

FCC Test Report

Product Name	DIGITAL CAMERA
Model No	R04010
FCC ID.	BBP-R04010

Applicant	Ricoh Company Ltd
Address	2-7-1 Izumi Ebina Kanagawa, 243-0460 Japan.

Date of Receipt	Jun. 24, 2021
Issue Date	Sep. 08, 2021
Report No.	2161023R-E3032110113
Report Version	V1.0



The test results relate only to the samples tested.

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

This report must not be used to claim product endorsement by TAF or any agency of the government.

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

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

Test Report

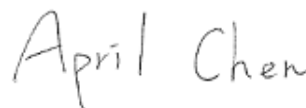
Issue Date: Sep. 08, 2021

Report No.: 2161023R-E3032110113



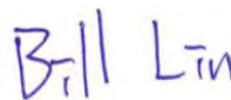
Product Name	DIGITAL CAMERA
Applicant	Ricoh Company Ltd
Address	2-7-1 Izumi Ebina Kanagawa, 243-0460 Japan.
Manufacturer	Ricoh Company, Ltd.
Model No.	R04010
FCC ID.	BBP-R04010
EUT Rated Voltage	DC 5V by USB or DC 3.6V by Battery
EUT Test Voltage	DC 5V by USB
Trade Name	RICOH
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

Documented By :



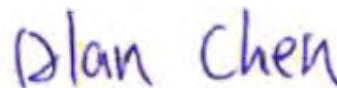
(Senior Project Specialist / April Chen)

Tested By :



(Senior Engineer / Bill Lin)

Approved By :



(Senior Engineer / Alan Chen)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	DIGITAL CAMERA
Trade Name	RICOH
Model No.	R04010
FCC ID.	BBP-R04010
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW
Number of Channels	802.11b/g/n-20MHz
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: 14.4-144.4Mbps
Channel separation	802.11b/g/n: 5 MHz
Type of Modulation	802.11b:DSSS (DBPSK, DQPSK, CCK) 802.11g/n:OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type	PIFA Antenna
Antenna Gain	Refer to the table "Antenna List"
Channel Control	Auto
USB Cable	Trade Name:YiChenXing, M/N: YCX-A0020184A Shielded, 0.40m
Serial No.	A0M63P000070
FW version	0.89

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	LYNwave	ALX20M-222AAA-00(Main) ALX20M-222AAA-01(Aux)	PIFA Antenna	1.4 dBi 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		

Note:

1. The EUT is an DIGITAL CAMERA with a built-in WLAN and Bluetooth 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. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.

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

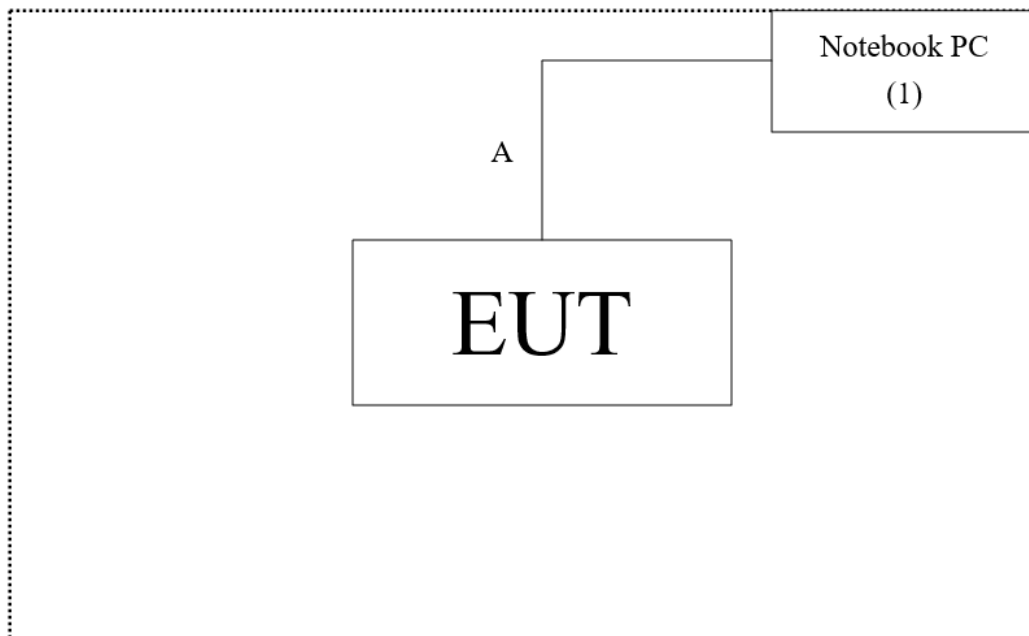
1.2. Tested System Details

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	Notebook PC	DELL	Latitude E5440	FS9TK32	N/A

	Signal Cable Type	Signal cable Description
A	USB Cable	Shielded, 0.4m

1.3. Configuration of Tested System



1.4. EUT Exercise Software

1. Setup the EUT as shown in Section 1.4.
2. Execute software “Qualcomm ® Radio Control Toolkit Version 4.0.00172.0” on the Notebook PC.
3. Configure the test mode, the test channel, and the data rate.
4. Press “OK” to start the continuous Transmit.
5. Verify that the EUT works properly.

1.5. Test Facility

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	10~40 °C	27.1 °C
	Humidity (%RH)	10~90 %	63.4 %
Radiated Emission	Temperature (°C)	10~40 °C	25.5 °C
	Humidity (%RH)	10~90 %	62.3 %
Conductive	Temperature (°C)	10~40 °C	25.2 °C
	Humidity (%RH)	10~90 %	49.0 %

USA : FCC Registration Number: TW0033

Canada : IC Registration Number: 26930

Site Description : Accredited by TAF
Accredited Number: 3023

Test Laboratory : DEKRA Testing and Certification Co., Ltd
Address : No. 26, Huaya 1st Rd., Guishan Dist.,
Taoyuan City 333411, Taiwan, R.O.C.

Phone number : 886-3-275-7255
Fax number : 866-3-327-5505
Email address : info.tw@dekra.com
Website : <http://www.dekra.com.tw>

1.6. List of Test Item and Equipment

For Conduction measurements /SH1

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due. Date
X	EMI Test Receiver	R&S	ESR7	101601	2021.01.04	2022.01.03
X	Two-Line V-Network	R&S	ENV216	101306	2021.04.08	2022.04.07
X	Two-Line V-Network	R&S	ENV216	101307	2021.04.16	2022.04.15
X	Coaxial Cable	DEKRA	RG400_BNC	RF001	2021.05.24	2022.05.23

Note:

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

For Conducted measurements /SH2

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due. Date
X	Spectrum Analyzer	R&S	FSV30	103466	2020.12.28	2021.12.27
X	Power Meter	Anritsu	ML2496A	MY51000539	2021.06.07	2022.06.06
X	Power Sensor	Anritsu	MA2411B	MY59240002	2021.05.17	2022.05.16
X	Power Sensor	Anritsu	MA2411B	MY59240003	2021.05.17	2022.05.16

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 / 966-3

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due. Date
X	Loop Antenna	AMETEK	HLA6121	56736	2021.04.14	2022.04.13
X	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-678	2020.09.04	2021.09.03
X	Horn Antenna	ETS-Lindgren	3117	00201259	2020.10.23	2021.10.22
X	Horn Antenna	Com-Power	AH-840	101087	2021.06.16	2022.06.15
X	Pre-Amplifier	EMCI	EMC001330	980302	2021.07.26	2022.07.25
X	Pre-Amplifier	EMCI	EMC051835SE	980312	2021.02.24	2022.02.23
X	Pre-Amplifier	EMCI	EMC05820SE	980308	2020.09.18	2021.09.17
X	Pre-Amplifier	EMCI	EMC184045SE	980369	2021.04.27	2022.04.26
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	102793	2020.12.17	2021.12.16
X	Spectrum Analyzer	R&S	FSV3044	101113	2021.02.03	2022.02.02
X	Coaxial Cable	SGH, EMCI	HA800 , SGH18	HY2103-001C	2021.03.03	2022.03.02
	Mircoflex Cable	HUBER SUHNER	SUCOFLEX 102	MY3381/2	2021.06.25	2022.06.24

Note:

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

1.7. Uncertainty

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

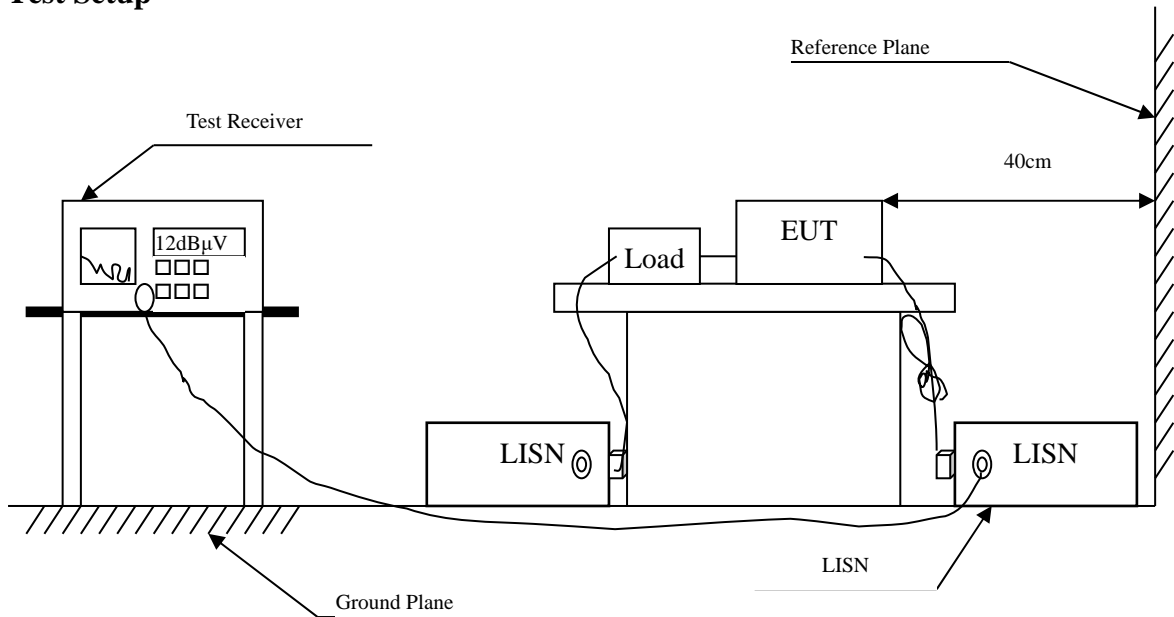
The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

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

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

2. Conducted Emission

2.1. Test Setup



2.2. Limits

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

2.3. Test Procedure

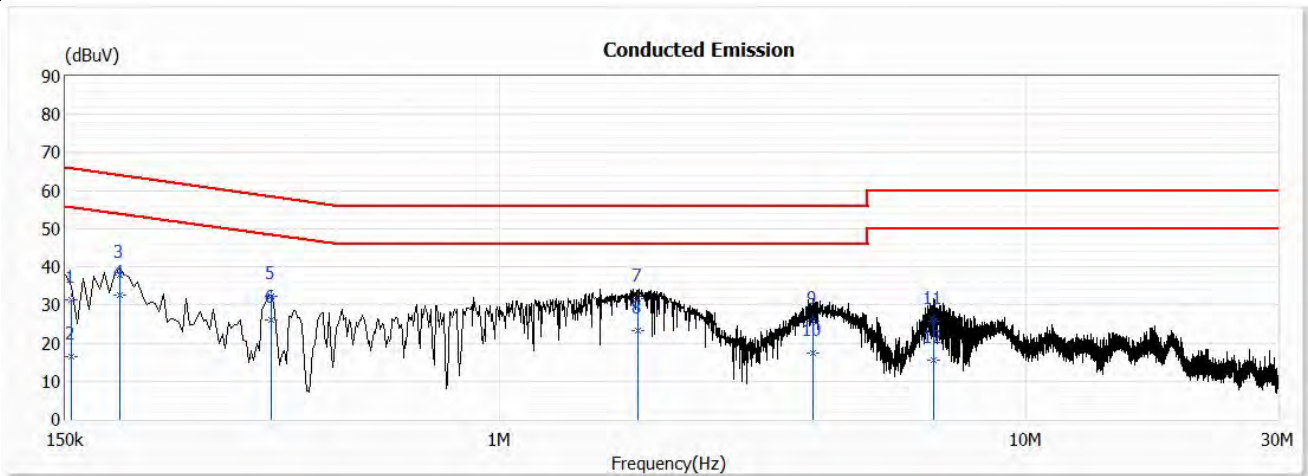
The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling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

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

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

2.4. Test Result of Conducted Emission

Model No	R04010	Site	ASR1-1
Test Voltage	AC 120V/60Hz	Test Date	2021/8/25
Test Mode	Mode 1: Transmit	Engineer	Jason Tuan
Phase	L1	Temperature (°C)	27.1
Test Condition	--	Humidity (%RH)	63.4
Note	802.11n20,2437MHz		

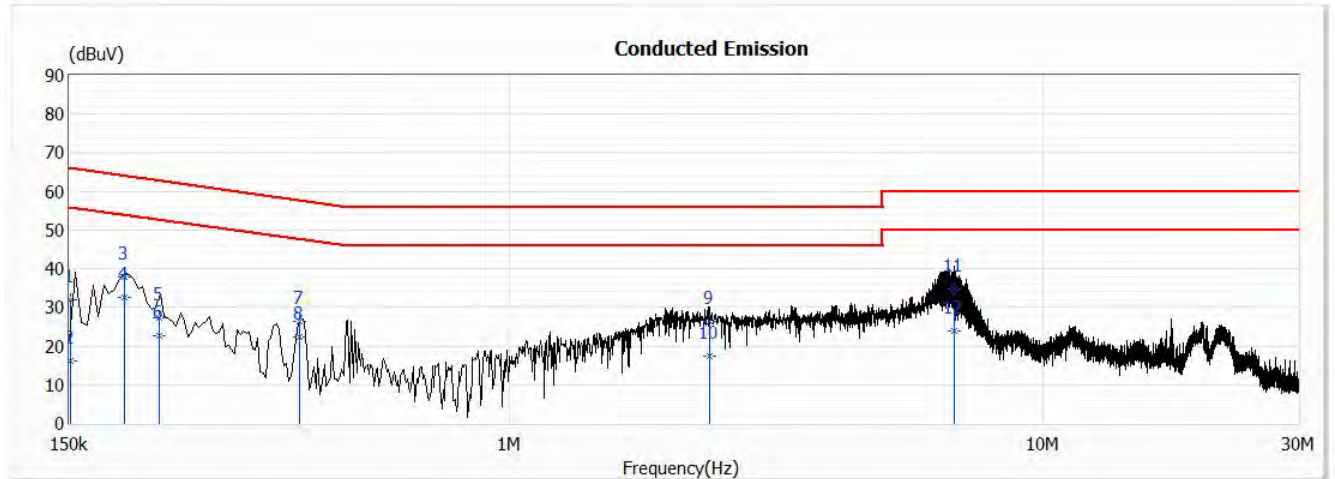


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.154	31.31	65.80	-34.49	21.61	9.70	QP
2	0.154	16.48	55.80	-39.32	6.78	9.70	AV
3	0.190	37.96	64.02	-26.06	28.27	9.69	QP
*4	0.190	32.74	54.02	-21.28	23.05	9.69	AV
5	0.369	32.14	58.53	-26.39	22.44	9.70	QP
6	0.369	26.08	48.53	-22.45	16.38	9.70	AV
7	1.832	31.69	56.00	-24.31	21.88	9.81	QP
8	1.832	23.13	46.00	-22.87	13.32	9.81	AV
9	3.940	25.77	56.00	-30.23	15.28	10.49	QP
10	3.940	17.27	46.00	-28.73	6.78	10.49	AV
11	6.680	25.69	60.00	-34.31	14.85	10.84	QP
12	6.680	15.37	50.00	-34.63	4.53	10.84	AV

Note:

1. “ * “ means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor.
3. Margin = Emission Level – Limit.
4. Correct Factor = LISN insertion loss + Cable loss.

Model No	R04010	Site	ASR1-1
Test Voltage	AC 120V/60Hz	Test Date	2021/8/25
Test Mode	Mode 1: Transmit	Engineer	Jason Tuan
Phase	N	Temperature (°C)	27.1
Test Condition	--	Humidity (%RH)	63.4
Note	802.11n20,2437MHz		



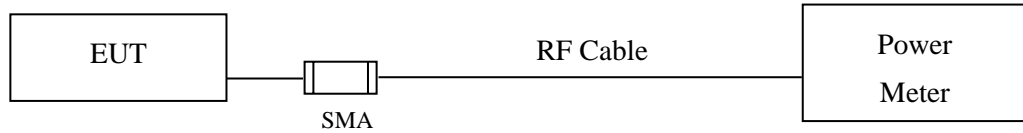
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.151	31.91	65.94	-34.03	22.20	9.71	QP
2	0.151	16.29	55.94	-39.65	6.58	9.71	AV
3	0.190	37.92	64.04	-26.12	28.21	9.71	QP
*4	0.190	32.66	54.04	-21.38	22.95	9.71	AV
5	0.221	27.39	62.79	-35.40	17.68	9.71	QP
6	0.221	22.77	52.79	-30.02	13.06	9.71	AV
7	0.405	26.35	57.75	-31.40	16.64	9.71	QP
8	0.405	22.20	47.75	-25.55	12.49	9.71	AV
9	2.375	26.29	56.00	-29.71	16.33	9.96	QP
10	2.375	17.49	46.00	-28.51	7.53	9.96	AV
11	6.808	34.62	60.00	-25.38	23.77	10.85	QP
12	6.808	23.93	50.00	-26.07	13.08	10.85	AV

Note:

1. “ * “ means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor.
3. Margin = Emission Level – Limit.
4. Correct Factor = LISN insertion loss + Cable loss.

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 : DIGITAL CAMERA
 Test Item : Peak Power Output Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)
 Test Date : 2021/08/05

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power 1	Required Limit	Result
		1	2	5.5	11			
		Measurement Level (dBm)						
01	2412	11.14	--	--	--	13.39	<30dBm	Pass
06	2437	11.08	11.04	10.95	10.86	13.25	<30dBm	Pass
11	2462	11.15	--	--	--	13.35	<30dBm	Pass

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

Chain B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power 1	Required Limit	Result
		1	2	5.5	11			
		Measurement Level (dBm)						
01	2412	11.12	--	--	--	13.32	<30dBm	Pass
06	2437	11.05	11	10.96	10.88	13.15	<30dBm	Pass
11	2462	10.95	--	--	--	13.15	<30dBm	Pass

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

Chain A+B

Channel No	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
01	2412	1	13.39	13.32	16.37	<30dBm	Pass
06	2437	1	13.25	13.15	16.21	<30dBm	Pass
11	2462	1	13.35	13.15	16.26	<30dBm	Pass

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

Product : DIGITAL CAMERA
 Test Item : Peak Power Output Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps)
 Test Date : 2021/08/05

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			
		Measurement Level (dBm)										
01	2412	11.07	--	--	--	--	--	--	--	16.95	<30dBm	Pass
06	2437	10.97	10.88	10.83	10.73	10.7	10.65	10.56	10.53	17.1	<30dBm	Pass
11	2462	11	--	--	--	--	--	--	--	16.87	<30dBm	Pass

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

Chain B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54			
		Measurement Level (dBm)										
01	2412	11.1	--	--	--	--	--	--	--	17.09	<30dBm	Pass
06	2437	11.11	10.98	10.92	10.86	10.81	10.74	10.69	10.61	17.17	<30dBm	Pass
11	2462	11.05	--	--	--	--	--	--	--	17.16	<30dBm	Pass

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

Chain A+B

Channel No	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
01	2412	6	16.95	17.09	20.03	<30dBm	Pass
06	2437	6	17.10	17.17	20.15	<30dBm	Pass
11	2462	6	16.87	17.16	20.03	<30dBm	Pass

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

Product : DIGITAL CAMERA
 Test Item : Peak Power Output Data
 Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)
 Test Date : 2021/08/05

Chain A

Channel No	Frequency (MHz)	Average Power								Peak Power	Required Limit	Result
		For different Data Rate (Mbps)										
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4		
Measurement Level (dBm)												
01	2412	11	--	--	--	--	--	--	--	17	<30dBm	Pass
06	2437	11.05	11	10.92	10.87	10.78	10.75	10.71	10.62	16.8	<30dBm	Pass
11	2462	11	--	--	--	--	--	--	--	17.18	<30dBm	Pass

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

Chain B

Channel No	Frequency (MHz)	Average Power								Peak Power	Required Limit	Result
		For different Data Rate (Mbps)										
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4		
Measurement Level (dBm)												
01	2412	11	--	--	--	--	--	--	--	17.01	<30dBm	Pass
06	2437	11.19	11.13	11.05	10.96	10.92	10.87	10.8	10.71	17.02	<30dBm	Pass
11	2462	11.08	--	--	--	--	--	--	--	17.39	<30dBm	Pass

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

Chain A+B

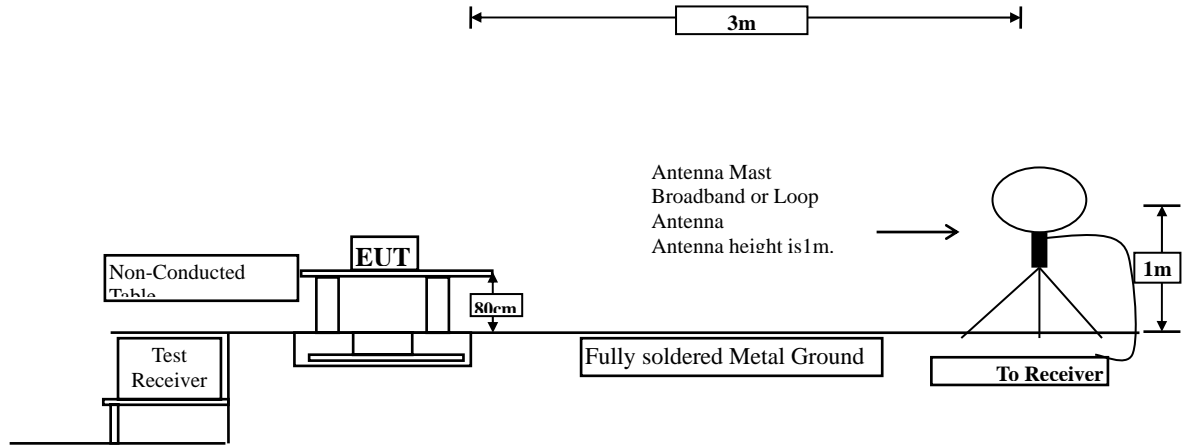
Channel No	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
01	2412	HT8	17.00	17.01	20.02	<30dBm	Pass
06	2437	HT8	16.80	17.02	19.92	<30dBm	Pass
11	2462	HT8	17.18	17.39	20.30	<30dBm	Pass

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

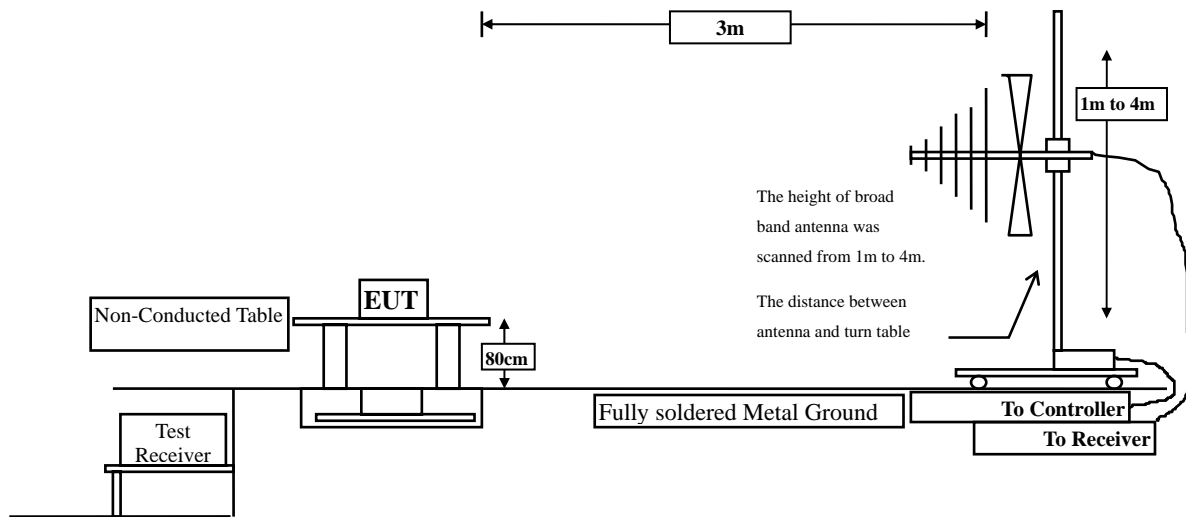
4. Radiated Emission

4.1. Test Setup

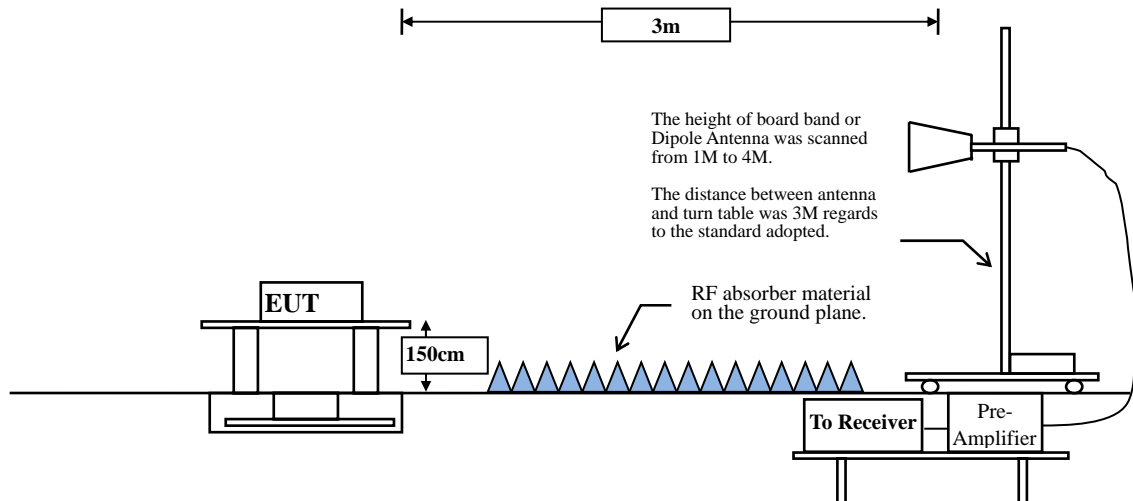
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.2. Limits

➤ General Radiated Emission Limits

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

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

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

4.3. Test Procedure

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

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

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

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

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

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

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

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

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

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

RBW and VBW Parameter setting:

According to C63.10 Section 11.12.2.4 Peak measurement procedure.

RBW = as specified in Table 1.

$VBW \geq 3 \times RBW$.

Table 1 —RBW as a function of frequency

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

According to C63.10 Section 11.12.2.5 Average measurement procedure.

RBW = 1MHz.

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

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

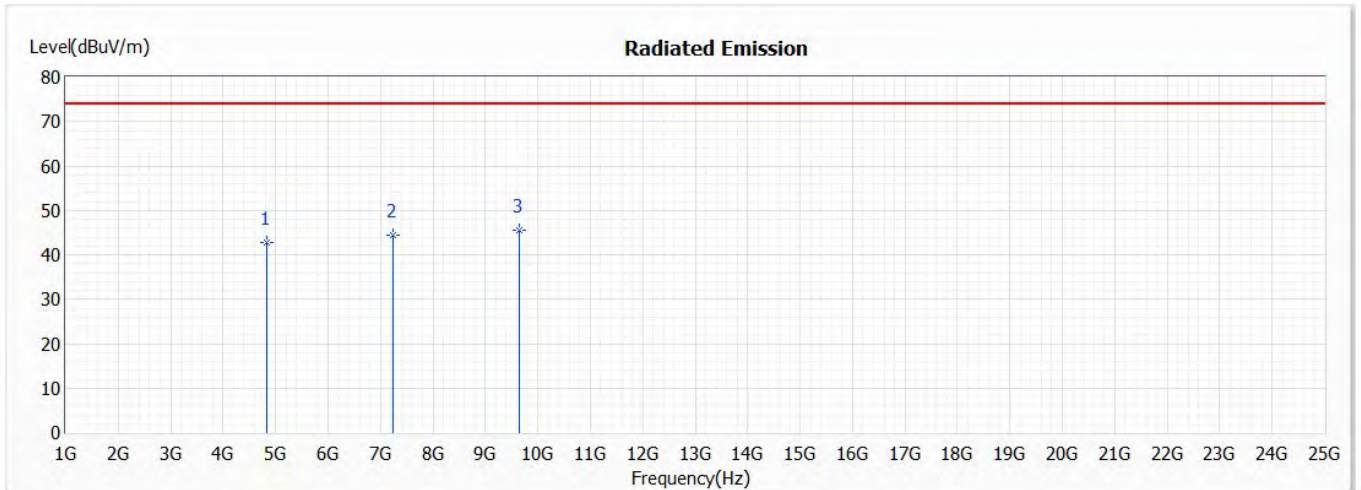
(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11b	99.20	12.4500	80	10
802.11g	96.93	2.0500	488	500
802.11n20	95.98	1.9100	524	1000

Note: Duty Cycle Refer to Section 9

4.4. Test Result of Radiated Emission

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11b,2.412GHz	Humidity (%RH)	62.3

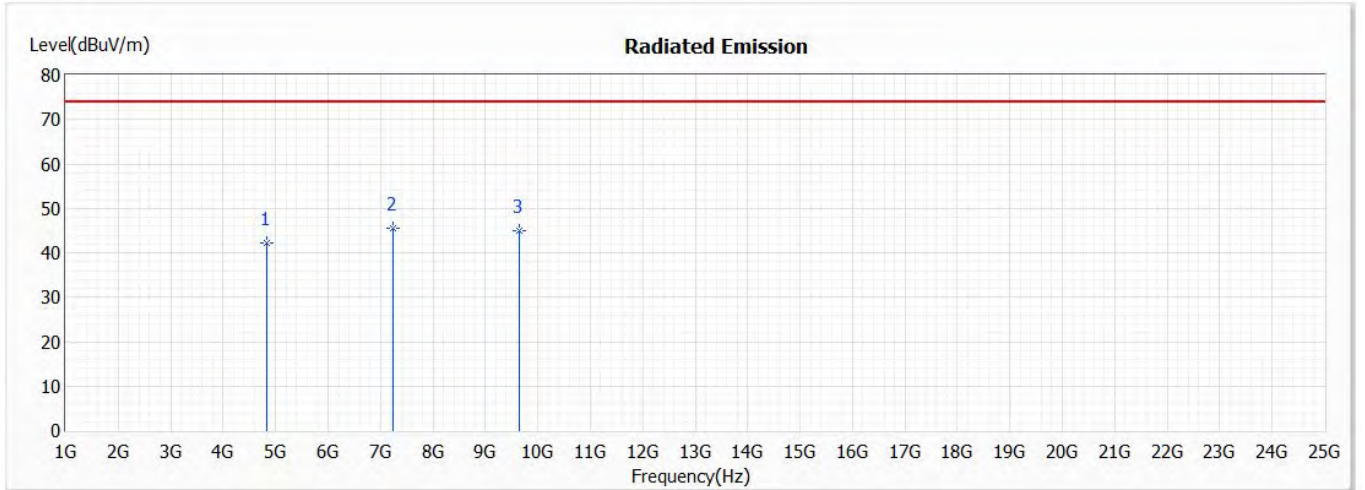


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	42.88	74.00	-31.12	42.30	0.58	PK
2	7236.000	44.47	74.00	-29.53	39.73	4.74	PK
* 3	9648.000	45.61	74.00	-28.39	38.68	6.93	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11b,2.412GHz	Humidity (%RH)	62.3

