TEST REPORT
On behalf of

Johnson Industries (Shanghai) Co., Ltd.

Product Name: Console

Model No.: XIR

FCC ID: 2AOTTXIR

Prepared For: Johnson Industries (Shanghai) Co., Ltd.
A1 No.4500 Baoqian Road, Zhuqiao Town, Jiading District, Shanghai

Prepared By: Audix Technology (Shanghai) Co., Ltd.
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TESTING
NVLAP LAB CODE 200371-0

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Report No.	:	ACI-F18101
Date of Test	:	2018.03.23 - 28
Date of Report	:	2018.03.30

The statement is based on a single evaluation of one sample of the above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab logo.
The 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.

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TEST REPORT

Applicant	:	Johnson Industries (Shanghai) Co., Ltd.
EUT Description	:	Console
		(A) Model No. : Refer to Sec.2.1
		(B) Power Supply : AC 120V/60Hz (via adapter)
		(C) Test Voltage : AC 120V/60Hz (via adapter)

Test Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART C
AND ANSI C63.10-2013

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 to be 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.

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Date of Test : 2018.03.23 - 28 Date of Report : 2018.03.30

Producer : Jarey Lu
JAREY LU / Supervisor

Reviewer : Byron Wu
BYRON WU / Deputy Assistant Manager

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

Signatory : .....
Authorized Signature(s) BYRON KWO/Assistant General 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 And ANSI C63.10:2013	Pass	15.207
Radiated Emission	FCC Rules And Regulations Part 15 Subpart C And ANSI C63.10:2013	Pass	15.209(a) 15.205(a)(c)
6 dB Bandwidth Measurement	FCC Rules And Regulations Part 15 Subpart C And ANSI C63.10:2013	Pass	15.247(a)(2)
Maximum Peak Output Power Measurement	FCC Rules And Regulations Part 15 Subpart C And ANSI C63.10:2013	Pass	15.247(b)(3)
Emission Limitations Measurement	FCC Rules And Regulations Part 15 Subpart C And ANSI C63.10:2013	Pass	15.247(d)
Band Edge Measurement	FCC Rules And Regulations Part 15 Subpart C And ANSI C63.10:2013	Pass	15.247(d)
Power Spectral Density Measurement	FCC Rules And Regulations Part 15 Subpart C And ANSI C63.10:2013	Pass	15.247(e)
N/A is an abbreviation for Not Applicable.			

2 GENERAL INFORMATION

2.1 Description of Equipment Under Test

Description	:	Console
Type of EUT	:	☑ Production ☐ Pre-product ☐ Pro-type
Model Number	:	XIR
RF Module	:	AP6210 + WLT2564M
Note	:	Contains FCC ID: 2AKDB-WLT2564M
Test RF Module	:	AP6210
Radio Tech	:	IEEE 802.11b/g/n + BT 4.0
Test Tech	:	IEEE 802.11 b/g/n
Note	:	IEEE 802.11n HT20 only.
Channel Freq.	:	2412MHz - 2462MHz
Tested Freq.	:	2412MHz, 2437MHz, 2462MHz
Modulation	:	DQPSK,DBPSK,CCK,OFDM,QPSK
Antenna Type	:	SMA interface Small antenna(Cu) Note: According to KDB 353028 D01 A 2) b) ii) (3) antenna connector comply with 15.203
Connector Type	:	SMA Connector
Antenna Gain	:	2 dBi
Test Mode	:	The EUT was set at continuous TX with duty cycle 100% during all the test in the report
Applicant	:	Johnson Industries (Shanghai) Co., Ltd. A1 No.4500 Baoqian Road, Zhuqiao Town, Jiading District, Shanghai
Manufacturer	:	same as Applicant
Factory	:	same as Applicant

2.2 Description of Test Facility

Name of Firm	:	Audix Technology (Shanghai) Co., Ltd.
Site Location	:	3F and 4F, 34Bldg, 680 Guiping Rd., Caohejing Hi-Tech Park, Shanghai 200233, China.
Accredited by NVLAP, Lab Code	:	200371-0
FCC Designation Number	:	CN5027
Test Firm Registration Number	:	954668

2.3 Measurement Uncertainty

Conducted Disturbance Expanded Uncertainty (0.15-30MHz):
U = 3.4dB

Radiated Emission Expanded Uncertainty (30-1000MHz):
U = 3.99dB

Radiated Emission Expanded Uncertainty (1000M-26.5GHz):
U = 4.98dB

6 dB Bandwidth Expanded Uncertainty : U = $6x10^{-8}$ MHz

Maximum Peak Output Power Expanded Uncertainty : U = 0.84 dB

Power Spectral Density Expanded Uncertainty : U = 0.38 dB

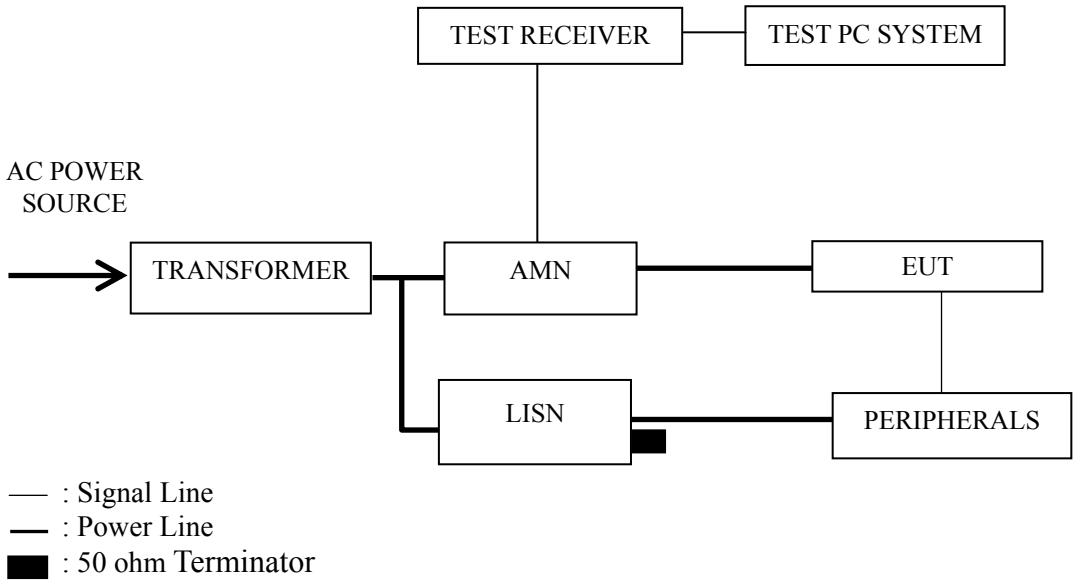
3 CONDUCTED EMISSION

3.1 Test Equipment

The following test equipment 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	101302	Apr 27, 2017	Apr 26, 2018
2.	Artificial Mains Network (AMN)	R&S	ENV4200	100125	Jun 24, 2017	Jun 23, 2018
3.	Software	Audix	E3	6.2009-1-15	--	--

3.2 Block Diagram of Test Setup



3.3 Conducted Emission Limits (§15.207)

Frequency (MHz)	Field strength limits (μV/m)	
	(μV/m)	dB(μV/m)
0.15 ~ 0.5	66 to 56 *	56 to 46 *
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE 1 - *Decreases with the logarithm of the frequency.
NOTE 2 - Emission Level dB (μV/m) = 20 log Emission Level (μV/m)
NOTE 3 - The tighter limit applies at the band edges.

3.4 Operating Condition of EUT

3.4.1 Setup the EUT as shown in Sec. 3.2.

3.4.2 Turn on the power of all equipment.

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

3.5 Test Procedures

The EUT was placed upon a non-metallic table, which is 0.8 m above the horizontal conducting ground plane and 0.4 m from a vertical reference plane. The EUT was connected to the power mains through an Artificial Mains Network (AMN) to provide a 50 Ω coupling impedance for the measuring equipment. Both sides of AC line (Line & Neutral) were checked to find out the maximum conducted emission according to FCC Part 15 Subpart C and ANSI C63.10: 2013 requirements during conducted disturbance test.

The I.F. bandwidth of Test Receiver ESCI was set at 9 kHz.

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

Test with a dummy load in lieu of the antenna to determine compliance with Section 15.207 limits within the transmitter's fundamental emission band. (According to KDB 174176 D01 Line Conducted FAQ)

3.6 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.

Worst case emission:

No.	Operation	Modulation	Channel	Frequency	Data Page
1.	Transmitting	IEEE 802.11b	1	2412 MHz	P10
2.		IEEE 802.11g	1	2412 MHz	P11
3.		IEEE 802.11n HT20	1	2412 MHz	P12
4.	Receiving	IEEE 802.11b/g/n	--	--	P13

NOTE 1 – Level = Read Level + AMN Factor + Cable Loss
NOTE 2 – “QP” means “Quasi-Peak” values
NOTE 3 – The emission levels which not reported are too low against the official limit.

Worst case emission

EUT	:	Console	Temperature :	22℃
Model No.	:	XIR	Humidity :	51%RH
Test Mode	:	Transmitting	Date of Test :	2018.03.24

IEEE 802.11b:

Polarization	Frequency (MHz)	Meter Reading dB (μV)	AMN Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Line	0.1669	30.9	10.54	0.04	41.48	65.11	23.63	QP
	0.1669	19.5	10.54	0.04	30.08	55.11	25.03	Average
	0.45636	30.1	10.35	0.05	40.5	56.76	16.26	QP
	0.45636	22.6	10.35	0.05	33	46.76	13.76	Average
	0.536	31.8	10.34	0.05	42.19	56	13.81	QP
	0.536	25.4	10.34	0.05	35.79	46	10.21	Average
	0.9274	23.1	10.32	0.07	33.49	56	22.51	QP
	0.9274	15	10.32	0.07	25.39	46	20.61	Average
	1.575	22.3	10.32	0.08	32.7	56	23.3	QP
	1.575	15.6	10.32	0.08	26	46	20	Average
	7.98	26.6	10.32	0.17	37.09	60	22.91	QP
	7.98	13.4	10.32	0.17	23.89	50	26.11	Average
Neutral	0.5026	28.9	10.33	0.05	39.28	56	16.72	QP
	0.5026	21.5	10.33	0.05	31.88	46	14.12	Average
	0.5288	29.2	10.33	0.05	39.58	56	16.42	QP
	0.5288	21.7	10.33	0.05	32.08	46	13.92	Average
	0.9097	19.6	10.32	0.07	29.99	56	26.01	QP
	0.9097	13	10.32	0.07	23.39	46	22.61	Average
	1.57	17.6	10.33	0.08	28.01	56	27.99	QP
	1.57	10.8	10.33	0.08	21.21	46	24.79	Average
	7.683	19.9	10.33	0.17	30.4	60	29.6	QP
	7.683	13.8	10.33	0.17	24.3	50	25.7	Average
	23.8	23.68	10.17	0.29	34.14	60	25.86	QP
	23.8	15.6	10.17	0.29	26.06	50	23.94	Average

IEEE 802.11g:

Polarization	Frequency (MHz)	Meter Reading dB (μV)	AMN Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Line	0.4579	29.5	10.35	0.05	39.9	56.73	16.83	QP
	0.4579	23.1	10.35	0.05	33.5	46.73	13.23	Average
	0.526	31	10.34	0.05	41.39	56	14.61	QP
	0.526	25.1	10.34	0.05	35.49	46	10.51	Average
	0.9093	24.1	10.32	0.07	34.49	56	21.51	QP
	0.9093	17.8	10.32	0.07	28.19	46	17.81	Average
	1.343	22.2	10.32	0.08	32.6	56	23.4	QP
	1.343	13.5	10.32	0.08	23.9	46	22.1	Average
	9.46	25.01	10.3	0.18	35.49	60	24.51	QP
	9.46	17.91	10.3	0.18	28.39	50	21.61	Average
	23.45	23.8	10.11	0.29	34.2	60	25.8	QP
	23.45	14.9	10.11	0.29	25.3	50	24.7	Average
Neutral	0.1656	27.8	10.47	0.04	38.31	65.18	26.87	QP
	0.1656	17.1	10.47	0.04	27.61	55.18	27.57	Average
	0.5044	28.6	10.33	0.05	38.98	56	17.02	QP
	0.5044	21.2	10.33	0.05	31.58	46	14.42	Average
	0.5228	29.1	10.33	0.05	39.48	56	16.52	QP
	0.5228	20.9	10.33	0.05	31.28	46	14.72	Average
	0.9087	19.5	10.32	0.07	29.89	56	26.11	QP
	0.9087	13.1	10.32	0.07	23.49	46	22.51	Average
	9.368	20.4	10.32	0.18	30.9	60	29.1	QP
	9.368	14.1	10.32	0.18	24.6	50	25.4	Average
	23.79	23.8	10.17	0.29	34.26	60	25.74	QP
	23.79	15	10.17	0.29	25.46	50	24.54	Average

IEEE 802.11n HT20:

Polarization	Frequency (MHz)	Meter Reading dB (μV)	AMN Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Line	0.4564	30	10.35	0.05	40.4	56.76	16.36	QP
	0.4564	22.7	10.35	0.05	33.1	46.76	13.66	Average
	0.5297	31.4	10.34	0.05	41.79	56	14.21	QP
	0.5297	25.4	10.34	0.05	35.79	46	10.21	Average
	0.9099	23.9	10.32	0.07	34.29	56	21.71	QP
	0.9099	17.7	10.32	0.07	28.09	46	17.91	Average
	2.416	19.9	10.32	0.1	30.32	56	25.68	QP
	2.416	13.1	10.32	0.1	23.52	46	22.48	Average
	8.922	25.7	10.31	0.18	36.19	60	23.81	QP
	8.922	18.2	10.31	0.18	28.69	50	21.31	Average
	23.74	23.7	10.11	0.29	34.1	60	25.9	QP
	23.74	14.8	10.11	0.29	25.2	50	24.8	Average
Neutral	0.5283	29.1	10.33	0.05	39.48	56	16.52	QP
	0.5283	21.6	10.33	0.05	31.98	46	14.02	Average
	0.9094	19.7	10.32	0.07	30.09	56	25.91	QP
	0.9094	12.9	10.32	0.07	23.29	46	22.71	Average
	1.35	17.7	10.32	0.08	28.1	56	27.9	QP
	1.35	9.5	10.32	0.08	19.9	46	26.1	Average
	2.536	14	10.33	0.1	24.43	56	31.57	QP
	2.536	7.9	10.33	0.1	18.33	46	27.67	Average
	9.364	20.7	10.32	0.18	31.2	60	28.8	QP
	9.364	14.4	10.32	0.18	24.9	50	25.1	Average
	23.21	23.8	10.18	0.29	34.27	60	25.73	QP
	23.21	15.4	10.18	0.29	25.87	50	24.13	Average

TEST ENGINEER: Jarey

EUT	:	Console	Temperature	:	22℃
Model No.	:	XIR	Humidity	:	51%RH
Test Mode	:	Receiving	Date of Test	:	2018.03.24

IEEE 802.11 b/g/n:

Polarization	Frequency (MHz)	Meter Reading dB (μV)	AMN Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Line	0.5161	32.4	10.34	0.05	42.79	56	13.21	QP
	0.5161	25.8	10.34	0.05	36.19	46	9.81	Average
	0.5352	32.8	10.34	0.05	43.19	56	12.81	QP
	0.5352	26.4	10.34	0.05	36.79	46	9.21	Average
	0.9334	24.1	10.32	0.07	34.49	56	21.51	QP
	0.9334	16	10.32	0.07	26.39	46	19.61	Average
	1.582	22.3	10.32	0.08	32.7	56	23.3	QP
	1.582	17.1	10.32	0.08	27.5	46	18.5	Average
	8.068	26.4	10.32	0.17	36.89	60	23.11	QP
	8.068	18.5	10.32	0.17	28.99	50	21.01	Average
	20.71	29.61	10.13	0.27	40.01	60	19.99	QP
	20.71	20.31	10.13	0.27	30.71	50	19.29	Average
Neutral	0.5107	28.7	10.33	0.05	39.08	56	16.92	QP
	0.5107	21.7	10.33	0.05	32.08	46	13.92	Average
	0.5256	28.5	10.33	0.05	38.88	56	17.12	QP
	0.5256	21.5	10.33	0.05	31.88	46	14.12	Average
	0.9134	19.3	10.32	0.07	29.69	56	26.31	QP
	0.9134	13.5	10.32	0.07	23.89	46	22.11	Average
	3.217	14.7	10.34	0.11	25.15	56	30.85	QP
	3.217	8.8	10.34	0.11	19.25	46	26.75	Average
	8.983	19.8	10.32	0.18	30.3	60	29.7	QP
	8.983	13.8	10.32	0.18	24.3	50	25.7	Average
	23.1	23.7	10.18	0.29	34.17	60	25.83	QP
	23.1	15.1	10.18	0.29	25.57	50	24.43	Average

TEST ENGINEER: Jarey

4 RADIATED EMISSION TEST

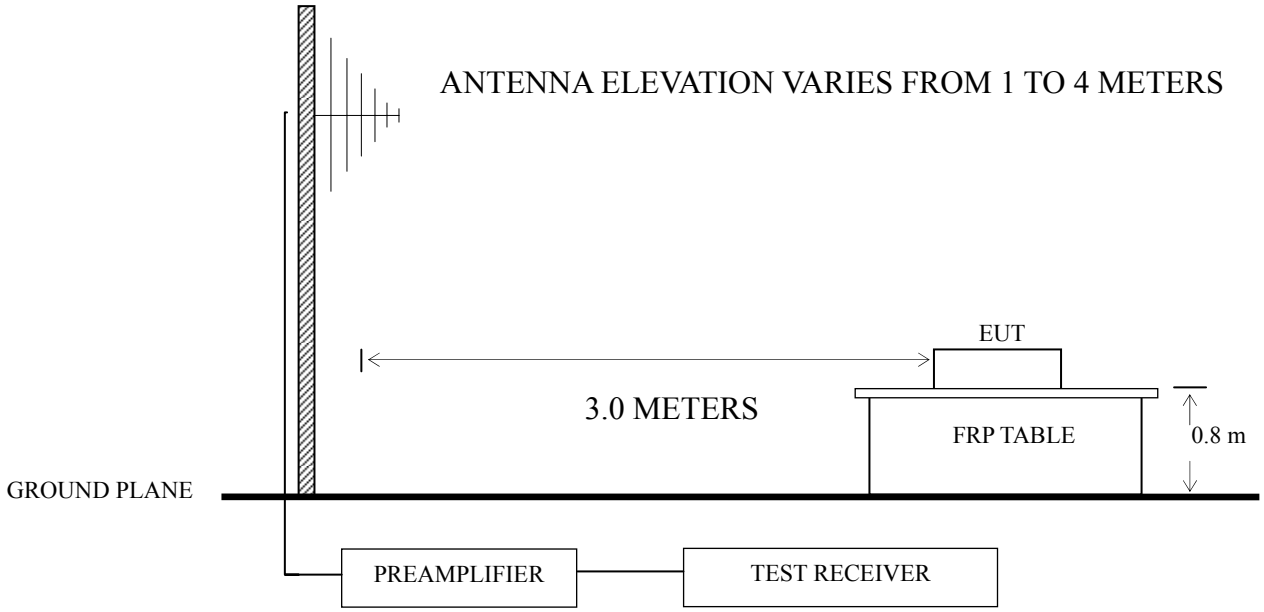
4.1 Test Equipment

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

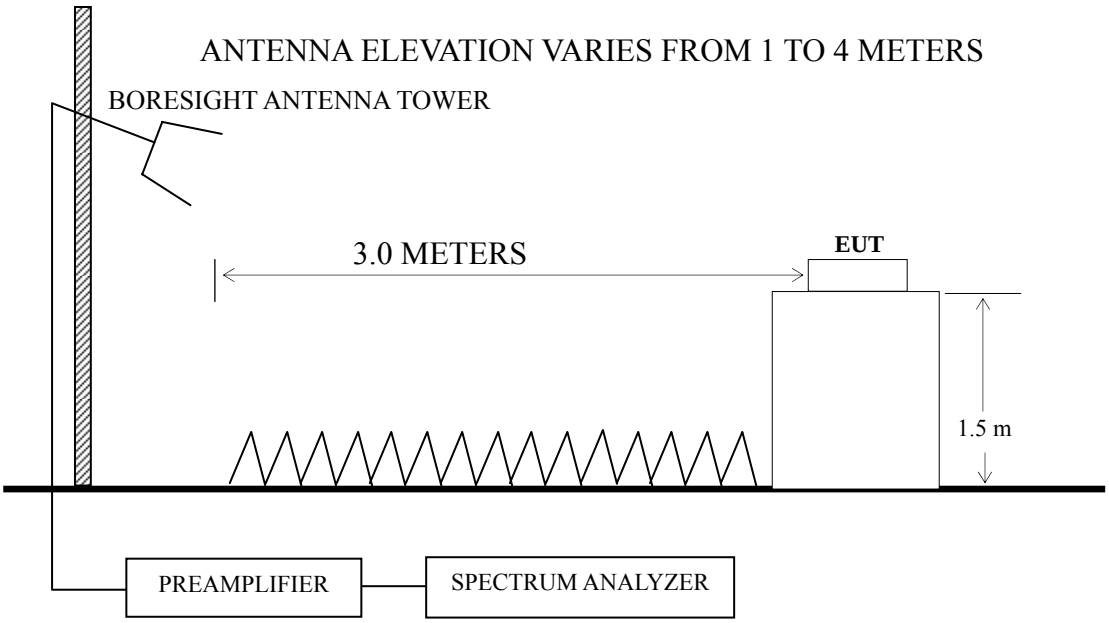
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Preamplifier	Agilent	8447D	2944A06664	Apr 27, 2017	Apr 26, 2018
2.	Preamplifier	HP	8449B	3008A00864	Mar 8, 2018	Mar 7, 2019
3.	Spectrum Analyzer	Agilent	N9010A	MY52221182	Jun 12, 2017	Jun 11, 2018
4.	Test Receiver	R&S	ESCI	101303	May 07, 2017	May 06, 2018
5.	Bi-log Antenna	Schwarz beck	VULB 9168	708	Jul 20, 2017	Jul 19, 2018
6.	Horn Antenna	EMCO	3115	9607-4878	Jun 02, 2017	Jun 01, 2018
7.	Horn Antenna	EMCO	3116	00062643	Sep 08, 2017	Sep 08, 2019
8.	Software	Audix	E3	SET00200 9912M295-2	--	--

4.2 Block Diagram of Test Setup

4.2.1 Below 1GHz



4.2.2 Above 1GHz



4.3 Radiated Emission Limit (§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.4.2 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. 4.2.

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. Below 1 GHz, the table height is 80 cm above the reference ground plane. Above 1 GHz, the table height is 1.5 m. 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 C63.10: 2013 requirements during radiated emission test.

The bandwidth of Test Receiver R&S ESCI 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 N9010A.

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

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.

Frequency range: below 1G (Worst case emission)

No.	Operation	Modulation	Channel	Frequency	Data Page
1.	Transmitting	IEEE 802.11b	1	2412 MHz	P18
2.		IEEE 802.11g	1	2412 MHz	P19
3.		IEEE 802.11n HT20	1	2412 MHz	P19
4.	Receiving	IEEE 802.11b/g/n	--	-	P20

Frequency range: above 1G

No.	Operation	Modulation	Channel	Frequency	Data Page
1.	Transmitting	IEEE 802.11b	1	2412 MHz	P21
2.			6	2437 MHz	P21
3.			11	2462 MHz	P22
4.		IEEE 802.11g	1	2412 MHz	P22
5.			6	2437 MHz	P23
6.			11	2462 MHz	P23
7.		IEEE 802.11n HT20	1	2412 MHz	P24
8.			6	2437 MHz	P24
9.			11	2462 MHz	P25
10.	Receiving	IEEE 802.11b/g/n	--	--	P26

Restricted bands:

No.	Operation	Modulation	Channel	Frequency	Data Page
1.	Transmitting	IEEE 802.11b	Cabinet Emission		P27
2.		IEEE 802.11g	Cabinet Emission		P28
3.		IEEE 802.11n HT20	Cabinet Emission		P28

Additional Radiated emission (Mixed worst modulation): below 1G

No.	Operation	Modulation	Channel	Frequency	Data Page
1.	Transmitting	AP6210: 802.11b	1	2412 MHz	P29
		AP6210: BT 3DH5	00	2402 MHz	
		WLT2564M: BLE	39	2480 MHz	

Additional Radiated emission (Mixed worst modulation): above 1G

No.	Operation	Modulation	Channel	Frequency	Data Page
1.	Transmitting	AP6210: 802.11b	1	2412 MHz	P29
		AP6210: BT 3DH1	39	2441 MHz	
		WLT2564M: BT	39	2480 MHz	

NOTE 1 – Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
NOTE 2 – "QP" means "Quasi-Peak" values
NOTE 3 – 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.
NOTE 4 – The emission levels which not reported are too low against the official limit.
NOTE 5 – The emission levels recorded below is data of EUT configured in Lying direction, for Lying direction was the maximum emission direction during the test. The data of Side & Standing direction are too low against the official limit to be reported.
NOTE 6 – 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 7 – The frequency range 2310-2390MHz & 2483.5-2500MHz were tested for Restricted bands.
NOTE 8 – The EUT with AP6210 and WLT2564M can transmit at the same time. The Additional Radiated emission (Mixed worst modulation) is tested for the simultaneous radiated spurious emission.

