

FCC REPORT

Applicant: Shenzhen Ogemray Technology Co., Ltd.

Address of Applicant: 3/F, No. 9 Bldg, Minxing Industrial Park, Minkang Rd,
Minzhi St, Longhua, Baoan District, Shenzhen, China

Equipment Under Test (EUT)

Product Name: Wireless USB Adapter

Model No.: GWF-1C6T

FCC ID: YWTWF53721CT

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247:2011

Date of sample receipt: 22 Feb., 2013

Date of Test: 22 Feb., 2013 to 04 Mar., 2013

Date of report issued: 05 Mar., 2013

Test Result : PASS *

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

Authorized Signature:



Bruce Zhang
Laboratory Manager

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 CCIS 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.

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2 Version

Version No.	Date	Description
00	05 Mar., 2013	Original

Prepared by:

Lisa chen

Report Clerk

Date:

05 Mar., 2013

Reviewed by:

Joanent chen

Project Engineer

Date:

05 Mar., 2013

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4 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
Band Edge	15.247(d)	Pass
Spurious Emission	15.205/15.209	Pass

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

5 General Information

5.1 Client Information

Applicant:	Shenzhen Ogemray Technology Co., Ltd.
Address of Applicant:	3/F, No. 9 Bldg, Minxing Industrial Park, Minkang Rd, Minzhi St, Longhua, Baoan District, Shenzhen, China
Manufacturer/ Factory:	Shenzhen Ogemray Technology Co., Ltd.
Address of Manufacturer/ Factory:	3/F, No. 9 Bldg, Minxing Industrial Park, Minkang Rd, Minzhi St, Longhua, Baoan District, Shenzhen, China

5.2 General Description of E.U.T.

Product Name:	Wireless USB Adapter
Model No.:	GWF-1C6T
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(H20)) 2422MHz~2452MHz (802.11n(H40))
Channel numbers:	11 for 802.11b/802.11g/802.11n(H20) 7 for 802.11n(H40)
Channel separation:	5MHz
Modulation technology: (IEEE 802.11b)	CCK/BPSK/QPSK
Modulation technology: (IEEE 802.11g/802.11n)	64QAM/16QAM/BPSK/QPSK
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps,54Mbps
Data speed (IEEE 802.11n):	Up to 300Mbps
Antenna Type:	Internal:PCB Antenna, External: Omni-directional antenna
Antenna gain:	Internal: 2dBi External: 2dBi
Power supply:	DC 5V from USB port

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:

802.11b/802.11g/802.11n (H20)

Channel	Frequency
The lowest channel	2412MHz
The middle channel	2437MHz
The Highest channel	2462MHz

802.11n (H40)

Channel	Frequency
The lowest channel	2422MHz
The middle channel	2437MHz
The Highest channel	2452MHz

Test environment and mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Continuously transmitting mode	Keep the EUT in 100% duty cycle with modulation controlled by software provided by manufacturer.

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:

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(H20)	6.5Mbps
802.11n(H40)	13.5Mbps

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(H20) and 13.5 Mbps for 802.11n(H40). All test items for 802.11b/g/n were performed in MIMO mode and duty cycle all above 98 %; meet the requirements of KDB 558074.

5.3 Test Facility

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

● FCC - Registration No.: 817957

Shenzhen Zhongjian Nanfang Testing Co., Ltd. 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 817957, February 27, 2012.

● IC - Registration No.: 10106A-1

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

● CNAS - Registration No.: CNAS L6048

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

5.4 Test Location

All tests were performed at:

Shenzhen Zhongjian Nanfang Testing Co., Ltd.

Address: No.B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,

Bao'an District, Shenzhen, Guangdong, China

Tel: 0755-23118282

Fax: 0755-23116366

5.5 Other Information Requested by the Customer

None.

5.6 Test Instruments list

Radiated Emission:

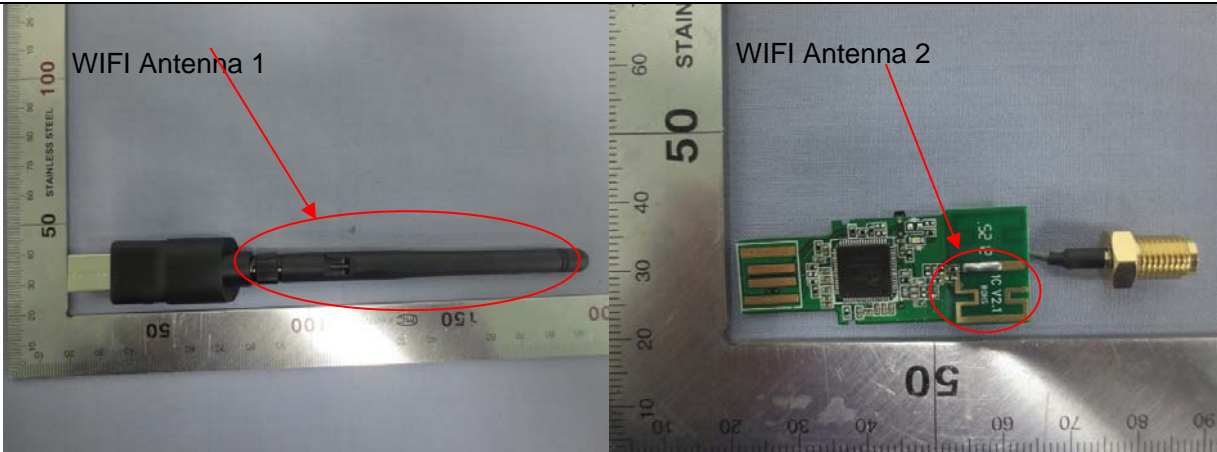
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	3m Semi- Anechoic Chamber	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	June 09 2012	June 08 2013
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	CCIS0002	N/A	N/A
3	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	June 04 2012	June 03 2013
4	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	May 30 2012	May 29 2013
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
6	Coaxial Cable	CCIS	N/A	CCIS0016	Apr. 01 2012	Mar. 31 2013
7	Coaxial Cable	CCIS	N/A	CCIS0017	Apr. 01 2012	Mar. 31 2013
8	Coaxial cable	CCIS	N/A	CCIS0018	Apr. 01 2012	Mar. 31 2013
9	Coaxial Cable	CCIS	N/A	CCIS0019	Apr. 01 2012	Mar. 31 2013
10	Coaxial Cable	CCIS	N/A	CCIS0087	Apr. 01 2012	Mar. 31 2013
11	Amplifier(10kHz-1.3GHz)	HP	8447D	CCIS0003	Apr. 01 2012	Mar. 31 2013
12	Amplifier(1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	June 09 2012	June 08 2013
13	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	Apr. 01 2012	Mar. 31 2013
14	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 30 2012	Mar. 29 2013
15	Printer	HP	HP LaserJet P1007	N/A	N/A	N/A
16	Positioning Controller	UC	UC3000	CCIS0015	N/A	N/A
17	Spectrum analyzer 9k-30GHz	Rohde & Schwarz	FSP	CCIS0023	May. 29 2012	May. 28 2013
18	Loop antenna	Laplace instrument	RF300	EMC0701	Aug. 12 2012	Aug. 11 2013
19	EMI Test Receiver	Rohde & Schwarz	ESPI	CCIS0022	Apr 01 2012	Mar. 31 2013

Conducted Emission:

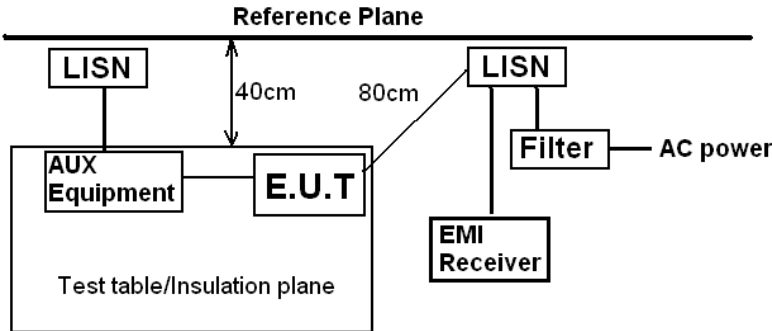
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal. Due date (dd-mm-yy)
1	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	June 09 2012	June 08 2013
2	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	May 25 2012	May 24 2013
3	LISN	CHASE	MN2050D	CCIS0074	Apr 01 2012	Mar. 31 2013
4	Coaxial Cable	CCIS	N/A	CCIS0086	Apr. 01 2012	Mar. 31 2013
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

6 Test results and Measurement Data

6.1 Antenna requirement:

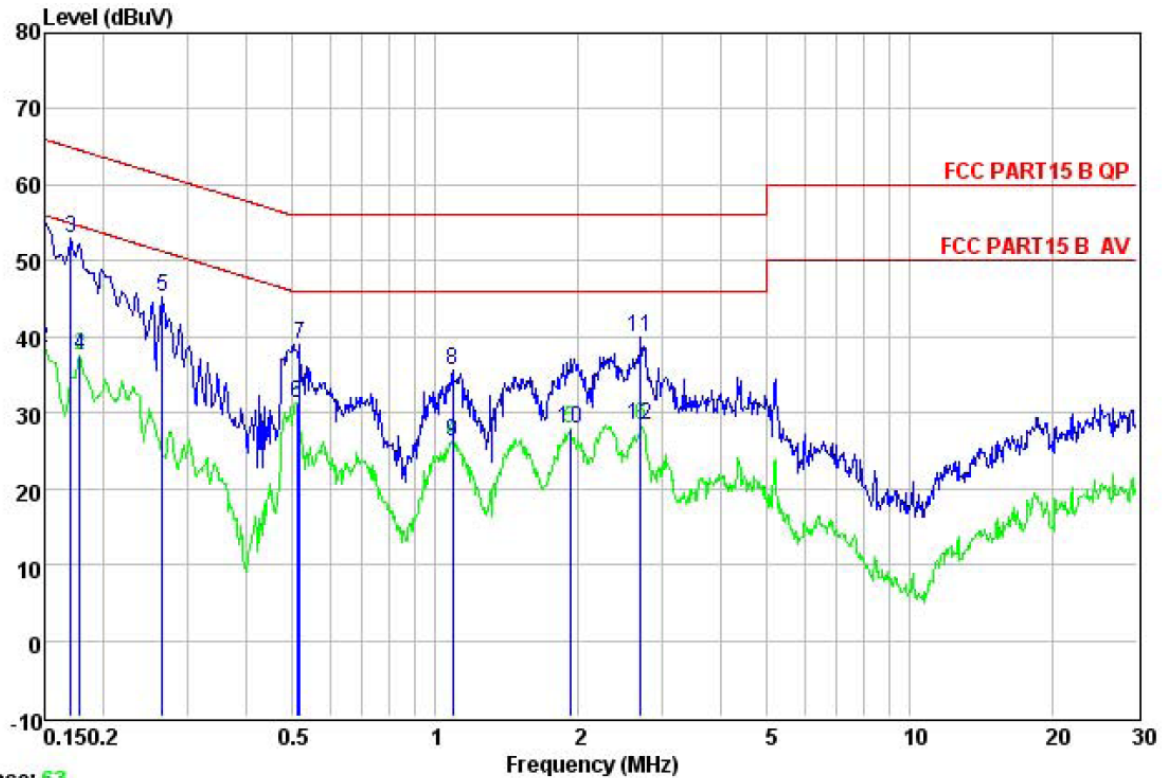
Standard requirement:	FCC Part15 C Section 15.203 /247(c)
<p>15.203 requirement: <i>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses 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:	
<p>The EUT have 2 antennas, one is PCB antenna, the other is Diople antenna; the best case gain of each antenna is 2 dBi.</p>	
	

6.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207		
Test Method:	ANSI C63.4: 2003		
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	<ol style="list-style-type: none"> The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). It provides 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 refer 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: 2003 on conducted measurement. 		
Test setup:	 <p>Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>		
Test Instruments:	Refer to section 5.7 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Passed		

Measurement Data

Line:

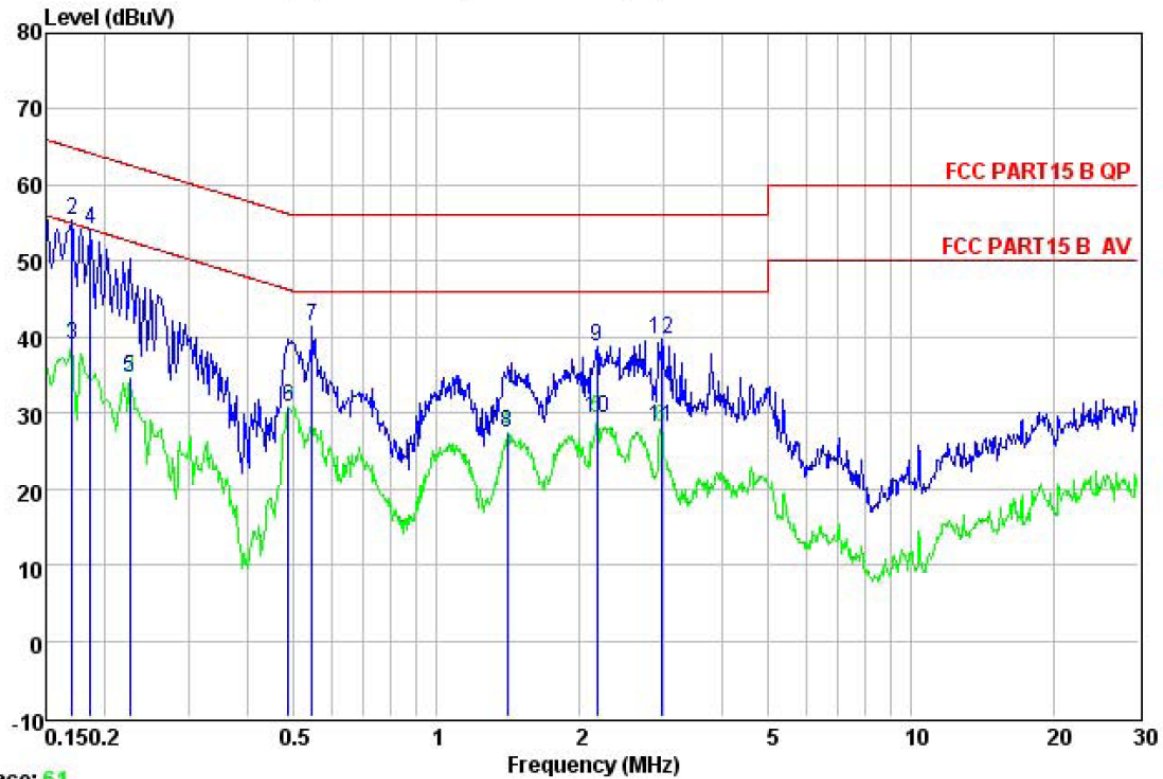


Trace: 63

Site : CCIS Conducted Test Site
 Condition : FCC PART15 B QP LISN LINE
 Job NO. : 034RF
 EUT : Wireless USB Adapter
 Test Mode : Wifi mode
 Model : GWF-1C6T
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa
 Test engineer: Vincent

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.150	44.20	10.25	0.79	55.24	66.00	-10.76	QP
2	0.150	27.56	10.25	0.79	38.60	56.00	-17.40	Average
3	0.170	41.93	10.23	0.78	52.94	64.94	-12.00	QP
4	0.178	26.43	10.23	0.77	37.43	54.59	-17.16	Average
5	0.266	34.38	10.24	0.74	45.36	61.25	-15.89	QP
6	0.510	20.35	10.26	0.76	31.37	46.00	-14.63	Average
7	0.518	27.99	10.26	0.76	39.01	56.00	-16.99	QP
8	1.088	24.57	10.22	0.82	35.61	56.00	-20.39	QP
9	1.088	15.26	10.22	0.82	26.30	46.00	-19.70	Average
10	1.918	17.47	10.28	0.03	27.78	46.00	-18.22	Average
11	2.707	28.73	10.28	0.93	39.94	56.00	-16.06	QP
12	2.707	17.09	10.28	0.93	28.30	46.00	-17.70	Average

Neutral:



Trace: 61

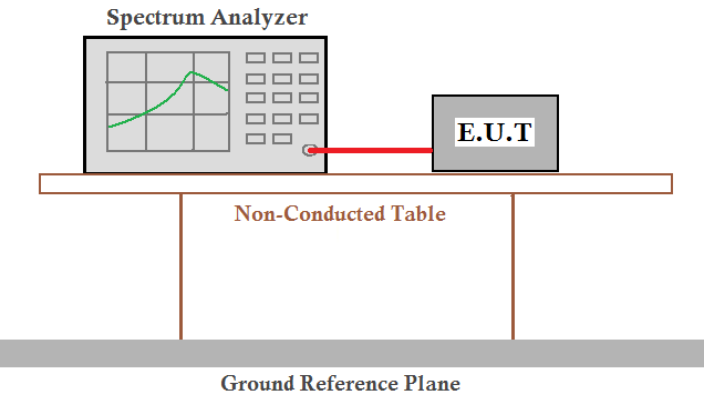
Site : CCIS Conducted Test Site
 Condition : FCC PART15 B QP LISN NEUTRAL
 Job NO. : 034RF
 EUT : Wireless USB Adapter
 Test Mode : Wifi mode
 Model : GWF-1C6T
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa
 Test engineer: Vincent

	Read	LISN	Cable	Limit	Over	
Freq	Level	Factor	Loss	Line	Limit	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB
1	0.150	45.25	10.27	0.79	56.31	66.00 -9.69 QP
2	0.170	44.30	10.25	0.78	55.33	64.94 -9.61 QP
3	0.170	28.06	10.25	0.78	39.09	54.94 -15.85 Average
4	0.186	43.24	10.24	0.76	54.24	64.20 -9.96 QP
5	0.226	23.72	10.23	0.76	34.71	52.61 -17.90 Average
6	0.486	19.78	10.28	0.76	30.82	46.23 -15.41 Average
7	0.546	30.30	10.25	0.76	41.31	56.00 -14.69 QP
8	1.403	16.65	10.23	0.48	27.36	46.00 -18.64 Average
9	2.178	27.60	10.27	0.96	38.83	56.00 -17.17 QP
10	2.178	17.99	10.27	0.96	29.22	46.00 -16.78 Average
11	2.962	16.99	10.28	0.92	28.19	46.00 -17.81 Average
12	2.978	28.44	10.28	0.92	39.64	56.00 -16.36 QP

Notes:

1. An initial pre-scan was performed on the live and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss

6.3 Conducted Peak Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	30dBm
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer, shown with a green trace on its screen, is connected to an E.U.T. (Equipment Under Test) by a red cable. Both the Spectrum Analyzer and the E.U.T. are positioned on a Non-Conducted Table. This table is supported by two vertical legs. Below the table, a Ground Reference Plane is indicated by a thick grey bar.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

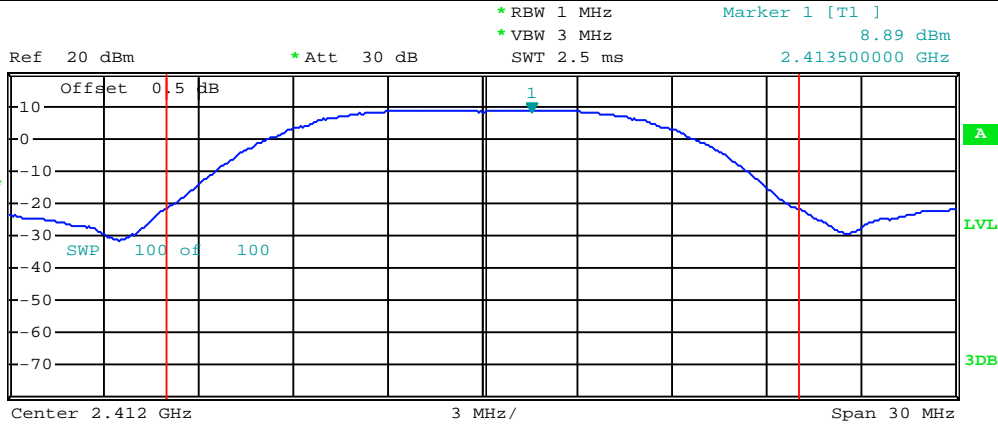
Measurement Data

Mode	Test CH	Ant. Port	Conducted Output power (dBm)	Total power (dBm)	Limit (dBm)	Result
802.11b	Lowest	ANT 1	17.99	20.97	30	Pass
		ANT 2	17.92			
	Middle	ANT 1	17.77	20.91	30	Pass
		ANT 2	18.02			
	Highest	ANT 1	17.80	20.90	30	Pass
		ANT 2	17.98			
802.11g	Lowest	ANT 1	15.07	17.96	30	Pass
		ANT 2	14.83			
	Middle	ANT 1	14.80	17.98	30	Pass
		ANT 2	15.13			
	Highest	ANT 1	14.89	18.06	30	Pass
		ANT 2	15.21			
802.11n (H20)	Lowest	ANT 1	14.02	16.94	30	Pass
		ANT 2	13.84			
	Middle	ANT 1	13.92	17.08	30	Pass
		ANT 2	14.22			
	Highest	ANT 1	13.94	16.96	30	Pass
		ANT 2	13.96			
802.11n (H40)	Lowest	ANT 1	13.80	16.67	30	Pass
		ANT 2	13.52			
	Middle	ANT 1	14.03	17.10	30	Pass
		ANT 2	14.15			
	Highest	ANT 1	14.04	17.07	30	Pass
		ANT 2	14.07			

Test plot as follows:

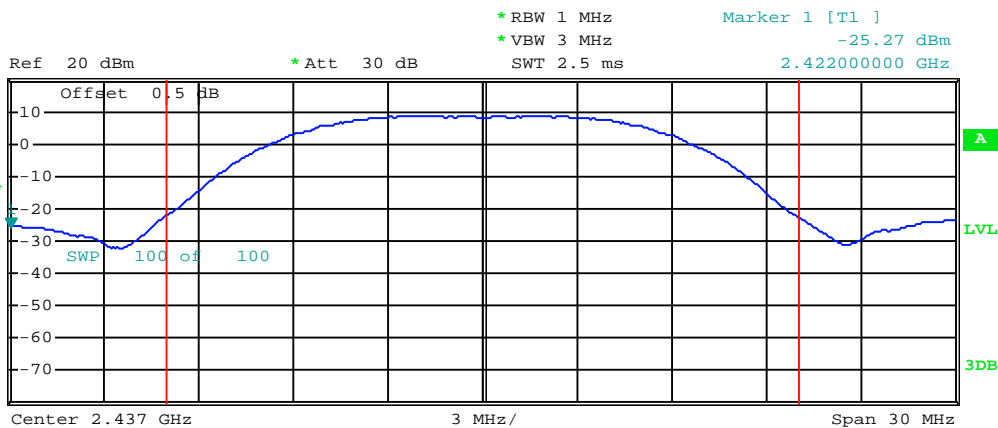
Ant 1:

Test mode: 802.11b



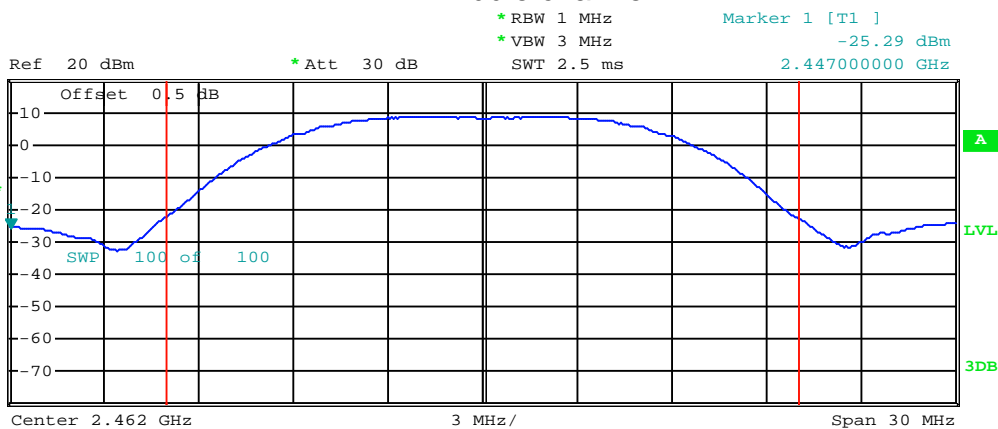
Tx Channel
Bandwidth 20 MHz Power 17.99 dBm