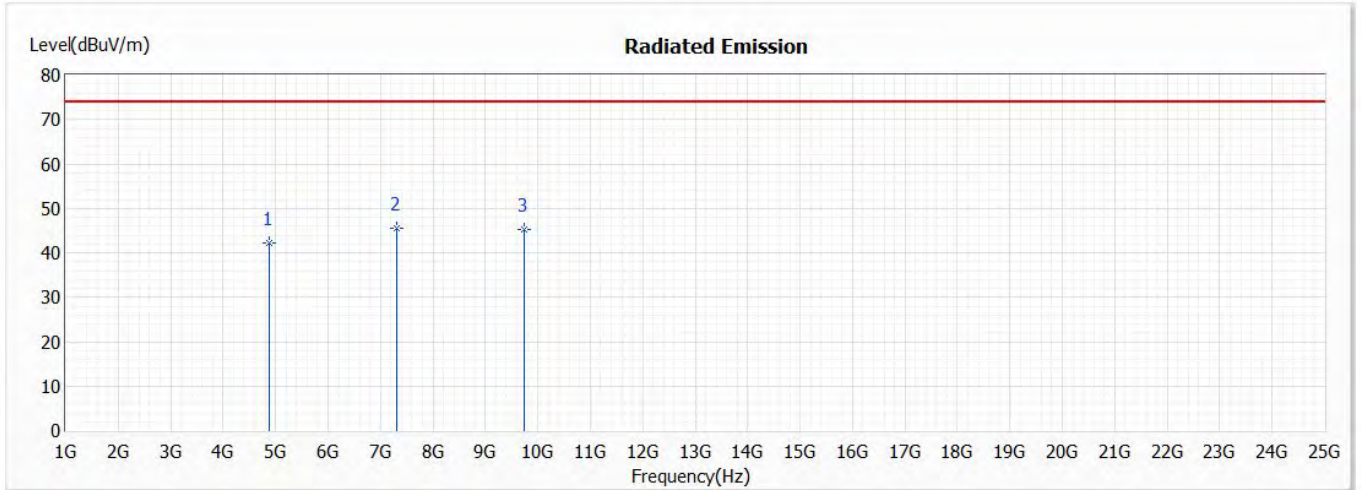


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	42.30	74.00	-31.70	41.72	0.58	PK
* 2	7236.000	45.61	74.00	-28.39	40.87	4.74	PK
3	9648.000	44.88	74.00	-29.12	37.95	6.93	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11b,2.437GHz	Humidity (%RH)	62.3

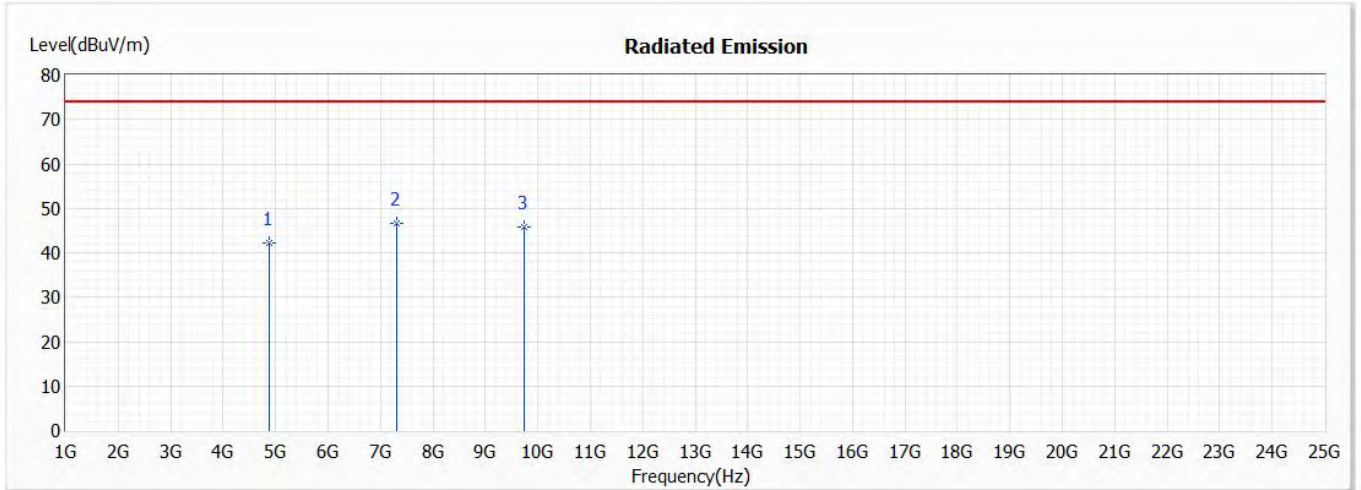


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	42.26	74.00	-31.74	41.64	0.62	PK
* 2	7311.000	45.53	74.00	-28.47	40.70	4.83	PK
3	9748.000	45.33	74.00	-28.67	38.14	7.19	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11b,2.437GHz	Humidity (%RH)	62.3

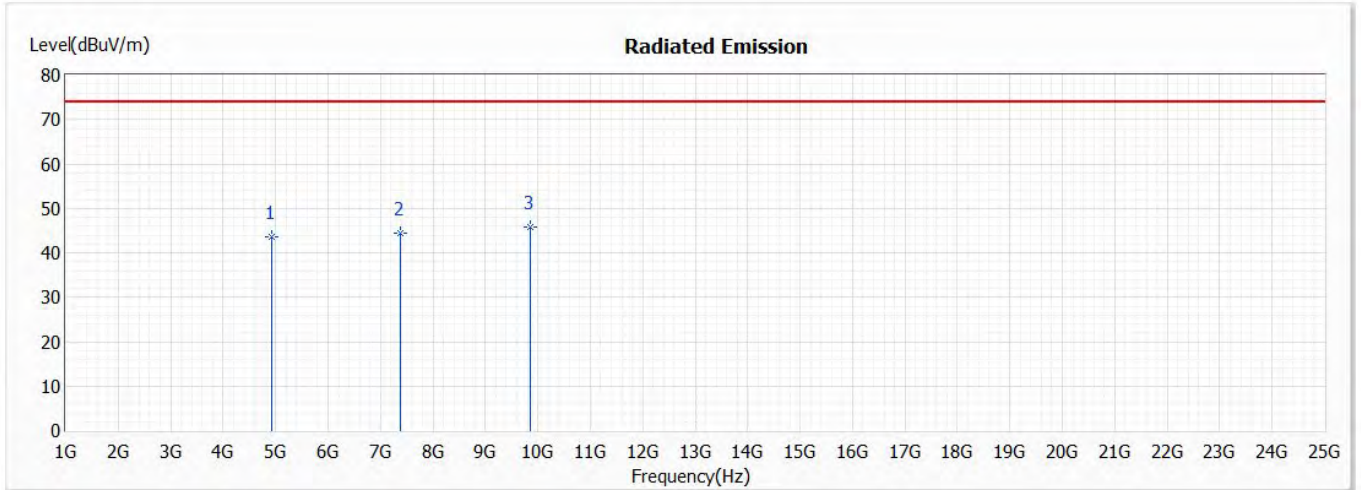


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	42.13	74.00	-31.87	41.51	0.62	PK
* 2	7311.000	46.52	74.00	-27.48	41.69	4.83	PK
3	9748.000	45.81	74.00	-28.19	38.62	7.19	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11b,2.462GHz	Humidity (%RH)	62.3

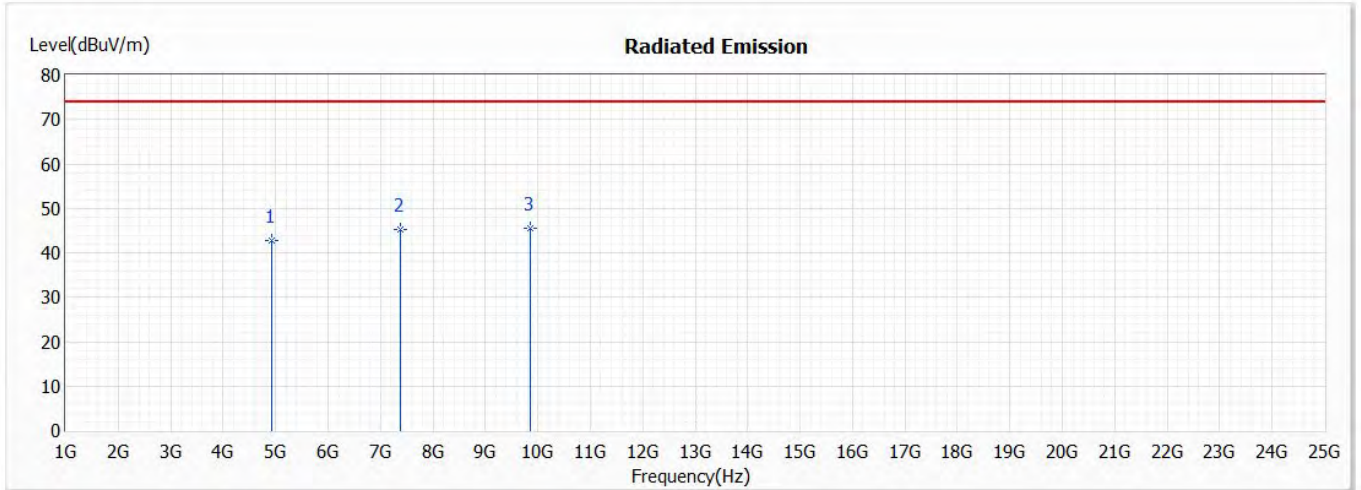


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	43.49	74.00	-30.51	42.88	0.61	PK
2	7386.000	44.54	74.00	-29.46	39.70	4.84	PK
* 3	9848.000	45.76	74.00	-28.24	38.54	7.22	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11b,2.462GHz	Humidity (%RH)	62.3

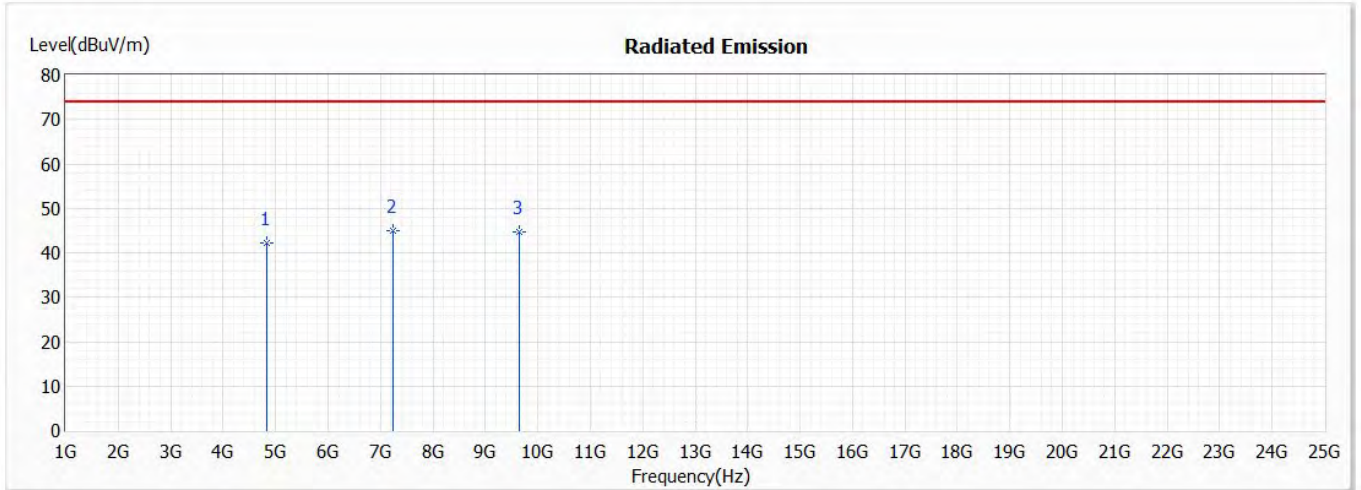


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	42.87	74.00	-31.13	42.26	0.61	PK
2	7386.000	45.11	74.00	-28.89	40.27	4.84	PK
* 3	9848.000	45.52	74.00	-28.48	38.30	7.22	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11g,2.412GHz	Humidity (%RH)	62.3

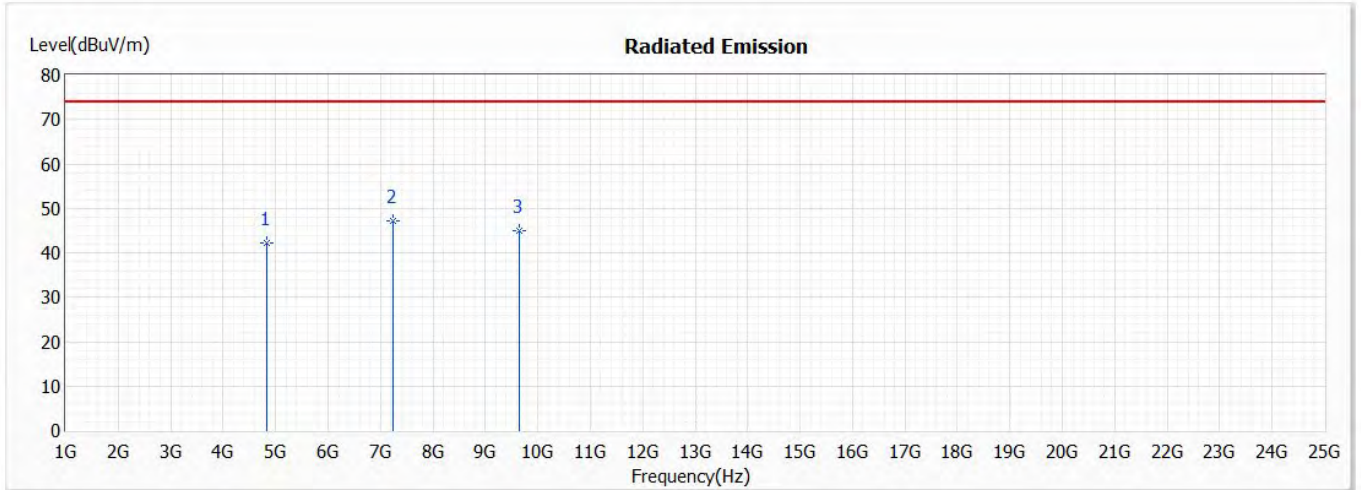


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	42.33	74.00	-31.67	41.75	0.58	PK
* 2	7236.000	44.95	74.00	-29.05	40.21	4.74	PK
3	9648.000	44.68	74.00	-29.32	37.75	6.93	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11g,2.412GHz	Humidity (%RH)	62.3

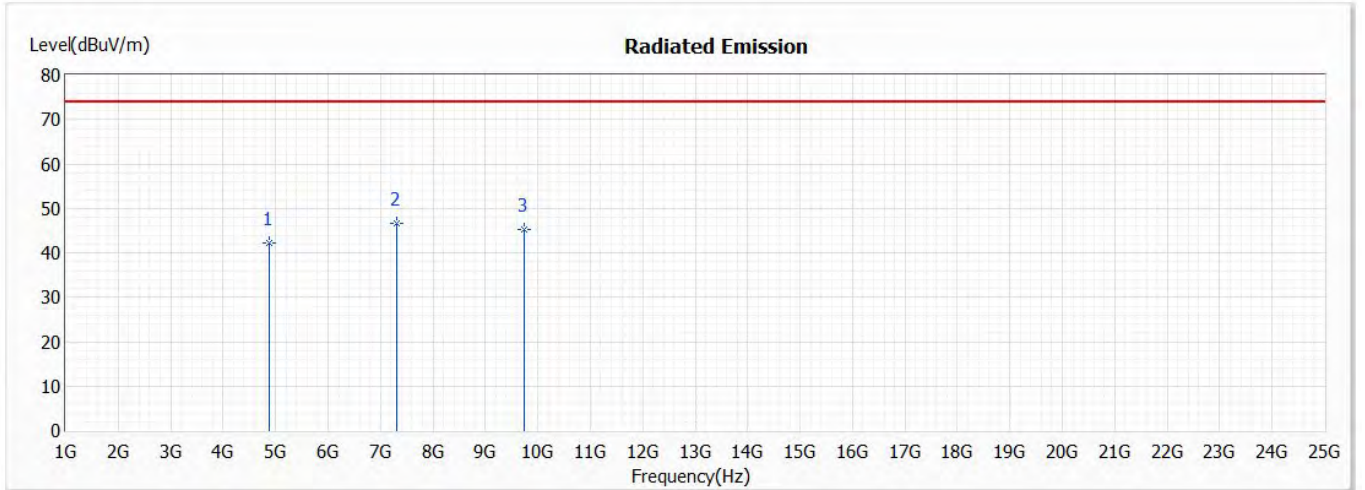


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	42.31	74.00	-31.69	41.73	0.58	PK
* 2	7236.000	47.11	74.00	-26.89	42.37	4.74	PK
3	9648.000	45.07	74.00	-28.93	38.14	6.93	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11g,2.437GHz	Humidity (%RH)	62.3

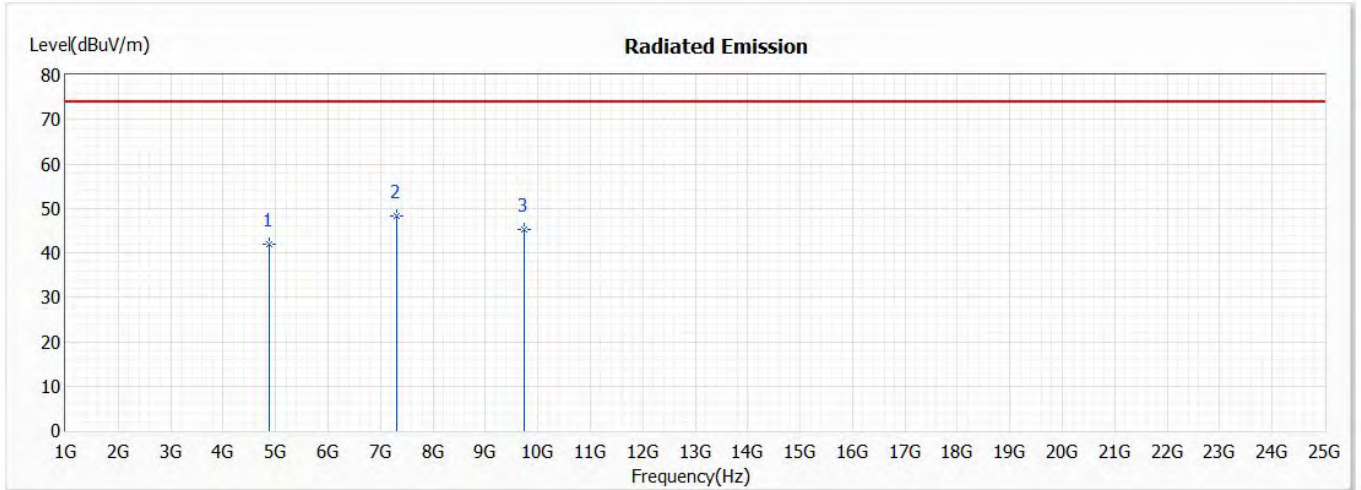


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	42.31	74.00	-31.69	41.69	0.62	PK
* 2	7311.000	46.52	74.00	-27.48	41.69	4.83	PK
3	9748.000	45.30	74.00	-28.70	38.11	7.19	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11g,2.437GHz	Humidity (%RH)	62.3

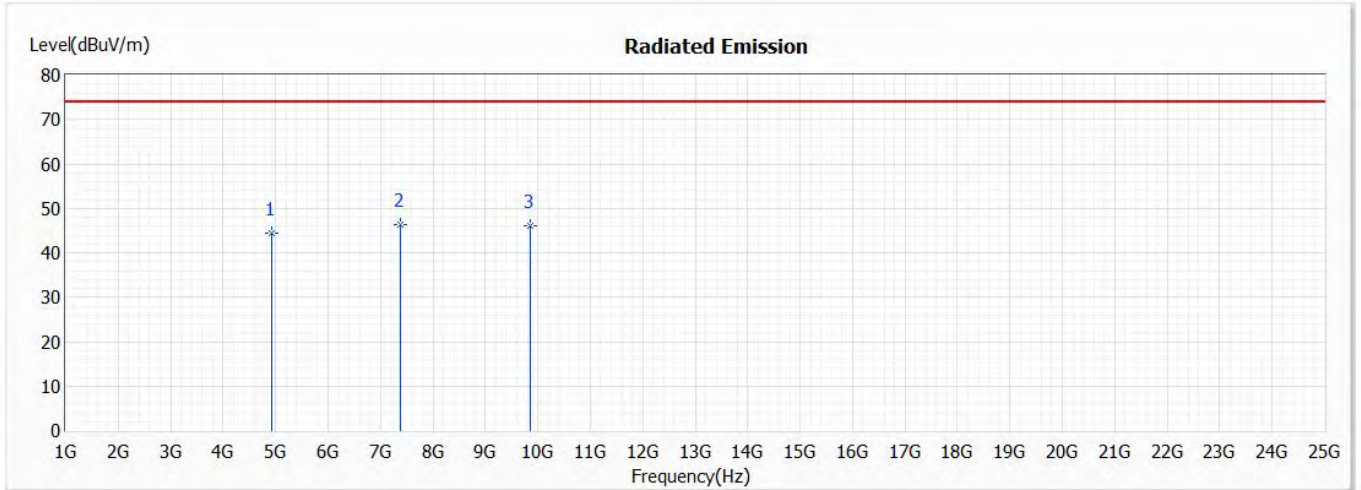


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	41.80	74.00	-32.20	41.18	0.62	PK
* 2	7311.000	48.16	74.00	-25.84	43.33	4.83	PK
3	9748.000	45.24	74.00	-28.76	38.05	7.19	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11g,2.462GHz	Humidity (%RH)	62.3

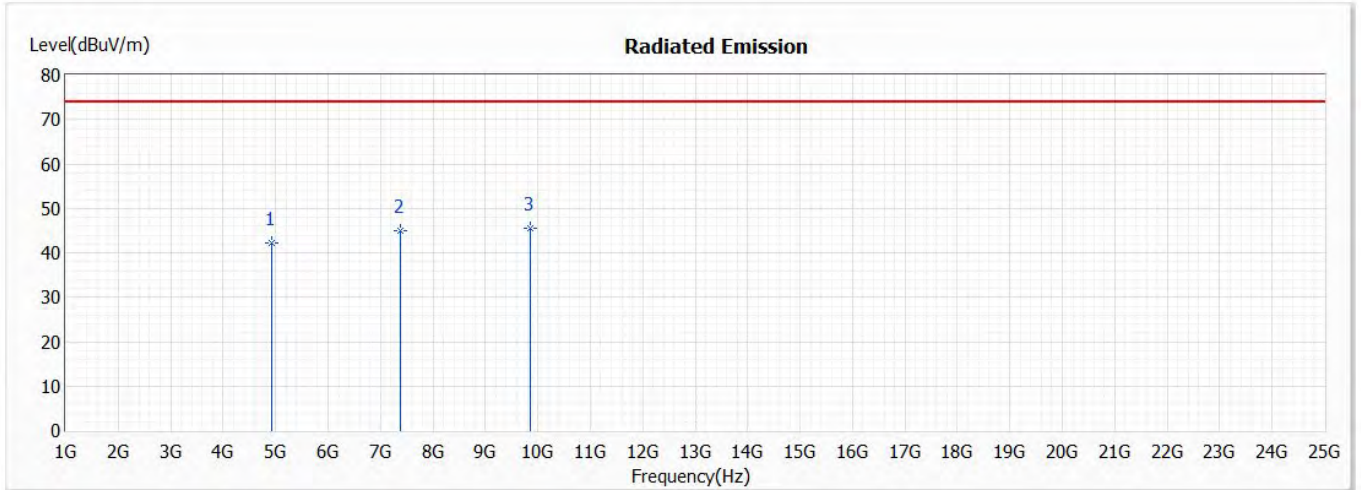


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	44.45	74.00	-29.55	43.84	0.61	PK
* 2	7386.000	46.41	74.00	-27.59	41.57	4.84	PK
3	9848.000	45.97	74.00	-28.03	38.75	7.22	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11g,2.462GHz	Humidity (%RH)	62.3

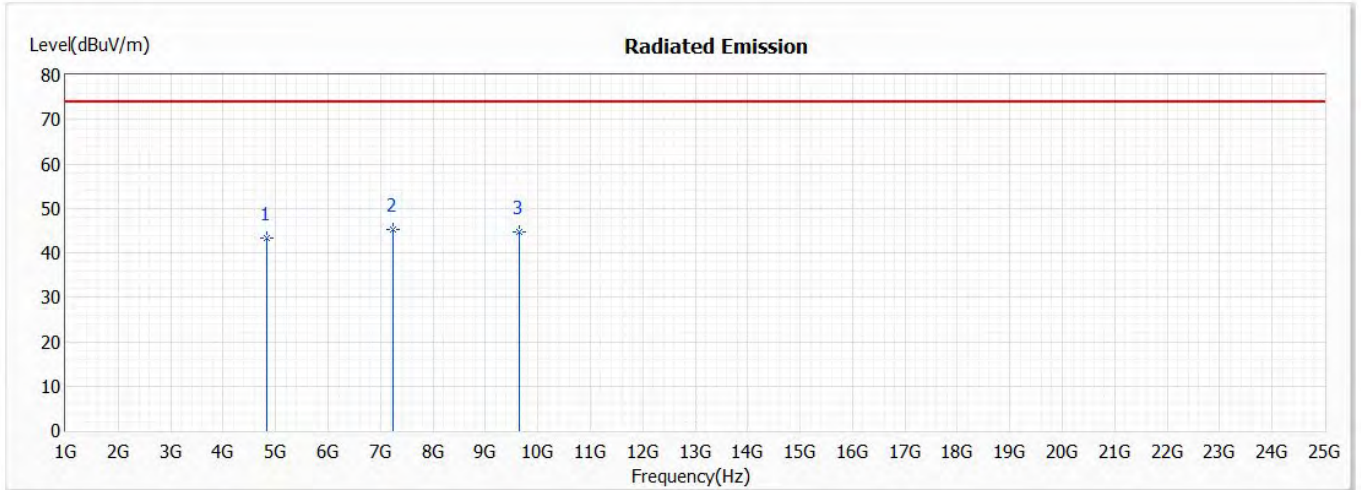


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	42.15	74.00	-31.85	41.54	0.61	PK
2	7386.000	44.89	74.00	-29.11	40.05	4.84	PK
* 3	9848.000	45.39	74.00	-28.61	38.17	7.22	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11n20,2.412GHz	Humidity (%RH)	62.3

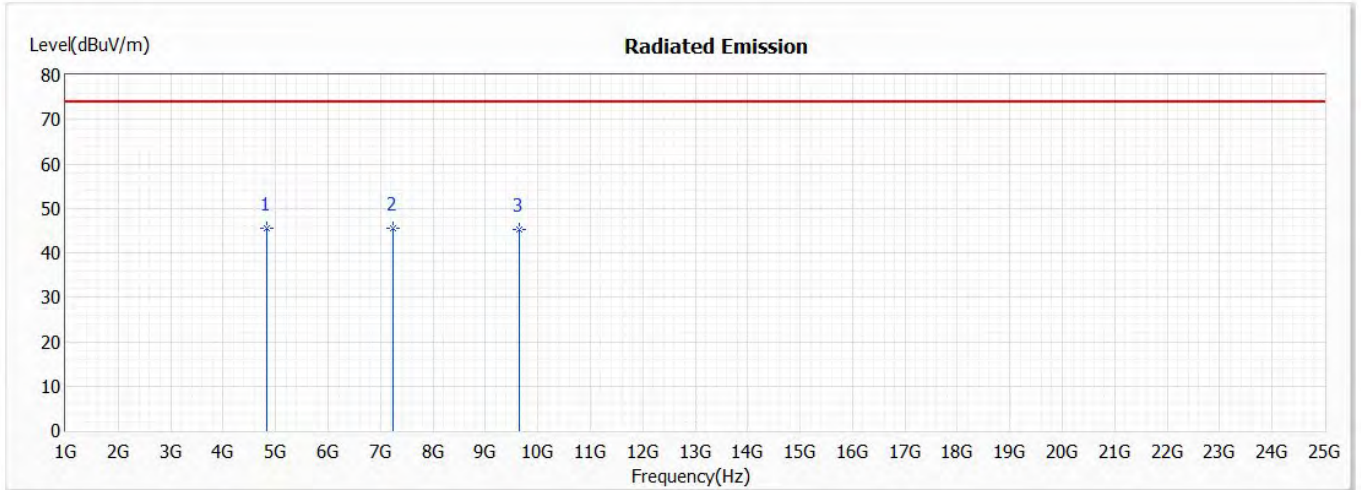


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824.000	43.28	74.00	-30.72	42.70	0.58	PK
* 2	7236.000	45.19	74.00	-28.81	40.45	4.74	PK
3	9648.000	44.80	74.00	-29.20	37.87	6.93	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11n20,2.412GHz	Humidity (%RH)	62.3

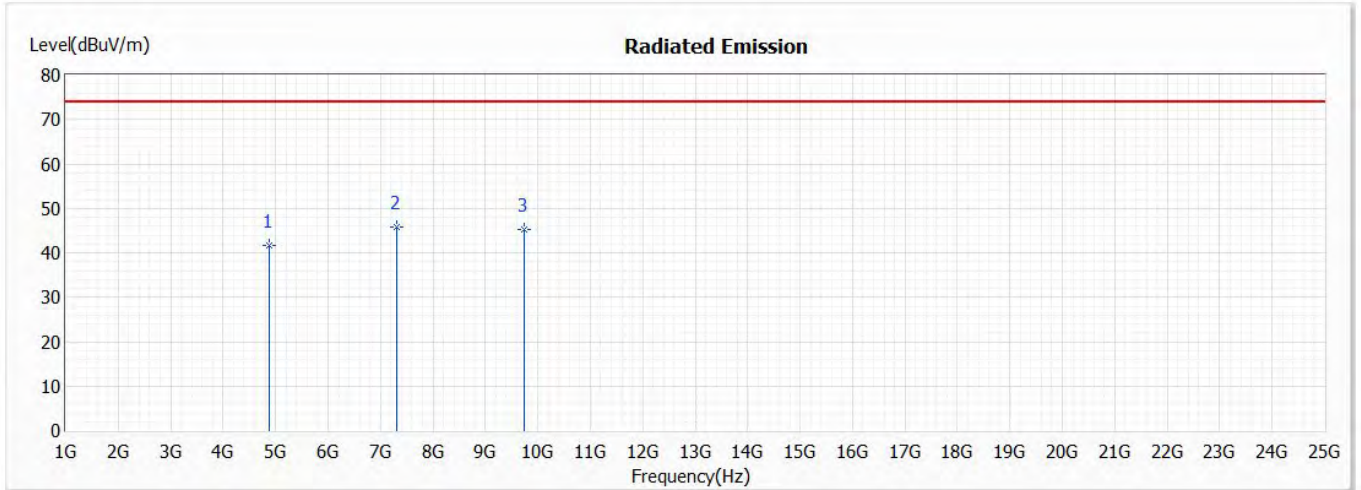


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	4824.000	45.62	74.00	-28.38	45.04	0.58	PK
2	7236.000	45.62	74.00	-28.38	40.88	4.74	PK
3	9648.000	45.34	74.00	-28.66	38.41	6.93	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11n20,2.437GHz	Humidity (%RH)	62.3

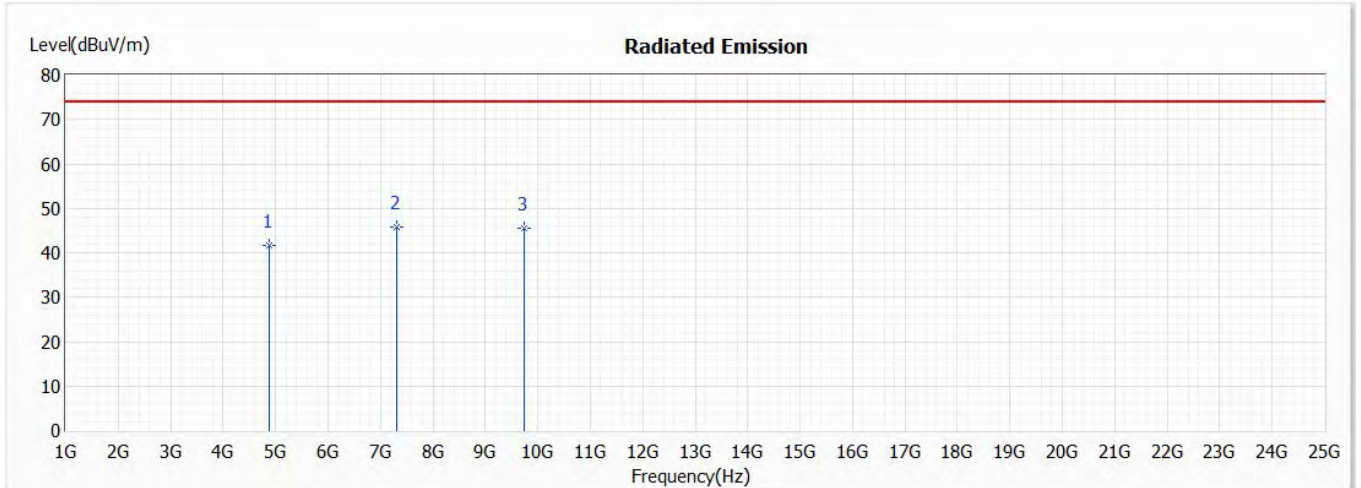


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	41.57	74.00	-32.43	40.95	0.62	PK
* 2	7311.000	45.76	74.00	-28.24	40.93	4.83	PK
3	9748.000	45.26	74.00	-28.74	38.07	7.19	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11n20,2.437GHz	Humidity (%RH)	62.3

