SGS-CSTC Standards Technical Services Ltd.

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FCC REPORT

Application No.:	SZEM1106001589RF
Applicant:	Philips Consumer Lifestyle
Product Name:	2.4 Wifi DVD PLAYER
Operation Frequency:	2412MHz to 2462MHz
FCC ID:	BOUBDP3406
Standards:	FCC CFR Title 47 Part 15 Subpart C
Date of Receipt:	2011-06-27
Date of Test:	2011-06-28 to 2011-08-09
Date of Issue:	2011-08-15
Test Result :	**PASS ***

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Jack Zhang
EMC Laboratory Manager

This report refers to the General Conditions for Inspection and Testing Services, printed overleaf
This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the SGS PRODUCT CERTIFICATION MARK.. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

2 Contents

3 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	15.207	Pass
Conducted Peak Output Power	15.247 (b)(3)	Pass
6dB Occupied Bandwidth	15.247 (a)(2)	Pass
Power Spectral Density	15.247 (e)	Pass
Radiated Emission	15.205/15.209	Pass
Band Edge	15.247(d)	Pass

Remark: Pass: The EUT complies with the essential requirements in the standard.

Fail: The EUT does not comply with the essential requirements in the standard.

4 General Information

4.1 Client Information

Applicant:	Philips Consumer Lifestyle
Address of Applicant:	3029 East Governor John Sevier Hwy. Knoxville, Tennessee37914, United States
Manufacturer:	Philips Electronics Hong Kong Ltd.
Address of Manufacturer:	5/F., Philips Electronics Building 5 Science Park East Avenue, Hong Kong Science Park, Shatin, New Territories, Hong Kong
Factory:	1.ACTION ASIA(SHENZHEN)CO LTD 2.Philips Ltd. Assembly Centre Hungary 3.Dixon Technologies(India) Pvt.Ltd. 4.PHILIPS DO BRASIL LTDA CNPJ: 61.086.336/0018-51 5.Fabrica Austral de Productos Electricos Sociedad Anonima (FAPESA) 6.Action Industries (M) Sdn Bhd (Company No : 166780-H)
Address of Factory:	1.Dede Industrial Park Jianan Rd, FuyongHI- tech Park, Fuyong Town, Bao'an District, Shenzhen, China 2.Szekesfehervar, Holland fasor 6, H-8000 Hungary 3.Khasra No.1050, Central Hope Town, Industrial Area, Selaqui-248197, Dehradun(Uttarakhand) India 4. AV. TORQUATO TAPAJÓS, 2236, BAIRRO: FLORES, CEP: 69058-830, MANAUS – AM – BRAZIL 5. Islas Malvinas 1180 , Río Grande 9420, Provincia de Tierra del Fuego, Argentina 6.2480 Tingkat Perusahaan Enam, Prai Free Trade Zone, 13600 Perai, Penang, Malaysia

4.2 General Description of E.U.T.

Product Name:	2.4 Wifi DVD PLAYER
Model No.:	BDP3406
Operation Frequency:	2412MHz~2462MHz
Type of modulation:	IEEE for 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE for 802.11g : OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20 and HT40): OFDM (64QAM, 16QAM, QPSK,BPSK)
Channel Number:	IEEE 802.11b/g, IEEE 802.11n HT20:11 Channels IEEE 802.11n HT40: 7 Channels
Test power grade:	ATETXPOW0=13, ATETXPOW1=13 (manufacturer declare)
Test software of EUT:	MTK tool (manufacturer declare)
Antenna Type:	Integral
Antenna gain:	0dBi
Power supply:	110-127V~ 50Hz-60Hz 18W

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channels for testing see below:

802.11b/g/n(HT20)

Channel	Frequency
lowest channel	2412MHz
middle channel	2437MHz
highest channel	2462MHz

802.11n(HT40)

Channel	Frequency
lowest channel	2422MHz
middle channel	2437MHz
highest channel	2452MHz

4.3 Test environment and mode

Test Environment:	
Temperature:	24.0 °C
Humidity:	51 % RH
Atmospheric Pressure:	1004mbar
Test mode:	
Wi-Fi mode:	Keep the EUT exchanging data with HDMI output or AV output under Wi-Fi mode.
Transmitter mode:	Keep the EUT in continuously transmitting mode.

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Pre-scan under all rate at lowest channel 1

Mode	802.11b				
Data Rate	1Mbps	2Mbps	5.5Mbps	11Mbps	
EIRP(dBm)	22.95	22.62	21.81	21.57	

Mode	802.11g							
Data Rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
EIRP(dBm)	20.65	20.07	19.64	19.23	18.76	18.13	17.89	17.37

Mode	802.11n(HT20)							
Data Rate	6.5Mbps	13Mbps	19.5Mbps	26Mbps	39Mbps	52Mbps	58.5Mbps	65Mbps
EIRP(dBm)	20.35	20.01	19.47	19.31	18.72	18.45	17.88	17.43

Mode	802.11n(HT40)							
Data Rate	13Mbps	26Mbps	39Mbps	52Mbps	78Mbps	104Mbps	117Mbps	130Mbps
EIRP(dBm)	17.07	16.58	16.20	15.68	15.11	14.93	14.68	14.25

Through Pre-scan, 1Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g ; 6.5Mbps of rate is the worst case of 802.11n(HT20) ; 13.5Mbps of rate is the worst case of 802.11n(HT40) ;

4.4 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.
Television	Samsung	2232MW

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L2929)**
  CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.
- **VCCI**
  The 3m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197 and C-2383 respectively.
  Date of Registration: September 29, 2008. Valid until September 28, 2011.
- **FCC – Registration No.: 556682**
  SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 556682, March 16, 2011
- **Industry Canada (IC)**
  The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1.

4.6 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

4.7 Other Information Requested by the Customer

None.

4.8 Test Instruments list

RE in Chamber						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (yyyy-mm-dd)**	**Cal.Due date (yyyy-mm-dd)**
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2011-06-10	2012-06-10
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	2011-05-26	2012-05-26
3	EMI Test software	AUDIX	E3	SEL0050	N/A	N/A
4	Coaxial cable	SGS	N/A	SEL0028	2011-05-29	2012-05-29
5	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2010-11-09	2011-11-09
6	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0006	2010-11-09	2011-11-09
7	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	2010-11-09	2011-11-09
8	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2011-05-26	2012-05-26
9	Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEL0168	2010-10-27	2011-10-27
11	Band filter	Amindeon	82346	SEL0094	2011-05-26	2012-05-26

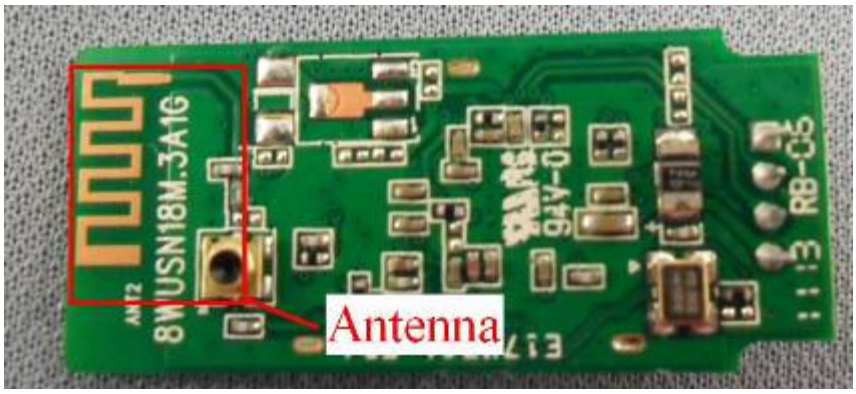
Conducted Emission						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (yyyy-mm-dd)**	**Cal.Due date (yyyy-mm-dd)**
1	Shielding Room	ZhongYu Electron	GB-88	SEL0042	2011-06-10	2012-06-10
2	LISN	ETS-LINDGREN	3816/2	SEL0021	2011-05-26	2012-05-26
3	Two-Line V-Network	Rohde & Schwarz	ENV216	SEL0152	2010-10-27	2011-10-27
4	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	2011-05-26	2012-05-26
5	Coaxial Cable	SGS	N/A	SEL0024	2011-05-29	2012-05-29

RF conducted						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (yyyy-mm-dd)**	**Cal.Due date (yyyy-mm-dd)**
1	Spectrum Analyzer	Rohde & Schwarz	FSP 30	SEL0154	2010-10-27	2011-10-27
2	Coaxial cable	SGS	N/A	SEL0028	2011-05-29	2012-05-29

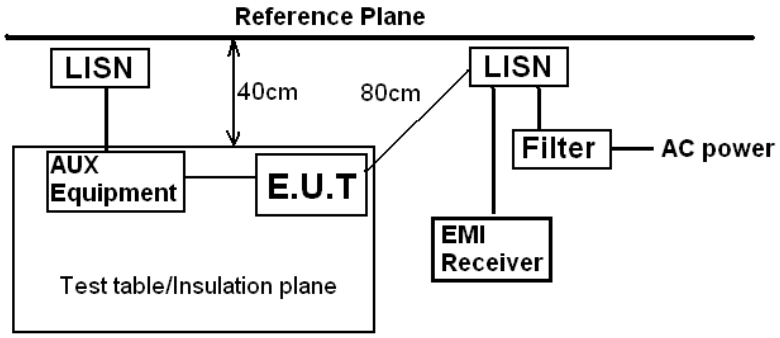
General used equipment						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (yyyy-mm-dd)**	**Cal.Due date (yyyy-mm-dd)**
1	Humidity/ Temperature Indicator	Shanghai	ZJ1-2B	SEL0102 to SEL0103	2010-11-04	2011-11-04
2	Humidity/ Temperature Indicator	Shanghai	ZJ1-2B	SEL0101	2011-03-10	2012-03-10
3	Barometer	ChangChun	DYM3	SEL0088	2011-05-18	2012-05-18

5 Test results and Measurement Data

5.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
15.203 requirement: *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, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.* 15.247(c) (1)(i) requirement: *(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.*	
E.U.T Antenna:	
The antenna is integrated on the main PCB and no consideration of replacement . The best case gain of the antenna is 0dBi.	

5.2 Conducted Emissions

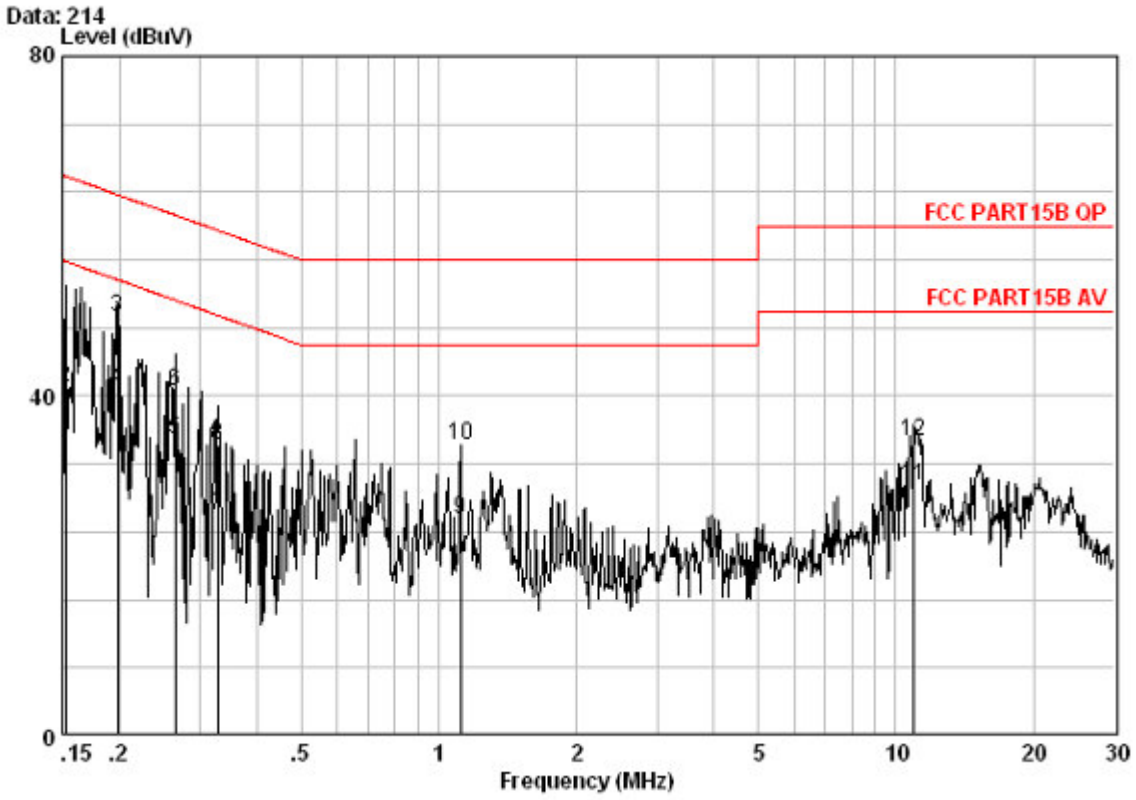
Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10: 2009
Test Frequency Range:	150KHz to 30MHz
Class / Severity:	Class B
Receiver setup:	RBW=9kHz, VBW=30kHz
Limit:	Frequency range (MHz) / Limit (dBuV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 5-30: 60 / 50 * Decreases with the logarithm of the frequency.
Test procedure	The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2009 on conducted measurement.
Test setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*
Test Instruments:	Refer to section 4.8 for details
Test mode:	Wi-Fi mode
Test results:	Pass

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live Line:



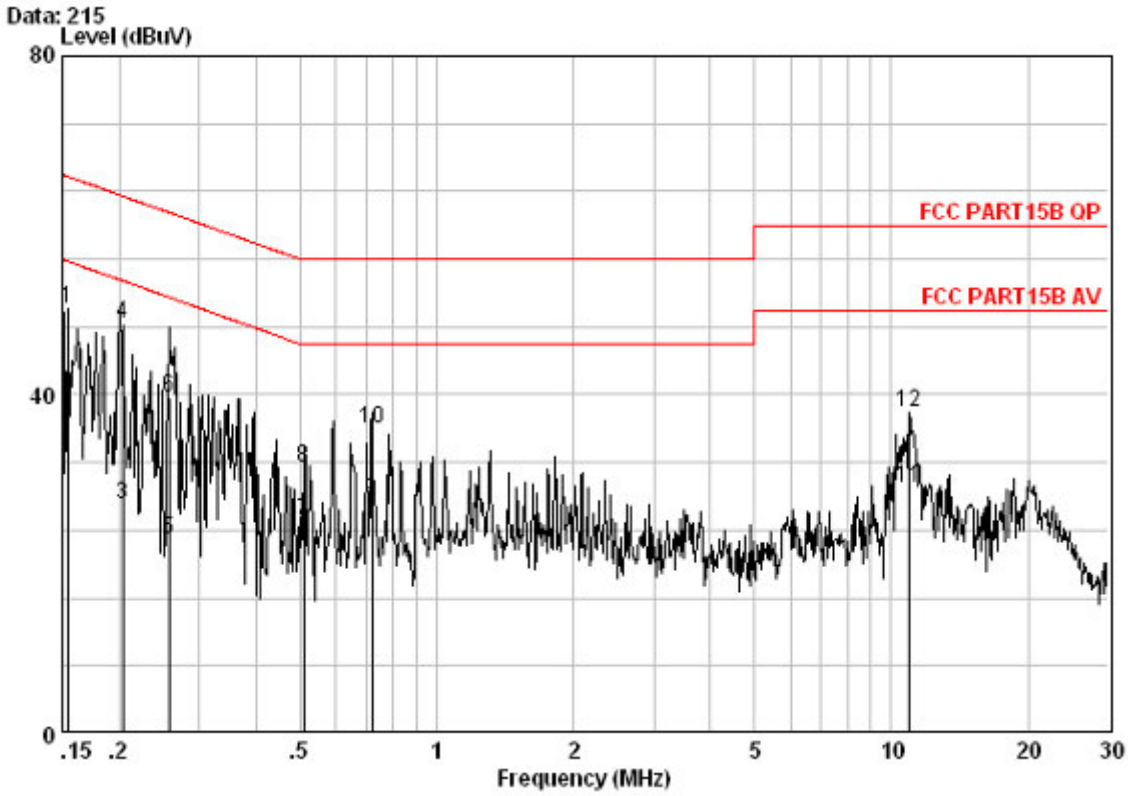
		Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
		MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1		0.15240	0.04	9.60	35.86	45.50	65.87	-20.37	QP
2		0.15240	0.04	9.60	31.24	40.88	55.87	-14.99	Average
3		0.19800	0.04	9.60	39.60	49.24	63.69	-14.45	QP
4	@	0.19800	0.04	9.60	31.10	40.74	53.69	-12.95	Average
5		0.26442	0.05	9.60	25.15	34.80	51.29	-16.49	Average
6		0.26442	0.05	9.60	30.97	40.62	61.29	-20.68	QP
7		0.32858	0.05	9.60	16.22	25.87	49.49	-23.62	Average
8		0.32858	0.05	9.60	24.55	34.20	59.49	-25.28	QP
9		1.117	0.09	9.70	15.69	25.47	46.00	-20.53	Average
10		1.117	0.09	9.70	24.44	34.22	56.00	-21.78	QP
11		10.963	0.23	9.84	19.38	29.45	50.00	-20.55	Average
12		10.963	0.23	9.84	24.56	34.63	60.00	-25.37	QP

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

Neutral Line:



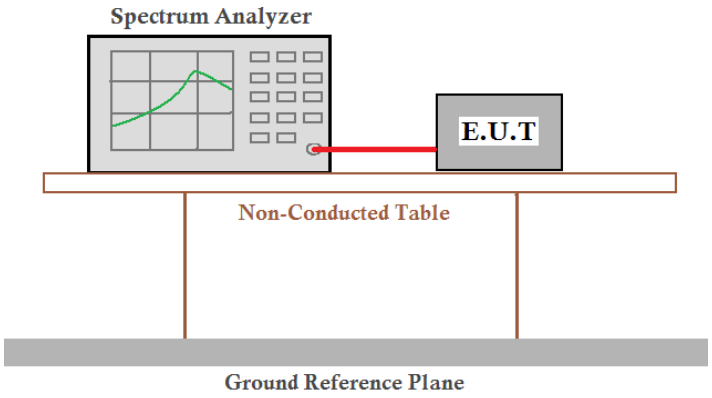
	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.15403	0.04	9.60	40.51	50.15	65.78	-15.63	QP
2	0.15403	0.04	9.60	28.52	38.16	55.78	-17.62	Average
3	0.20356	0.04	9.60	17.30	26.94	53.46	-26.52	Average
4	0.20356	0.04	9.60	38.80	48.44	63.46	-15.02	QP
5	0.25700	0.05	9.60	13.22	22.87	51.53	-28.66	Average
6	0.25700	0.05	9.60	30.12	39.77	61.53	-21.76	QP
7	0.51007	0.06	9.61	15.42	25.08	46.00	-20.92	Average
8	0.51007	0.06	9.61	21.68	31.34	56.00	-24.66	QP
9	0.71977	0.06	9.70	17.63	27.39	46.00	-18.61	Average
10	0.71977	0.06	9.70	26.21	35.97	56.00	-20.03	QP
11	10.963	0.23	9.84	18.98	29.05	50.00	-20.95	Average
12	10.963	0.23	9.84	27.78	37.85	60.00	-22.15	QP

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

5.3 Conducted Peak Output Power

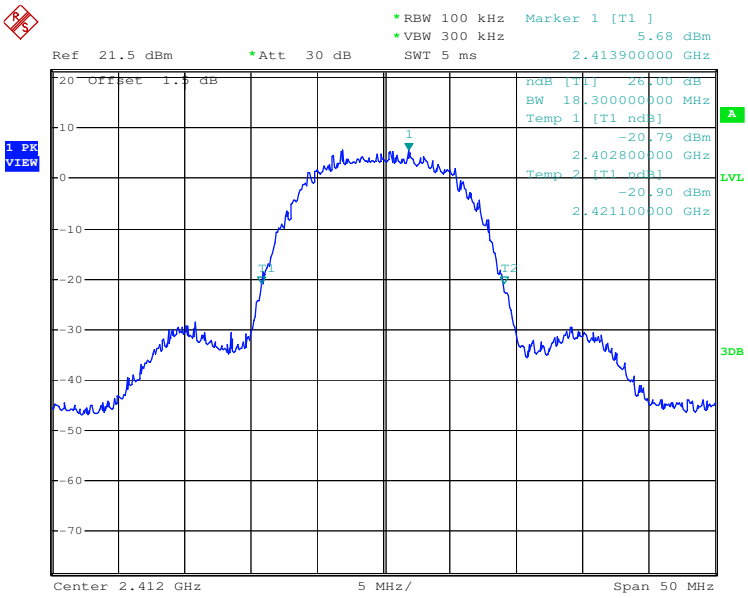
Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.10:2009
Limit:	30dBm
Test setup:	 *Remark:* *Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.*
Test Instruments:	Refer to section 4.8 for details.
Test results:	Pass

Measurement Data

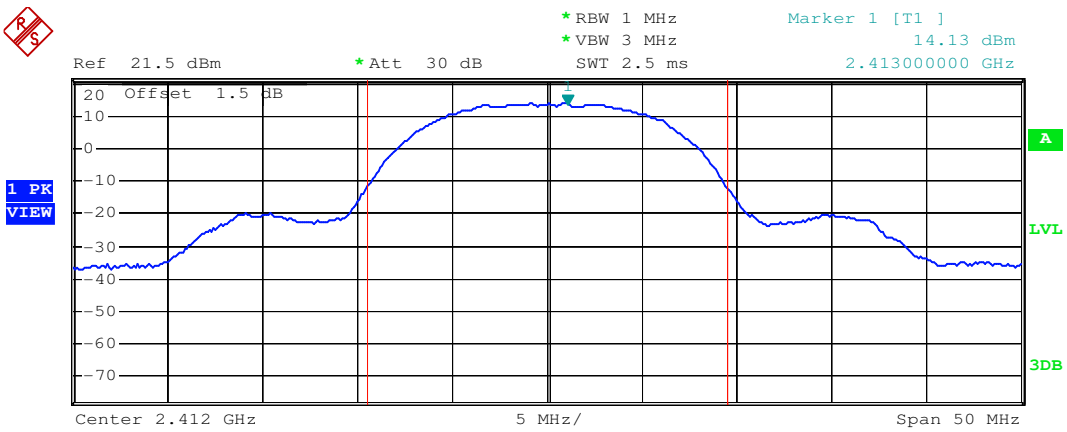
802.11b mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	22.95	30.00	Pass
Middle	22.56	30.00	Pass
Highest	22.48	30.00	Pass
802.11g mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	20.65	30.00	Pass
Middle	20.44	30.00	Pass
Highest	20.50	30.00	Pass
802.11n(HT20) mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	20.35	30.00	Pass
Middle	20.21	30.00	Pass
Highest	20.22	30.00	Pass
802.11n(HT40) mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	16.98	30.00	Pass
Middle	17.07	30.00	Pass
Highest	16.91	30.00	Pass

Test plot as follows:

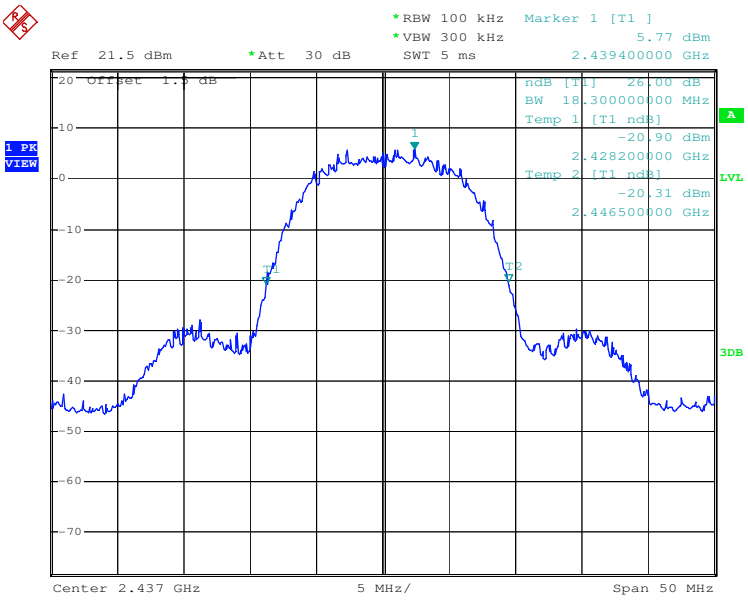
Test mode:	802.11b	Test channel:	Lowest	-26dB



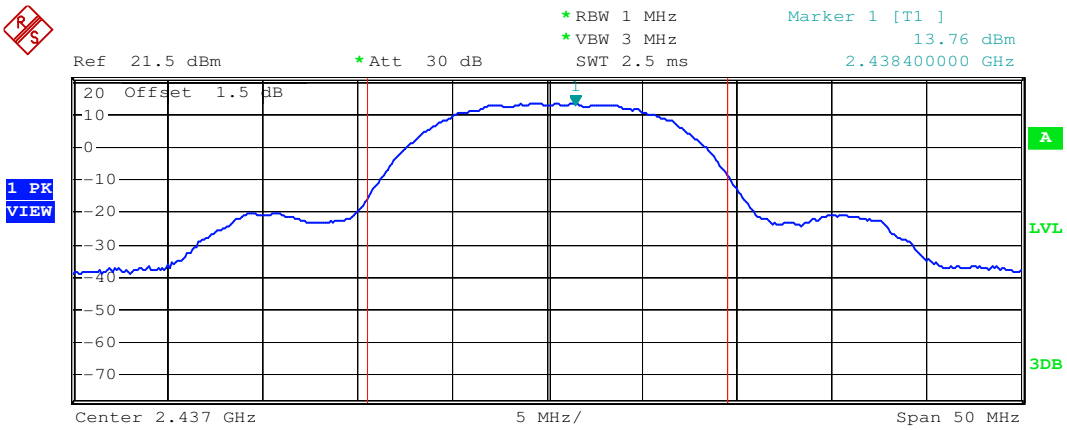
Test mode:	802.11b	Test channel:	Lowest



Test mode:	802.11b	Test channel:	Middle	-26dB



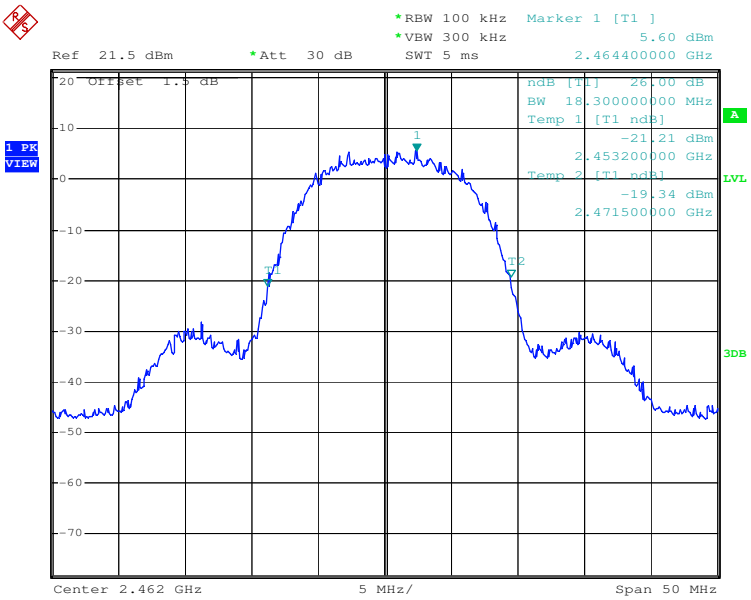
Test mode:	802.11b	Test channel:	Middle



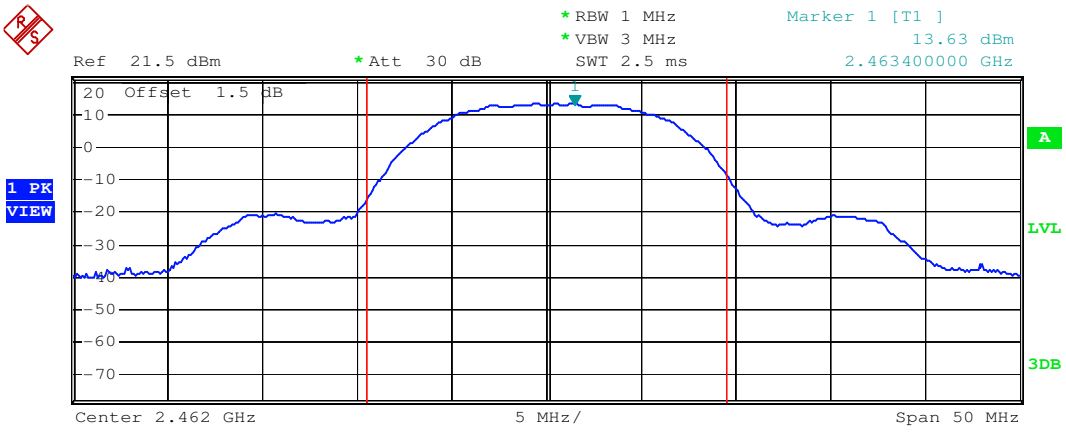
Tx Channel

Bandwidth 19 MHz Power 22.56 dBm

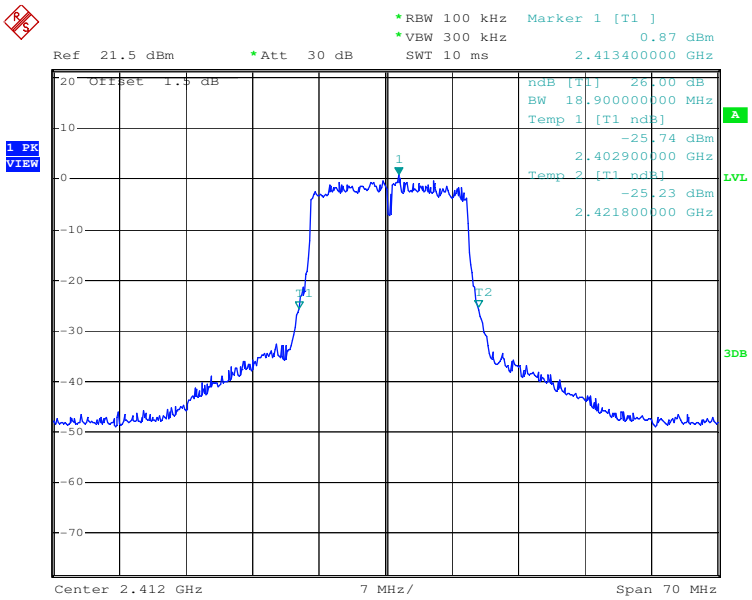
Test mode:	802.11b	Test channel:	Highest	-26dB