Worst case emission < 1GHz

EUT	:	Console	Temperature	:	22℃
Model No.	:	XIR	Humidity	:	51%RH
Test Mode	:	Transmitting	Date of Test	:	2018.03.28

IEEE 802.11b:

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	96.099	43.02	14.01	0.97	27.71	30.29	43.5	13.21	Peak
	191.745	44.37	16.24	1.46	26.94	35.13	43.5	8.37	Peak
	240.015	49.89	17.8	1.61	26.85	42.45	46	3.55	Peak
	333.687	41.3	20.47	1.87	26.98	36.66	46	9.34	Peak
	417.641	38.88	22.13	2.11	27.42	35.7	46	10.3	Peak
	672.845	32.83	26.49	2.64	28.13	33.83	46	12.17	Peak
Vertical	30.9	41.4	18.89	0.56	27.93	32.92	40	7.08	Peak
	62.871	37.71	18.79	0.79	27.83	29.46	40	10.54	Peak
	81.497	42.18	14.18	0.87	27.76	29.47	40	10.53	Peak
	119.436	39.41	17.44	1.12	27.49	30.48	43.5	13.02	Peak
	239.147	39.52	17.72	1.61	26.86	31.99	46	14.01	Peak
	625.078	32.88	25.82	2.55	28.17	33.08	46	12.92	Peak

IEEE 802.11g:

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	68.872	30.65	17.96	0.81	27.81	21.61	40	18.39	Peak
	155.91	32.25	19.36	1.31	27.18	25.74	43.5	17.76	Peak
	191.745	43.68	16.24	1.46	26.94	34.44	43.5	9.06	Peak
	239.147	49.09	17.72	1.61	26.86	41.56	46	4.44	Peak
	333.687	36.68	20.47	1.87	26.98	32.04	46	13.96	Peak
	672.845	32.21	26.49	2.64	28.13	33.21	46	12.79	Peak
Vertical	30.424	41.24	18.85	0.55	27.93	32.71	40	7.29	Peak
	62.871	37.31	18.79	0.79	27.83	29.06	40	10.94	Peak
	81.497	42.95	14.18	0.87	27.76	30.24	40	9.76	Peak
	120.277	39.27	17.52	1.13	27.48	30.44	43.5	13.06	Peak
	239.147	39.51	17.72	1.61	26.86	31.98	46	14.02	Peak
	625.078	32.14	25.82	2.55	28.17	32.34	46	13.66	Peak

IEEE 802.11n HT20:

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	67.913	29.76	18.09	0.81	27.81	20.85	40	19.15	Peak
	120.277	30.75	17.52	1.13	27.48	21.92	43.5	21.58	Peak
	191.745	43.41	16.24	1.46	26.94	34.17	43.5	9.33	Peak
	239.147	49.24	17.72	1.61	26.86	41.71	46	4.29	Peak
	333.687	36.73	20.47	1.87	26.98	32.09	46	13.91	Peak
	601.427	33.42	25.69	2.52	28.19	33.44	46	12.56	Peak
Vertical	30.638	41.45	18.87	0.56	27.93	32.95	40	7.05	Peak
	62.871	38.16	18.79	0.79	27.83	29.91	40	10.09	Peak
	81.497	43.37	14.18	0.87	27.76	30.66	40	9.34	Peak
	119.436	38.95	17.44	1.12	27.49	30.02	43.5	13.48	Peak
	239.147	39.79	17.72	1.61	26.86	32.26	46	13.74	Peak
	625.078	33.25	25.82	2.55	28.17	33.45	46	12.55	Peak

TEST ENGINEER: Jarey

EUT	:	Console	Temperature	:	22℃
Model No.	:	XIR	Humidity	:	51%RH
Test Mode	:	Receiving	Date of Test	:	2018.03.28

IEEE 802.11b/g/n:

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	68.872	30.84	17.96	0.81	27.81	21.8	40	18.2	Peak
	155.91	31.99	19.36	1.31	27.18	25.48	43.5	18.02	Peak
	191.745	43.21	16.24	1.46	26.94	33.97	43.5	9.53	Peak
	239.147	49.28	17.72	1.61	26.86	41.75	46	4.25	Peak
	333.687	35.97	20.47	1.87	26.98	31.33	46	14.67	Peak
	625.078	33.61	25.82	2.55	28.17	33.81	46	12.19	Peak
Vertical	30.317	40.75	18.83	0.55	27.93	32.2	40	7.8	Peak
	65.803	37.59	18.37	0.8	27.82	28.94	40	11.06	Peak
	82.359	42.45	14.11	0.88	27.75	29.69	40	10.31	Peak
	120.277	38.29	17.52	1.13	27.48	29.46	43.5	14.04	Peak
	239.147	38.89	17.72	1.61	26.86	31.36	46	14.64	Peak
	625.078	32.1	25.82	2.55	28.17	32.3	46	13.7	Peak

TEST ENGINEER: Jarey

Radiated Emission > 1GHz

EUT	:	Console	Temperature :	22℃
Model No.	:	XIR	Humidity :	51%RH
Test Mode	:	Transmitting	Date of Test :	2018.03.28

IEEE 802.11b CH1 (2412 MHz):

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	1282.193	44.67	24.82	3.72	36.01	37.2	74	36.8	Peak
	1944.073	42.97	27.61	4.58	35.35	39.81	74	34.19	Peak
	2863.645	42.41	30.07	5.59	35.21	42.86	74	31.14	Peak
	4748.888	38.66	34.01	7.52	33.97	46.22	74	27.78	Peak
	7368.741	39.46	37.62	9.21	35.52	50.77	74	23.23	Peak
	10453.97	38.24	38.96	10.96	35.43	52.73	74	21.27	Peak
Vertical	1706.968	42.48	26.75	4.31	35.55	37.99	74	36.01	Peak
	2144.825	43.06	28.11	4.8	35.28	40.69	74	33.31	Peak
	2973.293	42.5	30.42	5.71	35.2	43.43	74	30.57	Peak
	4680.751	38.89	33.95	7.46	33.99	46.31	74	27.69	Peak
	7943.838	38.71	38.62	9.61	35.86	51.08	74	22.92	Peak
	11368	38.01	39.35	11.52	35.64	53.24	74	20.76	Peak

IEEE 802.11b CH6 (2437 MHz):

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	1196.264	44.63	24.34	3.57	36.11	36.43	74	37.57	Peak
	1899.636	43.13	27.46	4.52	35.38	39.73	74	34.27	Peak
	2814.411	42.27	29.91	5.55	35.22	42.51	74	31.49	Peak
	4959.307	38.27	34.17	7.72	33.91	46.25	74	27.75	Peak
	7717.518	38.84	38.21	9.48	35.74	50.79	74	23.21	Peak
	11012.25	37.9	39.2	11.25	35.6	52.75	74	21.25	Peak
Vertical	1736.829	41.66	26.87	4.34	35.53	37.34	74	36.66	Peak
	2071.708	41.3	27.96	4.72	35.29	38.69	74	35.31	Peak
	2922.174	40.92	30.26	5.67	35.21	41.64	74	32.36	Peak
	4916.49	37.21	34.14	7.72	33.92	45.15	74	28.85	Peak
	8106.2	37.37	38.49	9.69	35.84	49.71	74	24.29	Peak
	11172.56	37.45	39.27	11.39	35.62	52.49	74	21.51	Peak

IEEE 802.11b CH11 (2462 MHz):

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	1271.123	44.2	24.76	3.69	36.02	36.63	74	37.37	Peak
	1861.588	42.85	27.32	4.49	35.41	39.25	74	34.75	Peak
	2766.024	41.75	29.74	5.51	35.22	41.78	74	32.22	Peak
	4456.315	39.04	33.72	7.26	34.05	45.97	74	28.03	Peak
	6488.754	38	36.16	8.75	34.76	48.15	74	25.85	Peak
	9641.257	37.13	38.77	10.49	35.34	51.05	74	22.95	Peak
Vertical	1667.951	42.06	26.6	4.25	35.59	37.32	74	36.68	Peak
	2107.95	41.33	28.03	4.76	35.29	38.83	74	35.17	Peak
	3150.237	38.5	30.88	5.9	35.03	40.25	74	33.75	Peak
	5284.902	36.51	34.55	8	33.99	45.07	74	28.93	Peak
	7347.474	37.99	37.6	9.21	35.52	49.28	74	24.72	Peak
	11701.38	37.45	39.24	11.79	35.67	52.81	74	21.19	Peak

IEEE 802.11g CH1 (2412 MHz):

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	1358.498	43.49	25.22	3.84	35.92	36.63	74	37.37	Peak
	2071.708	42.62	27.96	4.72	35.29	40.01	74	33.99	Peak
	2930.633	42.43	30.28	5.67	35.21	43.17	74	30.83	Peak
	4586.999	38.36	33.88	7.39	34.01	45.62	74	28.38	Peak
	7076.516	37.59	37.22	9.08	35.34	48.55	74	25.45	Peak
	10636.85	37.94	39.05	11.06	35.49	52.56	74	21.44	Peak
Vertical	1583.392	42.46	26.26	4.13	35.67	37.18	74	36.82	Peak
	2047.895	41.48	27.9	4.68	35.29	38.77	74	35.23	Peak
	3328.077	38.56	31.32	6.11	34.84	41.15	74	32.85	Peak
	5075.317	37.1	34.29	7.84	33.93	45.3	74	28.7	Peak
	7606.788	39.3	38	9.41	35.67	51.04	74	22.96	Peak
	11012.25	38.26	39.2	11.25	35.6	53.11	74	20.89	Peak

IEEE 802.11g CH6 (2437 MHz):

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	1331.288	43.57	25.08	3.81	35.95	36.51	74	37.49	Peak
	1995.309	42.35	27.78	4.61	35.31	39.43	74	34.57	Peak
	2905.331	41.41	30.2	5.63	35.21	42.03	74	31.97	Peak
	4845.948	38.23	34.08	7.66	33.94	46.03	74	27.97	Peak
	7284.038	38.24	37.51	9.21	35.48	49.48	74	24.52	Peak
	10010.42	36.84	38.7	10.67	35.3	50.91	74	23.09	Peak
Vertical	1629.825	42.14	26.45	4.19	35.63	37.15	74	36.85	Peak
	2194.998	41.81	28.22	4.88	35.28	39.63	74	34.37	Peak
	3299.344	38.51	31.25	6.06	34.87	40.95	74	33.05	Peak
	5209.075	37.81	34.45	7.95	33.97	46.24	74	27.76	Peak
	7784.729	38.26	38.33	9.48	35.77	50.3	74	23.7	Peak
	10885.67	37.14	39.15	11.15	35.57	51.87	74	22.13	Peak

IEEE 802.11g CH11 (2462 MHz):

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	1312.187	43.43	24.98	3.78	35.97	36.22	74	37.78	Peak
	2036.09	41.64	27.88	4.68	35.3	38.9	74	35.1	Peak
	2838.921	42.11	29.99	5.59	35.21	42.48	74	31.52	Peak
	4640.339	37.95	33.92	7.46	34	45.33	74	28.67	Peak
	6894.806	37.69	36.92	8.96	35.18	48.39	74	25.61	Peak
	10185.53	37.33	38.81	10.76	35.35	51.55	74	22.45	Peak
Vertical	1529.414	42.92	26.03	4.07	35.73	37.29	74	36.71	Peak
	2207.723	42.24	28.24	4.88	35.28	40.08	74	33.92	Peak
	3252.005	39.33	31.13	6.01	34.92	41.55	74	32.45	Peak
	4845.948	37.29	34.08	7.66	33.94	45.09	74	28.91	Peak
	7179.527	37.92	37.36	9.14	35.42	49	74	25	Peak
	11500.2	37.58	39.4	11.66	35.65	52.99	74	21.01	Peak

IEEE 802.11n HT20 CH1 (2412 MHz):

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	1406.443	43.39	25.46	3.9	35.86	36.89	74	37.11	Peak
	1819.036	42.95	27.17	4.43	35.45	39.1	74	34.9	Peak
	2742.143	42.43	29.66	5.47	35.22	42.34	74	31.66	Peak
	4521.185	38.28	33.82	7.32	34.04	45.38	74	28.62	Peak
	6659.763	37.75	36.49	8.8	34.95	48.09	74	25.91	Peak
	9923.991	37.17	38.72	10.57	35.31	51.15	74	22.85	Peak
Vertical	1507.47	41.95	25.94	4.04	35.75	36.18	74	37.82	Peak
	2169.767	41.19	28.16	4.84	35.28	38.91	74	35.09	Peak
	3105.037	38.49	30.77	5.85	35.08	40.03	74	33.97	Peak
	4804.11	37.12	34.05	7.59	33.95	44.81	74	29.19	Peak
	7035.727	37.12	37.16	9.01	35.31	47.98	74	26.02	Peak
	10729.48	37.03	39.09	11.06	35.52	51.66	74	22.34	Peak

IEEE 802.11n HT20 CH6 (2437 MHz):

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	1242.068	43.45	24.6	3.66	36.06	35.65	74	38.35	Peak
	1792.937	42.65	27.08	4.4	35.48	38.65	74	35.35	Peak
	2687.22	41.43	29.47	5.43	35.23	41.1	74	32.9	Peak
	4902.3	38.28	34.12	7.66	33.93	46.13	74	27.87	Peak
	6835.278	37.84	36.81	8.9	35.14	48.41	74	25.59	Peak
	10333.8	37.07	38.89	10.86	35.4	51.42	74	22.58	Peak
Vertical	1611.091	42.12	26.38	4.19	35.64	37.05	74	36.95	Peak
	2298.892	41.6	28.42	5	35.27	39.75	74	34.25	Peak
	3078.229	38.82	30.7	5.8	35.11	40.21	74	33.79	Peak
	4735.181	38.24	33.99	7.52	33.97	45.78	74	28.22	Peak
	7454.429	38.2	37.74	9.28	35.58	49.64	74	24.36	Peak
	10606.15	37.67	39.04	11.06	35.49	52.28	74	21.72	Peak

IEEE 802.11n HT20 CH11 (2462 MHz):

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	1386.264	42.73	25.36	3.87	35.88	36.08	74	37.92	Peak
	1972.373	41.8	27.7	4.61	35.33	38.78	74	35.22	Peak
	2710.622	41.12	29.56	5.47	35.23	40.92	74	33.08	Peak
	5134.335	37.5	34.36	7.9	33.94	45.82	74	28.18	Peak
	7562.942	38.2	37.92	9.34	35.64	49.82	74	24.18	Peak
	10854.25	37.88	39.14	11.15	35.56	52.61	74	21.39	Peak
Vertical	1682.477	41.8	26.66	4.28	35.58	37.16	74	36.84	Peak
	2259.367	41.52	28.35	4.96	35.27	39.56	74	34.44	Peak
	3196.094	39.28	31	5.95	34.97	41.26	74	32.74	Peak
	5134.335	37.67	34.36	7.9	33.94	45.99	74	28.01	Peak
	7284.038	37.88	37.51	9.21	35.48	49.12	74	24.88	Peak
	11940.54	37.44	39.05	12.06	35.7	52.85	74	21.15	Peak

TEST ENGINEER: Jarey

EUT	:	Console	Temperature :	22℃
Model No.	:	XIR	Humidity :	51%RH
Test Mode	:	Receiving	Date of Test :	2018.03.28

IEEE 802.11b/g/n:

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	1422.798	43.32	25.54	3.92	35.84	36.94	74	37.06	Peak
	1777.458	43.36	27.02	4.37	35.49	39.26	74	34.74	Peak
	2973.293	42.02	30.42	5.71	35.2	42.95	74	31.05	Peak
	4392.376	38.9	33.58	7.19	34.07	45.6	74	28.4	Peak
	7221.15	38.25	37.42	9.14	35.43	49.38	74	24.62	Peak
	9809.916	36.31	38.74	10.53	35.32	50.26	74	23.74	Peak
Vertical	1560.673	41.95	26.17	4.1	35.69	36.53	74	37.47	Peak
	2239.861	41.57	28.31	4.92	35.27	39.53	74	34.47	Peak
	2896.945	41.23	30.18	5.63	35.21	41.83	74	32.17	Peak
	4640.339	37.41	33.92	7.46	34	44.79	74	29.21	Peak
	7898.049	37.18	38.54	9.54	35.84	49.42	74	24.58	Peak
	11837.45	37.04	39.13	11.93	35.68	52.42	74	21.58	Peak

TEST ENGINEER: Jarey

Emissions in restricted frequency bands:

EUT	:	Console	Temperature :	22℃
Model No.	:	XIR	Humidity :	51%RH
Test Mode	:	Transmitting	Date of Test :	2018.03.28

IEEE 802.11b:

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	2331.084	39.86	28.49	5.04	35.26	38.13	74	35.87	Peak
	2331.084	26.56	28.49	5.04	35.26	24.83	54	29.17	Average
	2365.94	39.74	28.55	5.08	35.26	38.11	74	35.89	Peak
	2365.94	24.64	28.55	5.08	35.26	23.01	54	30.99	Average
	2490.429	39.24	28.79	5.23	35.25	38.01	74	35.99	Peak
	2490.429	24.34	28.79	5.23	35.25	23.11	54	30.89	Average
	2495.418	38.92	28.79	5.23	35.25	37.69	74	36.31	Peak
	2495.418	24.52	28.79	5.23	35.25	23.29	54	30.71	Average
Vertical	2325.067	38.85	28.48	5.04	35.26	37.11	74	36.89	Peak
	2325.067	24.13	28.48	5.04	35.26	22.39	54	31.61	Average
	2362.589	39.4	28.54	5.08	35.26	37.76	74	36.24	Peak
	2362.589	25.13	28.54	5.08	35.26	23.49	54	30.51	Average
	2488.976	39.08	28.77	5.23	35.25	37.83	74	36.17	Peak
	2488.976	25.27	28.77	5.23	35.25	24.02	54	29.98	Average
	2495.418	38.95	28.79	5.23	35.25	37.72	74	36.28	Peak
	2495.418	24.19	28.79	5.23	35.25	22.96	54	31.04	Average

IEEE 802.11g:

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	2322.935	39.43	28.48	5.04	35.26	37.69	74	36.31	Peak
	2322.935	25.47	28.48	5.04	35.26	23.73	54	30.27	Average
	2358.456	39.72	28.54	5.08	35.26	38.08	74	35.92	Peak
	2358.456	25.57	28.54	5.08	35.26	23.93	54	30.07	Average
	2488.769	38.8	28.77	5.23	35.25	37.55	74	36.45	Peak
	2488.769	24.29	28.77	5.23	35.25	23.04	54	30.96	Average
	2498.541	38.88	28.8	5.23	35.25	37.66	74	36.34	Peak
	2498.541	24.37	28.8	5.23	35.25	23.15	54	30.85	Average
Vertical	2320.999	39.6	28.46	5.04	35.26	37.84	74	36.16	Peak
	2320.999	25.15	28.46	5.04	35.26	23.39	54	30.61	Average
	2350.995	38.97	28.53	5.08	35.26	37.32	74	36.68	Peak
	2350.995	24.26	28.53	5.08	35.26	22.61	54	31.39	Average
	2486.073	38.6	28.77	5.23	35.25	37.35	74	36.65	Peak
	2486.073	24.41	28.77	5.23	35.25	23.16	54	30.84	Average
	2493.754	37.84	28.79	5.23	35.25	36.61	74	37.39	Peak
	2493.754	23.42	28.79	5.23	35.25	22.19	54	31.81	Average

IEEE 802.11n:

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	2315.007	39.02	28.45	5.04	35.26	37.25	74	36.75	Peak
	2315.007	25.26	28.45	5.04	35.26	23.49	54	30.51	Average
	2350.995	39.09	28.53	5.08	35.26	37.44	74	36.56	Peak
	2350.995	25.24	28.53	5.08	35.26	23.59	54	30.41	Average
	2486.28	38.45	28.77	5.23	35.25	37.2	74	36.8	Peak
	2486.28	24.44	28.77	5.23	35.25	23.19	54	30.81	Average
	2497.916	38.54	28.8	5.23	35.25	37.32	74	36.68	Peak
	2497.916	24.59	28.8	5.23	35.25	23.37	54	30.63	Average
Vertical	2317.905	40.1	28.46	5.04	35.26	38.34	74	35.66	Peak
	2317.905	26.31	28.46	5.04	35.26	24.55	54	29.45	Average
	2332.445	40.02	28.49	5.04	35.26	38.29	74	35.71	Peak
	2332.445	26.2	28.49	5.04	35.26	24.47	54	29.53	Average
	2484.622	38.15	28.77	5.23	35.25	36.9	74	37.1	Peak
	2484.622	24.19	28.77	5.23	35.25	22.94	54	31.06	Average
	2493.13	38.13	28.79	5.23	35.25	36.9	74	37.1	Peak
	2493.13	24.69	28.79	5.23	35.25	23.46	54	30.54	Average

TEST ENGINEER: Jarey

Additional Radiated emission (Mixed worst modulation):

EUT	:	Console	Temperature :	22℃
Model No.	:	XIR	Humidity :	51%RH
Test Mode	:	Transmitting	Date of Test :	2018.03.28

Below 1G

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	78.413	32.77	14.85	0.85	27.77	20.7	40	19.3	Peak
	119.436	30.6	17.44	1.12	27.49	21.67	43.5	21.83	Peak
	191.745	43.32	16.24	1.46	26.94	34.08	43.5	9.42	Peak
	239.147	48.86	17.72	1.61	26.86	41.33	46	4.67	Peak
	333.687	36.24	20.47	1.87	26.98	31.6	46	14.4	Peak
	595.133	31.63	25.59	2.5	28.2	31.52	46	14.48	Peak
Vertical	30.853	41.35	18.89	0.56	27.93	32.87	40	7.13	Peak
	63.313	37.65	18.72	0.79	27.83	29.33	40	10.67	Peak
	81.212	43.04	14.2	0.87	27.76	30.35	40	9.65	Peak
	120.277	38.46	17.52	1.13	27.48	29.63	43.5	13.87	Peak
	239.147	39.62	17.72	1.61	26.86	32.09	46	13.91	Peak
	625.078	33.26	25.82	2.55	28.17	33.46	46	12.54	Peak

Above 1G

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	1289.627	43.49	24.86	3.72	36	36.07	74	37.93	Peak
	2053.822	42.02	27.92	4.68	35.29	39.33	74	34.67	Peak
	2656.331	42.3	29.37	5.39	35.23	41.83	74	32.17	Peak
	5224.153	36.66	34.47	7.95	33.97	45.11	74	28.89	Peak
	7497.646	38.04	37.8	9.34	35.61	49.57	74	24.43	Peak
	10514.58	37.86	39	10.96	35.46	52.36	74	21.64	Peak
Vertical	1547.199	42.41	26.11	4.1	35.71	36.91	74	37.09	Peak
	2151.034	42.15	28.12	4.84	35.28	39.83	74	34.17	Peak
	3270.858	38.45	31.18	6.01	34.89	40.75	74	33.25	Peak
	5361.833	37.04	34.64	8.06	34.01	45.73	74	28.27	Peak
	7717.518	37.68	38.21	9.48	35.74	49.63	74	24.37	Peak
	11302.48	37.61	39.32	11.52	35.63	52.82	74	21.18	Peak

TEST ENGINEER: Jarey

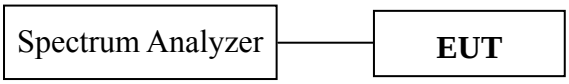
5 6 dB BANDWIDTH MEASUREMENT

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.	Spectrum Analyzer	Agilent	N9010A	MY52221182	Jun 12, 2017	Jun 11, 2018

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 switch ON/OFF was used to enable the EUT to change the channel one by one.

5.5 Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with settings: RBW = 100kHz, VBW ≥ 3 × RBW.

The 6 dB bandwidth is defined as the total spectrum the power of which is lower than peak power minus 6 dB .

The test procedure is defined in ANSI C63.10-2013 (the 11.8.2 Measurement Procedure “Option 2” was used).

