Application for FCC Certification
On behalf of

Hisense Electric Co., Ltd.

Product Name: Sero 7 Pro

Model No.: M470BSA

FCC ID: W9HPADP0001

Prepared For : Hisense Electric Co., Ltd.
No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China

Prepared By :Audix Technology (Shanghai) Co., Ltd.
3F 34Bldg 680 Guiping Rd.,
Caohejing Hi-Tech Park,
Shanghai 200233, China

Tel: +86-21-64955500
Fax: +86-21-64955491

Report No. : ACI-F13036
Date of Test : Feb. 28 – Mar. 30, 2013
Date of Report : Mar. 31, 2013

TABLE OF CONTENTS

Page

TEST REPORT FOR FCC CERTIFICATE

Applicant	:	Hisense Electric Co., Ltd.
Manufacturer	:	Hisense Electric Co., Ltd.
EUT Description	:	Sero 7 Pro
	(A) Model No.	: M470BSA
	(B) Test Voltage	: AC 120V/60Hz, DC 5V (USB Power)

Test Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART C OCTOBER 2012 AND ANSI C63.4-2003

The device described above is tested by Audix Technology (Shanghai) Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits.

The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. This report also shows that the EUT (M/N: M470BSA), which was tested on Feb. 28 – Mar. 30, 2013 is technically compliance with the FCC limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology (Shanghai) Co., Ltd.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

The test results for EUT's other function are contained in No. EM-F1020201, a FCC Doc report; for EUT's Bluetooth function are contained in No. F12035, a Certification report; for EUT's UNII function are contained in No. F12037, a Certification report.

Date of Test : Feb. 28 – Mar. 30, 2013 Date of Report : Mar. 31, 2013

Producer : Kathy Wang
KATHY WANG / Assistant

Review : Dio Yang
DIO YANG / Assistant Manager

AUDIX® For and on behalf of
Audix Technology (Shanghai) Co., Ltd.

Signatory : Sammy Chen
Authorized Signature EMC SAMMY CHEN/ Deputy Manager

1 SUMMARY OF STANDARDS AND RESULTS

1.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

Description / Test Item	Test Standard	Results	Meets Limit
EMISSION			
Conducted Emission	FCC RULES AND REGULATIONS PART 15 SUBPART C October 2012 AND ANSI C63.4:2003 AND KDB558074 D01 v02	Pass	15.207
Radiated Emission	FCC RULES AND REGULATIONS PART 15 SUBPART C October 2012 AND ANSI C63.4:2003 AND KDB558074 D01 v02	Pass	15.209(a) 15.205(a)(c)
6 dB Bandwidth Measurement	FCC RULES AND REGULATIONS PART 15 SUBPART C October 2012 AND ANSI C63.4:2003 AND KDB558074 D01 v02	Pass	15.247(a)(2)
Maximum Peak Output Power Measurement	FCC RULES AND REGULATIONS PART 15 SUBPART C October 2012 AND ANSI C63.4:2003 AND KDB558074 D01 v02	Pass	15.247(b)(3)
Emission Limitations Measurement	FCC RULES AND REGULATIONS PART 15 SUBPART C October 2012 AND ANSI C63.4:2003 AND KDB558074 D01 v02	Pass	15.247(d)
Band Edge Measurement	FCC RULES AND REGULATIONS PART 15 SUBPART C October 2012 AND ANSI C63.4:2003 AND KDB558074 D01 v02	Pass	15.247(d)
Power Spectral Density Measurement	FCC RULES AND REGULATIONS PART 15 SUBPART C October 2012 AND ANSI C63.4:2003 AND KDB558074 D01 v02	Pass	15.247(e)

2 GENERAL INFORMATION

2.1 Description of Equipment Under Test

Description	:	Sero 7 Pro
Type of EUT	:	☑ Production ☐ Pre-product ☐ Pro-type
Model Number	:	M470BSA
Radio Tech	:	IEEE 802.11b/g/n HT20 (2.4GHz) IEEE 802.11a/n HT20 (5.8GHz)
Freq. Band	:	2412MHz ~ 2462MHz (Ch1- Ch11) for 802.11b/g/n 5745MHz ~ 5805MHz (Ch149, Ch153, Ch157, Ch161) for 802.11a/n
Tested Freq.	:	for 802.11b/g/n 2.4GHz: 2412MHz (Ch1), 2437MHz (Ch6), 2462MHz (Ch11) for 802.11a/n 5.8GHz: 5745MHz (Ch149), 5785MHz (Ch157), 5805MHz (Ch161)
Modulation	:	DSSS for 802.11b OFDM for 802.11a/g/n HT20
Transmit data rate	:	802.11a: 6, 9, 12, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 24, 36, 48, 54 Mbps 802.11n HT20: (MCS0-MCS7) 6.5, 13, 19.5, 26, 39, 52, 58.5, 65Mbps After testing, the highest peak output power of the EUT was at **6 Mbps** in 802.11a mode, **1 Mbps** in 802.11b mode, **6 Mbps** in 802.11g mode, **6.5 Mbps (MCS0)** in 802.11n HT20 mode. So data rate mentioned above were representative selected to test in this report.
Antenna Gain	:	2.77 dBi for 2.4GHz 3.28 dBi for 5.8GHz
Adapter	:	Manufacturer : Meic Model Number : MN-A110-L120 Input : 100-240V~, 50/60Hz 0.3A max Output : 5V ⎓ 2A
USB cable	:	Shielded, Detachable, 1.2m

Applicant	:	Hisense Electric Co., Ltd. No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China
Manufacturer	:	Hisense Electric Co., Ltd. No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China

2.2 Description of Test Facility

Site Description : Sept. 17, 1998 file on
(Semi-Anechoic Chamber) Mar 16, 2012 Renewed
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046, USA

Name of Firm : Audix Technology (Shanghai) Co., Ltd.

Site Location : 3 F 34 Bldg 680 Guiping Rd.,
Caohejing Hi-Tech Park,
Shanghai 200233, China

FCC registration Number : 91789

Accredited by NVLAP, Lab Code : 200371-0

2.3 Measurement Uncertainty

Conducted Emission Expanded Uncertainty : U = 3.42 dB
Radiated Emission Expanded Uncertainty (30-200MHz):
U = 4.14dB (Horizontal)
U = 4.28dB (Vertical)
Radiated Emission Expanded Uncertainty (200M-1GHz):
U = 4.18dB (Horizontal)
U = 4.26dB (Vertical)
Radiated Emission Expanded Uncertainty (Above 1GHz):
U= 4.50 dB (Horizontal)
U= 4.16 dB (Vertical)
6 dB Bandwidth Expanded Uncertainty : U = 0.05 kHz
Maximum Peak Output Power Expanded Uncertainty: U = 0.30 dBm
Emission Limitations Expanded Uncertainty : U = 0.15 dB
Band Edge Expanded Uncertainty : U = 0.15 dB
Power Spectral Density Expanded Uncertainty : U = 0.15 dB

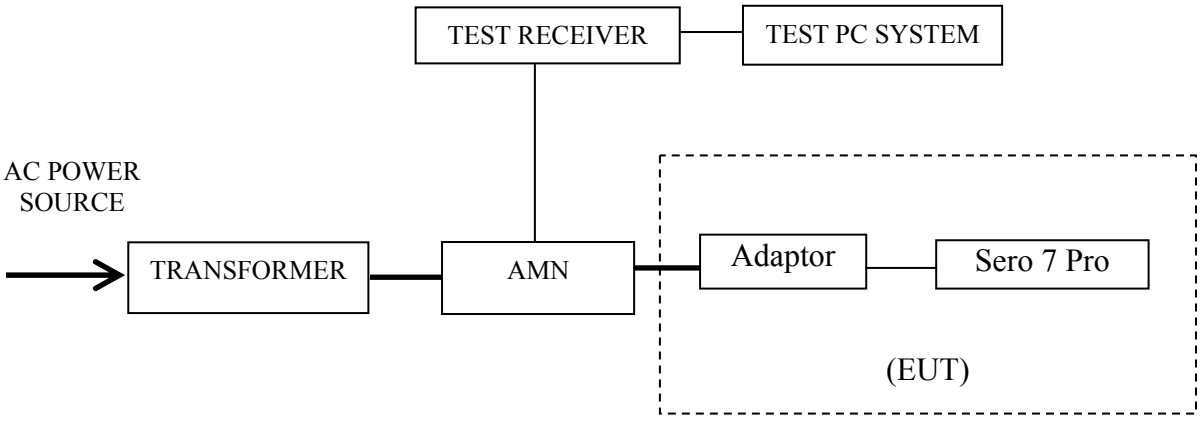
3 CONDUCTED EMISSION TEST

3.1 Test Equipment

The following test equipments are used during the conducted emission test in a shielded room:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	100841	Mar 22, 2012	Mar 22, 2013
2.	Artificial Mains Network (AMN)	R&S	ESH2-Z5	843890/011	Feb 25, 2013	Feb 25, 2014
3.	50Ω Coaxial Switch	Anritsu	MP59B	6200426389	Sep 18, 2012	Mar 18, 2013
4.	Software	Audix	E3	SET00200 9804M592	--	--

3.2 Block Diagram of Test Setup



—— : Signal Line
▬ : Power Line

3.3 Conducted Emission Limits [FCC Part 15 Subpart C 15.207]

Frequency Range (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 ~ 0.5	66~56*	56~46*
0.5 ~ 5	56	46
5 ~ 30	60	50
NOTE – *Decreases with the logarithm of the frequency.		

3.4 Test Configuration

The EUT (listed in Sec.2.1) was installed as shown on Sec.3.2 to meet FCC requirement and operating in a manner that tends to maximize its emission level in a normal application.

3.5 Operating Condition of EUT

3.5.1 Setup the EUT as shown in Sec. 3.2.

3.5.2 Turn on the power of all equipments and the EUT.

3.5.3 Set the EUT on the test mode (Transmitting), and then test.

3.6 Test Procedures

The EUT was connected to the power mains through an Artificial Mains Network (AMN). This provided a 50 ohm coupling impedance for the measuring equipment.

Both sides of AC line (Line & Neutral) were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed or manipulated according to ANSI C63.4:2003 during conducted emission test.

The bandwidth of R&S Test Receiver ESCI was set at 9 kHz.

The frequency range from 150 kHz to 30 MHz was checked.

The test modes were done on conducted disturbance test and all the test results are listed in Sec. 3.7.

3.7 Test Results

< PASS >

The frequency and amplitude of the highest conducted emission relative to the limit is reported. All emissions not reported below are too low against the prescribed limits.

NOTE 1 – Factor = Cable Loss + AMN Factor.
NOTE 2 – Emission Level = Meter Reading + Factor.
NOTE 3 – "QP" means "Quasi-Peak" values, "AV" means "Average" values.
NOTE 4 – The worst emission is detected at 0.332 MHz (QP Value) with corrected signal level of 38.23 dB (μV) (limit is 59.14 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT	:	Sero 7 Pro	Temperature :	25℃	
Model No.	:	M470BSA	Humidity	:	44%RH
Test Mode	:	Transmitting	Date of Test	:	Mar. 13, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.152	33.78	0.23	34.01	65.91	31.90	QP
	0.325	33.72	0.30	34.02	59.57	25.55	
	0.759	30.26	0.21	30.47	56.00	25.53	
	2.088	28.45	0.39	28.84	56.00	27.16	
	5.221	21.26	0.50	21.76	60.00	38.24	
	13.695	27.83	0.83	28.66	60.00	31.34	
	0.152	23.50	0.23	23.73	55.91	32.18	AV
	0.325	23.70	0.30	24.00	49.57	25.57	
	0.759	20.41	0.21	20.62	46.00	25.38	
	2.088	18.50	0.39	18.89	46.00	27.11	
	5.221	11.51	0.50	12.01	50.00	37.99	
	13.695	17.40	0.83	18.23	50.00	31.77	
Neutral	0.151	34.08	0.13	34.21	65.96	31.75	QP
	0.332	**38.09**	**0.14**	**38.23**	**59.40**	**21.17**	
	0.844	31.24	0.22	31.46	56.00	24.54	
	2.033	28.85	0.17	29.02	56.00	26.98	
	5.221	23.48	0.42	23.90	60.00	36.10	
	13.551	29.04	0.70	29.74	60.00	30.26	
	0.151	24.80	0.13	24.93	55.96	31.03	AV
	0.332	27.26	0.14	27.40	49.40	22.00	
	0.844	21.30	0.22	21.52	46.00	24.48	
	2.033	18.20	0.17	18.37	46.00	27.63	
	5.221	13.21	0.42	13.63	50.00	36.37	
	13.551	19.20	0.70	19.90	50.00	30.10	

TEST ENGINEER: JOE YE

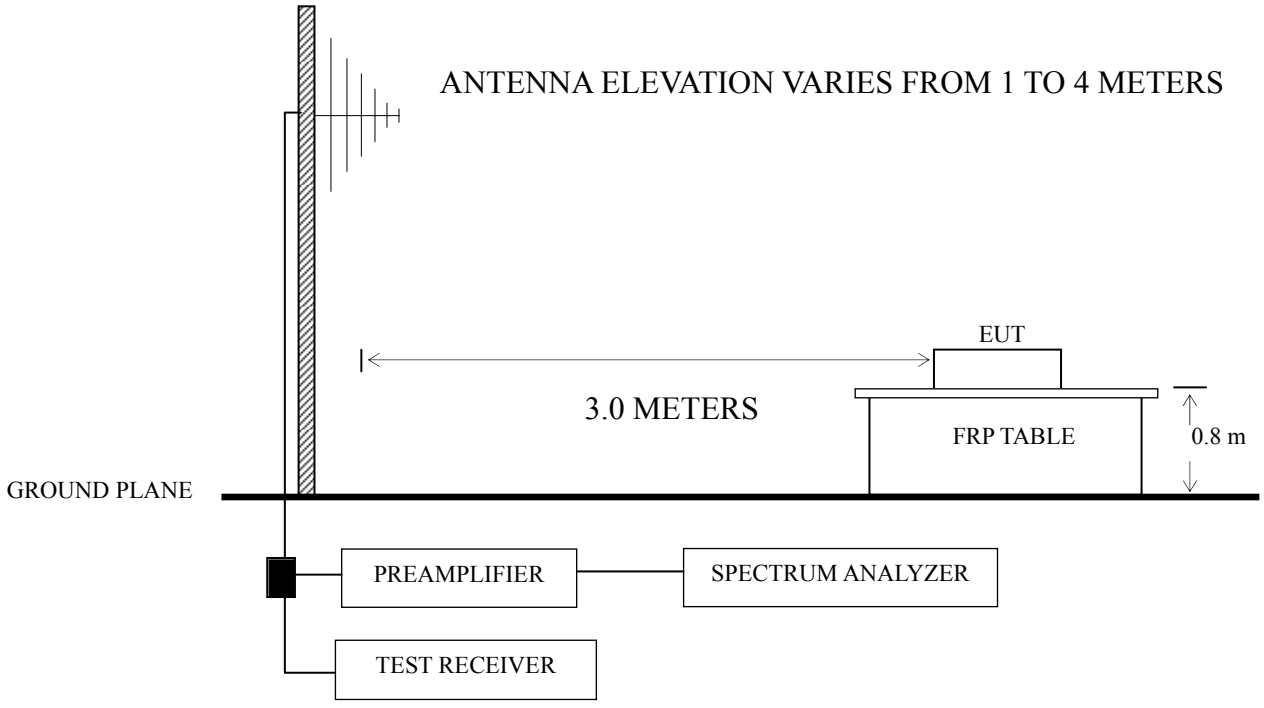
4 RADIATED EMISSION TEST

4.1 Test Equipment

The following test equipment are used during the radiated emission test in a semi-anechoic chamber:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Preamplifier	Agilent	8447D	2944A10548	Mar 18, 2013	Sep 18, 2013
2.	Preamplifier	HP	8449B	3008A00864	Apr 29, 2012	Apr 29, 2013
3.	Spectrum Analyzer	Agilent	E4447A	MY45300136	Jan 05, 2013	Jan 05, 2014
4.	Test Receiver	R&S	ESVS10	844594/001	Mar 22, 2013	Mar 22, 2014
5.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 03, 2012	May 03, 2013
6.	Horn Antenna	EMCO	3115	9607-4878	May 03, 2012	May 03, 2013
7.	Horn Antenna	EMCO	3116	00062643	Jul 21, 2012	Jul 21, 2013
8.	50Ω Coaxial Switch	Anritsu	MP59B	6200426390	Mar 18, 2013	Sep 18, 2013
9.	Software	Audix	E3	SET00200 9912M295-2	--	--

4.2 Block Diagram of Test Setup



■ : 50 ohm Coaxial Switch

4.3 Radiated Emission Limit [FCC Part 15 Subpart C 15.209]

Frequency (MHz)	Distance (m)	Field strength limits (μV/m)	
		(μV/m)	dB(μV/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

NOTE 1 - Emission Level dB (μV/m) = 20 log Emission Level (μV/m)
NOTE 2 - The tighter limit applies at the band edges.
NOTE 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.
NOTE 4 - The limits shown are based on Quasi-peak value detector below or equal to 1GHz and Average value detector above 1GHz.
NOTE 5 - Above 1 GHz, the limit on peak emission is 20 dB above the maximum permitted average emission limit applicable to the EUT

4.4 Test Configuration

The EUT (listed in Sec.2.1) and the simulators (listed in Sec.2.2) were installed as shown on Sec.3.2 to meet FCC requirements and operating in a manner that tends to maximize its emission level in a normal application.

4.5 Operating Condition of EUT

4.5.1 Setup the EUT as shown in Sec. 3.2.

4.5.2 Turn on the power of all equipment.

4.5.3 Turn the EUT on the test mode, and then test.

4.6 Test Procedures

Radiated emission test applies to harmonics/spurs that fall in the restricted bands listed in Section 15.205. The maximum permitted average field strength is listed in Section 15.209. A pre-amp is necessary for this measurement. For measurement above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep: Auto. If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation.

The EUT was placed on a turntable that is 0.8 meter above ground. The turntable rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna, which was mounted on an antenna tower. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (Calibrated Bilog Antenna) or Horn antenna was used as receiving antenna. Both horizontal and vertical polarizations of the antenna were set on measurement. In order to find the maximum emission, all of the interference cables were manipulated according to ANSI C63.4:2003 requirements during radiated emission test.

The bandwidth of Test Receiver R&S ESVS10 was set at 120 kHz from 30MHz to 1000MHz.

The bandwidth of the VBW was set at 1MHz and RBW was set at 1MHz for peak emission measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emission above 1GHz for Spectrum Agilent E7405A.

The frequency range from 30 MHz to 25 GHz (Up to 10^{th} harmonics from fundamental frequency) was checked for 2.4 GHz band, 30 MHz to 40 GHz was checked for 5.8 GHz band

The EUT was tested under the following test modes:

Mode	Operation	Channel
1.	Transmitting	01
2.		06
3.		11
4.		149
5.		157
6.		161
7.	Receiving	--
8.	Transmitting Band-Edge	01
9.		11

All the test results are listed in Sec.4.7.

4.7 Test Results

<PASS>

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

No.	Operation	Modulation	Channel	Frequency	Data Page	
1.	Worst case emission < 1GHz				P15	
2.	Transmitting	802.11b	01	2412 MHz	P16	
3.			06	2437 MHz		
4.			11	2462 MHz		
5.		802.11g	01	2412 MHz	P17	
6.			06	2437 MHz		
7.			11	2462 MHz		
8.		802.11n HT20	01	2412 MHz	P18	
9.			06	2437 MHz		
10.			11	2462 MHz		
11.		802.11a	149	5745 MHz	P19	
12.			157	5785 MHz		
13.			161	5805 MHz		
14.		802.11n HT20	149	5745 MHz	P20	
15.			157	5785 MHz		
16.			161	5805 MHz		
17.	Receiving	--	--		P21	
19.	Transmitting	802.11b	01	2412 MHz	Restricted BandEdge	P22-25
20.			11	2462 MHz		P26-29
21.		802.11g	01	2412 MHz		P30-33
22.			11	2462 MHz		P34-37
23.		802.11n HT20	01	2412 MHz		P38-41
24.			11	2462 MHz		P42-45

NOTE 1 – Level = Read Level + Antenna Factor + Cable Loss (<1GHz)
NOTE 2 – Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor (>1GHz)
NOTE 3 – EUT configured in Lying, Side & Stand direction were all evaluated. The emission levels recorded below is data of EUT configured in **Lying** direction, for Lying direction was the maximum emission direction during the test.
NOTE 4 – All reading are Quasi-Peak values below or equal to 1GHz, Peak and Average values above 1GHz.
For above 1GHz test, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.
NOTE 5 – For emission > 1GHz, except the reported emissions, no other emissions were detected above the system noise floor.

Worst case emission < 1GHz

EUT	:	Sero 7 Pro	Temperature :	25℃
Model No.	:	M470BSA	Humidity :	45%RH
Test Mode	:	Transmitting	Date of Test :	Mar 30, 2013

2.4GHz Band

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	45.52	15.09	9.32	0.82	25.23	40.00	14.77	QP
	100.81	13.26	10.58	1.35	25.19	43.50	18.31	
	166.77	18.29	8.40	1.75	28.44	43.50	15.06	
	351.07	14.69	14.83	2.63	32.15	46.00	13.85	
	476.20	**11.94**	**17.80**	**2.92**	**32.66**	**46.00**	**13.34**	
	884.57	8.55	19.65	4.32	32.52	46.00	13.48	
Vertical	**55.22**	**18.96**	**6.08**	**0.87**	**25.91**	**40.00**	**14.09**	QP
	128.94	15.29	11.82	1.53	28.64	43.50	14.86	
	221.09	15.86	8.37	2.06	26.29	46.00	19.71	
	294.81	13.02	12.60	2.52	28.14	46.00	17.86	
	476.20	9.69	17.80	2.92	30.41	46.00	15.59	
	718.70	6.76	19.42	3.56	29.74	46.00	16.26	

5.8GHz Band

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	45.52	14.88	9.32	0.82	25.02	40.00	14.98	QP
	100.81	12.83	10.58	1.35	24.76	43.50	18.74	
	166.77	17.04	8.40	1.75	27.19	43.50	16.31	
	351.07	**14.45**	**14.83**	**2.63**	**31.91**	**46.00**	**14.09**	
	476.20	10.78	17.80	2.92	31.50	46.00	14.50	
	714.82	6.73	19.55	3.56	29.84	46.00	16.16	
Vertical	55.22	18.47	6.08	0.87	25.42	40.00	14.58	QP
	105.66	**17.45**	**11.40**	**1.38**	**30.23**	**43.50**	**13.27**	
	294.81	13.35	12.60	2.52	28.47	46.00	17.53	
	431.58	7.09	17.55	2.78	27.42	46.00	18.58	
	582.90	7.00	18.78	3.18	28.96	46.00	17.04	
	717.73	6.46	19.42	3.56	29.44	46.00	16.56	

TEST ENGINEER: RAVEN JIN

Radiated Emission > 1GHz

EUT	:	Sero 7 Pro	Temperature :	25℃
Model No.	:	M470BSA	Humidity :	45%RH
Test Mode	:	802.11b Transmitting	Date of Test :	Mar 30, 2013

Ch01

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	4824.00	52.07	30.00	9.07	35.04	56.10	74.00	17.90	Peak
	4824.00	48.03	30.00	9.07	35.04	52.06	54.00	1.94	Average
	7236.00	47.29	35.05	10.63	34.53	58.44	74.00	15.56	Peak
	7236.00	38.66	35.05	10.63	34.53	49.81	54.00	4.19	Average
Vertical	4824.00	45.92	30.00	9.07	35.04	49.95	74.00	24.05	Peak
	4824.00	41.25	30.00	9.07	35.04	45.28	54.00	8.72	Average

Ch06

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	4874.00	52.34	29.89	9.11	35.02	56.32	74.00	17.68	Peak
	4874.00	47.46	29.89	9.11	35.02	51.44	54.00	2.56	Average
	7311.00	47.09	35.27	10.80	34.53	58.63	74.00	15.37	Peak
	7311.00	37.71	35.27	10.80	34.53	49.25	54.00	4.75	Average
Vertical	4874.00	46.15	29.89	9.11	35.02	50.13	74.00	23.87	Peak
	4874.00	41.35	29.89	9.11	35.02	45.33	54.00	8.67	Average

Ch11

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	4924.00	52.62	29.76	9.16	34.99	56.55	74.00	17.45	Peak
	4924.00	48.27	29.76	9.16	34.99	52.20	54.00	1.80	Average
	7386.00	46.15	35.56	11.05	34.53	58.23	74.00	15.77	Peak
	7386.00	37.38	35.56	11.05	34.53	49.46	54.00	4.54	Average
Vertical	4924.00	45.71	29.76	9.16	34.99	49.64	74.00	24.36	Peak
	4924.00	41.70	29.76	9.16	34.99	45.63	54.00	8.37	Average

TEST ENGINEER: RAVEN JIN

EUT	:	Sero 7 Pro	Temperature :	25℃	
Model No.	:	M470BSA	Humidity	:	45%RH
Test Mode	:	802.11g Transmitting	Date of Test	:	Mar 30, 2013

Ch01

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	4824.00	55.34	30.00	9.07	35.04	59.37	74.00	14.63	Peak
	4824.00	39.81	30.00	9.07	35.04	43.84	54.00	10.16	Average
	7236.00	58.25	35.05	10.63	34.53	69.40	74.00	4.60	Peak
	7236.00	39.92	35.05	10.63	34.53	51.07	54.00	2.93	Average
Vertical	4824.00	43.45	30.00	9.07	35.04	47.48	74.00	26.52	Peak
	4824.00	27.50	30.00	9.07	35.04	31.53	54.00	22.47	Average

Ch06

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	4874.00	50.43	29.89	9.11	35.02	54.41	74.00	19.59	Peak
	4874.00	34.08	29.89	9.11	35.02	38.06	54.00	15.94	Average
	7311.00	55.50	35.27	10.80	34.53	67.04	74.00	6.96	Peak
	7311.00	38.26	35.27	10.80	34.53	49.80	54.00	4.20	Average
Vertical	4874.00	44.18	29.89	9.11	35.02	48.16	74.00	25.84	Peak
	4874.00	28.21	29.89	9.11	35.02	32.19	54.00	21.81	Average

Ch11

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	4924.00	46.57	29.76	9.16	34.98	50.51	74.00	23.49	Peak
	4924.00	30.24	29.76	9.16	34.98	34.18	54.00	19.82	Average
	7386.00	52.45	35.56	11.05	34.53	64.53	74.00	9.47	Peak
	7386.00	34.59	35.56	11.05	34.53	46.67	54.00	7.33	Average
Vertical	7386.00	47.69	35.78	11.30	34.52	60.25	74.00	13.75	Peak
	7386.00	30.34	35.78	11.30	34.52	42.90	54.00	11.10	Average

TEST ENGINEER: RAVEN JIN

EUT	:	Sero 7 Pro	Temperature :	25℃	
Model No.	:	M470BSA	Humidity	:	45%RH
Test Mode	:	802.11n Transmitting	Date of Test	:	Mar 30, 2013

Ch01

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	4824.00	47.77	30.00	9.07	35.04	51.80	74.00	22.20	Peak
	4824.00	34.62	30.00	9.07	35.04	38.65	54.00	15.35	Average
	7236.00	52.22	35.05	10.63	34.53	63.37	74.00	10.63	Peak
	7236.00	35.47	35.05	10.63	34.53	46.62	54.00	7.38	Average
Vertical	4824.00	44.44	30.00	9.07	35.04	48.47	74.00	25.53	Peak
	4824.00	30.57	30.00	9.07	35.04	34.60	54.00	19.40	Average

Ch06

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	4874.00	47.62	29.89	9.11	35.02	51.60	74.00	22.40	Peak
	4874.00	33.31	29.89	9.11	35.02	37.29	54.00	16.71	Average
	7311.00	52.28	35.34	10.80	34.53	63.89	74.00	10.11	Peak
	7311.00	34.82	35.34	10.80	34.53	46.43	54.00	7.57	Average
Vertical	4874.00	44.15	29.89	9.11	35.02	48.13	74.00	25.87	Peak
	4874.00	29.93	29.89	9.11	35.02	33.91	54.00	20.09	Average

Ch11

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	4924.00	51.09	29.76	9.16	34.99	55.02	74.00	18.98	Peak
	4924.00	37.34	29.76	9.16	34.99	41.27	54.00	12.73	Average
	7386.00	56.73	35.56	11.05	34.53	68.81	74.00	5.19	Peak
	7386.00	39.06	35.56	11.05	34.53	51.14	54.00	2.86	Average
Vertical	4924.00	44.04	29.76	9.16	34.99	47.97	74.00	26.03	Peak
	4924.00	29.78	29.76	9.16	34.99	33.71	54.00	20.29	Average

TEST ENGINEER: RAVEN JIN

EUT	:	Sero 7 Pro	Temperature :	25℃
Model No.	:	M470BSA	Humidity :	45%RH
Test Mode	:	802.11a Transmitting	Date of Test :	Mar 30, 2013

Ch149

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	11490.00	44.87	38.10	13.20	35.35	60.82	74.00	13.18	Peak
	11490.00	33.15	38.10	13.20	35.35	49.10	54.00	4.90	Average
Vertical	11490.00	45.29	38.10	13.20	35.35	61.24	74.00	12.76	Peak
	11490.00	34.05	38.10	13.20	35.35	50.00	54.00	4.00	Average

Ch157

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	11570.00	45.46	38.03	13.32	35.36	61.45	74.00	12.55	Peak
	11570.00	34.31	38.03	13.32	35.36	50.30	54.00	3.70	Average
Vertical	11570.00	44.72	38.03	13.32	35.36	60.71	74.00	13.29	Peak
	11570.00	33.38	38.03	13.32	35.36	49.37	54.00	4.63	Average

Ch161

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	11610.00	46.02	37.99	13.32	35.37	61.96	74.00	12.04	Peak
	11610.00	34.22	37.99	13.32	35.37	50.16	54.00	3.84	Average
Vertical	11610.00	44.67	37.99	13.32	35.37	60.61	74.00	13.39	Peak
	11610.00	33.25	37.99	13.32	35.37	49.19	54.00	4.81	Average

TEST ENGINEER: RAVEN JIN

EUT	:	Sero 7 Pro	Temperature :	25℃
Model No.	:	M470BSA	Humidity :	45%RH
Test Mode	:	802.11n Transmitting	Date of Test :	Mar 30, 2013

Ch149

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	11490.00	46.68	38.10	13.20	35.35	62.63	74.00	11.37	Peak
	11490.00	34.10	38.10	13.20	35.35	50.05	54.00	3.95	Average
Vertical	11490.00	45.21	38.10	13.20	35.35	61.16	74.00	12.84	Peak
	11490.00	33.73	38.10	13.20	35.35	49.68	54.00	4.32	Average

Ch157

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	11570.00	45.55	38.03	13.32	35.36	61.54	74.00	12.46	Peak
	11570.00	33.06	38.03	13.32	35.36	49.05	54.00	4.95	Average
Vertical	11570.00	45.20	38.03	13.32	35.36	61.19	74.00	12.81	Peak
	11570.00	33.48	38.03	13.32	35.36	49.47	54.00	4.53	Average

Ch161

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	11610.00	44.50	37.99	13.32	35.37	60.44	74.00	13.56	Peak
	11610.00	32.50	37.99	13.32	35.37	48.44	54.00	5.56	Average
Vertical	11610.00	45.14	37.99	13.32	35.37	61.08	74.00	12.92	Peak
	11610.00	33.82	37.99	13.32	35.37	49.76	54.00	4.24	Average

TEST ENGINEER: RAVEN JIN

EUT	:	Sero 7 Pro	Temperature :	25℃
Model No.	:	M470BSA	Humidity :	45%RH
Test Mode	:	Receiving	Date of Test :	Mar 30, 2013

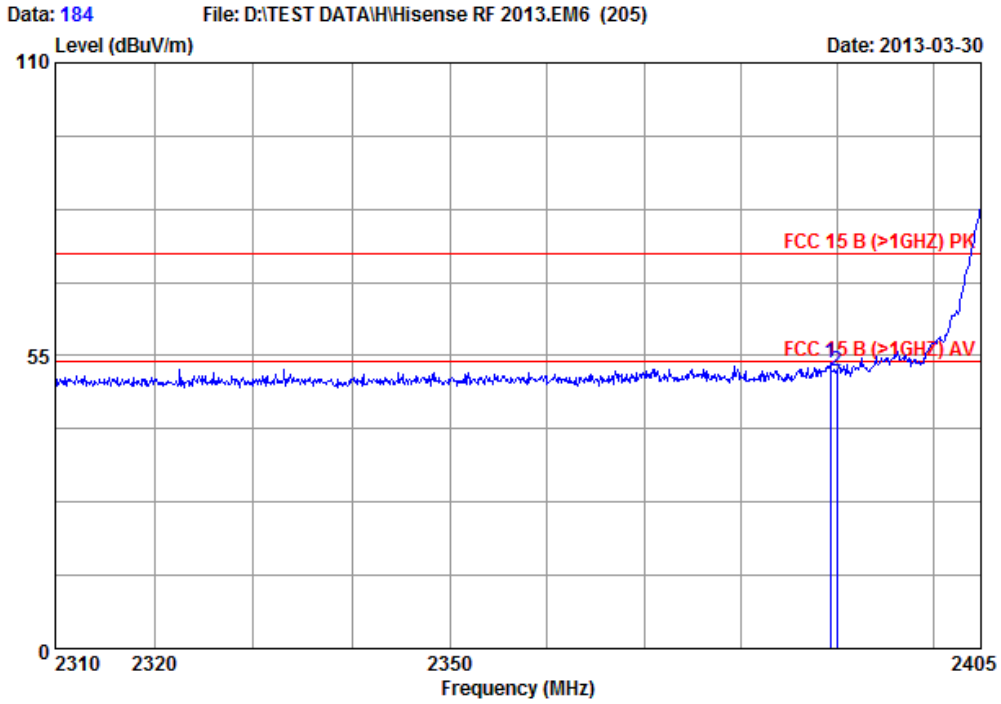
Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	1221.00	52.80	24.63	5.20	37.69	44.94	74.00	29.06	Peak
	3720.00	44.68	31.70	8.32	35.45	49.25	74.00	24.75	
	6032.00	44.24	32.63	9.14	34.60	51.41	74.00	22.59	
	1221.00	52.80	24.63	5.20	37.69	44.94	74.00	29.06	
Vertical	1680.00	54.80	27.61	5.97	36.54	51.84	74.00	22.16	Peak
	3924.00	44.09	32.44	8.44	35.41	49.56	74.00	24.44	
	5539.00	44.12	33.44	8.68	34.74	51.50	74.00	22.50	
	1680.00	54.80	27.61	5.97	36.54	51.84	74.00	22.16	

TEST ENGINEER: RAVEN JIN

Radiated Band Edge measurement:

For 802.11b Ch01:

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

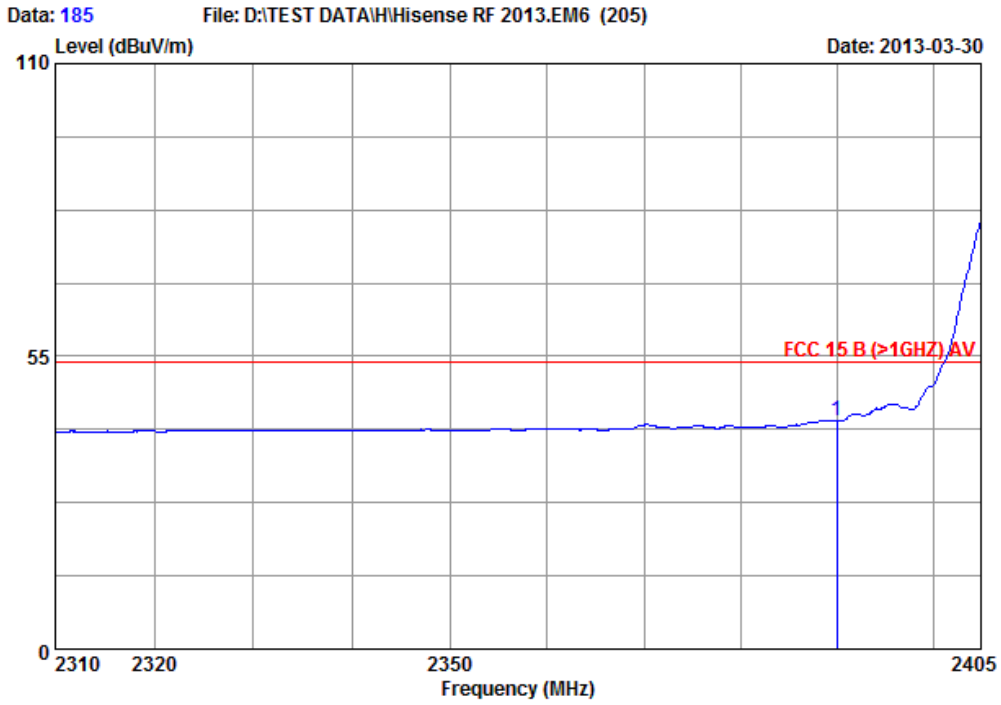


Site no : Audix ACI (3m Chamber) Data no. : 184
Dis. / Ant. : 3m /EMCO 3115
Limit : FCC 15 B (>1GHZ) PK Ant. pol. : HORIZONTAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI B1

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.254	28.80	35.95	6.42	54.49	53.76	74.00	20.24	Peak
2	2389.968	28.80	35.95	6.42	52.71	51.98	74.00	22.02	Peak

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

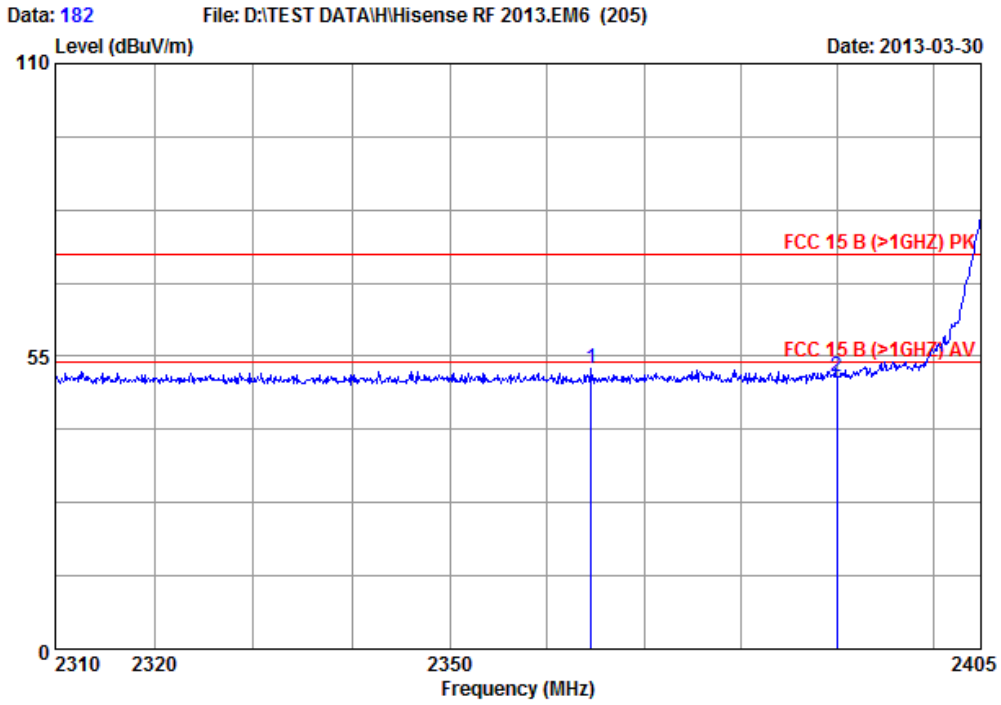


Site no : Audix ACI (3m Chamber) Data no. : 185
Dis. / Ant. : 3m /EMCO3115 2012-05-03
Limit : FCC 15 B (>1GHZ) AV Ant. pol. : HORIZONTAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI B1

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.968	28.80	35.95	6.42	43.62	42.89	54.00	11.11	Average

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

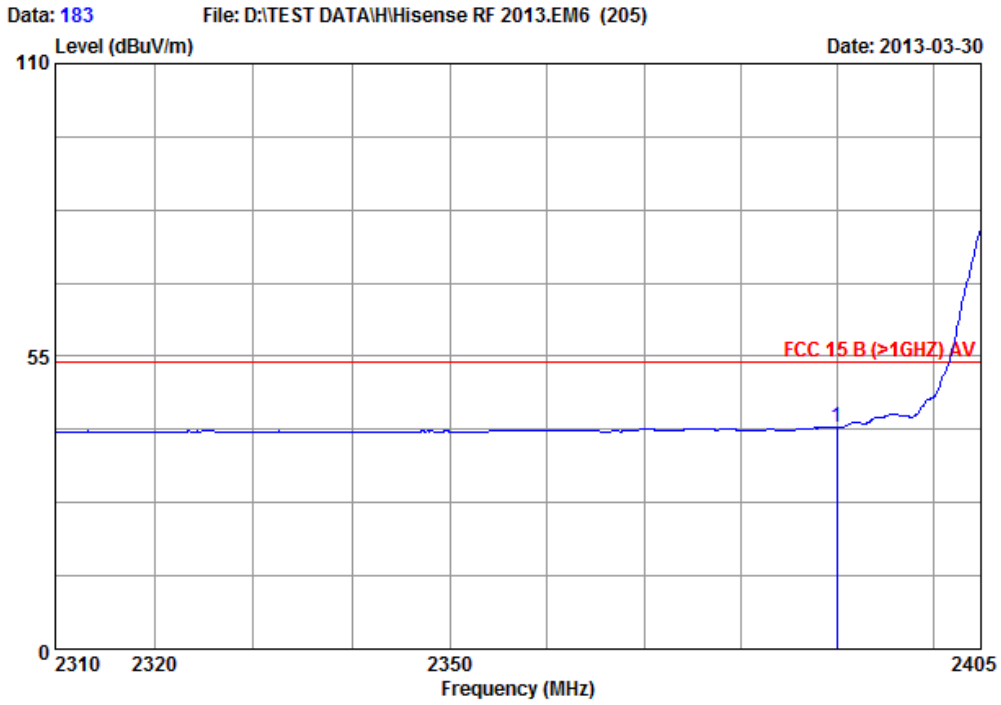


Site no : Audix ACI (3m Chamber) Data no. : 182
Dis. / Ant. : 3m /EMCO 3115
Limit : FCC 15 B (>1GHZ) PK Ant. pol. : VERTICAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI B1

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2364.570	28.90	35.96	6.40	53.48	52.82	74.00	21.18	Peak
2	2390.000	28.80	35.95	6.42	51.90	51.17	74.00	22.83	Peak

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com



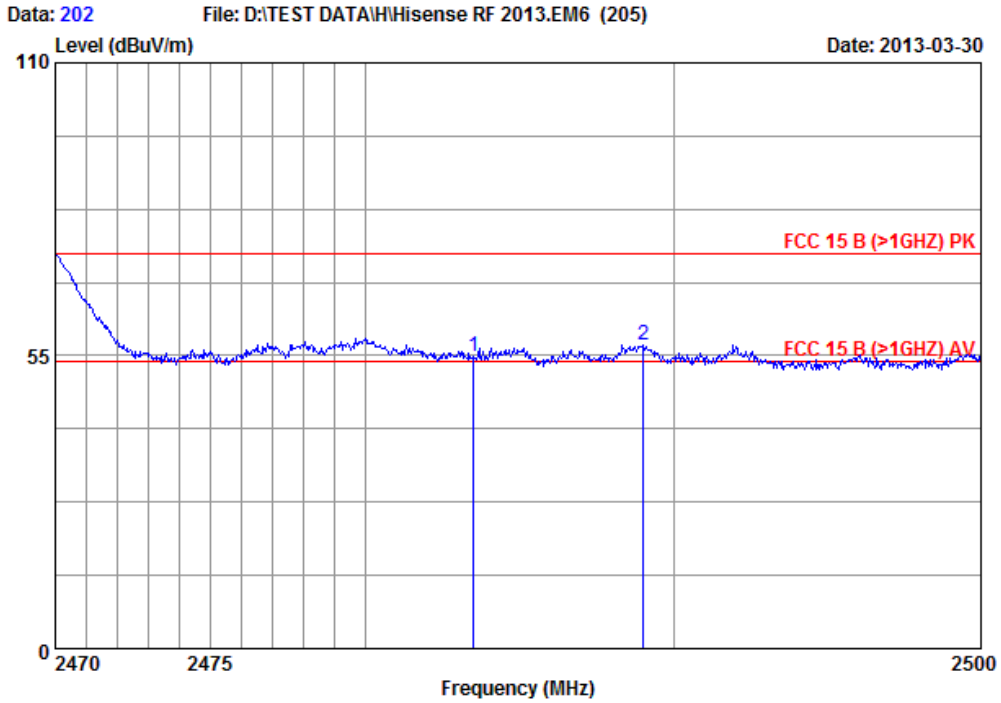
Site no : Audix ACI (3m Chamber) Data no. : 183
Dis. / Ant. : 3m /EMCO3115 2012-05-03
Limit : FCC 15 B (>1GHZ) AV Ant. pol. : VERTICAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI B1

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	28.80	35.95	6.42	42.41	41.68	54.00	12.32	Average

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

For 802.11b Ch11:

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

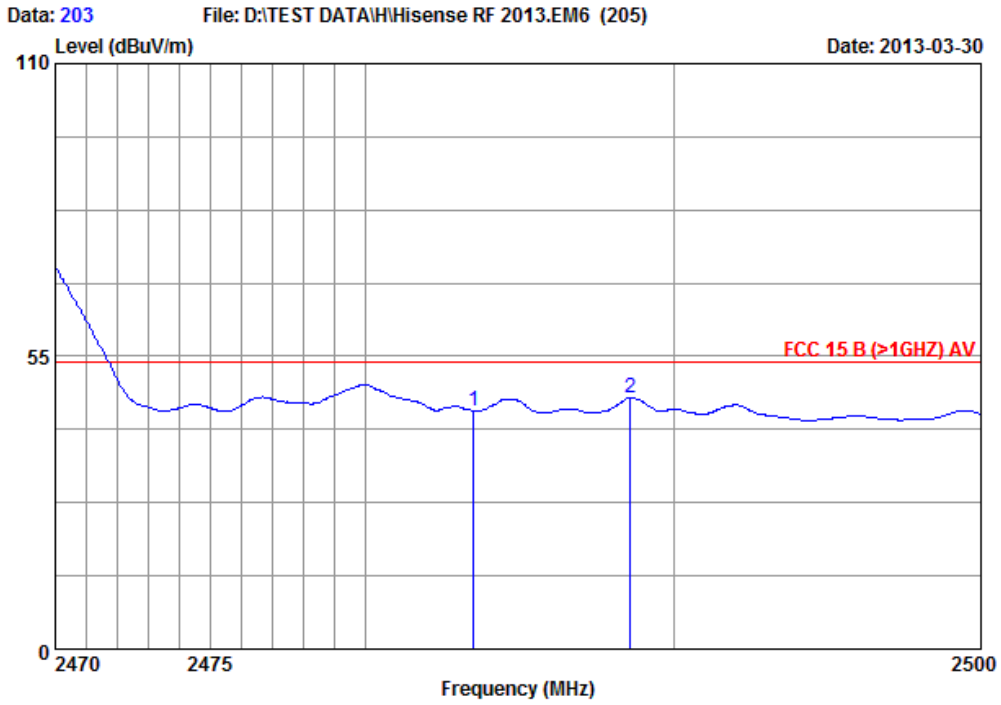


Site no : Audix ACI (3m Chamber) Data no. : 202
Dis. / Ant. : 3m /EMCO 3115
Limit : FCC 15 B (>1GHZ) PK Ant. pol. : HORIZONTAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI B11

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2483.508	28.36	35.91	6.45	55.99	54.89	74.00	19.11	Peak
2	2489.018	28.36	35.91	6.47	58.05	56.97	74.00	17.03	Peak

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

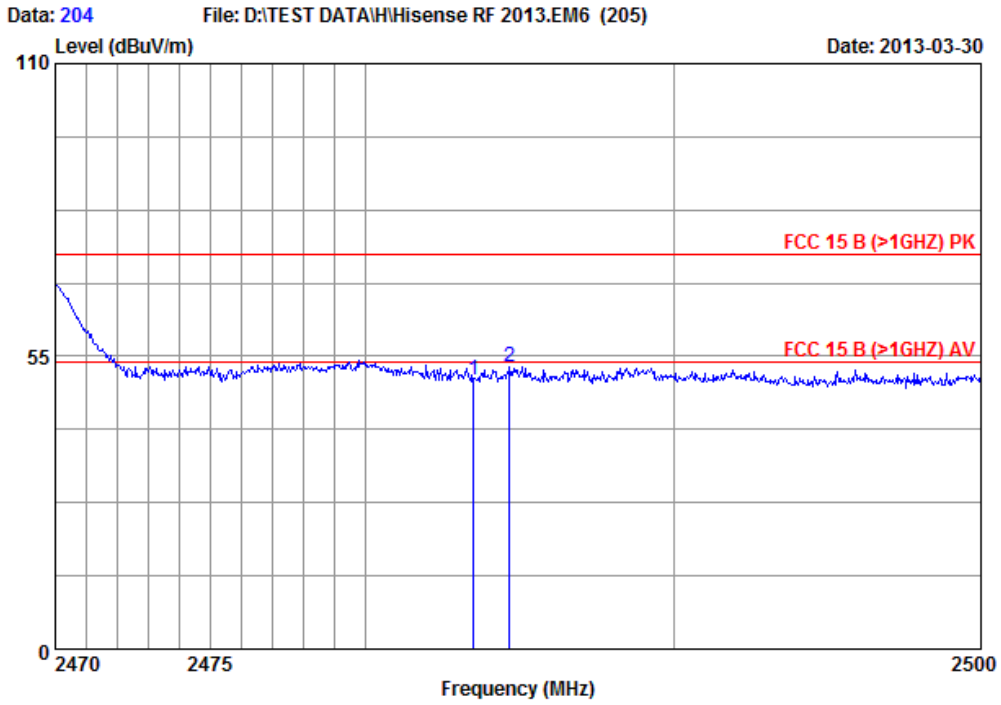


Site no : Audix ACI (3m Chamber) Data no. : 203
Dis. / Ant. : 3m /EMCO3115 2012-05-03
Limit : FCC 15 B (>1GHZ) AV Ant. pol. : HORIZONTAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI B11

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2483.508	28.36	35.91	6.45	45.95	44.85	54.00	9.15	Average
2	2488.600	28.36	35.91	6.47	48.21	47.13	54.00	6.87	Average

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

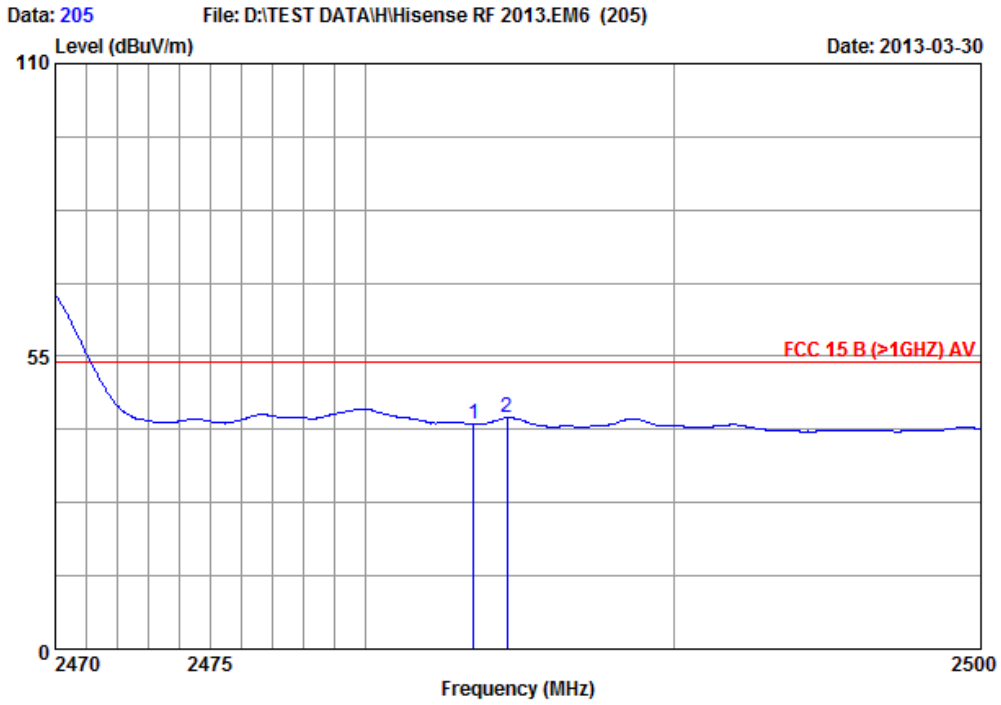


Site no : Audix ACI (3m Chamber) Data no. : 204
Dis. / Ant. : 3m /EMCO 3115
Limit : FCC 15 B (>1GHZ) PK Ant. pol. : VERTICAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI B11

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2483.508	28.36	35.91	6.45	51.73	50.63	74.00	23.37	Peak
2	2484.686	28.36	35.91	6.47	54.12	53.04	74.00	20.96	Peak

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com



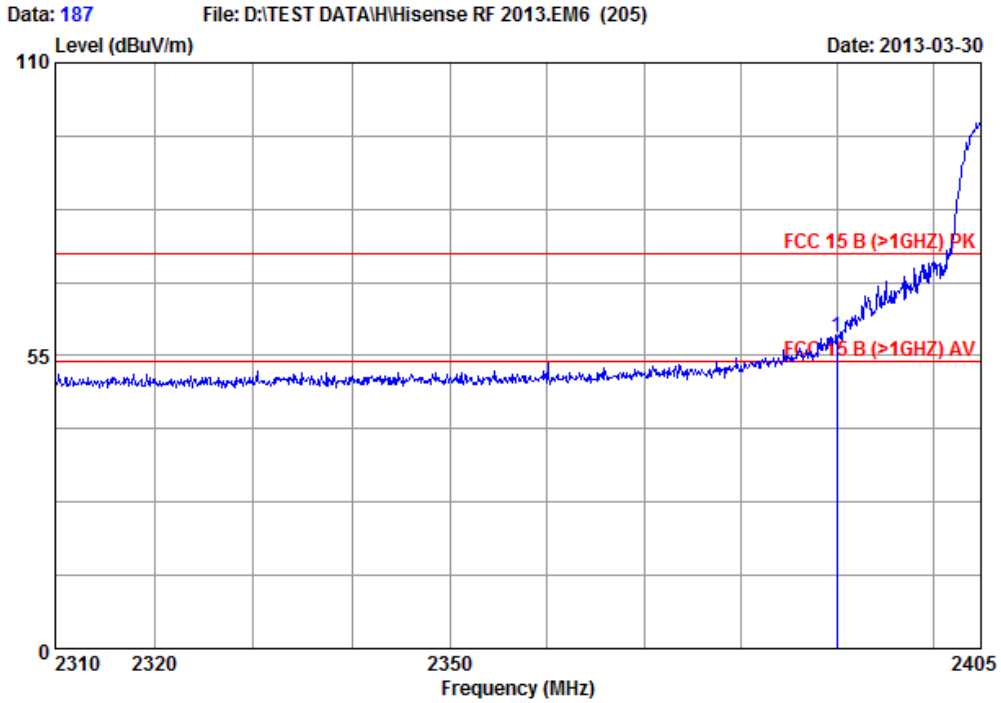
Site no : Audix ACI (3m Chamber) Data no. : 205
Dis. / Ant. : 3m /EMCO3115 2012-05-03
Limit : FCC 15 B (>1GHZ) AV Ant. pol. : VERTICAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI B11

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2483.508	28.36	35.91	6.45	43.29	42.19	54.00	11.81	Average
2	2484.610	28.36	35.91	6.47	44.55	43.47	54.00	10.53	Average

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

For 802.11g Ch01:

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

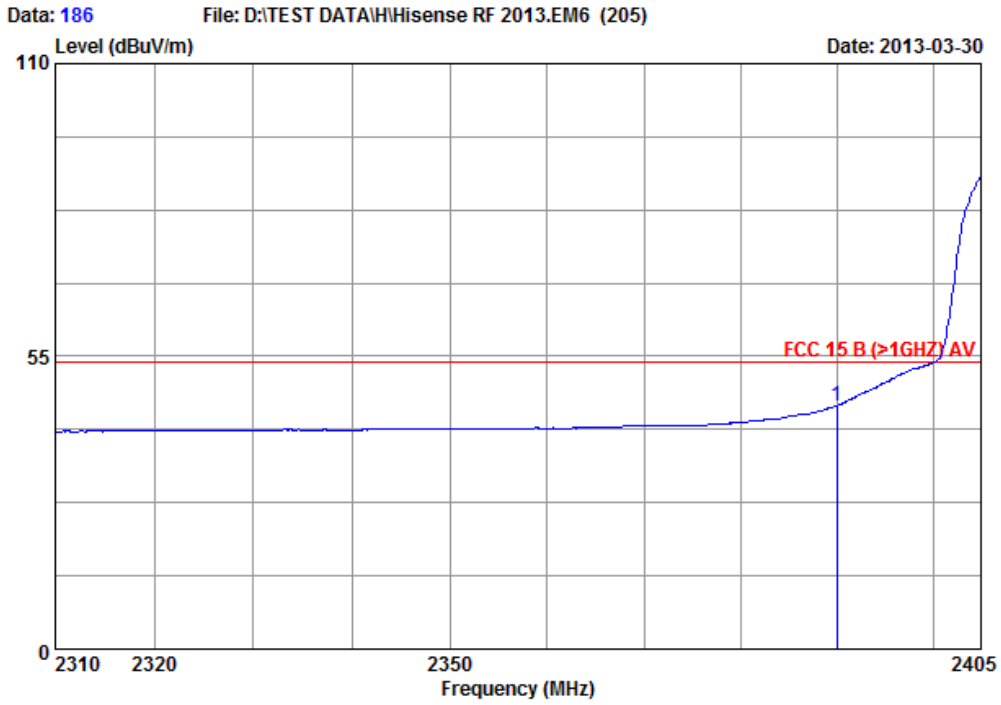


Site no : Audix ACI (3m Chamber) Data no. : 187
Dis. / Ant. : 3m /EMCO 3115
Limit : FCC 15 B (>1GHZ) PK Ant. pol. : HORIZONTAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI G1

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.968	28.80	35.95	6.42	59.34	58.61	74.00	15.39	Peak