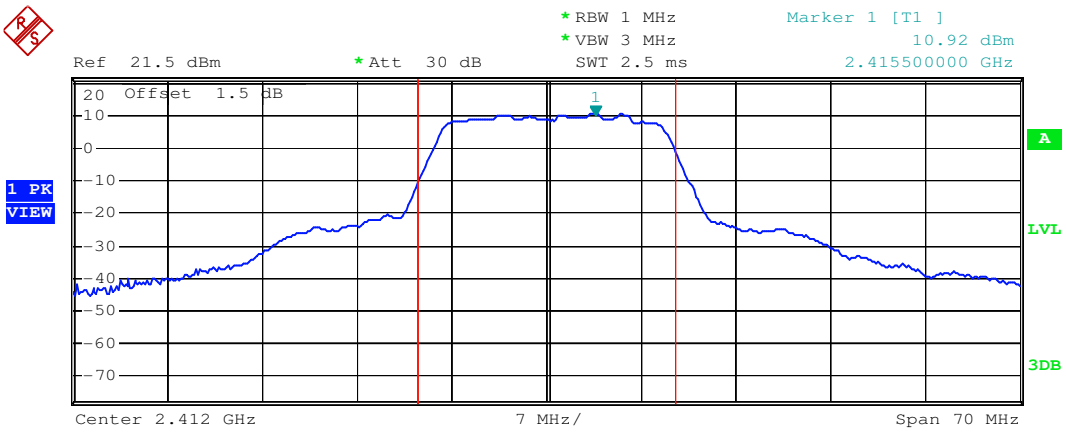
Test mode:	802.11b	Test channel:	Highest



Test mode:	802.11g	Test channel:	Lowest	-26dB



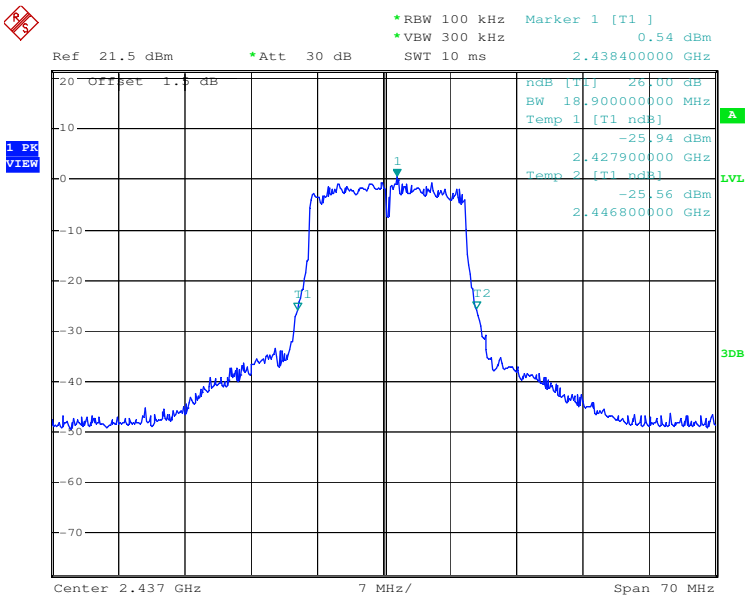
Test mode:	802.11g	Test channel:	Lowest



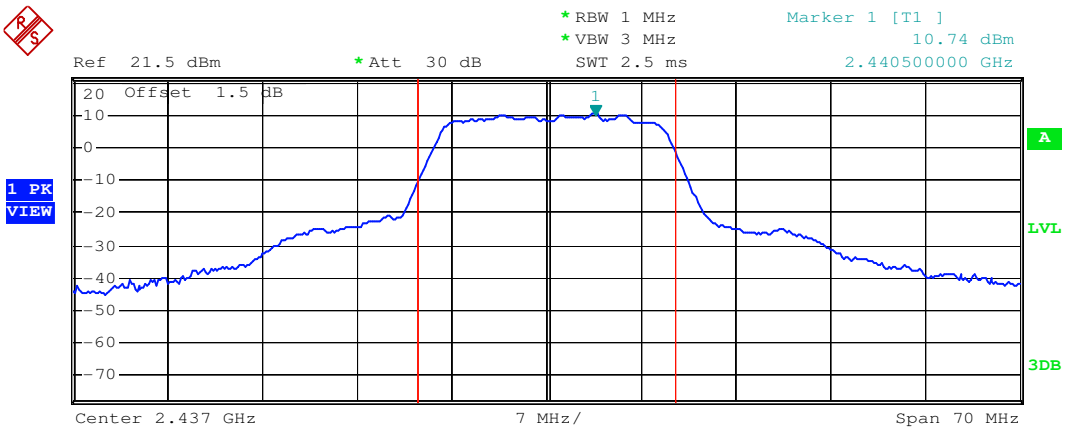
Tx Channel

Bandwidth 19 MHz Power 20.65 dBm

Test mode:	802.11g	Test channel:	Middle	-26dB



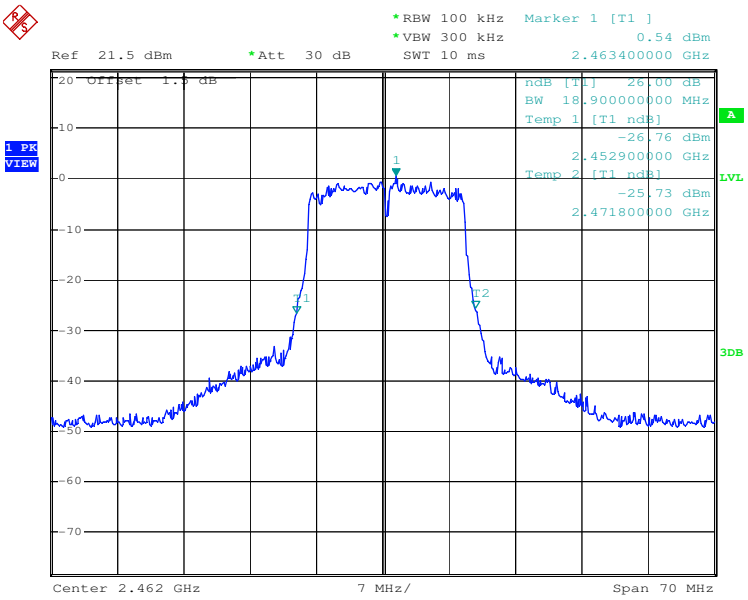
Test mode:	802.11g	Test channel:	Middle



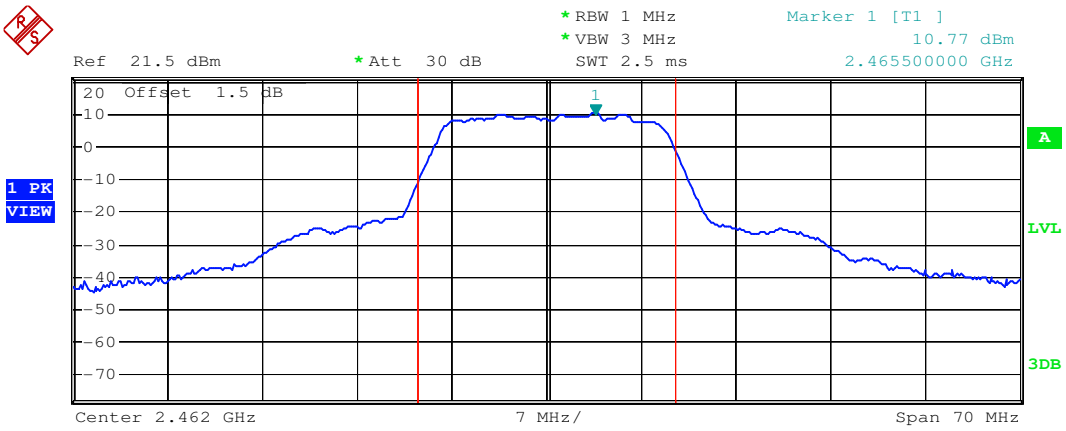
Tx Channel

Bandwidth 19 MHz Power 20.44 dBm

Test mode:	802.11g	Test channel:	Highest	-26dB



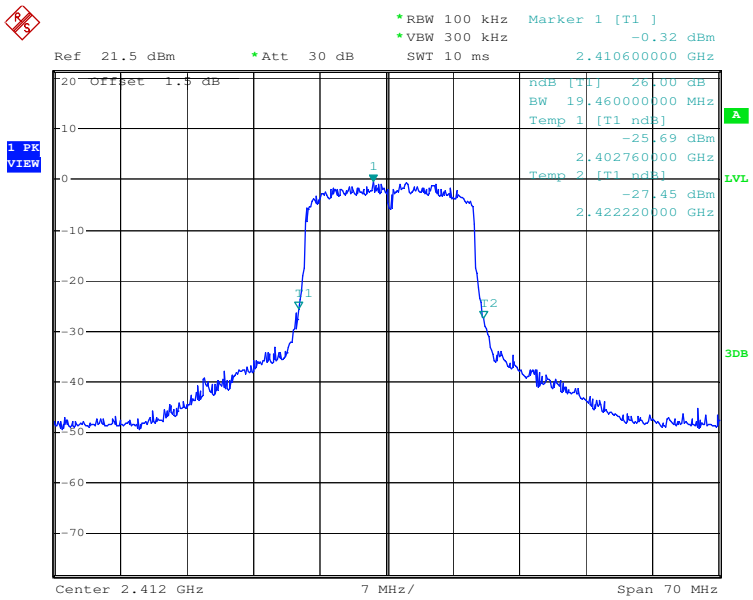
Test mode:	802.11g	Test channel:	Highest



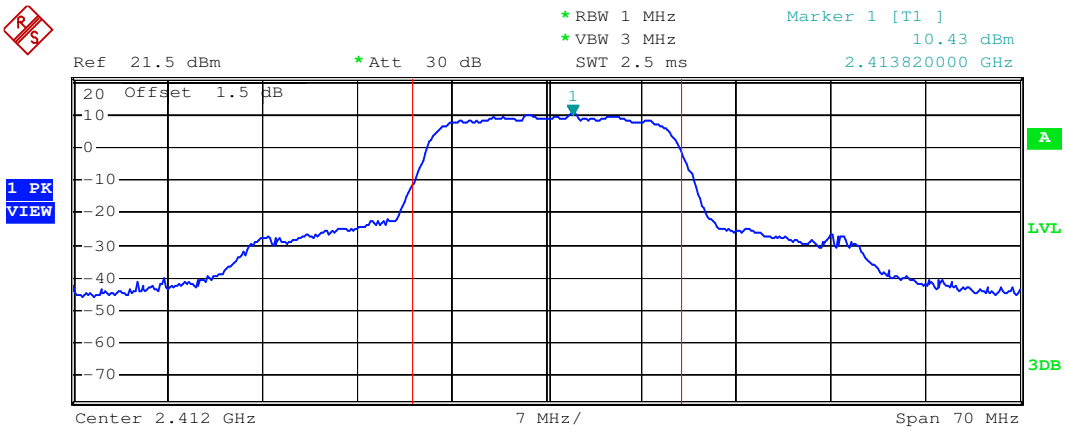
Tx Channel

Bandwidth 19 MHz Power 20.50 dBm

Test mode:	802.11n(HT20)	Test channel:	Lowest	-26dB



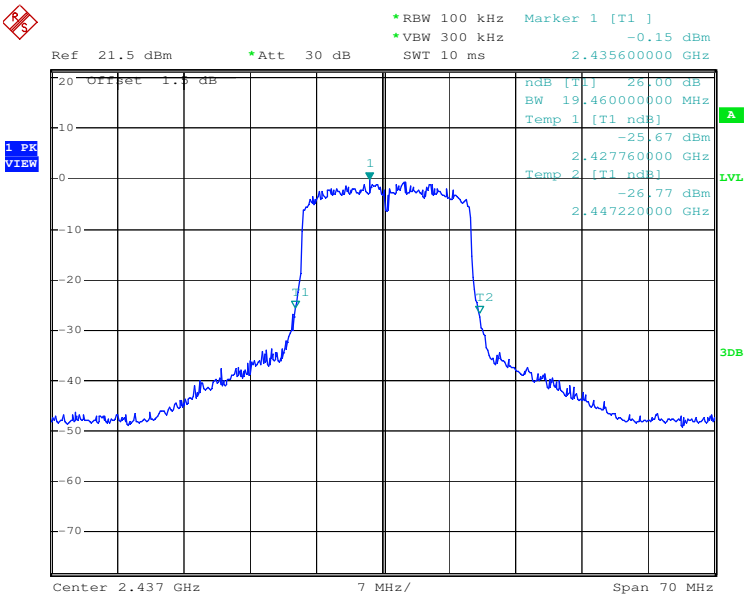
Test mode:	802.11n(HT20)	Test channel:	Lowest



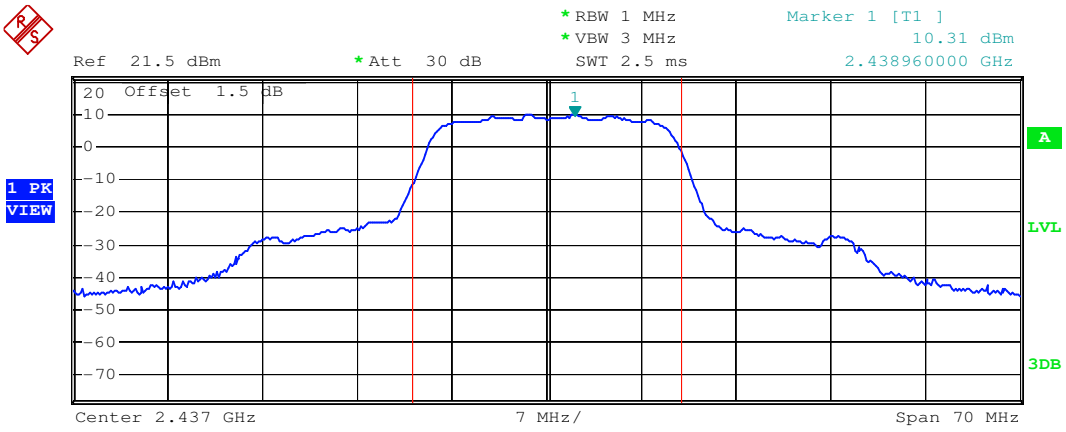
Tx Channel

Bandwidth 20 MHz Power 20.35 dBm

Test mode:	802.11n(HT20)	Test channel:	Middle	-26dB



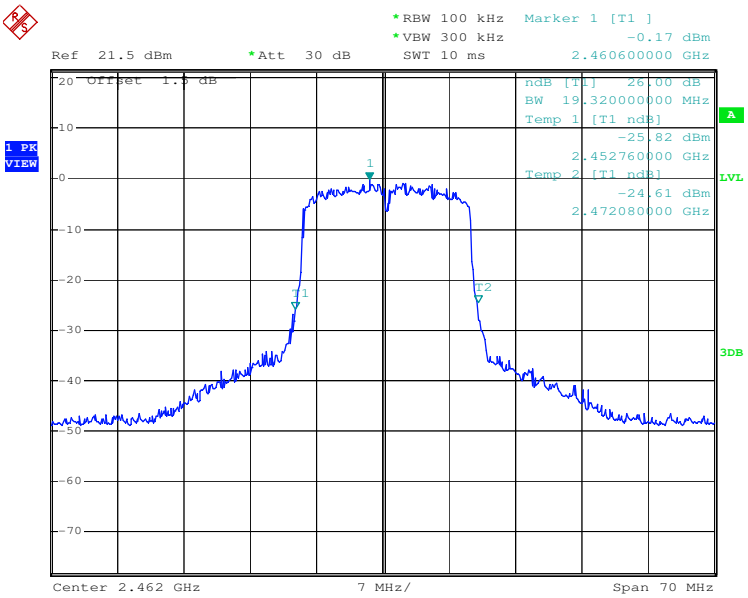
Test mode:	802.11n(HT20)	Test channel:	Middle



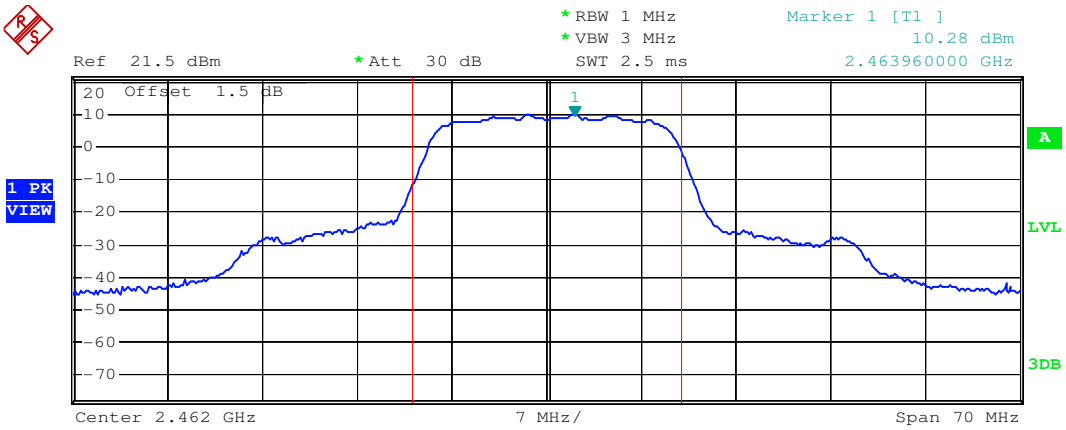
Tx Channel

Bandwidth 20 MHz Power 20.21 dBm

Test mode:	802.11n(HT20)	Test channel:	Highest	-26dB



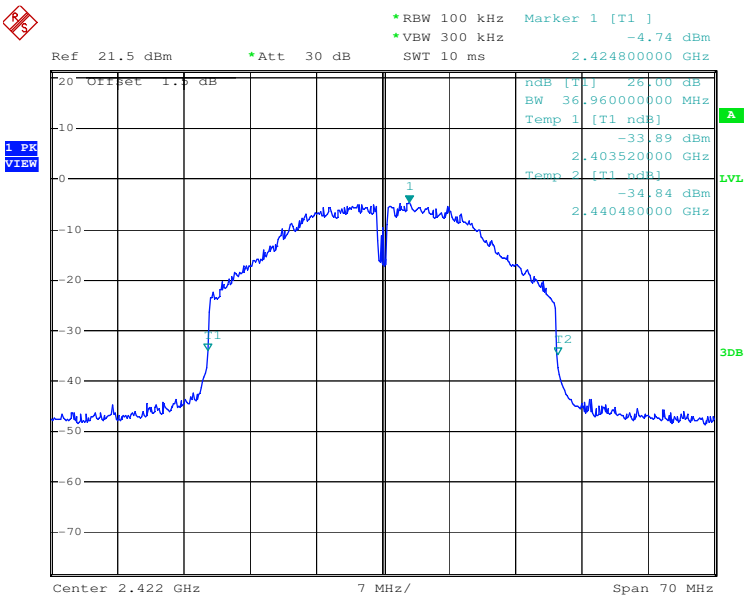
Test mode:	802.11n(HT20)	Test channel:	Highest



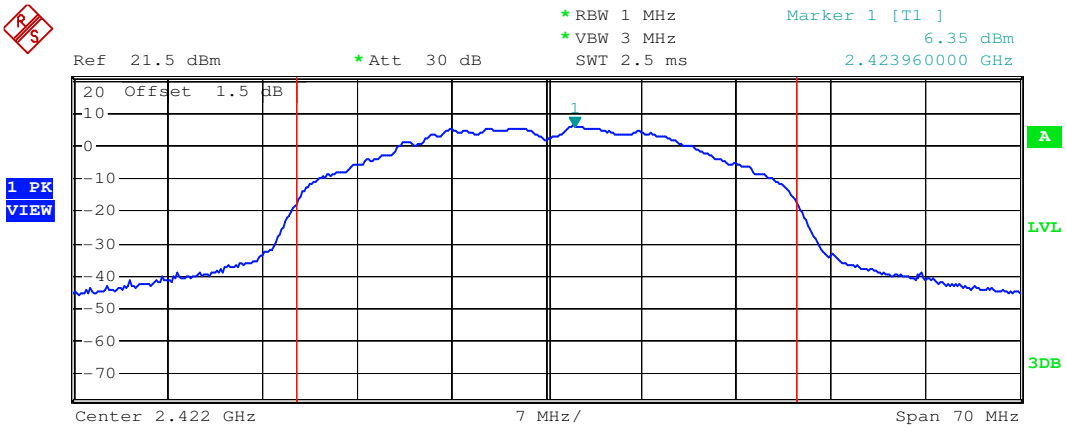
Tx Channel

Bandwidth 20 MHz Power 20.22 dBm

Test mode:	802.11n(HT40)	Test channel:	Lowest	-26dB



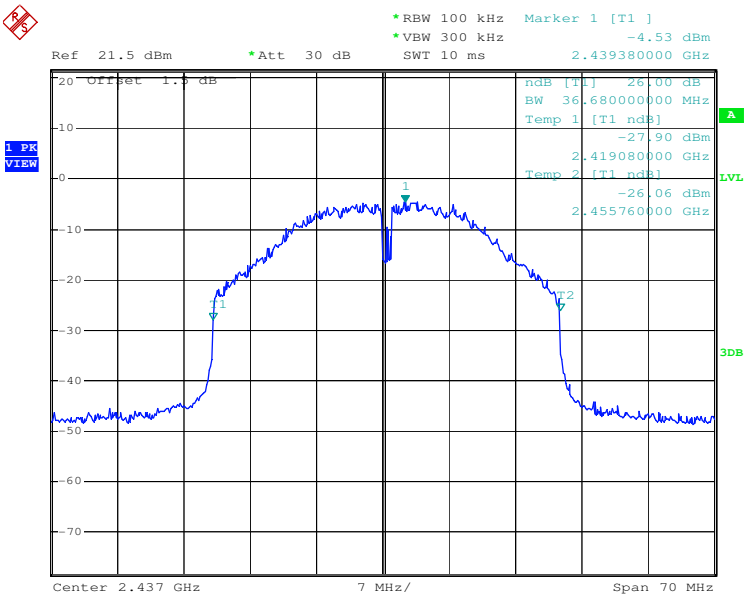
Test mode:	802.11n(HT40)	Test channel:	Lowest



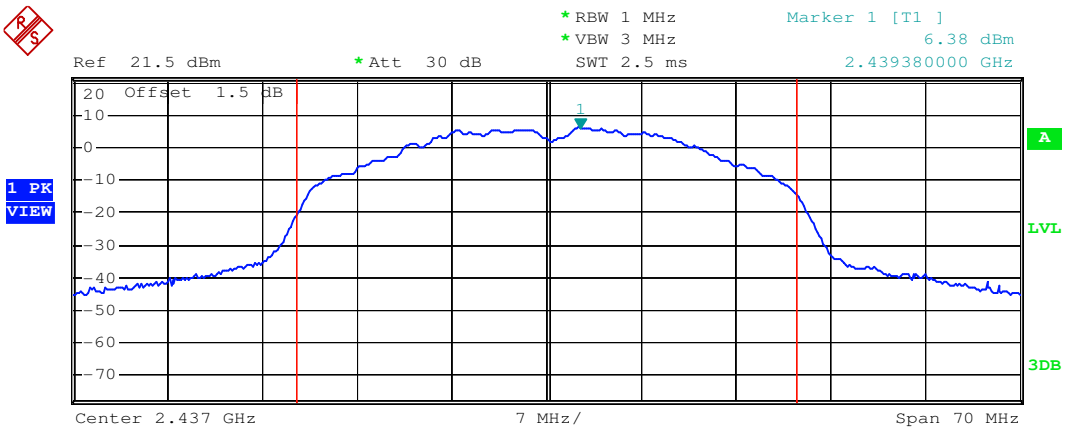
Tx Channel

Bandwidth 37 MHz Power 16.98 dBm

Test mode:	802.11n(HT40)	Test channel:	Middle	-26dB



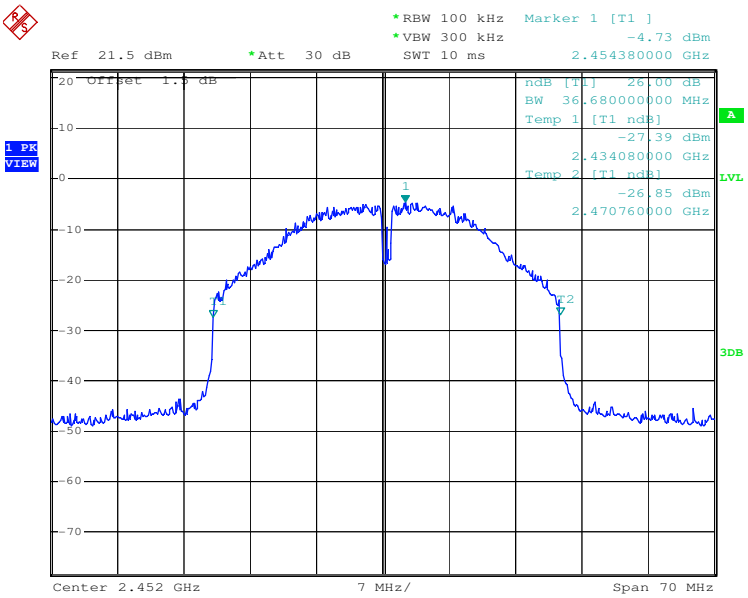
Test mode:	802.11n(HT40)	Test channel:	Middle



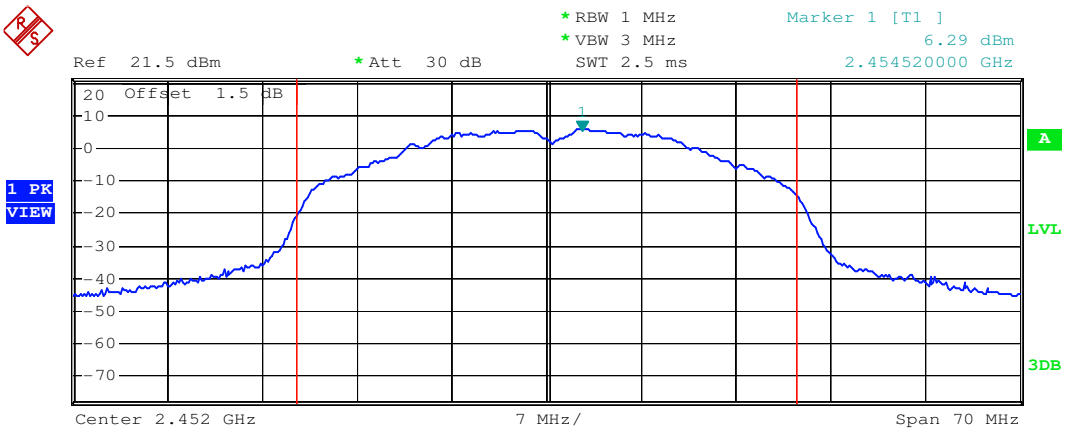
Tx Channel

Bandwidth 37 MHz Power 17.07 dBm

Test mode:	802.11n(HT40)	Test channel:	Highest	-26dB



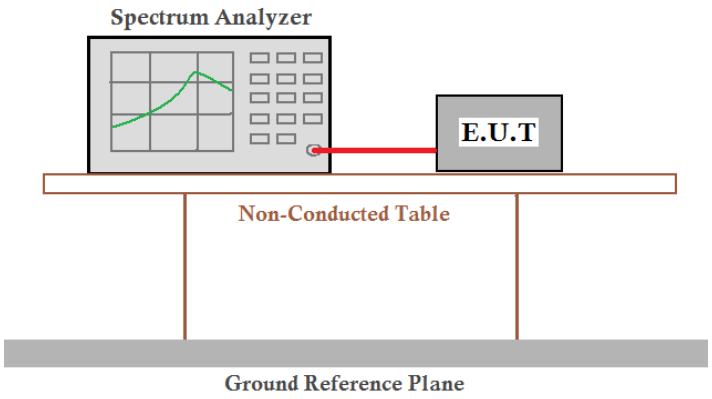
Test mode:	802.11n(HT40)	Test channel:	Highest



Tx Channel

Bandwidth 37 MHz Power 16.91 dBm

5.4 6dB Occupy Bandwidth

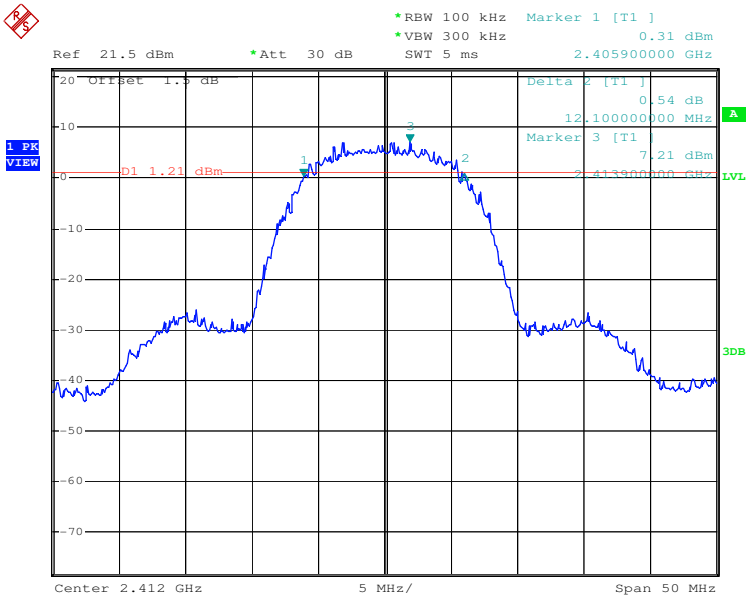
Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.10:2009
Limit:	>500KHz
Test setup:	
Test Instruments:	Refer to section 4.8 for details
Test results:	Pass