Lowest channel



Tx Channel
Bandwidth 20 MHz Power 17.77 dBm

Middle channel

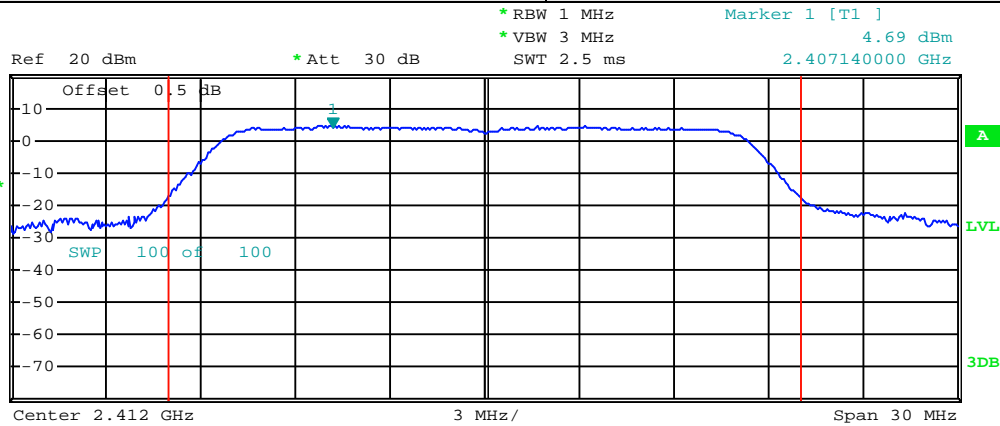


Tx Channel
Bandwidth 20 MHz Power 17.80 dBm

Highest channel

Test mode:

802.11g



Tx Channel

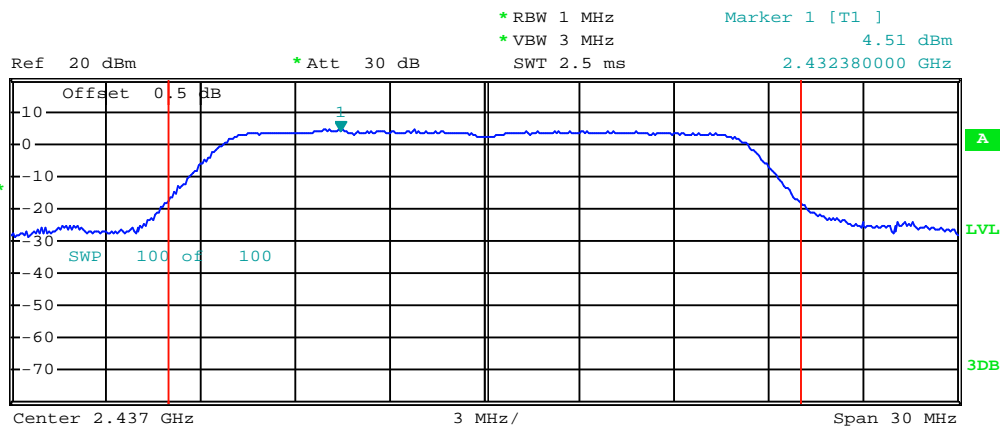
Bandwidth

20 MHz

Power

15.07 dBm

Lowest channel



Tx Channel

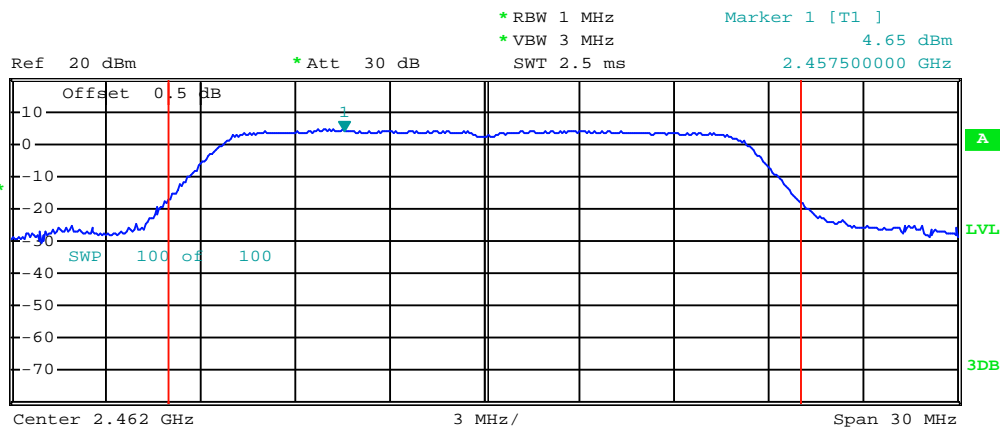
Bandwidth

20 MHz

Power

14.80 dBm

Middle channel



Tx Channel

Bandwidth

20 MHz

Power

14.89 dBm

Highest channel

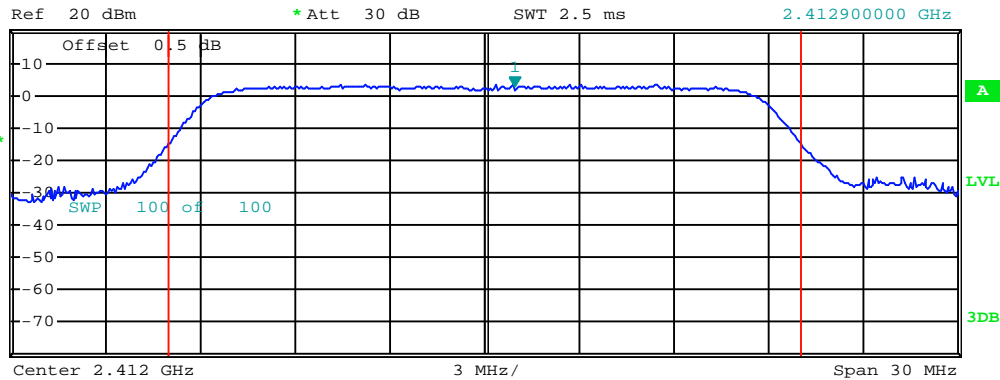
Test mode:

802.11n(H20)



*RBW 1 MHz
*VBW 3 MHz
SWT 2.5 ms

Marker 1 [T1]
3.35 dBm
2.412900000 GHz



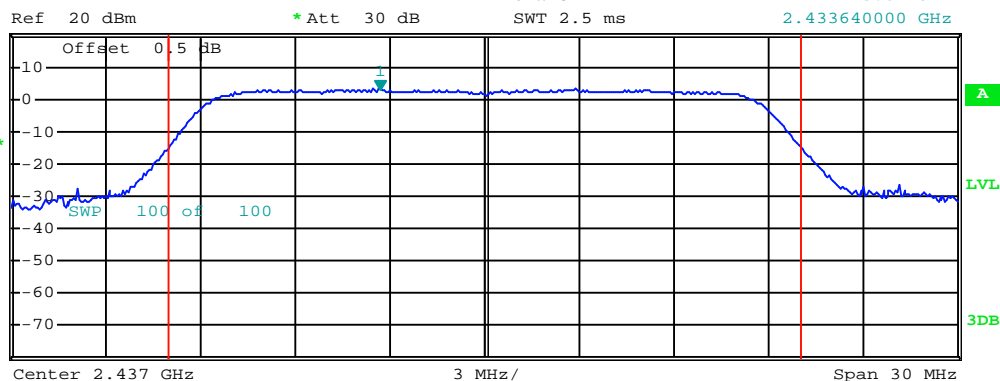
Tx Channel
Bandwidth 20 MHz Power 14.02 dBm

Lowest channel



*RBW 1 MHz
*VBW 3 MHz
SWT 2.5 ms

Marker 1 [T1]
3.04 dBm
2.433640000 GHz



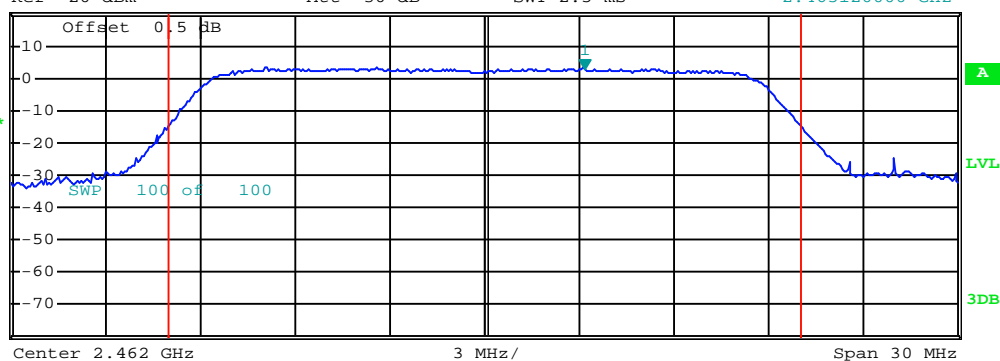
Tx Channel
Bandwidth 20 MHz Power 13.92 dBm

Middle channel



*RBW 1 MHz
*VBW 3 MHz
SWT 2.5 ms

Marker 1 [T1]
3.10 dBm
2.465120000 GHz

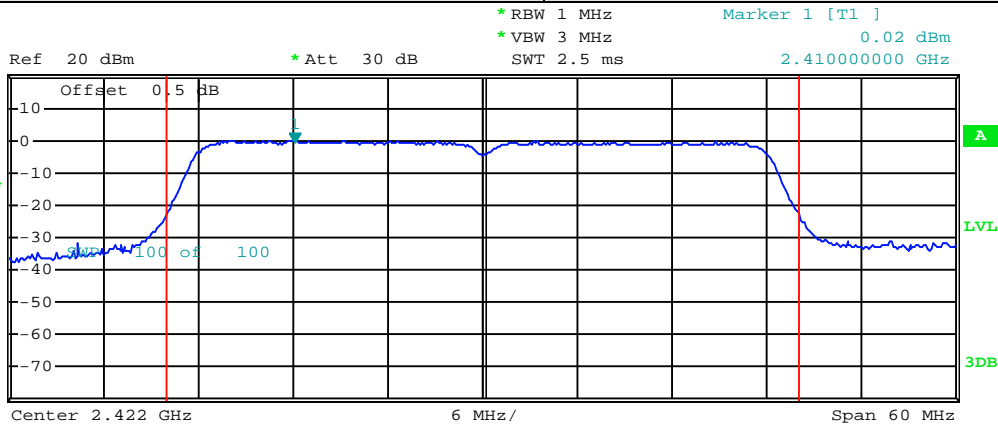


Tx Channel
Bandwidth 20 MHz Power 13.94 dBm

Highest channel

Test mode:

802.11n(H40)



Tx Channel

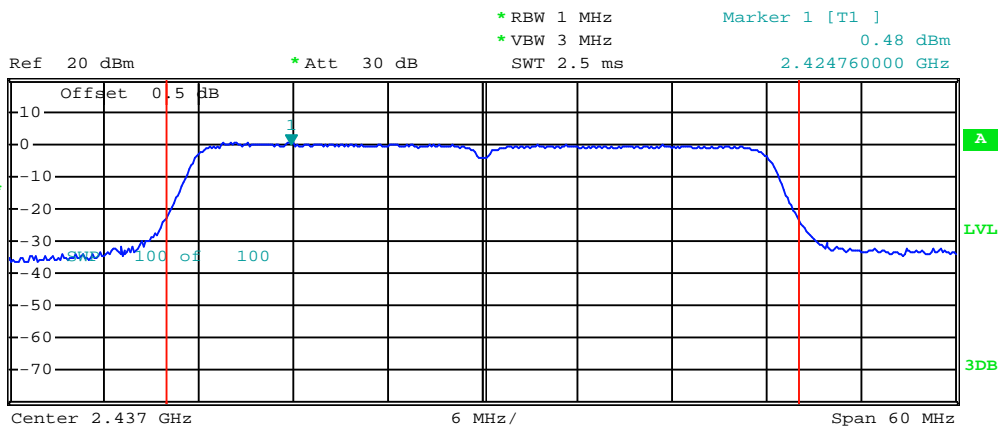
Bandwidth

40 MHz

Power

13.80 dBm

Lowest channel



Tx Channel

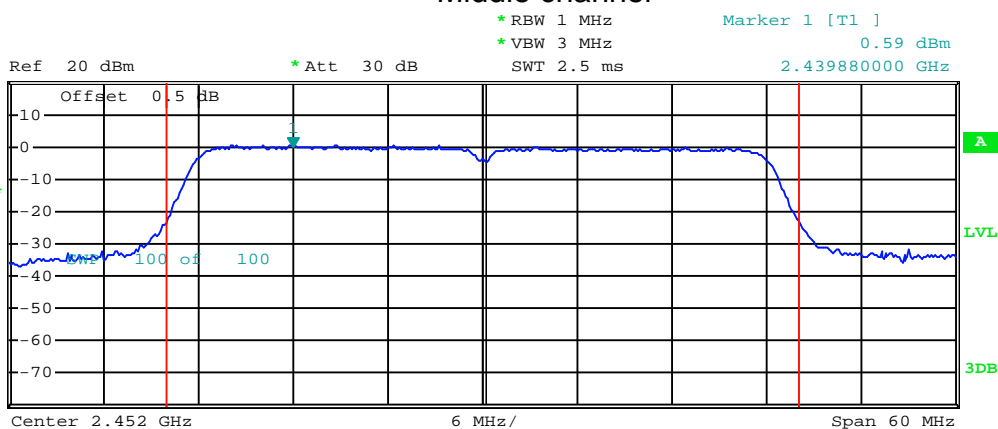
Bandwidth

40 MHz

Power

14.03 dBm

Middle channel



Tx Channel

Bandwidth

40 MHz

Power

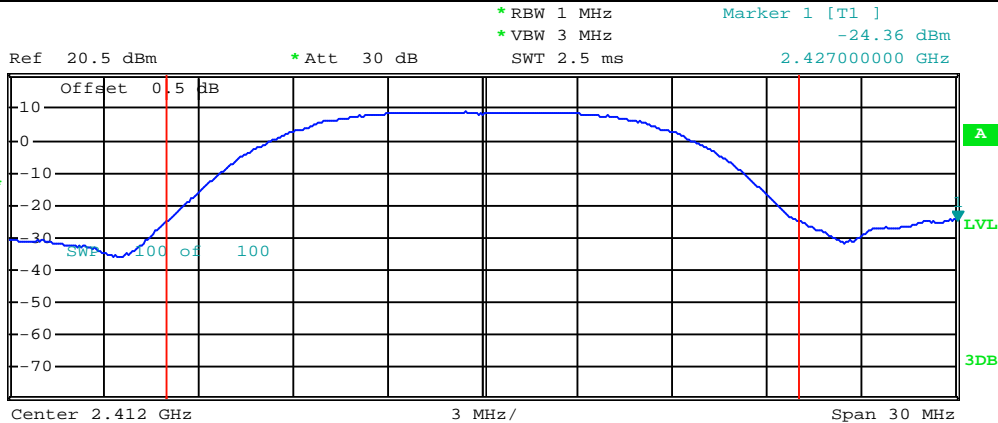
14.04 dBm

Highest channel

Ant 2:

Test mode:

802.11b



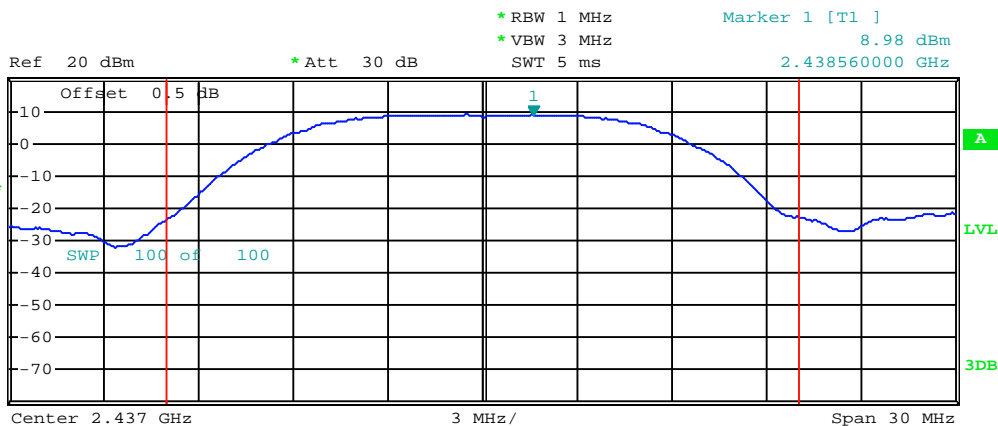
Tx Channel
Bandwidth

20 MHz

Power

17.92 dBm

Lowest channel



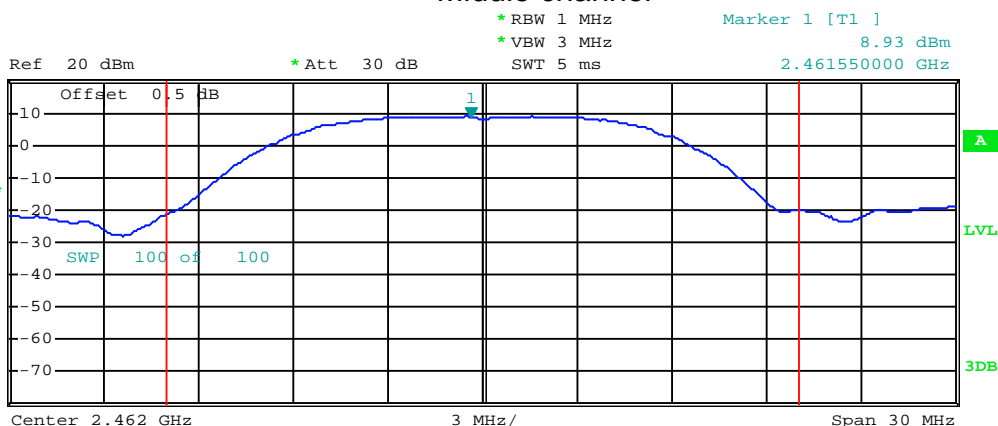
Tx Channel
Bandwidth

20 MHz

Power

18.02 dBm

Middle channel



Tx Channel
Bandwidth

20 MHz

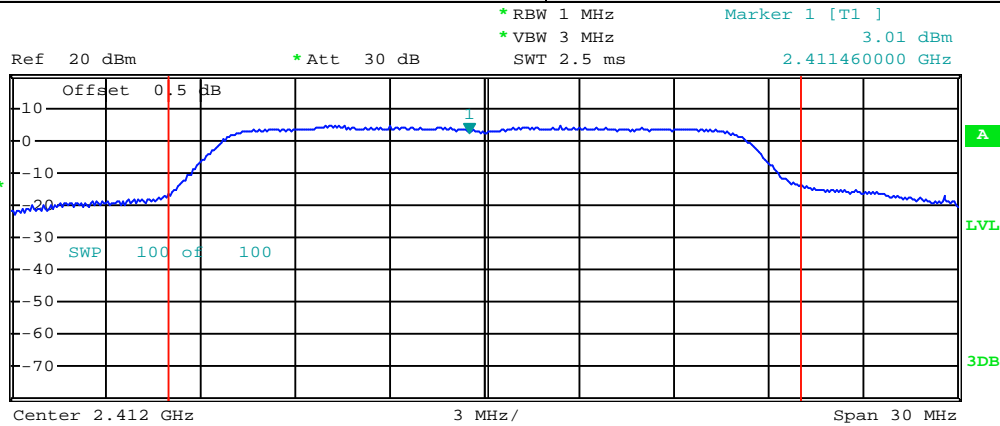
Power

17.98 dBm

Highest channel

Test mode:

802.11g



Tx Channel

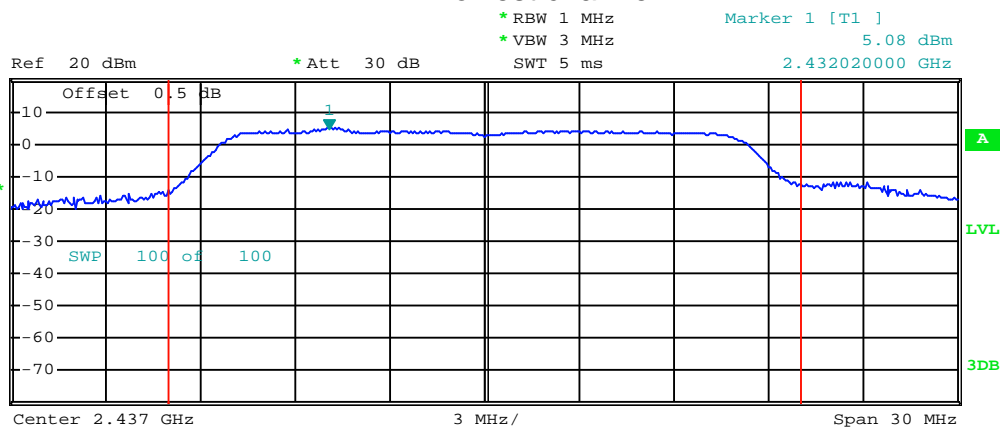
Bandwidth

20 MHz

Power

14.83 dBm

Lowest channel



Tx Channel

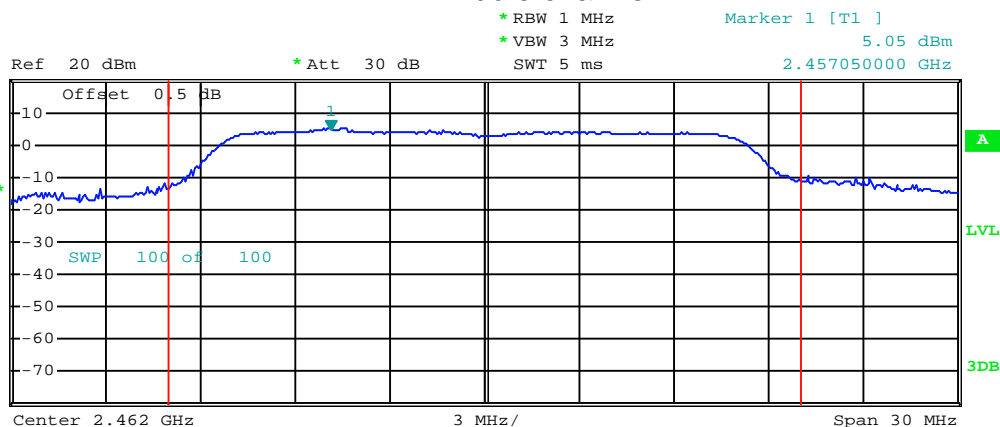
Bandwidth

20 MHz

Power

15.13 dBm

Middle channel



Tx Channel

Bandwidth

20 MHz

Power

15.21 dBm

Highest channel

Test mode:

802.11n(H20)

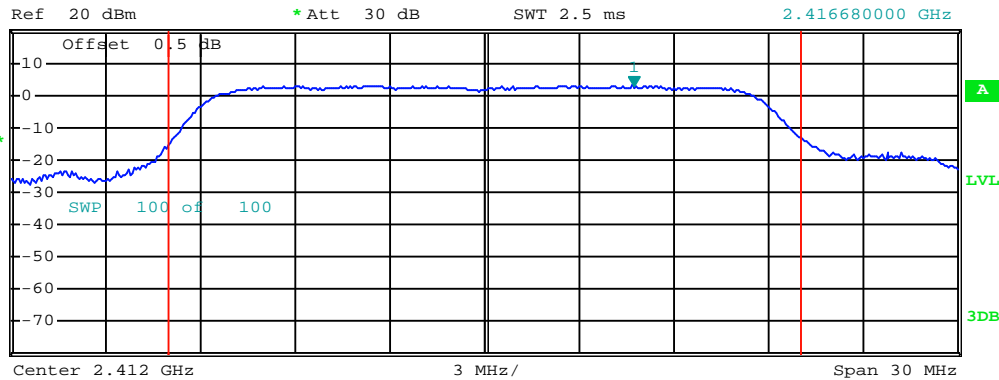


*RBW 1 MHz
*VBW 3 MHz
SWT 2.5 ms

Marker 1 [T1]

