FCC Test Report

Product Name	Moxa 2.4/4.9/5 GHz
Model No	WAPN008-1
FCC ID.	SLE-WAPN008-1

Applicant	Moxa Inc.
Address	FL.4, NO. 135. LANE 235, BAOQIAO RD. XINDIAN DIST., NEW TAIPEI CITY, TAIWAN

Date of Receipt	Feb. 27, 2019
Issue Date	Apr. 24, 2019
Report No.	1920271R-RFUSP27V00
Report Version	V1.0

Testing Laboratory
3023

The test results relate only to the samples tested.
The test results shown in the test report are traceable to the national/international standard through the calibration 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.

Test Report

Issue Date: Apr. 24, 2019
Report No.: 1920271R-RFUSP27V00

Product Name	Moxa 2.4/4.9/5 GHz
Applicant	Moxa Inc.
Address	FL.4, NO. 135. LANE 235, BAOQIAO RD. XINDIAN DIST., NEW TAIPEI CITY, TAIWAN
Manufacturer	Moxa Inc.
Model No.	WAPN008-1
EUT Rated Voltage	DC 3.3V
EUT Test Voltage	DC 24V
Trade Name	MOXA
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2017 ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

Documented By : Anita Chou

(Senior Engineering Adm. Specialist / Anita Chou)

Tested By : Sam Hsu

(Engineer / Sam Hsu)

Approved By :

(Director / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Moxa 2.4/4.9/5 GHz
Trade Name	MOXA
Model No.	WAPN008-1
FCC ID.	SLE-WAPN008-1
Frequency Range	2400-2483.5MHz
Center Frequency	5M-BW: 2404-2479MHz, 20M-BW: 2414-2464MHz
Number of Channels	5M-BW: 31, 20M-BW: 6
Data Speed	5M-BW: 1.625-36.1Mbps, 20M-BW: 6.5-144.4Mbps
Type of Modulation	OFDM
Antenna Type	Dipole Antenna, Panel Antenna
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	MOXA	ANT-WDB-ANM-0306	Dipole	3.8dBi For 2.4GHz
2	MOXA	ANT-WDB-ARM-0202	Dipole	1.8dBi For 2.4GHz
3	MOXA	ANT-WDB-ARM-02	Dipole	2.04dBi For 2.4GHz
4	MOXA	ANT-WDB-ANM-0502	Dipole	4.62dBi For 2.4GHz
5	MOXA	ANT-WDB-PNF-1518	Panel	15dBi For 2.4GHz

Note:

1.Each antenna has been evaluated and only the worst case (higher gain antenna) is presented in the report.

2.The antenna of EUT conforms to FCC 15.203.

3.The Panel antenna is directional antenna.

5M-BW Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 02:	2404 MHz	Channel 03:	2407 MHz	Channel 04:	2409 MHz	Channel 05:	2412 MHz
Channel 06:	2414 MHz	Channel 07:	2417 MHz	Channel 08:	2419 MHz	Channel 09:	2422 MHz
Channel 10:	2424 MHz	Channel 11:	2427 MHz	Channel 12:	2429 MHz	Channel 13:	2432 MHz
Channel 14:	2434 MHz	Channel 15:	2437 MHz	Channel 16:	2439 MHz	Channel 17:	2442 MHz
Channel 18:	2444 MHz	Channel 19:	2447 MHz	Channel 20:	2449 MHz	Channel 21:	2452 MHz
Channel 22:	2454 MHz	Channel 23:	2457 MHz	Channel 24:	2459 MHz	Channel 25:	2462 MHz
Channel 26:	2464 MHz	Channel 27:	2467 MHz	Channel 28:	2469 MHz	Channel 29:	2472 MHz
Channel 30:	2474 MHz	Channel 31:	2477 MHz	Channel 32:	2479 MHz		

20M-BW Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 6:	2414 MHz	Channel 10:	2424 MHz	Channel 14:	2434 MHz	Channel 18:	2444 MHz
Channel 22:	2454 MHz	Channel 26:	2464 MHz				

Note:

1. This device is an Moxa 2.4/4.9/5 GHz with a built-in 2.4GHz and 5.8GHz transceiver. this report for 2.4GHz transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (5M-BW is 3.25Mbps、20M-BW is 13Mbps)
4. These tests are conducted on a sample for the purpose of demonstrating compliance of 2.4GHz transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.
5. The radiation measurements are performed in hight gain and different antenna type. Only the worst case is shown in the report.

Test Mode:	Mode 1: Transmit - (OFDM-5BW)
	Mode 2: Transmit - (OFDM-20BW)

Summary of Test Item

Test Condition			Test Item					
			Conducted				Radiated Emission	
Antenna No.	Antenna Type	Antenna Gain (dBi)	Conducted Power	Power Density	Occupied Bandwidth	Conducted Emission (20dBc)	Radiated Emission	Band Edge
1	Dipole	3.8	✓					
2	Dipole	1.8	✓	✓	✓	✓		
3	Dipole	2.04	✓					
4	Dipole	4.62	✓				✓	✓
5	Panel	15	✓	✓	✓	✓	✓	✓

Channel List

Bandwidth/ Channel No.	Center Frequency (MHz)				
	5MHz	Antenna No.1~4	Antenna No.5	20MHz	Antenna No.1~5
2	2404	V	V		
3	2407	V	V		
4	2409	V	V		
5	2412	V	V		
6	2414	V	V	2414	V
7	2417	V	V		
8	2419	V	V		
9	2422	V	V		
10	2424	V	V	2424	V
11	2427	V	V		
12	2429	V	V		
13	2432	V	V		
14	2434	V	V	2434	V
15	2437	V	V		
16	2439	V	V		
17	2442	V	V		
18	2444	V	V	2444	V
19	2447	V	V		
20	2449	V	V		
21	2452	V	V		
22	2454	V	V	2454	V
23	2457	V	V		
24	2459	V	V		
25	2462	V	V		
26	2464	V	V	2464	V
27	2467	V	V		
28	2469	V	V		
29	2472	V	V		
30	2474	V	V		
31	2477	V	V		
32	2479	V	--		

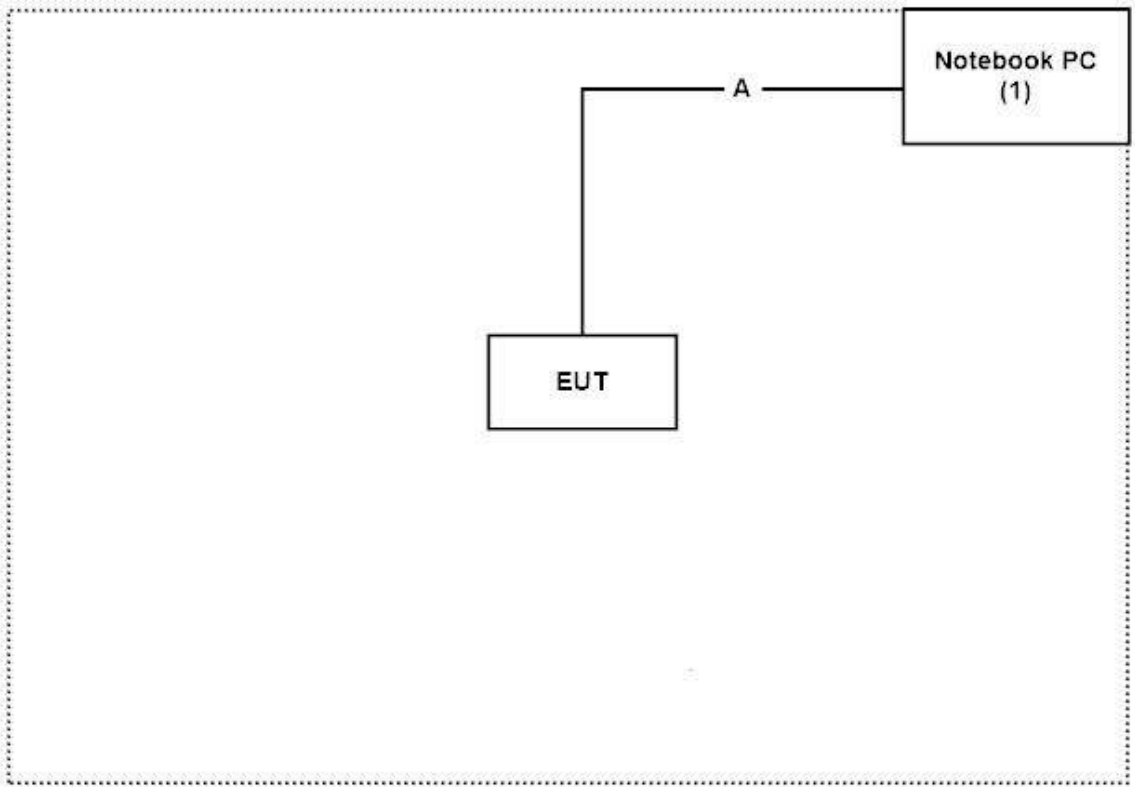
1.3. Tested System Details

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

Product		Manufacturer	Model No.	Serial No.	Power Cord
(1)	Notebook PC	DELL	Latitude 5580	2HRD7H2	Non-Shielded, 0.8m

Signal Cable Type		Signal cable Description
A	LAN Cable	Non-Shielded, 2m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

(1) Setup the EUT as shown on 1.4
(2) Execute “1.0 build.19030514” program on the Notebook PC.
(3) Configure the test mode, the test channel, and the data rate.
(4) Start the continuous transmission.
(5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:
http://www.dekra.com.tw/english/about/certificates.aspx?bval=5
The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw/index_en.aspx

Site Description: Accredited by TAF
Accredited Number: 3023

Site Name: DEKRA Testing and Certification Co., Ltd
Site Address: No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451,
Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : info.tw@dekra.com

FCC Accreditation Number: TW3023

1.7. List of Test Equipment

For Conducted measurements /CB3/SR8

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
	Temperature Chamber	WIT GROUP	TH-1S-B	EQ-201-00146	2019/2/26	2020/2/25
X	Spectrum Analyzer	Agilent	N9010A	MY53470892	2018/09/27	2019/09/26
X	Peak Power Analyzer	Keysight	8990B	MY51000410	2018/08/01	2019/07/31
X	Wideband Power Sensor	Keysight	N1923A	MY56080003	2018/07/25	2019/07/24
X	Wideband Power Sensor	Keysight	N1923A	MY56080004	2018/07/25	2019/07/24
X	EMI Test Receiver	R&S	ESCS 30	100369	2018/11/19	2019/11/18
X	LISN	R&S	ENV216	101105	2019/03/30	2020/03/29
X	LISN	R&S	ESH3-Z5	836679/014	2019/04/02	2020/04/01
X	Coaxial Cable	DEKRA	RG 400	LC018-RG	2018/06/21	2019/06/20

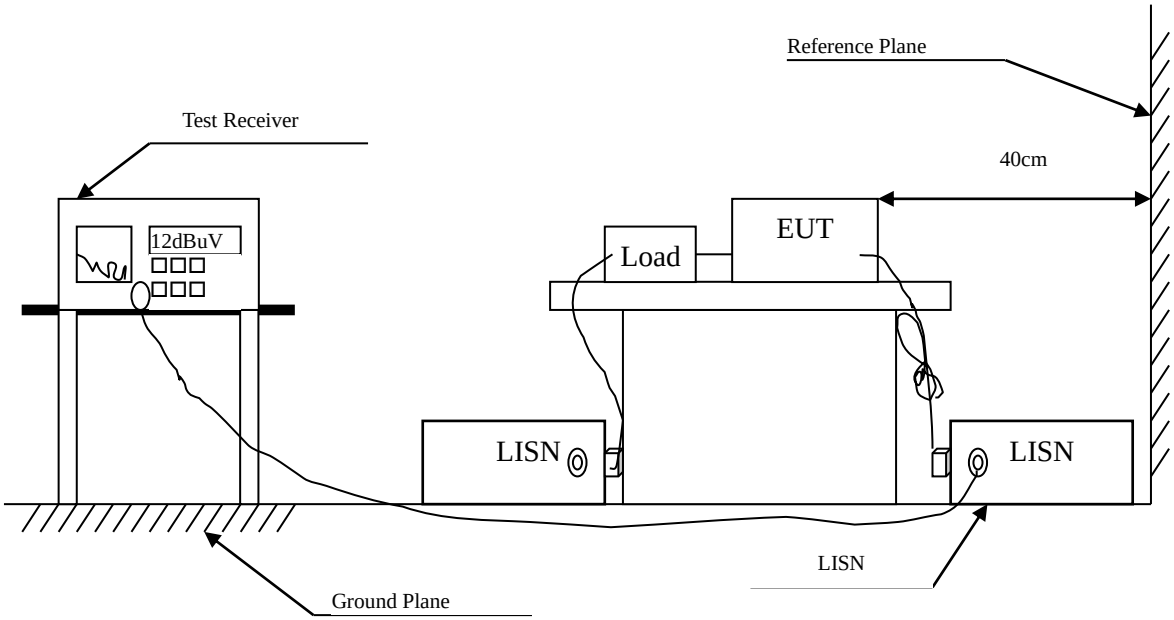
For Radiated measurements /Site3/CB8

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
X	Spectrum Analyzer	R&S	FSP40	100170	2019/3/11	2020/3/10
X	Loop Antenna	Teseq	HLA6121	37133	2017/10/13	2019/10/12
X	Bilog Antenna	Schaffner Chase	CBL6112B	2707	2018/06/24	2019/06/23
X	Coaxial Cable	DEKRA	RG 214	LC003-RG	2018/06/14	2019/06/13
X	Pre-Amplifier	Jet-Power	JPA-10M1G33	170101000330010	2018/06/14	2019/06/13
X	Horn Antenna	ETS-Lindgren	3117	00135205	2018/05/03	2019/05/02
X	Horn Antenna	SCHWARZBECK	9120D	576	2018/12/18	2019/12/17
X	Pre-Amplifier	EMCI	EMC012630SE	980210	2019/04/16	2020/04/15
X	Horn Antenna	Com-Power	AH-840	101043	2019/01/19	2020/01/18
X	Amplifier + Cable	EMCI	EMC184045SE	980370	2019/03/27	2020/03/26
X	Filter	MICRO-TRONICS	BRM50702	G270	2018/08/06	2019/08/05
X	Filter	MICRO-TRONICS	BRM50716	G196	2018/08/06	2019/08/05

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 :QuieTek EMI 2.0 V2.1.113.

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) 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. Uncertainty

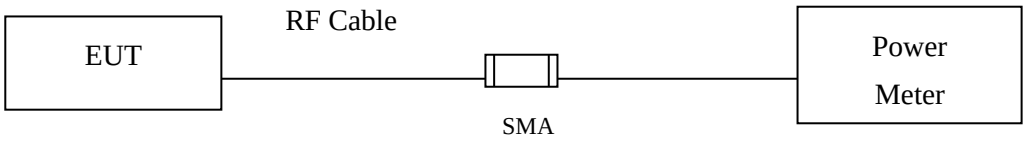
± 2.26 dB

2.5. Test Result of Conducted Emission

Owing to the DC operation of EUT, this test item is not performed.

3. Maximum Conducted Power

3.1. Test Setup



3.2. Limits

The maximum average power shall be less 1 Watt. (Section 15.247 (b)(3))

3.3. Test Procedure

Tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using KDB 558074 section 8.3.1.3 PKPM1 Peak power meter method. The maximum average conducted output power using KDB 558074 section 8.3.2.3 Method (Measurement using a gated RF average-reading power meter)

3.4. Uncertainty

± 1.19 dB

3.5. Test Result of Maximum Conducted Power

Product : Moxa 2.4/4.9/5 GHz
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (Antenna No.1)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	3.25
		Measurement Level (dBm)								
02	2404	18.53	--	--	--	--	--	--	--	26.22
17	2442	16.84	16.74	16.67	16.62	16.53	16.45	16.36	16.29	24.58
32	2479	-0.23	--	--	--	--	--	--	--	8.86

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
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	3.25
		Measurement Level (dBm)								
02	2404	19.61	--	--	--	--	--	--	--	26.67
17	2442	15.88	15.8	15.72	15.66	15.6	15.53	15.44	15.35	24.14
32	2479	-0.37	--	--	--	--	--	--	--	7.81

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

CHAIN A+B

Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
02	2404	3.25	26.22	26.67	29.46	<30dBm	Pass
17	2442	3.25	24.58	24.14	27.38	<30dBm	Pass
32	2479	3.25	8.86	7.81	11.38	<30dBm	Pass

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 2: Transmit - (OFDM-20BW) (Antenna No.1)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	13
		Measurement Level (dBm)								
06	2414	13.71	--	--	--	--	--	--	--	22.78
18	2444	19.62	19.54	19.44	19.38	19.29	19.2	19.15	19.09	26.95
26	2464	16	--	--	--	--	--	--	--	24.04

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
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	13
		Measurement Level (dBm)								
06	2414	14.26	--	--	--	--	--	--	--	22.68
18	2444	19.75	19.65	19.57	19.52	19.44	19.34	19.26	19.16	26.49
26	2464	15.81	--	--	--	--	--	--	--	24.56

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

CHAIN A+B

Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
06	2414	13	22.78	22.68	25.74	<30dBm	Pass
18	2444	13	26.95	26.49	29.74	<30dBm	Pass
26	2464	13	24.04	24.56	27.32	<30dBm	Pass

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (Antenna No.2)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	3.25
		Measurement Level (dBm)								
02	2404	18.61	--	--	--	--	--	--	--	26.26
17	2442	16.81	18.51	18.45	18.37	18.3	18.21	18.16	18.06	24.63
32	2479	-0.26	--	--	--	--	--	--	--	8.83

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
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	3.25
		Measurement Level (dBm)								
02	2404	19.57	--	--	--	--	--	--	--	26.66
17	2442	15.95	15.9	15.83	15.73	15.66	15.59	15.54	15.48	24.13
32	2479	-0.32	--	--	--	--	--	--	--	7.87

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

CHAIN A+B

Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
02	2404	3.25	26.26	26.66	29.47	<30dBm	Pass
17	2442	3.25	24.63	24.13	27.40	<30dBm	Pass
32	2479	3.25	8.83	7.87	11.39	<30dBm	Pass

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 2: Transmit - (OFDM-20BW) (Antenna No.2)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	13
		Measurement Level (dBm)								
06	2414	13.66	--	--	--	--	--	--	--	22.77
18	2444	19.57	19.52	19.43	19.34	19.28	19.19	19.14	19.09	26.99
26	2464	15.96	--	--	--	--	--	--	--	24.01

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
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	13
		Measurement Level (dBm)								
06	2414	14.25	--	--	--	--	--	--	--	22.67
18	2444	19.8	19.71	19.66	19.57	19.47	19.38	19.28	19.2	26.56
26	2464	15.82	--	--	--	--	--	--	--	24.59

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

CHAIN A+B

Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
06	2414	13	22.77	22.67	25.73	<30dBm	Pass
18	2444	13	26.99	26.56	29.79	<30dBm	Pass
26	2464	13	24.01	24.59	27.32	<30dBm	Pass

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (Antenna No.3)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	3.25
		Measurement Level (dBm)								
02	2404	18.54	--	--	--	--	--	--	--	26.21
17	2442	16.81	16.73	16.65	16.59	16.5	16.44	16.37	16.27	24.64
32	2479	-0.27	--	--	--	--	--	--	--	8.84

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
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	3.25
		Measurement Level (dBm)								
02	2404	19.58	--	--	--	--	--	--	--	26.67
17	2442	15.95	15.85	15.8	15.72	15.65	15.6	15.5	15.43	24.16
32	2479	-0.31	--	--	--	--	--	--	--	7.81

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

CHAIN A+B

Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
02	2404	3.25	26.21	26.67	29.46	<30dBm	Pass
17	2442	3.25	24.64	24.16	27.42	<30dBm	Pass
32	2479	3.25	8.84	7.81	11.37	<30dBm	Pass

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 2: Transmit - (OFDM-20BW) (Antenna No.3)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	13
		Measurement Level (dBm)								
06	2414	13.66	--	--	--	--	--	--	--	22.76
18	2444	19.61	19.53	19.46	19.39	19.33	19.27	19.2	19.11	26.96
26	2464	16.04	--	--	--	--	--	--	--	24.03

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
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	13
		Measurement Level (dBm)								
06	2414	14.27	--	--	--	--	--	--	--	22.65
18	2444	19.79	19.69	19.64	19.55	19.49	19.44	19.39	19.33	26.54
26	2464	15.77	--	--	--	--	--	--	--	24.58

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

CHAIN A+B

Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
06	2414	13	22.76	22.65	25.72	<30dBm	Pass
18	2444	13	26.96	26.54	29.77	<30dBm	Pass
26	2464	13	24.03	24.58	27.32	<30dBm	Pass

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (Antenna No.4)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	3.25
		Measurement Level (dBm)								
02	2404	18.63	--	--	--	--	--	--	--	26.28
17	2442	16.87	16.78	16.71	16.65	16.58	16.48	16.41	16.32	24.68
32	2479	-0.21	--	--	--	--	--	--	--	8.88

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
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	3.25
		Measurement Level (dBm)								
02	2404	19.63	--	--	--	--	--	--	--	26.7
17	2442	15.97	15.92	15.82	15.77	15.71	15.65	15.59	15.49	24.22
32	2479	-0.29	--	--	--	--	--	--	--	7.91

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

CHAIN A+B

Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
02	2404	3.25	26.28	26.70	29.51	<30dBm	Pass
17	2442	3.25	24.68	24.22	27.47	<30dBm	Pass
32	2479	3.25	8.88	7.91	11.43	<30dBm	Pass

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 2: Transmit - (OFDM-20BW) (Antenna No.4)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	13
		Measurement Level (dBm)								
06	2414	13.73	--	--	--	--	--	--	--	22.83
18	2444	19.65	19.57	19.52	19.45	19.37	19.27	19.2	19.14	27.03
26	2464	16.06	--	--	--	--	--	--	--	24.1

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
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	13
		Measurement Level (dBm)								
06	2414	14.33	--	--	--	--	--	--	--	22.71
18	2444	19.85	19.8	19.7	19.61	19.52	19.43	19.34	19.29	26.59
26	2464	15.85	--	--	--	--	--	--	--	24.61

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

CHAIN A+B

Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
06	2414	13	22.83	22.71	25.78	<30dBm	Pass
18	2444	13	27.03	26.59	29.83	<30dBm	Pass
26	2464	13	24.10	24.61	27.37	<30dBm	Pass

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (Antenna No.5)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	3.25
		Measurement Level (dBm)								
02	2404	0.05	--	--	--	--	--	--	--	8.39
17	2442	13.94	13.87	13.79	13.72	13.66	13.58	13.51	13.41	23.27
31	2477	10.7	--	--	--	--	--	--	--	19.03

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
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	3.25
		Measurement Level (dBm)								
02	2404	0.1	--	--	--	--	--	--	--	8.33
17	2442	13.73	13.66	13.6	13.52	13.45	13.35	13.27	13.18	22.32
31	2477	11.18	--	--	--	--	--	--	--	19.71

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

CHAIN A+B

Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
02	2404	3.25	8.39	8.33	11.37	<27dBm	Pass
17	2442	3.25	23.27	22.32	25.83	<27dBm	Pass
31	2477	3.25	19.03	19.71	22.39	<27dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))
Note: Fixed, point-to-point operations, the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi

Product : Moxa 2.4/4.9/5 GHz
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 2: Transmit - (OFDM-20BW) (Antenna No.5)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	13
		Measurement Level (dBm)								
06	2414	5.82	--	--	--	--	--	--	--	14.49
18	2444	14.07	13.98	13.92	13.85	13.76	13.69	13.64	13.58	23.5
26	2464	12.64	--	--	--	--	--	--	--	21.1

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
		Mcs8	Mcs9	Mcs10	Mcs11	Mcs12	Mcs13	Mcs14	Mcs15	13
		Measurement Level (dBm)								
06	2414	5.62	--	--	--	--	--	--	--	13.68
18	2444	14.1	14.03	13.94	13.89	13.84	13.75	13.69	13.64	22.91
26	2464	13.17	--	--	--	--	--	--	--	21.67

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

CHAIN A+B

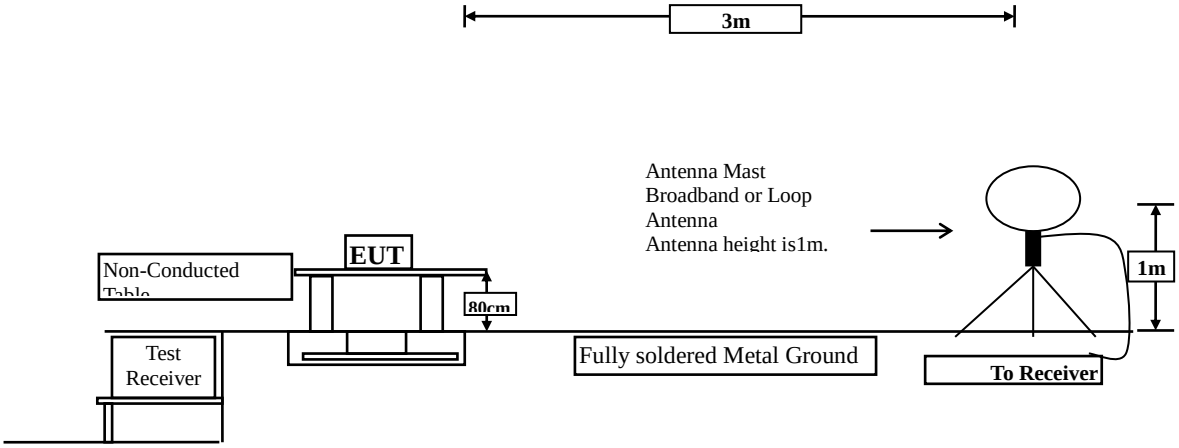
Channel	Frequency (MHz)	Data Rate (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
06	2414	13	14.49	13.68	17.11	<27dBm	Pass
18	2444	13	23.50	22.91	26.23	<27dBm	Pass
26	2464	13	21.10	21.67	24.40	<27dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))
Note: Fixed, point-to-point operations, the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi

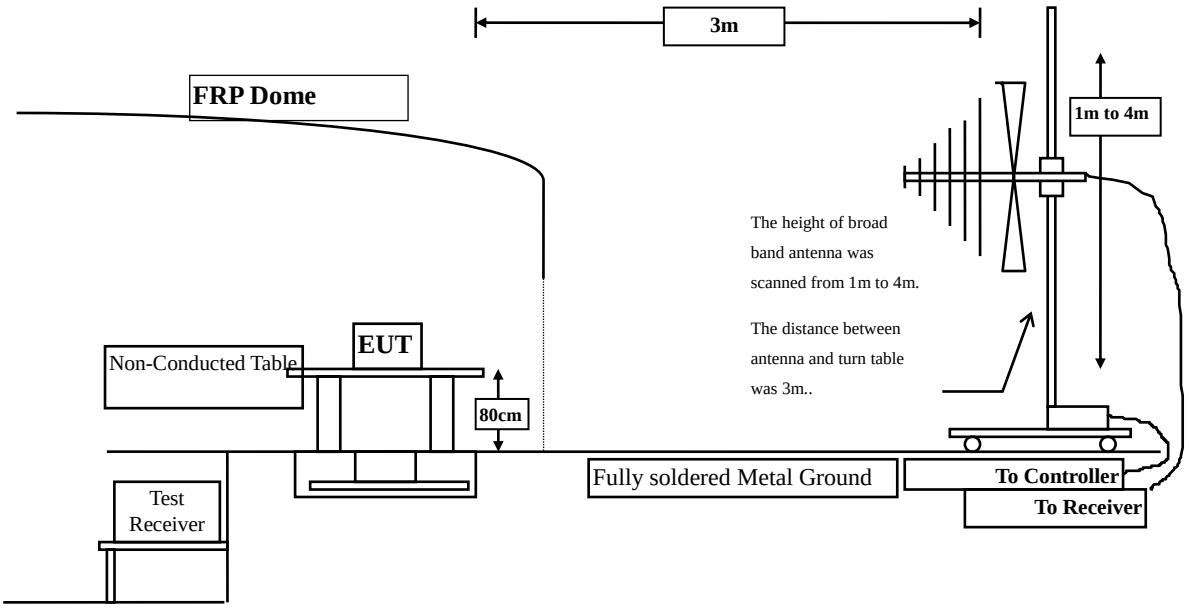
4. Radiated Emission

4.1. Test Setup

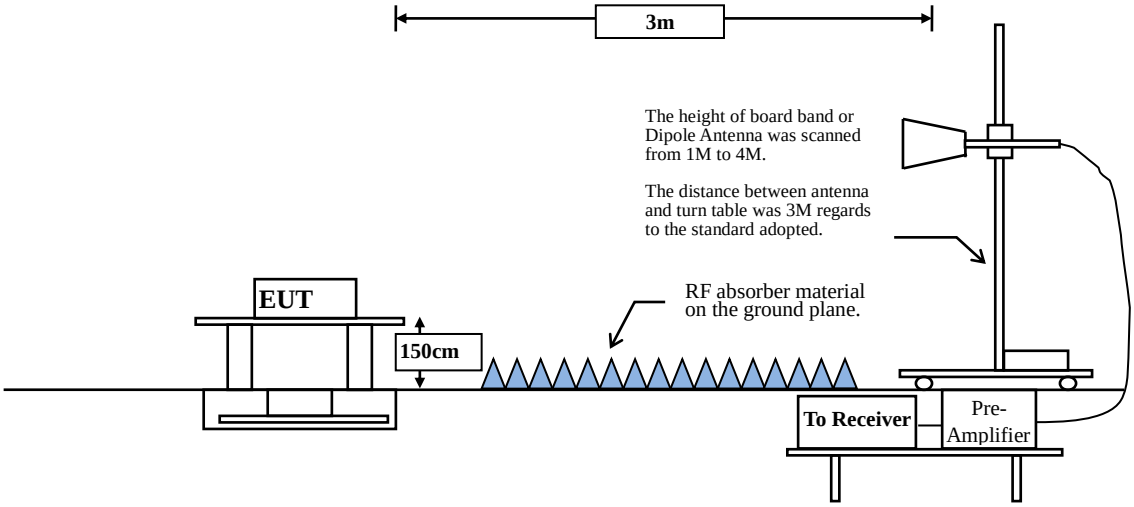
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.2. 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(a) 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: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 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 worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

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

RBW and VBW Parameter setting:

According to KDB 558074. Peak power 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 KDB 558074 Average power 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)
5M-BW	90.24	7.7681	129	200
20M-BW	80.36	0.9783	1022	2000

Note: Duty Cycle Refer to Section 9

4.4. Uncertainty

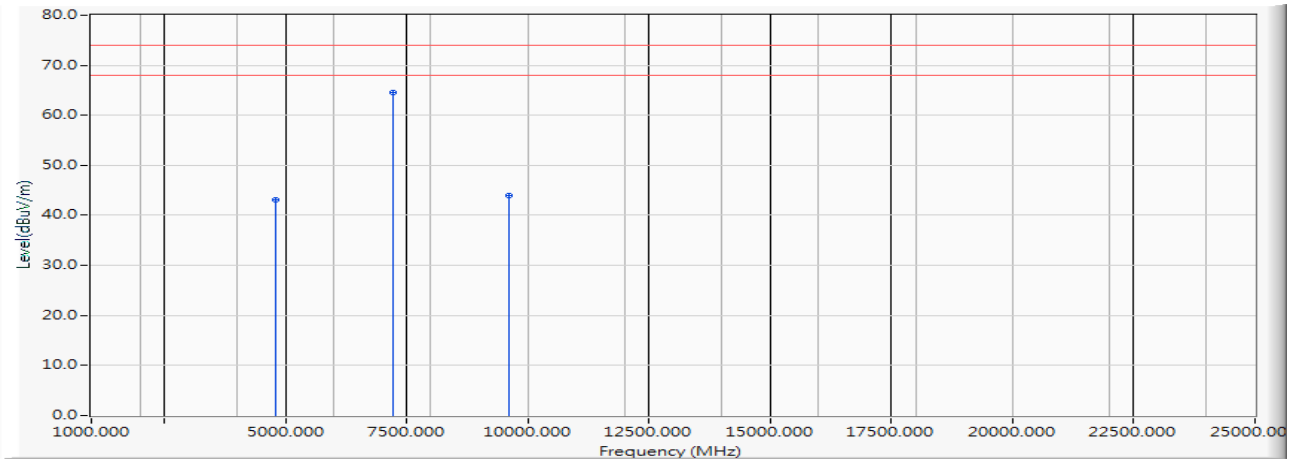
± 4.08 dB above 1GHz

± 4.22 dB below 1GHz

4.5. Test Result of Radiated Emission

Product : Moxa 2.4/4.9/5 GHz
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2404MHz) (Antenna No.4)

Horizontal



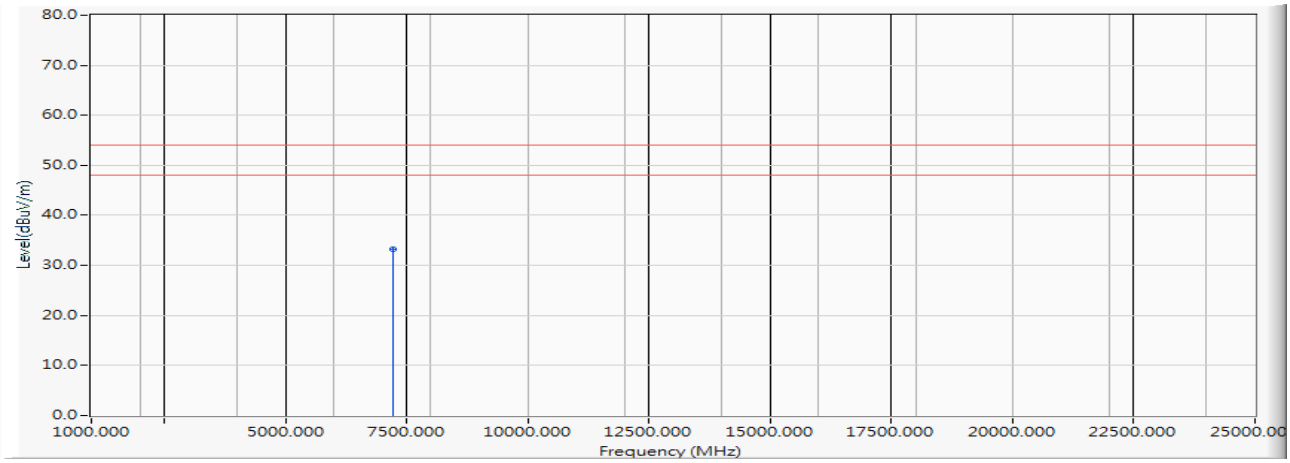
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4808.000	5.756	37.342	43.098	-30.902	74.000	PEAK
2	*	7212.000	10.317	54.279	64.596	-9.404	74.000	PEAK
3		9616.000	13.667	30.259	43.926	-30.074	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2404MHz) (Antenna No.4)

Horizontal



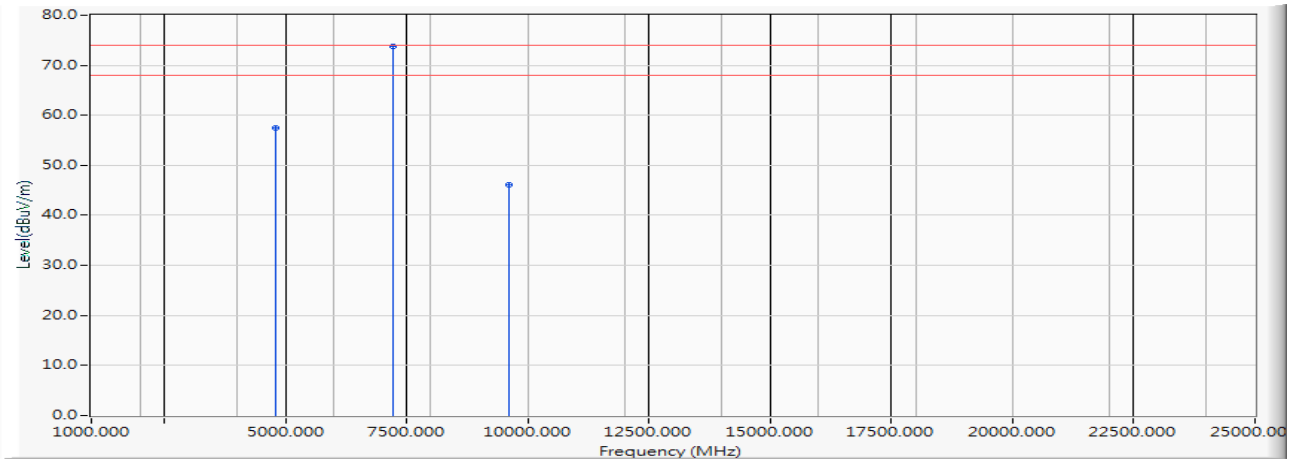
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7212.000	10.317	22.989	33.306	-20.694	54.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2404MHz) (Antenna No.4)

Vertical



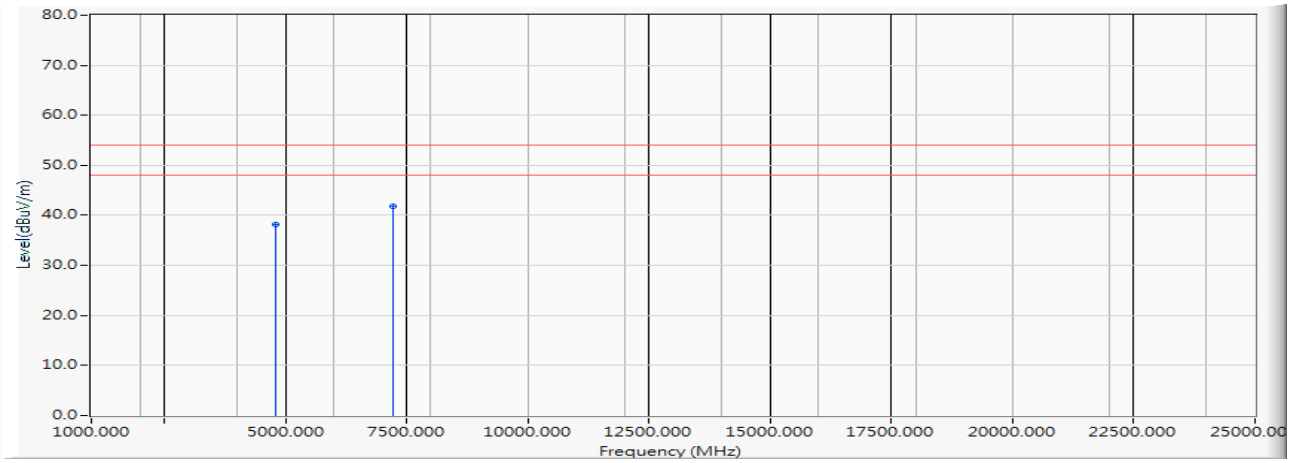
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.000	5.787	51.735	57.522	-16.478	74.000	PEAK
2	*	7212.000	10.317	63.463	73.780	-0.220	74.000	PEAK
3		9616.000	13.667	32.430	46.097	-27.903	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2404MHz) (Antenna No.4)

Vertical



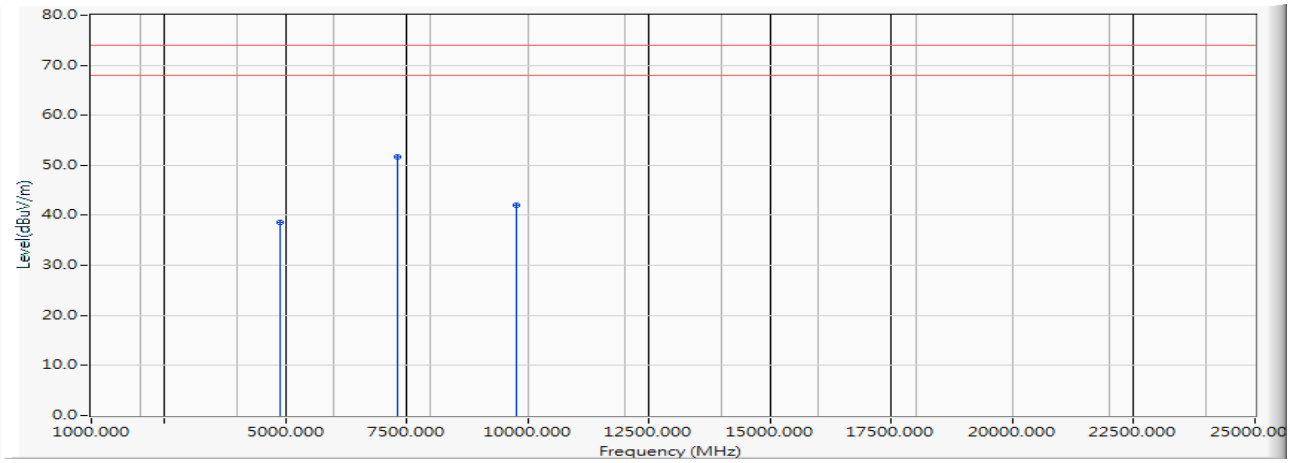
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.000	5.787	32.455	38.242	-15.758	54.000	AVERAGE
2	*	7212.000	10.317	31.463	41.780	-12.220	54.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2442 MHz) (Antenna No.4)

