FCC Test Report

Product Name	Gateway
Model No	PSC05
FCC ID.	RHHPSC05

Applicant	Philio Technology Corporation
Address	8F.,No.653-2,Zhongzheng Rd., Xinzhuang Dist., New Taipei City 24257,Taiwan(R.O.C)

Date of Receipt	Jun. 19, 2016
Issue Date	Aug. 19, 2016
Report No.	1660528R-RFUSP26V00
Report Version	V1.0

Testing Laboratory
3023

Test Report

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Product Name	Gateway
Applicant	Philio Technology Corporation
Address	8F.,No.653-2,Zhongzheng Rd., Xinzhuang Dist., New Taipei City 24257,Taiwan(R.O.C)
Manufacturer	Philio Technology Corporation
Model No.	PSC05
FCC ID.	RHHPSC05
EUT Rated Voltage	DC 5V by USB
EUT Test Voltage	DC 5V by USB
Trade Name	
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2015 ANSI C63.4: 2014, ANSI C63.10: 2013 KDB 558074 D01 DTS Meas Guidance v03r05
Test Result	Complied

Documented By : Jinn Chen

(Senior Adm. Specialist / Jinn Chen)

Tested By : Bill Lin

(Engineer / Bill Lin)

Approved By :

(Director / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Gateway
Trade Name	
Model No.	PSC05
FCC ID.	RHHPSC05
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW, 2422-2452MHz for 802.11n-40BW
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 150Mbps
Type of Modulation	802.11b:DSSS (DBPSK, DQPSK, CCK) 802.11g/n:OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type	Monopole Antenna
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Philio	ANT-010	Monopole Antenna	0 dBi for 2.4 GHz

Note:

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

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

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

802.11n-40MHz Center Frequency of Each Channel:

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

Note:

1. The EUT is a Gateway with a built-in WLAN and Bluetooth transceiver, this report for WLAN.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. At result of pretests, module supports dual-channel transmission, only the worst case is shown in the report.
4. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report.
5. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.

Test Mode:	Mode 1: Transmit (802.11b 1Mbps)
	Mode 2: Transmit (802.11g 6Mbps)
	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)
	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

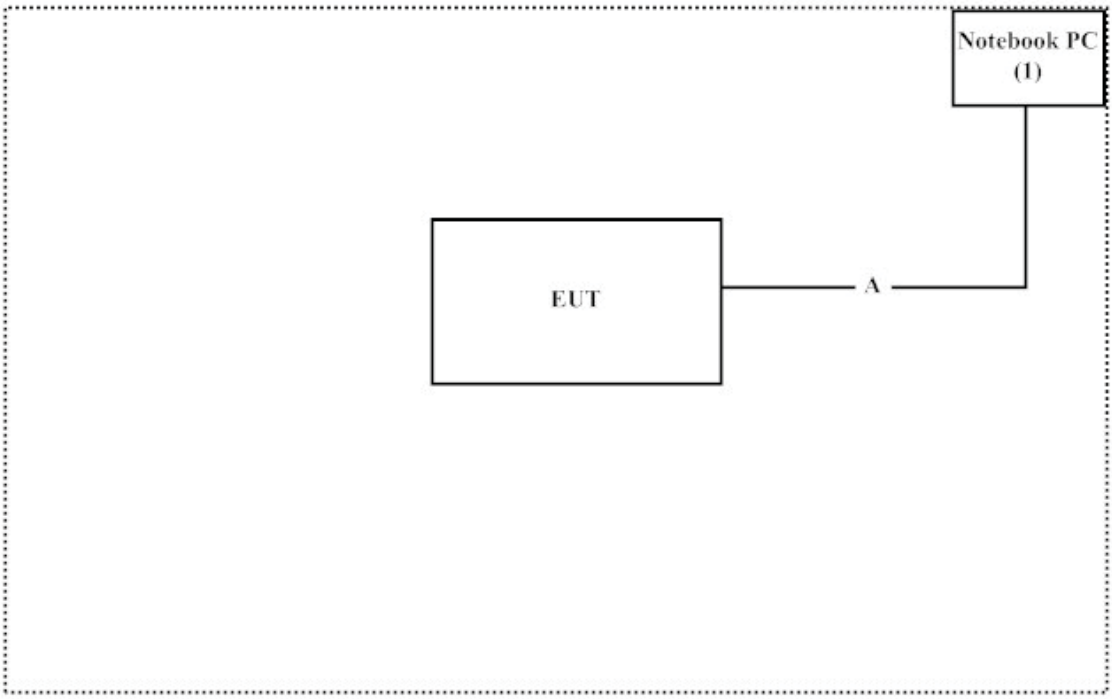
1.3. Tested System Details

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

	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	Latitude E5440	FS9TK32	Non-Shielded, 0.8m

Signal Cable Type		Signal cable Description
A	LAN Cable	Non-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 software “Tera Term V4.73” on the EUT.
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: http://www.quietek.com/chinese/about/certificates.aspx?bval=5
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site: http://www.quietek.com/

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 92195

Site Name: Quietek Corporation
Site Address: No.5-22, Ruishukeng,
Linkou Dist. New Taipei City 24451,
Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

2. Conducted Emission

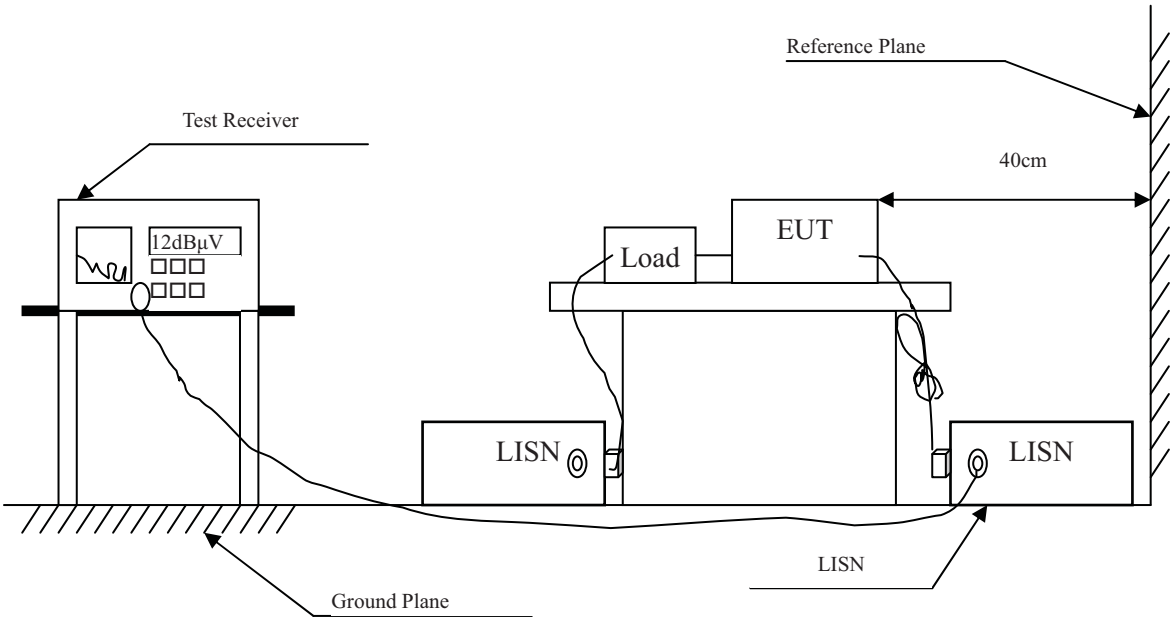
2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Due Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2015	Sep., 2016	
X	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2016	Feb., 2017	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2016	Feb., 2017	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar., 2016	Mar., 2017	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2016	Feb., 2017	
	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 (dBμV) Limit		
Frequency MHz	Limits	
	QP	AVG
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

2.4. 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 C63.4: 2014 on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : Gateway
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
Line 1					
Quasi-Peak					
0.154	9.707	47.715	57.422	-8.464	65.886
0.414	9.719	28.100	37.820	-20.637	58.457
0.833	9.750	19.815	29.565	-26.435	56.000
2.291	9.807	27.285	37.092	-18.908	56.000
11.191	10.026	14.729	24.755	-35.245	60.000
21.891	10.143	21.038	31.181	-28.819	60.000
Average					
0.154	9.707	29.981	39.688	-16.198	55.886
0.414	9.719	16.491	26.210	-22.247	48.457
0.833	9.750	12.203	21.953	-24.047	46.000
2.291	9.807	18.028	27.835	-18.165	46.000
11.191	10.026	8.133	18.159	-31.841	50.000
21.891	10.143	15.314	25.457	-24.543	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 : Gateway
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
Line 2					
Quasi-Peak					
0.155	9.698	46.607	56.305	-9.552	65.857
0.354	9.703	29.357	39.059	-21.112	60.171
0.829	9.751	25.516	35.267	-20.733	56.000
2.272	9.808	12.251	22.059	-33.941	56.000
11.472	10.016	17.342	27.358	-32.642	60.000
24.572	10.212	26.502	36.714	-23.286	60.000
Average					
0.155	9.698	25.351	35.048	-20.809	55.857
0.354	9.703	15.420	25.123	-25.048	50.171
0.829	9.751	14.572	24.322	-21.678	46.000
2.272	9.808	3.896	13.704	-32.296	46.000
11.472	10.016	10.595	20.611	-29.389	50.000
24.572	10.212	23.149	33.361	-16.639	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

3. Peak Power Output

3.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.	Due Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2016	May, 2017
X	Power Sensor	Anritsu	MA2411B/0738448	Jun., 2016	Jun., 2017

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 peak power shall be less 1 Watt.

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 D01 DTS Meas Guidance v03r05 section 9.1.2 PKPM1 Peak power meter method.

3.5. Uncertainty

± 1.19 dB

3.6. Test Result of Peak Power Output

Product : Gateway
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	17.25	--	--	--	18.98	<30dBm	Pass
06	2437	16.89	16.68	16.53	16.45	18.61	<30dBm	Pass
11	2462	16.86	--	--	--	18.59	<30dBm	Pass

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

Product : Gateway
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	14.31	--	--	--	--	--	--	--	23.25	<30dBm	Pass
06	2437	14.46	14.32	14.25	14.13	14.01	13.86	13.74	13.62	23.13	<30dBm	Pass
11	2462	14.27	--	--	--	--	--	--	--	22.77	<30dBm	Pass

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

Product : Gateway
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		7.2	14.4	21.7	28.9	43.3	57.8	65	72.2	7.2		
		Measurement Level (dBm)										
01	2412	14.19	--	--	--	--	--	--	--	23.20	<30dBm	Pass
06	2437	14.13	14.02	13.78	13.64	13.52	12.41	12.34	12.21	23.18	<30dBm	Pass
11	2462	13.93	--	--	--	--	--	--	--	21.64	<30dBm	Pass

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

Product : Gateway
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		15	30	45	60	90	120	135	150	15		
		Measurement Level (dBm)										
03	2422	14.74	--	--	--	--	--	--	--	23.21	<30dBm	Pass
06	2437	16.10	15.88	15.73	15.61	15.52	15.43	15.35	15.27	23.05	<30dBm	Pass
09	2452	16.26	--	--	--	--	--	--	--	22.91	<30dBm	Pass

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

4. Radiated Emission

4.1. Test Equipment

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

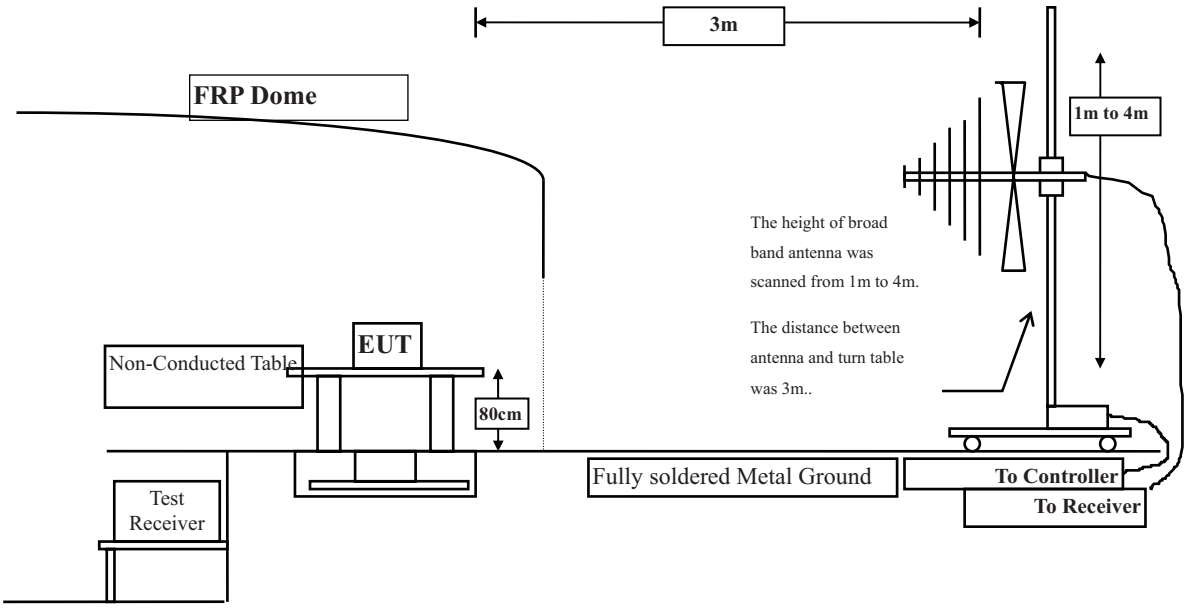
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.	Due Cal.
☒Site # 3	X	Magnetic Loop Antenna	Teseq	HLA6121/ 37133	Sep., 2015	Sep., 2016
	X	Bilog Antenna	Schaffner Chase	CBL6112B/ 2707	Jun., 2016	Jun., 2017
	X	EMI Test Receiver	R&S	ESCS 30/838251/ 001	Jun., 2016	Jun., 2017
	X	Coaxial Cable	QTK(Arnist)	RG 214/ LC003-RG	Jun., 2016	Jun., 2017
	X	Coaxial signal switch	Arnist	MP59B/ 6200798682	Jun., 2016	Jun., 2017

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.	Due Cal.
☒CB # 8	X	Spectrum Analyzer	R&S	FSP40/ 100339	Oct., 2015	Oct., 2016
	X	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar., 2016	Mar., 2017
	X	Horn Antenna	Schwarzbeck	BBHA9170/209	Jan., 2016	Jan., 2017
	X	Horn Antenna	TRC	AH-0801/95051	Aug., 2016	Aug., 2017
	X	Pre-Amplifier	EMCI	EMC012630SE/980210	Jan., 2016	Jan., 2017
	X	Pre-Amplifier	MITEQ	JS41-001040000-58-5P/153945	Jul., 2016	Jul., 2017
	X	Pre-Amplifier	NARDA	DBL-1840N506/013	Jul., 2016	Jul., 2017

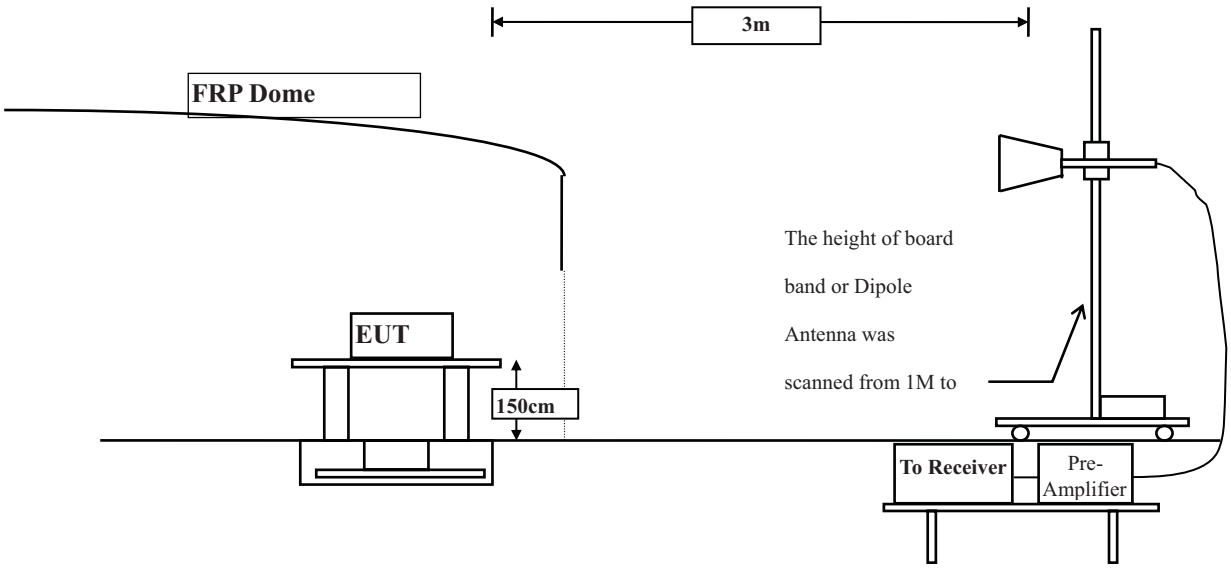
Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

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 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

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

Remarks: E field strength (dBμV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

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

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

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

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

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

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

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

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

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

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

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

4.5. Uncertainty

± 4.08 dB above 1GHz

± 4.22 dB below 1GHz

4.6. Test Result of Radiated Emission

Product : Gateway
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4824.000	-4.612	50.800	46.188	-27.812	74.000
7236.000	-1.027	45.870	44.843	-29.157	74.000
9648.000	1.529	45.560	47.089	-26.911	74.000
Average Detector:					
--	--	--	--	--	54.000
Vertical					
Peak Detector:					
4824.000	-4.612	53.860	49.248	-24.752	74.000
7236.000	-1.027	46.640	45.613	-28.387	74.000
9648.000	1.529	46.850	48.379	-25.621	74.000
Average Detector:					
--	--	--	--	--	54.000

Note:

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 : Gateway
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4874.000	-4.550	54.610	50.060	-23.940	74.000
7311.000	-0.952	45.880	44.928	-29.072	74.000
9748.000	1.634	48.320	49.954	-24.046	74.000
Average Detector:					
--	--	--	--	--	54.000
Vertical					
Peak Detector:					
4874.000	-4.550	58.000	53.450	-20.550	74.000
7311.000	-0.952	47.710	46.758	-27.242	74.000
9748.000	1.634	49.550	51.184	-22.816	74.000
Average Detector:					
--	--	--	--	--	54.000

Note:
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 : Gateway
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4924.000	-4.477	56.650	52.173	-21.827	74.000
7386.000	-0.888	46.500	45.612	-28.388	74.000
9848.000	1.766	52.260	54.026	-19.974	74.000
Average Detector:					
9848.000	1.766	48.100	49.866	-4.134	54.000
Vertical					
Peak Detector:					
4924.000	-4.477	59.950	55.473	-18.527	74.000
7386.000	-0.888	47.630	46.742	-27.258	74.000
9848.000	1.766	50.740	52.506	-21.494	74.000
Average Detector:					
4924.000	-4.477	57.710	53.233	-0.767	54.000

Note:

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 : Gateway
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4824.000	-4.612	56.700	52.088	-21.912	74.000
7236.000	-1.027	47.950	46.923	-27.077	74.000
9648.000	1.529	48.500	50.029	-23.971	74.000
Average Detector:					
--	--	--	--	--	54.000
Vertical					
Peak Detector:					
4824.000	-4.612	56.440	51.828	-22.172	74.000
7236.000	-1.027	48.210	47.183	-26.817	74.000
9648.000	1.529	48.930	50.459	-23.541	74.000
Average Detector:					
--	--	--	--	--	54.000

Note:

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 : Gateway
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4874.000	-4.550	54.740	50.190	-23.810	74.000
7311.000	-0.952	45.900	44.948	-29.052	74.000
9748.000	1.634	48.350	49.984	-24.016	74.000
Average Detector:					
--	--	--	--	--	54.000
Vertical					
Peak Detector:					
4874.000	-4.550	57.060	52.510	-21.490	74.000
7311.000	-0.952	47.660	46.708	-27.292	74.000
9748.000	1.634	49.810	51.444	-22.556	74.000
Average Detector:					
--	--	--	--	--	54.000

Note:

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 : Gateway
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
4924.000	-4.477	53.160	48.683	-25.317	74.000
7386.000	-0.888	46.390	45.502	-28.498	74.000
9848.000	1.766	47.600	49.366	-24.634	74.000
Average Detector:					
--	--	--	--	--	54.000
Vertical					
Peak Detector:					
4924.000	-4.477	56.710	52.233	-21.767	74.000
7386.000	-0.888	46.720	45.832	-28.168	74.000
9848.000	1.766	45.890	47.656	-26.344	74.000
Average Detector:					
--	--	--	--	--	54.000

Note:

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 : Gateway
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4824.000	-4.612	48.540	43.928	-30.072	74.000
7236.000	-1.027	46.100	45.073	-28.927	74.000
9648.000	1.529	45.110	46.639	-27.361	74.000
Average Detector:					
--	--	--	--	--	54.000
Vertical					
Peak Detector:					
4824.000	-4.612	49.270	44.658	-29.342	74.000
7236.000	-1.027	46.430	45.403	-28.597	74.000
9648.000	1.529	46.020	47.549	-26.451	74.000
Average Detector:					
--	--	--	--	--	54.000

Note:

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 : Gateway
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4874.000	-4.550	49.440	44.890	-29.110	74.000
7311.000	-0.952	45.640	44.688	-29.312	74.000
9748.000	1.634	45.040	46.674	-27.326	74.000
Average Detector:					
--	--	--	--	--	54.000
Vertical					
Peak Detector:					
4874.000	-4.550	51.480	46.930	-27.070	74.000
7311.000	-0.952	46.380	45.428	-28.572	74.000
9748.000	1.634	45.250	46.884	-27.116	74.000
Average Detector:					
--	--	--	--	--	54.000

Note:

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 : Gateway
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4924.000	-4.477	54.400	49.923	-24.077	74.000
7386.000	-0.888	46.010	45.122	-28.878	74.000
9848.000	1.766	46.990	48.756	-25.244	74.000
Average Detector:					
--	--	--	--	--	54.000
Vertical					
Peak Detector:					
4924.000	-4.477	55.970	51.493	-22.507	74.000
7386.000	-0.888	48.080	47.192	-26.808	74.000
9848.000	1.766	45.180	46.946	-27.054	74.000
Average Detector:					
--	--	--	--	--	54.000

Note:

