

APPLICATION FOR CERTIFICATION

On Behalf of

Mitac Information Technology Corp.

WiFi Module

Model No. : DTV001

FCC ID : ODI2012DTV001

Prepared for : Mitac Information Technology Corp.
No.2, Chongxiao St., Qidu Dist.,
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TEST REPORT CERTIFICATION

Applicant : Mitac Information Technology Corp.
Manufacturer : Mitac Information Technology Corp.
EUT Description : WiFi Module
FCC ID : ODI2012DTV001
(A) Model No. : DTV001
(B) Serial No. : N/A
(D) Power Supply : DC 9.0V
(E) Test Voltage : AC 120V/60Hz
(Via GSTV or Notebook PC)

Measurement Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART C, Oct. 2011
AND ANSI C63.4/2003

(FCC CFR 47 Part 15C, §15.207 and §15.209 and §15.247)

The device described above was tested by AUDIX Technology Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C limits.

The measurement results are contained in this test report and AUDIX Technology Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX Technology Corporation.

Date of Test : May 17 ~ Jul. 06, 2012

Date of Report : Jul. 06, 2012

Producer : 
(Tina Huang/Administrator)

Signatory : 
(Leon Liu/Deputy General Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	WiFi Module
Model Number	:	DTV001
Serial Number	:	N/A
FCC ID	:	ODI2012DTV001
Applicant	:	Mitac Information Technology Corp. No.2, Chongxiao St., Qidu Dist., Keelung City 20643, Taiwan , R.O.C.
Manufacturer	:	Mitac Information Technology Corp. No.2, Chongxiao St., Qidu Dist., Keelung City 20643, Taiwan , R.O.C.
Fundamental Range	:	2412MHz ~ 2462MHz
Radio Technology (2T1R)	:	802.11b: DSSS Modulation (DBPSK/DQPSK/CCK) 802.11g/n-HT20/n-HT40: OFDM Modulation (BPSK/QPSK/16QAM/64QAM)
Data Transfer Rate	:	802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/48/54Mbps 802.11n: up to 300Mbps
Antenna Gain	:	1.4dBi (Peak)
Date of Receipt of Sample	:	Feb. 02, 2012
Date of Test	:	May 17 ~ Jul. 06, 2012

1.2. Data Rate Relative to Output Power

802.11b			
Channel	Modulation	Date Rate(Mbps)	Power(dBm)
1	DBPSK	1	17.75
1	DQPSK	2	17.62
1	CCK	5.5	17.71
1	CCK	11	17.69

802.11g			
Channel	Modulation	Date Rate (Mbps)	Power (dBm)
1	BPSK	6	24.10
1	BPSK	9	24.03
1	QPSK	12	24.08
1	QPSK	18	24.03
1	16-QAM	24	23.97
1	16-QAM	36	23.95
1	64-QAM	48	24.05
1	64-QAM	54	24.08

802.11n-HT20			
Channel	Modulation	Date Rate (Mbps)	Power (dBm)
1	BPSK	7.2 (MCS0)	24.45
1	QPSK	14.4 (MCS1)	24.43
1	QPSK	21.7 (MCS2)	24.21
1	16-QAM	28.9 (MCS3)	24.40
1	16-QAM	43.3 (MCS4)	24.37
1	64-QAM	57.8 (MCS5)	24.43
1	64-QAM	65.0 (MCS6)	24.39
1	64-QAM	72.2 (MCS7)	24.41

802.11g-HT40			
Channel	Modulation	Date Rate (Mbps)	Power (dBm)
3	BPSK	15 (MCS0)	24.57
3	QPSK	30 (MCS1)	24.50
3	QPSK	45 (MCS2)	24.53
3	16-QAM	60 (MCS3)	24.54
3	16-QAM	90 (MCS4)	24.46
3	64-QAM	20 (MCS5)	24.50
3	64-QAM	135 (MCS6)	24.54
3	64-QAM	150 (MCS7)	24.47

1.3. Test Configuration for Each Test Item

Test Item	802.11b	802.11g	802.11n-HT20	802.11n-HT40
	Data Rate for Test(Mbps)			
6dB Bandwidth	1	6	7.2	15
Peak Power Spectral Density	1	6	7.2	15
Peak Output Power	1	6	7.2	15
Band Edge	1	6	7.2	15

1.4. Tested Supporting System Details

1.4.1. GSTV (Only for Conducted and Radiated Emission Measurement)

Model Number : DTV4-MASTER
 Serial Number : N/A
 Manufacturer : Mitac Information Technology Corp.
 LAN Cable : Non-Shielded, Detachable, 1.0m
 Power Supply : MEAN WELL, M/N PID-250A
 DC Cord: Non-Shielded, Detachable, 1.0m
 AC Power Cord : Non-Shielded, Detachable, 1.5m

1.4.2. NOTEBOOK PC

Model Number : P20G
 Serial Number : N/A
 Manufacturer : DELL
 LAN Cable : Non-Shielded, Detachable, 1.0m
 USB to RS232 Cable : Non-Shielded, Detachable, 1.5m
 RS232 Cable : Non-Shielded, Detachable, 1.5m
 (with Jig board)
 AC Adapter : DELL, M/N AA90PM111
 DC Cord: Non-Shielded, Undetachable, 1.0m
 Bonded a ferrite core
 AC Power Cord : Non-Shielded, Detachable, 1.5m

1.5. Description of Test Facility

Name of Firm : **AUDIX Technology Corporation**
EMC Department
 No. 53-11, Dingfu, Linkou Dist.,
 New Taipei City 244, Taiwan, R.O.C.

Test Location & Facility (AC) : **Semi-Anechoic Chamber**
 No. 53-11, Dingfu, Linkou Dist.,
 New Taipei City 244, Taiwan, R.O.C.

May 14, 2009 Renewal on
 Federal Communication Commission
 Registration Number: 90993

NVLAP Lab. Code : 200077-0

TAF Accreditation No : 1724

1.6. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Radiation Test (Distance: 3m)	30MHz~300MHz	± 2.91dB
	300MHz~1000MHz	± 2.74dB
	Above 1GHz	± 5.02dB

Remark : Uncertainty = $ku_c(y)$

Test Item	Uncertainty
6dB Bandwidth	± 0.05kHz
Maximum peak output power	± 0.33dBm
Emission Limitations	± 0.13dB
Band edges	± 0.13dB
Power spectral density	± 0.13dB

2. CONDUCTED EMISSION MEASUREMENT

【The EUT is a limited modular transmitter does not have to be tested for conducted emissions as described in FCC Part 15 Section §15.107】
The host has been performed ac conduction test and is compliance with §15.107 requirement, the result is indicated in report EM-F1010496.

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipment was used during the radiated emission measurement:

3.1.1. For Frequency Range 30MHz~1000MHz (at Semi-Anechoic Chamber)

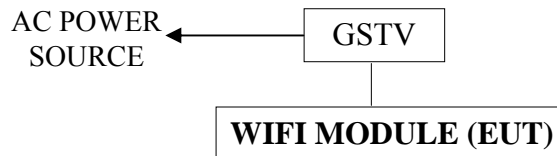
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Aug. 04, 11'	Aug. 03, 12'
2.	Test Receiver	R & S	ESCS30	100338	Ju1. 12, 11'	Jul. 11, 12'
3.	Amplifier	HP	8447D	2944A06305	Feb. 13, 12'	Feb. 12, 13'
4.	Log Periodic Antenna	Schwarzbeck	UHALP 9108-A	0810	Mar. 03, 12'	Mar. 02, 13'
5.	Biconical Antenna	CHASE	VBA6106A	1264	Mar. 03, 12'	Mar. 02, 13'

3.1.2. For Frequency Above 1GHz (at Semi-Anechoic Chamber)

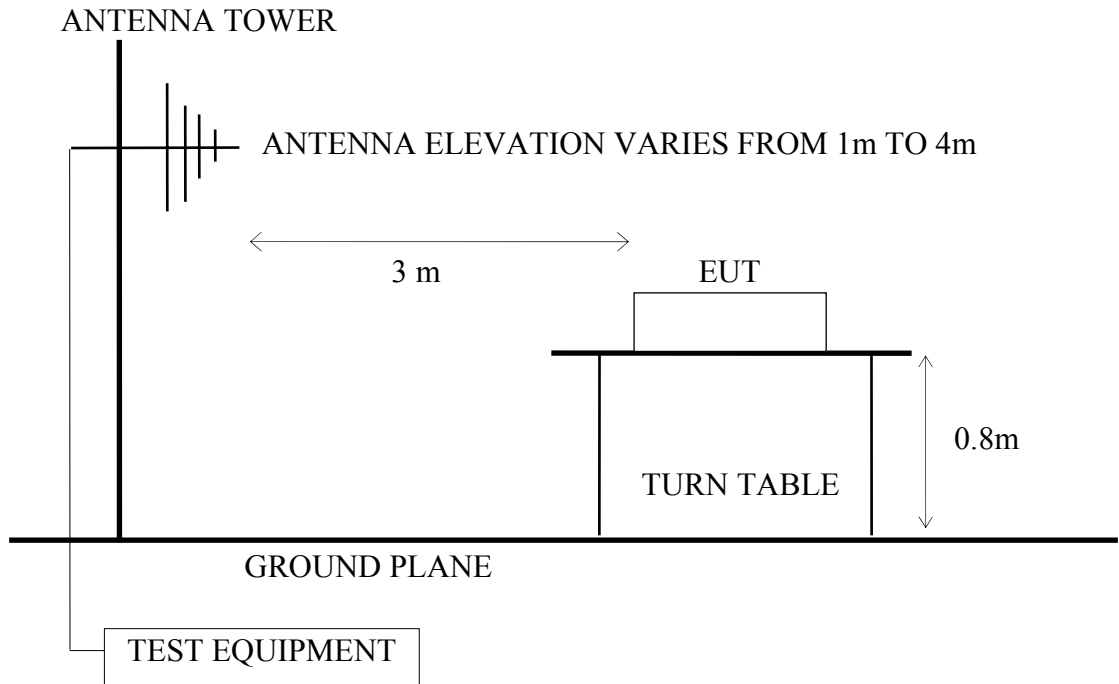
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Aug. 04, 11'	Aug. 03, 12'
2.	Test Receiver	R & S	ESCS30	100338	Ju1. 12, 11'	Jul. 11, 12'
3.	Amplifier	HP	8449B	3008A00529	Dec. 09, 11'	Dec. 08, 12'
4.	Horn Antenna	EMCO	3115	9112-3775	May 09, 12'	May 08, 13'
5.	Horn Antenna	EMCO	3116	2653	Oct. 07, 11'	Oct. 06, 12'
6.	2.4GHz Notch Filter	EWT	EWT-14-007 0-R1	G2	Dec. 05, 11'	Dec. 04, 12'
7.	3.5GHz High Pass Filter	HP	84300-80038	005	Jan. 04, 12'	Jan. 03, 13'

3.2. Test Setup

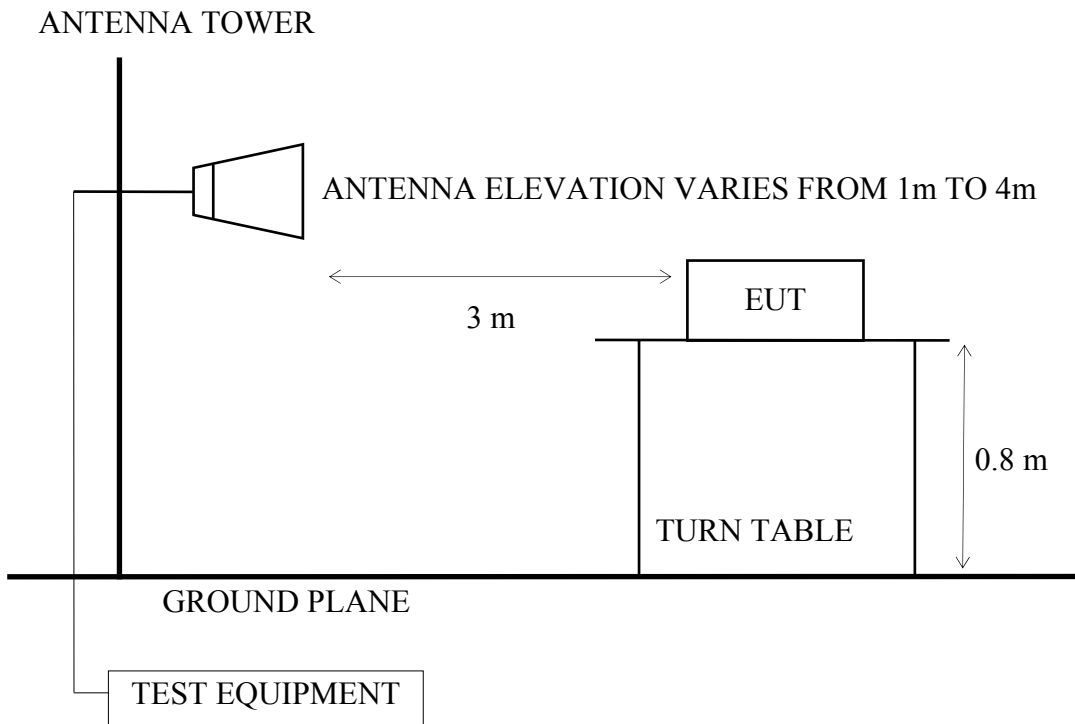
3.2.1. Block Diagram of connection between EUT and simulators



3.2.2. Semi-Anechoic Chamber (3m) Setup Diagram for 30-1000MHz



3.2.3. Semi-Anechoic Chamber (3m) Setup Diagram for above 1GHz



3.3. Radiated Emission Limits

3.3.1. Radiated Emission Limits for into Restricted Frequency Bands (§15.209)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMITS	
		$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0
Above 1000	3	74.0 $\text{dB}\mu\text{V/m}$ (Peak) 54.0 $\text{dB}\mu\text{V/m}$ (Average)	

Remark : (1) Emission level ($\text{dB}\mu\text{V/m}$) = 20 log Emission level ($\mu\text{V/m}$)

- (2) The tighter limit applies at the edge between two frequency bands.
- (3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- (4) The limits in this table are based on CFR 47 Part 15.205(a)(b) and Part 15.209 (a).
- (5) The over 1GHz limit, FCC limit is used based on CFR 47 Part 15.35 (b) and Part 15.205(b) & Part 15.209(e) and Part 15.207(c).

3.3.2. Unwanted Emission into Restricted Frequency Band

§15.247(d) specifies that in any 100 kHz bandwidth outside of the authorized frequency band, the power shall be attenuated according to the following conditions:

If the peak out put power procedure is used to measure the fundamental emission power to demonstrate compliance to 15.247(b)(3) requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to 15.247(b)(3) requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.

3.4. Operating Condition of EUT

- 3.4.1. Set up the EUT (WiFi Module) as shown on 3.2.
- 3.4.2. To turn on the power of all equipments.
- 3.4.3. The EUT was set the Notebook PC using test program “Ralink QA test”.
- 3.4.4. The EUT supports 802.11b/g/n-HT20/n-HT40 modes, we performed pre-scan high, middle, low channels for each mode for spurious emission and listed the worst channel of each mode in test report.

The worst channel of each mode as following:

No.	Type of Network	Test Mode	Channel
1.	802.11b	Transmit	CH 1
2.	802.11g		CH 6
3.	802.11n-HT20		CH 6
4.	802.11n-HT40		CH 6

3.5. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set to 3 meters away from the receiving antenna which was mounted on an antenna tower. The antenna could be moved up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna such as calibrated biconical and log-periodical antenna or horn antenna were used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to FCC ANSI C63.4-2003 regulation.

The bandwidth of the spectrum was set at 100kHz. (For 30MHz to 1000MHz)

The resolution bandwidth and video bandwidth of test spectrum analyzer is 1MHz for peak detection (PK) at frequency above 1GHz.

The resolution bandwidth of test spectrum analyzer is 1MHz and the video bandwidth is 10Hz for average detection (AV) at frequency above 1GHz.

The frequency range from 30MHz to 25GHz (Up to 10th harmonics from fundamental frequency) was checked.

Above 1GHz was measured with peak and average detector. For frequency from 7.5GHz to 25GHz, we checked it in 1 meter distance and with a shorter cable 2 meter instead of original's. There is no signal exist.

3.6. Radiated Emission Measurement Results

PASSED.

(All emissions not reported below are too low against the prescribed limits.)

EUT : WiFi Module M/N : DTV001

Test Date : May 10, 2012 Temperature : 26 Humidity : 59%

For Frequency Range 30MHz~1000MHz:

The EUT with following test modes was performed during this section testing and all the test results are listed in section 3.6.1.

Mode	Type of Network	Channel	Frequency	Test Mode
1.	802.11b	CH 1	2412MHz	Transmit
2.	802.11g	CH 6	2437MHz	
3.	802.11n-HT20	CH 6	2437MHz	
4.	802.11n-HT40	CH 6	2437MHz	

* Above all final readings were measured with Peak detector.

For Frequency above 1GHz:

The EUT with following test modes was performed during this section testing and all the test results are listed in section 3.6.2.

Mode	Type of Network	Channel	Frequency	Test Mode	Reference Test Data			
					Horizontal		Vertical	
					Peak	Average	Peak	Average
1.	802.11b	CH 1	2412MHz	Transmit	#11	#13	#12	#14
2.	802.11g	CH 6	2437MHz		#5	#7	#6	#8
3.	802.11n-HT20	CH 6	2437MHz		#10	#12	#9	#11
4.	802.11n-HT40	CH 6	2437MHz		#4	#6	#3	#5

Note: 1. Above all final readings were measured with Peak and Average detector.

2. The emissions (up to 25GHz) not reported are too low to be measured.

For Restricted Bands:

The EUT was tested in restricted bands and all the test results are listed in section 3.6.3. (The restricted bands defined in part 15.205(a))

Mode	Type of Network	Channel	Frequency	Test Mode	Reference Test Data	
					Horizontal	Vertical
1.	802.11b	CH 6	2412MHz	Transmit	# 3, # 4	# 1, # 2
2.		CH 11	2462MHz		# 5, # 6	# 7, # 8
3.	802.11g	CH 6	2412MHz	Transmit	# 3, # 4	# 1, # 2
4.		CH 11	2462MHz		# 5, # 6	# 7, # 8
5.	802.11n-HT20	CH 6	2412MHz	Transmit	# 3, # 4	# 1, # 2
6.		CH 11	2462MHz		# 5, # 6	# 7, # 8
7.	802.11n-HT40	CH 3	2422MHz	Transmit	# 3, # 4	# 1, # 2
8.		CH 9	2452MHz		# 5, # 6	# 7, # 8

3.6.1. Frequency Range 30-1000MHz

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11b, Transmit, Channel: 1, Frequency: 2412MHz

Emission Frequency	Emission Level Horizontal	Ground Reflection Factor	EIRP	Reference Level	Limits	Margin
MHz	dBμV/m	dB	dBm	dBm	dBm	dB
251.16	46.79	4.7	-43.71	9.27	-10.73	32.98
385.99	52.07	4.7	-38.43	9.27	-10.73	27.70
641.10	48.08	4.7	-42.42	9.27	-10.73	31.69

Emission Frequency	Emission Level Vertical	Ground Reflection Factor	EIRP	Reference Level	Limits	Margin
MHz	dBμV/m	dB	dBm	dBm	dBm	dB
50.37	52.37	4.7	-38.13	9.27	-10.73	27.40
385.99	52.47	4.7	-38.03	9.27	-10.73	27.30

- Remark: 1. All signals listed above are not falling restricted bands indicated in part 15.205, and they are compliance with at least 20dB below reference power.
 2. Reference level is measured and indicated in section 8.6.
 3. There is no signal be found in restricted bands.
 4. $EIRP = \text{Emission level} + 20\log(d) - 104.8\text{dB} + \text{Ground Reflection Factor}$, where d is distance for measurement.
 5. Ground Reflection Factor: For emission $\leq 30\text{MHz}$, add a factor of 6.0dB ; For emission $> 30\text{MHz}$ and $\leq 1000\text{MHz}$, add a factor of 4.7dB.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11g, Transmit, Channel: 6, Frequency: 2437MHz

Emission Frequency	Emission Level Horizontal	Ground Reflection Factor	EIRP	Reference Level	Limits	Margin
MHz	dBμV/m	dB	dBm	dBm	dBm	dB
251.16	46.46	4.7	-44.04	8.99	-11.01	33.03
385.99	52.10	4.7	-38.40	8.99	-11.01	27.39
641.10	47.89	4.7	-42.61	8.99	-11.01	31.60

Emission Frequency	Emission Level Vertical	Ground Reflection Factor	EIRP	Reference Level	Limits	Margin
MHz	dBμV/m	dB	dBm	dBm	dBm	dB
51.34	52.00	4.7	-38.50	8.99	-11.01	27.49
385.99	52.59	4.7	-37.91	8.99	-11.01	26.90

- Remark: 1. All signals listed above are not falling restricted bands indicated in part 15.205, and they are compliance with at least 20dB below reference power.
 2. Reference level is measured and indicated in section 8.6.
 3. There is no signal be found in restricted bands.
 4. $EIRP = \text{Emission level} + 20\log(d) - 104.8\text{dB} + \text{Ground Reflection Factor}$, where d is distance for measurement.
 5. Ground Reflection Factor: For emission $\leq 30\text{MHz}$, add a factor of 6.0dB ; For emission $> 30\text{MHz}$ and $\leq 1000\text{MHz}$, add a factor of 4.7dB.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11n-HT20, Transmit, Channel: 6, Frequency: 2437MHz

Emission Frequency	Emission Level Horizontal	Ground Reflection Factor	EIRP	Reference Level	Limits	Margin
MHz	dBμV/m	dB	dBm	dBm	dBm	dB
251.16	46.60	4.7	-43.90	8.88	-11.12	32.78
385.99	52.01	4.7	-38.49	8.88	-11.12	27.37
641.10	47.80	4.7	-42.70	8.88	-11.12	31.58

Emission Frequency	Emission Level Vertical	Ground Reflection Factor	EIRP	Reference Level	Limits	Margin
MHz	dBμV/m	dB	dBm	dBm	dBm	dB
51.34	52.18	4.7	-38.32	8.88	-11.12	27.20
385.99	52.49	4.7	-38.01	8.88	-11.12	26.89

- Remark: 1. All signals listed above are not falling restricted bands indicated in part 15.205, and they are compliance with at least 20dB below reference power.
 2. Reference level is measured and indicated in section 8.6.
 3. There is no signal be found in restricted bands.
 4. $EIRP = \text{Emission level} + 20\log(d) - 104.8\text{dB} + \text{Ground Reflection Factor}$, where d is distance for measurement.
 5. Ground Reflection Factor: For emission $\leq 30\text{MHz}$, add a factor of 6.0dB ; For emission $> 30\text{MHz}$ and $\leq 1000\text{MHz}$, add a factor of 4.7dB.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11n-HT40, Transmit, Channel: 6, Frequency: 2437MHz

Emission Frequency	Emission Level Horizontal	Ground Reflection Factor	EIRP	Reference Level	Limits	Margin
MHz	dBμV/m	dB	dBm	dBm	dBm	dB
251.16	46.02	4.7	-44.48	6.08	-13.92	30.56
385.99	51.99	4.7	-38.51	6.08	-13.92	24.59
641.10	47.82	4.7	-42.68	6.08	-13.92	28.76

Emission Frequency	Emission Level Vertical	Ground Reflection Factor	EIRP	Reference Level	Limits	Margin
MHz	dBμV/m	dB	dBm	dBm	dBm	dB
51.34	52.12	4.7	-38.38	6.08	-13.92	24.46
385.99	52.38	4.7	-38.12	-6.08	-13.92	24.20

- Remark: 1. All signals listed above are not falling restricted bands indicated in part 15.205, and they are compliance with at least 20dB below reference power.
 2. Reference level is measured and indicated in section 8.6.
 3. There is no signal be found in restricted bands.
 4. $EIRP = \text{Emission level} + 20\log(d) - 104.8\text{dB} + \text{Ground Reflection Factor}$, where d is distance for measurement.
 5. Ground Reflection Factor: For emission $\leq 30\text{MHz}$, add a factor of 6.0dB ; For emission $> 30\text{MHz}$ and $\leq 1000\text{MHz}$, add a factor of 4.7dB.

3.6.2. Above 1GHz Frequency Range Measurement Results

802.11b Transmit, Frequency: 2412MHz

Site no. : A/C Chamber Data no. : 11
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11b)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1624.960	26.21	6.32	16.78	49.31	74.00	24.69	Peak
1860.160	27.09	6.59	22.62	56.31	74.00	17.69	Peak
3342.640	31.02	7.53	10.78	49.33	74.00	24.67	Peak
4828.000	33.09	9.14	7.75	49.98	74.00	24.02	Peak
7234.000	35.93	11.29	9.50	56.71	74.00	17.29	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 13
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11b)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1624.960	26.21	6.32	4.31	36.84	54.00	17.16	Average
1860.160	27.09	6.59	9.96	43.64	54.00	10.36	Average
3342.640	31.02	7.53	0.39	38.94	54.00	15.06	Average
4828.000	33.09	9.14	-2.74	39.48	54.00	14.52	Average
7234.000	35.93	11.29	-0.28	46.94	54.00	7.06	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 12
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11b)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1624.960	26.21	6.32	14.52	47.05	74.00	26.95	Peak
1860.160	27.09	6.59	25.80	59.49	74.00	14.51	Peak
3342.640	31.02	7.53	12.93	51.48	74.00	22.52	Peak
4823.500	33.09	9.14	9.77	52.00	74.00	22.00	Peak
7238.000	35.93	11.29	11.97	59.19	74.00	14.81	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 14
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11b)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1624.960	26.21	6.32	1.98	34.51	54.00	19.49	Average
1860.160	27.09	6.59	12.42	46.11	54.00	7.89	Average
3342.640	31.02	7.53	-0.32	38.22	54.00	15.78	Average
4823.500	33.09	9.14	-0.08	42.15	54.00	11.85	Average
7238.000	35.93	11.29	3.33	50.54	54.00	3.46	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

802.11g, Transmit, Frequency: 2437MHz

Site no. : A/C Chamber Data no. : 5
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2437MHz (802.11g)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1624.960	26.21	6.32	15.90	48.43	74.00	25.57	Peak
1860.160	27.09	6.59	20.97	54.66	74.00	19.34	Peak
3342.640	31.02	7.53	13.64	52.19	74.00	21.81	Peak
4876.000	33.18	9.15	7.64	49.97	74.00	24.03	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 7
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2437MHz (802.11g)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1624.960	26.21	6.32	6.63	39.16	54.00	14.84	Average
1860.160	27.09	6.59	11.72	45.41	54.00	8.59	Average
3342.640	31.02	7.53	4.34	42.89	54.00	11.11	Average
4876.000	33.18	9.15	-4.27	38.05	54.00	15.95	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 6
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2437MHz (802.11g)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1624.960	26.21	6.32	14.45	46.98	74.00	27.02	Peak
1860.160	27.09	6.59	24.53	58.22	74.00	15.78	Peak
3342.640	31.02	7.53	11.56	50.11	74.00	23.89	Peak
4876.000	33.18	9.15	9.38	51.70	74.00	22.30	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 8
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2437MHz (802.11g)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1624.960	26.21	6.32	3.53	36.06	54.00	17.94	Average
1860.160	27.09	6.59	14.72	48.41	54.00	5.59	Average
3342.640	31.02	7.53	1.86	40.41	54.00	13.59	Average
4876.000	33.18	9.15	-0.17	42.16	54.00	11.84	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

802.11n-HT20, Transmit, Frequency: 2437MHz

Site no. : A/C Chamber Data no. : 10
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2437MHz (802.11n HT-20)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1628.320	26.21	6.36	17.35	49.92	74.00	24.08	Peak
1860.160	27.09	6.59	20.50	54.19	74.00	19.81	Peak
3342.640	31.02	7.53	13.95	52.50	74.00	21.50	Peak
4876.000	33.18	9.15	8.18	50.51	74.00	23.49	Peak
7304.000	36.11	11.41	9.76	57.27	74.00	16.73	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 12
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2437MHz (802.11n HT-20)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1628.320	26.21	6.36	4.84	37.41	54.00	16.59	Average
1860.160	27.09	6.59	9.06	42.74	54.00	11.26	Average
3342.640	31.02	7.53	3.65	42.20	54.00	11.80	Average
4876.000	33.18	9.15	-5.29	37.04	54.00	16.96	Average
7304.000	36.11	11.41	-3.91	43.61	54.00	10.39	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 9
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2437MHz (802.11n HT-20)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1603.120	26.08	6.18	16.10	48.36	74.00	25.64	Peak
1860.160	27.09	6.59	23.94	57.63	74.00	16.37	Peak
3342.640	31.02	7.53	11.23	49.78	74.00	24.22	Peak
4873.000	33.18	9.15	11.86	54.18	74.00	19.82	Peak
7314.000	36.11	11.41	13.14	60.65	74.00	13.35	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 11
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2437MHz (802.11n HT-20)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1603.120	26.08	6.18	4.23	36.49	54.00	17.51	Average
1860.160	27.09	6.59	11.72	45.41	54.00	8.59	Average
3342.640	31.02	7.53	-1.44	37.11	54.00	16.89	Average
4873.000	33.18	9.15	-1.72	40.61	54.00	13.39	Average
7314.000	36.11	11.41	-0.02	47.50	54.00	6.50	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

802.11n-HT40, Transmit, Frequency: 2437MHz

Site no. : A/C Chamber Data no. : 4
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2437MHz (802.11n HT-40)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1628.320	26.21	6.36	16.92	49.49	74.00	24.51	Peak
1860.160	27.09	6.59	20.22	53.91	74.00	20.09	Peak
3342.640	31.02	7.53	13.76	52.31	74.00	21.69	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 6
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2437MHz (802.11n HT-40)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1628.320	26.21	6.36	5.46	38.03	54.00	15.97	Average
1860.160	27.09	6.59	8.82	42.50	54.00	11.50	Average
3342.640	31.02	7.53	0.86	39.41	54.00	14.59	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 3
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2437MHz (802.11n HT-40)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1624.960	26.21	6.32	15.76	48.29	74.00	25.71	Peak
1860.160	27.09	6.59	23.16	56.85	74.00	17.15	Peak
3342.640	31.02	7.53	10.50	49.05	74.00	24.95	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : A/C Chamber Data no. : 5
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2437MHz (802.11n HT-40)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1624.960	26.21	6.32	3.78	36.31	54.00	17.69	Average
1860.160	27.09	6.59	12.43	46.11	54.00	7.89	Average
3342.640	31.02	7.53	-0.94	37.60	54.00	16.40	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

3.6.3. Restricted Bands Measurement Results

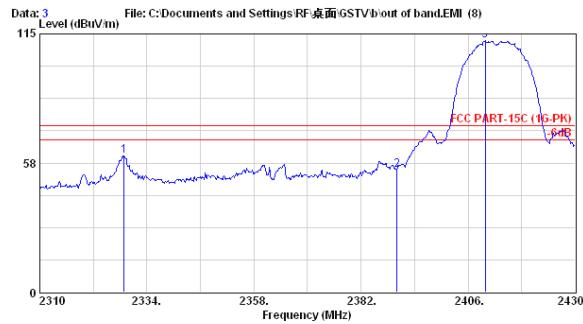
Date of Test : Jun. 08, 2012 Temperature : 28

EUT : WiFi Module Humidity : 59%

Test Mode : 802.11b, Transmit, Channel: 01, Frequency: 2412MHz



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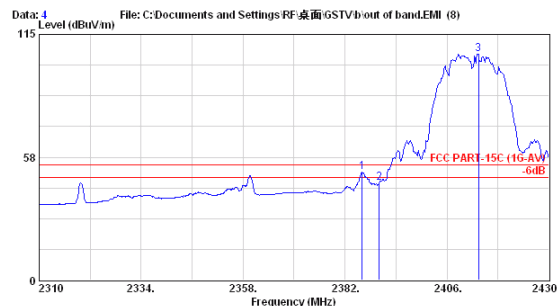
Site no. : A/C Chamber Data no. : 3
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11b)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2328.840	28.32	6.26	26.21	60.79	74.00	13.21	Peak
2	2390.040	28.47	6.34	19.72	54.54	74.00	19.46	Peak
3	2409.840	28.51	6.36	77.03	111.91	74.00	-37.91	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 4
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11b)

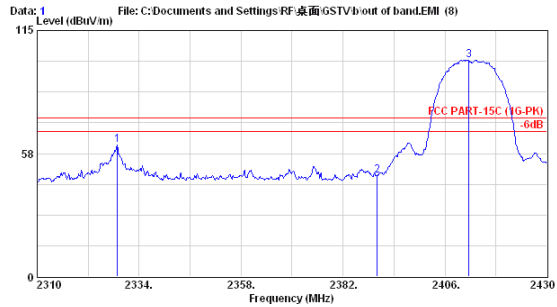
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2386.080	28.47	6.33	15.68	50.48	54.00	3.52	Average
2	2390.040	28.47	6.34	10.67	45.49	54.00	8.51	Average
3	2413.440	28.51	6.36	70.88	105.75	54.00	-51.75	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11b, Transmit, Channel: 01, Frequency: 2412MHz



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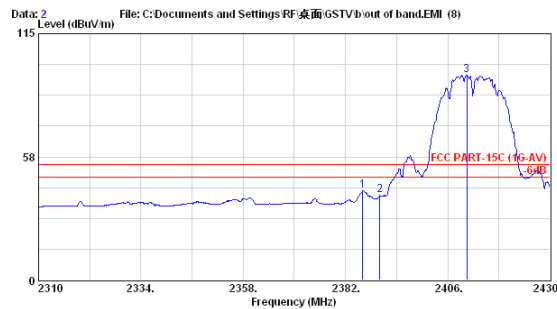
Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11b)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2328.840	28.32	6.26	26.83	61.41	74.00	12.59	Peak
2 2390.040	28.47	6.34	12.43	47.25	74.00	26.75	Peak
3 2411.640	28.51	6.36	66.39	101.27	74.00	-27.27	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11b)