Measurement Data

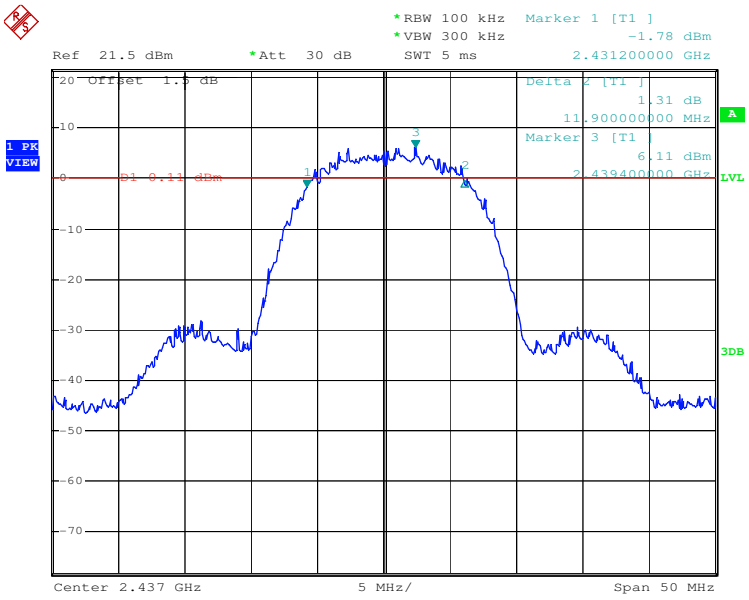
802.11b mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (KHz)	Result
Lowest	12.10	>500	Pass
Middle	11.90	>500	Pass
Highest	12.40	>500	Pass
802.11g mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (KHz)	Result
Lowest	16.80	>500	Pass
Middle	16.80	>500	Pass
Highest	16.80	>500	Pass
802.11n(HT20) mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (KHz)	Result
Lowest	17.92	>500	Pass
Middle	17.92	>500	Pass
Highest	17.92	>500	Pass
802.11n(HT40) mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (KHz)	Result
Lowest	21.84	>500	Pass
Middle	21.70	>500	Pass
Highest	21.42	>500	Pass

Test plot as follows:

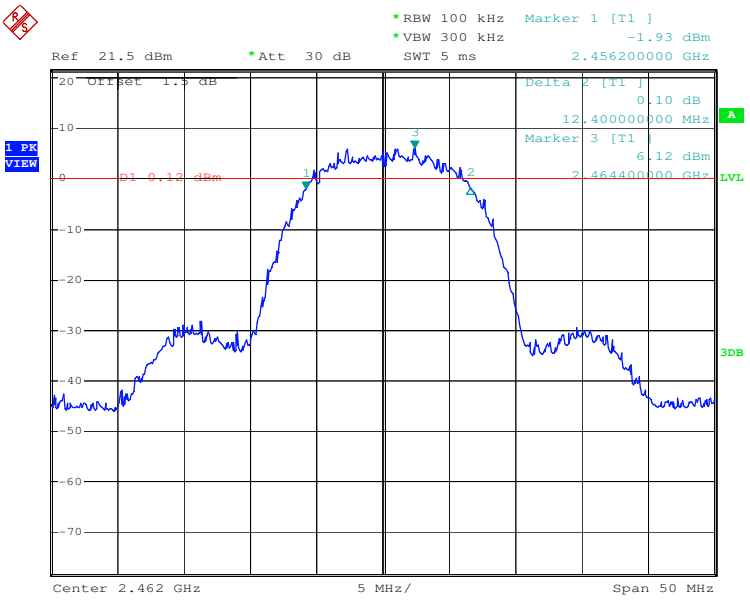
Test mode:	802.11b	Test channel:	Lowest



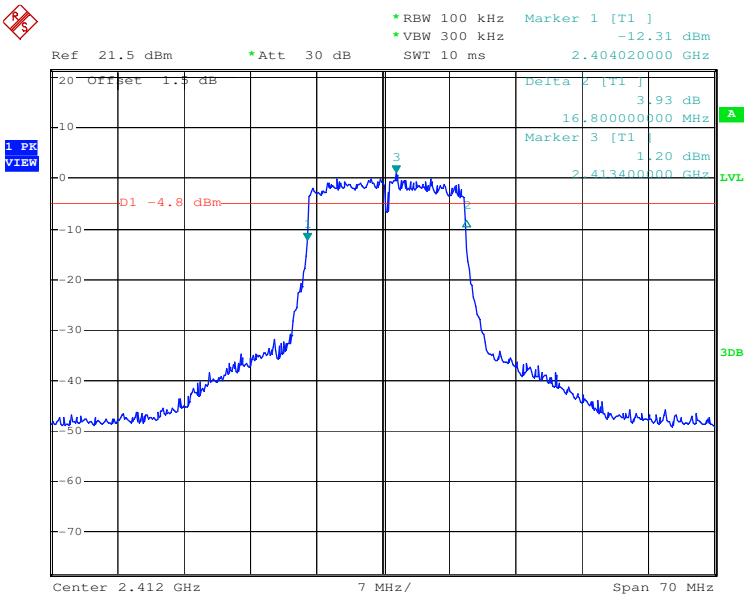
Test mode:	802.11b	Test channel:	Middle



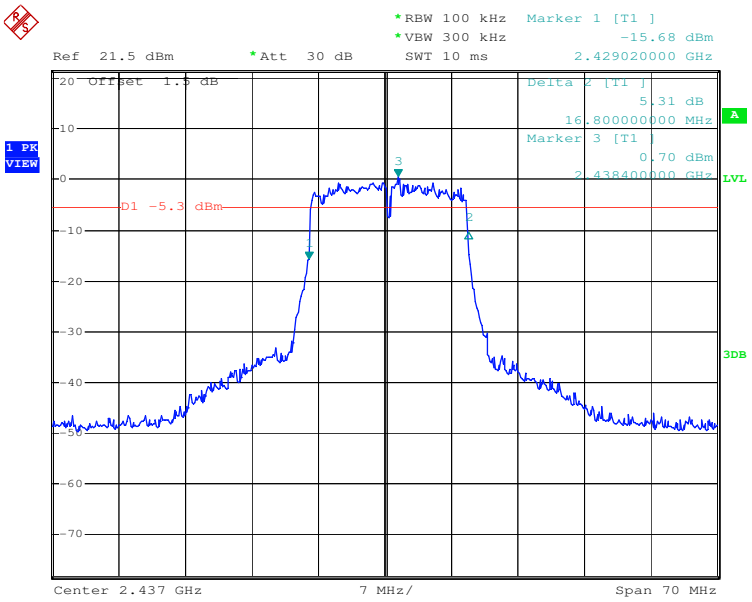
Test mode:	802.11b	Test channel:	Highest



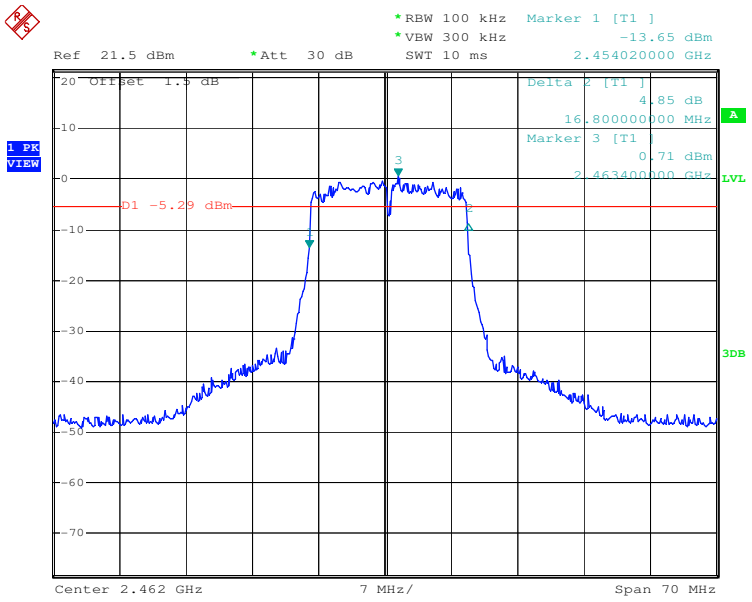
Test mode:	802.11g	Test channel:	Lowest



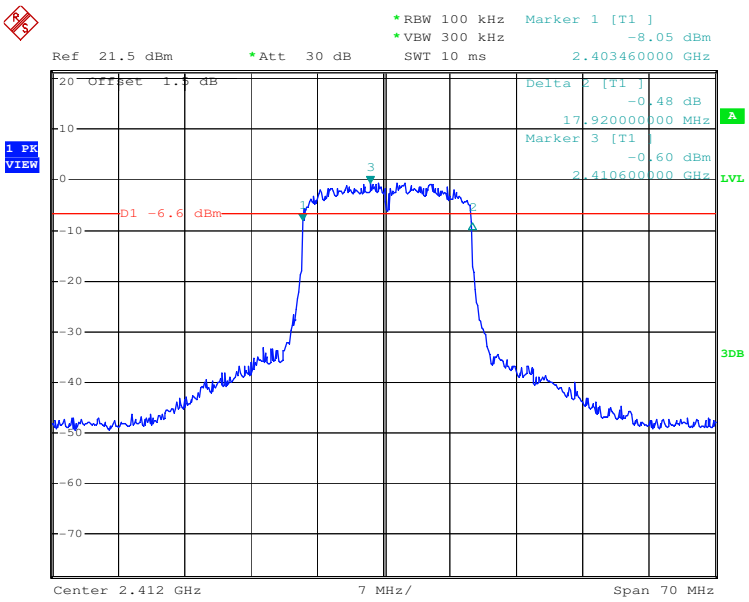
Test mode:	802.11g	Test channel:	Middle



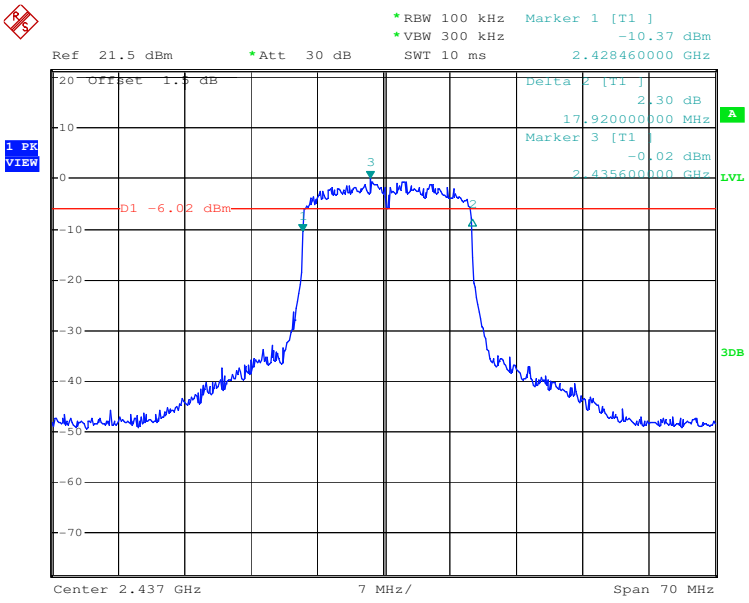
Test mode:	802.11g	Test channel:	Highest



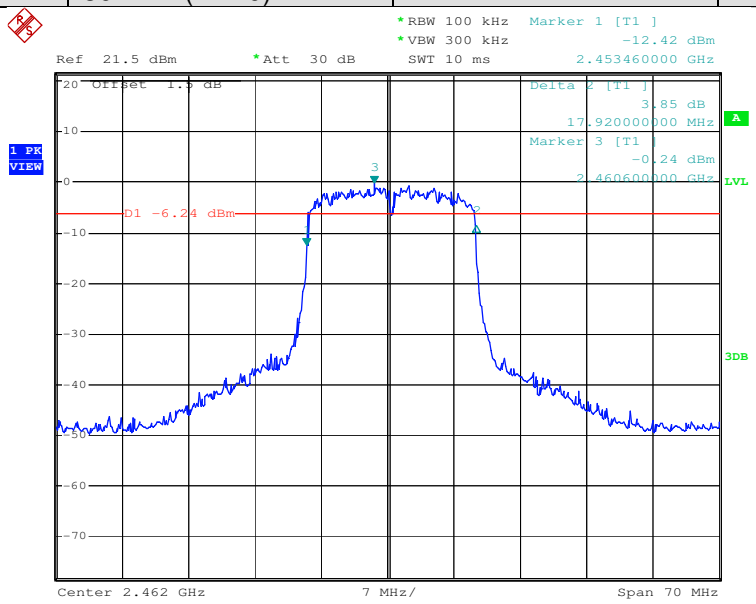
Test mode:	802.11n(HT20)	Test channel:	Lowest



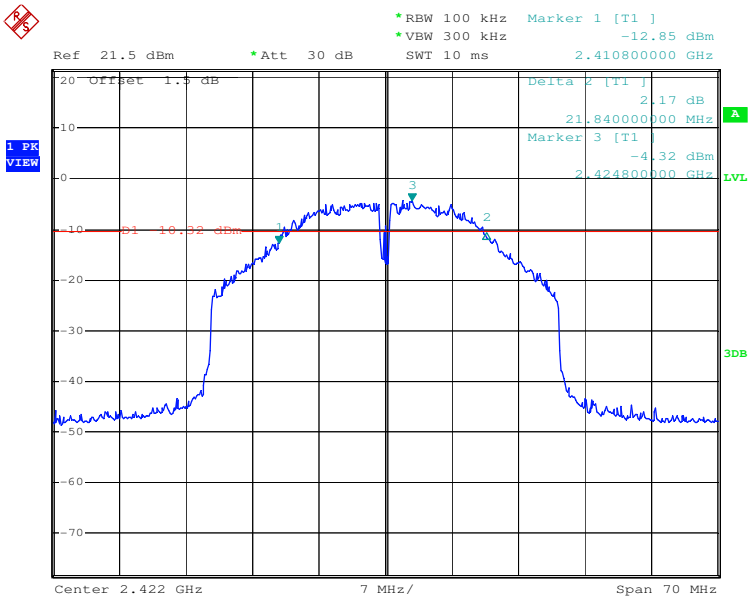
Test mode:	802.11n(HT20)	Test channel:	Middle



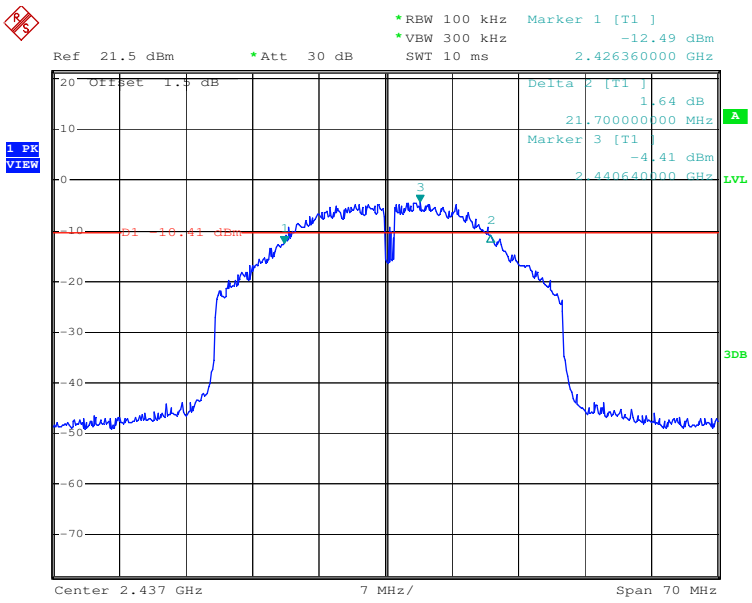
Test mode:	802.11n(HT20)	Test channel:	Highest



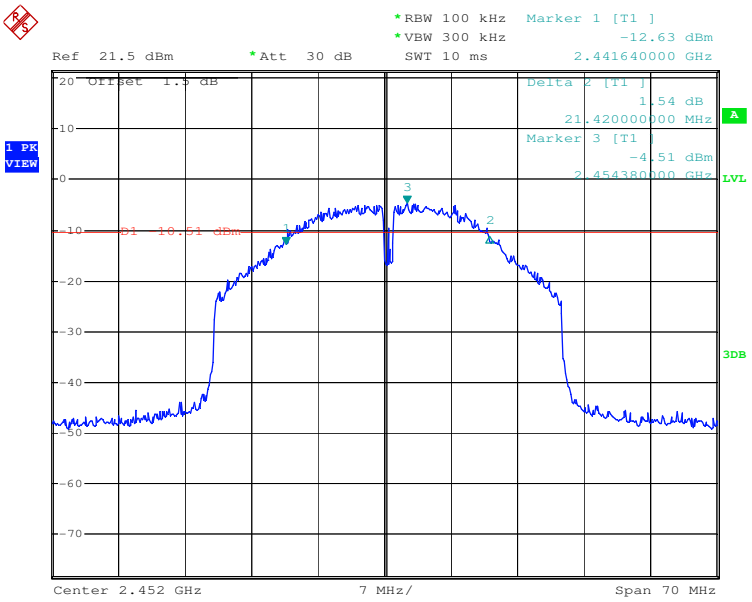
Test mode:	802.11n(HT40)	Test channel:	Lowest



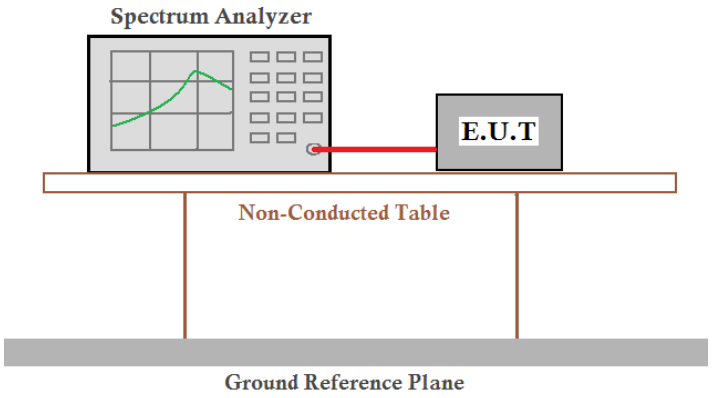
Test mode:	802.11n(HT40)	Test channel:	Middle



Test mode:	802.11n(HT40)	Test channel:	Highest



5.5 Power Spectral Density

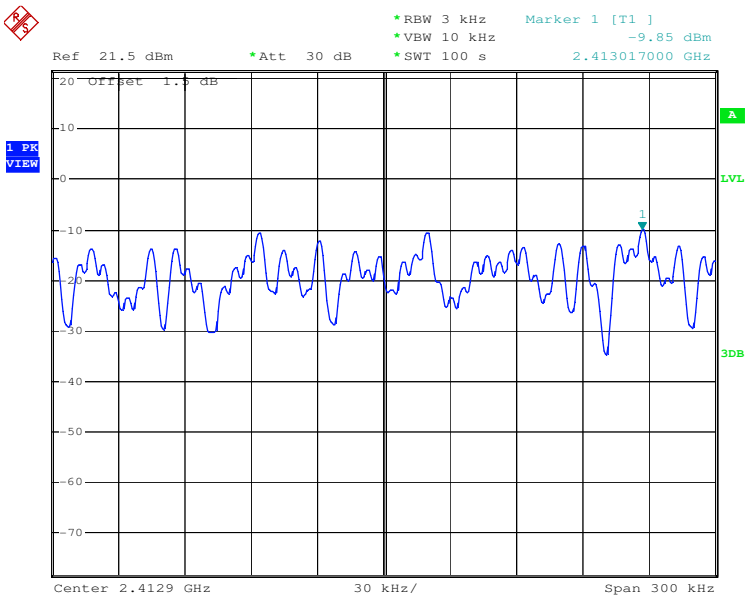
Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.10:2009
Limit:	<8dBm
Test setup:	 *Remark:* *Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.*
Test Instruments:	Refer to section 4.8 for details.
Test results:	Pass

Measurement Data

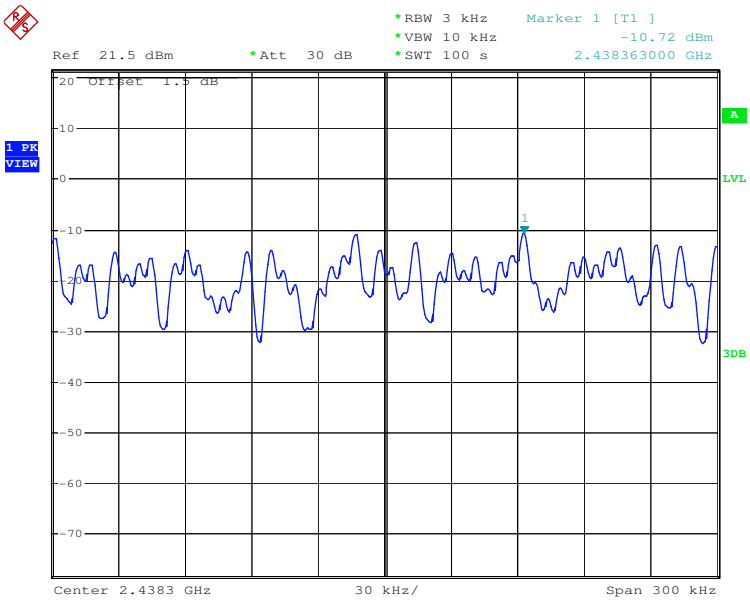
802.11b mode			
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	-9.85	<8.00	Pass
Middle	-10.72	<8.00	Pass
Highest	-10.03	<8.00	Pass
802.11g mode			
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	-15.03	<8.00	Pass
Middle	-15.15	<8.00	Pass
Highest	-15.21	<8.00	Pass
802.11n(HT20) mode			
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	-16.52	<8.00	Pass
Middle	-16.60	<8.00	Pass
Highest	-16.69	<8.00	Pass
802.11n(HT40) mode			
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	-19.61	<8.00	Pass
Middle	-19.72	<8.00	Pass
Highest	-19.71	<8.00	Pass

Test plot as follows:

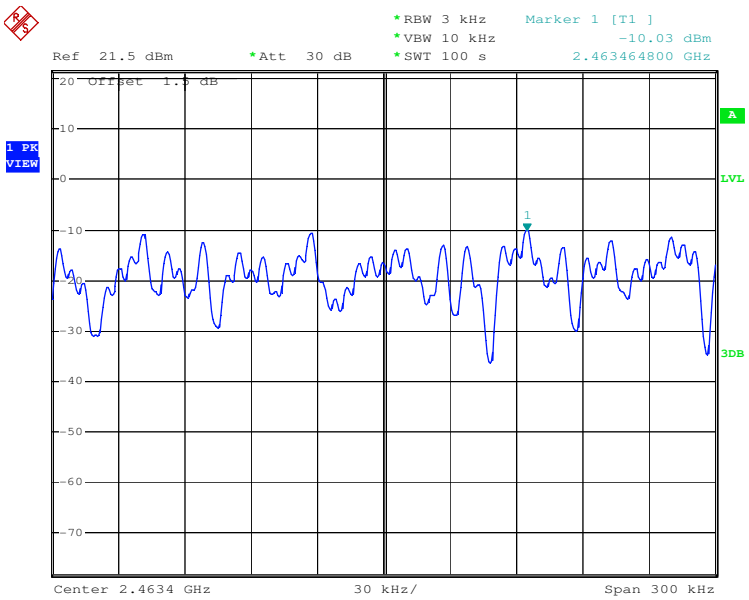
Test mode:	802.11b	Test channel:	Lowest



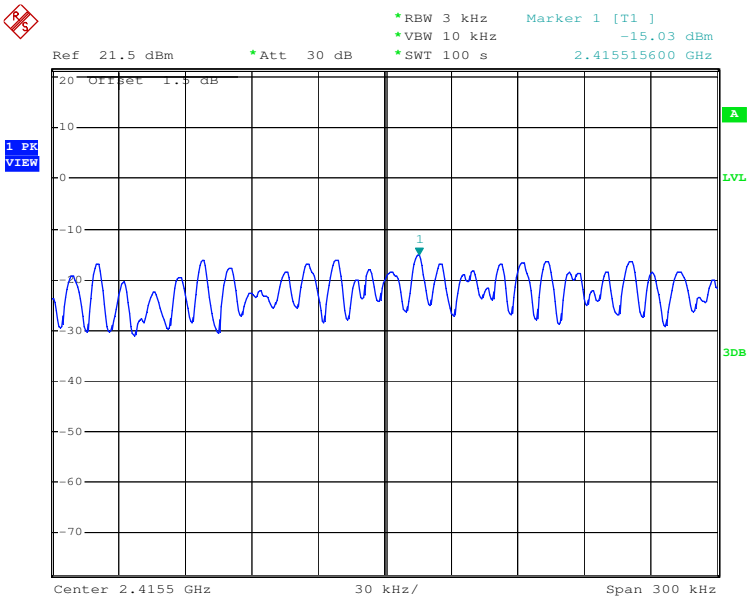
Test mode:	802.11b	Test channel:	Middle



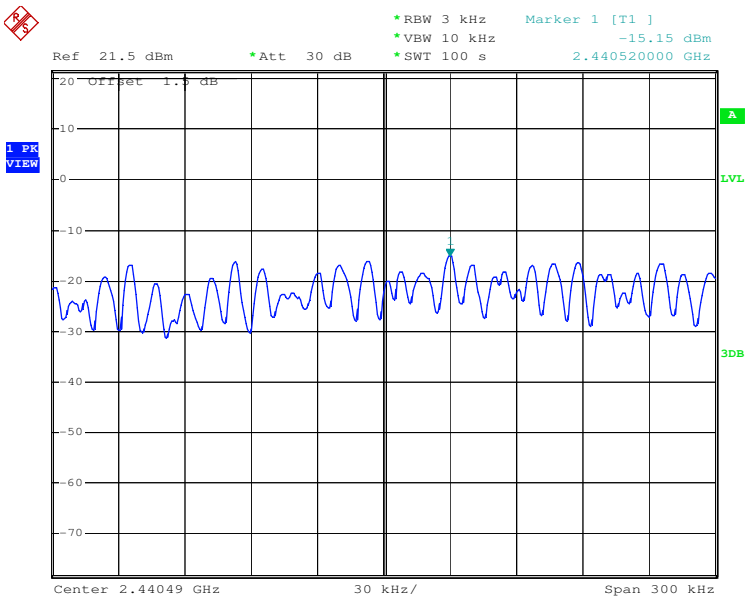
Test mode:	802.11b	Test channel:	Highest



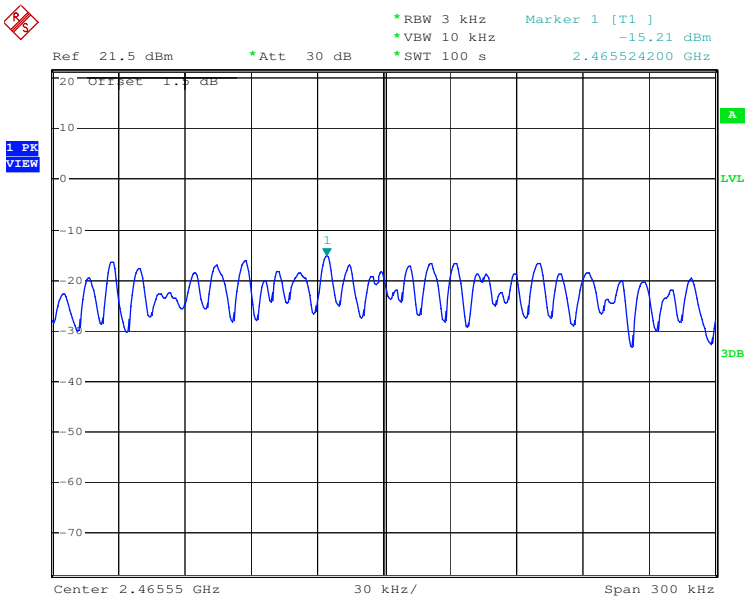
Test mode:	802.11g	Test channel:	Lowest



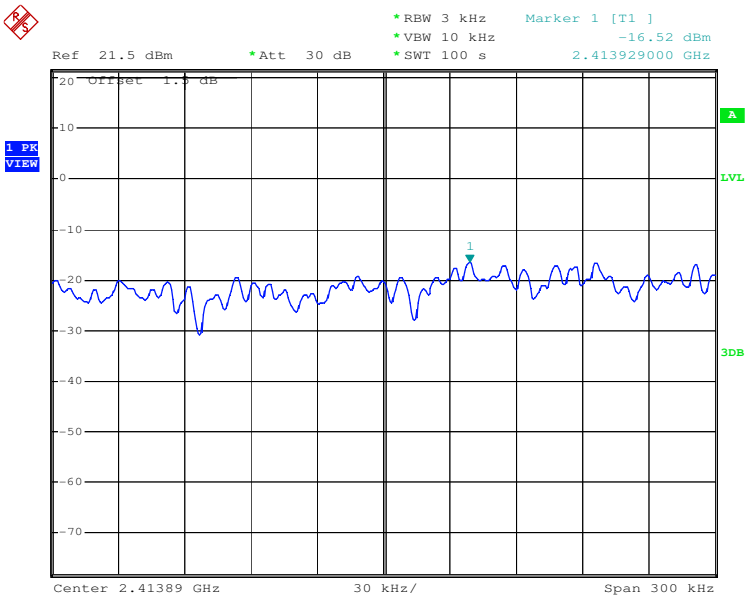
Test mode:	802.11g	Test channel:	Middle



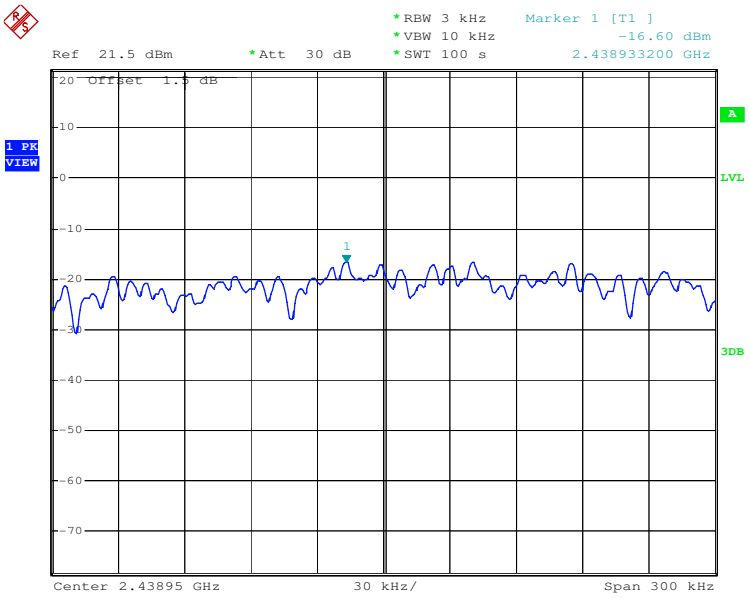
Test mode:	802.11g	Test channel:	Highest



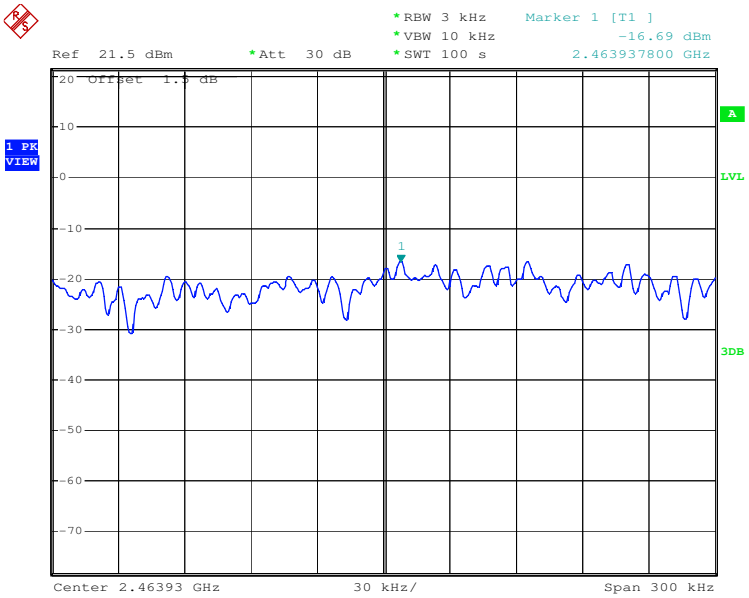
Test mode:	802.11n(HT20)	Test channel:	Lowest



