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FCC RADIO TEST REPORT

Applicant's company	**Cisco Systems, Inc.**
Applicant Address	170 West Tasman Drive, San Jose, CA 95134 USA
FCC ID	**UDX-60047015**
Manufacturer's company	**Cisco Systems, Inc.**
Manufacturer Address	170 West Tasman Drive, San Jose, CA 95134 USA

Product Name	802.11a/b/g/n/ac Wireless Router
Brand Name	CISCO
Model No.	MX65W-HW
Test Rule	47 CFR FCC Part 15 Subpart C § 15.247
Test Freq. Range	2400 ~ 2483.5MHz
Received Date	Oct. 21, 2015
Final Test Date	Dec. 23, 2015
Submission Type	Original Equipment

Statement

Test result included in this report is for the IEEE 802.11n/ac and IEEE 802.11b/g of the product.

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.10-2013**, **47 CFR FCC Part 15 Subpart C**, **KDB558074 D01 v03r04** and **KDB 662911 D01 v02r01**.

The test equipment used to perform the test is calibrated and traceable to NML/ROC.

Testing Laboratory
1190

Table of Contents

History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR5O1504AA	Rev. 01	Initial issue of report	Jan. 08, 2016

1. VERIFICATION OF COMPLIANCE

Product Name	:	802.11a/b/g/n/ac Wireless Router
Brand Name	:	CISCO
Model No.	:	MX65W-HW
Applicant	:	Cisco Systems, Inc.
Test Rule Part(s)	:	47 CFR FCC Part 15 Subpart C § 15.247

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Oct. 21, 2015 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

Sam Chen
SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart C				
Part	**Rule Section**	**Description of Test**	**Result**	**Under Limit**
4.1	15.207	AC Power Line Conducted Emissions	Complies	10.84 dB
4.2	15.247(b)(3)	Maximum Conducted Output Power	Complies	0.21 dB
4.3	15.247(e)	Power Spectral Density	Complies	3.33 dB
4.4	15.247(a)(2)	6dB Spectrum Bandwidth	Complies	-
4.5	15.247(d)	Radiated Emissions	Complies	3.29 dB
4.6	15.247(d)	Band Edge Emissions	Complies	0.04 dB
4.7	15.203	Antenna Requirements	Complies	-

3. GENERAL INFORMATION

3.1. Product Details

Items	Description
Product Type	WLAN (1TX/2TX, 1RX/2RX)
Radio Type	Intentional Transceiver
Power Type	From power adapter
Modulation	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n/ac: see the below table
Data Modulation	IEEE 802.11b: DSSS (BPSK / QPSK / CCK) IEEE 802.11g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) IEEE 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
Data Rate (Mbps)	IEEE 802.11b: DSSS (1/ 2/ 5.5/11) IEEE 802.11g: OFDM (6/9/12/18/24/36/48/54) IEEE 802.11n/ac: see the below table
Frequency Range	2400 ~ 2483.5MHz
Channel Number	11 for 20MHz bandwidth ; 7 for 40MHz bandwidth
Channel Band Width (99%)	**<For 1TX>** IEEE 802.11b: 13.72MHz IEEE 802.11g: 24.31 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 22.23 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.05 MHz **<For 2TX>** IEEE 802.11b: 13.20 MHz IEEE 802.11g: 24.49 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 24.05 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 36.93 MHz
Maximum Conducted Output Power	**<For 1TX>** IEEE 802.11b: 26.96 dBm IEEE 802.11g: 26.68 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 25.93 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 20.31 dBm **<For 2TX>** IEEE 802.11b: 29.79 dBm IEEE 802.11g: 28.54 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 28.20 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 21.60 dBm

Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

Note: The MIMO transmission mode is correlated.

Items	Description	
Beamforming Function	☐ With beamforming	☒ Without beamforming

Antenna and Band width

Antenna	Single (TX)		Two (TX)	
Band width Mode	20 MHz	40 MHz	20 MHz	40 MHz
IEEE 802.11b	V	X	V	X
IEEE 802.11g	V	X	V	X
IEEE 802.11n	V	V	V	V
IEEE 802.11ac	V	V	V	V

IEEE 11n Spec.

Protocol	Number of Transmit Chains (NTX)	Data Rate / MCS
802.11n (HT20)	1, 2	MCS0-7, MCS0-15
802.11n (HT40)	1, 2	MCS0-7, MCS0-15
802.11ac (VHT20)	1, 2	MCS 0-9/Nss1, MCS 0-9/Nss1-2
802.11ac (VHT40)	1, 2	MCS 0-9/Nss1, MCS 0-9/Nss1-2

Note 1: IEEE Std. 802.11n modulation consists of HT20 and HT40 (HT: High Throughput). Then EUT supports HT20 and HT40.

Note 2: IEEE Std. 802.11ac modulation consists of VHT20, VHT40, VHT80 and VHT160 (VHT: Very High Throughput). Then EUT supports VHT20, VHT40 in 2.4GHz.

Note 3: Modulation modes consist of below configuration:
HT20/HT40: IEEE 802.11n, VHT20/VHT40: IEEE 802.11ac

3.2. Accessories

Power	Brand	Model	Rating
Adapter	CISCO	MA-PWR-90WAC	INPUT: 100-240V~2A 50-60Hz OUTPUT: 54V, 1.67A

3.3. Table for Filed Antenna

Ant.	Brand	P/N	Antenna Type	Connector
1	Grand-Tek	1034G00000050	Dipole Ant.	Reversed-SMA
2	Grand-Tek	1034G00000050	Dipole Ant.	Reversed-SMA

TX Function	Antenna Gain (dBi)		Composite Gain (dBi)	
	2.4GHz	5GHz	2.4GHz	5GHz
1	2.6	3.3	-	-
2	-	-	2.0	3.3

Note: The EUT has two antennas.

<For 2.4GHz Band>

For IEEE 802.11b/g/n/ac mode<1TX/1RX>:

Only Chain 1 can be used as transmitting antenna and receiving antenna.

For IEEE 802.11b/g/n/ac mode<2TX/2RX>:

Chain 1 and Chain 2 will transmit/receive the same signal simultaneously.

Chain 1 and Chain 2 can be used as transmitting/receiving antennas.

<For 5GHz Band>

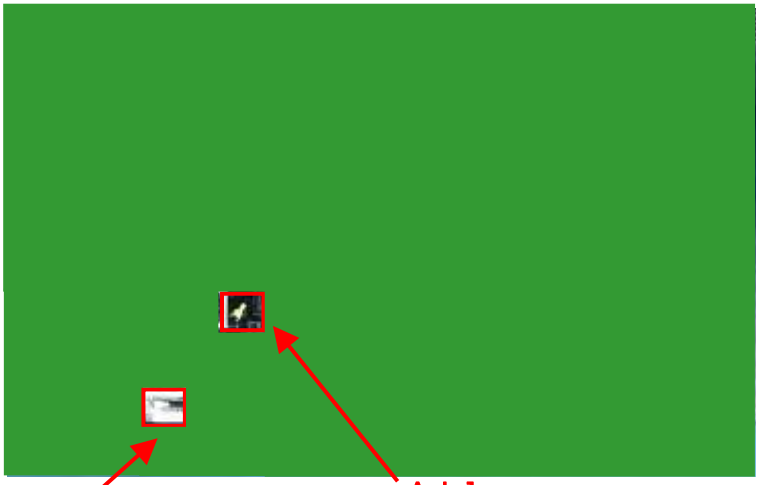
For IEEE 802.11a/n/ac mode <1TX/1RX>:

Only Chain 1 can be used as transmitting antenna and receiving antenna.

For IEEE 802.11a/n/ac mode <2TX/2RX>:

Chain 1 and Chain 2 will transmit/receive the same signal simultaneously.

Chain 1 and Chain 2 can be used as transmitting/receiving antennas.



3.4. Table for Carrier Frequencies

There are two bandwidth systems.

For 20MHz bandwidth systems, use Channel 1~Channel 11.

For 40MHz bandwidth systems, use Channel 3~Channel 9.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400~2483.5MHz	1	2412 MHz	7	2442 MHz
	2	2417 MHz	8	2447 MHz
	3	2422 MHz	9	2452 MHz
	4	2427 MHz	10	2457 MHz
	5	2432 MHz	11	2462 MHz
	6	2437 MHz	-	-

3.5. Table for Test Modes

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Channel	TX	Chain
AC Power Line Conducted Emissions	Normal Link	-	-	-	-
Maximum Conducted Output Power	11b/CCK	1 Mbps	1/6/11	1	1
	11g/BPSK	6 Mbps	1/6/11	1	1
	11ac VHT20	MCS0/Nss1	1/6/11	1	1
	11ac VHT40	MCS0/Nss1	3/6/9	1	1
	11b/CCK	1 Mbps	1/6/11	2	1+2
	11g/BPSK	6 Mbps	1/6/11	2	1+2
	11ac VHT20	MCS0/Nss1	1/6/11	2	1+2
	11ac VHT40	MCS0/Nss1	3/6/9	2	1+2
Power Spectral Density	11b/CCK	1 Mbps	1/6/11	1	1
	11g/BPSK	6 Mbps	1/6/11	1	1
	11ac VHT20	MCS0/Nss1	1/6/11	1	1
	11ac VHT40	MCS0/Nss1	3/6/9	1	1
	11b/CCK	1 Mbps	1/6/11	2	1+2
	11g/BPSK	6 Mbps	1/6/11	2	1+2
	11ac VHT20	MCS0/Nss1	1/6/11	2	1+2
	11ac VHT40	MCS0/Nss1	3/6/9	2	1+2
6dB Spectrum Bandwidth	11b/CCK	1 Mbps	1/6/11	1	1
	11g/BPSK	6 Mbps	1/6/11	1	1
	11ac VHT20	MCS0/Nss1	1/6/11	1	1
	11ac VHT40	MCS0/Nss1	3/6/9	1	1
	11b/CCK	1 Mbps	1/6/11	2	1+2
	11g/BPSK	6 Mbps	1/6/11	2	1+2
	11ac VHT20	MCS0/Nss1	1/6/11	2	1+2
	11ac VHT40	MCS0/Nss1	3/6/9	2	1+2
Radiated Emissions 9kHz~1GHz	Normal Link	-	-		-
Radiated Emissions 1GHz~10th Harmonic	11b/CCK	1 Mbps	1/6/11	1	1
	11g/BPSK	6 Mbps	1/6/11	1	1
	11ac VHT20	MCS0/Nss1	1/6/11	1	1

	11ac VHT40	MCS0/Nss1	3/6/9	1	1
	11b/CCK	1 Mbps	1/6/11	2	1+2
	11g/BPSK	6 Mbps	1/6/11	2	1+2
	11ac VHT20	MCS0/Nss1	1/6/11	2	1+2
	11ac VHT40	MCS0/Nss1	3/6/9	2	1+2
Band Edge Emissions	11b/CCK	1 Mbps	1/6/11	1	1
	11g/BPSK	6 Mbps	1/6/11	1	1
	11ac VHT20	MCS0/Nss1	1/6/11	1	1
	11ac VHT40	MCS0/Nss1	3/6/9	1	1
	11b/CCK	1 Mbps	1/6/11	2	1+2
	11g/BPSK	6 Mbps	1/6/11	2	1+2
	11ac VHT20	MCS0/Nss1	1/6/11	2	1+2
	11ac VHT40	MCS0/Nss1	3/6/9	2	1+2

Note 1: VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.

Note 2: The test configuration and test modes written in this test report are designated by the applicant.

The following test modes were performed for all tests:

For Conducted Emission test:

Mode 1. Norman Link

For Radiated Emission test <Below 1GHz>:

Mode 1. Norman Link - Place EUT in Y axis

Mode 2. Norman Link - Place EUT in Z axis

Mode 2 is the worst case, so it was selected to record in this test report.

For Radiated Emission test <Above 1GHz>:

The EUT can be placed in Y-axis and Z-axis. After evaluating, Y-axis were the worst cases, so they're recorded in this report

For Co-location MPE and Radiated Emission Co-location Test:

The EUT could be applied with 2.4GHz WLAN function and 5GHz WLAN function; therefore Co-location Maximum Permissible Exposure (Please refer to FA5O1504) and Radiated Emission Co-location (please refer to Appendix B) tests are added for simultaneously transmit between 2.4GHz WLAN function and 5GHz WLAN function.

3.6. Table for Testing Locations

Test Site Location				
Address:	No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C.			
TEL:	886-3-656-9065			
FAX:	886-3-656-9085			
Test Site No.	**Site Category**	**Location**	**FCC Reg. No.**	**IC File No.**
03CH01-CB	SAC	Hsin Chu	262045	IC 4086D
CO01-CB	Conduction	Hsin Chu	262045	IC 4086D
TH01-CB	OVEN Room	Hsin Chu	-	-

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC).

3.7. Table for Supporting Units

For Test Site No: CO01-CB

Support Unit	Brand	Model	FCC ID
NB*6	DELL	E6430	DoC
PoE PD Simulator (Terminal System)	N/A	PDS-16	N/A
Flash disk	Silicon	I-Series	DoC

For Test Site No: 03CH01-CB

Support Unit	Brand	Model	FCC ID
NB*5	DELL	E4300	DoC
NB	Apple	Mac Book	DoC
PoE PD Simulator (Terminal System)	N/A	PDS-16	N/A
Flash disk	Silicon	Touch 835	DoC

For Test Site No: TH01-CB

Support Unit	Brand	Model	FCC ID
NB	DELL	E4300	DoC

3.8. Table for Parameters of Test Software Setting

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

<For 1TX>

Test Software Version	Mtool 2.0.1.0					
Mode	Test Frequency (MHz)					
	NCB: 20MHz			NCB: 40MHz		
	2412 MHz	2437 MHz	2462 MHz	2422 MHz	2437 MHz	2452 MHz
802.11b	89	95	87	-	-	-
802.11g	77	95	74	-	-	-
802.11ac MCS0/Nss1 VHT20	75	94	72	-	-	-
802.11ac MCS0/Nss1 VHT40	-	-	-	65	73	65

<For 2TX>

Test Software Version	Mtool 2.0.1.0					
Mode	Test Frequency (MHz)					
	NCB: 20MHz			NCB: 40MHz		
	2412 MHz	2437 MHz	2462 MHz	2422 MHz	2437 MHz	2452 MHz
802.11b	86	100	76	-	-	-
802.11g	71	93	71	-	-	-
802.11ac MCS0/Nss1 VHT20	67	92	68	-	-	-
802.11ac MCS0/Nss1 VHT40	-	-	-	54	68	59

3.9. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

3.10. Duty Cycle

<For 1TX>

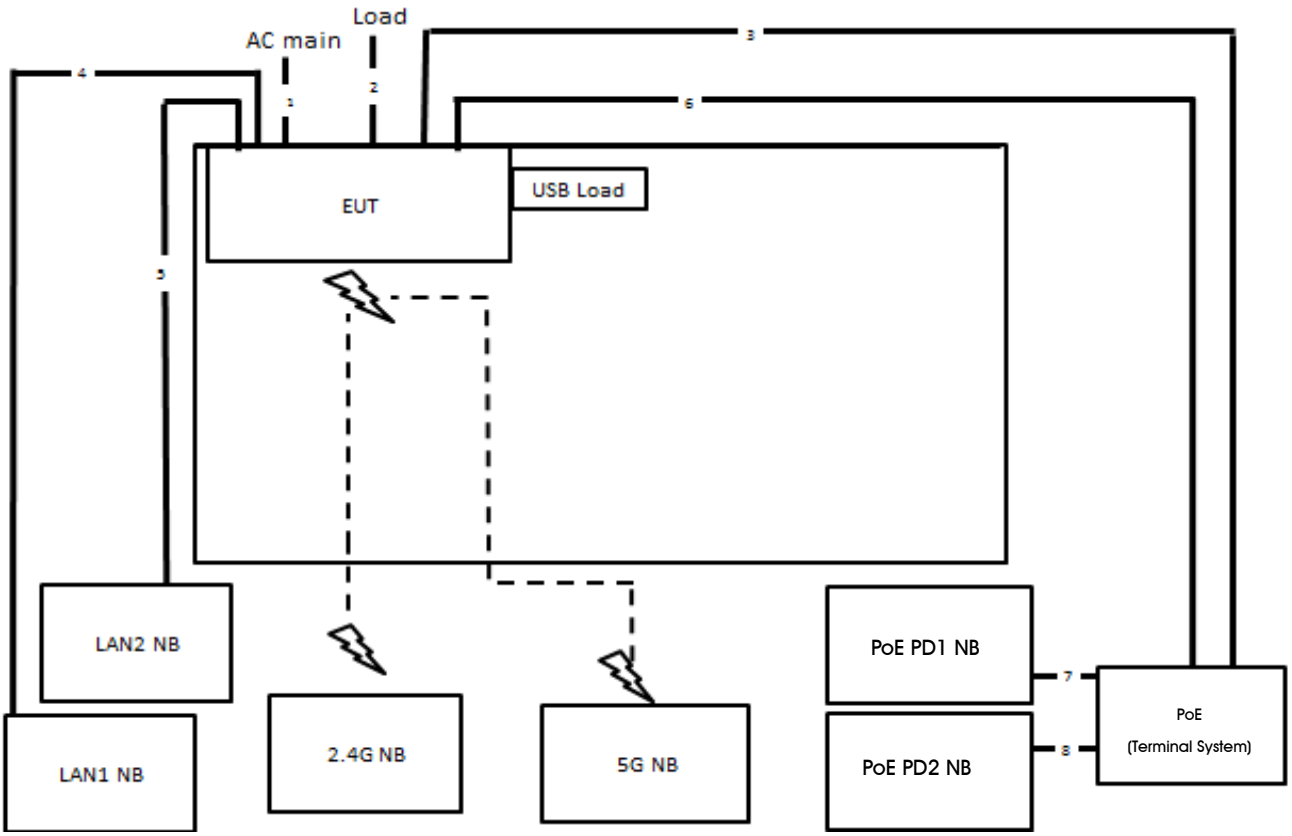
Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11b	1.000	1.000	100.00%	0.00	0.01
802.11g	2.060	2.090	98.56%	0.06	0.01
802.11ac MCS0/Nss1 VHT20	1.920	1.950	98.46%	0.07	0.01
802.11ac MCS0/Nss1 VHT40	0.928	0.982	94.50%	0.25	1.08

<For 2TX>

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11b	12.411	12.432	99.83%	0.01	0.01
802.11g	2.062	2.086	98.83%	0.05	0.01
802.11ac MCS0/Nss1 VHT20	1.928	1.955	98.62%	0.06	0.01
802.11ac MCS0/Nss1 VHT40	0.952	0.974	97.77%	0.10	1.05

3.11. Test Configurations

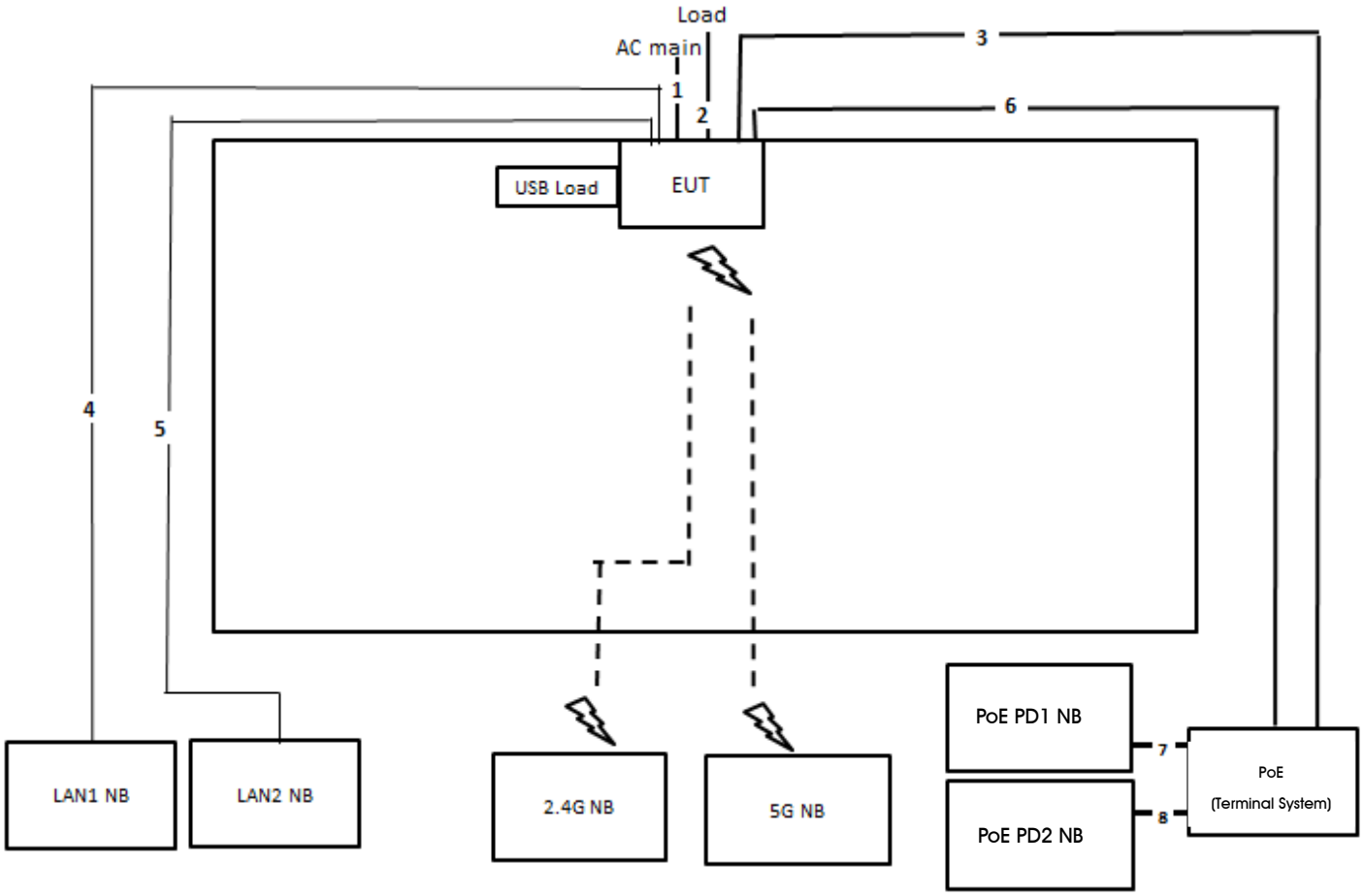
3.11.1. AC Power Line Conduction Emissions Test Configuration



Item	Connection	Shielded	Length
1	Power cable	No	3.8m
2	RJ-45 cable*8	No	1.5m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	10m
5	RJ-45 cable	No	10m
6	RJ-45 cable	No	10m
7	RJ-45 cable	No	1.5m
8	RJ-45 cable	No	1.5m

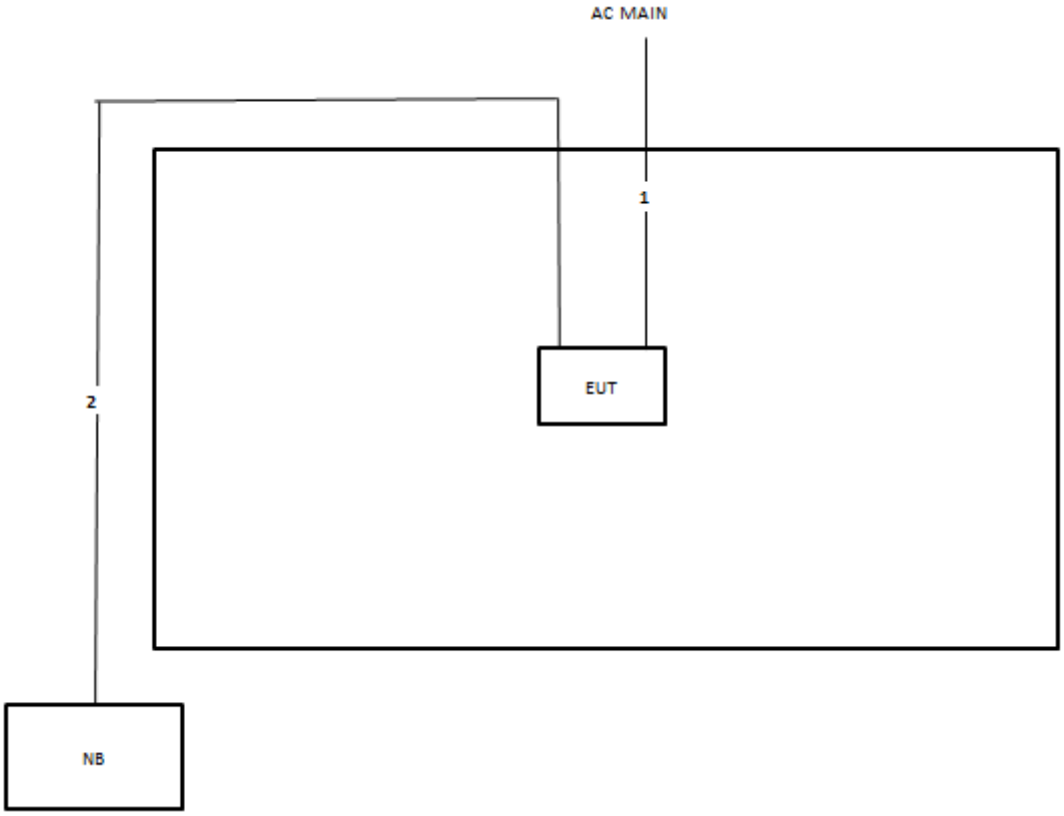
3.11.2. Radiation Emissions Test Configuration

Test Configuration: 30MHz~1GHz



Item	Connection	Shielded	Length
1	Power cable	No	3.8m
2	RJ-45 cable*8	No	1.5m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	10m
5	RJ-45 cable	No	1.5m
6	RJ-45 cable	No	1.5m
7	RJ-45 cable	No	1m
8	RJ-45 cable	No	1m

Test Configuration: above 1GHz



Item	Connection	Shielded	Length(m)
1	Power cable	No	3.8m
2	RJ-45 cable	No	10m

4. TEST RESULT

4.1. AC Power Line Conducted Emissions Measurement

4.1.1. Limit

For this product which is designed to be connected to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

Frequency (MHz)	QP Limit (dBuV)	AV Limit (dBuV)
0.15~0.5	66~56	56~46
0.5~5	56	46
5~30	60	50

4.1.2. Measuring Instruments and Setting

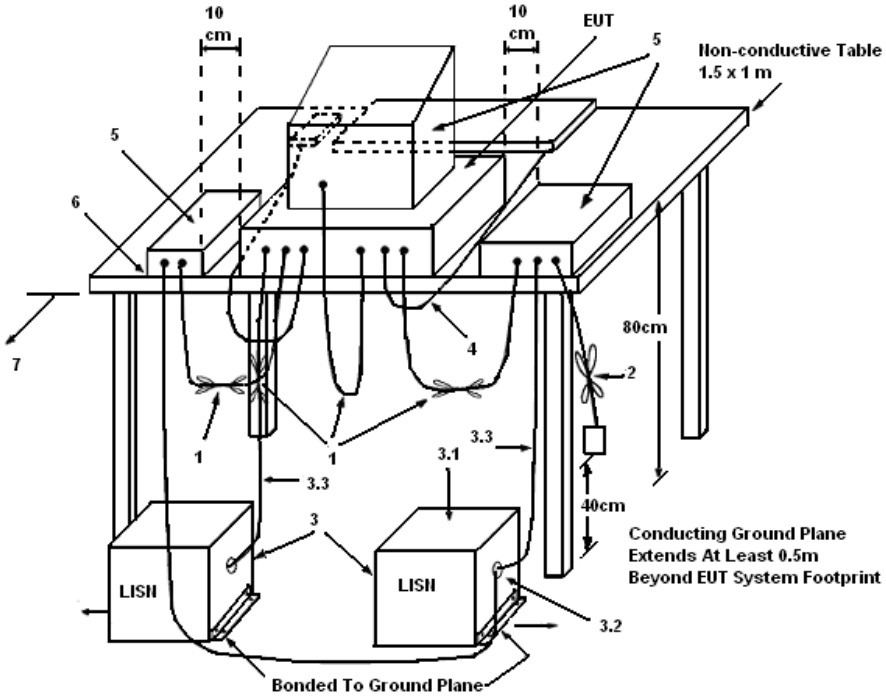
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

4.1.3. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 kHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

4.1.4. Test Setup Layout



LEGEND:

(1) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

(2) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

(3) EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω. LISN can be placed on top of, or immediately beneath, reference ground plane.

(3.1) All other equipment powered from additional LISN(s).

(3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.

(3.3) LISN at least 80 cm from nearest part of EUT chassis.

(4) Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.

(5) Non-EUT components of EUT system being tested.

(6) Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.

(7) Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

4.1.5. Test Deviation

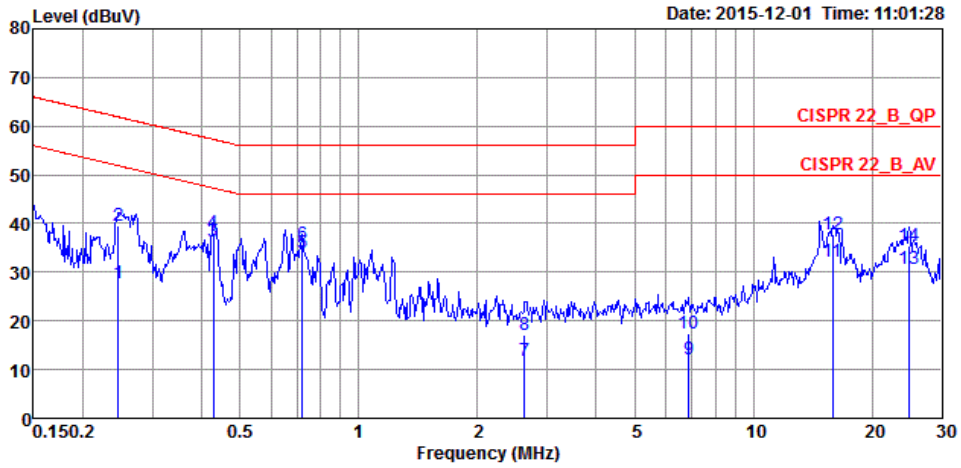
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

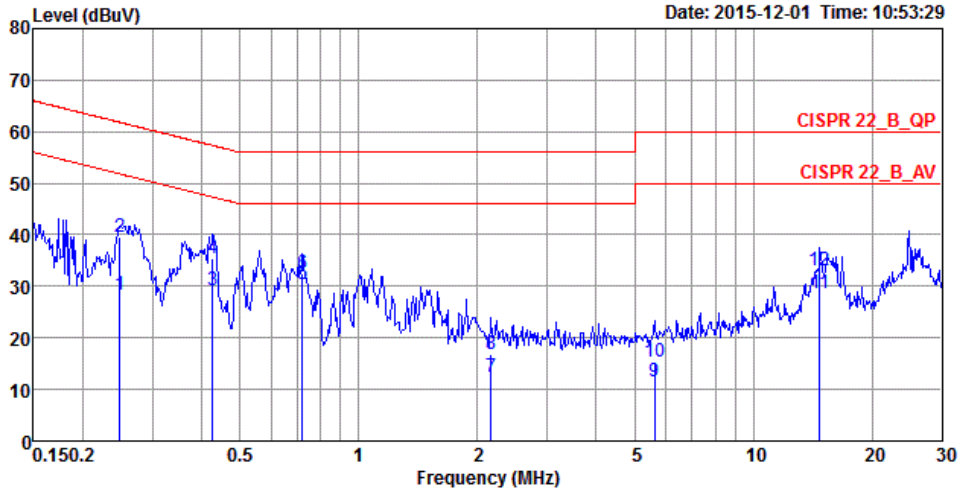
4.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	25°C	Humidity	58%
Test Engineer	Parody Lin	Phase	Line
Configuration	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.2455	27.73	-24.18	51.91	17.77	9.93	0.03	LINE	Average
2	0.2455	39.54	-22.37	61.91	29.58	9.93	0.03	LINE	QP
3	0.4282	36.45	-10.84	47.29	26.48	9.93	0.04	LINE	Average
4	0.4282	38.07	-19.22	57.29	28.10	9.93	0.04	LINE	QP
5	0.7198	33.97	-12.03	46.00	23.98	9.95	0.04	LINE	Average
6	0.7198	35.63	-20.37	56.00	25.64	9.95	0.04	LINE	QP
7	2.6360	11.71	-34.29	46.00	1.66	10.00	0.05	LINE	Average
8	2.6360	17.01	-38.99	56.00	6.96	10.00	0.05	LINE	QP
9	6.8776	12.22	-37.78	50.00	1.99	10.11	0.12	LINE	Average
10	6.8776	17.43	-42.57	60.00	7.20	10.11	0.12	LINE	QP
11	15.8854	32.28	-17.72	50.00	21.67	10.35	0.26	LINE	Average
12	15.8854	37.64	-22.36	60.00	27.03	10.35	0.26	LINE	QP
13	24.7904	30.80	-19.20	50.00	19.97	10.56	0.27	LINE	Average
14	24.7904	35.42	-24.58	60.00	24.59	10.56	0.27	LINE	QP

Temperature	25°C	Humidity	58%
Test Engineer	Parody Lin	Phase	Neutral
Configuration	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.2481	28.20	-23.62	51.82	18.38	9.79	0.03	NEUTRAL	Average
2	0.2481	39.44	-22.38	61.82	29.62	9.79	0.03	NEUTRAL	QP
3	0.4260	29.10	-18.23	47.33	19.27	9.79	0.04	NEUTRAL	Average
4	0.4260	35.50	-21.83	57.33	25.67	9.79	0.04	NEUTRAL	QP
5	0.7198	30.42	-15.58	46.00	20.58	9.80	0.04	NEUTRAL	Average
6	0.7198	32.54	-23.46	56.00	22.70	9.80	0.04	NEUTRAL	QP
7	2.1668	12.27	-33.73	46.00	2.37	9.84	0.06	NEUTRAL	Average
8	2.1668	16.87	-39.13	56.00	6.97	9.84	0.06	NEUTRAL	QP
9	5.6234	11.47	-38.53	50.00	1.43	9.92	0.12	NEUTRAL	Average
10	5.6234	15.24	-44.76	60.00	5.20	9.92	0.12	NEUTRAL	QP
11	14.7497	28.52	-21.48	50.00	18.16	10.10	0.26	NEUTRAL	Average
12	14.7497	33.00	-27.00	60.00	22.64	10.10	0.26	NEUTRAL	QP

Note:

Level = Read Level + LISN Factor + Cable Loss.

4.2. Maximum Conducted Output Power Measurement

4.2.1. Limit

The limit for output power is 30dBm.

4.2.2. Measuring Instruments and Setting

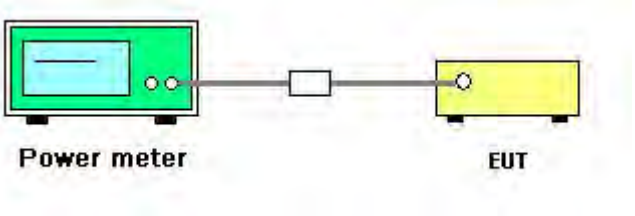
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Bandwidth	50MHz bandwidth is greater than the EUT emission bandwidth
Detector	Average

4.2.3. Test Procedures

1. Test procedures refer KDB558074 D01 v03r04 section 9.2.3.2 Measurement using a power meter (PM).
2. Multiple antenna systems was performed in accordance with KDB 662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
3. This procedure provides an alternative for determining the RMS output power using a broadband RF average power meter with a thermocouple detector.

4.2.4. Test Setup Layout



4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.2.7. Test Result of Maximum Conducted Output Power

<For 1TX>

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Test Date	Oct. 29, 2015~Dec. 23, 2015

Mode	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
802.11b	2412 MHz	24.77	30.00	Complies
	2437 MHz	26.96	30.00	Complies
	2462 MHz	24.04	30.00	Complies
802.11g	2412 MHz	20.83	30.00	Complies
	2437 MHz	26.68	30.00	Complies
	2462 MHz	19.91	30.00	Complies
802.11ac MCS0/Nss1 VHT20	2412 MHz	20.25	30.00	Complies
	2437 MHz	25.93	30.00	Complies
	2462 MHz	19.35	30.00	Complies
802.11ac MCS0/Nss1 VHT40	2422 MHz	18.34	30.00	Complies
	2437 MHz	20.31	30.00	Complies
	2452 MHz	18.13	30.00	Complies

<For 2TX>

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Test Date	Oct. 29, 2015~Dec. 23, 2015

Mode	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
802.11b	2412 MHz	23.77	23.45	26.62	30.00	Complies
	2437 MHz	26.89	26.67	29.79	30.00	Complies
	2462 MHz	20.42	20.08	23.26	30.00	Complies
802.11g	2412 MHz	19.07	18.73	21.91	30.00	Complies
	2437 MHz	25.66	25.39	28.54	30.00	Complies
	2462 MHz	19.24	18.68	21.98	30.00	Complies
802.11ac MCS0/Nss1 VHT20	2412 MHz	18.05	17.83	20.95	30.00	Complies
	2437 MHz	25.31	25.07	28.20	30.00	Complies
	2462 MHz	18.23	18.02	21.14	30.00	Complies
802.11ac MCS0/Nss1 VHT40	2422 MHz	15.23	14.97	18.11	30.00	Complies
	2437 MHz	18.72	18.45	21.60	30.00	Complies
	2452 MHz	16.47	16.08	19.29	30.00	Complies

4.3. Power Spectral Density Measurement

4.3.1. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

4.3.2. Measuring Instruments and Setting

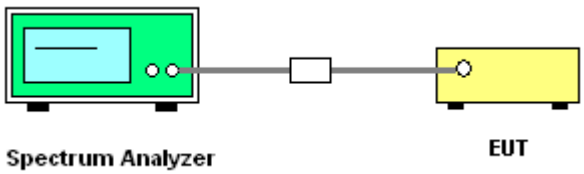
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Set the span to 1.5 times the DTS channel bandwidth.
RBW	3 kHz ≤ RBW ≤ 100kHz
VBW	≥ 3 x RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto couple

4.3.3. Test Procedures

1. Test was performed in accordance with KDB558074 D01 v03r04 for Performing Compliance Measurements on Digital Transmission Systems (DTS) - section 10.2 Method PKPSD (peak PSD) and KDB 662911 D01 v02r01 section In-Band Power Spectral Density (PSD) Measurements option (b) Measure and sum spectral maximal across the outputs.
2. Use this procedure when the maximum conducted output power in the fundamental emission is used to demonstrate compliance. The EUT must be configured to transmit continuously at full power over the measurement duration.
3. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW (use of a greater number of measurement points than this minimum requirement is recommended).
4. Use the peak marker function to determine the maximum level in any 3 kHz band segment within the fundamental EBW.
5. The resulting PSD level must be ≤ 8 dBm.

4.3.4. Test Setup Layout



4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of Power Spectral Density

<For 1TX>

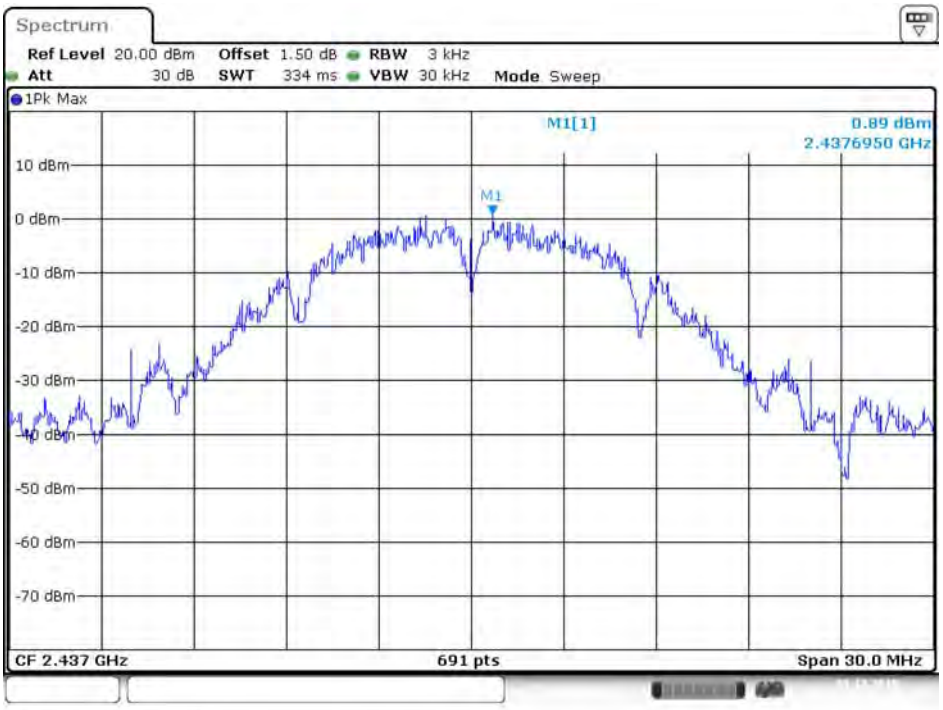
Temperature	25℃	Humidity	58%
Test Engineer	Andy Tsai		

Mode	Frequency	Power Density (dBm/3kHz)	Power Density Limit (dBm/3kHz)	Result
802.11b	2412 MHz	0.54	8.00	Complies
	2437 MHz	0.89	8.00	Complies
	2462 MHz	0.13	8.00	Complies
802.11g	2412 MHz	-5.22	8.00	Complies
	2437 MHz	0.19	8.00	Complies
	2462 MHz	-5.68	8.00	Complies
802.11ac MCS0/Nss1 VHT20	2412 MHz	-6.65	8.00	Complies
	2437 MHz	-0.62	8.00	Complies
	2462 MHz	-7.51	8.00	Complies
802.11ac MCS0/Nss1 VHT40	2422 MHz	-11.53	8.00	Complies
	2437 MHz	-9.88	8.00	Complies
	2452 MHz	-11.21	8.00	Complies

Note: All the test values were listed in the report.

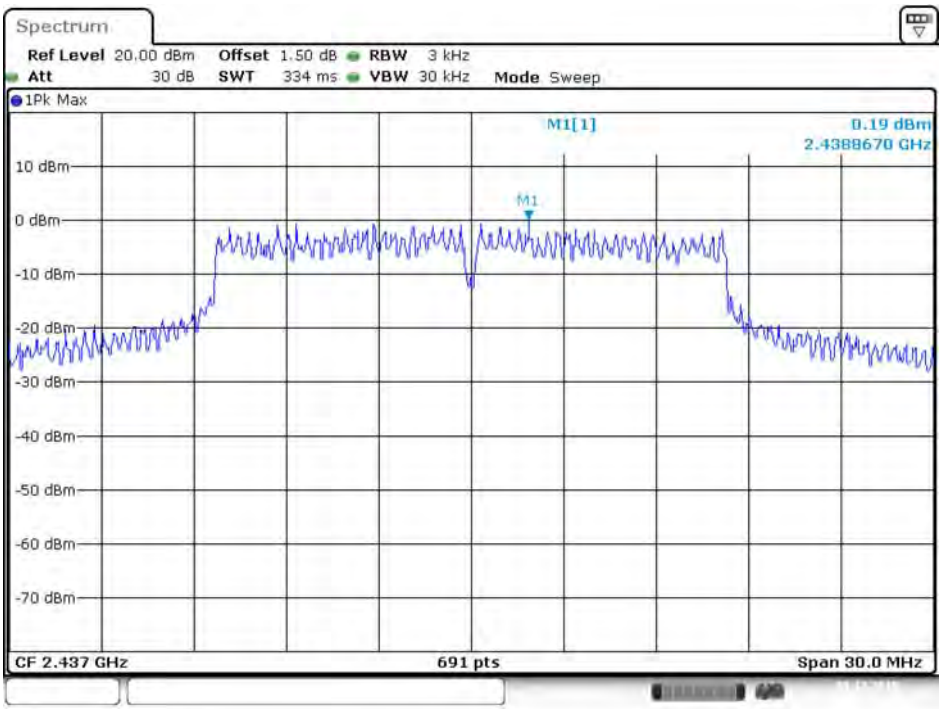
For plots, only the channel with worse result was shown.

Power Density Plot on Configuration IEEE 802.11b / 2437 MHz / Chain 1



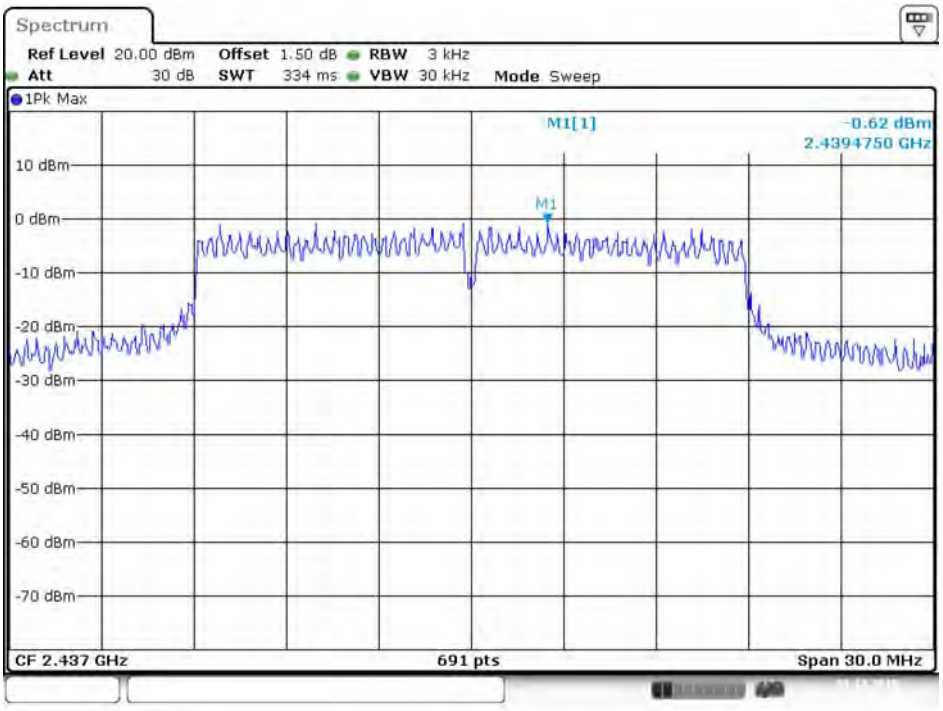
Date: 23.DEC.2015 16:44:17

Power Density Plot on Configuration IEEE 802.11g / 2437 MHz / Chain 1



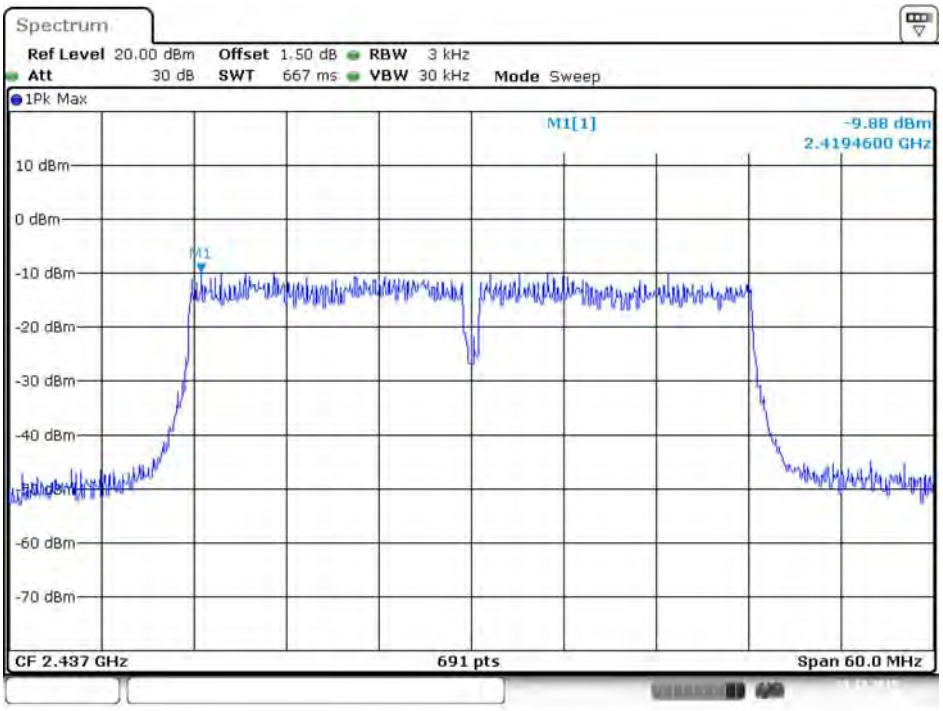
Date: 23.DEC.2015 16:58:09

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / 2437 MHz / Chain 1



Date: 23.DEC.2015 17:02:07

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / 2437 MHz / Chain 1



Date: 23.DEC.2015 17:07:05

<For 2TX>

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai		

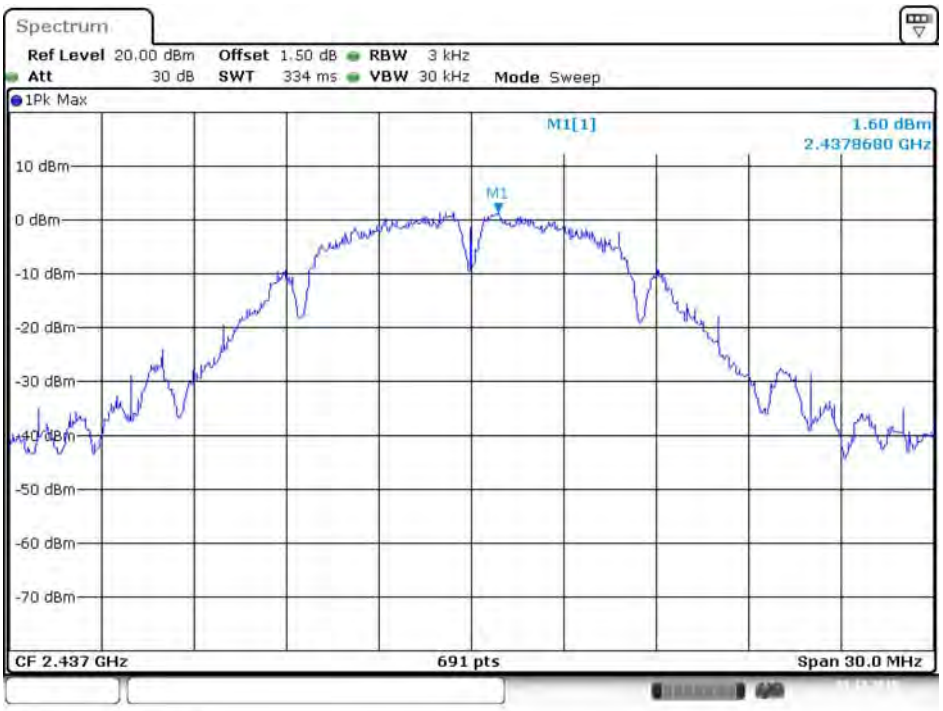
Mode	Frequency	Power Density (dBm/3kHz)			Power Density Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Total		
802.11b	2412 MHz	0.54	-0.11	3.24	8.00	Complies
	2437 MHz	1.60	1.71	4.67	8.00	Complies
	2462 MHz	-3.22	-3.81	-0.49	8.00	Complies
802.11g	2412 MHz	-7.21	-7.79	-4.48	8.00	Complies
	2437 MHz	-1.25	-0.86	1.96	8.00	Complies
	2462 MHz	-7.06	-7.16	-4.10	8.00	Complies
802.11ac MCS0/Nss1 VHT20	2412 MHz	-8.09	-8.05	-5.06	8.00	Complies
	2437 MHz	-1.42	-1.35	1.63	8.00	Complies
	2462 MHz	-8.49	-7.64	-5.03	8.00	Complies
802.11ac MCS0/Nss1 VHT40	2422 MHz	-13.56	-13.31	-10.42	8.00	Complies
	2437 MHz	-10.89	-10.21	-7.53	8.00	Complies
	2452 MHz	-13.40	-13.06	-10.22	8.00	Complies

Note: $Directional\ Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =5.01dBi<6dBi, so the limit doesn't reduce.

Note: All the test values were listed in the report.