3.15 dBm

2.416680000 GHz



Lowest channel

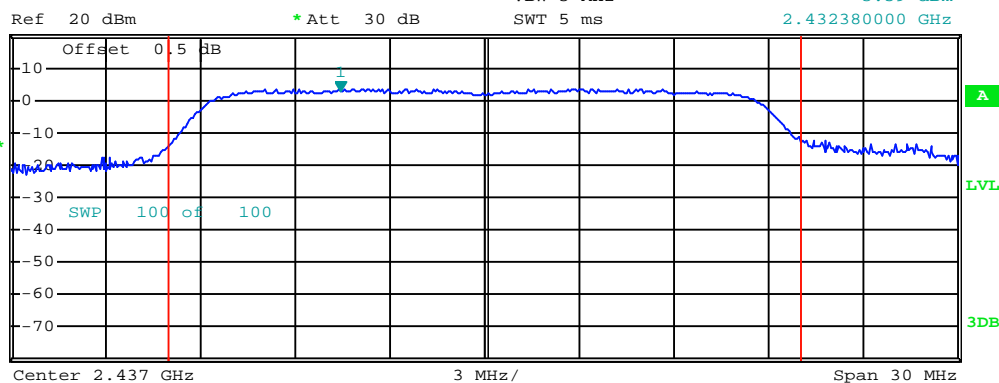


*RBW 1 MHz
*VBW 3 MHz
SWT 5 ms

Marker 1 [T1]

3.59 dBm

2.432380000 GHz



Middle channel

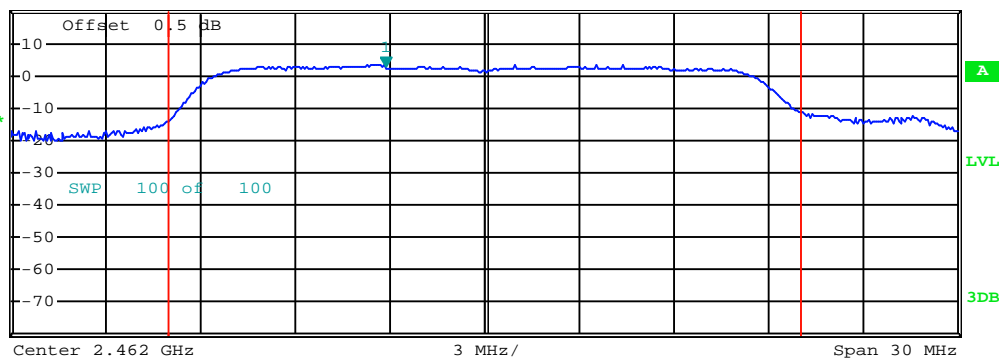


*RBW 1 MHz
*VBW 3 MHz
SWT 5 ms

Marker 1 [T1]

3.50 dBm

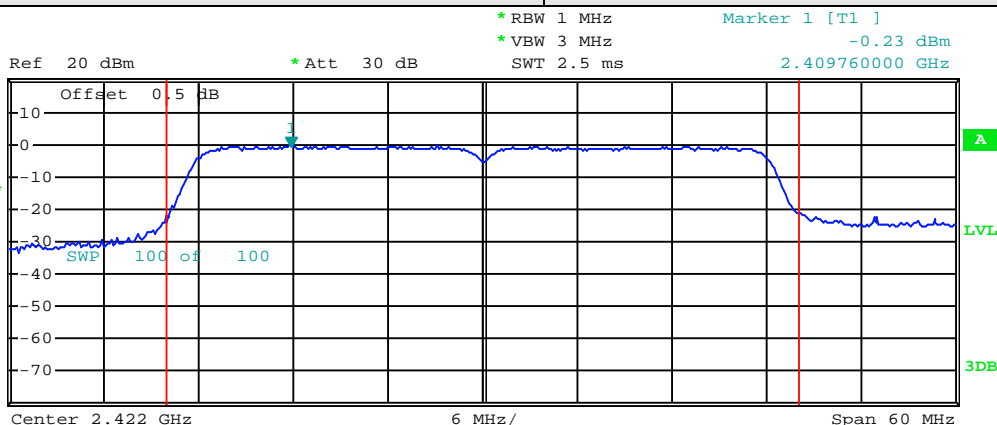
2.458820000 GHz



Highest channel

Test mode:

802.11n(H40)



Tx Channel

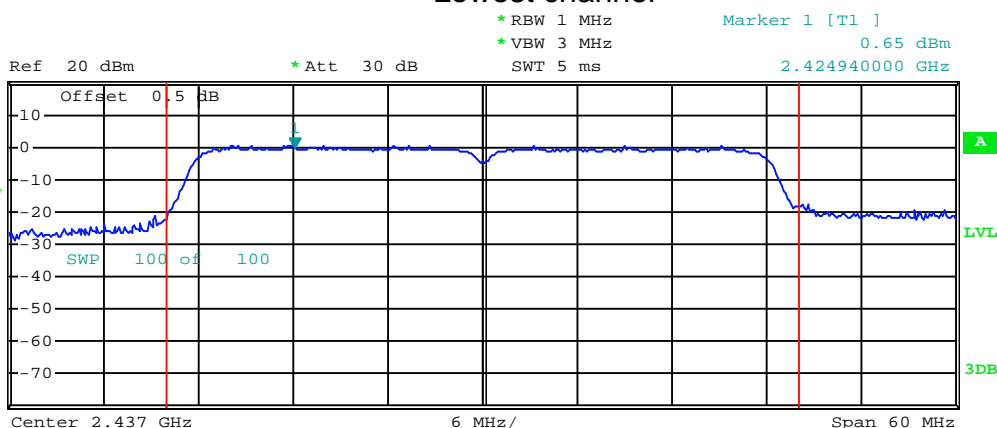
Bandwidth

40 MHz

Power

13.52 dBm

Lowest channel



Tx Channel

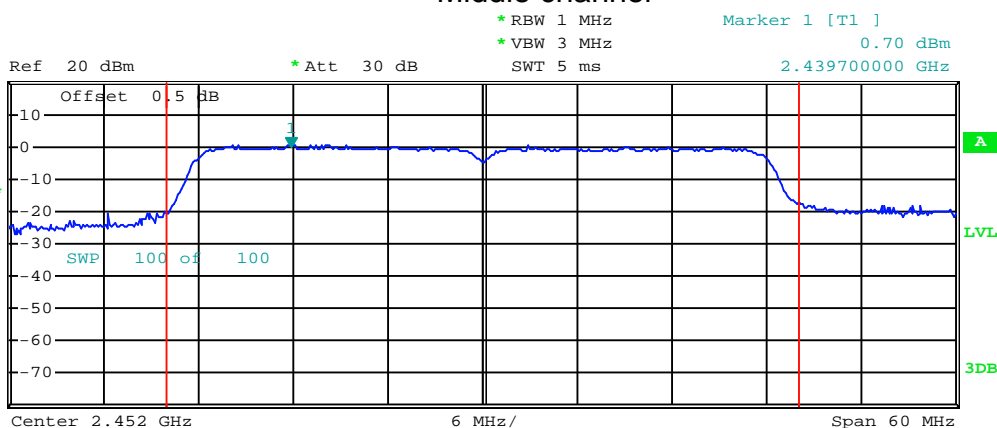
Bandwidth

40 MHz

Power

14.15 dBm

Middle channel



Tx Channel

Bandwidth

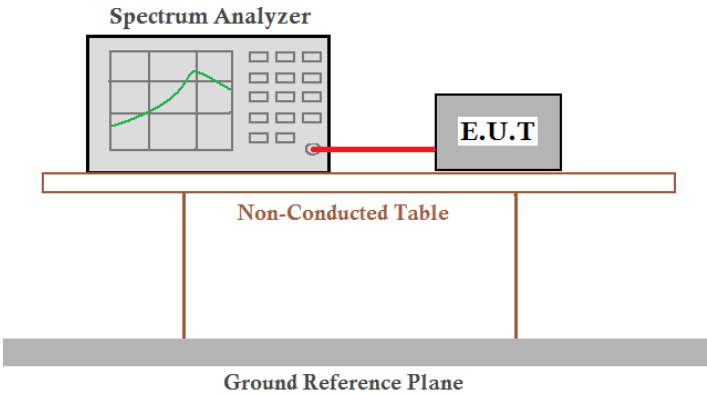
40 MHz

Power

14.07 dBm

Highest channel

6.4 Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	>500kHz
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer, shown with a grid and a green curve, is connected to an E.U.T. (Equipment Under Test) box by a red cable. Both the Spectrum Analyzer and the E.U.T. are positioned on a 'Non-Conducted Table', which is a rectangular platform supported by two vertical legs. Below this table is a 'Ground Reference Plane', represented by a thick grey horizontal bar.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

Ant 1

Test CH	6dB Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	12.06	16.44	17.10	35.76	>500	Pass
Middle	12.12	16.44	17.10	35.88		
Highest	12.06	16.44	17.10	35.64		

Test CH	26dB Emission Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	17.28	18.72	19.26	38.52	N/A	N/A
Middle	17.34	18.72	19.32	38.52		
Highest	17.22	18.84	19.38	38.52		

Ant 2

Test CH	6dB Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	12.06	16.44	17.16	35.88	>500	Pass
Middle	12.06	16.50	17.34	35.76		
Highest	12.06	16.44	17.34	36.00		

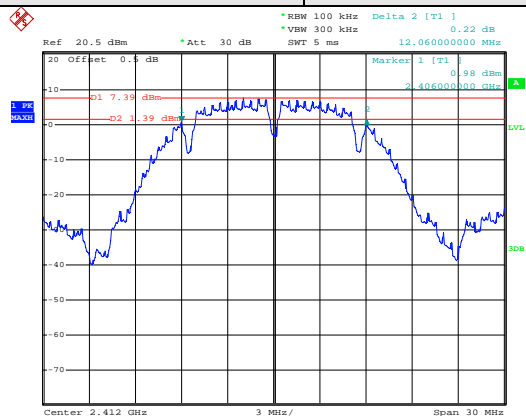
Test CH	26dB Emission Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	17.28	18.84	19.44	38.64	N/A	N/A
Middle	17.28	19.02	19.80	38.76		
Highest	17.28	20.28	20.16	39.00		

Test plot as follows:

Ant 1

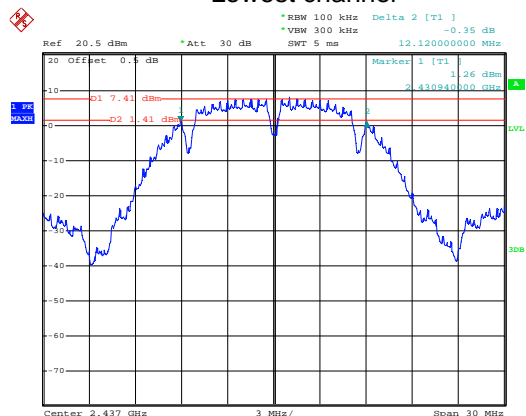
Test mode: 6dB BW

802.11b



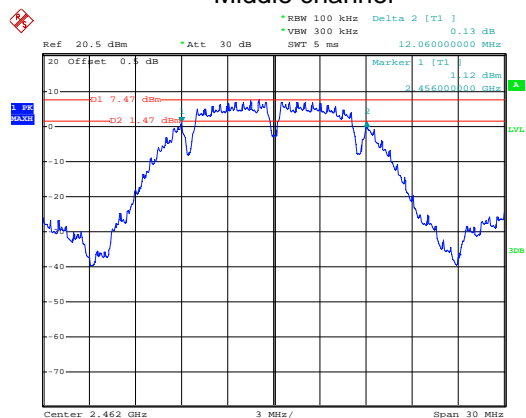
Date: 6.MAR.2013 07:07:33

Lowest channel



Date: 6.MAR.2013 07:14:08

Middle channel

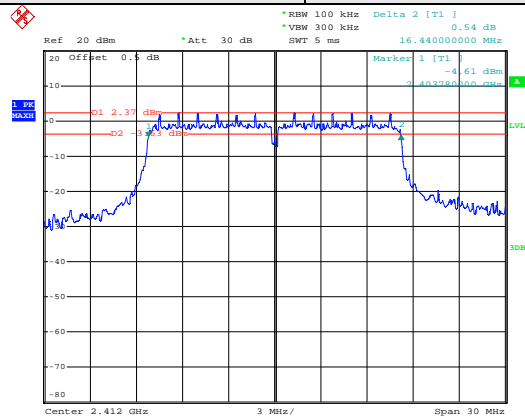


Date: 6.MAR.2013 07:19:05

Highest channel

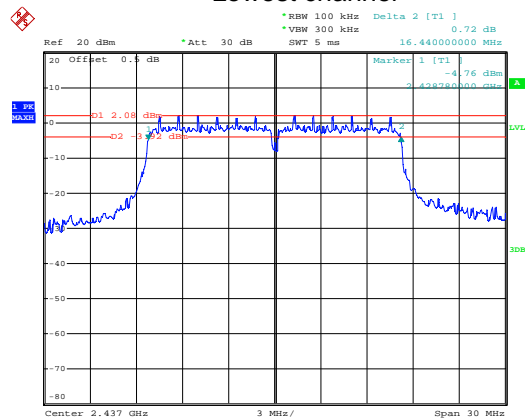
Test mode: 6dB BW

802.11g



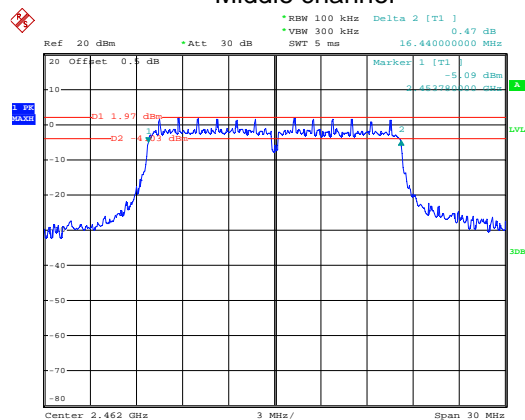
Date: 26.FEB.2013 11:05:47

Lowest channel



Date: 26.FEB.2013 11:01:46

Middle channel

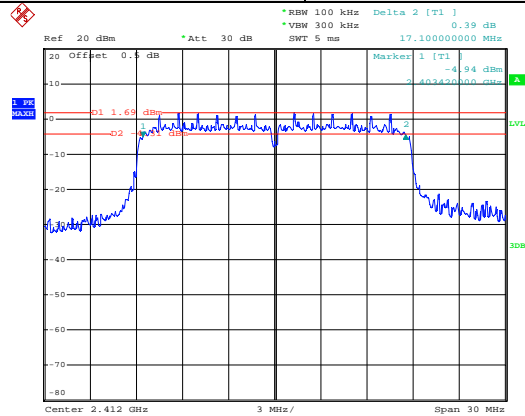


Date: 26.FEB.2013 10:58:05

Highest channel

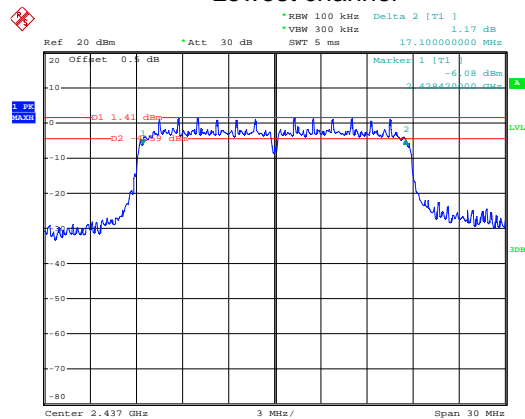
Test mode: 6dB BW

802.11n(H20)



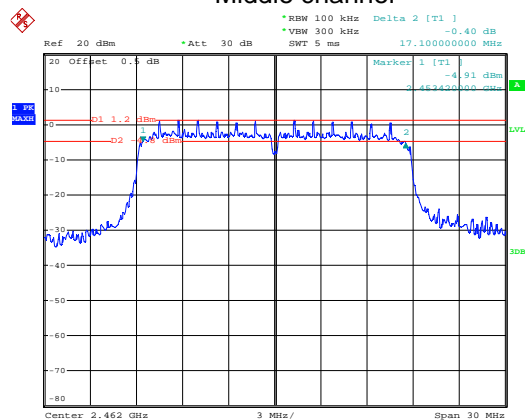
Date: 26.FEB.2013 11:09:00

Lowest channel



Date: 26.FEB.2013 11:12:12

Middle channel

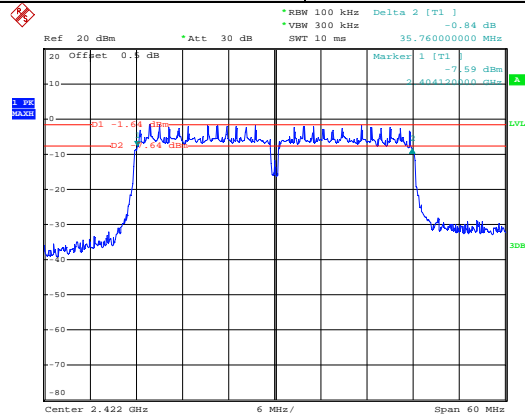


Date: 26.FEB.2013 11:14:41

Highest channel

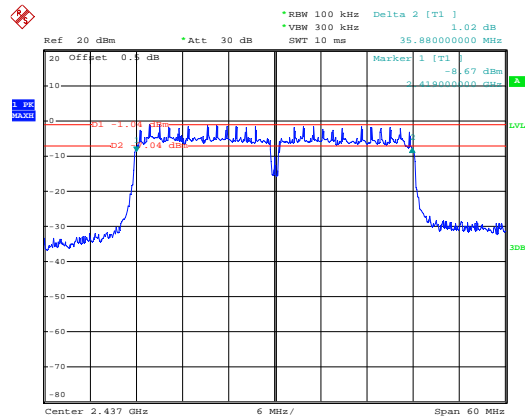
Test mode: 6dB BW

802.11n(H40)



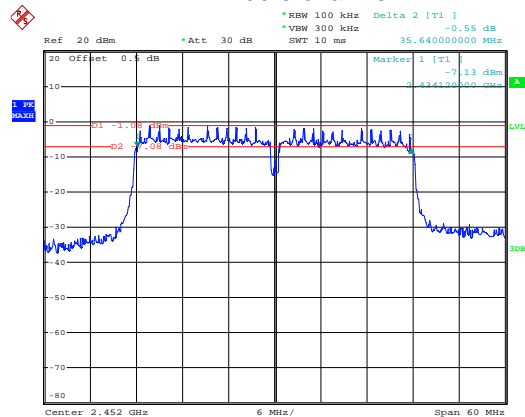
Date: 26.FEB.2013 11:22:23

Lowest channel



Date: 26.FEB.2013 11:20:11

Middle channel

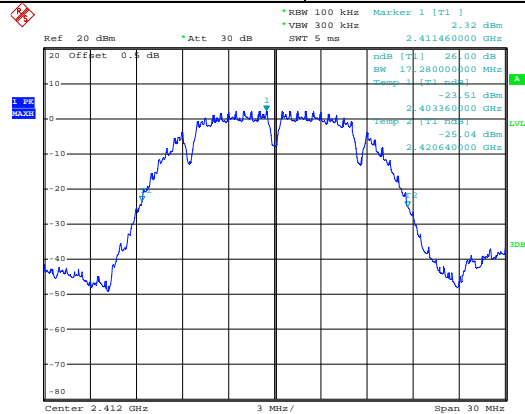


Date: 26.FEB.2013 11:17:58

Highest channel

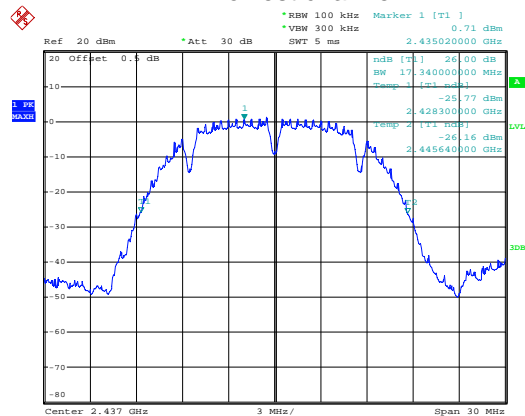
Test mode:26dB EBW

802.11b



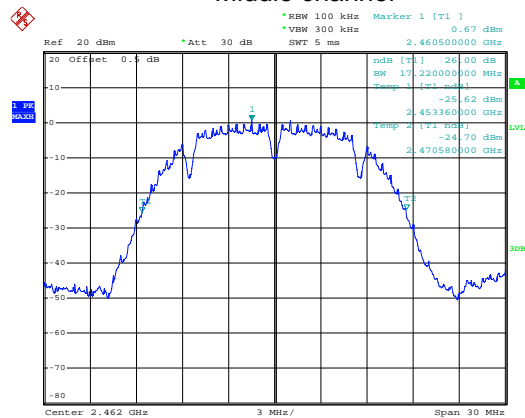
Date: 27.FEB.2013 02:24:52

Lowest channel



Date: 27.FEB.2013 02:25:34

Middle channel

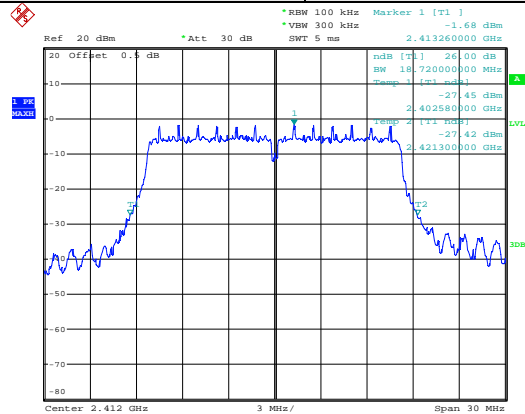


Date: 27.FEB.2013 02:26:21

Highest channel

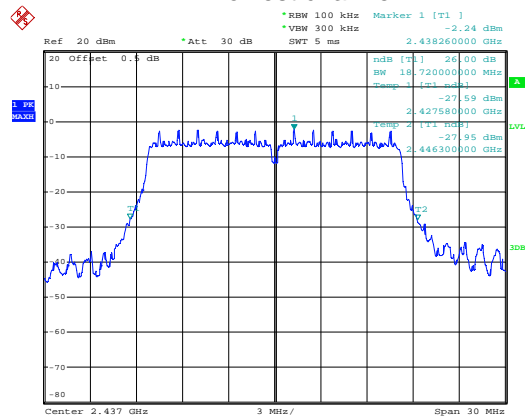
Test mode:26dB EBW

802.11g



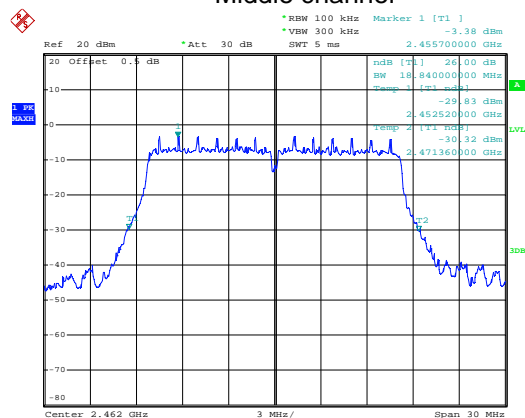
Date: 27.FEB.2013 02:30:04

Lowest channel



Date: 27.FEB.2013 02:29:12

Middle channel

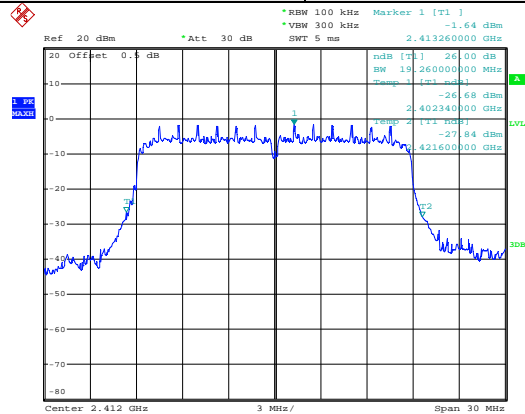


Date: 27.FEB.2013 02:27:49

Highest channel

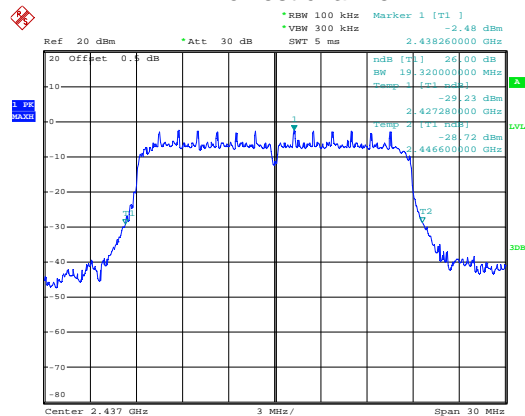
Test mode:26dB EBW

802.11n(H20)