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

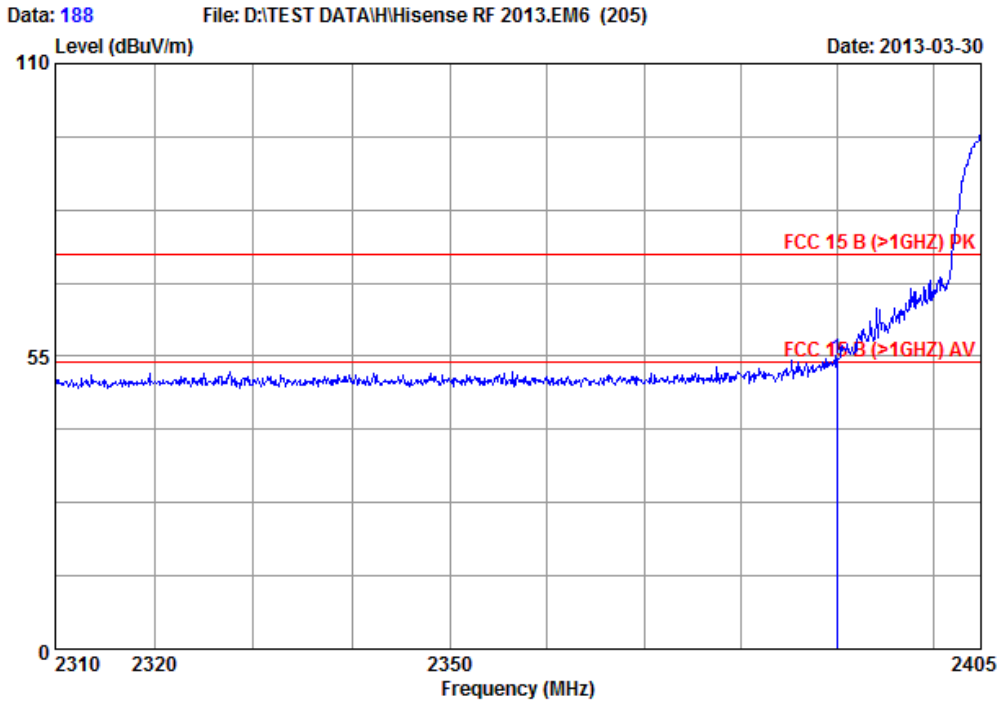


Site no : Audix ACI (3m Chamber) Data no. : 186
Dis. / Ant. : 3m /EMCO3115 2012-05-03
Limit : FCC 15 B (>1GHZ) AV Ant. pol. : HORIZONTAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI G1

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.968	28.80	35.95	6.42	46.46	45.73	54.00	8.27	Average

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

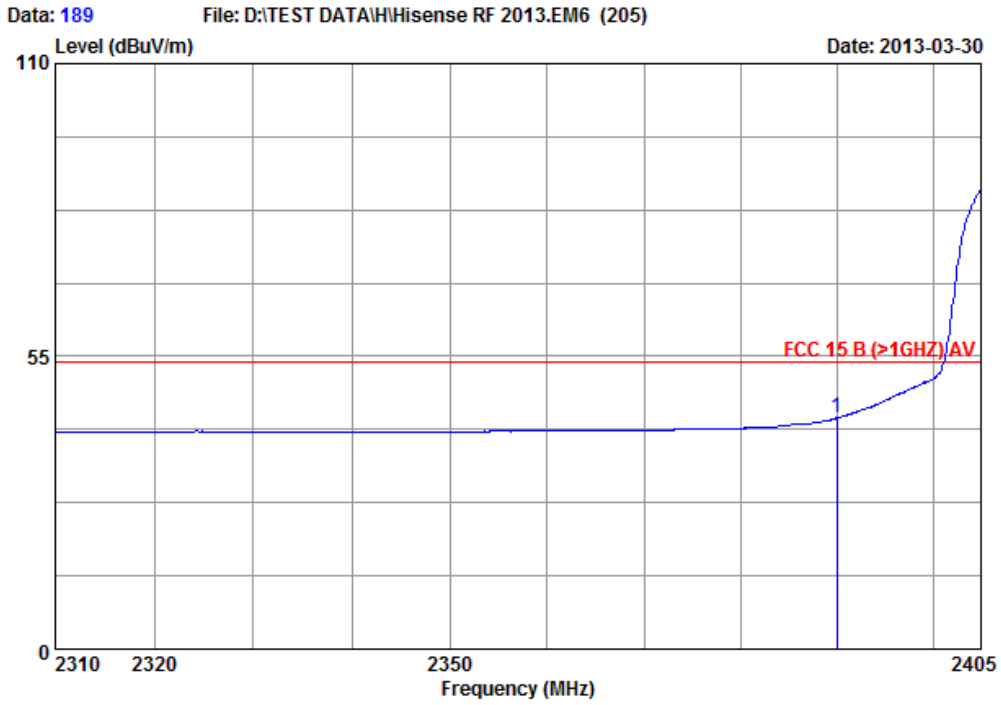


Site no : Audix ACI (3m Chamber) Data no. : 188
Dis. / Ant. : 3m /EMCO 3115
Limit : FCC 15 B (>1GHZ) PK Ant. pol. : VERTICAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI G1

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.968	28.80	35.95	6.42	55.34	54.61	74.00	19.39	Peak

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com



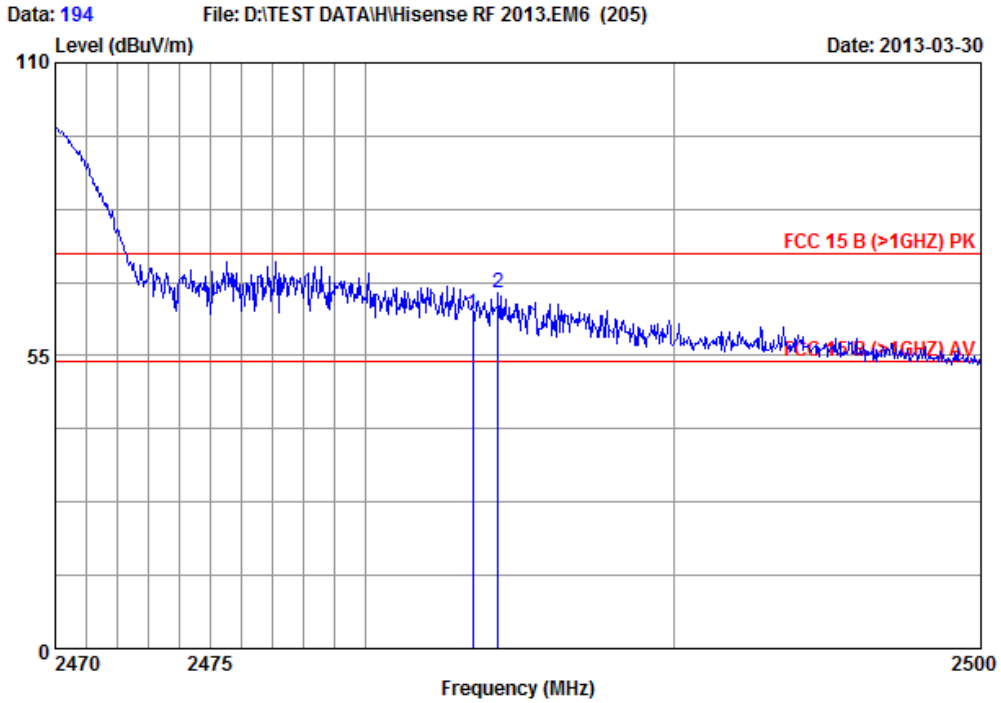
Site no : Audix ACI (3m Chamber) Data no. : 189
Dis. / Ant. : 3m /EMCO3115 2012-05-03
Limit : FCC 15 B (>1GHZ) AV Ant. pol. : VERTICAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI G1

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.968	28.80	35.95	6.42	44.11	43.38	54.00	10.62	Average

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

For 802.11g Ch11:

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

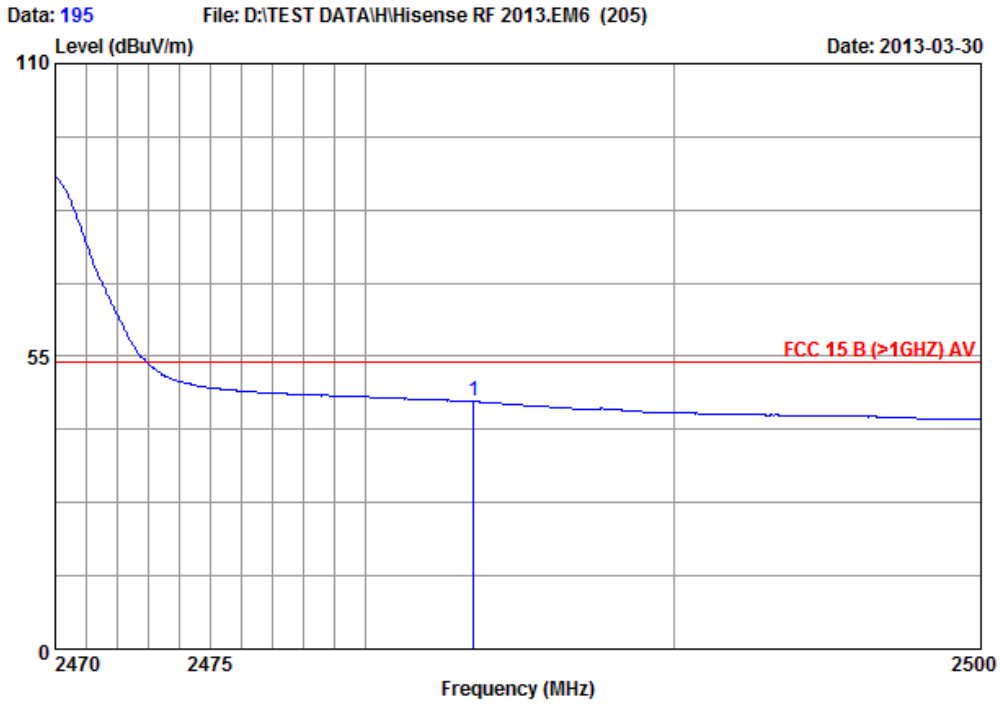


Site no : Audix ACI (3m Chamber) Data no. : 194
Dis. / Ant. : 3m /EMCO 3115
Limit : FCC 15 B (>1GHZ) PK Ant. pol. : HORIZONTAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI G11

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2483.500	28.36	35.91	6.45	63.95	62.85	74.00	11.15	Peak
2	2484.306	28.36	35.91	6.47	67.73	66.65	74.00	7.35	Peak

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

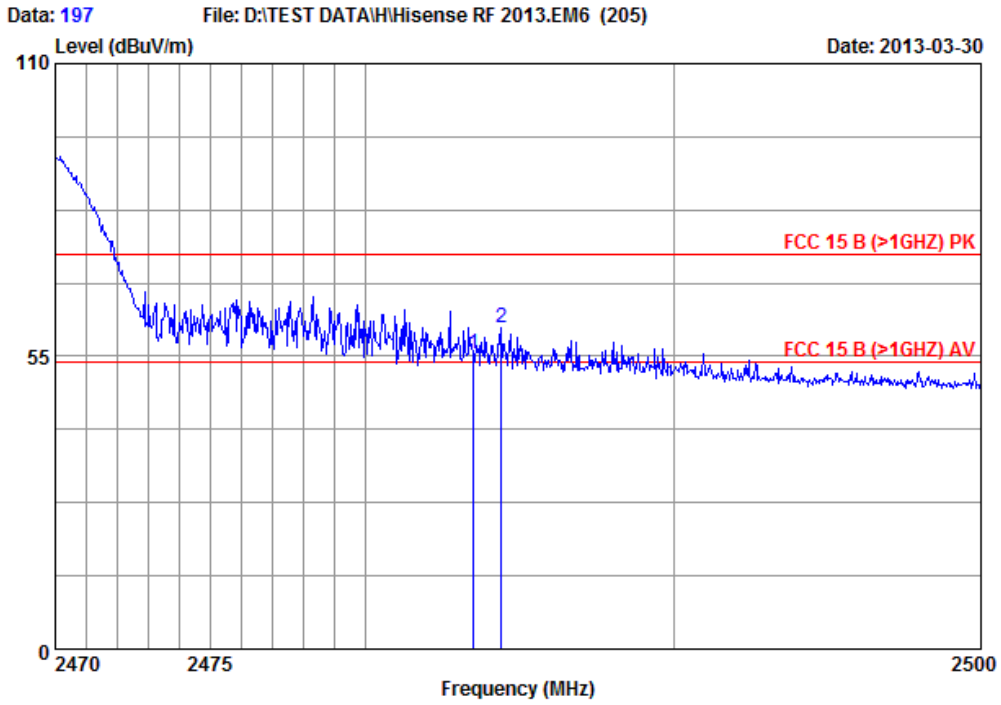


Site no : Audix ACI (3m Chamber) Data no. : 195
Dis. / Ant. : 3m /EMCO3115 2012-05-03
Limit : FCC 15 B (>1GHZ) AV Ant. pol. : HORIZONTAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI G11

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2483.508	28.36	35.91	6.45	47.61	46.51	54.00	7.49	Average

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

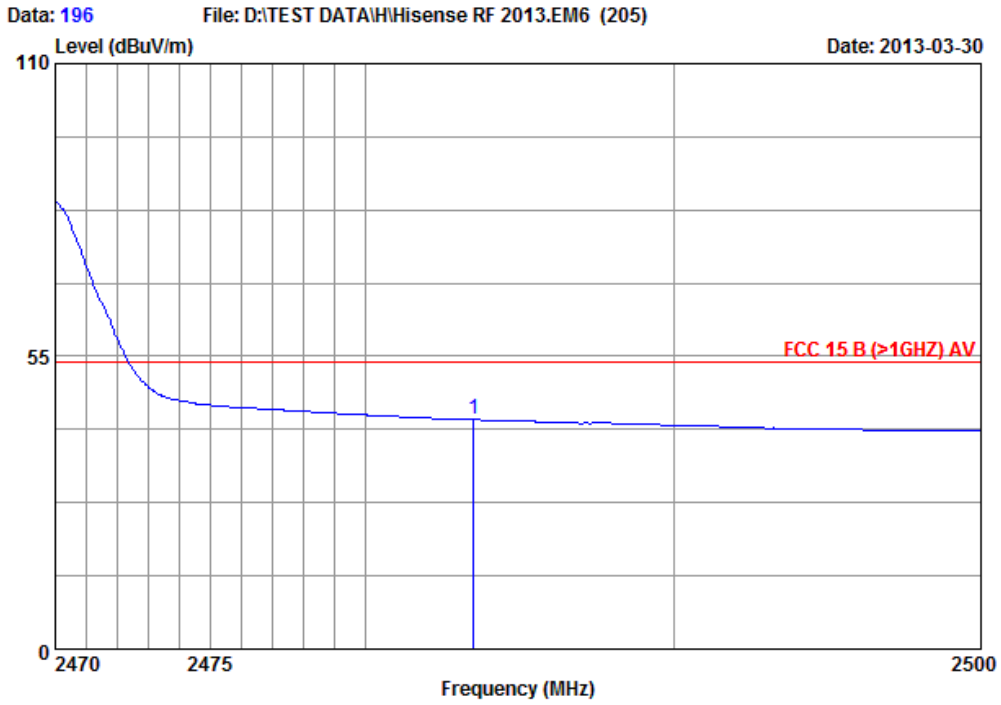


Site no : Audix ACI (3m Chamber) Data no. : 197
Dis. / Ant. : 3m /EMCO 3115
Limit : FCC 15 B (>1GHZ) PK Ant. pol. : VERTICAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI G11

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2483.508	28.36	35.91	6.45	56.64	55.54	74.00	18.46	Peak
2	2484.420	28.36	35.91	6.47	61.45	60.37	74.00	13.63	Peak

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com



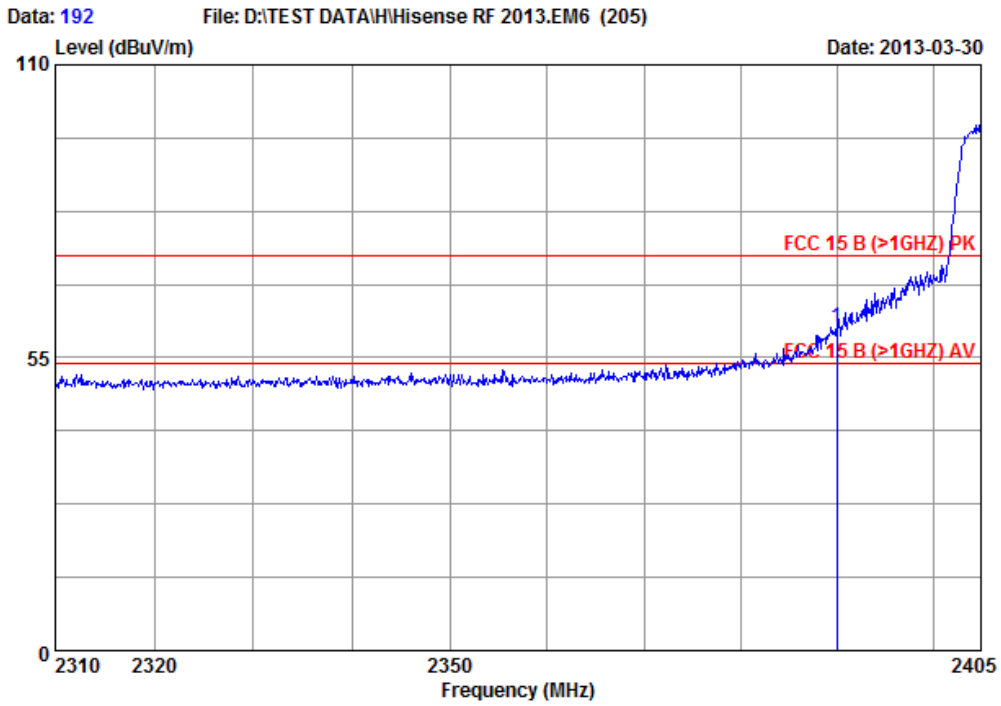
Site no : Audix ACI (3m Chamber) Data no. : 196
Dis. / Ant. : 3m /EMCO3115 2012-05-03
Limit : FCC 15 B (>1GHZ) AV Ant. pol. : VERTICAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI G11

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2483.508	28.36	35.91	6.45	44.24	43.14	54.00	10.86	Average

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

For 802.11n Ch01:

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

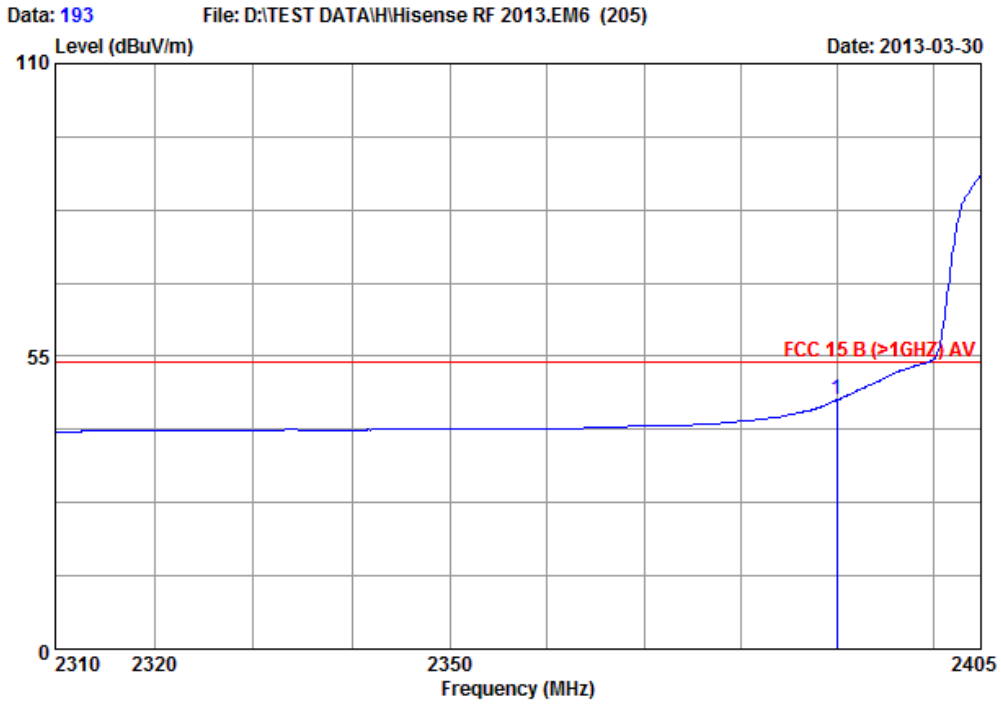


Site no : Audix ACI (3m Chamber) Data no. : 192
Dis. / Ant. : 3m /EMCO 3115
Limit : FCC 15 B (>1GHZ) PK Ant. pol. : HORIZONTAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI N1

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.968	28.80	35.95	6.42	61.52	60.79	74.00	13.21	Peak

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

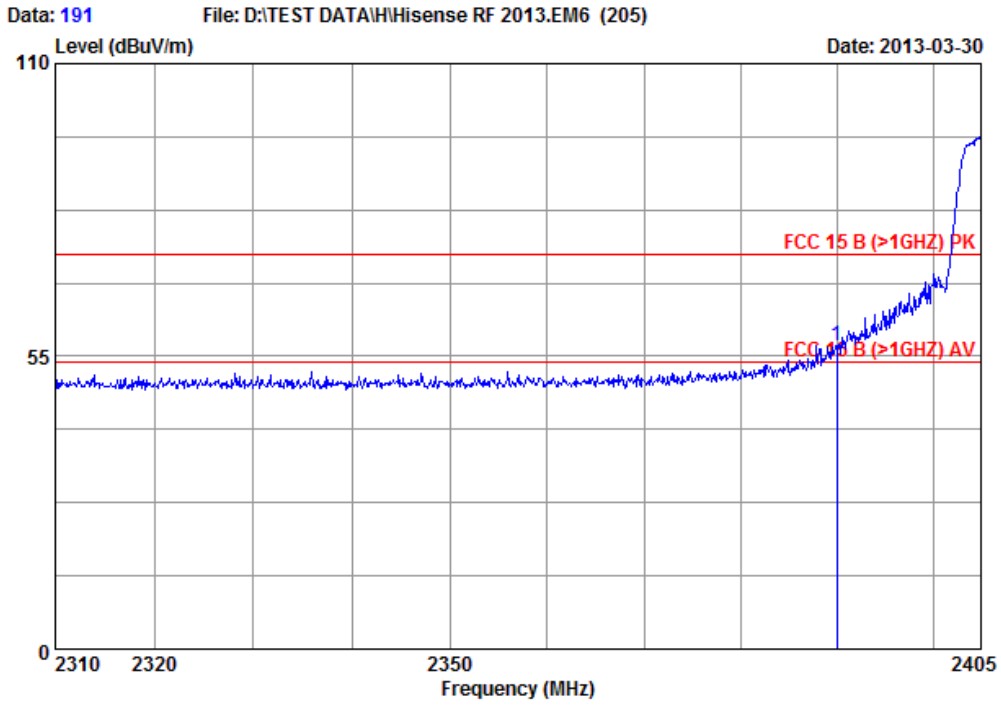


Site no : Audix ACI (3m Chamber) Data no. : 193
Dis. / Ant. : 3m /EMCO3115 2012-05-03
Limit : FCC 15 B (>1GHZ) AV Ant. pol. : HORIZONTAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI N1

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.968	28.80	35.95	6.42	47.55	46.82	54.00	7.18	Average

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

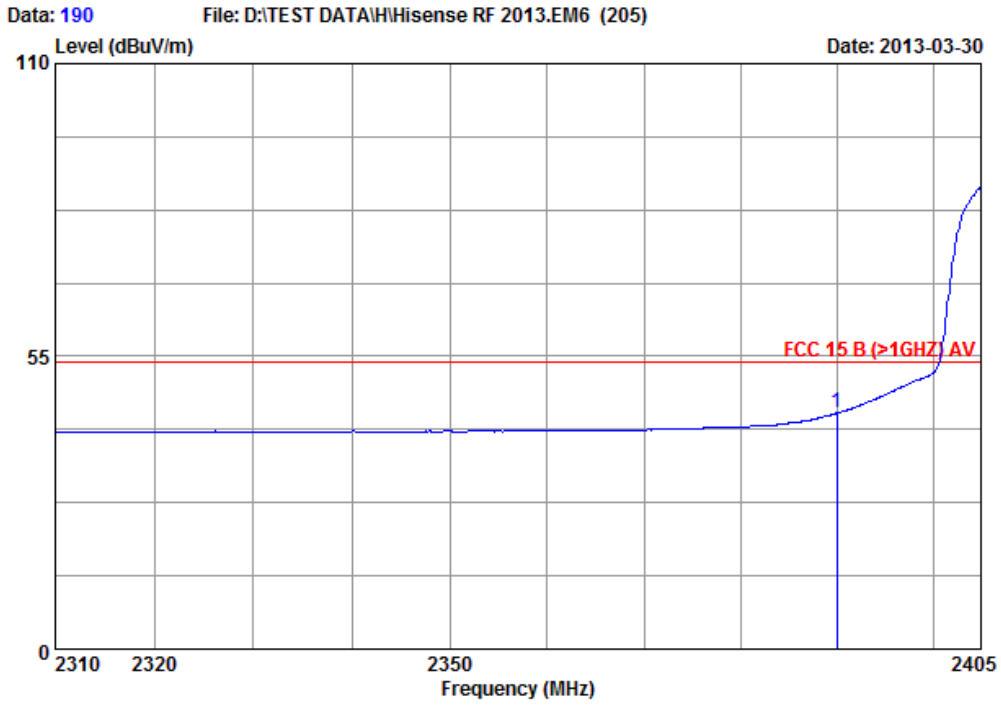


Site no : Audix ACI (3m Chamber) Data no. : 191
Dis. / Ant. : 3m /EMCO 3115
Limit : FCC 15 B (>1GHZ) PK Ant. pol. : VERTICAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI N1

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.968	28.80	35.95	6.42	57.66	56.93	74.00	17.07	Peak

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com



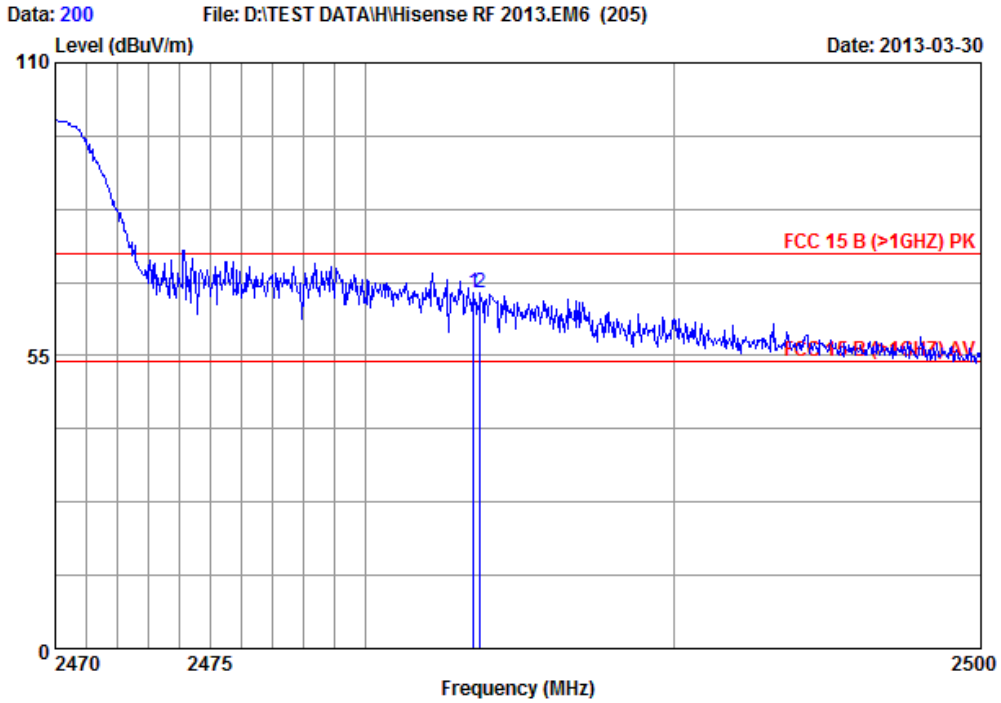
Site no : Audix ACI (3m Chamber) Data no. : 190
Dis. / Ant. : 3m /EMCO3115 2012-05-03
Limit : FCC 15 B (>1GHZ) AV Ant. pol. : VERTICAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI N1

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.968	28.80	35.95	6.42	45.06	44.33	54.00	9.67	Average

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

For 802.11n Ch11:

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

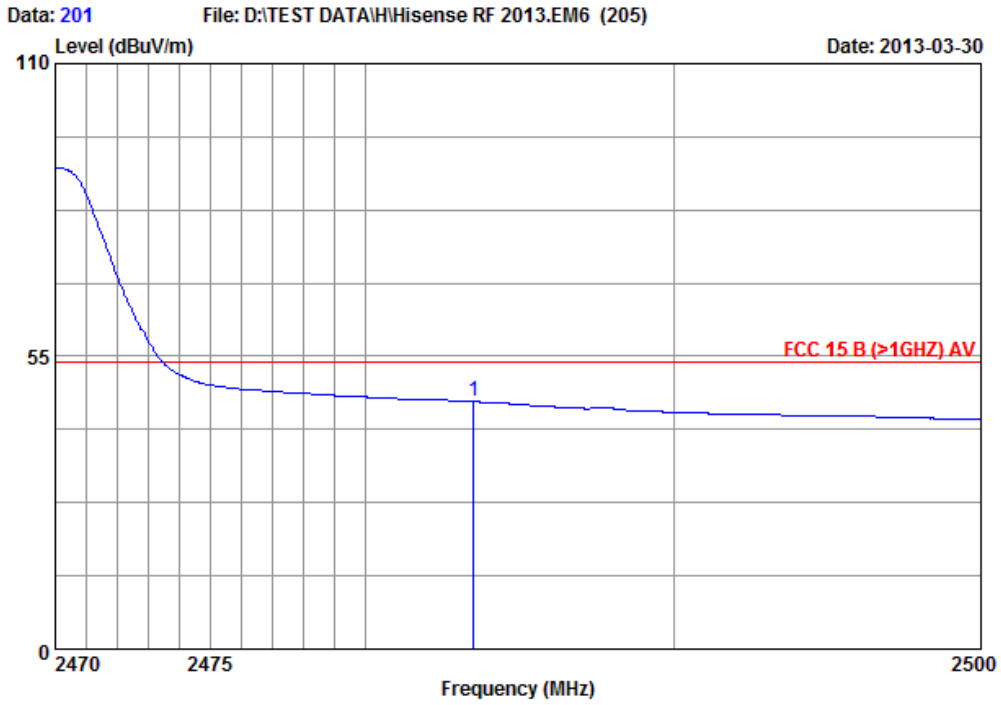


Site no : Audix ACI (3m Chamber) Data no. : 200
Dis. / Ant. : 3m /EMCO 3115
Limit : FCC 15 B (>1GHZ) PK Ant. pol. : HORIZONTAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI N11

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2483.508	28.36	35.91	6.45	67.80	66.70	74.00	7.30	Peak
2	2483.736	28.36	35.91	6.45	67.90	66.80	74.00	7.20	Peak

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

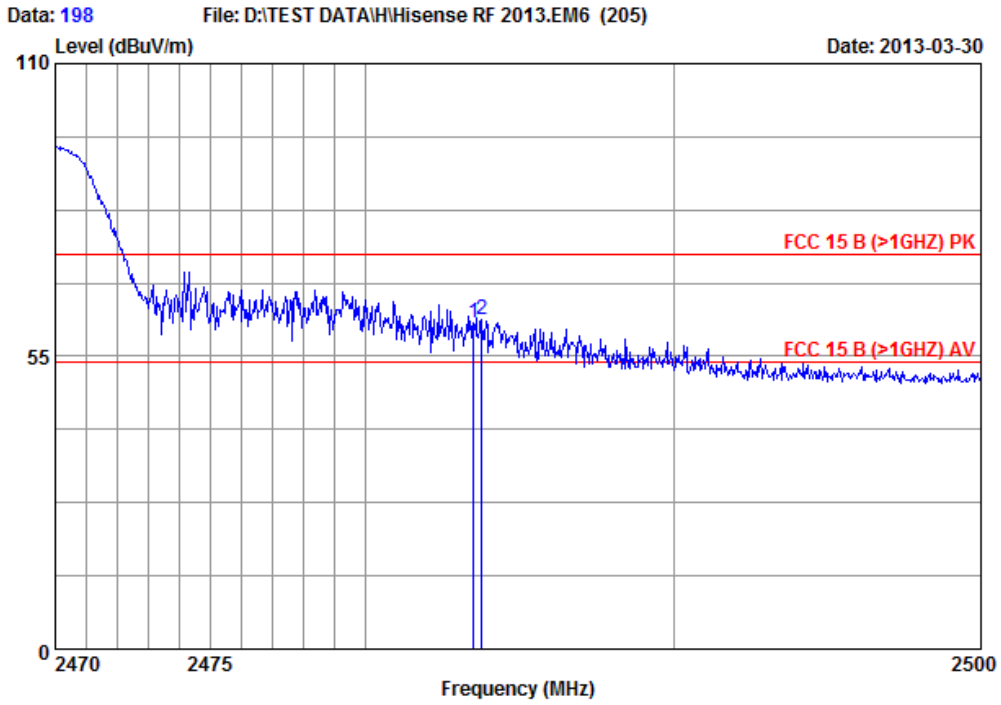


Site no : Audix ACI (3m Chamber) Data no. : 201
Dis. / Ant. : 3m /EMCO3115 2012-05-03
Limit : FCC 15 B (>1GHZ) AV Ant. pol. : HORIZONTAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI N11

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2483.508	28.36	35.91	6.45	47.57	46.47	54.00	7.53	Average

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com

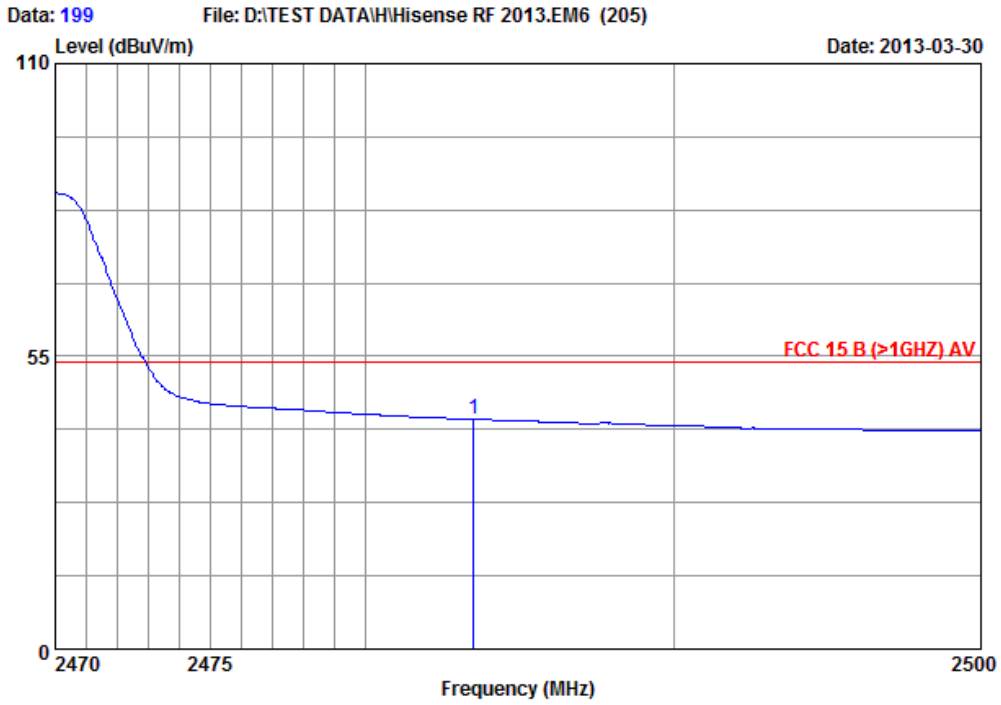


Site no : Audix ACI (3m Chamber) Data no. : 198
Dis. / Ant. : 3m /EMCO 3115
Limit : FCC 15 B (>1GHZ) PK Ant. pol. : VERTICAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI N11

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2483.508	28.36	35.91	6.45	62.36	61.26	74.00	12.74	Peak
2	2483.774	28.36	35.91	6.45	63.14	62.04	74.00	11.96	Peak

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

Audix Technology (Shanghai) Co., Ltd.
3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai 200233, China
Tel:+86-21-64955500 Fax:+86-21-64955491
audixaci@audix.com



Site no : Audix ACI (3m Chamber) Data no. : 199
Dis. / Ant. : 3m /EMCO3115 2012-05-03
Limit : FCC 15 B (>1GHZ) AV Ant. pol. : VERTICAL
Env. / Ins. : 22'C 60%RH/ E7405A Engineer : Dio
Test Mode : WIFI N11

	Freq. (MHz)	Antenna Factor (dB/m)	Preamp Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2483.508	28.36	35.91	6.45	44.28	43.18	54.00	10.82	Average

Remarks: Emission Level= Antenna Factor + Cable Loss - Preamp Factor + Reading.

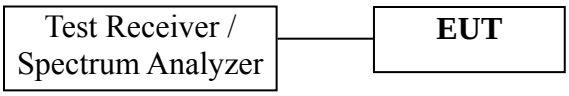
5 6 dB BANDWIDTH MEASUREMENT

5.1 Test Equipment

The following test equipment was used during the Emission Bandwidth measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	101303	Sep 11, 2012	Sep 11, 2013
2.	Spectrum Analyzer	Agilent	E7405A	MY45106600	Mar 22, 2012	Mar 22, 2013

5.2 Block Diagram of Test Setup



5.3 Specification Limits (§15.247(a)(2))

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

5.4 Operating Condition of EUT

The test program "adb shell" was used to enable the EUT to transmit data at different channel frequency individually.

5.5 Test Procedure

The transmitter output was connected to the test receiver / spectrum analyzer.
The bandwidth of the fundamental frequency was measure by spectrum analyzer with 100 kHz RBW / 300 kHz VBW.
The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.
The test procedure is defined in KDB558074 v02:2012 (the 7.1 Measurement Procedure "Option 1" was used).

5.6 Test Results

PASSED.

All the test results are attached in next pages.

(Test Date: Feb. 28 – Mar. 04, 2013 Temperature: 24℃ Humidity: 45 %)

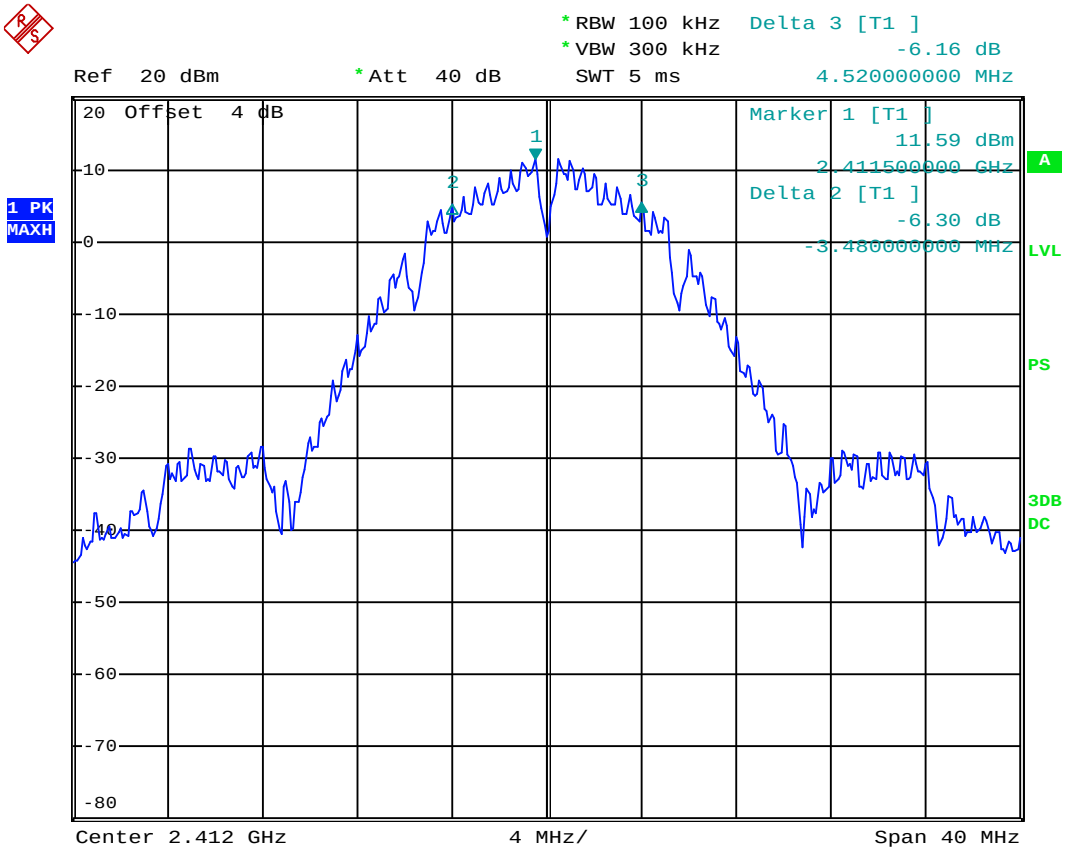
2.4GHz band:

Modulation	Channel	Frequency	**6dB Bandwidth**
802.11b	01	2412 MHz	**8.00 MHz**
	06	2437 MHz	**8.00 MHz**
	11	2462 MHz	**8.00 MHz**
802.11g	01	2412 MHz	**15.36 MHz**
	06	2437 MHz	**15.48 MHz**
	11	2462 MHz	**15.52 MHz**
802.11n HT20	01	2412 MHz	**16.32 MHz**
	06	2437 MHz	**15.36 MHz**
	11	2462 MHz	**15.46 MHz**

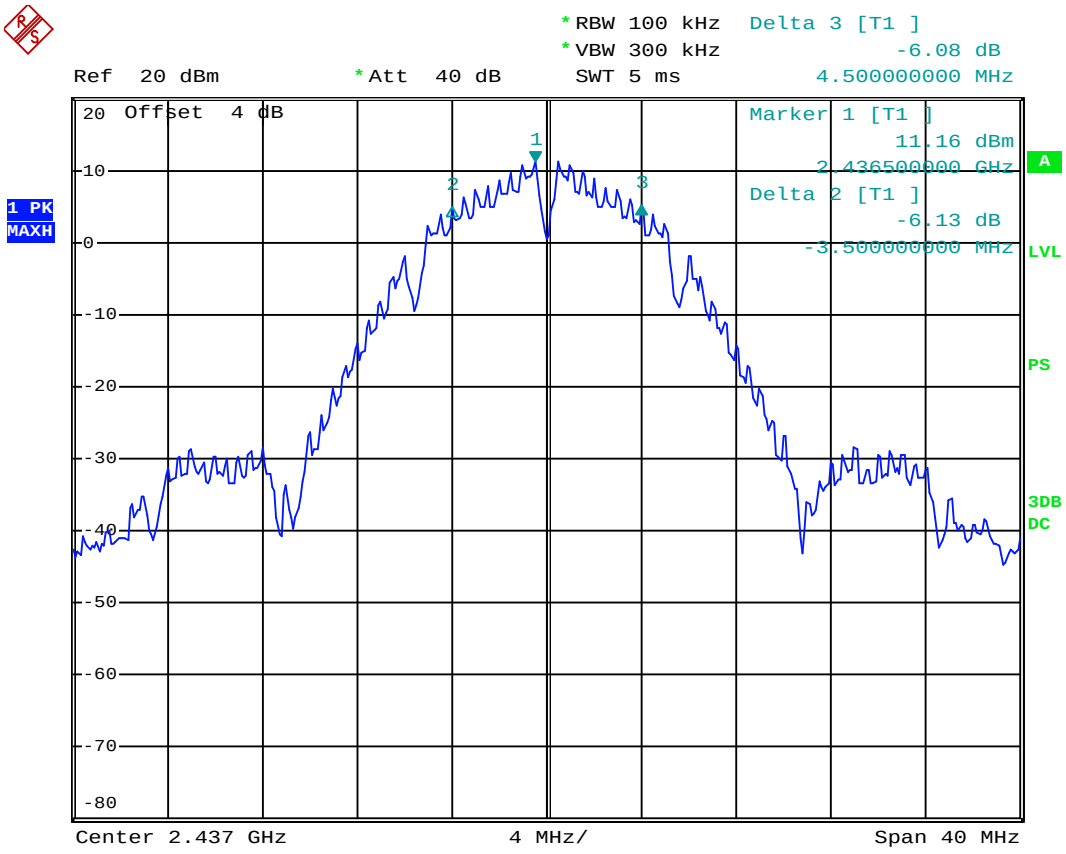
5.8GHz band:

Modulation	Channel	Frequency	**6dB Bandwidth**
802.11a	149	5745 MHz	**16.256 MHz**
	157	5785 MHz	**15.969 MHz**
	161	5805 MHz	**16.388 MHz**
802.11n HT20	149	5745 MHz	**15.991 MHz**
	157	5785 MHz	**15.969 MHz**
	161	5805 MHz	**16.123 MHz**

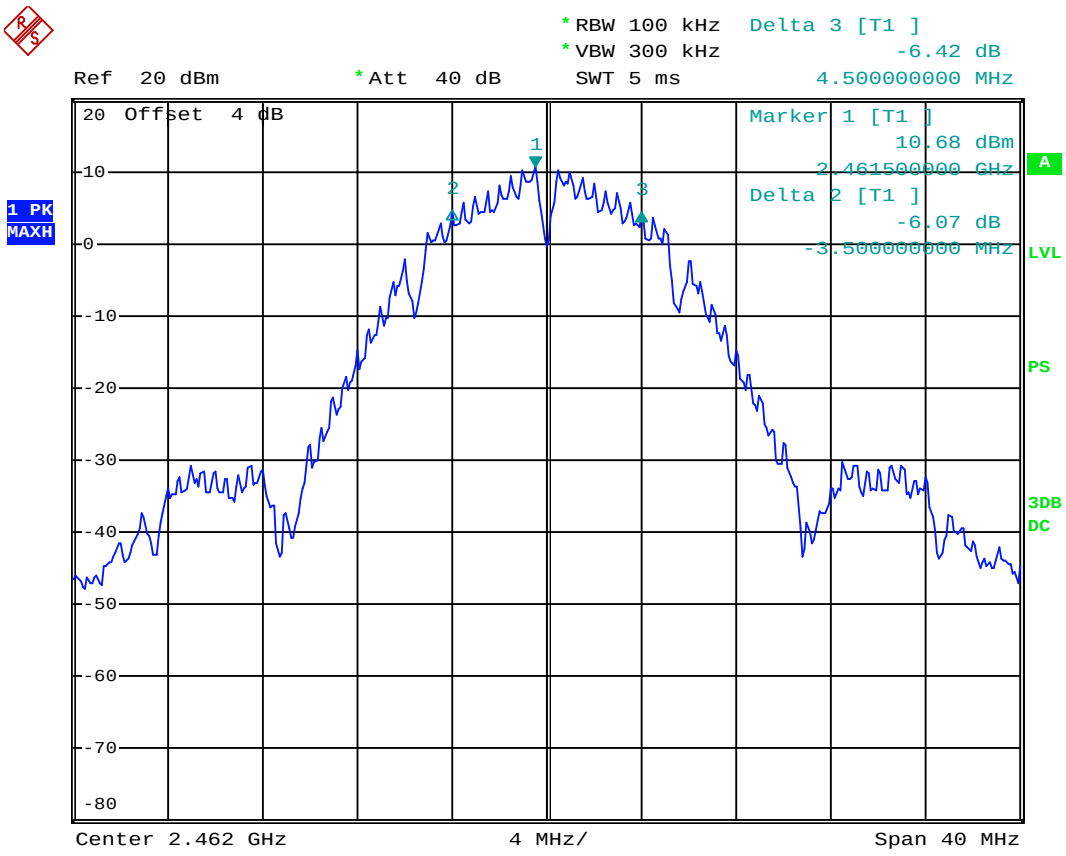
802.11b Ch 01 (2412 MHz)



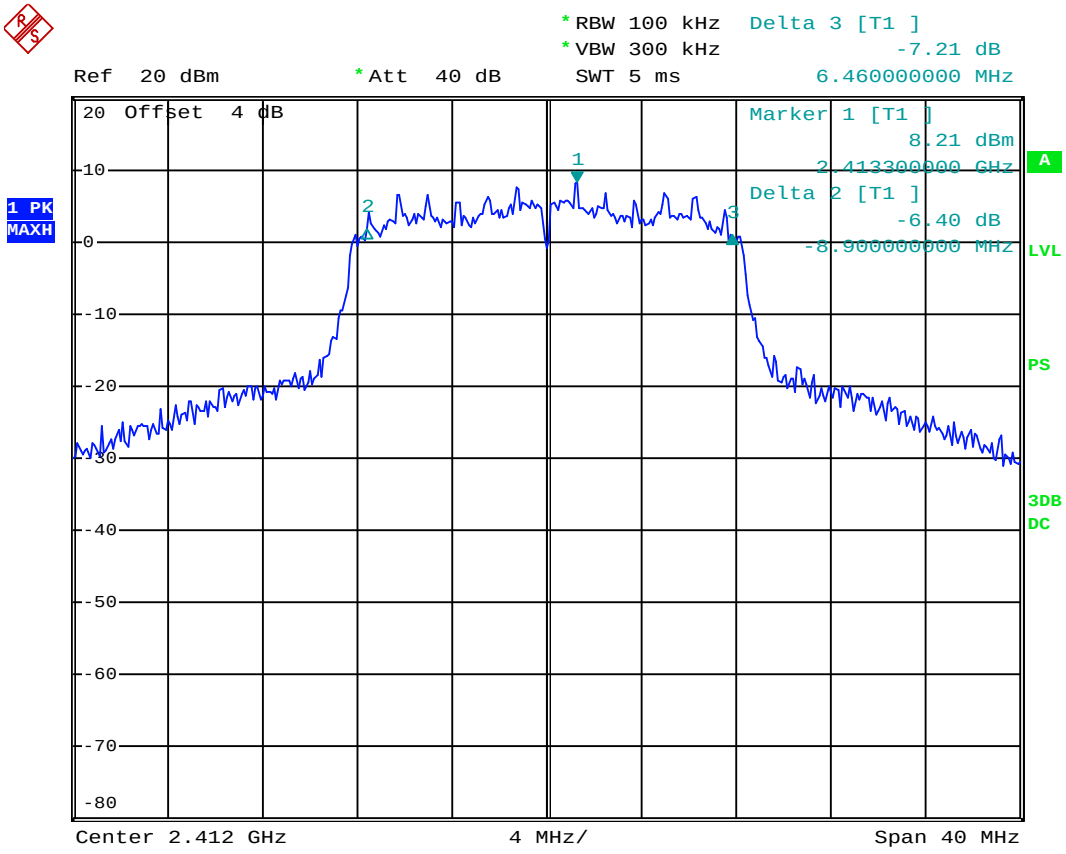
802.11b Ch 06 (2437 MHz)



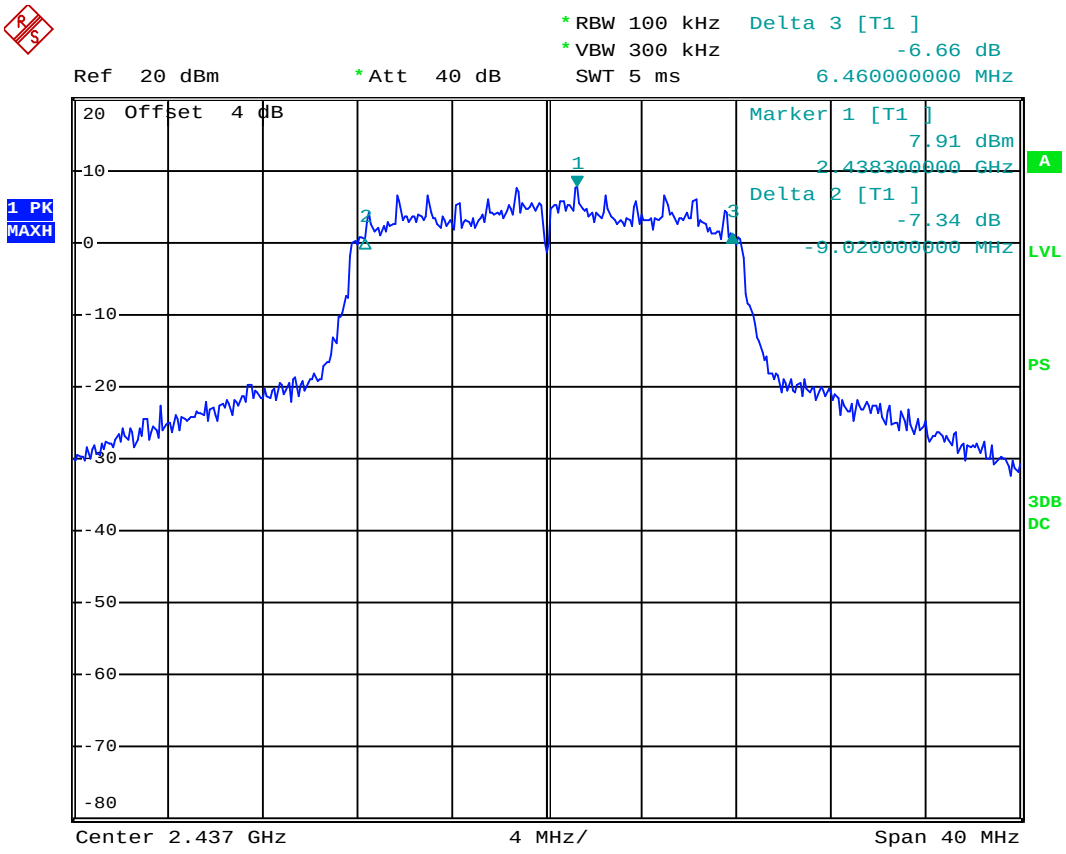
802.11b Ch 11 (2462 MHz)



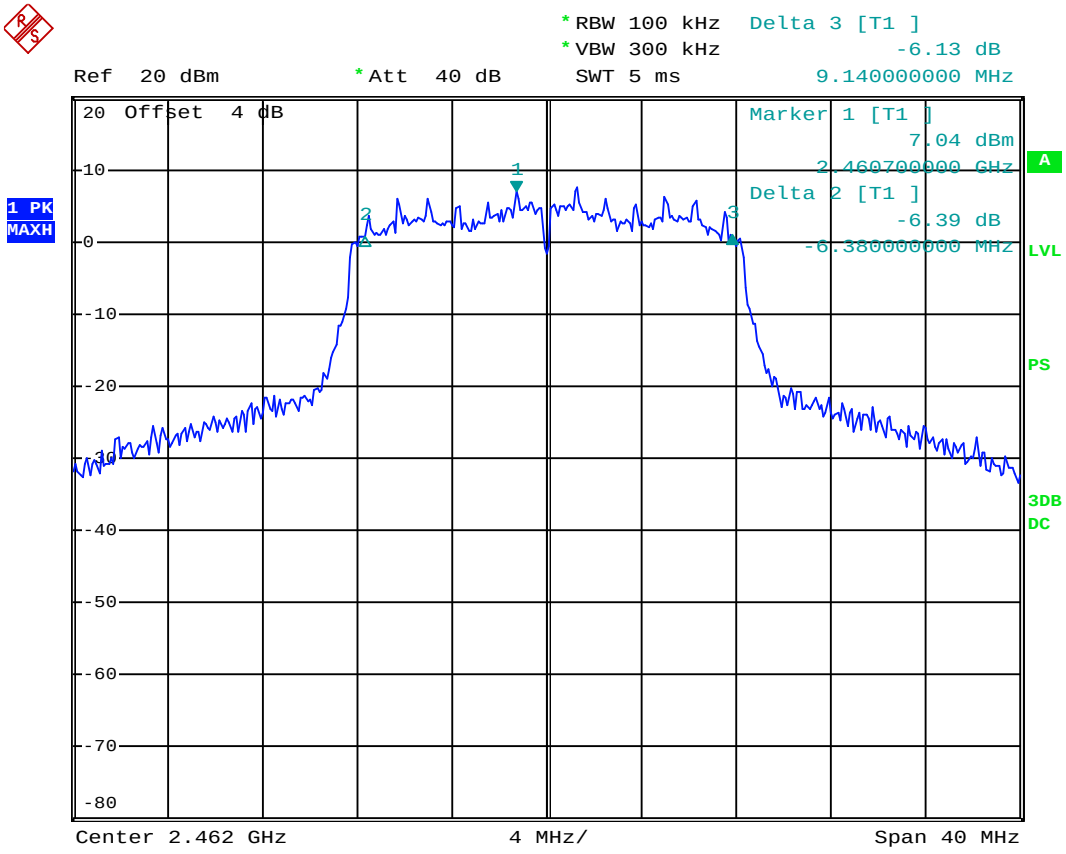
802.11g Ch 01 (2412 MHz)



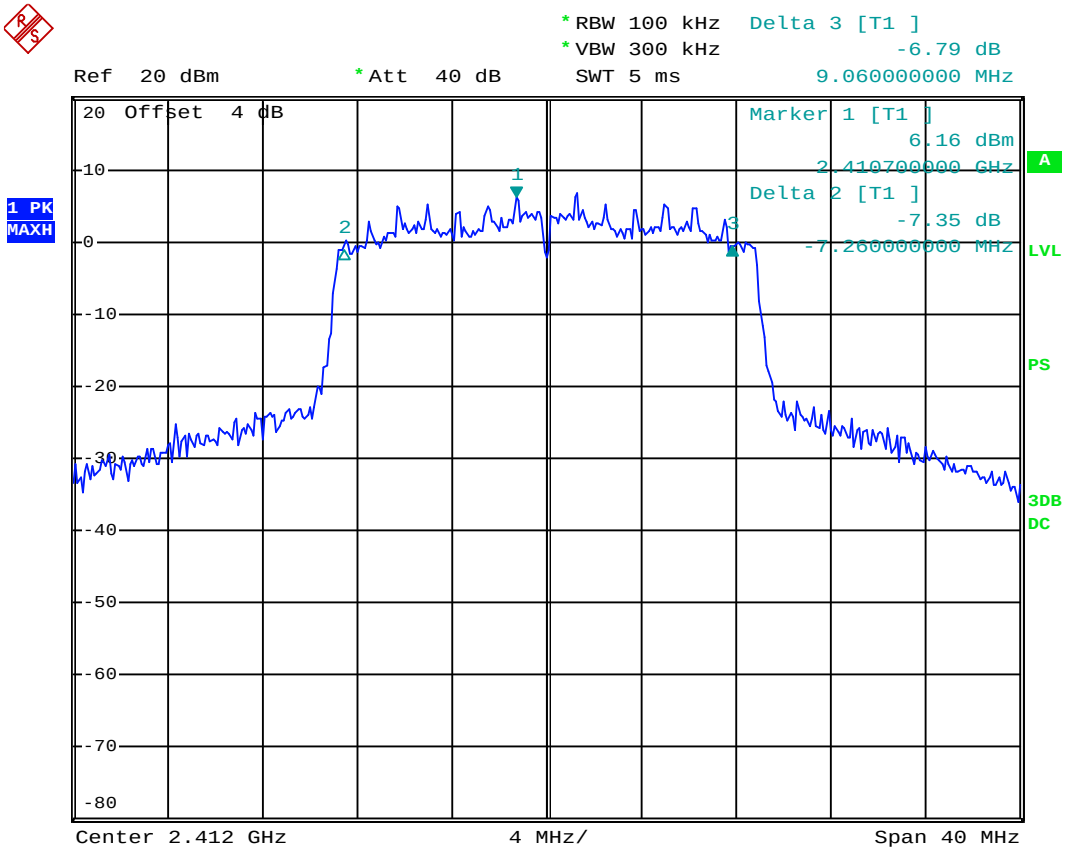
802.11g Ch 06 (2437 MHz)