5.6 Test Results

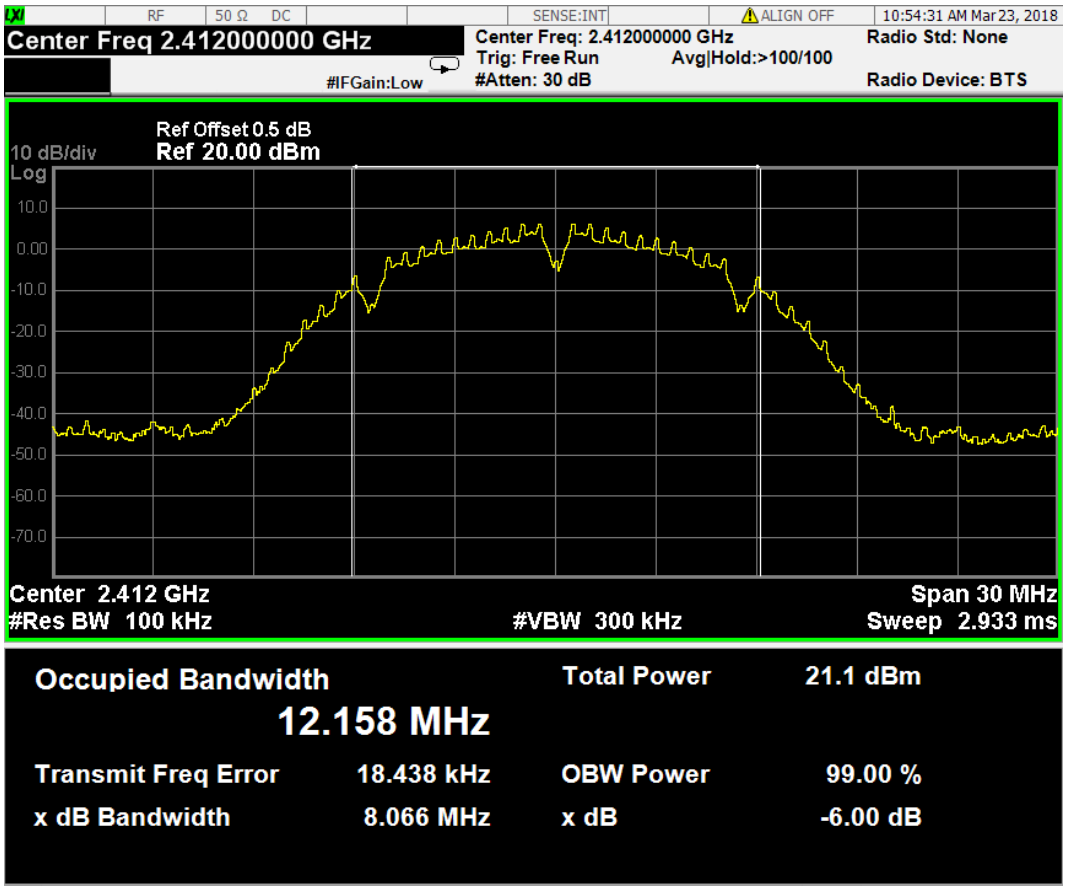
PASSED.

All the test results are attached in next pages.

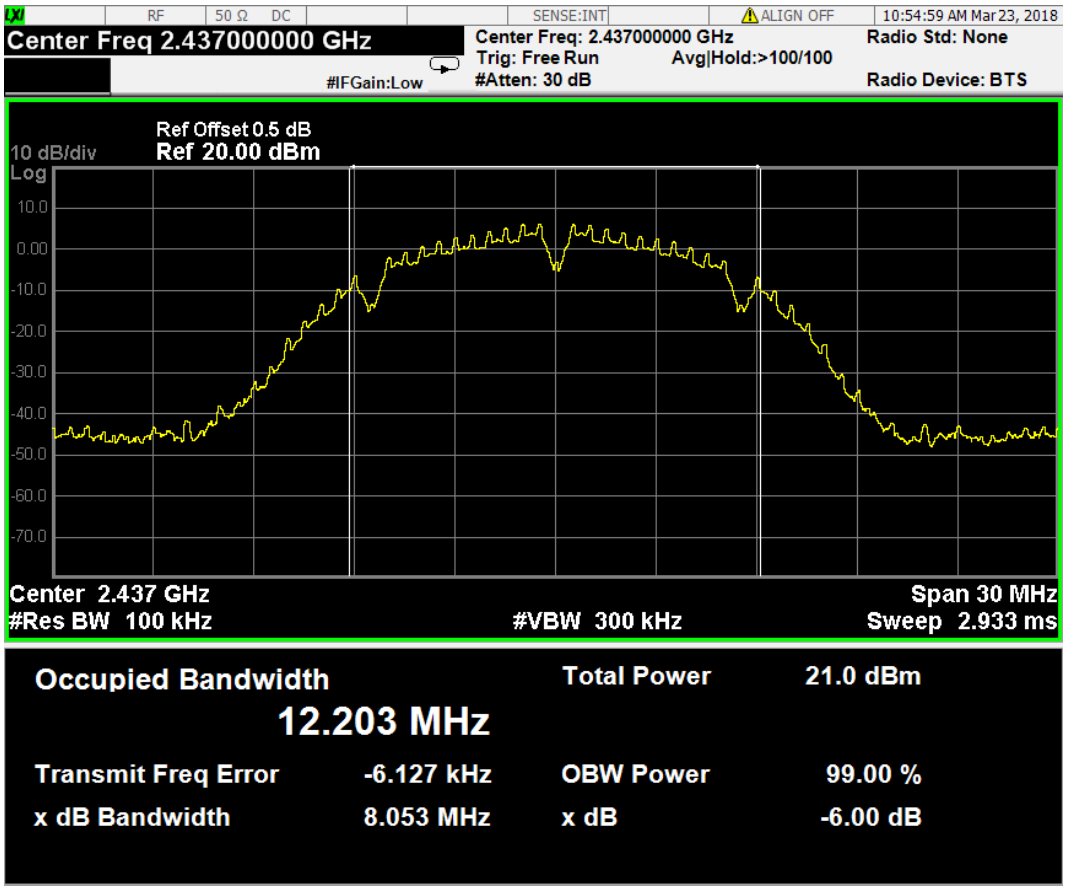
(Test Date: 2018.03.23 Temperature: 23℃ Humidity: 51 %)

Modulation	Channel	Frequency (MHz)	**6dB Bandwidth (MHz)**	Limit
IEEE 802. 11b	1	2412	**8.066**	500 kHz
	6	2437	**8.053**	500 kHz
	11	2462	**8.074**	500 kHz
IEEE 802.11g	1	2412	**15.15**	500 kHz
	6	2437	**15.15**	500 kHz
	11	2462	**15.16**	500 kHz
IEEE 802.11n HT20	1	2412	**15.15**	500 kHz
	6	2437	**15.15**	500 kHz
	11	2462	**15.15**	500 kHz

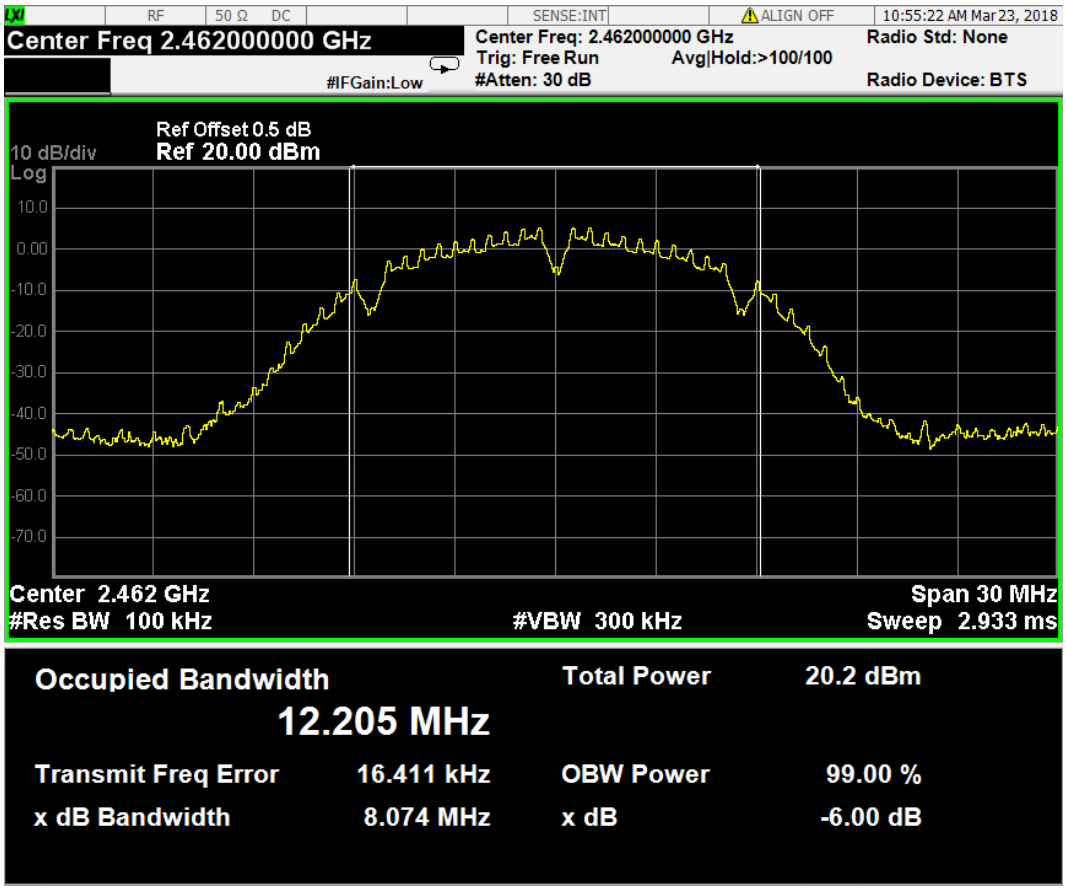
IEEE 802.11b: CH1 (2412 MHz)



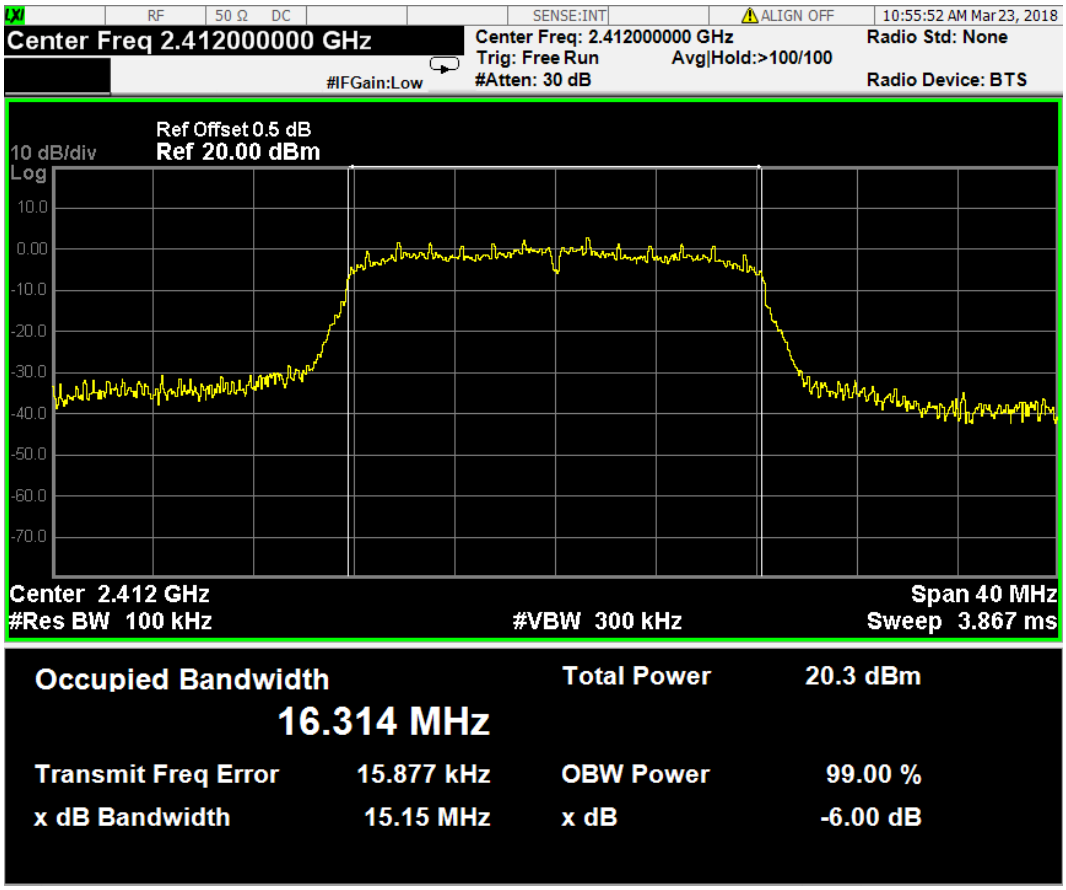
IEEE 802.11b: CH6 (2437 MHz)



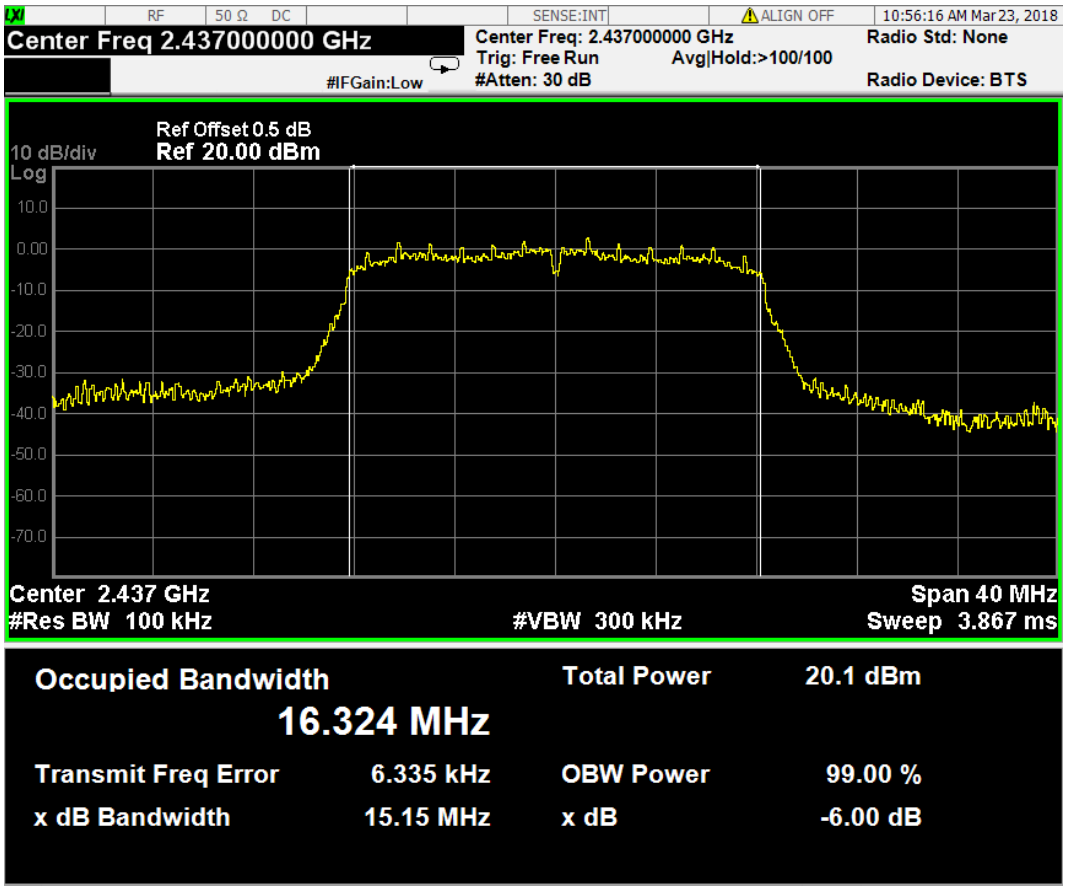
IEEE 802.11b: CH11 (2462 MHz)



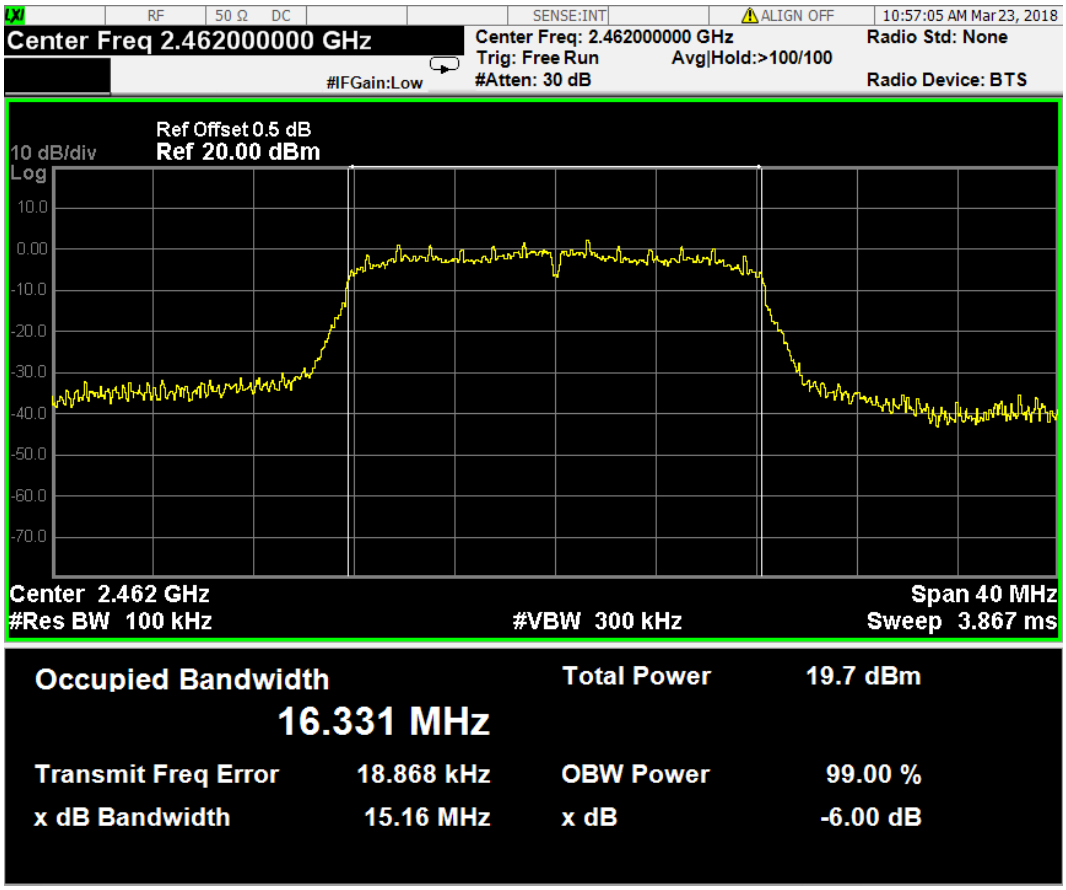
IEEE 802.11g: CH1 (2412 MHz)



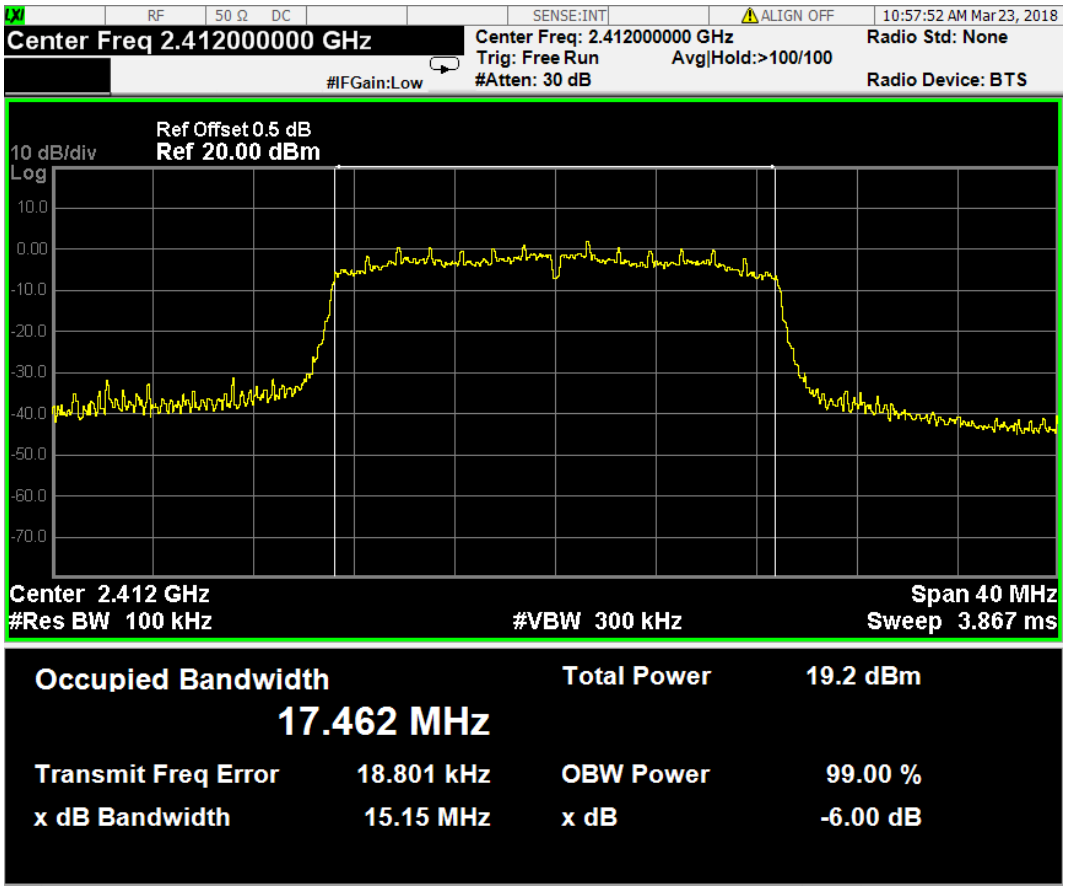
IEEE 802.11g: CH6 (2437 MHz)



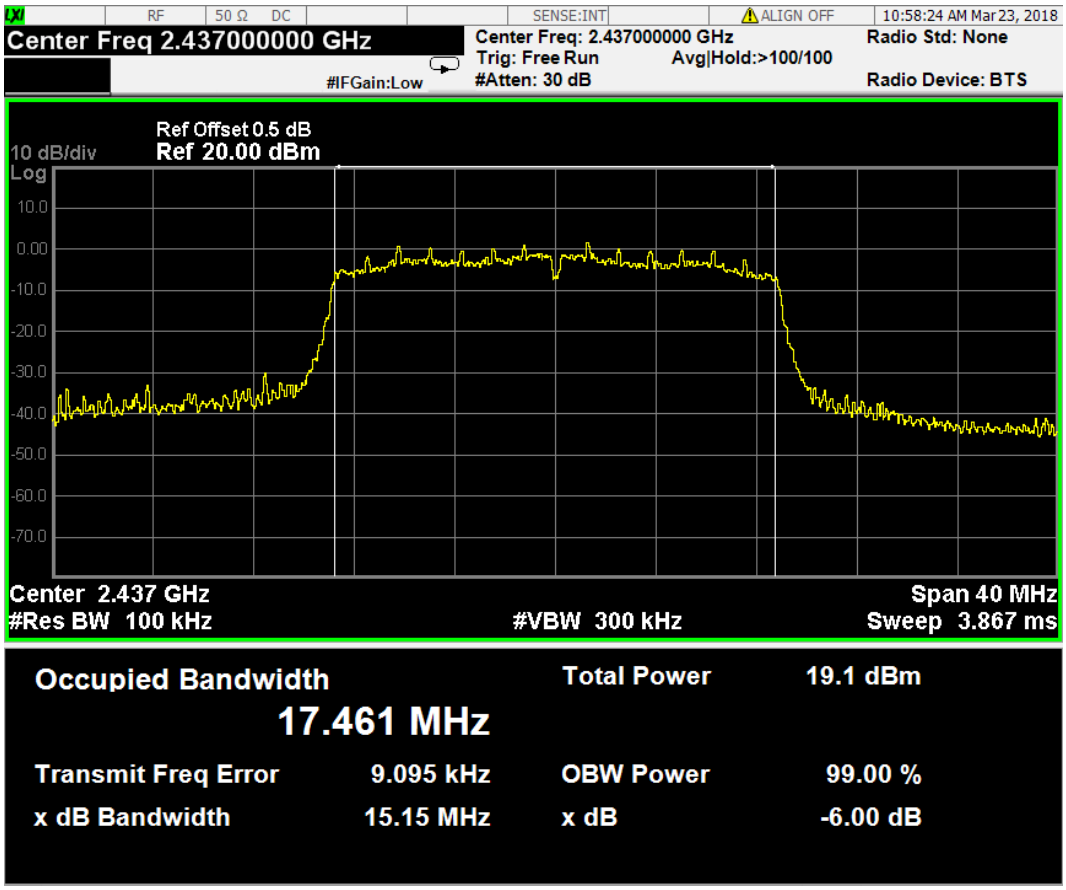
IEEE 802.11g: CH11 (2462 MHz)



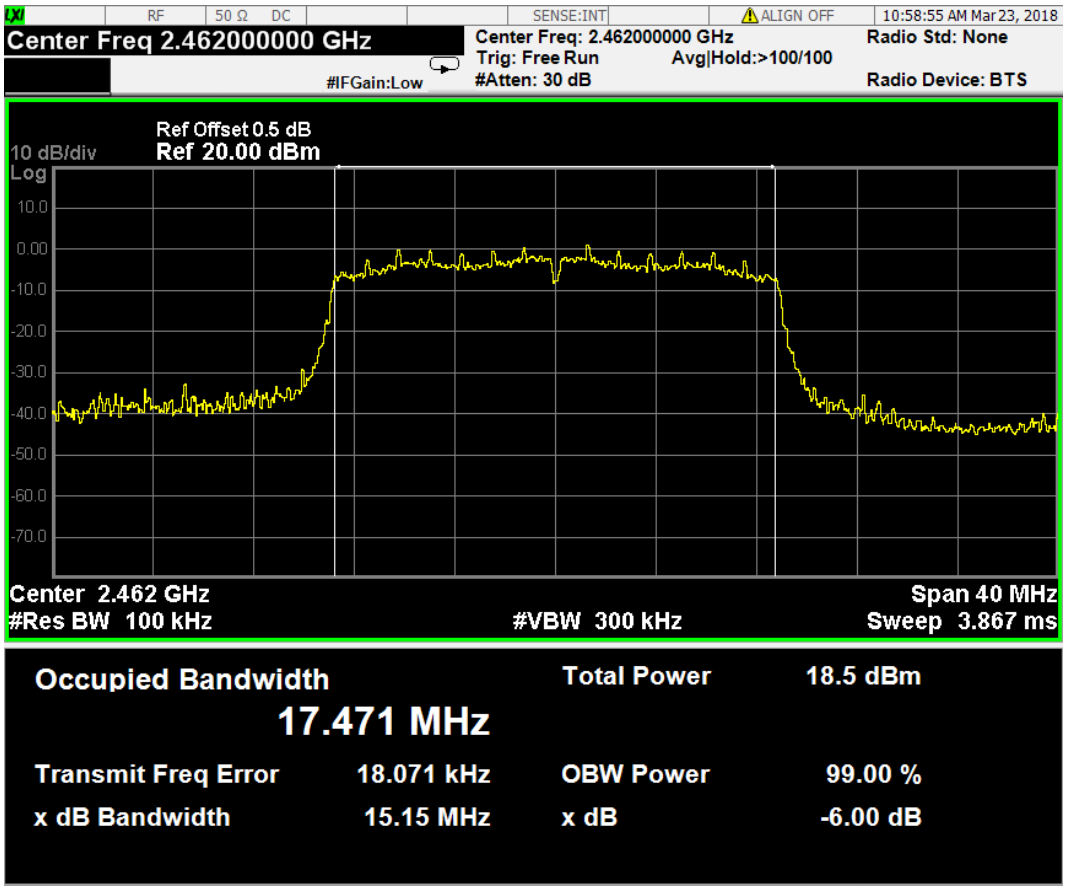
IEEE 802.11n: CH1 (2412 MHz)



IEEE 802.11n: CH6 (2437 MHz)



IEEE 802.11n: CH11 (2462 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.	Spectrum Analyzer	Agilent	N9010A	MY52221182	Jun 12, 2017	Jun 11, 2018

6.2 Block Diagram of Test Setup

The Same as Section. 4.2.

