

# **FCC Test Report**

Product Name	MOXA IEEE 802.11a/b/g/n Wireless
Model No	WAPN005
FCC ID.	SLE-WAPN005

Applicant	Moxa Inc.
Address	4F,No.135, Lane 235, BAOQIAO Rd. XINDIAN DIST.,NEW
	TAIPEI CITY, Taiwan

Date of Receipt	Apr. 18, 2014
Issue Date	Apr. 21, 2014
Report No.	1440443R-RFUSP10V00
Report Version	V1.0



The test results relate only to the samples tested.

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

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Test Report Issue Date: Apr. 21, 2014 Report No.: 1440443R-RFUSP10V00					
Product Name	MOXA IEEE 802.11a/b/g/n Wireless				
Applicant	Moxa Inc.				
Address	4F,No.135, Lane 235, BAOQIAO Rd. XINDIAN DIST.,NEW TAIPEI CITY, Taiwan				
Manufacturer	Moxa Inc.				
Model No.	WAPN005				
EUT Rated Voltage	DC 3.3V				
EUT Test Voltage	AC 120V/60Hz				
Trade Name	МОХА				
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2012 ANSI C63.10: 2009, KDB 558074				
Test Result	Complied				
Documented By :	(Senior Adm. Specialist / Joanne Lin)				
Tested By :	Dlan Chen				
Approved By :	(Engineer / Alan Chen )				

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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

# 1. GENERAL INFORMATION

# **1.1. EUT Description**

Product Name	MOXA IEEE 802.11a/b/g/n Wireless		
Trade Name	MOXA		
Model No.	WAPN005		
FCC ID.	SLE-WAPN005		
Frequency Range	802.11b/g/n-20MHz:2412-2462MHz,802.11n-40MHz:2422-2452MHz		
	802.11a/n-20MHz:5745-5825MHz ,802.11n-40MHz:5755-5795MHz		
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7		
	802.11a/n-20MHz: 5, n-40MHz: 2		
Data Speed	802.11b: 1-11Mbps, 802.11a/g: 6-54Mbps, 802.11n: up to 300Mbps		
Channel separation 802.11b/g/n-20MHz: 5 MHz, 802.11a/n-20MHz: 20MHz			
	802.11n-40MHz: 40MHz		
Type of Modulation	802.11b:DSSS, DBPSK, DQPSK, CCK		
	802.11a/g/n: OFDM, BPSK, QPSK, 16QAM, 64QAM		
Antenna Type	Dipole Antenna		
Antenna Gain	Refer to the table "Antenna List"		
Channel Control	Auto		

#### Antenna List

No.	Manufacturer	Model No.	Antenna Type	Peak Gain
1	KINSUN	ANT-WDB-O-2 BK	Dipole	2.9dBi for 2.4 GHz
				2.34dBi for 5GHz
2	KINSUN	ANT-WDB-ANM-0502	Dipole	4.62dBi for 2.4 GHz
				1.41dBi for 5GHz

- 1. The antenna of EUT is conform to FCC 15.203
- 2. Only the higher gain antenna was tested and recorded in this report.

802.11b/g/n-2	802.11b/g/n-20MHz Center Frequency of Each Channel:						
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz		
802.11n-40M	Hz Center We	orking Frequen	icy of Each C	hannel:			
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 3:	2422 MHz	Channel 4:	2427 MHz	Channel 5:	2432 MHz	Channel 6:	2437 MHz
Channel 7:	2442 MHz	Channel 8:	2447 MHz	Channel 9:	2452 MHz		
802.11a/n-20	MHz Center V	Working Freque	ency of Each	Channel:			
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 149:	5745 MHz	Channel 153:	5765 MHz	Channel 157:	5785 MHz	Channel 161:	5805 MHz
Channel 165:	5825 MHz						
802.11n-40M	Hz Center We	orking Frequen	cy of Each C	hannel:			
Channel	Frequency	Channel	Frequency				

Channel 151: 5755 MHz Channel 159: 5795 MHz

- 1. This device is a MOXA IEEE 802.11a/b/g/n Wireless with a built-in WLAN transceiver.
- 2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
- 3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps \$\cdot 802.11a/g is 6Mbps \$\cdot 802.11n(20M-BW) is 14.4Mbps and \$\cdot 802.11n(40M-BW) is 30Mbps).
- 5. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11a/b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.
- 6. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode:	Mode 1: Transmit (802.11b 1Mbps)	
	Mode 2: Transmit (802.11g 6Mbps)	
	Mode 3: Transmit - 802.11a 6Mbps	
	Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band)	
	Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band)	
	Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band)	
	Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band)	

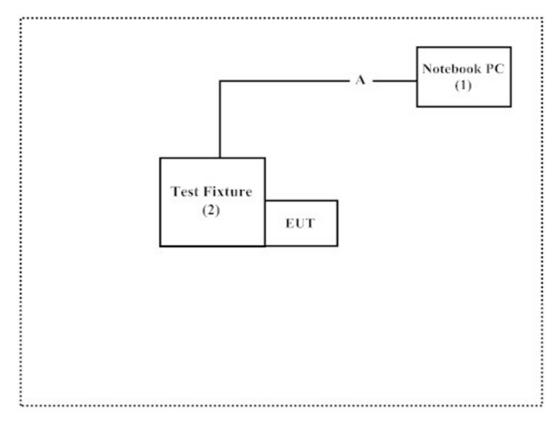
# **1.3.** Tested System Details

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

Pro	duct	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	PPT	N/A	Non-Shielded, 0.8m
2	Test Fixture	MOXA	N/A	N/A	N/A

Signal Cable Type		Signal cable Description
А	LAN Cable	Shielded, 1.8m

# **1.4.** Configuration of Tested System



# **1.5. EUT Exercise Software**

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute "ART-2 v2.3" program on the Notebook PC.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Press "OK" to start the continuous Transmit.
- (5) Verify that the EUT works properly.

# **1.6.** Test Facility

#### Ambient conditions in the laboratory:

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 QuieTek Corporation's Web Site : <u>http://www.quietek.com/tw/ctg/cts/accreditations.htm</u> The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : <u>http://www.quietek.com/</u>

Site Description:	File on
	Federal Communications Commission
	FCC Engineering Laboratory
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	Columbia, MD 21046
	Registration Number: 92195
Site Name:	Quietek Corporation
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FCC Accreditation Number: TW1014

# 2. Conducted Emission

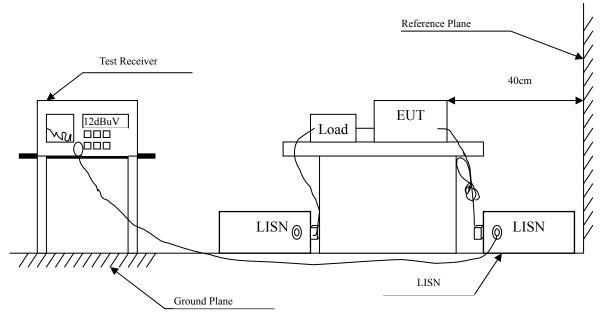
# 2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark				
Х	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2013					
Х	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2014	Peripherals				
Х	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2014	EUT				
	DC LISN	Schwarzbeck	8226 / 176	Mar., 2014	EUT				
Х	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2014					
	No.1 Shielded Room								

Note:

- 1. All equipments are calibrated every one year.
- 2. The test instruments marked by "X" are used to measure the final test results.

# 2.2. Test Setup



# 2.3. Limits

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

# 2.4. 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 C63.10: 2009 on conducted measurement.

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

# 2.5. Uncertainty

± 2.26 dB

# 2.6. Test Result of Conducted Emission

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Conducted Emission Test
Power Line	:	Line 1
Test Mode	:	Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band) (2437MHz)

Frequency	Correct	Reading Measurement		Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.170	9.743	34.220	43.964	-21.465	65.429
0.216	9.739	30.030	39.769	-24.345	64.114
0.334	9.745	27.380	37.125	-23.618	60.743
0.490	9.752	32.180	41.932	-14.354	56.286
0.779	9.765	28.600	38.365	-17.635	56.000
7.920	9.910	27.320	37.230	-22.770	60.000
Average					
0.170	9.743	18.800	28.544	-26.885	55.429
0.216	9.739	22.700	32.439	-21.675	54.114
0.334	9.745	24.340	34.085	-16.658	50.743
0.490	9.752	24.580	34.332	-11.954	46.286
0.779	9.765	20.320	30.085	-15.915	46.000
7.920	9.910	21.530	31.440	-18.560	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.

2. " " means the worst emission level.

3. Measurement Level = Reading Level + Correct Factor

Product Test Item	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>Conducted Emission Test</li> </ul>									
Power Line	: Line 2									
Test Mode										
Frequency	Correct	Reading	Measurement	Margin	Limit					
	Factor	Level	Level							
MHz	dB	dBuV	dBuV	dB	dBuV					
Line 2										
Quasi-Peak										
0.173	9.747	31.650	41.397	-23.946	65.343					
0.509	9.753	33.100	42.853	-13.147	56.000					
0.771	9.775	28.660	38.435	-17.565	56.000					
1.974	9.839	19.840	29.679	-26.321	56.000					
6.685	9.900	23.990	33.890	-26.110	60.000					
20.920	10.100	24.460	34.560	-25.440	60.000					
Average										
0.173	9.747	12.100	21.847	-33.496	55.343					
0.509	9.753	21.120	30.873	-15.127	46.000					
0.771	9.775	18.660	28.435	-17.565	46.000					
1.974	9.839	6.030	15.869	-30.131	46.000					
6.685	9.900	16.290	26.190	-23.810	50.000					
20.920	10.100	19.050	29.150	-20.850	50.000					

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

Product Test Item	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>Conducted Emission Test</li> </ul>								
Power Line	ine : Line 1								
Test Mode	: Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band) (5755MHz)								
Frequency	Correct	Reading	Measurement	Margin	Limit				
	Factor	Level	Level						
MHz	dB	dBuV	dBuV	dB	dBuV				
Line 1									
Quasi-Peak									
0.158	9.747	34.680	44.427	-21.344	65.771				
0.170	9.743	32.900	42.644	-22.785	65.429				
0.212	9.739	28.440	38.179	-26.050	64.229				
0.341	9.745	26.150	35.895	-24.648	60.543				
0.505	9.753	33.100	42.853	-13.147	56.000				
0.654	9.759	26.900	36.659	-19.341	56.000				
Average									
0.158	9.747	26.160	35.907	-19.864	55.771				
0.170	9.743	13.810	23.554	-31.875	55.429				
0.212	9.739	20.420	30.159	-24.070	54.229				
0.341	9.745	10.480	20.225	-30.318	50.543				
0.505	9.753	21.420	31.173	-14.827	46.000				
0.654	9.759	19.760	29.519	-16.481	46.000				

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

Power Line :Line 2 Test ModeMode 7: Transmit - 802.11n-40BW_30Mbps(5G Band) (5755MHz)FrequencyCorrectReading Reading LevelMarginLimit LimitMHzdBdBuVdBdBuVMHzdBdBuVdBdBuVLine 2 Quasi-PeakVSign (Sign
FactorLevelLevelMHzdBdBuVdBdBuVLine 2Quasi-Peak0.1669.74733.83043.577-21.96665.543
MHz         dB         dBuV         dBuV         dB         dBuV           Line 2         Quasi-Peak         -21.966         65.543
Line 2 Quasi-Peak 0.166 9.747 33.830 43.577 -21.966 65.543
Quasi-Peak0.1669.74733.83043.577-21.96665.543
0.166 9.747 33.830 43.577 -21.966 65.543
0.212 9.749 28.580 38.329 -25.900 64.229
0.373 9.747 28.450 38.197 -21.432 59.629
0.498 9.752 32.750 42.502 -13.555 56.057
7.912 9.920 27.580 37.500 -22.500 60.000
21.162 10.105 25.840 35.945 -24.055 60.000
Average
0.166 9.747 28.500 38.247 -17.296 55.543
0.212 9.749 24.300 34.049 -20.180 54.229
0.373 9.747 15.410 25.157 -24.472 49.629
0.498 9.752 28.740 38.492 -7.565 46.057
7.912 9.920 22.630 32.550 -17.450 50.000
21.162 10.105 20.160 30.265 -19.735 50.000

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

# 3. Maximum Conducted Power

#### **3.1.** Test Equipment

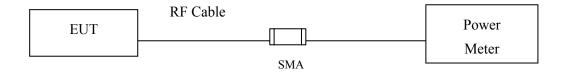
_	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Х	Power Meter	Anritsu	ML2495A/6K00003357	May, 2013
Х	Power Sensor	Anritsu	MA2411B/0738448	Jun., 2013
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2013
	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013
<b>NT</b> (				

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

2. The test instruments marked with "X" are used to measure the final test results.

# 3.2. Test Setup



# 3.3. Limits

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

# **3.4.** Test Procedure

The EUT was 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 9.1.3 PKPM1 Peak power meter method.

# 3.5. Uncertainty

± 1.27 dB

# 3.6. Test Result of Maximum Conducted Power

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Maximum Conducted Power
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

#### CHAIN A

Channel No		Average Power For different Data Rate (Mbps)				Peak Power	Required	Dogult
Channel No	(MHz)	1	2	5.5	11	1	Limit	Result
		Measurement Level (dBm)						
01	2412	17.20				19.54	<30dBm	Pass
06	2437	18.22	18.11	17.92	17.83	20.51	<30dBm	Pass
11	2462	14.49				16.82	<30dBm	Pass

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

#### CHAIN B

Channel No	Frequency	For d	Average ifferent Da		/lbps)	Peak Power	Required	Result
	(MHz)	1	2	5.5	11	1	Limit	Kesun
			Measur					
01	2412	16.51				18.84	<30dBm	Pass
06	2437	17.82	17.74	17.63	17.51	20.14	<30dBm	Pass
11	2462	13.48				15.81	<30dBm	Pass

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

Product	:	MOXA IEEE 802.11a/b/g/n Wireless	

- Test Item : Maximum Conducted Power
- Test Site No.3 OATS :

Mode 2: Transmit (802.11g 6Mbps) Test Mode :

#### CHAIN A

Frequency			F	or diffe	•	e Power ata Rate		5)		Peak Power	Dequired	
Channel No	(MHz)	6	9	12	18	24	36	48	54	6	Required Limit	Result
				N	Aeasure	ement L	evel (d	Bm)				
01	2412	16.53								24.47	<30dBm	Pass
06	2437	18.63	18.41	18.28	18.09	17.84	17.78	17.62	17.51	24.97	<30dBm	Pass
11	2462	14.18								23.09	<30dBm	Pass

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

# CHAIN B

	Fraguanay		F	or diffe	Peak Power	Required						
Channel No	Frequency (MHz)	6	9	12	18	24	36	48	54	6	Limit	Result
				N	Aeasure	ement L	evel (d	Bm)				
01	2412	16.31								24.37	<30dBm	Pass
06	2437	18.51	18.32	18.27	18.07	17.82	17.63	17.55	17.34	24.91	<30dBm	Pass
11	2462	13.48								22.76	<30dBm	Pass

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

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Maximum Conducted Power
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band)

# CHAIN A

			Average Power								
	Fraguanov		For different Data Rate (Mbps)								
Channel No	Frequency (MHz)	14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4	
01	2412	10.06	-	-	-			-		20.78	
06	2437	10.49	10.37	10.26	10.07	9.81	9.76	9.61	9.42	20.79	
11	2462	10.52								20.65	

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

# CHAIN B

			Average Power								
	Frequency		For different Data Rate (Mbps)								
Channel No	(MHz)	14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4	
01	2412	9.91				-	-			20.31	
06	2437	10.41	10.13	9.82	9.63	9.34	9.14	8.94	8.61	20.64	
11	2462	10.14								20.57	

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

#### CHAIN A+B

Channel	Frequency	Data Rata	Chain A Power	Chain B Power	Chain A+B Power	Limit	Result
	(MHz)	(Mbps)	(dBm)	(dBm)	(dBm)	(dBm)	
1	2412	14.4	20.78	20.31	23.56	<30dBm	Pass
6	2437	14.4	20.79	20.64	23.73	<30dBm	Pass
11	2462	14.4	20.65	20.57	23.62	<30dBm	Pass

