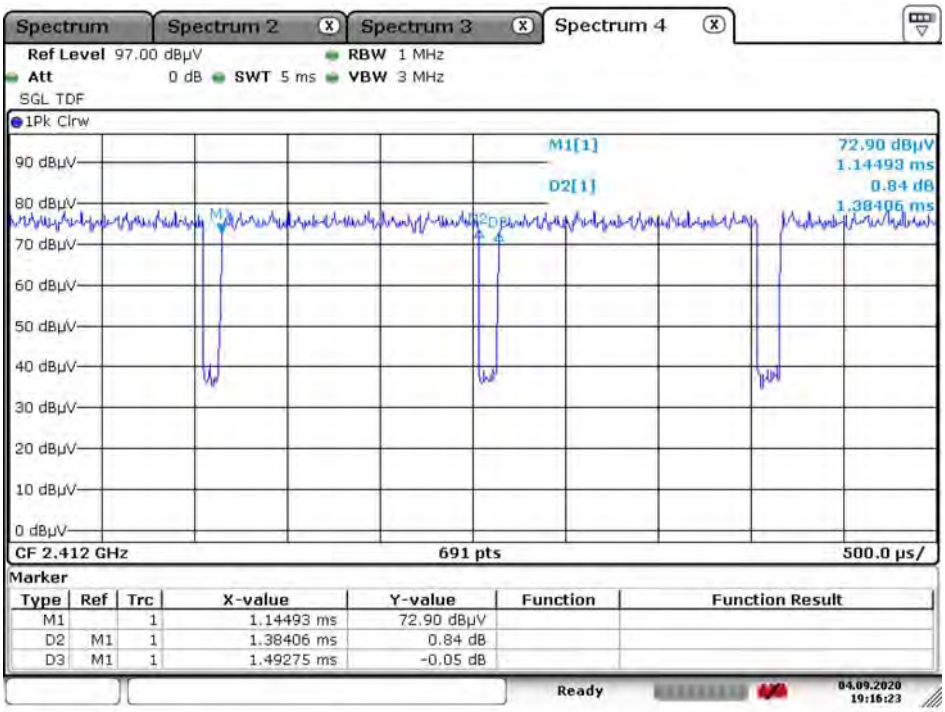
2.4GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11b	8.4348	8.4928	99.32	0.03
802.11g	1.3840	1.4927	92.72	0.33
802.11n20	0.6666	0.8202	81.27	0.90
802.11n40	0.3507	0.4289	81.77	0.87

802.11b



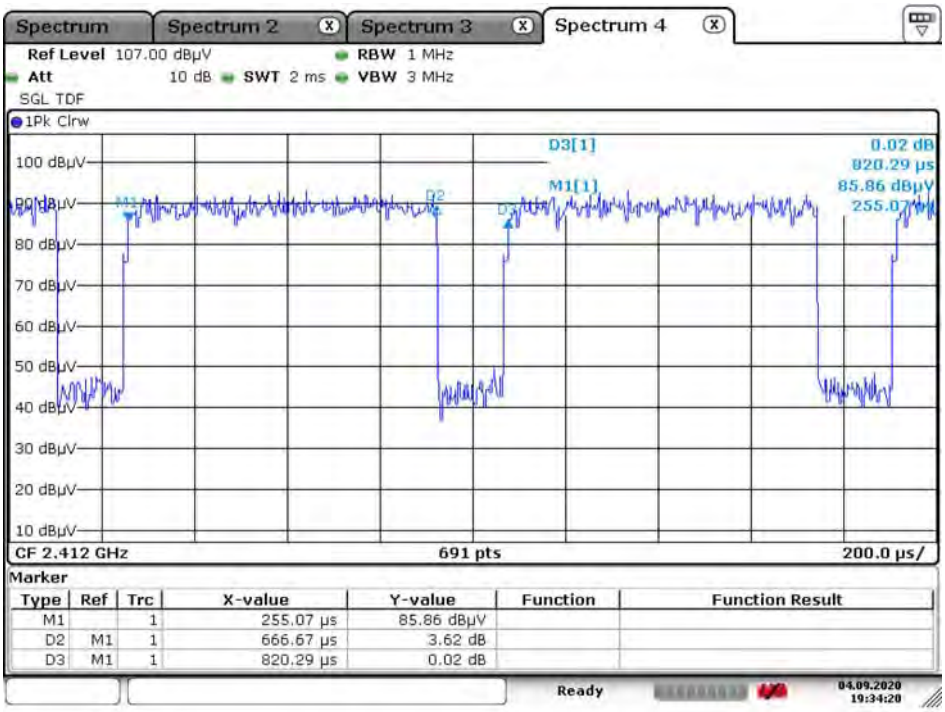
Date: 4.SEP.2020 18:48:23

802.11g



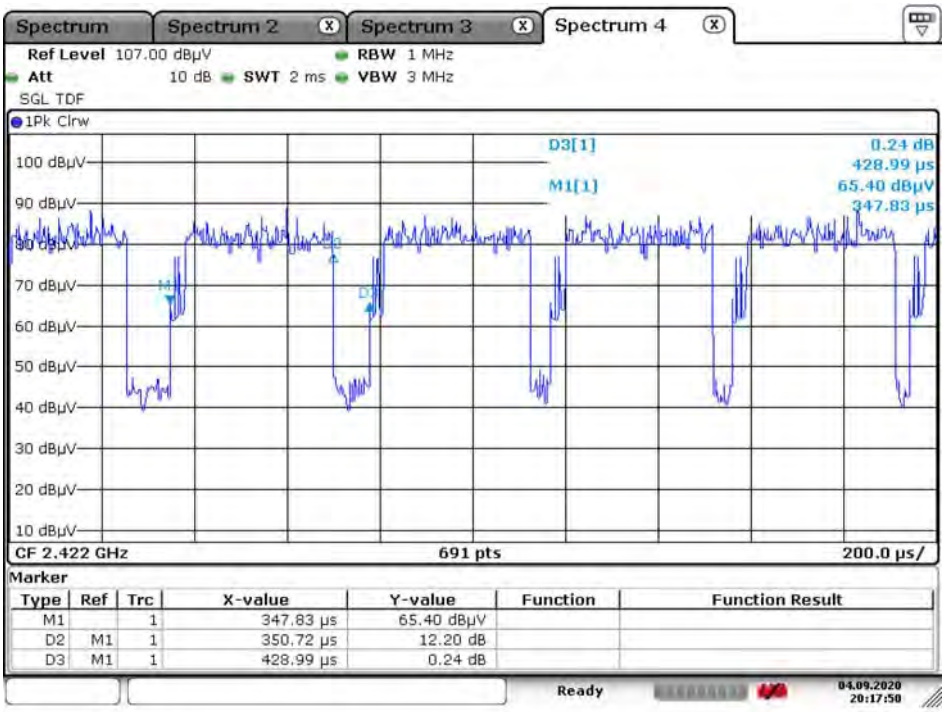
Date: 4.SEP.2020 19:16:24

802.11n20



Date: 4.SEP.2020 19:34:20

802.11n40



Date: 4.SEP.2020 20:17:50

10. EMI Reduction Method During Compliance Testing

No modification was made during testing.