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Report No.: SZEMO10110702202

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FCC REPORT

Application No: SZEMO101107022RF
Applicant: Creative Labs Inc
Manufacturer: Creative Technology Ltd.
Product Name: ZEN Touch 2
Operation Frequency: 2412MHz to 2462MHz
FCC ID: IBADVP-FL0016
Standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2009
Date of Receipt: 2010-11-16
Date of Test: 2010-11-16 to 2010-11-30
Date of Issue: 2010-12-08

Test Result :	PASS *
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* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Jack Zhang
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.

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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:	Creative Labs Inc
Manufacturer:	Creative Technology Ltd.
Address of Applicant:	1901 McCarthy Blvd., Milpitas California 94035 United States
Address of Manufacturer:	31, International Business Park, Creative Resource Singapore 609921

4.2 General Description of E.U.T.

EUT Name:	ZEN Touch 2
Item No.:	DVP-FL0016
Trade mark:	Creative
Operation Frequency:	2412MHz~2462MHz
Channel numbers:	11
Channel separation:	5MHz
Modulation type:	IEEE 802.11b/g/n(HT20)
Data speed (802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Data speed (802.11n(HT20)):	6.5Mbps, 13Mbps, 19.5Mbps, 26Mbps, 39Mbps, 52Mbps, 58.5Mbps, 65Mbps
Antenna Type:	Integral
Antenna gain:	-0.7dBi
Power Supply:	Model: SW0510F3A Input: 100-240~50/60Hz 0.25A output: 5.0V --- 1A Output port type: Mini USB DC 3.7V (Rechargeable Battery)

Remark:

Model No.: DVP-FL0016

Version 1: Model DVP-FL0016 with serial number XXPF2541XXXXXXXXXX and XXPF2542XXXXXXXXXX don't provide GPS function.

Version 2: Model DVP-FL0016 with serial number XXPF2531XXXXXXXXXX provide GPS function.

Only the Version 2 was tested, since they are electrically identical.

Identifiableness is specified as follows:

Printed Circuit Board (PCB), Enclosure, Software, RF module (Wi-Fi, Bluetooth), RF antenna.

Difference is specified as follows:

Version 2 has feature set that including GPS receiver, eCompass, FM and vibrator. While

Version 1 does not support these features.

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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 channel see below:

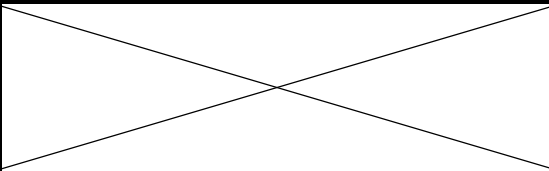
Channel	Frequency
The lowest channel	2412MHz
The middle channel	2442MHz
The Highest channel	2462MHz

4.3 Test environment and mode

Test Environment:	
Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1008 mbar
Test mode:	
Wi-Fi	The EUT wireless linked to TP-link router, Switching packets.
Bluetooth	The EUT wireless linked to the other Bluetooth, Switching packets.
Wi-Fi Tx	The Wi-Fi module transmitted the continuous modulation test signal at the specific channel.
GPS Rx	The GPS module searched and received the useful test signal.



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-Test Mode:								
Mode	802.11b							
Data Rate	1Mbps	2Mbps	5.5Mbps	11Mbps				
Power (dBm)	17.52	17.36	17.27	17.08				
Mode	802.11g							
Data Rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
Power (dBm)	21.74	21.58	21.49	21.47	21.25	21.14	21.06	20.87
Mode	802.11n(HT20)							
Data Rate	6.5Mbps	13Mbps	19.5Mbps	26Mbps	39Mbps	52Mbps	58.5Mbps	65Mbps
Power	21.57	21.48	21.45	21.38	21.30	21.24	21.06	20.58
Final Test Mode:								
According to ANSI C63.4 standards, the test results are both the “worst case” and “worst setup”								
1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n(HT20)								

4.4 Description of Support Units

The EUT has been tested as an independent unit.



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, June 27, 2008.
- **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	2010-06-17	2011-06-17
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	2010-11-05	2011-11-05
3	EMI Test software	AUDIX	E3	SEL0050	N/A	N/A
4	Coaxial cable	SGS	N/A	SEL0028	2008-06-18	2011-06-18
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	2010-06-02	2011-06-02
9	Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEL0168	2010-10-27	2011-10-27
10	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	SEL0080	2010-06-04	2011-06-04
11	Band filter	Amindeon	82346	SEL0094	2010-06-02	2011-06-02

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	N/A	N/A
2	LISN	ETS-LINDGREN	3816/2	SEL0021	2010-06-02	2011-06-02
3	Two-Line V-Network	Rohde & Schwarz	ENV216	SEL0152	2010-10-27	2011-10-27
4	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	2010-06-02	2011-06-02
5	Coaxial Cable	SGS	N/A	SEL0024	2008-06-18	2011-06-18



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	2008-06-18	2011-06-18

5 Test results and Measurement Data

5.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
<p>15.203 requirement: <i>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.</i></p> <p>15.247(c) (1)(i) requirement: <i>(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.</i></p>	
E.U.T Antenna:	Antenna gain:-0.7dBi
Technical Data Sheet of Antenna reference to antenna test report :REMH10003-SE_A	
	

5.2 Conducted Emissions

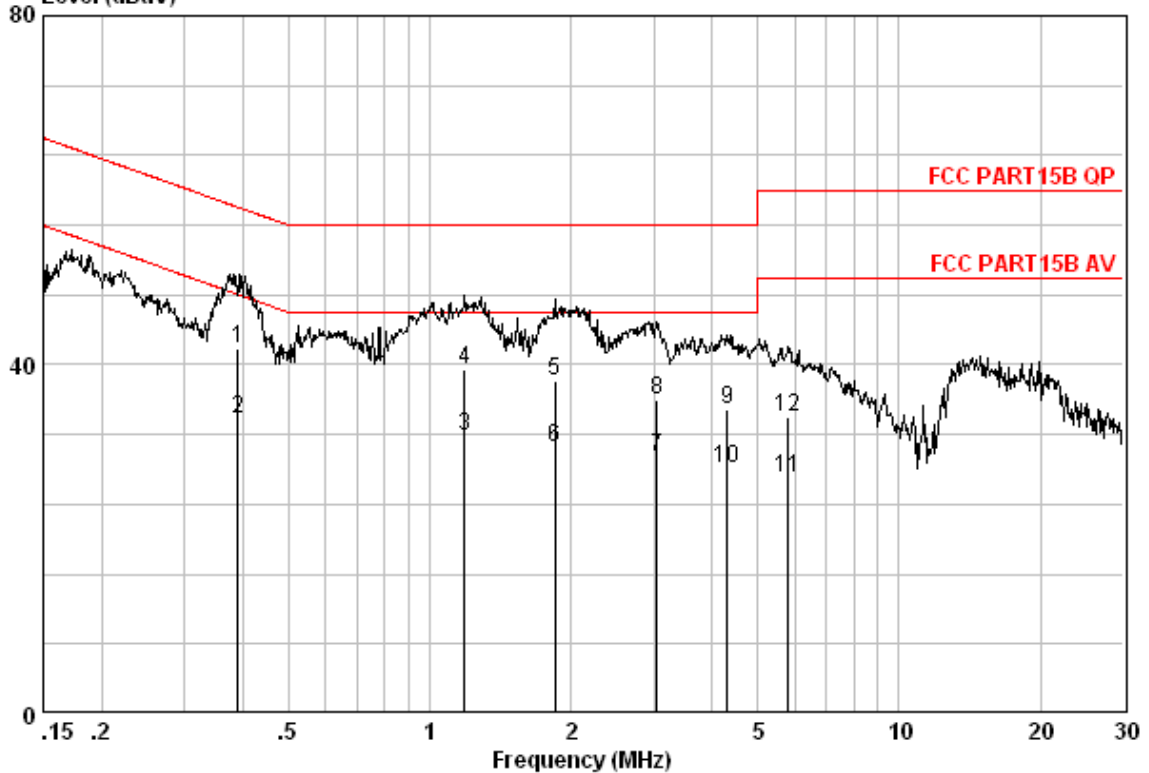
Test Requirement:	FCC Part15 C Section 15.207		
Test Method:	ANSI C63.10: 2009		
Test Frequency Range:	150KHz to 30MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9KHz, VBW=30KHz		
Limit:	Frequency range (MHz)	Limit (dBuV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	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 C63.4: 2009 on conducted measurement.		
Test setup:	<div><div><div>Reference Plane</div><div><div><div>LISN</div><div>AUX Equipment</div><div>E.U.T</div></div><div>40cm</div><div>80cm</div><div><div>LISN</div><div>Filter</div><div>AC power</div></div><div>EMI Receiver</div></div><div>Test table/Insulation plane</div></div><div><div>Remark:</div><div>E.U.T: Equipment Under Test</div><div>LISN: Line Impedance Stabilization Network</div><div>Test table height=0.8m</div></div></div>		
Test Instruments:	Refer to section 4.7 for details		
Test mode:	Wi-Fi + Bluetooth + GPS Rx 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.

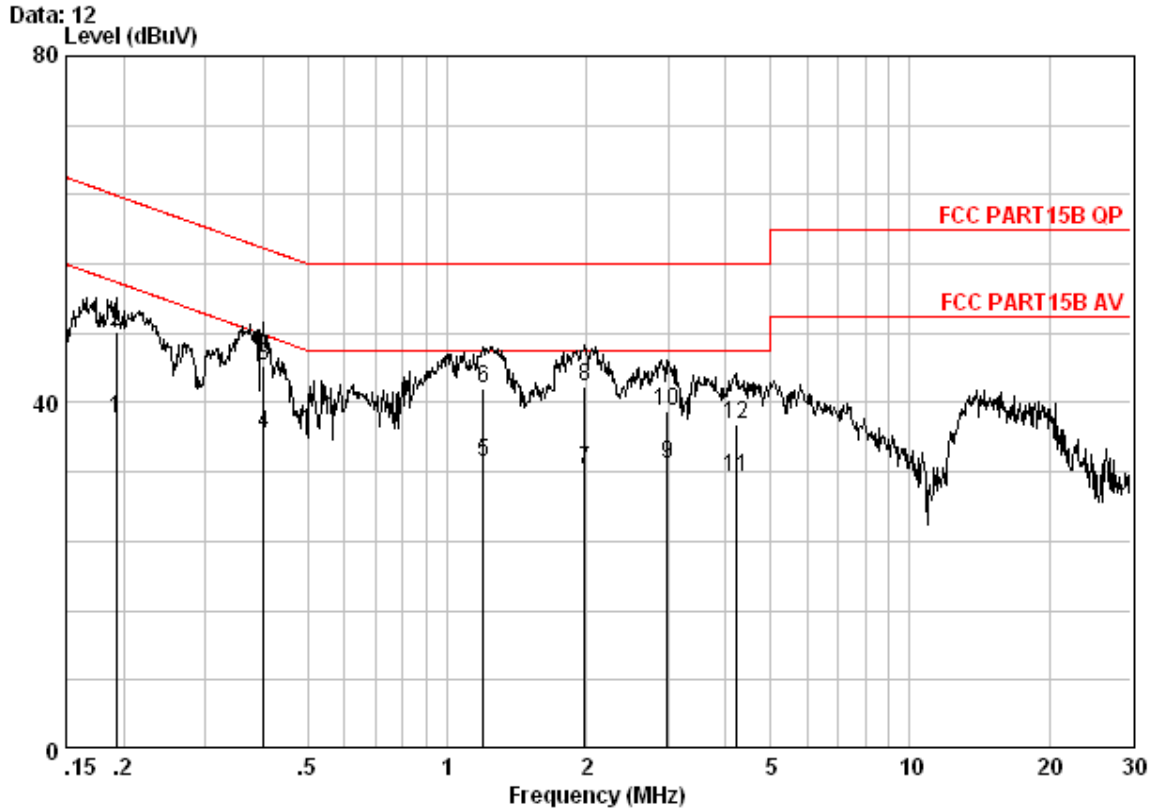
Live Line:

Data: 11
Level (dBuV)


	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.39075	0.06	0.00	41.76	41.82	58.05	-16.23	QP
2	0.39075	0.06	0.00	33.72	33.78	48.05	-14.27	AVERAGE
3	1.184	0.09	0.00	31.68	31.77	46.00	-14.23	AVERAGE
4	1.184	0.09	0.00	39.45	39.54	56.00	-16.46	QP
5	1.848	0.11	0.00	38.10	38.21	56.00	-17.79	QP
6	1.848	0.11	0.00	30.30	30.42	46.00	-15.58	AVERAGE
7	3.041	0.14	0.00	29.24	29.38	46.00	-16.62	AVERAGE
8	3.041	0.14	0.00	35.81	35.95	56.00	-20.05	QP
9	4.315	0.16	0.00	34.74	34.90	56.00	-21.10	QP
10	4.315	0.16	0.00	28.05	28.21	46.00	-17.79	AVERAGE
11	5.805	0.18	0.00	26.81	26.99	50.00	-23.01	AVERAGE
12	5.805	0.18	0.00	33.85	34.03	60.00	-25.97	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.

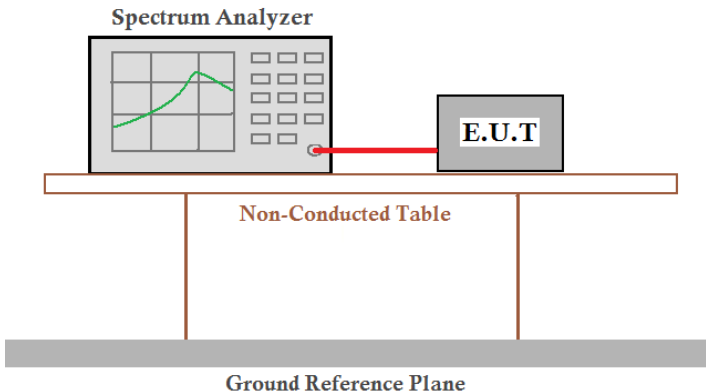
Neutral Line:


	Freq	Cable Loss	LISN Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.19242	0.04	0.00	38.11	38.15	53.93	-15.78	Average
2	0.19242	0.04	0.00	48.11	48.15	63.93	-15.78	QP
3	0.40187	0.06	0.00	44.25	44.30	57.81	-13.51	QP
4	0.40187	0.06	0.00	36.25	36.31	47.81	-11.51	Average
5	1.197	0.09	0.00	33.12	33.21	46.00	-12.79	Average
6	1.197	0.09	0.00	41.46	41.55	56.00	-14.45	QP
7	1.980	0.12	0.00	32.17	32.29	46.00	-13.71	Average
8	1.980	0.12	0.00	41.67	41.79	56.00	-14.21	QP
9	2.993	0.14	0.00	32.86	33.00	46.00	-13.00	Average
10	2.993	0.14	0.00	38.85	38.99	56.00	-17.01	QP
11	4.202	0.16	0.00	31.22	31.38	46.00	-14.62	Average
12	4.202	0.16	0.00	37.33	37.49	56.00	-18.51	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 and KDB558074
Limit:	30dBm
Test setup:	 <p><i>Remark:</i> Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</p>
Test Instruments:	Refer to section 4.7 for details
Test results:	Pass

Measurement Data

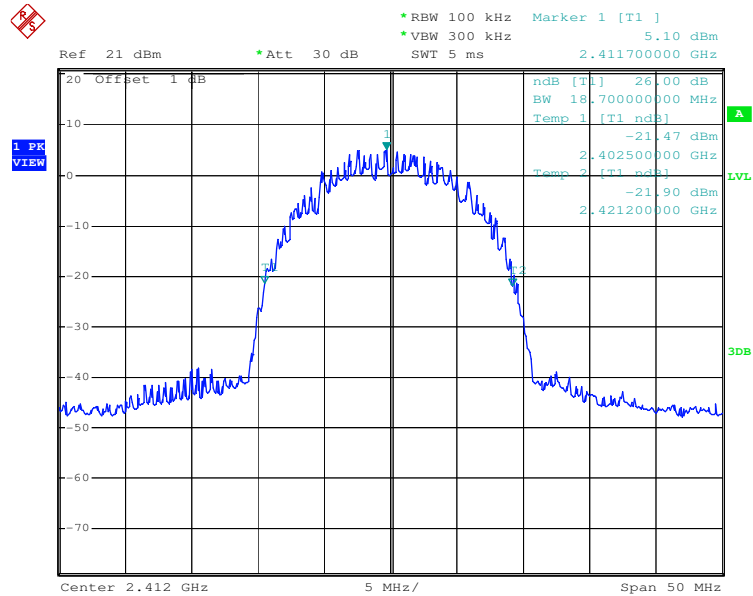
802.11b mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	17.52	30.00	Pass
Middle	16.72	30.00	Pass
Highest	16.65	30.00	Pass
802.11g mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	21.08	30.00	Pass
Middle	21.74	30.00	Pass
Highest	21.70	30.00	Pass
802.11n(HT20) mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	21.57	30.00	Pass
Middle	21.48	30.00	Pass
Highest	21.34	30.00	Pass



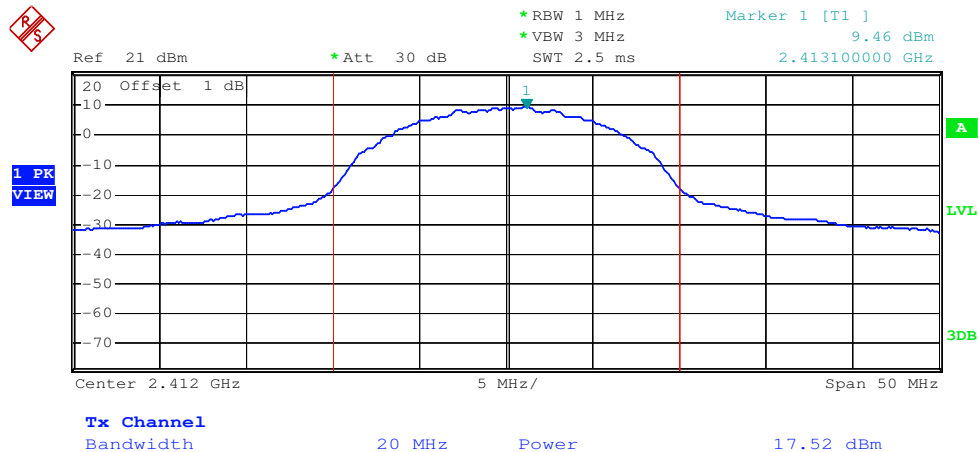
Test plot as follows:

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



Date: 25.NOV.2010 12:37:54

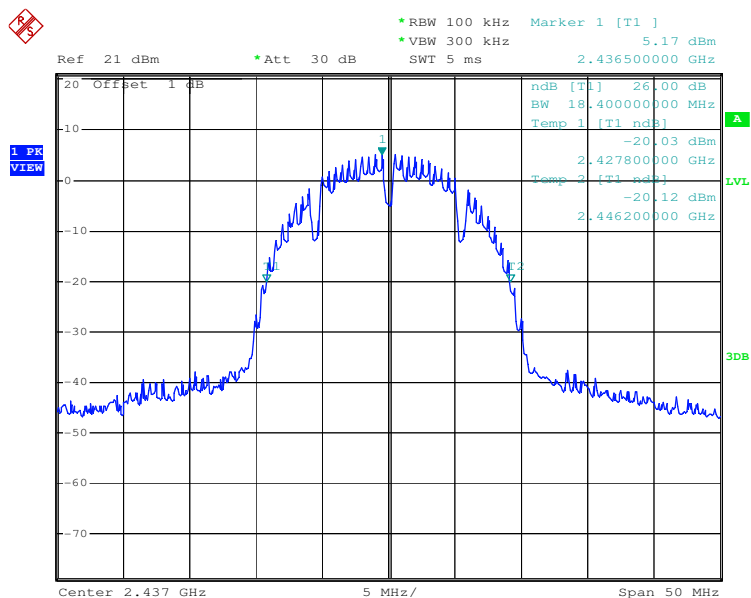


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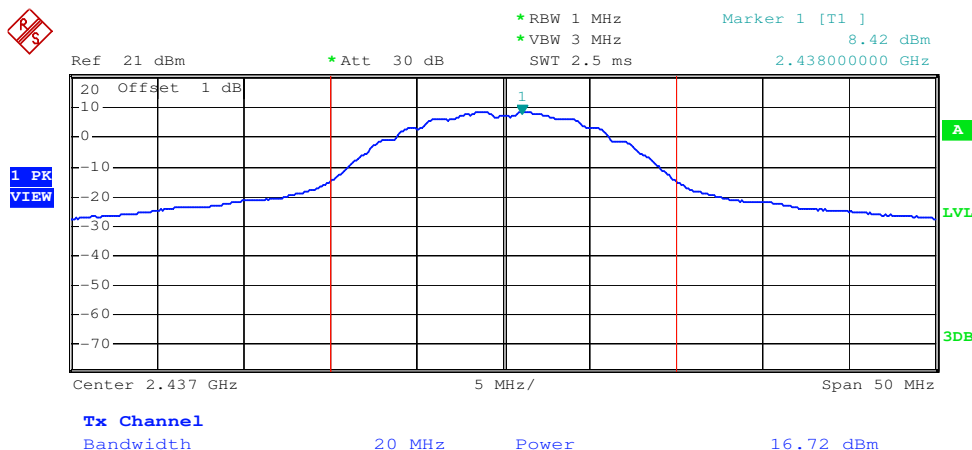


Test mode:	802.11b	Test channel:	Middle
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-26dB



Date: 25.NOV.2010 13:31:45

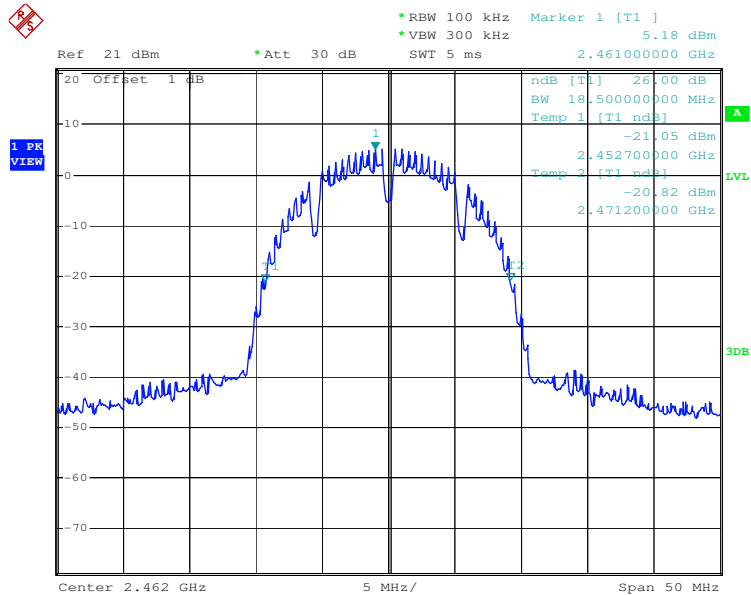


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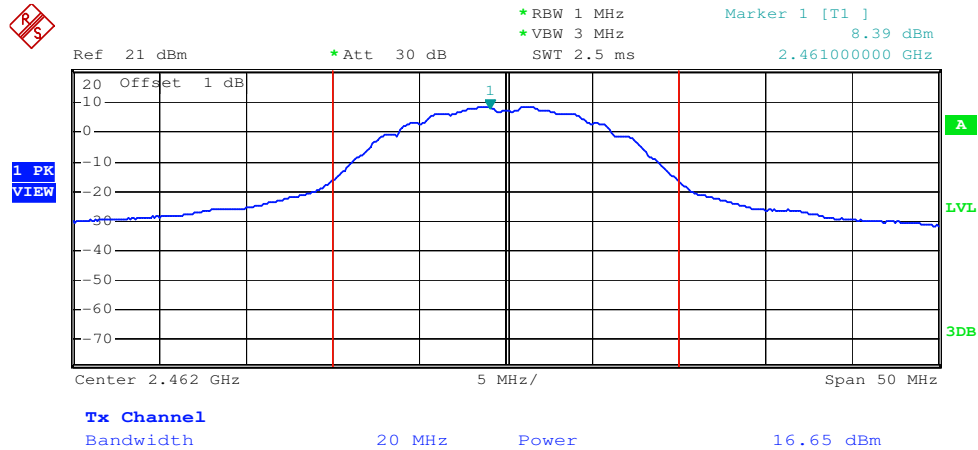