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

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Maximum Conducted Power
Test Site	:	No.3 OATS
Test Mode	:	Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band)

#### CHAIN A

			Average Power								
	Frequency		For different Data Rate (Mbps)								
Channel No	(MHz)	30	60	90	120	180	240	270	300	30	
3	2422	10.54	-	-	-	-	-	-	-	22.73	
6	2437	10.49	10.21	10.09	9.81	9.61	9.48	9.33	9.24	22.34	
9	2452	10.27								22.25	

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

### CHAIN B

			Average Power								
	Frequency		For different Data Rate (Mbps)								
Channel No	(MHz)	30	60	90	120	180	240	270	300	30	
3	2422	10.42	-	-			-	-	-	22.67	
6	2437	10.39	10.01	9.87	9.42	9.24	8.92	8.71	8.51	22.81	
9	2452	10.20								22.41	

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

#### CHAIN A+B

Channel	Frequency	Data Rata	Chain A Power	Chain B Power	Chain A+B Power	Limit	Result
	(MHz)	(Mbps)	(dBm)	(dBm)	(dBm)	(dBm)	
3	2422	30	22.73	22.67	25.71	<30dBm	Pass
6	2437	30	22.34	22.81	25.59	<30dBm	Pass
9	2452	30	22.25	22.41	25.34	<30dBm	Pass

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

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item		Maximum Conducted Power

- Test Item : Maximum Conducted Power
- Test Site : No.3 OATS

Test Mode : Mode 3: Transmit - 802.11a 6Mbps

#### CHAIN A

	Frequency		F		•	e Power ata Rate		5)		Peak Power	Required	
Channel No	(MHz)	6	9	12	18	24	36	48	54	6	Limit	Result
			Measurement Level (dBm)									
149	5745	12.96								20.72	<30dBm	Pass
157	5785	12.51	12.35	12.29	12.21	12.17	12.11	12.07	11.92	20.42	<30dBm	Pass
165	5825	12.71								20.36	<30dBm	Pass

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

CHAIN B

	Fraguanay		F			e Power ata Rate		5)		Peak Power	Required	
Channel No	Frequency (MHz)	6	For different Data Rate (Mbps)         Power           9         12         18         24         36         48         54         6								Limit	Result
			Measurement Level (dBm)									
149	5745	12.46								21.41	<30dBm	Pass
157	5785	12.41	12.38	12.36	12.33	12.35	12.32	12.27	12.28	21.22	<30dBm	Pass
165	5825	12.61								21.07	<30dBm	Pass

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

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Maximum Conducted Power
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band)

### CHAIN A

				1	Average	e Power	r			Peak	
	Frequency		For different Data Rate (Mbps)								
Channel No	(MHz)	14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4	
			Measurement Level (dBm)								
149	5745	11.31								19.61	
157	5785	11.26	11.19	11.08	10.92	10.81	10.71	10.68	10.53	19.67	
165	5825	11.41								19.26	

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

#### CHAIN B

				1	Average	e Power	r			Peak	
	Eno ave an ave		For different Data Rate (Mbps)								
Channel No	Frequency (MHz)	14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4	
			Measurement Level (dBm)								
149	5745	10.72		-	-	-		-		19.91	
157	5785	11.21	11.14	11.08	10.86	10.71	10.53	10.38	10.21	20.04	
165	5825	11.21								20.23	

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

#### CHAIN A+B

Channel	Frequency	Data Rata	Chain A Power	Chain B Power	Chain A+B Power	Limit	Result
	(MHz)	(Mbps)	(dBm)	(dBm)	(dBm)	(dBm)	
149	5745	14.4	19.61	19.91	22.77	<30dBm	Pass
157	5785	14.4	19.67	20.04	22.87	<30dBm	Pass
165	5825	14.4	19.26	20.23	22.78	<30dBm	Pass

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

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Maximum Conducted Power
Test Site	:	No.3 OATS
Test Mode	:	Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band)

#### CHAIN A

				1	Average	e Power	r			Peak	
	Frequency		For different Data Rate (Mbps)								
Channel No	Frequency (MHz)	30	60	90	120	180	240	270	300	30	
			Measurement Level (dBm)								
151	5755	11.54								20.18	
159	5795	11.82	10.81	10.63	10.39	10.21	10.09	9.92	9.86	19.76	

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

#### CHAIN B

			Average Power								
		For different Data Rate (Mbps)									
Channel No	Frequency (MHz)	30	60	90	120	180	240	270	300	30	
			Measurement Level (dBm)								
151	5755	10.97								20.63	
159	5795	10.86	11.67	11.43	11.24	11.08	10.98	10.89	10.71	20.83	

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

#### CHAIN A+B

Channel	Frequency	Data Rata	Chain A Power	Chain B Power	Chain A+B Power	Limit	Result
	(MHz)	(Mbps)	(dBm)	(dBm)	(dBm)	(dBm)	
151	5755	30	20.18	20.63	23.42	<30dBm	Pass
159	5795	30	19.76	20.83	23.34	<30dBm	Pass

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

# 4. Radiated Emission

# 4.1. Test Equipment

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 3	Х	Loop Antenna	Teseq	HLA6120 / 26739	Jul., 2013
	Х	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2013
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2013
	Х	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2013
	Х	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2013
	Х	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2013
	Х	Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar., 2014
	Х	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2013
	Х	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2013
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2014
	Х	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	Х	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

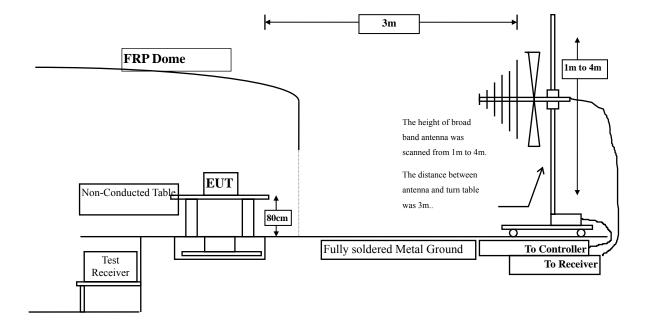
The following test equipment are used during the radiated emission test:

Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

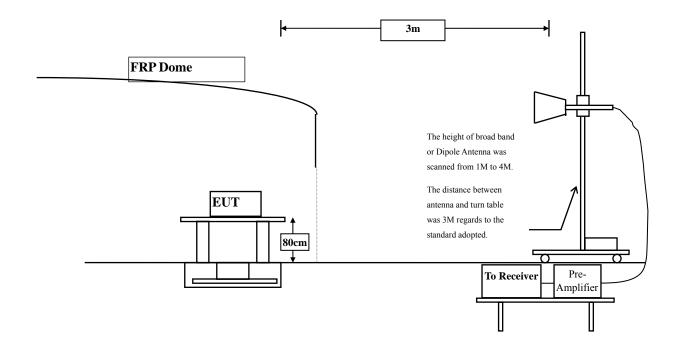
2. The test instruments marked with "X" are used to measure the final test results.

# 4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



# 4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 30dB 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	Measurement distance				
	(microvolts/meter)	(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)

# 4.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2009 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 0.8 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: 2009 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.

# 4.5. Uncertainty

- ± 3.9 dB above 1GHz
- ± 3.8 dB below 1GHz

# 4.6. Test Result of Radiated Emission

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	37.590	40.851	-33.149	74.000
7236.000	10.650	36.590	47.240	-26.760	74.000
9648.000	13.337	37.450	50.786	-23.214	74.000
Average					
<b>Detector:</b>					
Vertical					
Peak Detector:					
4824.000	6.421	42.090	48.511	-25.489	74.000
7236.000	11.495	37.010	48.505	-25.495	74.000
9648.000	13.807	36.590	50.396	-23.604	74.000
Average					
<b>Detector:</b>					

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	: MOXA IEEE 802.11a/b/g/n Wireless					
Test Item	: Harmonic Radiated Emission Data					
Test Site	: No.3 OATS					
Test Mode	: Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)					
_	_					
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
<b>Peak Detector:</b>						
4874.000	3.038	37.590	40.627	-33.373	74.000	
7311.000	11.795	37.150	48.944	-25.056	74.000	
9748.000	12.635	36.150	48.785	-25.215	74.000	
Average						
<b>Detector:</b>						
Vertical						
<b>Peak Detector:</b>						
4874.000	5.812	43.260	49.071	-24.929	74.000	
7311.000	12.630	37.150	49.779	-24.221	74.000	
9748.000	13.126	36.590	49.716	-24.284	74.000	
Average						
<b>Detector:</b>						

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)</li> </ul>					
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
4924.000	2.858	37.590	40.447	-33.553	74.000	
7386.000	12.127	36.150	48.278	-25.722	74.000	
9848.000	12.852	36.980	49.833	-24.167	74.000	
Average						
<b>Detector:</b>						
Vertical						
<b>Peak Detector:</b>						
4924.000	5.521	44.150	49.670	-24.330	74.000	
7386.000	13.254	37.180	50.434	-23.566	74.000	
9848.000	13.367	36.590	49.957	-24.043	74.000	
Average						
<b>Detector:</b>						

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 2: Transmit (802.11g 6Mbps) (2412MHz)</li> </ul>					
Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m	
	uD	uВuv	uDu v/III	цЬ		
Horizontal						
Peak Detector:	0.0(1	20.500	44.051	22.1.40	- 1 000	
4824.000	3.261	38.590	41.851	-32.149	74.000	
7236.000	10.650	37.140	47.790	-26.210	74.000	
9648.000	13.337	36.590	49.926	-24.074	74.000	
Average						
<b>Detector:</b>						
Vertical						
Peak Detector:						
4824.000	6.421	44.150	50.571	-23.429	74.000	
7236.000	11.495	36.590	48.085	-25.915	74.000	
9648.000	13.807	37.150	50.956	-23.044	74.000	
Average						
<b>Detector:</b>						

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	: MOXA IEEE 802.11a/b/g/n Wireless					
Test Item	: Harmonic Radiated Emission Data					
Test Site	: No.3 OATS					
Test Mode	: Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)					
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
4874.000	3.038	37.590	40.627	-33.373	74.000	
7311.000	11.795	36.540	48.334	-25.666	74.000	
9748.000	12.635	36.580	49.215	-24.785	74.000	
Average						
<b>Detector:</b>						
Vertical						
<b>Peak Detector:</b>						
4874.000	5.812	43.570	49.381	-24.619	74.000	
7311.000	12.630	36.980	49.609	-24.391	74.000	
9748.000	13.126	37.540	50.666	-23.334	74.000	
Average						
<b>Detector:</b>						

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Frequency         Correct Factor         Reading Level         Measurement Level           MHz         dB         dBuV         dBuV/m           Horizontal         Kashing         Kashing         Kashing           Peak Detector:         2.858         38.150         41.007           7386.000         12.127         36.580         48.708           9848.000         12.852         36.980         49.833           Average         Kashing         Kashing         Kashing	Margin dB -32.993	Limit dBuV/m 74.000
MHzdBdBuVdBuV/mHorizontalPeak Detector:4924.0002.85838.15041.0077386.00012.12736.58048.7089848.00012.85236.98049.833Average	-32.993	
Horizontal Peak Detector:4924.0002.85838.15041.0077386.00012.12736.58048.7089848.00012.85236.98049.833Average40.833	-32.993	
Peak Detector:4924.0002.85838.15041.0077386.00012.12736.58048.7089848.00012.85236.98049.833Average		74 000
4924.0002.85838.15041.0077386.00012.12736.58048.7089848.00012.85236.98049.833Average		74 000
7386.00012.12736.58048.7089848.00012.85236.98049.833Average		74 000
9848.000 12.852 36.980 49.833 Average	25 202	/ 1.000
Average	-25.292	74.000
	-24.167	74.000
Detector:		
Vertical		
Peak Detector:		
4924.000 5.521 44.590 50.110	-23.890	74.000
7386.000 13.254 36.570 49.824	-24.176	74.000
9848.000 13.367 37.140 50.507	-23.493	74.000
Average		
Detector:		

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 3: Transmit - 802.11a 6Mbps (5745 MHz)</li> </ul>				
Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector: 11490.000	17.106	35.190	52.297	-21.703	74.000
Average Detector:  Vertical Peak Detector:	18.024	25 220	52 265	20 625	74.000
11490.000	18.034	35.330	53.365	-20.635	74.000

#### Average

**Detector:** 

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 3: Transmit - 802.11a 6Mbps (5785 MHz)</li> </ul>					
Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit	
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal Peak Detector: 11570.000	16.809	36.260	53.069	-20.931	74.000	
Average Detector:  Vertical Peak Detector:	17 (09	26.060	52 759	20.242	74.000	
11570.000	17.698	36.060	53.758	-20.242	74.000	

#### Average

**Detector:** 

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	: MOXA IEEE 802.11a/b/g/n Wireless						
Test Item	: Harmon	: Harmonic Radiated Emission Data					
Test Site	: No.3 OATS						
Test Mode	: Mode 3: Transmit - 802.11a 6Mbps (5825 MHz)						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
11650.000	16.158	35.260	51.418	-22.582	74.000		
Average							
Detector:							
Vertical							
Peak Detector:							
11650.000	17.274	35.540	52.815	-21.185	74.000		

#### Average

**Detector:** 

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band) (2412MHz)</li> </ul>					
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
4824.000	3.261	37.150	40.411	-33.589	74.000	
7236.000	10.650	36.480	47.130	-26.870	74.000	
9648.000	13.337	37.150	50.486	-23.514	74.000	
Average						
<b>Detector:</b>						
Vertical						
Peak Detector:						
4824.000	6.421	38.150	44.571	-29.429	74.000	
7236.000	11.495	36.590	48.085	-25.915	74.000	
9648.000	13.807	37.010	50.816	-23.184	74.000	
Average						
<b>Detector:</b>						

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>Harmonic Radiated Emission Data</li> </ul>						
Test Site	: No.3 OATS						
Test Mode	: Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band) (2437 MHz)						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
<b>Peak Detector:</b>							
4874.000	3.038	37.150	40.187	-33.813	74.000		
7311.000	11.795	36.590	48.384	-25.616	74.000		
9748.000	12.635	36.590	49.225	-24.775	74.000		
Average							
<b>Detector:</b>							
Vertical							
<b>Peak Detector:</b>							
4874.000	5.812	38.150	43.961	-30.039	74.000		
7311.000	12.630	36.590	49.219	-24.781	74.000		
9748.000	13.126	36.980	50.106	-23.894	74.000		
Average							
<b>Detector:</b>							

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band) (2462 MHz)</li> </ul>						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4924.000	2.858	37.590	40.447	-33.553	74.000		
7386.000	12.127	36.570	48.698	-25.302	74.000		
9848.000	12.852	36.840	49.693	-24.307	74.000		
Average							
<b>Detector:</b>							
Vertical							
Peak Detector:							
4924.000	5.521	38.150	43.670	-30.330	74.000		
7386.000	13.254	36.580	49.834	-24.166	74.000		
9848.000	13.367	36.590	49.957	-24.043	74.000		
Average Detector:							

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band) (2422MHz)</li> </ul>					
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
4844.000	3.171	37.590	40.761	-33.239	74.000	
7266.000	11.162	36.580	47.742	-26.258	74.000	
9688.000	12.964	36.590	49.555	-24.445	74.000	
Average						
<b>Detector:</b>						
Vertical						
Peak Detector:						
4844.000	6.178	38.580	44.758	-29.242	74.000	
7266.000	11.982	36.470	48.452	-25.548	74.000	
9688.000	13.507	36.570	50.078	-23.922	74.000	
Average						
<b>Detector:</b>						

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	: No.3 OATS						
Frequency							
requency	Correct Factor	Reading Level	Measurement Level	Margin	Limit		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4874.000	3.038	37.440	40.477	-33.523	74.000		
7311.000	11.795	36.520	48.314	-25.686	74.000		
9748.000	12.635	36.980	49.615	-24.385	74.000		
Average							
<b>Detector:</b>							
Vertical							
Peak Detector:							
4874.000	5.812	38.690	44.501	-29.499	74.000		
7311.000	12.630	36.850	49.479	-24.521	74.000		
9748.000	13.126	36.980	50.106	-23.894	74.000		
Average							
<b>Detector:</b>							