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

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

6.4 Operating Condition of EUT

The switch ON/OFF was used to enable the EUT to change the channel one by one.

6.5 Test Procedure

The transmitter output was connected to the spectrum analyzer.

The following procedure can be used when the maximum available RBW of the instrument is less than the DTS bandwidth:
a) RBW = 1 MHz.
b) VBW ≥ [3 × RBW].
c) Span ≥ [1.5 × DTS bandwidth].
d) Detector = peak.
e) Sweep time = auto.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges.

The test procedure is defined in ANSI C63.10-2013 (11.9.1.2 Measurement Procedure " Integrated band power method" was used).

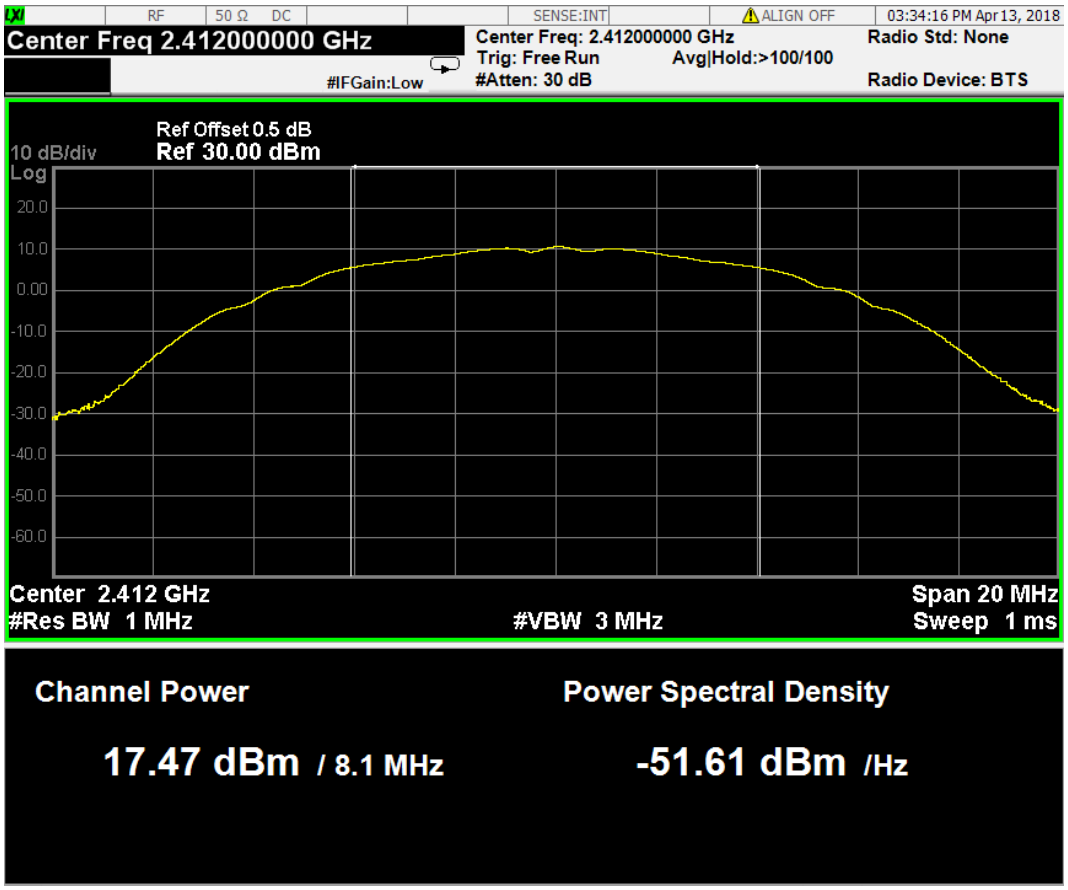
6.6 Test Results

PASSED. All the test results are listed below.

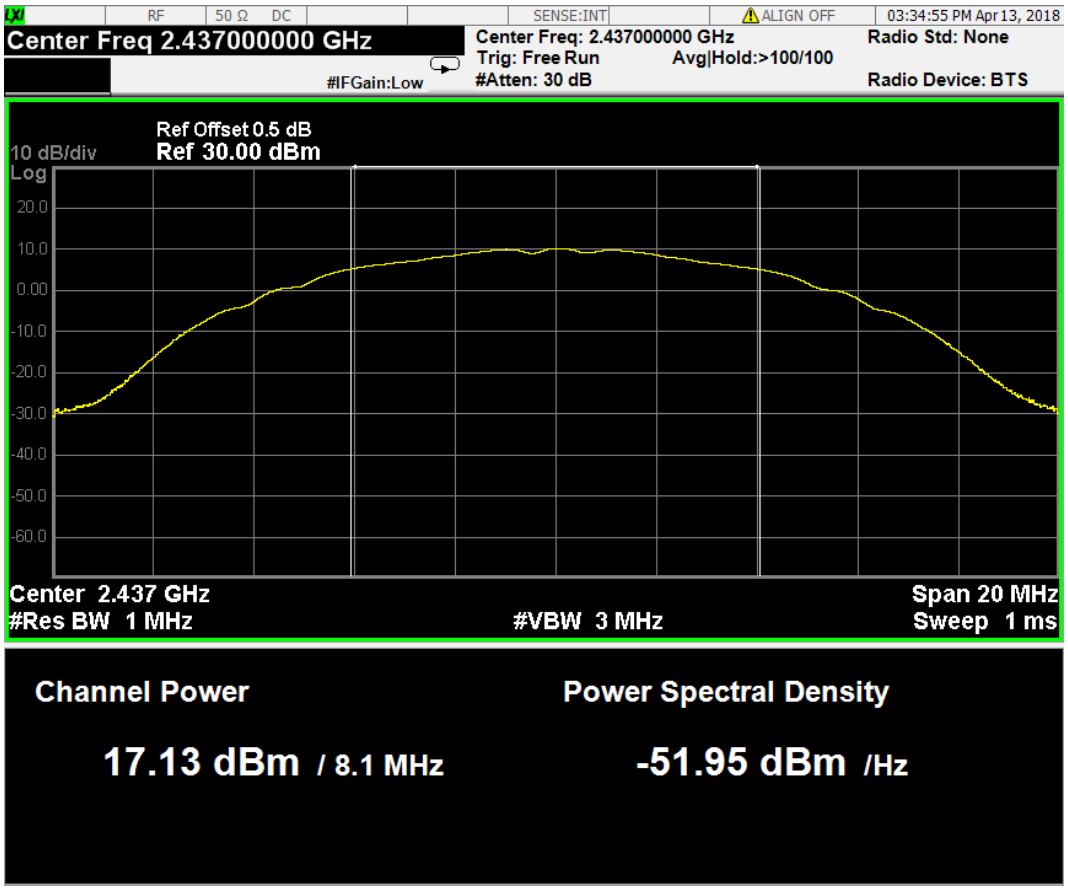
(Test Date: 2018.03.23 Temperature: 23℃ Humidity: 51 %)

Modulation	Channel	Frequency (MHz)	**Peak Output Power (dBm)**	Limit
IEEE 802.11b	1	2412	**17.47**	30 dBm
	6	2437	**17.13**	30 dBm
	11	2462	**16.82**	30 dBm
IEEE 802.11g	1	2412	**22.34**	30 dBm
	6	2437	**22.16**	30 dBm
	11	2462	**21.93**	30 dBm
IEEE 802.11n HT20	1	2412	**20.58**	30 dBm
	6	2437	**20.49**	30 dBm
	11	2462	**20.23**	30 dBm

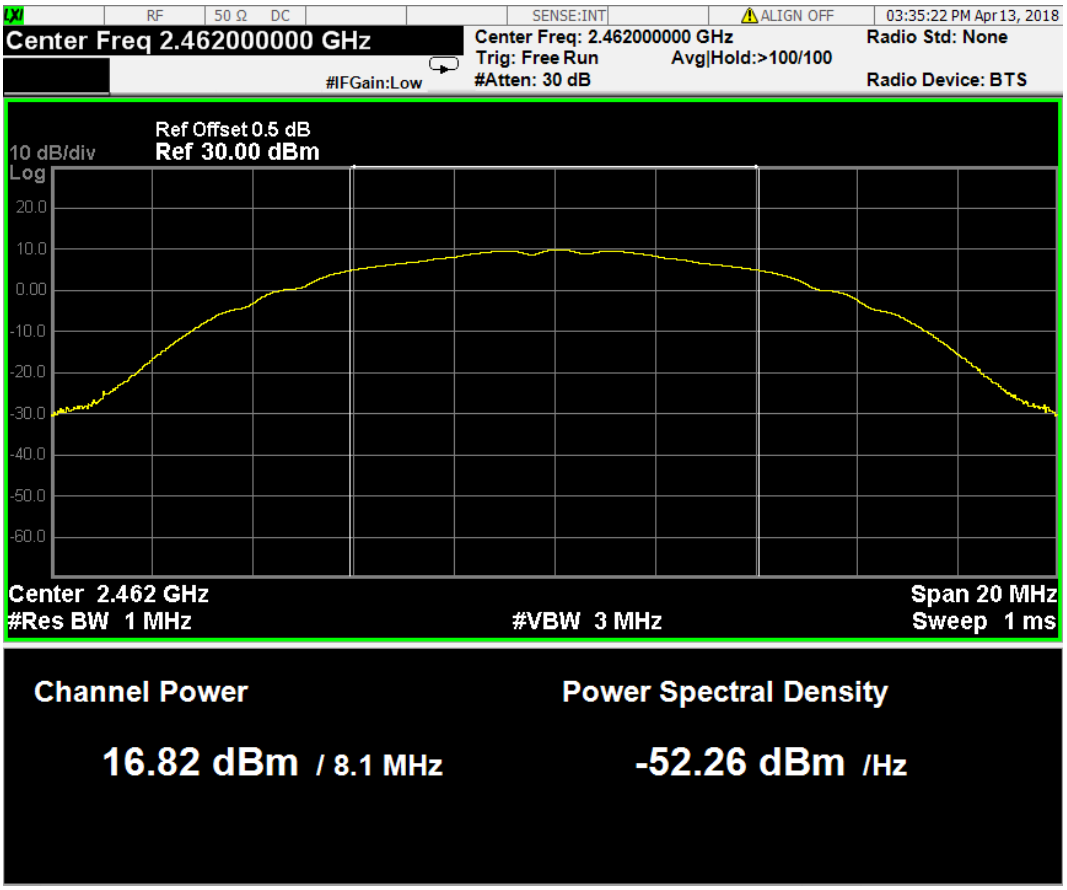
IEEE 802.11b: CH1 (2412 MHz)



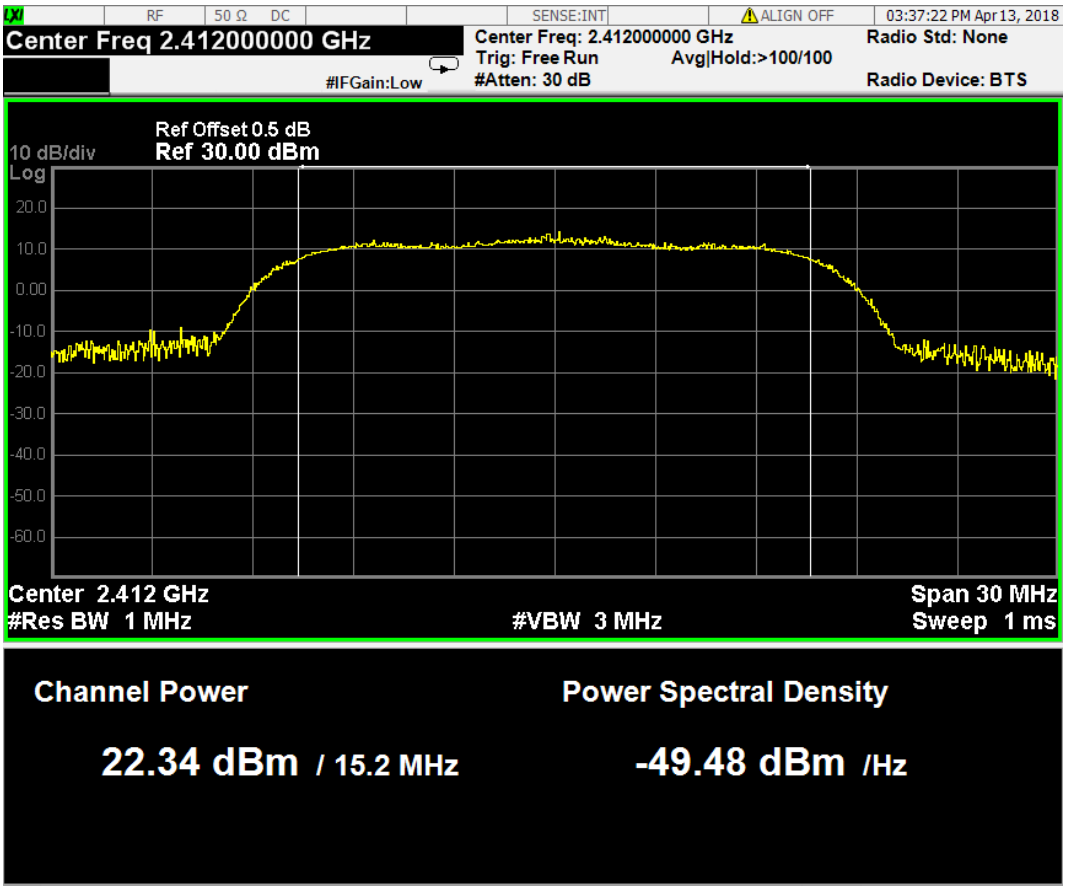
IEEE 802.11b: CH6 (2437 MHz)



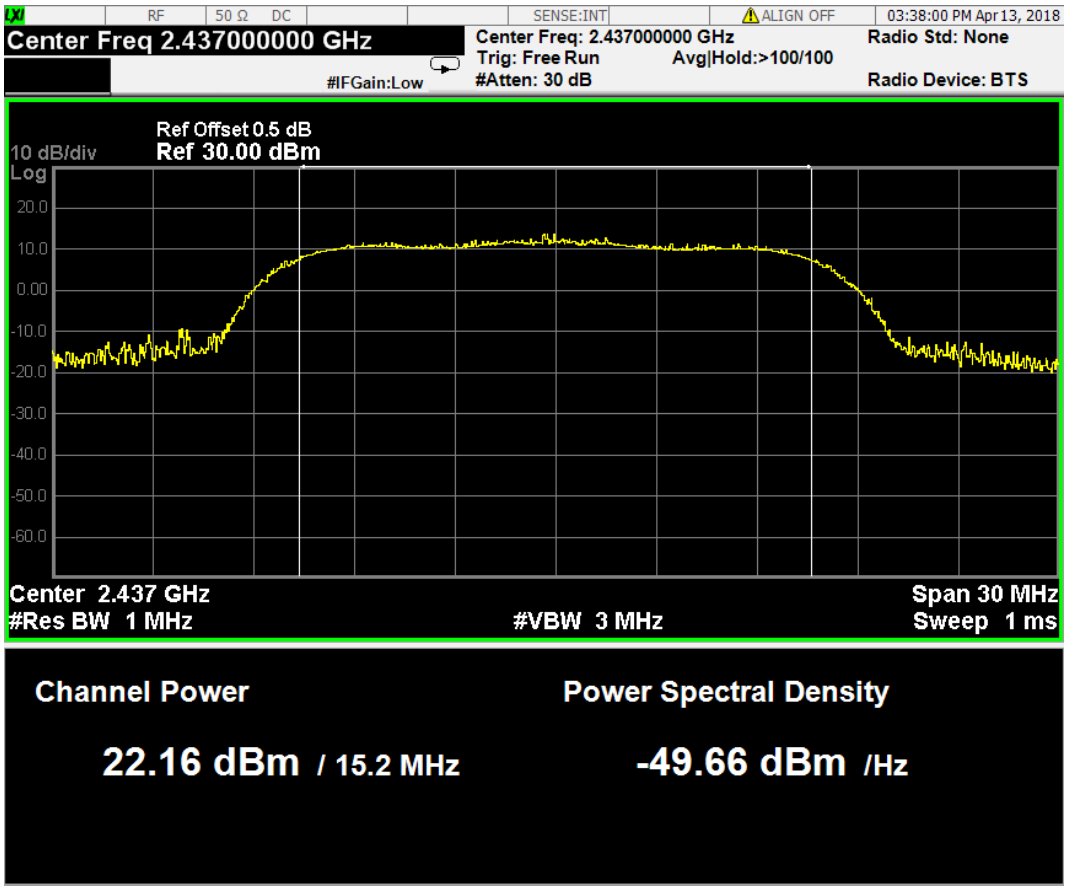
IEEE 802.11b: CH11 (2462 MHz)



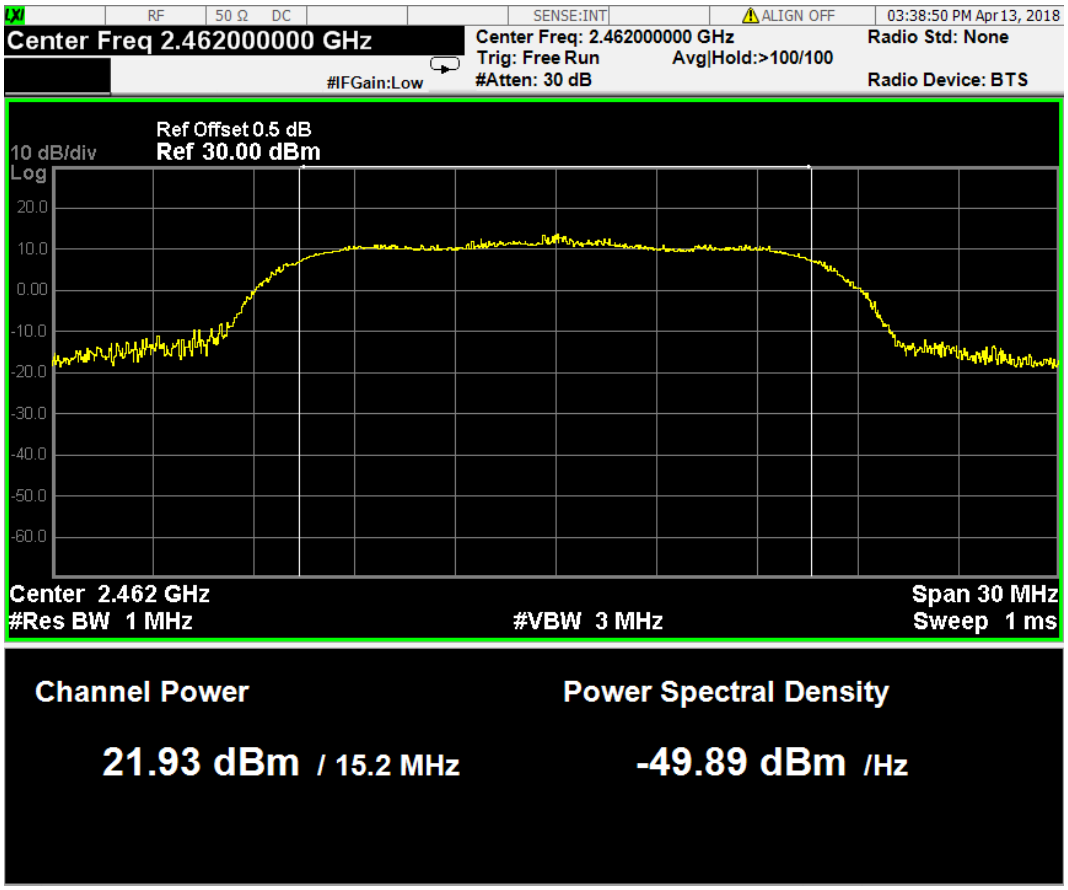
IEEE 802.11g: CH1 (2412 MHz)



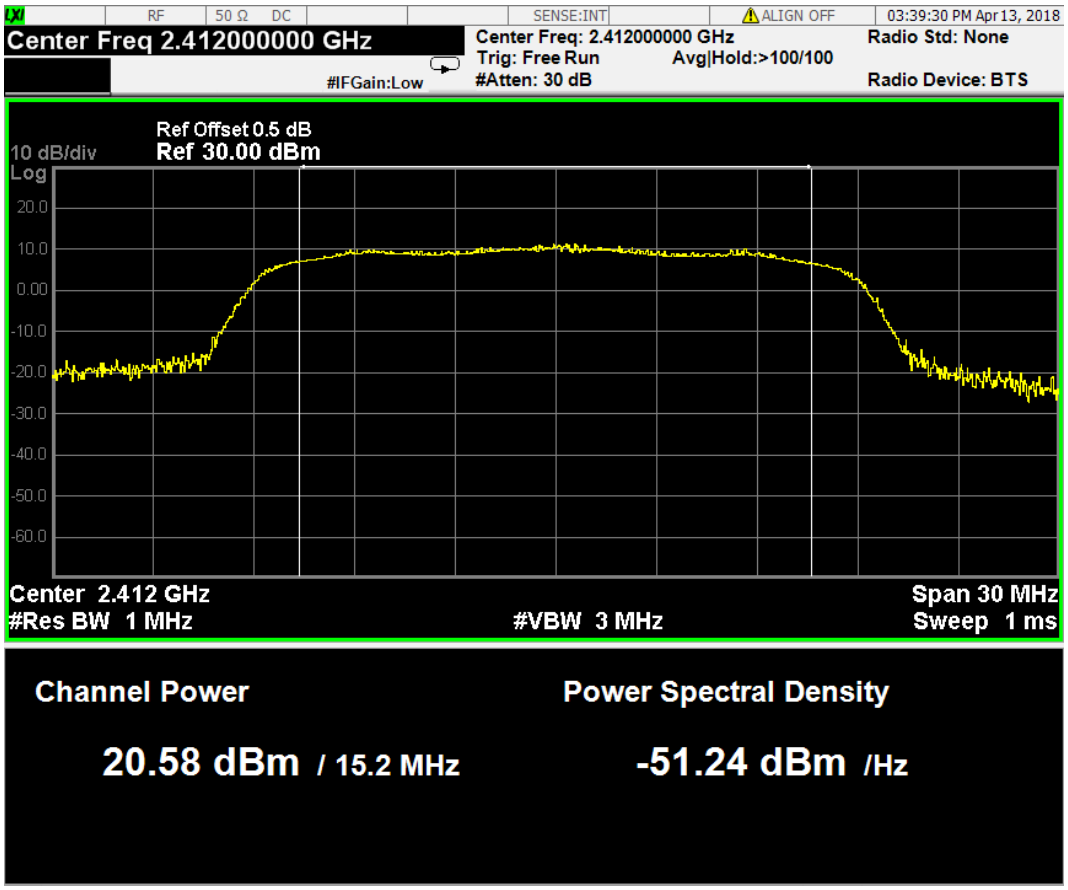
IEEE 802.11g: CH6 (2437 MHz)