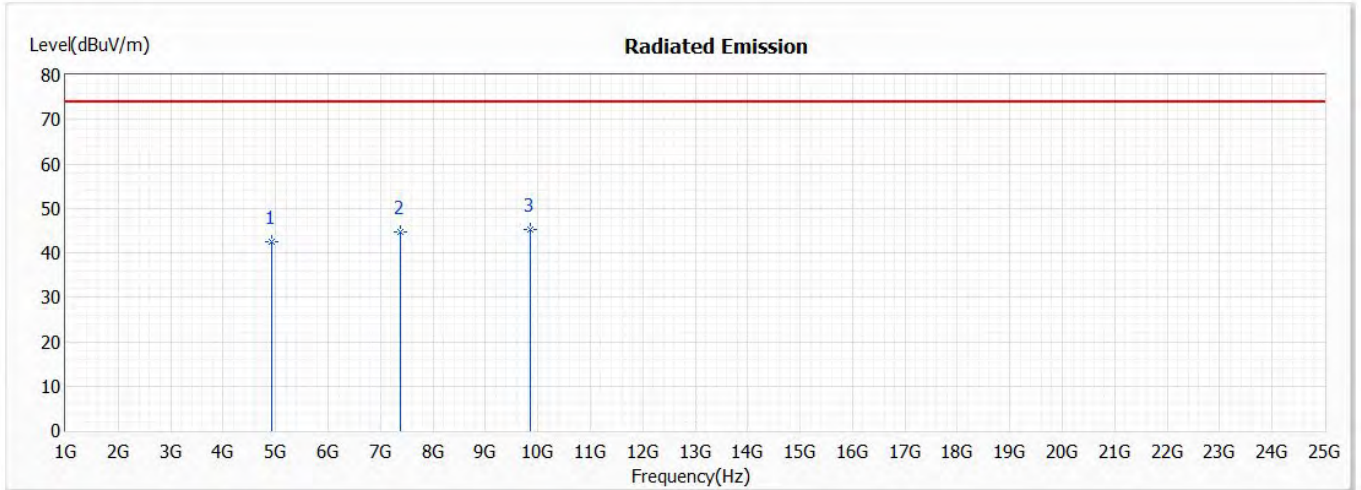


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874.000	41.75	74.00	-32.25	41.13	0.62	PK
* 2	7311.000	45.92	74.00	-28.08	41.09	4.83	PK
3	9748.000	45.55	74.00	-28.45	38.36	7.19	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11n20,2.462GHz	Humidity (%RH)	62.3

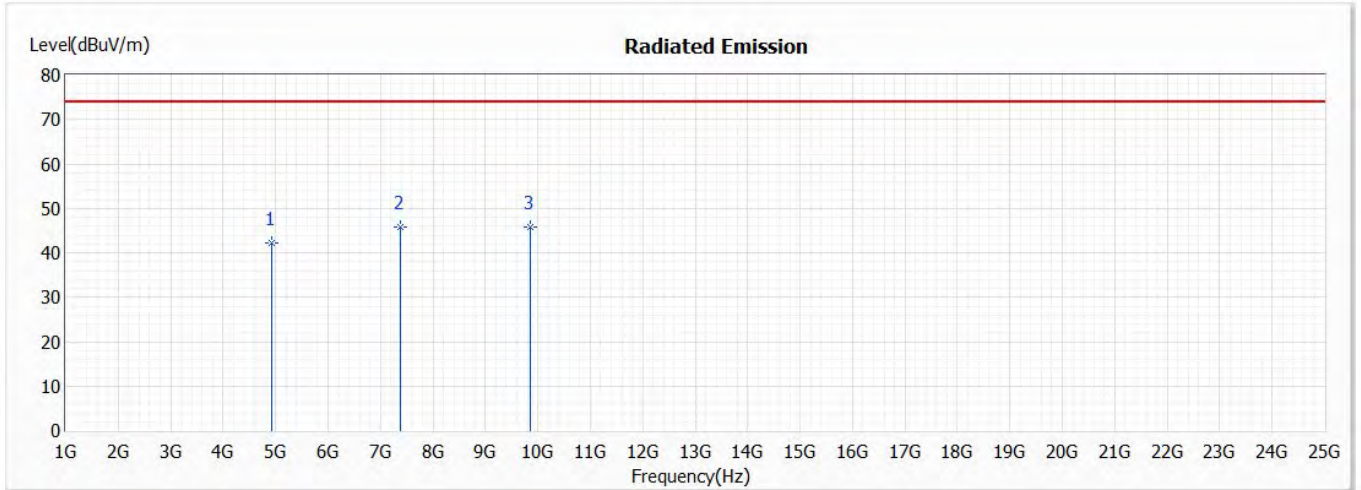


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	42.41	74.00	-31.59	41.80	0.61	PK
2	7386.000	44.65	74.00	-29.35	39.81	4.84	PK
* 3	9848.000	45.22	74.00	-28.78	38.00	7.22	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11n20,2.462GHz	Humidity (%RH)	62.3

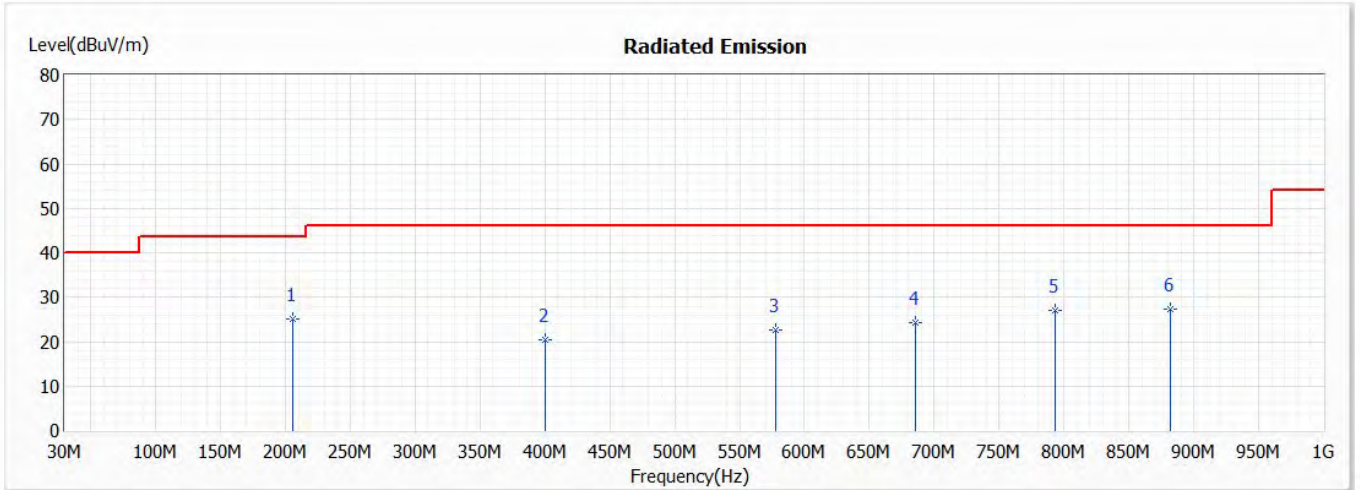


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924.000	42.34	74.00	-31.66	41.73	0.61	PK
2	7386.000	45.89	74.00	-28.11	41.05	4.84	PK
* 3	9848.000	45.90	74.00	-28.10	38.68	7.22	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11n20,2.437GHz	Humidity (%RH)	62.3

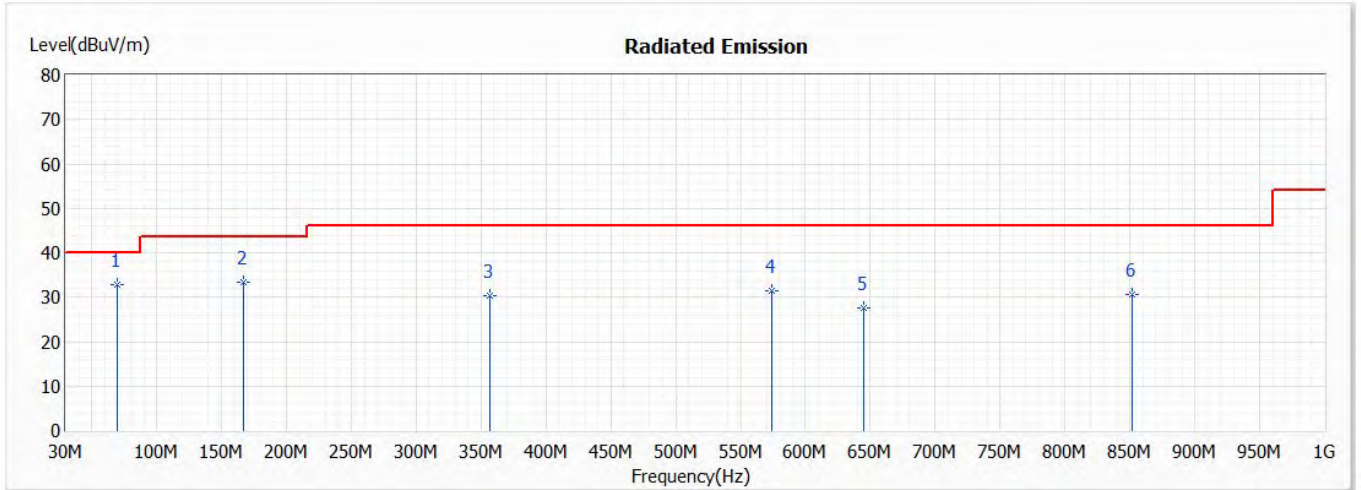


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	205.570	25.15	43.50	-18.35	38.53	-13.38	QP
2	400.540	20.46	46.00	-25.54	27.81	-7.35	QP
3	578.050	22.70	46.00	-23.30	26.43	-3.73	QP
4	685.720	24.16	46.00	-21.84	26.16	-2.00	QP
5	793.390	27.04	46.00	-18.96	27.32	-0.28	QP
6	881.660	27.43	46.00	-18.57	26.87	0.56	QP

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/8/2
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11n20,2.437GHz	Humidity (%RH)	62.3



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	69.770	32.96	40.00	-7.04	46.37	-13.41	QP
2	166.770	33.43	43.50	-10.07	43.90	-10.47	QP
3	356.890	30.41	46.00	-15.59	38.86	-8.45	QP
4	574.170	31.50	46.00	-14.50	35.31	-3.81	QP
5	644.980	27.71	46.00	-18.29	30.23	-2.52	QP
6	851.590	30.49	46.00	-15.51	30.18	0.31	QP

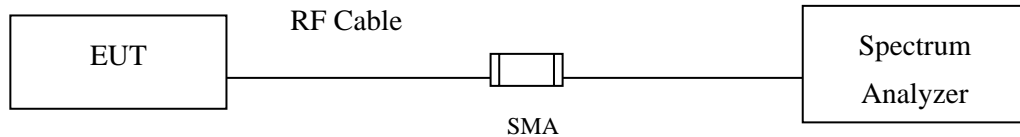
Remark:

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

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

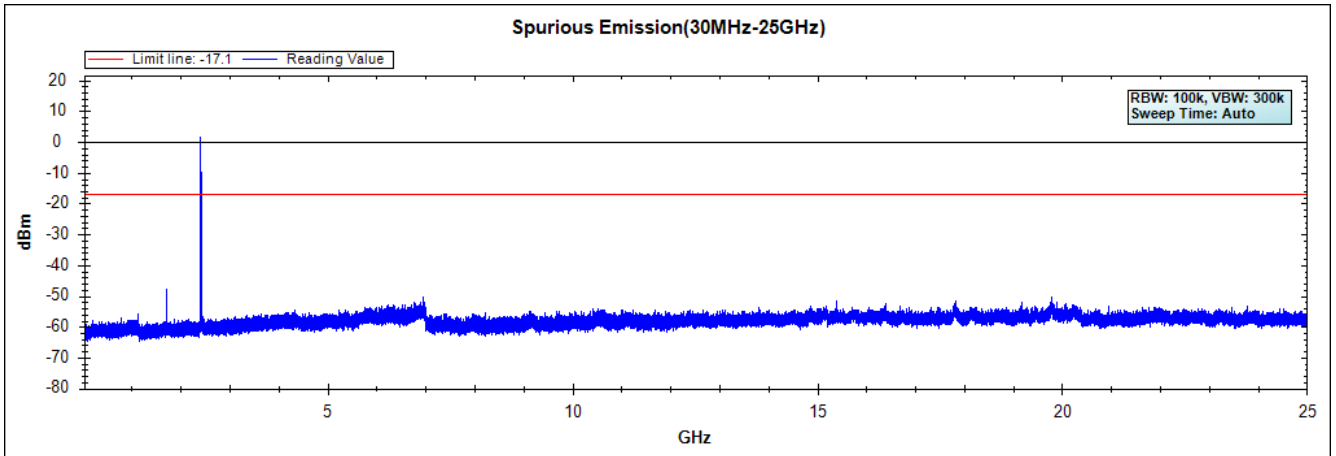
The EUT was tested according to C63.10:2013 Section 11.11 for compliance to FCC 47CFR 15.247 requirements.

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

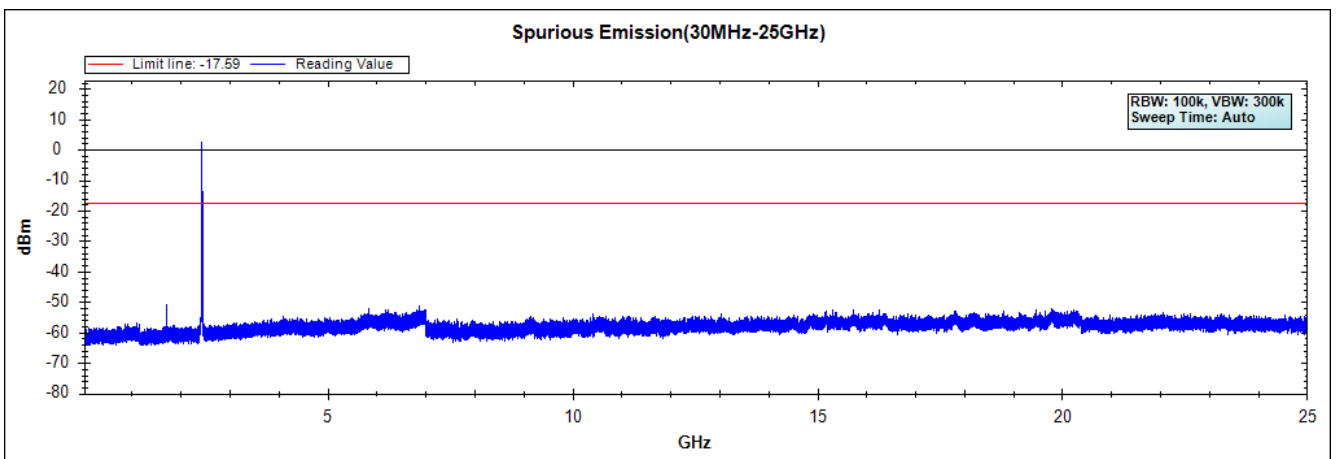
5.4. Test Result of RF antenna conducted test

Product : DIGITAL CAMERA
 Test Item : RF antenna conducted test
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)
 Test Date : 2021/08/05

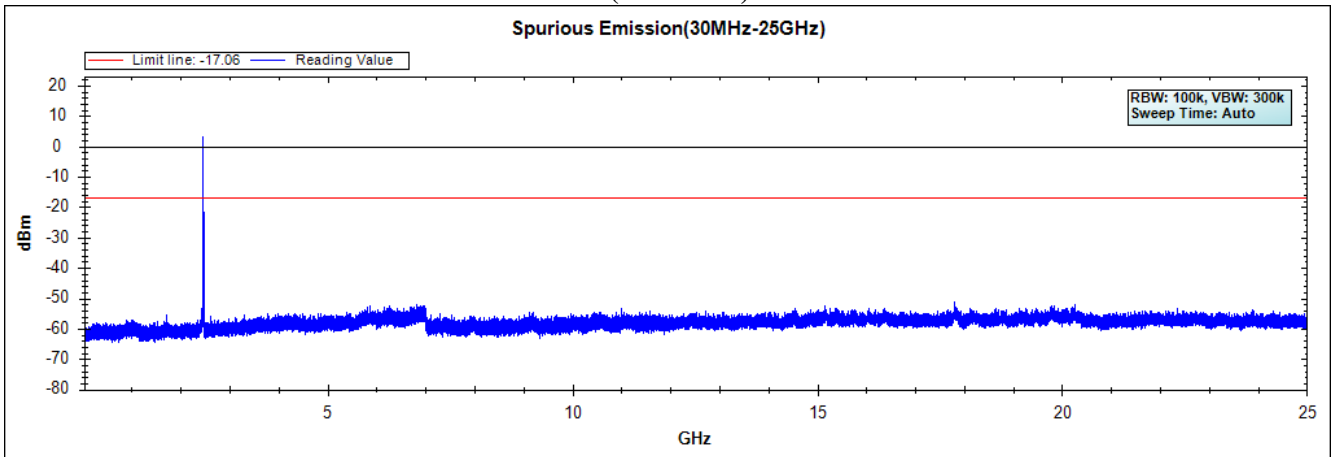
Channel 01 (2412MHz) -Chain A



Channel 06 (2437MHz) -Chain A



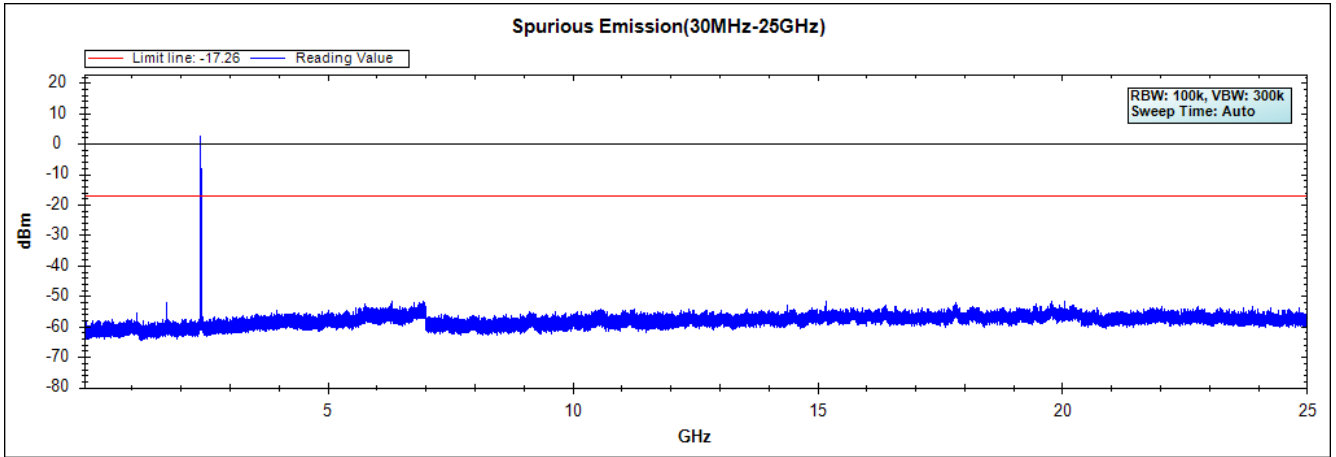
Channel 11 (2462MHz) -Chain A



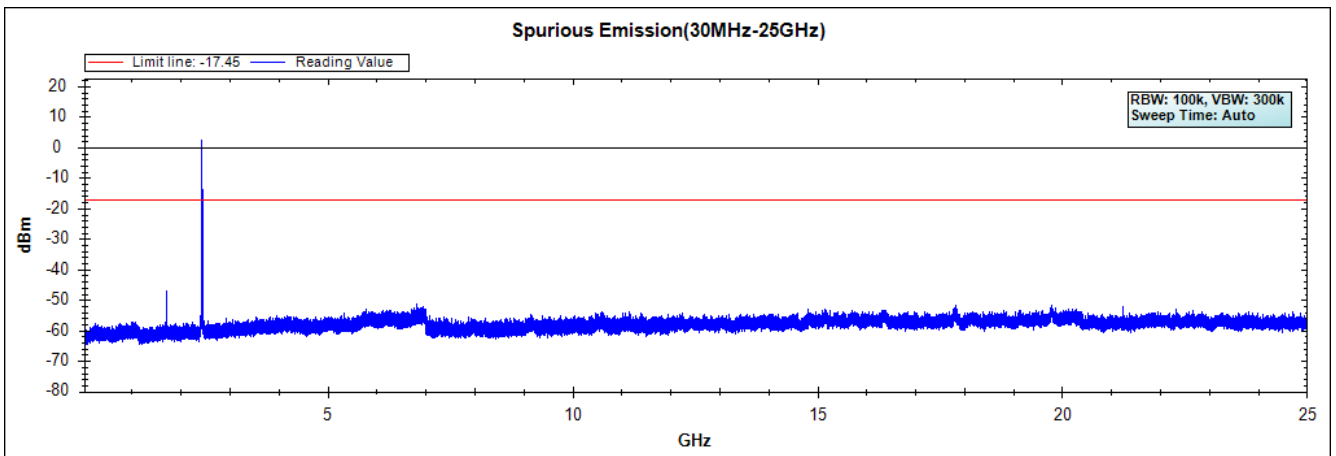
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : DIGITAL CAMERA
Test Item : RF antenna conducted test
Test Mode : Mode 1: Transmit (802.11b 1Mbps)
Test Date : 2021/08/05

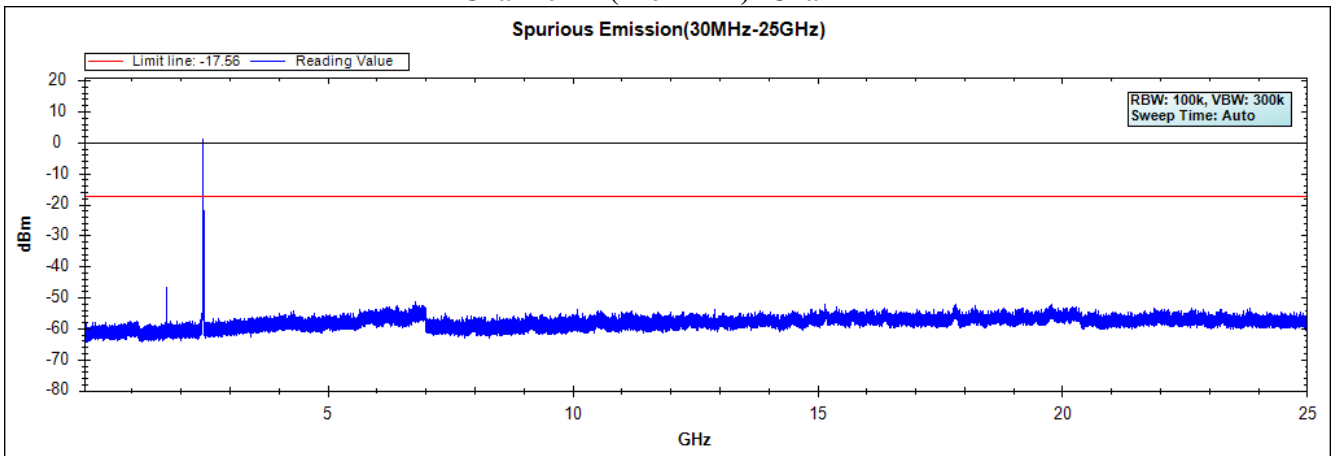
Channel 01 (2412MHz) -Chain B



Channel 06 (2437MHz) -Chain B



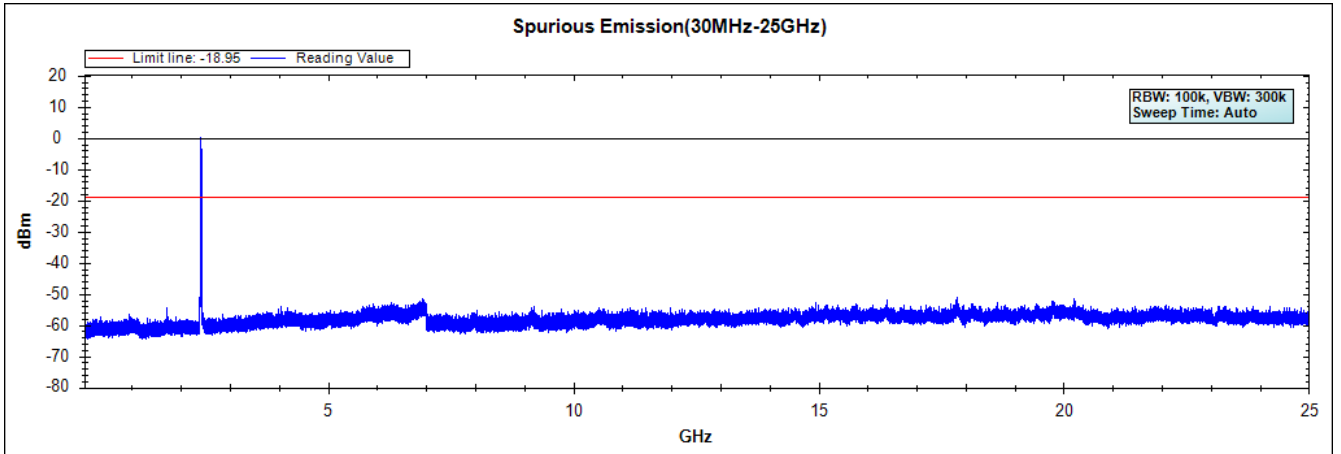
Channel 11 (2462MHz) -Chain B



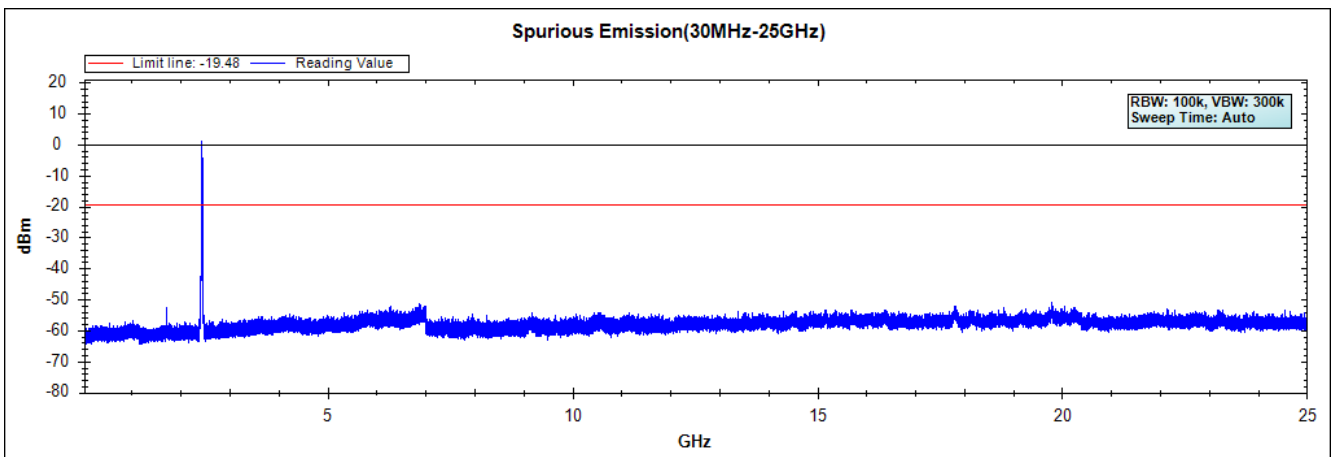
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : DIGITAL CAMERA
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 2: Transmit (802.11g 6Mbps)
Test Date : 2021/08/05

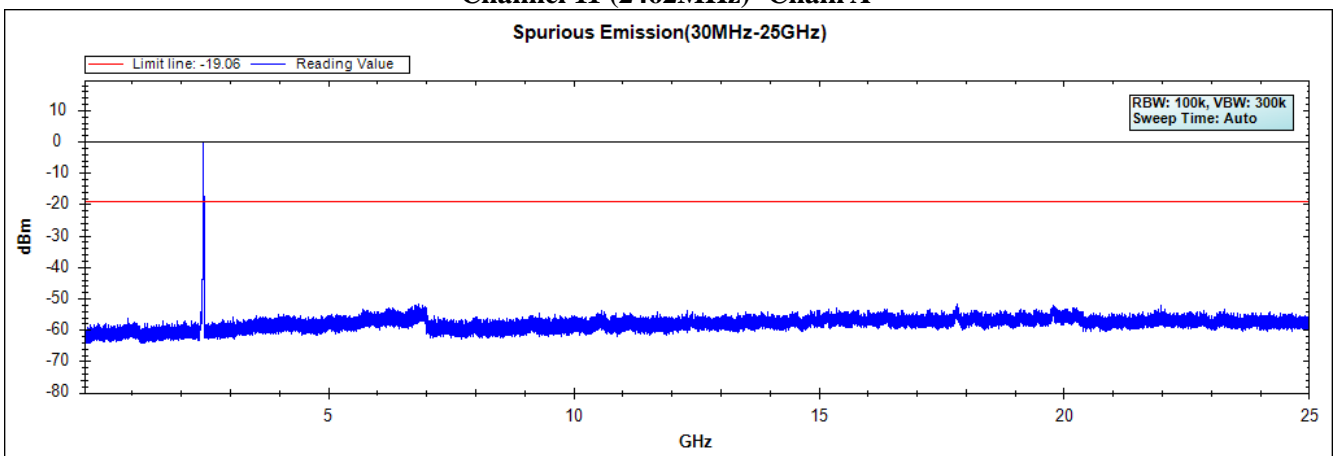
Channel 01 (2412MHz) -Chain A



Channel 06 (2437MHz) -Chain A



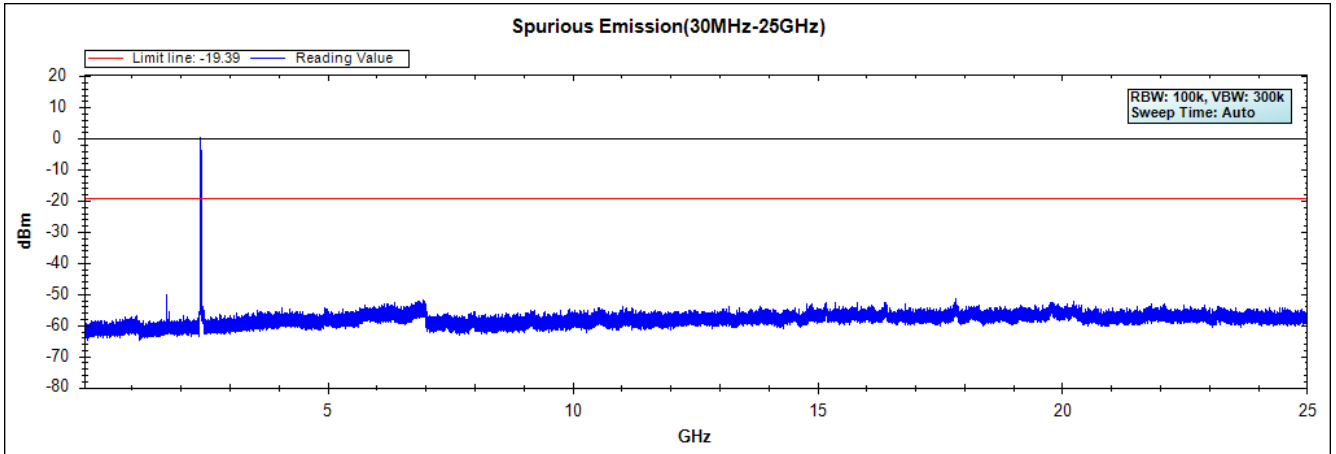
Channel 11 (2462MHz) -Chain A



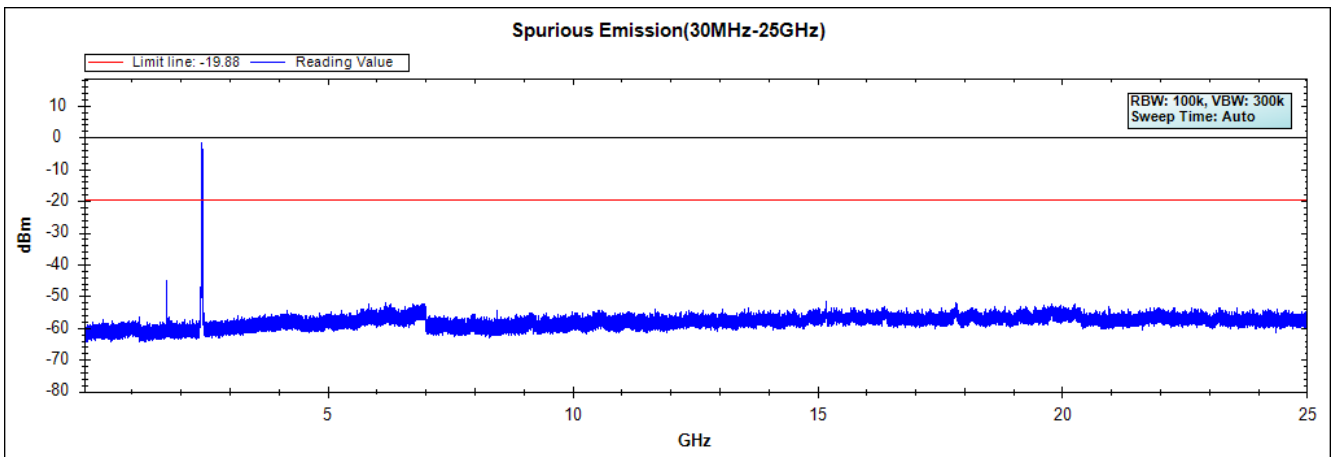
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : DIGITAL CAMERA
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 2: Transmit (802.11g 6Mbps)
Test Date : 2021/08/05