Horizontal



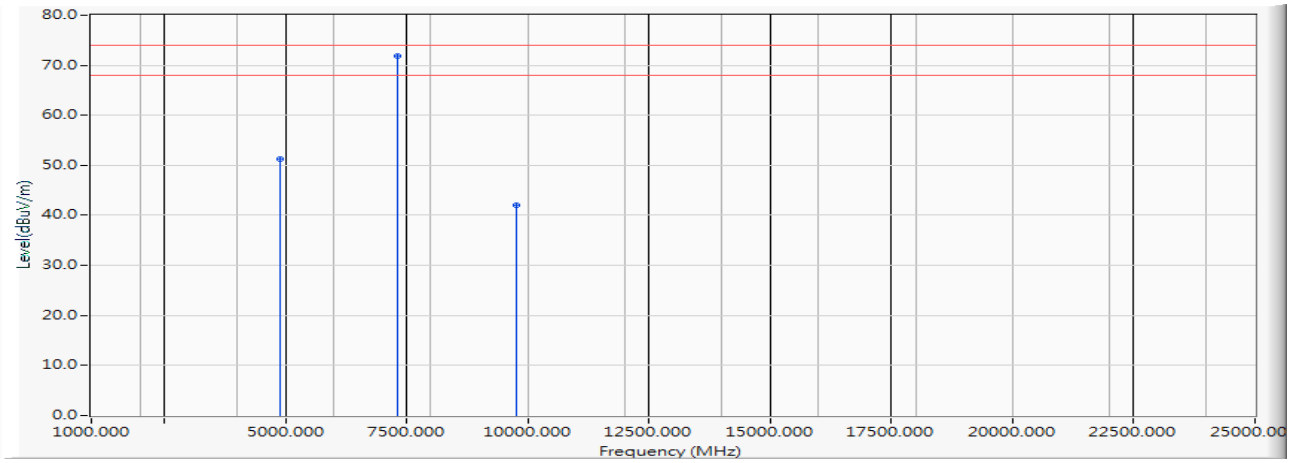
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4884.000	5.912	32.596	38.508	-35.492	74.000	PEAK
2	*	7326.000	10.359	41.309	51.668	-22.332	74.000	PEAK
3		9768.000	13.993	27.984	41.977	-32.023	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2442 MHz) (Antenna No.4)

Vertical



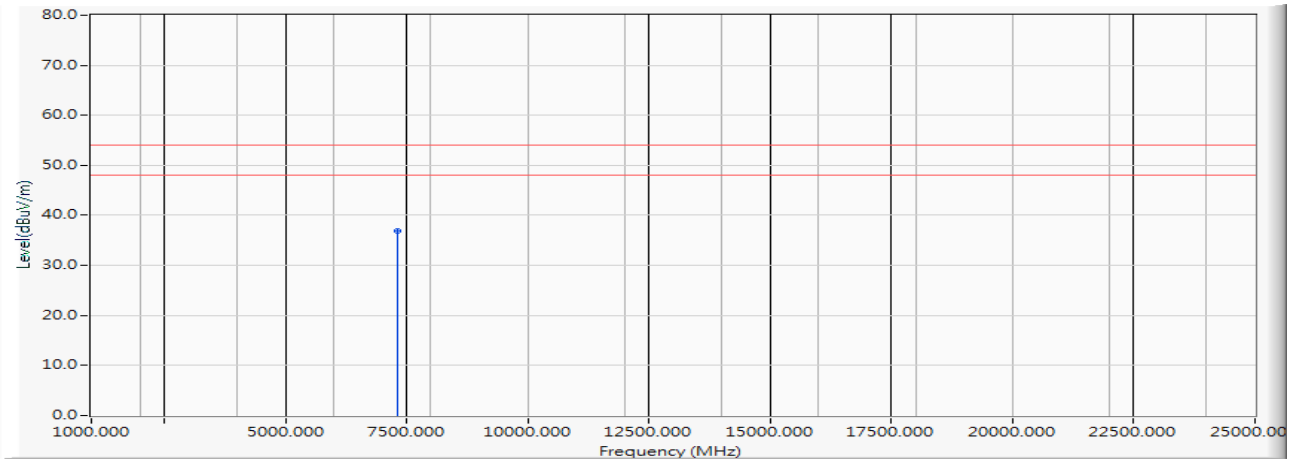
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4884.000	5.912	45.403	51.315	-22.685	74.000	PEAK
2	*	7326.000	10.359	61.462	71.821	-2.179	74.000	PEAK
3		9768.000	13.993	27.953	41.946	-32.054	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2442 MHz) (Antenna No.4)

Vertical



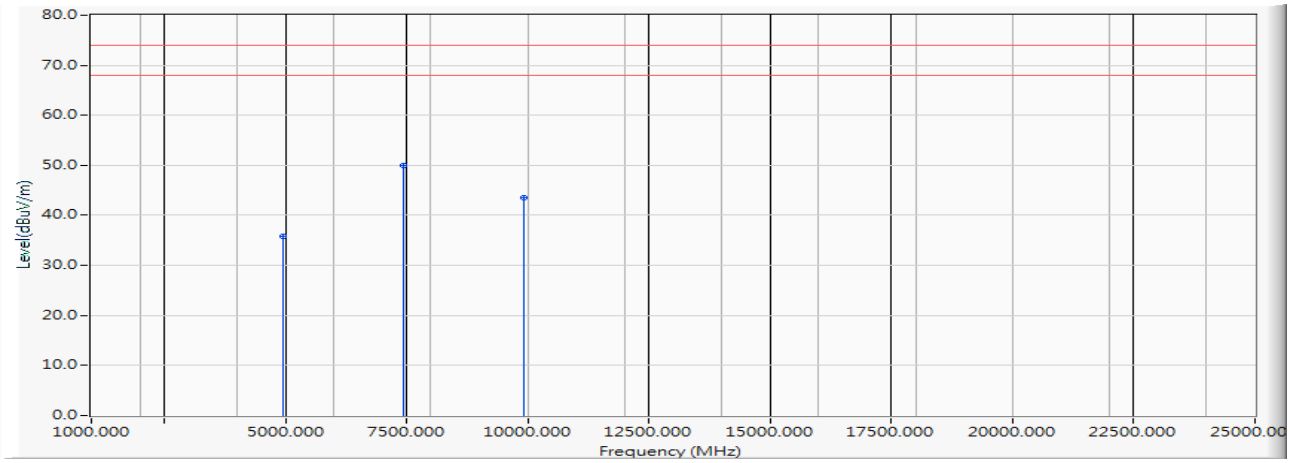
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7326.000	10.359	26.512	36.871	-17.129	54.000	AVERAGE

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2479 MHz) (Antenna No.4)

Horizontal



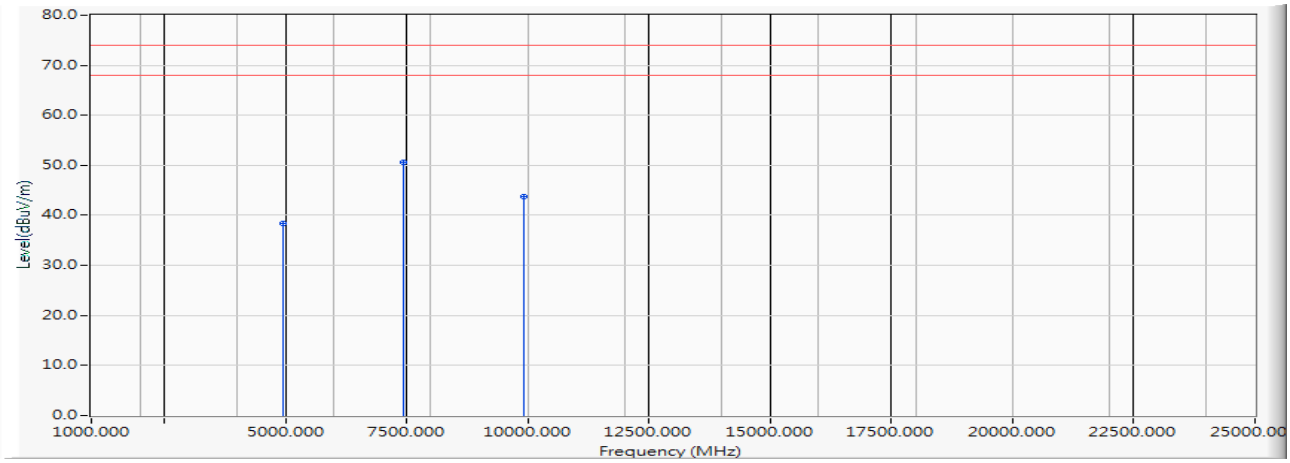
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4958.000	5.999	29.895	35.894	-38.106	74.000	PEAK
2	*	7437.000	10.469	39.442	49.911	-24.089	74.000	PEAK
3		9916.000	14.032	29.516	43.549	-30.451	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2479 MHz) (Antenna No.4)

Vertical



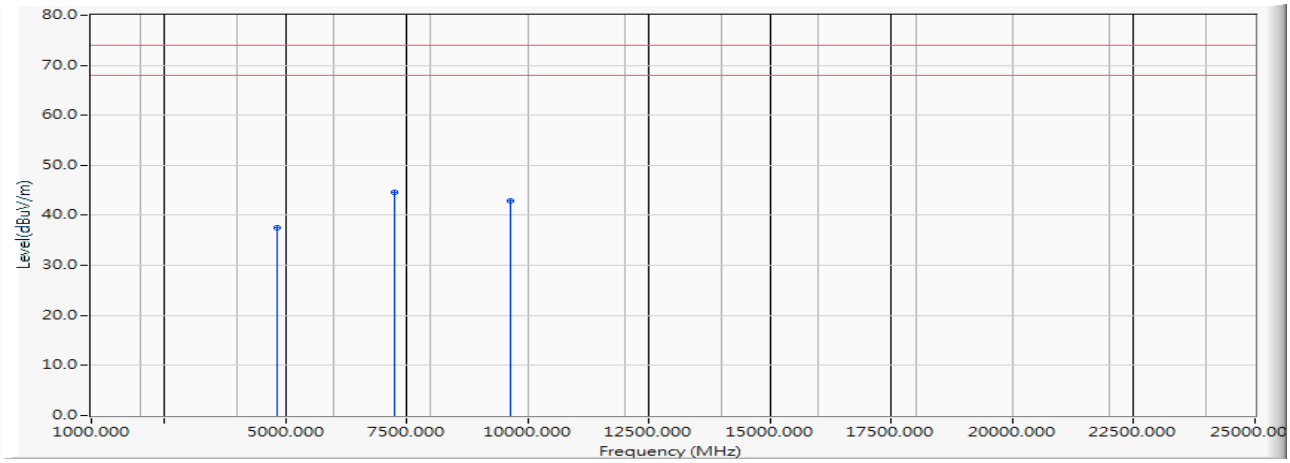
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4958.000	5.999	32.384	38.383	-35.617	74.000	PEAK
2	*	7437.000	10.469	40.195	50.664	-23.336	74.000	PEAK
3		9916.000	14.032	29.814	43.847	-30.153	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2414MHz) (Antenna No.4)

Horizontal



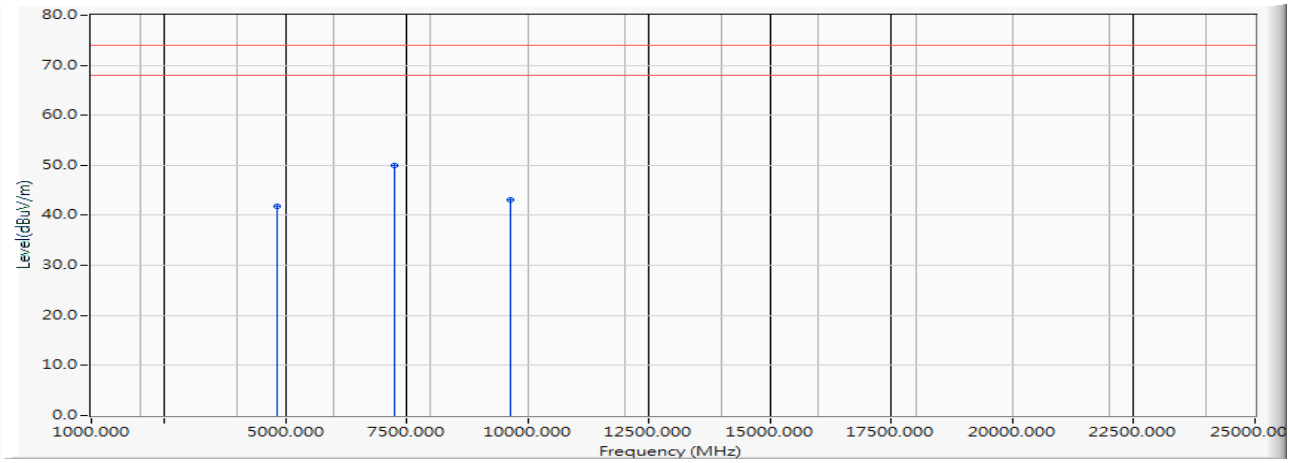
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4828.000	5.892	31.676	37.568	-36.432	74.000	PEAK
2	*	7242.000	10.463	34.100	44.563	-29.437	74.000	PEAK
3		9656.000	13.732	29.189	42.920	-31.080	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2414MHz) (Antenna No.4)

Vertical



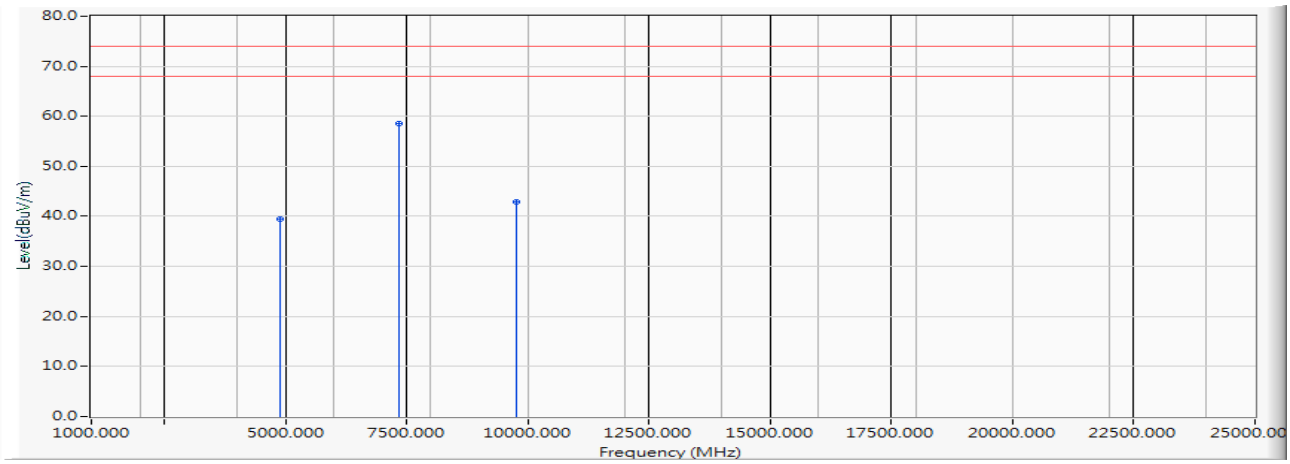
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4828.000	5.892	35.846	41.738	-32.262	74.000	PEAK
2	*	7242.000	10.463	39.450	49.913	-24.087	74.000	PEAK
3		9656.000	13.732	29.383	43.114	-30.886	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2444 MHz) (Antenna No.4)

Horizontal



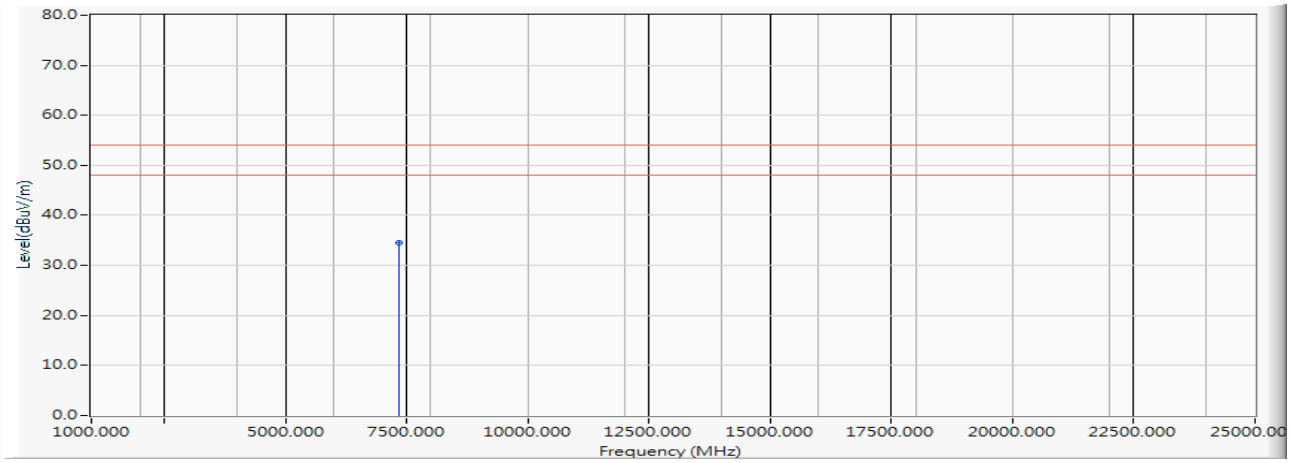
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4888.000	5.927	33.527	39.454	-34.546	74.000	PEAK
2	*	7332.000	10.369	48.124	58.493	-15.507	74.000	PEAK
3		9776.000	14.057	28.872	42.928	-31.072	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2444 MHz) (Antenna No.4)

Horizontal



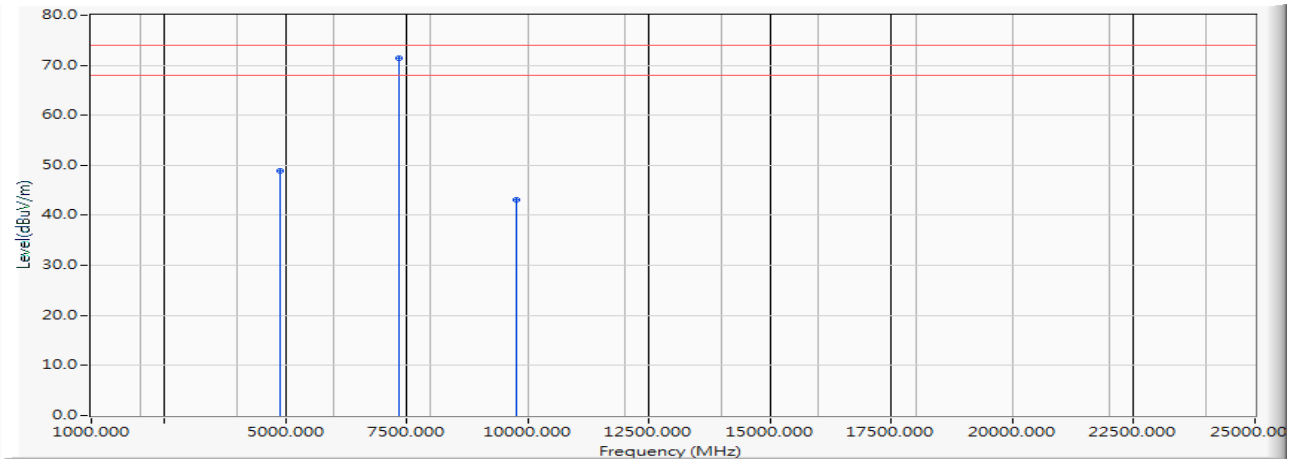
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7332.000	10.369	24.204	34.573	-19.427	54.000	AVERAGE

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2444 MHz) (Antenna No.4)

Vertical



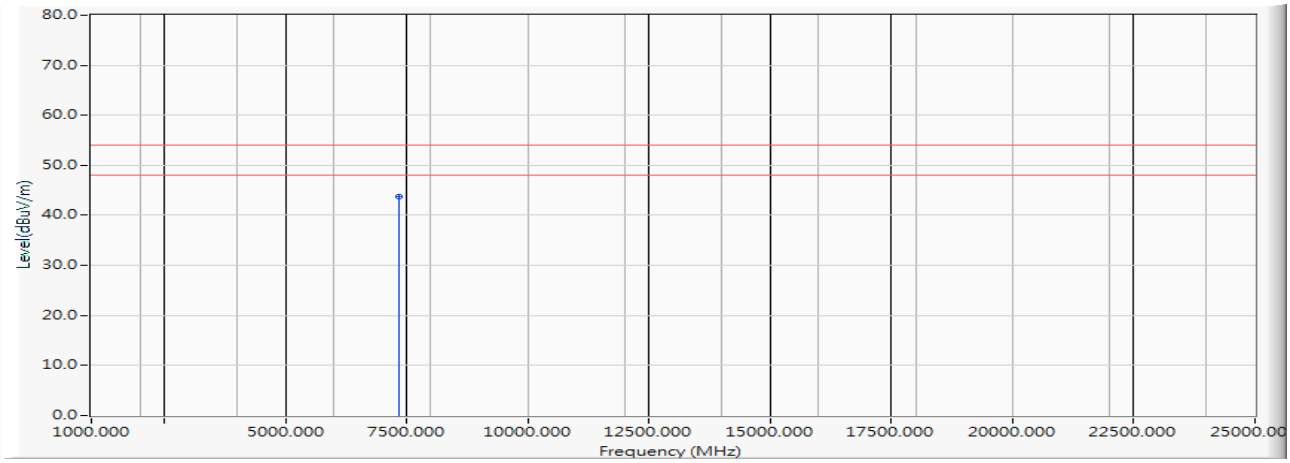
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4888.000	5.927	43.023	48.950	-25.050	74.000	PEAK
2	*	7332.000	10.369	61.140	71.509	-2.491	74.000	PEAK
3		9776.000	14.057	29.128	43.184	-30.816	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2444 MHz) (Antenna No.4)

Vertical



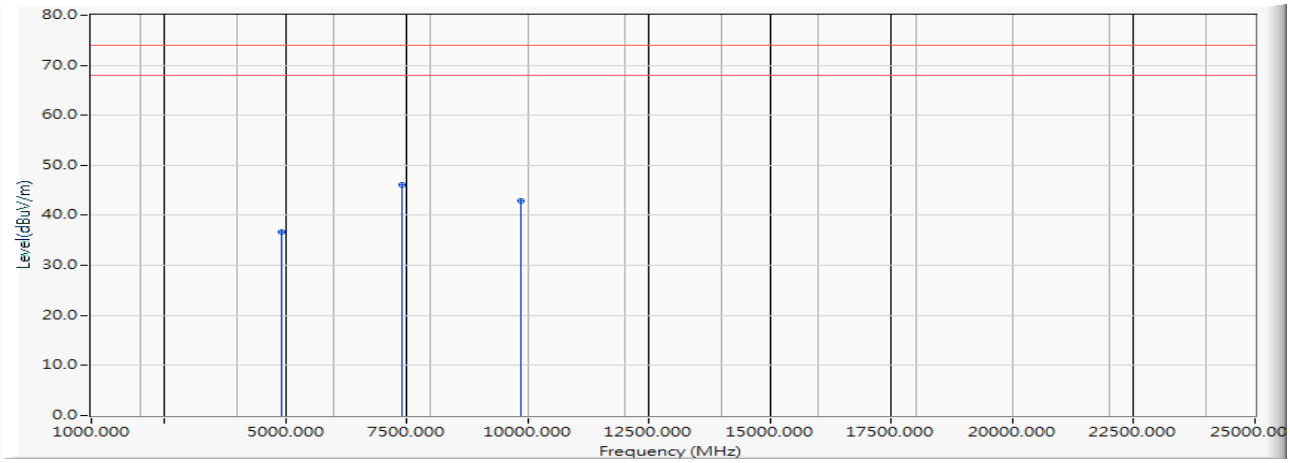
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7332.000	10.369	33.380	43.749	-10.251	54.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2464 MHz) (Antenna No.4)

Horizontal



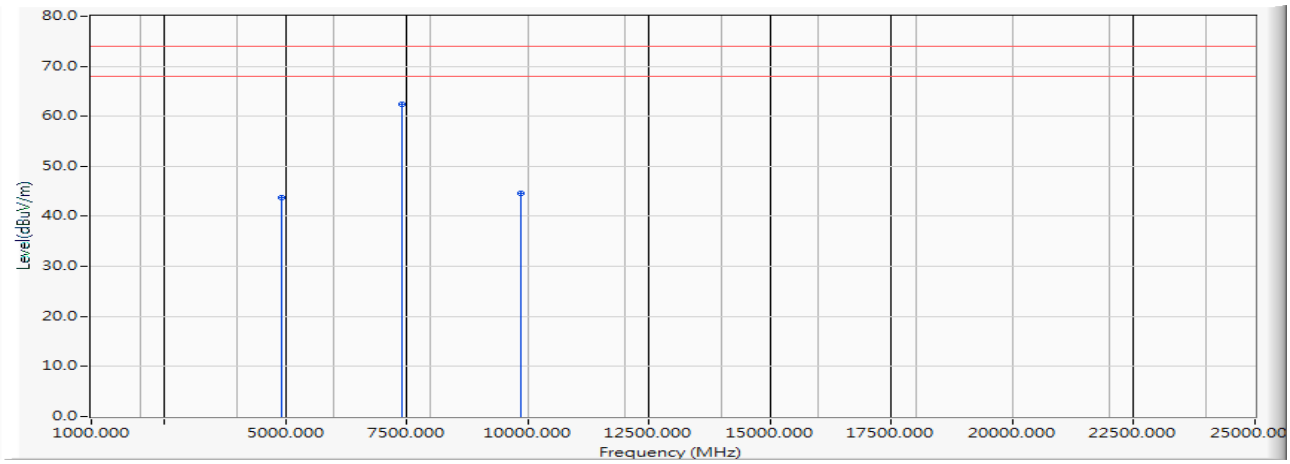
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4928.000	6.001	30.681	36.681	-37.319	74.000	AVERAGE
2	*	7392.000	10.412	35.764	46.176	-27.824	74.000	AVERAGE
3		9856.000	14.395	28.562	42.957	-31.043	74.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2464 MHz) (Antenna No.4)

Vertical



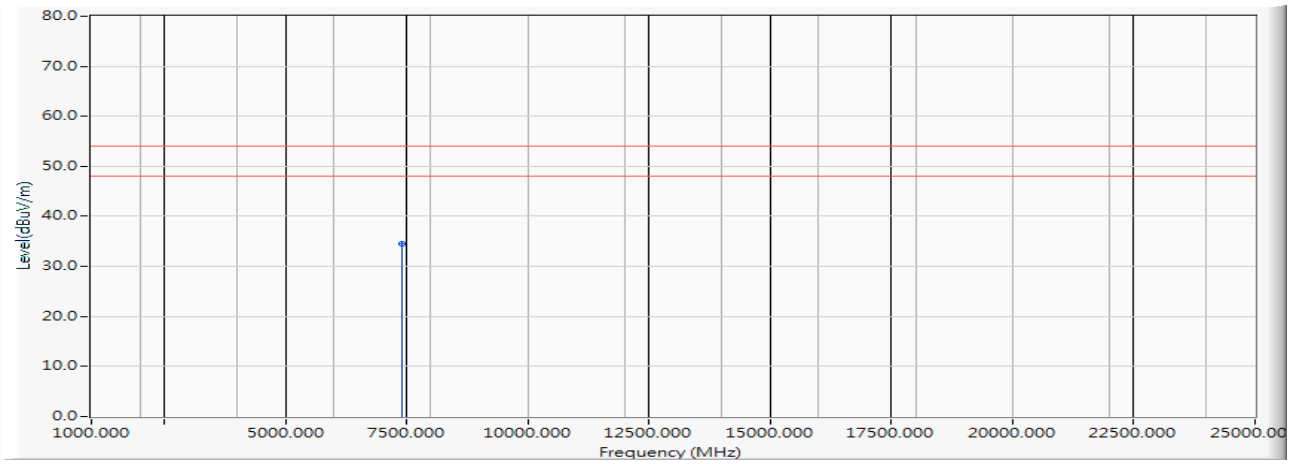
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4928.000	6.001	37.669	43.669	-30.331	74.000	PEAK
2	*	7392.000	10.412	51.964	62.376	-11.624	74.000	PEAK
3		9856.000	14.395	30.154	44.549	-29.451	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2464 MHz) (Antenna No.4)

Vertical



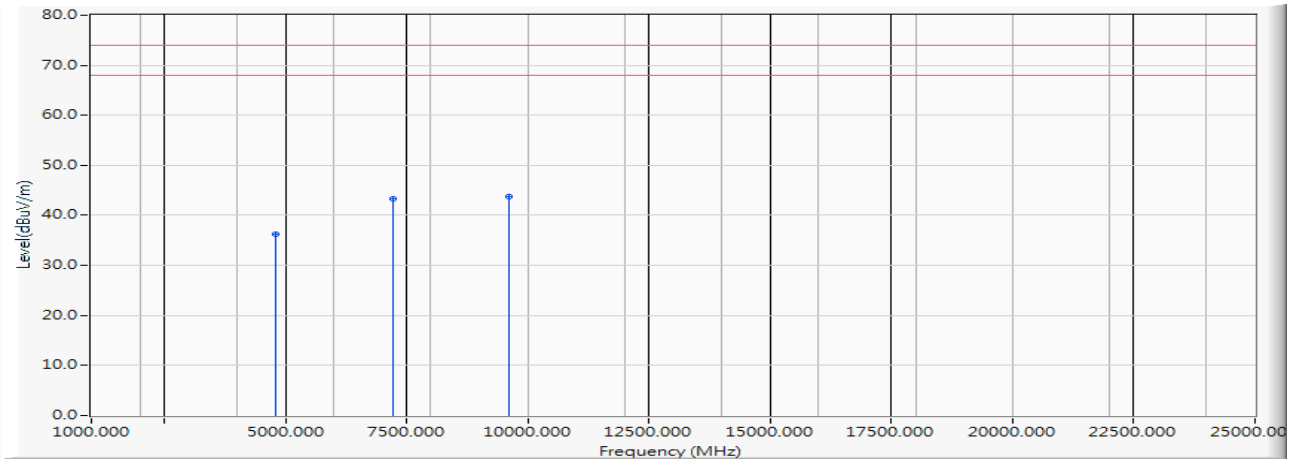
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7392.000	10.412	24.164	34.576	-19.424	54.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2404MHz) (Antenna No.5)

Horizontal



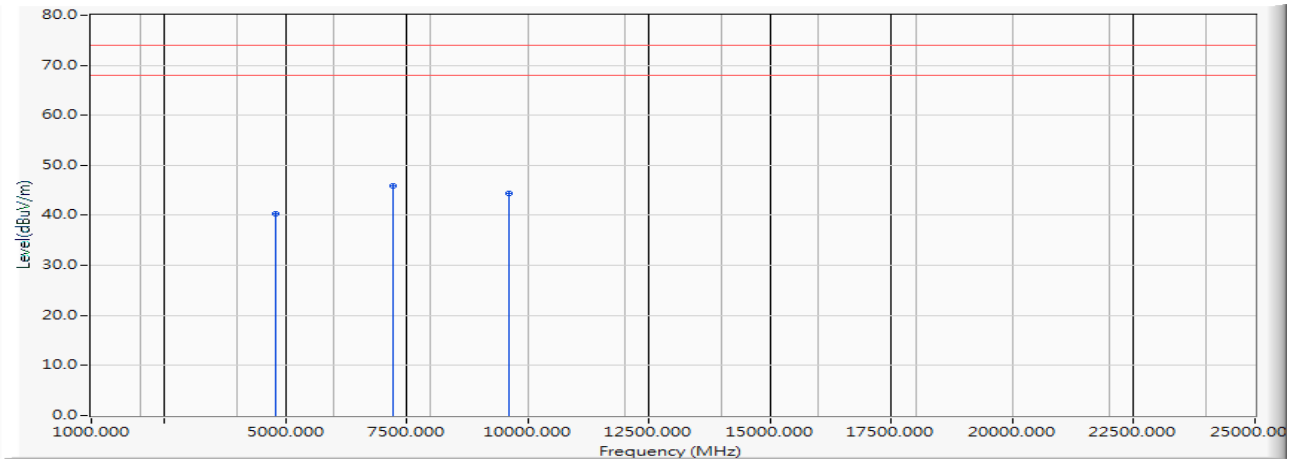
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4808.000	5.756	30.532	36.288	-37.712	74.000	PEAK
2		7212.000	10.317	33.059	43.376	-30.624	74.000	PEAK
3	*	9616.000	13.667	30.039	43.706	-30.294	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2404MHz) (Antenna No.5)

Vertical



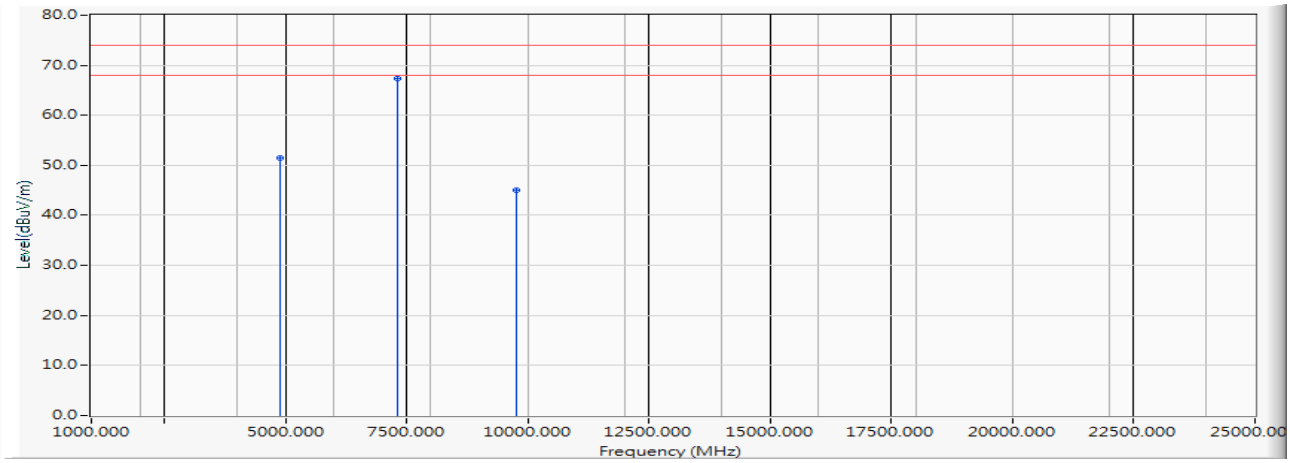
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4808.000	5.756	34.526	40.282	-33.718	74.000	PEAK
2	*	7212.000	10.317	35.593	45.910	-28.090	74.000	PEAK
3		9616.000	13.667	30.630	44.297	-29.703	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2442 MHz) (Antenna No.5)

Horizontal



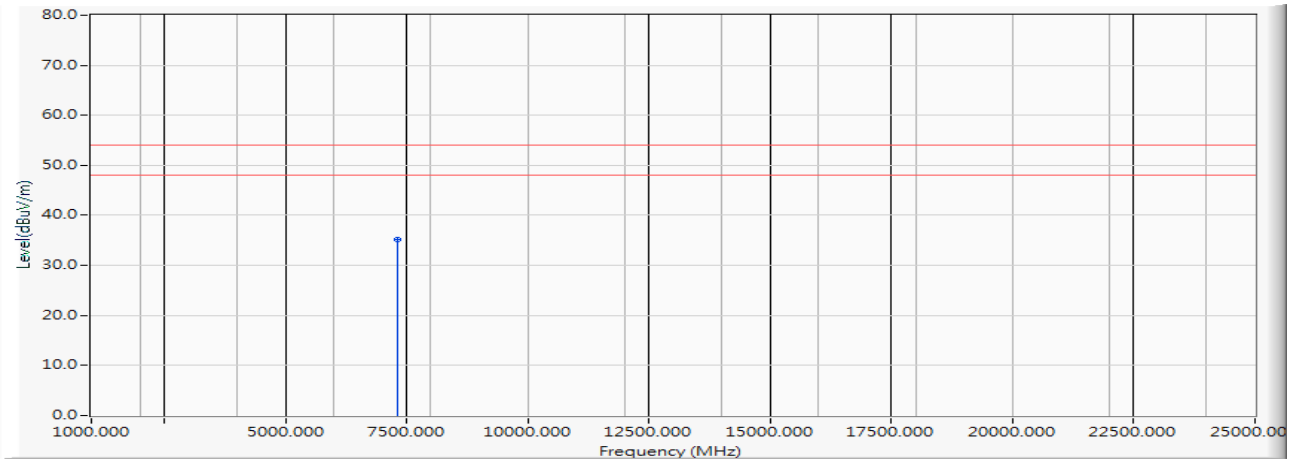
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4884.000	5.912	45.486	51.398	-22.602	74.000	PEAK
2	*	7326.000	10.359	57.049	67.408	-6.592	74.000	PEAK
3		9768.000	13.993	30.994	44.987	-29.013	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2442 MHz) (Antenna No.5)

Horizontal



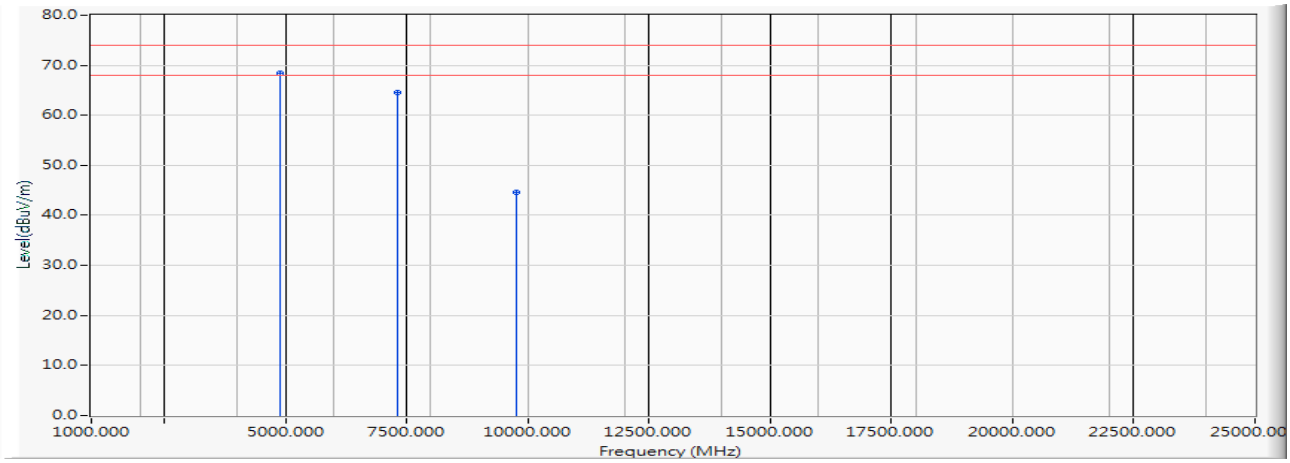
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7326.000	10.359	24.799	35.158	-18.842	54.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2442 MHz) (Antenna No.5)