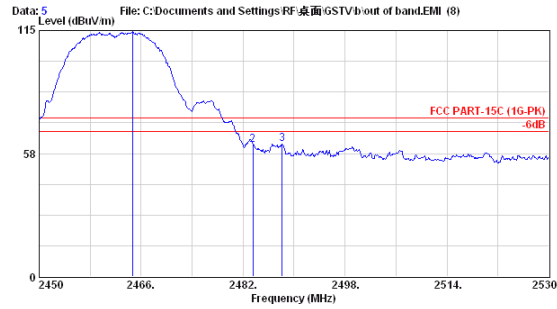
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2386.080	28.47	6.33	6.88	41.68	54.00	12.32	Average
2 2390.040	28.47	6.34	4.66	39.48	54.00	14.52	Average
3 2410.440	28.51	6.36	60.82	95.69	54.00	-41.69	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11b, Transmit, Channel: 11, Frequency: 2462MHz



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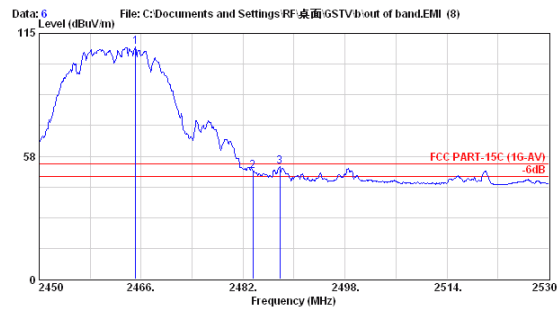
Site no. : A/C Chamber Data no. : 5
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% Qvic Pong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2462MHz (802.11b)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2464.720	28.62	6.42	79.43	114.48	74.00	-40.48	Peak
2 2483.520	28.66	6.45	26.50	61.62	74.00	12.38	Peak
3 2488.160	28.70	6.45	26.73	61.88	74.00	12.12	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 6
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% Qvic Pong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2462MHz (802.11b)

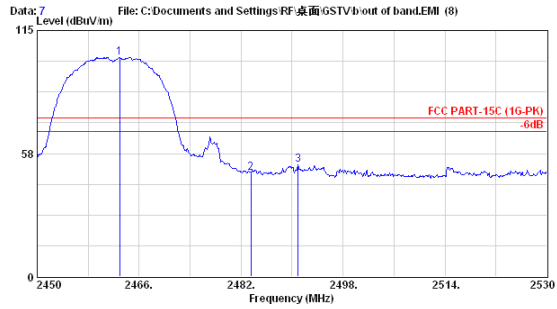
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2465.120	28.62	6.42	73.54	108.59	54.00	-54.59	Average
2 2483.520	28.66	6.45	15.52	50.64	54.00	3.36	Average
3 2487.760	28.70	6.45	17.61	52.76	54.00	1.24	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11b, Transmit, Channel: 11, Frequency: 2462MHz



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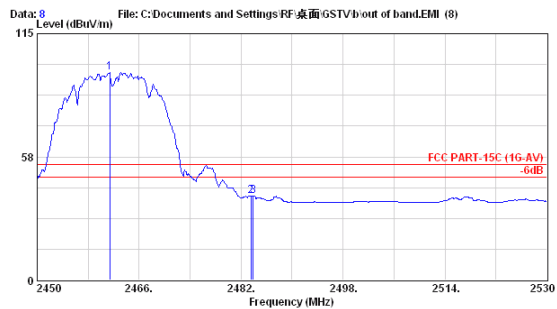
Site no. : A/C Chamber Data no. : 7
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : B4446A 28°C/59% Qvic Pong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2462MHz (802.11b)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2462.960	28.62	6.42	67.45	102.50	74.00	-28.50	Peak
2 2493.520	28.66	6.45	13.53	48.65	74.00	25.35	Peak
3 2490.960	28.70	6.46	17.15	52.32	74.00	21.68	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 8
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : B4446A 28°C/59% Qvic Pong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2462MHz (802.11b)

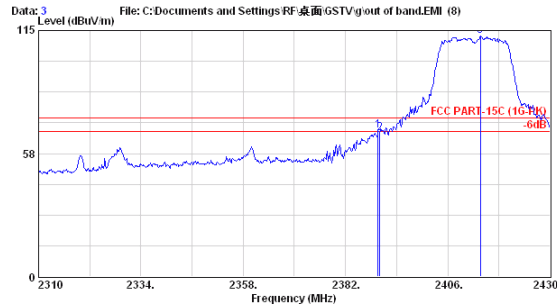
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2461.360	28.62	6.42	61.72	96.76	54.00	-42.76	Average
2 2493.520	28.66	6.45	4.07	39.19	54.00	14.81	Average
3 2493.920	28.66	6.45	4.21	39.33	54.00	14.67	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11g, Transmit, Channel: 01, Frequency: 2412MHz



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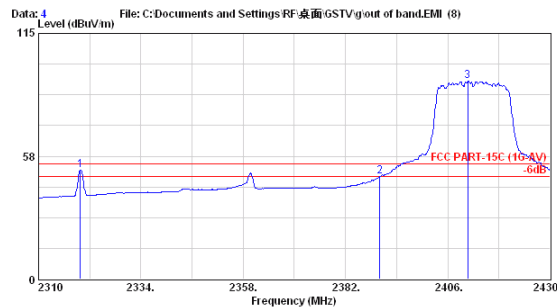
Site no. : A/C Chamber Data no. : 3
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11g)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2389.680	28.47	6.34	33.43	68.25	74.00	5.75	Peak
2 2390.040	28.47	6.34	32.21	67.03	74.00	6.97	Peak
3 2413.680	28.51	6.36	77.63	112.50	74.00	-38.50	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 4
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11g)

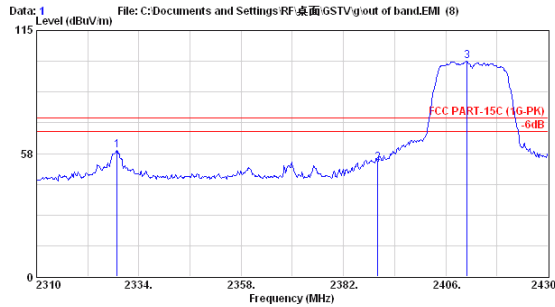
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2319.840	28.32	6.25	16.39	50.97	54.00	3.03	Average
2 2390.040	28.47	6.34	13.20	48.02	54.00	5.98	Average
3 2410.680	28.51	6.36	57.82	92.69	54.00	-38.69	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11g, Transmit, Channel: 01, Frequency: 2412MHz



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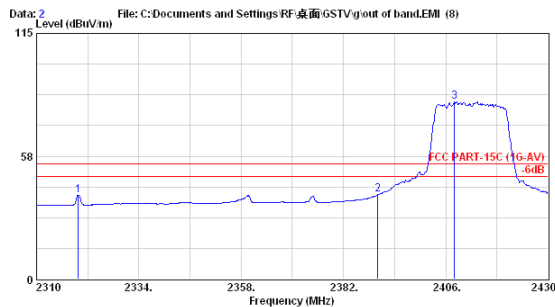
Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11g)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2328.840	28.32	6.26	24.47	59.05	74.00	14.95	Peak
2 2390.040	28.47	6.34	18.30	53.12	74.00	20.88	Peak
3 2411.040	28.51	6.36	65.89	100.76	74.00	-26.76	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11g)

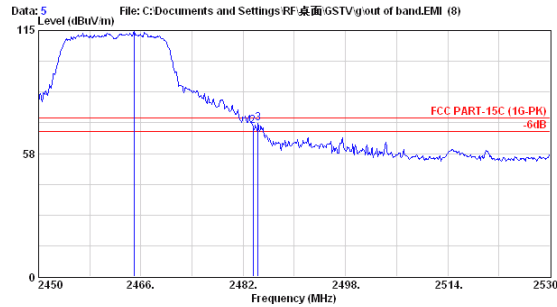
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2319.840	28.32	6.25	4.79	39.37	54.00	14.63	Average
2 2390.040	28.47	6.34	4.64	39.46	54.00	14.54	Average
3 2408.040	28.51	6.36	48.12	82.99	54.00	-28.99	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11g, Transmit, Channel: 11, Frequency: 2462MHz



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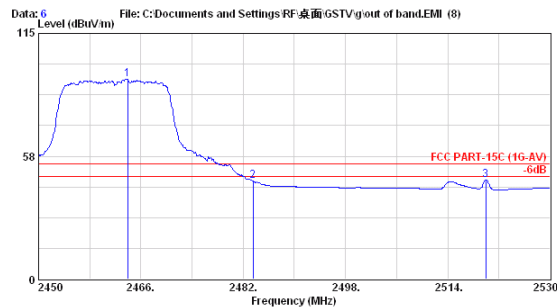
Site no. : A/C Chamber Data no. : 5
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2462MHz (802.11g)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2464.960	28.62	6.42	79.34	114.39	74.00	-40.39	Peak
2 2483.520	28.66	6.45	35.14	70.26	74.00	3.74	Peak
3 2484.320	28.66	6.45	36.40	71.51	74.00	2.49	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 6
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2462MHz (802.11g)

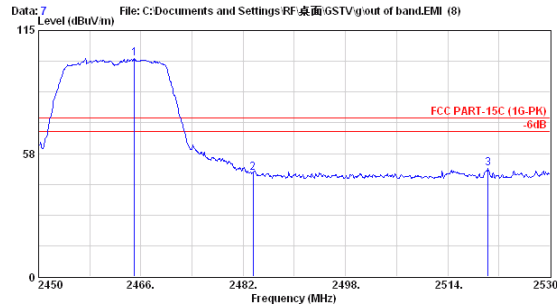
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2463.920	28.62	6.42	58.35	93.39	54.00	-39.39	Average
2 2483.520	28.66	6.45	10.74	45.86	54.00	8.14	Average
3 2519.920	28.76	6.50	11.17	46.42	54.00	7.58	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11g, Transmit, Channel: 11, Frequency: 2462MHz



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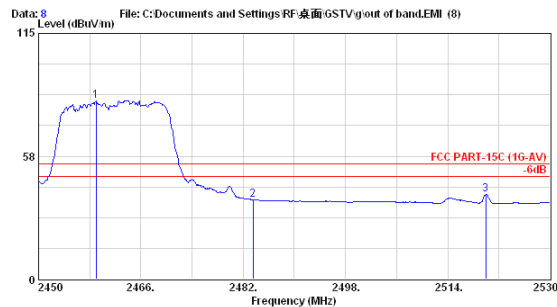
Site no. : A/C Chamber Data no. : 7
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2462MHz (802.11g)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2464.960	28.62	6.42	66.99	102.04	74.00	-28.04	Peak
2 2483.520	28.66	6.45	13.29	48.41	74.00	25.59	Peak
3 2520.320	28.76	6.50	15.42	50.68	74.00	23.32	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 8
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2462MHz (802.11g)

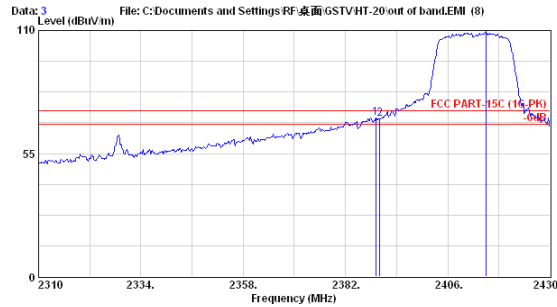
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2458.960	28.62	6.42	48.55	83.60	54.00	-29.60	Average
2 2483.520	28.66	6.45	1.92	37.04	54.00	16.96	Average
3 2519.920	28.76	6.50	4.25	39.50	54.00	14.50	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11n-HT20, Transmit, Channel: 01, Frequency: 2412MHz



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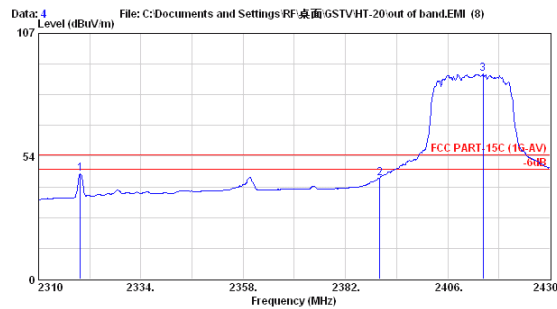
Site no. : A/C Chamber Data no. : 3
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11n HT-20)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2389.080	28.47	6.34	36.19	71.00	74.00	3.00	Peak
2 2390.040	28.47	6.34	35.75	70.57	74.00	3.43	Peak
3 2414.880	28.51	6.36	74.67	109.55	74.00	-35.55	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 4
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11n HT-20)

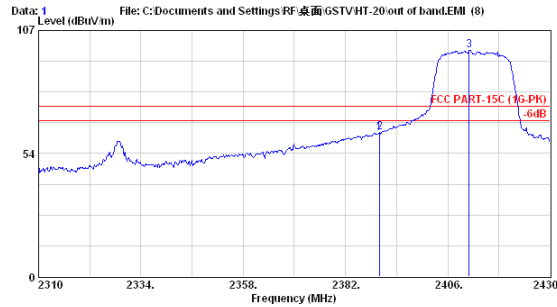
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2319.840	28.32	6.25	11.13	45.71	54.00	8.29	Average
2 2390.040	28.47	6.34	8.99	43.81	54.00	10.19	Average
3 2414.280	28.51	6.36	54.54	89.41	54.00	-35.41	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11n-HT20, Transmit, Channel: 01, Frequency: 2412MHz



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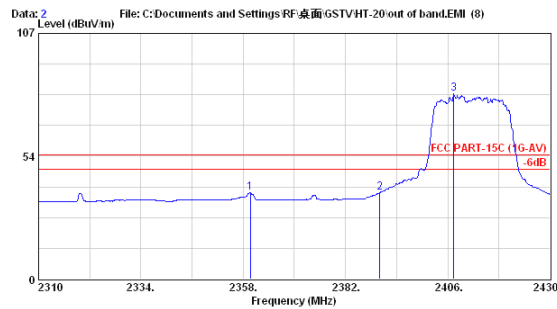
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 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTW001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11n HT-20)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2389.920	28.47	6.34	27.55	62.36	74.00	11.64	Peak
2 2390.040	28.47	6.34	27.74	62.56	74.00	11.44	Peak
3 2411.040	28.51	6.36	63.36	98.23	74.00	-24.23	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTW001
 Power Rating : AC120V/60Hz
 Test Mode : TX2412MHz (802.11n HT-20)

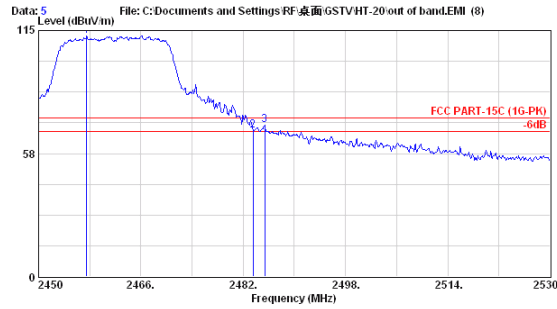
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2359.680	28.40	6.30	3.12	37.82	54.00	16.18	Average
2 2390.040	28.47	6.34	2.68	37.50	54.00	16.50	Average
3 2407.440	28.51	6.36	45.73	80.60	54.00	-26.60	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11n-HT20, Transmit, Channel: 11, Frequency: 2462MHz



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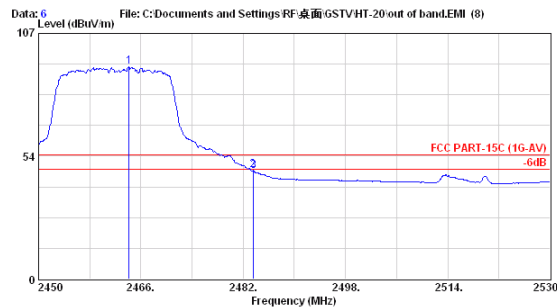
Site no. : A/C Chamber Data no. : 5
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2462MHz (802.11n HT-20)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2457.520	28.62	6.42	77.35	112.39	74.00	-38.39	Peak
2 2483.520	28.66	6.45	33.32	68.44	74.00	5.56	Peak
3 2485.360	28.66	6.45	35.71	70.82	74.00	3.18	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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 Email:temc@ttemc.com.tw



Site no. : A/C Chamber Data no. : 6
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2462MHz (802.11n HT-20)

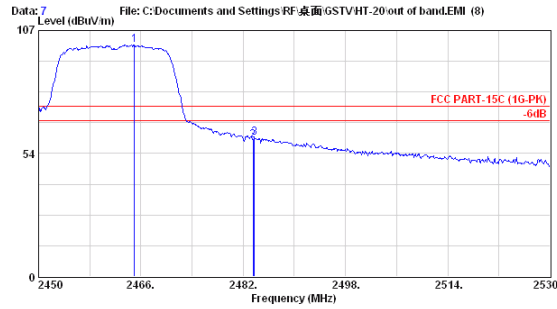
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2464.160	28.62	6.42	57.28	92.32	54.00	-38.32	Average
2 2483.520	28.66	6.45	12.12	47.24	54.00	6.76	Average
3 2483.600	28.66	6.45	11.94	47.05	54.00	6.95	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11n-HT20, Transmit, Channel: 11, Frequency: 2462MHz



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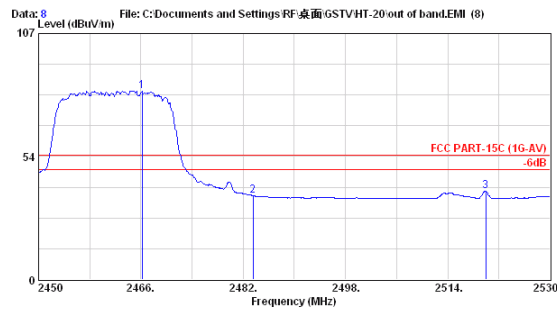
Site no. : A/C Chamber Data no. : 7
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2462MHz (802.11n HT-20)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2464.960	28.62	6.42	65.85	100.90	74.00	-26.90	Peak
2 2483.520	28.66	6.45	24.05	59.17	74.00	14.83	Peak
3 2483.760	28.66	6.45	25.08	60.20	74.00	13.80	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 8
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2462MHz (802.11n HT-20)

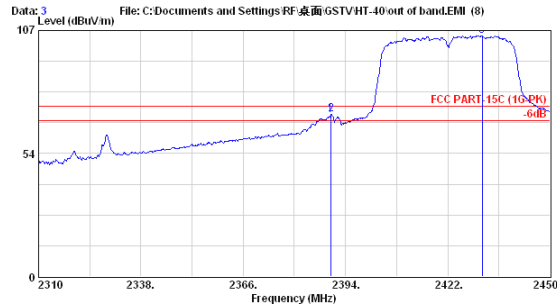
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2466.160	28.62	6.42	46.91	81.96	54.00	-27.96	Average
2 2483.520	28.66	6.45	1.48	36.60	54.00	17.40	Average
3 2519.920	28.76	6.50	3.23	38.48	54.00	15.52	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11n-HT40, Transmit, Channel: 03, Frequency: 2422MHz



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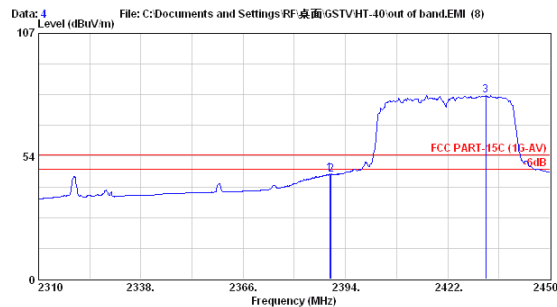
Site no. : A/C Chamber Data no. : 3
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2422MHz (802.11n HT-40)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2389.940	28.47	6.34	35.41	70.23	74.00	3.77	Peak
2 2390.080	28.47	6.34	35.84	70.66	74.00	3.34	Peak
3 2431.380	28.55	6.39	69.83	104.77	74.00	-30.77	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 4
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2422MHz (802.11n HT-40)

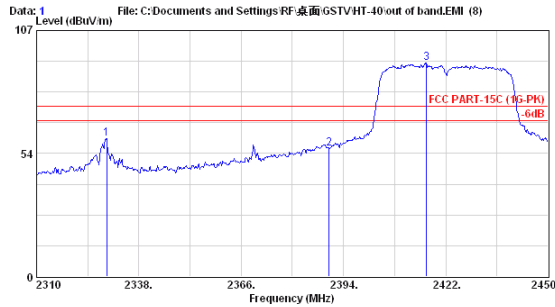
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2389.660	28.47	6.34	11.17	45.99	54.00	8.01	Average
2 2390.080	28.47	6.34	10.50	45.32	54.00	8.68	Average
3 2432.360	28.55	6.39	44.98	79.92	54.00	-25.92	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11n-HT40, Transmit, Channel: 03, Frequency: 2422MHz



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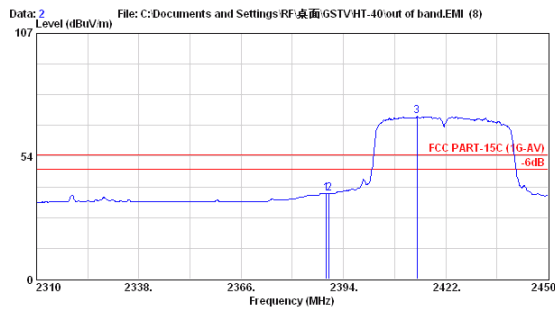
Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2422MHz (802.11n HT-40)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2329.180	28.32	6.26	23.39	59.97	74.00	14.03	Peak
2 2390.080	28.47	6.34	21.01	55.83	74.00	18.17	Peak
3 2416.680	28.51	6.37	57.94	92.82	74.00	-18.82	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2422MHz (802.11n HT-40)

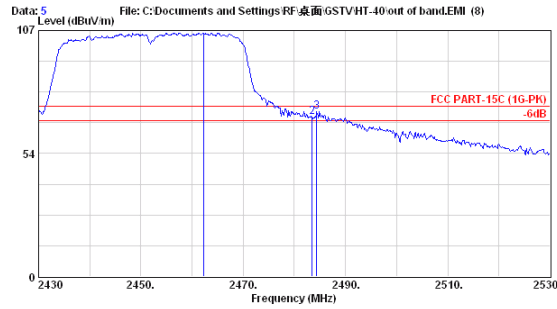
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2389.380	28.47	6.34	2.52	37.34	54.00	16.66	Average
2 2390.080	28.47	6.34	2.47	37.29	54.00	16.71	Average
3 2414.160	28.51	6.36	35.89	70.76	54.00	-16.76	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11n-HT40, Transmit, Channel: 09, Frequency: 2452MHz



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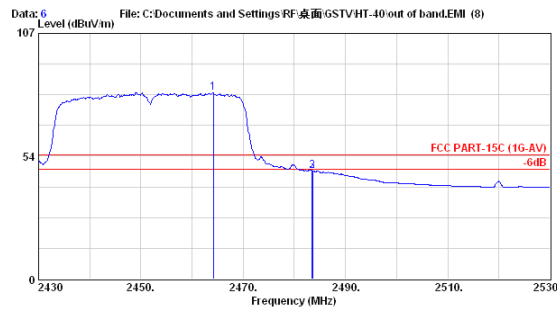
Site no. : A/C Chamber Data no. : 5
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (16-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2452MHz (802.11n HT-40)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2462.200	28.62	6.42	70.95	106.00	74.00	-32.00	Peak
2 2483.500	28.66	6.45	34.14	69.26	74.00	4.74	Peak
3 2484.400	28.66	6.45	36.57	71.68	74.00	2.32	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 6
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (16-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2452MHz (802.11n HT-40)

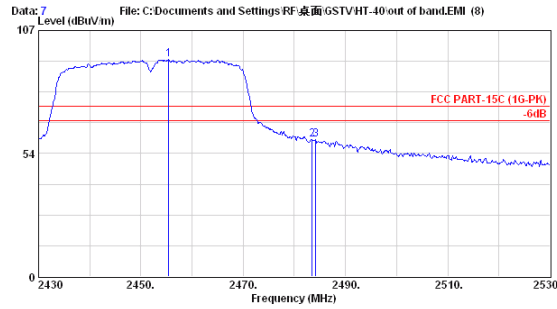
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2464.200	28.62	6.42	46.18	81.22	54.00	-27.22	Average
2 2483.500	28.66	6.45	12.03	47.15	54.00	6.85	Average
3 2483.600	28.66	6.45	11.90	47.02	54.00	6.98	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Jun. 08, 2012 Temperature : 28
 EUT : WiFi Module Humidity : 59%
 Test Mode : 802.11n-HT40, Transmit, Channel: 09, Frequency: 2452MHz



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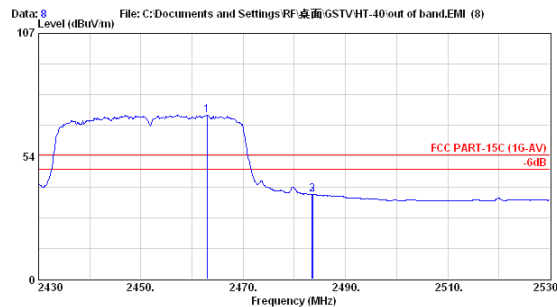
Site no. : A/C Chamber Data no. : 7
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2452MHz (802.11n HT-40)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2455.400	28.62	6.42	59.26	94.31	74.00	-20.31	Peak
2 2483.500	28.66	6.45	24.34	59.45	74.00	14.55	Peak
3 2484.200	28.66	6.45	24.32	59.43	74.00	14.57	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 8
 Dis. / Ant. : 3m 3115 (4927) Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 28°C/59% □Vic Fong
 EUT : DTV001
 Power Rating : AC120V/60Hz
 Test Mode : TX2452MHz (802.11n HT-40)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2462.900	28.62	6.42	36.42	71.47	54.00	-17.47	Average
2 2483.500	28.66	6.45	1.73	36.85	54.00	17.15	Average
3 2483.600	28.66	6.45	1.71	36.83	54.00	17.17	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

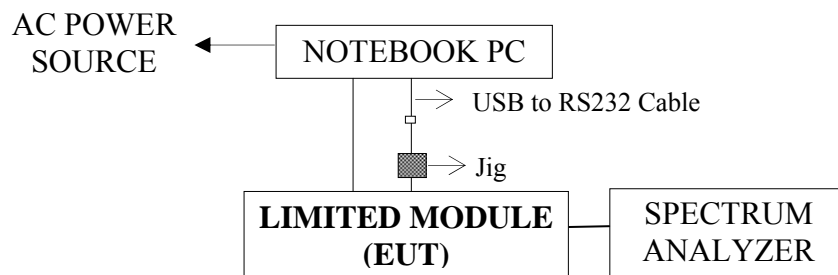
4. 6dB BANDWIDTH MEASUREMENT

4.1. Test Equipment

The following test equipment was used during the 20dB bandwidth measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Aug. 04, 11'	Aug. 03, 12'

4.2. Block Diagram of Test Setup



4.3. Specification Limits (§15.247(a)(2))

The minimum 6dB bandwidth shall be at least 500kHz.

4.4. Operating Condition of EUT

The Notebook PC was running test program “Ralink QA test” used to enable the EUT to transmit data at different channel frequency individually.

4.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer and RBW=1-5% of OBW and VBW > 3*RBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

The measurement guideline was according to KDB 558074 D01.

4.6. Test Results

PASSED. All the test results are attached in next pages.

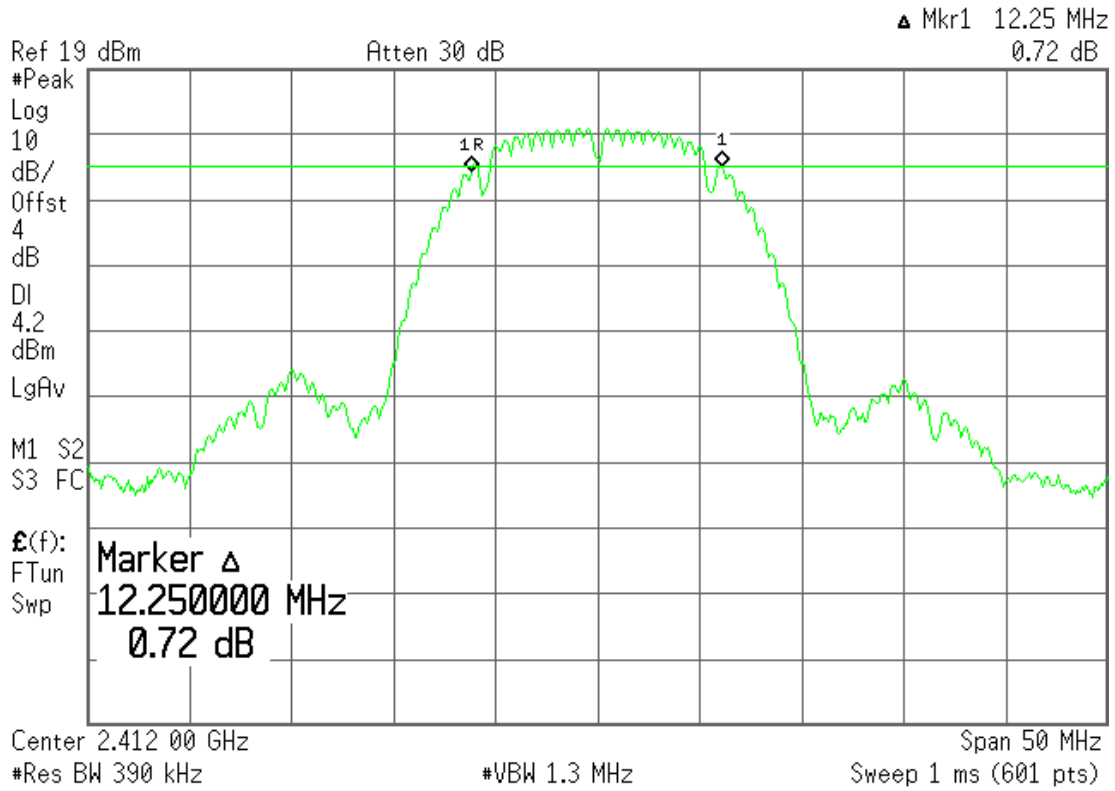
Test Date : May 17, 2012 Temperature : 25 Humidity : 60%

Mode	Type of Network	Channel	Frequency	6dB Bandwidth
1.	802.11b	CH 1	2412MHz	12.25MHz
2.		CH 6	2437MHz	12.17MHz
3.		CH 11	2462MHz	12.25MHz
4.	802.11g	CH 1	2412MHz	16.25MHz
5.		CH 6	2437MHz	16.25MHz
6.		CH 11	2462MHz	16.25MHz
7.	802.11n-HT20	CH 1	2412MHz	17.08MHz
8.		CH 6	2437MHz	17.25MHz
9.		CH 11	2462MHz	17.08MHz
10.	802.11n-HT40	CH 3	2422MHz	35.60MHz
11.		CH 6	2437MHz	35.60MHz
12.		CH 9	2452MHz	35.60MHz

[Limit: least 500kHz]