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 : Gateway
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)(2422MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4844.000	-4.589	46.970	42.380	-31.620	74.000
7266.000	-0.987	45.260	44.273	-29.727	74.000
9688.000	1.606	43.930	45.536	-28.464	74.000
Average Detector:					
--	--	--	--	--	54.000
Vertical					
Peak Detector:					
4844.000	-4.589	50.840	46.250	-27.750	74.000
7266.000	-0.987	45.140	44.153	-29.847	74.000
9688.000	1.606	44.280	45.886	-28.114	74.000
Average Detector:					
--	--	--	--	--	54.000

Note:
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 : Gateway
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4874.000	-4.550	51.120	46.570	-27.430	74.000
7311.000	-0.952	45.150	44.198	-29.802	74.000
9748.000	1.634	45.870	47.504	-26.496	74.000
Average Detector:					
--	--	--	--	--	54.000
Vertical					
Peak Detector:					
4874.000	-4.550	52.350	47.800	-26.200	74.000
7311.000	-0.952	45.830	44.878	-29.122	74.000
9748.000	1.634	45.950	47.584	-26.416	74.000
Average Detector:					
--	--	--	--	--	54.000

Note:

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 : Gateway
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)(2452 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4904.000	-4.518	53.330	48.812	-25.188	74.000
7356.000	-0.908	44.570	43.662	-30.338	74.000
9808.000	1.740	45.480	47.220	-26.780	74.000
Average Detector:					
--	--	--	--	--	54.000
Vertical					
Peak Detector:					
4904.000	-4.518	54.070	49.552	-24.448	74.000
7356.000	-0.908	46.030	45.122	-28.878	74.000
9808.000	1.740	44.730	46.470	-27.530	74.000
Average Detector:					
--	--	--	--	--	54.000

Note:

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 : Gateway
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)(2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
191.667	-13.436	52.373	38.936	-4.564	43.500
239.464	-12.086	53.647	41.561	-4.439	46.000
360.362	-8.736	52.028	43.292	-2.708	46.000
432.058	-7.047	49.897	42.851	-3.149	46.000
527.652	-5.352	47.438	42.085	-3.915	46.000
865.043	-0.062	37.318	37.256	-8.744	46.000
Vertical					
191.667	-13.436	45.169	31.732	-11.768	43.500
239.464	-12.086	52.377	40.291	-5.709	46.000
432.058	-7.047	46.605	39.559	-6.441	46.000
527.652	-5.352	45.088	39.735	-6.265	46.000
588.101	-3.950	42.528	38.578	-7.422	46.000
721.652	-2.008	38.112	36.103	-9.897	46.000

Note:

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 : Gateway
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps)(2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
191.667	-13.436	52.233	38.796	-4.704	43.500
239.464	-12.086	52.151	40.065	-5.935	46.000
335.058	-9.344	52.101	42.758	-3.242	46.000
432.058	-7.047	51.151	44.105	-1.895	46.000
527.652	-5.352	45.034	39.681	-6.319	46.000
599.348	-3.656	41.195	37.539	-8.461	46.000
817.246	-0.795	38.598	37.804	-8.196	46.000
Vertical					
164.957	-10.850	40.165	29.314	-14.186	43.500
239.464	-12.086	50.380	38.294	-7.706	46.000
432.058	-7.047	45.127	38.081	-7.919	46.000
527.652	-5.352	44.062	38.709	-7.291	46.000
623.246	-3.457	40.493	37.035	-8.965	46.000
808.812	-0.931	34.358	33.427	-12.573	46.000

Note:

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 : Gateway
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
191.667	-13.436	51.758	38.321	-5.179	43.500
239.464	-12.086	54.001	41.915	-4.085	46.000
336.464	-9.310	51.038	41.728	-4.272	46.000
432.058	-7.047	50.966	43.920	-2.080	46.000
599.348	-3.656	41.417	37.761	-8.239	46.000
839.739	-0.438	39.695	39.257	-6.743	46.000
Vertical					
191.667	-13.436	44.531	31.094	-12.406	43.500
239.464	-12.086	50.659	38.573	-7.427	46.000
432.058	-7.047	46.208	39.162	-6.838	46.000
527.652	-5.352	43.411	38.058	-7.942	46.000
593.725	-3.802	42.655	38.853	-7.147	46.000
731.493	-1.812	37.338	35.526	-10.474	46.000

Note:

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 : Gateway
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)(2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
191.667	-13.436	53.432	39.995	-3.505	43.500
335.058	-9.344	47.610	38.267	-7.733	46.000
384.261	-8.165	46.532	38.366	-7.634	46.000
432.058	-7.047	45.363	38.317	-7.683	46.000
527.652	-5.352	40.895	35.542	-10.458	46.000
841.145	-0.415	33.364	32.949	-13.051	46.000
Vertical					
143.870	-11.162	44.448	33.287	-10.213	43.500
287.261	-10.567	47.225	36.658	-9.342	46.000
432.058	-7.047	41.217	34.171	-11.829	46.000
527.652	-5.352	40.713	35.360	-10.640	46.000
579.667	-4.170	39.744	35.574	-10.426	46.000
828.493	-0.615	35.331	34.716	-11.284	46.000

Note:

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

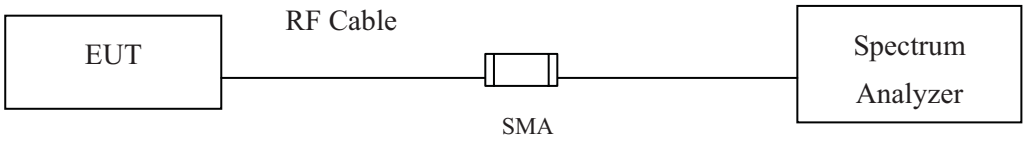
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2016	Jun., 2017
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2016	Jun., 2017
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2016	Apr., 2017

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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.4. 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.

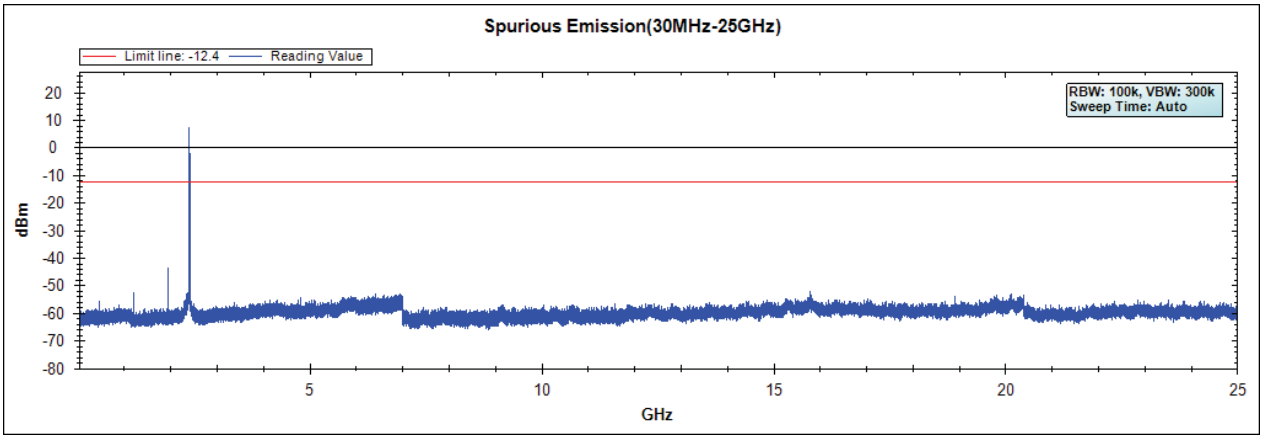
5.5. Uncertainty

The measurement uncertainty
Conducted is defined as ± 1.20dB

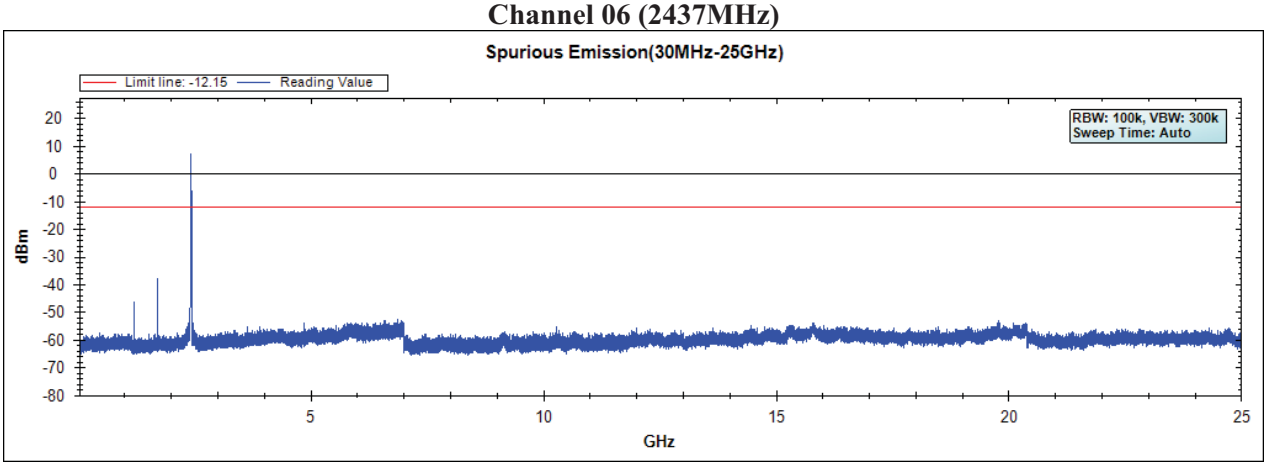
5.6. Test Result of RF antenna conducted test

Product : Gateway
Test Item : RF antenna conducted test
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

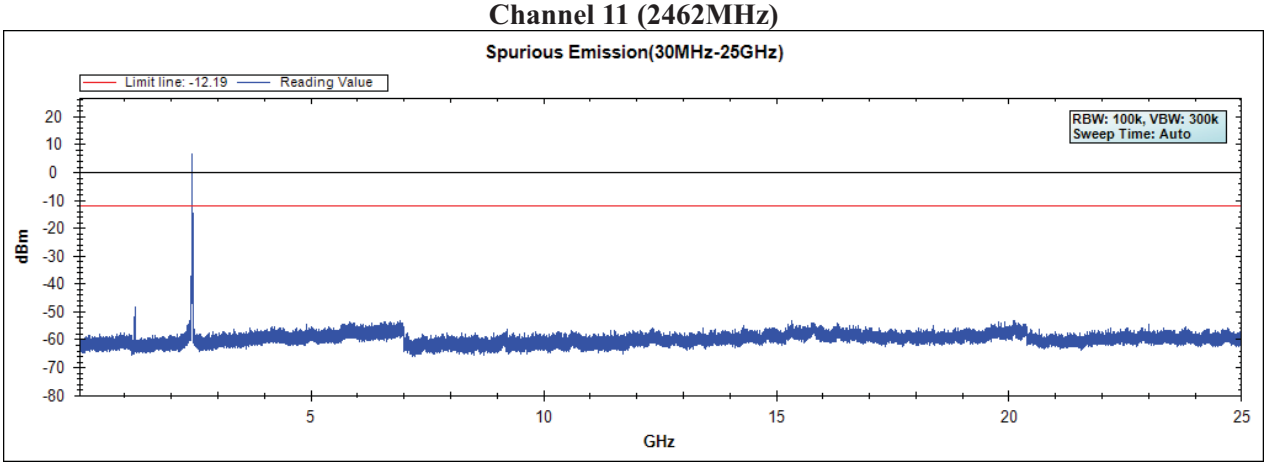
Channel 01 (2412MHz)



Channel 06 (2437MHz)



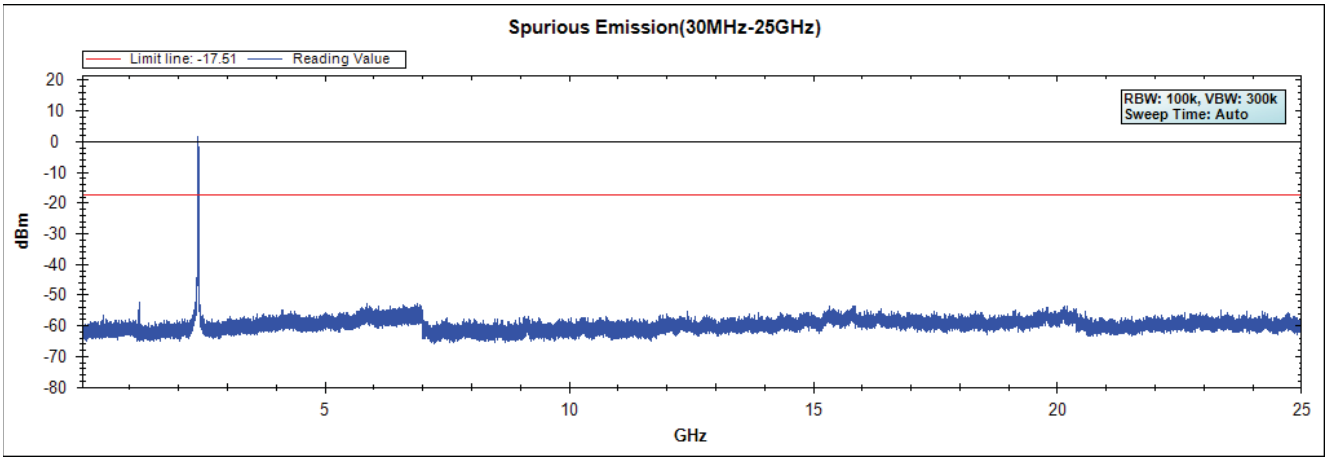
Channel 11 (2462MHz)



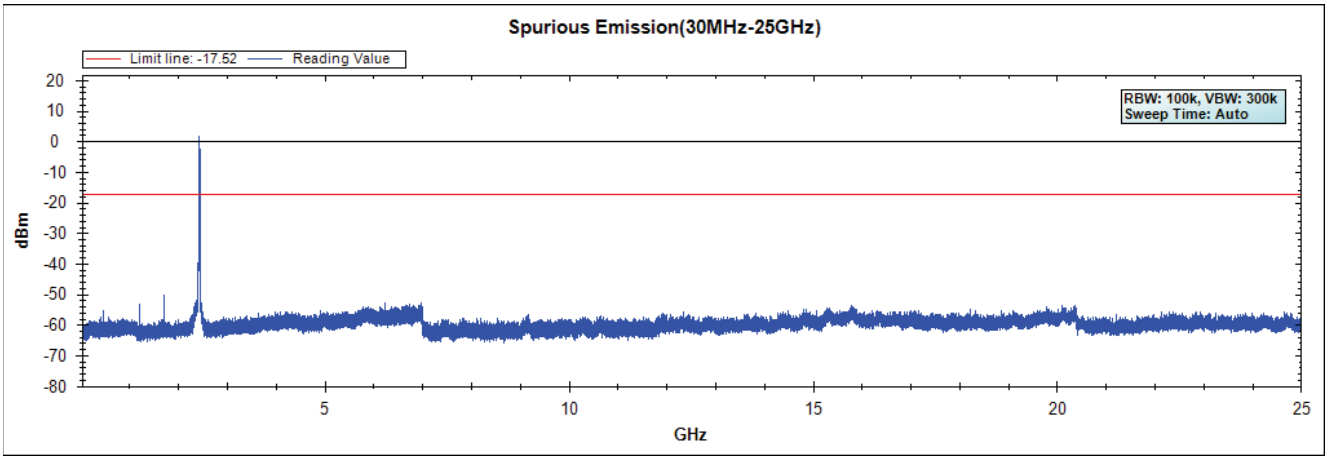
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Gateway
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

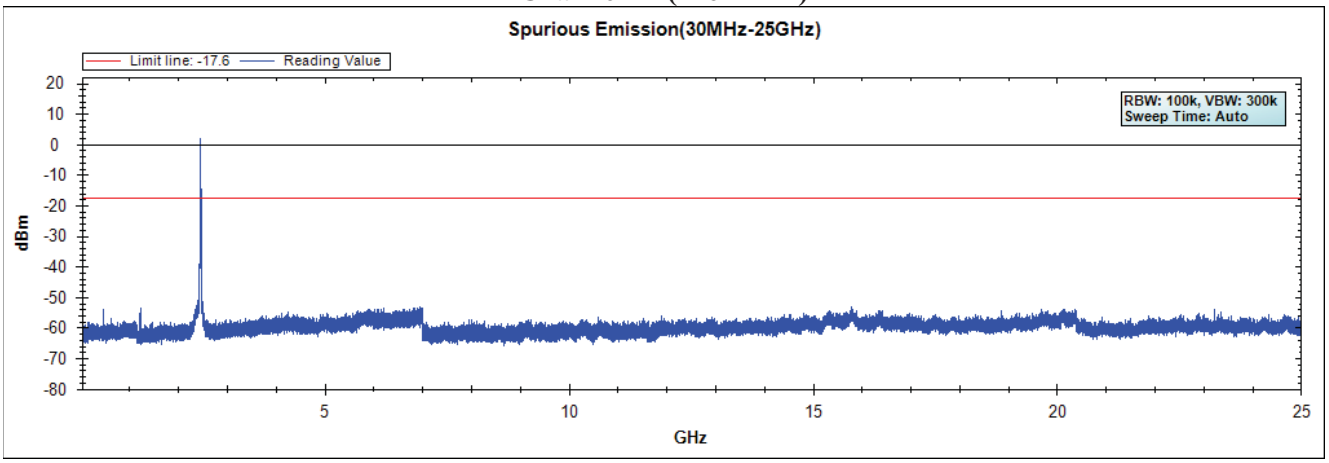
Channel 01 (2412MHz)



Channel 06 (2437MHz)



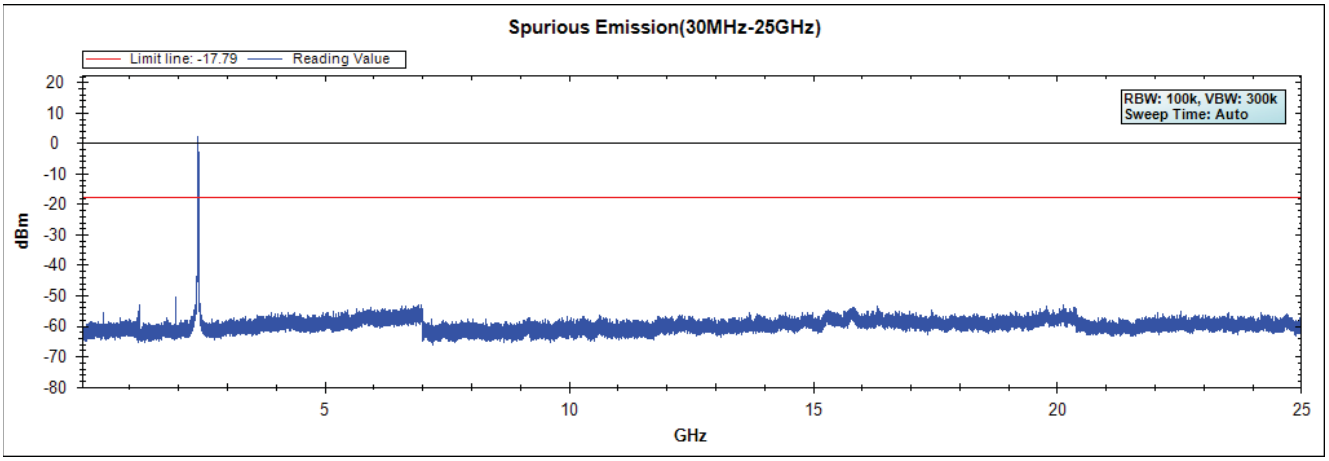
Channel 11 (2462MHz)



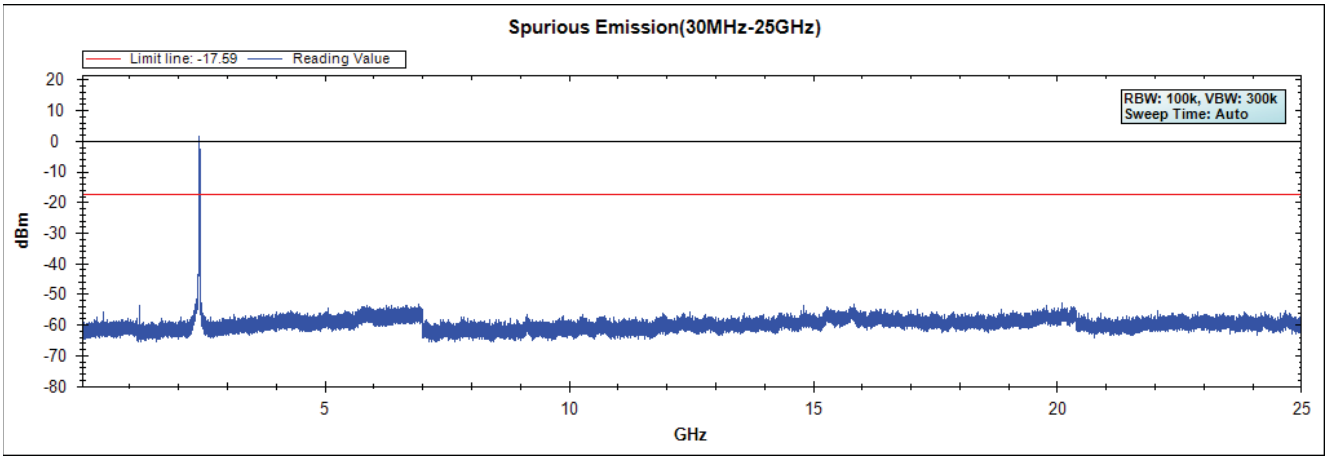
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Gateway
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