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band) (2452 MHz)</li> </ul>						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4904.000	2.914	38.150	41.065	-32.935	74.000		
7356.000	11.995	36.580	48.574	-25.426	74.000		
9808.000	12.475	36.540	49.015	-24.985	74.000		
Average							
<b>Detector:</b>							
Vertical							
Peak Detector:							
4904.000	5.530	37.850	43.381	-30.619	74.000		
7356.000	13.005	36.580	49.584	-24.416	74.000		
9808.000	12.901	37.050	49.951	-24.049	74.000		
Average							
<b>Detector:</b>							

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	: Harmon : No.3 OA			(5G Band) (5745)	MHz)
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11490.000	17.106	36.512	53.619	-20.381	74.000
Average					
<b>Detector:</b>					
Vertical					
Peak Detector:					
11490.000	18.034	35.480	53.515	-20.485	74.000

#### **Detector:**

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band) (5785 MHz)</li> </ul>						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level	ID			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal Peak Detector: 11570.000	16.809	36.590	53.399	-20.601	74.000		
Average Detector:  Vertical Peak Detector: 11570.000	17.698	35.590	53.288	-20.712	74.000		

**Detector:** 

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site		IEEE 802.11a/b/g ic Radiated Emiss ATS			
Test Mode	: Mode 6:	Transmit - 802.1	1n-20BW_14.4Mbps	(5G Band) (5825	MHz)
Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector: 11650.000	16.158	36.590	52.748	-21.252	74.000
Average Detector:  Vertical Peak Detector: 11650.000	17.274	36.150	53.425	-20.575	74.000

**Detector:** 

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	: Harmon : No.3 OA			G Band) (5755M	Hz)
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
<b>Peak Detector:</b>					
11510.000	17.124	35.150	52.274	-21.726	74.000
Average					
<b>Detector:</b>					
Vertical					
<b>Peak Detector:</b>					
11510.000	18.081	35.590	53.671	-20.329	74.000

### **Detector:**

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band) (5795 MHz)</li> </ul>					
Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit	
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal Peak Detector: 11590.000	16.701	35.150	51.850	-22.150	74.000	
Average Detector: 						
Vertical Peak Detector: 11590.000	17.567	36.290	53.856	-20.144	74.000	
	- /	20.200			,	

# **Detector:**

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>General Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)</li> </ul>						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level	-			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
94.020	-8.189	43.191	35.001	-8.499	43.500		
330.700	-4.492	42.056	37.564	-8.436	46.000		
468.440	1.195	34.784	35.979	-10.021	46.000		
606.180	4.666	30.836	35.502	-10.498	46.000		
728.400	3.452	32.159	35.611	-10.389	46.000		
920.460	6.467	29.637	36.104	-9.896	46.000		
Vertical							
82.380	-5.215	40.563	35.348	-4.652	40.000		
202.660	-7.739	46.555	38.816	-4.684	43.500		
338.460	-4.265	41.347	37.082	-8.918	46.000		
507.240	-0.471	38.506	38.035	-7.965	46.000		
703.180	0.139	33.146	33.284	-12.716	46.000		
965.080	7.932	27.965	35.897	-18.103	54.000		

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>General Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)</li> </ul>						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level	-			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
142.520	-10.427	48.202	37.775	-5.725	43.500		
330.700	-4.492	42.056	37.564	-8.436	46.000		
468.440	1.195	34.784	35.979	-10.021	46.000		
606.180	4.666	30.836	35.502	-10.498	46.000		
728.400	3.452	32.159	35.611	-10.389	46.000		
920.460	6.467	29.637	36.104	-9.896	46.000		
Vertical							
132.820	-4.440	40.375	35.935	-7.565	43.500		
330.700	-4.912	42.056	37.144	-8.856	46.000		
507.240	-0.471	38.506	38.035	-7.965	46.000		
703.180	0.139	33.146	33.284	-12.716	46.000		
815.700	3.221	28.812	32.033	-13.967	46.000		
943.740	6.592	28.263	34.856	-11.144	46.000		

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>General Radiated Emission Data</li> </ul>				
Test Site Test Mode	: No.3 OA		1. (Mbps (5785) (11-	\ \	
Test Mode	: Mode 3:	. 11ansinit - 802.1	la 6Mbps (5785MHz	)	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
117.300	-9.196	47.333	38.137	-5.363	43.500
282.200	-5.211	43.485	38.274	-7.726	46.000
449.040	-2.238	39.290	37.052	-8.948	46.000
650.800	2.175	31.921	34.096	-11.904	46.000
811.820	5.081	32.485	37.565	-8.435	46.000
955.380	6.247	28.702	34.949	-11.051	46.000
Vertical					
107.600	-0.318	39.374	39.056	-4.444	43.500
227.880	-8.519	47.062	38.544	-7.456	46.000
406.360	-6.660	39.695	33.035	-12.965	46.000
540.220	0.121	29.639	29.760	-16.240	46.000
668.260	-1.694	40.358	38.664	-7.336	46.000
901.060	3.331	32.854	36.185	-9.815	46.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	: General R : No.3 OAT			2.4G Band) (2437 N	ИНz)
Frequency	Correct	Reading	Measuremen	t Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
175.500	-10.017	49.342	39.324	-4.176	43.500
338.460	-3.925	41.347	37.422	-8.578	46.000
507.240	0.759	38.506	39.265	-6.735	46.000
606.180	4.666	30.836	35.502	-10.498	46.000
728.400	3.452	32.159	35.611	-10.389	46.000
901.060	5.591	32.854	38.445	-7.555	46.000
Vertical					
105.660	-0.253	39.151	38.898	-4.602	43.500
202.660	-7.739	46.555	38.816	-4.684	43.500
406.360	-6.660	39.695	33.035	-12.965	46.000
507.240	-0.471	38.506	38.035	-7.965	46.000
749.740	2.510	39.396	41.906	-4.094	46.000
965.080	7.932	27.965	35.897	-18.103	54.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>General Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band) (2437 MHz)</li> </ul>				
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
117.300	-9.196	47.333	38.137	-5.363	43.500
272.500	-5.359	42.144	36.785	-9.215	46.000
330.700	-4.492	42.056	37.564	-8.436	46.000
507.240	0.759	38.506	39.265	-6.735	46.000
728.400	3.452	32.159	35.611	-10.389	46.000
901.060	5.591	32.854	38.445	-7.555	46.000
Vertical					
107.600	-0.318	39.374	39.056	-4.444	43.500
202.660	-7.739	46.555	38.816	-4.684	43.500
338.460	-4.265	41.347	37.082	-8.918	46.000
507.240	-0.471	38.506	38.035	-7.965	46.000
728.400	-0.188	32.159	31.971	-14.029	46.000
965.080	7.932	27.965	35.897	-18.103	54.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>General Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band) (5785 MHz)</li> </ul>				MHz)
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
117.300	-9.196	47.333	38.137	-5.363	43.500
268.620	-4.942	44.057	39.115	-6.885	46.000
449.040	-2.238	39.290	37.052	-8.948	46.000
666.320	2.031	38.300	40.332	-5.668	46.000
811.820	5.081	32.485	37.565	-8.435	46.000
943.740	6.492	28.263	34.756	-11.244	46.000
Vertical					
107.600	-0.318	39.374	39.056	-4.444	43.500
227.880	-8.519	47.062	38.544	-7.456	46.000
338.460	-4.265	41.347	37.082	-8.918	46.000
507.240	-0.471	38.506	38.035	-7.965	46.000
681.840	1.484	37.538	39.022	-6.978	46.000
901.060	3.331	32.854	36.185	-9.815	46.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	<ul> <li>MOXA IEEE 802.11a/b/g/n Wireless</li> <li>General Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band) (5755MHz)</li> </ul>				
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
117.300	-9.196	47.333	38.137	-5.363	43.500
233.700	-8.619	46.008	37.389	-8.611	46.000
330.700	-4.492	42.056	37.564	-8.436	46.000
507.240	0.759	38.506	39.265	-6.735	46.000
728.400	3.452	32.159	35.611	-10.389	46.000
920.460	6.467	29.637	36.104	-9.896	46.000
Vertical					
111.480	-0.954	37.955	37.001	-6.499	43.500
256.980	-7.573	46.941	39.368	-6.632	46.000
338.460	-4.265	41.347	37.082	-8.918	46.000
449.040	-7.498	39.290	31.792	-14.208	46.000
681.840	1.484	37.538	39.022	-6.978	46.000
901.060	3.331	32.854	36.185	-9.815	46.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

# 5. **RF** Antenna conducted test

## 5.1. Test Equipment

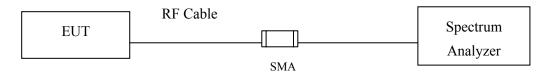
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Х	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2013
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

2. The test instruments marked with "X" are used to measure the final test results.

# 5.2. Test Setup

### **RF** antenna Conducted Measurement:



# 5.3. 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 30 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)).

# 5.4. 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.

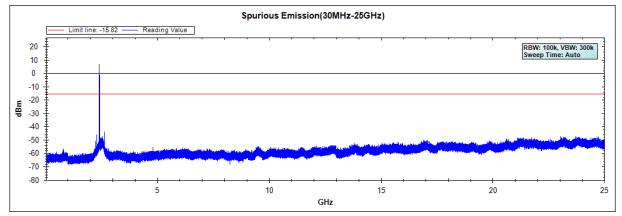
# 5.5. Uncertainty

The measurement uncertainty Conducted is defined as  $\pm 1.27$ dB

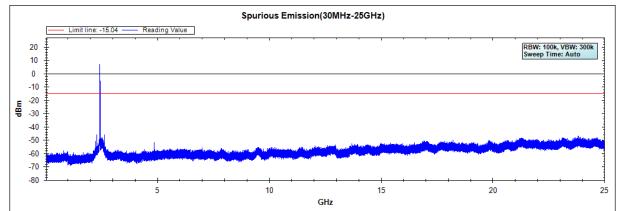
## 5.6. Test Result of RF antenna conducted test

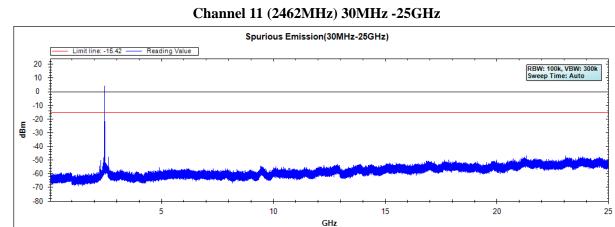
Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	RF antenna conducted test
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

#### Channel 01 (2412MHz) 30MHz-25GHz



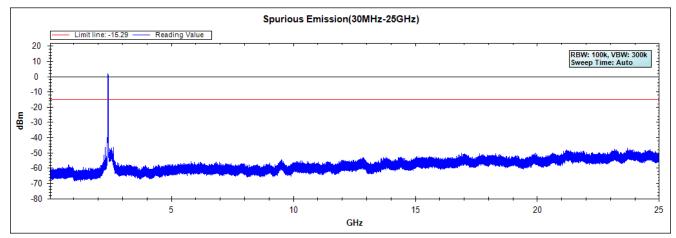
#### Channel 06 (2437MHz) 30MHz -25GHz



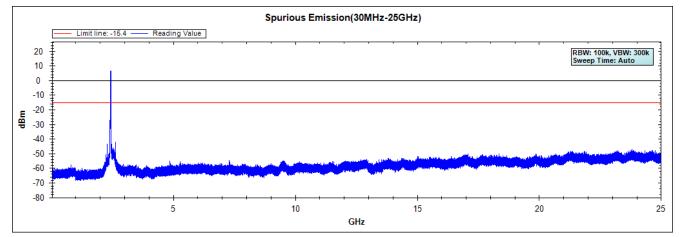


Product	:	MOXA IEEE 802.11a/b/g/n W1reless
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

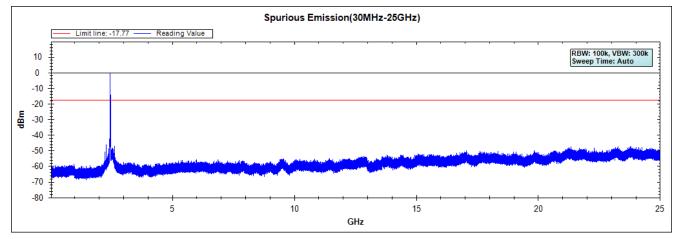
# Channel 01 (2412MHz) 30MHz -25GHz



### Channel 06 (2437MHz) 30MHz -25GHz



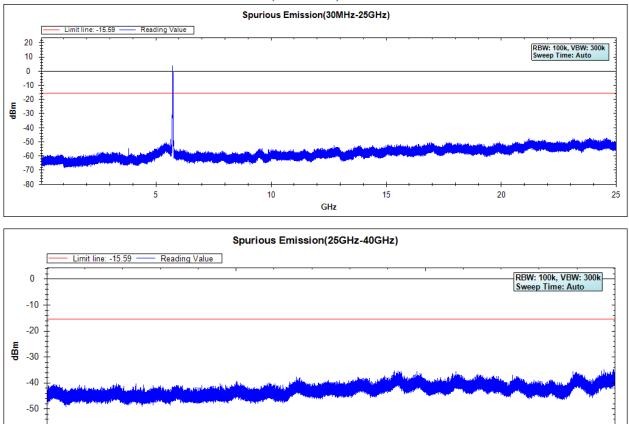
#### Channel 11 (2462MHz) 30MHz -25GHz



-60 -

25

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit - 802.11a 6Mbps



GHz

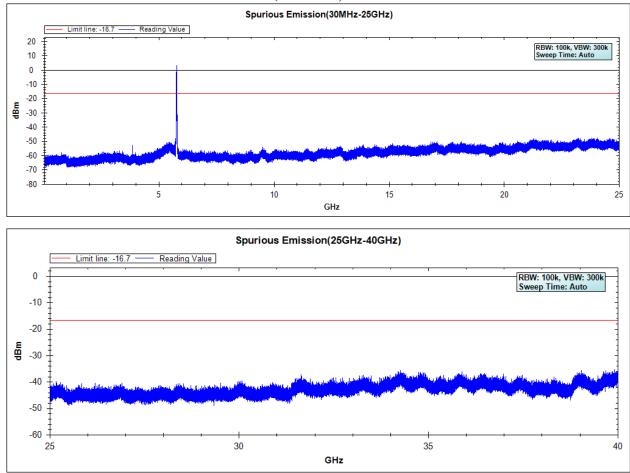
35

40

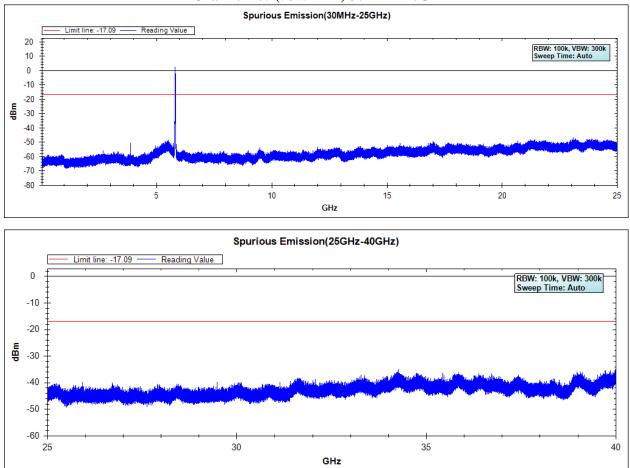
### Channel 149 (5745MHz) 30MHz -40GHz

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

30



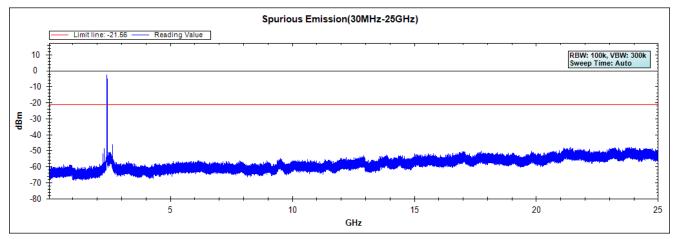
#### Channel 157 (5785MHz) 30MHz -40GHz



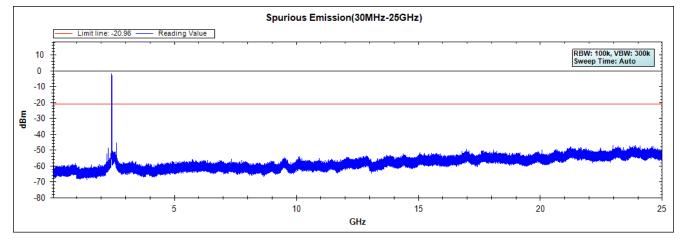
#### Channel 165 (5825MHz) 30MHz -40GHz

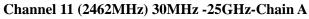
Product:MOXA IEEE 802.11a/b/g/n WirelessTest Item:RF Antenna Conducted SpuriousTest Site:No.3 OATSTest Mode:Mode 4: Transmit - 802.11n-20BW\_14.4Mbps(2.4G Band)