Vertical



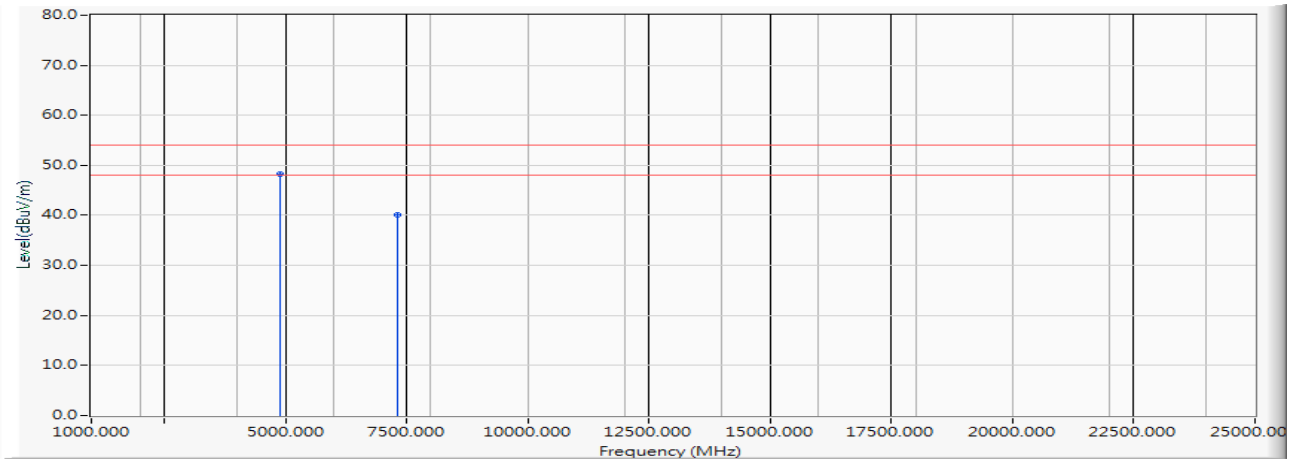
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4884.000	5.912	62.473	68.385	-5.615	74.000	PEAK
2		7326.000	10.359	54.302	64.661	-9.339	74.000	PEAK
3		9768.000	13.993	30.633	44.626	-29.374	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2442 MHz) (Antenna No.5)

Vertical



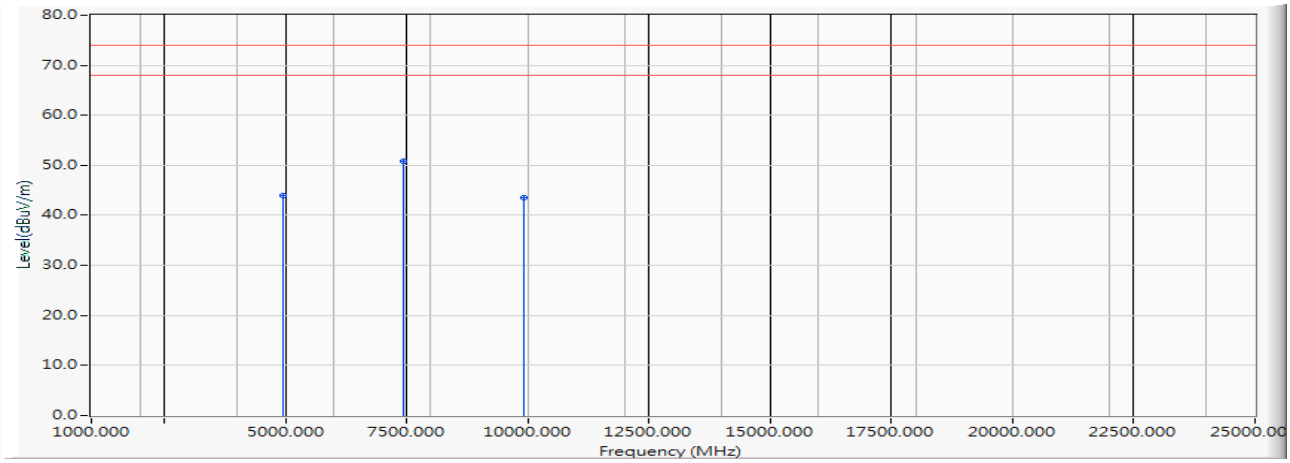
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4884.000	5.912	42.333	48.245	-5.755	54.000	AVERAGE
2		7326.000	10.359	29.812	40.171	-13.829	54.000	AVERAGE

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2477 MHz) (Antenna No.5)

Horizontal



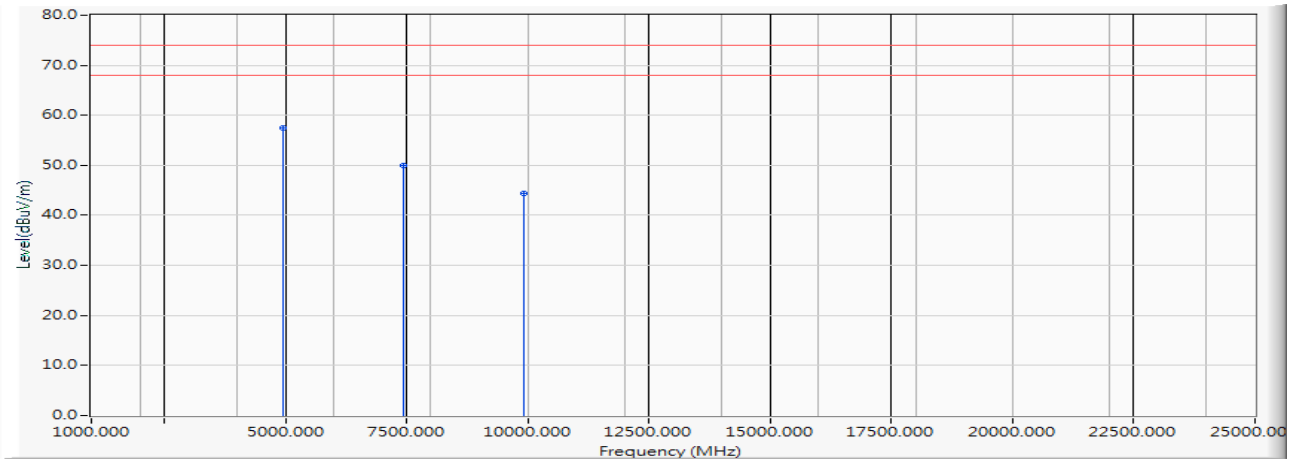
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4954.000	5.981	38.060	44.041	-29.959	74.000	PEAK
2	*	7431.000	10.474	40.402	50.876	-23.124	74.000	PEAK
3		9908.000	14.131	29.303	43.434	-30.566	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2477 MHz) (Antenna No.5)

Vertical



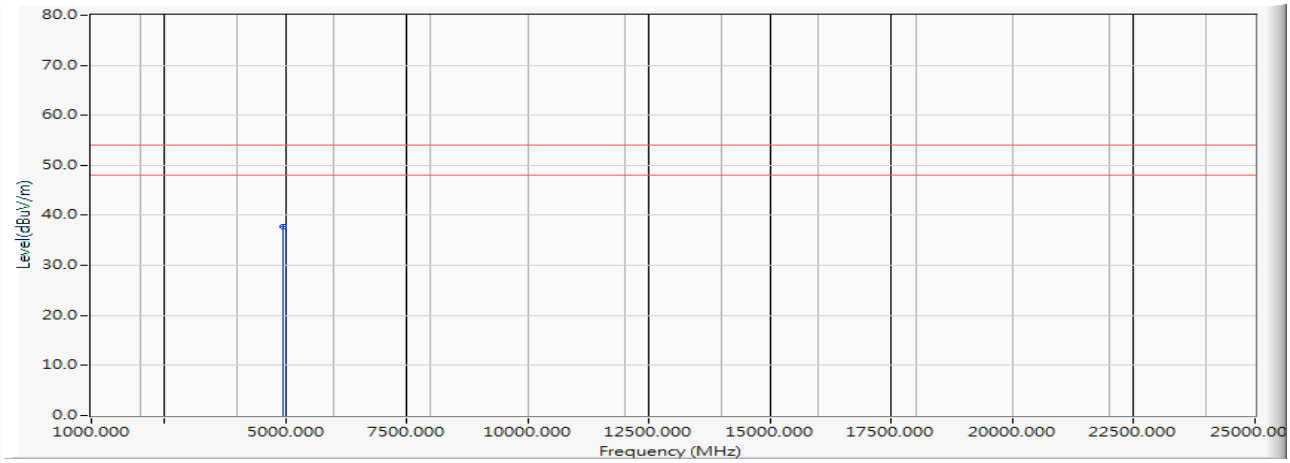
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4954.000	5.981	51.465	57.446	-16.554	74.000	PEAK
2		7431.000	10.474	39.414	49.888	-24.112	74.000	PEAK
3		9908.000	14.131	30.212	44.343	-29.657	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (2477 MHz) (Antenna No.5)

Vertical



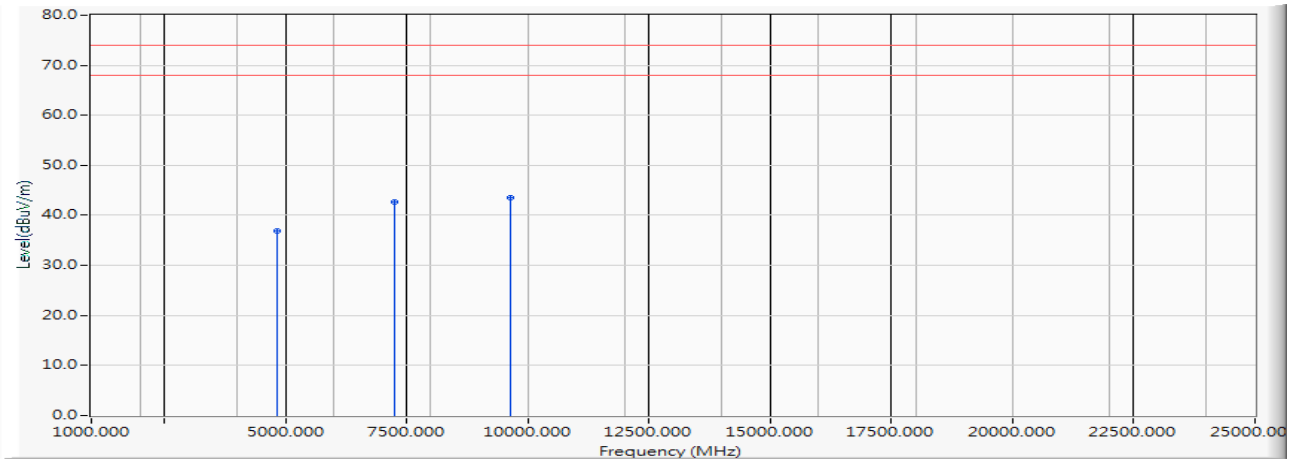
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4954.000	5.981	31.735	37.716	-16.284	54.000	AVERAGE

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2414MHz) (Antenna No.5)

Horizontal



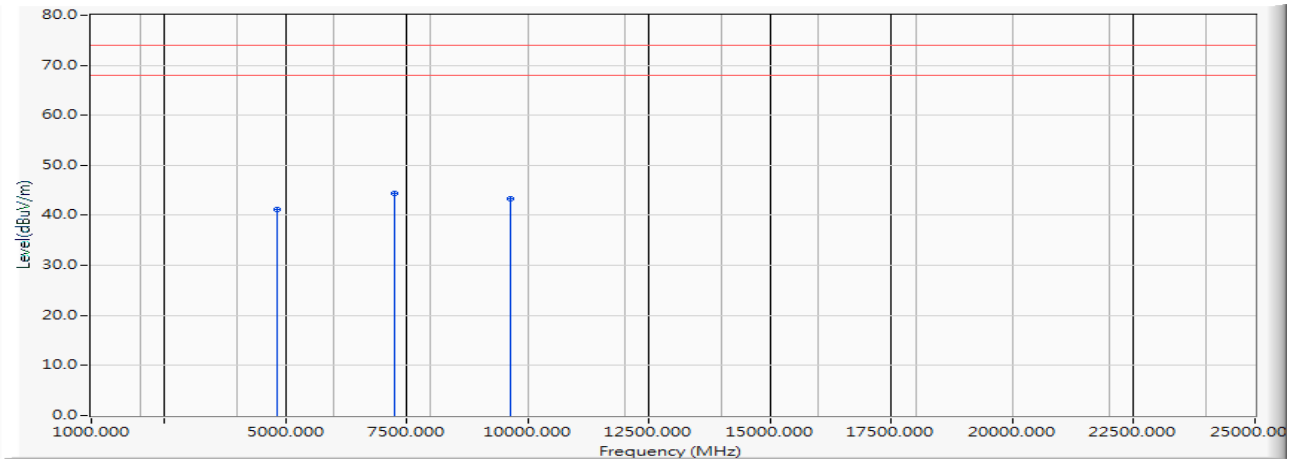
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4828.000	5.892	31.026	36.918	-37.082	74.000	PEAK
2		7242.000	10.463	32.150	42.613	-31.387	74.000	PEAK
3	*	9656.000	13.732	29.909	43.640	-30.360	74.000	PEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2414MHz) (Antenna No.5)

Vertical



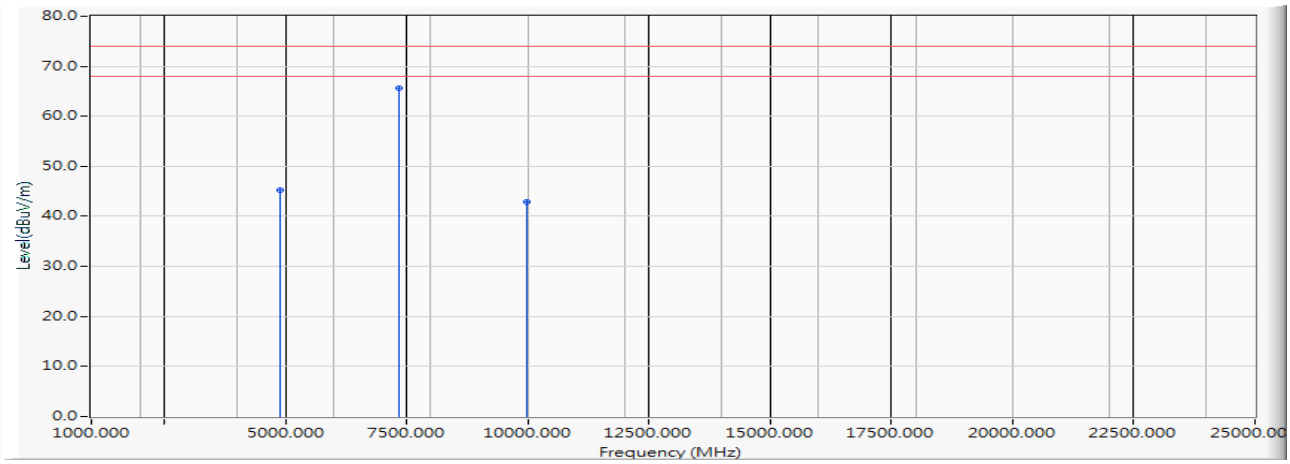
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4828.000	5.892	35.346	41.238	-32.762	74.000	PEAK
2	*	7242.000	10.463	34.040	44.503	-29.497	74.000	PEAK
3		9656.000	13.732	29.683	43.414	-30.586	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2444 MHz) (Antenna No.5)

Horizontal



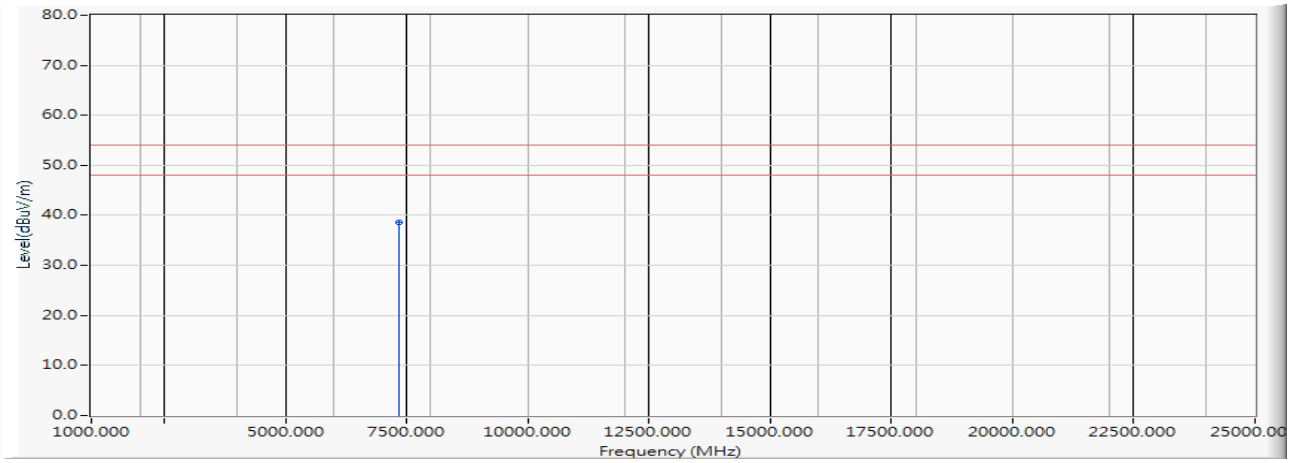
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4888.000	5.927	39.357	45.284	-28.716	74.000	PEAK
2	*	7332.000	10.369	55.204	65.573	-8.427	74.000	PEAK
3		9976.000	14.433	28.504	42.937	-31.063	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2444 MHz) (Antenna No.5)

Horizontal



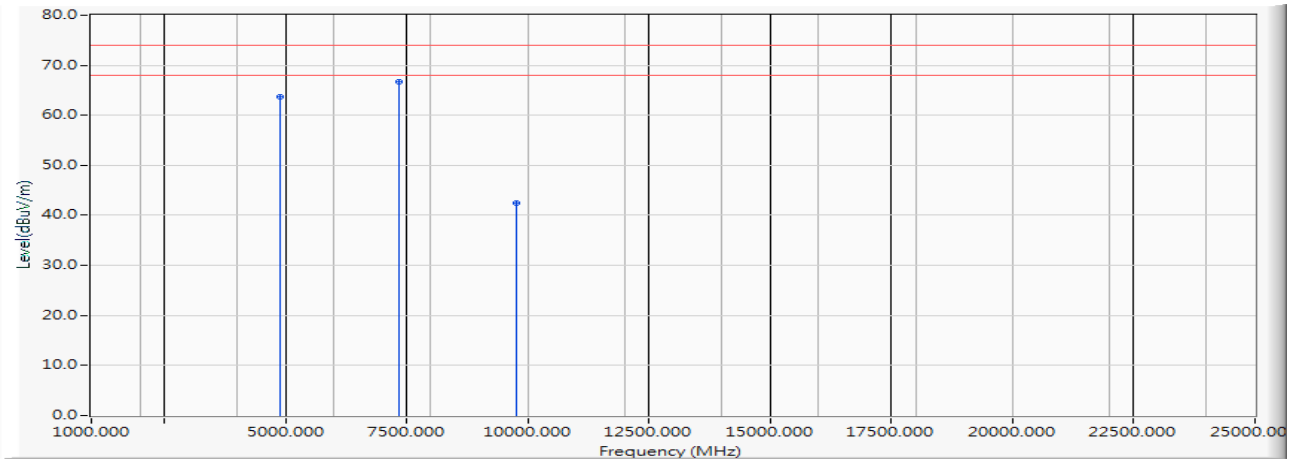
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7332.000	10.369	28.284	38.653	-15.347	54.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2444 MHz) (Antenna No.5)

Vertical



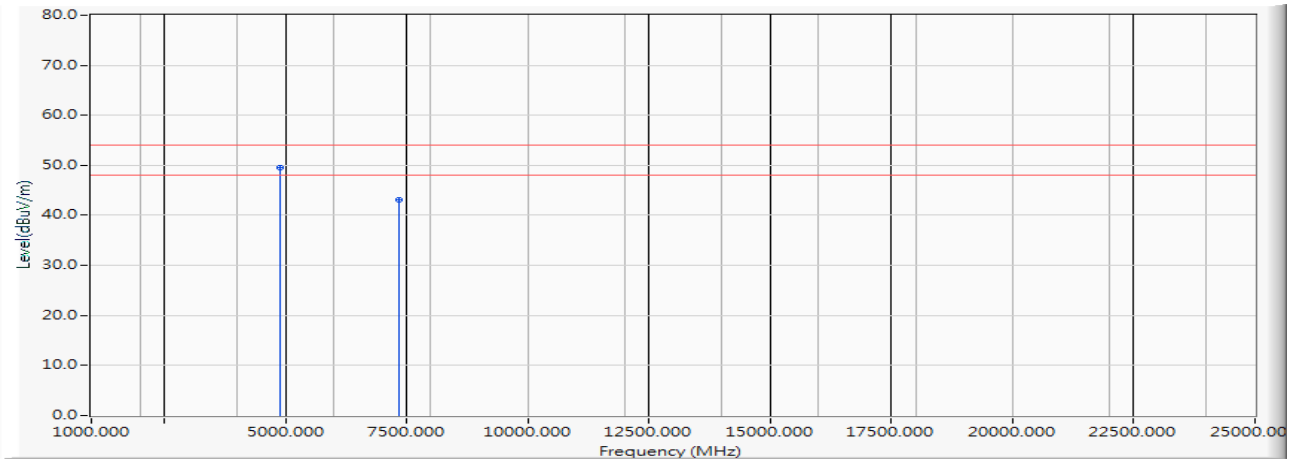
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4888.000	5.927	57.753	63.680	-10.320	74.000	PEAK
2	*	7332.000	10.369	56.380	66.749	-7.251	74.000	PEAK
3		9776.000	14.057	28.418	42.474	-31.526	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2444 MHz) (Antenna No.5)

Vertical



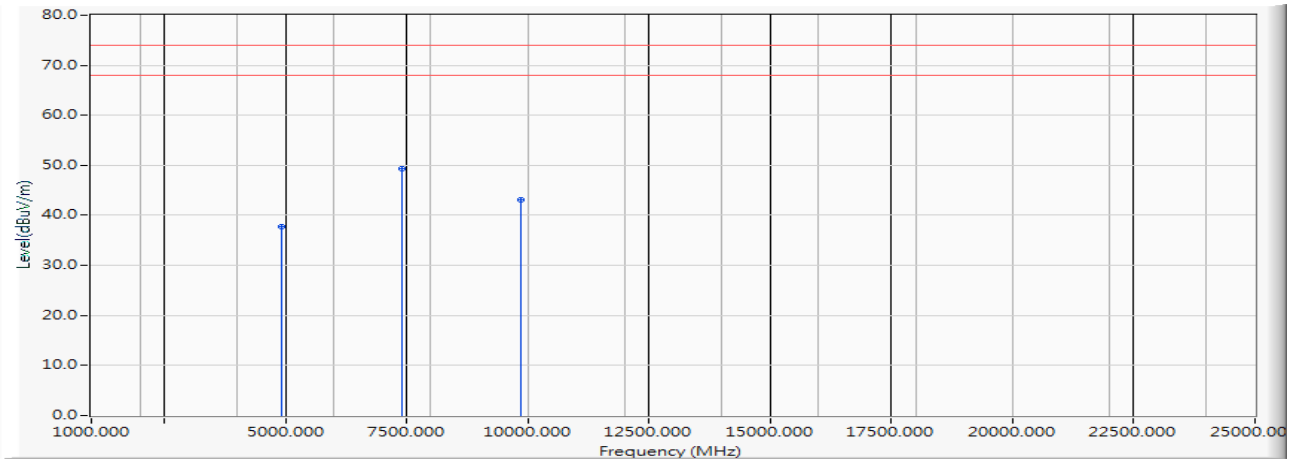
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4888.000	5.927	43.683	49.610	-4.390	54.000	AVERAGE
2		7332.000	10.369	32.740	43.109	-10.891	54.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2464 MHz) (Antenna No.5)

Horizontal



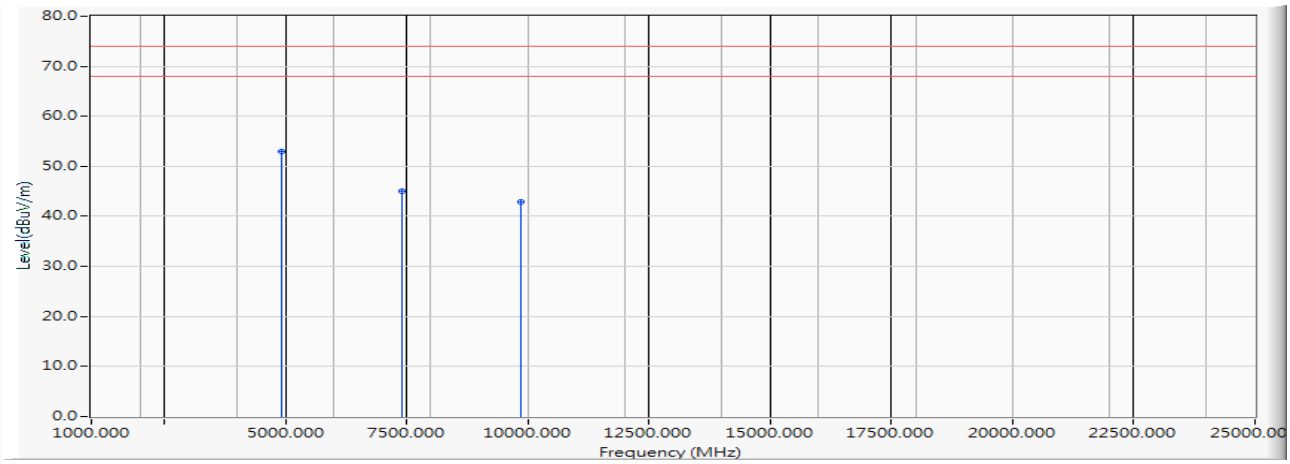
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4928.000	6.001	31.701	37.701	-36.299	74.000	PEAK
2	*	7392.000	10.412	38.834	49.246	-24.754	74.000	PEAK
3		9856.000	14.395	28.742	43.137	-30.863	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2464 MHz) (Antenna No.5)

Vertical



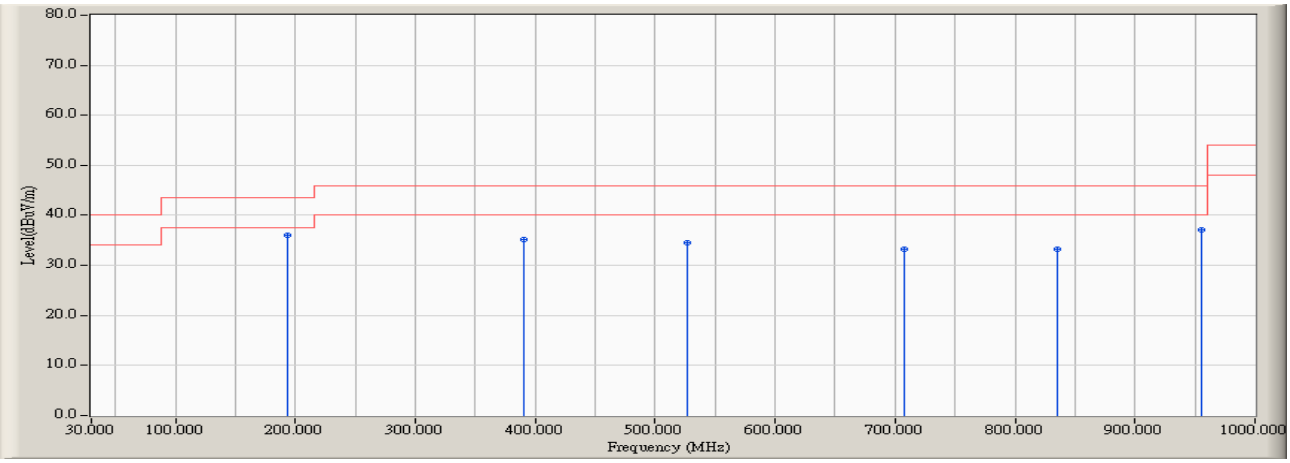
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4928.000	6.001	46.919	52.919	-21.081	74.000	PEAK
2		7392.000	10.412	34.694	45.106	-28.894	74.000	PEAK
3		9856.000	14.395	28.602	42.997	-31.003	74.000	PEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2019/04/10
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2442 MHz) (Antenna No.4)

Horizontal



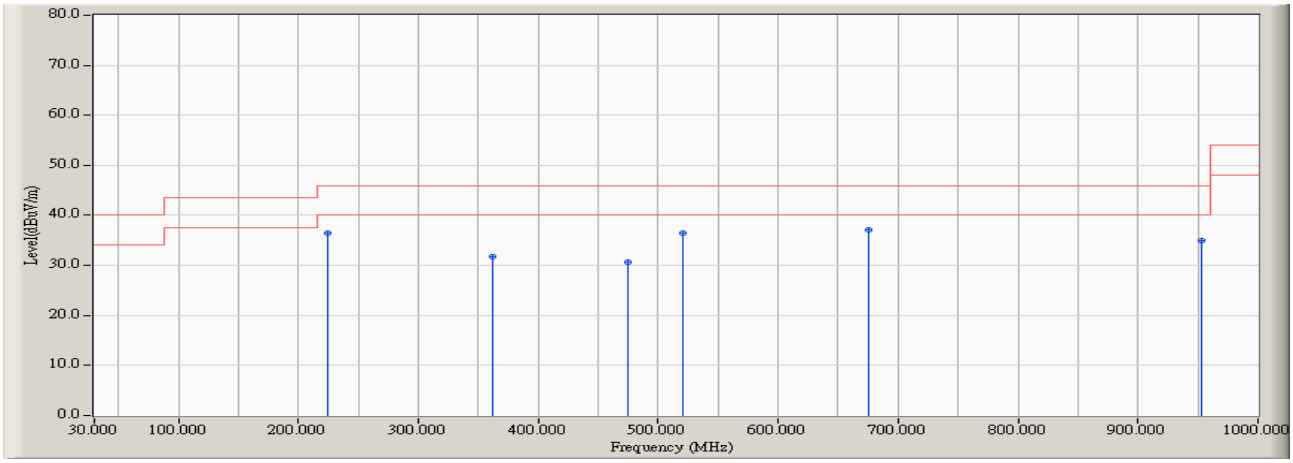
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	192.960	-2.976	38.961	35.985	-7.515	43.500	QUASIPEAK
2		390.840	4.685	30.424	35.109	-10.891	46.000	QUASIPEAK
3		526.640	7.249	27.332	34.581	-11.419	46.000	QUASIPEAK
4		707.060	9.474	23.871	33.345	-12.655	46.000	QUASIPEAK
5		835.100	11.446	21.713	33.159	-12.841	46.000	QUASIPEAK
6		955.380	13.000	24.016	37.016	-8.984	46.000	QUASIPEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2019/04/10
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2442 MHz) (Antenna No.4)

Vertical



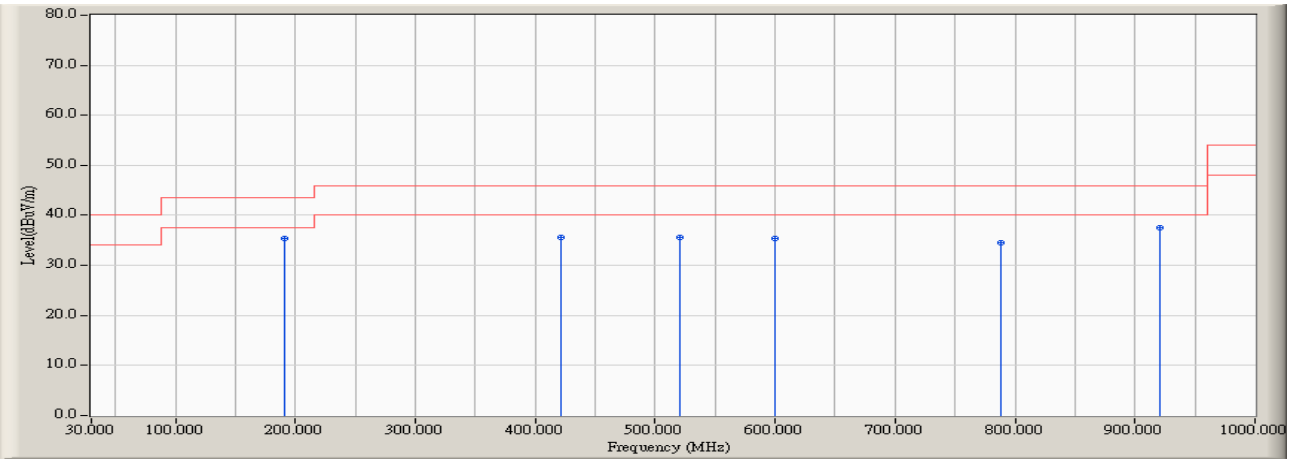
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		224.000	-1.704	38.260	36.556	-9.444	46.000	QUASIPEAK
2		361.740	3.788	27.990	31.778	-14.222	46.000	QUASIPEAK
3		474.260	6.219	24.445	30.664	-15.336	46.000	QUASIPEAK
4		520.820	7.119	29.272	36.391	-9.609	46.000	QUASIPEAK
5	*	676.020	9.258	27.876	37.134	-8.866	46.000	QUASIPEAK
6		953.440	12.976	22.013	34.989	-11.011	46.000	QUASIPEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2019/04/10
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2444 MHz) (Antenna No.4)

Horizontal



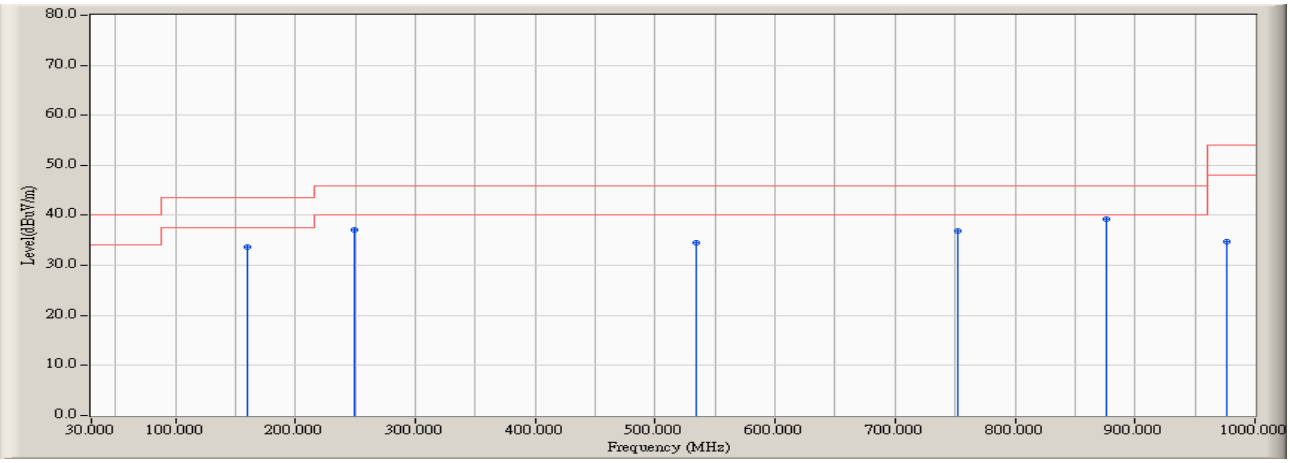
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	191.020	-3.142	38.594	35.452	-8.048	43.500	QUASIPEAK
2		421.880	5.316	30.311	35.627	-10.373	46.000	QUASIPEAK
3		520.820	7.119	28.523	35.642	-10.358	46.000	QUASIPEAK
4		600.360	8.332	26.964	35.296	-10.704	46.000	QUASIPEAK
5		788.540	10.636	23.872	34.508	-11.492	46.000	QUASIPEAK
6		920.460	12.457	25.133	37.590	-8.410	46.000	QUASIPEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2019/04/10
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2444 MHz) (Antenna No.4)

Vertical



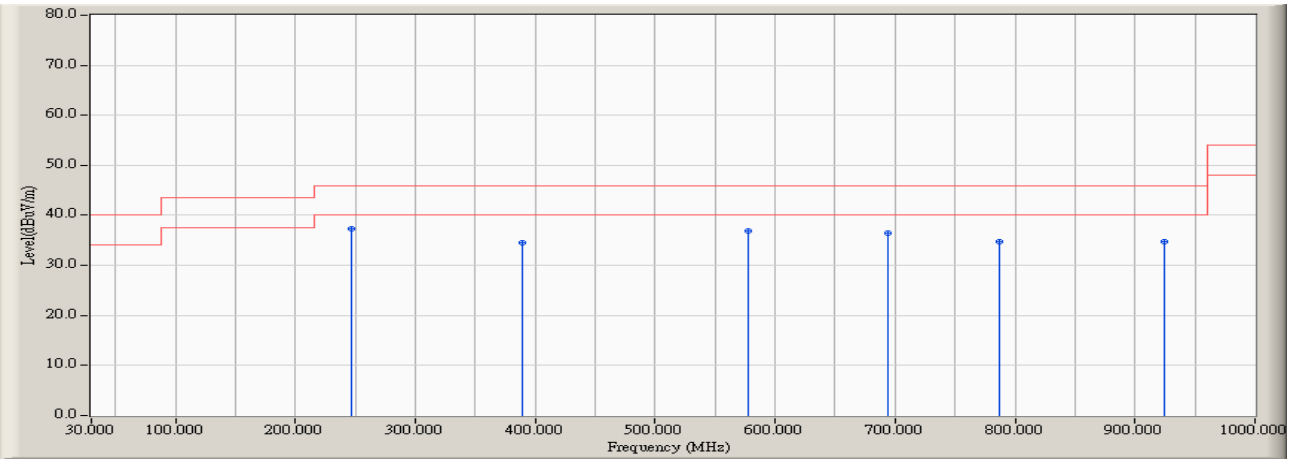
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		159.980	-2.331	36.076	33.745	-9.755	43.500	QUASIPEAK
2		249.220	0.448	36.601	37.049	-8.951	46.000	QUASIPEAK
3		534.400	7.413	27.114	34.527	-11.473	46.000	QUASIPEAK
4		751.680	10.242	26.624	36.866	-9.134	46.000	QUASIPEAK
5	*	875.840	11.922	27.299	39.221	-6.779	46.000	QUASIPEAK
6		976.720	13.197	21.525	34.722	-19.278	54.000	QUASIPEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2019/04/10
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2442 MHz) (Antenna No.5)

Horizontal



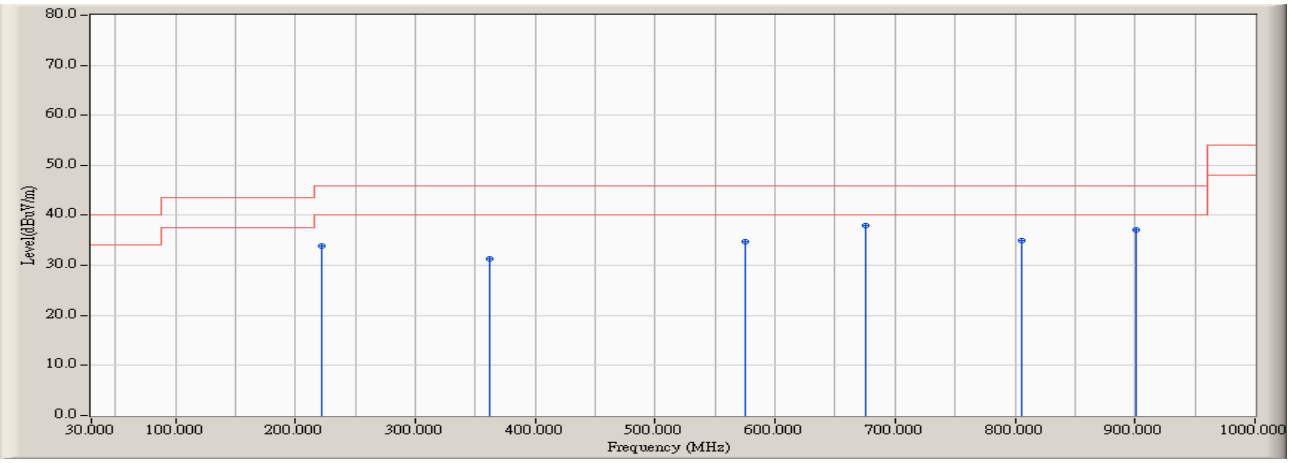
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	247.280	0.304	37.082	37.386	-8.614	46.000	QUASIPEAK
2		388.900	4.619	29.862	34.481	-11.519	46.000	QUASIPEAK
3		577.080	8.083	28.747	36.830	-9.170	46.000	QUASIPEAK
4		693.480	9.337	27.188	36.525	-9.475	46.000	QUASIPEAK
5		786.600	10.623	24.083	34.706	-11.294	46.000	QUASIPEAK
6		924.340	12.513	22.338	34.851	-11.149	46.000	QUASIPEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2019/04/10
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2442 MHz) (Antenna No.5)