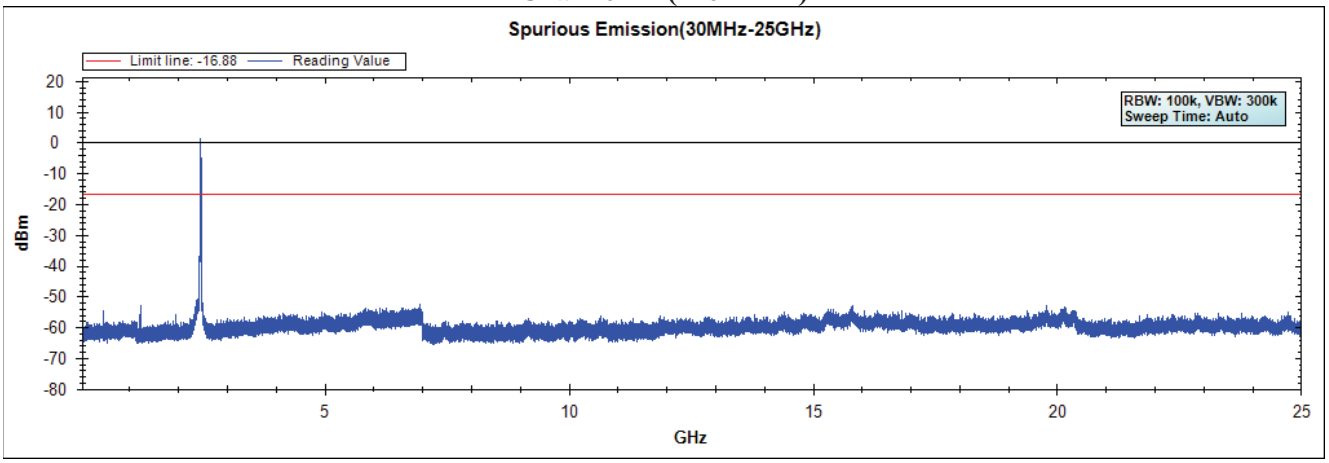
Channel 01 (2412MHz)



Channel 06 (2437MHz)



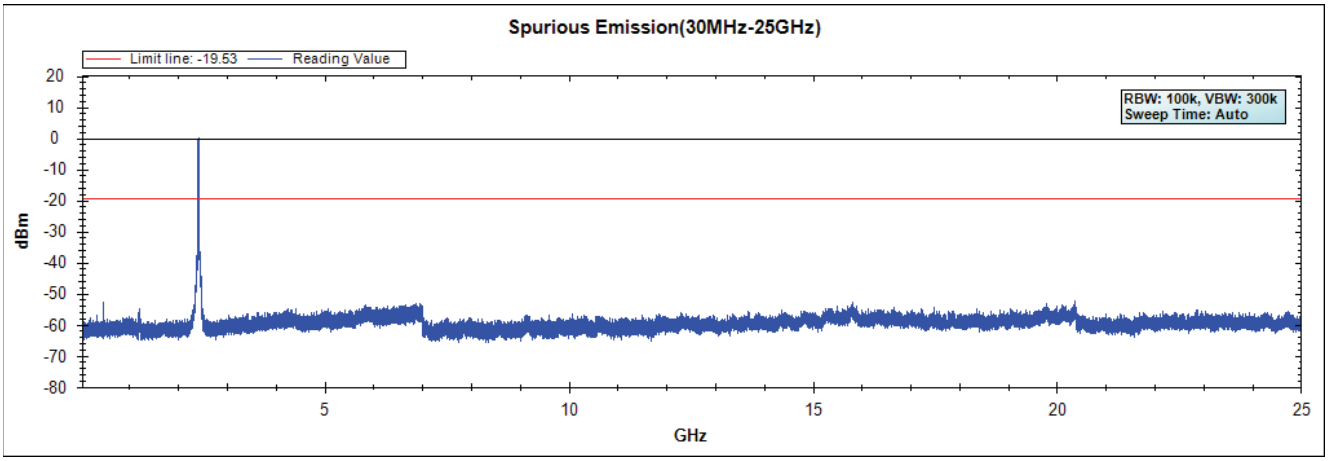
Channel 11 (2462MHz)



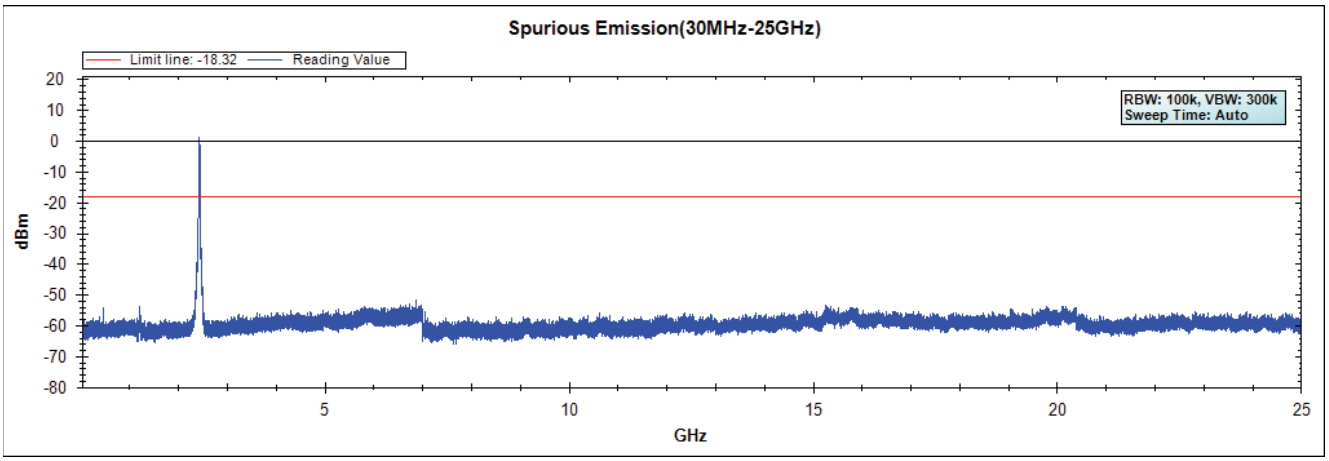
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : Gateway
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

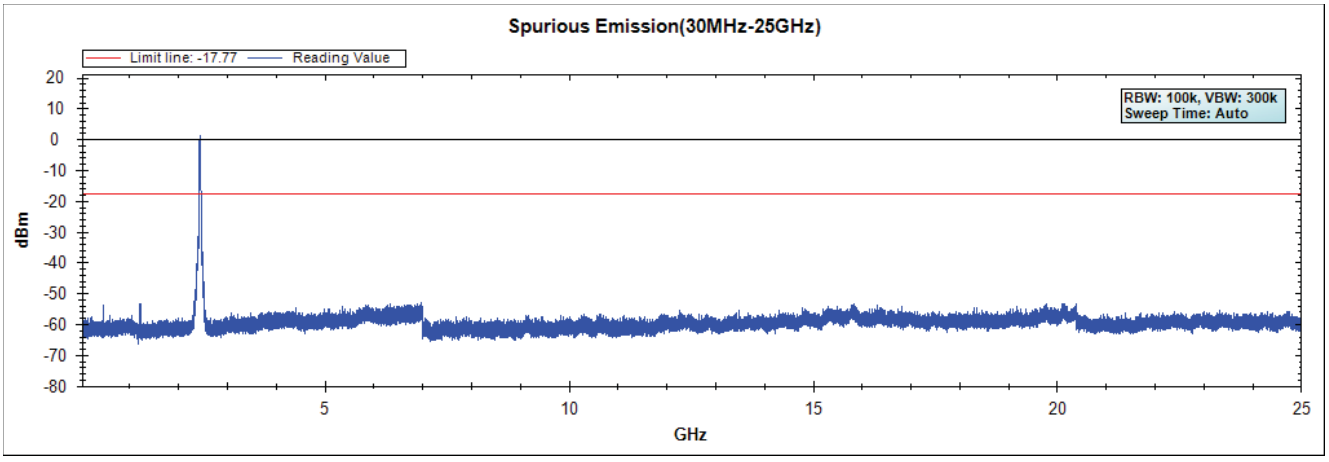
Channel 01 (2422MHz)



Channel 04 (2437MHz)



Channel 07 (2452MHz)



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

6. Band Edge

6.1. Test Equipment

RF Radiated Measurement:

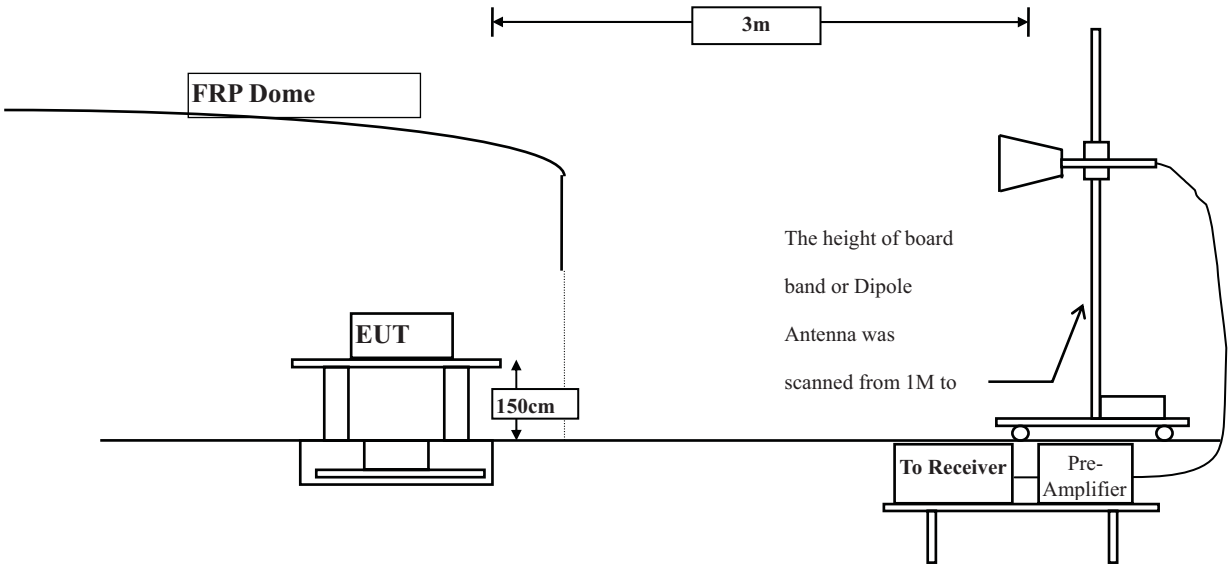
The following test equipments are used during the band edge tests:

Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.	Last Cal.
☒CB # 8	X	Spectrum Analyzer	R&S	FSP40/ 100339	Oct., 2015	Oct., 2016
	X	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar., 2016	Mar., 2017
	X	Horn Antenna	Schwarzbeck	BBHA9170/209	Jan., 2016	Jan., 2017
	X	Horn Antenna	TRC	AH-0801/95051	Aug., 2016	Aug., 2017
	X	Pre-Amplifier	EMCI	EMC012630SE/980210	Jan., 2016	Jan., 2017
	X	Pre-Amplifier	MITEQ	JS41-001040000-58-5P/153945	Jul., 2016	Jul., 2017
	X	Pre-Amplifier	NARDA	DBL-1840N506/013	Jul., 2016	Jul., 2017

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 20dB 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, 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

6.5. Uncertainty

± 4.08 dB above 1GHz
± 4.22 dB below 1GHz

6.6. Test Result of Band Edge

Product : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2385.217	11.879	33.954	45.833	74.00	54.00	Pass
01 (Peak)	2390.000	11.897	32.581	44.478	74.00	54.00	Pass
01 (Peak)	2397.101	11.924	55.363	67.287	--	--	--
01 (Peak)	2400.000	11.935	50.937	62.872	--	--	--
01 (Peak)	2411.014	11.977	87.228	99.205	--	--	--
01 (Average)	2383.768	11.873	23.301	35.174	74.00	54.00	Pass
01 (Average)	2390.000	11.897	21.483	33.380	74.00	54.00	Pass
01 (Average)	2397.391	11.925	51.255	63.180	--	--	--
01 (Average)	2400.000	11.935	47.330	59.265	--	--	--
01 (Average)	2411.304	11.978	84.121	96.099	--	--	--

Figure Channel 01: Horizontal (Peak)

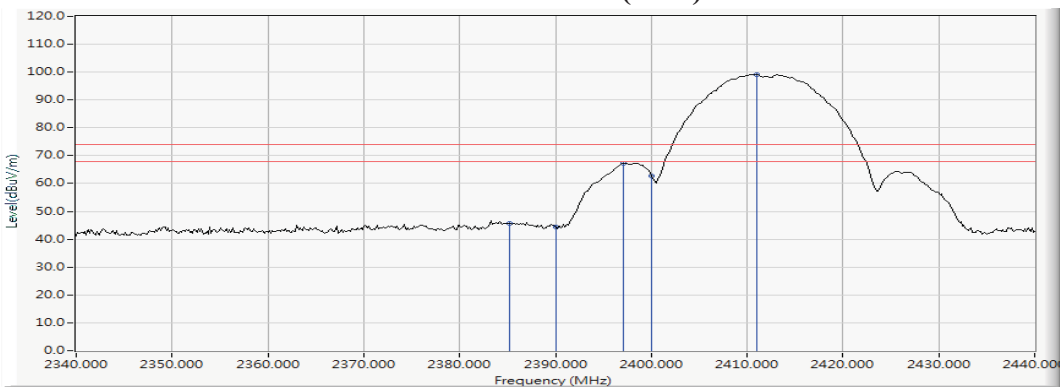
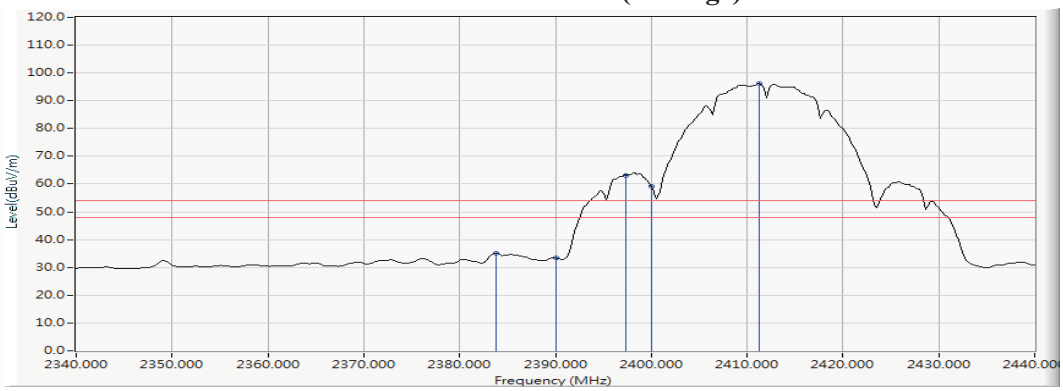


Figure Channel 01: Horizontal (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2385.507	11.881	41.662	53.542	74.00	54.00	Pass
01 (Peak)	2390.000	11.897	39.351	51.248	74.00	54.00	Pass
01 (Peak)	2397.681	11.926	59.910	71.836	--	--	--
01 (Peak)	2400.000	11.935	55.785	67.720	--	--	--
01 (Peak)	2411.014	11.977	91.522	103.499	--	--	--
01 (Average)	2385.217	11.879	31.387	43.266	74.00	54.00	Pass
01 (Average)	2390.000	11.897	28.442	40.339	74.00	54.00	Pass
01 (Average)	2398.116	11.928	56.625	68.553	--	--	--
01 (Average)	2400.000	11.935	52.196	64.131	--	--	--
01 (Average)	2411.304	11.978	88.370	100.348	--	--	--

Figure Channel 01: VERTICAL (Peak)

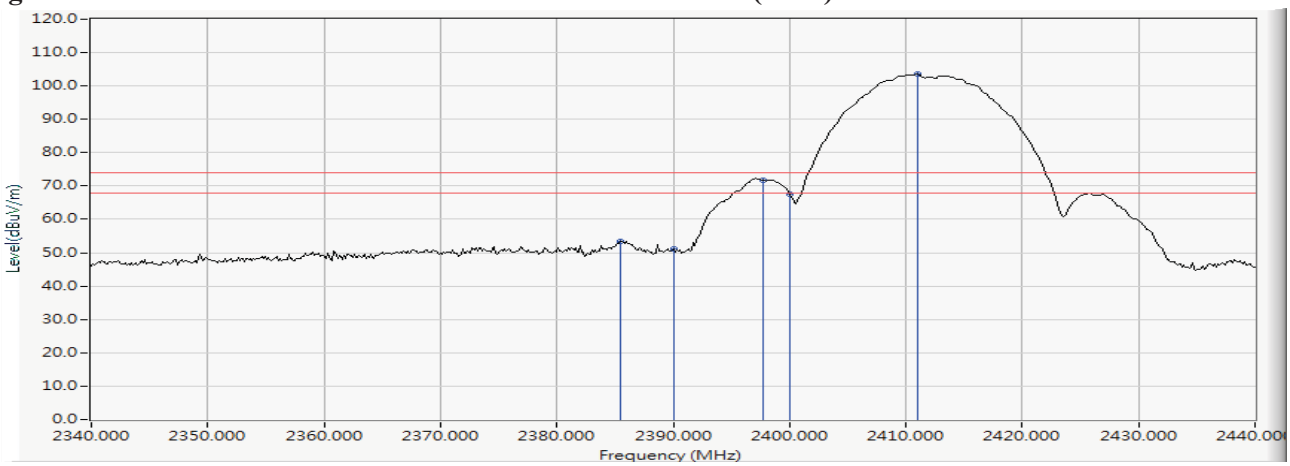
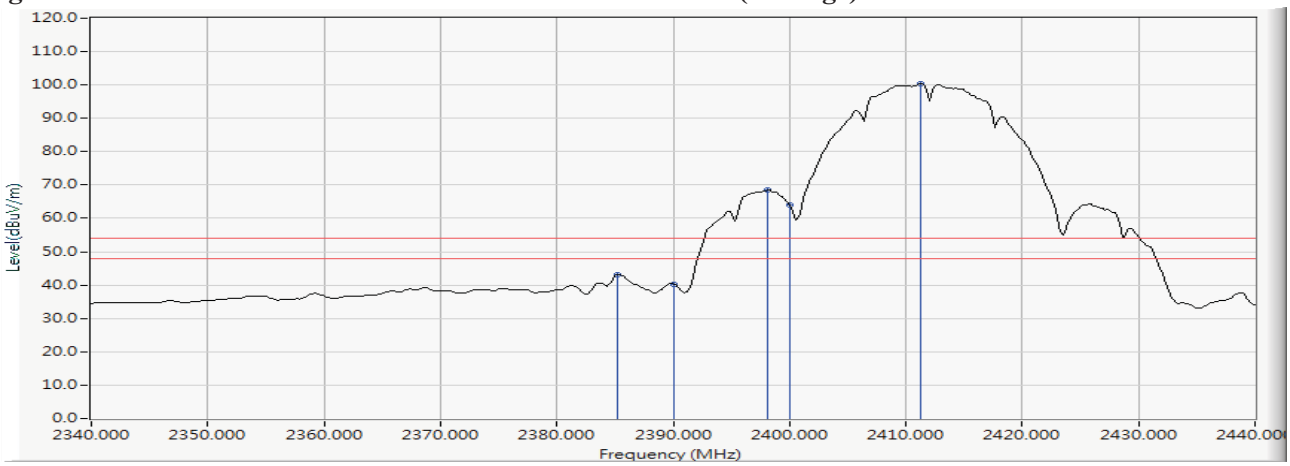


Figure Channel 01: VERTICAL (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2460.891	12.179	87.810	99.989	--	--	--
11 (Peak)	2483.500	12.272	32.410	44.682	74.00	54.00	Pass
11 (Average)	2461.181	12.181	84.710	96.890	--	--	--
11 (Average)	2483.500	12.272	19.517	31.789	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

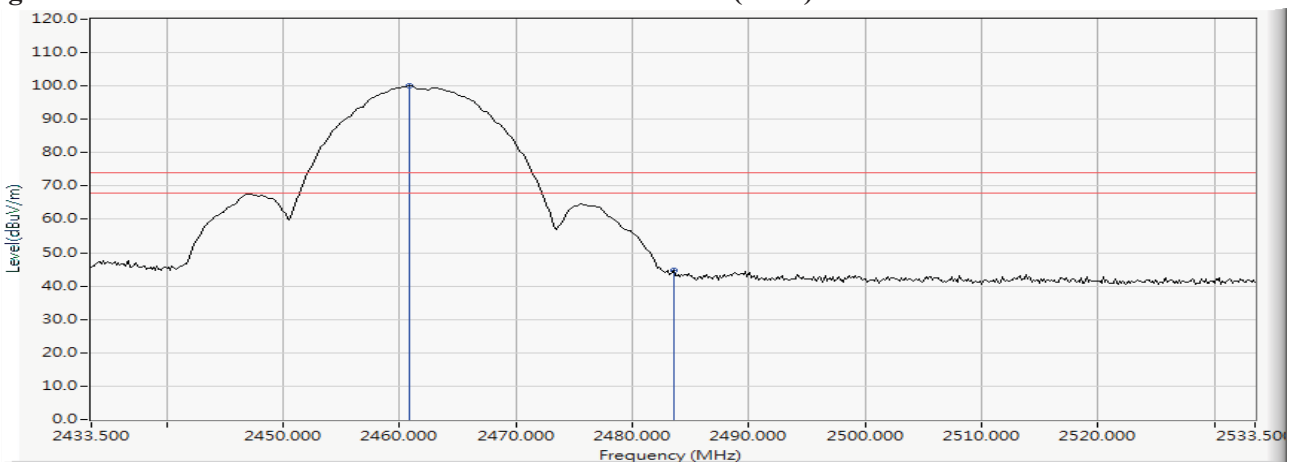
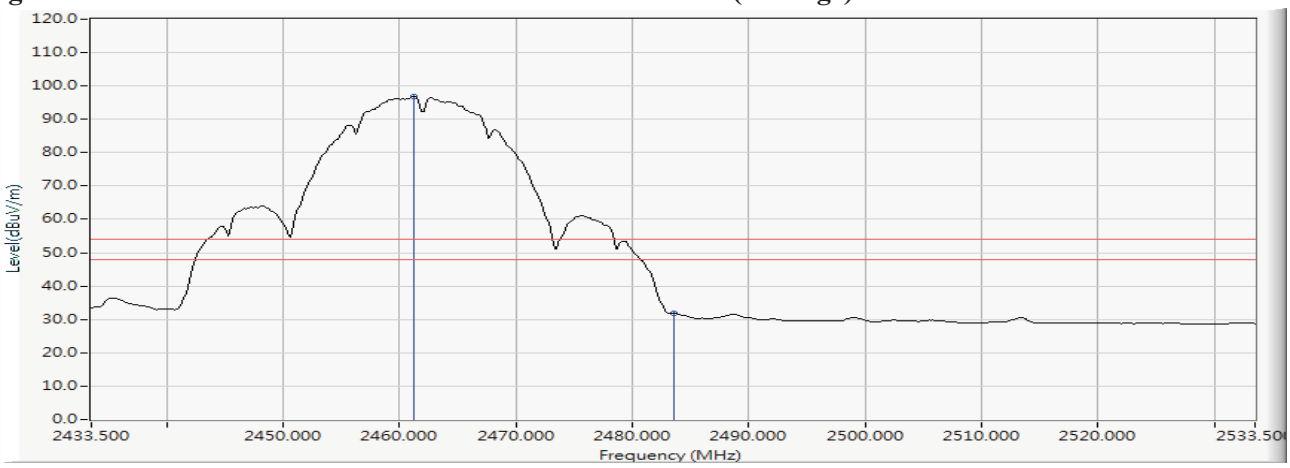