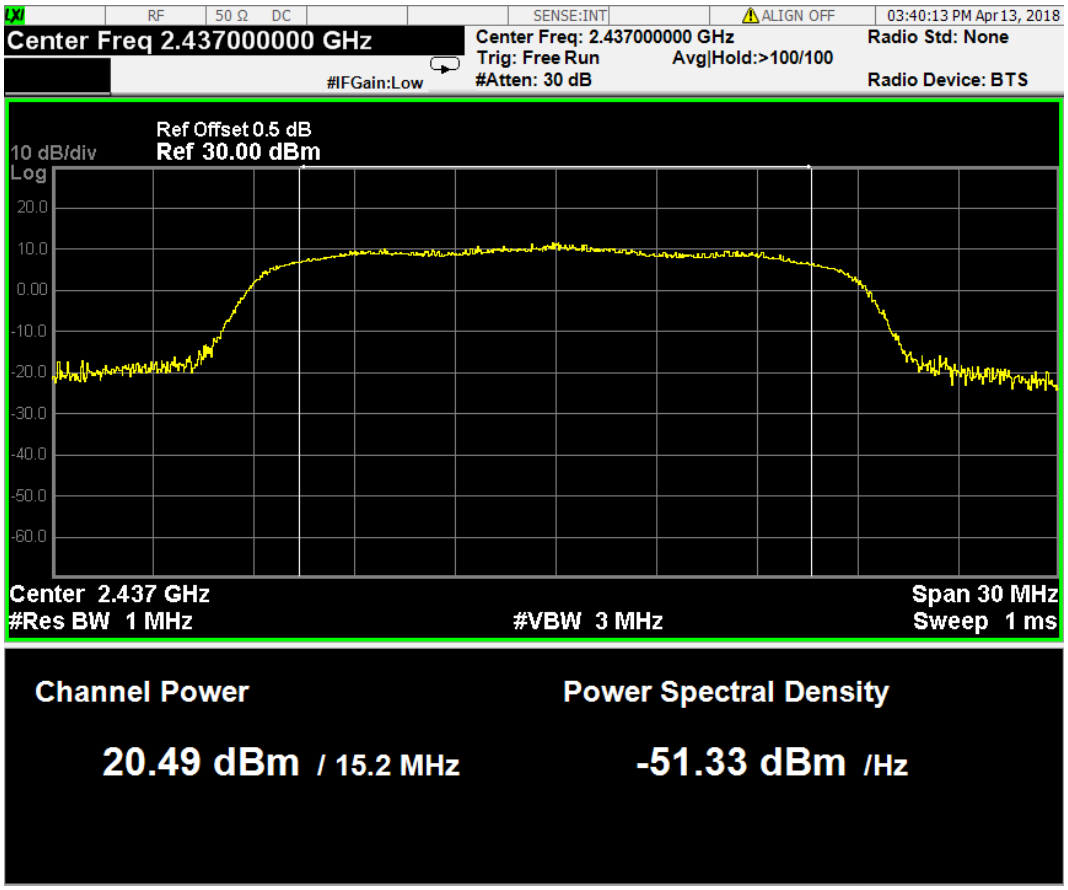
IEEE 802.11g: CH11 (2462 MHz)



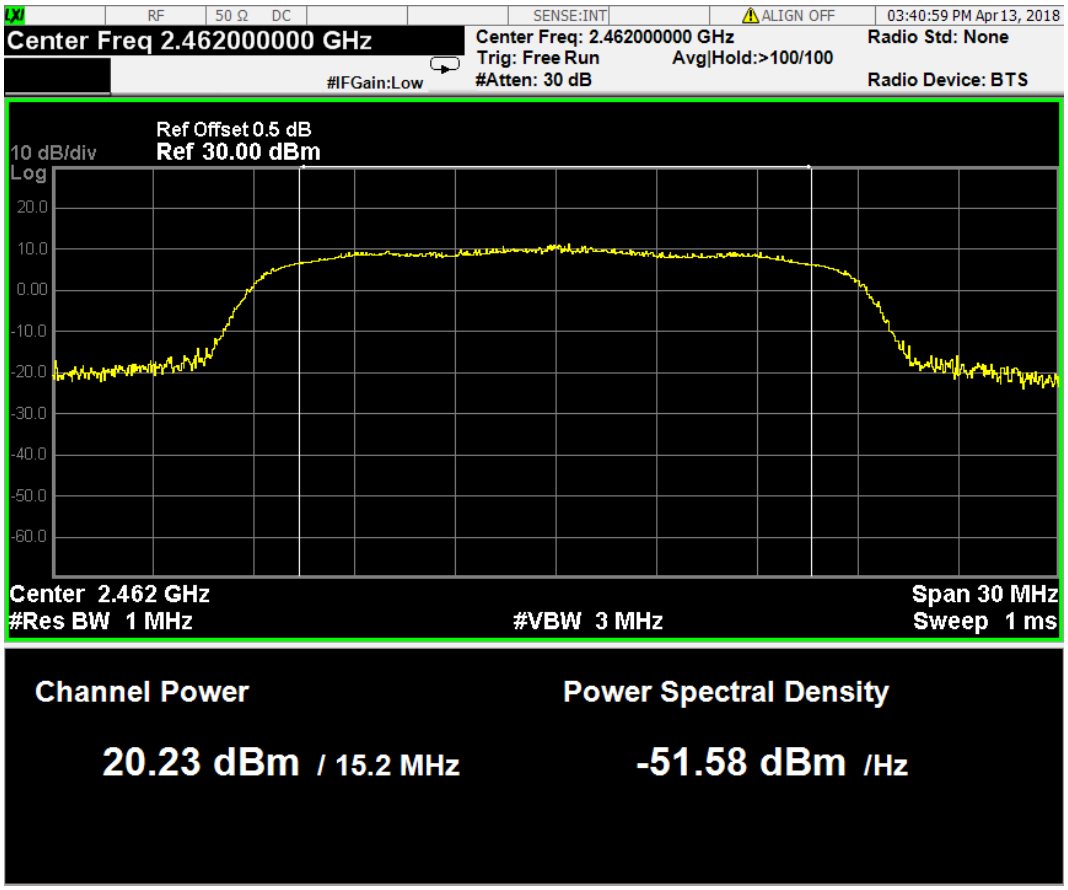
IEEE 802.11n HT20: CH1 (2412 MHz)



IEEE 802.11n HT20: CH6 (2437 MHz)



IEEE 802.11n HT20: CH11 (2462 MHz)



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	N9010A	MY52221182	Jun 12, 2017	Jun 11, 2018

7.2 Block Diagram of Test Setup

The Same as Section. 4.2.

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 switch ON/OFF was used to enable the EUT to change the channel one by one.

7.5 Test Procedure

The transmitter output was connected to the spectrum analyzer. Set RBW = 100 kHz, VBW ≥ 300 kHz, scan up through 10th harmonic.
When maximum conducted (average) output power was used to determine compliance as described in 11.9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz.

The test procedure is defined in ANSI C63.10-2013 (11.11.2 Reference level measurement and 11.11.3 Emission level measurement was used).

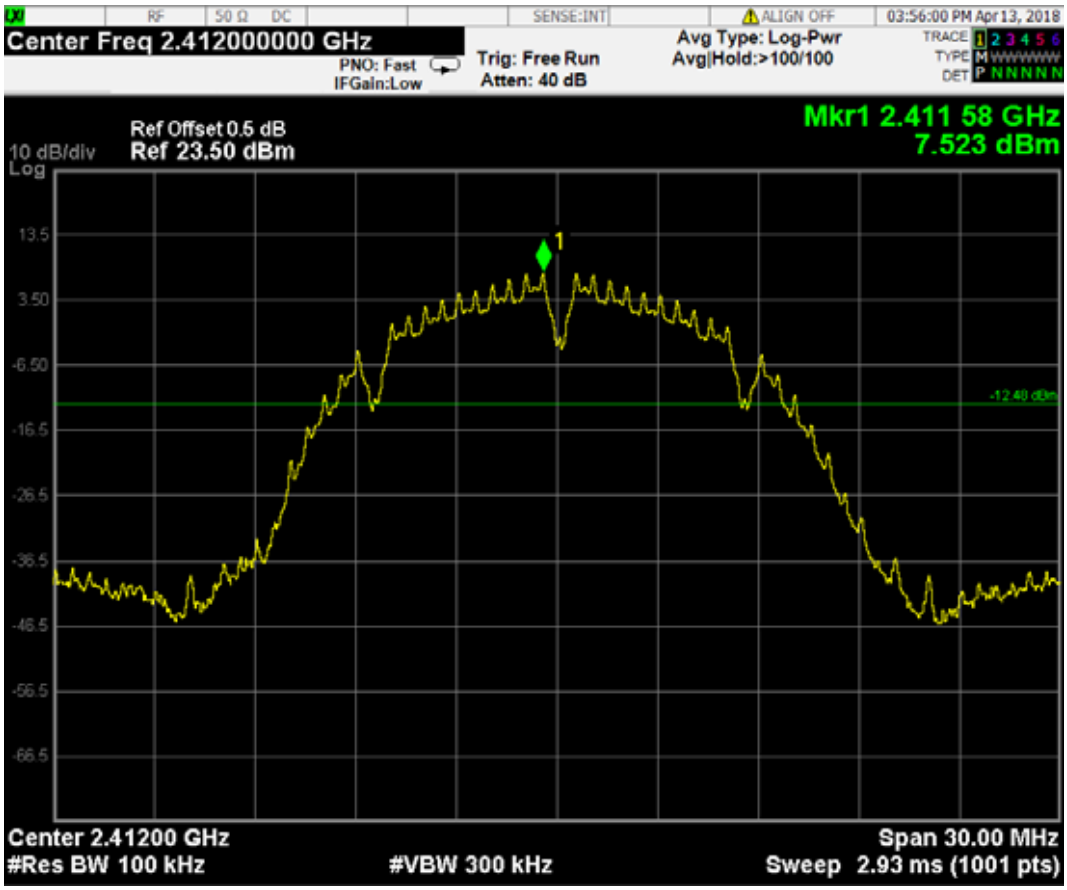
7.6 Test Results

PASSED.
The test data was attached in the next pages.
(Test Date: 2018.03.23 Temperature: 23℃ Humidity: 51 %)

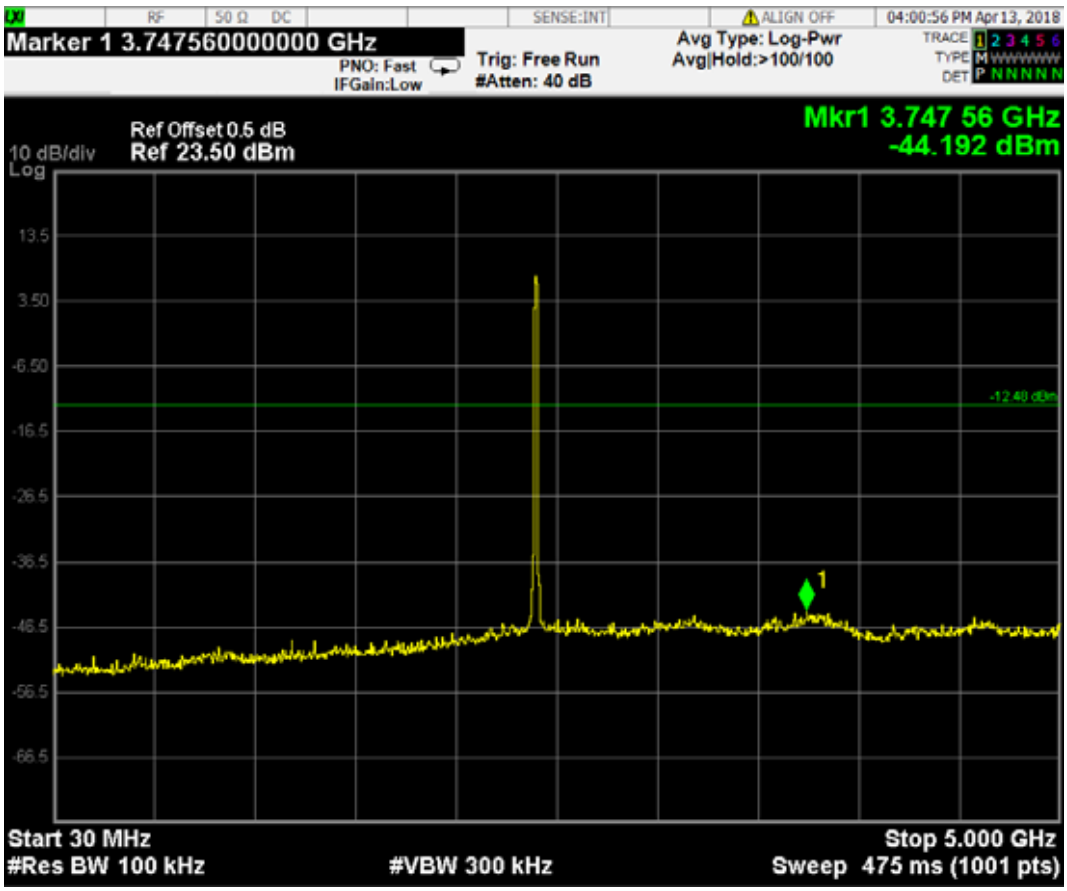
Modulation	Channel	Frequency (MHz)	Data Page
IEEE 802.11b	1	2412	P46-47
	6	2437	P48-49
	11	2462	P50-51
IEEE 802.11g	1	2412	P52-53
	6	2437	P54-55
	11	2462	P56-57
IEEE 802.11n HT20	1	2412	P58-59
	6	2437	P60-61
	11	2462	P62-63

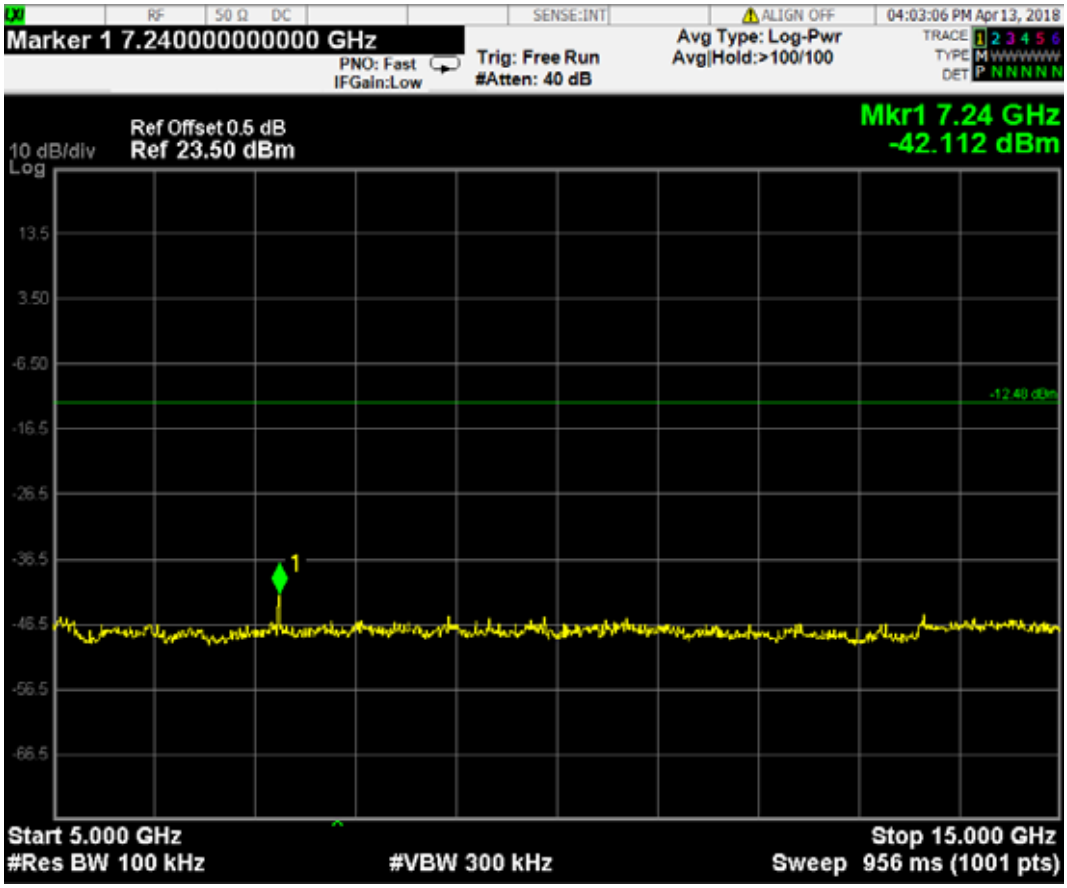
IEEE 802.11b: CH1 (2412 MHz)

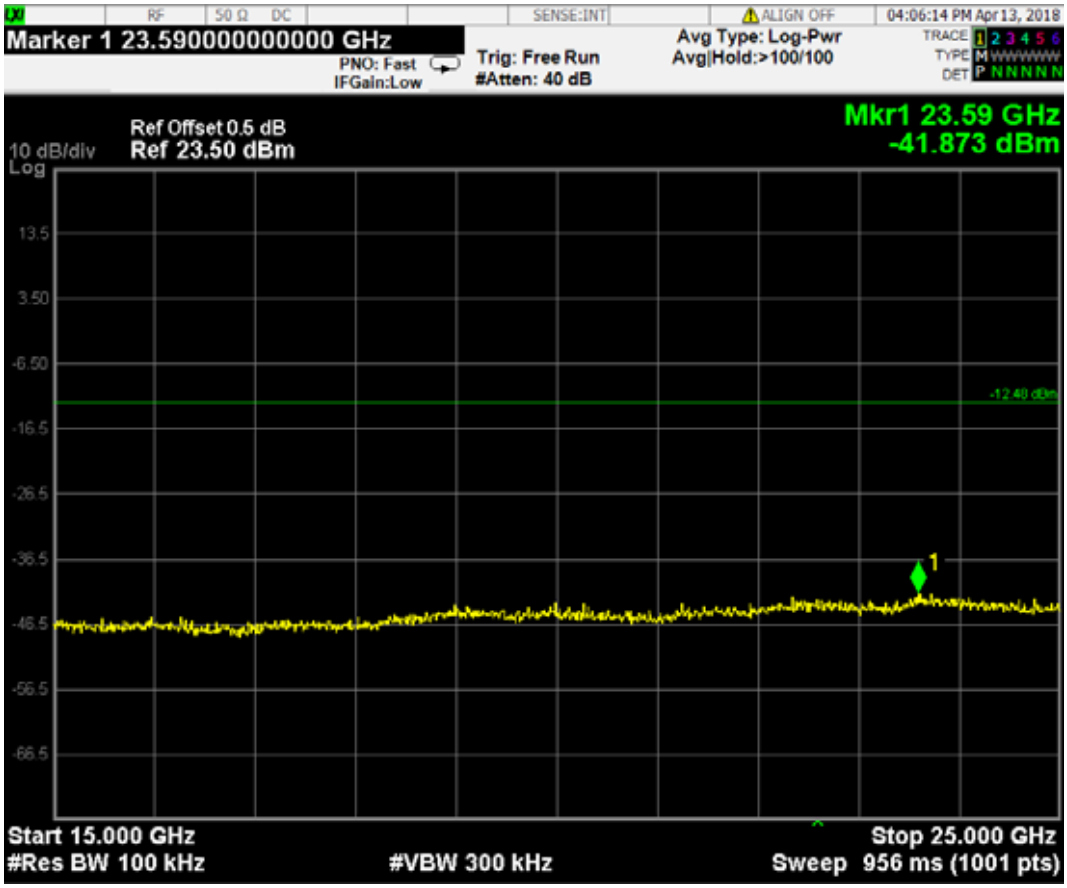
Reference level



Emission level

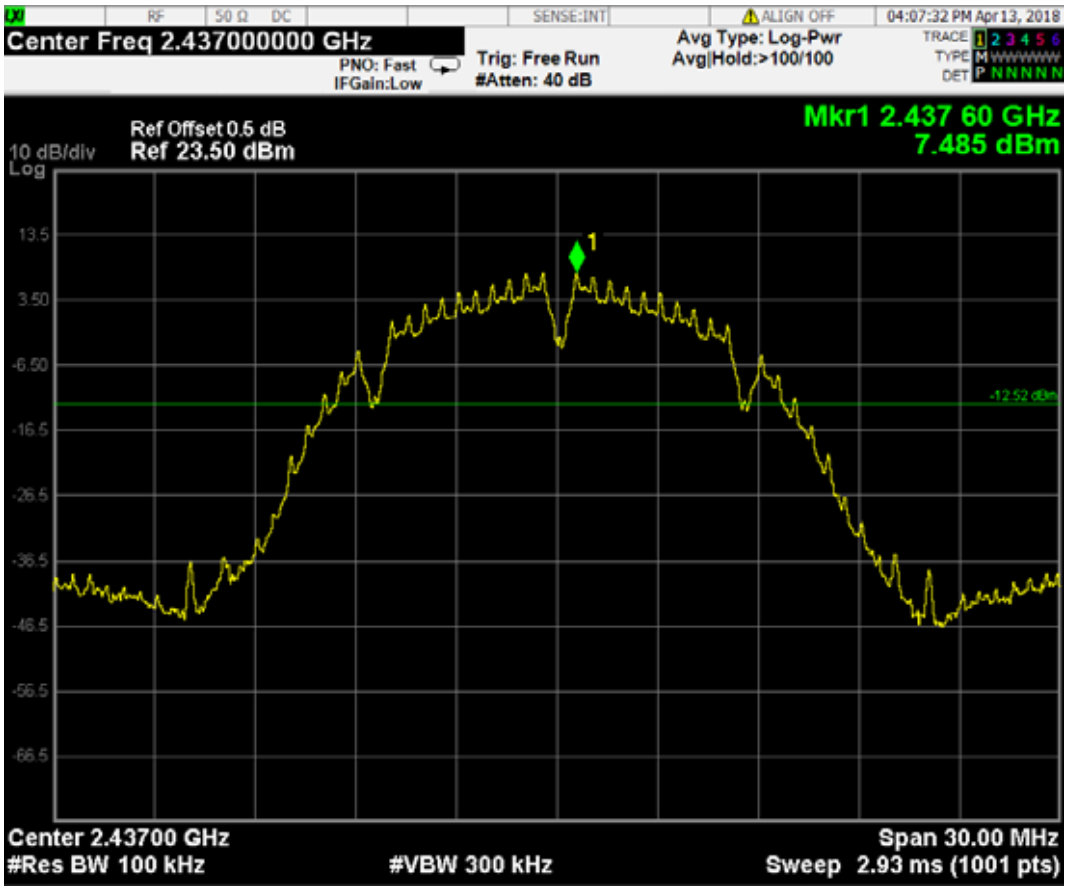



RF 50 Ω DC
SENSE:INT
ALIGN OFF
04:03:06 PM Apr 13, 2018
Marker 1 7.240000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M WWWWWW
DET P N N N N N
Ref Offset 0.5 dB
10 dB/div
Ref 23.50 dBm
Log
Mkr1 7.24 GHz
-42.112 dBm
13.5
3.50
-6.50
-16.5
-26.5
-36.5
-46.5
-56.5
-66.5
-12.49 dBm
1
Start 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 956 ms (1001 pts)