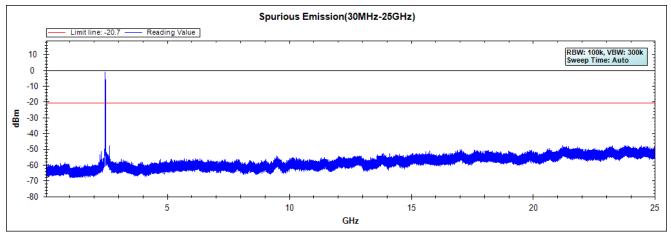
## Channel 01 (2412MHz) 30MHz -25GHz-Chain A



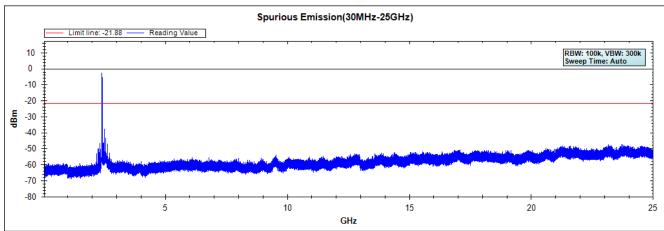
### Channel 06 (2437MHz) 30MHz -25GHz-Chain A

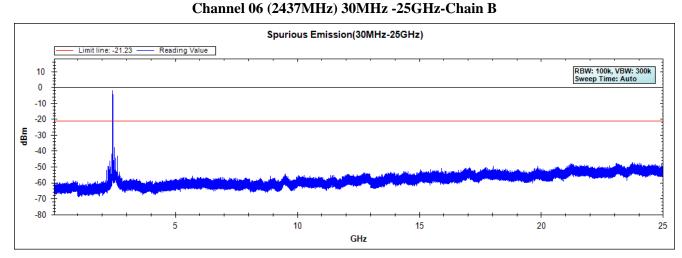




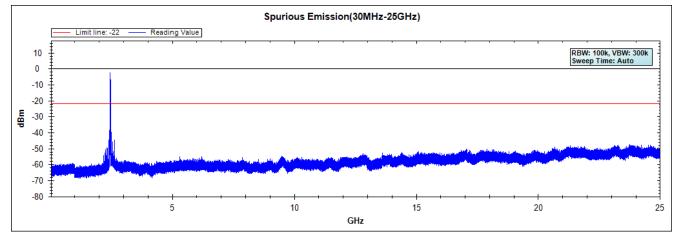


# Channel 01 (2412MHz) 30MHz -25GHz-Chain B



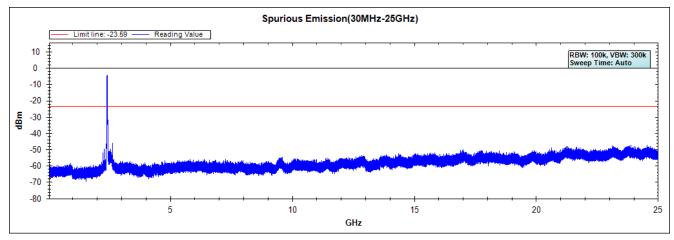


## Channel 11 (2462MHz) 30MHz -25GHz-Chain B

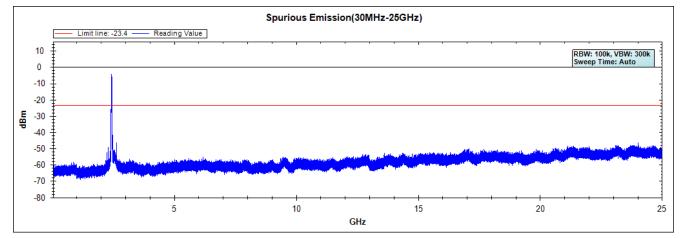


Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Mode	:	Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band)

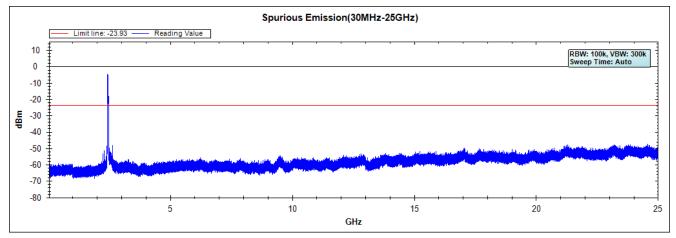
# Channel 01 (2422MHz) 30MHz -25GHz-Chain A



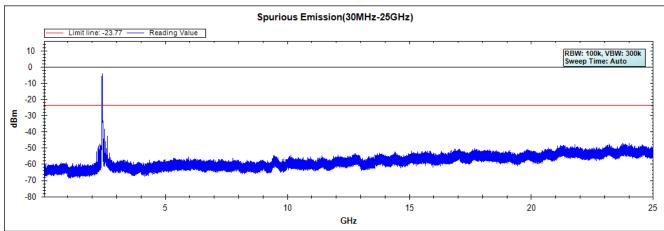
## Channel 04 (2437MHz) 30MHz -25GHz-Chain A

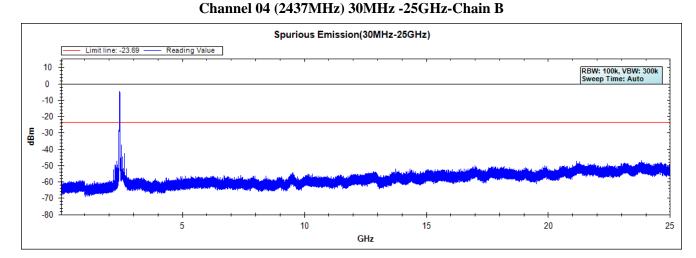


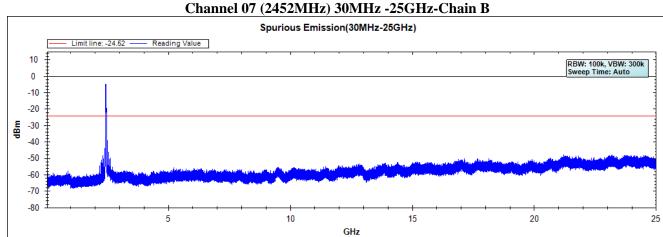
#### Channel 07 (2452MHz) 30MHz -25GHz-Chain A



# Channel 01 (2422MHz) 30MHz -25GHz-Chain B

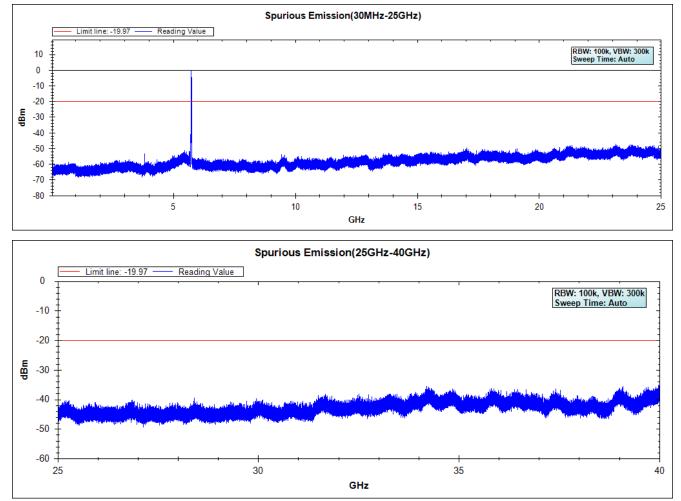


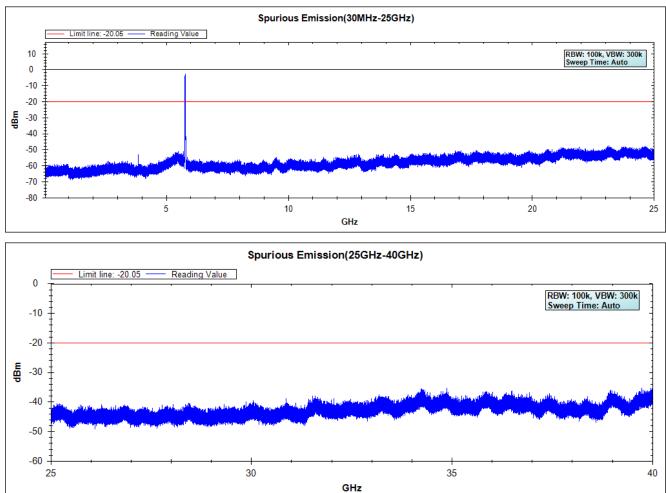




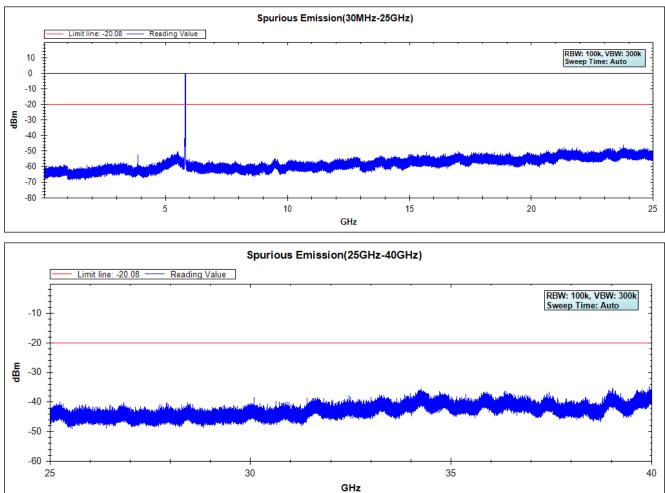
Product:MOXA IEEE 802.11a/b/g/n WirelessTest Item:RF Antenna Conducted SpuriousTest Site:No.3 OATSTest Mode:Mode 6: Transmit - 802.11n-20BW\_14.4Mbps(5G Band)

### Channel 49 (5745MHz) 30MHz -40GHz-Chain A



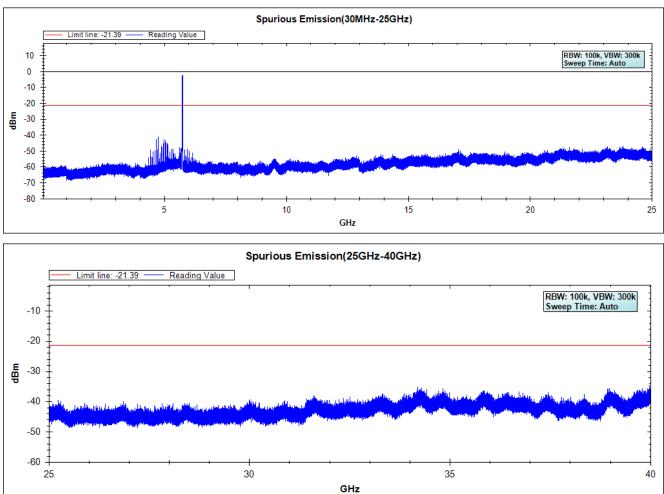


### Channel 157 (5785MHz) 30MHz -40GHz-Chain A



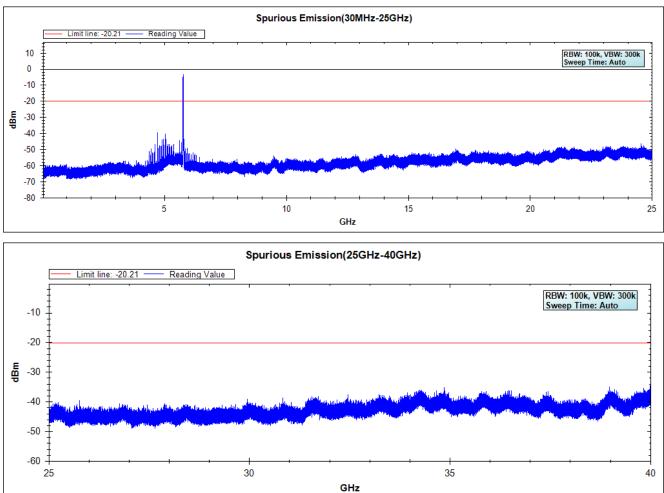
## Channel 165 (5825MHz) 30MHz -40GHz-Chain A

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

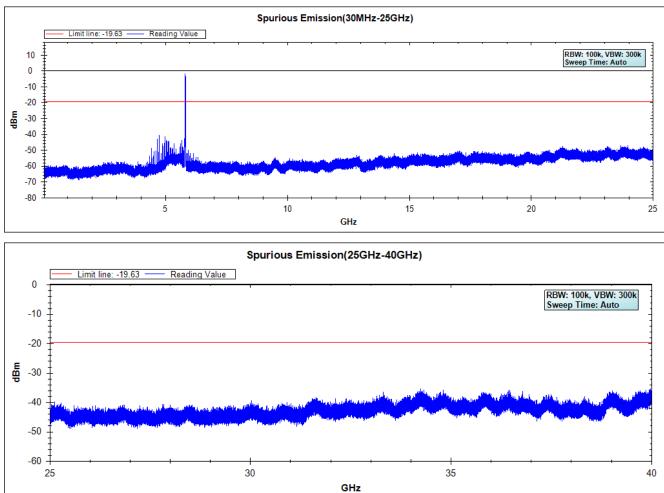


### Channel 149 (5745MHz) 30MHz -40GHz-Chain B

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



## Channel 157 (5785MHz) 30MHz -40GHz-Chain B

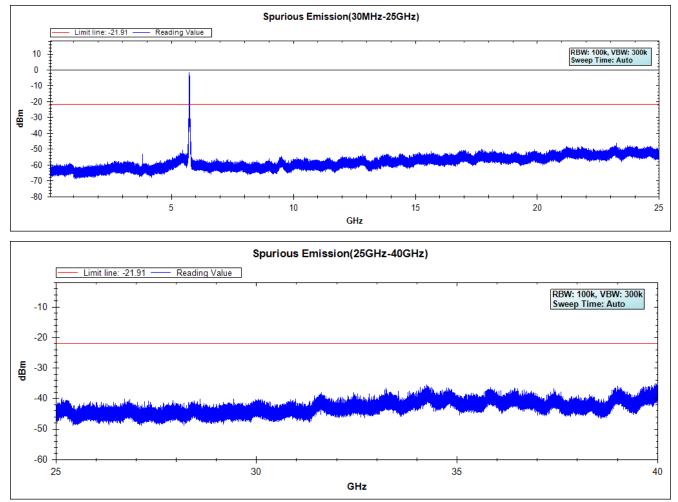


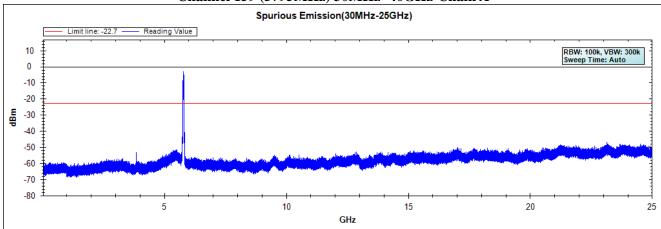
## Channel 165 (5825MHz) 30MHz -40GHz-Chain B