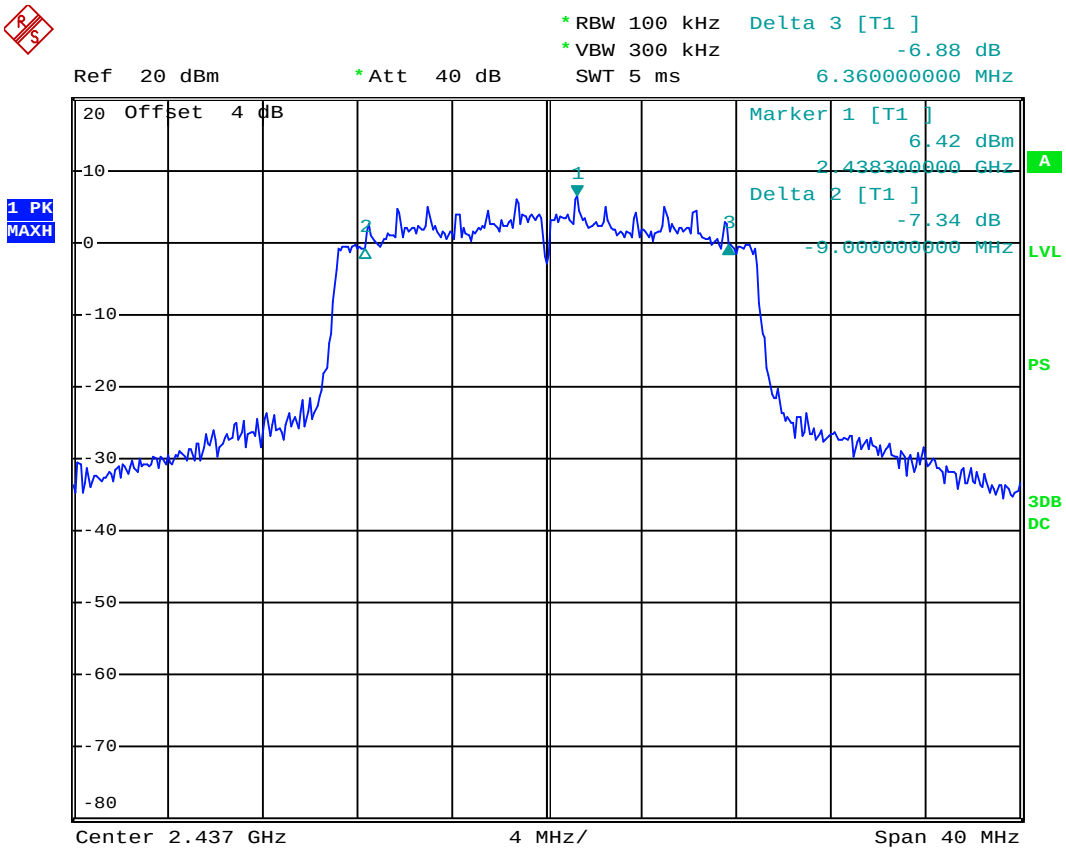
802.11g Ch 11 (2462 MHz)



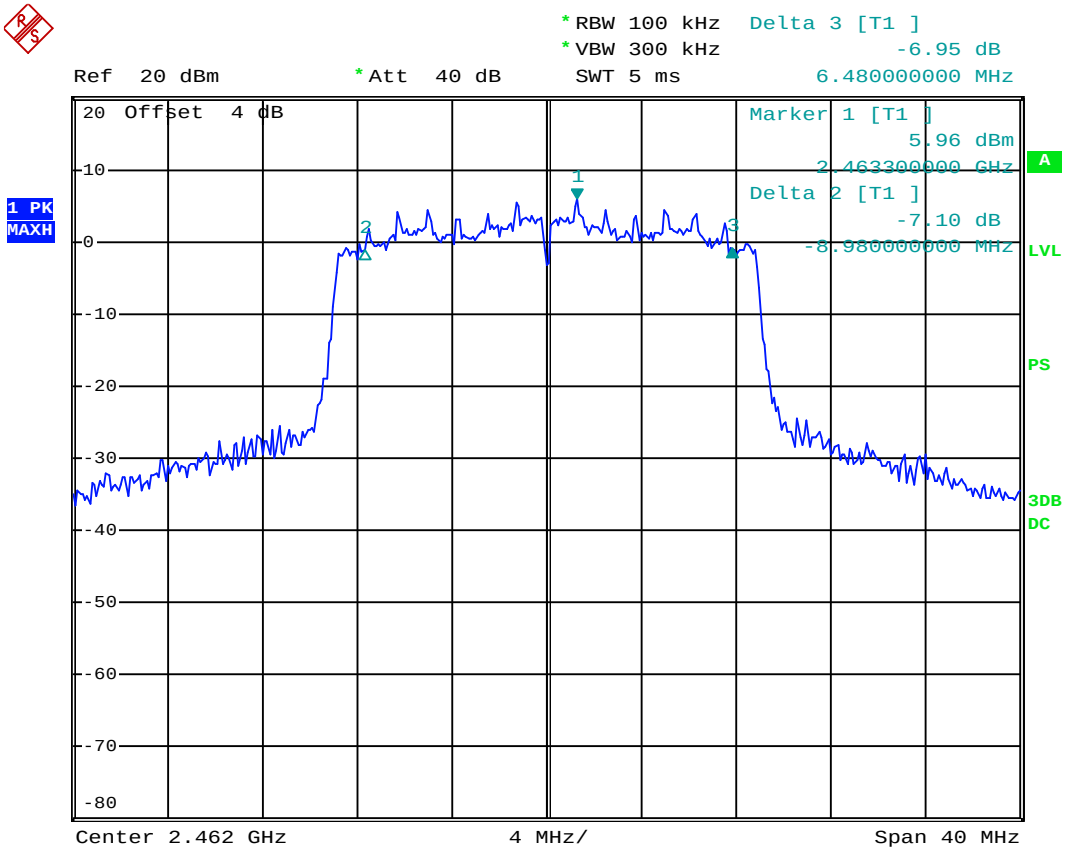
802.11n Ch 01 (2412 MHz)



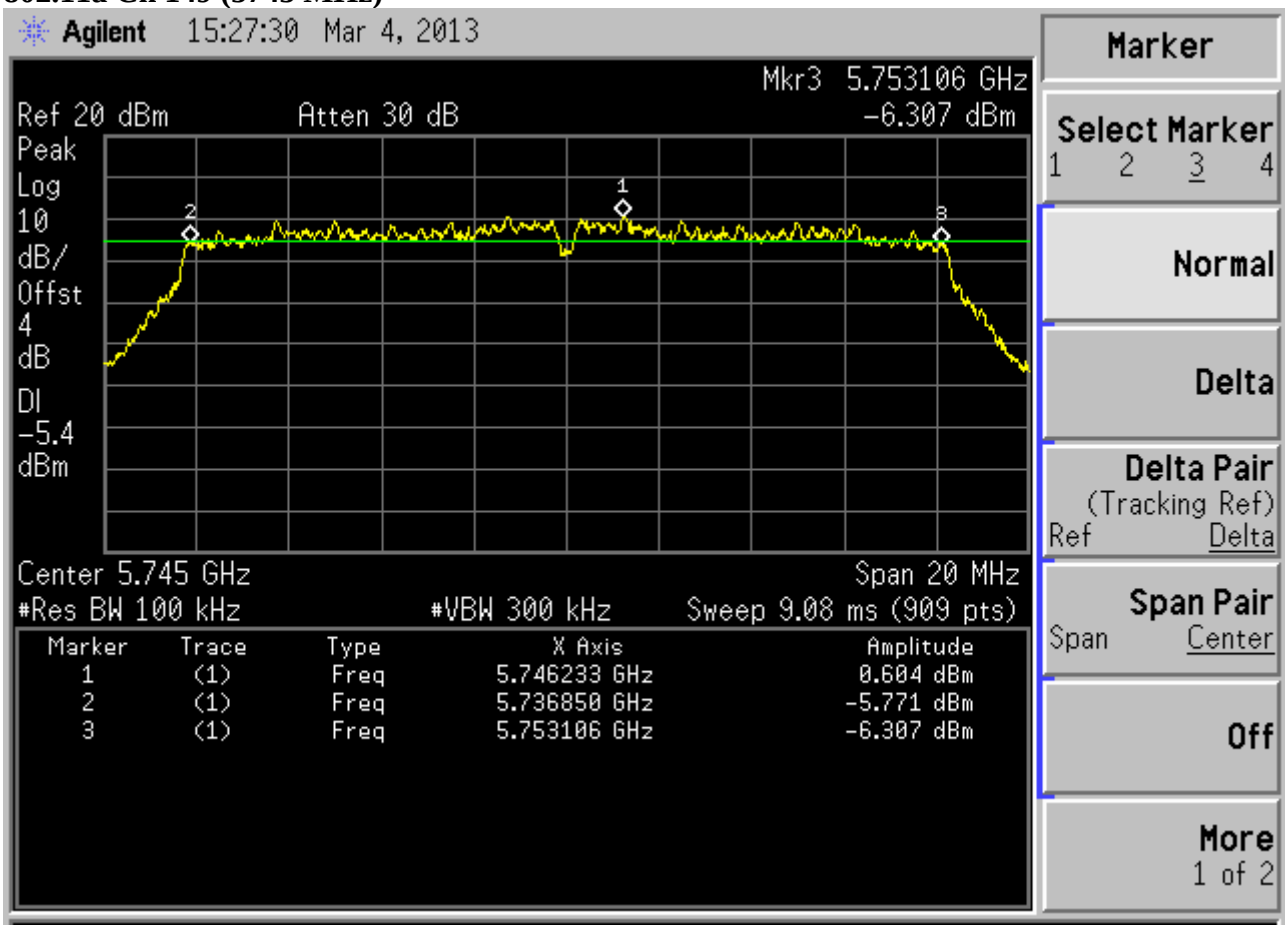
802.11n Ch 06 (2437 MHz)



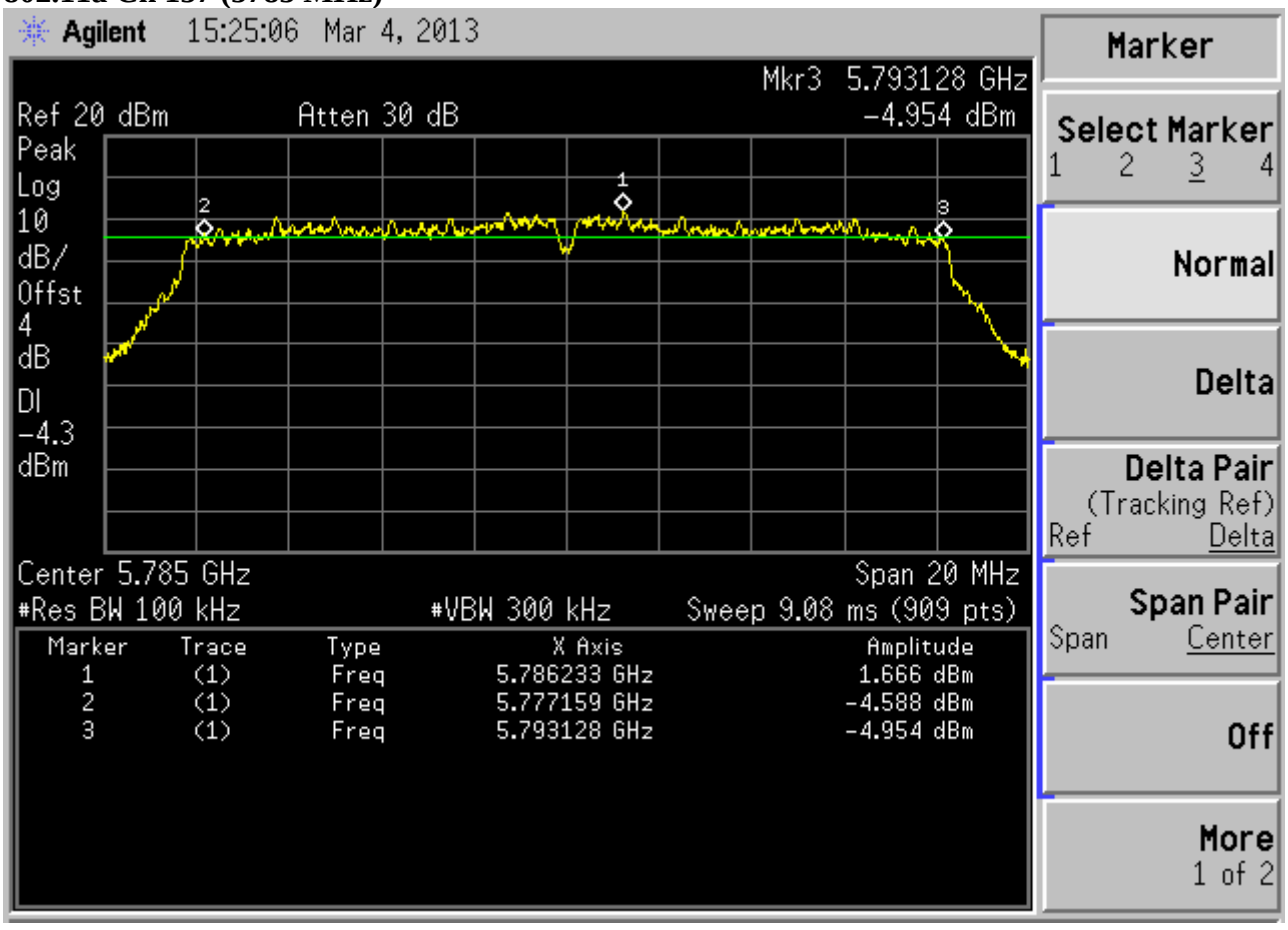
802.11n Ch 11 (2462 MHz)



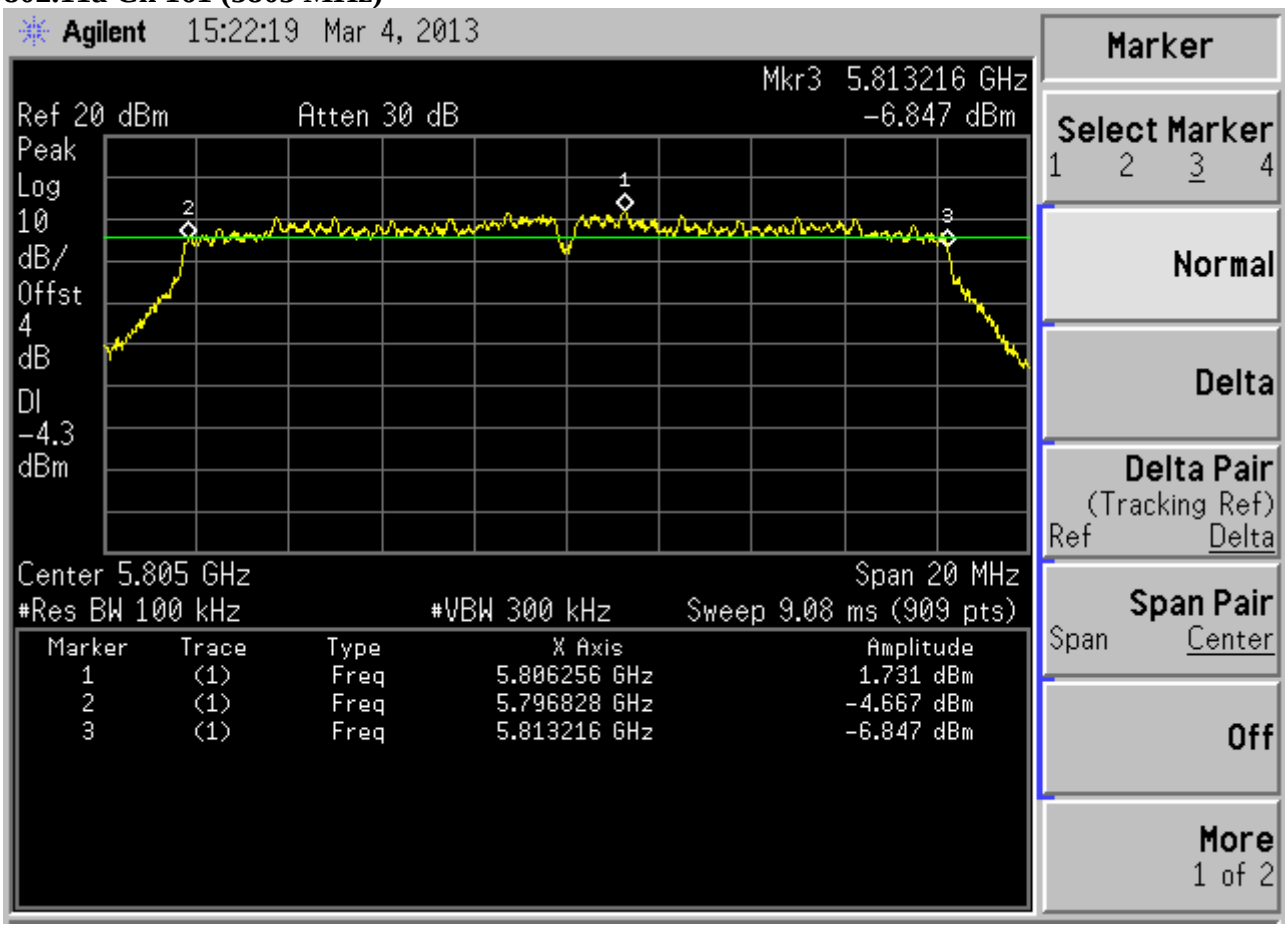
802.11a Ch 149 (5745 MHz)



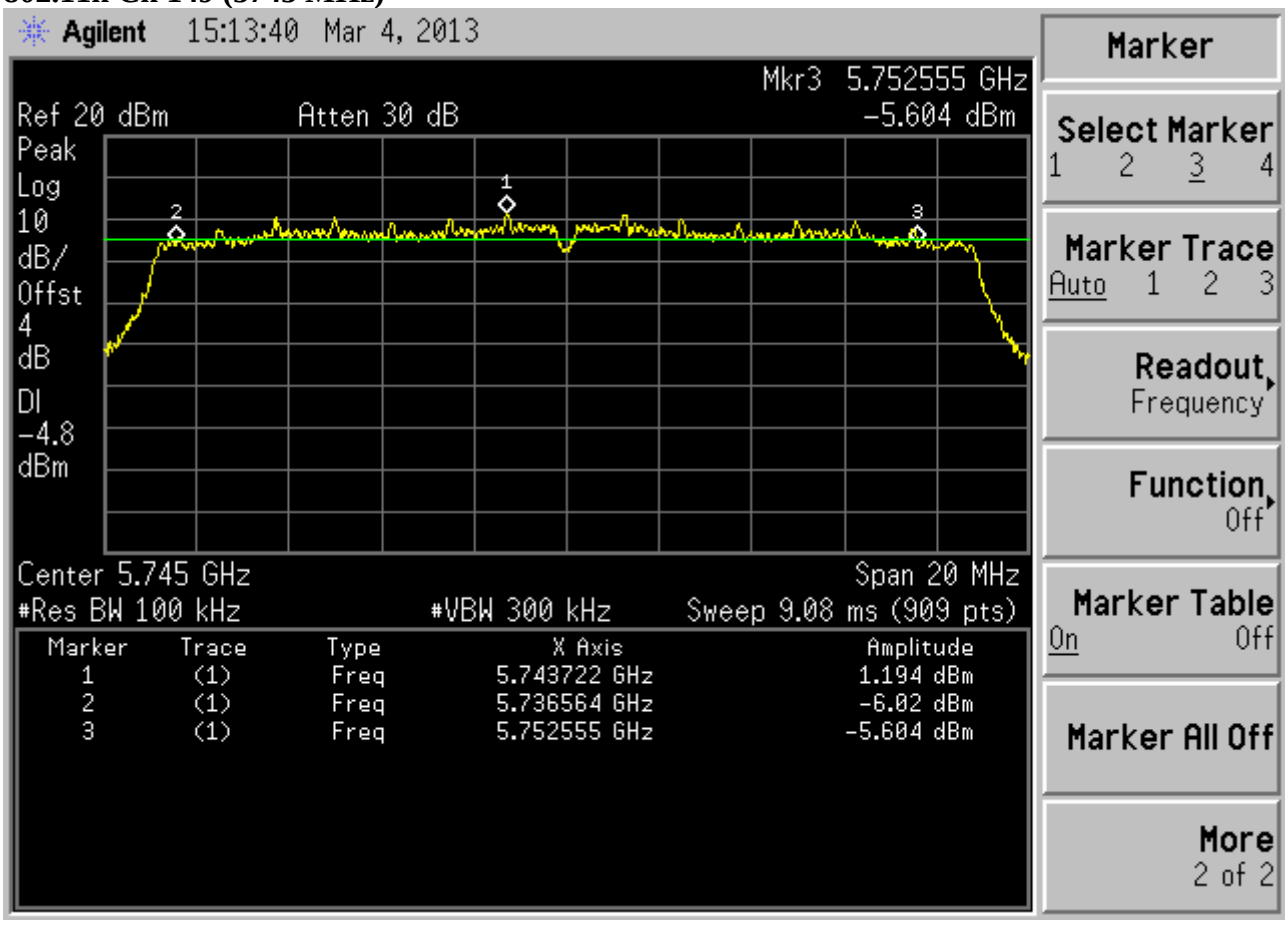
802.11a Ch 157 (5785 MHz)



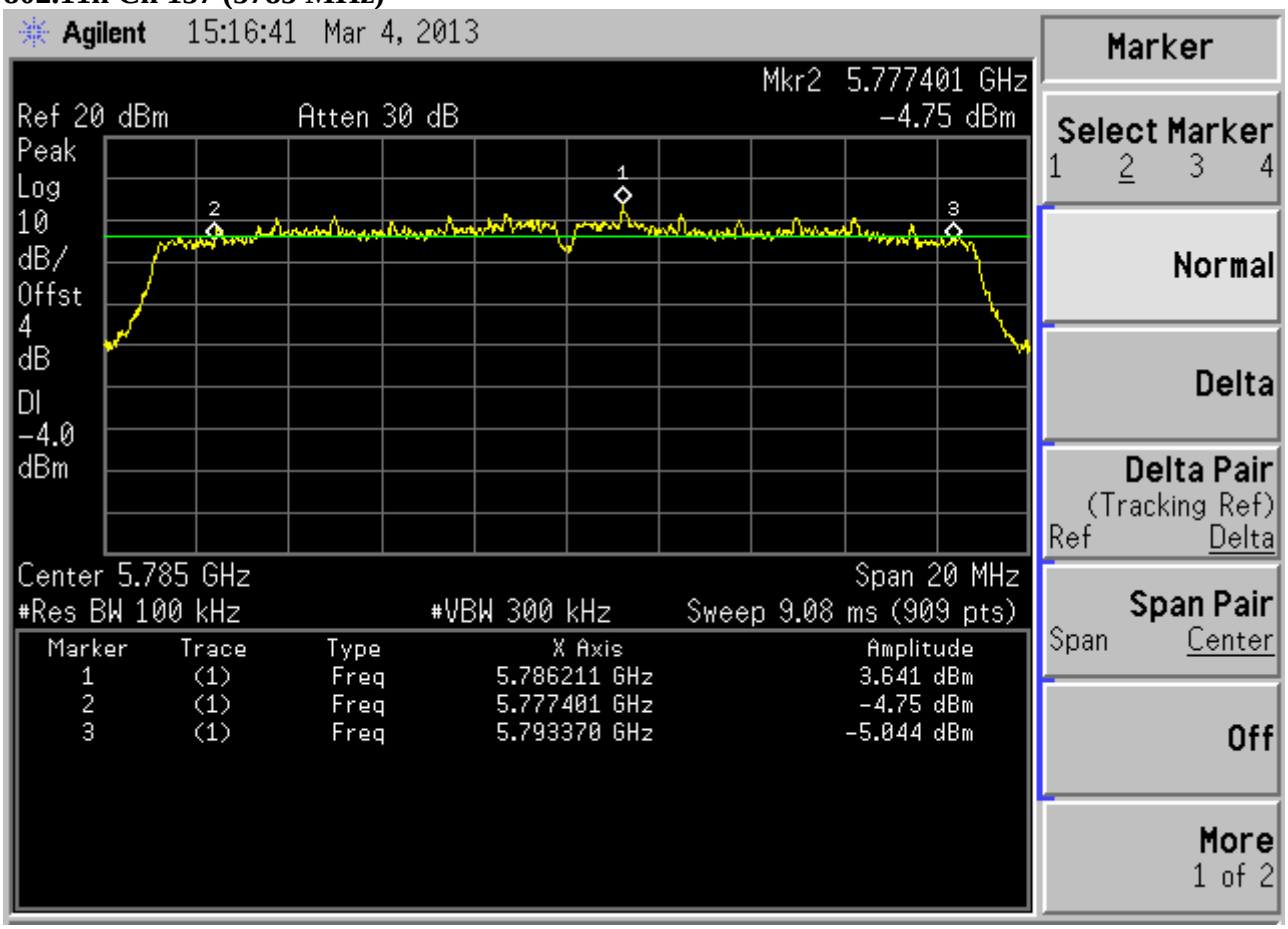
802.11a Ch 161 (5805 MHz)



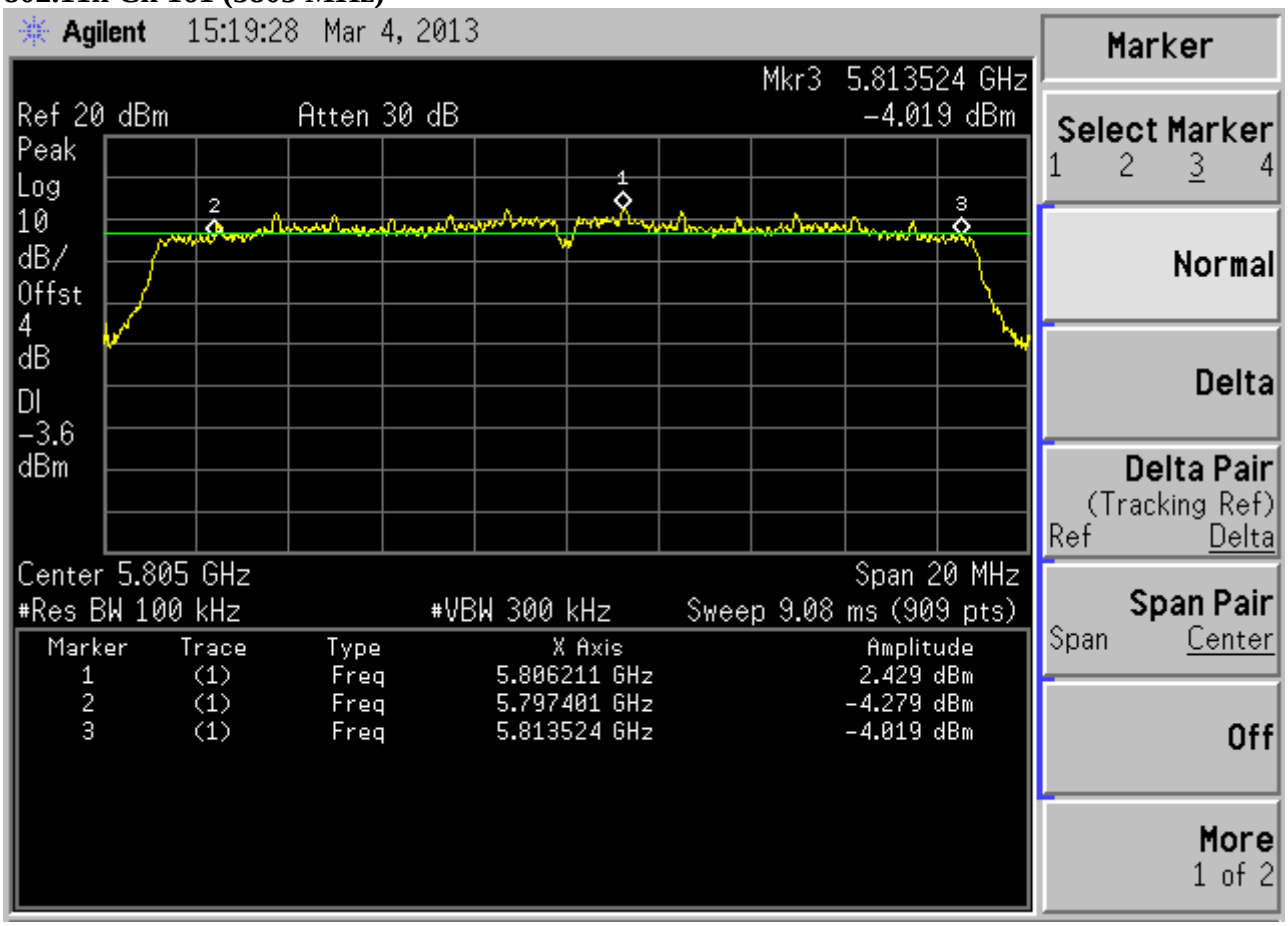
802.11n Ch 149 (5745 MHz)



802.11n Ch 157 (5785 MHz)



802.11n Ch 161 (5805 MHz)



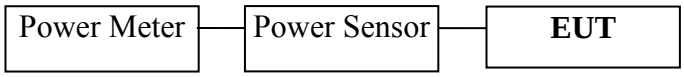
6 MAXIMUM PEAK OUTPUT POWER MEASUREMENT

6.1 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	6K00003245	Mar 22, 2012	Mar 22, 2013
2.	Power Sensor	Anritsu	MA2491A	32489	Mar 22, 2012	Mar 22, 2013

6.2 Block Diagram of Test Setup



6.3 Specification Limits ((§15.247(b)(3))

The Limits of maximum Peak Output Power for digital modulation in 2400-2483.5 MHz and 5725-5850 MHz is: 1 Watt. (30 dBm)

6.4 Operating Condition of EUT

The test program "adb shell" was used to enable the EUT to transmit data at different channel frequency individually.

6.5 Test Procedure

This is an RF conducted test.

Use a direct connection between the antenna port of the transmitter and the power meter, through suitable attenuation. We use Power Output Option 1 (which defined in KDB558074) to measure the power output. Power Output Option 1 is a peak measurement. The transmitter output was connected to the power meter that was designed to detect peak value automatically.

Note: The bandwidth of the power meter is 20MHz.

6.6 Test Results

PASSED. All the test results are listed below.

(Test Date: Mar. 01, 2013 Temperature: 24℃ Humidity: 45 %)

2.4GHz band:

Modulation	Channel	Frequency	**Peak Output Power**	Limit
802.11b	01	2412 MHz	**15.73 dBm**	30 dBm
	06	2437 MHz	**15.48 dBm**	30 dBm
	11	2462 MHz	**14.80 dBm**	30 dBm
802.11g	01	2412 MHz	**19.90 dBm**	30 dBm
	06	2437 MHz	**19.40 dBm**	30 dBm
	11	2462 MHz	**18.93 dBm**	30 dBm
802.11n HT20	01	2412 MHz	**19.62 dBm**	30 dBm
	06	2437 MHz	**19.28 dBm**	30 dBm
	11	2462 MHz	**18.73 dBm**	30 dBm

5.8GHz band:

Modulation	Channel	Frequency	**Peak Output Power**	Limit
802.11a	149	5745 MHz	**15.60 dBm**	30 dBm
	157	5785 MHz	**17.00 dBm**	30 dBm
	161	5805 MHz	**17.29 dBm**	30 dBm
802.11n HT20	149	5745 MHz	**16.09 dBm**	30 dBm
	157	5785 MHz	**17.40 dBm**	30 dBm
	161	5805 MHz	**17.78 dBm**	30 dBm

7 EMISSION LIMITATIONS MEASUREMENT

7.1 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	E7405A	MY45106600	Mar 22, 2012	Mar 22, 2013
2.	Spectrum Analyzer	Agilent	E4447A	MY45300136	Jan 05, 2013	Jan 05, 2014

7.2 Block Diagram of Test Setup

The same as Section. 5.2.

7.3 Specification Limits (§15.247(d))

In any 100 kHz 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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. 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 Section. 4.7)

7.4 Operating Condition of EUT

The test program “adb shell” was 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 RBW = 100 kHz, VBW ≥ 300 kHz, scan up through 10^{th} harmonic or 40GHz. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.
The test procedure is defined in KDB558074 v02:2012 (the 10.1.2 Unwanted Emission Level Measurement was used).

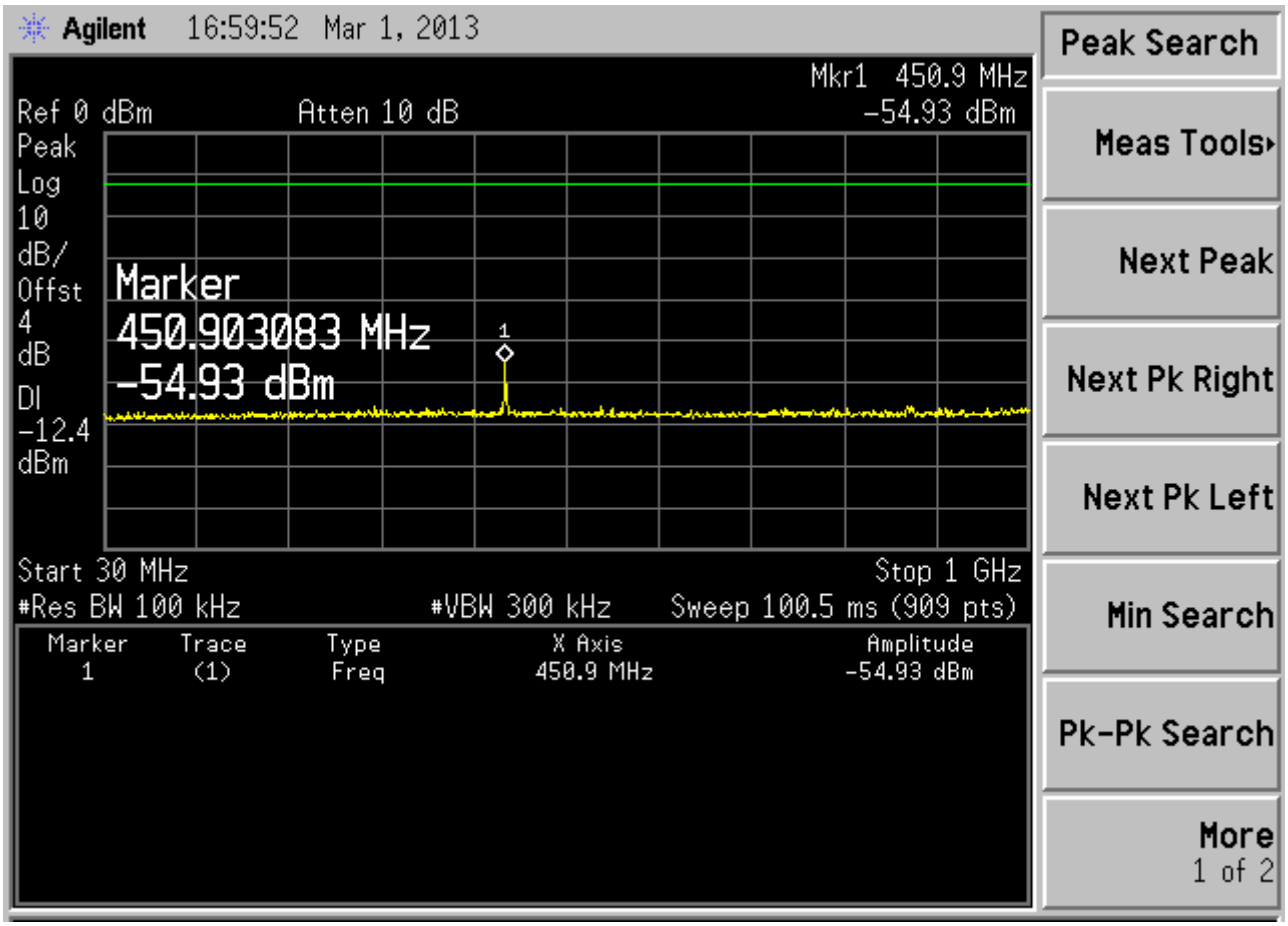
7.6 Test Results

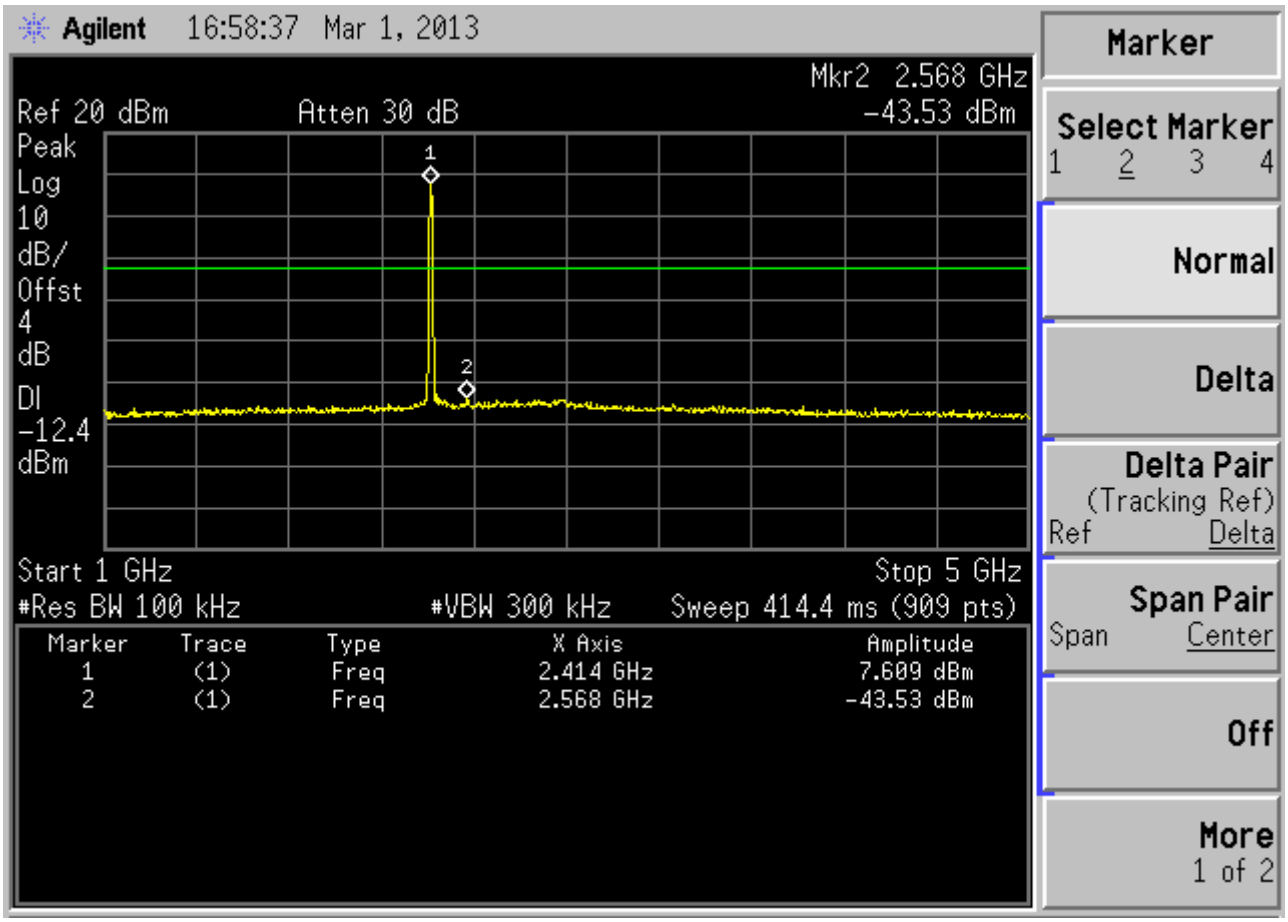
PASSED.
The test data was attached in the next pages.

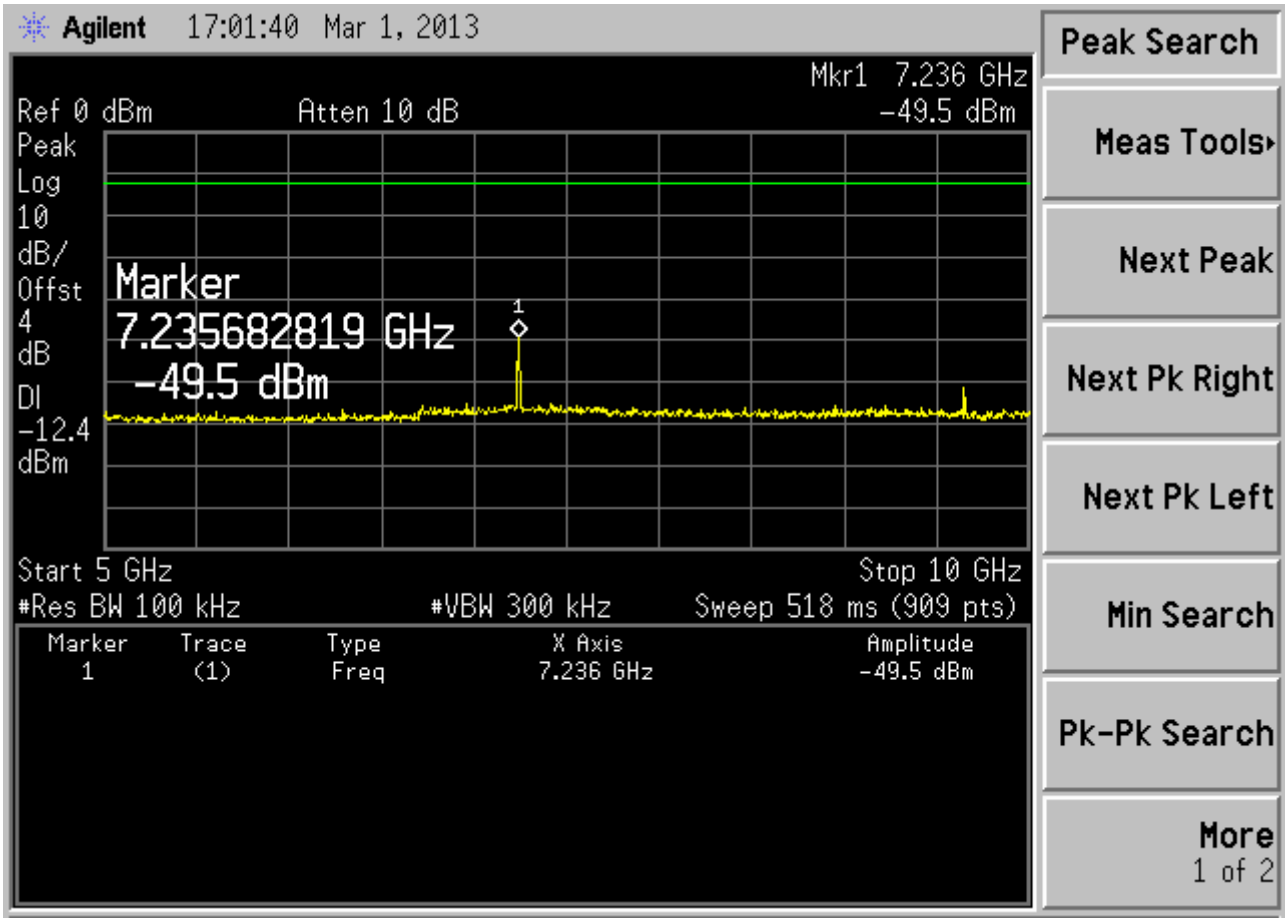
(Test Date: Mar. 01, 2013 Temperature: 24℃ Humidity: 46 %)

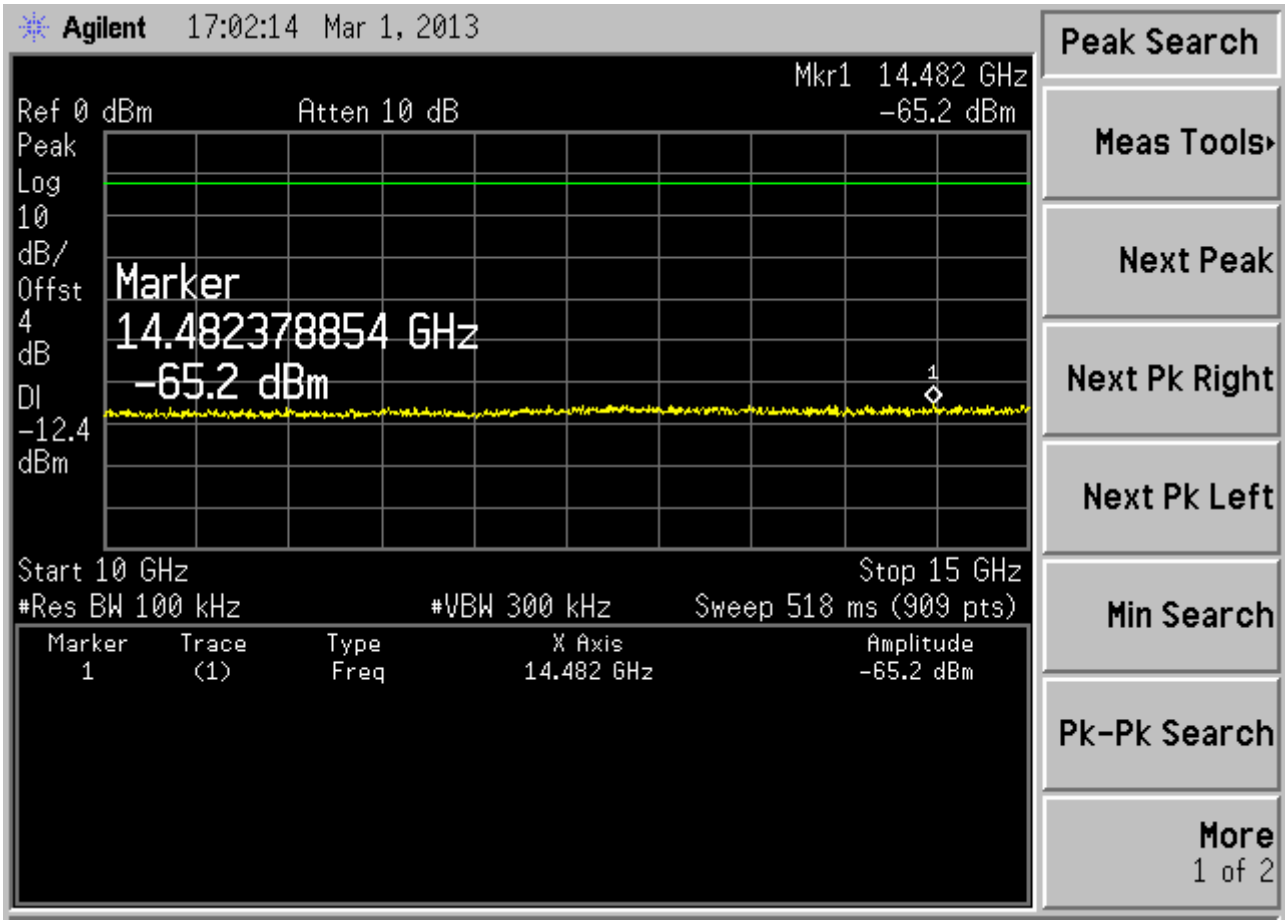
Modulation	Data Page
2.4GHz 802.11b	P62-67
2.4GHz 802.11g	P68-73
2.4GHz 802.11n HT20	P74-79
5.8GHz 802.11a	P80-85
5.8GHz 802.11n HT20	P86-91

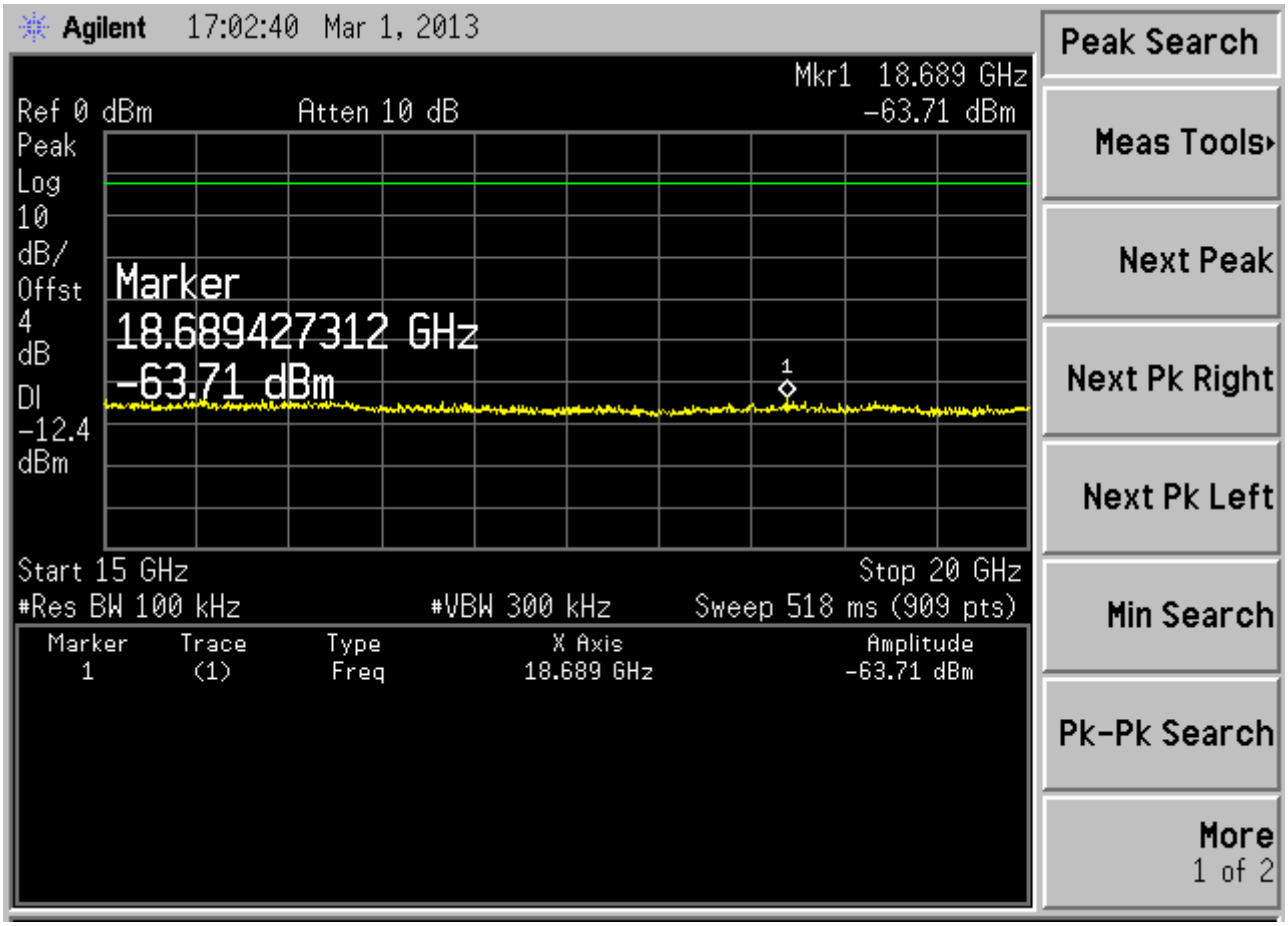
802.11b Ch 01 (2412 MHz)

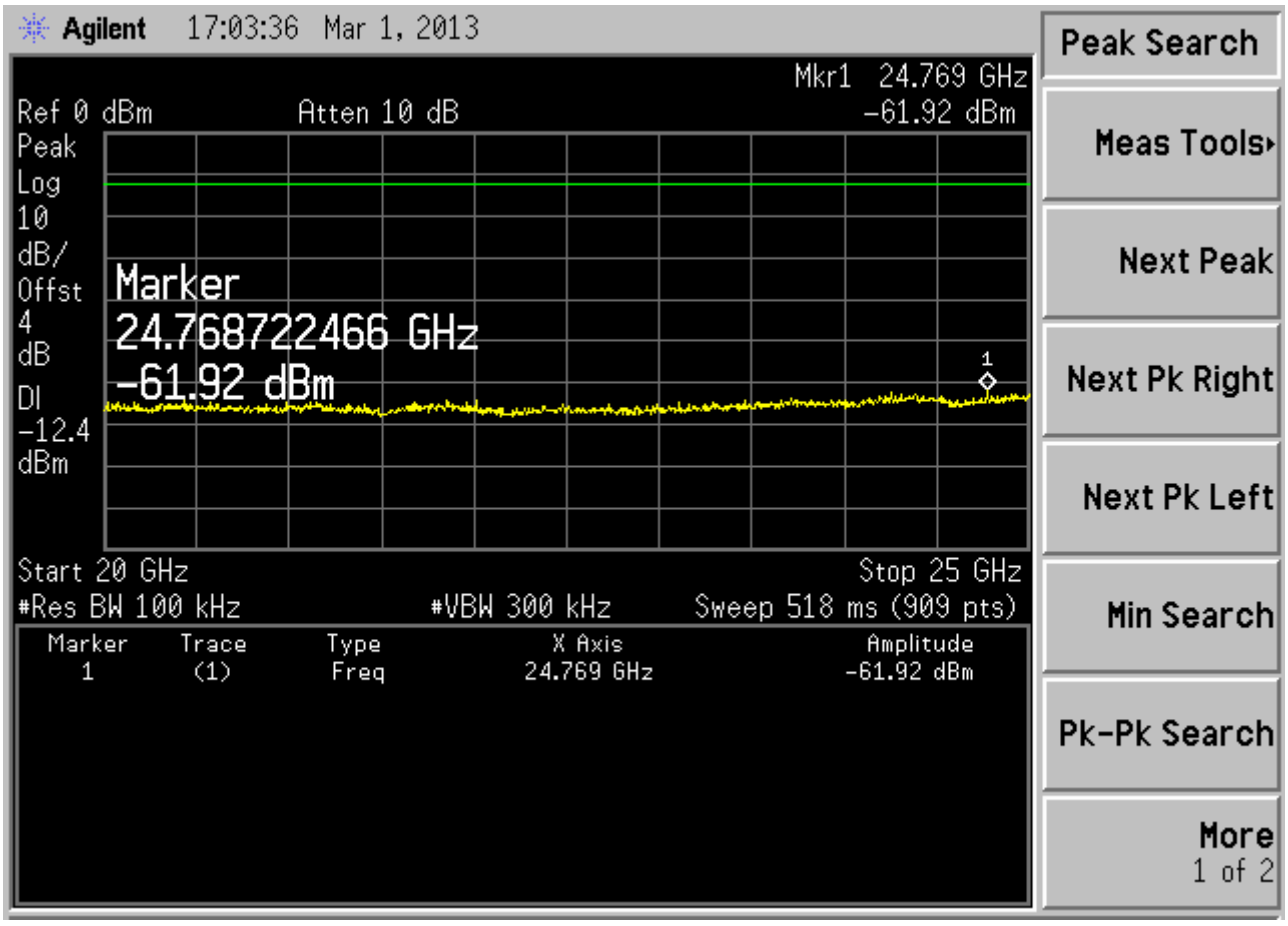




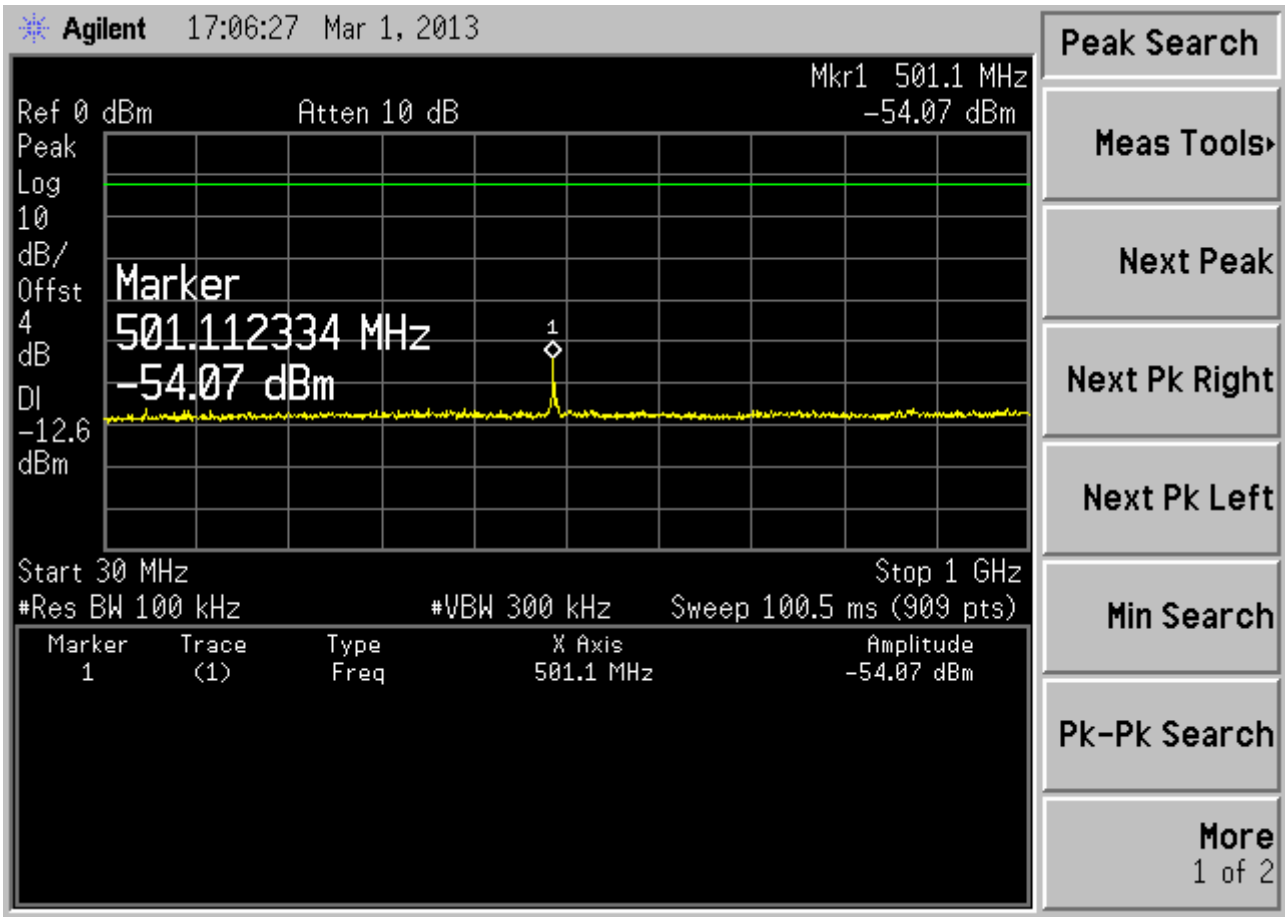

Agilent 17:01:40 Mar 1, 2013
Mkr1 7.236 GHz
Ref 0 dBm
Atten 10 dB
-49.5 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-12.4
dBm
Marker
7.235682819 GHz
-49.5 dBm
Start 5 GHz
Stop 10 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.236 GHz -49.5 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