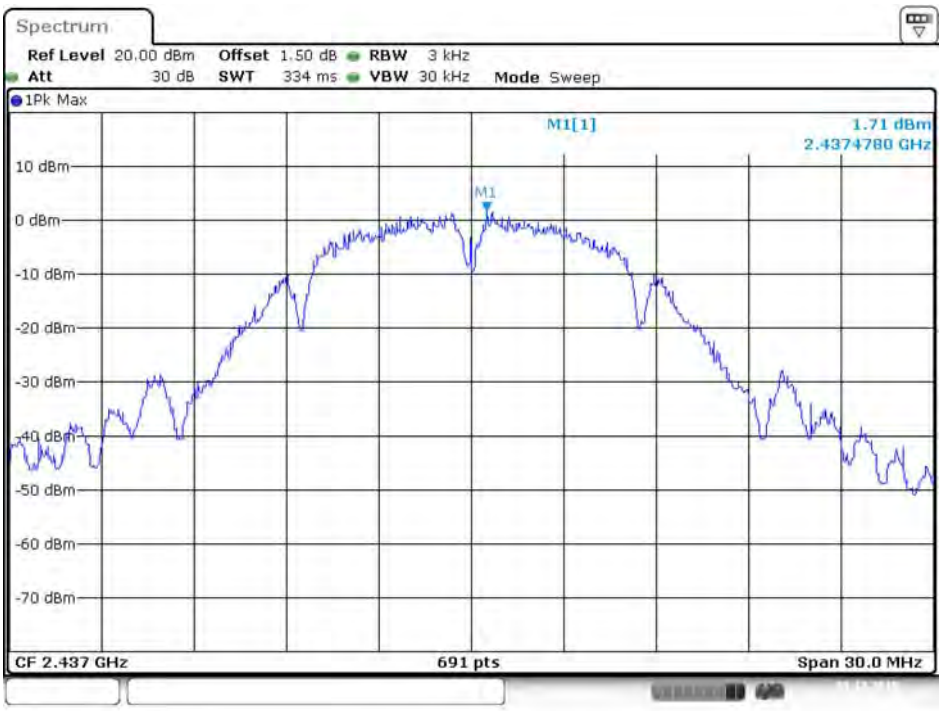
For plots, only the channel with worse result was shown.

Power Density Plot on Configuration IEEE 802.11b / 2437 MHz / Chain 1



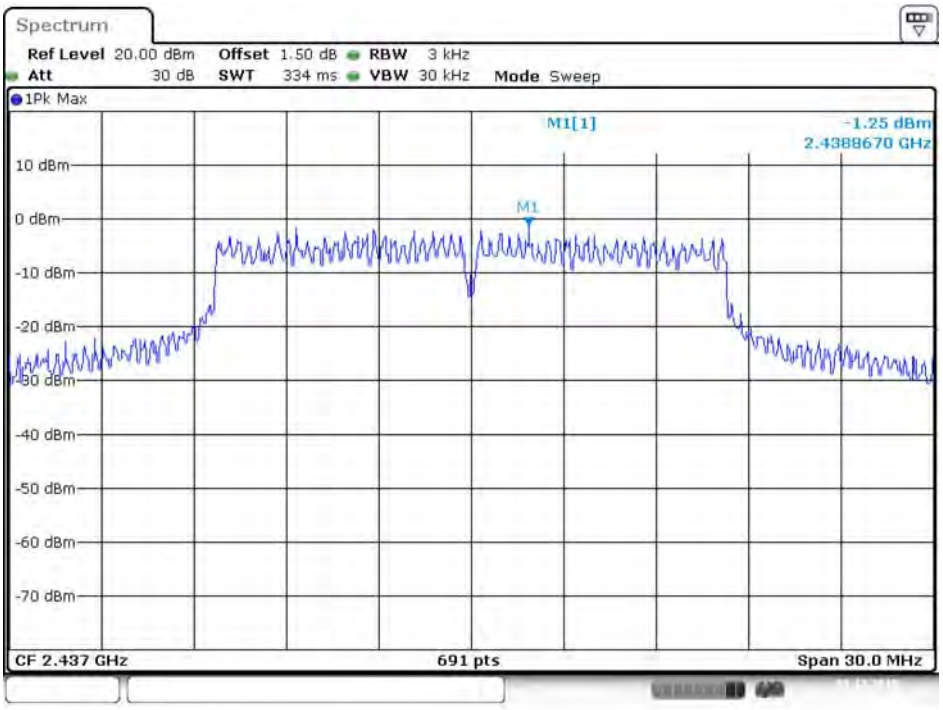
Date: 23.DEC.2015 17:23:43

Power Density Plot on Configuration IEEE 802.11b / 2437 MHz / Chain 2



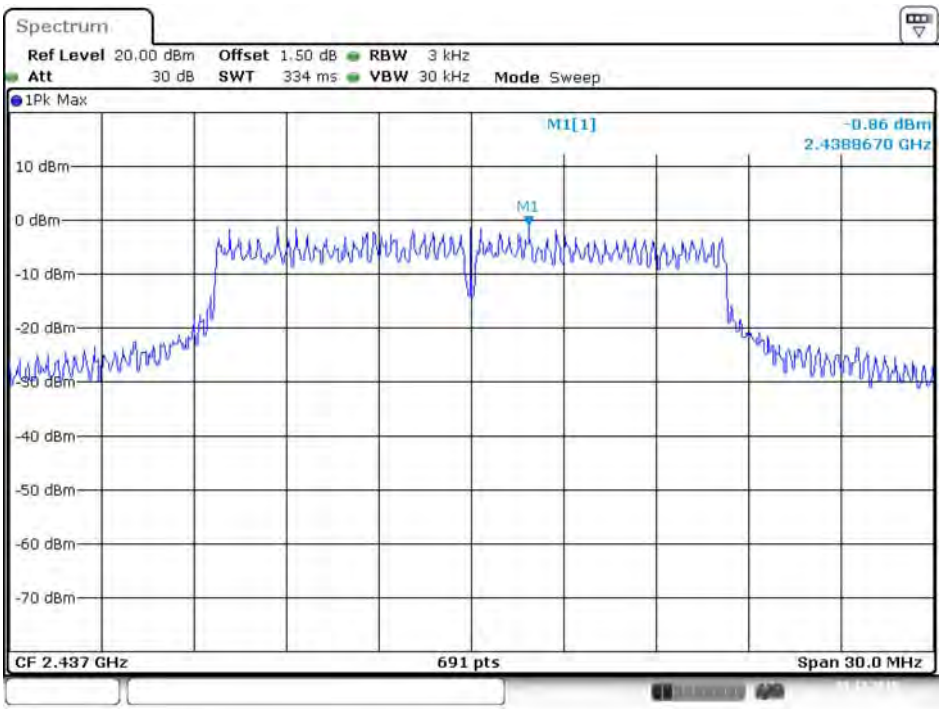
Date: 23.DEC.2015 17:24:48

Power Density Plot on Configuration IEEE 802.11g / 2437 MHz / Chain 1



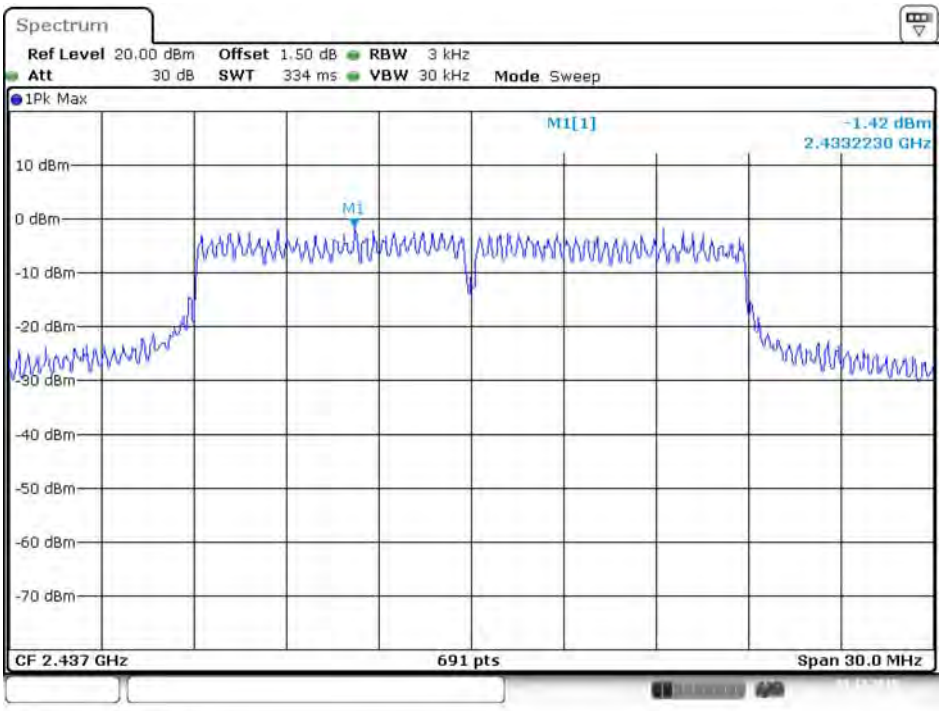
Date: 23.DEC.2015 17:30:57

Power Density Plot on Configuration IEEE 802.11g / 2437 MHz / Chain 2



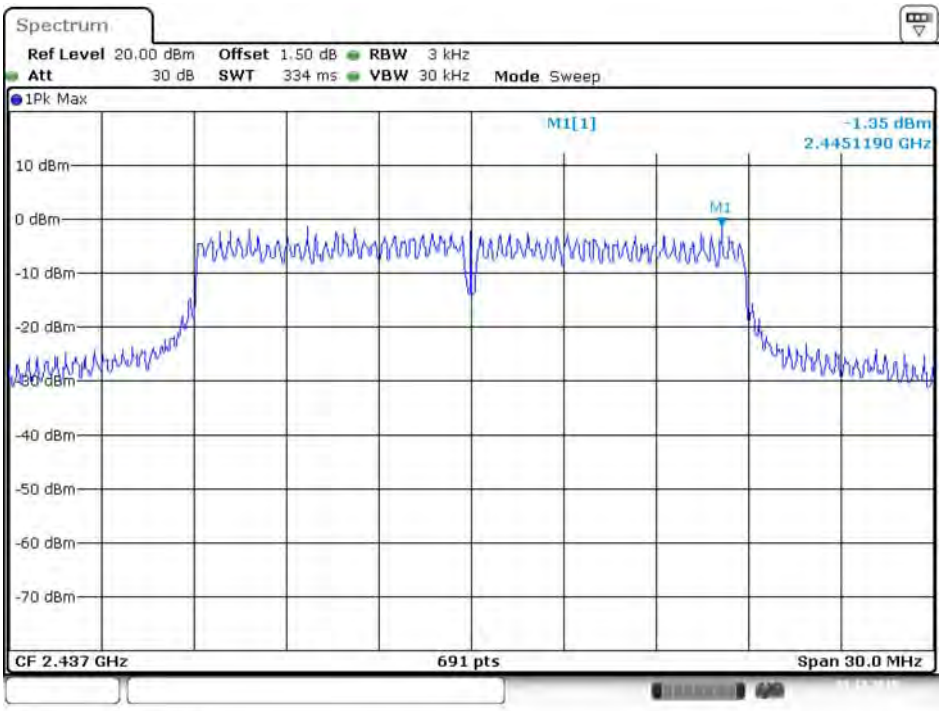
Date: 23.DEC.2015 17:30:09

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / 2437 MHz / Chain 1



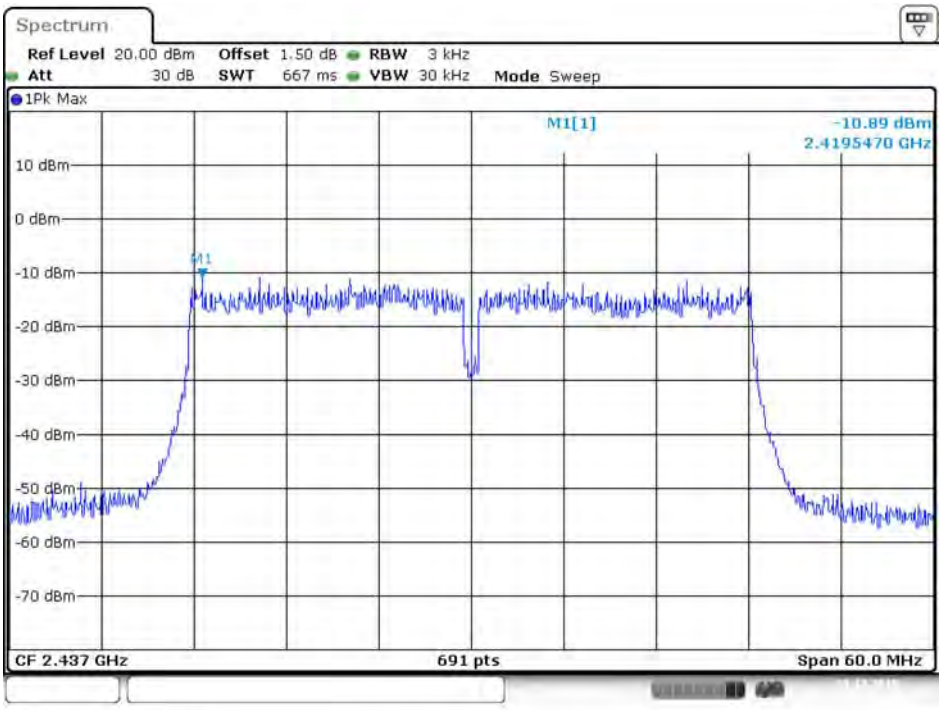
Date: 23.DEC.2015 17:36:29

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / 2437 MHz / Chain 2



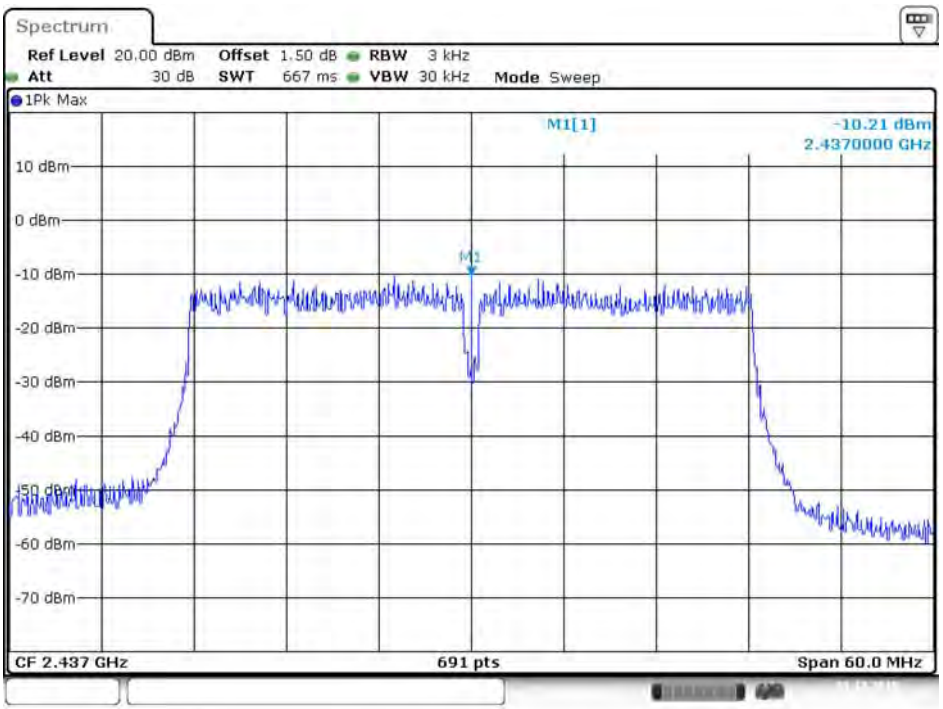
Date: 23.DEC.2015 17:37:17

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / 2437 MHz / Chain 1



Date: 23.DEC.2015 17:43:21

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / 2437 MHz / Chain 2



Date: 23.DEC.2015 17:42:40

4.4. 6dB Spectrum Bandwidth Measurement

4.4.1. Limit

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

4.4.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the Spectrum Analyzer.

6dB Spectrum Bandwidth	
Spectrum Parameters	**Setting**
Attenuation	Auto
Span Frequency	> 6dB Bandwidth
RBW	100kHz
VBW	≥ 3 x RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto
99% Occupied Bandwidth	
Spectrum Parameters	**Setting**
Span	1.5 times to 5.0 times the OBW
RBW	1 % to 5 % of the OBW
VBW	≥ 3 x RBW
Detector	Peak
Trace	Max Hold

4.4.3. Test Procedures

1. The transmitter was conducted to the spectrum analyzer in peak hold mode.
2. Test was performed in accordance with KDB558074 D01 v03r04 for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 section 8.0 DTS 6-dB signal bandwidth option 1.
3. Multiple antenna system was performed in accordance with KDB 662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. Measurement perform conducted of each port.
5. Measured the spectrum width with power higher than 6dB below carrier.

4.4.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.3.4.

4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.4.7. Test Result of 6dB Spectrum Bandwidth

<For 1TX>

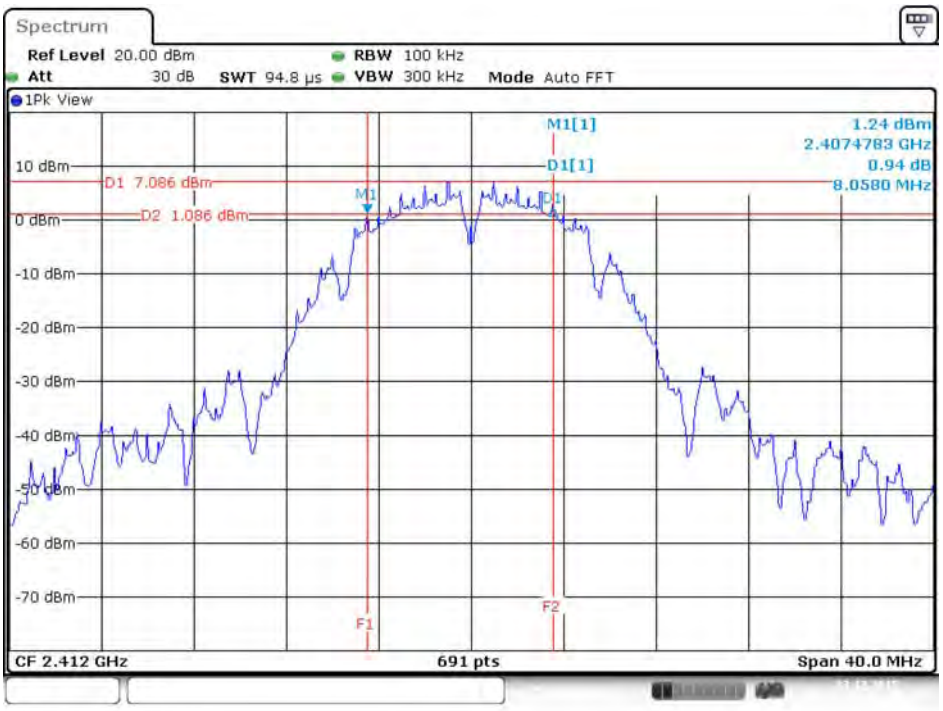
Temperature	25℃	Humidity	58%
Test Engineer	Andy Tsai		

Mode	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
802.11b	2412 MHz	8.06	11.98	500	Complies
	2437 MHz	9.04	13.72	500	Complies
	2462 MHz	8.12	11.55	500	Complies
802.11g	2412 MHz	16.12	16.93	500	Complies
	2437 MHz	16.41	24.31	500	Complies
	2462 MHz	16.35	16.93	500	Complies
802.11ac MCS0/Nss1 VHT20	2412 MHz	17.80	17.89	500	Complies
	2437 MHz	17.62	22.23	500	Complies
	2462 MHz	17.68	17.89	500	Complies
802.11ac MCS0/Nss1 VHT40	2422 MHz	35.48	36.47	500	Complies
	2437 MHz	36.41	36.90	500	Complies
	2452 MHz	36.17	37.05	500	Complies

Note: All the test values were listed in the report.

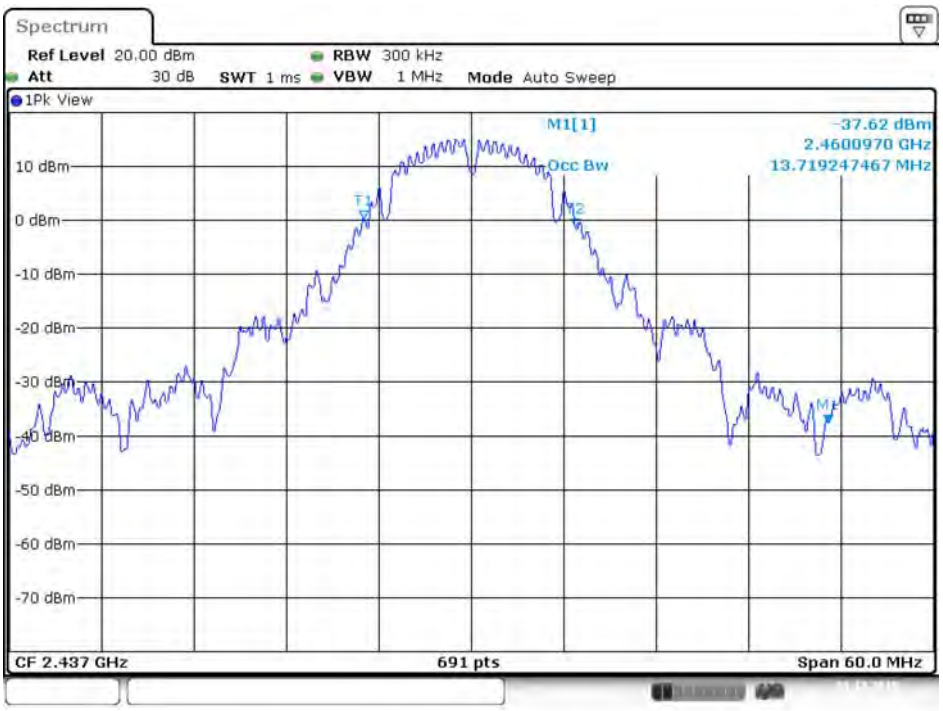
For plots, only the channel with worse result was shown.

6 dB Bandwidth Plot on Configuration IEEE 802.11b / 2412 MHz / Chain 1



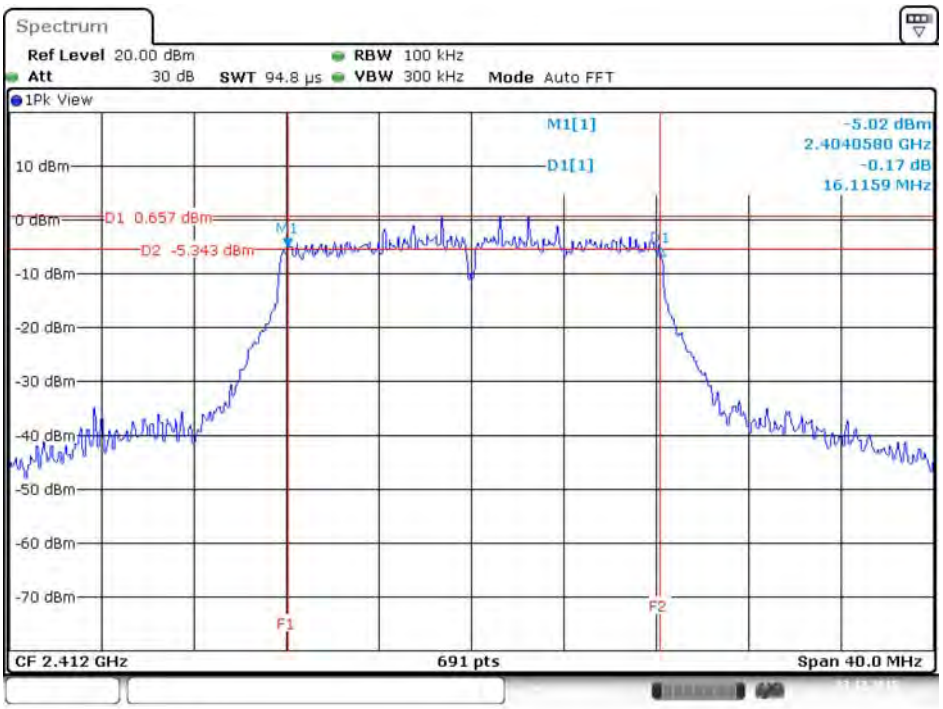
Date: 23.DEC.2015 18:13:55

99% Occupied Bandwidth Plot on Configuration IEEE 802.11b / 2437 MHz / Chain 1



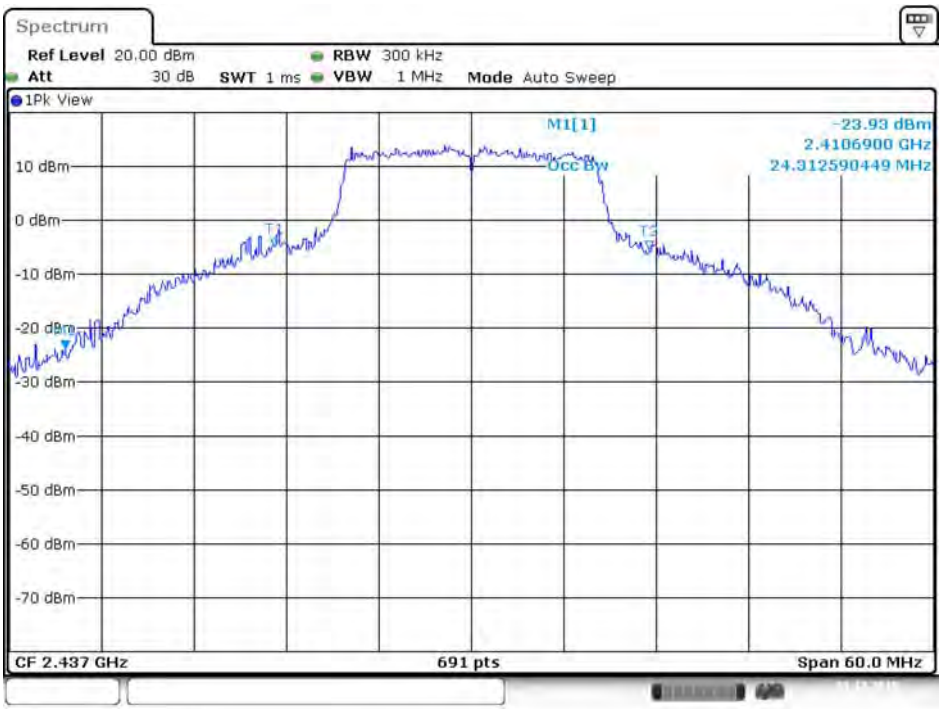
Date: 23.DEC.2015 17:51:02

6 dB Bandwidth Plot on Configuration IEEE 802.11g / 2412 MHz / Chain 1



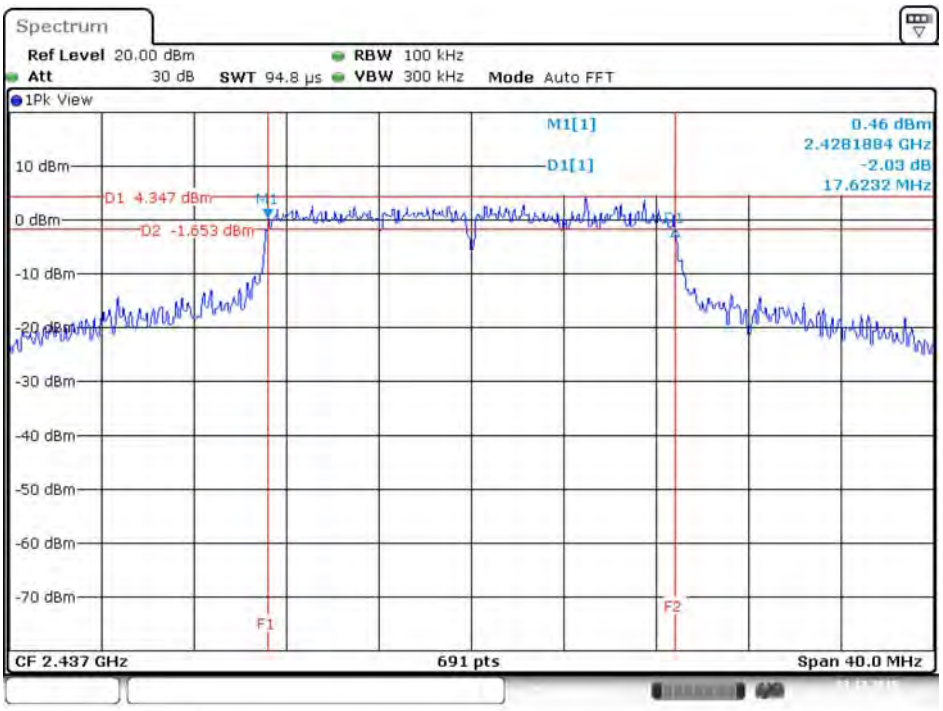
Date: 23.DEC.2015 18:12:47

99% Occupied Bandwidth Plot on Configuration IEEE 802.11g / 2437 MHz / Chain 1



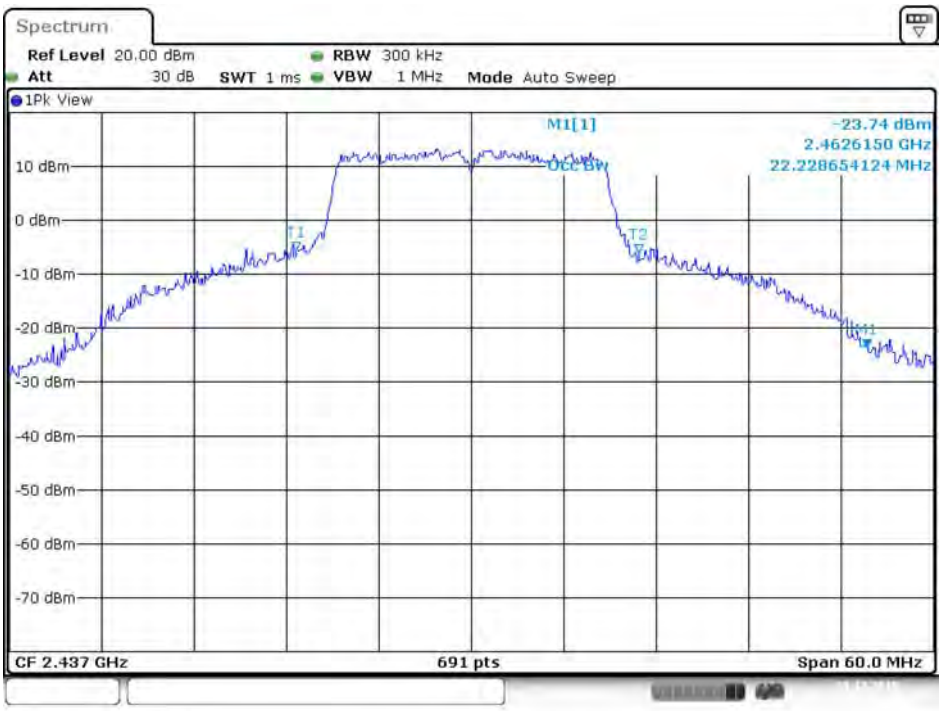
Date: 23.DEC.2015 17:54:50

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / 2437 MHz / Chain 1



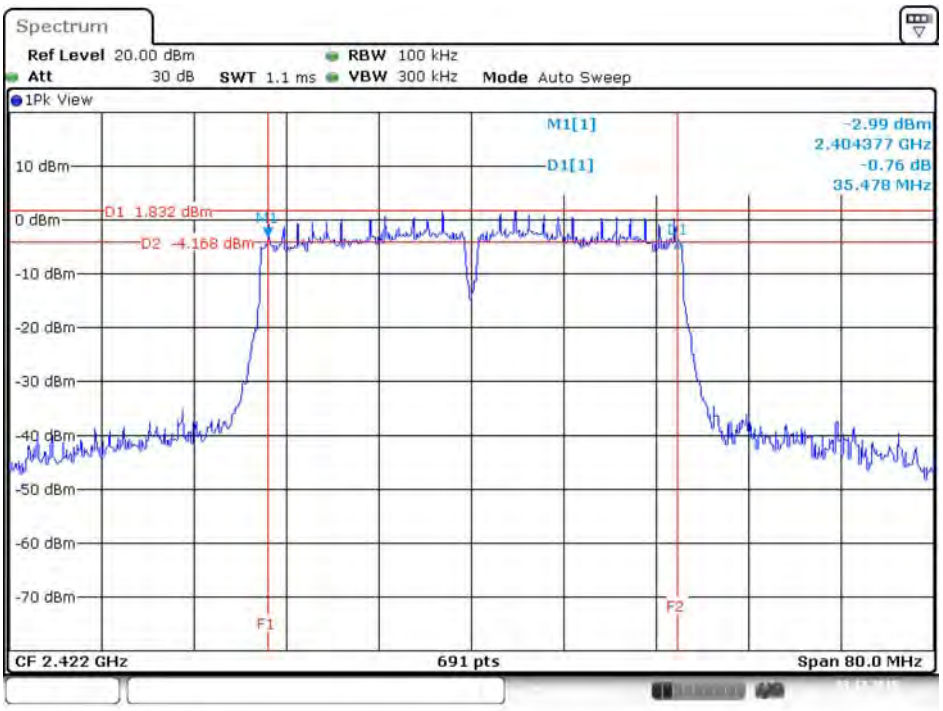
Date: 23.DEC.2015 18:09:22

99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / 2437 MHz / Chain 1



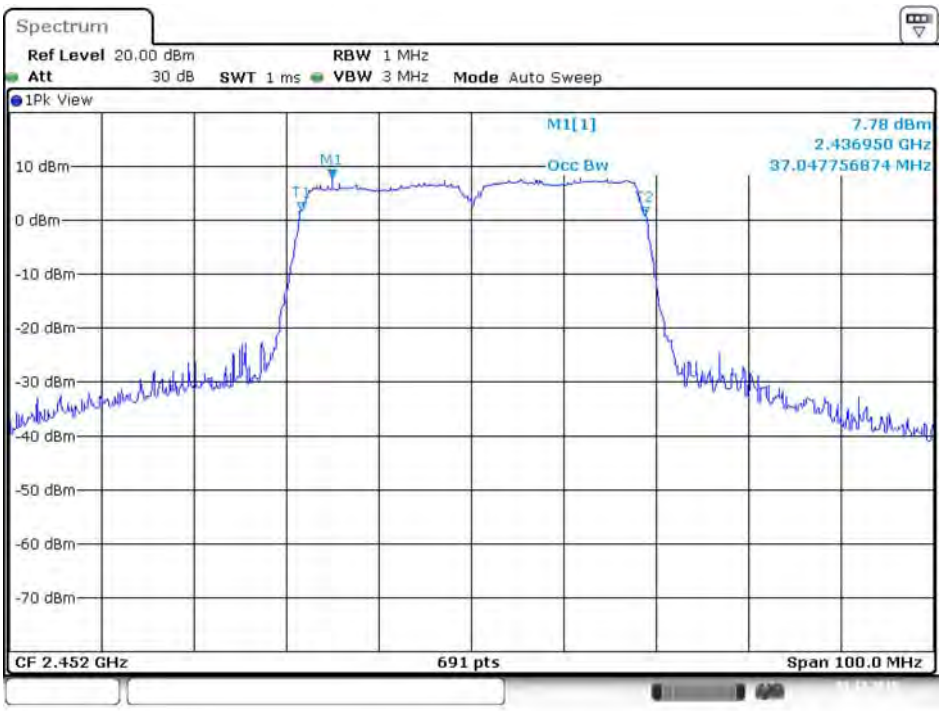
Date: 23.DEC.2015 17:58:04

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / 2422 MHz / Chain 1



Date: 23.DEC.2015 18:05:47

99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / 2452 MHz / Chain 1



Date: 23.DEC.2015 18:00:28

<For 2TX>

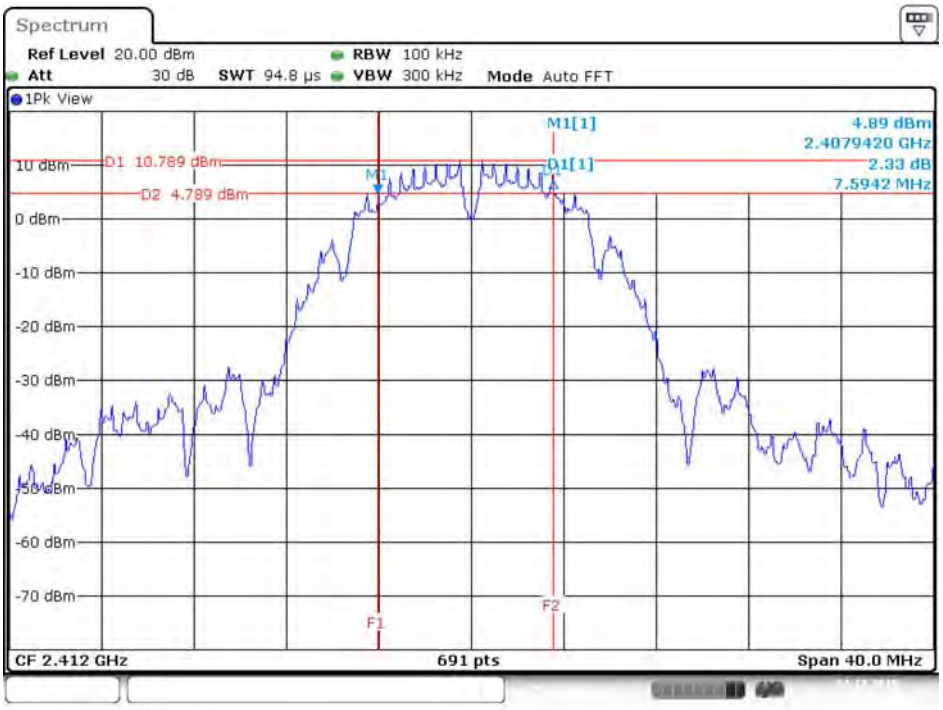
Temperature	25℃	Humidity	58%
Test Engineer	Andy Tsai		

Mode	Frequency	6dB Bandwidth (MHz)		99% Occupied Bandwidth (MHz)		Min. Limit (kHz)	Test Result
		Chain 1	Chain 2	Chain 1	Chain 2		
802.11b	2412 MHz	7.59	9.04	11.98	11.90	500	Complies
	2437 MHz	7.88	8.17	13.02	13.20	500	Complies
	2462 MHz	8.12	8.52	11.46	11.46	500	Complies
802.11g	2412 MHz	16.46	16.29	16.93	16.85	500	Complies
	2437 MHz	16.52	16.58	24.49	22.75	500	Complies
	2462 MHz	16.52	16.41	16.85	16.76	500	Complies
802.11ac MCS0/Nss1 VHT20	2412 MHz	17.28	17.80	17.89	17.80	500	Complies
	2437 MHz	17.80	17.80	22.40	24.05	500	Complies
	2462 MHz	17.80	16.93	17.89	17.71	500	Complies
802.11ac MCS0/Nss1 VHT40	2422 MHz	35.36	35.71	36.58	36.47	500	Complies
	2437 MHz	36.41	36.41	36.93	36.70	500	Complies
	2452 MHz	35.83	35.94	36.82	36.70	500	Complies

Note: All the test values were listed in the report.

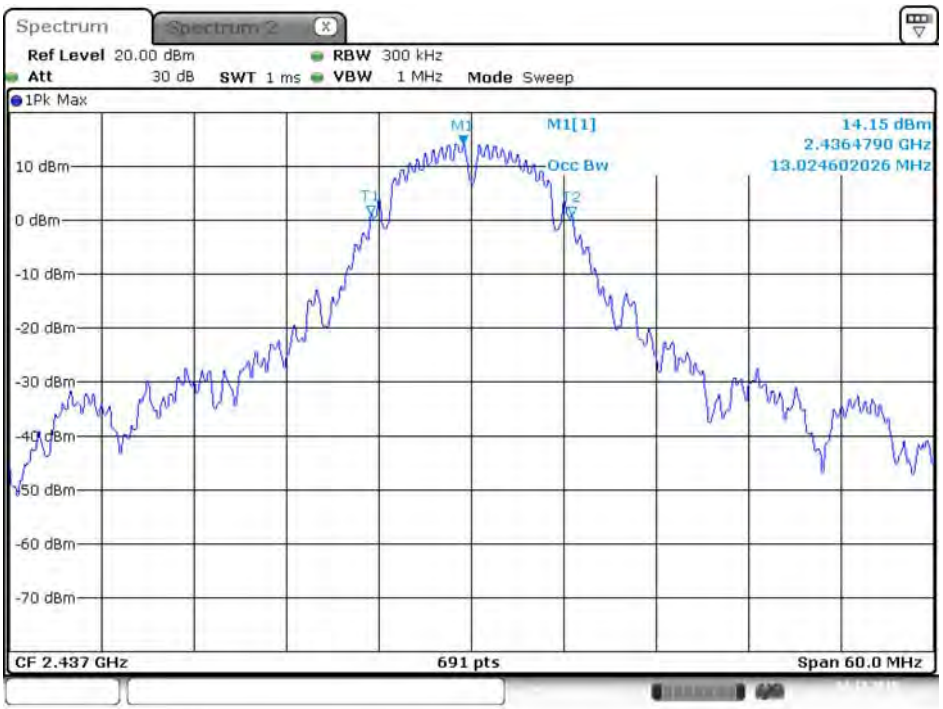
For plots, only the channel with worse result was shown.