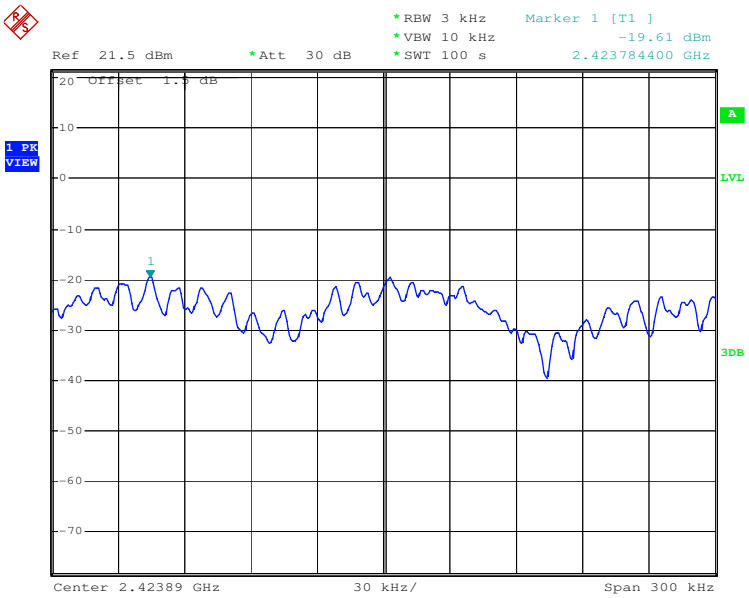
Test mode:	802.11n(HT20)	Test channel:	Middle



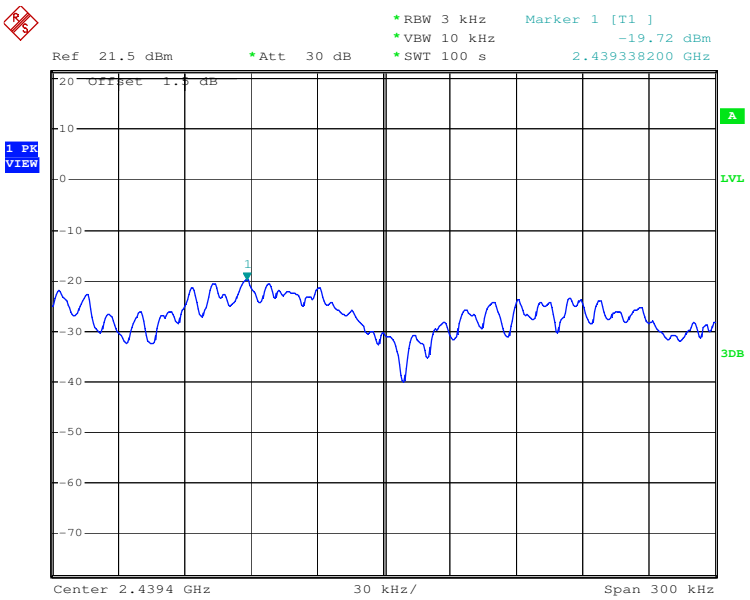
Test mode:	802.11n(HT20)	Test channel:	Highest



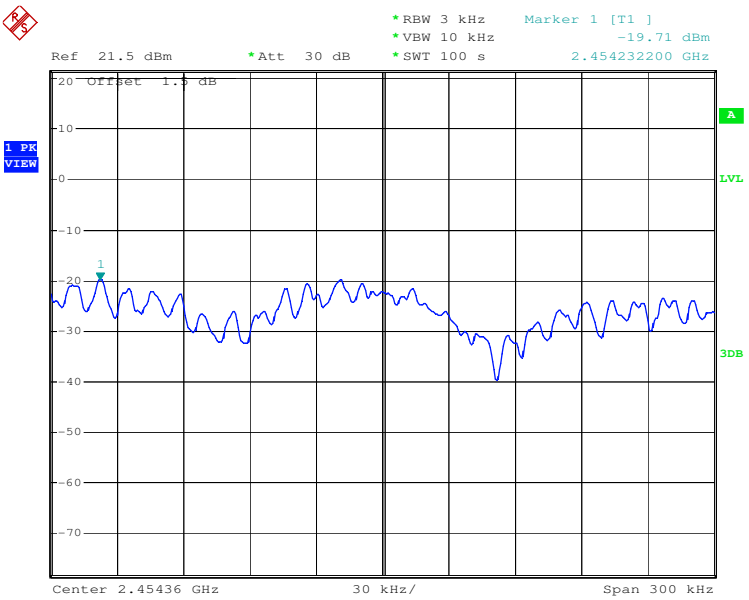
Test mode:	802.11n(HT40)	Test channel:	Lowest



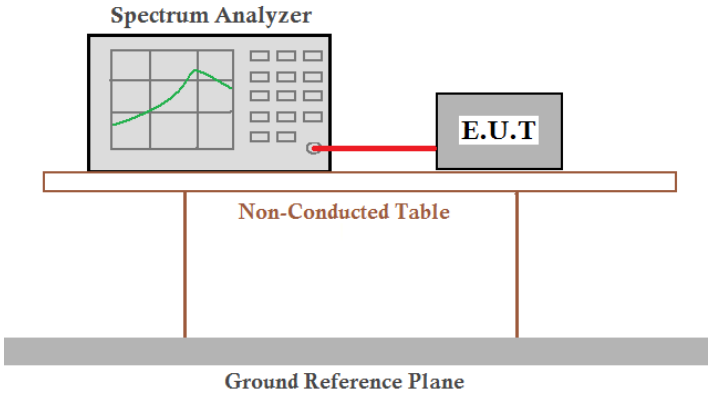
Test mode:	802.11n(HT40)	Test channel:	Middle



Test mode:	802.11n(HT40)	Test channel:	Highest

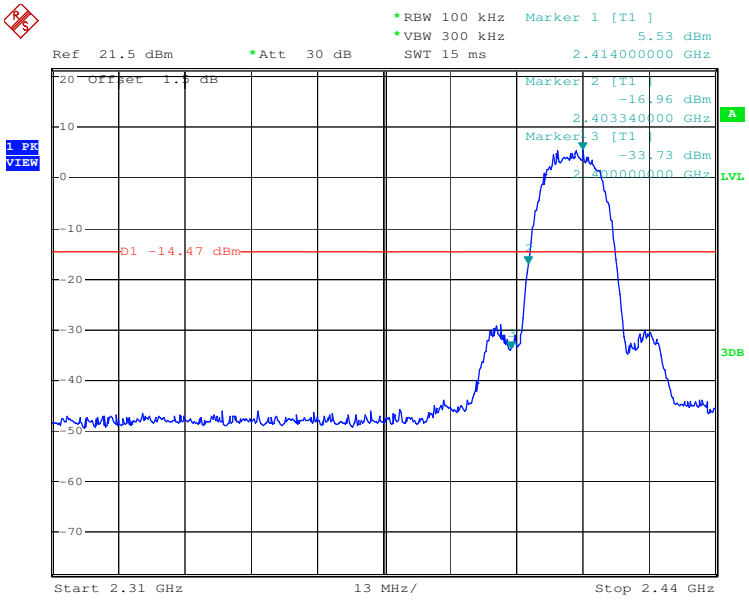


5.6 Band Edge

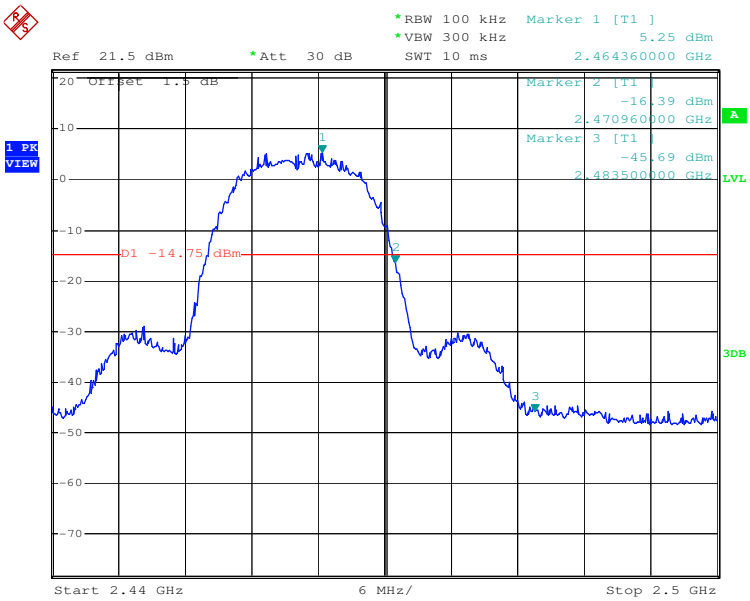
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2009
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 *Remark:* *Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.*
Test Instruments:	Refer to section 4.8 for details.
Test results:	Pass

Test plot as follows:

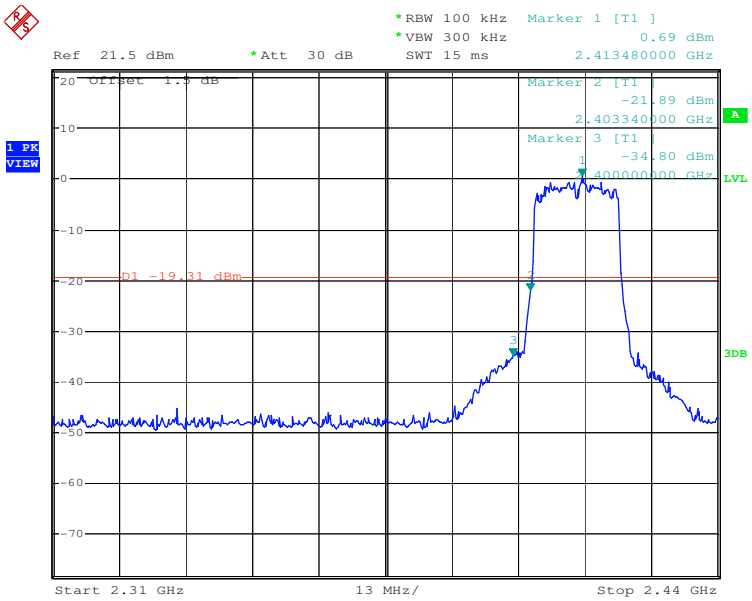
Test mode:	802.11b	Test channel:	Lowest



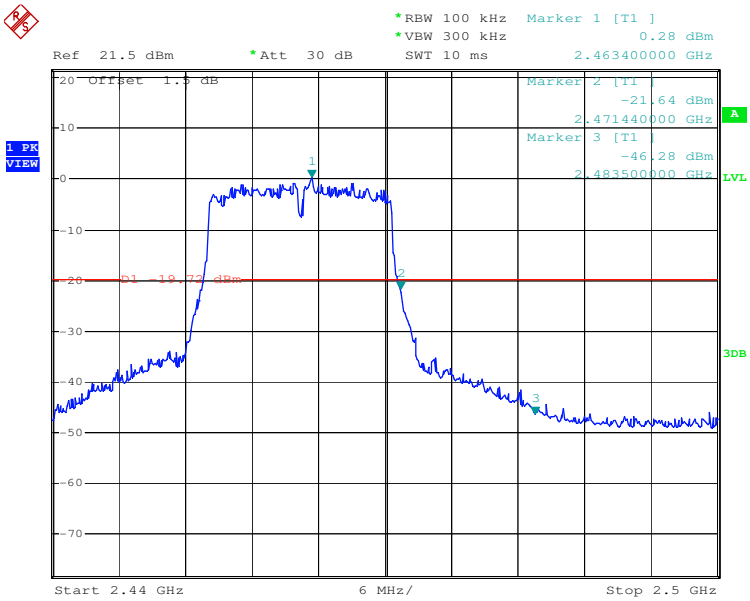
Test mode:	802.11b	Test channel:	Highest



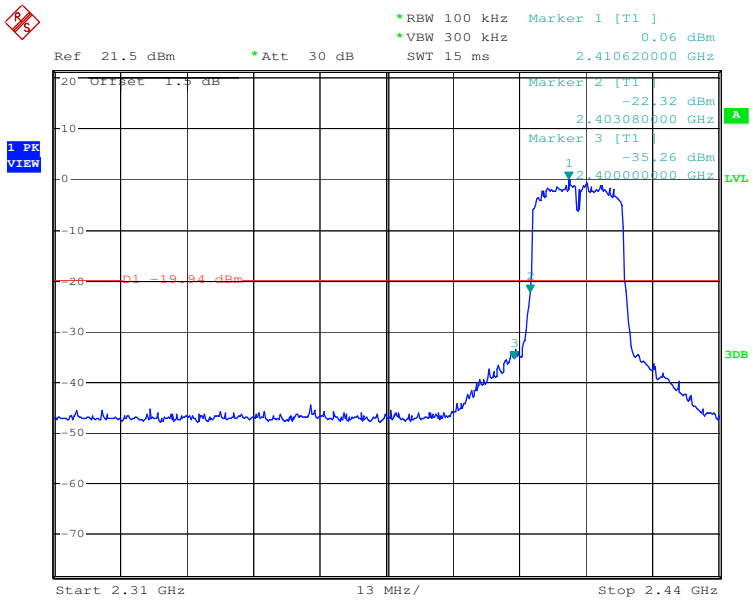
Test mode:	802.11g	Test channel:	Lowest



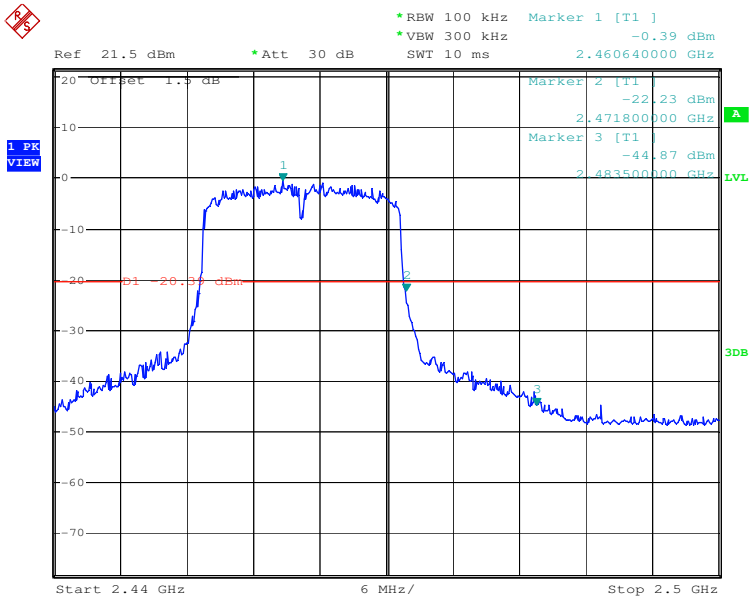
Test mode:	802.11g	Test channel:	Highest



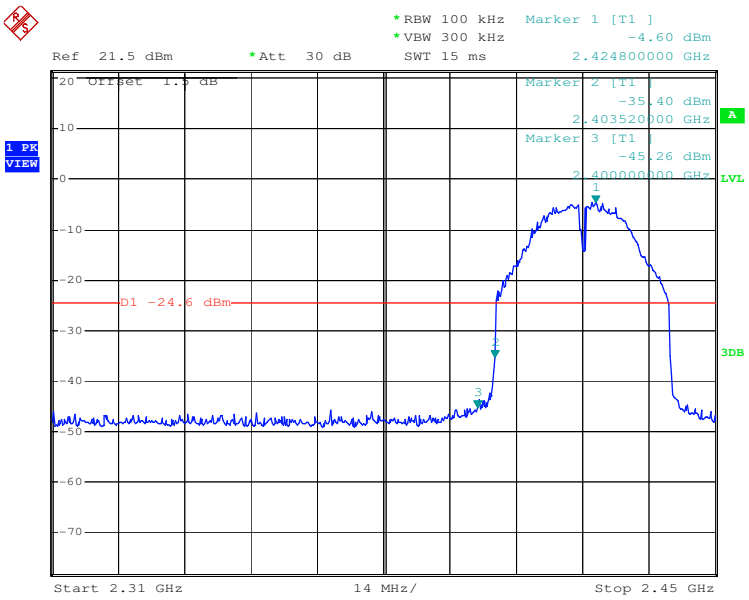
Test mode:	802.11n(HT20)	Test channel:	Lowest



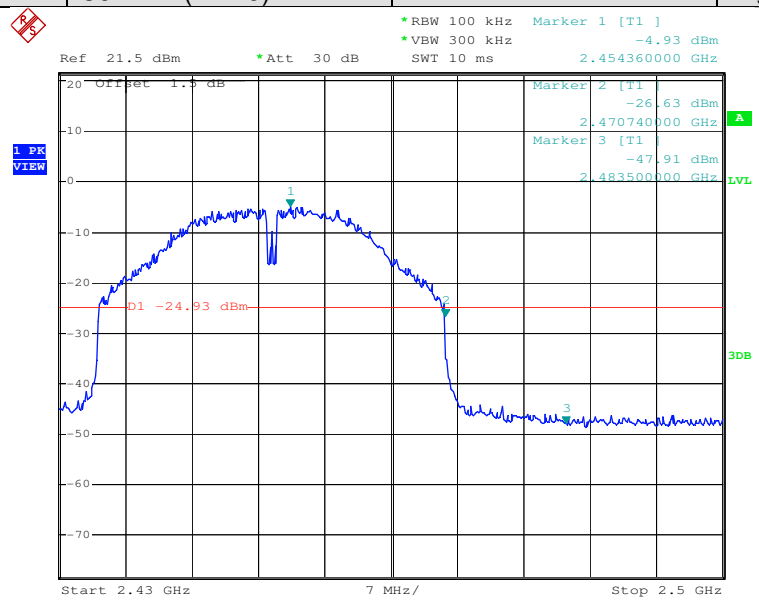
Test mode:	802.11n(HT20)	Test channel:	Highest



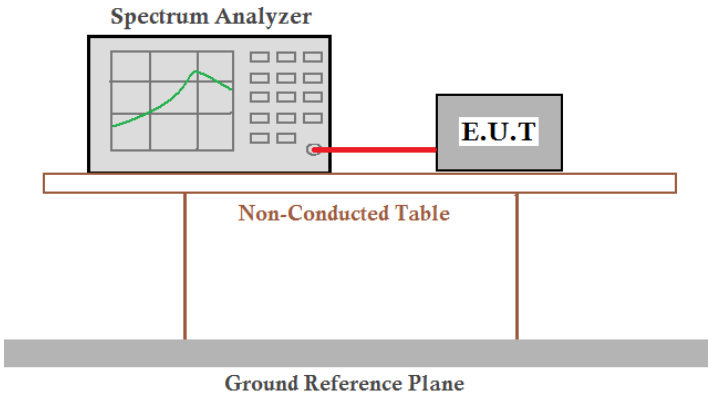
Test mode:	802.11n(HT40)	Test channel:	Lowest



Test mode:	802.11n(HT40)	Test channel:	Highest

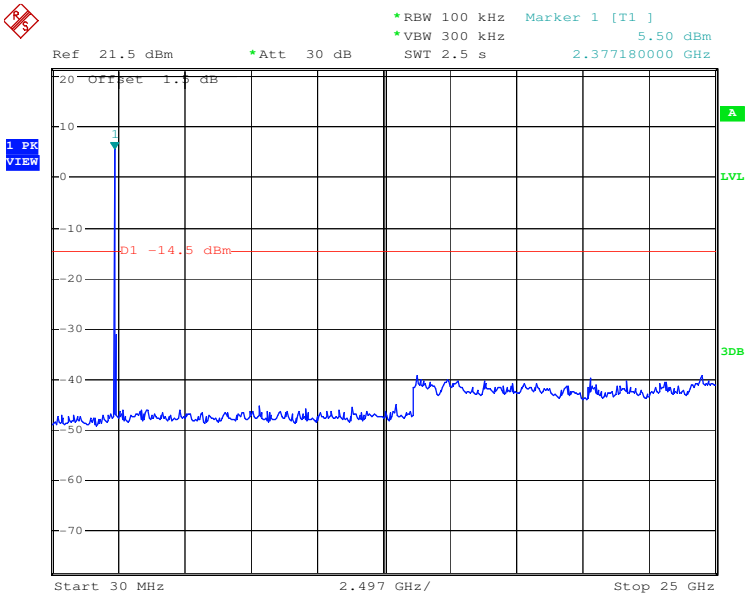


5.7 RF Antenna Conducted spurious emissions

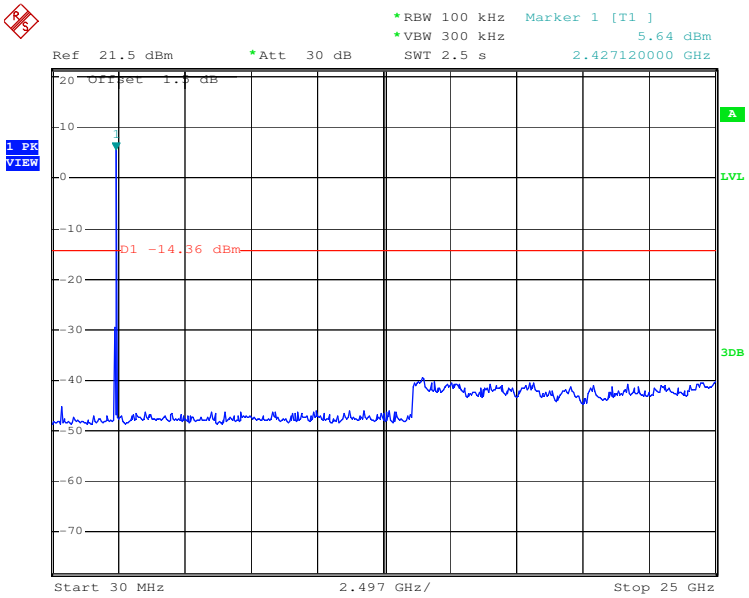
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2009
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 *Remark:* *Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.*
Test Instruments:	Refer to section 4.8 for details.
Test results:	Pass

Test plot as follows:

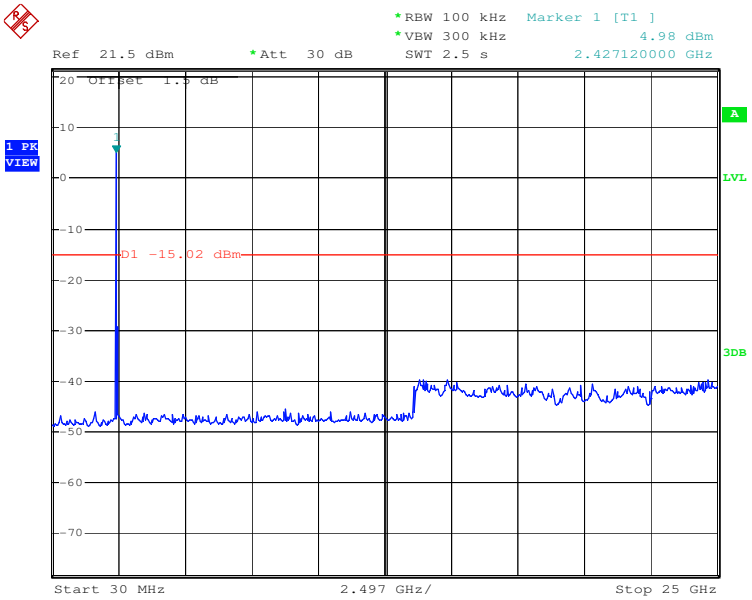
Test mode:	802.11b	Test channel:	Lowest



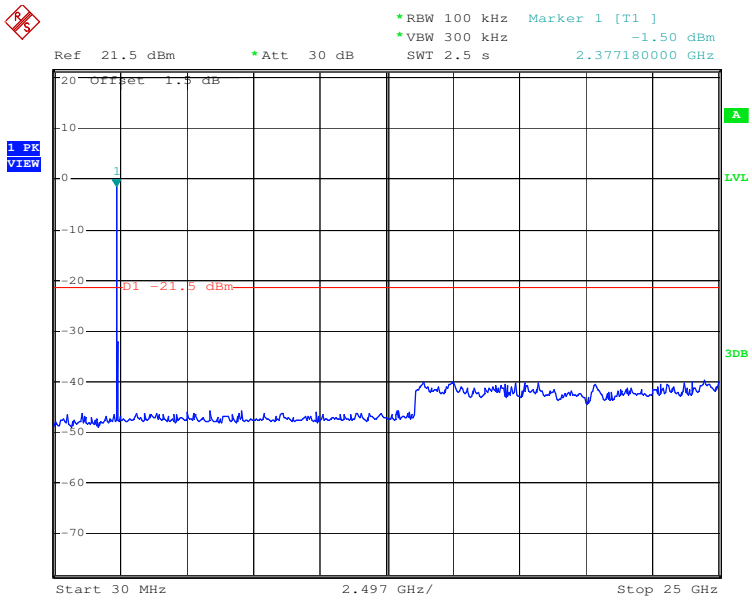
Test mode:	802.11b	Test channel:	Middle



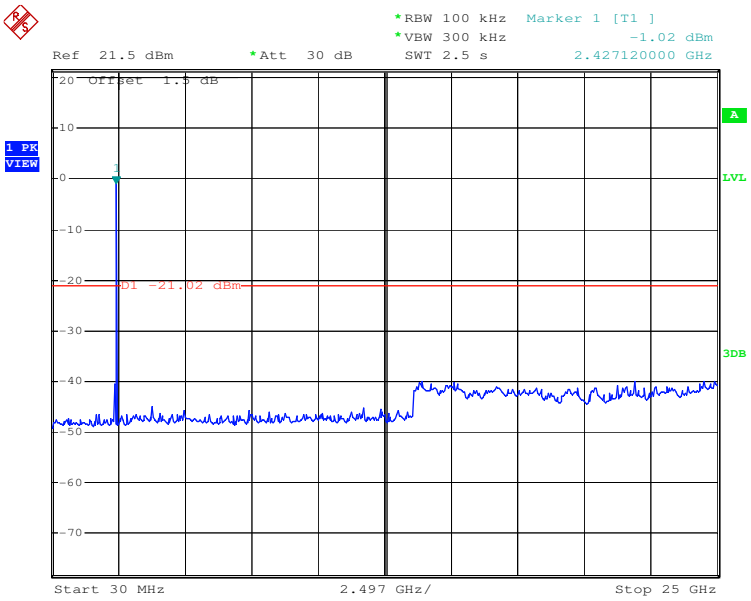
Test mode:	802.11b	Test channel:	Highest



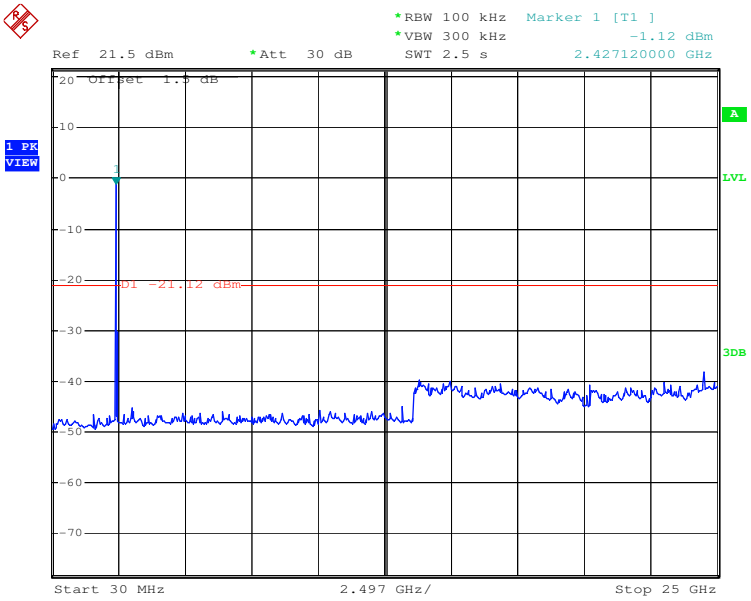
Test mode:	802.11g	Test channel:	Lowest



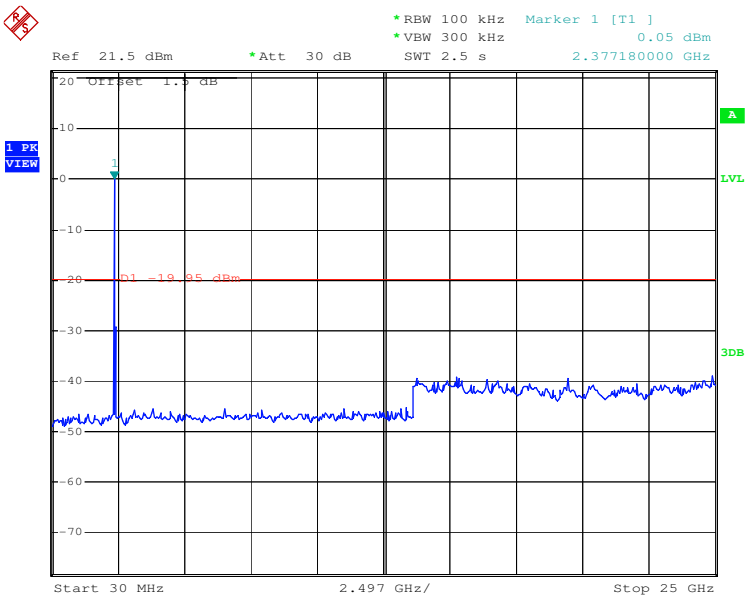
Test mode:	802.11g	Test channel:	Middle



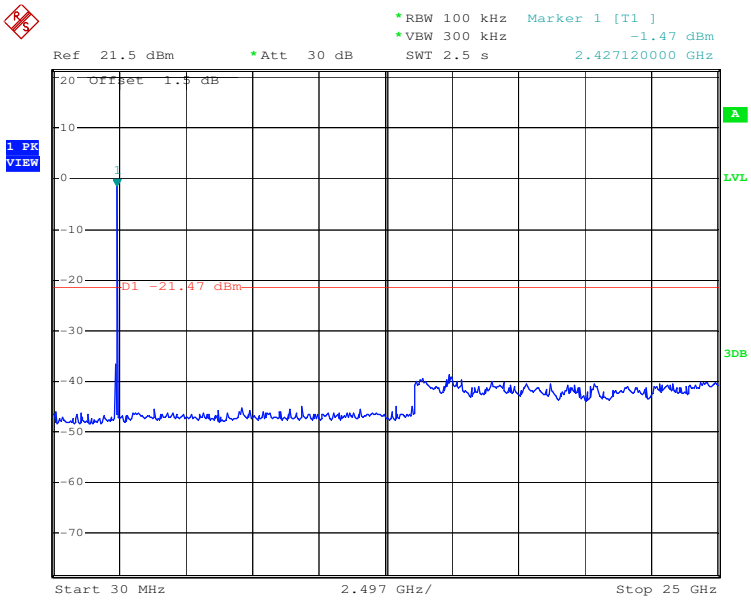
Test mode:	802.11g	Test channel:	Highest