Test mode:	802.11b	Test channel:	Highest
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-26dB



Date: 25.NOV.2010 14:00:51

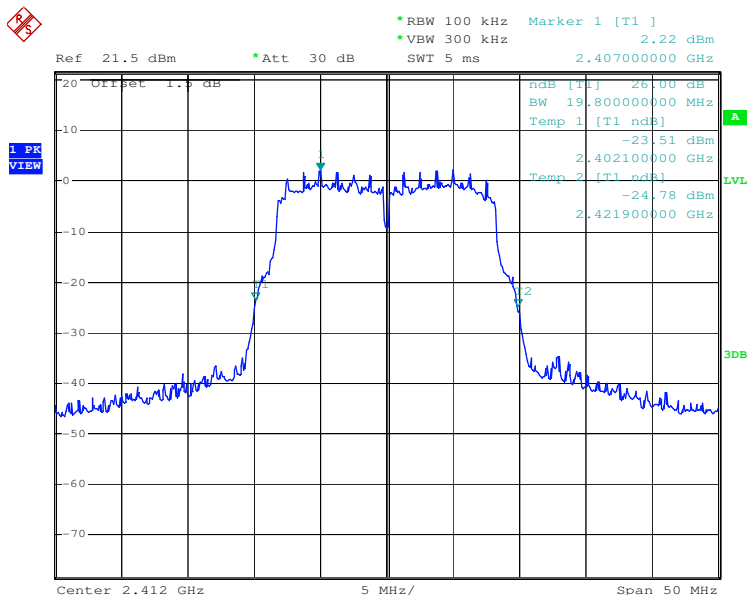


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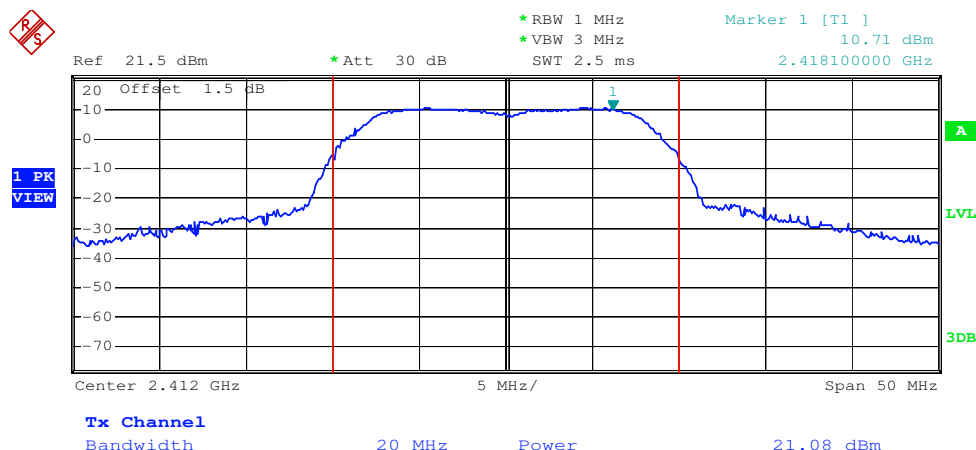


Test mode:	802.11g	Test channel:	Lowest
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-26dB



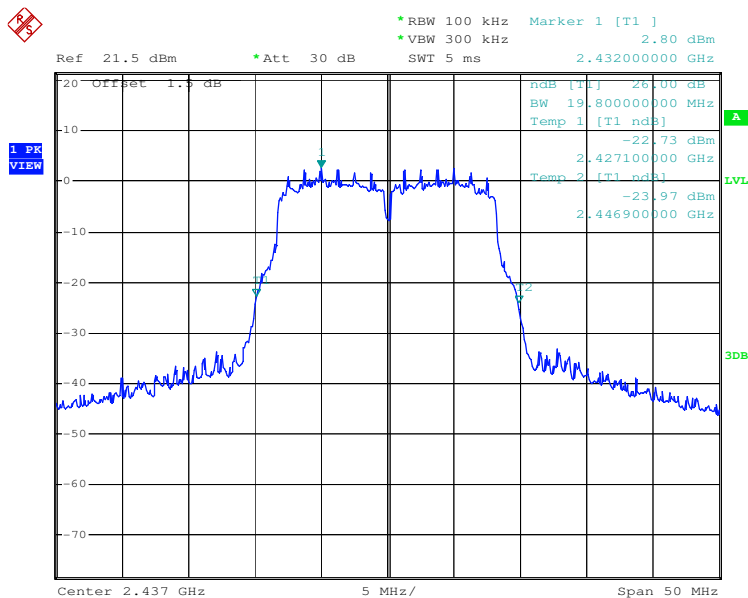
Date: 26.NOV.2010 13:18:54



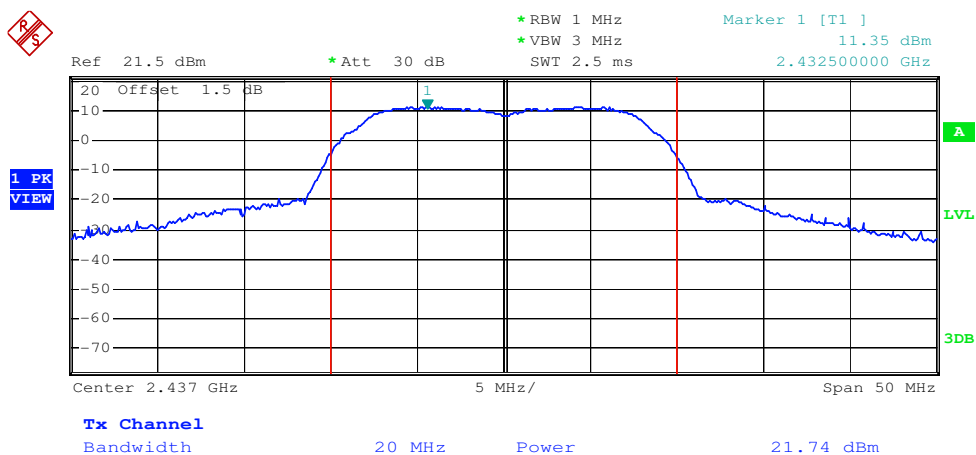
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Test mode:	802.11g	Test channel:	Middle
-26dB			



Date: 26.NOV.2010 13:49:25

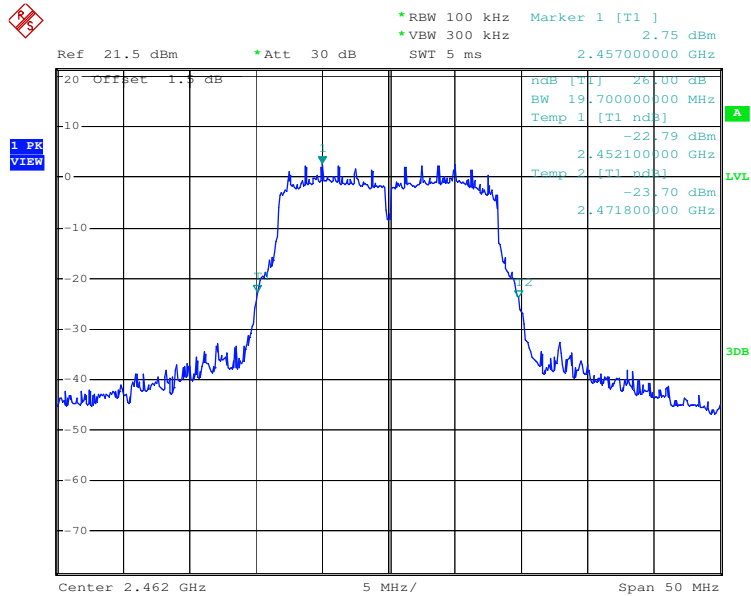


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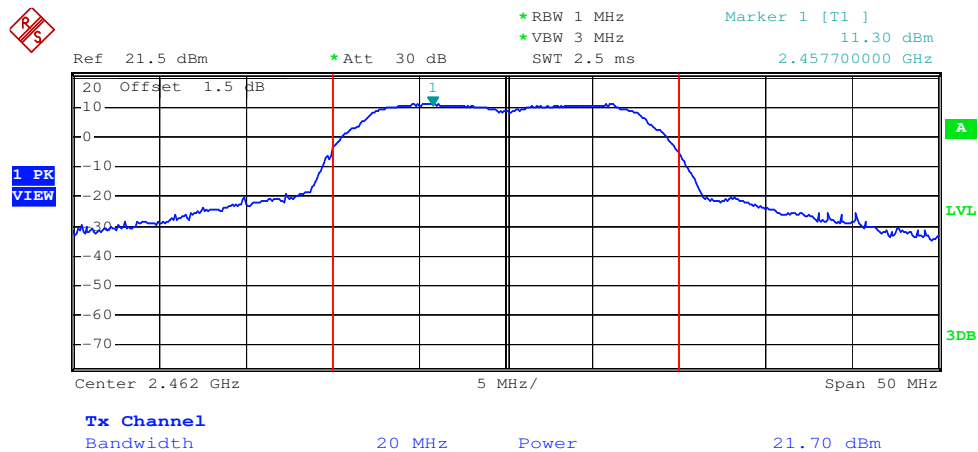


Test mode:	802.11g	Test channel:	Highest
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-26dB



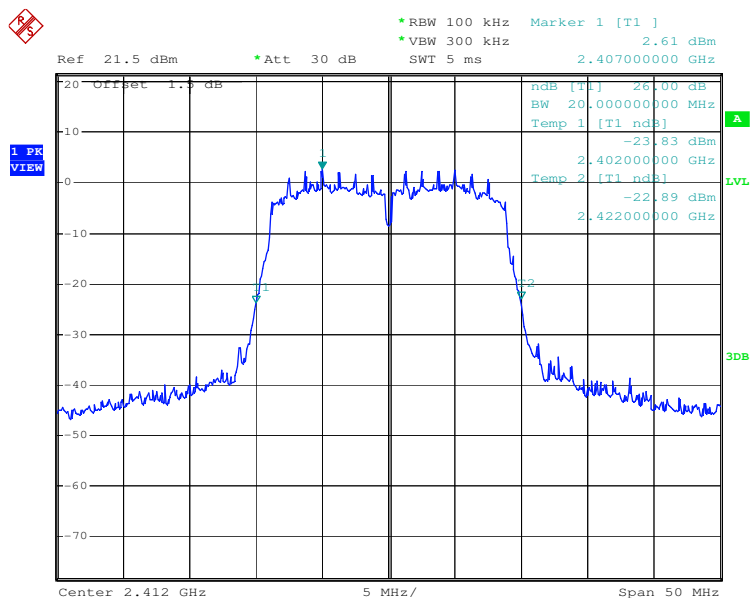
Date: 26.NOV.2010 14:10:45



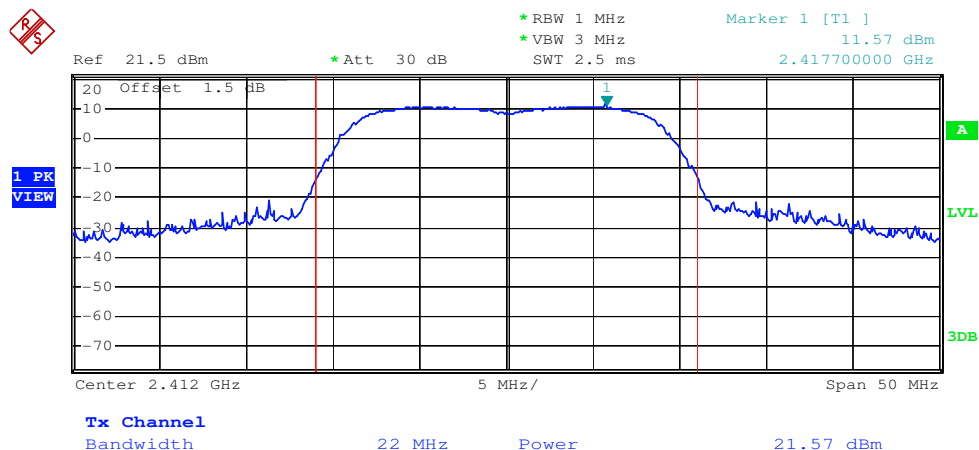


Test mode:	802.11n (HT20)	Test channel:	Lowest
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-26dB



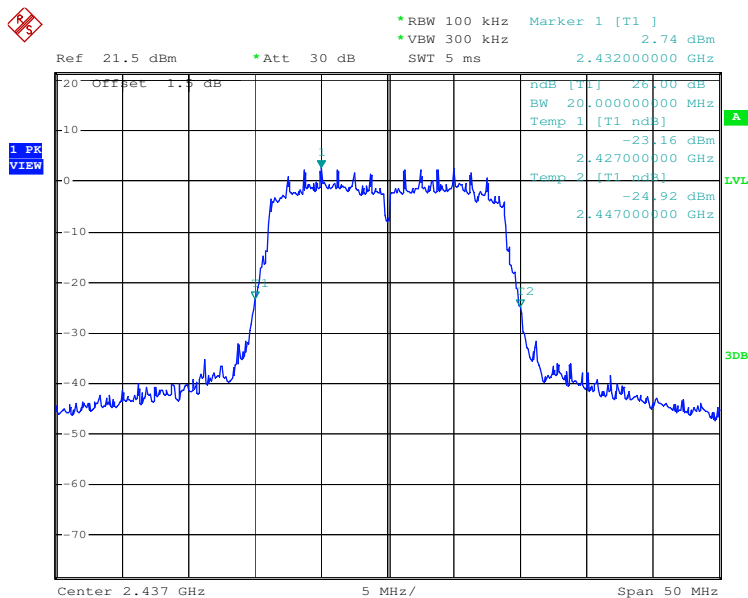
Date: 26.NOV.2010 14:57:14



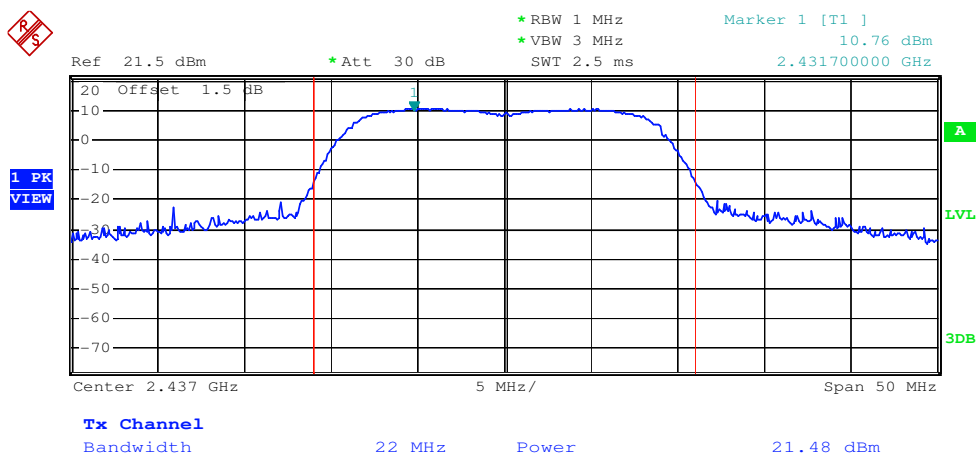
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Test mode:	802.11n (HT20)	Test channel:	Middle
-26dB			

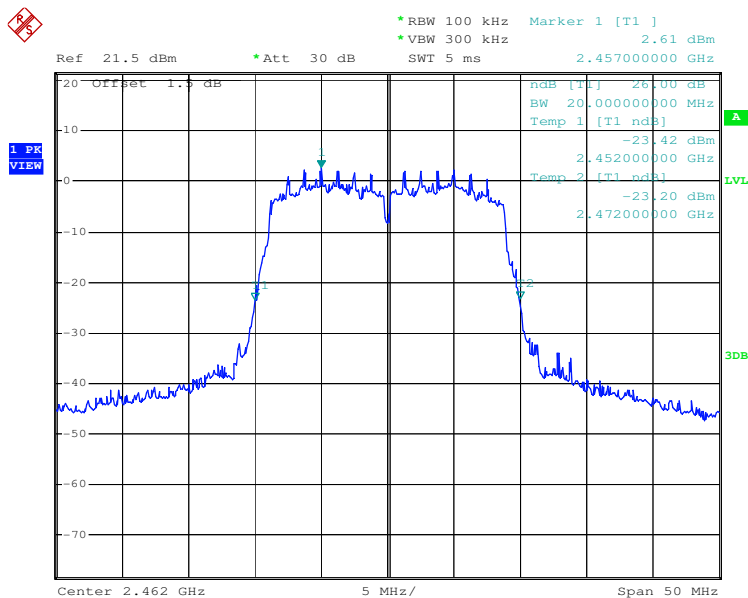


Date: 26.NOV.2010 15:28:20

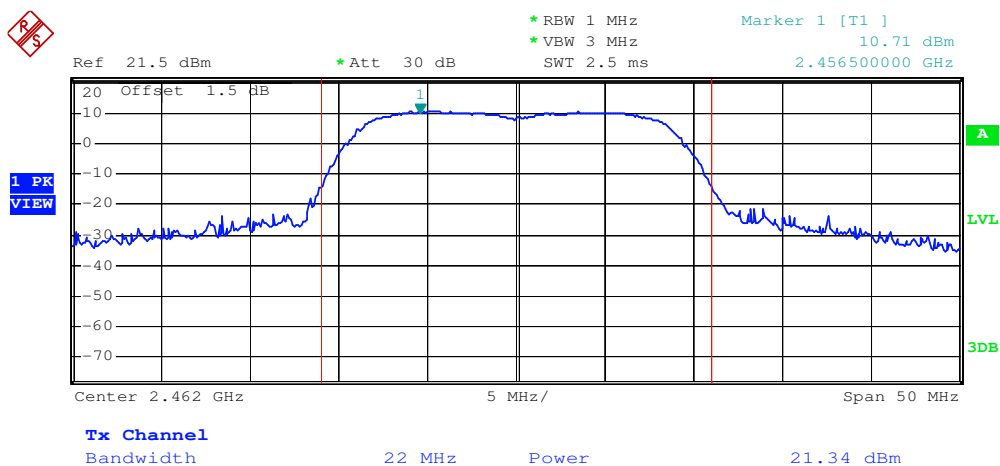




Test mode:	802.11n (HT20)	Test channel:	Highest
-26dB			

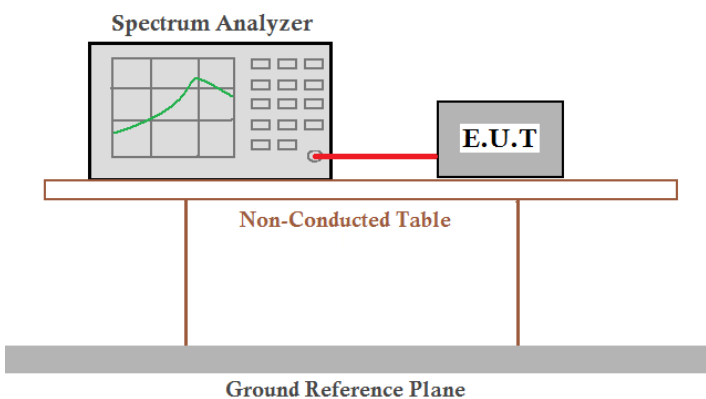


Date: 26.NOV.2010 15:48:10



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5.4 6dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.10:2009 and KDB558074
Limit:	>500KHz
Test setup:	
Test Instruments:	Refer to section 4.7 for details
Test results:	Pass

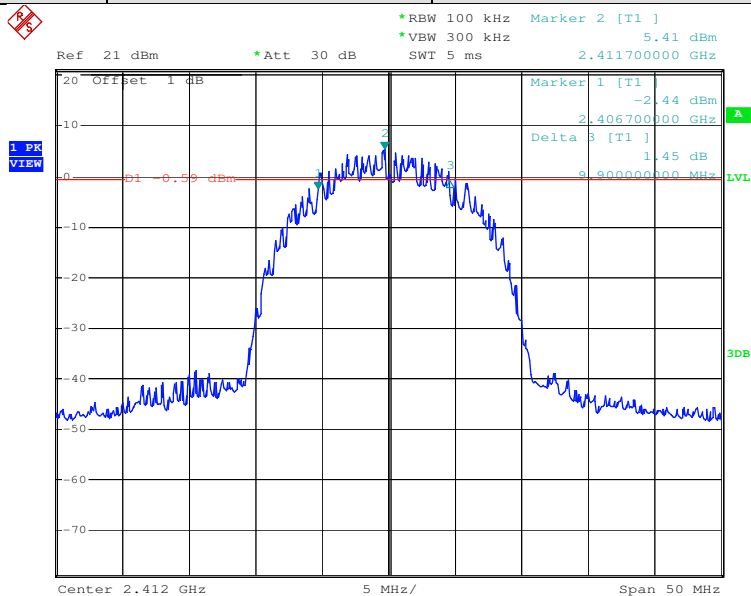
Measurement Data

802.11b mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (KHz)	Result
Lowest	9.90	>500	Pass
Middle	10.30	>500	Pass
Highest	10.30	>500	Pass
802.11g mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (KHz)	Result
Lowest	16.30	>500	Pass
Middle	16.20	>500	Pass
Highest	16.00	>500	Pass
802.11n (HT20) mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (KHz)	Result
Lowest	16.80	>500	Pass
Middle	16.10	>500	Pass
Highest	16.00	>500	Pass



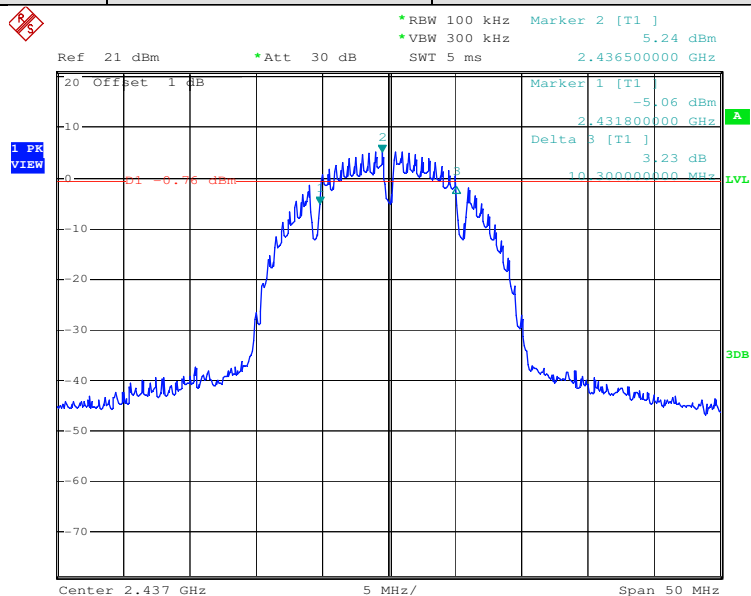
Test plot as follows:

Test mode:	802.11b	Test channel:	Lowest
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Date: 25.NOV.2010 12:34:04

Test mode:	802.11b	Test channel:	Middle
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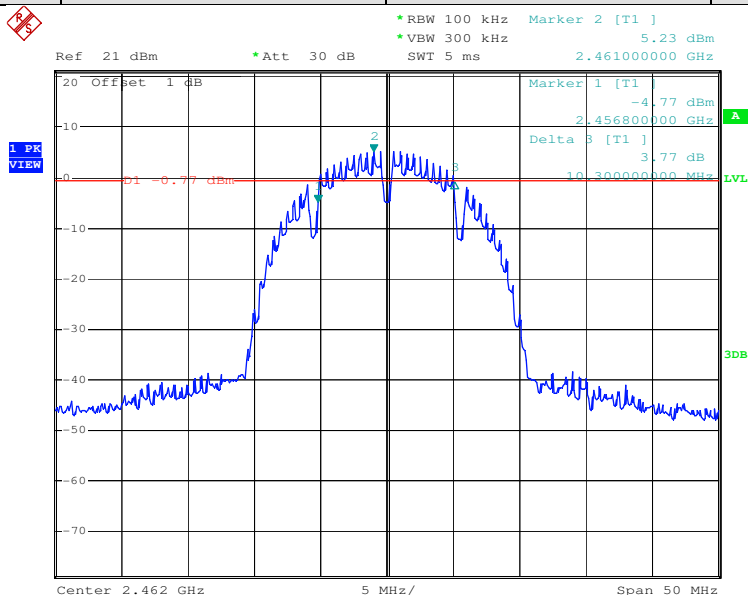