Figure Channel 11: Horizontal (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2460.891	12.179	90.773	102.952	--	--	--
11 (Peak)	2483.500	12.272	32.623	44.895	74.00	54.00	Pass
11 (Peak)	2489.732	12.296	33.745	46.041	74.00	54.00	Pass
11 (Average)	2461.181	12.181	87.683	99.863	--	--	--
11 (Average)	2483.500	12.272	21.544	33.816	74.00	54.00	Pass
11 (Average)	2490.167	12.298	22.997	35.295	74.00	54.00	Pass

Figure Channel 11: VERTICAL (Peak)

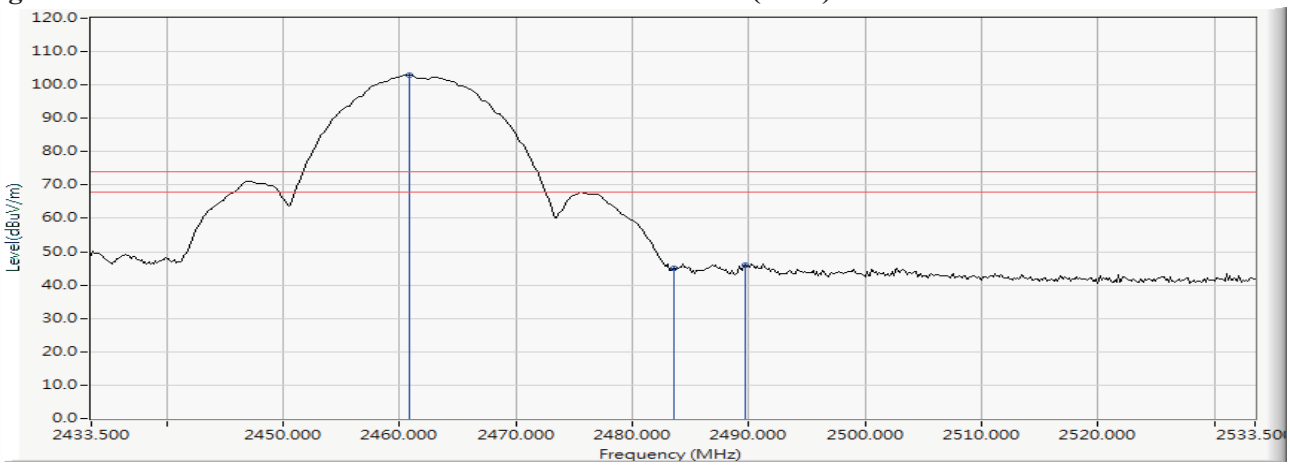


Figure Channel 11: VERTICAL (Average)

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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2390.000	11.897	50.351	62.248	74.00	54.00	Pass
01 (Peak)	2400.000	11.935	65.289	77.224	--	--	--
01 (Peak)	2408.551	11.968	89.391	101.359	--	--	--
01 (Average)	2390.000	11.897	33.317	45.214	74.00	54.00	Pass
01 (Average)	2400.000	11.935	46.722	58.657	--	--	--
01 (Average)	2410.870	11.977	78.201	90.178	--	--	--

Figure Channel 01: Horizontal (Peak)

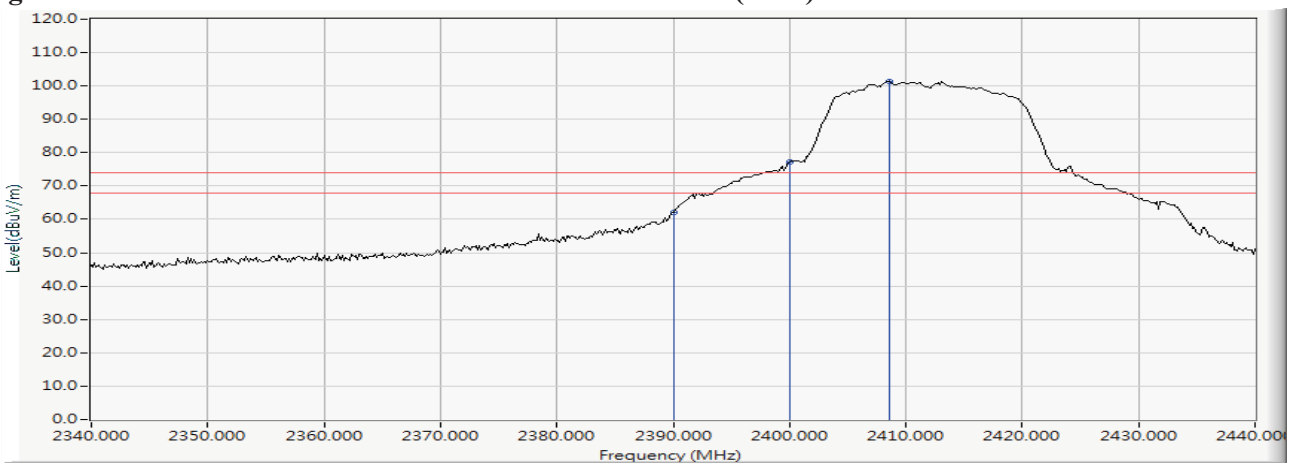
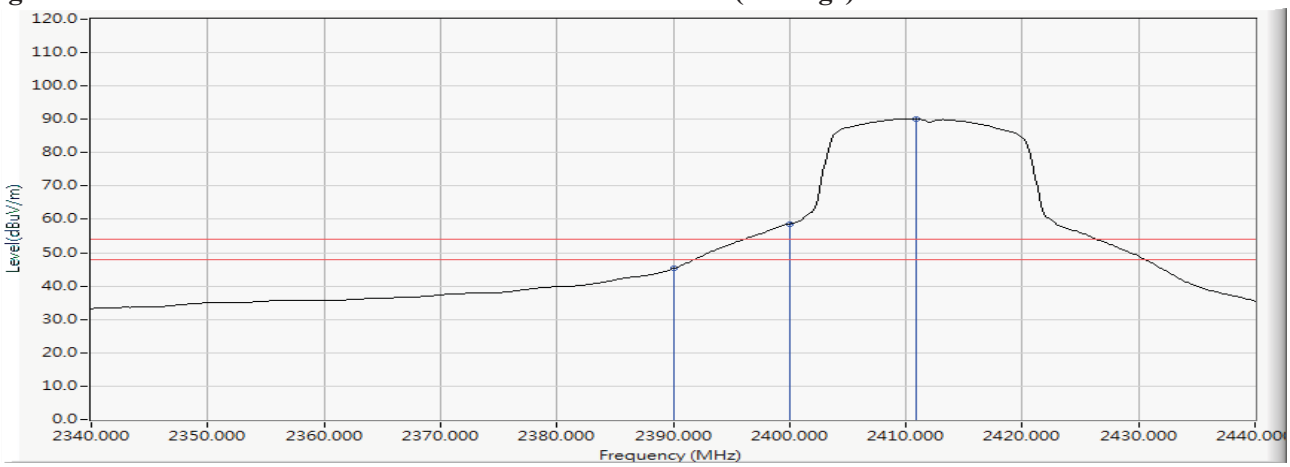


Figure Channel 01: Horizontal (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2390.000	11.897	54.671	66.568	74.00	54.00	Pass
01 (Peak)	2400.000	11.935	69.404	81.339	--	--	--
01 (Peak)	2410.725	11.976	93.859	105.835	--	--	--
01 (Average)	2390.000	11.897	37.120	49.017	74.00	54.00	Pass
01 (Average)	2400.000	11.935	50.277	62.212	--	--	--
01 (Average)	2410.725	11.976	82.166	94.142	--	--	--

Figure Channel 01: VERTICAL (Peak)

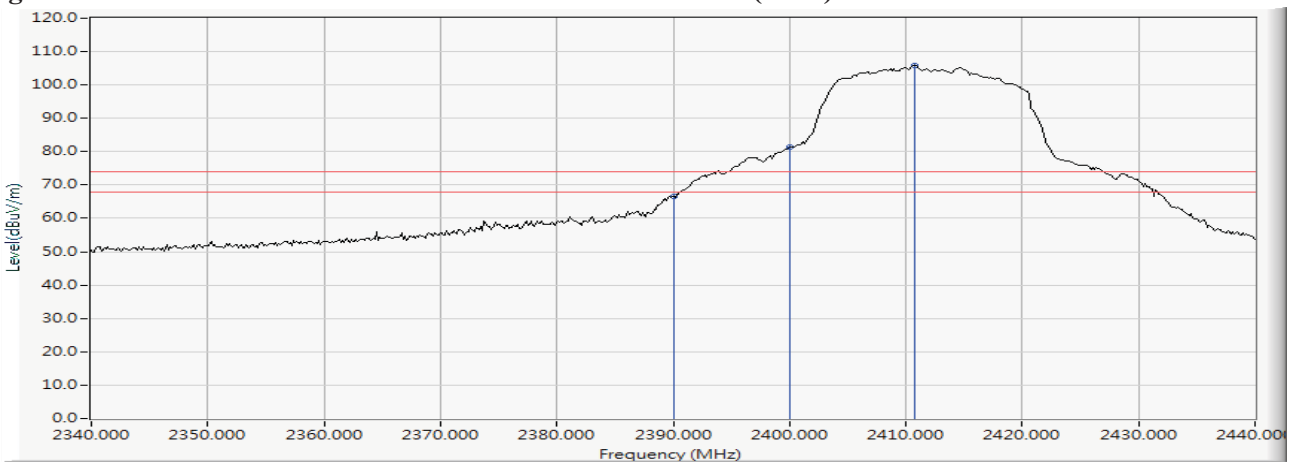
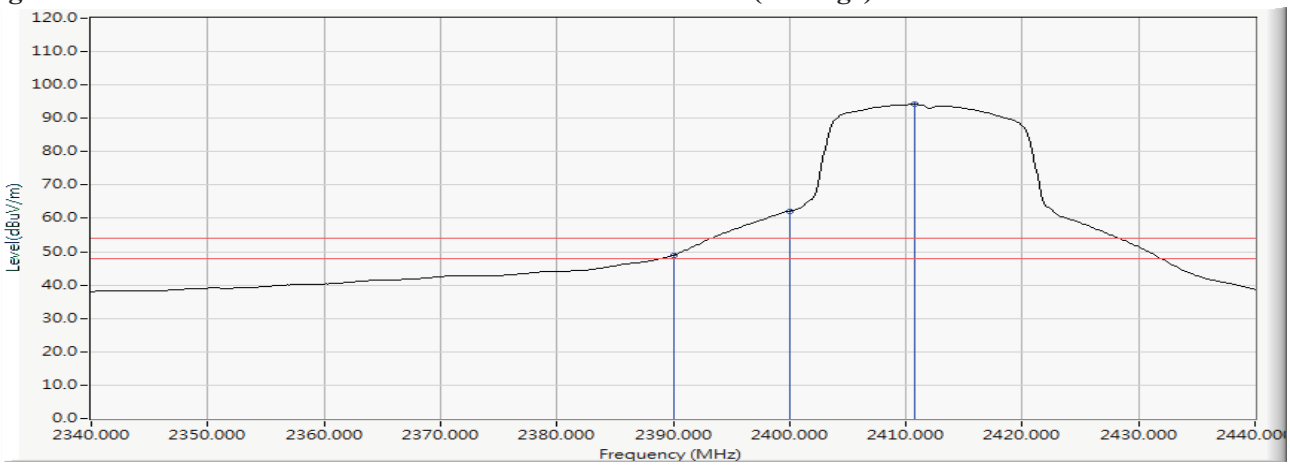


Figure Channel 01: VERTICAL (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2460.891	12.179	90.780	102.959	--	--	--
11 (Peak)	2483.500	12.272	47.528	59.800	74.00	54.00	Pass
11 (Average)	2460.891	12.179	79.276	91.455	--	--	--
11 (Average)	2483.500	12.272	30.529	42.801	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

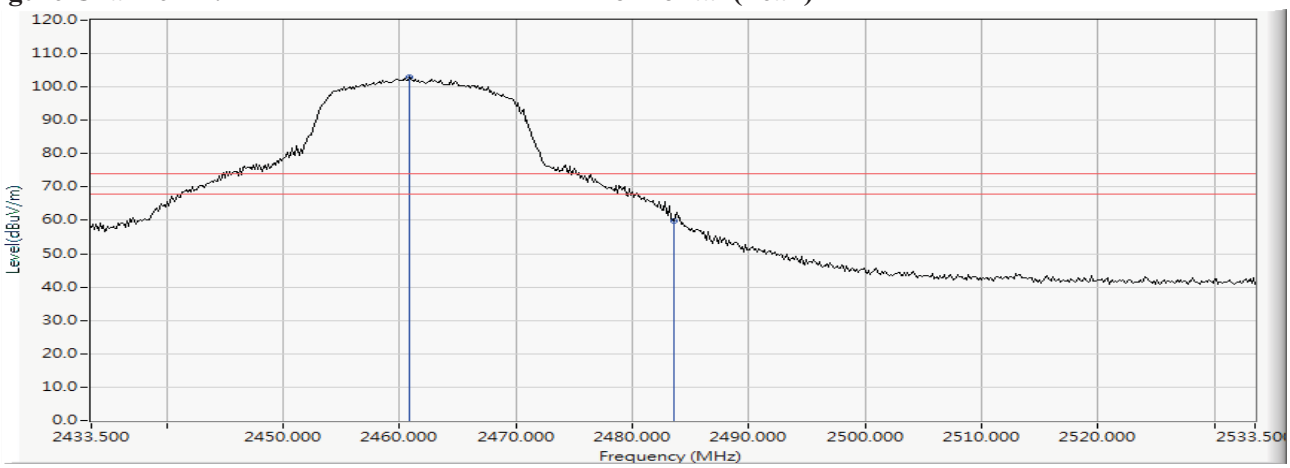
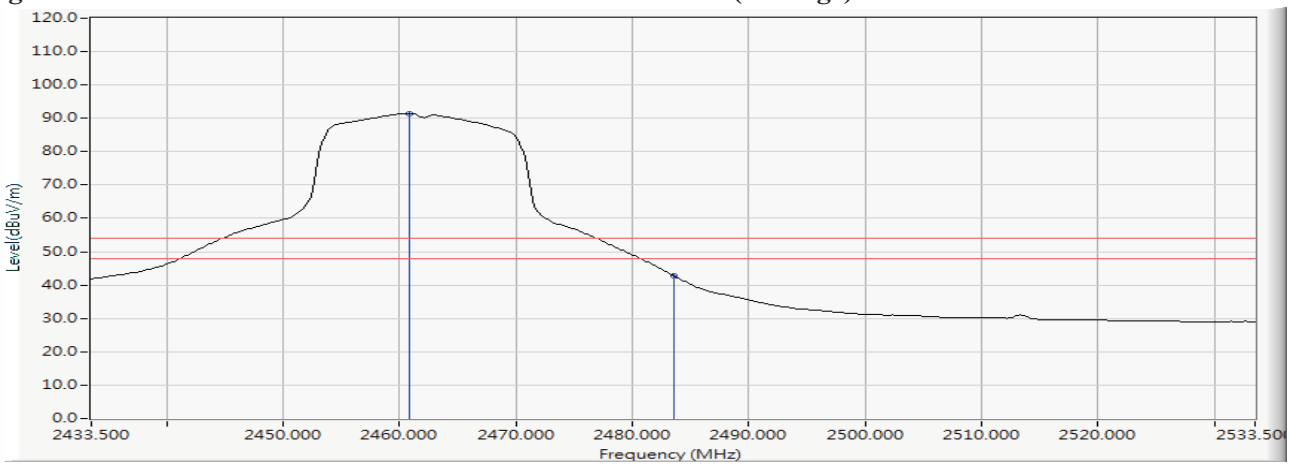


Figure Channel 11: Horizontal (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2460.457	12.178	93.183	105.360	--	--	--
11 (Peak)	2483.500	12.272	51.087	63.359	74.00	54.00	Pass
11 (Average)	2460.891	12.179	81.751	93.930	--	--	--
11 (Average)	2483.500	12.272	32.799	45.071	74.00	54.00	Pass

Figure Channel 11: VERTICAL (Peak)

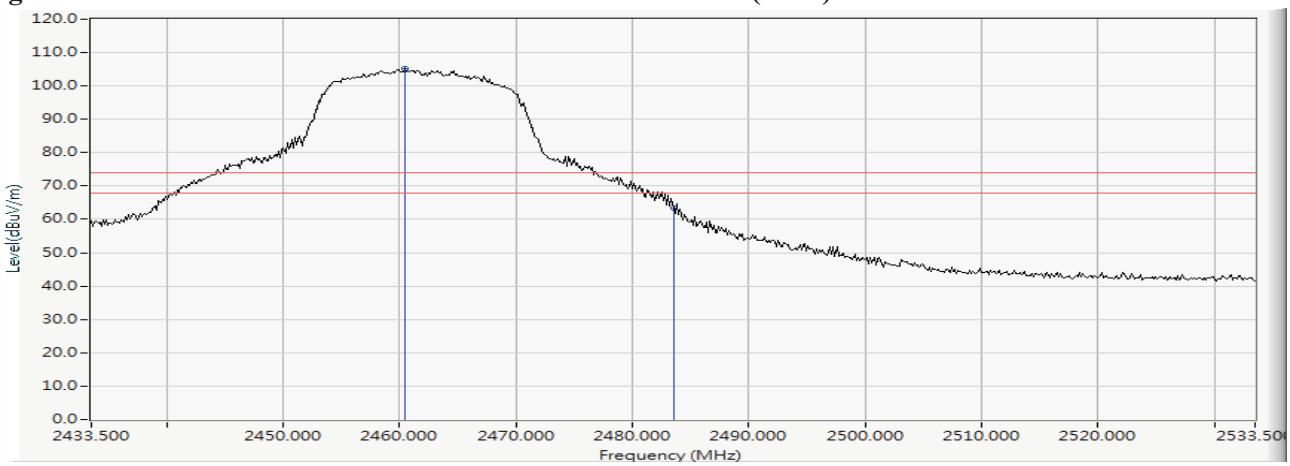
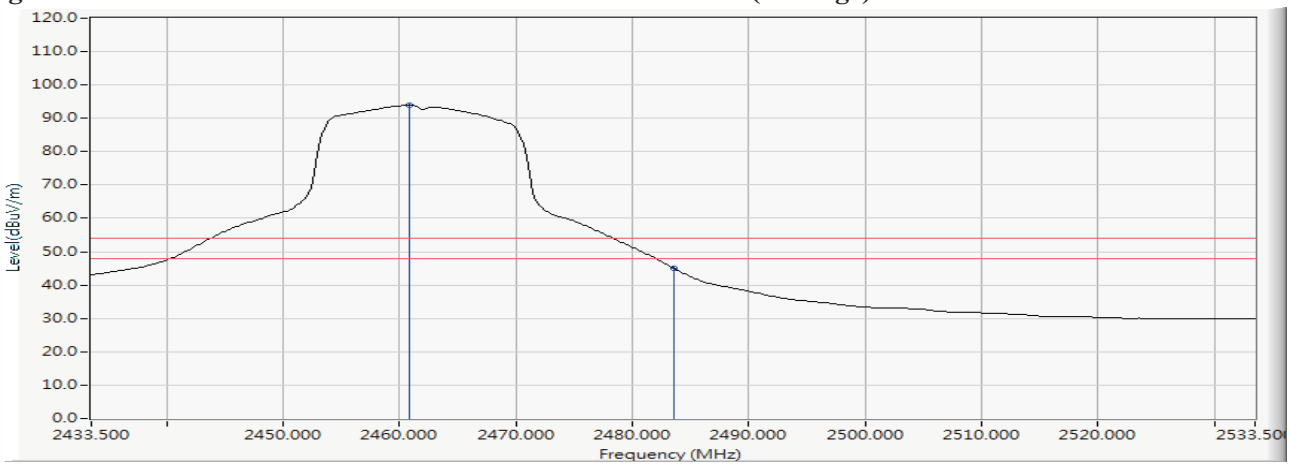


Figure Channel 11: VERTICAL (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2390.000	11.897	52.912	64.809	74.00	54.00	Pass
01 (Peak)	2400.000	11.935	65.008	76.943	--	--	--
01 (Peak)	2411.449	11.978	89.354	101.333	--	--	--
01 (Average)	2390.000	11.897	34.208	46.105	74.00	54.00	Pass
01 (Average)	2400.000	11.935	45.778	57.713	--	--	--
01 (Average)	2410.725	11.976	77.555	89.531	--	--	--

Figure Channel 01: Horizontal (Peak)