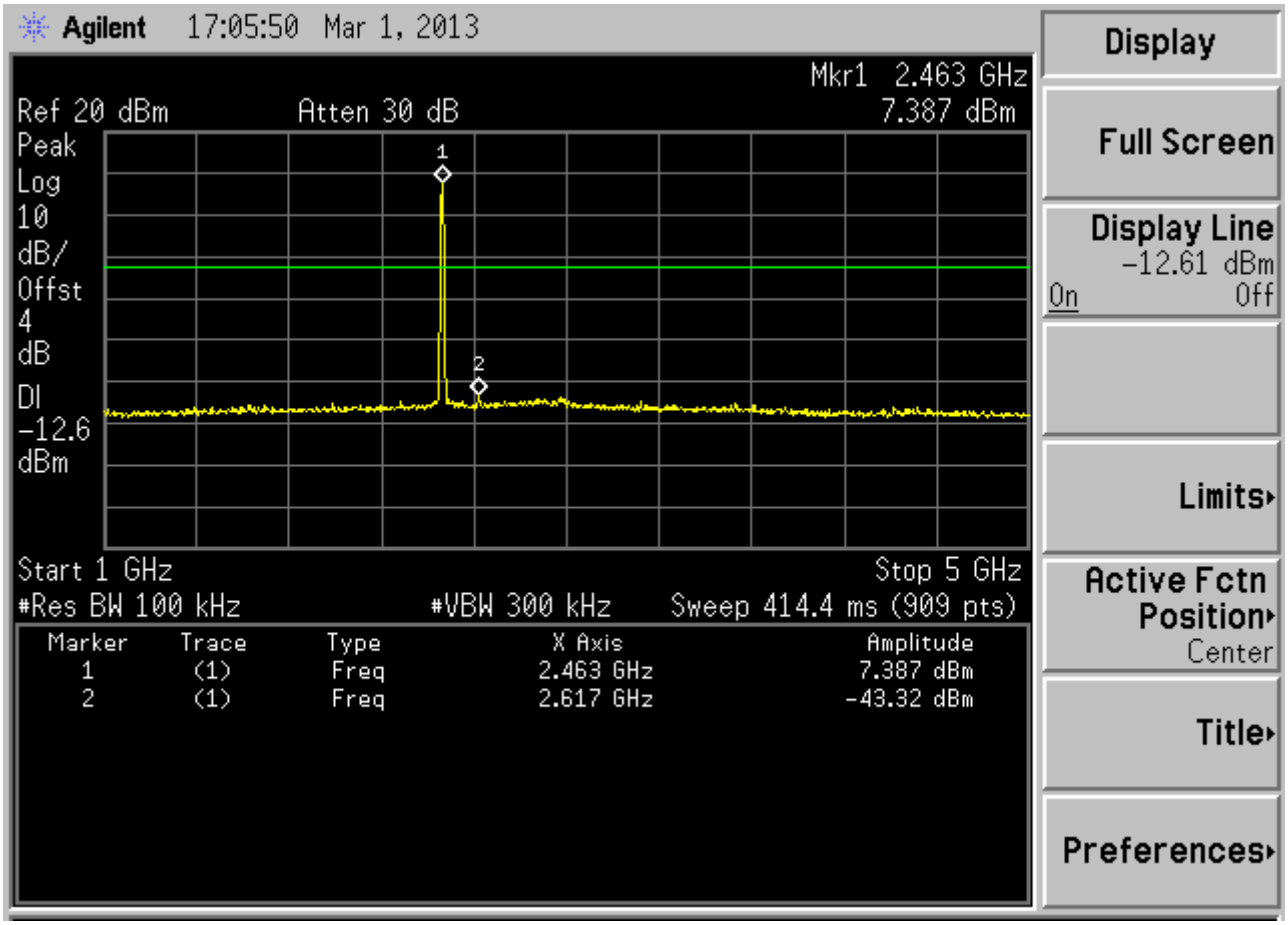

Agilent 17:02:14 Mar 1, 2013
Mkr1 14.482 GHz
Ref 0 dBm
Atten 10 dB
-65.2 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-12.4
dBm
Marker
14.482378854 GHz
-65.2 dBm
Start 10 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 14.482 GHz -65.2 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

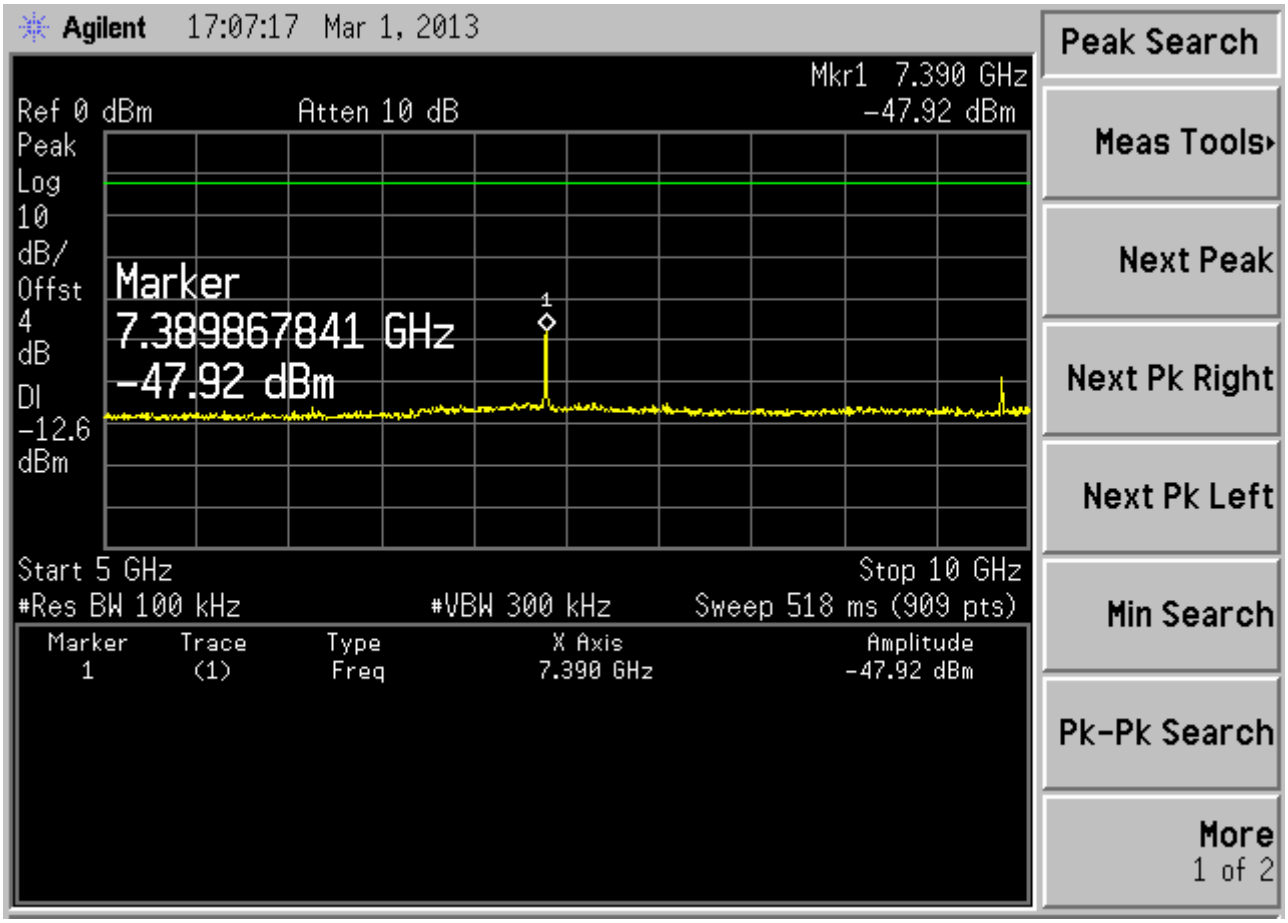

Agilent 17:02:40 Mar 1, 2013
Mkr1 18.689 GHz
Ref 0 dBm
Atten 10 dB
-63.71 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-12.4
dBm
Marker
18.689427312 GHz
-63.71 dBm
Start 15 GHz
Stop 20 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 18.689 GHz -63.71 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

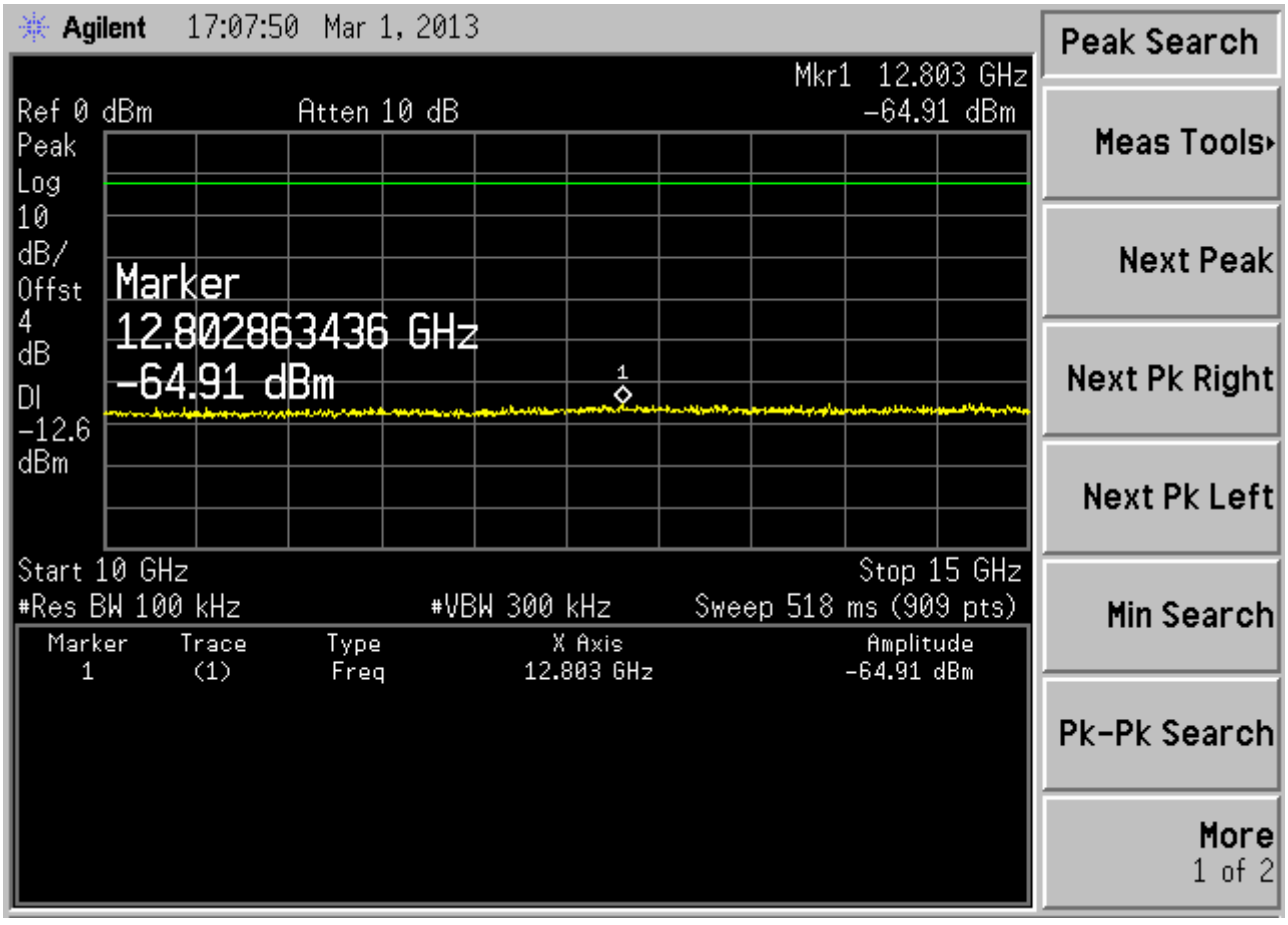

Agilent 17:03:36 Mar 1, 2013
Mkr1 24.769 GHz
Ref 0 dBm
Atten 10 dB
-61.92 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-12.4
dBm
Marker
24.768722466 GHz
-61.92 dBm
Start 20 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.769 GHz -61.92 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

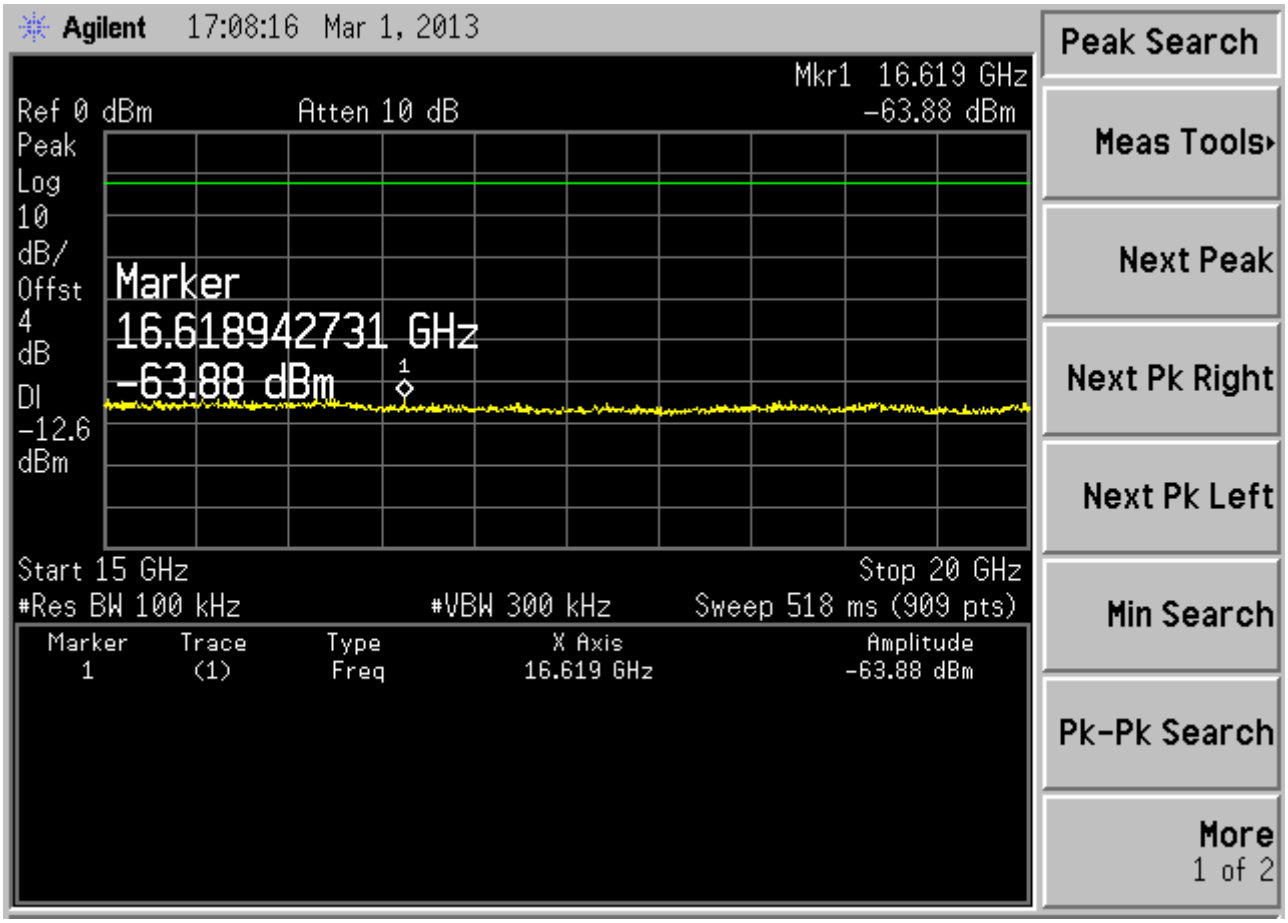
802.11b Ch 11 (2462 MHz)

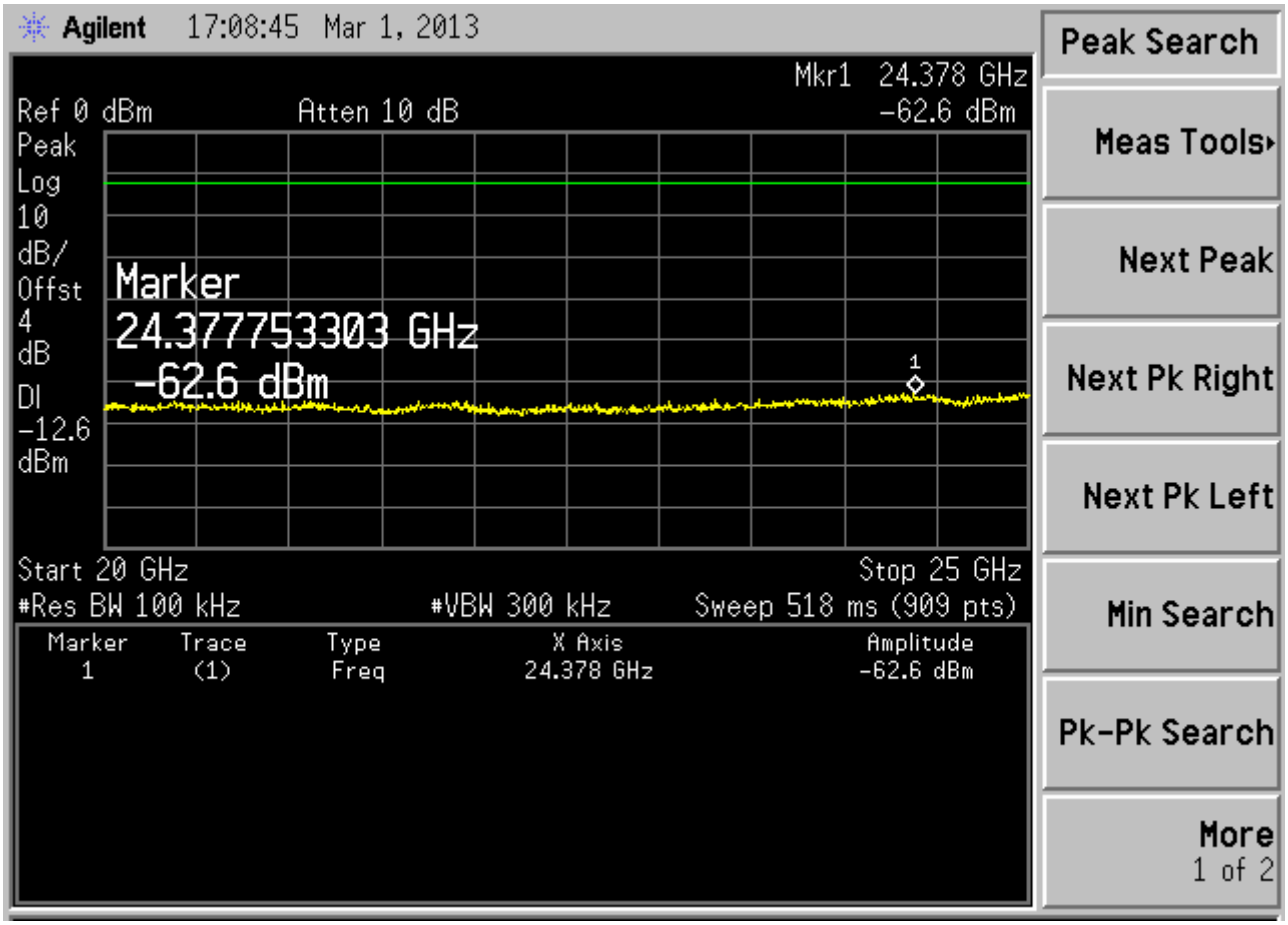




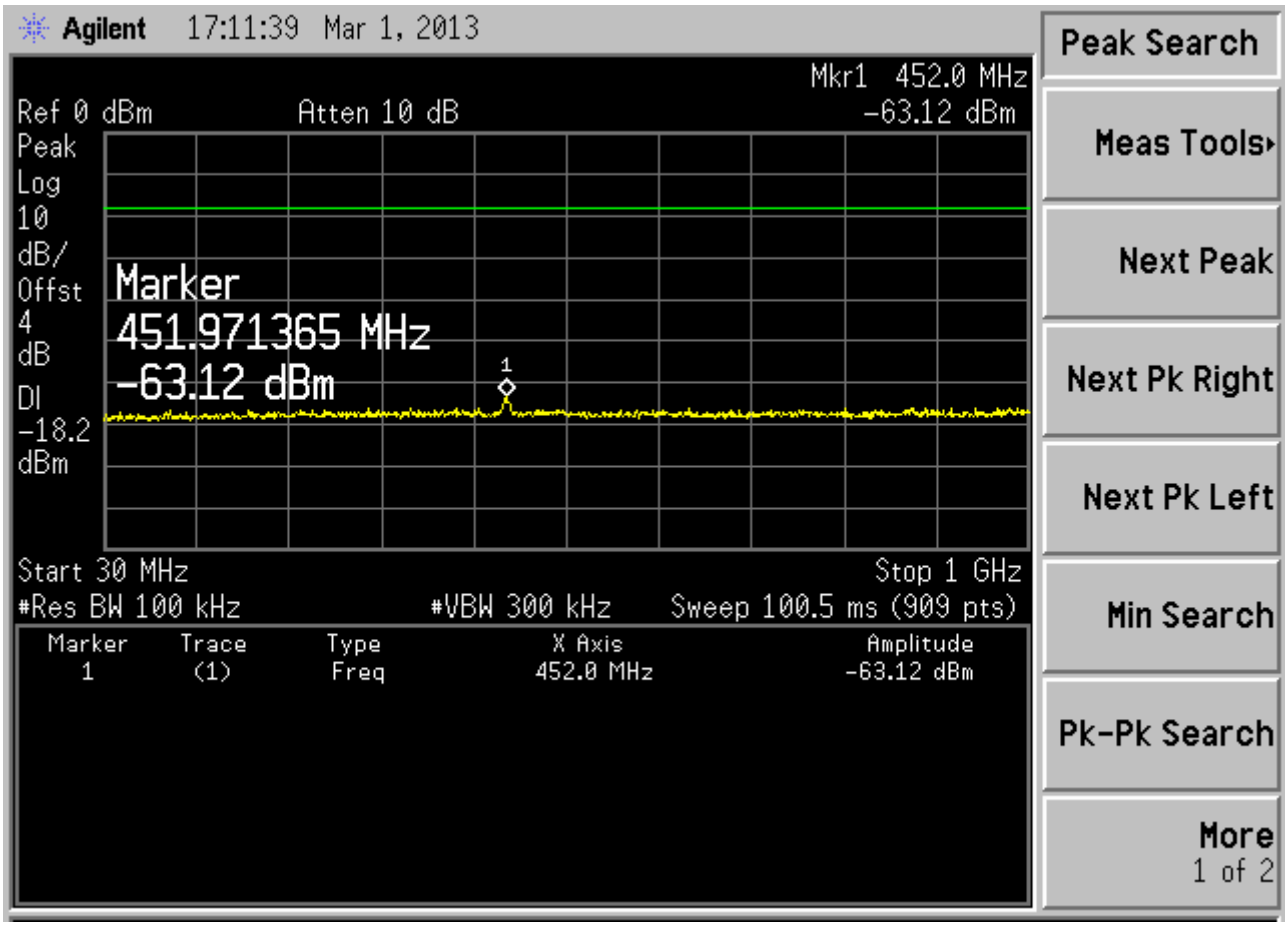

Agilent 17:07:17 Mar 1, 2013
Mkr1 7.390 GHz
Ref 0 dBm
Atten 10 dB
-47.92 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-12.6
dBm
Marker
7.389867841 GHz
-47.92 dBm
Start 5 GHz
Stop 10 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.390 GHz -47.92 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

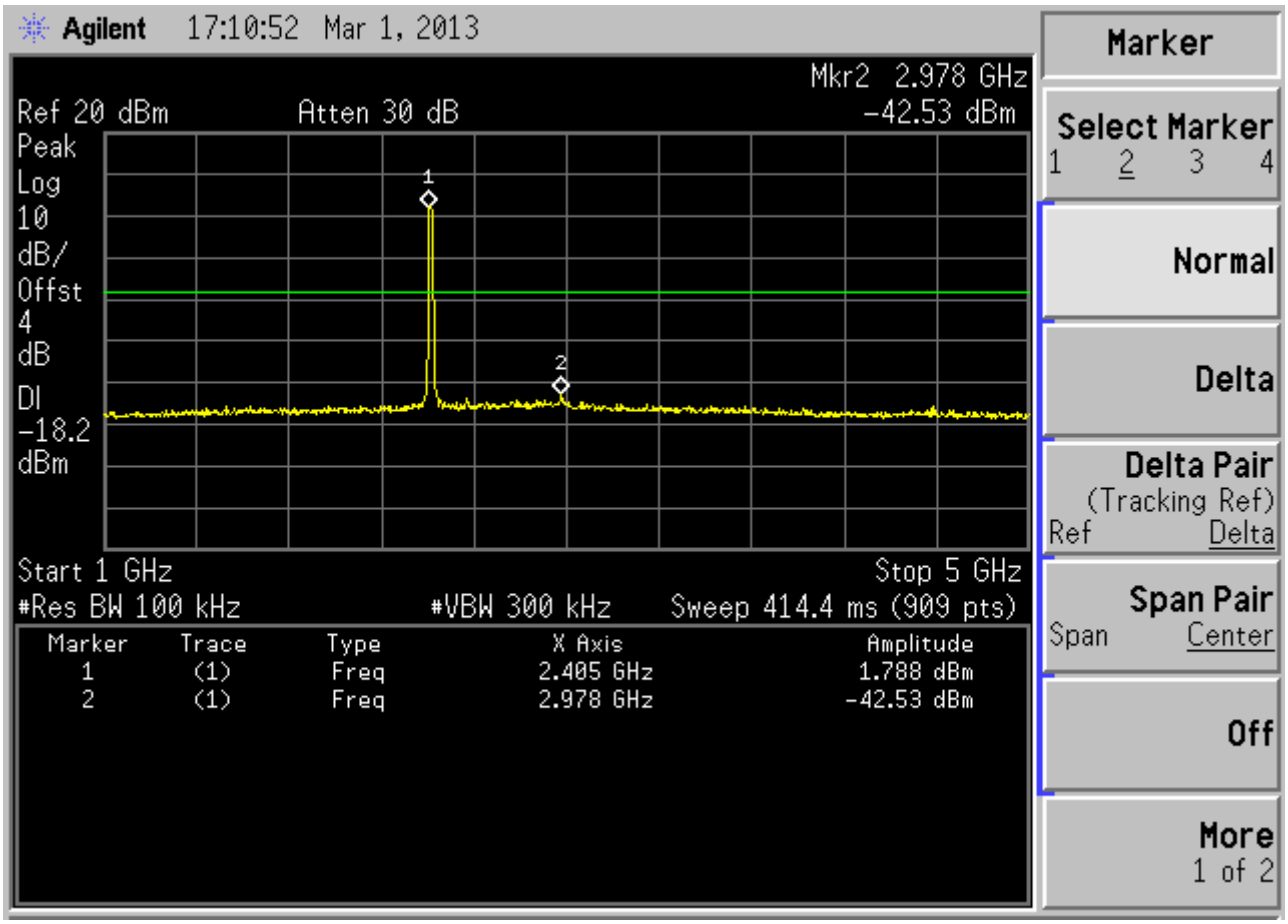

Agilent 17:07:50 Mar 1, 2013
Mkr1 12.803 GHz
Ref 0 dBm
Atten 10 dB
-64.91 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-12.6
dBm
Marker
12.802863436 GHz
-64.91 dBm
Start 10 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 12.803 GHz -64.91 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

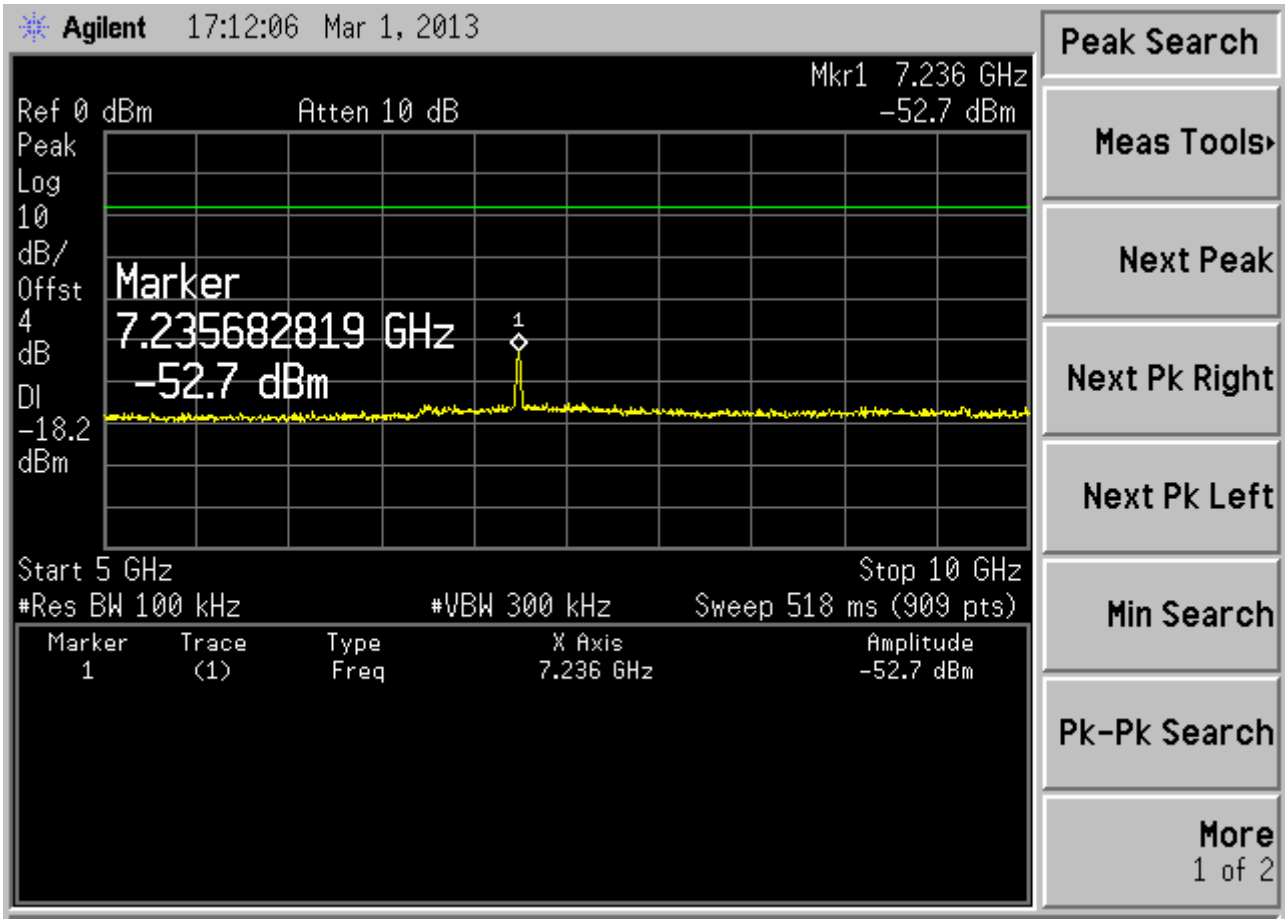

Agilent 17:08:16 Mar 1, 2013
Mkr1 16.619 GHz
Ref 0 dBm
Atten 10 dB
-63.88 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-12.6
dBm
Marker
16.618942731 GHz
-63.88 dBm
Start 15 GHz
Stop 20 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 16.619 GHz -63.88 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

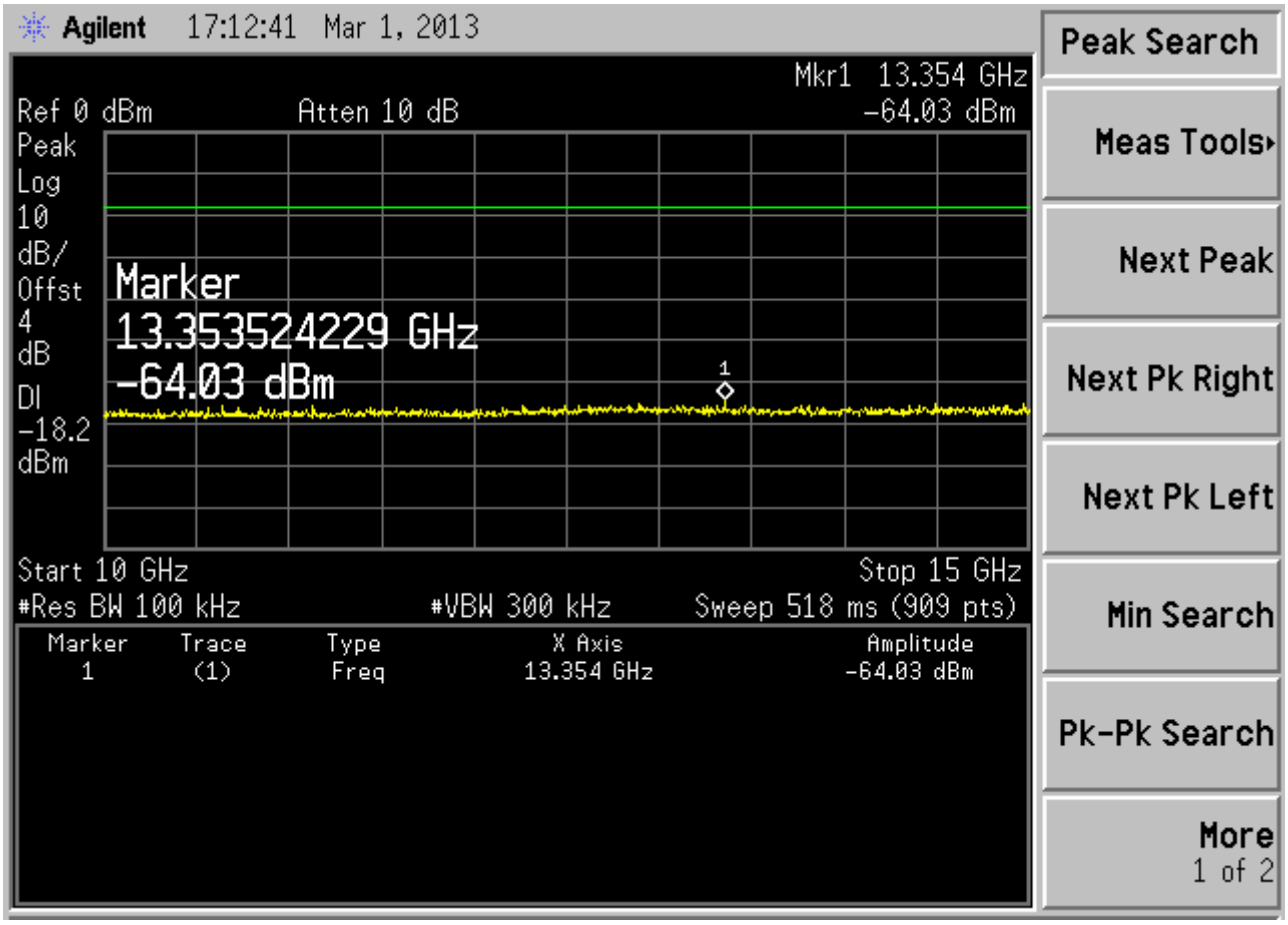

Agilent 17:08:45 Mar 1, 2013
Mkr1 24.378 GHz
Ref 0 dBm
Atten 10 dB
-62.6 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-12.6
dBm
Marker
24.377753303 GHz
-62.6 dBm
Start 20 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.378 GHz -62.6 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

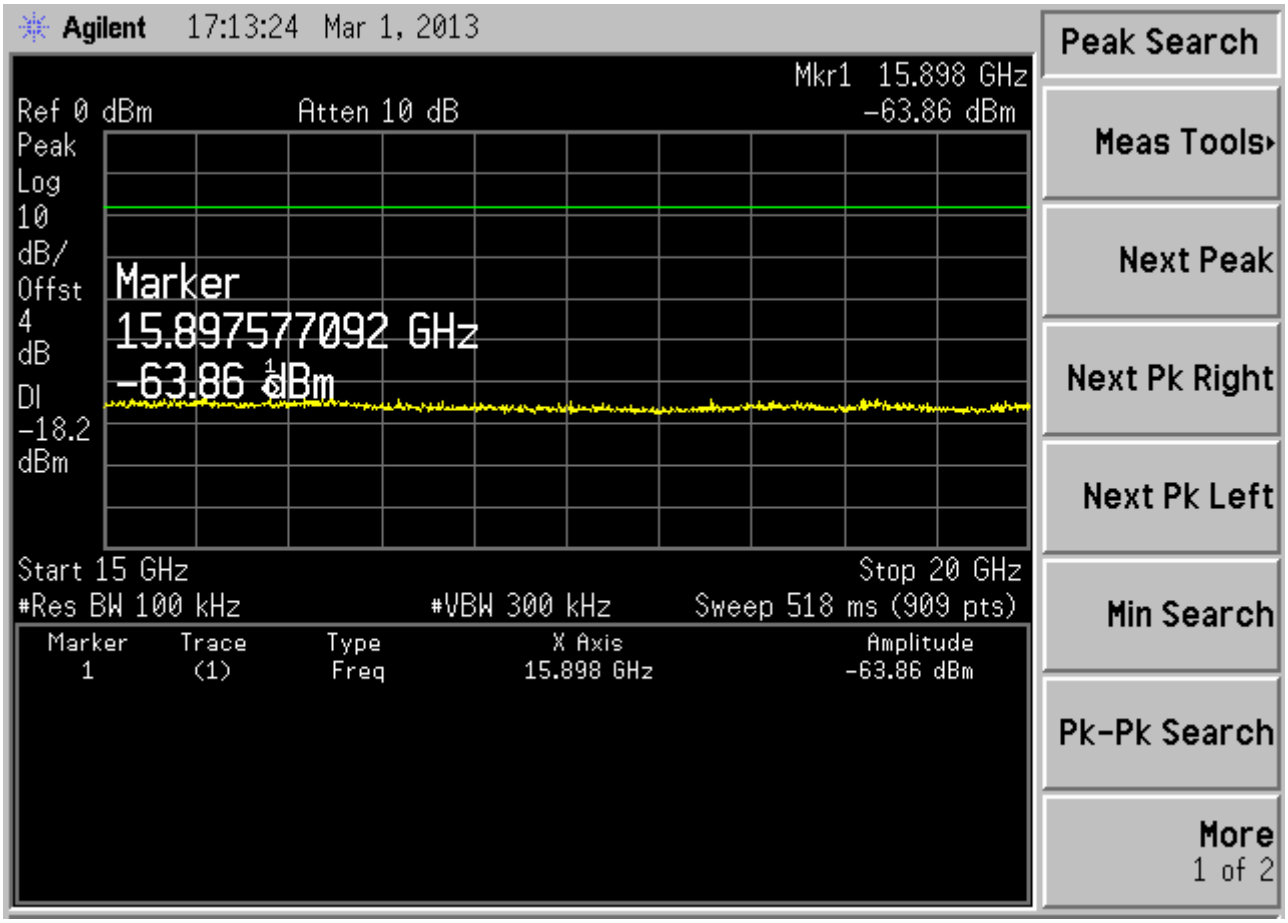
802.11g Ch 01 (2412 MHz)

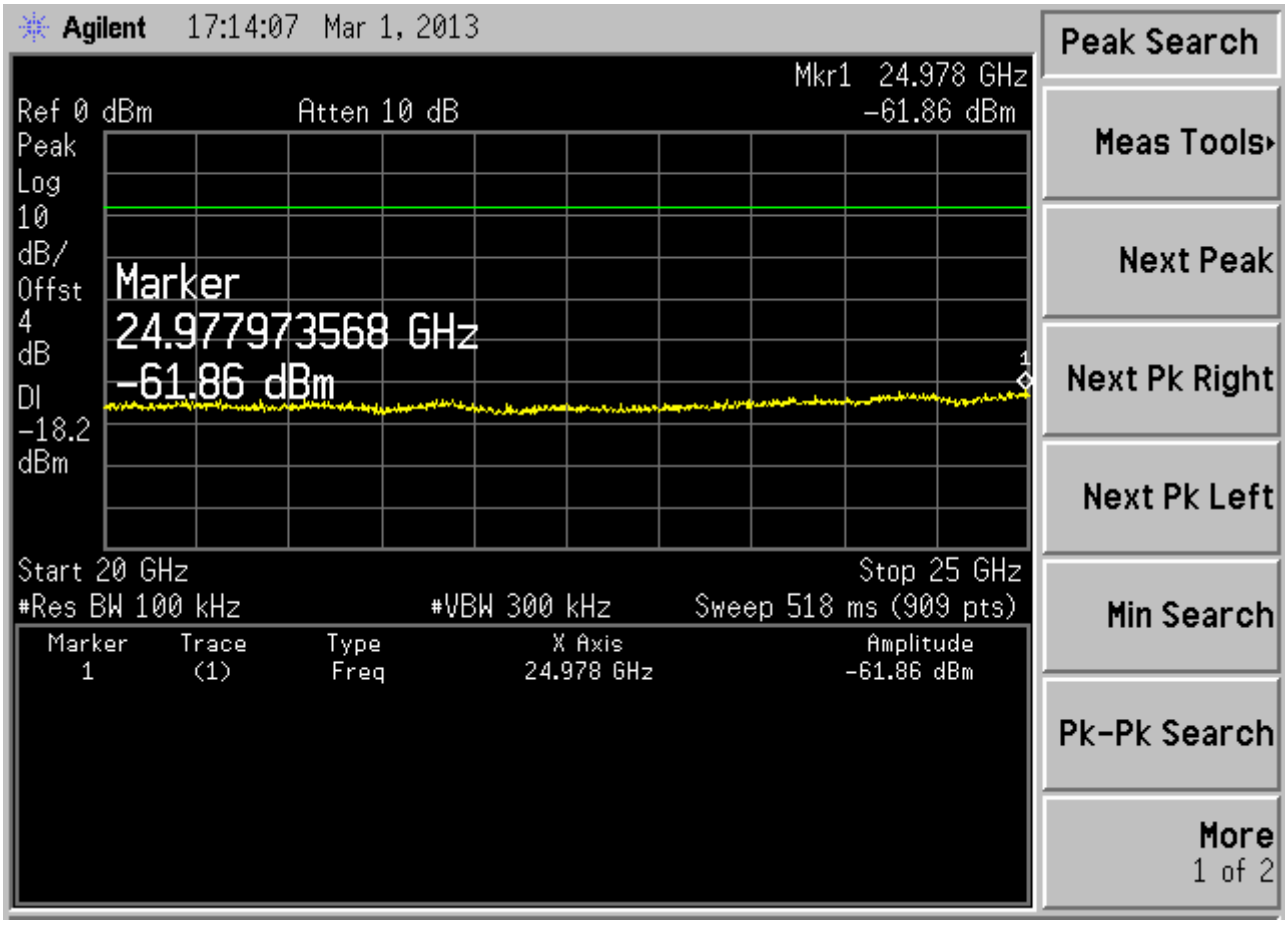




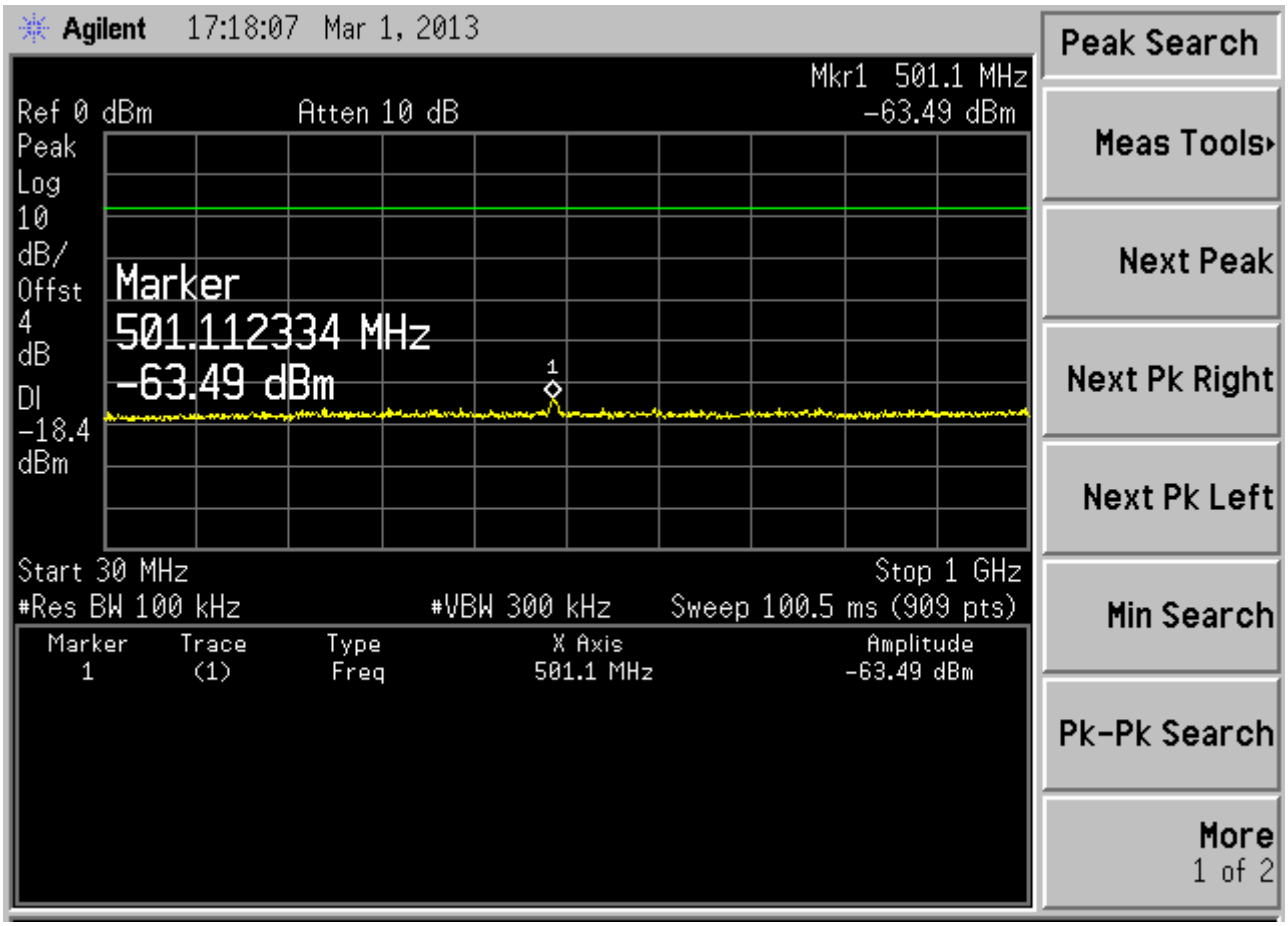

Agilent 17:12:06 Mar 1, 2013
Mkr1 7.236 GHz
Ref 0 dBm
Atten 10 dB
-52.7 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.2
dBm
Marker
7.235682819 GHz
-52.7 dBm
Start 5 GHz
Stop 10 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.236 GHz -52.7 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

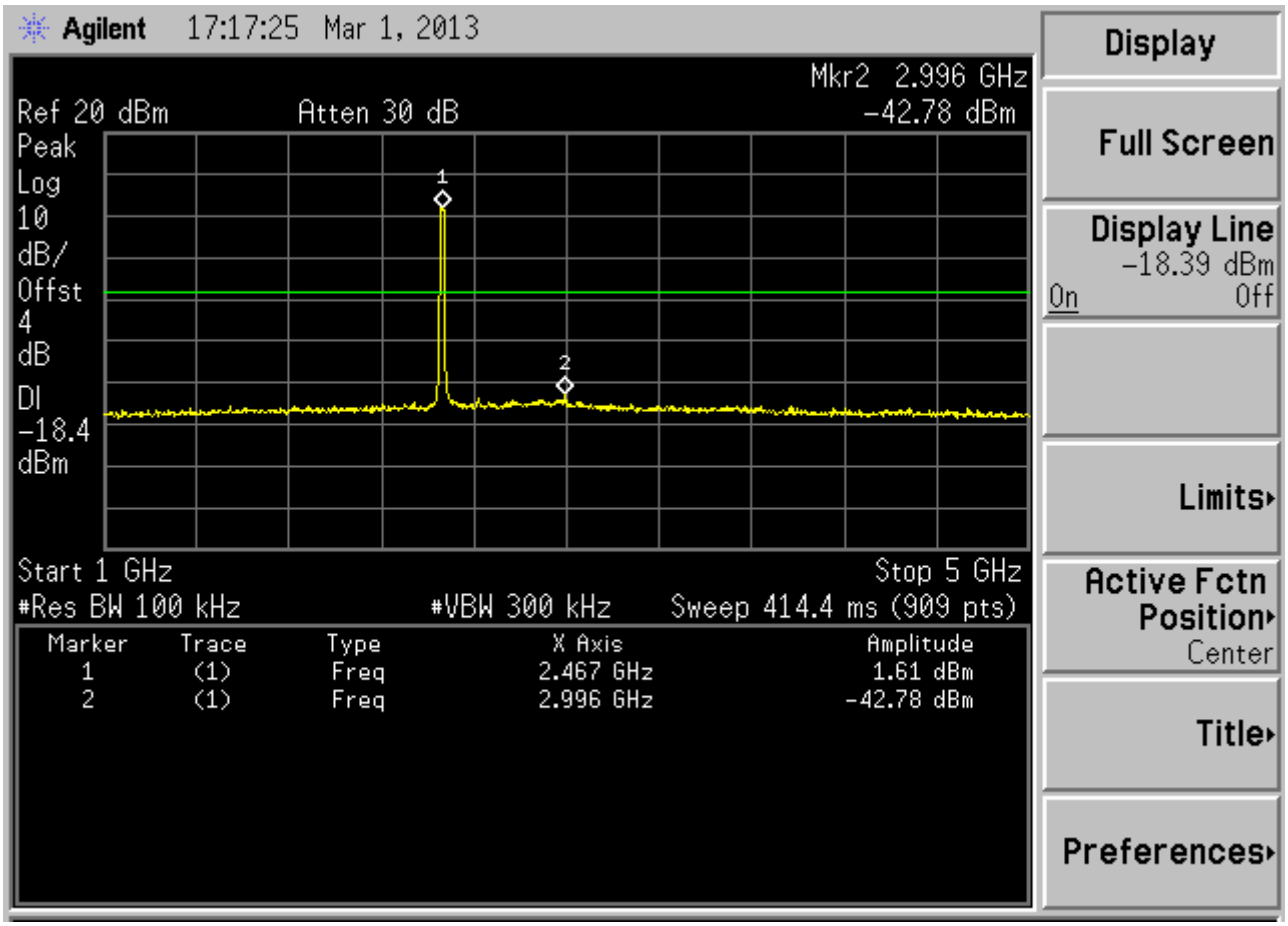

Agilent 17:12:41 Mar 1, 2013
Mkr1 13.354 GHz
Ref 0 dBm
Atten 10 dB
-64.03 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.2
dBm
Marker
13.353524229 GHz
-64.03 dBm
Start 10 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 13.354 GHz -64.03 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

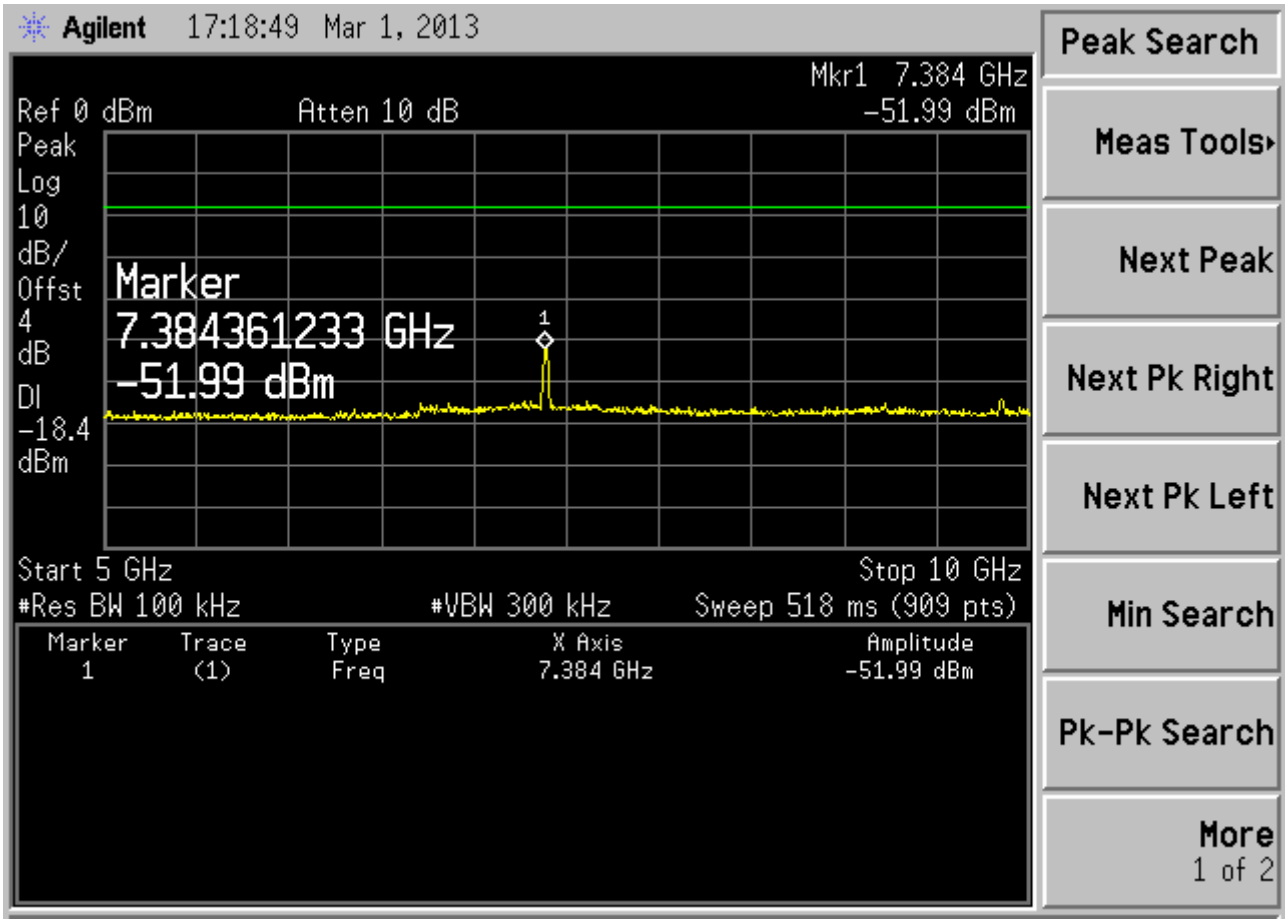

Agilent 17:13:24 Mar 1, 2013
Mkr1 15.898 GHz
Ref 0 dBm
Atten 10 dB
-63.86 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.2
dBm
Marker
15.897577092 GHz
-63.86 dBm
Start 15 GHz
Stop 20 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 15.898 GHz -63.86 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

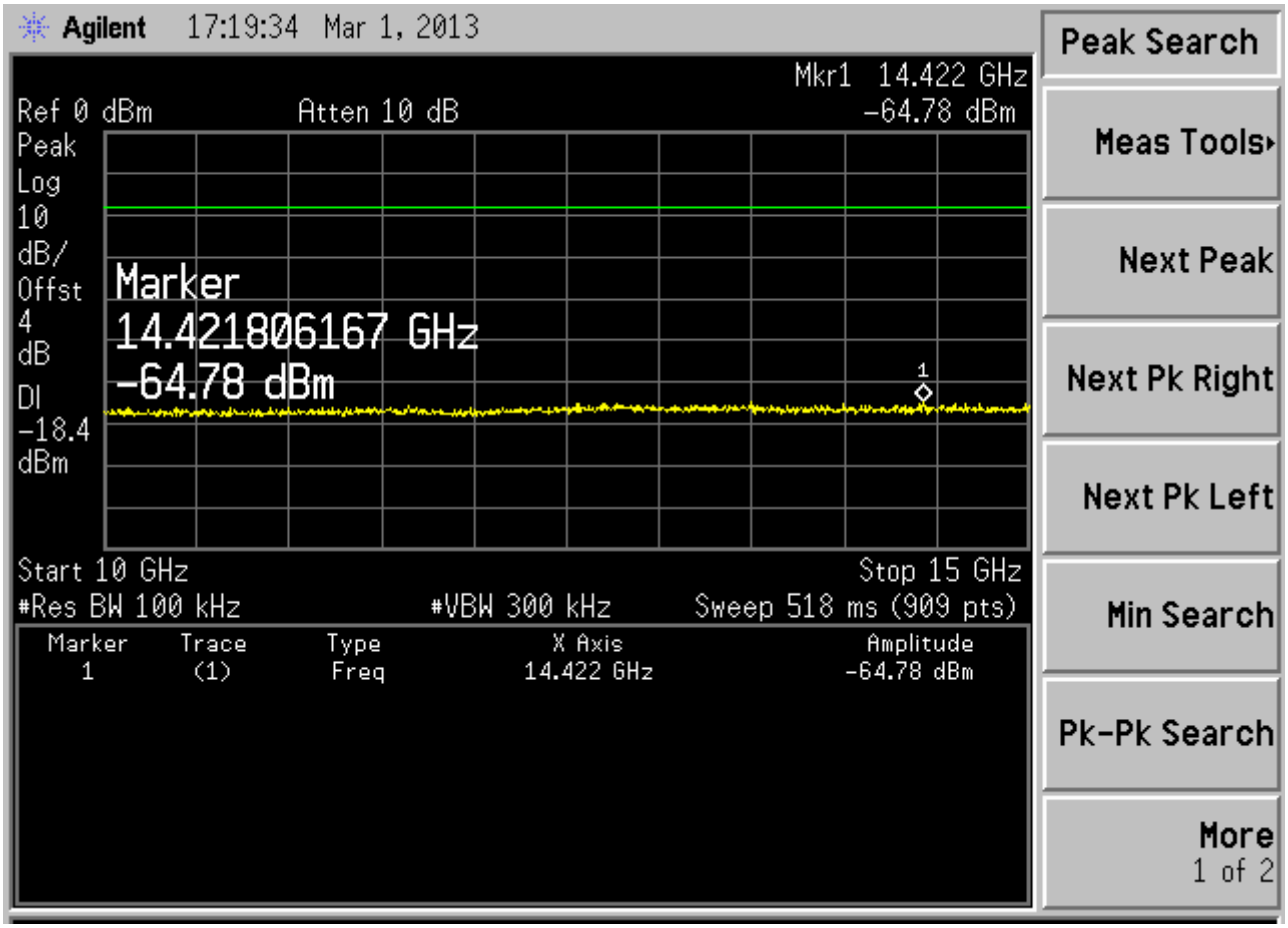

Agilent 17:14:07 Mar 1, 2013
Mkr1 24.978 GHz
Ref 0 dBm
Atten 10 dB
-61.86 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.2
dBm
Marker
24.977973568 GHz
-61.86 dBm
Start 20 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.978 GHz -61.86 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