6 dB Bandwidth Plot on Configuration IEEE 802.11b / 2412 MHz / Chain 1



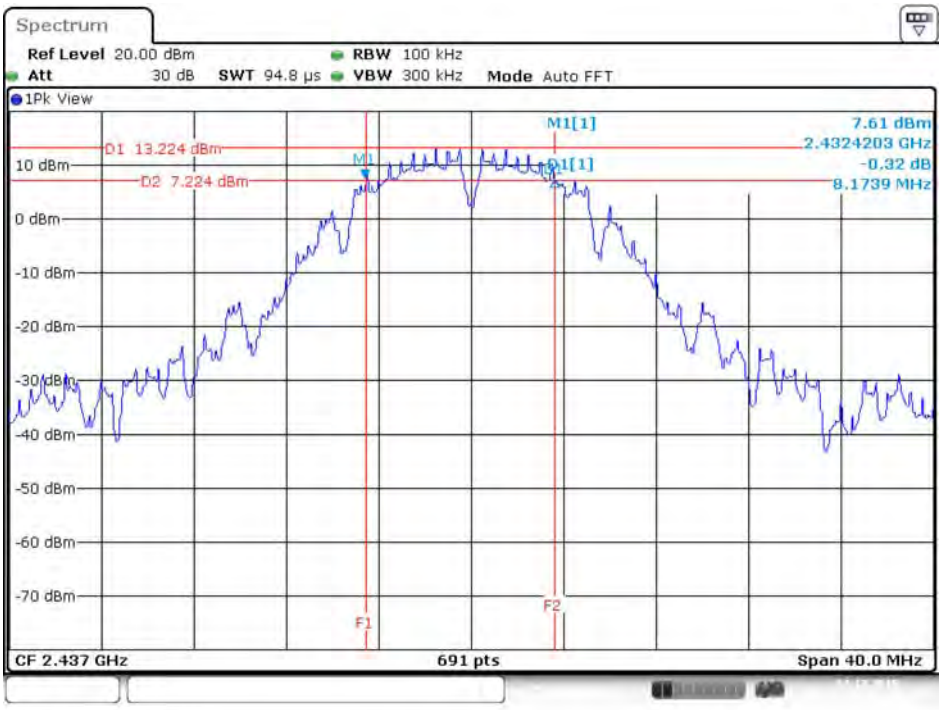
Date: 24.DEC.2015 01:09:37

99% Occupied Bandwidth Plot on Configuration IEEE 802.11b / 2437 MHz / Chain 1



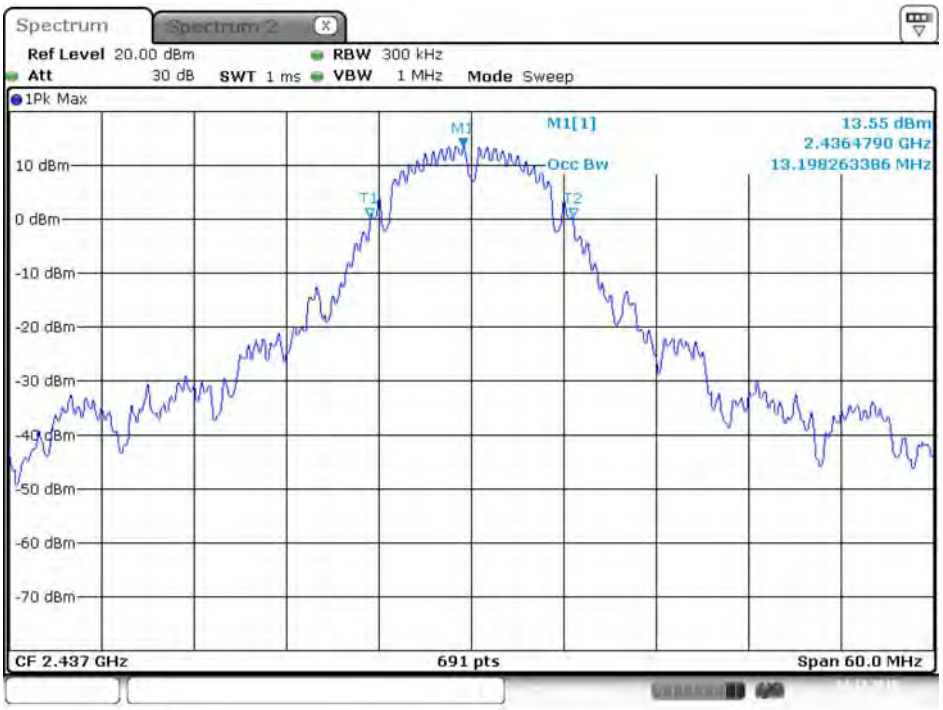
Date: 24.DEC.2015 01:34:00

6 dB Bandwidth Plot on Configuration IEEE 802.11b / 2437 MHz / Chain 2



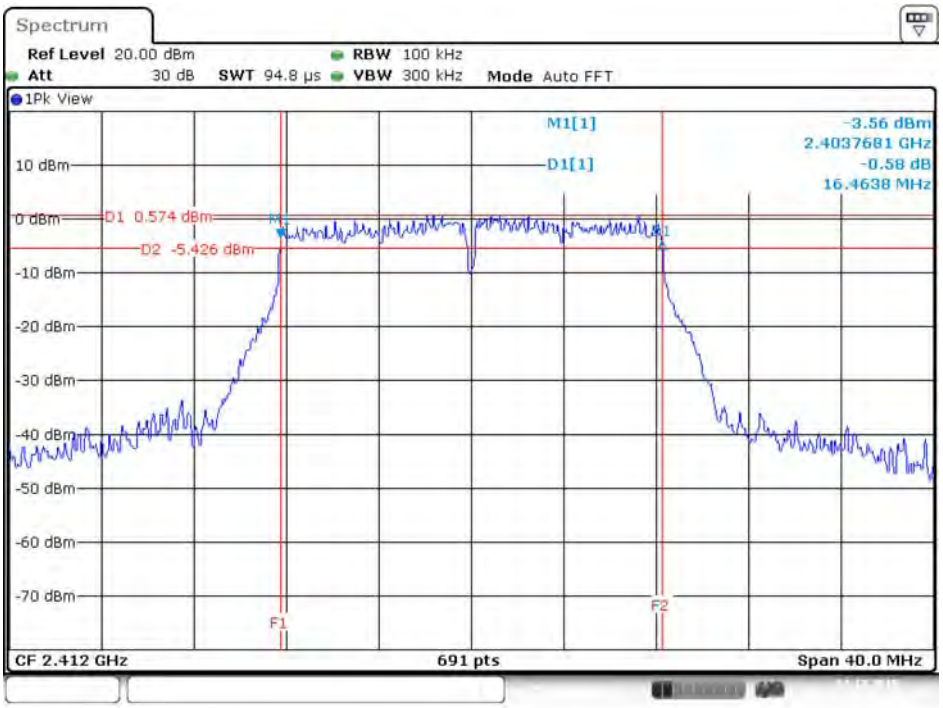
Date: 24.DEC.2015 01:10:36

99% Occupied Bandwidth Plot on Configuration IEEE 802.11b / 2437 MHz / Chain 2



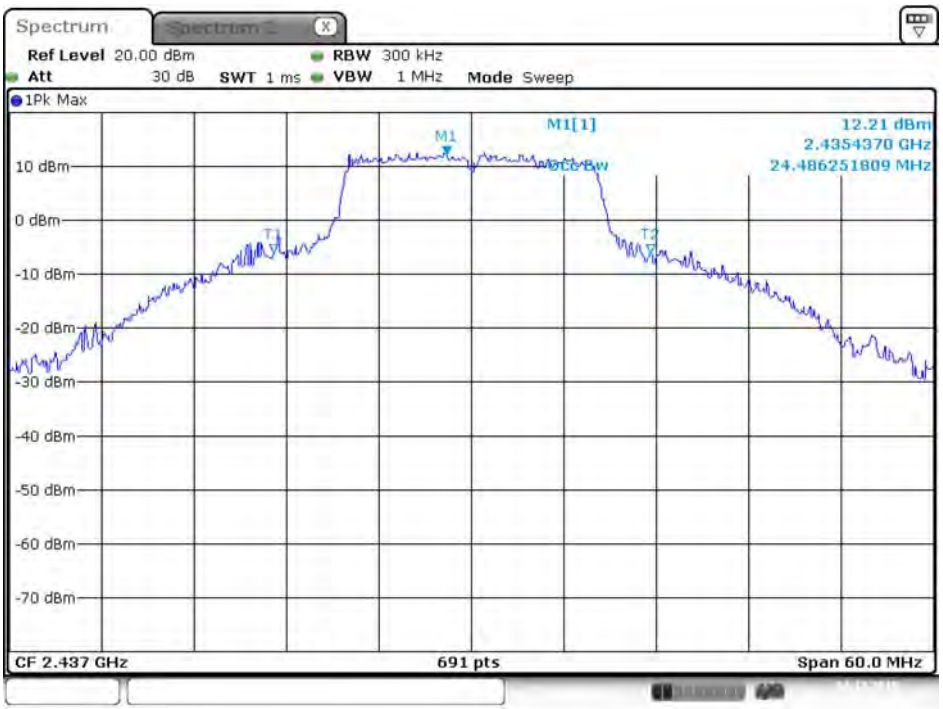
Date: 24.DEC.2015 01:34:21

6 dB Bandwidth Plot on Configuration IEEE 802.11g / 2412 MHz / Chain 1



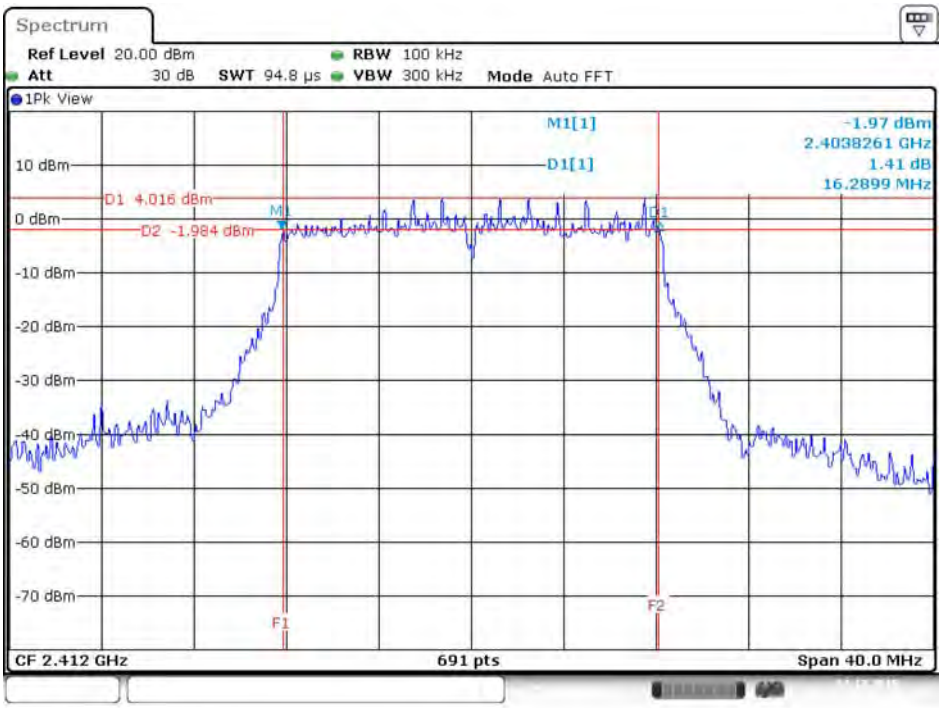
Date: 24.DEC.2015 01:12:38

99% Occupied Bandwidth Plot on Configuration IEEE 802.11g / 2437 MHz / Chain 1



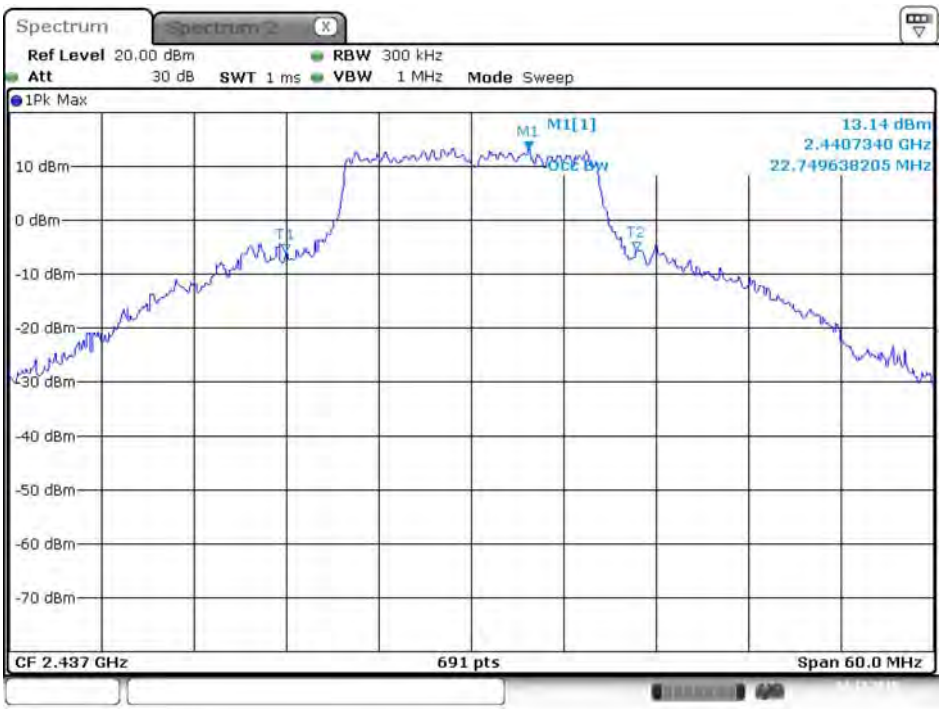
Date: 24.DEC.2015 01:36:25

6 dB Bandwidth Plot on Configuration IEEE 802.11g / 2412 MHz / Chain 2



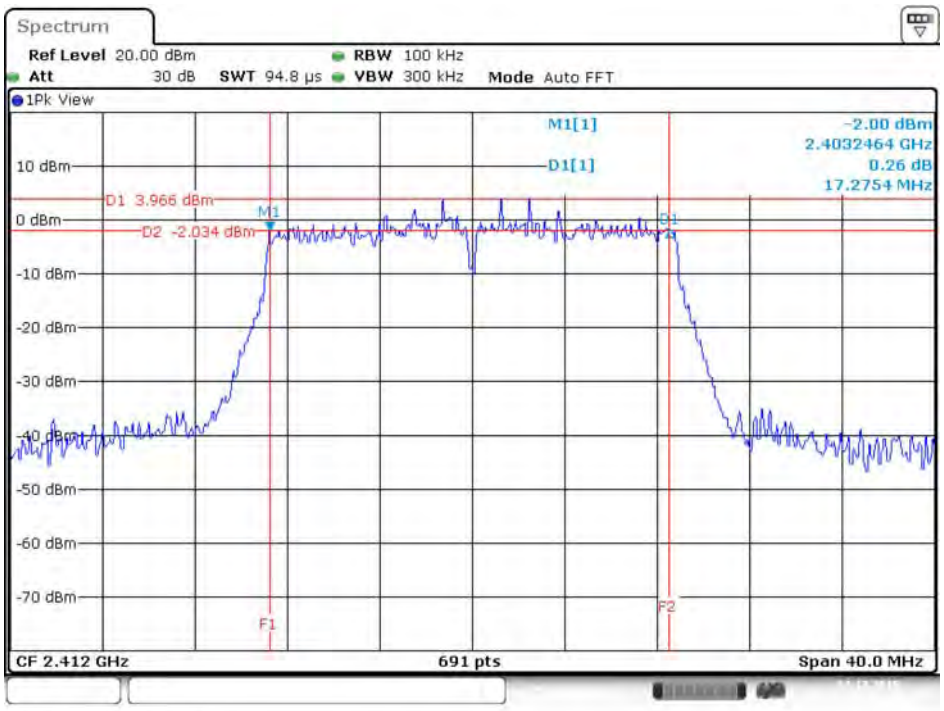
Date: 24.DEC.2015 01:12:29

99% Occupied Bandwidth Plot on Configuration IEEE 802.11g / 2437 MHz / Chain 2



Date: 24.DEC.2015 01:36:39

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / 2412 MHz / Chain 1

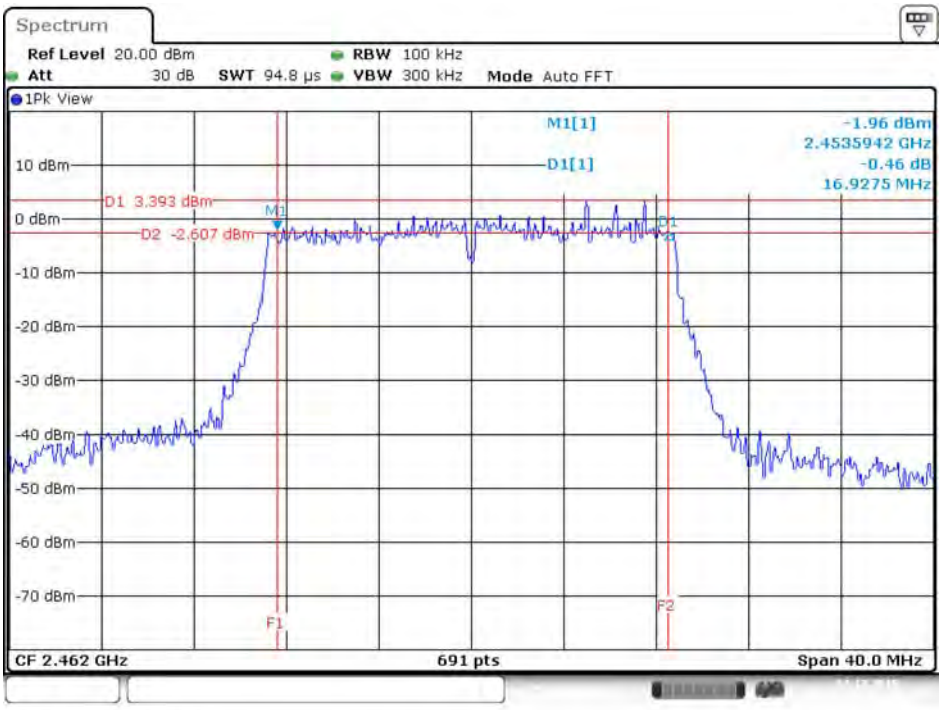


Date: 24.DEC.2015 01:16:37

99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / 2437 MHz / Chain 1

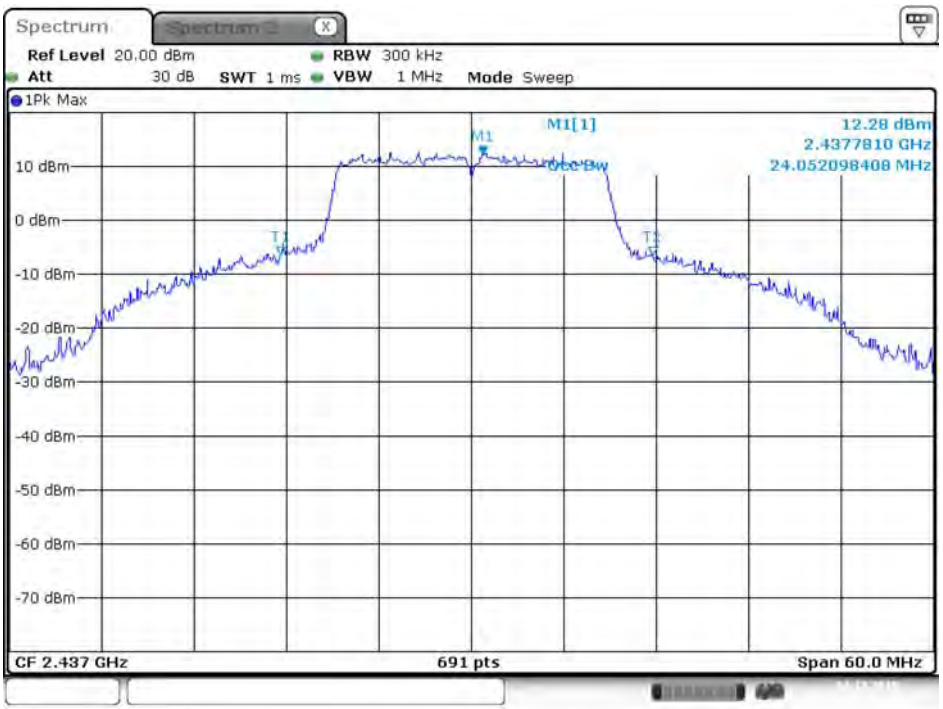
Date: 24.DEC.2015 01:38:57

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / 2462 MHz / Chain 2



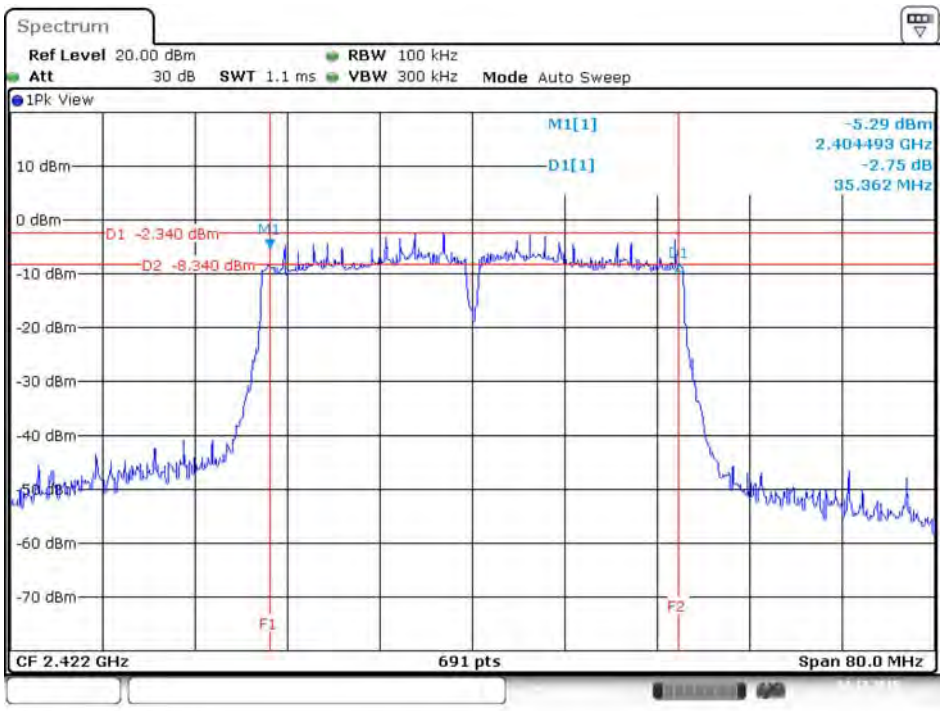
Date: 24.DEC.2015 01:17:52

99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / 2437 MHz / Chain 2



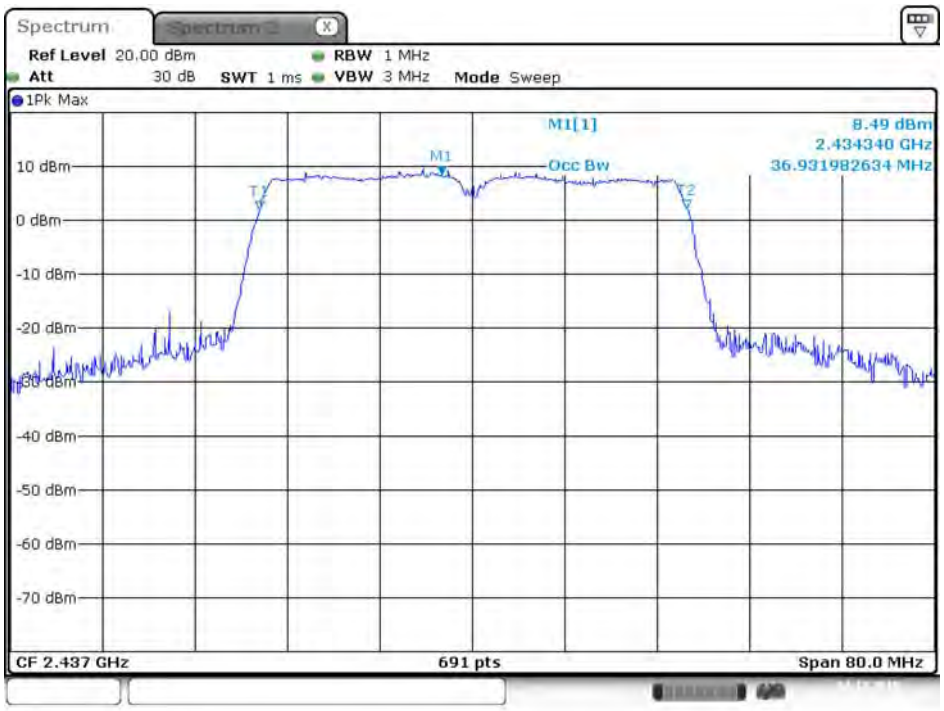
Date: 24.DEC.2015 01:39:04

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / 2422 MHz / Chain 1



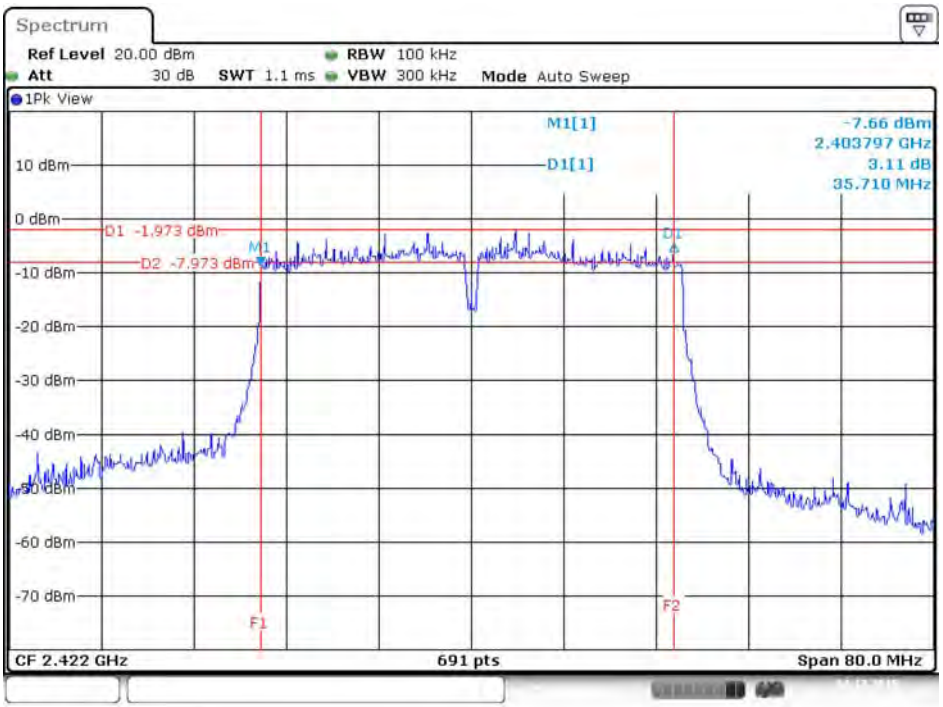
Date: 24.DEC.2015 01:18:33

99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / 2437 MHz / Chain 1



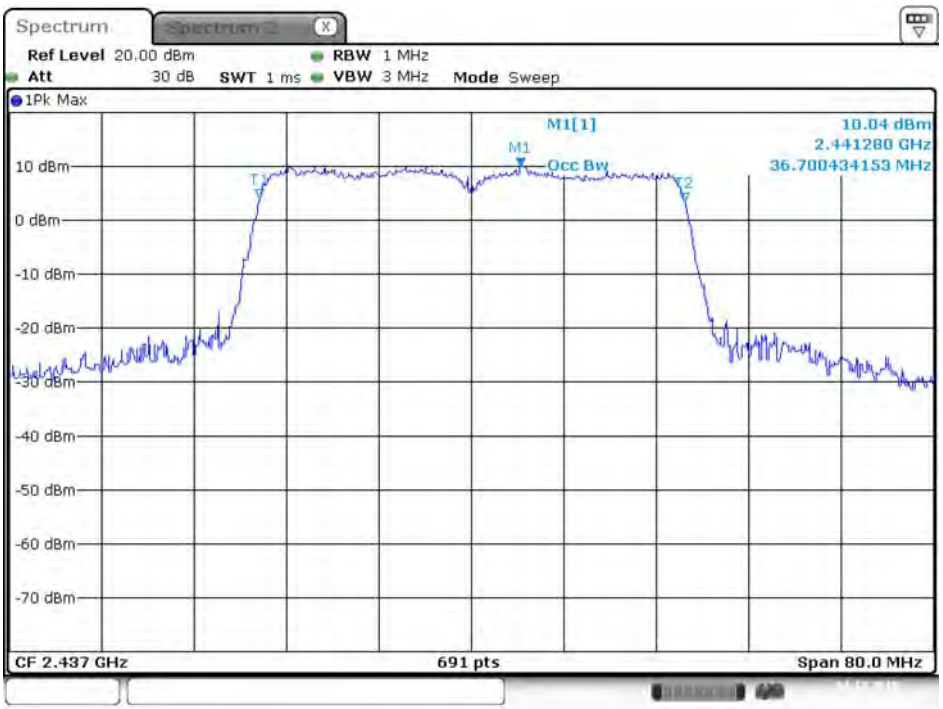
Date: 24.DEC.2015 01:41:55

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / 2422 MHz / Chain 2



Date: 24.DEC.2015 01:18:22

99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / 2437 MHz / Chain 2



Date: 24.DEC.2015 01:42:09

4.5. Radiated Emissions Measurement

4.5.1. Limit

30dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.5.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	100kHz / 300kHz for peak

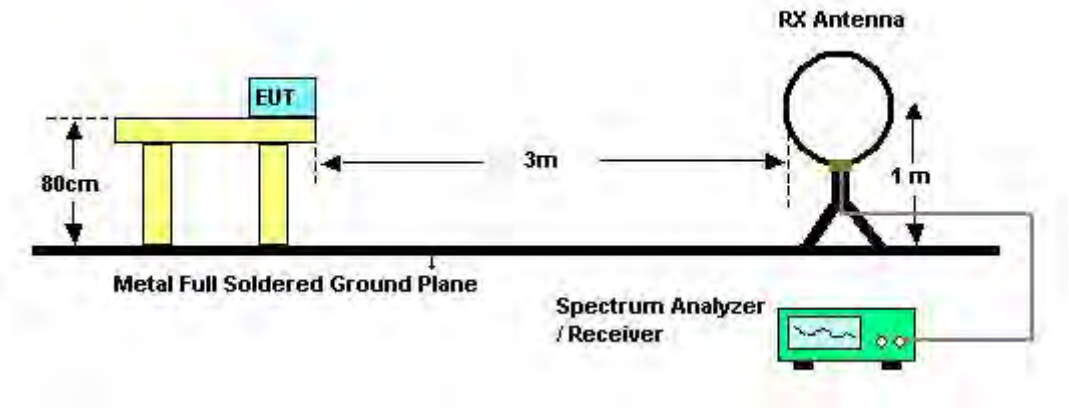
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

4.5.3. Test Procedures

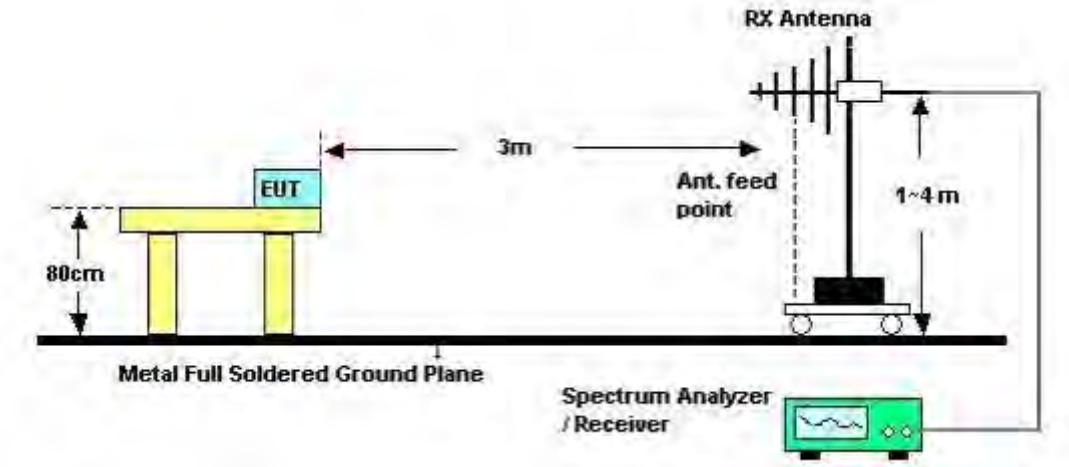
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 1m & 3m far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 m to 4 m) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 1/T VBW for average reading in spectrum analyzer.
7. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
8. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
9. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.5.4. Test Setup Layout

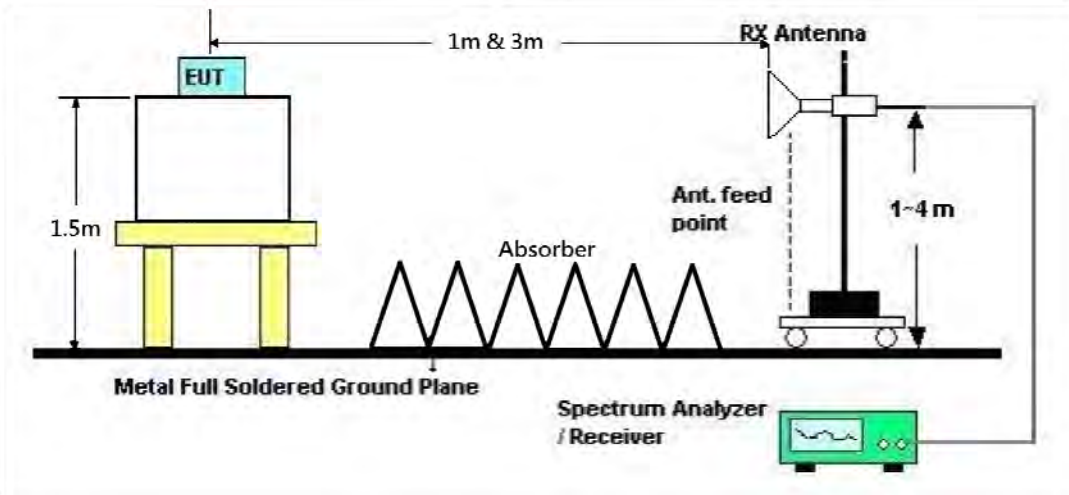
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.5.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	25℃	Humidity	59%
Test Engineer	Peter Wu	Configurations	Normal Link
Test Date	Dec. 07, 2015	Test Mode	Mode 2

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

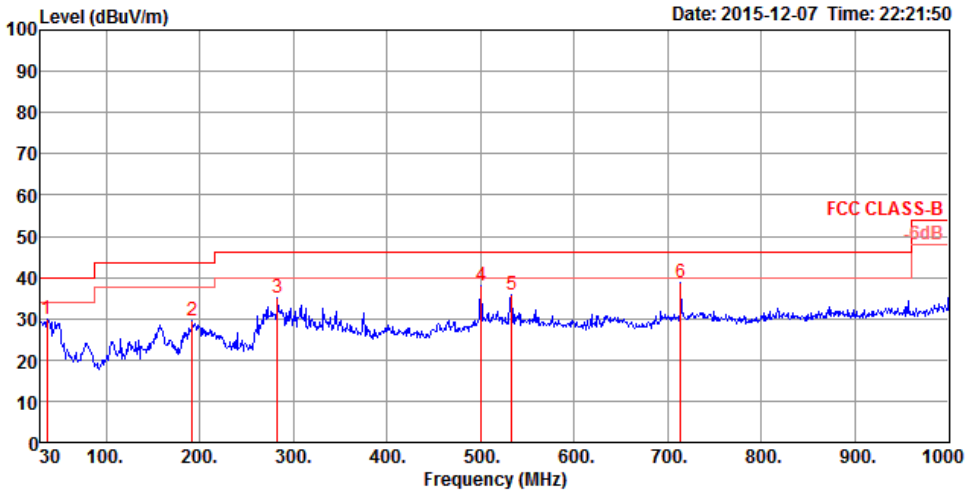
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

4.5.8. Results of Radiated Emissions (30MHz~1GHz)

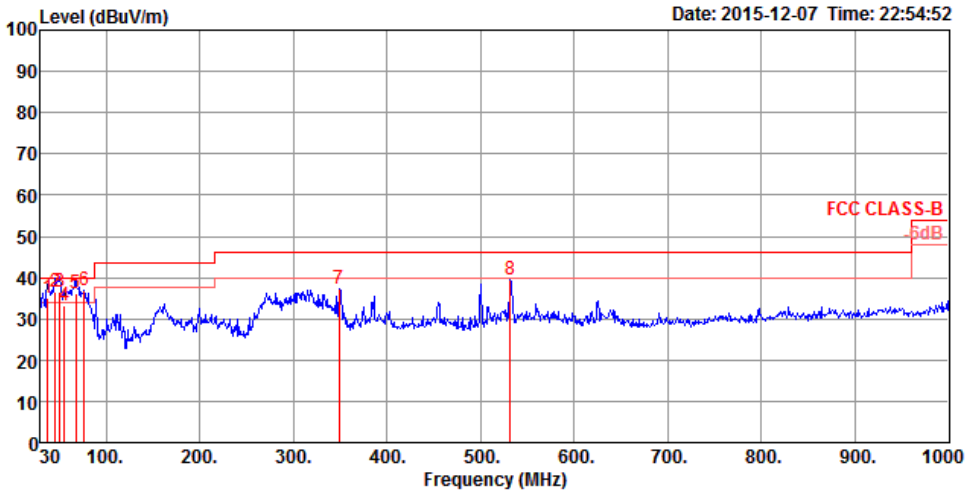
Temperature	25℃	Humidity	59%
Test Engineer	Peter Wu	Configurations	Normal Link
Test Mode	Mode 2		

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	36.79	29.81	40.00	-10.19	45.69	0.53	15.99	32.40	200	360	Peak	HORIZONTAL
2	191.99	29.49	43.50	-14.01	50.66	1.20	9.96	32.33	200	360	Peak	HORIZONTAL
3	283.17	35.03	46.00	-10.97	52.26	1.43	13.63	32.29	200	360	Peak	HORIZONTAL
4	500.45	38.01	46.00	-7.99	50.30	1.94	18.12	32.35	200	360	Peak	HORIZONTAL
5	533.43	35.87	46.00	-10.13	47.67	2.00	18.57	32.37	200	360	Peak	HORIZONTAL
6	713.85	38.84	46.00	-7.16	48.90	2.30	19.98	32.34	200	360	Peak	HORIZONTAL

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	37.76	34.99	40.00	-5.01	51.50	0.53	15.36	32.40	200	0	QP	VERTICAL
2	45.52	36.37	40.00	-3.63	57.10	0.60	11.08	32.41	200	0	QP	VERTICAL
3	50.37	36.71	40.00	-3.29	59.50	0.61	9.01	32.41	200	0	QP	VERTICAL
4	55.22	33.21	40.00	-6.79	57.11	0.65	7.86	32.41	200	0	QP	VERTICAL
5	67.83	36.13	40.00	-3.87	61.10	0.71	6.72	32.40	200	0	QP	VERTICAL
6	76.56	36.77	40.00	-3.23	61.12	0.76	7.29	32.40	200	0	Peak	VERTICAL
7	349.13	37.34	46.00	-8.66	52.77	1.61	15.27	32.31	200	0	Peak	VERTICAL
8	531.49	39.42	46.00	-6.58	51.24	2.00	18.55	32.37	200	0	Peak	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

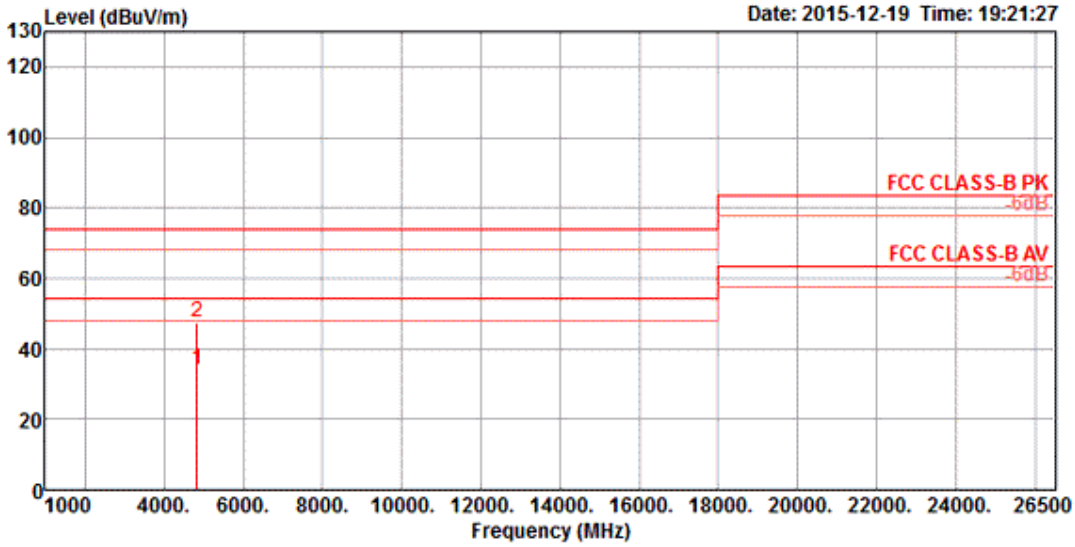
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.5.9. Results for Radiated Emissions (1GHz~10th Harmonic)

<For 1TX>

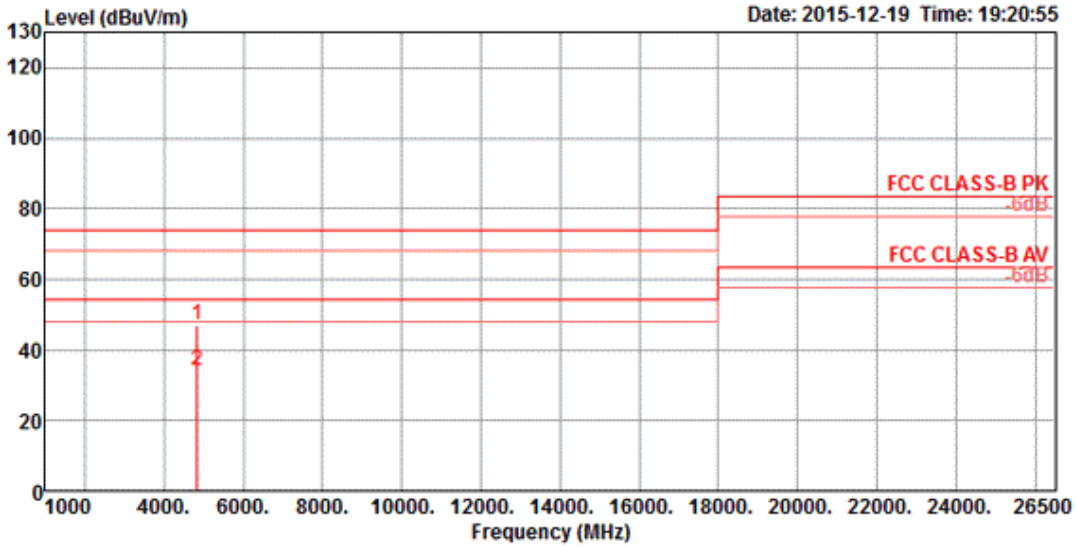
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11b CH 1 / Chain 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4820.52	34.29	54.00	-19.71	28.70	7.50	33.03	31.12	HORIZONTAL	306	137	Average
2	4824.02	47.34	74.00	-26.66	41.75	7.50	33.03	31.12	HORIZONTAL	306	137	Peak

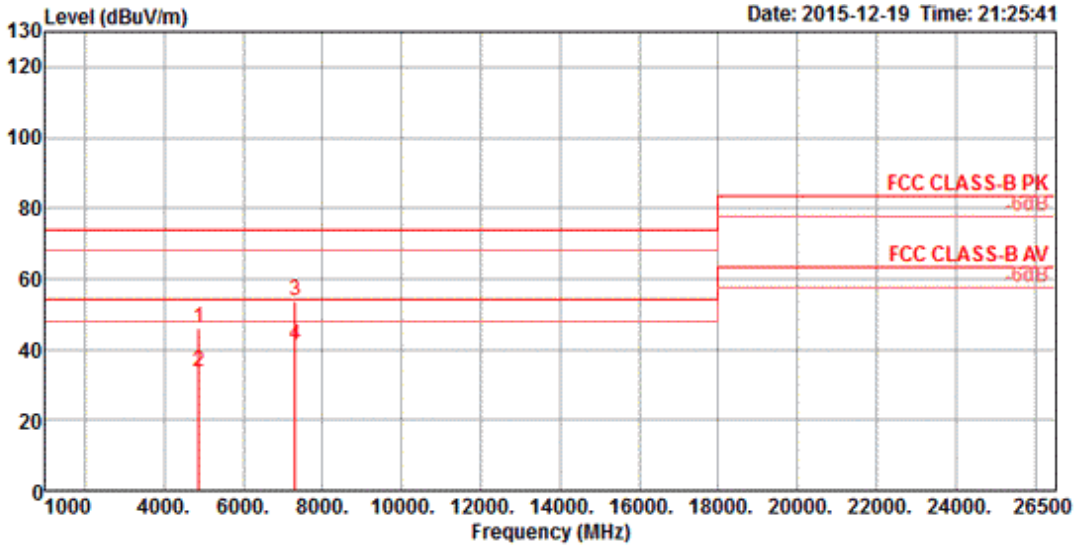
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4821.60	46.88	74.00	-27.12	41.29	7.50	33.03	31.12	VERTICAL	5	146	Peak
2	4823.94	34.18	54.00	-19.82	28.59	7.50	33.03	31.12	VERTICAL	5	146	Average

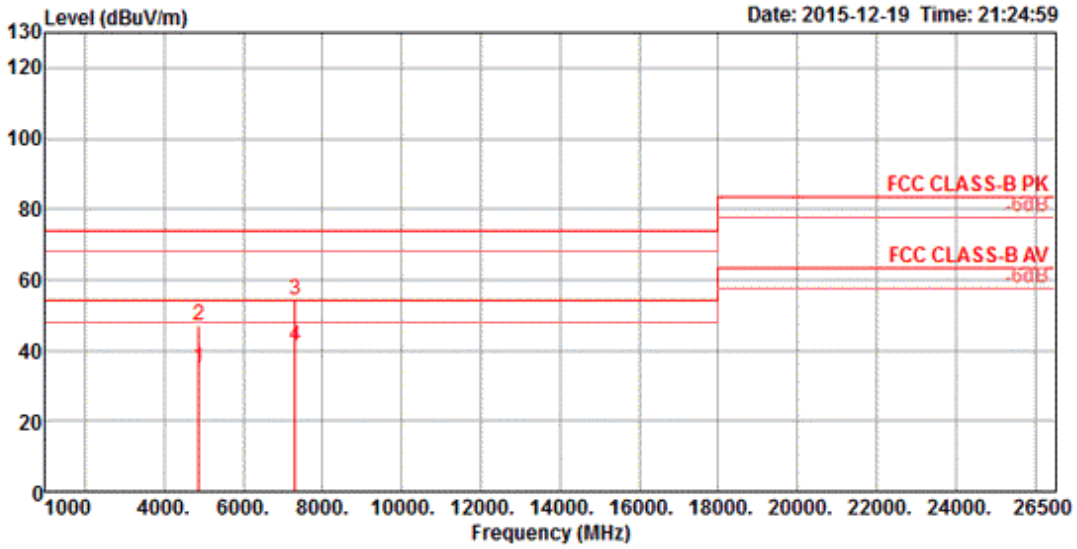
Temperature	25°C	Humidity	62%
Test Engineer	Peter Wu	Configurations	IEEE 802.11b CH 6 / Chain 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4874.08	46.05	74.00	-27.95	40.26	7.59	33.01	31.21	HORIZONTAL	160	177	Peak
2	4877.12	33.61	54.00	-20.39	27.81	7.59	33.00	31.21	HORIZONTAL	160	177	Average
3	7311.82	53.91	74.00	-20.09	42.43	9.67	34.18	35.99	HORIZONTAL	199	160	Peak
4	7311.94	41.26	54.00	-12.74	29.78	9.67	34.18	35.99	HORIZONTAL	199	160	Average

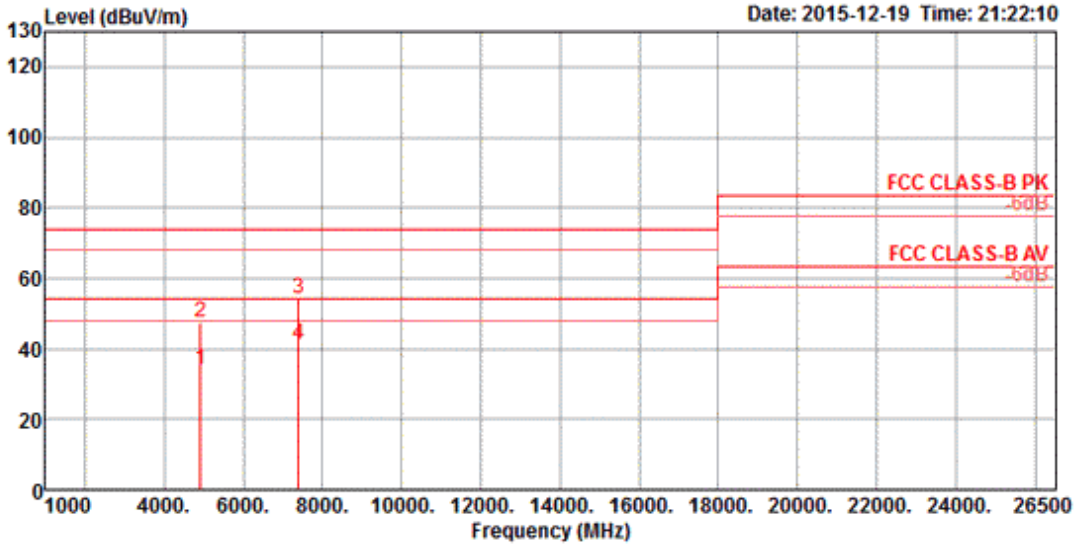
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4873.90	35.01	54.00	-18.99	29.22	7.59	33.01	31.21	VERTICAL	188	224	Average
2	4874.64	46.84	74.00	-27.16	41.05	7.59	33.01	31.21	VERTICAL	188	224	Peak
3	7311.78	54.11	74.00	-19.89	42.63	9.67	34.18	35.99	VERTICAL	168	212	Peak
4	7313.52	41.08	54.00	-12.92	29.60	9.67	34.18	35.99	VERTICAL	168	212	Average

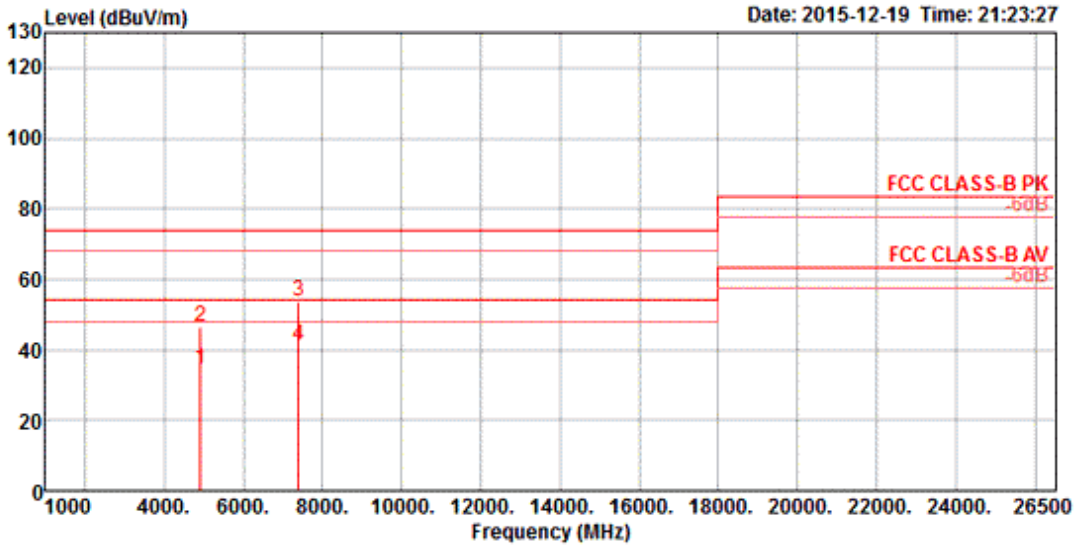
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11b CH 11 / Chain 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4920.54	34.19	54.00	-19.81	28.26	7.65	32.99	31.27	HORIZONTAL	151	148	Average
2	4926.06	47.59	74.00	-26.41	41.61	7.67	32.98	31.29	HORIZONTAL	151	148	Peak
3	7387.12	54.00	74.00	-20.00	42.37	9.71	34.25	36.17	HORIZONTAL	149	185	Peak
4	7389.72	41.05	54.00	-12.95	29.42	9.71	34.25	36.17	HORIZONTAL	149	185	Average

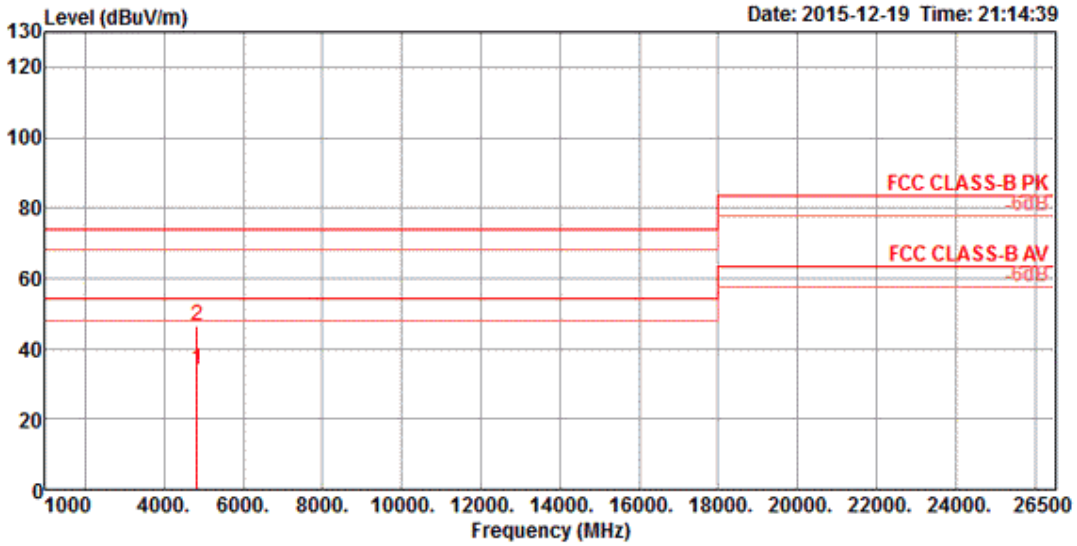
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4923.90	34.58	54.00	-19.42	28.61	7.67	32.99	31.29	VERTICAL	359	244	Average
2	4926.66	46.44	74.00	-27.56	40.46	7.67	32.98	31.29	VERTICAL	359	244	Peak
3	7387.74	53.58	74.00	-20.42	41.95	9.71	34.25	36.17	VERTICAL	280	142	Peak
4	7387.76	41.36	54.00	-12.64	29.73	9.71	34.25	36.17	VERTICAL	280	142	Average

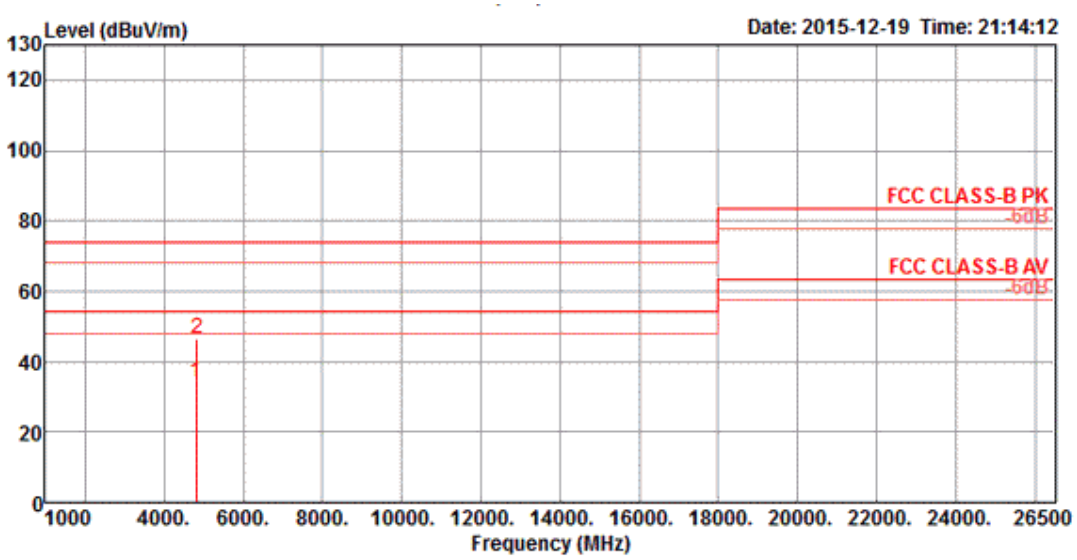
Temperature	25℃	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11g CH 1 / Chain 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4821.18	33.91	54.00	-20.09	28.32	7.50	33.03	31.12	HORIZONTAL	186	175	Average
2	4828.46	46.62	74.00	-27.38	40.99	7.52	33.03	31.14	HORIZONTAL	186	175	Peak

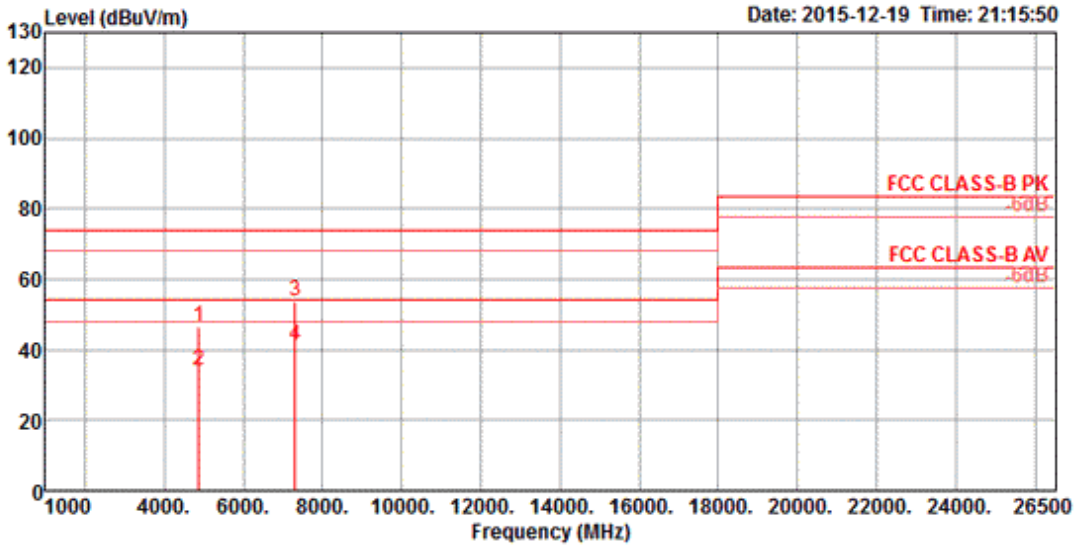
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4819.78	33.99	54.00	-20.01	28.40	7.50	33.03	31.12	VERTICAL	256	186	Average
2	4825.46	46.61	74.00	-27.39	40.98	7.52	33.03	31.14	VERTICAL	256	186	Peak

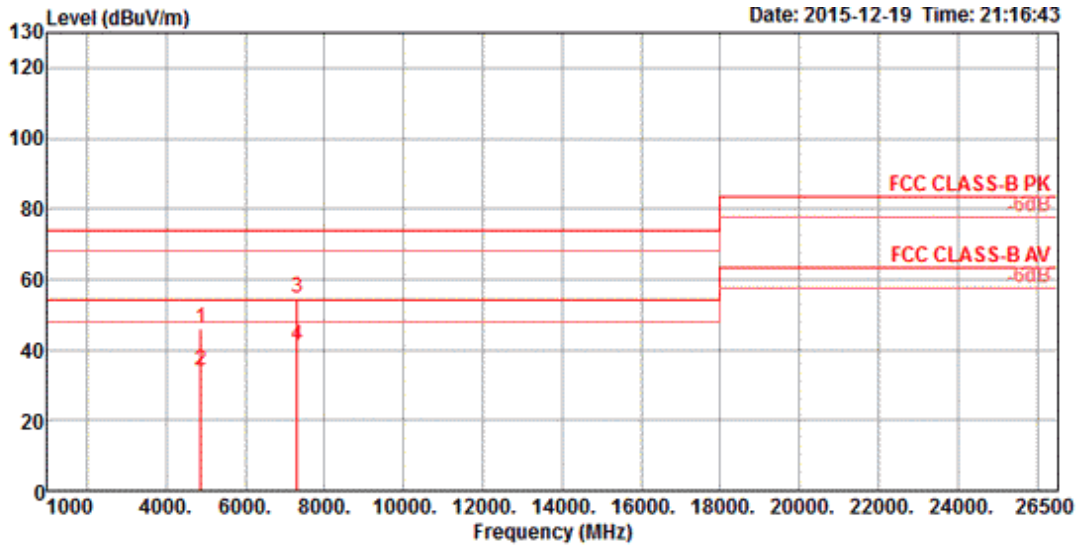
Temperature	25℃	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11g CH 6 / Chain 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	PreampFactor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4869.44	46.35	74.00	-27.65	40.56	7.59	33.01	31.21	HORIZONTAL	135	160	Peak
2	4876.70	33.99	54.00	-20.01	28.20	7.59	33.01	31.21	HORIZONTAL	135	160	Average
3	7307.04	53.86	74.00	-20.14	42.38	9.67	34.18	35.99	HORIZONTAL	98	189	Peak
4	7312.62	41.20	54.00	-12.80	29.72	9.67	34.18	35.99	HORIZONTAL	98	189	Average

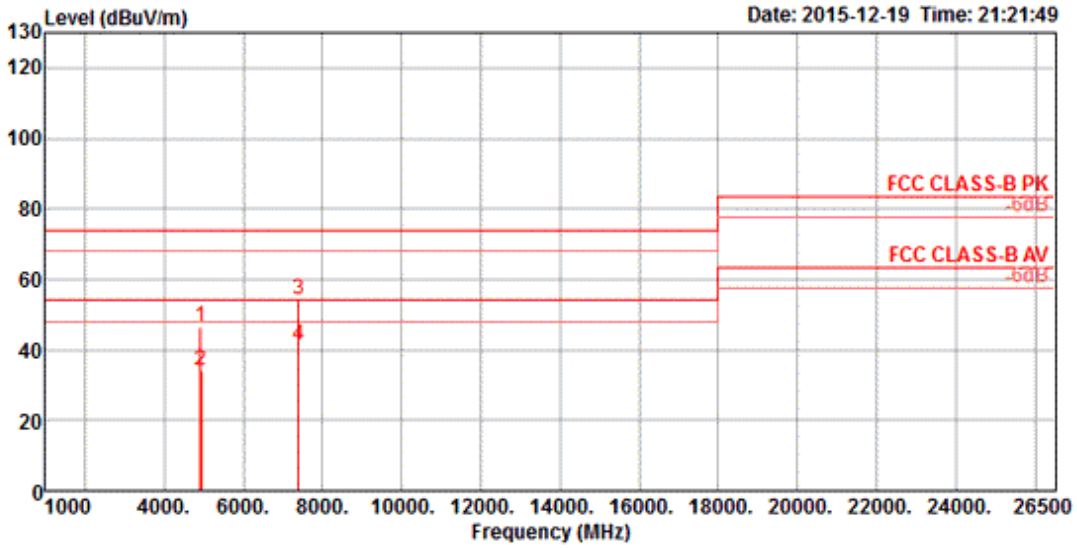
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4871.08	46.16	74.00	-27.84	40.37	7.59	33.01	31.21	VERTICAL	156	158	Peak
2	4877.58	33.98	54.00	-20.02	28.18	7.59	33.00	31.21	VERTICAL	156	158	Average
3	7313.88	54.73	74.00	-19.27	43.25	9.67	34.18	35.99	VERTICAL	124	147	Peak
4	7315.76	41.18	54.00	-12.82	29.65	9.68	34.18	36.03	VERTICAL	124	147	Average