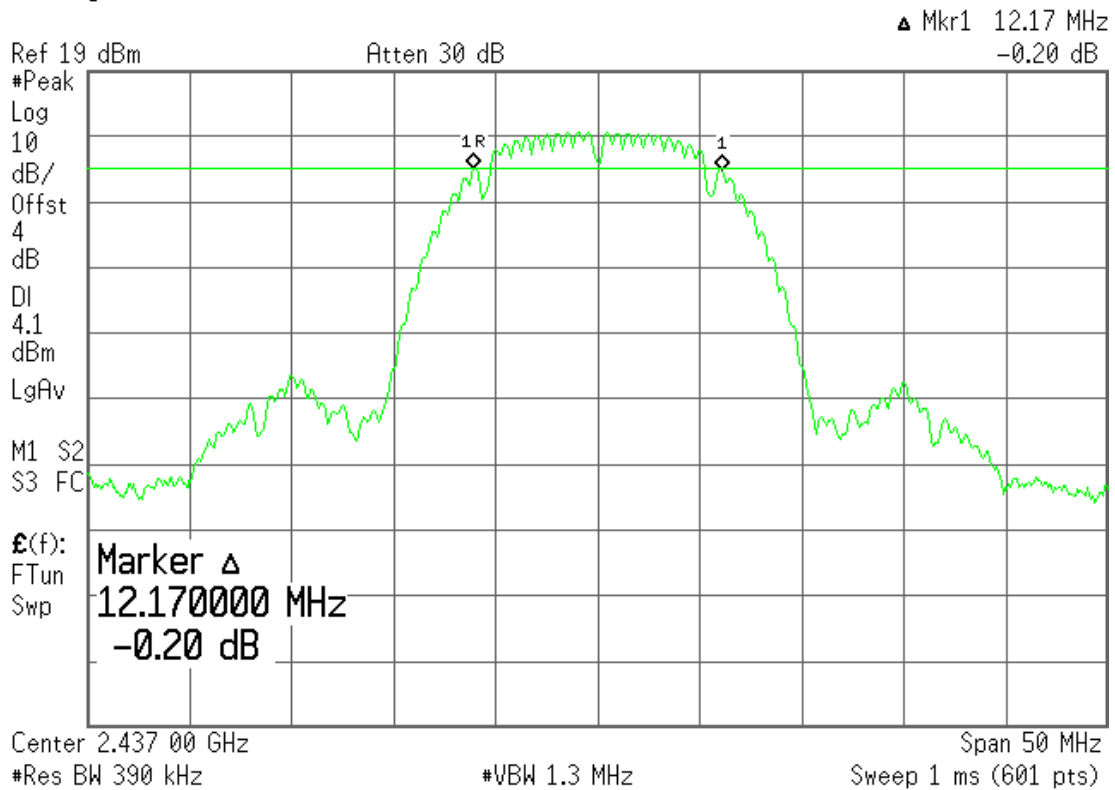
802.11b, Frequency: 2412MHz

Agilent 16:25:06 May 17, 2012



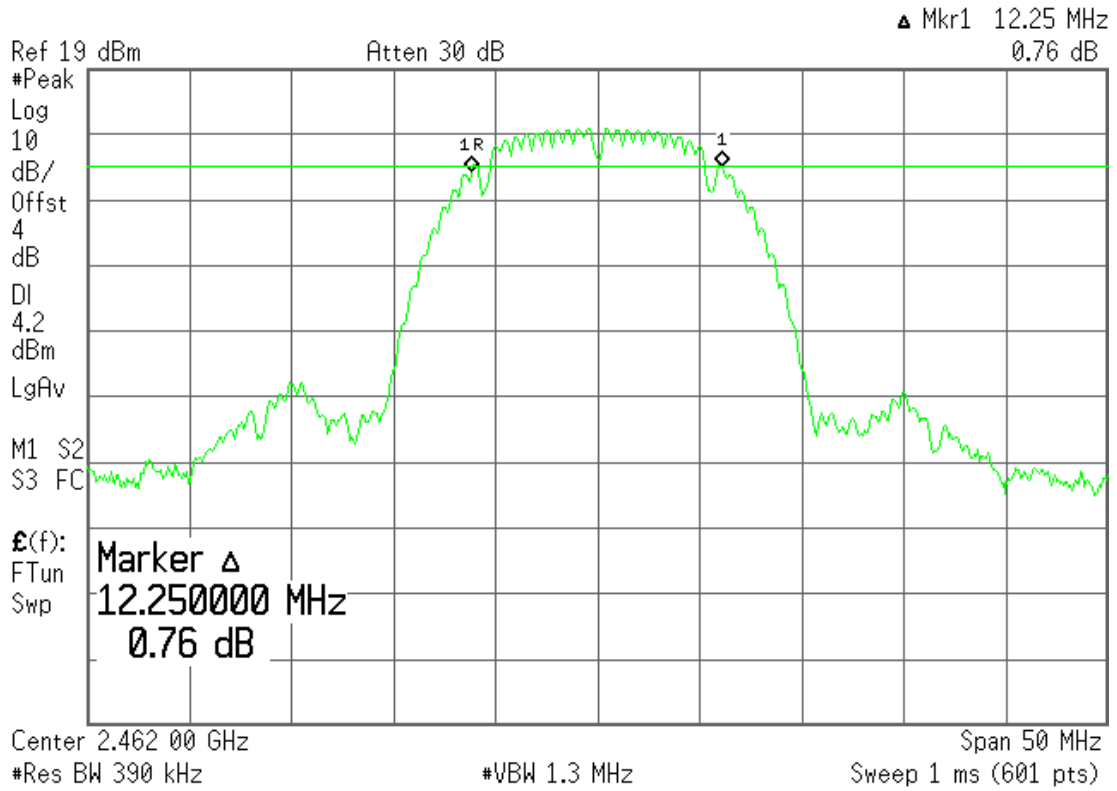
802.11b, Frequency: 2437MHz

Agilent 16:27:26 May 17, 2012



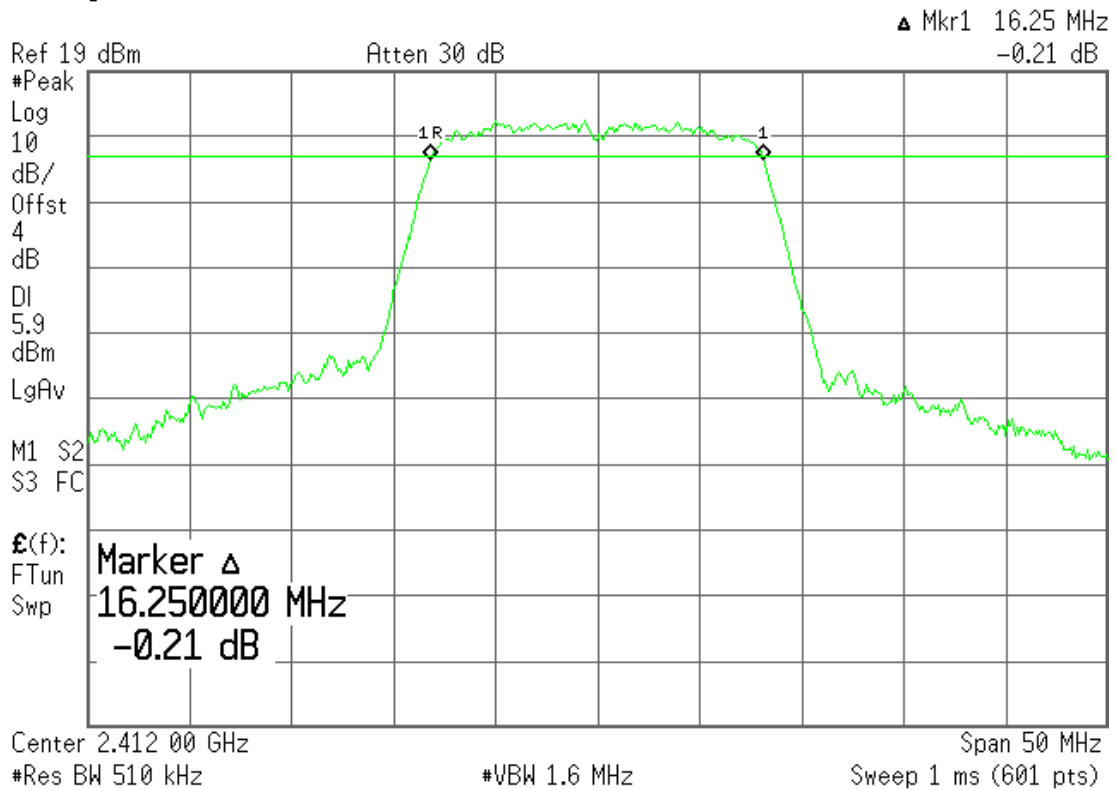
802.11b, Frequency: 2462MHz

Agilent 16:28:53 May 17, 2012



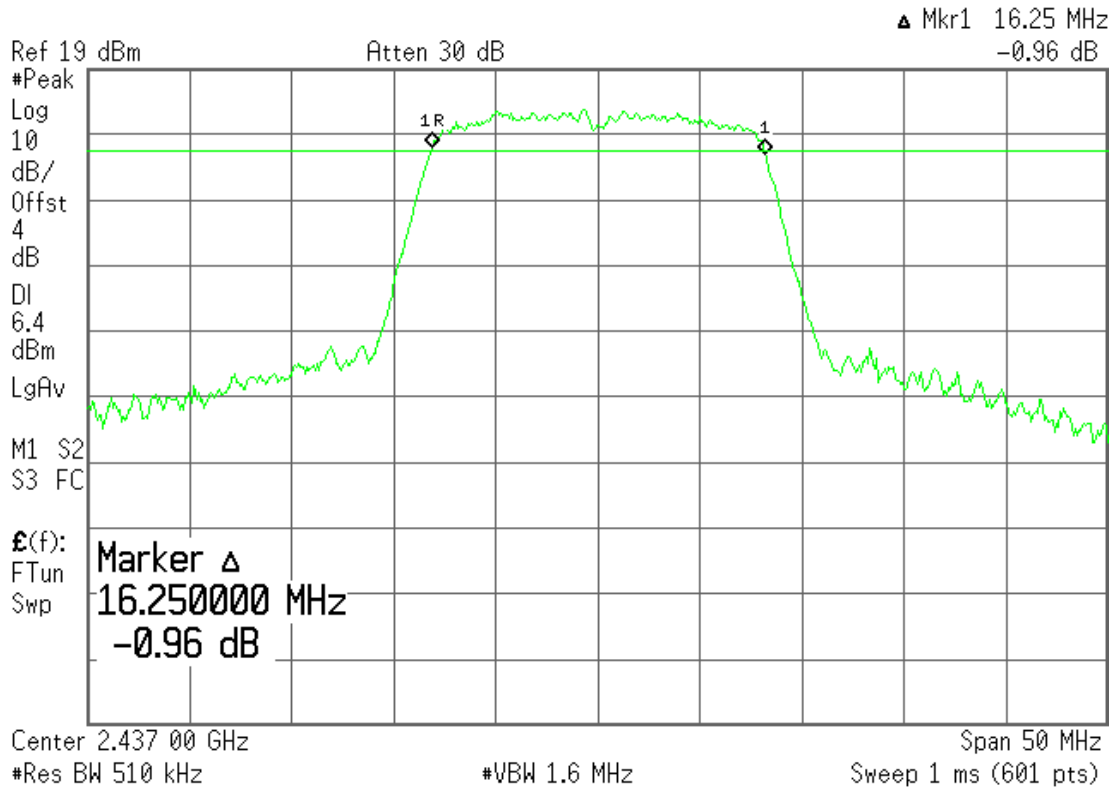
802.11g, Frequency: 2412MHz

Agilent 16:32:40 May 17, 2012



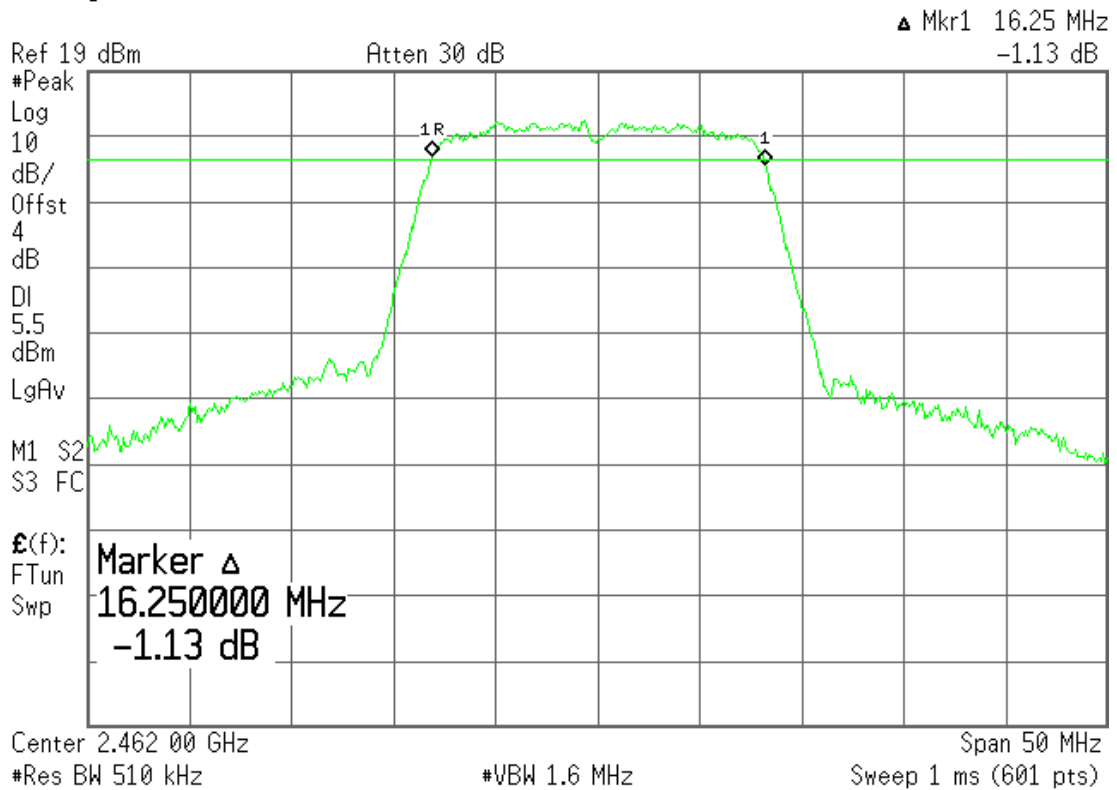
802.11g, Frequency: 2437MHz

Agilent 16:34:28 May 17, 2012



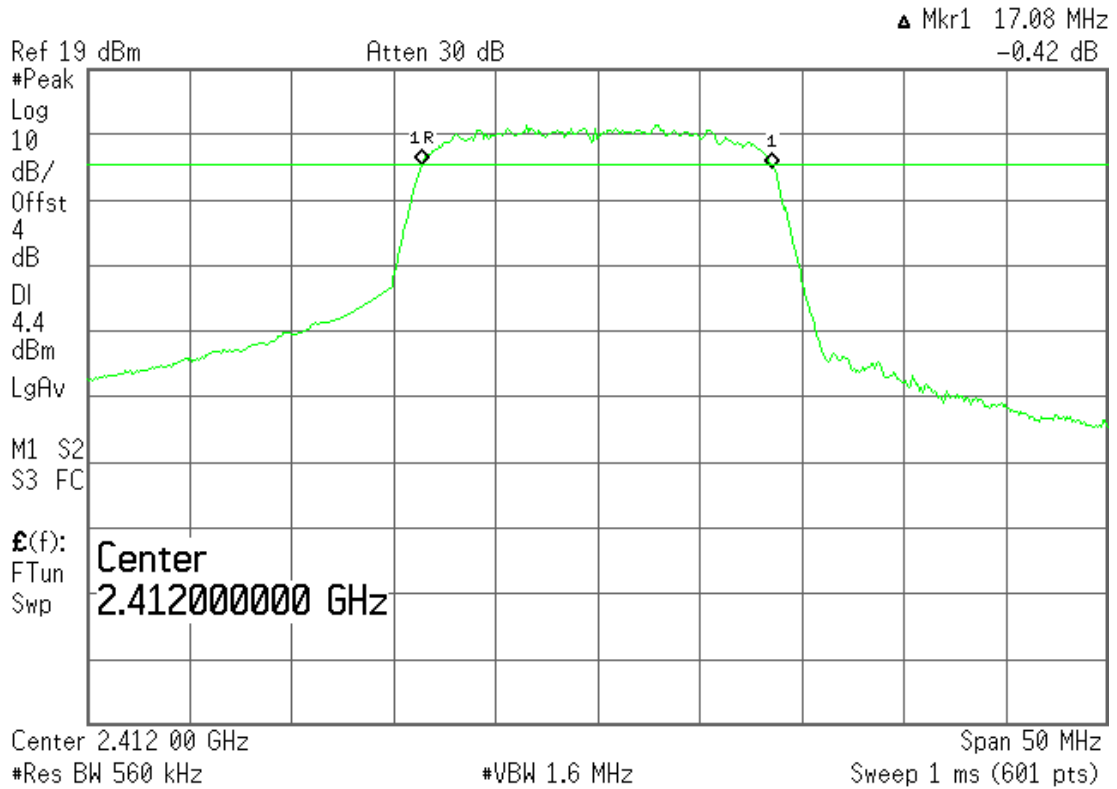
802.11g, Frequency: 2462MHz

Agilent 16:35:52 May 17, 2012



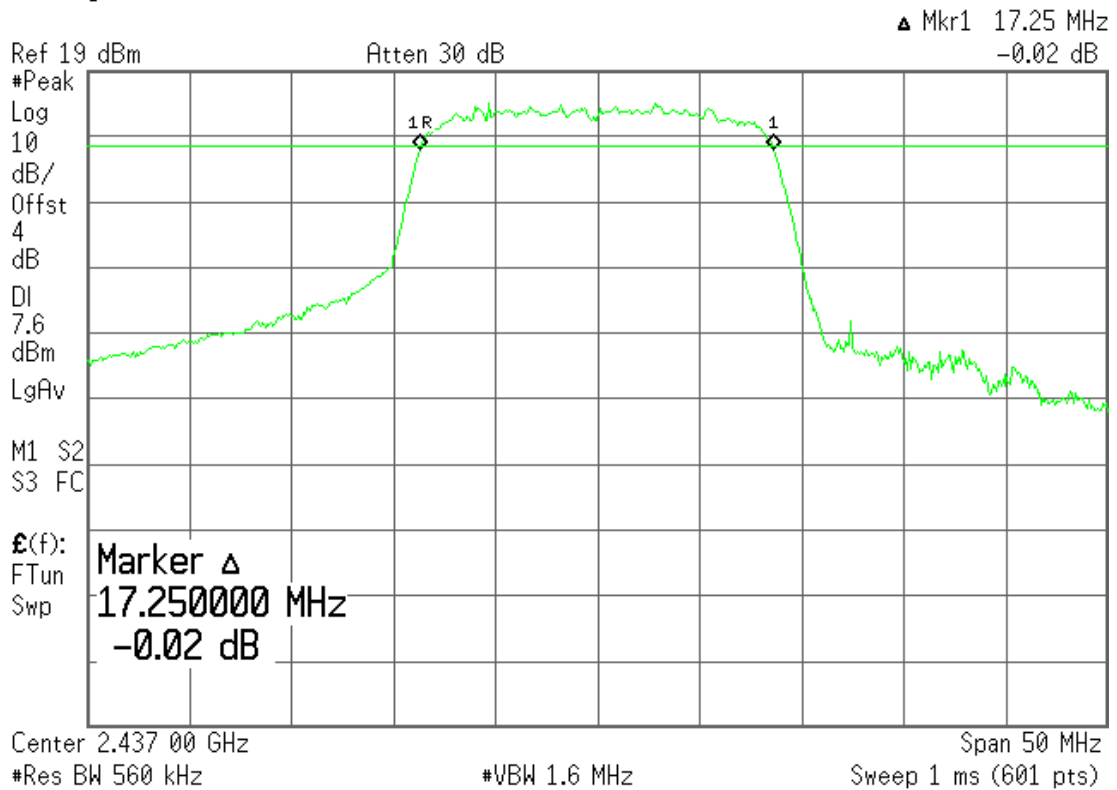
802.11n-HT20, Frequency: 2412MHz

Agilent 16:47:15 May 17, 2012



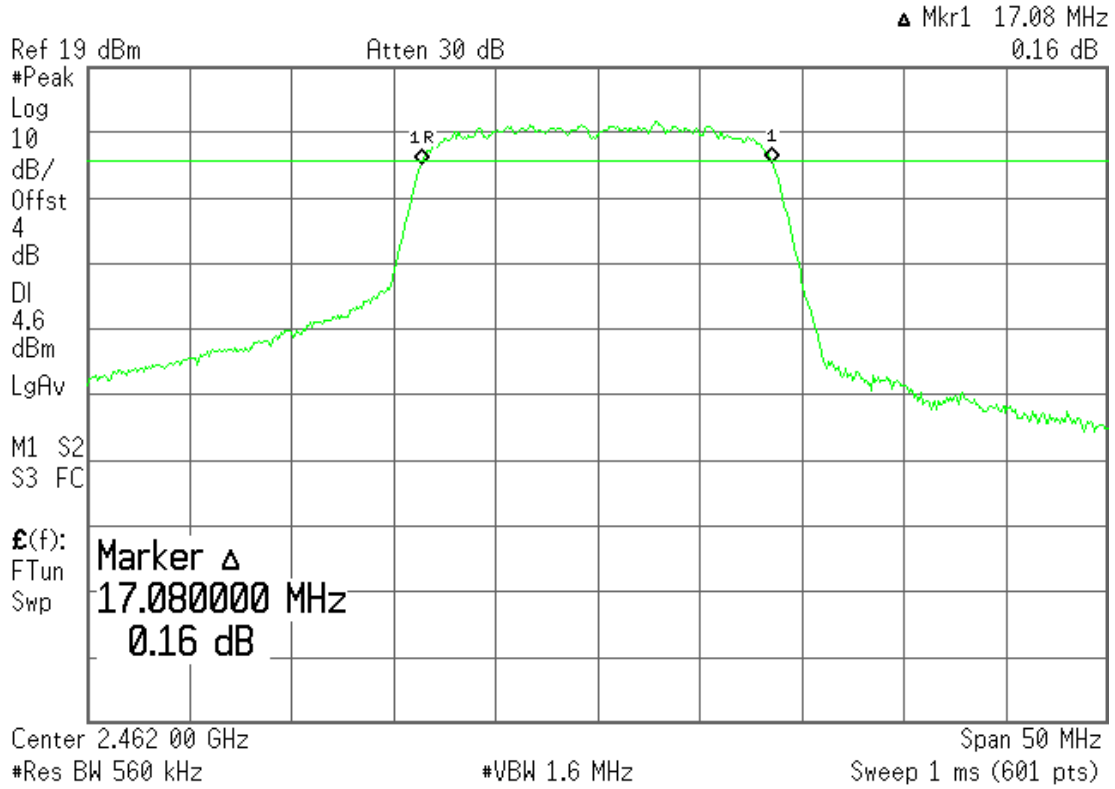
802.11n-HT20, Frequency: 2437MHz

Agilent 16:50:03 May 17, 2012



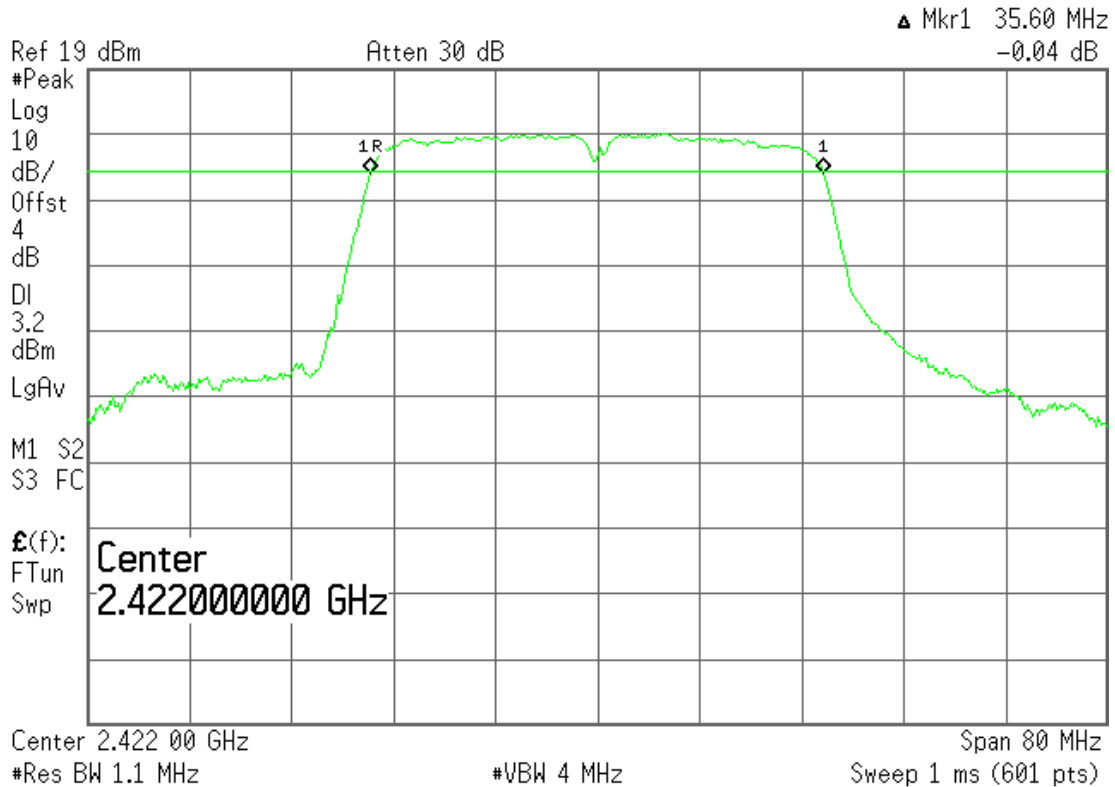
802.11n-HT20, Frequency: 2462MHz

Agilent 16:54:25 May 17, 2012



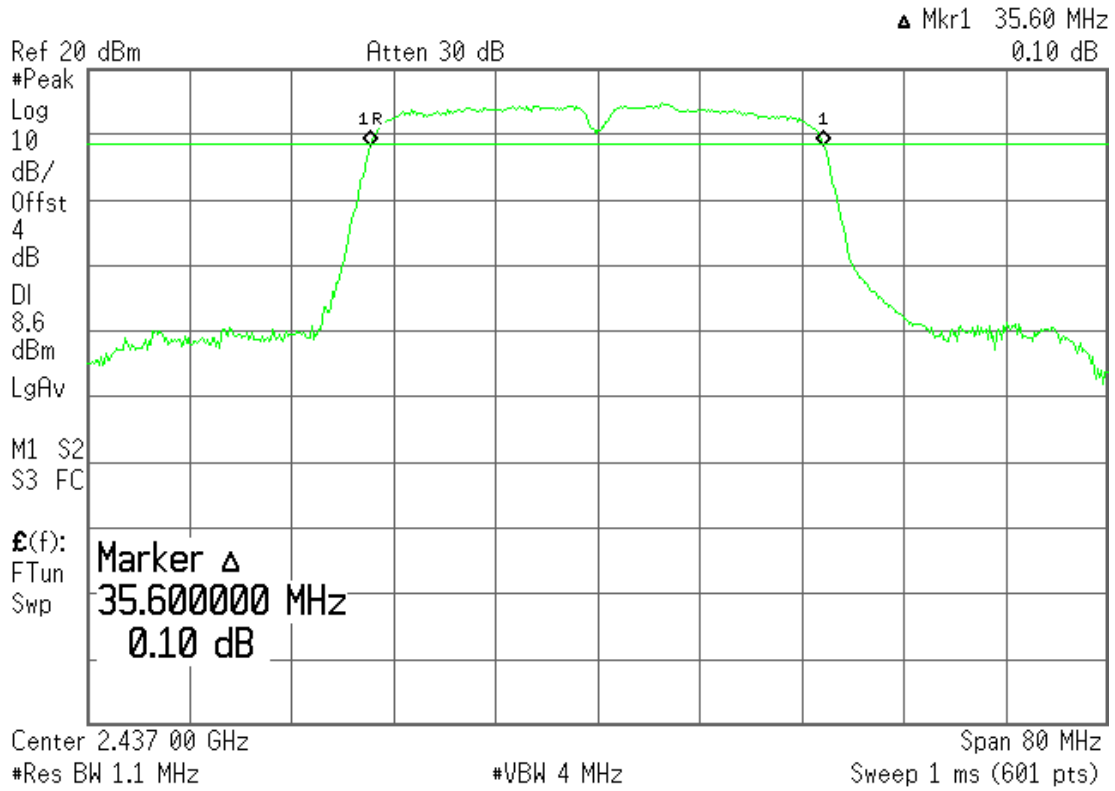
802.11n-HT40, Frequency: 2422MHz

Agilent 16:59:30 May 17, 2012



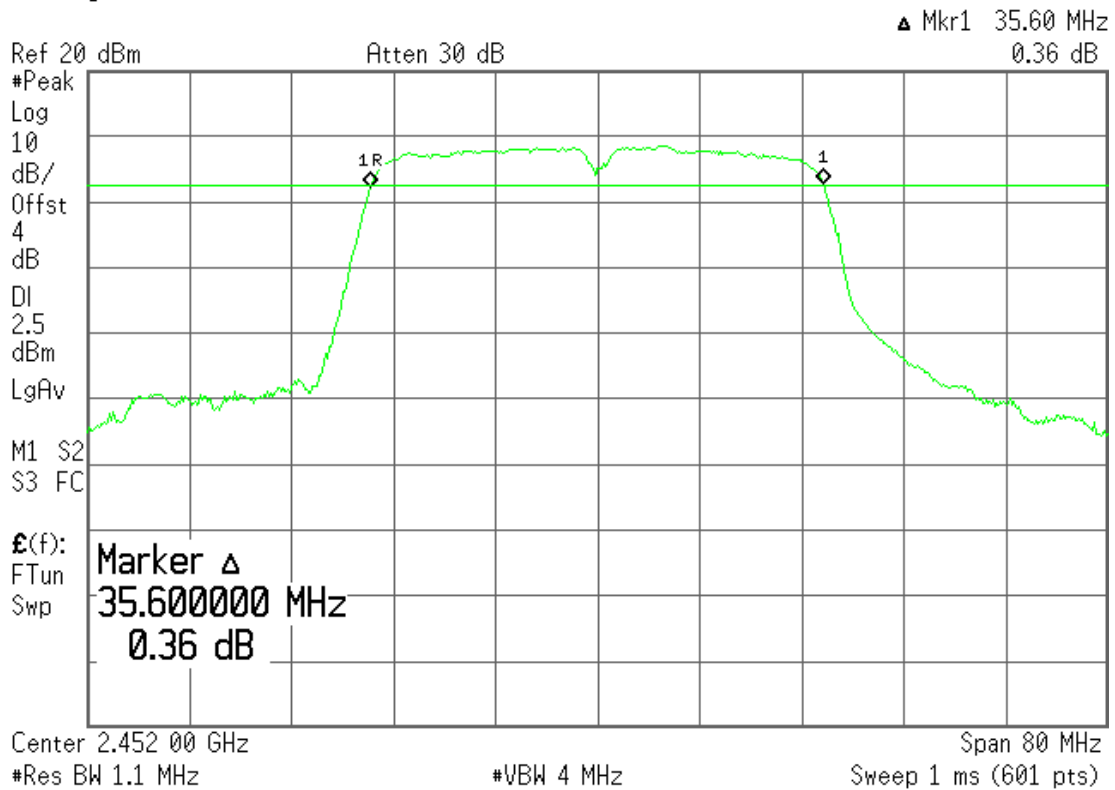
802.11n-HT40, Frequency: 2437MHz

Agilent 17:03:12 May 17, 2012



802.11n-HT40, Frequency: 2452MHz

Agilent 17:08:17 May 17, 2012



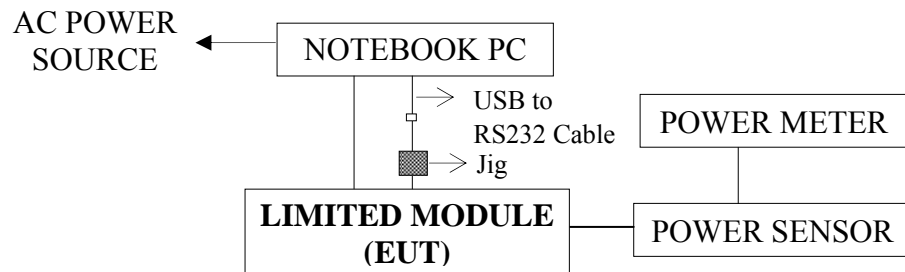
5. MAXIMUM PEAK OUTPUT POWER MEASUREMENT

5.1. Test Equipment

The following test equipment was used during the maximum peak output power measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Power Meter	Anritsu	ML2487A	6K00005406	Feb. 13, 12'	Feb. 12, 13'
2.	Power Sensor	Anritsu	MA2491A	030873	Feb. 13, 12'	Feb. 12, 13'

5.2. Block Diagram of Test Setup



5.3. Specification Limits (§15.247(b)-(3))

The Limits of maximum Peak Output Power for digital modulation in 2400-2483.5MHz is : 1Watt. (30dBm)

5.4. Operating Condition of EUT

The Notebook PC was running test program “Ralink QA test” used to enable the EUT to transmit data at different channel frequency individually.

5.5. Test Procedure

The transmitter output was connected to the power sensor and record the reading of power meter.

The measurement guideline was according to KDB 558074 D01.

5.6. Test Results

PASSED. All the test results are listed below.

Test Date : May 17, 2012 Temperature : 25 Humidity : 60%

Mode	Type of Network	Channel	Frequency	Peak Output Power (dBm)		Total Peak Output Power (dBm)	Power Setting
				Ant.2	Ant.3		
1.	802.11b	CH 1	2412MHz	17.75	17.24	20.51	17
2.		CH 6	2437MHz	17.08	16.36	19.75	17
3.		CH 11	2462MHz	17.40	16.25	19.87	18
4.	802.11g	CH 1	2412MHz	23.66	22.41	26.09	17
5.		CH 6	2437MHz	24.10	22.08	26.22	1F
6.		CH 11	2462MHz	23.34	21.42	25.50	19
7.	802.11n-HT20	CH 1	2412MHz	21.18	21.23	24.22	1A
8.		CH 6	2437MHz	24.45	22.24	26.49	1E
9.		CH 11	2462MHz	21.04	20.89	23.98	1C
10.	802.11n-HT40	CH 3	2422MHz	19.40	19.05	22.24	12
11.		CH 6	2437MHz	24.57	21.99	26.48	1F
12.		CH 9	2452MHz	19.88	18.35	22.19	12

6. EMISSION LIMITATIONS MEASUREMENT

6.1. Test Equipment

The following test equipment was used during the emission limitations test :

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Aug. 04, 11'	Aug. 03, 12'

6.2. Block Diagram of Test Setup

The same as section.4.2.

6.3. Specification Limits (§15.247(c))

6.3.1. In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (See Section 15.205(c)).(This test result attaching to §3.6.3)

6.3.2. The reference level for determining limit of emission limitations is according to the value measured indicated in plots at section 8.6.

6.4. Operating Condition of EUT

The Notebook PC was running test program “Ralink QA test” used to enable the EUT to transmit data at different channel frequency individually.

6.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 100kHz RBW and 300kHz VBW.

The measurement guideline was according to KDB 558074 D01.

6.6. Test Results

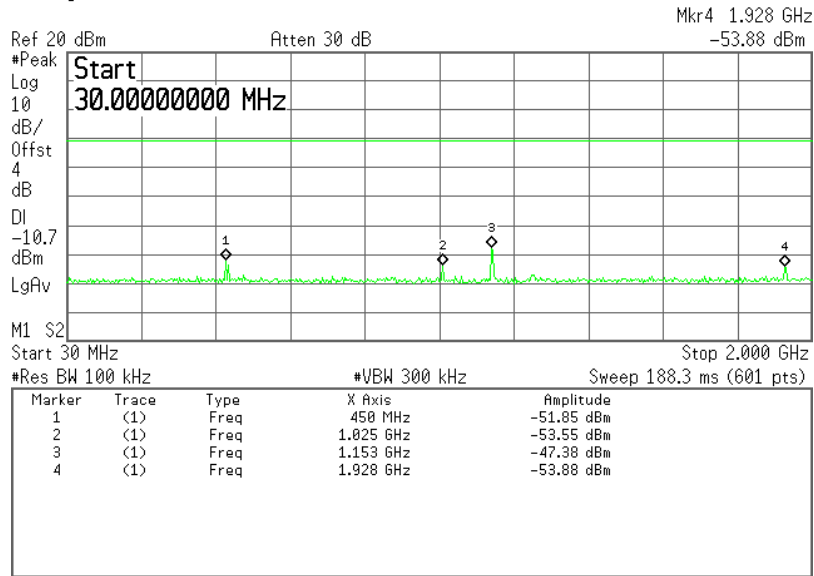
PASSED. The testing data was attached in the next pages.