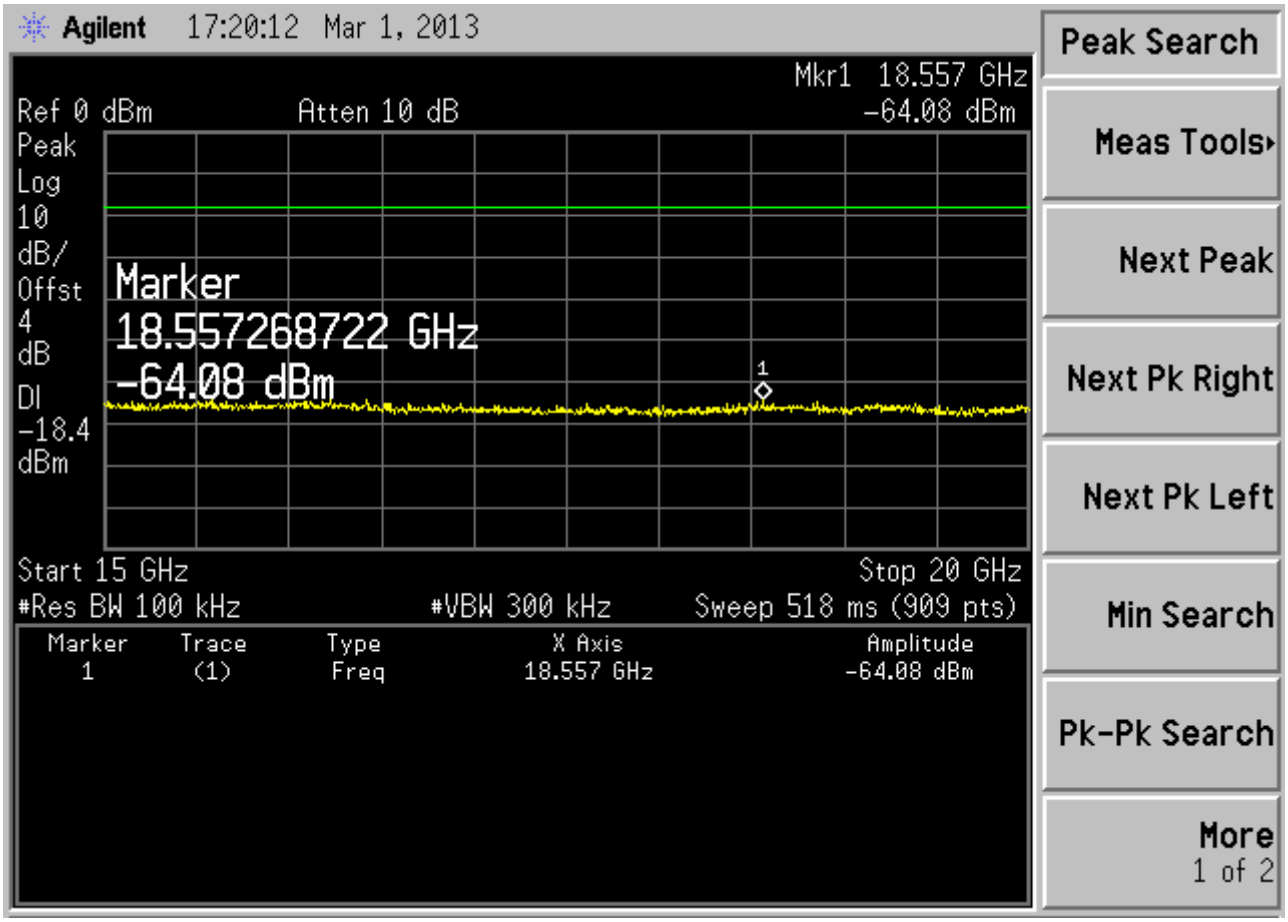
802.11g Ch 11 (2462 MHz)

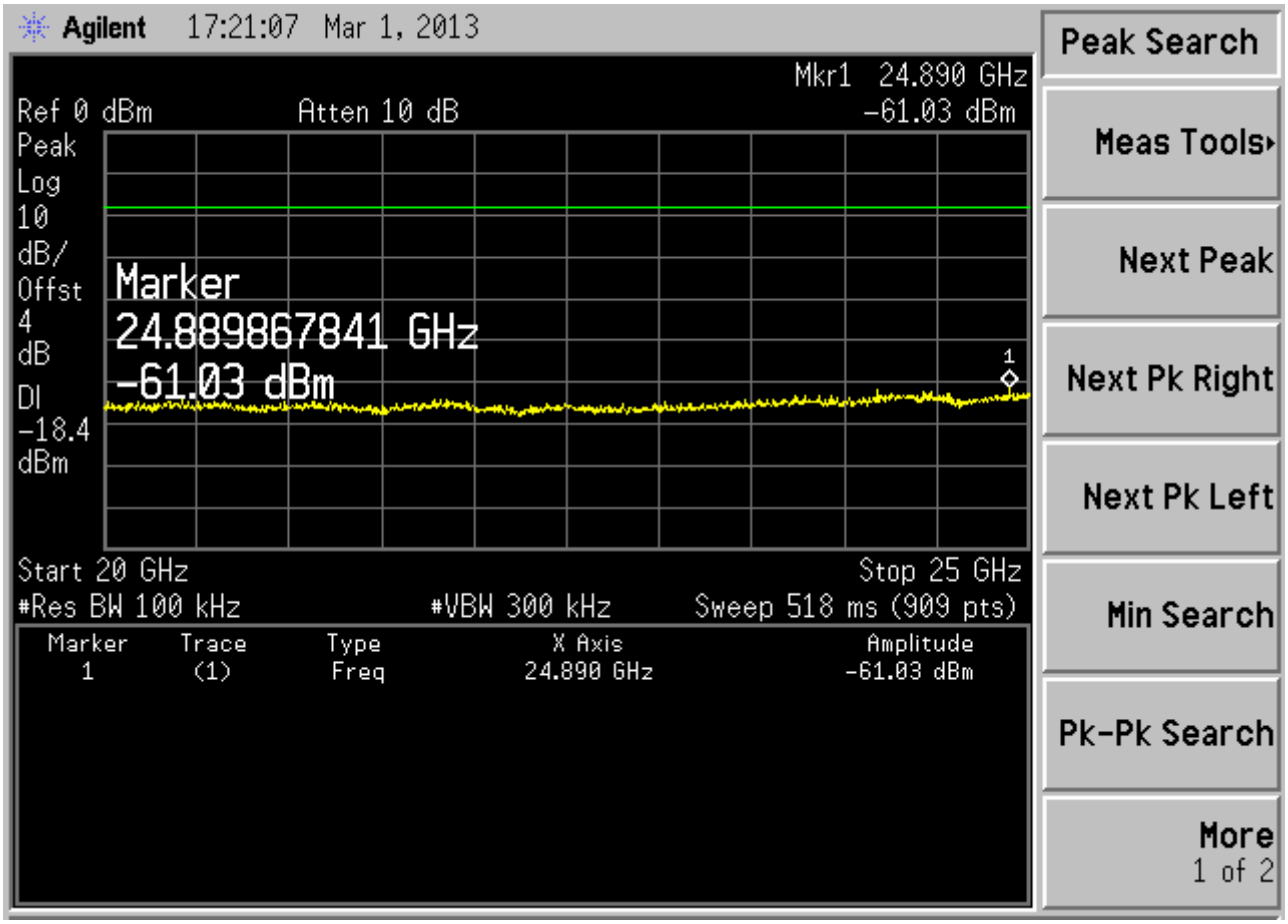




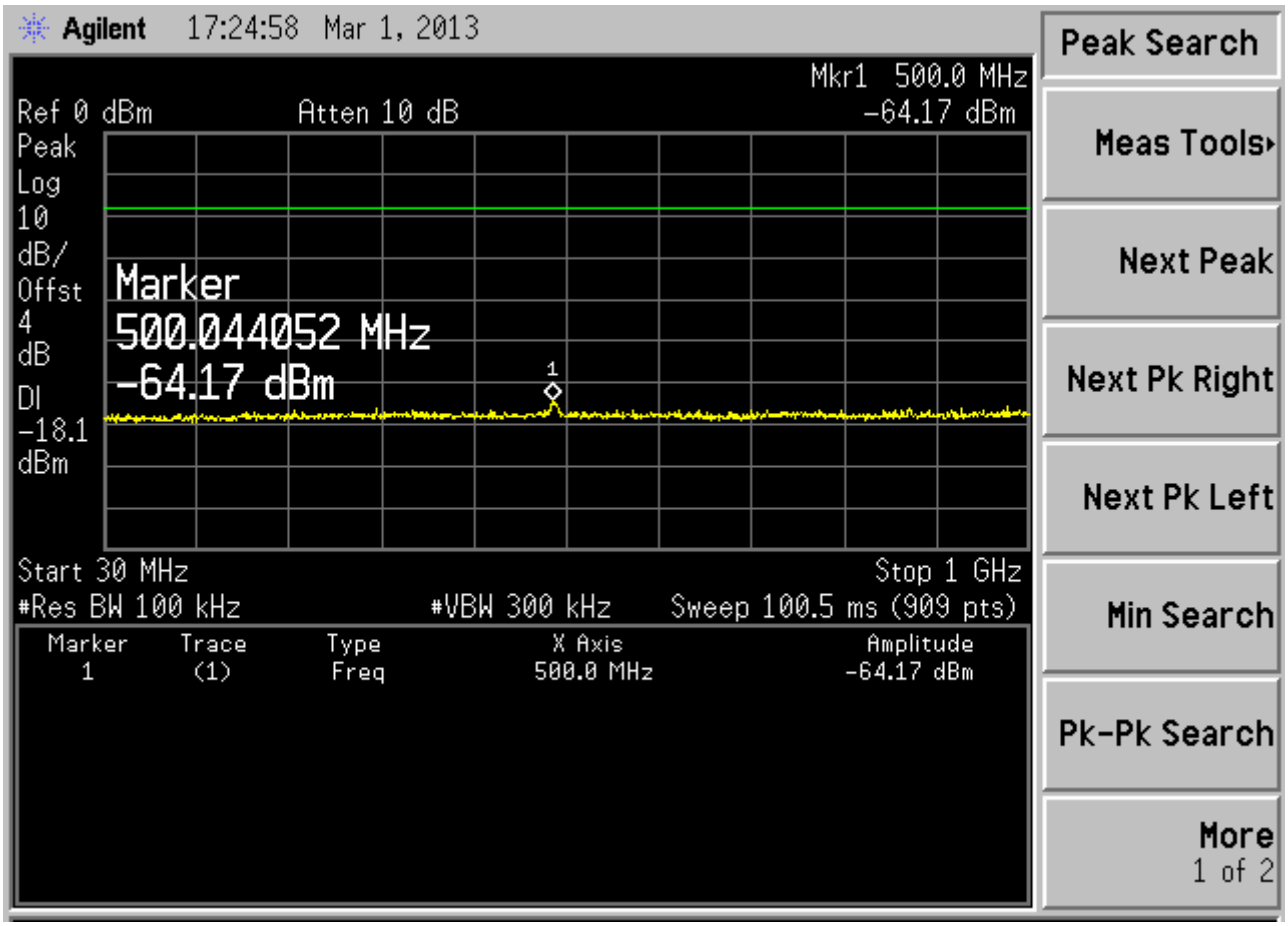

Agilent 17:18:49 Mar 1, 2013
Mkr1 7.384 GHz
Ref 0 dBm
Atten 10 dB
-51.99 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.4
dBm
Marker
7.384361233 GHz
-51.99 dBm
Start 5 GHz
Stop 10 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.384 GHz -51.99 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

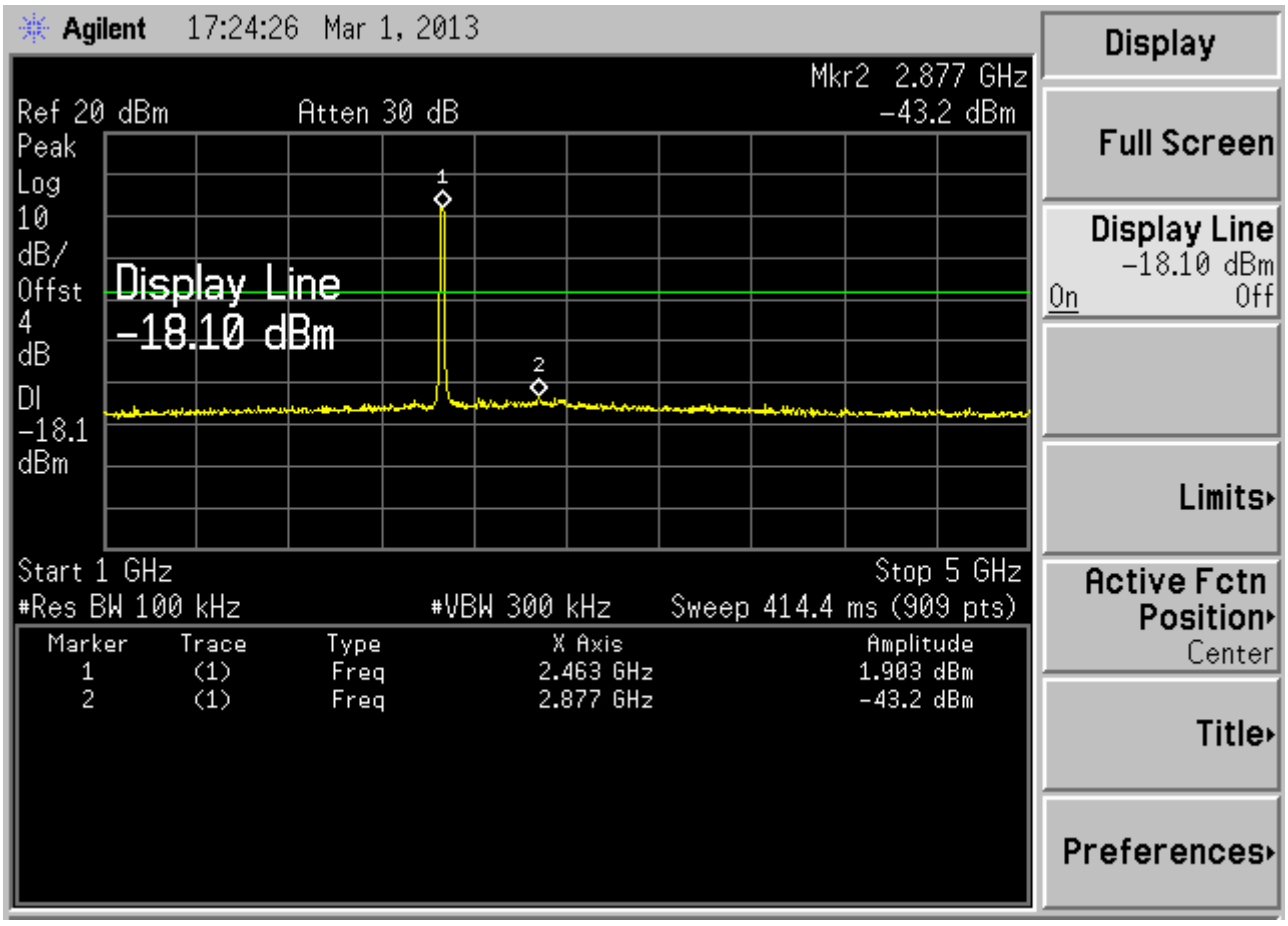

Agilent 17:19:34 Mar 1, 2013
Mkr1 14.422 GHz
Ref 0 dBm
Atten 10 dB
-64.78 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.4
dBm
Marker
14.421806167 GHz
-64.78 dBm
Start 10 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 14.422 GHz -64.78 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

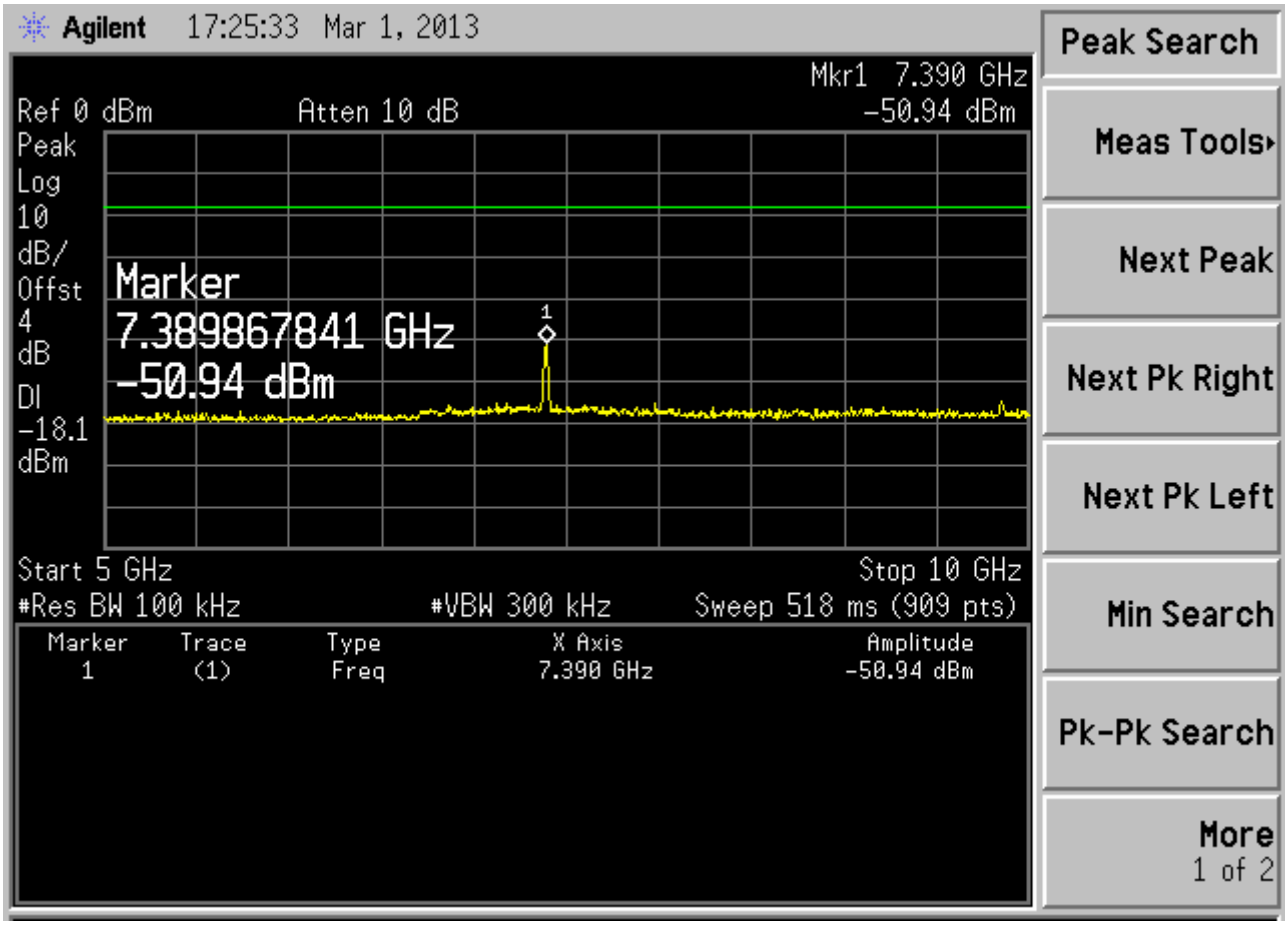

Agilent 17:20:12 Mar 1, 2013
Mkr1 18.557 GHz
Ref 0 dBm
Atten 10 dB
-64.08 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.4
dBm
Marker
18.557268722 GHz
-64.08 dBm
Start 15 GHz
Stop 20 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 18.557 GHz -64.08 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

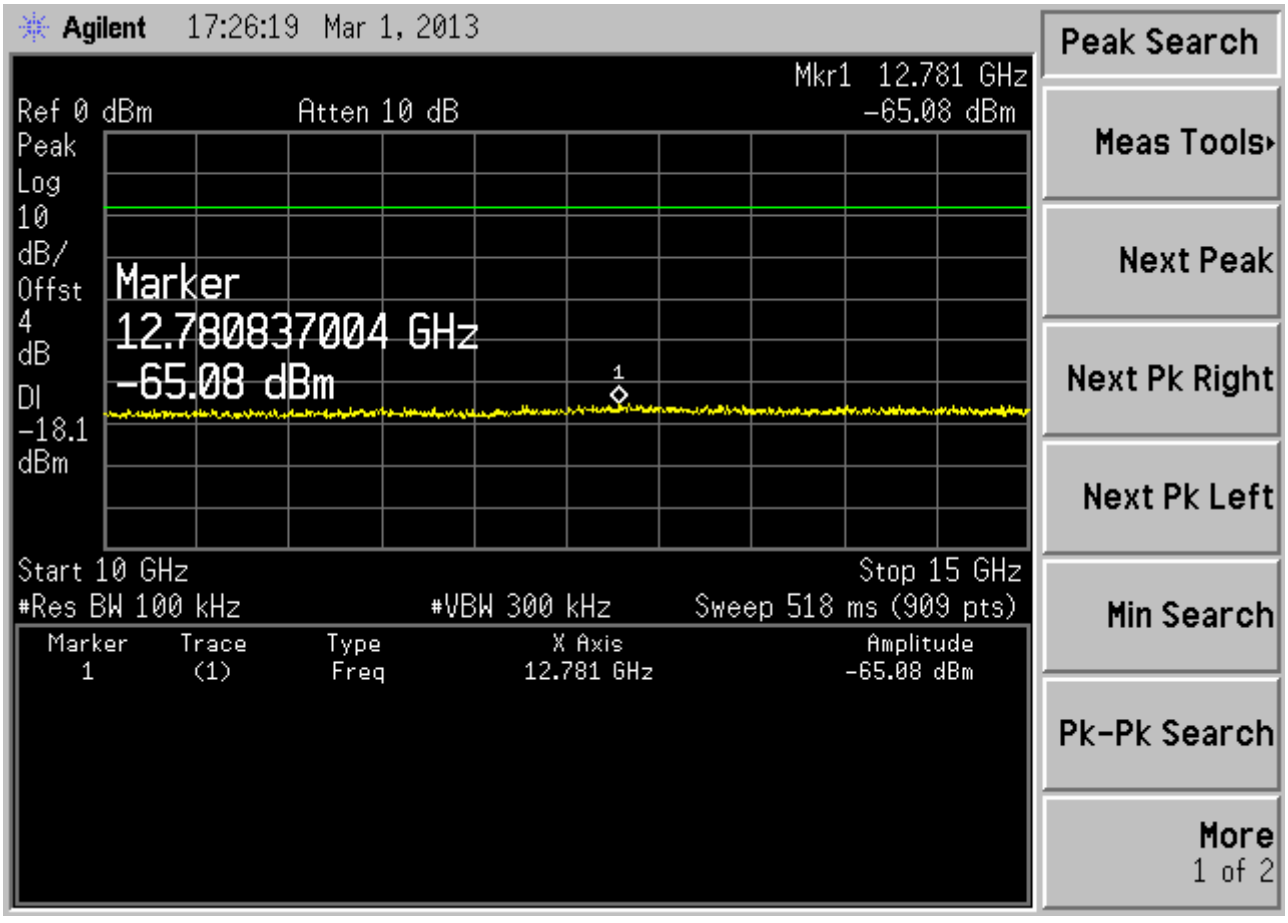

Agilent 17:21:07 Mar 1, 2013
Mkr1 24.890 GHz
Ref 0 dBm
Atten 10 dB
-61.03 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.4
dBm
Marker
24.889867841 GHz
-61.03 dBm
Start 20 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.890 GHz -61.03 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

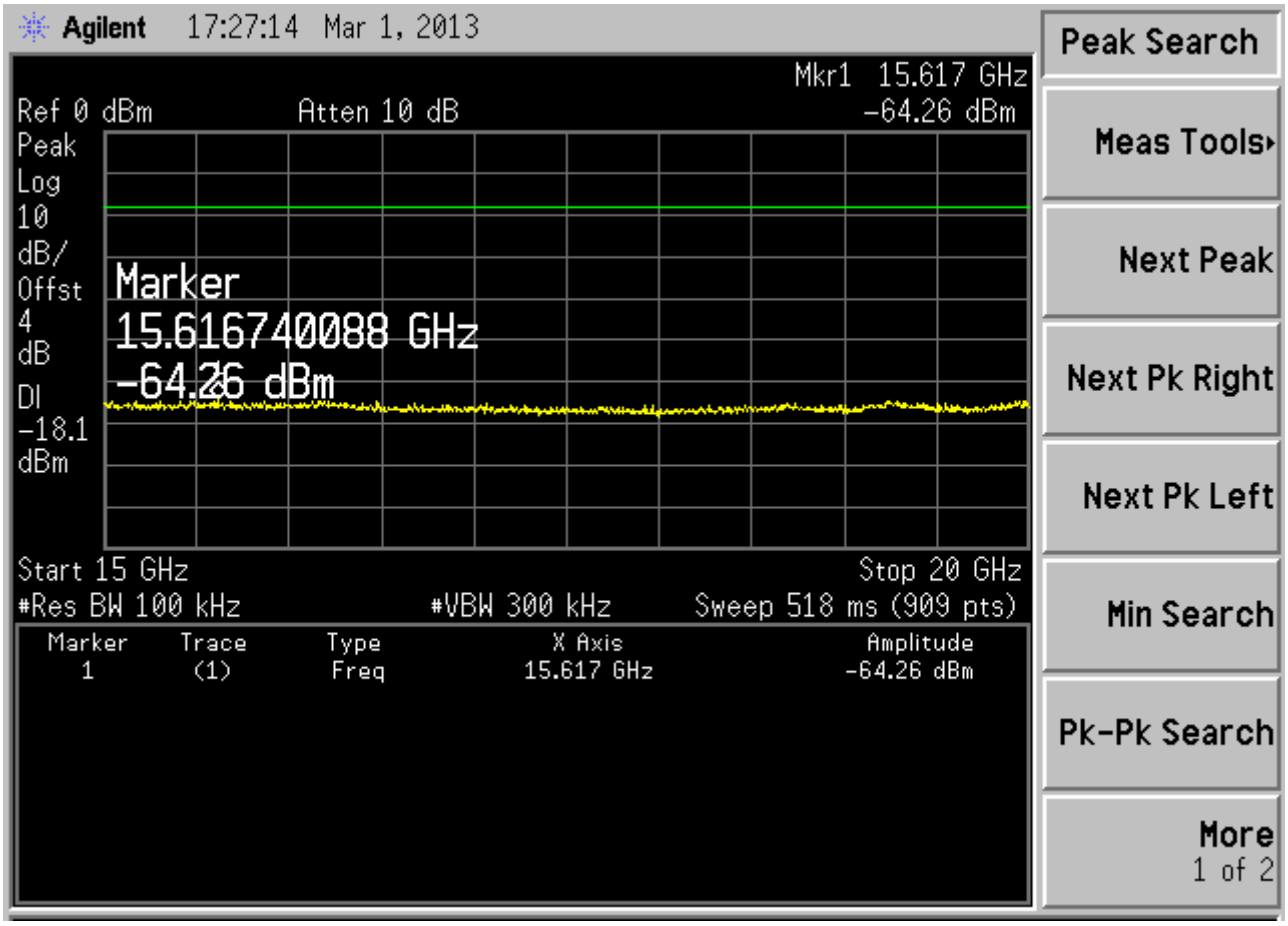
802.11n Ch 01 (2412 MHz)

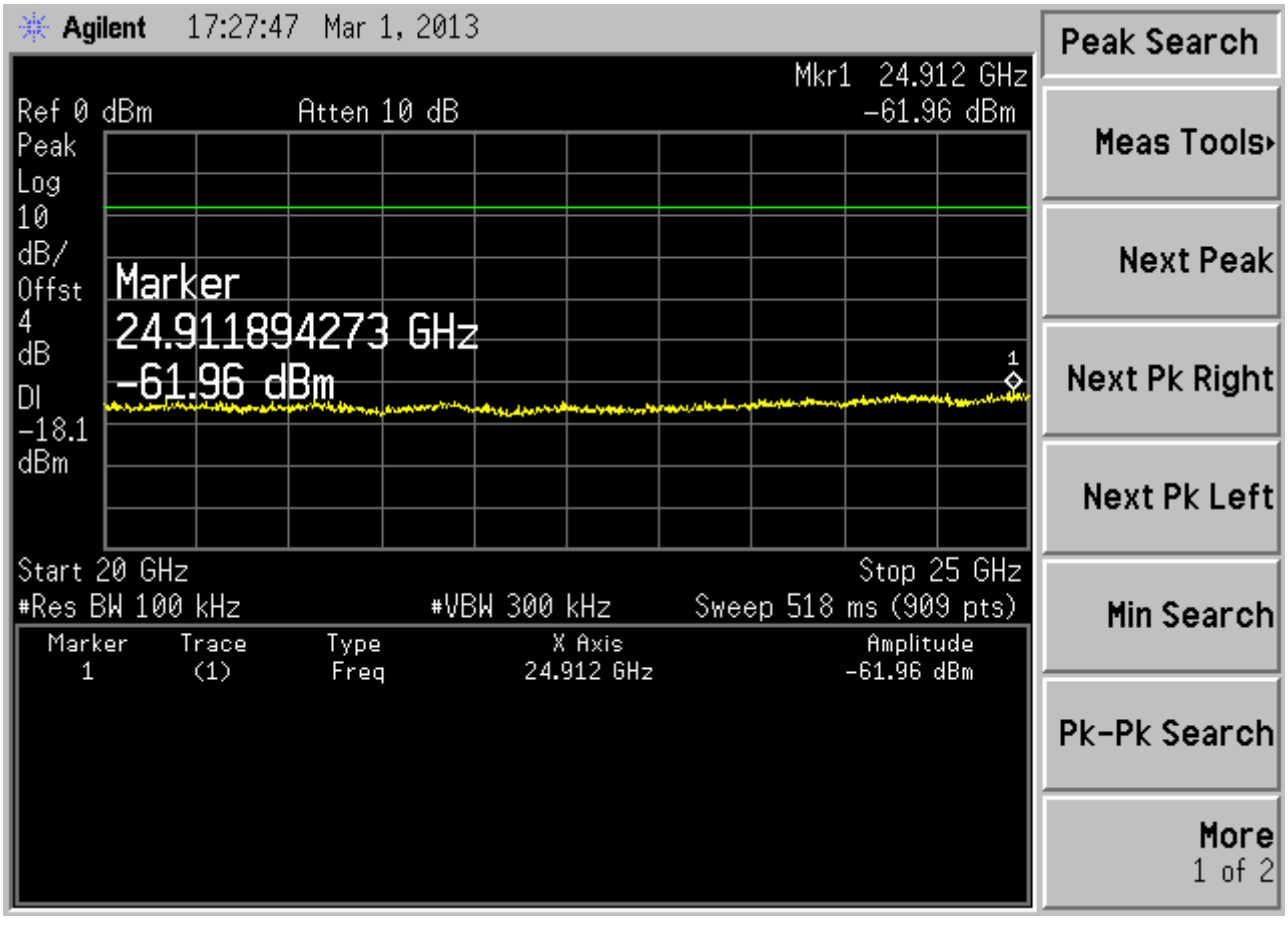




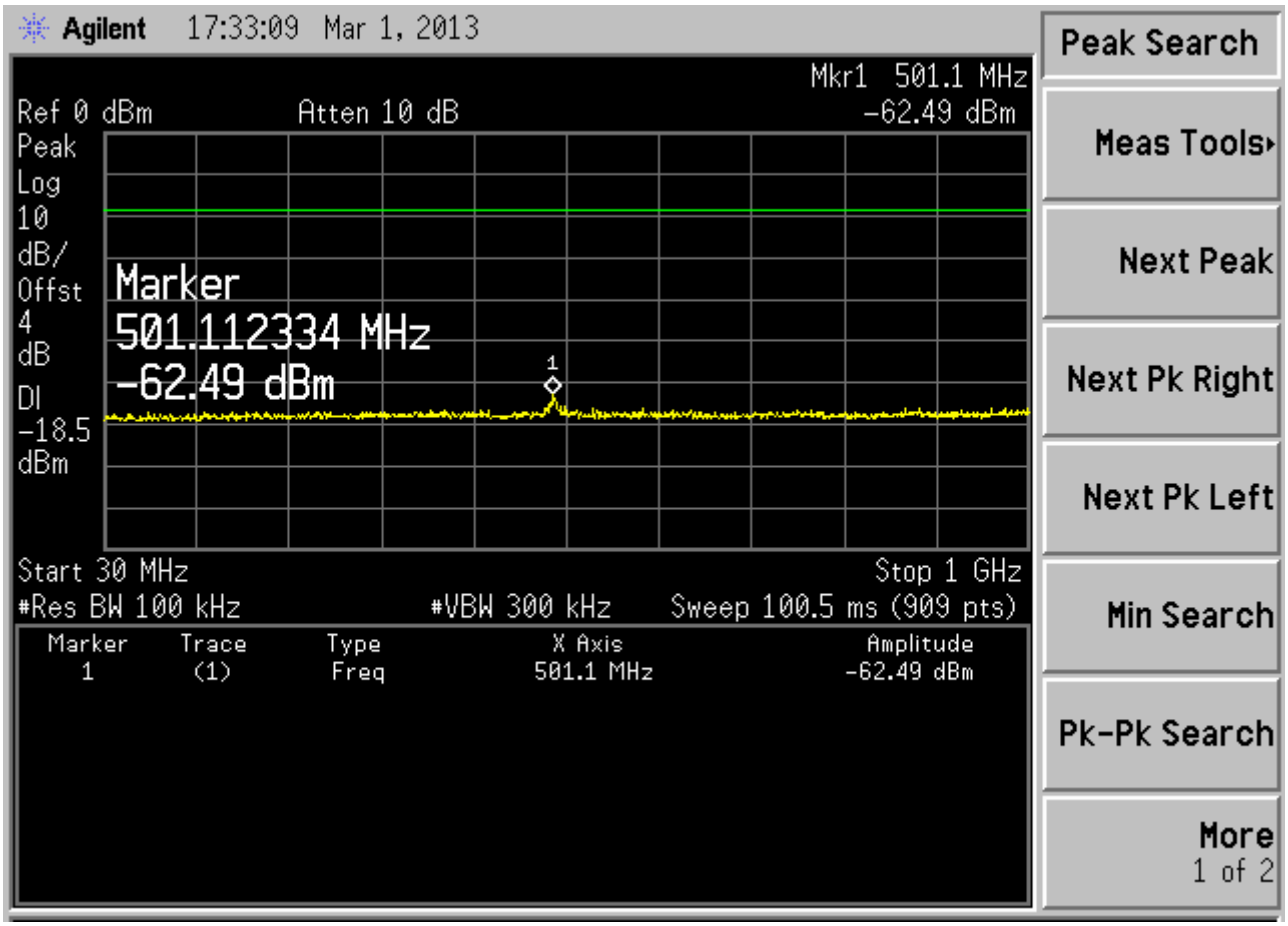

Agilent 17:25:33 Mar 1, 2013
Mkr1 7.390 GHz
Ref 0 dBm
Atten 10 dB
-50.94 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.1
dBm
Marker
7.389867841 GHz
-50.94 dBm
Start 5 GHz
Stop 10 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.390 GHz -50.94 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

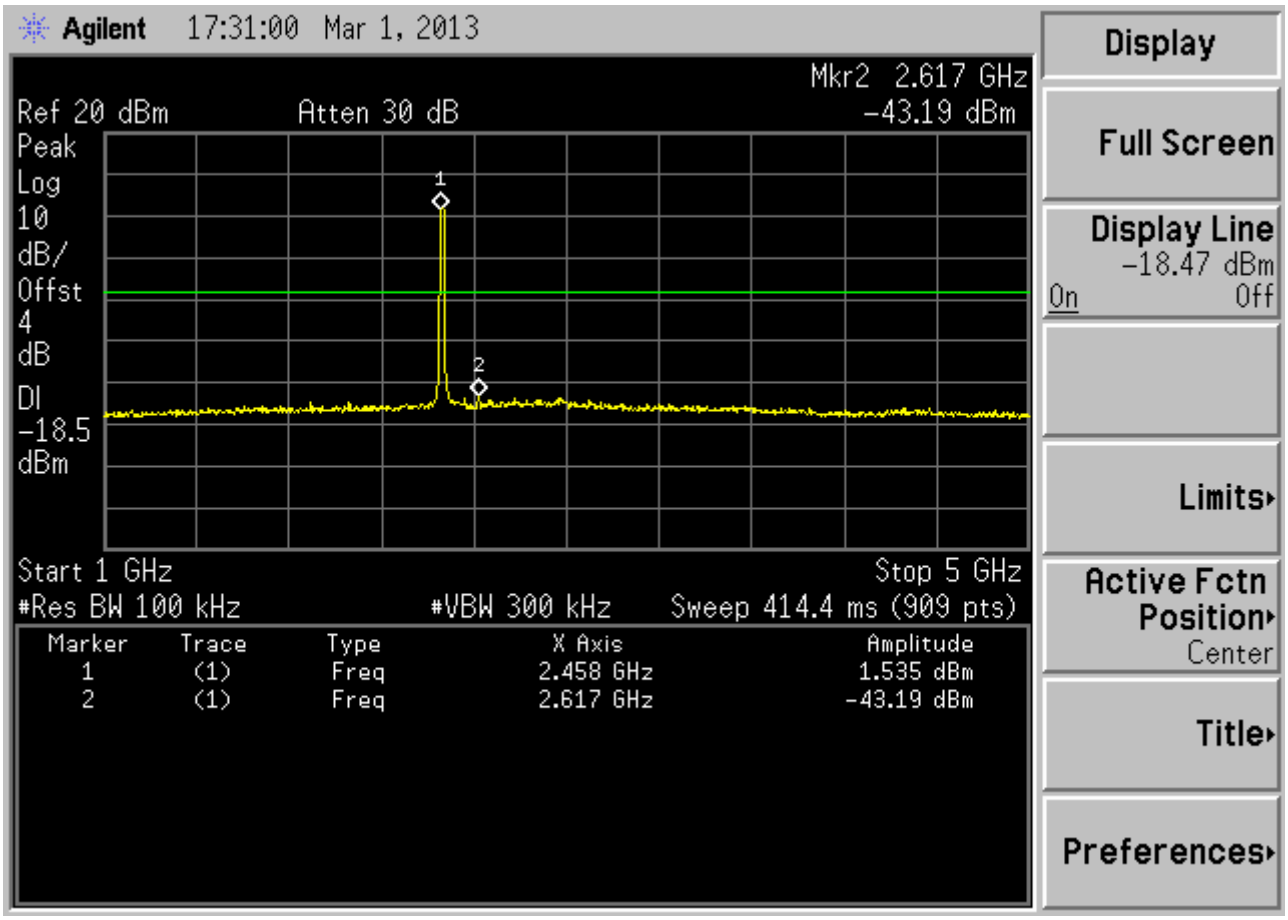

Agilent 17:26:19 Mar 1, 2013
Mkr1 12.781 GHz
Ref 0 dBm
Atten 10 dB
-65.08 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.1
dBm
Marker
12.780837004 GHz
-65.08 dBm
Start 10 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 12.781 GHz -65.08 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

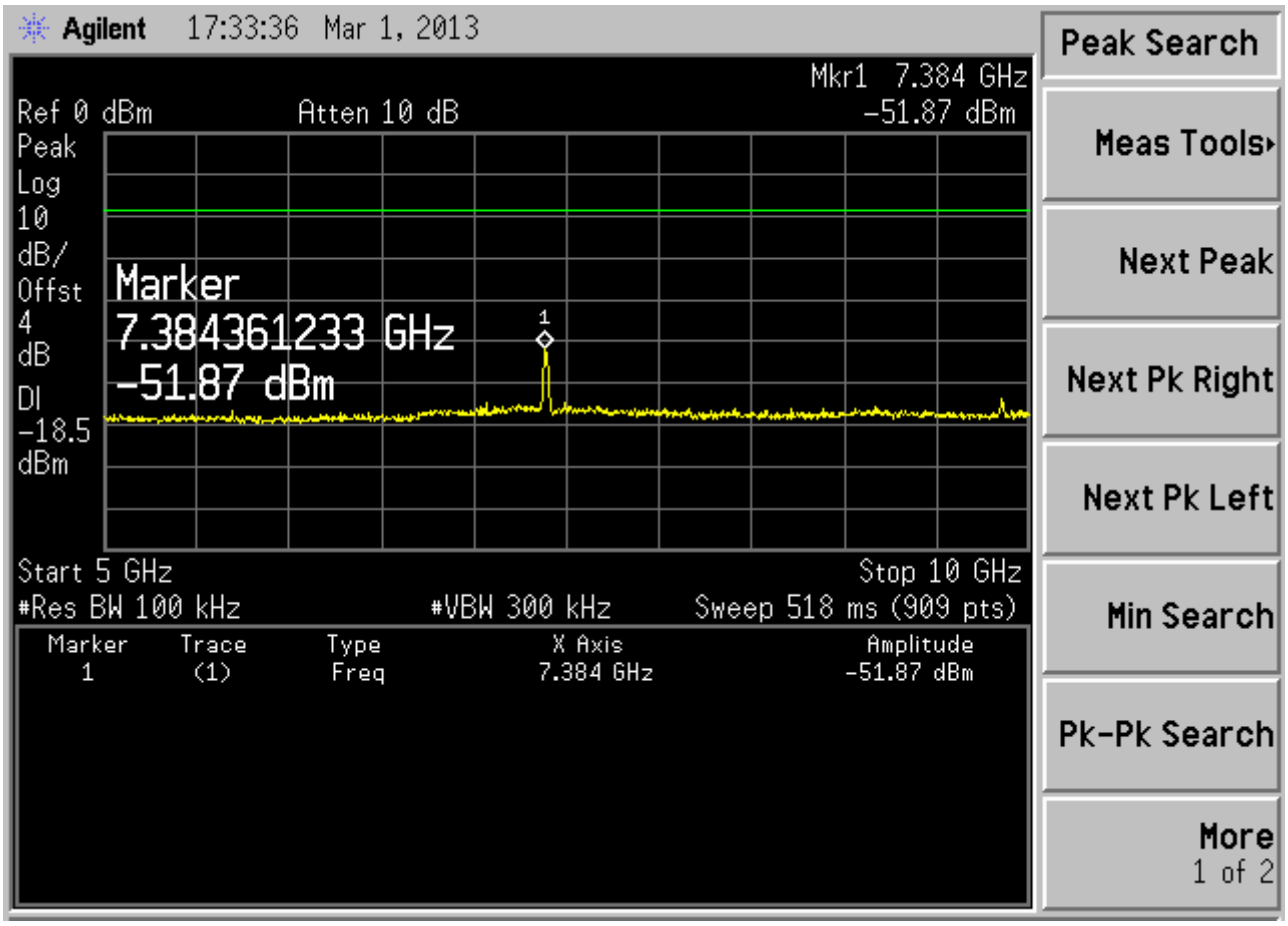

Agilent 17:27:14 Mar 1, 2013
Mkr1 15.617 GHz
Ref 0 dBm
Atten 10 dB
-64.26 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.1
dBm
Marker
15.616740088 GHz
-64.26 dBm
Start 15 GHz
Stop 20 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 15.617 GHz -64.26 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

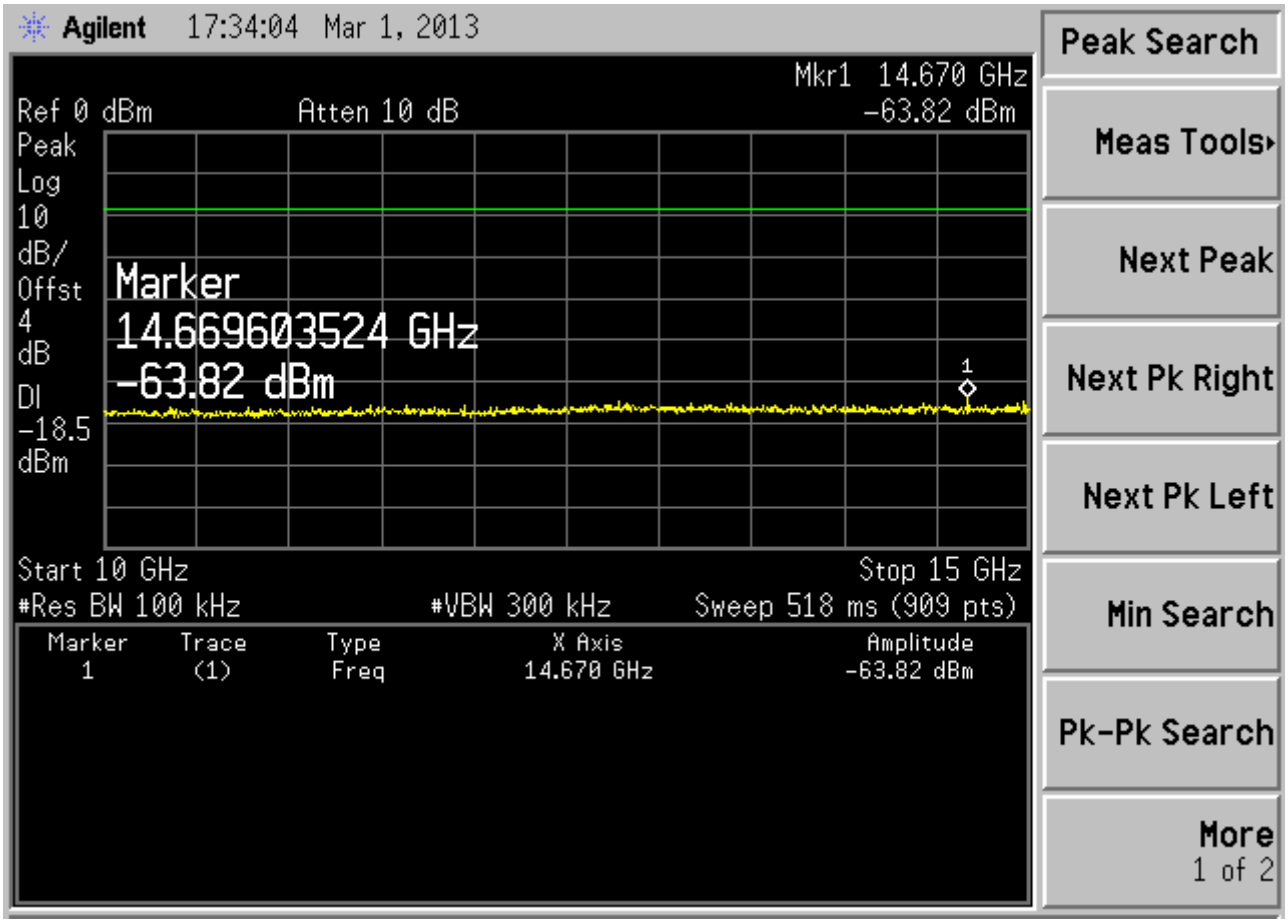

Agilent 17:27:47 Mar 1, 2013
Mkr1 24.912 GHz
Ref 0 dBm
Atten 10 dB
-61.96 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.1
dBm
Marker
24.911894273 GHz
-61.96 dBm
1
Start 20 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.912 GHz -61.96 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

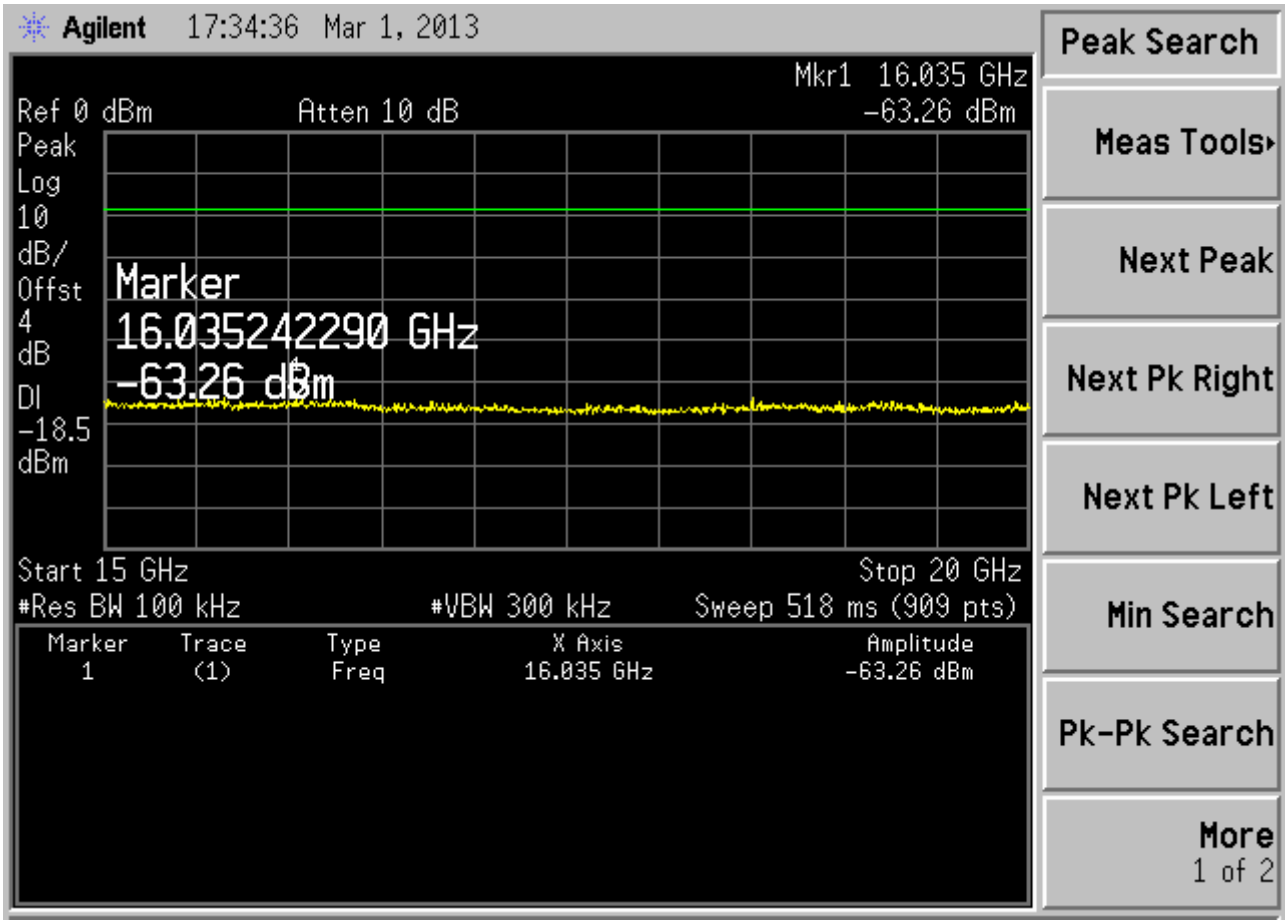
802.11n Ch 11 (2462 MHz)

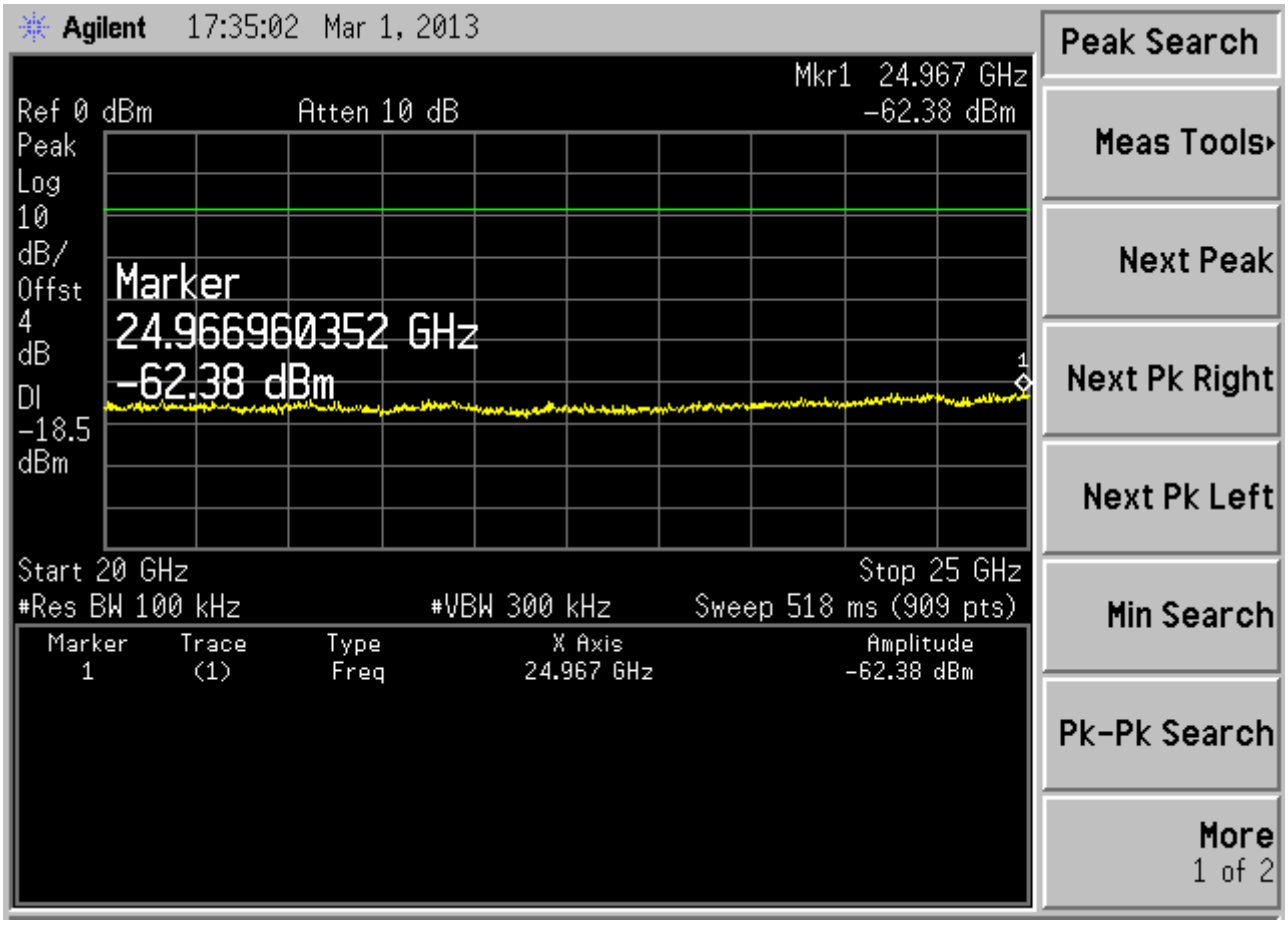




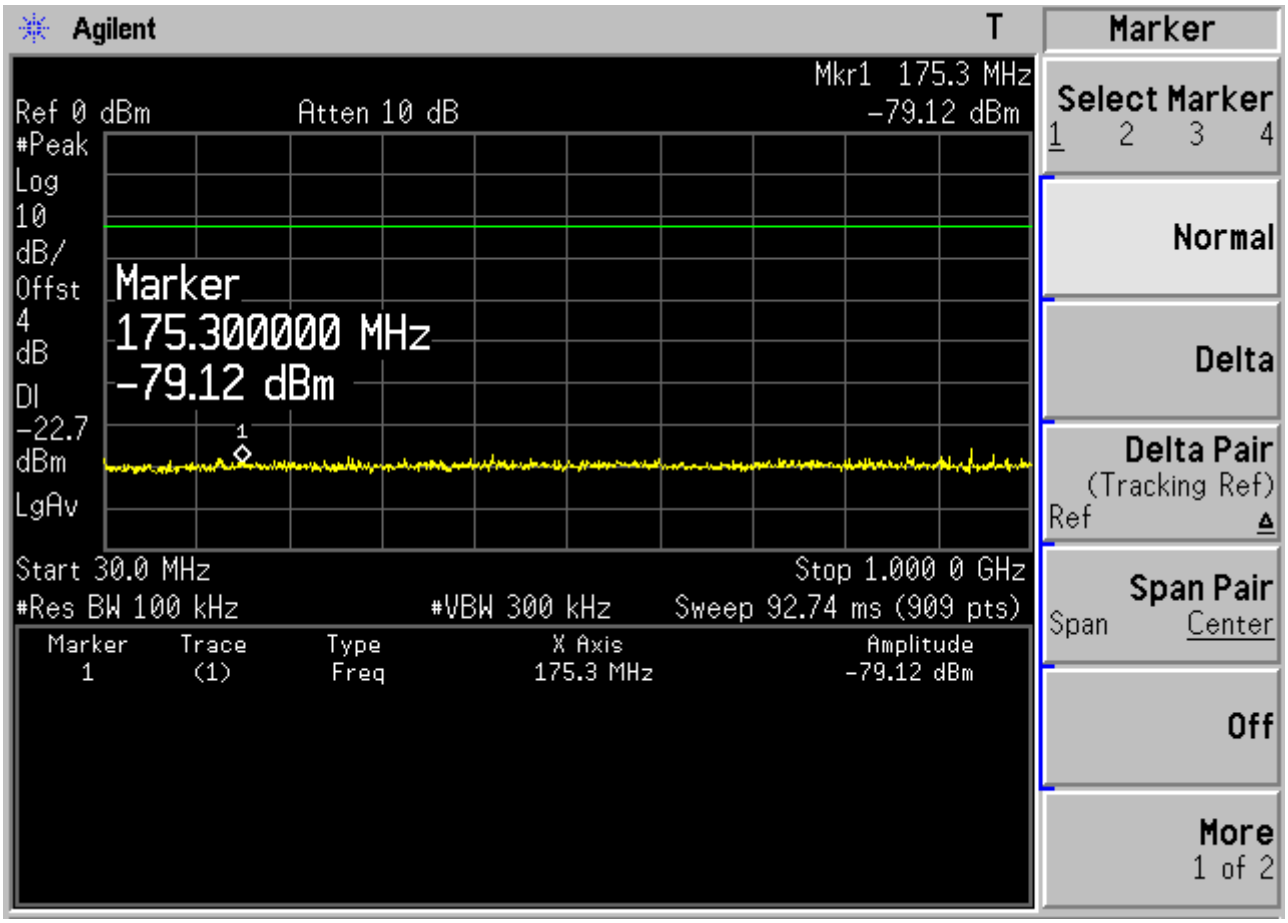

Agilent 17:33:36 Mar 1, 2013
Mkr1 7.384 GHz
Ref 0 dBm
Atten 10 dB
-51.87 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.5
dBm
Marker
7.384361233 GHz
-51.87 dBm
Start 5 GHz
Stop 10 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.384 GHz -51.87 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