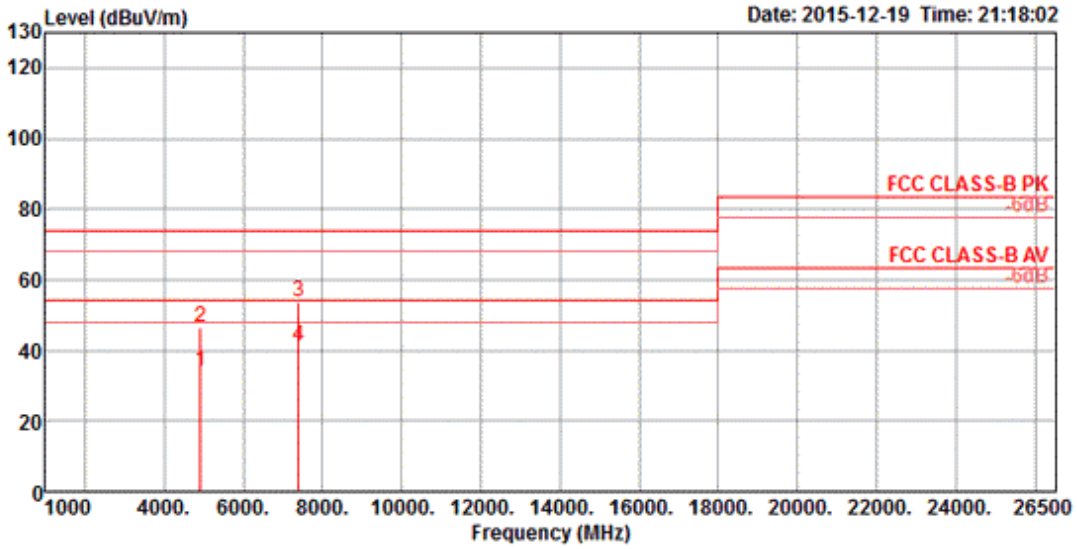
Temperature	25℃	Humidity	62%
Test Engineer	Peter Wu	Configurations	IEEE 802.11g CH 11 / Chain 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4919.74	46.54	74.00	-27.46	40.61	7.65	32.99	31.27	HORIZONTAL	217	164	Peak
2	4929.00	34.27	54.00	-19.73	28.29	7.67	32.98	31.29	HORIZONTAL	217	164	Average
3	7387.58	54.11	74.00	-19.89	42.48	9.71	34.25	36.17	HORIZONTAL	180	176	Peak
4	7389.68	41.30	54.00	-12.70	29.67	9.71	34.25	36.17	HORIZONTAL	180	176	Average

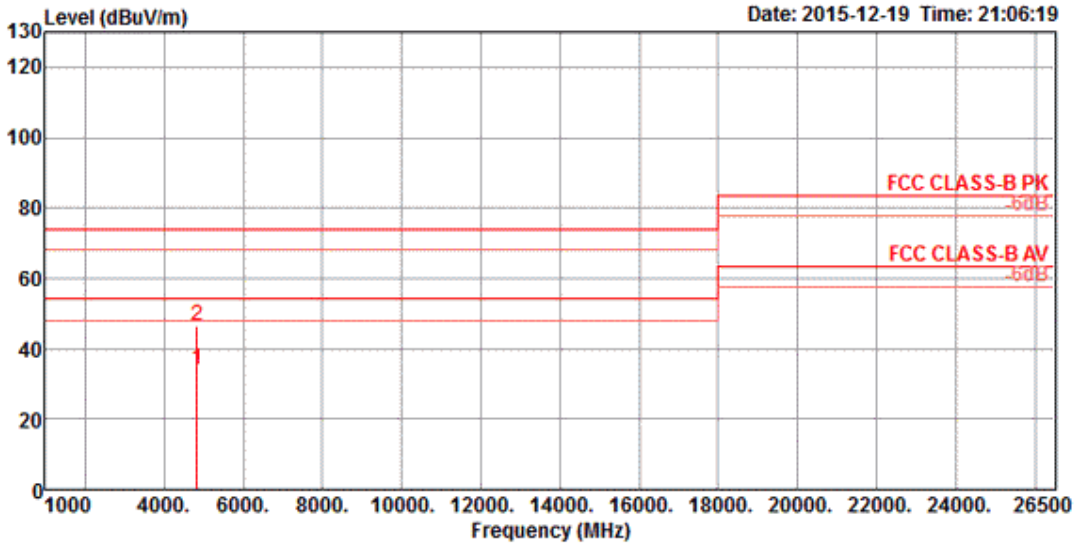
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4921.88	34.29	54.00	-19.71	28.36	7.65	32.99	31.27	VERTICAL	173	186	Average
2	4926.78	46.34	74.00	-27.66	40.36	7.67	32.98	31.29	VERTICAL	173	186	Peak
3	7384.38	53.76	74.00	-20.24	42.13	9.71	34.25	36.17	VERTICAL	245	193	Peak
4	7385.86	41.24	54.00	-12.76	29.61	9.71	34.25	36.17	VERTICAL	245	193	Average

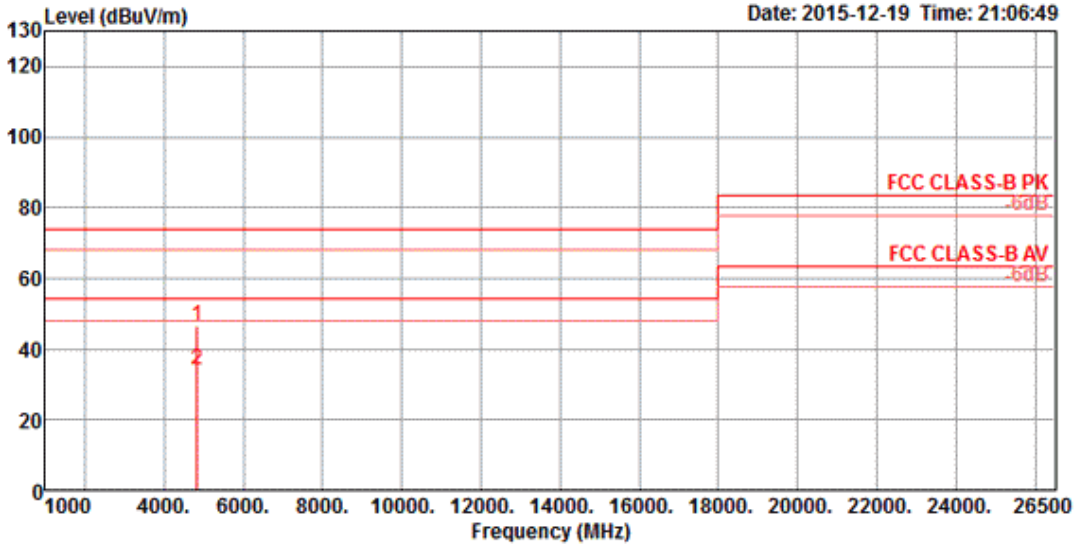
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 1 / Chain 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4823.12	34.20	54.00	-19.80	28.61	7.50	33.03	31.12	HORIZONTAL	220	205	Average
2	4828.24	46.45	74.00	-27.55	40.82	7.52	33.03	31.14	HORIZONTAL	220	205	Peak

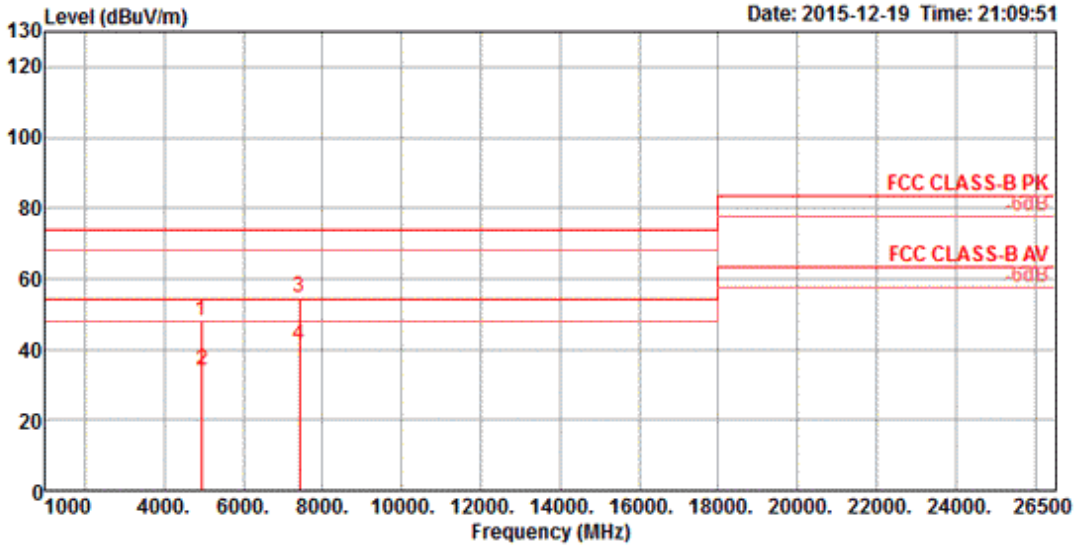
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4824.46	46.66	74.00	-27.34	41.07	7.50	33.03	31.12	VERTICAL	285	178	Peak
2	4824.88	33.88	54.00	-20.12	28.29	7.50	33.03	31.12	VERTICAL	285	178	Average

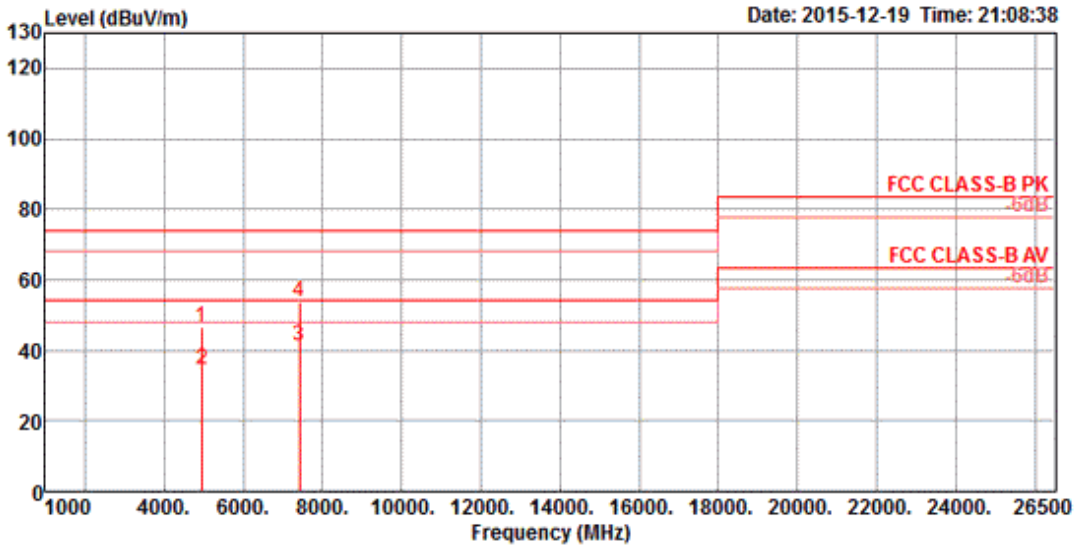
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 6 / Chain 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4946.50	48.11	74.00	-25.89	42.08	7.69	32.97	31.31	HORIZONTAL	176	174	Peak
2	4949.86	33.92	54.00	-20.08	27.89	7.69	32.97	31.31	HORIZONTAL	176	174	Average
3	7419.12	54.67	74.00	-19.33	43.03	9.72	34.30	36.22	HORIZONTAL	185	144	Peak
4	7423.94	41.05	54.00	-12.95	29.37	9.72	34.30	36.26	HORIZONTAL	185	144	Average

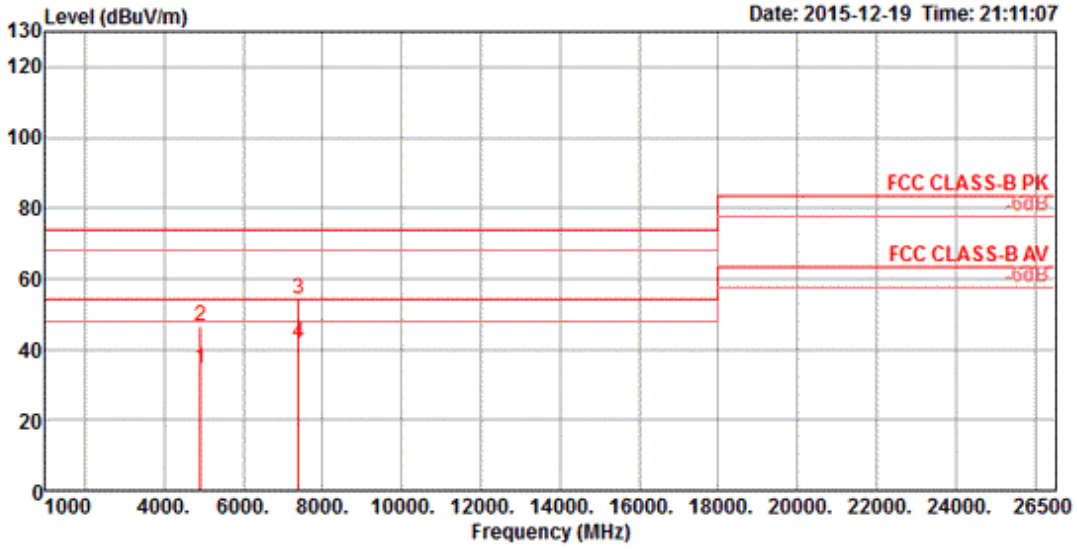
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4943.36	46.63	74.00	-27.37	40.60	7.69	32.97	31.31	VERTICAL	242	217	Peak
2	4949.34	34.41	54.00	-19.59	28.38	7.69	32.97	31.31	VERTICAL	242	217	Average
3	7414.36	41.37	54.00	-12.63	29.71	9.72	34.28	36.22	VERTICAL	150	155	Average
4	7420.42	53.87	74.00	-20.13	42.23	9.72	34.30	36.22	VERTICAL	150	155	Peak

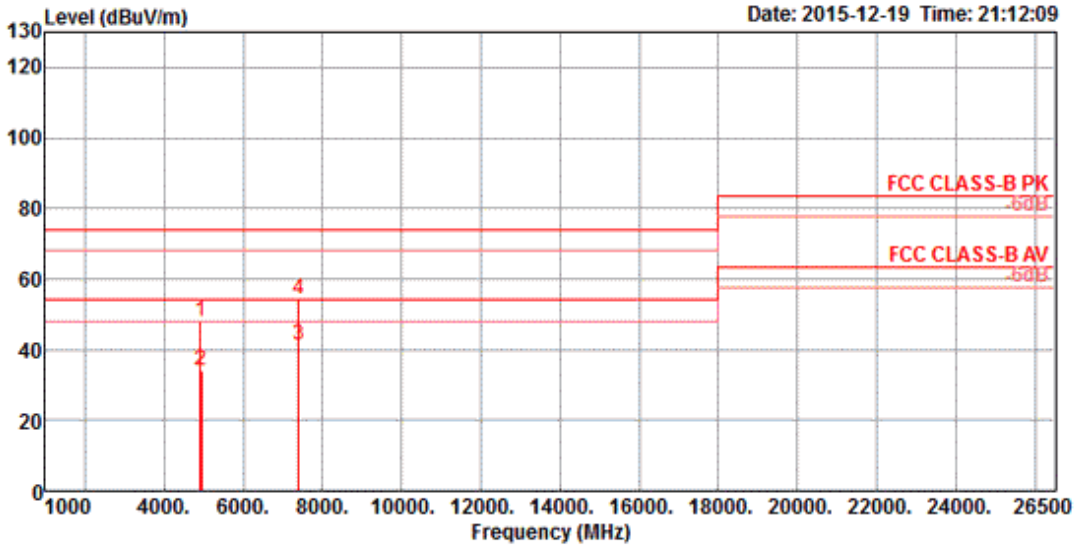
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 11 / Chain 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	PreampFactor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4925.70	34.41	54.00	-19.59	28.43	7.67	32.98	31.29	HORIZONTAL	146	166	Average
2	4925.70	46.75	74.00	-27.25	40.77	7.67	32.98	31.29	HORIZONTAL	146	166	Peak
3	7390.18	54.36	74.00	-19.64	42.73	9.71	34.25	36.17	HORIZONTAL	228	210	Peak
4	7390.30	41.51	54.00	-12.49	29.88	9.71	34.25	36.17	HORIZONTAL	228	210	Average

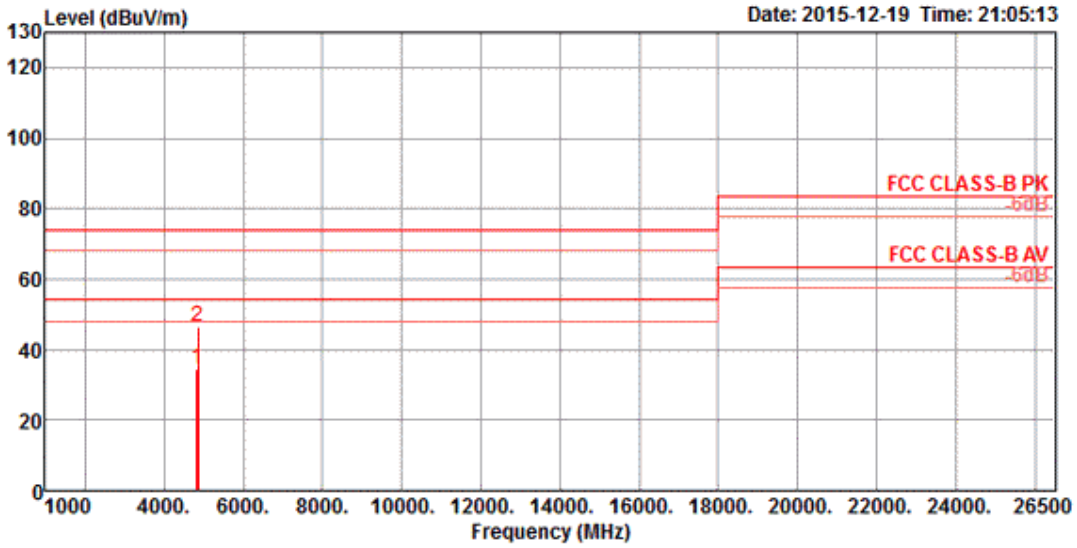
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4926.48	47.77	74.00	-26.23	41.79	7.67	32.98	31.29	VERTICAL	243	175	Peak
2	4928.02	34.22	54.00	-19.78	28.24	7.67	32.98	31.29	VERTICAL	243	175	Average
3	7389.62	41.27	54.00	-12.73	29.64	9.71	34.25	36.17	VERTICAL	259	184	Average
4	7390.14	53.97	74.00	-20.03	42.34	9.71	34.25	36.17	VERTICAL	259	184	Peak

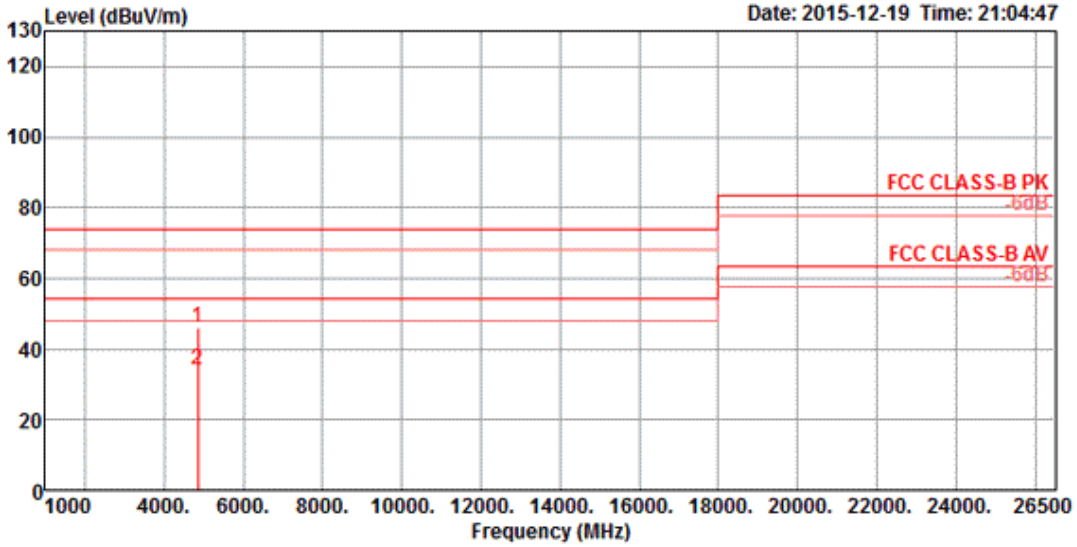
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 3 / Chain 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4839.72	34.31	54.00	-19.69	28.63	7.54	33.02	31.16	HORIZONTAL	169	175	Average
2	4842.64	46.60	74.00	-27.40	40.92	7.54	33.02	31.16	HORIZONTAL	169	175	Peak

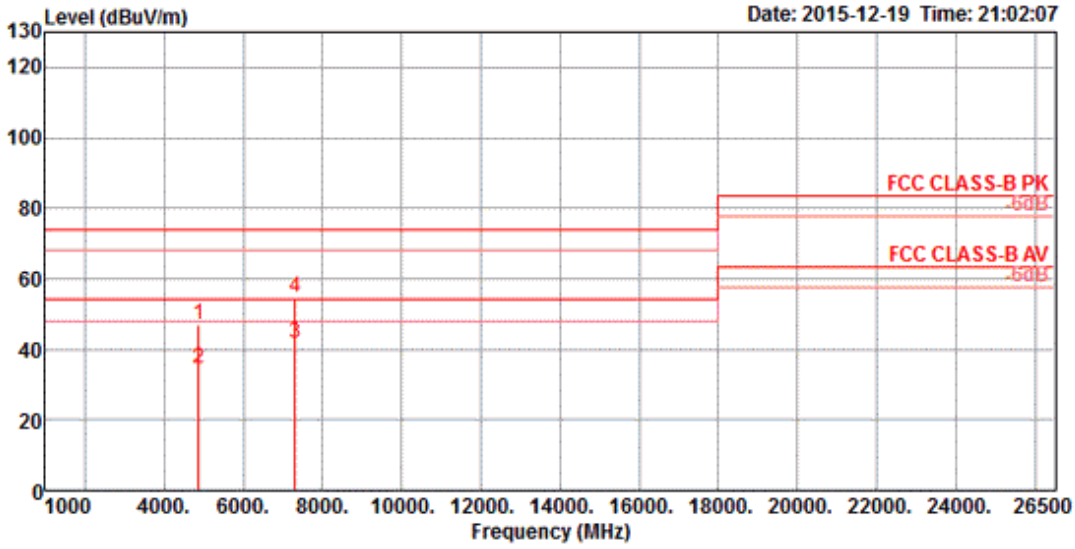
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4847.58	46.15	74.00	-27.85	40.46	7.54	33.01	31.16	VERTICAL	207	167	Peak
2	4847.74	34.11	54.00	-19.89	28.42	7.54	33.01	31.16	VERTICAL	207	167	Average

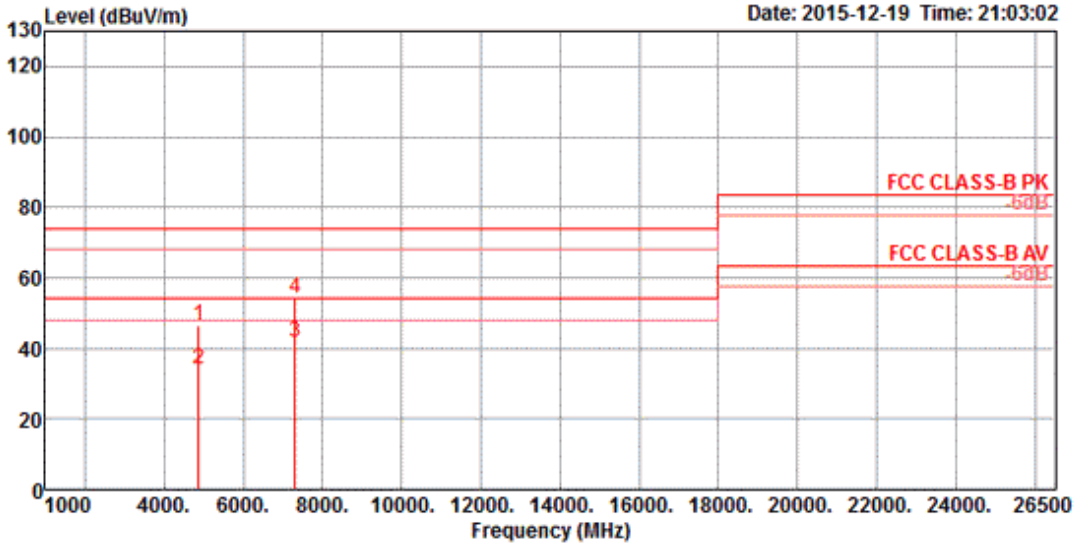
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 6 / Chain 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	PreampFactor	AntennaFactor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4874.08	47.10	74.00	-26.90	41.31	7.59	33.01	31.21	HORIZONTAL	129	189	Peak
2	4877.62	34.44	54.00	-19.56	28.64	7.59	33.00	31.21	HORIZONTAL	129	189	Average
3	7312.42	41.92	54.00	-12.08	30.44	9.67	34.18	35.99	HORIZONTAL	203	165	Average
4	7315.46	54.90	74.00	-19.10	43.42	9.67	34.18	35.99	HORIZONTAL	203	165	Peak

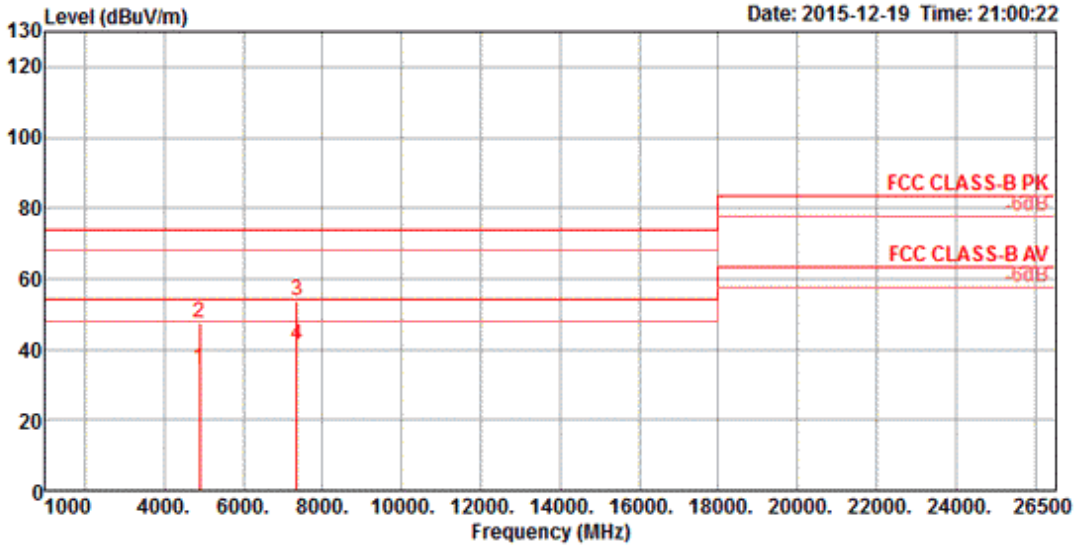
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4873.74	46.48	74.00	-27.52	40.69	7.59	33.01	31.21	VERTICAL	229	146	Peak
2	4877.68	34.26	54.00	-19.74	28.46	7.59	33.00	31.21	VERTICAL	229	146	Average
3	7311.88	41.94	54.00	-12.06	30.46	9.67	34.18	35.99	VERTICAL	200	156	Average
4	7313.00	54.11	74.00	-19.89	42.63	9.67	34.18	35.99	VERTICAL	200	156	Peak

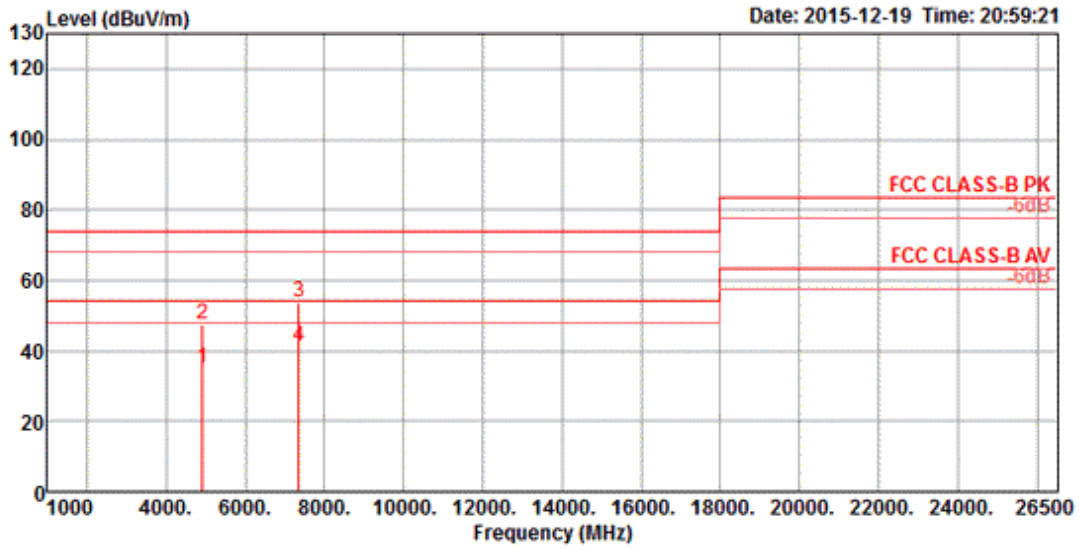
Temperature	25℃	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 9 / Chain 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4899.20	34.72	54.00	-19.28	28.83	7.63	32.99	31.25	HORIZONTAL	133	201	Average
2	4903.06	47.33	74.00	-26.67	41.44	7.63	32.99	31.25	HORIZONTAL	133	201	Peak
3	7356.60	53.95	74.00	-20.05	42.41	9.69	34.23	36.08	HORIZONTAL	78	162	Peak
4	7360.08	41.16	54.00	-12.84	29.57	9.70	34.23	36.12	HORIZONTAL	78	162	Average

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4907.58	34.79	54.00	-19.21	28.90	7.63	32.99	31.25	VERTICAL	193	176	Average
2	4907.82	47.63	74.00	-26.37	41.74	7.63	32.99	31.25	VERTICAL	193	176	Peak
3	7355.06	53.50	74.00	-20.50	41.96	9.69	34.23	36.08	VERTICAL	148	188	Peak
4	7359.88	41.08	54.00	-12.92	29.49	9.70	34.23	36.12	VERTICAL	148	188	Average

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

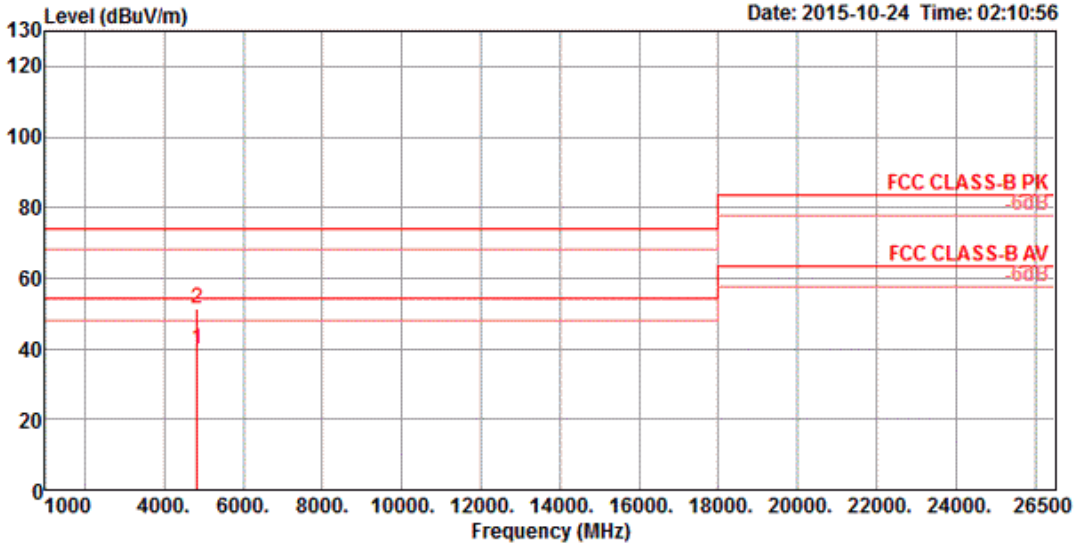
Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

<For 2TX>

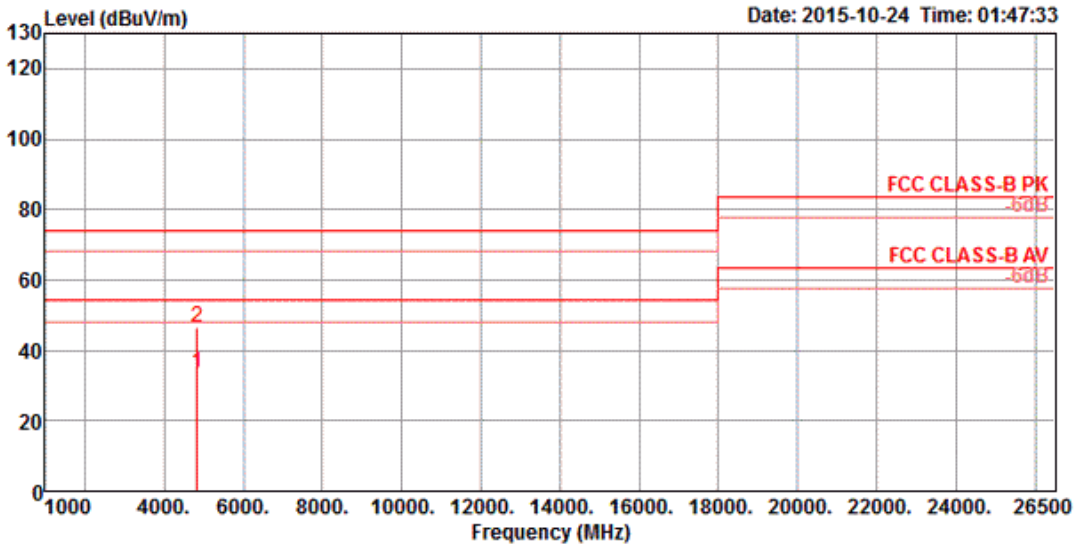
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11b CH 1 / Chain 1 + Chain 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4823.50	39.99	54.00	-14.01	34.41	7.53	33.03	31.08	HORIZONTAL	262	150	Average
2	4824.05	51.47	74.00	-22.53	45.89	7.53	33.03	31.08	HORIZONTAL	262	150	Peak

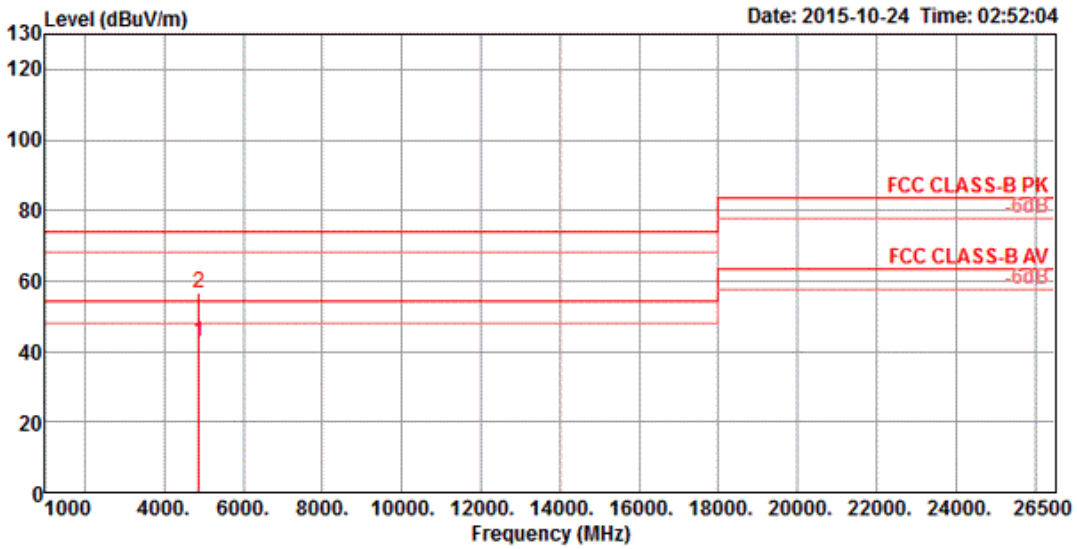
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4824.02	33.78	54.00	-20.22	28.20	7.53	33.03	31.08	VERTICAL	349	150	Average
2	4825.68	46.43	74.00	-27.57	40.82	7.53	33.03	31.11	VERTICAL	349	150	Peak

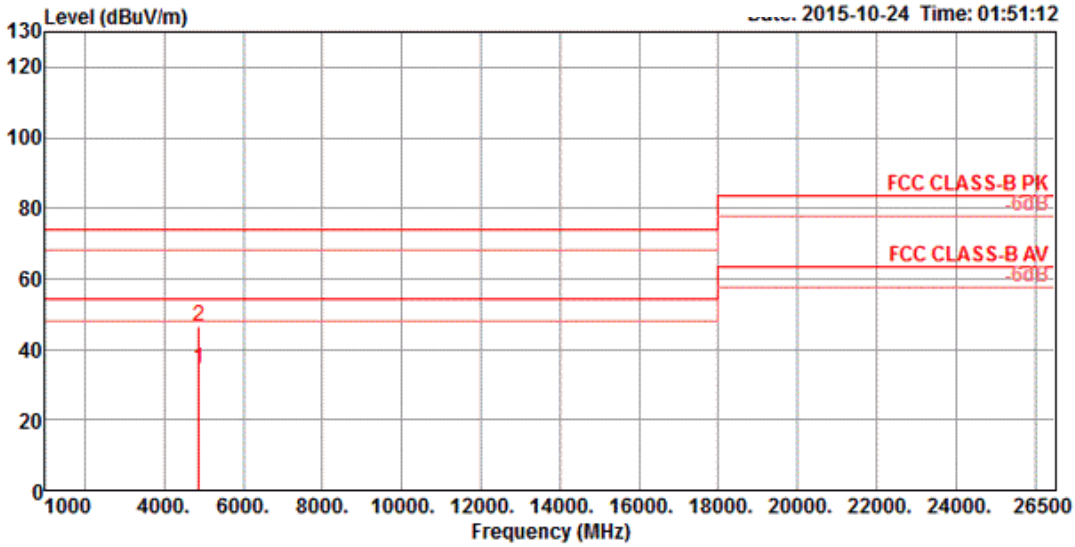
Temperature	25°C	Humidity	62%
Test Engineer	Peter Wu	Configurations	IEEE 802.11b CH 6 / Chain 1 + Chain 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4874.11	42.51	54.00	-11.49	36.74	7.60	33.01	31.18	HORIZONTAL	250	150	Average
2	4874.16	56.75	74.00	-17.25	50.98	7.60	33.01	31.18	HORIZONTAL	250	150	Peak

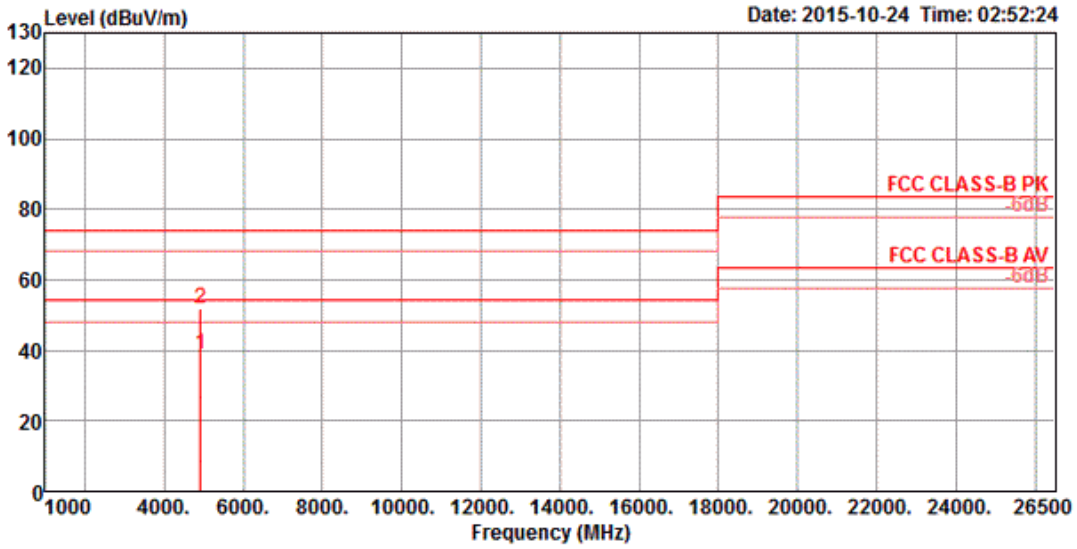
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4873.97	34.61	54.00	-19.39	28.84	7.60	33.01	31.18	VERTICAL	131	150	Average
2	4874.41	46.76	74.00	-27.24	40.99	7.60	33.01	31.18	VERTICAL	131	150	Peak

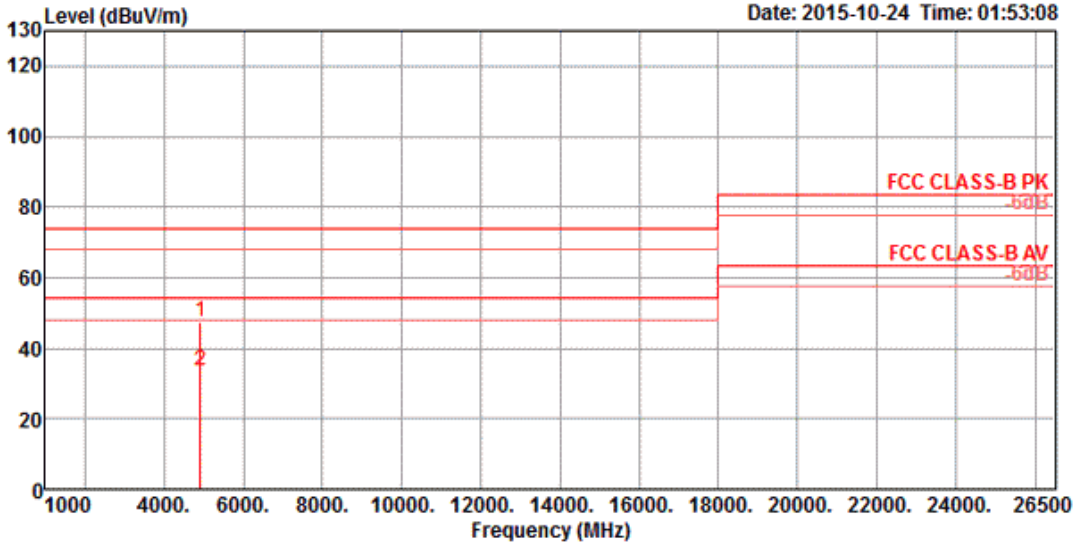
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11b CH 11 / Chain 1 + Chain 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4924.01	38.79	54.00	-15.21	32.85	7.65	32.99	31.28	HORIZONTAL	222	150	Average
2	4924.33	51.94	74.00	-22.06	46.00	7.65	32.99	31.28	HORIZONTAL	222	150	Peak

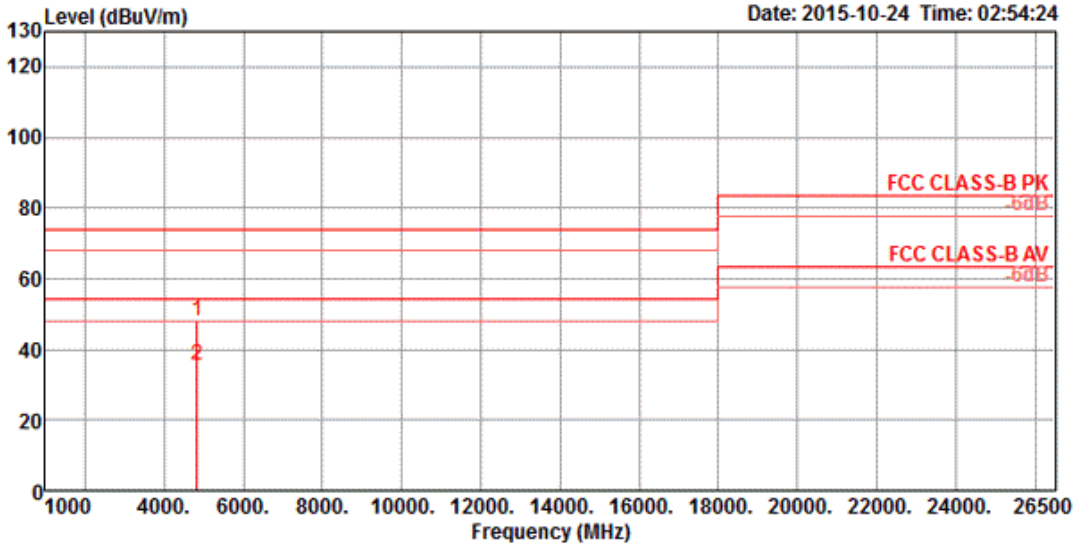
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4923.76	47.40	74.00	-26.60	41.46	7.65	32.99	31.28	VERTICAL	340	150	Peak
2	4923.99	33.62	54.00	-20.38	27.68	7.65	32.99	31.28	VERTICAL	340	150	Average

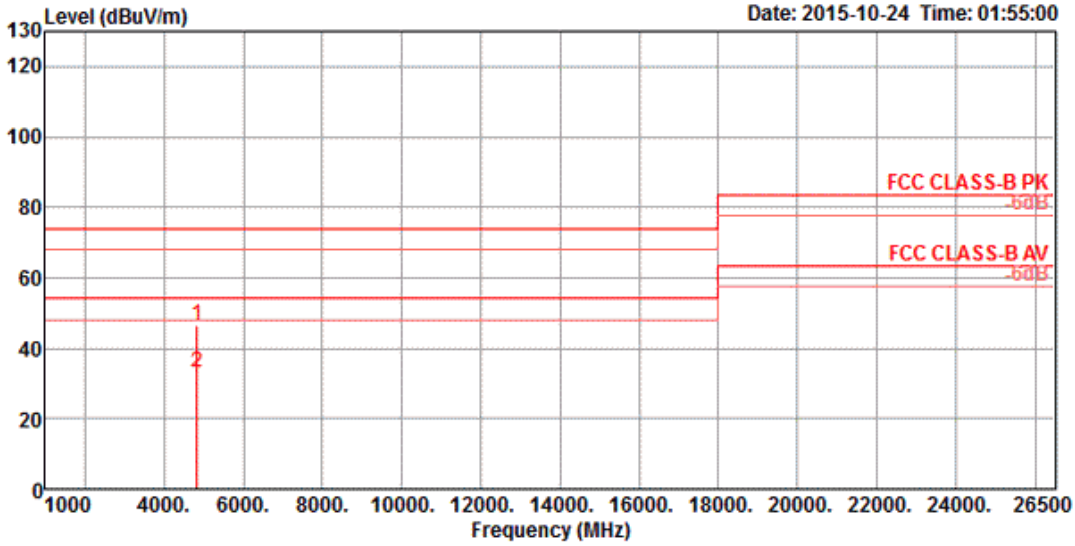
Temperature	25℃	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11g CH 1 / Chain 1 + Chain 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	PreampFactor	AntennaFactor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4823.91	48.02	74.00	-25.98	42.44	7.53	33.03	31.08	HORIZONTAL	158	150	Peak
2	4824.06	35.57	54.00	-18.43	29.99	7.53	33.03	31.08	HORIZONTAL	158	150	Average

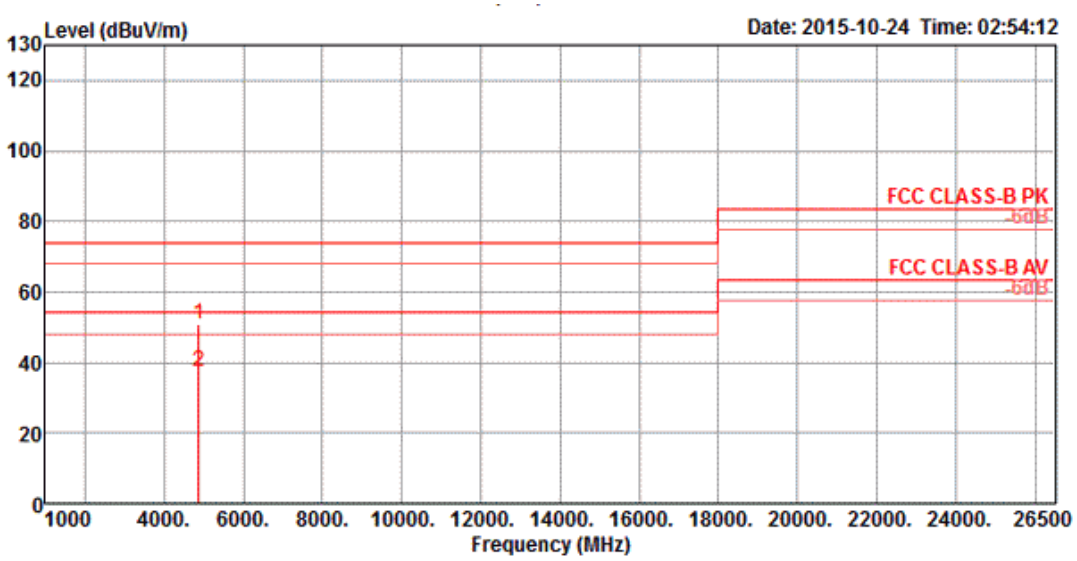
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4824.06	46.35	74.00	-27.65	40.77	7.53	33.03	31.08	VERTICAL	109	150	Peak
2	4824.17	33.31	54.00	-20.69	27.73	7.53	33.03	31.08	VERTICAL	109	150	Average

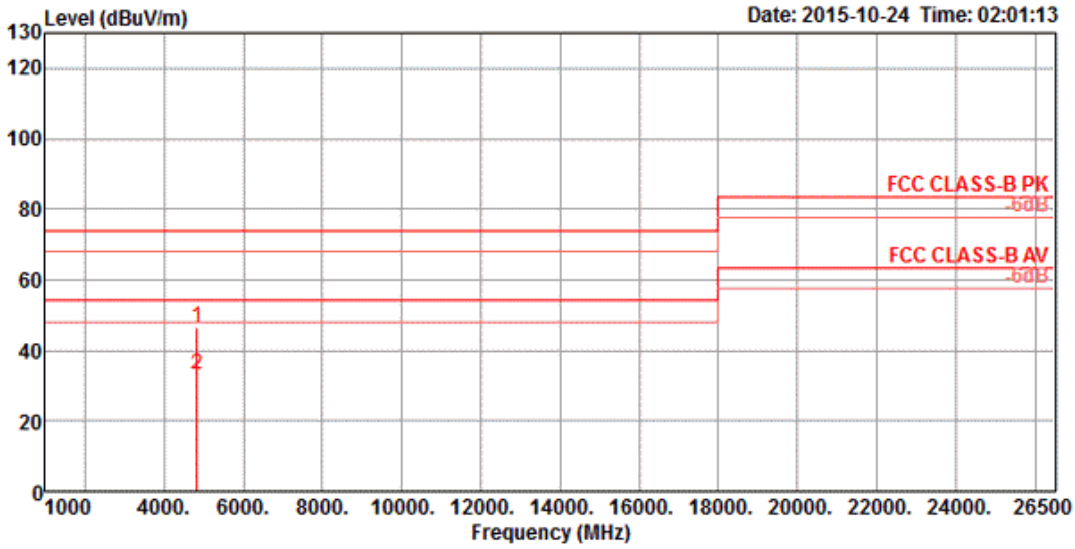
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11g CH 6 / Chain 1 + Chain 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4873.85	50.97	74.00	-23.03	45.20	7.60	33.01	31.18	HORIZONTAL	319	150	Peak
2	4874.41	37.39	54.00	-16.61	31.62	7.60	33.01	31.18	HORIZONTAL	319	150	Average

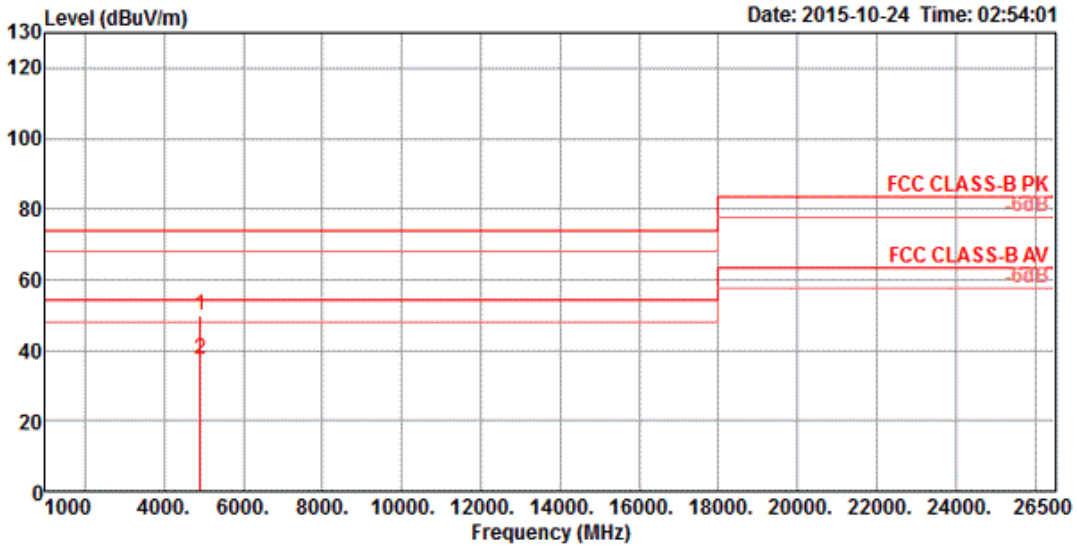
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4823.70	46.39	74.00	-27.61	40.81	7.53	33.03	31.08	VERTICAL	234	150	Peak
2	4823.91	33.07	54.00	-20.93	27.49	7.53	33.03	31.08	VERTICAL	234	150	Average