Vertical



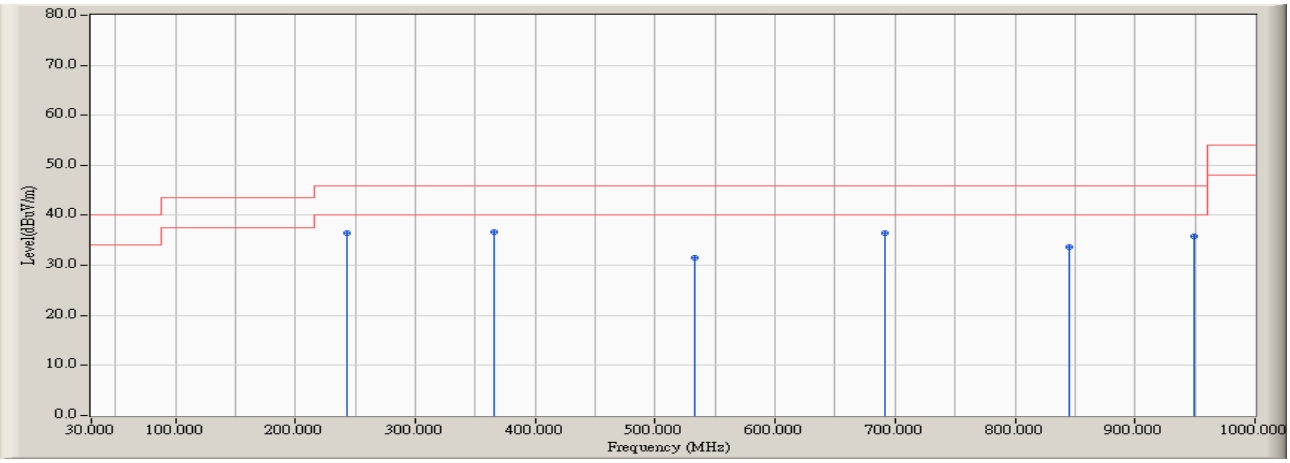
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		222.060	-1.832	35.630	33.798	-12.202	46.000	QUASIPEAK
2		361.740	3.788	27.468	31.256	-14.744	46.000	QUASIPEAK
3		575.140	8.060	26.712	34.772	-11.228	46.000	QUASIPEAK
4	*	676.020	9.258	28.690	37.948	-8.052	46.000	QUASIPEAK
5		806.000	10.885	24.027	34.912	-11.088	46.000	QUASIPEAK
6		901.060	12.124	24.905	37.029	-8.971	46.000	QUASIPEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	General Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/04/10
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2444 MHz) (Antenna No.5)

Horizontal



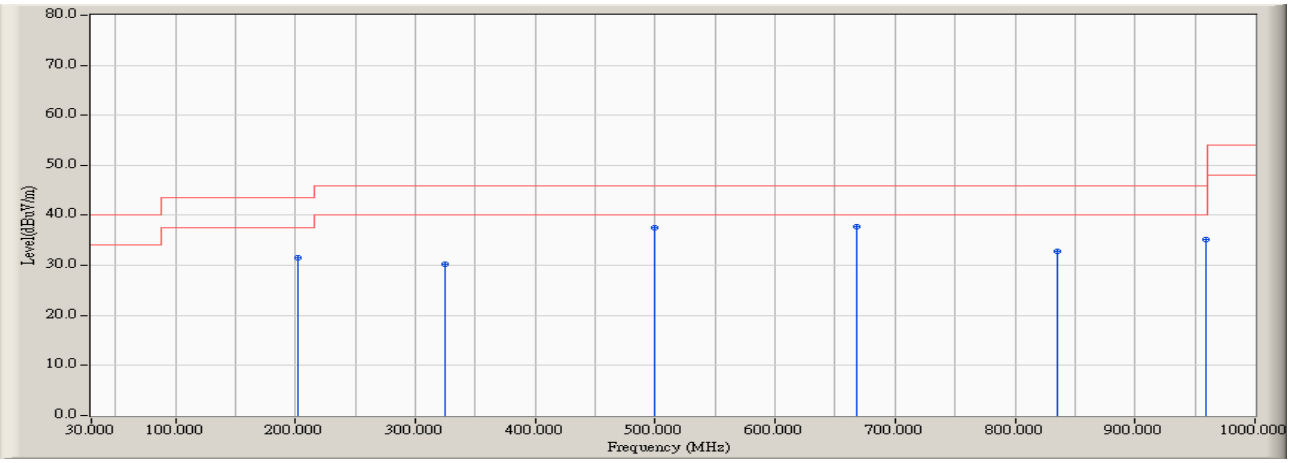
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		243.400	0.010	36.404	36.414	-9.586	46.000	QUASIPEAK
2	*	365.620	3.911	32.698	36.609	-9.391	46.000	QUASIPEAK
3		532.460	7.369	24.103	31.472	-14.528	46.000	QUASIPEAK
4		691.540	9.333	27.127	36.460	-9.540	46.000	QUASIPEAK
5		844.800	11.647	21.925	33.572	-12.428	46.000	QUASIPEAK
6		949.560	12.937	22.977	35.914	-10.086	46.000	QUASIPEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	General Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2019/04/10
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (2444 MHz) (Antenna No.5)

Vertical



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		202.660	-2.254	33.725	31.471	-12.029	43.500	QUASIPEAK
2		324.880	2.530	27.706	30.236	-15.764	46.000	QUASIPEAK
3		499.480	6.683	30.942	37.625	-8.375	46.000	QUASIPEAK
4	*	668.260	9.221	28.489	37.710	-8.290	46.000	QUASIPEAK
5		835.100	11.446	21.343	32.789	-13.211	46.000	QUASIPEAK
6		959.260	13.038	22.163	35.201	-10.799	46.000	QUASIPEAK

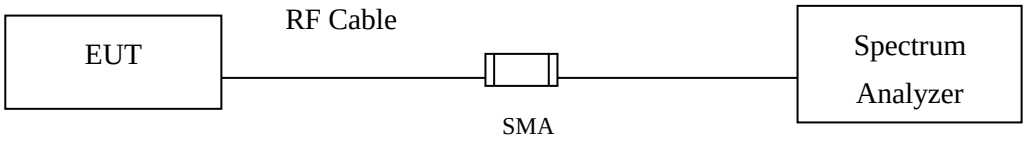
Note:

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

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 DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.
Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

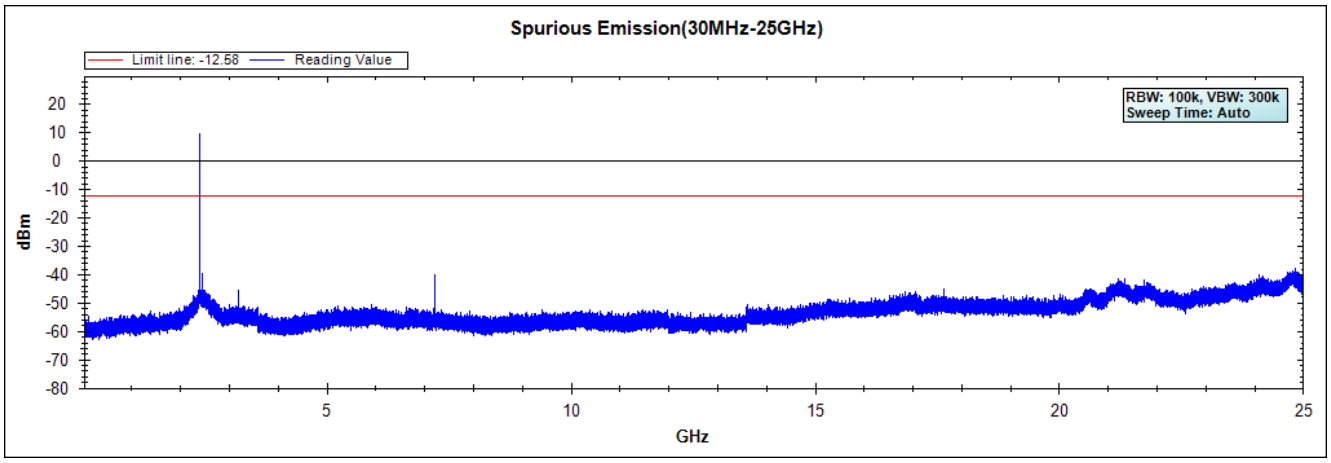
5.4. Uncertainty

The measurement uncertainty
Conducted is defined as ± 1.20dB

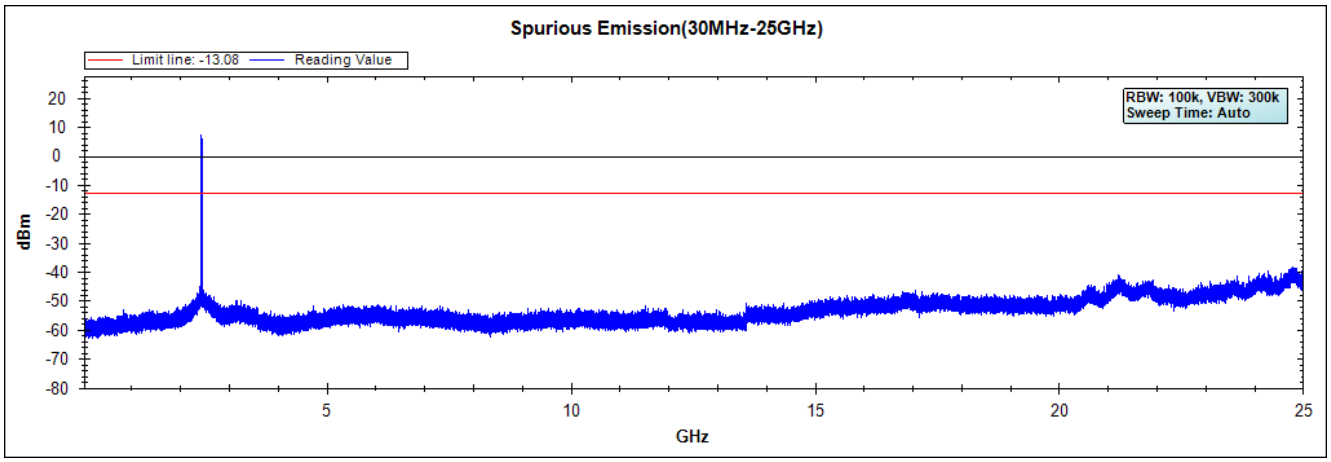
5.5. Test Result of RF antenna conducted test

Product : Moxa 2.4/4.9/5 GHz
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (Antenna No.2)

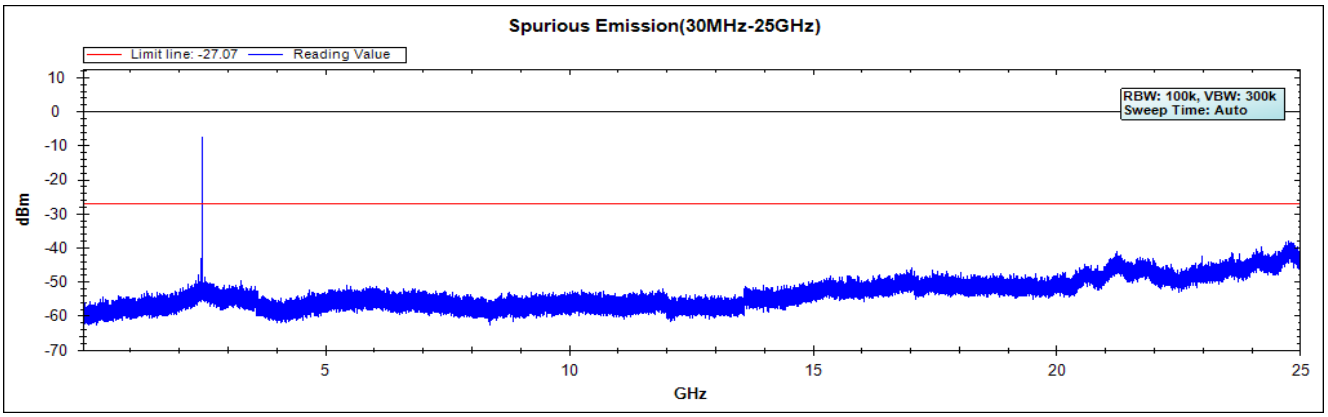
Channel 02 (2402MHz) 30MHz -25GHz-Chain A



Channel 17 (2442MHz) 30MHz -25GHz-Chain A

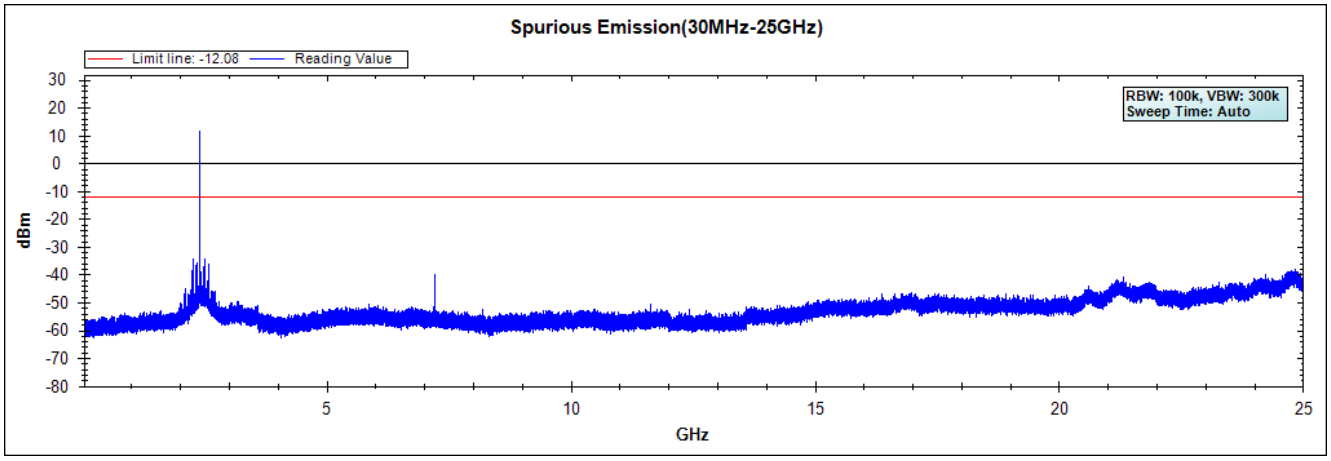


Channel 32 (2479MHz) 30MHz -25GHz-Chain A

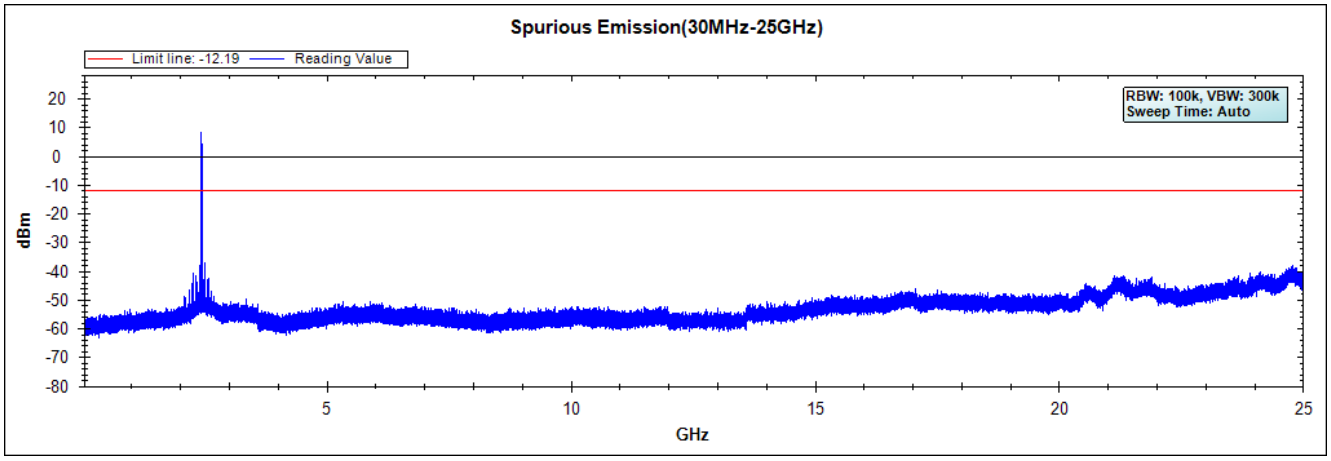


Note: The above test pattern is synthesized by multiple of the frequency range.

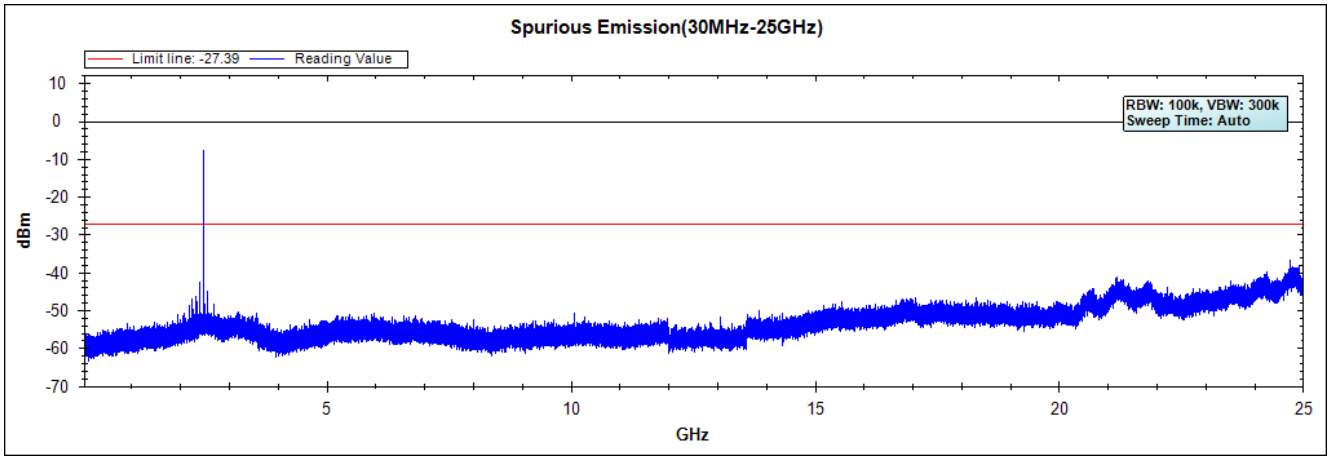
Channel 02 (2402MHz) 30MHz -25GHz-Chain B



Channel 17 (2442MHz) 30MHz -25GHz-Chain B



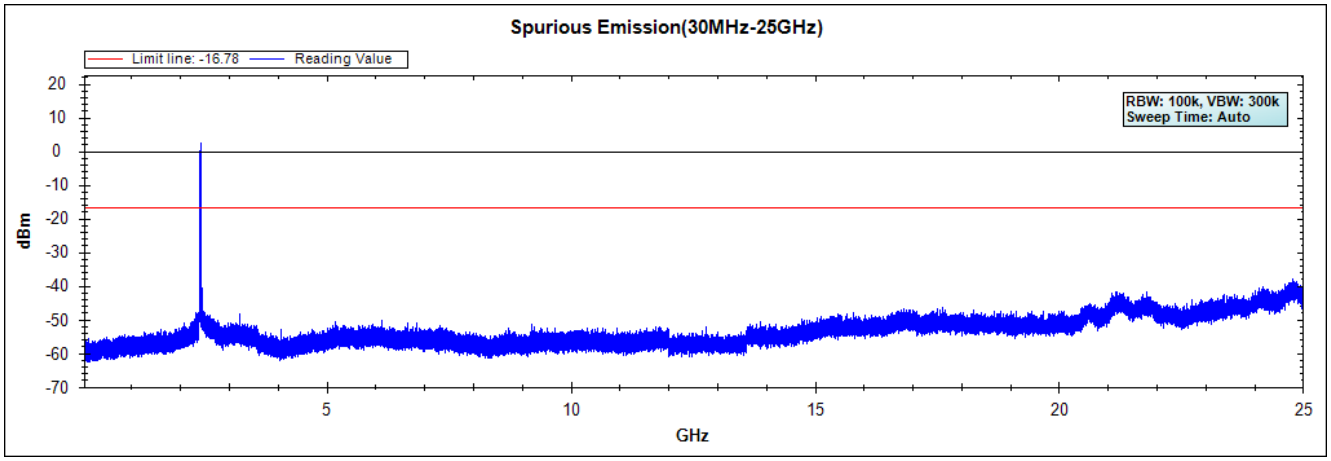
Channel 32 (2479MHz) 30MHz -25GHz-Chain B



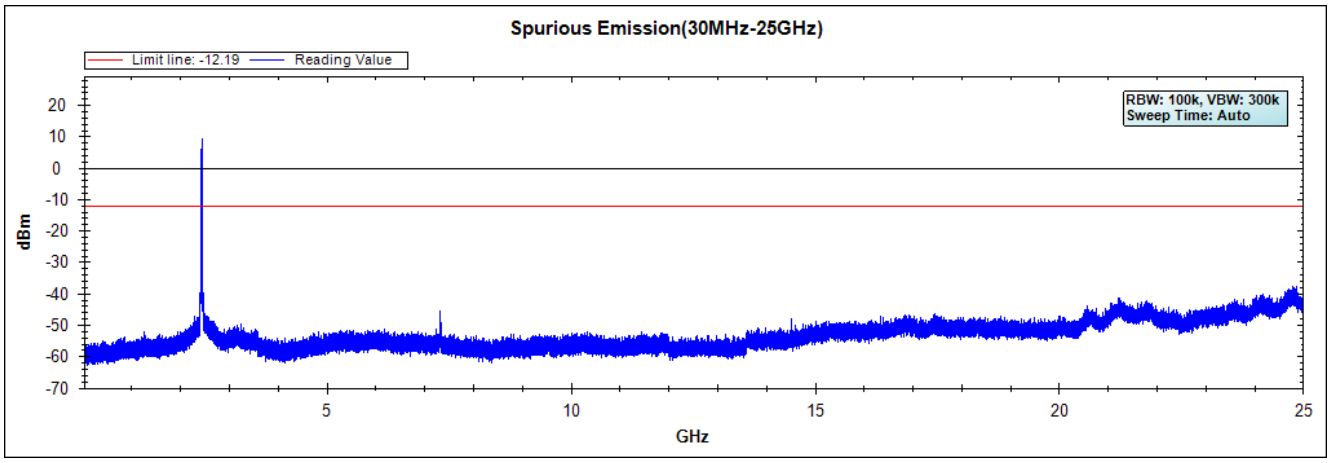
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (Antenna No.2)

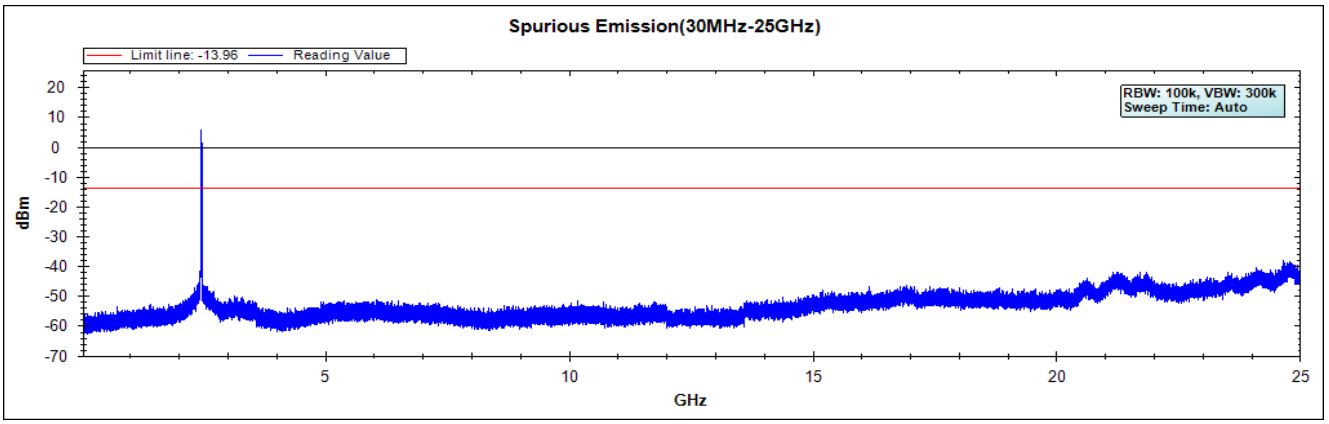
Channel 06 (2414MHz) 30MHz -25GHz-Chain A



Channel 18 (2444MHz) 30MHz -25GHz-Chain A

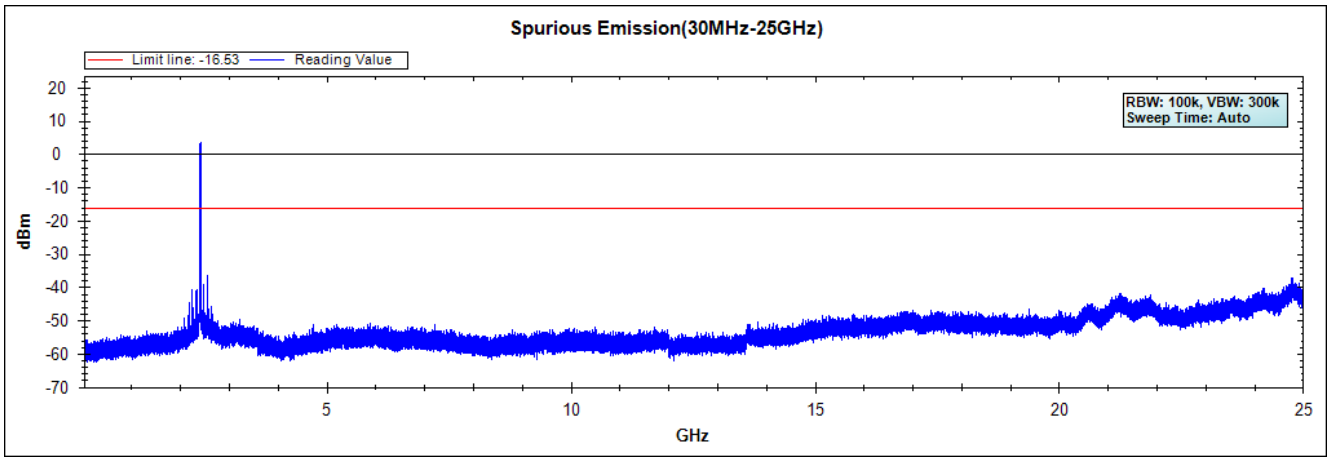


Channel 26 (2464MHz) 30MHz -25GHz-Chain A

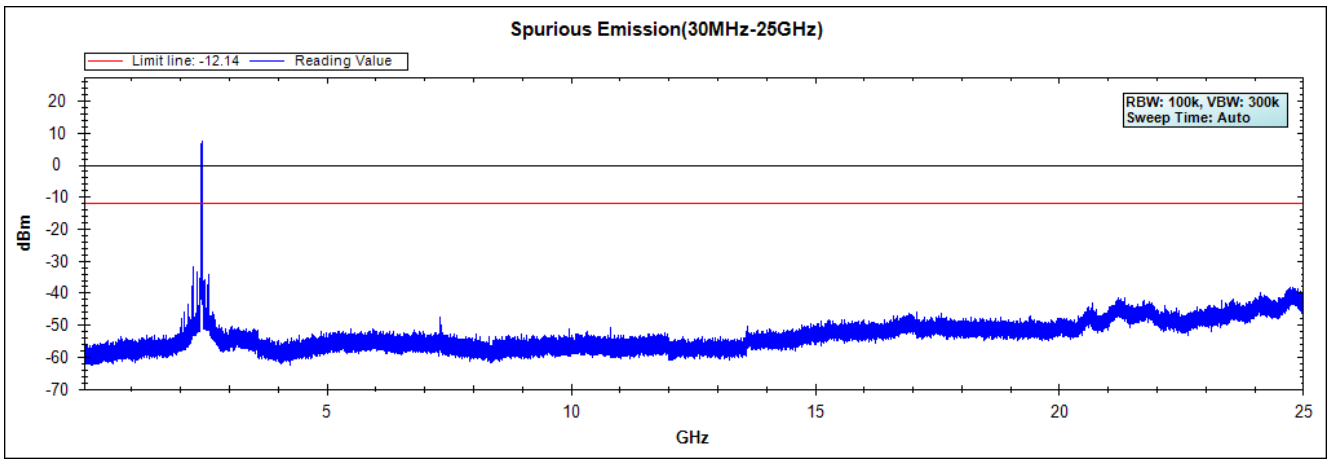


Note: The above test pattern is synthesized by multiple of the frequency range.

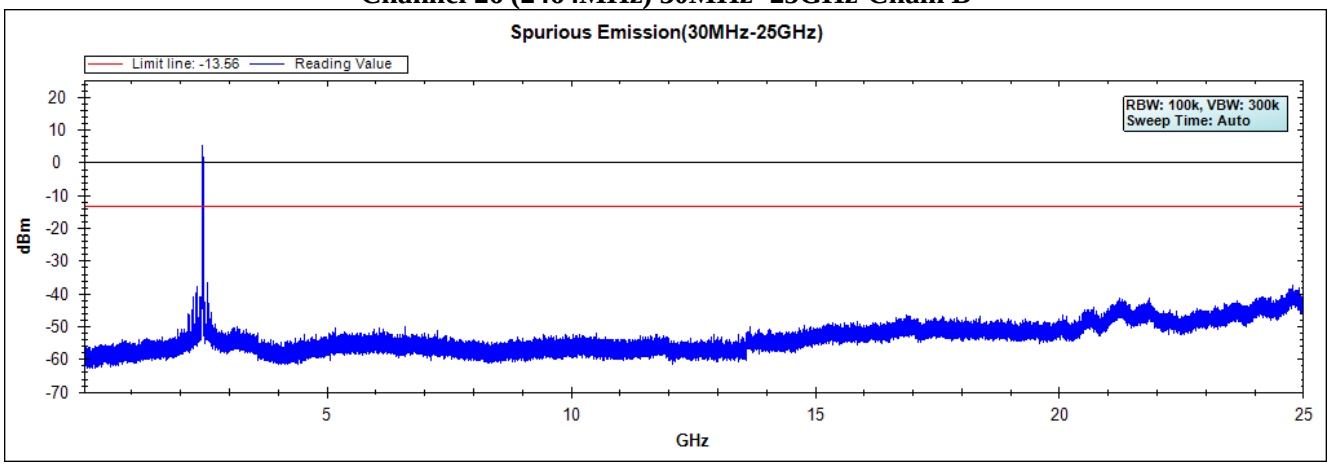
Channel 06 (2414MHz) 30MHz -25GHz-Chain B



Channel 18 (2444MHz) 30MHz -25GHz-Chain B



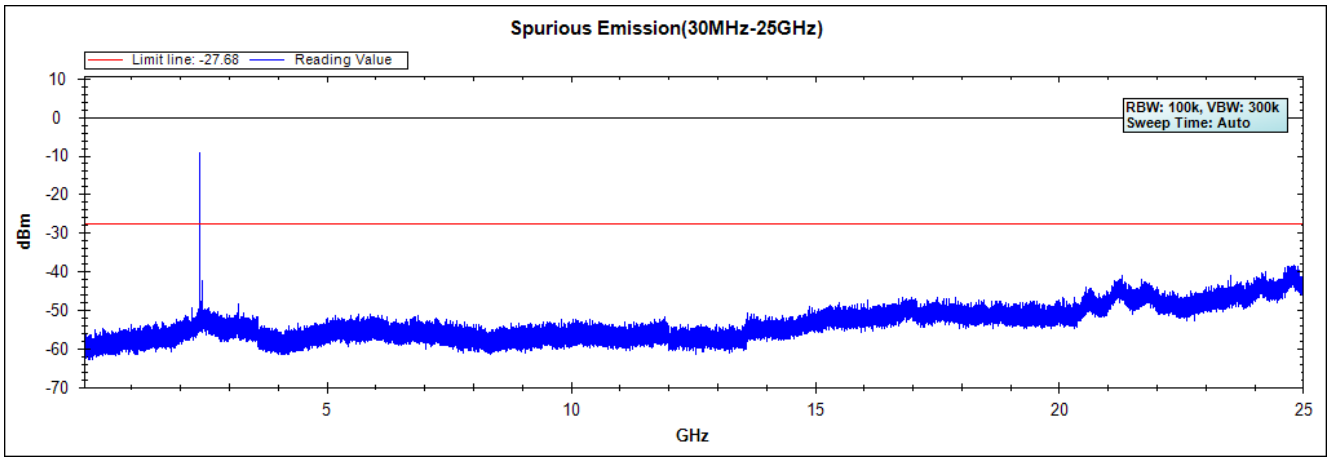
Channel 26 (2464MHz) 30MHz -25GHz-Chain B



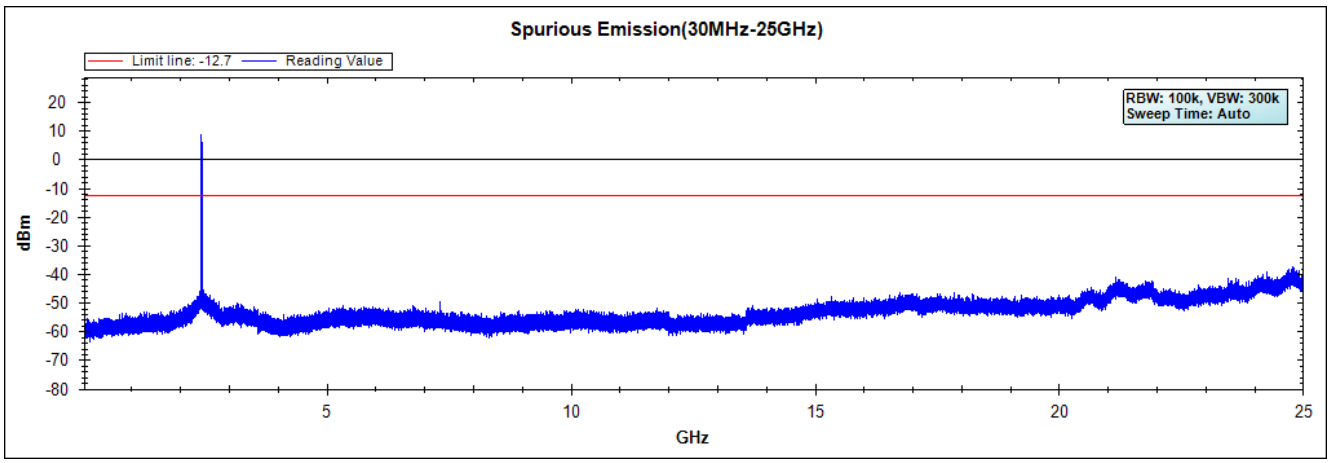
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (Antenna No.5)

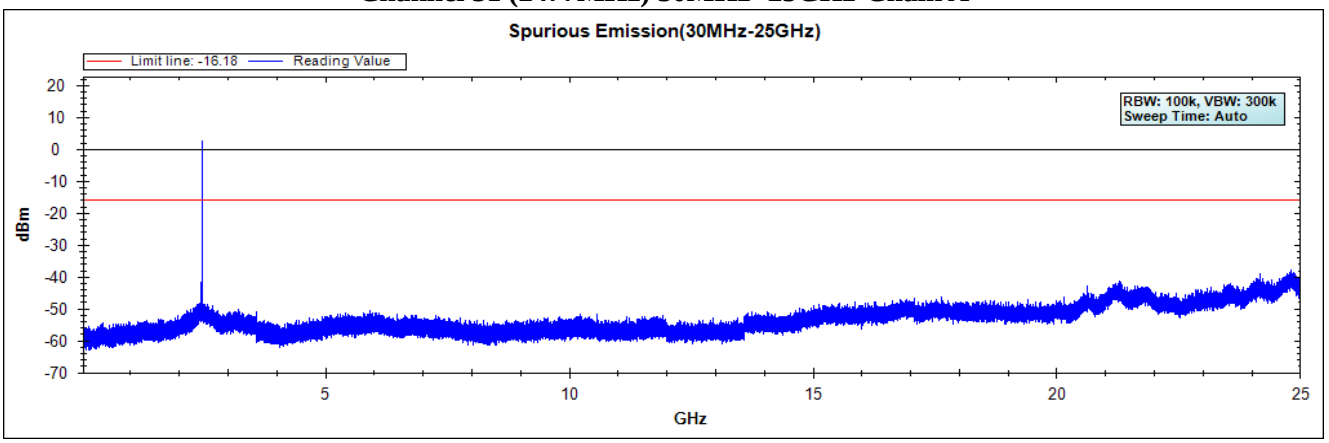
Channel 02 (2402MHz) 30MHz -25GHz-Chain A



Channel 17 (2442MHz) 30MHz -25GHz-Chain A

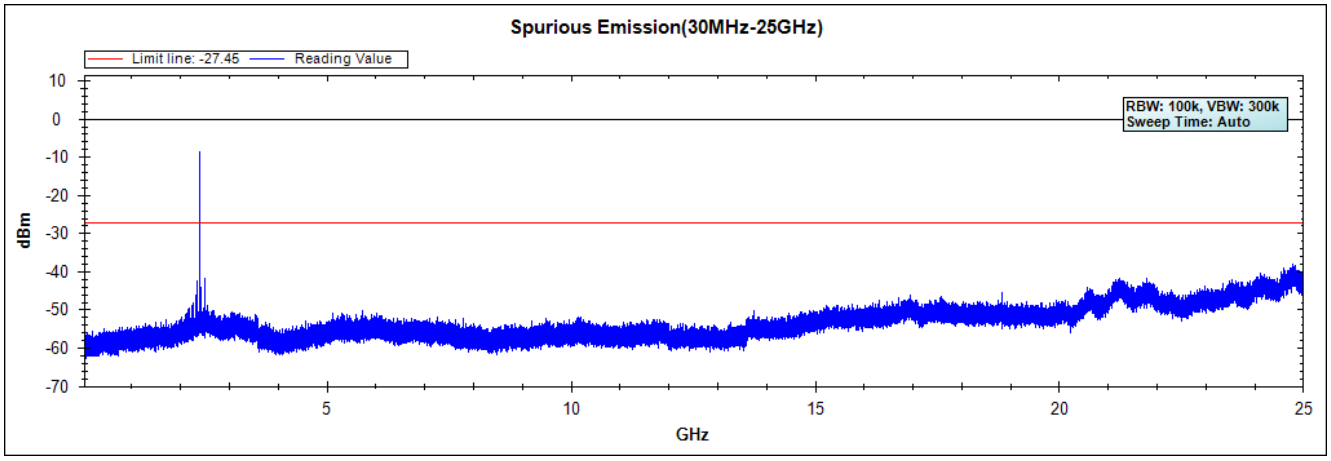


Channel 31 (2477MHz) 30MHz -25GHz-Chain A

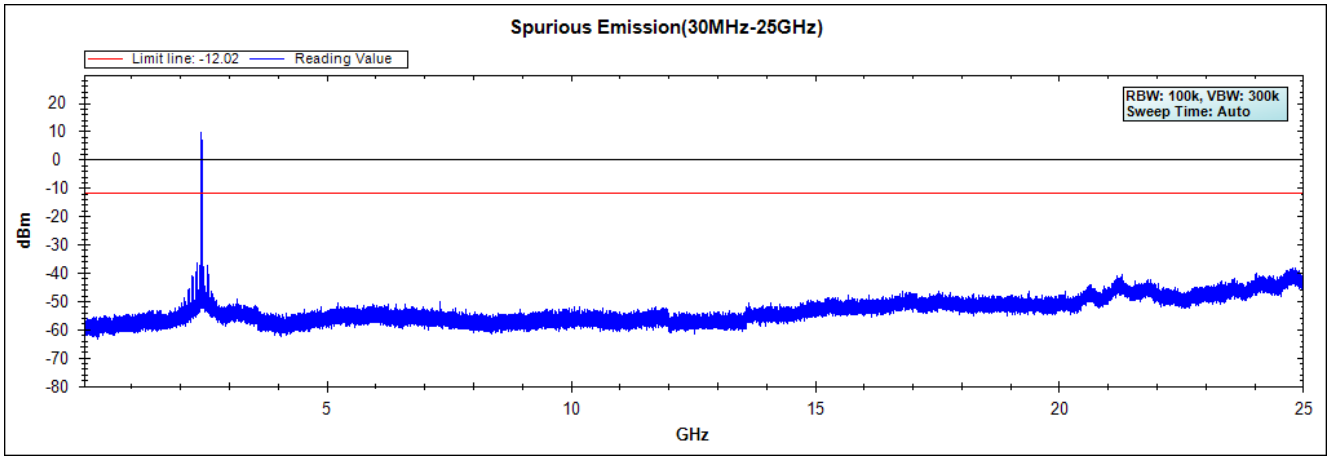


Note: The above test pattern is synthesized by multiple of the frequency range.