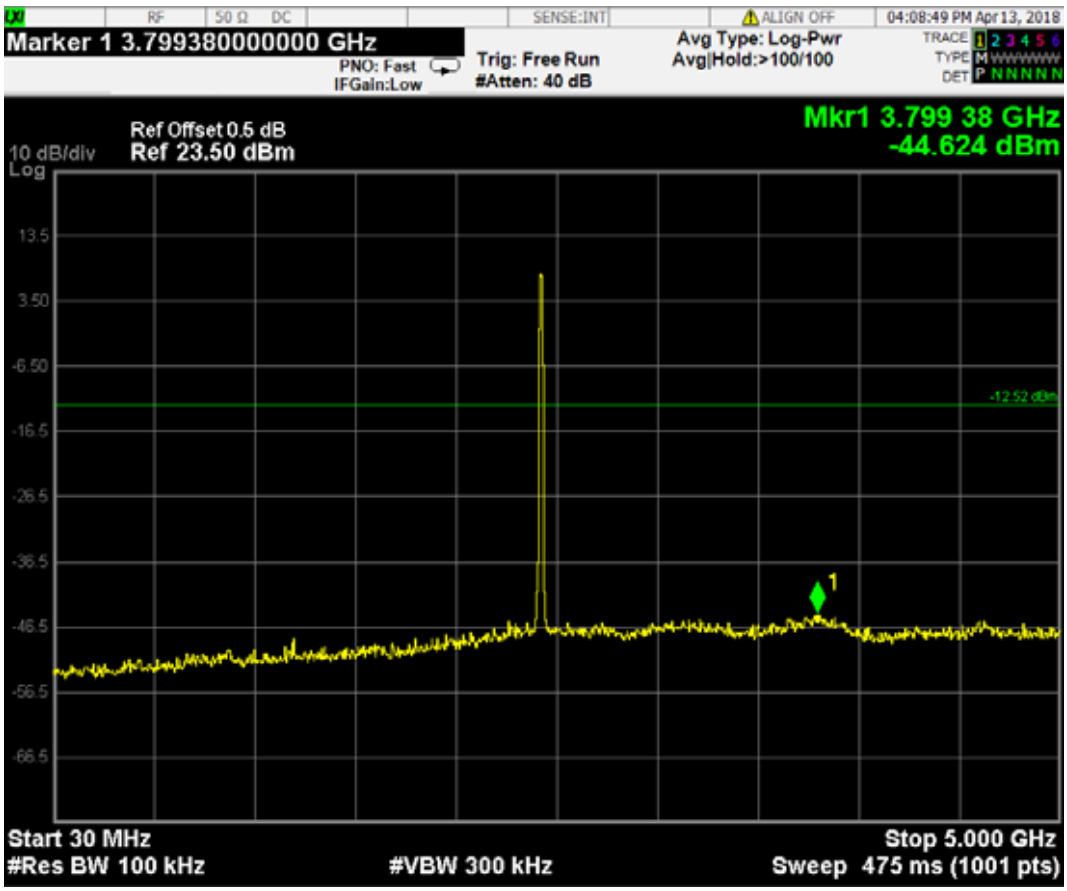

RF 50 Ω DC
SENSE:INT
ALIGN OFF
04:06:14 PM Apr 13, 2018
Marker 1 23.590000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M WWWWWW
DET P N N N N N
Ref Offset 0.5 dB
10 dB/div
Ref 23.50 dBm
Log
Mkr1 23.59 GHz
-41.873 dBm
13.5
3.50
-6.50
-16.5
-26.5
-36.5
-46.5
-56.5
-66.5
-12.49 dBm
1
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 956 ms (1001 pts)

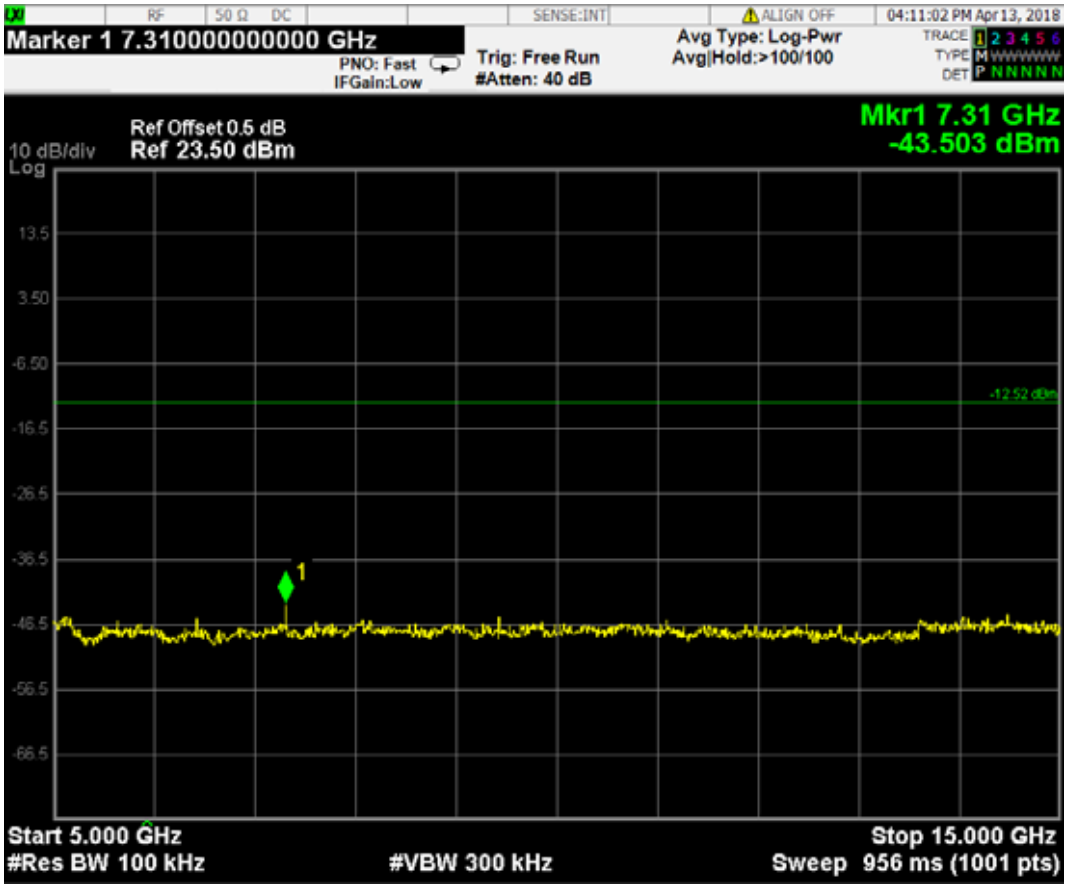
IEEE 802.11b: CH6 (2437 MHz)

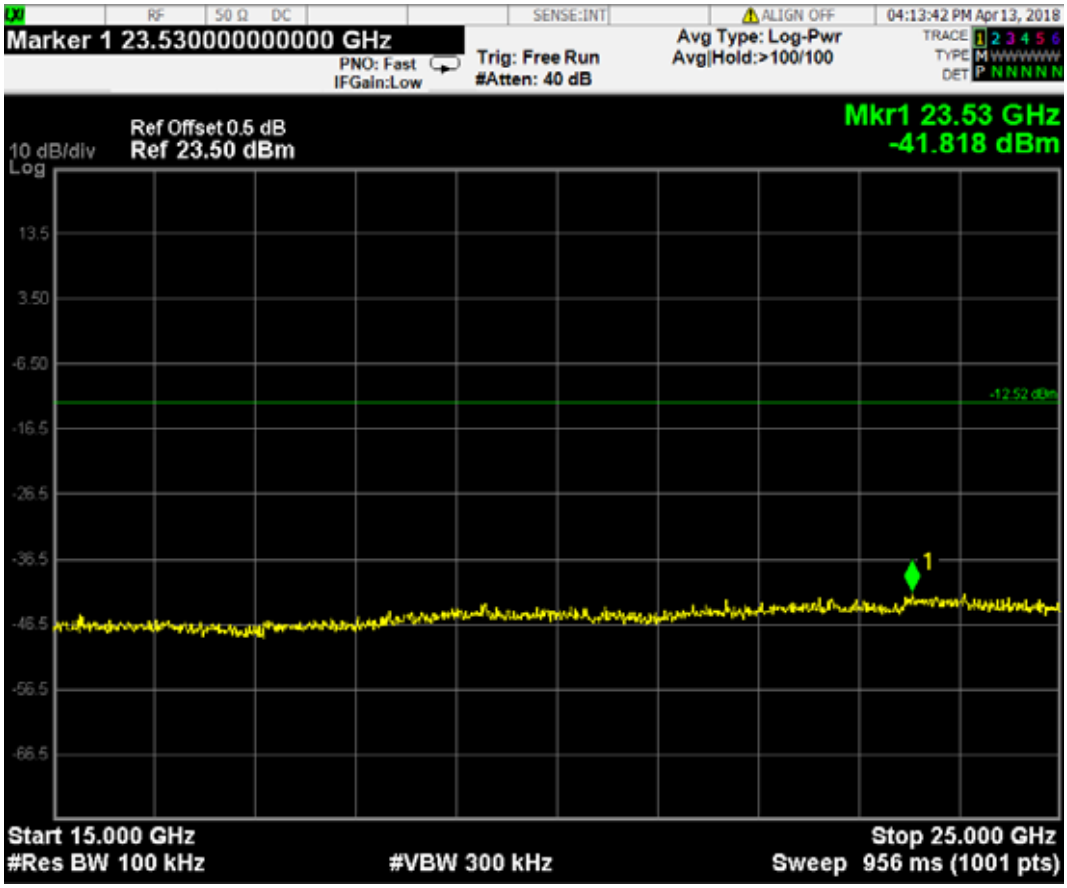
Reference level



Emission level

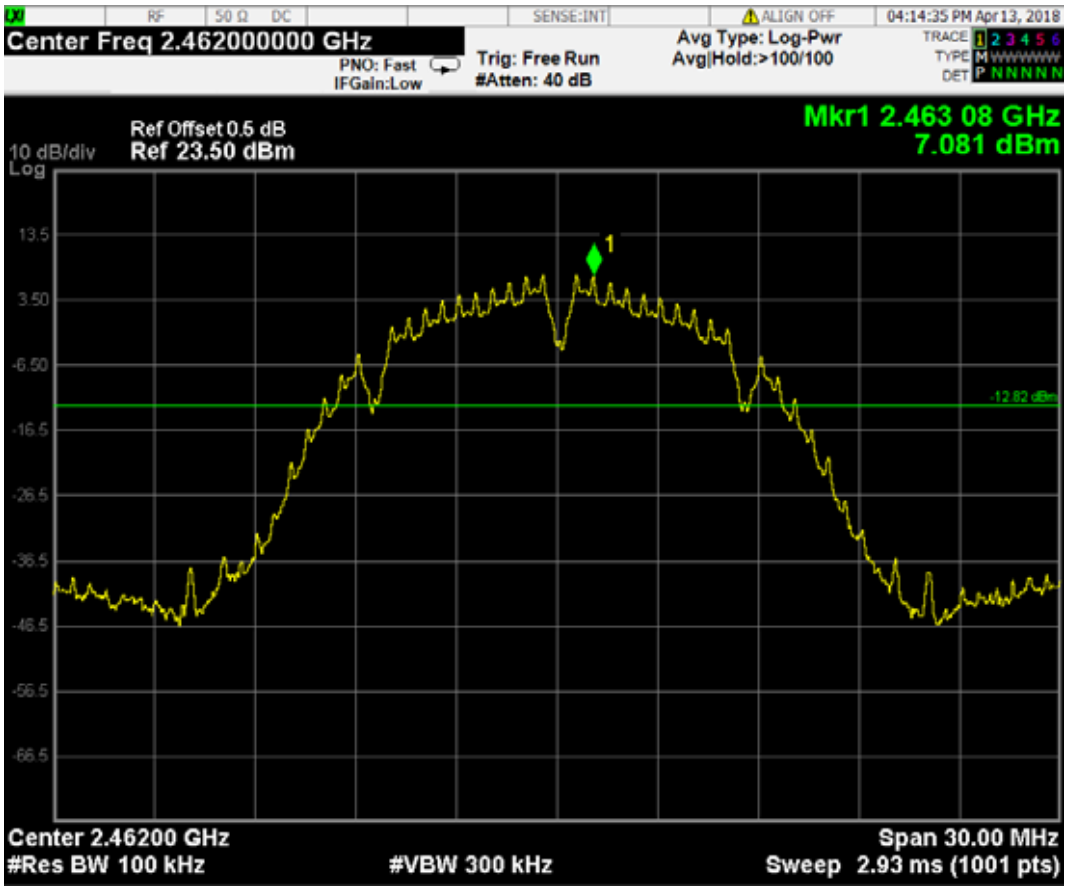



Marker 1 7.310000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
04:11:02 PM Apr 13, 2018
Ref Offset 0.5 dB
10 dB/div
Ref 23.50 dBm
Mkr1 7.31 GHz
-43.503 dBm
-12.52 dBm
Start 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 956 ms (1001 pts)

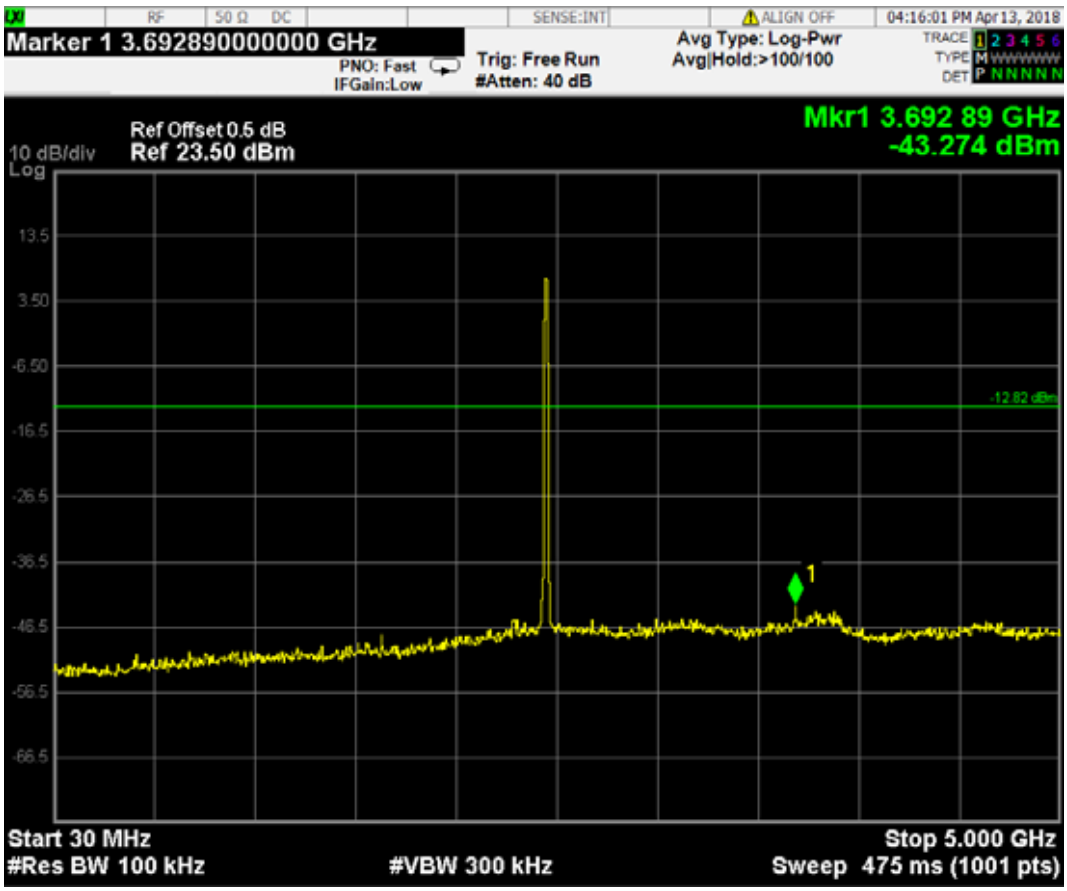

Marker 1 23.530000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
04:13:42 PM Apr 13, 2018
Ref Offset 0.5 dB
10 dB/div
Ref 23.50 dBm
Mkr1 23.53 GHz
-41.818 dBm
-12.52 dBm
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 956 ms (1001 pts)

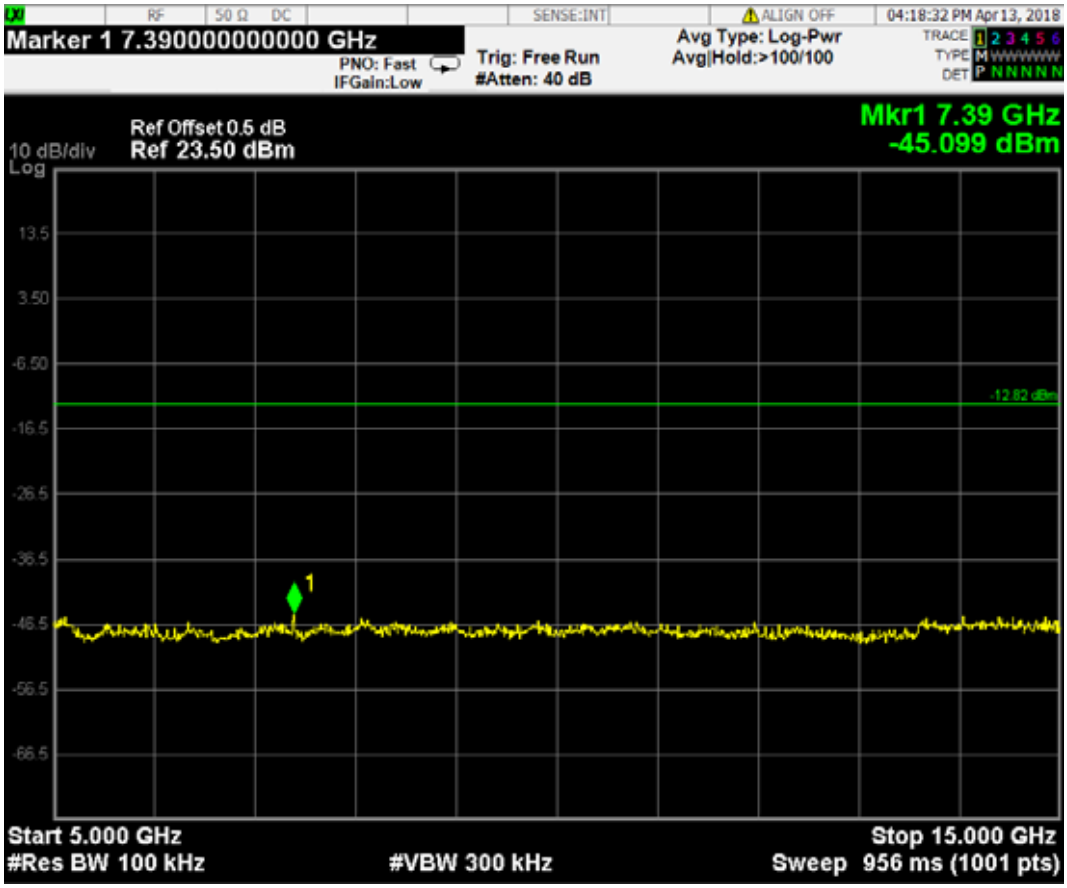
IEEE 802.11b: CH11 (2462 MHz)

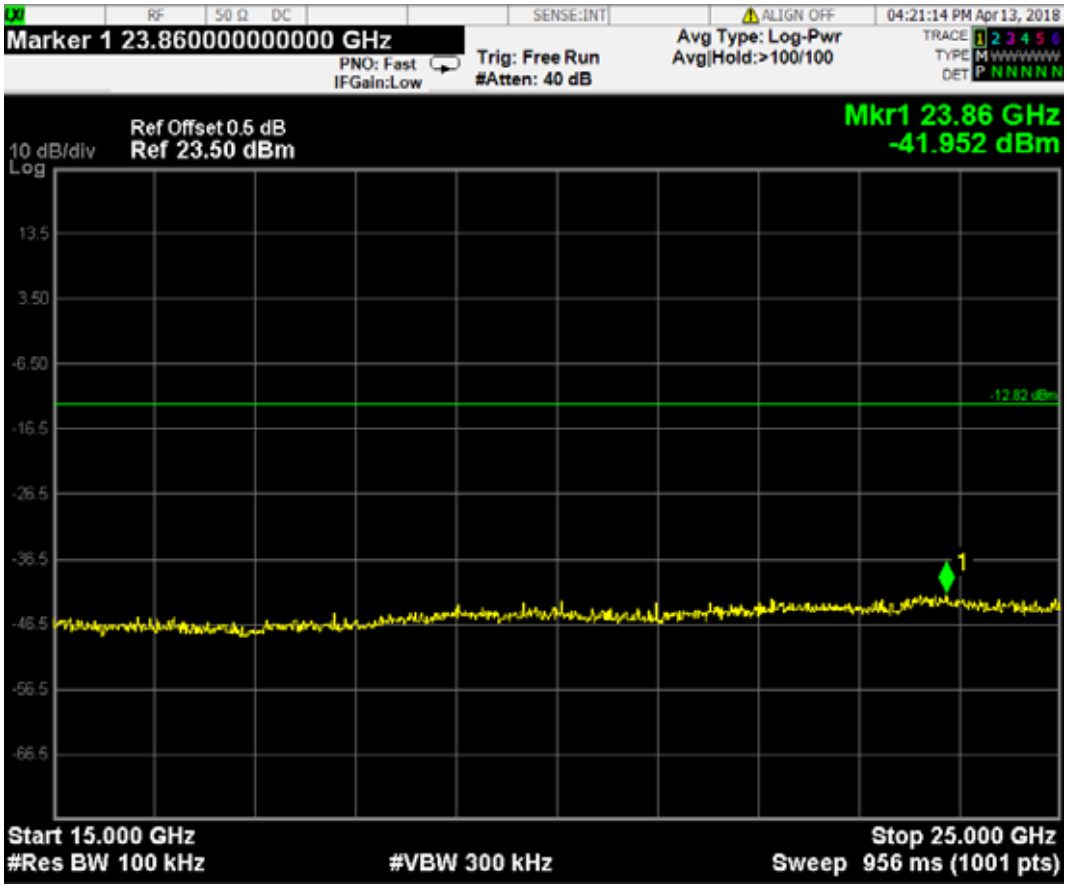
Reference level



Emission level

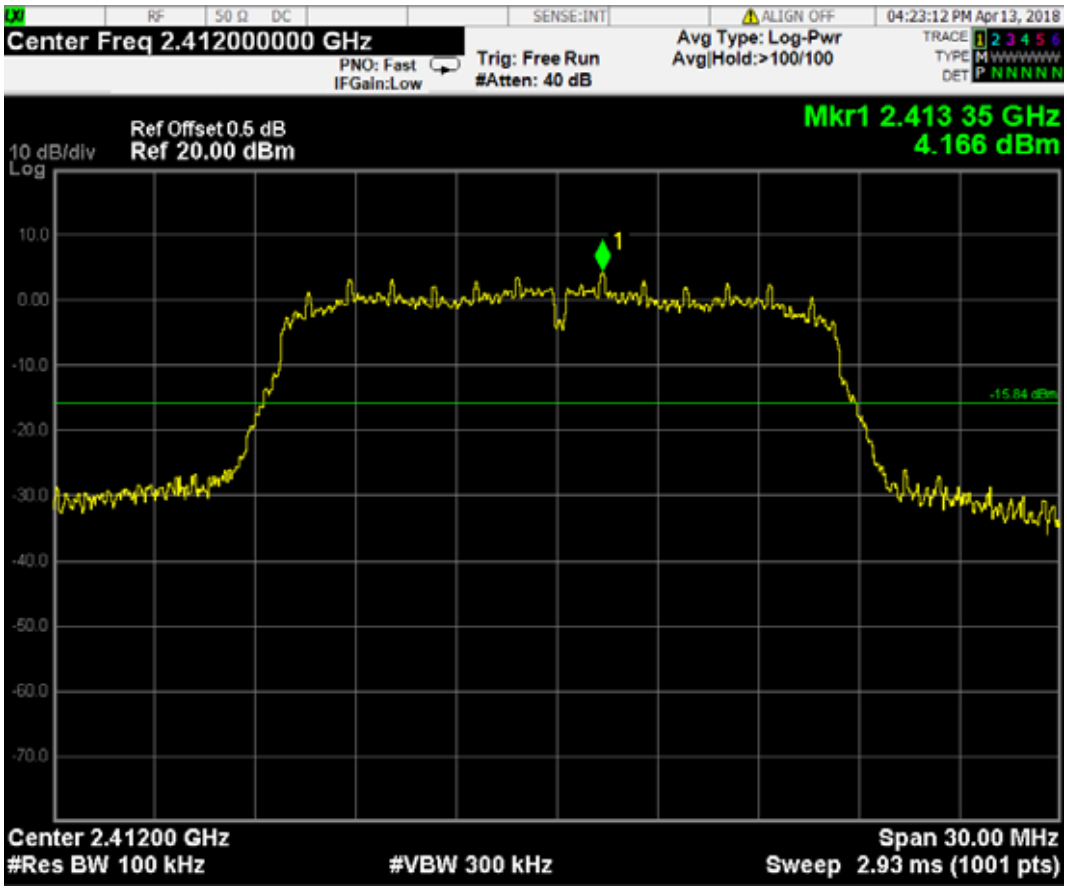



RF 50 Ω DC
SENSE:INT
ALIGN OFF
04:18:32 PM Apr 13, 2018
Marker 1 7.390000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M WWWWWW
DET P N N N N N
Ref Offset 0.5 dB
10 dB/div
Ref 23.50 dBm
Log
Mkr1 7.39 GHz
-45.099 dBm
13.5
3.50
-6.50
-12.82 dBm
-16.5
-26.5
-36.5
-46.5
-56.5
-66.5
Start 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 956 ms (1001 pts)