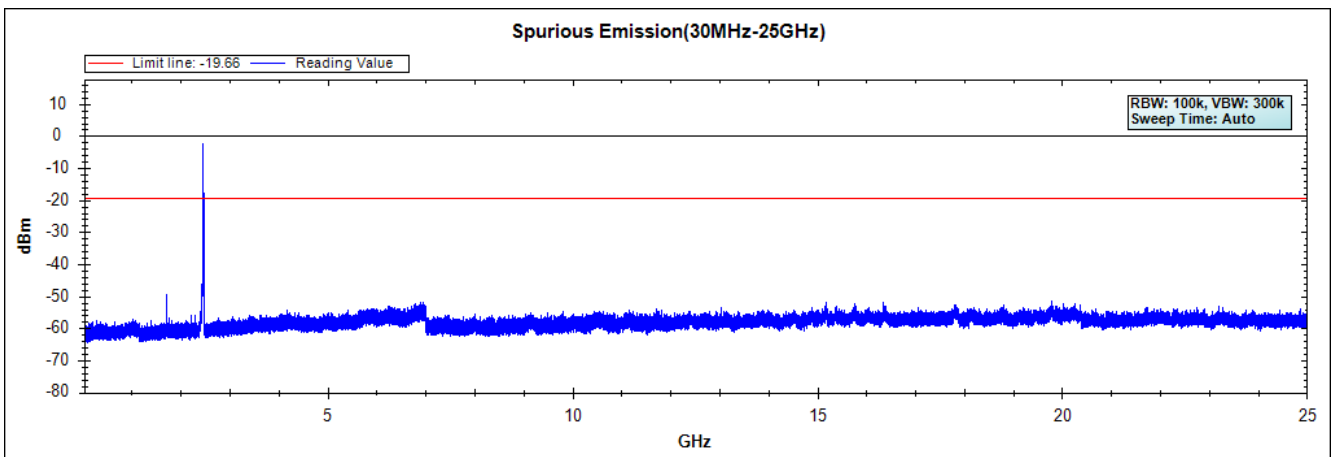
Channel 01 (2412MHz) -Chain B



Channel 06 (2437MHz) -Chain B



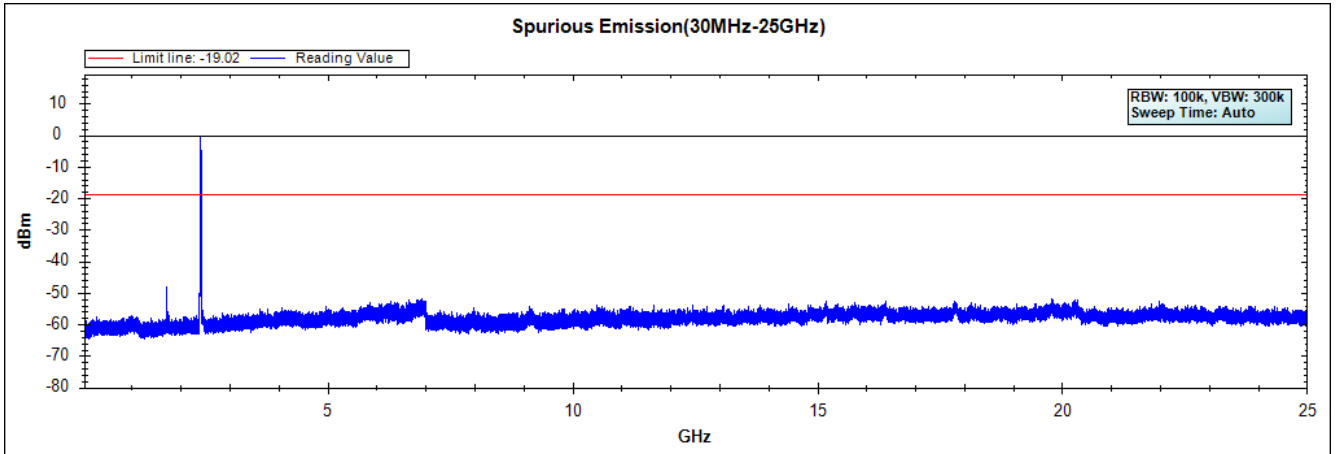
Channel 11 (2462MHz) -Chain B



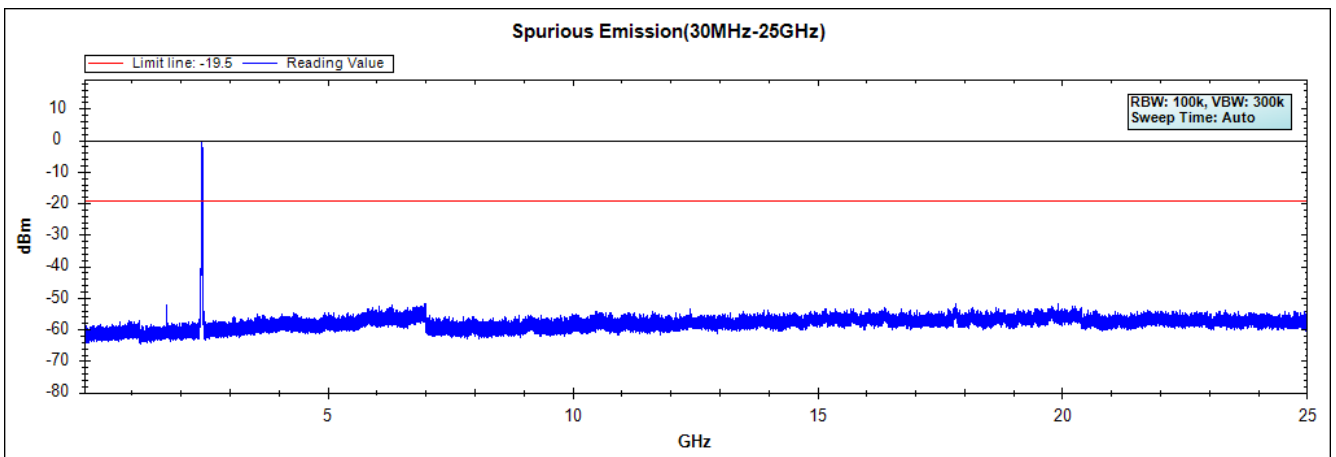
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : DIGITAL CAMERA
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)
Test Date : 2021/08/05

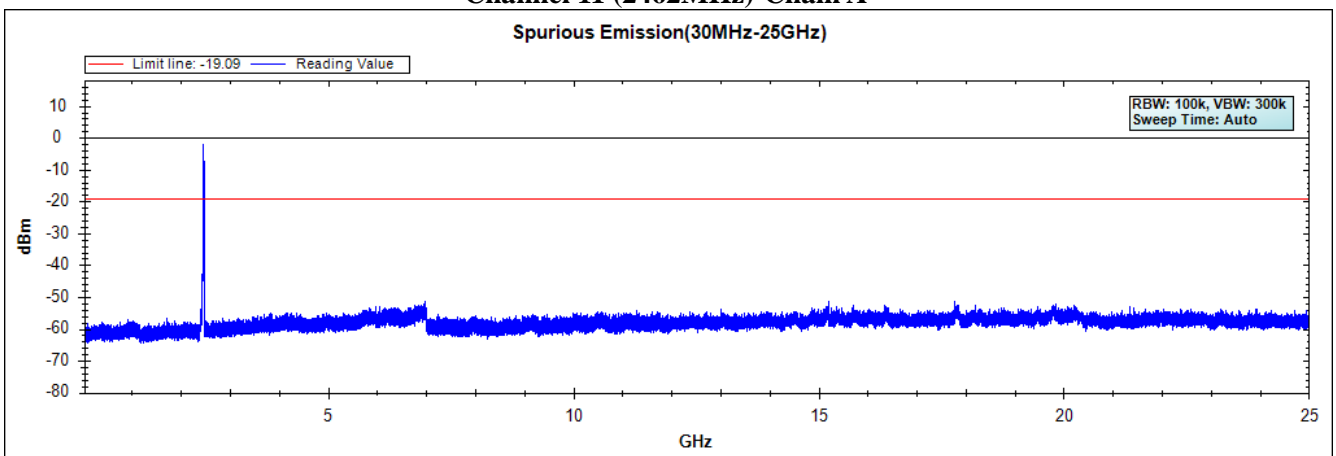
Channel 01 (2412MHz)-Chain A



Channel 06 (2437MHz)-Chain A



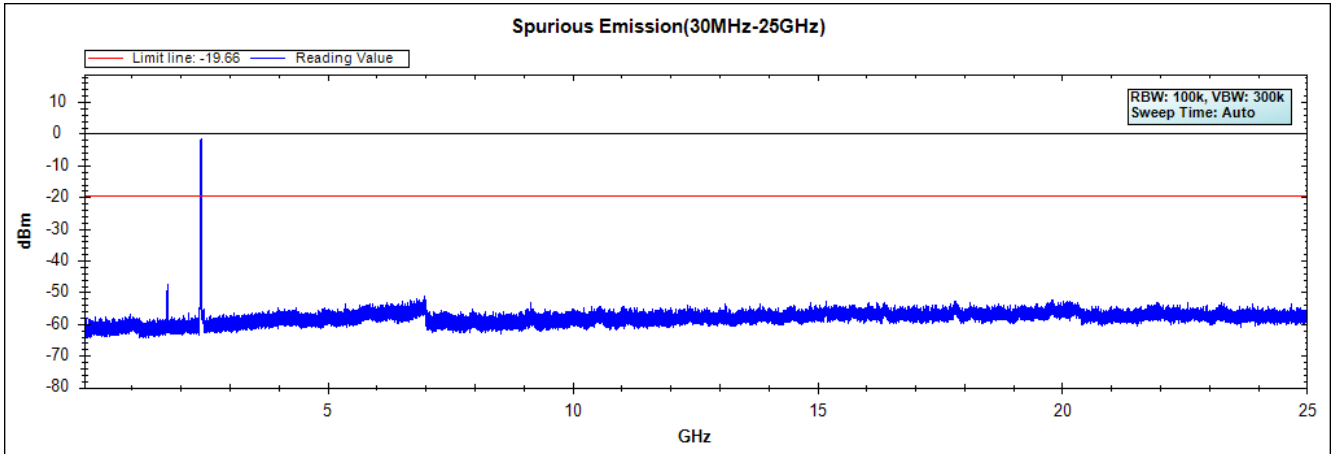
Channel 11 (2462MHz)-Chain A



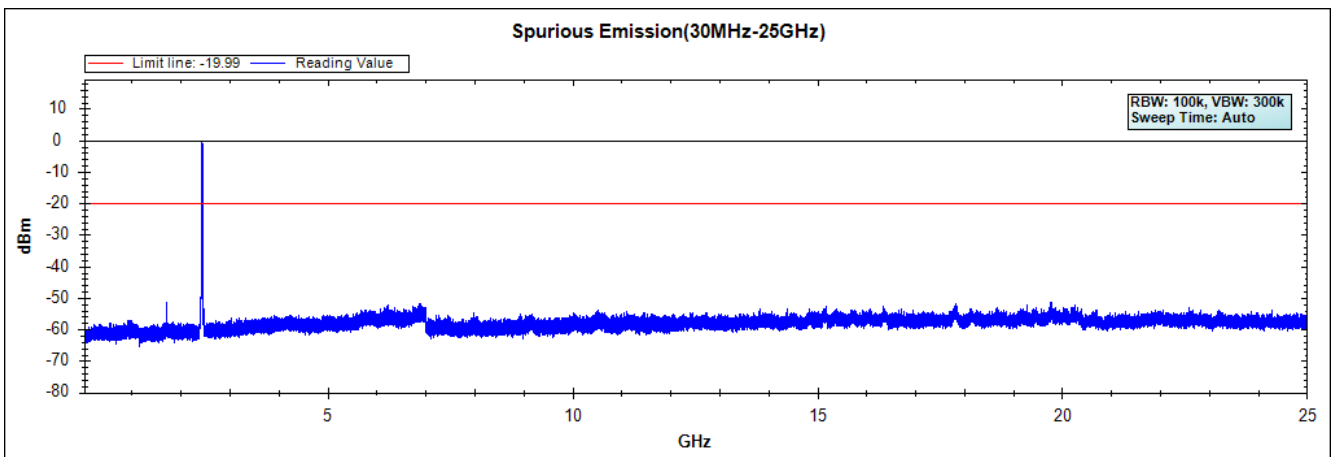
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : DIGITAL CAMERA
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)
Test Date : 2021/08/05

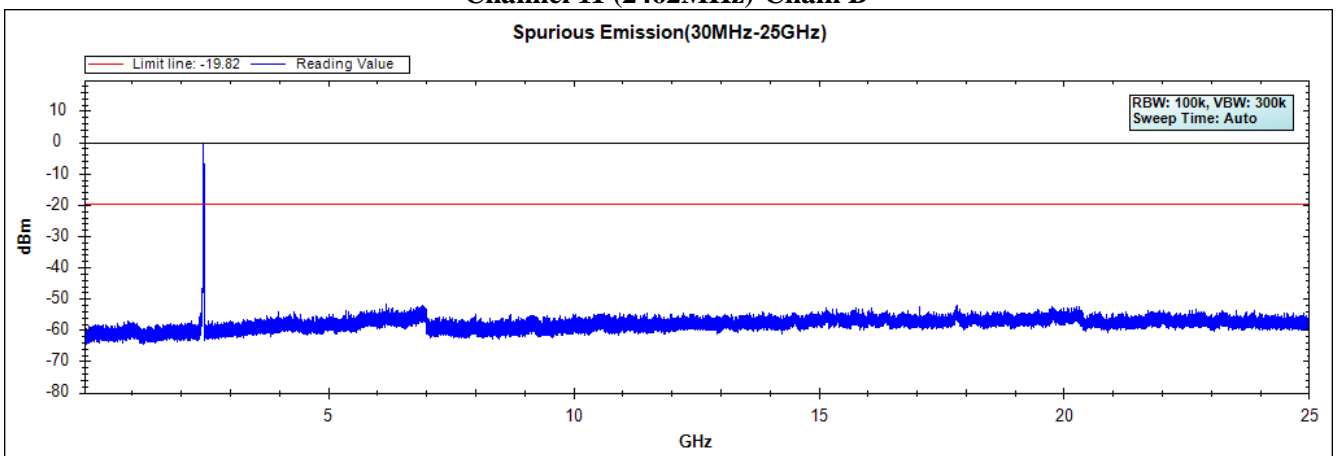
Channel 01 (2412MHz)-Chain B



Channel 06 (2437MHz)-Chain B



Channel 11 (2462MHz)-Chain B

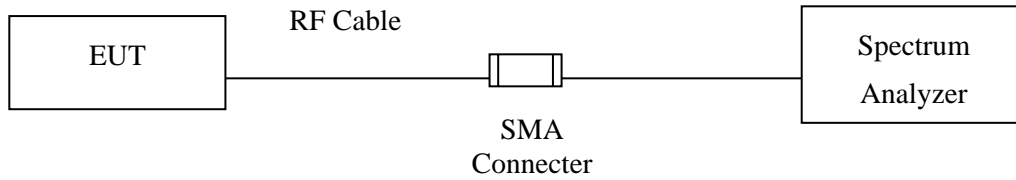


Note: The above test pattern is synthesized by multiple of the frequency range.

6. Band Edge

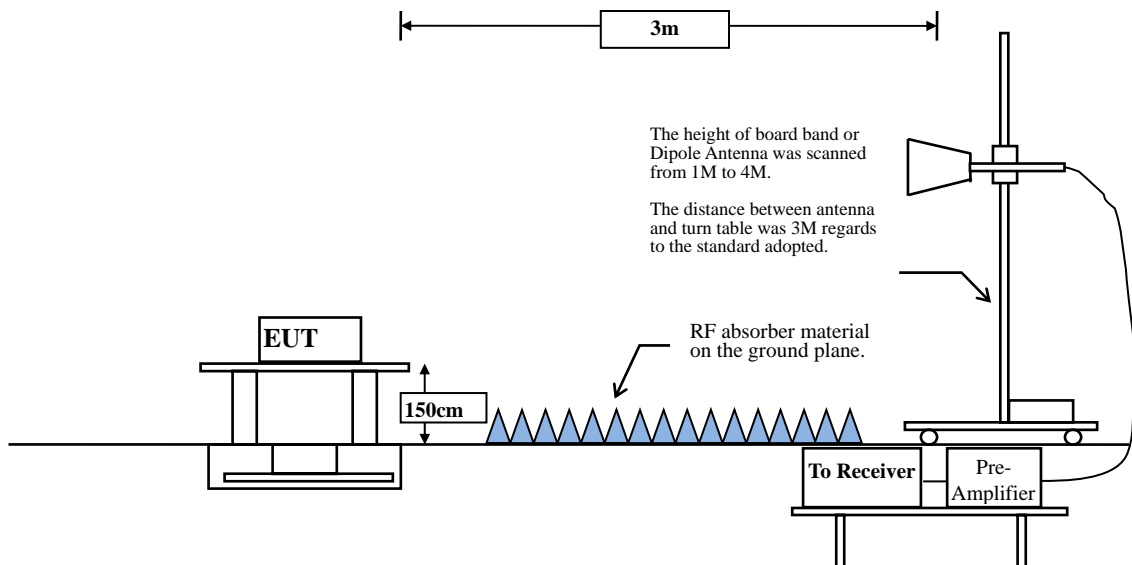
6.1. Test Setup

RF Conducted Measurement



RF Radiated Measurement:

Above 1GHz



6.2. Limits

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

6.3. Test Procedure

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

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

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

RBW and VBW Parameter setting:

According to C63.10 Section 11.12.2.4 Peak measurement procedure.

RBW = as specified in Table 1.

$VBW \geq 3 \times RBW$.

Table 1 —RBW as a function of frequency

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

According to C63.10 Section 11.12.2.5 Average measurement procedure.

RBW = 1MHz.

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

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

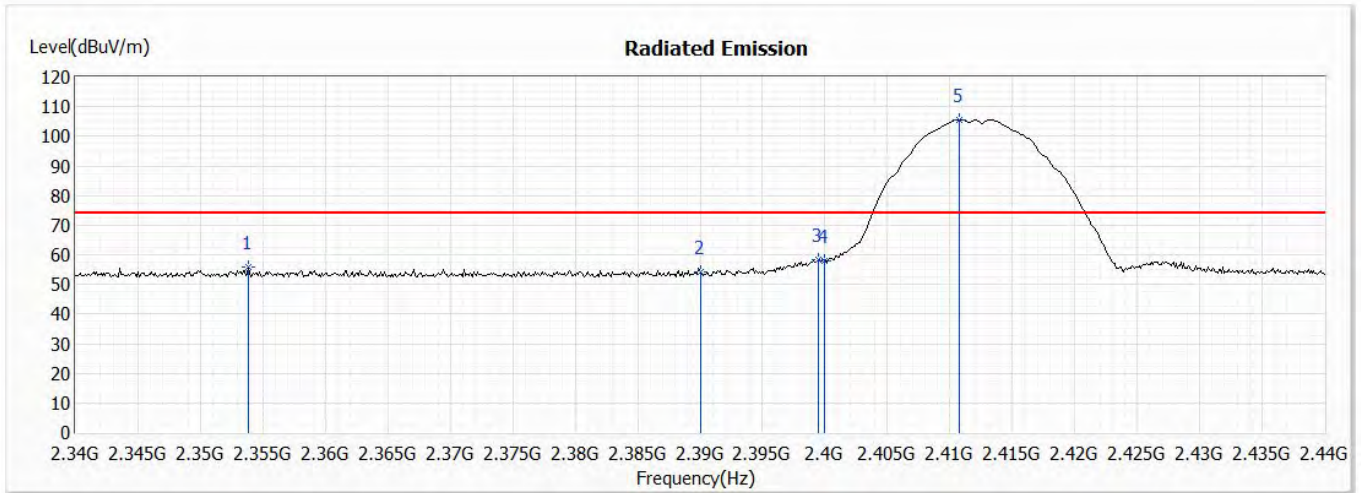
(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11b	99.20	12.4500	80	10
802.11g	96.93	2.0500	488	500
802.11n20	95.98	1.9100	524	1000

Note: Duty Cycle Refer to Section 9

6.4. Test Result of Band Edge

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11b,MIMO,2.412GHz	Humidity (%RH)	62.3

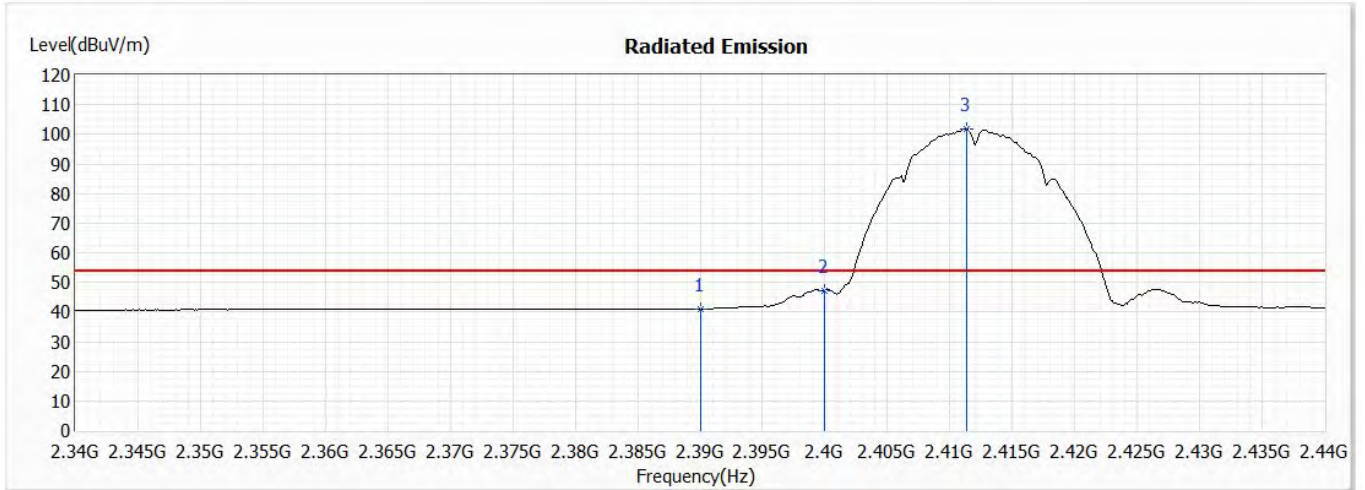


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2353.800	55.66	74.00	-18.34	42.52	13.14	PK
2	2390.000	54.24	74.00	-19.76	41.05	13.19	PK
3	2399.500	58.30	74.00	-15.70	45.10	13.20	PK
4	2400.000	57.96	--	--	44.76	13.20	PK
!5	2410.800	105.59	--	--	92.40	13.19	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11b, MIMO,2.412GHz	Humidity (%RH)	62.3

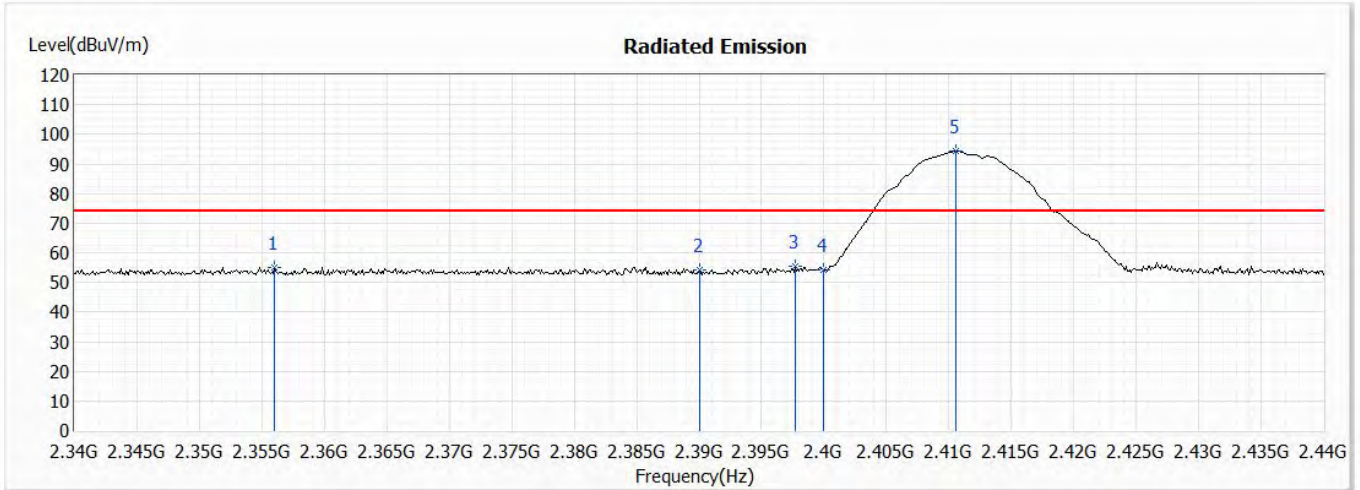


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	41.06	54.00	-12.94	27.87	13.19	AV
2	2400.000	47.22	--	--	34.02	13.20	AV
! 3	2411.300	101.74	--	--	88.55	13.19	AV

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11b, MIMO,2.412GHz	Humidity (%RH)	62.3

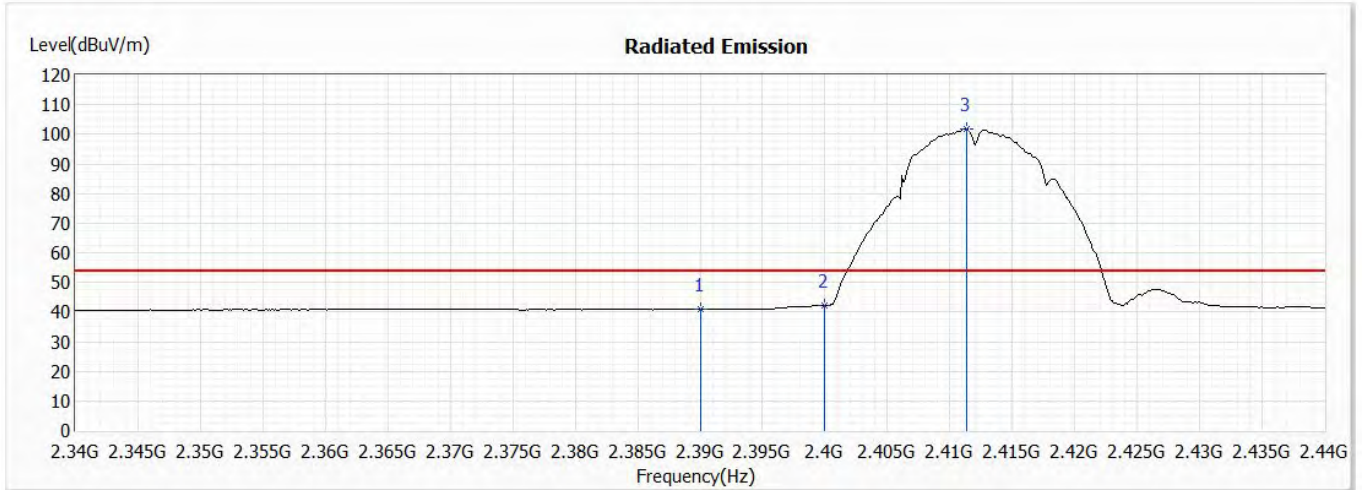


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2356.000	55.00	74.00	-19.00	41.85	13.15	PK
2	2390.000	54.14	74.00	-19.86	40.95	13.19	PK
3	2397.700	55.65	74.00	-18.35	42.45	13.20	PK
4	2400.000	54.18	--	--	40.98	13.20	PK
!5	2410.600	94.26	--	--	81.07	13.19	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11b, MIMO,2.412G	Humidity (%RH)	62.3

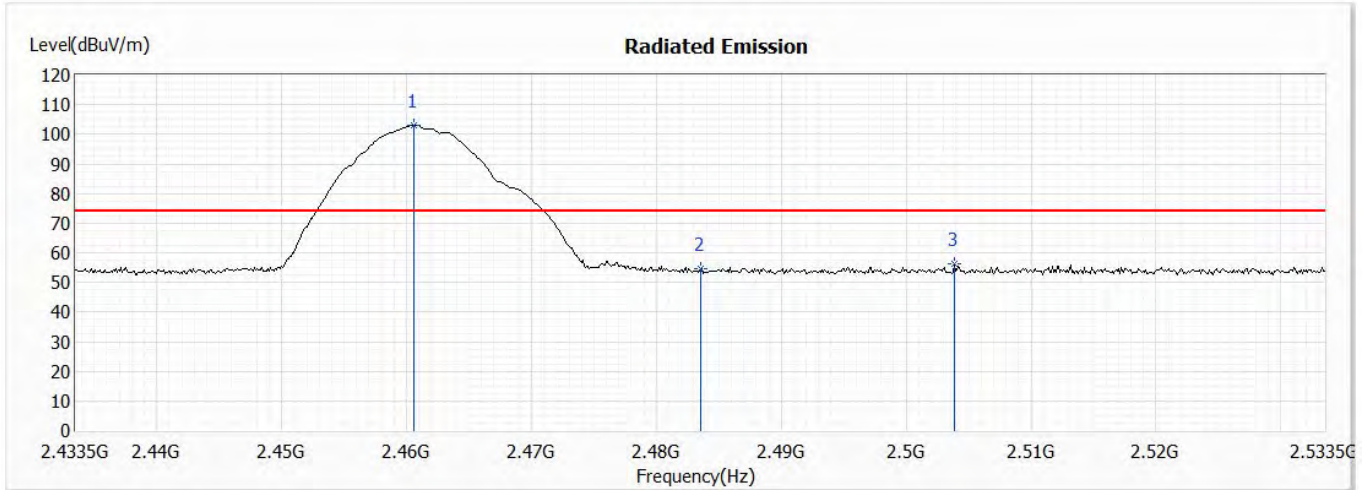


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	40.85	54.00	-13.15	27.66	13.19	AV
2	2400.000	42.24	--	--	29.04	13.20	AV
! 3	2411.300	101.74	--	--	88.55	13.19	AV

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11b, MIMO,2.462GHz	Humidity (%RH)	62.3

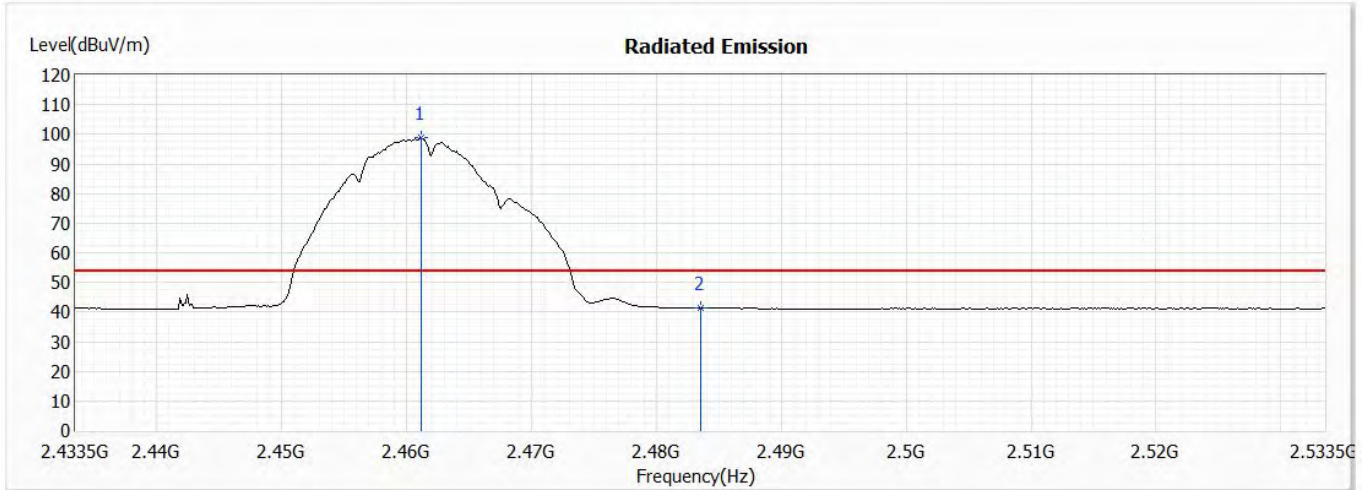


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2460.600	103.03	--	--	89.85	13.18	PK
2	2483.500	54.64	74.00	-19.36	41.43	13.21	PK
3	2503.900	56.24	74.00	-17.76	43.02	13.22	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11b, MIMO,2.462GHz	Humidity (%RH)	62.3