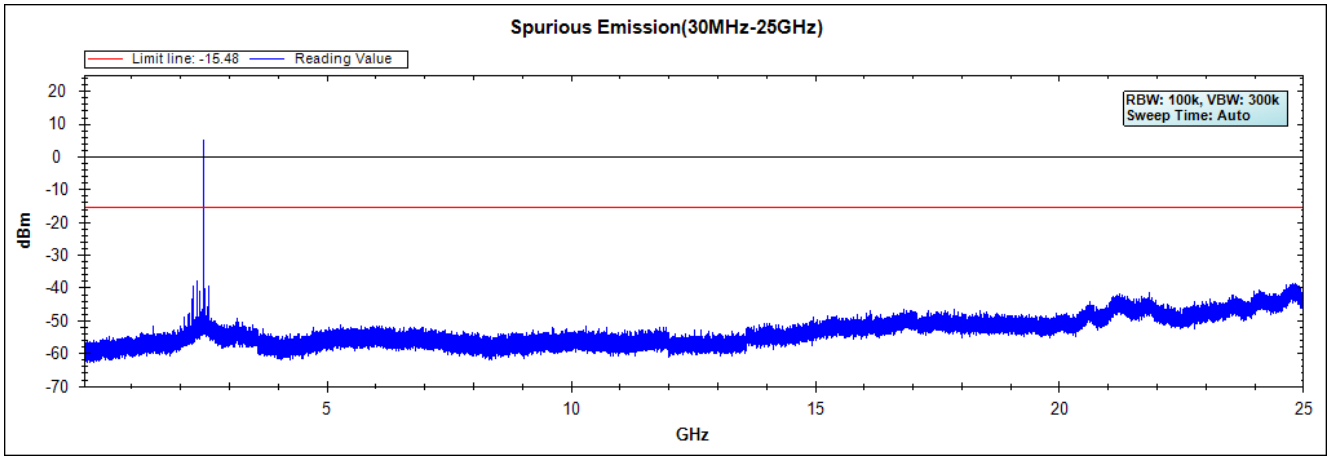
Channel 02 (2402MHz) 30MHz -25GHz-Chain B



Channel 17 (2442MHz) 30MHz -25GHz-Chain B



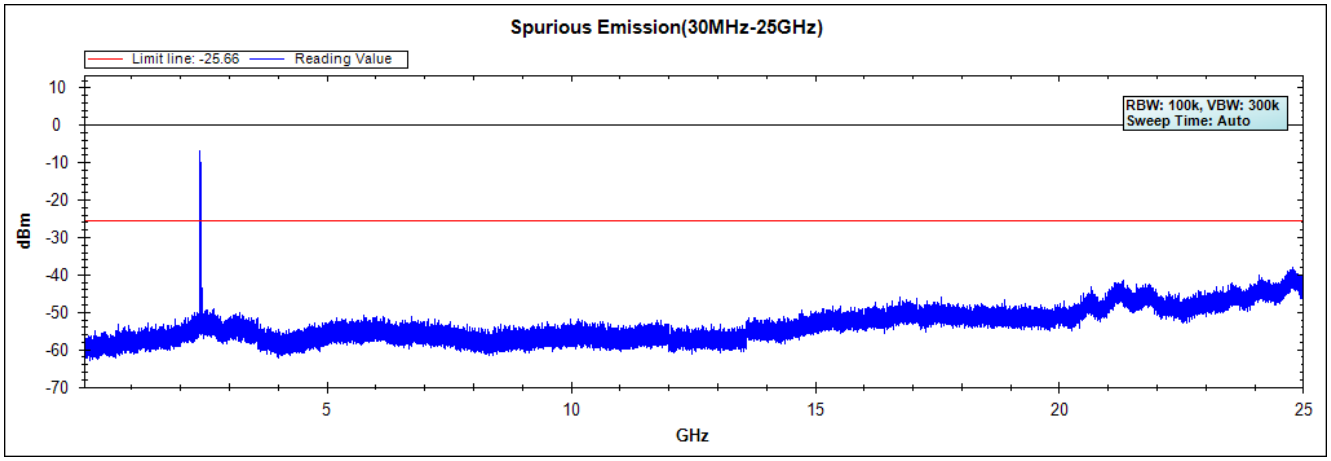
Channel 31 (2477MHz) 30MHz -25GHz-Chain B



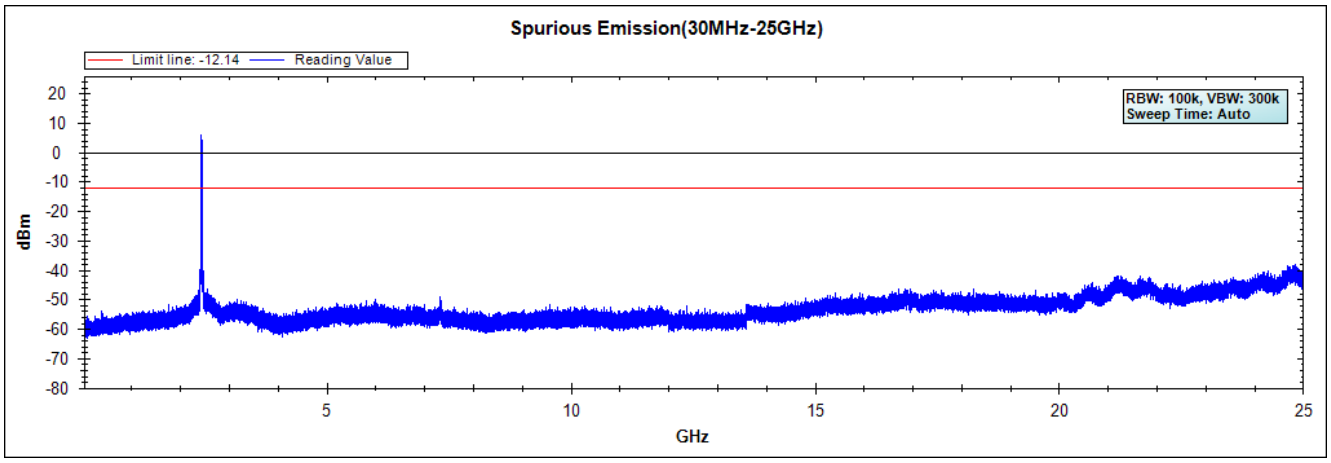
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (Antenna No.5)

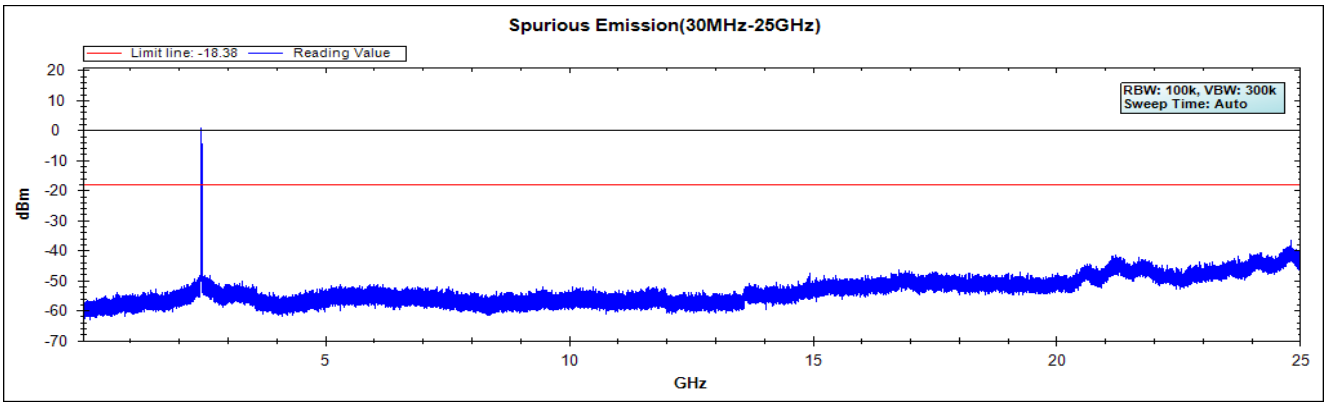
Channel 06 (2414MHz) 30MHz -25GHz-Chain A



Channel 18 (2444MHz) 30MHz -25GHz-Chain A

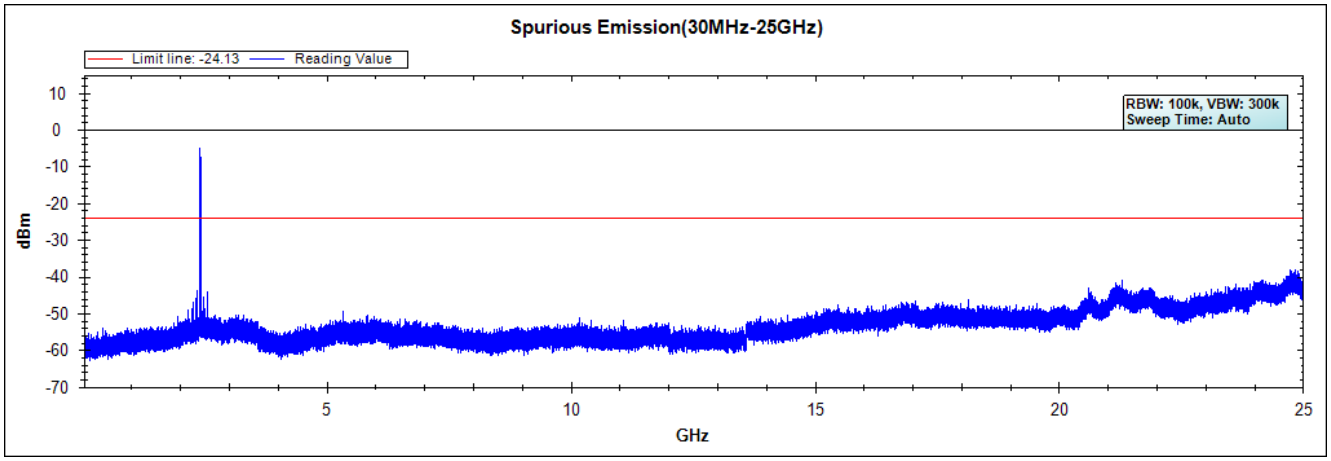


Channel 26 (2464MHz) 30MHz -25GHz-Chain A

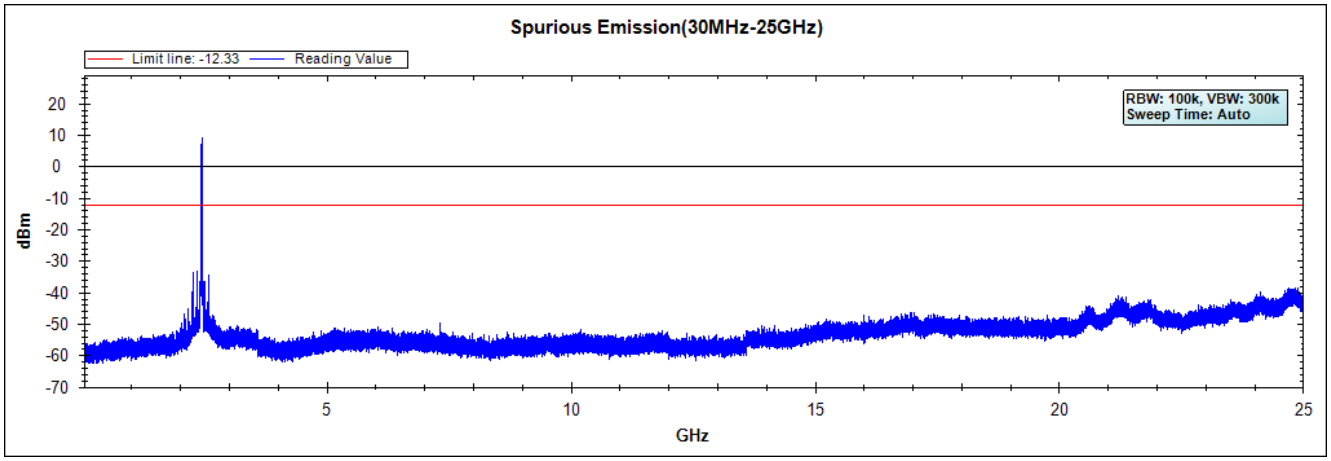


Note: The above test pattern is synthesized by multiple of the frequency range.

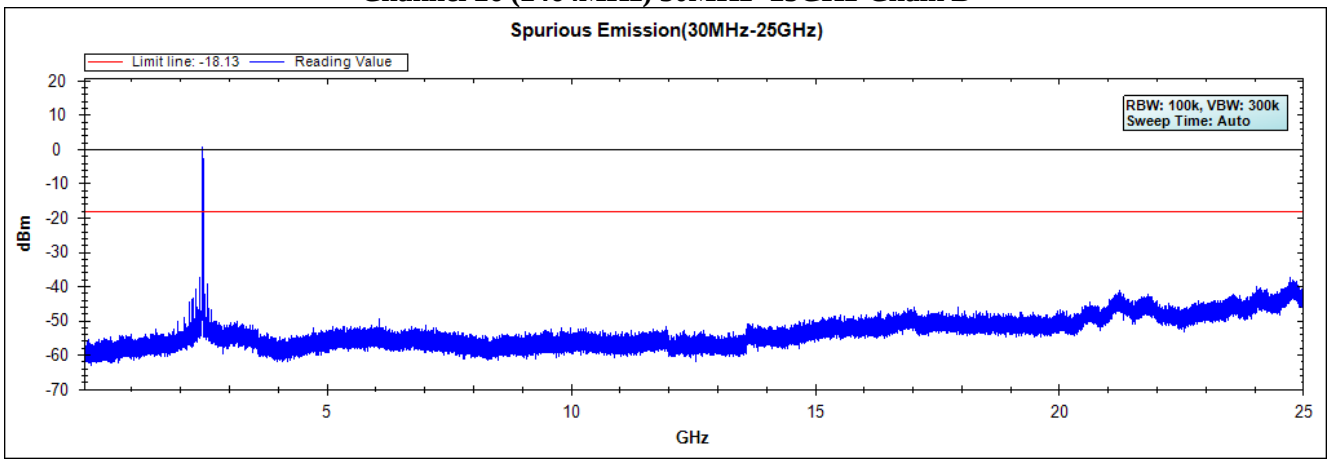
Channel 06 (2414MHz) 30MHz -25GHz-Chain B



Channel 18 (2444MHz) 30MHz -25GHz-Chain B



Channel 26 (2464MHz) 30MHz -25GHz-Chain B

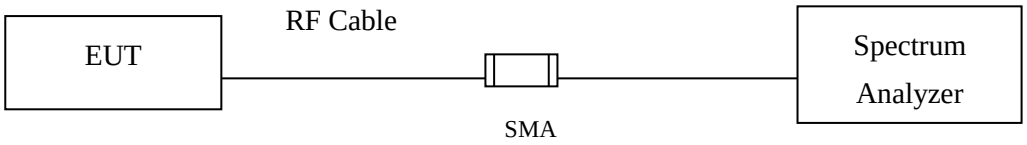


Note: The above test pattern is synthesized by multiple of the frequency range.

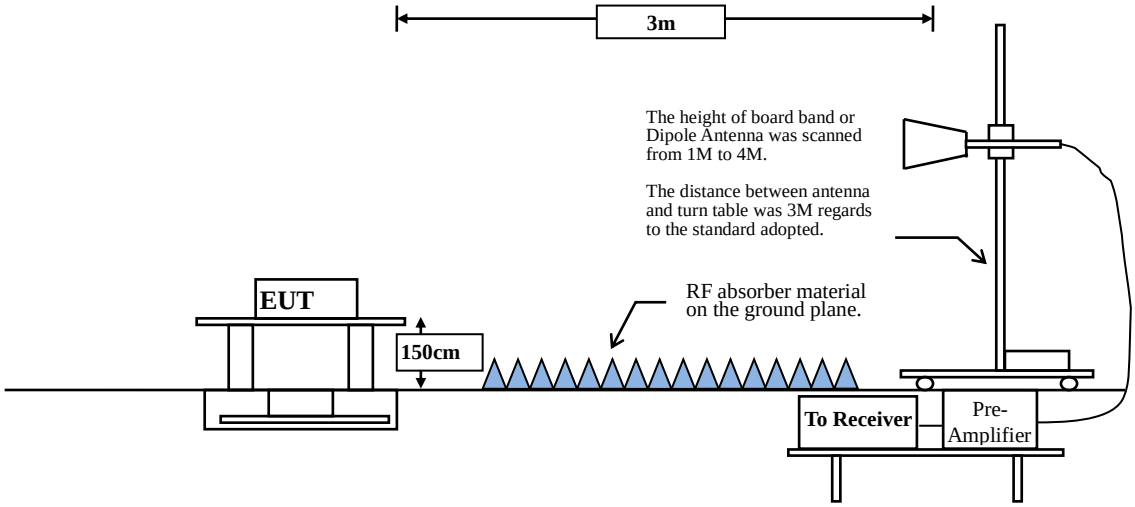
6. Band Edge

6.1. Test Setup

RF Conducted Measurement



RF Radiated Measurement:



6.2. 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.

6.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to DTS test procedure of KDB558074 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 KDB 558074 Peak power 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 KDB 558074 Average power 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)
5M-BW	90.24	7.7681	129	200
20M-BW	80.36	0.9783	1022	2000

Note: Duty Cycle Refer to Section 9

6.4. Uncertainty

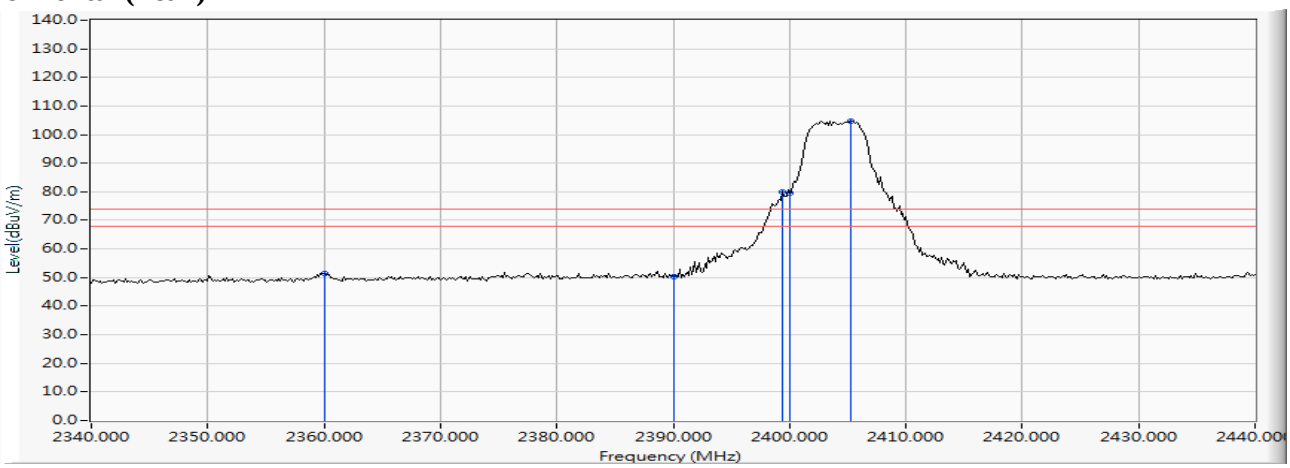
± 4.08 dB above 1GHz

± 4.22 dB below 1GHz

6.5. Test Result of Band Edge

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (Antenna No.4)

Horizontal (Peak)



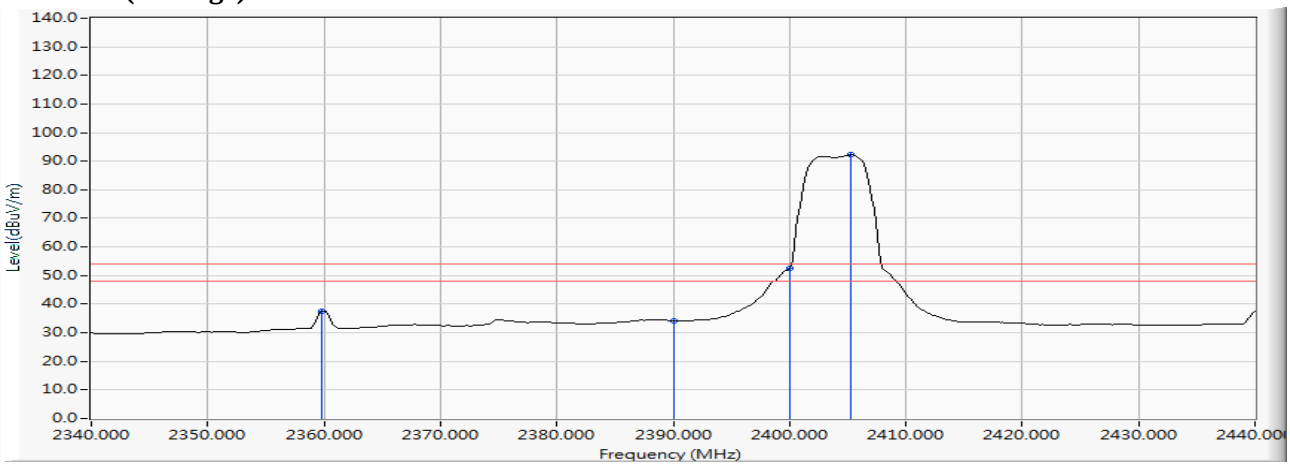
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2360.000	6.341	44.945	51.286	-22.714	74.000	PEAK
2		2390.000	6.474	43.901	50.376	-23.624	74.000	PEAK
3		2399.420	6.525	73.489	80.014	--	--	PEAK
4		2400.000	6.528	73.189	79.717	--	--	PEAK
5	*	2405.217	6.560	98.327	104.887	--	--	PEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Band Edge
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (Antenna No.4)

Horizontal (Average)



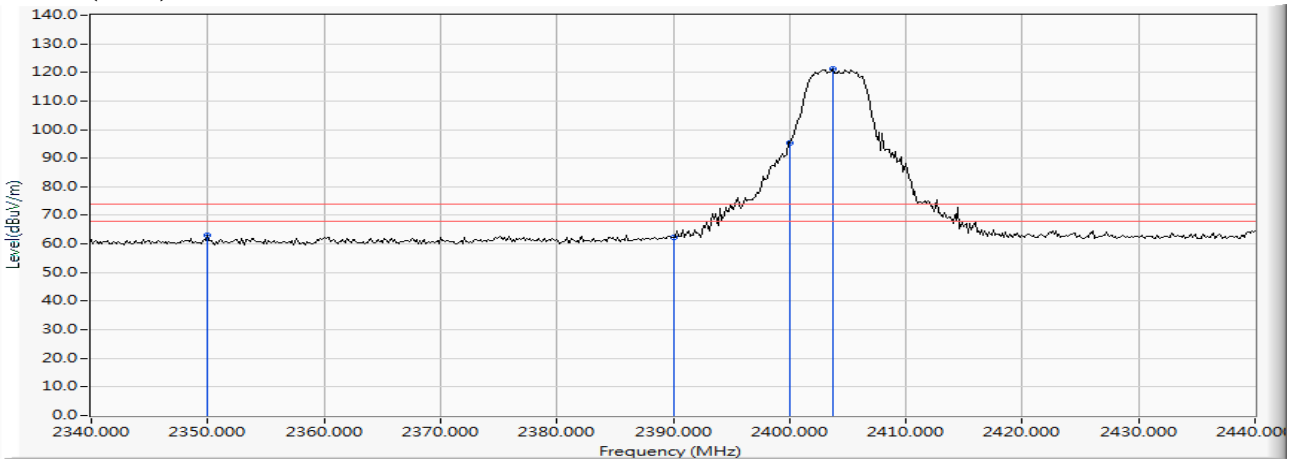
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2359.855	6.340	31.235	37.575	-16.425	54.000	AVERAGE
2		2390.000	6.474	27.754	34.229	-19.771	54.000	AVERAGE
3		2400.000	6.528	45.938	52.466	-1.534	54.000	AVERAGE
4	*	2405.217	6.560	85.618	92.178	--	--	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (Antenna No.4)

Vertical (Peak)



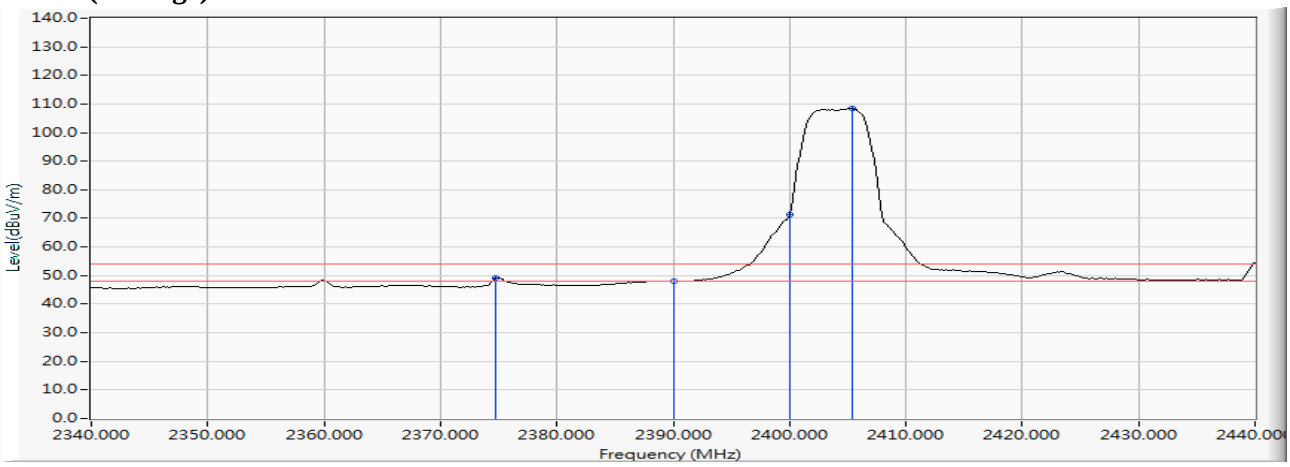
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2350.000	6.046	57.014	63.059	-10.941	74.000	PEAK
2		2390.000	5.880	56.555	62.436	-11.564	74.000	PEAK
3		2400.000	5.879	89.288	95.167	--	--	PEAK
4	*	2403.768	5.889	115.469	121.358	--	--	PEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Band Edge
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (Antenna No.4)

Vertical (Average)



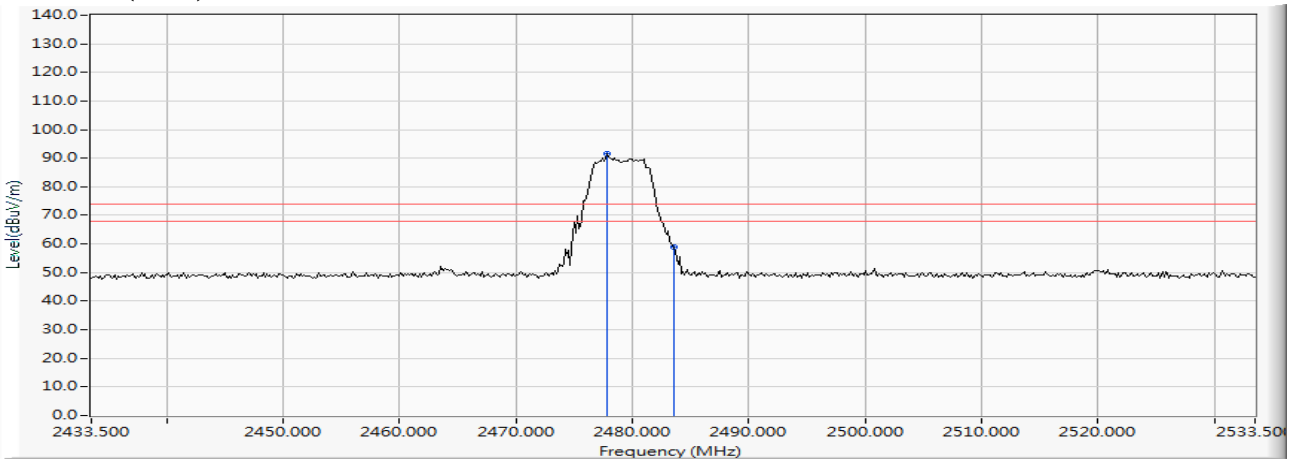
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2374.783	5.943	43.101	49.044	-4.956	54.000	AVERAGE
2		2390.000	5.880	42.111	47.992	-6.008	54.000	AVERAGE
3		2400.000	5.879	65.535	71.414	--	--	AVERAGE
4	*	2405.362	5.893	102.513	108.406	--	--	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (Antenna No.4)

Horizontal (Peak)



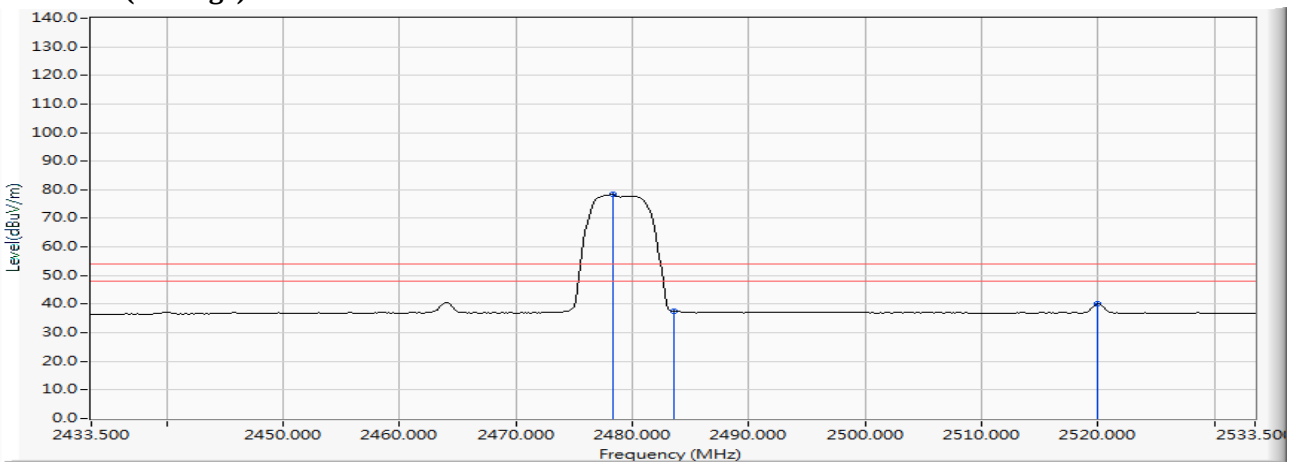
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2477.848	7.070	84.498	91.568	--	--	PEAK
2		2483.500	7.110	51.741	58.851	-15.149	74.000	PEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Band Edge
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (Antenna No.4)

Horizontal (Average)



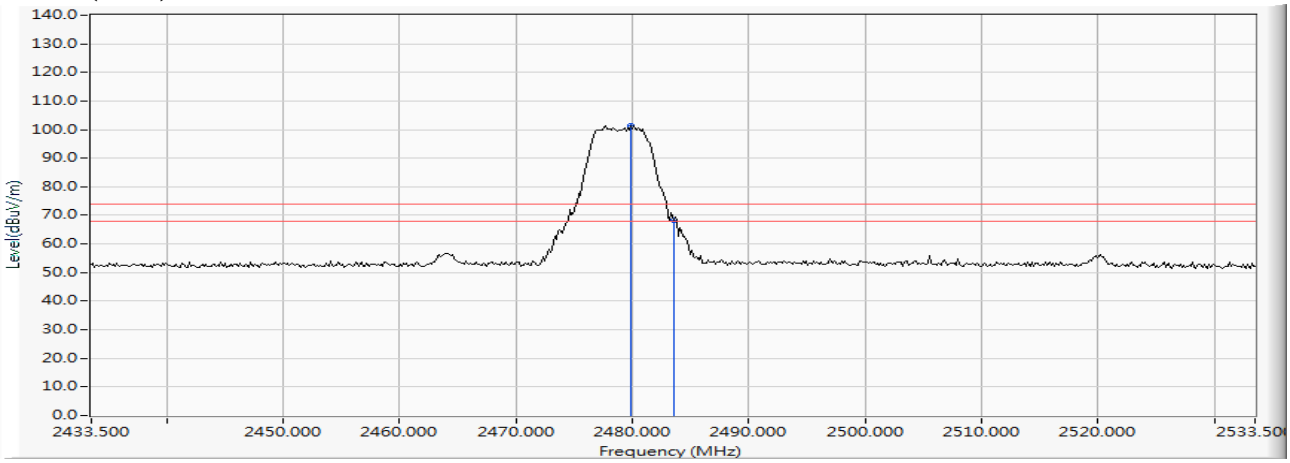
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2478.283	7.073	71.256	78.329	--	--	AVERAGE
2		2483.500	7.110	30.481	37.591	-16.409	54.000	AVERAGE
3		2520.022	7.125	32.863	39.988	-14.012	54.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (Antenna No.4)

Vertical (Peak)



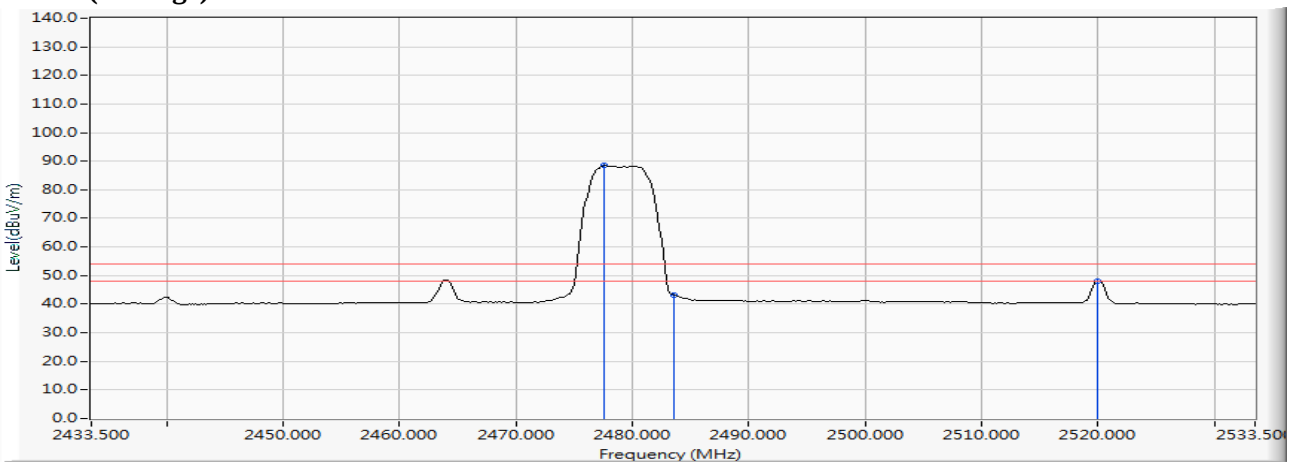
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2479.877	6.341	94.922	101.263	--	--	PEAK
2		2483.500	6.363	61.965	68.328	-5.672	74.000	PEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Band Edge
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (Antenna No.4)

Vertical (Average)



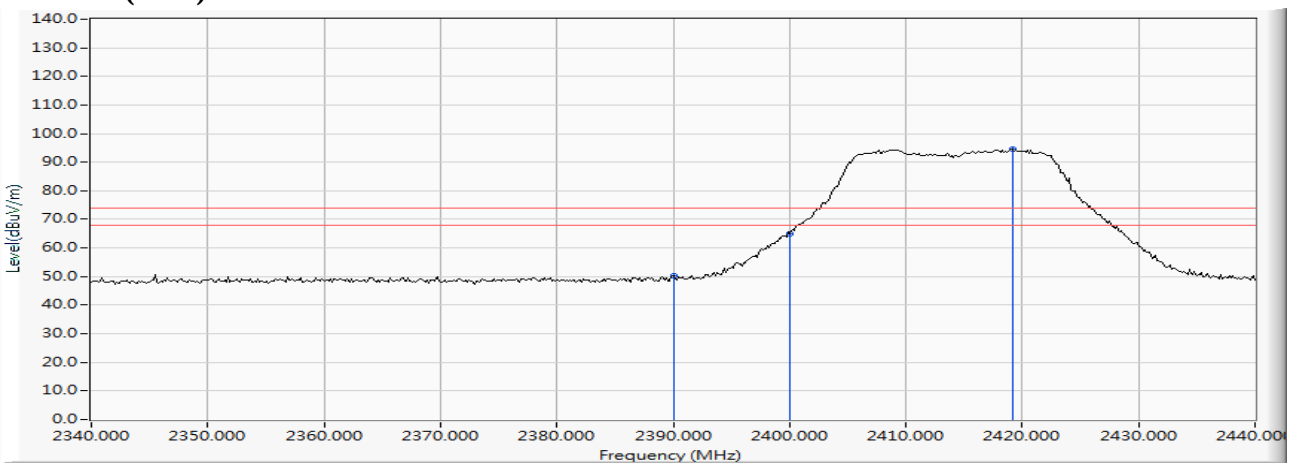
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2477.558	6.326	82.076	88.402	--	--	AVERAGE
2		2483.500	6.363	36.955	43.318	-10.682	54.000	AVERAGE
3		2520.022	6.465	41.573	48.038	-5.962	54.000	AVERAGE

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Band Edge
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 2: Transmit - (OFDM-20BW) (Antenna No.4)

Horizontal (Peak)



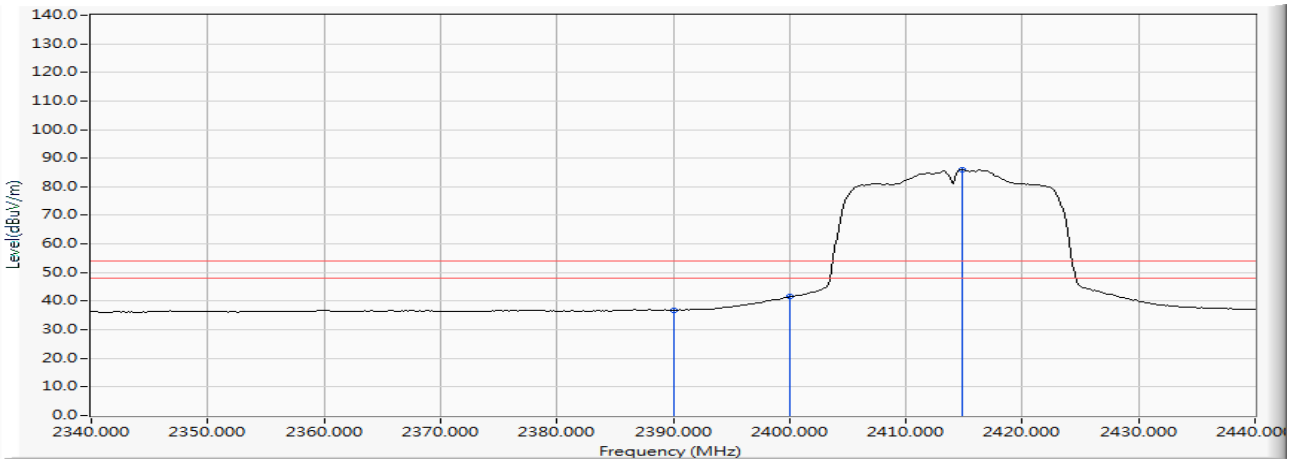
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	6.474	43.871	50.346	-23.654	74.000	PEAK
2		2400.000	6.528	58.383	64.911	-9.089	74.000	PEAK
3	*	2419.130	6.653	87.984	94.638	--	--	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (Antenna No.4)

Horizontal (Average)



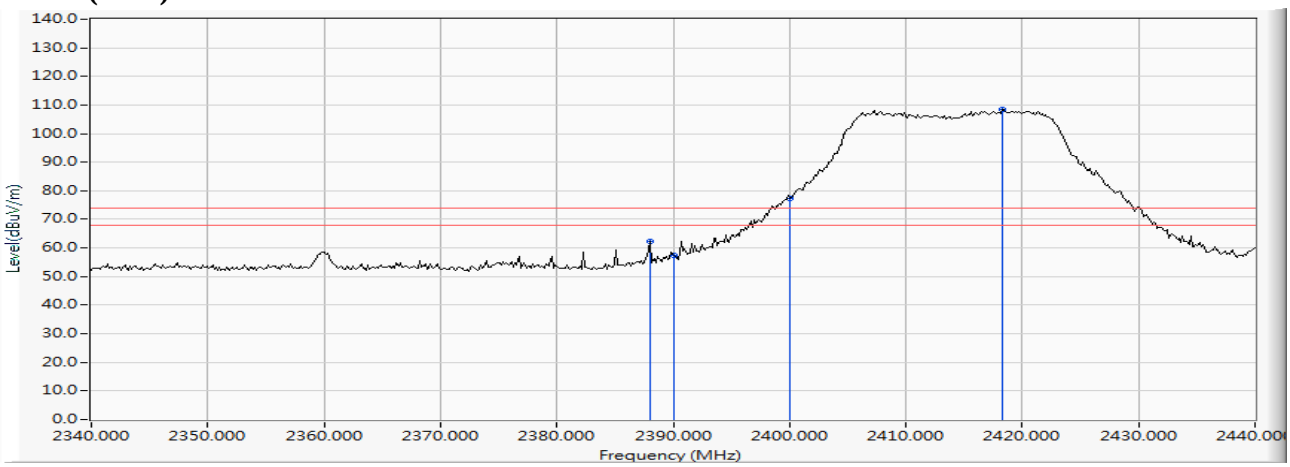
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	6.474	30.293	36.768	-17.232	54.000	AVERAGE
2		2400.000	6.528	34.975	41.503	-12.497	54.000	AVERAGE
3	*	2414.783	6.623	79.467	86.090	--	--	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (Antenna No.4)