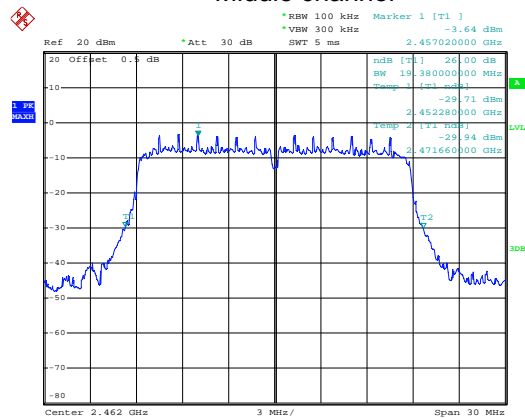
Date: 27.FEB.2013 02:31:20

Lowest channel



Date: 27.FEB.2013 02:32:26

Middle channel

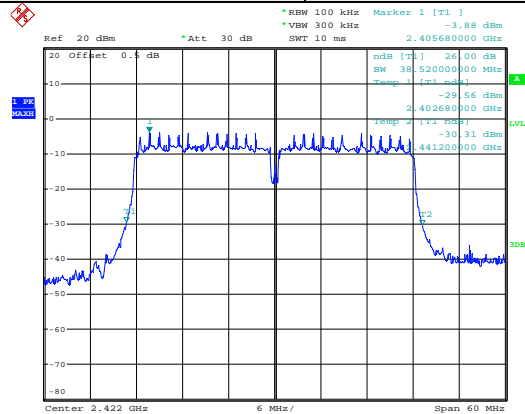


Date: 27.FEB.2013 02:33:20

Highest channel

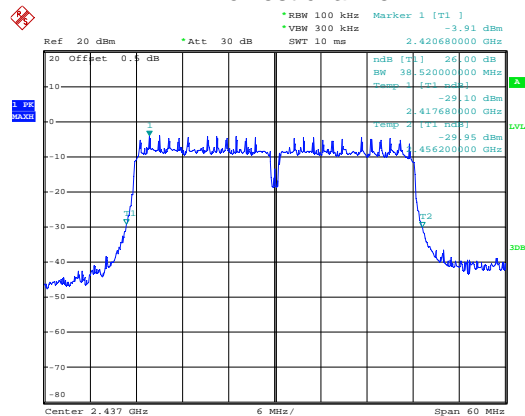
Test mode: 26dB EBW

802.11n(H40)



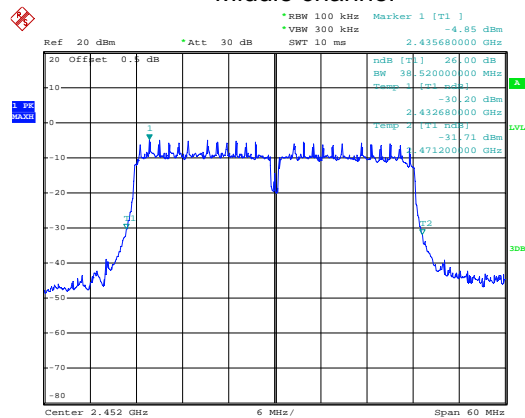
Date: 27.FEB.2013 02:22:32

Lowest channel



Date: 27.FEB.2013 02:21:37

Middle channel



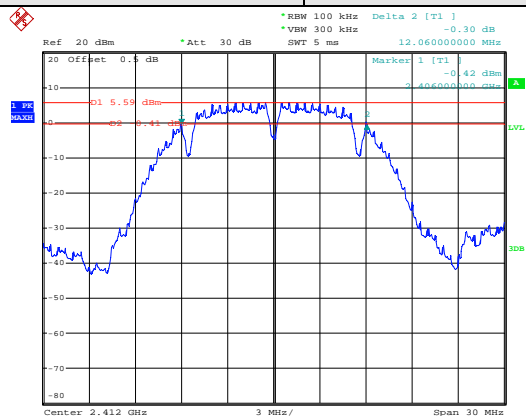
Date: 27.FEB.2013 02:23:11

Highest channel

Ant 2

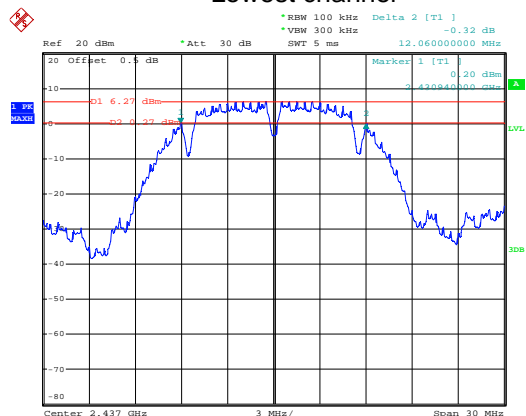
Test mode: 6dB BW

802.11b



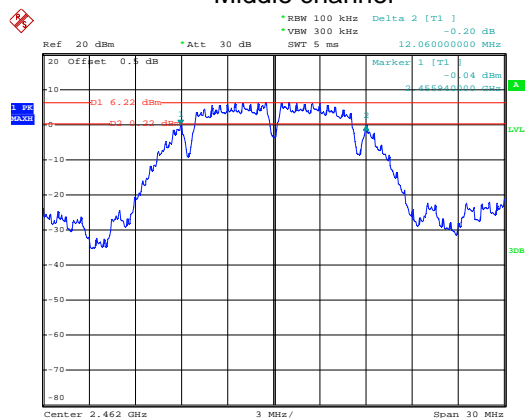
Date: 25.FEB.2013 09:27:58

Lowest channel



Date: 25.FEB.2013 09:29:55

Middle channel

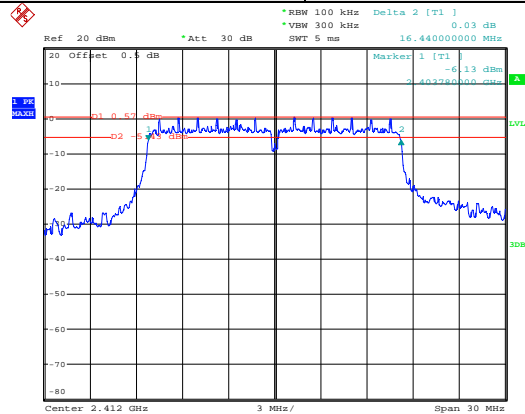


Date: 25.FEB.2013 09:31:54

Highest channel

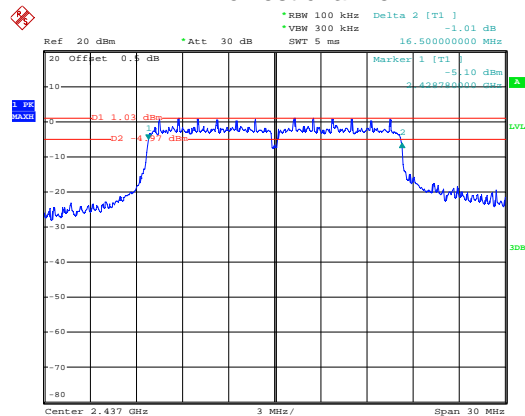
Test mode: 6dB BW

802.11g



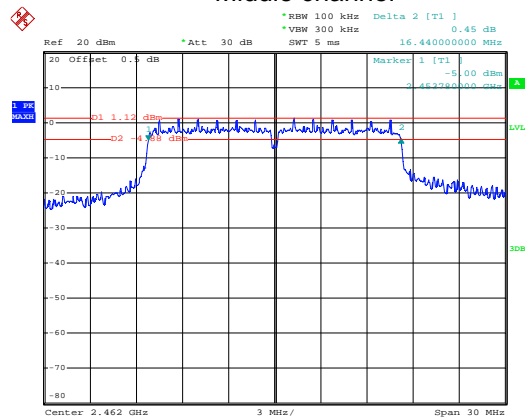
Date: 25.FEB.2013 09:37:30

Lowest channel



Date: 25.FEB.2013 09:36:09

Middle channel

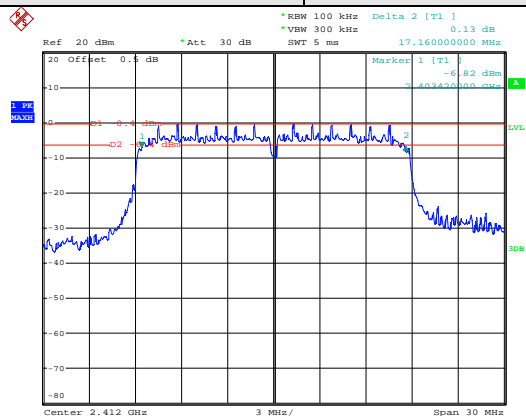


Date: 25.FEB.2013 09:33:51

Highest channel

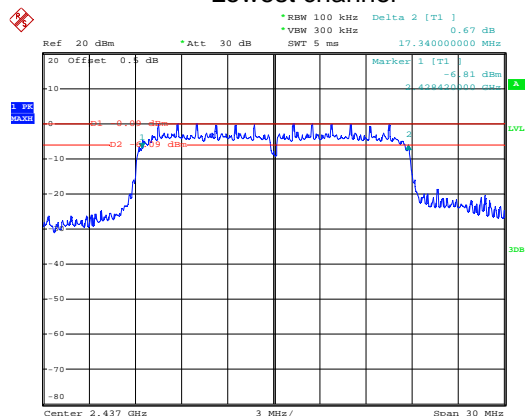
Test mode: 6dB BW

802.11n(H20)



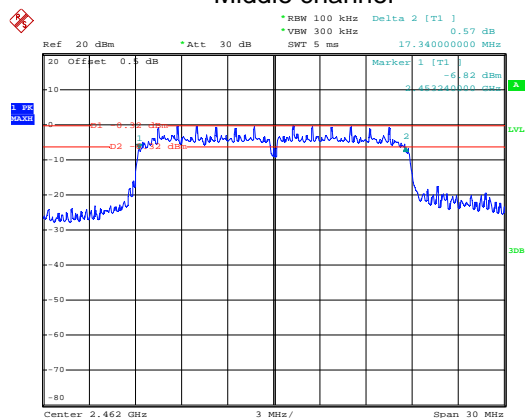
Date: 25.FEB.2013 09:38:56

Lowest channel



Date: 25.FEB.2013 09:40:19

Middle channel

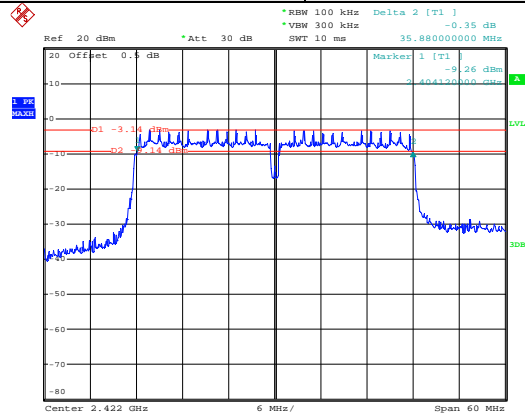


Date: 25.FEB.2013 09:41:52

Highest channel

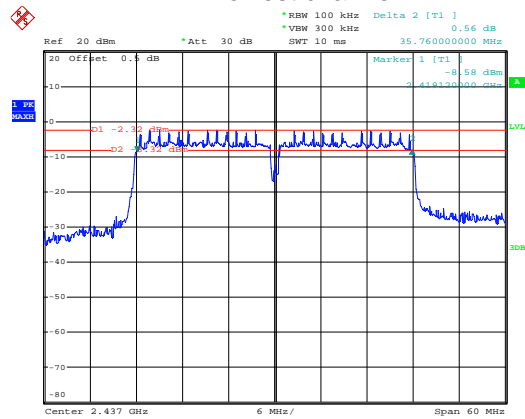
Test mode: 6dB BW

802.11n(H40)



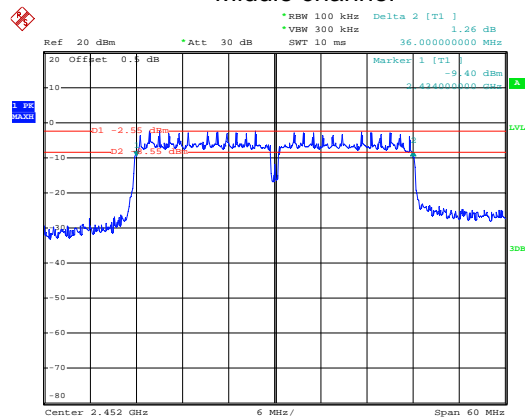
Date: 25.FEB.2013 09:48:32

Lowest channel



Date: 25.FEB.2013 09:45:50

Middle channel

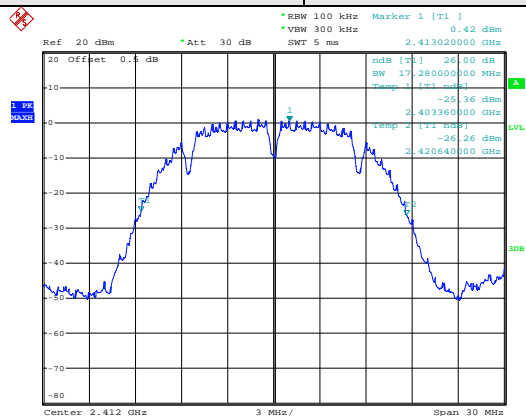


Date: 25.FEB.2013 09:44:49

Highest channel

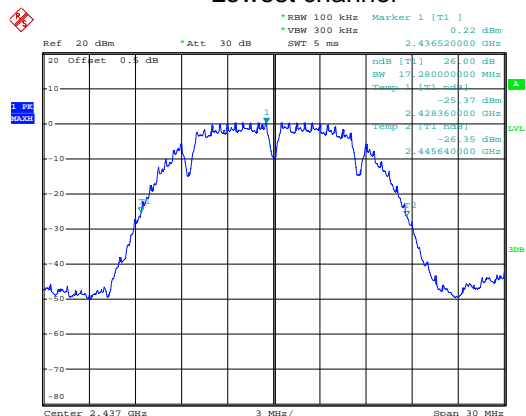
Test mode:26dB EBW

802.11b



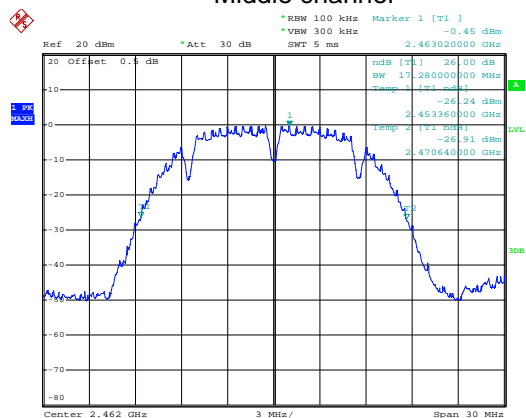
Date: 25.FEB.2013 10:14:32

Lowest channel



Date: 25.FEB.2013 10:15:30

Middle channel

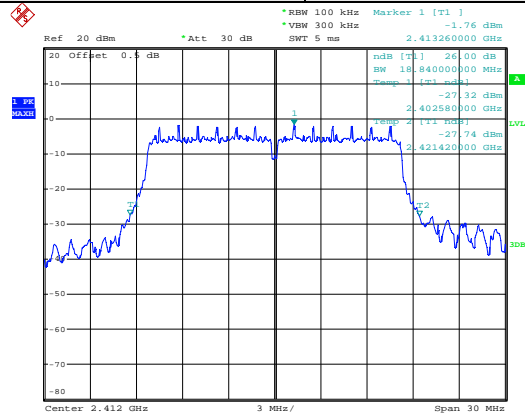


Date: 25.FEB.2013 10:16:19

Highest channel

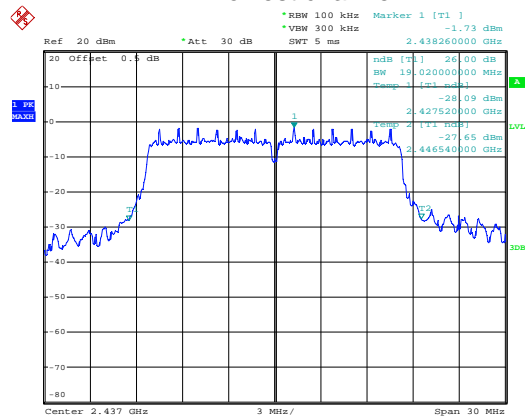
Test mode:26dB EBW

802.11g



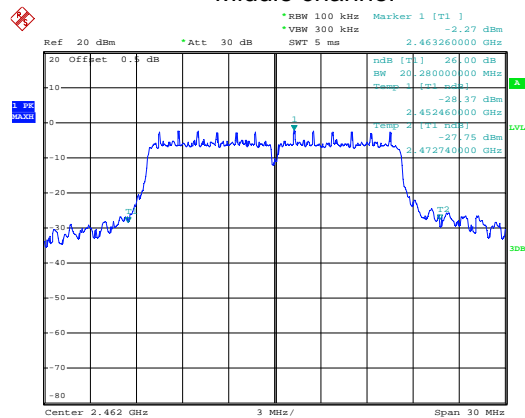
Date: 25.FEB.2013 10:14:03

Lowest channel



Date: 25.FEB.2013 10:13:14

Middle channel

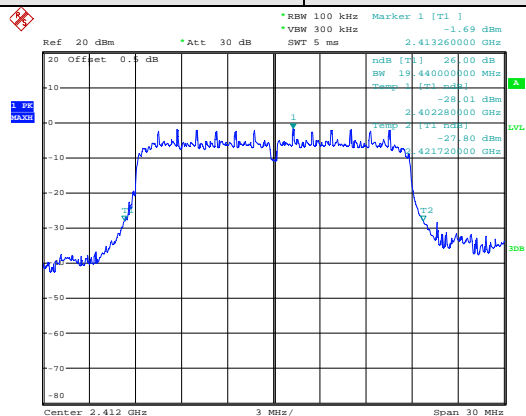


Date: 25.FEB.2013 10:12:29

Highest channel

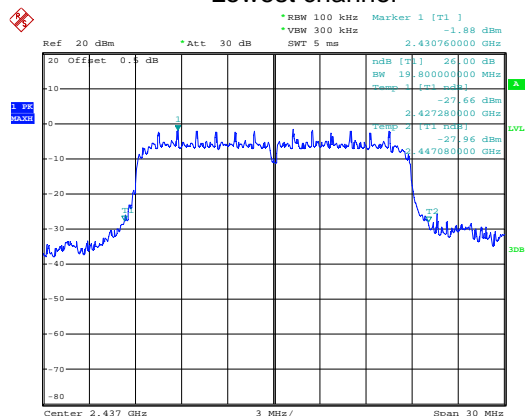
Test mode:26dB EBW

802.11n(H20)



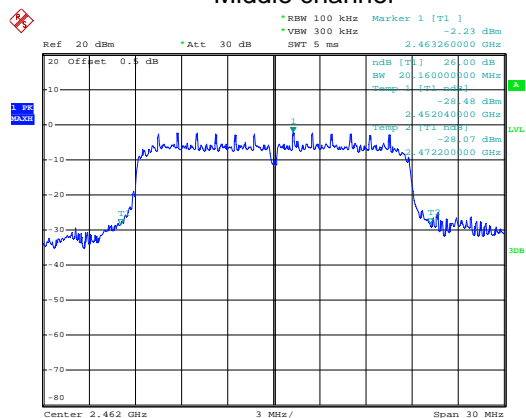
Date: 25.FEB.2013 10:09:52

Lowest channel



Date: 25.FEB.2013 10:10:29

Middle channel

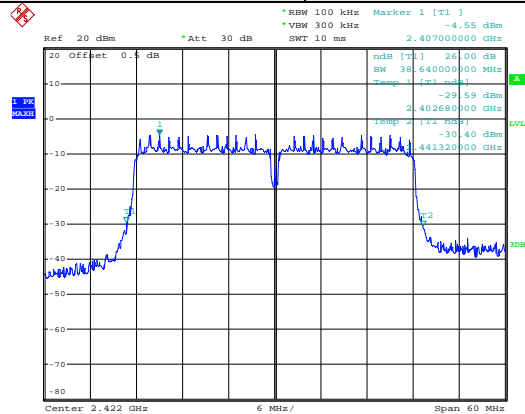


Date: 25.FEB.2013 10:11:14

Highest channel

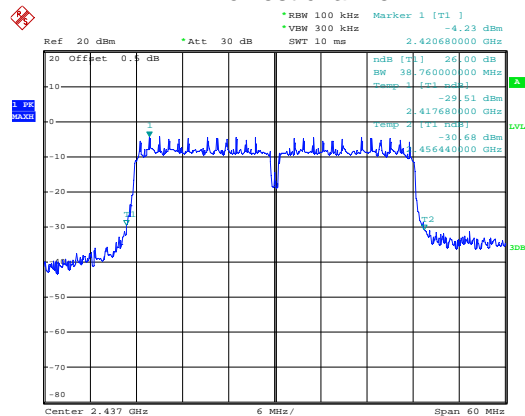
Test mode: 26dB EBW

802.11n(H40)



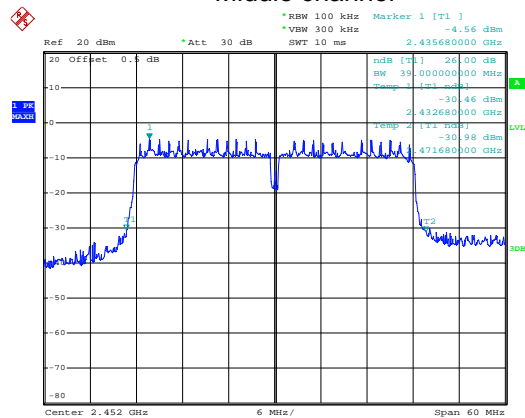
Date: 25.FEB.2013 10:08:59

Lowest channel



Date: 25.FEB.2013 10:08:27

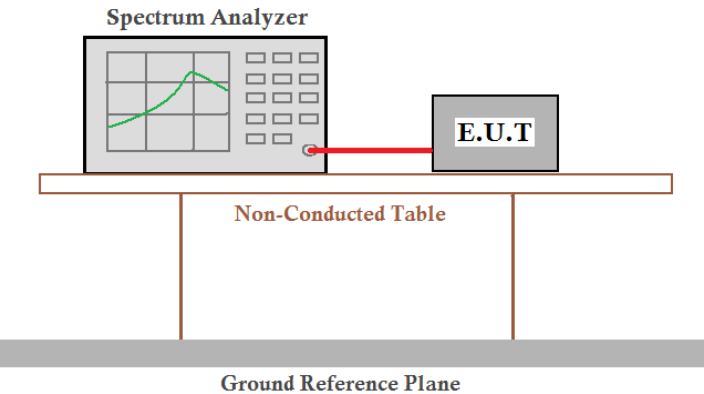
Middle channel



Date: 25.FEB.2013 10:07:35

Highest channel

6.5 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	8dBm
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