Test Date : May 17, 2012 Temperature : 25 Humidity : 60%

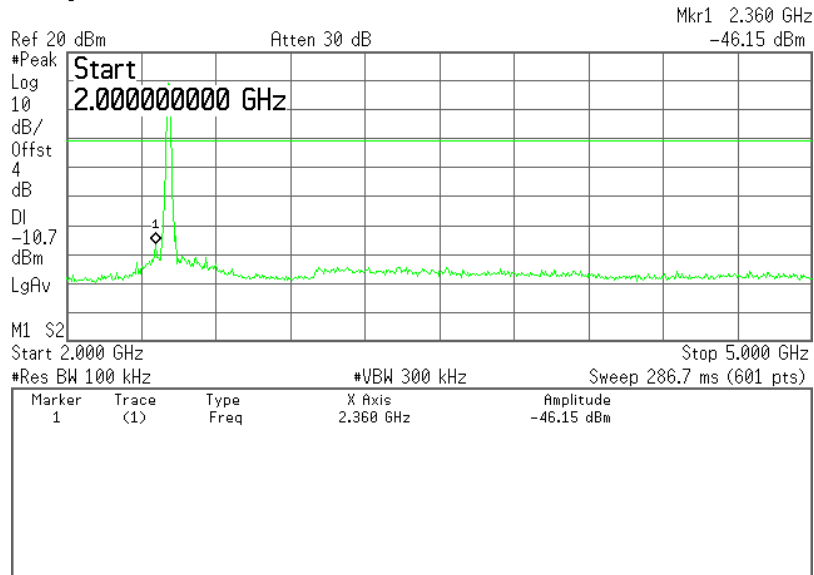
Test Date : May 18, 2012 Temperature : 24 Humidity : 58%