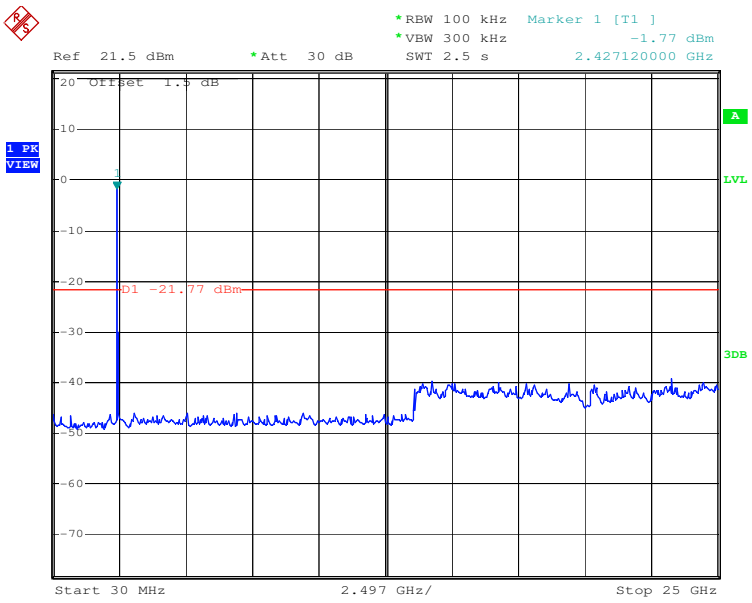
Test mode:	802.11n(HT20)	Test channel:	Lowest



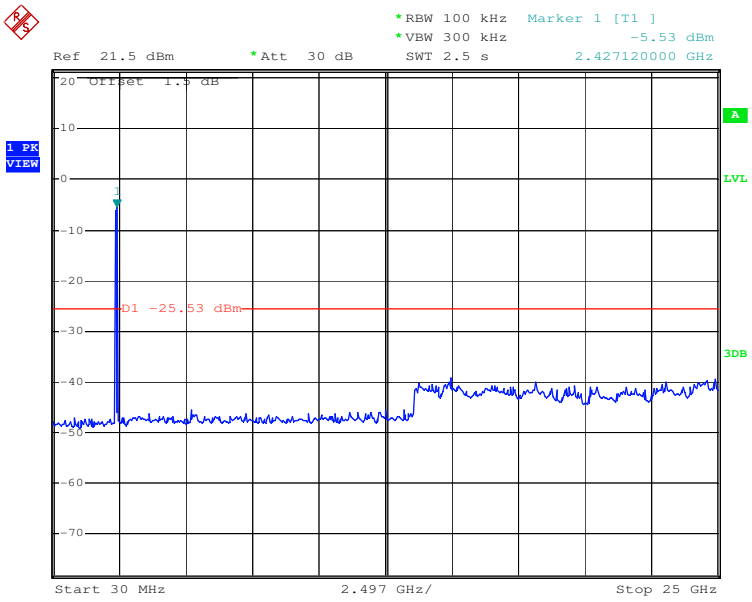
Test mode:	802.11n(HT20)	Test channel:	Middle



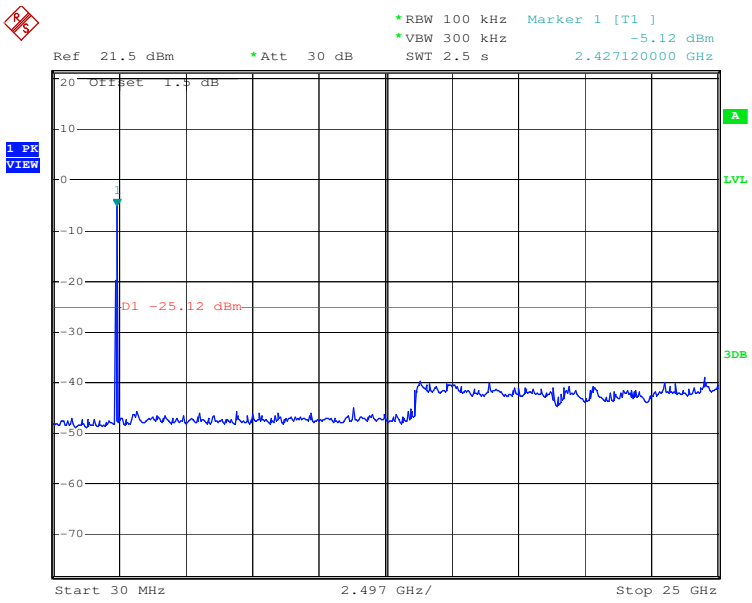
Test mode:	802.11n(HT20)	Test channel:	Highest



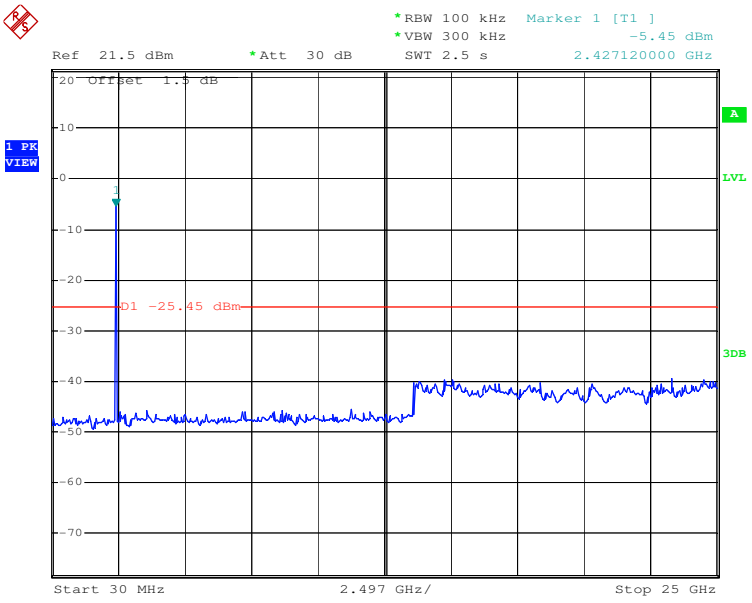
Test mode:	802.11n(HT40)	Test channel:	Lowest



Test mode:	802.11n(HT40)	Test channel:	Middle



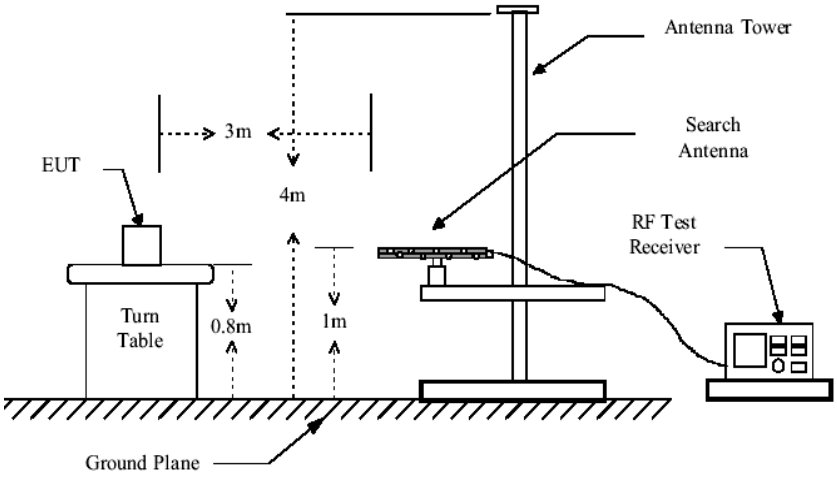
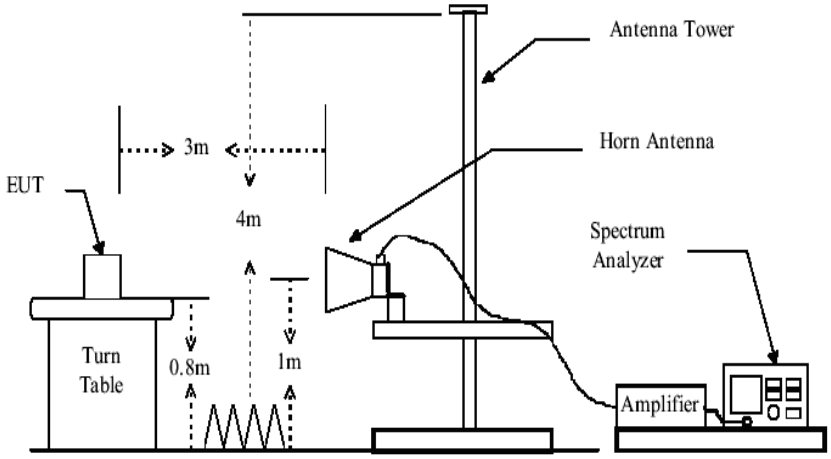
Test mode:	802.11n(HT40)	Test channel:	Highest



5.8 Radiated Emission

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10: 2009</td></tr>
<tr><td>Test Frequency Range:</td><td>30MHz to 25GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m (Semi-Anechoic Chamber)</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>74.0</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Test Procedure:</td><td>The E.U.T and its simulators are placed on a turn table which is 0.8meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10:2009 on radiated measurement.</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 4.8 for details.</td></tr>
<tr><td>Test mode:</td><td>Non-hopping transmitting with modulation.
1. Pre-scan the EUT in 802.11b, 802.11g, 802.11n(HT20) and 802.11n(HT40) modes and find out the worst case is 802.11b mode. only the worst case data was displayed.
2. Test the EUT in Wi-Fi mode.</td></tr>
<tr><td>Test results:</td><td>Pass</td></tr>
</table>

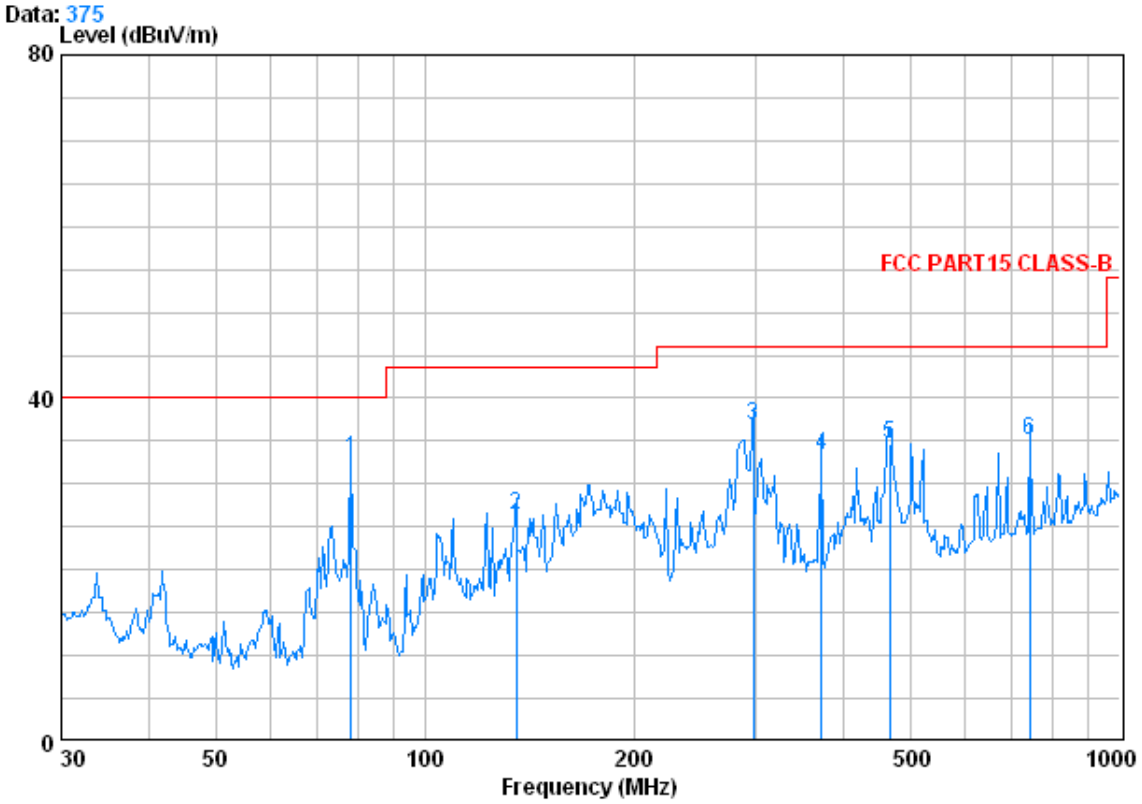
Test setup:	Below 1GHz  Above 1GHz 

Note:
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

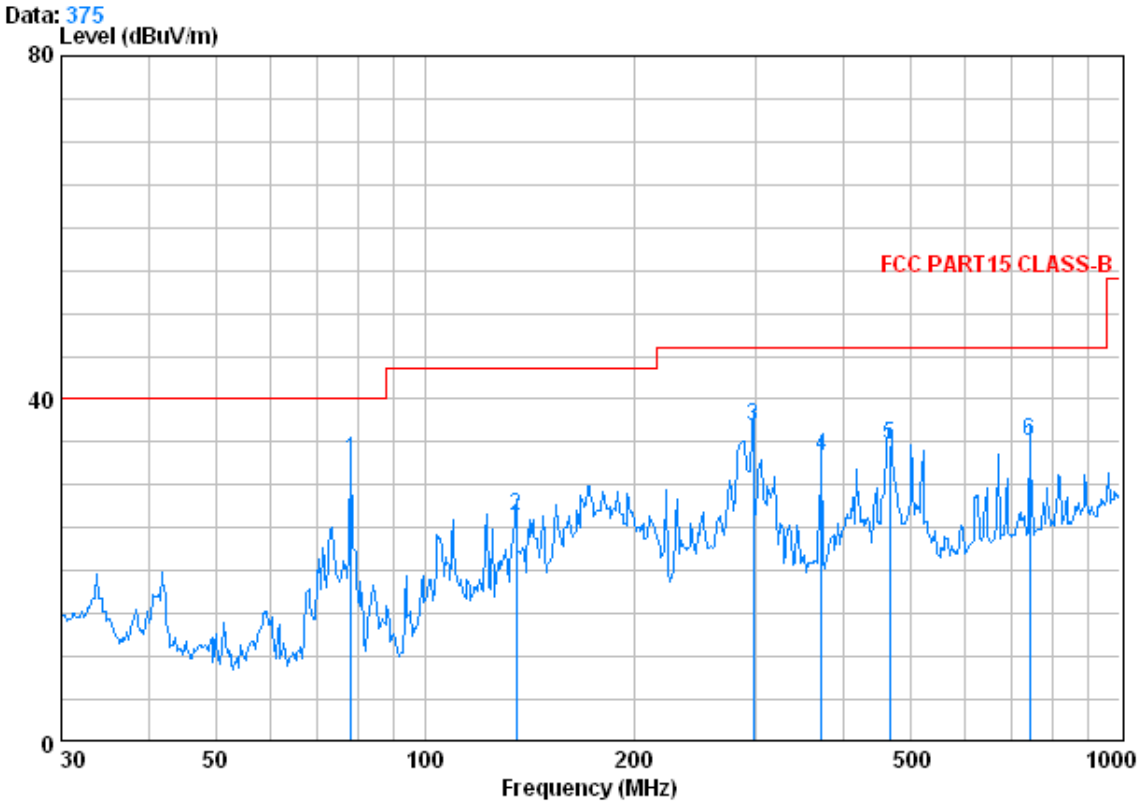
5.8.1 Radiated emission below 1GHz

Vertical:



	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	78.413	1.05	7.59	27.23	51.44	32.85	40.00	-7.15
2	135.506	1.29	7.92	26.98	44.05	26.28	43.50	-17.22
3	297.224	1.89	13.76	26.41	47.57	36.81	46.00	-9.19
4	372.005	2.12	15.94	26.95	42.16	33.27	46.00	-12.73
5	467.235	2.48	17.54	27.54	42.16	34.65	46.00	-11.35
6	742.259	3.03	21.67	27.36	37.74	35.08	46.00	-10.92

Horizontal:



	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	78.413	1.05	7.59	27.23	51.44	32.85	40.00	-7.15
2	135.506	1.29	7.92	26.98	44.05	26.28	43.50	-17.22
3	297.224	1.89	13.76	26.41	47.57	36.81	46.00	-9.19
4	372.005	2.12	15.94	26.95	42.16	33.27	46.00	-12.73
5	467.235	2.48	17.54	27.54	42.16	34.65	46.00	-11.35
6	742.259	3.03	21.67	27.36	37.74	35.08	46.00	-10.92

5.8.2 Transmitter emission above 1GHz

Test mode:	802.11b	Test channel:	Lowest	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over limit	polarization
3702.500	6.05	33.45	40.81	48.55	47.24	74.00	-26.76	Vertical
4795.250	7.42	34.73	41.63	60.44	60.96	74.00	-13.04	Vertical
6252.250	8.06	36.00	40.71	50.20	53.55	74.00	-20.45	Vertical
7650.500	9.23	36.00	39.49	48.97	54.71	74.00	-19.29	Vertical
9495.250	9.66	37.20	37.89	46.70	55.67	74.00	-18.33	Vertical
11175.500	10.69	38.46	37.94	46.10	57.31	74.00	-16.69	Vertical
3056.250	5.14	33.38	40.34	49.99	48.17	74.00	-25.83	Horizontal
4043.250	6.53	33.94	41.07	49.37	48.77	74.00	-25.23	Horizontal
4795.250	7.42	34.73	41.63	64.69	65.21	74.00	-8.79	Horizontal
6628.250	8.19	36.18	40.38	50.42	54.41	74.00	-19.59	Horizontal
8273.250	9.41	36.11	38.95	49.77	56.34	74.00	-17.66	Horizontal
10952.250	10.52	38.48	37.84	46.39	57.55	74.00	-16.45	Horizontal

Test mode:	802.11b	Test channel:	Lowest	Remark:	Average

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over limit	polarization
3702.500	6.05	33.45	40.81	39.65	38.34	54.00	-15.66	Vertical
4795.250	7.42	34.73	41.63	49.01	49.53	54.00	-4.47	Vertical
6252.250	8.06	36.00	40.71	40.70	44.05	54.00	-9.95	Vertical
7650.500	9.23	36.00	39.49	38.88	44.62	54.00	-9.38	Vertical
9495.250	9.66	37.20	37.89	37.46	46.43	54.00	-7.57	Vertical
11175.500	10.69	38.46	37.94	35.33	46.54	54.00	-7.46	Vertical
3056.250	5.14	33.38	40.34	40.00	38.18	54.00	-15.82	Horizontal
4043.250	6.53	33.94	41.07	41.23	40.63	54.00	-13.37	Horizontal
4795.250	7.42	34.73	41.63	48.01	48.53	54.00	-5.47	Horizontal
6628.250	8.19	36.18	40.38	40.22	44.21	54.00	-9.79	Horizontal
8273.250	9.41	36.11	38.95	39.08	45.65	54.00	-8.35	Horizontal
10952.250	10.52	38.48	37.84	38.03	49.19	54.00	-4.81	Horizontal

Test mode:	802.11b	Test channel:	Middle	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
3373.500	5.57	33.25	40.58	48.92	47.16	74.00	-26.84	Vertical
4360.500	6.90	34.83	41.30	50.05	50.48	74.00	-23.52	Vertical
4889.250	7.49	34.57	41.70	58.19	58.55	74.00	-15.45	Vertical
5958.500	7.96	35.64	40.96	51.01	53.65	74.00	-20.35	Vertical
7897.250	9.30	36.00	39.28	49.81	55.83	74.00	-18.17	Vertical
10235.500	10.02	37.98	37.54	46.37	56.83	74.00	-17.17	Vertical
3091.500	5.19	33.37	40.37	51.18	49.37	74.00	-24.63	Horizontal
4137.250	6.63	34.22	41.14	50.05	49.76	74.00	-24.24	Horizontal
4889.250	7.49	34.57	41.70	58.71	59.07	74.00	-14.93	Horizontal
6522.500	8.15	36.28	40.46	50.93	54.90	74.00	-19.10	Horizontal
7380.250	8.94	35.95	39.72	50.82	55.99	74.00	-18.01	Horizontal
10376.500	10.11	38.16	37.61	46.46	57.12	74.00	-16.88	Horizontal

Test mode:	802.11b	Test channel:	Middle	Remark:	Average

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBµV)	Emission Level (dBµV/m)	Limit (dBµV/m)	Over limit	polarization
3373.500	5.57	33.25	40.58	40.15	38.39	54.00	-15.61	Vertical
4360.500	6.90	34.83	41.30	40.87	41.30	54.00	-12.70	Vertical
4889.250	7.49	34.57	41.70	48.38	48.74	54.00	-5.26	Vertical
5958.500	7.96	35.64	40.96	40.92	43.56	54.00	-10.44	Vertical
7897.250	9.30	36.00	39.28	39.55	45.57	54.00	-8.43	Vertical
10235.500	10.02	37.98	37.54	36.75	47.21	54.00	-6.79	Vertical
3091.500	5.19	33.37	40.37	41.35	39.54	54.00	-14.46	Horizontal
4137.250	6.63	34.22	41.14	42.07	41.78	54.00	-12.22	Horizontal
4889.250	7.49	34.57	41.70	48.00	48.36	54.00	-5.64	Horizontal
6522.500	8.15	36.28	40.46	41.66	45.63	54.00	-8.37	Horizontal
7380.250	8.94	35.95	39.72	40.78	45.95	54.00	-8.05	Horizontal
10376.500	10.11	38.16	37.61	35.52	46.18	54.00	-7.82	Horizontal

Test mode:	802.11b	Test channel:	Highest	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2668.500	4.80	32.93	40.06	50.73	48.40	74.00	-25.60	Vertical
3761.250	6.13	33.51	40.86	46.95	45.73	74.00	-28.27	Vertical
4842.250	4.71	34.65	41.65	63.64	61.35	74.00	-12.65	Vertical
6193.500	8.04	35.94	40.76	47.13	50.35	74.00	-23.65	Vertical
8120.500	9.36	36.05	39.08	46.17	52.50	74.00	-21.50	Vertical
9871.250	9.79	37.58	37.57	42.81	52.61	74.00	-21.39	Vertical
2915.250	5.00	33.28	40.24	47.31	45.35	74.00	-28.65	Horizontal
4008.000	6.48	33.85	41.04	46.85	46.14	74.00	-27.86	Horizontal
4842.250	7.46	34.65	41.65	58.76	59.22	74.00	-14.78	Horizontal
5911.500	7.93	35.56	41.01	47.88	50.36	74.00	-23.64	Horizontal
7756.250	9.26	36.00	39.39	47.44	53.31	74.00	-20.69	Horizontal
10482.250	10.19	38.28	37.65	42.51	53.33	74.00	-20.67	Horizontal

Test mode:	802.11b	Test channel:	Highest	Remark:	Average

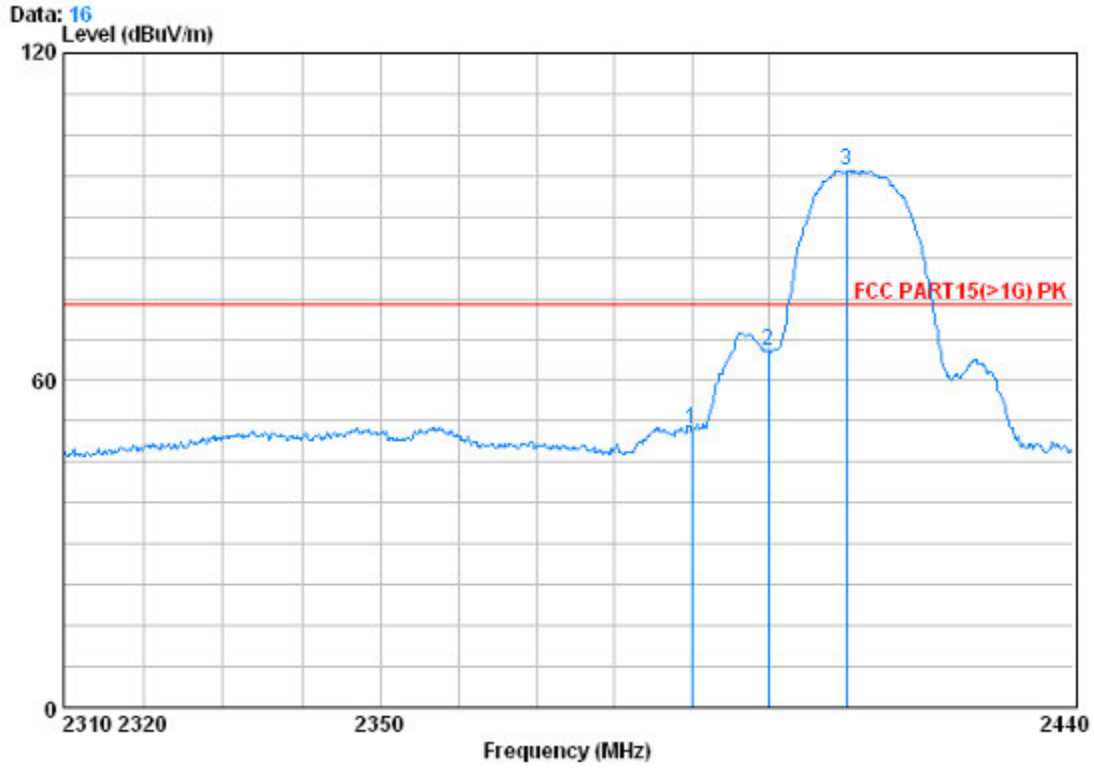
Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over limit	polarization
2668.500	4.80	32.93	40.06	40.18	37.85	54.00	-16.15	Vertical
3761.250	6.13	33.51	40.86	38.24	37.02	54.00	-16.98	Vertical
4842.250	7.46	34.65	41.65	48.33	48.79	54.00	-5.21	Vertical
6193.500	8.04	35.94	40.76	38.60	41.82	54.00	-12.18	Vertical
8120.500	9.36	36.05	39.08	36.53	42.86	54.00	-11.14	Vertical
9871.250	9.79	37.58	37.57	34.71	44.51	54.00	-9.49	Vertical
2915.250	5.00	33.28	40.24	39.56	37.60	54.00	-16.40	Horizontal
4008.000	6.48	33.85	41.04	38.91	38.20	54.00	-15.80	Horizontal
4842.250	7.46	34.65	41.65	48.12	48.58	54.00	-5.42	Horizontal
5911.500	7.93	35.56	41.01	38.49	40.97	54.00	-13.03	Horizontal
7756.250	9.26	36.00	39.39	38.19	44.06	54.00	-9.94	Horizontal
10482.250	10.19	38.28	37.65	33.09	43.91	54.00	-10.09	Horizontal

Remark:

The disturbance above 12GHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics have been displayed.