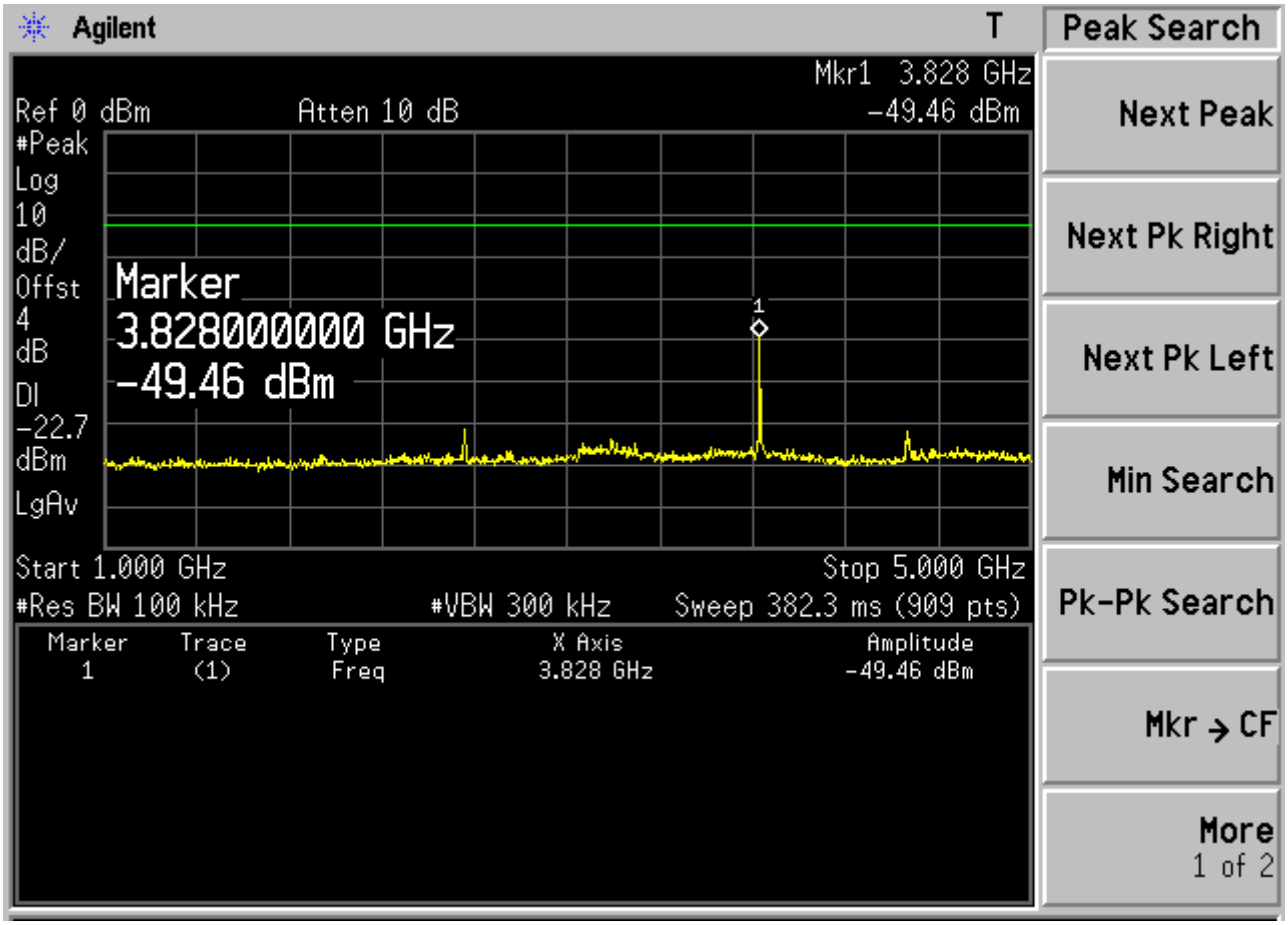

Agilent 17:34:04 Mar 1, 2013
Mkr1 14.670 GHz
Ref 0 dBm
Atten 10 dB
-63.82 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.5
dBm
Marker
14.669603524 GHz
-63.82 dBm
Start 10 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 14.670 GHz -63.82 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

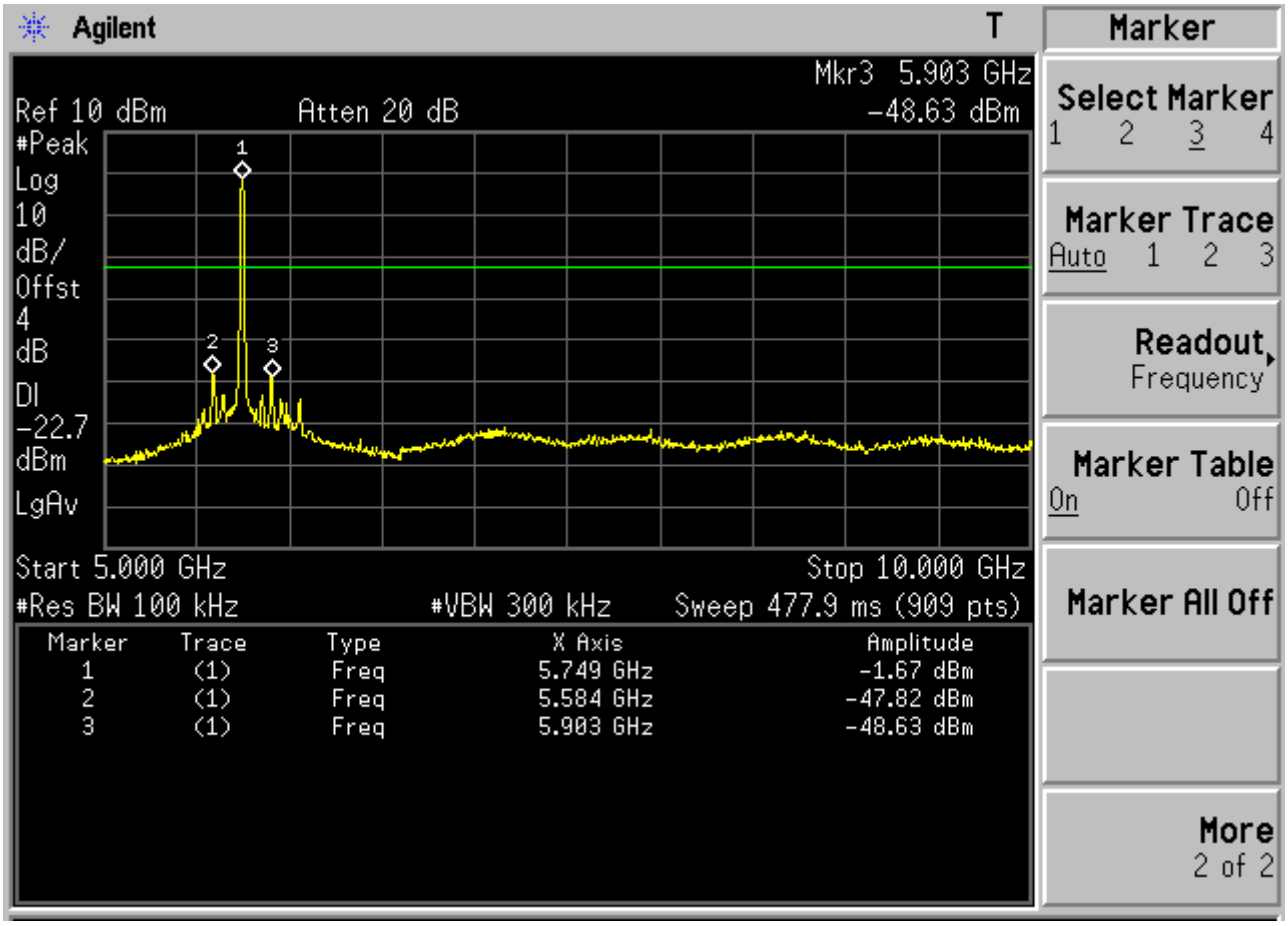

Agilent 17:34:36 Mar 1, 2013
Mkr1 16.035 GHz
Ref 0 dBm
Atten 10 dB
-63.26 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.5
dBm
Marker
16.035242290 GHz
-63.26 dBm
Start 15 GHz
Stop 20 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 16.035 GHz -63.26 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

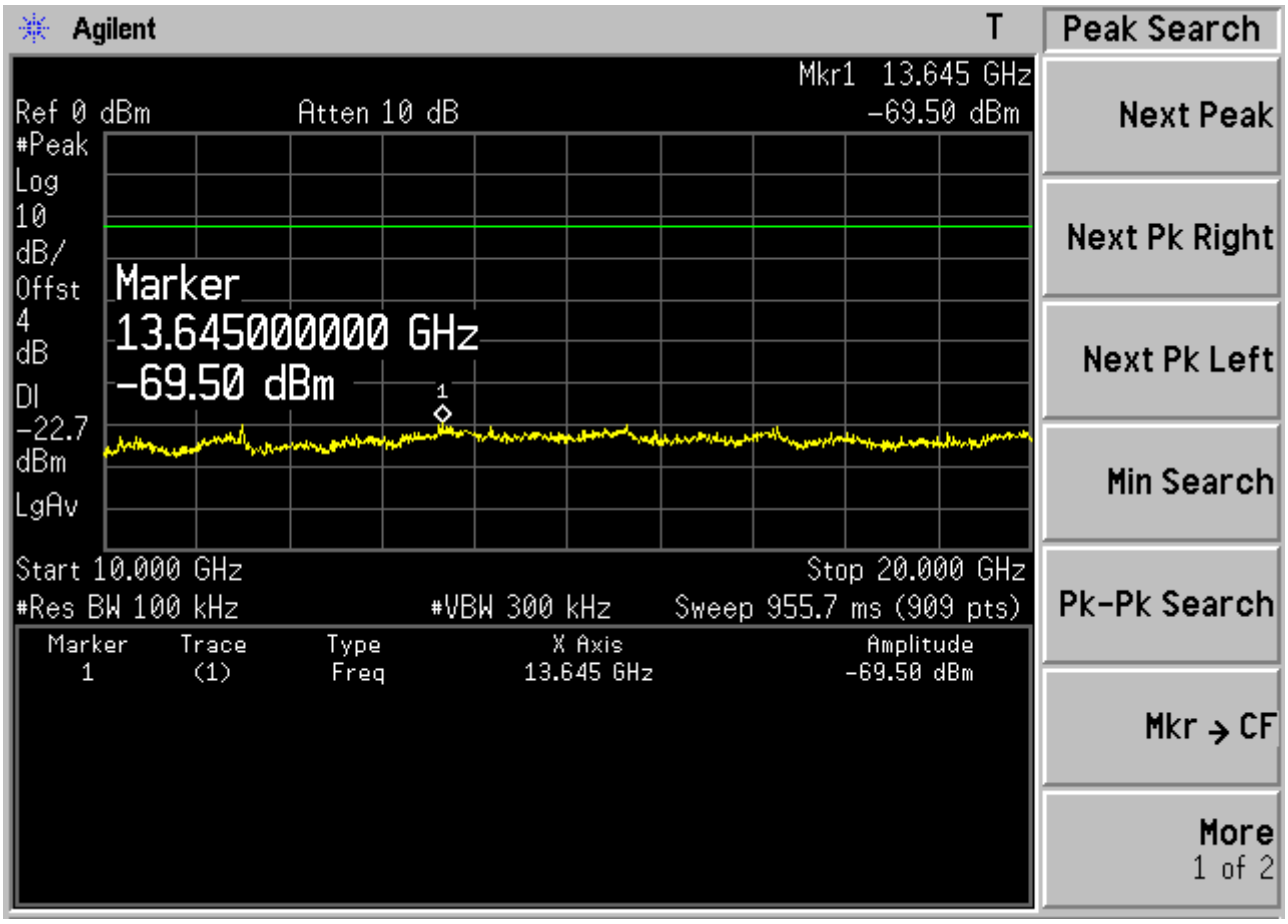

Agilent 17:35:02 Mar 1, 2013
Mkr1 24.967 GHz
Ref 0 dBm
Atten 10 dB
-62.38 dBm
Peak
Log
10
dB/
Offst
4
dB
Dl
-18.5
dBm
Marker
24.966960352 GHz
-62.38 dBm
Start 20 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 518 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.967 GHz -62.38 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

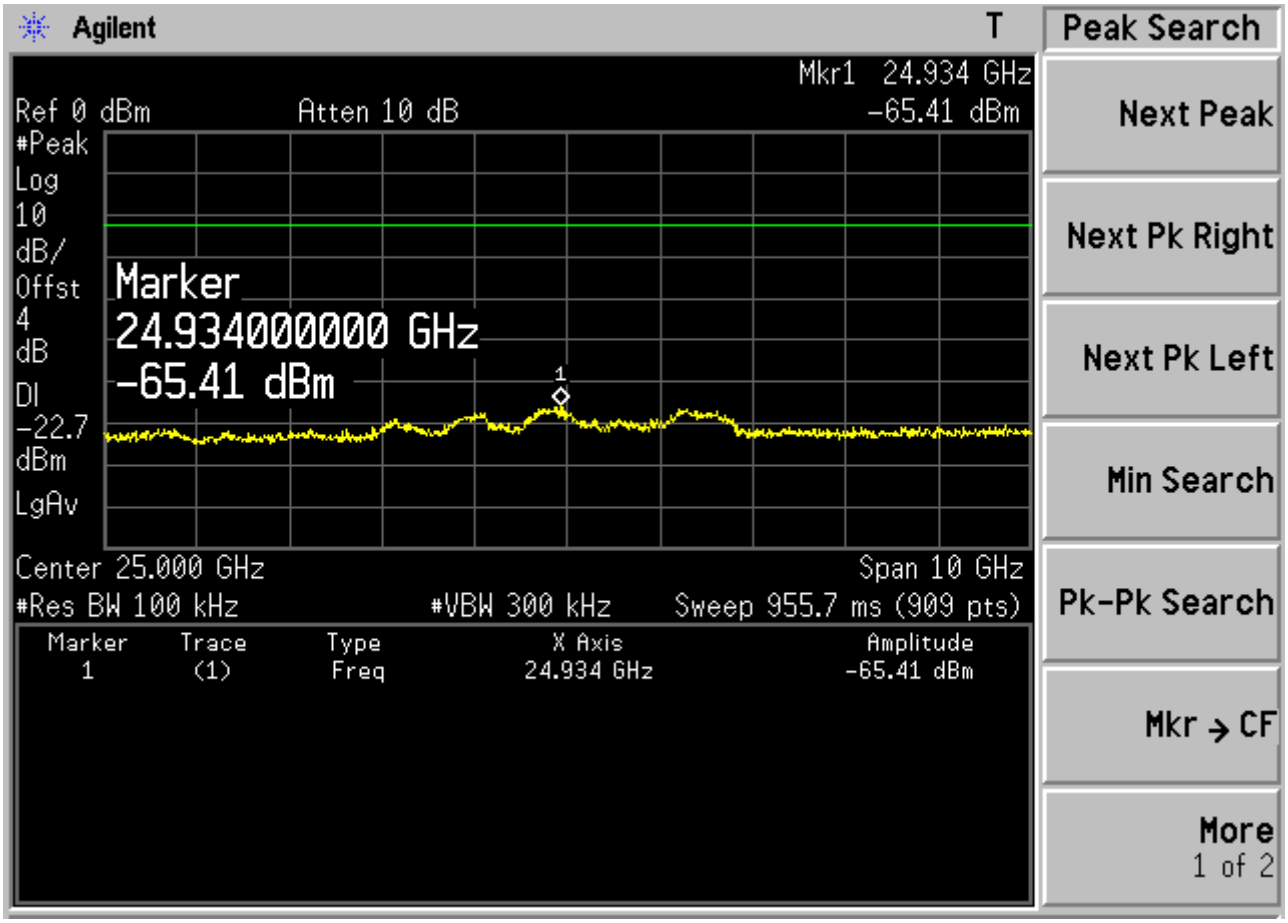
802.11a Ch 149 (5745 MHz)

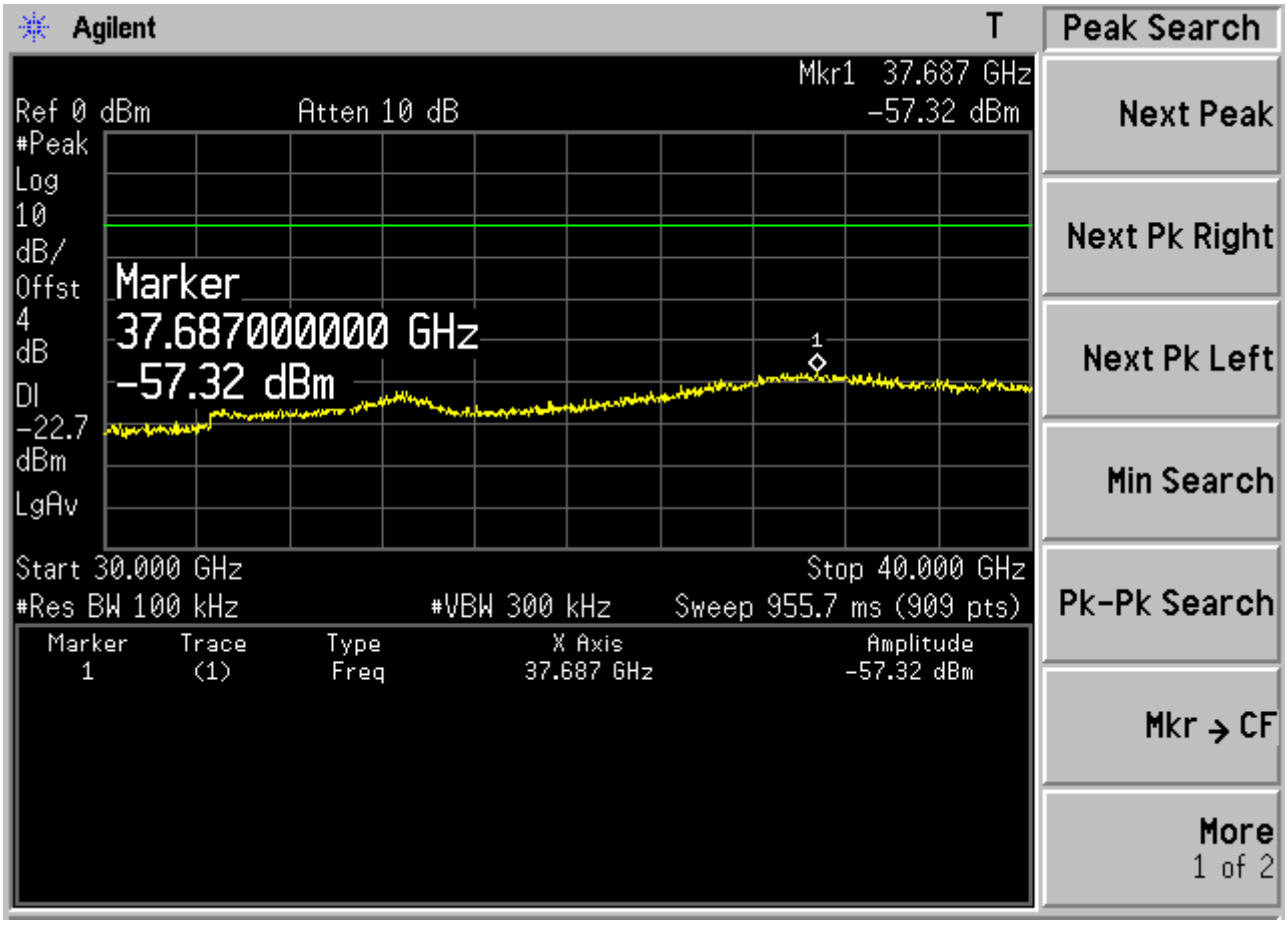




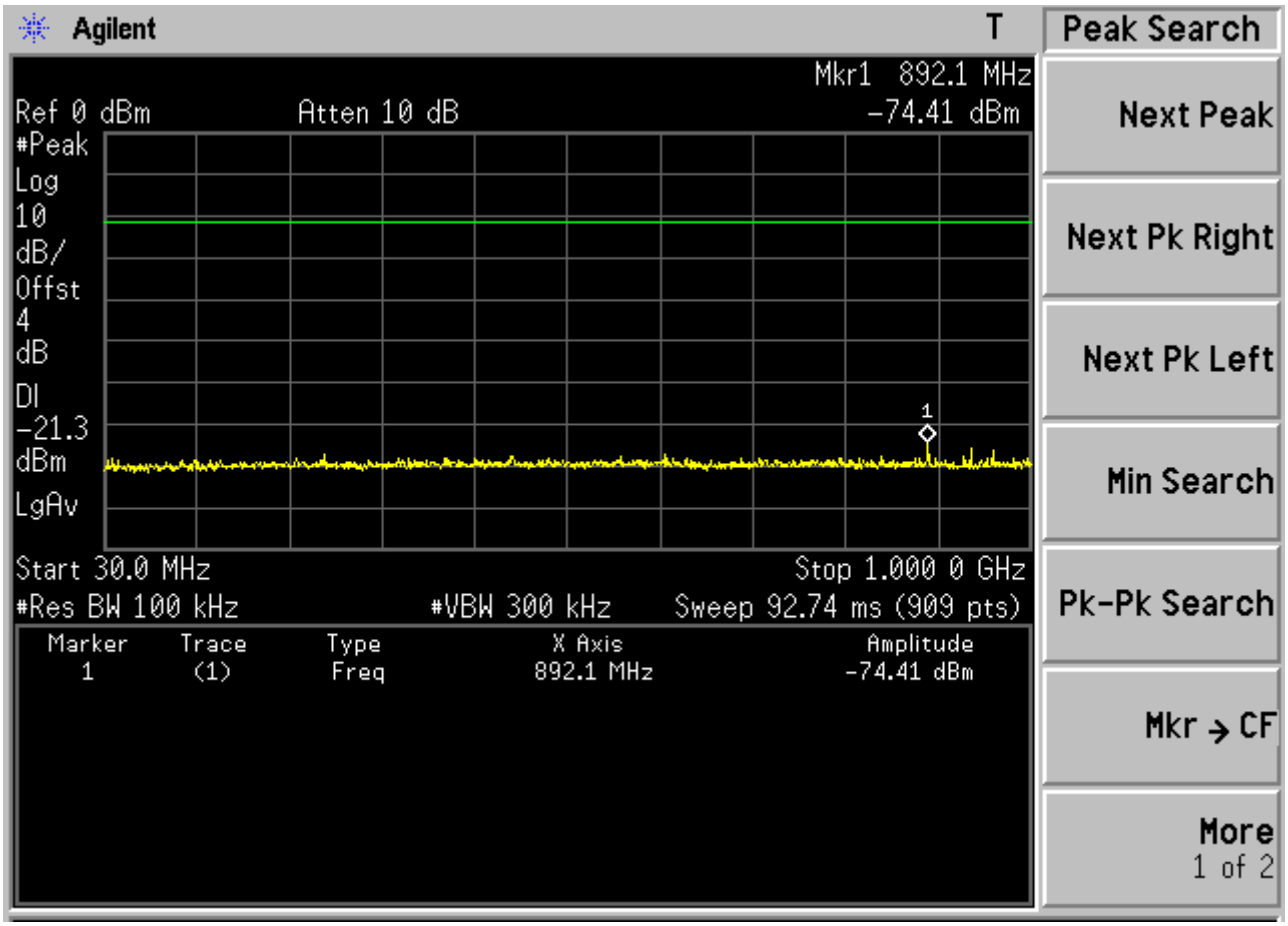

Agilent
T
Mkr3 5.903 GHz
Ref 10 dBm
Atten 20 dB
-48.63 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-22.7
dBm
LgAv
Start 5.000 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 5.749 GHz -1.67 dBm
2 (1) Freq 5.584 GHz -47.82 dBm
3 (1) Freq 5.903 GHz -48.63 dBm
Marker
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Marker Table
On Off
Marker All Off
More
2 of 2

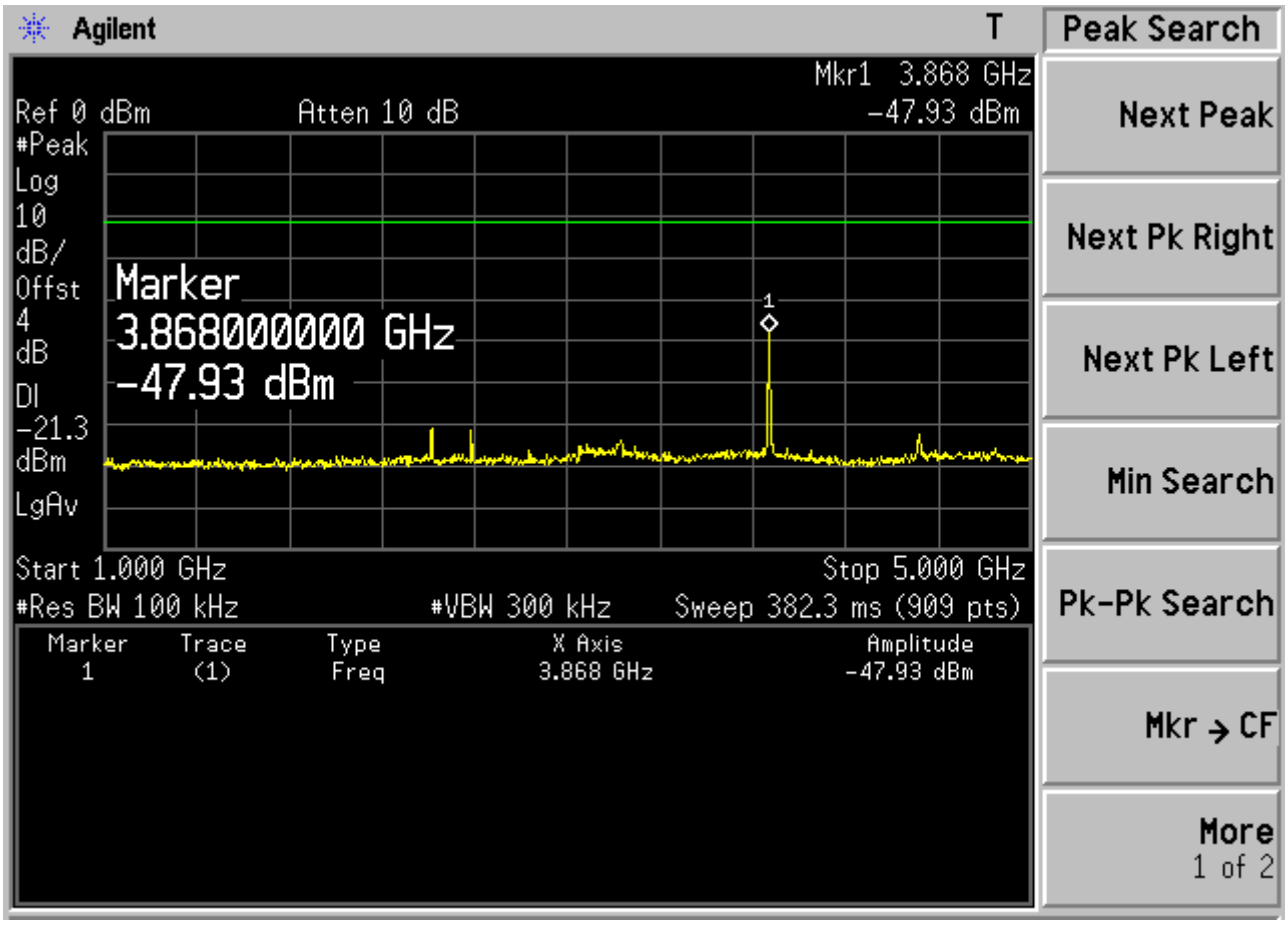

Agilent
T
Mkr1 13.645 GHz
Ref 0 dBm
Atten 10 dB
-69.50 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-22.7
dBm
LgAv
Marker
13.645000000 GHz
-69.50 dBm
Start 10.000 GHz
Stop 20.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 13.645 GHz -69.50 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2

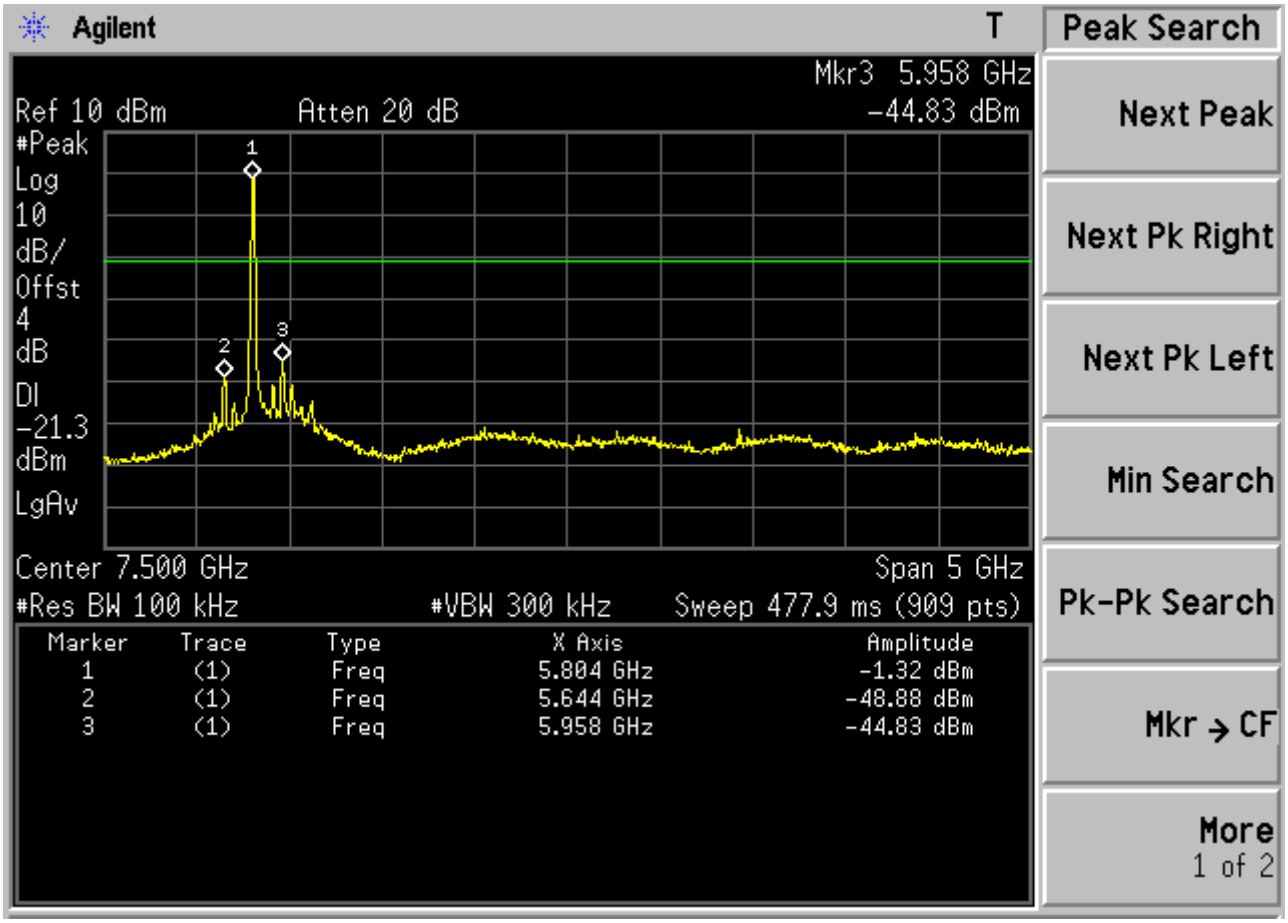

Agilent
T
Peak Search
Mkr1 24.934 GHz
Ref 0 dBm
Atten 10 dB
-65.41 dBm
Next Peak
#Peak
Log
10
dB/
Offst
4
dB
Next Pk Right
Marker
24.934000000 GHz
-65.41 dBm
Next Pk Left
Dl
-22.7
dBm
LgAv
Min Search
Center 25.000 GHz
Span 10 GHz
Pk-Pk Search
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.934 GHz -65.41 dBm
Mkr → CF
More
1 of 2

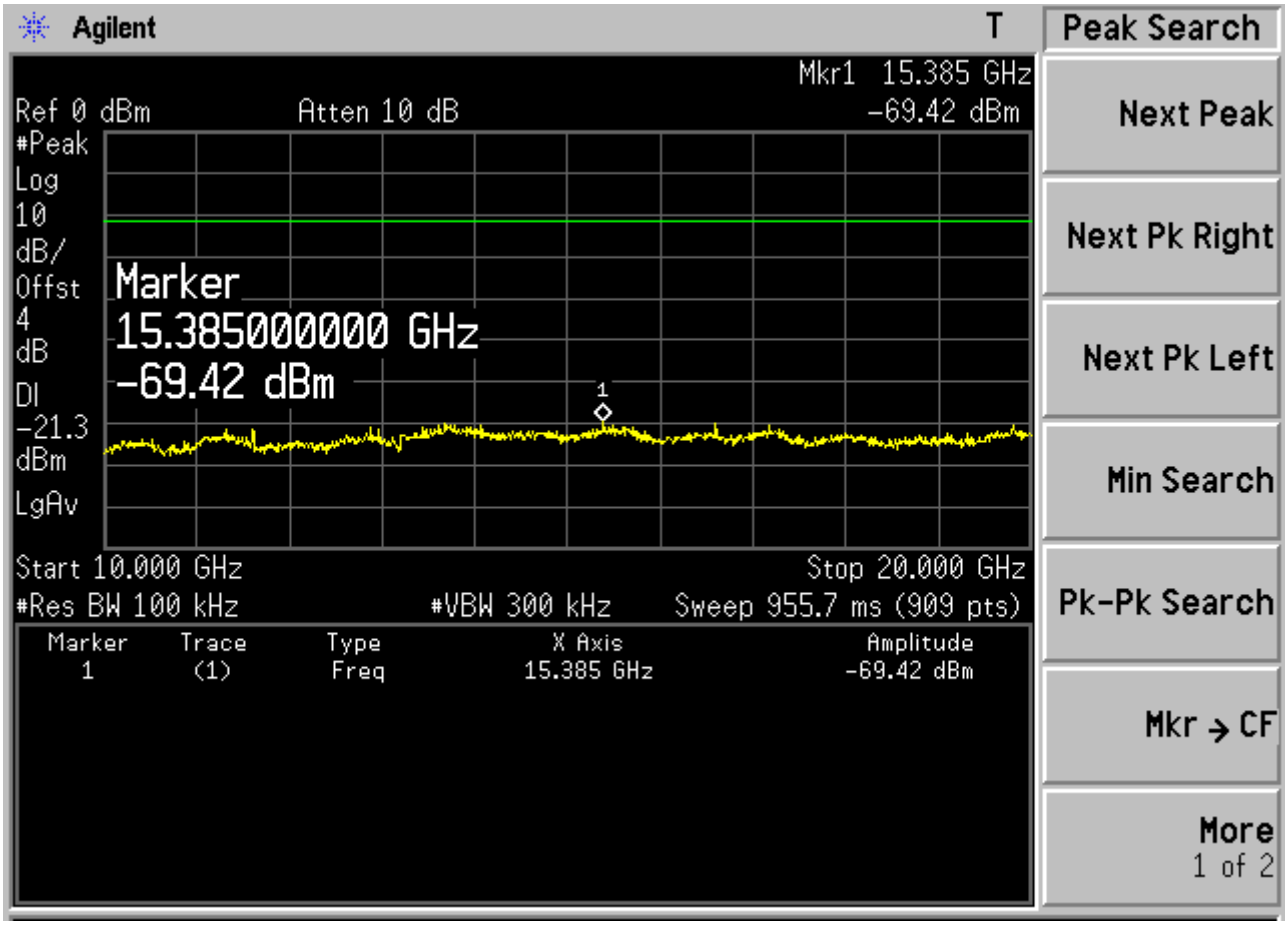

Agilent
T
Peak Search
Mkr1 37.687 GHz
Ref 0 dBm
Atten 10 dB
-57.32 dBm
Next Peak
#Peak
Log
10
dB/
Offst
4
dB
Next Pk Right
Marker
37.687000000 GHz
-57.32 dBm
Next Pk Left
Dl
-22.7
dBm
LgAv
Min Search
Start 30.000 GHz
Stop 40.000 GHz
Pk-Pk Search
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 37.687 GHz -57.32 dBm
Mkr → CF
More
1 of 2

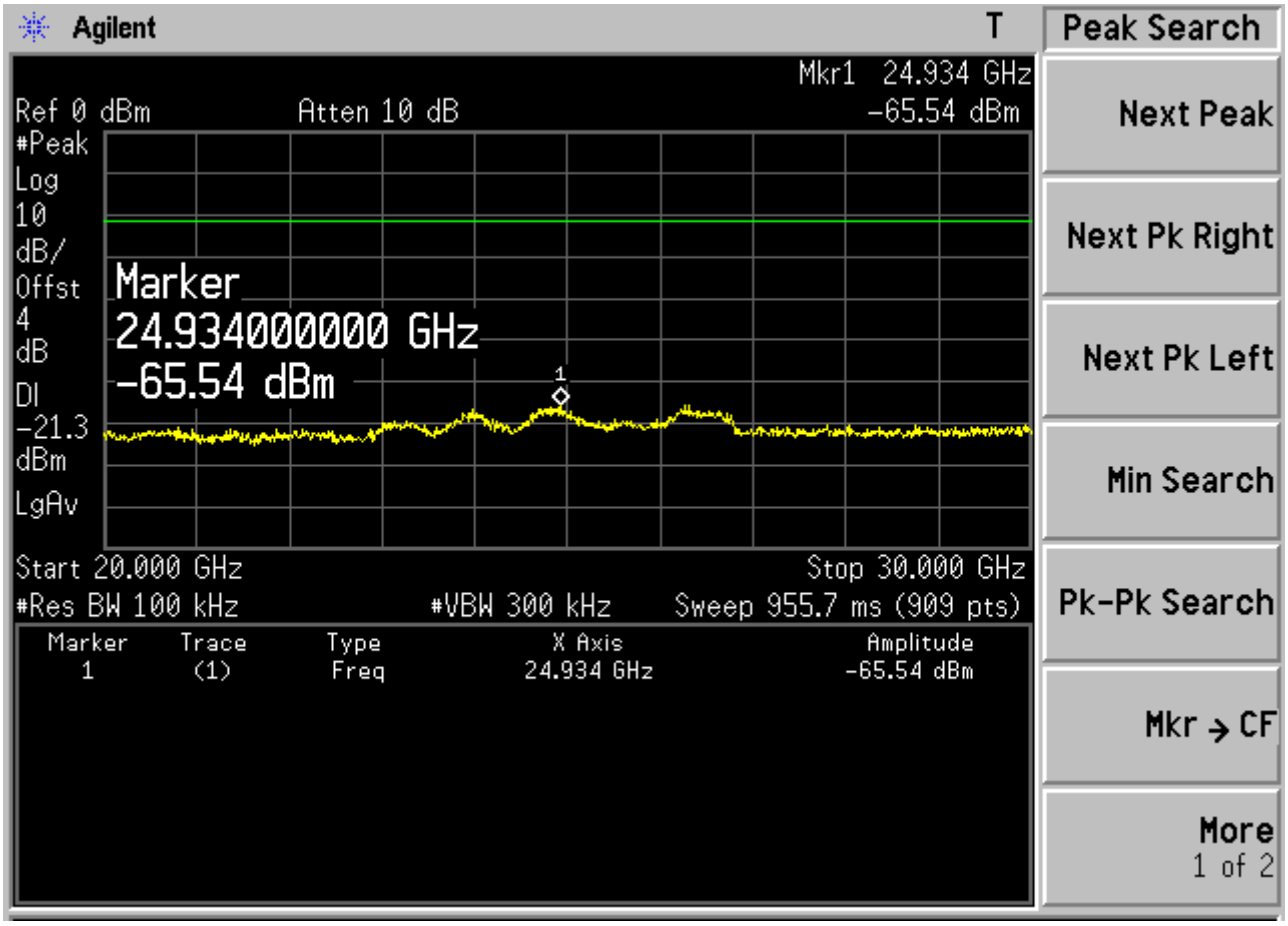
802.11a Ch 161 (5805 MHz)

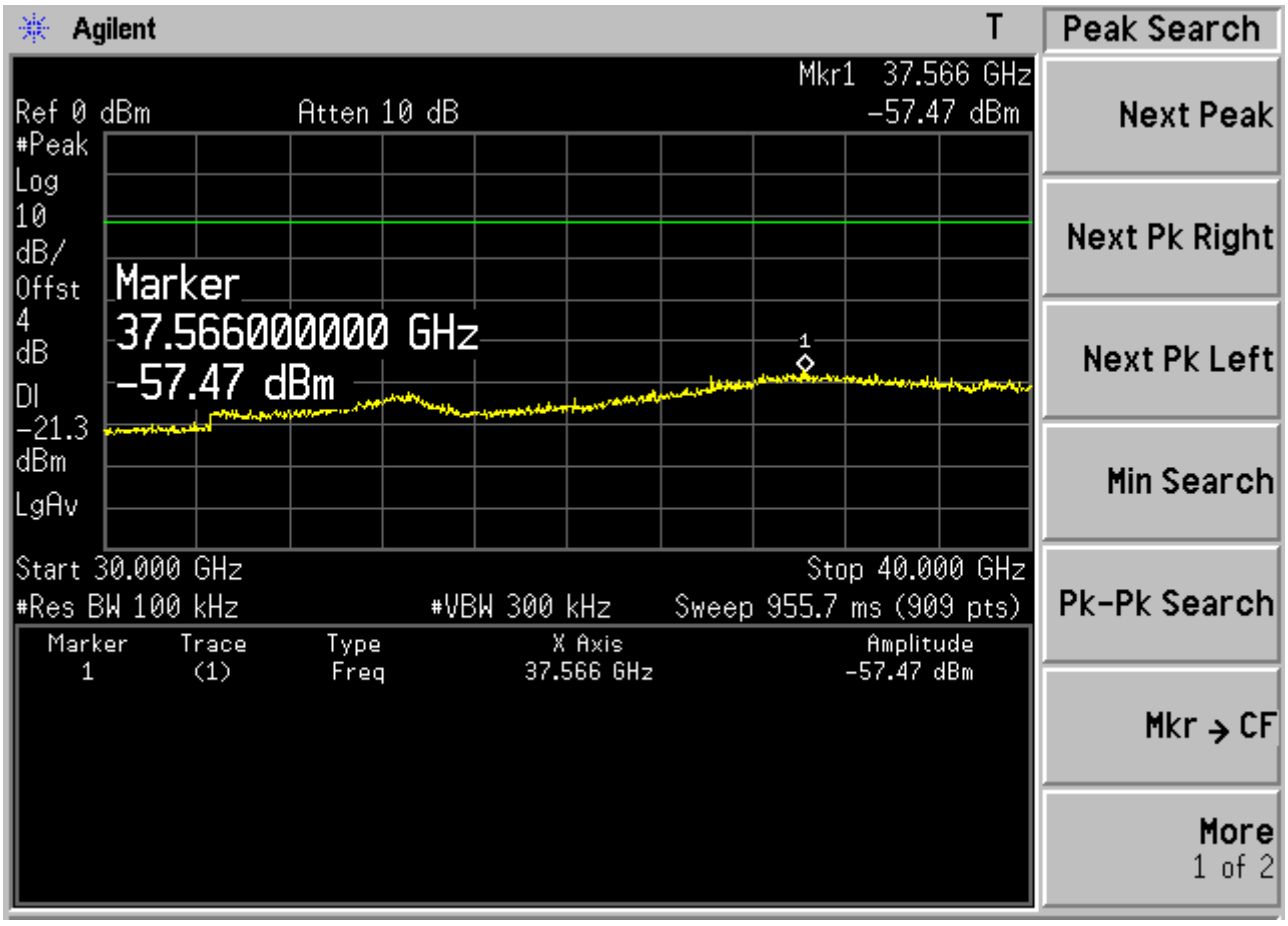




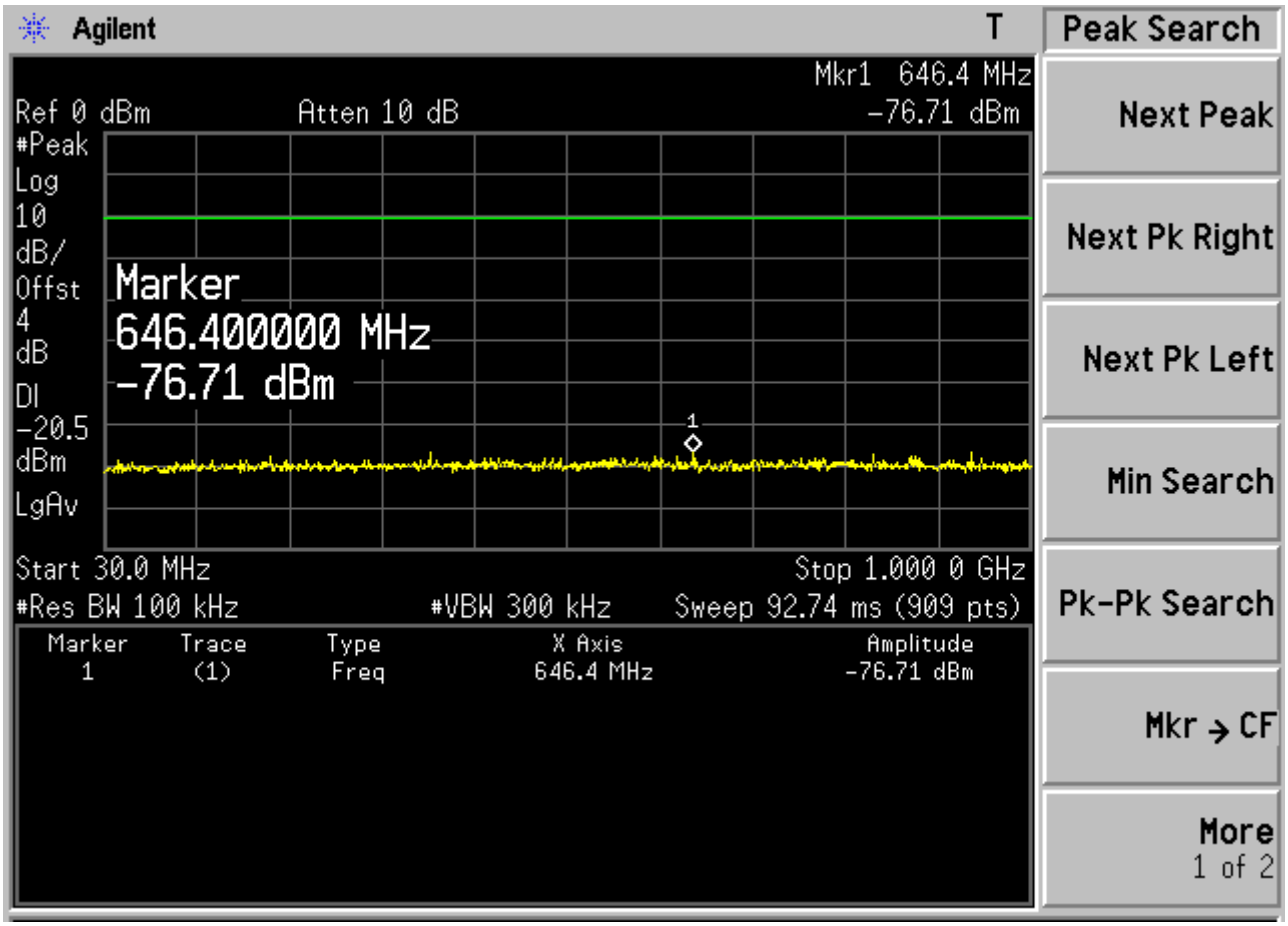

Agilent
T
Peak Search
Mkr3 5.958 GHz
Ref 10 dBm
Atten 20 dB
-44.83 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-21.3
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Center 7.500 GHz
Span 5 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 5.804 GHz -1.32 dBm
2 (1) Freq 5.644 GHz -48.88 dBm
3 (1) Freq 5.958 GHz -44.83 dBm

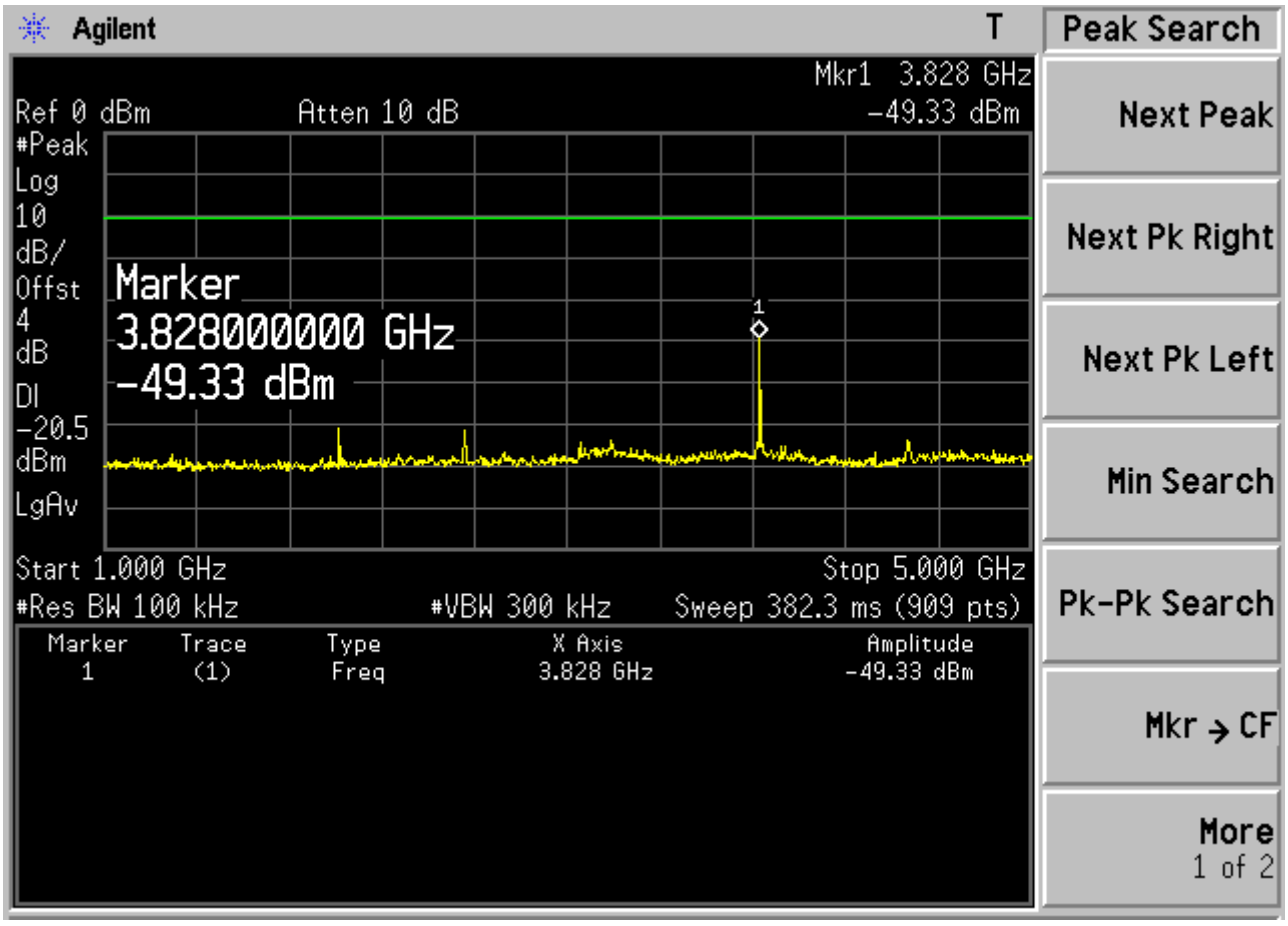

Agilent
T
Peak Search
Mkr1 15.385 GHz
Ref 0 dBm
Atten 10 dB
-69.42 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-21.3
dBm
LgAv
Marker
15.385000000 GHz
-69.42 dBm
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.000 GHz
Stop 20.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 15.385 GHz -69.42 dBm

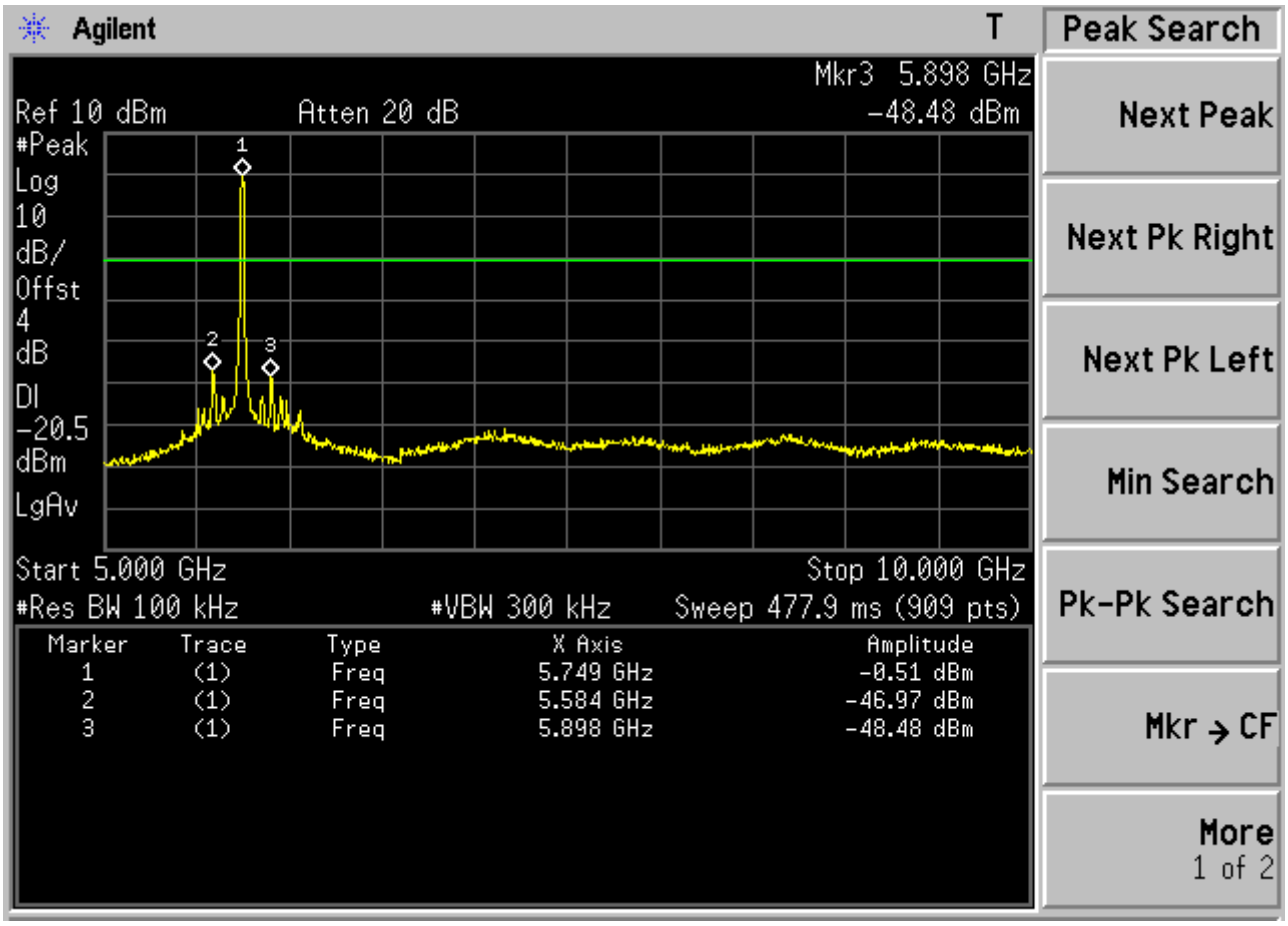

Agilent
T
Peak Search
Mkr1 24.934 GHz
Ref 0 dBm
Atten 10 dB
-65.54 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-21.3
dBm
LgAv
Marker
24.934000000 GHz
-65.54 dBm
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 20.000 GHz
Stop 30.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.934 GHz -65.54 dBm

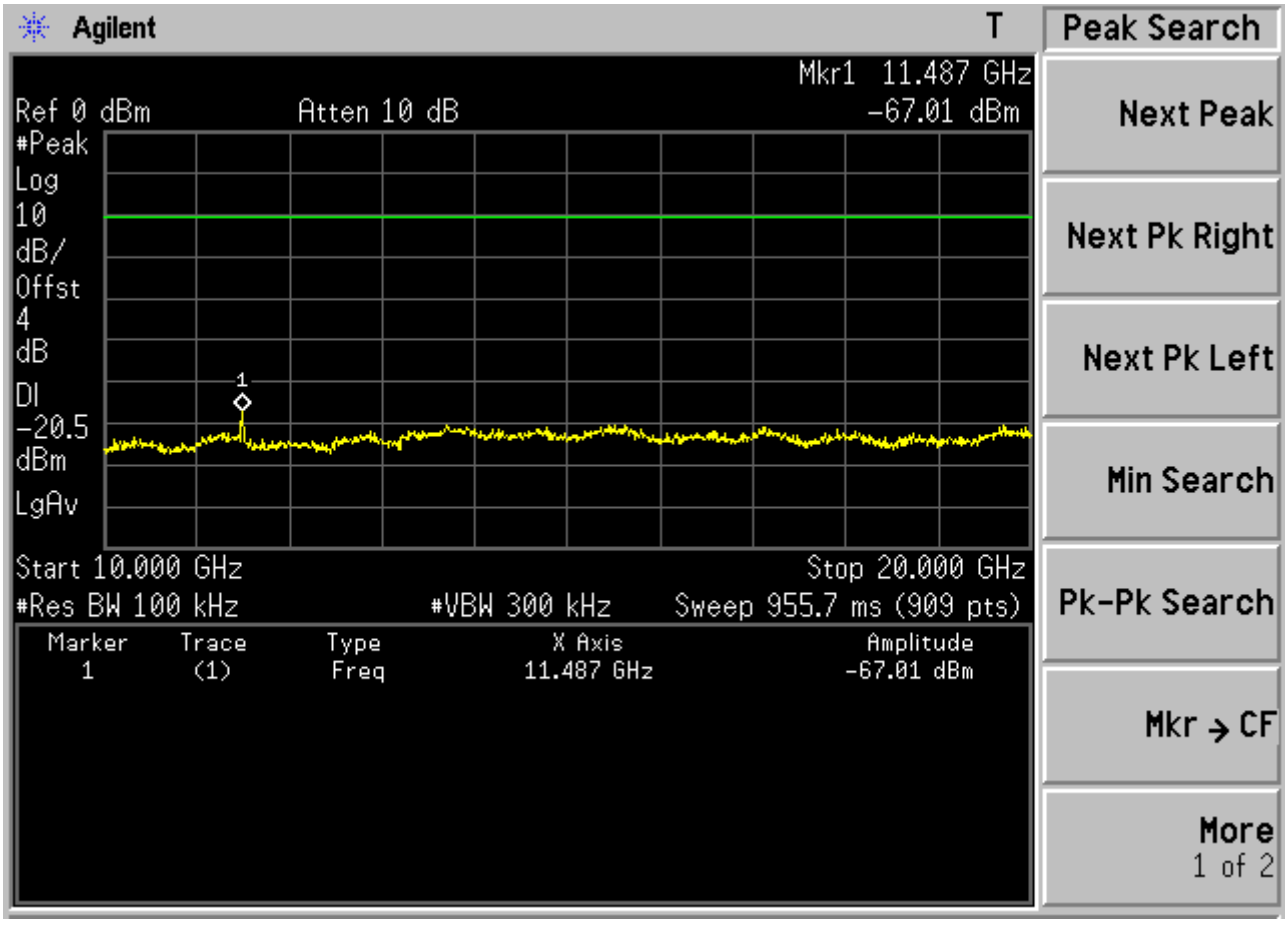

Agilent
T
Peak Search
Mkr1 37.566 GHz
Ref 0 dBm
Atten 10 dB
-57.47 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-21.3
dBm
LgAv
Marker
37.566000000 GHz
-57.47 dBm
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.000 GHz
Stop 40.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 37.566 GHz -57.47 dBm