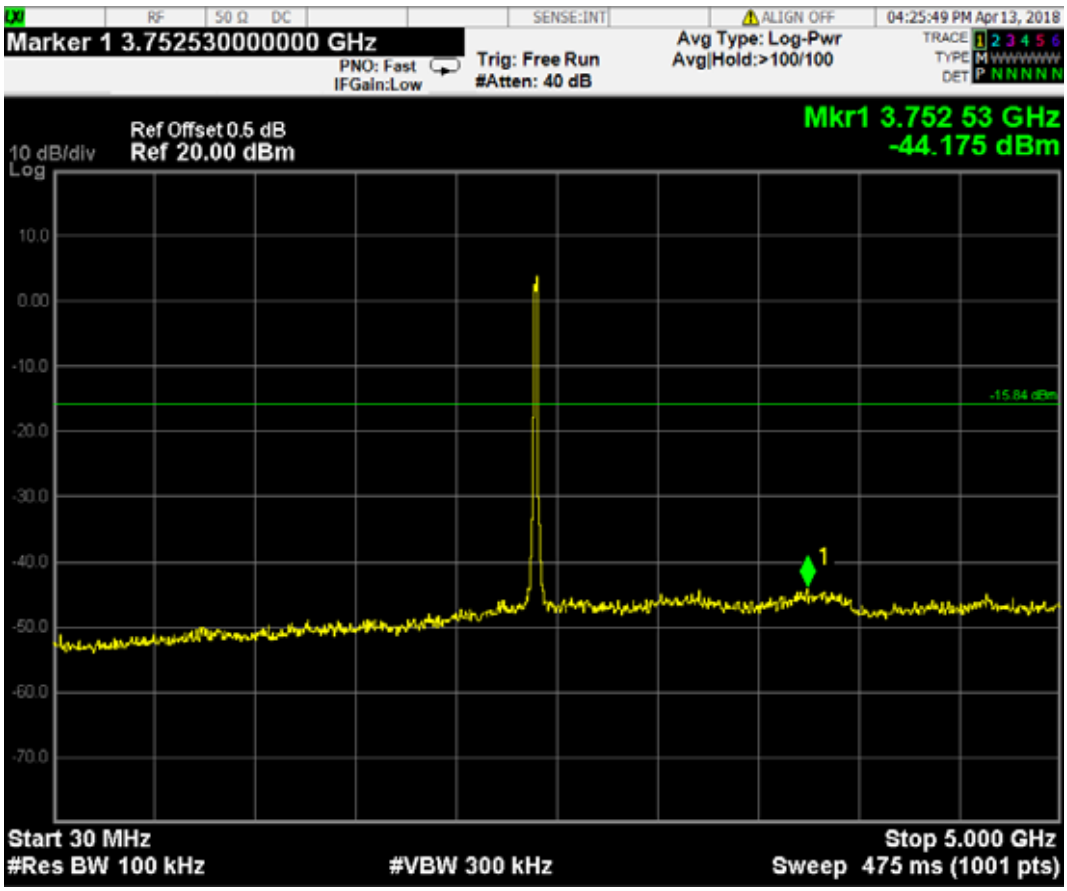

RF 50 Ω DC
SENSE:INT
ALIGN OFF
04:21:14 PM Apr 13, 2018
Marker 1 23.860000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M WWWWWW
DET P N N N N N
Ref Offset 0.5 dB
10 dB/div
Ref 23.50 dBm
Log
Mkr1 23.86 GHz
-41.952 dBm
13.5
3.50
-6.50
-12.82 dBm
-16.5
-26.5
-36.5
-46.5
-56.5
-66.5
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 956 ms (1001 pts)

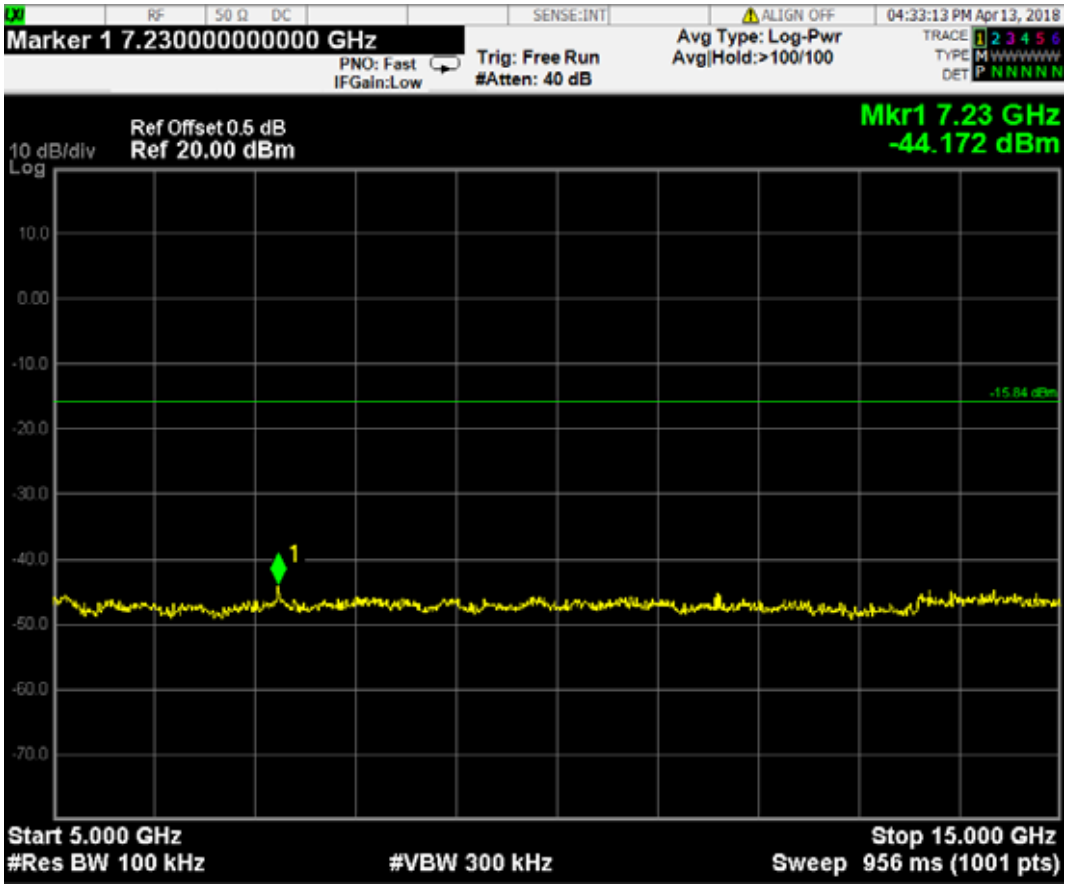
IEEE 802.11g: CH1 (2412 MHz)

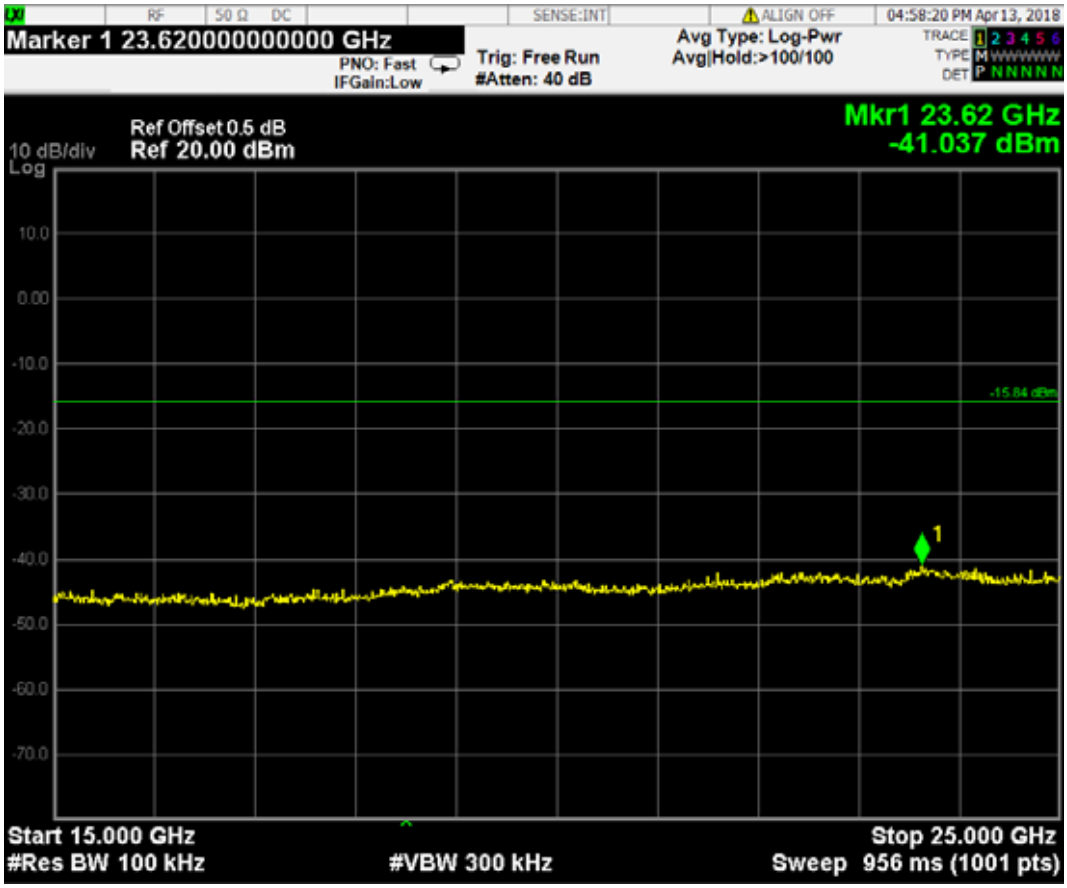
Reference level



Emission level

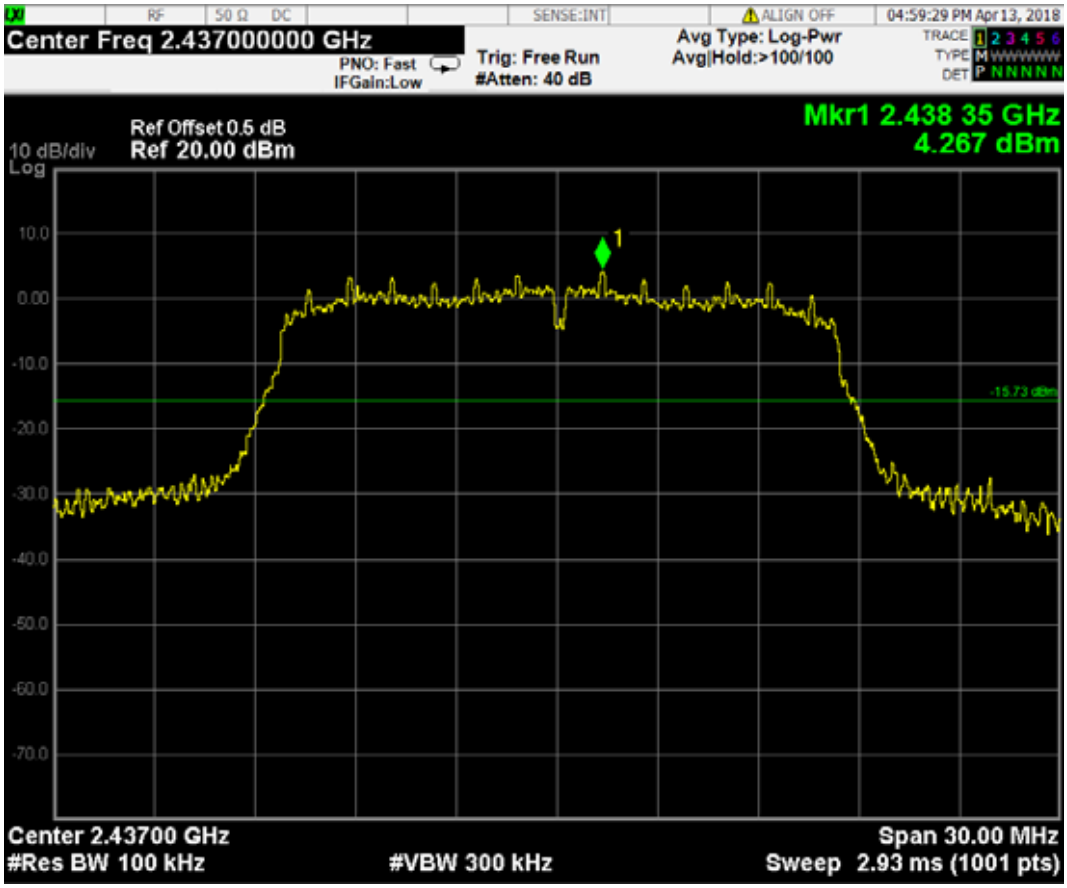



Marker 1 7.230000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
04:33:13 PM Apr 13, 2018
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 7.23 GHz
-44.172 dBm
-15.84 dBm
Start 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 956 ms (1001 pts)

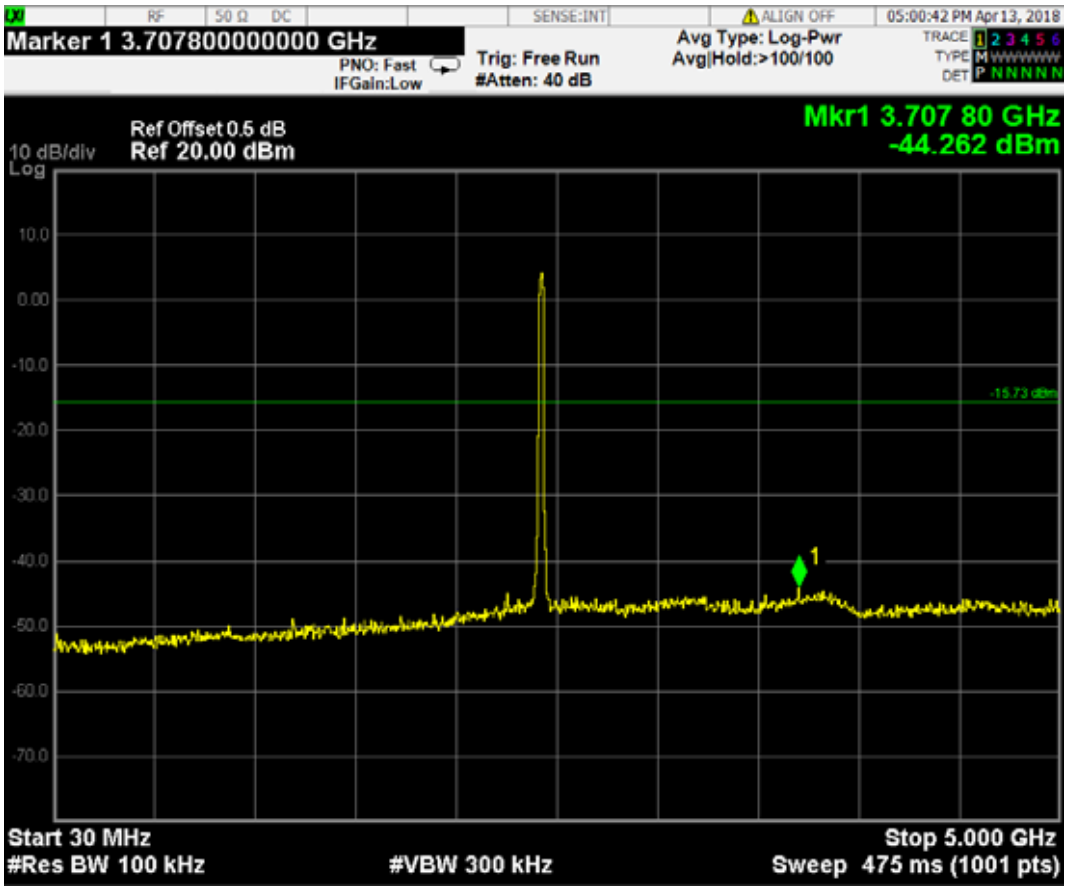

Marker 1 23.620000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
04:58:20 PM Apr 13, 2018
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 23.62 GHz
-41.037 dBm
-15.84 dBm
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 956 ms (1001 pts)

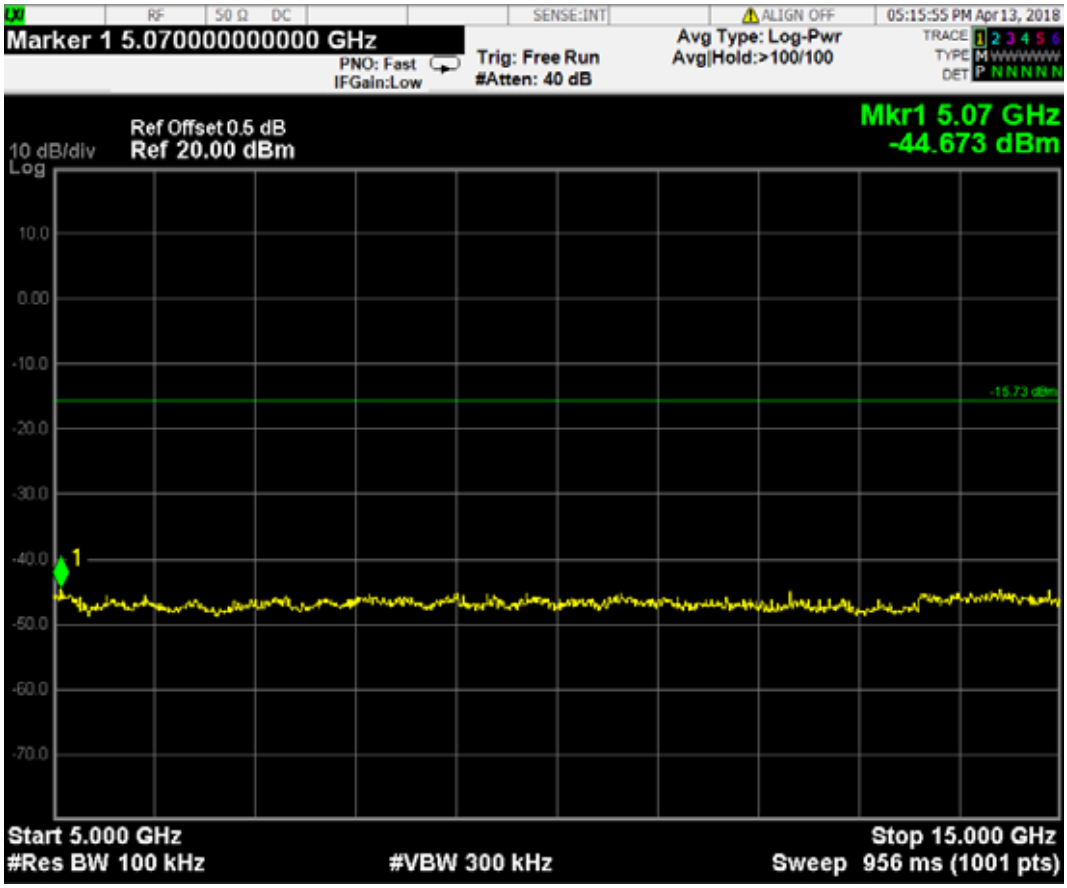
IEEE 802.11g: CH6 (2437 MHz)

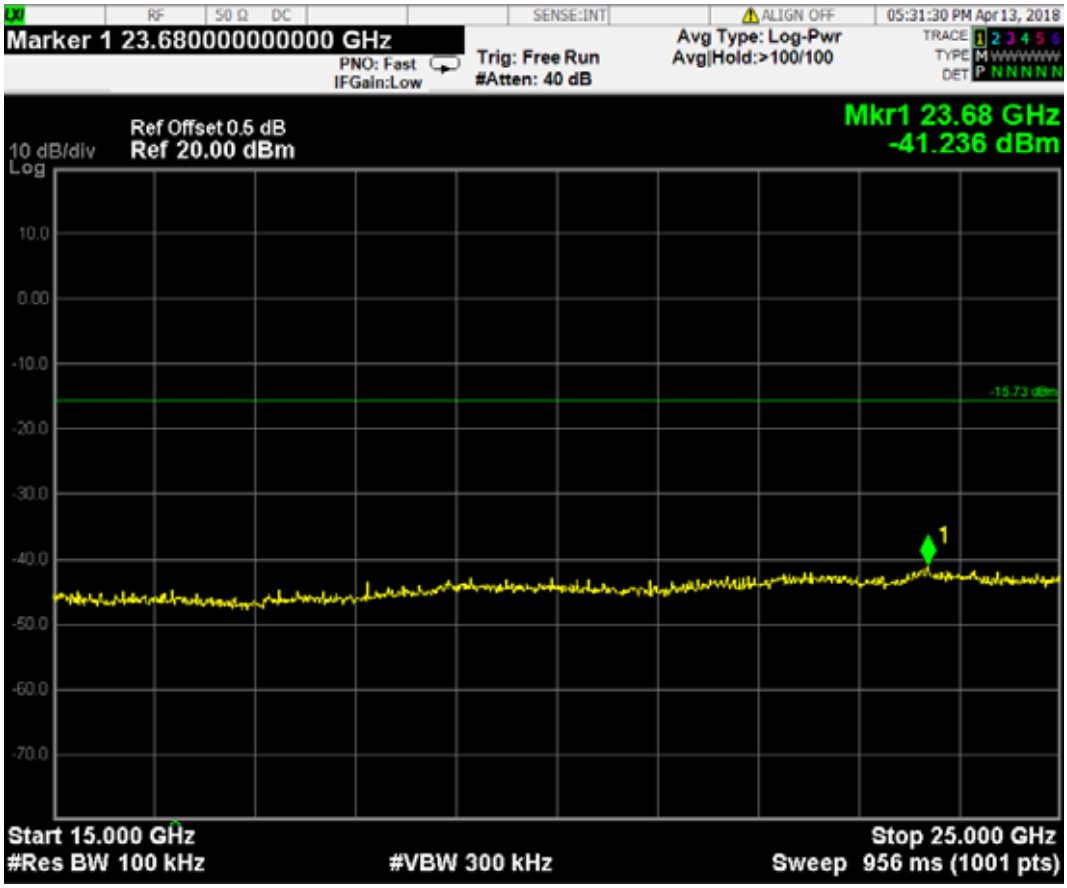
Reference level



Emission level

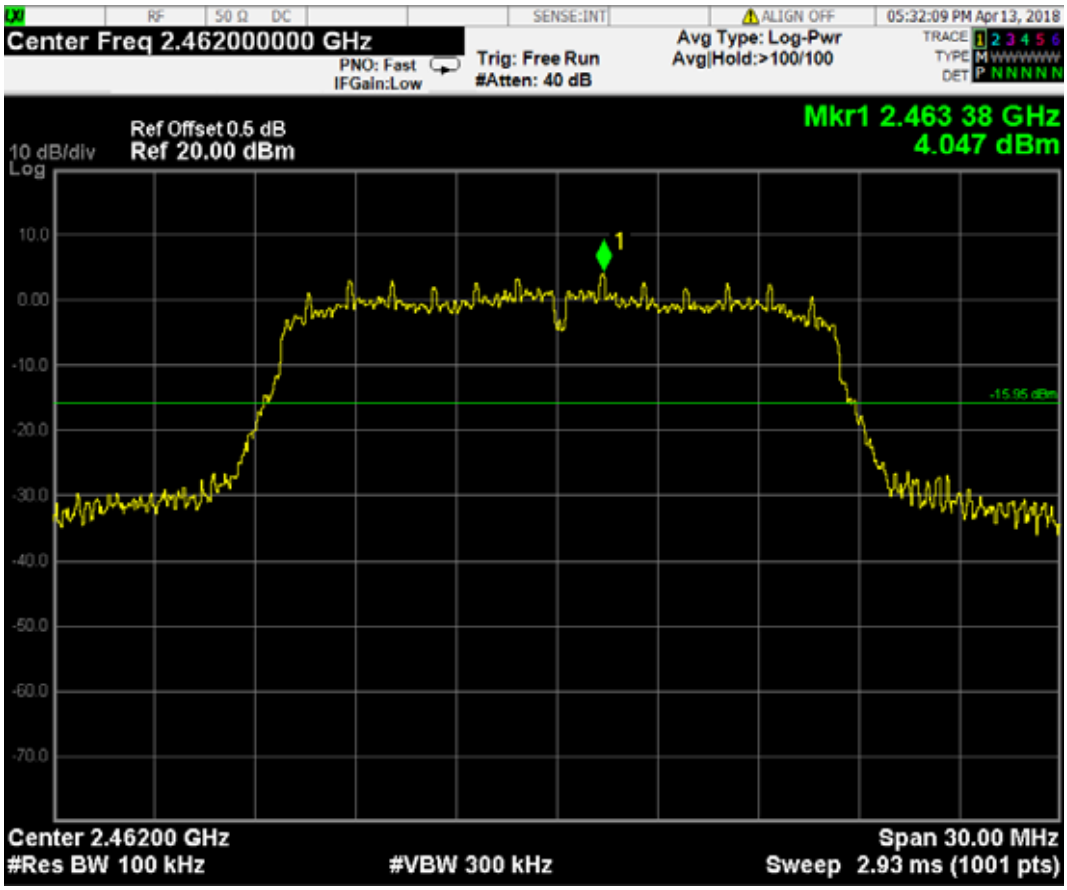



RF 50 Ω DC
SENSE:INT
ALIGN OFF
05:15:55 PM Apr 13, 2018
Marker 1 5.070000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M WWWWWW
DET P N N N N N
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 5.07 GHz
-44.673 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-15.73 dBm
1
Start 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 956 ms (1001 pts)