Vertical (Peak)



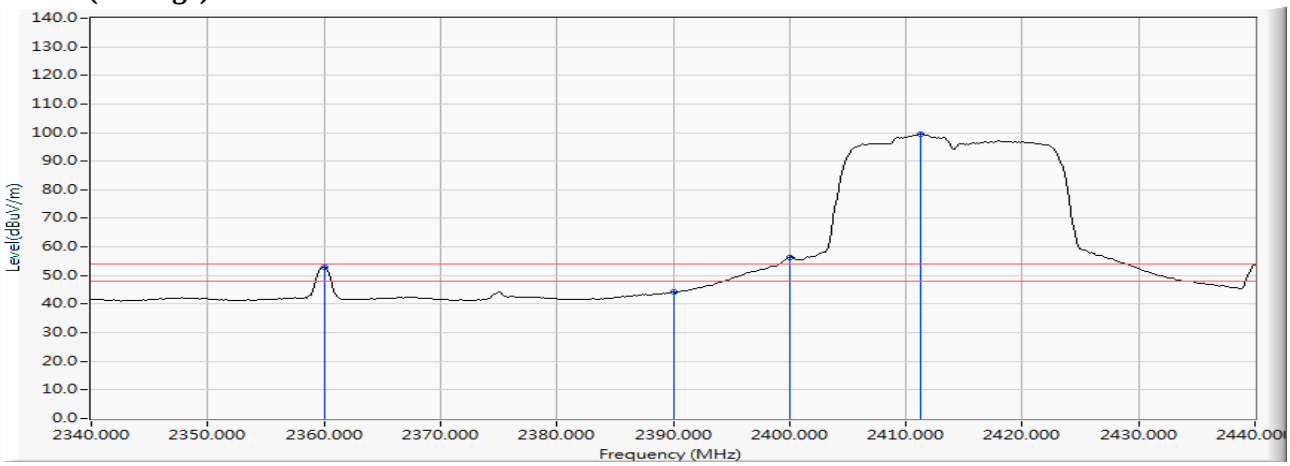
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2387.971	5.890	56.334	62.223	-11.777	74.000	PEAK
2		2390.000	5.880	51.680	57.561	-16.439	74.000	PEAK
3		2400.000	5.879	71.444	77.323	--	--	PEAK
4	*	2418.261	5.953	102.444	108.397	--	--	PEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Band Edge
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 2: Transmit - (OFDM-20BW) (Antenna No.4)

Vertical (Average)



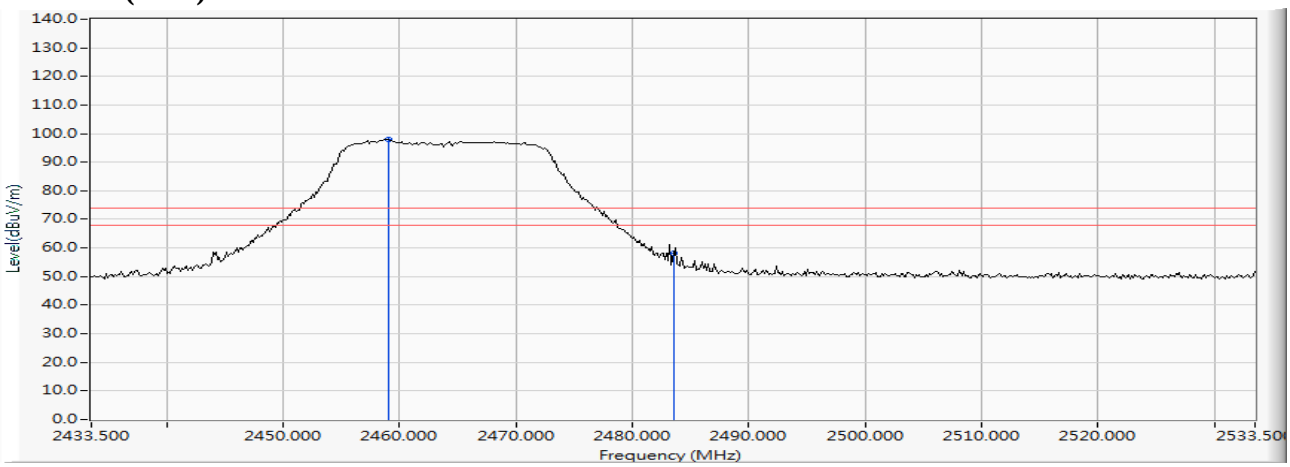
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2360.000	6.004	46.760	52.764	-1.236	54.000	AVERAGE
2		2390.000	5.880	38.338	44.219	-9.781	54.000	AVERAGE
3		2400.000	5.879	50.561	56.440	--	--	AVERAGE
4	*	2411.304	5.910	93.718	99.627	--	--	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (Antenna No.4)

Horizontal (Peak)



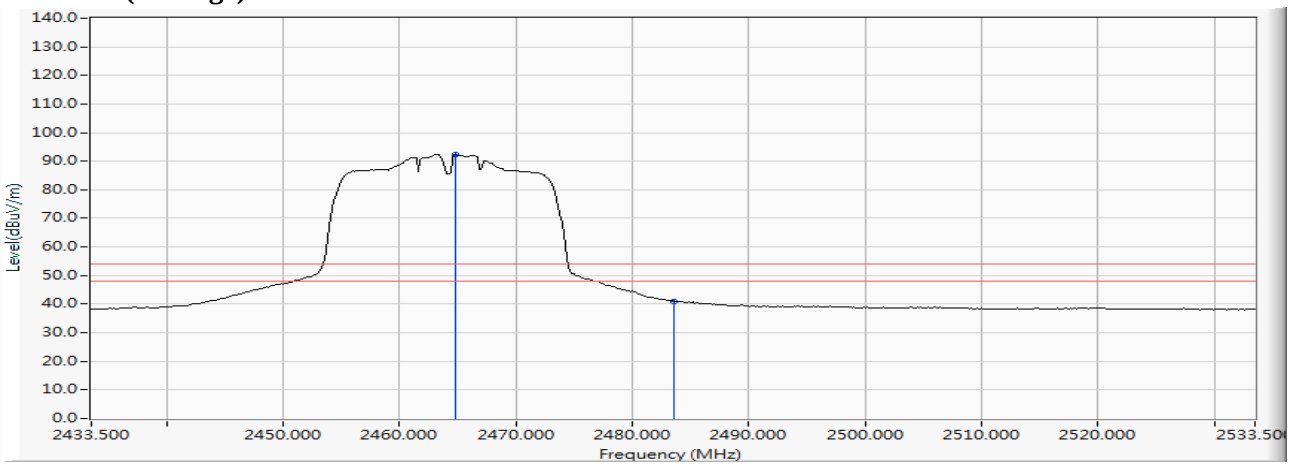
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2459.007	6.937	90.936	97.873	--	--	PEAK
2		2483.500	7.110	50.967	58.077	-15.923	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (Antenna No.4)

Horizontal (Average)



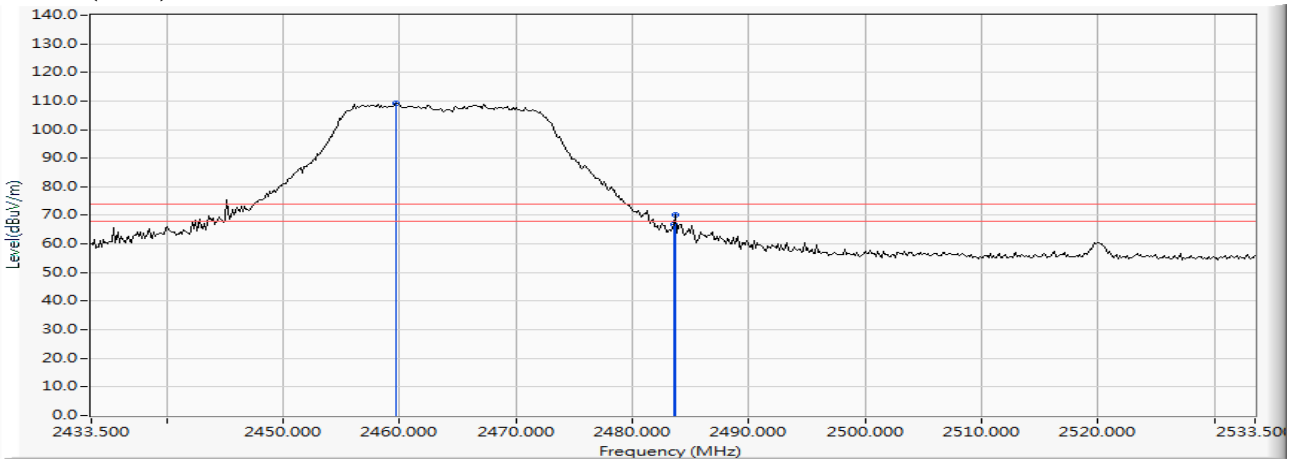
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.804	6.978	85.302	92.280	--	--	AVERAGE
2		2483.500	7.110	33.902	41.012	-12.988	54.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (Antenna No.4)

Vertical (Peak)



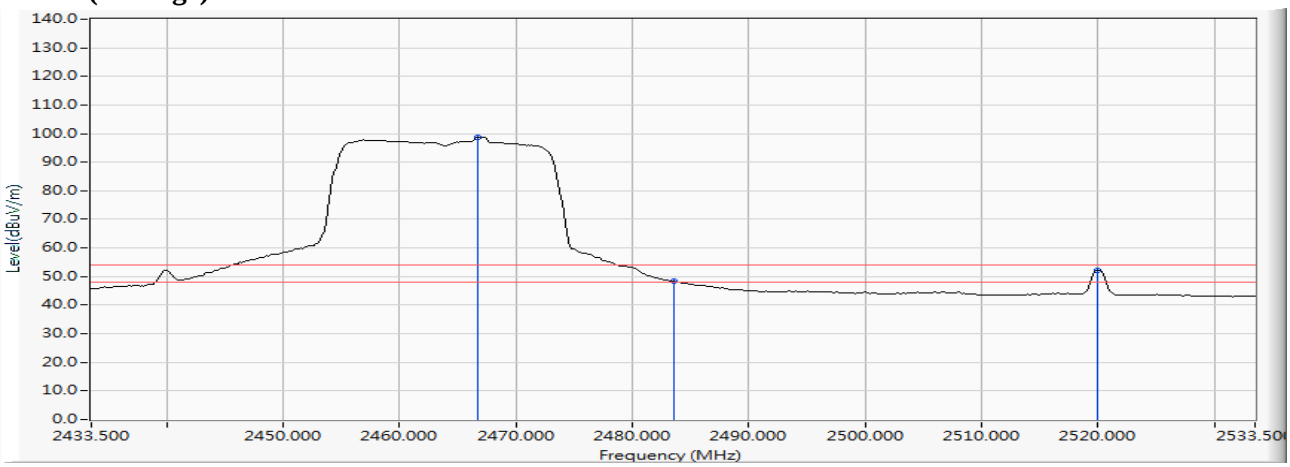
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2459.732	6.215	102.866	109.081	--	--	PEAK
2		2483.500	6.363	60.490	66.853	-7.147	74.000	PEAK
3		2483.645	6.364	63.704	70.068	-3.932	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (Antenna No.4)

Vertical (Average)



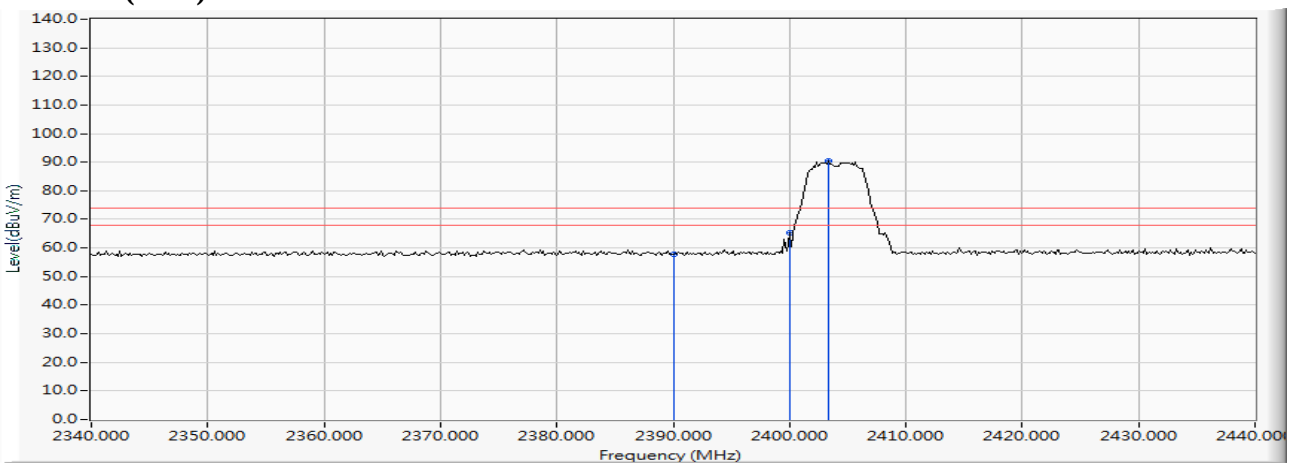
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2466.688	6.258	92.392	98.650	--	--	AVERAGE
2		2483.500	6.363	41.919	48.282	-5.718	54.000	AVERAGE
3		2520.022	6.465	45.870	52.335	-1.665	54.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (Antenna No.5)

Horizontal (Peak)



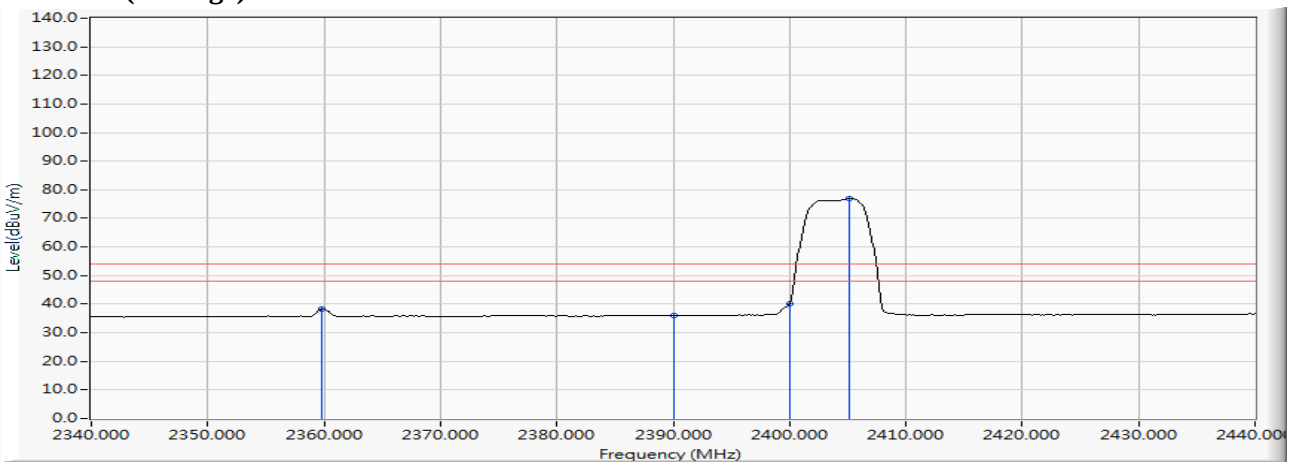
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	6.474	51.205	57.680	-16.320	74.000	PEAK
2		2400.000	6.528	58.927	65.455	-8.545	74.000	PEAK
3	*	2403.333	6.549	83.853	90.401	--	--	PEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Band Edge
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (Antenna No.5)

Horizontal (Average)



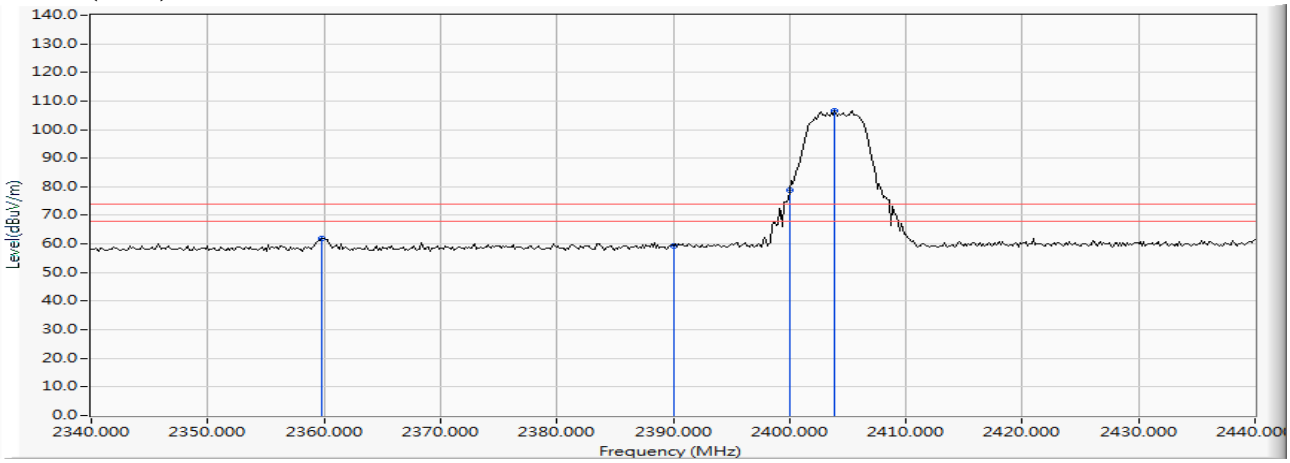
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2359.855	6.340	31.867	38.207	-15.793	54.000	AVERAGE
2		2390.000	6.474	29.527	36.002	-17.998	54.000	AVERAGE
3		2400.000	6.528	33.509	40.037	-13.963	54.000	AVERAGE
4	*	2405.072	6.559	70.349	76.908	--	--	AVERAGE

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Band Edge
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (Antenna No.5)

Vertical (Peak)



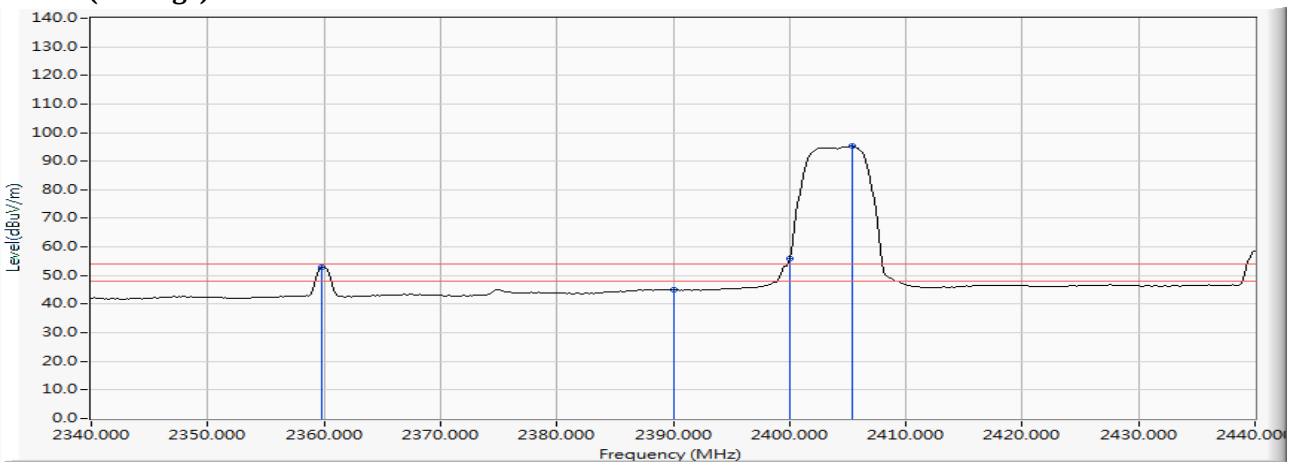
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2359.855	6.005	55.980	61.985	-12.015	74.000	PEAK
2		2390.000	5.880	53.429	59.310	-14.690	74.000	PEAK
3		2400.000	5.879	73.040	78.919	--	--	PEAK
4	*	2403.913	5.889	100.779	106.668	--	--	PEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Band Edge
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 1: Transmit - (OFDM-5BW) (Antenna No.5)

Vertical (Average)



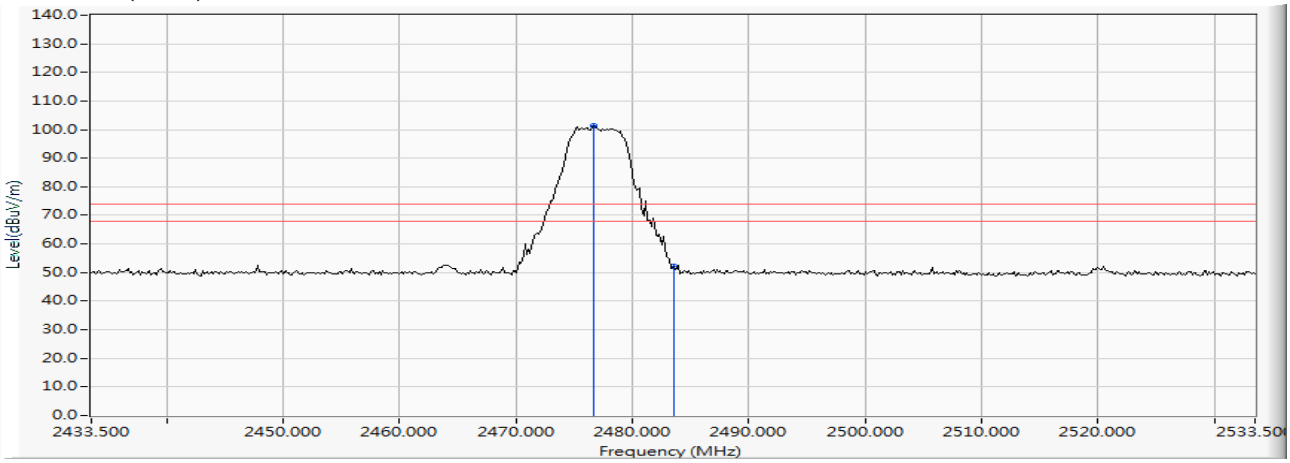
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2359.855	6.005	46.989	52.994	-1.006	54.000	PEAK
2		2390.000	5.880	39.025	44.906	-9.094	54.000	PEAK
3		2400.000	5.879	50.174	56.053	--	--	PEAK
4	*	2405.362	5.893	89.355	95.248	--	--	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (Antenna No.5)

Horizontal (Peak)



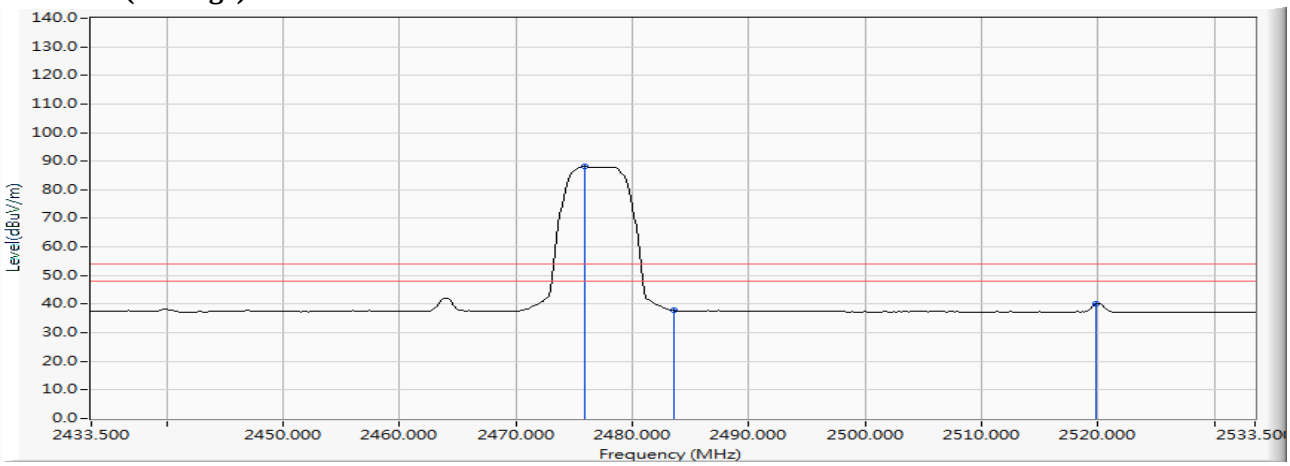
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2476.688	7.062	94.159	101.221	--	--	PEAK
2		2483.500	7.110	44.884	51.994	-22.006	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (Antenna No.5)

Horizontal (Average)



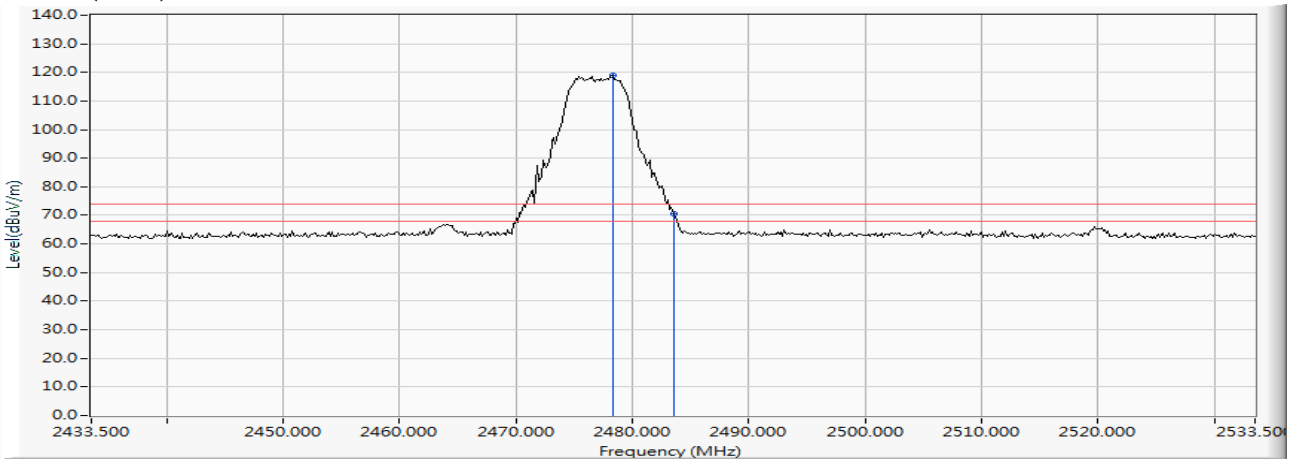
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2475.964	7.056	81.028	88.085	--	--	AVERAGE
2		2483.500	7.110	30.651	37.761	-16.239	54.000	AVERAGE
3		2519.877	7.125	33.083	40.208	-13.792	54.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (Antenna No.5)

Vertical (Peak)



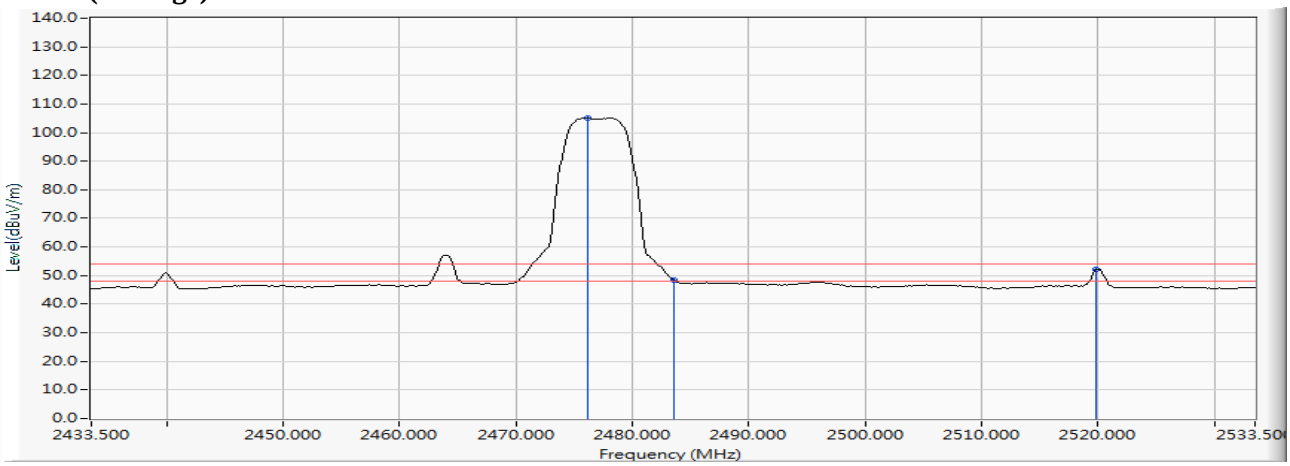
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2478.283	6.331	112.600	118.931	--	--	PEAK
2		2483.500	6.363	64.287	70.650	-3.350	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 1: Transmit - (OFDM-5BW) (Antenna No.5)

Vertical (Average)



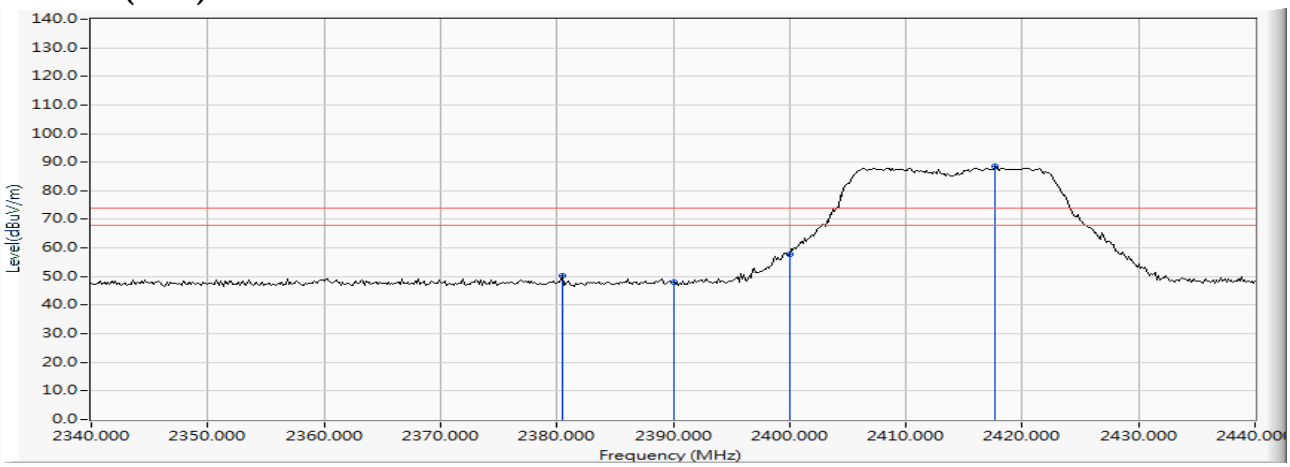
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2476.109	6.317	98.813	105.130	--	--	AVERAGE
2		2483.500	6.363	42.158	48.521	-5.479	54.000	AVERAGE
3		2519.877	6.465	45.849	52.314	-1.686	54.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (Antenna No.5)

Horizontal (Peak)



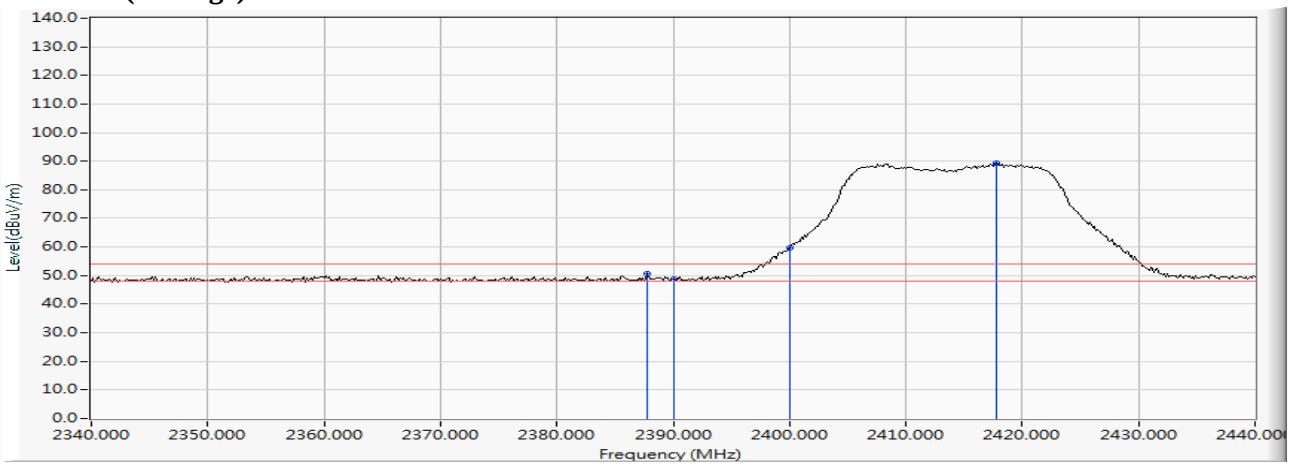
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2380.435	6.433	43.756	50.189	-23.811	74.000	PEAK
2		2390.000	6.474	41.430	47.905	-26.095	74.000	PEAK
3		2400.000	6.528	51.400	57.928	-16.072	74.000	PEAK
4	*	2417.681	6.644	81.943	88.586	--	--	PEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Band Edge
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 2: Transmit - (OFDM-20BW) (Antenna No.5)

Horizontal (Average)



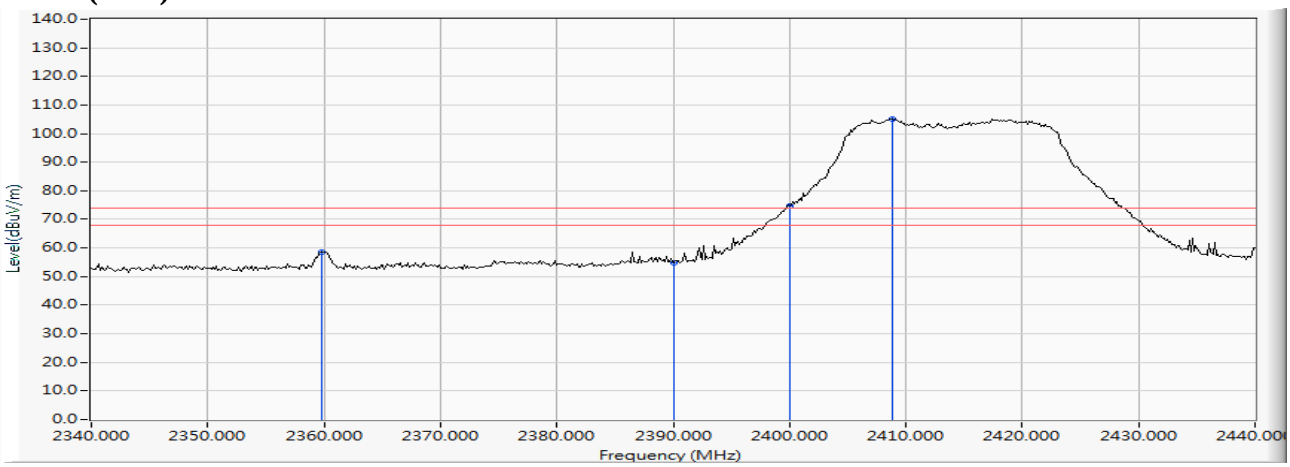
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2387.826	6.465	44.076	50.541	-3.459	54.000	AVERAGE
2		2390.000	6.474	42.272	48.747	-5.253	54.000	AVERAGE
3		2400.000	6.528	53.185	59.713	--	--	AVERAGE
4	*	2417.826	6.645	82.579	89.223	--	--	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (Antenna No.5)

Vertical (Peak)



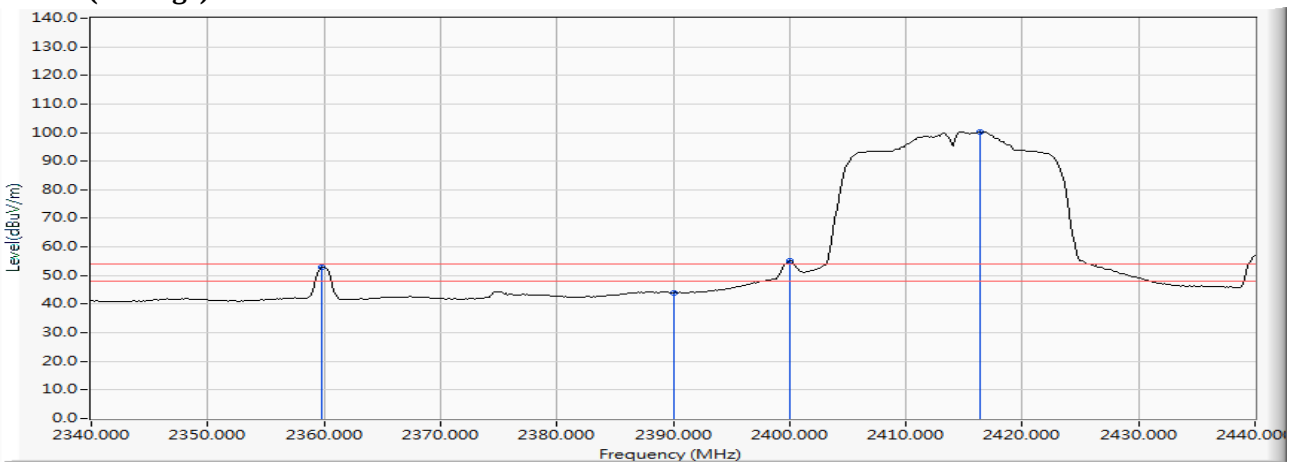
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2359.855	6.005	52.538	58.543	-15.457	74.000	PEAK
2		2390.000	5.880	49.092	54.973	-19.027	74.000	PEAK
3		2400.000	5.879	68.748	74.627	--	--	PEAK
4	*	2408.841	5.902	99.262	105.164	--	--	PEAK

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Band Edge
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 2: Transmit - (OFDM-20BW) (Antenna No.5)

Vertical (Average)



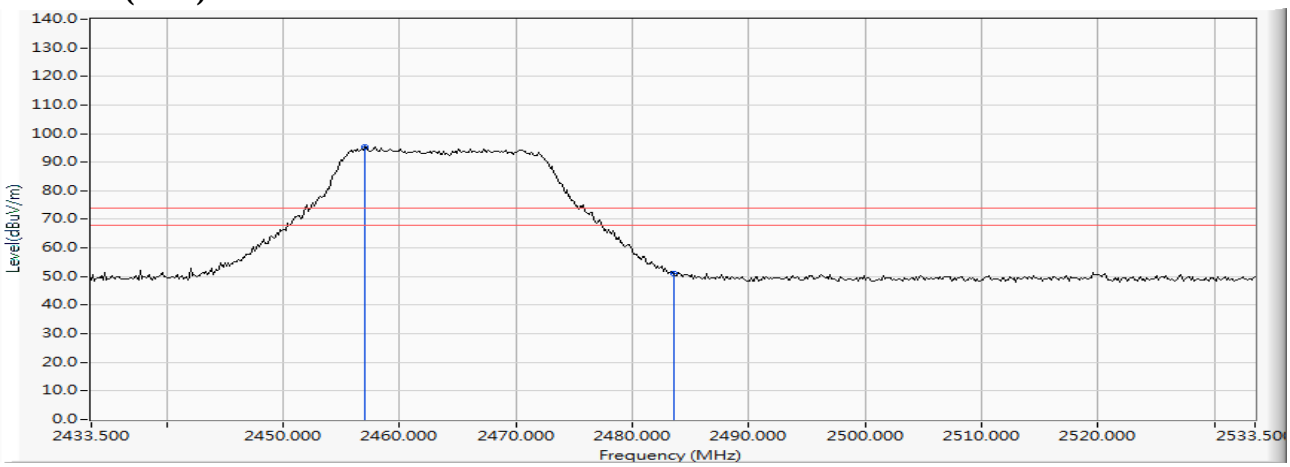
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2359.855	6.005	46.929	52.934	-1.066	54.000	AVERAGE
2		2390.000	5.880	38.060	43.941	-10.059	54.000	AVERAGE
3		2400.000	5.879	49.153	55.032	--	--	AVERAGE
4	*	2416.377	5.941	94.247	100.188	--	--	AVERAGE