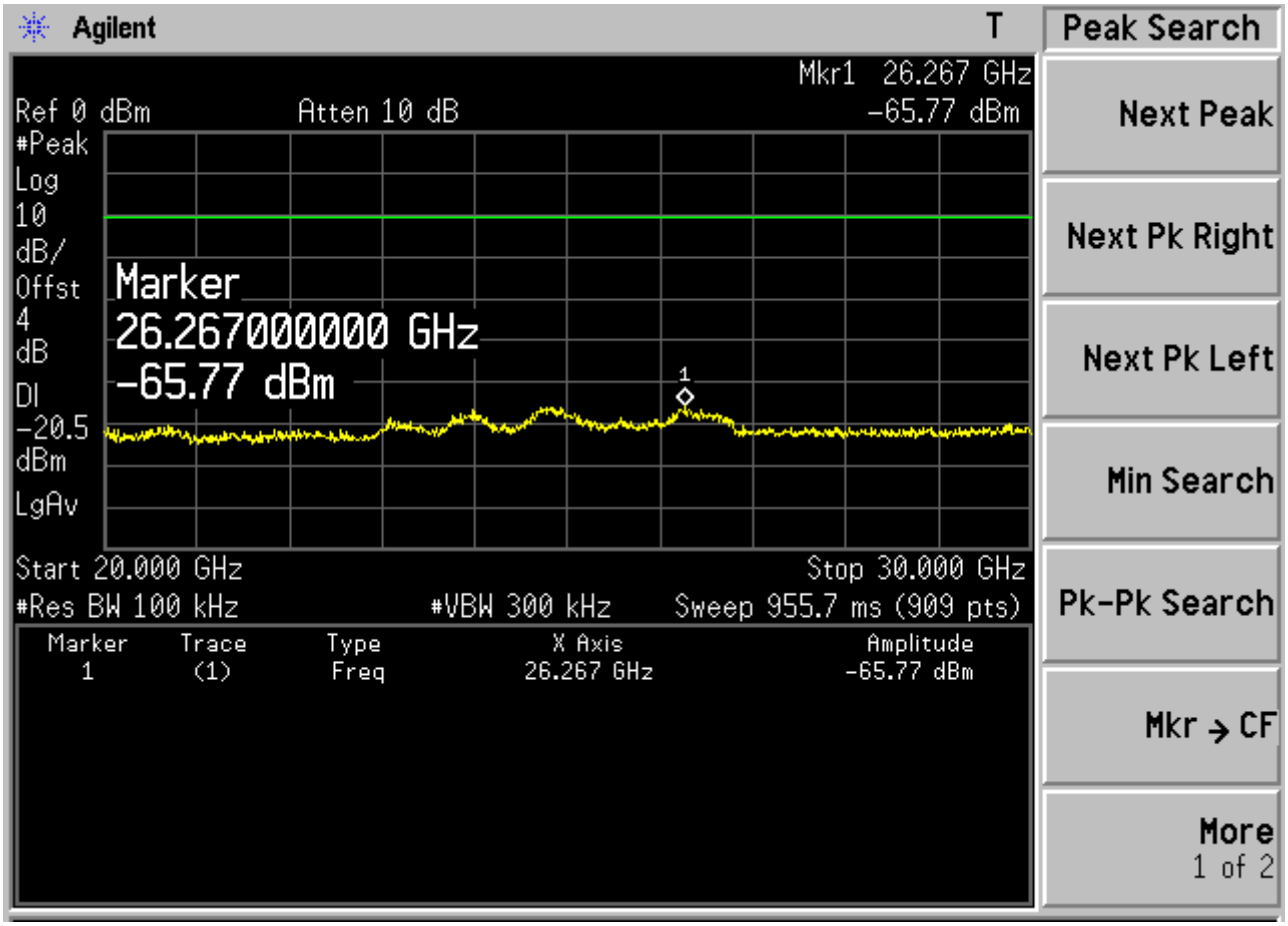
802.11n Ch 149 (5745 MHz)

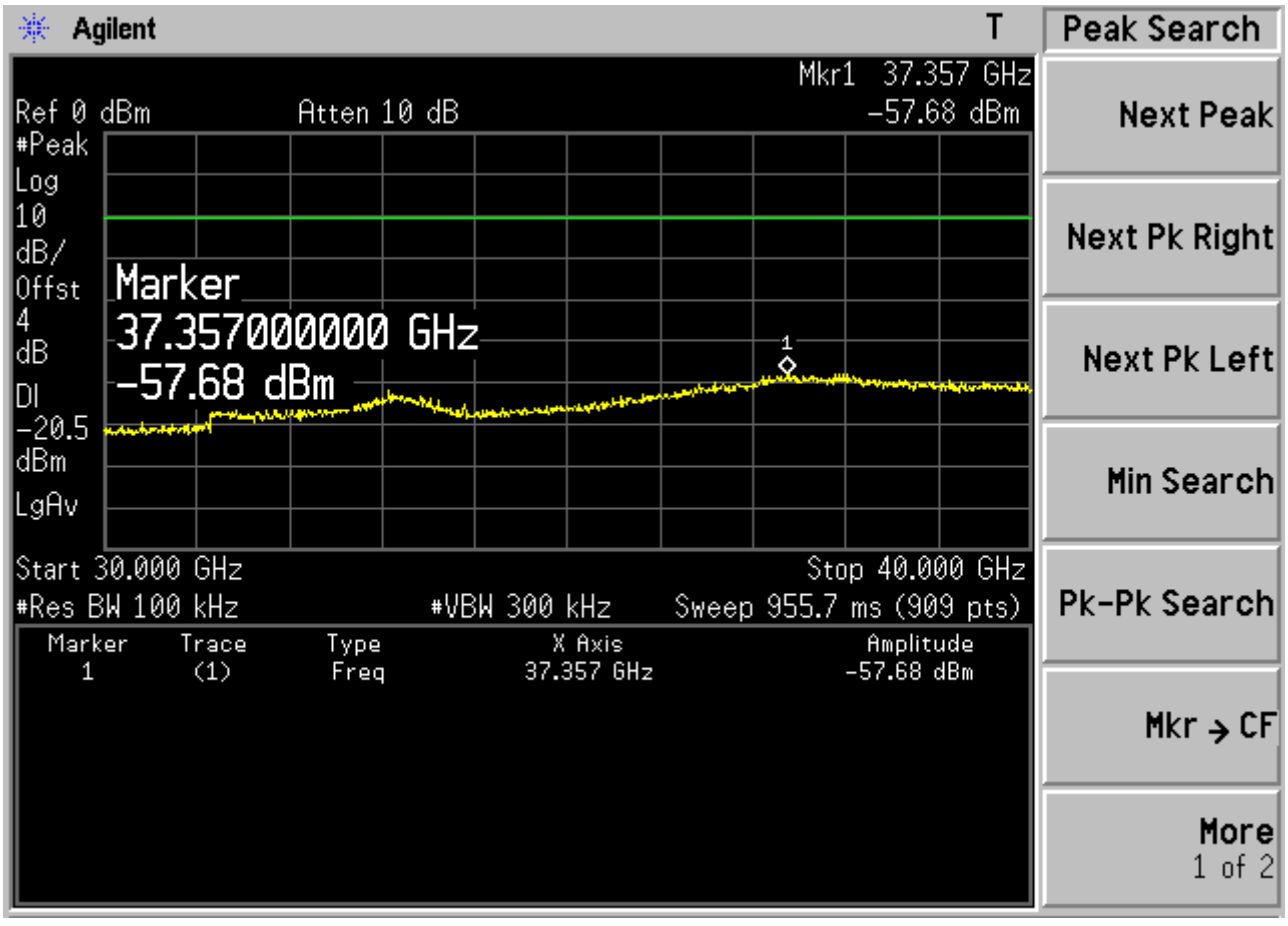




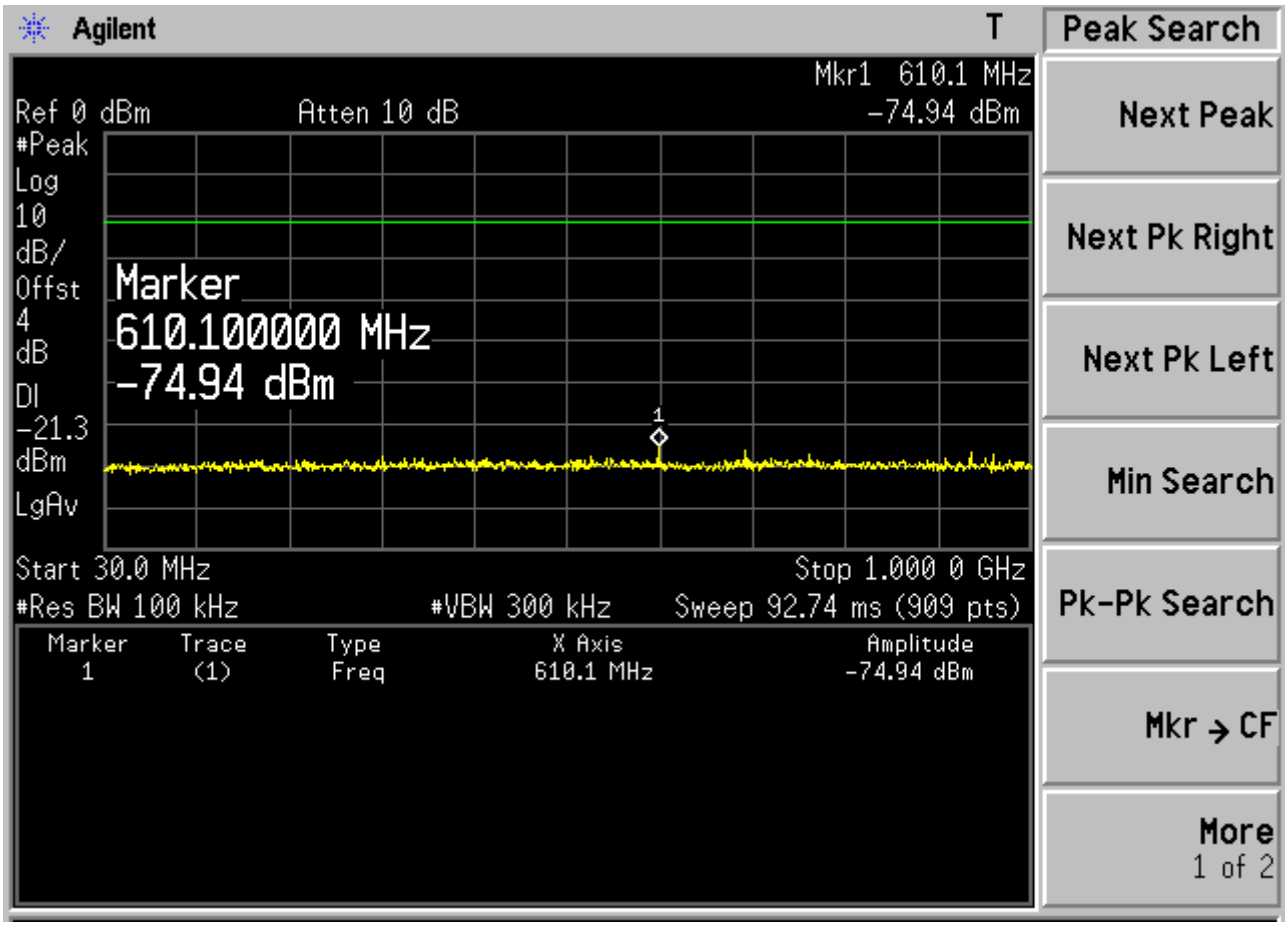

Agilent
T
Peak Search
Mkr3 5.898 GHz
Ref 10 dBm
Atten 20 dB
-48.48 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-20.5
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 5.000 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 5.749 GHz -0.51 dBm
2 (1) Freq 5.584 GHz -46.97 dBm
3 (1) Freq 5.898 GHz -48.48 dBm

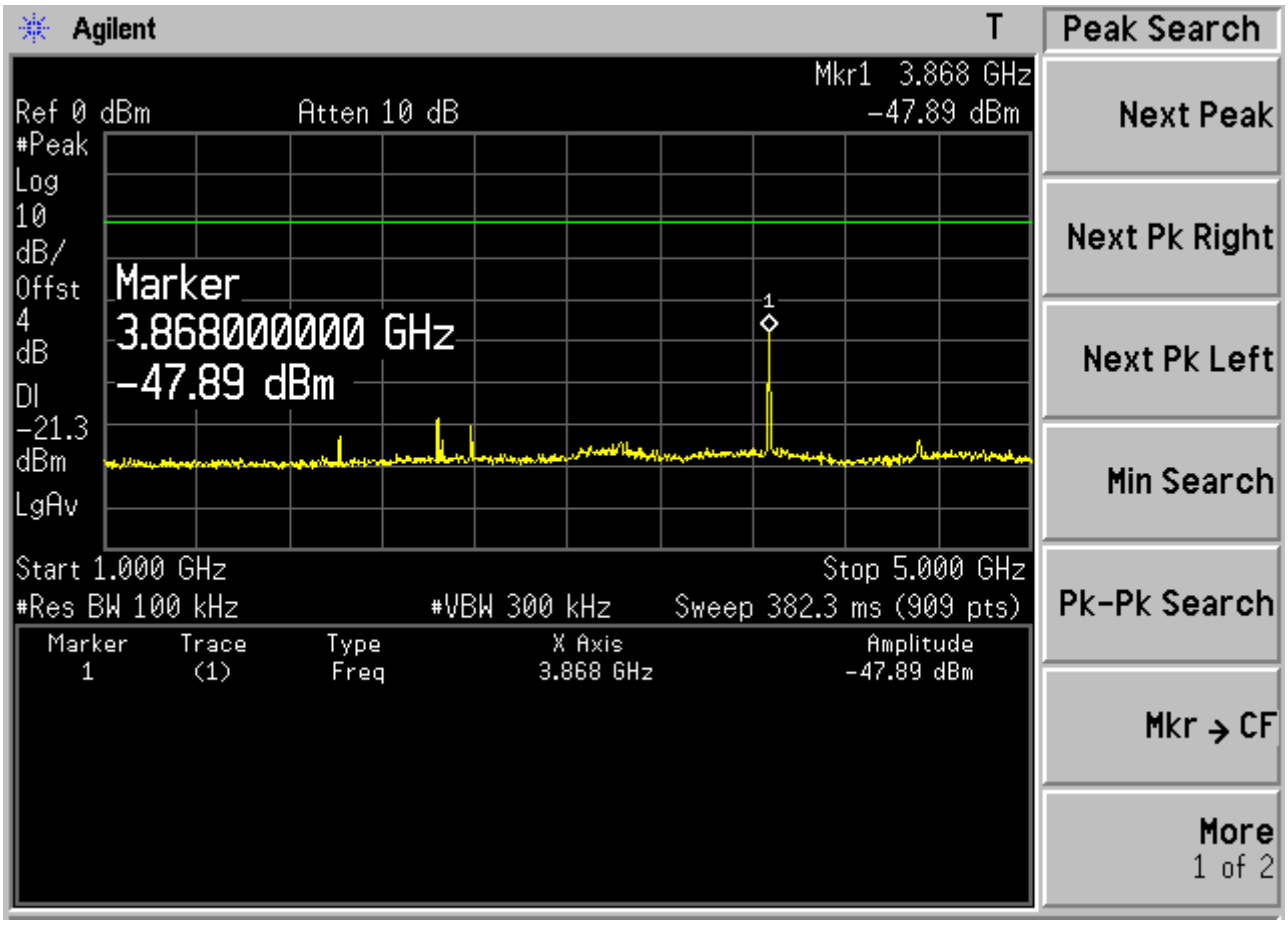

Agilent
T
Peak Search
Mkr1 11.487 GHz
Ref 0 dBm
Atten 10 dB
-67.01 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-20.5
dBm
LgAv
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 10.000 GHz
Stop 20.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 11.487 GHz -67.01 dBm

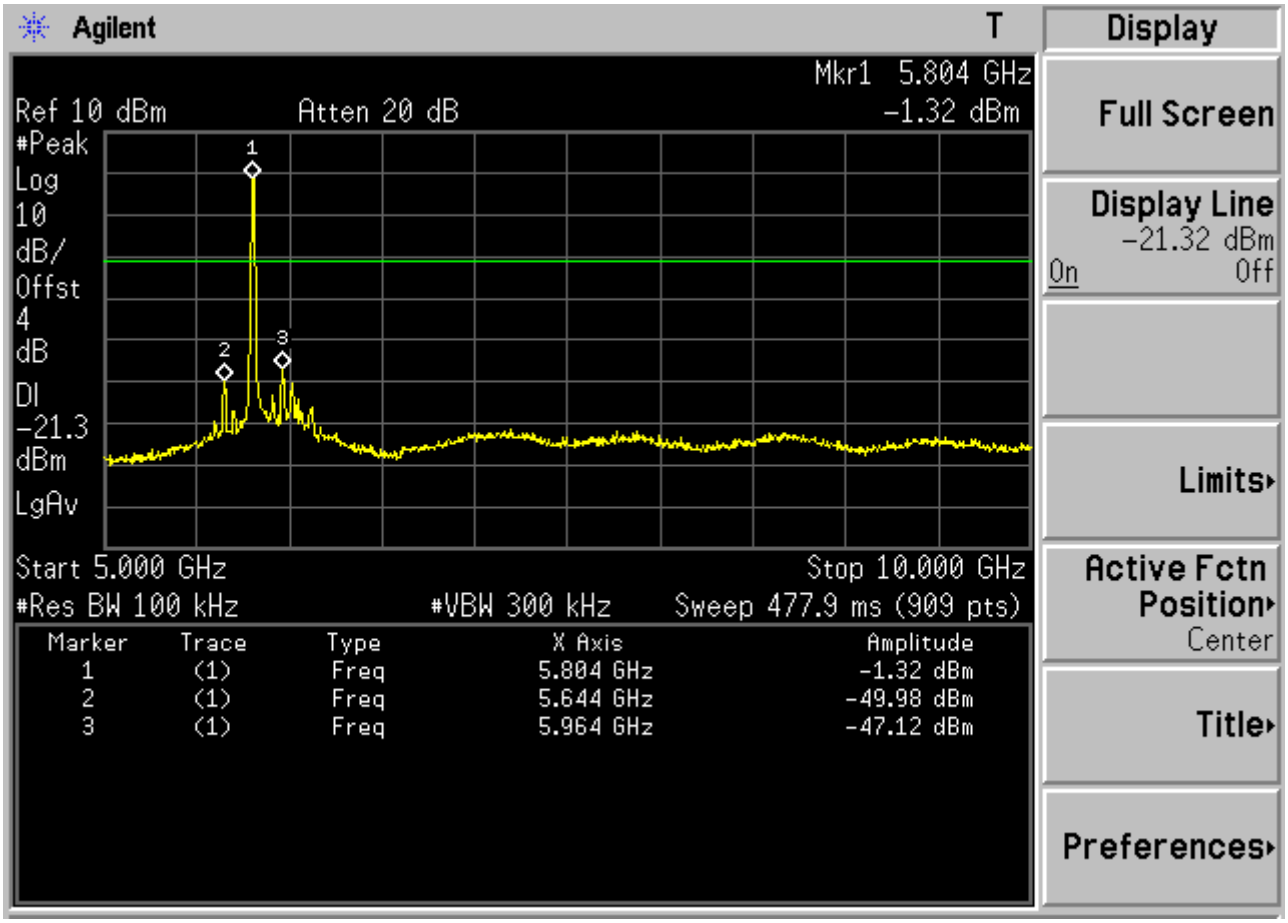

Agilent
T
Peak Search
Mkr1 26.267 GHz
Ref 0 dBm
Atten 10 dB
-65.77 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-20.5
dBm
LgAv
Marker
26.267000000 GHz
-65.77 dBm
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 20.000 GHz
Stop 30.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 26.267 GHz -65.77 dBm

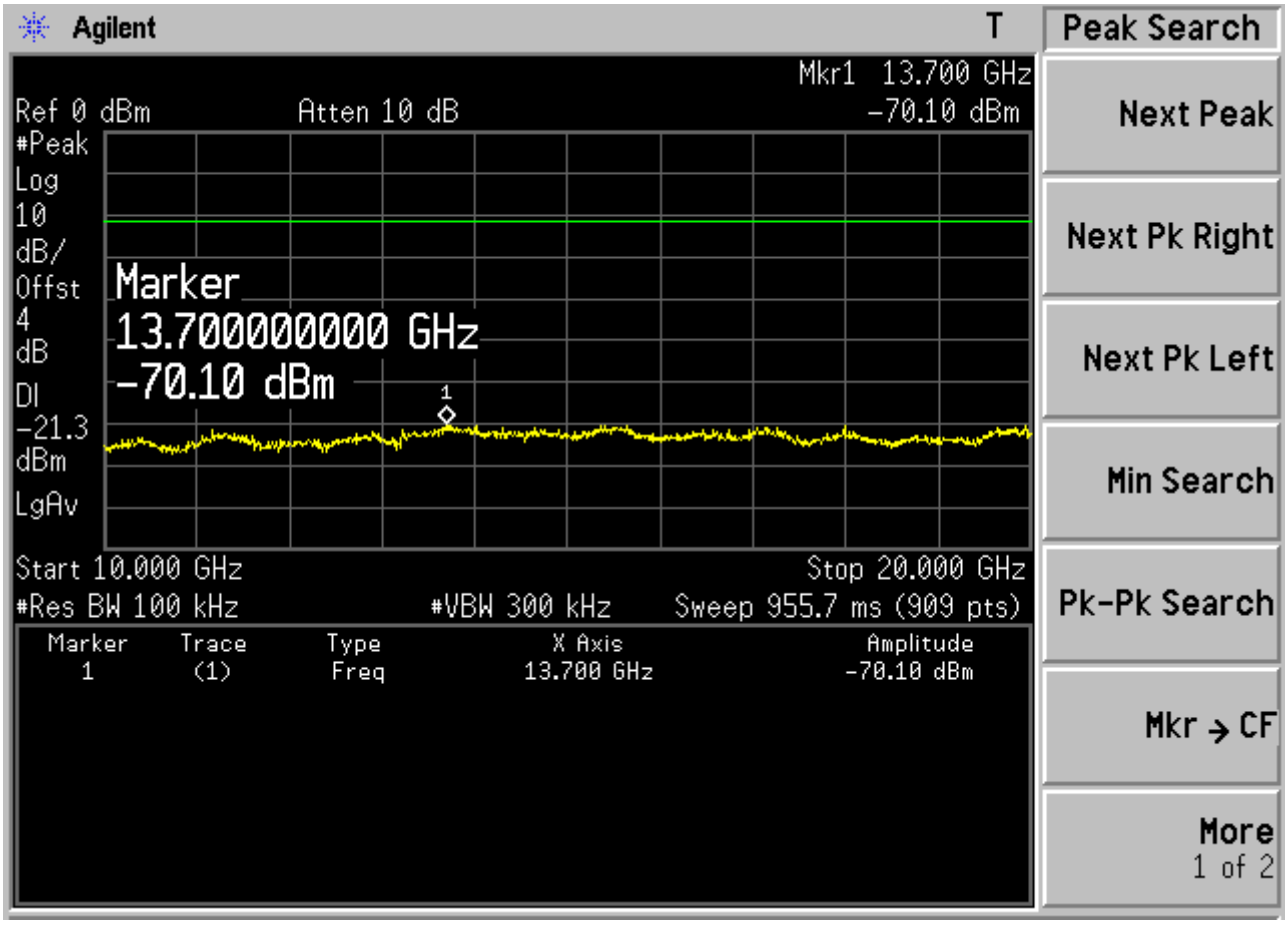

Agilent
T
Peak Search
Mkr1 37.357 GHz
Ref 0 dBm
Atten 10 dB
-57.68 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-20.5
dBm
LgAv
Marker
37.357000000 GHz
-57.68 dBm
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.000 GHz
Stop 40.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 37.357 GHz -57.68 dBm

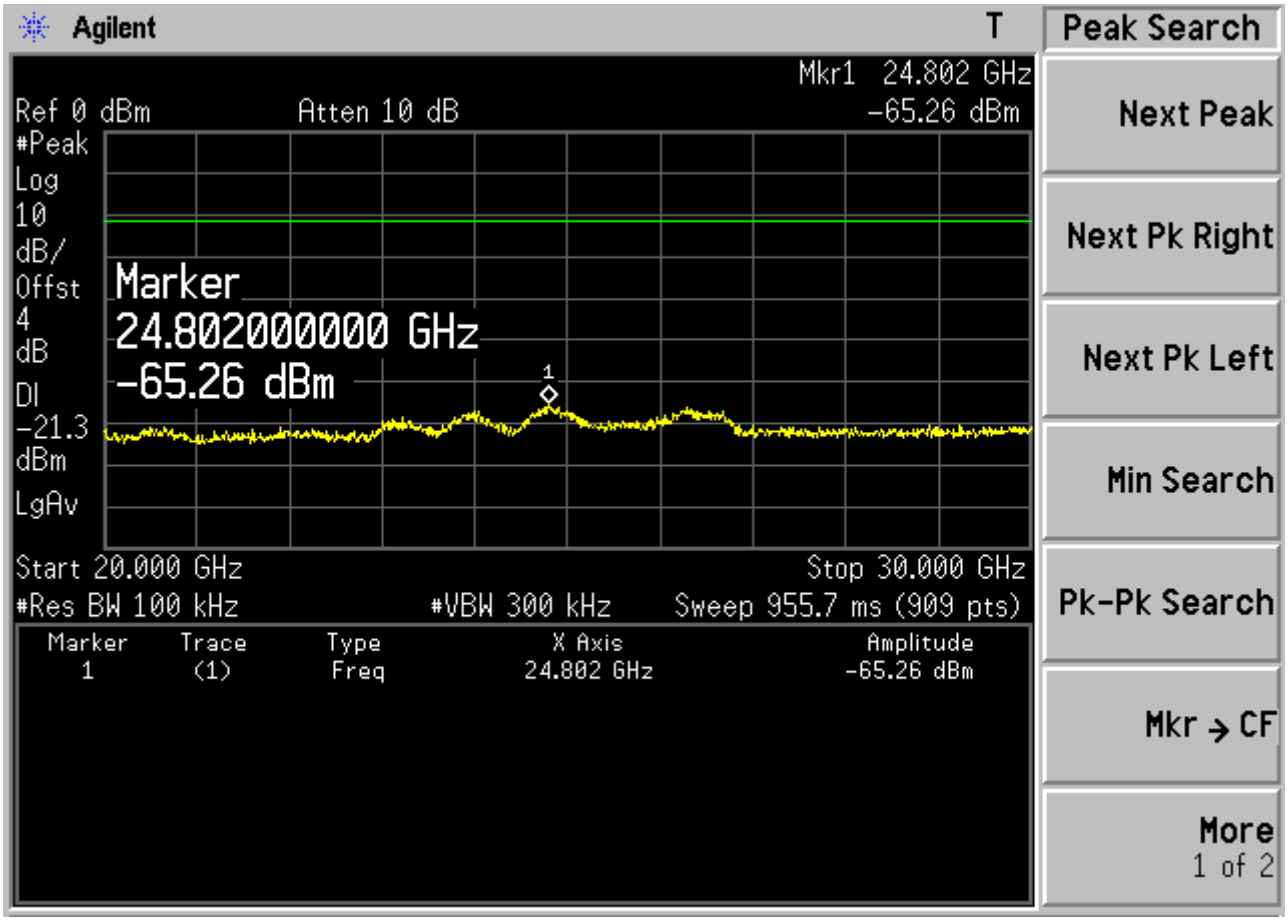
802.11n Ch 161 (5805 MHz)

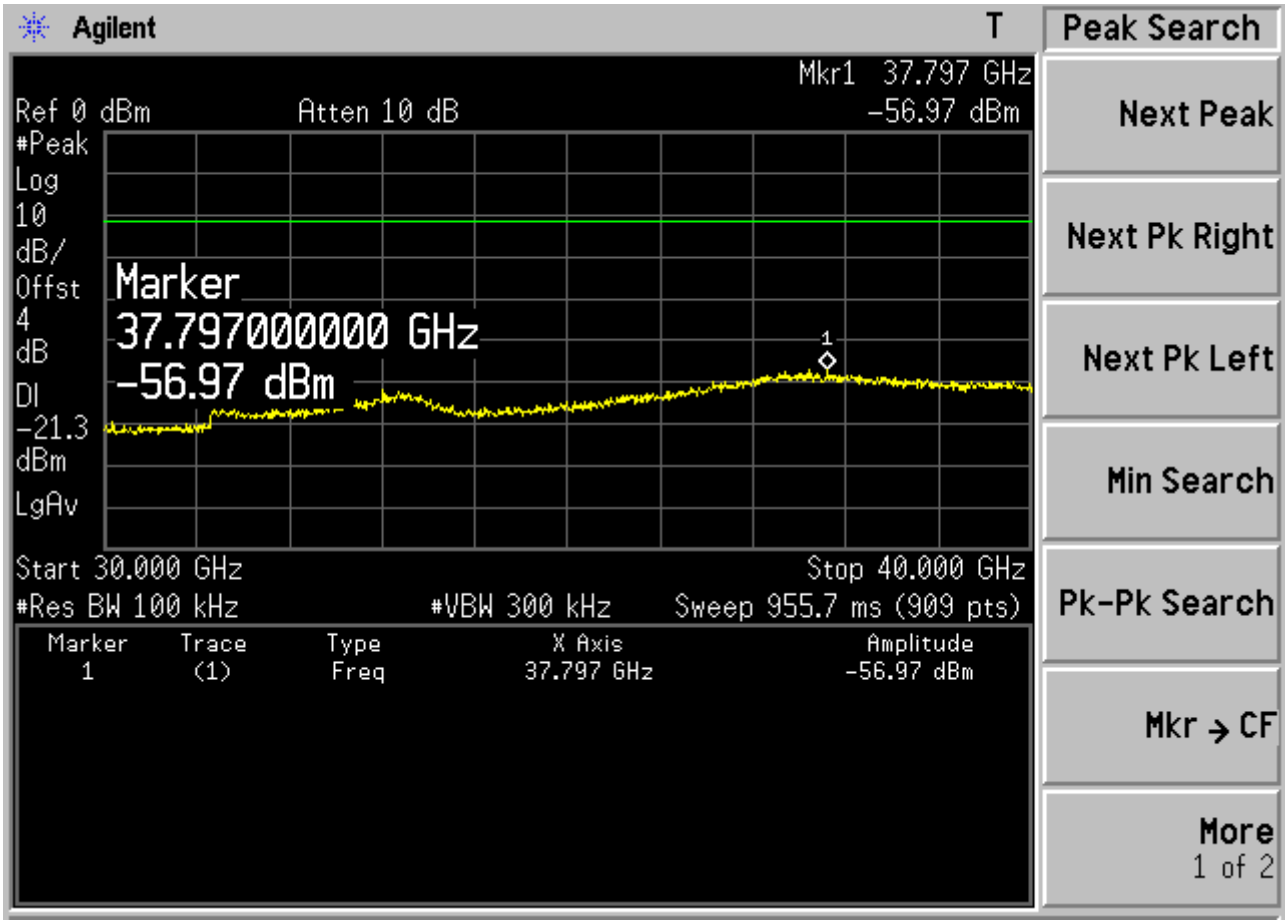





Agilent
T
Mkr1 5.804 GHz
Ref 10 dBm
Atten 20 dB
-1.32 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-21.3
dBm
LgAv
Start 5.000 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 5.804 GHz -1.32 dBm
2 (1) Freq 5.644 GHz -49.98 dBm
3 (1) Freq 5.964 GHz -47.12 dBm
Display
Full Screen
Display Line
-21.32 dBm
On
Off
Limits
Active Fctn
Position
Center
Title
Preferences


Agilent
T
Mkr1 13.700 GHz
Ref 0 dBm
Atten 10 dB
-70.10 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-21.3
dBm
LgAv
Marker
13.700000000 GHz
-70.10 dBm
Start 10.000 GHz
Stop 20.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 13.700 GHz -70.10 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2


Agilent
T
Peak Search
Mkr1 24.802 GHz
Ref 0 dBm
Atten 10 dB
-65.26 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-21.3
dBm
LgAv
Marker
24.802000000 GHz
-65.26 dBm
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 20.000 GHz
Stop 30.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.802 GHz -65.26 dBm


Agilent
T
Peak Search
Mkr1 37.797 GHz
Ref 0 dBm
Atten 10 dB
-56.97 dBm
#Peak
Log
10
dB/
Offst
4
dB
Dl
-21.3
dBm
LgAv
Marker
37.797000000 GHz
-56.97 dBm
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.000 GHz
Stop 40.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (909 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 37.797 GHz -56.97 dBm

8 BAND EDGES MEASUREMENT

8.1 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.	Test Receiver	R&S	ESCI	101303	Sep 11, 2012	Sep 11, 2013
2.	Spectrum Analyzer	Agilent	E7405A	MY45106600	Mar 22, 2012	Mar 22, 2013

8.2 Block Diagram of Test Setup

The same as section.5.2.

8.3 Specification Limits (§15.247(d))

In any 100 kHz 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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

8.4 Operating Condition of EUT

The test program “adb shell” was used to enable the EUT to transmit data at different channel frequency individually.

8.5 Test Procedure

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

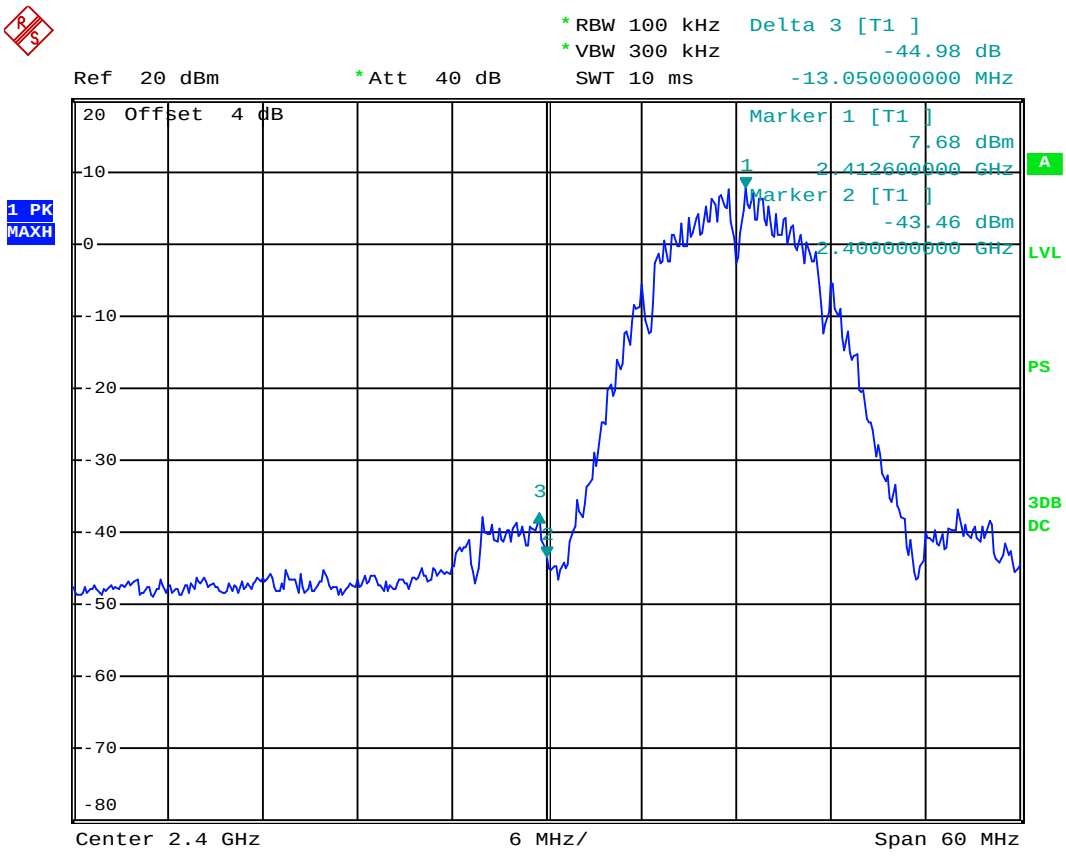
8.6 Test Results

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

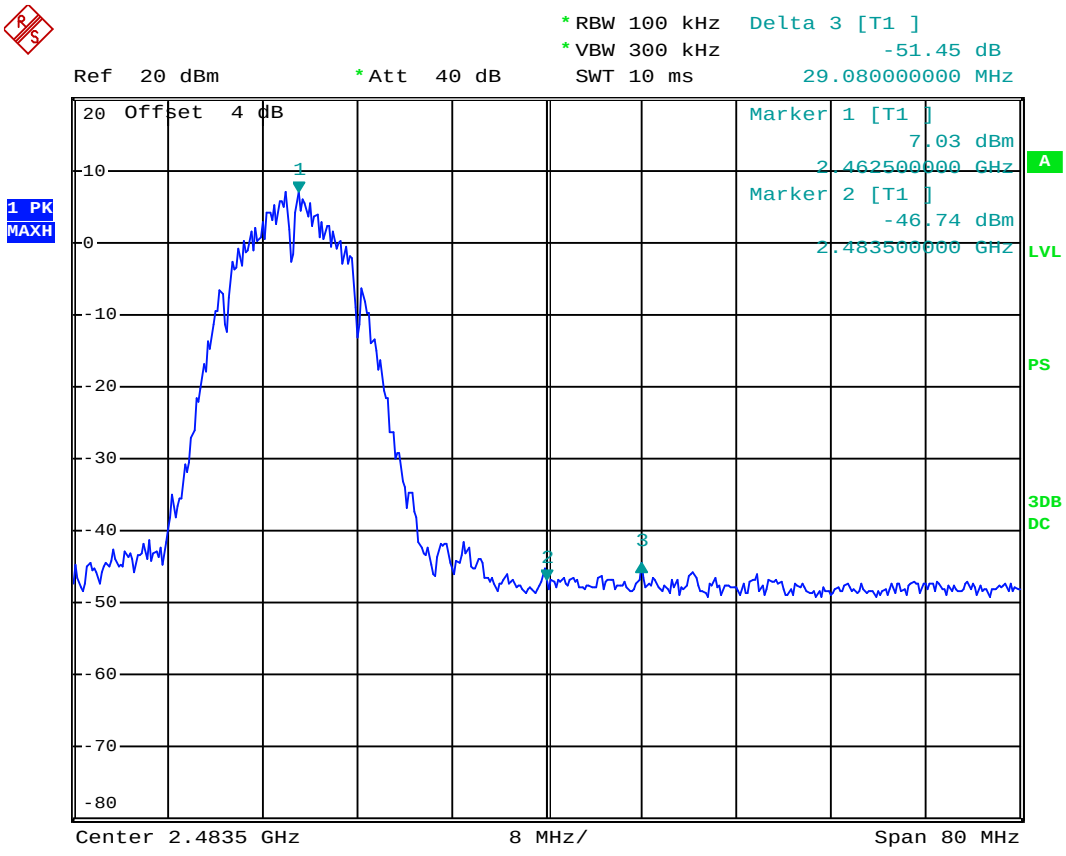
(Test Date: Mar. 01 - 15, 2013 Temperature: 24℃ Humidity: 46 %)

Modulation	Location	Channel	Frequency	**Delta Marker**	Result
802.11b	Below Band Edge	01	2412 MHz	**44.98 dB**	More than **20 dB** below the highest level of the desired power
	Upper Band Edge	11	2462 MHz	**51.45 dB**	
802.11g	Below Band Edge	01	2412 MHz	**38.06 dB**	
	Upper Band Edge	11	2462 MHz	**44.87 dB**	
802.11n HT20	Below Band Edge	01	2412 MHz	**37.03 dB**	
	Upper Band Edge	11	2462 MHz	**44.86 dB**	
802.11a	Below Band Edge	149	5745 MHz	**39.94 dB**	
	Upper Band Edge	161	5805 MHz	**52.35 dB**	
802.11n HT20	Below Band Edge	149	5745 MHz	**43.56 dB**	
	Upper Band Edge	161	5805 MHz	**53.03 dB**	

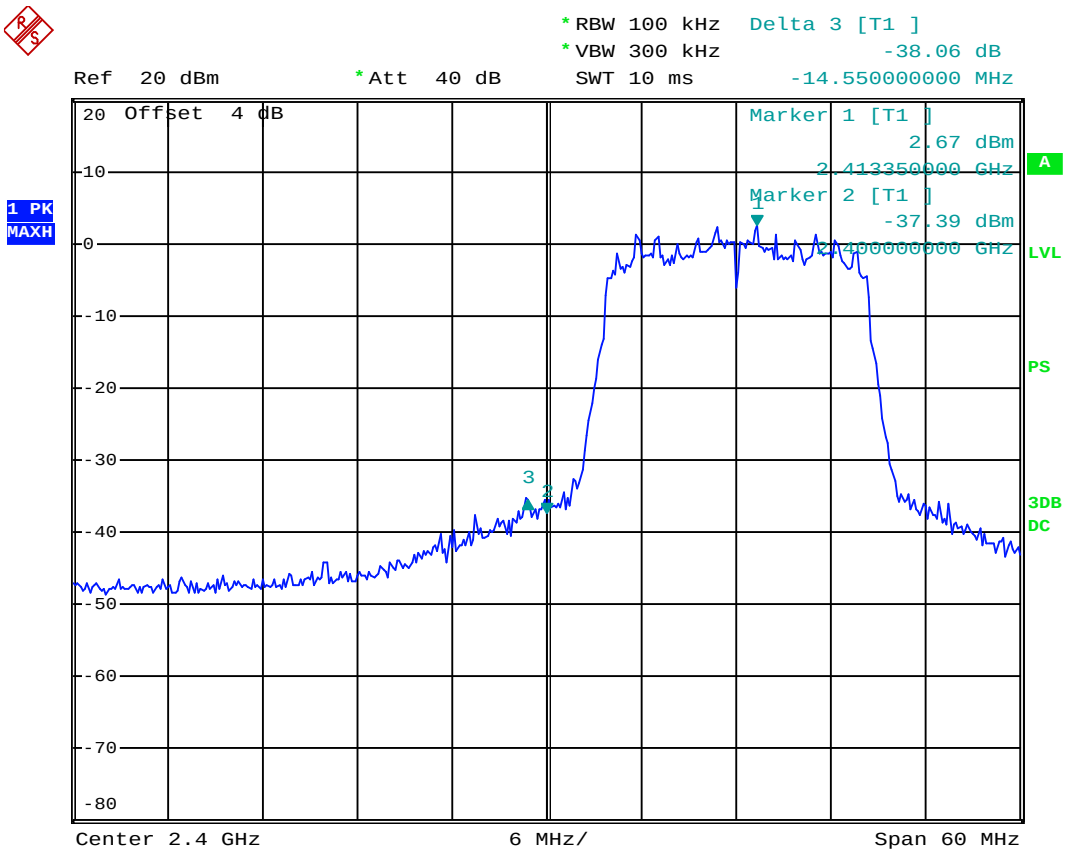
802.11b Ch01 2412MHz (Below Edge 2400 MHz)



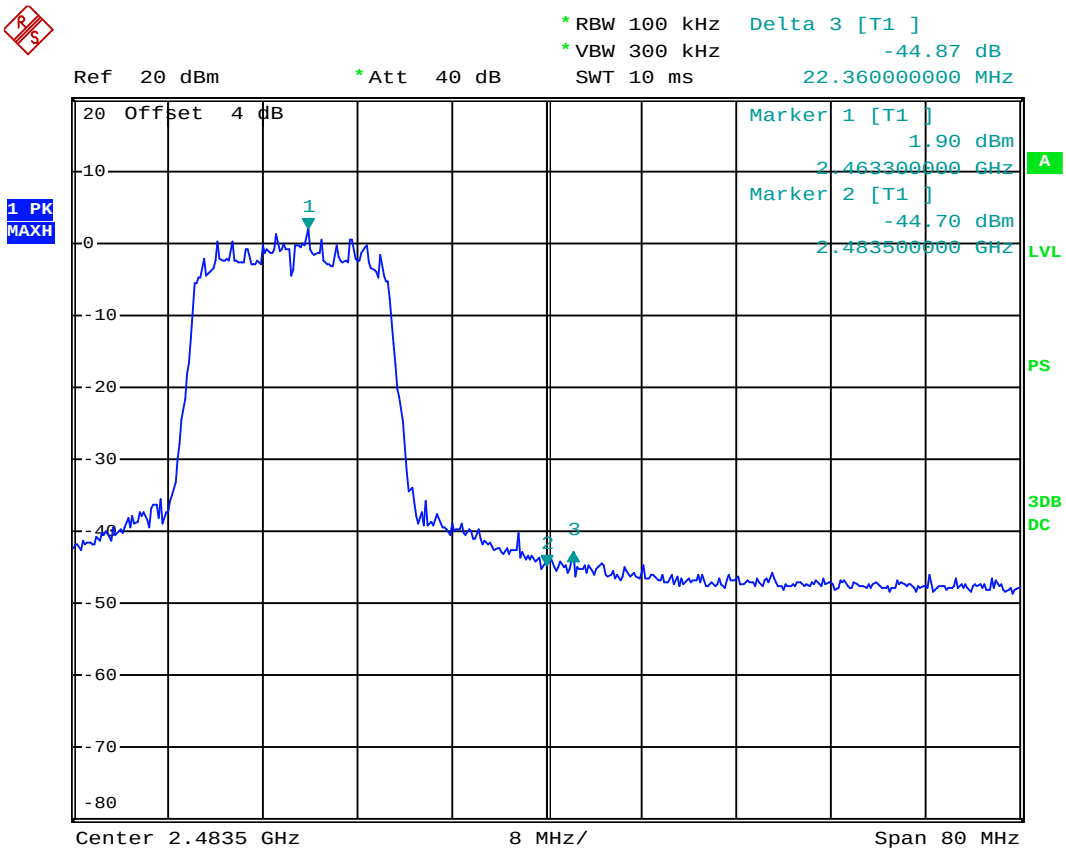
802.11b Ch11 2462MHz (Upper Edge 2483.5 MHz)



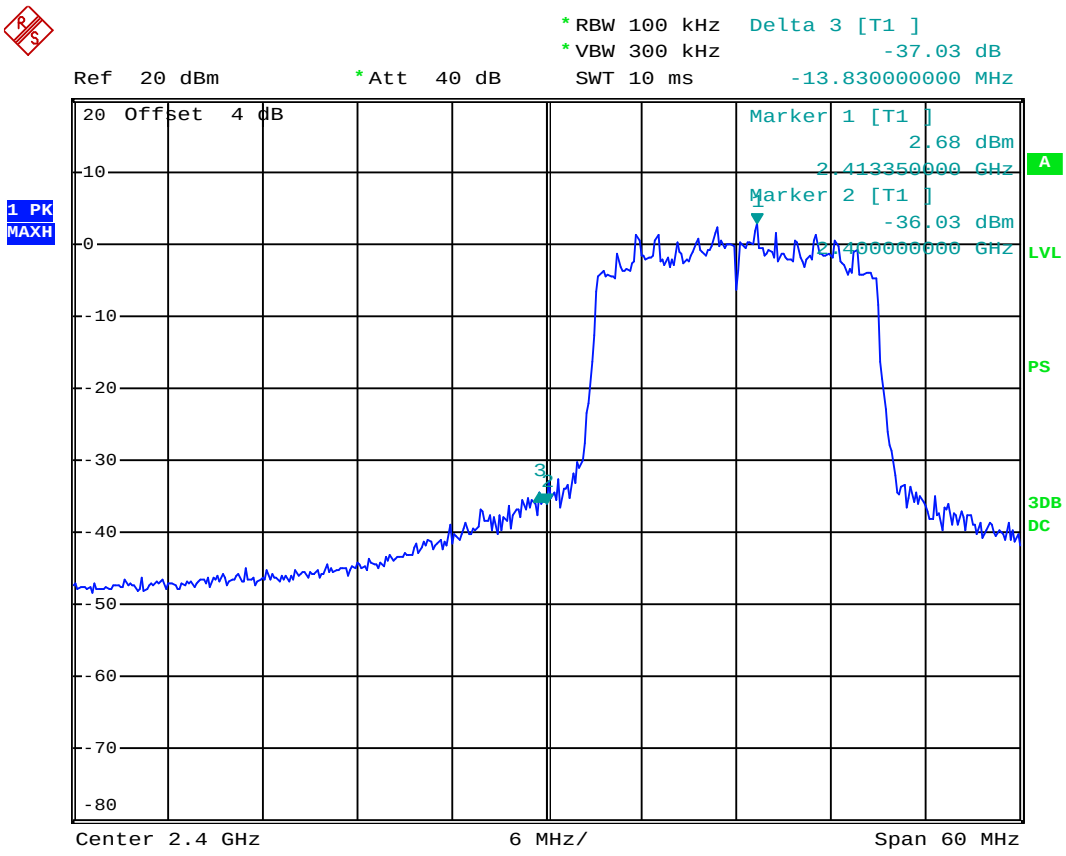
802.11g Ch01 2412MHz (Below Edge 2400 MHz)



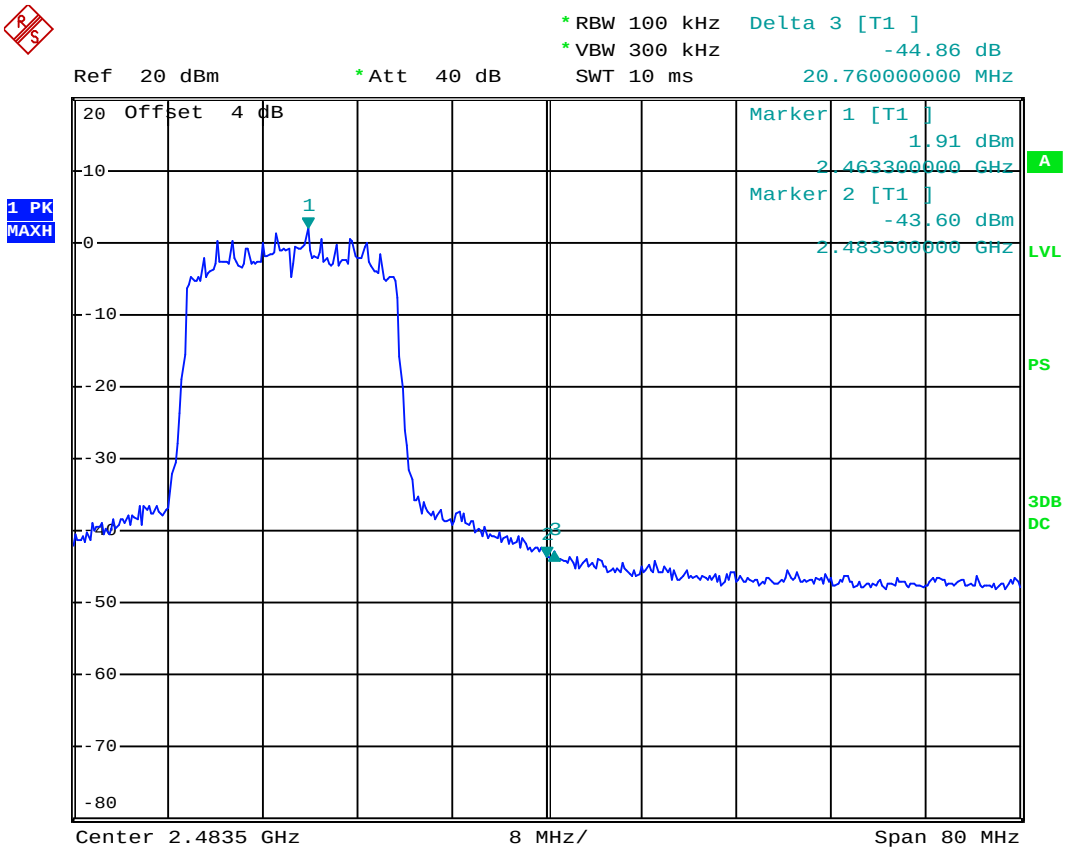
802.11g Ch11 2462MHz (Upper Edge 2483.5 MHz)



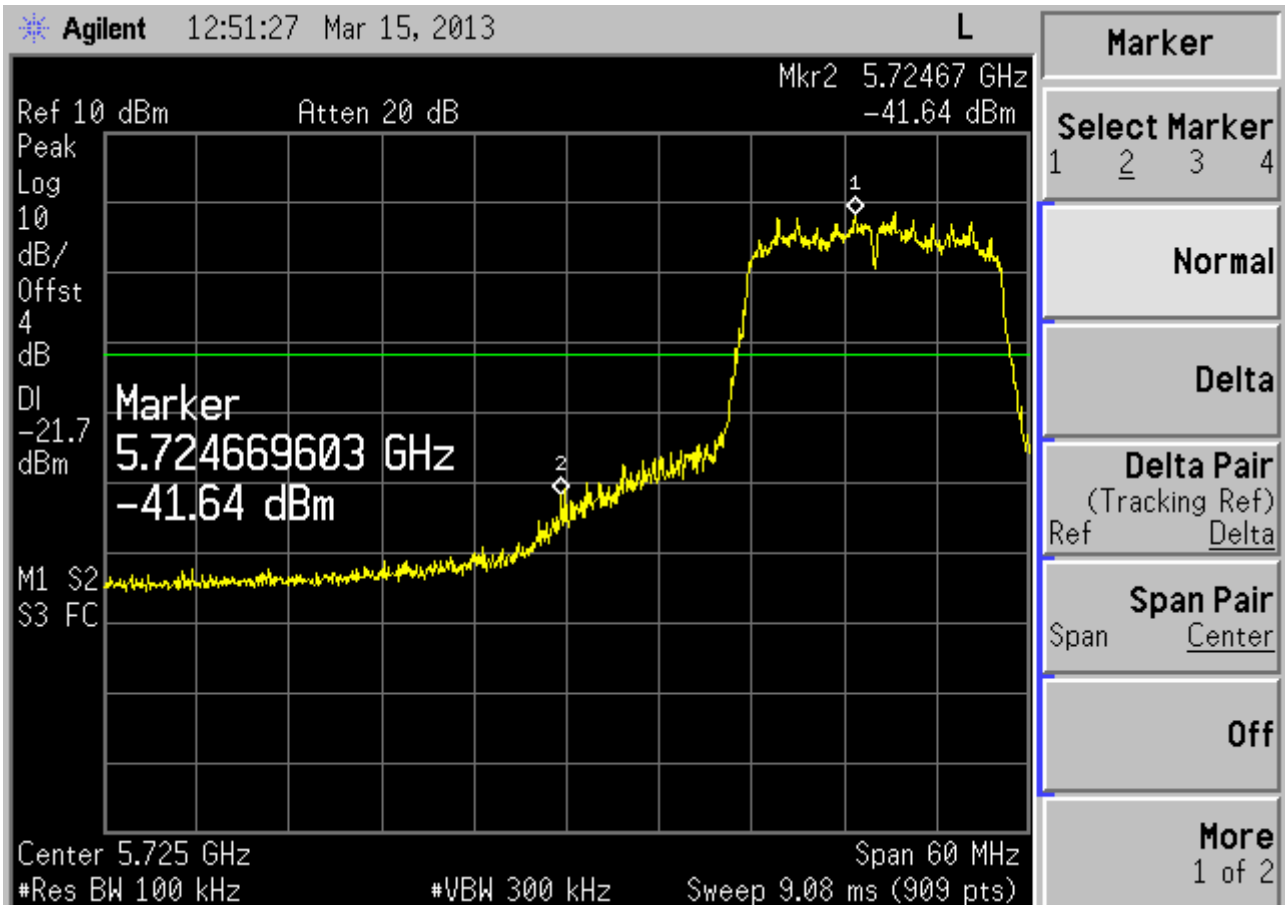
802.11n HT20 Ch01 2412MHz (Below Edge 2400 MHz)



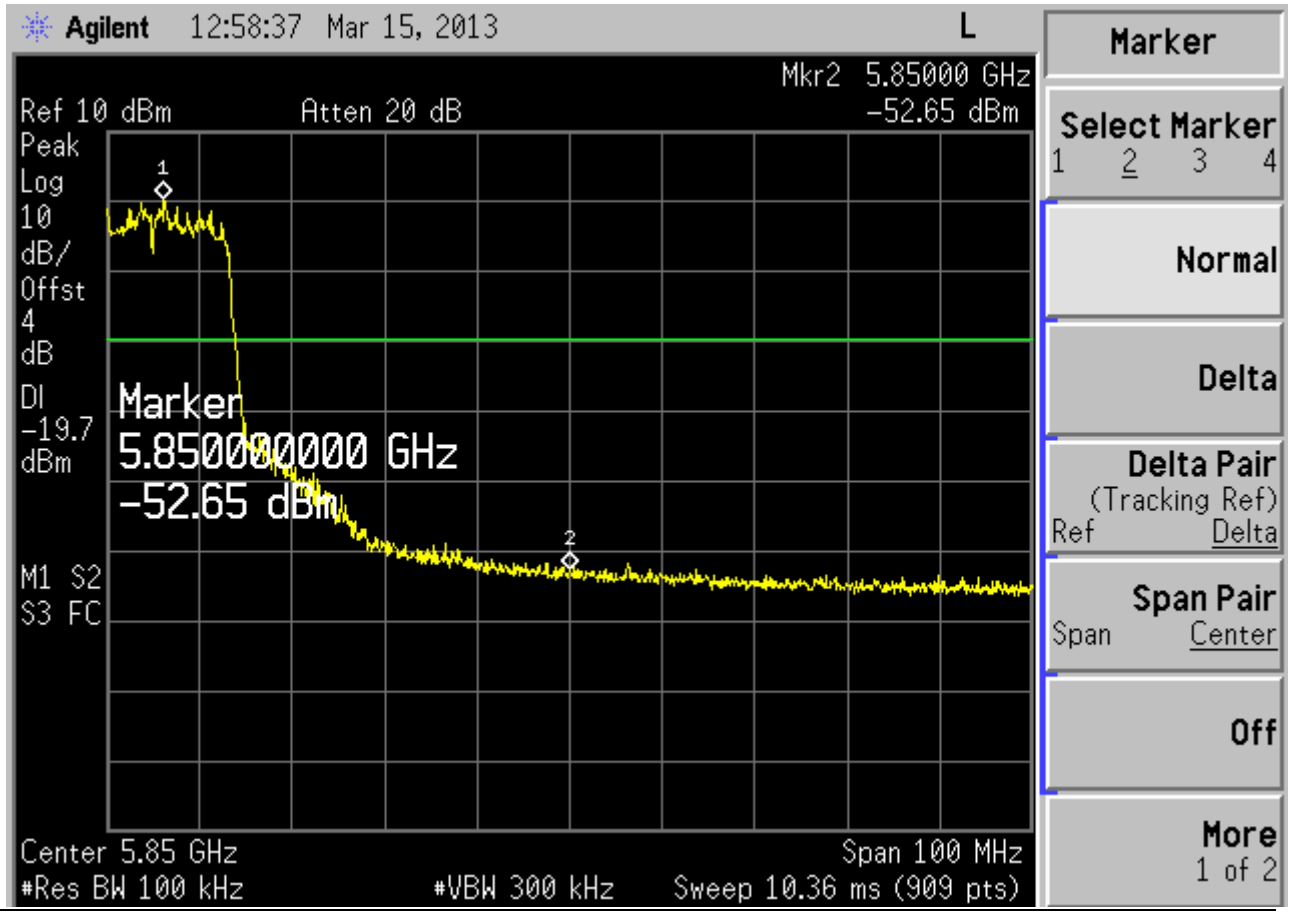
802.11n HT20 Ch11 2462MHz (Upper Edge 2483.5 MHz)



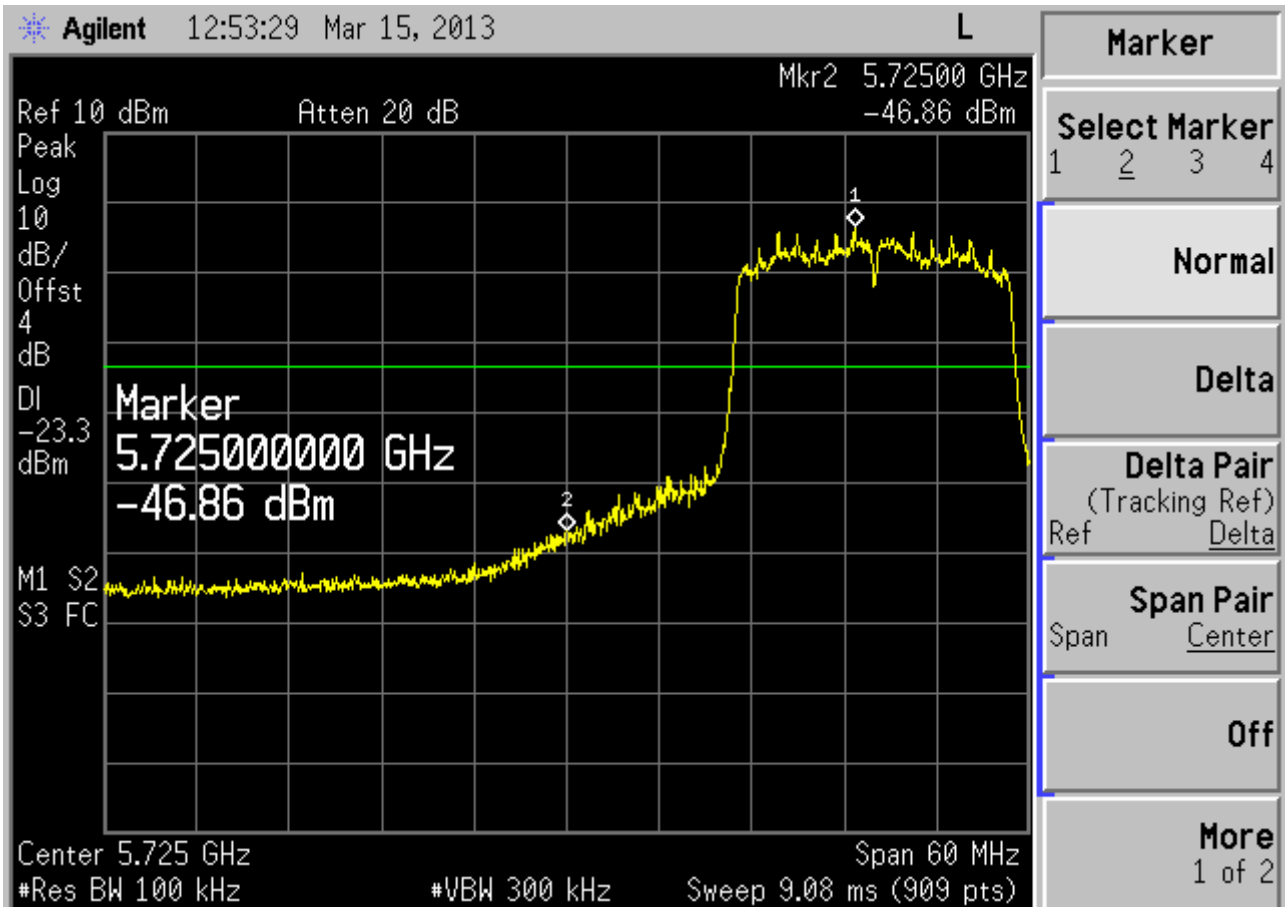
802.11a Ch149 5745MHz (Below Edge 5725 MHz)



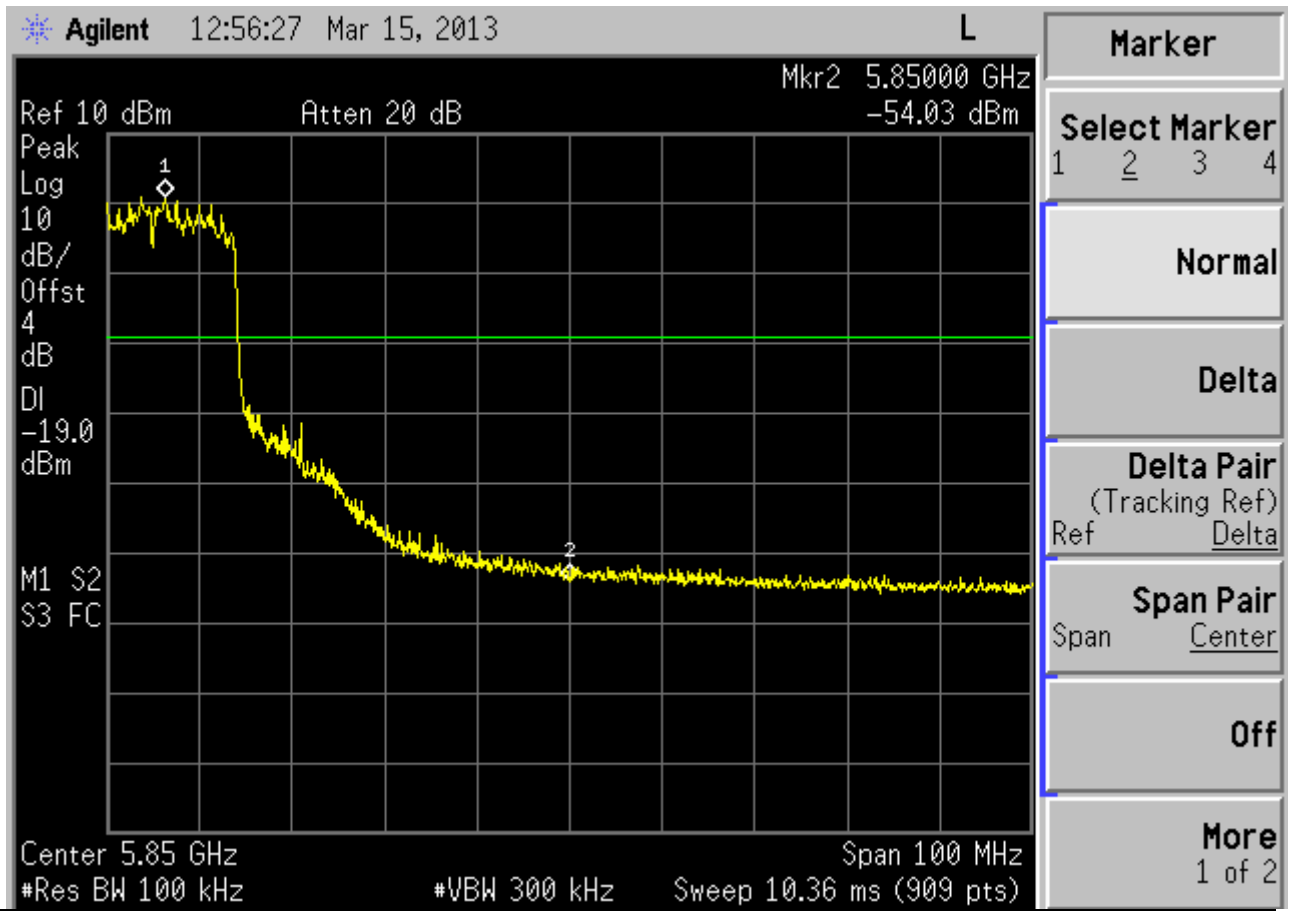
802.11a Ch161 5805MHz (Upper Edge 5850 MHz)



802.11n Ch149 5745MHz (Below Edge 5725 MHz)



802.11n Ch161 5805MHz (Upper Edge 5850 MHz)



9 POWER SPECTRAL DENSITY MEASUREMENT

9.1 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.	Test Receiver	R&S	ESCI	101303	Sep 11, 2012	Sep 11, 2013
2.	Spectrum Analyzer	Agilent	E7405A	MY45106600	Mar 22, 2012	Mar 22, 2013

9.2 Block Diagram of Test Setup

The same as section.5.2.