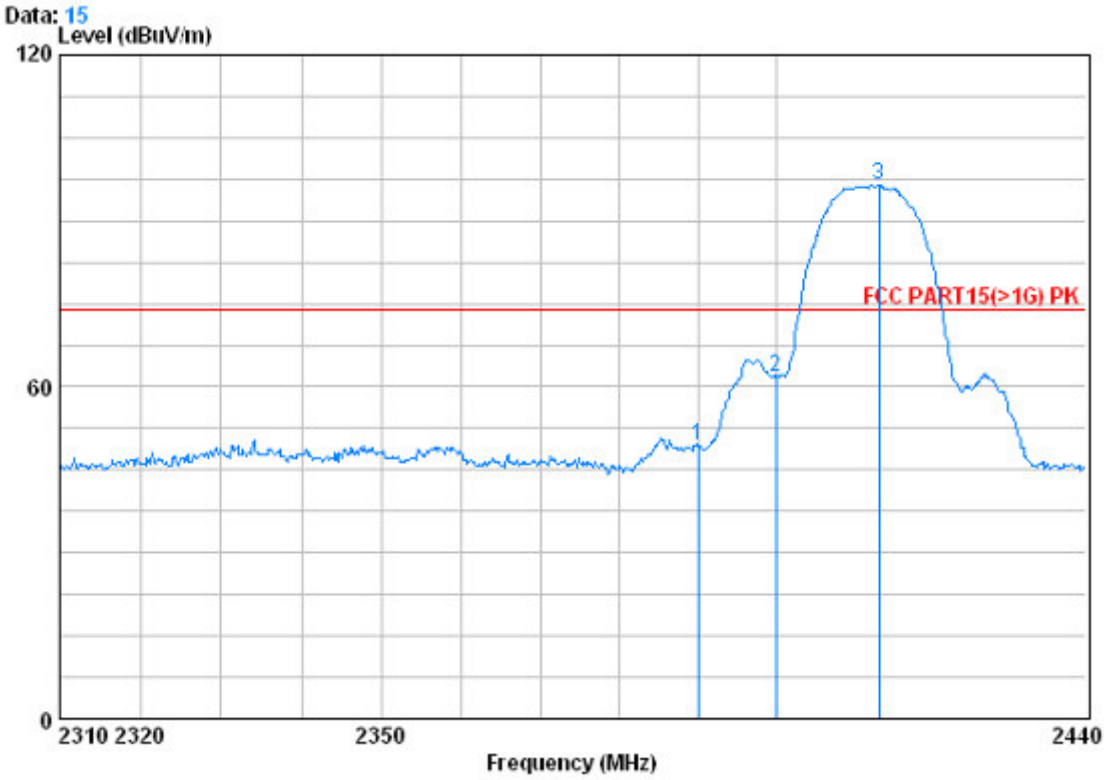
5.8.3 Band edge (Radiated Emission)

Test mode:	802.11b	Test channel:	Lowest	Vertical	Peak



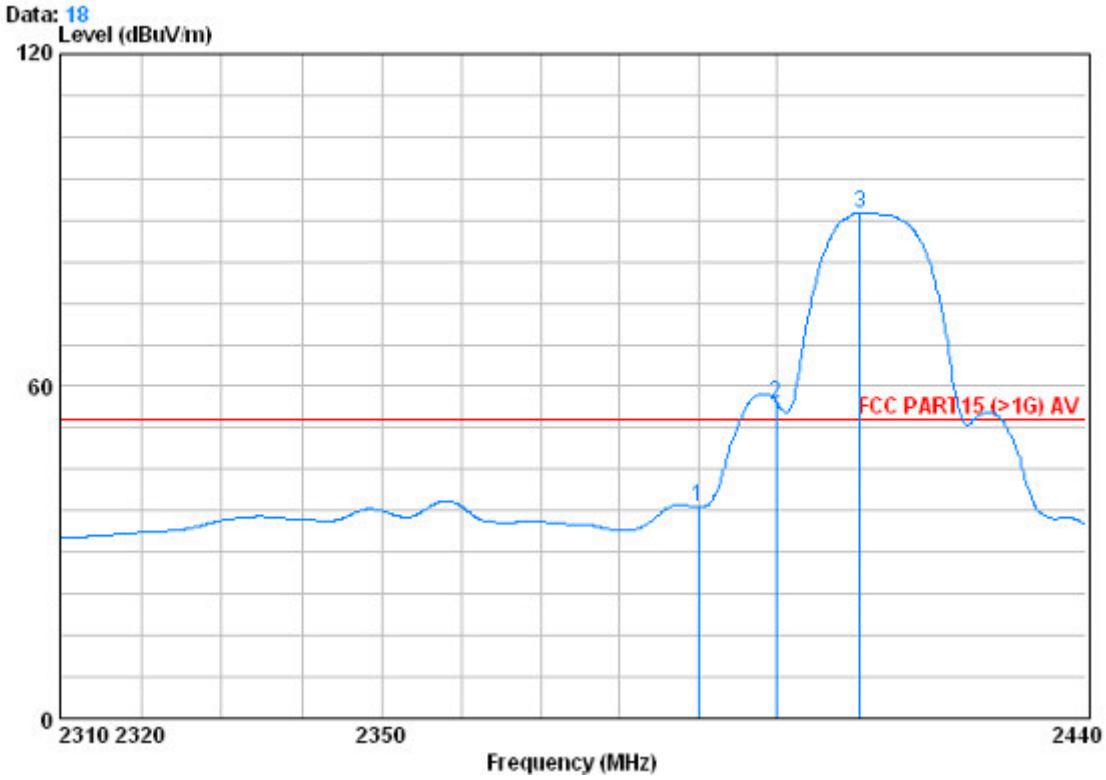
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	55.30	50.95	74.00	-23.05
2	2400.000	2.98	32.51	39.86	69.67	65.30	74.00	-8.70
3 @	2410.230	2.99	32.54	39.86	102.76	98.44	74.00	24.44

Test mode:	802.11b	Test channel:	Lowest	Horizontal	Peak



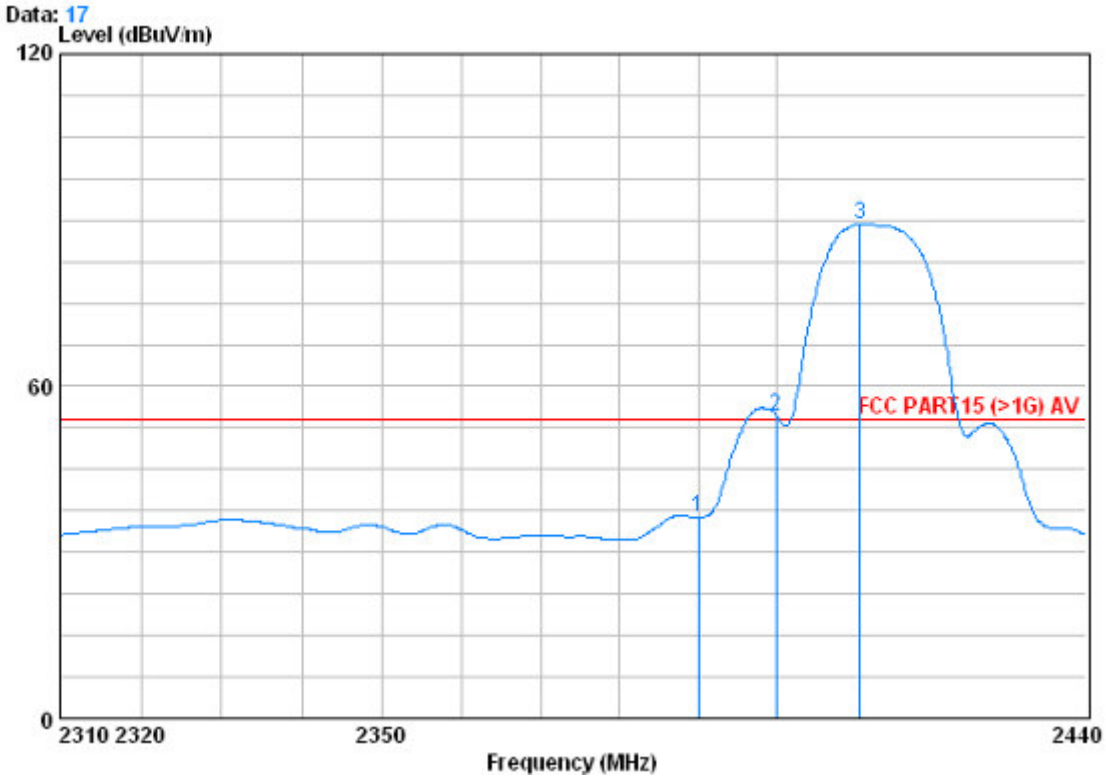
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	53.84	49.49	74.00	-24.51
2	2400.000	2.98	32.51	39.86	66.26	61.90	74.00	-12.10
3 X	2413.220	2.99	32.54	39.86	100.91	96.58	74.00	22.58

Test mode:	802.11b	Test channel:	Lowest	Vertical	Average



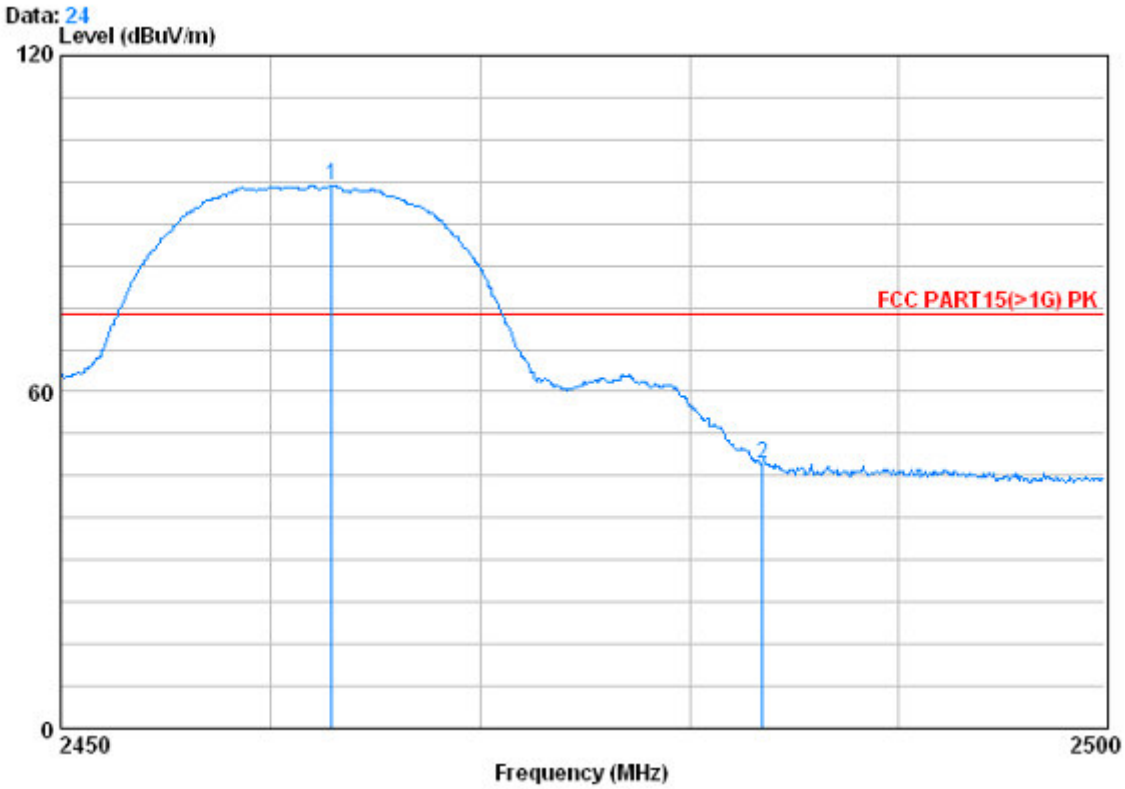
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	42.49	38.14	54.00	-15.86
2 X	2400.000	2.98	32.51	39.86	61.34	56.98	54.00	2.98
3 @	2410.750	2.99	32.54	39.86	95.58	91.25	54.00	37.25

Test mode:	802.11b	Test channel:	Lowest	Horizontal	Average



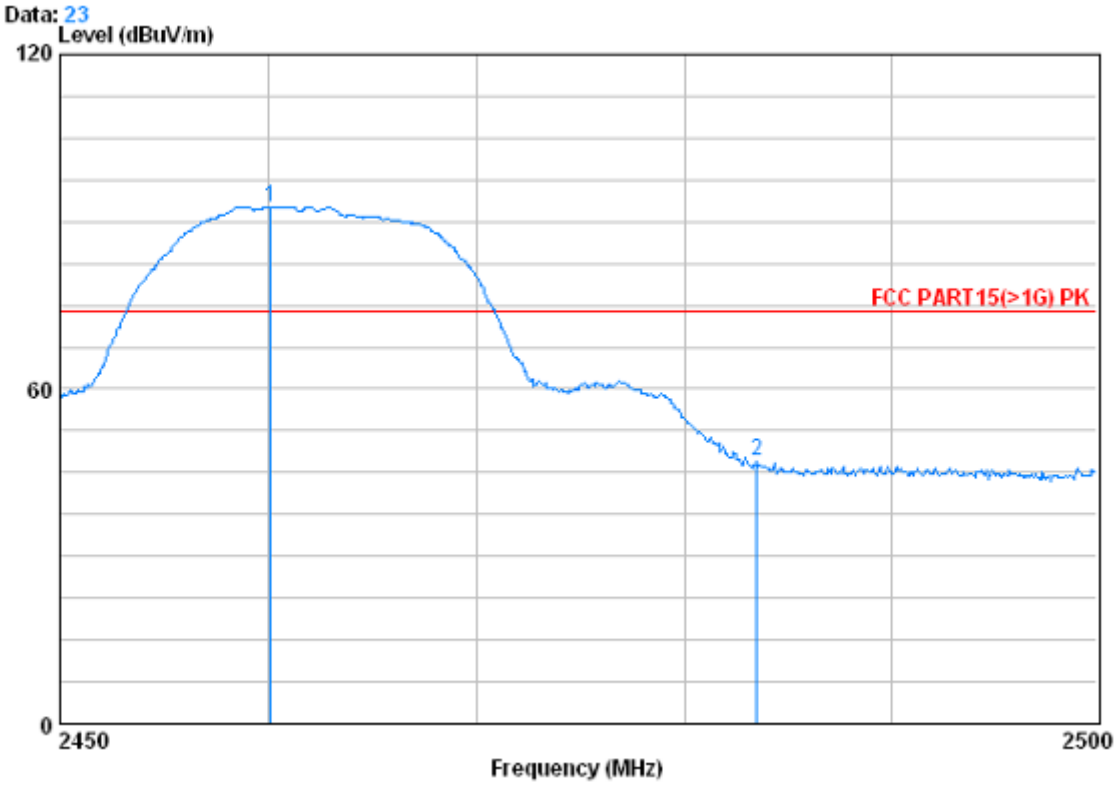
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	40.61	36.25	54.00	-17.75
2 X	2400.000	2.98	32.51	39.86	58.90	54.53	54.00	0.53
3 @	2410.750	2.99	32.54	39.86	93.59	89.26	54.00	35.26

Test mode:	802.11b	Test channel:	Highest	Vertical	Peak



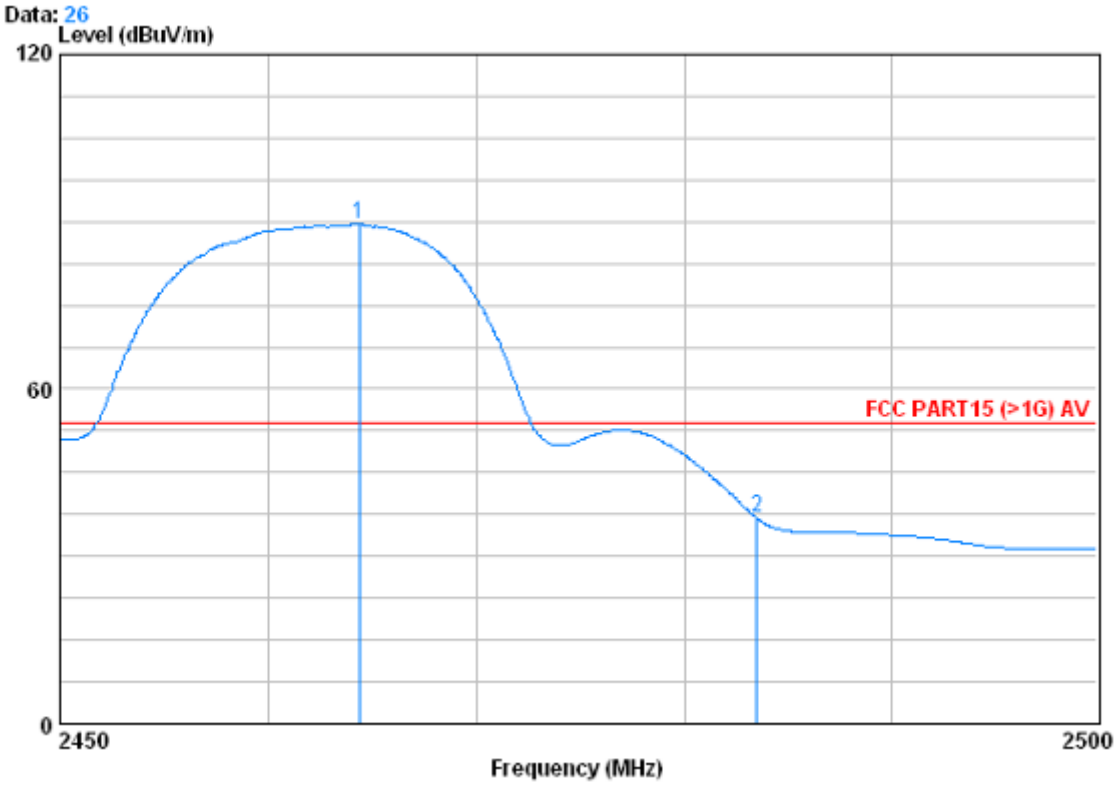
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 @	2462.900	3.02	32.64	39.91	101.07	96.82	74.00	22.82
2	2483.500	3.03	32.67	39.92	51.24	47.02	74.00	-26.98

Test mode:	802.11b	Test channel:	Highest	Horizontal	Peak



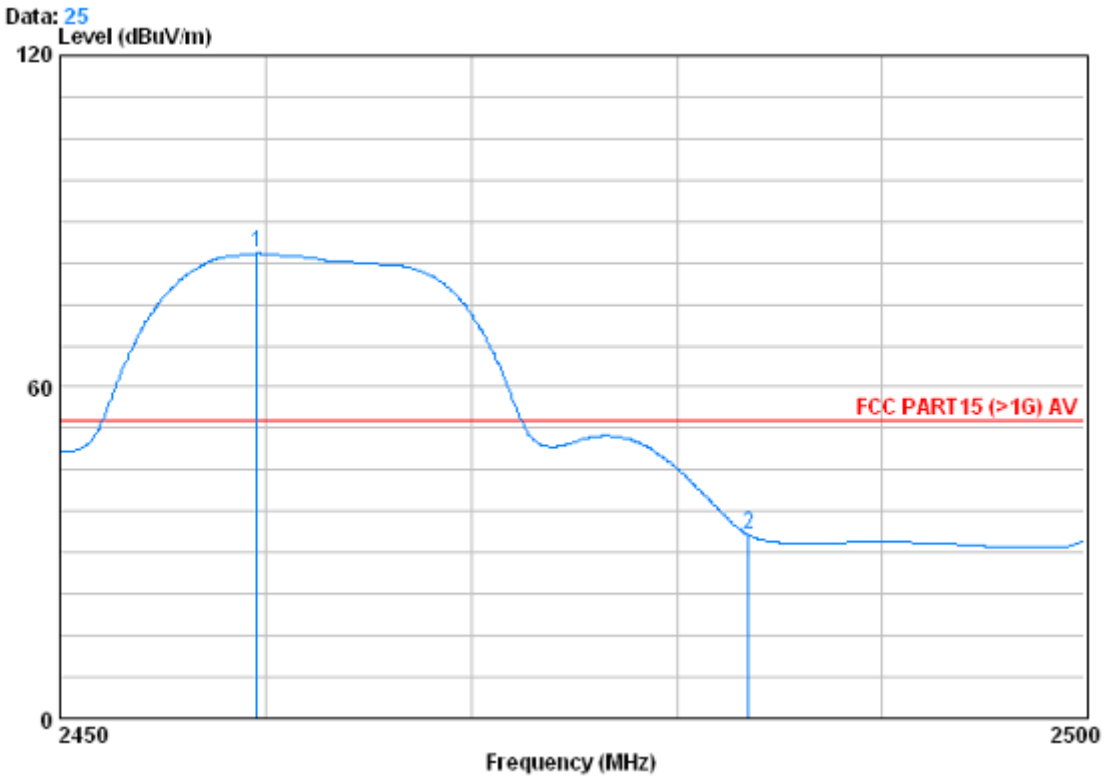
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 X	2460.100	3.02	32.64	39.91	96.91	92.66	74.00	18.66
2	2483.500	3.03	32.67	39.92	51.22	47.00	74.00	-27.00

Test mode:	802.11b	Test channel:	Highest	Vertical	Average



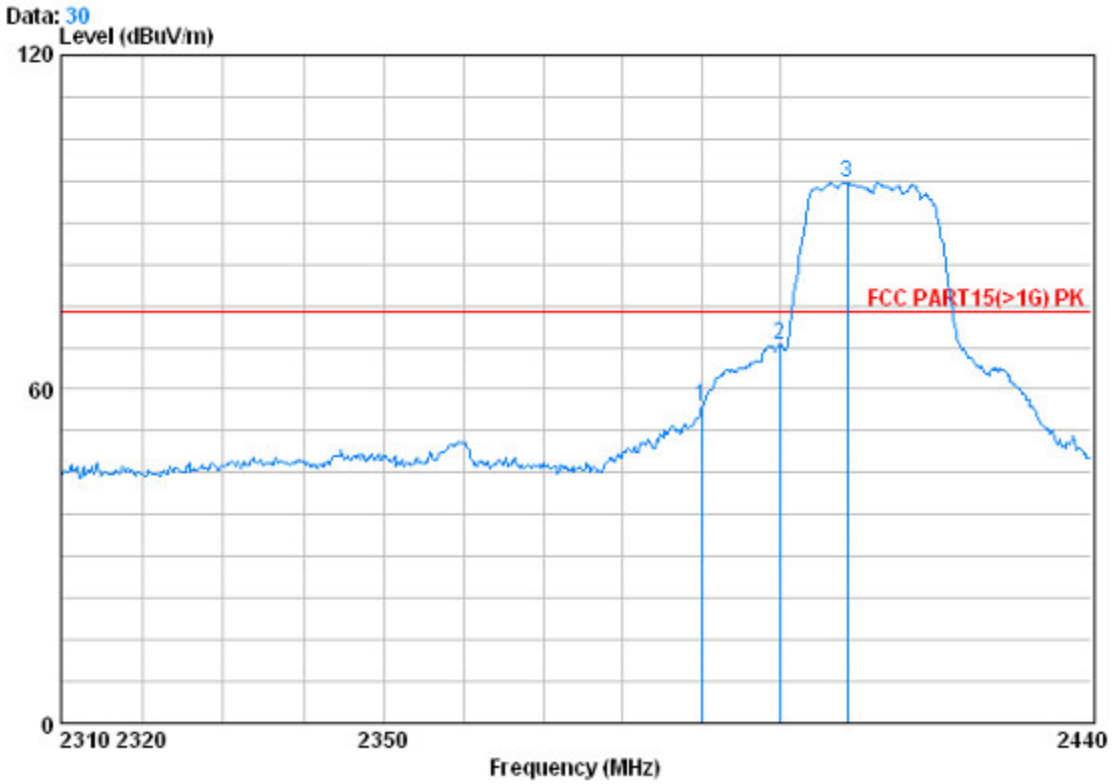
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 @	2464.350	3.02	32.64	39.91	93.75	89.51	54.00	35.51
2	2483.500	3.03	32.67	39.92	41.17	36.95	54.00	-17.05

Test mode:	802.11b	Test channel:	Highest	Horizontal	Average



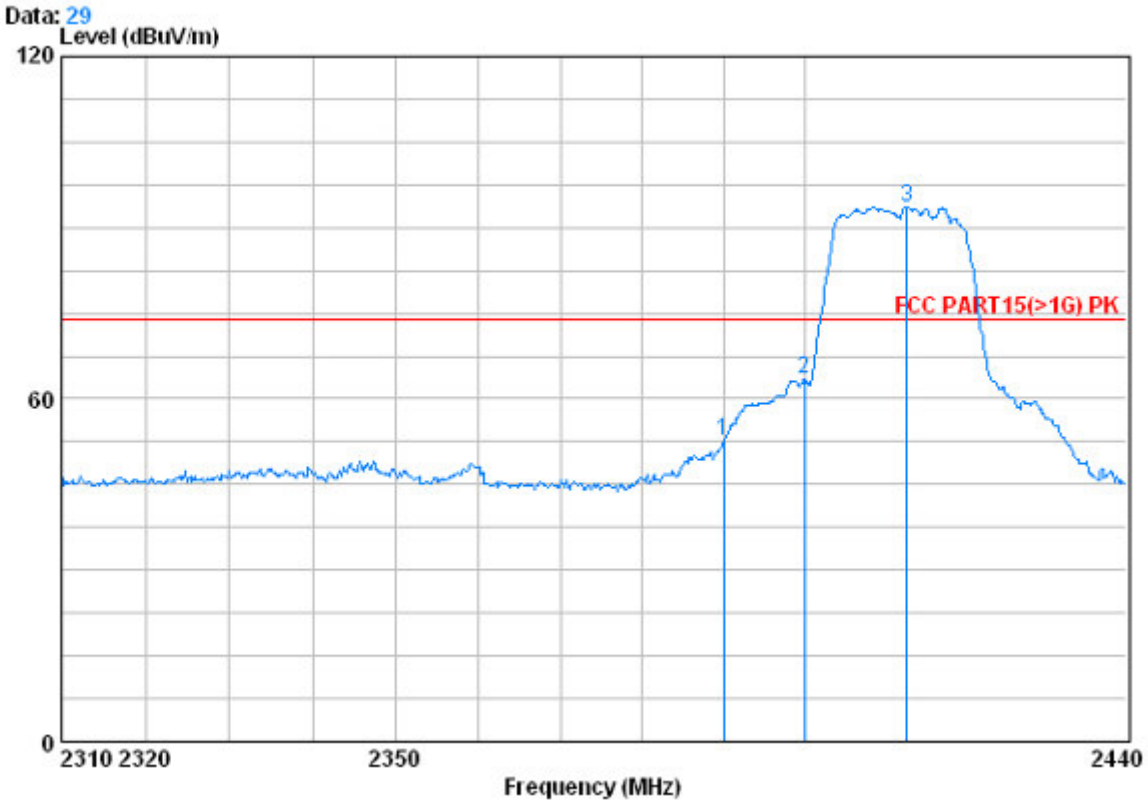
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 @	2459.550	3.02	32.64	39.91	88.47	84.22	54.00	30.22
2	2483.500	3.03	32.67	39.92	37.49	33.27	54.00	-20.73

Test mode:	802.11g	Test channel:	Lowest	Vertical	Peak



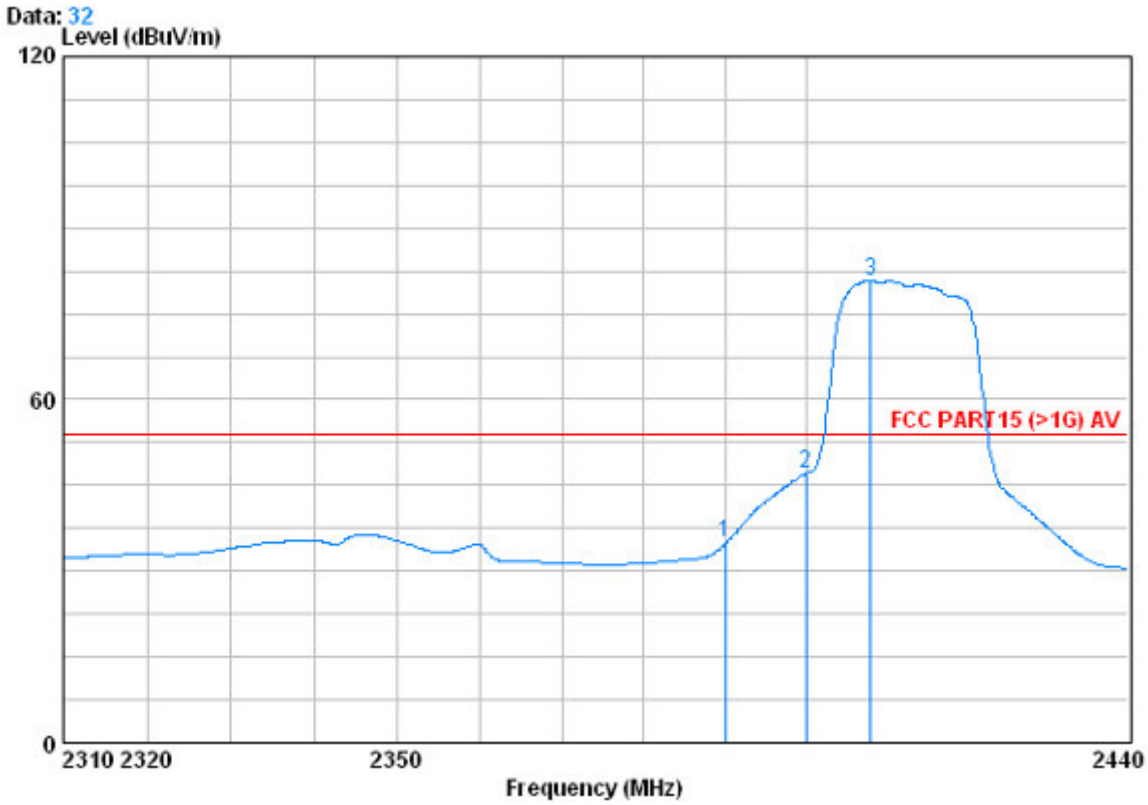
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	61.15	56.79	74.00	-17.21
2	2400.000	2.98	32.51	39.86	72.41	68.04	74.00	-5.96
3 @	2408.540	2.99	32.54	39.86	101.54	97.22	74.00	23.22

Test mode:	802.11g	Test channel:	Lowest	Horizontal	Peak



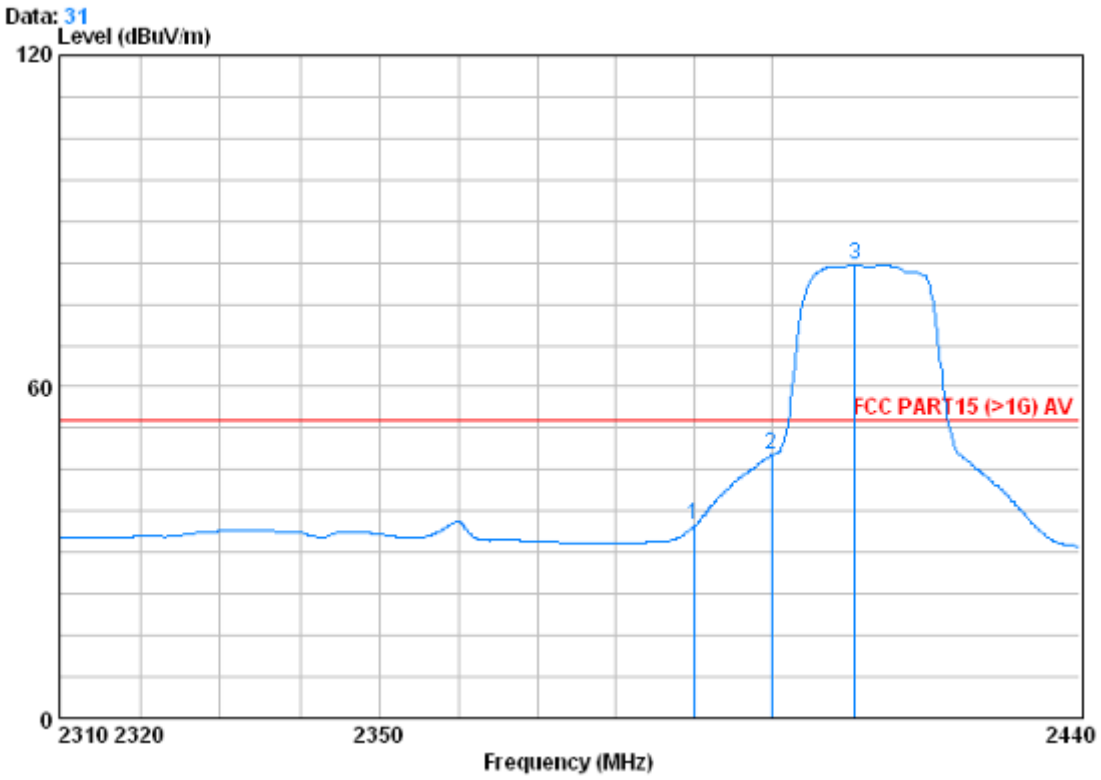
		Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1		2390.000	2.98	32.51	39.85	56.96	52.61	74.00	-21.39
2		2400.000	2.98	32.51	39.86	67.65	63.28	74.00	-10.72
3	X	2412.700	2.99	32.54	39.86	97.98	93.65	74.00	19.65