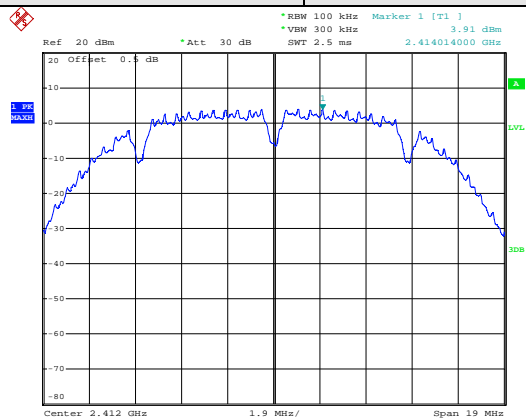
Mode	Test CH	Ant. Port	PSD (dBm)	Total PSD (dBm)	Limit (dBm)	Result
802.11b	Lowest	Ant 1	3.91	6.86	8	Pass
		Ant 2	3.79			
	Middle	Ant 1	4.39	7.32	8	Pass
		Ant 2	4.22			
	Highest	Ant 1	4.39	7.35	8	Pass
		Ant 2	4.29			
802.11g	Lowest	Ant 1	1.94	4.55	8	Pass
		Ant 2	1.10			
	Middle	Ant 1	2.22	4.31	8	Pass
		Ant 2	0.12			
	Highest	Ant 1	2.05	4.19	8	Pass
		Ant 2	0.10			
802.11n (H20)	Lowest	Ant 1	1.33	3.30	8	Pass
		Ant 2	-1.07			
	Middle	Ant 1	1.17	3.37	8	Pass
		Ant 2	-0.63			
	Highest	Ant 1	1.17	3.06	8	Pass
		Ant 2	-1.23			
802.11n (H40)	Lowest	Ant 1	-1.68	0.50	8	Pass
		Ant 2	-3.54			
	Middle	Ant 1	-1.16	1.12	8	Pass
		Ant 2	-2.77			
	Highest	Ant 1	-1.20	0.91	8	Pass
		Ant 2	-3.23			

Test plot as follows:

Ant 1

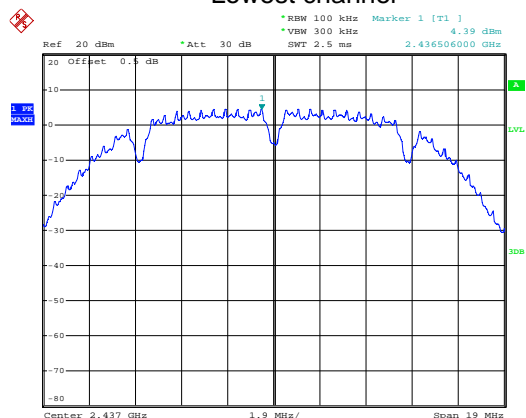
Test mode:

802.11b



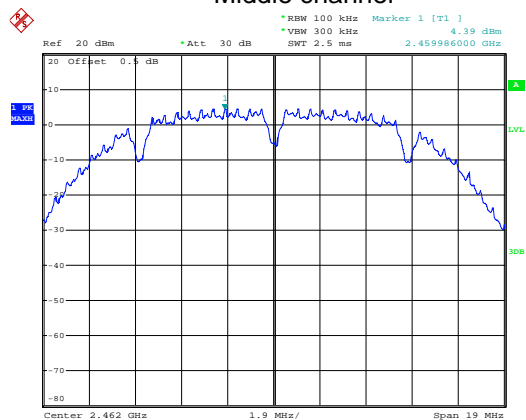
Date: 27.FEB.2013 03:32:02

Lowest channel



Date: 27.FEB.2013 03:36:31

Middle channel

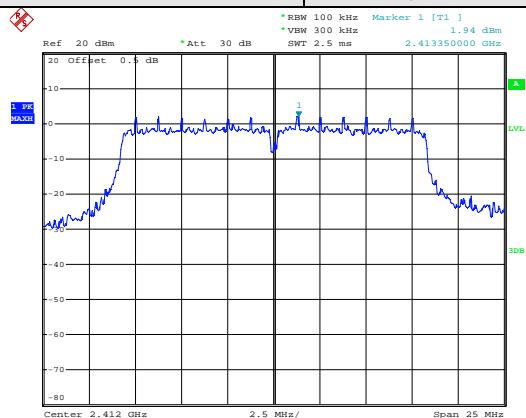


Date: 27.FEB.2013 03:39:07

Highest channel

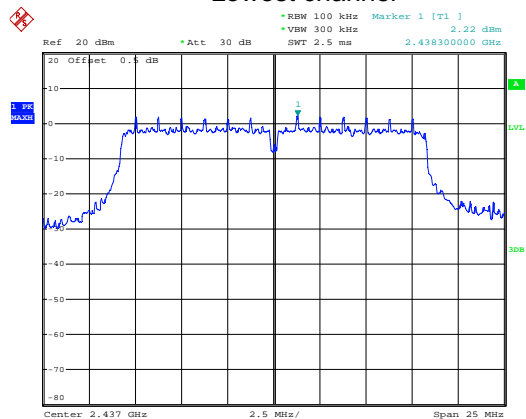
Test mode:

802.11g



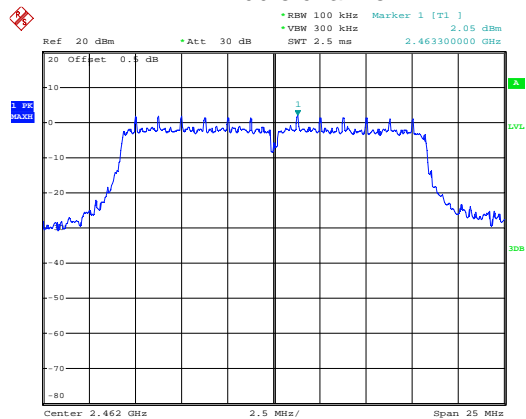
Date: 27.FEB.2013 02:59:35

Lowest channel



Date: 27.FEB.2013 02:56:41

Middle channel

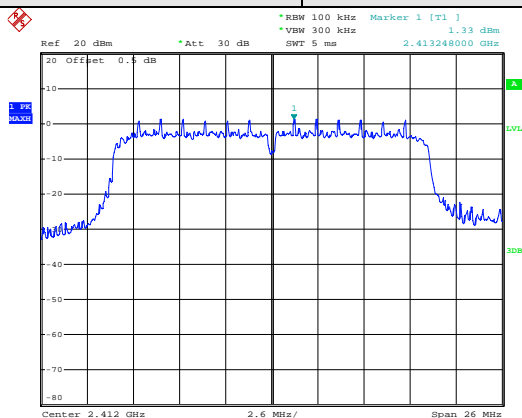


Date: 27.FEB.2013 02:52:05

Highest channel

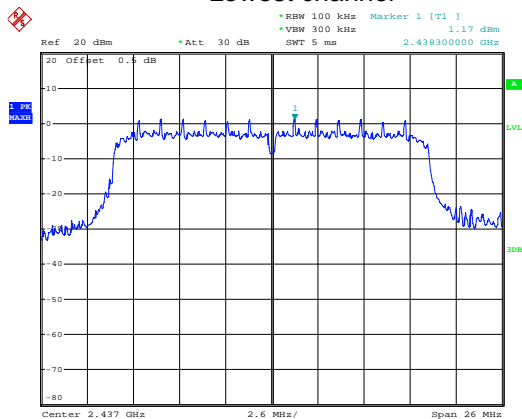
Test mode:

802.11n(H20)



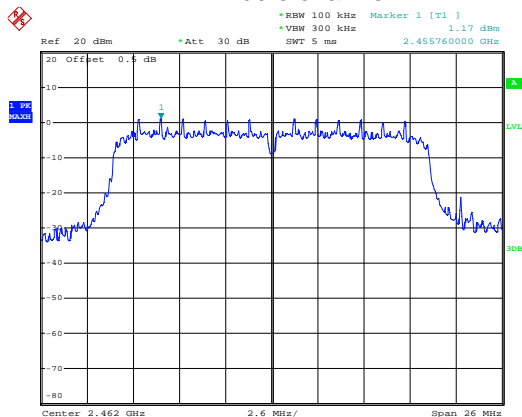
Date: 27.FEB.2013 03:04:09

Lowest channel



Date: 27.FEB.2013 03:08:13

Middle channel

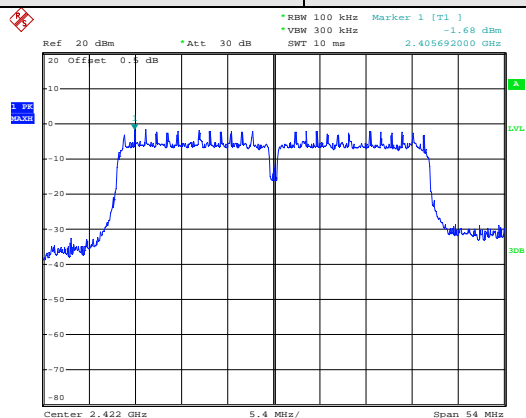


Date: 27.FEB.2013 03:10:23

Highest channel

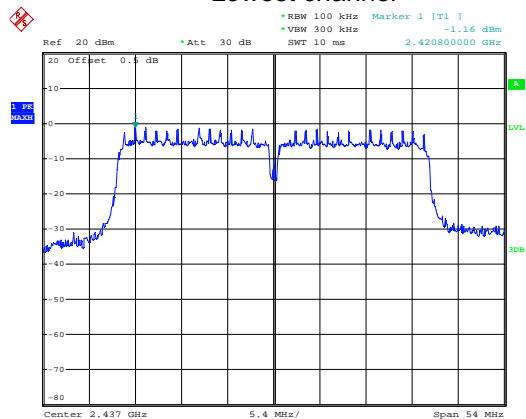
Test mode:

802.11n(H40)



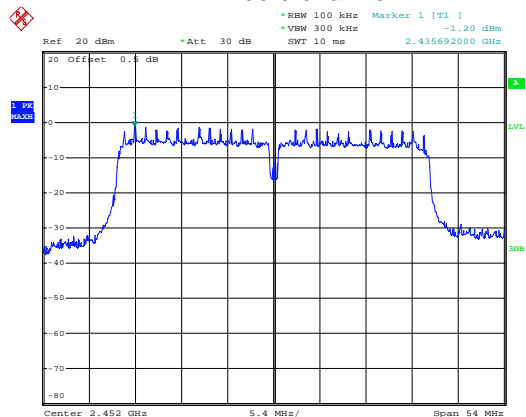
Date: 27.FEB.2013 03:16:00

Lowest channel



Date: 27.FEB.2013 03:22:55

Middle channel



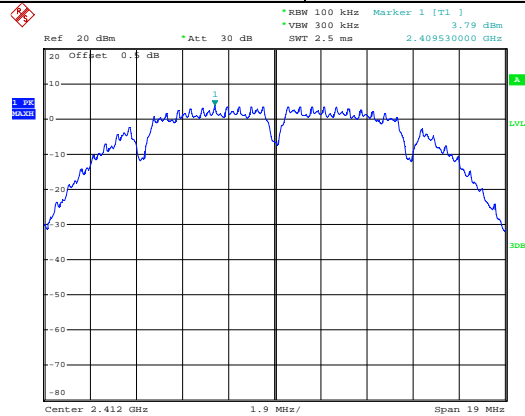
Date: 27.FEB.2013 03:25:37

Highest channel

Ant 2

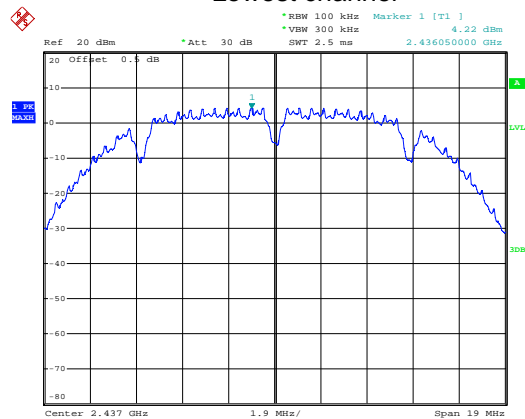
Test mode:

802.11b



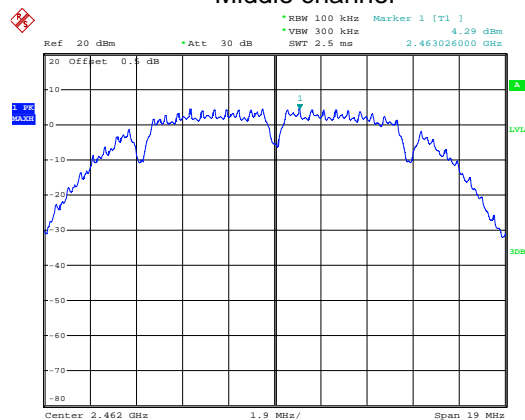
Date: 25.FEB.2013 10:25:37

Lowest channel



Date: 25.FEB.2013 10:26:19

Middle channel

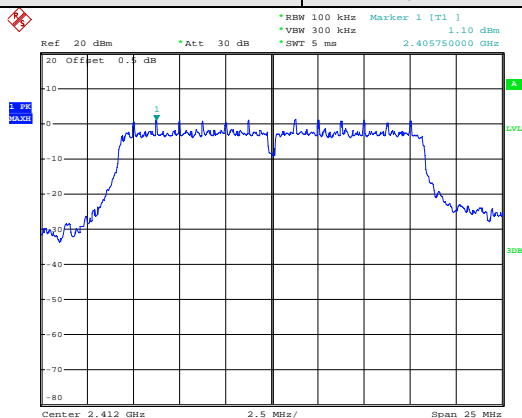


Date: 25.FEB.2013 10:27:15

Highest channel

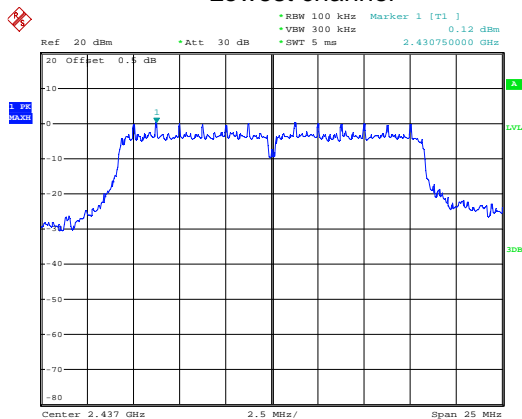
Test mode:

802.11g



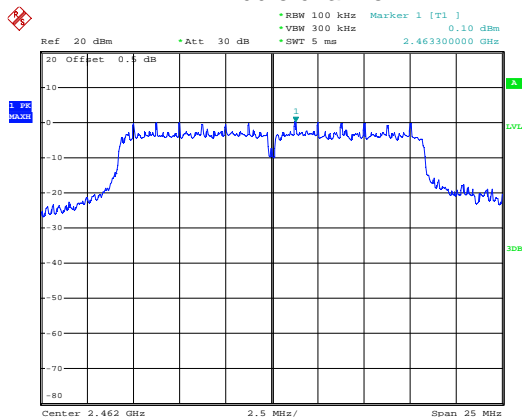
Date: 25.FEB.2013 10:29:50

Lowest channel



Date: 25.FEB.2013 10:30:39

Middle channel

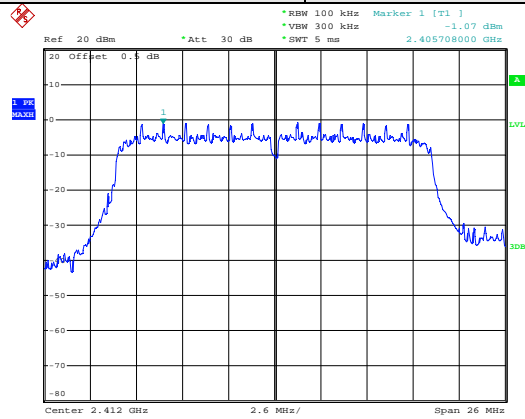


Date: 25.FEB.2013 10:31:12

Highest channel

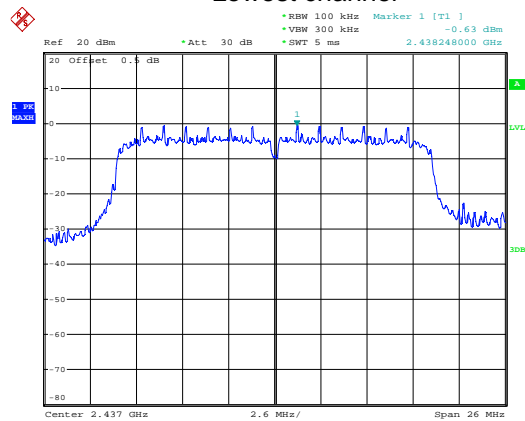
Test mode:

802.11n(H20)



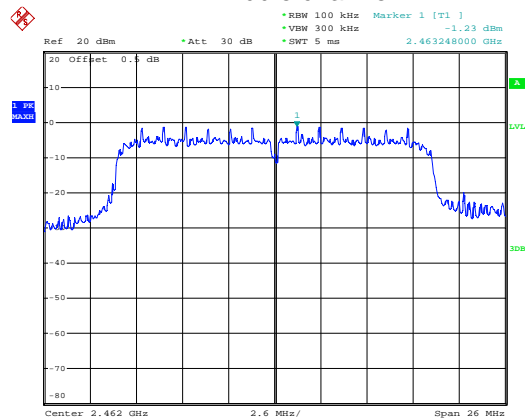
Date: 25.FEB.2013 10:34:02

Lowest channel



Date: 25.FEB.2013 10:33:02

Middle channel

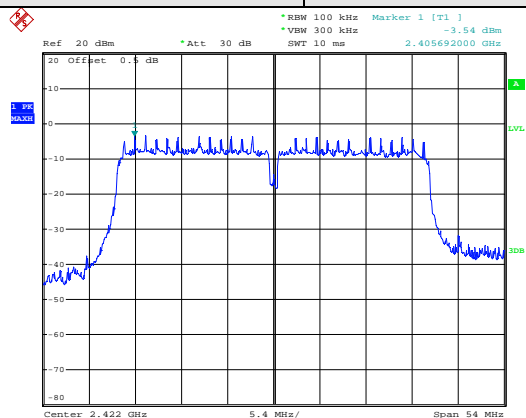


Date: 25.FEB.2013 10:32:11

Highest channel

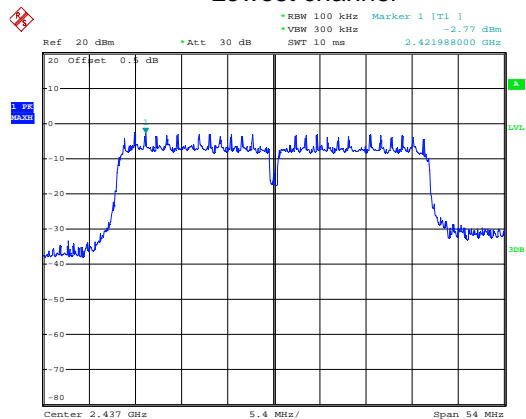
Test mode:

802.11n(H40)



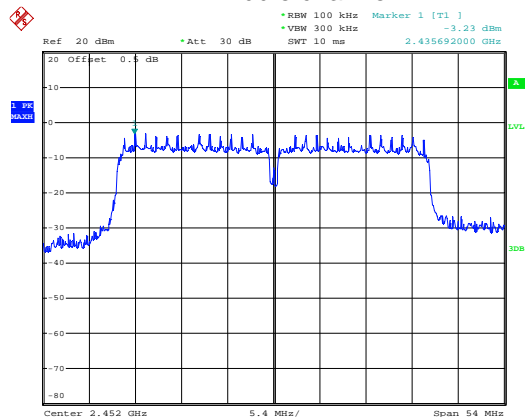
Date: 25.FEB.2013 10:35:09

Lowest channel



Date: 25.FEB.2013 10:35:52

Middle channel

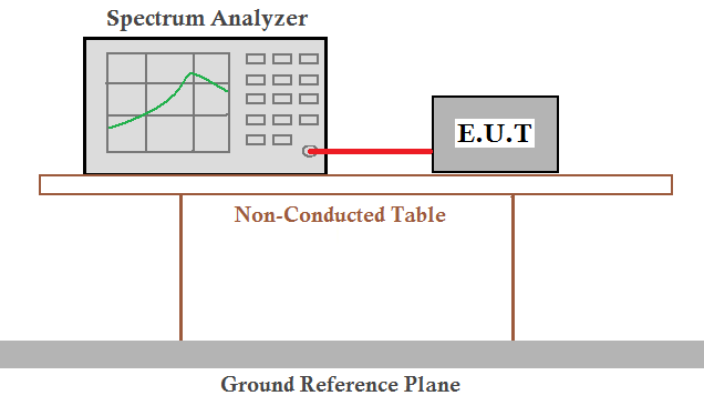


Date: 25.FEB.2013 10:36:47

Highest channel

6.6 Band Edge

6.6.1 Conducted Emission Method

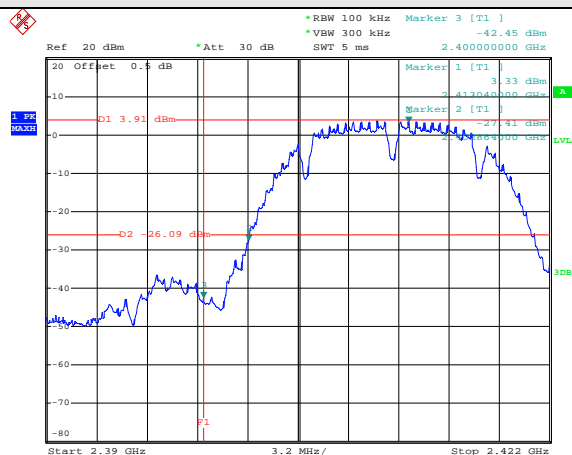
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Test plot as follows:

Ant 1

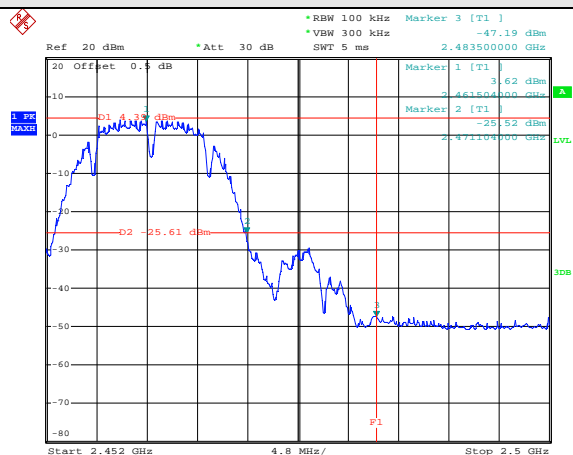
Test mode:

802.11b



Date: 27.FEB.2013 03:33:37

Lowest channel

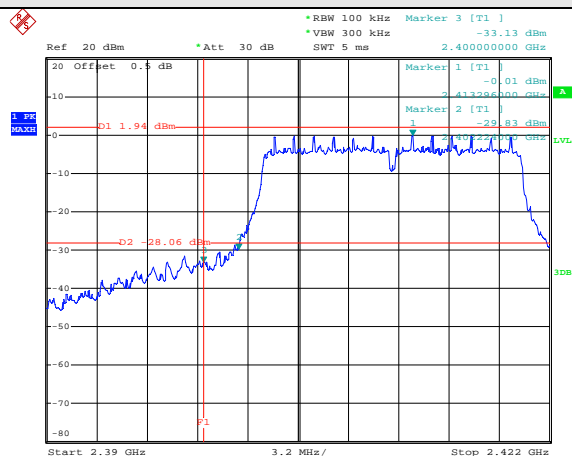


Date: 27.FEB.2013 03:40:36

Highest channel

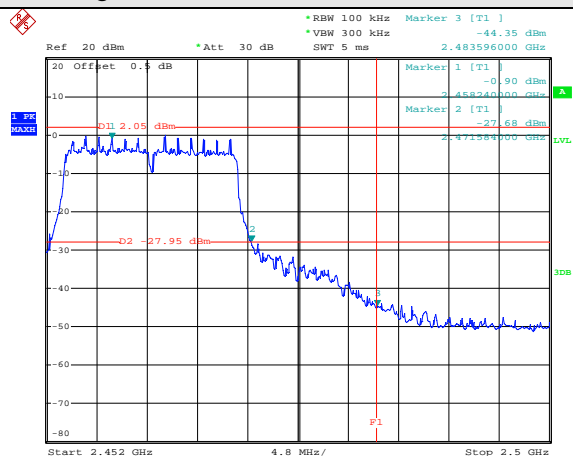
Test mode:

802.11g



Date: 27.FEB.2013 03:01:12

Lowest channel

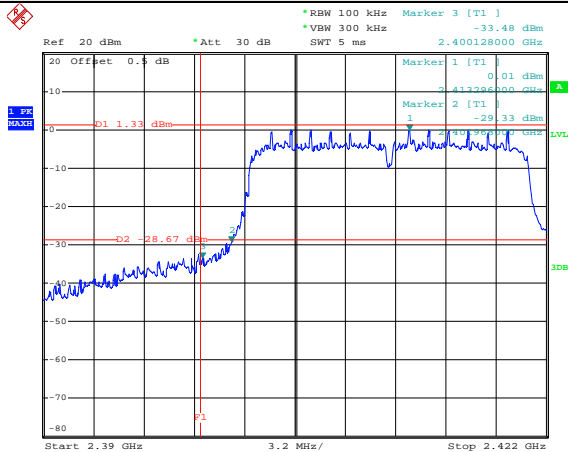


Date: 27.FEB.2013 02:54:42

Highest channel

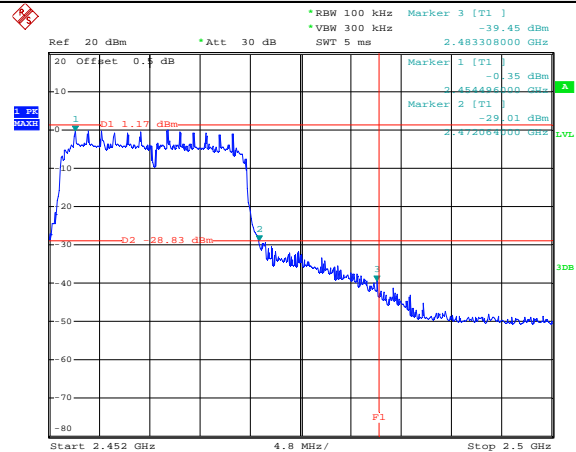
Test mode:

802.11n(H20)



Date: 27.FEB.2013 03:05:32

Lowest channel

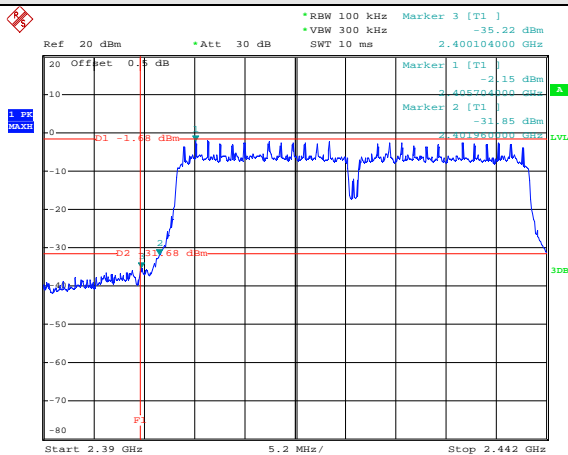


Date: 27.FEB.2013 03:11:48

Highest channel

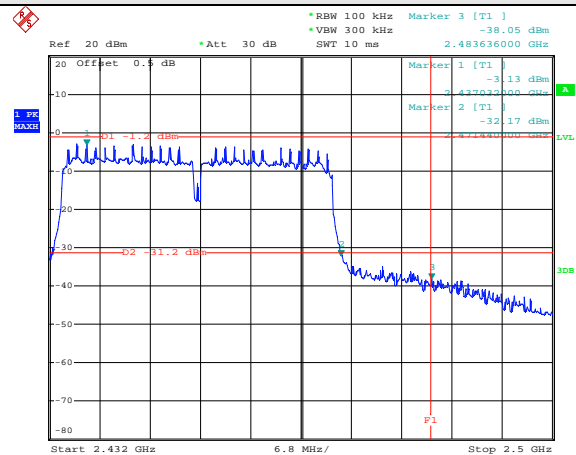
Test mode:

802.11n(H40)



Date: 27.FEB.2013 03:20:00

Lowest channel



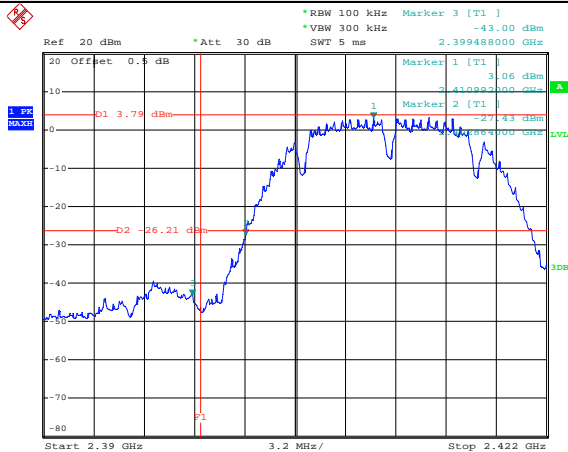
Date: 27.FEB.2013 03:27:12

Highest channel

Ant 2

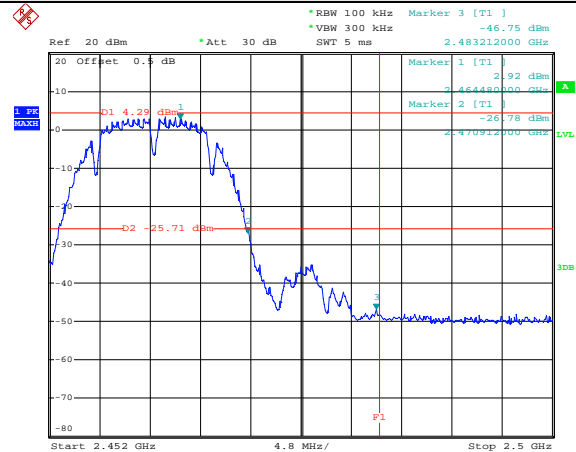
Test mode:

802.11b



Date: 26.FEB.2013 02:38:51

Lowest channel

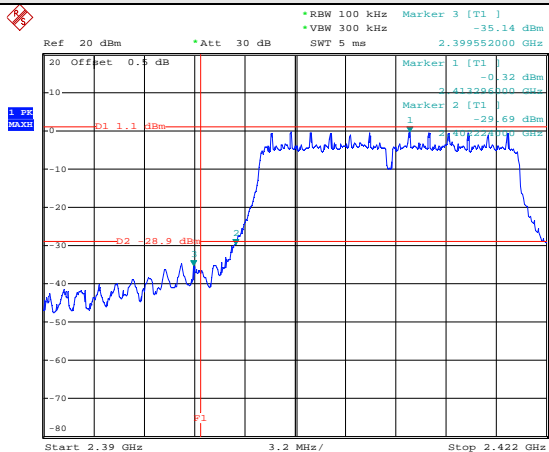


Date: 26.FEB.2013 03:03:30

Highest channel

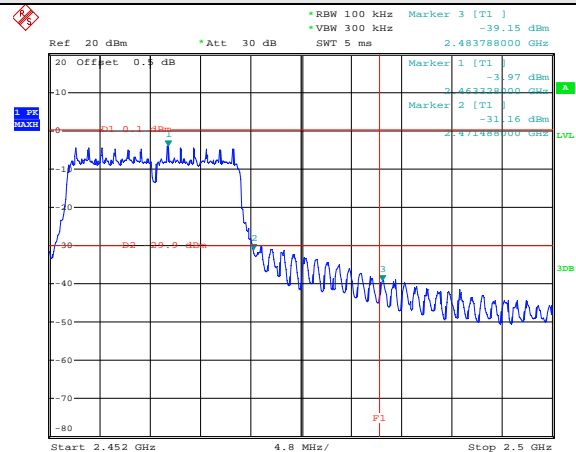
Test mode:

802.11g



Date: 26.FEB.2013 02:41:32

Lowest channel

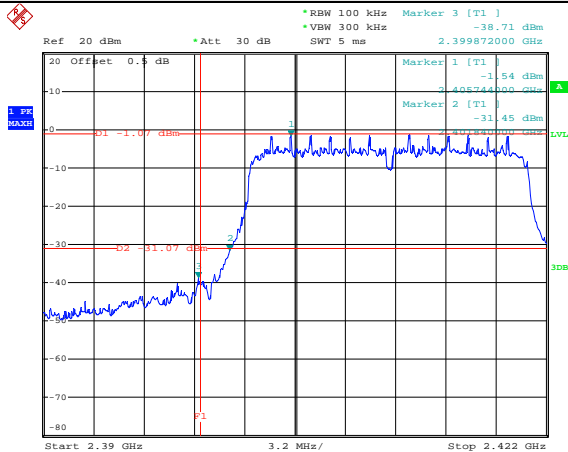


Date: 26.FEB.2013 03:01:23

Highest channel

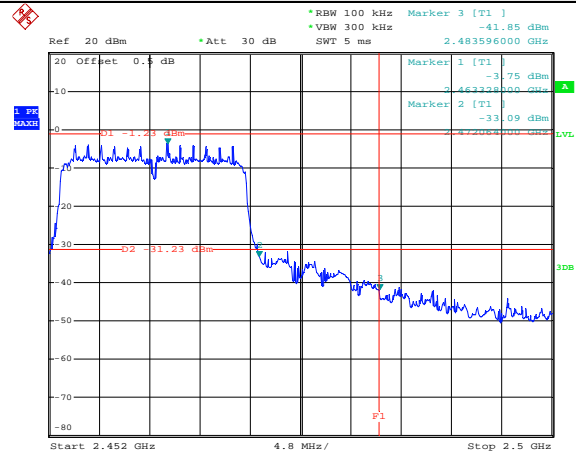
Test mode:

802.11n(H20)



Date: 26.FEB.2013 02:43:56

Lowest channel

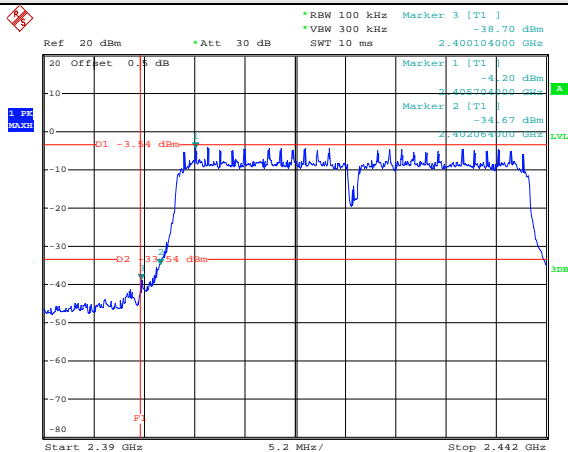


Date: 26.FEB.2013 02:56:16

Highest channel

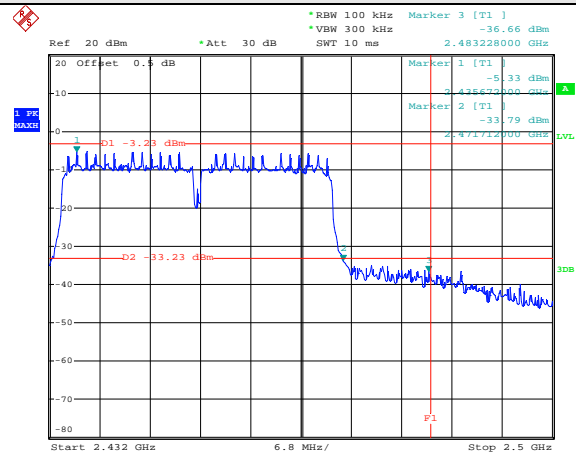
Test mode:

802.11n(H40)



Date: 26.FEB.2013 02:47:53

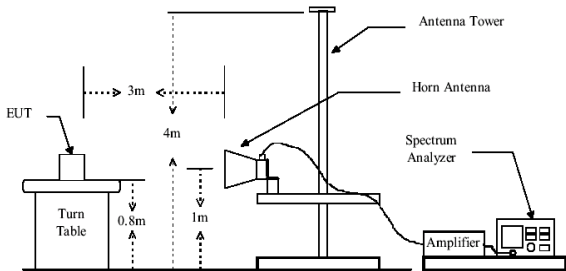
Lowest channel



Date: 26.FEB.2013 02:52:36

Highest channel

6.6.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205																		
Test Method:	ANSI C63.4: 2003																		
Test Frequency Range:	2.3GHz to 2.5GHz																		
Test site:	Measurement Distance: 3m																		
Receiver setup:	<table><tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</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>					Frequency	Detector	RBW	VBW	Remark	Above 1GHz	Peak	1MHz	3MHz	Peak Value	Peak	1MHz	10Hz	Average Value
Frequency	Detector	RBW	VBW	Remark															
Above 1GHz	Peak	1MHz	3MHz	Peak Value															
	Peak	1MHz	10Hz	Average Value															
Limit:	<table><tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr><tr><td rowspan="2">Above 1GHz</td><td>54.00</td><td>Average Value</td></tr><tr><td>74.00</td><td>Peak Value</td></tr></table>					Frequency	Limit (dBuV/m @3m)	Remark	Above 1GHz	54.00	Average Value	74.00	Peak Value						
Frequency	Limit (dBuV/m @3m)	Remark																	
Above 1GHz	54.00	Average Value																	
	74.00	Peak Value																	
Test Procedure:	<div>1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</div> <div>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</div> <div>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</div> <div>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.</div> <div>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</div> <div>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</div>																		
Test setup:																			
Test Instruments:	Refer to section 5.7 for details																		
Test mode:	Refer to section 5.3 for details																		
Test results:	Passed																		

802.11b

Test channel:		Lowest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	60.87	27.58	3.83	34.83	57.45	74.00	-16.55	Horizontal
2400.00	66.12	27.58	3.81	36.81	60.70	74.00	-13.30	Horizontal
2390.00	62.01	27.58	3.83	34.83	58.59	74.00	-15.41	Vertical
2400.00	64.84	27.58	3.81	34.83	61.40	74.00	-12.60	Vertical

Test channel:		Lowest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	49.31	27.58	3.83	34.83	45.89	54.00	-8.11	Horizontal
2400.00	50.03	27.58	3.81	34.83	46.59	54.00	-7.41	Horizontal
2390.00	49.75	27.58	3.83	34.83	46.33	54.00	-7.57	Vertical
2400.00	51.77	27.58	3.81	34.83	48.33	54.00	-5.78	Vertical

Test channel:		Highest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	58.65	27.52	3.89	34.86	55.20	74.00	-18.80	Horizontal
2500.00	50.17	27.55	3.90	34.87	46.75	74.00	-27.26	Horizontal
2483.50	59.65	27.52	3.89	34.86	56.20	74.00	-17.80	Vertical
2500.00	52.35	27.55	3.90	34.87	48.93	74.00	-25.07	Vertical

Test channel:		Highest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	48.62	27.52	3.89	34.86	45.17	54.00	-8.83	Horizontal
2500.00	41.69	27.55	3.90	34.87	38.27	54.00	-15.73	Horizontal
2483.50	50.16	27.52	3.89	34.86	46.71	54.00	-7.29	Vertical
2500.00	41.06	27.55	3.90	34.87	37.64	54.00	-16.36	Vertical

802.11g

Test channel:		Lowest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	59.62	27.58	3.83	34.83	56.20	74.00	-17.80	Horizontal
2400.00	63.15	27.58	3.81	34.83	59.71	74.00	-14.29	Horizontal
2390.00	60.84	27.58	3.83	34.83	57.42	74.00	-16.58	Vertical
2400.00	64.28	27.58	3.81	34.83	60.84	74.00	-13.16	Vertical

Test channel:		Lowest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	47.66	27.58	3.81	34.83	44.22	54.00	-9.78	Horizontal
2400.00	48.56	27.58	3.83	34.83	45.14	54.00	-8.86	Horizontal
2390.00	49.00	27.58	3.81	34.83	45.56	54.00	-8.44	Vertical
2400.00	49.79	27.58	3.83	34.83	46.37	54.00	-7.63	Vertical

Test channel:		Highest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	58.78	27.52	3.89	34.86	55.33	74.00	-18.67	Horizontal
2500.00	49.68	27.55	3.90	34.87	46.26	74.00	-27.74	Horizontal
2483.50	59.69	27.52	3.89	34.86	56.24	74.00	-17.76	Vertical
2500.00	50.46	27.55	3.90	34.87	47.04	74.00	-26.96	Vertical

Test channel:		Highest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	49.86	27.52	3.89	34.86	46.41	54.00	-7.59	Horizontal
2500.00	39.00	27.55	3.90	34.87	35.58	54.00	-18.42	Horizontal
2483.50	50.06	27.52	3.89	34.86	46.61	54.00	-7.39	Vertical
2500.00	38.98	27.55	3.90	34.87	35.56	54.00	-18.44	Vertical

802.11n (H20)

Test channel:		Lowest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	59.09	27.58	3.83	34.83	55.67	74.00	-18.33	Horizontal
2400.00	62.17	27.58	3.81	34.83	58.73	74.00	-15.27	Horizontal
2390.00	59.84	27.58	3.83	34.83	56.42	74.00	-17.58	Vertical
2400.00	63.02	27.58	3.81	34.83	59.58	74.00	-14.42	Vertical

Test channel:		Lowest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	48.17	27.58	3.83	34.83	44.75	54.00	-9.25	Horizontal
2400.00	49.27	27.58	3.81	34.83	45.83	54.00	-8.17	Horizontal
2390.00	48.64	27.58	3.83	34.83	45.22	54.00	-8.78	Vertical
2400.00	50.25	27.58	3.81	34.83	46.81	54.00	-7.19	Vertical

Test channel:		Highest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	59.84	27.52	3.89	34.86	56.39	74.00	-17.61	Horizontal
2500.00	48.95	27.55	3.90	34.87	45.53	74.00	-28.47	Horizontal
2483.50	58.63	27.52	3.89	34.86	55.18	74.00	-18.82	Vertical
2500.00	48.65	27.55	3.90	34.87	45.23	74.00	-28.77	Vertical

Test channel:		Highest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	50.79	27.52	3.89	34.86	47.34	54.00	-6.66	Horizontal
2500.00	39.56	27.55	3.90	34.87	36.14	54.00	-17.86	Horizontal
2483.50	50.46	27.52	3.89	34.86	47.01	54.00	-6.99	Vertical
2500.00	38.22	27.55	3.90	34.87	34.80	54.00	-19.20	Vertical

802.11n (H40)

Test channel:		Lowest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	63.87	27.58	3.81	34.83	60.43	74.00	-13.57	Horizontal
2400.00	65.94	27.58	3.83	34.83	62.52	74.00	-11.48	Horizontal
2390.00	68.41	27.58	3.81	34.83	64.97	74.00	-9.03	Vertical
2400.00	74.01	27.58	3.83	34.83	70.59	74.00	-3.41	Vertical

Test channel:		Lowest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	49.34	27.58	3.81	34.83	45.90	54.00	-8.1	Horizontal
2400.00	49.47	27.58	3.83	34.83	46.05	54.00	-7.95	Horizontal
2390.00	49.91	27.58	3.81	34.83	46.47	54.00	-7.53	Vertical
2400.00	51.17	27.58	3.83	34.83	47.75	54.00	-6.25	Vertical

Test channel:		Highest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	53.68	27.52	3.89	34.86	50.26	74.00	-23.74	Horizontal
2500.00	48.73	27.55	3.90	34.87	45.28	74.00	-28.72	Horizontal
2483.50	57.82	27.52	3.89	34.86	54.37	74.00	-19.63	Vertical
2500.00	50.46	27.55	3.90	34.87	47.04	74.00	-26.96	Vertical

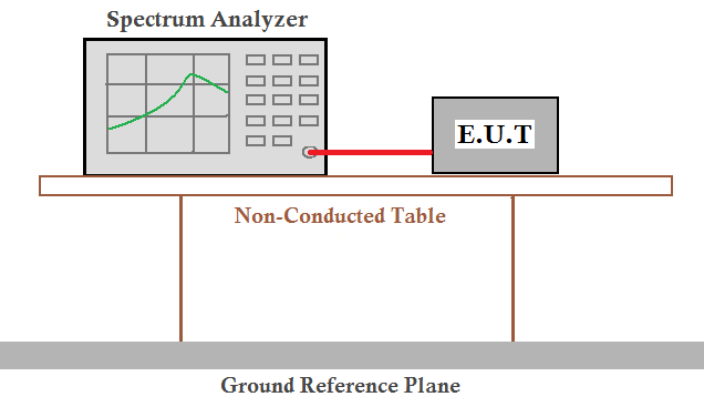
Test channel:		Highest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	47.85	27.52	3.89	34.86	44.40	54.00	-9.60	Horizontal
2500.00	38.69	27.55	3.90	34.87	35.27	54.00	-18.73	Horizontal
2483.50	48.75	27.52	3.89	34.86	45.30	54.00	-8.70	Vertical
2500.00	37.95	27.55	3.90	34.87	34.53	54.00	-19.47	Vertical

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

6.7 Spurious Emission

6.7.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 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>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

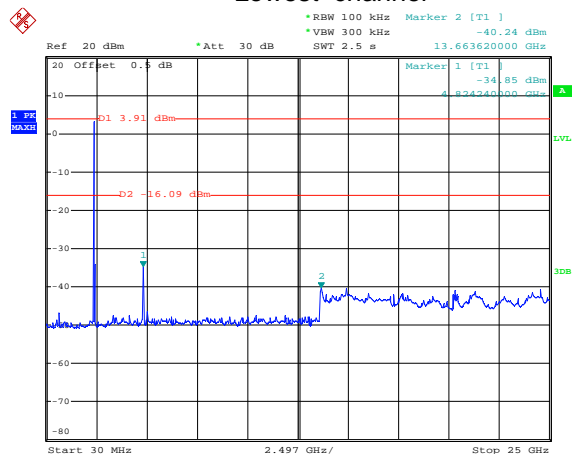
Test plot as follows:

Ant 1

Test mode:

802.11b

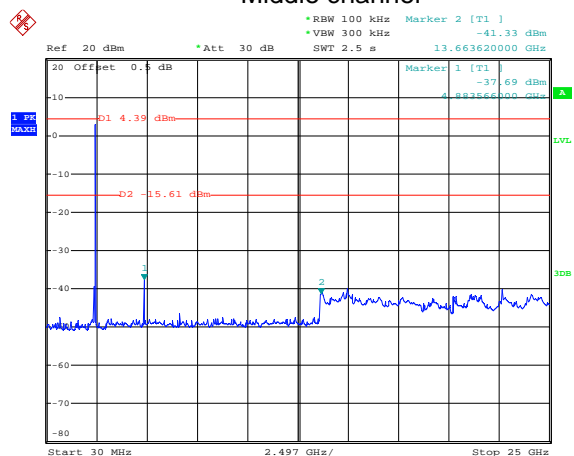
Lowest channel



Date: 27.FEB.2013 03:34:33

30MHz~25GHz

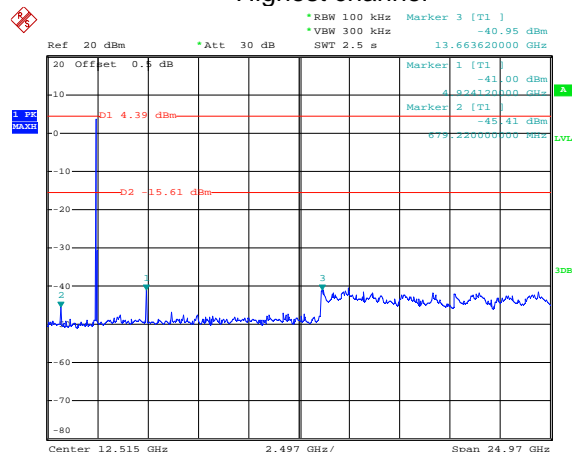
Middle channel



Date: 27.FEB.2013 03:37:50

30MHz~25GHz

Highest channel



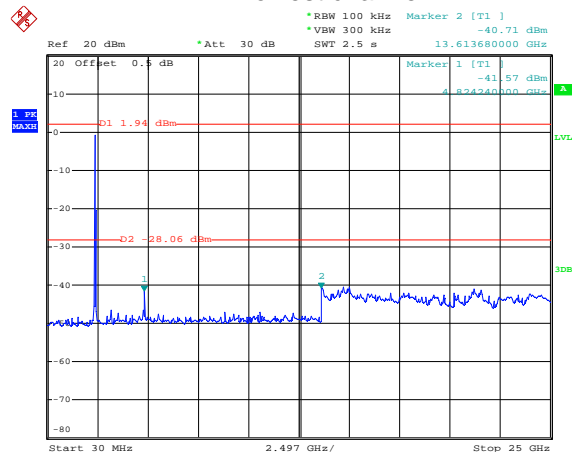
Date: 27.FEB.2013 03:41:39

30MHz~25GHz

Test mode:

802.11g

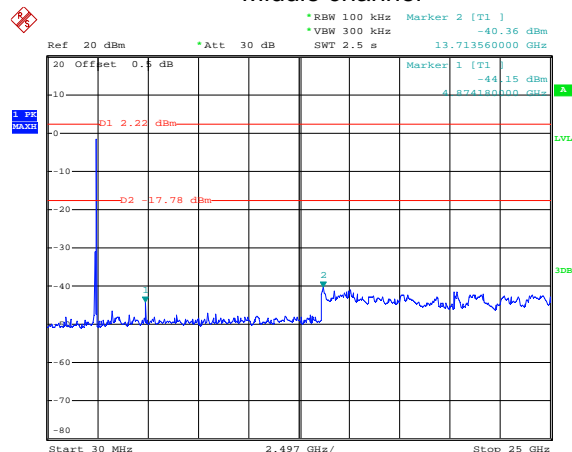
Lowest channel



Date: 27.FEB.2013 03:02:32

30MHz~25GHz

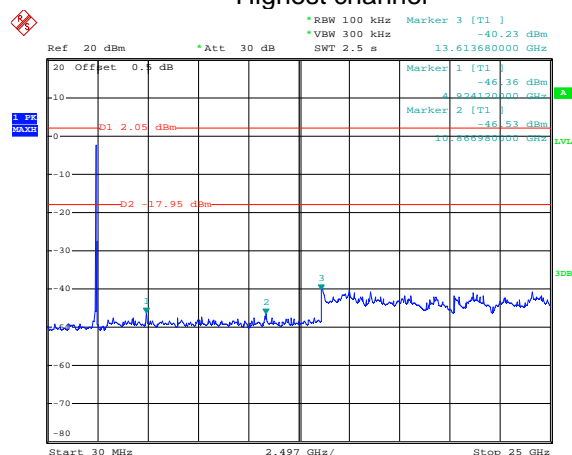
Middle channel



Date: 27.FEB.2013 02:58:26

30MHz~25GHz

Highest channel



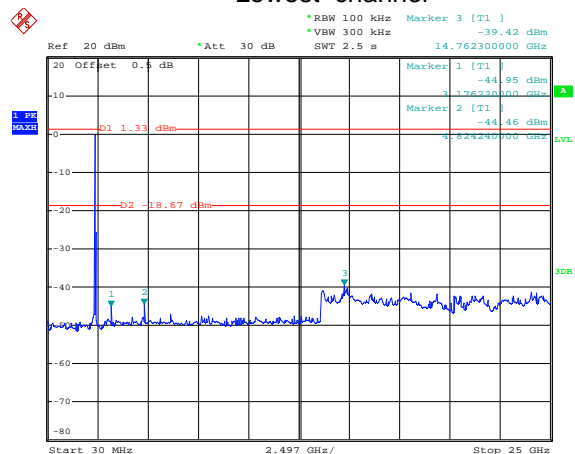
Date: 27.FEB.2013 02:55:41

30MHz~25GHz

Test mode:

802.11n(H20)

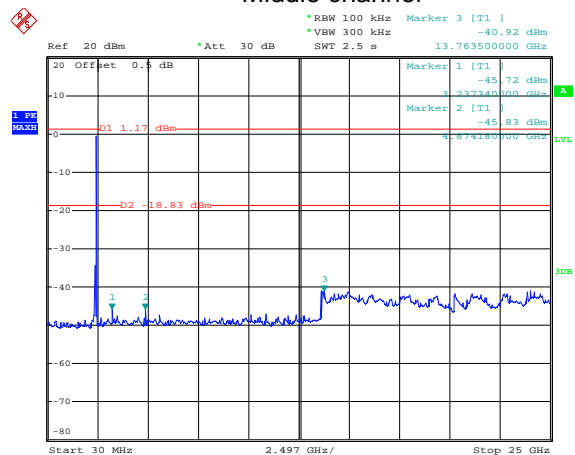
Lowest channel



Date: 27.FEB.2013 03:07:08

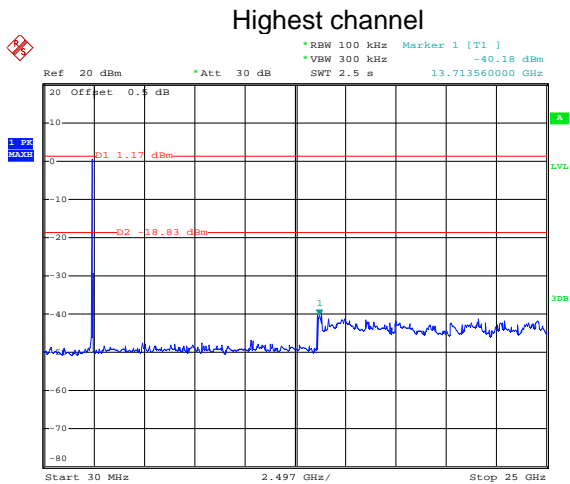
30MHz~25GHz

Middle channel



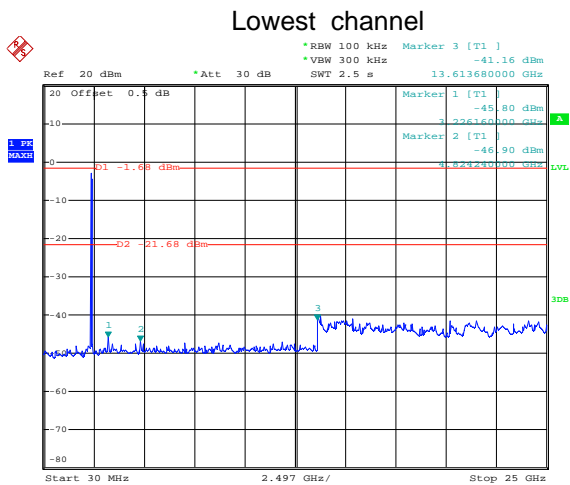
Date: 27.FEB.2013 03:09:14

30MHz~25GHz



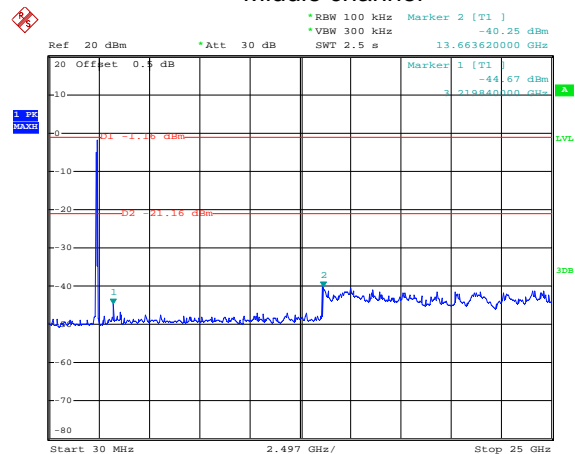
30MHz~25GHz

Test mode:	802.11n(H40)
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30MHz~25GHz

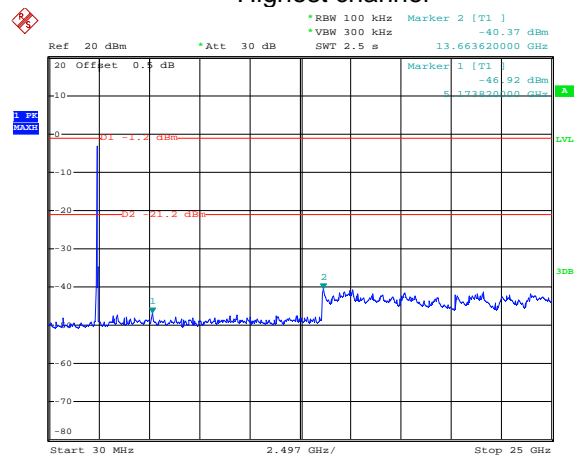
Middle channel



Date: 27.FEB.2013 03:24:22

30MHz~25GHz

Highest channel



Date: 27.FEB.2013 03:27:58

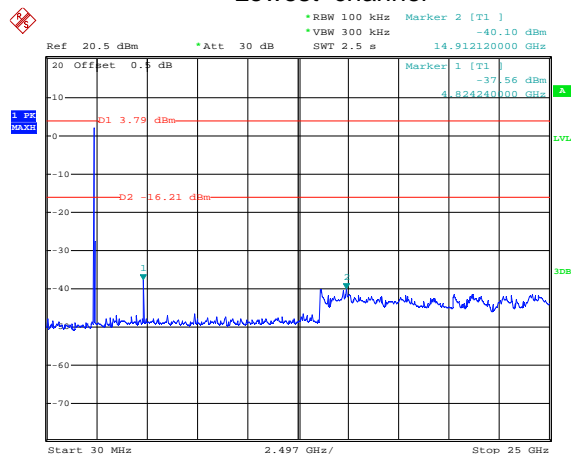
30MHz~25GHz

Ant 2

Test mode:

802.11b

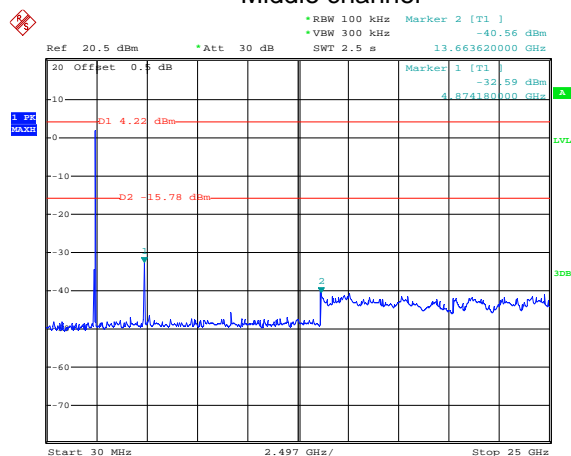
Lowest channel



Date: 26.FEB.2013 08:42:16

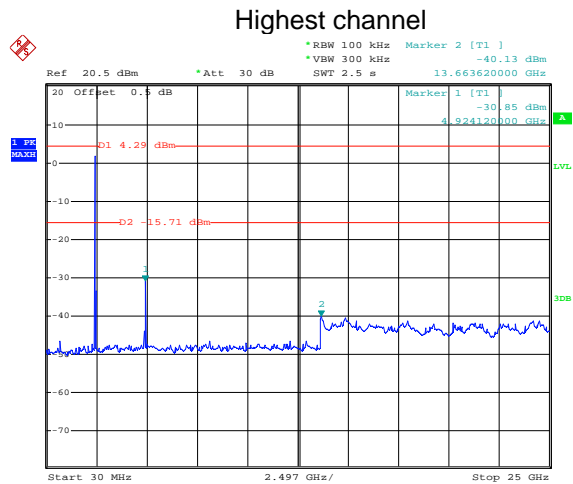
30MHz~25GHz

Middle channel



Date: 26.FEB.2013 08:46:34

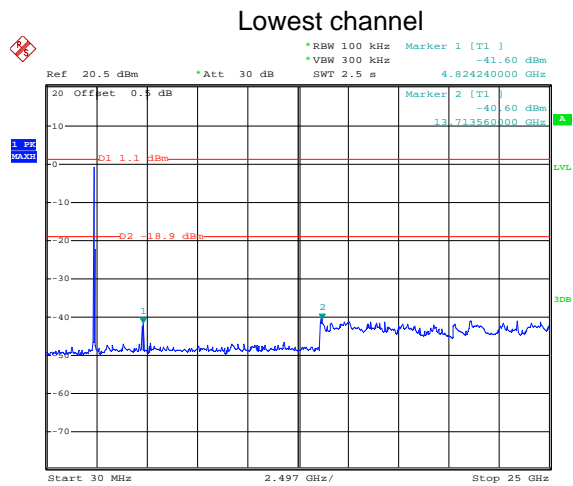
30MHz~25GHz



Date: 26.FEB.2013 08:45:16

30MHz~25GHz

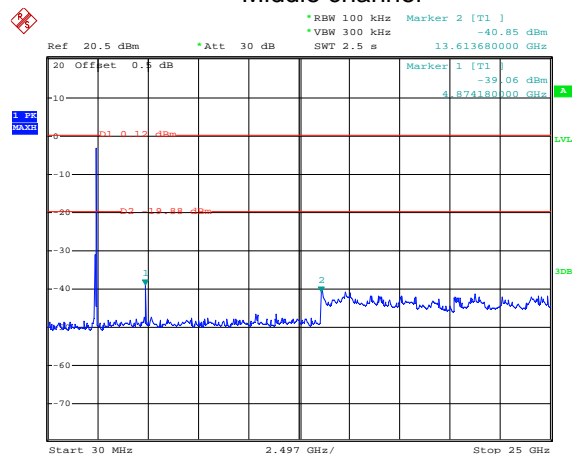
Test mode:	802.11g
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Date: 26.FEB.2013 08:49:37

30MHz~25GHz

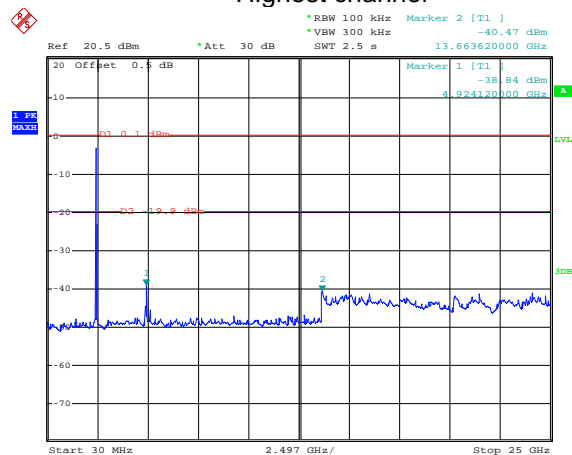
Middle channel



Date: 26.FEB.2013 08:51:21

30MHz~25GHz

Highest channel



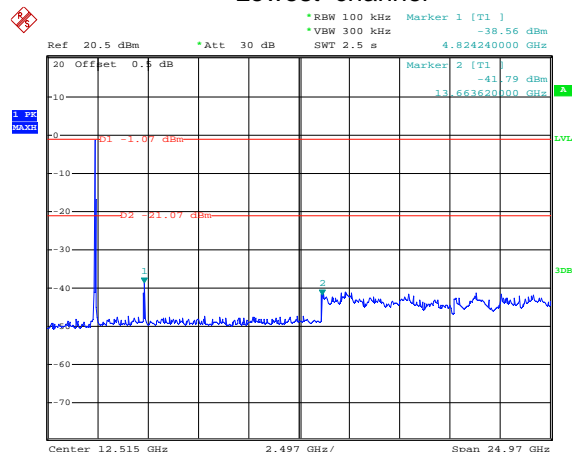
Date: 26.FEB.2013 08:52:54

30MHz~25GHz

Test mode:

802.11n(H20)

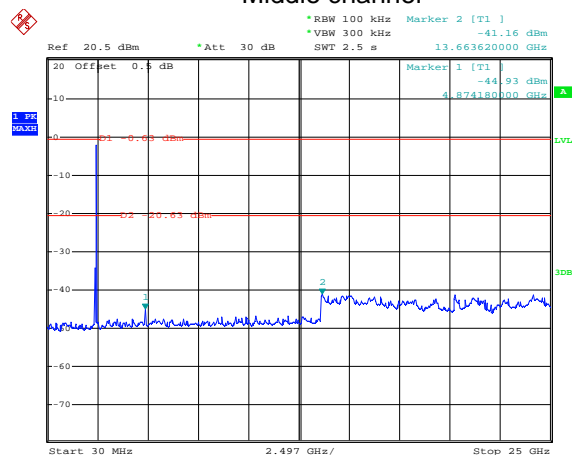
Lowest channel



Date: 26.FEB.2013 09:01:05

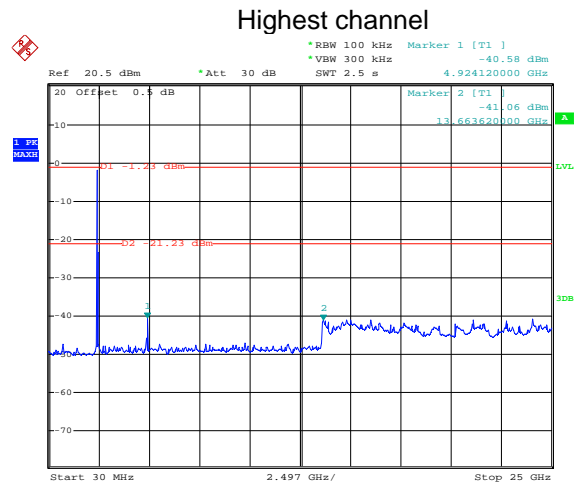
30MHz~25GHz

Middle channel



Date: 26.FEB.2013 08:55:48

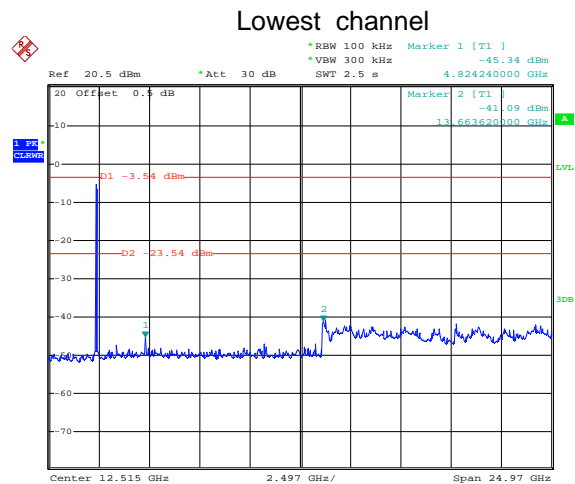
30MHz~25GHz



Date: 26.FEB.2013 08:54:12

30MHz~25GHz

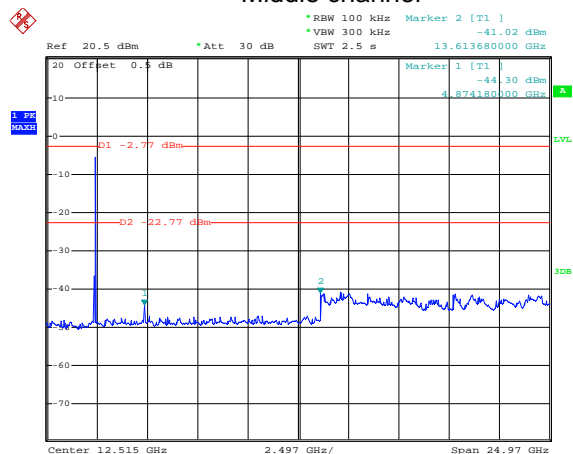
Test mode:	802.11n(H40)
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Date: 26.FEB.2013 09:03:49

30MHz~25GHz

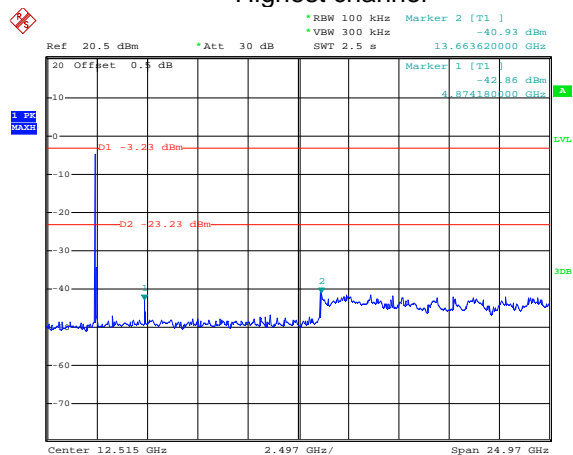
Middle channel



Date: 26.FEB.2013 09:07:06

30MHz~25GHz

Highest channel

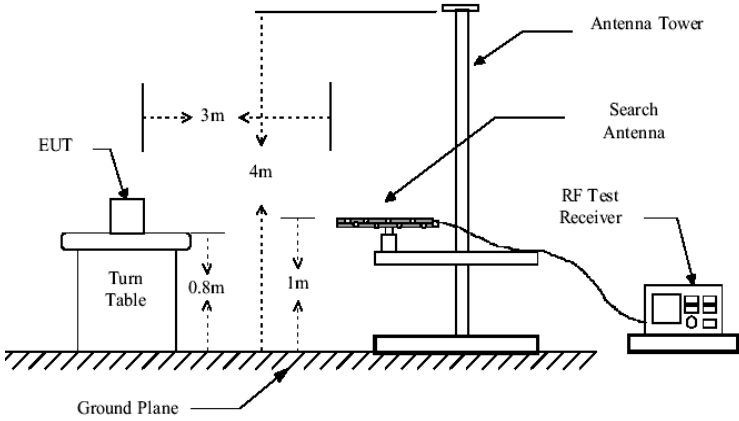
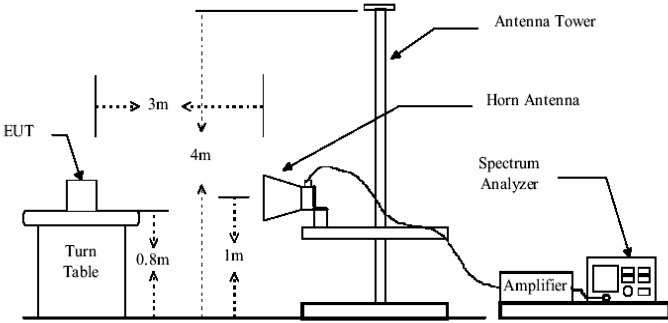


Date: 26.FEB.2013 09:05:54

30MHz~25GHz

6.7.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.4:2003				
Test Frequency Range:	30MHz to 25GHz				
Test site:	Measurement Distance: 3m				
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:	<div>1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</div> <div>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</div> <div>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</div> <div>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.</div> <div>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</div> <div>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</div>				

<p>Test setup:</p>	<p>Below 1GHz</p>  <p>Above 1GHz</p> 
<p>Test Instruments:</p>	<p>Refer to section 5.7 for details</p>
<p>Test mode:</p>	<p>Refer to section 5.3 for details</p>
<p>Test results:</p>	<p>Passed</p>