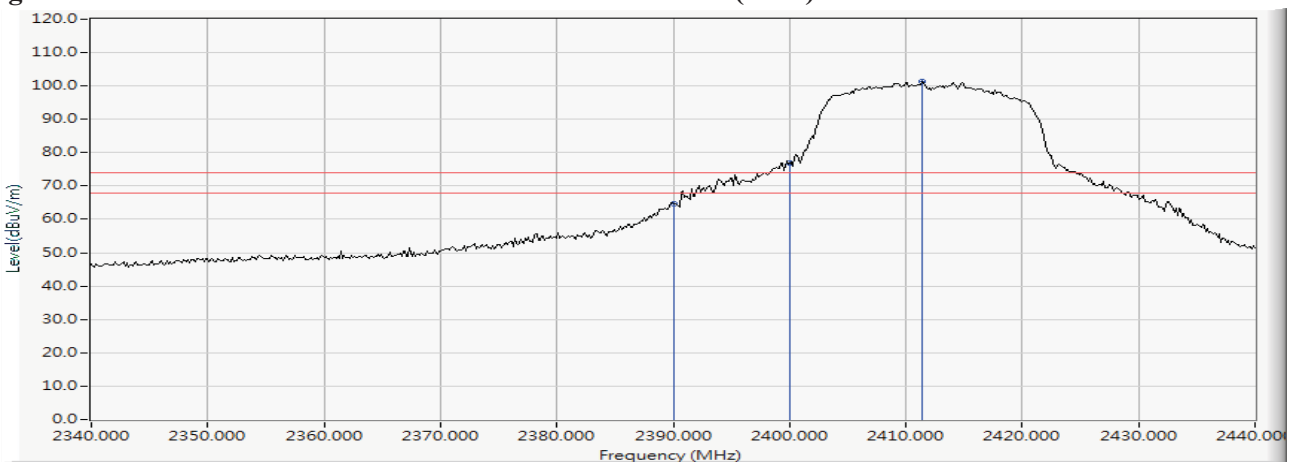
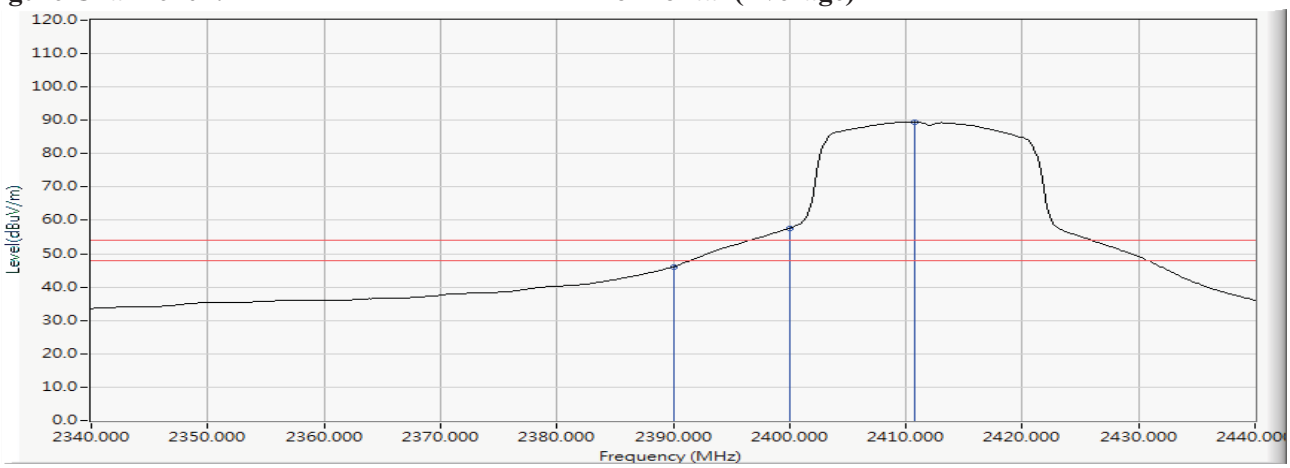


Figure Channel 01: Horizontal (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2390.000	11.897	58.158	70.055	74.00	54.00	Pass
01 (Peak)	2400.000	11.935	69.816	81.751	--	--	--
01 (Peak)	2411.014	11.977	93.151	105.128	--	--	--
01 (Average)	2390.000	11.897	38.115	50.012	74.00	54.00	Pass
01 (Average)	2400.000	11.935	49.690	61.625	--	--	--
01 (Average)	2410.870	11.977	81.627	93.604	--	--	--

Figure Channel 01: VERTICAL (Peak)

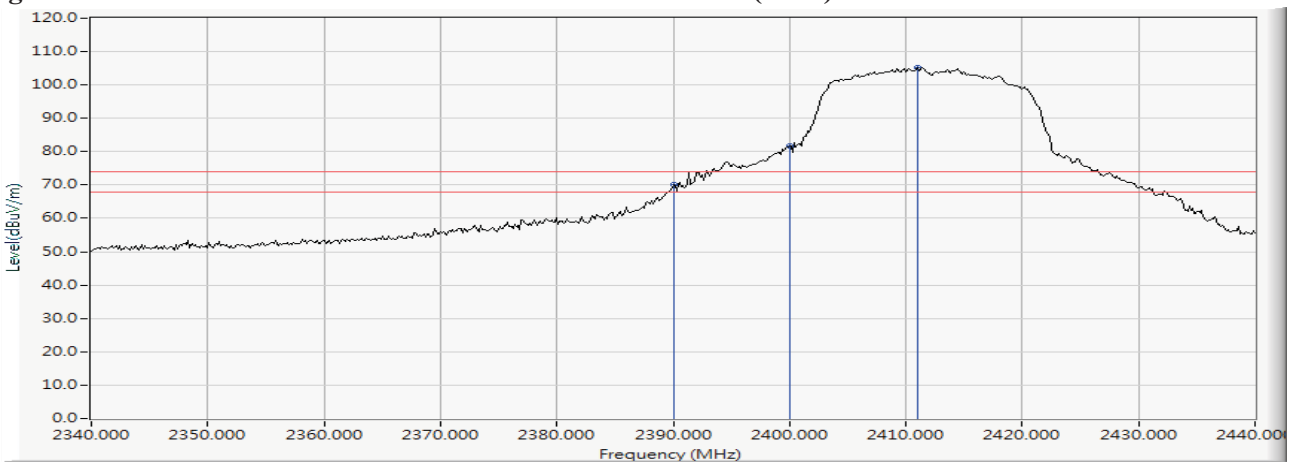
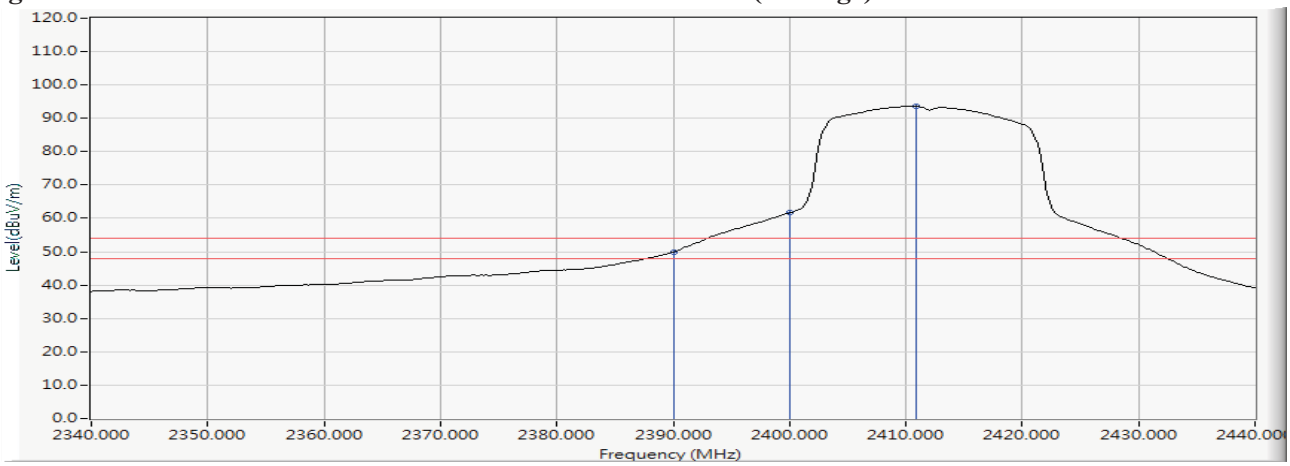


Figure Channel 01: VERTICAL (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2461.181	12.181	90.107	102.287	--	--	--
11 (Peak)	2483.500	12.272	51.535	63.807	74.00	54.00	Pass
11 (Average)	2460.746	12.178	78.583	90.762	--	--	--
11 (Average)	2483.500	12.272	31.520	43.792	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

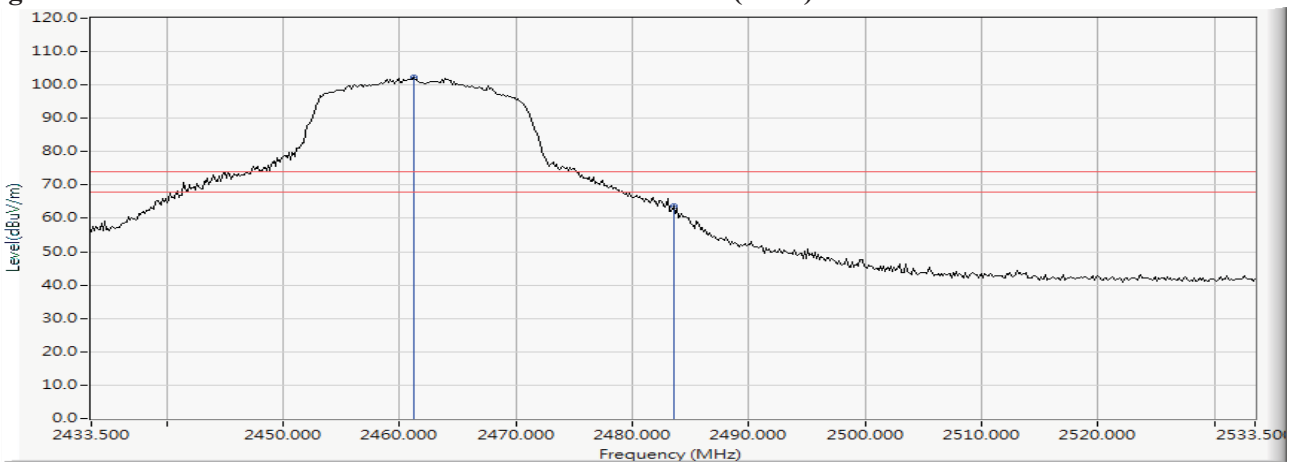
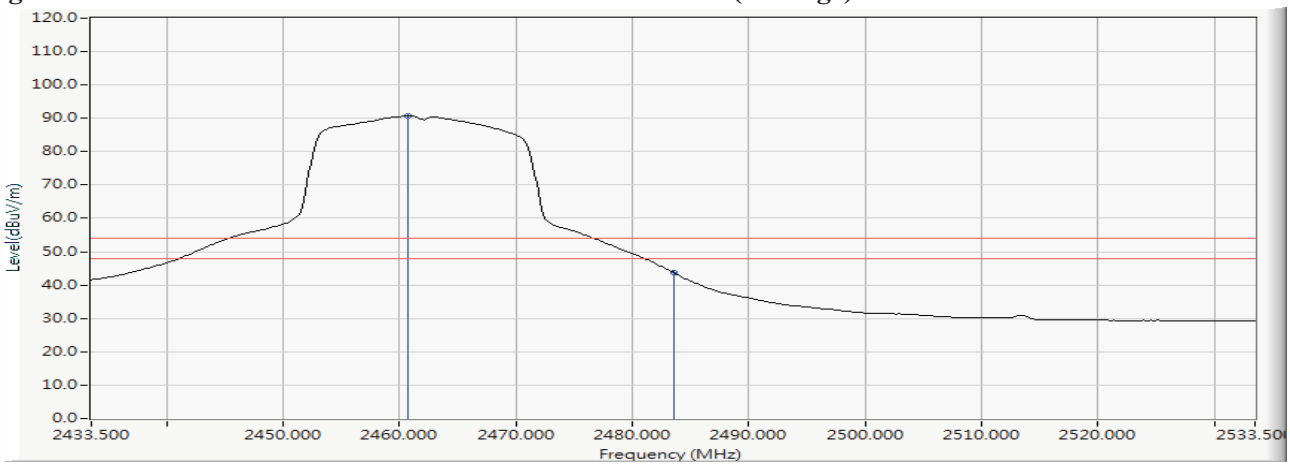


Figure Channel 11: Horizontal (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2461.326	12.181	92.892	105.073	--	--	--
11 (Peak)	2483.500	12.272	51.302	63.574	74.00	54.00	Pass
11 (Average)	2460.891	12.179	81.048	93.227	--	--	--
11 (Average)	2483.500	12.272	33.789	46.061	74.00	54.00	Pass

Figure Channel 11: VERTICAL (Peak)

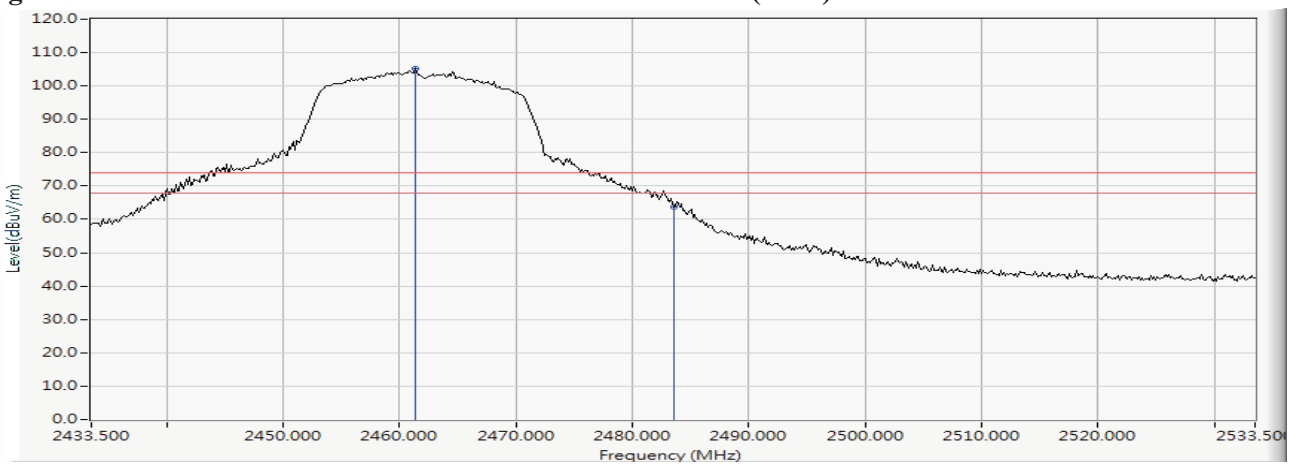
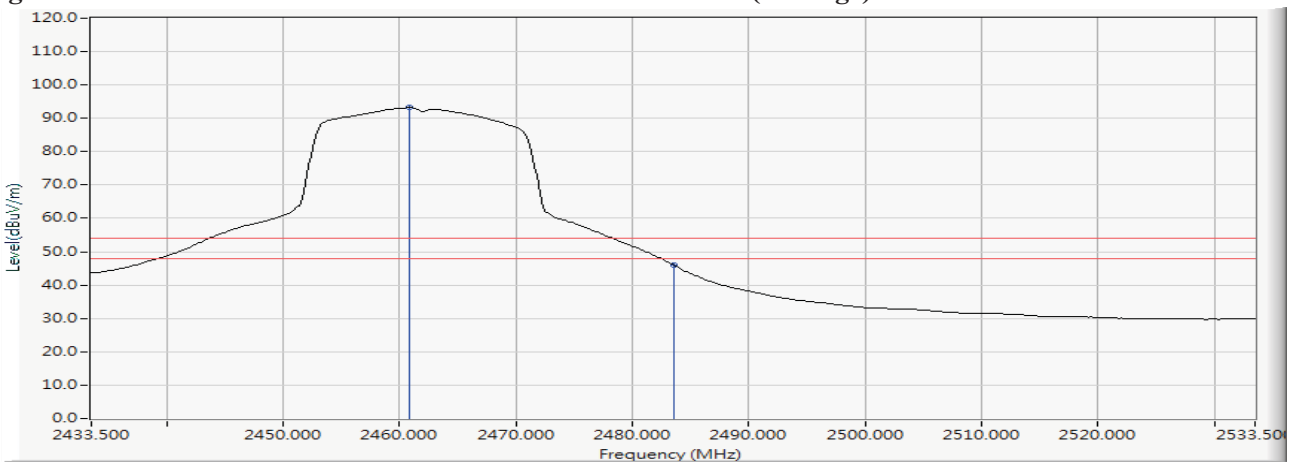


Figure Channel 11: VERTICAL (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2422MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
03 (Peak)	2388.261	11.890	54.072	65.963	74.00	54.00	Pass
03 (Peak)	2390.000	11.897	53.147	65.044	74.00	54.00	Pass
03 (Peak)	2400.000	11.935	58.150	70.085	--	--	--
03 (Peak)	2415.217	11.993	84.799	96.792	--	--	--
03 (Average)	2390.000	11.897	34.525	46.422	74.00	54.00	Pass
03 (Average)	2400.000	11.935	39.820	51.755	--	--	--
03 (Average)	2415.652	11.995	72.534	84.529	--	--	--

Figure Channel 03: Horizontal (Peak)

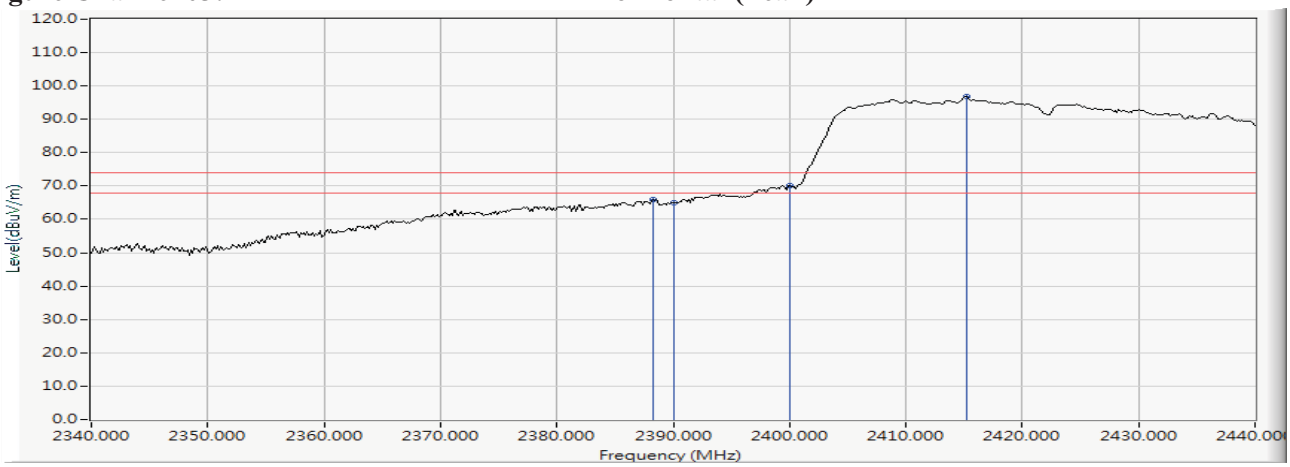
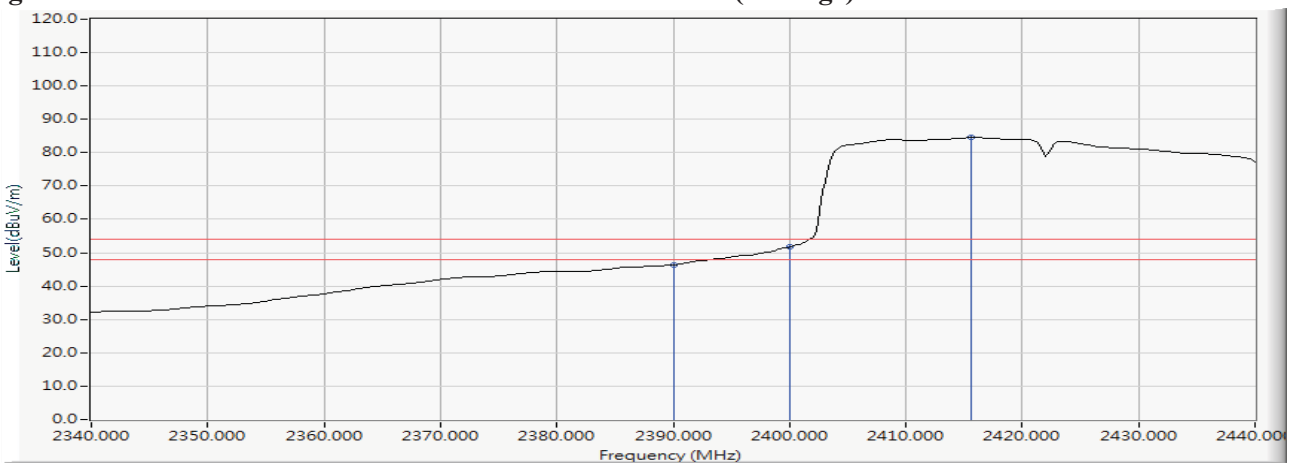


Figure Channel 03: Horizontal (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2422MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
03 (Peak)	2390.000	11.897	58.977	70.874	74.00	54.00	Pass
03 (Peak)	2400.000	11.935	61.999	73.934	--	--	--
03 (Peak)	2424.493	12.027	87.861	99.889	--	--	--
03 (Average)	2390.000	11.897	40.153	52.050	74.00	54.00	Pass
03 (Average)	2400.000	11.935	43.729	55.664	--	--	--
03 (Average)	2420.435	12.012	76.787	88.799	--	--	--

Figure Channel 03: VERTICAL (Peak)