Test mode:	802.11g	Test channel:	Lowest	Vertical	Average



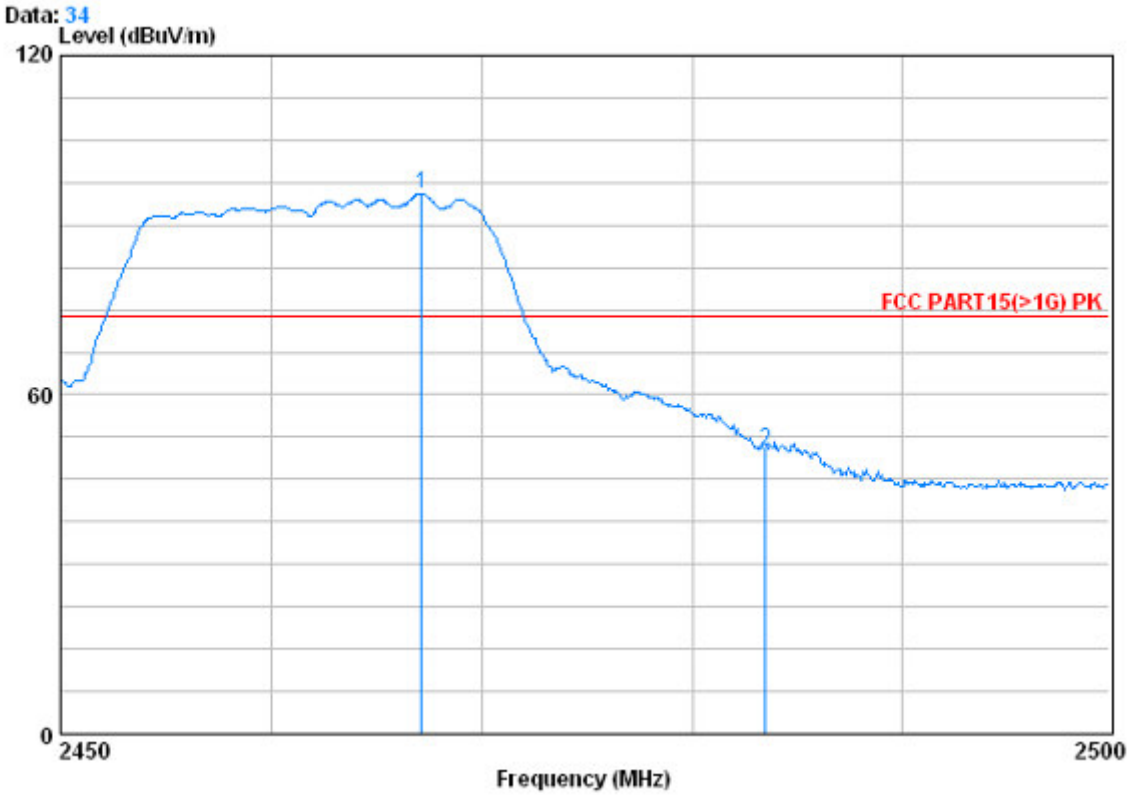
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	39.24	34.88	54.00	-19.12
2	2400.000	2.98	32.51	39.86	51.60	47.24	54.00	-6.76
3 @	2408.020	2.99	32.54	39.86	85.08	80.76	54.00	26.76

Test mode:	802.11g	Test channel:	Lowest	Horizontal	Average



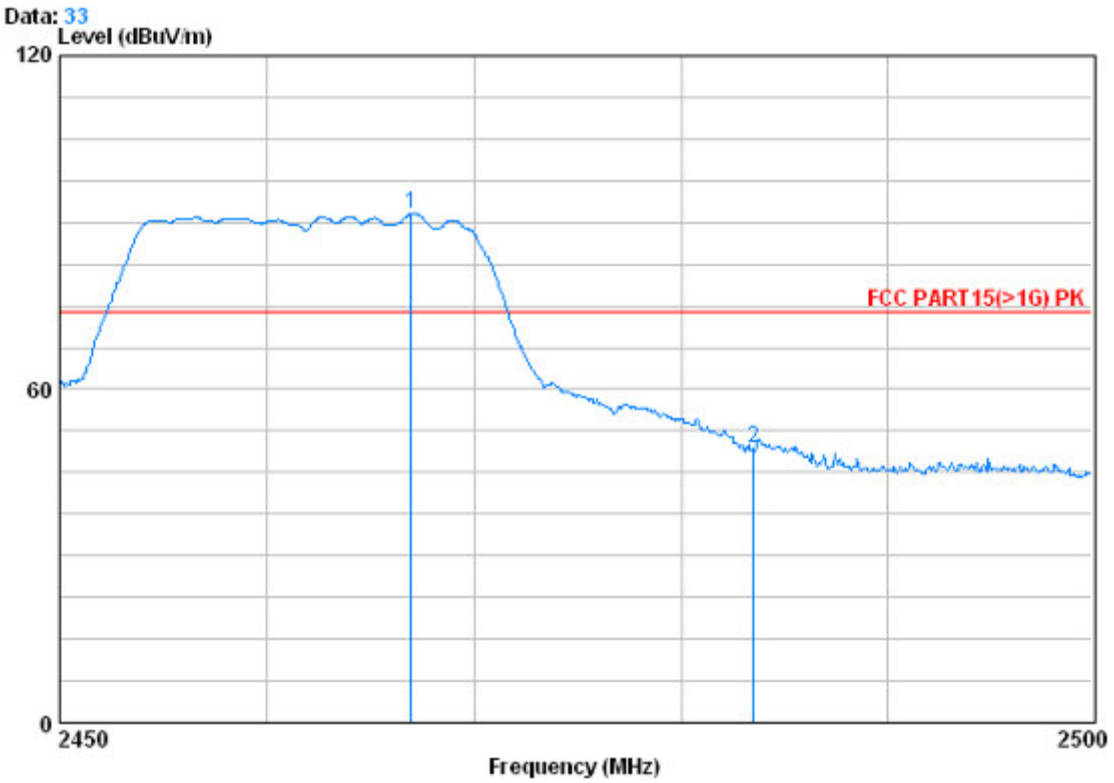
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	39.18	34.83	54.00	-19.17
2	2400.000	2.98	32.51	39.86	52.07	47.70	54.00	-6.30
3 @	2410.750	2.99	32.54	39.86	86.49	82.16	54.00	28.16

Test mode:	802.11g	Test channel:	Highest	Vertical	Peak



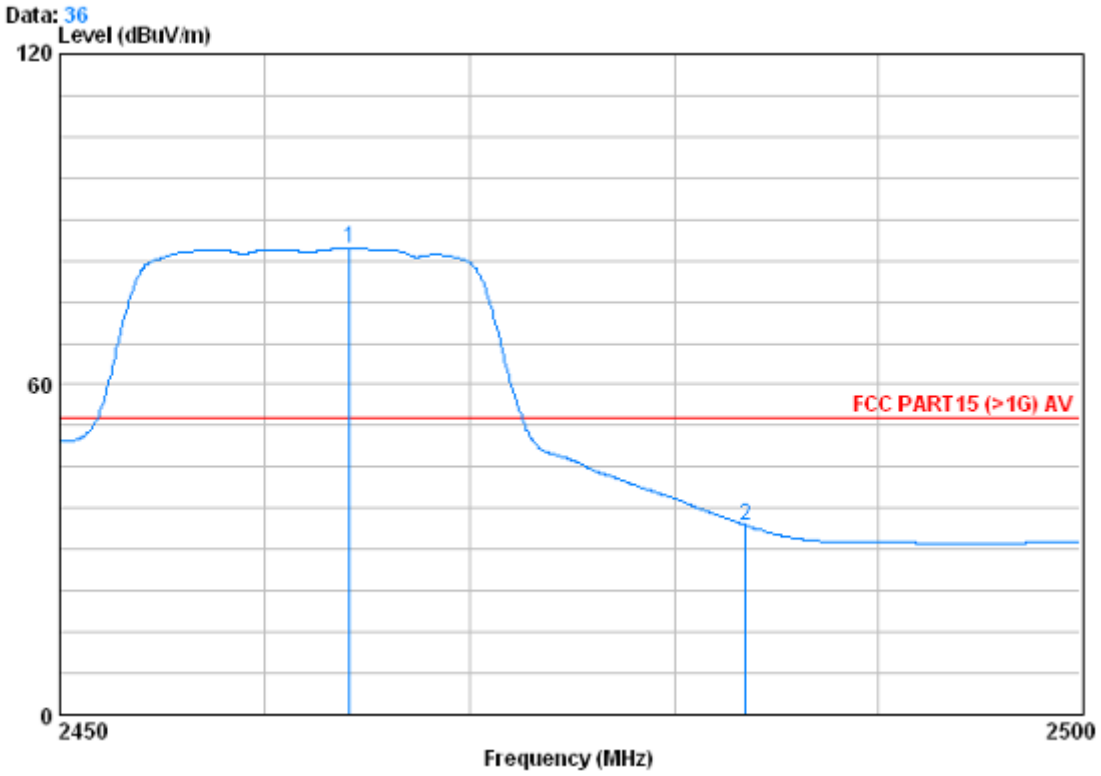
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 X	2467.100	3.02	32.64	39.91	99.77	95.52	74.00	21.52
2	2483.500	3.03	32.67	39.92	54.31	50.09	74.00	-23.91

Test mode:	802.11g	Test channel:	Highest	Horizontal	Peak



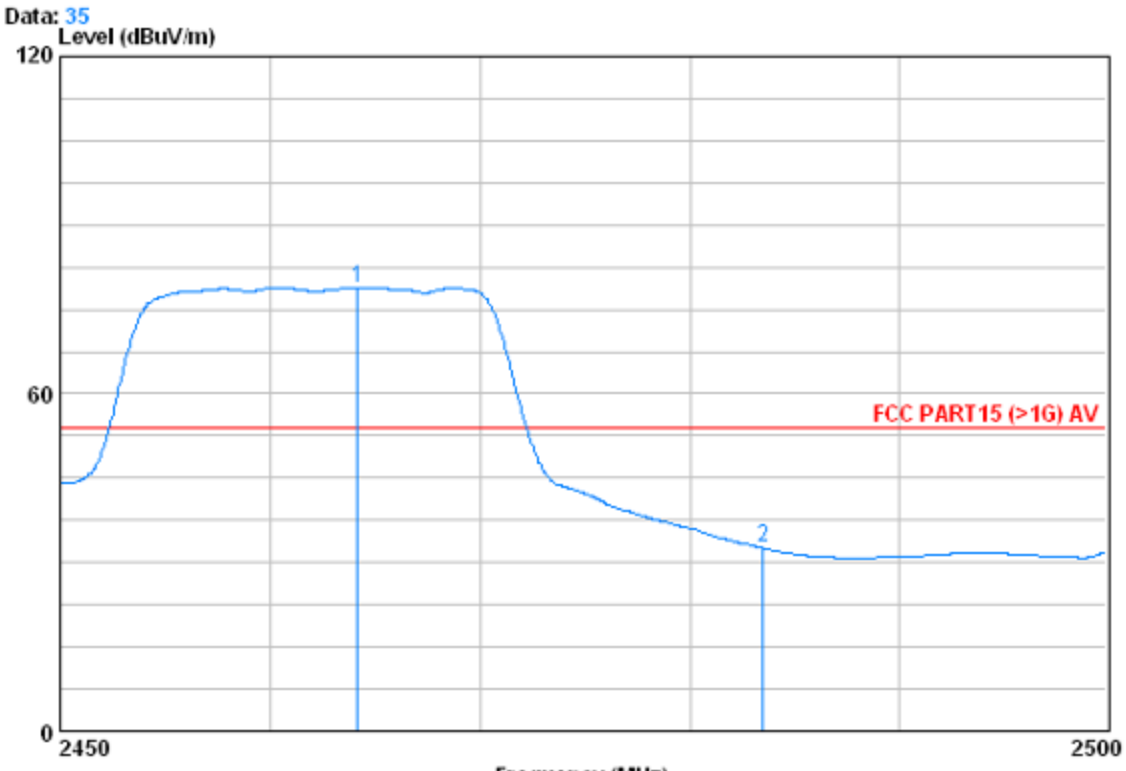
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 X	2466.950	3.02	32.64	39.91	95.87	91.62	74.00	17.62
2	2483.500	3.03	32.67	39.92	53.55	49.33	74.00	-24.67

Test mode:	802.11g	Test channel:	Highest	Vertical	Average



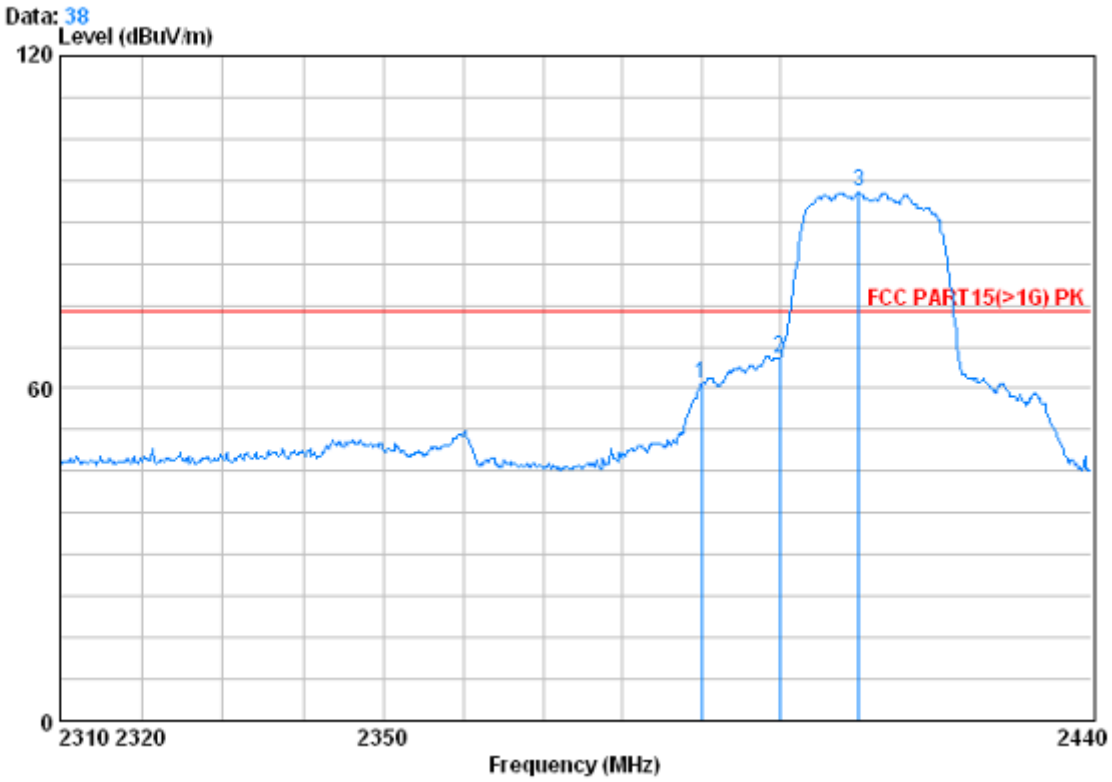
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 @	2464.100	3.02	32.64	39.91	88.96	84.71	54.00	30.71
2	2483.500	3.03	32.67	39.92	38.70	34.48	54.00	-19.52

Test mode:	802.11g	Test channel:	Highest	Horizontal	Average



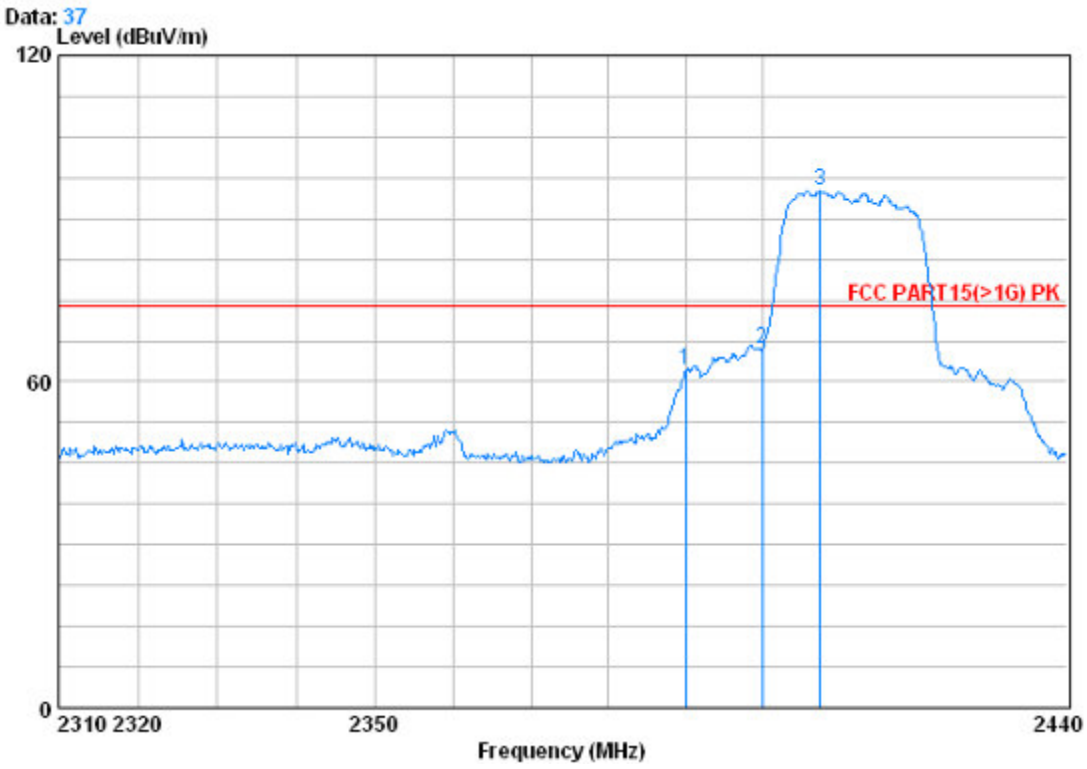
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 @	2464.100	3.02	32.64	39.91	83.10	78.85	54.00	24.85
2	2483.500	3.03	32.67	39.92	36.78	32.56	54.00	-21.44

Test mode:	802.11n(HT20)	Test channel:	Lowest	Vertical	Peak



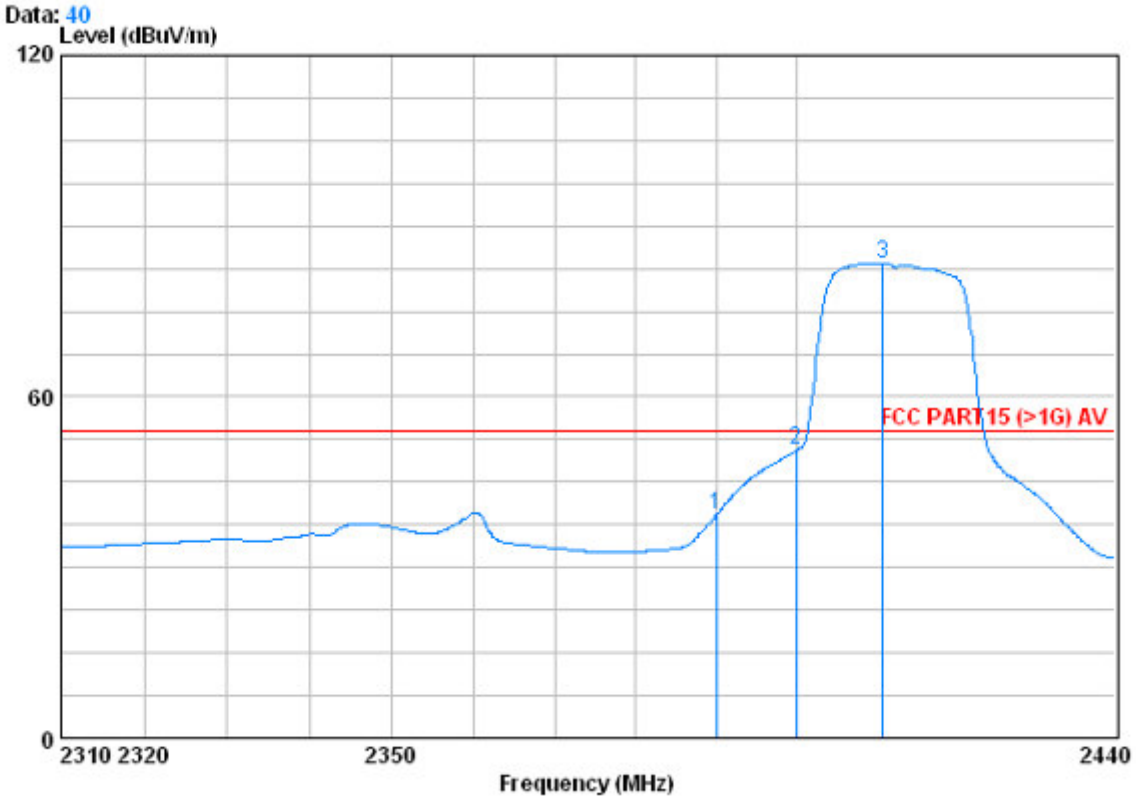
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	65.29	60.94	74.00	-13.06
2	2400.000	2.98	32.51	39.86	69.89	65.52	74.00	-8.48
3 X	2410.100	2.99	32.54	39.86	99.71	95.38	74.00	21.38

Test mode:	802.11n(HT20)	Test channel:	Lowest	Horizontal	Peak



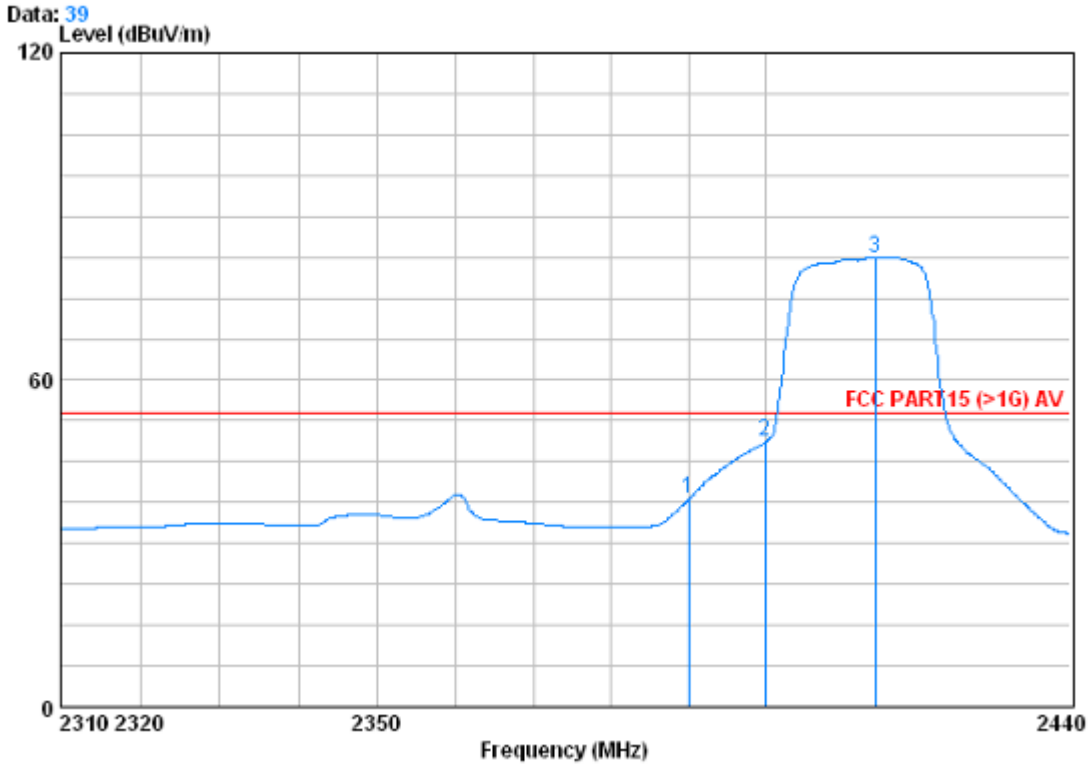
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	66.47	62.11	74.00	-11.89
2	2400.000	2.98	32.51	39.86	70.53	66.16	74.00	-7.84
3 X	2407.500	2.99	32.54	39.86	99.35	95.02	74.00	21.02

Test mode:	802.11n(HT20)	Test channel:	Lowest	Vertical	Average



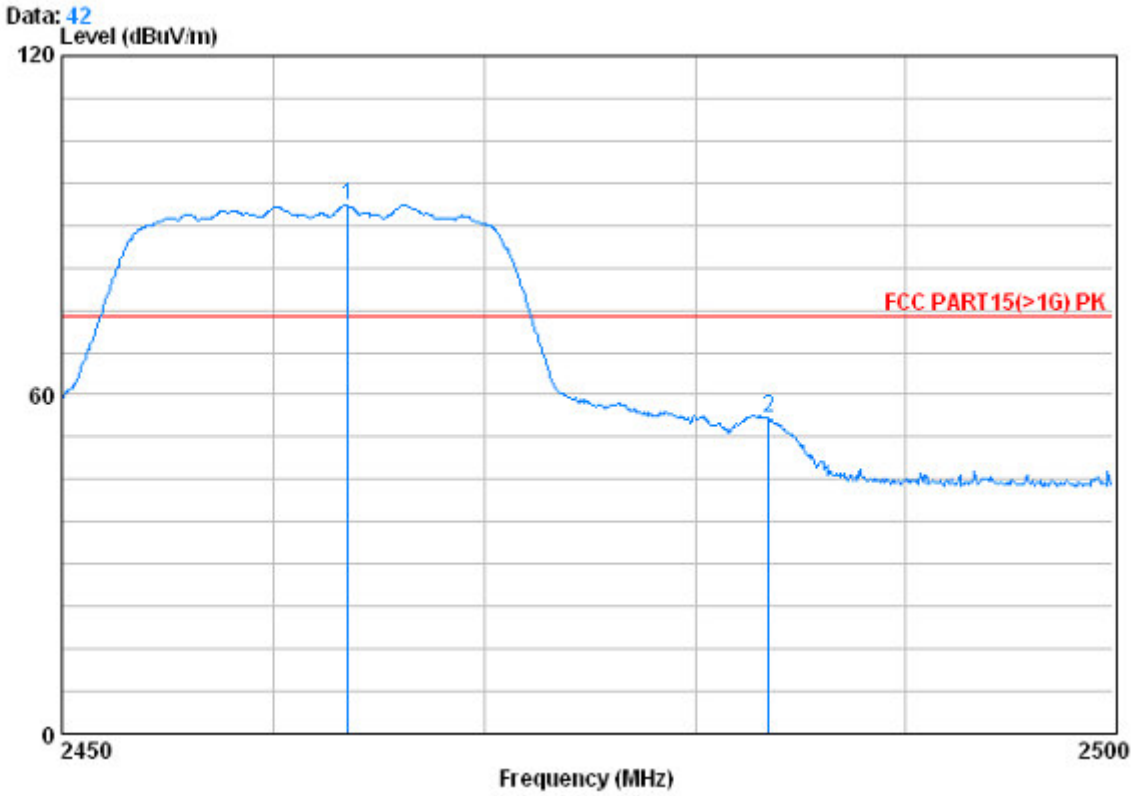
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	43.66	39.30	54.00	-14.70
2	2400.000	2.98	32.51	39.86	54.95	50.59	54.00	-3.41
3 @	2410.750	2.99	32.54	39.86	87.84	83.51	54.00	29.51

Test mode:	802.11n(HT20)	Test channel:	Lowest	Horizontal	Average



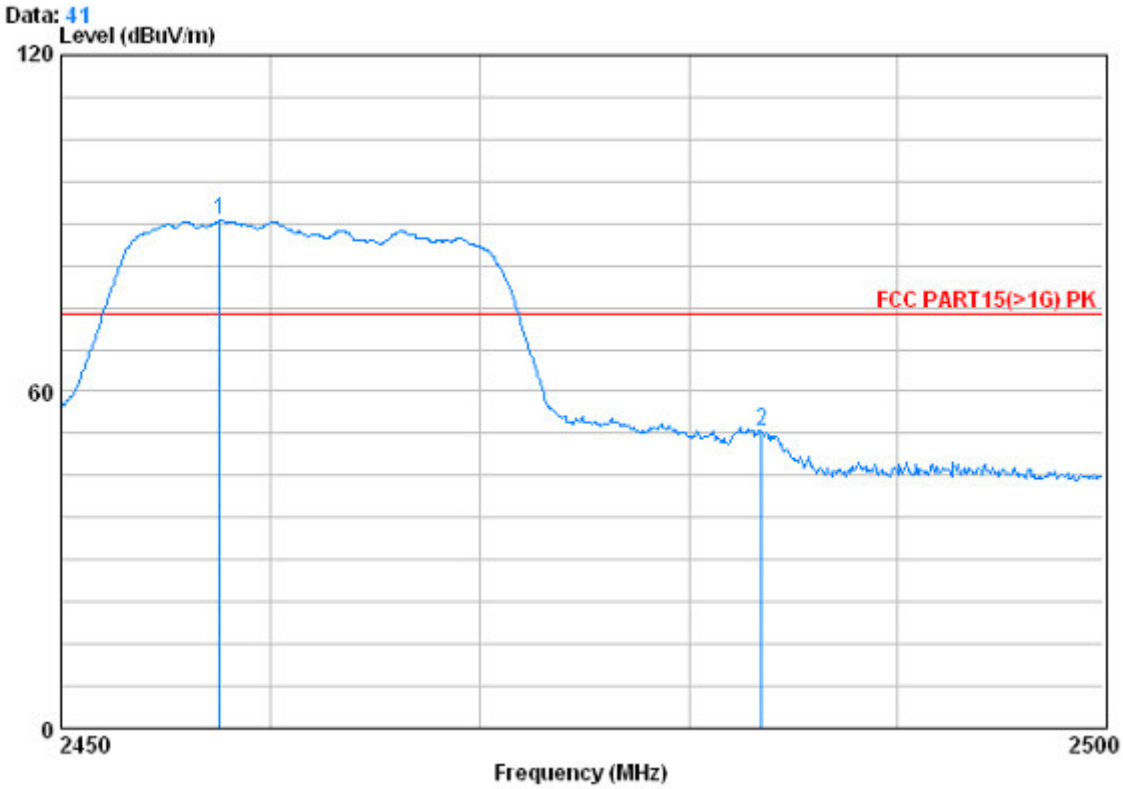
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	42.49	38.14	54.00	-15.86
2	2400.000	2.98	32.51	39.86	53.05	48.69	54.00	-5.31
3 @	2414.390	2.99	32.54	39.86	86.84	82.51	54.00	28.51