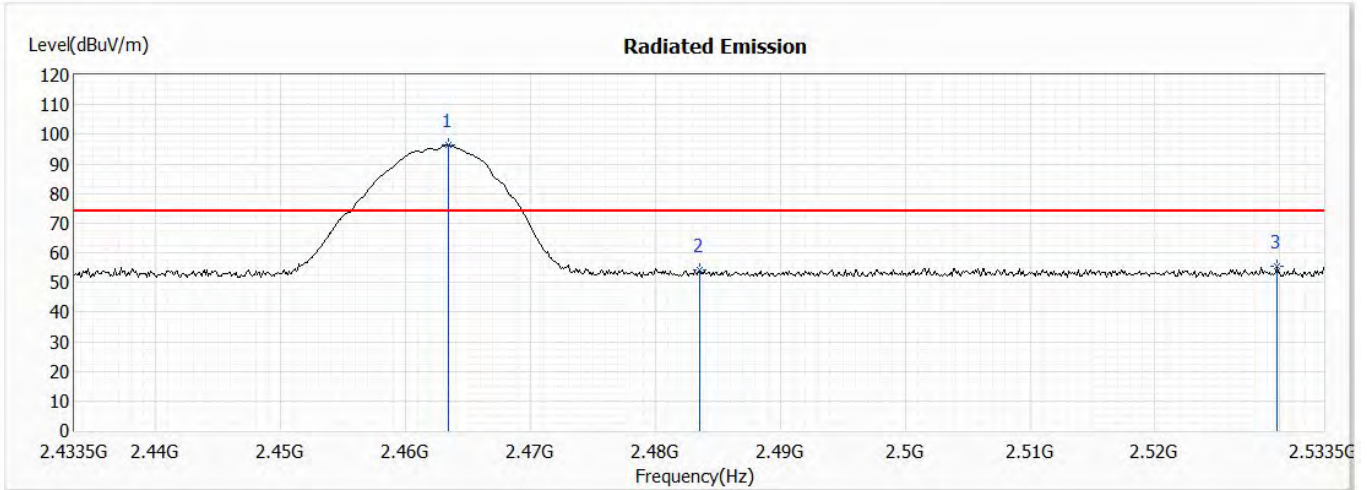


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2461.200	98.77	--	--	85.59	13.18	AV
2	2483.500	41.24	54.00	-12.76	28.03	13.21	AV

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11b, MIMO,2.462GHz	Humidity (%RH)	62.3

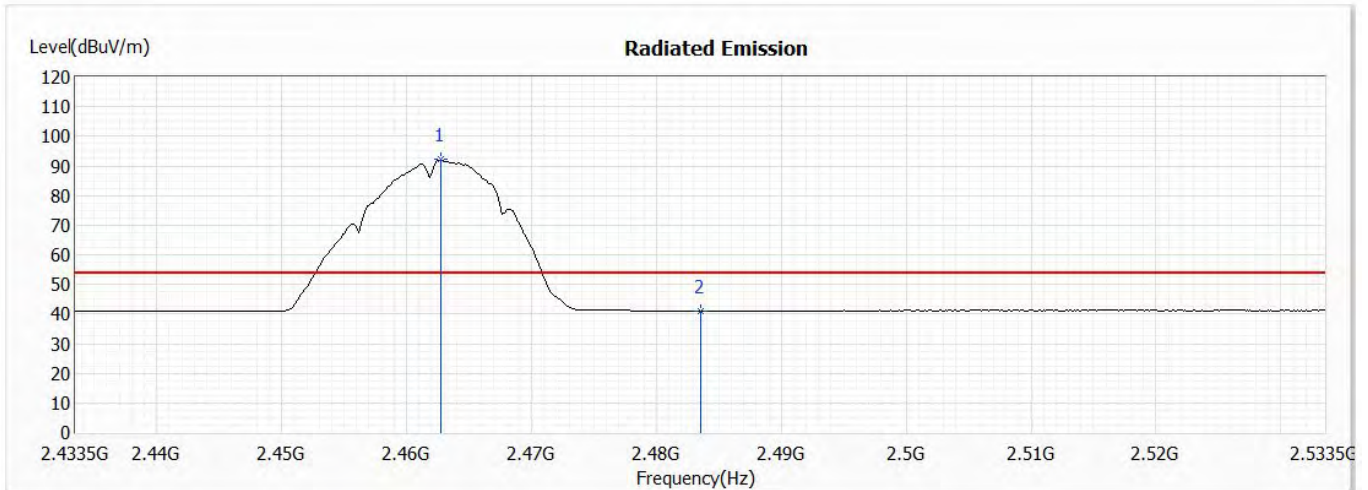


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2463.400	96.27	--	--	83.09	13.18	PK
2	2483.500	54.14	74.00	-19.86	40.93	13.21	PK
3	2529.800	55.52	74.00	-18.48	42.31	13.21	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11b, MIMO,2.462GHz	Humidity (%RH)	62.3

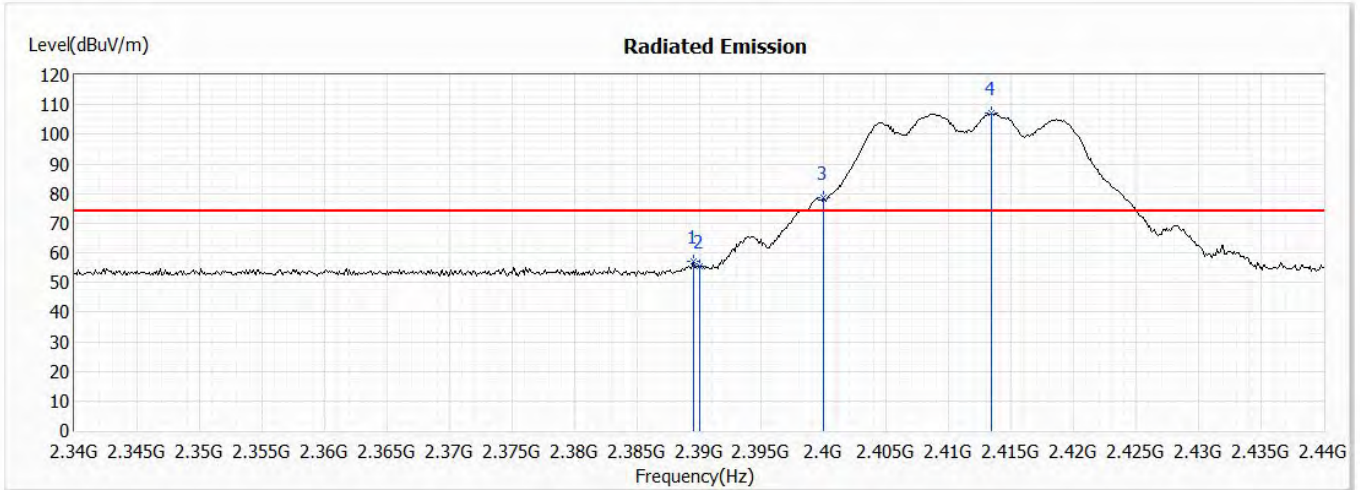


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2462.700	92.11	--	--	78.93	13.18	AV
2	2483.500	41.11	54.00	-12.89	27.90	13.21	AV

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11g, MIMO,2.412GHz	Humidity (%RH)	62.3

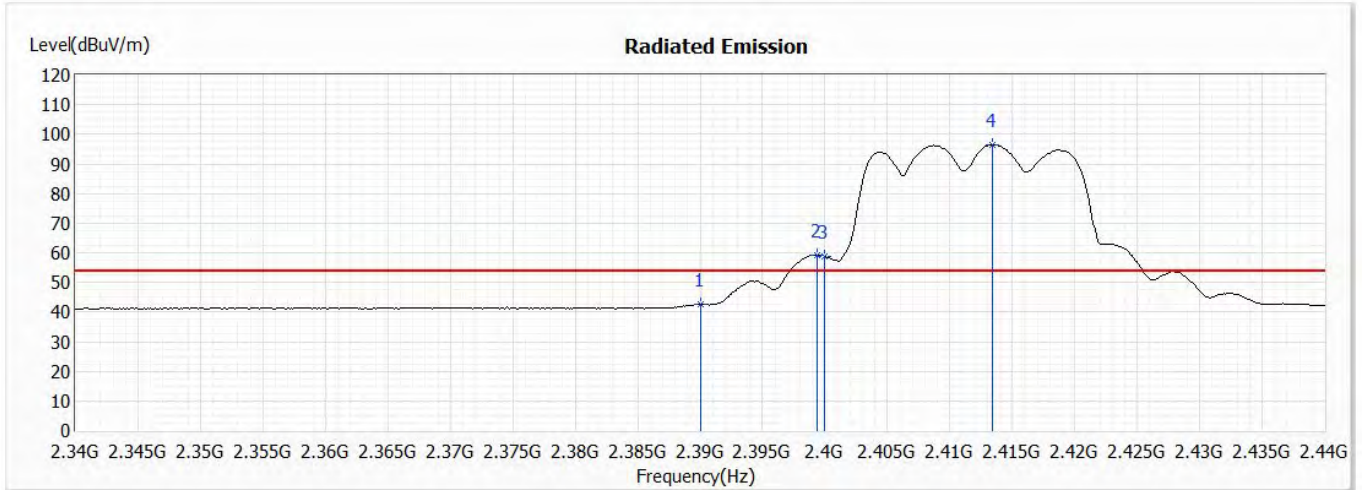


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2389.600	57.12	74.00	-16.88	43.93	13.19	PK
2	2390.000	55.46	74.00	-18.54	42.27	13.19	PK
! 3	2400.000	78.66	--	--	65.46	13.20	PK
! 4	2413.400	106.98	--	--	93.79	13.19	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11g, MIMO,2.412GHz	Humidity (%RH)	62.3



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	42.53	54.00	-11.47	29.34	13.19	AV
! 2	2399.400	59.25	54.00	5.25	46.05	13.20	AV
! 3	2400.000	58.86	--	--	45.66	13.20	AV
! 4	2413.400	96.47	--	--	83.28	13.19	AV

Remark:

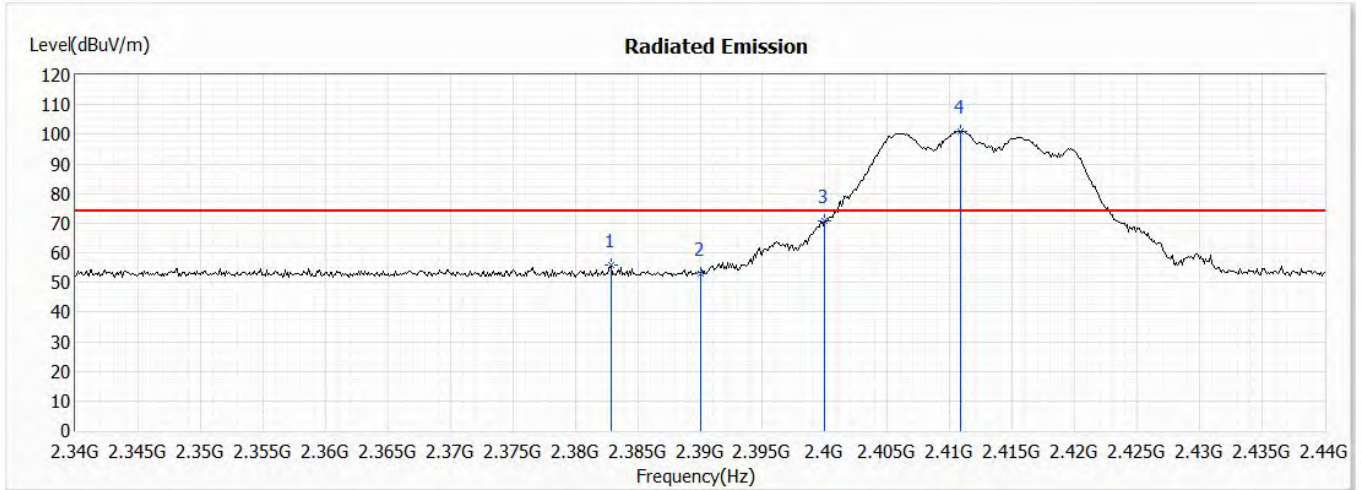
1. "*" means this data is the worst emission level;

"!" means this data is over limit.

2. Emission Level=Reading Level + Correct Factor(Correct Factor=Ant Factor+ Cable Loss- Pre Amp).

3. Margin= Emission Level- Limit.

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11g, MIMO,2.412GHz	Humidity (%RH)	62.3

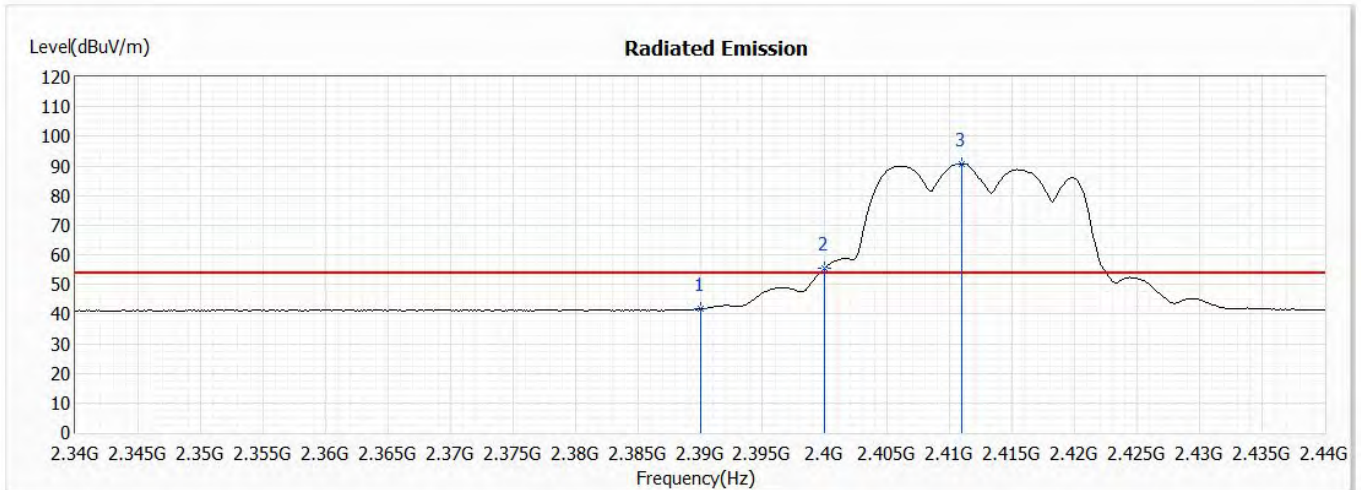


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2382.900	55.80	74.00	-18.20	42.63	13.17	PK
2	2390.000	52.86	74.00	-21.14	39.67	13.19	PK
3	2400.000	70.56	--	--	57.36	13.20	PK
!4	2410.900	100.98	--	--	87.79	13.19	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11g, MIMO,2.412GHz	Humidity (%RH)	62.3

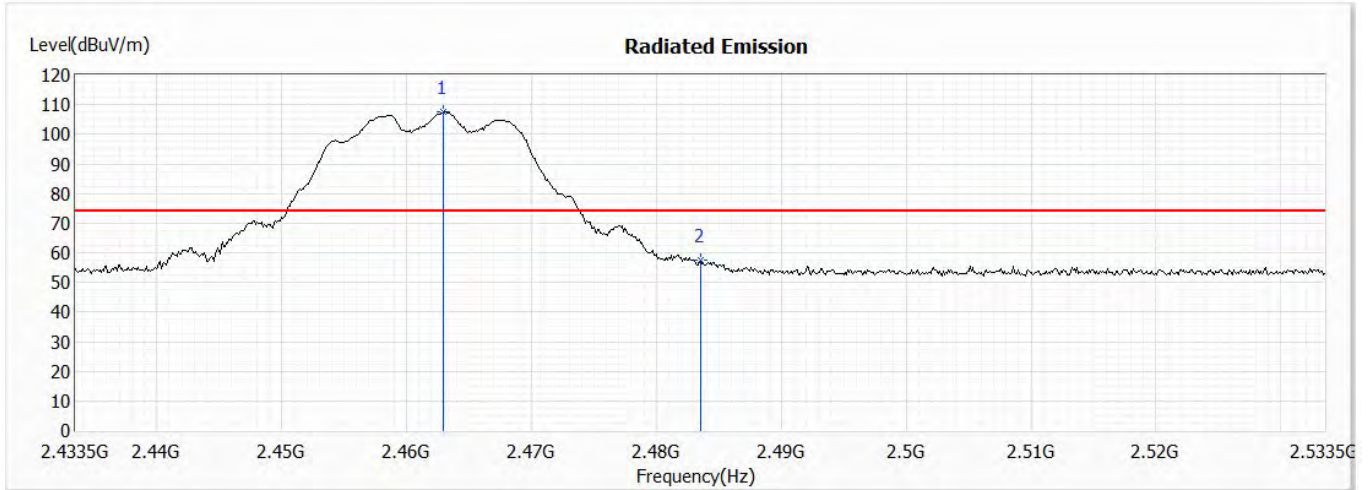


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	41.76	54.00	-12.24	28.57	13.19	AV
! 2	2400.000	55.42	--	--	42.22	13.20	AV
! 3	2411.000	90.72	--	--	77.53	13.19	AV

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11g, MIMO,2.462GHz	Humidity (%RH)	62.3

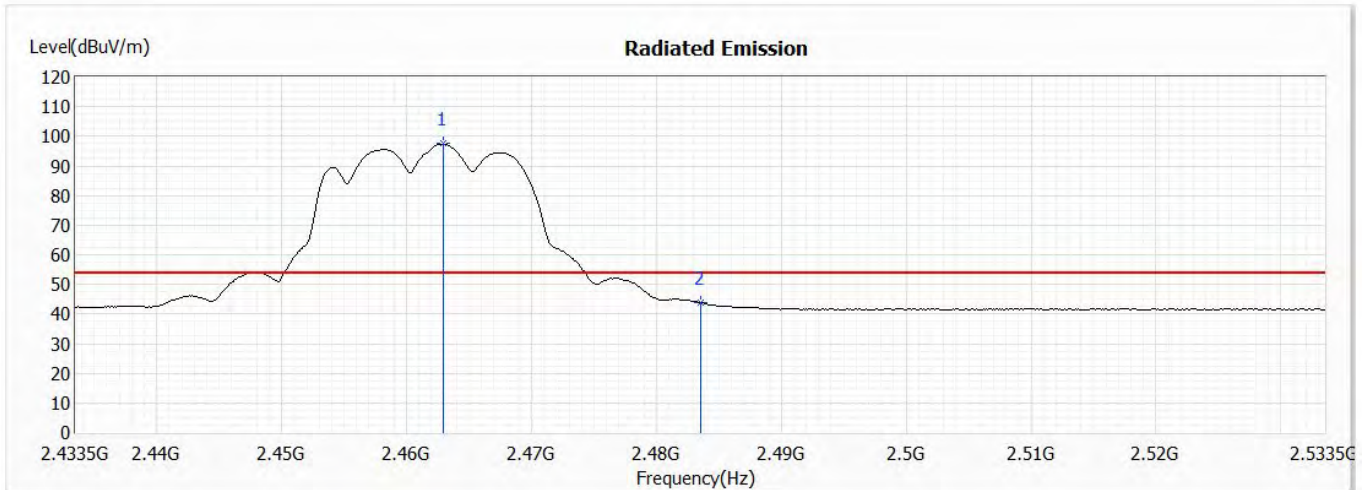


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2462.900	107.57	--	--	94.39	13.18	PK
2	2483.500	57.37	74.00	-16.63	44.16	13.21	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11g, MIMO,2.462GHz	Humidity (%RH)	62.3

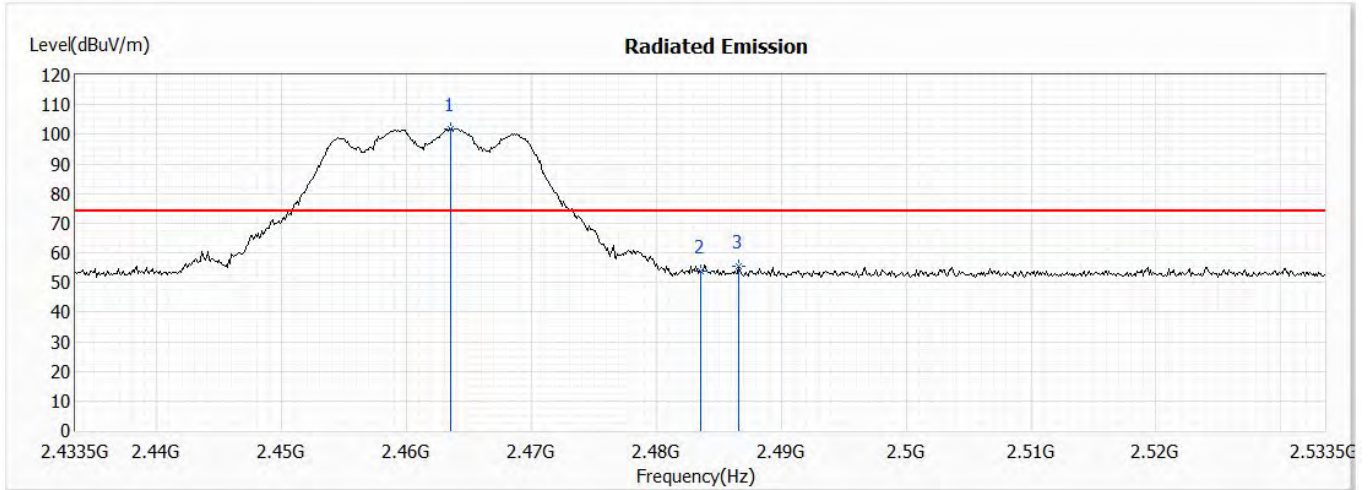


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2462.900	97.45	--	--	84.27	13.18	AV
2	2483.500	43.67	54.00	-10.33	30.46	13.21	AV

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11g, MIMO,2.462GHz	Humidity (%RH)	62.3

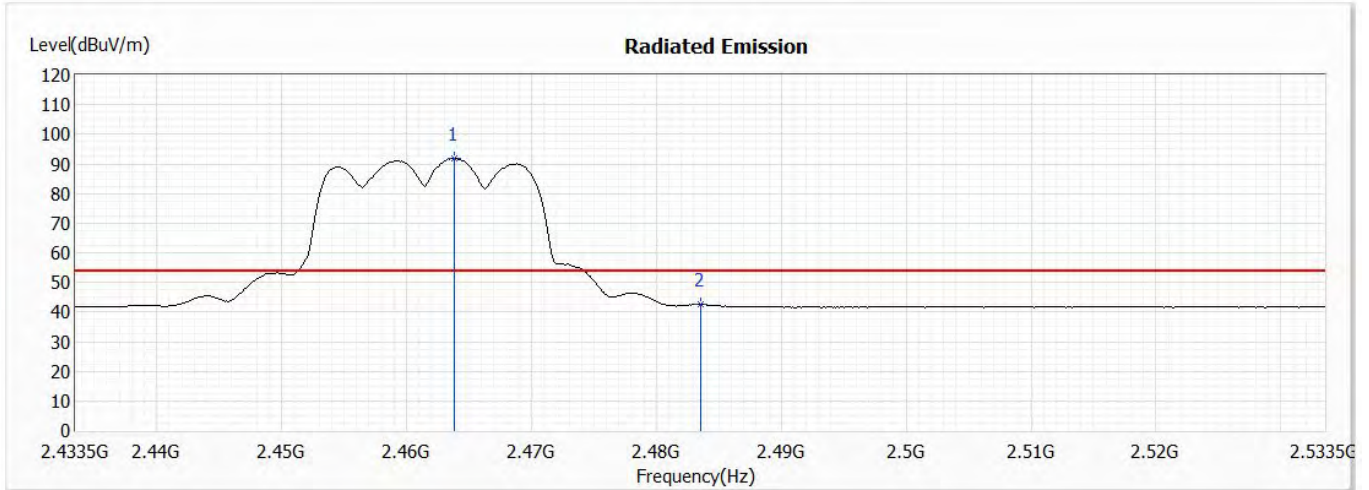


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2463.500	101.97	--	--	88.79	13.18	PK
2	2483.500	53.85	74.00	-20.15	40.64	13.21	PK
3	2486.600	55.41	74.00	-18.59	42.20	13.21	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11g, MIMO,2.462GHz	Humidity (%RH)	62.3

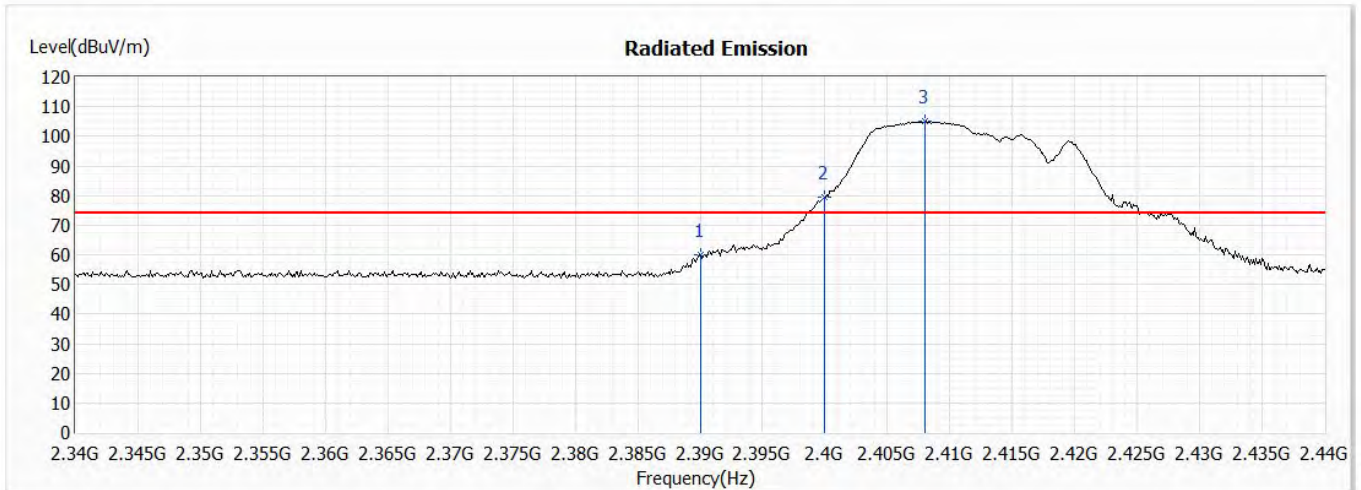


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2463.800	91.91	--	--	78.73	13.18	AV
2	2483.500	42.43	54.00	-11.57	29.22	13.21	AV

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11n20, MIMO,2.412GHz	Humidity (%RH)	62.3

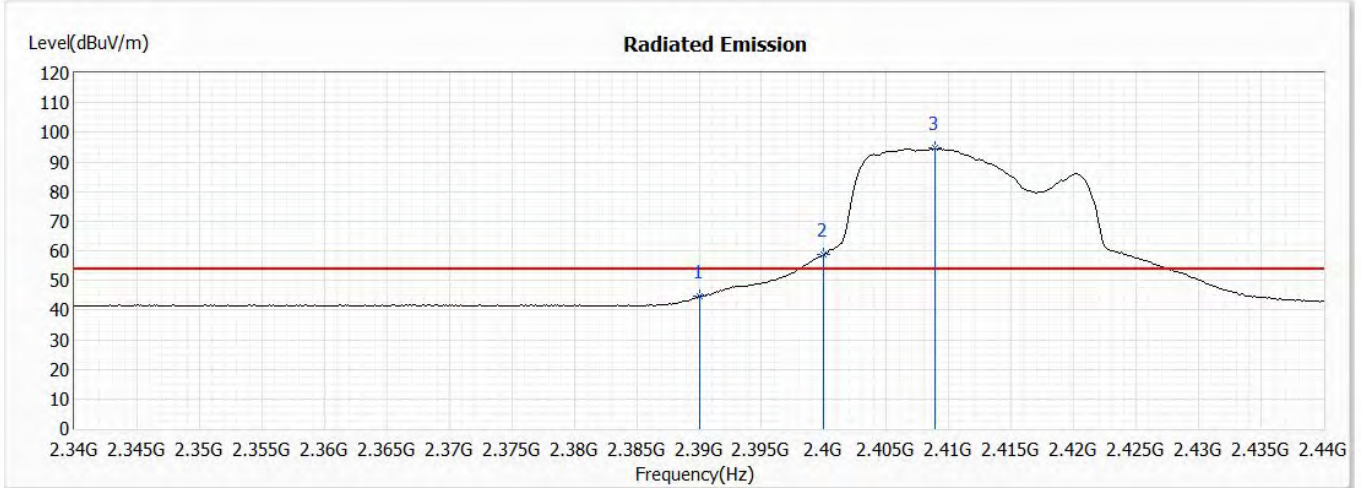


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	60.02	74.00	-13.98	46.83	13.19	PK
! 2	2400.000	79.34	--	--	66.14	13.20	PK
! 3	2408.000	104.97	--	--	91.78	13.19	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11n20, MIMO,2.412GHz	Humidity (%RH)	62.3

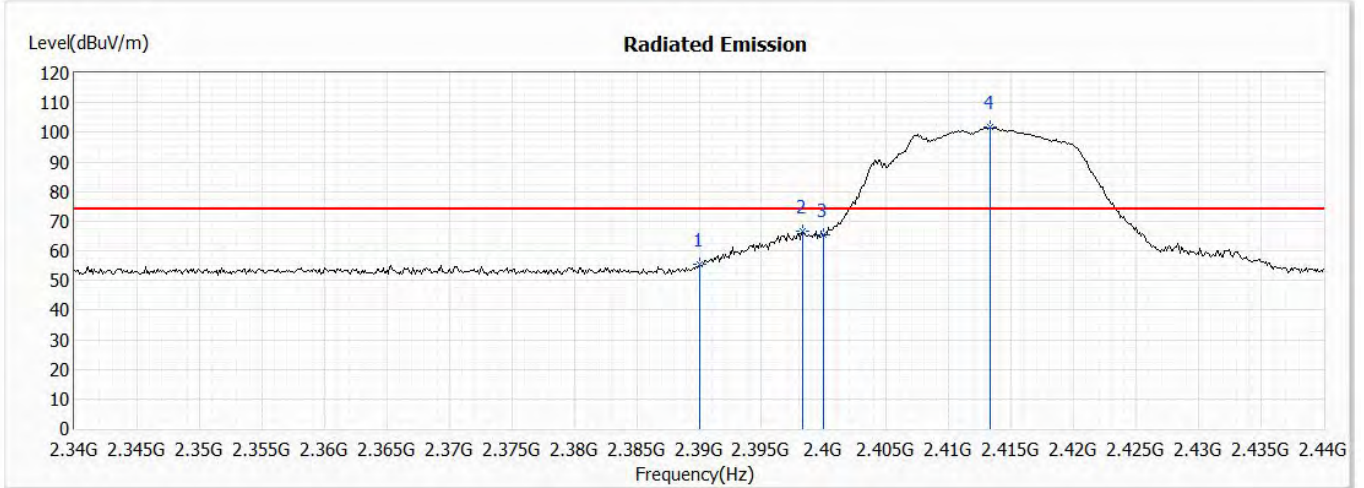


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	44.61	54.00	-9.39	31.42	13.19	AV
! 2	2400.000	58.77	--	--	45.57	13.20	AV
! 3	2408.900	94.58	--	--	81.39	13.19	AV

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11n20, MIMO,2.412GHz	Humidity (%RH)	62.3