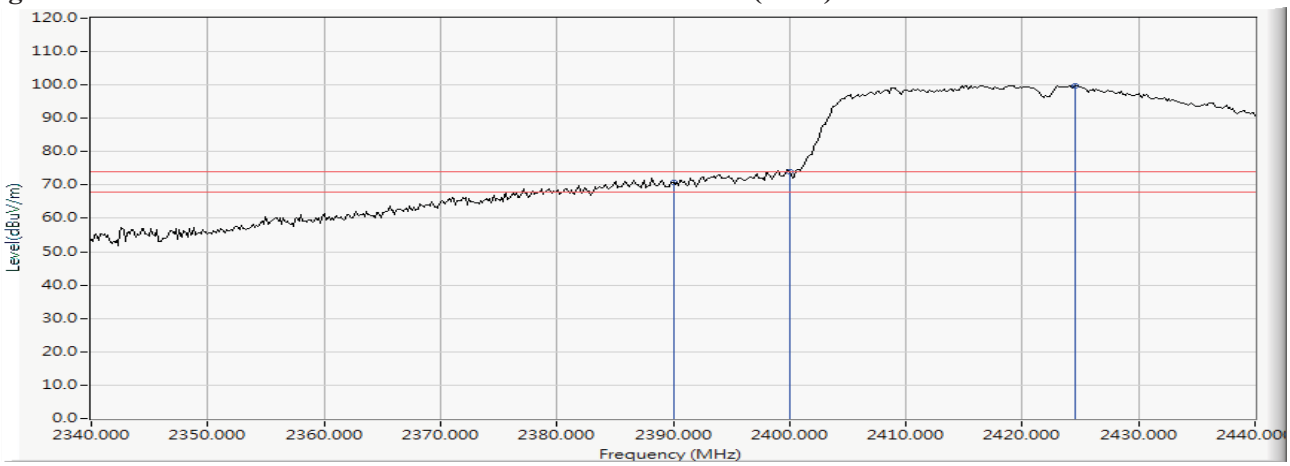
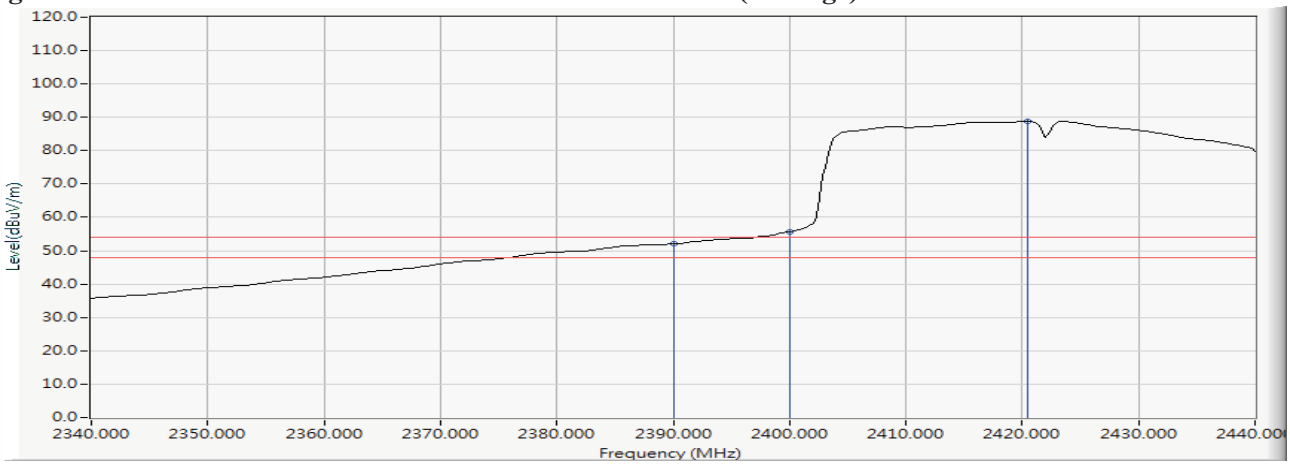


Figure Channel 03: VERTICAL (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2452MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
09 (Peak)	2444.949	12.110	89.707	101.817	--	--	--
09 (Peak)	2483.500	12.272	57.394	69.666	74.00	54.00	Pass
09 (Peak)	2485.674	12.281	58.176	70.456	74.00	54.00	Pass
09 (Average)	2450.457	12.133	77.980	90.113	--	--	--
09 (Average)	2483.500	12.272	40.640	52.912	74.00	54.00	Pass

Figure Channel 09: Horizontal (Peak)

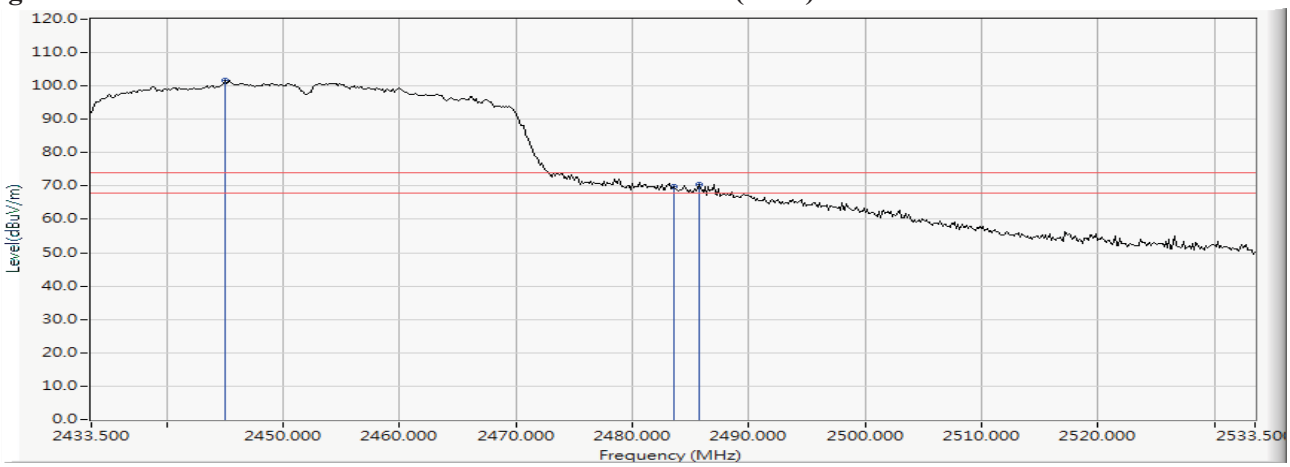
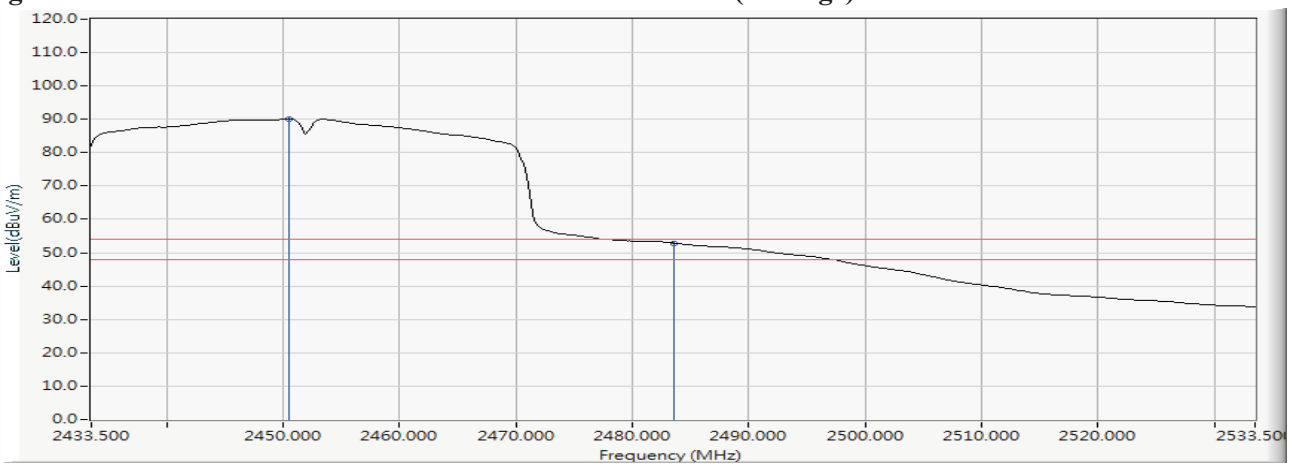


Figure Channel 09: Horizontal (Average)



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 : Gateway
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2452MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
09 (Peak)	2445.384	12.111	89.537	101.648	--	--	--
09 (Peak)	2483.500	12.272	58.656	70.928	74.00	54.00	Pass
09 (Average)	2453.500	12.146	77.946	90.093	--	--	--
09 (Average)	2483.500	12.272	41.621	53.893	74.00	54.00	Pass

Figure Channel 09: VERTICAL (Peak)

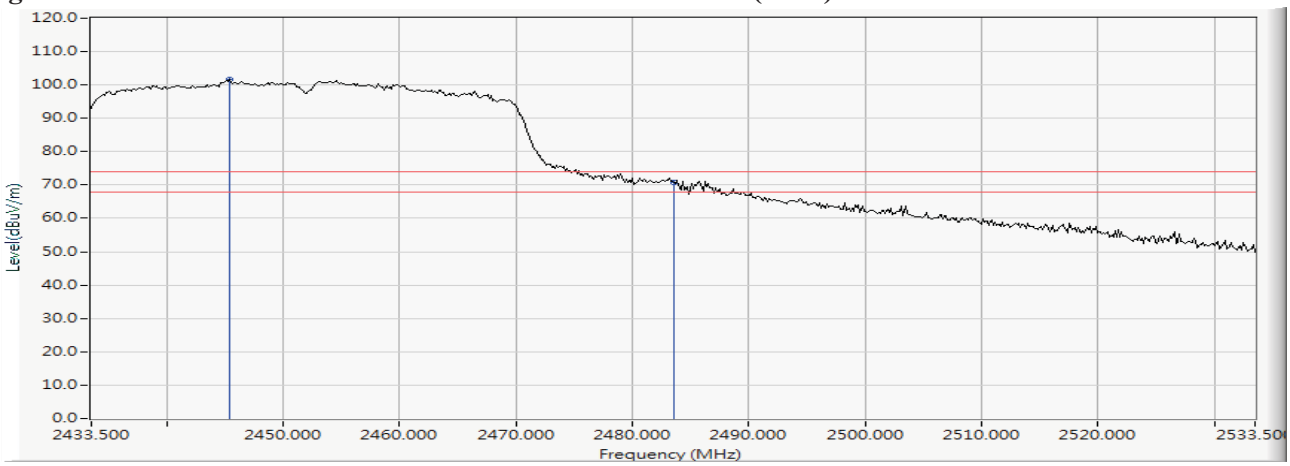
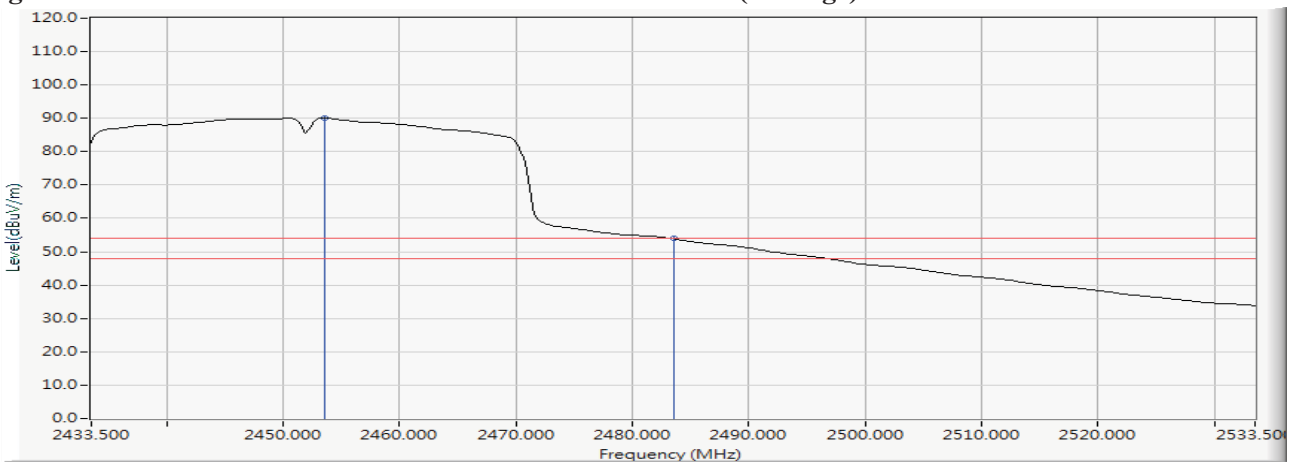


Figure Channel 09: VERTICAL (Average)



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.

7. 6dB Bandwidth

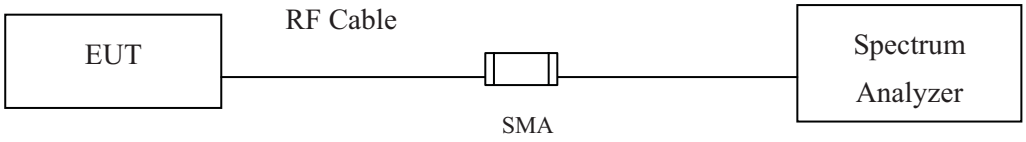
7.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2016	Jun., 2017
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2016	Jun., 2017
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2016	Apr., 2017

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 C63.4: 2014; tested according to DTS test procedure of Jan KDB558074 for compliance to FCC 47CFR 15.247 requirements.

7.5. Uncertainty

± 283Hz

7.6. Test Result of 6dB Bandwidth

Product : Gateway
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	10150	>500	Pass
06	2437	10150	>500	Pass
11	2462	10150	>500	Pass

Figure Channel 01:

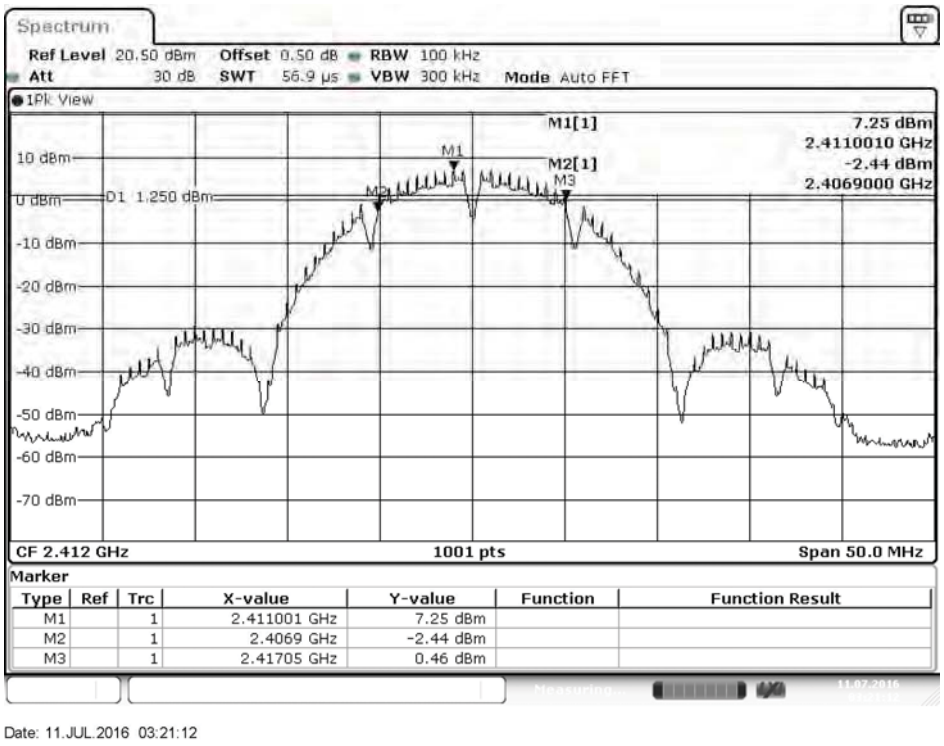


Figure Channel 06:

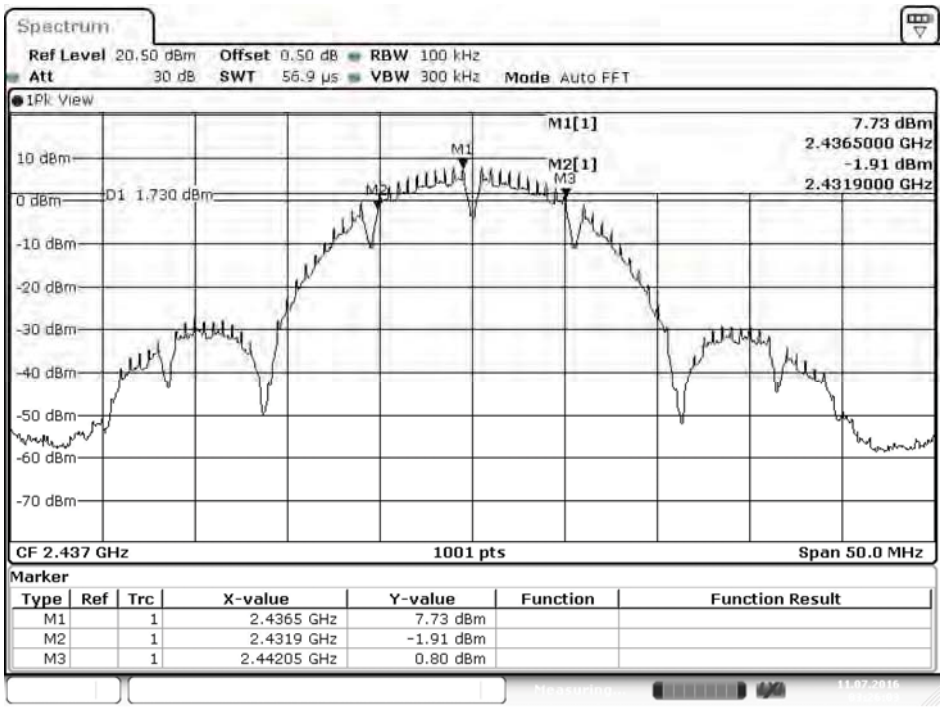


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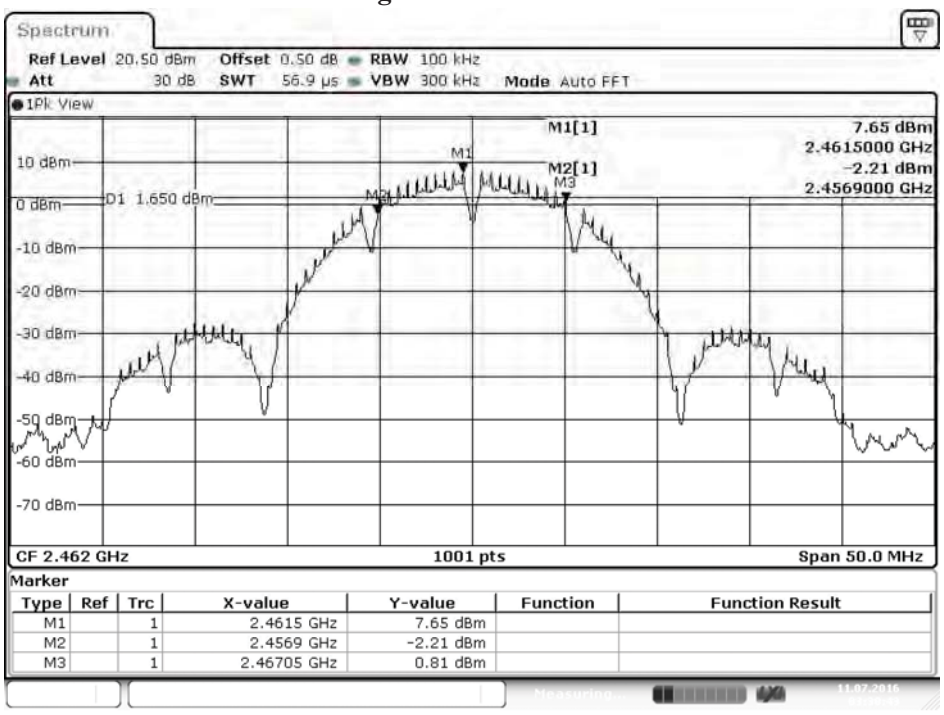
Figure Channel 11:



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Product : Gateway
Test Item : 6dB 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
01	2412	15750	>500	Pass
06	2437	15800	>500	Pass
11	2462	16100	>500	Pass

Figure Channel 01:

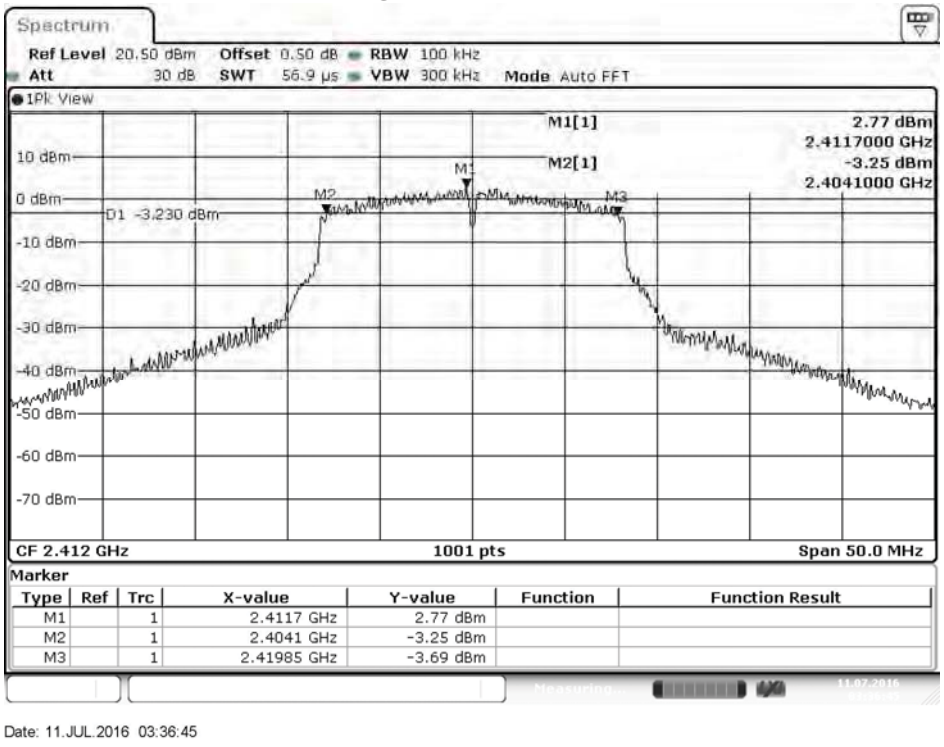
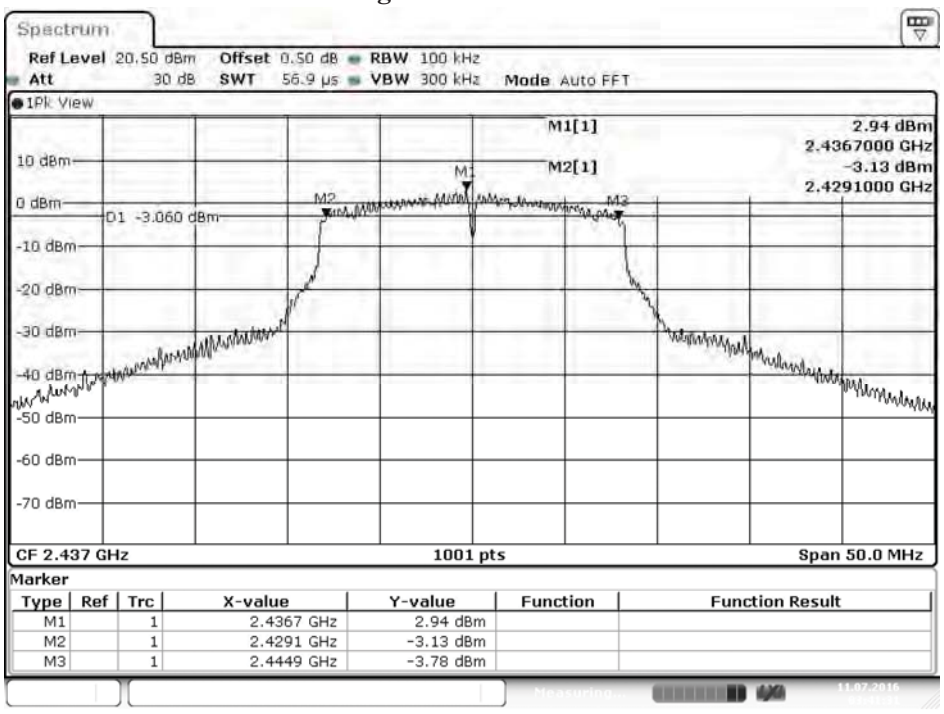
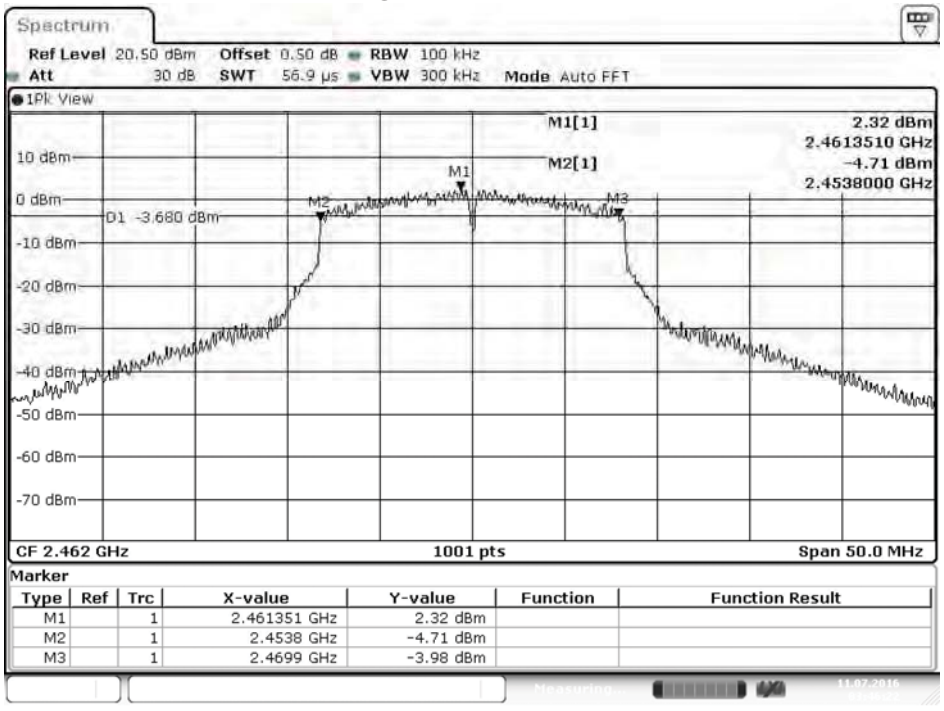