Test mode:	802.11n(HT20)	Test channel:	Highest	Vertical	Peak



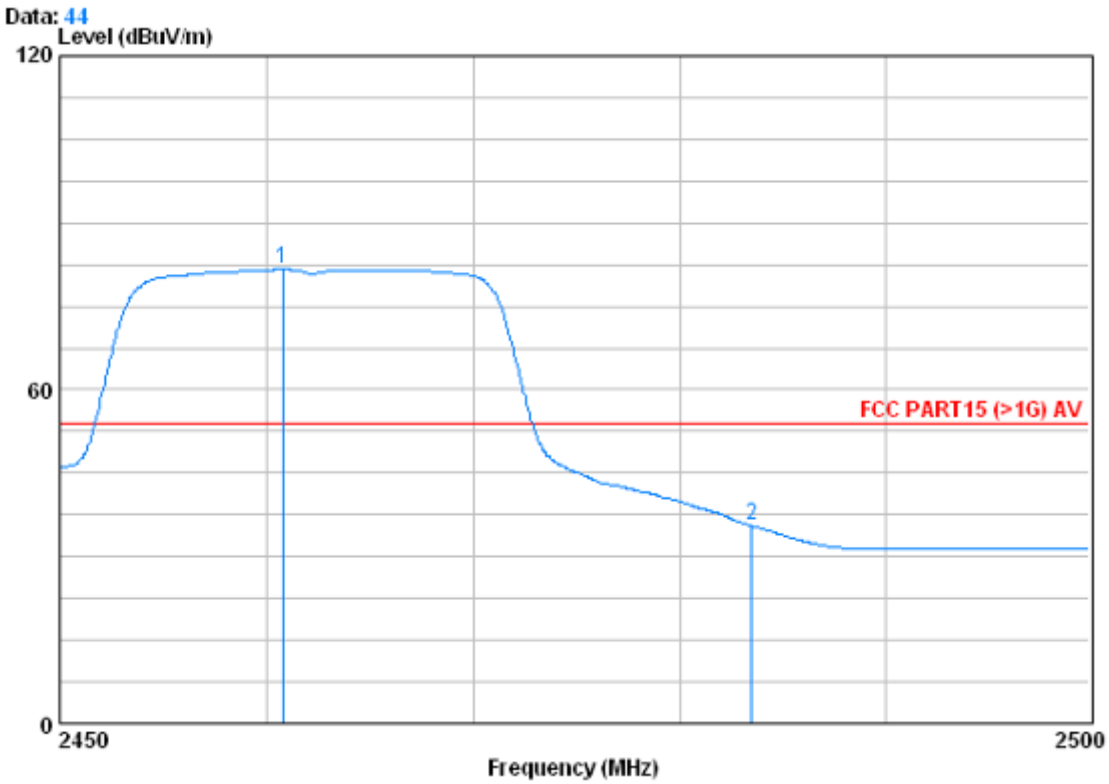
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 X	2463.500	3.02	32.64	39.91	97.70	93.45	74.00	19.45
2	2483.500	3.03	32.67	39.92	59.98	55.76	74.00	-18.24

Test mode:	802.11n(HT20)	Test channel:	Highest	Horizontal	Peak



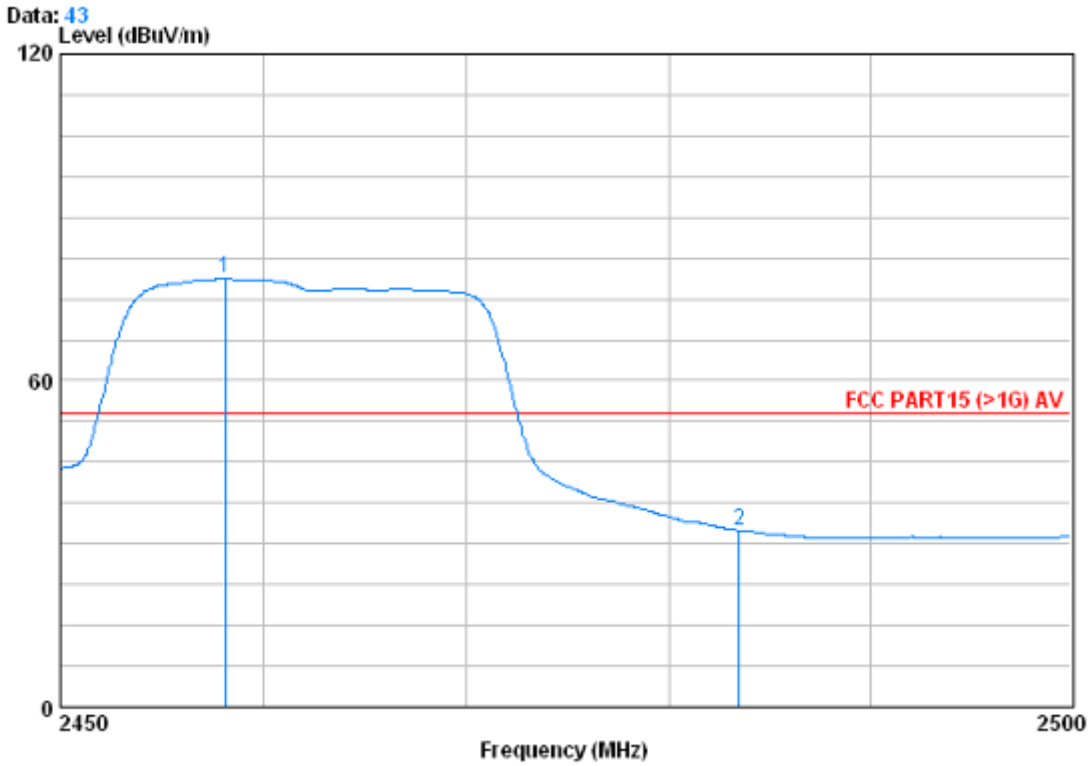
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 X	2457.550	3.02	32.64	39.91	94.77	90.52	74.00	16.52
2	2483.500	3.03	32.67	39.92	57.07	52.85	74.00	-21.15

Test mode:	802.11n(HT20)	Test channel:	Highest	Vertical	Average



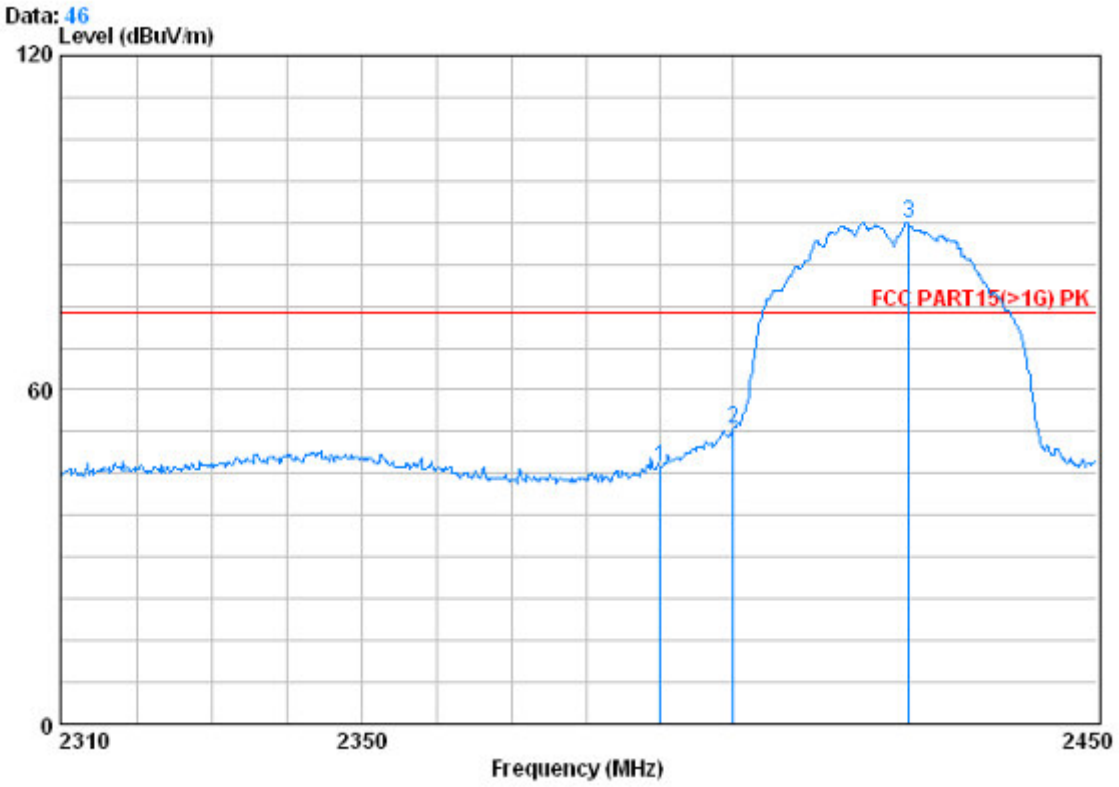
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 @	2460.750	3.02	32.64	39.91	85.89	81.64	54.00	27.64
2	2483.500	3.03	32.67	39.92	39.77	35.55	54.00	-18.45

Test mode:	802.11n(HT20)	Test channel:	Highest	Horizontal	Average



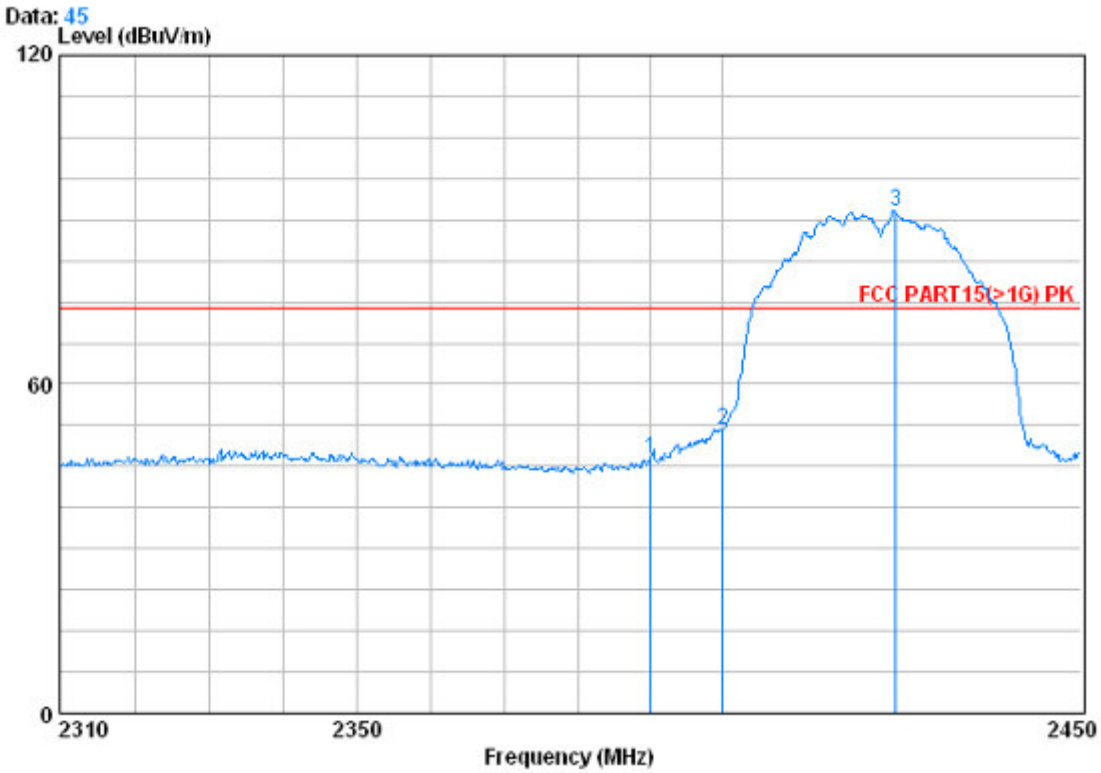
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 @	2458.100	3.02	32.64	39.91	82.94	78.69	54.00	24.69
2	2483.500	3.03	32.67	39.92	36.73	32.51	54.00	-21.49

Test mode:	802.11n(HT40)	Test channel:	Lowest	Vertical	Peak



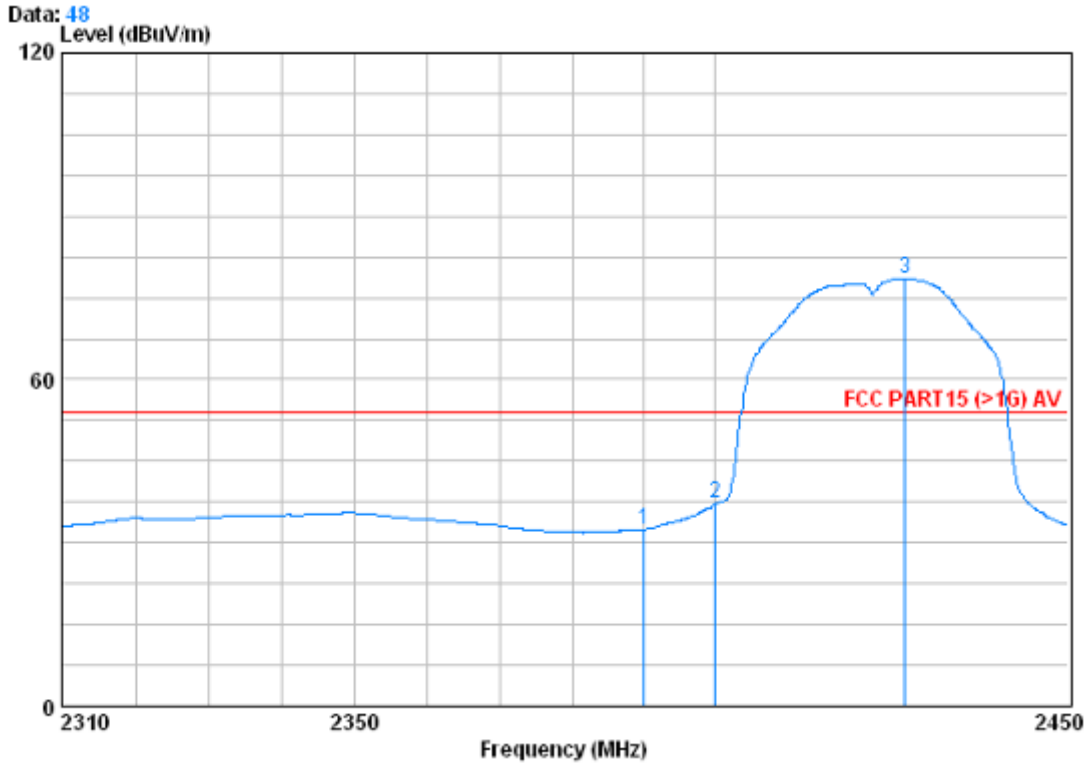
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	50.33	45.97	74.00	-28.03
2	2400.000	2.98	32.51	39.86	57.32	52.95	74.00	-21.05
3 X	2423.960	3.00	32.58	39.88	94.37	90.07	74.00	16.07

Test mode:	802.11n(HT40)	Test channel:	Lowest	Horizontal	Peak



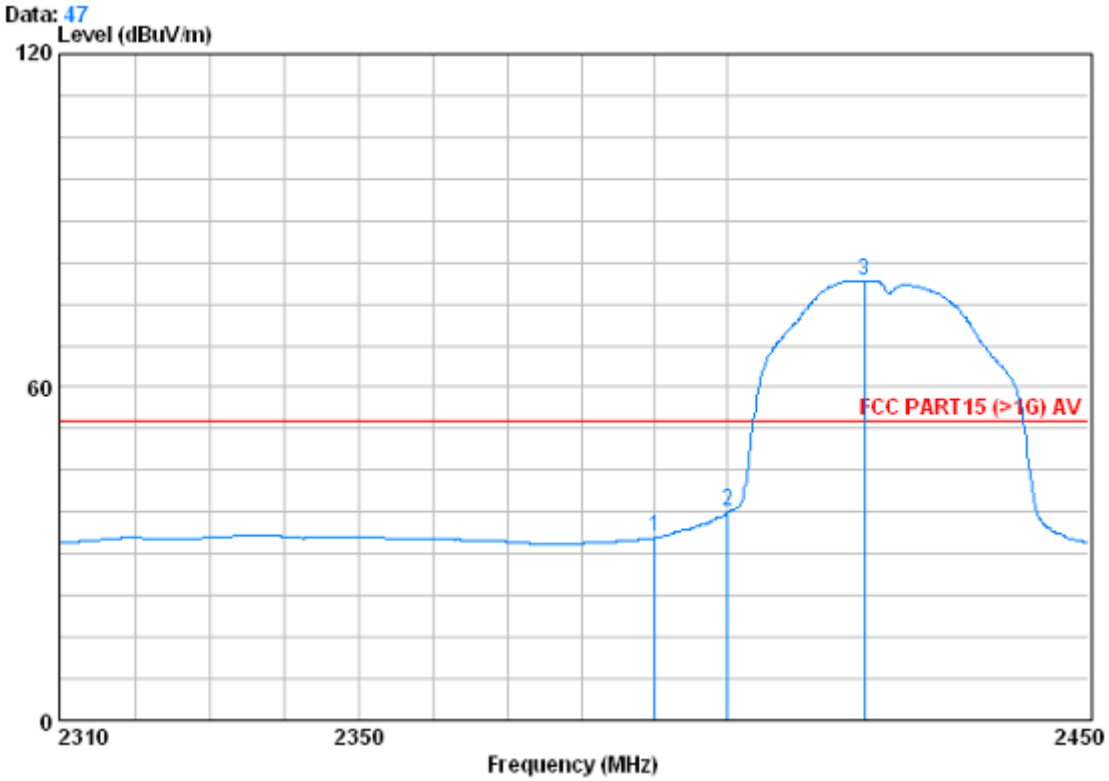
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	50.75	46.40	74.00	-27.60
2	2400.000	2.98	32.51	39.86	55.91	51.55	74.00	-22.45
3 X	2423.960	3.00	32.58	39.88	95.89	91.59	74.00	17.59

Test mode:	802.11n(HT40)	Test channel:	Lowest	Vertical	Average



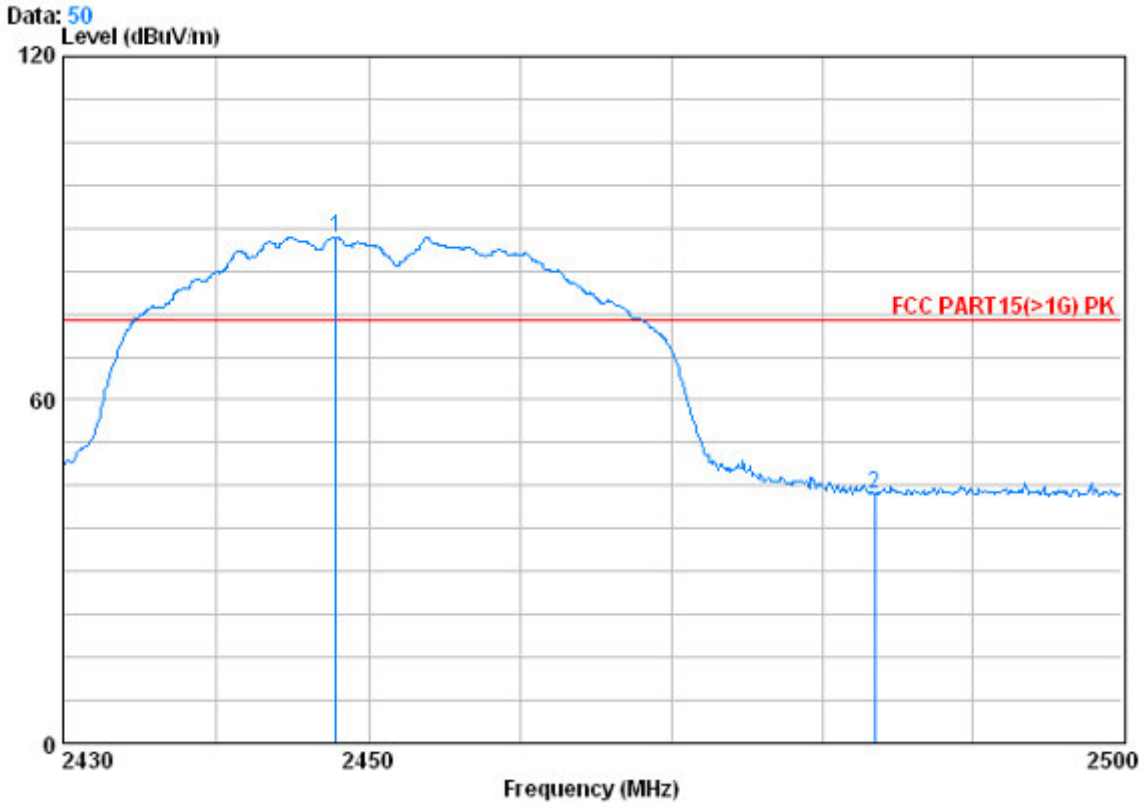
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	36.87	32.52	54.00	-21.48
2	2400.000	2.98	32.51	39.86	41.63	37.26	54.00	-16.74
3 @	2426.760	3.00	32.58	39.88	82.81	78.51	54.00	24.51

Test mode:	802.11n(HT40)	Test channel:	Lowest	Horizontal	Average



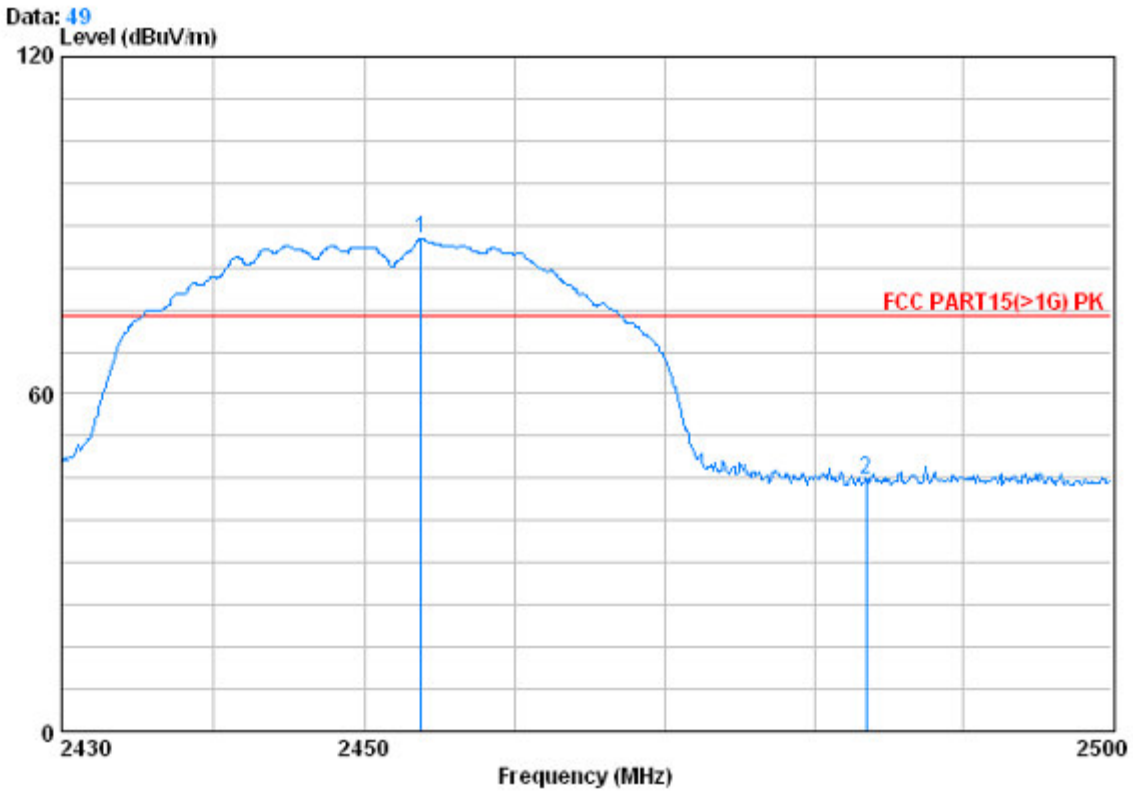
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	37.25	32.90	54.00	-21.10
2	2400.000	2.98	32.51	39.86	41.94	37.57	54.00	-16.43
3 @	2418.920	2.99	32.54	39.88	83.53	79.19	54.00	25.19

Test mode:	802.11n(HT40)	Test channel:	Highest	Vertical	Peak



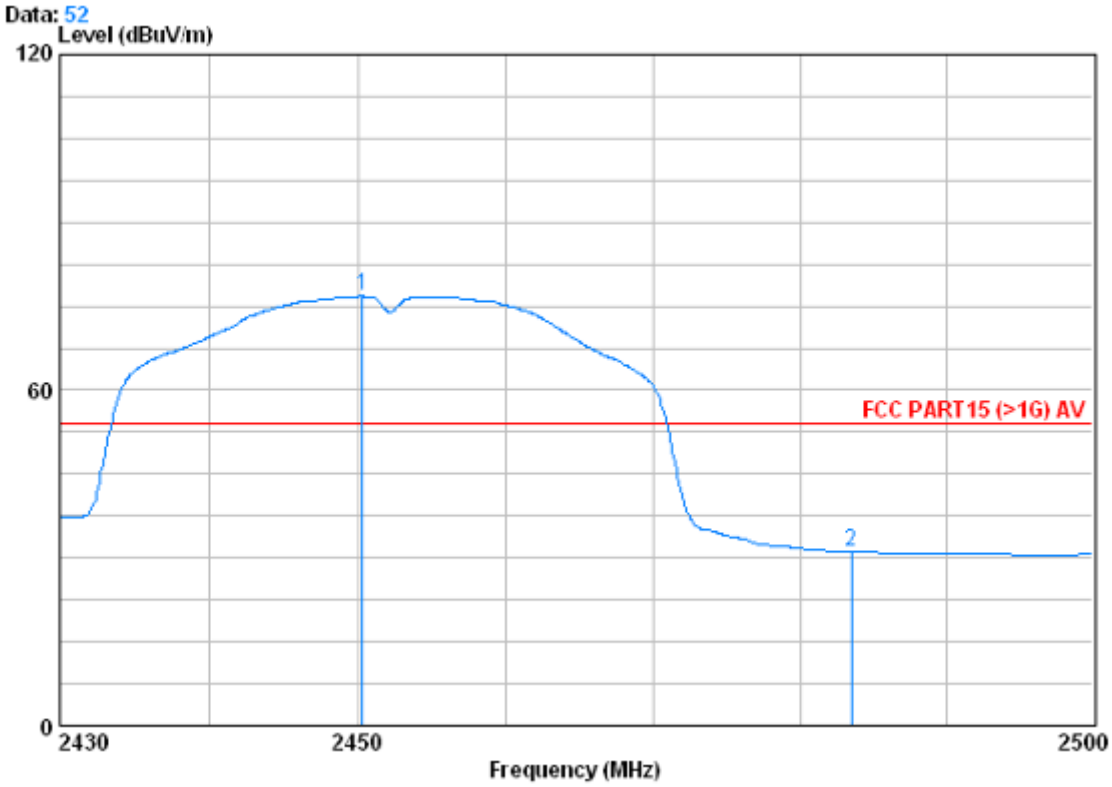
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 X	2447.850	3.01	32.61	39.89	92.68	88.40	74.00	14.40
2	2483.500	3.03	32.67	39.92	47.78	43.56	74.00	-30.44

Test mode:	802.11n(HT40)	Test channel:	Highest	Horizontal	Peak



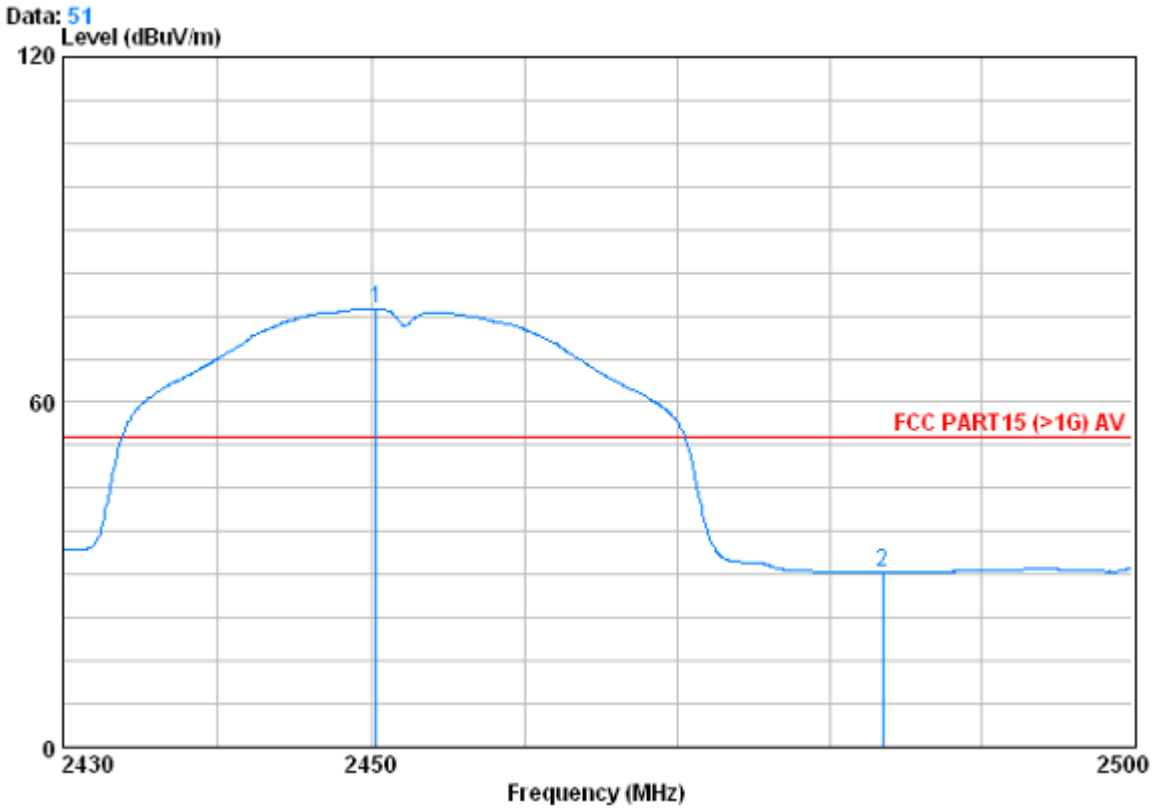
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 X	2453.730	3.01	32.64	39.91	91.92	87.67	74.00	13.67
2	2483.500	3.03	32.67	39.92	49.00	44.78	74.00	-29.22

Test mode:	802.11n(HT40)	Test channel:	Highest	Vertical	Average



	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 @	2450.300	3.01	32.61	39.89	80.96	76.68	54.00	22.68
2	2483.500	3.03	32.67	39.92	35.20	30.98	54.00	-23.02

Test mode:	802.11n(HT40)	Test channel:	Highest	Horizontal	Average



	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 X	2450.300	3.01	32.61	39.89	80.49	76.21	54.00	22.21
2	2483.500	3.03	32.67	39.92	34.58	30.36	54.00	-23.64