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

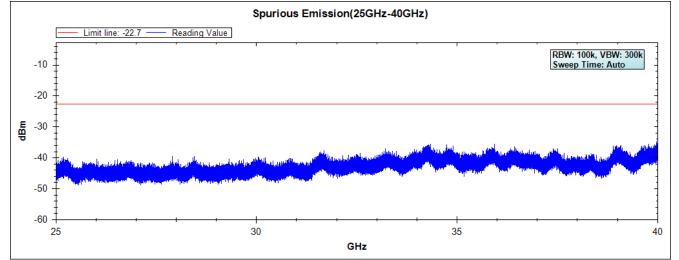
Product:MOXA IEEE 802.11a/b/g/n WirelessTest Item:RF Antenna Conducted SpuriousTest Site:No.3 OATSTest Mode:Mode 7: Transmit - 802.11n-40BW\_30Mbps(5G Band)

### Channel 151 (5755MHz) 30MHz -40GHz-Chain A

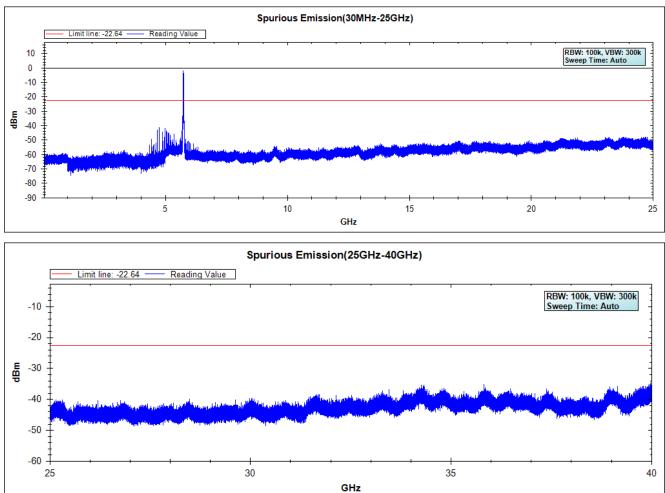




#### Channel 159 (5795MHz) 30MHz -40GHz-Chain A

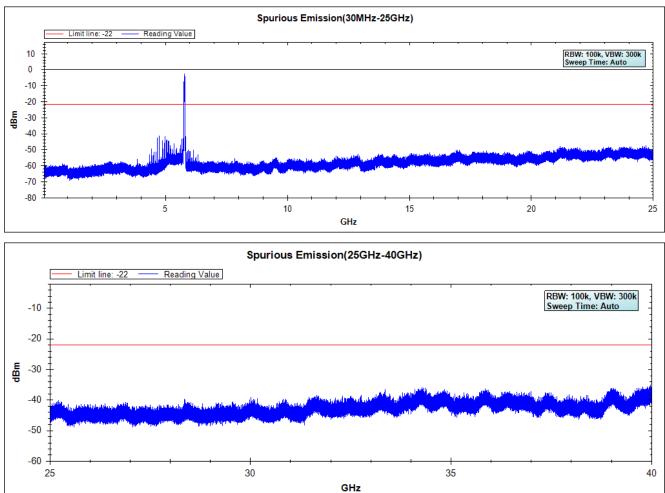


Note: The above test pattern is synthesized by multiple of the frequency range.



### Channel 151 (5755MHz) 30MHz -40GHz-Chain B

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



### Channel 159 (5795MHz) 30MHz -40GHz-Chain B

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

# 6. Band Edge

### 6.1. Test Equipment

#### **RF Radiated Measurement:**

The following test equipments are used during the band edge tests:

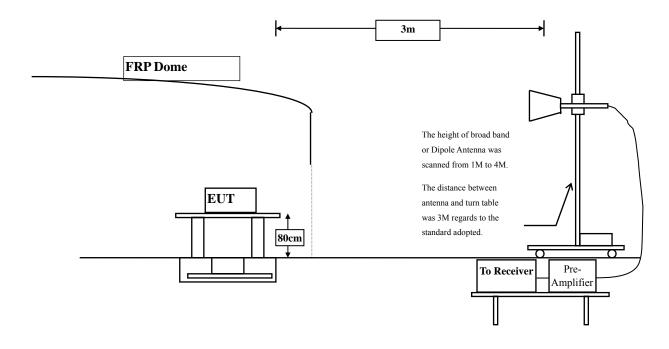
Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2013
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2013
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2013
		Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2013
	Х	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2013
		Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar., 2014
	Х	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2013
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2013
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2014
	Х	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	Х	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note: 1. All instruments are calibrated every one year.

2. The test instruments marked by "X" are used to measure the final test results.

# 6.2. Test Setup

### **RF Radiated Measurement:**



### 6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 30dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

# 6.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009 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 0.8 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 C63.10:2009 on radiated measurement.

### 6.5. Uncertainty

- ± 3.9 dB above 1GHz
- ± 3.8 dB below 1GHz

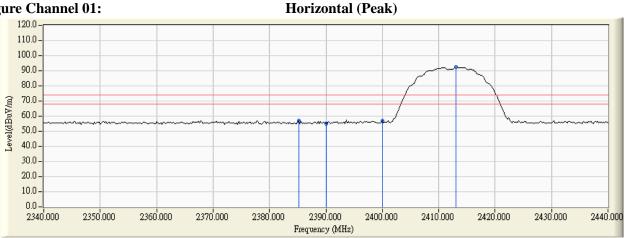
#### 6.6. **Test Result of Band Edge**

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

#### **RF** Radiated Measurement (Horizontal):

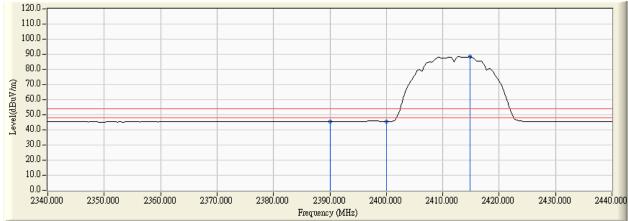
Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2385.200	31.490	25.659	57.149	74.00	54.00	Pass
01 (Peak)	2390.000	31.509	23.360	54.869	74.00	54.00	Pass
01 (Peak)	2400.000	31.561	25.555	57.116			
01 (Peak)	2413.000	31.646	60.668	92.314			
01 (Average)	2390.000	31.509	13.852	45.361	74.00	54.00	Pass
01 (Average)	2400.000	31.561	14.003	45.564			
01 (Average)	2414.800	31.660	56.800	88.460			







Horizontal (Average)



All readings above 1GHz are performed with peak and/or average measurements as necessary. Note:1.

- Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto. 2.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- "\*", means this data is the worst emission level. 4.
- 5. Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit of average 6. detection.

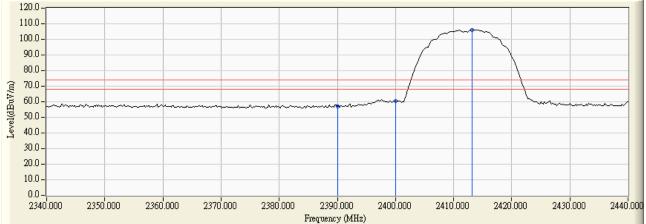
Product	:	MOXA IEEE 802.11a/b/g/n W1reless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

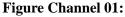
### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2390.000	30.915	26.221	57.136	74.00	54.00	Pass
01 (Peak)	2400.000	30.912	29.810	60.722			
01 (Peak)	2413.200	30.957	75.234	106.191			
01 (Average)	2390.000	30.915	15.324	46.239	74.00	54.00	Pass
01 (Average)	2400.000	30.912	17.986	48.898			
01 (Average)	2412.800	30.955	71.329	102.284			

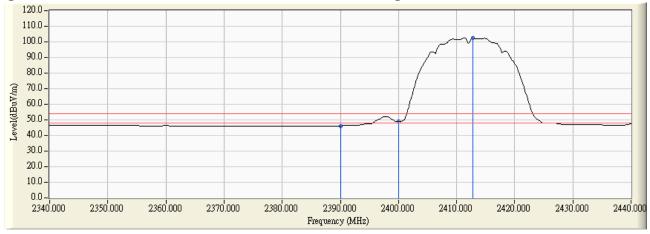
### Figure Channel 01:

### Vertical (Peak)





### Vertical (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	MOXA IEEE 802.11a/b/g/n W1reless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

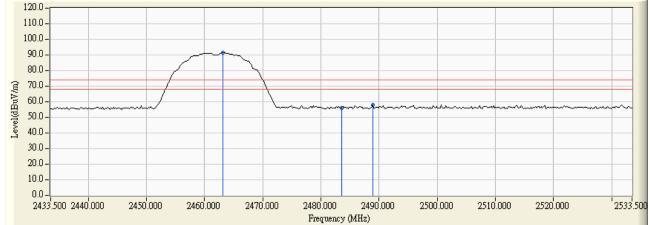
#### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2463.100	32.028	59.313	91.341			
11 (Peak)	2483.500	32.182	23.629	55.811	74.00	54.00	Pass
11 (Peak)	2488.900	32.223	25.620	57.843	74.00	54.00	Pass
11 (Average)	2461.100	32.013	55.590	87.603			
11 (Average)	2483.500	32.182	13.818	46.000	74.00	54.00	Pass

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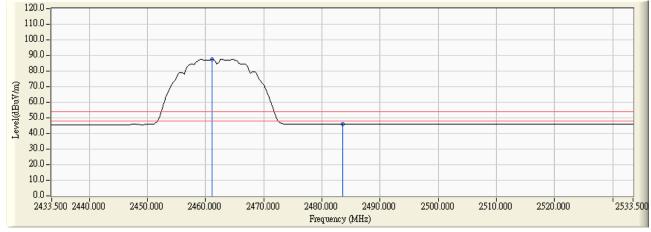
#### **Figure Channel 11:**

#### Horizontal (Peak)



#### **Figure Channel 11:**

### Horizontal (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	MOXA IEEE 802.11a/b/g/n W1reless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

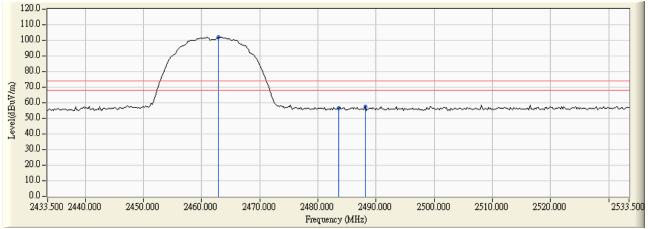
### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2462.900	31.296	70.556	101.852			
11 (Peak)	2483.500	31.435	25.202	56.637	74.00	54.00	Pass
11 (Peak)	2488.100	31.466	25.820	57.286	74.00	54.00	Pass
11 (Average)	2461.300	31.286	66.888	98.174			
11 (Average)	2483.500	31.435	14.442	45.877	74.00	54.00	Pass

#### Figure Channel 11:

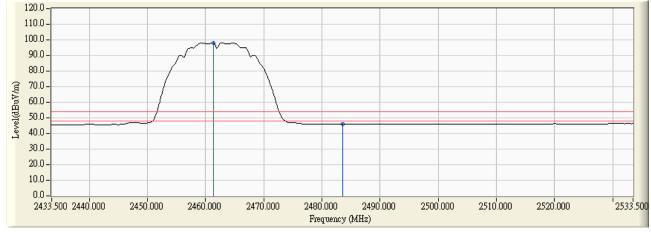
#### Vertical (Peak)

TT 7° 1



#### **Figure Channel 11:**

### Vertical (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	MOXA IEEE 802.11a/b/g/n W1reless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

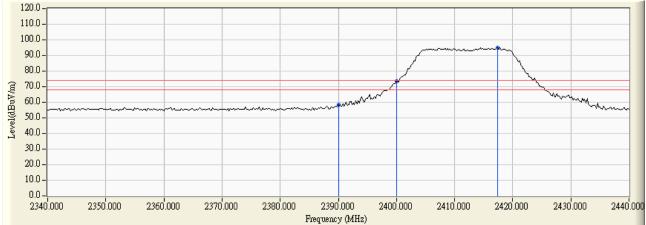
### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel NO.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2390.000	31.509	26.932	58.441	74.00	54.00	Pass
01 (Peak)	2400.000	31.561	41.753	73.314			
01 (Peak)	2417.400	31.679	63.446	95.126			
01(Average)	2390.000	31.509	14.176	45.685	74.00	54.00	Pass
01(Average)	2400.000	31.561	17.766	49.327			
01(Average)	2406.400	31.602	52.970	84.571			

TT 7° 1

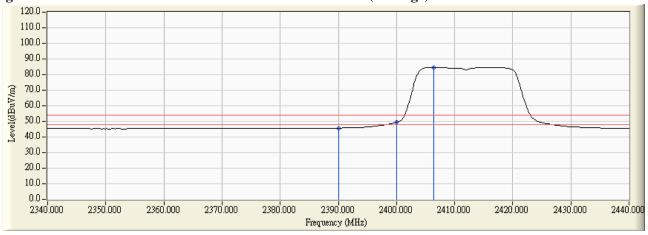
### Figure Channel 01:

#### Horizontal (Peak)





### Horizontal (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	MOXA IEEE 802.11a/b/g/n W1reless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

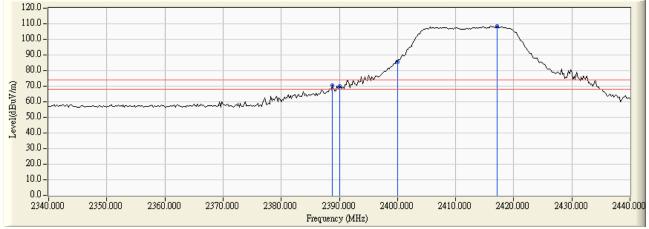
### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2388.800	30.921	39.643	70.564	74.00	54.00	Pass
01 (Peak)	2390.000	30.915	38.853	69.768	74.00	54.00	Pass
01 (Peak)	2400.000	30.912	54.835	85.747			
01 (Peak)	2417.200	30.984	77.454	108.439			
01 (Average)	2390.000	30.915	17.822	48.737	74.00	54.00	Pass
01 (Average)	2400.000	30.912	26.233	57.145			
01 (Average)	2417.000	30.983	67.265	98.248			

---

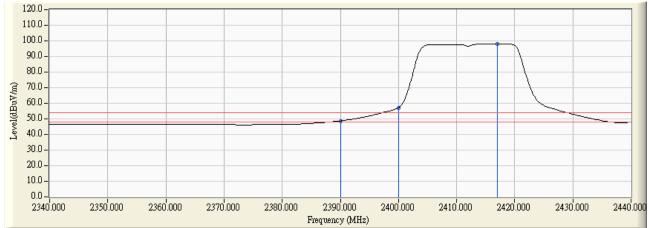
#### Figure Channel 01:

#### Vertical (Peak)



#### **Figure Channel 01:**

Vertical (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

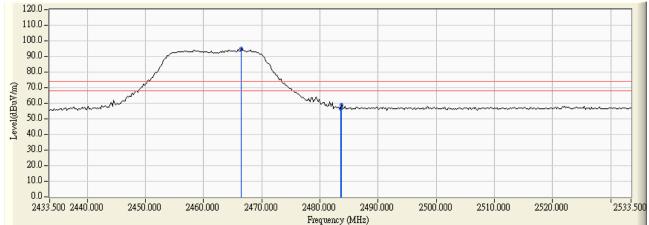
Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2466.500	32.053	62.760	94.813			
11 (Peak)	2483.500	32.182	24.387	56.569	74.00	54.00	Pass
11 (Peak)	2483.700	32.183	26.678	58.862	74.00	54.00	Pass
11 (Average)	2467.300	32.059	51.669	83.728			
11 (Average)	2483.500	32.182	14.017	46.199	74.00	54.00	Pass

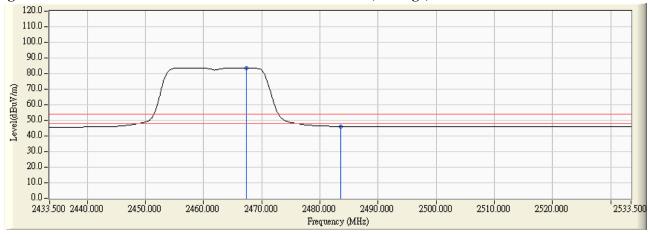
### Figure Channel 11:

#### Horizontal (Peak)





### Horizontal (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

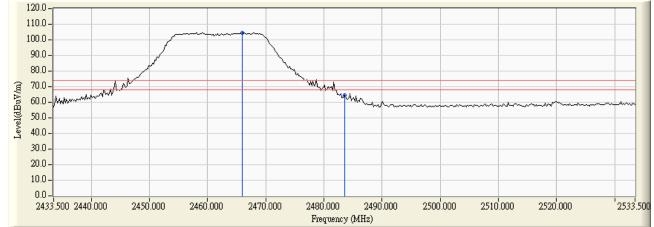
Product	:	MOXA IEEE 802.11a/b/g/n W1reless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2465.900	31.317	73.403	104.720			
11 (Peak)	2483.500	31.435	33.136	64.571	74.00	54.00	Pass
11 (Average)	2467.500	31.327	63.120	94.447			
11 (Average)	2483.500	31.435	16.146	47.581	74.00	54.00	Pass

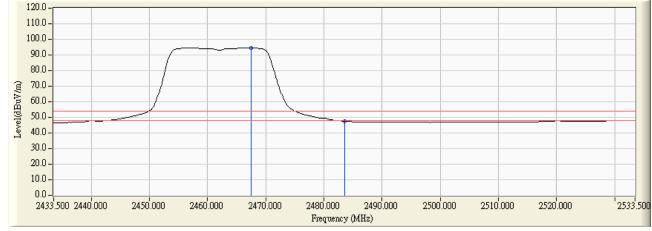
#### **Figure Channel 11:**

#### Vertical (Peak)





### Vertical (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

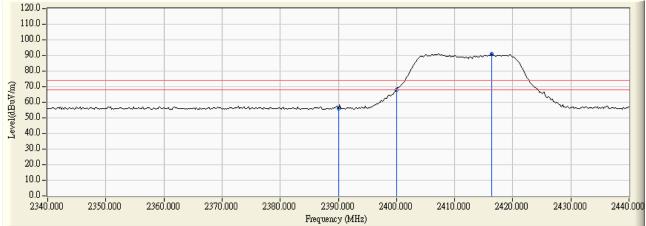
Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band) (2412MHz)

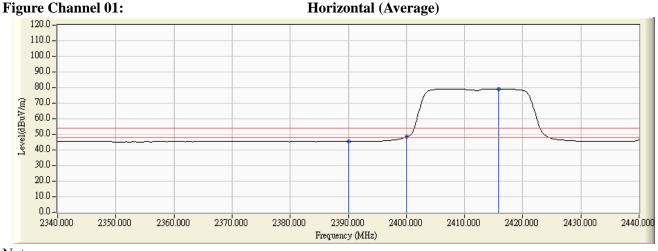
### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2390.000	31.509	24.586	56.095	74.00	54.00	Pass
01 (Peak)	2400.000	31.561	36.401	67.962			
01 (Peak)	2416.400	31.672	59.384	91.056			
01 (Average)	2390.000	31.509	13.826	45.335	74.00	54.00	Pass
01 (Average)	2400.000	31.561	16.758	48.319			
01 (Average)	2415.800	31.667	47.506	79.173			

### Figure Channel 01:

#### Horizontal (Peak)





- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.



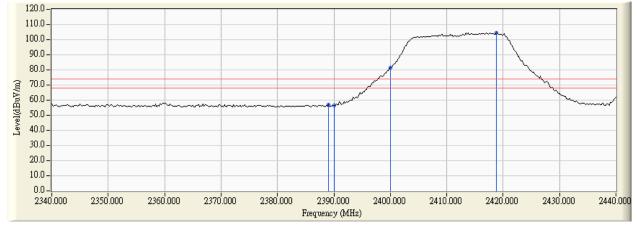
Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band) (2412MHz)

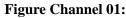
### **RF** Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2389.000	30.920	26.284	57.204	74.00	54.00	Pass
01 (Peak)	2390.000	30.915	25.564	56.479	74.00	54.00	Pass
01 (Peak)	2400.000	30.912	50.493	81.405			
01 (Peak)	2418.800	30.995	73.753	104.748			
01 (Average)	2360.000	31.054	16.267	47.321	74.00	54.00	Pass
01 (Average)	2390.000	30.915	14.822	45.737	74.00	54.00	Pass
01 (Average)	2400.000	30.912	24.176	55.088			
01 (Average)	2417.200	30.984	61.873	92.858			

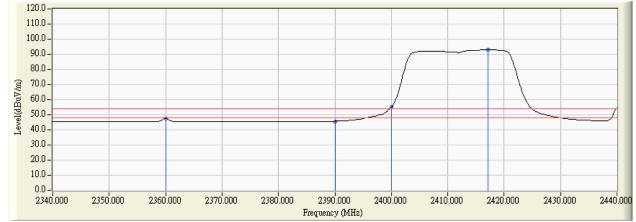


#### Vertical (Peak)





Vertical (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

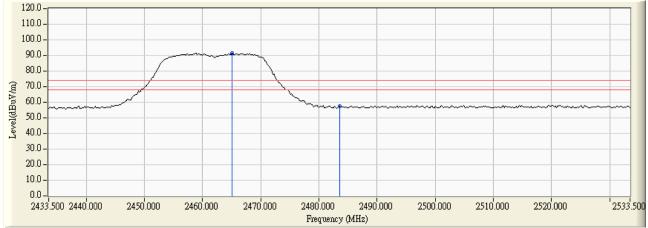
Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band) (2462MHz)

### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2465.100	32.043	59.582	91.625			
11 (Peak)	2483.500	32.182	25.165	57.347	74.00	54.00	Pass
11 (Average)	2456.700	31.979	47.534	79.513			
11 (Average)	2483.500	32.182	13.814	45.996	74.00	54.00	Pass

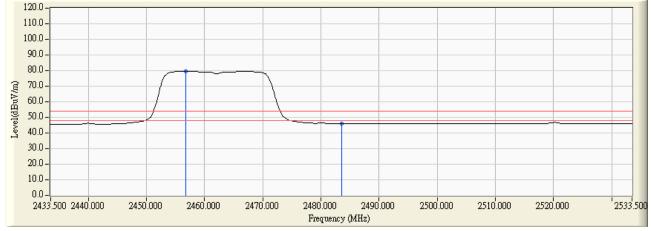
#### **Figure Channel 11:**

#### Horizontal (Peak)





### Horizontal (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit of average 6. detection.

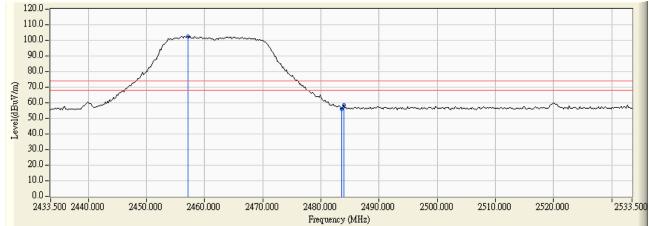
Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band) (2462MHz)

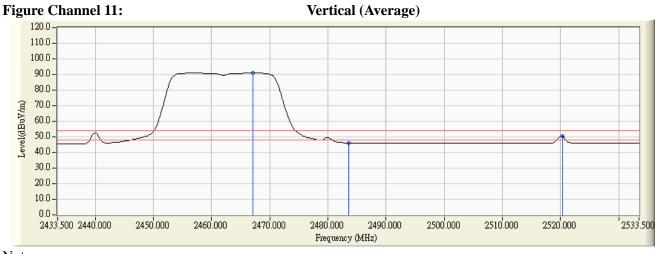
### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2457.100	31.257	71.396	102.653			
11 (Peak)	2483.500	31.435	24.762	56.197	74.00	54.00	Pass
11 (Peak)	2483.900	31.438	27.156	58.594	74.00	54.00	Pass
11 (Average)	2467.100	31.325	59.657	90.982			
11 (Average)	2483.500	31.435	14.678	46.113	74.00	54.00	Pass
11 (Average)	2520.300	31.555	18.747	50.302	74.00	54.00	Pass

### **Figure Channel 11:**

### Vertical (Peak)





- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

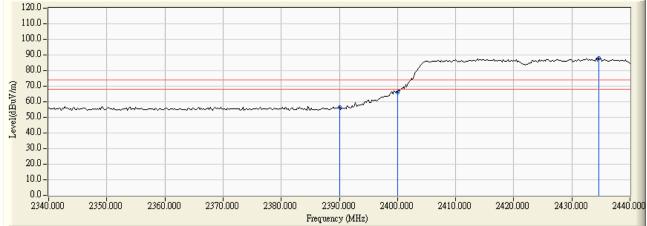
Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band) (2422MHz)

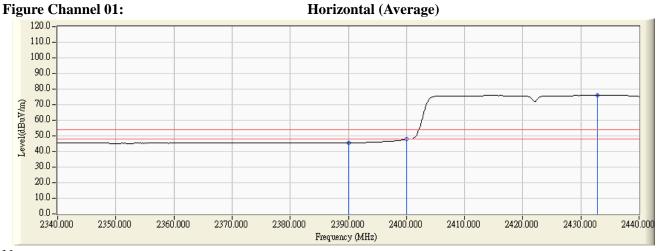
### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
0 (Peak)	2390.000	31.509	24.948	56.457	74.00	54.00	Pass
01 (Peak)	2400.000	31.561	34.263	65.824			
01 (Peak)	2434.600	31.811	56.027	87.838			
01 (Average)	2390.000	31.509	13.978	45.487	74.00	54.00	Pass
01 (Average)	2400.000	31.561	16.473	48.034			
01 (Average)	2432.800	31.798	44.231	76.028			

### **Figure Channel 01:**

#### Horizontal (Peak)





- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

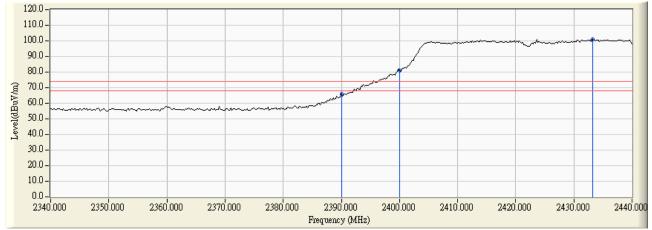
Product	:	MOXA IEEE 802.11a/b/g/n W1reless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band) (2422MHz)

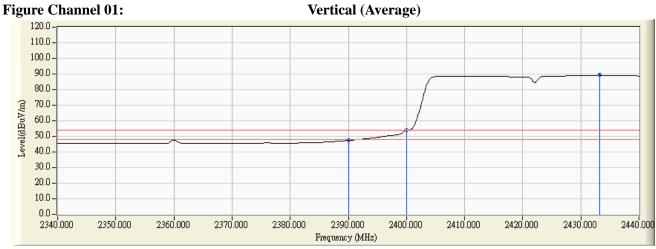
### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2390.000	30.915	35.143	66.058	74.00	54.00	Pass
01 (Peak)	2400.000	30.912	50.050	80.962			
01 (Peak)	2433.200	31.093	70.062	101.155			
01 (Average)	2390.000	30.915	16.502	47.417	74.00	54.00	Pass
01 (Average)	2400.000	30.912	23.211	54.123			
01 (Average)	2433.200	31.093	58.158	89.251			

#### Figure Channel 01:

Vertical (Peak)





- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

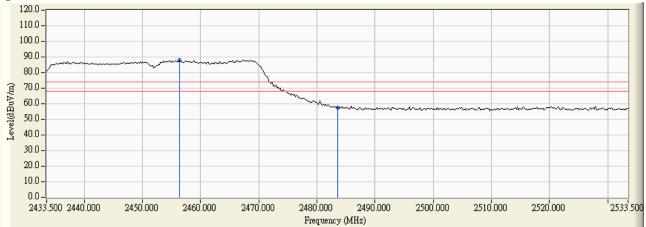
Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 5: Transmit - 802.11n-40BW 30Mbps(2.4G Band) (2452MHz)

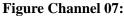
### **RF Radiated Measurement (Horizontal):**

Channal Na	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
07 (Peak)	2456.300	31.976	56.061	88.037			
07 (Peak)	2483.500	32.182	25.417	57.599	74.00	54.00	Pass
07 (Average)	2466.100	32.051	44.254	76.304			
07 (Average)	2483.500	32.182	14.093	46.275	74.00	54.00	Pass

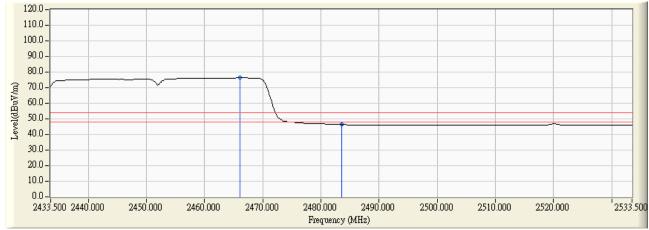
#### Figure Channel 07:

Horizontal (Peak)





Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.

2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.

- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

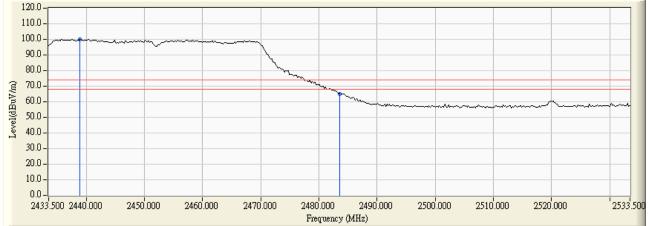
Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band) (2452MHz)

### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Kesuit
07 (Peak)	2438.900	31.133	68.985	100.117			
07 (Peak)	2483.500	31.435	33.580	65.015	74.00	54.00	Pass
07 (Average)	2441.700	31.150	57.364	88.515			
07 (Average)	2483.500	31.435	16.388	47.823	74.00	54.00	Pass
07 (Average)	2519.900	31.555	19.991	51.546	74.00	54.00	Pass

#### Figure Channel 07:

#### Vertical (Peak)





### Vertical (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product		MOXA IEEE 802.11a/b/g/n Wireless
	•	
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit - 802.11a 6Mbps

Test Frequency	Measurement Level	Limit	Result
(MHz)	$\Delta$ (dB)	$\Delta$ (dB)	
5745	34.58	>20	PASS

Agilent Spectrum Analyzer - Sw					
Center Freq 5.7250		SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	09:24:17 PM Mar 12, 2014 TRACE 1 2 3 4 5 6 TYPE MWWWWW	Frequency
10 dB/div <b>Ref 20.00</b> (	IFGain:Low	Atten: 30 dB	Mk	r2 5.725 0 GHz -34.524 dBm	Auto Tune
10.0 0.00 -10.0			1 Linstan Instan		Center Fre 5.725000000 GH
-20.0 -30.0 -40.0	aponte and the second descent the second sec	2 Angele Antonio Anton		-19.94 dBm	Start Fre 5.675000000 GH
-50.0					Stop Fre 5.775000000 G⊢
Center 5.72500 GHz #Res BW 100 kHz MKR MODE TRO SCL	#VB	W 1.0 MHz	Sweep	Span 100.0 MHz 9.27 ms (1001 pts) function value	CF Ste 10.000000 MH Auto Ma
1         N         1         f           2         N         1         f           3         -         -         -           4         -         -         -           5         -         -         -           6         -         -         -           7         -         -         -           8         -         -         -           9         -         -         -           10         -         -         -           12         -         -         -	5.738 7 GHz 5.725 0 GHz	0.060 dBm -34.524 dBm			Freq Offse
sg			STATUS		

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit - 802.11a 6Mbps

Test Frequency	Measurement Level	Limit	Result
(MHz)	$\Delta$ (dB)	$\Delta$ (dB)	
5825	42.83	>20	PASS