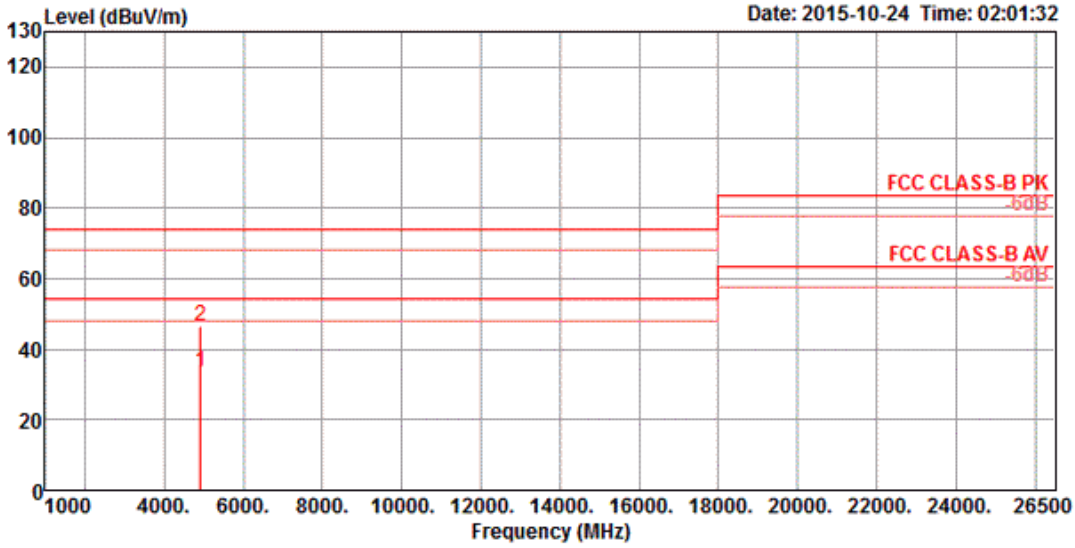
Temperature	25℃	Humidity	62%
Test Engineer	Peter Wu	Configurations	IEEE 802.11g CH 11 / Chain 1 + Chain 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	PreampFactor	AntennaFactor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4923.64	49.83	74.00	-24.17	43.89	7.65	32.99	31.28	HORIZONTAL	198	150	Peak
2	4923.97	37.55	54.00	-16.45	31.61	7.65	32.99	31.28	HORIZONTAL	198	150	Average

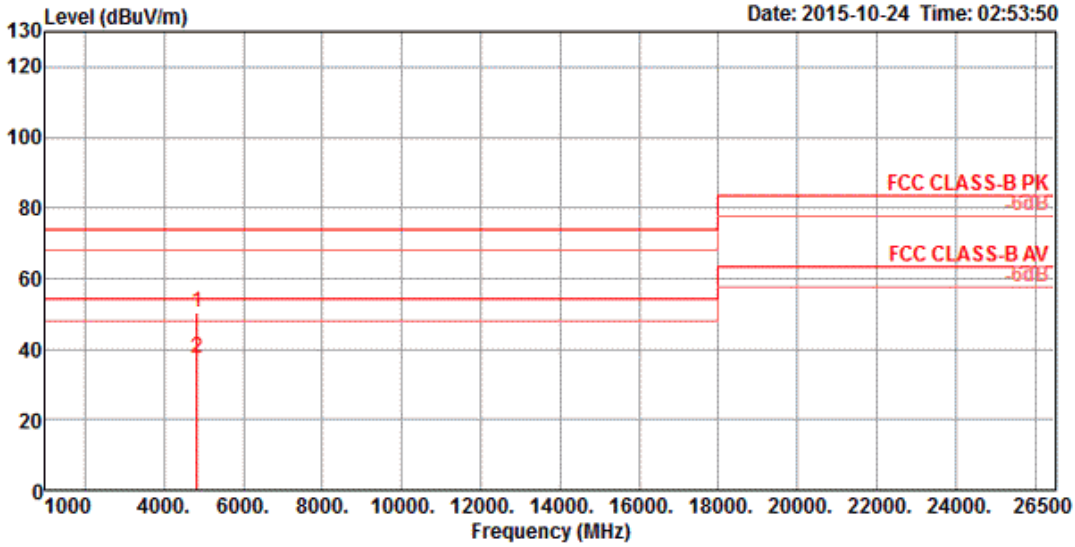
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4923.50	33.54	54.00	-20.46	27.63	7.65	32.99	31.25	VERTICAL	85	150	Average
2	4924.34	46.65	74.00	-27.35	40.71	7.65	32.99	31.28	VERTICAL	85	150	Peak

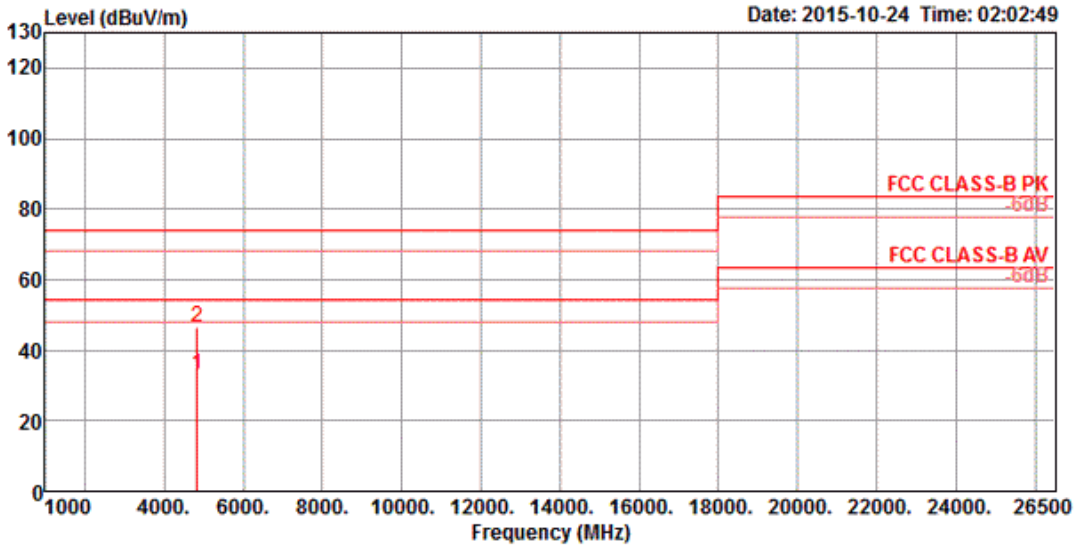
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 1 / Chain 1 + Chain 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4824.05	50.57	74.00	-23.43	44.99	7.53	33.03	31.08	HORIZONTAL	285	150	Peak
2	4824.23	37.31	54.00	-16.69	31.73	7.53	33.03	31.08	HORIZONTAL	285	150	Average

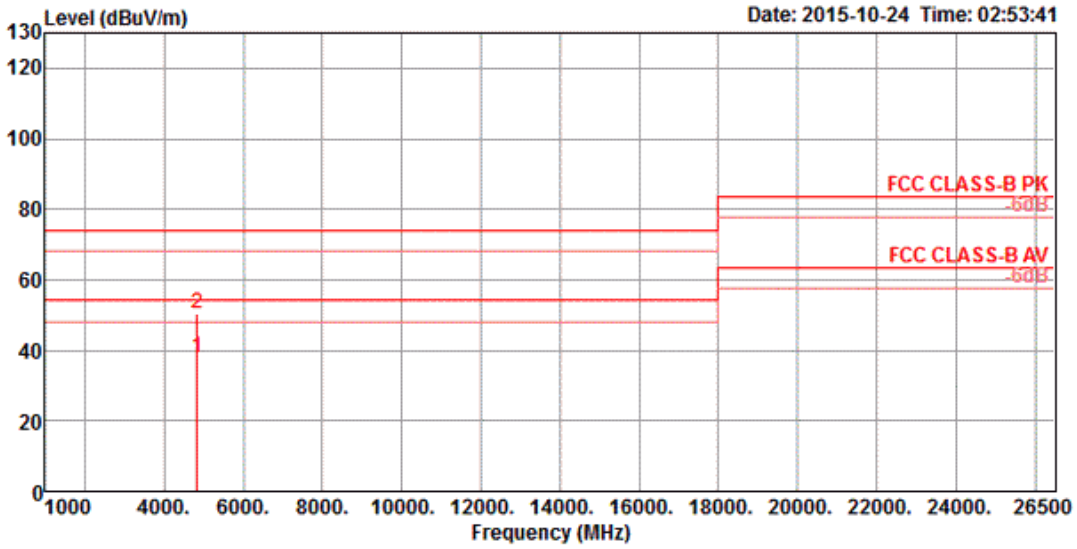
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4823.96	33.00	54.00	-21.00	27.42	7.53	33.03	31.08	VERTICAL	360	150	Average
2	4824.18	46.33	74.00	-27.67	40.75	7.53	33.03	31.08	VERTICAL	360	150	Peak

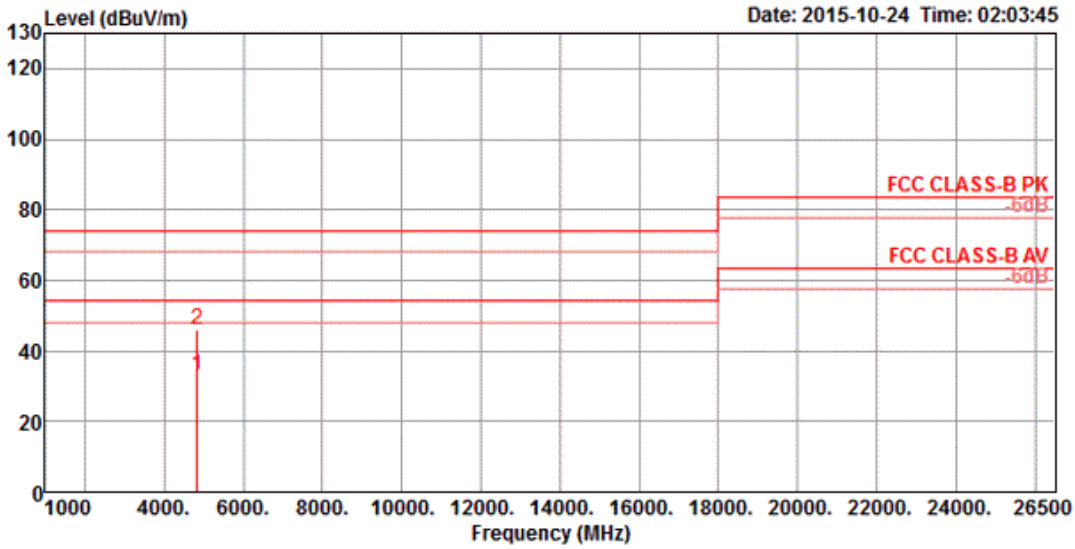
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 6 / Chain 1 + Chain 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4823.91	37.77	54.00	-16.23	32.19	7.53	33.03	31.08	HORIZONTAL	254	150	Average
2	4824.07	50.41	74.00	-23.59	44.83	7.53	33.03	31.08	HORIZONTAL	254	150	Peak

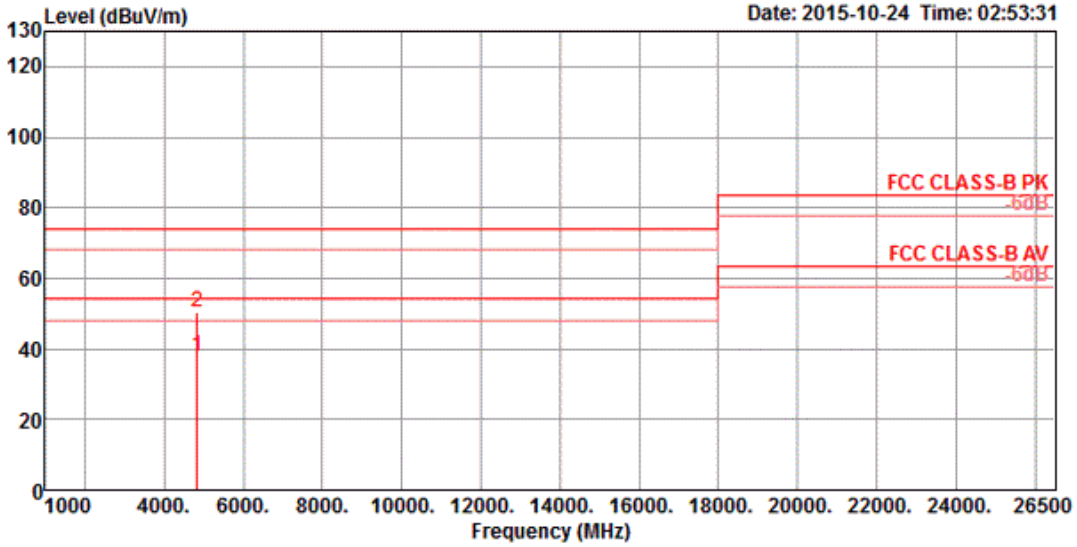
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4824.01	32.98	54.00	-21.02	27.40	7.53	33.03	31.08	VERTICAL	199	150	Average
2	4824.14	46.26	74.00	-27.74	40.68	7.53	33.03	31.08	VERTICAL	199	150	Peak

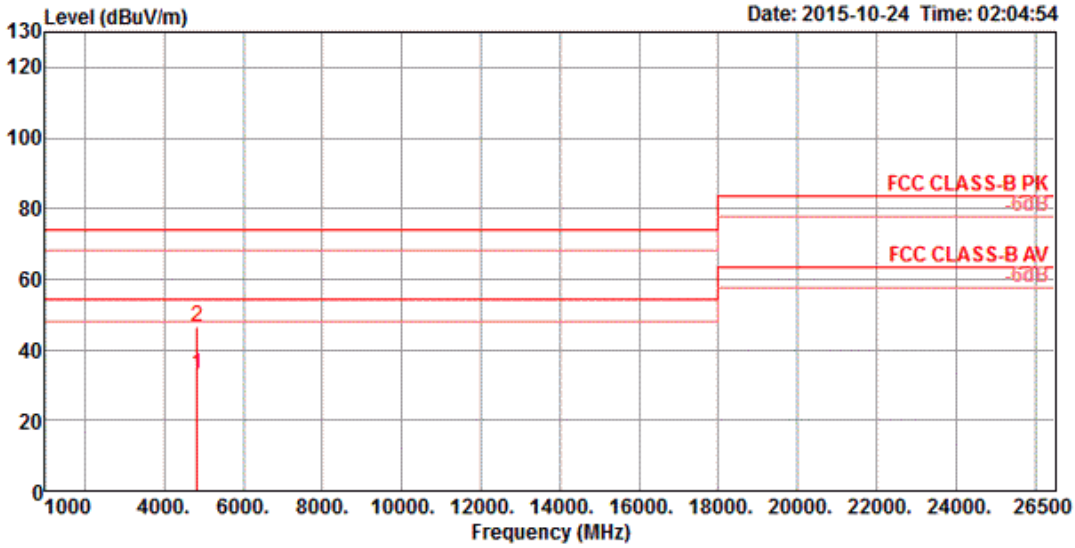
Temperature	25℃	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 11 / Chain 1 + Chain 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4823.99	37.86	54.00	-16.14	32.28	7.53	33.03	31.08	HORIZONTAL	170	150	Average
2	4824.19	50.44	74.00	-23.56	44.86	7.53	33.03	31.08	HORIZONTAL	170	150	Peak

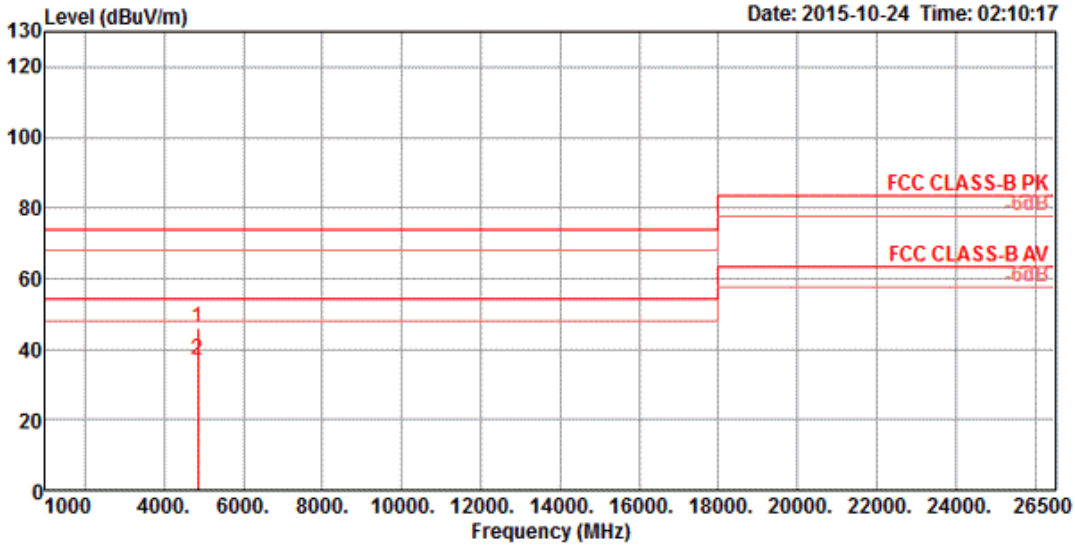
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4823.93	33.09	54.00	-20.91	27.51	7.53	33.03	31.08	VERTICAL	218	150	Average
2	4824.43	46.43	74.00	-27.57	40.85	7.53	33.03	31.08	VERTICAL	218	150	Peak

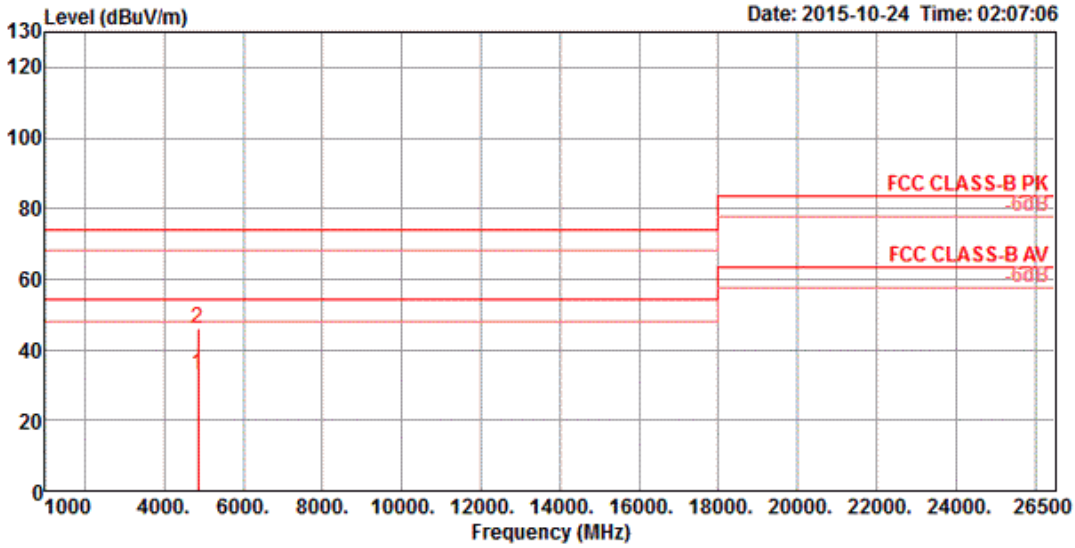
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 3 / Chain 1 + Chain 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4843.63	45.97	74.00	-28.03	40.31	7.55	33.02	31.13	HORIZONTAL	166	150	Peak
2	4843.98	36.79	54.00	-17.21	31.13	7.55	33.02	31.13	HORIZONTAL	166	150	Average

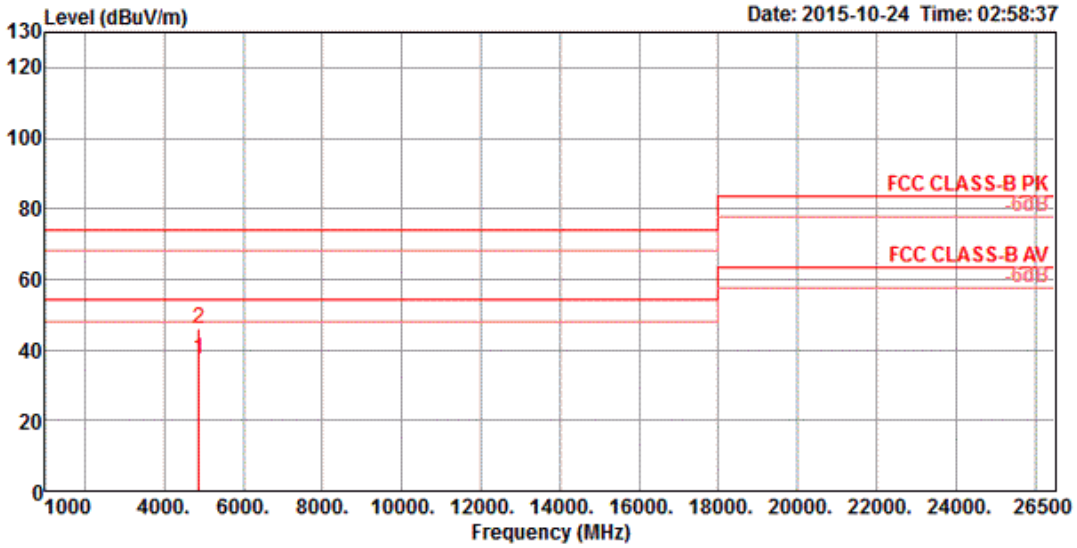
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4843.71	33.18	54.00	-20.82	27.52	7.55	33.02	31.13	VERTICAL	255	150	Average
2	4844.13	46.09	74.00	-27.91	40.43	7.55	33.02	31.13	VERTICAL	255	150	Peak

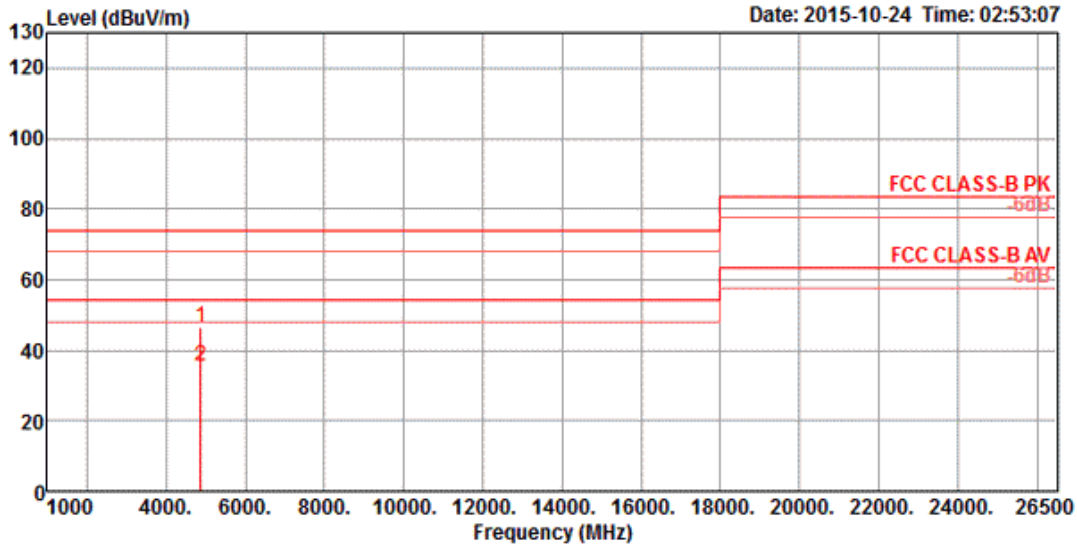
Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 6 / Chain 1 + Chain 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4874.21	37.62	54.00	-16.38	31.85	7.60	33.01	31.18	HORIZONTAL	172	150	Average
2	4874.26	46.28	74.00	-27.72	40.51	7.60	33.01	31.18	HORIZONTAL	172	150	Peak

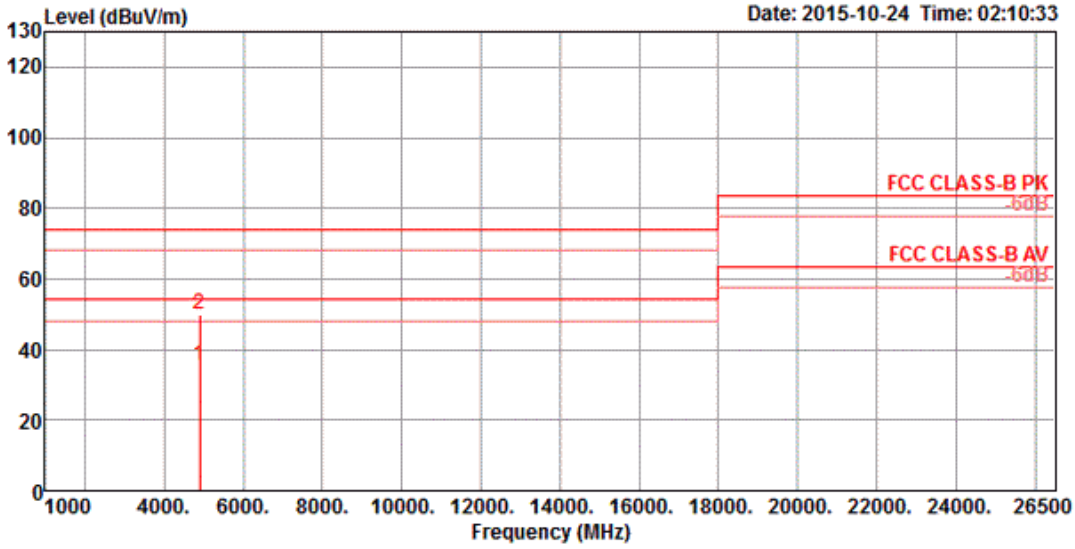
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4873.88	46.32	74.00	-27.68	40.55	7.60	33.01	31.18	VERTICAL	61	150	Peak
2	4874.46	35.47	54.00	-18.53	29.70	7.60	33.01	31.18	VERTICAL	61	150	Average

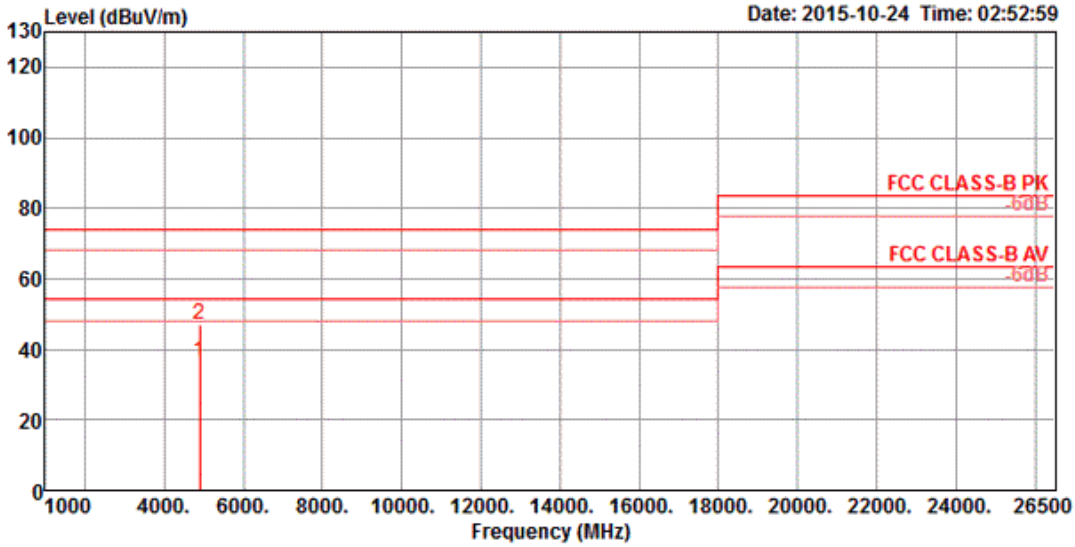
Temperature	25℃	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 9 / Chain 1 + Chain 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4903.93	35.74	54.00	-18.26	29.87	7.63	32.99	31.23	HORIZONTAL	198	150	Average
2	4904.20	49.84	74.00	-24.16	43.97	7.63	32.99	31.23	HORIZONTAL	198	150	Peak

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	4903.65	36.60	54.00	-17.40	30.73	7.63	32.99	31.23	VERTICAL	257	150	Average
2	4903.80	46.78	74.00	-27.22	40.91	7.63	32.99	31.23	VERTICAL	257	150	Peak

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.6. Emissions Measurement

4.6.1. Limit

30dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.6.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average
RBW / VBW (30dBc in any 100 kHz bandwidth emission)	100 kHz / 300 kHz for Peak

4.6.3. Test Procedures

For Radiated band edges Measurement:

1. The test procedure is the same as section 4.5.3.

For Radiated Out of Band Emission Measurement:

1. Test was performed in accordance with KDB558074 D01 v03r04 for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 section 10.1 Unwanted Emissions into Non-Restricted Frequency Bands Measurement Procedure.

4.6.4. Test Setup Layout

For Radiated band edges Measurement:

This test setup layout is the same as that shown in section 4.5.4.

For Radiated Out of Band Emission Measurement:

This test setup layout is the same as that shown in section 4.5.4.

4.6.5. Test Deviation

There is no deviation with the original standard.

4.6.6. EUT Operation during Test

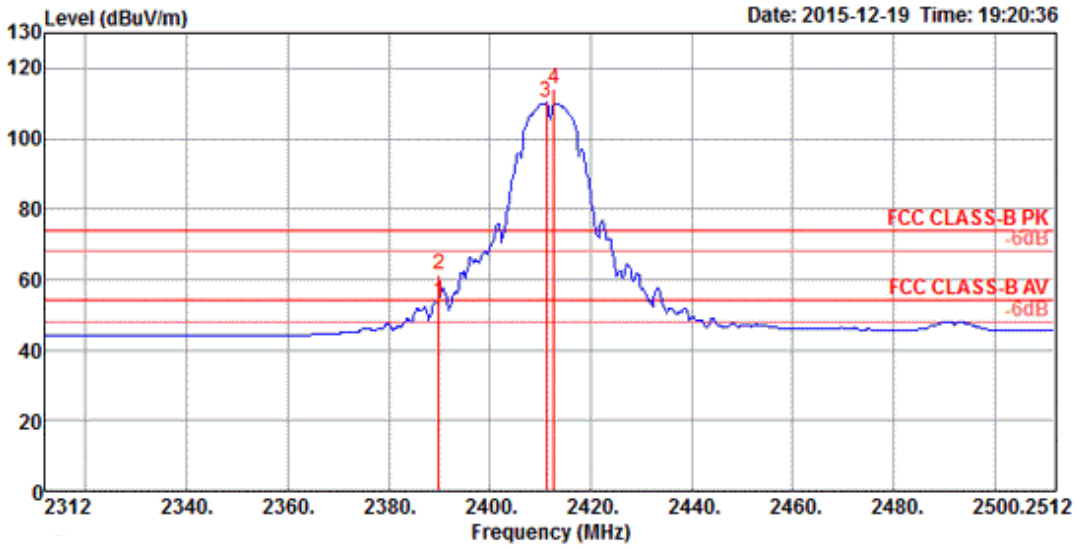
The EUT was programmed to be in continuously transmitting mode.

4.6.7. Test Result of Band Edge and Fundamental Emissions

<For 1TX>

Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11b CH 1, 6, 11 / Chain 1

Channel 1

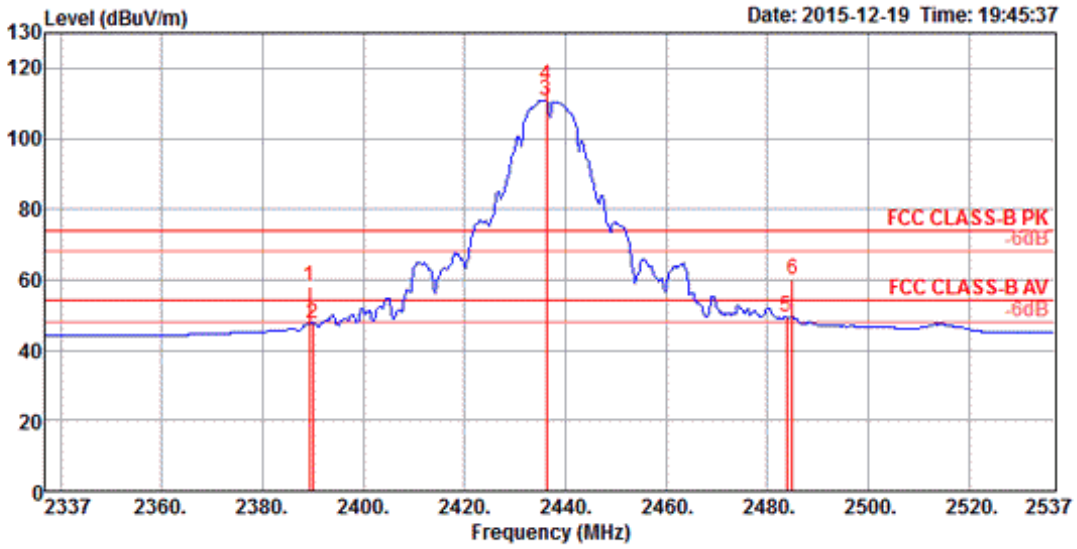


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2390.00	53.57	54.00	-0.43	21.29	5.23	0.00	27.05	VERTICAL	219	150	Average
2	2390.00	61.48	74.00	-12.52	29.20	5.23	0.00	27.05	VERTICAL	219	150	Peak
3	2411.20	110.11			77.74	5.26	0.00	27.11	VERTICAL	219	150	Average
4	2412.80	114.05			81.68	5.26	0.00	27.11	VERTICAL	219	150	Peak

Item 3, 4 are the fundamental frequency at 2412 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 6

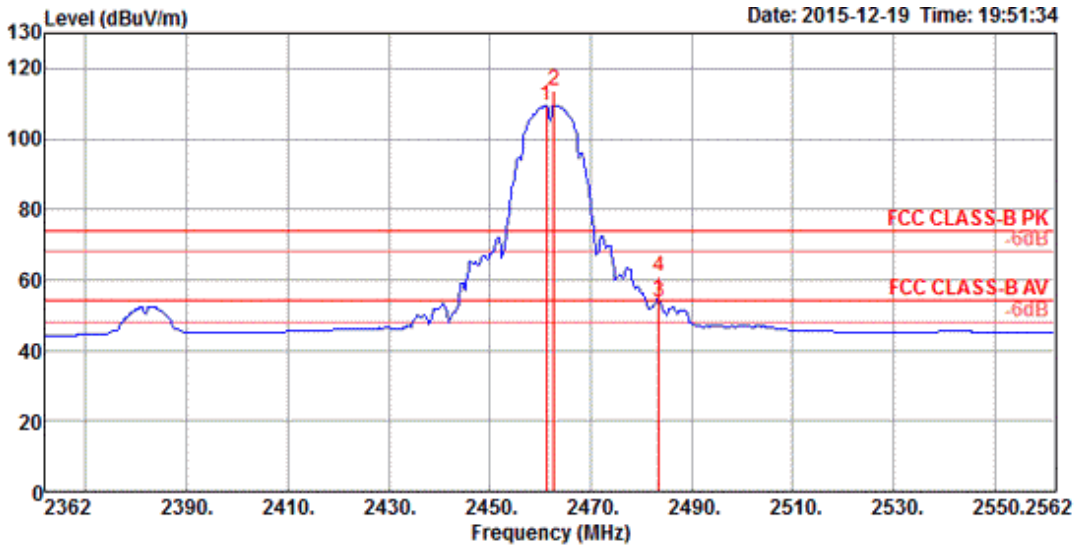


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2389.40	58.15	74.00	-15.85	25.87	5.23	0.00	27.05	VERTICAL	152	128	Peak
2	2390.00	47.51	54.00	-6.49	15.23	5.23	0.00	27.05	VERTICAL	152	128	Average
3	2436.20	110.97			78.53	5.28	0.00	27.16	VERTICAL	152	128	Average
4	2436.20	115.00			82.56	5.28	0.00	27.16	VERTICAL	152	128	Peak
5	2483.80	49.48	54.00	-4.52	16.88	5.33	0.00	27.27	VERTICAL	152	128	Average
6	2485.00	59.96	74.00	-14.04	27.36	5.33	0.00	27.27	VERTICAL	152	128	Peak

Item 3, 4 are the fundamental frequency at 2437 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 11



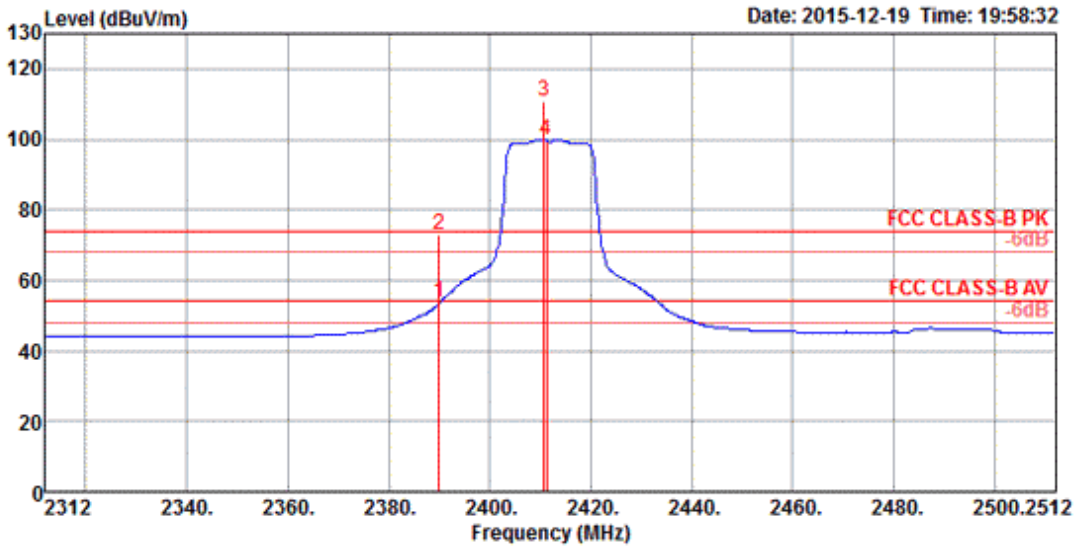
	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2461.20	109.56			77.03	5.31	0.00	27.22	VERTICAL	154	101	Average
2	2462.80	113.59			81.06	5.31	0.00	27.22	VERTICAL	154	101	Peak
3	2483.50	53.96	54.00	-0.04	21.36	5.33	0.00	27.27	VERTICAL	154	101	Average
4	2483.50	60.99	74.00	-13.01	28.39	5.33	0.00	27.27	VERTICAL	154	101	Peak

Item 1, 2 are the fundamental frequency at 2462 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Temperature	25℃	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11g CH 1, 6, 11 / Chain 1

Channel 1

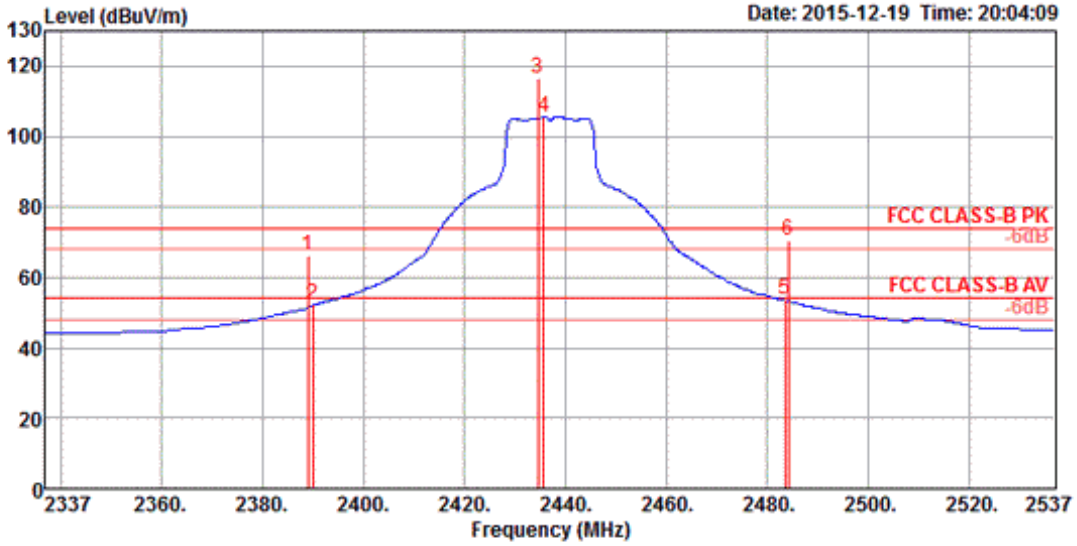


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2390.00	53.55	54.00	-0.45	21.27	5.23	0.00	27.05	VERTICAL	220	107	Average
2	2390.00	72.72	74.00	-1.28	40.44	5.23	0.00	27.05	VERTICAL	220	107	Peak
3	2410.80	110.69			78.33	5.26	0.00	27.10	VERTICAL	220	107	Peak
4	2411.20	100.01			67.64	5.26	0.00	27.11	VERTICAL	220	107	Average

Item 3, 4 are the fundamental frequency at 2412 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 6

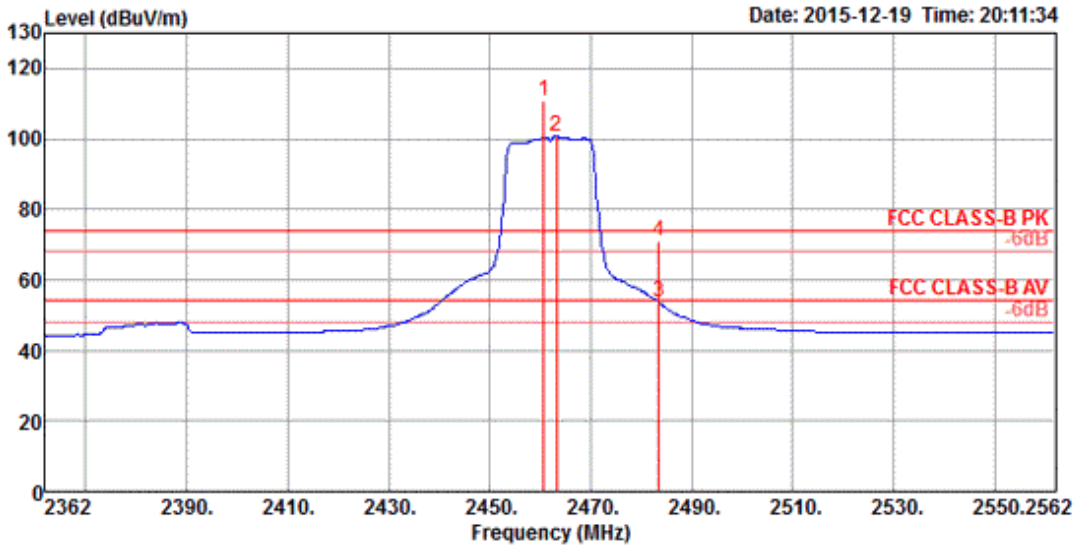


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2389.00	66.24	74.00	-7.76	33.96	5.23	0.00	27.05	VERTICAL	152	101	Peak
2	2390.00	52.07	54.00	-1.93	19.79	5.23	0.00	27.05	VERTICAL	152	101	Average
3	2434.60	116.48			84.04	5.28	0.00	27.16	VERTICAL	152	101	Peak
4	2435.80	105.53			73.09	5.28	0.00	27.16	VERTICAL	152	101	Average
5	2483.50	53.54	54.00	-0.46	20.94	5.33	0.00	27.27	VERTICAL	152	101	Average
6	2484.20	70.57	74.00	-3.43	37.97	5.33	0.00	27.27	VERTICAL	152	101	Peak

Item 3, 4 are the fundamental frequency at 2437 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 11



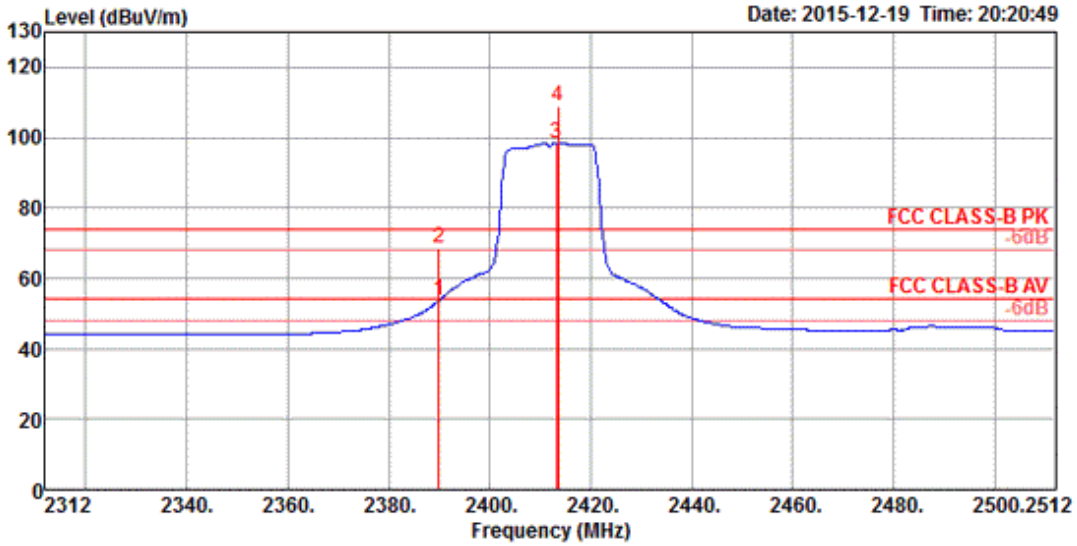
	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2460.80	110.89			78.36	5.31	0.00	27.22	VERTICAL	151	105	Peak
2	2463.20	100.62			68.09	5.31	0.00	27.22	VERTICAL	151	105	Average
3	2483.50	53.57	54.00	-0.43	20.97	5.33	0.00	27.27	VERTICAL	151	105	Average
4	2483.50	70.85	74.00	-3.15	38.25	5.33	0.00	27.27	VERTICAL	151	105	Peak

Item 1, 2 are the fundamental frequency at 2462 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 1, 6, 11 / Chain 1

Channel 1

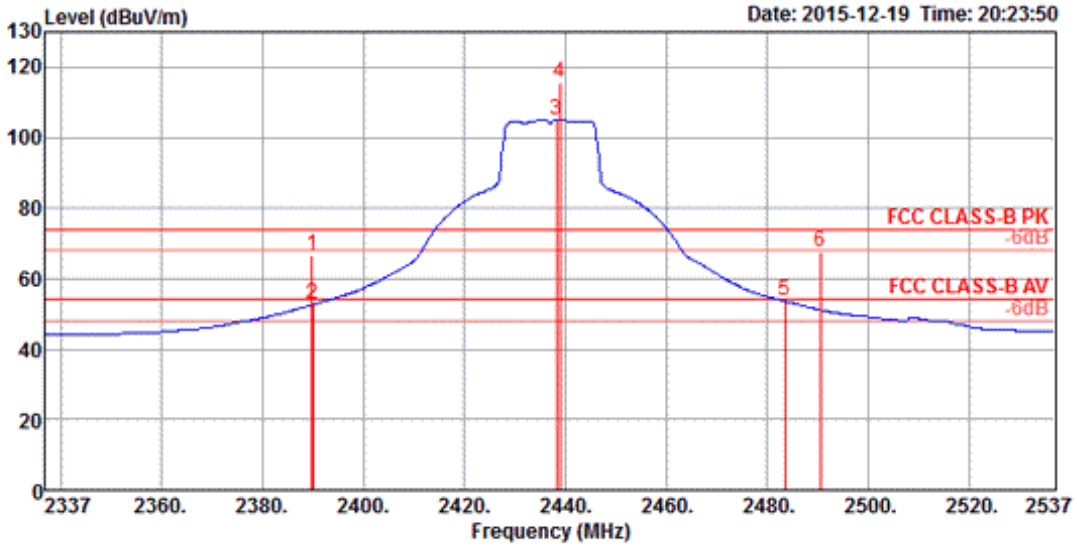


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2390.00	53.67	54.00	-0.33	21.39	5.23	0.00	27.05	VERTICAL	153	100	Average
2	2390.00	68.81	74.00	-5.19	36.53	5.23	0.00	27.05	VERTICAL	153	100	Peak
3	2413.20	98.50			66.13	5.26	0.00	27.11	VERTICAL	153	100	Average
4	2413.60	108.72			76.35	5.26	0.00	27.11	VERTICAL	153	100	Peak

Item 3, 4 are the fundamental frequency at 2412 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 6

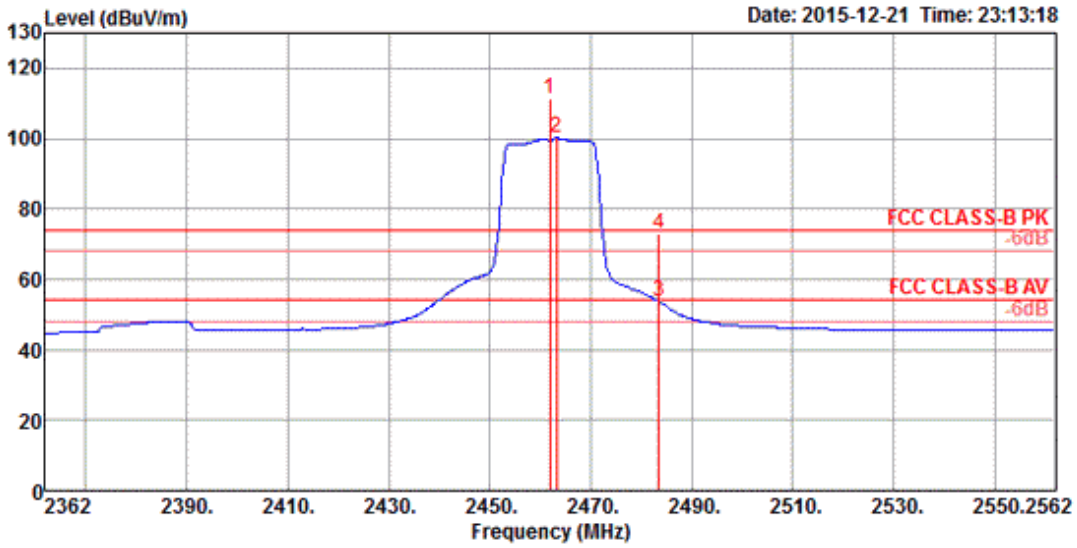


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2389.80	66.85	74.00	-7.15	34.57	5.23	0.00	27.05	VERTICAL	152	106	Peak
2	2390.00	52.64	54.00	-1.36	20.36	5.23	0.00	27.05	VERTICAL	152	106	Average
3	2438.20	105.13			72.69	5.28	0.00	27.16	VERTICAL	152	106	Average
4	2439.00	115.81			83.37	5.28	0.00	27.16	VERTICAL	152	106	Peak
5	2483.50	53.57	54.00	-0.43	20.97	5.33	0.00	27.27	VERTICAL	152	106	Average
6	2490.60	67.63	74.00	-6.37	35.01	5.34	0.00	27.28	VERTICAL	152	106	Peak

Item 3, 4 are the fundamental frequency at 2437 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 11



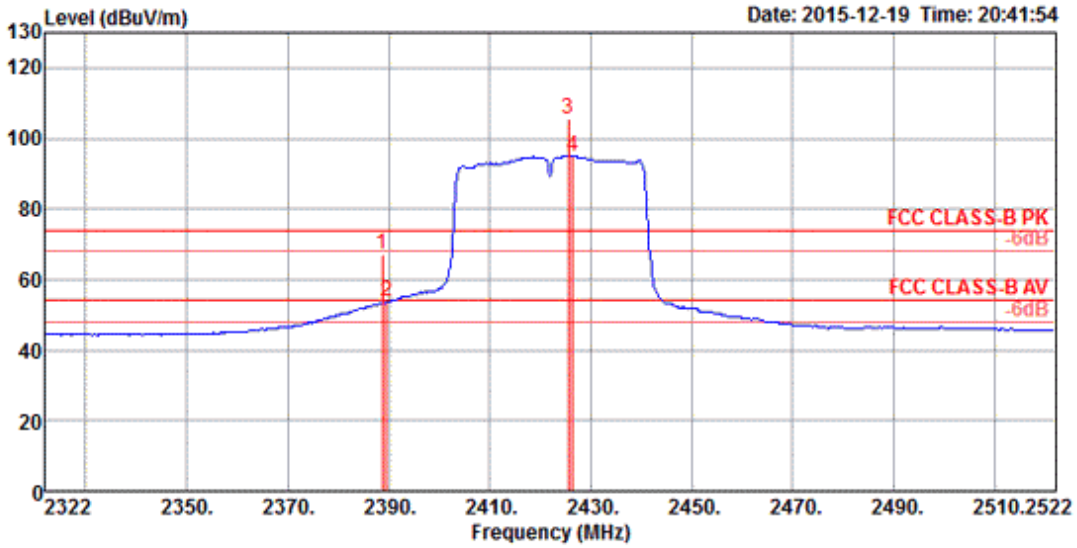
	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2462.00	111.40			78.87	5.31	0.00	27.22	VERTICAL	151	106	Peak
2	2463.20	100.05			67.52	5.31	0.00	27.22	VERTICAL	151	106	Average
3	2483.50	53.61	54.00	-0.39	21.01	5.33	0.00	27.27	VERTICAL	151	106	Average
4	2483.50	72.86	74.00	-1.14	40.26	5.33	0.00	27.27	VERTICAL	151	106	Peak

Item 1, 2 are the fundamental frequency at 2462 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Temperature	25℃	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 3, 6, 9 / Chain 1

Channel 3

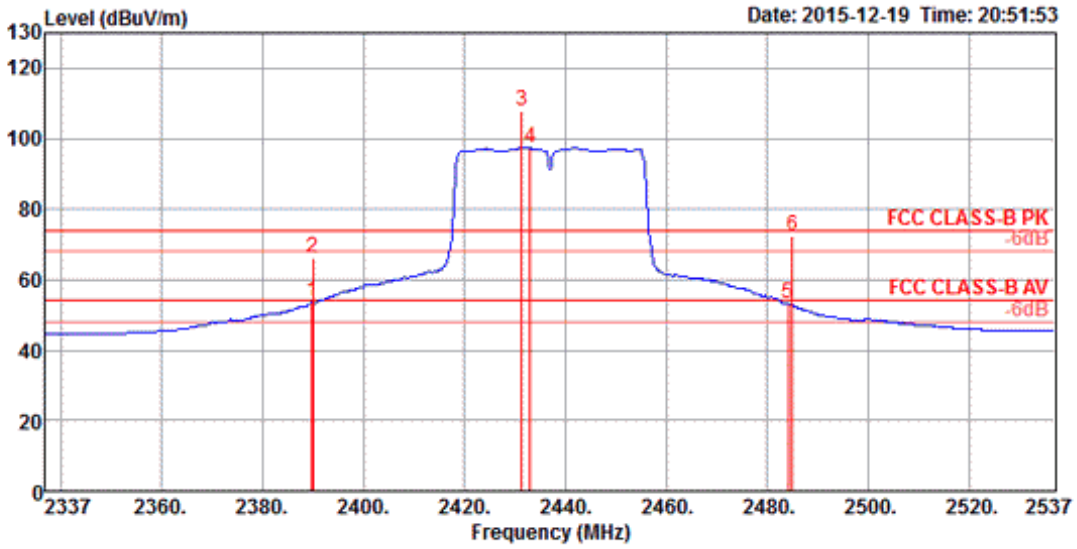


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2388.80	67.15	74.00	-6.85	34.87	5.23	0.00	27.05	VERTICAL	155	100	Peak
2	2389.60	53.73	54.00	-0.27	21.45	5.23	0.00	27.05	VERTICAL	155	100	Average
3	2425.60	105.31			72.89	5.28	0.00	27.14	VERTICAL	155	100	Peak
4	2426.40	94.99			62.57	5.28	0.00	27.14	VERTICAL	155	100	Average

Item 3, 4 are the fundamental frequency at 2422 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 6

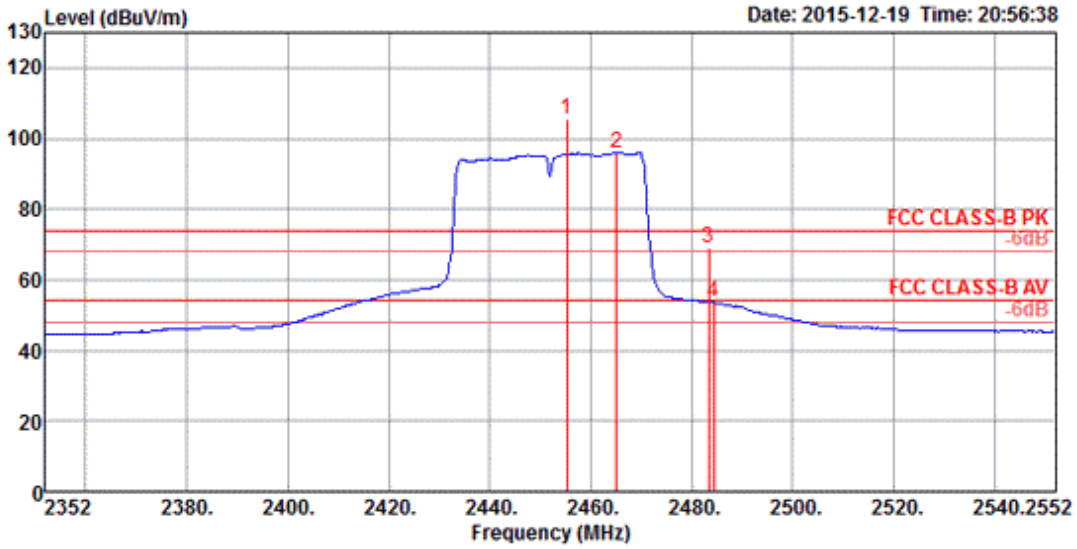


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2389.80	53.57	54.00	-0.43	21.29	5.23	0.00	27.05	VERTICAL	152	100	Average
2	2390.00	66.08	74.00	-7.92	33.80	5.23	0.00	27.05	VERTICAL	152	100	Peak
3	2431.40	107.85			75.43	5.28	0.00	27.14	VERTICAL	152	100	Peak
4	2433.00	97.44			65.00	5.28	0.00	27.16	VERTICAL	152	100	Average
5	2484.20	53.40	54.00	-0.60	20.80	5.33	0.00	27.27	VERTICAL	152	100	Average
6	2485.00	72.53	74.00	-1.47	39.93	5.33	0.00	27.27	VERTICAL	152	100	Peak

Item 3, 4 are the fundamental frequency at 2437 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 9



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2455.20	105.67			73.16	5.30	0.00	27.21	VERTICAL	151	102	Peak
2	2465.20	95.90			63.37	5.31	0.00	27.22	VERTICAL	151	102	Average
3	2483.50	69.06	74.00	-4.94	36.46	5.33	0.00	27.27	VERTICAL	151	102	Peak
4	2484.40	53.78	54.00	-0.22	21.18	5.33	0.00	27.27	VERTICAL	151	102	Average

Item 1, 2 are the fundamental frequency at 2452 MHz.