Figure Channel 06:



Date: 11.JUL.2016 03:41:31

Figure Channel 11:



Date: 11.JUL.2016 03:46:22

Product : Gateway
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	16100	>500	Pass
06	2437	15850	>500	Pass
11	2462	15150	>500	Pass

Figure Channel 01:

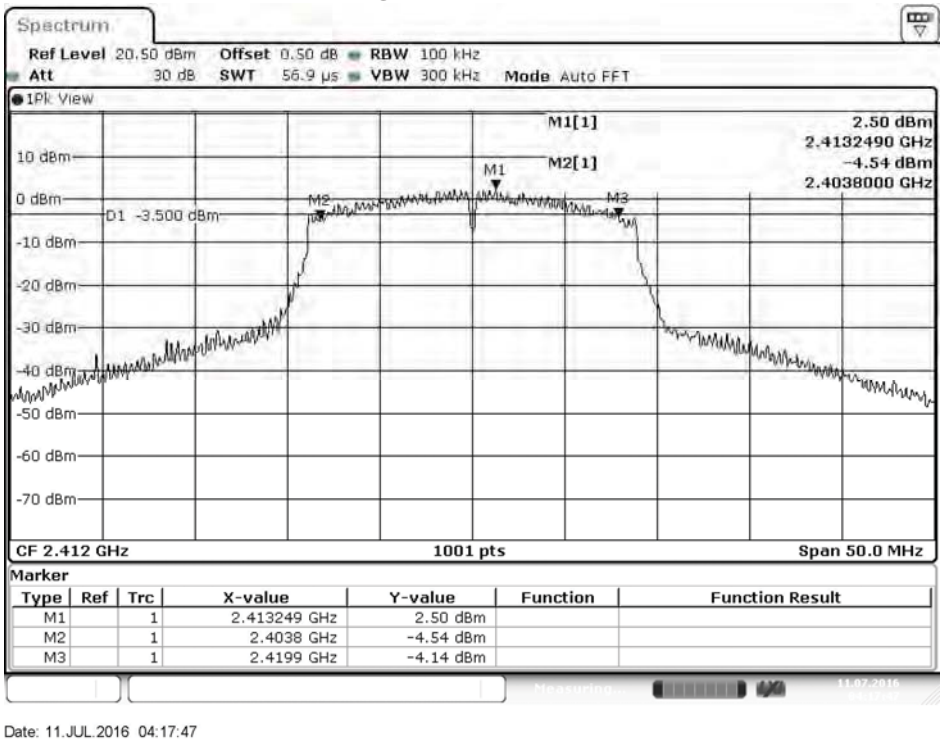
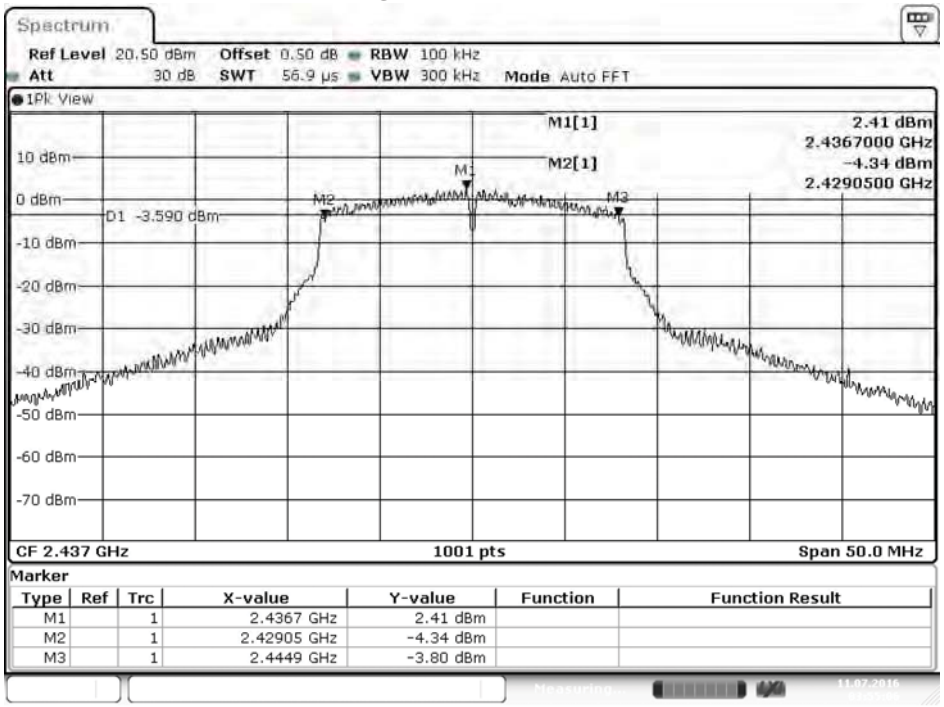
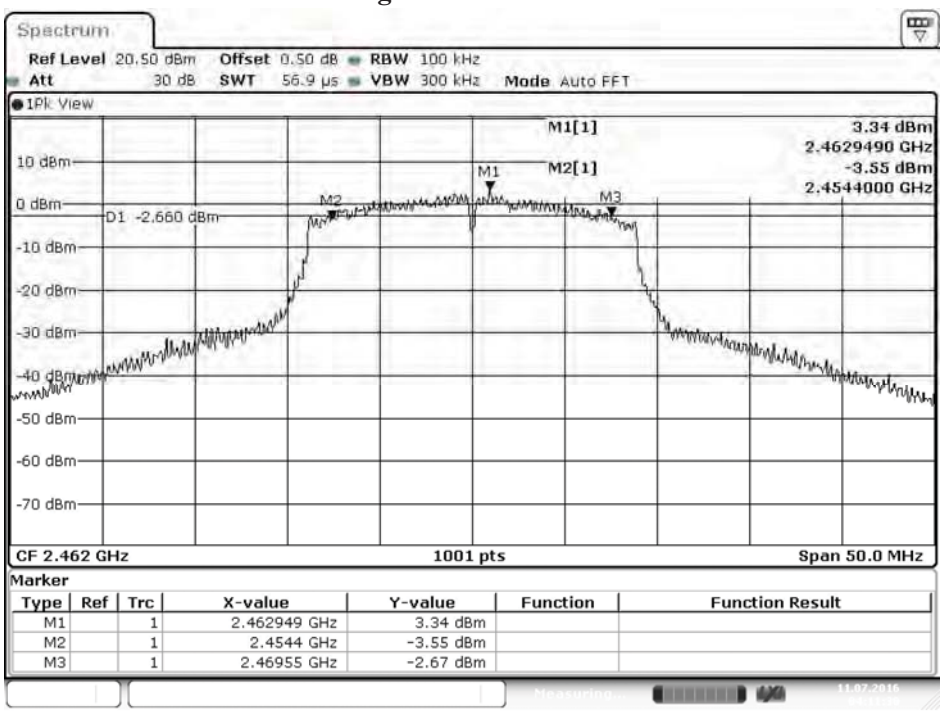


Figure Channel 06:



Date: 11.JUL.2016 03:55:06

Figure Channel 11:



Date: 11.JUL.2016 04:11:30

Product : Gateway
Test Item : 6dB Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	34400	>500	Pass
06	2437	34700	>500	Pass
09	2452	34000	>500	Pass

Figure Channel 03:

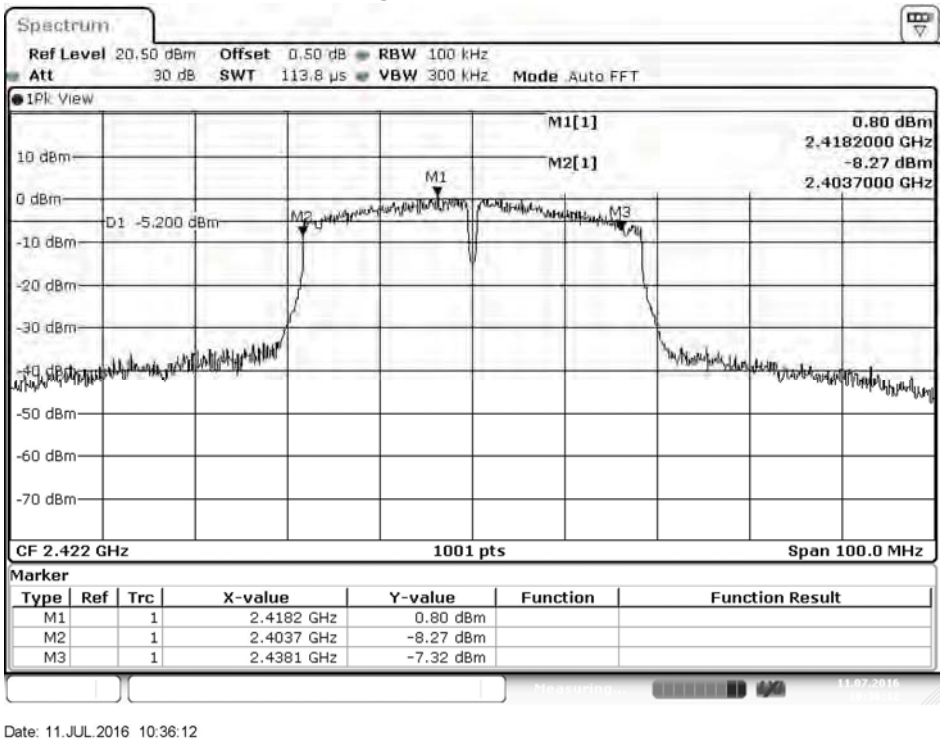


Figure Channel 06:

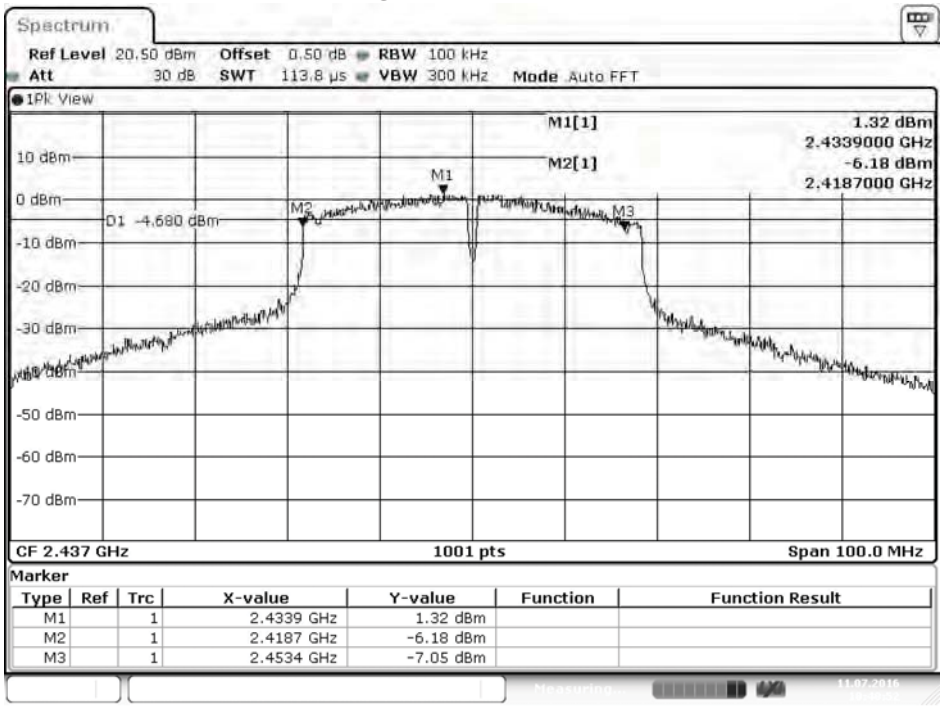


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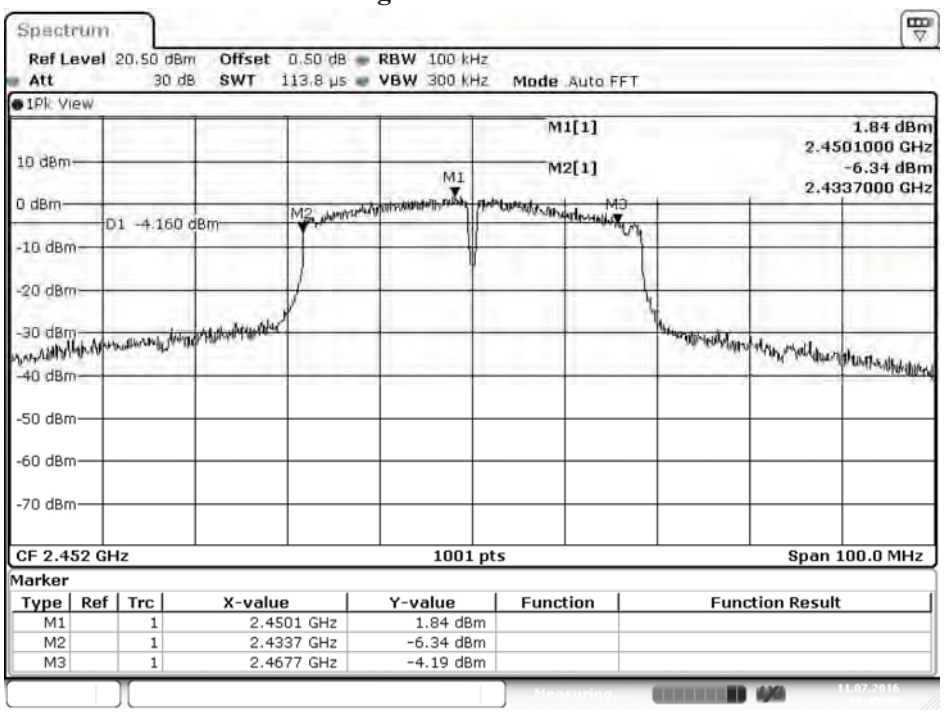
Figure Channel 09:



Date: 11.JUL.2016 10:45:30

8. Power Density

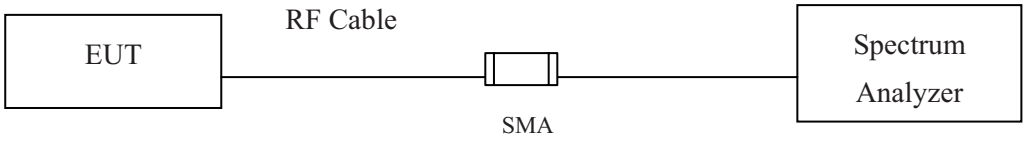
8.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2016	Jun., 2017
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2016	Jun., 2017
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2016	Apr., 2017

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.

8.2. Test Setup



8.3. Limits

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

8.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2013; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.
The maximum power spectral density using KDB 558074 section 10.2 PKPSD (peak PSD) method.

8.5. Uncertainty

± 1.20 dB

8.6. Test Result of Power Density

Product : Gateway
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
01	2412	7.600	≦8dBm	Pass
06	2437	7.850	≦8dBm	Pass
11	2462	7.810	≦8dBm	Pass

Figure Channel 01:

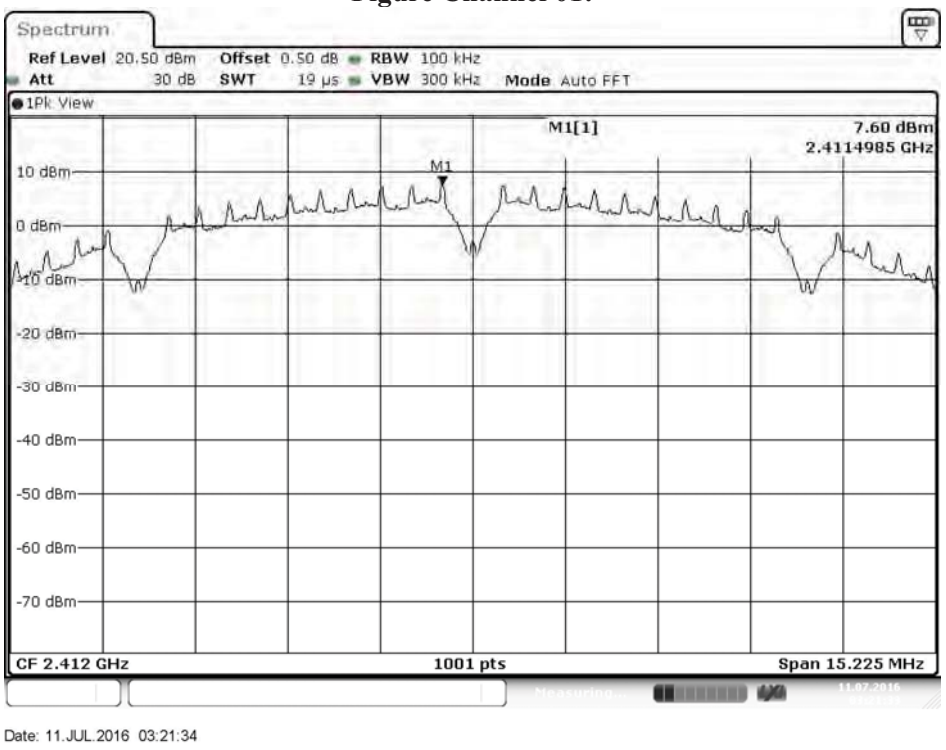
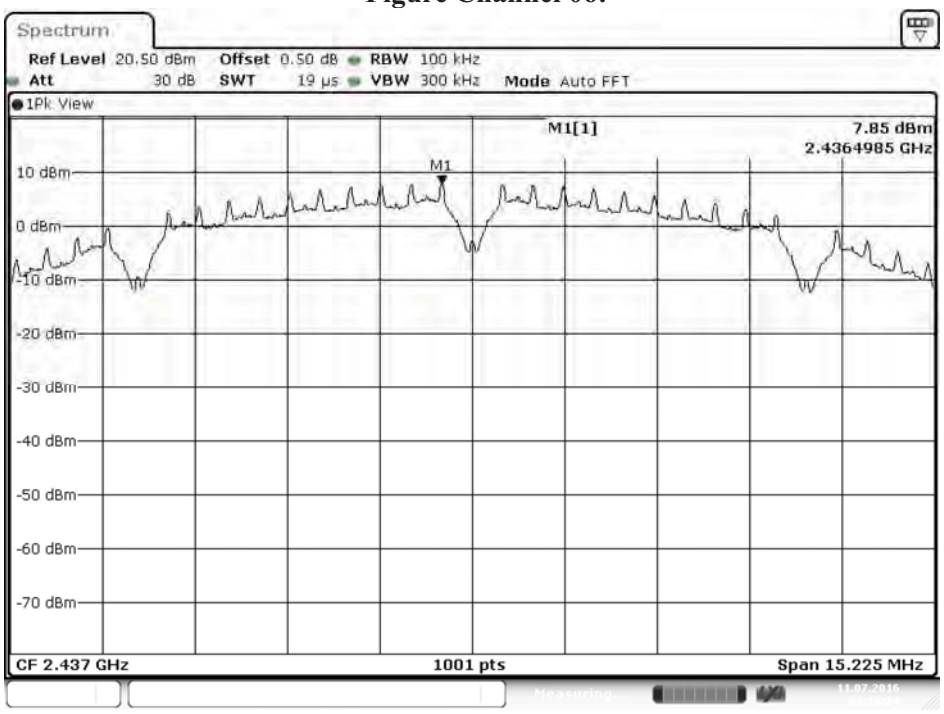
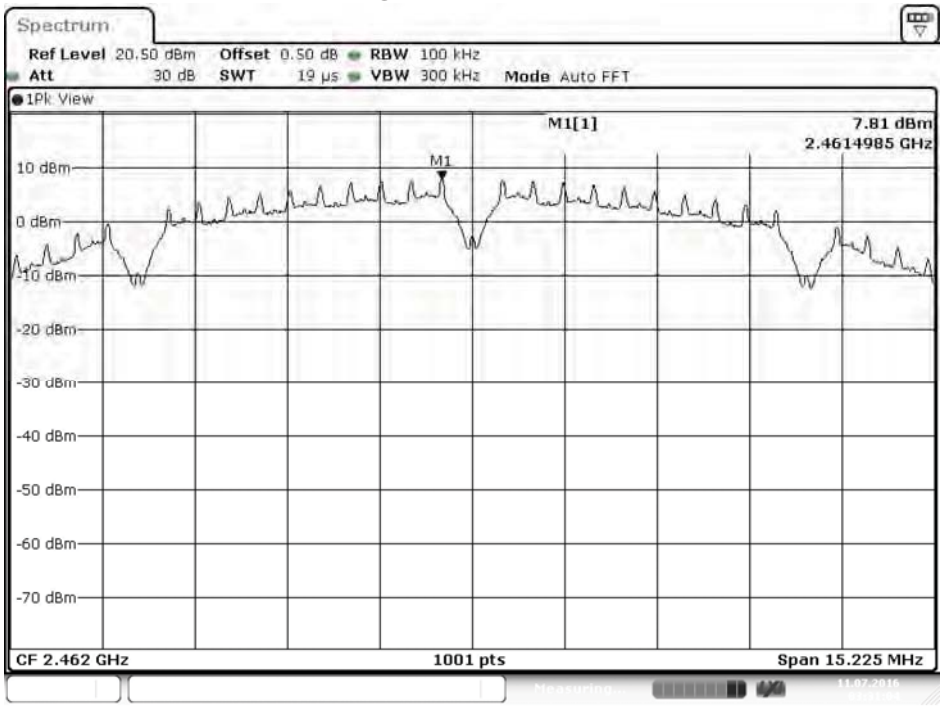