Below 1GHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
43.05	34.25	13.56	1.26	27.59	21.48	40.00	-18.52	Vertical
134.09	40.79	8.61	2.33	29.47	22.26	43.50	-21.24	Vertical
338.40	37.30	14.05	3.06	29.62	24.79	46.00	-21.21	Vertical
601.43	33.49	18.46	3.94	30.55	25.34	46.00	-20.66	Vertical
774.16	38.44	19.72	4.36	30.45	32.07	46.00	-13.93	Vertical
962.16	50.80	21.49	4.27	29.90	46.66	54.00	-7.34	Vertical
33.56	33.74	12.31	0.98	26.65	20.38	40.00	-19.62	Horizontal
360.45	46.88	14.43	3.10	29.73	34.68	46.00	-11.32	Horizontal
408.95	38.03	15.27	3.10	30.00	26.40	46.00	-19.60	Horizontal
774.16	35.45	19.72	4.36	30.45	29.08	46.00	-16.92	Horizontal
842.13	35.56	20.51	4.22	30.29	30.00	46.00	-16.00	Horizontal
962.16	47.09	21.49	4.27	29.90	42.95	54.00	-11.05	Horizontal

Above 1GHz

Test mode: 802.11b			Test channel:		Lowest		Remark:	Peak
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	37.45	31.79	5.34	24.07	50.51	74.00	-23.49	Vertical
7236.00	32.75	36.19	6.88	26.44	49.38	74.00	-24.62	Vertical
9648.00	29.63	38.07	8.96	25.36	51.30	74.00	-22.70	Vertical
12060.00	29.48	39.05	10.35	25.15	53.73	74.00	-20.27	Vertical
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4824.00	40.65	31.79	5.34	24.07	53.71	74.00	-20.29	Horizontal
7236.00	31.42	36.19	6.88	26.44	48.05	74.00	-25.95	Horizontal
9648.00	29.71	38.07	8.96	25.36	51.38	74.00	-22.62	Horizontal
12060.00	30.36	39.05	10.35	25.15	54.61	74.00	-19.39	Horizontal
14472.00	*					74.00		Horizontal
16884.00	*					74.00		Horizontal

Test mode: 802.11b			Test channel:		Lowest		Remark:	Average
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	23.42	31.79	5.34	24.07	36.48	54.00	-17.52	Vertical
7236.00	18.76	36.19	6.88	26.44	35.39	54.00	-18.61	Vertical
9648.00	14.96	38.07	8.96	25.36	36.63	54.00	-17.37	Vertical
12060.00	14.21	39.05	10.35	25.15	38.46	54.00	-15.54	Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertical
4824.00	22.75	31.79	5.34	24.07	35.81	54.00	-18.19	Horizontal
7236.00	18.96	36.19	6.88	26.44	35.59	54.00	-18.41	Horizontal
9648.00	17.16	38.07	8.96	25.36	38.83	54.00	-15.17	Horizontal
12060.00	15.35	39.05	10.35	25.15	39.60	54.00	-14.40	Horizontal
14472.00	*					54.00		Horizontal
16884.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:	802.11b		Test channel:	Middle		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	41.16	31.85	5.40	24.01	54.40	74.00	-19.60	Vertical
7311.00	36.74	36.37	6.90	26.58	53.43	74.00	-20.57	Vertical
9748.00	31.45	38.13	8.98	25.34	53.22	74.00	-20.78	Vertical
12185.00	28.57	38.92	10.38	25.04	52.83	74.00	-21.17	Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	41.26	31.85	5.40	24.01	54.50	74.00	-19.50	Horizontal
7311.00	35.05	36.37	6.90	26.58	51.74	74.00	-22.26	Horizontal
9748.00	31.27	38.13	8.98	25.34	53.04	74.00	-20.96	Horizontal
12185.00	29.51	38.92	10.38	25.04	53.77	74.00	-20.23	Horizontal
14622.00	*					74.00		Horizontal
17059.00	*					74.00		Horizontal

Test mode:	802.11b		Test channel:	Middle		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	22.16	31.85	5.40	24.01	35.40	54.00	-18.60	Vertical
7311.00	18.82	36.37	6.90	26.58	35.51	54.00	-18.49	Vertical
9748.00	15.12	38.13	8.98	25.34	36.89	54.00	-17.11	Vertical
12185.00	14.68	38.92	10.38	25.04	38.94	54.00	-15.06	Vertical
14622.00	*					54.00		Vertical
17059.00	*					54.00		Vertical
4874.00	24.65	31.85	5.40	24.01	37.89	54.00	-16.11	Horizontal
7311.00	23.56	36.37	6.90	26.58	40.25	54.00	-13.75	Horizontal
9748.00	17.75	38.13	8.98	25.34	39.52	54.00	-14.48	Horizontal
12185.00	15.86	38.92	10.38	25.04	40.12	54.00	-13.88	Horizontal
14622.00	*					54.00		Horizontal
17059.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamp Factor
2. “*”, means this data is too weak, instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not shown in test report.

Test mode:	802.11b		Test channel:	Highest		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	40.42	31.89	5.46	23.96	53.81	74.00	-20.19	Vertical
7386.00	36.47	36.49	6.93	26.79	53.10	74.00	-20.91	Vertical
9848.00	29.76	38.24	9.05	25.30	51.75	74.00	-22.25	Vertical
12310.00	29.47	38.83	10.41	24.90	53.81	74.00	-20.19	Vertical
14772.00	*					74.00		Vertical
17234.00	*					74.00		Vertical
4924.00	43.25	31.89	5.46	23.96	56.64	74.00	-17.36	Horizontal
7386.00	39.65	36.49	6.93	26.79	56.28	74.00	-17.72	Horizontal
9848.00	32.40	38.24	9.05	25.30	54.39	74.00	-19.61	Horizontal
12310.00	32.18	38.83	10.41	24.90	56.52	74.00	-17.48	Horizontal
14772.00	*					74.00		Horizontal
17234.00	*					74.00		Horizontal

Test mode:	802.11b		Test channel:	Highest		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	24.07	31.89	5.46	23.96	37.46	54.00	-16.54	Vertical
7386.00	20.52	36.49	6.93	26.79	37.15	54.00	-16.85	Vertical
9848.00	15.26	38.24	9.05	25.30	37.25	54.00	-16.75	Vertical
12310.00	15.27	38.83	10.41	24.90	39.61	54.00	-14.39	Vertical
14772.00	*					54.00		Vertical
17234.00	*					54.00		Vertical
4924.00	24.36	31.89	5.46	23.96	37.75	54.00	-16.25	Horizontal
7386.00	22.76	36.49	6.93	26.79	39.39	54.00	-14.61	Horizontal
9848.00	16.95	38.24	9.05	25.30	38.94	54.00	-15.06	Horizontal
12310.00	14.99	38.83	10.41	24.90	39.33	54.00	-14.68	Horizontal
14772.00	*					54.00		Horizontal
17234.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode: 802.11g			Test channel:			Remark:		Peak
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	41.26	31.79	5.34	24.07	54.32	74.00	-19.68	Vertical
7236.00	36.74	36.19	6.88	26.44	53.37	74.00	-20.63	Vertical
9648.00	31.86	38.07	8.96	25.36	53.53	74.00	-20.47	Vertical
12060.00	31.54	39.05	10.35	25.15	55.79	74.00	-18.21	Vertical
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4824.00	38.59	31.79	5.34	24.07	51.65	74.00	-22.35	Horizontal
7236.00	33.46	36.19	6.88	26.44	50.09	74.00	-23.91	Horizontal
9648.00	34.85	38.07	8.96	25.36	56.52	74.00	-17.48	Horizontal
12060.00	31.47	39.05	10.35	25.15	55.72	74.00	-18.28	Horizontal
14472.00	*					74.00		Horizontal
16884.00	*					74.00		Horizontal

Test mode: 802.11g			Test channel:			Remark:		Average
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	24.65	31.79	5.34	24.07	37.71	54.00	-16.29	Vertical
7236.00	22.18	36.19	6.88	26.44	38.81	54.00	-15.19	Vertical
9648.00	16.98	38.07	8.96	25.36	38.65	54.00	-15.35	Vertical
12060.00	14.52	39.05	10.35	25.15	38.77	54.00	-15.23	Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertical
4824.00	26.21	31.79	5.34	24.07	39.27	54.00	-14.73	Horizontal
7236.00	22.15	36.19	6.88	26.44	38.78	54.00	-15.22	Horizontal
9648.00	16.47	38.07	8.96	25.36	38.14	54.00	-15.86	Horizontal
12060.00	15.86	39.05	10.35	25.15	40.11	54.00	-13.89	Horizontal
14472.00	*					54.00		Horizontal
16884.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:	802.11g		Test channel:	Middle		Remark:		Peak
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	38.98	31.85	5.40	24.01	52.22	74.00	-21.78	Vertical
7311.00	34.74	36.37	6.90	26.58	51.43	74.00	-22.57	Vertical
9748.00	31.24	38.13	8.98	25.34	53.01	74.00	-20.99	Vertical
12185.00	30.77	38.92	10.38	25.04	55.03	74.00	-18.97	Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	39.42	31.85	5.40	24.01	52.66	74.00	-21.34	Horizontal
7311.00	35.42	36.37	6.90	26.58	52.11	74.00	-21.89	Horizontal
9748.00	30.26	38.13	8.98	25.34	52.03	74.00	-21.97	Horizontal
12185.00	29.63	38.92	10.38	25.04	53.89	74.00	-20.11	Horizontal
14622.00	*					74.00		Horizontal
17059.00	*					74.00		Horizontal

Test mode:	802.11g		Test channel:	Middle		Remark:		Average
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	25.23	31.85	5.40	24.01	38.47	54.00	-15.53	Vertical
7311.00	21.75	36.37	6.90	26.58	38.44	54.00	-15.56	Vertical
9748.00	17.58	38.13	8.98	25.34	39.35	54.00	-14.65	Vertical
12185.00	14.58	38.92	10.38	25.04	38.84	54.00	-15.16	Vertical
14622.00	*					54.00		Vertical
17059.00	*					54.00		Vertical
4874.00	25.06	31.85	5.40	24.01	38.30	54.00	-15.70	Horizontal
7311.00	22.21	36.37	6.90	26.58	38.90	54.00	-15.10	Horizontal
9748.00	16.43	38.13	8.98	25.34	38.20	54.00	-15.80	Horizontal
12185.00	15.23	38.92	10.38	25.04	39.49	54.00	-14.51	Horizontal
14622.00	*					54.00		Horizontal
17059.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode: 802.11g			Test channel:		Highest	Remark:		Peak
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	38.69	31.89	5.46	23.96	52.08	74.00	-21.92	Vertical
7386.00	36.05	36.49	6.93	26.79	52.68	74.00	-21.32	Vertical
9848.00	31.24	38.24	9.05	25.30	53.23	74.00	-20.77	Vertical
12310.00	30.07	38.83	10.41	24.90	54.41	74.00	-19.59	Vertical
14772.00	*					74.00		Vertical
17234.00	*					74.00		Vertical
4924.00	38.59	31.89	5.46	23.96	51.98	74.00	-22.02	Horizontal
7386.00	37.54	36.49	6.93	26.79	54.17	74.00	-19.83	Horizontal
9848.00	31.47	38.24	9.05	25.30	53.46	74.00	-20.54	Horizontal
12310.00	27.96	38.83	10.41	24.90	52.30	74.00	-21.70	Horizontal
14772.00	*					74.00		Horizontal
17234.00	*					74.00		Horizontal

Test mode: 802.11g			Test channel:		Highest	Remark:		Average
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	25.46	31.89	5.46	23.96	38.85	54.00	-15.15	Vertical
7386.00	21.35	36.49	6.93	26.79	37.98	54.00	-16.02	Vertical
9848.00	16.35	38.24	9.05	25.30	38.34	54.00	-15.66	Vertical
12310.00	13.74	38.83	10.41	24.90	38.08	54.00	-15.92	Vertical
14772.00	*					54.00		Vertical
17234.00	*					54.00		Vertical
4924.00	25.68	31.89	5.46	23.96	39.07	54.00	-14.93	Horizontal
7386.00	21.47	36.49	6.93	26.79	38.10	54.00	-15.90	Horizontal
9848.00	16.79	38.24	9.05	25.30	38.78	54.00	-15.22	Horizontal
12310.00	14.75	38.83	10.41	24.90	39.09	54.00	-14.91	Horizontal
14772.00	*					54.00		Horizontal
17234.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:		802.11n(H20)		Test channel:		Lowest		Remark:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization			
4824.00	38.48	31.79	5.34	24.07	51.54	74.00	-22.46	Vertical			
7236.00	32.64	36.19	6.88	26.44	49.27	74.00	-24.73	Vertical			
9648.00	28.63	38.07	8.96	25.36	50.30	74.00	-23.71	Vertical			
12060.00	26.83	39.05	10.35	25.15	51.08	74.00	-22.92	Vertical			
14472.00	*					74.00		Vertical			
16884.00	*					74.00		Vertical			
4824.00	38.79	31.79	5.34	24.07	51.85	74.00	-22.15	Horizontal			
7236.00	34.75	36.19	6.88	26.44	51.38	74.00	-22.62	Horizontal			
9648.00	31.25	38.07	8.96	25.36	52.92	74.00	-21.08	Horizontal			
12060.00	29.48	39.05	10.35	25.15	53.73	74.00	-20.27	Horizontal			
14472.00	*					74.00		Horizontal			
16884.00	*					74.00		Horizontal			

Test mode:		802.11n(H20)	Test channel:	Lowest		Remark:		Average
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	23.56	31.79	5.34	24.07	36.62	54.00	-17.38	Vertical
7236.00	21.54	36.19	6.88	26.44	38.17	54.00	-15.83	Vertical
9648.00	16.57	38.07	8.96	25.36	38.24	54.00	-15.76	Vertical
12060.00	14.37	39.05	10.35	25.15	38.62	54.00	-15.39	Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertical
4824.00	23.78	31.79	5.34	24.07	36.84	54.00	-17.16	Horizontal
7236.00	21.35	36.19	6.88	26.44	37.98	54.00	-16.02	Horizontal
9648.00	16.29	38.07	8.96	25.36	37.96	54.00	-16.04	Horizontal
12060.00	12.76	39.05	10.35	25.15	37.01	54.00	-16.99	Horizontal
14472.00	*					54.00		Horizontal
16884.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:		802.11n(H20)		Test channel:		Middle		Remark:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization			
4874.00	38.75	31.85	5.40	24.01	51.99	74.00	-22.01	Vertical			
7311.00	35.65	36.37	6.90	26.58	52.34	74.00	-21.66	Vertical			
9748.00	30.76	38.13	8.98	25.34	52.53	74.00	-21.47	Vertical			
12185.00	27.96	38.92	10.38	25.04	52.22	74.00	-21.78	Vertical			
14622.00	*					74.00		Vertical			
17059.00	*					74.00		Vertical			
4874.00	38.96	31.85	5.40	24.01	52.20	74.00	-21.80	Horizontal			
7311.00	35.98	36.37	6.90	26.58	52.67	74.00	-21.33	Horizontal			
9748.00	30.14	38.13	8.98	25.34	51.91	74.00	-22.09	Horizontal			
12185.00	28.71	38.92	10.38	25.04	52.97	74.00	-21.03	Horizontal			
14622.00	*					74.00		Horizontal			
17059.00	*					74.00		Horizontal			

Test mode:	802.11n(H20)		Test channel:	Middle		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	23.01	31.85	5.40	24.01	36.25	54.00	-17.75	Vertical
7311.00	21.56	36.37	6.90	26.58	38.25	54.00	-15.75	Vertical
9748.00	18.96	38.13	8.98	25.34	40.73	54.00	-13.27	Vertical
12185.00	15.96	38.92	10.38	25.04	40.22	54.00	-13.78	Vertical
14622.00	*					54.00		Vertical
17059.00	*					54.00		Vertical
4874.00	25.63	31.85	5.40	24.01	38.87	54.00	-15.13	Horizontal
7311.00	22.41	36.37	6.90	26.58	39.10	54.00	-14.90	Horizontal
9748.00	17.89	38.13	8.98	25.34	39.66	54.00	-14.34	Horizontal
12185.00	14.11	38.92	10.38	25.04	38.37	54.00	-15.63	Horizontal
14622.00	*					54.00		Horizontal
17059.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:		802.11n(H20)	Test channel:		Highest	Remark:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization	
4924.00	39.00	31.89	5.46	23.96	52.39	74.00	-21.61	Vertical	
7386.00	35.46	36.49	6.93	26.79	52.09	74.00	-21.91	Vertical	
9848.00	31.72	38.24	9.05	25.30	53.71	74.00	-20.29	Vertical	
12310.00	28.96	38.83	10.41	24.90	53.30	74.00	-20.70	Vertical	
14772.00	*					74.00		Vertical	
17234.00	*					74.00		Vertical	
4924.00	38.36	31.89	5.46	23.96	51.75	74.00	-22.25	Horizontal	
7386.00	35.12	36.49	6.93	26.79	51.75	74.00	-22.25	Horizontal	
9848.00	31.02	38.24	9.05	25.30	53.01	74.00	-20.99	Horizontal	
12310.00	31.13	38.83	10.41	24.90	55.47	74.00	-18.53	Horizontal	
14772.00	*					74.00		Horizontal	
17234.00	*					74.00		Horizontal	

Test mode:		802.11n(H20)	Test channel:		Highest	Remark:		Average
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	23.56	31.89	5.46	23.96	36.95	54.00	-17.05	Vertical
7386.00	22.23	36.49	6.93	26.79	38.86	54.00	-15.14	Vertical
9848.00	16.96	38.24	9.05	25.30	38.95	54.00	-15.05	Vertical
12310.00	14.69	38.83	10.41	24.90	39.03	54.00	-14.97	Vertical
14772.00	*					54.00		Vertical
17234.00	*					54.00		Vertical
4924.00	25.37	31.89	5.46	23.96	38.76	54.00	-15.24	Horizontal
7386.00	21.54	36.49	6.93	26.79	38.17	54.00	-15.83	Horizontal
9848.00	17.53	38.24	9.05	25.30	39.52	54.00	-14.48	Horizontal
12310.00	14.85	38.83	10.41	24.90	39.19	54.00	-14.81	Horizontal
14772.00	*					54.00		Horizontal
17234.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:		802.11n(H40)		Test channel:		Lowest		Remark:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization			
4844.00	40.01	31.79	5.34	24.07	53.07	74.00	-20.93	Vertical			
7266.00	36.96	36.19	6.88	26.44	53.59	74.00	-20.41	Vertical			
9688.00	31.76	38.07	8.96	25.36	53.43	74.00	-20.57	Vertical			
12110.00	29.63	39.05	10.35	25.15	53.88	74.00	-20.12	Vertical			
14532.00	*					74.00		Vertical			
16954.00	*					74.00		Vertical			
4844.00	40.85	31.79	5.34	24.07	53.91	74.00	-20.09	Horizontal			
7266.00	38.26	36.19	6.88	26.44	54.89	74.00	-19.11	Horizontal			
9688.00	32.45	38.07	8.96	25.36	54.12	74.00	-19.88	Horizontal			
12110.00	31.33	39.05	10.35	25.15	55.58	74.00	-18.42	Horizontal			
14532.00	*					74.00		Horizontal			
16954.00	*					74.00		Horizontal			

Test mode:		802.11n(H40)	Test channel:	Lowest		Remark:		Average
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4844.00	25.02	31.79	5.34	24.07	38.08	54.00	-15.92	Vertical
7266.00	23.52	36.19	6.88	26.44	40.15	54.00	-13.85	Vertical
9688.00	17.68	38.07	8.96	25.36	39.35	54.00	-14.65	Vertical
12110.00	15.25	39.05	10.35	25.15	39.50	54.00	-14.50	Vertical
14532.00	*					54.00		Vertical
16954.00	*					54.00		Vertical
4844.00	25.46	31.79	5.34	24.07	38.52	54.00	-15.48	Horizontal
7266.00	23.35	36.19	6.88	26.44	39.98	54.00	-14.02	Horizontal
9688.00	22.15	38.07	8.96	25.36	43.82	54.00	-10.18	Horizontal
12110.00	16.58	39.05	10.35	25.15	40.83	54.00	-13.17	Horizontal
14532.00	*					54.00		Horizontal
16954.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:			Test channel:			Remark:		Peak
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	40.15	31.85	5.40	24.01	53.39	74.00	-20.61	Vertical
7311.00	37.23	36.37	6.90	26.58	53.92	74.00	-20.08	Vertical
9748.00	31.24	38.13	8.98	25.34	53.01	74.00	-20.99	Vertical
12185.00	29.52	38.92	10.38	25.04	53.78	74.00	-20.22	Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	40.46	31.85	5.40	24.01	53.70	74.00	-20.30	Horizontal
7311.00	37.12	36.37	6.90	26.58	53.81	74.00	-20.19	Horizontal
9748.00	32.48	38.13	8.98	25.34	54.25	74.00	-19.75	Horizontal
12185.00	31.24	38.92	10.38	25.04	55.50	74.00	-18.50	Horizontal
14622.00	*					74.00		Horizontal
17059.00	*					74.00		Horizontal

Test mode:			Test channel:			Remark:		Average
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	21.55	31.85	5.40	24.01	34.79	54.00	-19.21	Vertical
7311.00	20.16	36.37	6.90	26.58	36.85	54.00	-17.15	Vertical
9748.00	17.35	38.13	8.98	25.34	39.12	54.00	-14.88	Vertical
12185.00	15.46	38.92	10.38	25.04	39.72	54.00	-14.28	Vertical
14622.00	*					54.00		Vertical
17059.00	*					54.00		Vertical
4874.00	24.69	31.85	5.40	24.01	37.93	54.00	-16.07	Horizontal
7311.00	21.12	36.37	6.90	26.58	37.81	54.00	-16.19	Horizontal
9748.00	17.86	38.13	8.98	25.34	39.63	54.00	-14.37	Horizontal
12185.00	16.35	38.92	10.38	25.04	40.61	54.00	-13.39	Horizontal
14622.00	*					54.00		Horizontal
17059.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:		802.11n(H40)	Test channel:		Highest		Remark:		Peak
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization	
4904.00	40.55	31.89	5.46	23.96	53.94	74.00	-20.06	Vertical	
7356.00	36.75	36.49	6.93	26.79	53.38	74.00	-20.62	Vertical	
9808.00	31.52	38.24	9.05	25.30	53.51	74.00	-20.49	Vertical	
12260.00	28.65	38.83	10.41	24.90	52.99	74.00	-21.01	Vertical	
14712.00	*					74.00		Vertical	
17164.00	*					74.00		Vertical	
4904.00	39.48	31.89	5.46	23.96	52.87	74.00	-21.13	Horizontal	
7356.00	36.69	36.49	6.93	26.79	53.32	74.00	-20.68	Horizontal	
9808.00	31.42	38.24	9.05	25.30	53.41	74.00	-20.59	Horizontal	
12260.00	29.42	38.83	10.41	24.90	53.76	74.00	-20.24	Horizontal	
14712.00	*					74.00		Horizontal	
17164.00	*					74.00		Horizontal	

Test mode:		802.11n(H40)		Test channel:		Highest		Remark:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization			
4904.00	24.25	31.89	5.46	23.96	37.64	54.00	-16.36	Vertical			
7356.00	20.14	36.49	6.93	26.79	36.77	54.00	-17.23	Vertical			
9808.00	17.68	38.24	9.05	25.30	39.67	54.00	-14.33	Vertical			
12260.00	15.36	38.83	10.41	24.90	39.70	54.00	-14.30	Vertical			
14712.00	*					54.00		Vertical			
17164.00	*					54.00		Vertical			
4904.00	25.86	31.89	5.46	23.96	39.25	54.00	-14.75	Horizontal			
7356.00	23.56	36.49	6.93	26.79	40.19	54.00	-13.81	Horizontal			
9808.00	17.45	38.24	9.05	25.30	39.44	54.00	-14.56	Horizontal			
12260.00	14.75	38.83	10.41	24.90	39.09	54.00	-14.91	Horizontal			
14712.00	*					54.00		Horizontal			
17164.00	*					54.00		Horizontal			

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.