802.11b, Frequency: 2412MHz

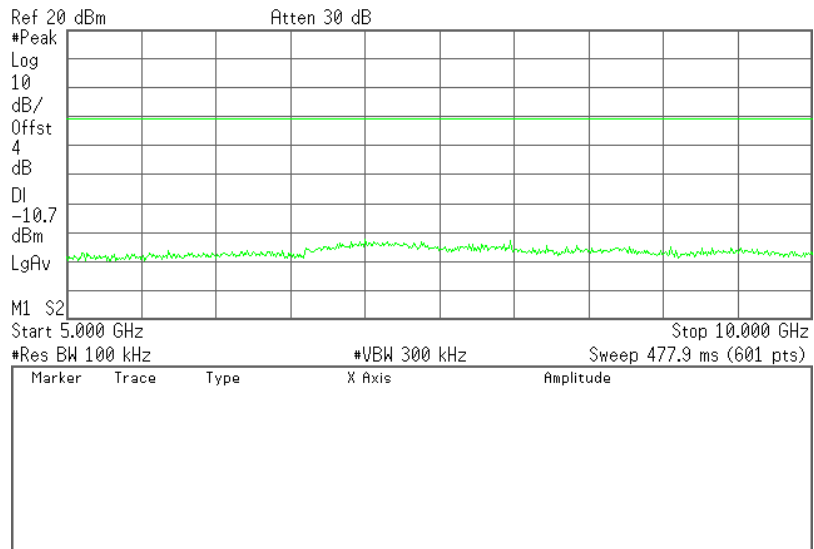
Agilent 19:00:46 May 17, 2012



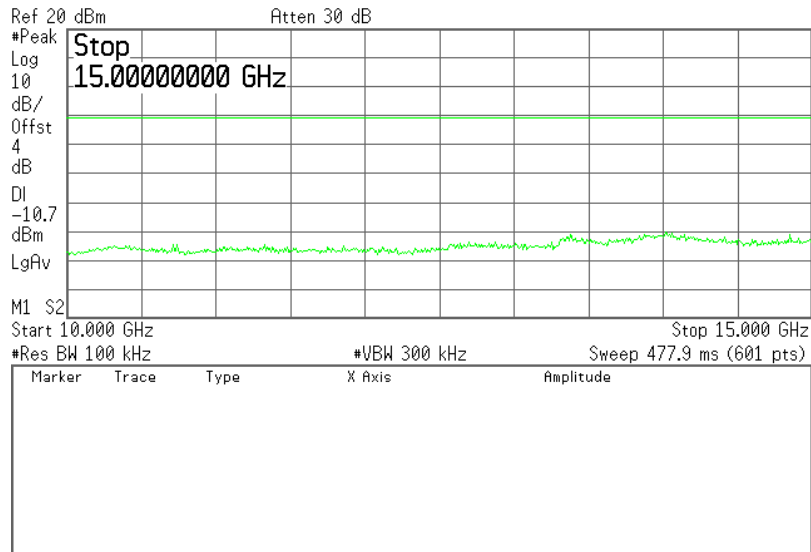
Agilent 19:01:56 May 17, 2012



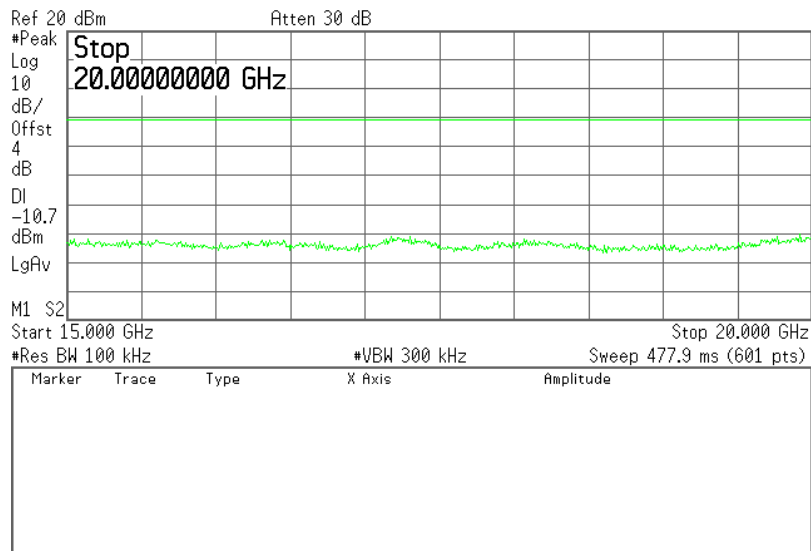
Agilent 19:02:34 May 17, 2012



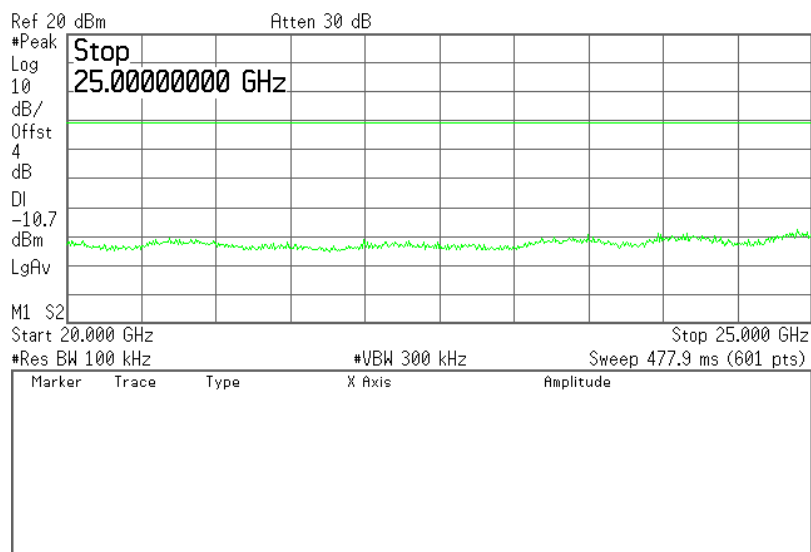
* Agilent 19:03:02 May 17, 2012



* Agilent 19:03:49 May 17, 2012

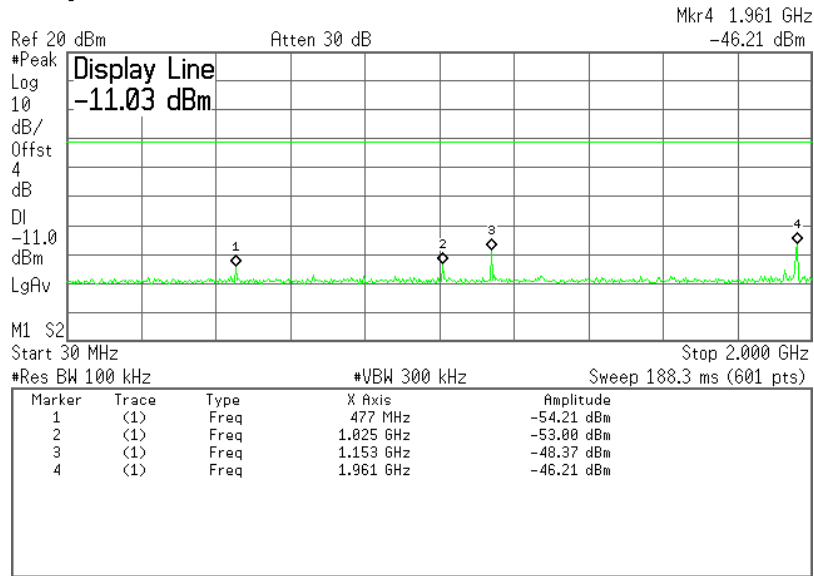


* Agilent 19:04:12 May 17, 2012

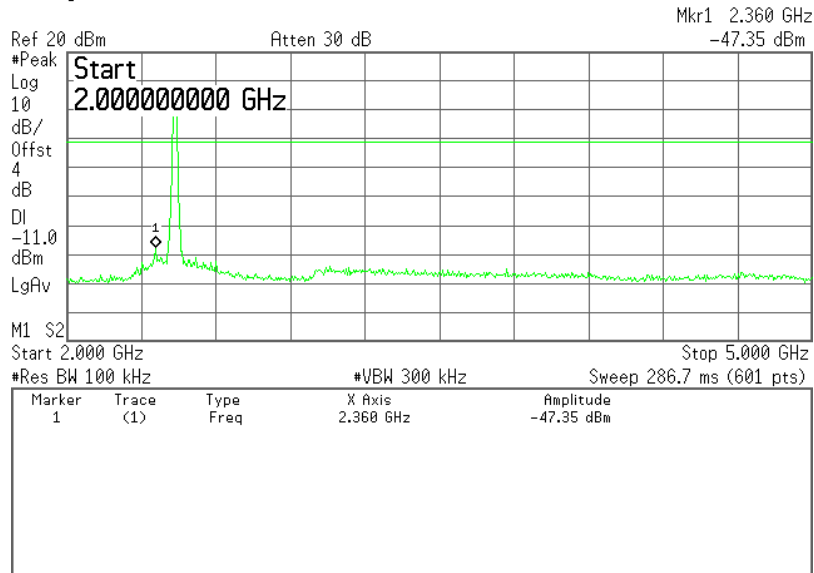


802.11b, Frequency: 2437MHz

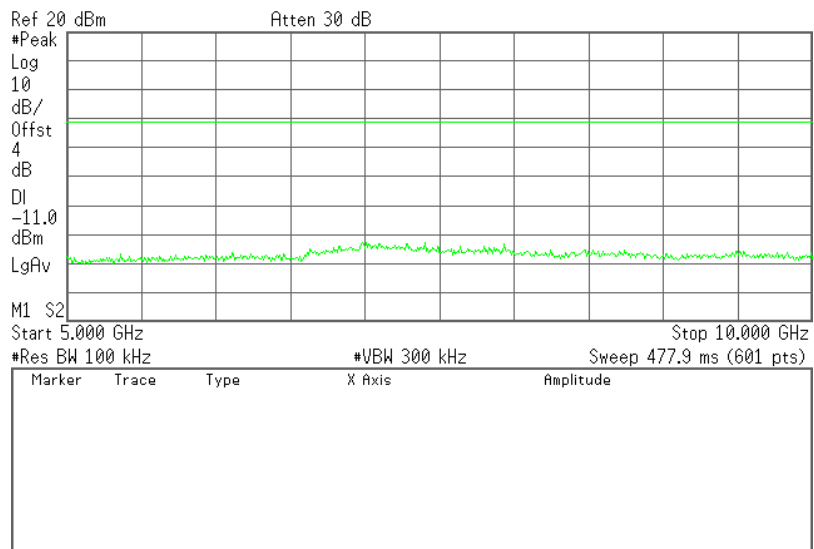
Agilent 19:06:15 May 17, 2012



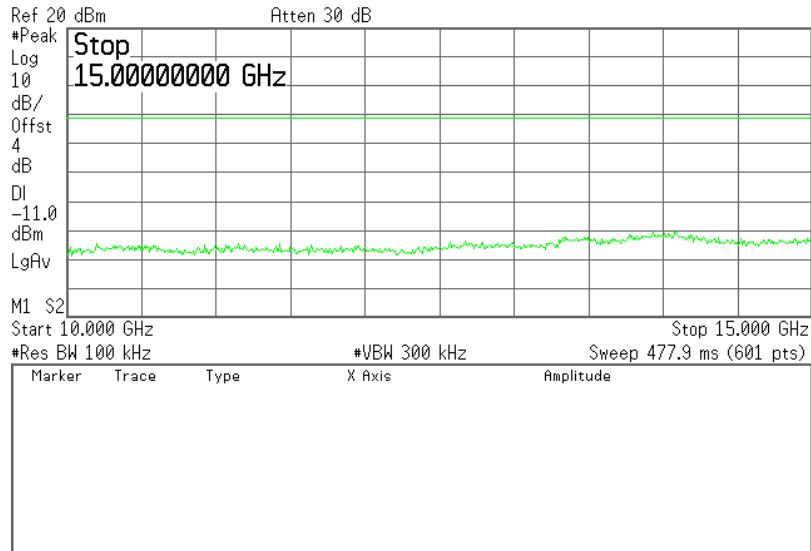
Agilent 19:07:01 May 17, 2012



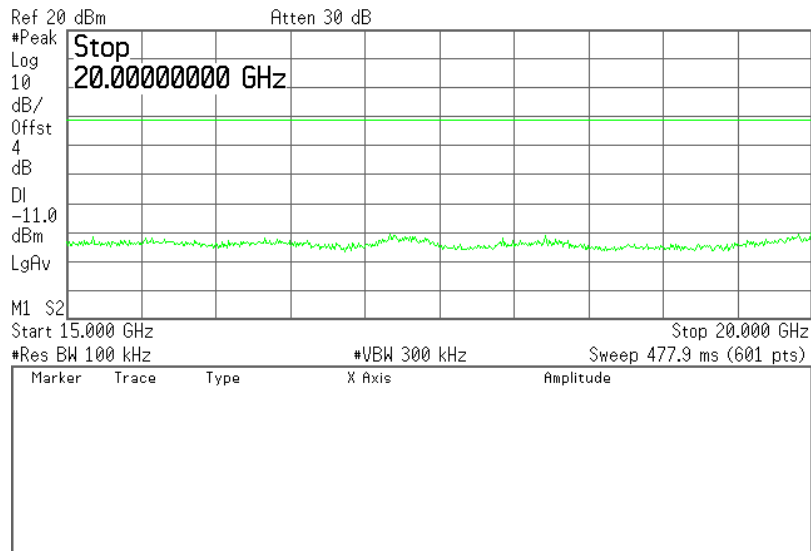
Agilent 19:07:38 May 17, 2012



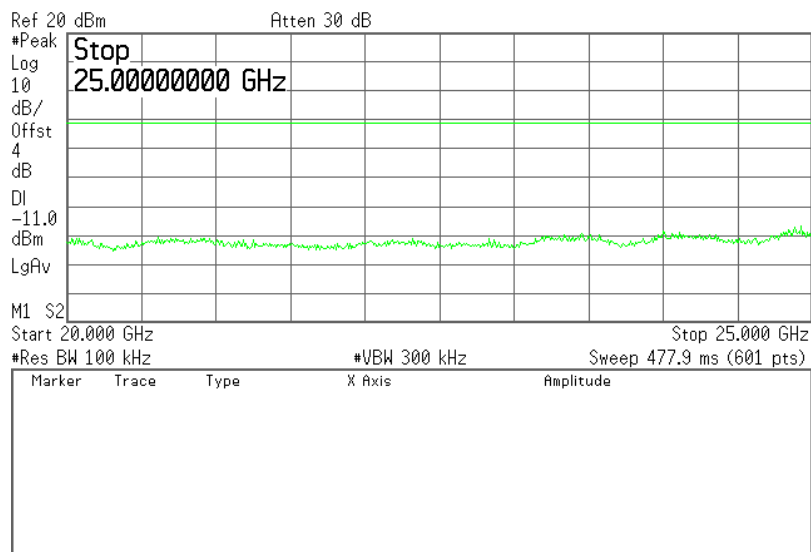
Agilent 19:08:12 May 17, 2012



Agilent 19:08:36 May 17, 2012

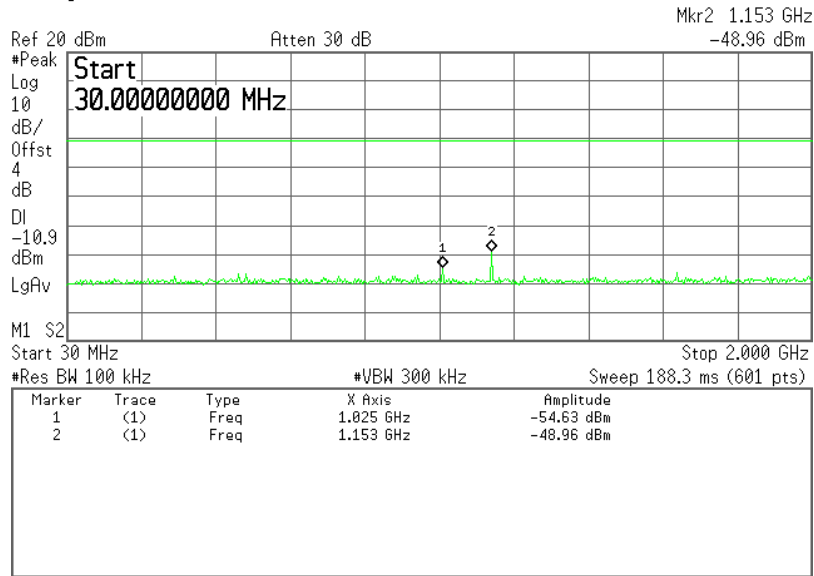


Agilent 19:09:04 May 17, 2012

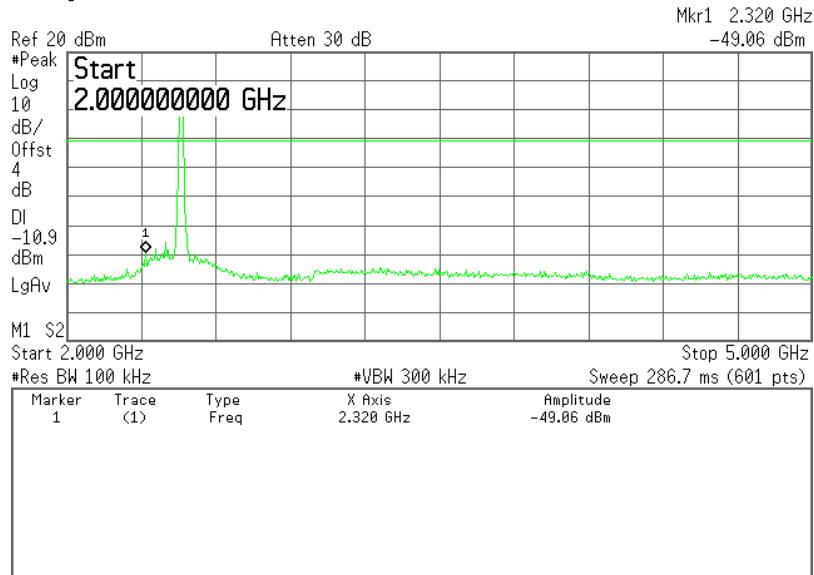


802.11b, Frequency: 2462MHz

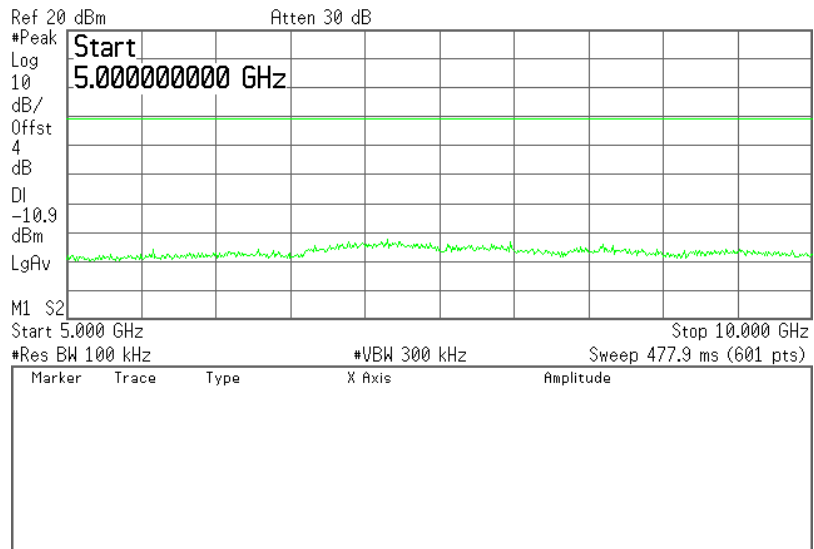
Agilent 19:10:22 May 17, 2012



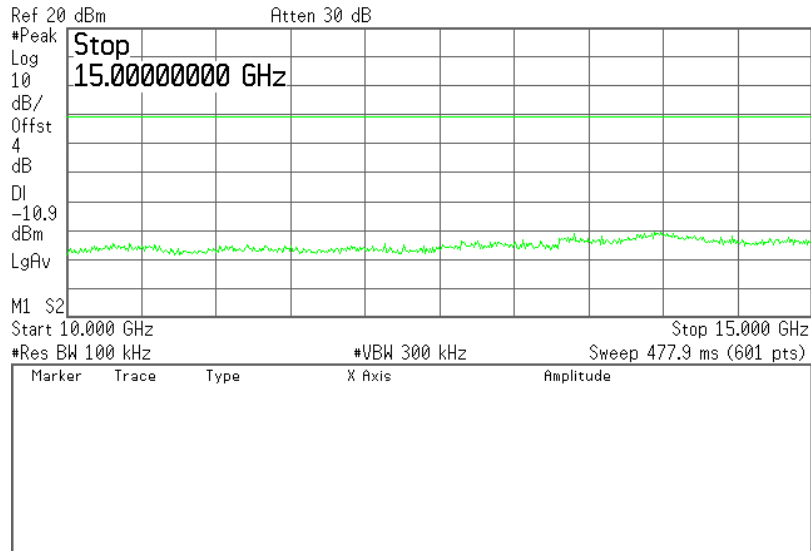
Agilent 19:11:02 May 17, 2012



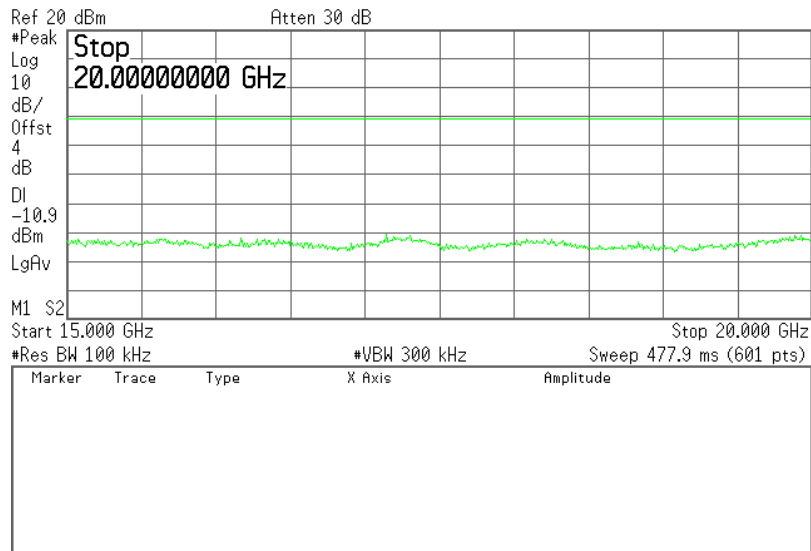
Agilent 19:11:33 May 17, 2012



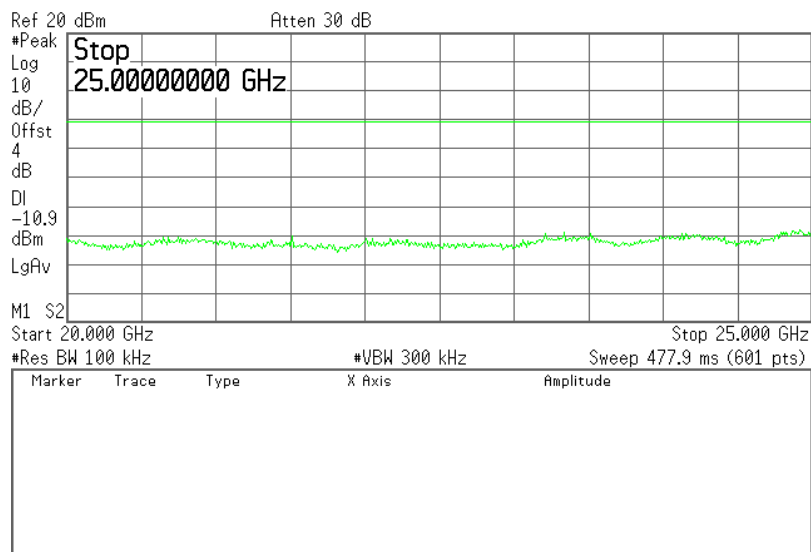
Agilent 19:11:56 May 17, 2012



Agilent 19:12:23 May 17, 2012

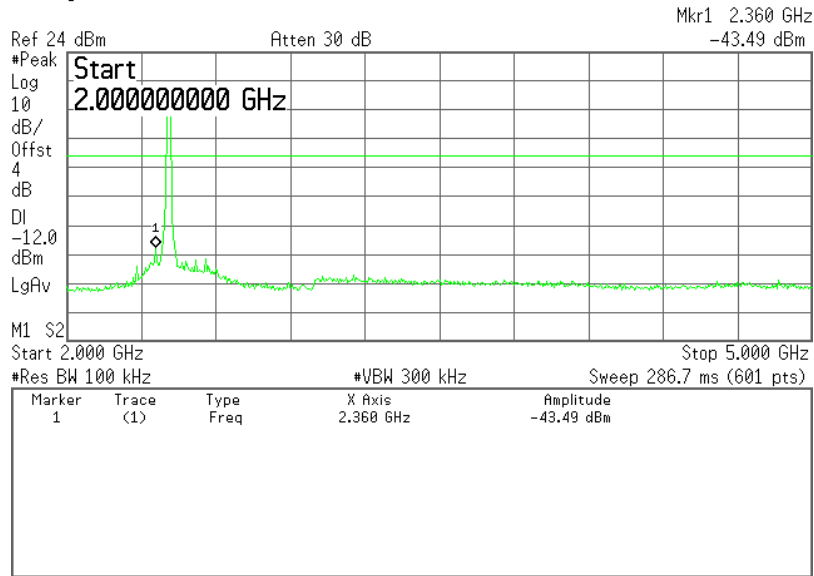


Agilent 19:12:49 May 17, 2012

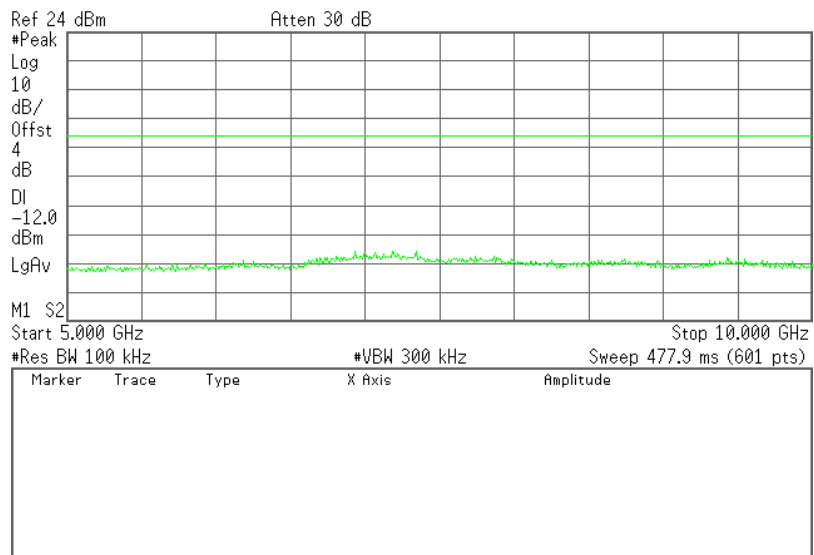


802.11g, Frequency: 2412MHz

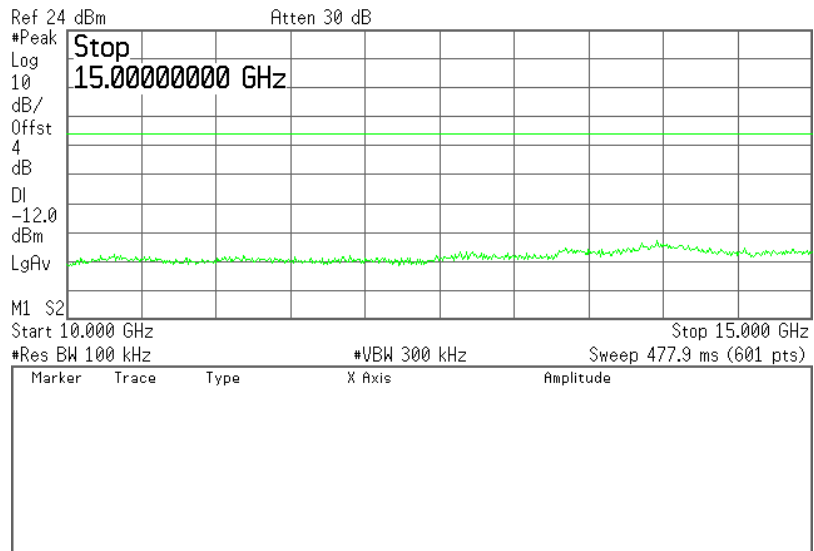
Agilent 10:52:11 May 18, 2012



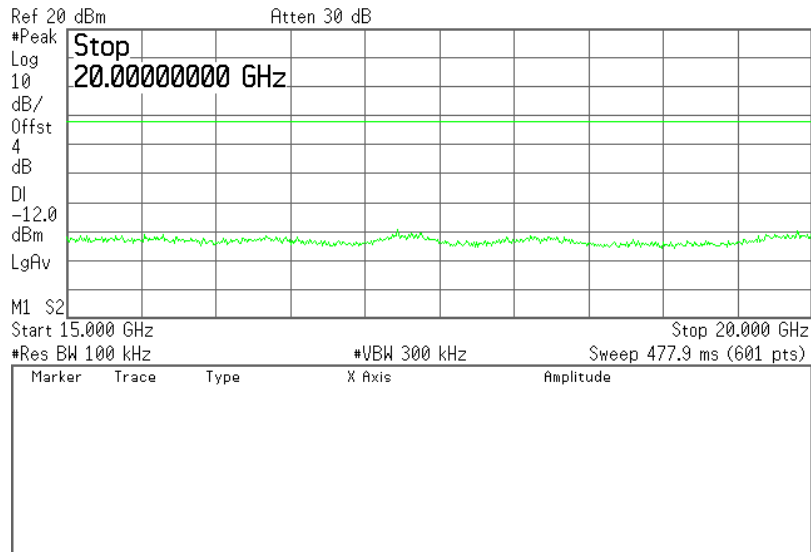
Agilent 10:52:38 May 18, 2012



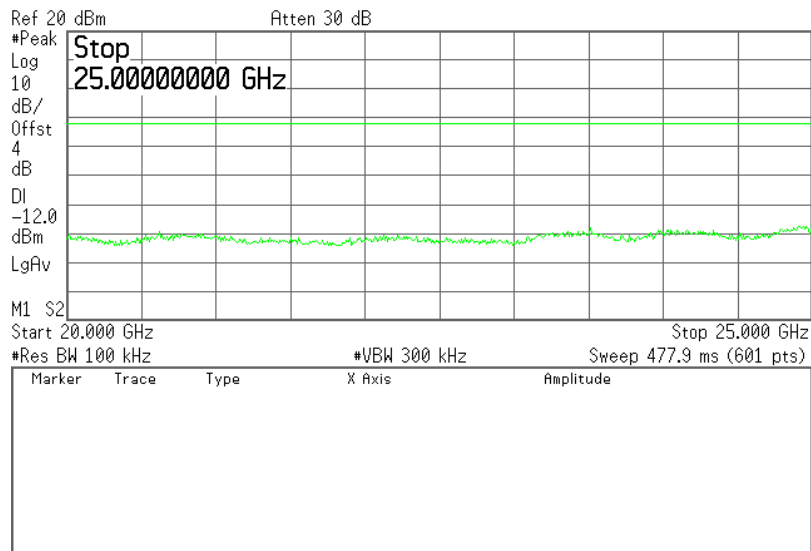
Agilent 10:53:05 May 18, 2012



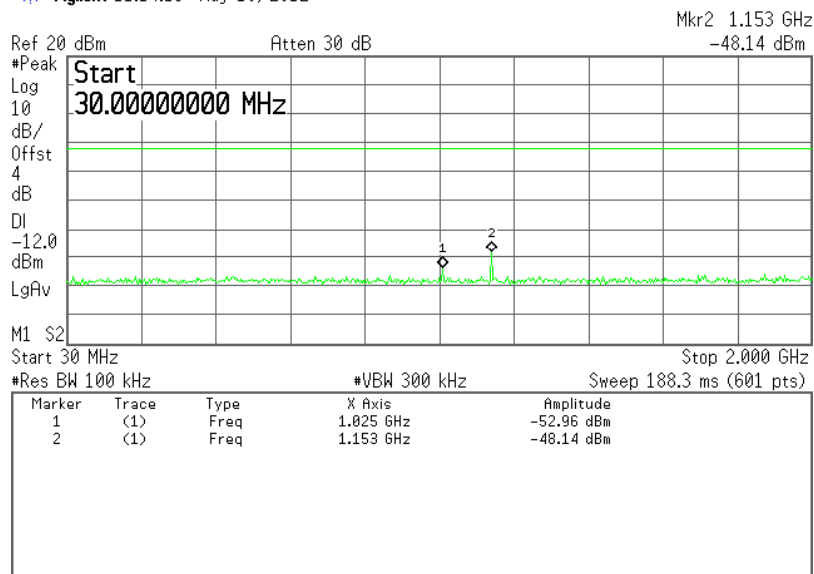
* Agilent 10:53:47 May 18, 2012



* Agilent 10:54:17 May 18, 2012

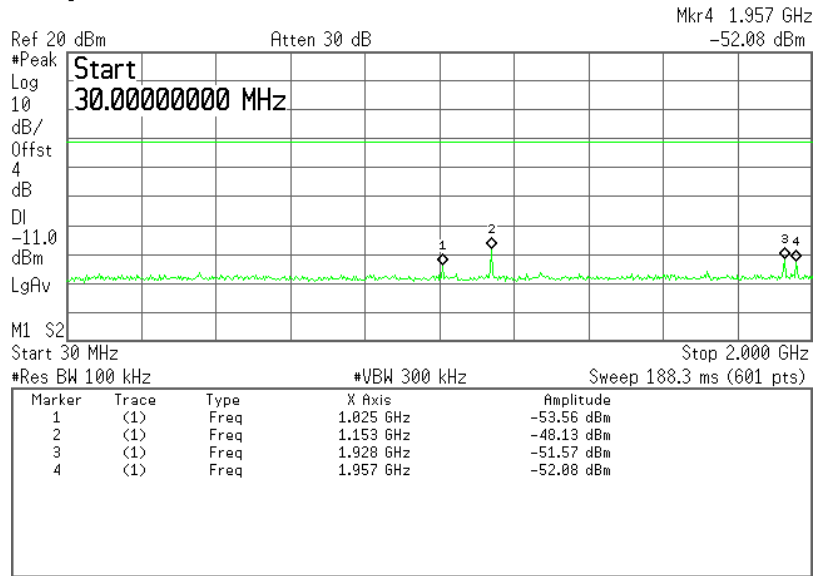


* Agilent 11:14:13 May 18, 2012

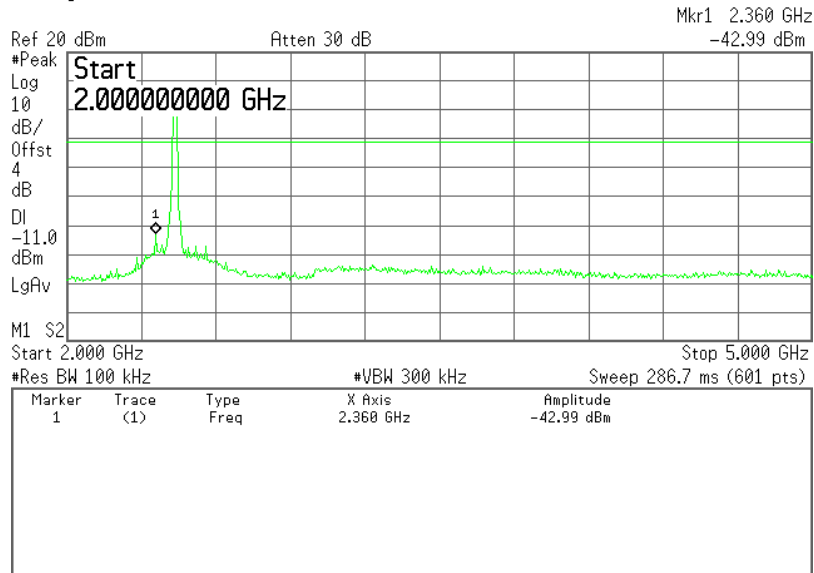


802.11g, Frequency: 2437MHz

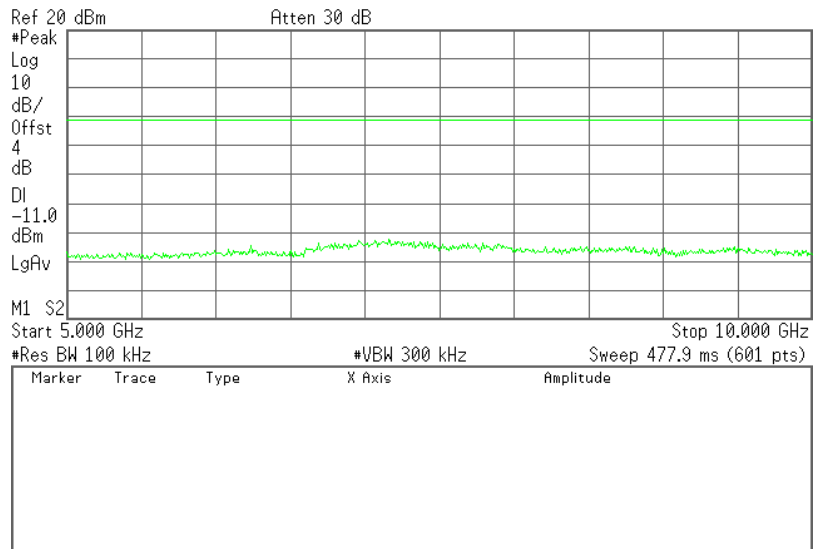
Agilent 10:56:35 May 18, 2012



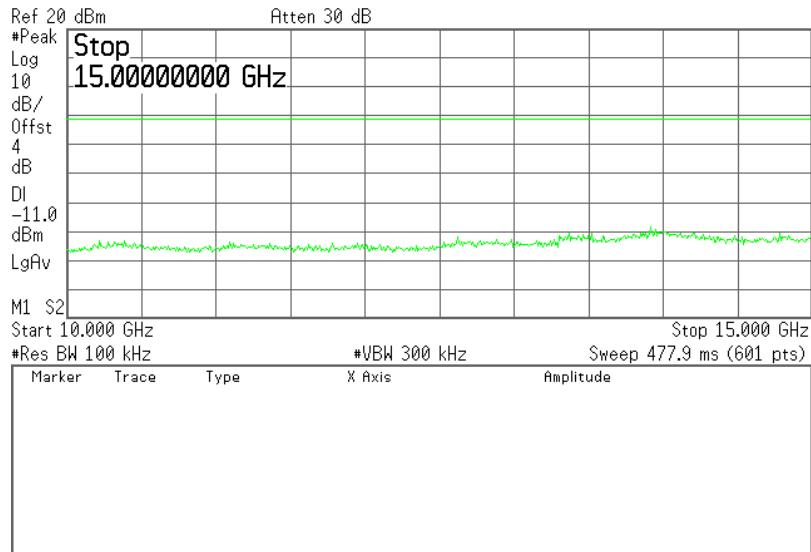
Agilent 10:57:11 May 18, 2012



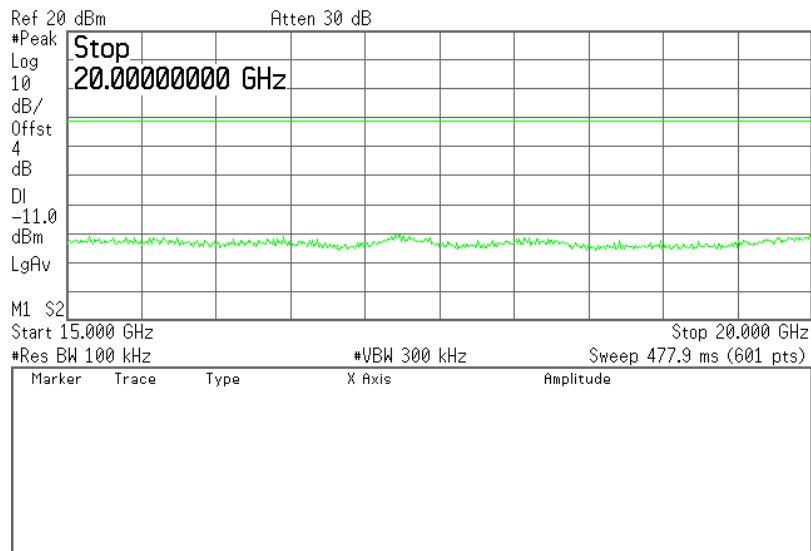
Agilent 10:57:32 May 18, 2012



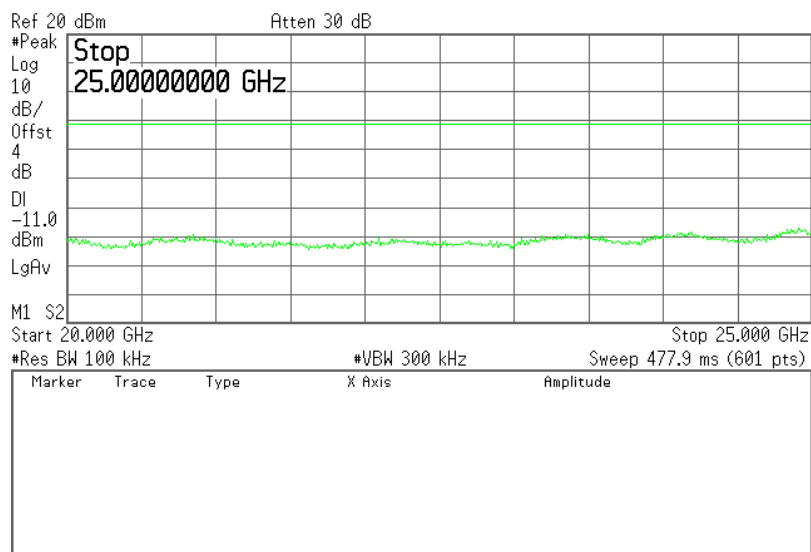
Agilent 10:58:15 May 18, 2012



Agilent 10:59:08 May 18, 2012

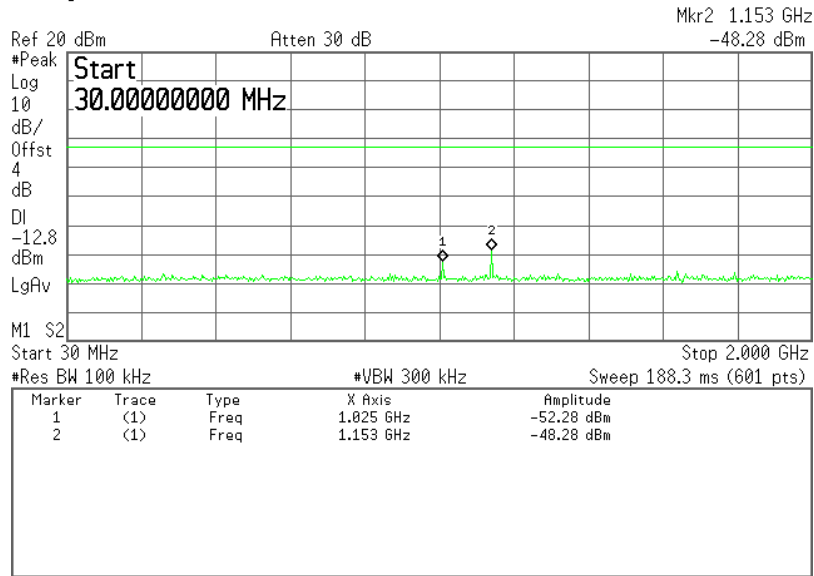


Agilent 10:59:35 May 18, 2012

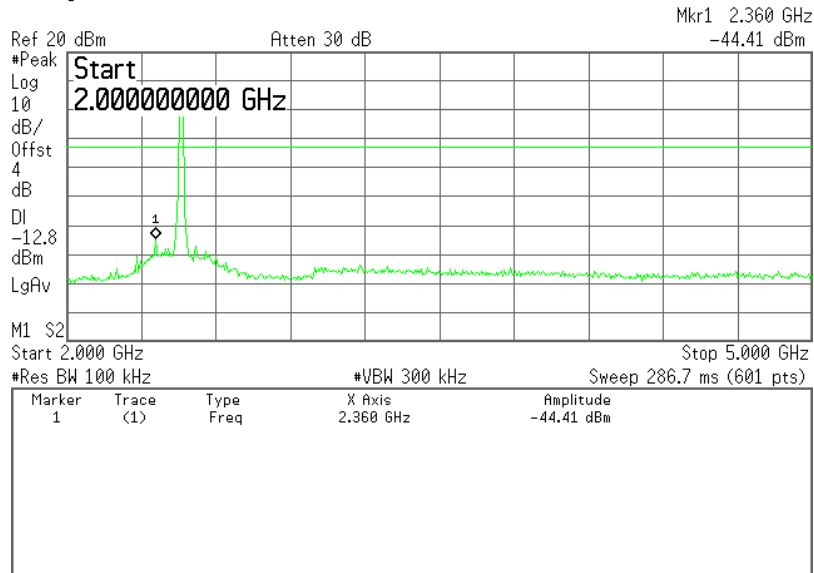


802.11g, Frequency: 2462MHz

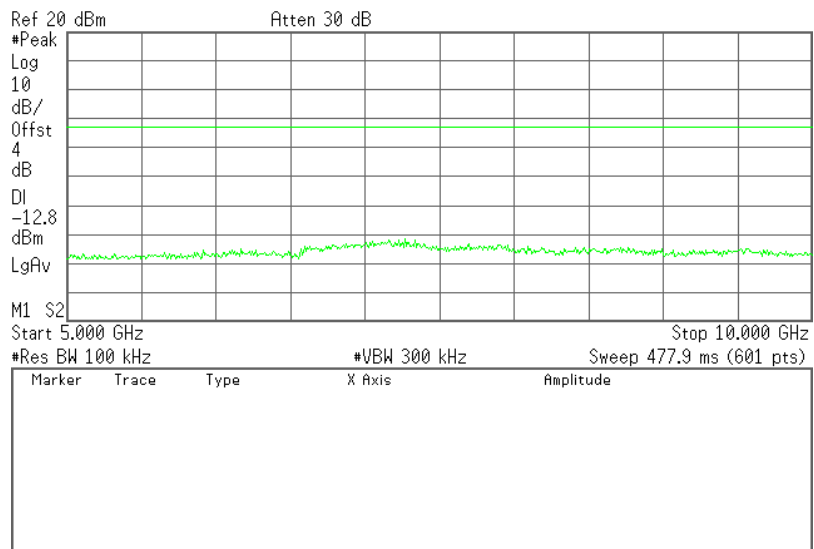
Agilent 11:00:46 May 18, 2012



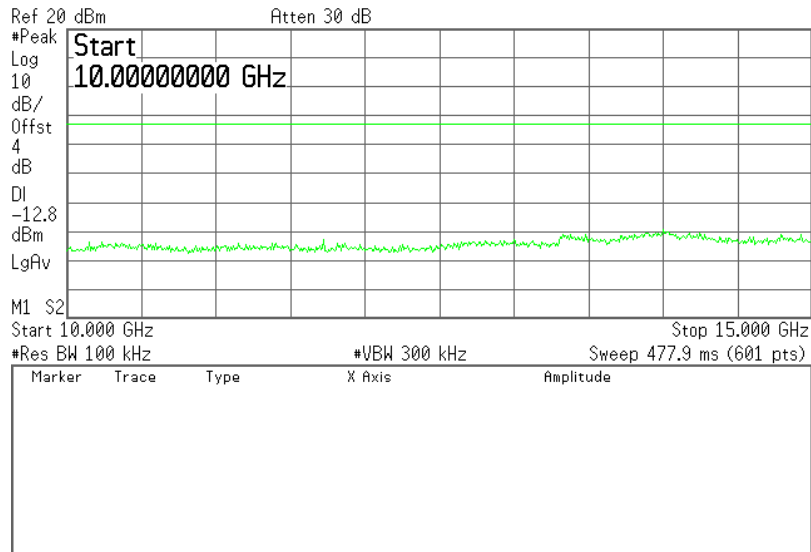
Agilent 11:01:15 May 18, 2012



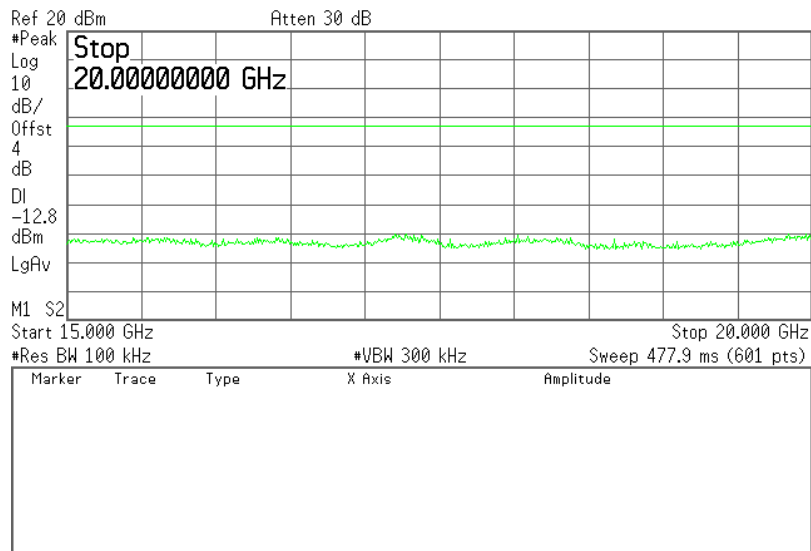
Agilent 11:01:47 May 18, 2012



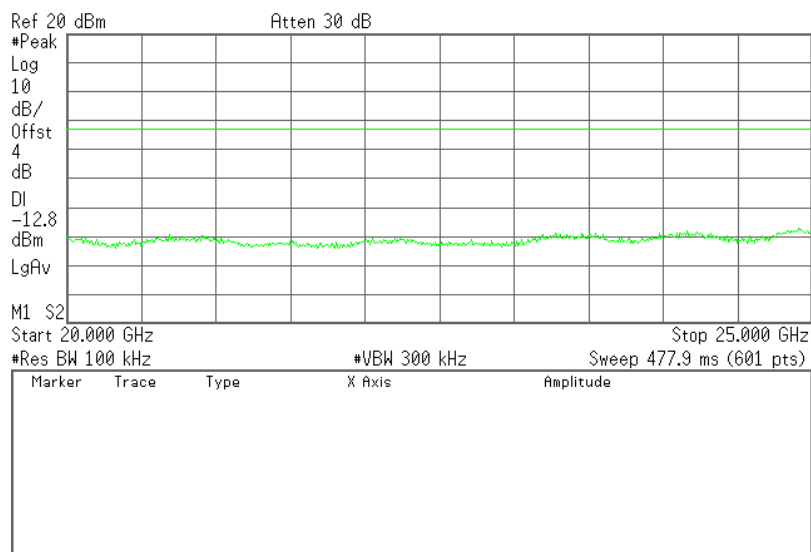
* Agilent 11:02:21 May 18, 2012



* Agilent 11:02:50 May 18, 2012

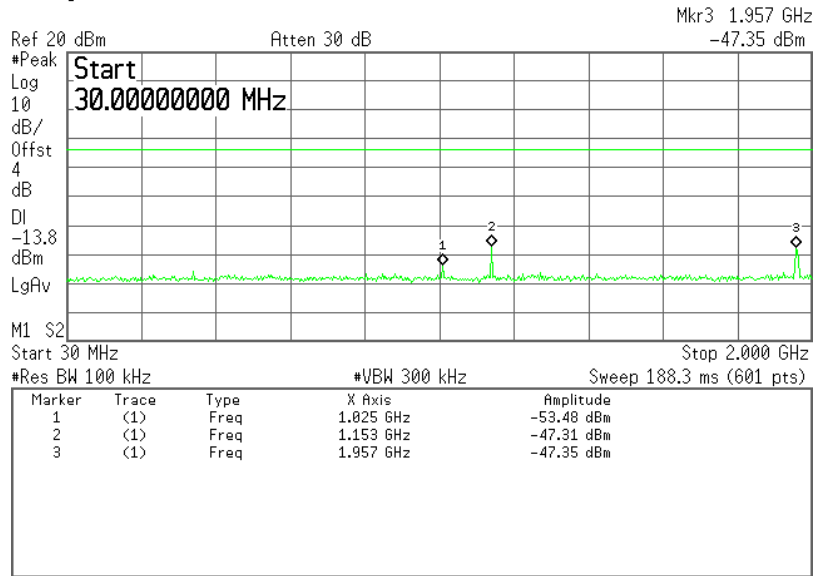


* Agilent 11:03:38 May 18, 2012

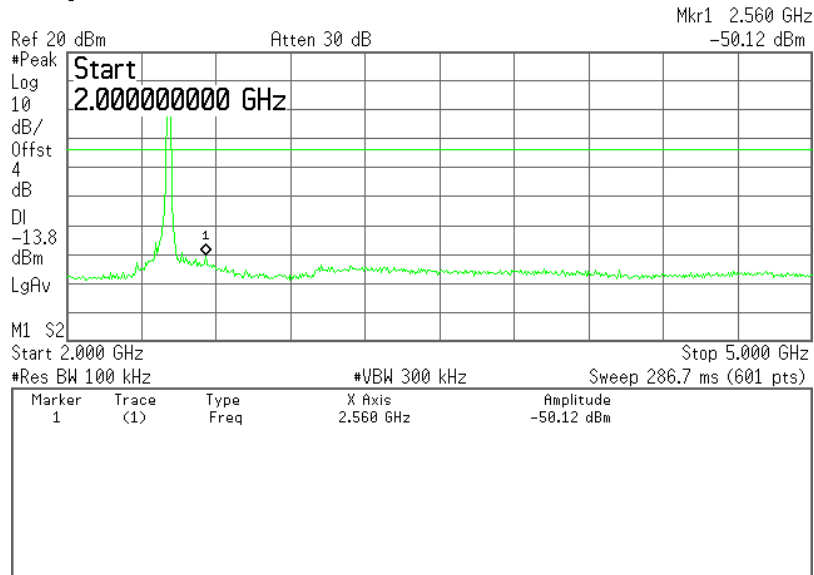


802.11n-HT20, Frequency: 2412MHz

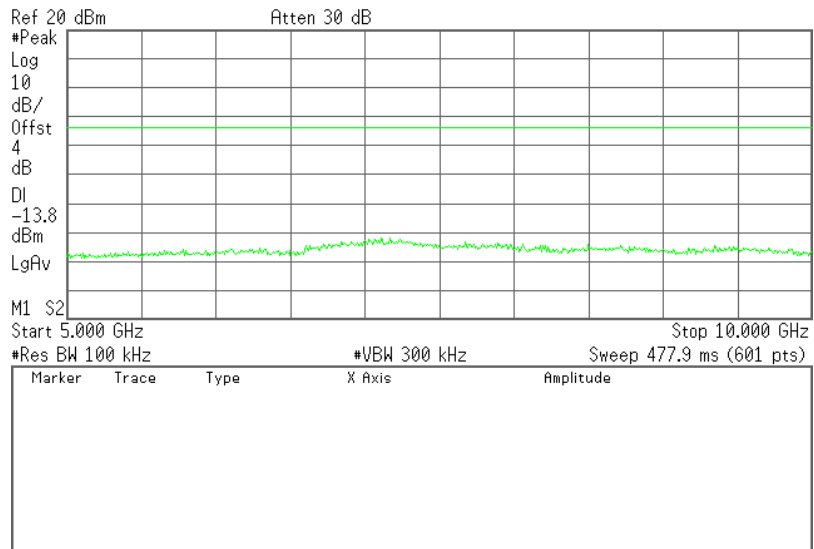
Agilent 11:19:51 May 18, 2012



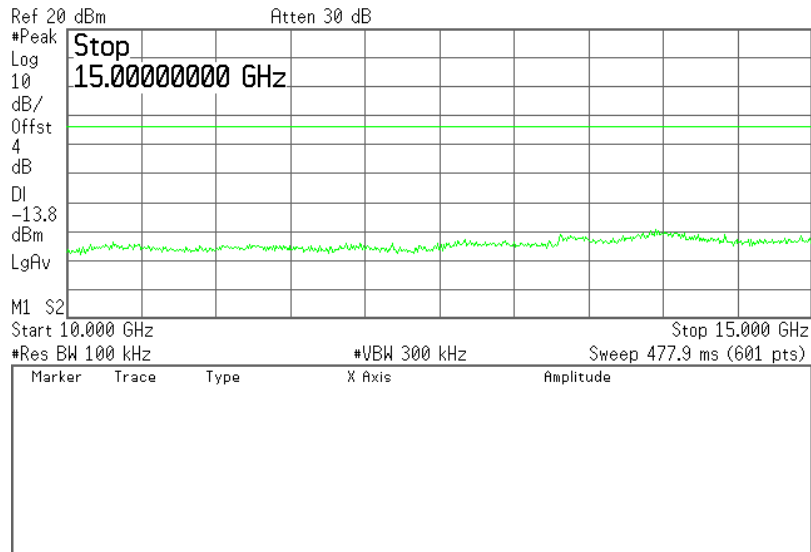
Agilent 11:20:26 May 18, 2012



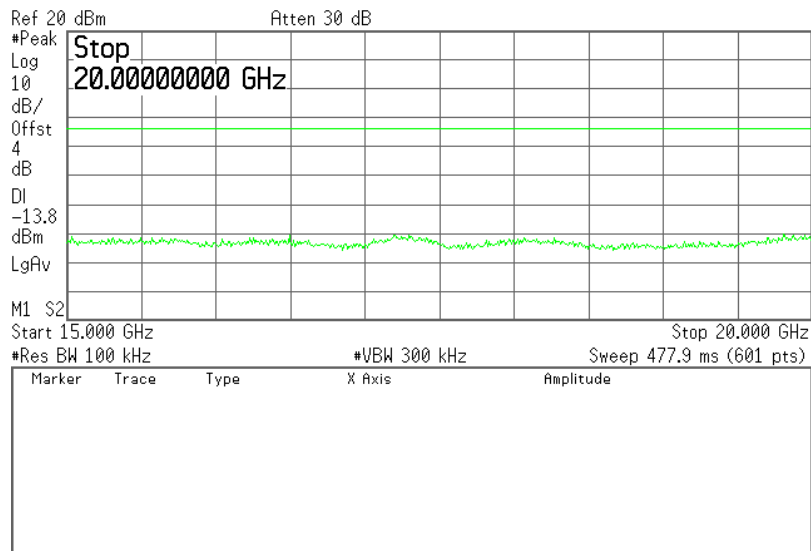