Figure Channel 06:



Date: 11.JUL.2016 03:26:24

Figure Channel 11:



Date: 11.JUL.2016 03:31:04

Product : Gateway
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
01	2412	2.490	≦8dBm	Pass
06	2437	2.480	≦8dBm	Pass
11	2462	2.400	≦8dBm	Pass

Figure Channel 01:

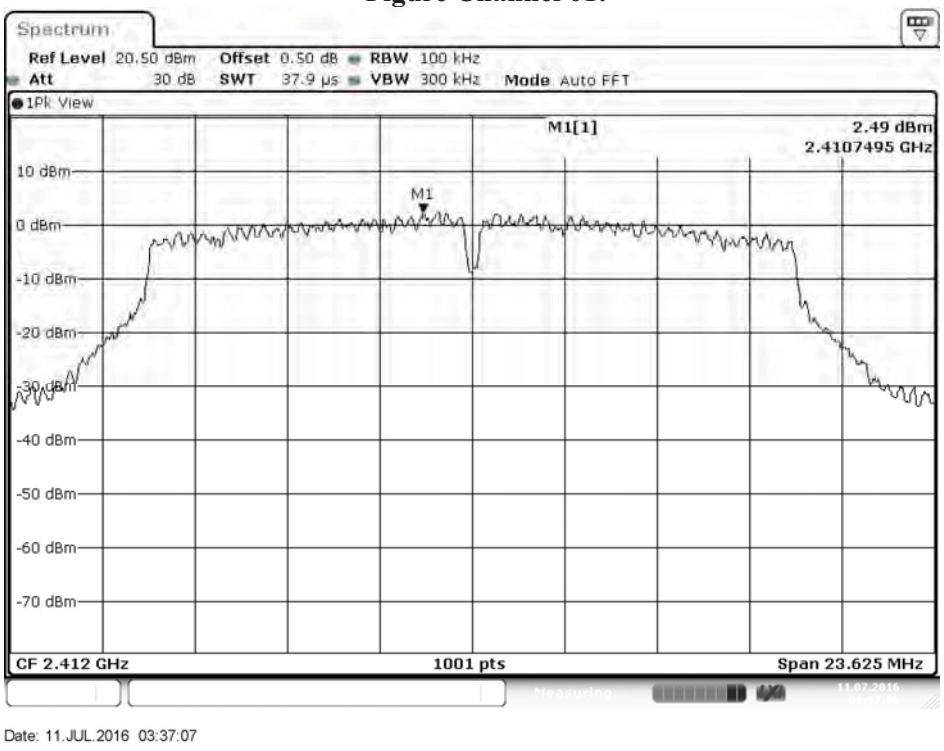
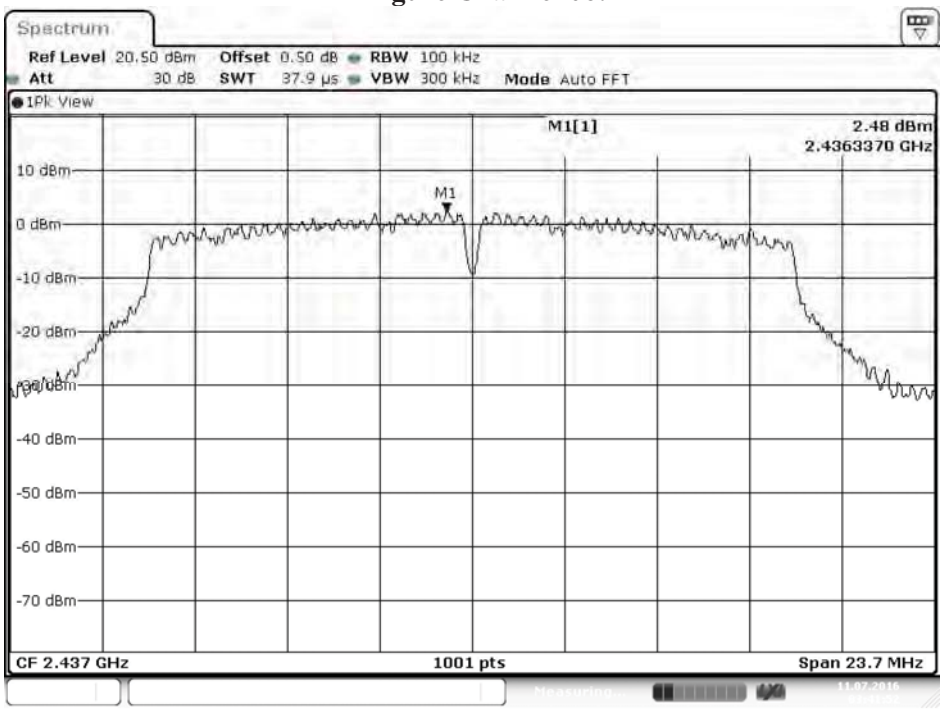
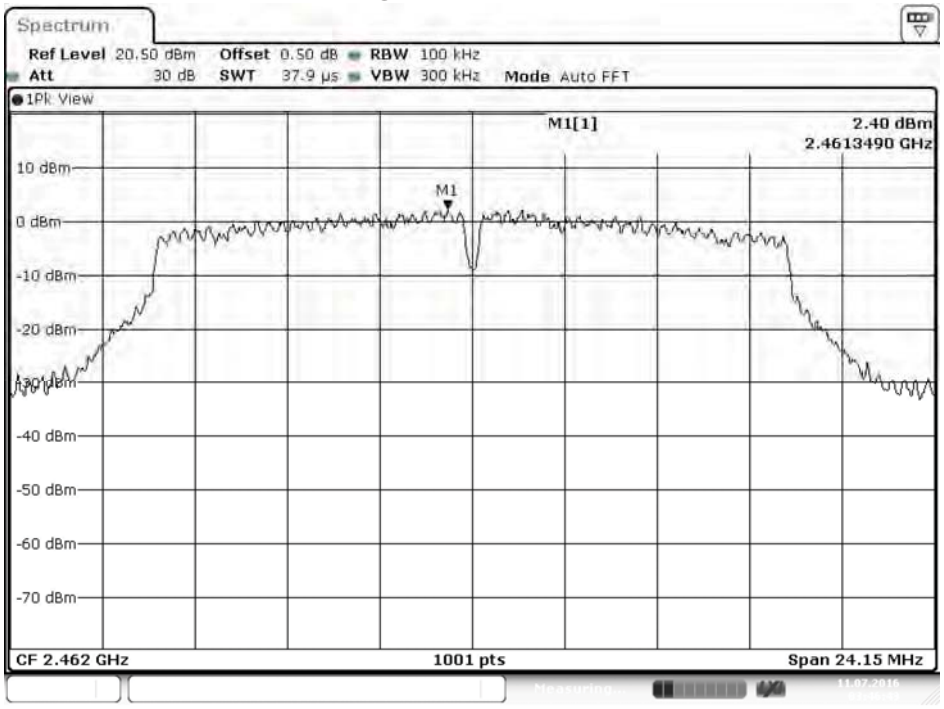


Figure Channel 06:



Date: 11.JUL.2016 03:41:52

Figure Channel 11:



Date: 11.JUL.2016 03:46:44

Product : Gateway
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
01	2412	2.210	≦8dBm	Pass
06	2437	2.410	≦8dBm	Pass
11	2462	3.120	≦8dBm	Pass

Figure Channel 01:

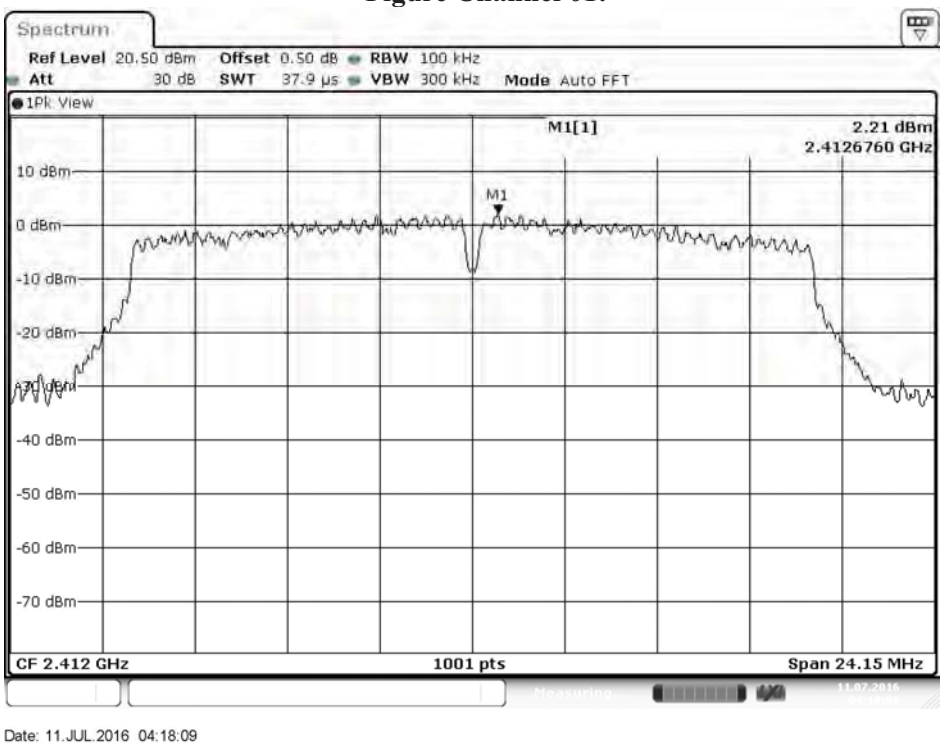
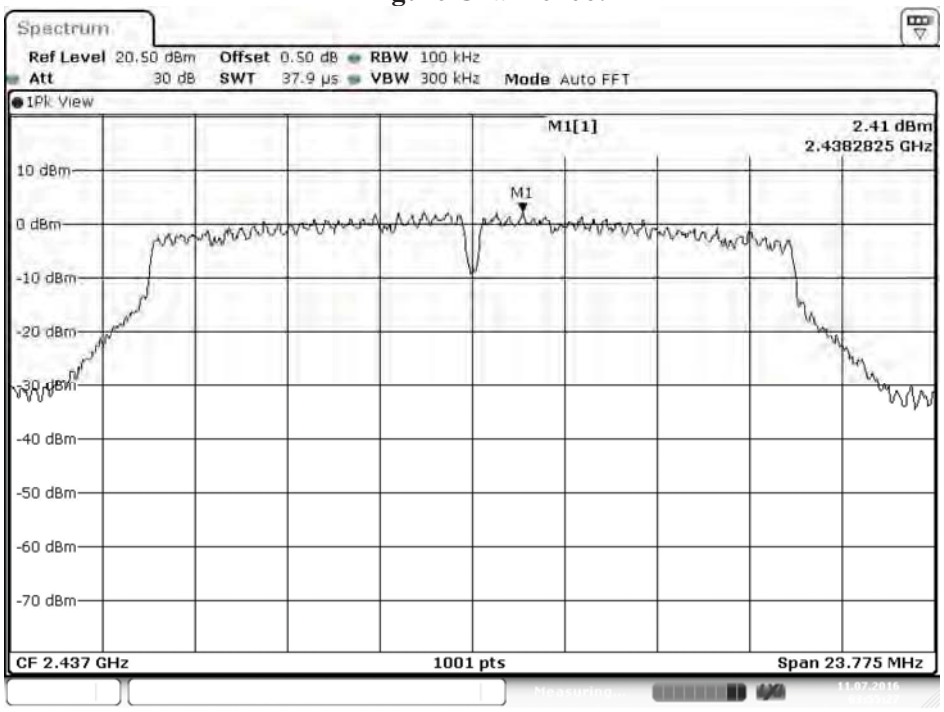
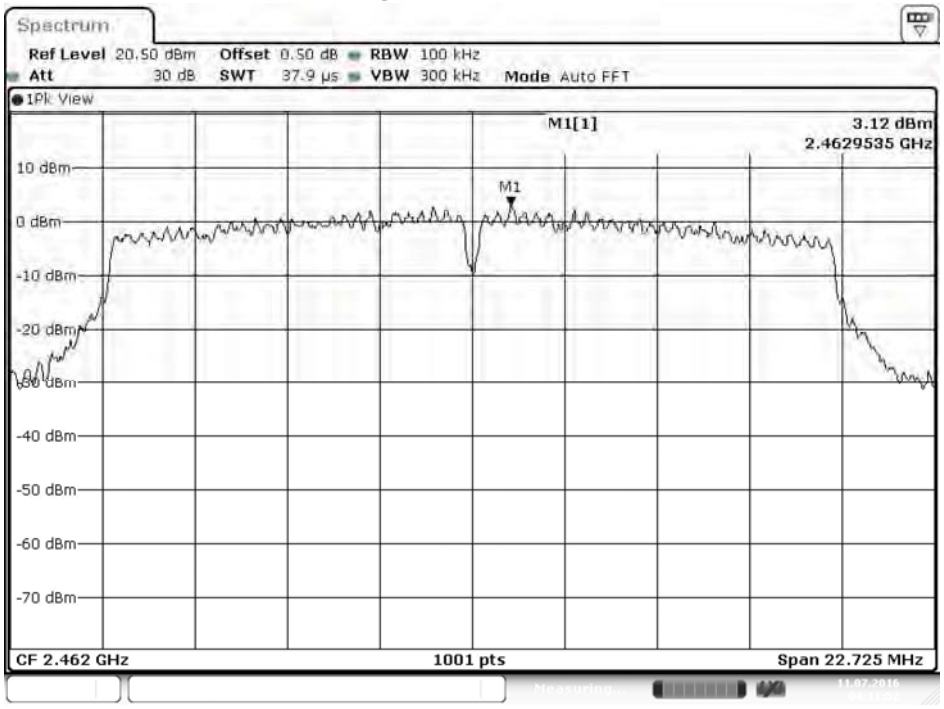


Figure Channel 06:



Date: 11.JUL.2016 03:55:28

Figure Channel 11:



Date: 11.JUL.2016 04:11:52

Product : Gateway
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
03	2422	0.470	≦8dBm	Pass
06	2437	1.680	≦8dBm	Pass
09	2452	2.230	≦8dBm	Pass

Figure Channel 03:

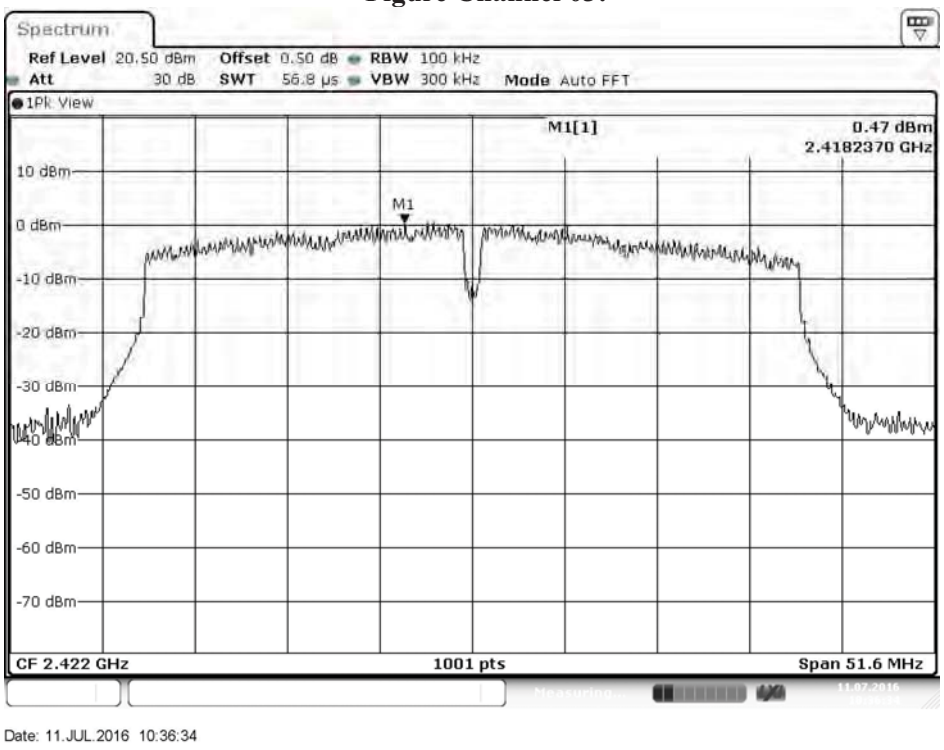
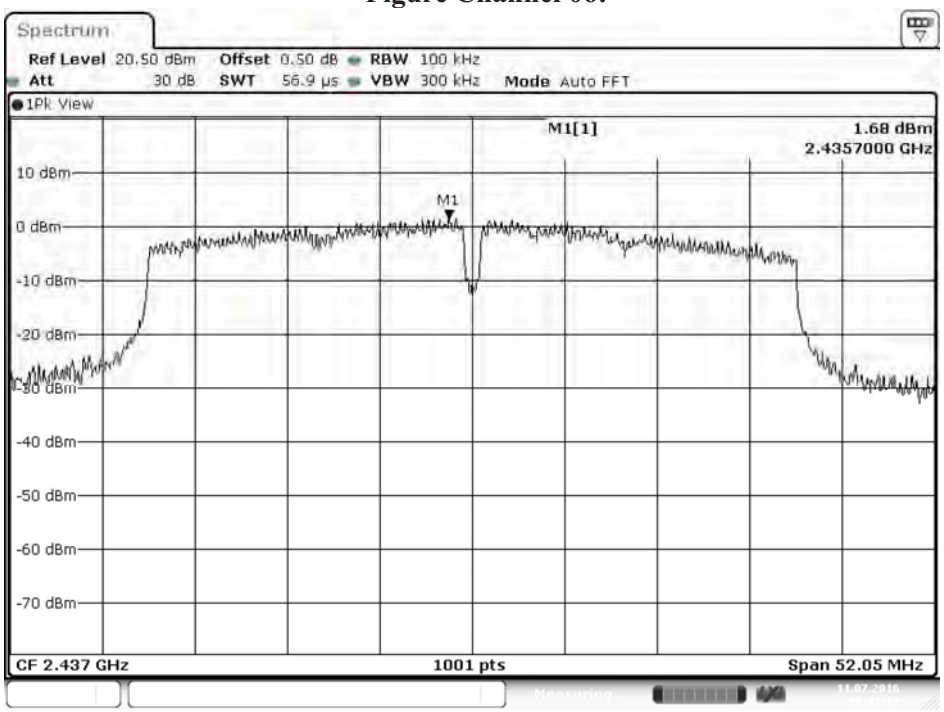
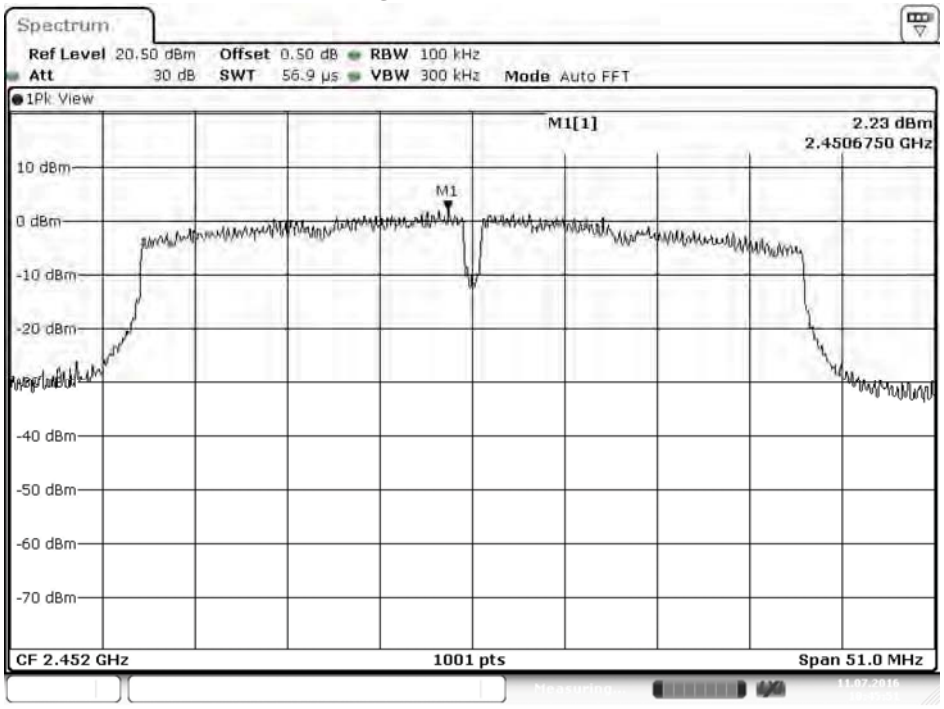


Figure Channel 06:



Date: 11.JUL.2016 10:41:14

Figure Channel 09:



Date: 11.JUL.2016 10:45:52

9. EMI Reduction Method During Compliance Testing

No modification was made during testing.