Date: 25.NOV.2010 13:29:24

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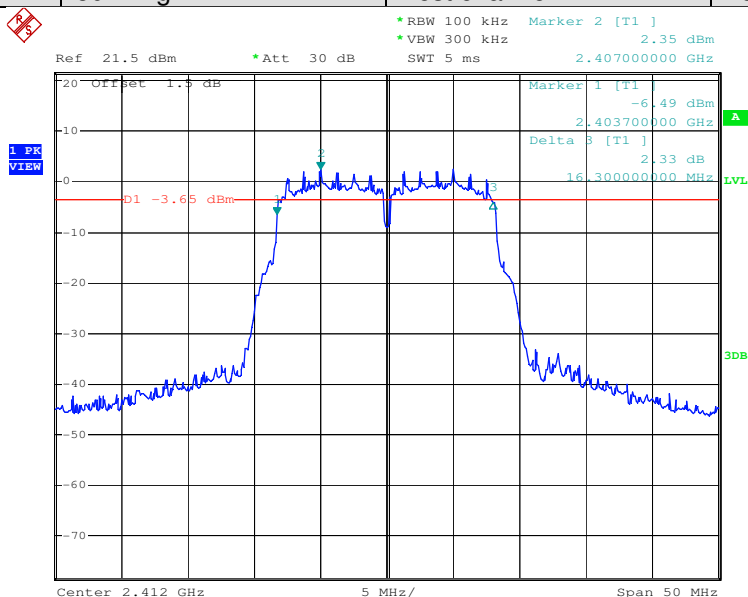


Test mode:	802.11b	Test channel:	Highest
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Date: 25.NOV.2010 13:58:47

Test mode:	802.11g	Test channel:	Lowest
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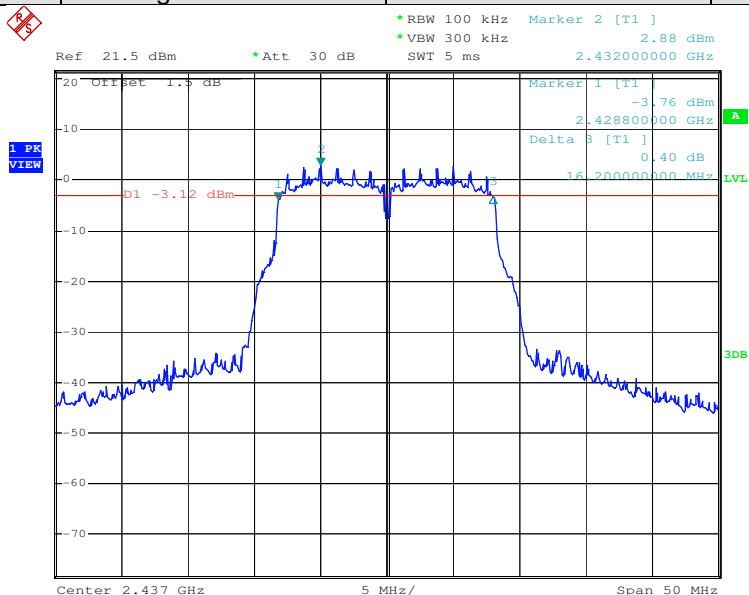


Date: 26.NOV.2010 13:16:50

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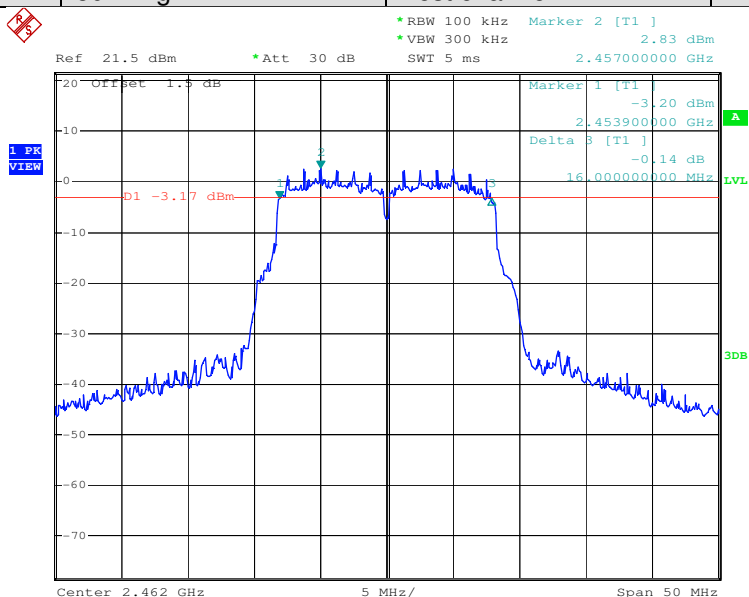


Test mode:	802.11g	Test channel:	Middle
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Date: 26.NOV.2010 13:47:14

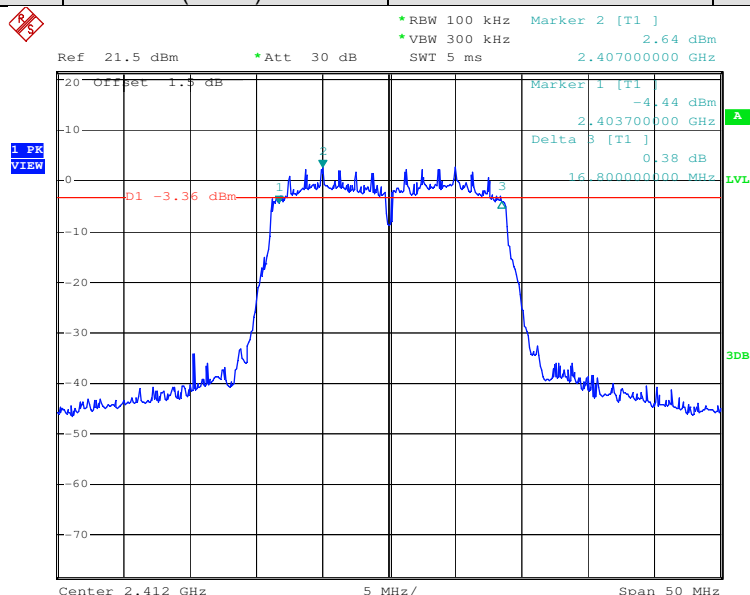
Test mode:	802.11g	Test channel:	Highest
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Date: 26.NOV.2010 14:08:56

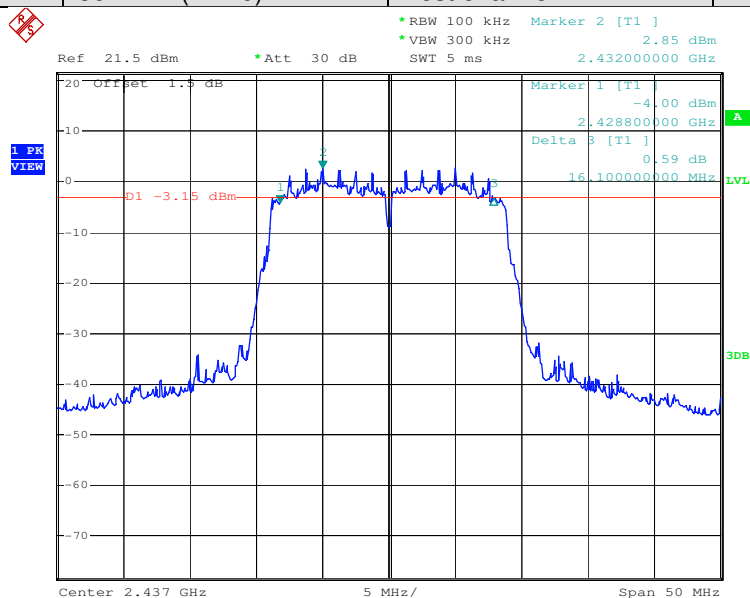


Test mode:	802.11n (HT20)	Test channel:	Lowest
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Date: 26.NOV.2010 14:55:10

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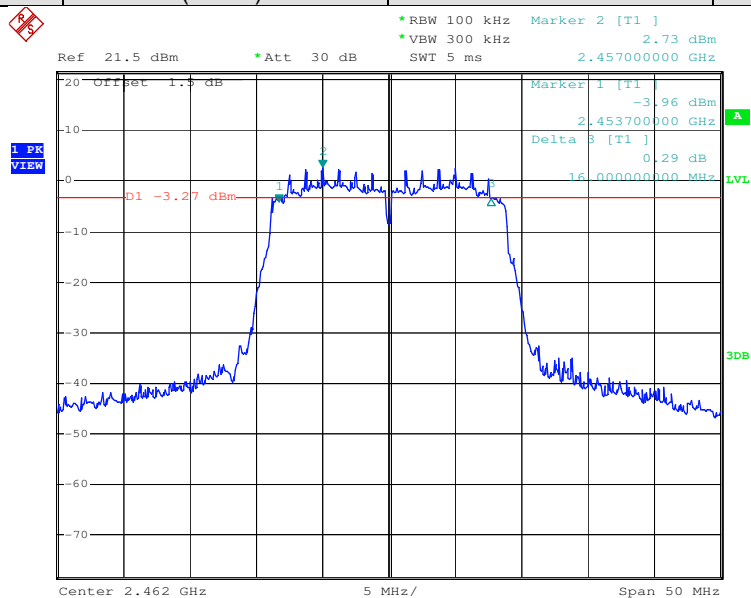


Date: 26.NOV.2010 15:26:27

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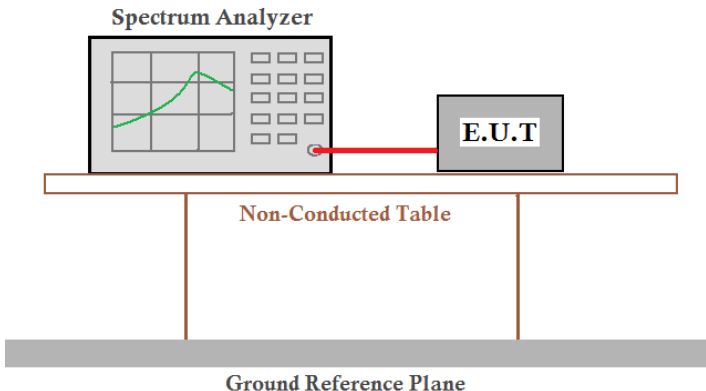


Test mode:	802.11n (HT20)	Test channel:	Highest
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Date: 26.NOV.2010 15:46:21

5.5 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.10:2009 and KDB558074
Limit:	<8dBm
Test setup:	 <p><i>Remark:</i> Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</p>
Test Instruments:	Refer to section 4.7 for details
Test results:	Pass

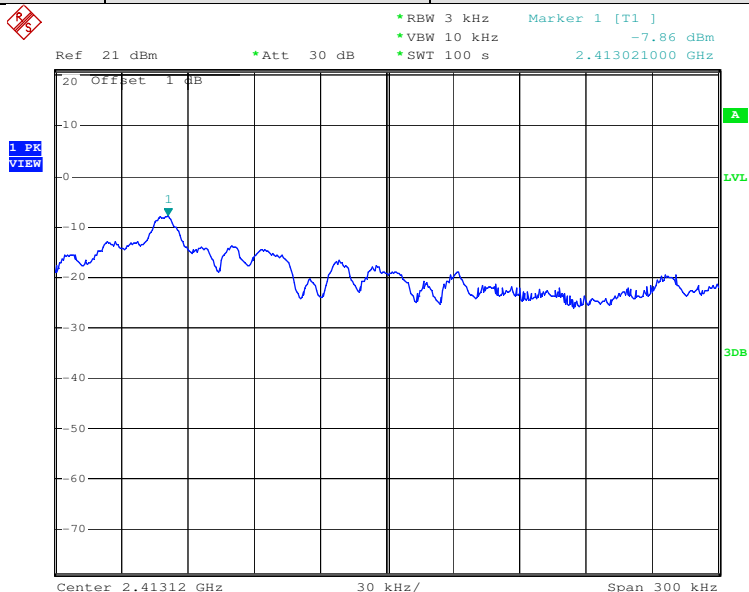
Measurement Data

802.11b mode			
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	-7.86	<8.00	Pass
Middle	1.72	<8.00	Pass
Highest	1.96	<8.00	Pass
802.11g mode			
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	-9.74	<8.00	Pass
Middle	-9.93	<8.00	Pass
Highest	-9.68	<8.00	Pass
802.11n (HT20) mode			
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	-10.15	<8.00	Pass
Middle	-10.19	<8.00	Pass
Highest	-10.01	<8.00	Pass



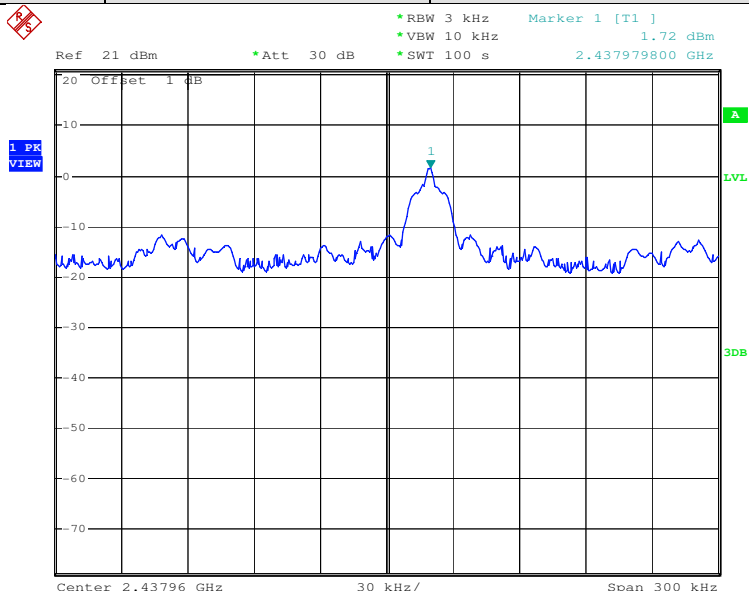
Test plot as follows:

Test mode:	802.11b	Test channel:	Lowest
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Date: 25.NOV.2010 13:03:59

Test mode:	802.11b	Test channel:	Middle
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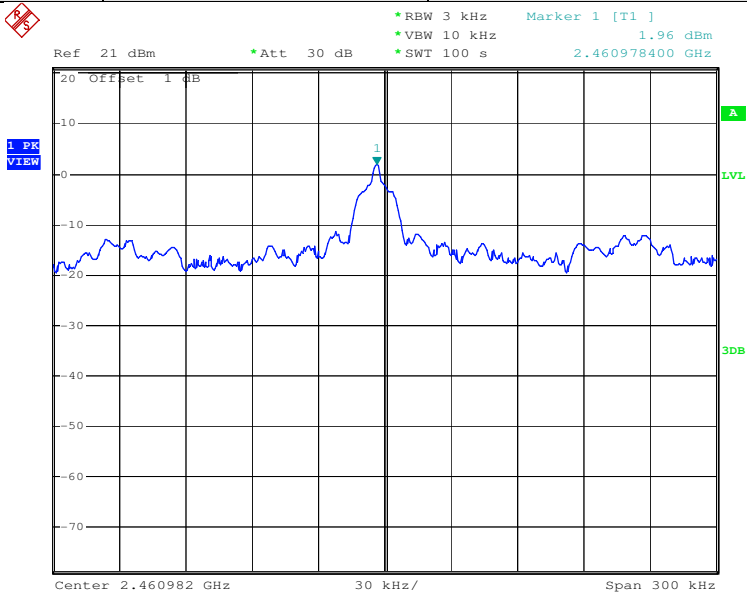


Date: 25.NOV.2010 13:49:12

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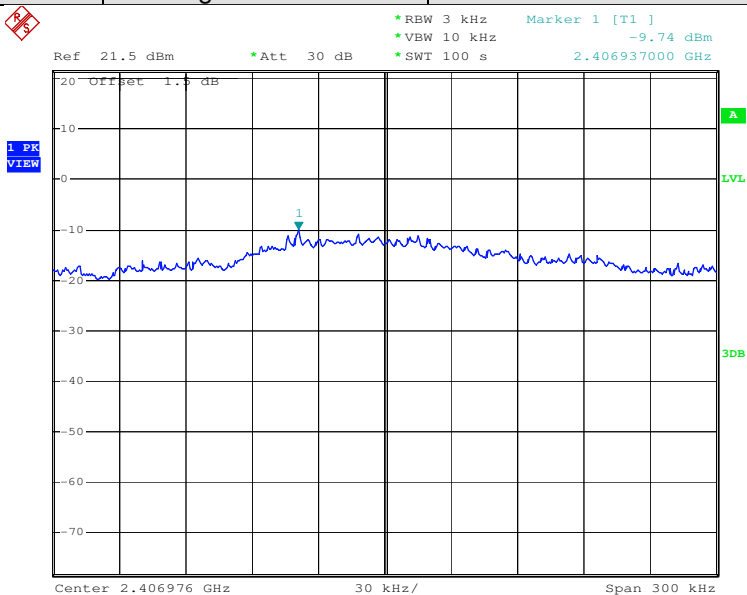


Test mode:	802.11b	Test channel:	Highest
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Date: 25.NOV.2010 14:22:44

Test mode:	802.11g	Test channel:	Lowest
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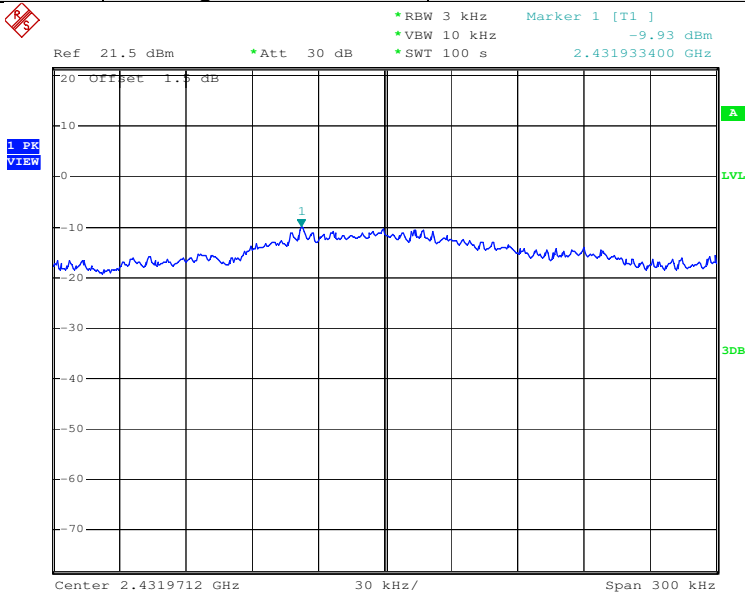


Date: 26.NOV.2010 13:31:37

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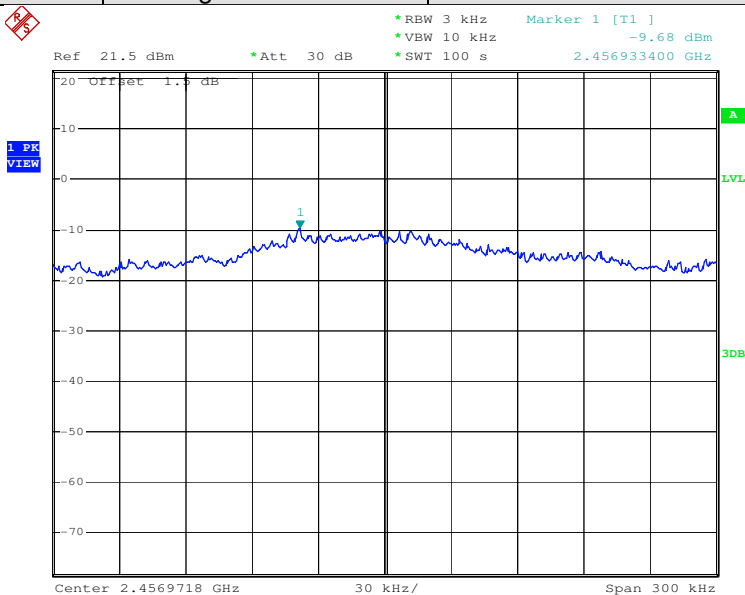


Test mode:	802.11g	Test channel:	Middle
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Date: 26.NOV.2010 13:59:16

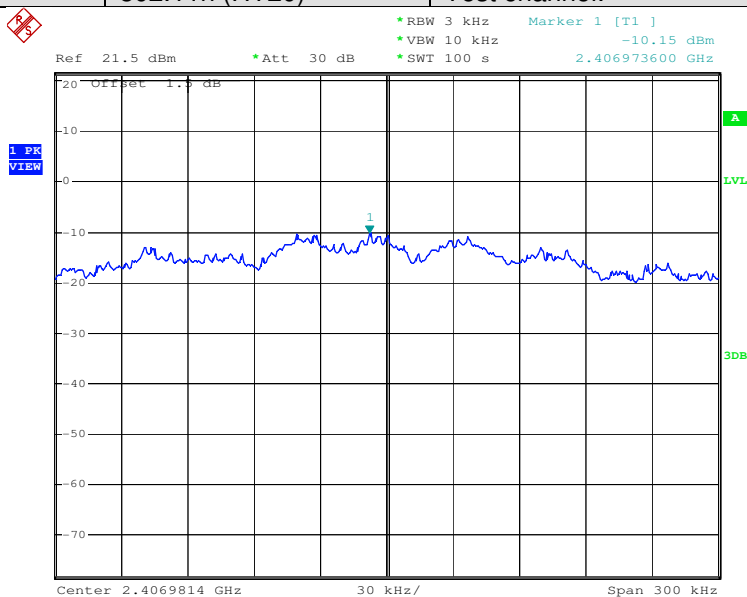
Test mode:	802.11g	Test channel:	Highest
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Date: 26.NOV.2010 14:22:47

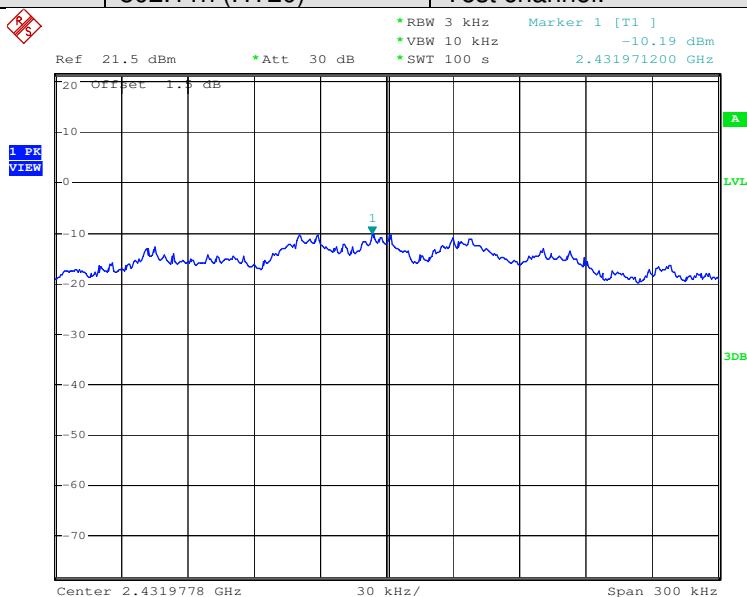


Test mode:	802.11n (HT20)	Test channel:	Lowest
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Date: 26.NOV.2010 15:11:11

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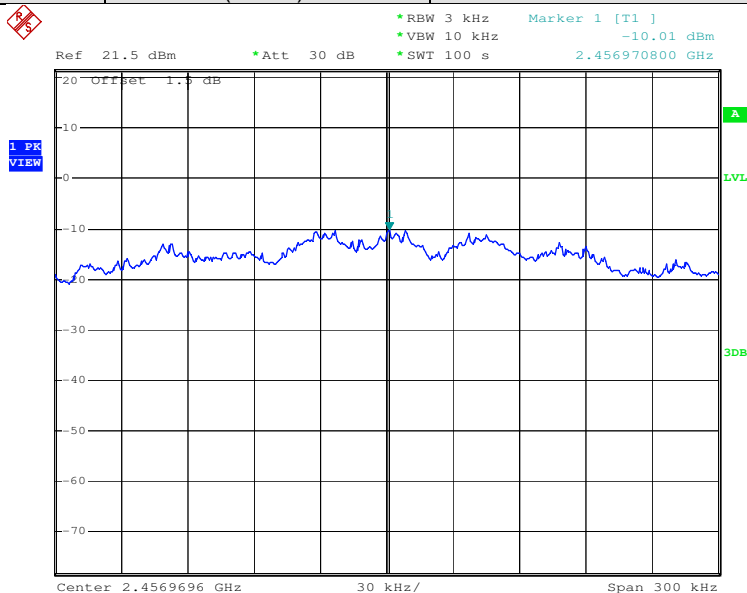