Agilent 11:20:57 May 18, 2012



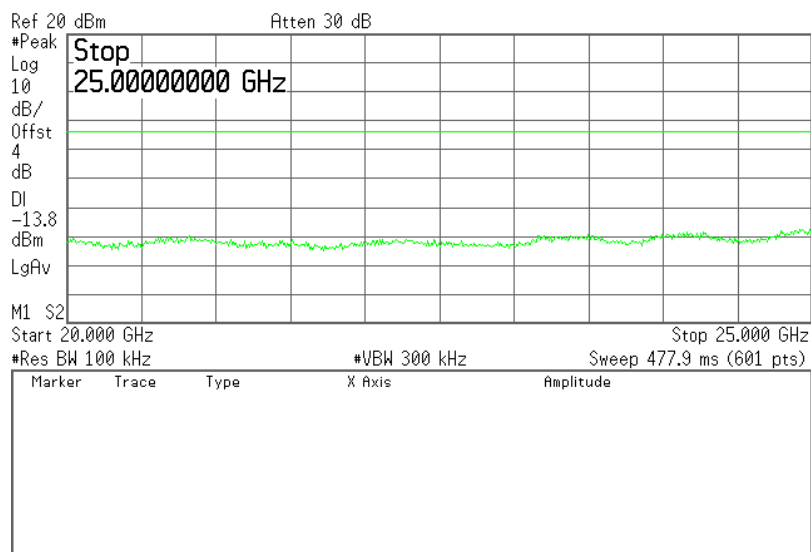
Agilent 11:21:12 May 18, 2012



Agilent 11:21:34 May 18, 2012

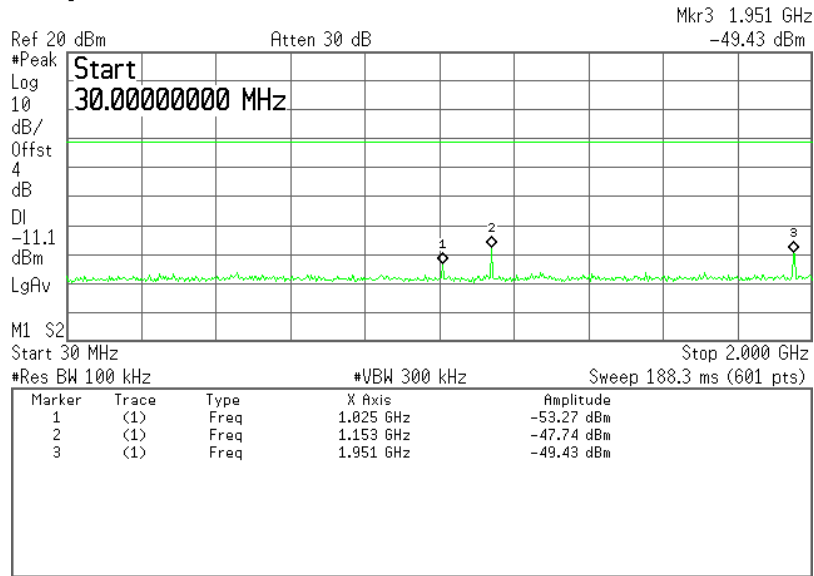


Agilent 11:22:13 May 18, 2012

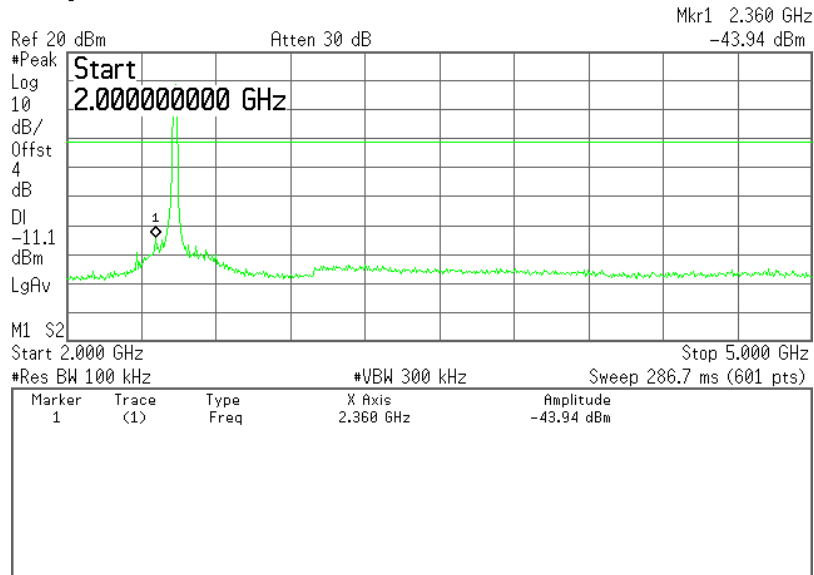


802.11n-HT20, Frequency: 2437MHz

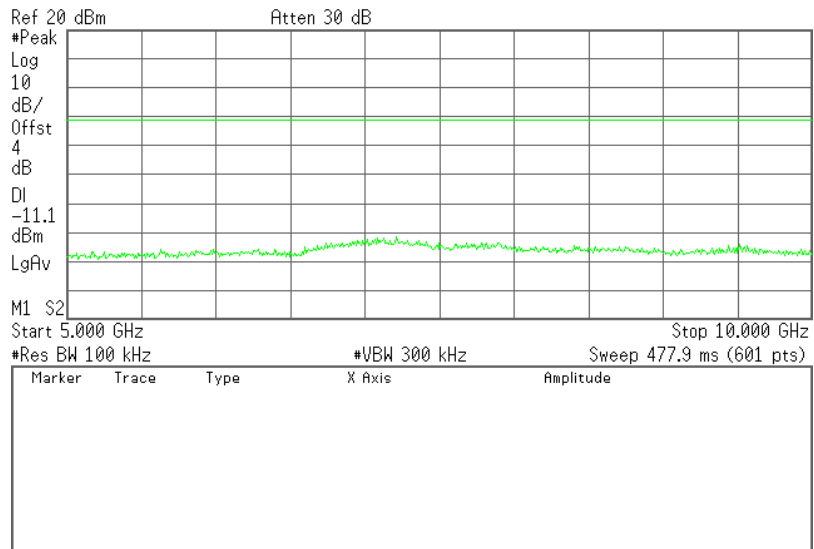
Agilent 11:23:34 May 18, 2012



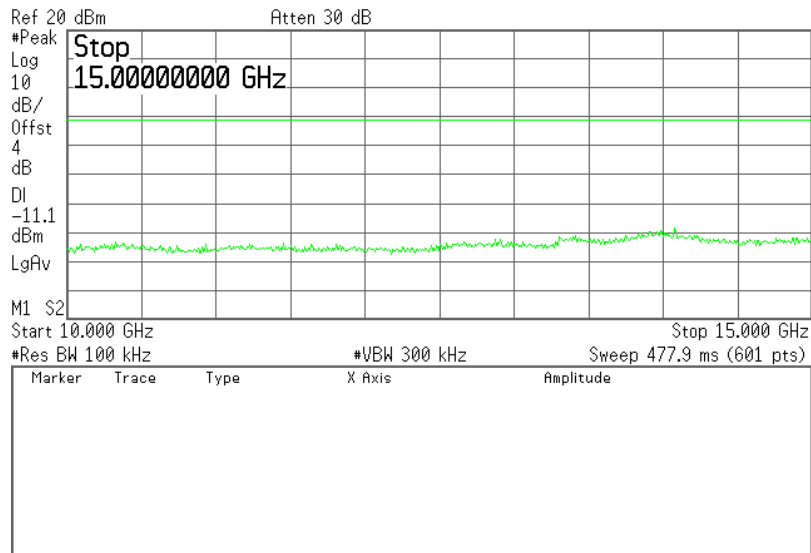
Agilent 11:24:25 May 18, 2012



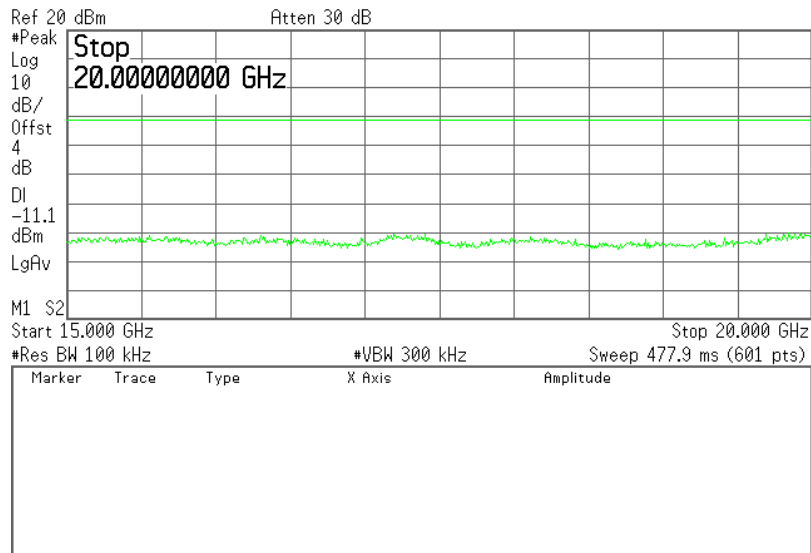
Agilent 11:24:57 May 18, 2012



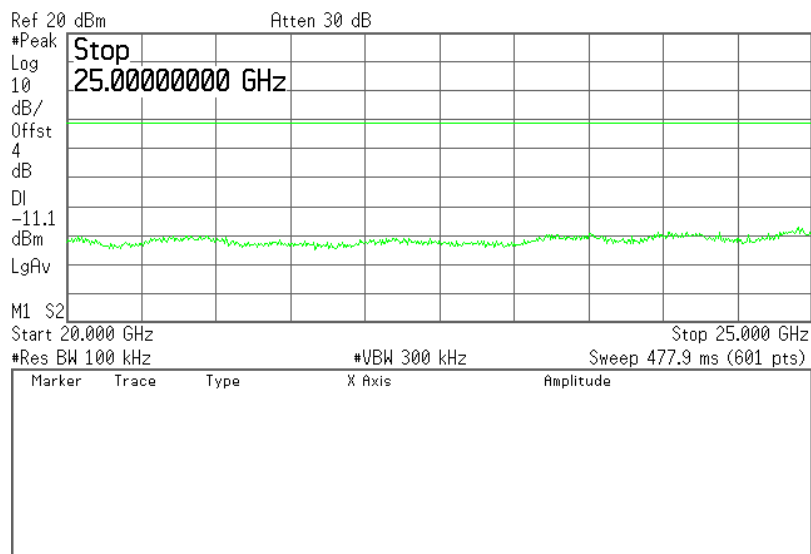
Agilent 11:25:22 May 18, 2012



Agilent 11:25:50 May 18, 2012

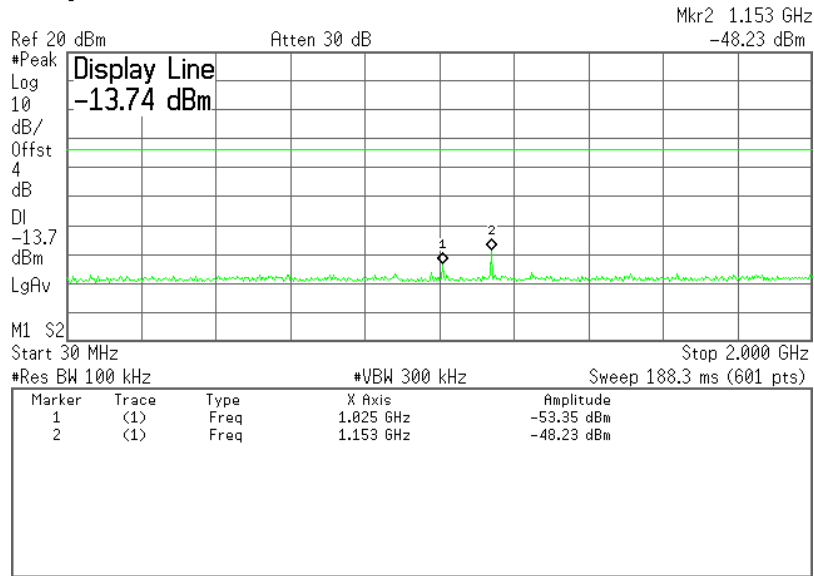


Agilent 11:26:12 May 18, 2012

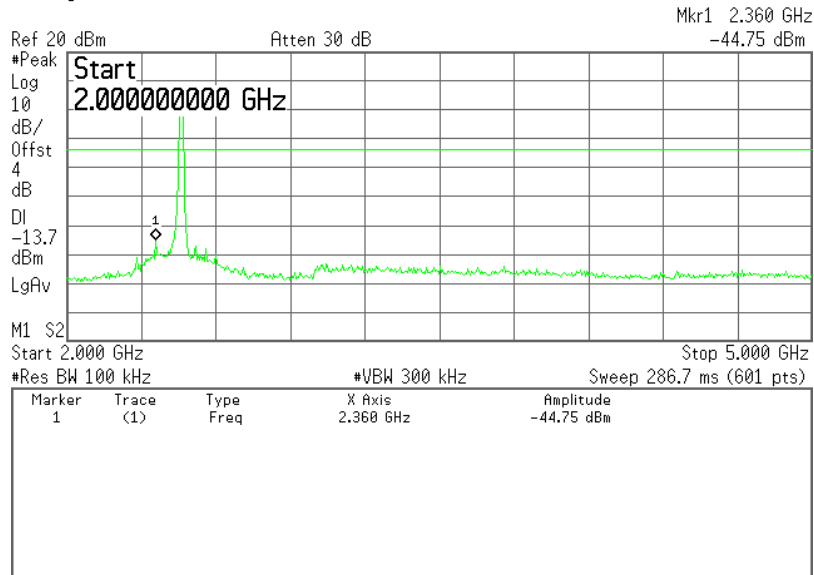


802.11n-HT20, Frequency: 2462MHz

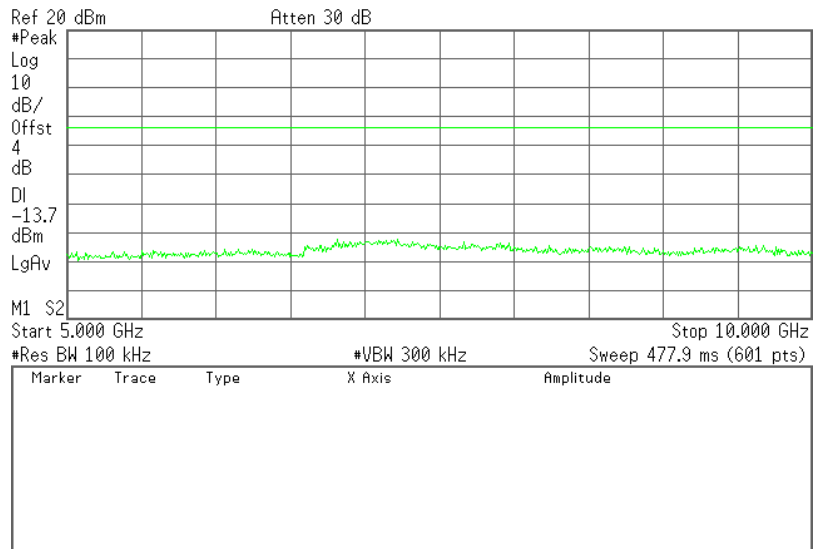
Agilent 11:27:20 May 18, 2012



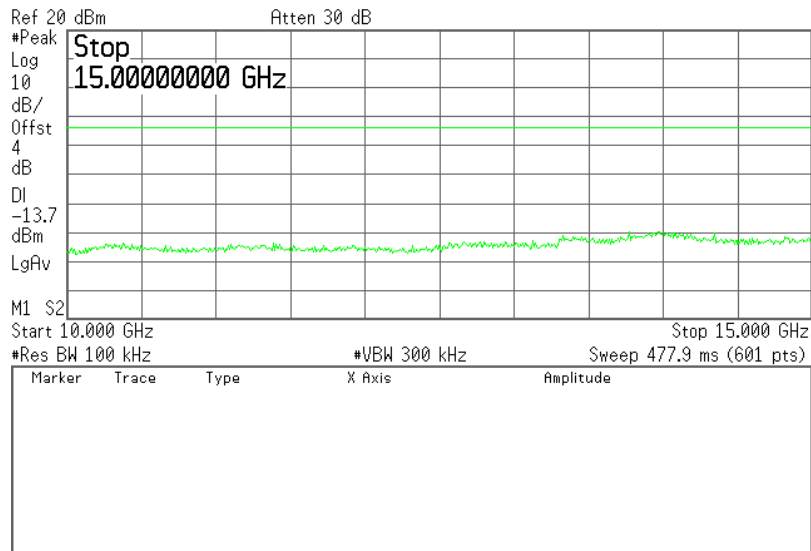
Agilent 11:28:00 May 18, 2012



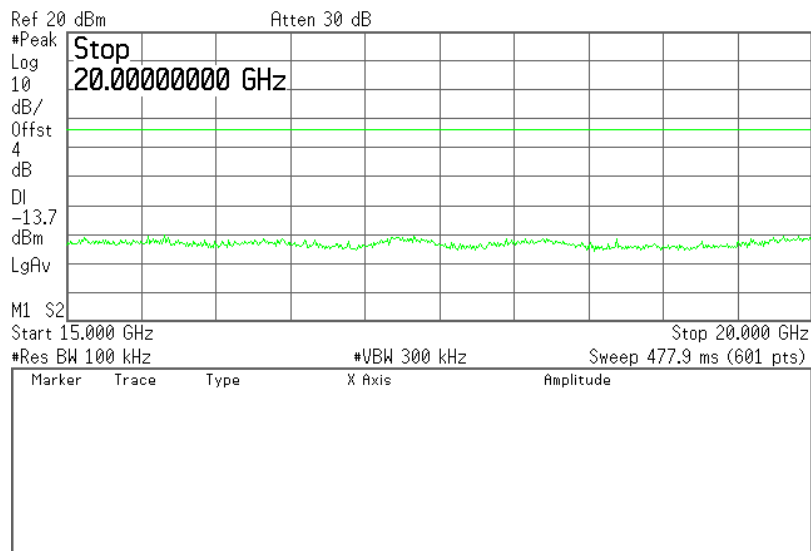
Agilent 11:28:20 May 18, 2012



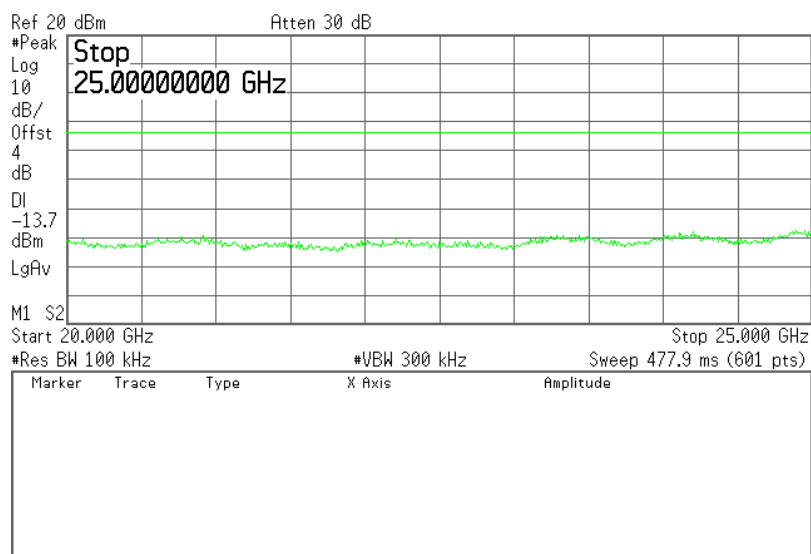
Agilent 11:28:46 May 18, 2012



Agilent 11:29:15 May 18, 2012

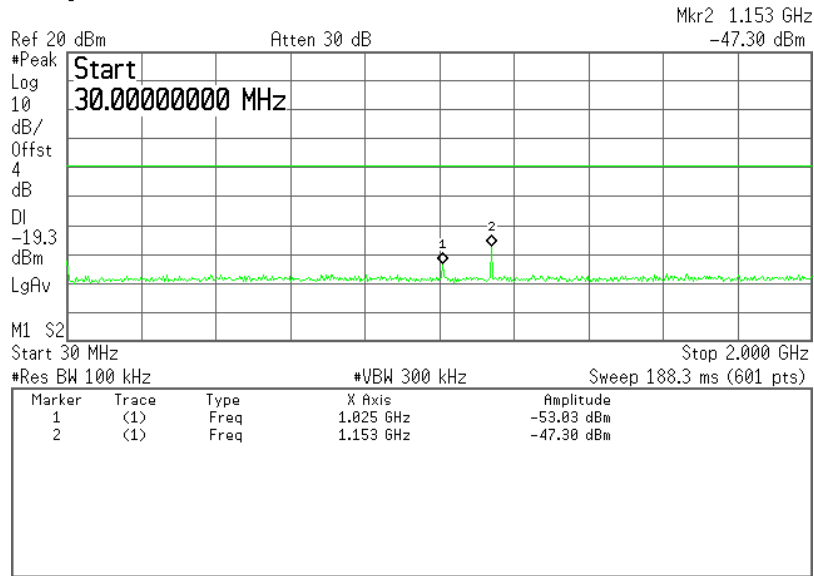


Agilent 11:29:38 May 18, 2012

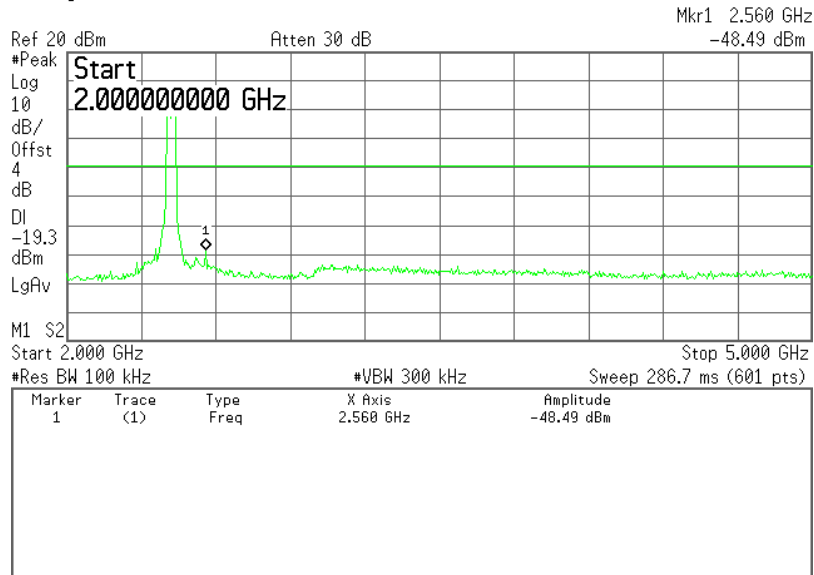


802.11n-HT40, Frequency: 2422MHz

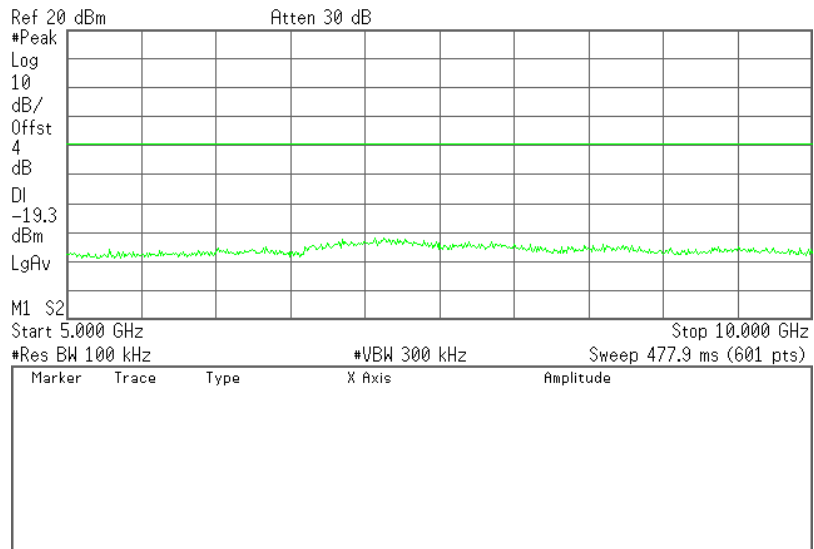
Agilent 12:18:14 May 18, 2012



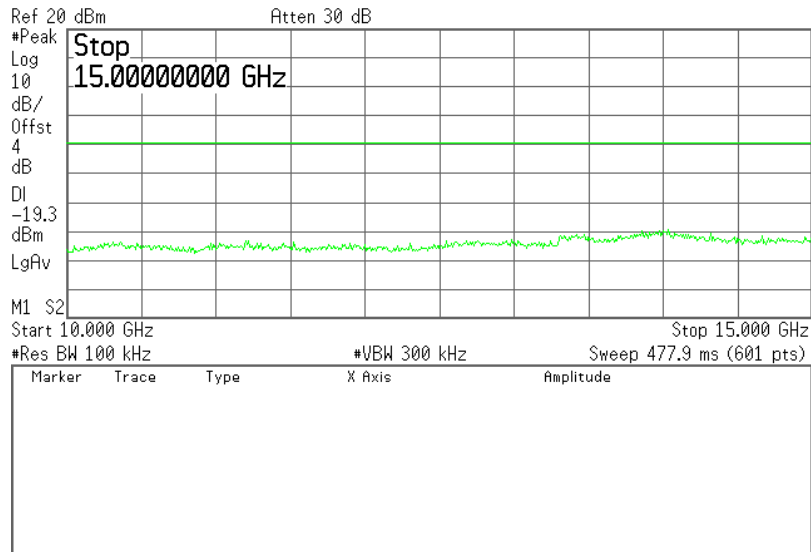
Agilent 12:18:53 May 18, 2012



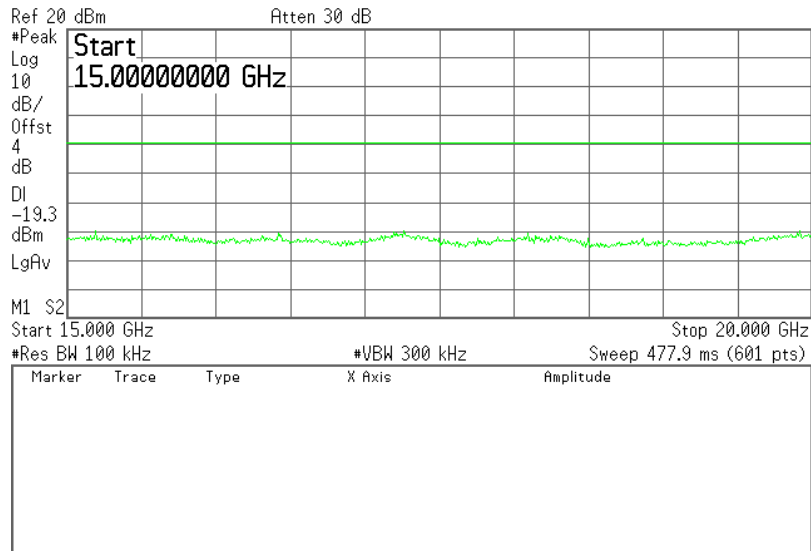
Agilent 12:19:21 May 18, 2012



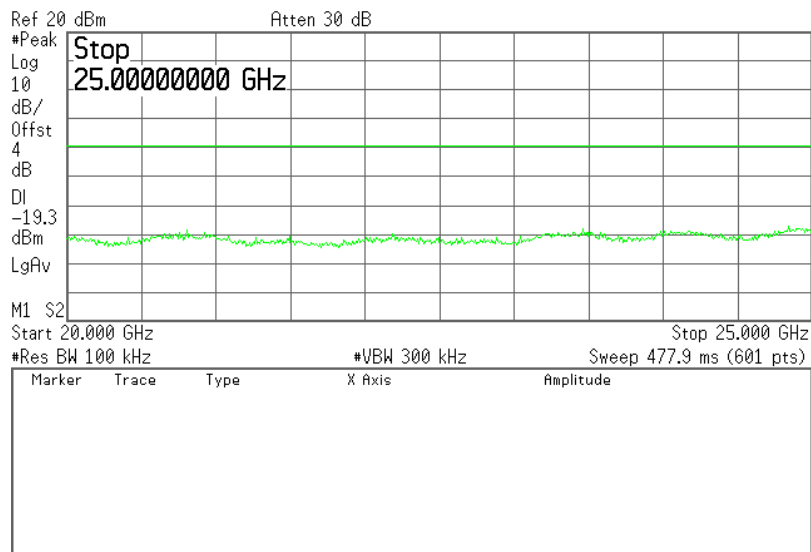
Agilent 12:19:54 May 18, 2012



Agilent 12:20:37 May 18, 2012

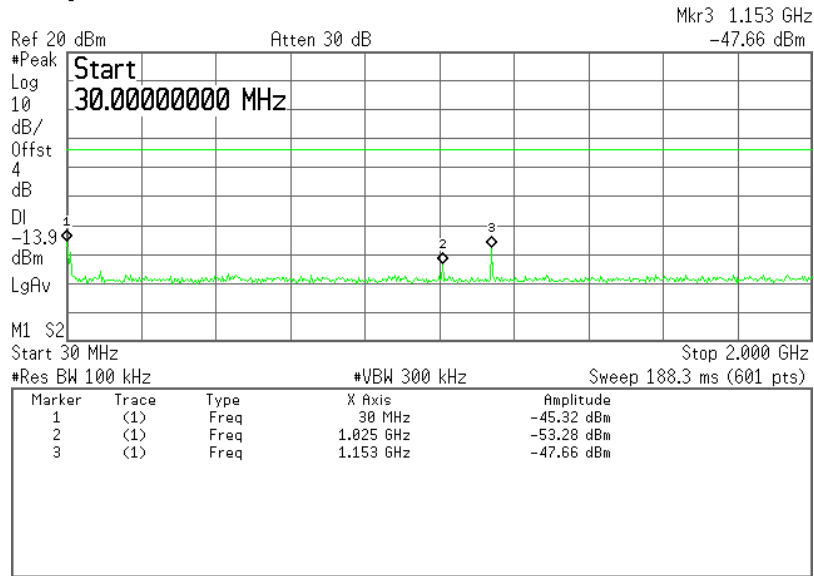


Agilent 12:21:12 May 18, 2012

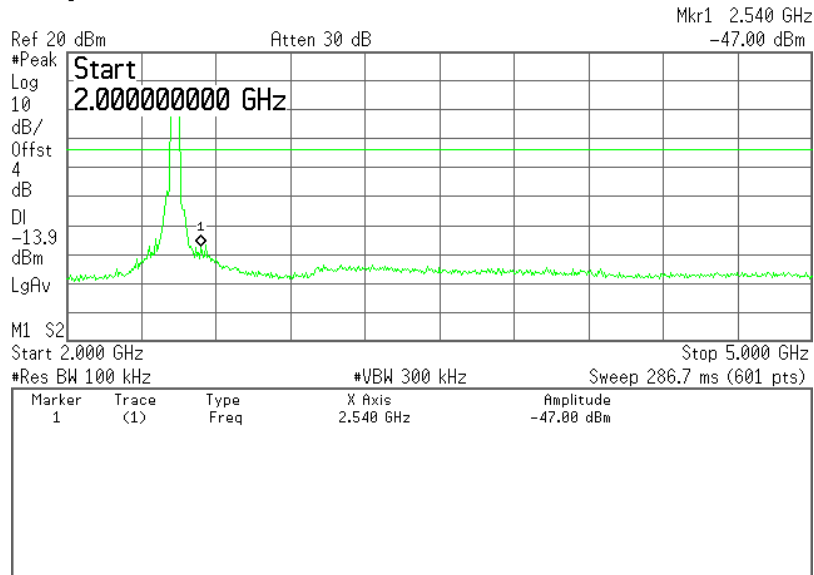


802.11n-HT40, Frequency: 2437MHz

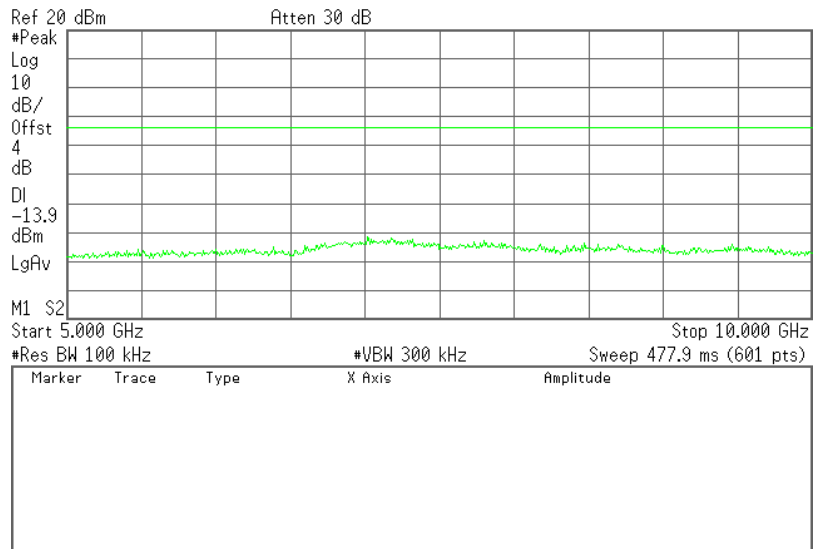
Agilent 12:23:32 May 18, 2012



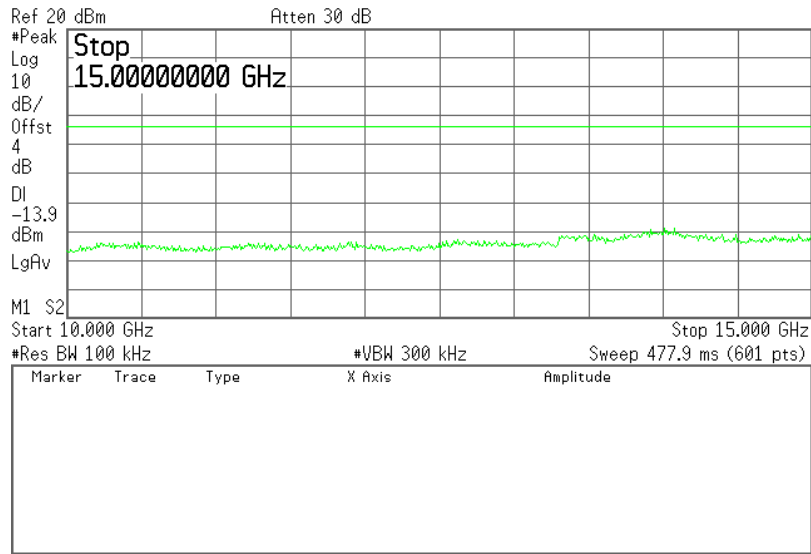
Agilent 12:24:13 May 18, 2012



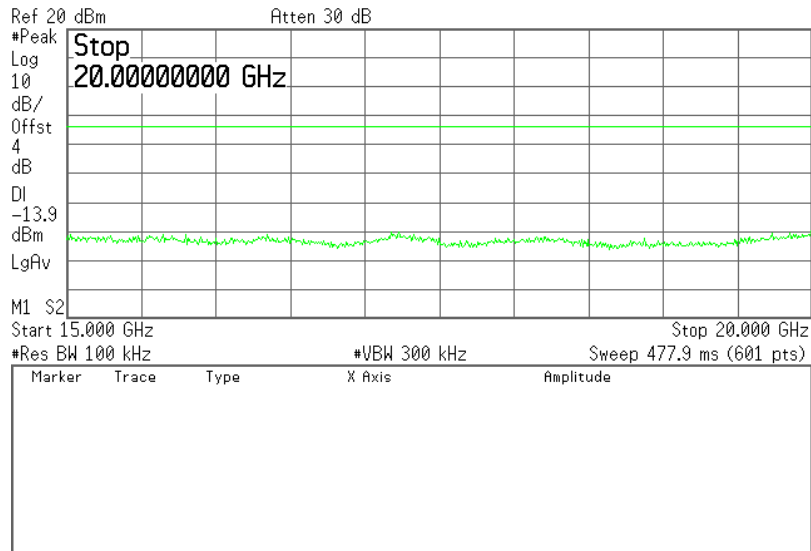
Agilent 12:24:50 May 18, 2012



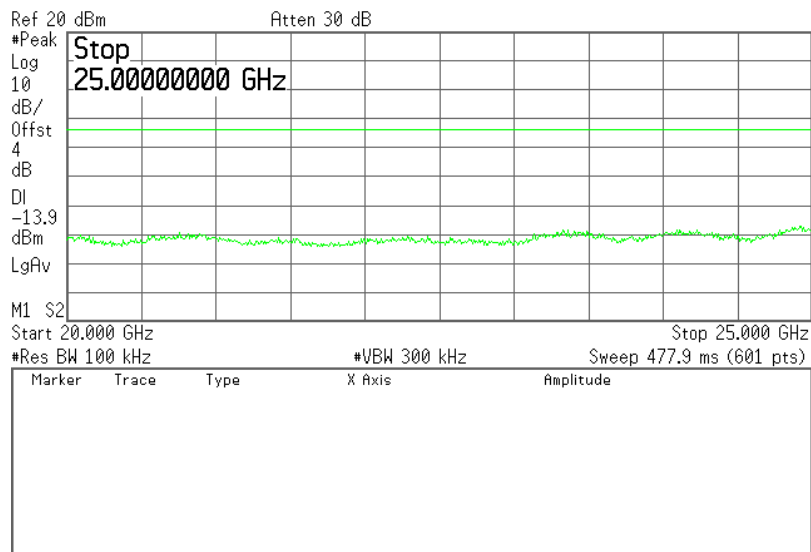
Agilent 12:25:18 May 18, 2012



Agilent 12:25:42 May 18, 2012

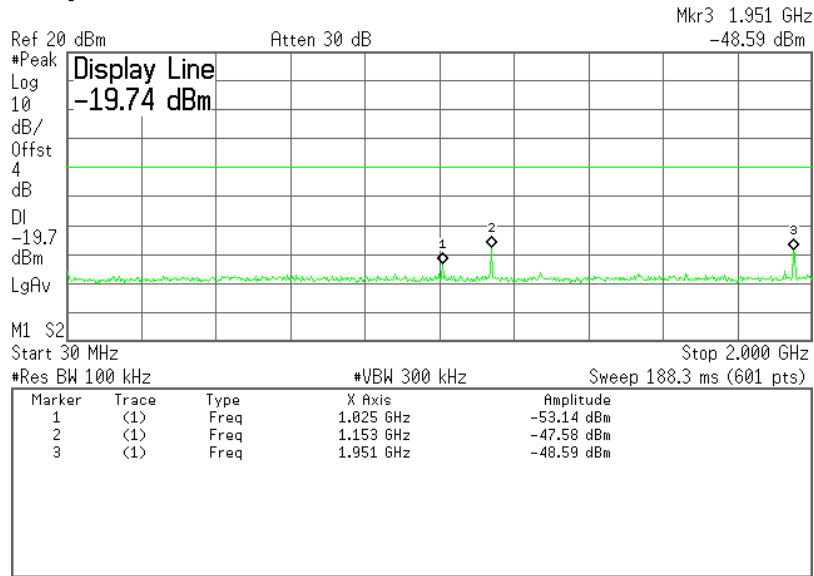


Agilent 12:26:13 May 18, 2012

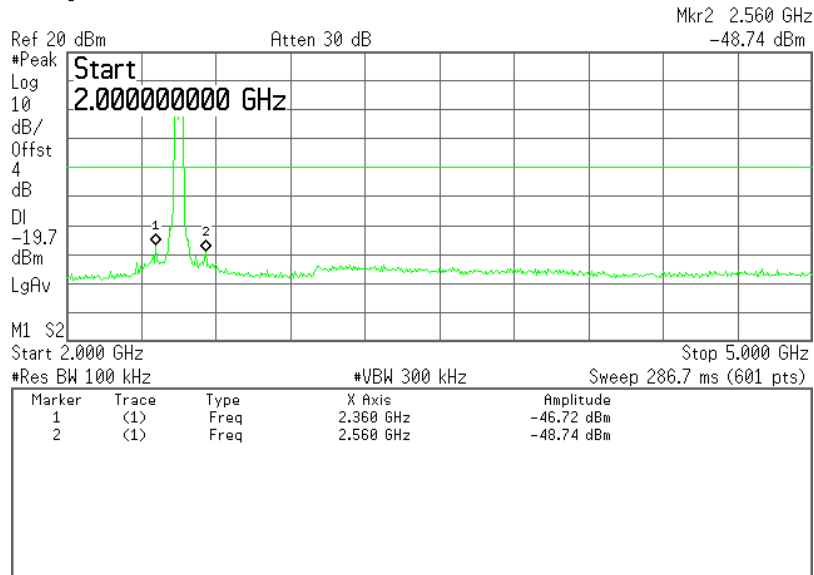


802.11n-HT40, Frequency: 2452MHz

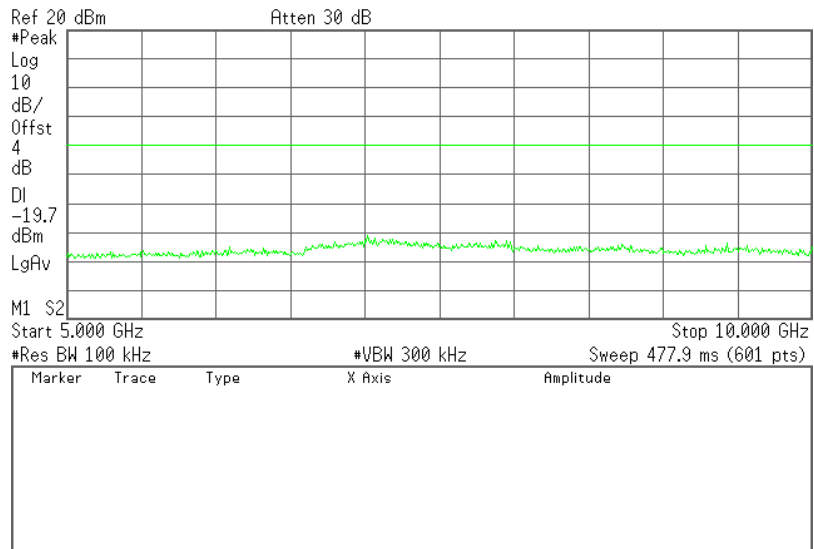
Agilent 12:27:22 May 18, 2012



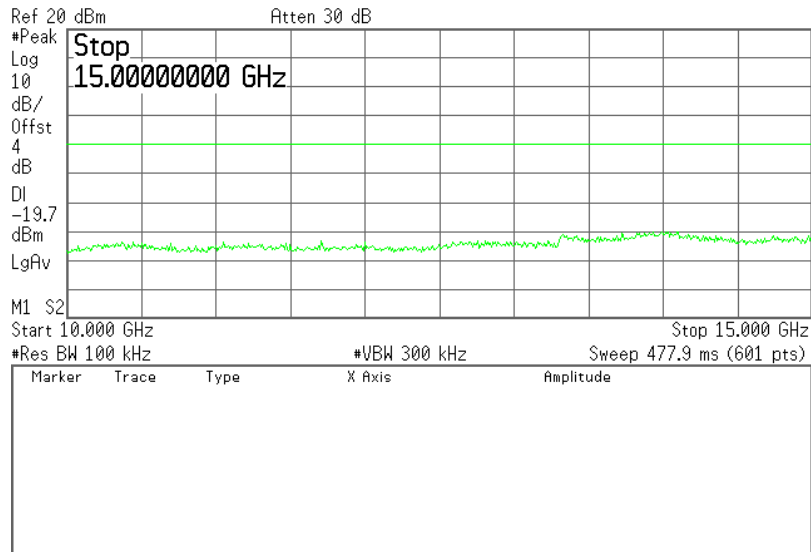
Agilent 12:28:20 May 18, 2012



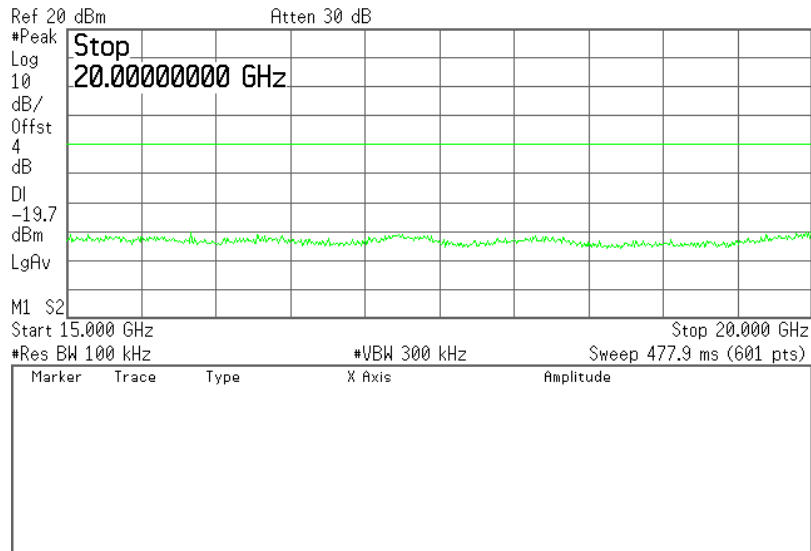
Agilent 12:28:45 May 18, 2012



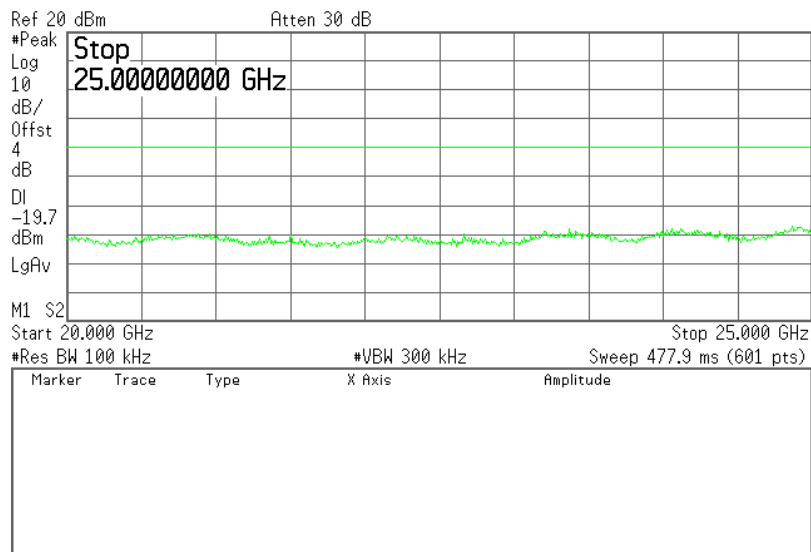
Agilent 12:29:09 May 18, 2012



Agilent 12:29:32 May 18, 2012



Agilent 12:30:04 May 18, 2012



7. BAND EDGES MEASUREMENT

7.1. Test Equipment

The following test equipment was used during the band edges measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Aug. 04, 11'	Aug. 03, 12'

7.2. Block Diagram of Test Setup

The same as section.4.2.

7.3. Specification Limits (§15.247(c))

7.3.1. The highest level should be at least 20 dB below that in the 100kHz bandwidth.

7.3.2. The reference level for determining limit of emission limitations is according to the value measured indicated in plots at section 8.6.