Note:

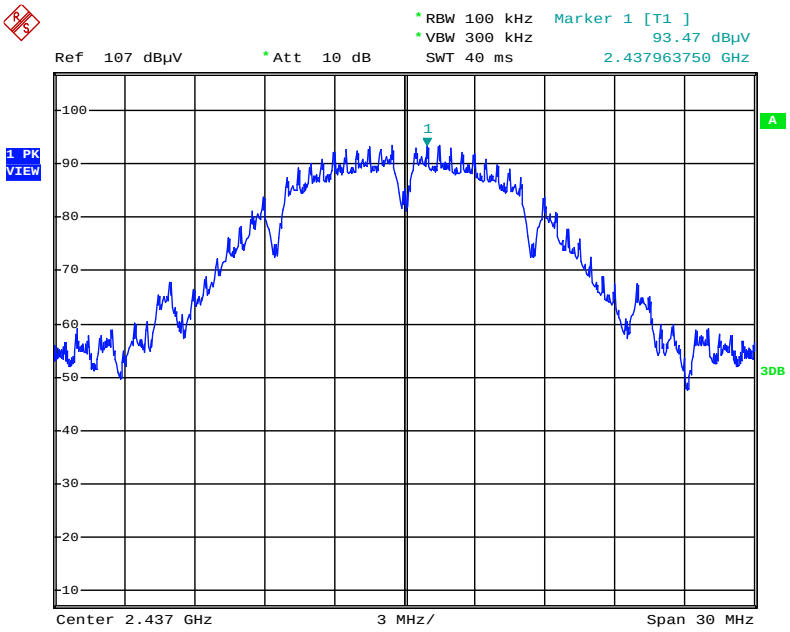
Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

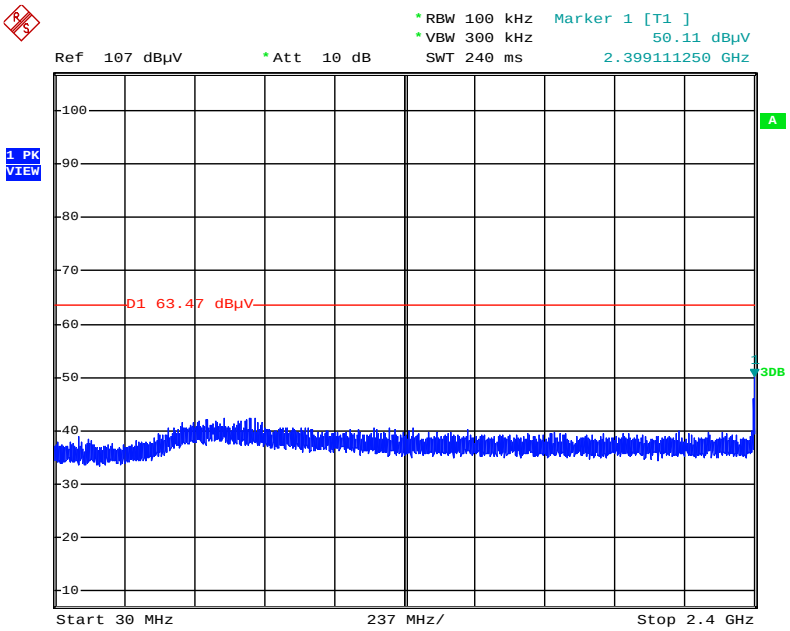
For Emission not in Restricted Band

Plot on Configuration IEEE 802.11b / Reference Level / Vertical



Date: 19.DEC.2015 20:57:03

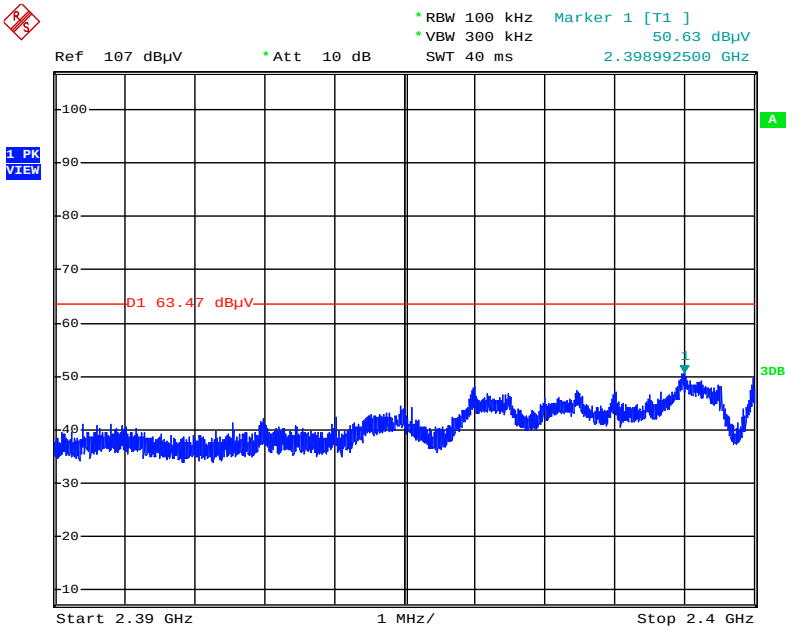
Plot on Configuration IEEE 802.11b / CH 1 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 20:58:09

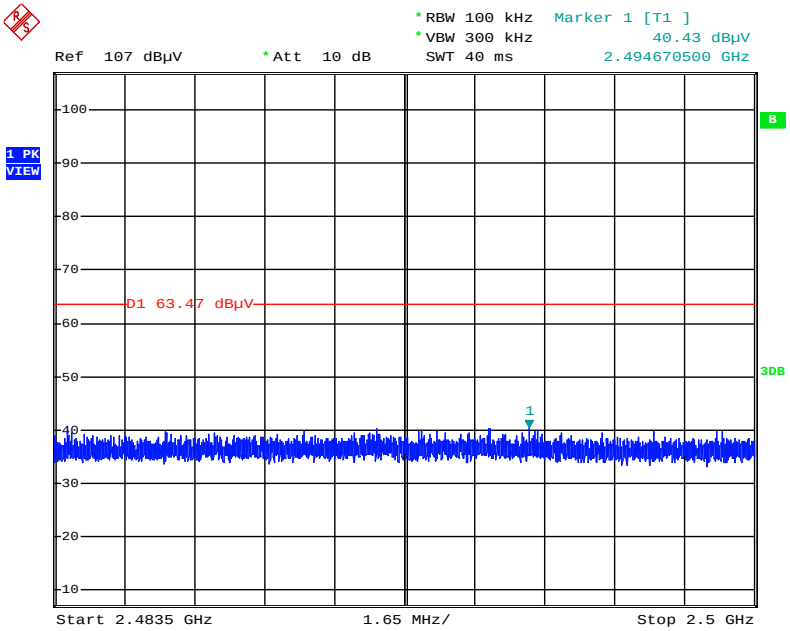
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11b / CH 1 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 07:09:49

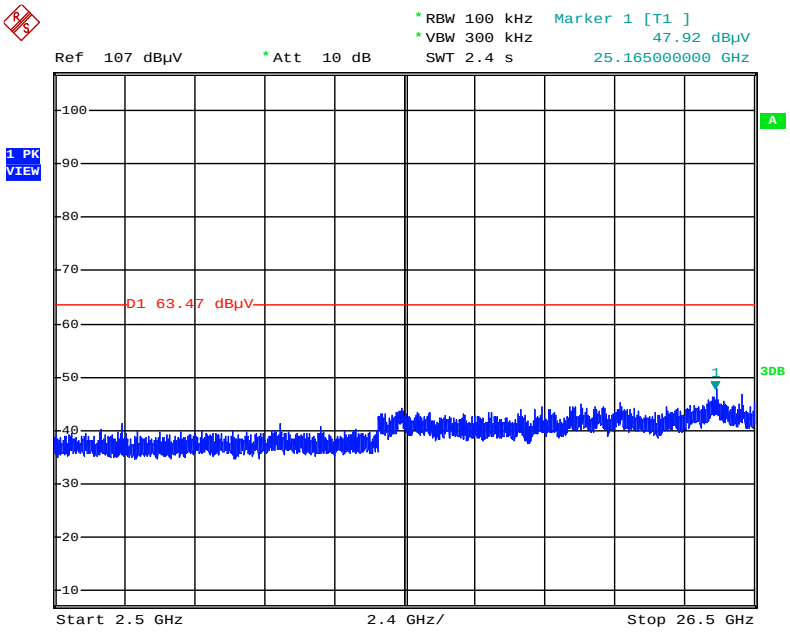
Plot on Configuration IEEE 802.11b / CH 1 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 07:10:24

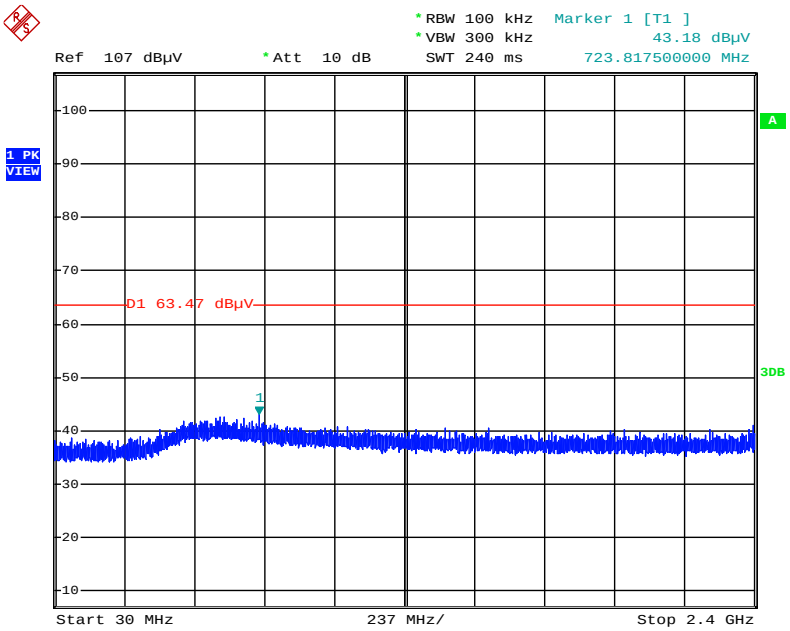
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11b / CH 1 / 2500MHz~26500MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 20:58:49

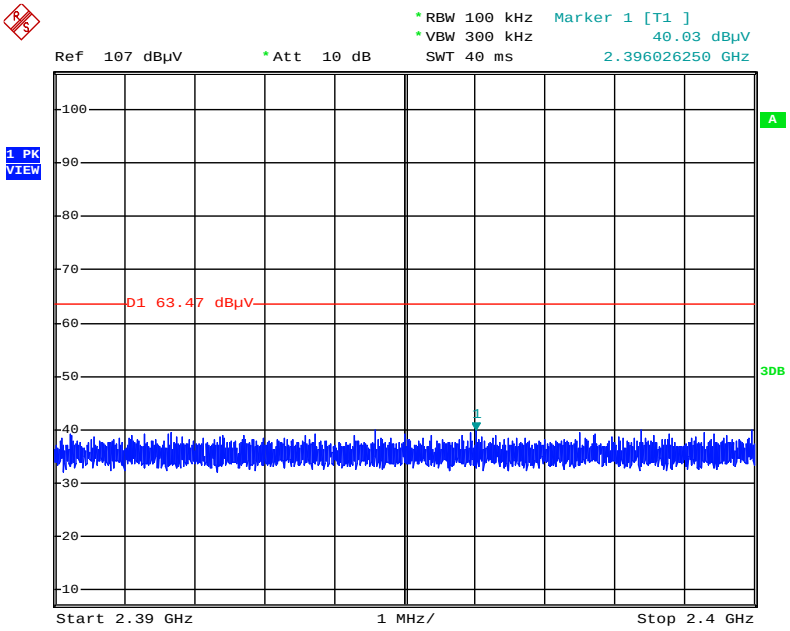
Plot on Configuration IEEE 802.11b / CH 11 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 21:00:24

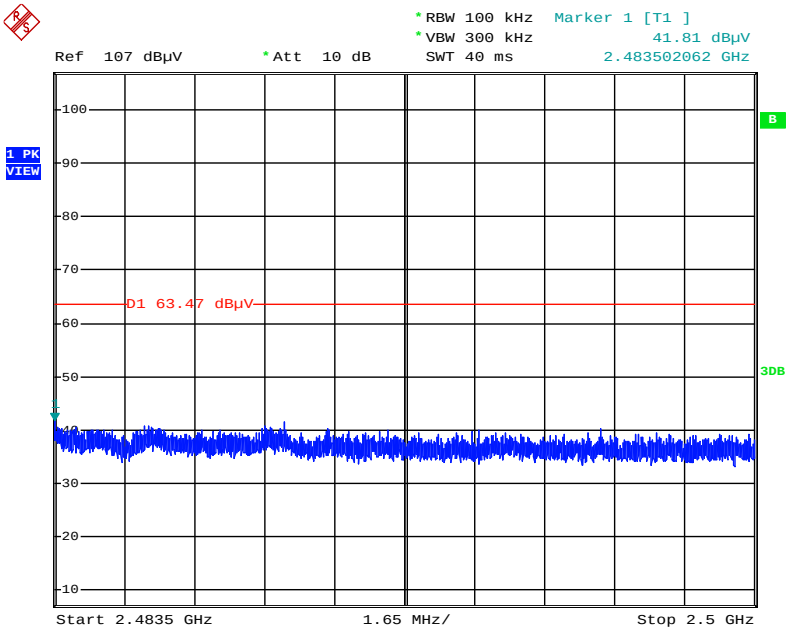
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11b / CH 11 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 07:11:31

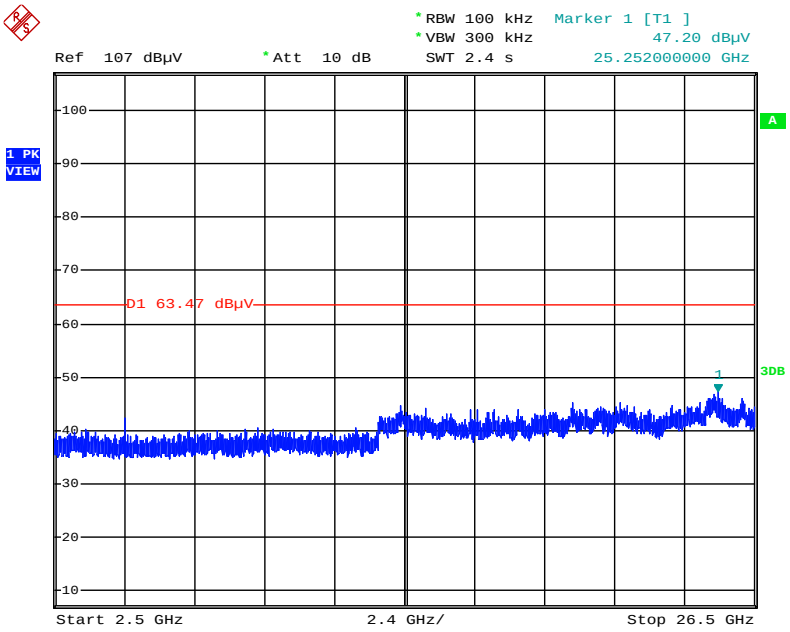
Plot on Configuration IEEE 802.11b / CH 11 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 07:11:10

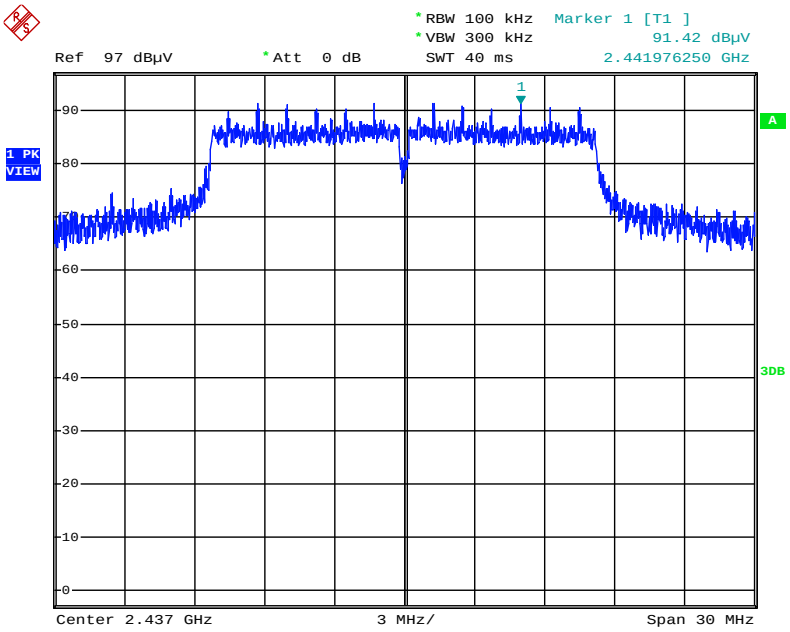
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11b / CH 11 / 2500MHz~26500MHz (down 30dBc) / Vertical



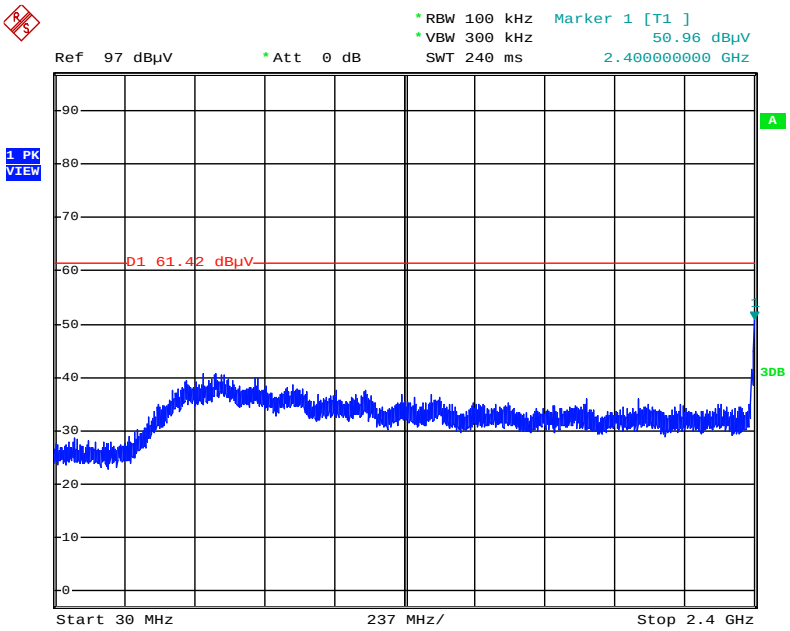
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11g / Reference Level / Vertical



Date: 19.DEC.2015 20:52:25

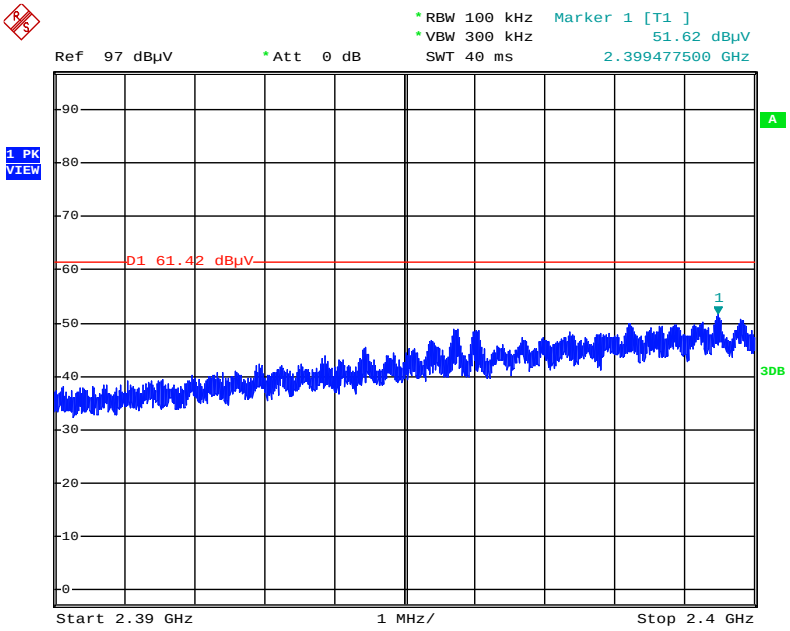
Plot on Configuration IEEE 802.11g / CH 1 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 20:53:24

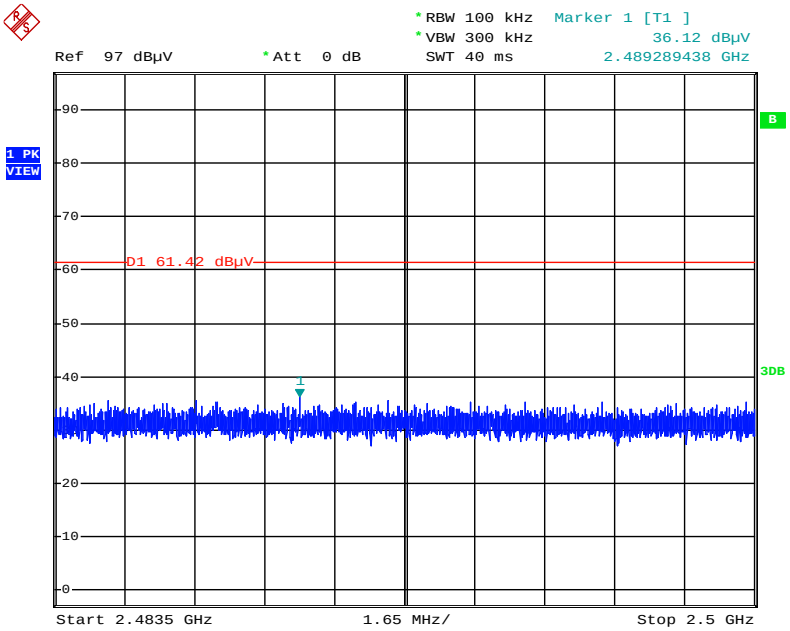
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11g / CH 1 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 06:58:07

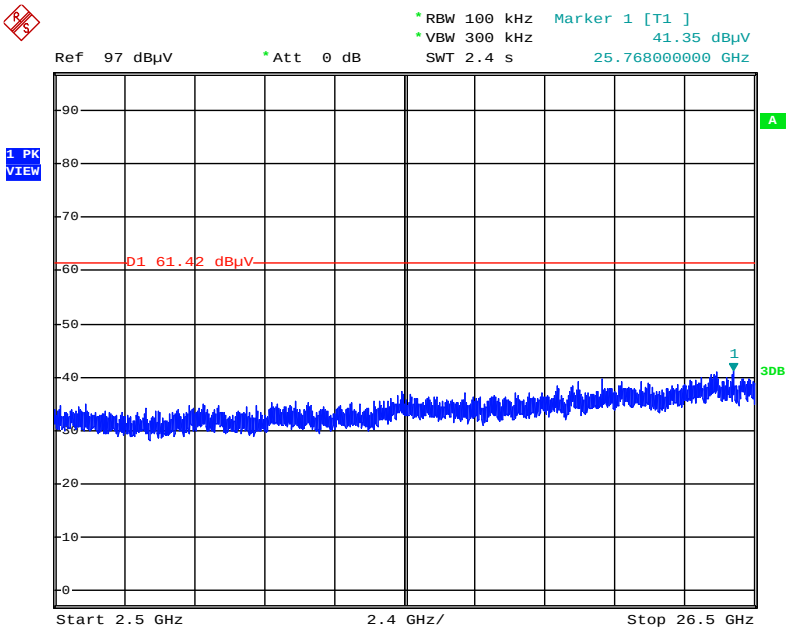
Plot on Configuration IEEE 802.11g / CH 1 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 06:58:44

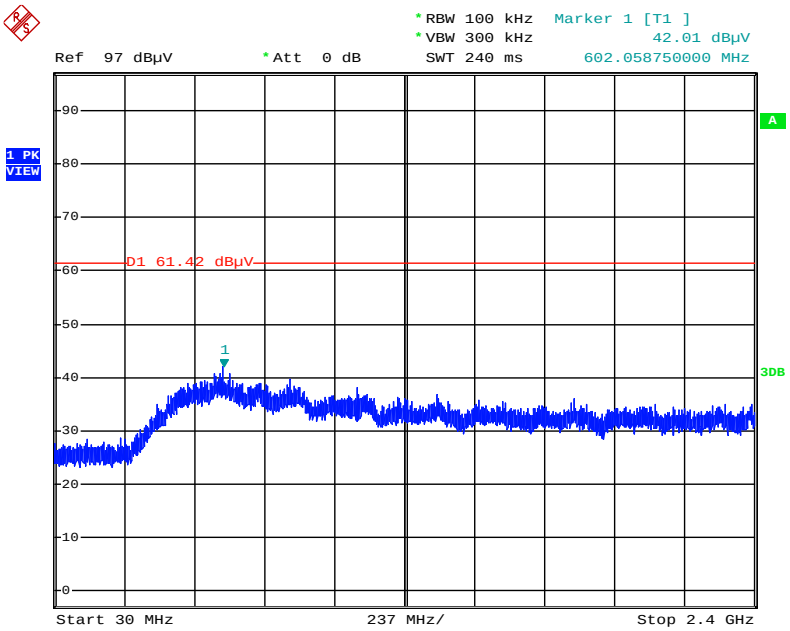
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11g / CH 1 / 2500MHz~26500MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 20:54:07

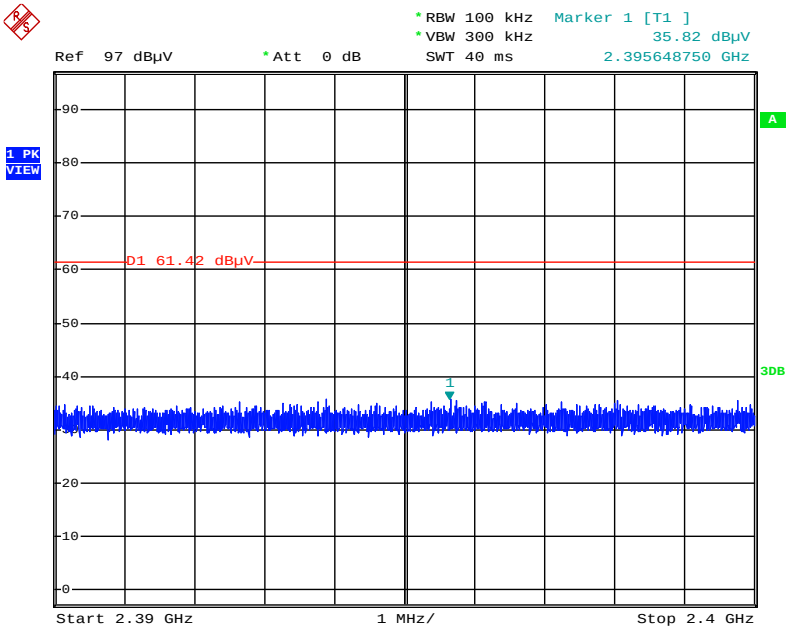
Plot on Configuration IEEE 802.11g / CH 11 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 20:55:30

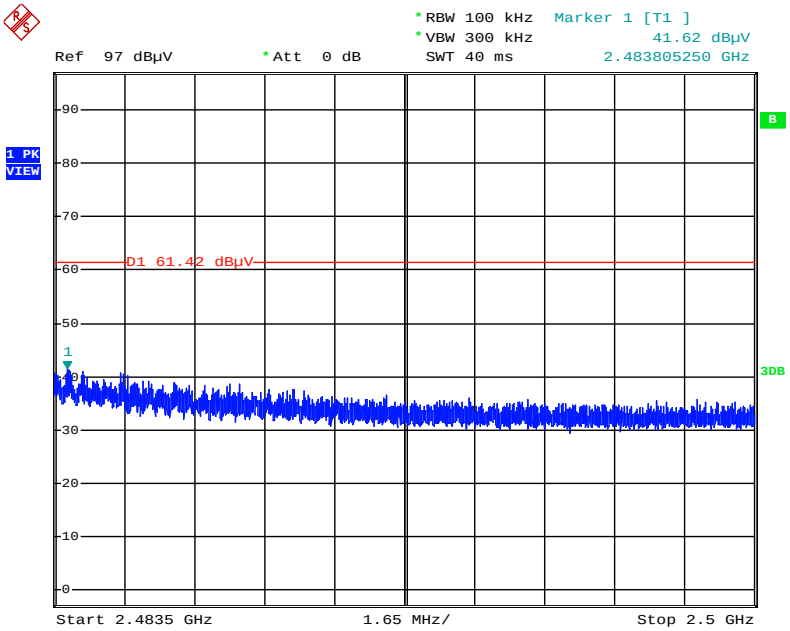
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11g / CH 11 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 06:59:50

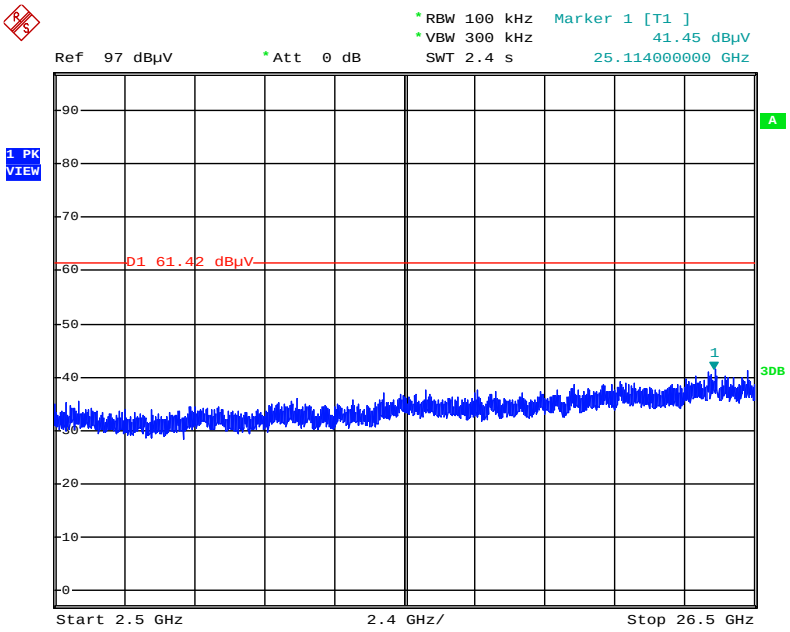
Plot on Configuration IEEE 802.11g / CH 11 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 06:59:24

Note: Only the worse polarization (Vertical) is tested and recorded in test report.

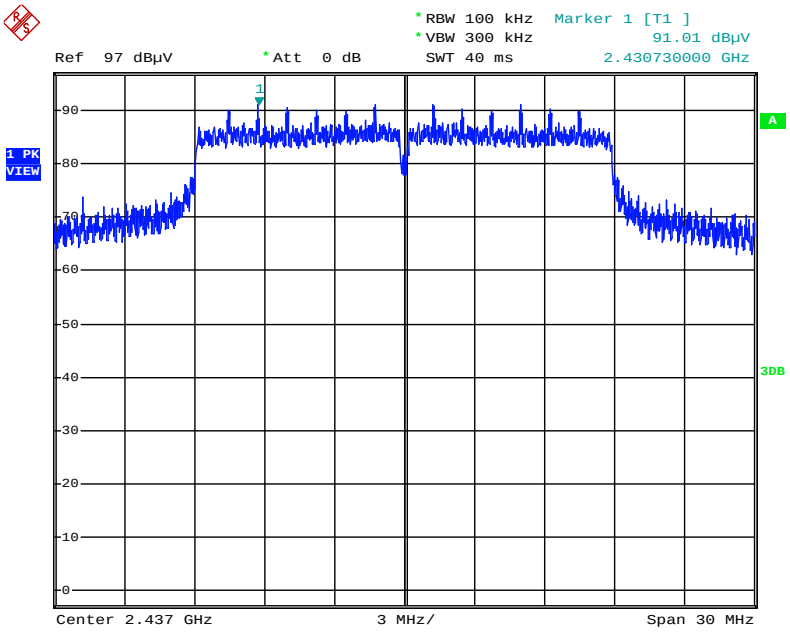
Plot on Configuration IEEE 802.11g / CH 11 / 2500MHz~26500MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 20:54:58

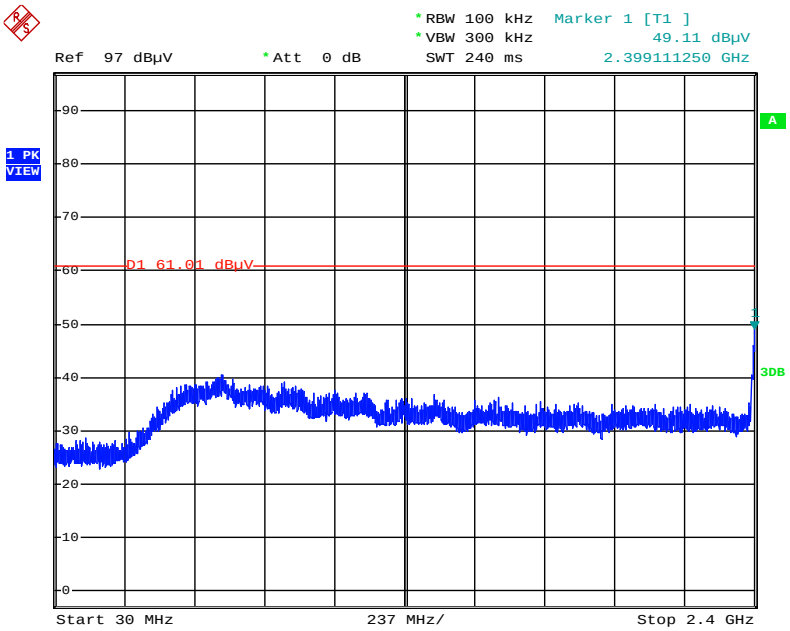
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Reference Level / Vertical



Date: 19.DEC.2015 20:48:38

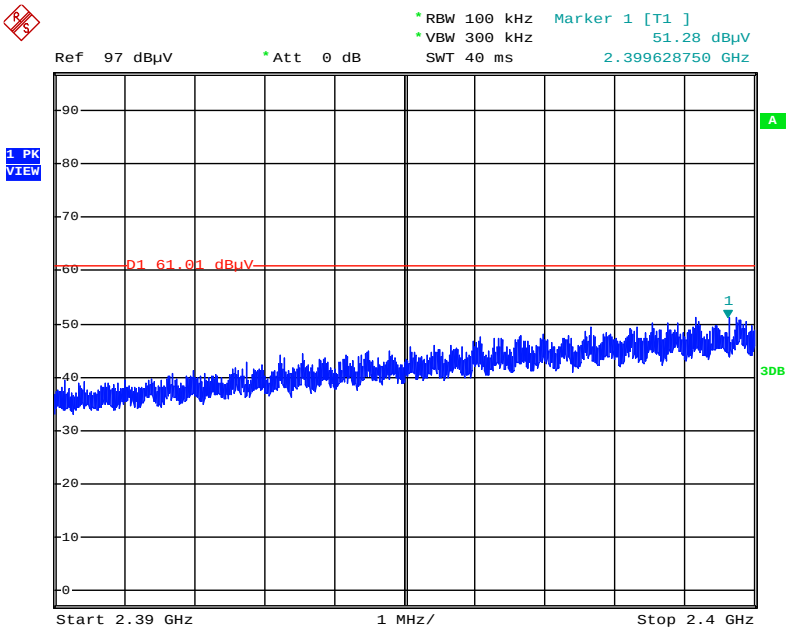
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 20:49:26

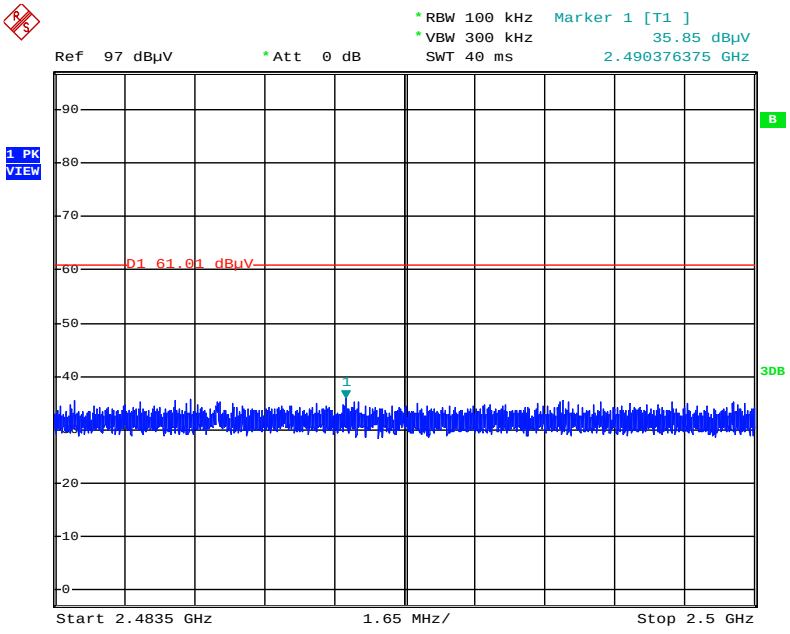
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 07:01:21

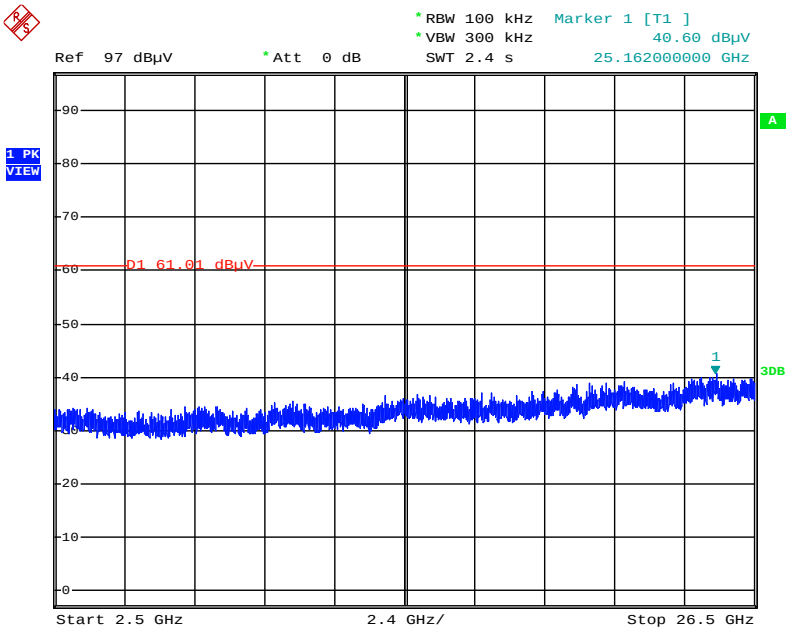
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 07:01:42

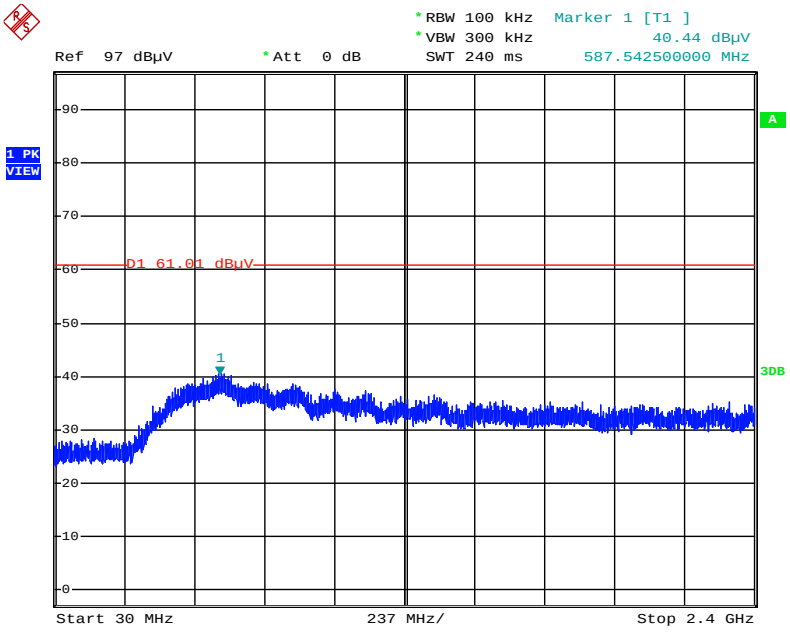
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 2500MHz~26500MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 20:50:05

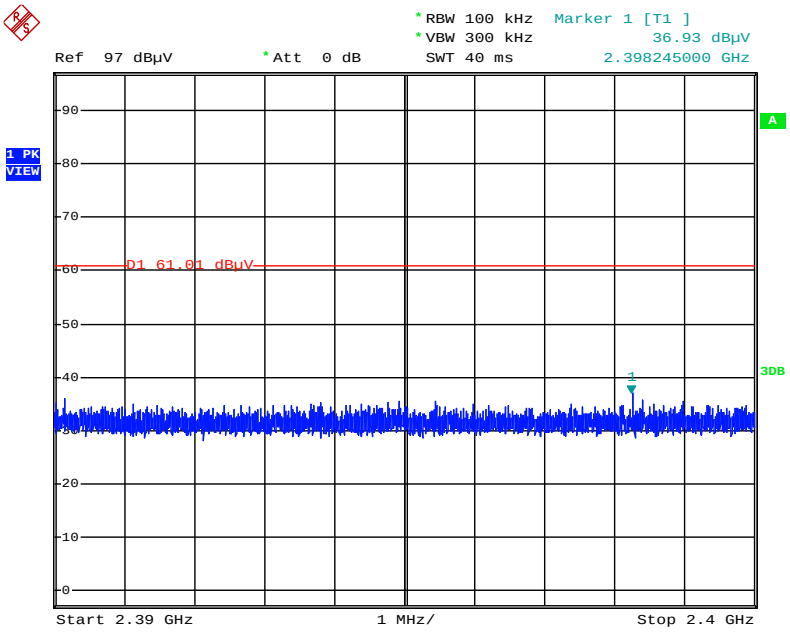
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 11 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 20:51:17

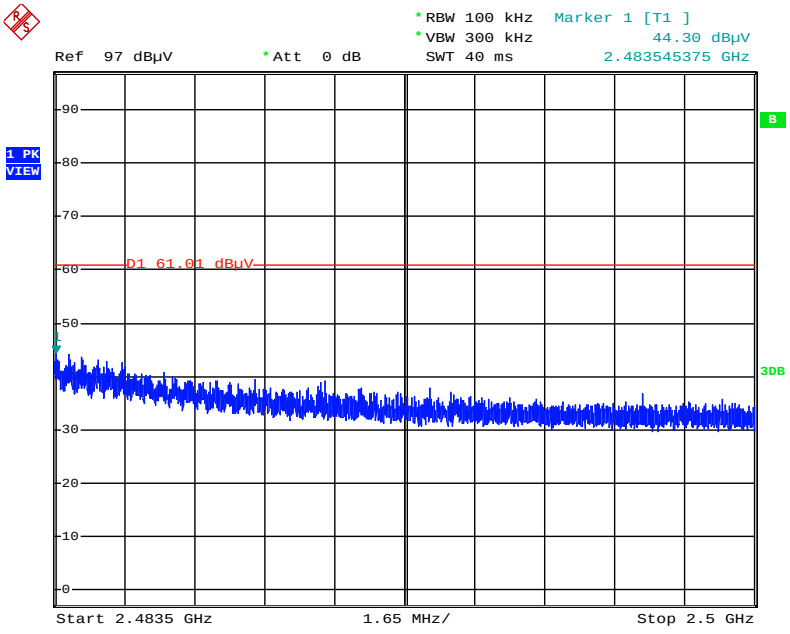
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 11 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 07:02:50

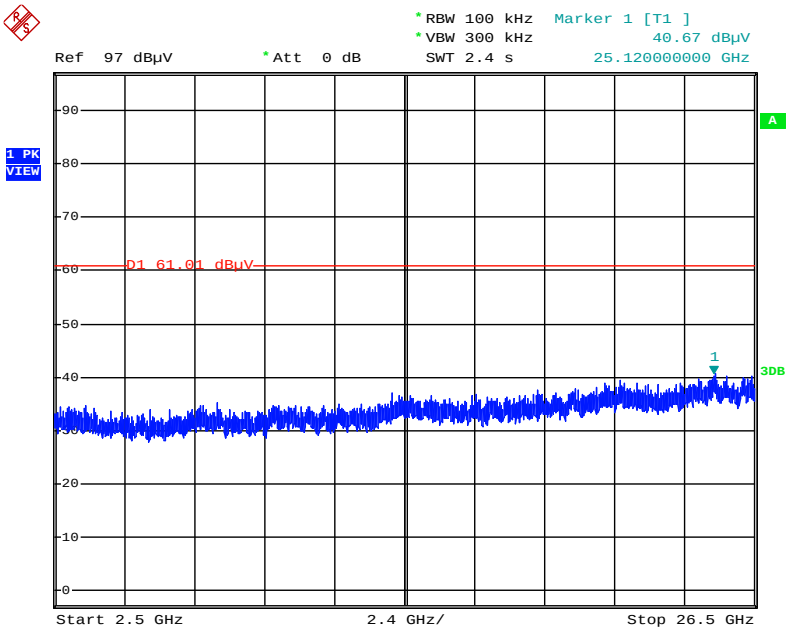
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 11 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 07:02:22

Note: Only the worse polarization (Vertical) is tested and recorded in test report.