Date: 26.NOV.2010 15:37:20

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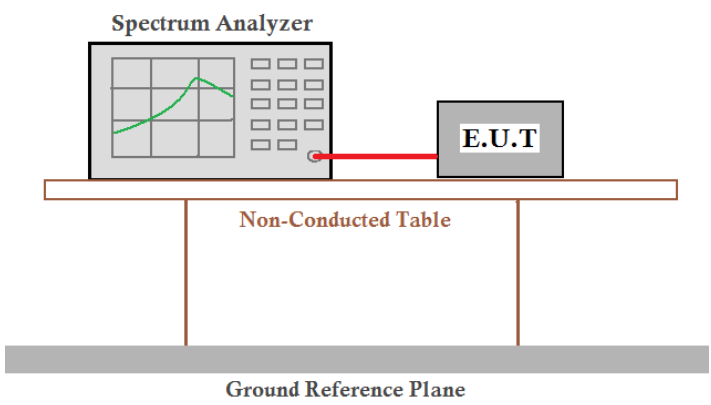


Test mode:	802.11n (HT20)	Test channel:	Highest
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Date: 26.NOV.2010 15:59:28

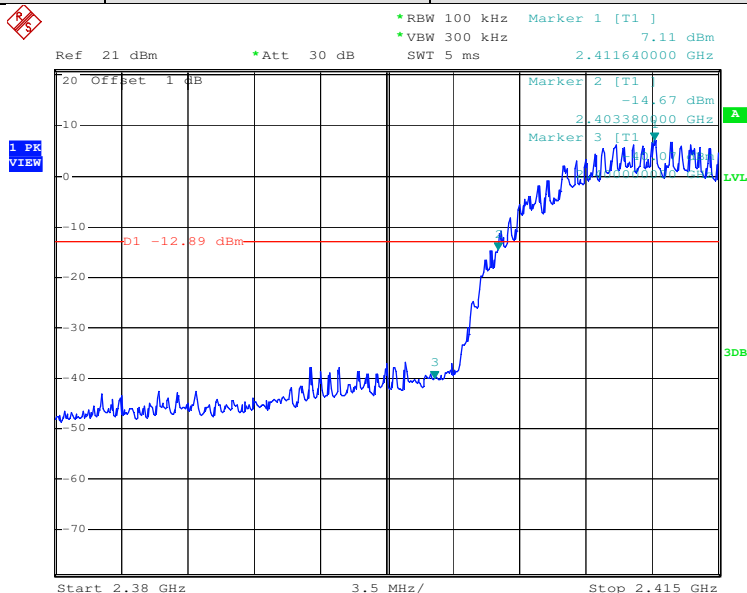
5.6 Band Edge

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2009 and KDB558074
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:	 <p><i>Remark:</i> Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</p>
Test Instruments:	Refer to section 4.7 for details
Test results:	Pass



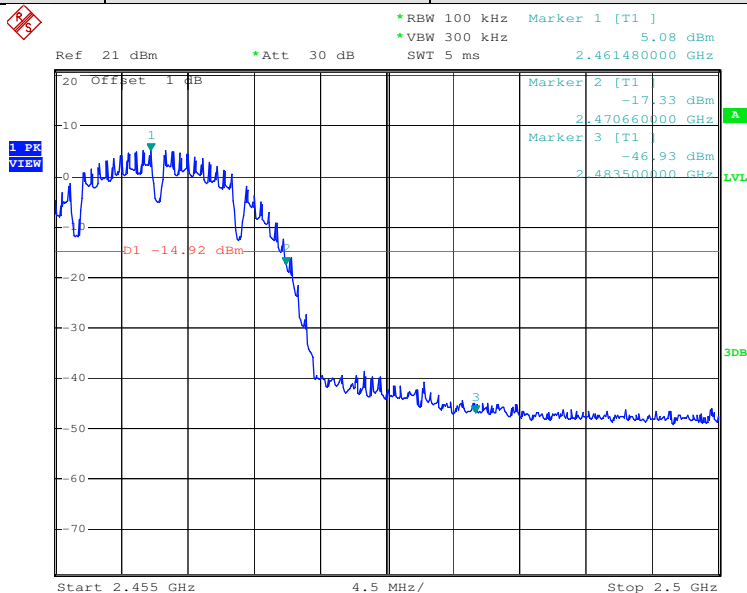
Test plot as follows:

Test mode:	802.11b	Test channel:	Lowest
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Date: 25.NOV.2010 14:30:53

Test mode:	802.11b	Test channel:	Highest
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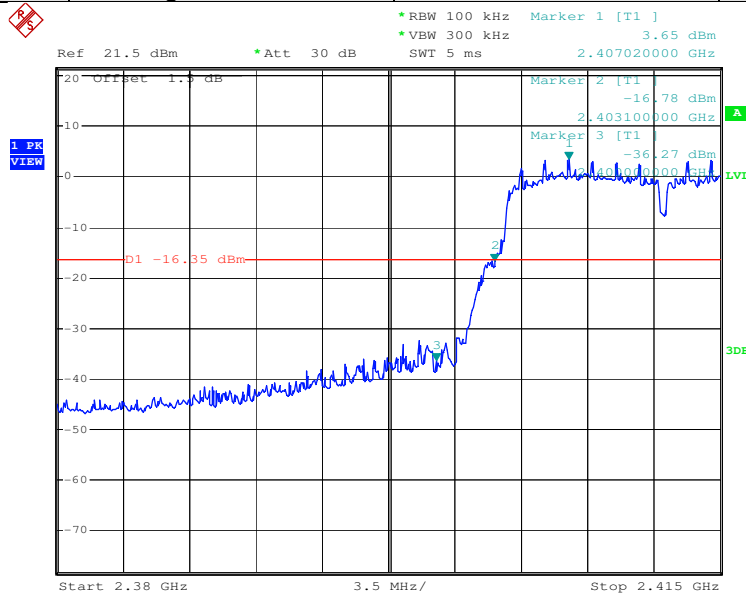


Date: 25.NOV.2010 14:08:48

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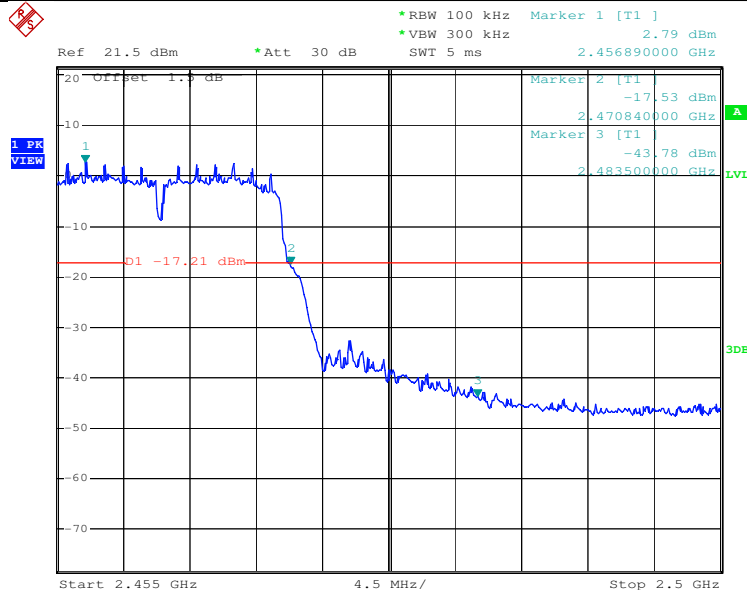


Test mode:	802.11g	Test channel:	Lowest
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Date: 26.NOV.2010 14:38:55

Test mode:	802.11g	Test channel:	Highest
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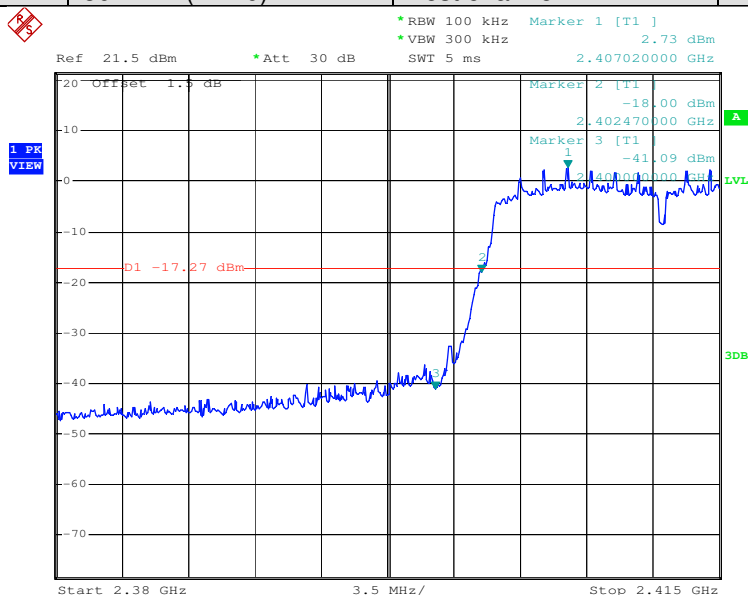


Date: 26.NOV.2010 14:13:35

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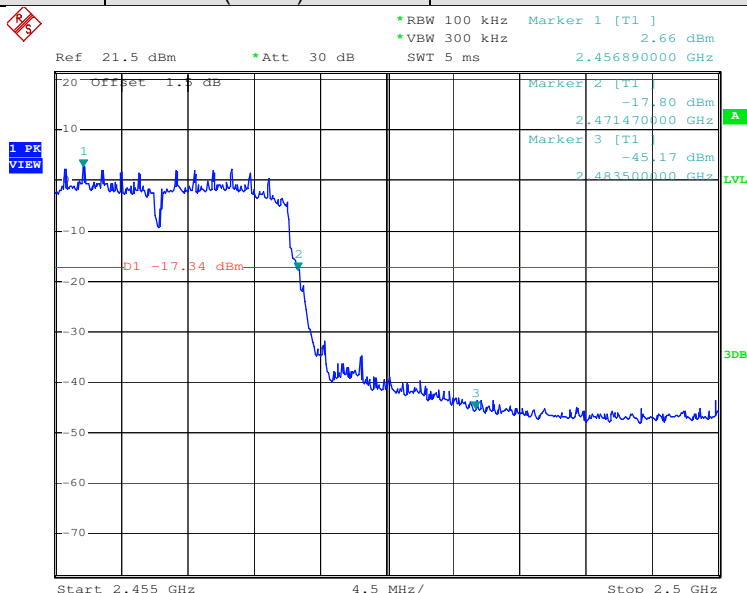


Test mode:	802.11n (HT20)	Test channel:	Lowest
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Date: 26.NOV.2010 15:22:17

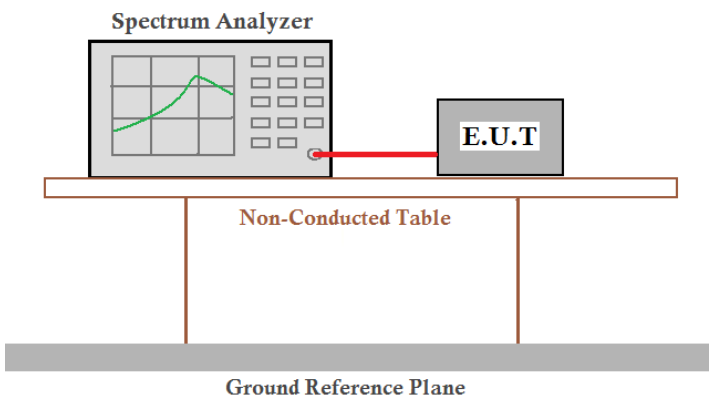
Test mode:	802.11n (HT20)	Test channel:	Highest
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Date: 26.NOV.2010 15:50:18

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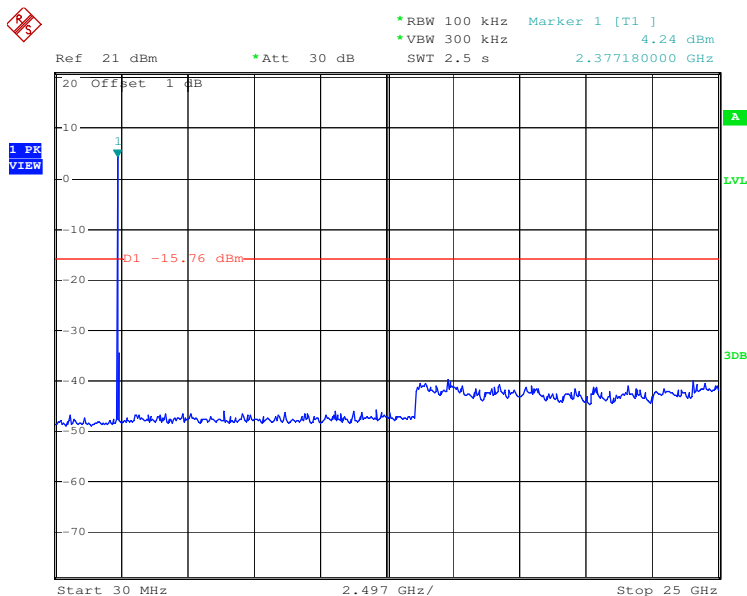
5.7 RF Antenna Conducted spurious emissions

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2009 and KDB558074
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:	 <p><i>Remark:</i> <i>Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</i></p>
Test Instruments:	Refer to section 4.7 for details
Test results:	Pass



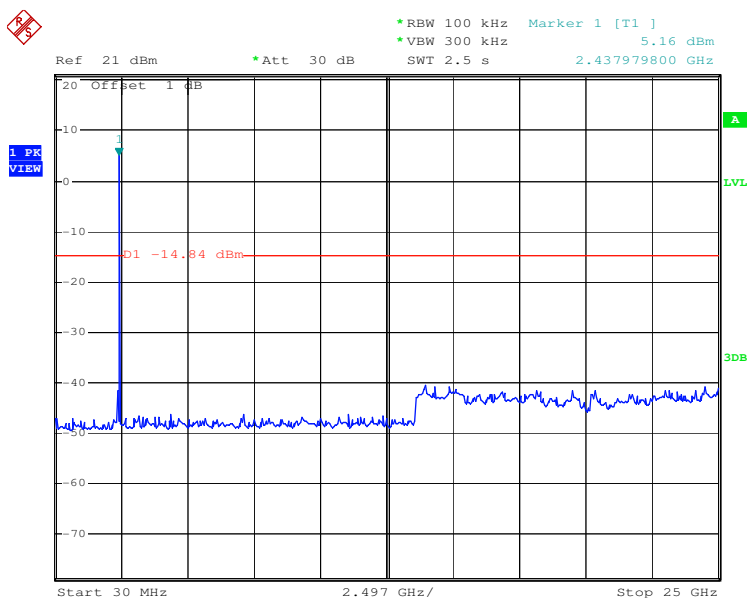
Test plot as follows:

Test mode:	802.11b	Test channel:	Lowest
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Date: 25.NOV.2010 13:14:34

Test mode:	802.11b	Test channel:	Middle
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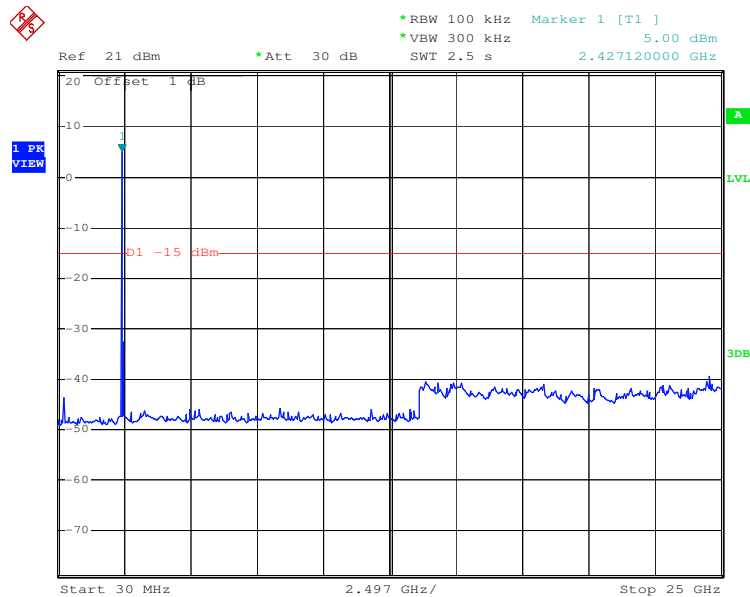


Date: 25.NOV.2010 13:51:37

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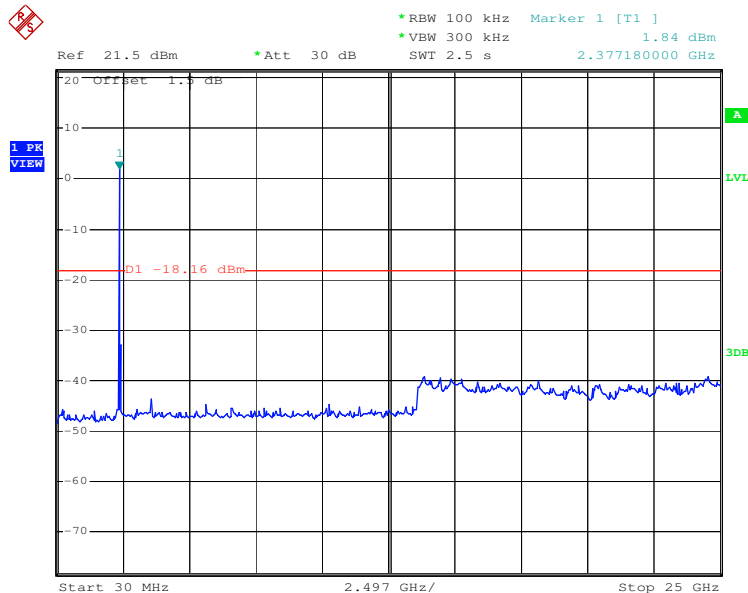


Test mode:	802.11b	Test channel:	Highest
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Date: 25.NOV.2010 14:11:17

Test mode:	802.11g	Test channel:	Lowest
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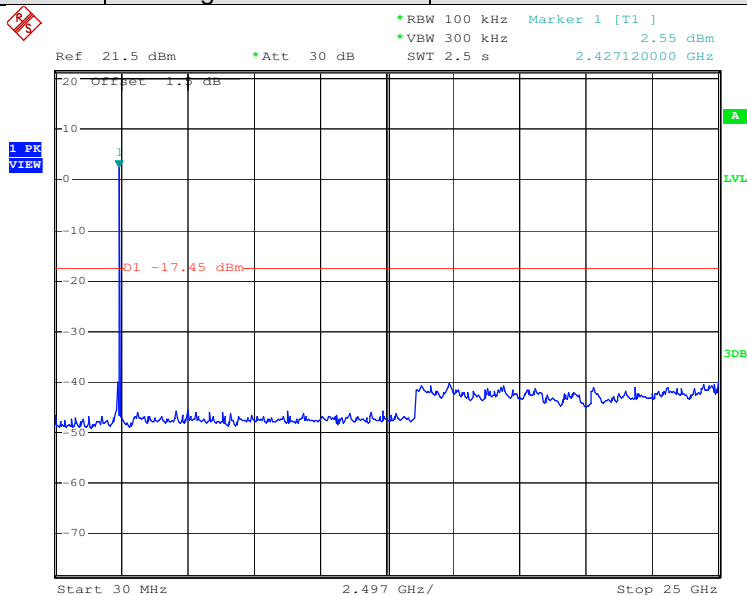


Date: 26.NOV.2010 13:41:29

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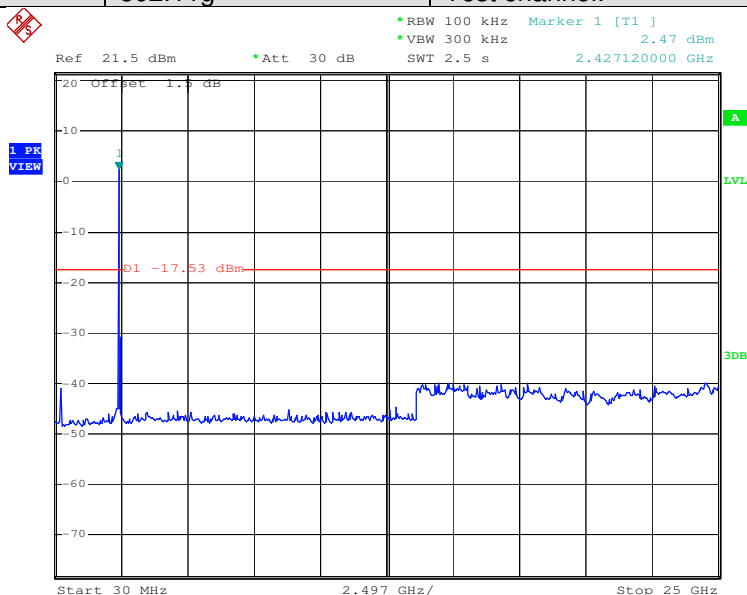


Test mode:	802.11g	Test channel:	Middle
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Date: 26.NOV.2010 14:04:32

Test mode:	802.11g	Test channel:	Highest
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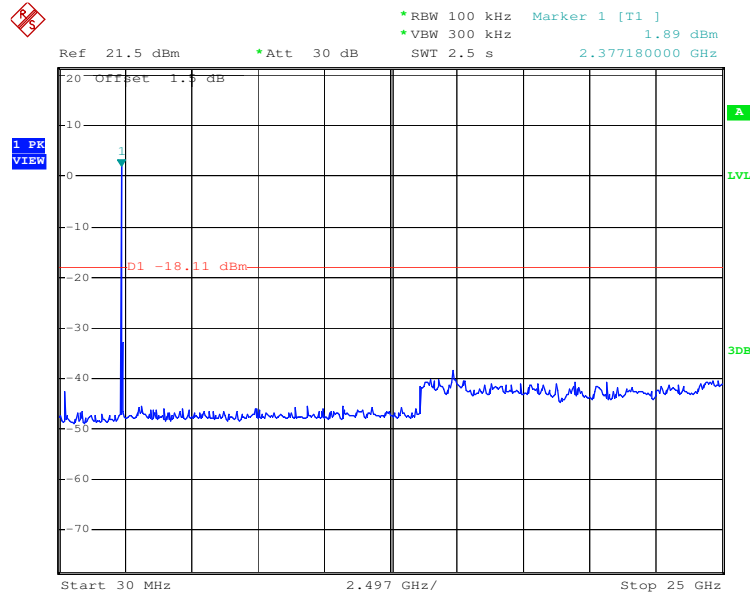


Date: 26.NOV.2010 14:36:03

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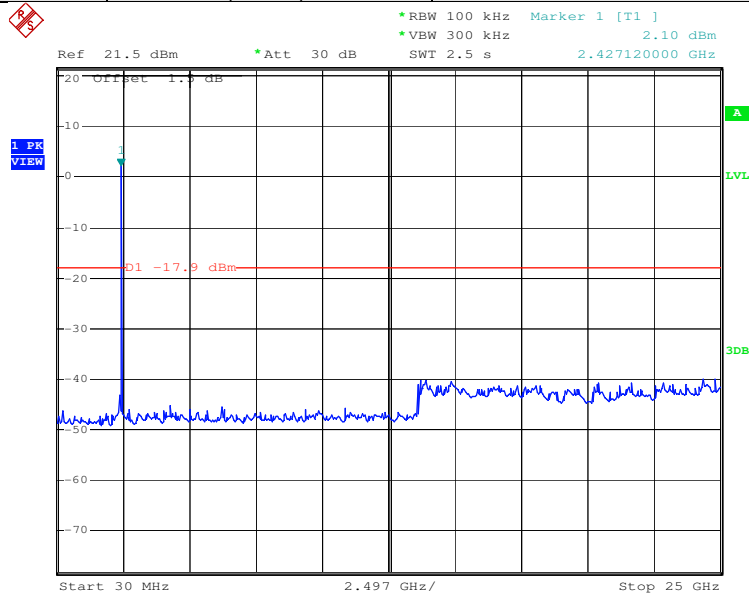


Test mode:	802.11n (HT20)	Test channel:	Lowest
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Date: 26.NOV.2010 15:20:44