7.4. Operating Condition of EUT

The Notebook PC was running test program “Ralink QA test” used to enable the EUT to transmit data at different channel frequency individually.

7.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. Set both RBW 100kHz and VBW of spectrum analyzer to 300kHz with suitable frequency span including 100kHz bandwidth from band edge.

The measurement guideline was according to KDB 558074 D01.

7.6. Test Results

PASSED. All the test results are attached in next pages.

Test Date : May 17, 2012 Temperature : 25 Humidity : 60%

802.11b

Below Band edge: The highest emission level is -40.67dBm on 2.39992GHz.

Upper Band edge : The highest emission level is -45.22dBm on 2.48350GHz.

802.11g

Below Band edge: The highest emission level is -31.59dBm on 2.39992GHz.

Upper Band edge : The highest emission level is -44.36dBm on 2.48350GHz.

802.11n-HT20

Below Band edge: The highest emission level is -31.45dBm on 2.39992GHz.

Upper Band edge : The highest emission level is -46.32dBm on 2.48350GHz.

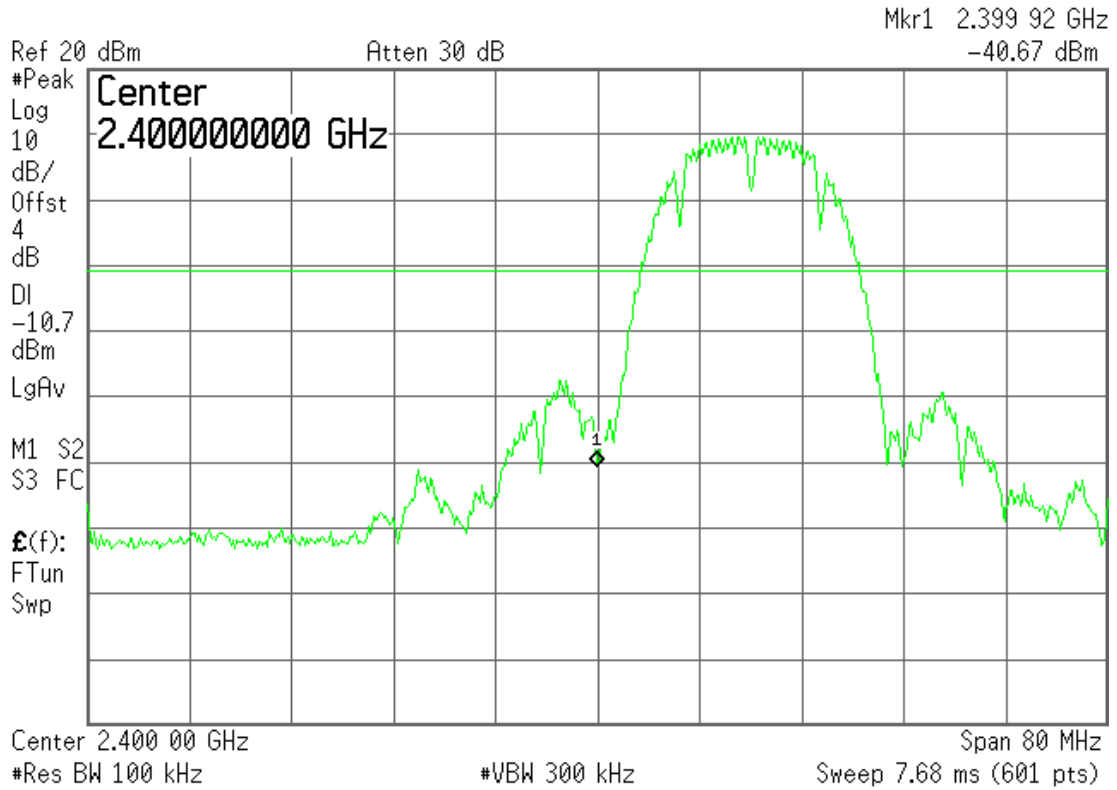
802.11n-HT40

Below Band edge: The highest emission level is -36.01dBm on 2.39990GHz.

Upper Band edge : The highest emission level is -39.43dBm on 2.48350GHz.

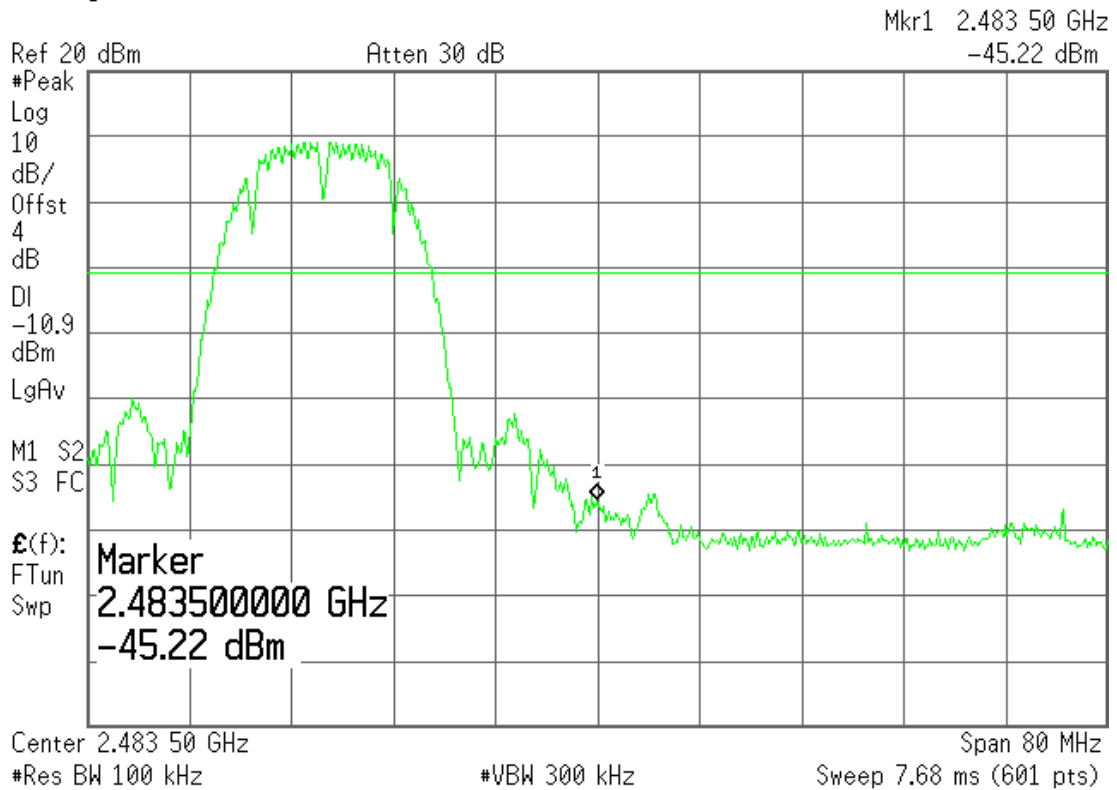
802.11b
Below Band edge

* Agilent 18:46:38 May 17, 2012



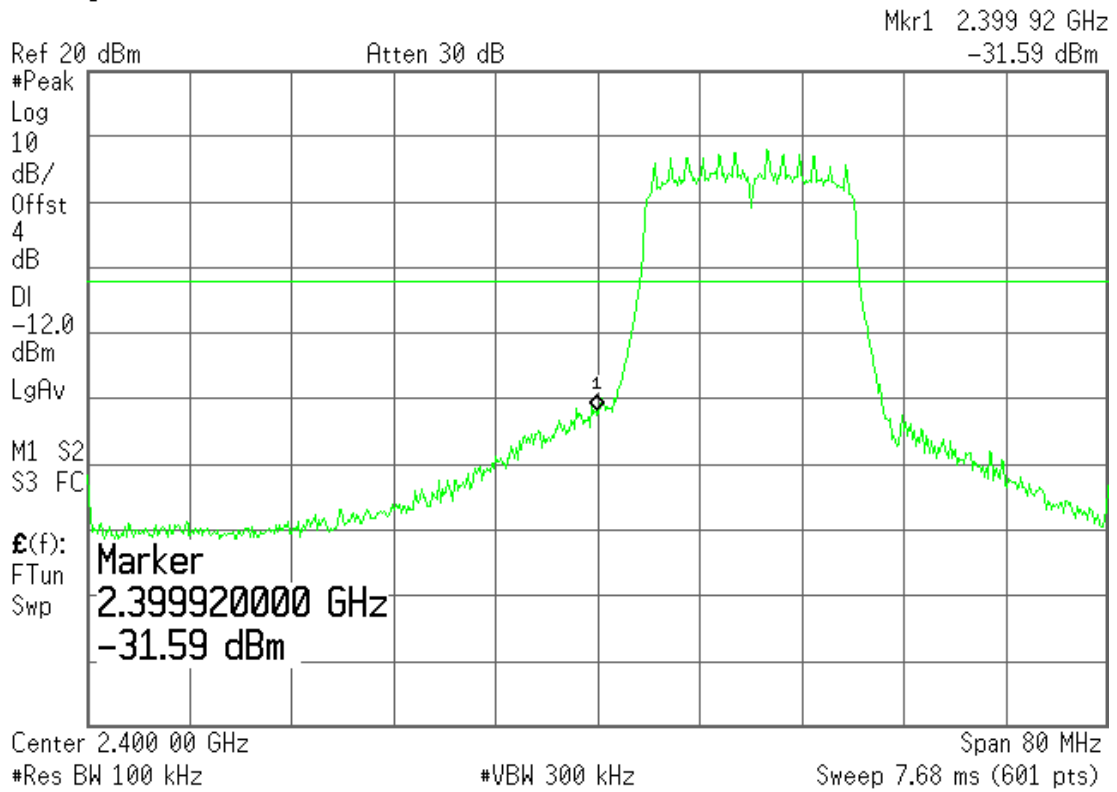
Upper Band edge

* Agilent 18:47:34 May 17, 2012



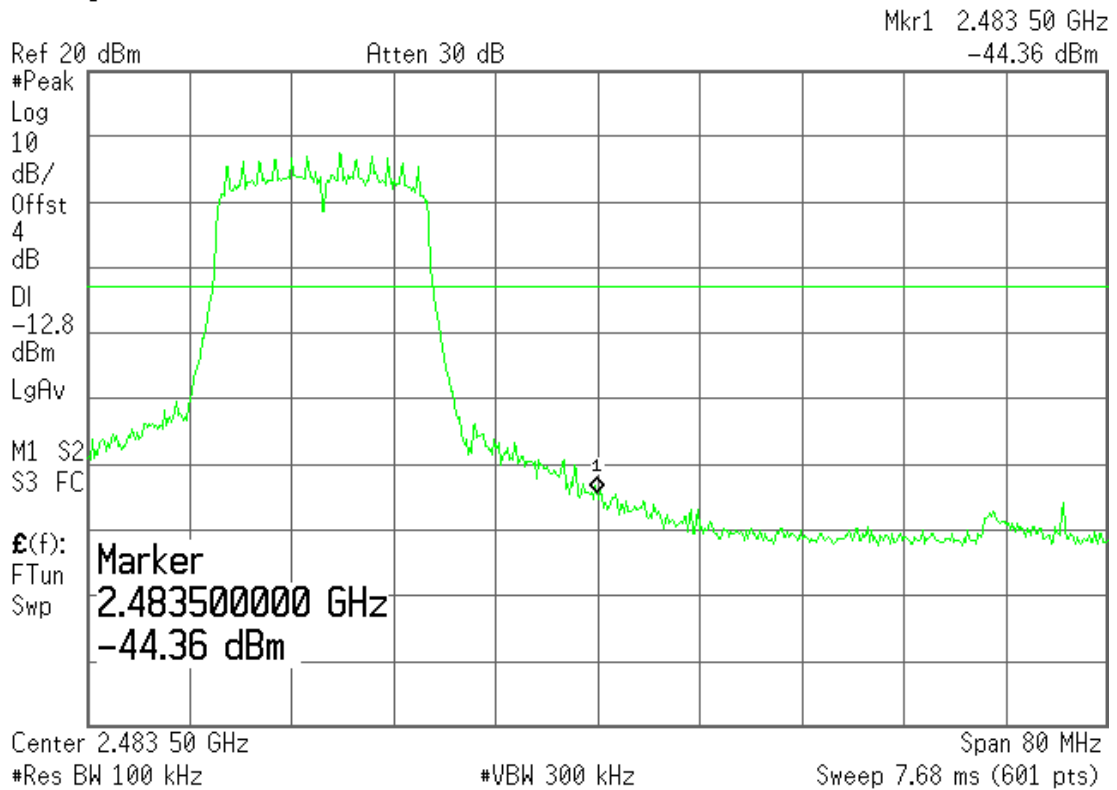
802.11g
Below Band edge

Agilent 18:48:36 May 17, 2012



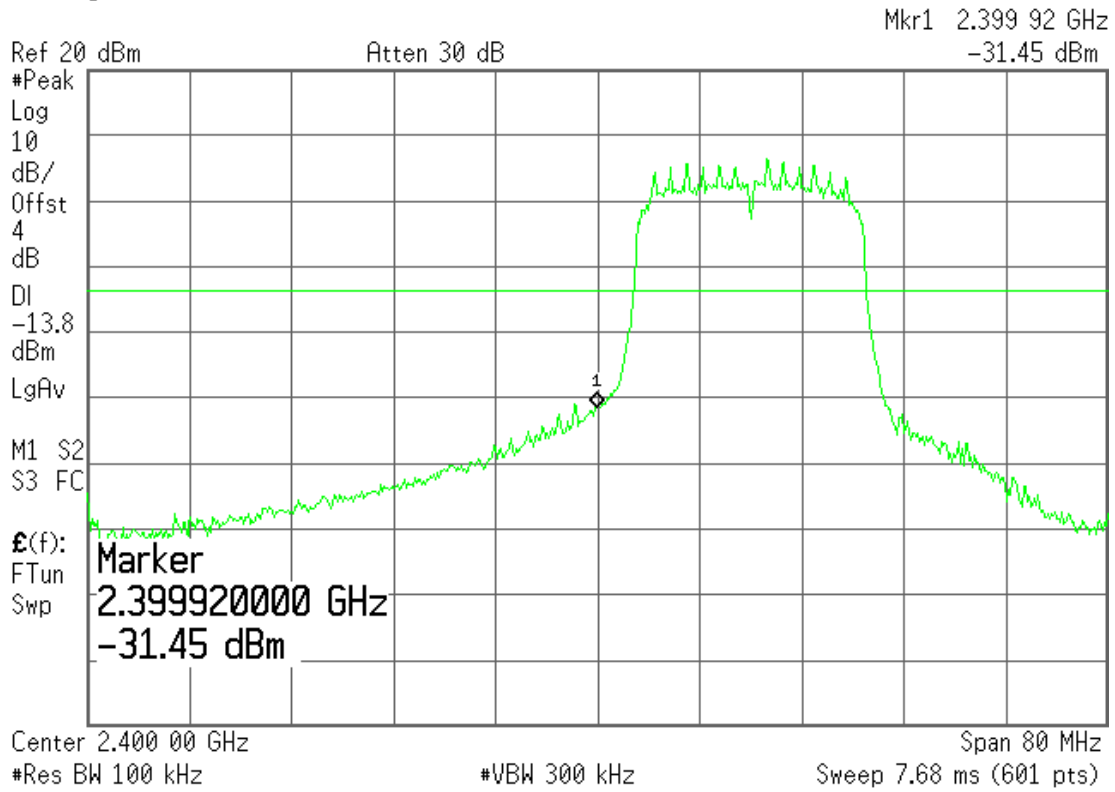
Upper Band edge

Agilent 18:49:45 May 17, 2012



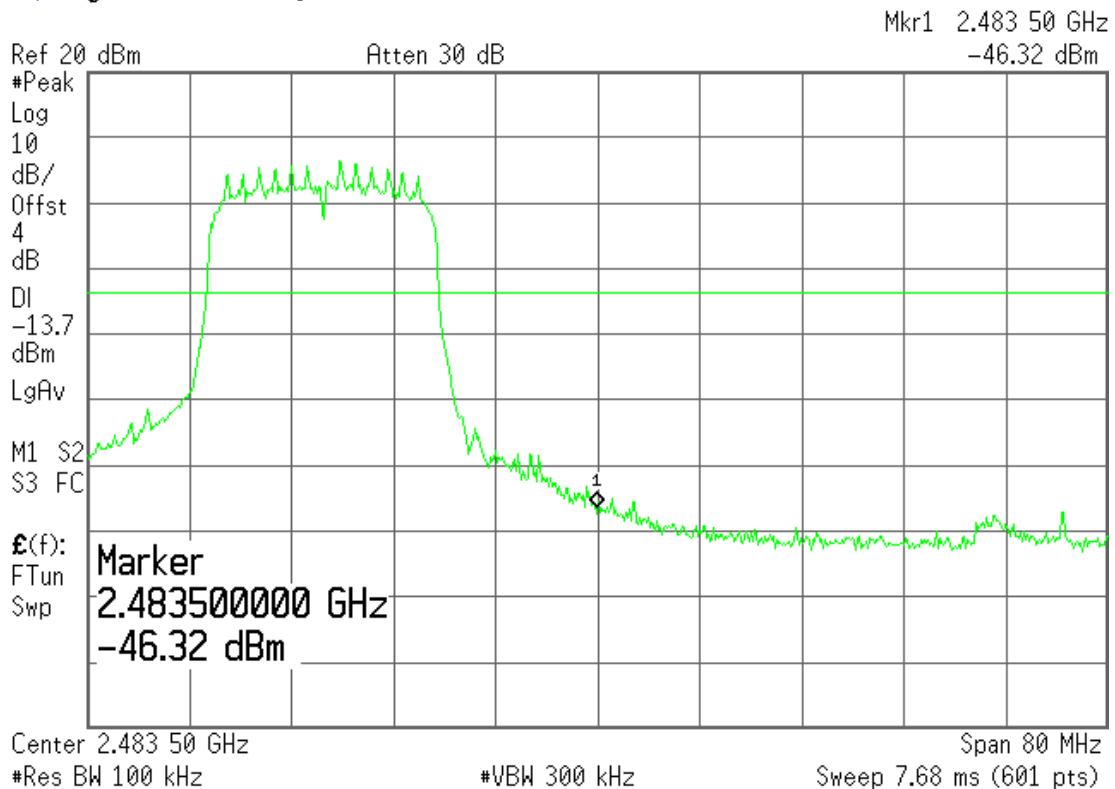
802.11n-HT20
Below Band edge

Agilent 18:51:40 May 17, 2012



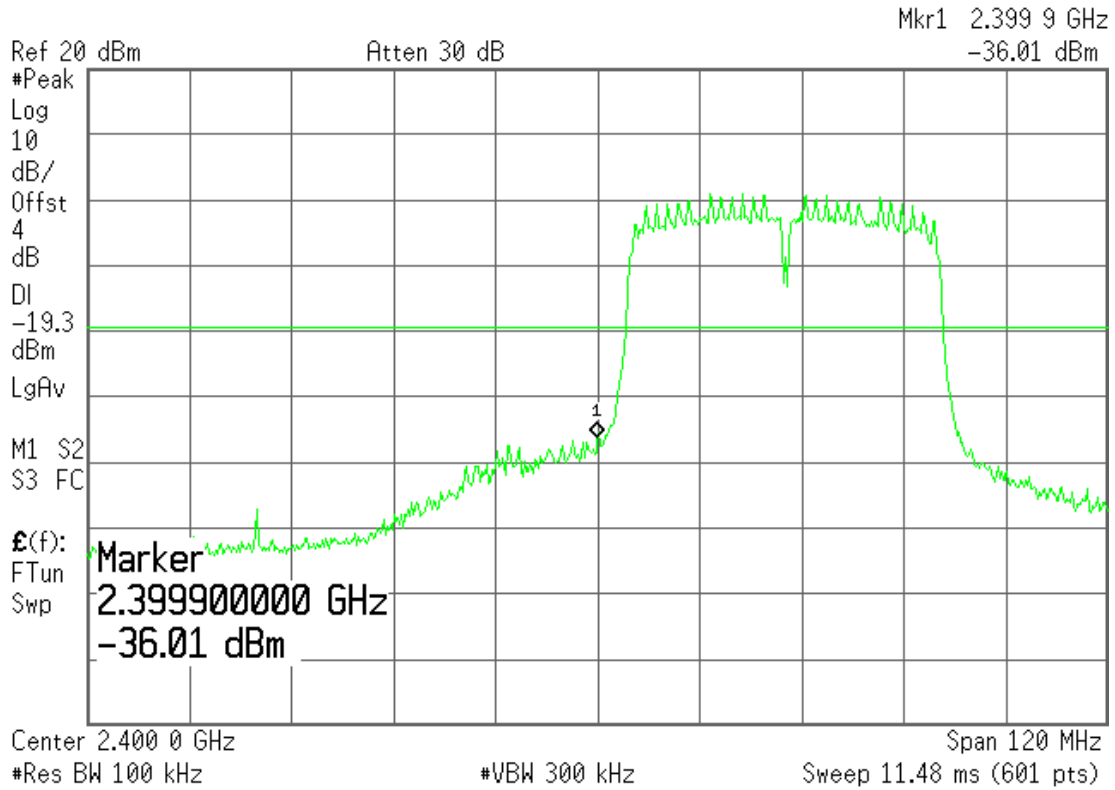
Upper Band edge

Agilent 18:52:52 May 17, 2012



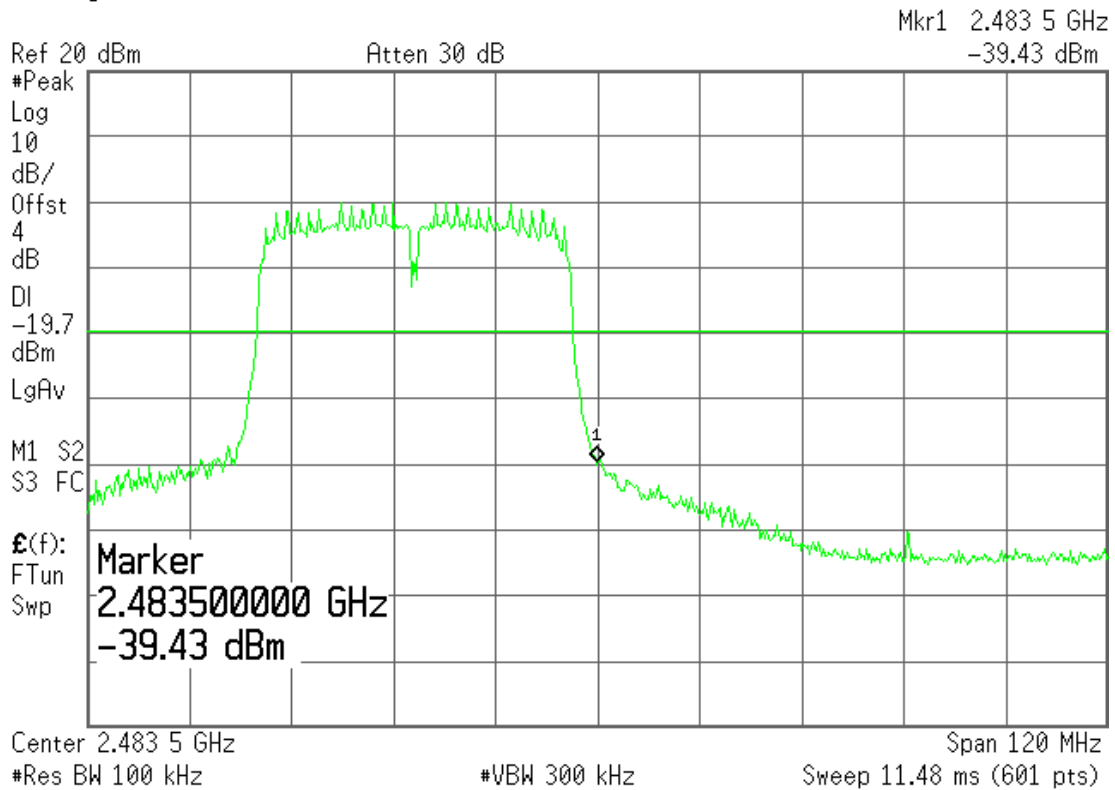
802.11n-HT40
Below Band edge

* Agilent 18:54:12 May 17, 2012



Upper Band edge

* Agilent 18:55:23 May 17, 2012



8. POWER SPECTRAL DENSITY MEASUREMENT

8.1. Test Equipment

The following test equipment was used during the power spectral density measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Aug. 04, 11'	Aug. 03, 12'

8.2. Block Diagram of Test Setup

The same as section.4.2.

8.3. Specification Limits (§15.247(d))

The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band.

8.4. Operating Condition of EUT

The Notebook PC was running test program “Ralink QA test” used to enable the EUT to transmit data at different channel frequency individually.

8.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using 100kHz RBW and ≥ 300 kHz VBW, set sweep time = Auto.

The measurement guideline was according to KDB 558074 D01.

Pursuant to KDB 662911, we performed conducted tests for both antenna chains and submit test data measured on chain 2 as worse performance.

8.6. Test Results

PASSED. All the test results are attached in next pages.

Pursuant to KDB 662911, the test result has been included 3 dB is calculated from $10\log(N)$, where N is the number of outputs.