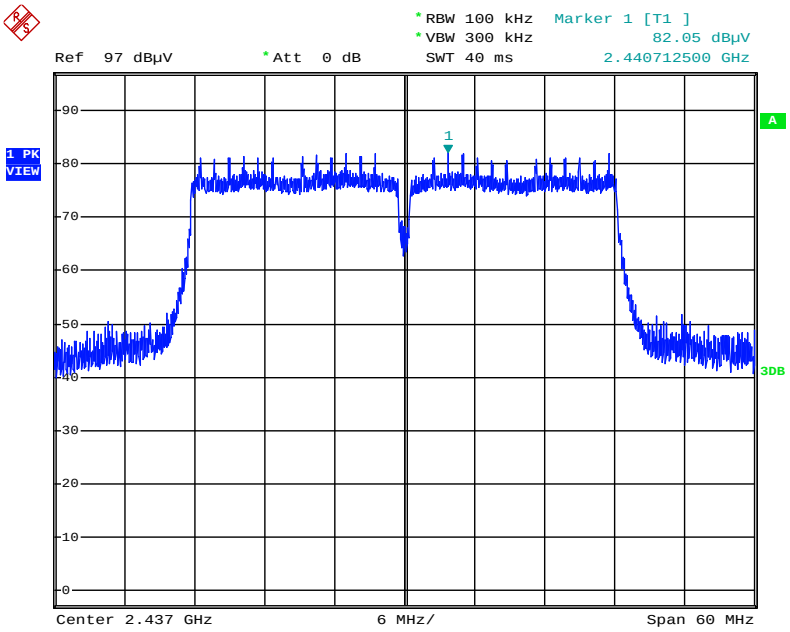
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 11 / 2500MHz~26500MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 20:50:42

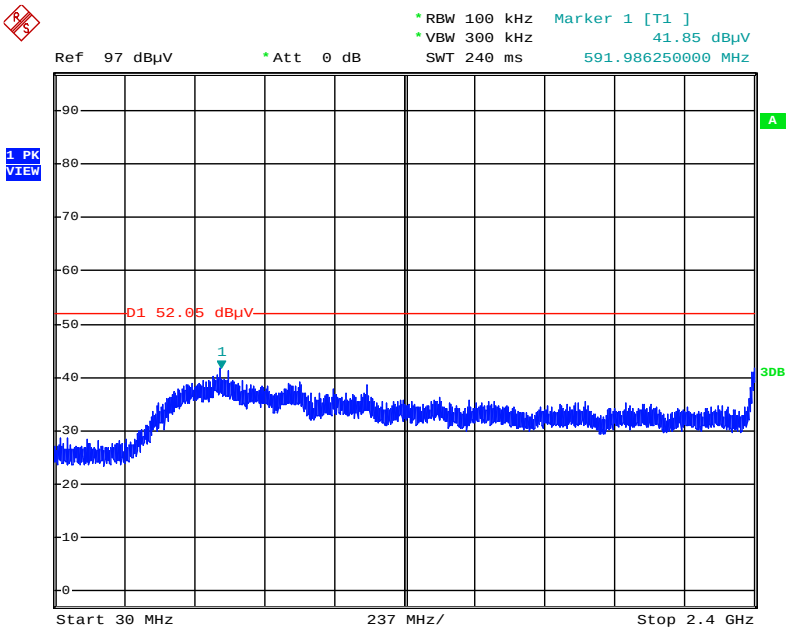
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Reference Level / Vertical



Date: 19.DEC.2015 20:44:56

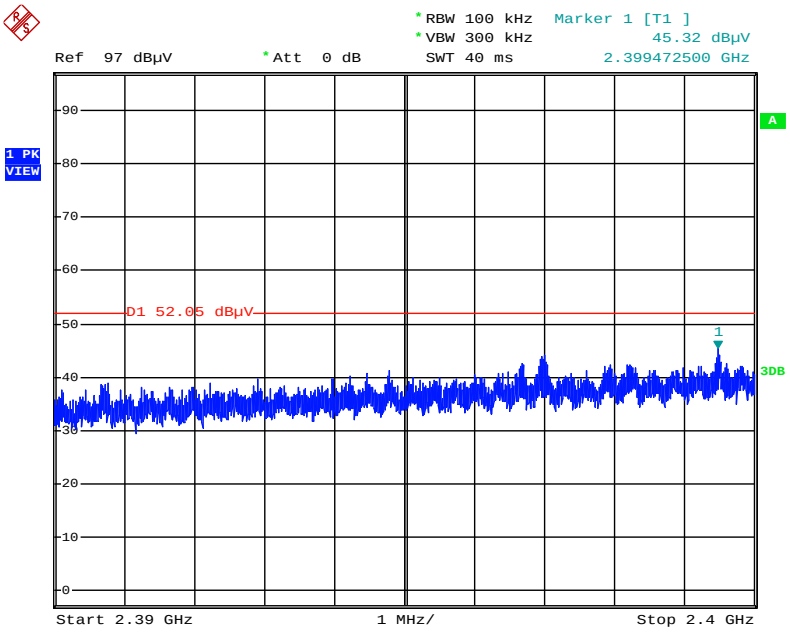
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 20:45:55

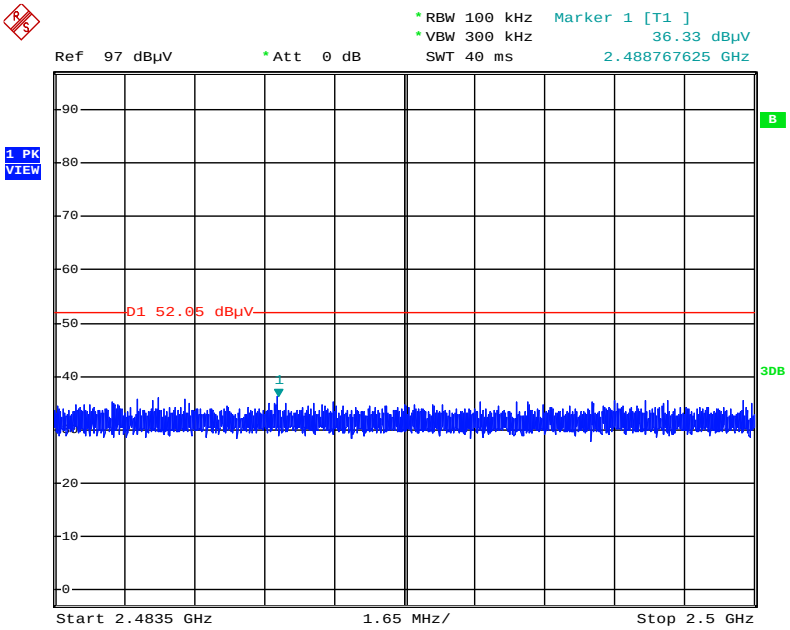
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 07:06:19

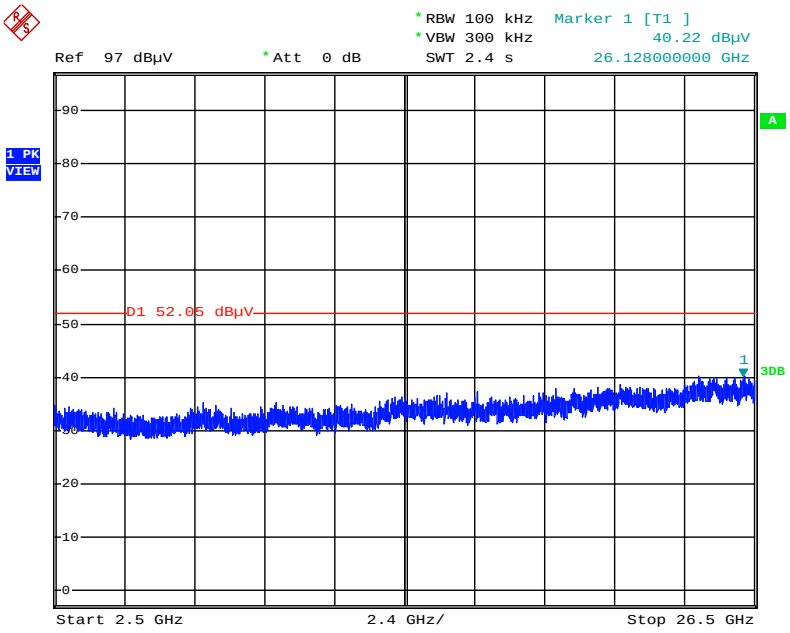
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 07:05:25

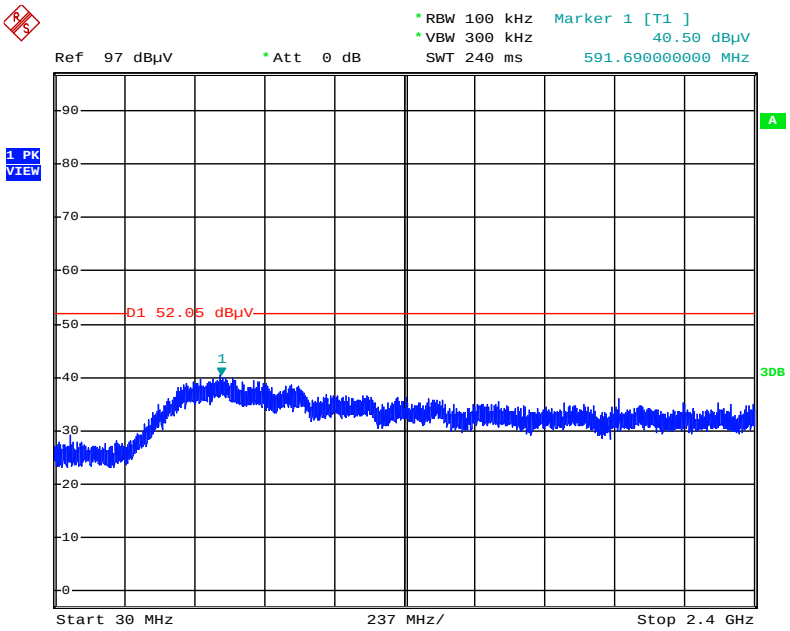
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 2500MHz~26500MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 20:46:33

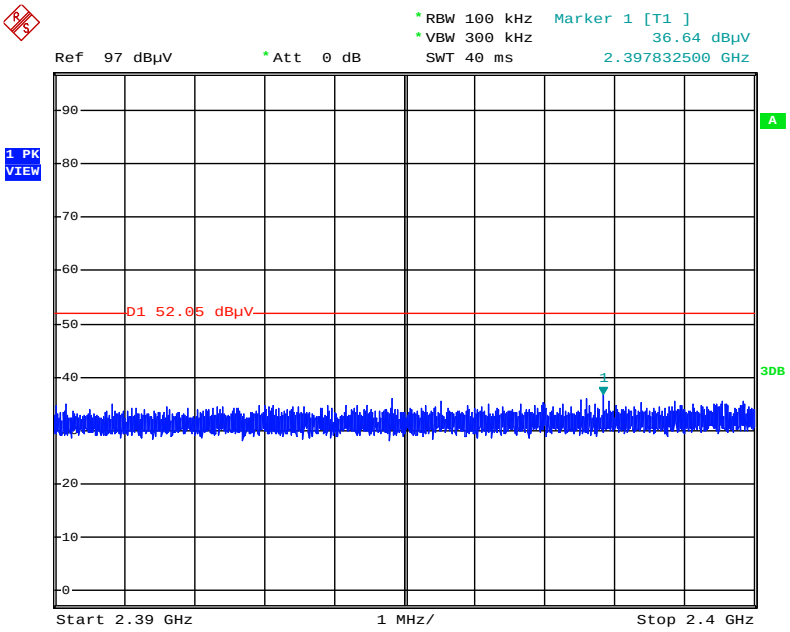
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 9 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 19.DEC.2015 20:47:45

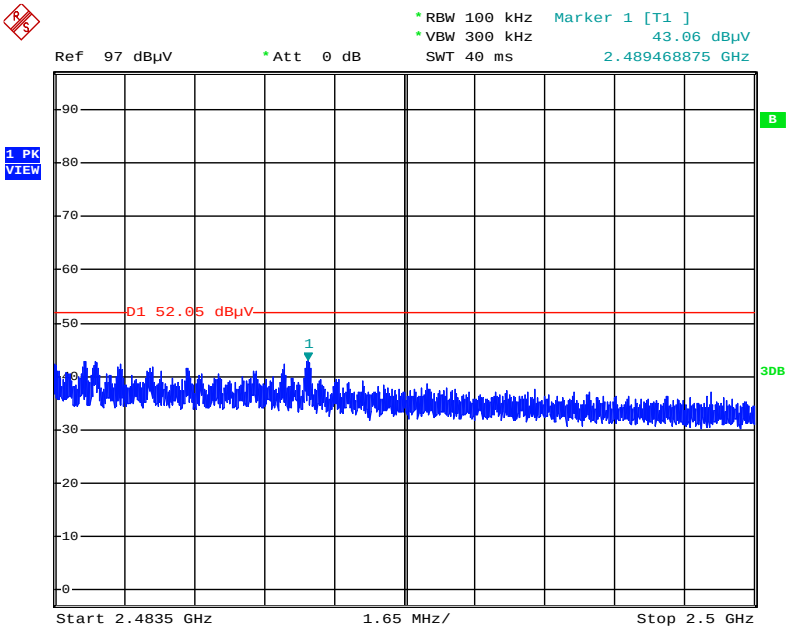
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 9 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 07:07:10

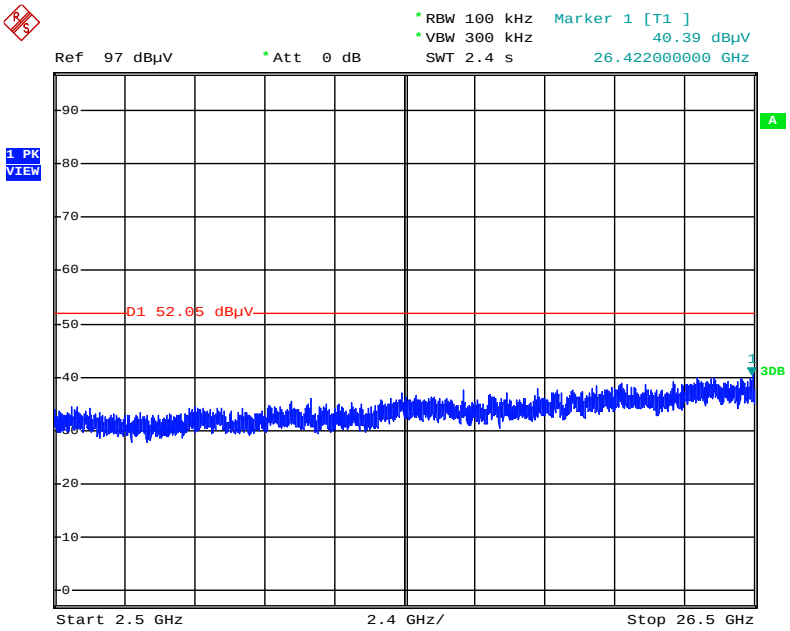
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 9 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 20.DEC.2015 07:07:38

Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 9 / 2500MHz~26500MHz (down 30dBc) / Vertical



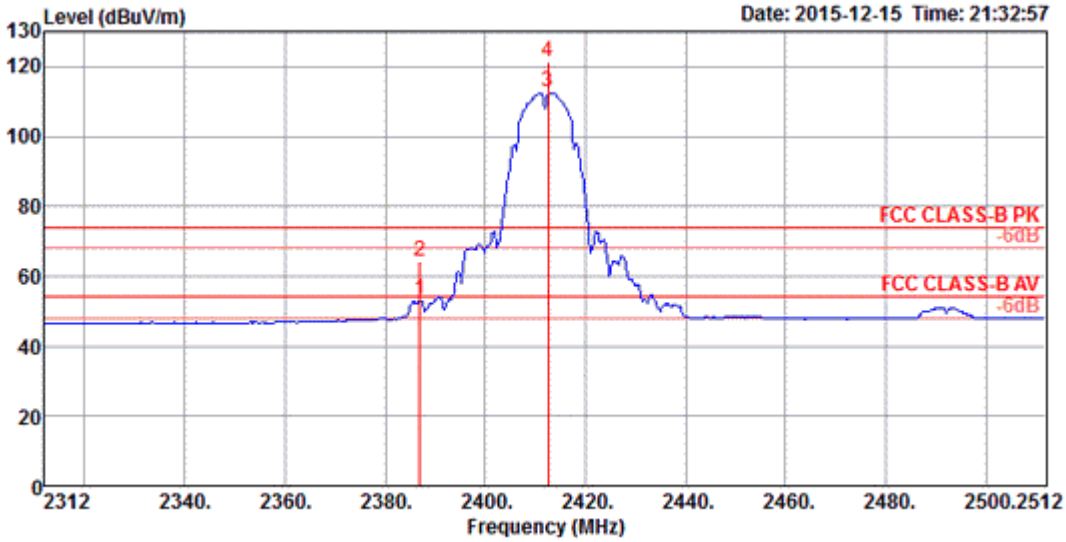
Date: 19.DEC.2015 20:47:12

Note: Only the worse polarization (Vertical) is tested and recorded in test report.

<For 2TX>

Temperature	25℃	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11b CH 1, 6, 11 / Chain 1 + Chain 2

Channel 1

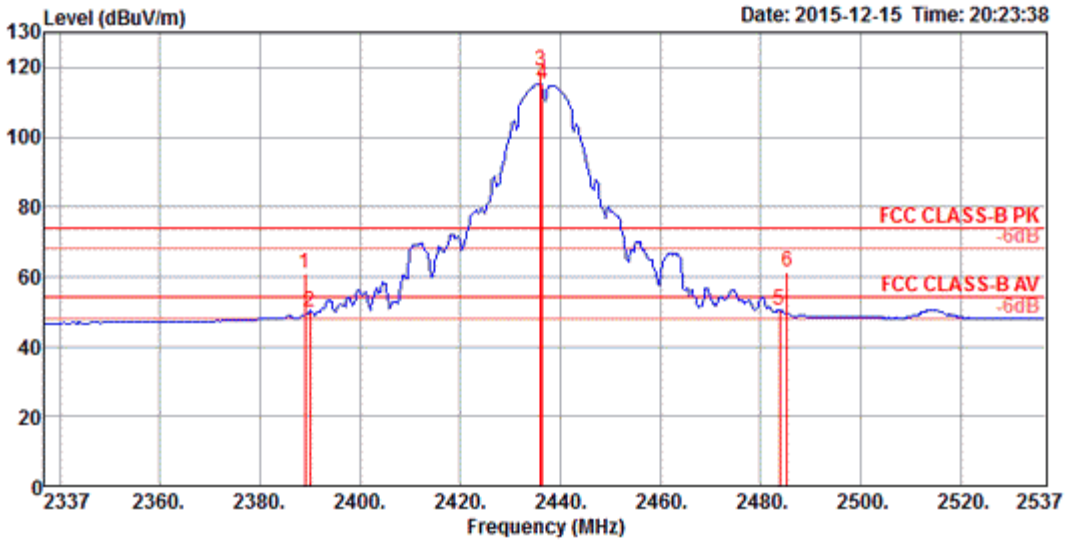


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2387.00	53.23	54.00	-0.77	20.95	5.23	0.00	27.05	VERTICAL	124	222	Average
2	2387.00	64.23	74.00	-9.77	31.95	5.23	0.00	27.05	VERTICAL	124	222	Peak
3	2412.64	112.52			80.15	5.26	0.00	27.11	VERTICAL	124	222	Average
4	2412.64	121.52			89.15	5.26	0.00	27.11	VERTICAL	124	222	Peak

Item 3, 4 are the fundamental frequency at 2412 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 6

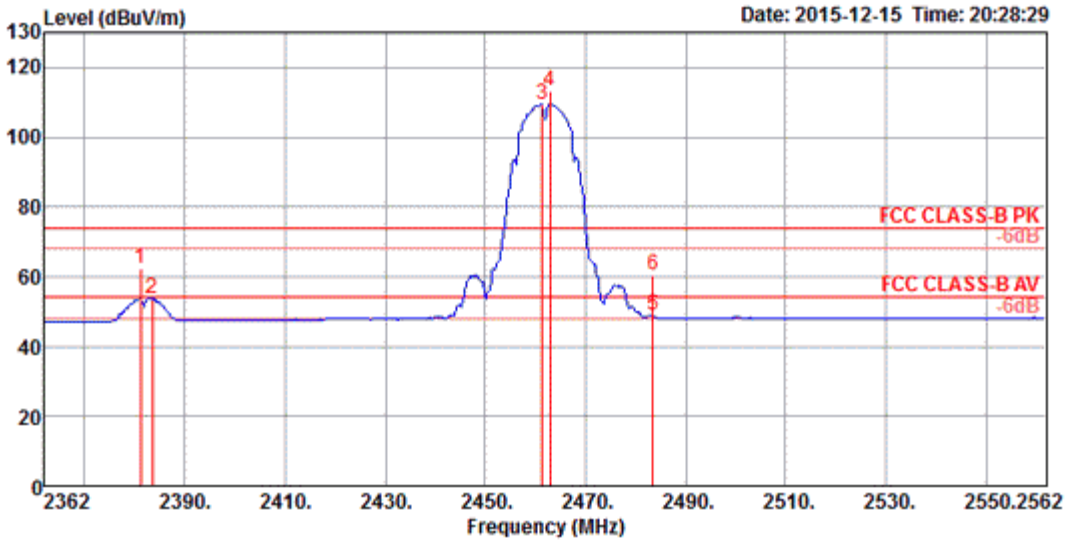


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2388.92	60.79	74.00	-13.21	28.51	5.23	0.00	27.05	VERTICAL	128	219	Peak
2	2390.00	50.06	54.00	-3.94	17.78	5.23	0.00	27.05	VERTICAL	128	219	Average
3	2436.04	118.89			86.45	5.28	0.00	27.16	VERTICAL	128	219	Peak
4	2436.36	115.10			82.66	5.28	0.00	27.16	VERTICAL	128	219	Average
5	2483.80	50.29	54.00	-3.71	17.69	5.33	0.00	27.27	VERTICAL	128	219	Average
6	2485.40	61.60	74.00	-12.40	29.00	5.33	0.00	27.27	VERTICAL	128	219	Peak

Item 3, 4 are the fundamental frequency at 2437 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 11



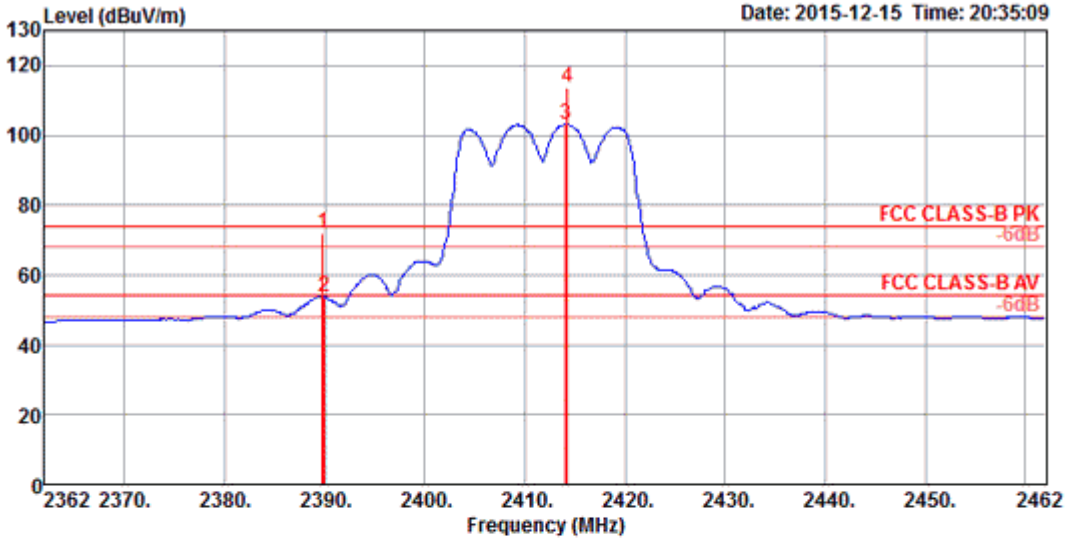
	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2381.23	62.40	74.00	-11.60	30.13	5.23	0.00	27.04	VERTICAL	129	213	Peak
2	2383.47	53.70	54.00	-0.30	21.42	5.23	0.00	27.05	VERTICAL	129	213	Average
3	2461.36	109.53			77.00	5.31	0.00	27.22	VERTICAL	129	213	Average
4	2462.96	113.25			80.72	5.31	0.00	27.22	VERTICAL	129	213	Peak
5	2483.50	48.88	54.00	-5.12	16.28	5.33	0.00	27.27	VERTICAL	129	213	Average
6	2483.50	60.62	74.00	-13.38	28.02	5.33	0.00	27.27	VERTICAL	129	213	Peak

Item 3, 4 are the fundamental frequency at 2462 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Temperature	25℃	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11g CH 1, 6, 11 / Chain 1 + Chain 2

Channel 1

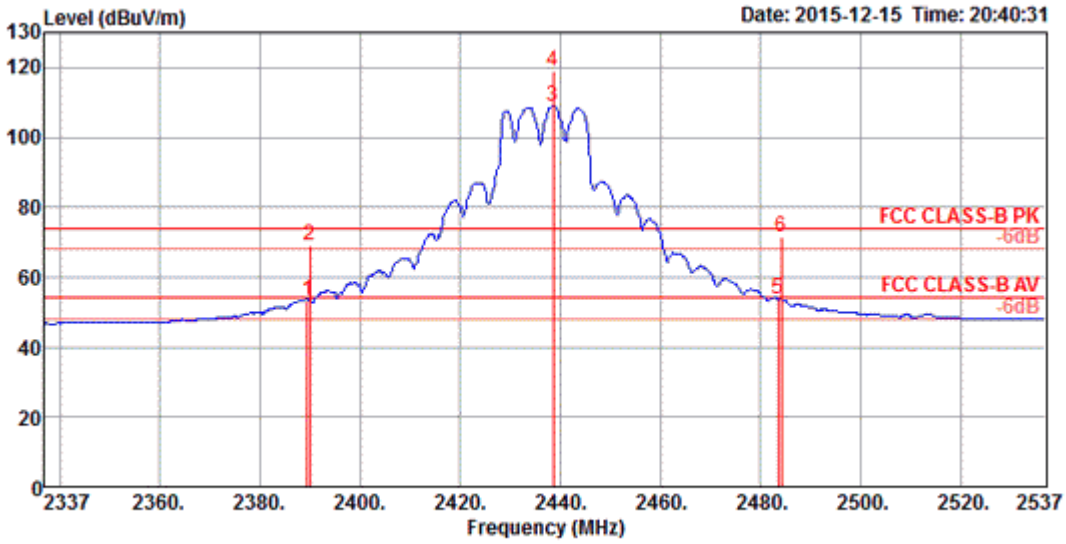


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2389.72	72.18	74.00	-1.82	39.90	5.23	0.00	27.05	VERTICAL	359	202	Peak
2	2389.89	53.66	54.00	-0.34	21.38	5.23	0.00	27.05	VERTICAL	359	202	Average
3	2414.08	103.12			70.75	5.26	0.00	27.11	VERTICAL	359	202	Average
4	2414.24	113.79			81.42	5.26	0.00	27.11	VERTICAL	359	202	Peak

Item 3, 4 are the fundamental frequency at 2412 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 6

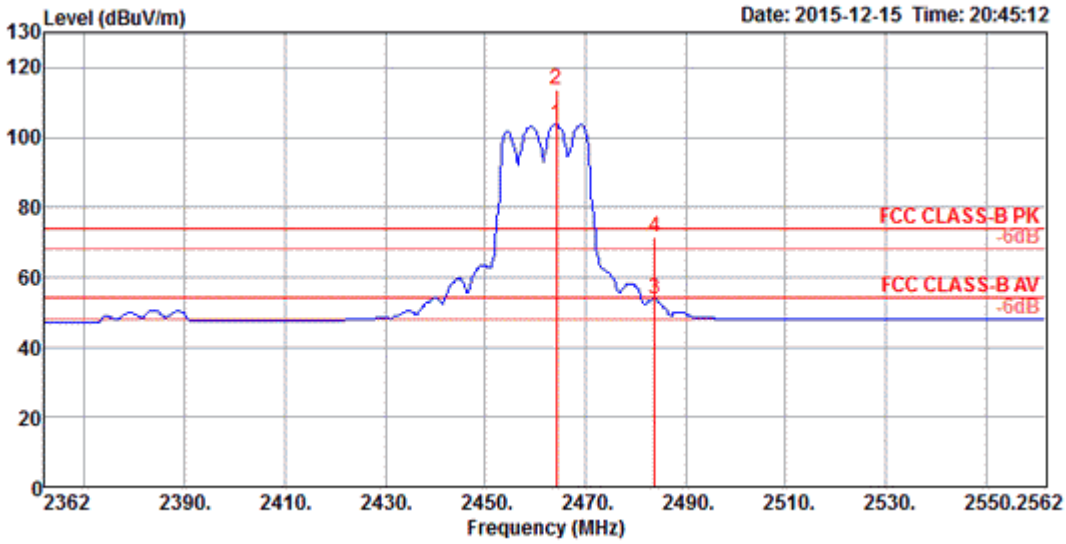


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2389.56	53.45	54.00	-0.55	21.17	5.23	0.00	27.05	VERTICAL	355	200	Average
2	2390.00	69.14	74.00	-4.86	36.86	5.23	0.00	27.05	VERTICAL	355	200	Peak
3	2438.60	108.92			76.48	5.28	0.00	27.16	VERTICAL	355	200	Average
4	2438.60	118.89			86.45	5.28	0.00	27.16	VERTICAL	355	200	Peak
5	2483.50	53.89	54.00	-0.11	21.29	5.33	0.00	27.27	VERTICAL	355	200	Average
6	2484.12	71.29	74.00	-2.71	38.69	5.33	0.00	27.27	VERTICAL	355	200	Peak

Item 3, 4 are the fundamental frequency at 2437 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 11



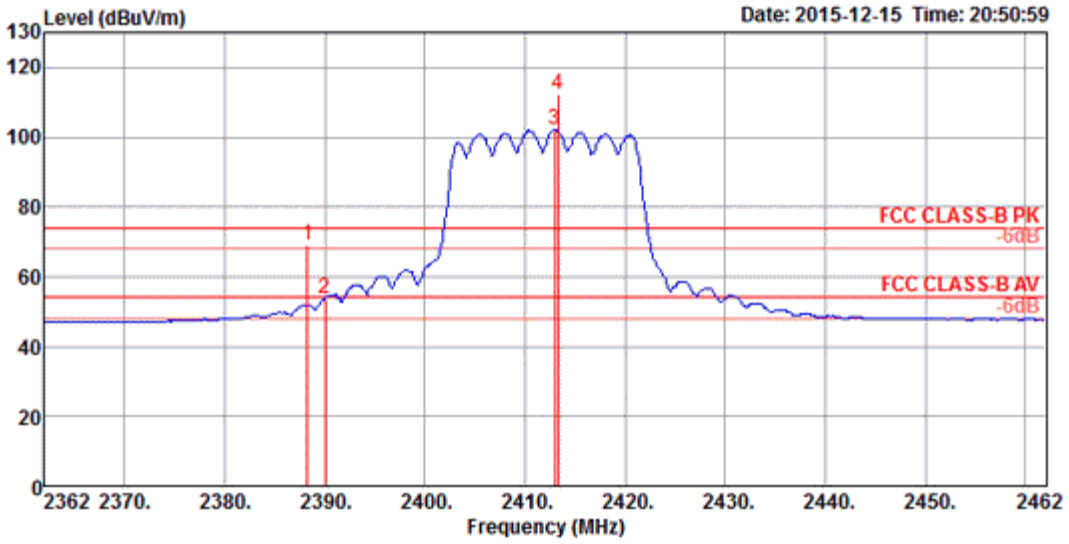
	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2464.24	103.64			71.11	5.31	0.00	27.22	VERTICAL	32	202	Average
2	2464.24	113.93			81.40	5.31	0.00	27.22	VERTICAL	32	202	Peak
3	2483.80	53.52	54.00	-0.48	20.92	5.33	0.00	27.27	VERTICAL	32	202	Average
4	2483.80	71.64	74.00	-2.36	39.04	5.33	0.00	27.27	VERTICAL	32	202	Peak

Item 1, 2 are the fundamental frequency at 2462 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Temperature	25°C	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 1, 6, 11 / Chain 1 + Chain 2

Channel 1

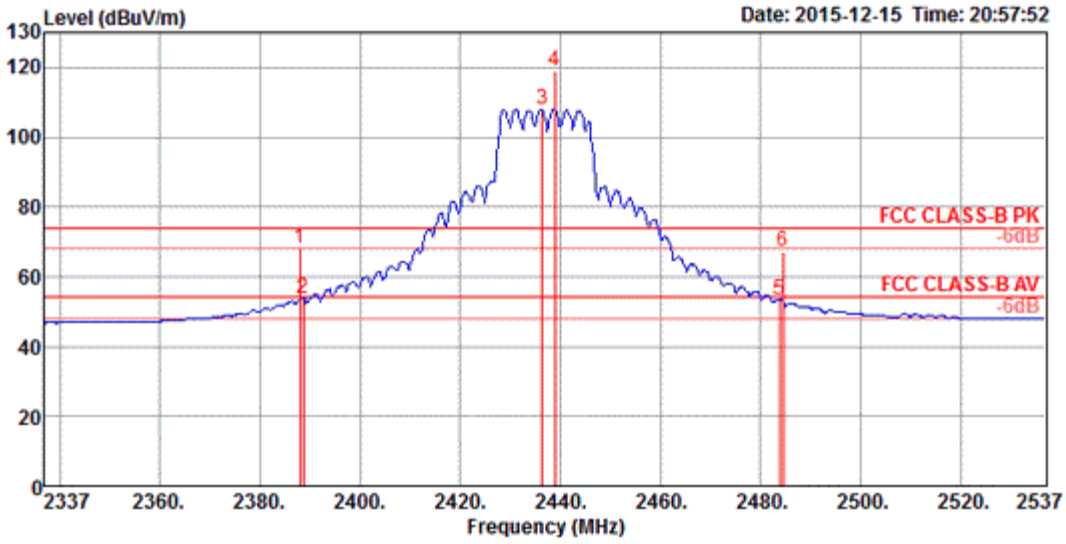


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2388.28	69.29	74.00	-4.71	37.01	5.23	0.00	27.05	VERTICAL	358	201	Peak
2	2390.00	53.93	54.00	-0.07	21.65	5.23	0.00	27.05	VERTICAL	358	201	Average
3	2412.96	102.03			69.66	5.26	0.00	27.11	VERTICAL	358	201	Average
4	2413.28	112.01			79.64	5.26	0.00	27.11	VERTICAL	358	201	Peak

Item 3, 4 are the fundamental frequency at 2412 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 6

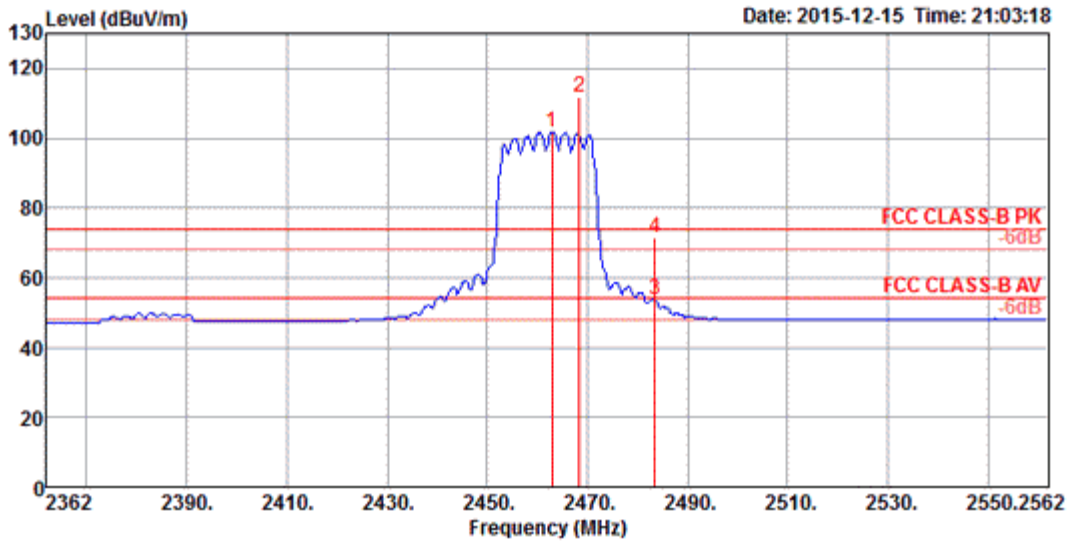


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2387.96	68.07	74.00	-5.93	35.79	5.23	0.00	27.05	VERTICAL	7	203	Peak
2	2388.60	53.81	54.00	-0.19	21.53	5.23	0.00	27.05	VERTICAL	7	203	Average
3	2436.36	108.15			75.71	5.28	0.00	27.16	VERTICAL	7	203	Average
4	2438.92	118.81			86.37	5.28	0.00	27.16	VERTICAL	7	203	Peak
5	2483.80	53.49	54.00	-0.51	20.89	5.33	0.00	27.27	VERTICAL	7	203	Average
6	2484.44	67.10	74.00	-6.90	34.50	5.33	0.00	27.27	VERTICAL	7	203	Peak

Item 3, 4 are the fundamental frequency at 2437 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 11



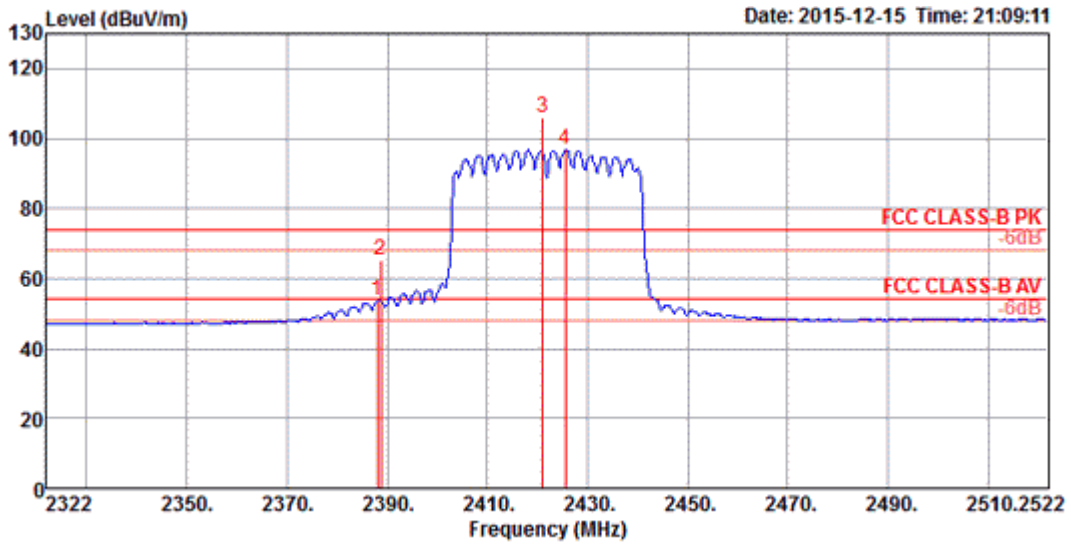
	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2462.96	101.91			69.38	5.31	0.00	27.22	VERTICAL	31	200	Average
2	2468.41	111.87			79.31	5.32	0.00	27.24	VERTICAL	31	200	Peak
3	2483.50	53.63	54.00	-0.37	21.03	5.33	0.00	27.27	VERTICAL	31	200	Average
4	2483.50	71.27	74.00	-2.73	38.67	5.33	0.00	27.27	VERTICAL	31	200	Peak

Item 1, 2 are the fundamental frequency at 2462 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Temperature	25℃	Humidity	59%
Test Engineer	Peter Wu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 3, 6, 9 / Chain 1 + Chain 2

Channel 3

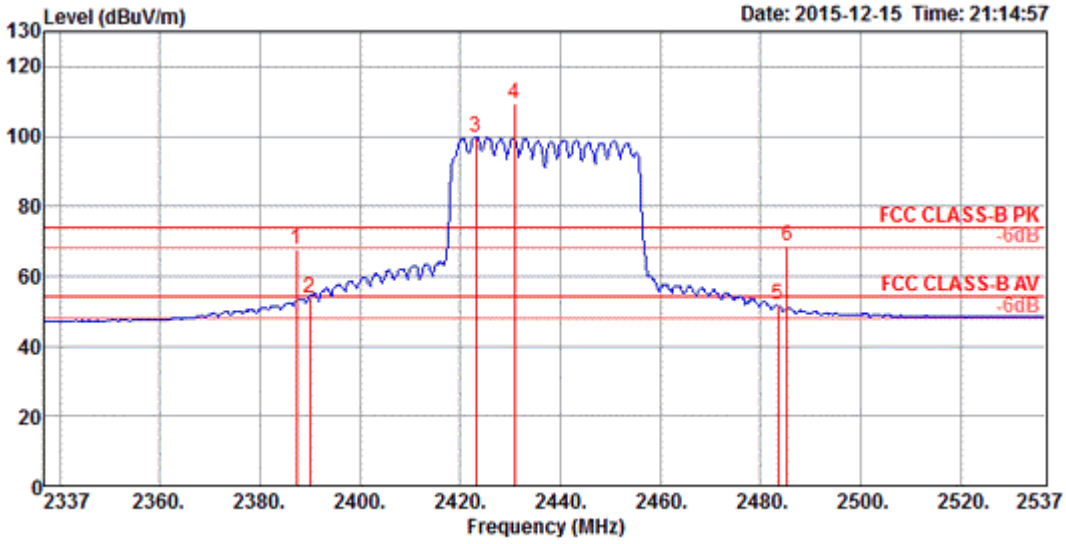


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2388.03	53.91	54.00	-0.09	21.63	5.23	0.00	27.05	VERTICAL	1	198	Average
2	2388.67	65.26	74.00	-8.74	32.98	5.23	0.00	27.05	VERTICAL	1	198	Peak
3	2421.04	105.93			73.53	5.27	0.00	27.13	VERTICAL	1	198	Peak
4	2425.53	96.93			64.51	5.28	0.00	27.14	VERTICAL	1	198	Average

Item 3, 4 are the fundamental frequency at 2422 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 6

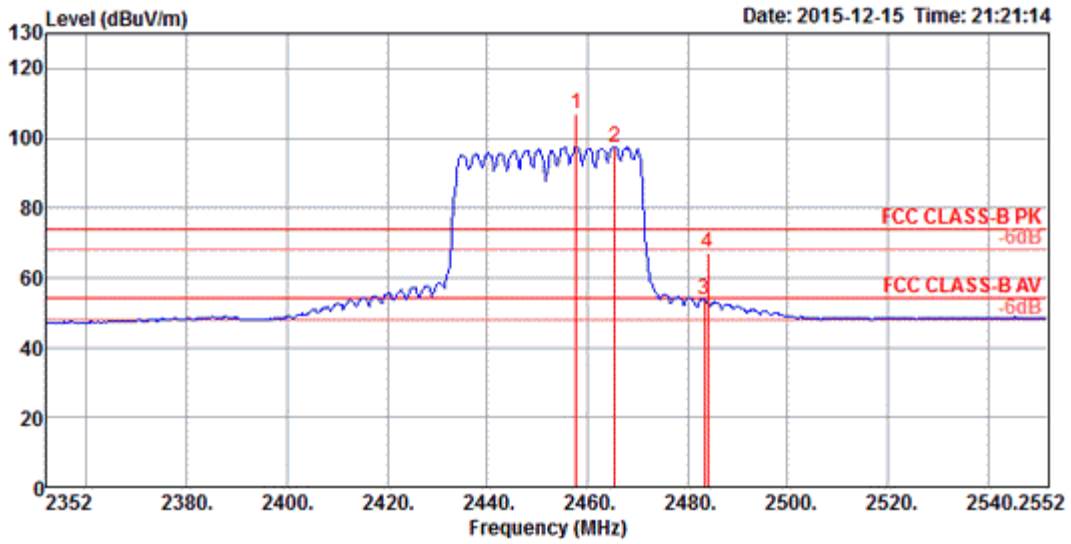


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2387.32	67.66	74.00	-6.34	35.38	5.23	0.00	27.05	VERTICAL	359	202	Peak
2	2390.00	53.80	54.00	-0.20	21.52	5.23	0.00	27.05	VERTICAL	359	202	Average
3	2423.22	99.87			67.47	5.27	0.00	27.13	VERTICAL	359	202	Average
4	2430.91	109.56			77.14	5.28	0.00	27.14	VERTICAL	359	202	Peak
5	2483.50	51.65	54.00	-2.35	19.05	5.33	0.00	27.27	VERTICAL	359	202	Average
6	2485.40	68.64	74.00	-5.36	36.04	5.33	0.00	27.27	VERTICAL	359	202	Peak

Item 3, 4 are the fundamental frequency at 2437 MHz.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

Channel 9



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	2457.77	107.07			74.56	5.30	0.00	27.21	VERTICAL	28	199	Peak
2	2465.46	97.57			65.04	5.31	0.00	27.22	VERTICAL	28	199	Average
3	2483.50	53.65	54.00	-0.35	21.05	5.33	0.00	27.27	VERTICAL	28	199	Average
4	2484.05	67.25	74.00	-6.75	34.65	5.33	0.00	27.27	VERTICAL	28	199	Peak

Item 1, 2 are the fundamental frequency at 2452 MHz.

Note:

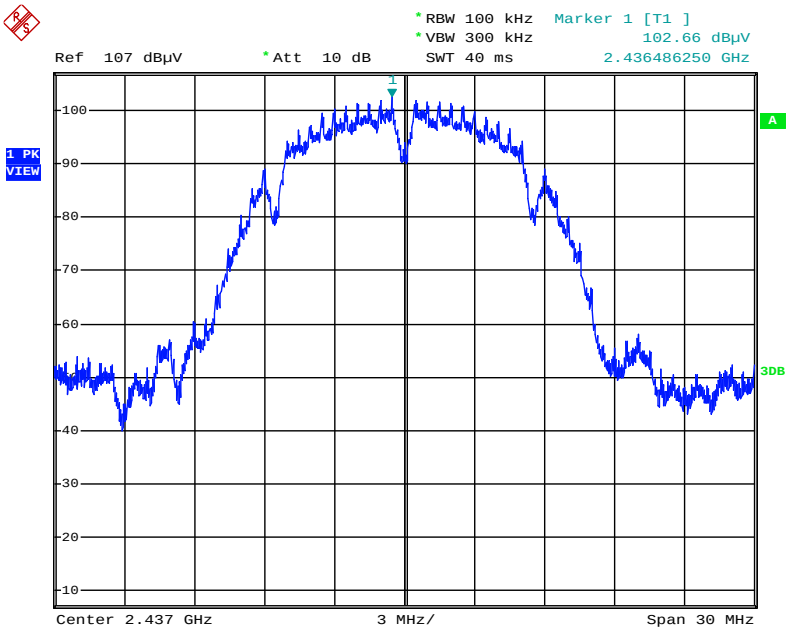
Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note: Both antenna polarizations have been evaluated and only the worst case was tested and recorded in test report.