Test mode:	802.11n (HT20)	Test channel:	Middle
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Date: 26.NOV.2010 15:41:22

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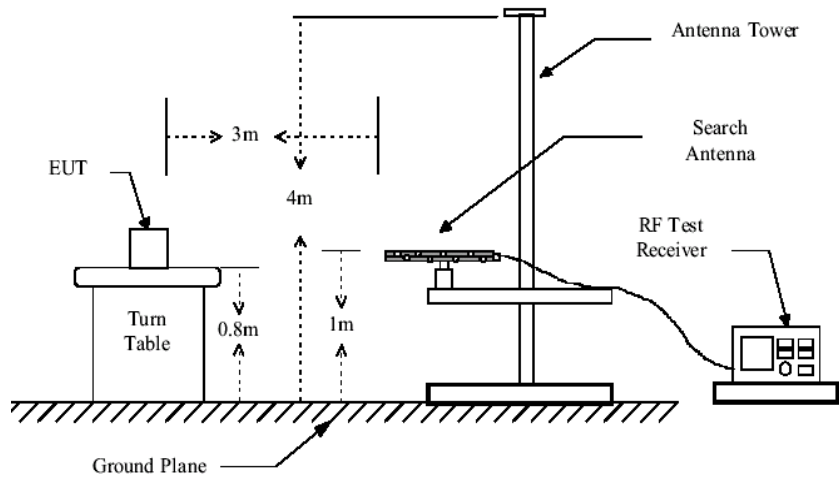


5.8 Radiated Emission

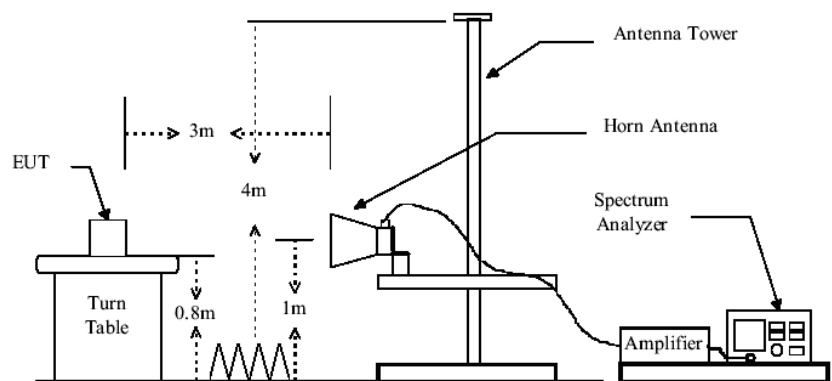
Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.10: 2009				
Test Frequency Range:	30MHz to 25GHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:					
	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
Peak		1MHz	10Hz	Average Value	
Limit:					
	Frequency		Limit (dBuV/m @3m)		Remark
	30MHz-88MHz		40.0		Quasi-peak Value
	88MHz-216MHz		43.5		Quasi-peak Value
	216MHz-960MHz		46.0		Quasi-peak Value
	960MHz-1GHz		54.0		Quasi-peak Value
	Above 1GHz		54.0		Average Value
74.0			Peak Value		
Test Procedure:	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 C63.4:2009 on radiated measurement.				
	The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.				
Test Instruments:	Refer to section 4.7 for details				
Test mode:	1. Pre-scan was performed at the EUT in 802.11b, 802.11g and 802.11n modes and find out the worst case is 802.11b mode. 2. Test the EUT in Wi-Fi + Bluetooth+ GPS Rx modes below 1GHz.				
Test results:	Pass				

Test setup:

Below 1GHz



Above 1GHz



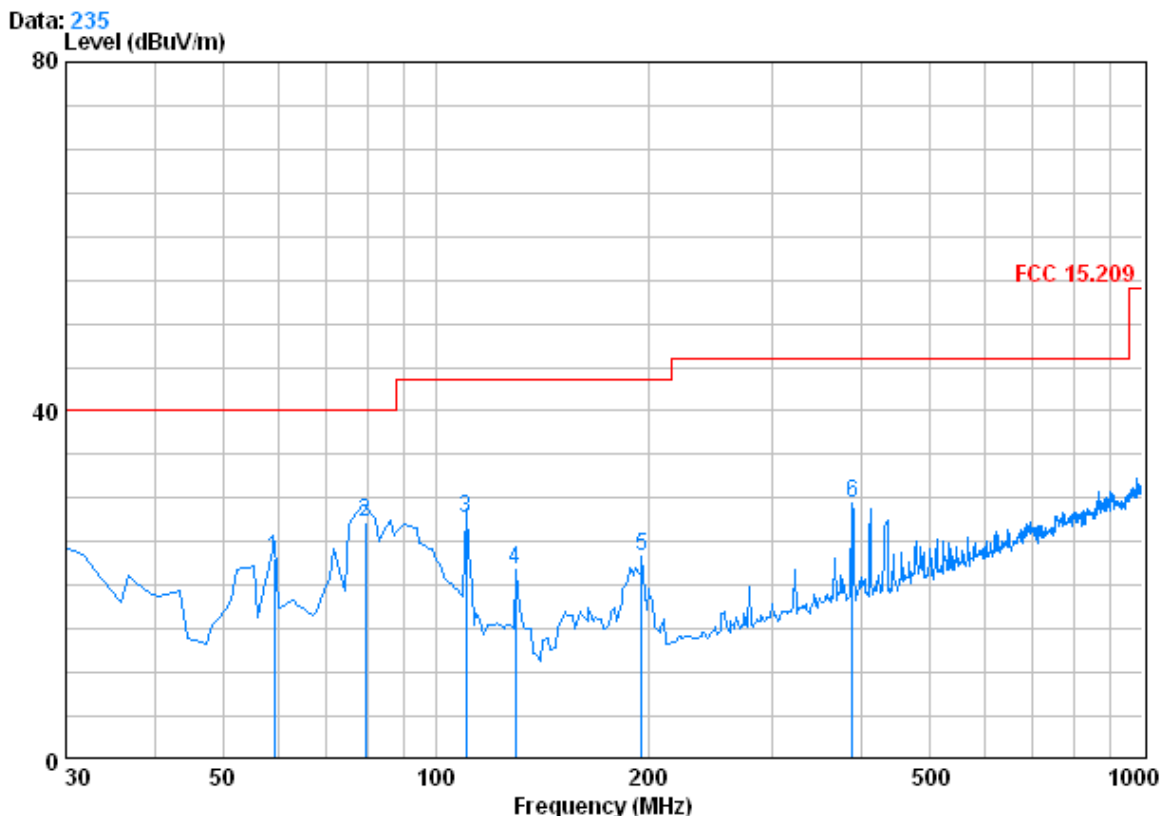
Note:

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

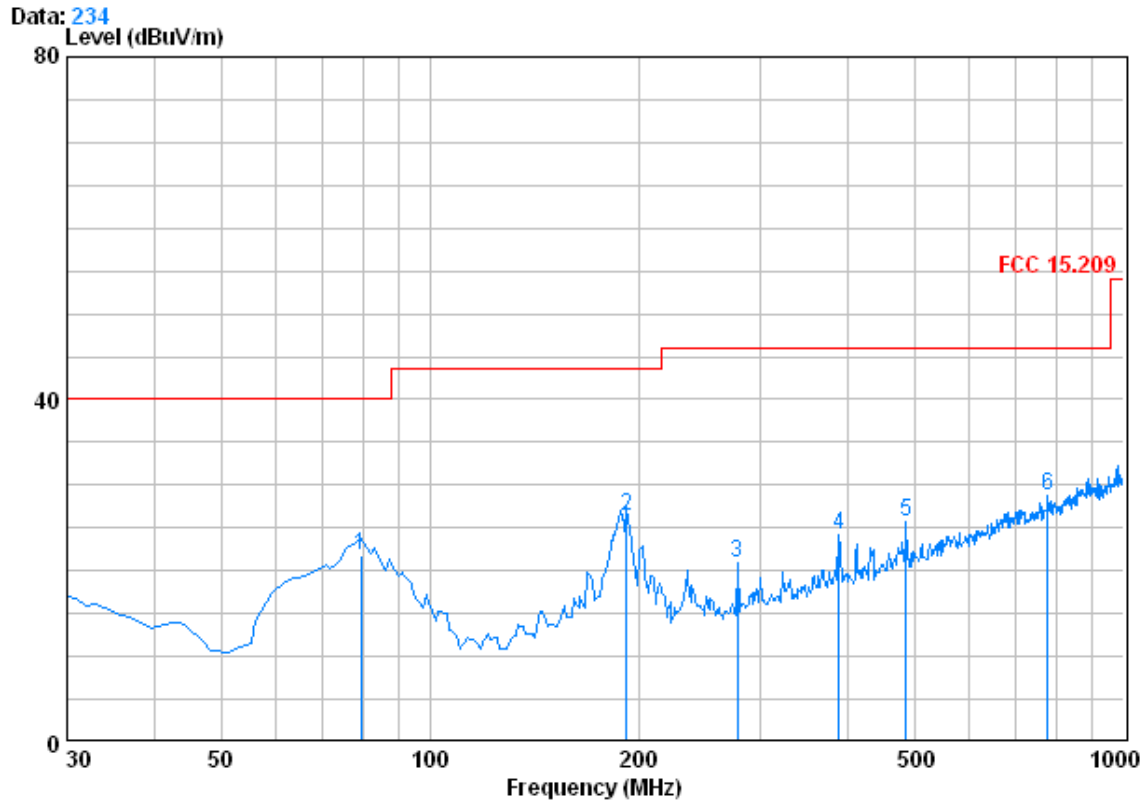
$$\text{Final Test Level} = \text{Receiver Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Preamplifier Factor}$$

5.8.1 Radiated emission below 1GHz

Vertical:



		CableAntenna	Preamp	Read	Limit	Over
	Freq	Loss	Factor	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m
1 @	59.100	0.80	7.27	28.06	43.10	23.11
2 @	79.470	1.08	7.68	28.00	46.55	27.31
3 @	110.510	1.23	8.57	27.77	45.71	27.73
4	129.910	1.28	7.70	27.61	40.40	21.77
5	195.870	1.39	10.16	27.17	38.98	23.36
6 @	388.900	2.17	16.17	27.34	38.43	29.42

Horizontal:


	Freq	Cable Loss	Antenna Factor	Preamplifier Factor	Read Level	Level	Limit	Over
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	79.470	1.08	7.68	28.00	41.09	21.85	40.00	-18.15
2	191.990	1.39	10.12	27.20	42.05	26.37	43.50	-17.13
3	277.350	1.80	12.89	26.80	32.98	20.86	46.00	-25.14
4	388.900	2.17	16.17	27.34	33.18	24.18	46.00	-21.82
5	485.900	2.55	17.80	27.67	33.09	25.77	46.00	-20.23
6	776.900	3.14	22.01	27.02	30.65	28.77	46.00	-17.23

**5.8.2 Transmitter emission above 1GHz**

Test mode:		802.11b		Test channel:		Lowest		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		
4825	10.34	34.03	41.43	51.57	54.51	74.00	-19.49	Vertical		
7239	13.22	36.25	40.78	49.99	58.68	74.00	-15.32	Vertical		
9670	13.59	37.03	37.71	47.34	60.25	74.00	-13.75	Vertical		
12050	16.77	38.82	39.13	45.79	62.25	74.00	-11.75	Vertical		
14464	17.43	39.45	45.11	46.64	58.41	74.00	-15.59	Vertical		
16861	19.09	41.12	39.49	44.22	64.94	74.00	-9.06	Vertical		
4825	10.34	34.03	41.43	51.73	54.67	74.00	-19.33	Horizontal		
7239	13.22	36.25	40.78	52.95	61.64	74.00	-12.36	Horizontal		
9636	13.49	37.01	37.64	49.29	62.15	74.00	-11.85	Horizontal		
12050	16.77	38.82	39.13	46.69	63.15	74.00	-10.85	Horizontal		
14447	17.43	39.45	45.11	47.17	58.94	74.00	-15.06	Horizontal		
16861	19.09	41.12	39.49	43.70	64.42	74.00	-9.58	Horizontal		

Test mode:		802.11b		Test channel:		Lowest		Remark:		Average	
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			
4825	10.34	34.03	41.43	40.26	43.20	54.00	-10.80	Vertical			
7239	13.22	36.25	40.78	39.67	48.36	54.00	-5.64	Vertical			
9670	13.59	37.03	37.71	35.33	48.24	54.00	-5.76	Vertical			
12050	16.77	38.82	39.13	30.57	47.03	54.00	-6.97	Vertical			
14464	17.43	39.45	45.11	36.27	48.04	54.00	-5.96	Vertical			
16861	19.09	41.12	39.49	26.93	47.65	54.00	-6.35	Vertical			
4825	10.34	34.03	41.43	42.29	45.23	54.00	-8.77	Horizontal			
7239	13.22	36.25	40.78	39.49	48.18	54.00	-5.82	Horizontal			
9636	13.49	37.01	37.64	32.79	45.65	54.00	-8.35	Horizontal			
12050	16.77	38.82	39.13	30.95	47.41	54.00	-6.59	Horizontal			
14447	17.43	39.45	45.11	34.55	46.32	54.00	-7.68	Horizontal			
16861	19.09	41.12	39.49	27.19	47.91	54.00	-6.09	Horizontal			

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Test mode:		802.11b		Test channel:		Middle		Remark:		Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamplifier Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization		
4876	10.36	34.02	39.89	50.13	54.62	74.00	-19.38	Vertical		
7324	12.91	36.10	40.40	50.71	59.32	74.00	-14.68	Vertical		
9755	13.89	37.10	37.94	47.96	61.01	74.00	-12.99	Vertical		
12186	18.03	38.91	39.27	43.52	61.19	74.00	-12.81	Vertical		
14634	17.38	39.60	45.83	47.11	58.26	74.00	-15.74	Vertical		
17218	19.67	41.20	39.53	41.89	63.23	74.00	-10.77	Vertical		
4876	10.36	34.02	39.89	50.61	55.10	74.00	-18.90	Horizontal		
7324	12.91	36.10	40.40	50.46	59.07	74.00	-14.93	Horizontal		
9755	13.89	37.10	37.94	47.07	60.12	74.00	-13.88	Horizontal		
12186	18.03	38.91	39.27	43.89	61.56	74.00	-12.44	Horizontal		
14634	17.38	39.60	45.83	46.96	58.11	74.00	-15.89	Horizontal		
17065	19.55	41.08	39.41	42.55	63.77	74.00	-10.23	Horizontal		

Test mode:		802.11b		Test channel:		Middle		Remark:		Average	
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamplifier Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization			
4876	10.36	34.02	39.89	38.37	42.86	54.00	-11.14	Vertical			
7324	12.91	36.10	40.40	39.35	47.96	54.00	-6.04	Vertical			
9755	13.89	37.10	37.94	34.40	47.45	54.00	-6.55	Vertical			
12186	18.03	38.91	39.27	29.59	47.26	54.00	-6.74	Vertical			
14634	17.38	39.60	45.83	33.58	44.73	54.00	-9.27	Vertical			
17218	19.67	41.20	39.53	25.69	47.03	54.00	-6.97	Vertical			
4876	10.36	34.02	39.89	39.41	43.90	54.00	-10.10	Horizontal			
7324	12.91	36.10	40.40	35.47	44.08	54.00	-9.92	Horizontal			
9755	13.89	37.10	37.94	33.87	46.92	54.00	-7.08	Horizontal			
12186	18.03	38.91	39.27	30.50	48.17	54.00	-5.83	Horizontal			
14634	17.38	39.60	45.83	34.08	45.23	54.00	-8.77	Horizontal			
17065	19.55	41.08	39.41	26.21	47.43	54.00	-6.57	Horizontal			

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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		
4927	10.53	34.01	40.90	50.02	53.66	74.00	-20.34	Vertical		
7392	12.68	35.99	40.11	50.15	58.71	74.00	-15.29	Vertical		
9840	14.13	37.17	38.01	47.63	60.92	74.00	-13.08	Vertical		
12322	17.71	38.99	39.41	43.42	60.71	74.00	-13.29	Vertical		
14770	16.57	39.73	46.35	48.78	58.73	74.00	-15.27	Vertical		
17235	19.67	41.20	39.53	41.32	62.66	74.00	-11.34	Vertical		
4927	10.53	34.01	40.90	49.82	53.46	74.00	-20.54	Horizontal		
7392	12.68	35.99	40.11	49.71	58.27	74.00	-15.73	Horizontal		
9857	14.17	37.19	37.93	46.37	59.80	74.00	-14.20	Horizontal		
12322	17.71	38.99	39.41	44.26	61.55	74.00	-12.45	Horizontal		
14770	16.57	39.73	46.35	46.53	56.48	74.00	-17.52	Horizontal		
17235	19.67	41.20	39.53	40.75	62.09	74.00	-11.91	Horizontal		

Test mode:		802.11b		Test channel:		Highest		Remark:		Average	
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			
4927	10.53	34.01	40.90	39.22	42.86	54.00	-11.14	Vertical			
7392	12.68	35.99	40.11	39.25	47.81	54.00	-6.19	Vertical			
9840	14.13	37.17	38.01	34.24	47.53	54.00	-6.47	Vertical			
12322	17.71	38.99	39.41	30.21	47.50	54.00	-6.50	Vertical			
14770	16.57	39.73	46.35	33.21	43.16	54.00	-10.84	Vertical			
17235	19.67	41.20	39.53	27.53	48.87	54.00	-5.13	Vertical			
4927	10.53	34.01	40.90	37.61	41.25	54.00	-12.75	Horizontal			
7392	12.68	35.99	40.11	36.63	45.19	54.00	-8.81	Horizontal			
9857	14.17	37.19	37.93	33.62	47.05	54.00	-6.95	Horizontal			
12322	17.71	38.99	39.41	30.40	47.69	54.00	-6.31	Horizontal			
14770	16.57	39.73	46.35	35.63	45.58	54.00	-8.42	Horizontal			
17235	19.67	41.20	39.53	26.59	47.93	54.00	-6.07	Horizontal			

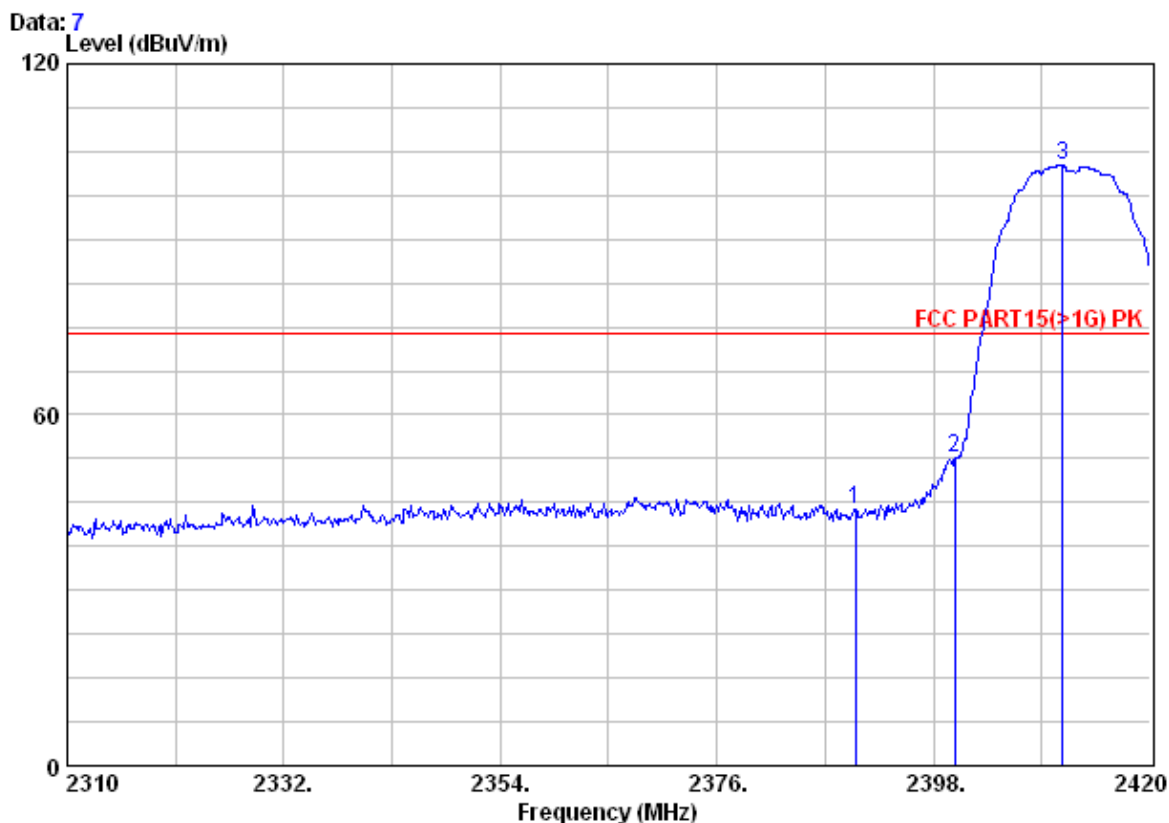
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5.8.3 Band edge (Radiated Emission)

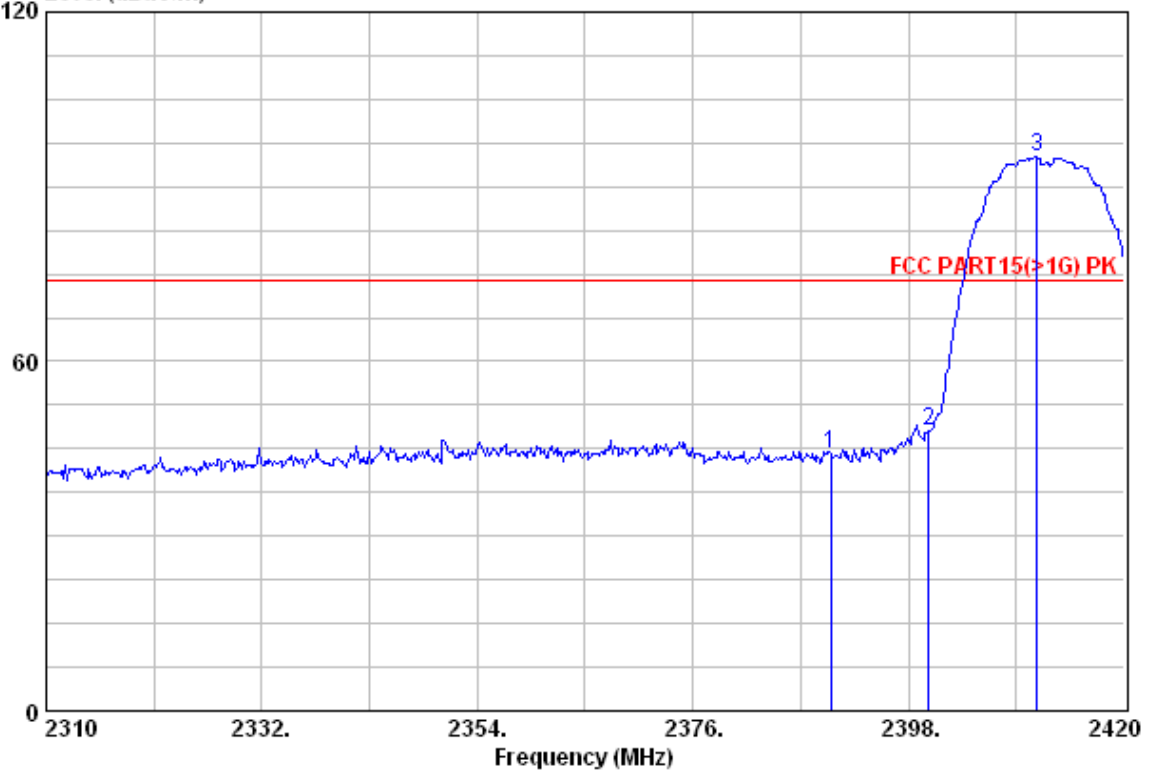
Test mode:	802.11b	Test channel:	Lowest	Remark:	Peak
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Vertical:



		CableAntenna Preamp			Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.080	2.62	32.51	39.85	48.55	43.83	74.00	-30.17
2	2400.200	2.62	32.51	39.86	57.30	52.57	74.00	-21.43
3 X	2411.090	2.62	32.54	39.86	107.40	102.70	74.00	28.70

Horizontal:

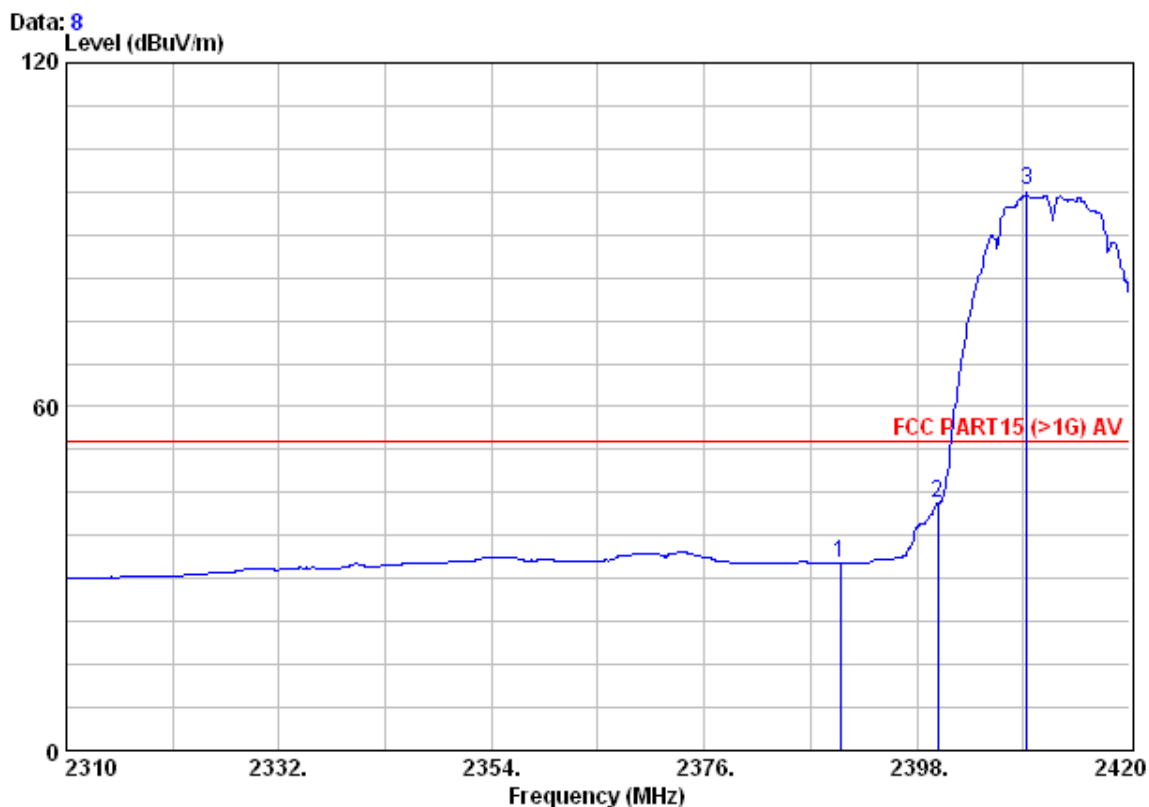
Data: 5
Level (dBuV/m)


	Freq	CableAntenna Loss	Preamp Factor	Read Factor	Level	Limit	Over
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	2390.080	2.62	32.51	39.85	48.85	44.13	74.00 -29.87
2	2400.090	2.62	32.51	39.86	52.77	48.04	74.00 -25.96
3 X	2411.090	2.62	32.54	39.86	99.74	95.05	74.00 21.05



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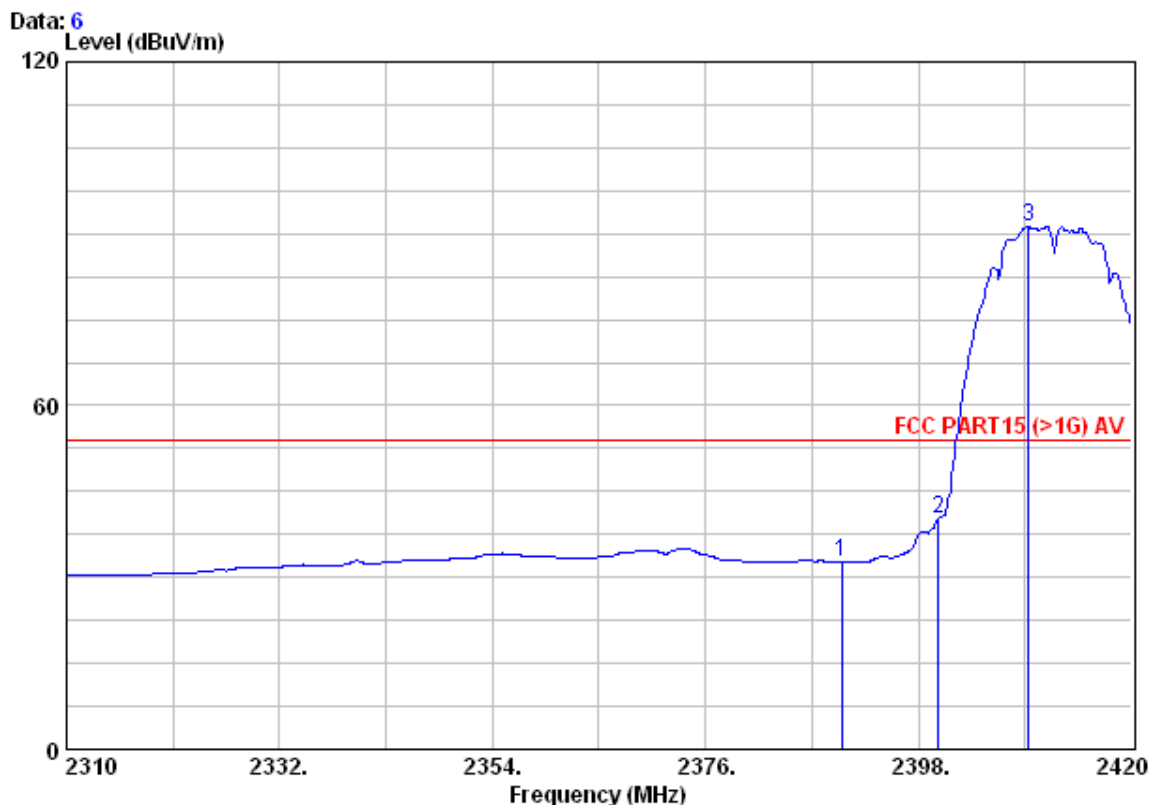
Vertical:



		CableAntenna Preamp			Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.080	2.62	32.51	39.85	37.46	32.75	54.00	-21.25
2	2400.200	2.62	32.51	39.86	47.99	43.26	54.00	-10.74
3 @	2409.330	2.62	32.54	39.86	102.63	97.93	54.00	43.93



Horizontal:

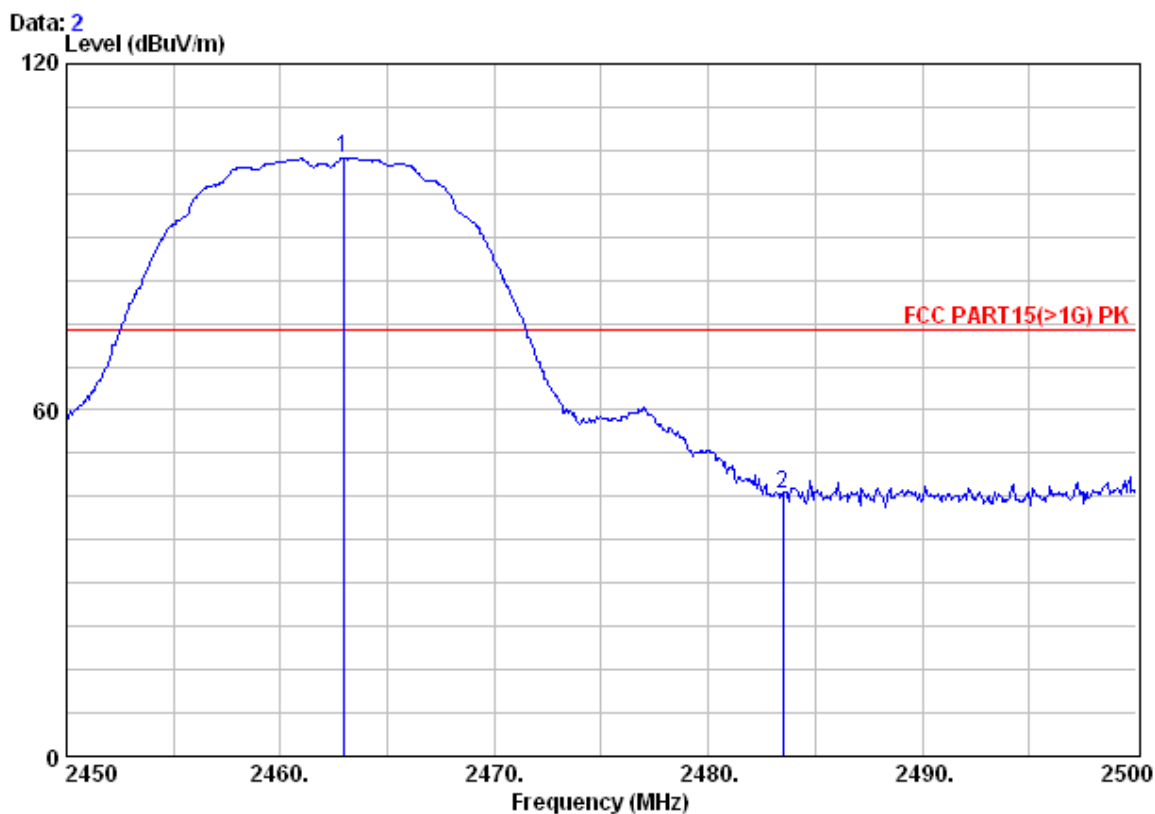


		CableAntenna Preampl			Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.080	2.62	32.51	39.85	37.53	32.82	54.00	-21.18
2	2400.090	2.62	32.51	39.86	45.10	40.37	54.00	-13.63
3	2409.330	2.62	32.54	39.86	95.96	91.26	54.00	37.26



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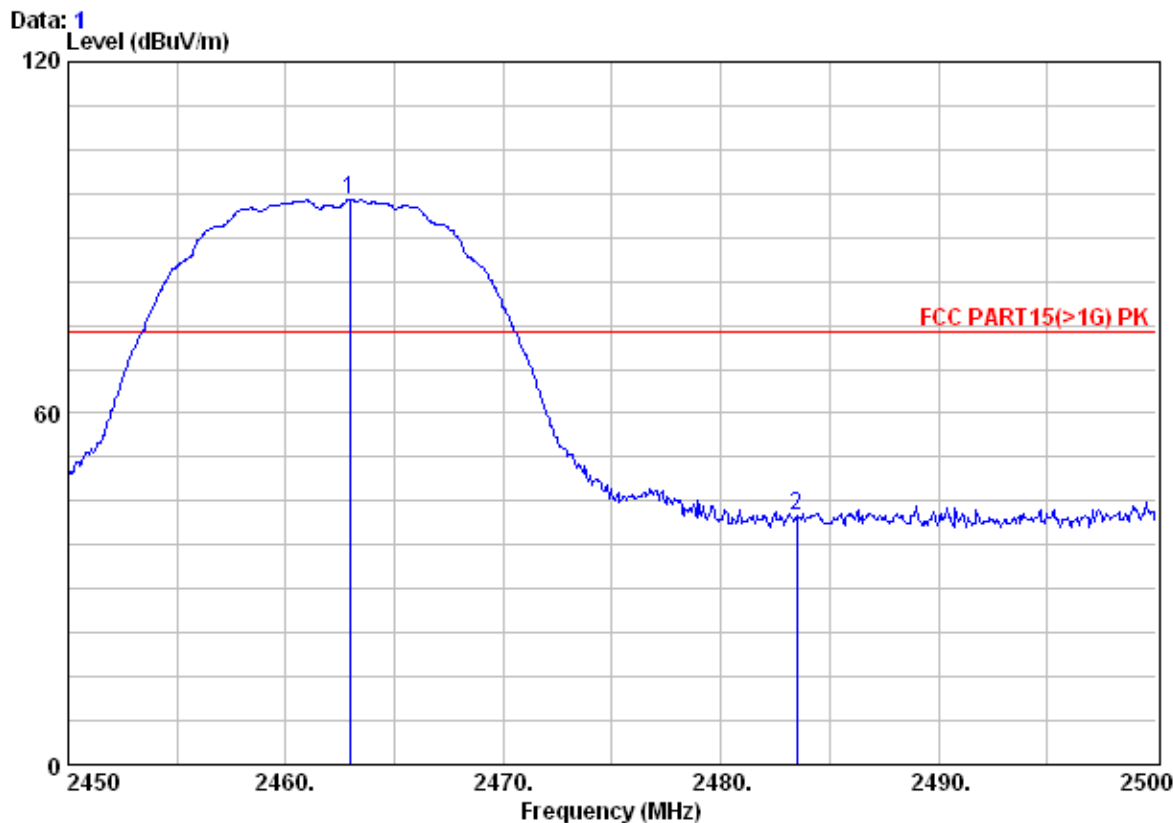
Vertical:



		CableAntenna Preamp			Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 X	2462.950	2.63	32.64	39.91	108.44	103.80	74.00	29.80
2	2483.500	2.63	32.67	39.92	50.13	45.51	74.00	-28.49



Horizontal:

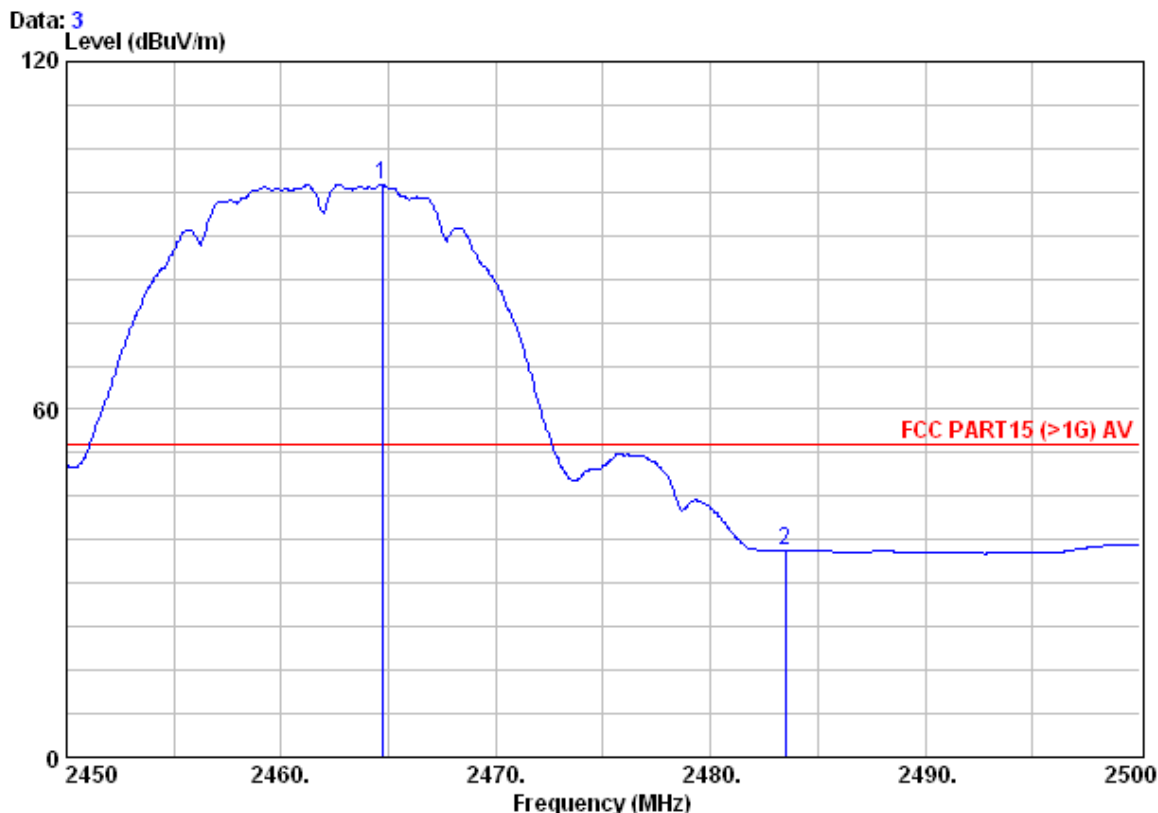


		CableAntenna Preamp			Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 X	2462.950	2.63	32.64	39.91	101.11	96.46	74.00	22.46
2	2483.500	2.63	32.67	39.92	47.05	42.43	74.00	-31.57



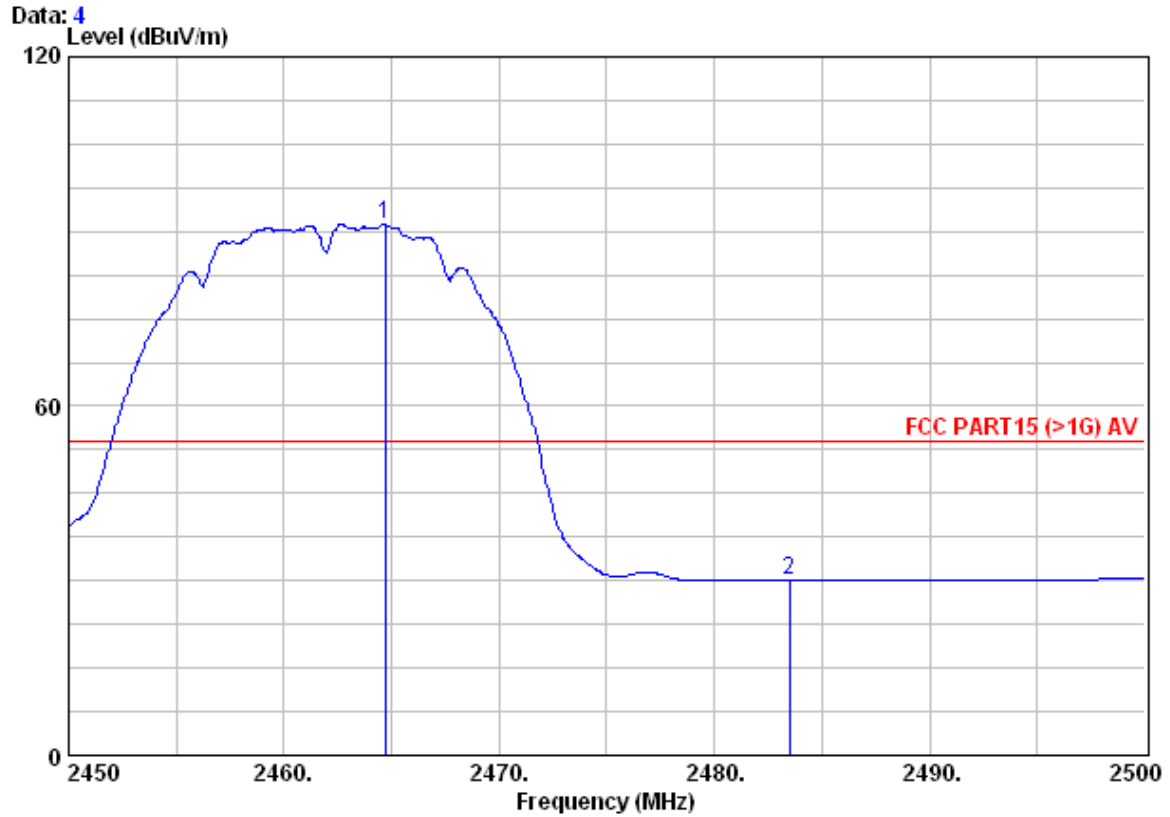
Test mode:	802.11b	Test channel:	Highest	Remark:	Average
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Vertical:



		CableAntenna		Preamp	Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 @	2464.700	2.63	32.64	39.91	103.40	98.76	54.00	44.76
2	2483.500	2.63	32.67	39.92	40.25	35.63	54.00	-18.37

Horizontal:

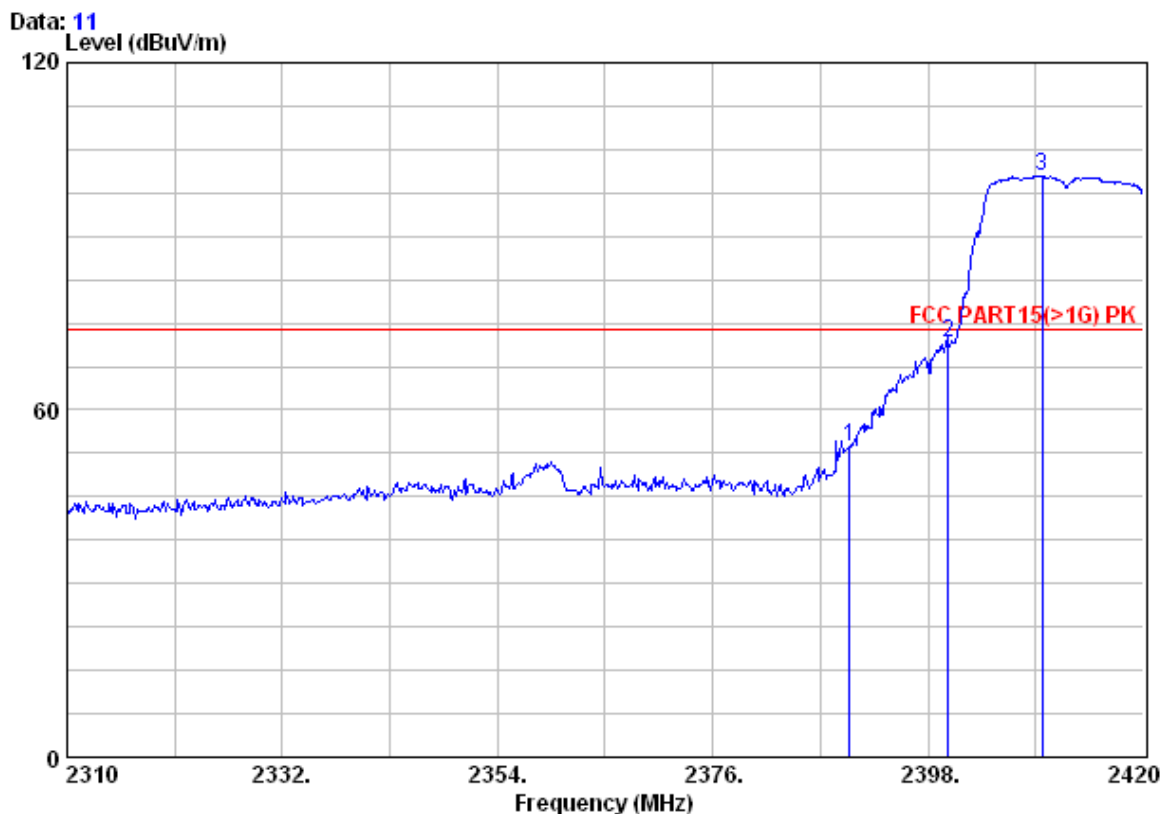


	Freq	Cable Loss	Antenna Factor	Preamplifier Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2464.700	2.63	32.64	39.91	95.82	91.18	54.00	37.18
2	2483.500	2.63	32.67	39.92	34.85	30.22	54.00	-23.78



Test mode:	802.11g	Test channel:	Lowest	Remark:	Peak
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Vertical:



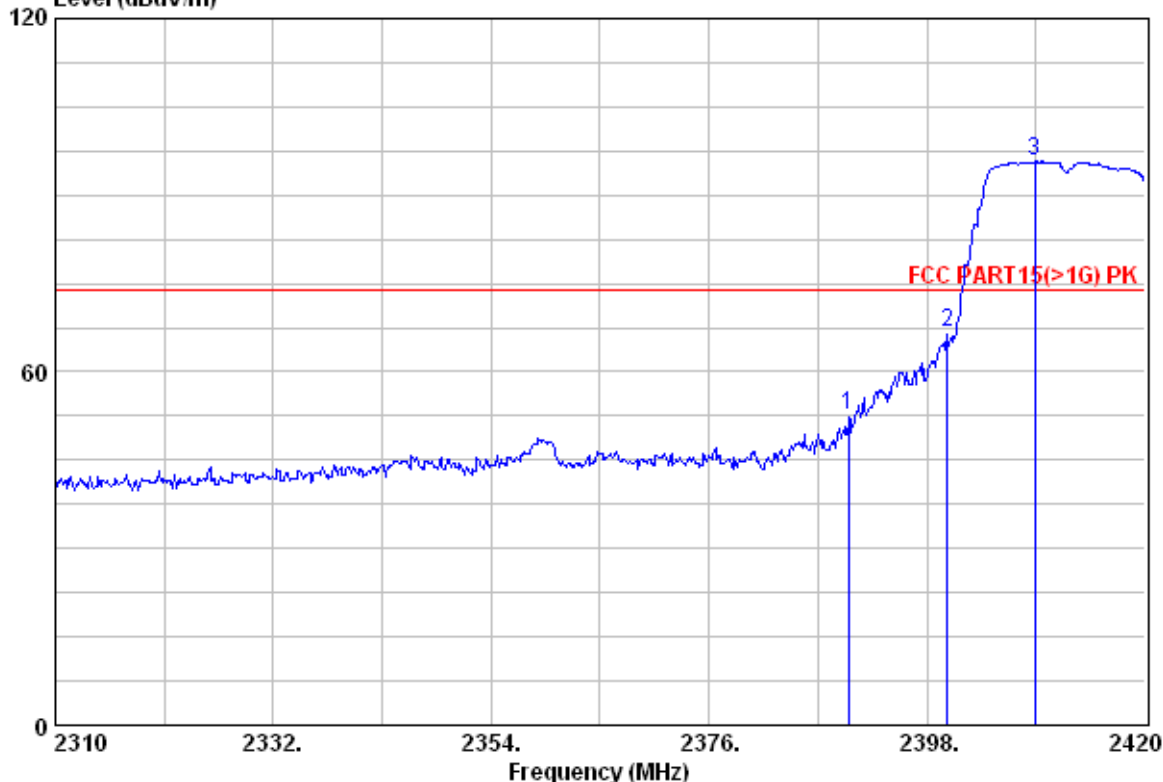
	Freq	Cable Loss	Antenna Factor	Preamplifier Factor	Read Level	Level	Limit	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.62	32.51	39.85	58.45	53.73	74.00	-20.27
2	2400.090	2.62	32.51	39.86	76.30	71.57	74.00	-2.43
3 X	2409.660	2.62	32.54	39.86	105.07	100.38	74.00	26.38



Horizontal:

Data: 9

Level (dBuV/m)

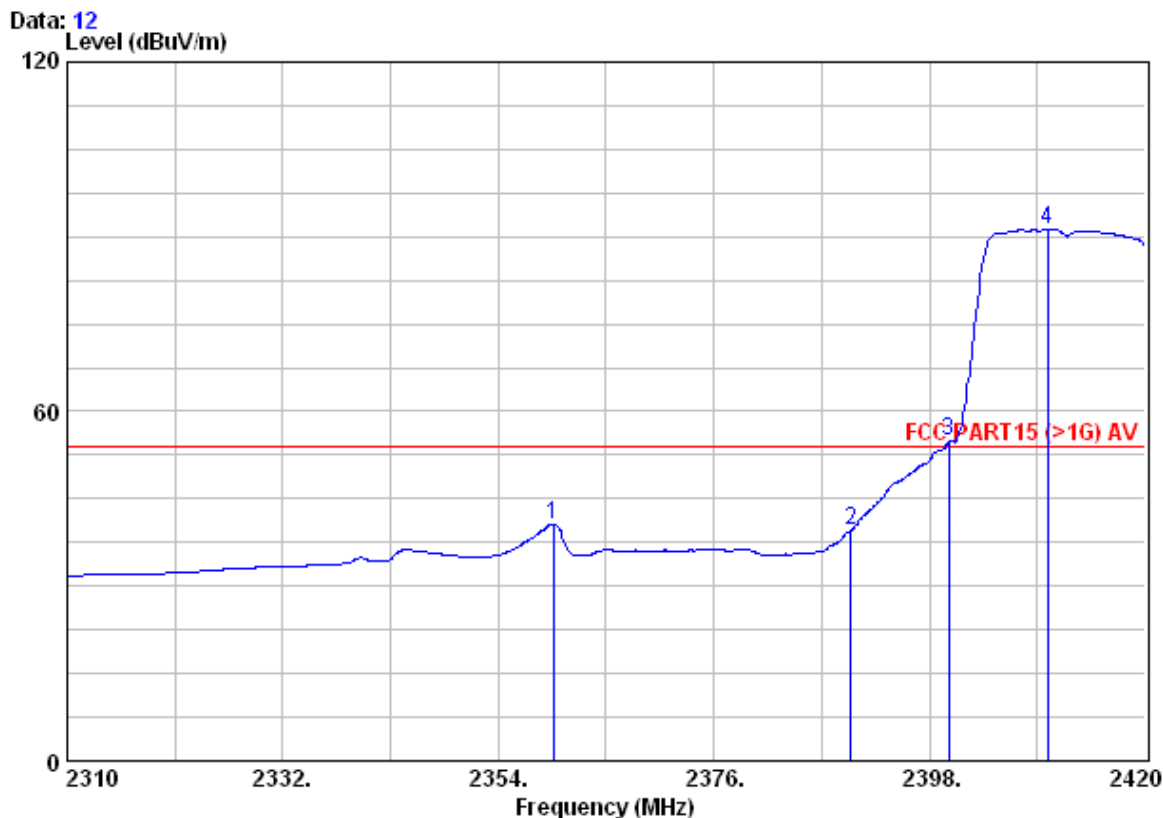


	Cable	Antenna	Preamp	Read	Limit	Over
Freq	Loss	Factor	Factor	Level	Line	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m
1	2.62	32.51	39.85	57.50	52.79	74.00
2	2.62	32.51	39.86	71.49	66.76	74.00
3 X	2.62	32.54	39.86	100.50	95.80	74.00



Test mode:	802.11g	Test channel:	Lowest	Remark:	Average
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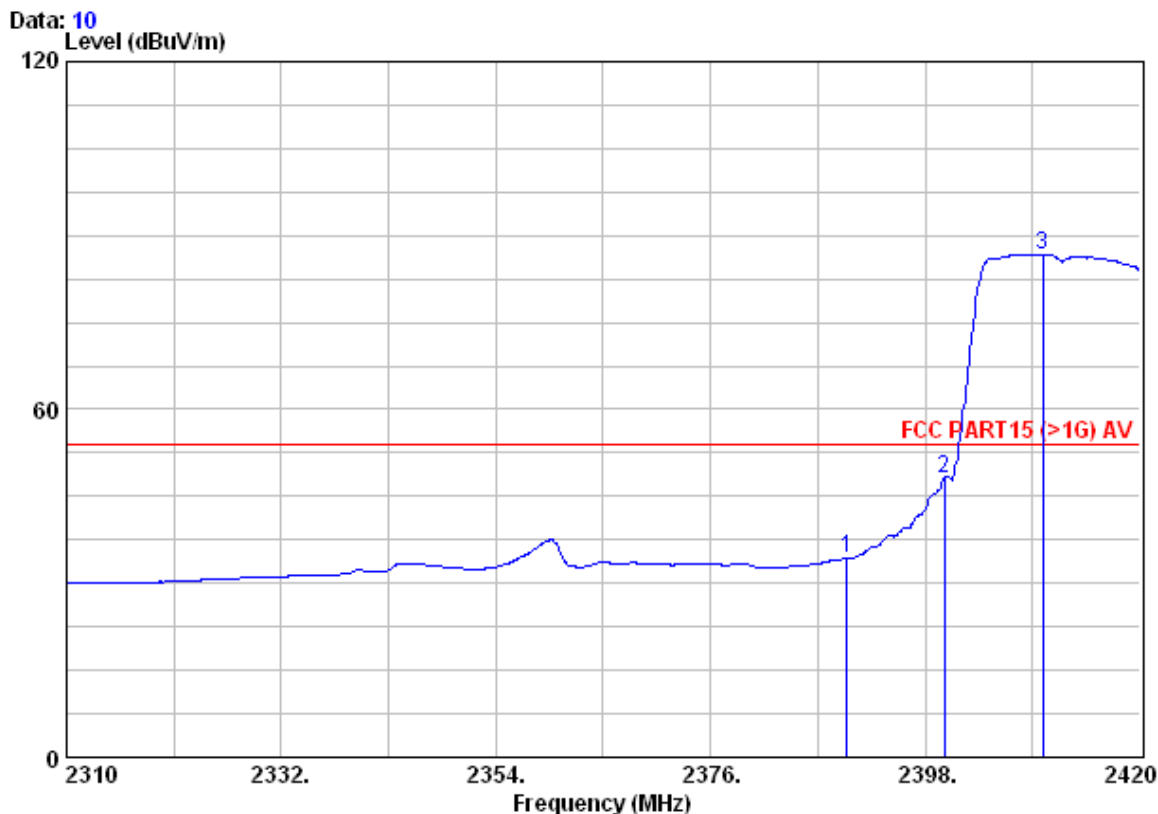
Vertical:



	Freq	CableAntenna Loss	Preamp Factor	Read Level	Level	Limit	Over
	MHz	dB	dB/m	dB	dBuV	dBuV/m	Limit
1	2359.610	2.59	32.45	39.84	45.36	40.56	54.00 -13.44
2	2390.000	2.62	32.51	39.85	44.41	39.69	54.00 -14.31
3 X	2400.000	2.62	32.51	39.86	59.52	54.80	54.00 0.80
4 Ø	2410.100	2.62	32.54	39.86	96.03	91.33	54.00 37.33



Horizontal:

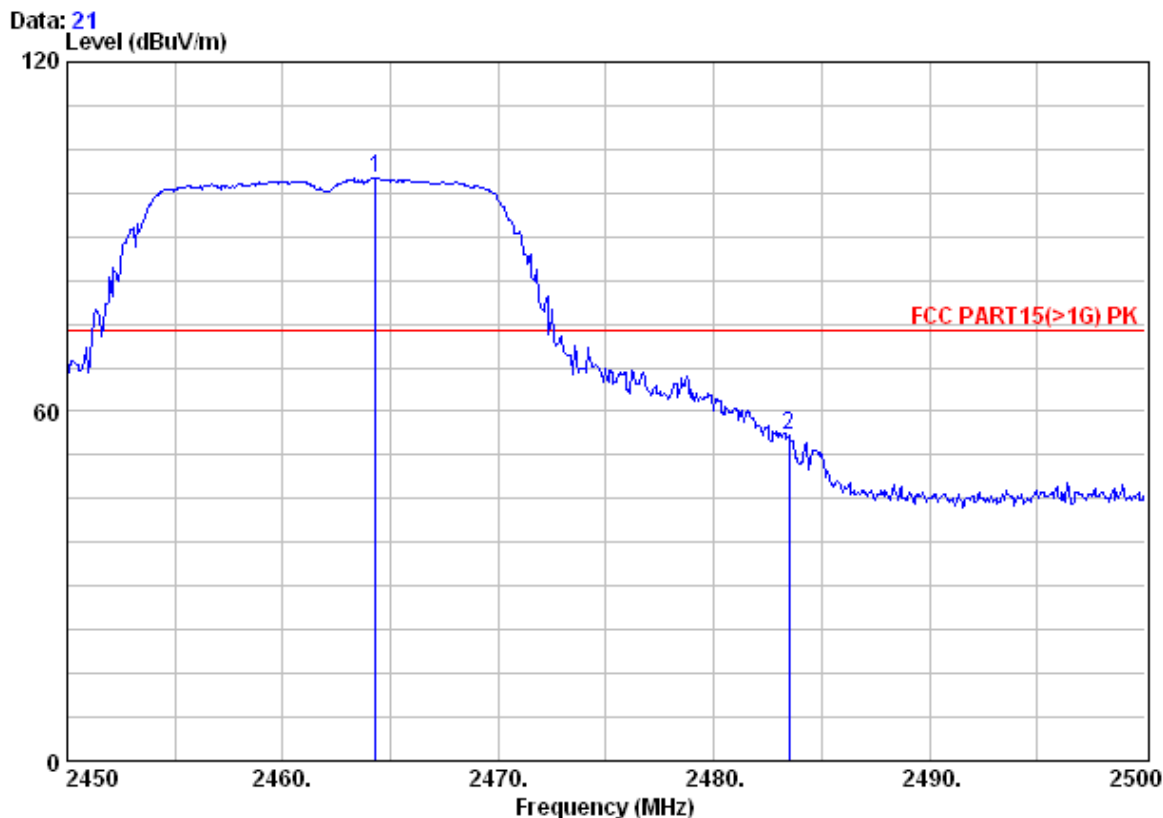


		CableAntenna Preamp			Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.62	32.51	39.85	39.00	34.28	54.00	-19.72
2	2400.000	2.62	32.51	39.86	52.91	48.18	54.00	-5.82
3	2410.100	2.62	32.54	39.86	91.48	86.78	54.00	32.78



Test mode:	802.11g	Test channel:	Highest	Remark:	Peak
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Vertical:

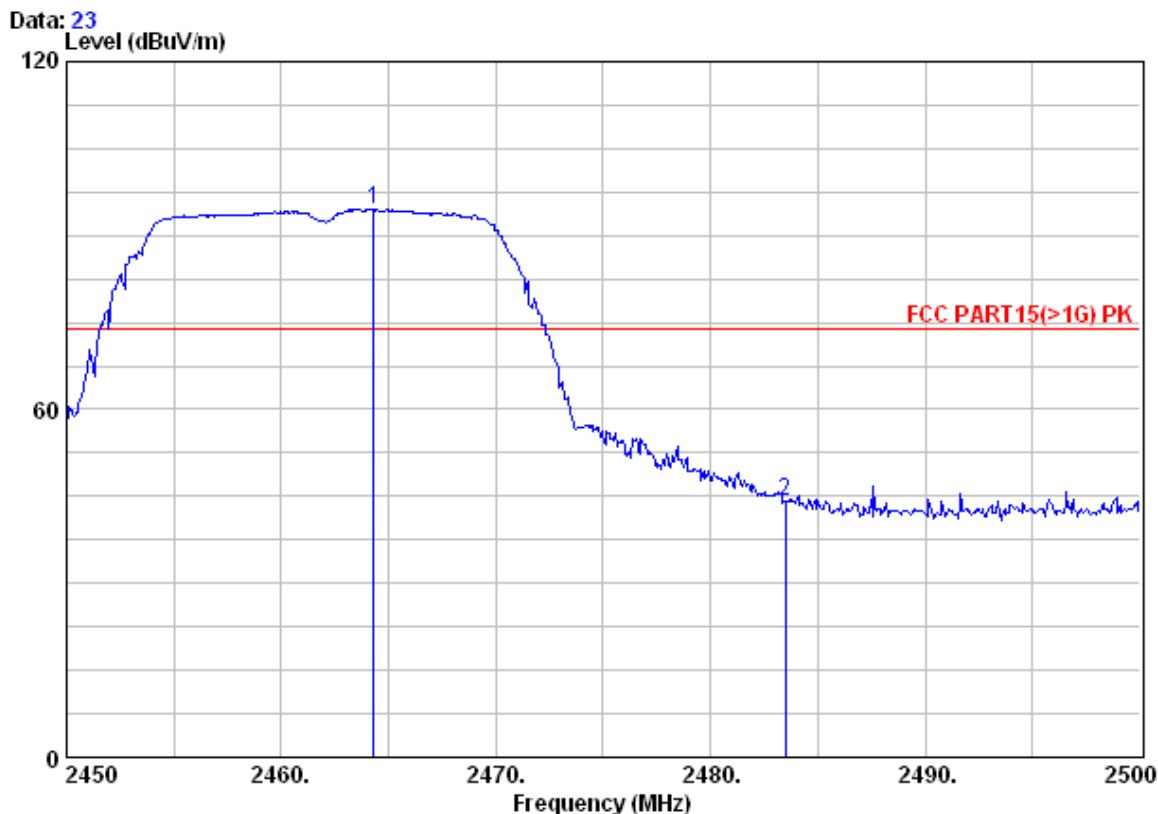


		Cable	Antenna	Preamp	Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 X	2464.300	2.63	32.64	39.91	104.82	100.18	74.00	26.18
2	2483.500	2.63	32.67	39.92	60.40	55.78	74.00	-18.22

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Horizontal:

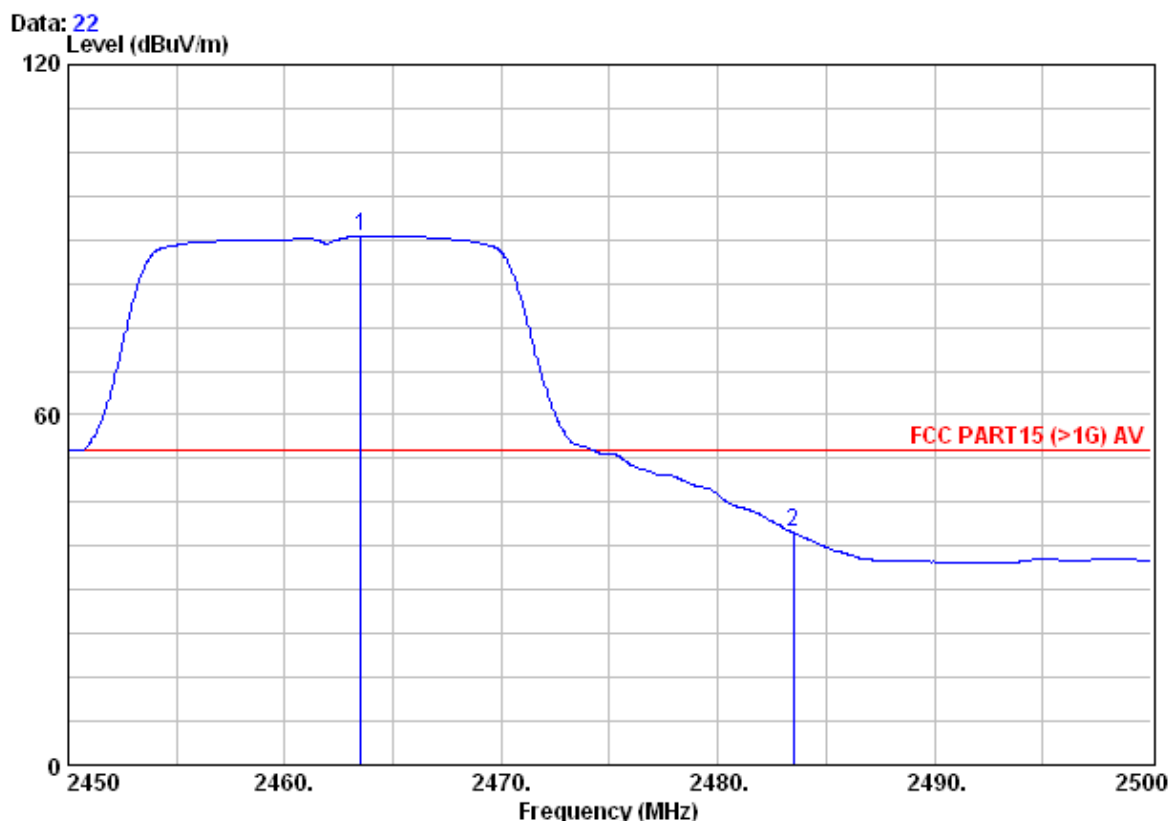


		Cable	Antenna	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	X	2464.300	2.63	32.64	39.91	99.25	94.61	74.00	20.61
2		2483.500	2.63	32.67	39.92	48.76	44.14	74.00	-29.86



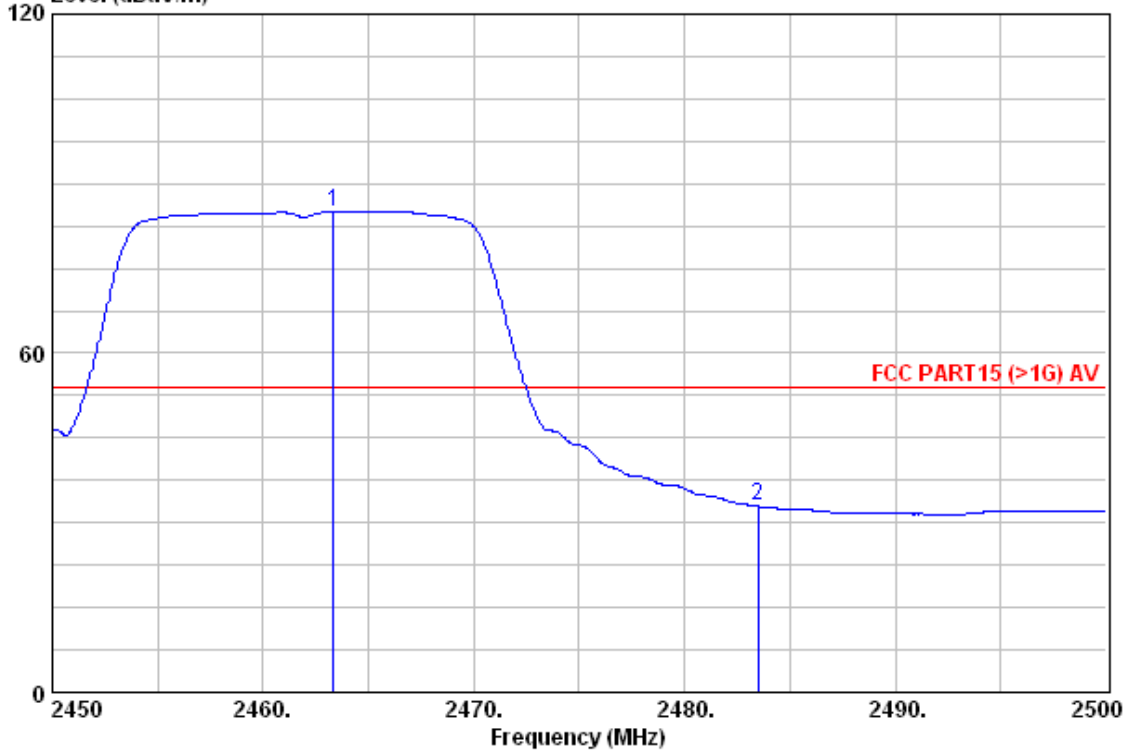
Test mode:	802.11g	Test channel:	Highest	Remark:	Average
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Vertical:



	Cable	Antenna	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 @	2463.500	2.63	32.64	39.91	95.23	90.59	54.00	36.59
2	2483.500	2.63	32.67	39.92	44.41	39.79	54.00	-14.21

Horizontal:

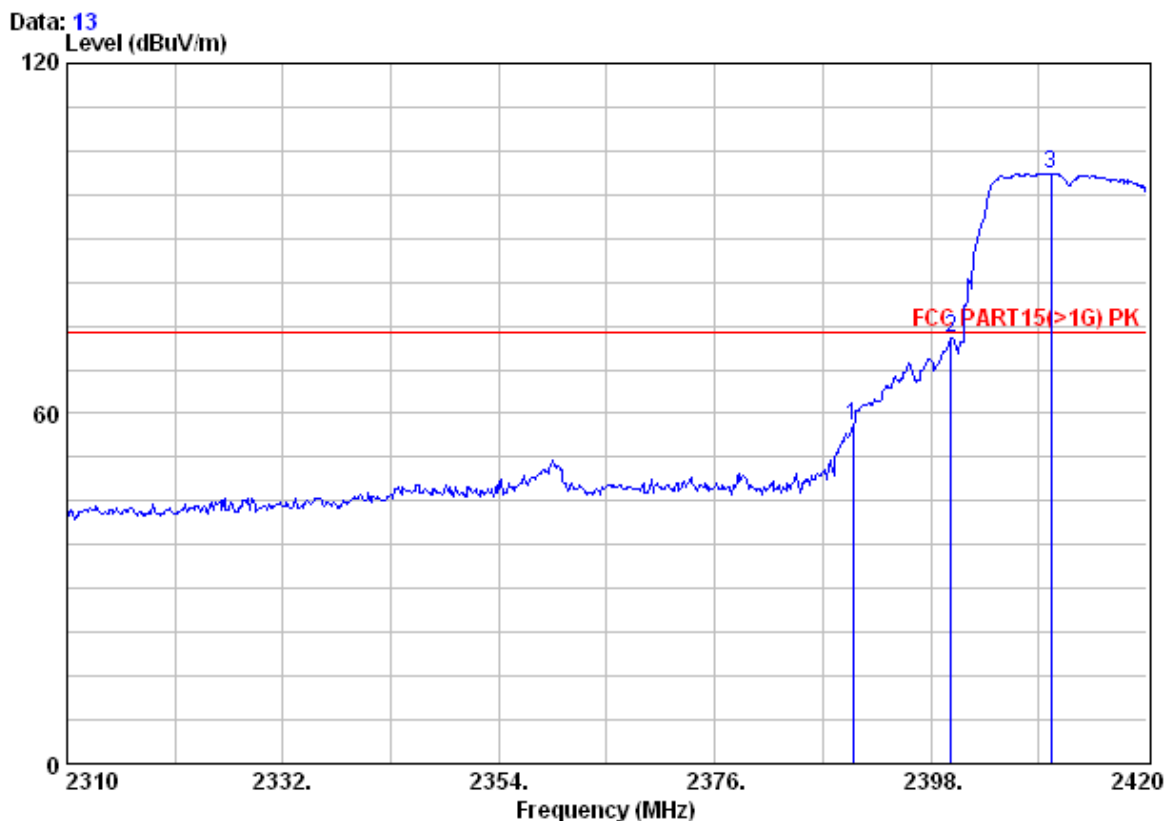
Data: 24
Level (dBuV/m)