Agilent Spectrum Analyzer - Swept SA			- <u>10</u>	
Center Freg 5.850000000 GHz	SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr	09:31:18 PM Mar 12, 2014 TRACE 1 2 3 4 5 6	Frequency
Lenter Freq 5.85000000 GH2 IFGain:Low	Trig: Free Run Atten: 30 dB	Avg Hold: 40/100	TYPE MWWWWW DET P N N N N N	
10 dB/div Ref 20.00 dBm		Mk	r1 5.820 0 GHz -2.786 dBm	Auto Tune
10.0 10.0				Center Free
0.00 -10.0				5.850000000 GH
-20.0			-22.07 dDm	Start Fre
-30.0	2		where any an and same desame desting	5.80000000 GH
-50.0	The start of the s	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	and all which the second second second	Stop Fre
-70.0				5.90000000 GH
Center 5.85000 GHz #Res BW 100 kHz #VBV	V 1.0 MHz	#Sweep	Span 100.0 MHz 500 ms (1001 pts)	
MKR         MODE         TRC         SCL         X           1         N         1         f         5.820 0 GHz	-2.786 dBm	ICTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
2 N 1 f 5.850 0 GHz 3 4 4	-45.613 dBm			Freq Offs
5 6 7				01
8 9 10				
10 11 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
ISG		STATUS		

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band)

# Chain A

Test Frequency	Measurement Level	Limit	Result
(MHz)	$\Delta$ (dB)	$\Delta$ (dB)	
5745	34.78	>20	PASS

Agilent Spectrum Analyzer - Swept				2	
Center Freq 5.725000	0000 GHz	SENSE:INT Trig: Free Run Atten: 30 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	09:26:29 PM Mar 12, 2014 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N N	Frequency
10 dB/div Ref 20.00 dB	IFGain:Low	Atten: 50 dB	Mk	r1 5.738 7 GHz 0.154 dBm	Auto Tune
Log 10.0 0.00					Center Fre 5.725000000 GH
-20.0 -30.0 -40.0		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		-19.84 dBm	Start Fre 5.675000000 GH
-50.0 -60.0 -70.0					Stop Fre 5.775000000 G⊦
Center 5.72500 GHz Res BW 100 kHz	#VBV	/ 1.0 MHz	Sweep	Span 100.0 MHz 9.27 ms (1001 pts) FUNCTION VALUE	CF Ste 10.000000 MH <u>Auto</u> Ma
2 N 1 f 3 4 5 6	5.725 0 GHz	-34.629 dBm			Freq Offs 0 F
7 8 9 10 11 12					
ISG			STATUS	······································	

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band)

# Chain B

Test Frequency	Measurement Level	Limit	Result
(MHz)	$\Delta$ (dB)	$\Delta$ (dB)	
5745	37.75	>20	PASS

Agilent Spectrum Analyzer - Swe		i constant			[
Center Freq 5.72500	00000 GHz	Trig: Free Run Atten: 30 dB	AVg Type: Log-Pwr Avg Hold:>100/100	09:27:52 PM Mar 12, 2014 TRACE 1 2 3 4 5 6 TYPE M WWWWWW DET P N N N N N	Frequency
10 dB/div Ref 20.00 d	IFGain:Low	Aπen: 30 dB	Mk	r1 5.740 0 GHz 0.613 dBm	Auto Tune
Log 10.0 0.00 -10.0			1-		Center Free 5.725000000 GH
-20.0 -30.0 -40.0 -50.0	مر میراناد اعار میرد میراناد اعالی	2 more and the Within stort		-19.46 dBm	Start Free 5.675000000 GH
-50.0					<b>Stop Fre</b> 5.775000000 GH
Center 5.72500 GHz #Res BW 100 kHz MKR MODE TRO SCL	#VB\ ×	N 1.0 MHz		Span 100.0 MHz 9.27 ms (1001 pts) FUNCTION VALUE	CF Ste 10.000000 MH Auto Ma
1         N         1         f           2         N         4         f           3         -         -         -           4         -         -         -           5         -         -         -           6         -         -         -           7         -         -         -           8         -         -         -           9         -         -         -           10         -         -         -           12         -         -         -	5.740 0 GHz 5.725 0 GHz	0.613 dBm -38,138 dBm			Freq Offse
MSG			STATUS		

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band)

# Chain A

Test Frequency	Measurement Level	Limit	Result
(MHz)	$\Delta$ (dB)	$\Delta$ (dB)	
5825	43.45	>20	PASS

Agilent Spectrum Analyzer - Swept SA				¥ 5	
κε         50 Ω         AC           Center Freq         5.85000000	0 GHz	SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 52/100	09:30:29 PM Mar 12, 2014 TRACE 1 2 3 4 5 6 TYPE MWWWWW	Frequency
10 dB/div Ref 20.00 dBm	IFGain:Low	Atten: 30 dB	Mł	r1 5.818 7 GHz -2.093 dBm	Auto Tune
10.0 1 0.00 1 -10.0 1	whether				Center Fred 5.850000000 GH:
-20.0	- to the second	Mandagement	arting on up the or open of the house a track	22.09 dBm	Start Free 5.800000000 GH
-50.0					Stop Fre 5.900000000 GH
Center 5.85000 GHz #Res BW 100 kHz MKR MODE TRC SCL	#VBW	1.0 MHz	#Sweep	Span 100.0 MHz 500 ms (1001 pts)	CF Ste 10.000000 M⊢ Auto Ma
1         N         1         f         5           2         N         1         f         5           3         -         -         -           4         -         -         5         -	.818 7 GHz .850 0 GHz	-2.093 dBm -45.543 dBm			Freq Offse
6 7 8 9 10 11					
MSG			STATU	3	

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band)

# Chain B

Test Frequency	Measurement Level	Limit	Result
(MHz)	$\Delta$ (dB)	$\Delta$ (dB)	
5825	45.55	>20	PASS

Agilent Spectrum Analyzer - S			<i>2</i> 7			
Center Freq 5.850	Ω AC 000000 GHz	SENSE:IM	Avg Type	ALIGNAUTO e: Log-Pwr : 74/100	09:29:34 PM Mar 12, TRACE 1 2 3 TYPE MWW	456 Frequency
10 dB/div <b>Ref 20.00</b>	IFGain:Low	Atten: 30 dB		Mk	r2 5.850 0 G -46.150 dl	Hz Auto Tun
10.0	1 Intrational standing					Center Fre 5.850000000 GH
20.0 30.0 40.0		hunner 2	مالىكى بى مىلىكى بى م مىلىكى بى مىلى بى مىلىكى بى مىل	antreno uteral	-20.6	0 dBm Start Fre 5.800000000 Gi
60.0 70.0						<b>Stop Fr</b> 5.900000000 G
Center 5.85000 GHz Res BW 100 kHz	#VI	BW 1.0 MHz	FUNCTION	#Sweep	Span 100.0 M 500 ms (1001   FUNCTION VALUE	
1         N         1         f           2         N         1         f           3         -         -         -           4         -         -         -           5         -         -         -           6         -         -         -           7         -         -         -           8         -         -         -           9         -         -         -	5.820 0 GHz 5.850 0 GHz	<u>-0.601 dBm</u> -46.150 dBm				Freq Offs
10				STATUS		

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band)

# Chain A

Test Frequency	Measurement Level	Limit	Result
(MHz)	$\Delta$ (dB)	$\Delta$ (dB)	
5755	30.07	>20	PASS

Agilent Spectrum Analyzer - Swept SA				
Center Freq 5.725000000 GHz	SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 72/100	09:33:19 PM Mar 12, 2014 TRACE 1 2 3 4 5 6 TYPE MWWWWW	Frequency
IFGain:Lov 10 dB/div Ref 20.00 dBm		8.09	2 5.725 00 GHz -33.120 dBm	Auto Tune
Log 10.0 .000		1 Julinomiastas puthana	м,	Center Free 5.725000000 GH
-20.0 -30.0 -40.0 -50.0	and a second designed of the second of the second designed of the second designed of the second of t		-23.10 dBm	<b>Start Fre</b> 5.650000000 GH
-50.0				Stop Fre 5.800000000 G⊦
	BW 1.0 MHz		Span 150.0 MHz 500 ms (1001 pts)	CF Ste 15.000000 MH
MKR         MODE         TRC         SCL         X           1         N         1         f         5.743 75 GHz           2         N         1         f         5.725 00 GHz	-3.055 dBm -33.120 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
2 N 1 5.725 00 GHz 3 4 5 6 6	-53.120 dBm			Freq Offs₀ 0 ⊦
7         8           9         10           11         11				
12		STATUS		

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band)

# Chain B

Test Frequency	Measurement Level	Limit	Result
(MHz)	$\Delta$ (dB)	$\Delta$ (dB)	
5755	32.41	>20	PASS

Agilent Spectrum Analyzer - Sw					
Center Freg 5.7250	AC 00000 GHz	SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr	09:34:04 PM Mar 12, 2014 TRACE 1 2 3 4 5 6	Frequency
10 dB/div Ref 20.00 (	IFGain:Low	Trig: Free Run Atten: 30 dB	Avg Hold: 42/100 Mkr2	2 5.725 00 GHz -36.001 dBm	Auto Tune
10.0 0.00 -10.0			1 Marinely polloninely	м	Center Free 5.725000000 GH
-20.0 -30.0 -40.0 -50.0		2 which which have been a started		-23.59 dBm	Start Free 5.650000000 GH
-50.0 -60.0 -70.0					Stop Fre 5.800000000 GH
Center 5.72500 GHz #Res BW 100 kHz	#VB	W 1.0 MHz	#Sweep	Span 150.0 MHz 500 ms (1001 pts) function value	CF Ste 15.000000 MH Auto Ma
1         N         1         f           2         N         1         f           3         -         -         -           4         -         -         -           5         -         -         -           6         -         -         -           7         -         -         -           8         -         -         -           9         -         10         -         -	5.743 75 GHz 5.725 00 GHz	-3.588 dBm -36.001 dBm			Freq Offse
11 12 MSG			STATUS		

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band)

# Chain A

Test Frequency	Measurement Level	Limit	Result
(MHz)	$\Delta$ (dB)	$\Delta$ (dB)	
5795	43.69	>20	PASS

Agilent Spectrum Analyzer - Sw						
Ω2 RF 50 Ω Center Freq 5.8500	00000 GHz	SENSE:IN	Avg Type	ALIGNAUTO e: Log-Pwr : 21/100	09:36:22 PM Mar 12, 20 TRACE 1 2 3 4 1 TYPE MWWW	5 6 Frequency
10 dB/div Ref 20.00 d	IFGain:Low	Atten: 30 dB	2027	Mkr	DET P NNN 1 5.790 00 GH -2.868 dB	Iz Auto Tune
10.0 0.00 -10.0	without					Center Fre 5.850000000 GH
-20.0 /		Marian International International	بوت را بند من مار	h noven daar so histor	-22:07 d	Start Fre
-50.0						Stop Fre 5.925000000 G⊦
Center 5.85000 GHz Res BW 100 kHz	#VB	W 1.0 MHz	FUNCTION FU	#Sweep	Span 150.0 MI 500 ms (1001 pt	
1         N         1         f           2         N         1         f           3         -         -         -           4         -         -         -           5         -         -         -           6         -         -         -           7         -         -         -           8         -         -         -           9         -         10         -         -	5.790 00 GHz 5.850 00 GHz	-2.868 dBm -46.553 dBm				Freq Offs
11 12 15G				STATUS		

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band)

# Chain B

Test Frequency	Measurement Level	Limit	Result
(MHz)	$\Delta$ (dB)	$\Delta$ (dB)	
5795	43.54	>20	PASS

Agilent Spectrum Analyzer - Swe						
Center Freq 5.85000	00000 GHz	SENSE:II	Avg Typ	ALIGN AUTO e: Log-Pwr i: 69/100	09:35:48 PM Mar 12, 2014 TRACE 1 2 3 4 5 6 TYPE M WWWW DET P N N N N	Frequency
10 dB/div Ref 20.00 d	IFGain:Low	Atten: 30 dB		Mkr	2 5.850 00 GHz -46.404 dBm	Auto Tune
10.0 0.00 -10.0	while					Center Fre 5.850000000 GH
-20.0	www.woroarth.child	2_			-22.07 dBin	Start Fre 5.775000000 GH
-50.0						Stop Fre 5.925000000 G⊦
Center 5.85000 GHz Res BW 100 kHz	×	W 1.0 MHz	FUNCTION FI	#Sweep	Span 150.0 MHz 500 ms (1001 pts) FUNCTION VALUE	
1         N         1         f           2         N         1         f           3         -         -           4         -         -           5         -         -           6         -         -	5.790 00 GHz 5.850 00 GHz	-2.868 dBm -46.404 dBm				Freq Offs 0 H
7 8 9 10 11 12						
ISG		J.		STATUS		

# 7. Occupied Bandwidth

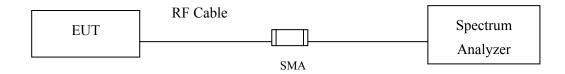
# 7.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2013
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

Note:

- 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 2. The test instruments marked with "X" are used to measure the final test results.

### 7.2. Test Setup



### 7.3. Limits

The minimum bandwidth shall be at least 500 kHz.

# 7.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009; 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

# 7.5. Uncertainty

 $\pm$  150Hz



# 7.6. Test Result of Occupied Bandwidth

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	10200	>500	Pass

# Figure Channel 1:

Agilent Spectrum Analyzer - Sw					
KE RF 50 Ω     Center Freq 2.41200		SENSE:INT	ALIGN Avg Type: Log		Frequency
10 dB/div Ref 20.00 (	IFGain:Low	#Atten: 30 dB		<sub>Det</sub> P NNNNN Nkr2 2.406 90 GHz -1.02 dBm	Auto Tune
10.0 0.00 -10.0		2 minung punn	3	1.39 dBn	Center Free 2.412000000 GH:
-20.0					Start Free 2.387000000 GH
-50.0				multy of some properties the	Stop Fre 2.437000000 GH
Center 2.41200 GHz #Res BW 100 kHz MKR MODE TRC SCL	#VBW	300 kHz		Span 50.00 MHz ep 4.80 ms (1001 pts) width function value	CF Ste 5.000000 MH <u>Auto</u> Ma
1 N 1 f 2 N 1 f 3 N 1 f 4 5 6 8	2.413 00 GHz 2.406 90 GHz 2.417 10 GHz	7.39 dBm -1.02 dBm 0.00 dBm			Freq Offse 0 H
7 8 9 10 11 12					
MSG				STATUS	

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437.00	10200	>500	Pass

# Figure Channel 6:

Agilent Spectrum Analyzer - S RL RF 50 Center Freq 2.437(	Ω AC 000000 GHz PN0: Fast C	SENSE:INT	ALIGN Avg Type: Log	-Pwr TRACE	1 2 3 4 5 6 MWWWWW P N N N N N	Frequency
10 dB/div Ref 20.00	IFGain:Low	#Atten: 30 dB		Mkr2 2.431		Auto Tune
10.0 0.00 -10.0		2 21 V	March 3		2.16 dBm	Center Fre 2.437000000 GH
20.0			- No	Manna		Start Fre 2.412000000 G⊦
50.0 70.0 70.0					AN AND MANUTAN	Stop Fre 2.462000000 GH
Center 2.43700 GHz Res BW 100 kHz	#VB	W 300 kHz 8.16 dBm		eep 4.80 ms (1		CF Ste 5.000000 MH Auto Ma
I         I	2.436 00 GHz 2.431 90 GHz 2.442 10 GHz	0.17 dBm 0.62 dBm				Freq Offs 0 H
8 9 10 11 12						
sg				STATUS		

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462.00	10200	>500	Pass

# Figure Channel 11:

								ialyzer - Sw			
Frequency	03:10:09 PM Feb 24, 2014 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	ALIGNAUTO : Log-Pwr	Avg Type	NSE:INT	1	-IZ NO: Fast ⊂	00000 GI		Freq		XI R Cen
Auto Tun	2.456 90 GHz -3.55 dBm	Mkr2		) dB	#Atten: 30	Gain:Low	IF	f 20.00	Re	B/div	
Center Fre 2.462000000 GH	-1.35 dBn		3	1 Milling	2 marrier	nerty .					<b>- 0g</b> 10.0 0.00
<b>Start Fr</b> 2.437000000 G			- MA			J.					20.0 30.0 40.0
<b>Stop Fr</b> 2.487000000 G	non Auguran and and and	Marry Ward					www.wing	July Mary Policity	philotteln-	)	50.0 50.0 70.0
CF St 5.000000 M Auto M	Span 50.00 MHz 80 ms (1001 pts) FUNCTION VALUE	Sweep 4	CTION FU		300 kHz	#VBV	×		2.4620 N 100	es Bl	Re
Freq Offs 0				Bm Bm	4.65 d -3.55 d -2.93 d	0 GHz	2.461 5 2.456 9 2.467 1		1 f 1 f 1 f	N N N	1 3 4 5 6 7 8 9
		STATUS									10 11 12 56