Note:

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

Product : Moxa 2.4/4.9/5 GHz
Test Item : Band Edge
Test Site : No.3 OATS
Test Date : 2019/03/27
Test Mode : Mode 2: Transmit - (OFDM-20BW) (Antenna No.5)

Horizontal (Peak)



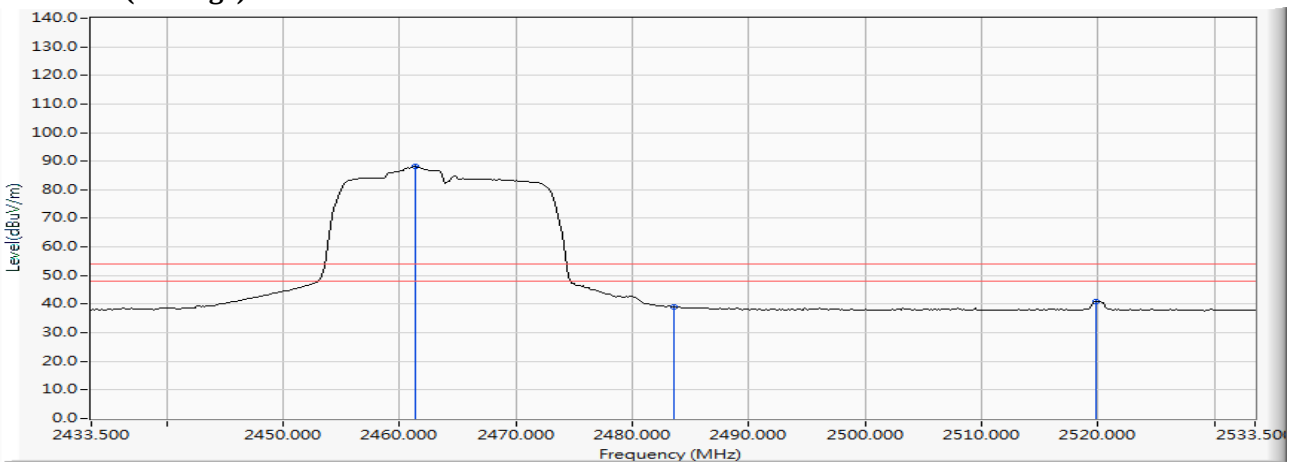
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2456.978	6.923	88.561	95.484	--	--	PEAK
2		2483.500	7.110	43.813	50.923	-23.077	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (Antenna No.5)

Horizontal (Average)



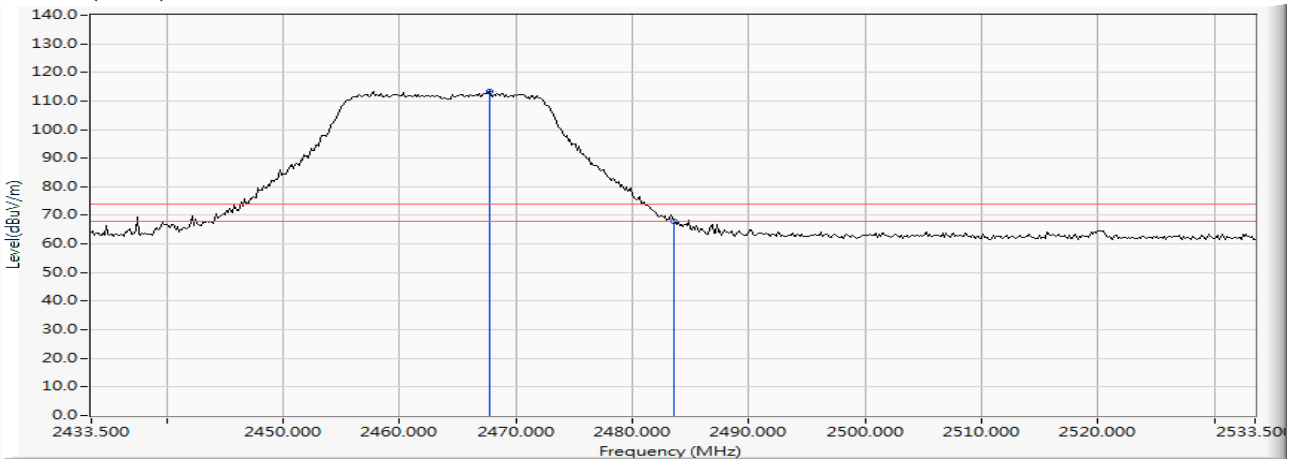
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.326	6.954	81.157	88.111	--	--	AVERAGE
2		2483.500	7.110	31.941	39.051	-14.949	54.000	AVERAGE
3		2519.877	7.125	33.841	40.966	-13.034	54.000	AVERAGE

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (Antenna No.5)

Vertical (Peak)



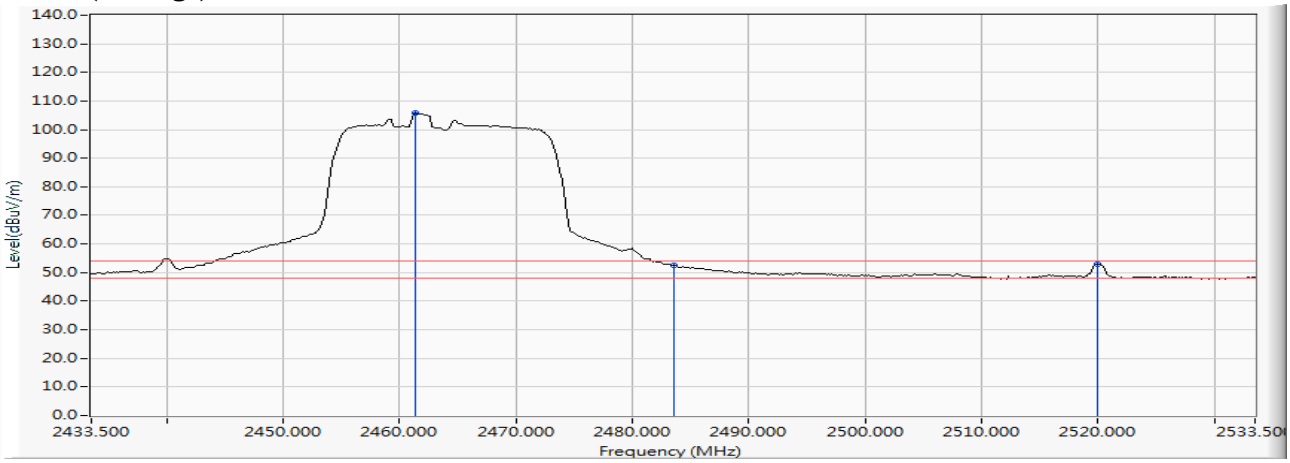
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2467.703	6.265	106.992	113.257	--	--	PEAK
2		2483.500	6.363	61.471	67.834	-6.166	74.000	PEAK

Note:

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

Product	:	Moxa 2.4/4.9/5 GHz
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Date	:	2019/03/27
Test Mode	:	Mode 2: Transmit - (OFDM-20BW) (Antenna No.5)

Vertical (Average)



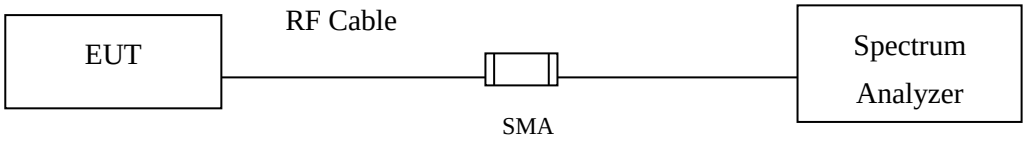
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.326	6.225	99.495	105.720	--	--	AVERAGE
2		2483.500	6.363	46.109	52.472	-1.528	54.000	AVERAGE
3		2520.022	6.465	46.581	53.046	-0.954	54.000	AVERAGE

Note:

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

7. 6dB Bandwidth

7.1. Test Setup



7.2. Limits

The minimum bandwidth shall be at least 500 kHz.

7.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013; tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.
Set RBW = 1-5% of the emission bandwidth, VBW≥3*RBW

7.4. Uncertainty

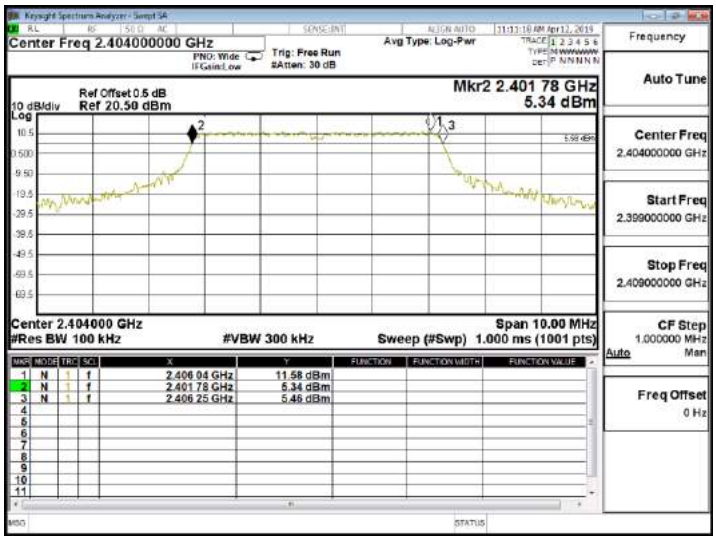
± 283Hz

7.5. Test Result of 6dB Bandwidth

Product : Moxa 2.4/4.9/5 GHz
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2404MHz) (Antenna No.2)

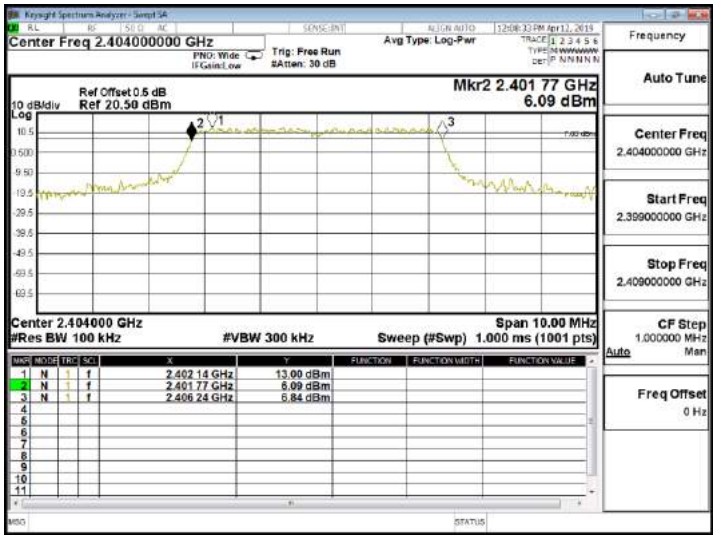
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
2	2404.00	4470	>500	Pass

Figure Channel 2: (Chain A)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
2	2404.00	4470	>500	Pass

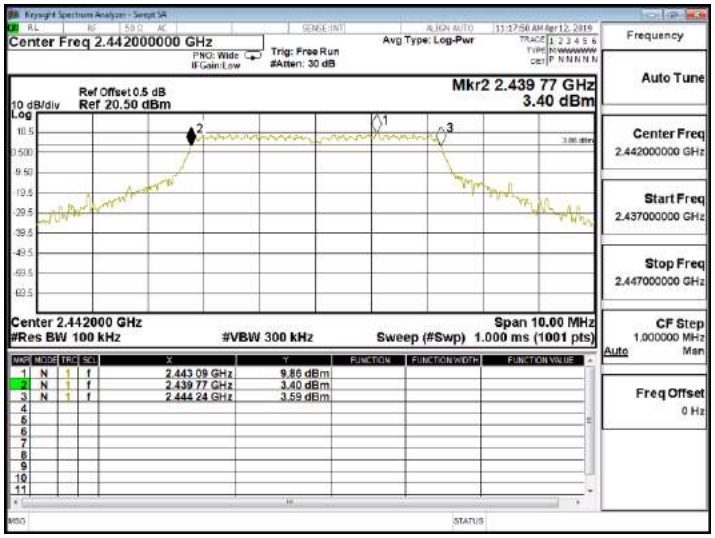
Figure Channel 2: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2442MHz) (Antenna No.2)

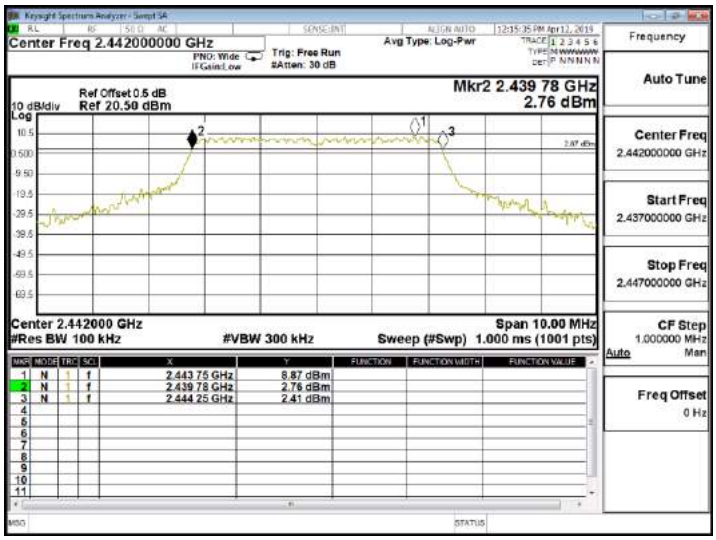
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
17	2442.00	4470	>500	Pass

Figure Channel 17: (Chain A)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
17	2437.00	4470	>500	Pass

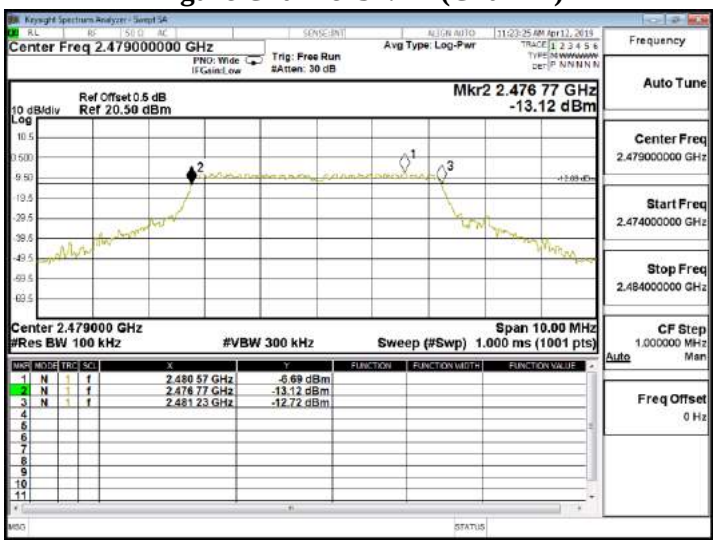
Figure Channel 17: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2479MHz) (Antenna No.2)

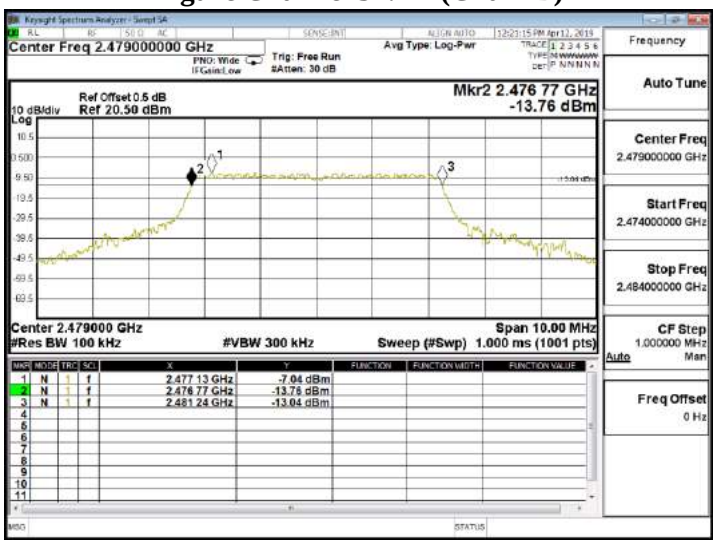
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
32	2479.00	4460	>500	Pass

Figure Channel 32: (Chain A)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
32	2479.00	4470	>500	Pass

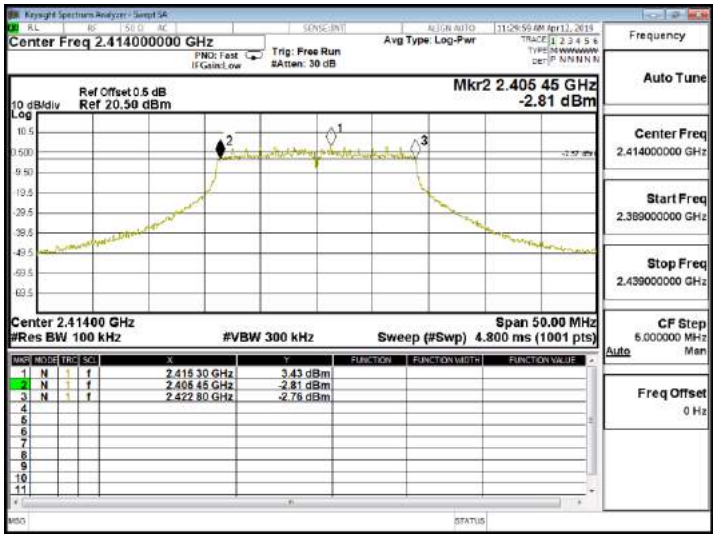
Figure Channel 32: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2414MHz) (Antenna No.2)

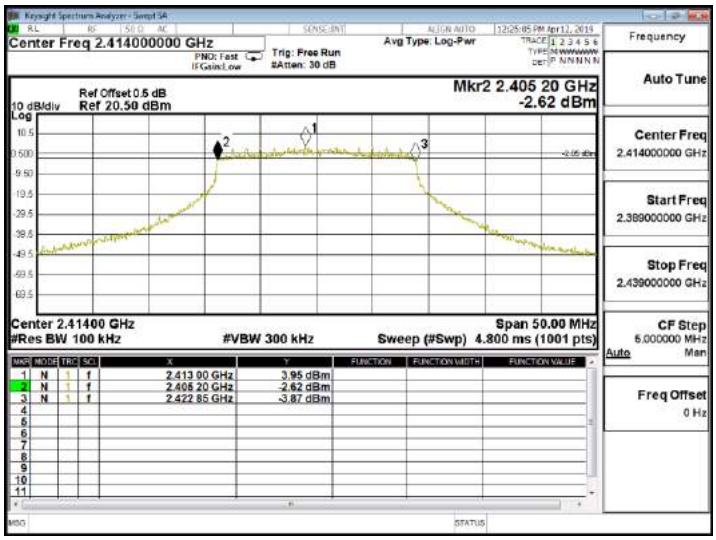
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
06	2414	17350	>500	Pass

Figure Channel 6: (Chain A)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
06	2414	17650	>500	Pass

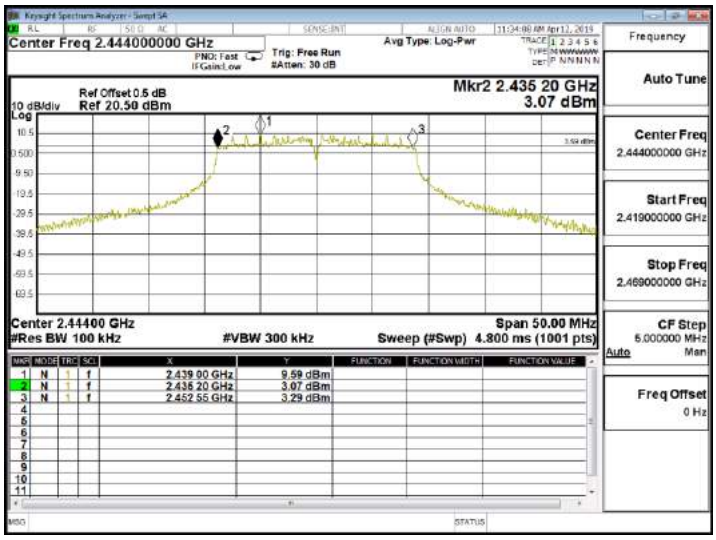
Figure Channel 6: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2444MHz) (Antenna No.2)

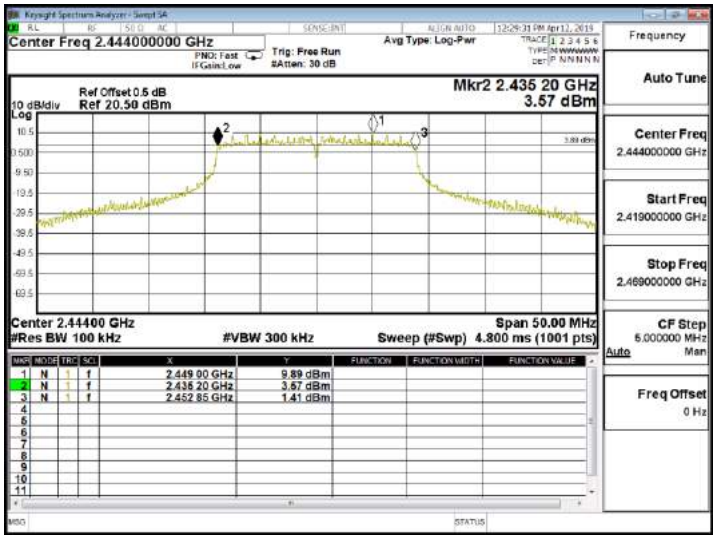
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
18	2444	17350	>500	Pass

Figure Channel 18: (Chain A)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
18	2444	17650	>500	Pass

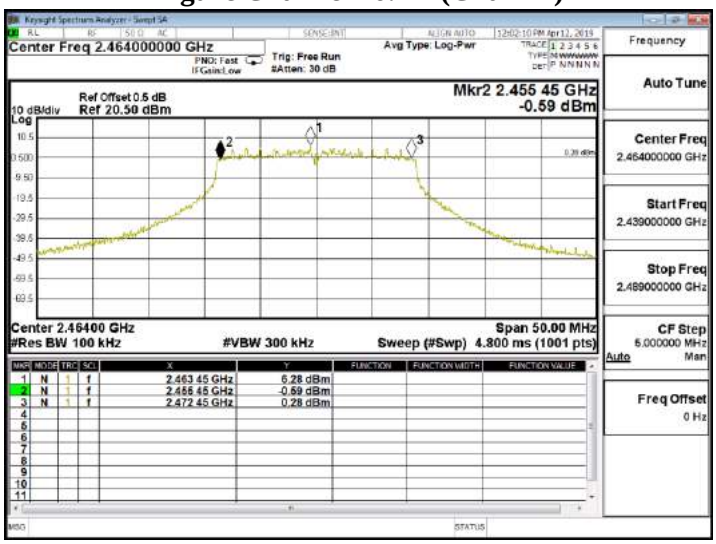
Figure Channel 18: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2464MHz) (Antenna No.2)

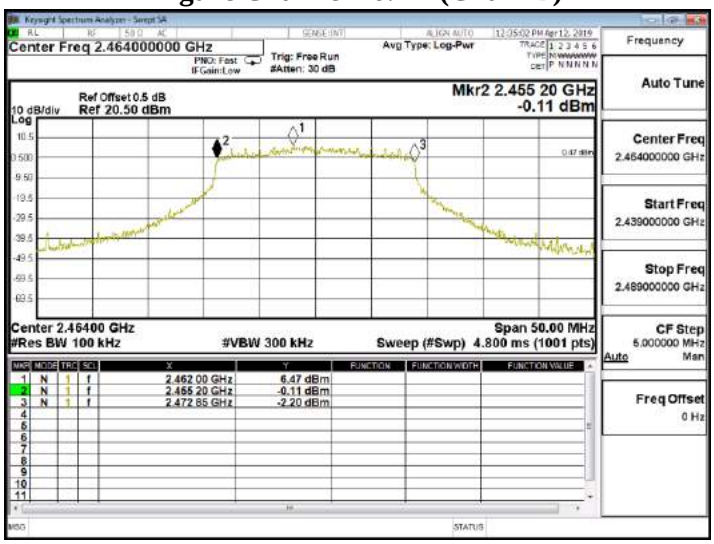
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
26	2464	17000	>500	Pass

Figure Channel 26: (Chain A)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
26	2464	17650	>500	Pass

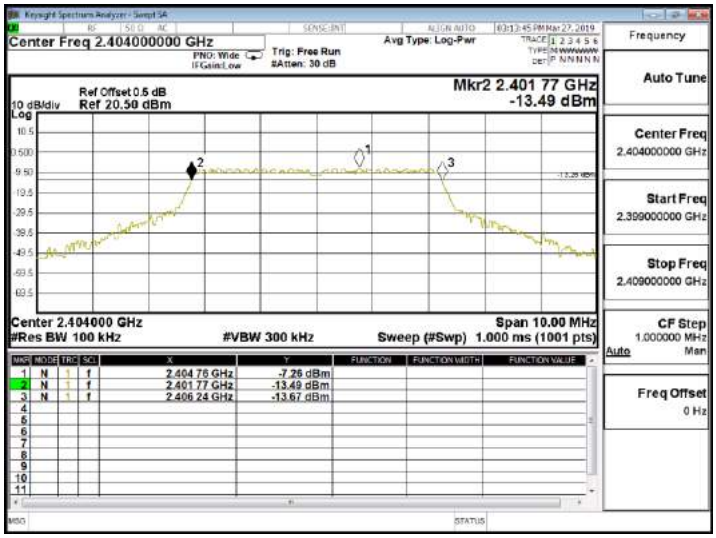
Figure Channel 26: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2404MHz) (Antenna No.5)

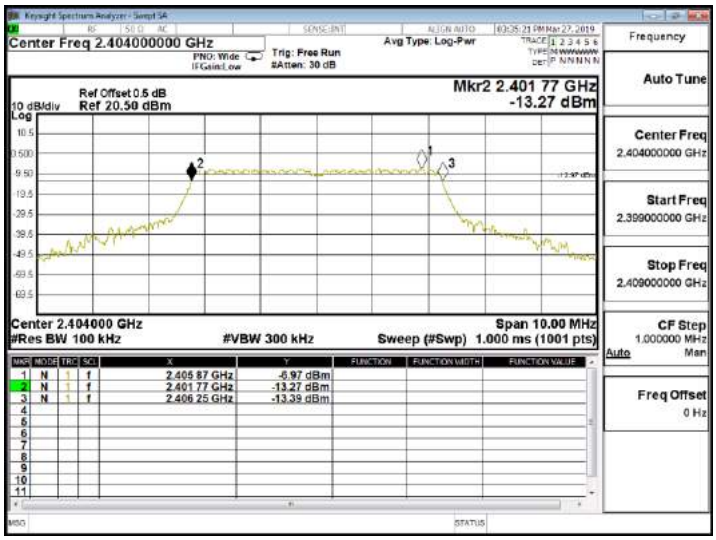
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
02	2404	4470	>500	Pass

Figure Channel 2: (Chain A)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
02	2404	4480	>500	Pass

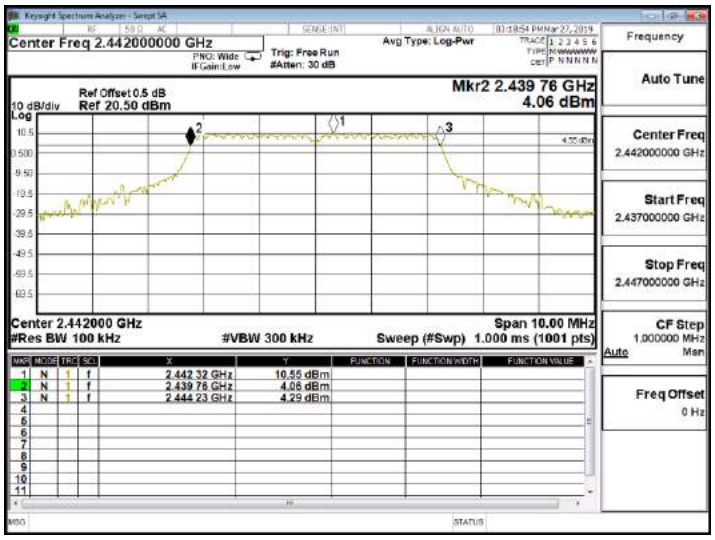
Figure Channel 2: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2442MHz) (Antenna No.5)

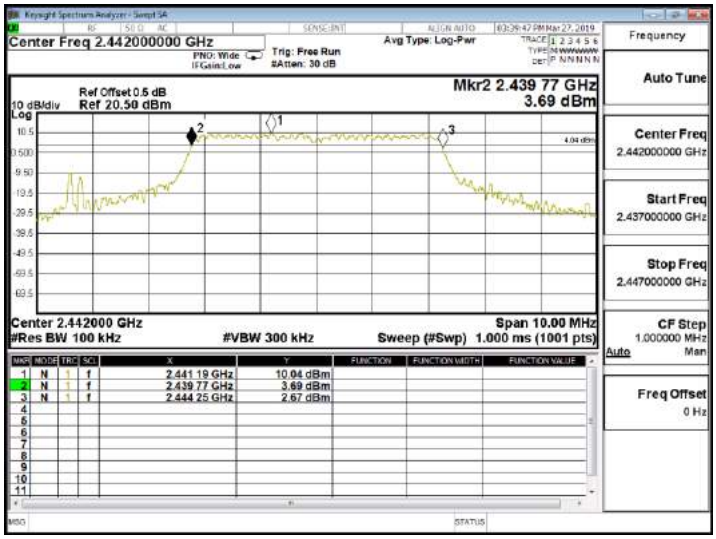
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
17	2442	4470	>500	Pass

Figure Channel 17: (Chain A)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
17	2442	4480	>500	Pass

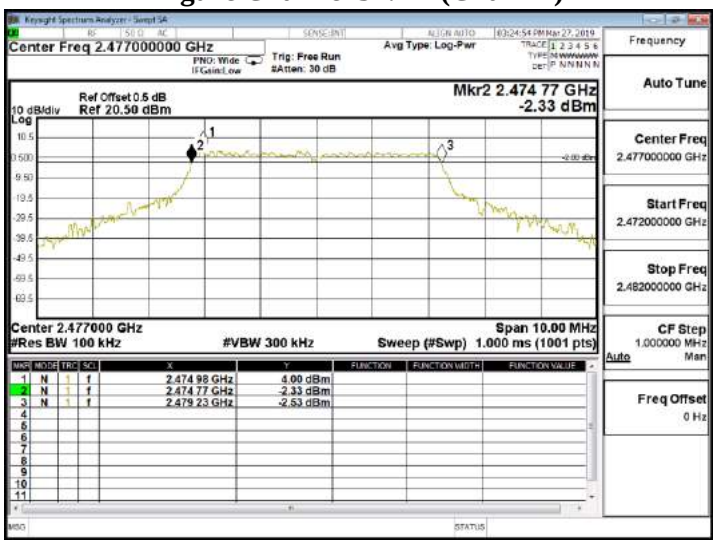
Figure Channel 17: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2479MHz) (Antenna No.5)

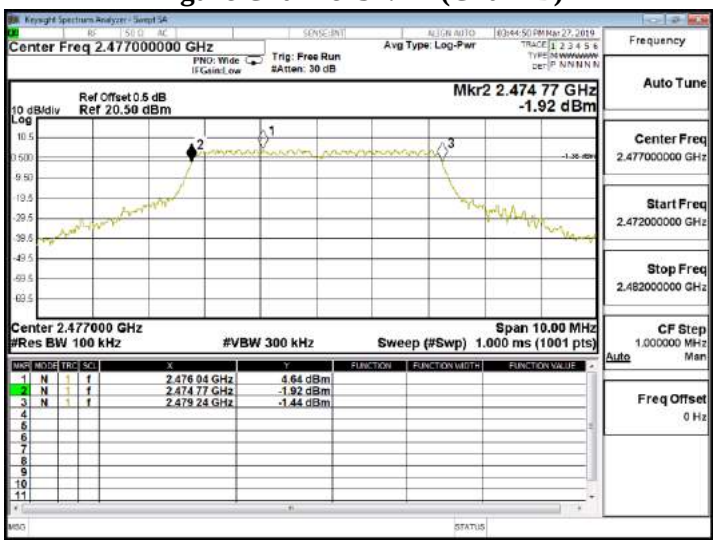
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
31	2477	4460	>500	Pass

Figure Channel 31: (Chain A)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
31	2477	4470	>500	Pass

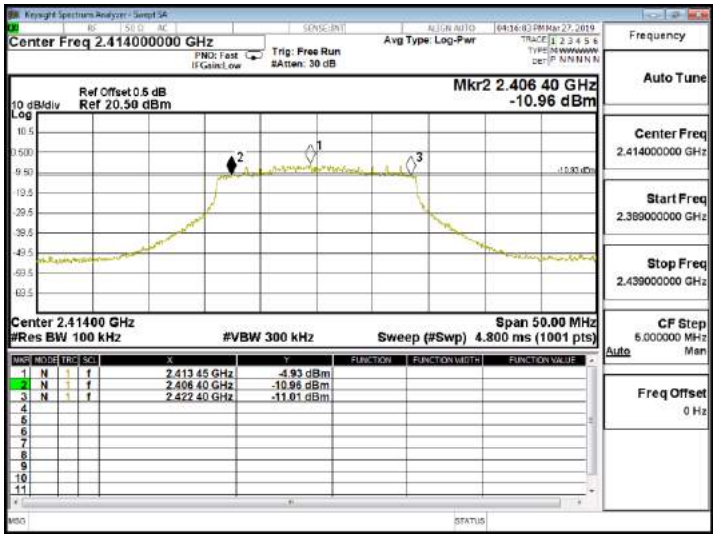
Figure Channel 31: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2414MHz) (Antenna No.5)

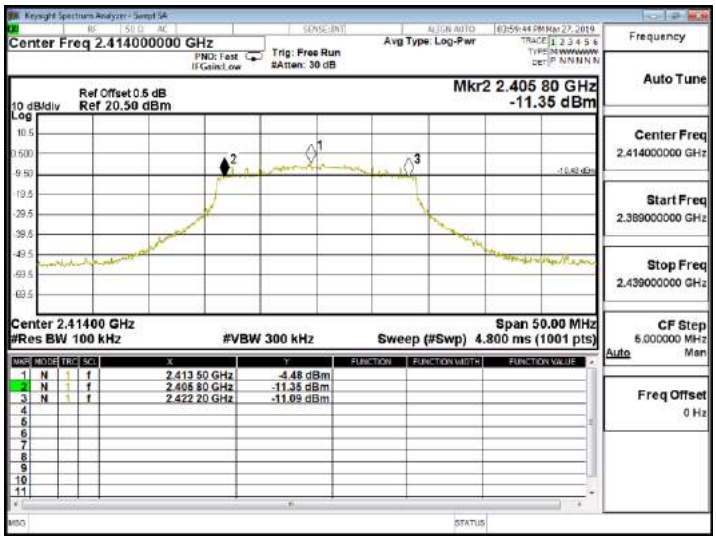
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
06	2414	16000	>500	Pass

Figure Channel 6: (Chain A)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
06	2414	16400	>500	Pass

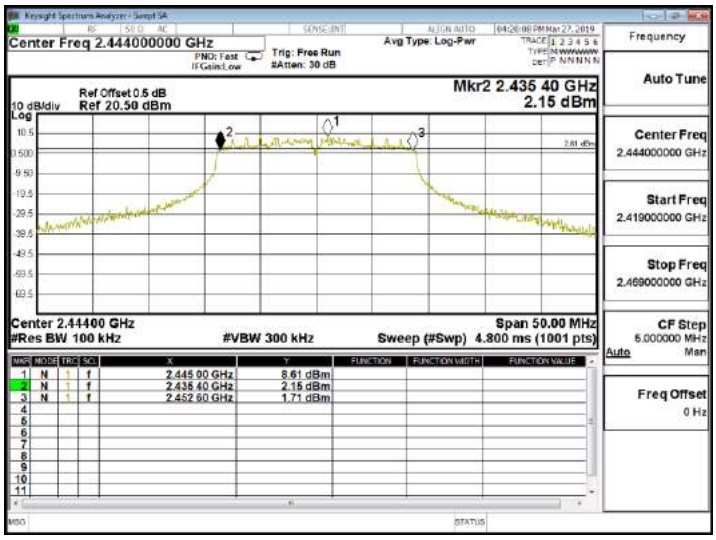
Figure Channel 6: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2444MHz) (Antenna No.5)

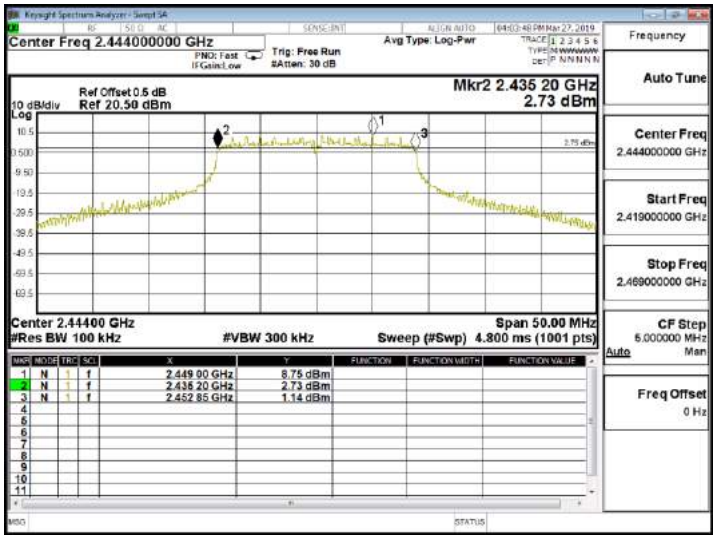
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
18	2444	17200	>500	Pass

Figure Channel 18: (Chain A)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
18	2444	17650	>500	Pass

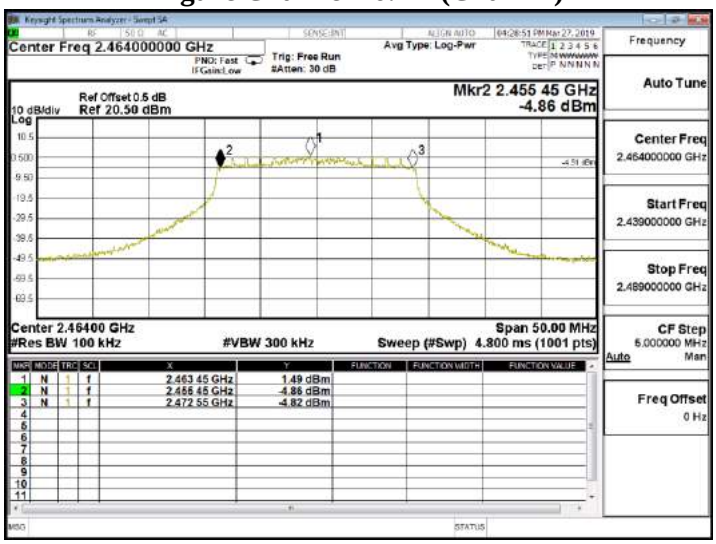
Figure Channel 18: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2464MHz) (Antenna No.5)

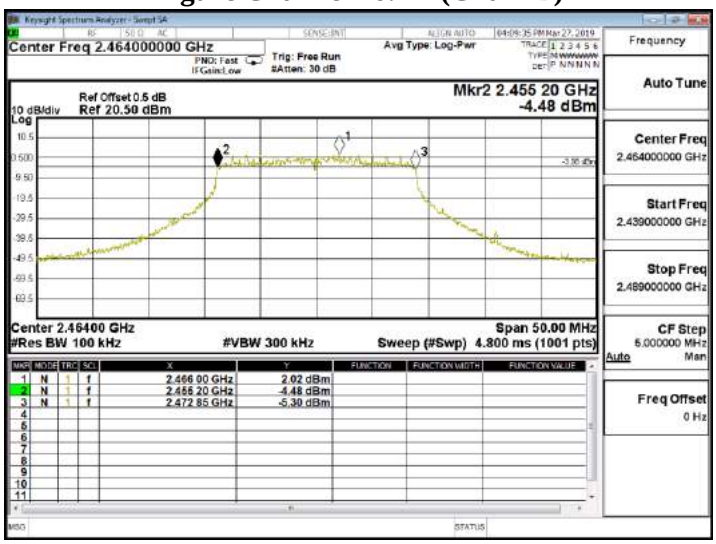
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
26	2464	17100	>500	Pass

Figure Channel 26: (Chain A)



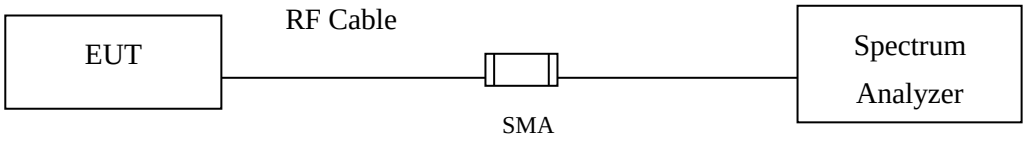
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
26	2464	17650	>500	Pass

Figure Channel 26: (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 KDB 558074 section 10.2 PKPSD (peak PSD) method.