9.3 Specification Limits (§15.247(e))

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

9.4 Operating Condition of EUT

The test program “adb shelll” was used to enable the EUT to transmit data at different channel frequency individually.

9.5 Test Procedure

The transmitter output was connected to the test receiver / spectrum analyzer. The spectrum analyzer was set as RBW ≥ 3kHz, VBW ≥ 3 x RBW, span = 1.5 times the DTS channel bandwidth.
The test procedure is defined in KDB558074 v02:2012 (the 9.1 Measurement Procedure “Option 1” was used).

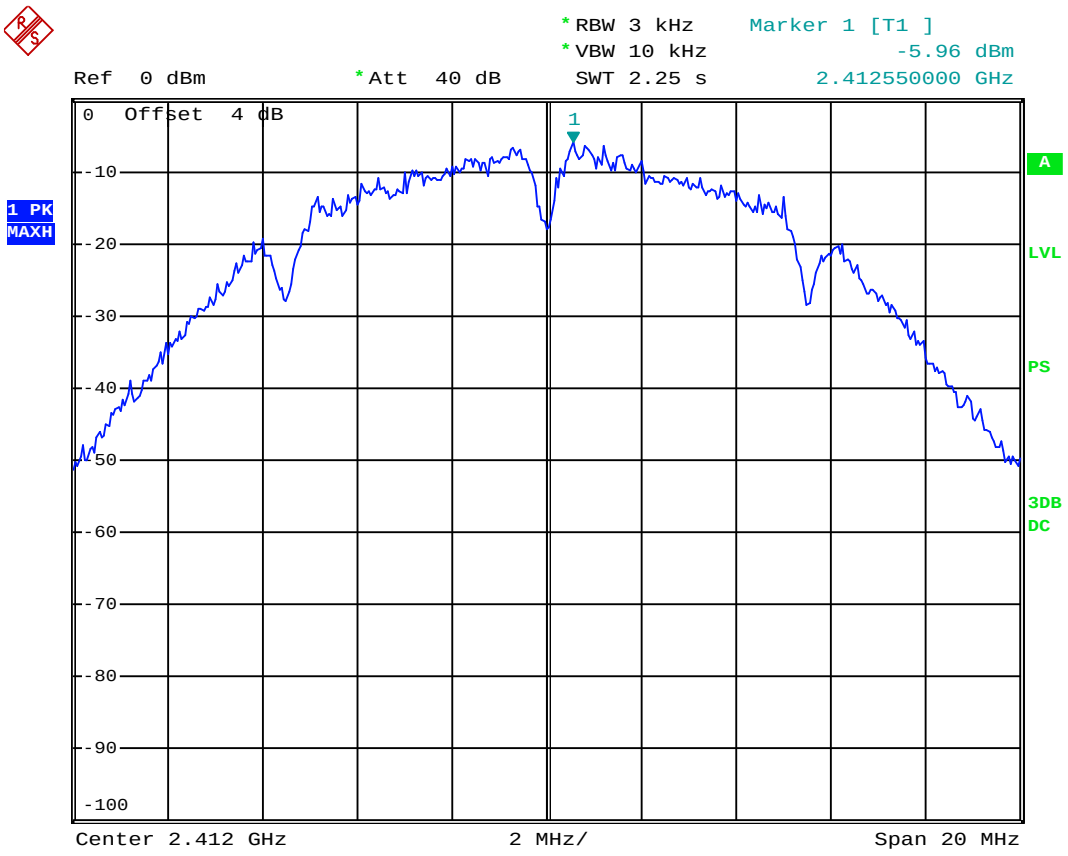
9.6 Test Results

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

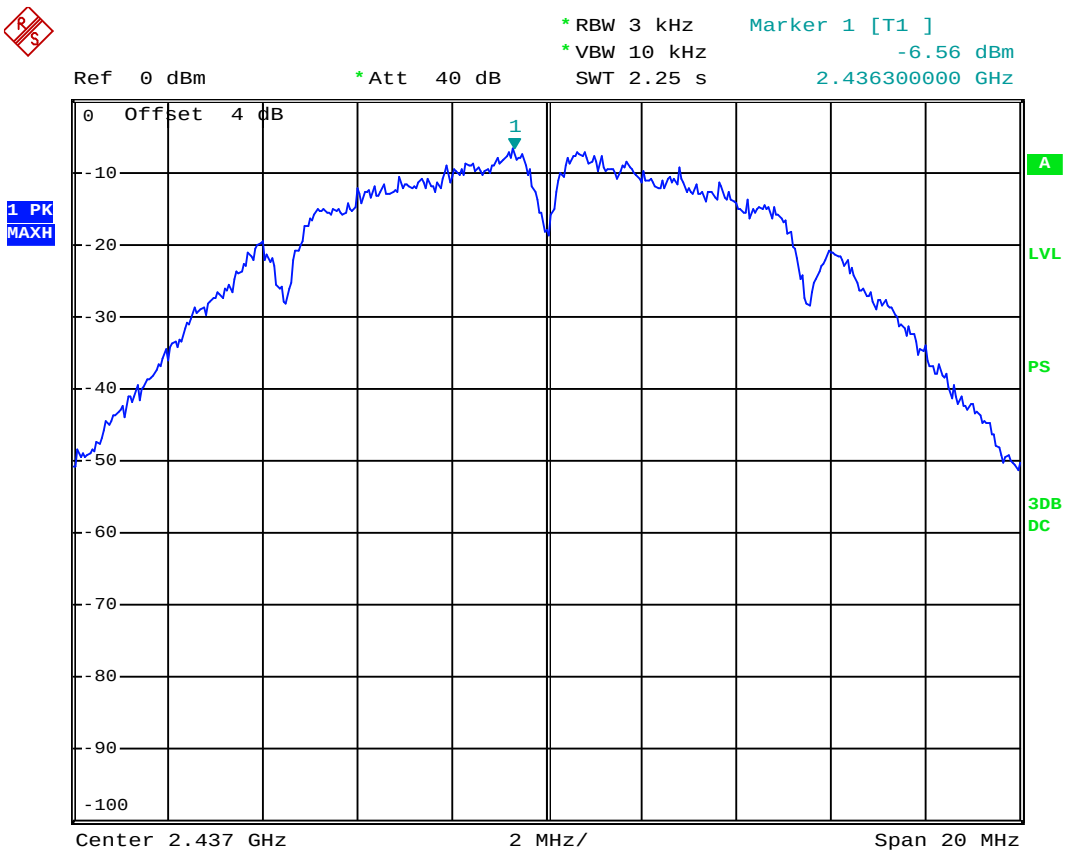
(Test Date: Mar. 01 - 04, 2013 Temperature: 24℃ Humidity: 46 %)

Modulation	Channel	Frequency	Power Spectral Density	Limit
802.11b	01	2412 MHz	-5.96 dBm	8dBm
	06	2437 MHz	-6.56 dBm	8dBm
	11	2462 MHz	-6.52 dBm	8dBm
802.11g	01	2412 MHz	-10.59 dBm	8dBm
	06	2437 MHz	-10.88 dBm	8dBm
	11	2462 MHz	-10.61 dBm	8dBm
802.11n HT20	01	2412 MHz	-10.81 dBm	8dBm
	06	2437 MHz	-11.18 dBm	8dBm
	11	2462 MHz	-11.05 dBm	8dBm
802.11a	149	5745 MHz	-12.73 dBm	8dBm
	157	5785 MHz	-11.03 dBm	8dBm
	161	5805 MHz	-12.01 dBm	8dBm
802.11n HT20	149	5745 MHz	-11.44 dBm	8dBm
	157	5785 MHz	-11.62 dBm	8dBm
	161	5805 MHz	-10.29 dBm	8dBm

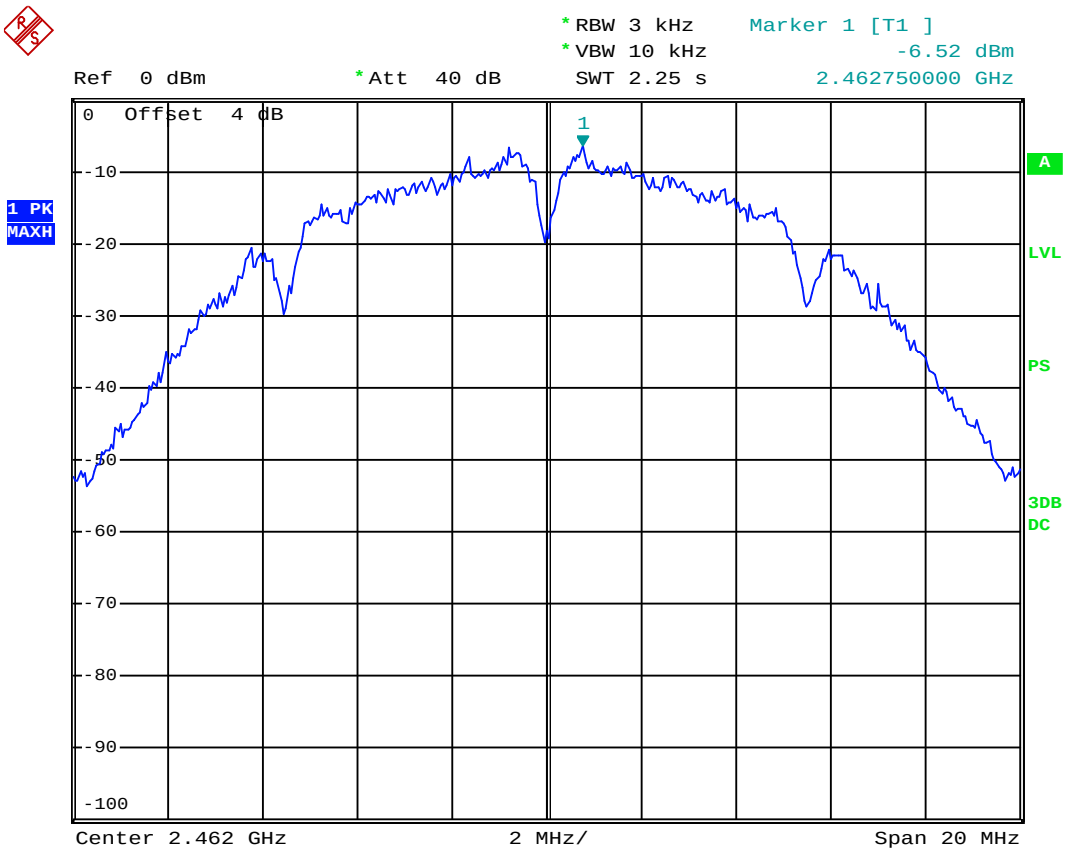
802.11b Ch01 2412 MHz



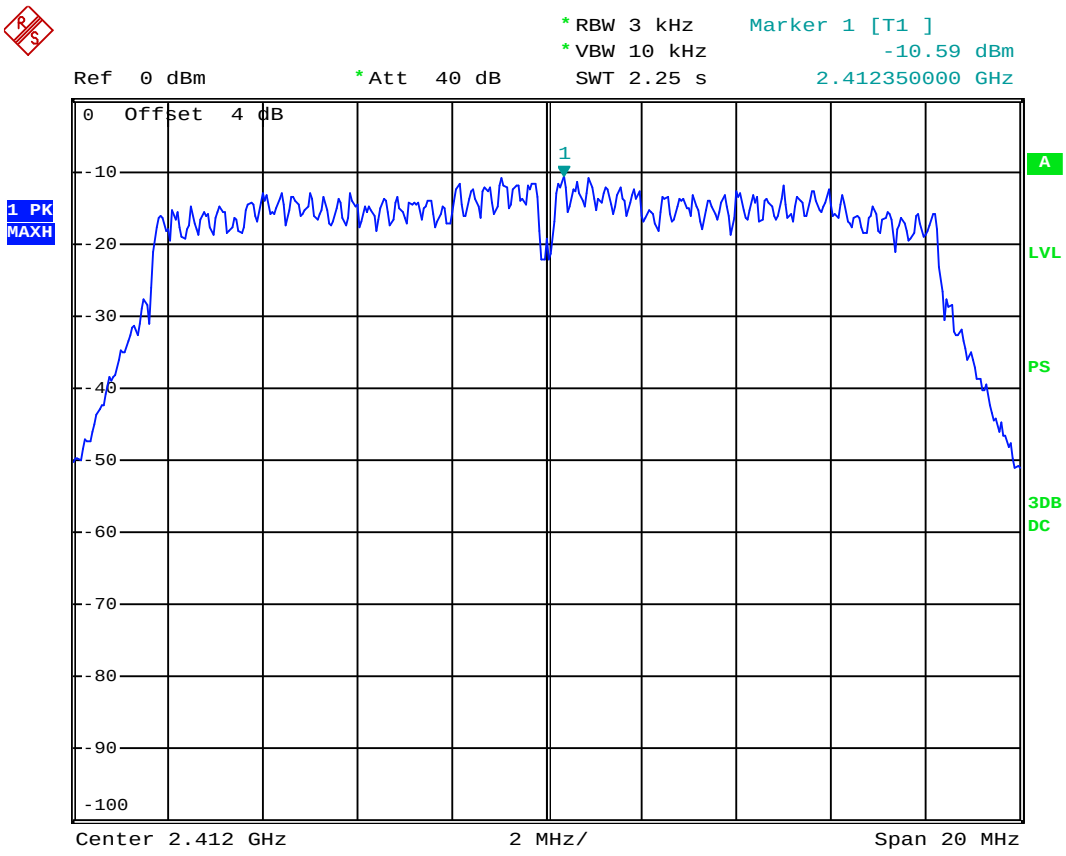
802.11b Ch06 2437 MHz



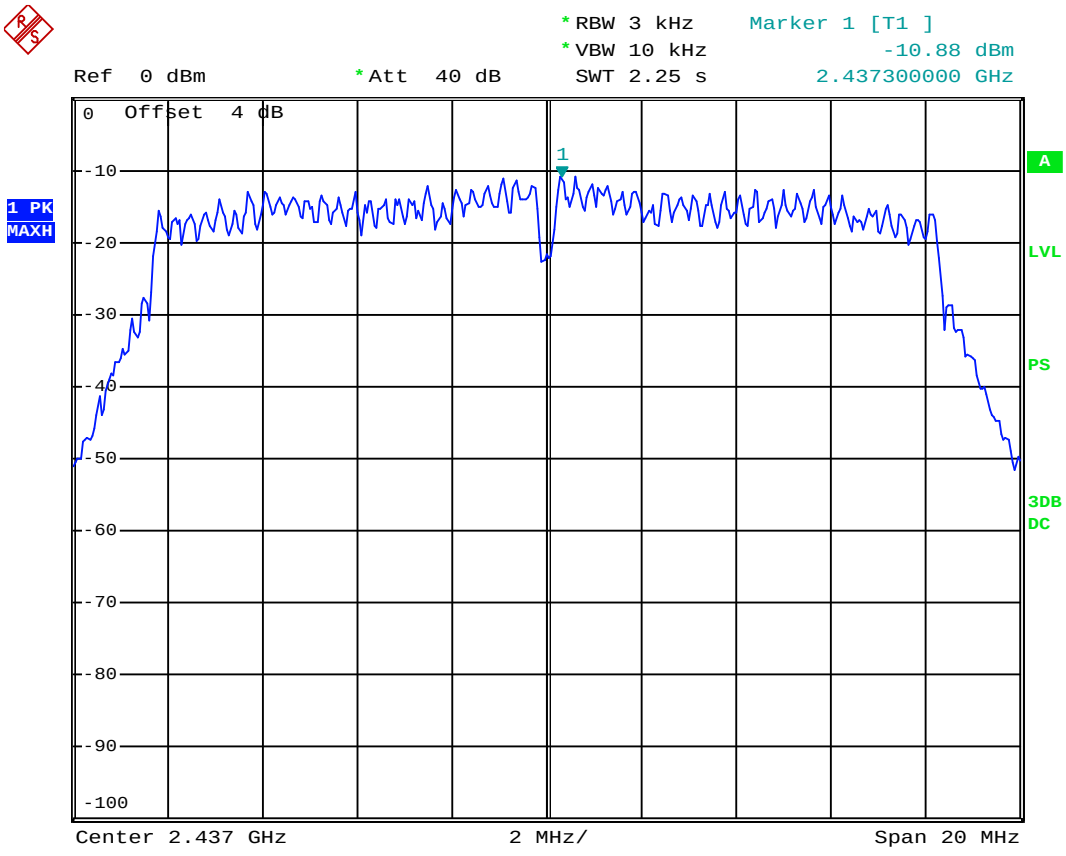
802.11b Ch11 2462 MHz



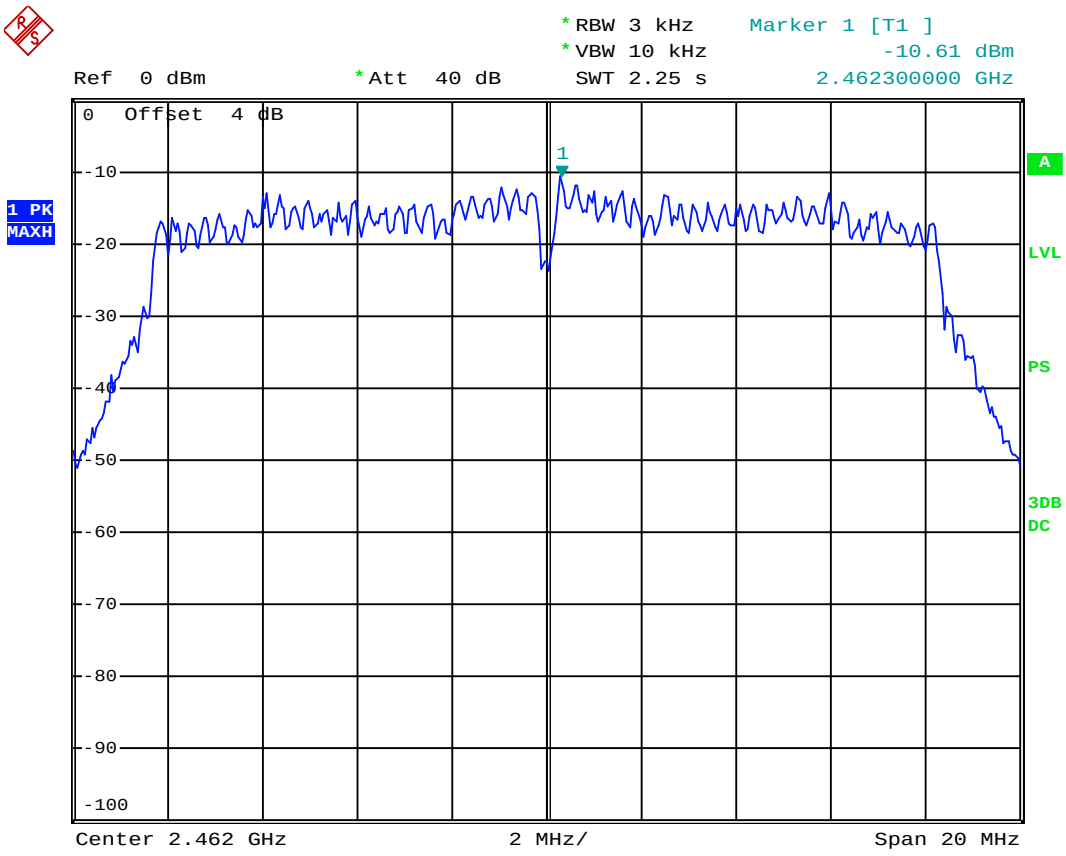
802.11g Ch01 2412 MHz



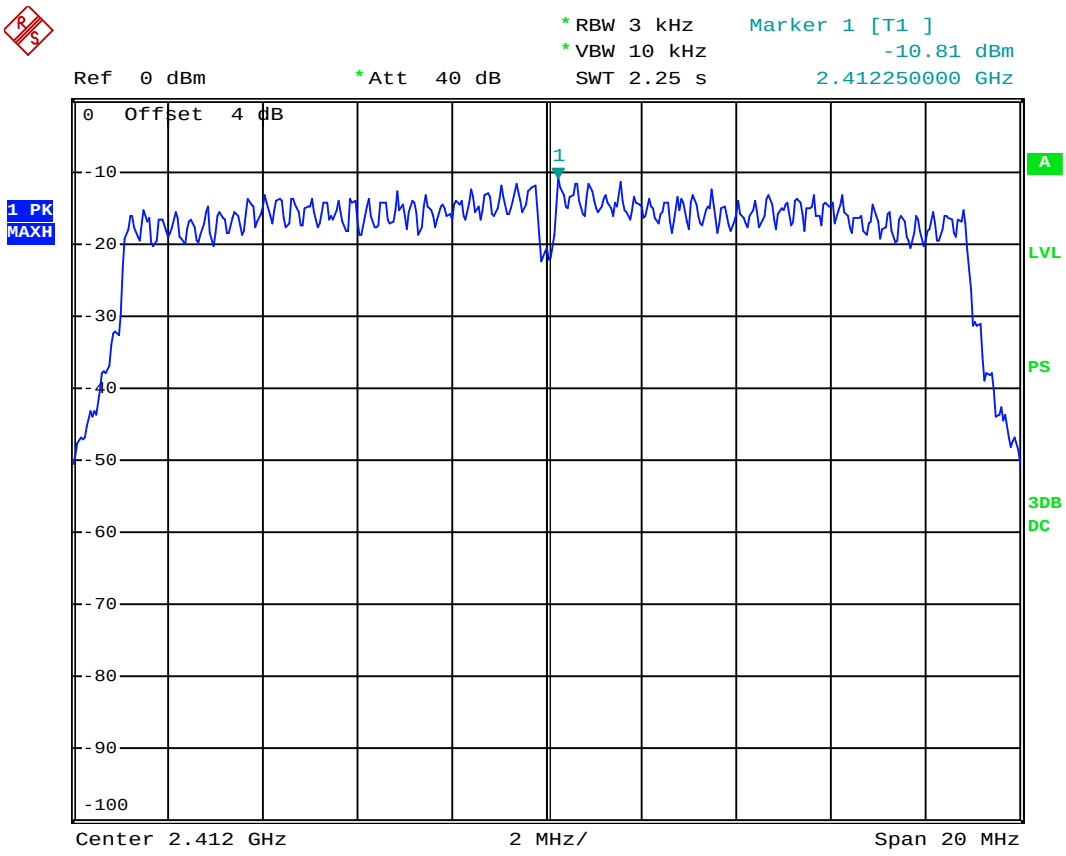
802.11g Ch06 2437 MHz



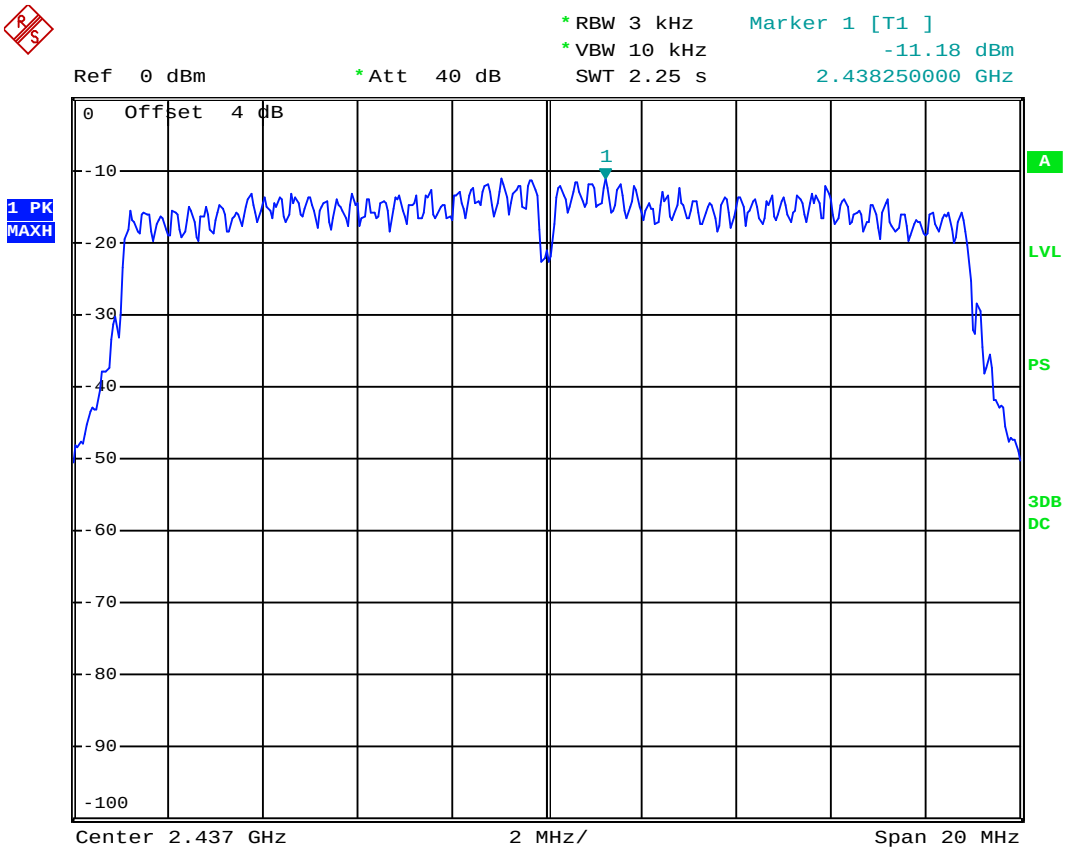
802.11g Ch11 2462 MHz



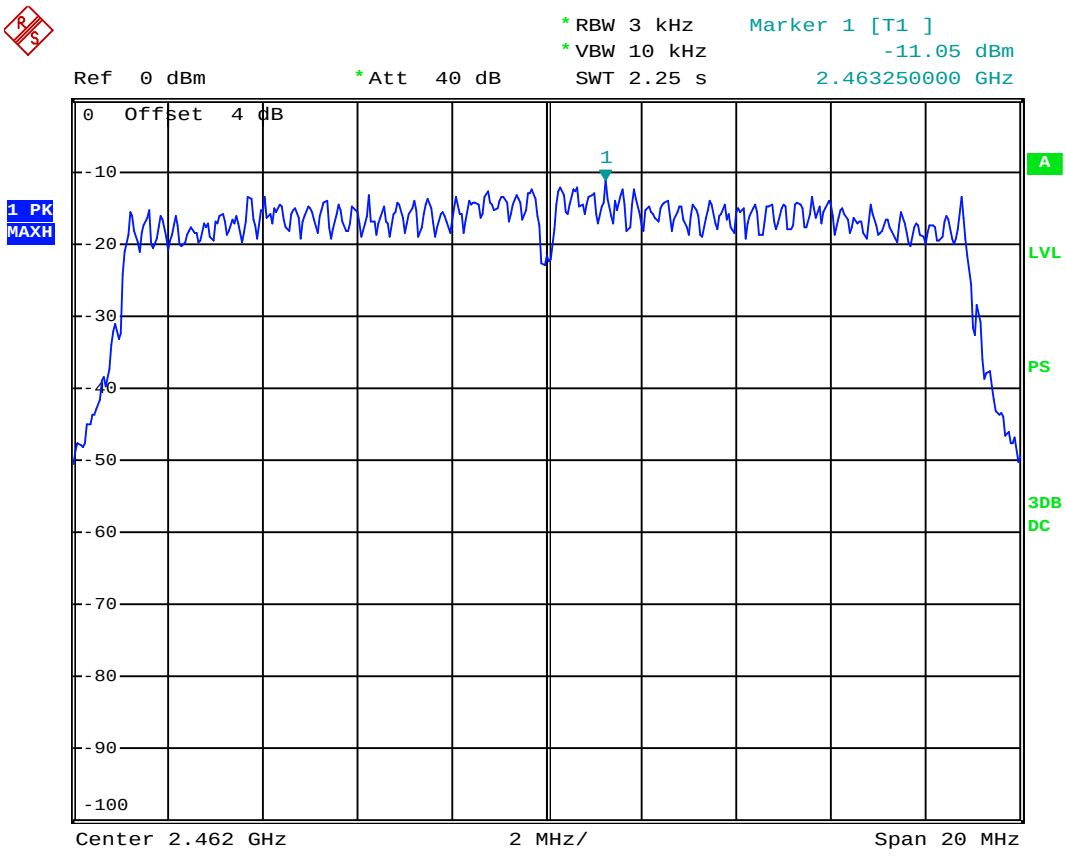
802.11n Ch01 2412 MHz



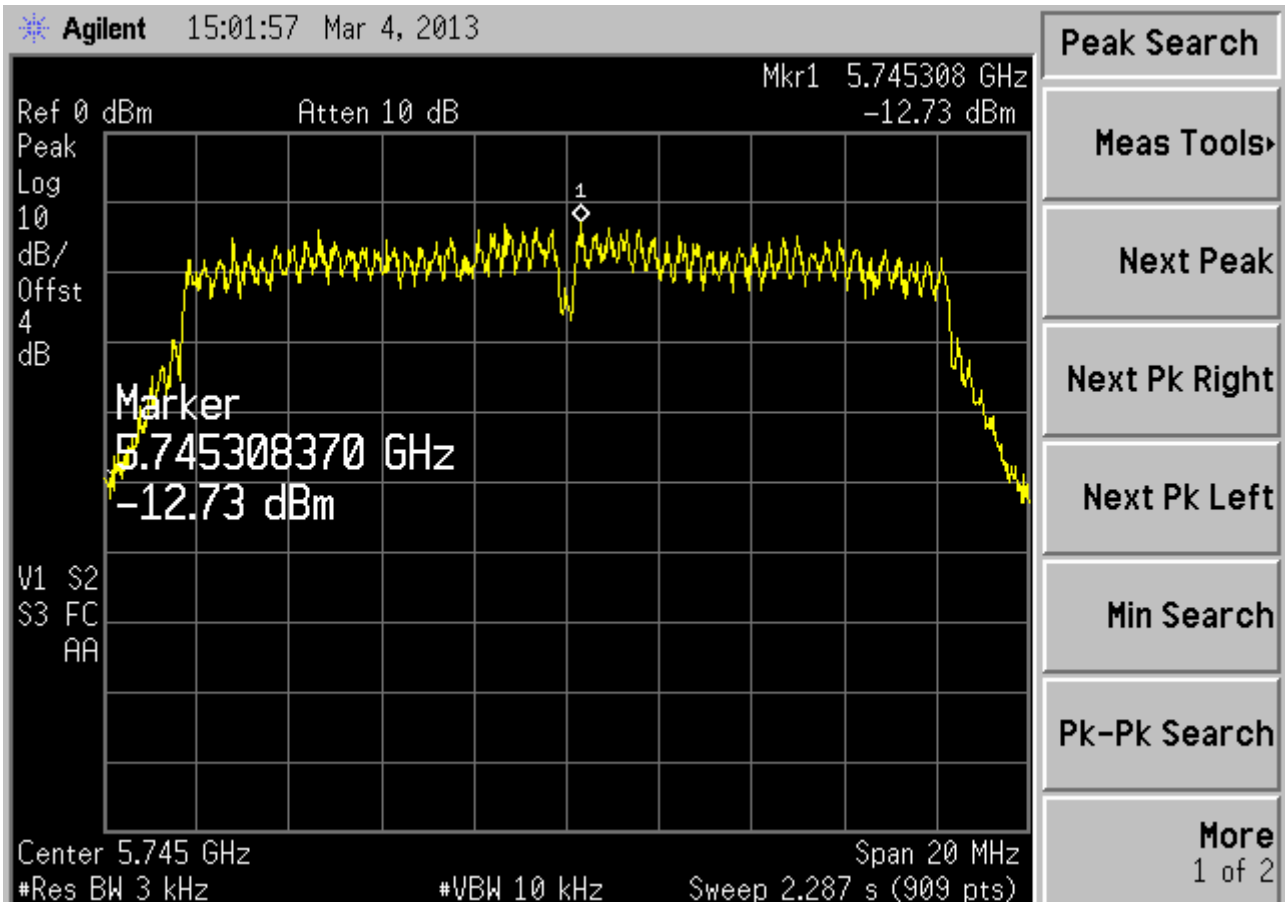
802.11n Ch06 2437 MHz



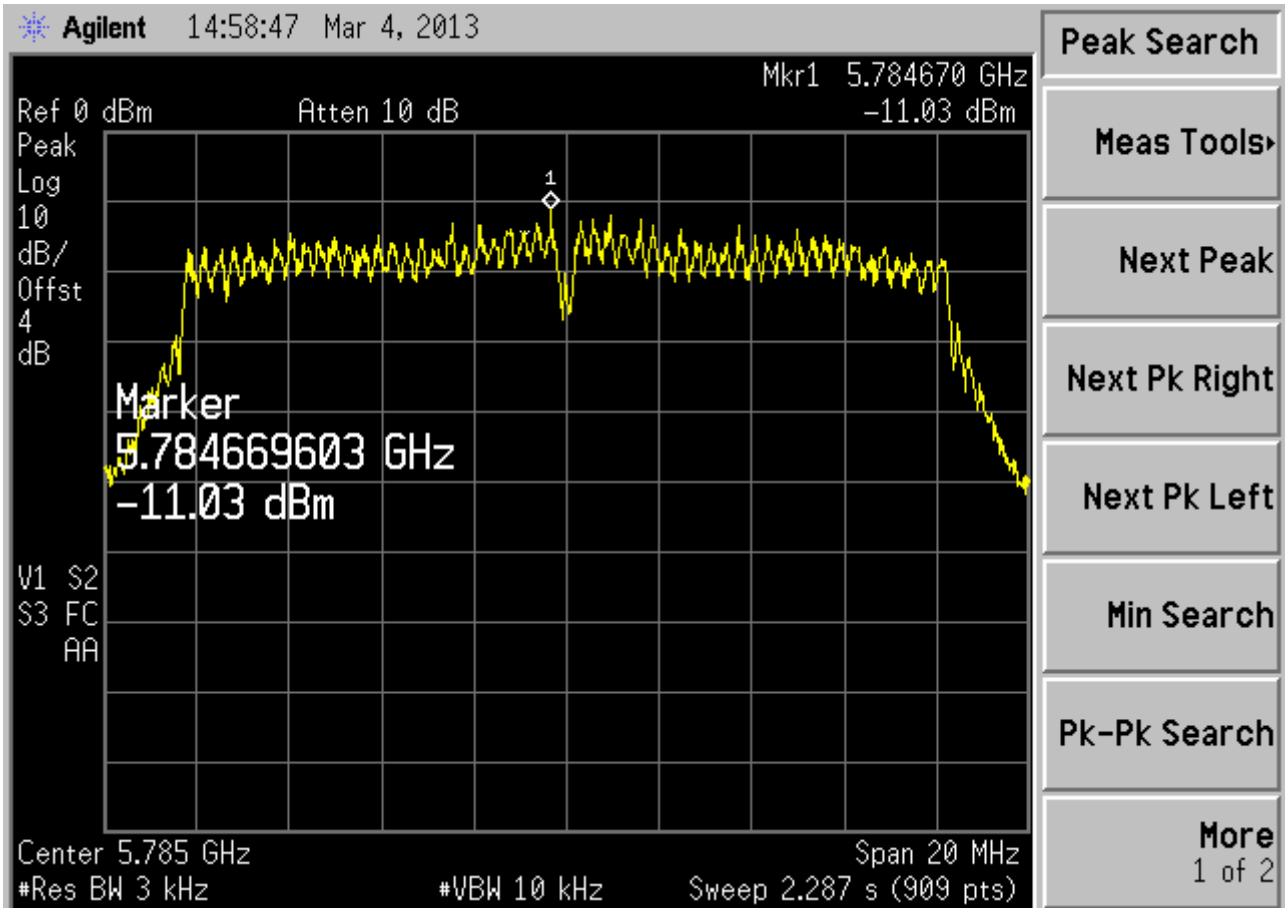
802.11n Ch11 2462 MHz



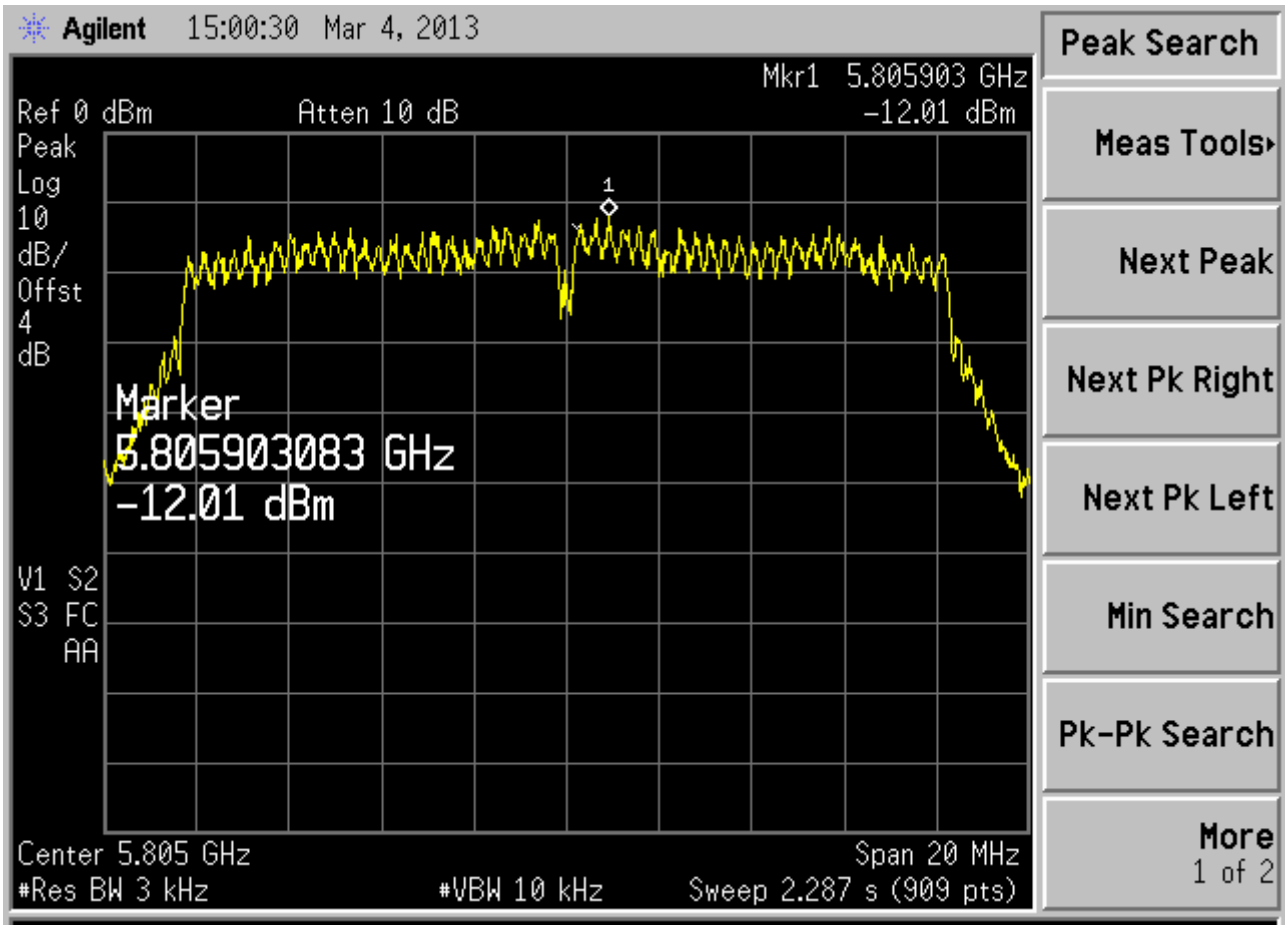
802.11a Ch149 5745 MHz



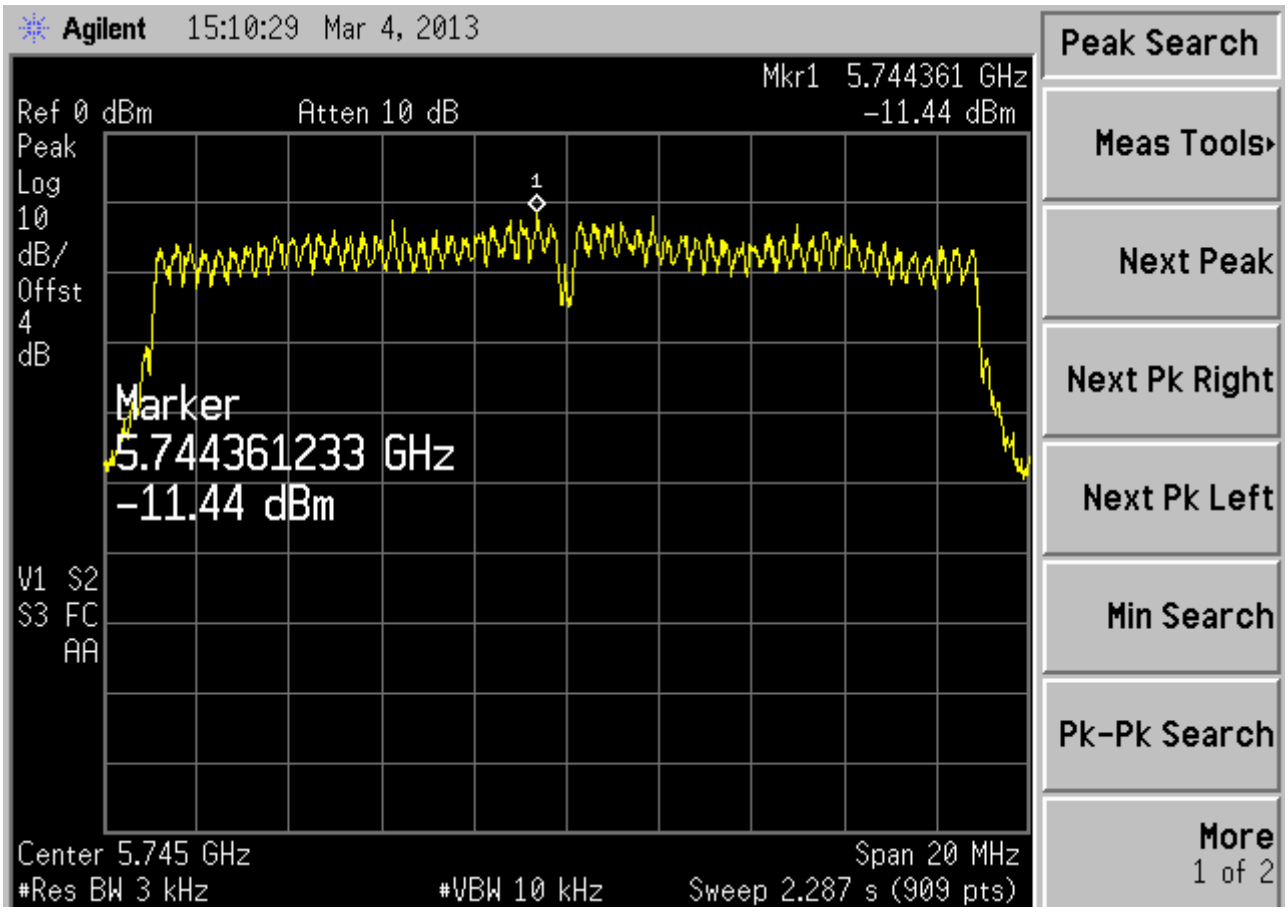
802.11a Ch157 5785 MHz



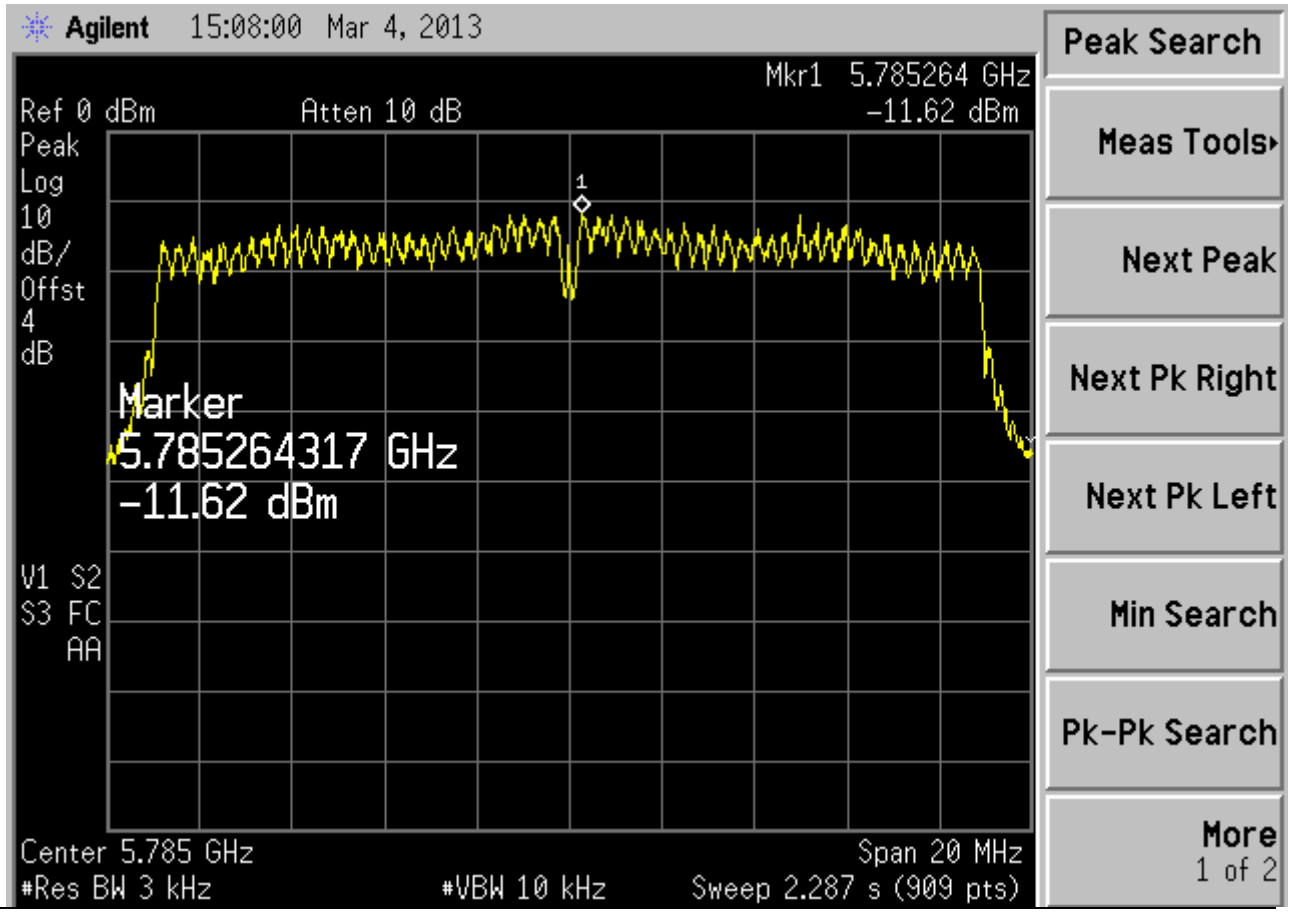
802.11a Ch161 5805 MHz



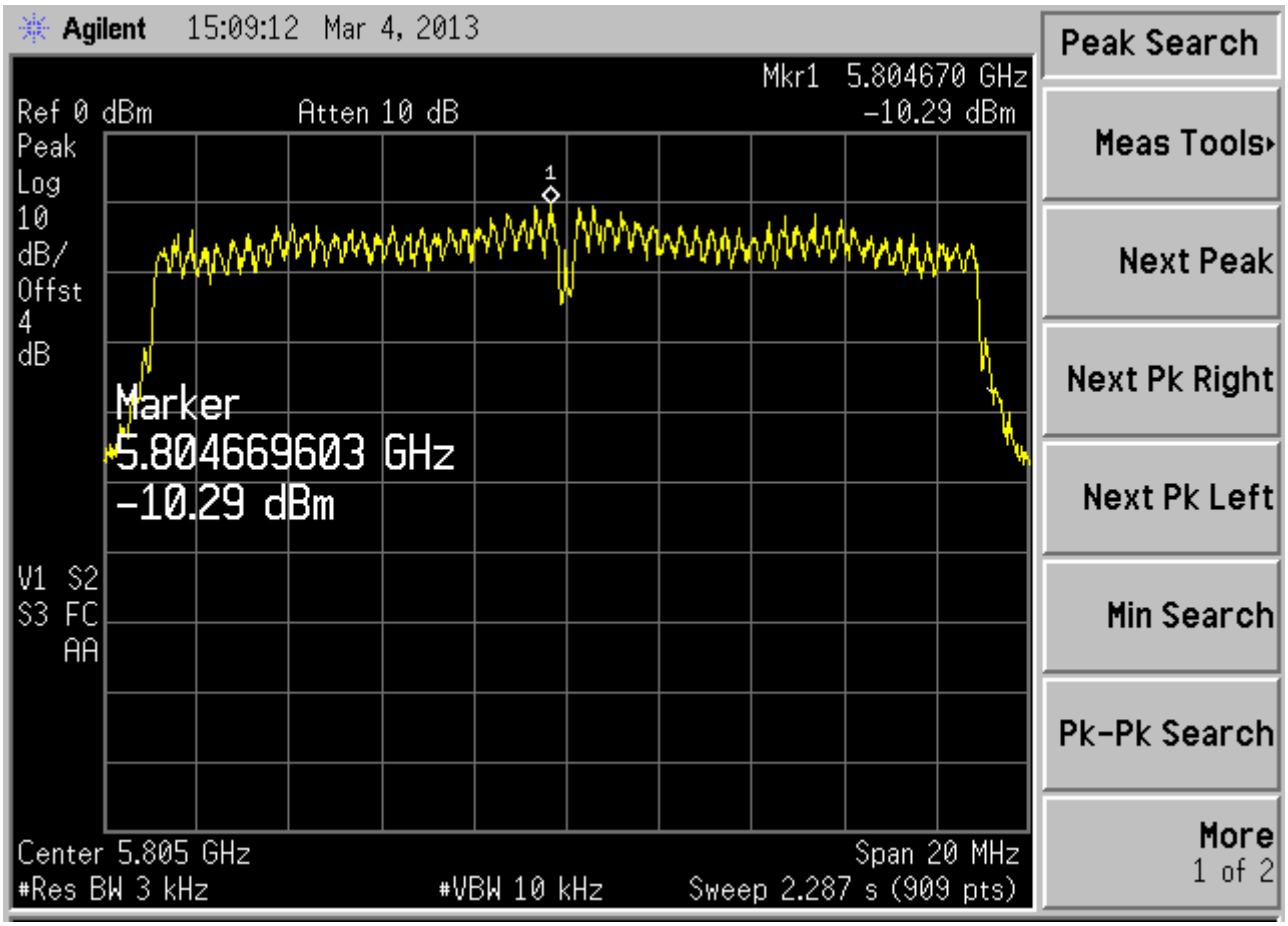
802.11n Ch149 5745 MHz



802.11n Ch157 5785 MHz



802.11n Ch161 5805 MHz



10 DEVIATION TO TEST SPECIFICATIONS

None.