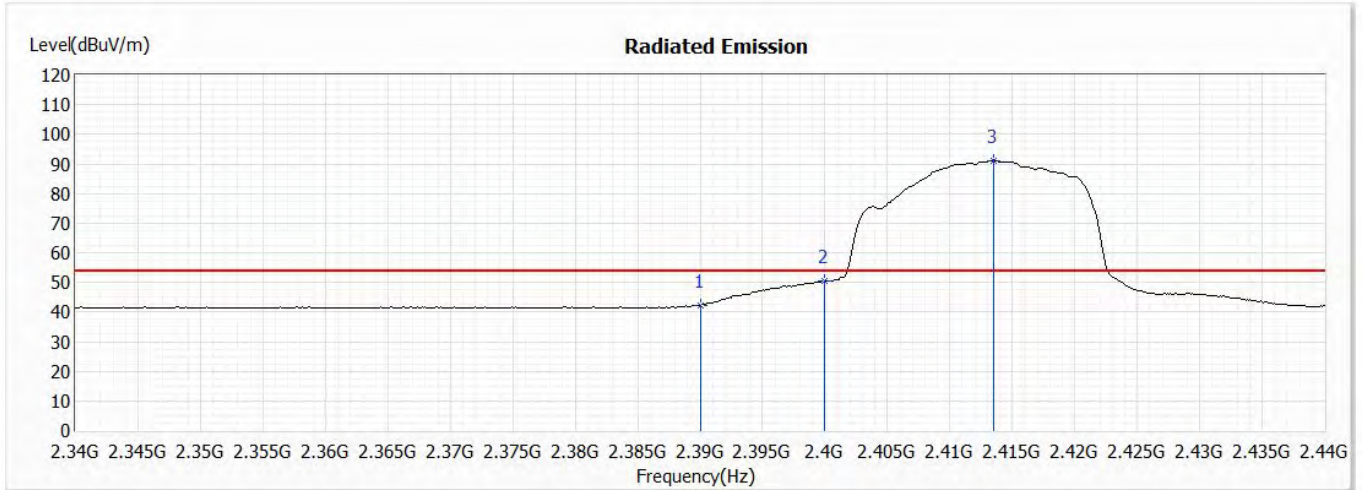


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	55.55	74.00	-18.45	42.36	13.19	PK
2	2398.300	66.67	74.00	-7.33	53.47	13.20	PK
3	2400.000	65.26	--	--	52.06	13.20	PK
!4	2413.300	101.65	--	--	88.46	13.19	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11n20, MIMO,2.412GHz	Humidity (%RH)	62.3

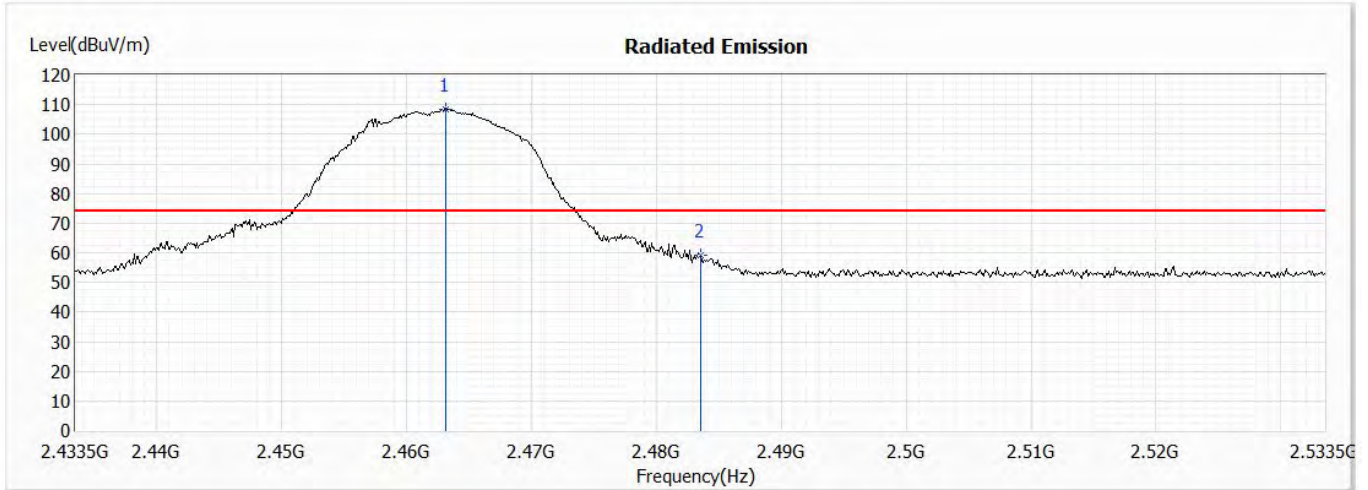


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	2390.000	42.41	54.00	-11.59	29.22	13.19	AV
2	2400.000	50.56	--	--	37.36	13.20	AV
! 3	2413.500	91.24	--	--	78.05	13.19	AV

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11n20, MIMO,2.462GHz	Humidity (%RH)	62.3

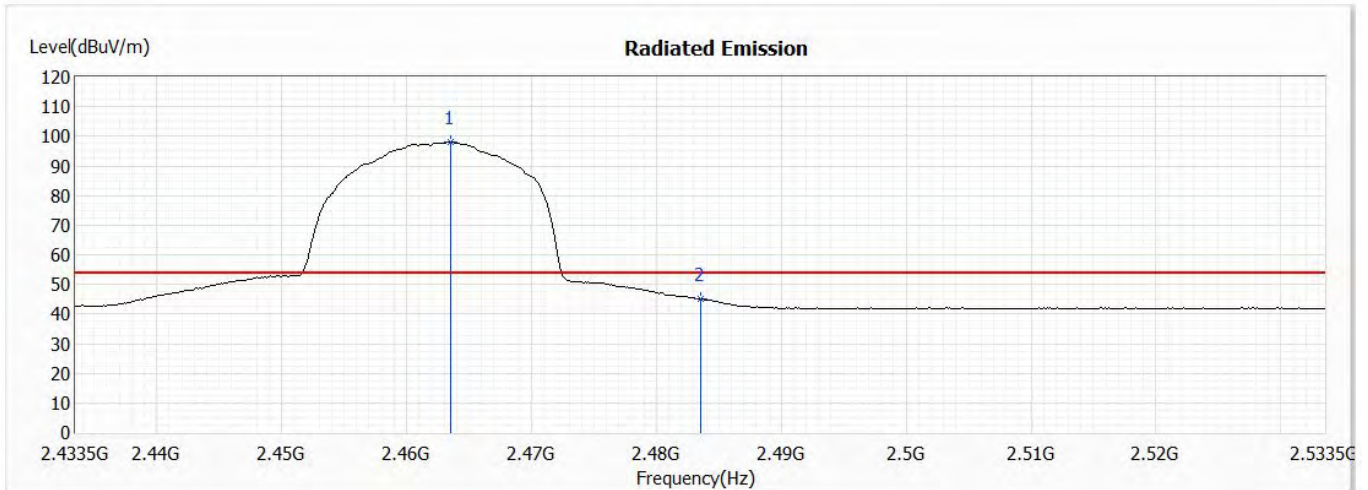


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2463.100	108.62	--	--	95.44	13.18	PK
2	2483.500	59.19	74.00	-14.81	45.98	13.21	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Horizontal	Temperature (°C)	25.5
Test Condition	802.11n20, MIMO,2.462GHz	Humidity (%RH)	62.3

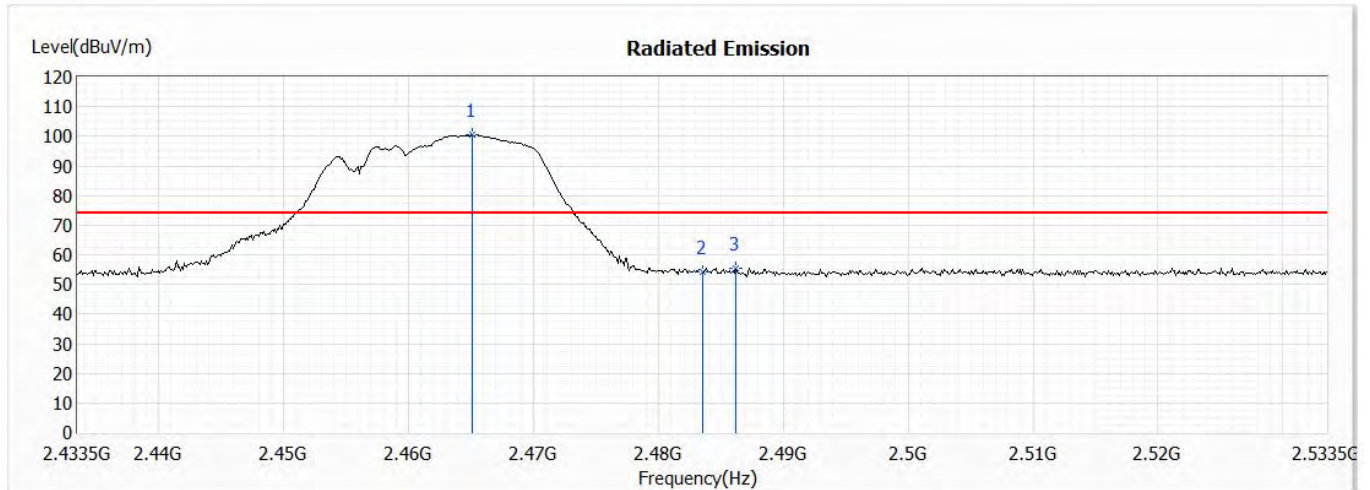


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2463.500	98.01	--	--	84.83	13.18	AV
2	2483.500	44.91	54.00	-9.09	31.70	13.21	AV

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11n20, MIMO,2.462GHz	Humidity (%RH)	62.3

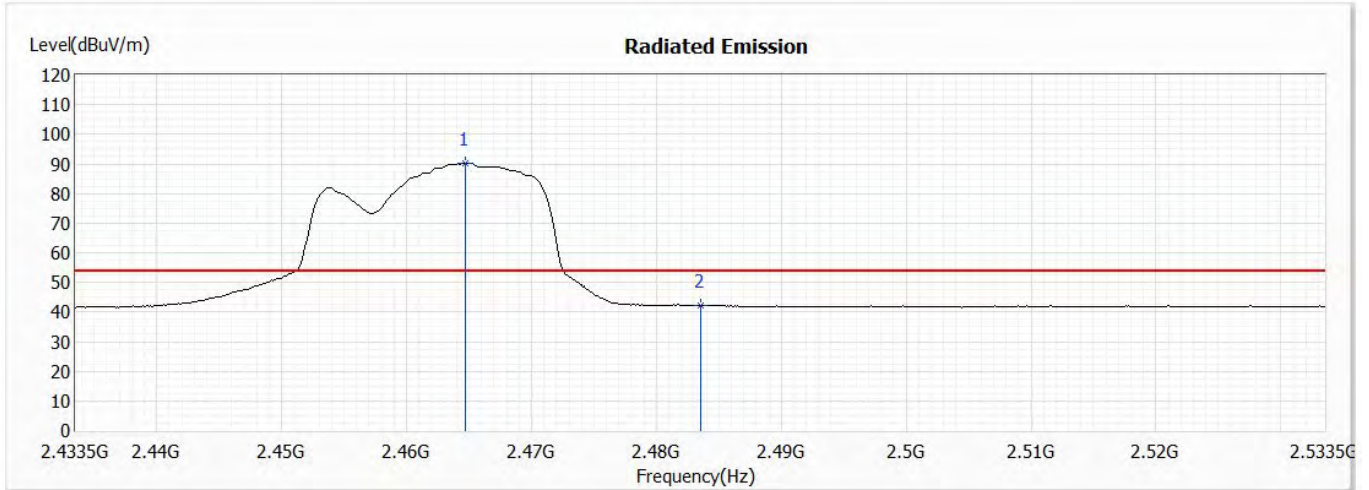


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2465.100	100.43	--	--	87.25	13.18	PK
2	2483.500	54.35	74.00	-19.65	41.14	13.21	PK
3	2486.200	55.47	74.00	-18.53	42.26	13.21	PK

Remark:

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

Model No	R04010	Site	966-3
Test Voltage	AC 120 V / 60 Hz	Test Date	2021/7/27
Test Mode	Mode 1: Transmit	Engineer	Nick Chen
Polarity	Vertical	Temperature (°C)	25.5
Test Condition	802.11n20, MIMO,2.462GHz	Humidity (%RH)	62.3



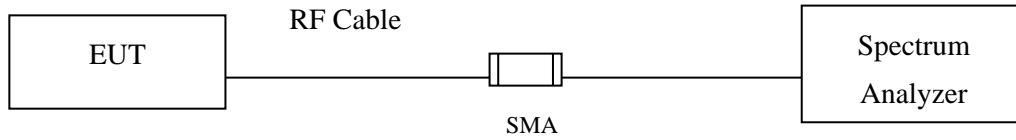
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
! 1	2464.700	90.27	--	--	77.09	13.18	AV
2	2483.500	42.22	54.00	-11.78	29.01	13.21	AV

Remark:

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

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

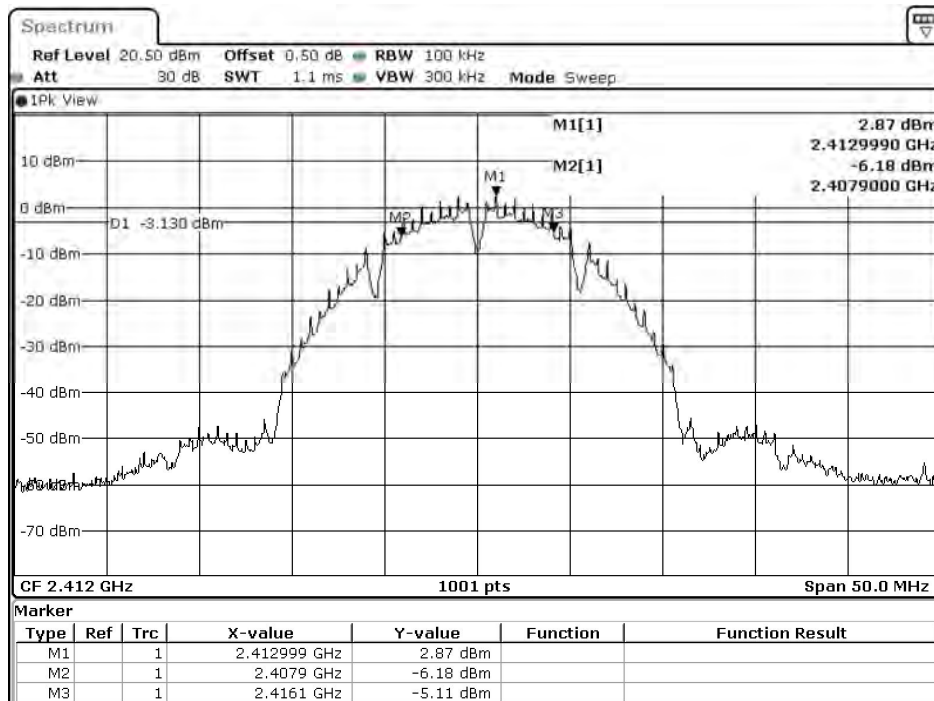
Chain A

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

Chain B

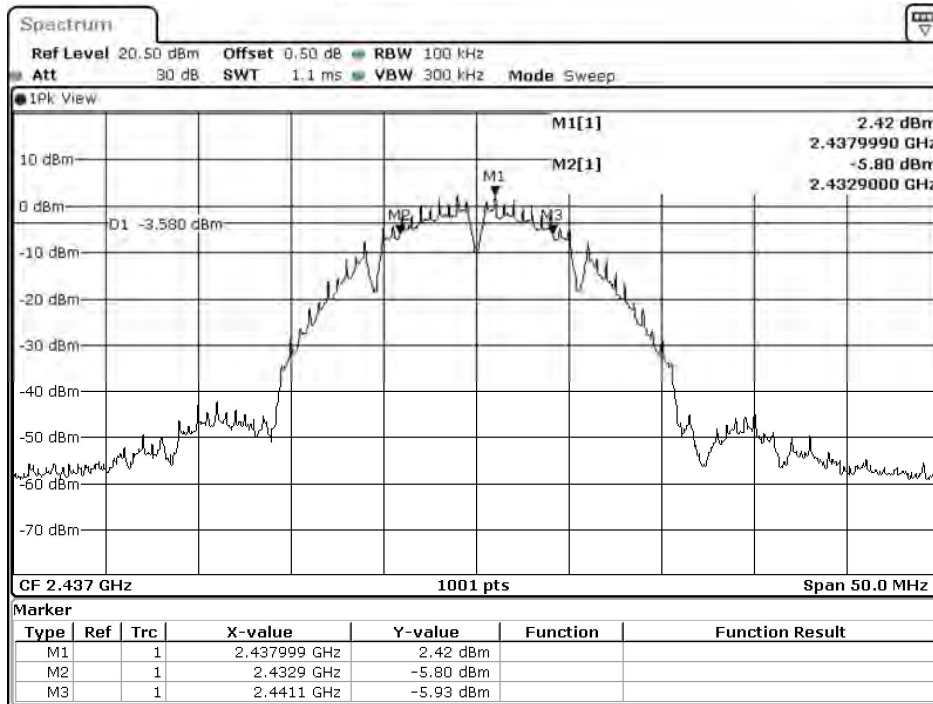
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	8200	>500	Pass
06	2437	8200	>500	Pass
11	2462	8150	>500	Pass

Figure Channel 01: Chain A



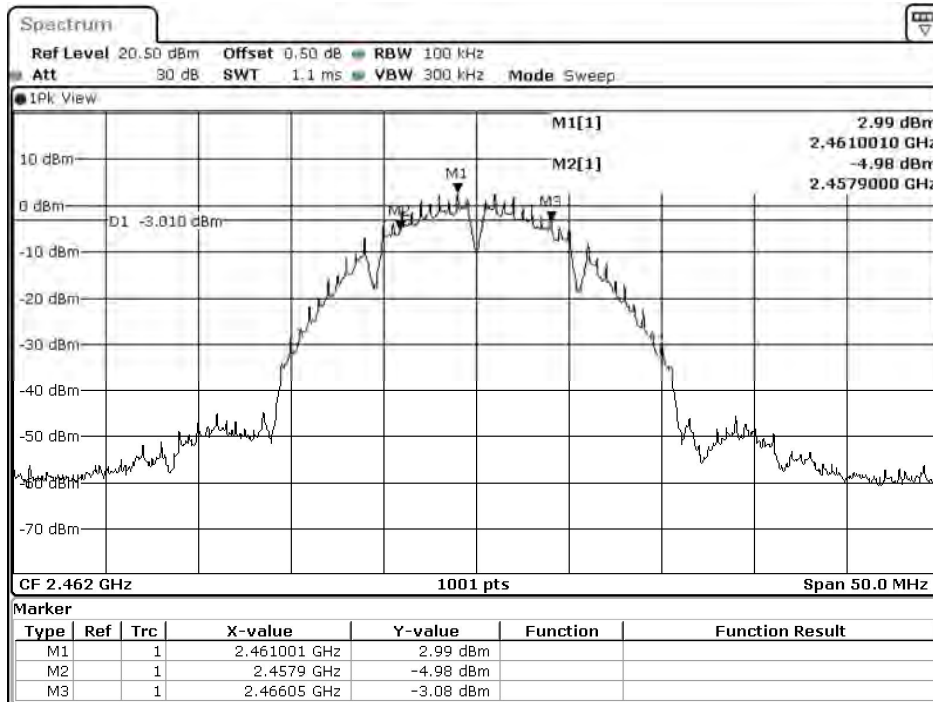
Date: 4.AUG.2021 20:25:38

Figure Channel 06: Chain A



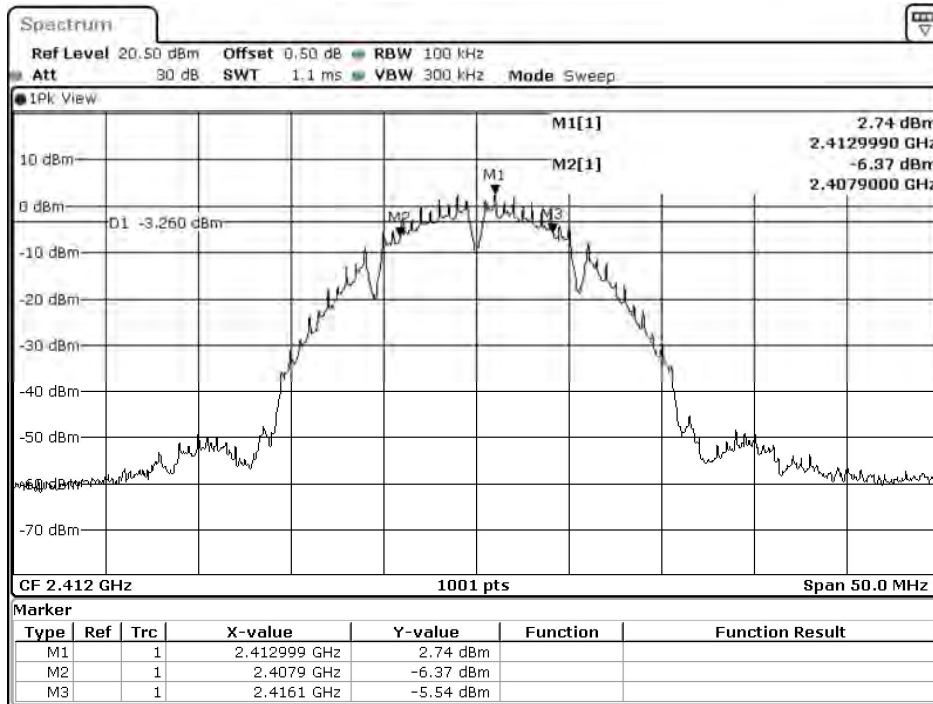
Date: 4.AUG.2021 20:48:42

Figure Channel 11: Chain A



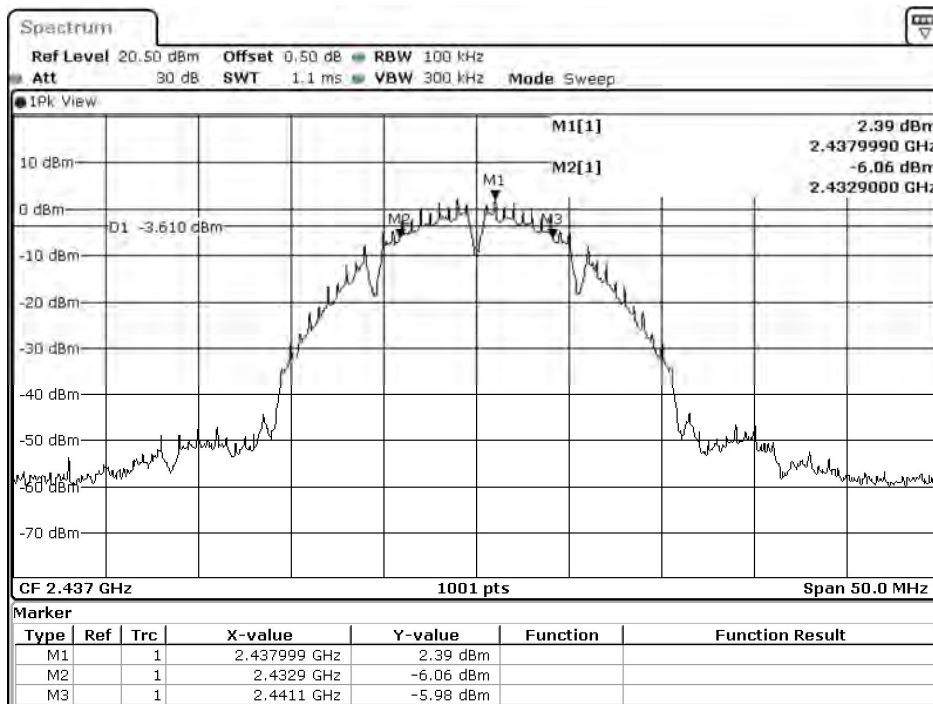
Date: 4.AUG.2021 21:01:10

Figure Channel 01: Chain B



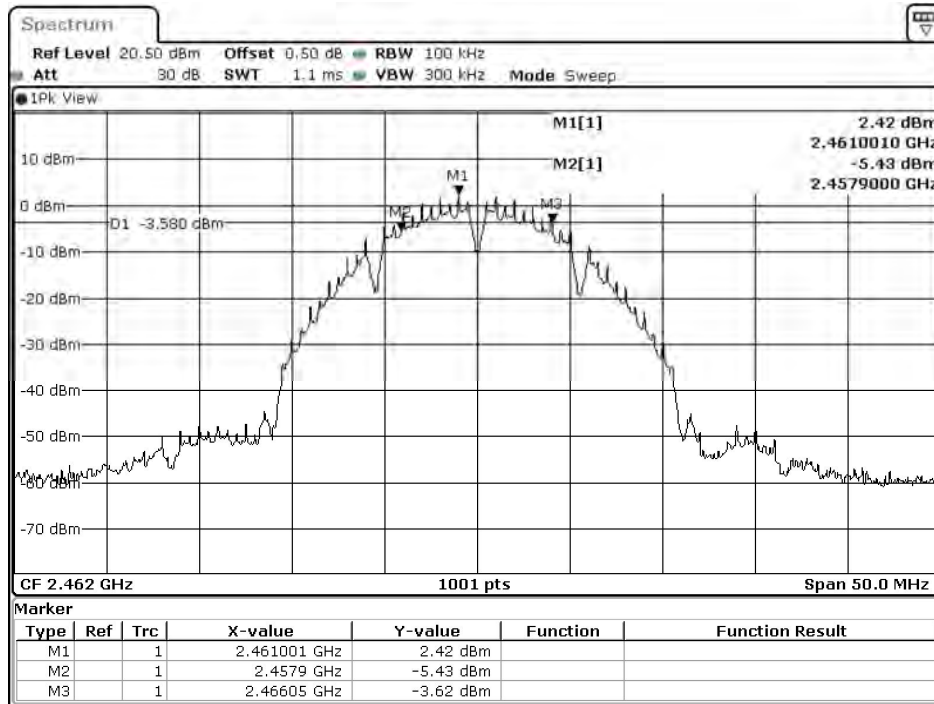
Date: 4.AUG.2021 20:29:37

Figure Channel 06: Chain B



Date: 4.AUG.2021 20:49:28

Figure Channel 11: Chain B



Date: 4.AUG.2021 21:03:42

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

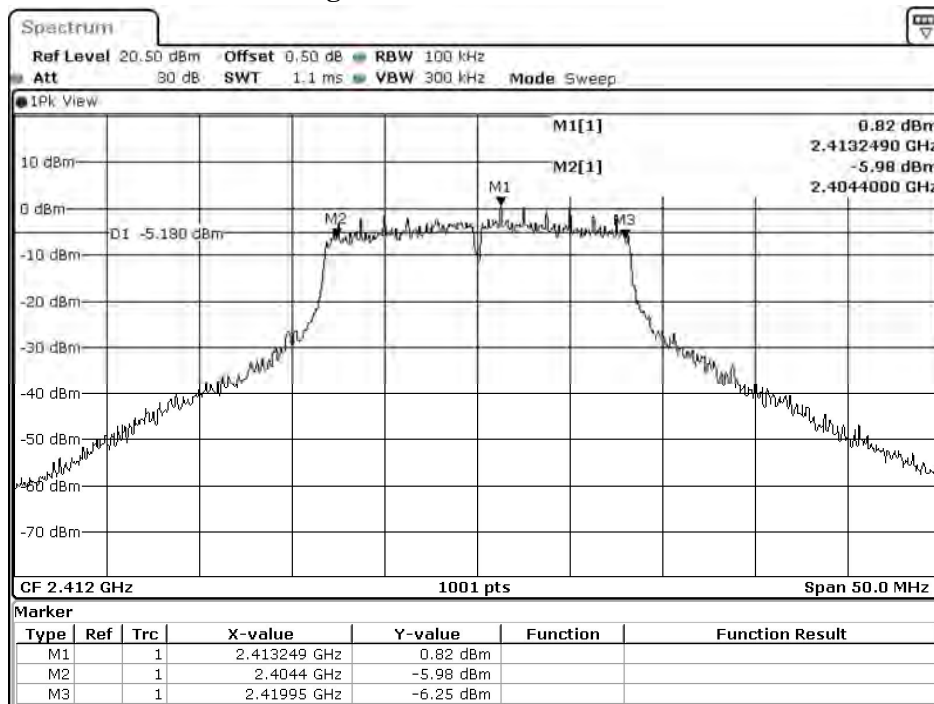
Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	15550	>500	Pass
06	2437	16150	>500	Pass
11	2462	16000	>500	Pass

Chain B

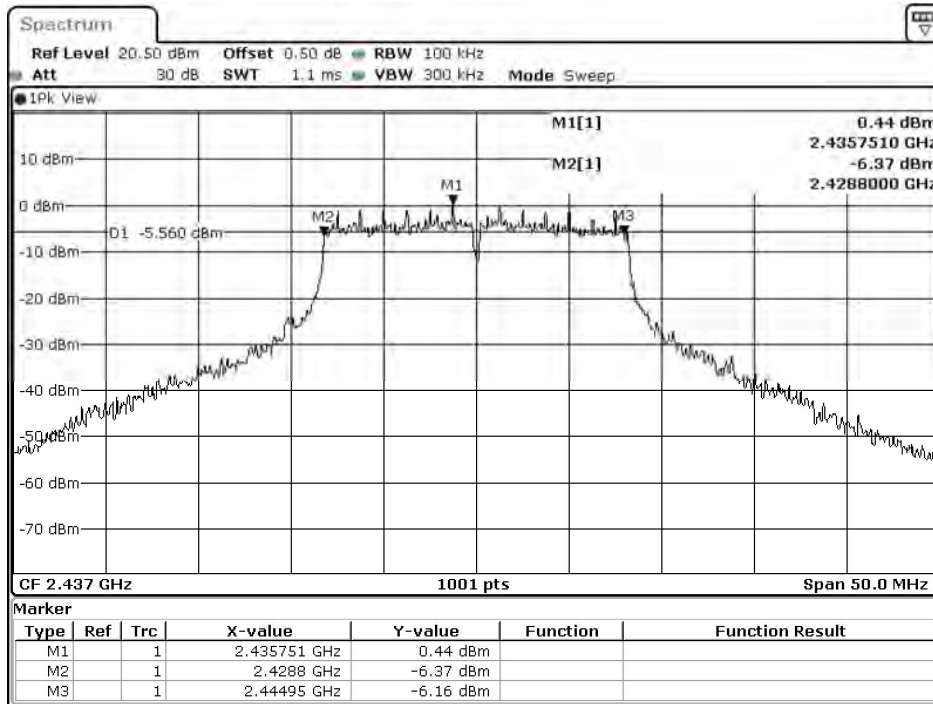
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	15500	>500	Pass
06	2437	16400	>500	Pass
11	2462	16150	>500	Pass