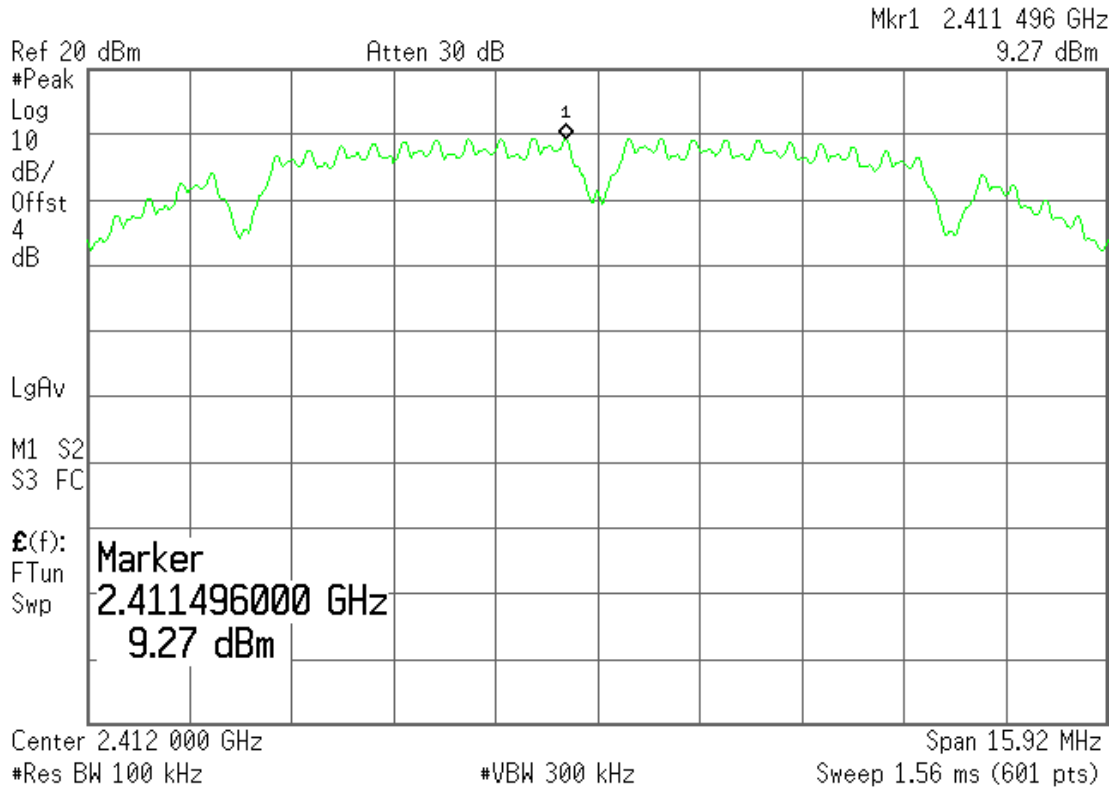
Test Date : May 17, 2012 Temperature : 25 Humidity : 60%

Mode	Type of Network	Channel	Frequency	Power Spectral Density (dBm)	BWCF (dB)	Final Power Spectral Density (dBm)	Limit (dBm)
1.	802.11b	CH 1	2412MHz	9.27	-15.2	-5.93	8
2.		CH 6	2437MHz	8.97	-15.2	-6.23	8
3.		CH 11	2462MHz	9.07	-15.2	-6.13	8
4.	802.11g	CH 1	2412MHz	8.01	-15.2	-7.19	8
5.		CH 6	2437MHz	8.99	-15.2	-6.21	8
6.		CH 11	2462MHz	7.18	-15.2	-8.02	8
7.	802.11n-HT20	CH 1	2412MHz	6.21	-15.2	-8.99	8
8.		CH 6	2437MHz	8.88	-15.2	-6.32	8
9.		CH 11	2462MHz	6.26	-15.2	-8.94	8
10.	802.11n-HT40	CH 3	2422MHz	0.70	-15.2	-14.50	8
11.		CH 6	2437MHz	6.08	-15.2	-9.12	8
12.		CH 9	2452MHz	0.26	-15.2	-14.94	8

Remark: Final Power Spectral Density=Power Spectral Density + BWCF

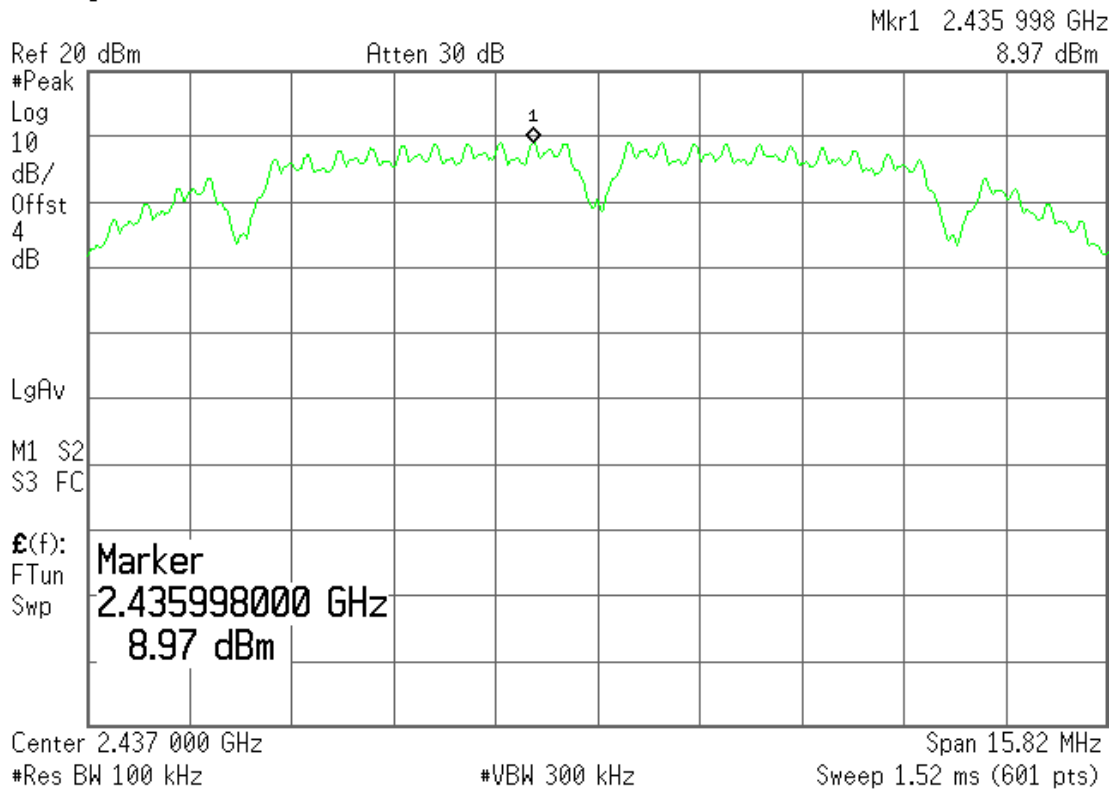
802.11b, Frequency: 2412MHz

Agilent 17:48:37 May 17, 2012



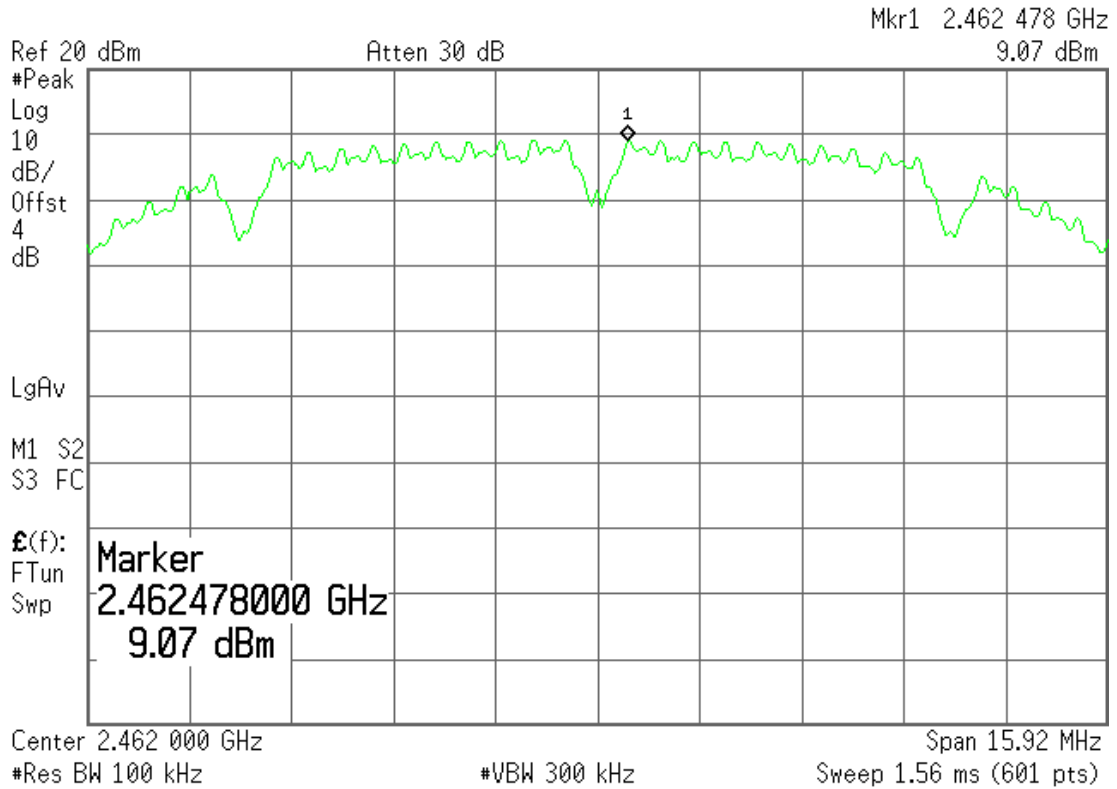
802.11b, Frequency: 2437MHz

Agilent 17:49:42 May 17, 2012



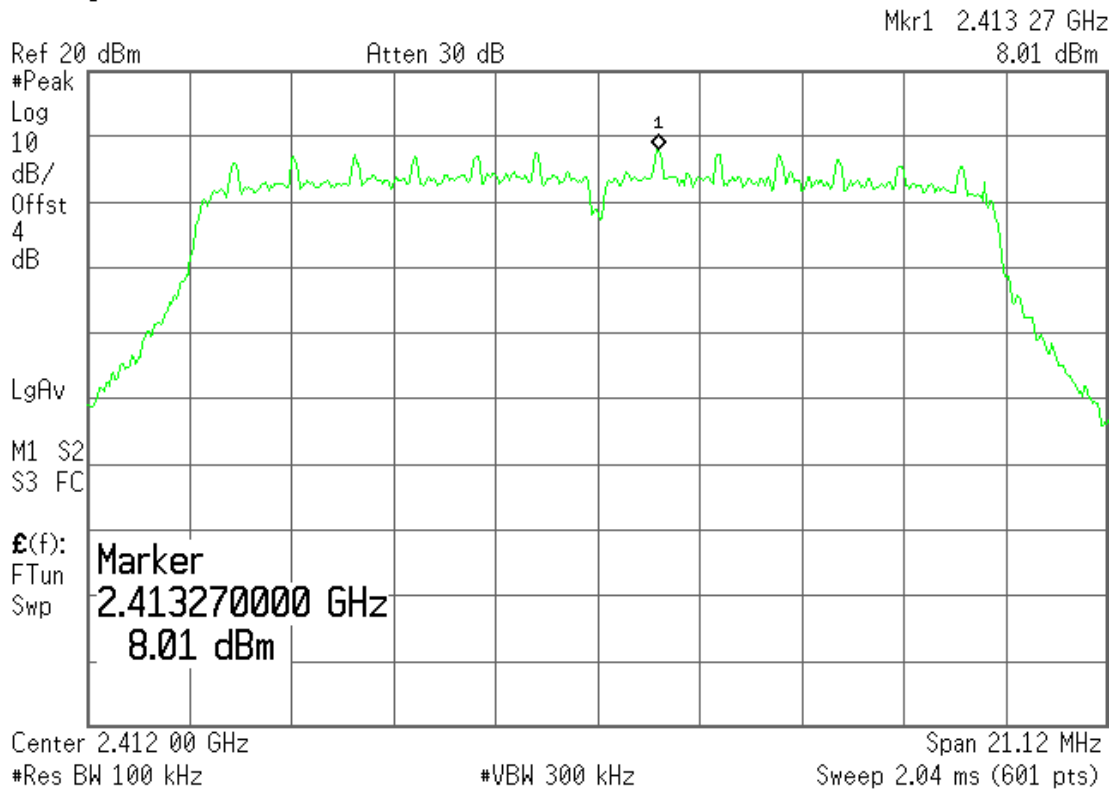
802.11b, Frequency: 2462MHz

Agilent 17:51:34 May 17, 2012



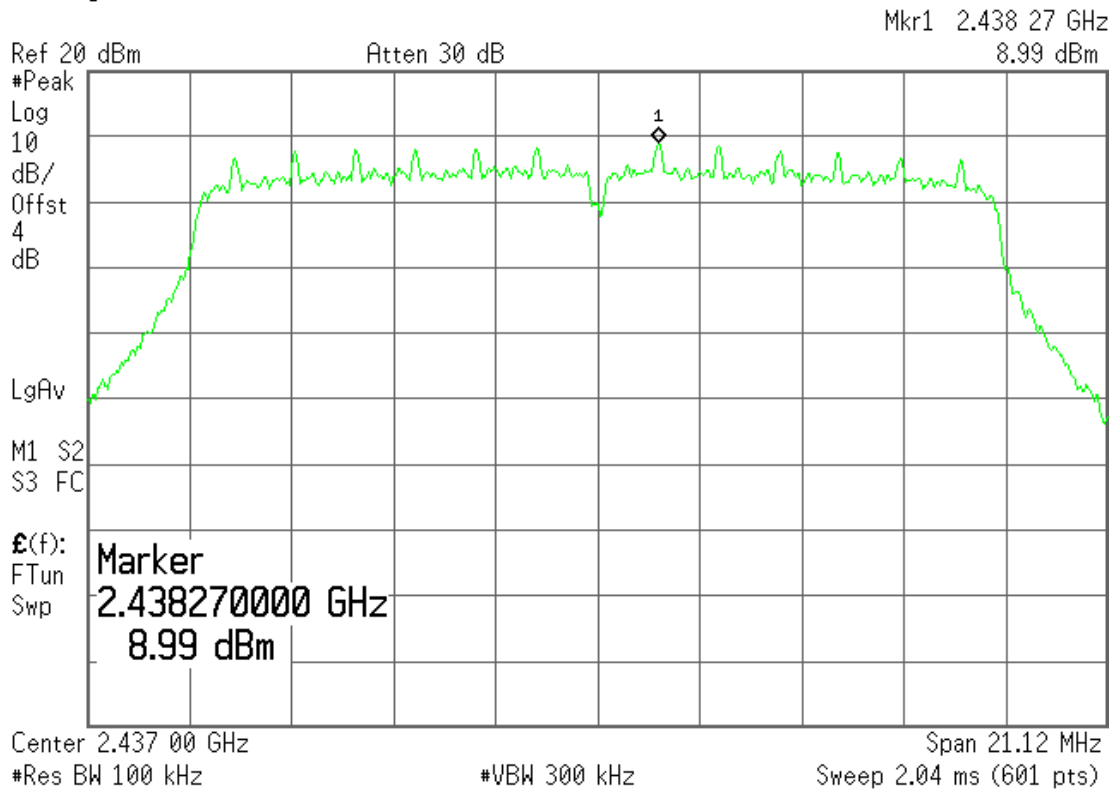
802.11g, Frequency: 2412MHz

Agilent 17:52:56 May 17, 2012



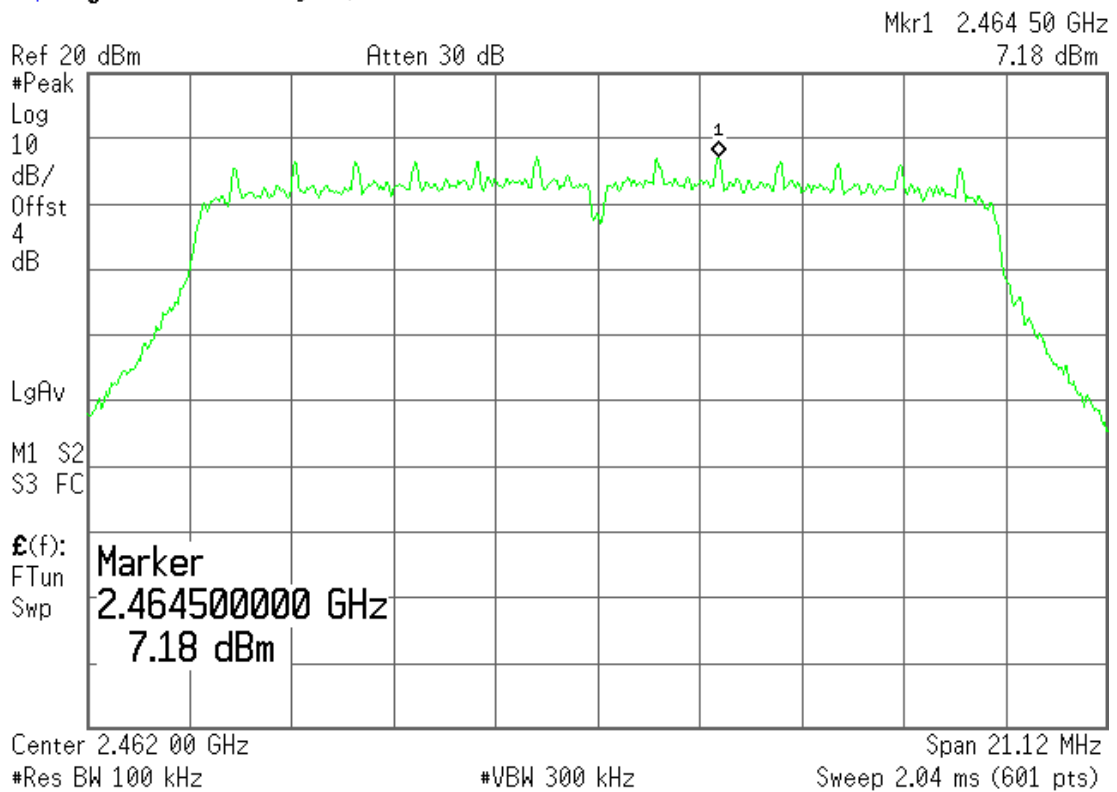
802.11g, Frequency: 2437MHz

Agilent 17:54:02 May 17, 2012



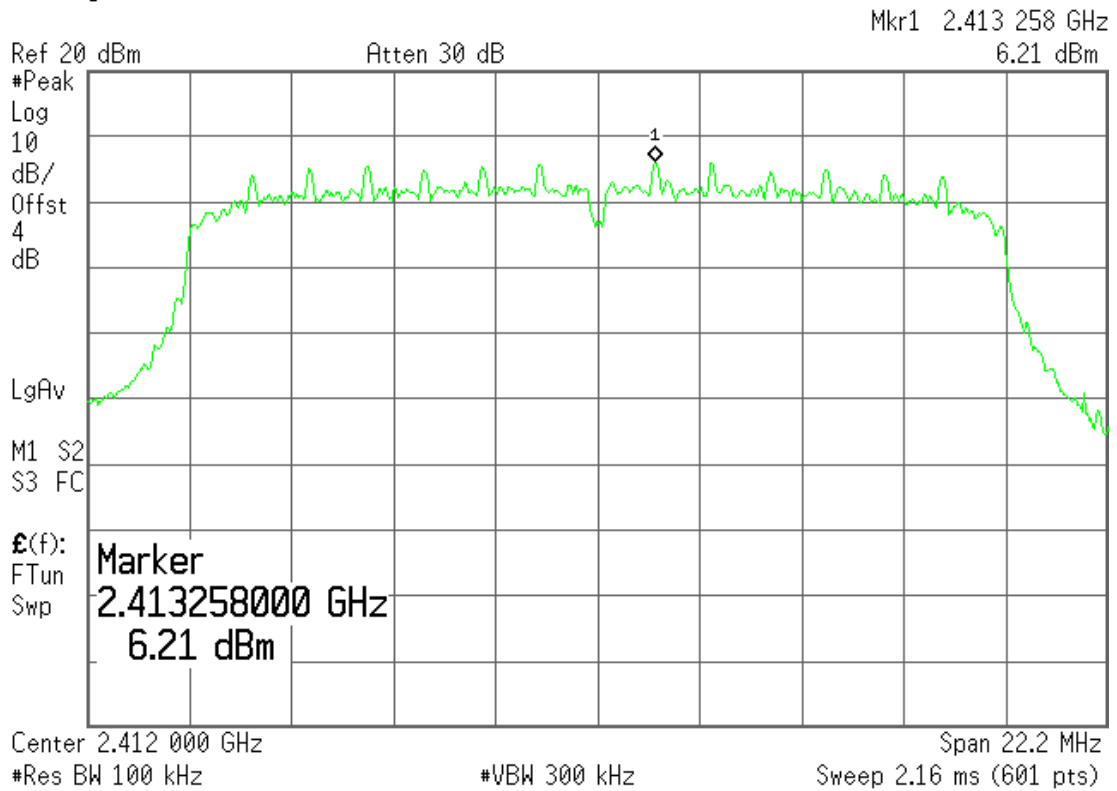
802.11g, Frequency: 2462MHz

Agilent 17:54:56 May 17, 2012



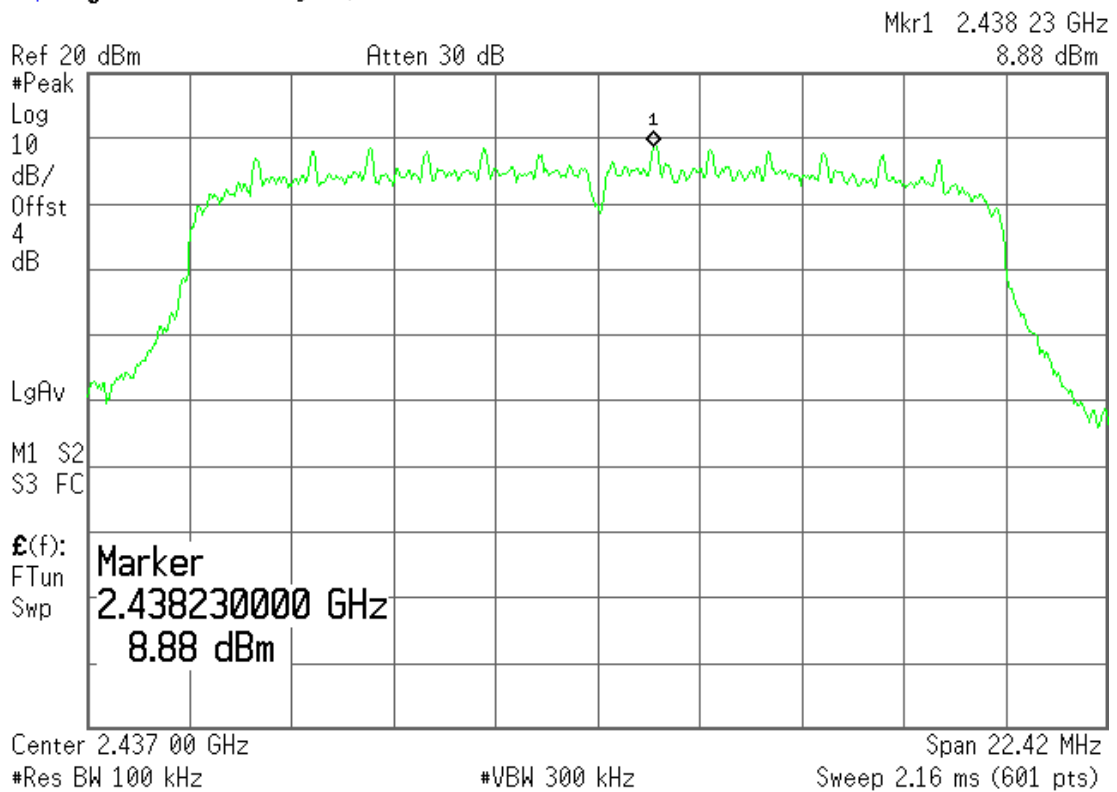
802.11n-HT20, Frequency: 2412MHz

* Agilent 17:56:00 May 17, 2012



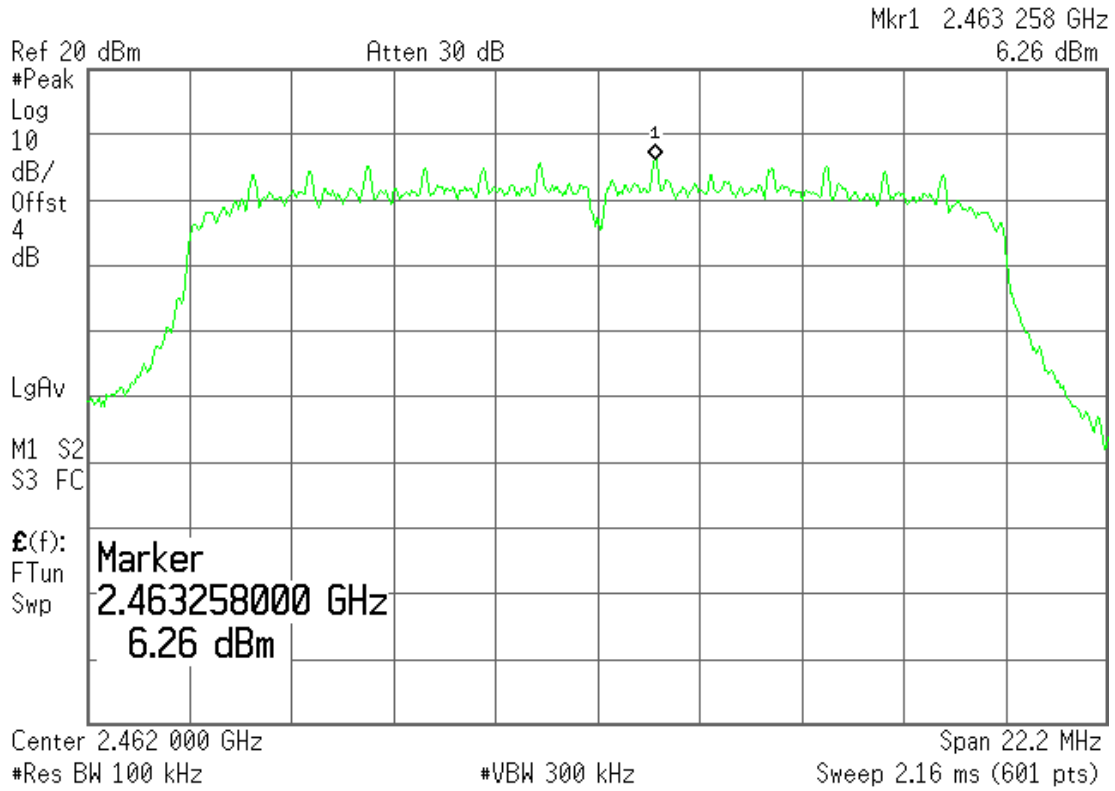
802.11n-HT20, Frequency: 2437MHz

* Agilent 17:57:02 May 17, 2012



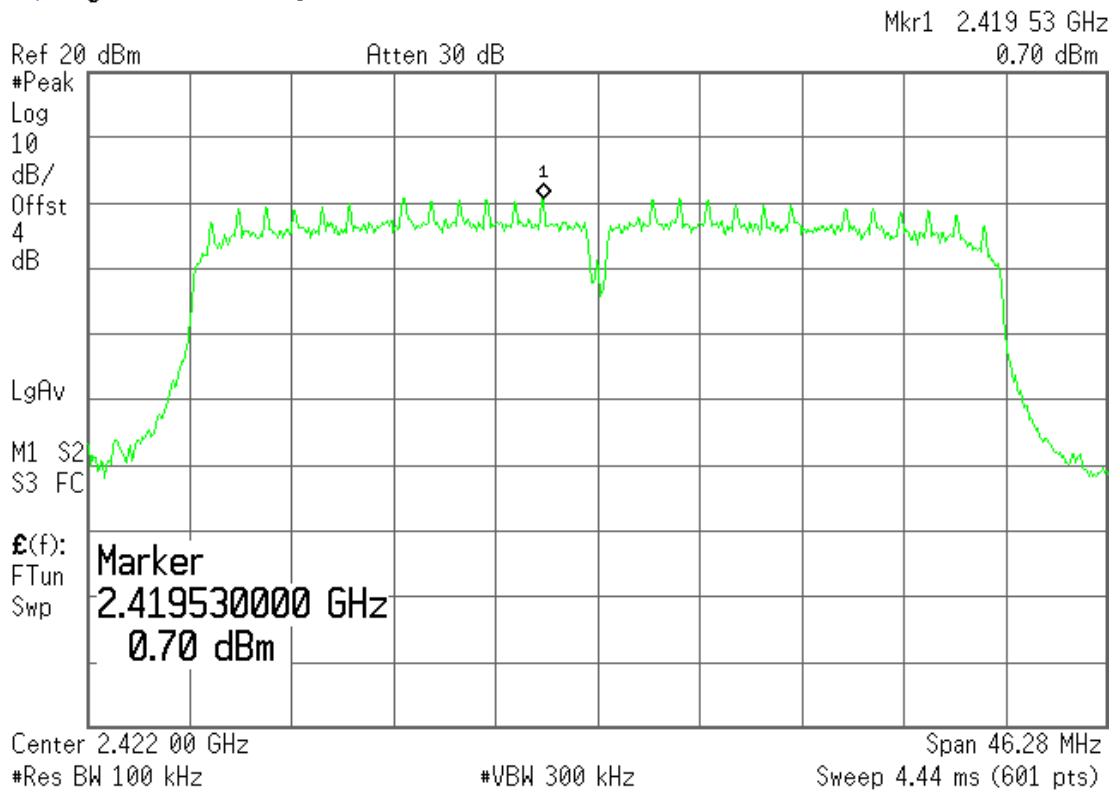
802.11n-HT20, Frequency: 2462MHz

Agilent 17:57:52 May 17, 2012



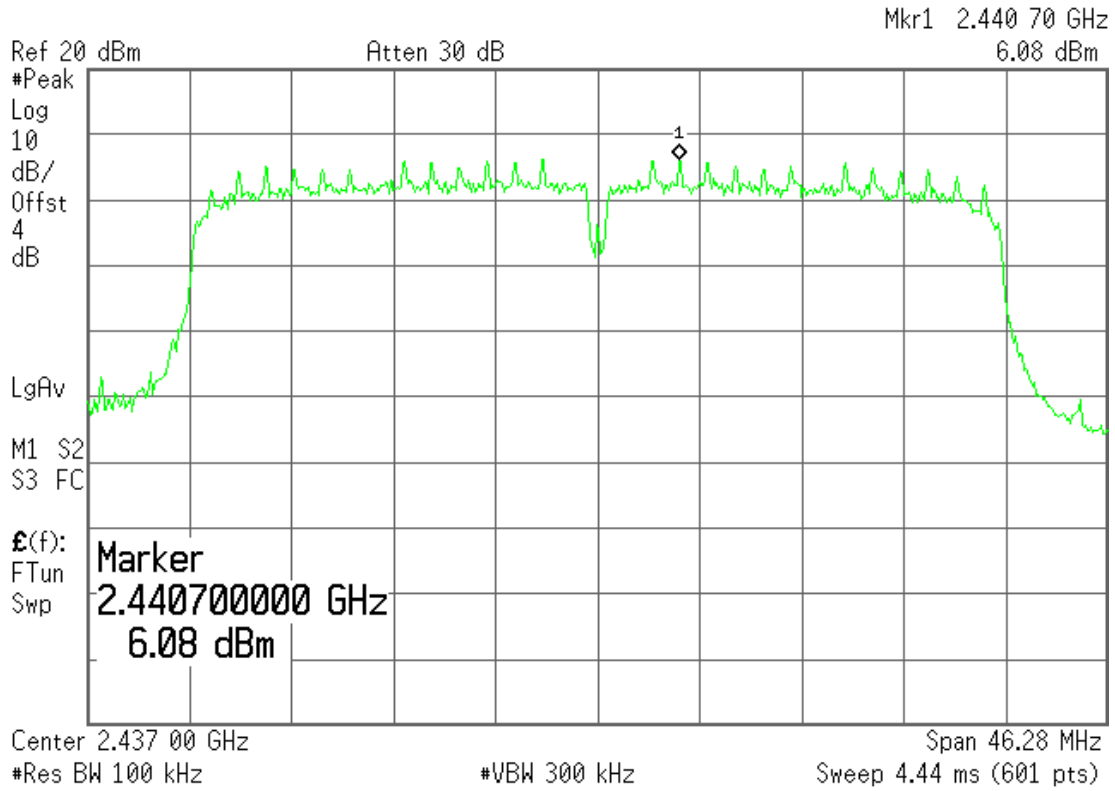
802.11n-HT40, Frequency: 2422MHz

Agilent 17:58:53 May 17, 2012



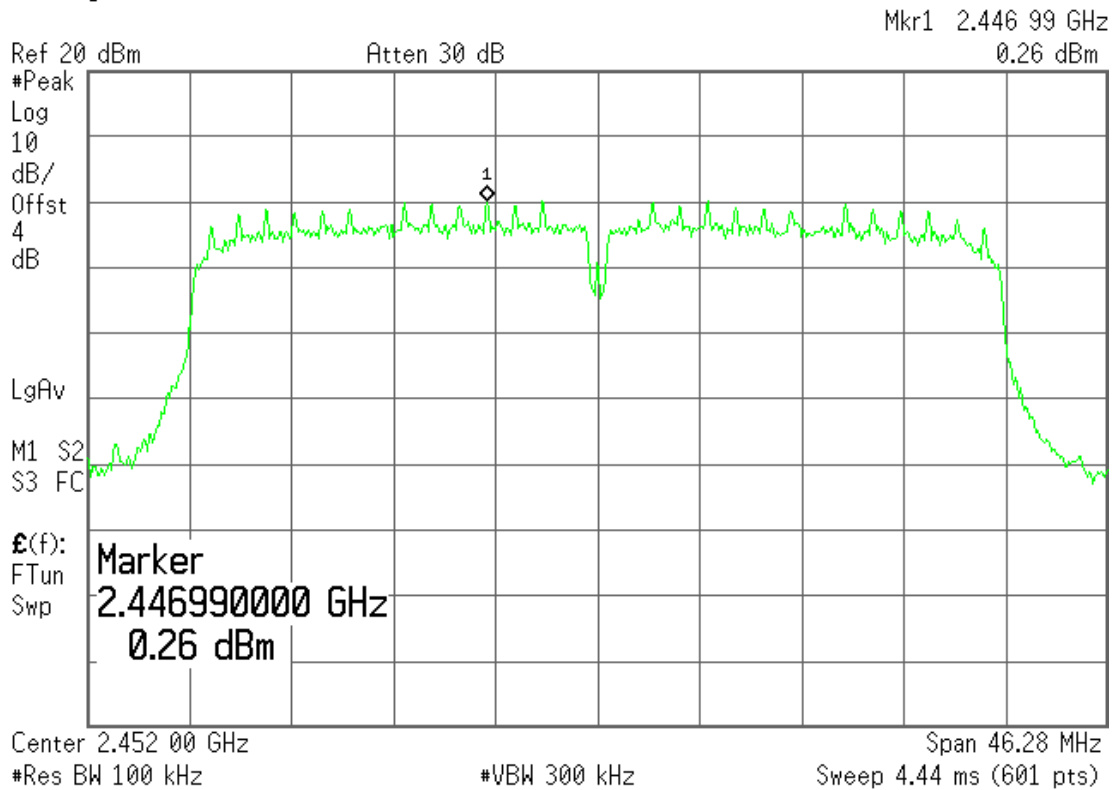
802.11n-HT40, Frequency: 2437MHz

Agilent 17:59:41 May 17, 2012



802.11n-HT40, Frequency: 2452MHz

Agilent 18:00:45 May 17, 2012



9. DEVIATION TO TEST SPECIFICATIONS

【NONE】