	Freq	Cable Loss	Antenna Factor	Preamplifier Factor	Read Level	Level	Limit	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2463.350	2.63	32.64	39.91	89.77	85.13	54.00	31.13
2	2483.500	2.63	32.67	39.92	37.51	32.89	54.00	-21.11



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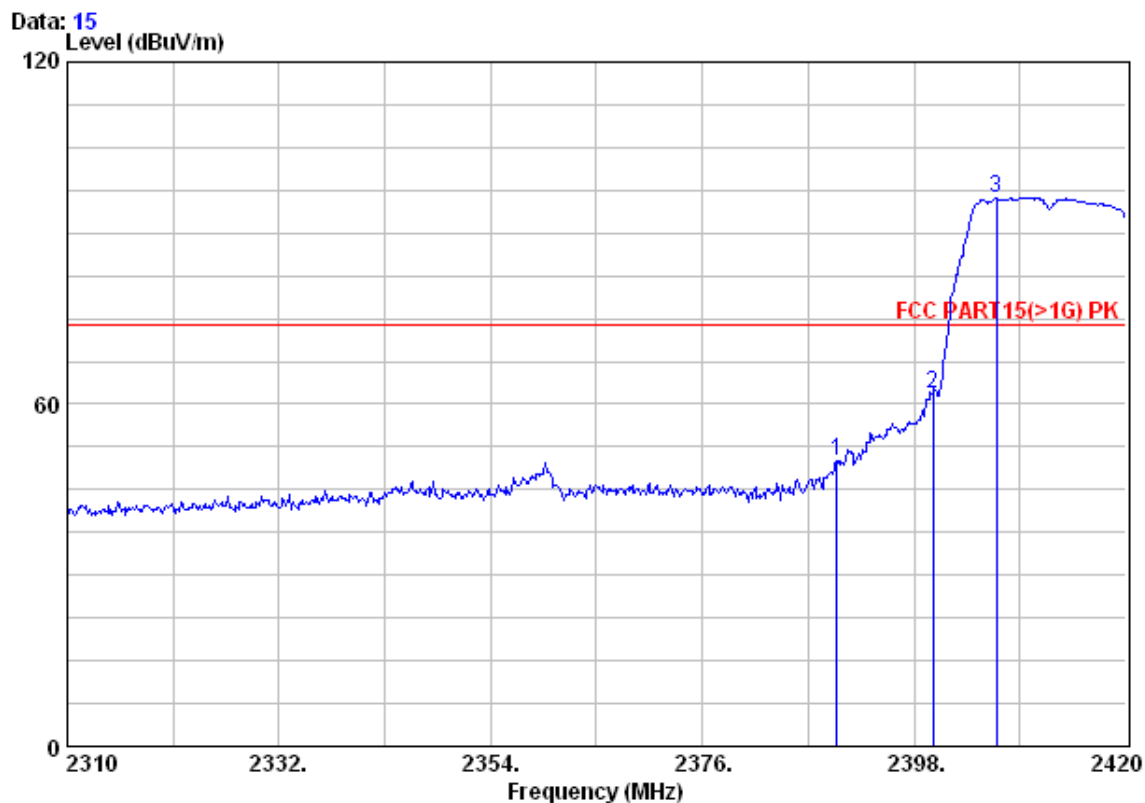
Vertical:



	Freq	CableAntenna Loss	Antenna Factor	Preamplifier Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.080	2.62	32.51	39.85	62.50	57.78	74.00	-16.22
2	2400.090	2.62	32.51	39.86	77.69	72.96	74.00	-1.04
3 X	2410.210	2.62	32.54	39.86	105.75	101.05	74.00	27.05



Horizontal:

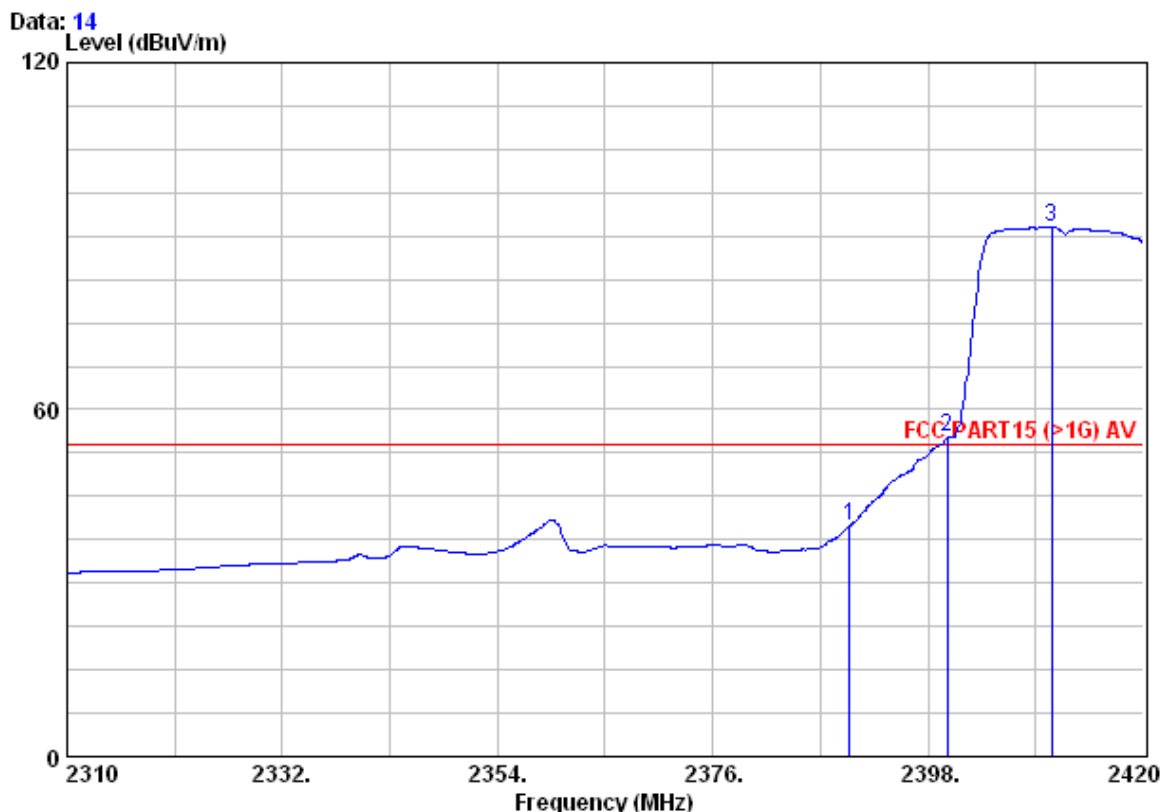


		CableAntenna Preampl			Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.62	32.51	39.85	54.59	49.88	74.00	-24.12
2	2400.000	2.62	32.51	39.86	66.59	61.86	74.00	-12.14
3 X	2406.580	2.62	32.54	39.86	100.83	96.13	74.00	22.13



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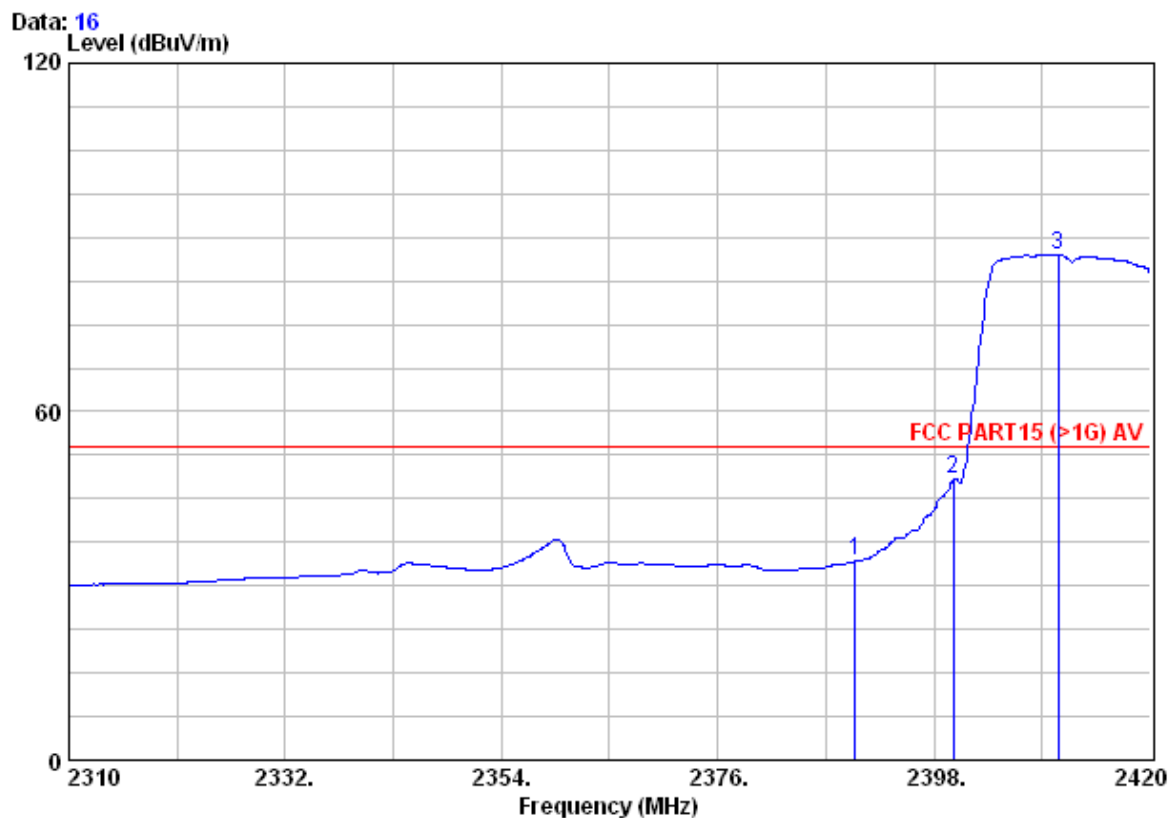
Vertical:



		Cable	Antenna	Preamp	Read	Limit	Over
	Freq	Loss	Factor	Factor	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	2390.000	2.62	32.51	39.85	44.69	39.98	54.00 -14.02
2 X	2400.000	2.62	32.51	39.86	59.86	55.13	54.00 1.13
3 Ø	2410.650	2.62	32.54	39.86	96.24	91.55	54.00 37.55



Horizontal:

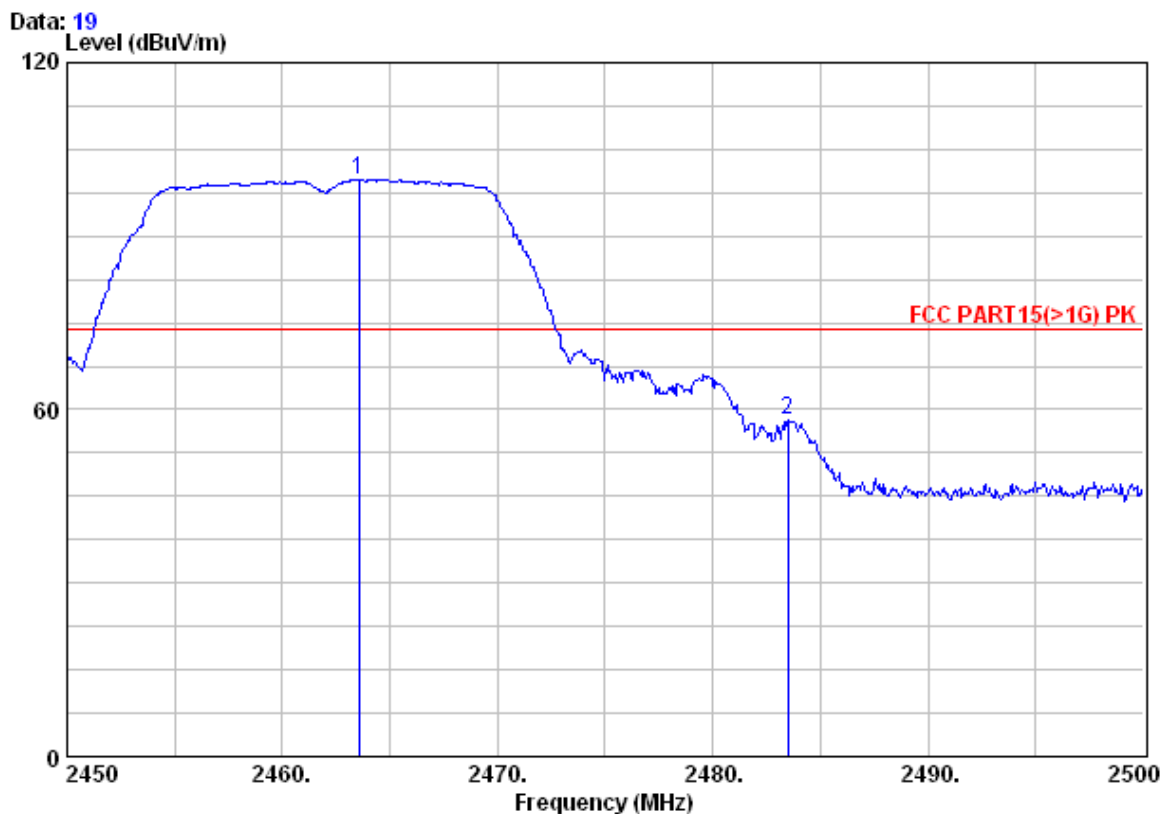


		Cable	Antenna	Preamp	Read	Limit	Over
	Freq	Loss	Factor	Factor	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	2390.000	2.62	32.51	39.85	38.91	54.00	-19.80
2	2400.000	2.62	32.51	39.86	53.17	54.00	-5.56
3	2410.650	2.62	32.54	39.86	91.67	54.00	32.97



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



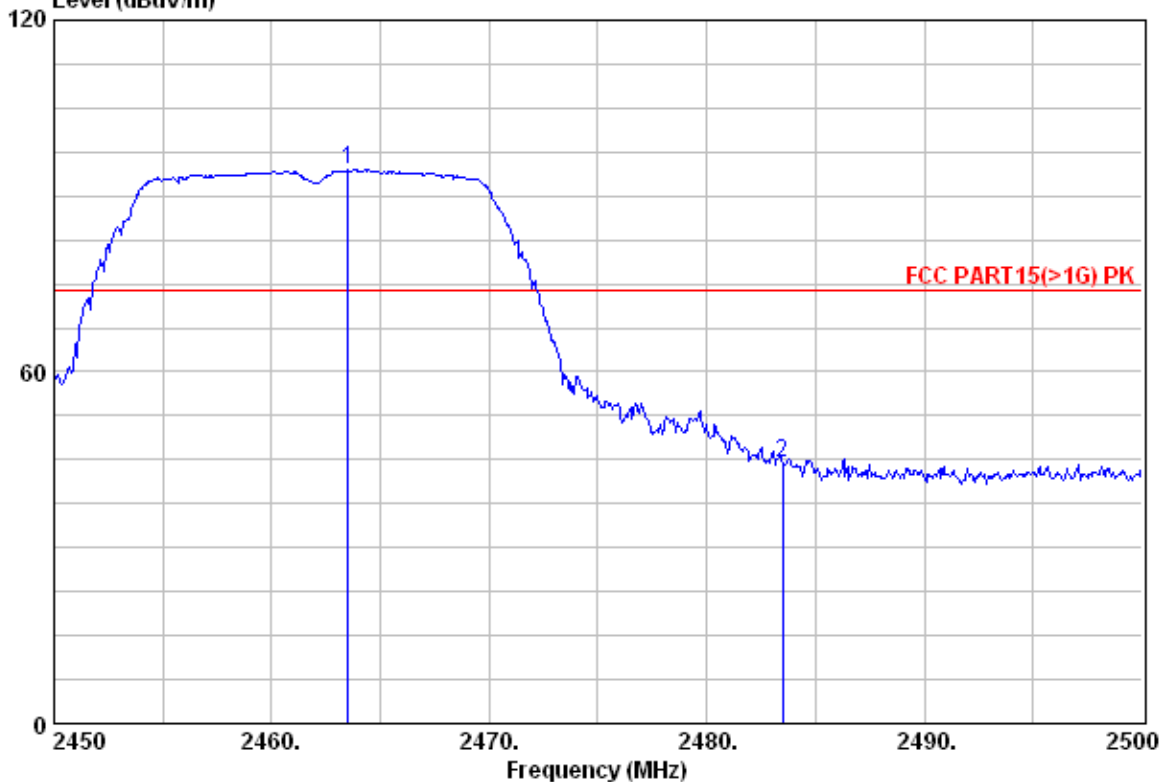
		Cable	Antenna	Preamp	Read	Limit	Over
	Freq	Loss	Factor	Factor	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1 X	2463.550	2.63	32.64	39.91	104.41	99.77	25.77
2	2483.500	2.63	32.67	39.92	62.69	58.07	-15.93



Horizontal:

Data: 17

Level (dBuV/m)

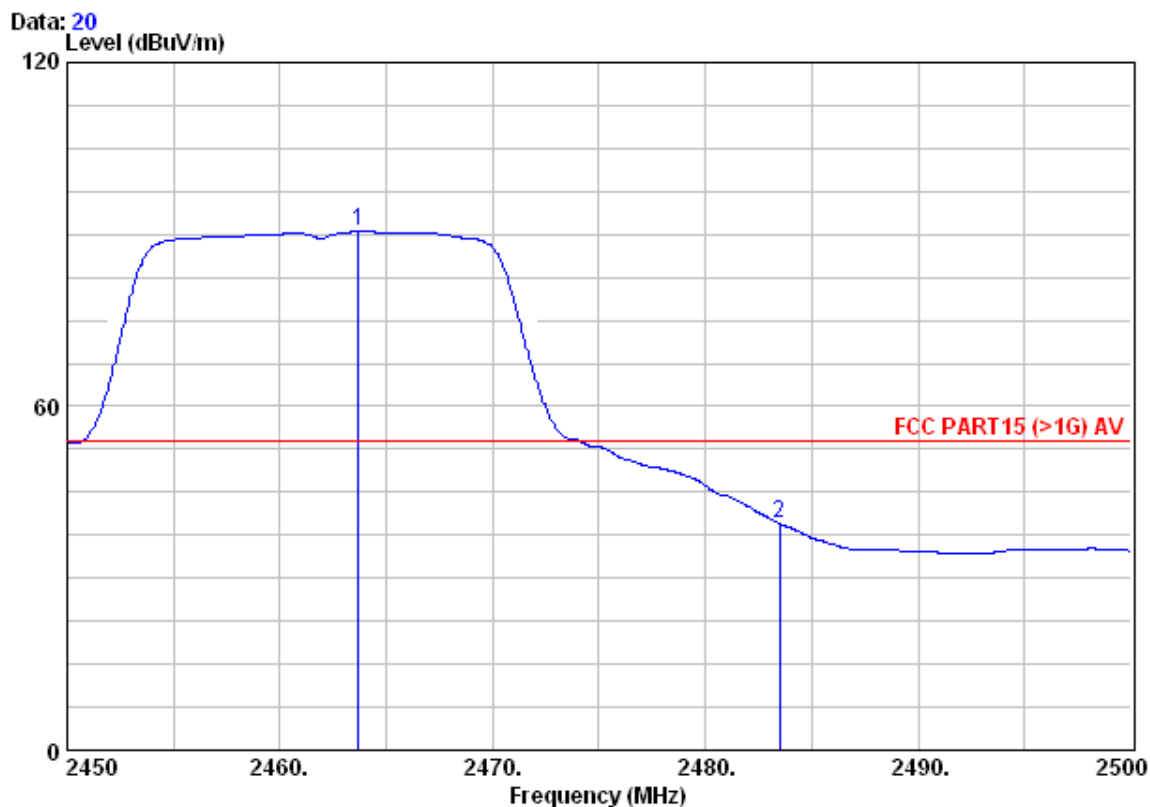


		Cable	Antenna	Preamp	Read	Limit	Over
	Freq	Loss	Factor	Factor	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1 X	2463.500	2.63	32.64	39.91	99.11	94.47	74.00 20.47
2	2483.500	2.63	32.67	39.92	49.10	44.48	74.00 -29.52



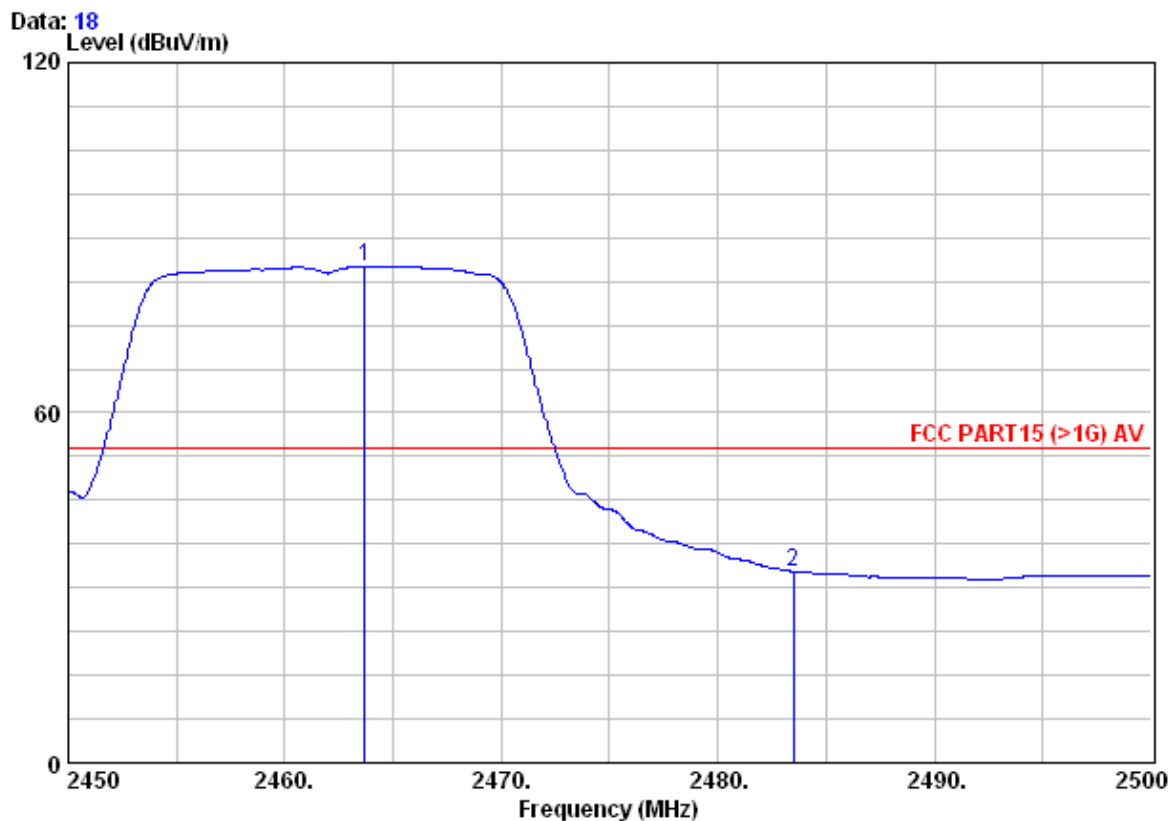
Test mode:	802.11n(HT20)	Test channel:	Highest	Remark:	Average
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Vertical:



		CableAntenna	Preamp	Read	Limit	Over
	Freq	Loss	Factor	Factor	Level	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m
1 X	2463.700	2.63	32.64	39.91	95.16	90.51
2	2483.500	2.63	32.67	39.92	44.20	39.58

Horizontal:



		Cable	Antenna	Preamp	Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 @	2463.700	2.63	32.64	39.91	89.75	85.11	54.00	31.11
2	2483.500	2.63	32.67	39.92	37.43	32.81	54.00	-21.19