Figure Channel 01: Chain A



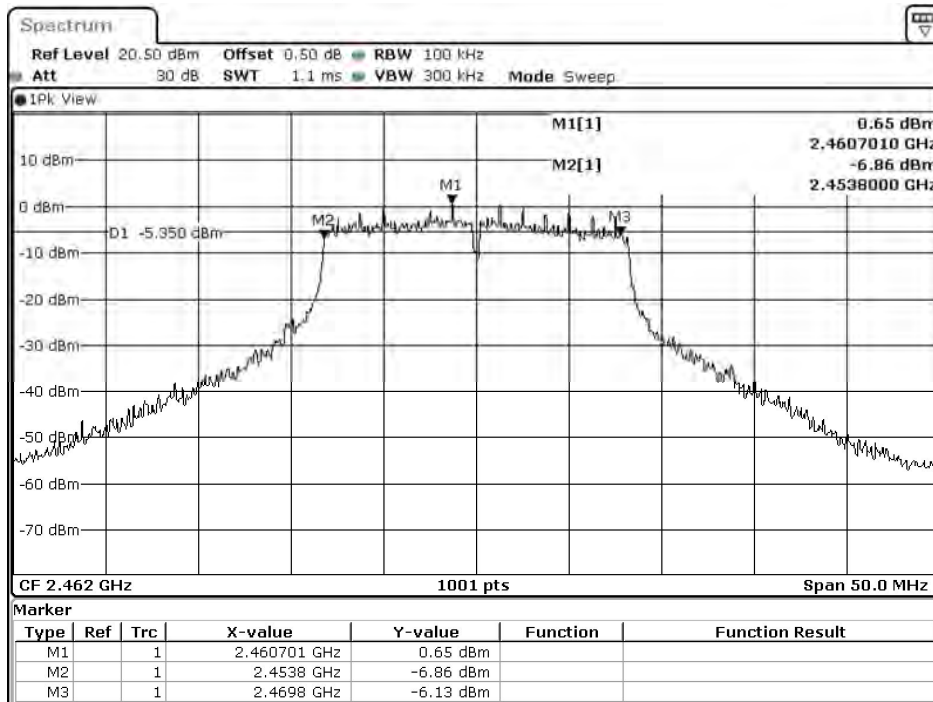
Date: 5.AUG.2021 10:50:51

Figure Channel 06: Chain A



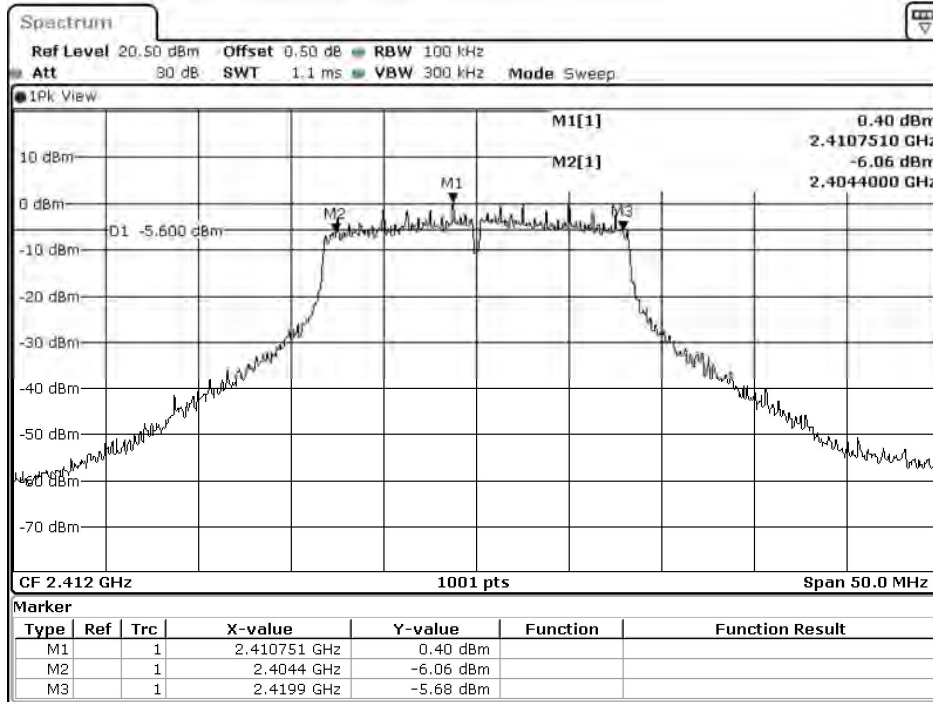
Date: 5.AUG.2021 11:15:30

Figure Channel 11: Chain A



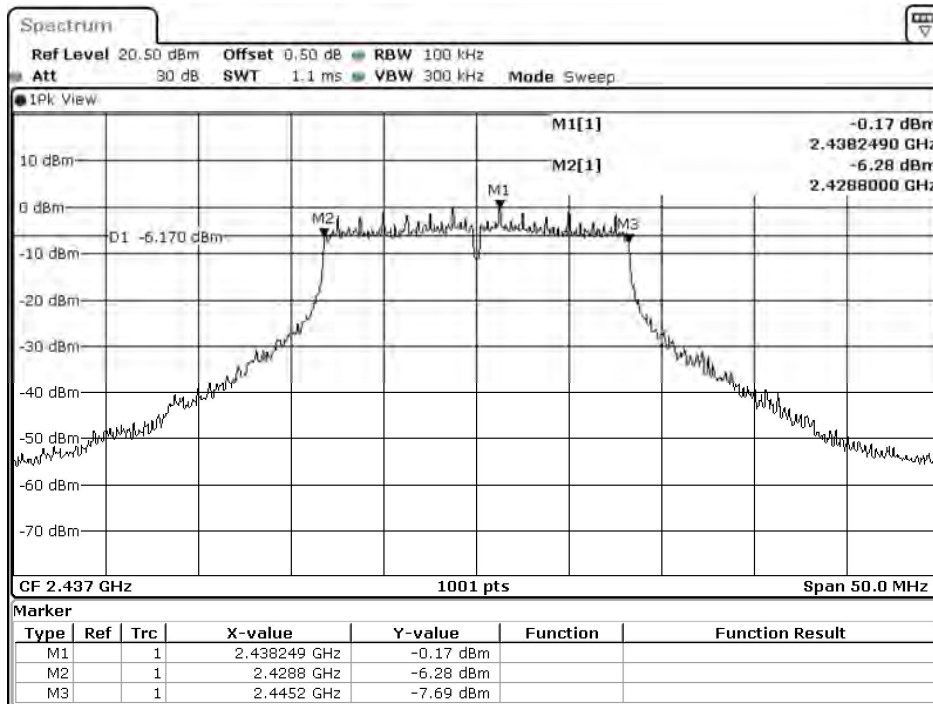
Date: 5.AUG.2021 12:24:04

Figure Channel 01: Chain B



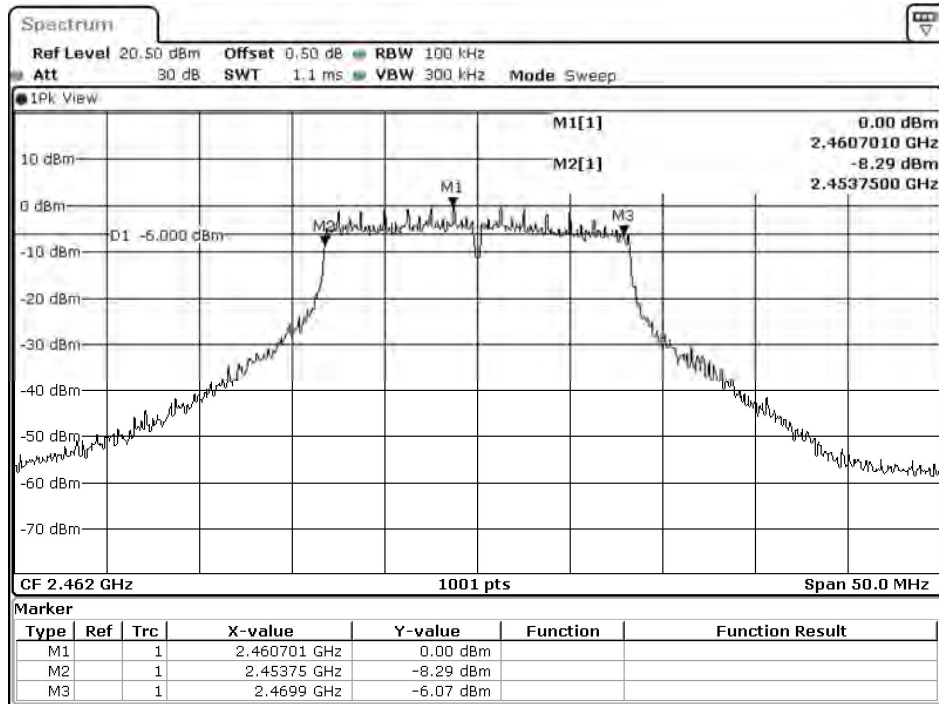
Date: 5.AUG.2021 10:52:25

Figure Channel 06: Chain B



Date: 5.AUG.2021 11:22:52

Figure Channel 11: Chain B



Date: 5.AUG.2021 12:25:02

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

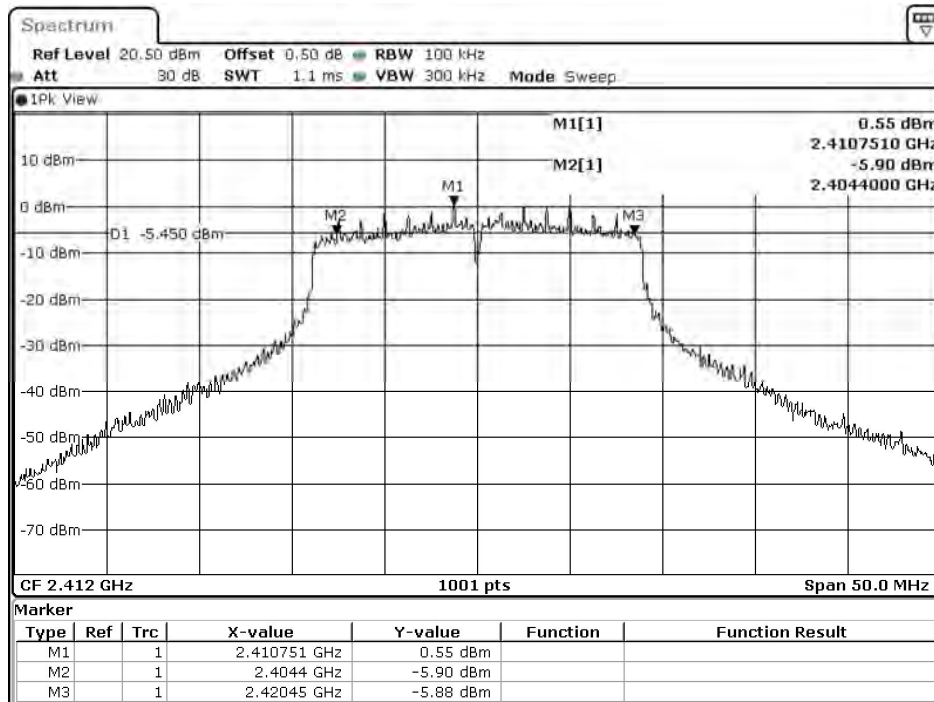
Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	16050	>500	Pass
06	2437	17250	>500	Pass
11	2462	17300	>500	Pass

Chain B

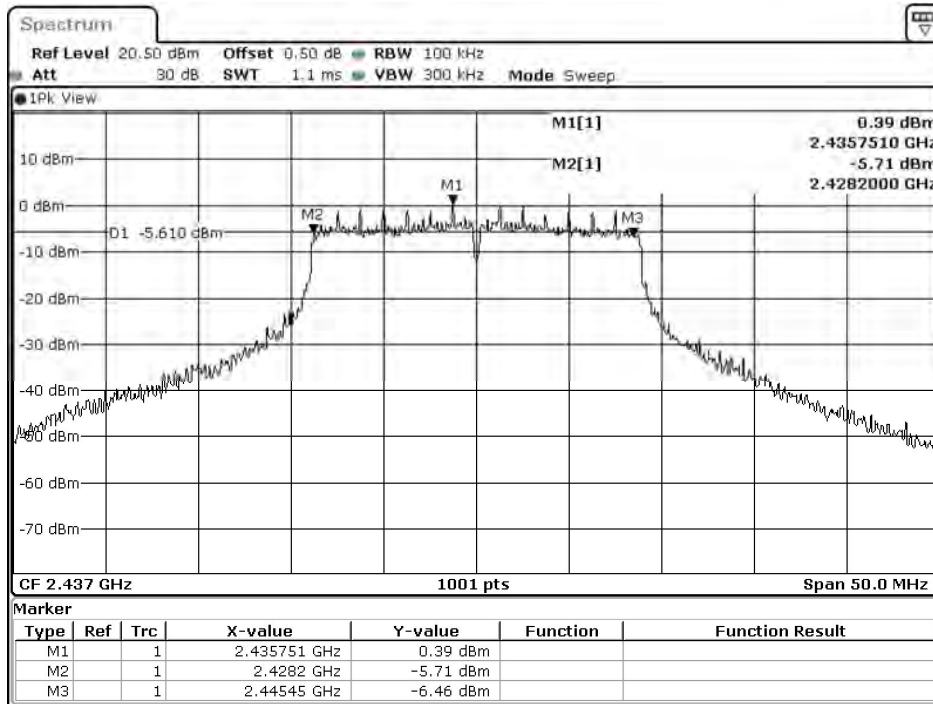
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	16500	>500	Pass
06	2437	17650	>500	Pass
11	2462	17300	>500	Pass

Figure Channel 01: (Chain A)



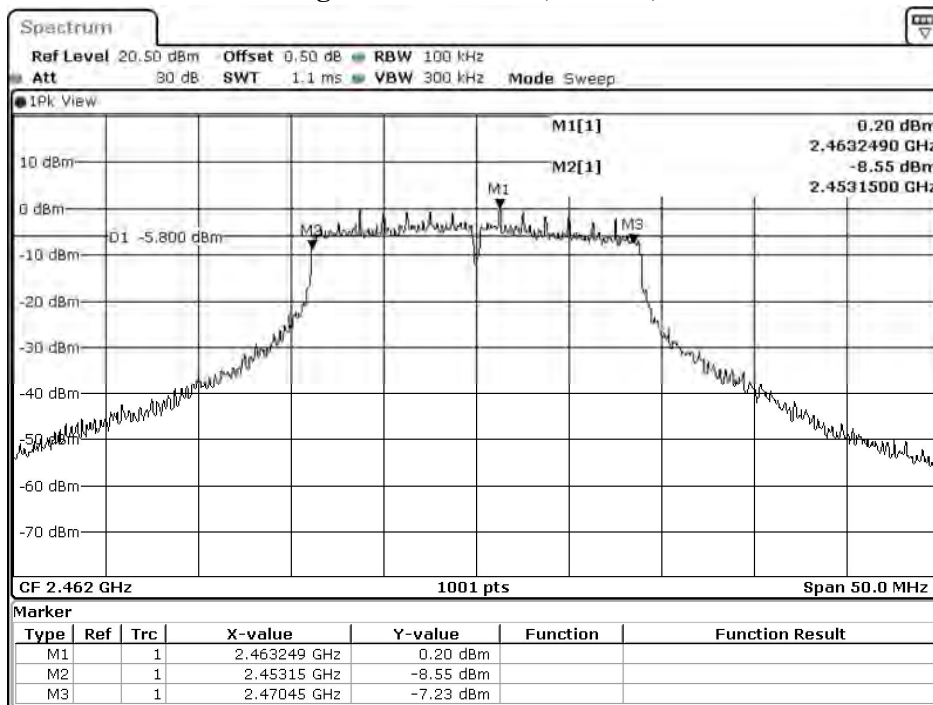
Date: 5.AUG.2021 12:34:33

Figure Channel 06: (Chain A)



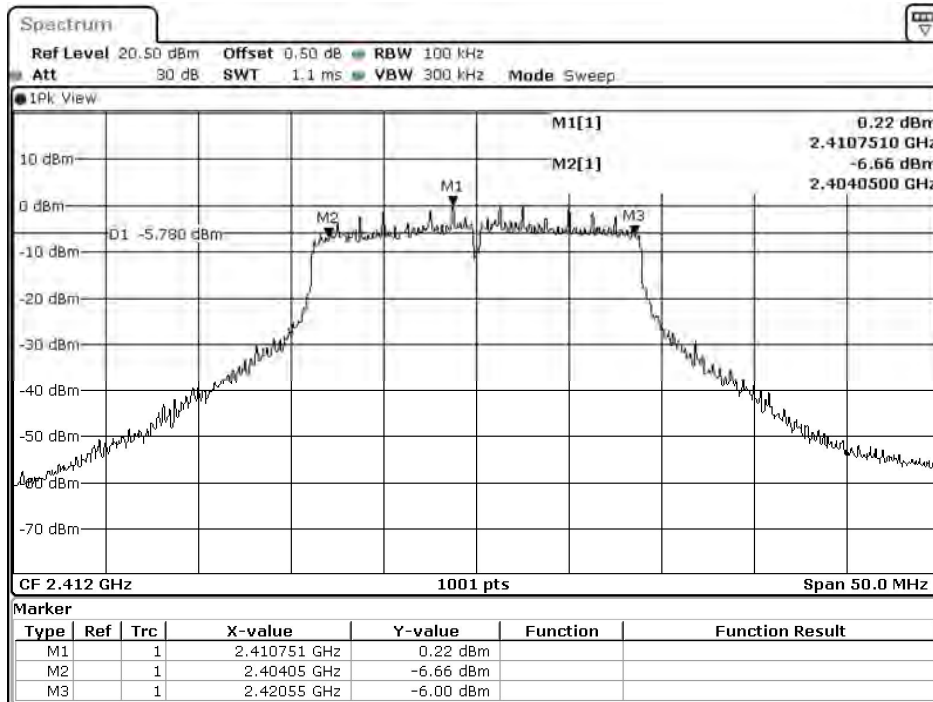
Date: 5.AUG.2021 12:45:29

Figure Channel 11: (Chain A)



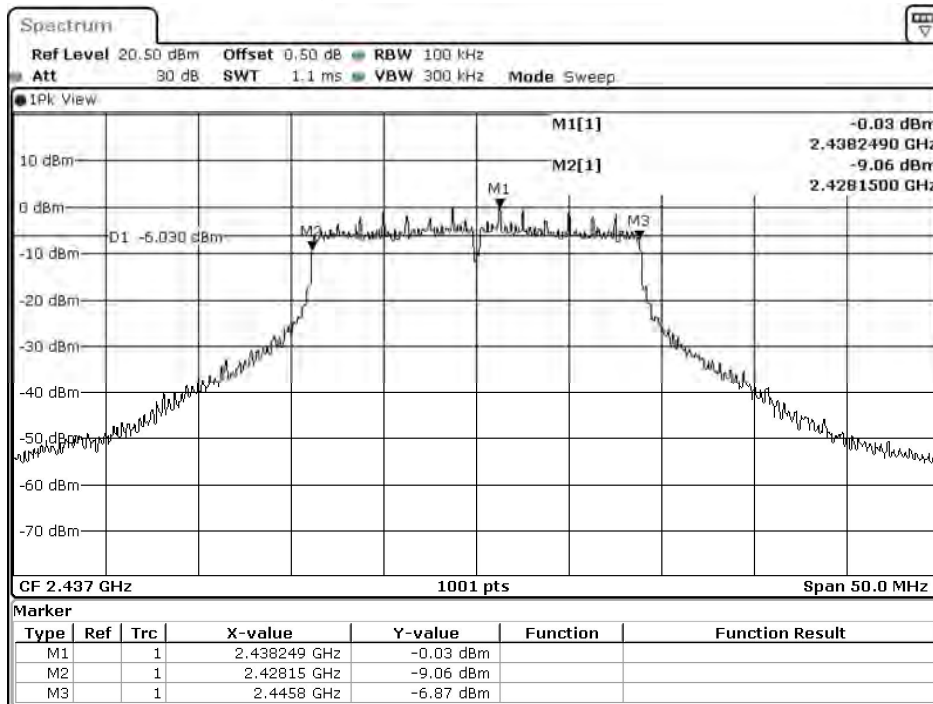
Date: 5.AUG.2021 12:55:52

Figure Channel 01: (Chain B)



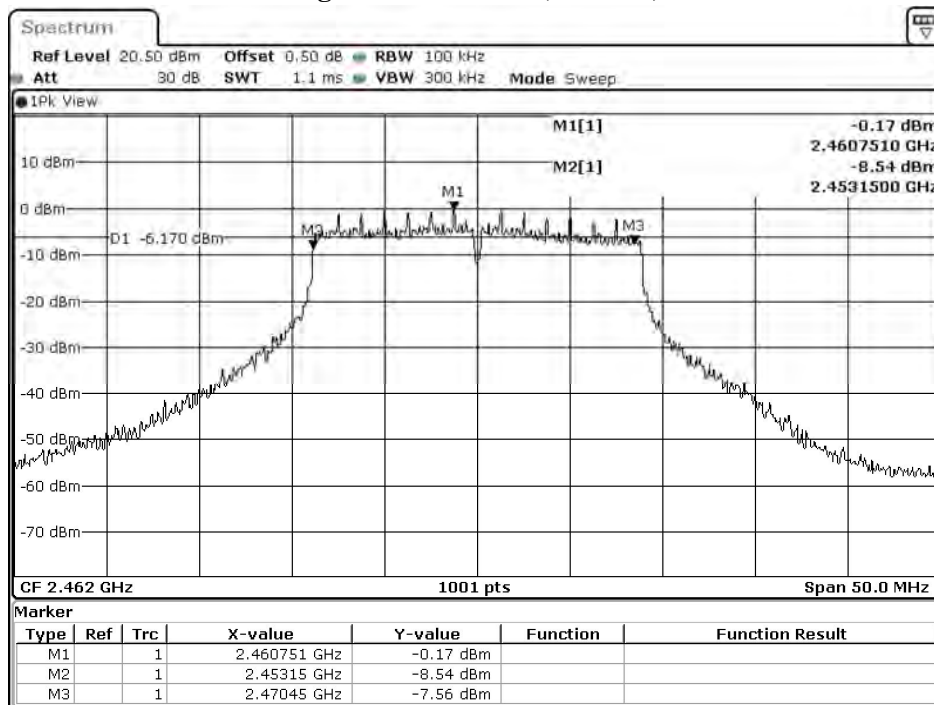
Date: 5.AUG.2021 12:35:22

Figure Channel 06: (Chain B)



Date: 5.AUG.2021 12:46:21

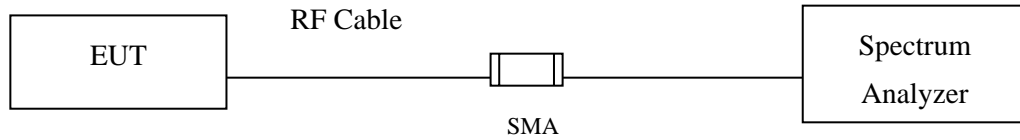
Figure Channel 11: (Chain B)



Date: 5.AUG.2021 12:56:40

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. Uncertainty

± 1.23 dB

8.5. Test Result of Power Density

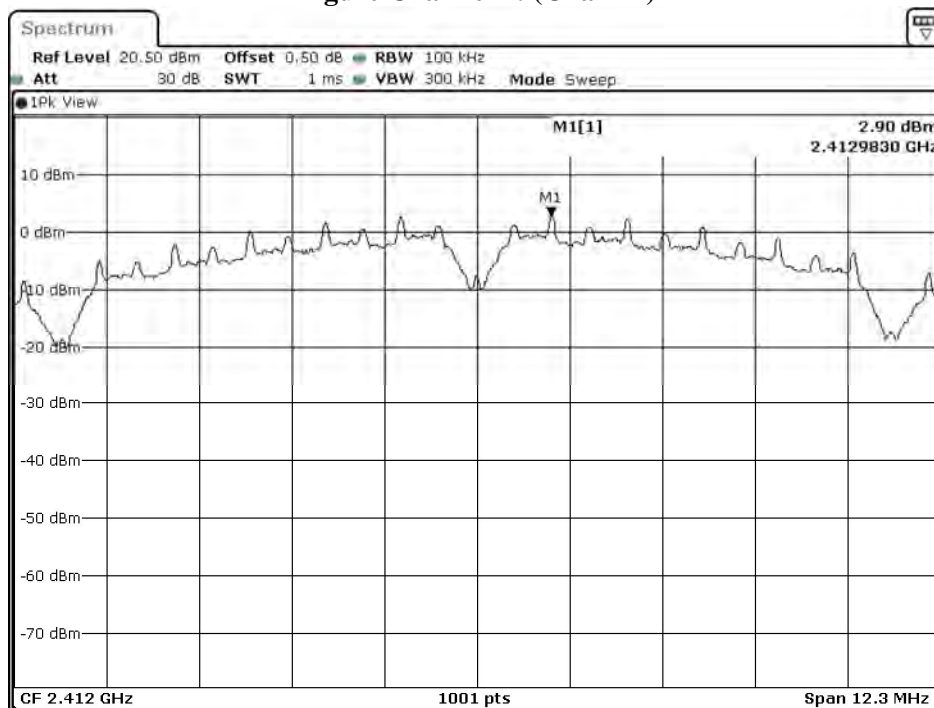
Product : DIGITAL CAMERA
 Test Item : Power Density Data
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No.	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412.000	A	2.900	5.910	≤ 8dBm	Pass
		B	2.740	5.750	≤ 8dBm	Pass
06	2437.000	A	2.410	5.420	≤ 8dBm	Pass
		B	2.550	5.560	≤ 8dBm	Pass
11	2462.000	A	2.940	5.950	≤ 8dBm	Pass
		B	2.440	5.450	≤ 8dBm	Pass

Note :

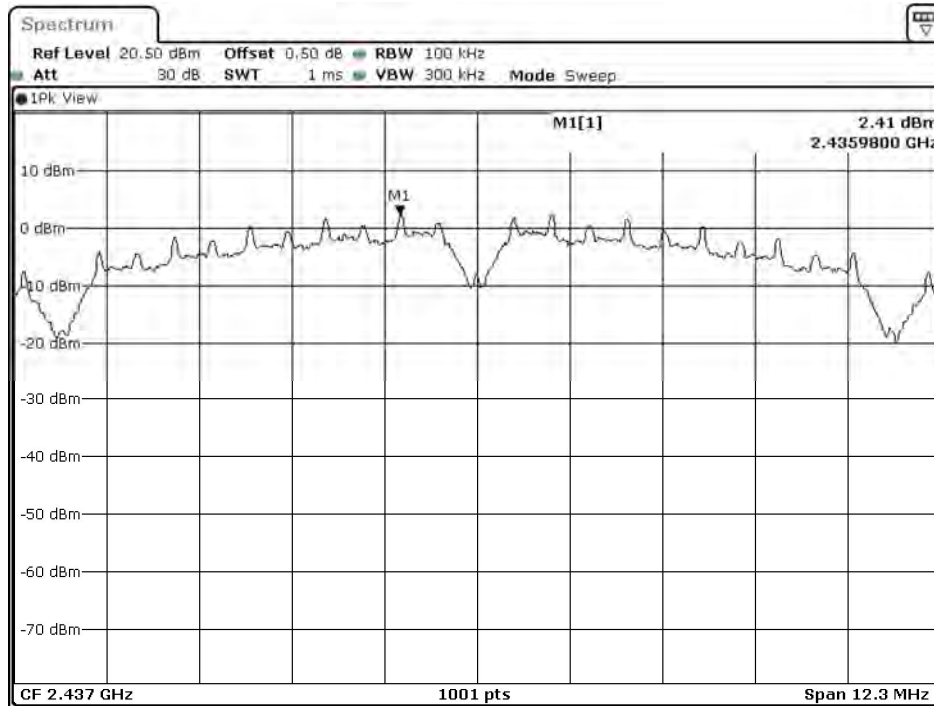
The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 1: (Chain A)



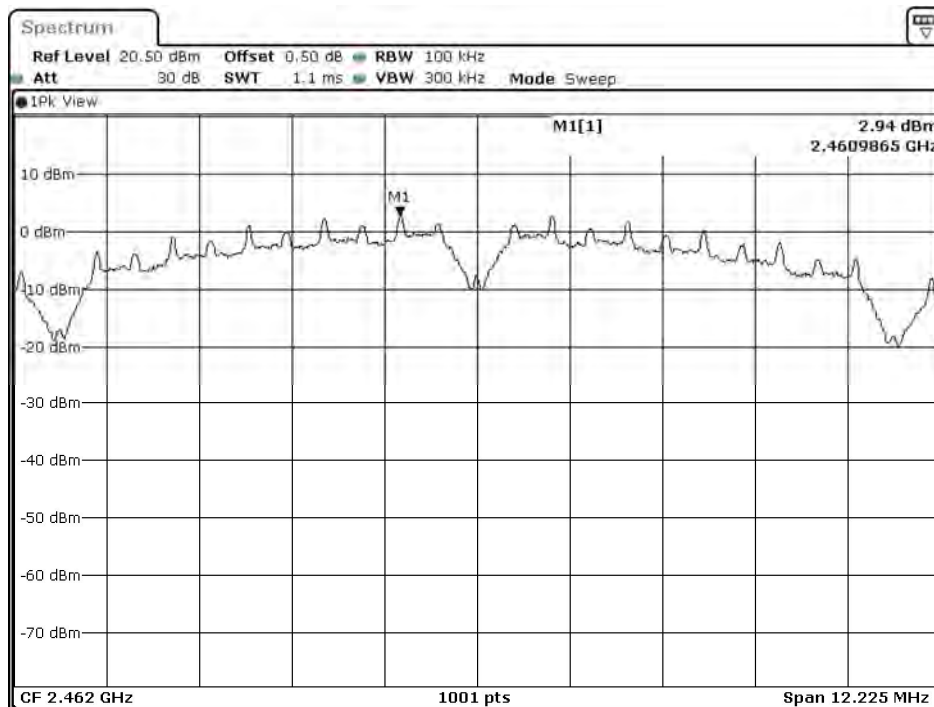
Date: 4.AUG.2021 20:30:36

Figure Channel 6: (Chain A)



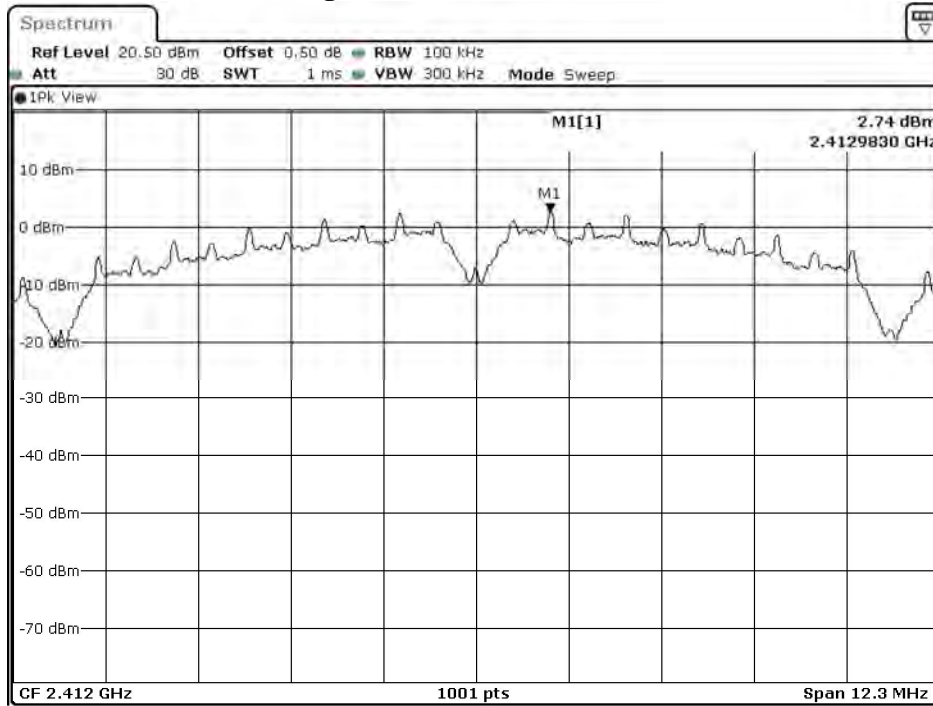
Date: 4.AUG.2021 20:51:13

Figure Channel 11: (Chain A)



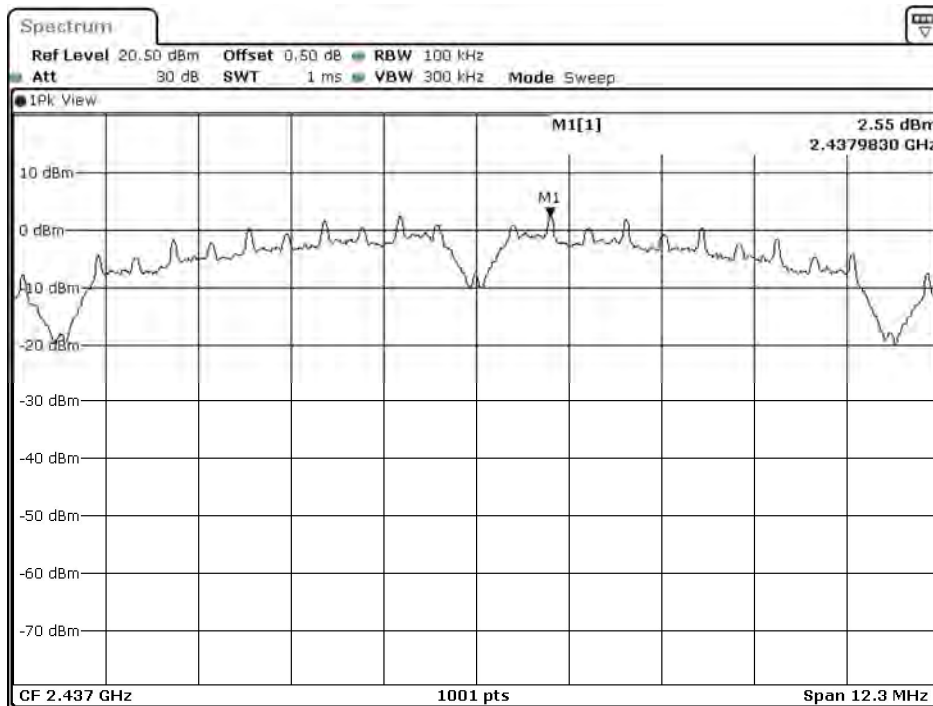
Date: 4.AUG.2021 21:04:50

Figure Channel 1: (Chain B)