8.4. Uncertainty

± 1.20 dB

8.5. Test Result of Power Density

Product : Moxa 2.4/4.9/5 GHz
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2404MHz) (Antenna No.2)

CHAIN	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit	Result
A	-0.190	2.820	≦8dBm	Pass
B	0.796	3.806	≦8dBm	Pass

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

Figure Channel 2: (Chain A)

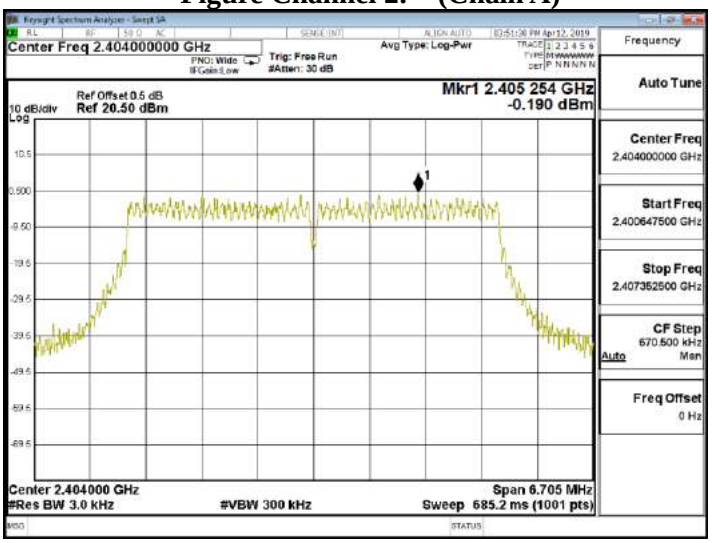
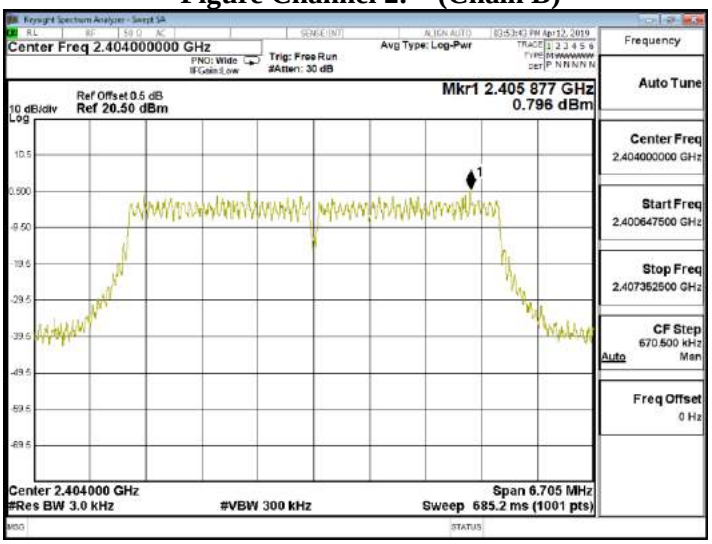


Figure Channel 2: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : Power Density Data
Test Site : No.3OATS
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2442MHz) (Antenna No.2)

CHAIN	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit	Result
A	-3.026	-0.016	≦8dBm	Pass
B	-2.526	0.484	≦8dBm	Pass

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

Figure Channel 17: (Chain A)

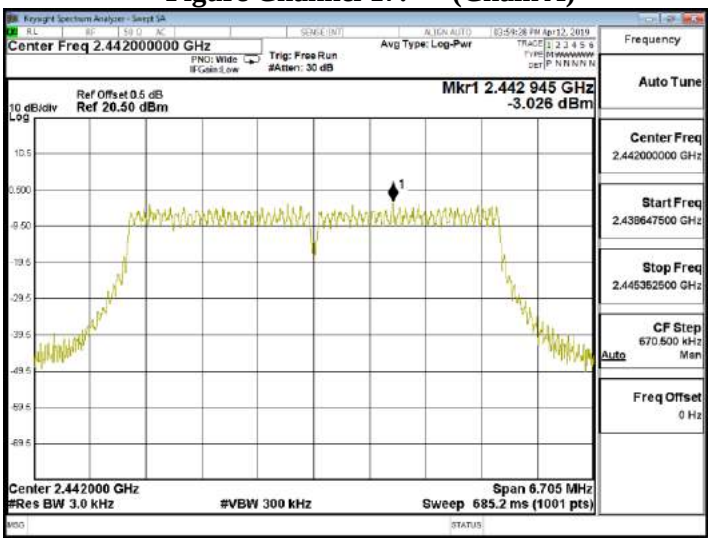
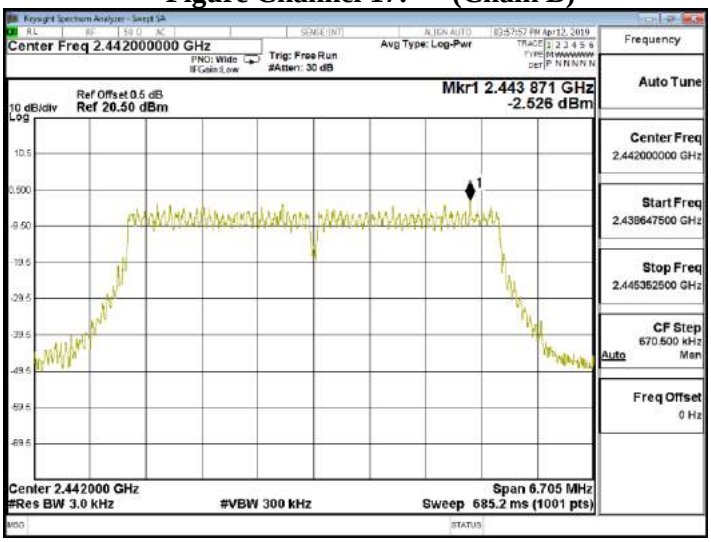


Figure Channel 17: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2479MHz) (Antenna No.2)

CHAIN	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit	Result
A	-7.070	-4.060	≦8dBm	Pass
B	-7.390	-4.380	≦8dBm	Pass

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

Figure Channel 32: (Chain A)

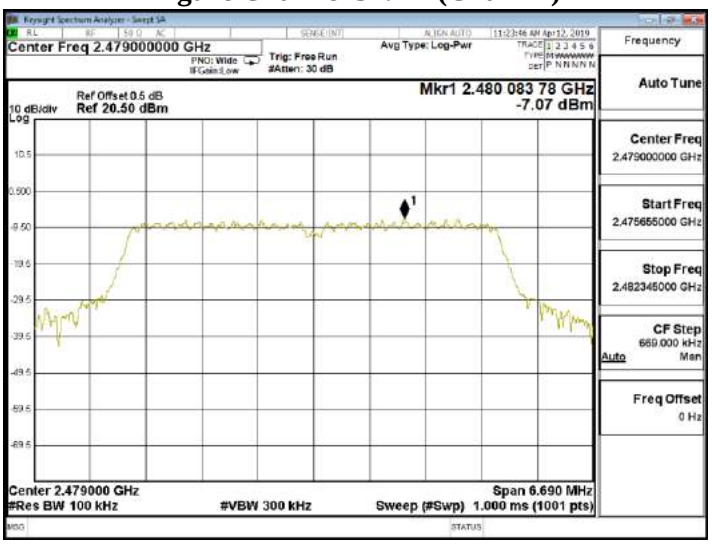
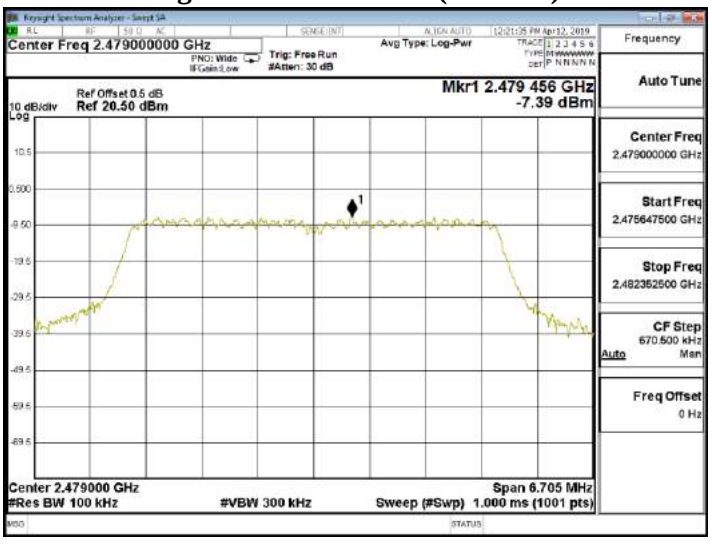


Figure Channel 32: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2414MHz) (Antenna No.2)

CHAIN	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit	Result
A	3.220	6.230	≦8dBm	Pass
B	3.470	6.480	≦8dBm	Pass

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

Figure Channel 6: (Chain A)

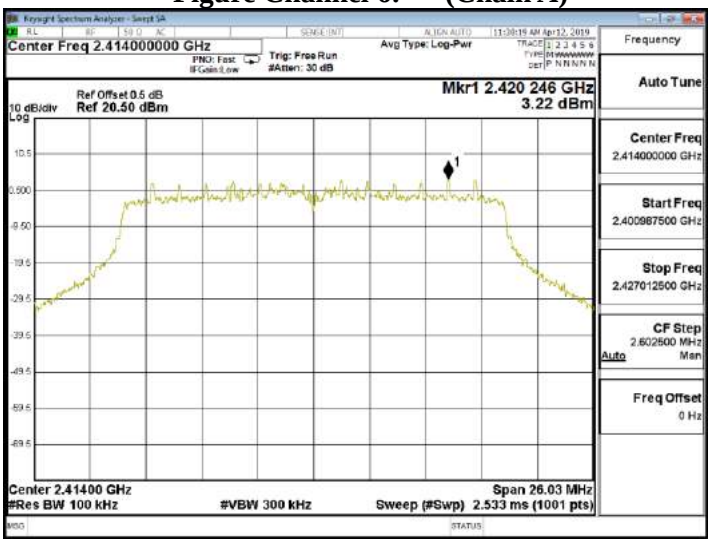
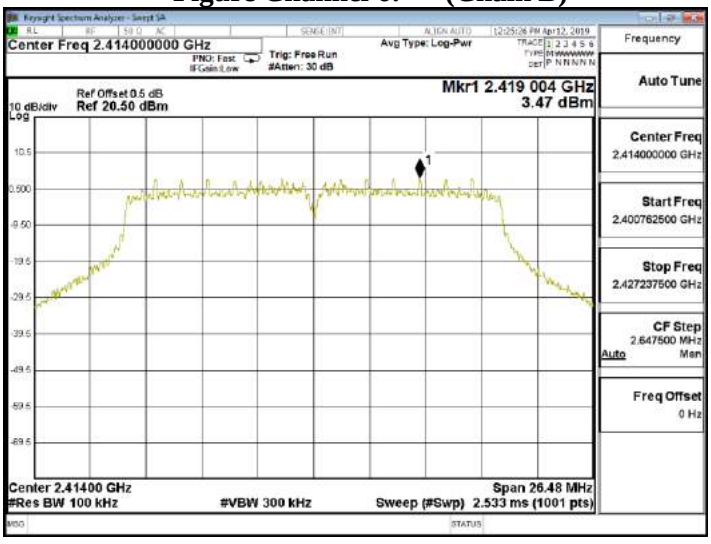


Figure Channel 6: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : Power Density Data
Test Site : No.3OATS
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2444MHz) (Antenna No.2)

CHAIN	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit	Result
A	-4.672	-1.662	≦8dBm	Pass
B	-5.370	-2.360	≦8dBm	Pass

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

Figure Channel 18: (Chain A)

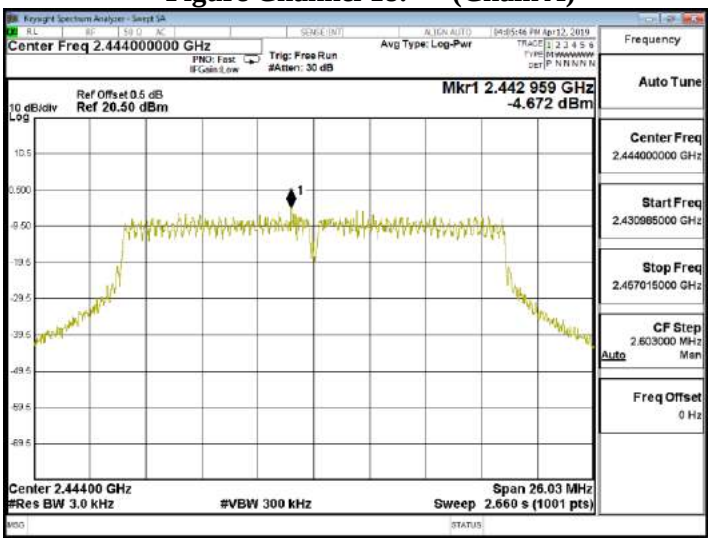
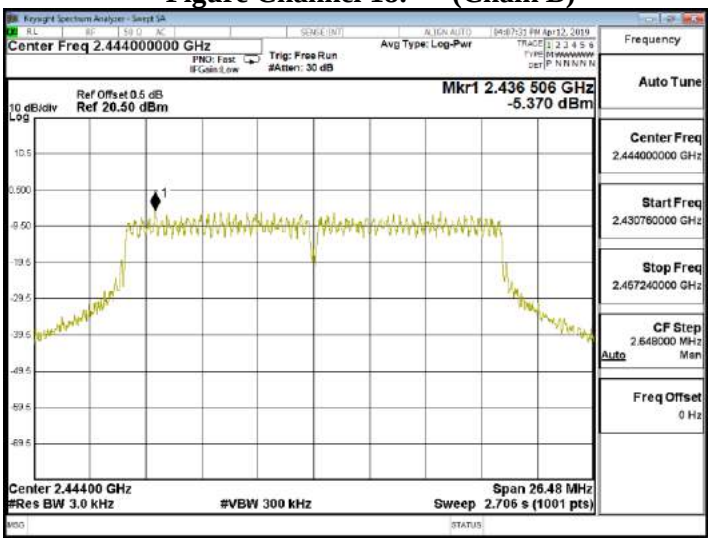


Figure Channel 18: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2464MHz) (Antenna No.2)

CHAIN	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit	Result
A	-9.215	-6.205	≦8dBm	Pass
B	-7.550	-4.540	≦8dBm	Pass

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

Figure Channel 26: (Chain A)

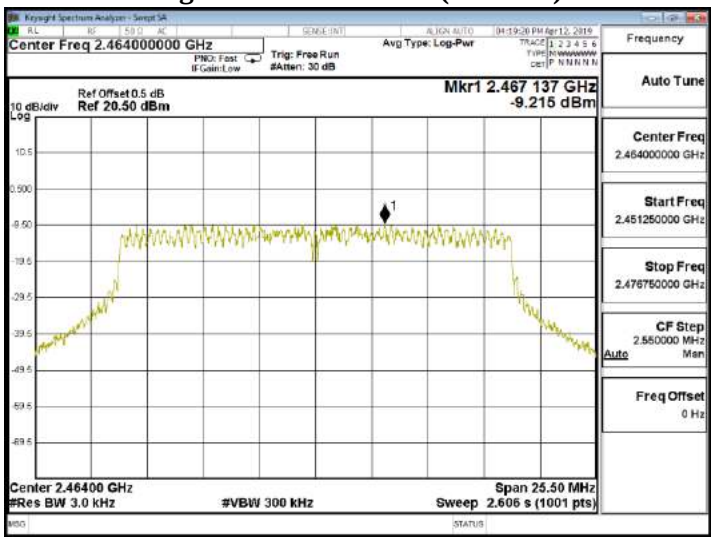
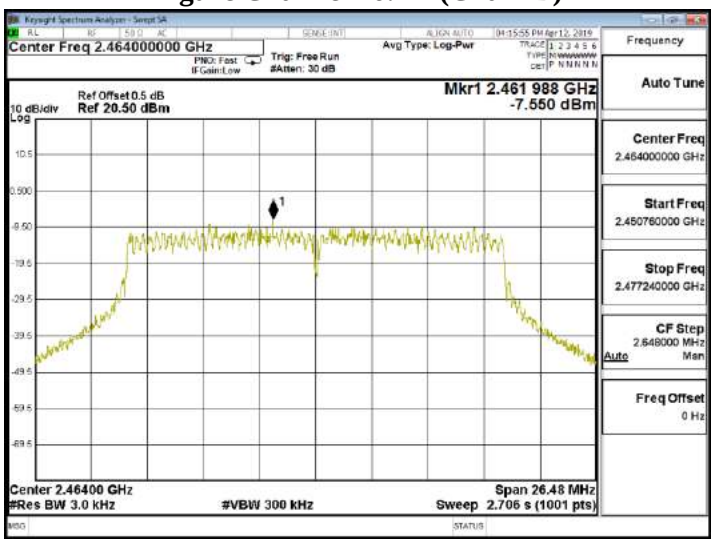


Figure Channel 26: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2404MHz) (Antenna No.5)

CHAIN	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit	Result
A	-7.680	-4.670	≦8dBm	Pass
B	-7.450	-4.440	≦8dBm	Pass

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

Figure Channel 2: (Chain A)

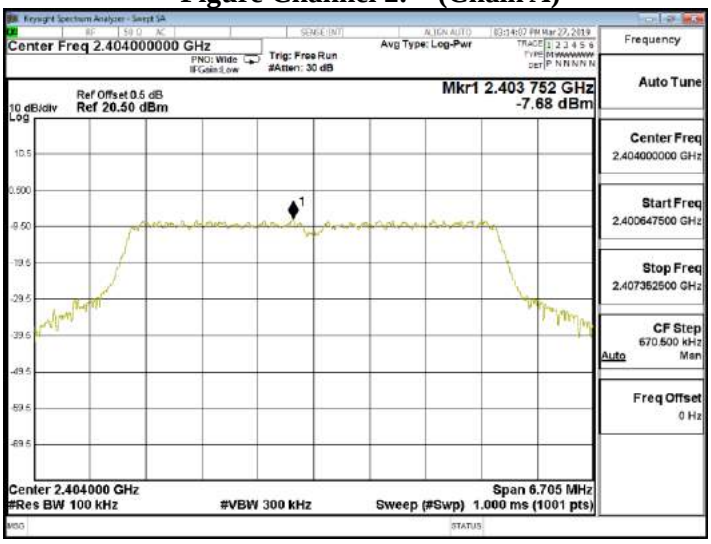
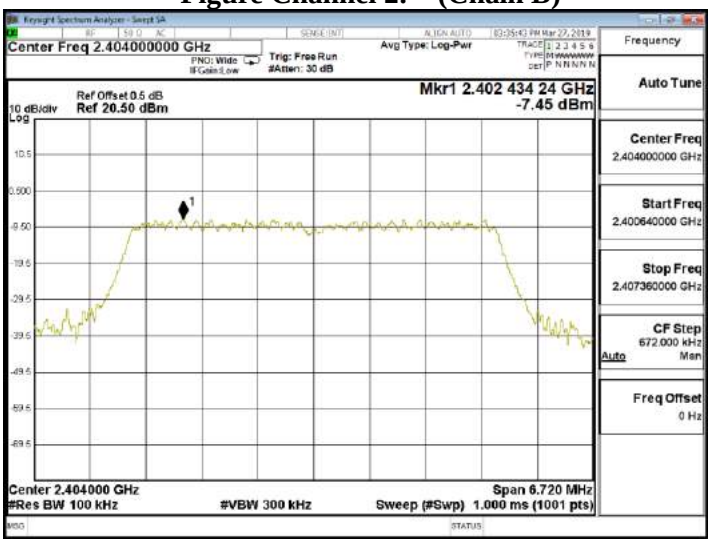


Figure Channel 2: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : Power Density Data
Test Site : No.3OATS
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2442MHz) (Antenna No.5)

CHAIN	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit	Result
A	-2.452	0.558	≦8dBm	Pass
B	-2.227	0.783	≦8dBm	Pass

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

Figure Channel 17: (Chain A)

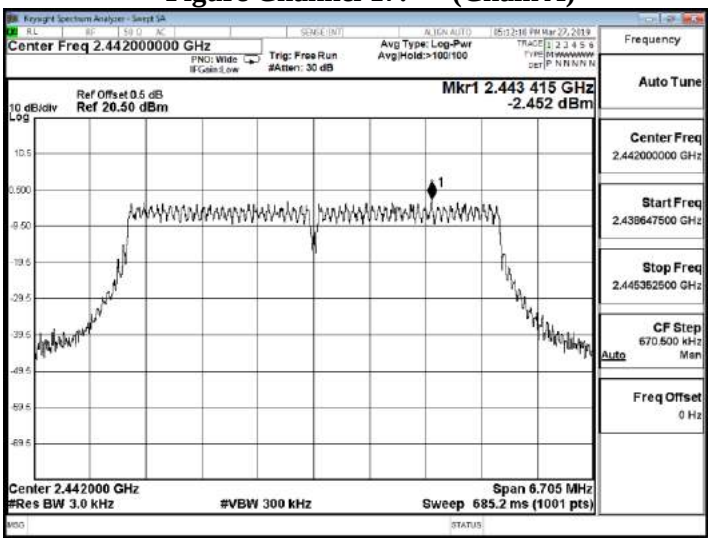
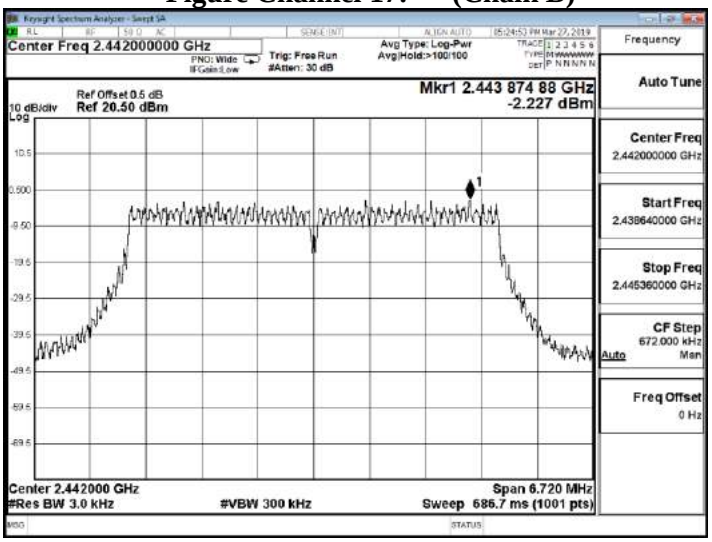


Figure Channel 17: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - (OFDM-5BW) (2477MHz) (Antenna No.5)

CHAIN	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit	Result
A	-9.047	-6.037	≦8dBm	Pass
B	-7.870	-4.860	≦8dBm	Pass

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

Figure Channel 31: (Chain A)

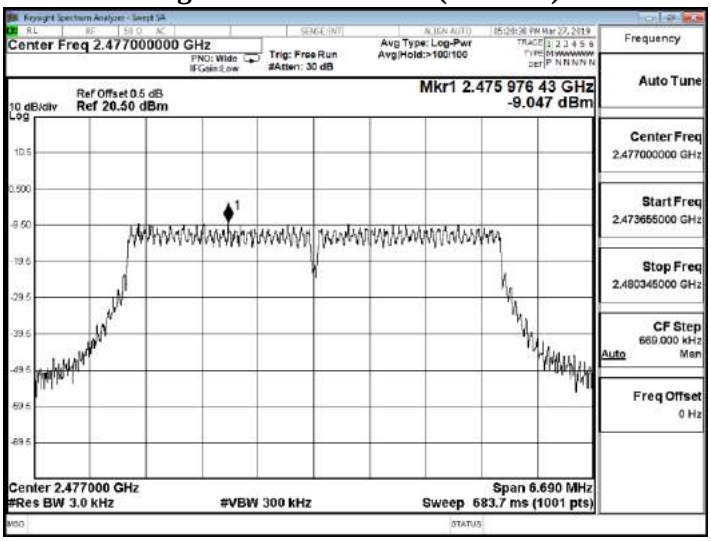
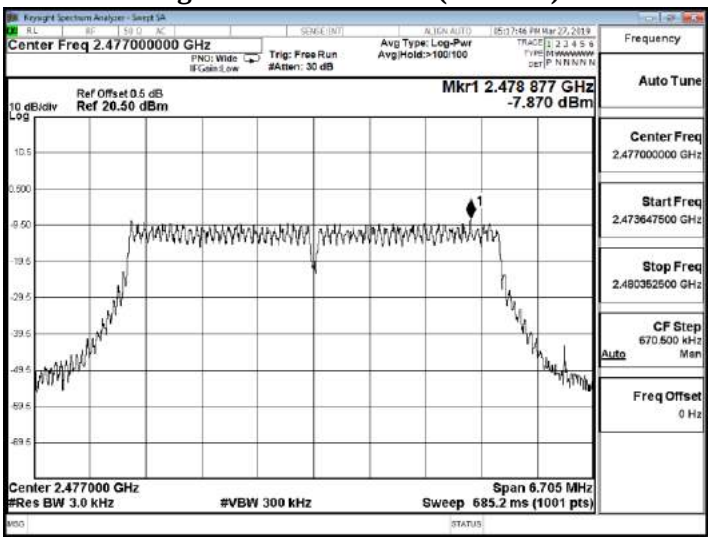


Figure Channel 31: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2414MHz) (Antenna No.5)

CHAIN	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit	Result
A	-5.660	-2.650	≦8dBm	Pass
B	-4.130	-1.120	≦8dBm	Pass

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

Figure Channel 6: (Chain A)

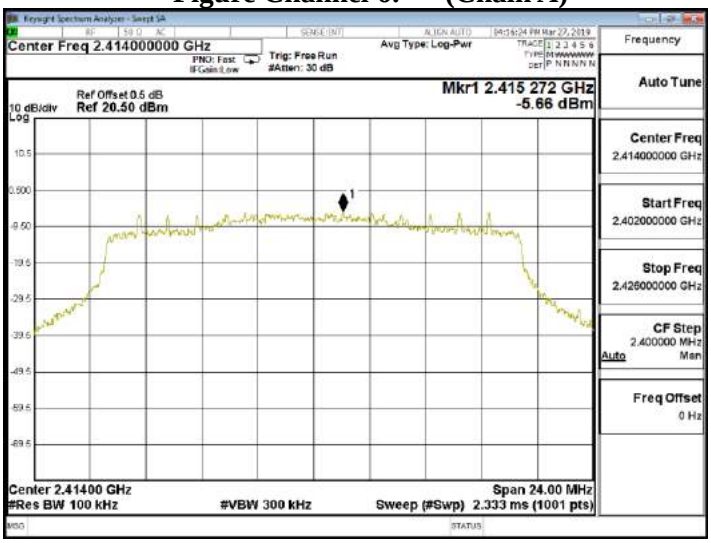
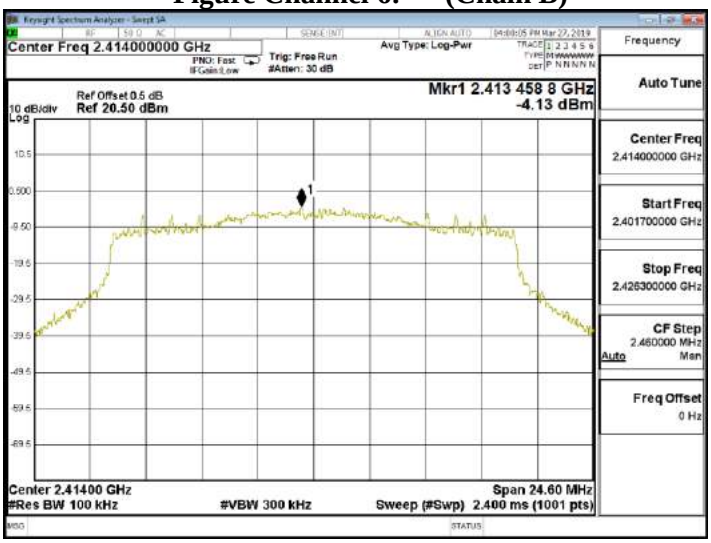


Figure Channel 6: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : Power Density Data
Test Site : No.3OATS
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2444MHz) (Antenna No.5)

CHAIN	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit	Result
A	-5.239	-2.229	≦8dBm	Pass
B	-5.863	-2.853	≦8dBm	Pass

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

Figure Channel 18: (Chain A)

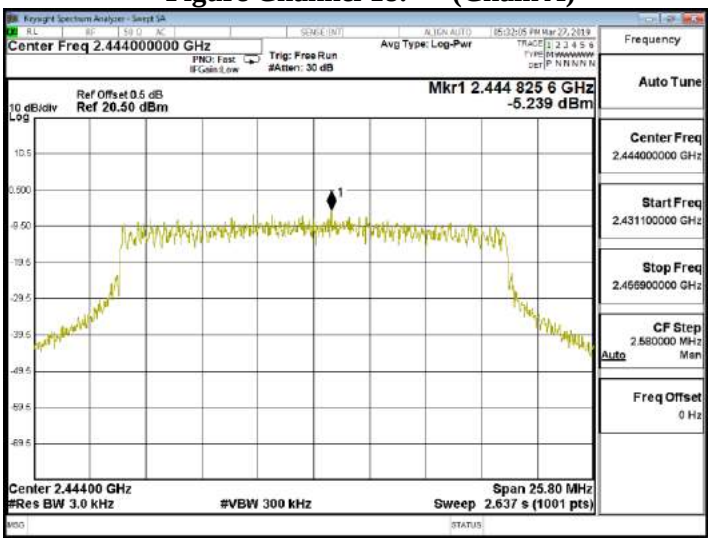
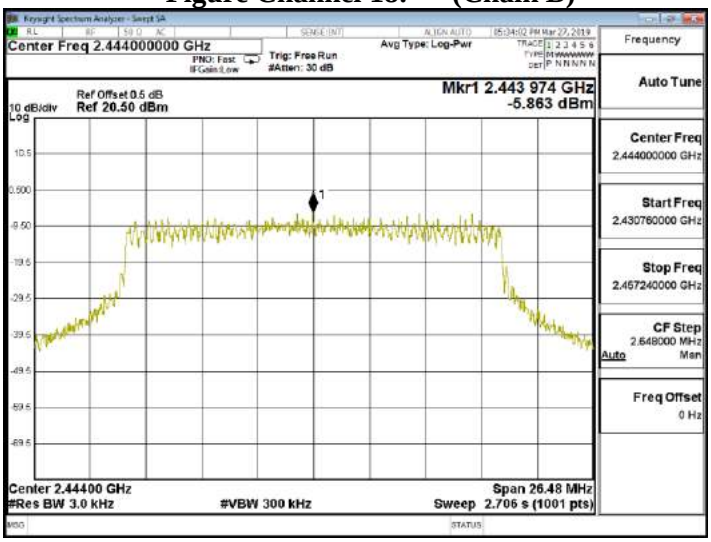


Figure Channel 18: (Chain B)



Product : Moxa 2.4/4.9/5 GHz
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - (OFDM-20BW) (2464MHz) (Antenna No.5)

CHAIN	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit	Result
A	1.620	4.630	≦8dBm	Pass
B	1.870	4.880	≦8dBm	Pass

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

Figure Channel 26: (Chain A)

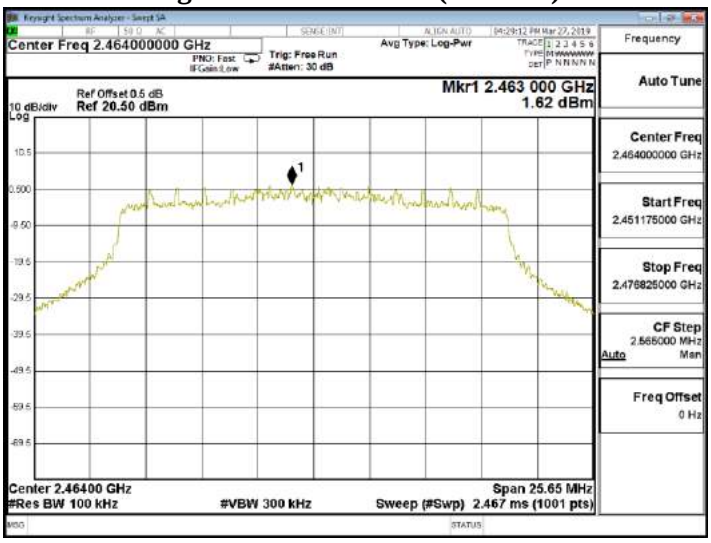
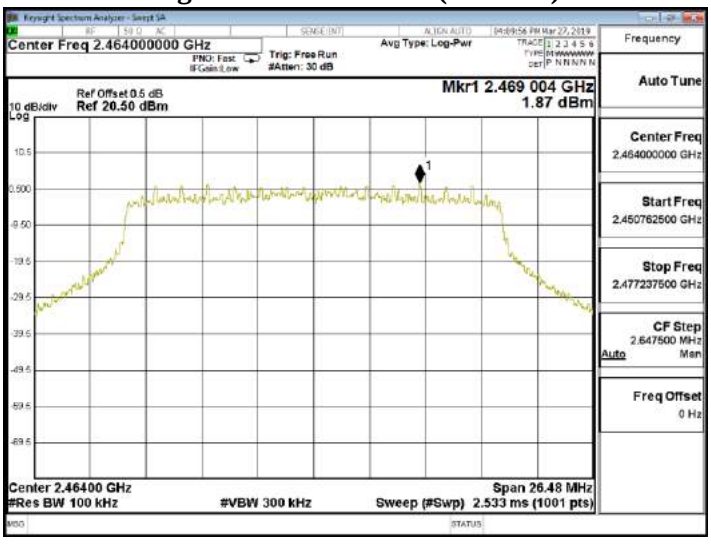
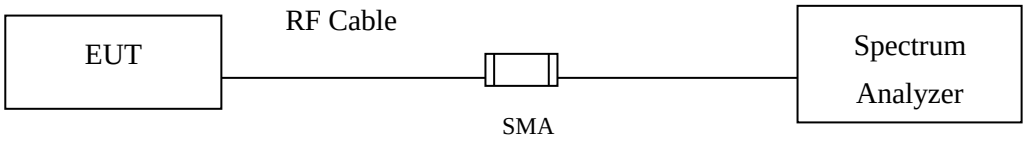


Figure Channel 26: (Chain B)



9. Duty Cycle

9.1. Test Setup



9.2. Test Procedure

The EUT was setup according to ANSI C63.10 2013; tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

9.3. Uncertainty

± 2.31msec

9.4. Test Result of Duty Cycle

Product : Moxa 2.4/4.9/5 GHz
Test Item : Duty Cycle
Test Mode : Transmit

Duty Cycle Formula:

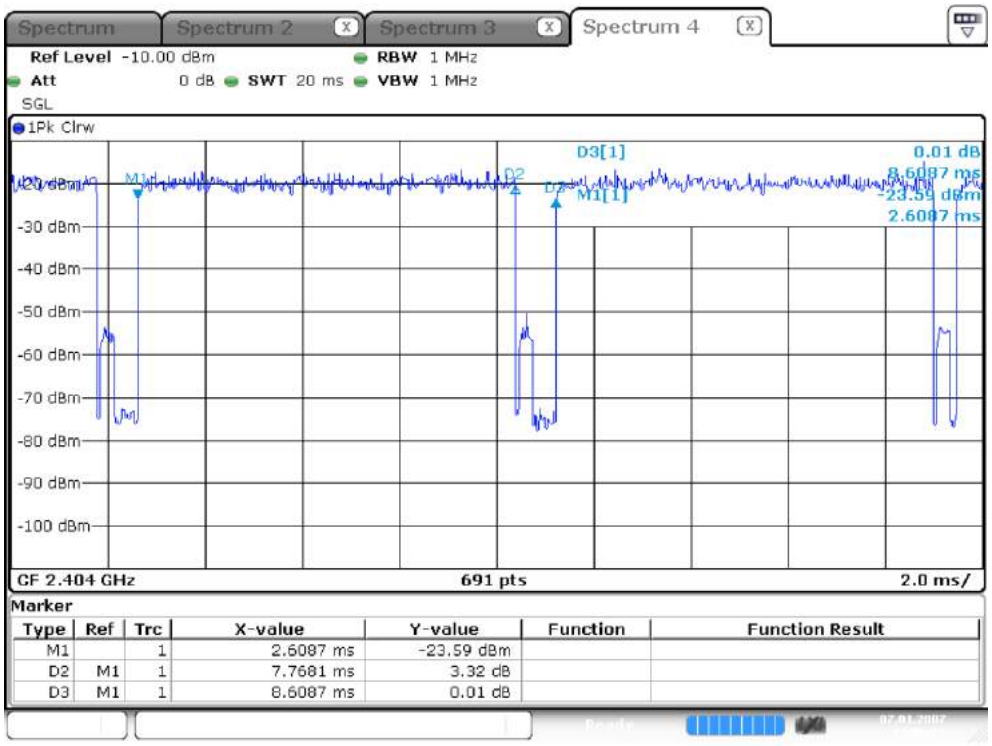
Duty Cycle = Ton / (Ton + Toff)

Duty Factor = 10 Log (1/Duty Cycle)

Results:

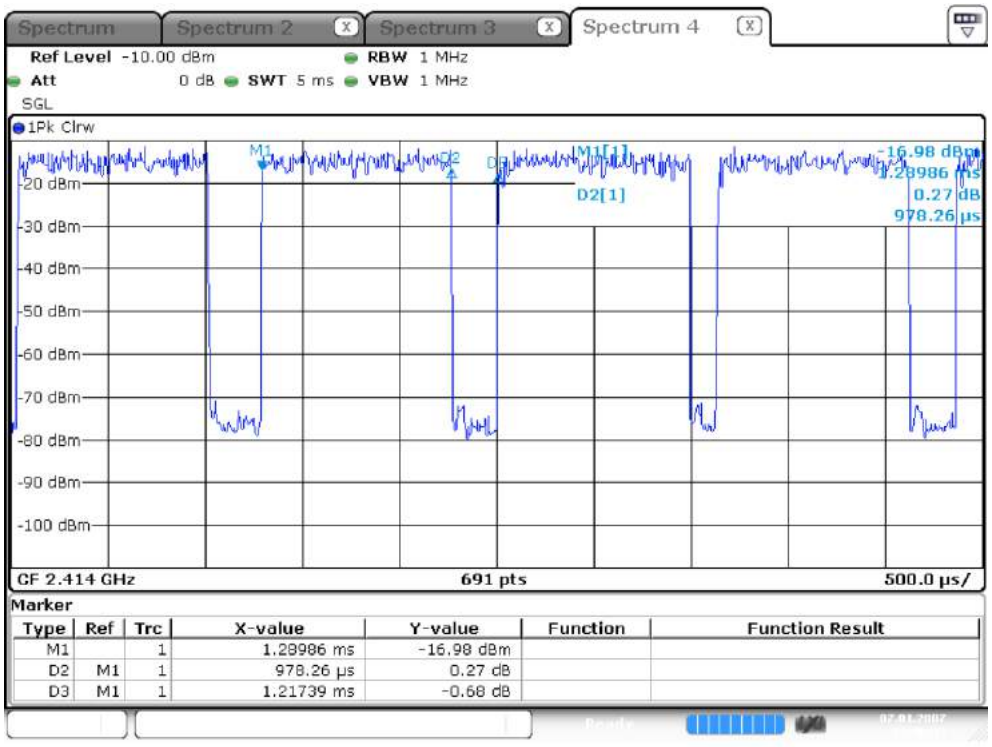
2.4GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
5M-BW	7.7681	8.6087	90.24	0.45
20M-BW	0.9783	1.2174	80.36	0.95

5MHz



Date: 7.JAN.2007 17:00:51

20MHz



Date: 7.JAN.2007 19:40:42

10. EMI Reduction Method During Compliance Testing

No modification was made during testing.