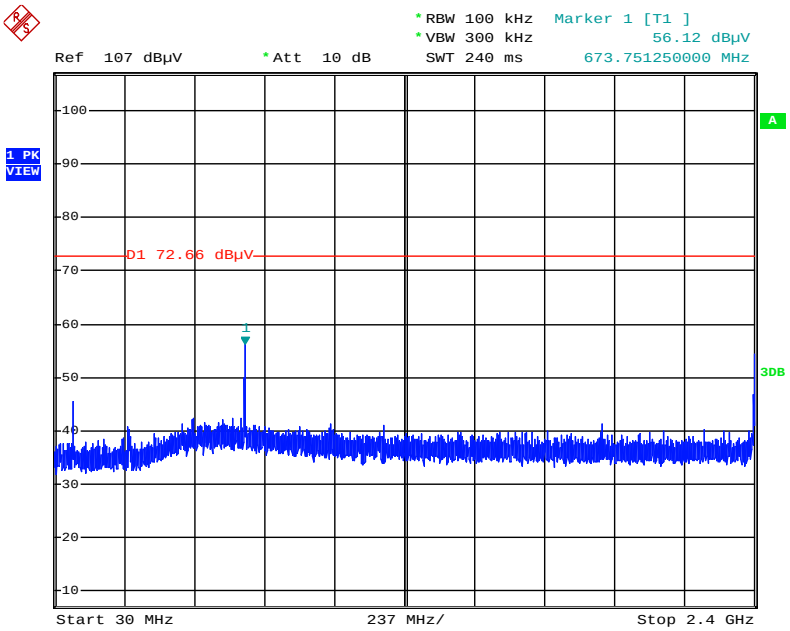
For Emission not in Restricted Band

Plot on Configuration IEEE 802.11b / Reference Level / Vertical



Date: 24.OCT.2015 02:34:33

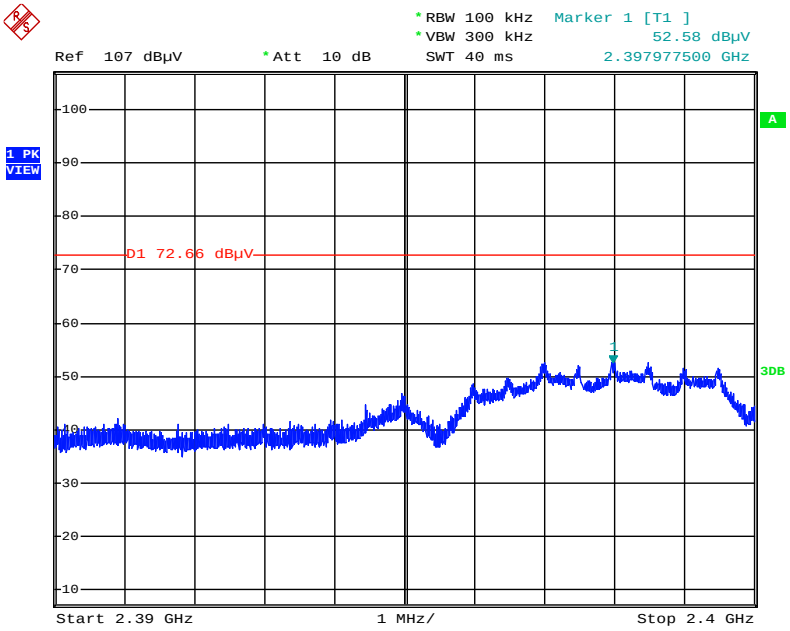
Plot on Configuration IEEE 802.11b / CH 1 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:45:32

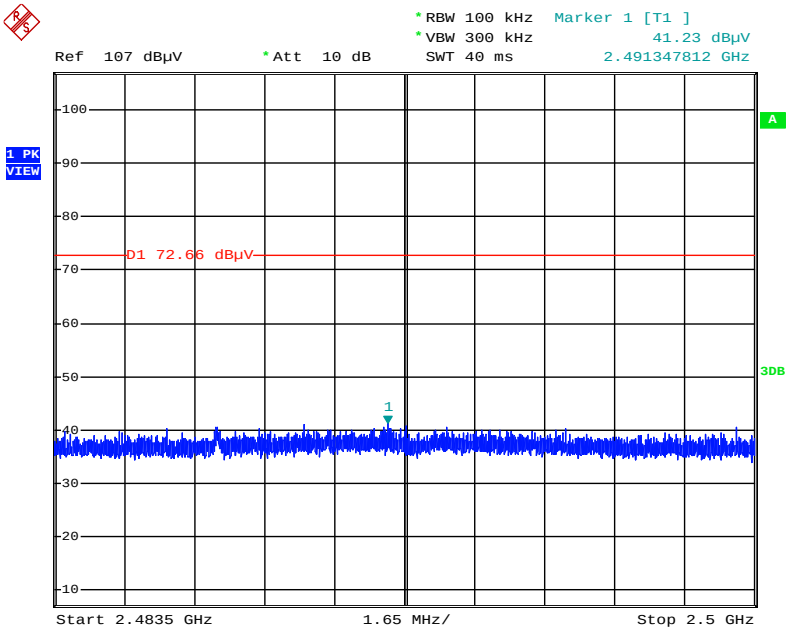
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11b / CH 1 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:21:45

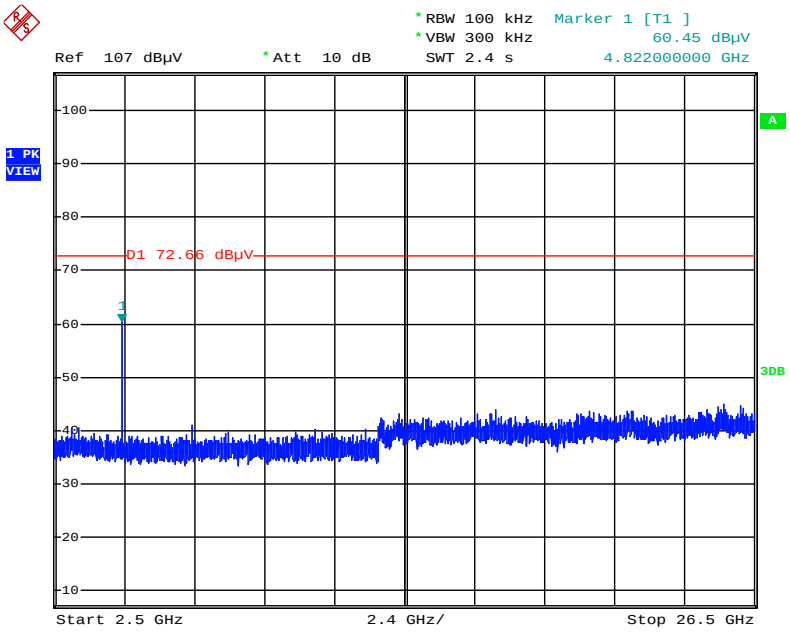
Plot on Configuration IEEE 802.11b / CH 1 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:22:46

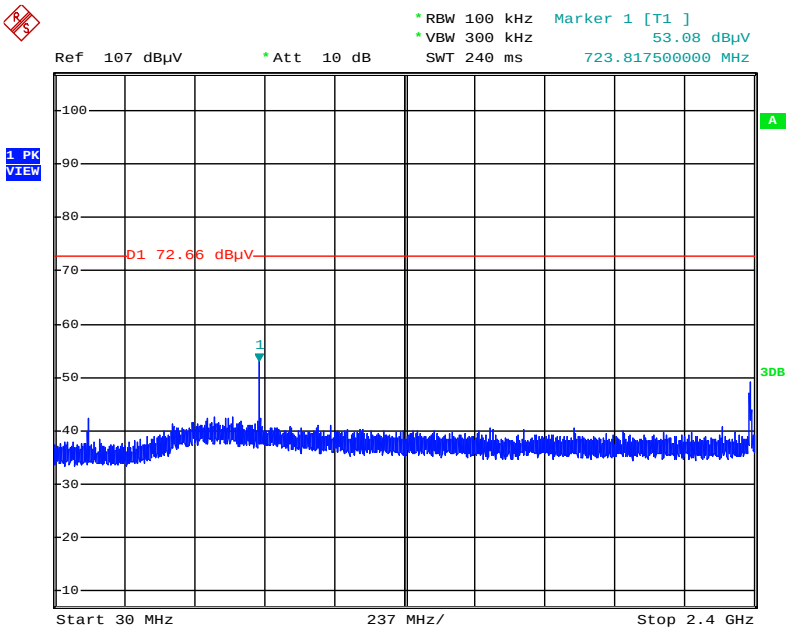
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11b / CH 1 / 2500MHz~26500MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:46:01

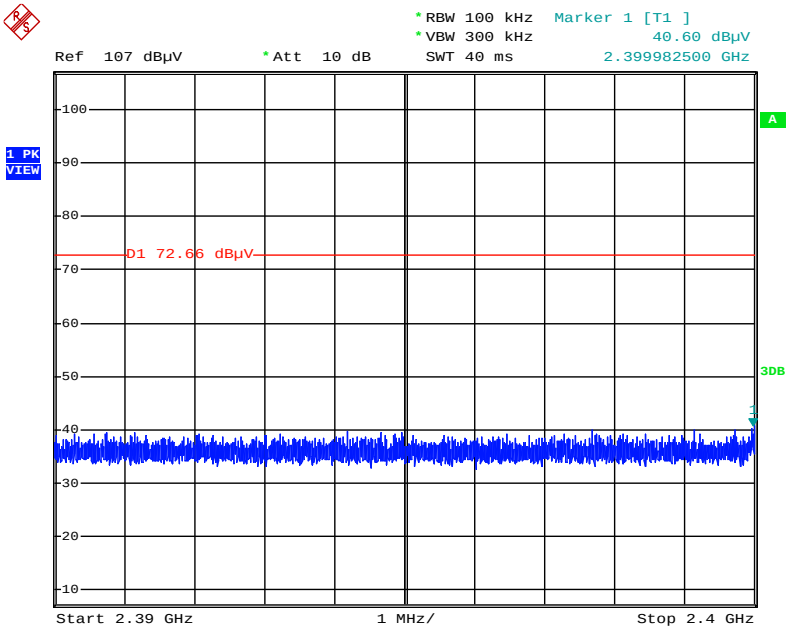
Plot on Configuration IEEE 802.11b / CH 11 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:45:11

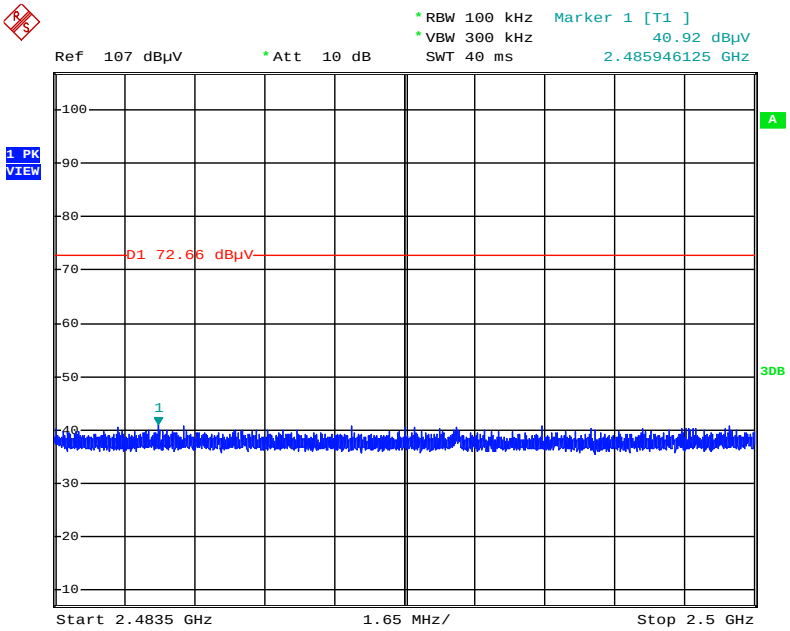
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11b / CH 11 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:24:01

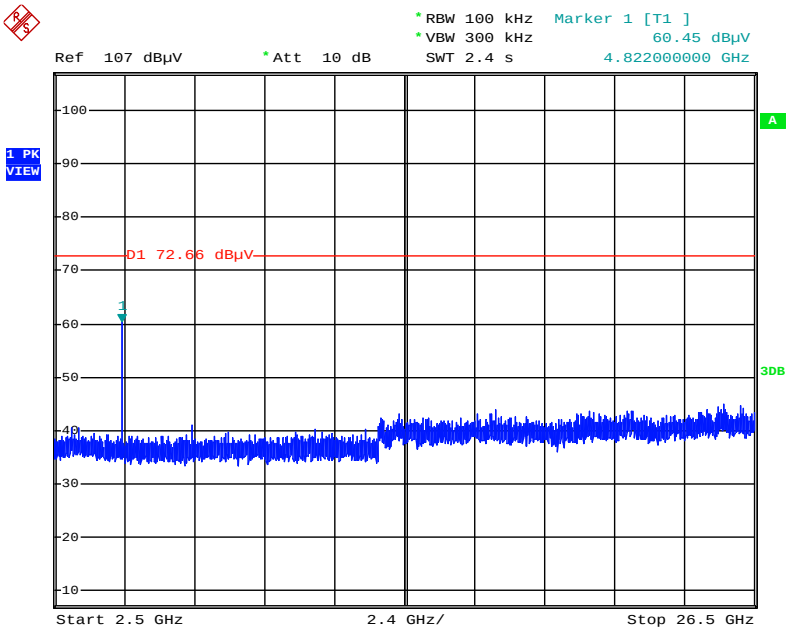
Plot on Configuration IEEE 802.11b / CH 11 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:26:16

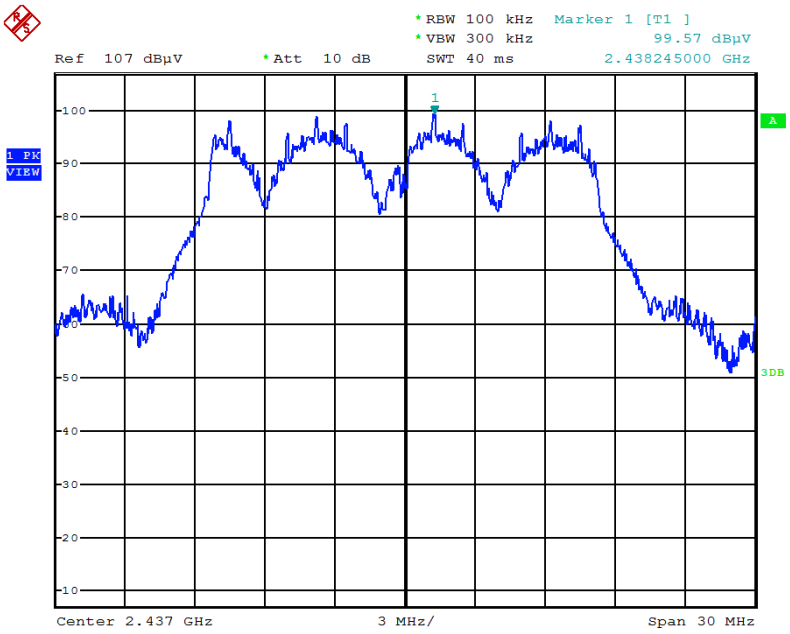
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11b / CH 11 / 2500MHz~26500MHz (down 30dBc) / Vertical



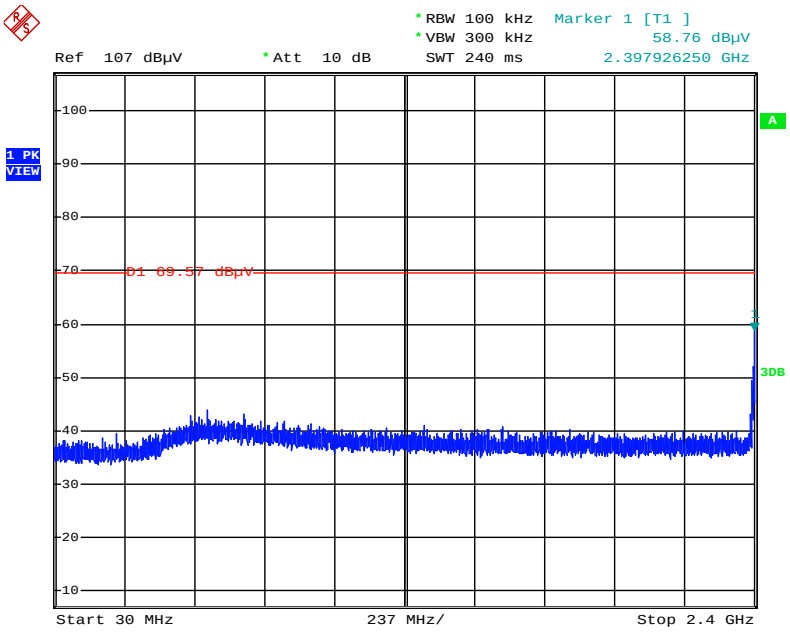
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11g / Reference Level / Vertical



Date: 24.OCT.2015 02:31:25

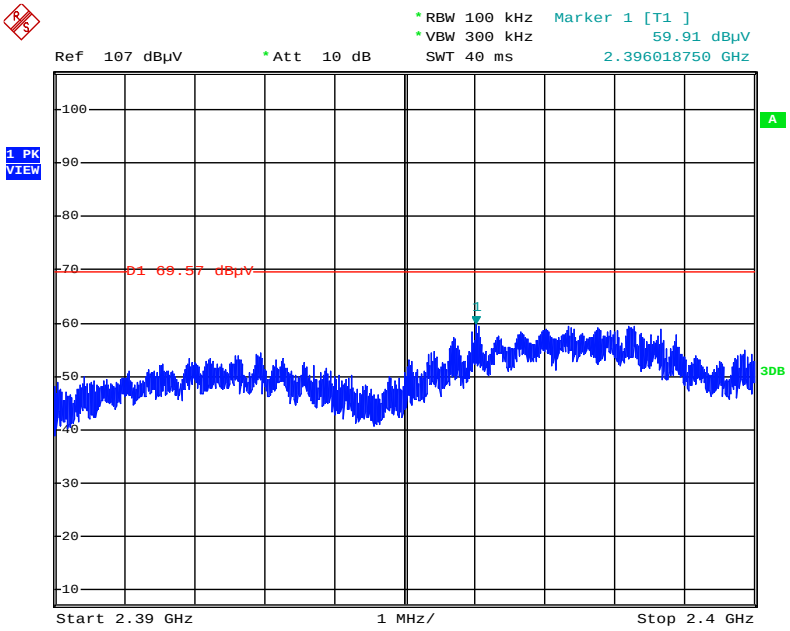
Plot on Configuration IEEE 802.11g / CH 1 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:32:27

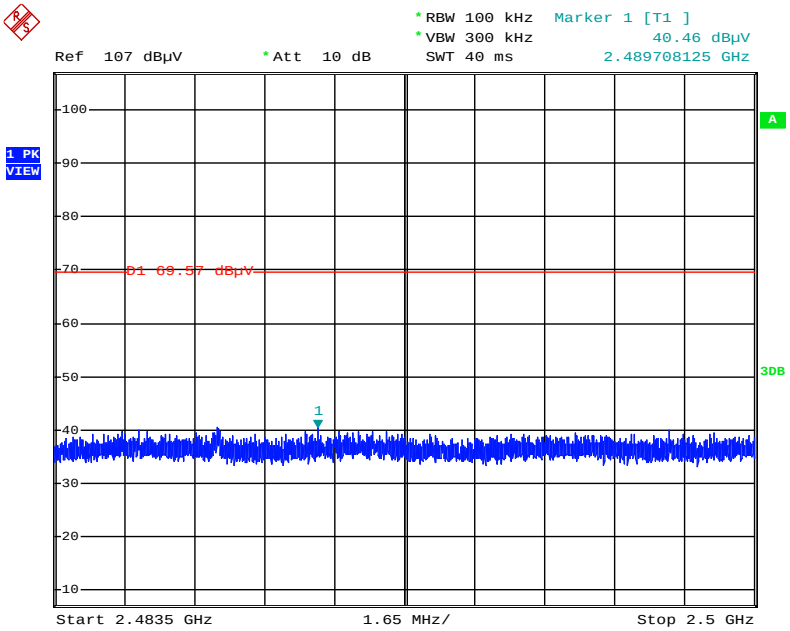
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11g / CH 1 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:27:28

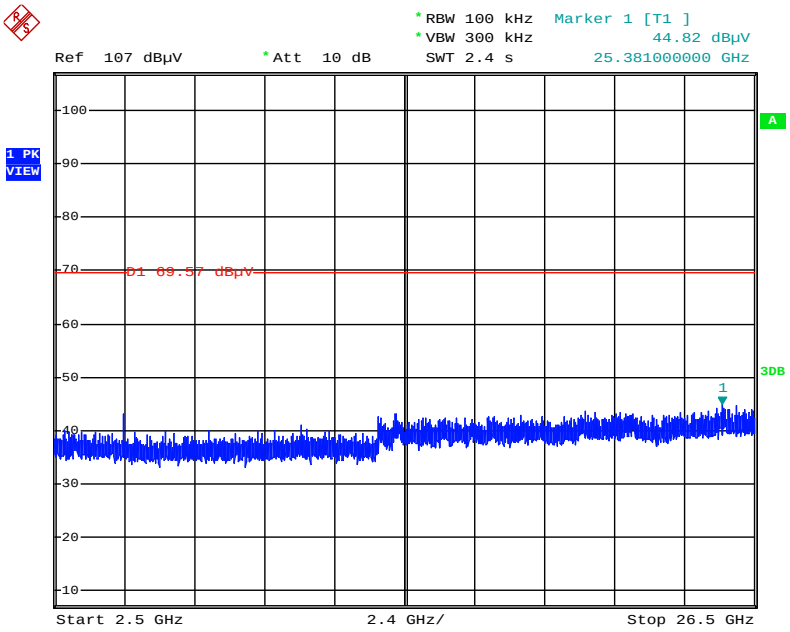
Plot on Configuration IEEE 802.11g / CH 1 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:27:59

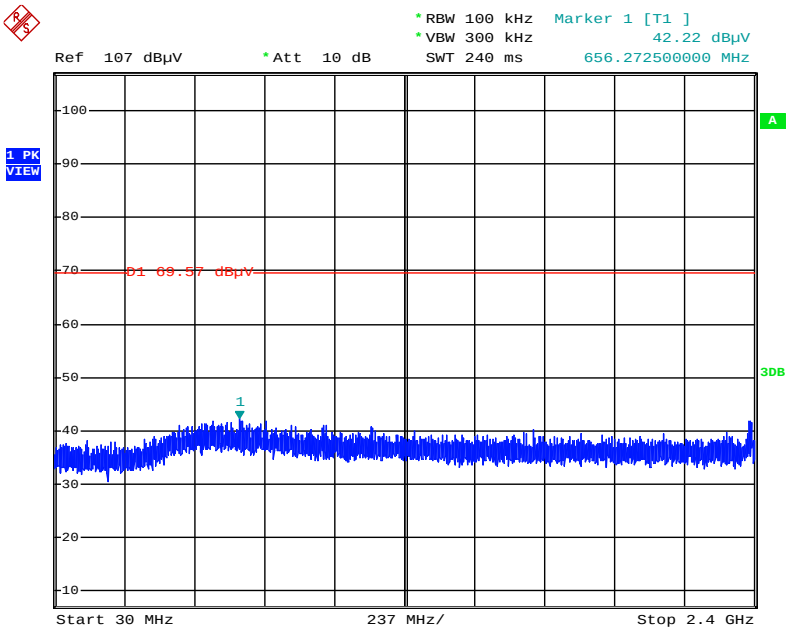
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11g / CH 1 / 2500MHz~26500MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:32:46

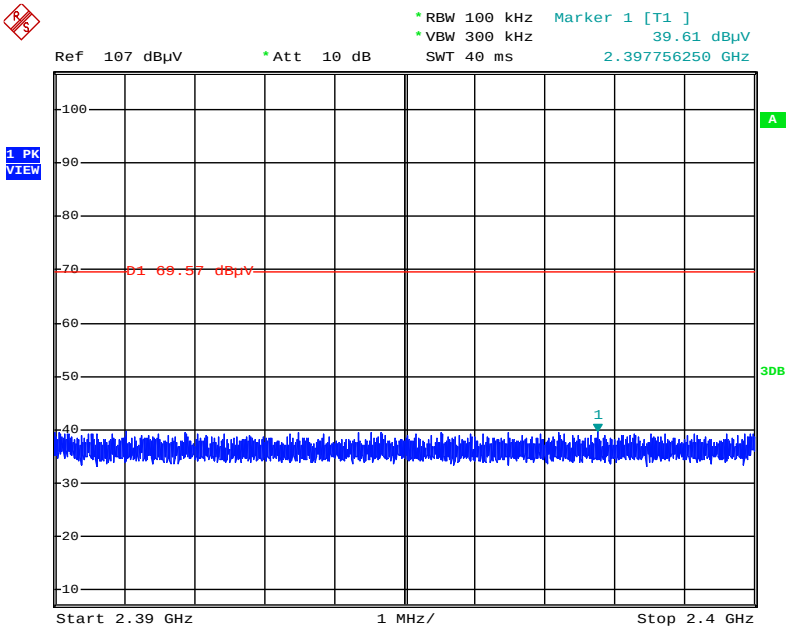
Plot on Configuration IEEE 802.11g / CH 11 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:33:28

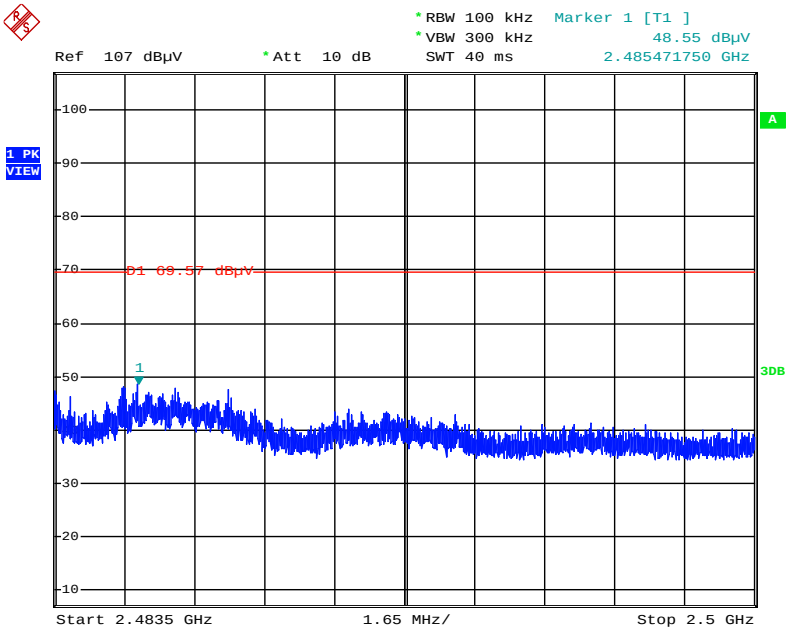
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11g / CH 11 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:29:37

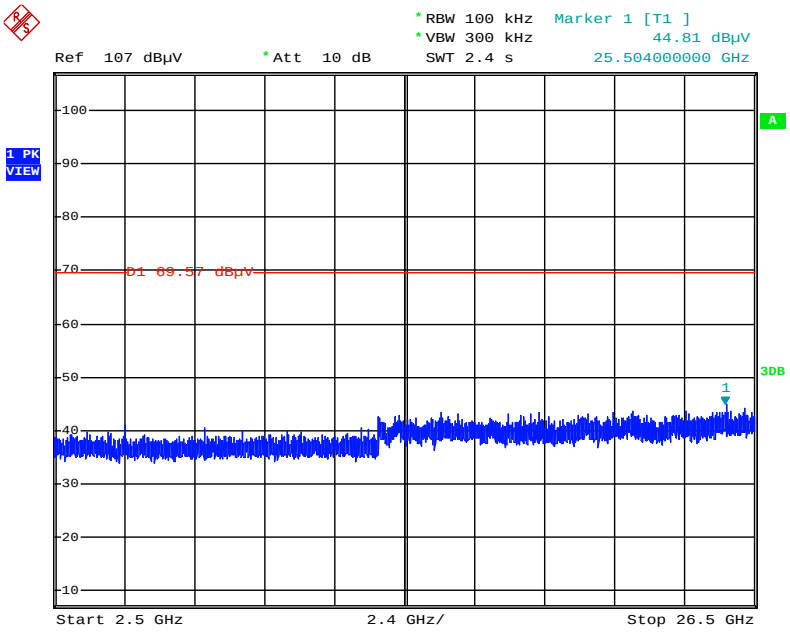
Plot on Configuration IEEE 802.11g / CH 11 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:29:04

Note: Only the worse polarization (Vertical) is tested and recorded in test report.

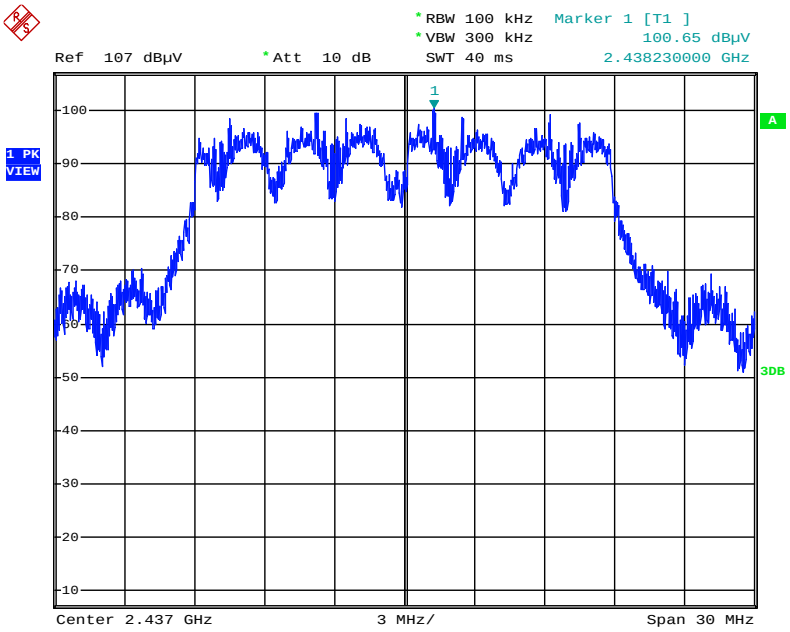
Plot on Configuration IEEE 802.11g / CH 11 / 2500MHz~26500MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:33:09

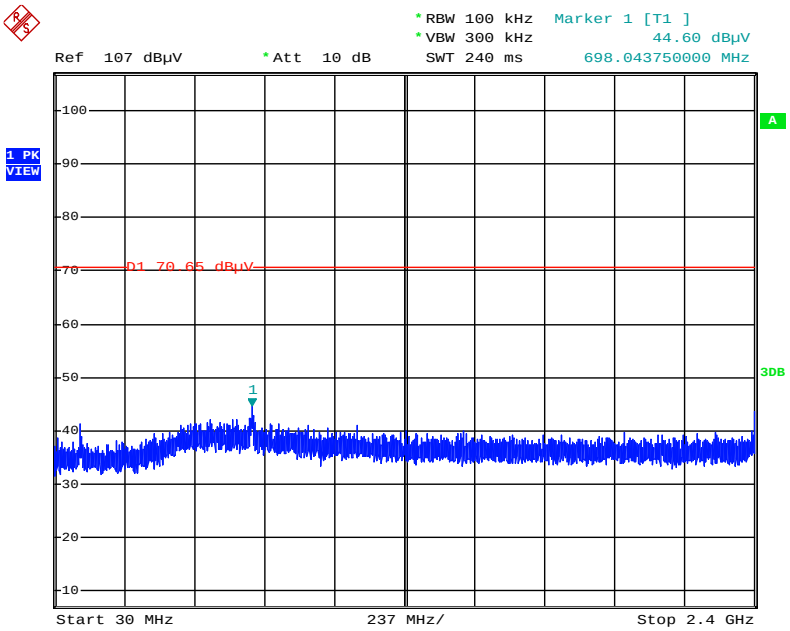
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Reference Level / Vertical



Date: 24.OCT.2015 02:19:02

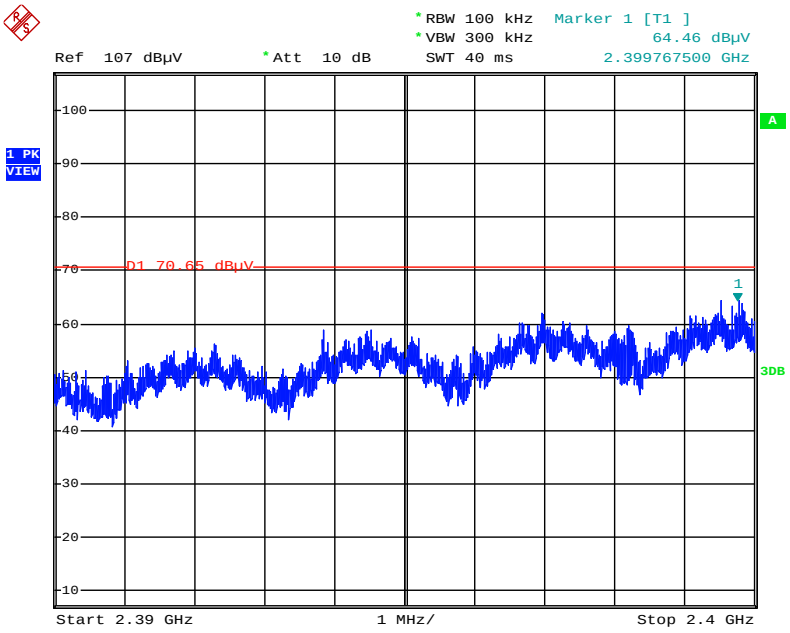
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:19:37

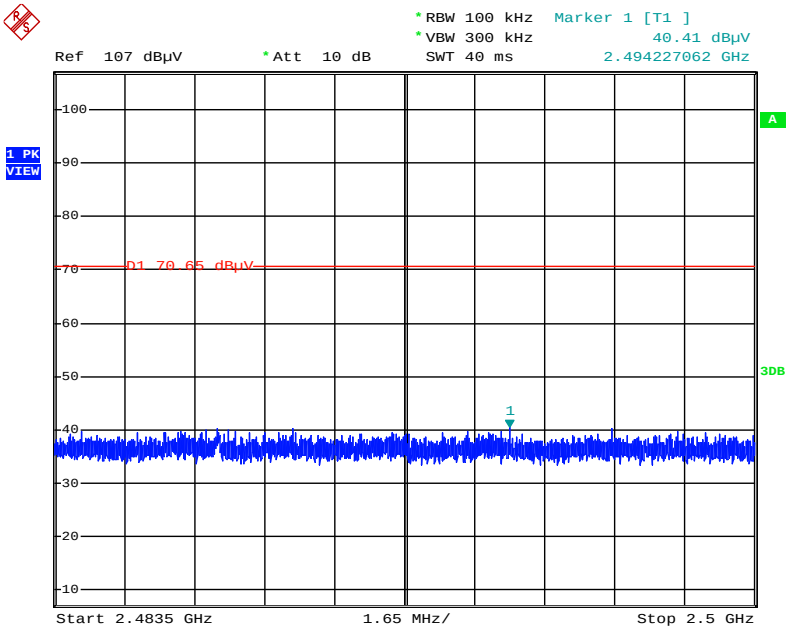
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:30:43

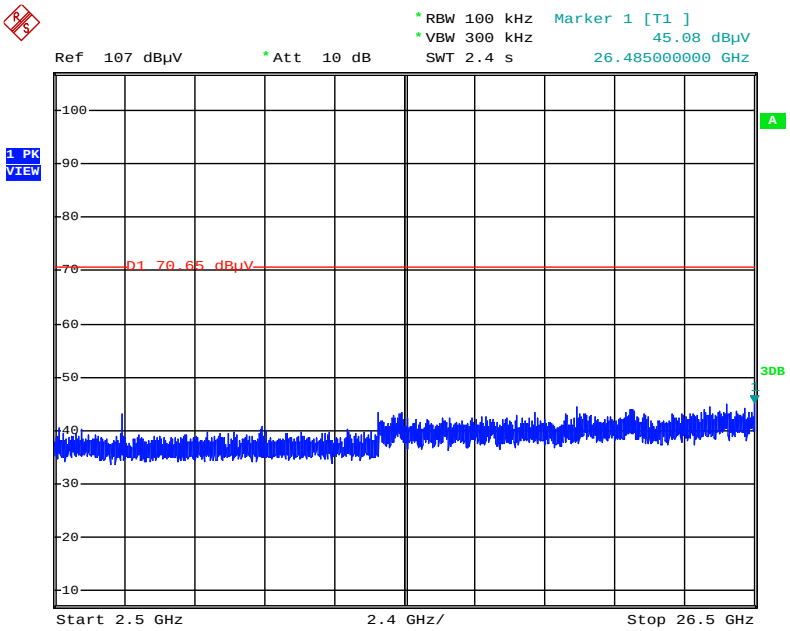
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:31:10

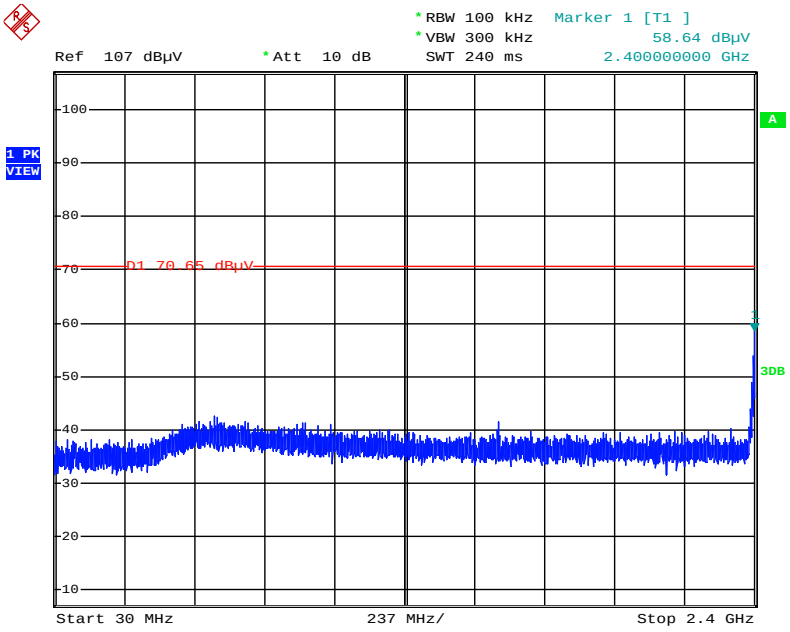
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 2500MHz~26500MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:20:25

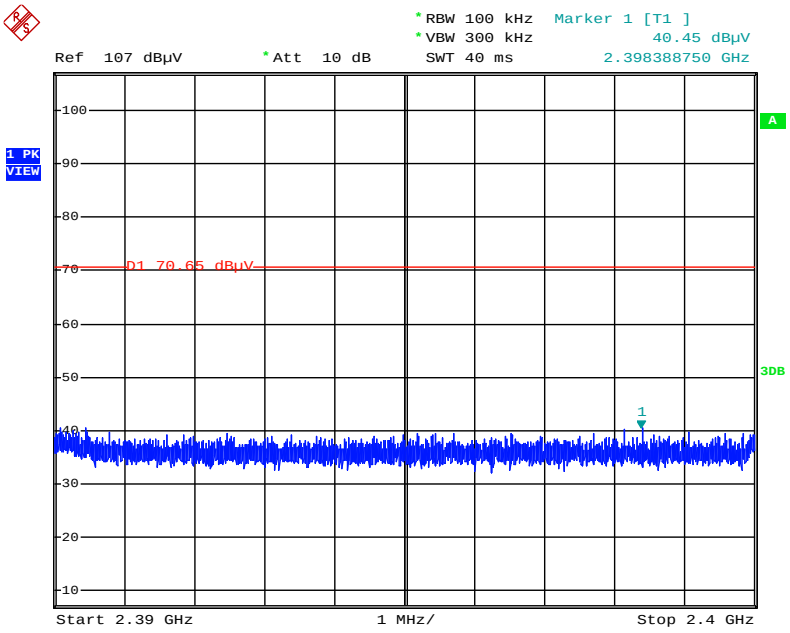
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 11 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:20:42

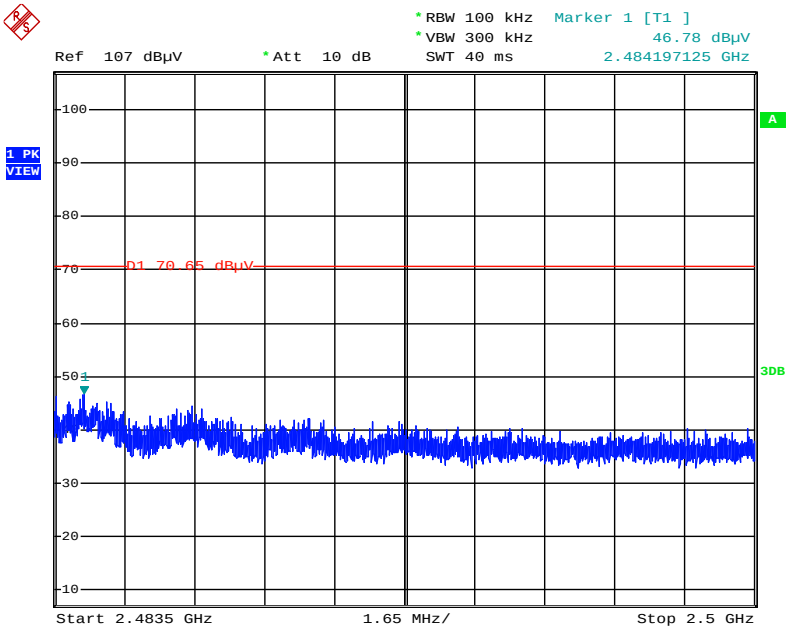
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 11 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:32:06

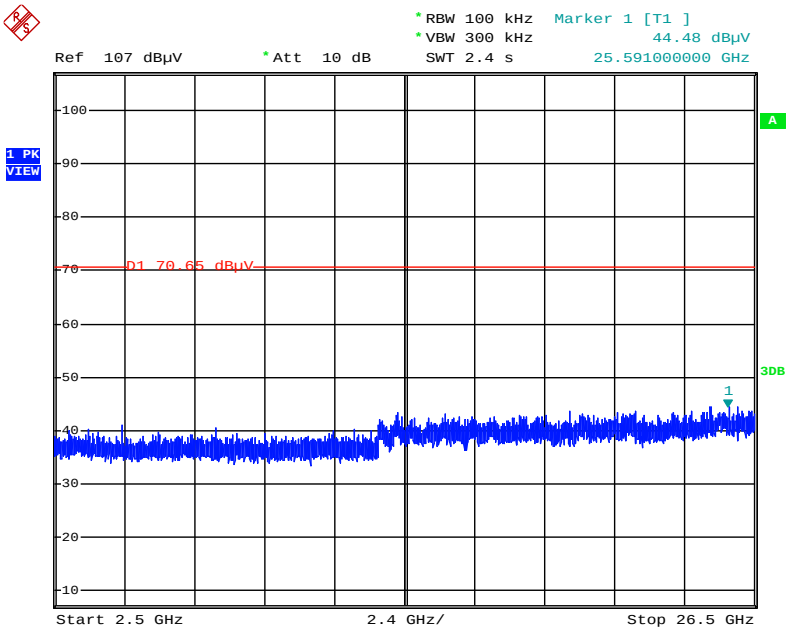
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 11 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:31:45

Note: Only the worse polarization (Vertical) is tested and recorded in test report.

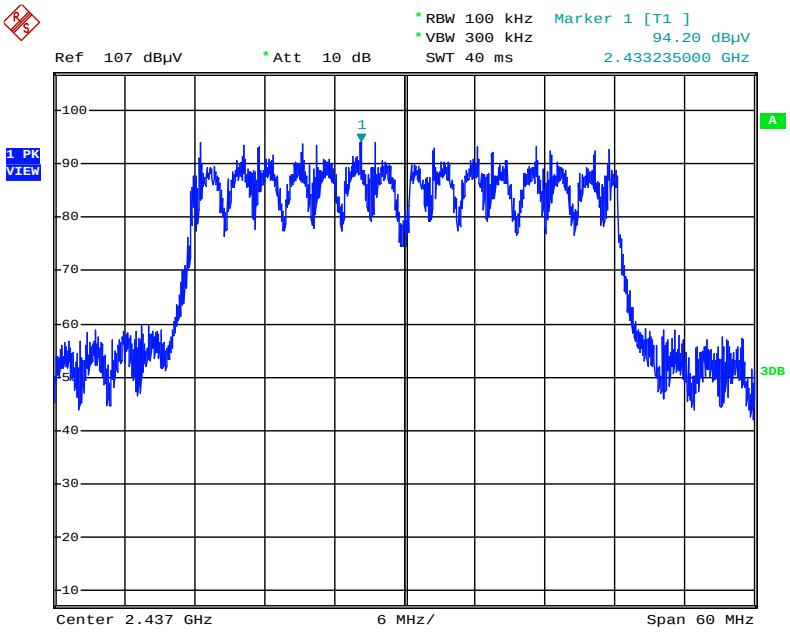
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 11 / 2500MHz~26500MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:21:20

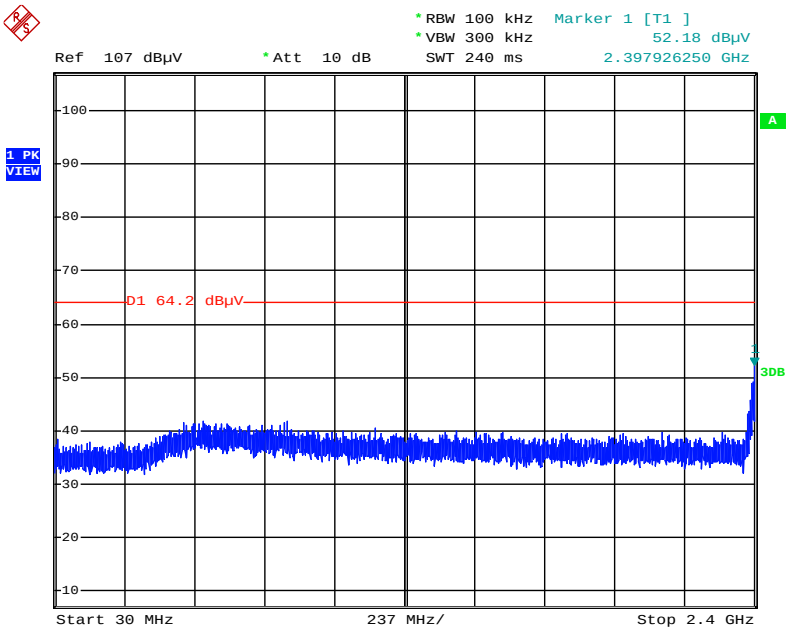
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Reference Level / Vertical



Date: 24.OCT.2015 02:15:02

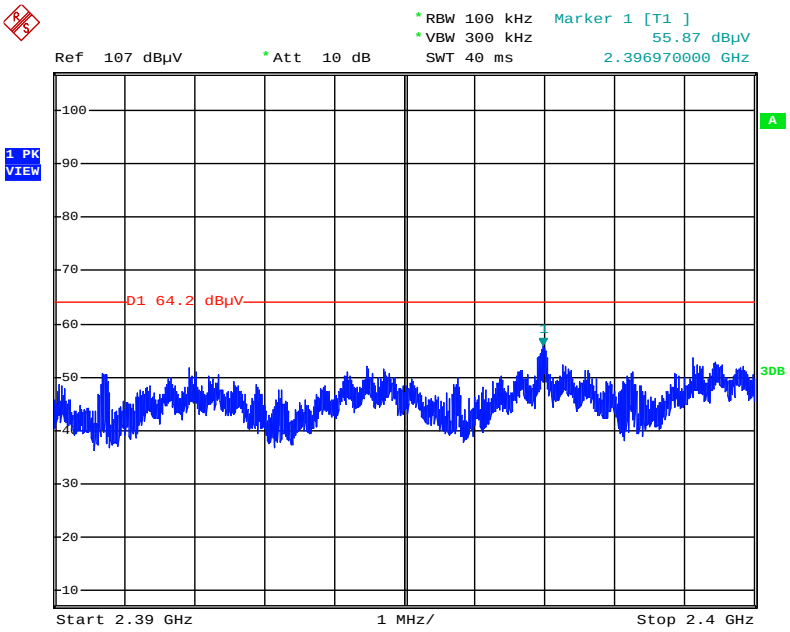
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:15:45

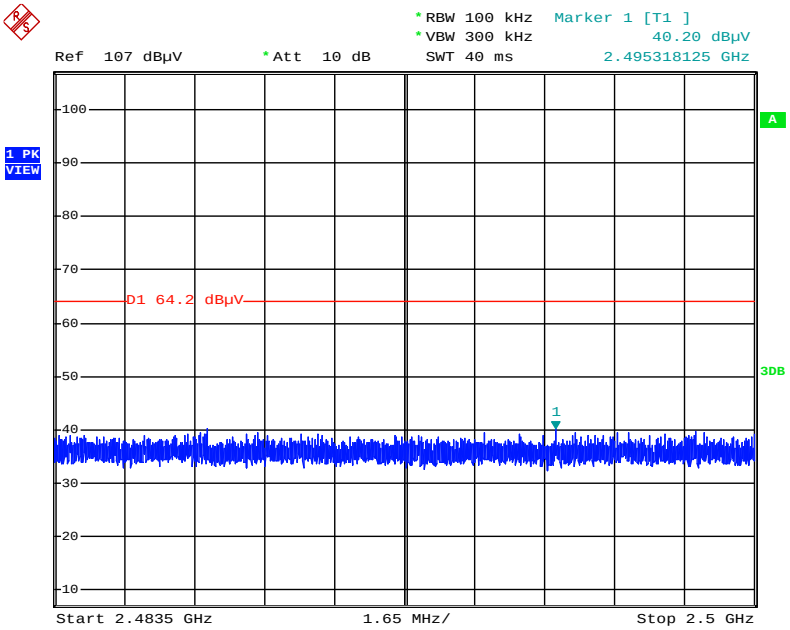
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:33:13

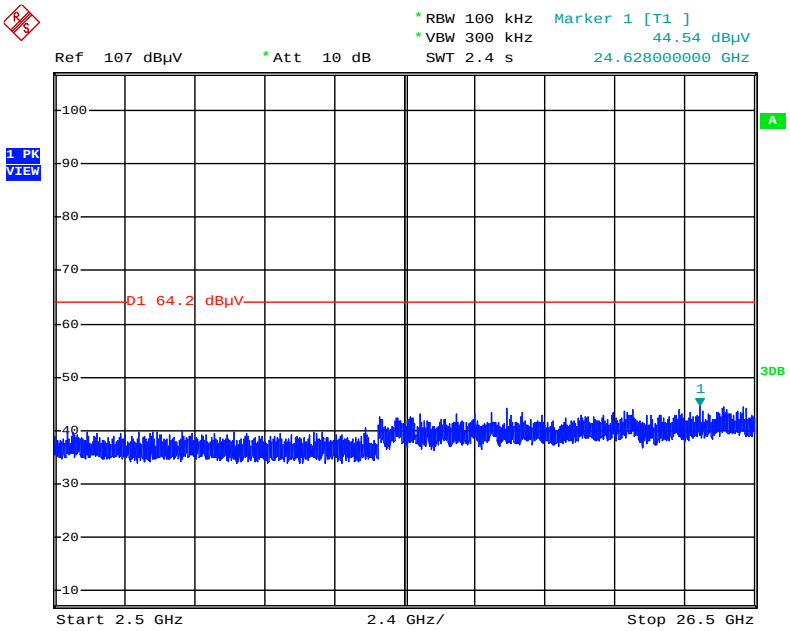
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:33:42

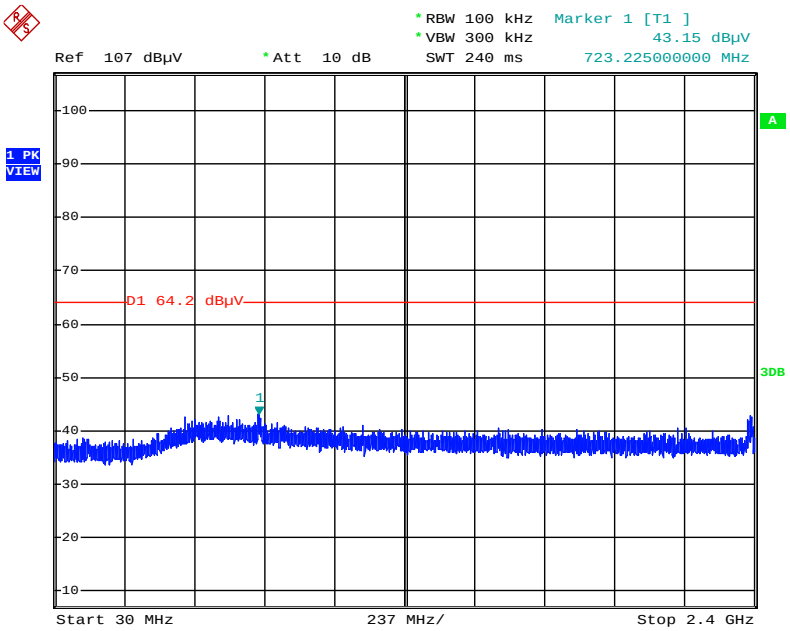
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 2500MHz~26500MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:16:30

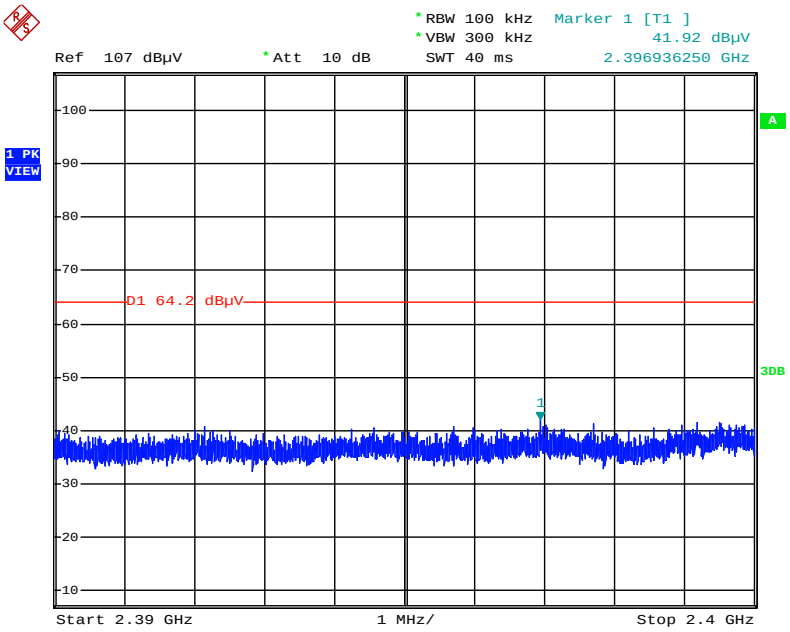
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 9 / 30MHz~2400MHz (down 30dBc) / Vertical



Date: 24.OCT.2015 02:41:53

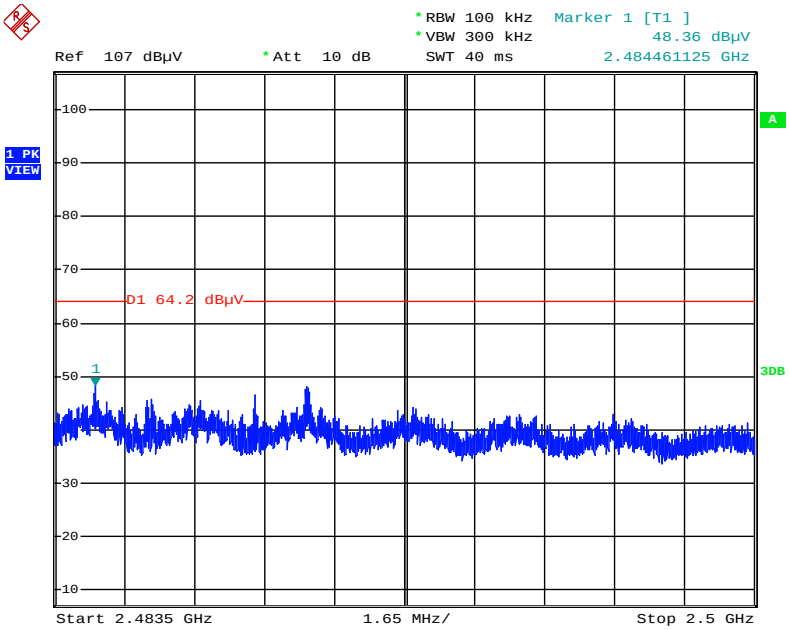
Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 9 / 2390MHz~2400MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:34:38

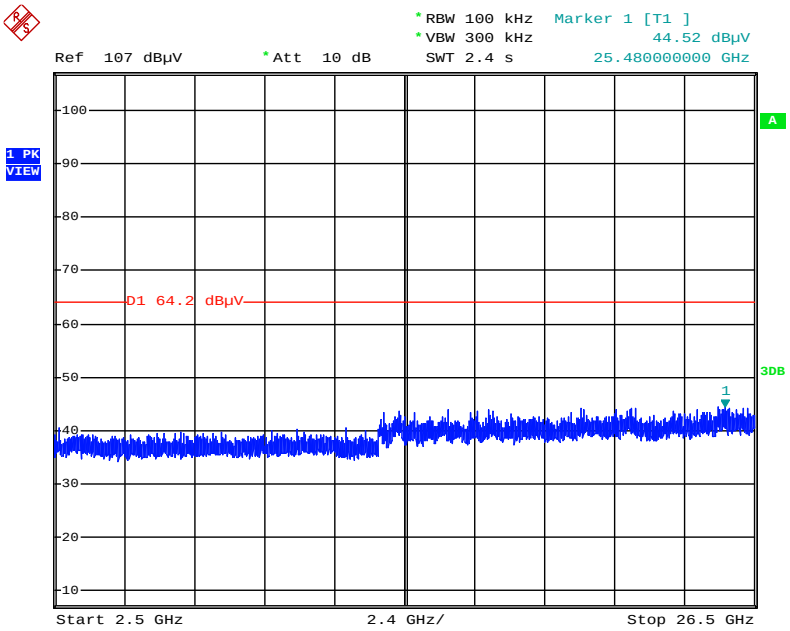
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 9 / 2483.5MHz~2500MHz (down 30dBc) / Vertical



Date: 13.NOV.2015 10:34:14

Note: Only the worse polarization (Vertical) is tested and recorded in test report.

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 9 / 2500MHz~26500MHz (down 30dBc) / Vertical



Note: Only the worse polarization (Vertical) is tested and recorded in test report.

4.7. Antenna Requirements

4.7.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

4.7.2. Antenna Connector Construction

Please refer to section 3.3 in this test report; antenna connector complied with the requirements.

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Test Receiver	R&S	ESCS 30	100355	9kHz ~ 2.75GHz	Apr. 22, 2015	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 02, 2014	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 16, 2015	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 25, 2015	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA	Schaffner	CBL6112D	37880	20MHz ~ 2GHz	Sep. 03, 2015	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 12, 2015*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 22, 2015	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2015	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Feb. 24, 2015	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 12, 2015	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Feb.10, 2015	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 06, 2014	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Oct. 27, 2015	Radiation (03CH01-CB)
EMI Receiver	Agilent	N9038A	MY52260123	9kHz ~ 8.4GHz	Jan. 21, 2015	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
Test Software	Audix	E3	6.2009-I0-7	N/A	N/A	Radiation (03CH01-CB)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 12, 2014	Conducted (TH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 09, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 03, 2014	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 02, 2015	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410002	50MHz~18GHz	Nov. 03, 2014	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410002	50MHz~18GHz	Nov. 02, 2015	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

"*" Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.

6. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%