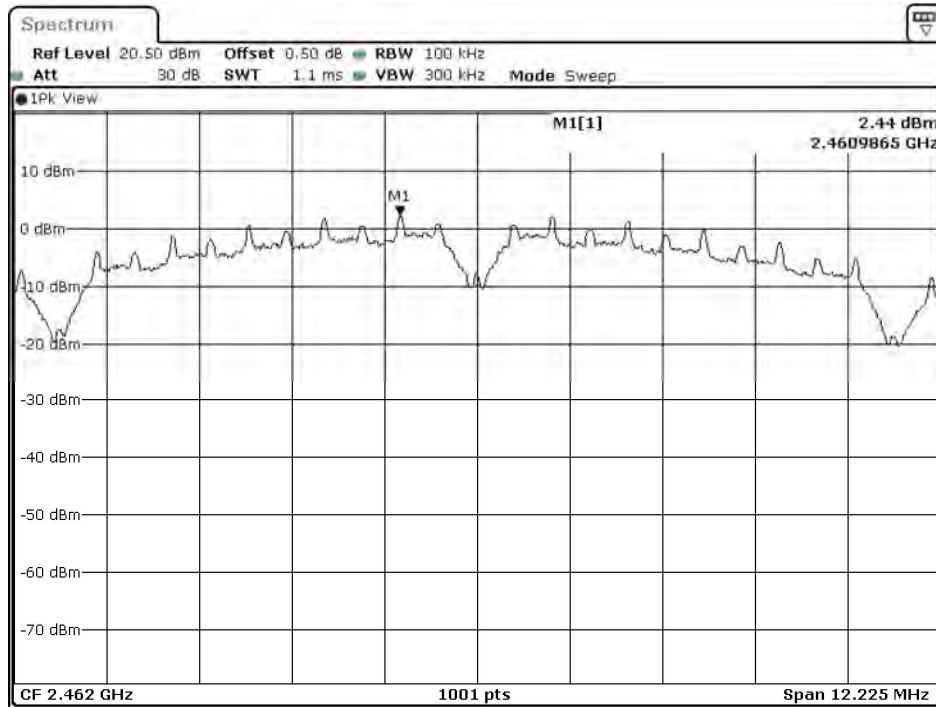
Date: 4.AUG.2021 20:31:41

Figure Channel 6: (Chain B)



Date: 4.AUG.2021 20:52:04

Figure Channel 11: (Chain B)



Date: 4.AUG.2021 21:06:04

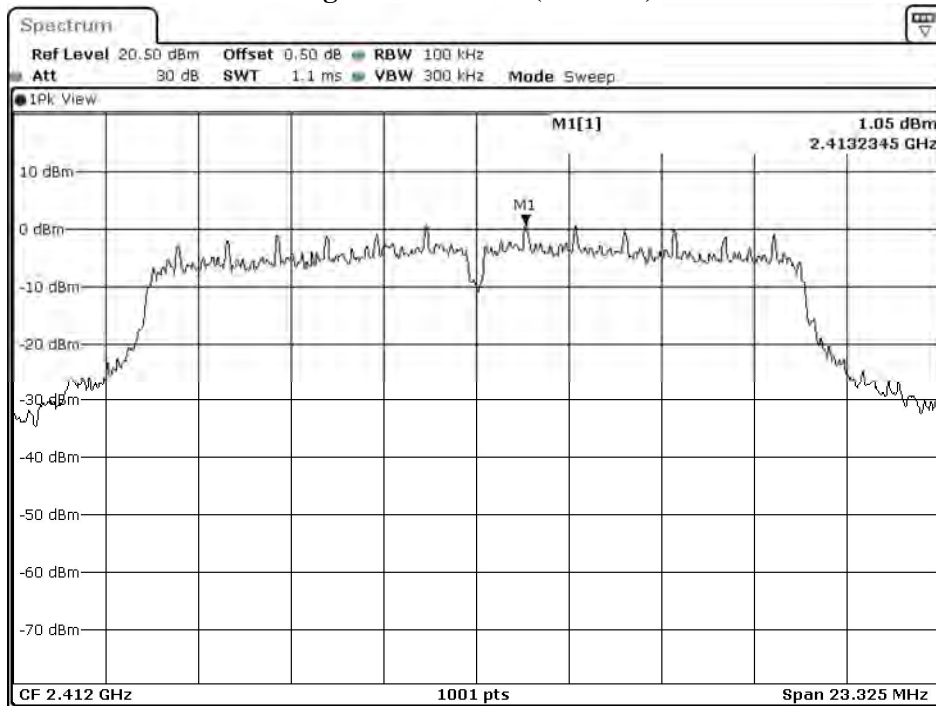
Product : DIGITAL CAMERA
 Test Item : Power Density Data
 Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel No.	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412.000	A	1.050	4.060	≤ 8dBm	Pass
		B	0.610	3.620	≤ 8dBm	Pass
06	2437.000	A	0.520	3.530	≤ 8dBm	Pass
		B	0.120	3.130	≤ 8dBm	Pass
11	2462.000	A	0.940	3.950	≤ 8dBm	Pass
		B	0.340	3.350	≤ 8dBm	Pass

Note :

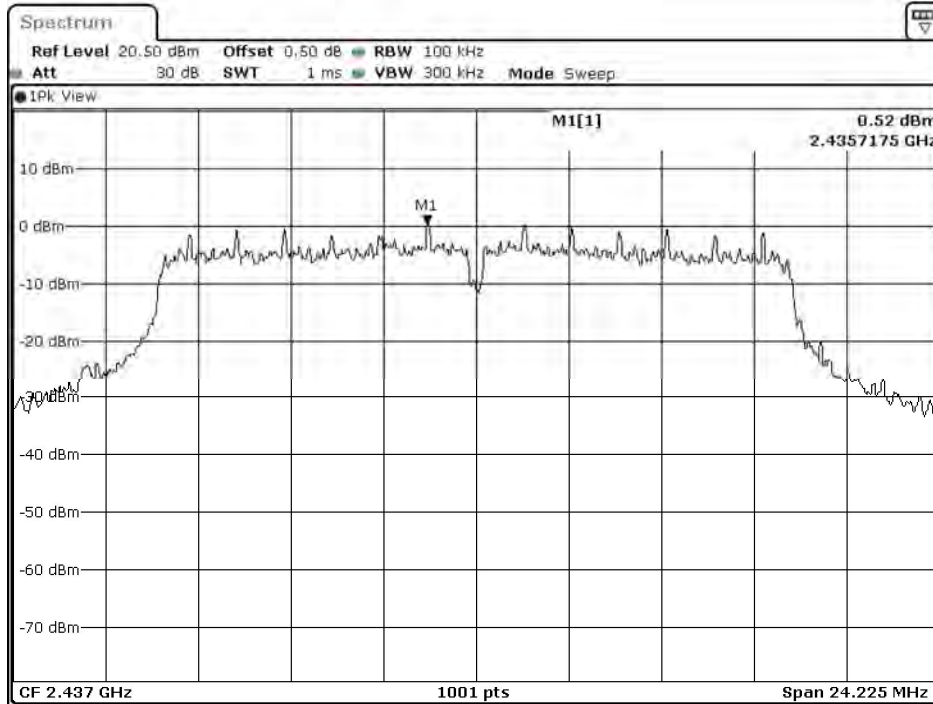
The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 1: (Chain A)



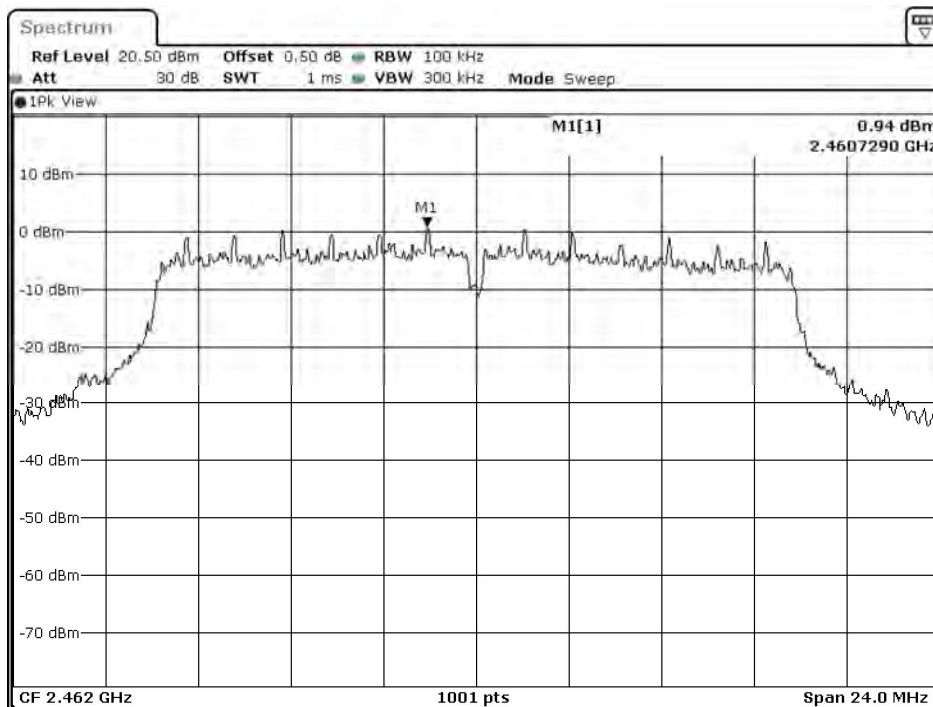
Date: 5.AUG.2021 10:55:34

Figure Channel 6: (Chain A)



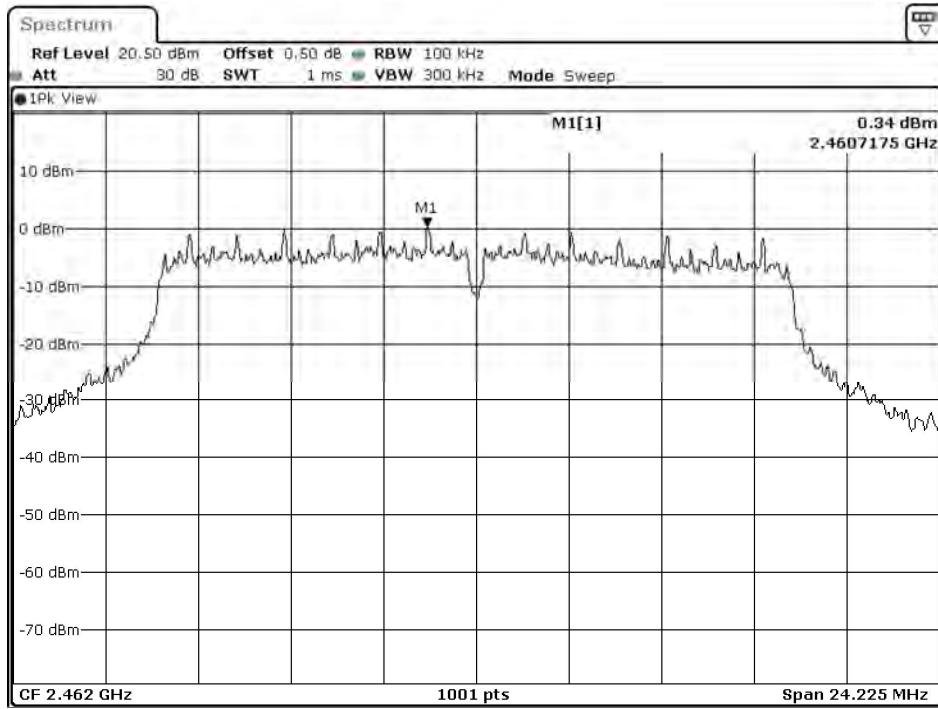
Date: 5.AUG.2021 12:06:56

Figure Channel 11: (Chain A)



Date: 5.AUG.2021 12:26:05

Figure Channel 11: (Chain B)



Date: 5.AUG.2021 12:26:59

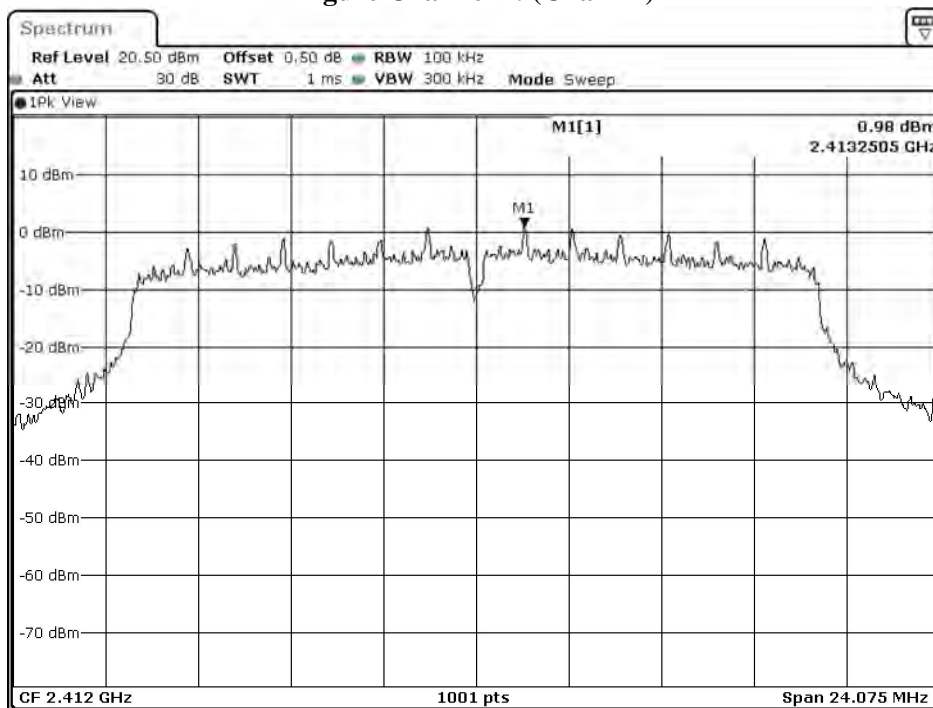
Product : DIGITAL CAMERA
 Test Item : Power Density Data
 Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)

Channel No.	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412.000	A	0.980	3.990	≤ 8dBm	Pass
		B	0.340	3.350	≤ 8dBm	Pass
06	2437.000	A	0.500	3.510	≤ 8dBm	Pass
		B	0.010	3.020	≤ 8dBm	Pass
11	2462.000	A	0.910	3.920	≤ 8dBm	Pass
		B	0.180	3.190	≤ 8dBm	Pass

Note :

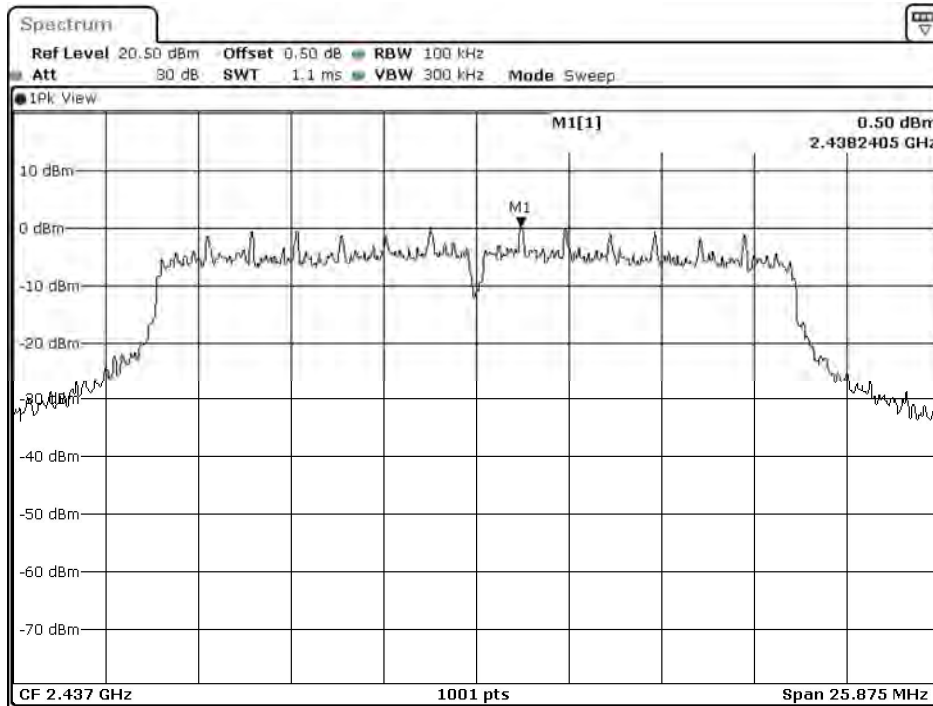
The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 1: (Chain A)



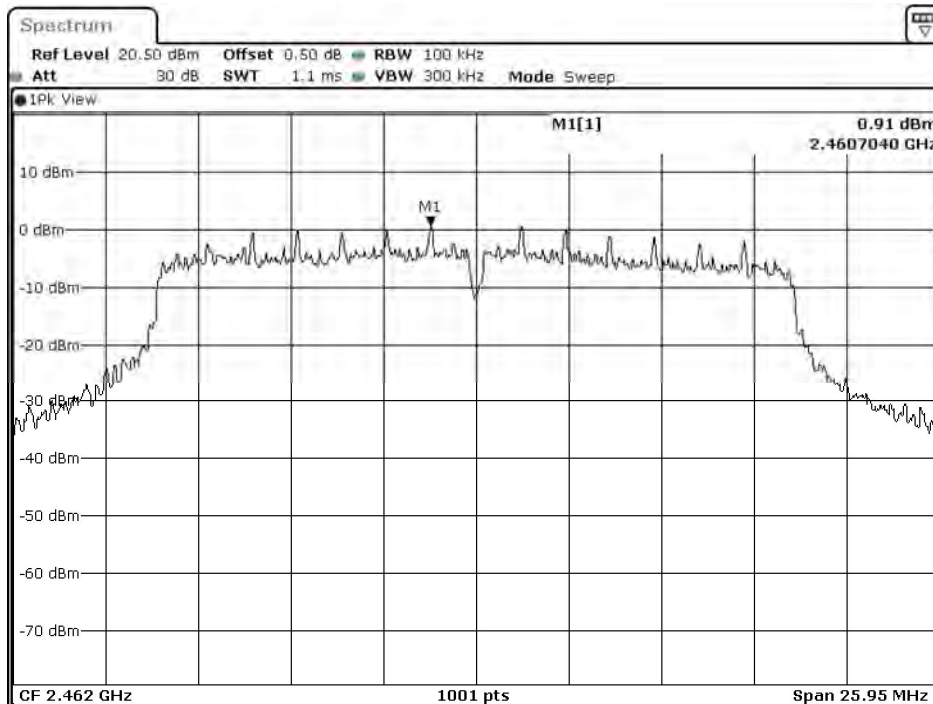
Date: 5.AUG.2021 12:36:22

Figure Channel 6: (Chain A)



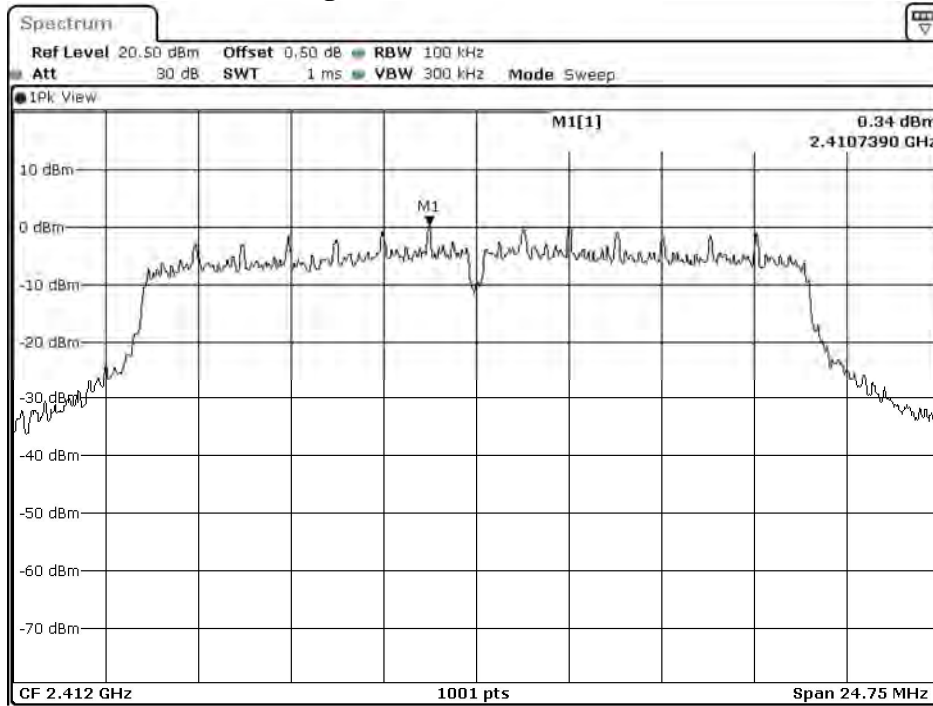
Date: 5.AUG.2021 12:47:12

Figure Channel 11: (Chain A)



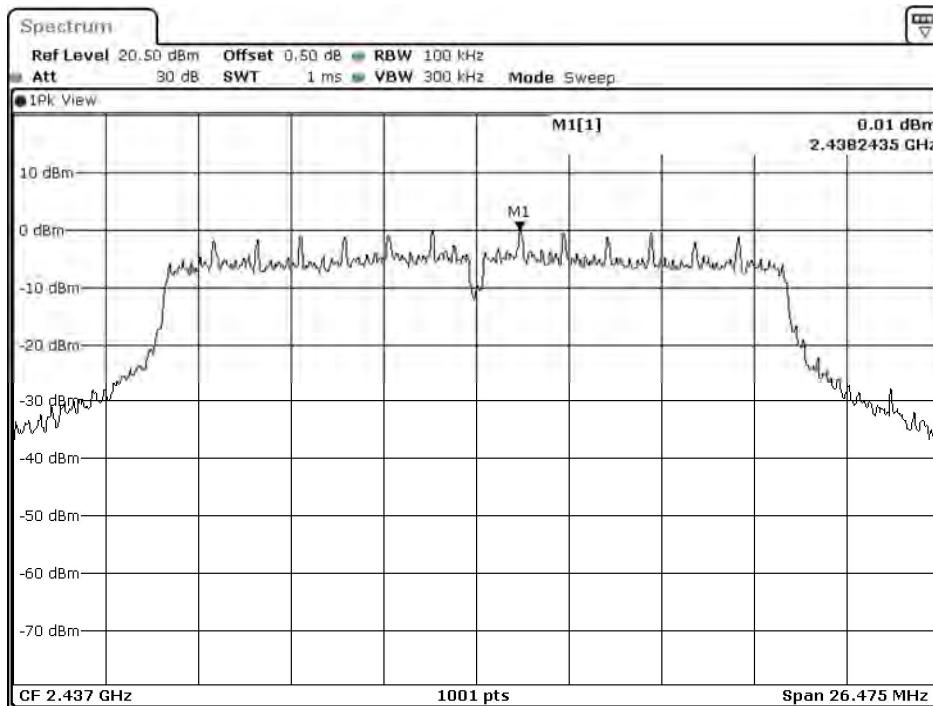
Date: 5.AUG.2021 12:57:28

Figure Channel 1: (Chain B)



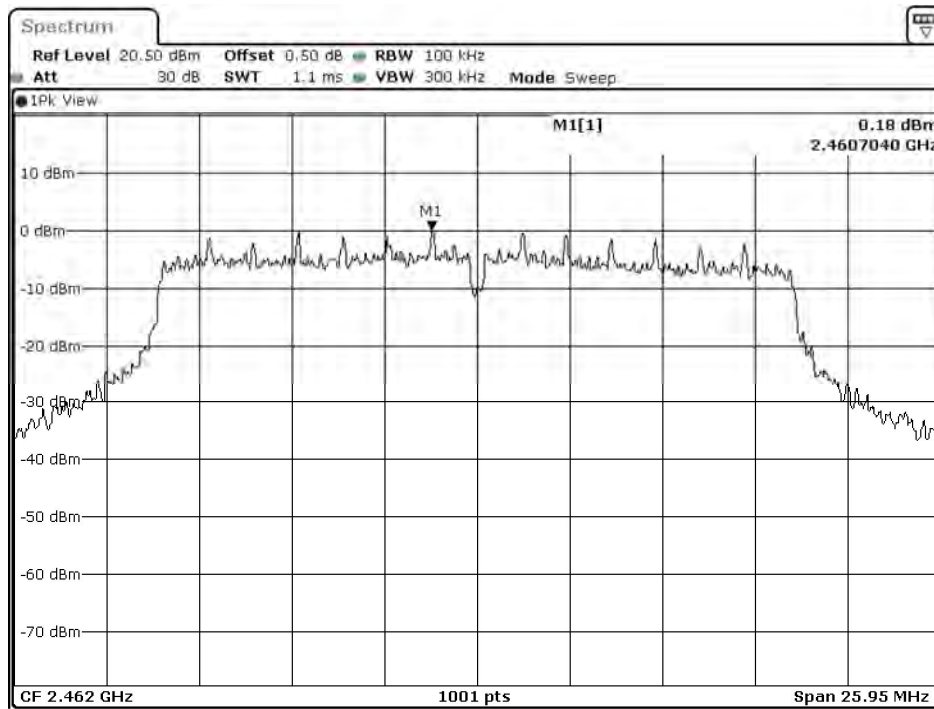
Date: 5.AUG.2021 12:37:19

Figure Channel 6: (Chain B)



Date: 5.AUG.2021 12:48:00

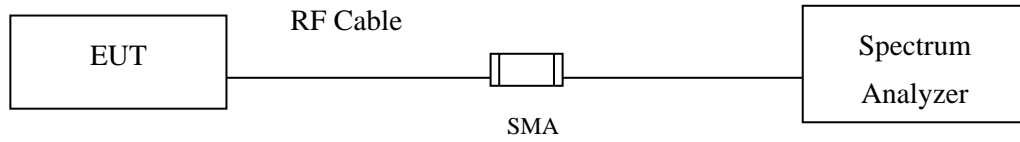
Figure Channel 11: (Chain B)



Date: 5.AUG.2021 12:58:14

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 : DIGITAL CAMERA
Test Item : Duty Cycle
Test Mode : Transmit

Duty Cycle Formula:

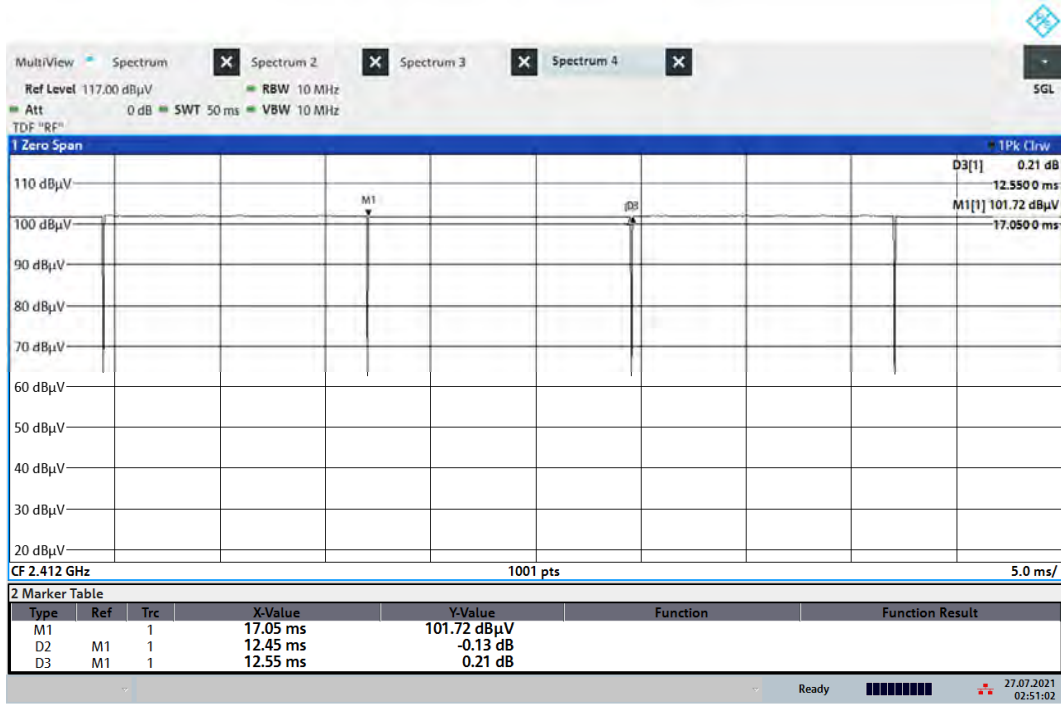
Duty Cycle = $Ton / (Ton + Toff)$

Duty Factor = $10 \text{ Log } (1/\text{Duty Cycle})$

Results:

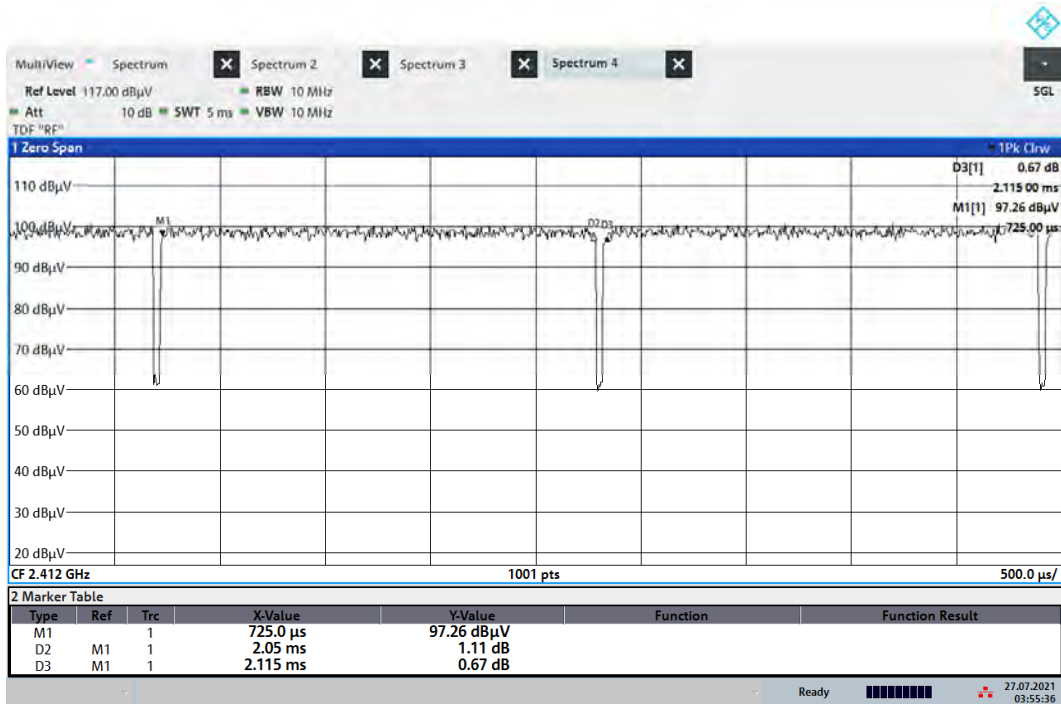
2.4GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11b	12.4500	12.5500	99.20	0.03
802.11g	2.0500	2.1150	96.93	0.14
802.11n20	1.9100	1.9900	95.98	0.18

802.11b



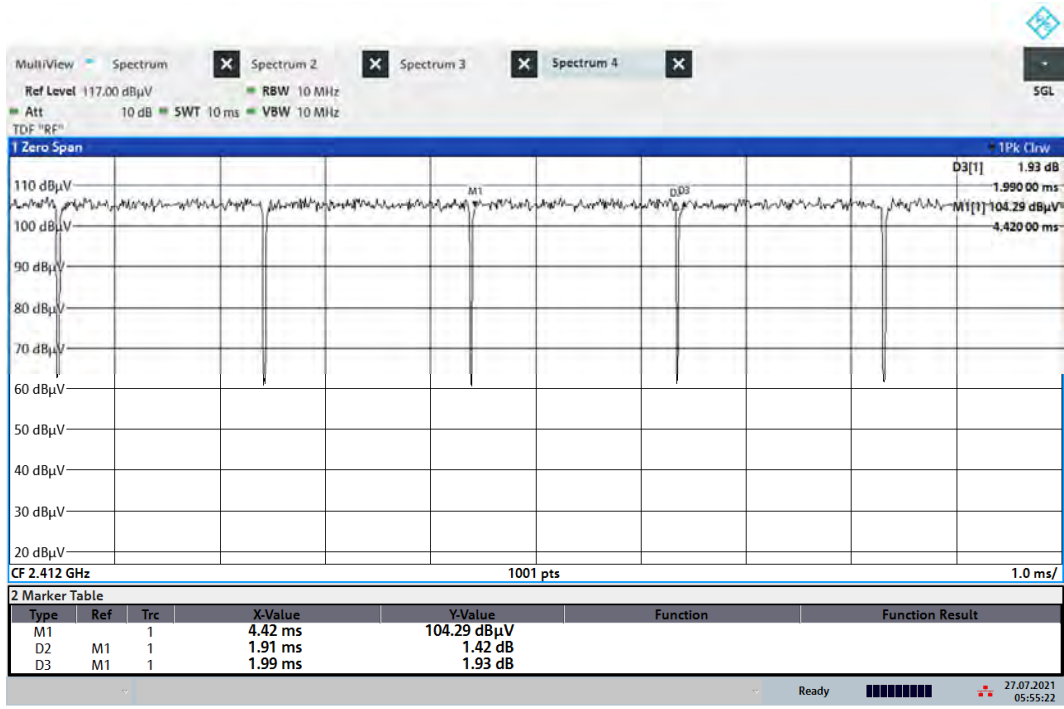
02:51:02 27.07.2021

802.11g



03:55:37 27.07.2021

802.11n20



05:55:23 27.07.2021

10. EMI Reduction Method During Compliance Testing

No modification was made during testing.