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	16450	>500	Pass

# Figure Channel 1:

Agilent Spectrum Analyzer - Sw					
RL RF 50 Ω Center Freq 2.41200	AC 00000 GHz PN0: Fast C	SENSE:INT	ALIGNAUT Avg Type: Log-Pw		Frequency
10 dB/div Ref 20.00 (	IFGain:Low	#Atten: 30 dB	MI	r2 2.403 80 GHz -1.29 dBm	Auto Tune
10.0 0.00	2 hoches	halmhair and also	1 malanta 3	-1.23 dBn	Center Fre 2.412000000 GH
-20.0 -30.0 -40.0	applianes when the second		Mary are brown	-Minerallana and Mining and Andrews	Start Fre 2.387000000 GH
50.0 60.0 70.0					Stop Fre 2.437000000 G⊦
Center 2.41200 GHz Res BW 100 kHz		/ 300 kHz	•	Span 50.00 MHz 5 4.80 ms (1001 pts)	CF Ste 5.000000 MH
MICE         MICE         SCL           1         N         1         f           2         N         1         f           3         N         1         f           4         -         -         -           5         -         -         -           6         -         -         -	× 2.417 00 GHz 2.403 80 GHz 2.420 25 GHz	4.77 dBm -1.29 dBm -2.00 dBm	UNCTION FUNCTION WID	TH FUNCTION VALUE	Auto Ma Freq Offso 0 H
7 8 9 9 10 11 12 12 12 12 12 12 12 12 12 12 12 12					
ISG			STA	TUS	

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2437MHz)

Channel No.	Frequency (MHz)	1 5		Result
6	2437.00	16450	>500	Pass

# Figure Channel 6:

ilent Spectrum Analyzer - RL RF 5	50 Ω AC	SENSE:INT	ALIGN AUTO	03:26:23 PM Feb 24, 2014	_
enter Freq 2.437	7000000 GHz		Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6	Frequency
	PNO: Fast ( IFGain:Low	Trig: Free Run #Atten: 30 dB		DET P N N N N N	
	ii Gain.cow		Mkr	2 2.428 80 GHz	Auto Tun
Def 20.0			IVINIA	0.77 dBm	
0 dB/div Ref 20.0			41	0.77 GDill	
0.0	2-				Center Fre
).00	Mund	hardrand and a frankand and	hormaharda	0.93 dBm	2.437000000 GI
0.0					
0.0	a Deenman N		Mar Appen		
0.0	win light who are -		AND SHE REAL	amprover allar.	Start Fre
0.0 0.0 0.0 0.0				wingn-wall whappy	2.412000000 G
0.0				- PAN	
0.0					
0.0					Stop Fr
0.0					2.462000000 G
enter 2.43700 GH				Span 50.00 MHz	CE St
Res BW 100 kHz	#VB	W 300 kHz	Sweep 4	1.80 ms (1001 pts)	CF Ste 5.000000 M
KR MODE TRC SCL	X	Y F	UNCTION FUNCTION WIDTH	FUNCTION VALUE	Auto M
1 N 1 f	2.442 00 GHz	6.93 dBm			
2 N 1 f 3 N 1 f	2.428 80 GHz 2.445 25 GHz	0.77 dBm -0.44 dBm			
4	2.110 20 0112	0.111 0.211			Freq Offs
5					0
7					
8					
9					
1	j.	1			
2	9				
G			STATUS		

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462.00	16450	>500	Pass

# Figure Channel 11:

Agilent Spectrum Analyzer - Sw							
M RL RF 50 Ω Center Freq 2.46200	00000 GHz PN0: Fast G	SENSE:INT	Avg Type	ALIGNAUTO : Log-Pwr	TRACI	MFeb 24, 2014 E 1 2 3 4 5 6 E MWWWWW T P N N N N N	Frequency
10 dB/div Ref 20.00 (	IFGain:Low	#Atten: 30 dB		Mkr2	2.453	80 GHz 90 dBm	Auto Tune
10.0 0.00 -10.0	2 Clowlaso	Acaton trading up water	1			-3.66 dBm	<b>Center Fre</b> 2.462000000 GH
20.0 30.0 40.0	Munooudener			and the work	Www.www.ww	in Million	Start Fre 2.437000000 G⊦
50.0						- Vido	<b>Stop Fre</b> 2.487000000 GH
Center 2.46200 GHz Res BW 100 kHz	#VBW	/ 300 kHz		Sweep 4			CF Ste 5.000000 MH Auto Ma
1 N 1 f 2 N 1 f 3 N 1 f 4 5 6 8	2.467 00 GHz 2.453 80 GHz 2.470 25 GHz	2.34 dBm -3.90 dBm -4.81 dBm					Freq Offs 0 H
7 8 9 9 10 11 12 12							
ISG				STATUS			

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit - 802.11a 6Mbps (5745MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	16050	>500	Pass

# Figure Channel 149:

	50 Ω AC	SEN:	SE:INT	ALIGNAUTO	05:18:26 PM Feb 24, 2014 TRACE 1 2 3 4 5 6	Frequency
enter Freq 5.74	PNO: Fas		Run	e. Log-rwi	TYPE MWWWWW DET P N N N N N	
	IFGain:Lo	w #Atten: 30	dB	Mkra	5.736 80 GHz	
	00 dBm			WINIZ	-2.54 dBm	
og 0.0			1			Center Fr
		2	$\lambda \rightarrow \lambda^3$		-1.97 dBm	5.745000000 G
0.0		, N	1			
0.0	white here and and and		٦.	W	Muplung of Multiplication	Otoret Fr
0.0	And at New Control of the				104marsha	Start Fr 5.720000000 G
0.0 44400 Mitting 400,000				+ +	" Whoming	3.72000000 G
0.0			s			
0.0						Stop Fr 5.770000000 G
				1		
0.0						5.770000000 G
enter 5.74500 Gł					Span 50.00 MHz	
enter 5.74500 Gł		/BW 300 kHz		Sweep 4.	Span 50.00 MHz 80 ms (1001 pts)	CF St
enter 5.74500 GH Res BW 100 kHz	#\ ×	Y		Sweep 4.		CF St 5.000000 M
enter 5.74500 GH Res BW 100 kHz R MOOS TRO SCL 1 N 1 f 2 N 1 f	#\ <u>×</u> 5.746 25 GHz 5.736 80 GHz	4.03 dB	m m		80 ms (1001 pts)	CF St 5.000000 M
enter 5.74500 GH Res BW 100 kHz G M009 TRC SCI 1 N 1 f 2 N 1 f 3 N 1 f 4	#\ × 5.746 25 GHz	4.03 dB	m m		80 ms (1001 pts)	CF St 5.000000 M <u>Auto</u> M Freq Offs
enter 5.74500 GF Res BW 100 kHz (F MODE TRC SCL 1 N 1 f 2 N 1 f 3 N 1 f 4 5	#\ <u>×</u> 5.746 25 GHz 5.736 80 GHz	4.03 dB	m m		80 ms (1001 pts)	CF St 5.000000 M <u>Auto</u> M Freq Offs
2 N 1 f 3 N 1 f 4	#\ <u>×</u> 5.746 25 GHz 5.736 80 GHz	4.03 dB	m m		80 ms (1001 pts)	CF St 5.000000 M <u>Auto</u> M Freq Offs
Image: second	#\ <u>×</u> 5.746 25 GHz 5.736 80 GHz	4.03 dB	m m		80 ms (1001 pts)	CF St 5.000000 M <u>Auto</u> M Freq Offs
enter 5.74500 GF Res BW 100 kHz XR MOOE TRC SCL 1 N 1 f 3 N 1 f 3 N 1 f 4 5 6 6	#\ <u>×</u> 5.746 25 GHz 5.736 80 GHz	4.03 dB	m m		80 ms (1001 pts)	CF St 5.000000 M

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit - 802.11a 6Mbps (5785MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
157	5785.00	16400	>500	Pass

# Figure Channel 157:

	50 Ω AC	SENSE:INT	ALIGN AUTO	05:25:23 PM Feb 24, 2014	
enter Freq 5.78	5000000 GHz	Trig: Free Run	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE MWWWWW	Frequency
	PNO: Fast IFGain:Low	#Atten: 30 dB		DET P N N N N N	
dB/div Ref 20.0	)0 dBm		Mkr	2 5.776 80 GHz -3.54 dBm	Auto Tun
og 0.0		>1			Center Fre
).00	2	hand we have been produced and	3	-2.64 dBm	5.785000000 GH
0.0		<u> </u>			
0.0 0.0 0.0 proprint for the second	a hur my war war		and the second second	Anymonopeally playmon a gree	Start Fre
0.0 martin harden and and a second				and have been and a second and a second and a second a se	5.760000000 GH
0.0				- WWW	
0.0					Stop Fre
0.0					5.810000000 G
enter 5.78500 GH	_			0 m m 50 00 Mile	
Res BW 100 kHz		300 kHz	Sweep 4	Span 50.00 MHz 4.80 ms (1001 pts)	CF Ste 5.000000 M
KR MODE TRC SCL	×		INCTION FUNCTION WIDTH	FUNCTION VALUE	Auto Ma
1 N 1 f 2 N 1 f	5.778 75 GHz 5.776 80 GHz	3.36 dBm -3.54 dBm			
3 N 1 f	5.793 20 GHz	-4.17 dBm			Freq Offs
5					01
7	·				
8 9					
0					
2					
G			STATUS		

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit - 802.11a 6Mbps (5825MHz)

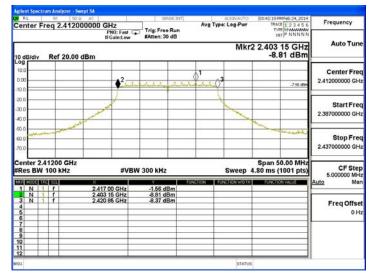
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	16100	>500	Pass

# Figure Channel 165:

Agilent Spectrum Analyzer - Swept SA							
M RL RF 50 Ω AC Center Freq 5.825000000 G	iHz PNO: Fast 😱	SENSE:IN		ALIGNAUTO E: Log-Pwr	TRAC TYP	MFeb 24, 2014 E 1 2 3 4 5 6 E MWWWWW	Frequency
II 10 dB/div Ref 20.00 dBm	FGain:Low	#Atten: 30 dB		Mkr2	2 5.816	80 GHz 80 dBm	Auto Tune
10.0 .000 .10.0		op autopological multiple	Annula Mart			<del></del>	Center Free 5.825000000 GH:
-20.0 -30.0 -40.0	Alexand		- Vian	an ann ann ann ann ann ann ann ann ann	and and a second second	Muring	<b>Start Free</b> 5.800000000 GH
-50.0							<b>Stop Fre</b> 5.85000000 GH
Center 5.82500 GHz #Res BW 100 kHz MKR MODE TRC SCL ×	#VBW	300 kHz	FUNCTION FUI	Sweep 4		0.00 MHz 1001 pts)	CF Stej 5.000000 MH Auto Ma
1         N         1         f         5.818           2         N         1         f         5.816           3         N         1         f         5.832           4         -         -         -           5         -         -         -           6         -         -         -           7         -         -         -           8         -         -         -	75 GHz 80 GHz 90 GHz	3.00 dBm -3.90 dBm -3.21 dBm					Freq Offse
9 0 10 1 11 1 12 MSG				STATUS			

Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band) (2412MHz)

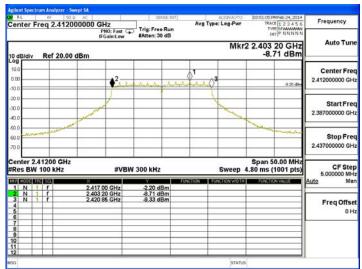
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	17700	>500	Pass



### Figure Channel 1: (Chain A)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	17650	>500	Pass

### Figure Channel 1: (Chain B)



Product	:	MOXA IEEE 802.11a/b/g/n Wireless
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437.00	17700	>500	Pass

	AC	SENSE:1NT	ALIGN AUTO	03:58:28 PMFeb 24, 2014		
Center Freq 2.43700	PNO: Fast G	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr	TYPE MWWWWW DET P NNNNN	Frequency	
Mkr2 2.428 15 GHz 0 dB/div Ref 20.00 dBm -8.29 dBm						
00 10.0 0.00	2 mint	and and a second	1 3	-6.50 dBn	Center Free 2.437000000 GH:	
20.0			1 m		Start Free 2.412000000 GH	
50.0 Notestation 70.0				the second second	Stop Fre 2.462000000 GH	
Center 2.43700 GHz Res BW 100 kHz	#VBW	/ 300 kHz	Sweep	Span 50.00 MHz 4.80 ms (1001 pts)	CF Step 5.000000 MH	
1 N 1 f	2.442 00 GHz	-0.98 dBm	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	Auto Mar	
3 N 1 f 4 5 6	2.428 15 GHz 2.445 85 GHz	-8.29 dBm -7.90 dBm			Freq Offse 0 H	
8						
9 10 11 12						

# Figure Channel 6: (Chain A)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437.00	17650	>500	Pass

Figure Channel 6: (Chain B)

	DA AC	SENSE: INT	ALIGNAUTO	04:05:39 PMFeb 24, 2014	
Center Freq 2.437	2000000 GHz PNO: Fast C IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TVPE MWWWWWW DET P NNNNN	Frequency
	Auto Tur				
10 dB/div Ref 20.0	0 dBm			-7.31 dBm	
10.0				Center Fre	
0.00			0. 3		2,437000000 GH
-10.0	hadaad	and	hardwalked	-7.25 dBm	
-20.0	1		1		
-30.0	1				Start Fre
400	wanter .		and the second		2.412000000 GH
	and the second s			and and a second se	
-50.0				and the second second	
-60.0		+ +	+ +		Stop Fre
-70.0					2.462000000 GH
Center 2 43700 GHz	7				
Center 2.43700 GHz #Res BW 100 kHz		W 300 kHz	Sweep	Span 50.00 MHz 4.80 ms (1001 pts)	
#Res BW 100 kHz	#VB			4.80 ms (1001 pts)	CF Ster 5.000000 MH
#Res BW 100 kHz	#VB 2.442.00 GHz	-1.25 dBm	Sweep	4.80 ms (1001 pts)	5.000000 MH
#Res BW 100 kHz	#VB 2.442.00 GHz 2.428.20 GHz	-1.25 dBm		4.80 ms (1001 pts)	5.000000 MH <u>Auto</u> Ma
#Res         BW         100 kHz           1         N         1         f           2         N         1         f           3         N         1         f           4         1         f         1	#VB 2.442.00 GHz	-1.25 dBm		4.80 ms (1001 pts)	5.000000 MH Auto Ma Freq Offse
#Res BW 100 kHz           100 M2 S0           2 N         1 f           3 N         1 f           4         5	#VB 2.442.00 GHz 2.428.20 GHz	-1.25 dBm		4.80 ms (1001 pts)	5.000000 MH Auto Ma Freq Offse
#Res BW 100 kHz           100 kHz           1         1           2         N           3         N           4           5           6           7	#VB 2.442.00 GHz 2.428.20 GHz	-1.25 dBm		4.80 ms (1001 pts)	5.000000 MH Auto Ma Freq Offse
#Res BW 100 kHz           1         N         1         f           2         N         1         f           3         N         1         f           4         5         6         6           7         8         8         8	#VB 2.442.00 GHz 2.428.20 GHz	-1.25 dBm		4.80 ms (1001 pts)	5.000000 MH Auto Ma Freq Offse
#Res BW 100 kHz           100 kHz         603 Hz         60	#VB 2.442.00 GHz 2.428.20 GHz	-1.25 dBm		4.80 ms (1001 pts)	5.000000 MH Auto Ma Freq Offse
#Res BW 100 kHz           1         N         1         f           2         N         1         f           3         N         1         f           6         6         7         7           8         9         9         9	#VB 2.442.00 GHz 2.428.20 GHz	-1.25 dBm		4.80 ms (1001 pts)	5.000000 MH