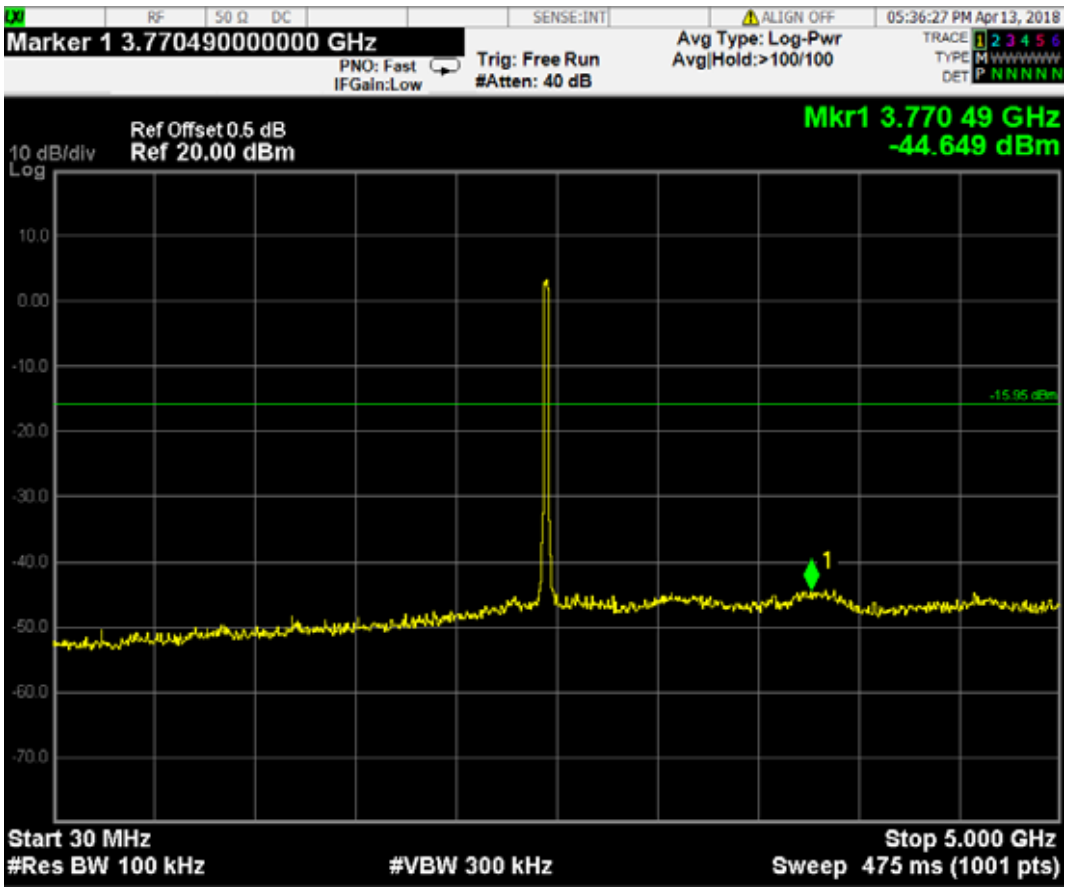

RF 50 Ω DC
SENSE:INT
ALIGN OFF
05:31:30 PM Apr 13, 2018
Marker 1 23.680000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M WWWWWW
DET P N N N N N
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 23.68 GHz
-41.236 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-15.73 dBm
1
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 956 ms (1001 pts)

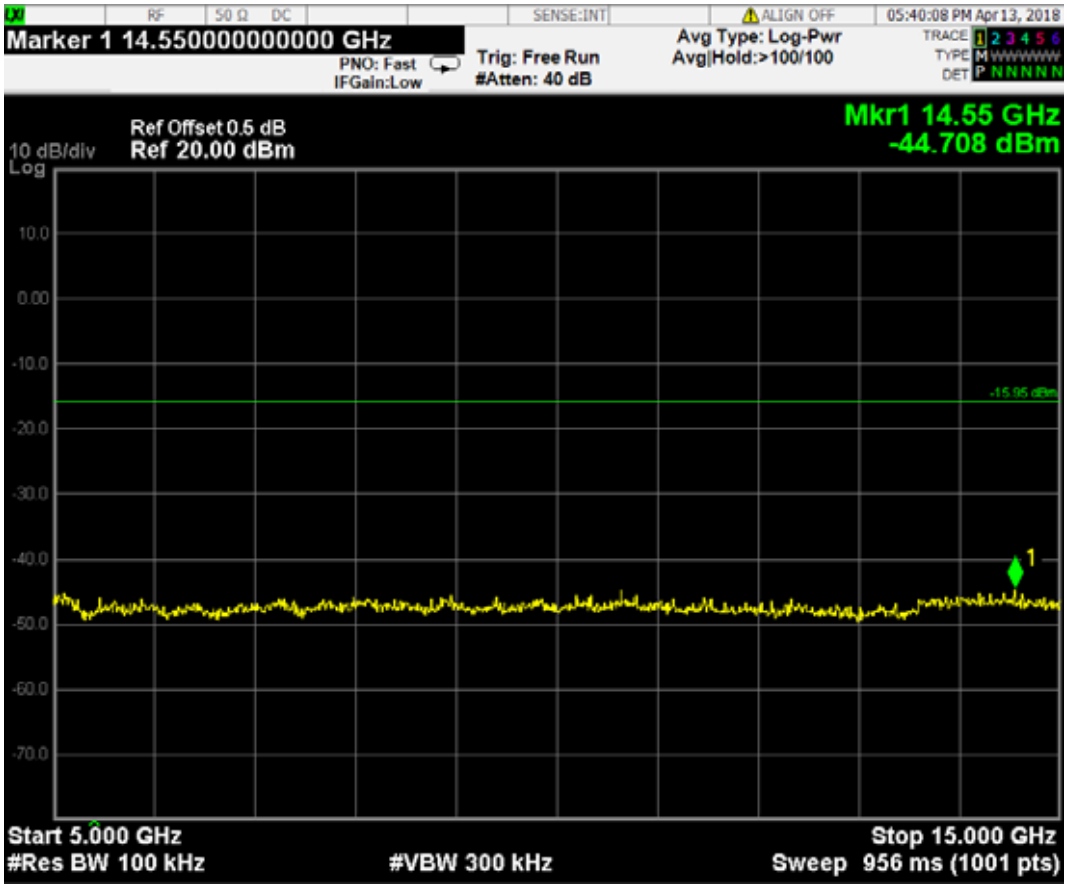
IEEE 802.11g: CH11 (2462 MHz)

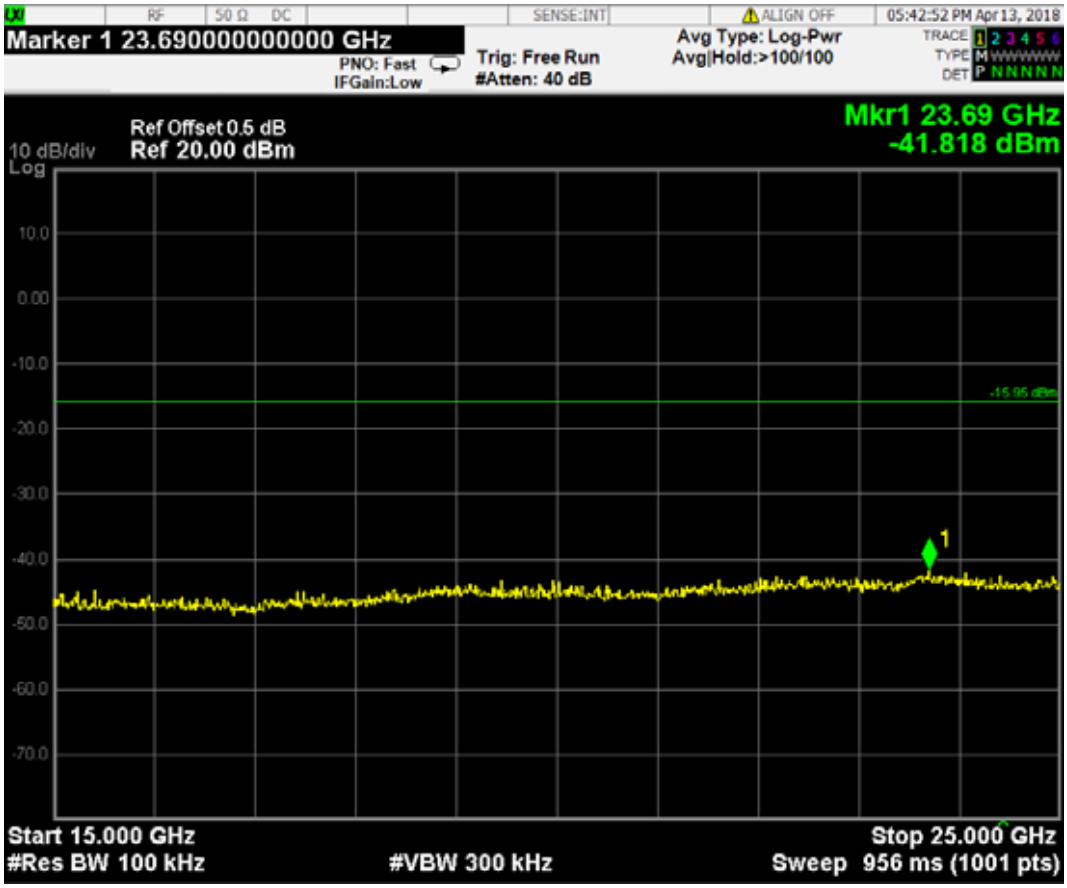
Reference level



Emission level

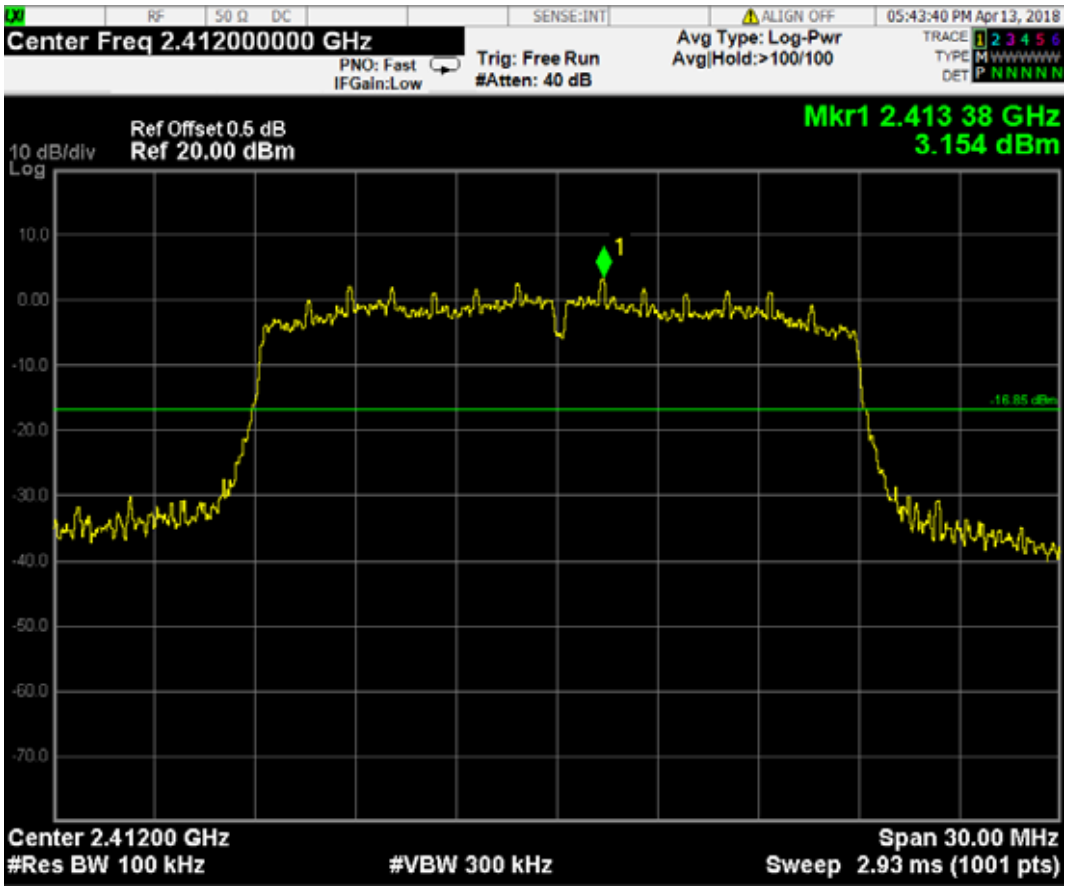



Marker 1 14.550000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
05:40:08 PM Apr 13, 2018
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 14.55 GHz
-44.708 dBm
-15.95 dBm
Start 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 956 ms (1001 pts)

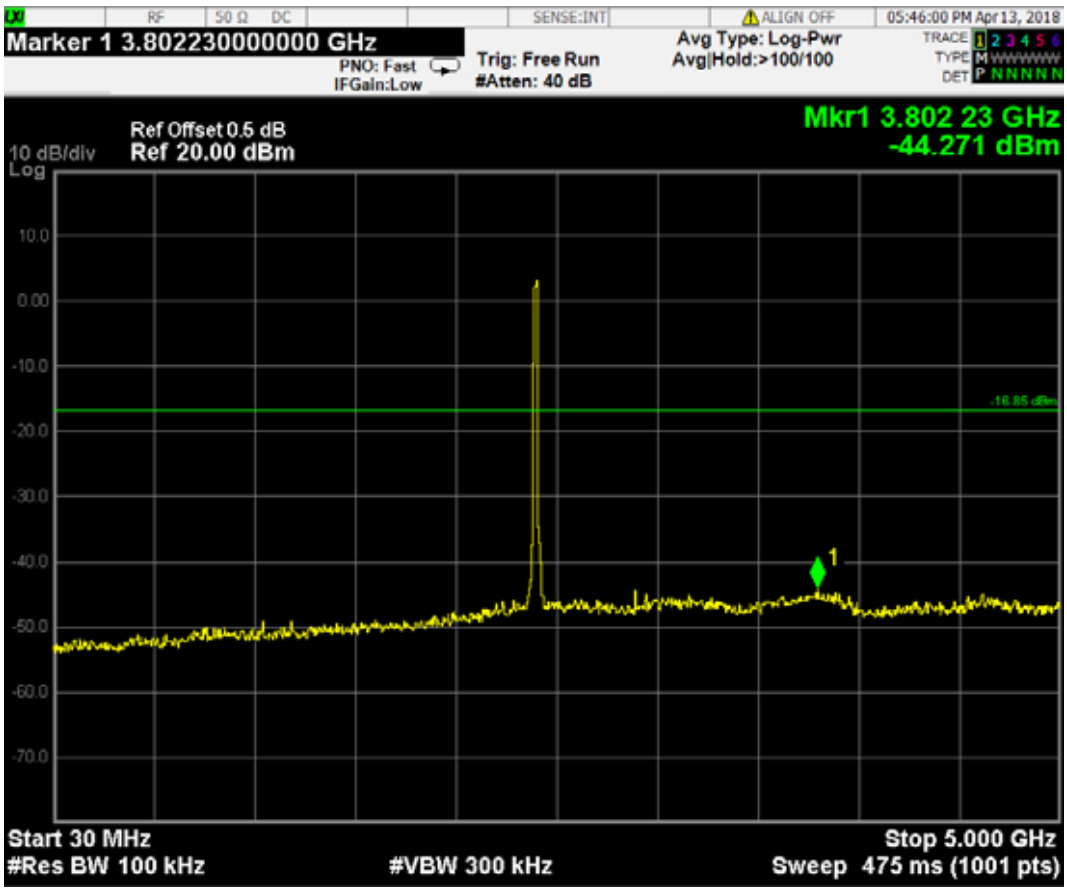

Marker 1 23.690000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
05:42:52 PM Apr 13, 2018
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 23.69 GHz
-41.818 dBm
-15.95 dBm
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 956 ms (1001 pts)

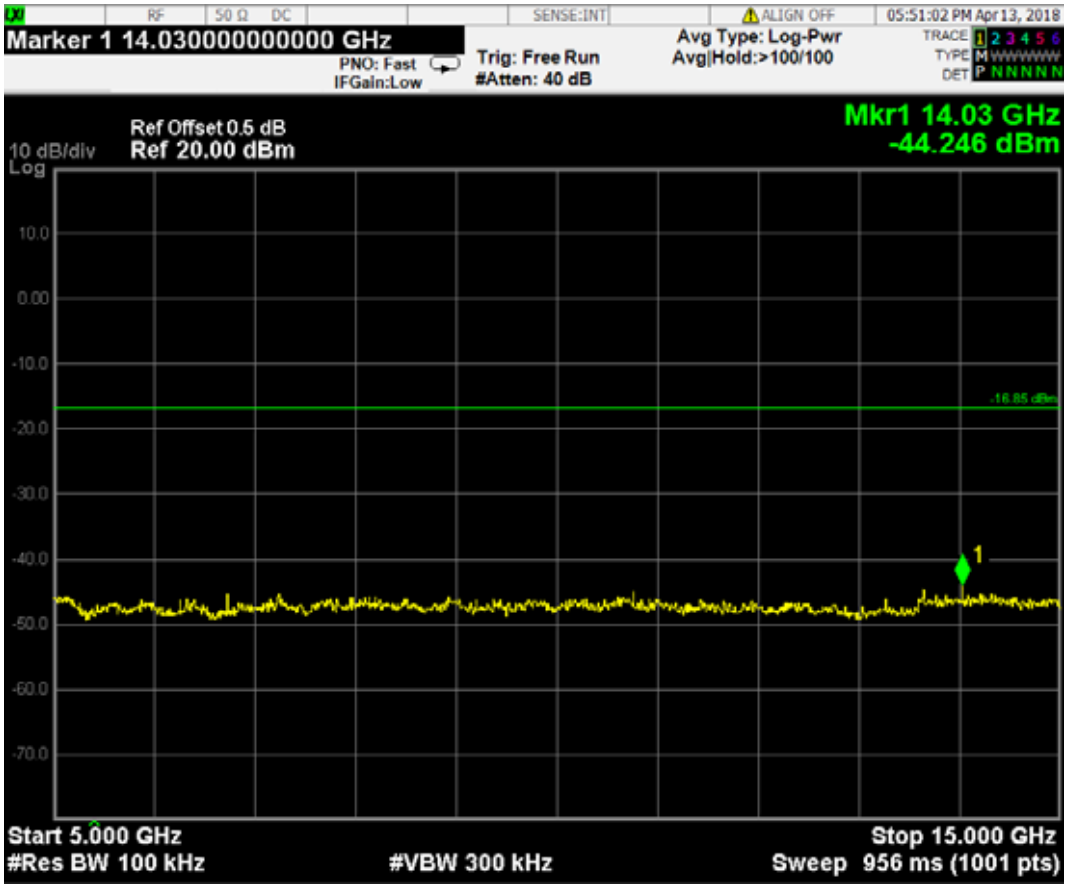
IEEE 802.11n HT20: CH1 (2412 MHz)

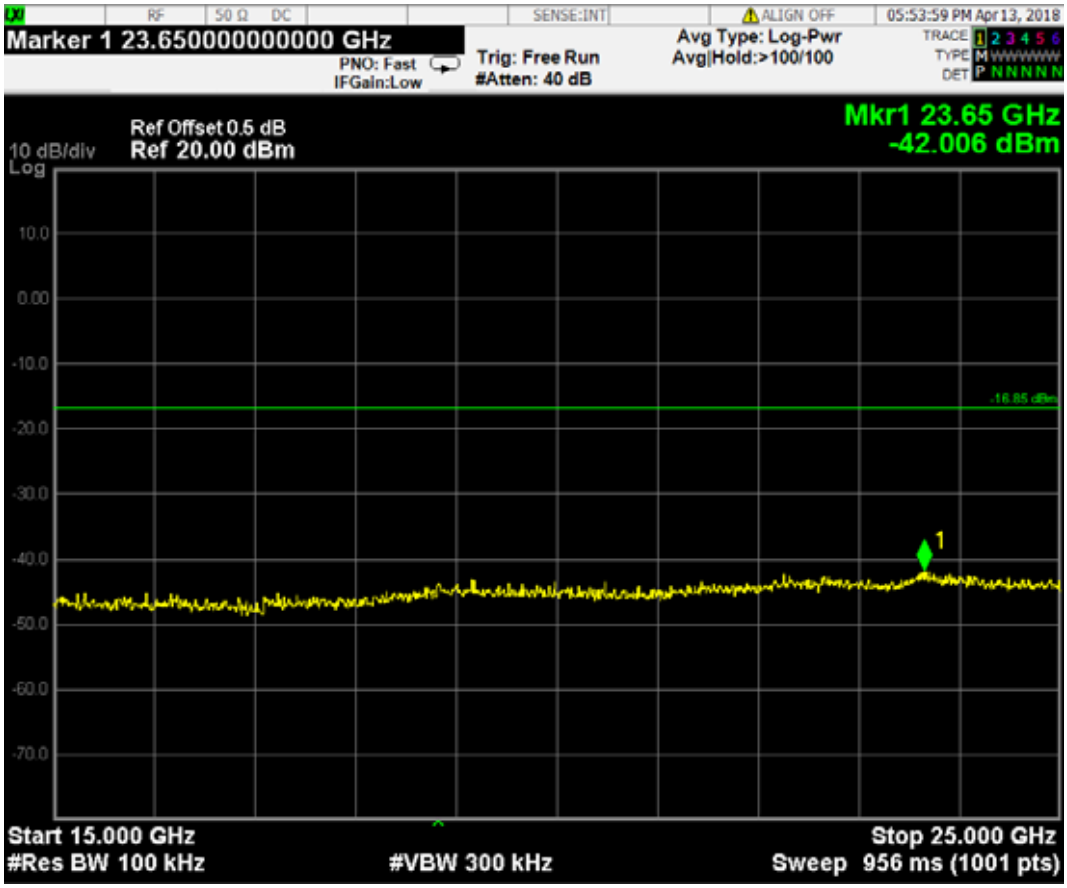
Reference level



Emission level

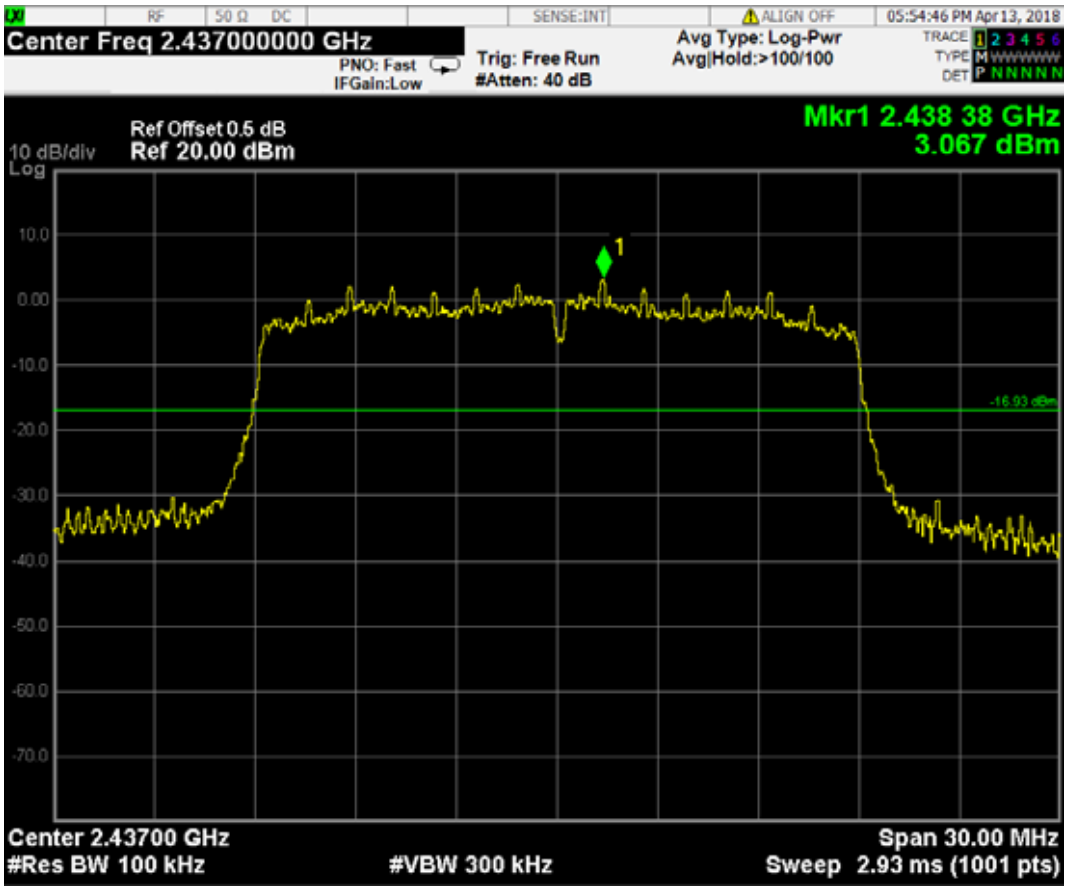



RF 50 Ω DC
SENSE:INT
ALIGN OFF
05:51:02 PM Apr 13, 2018
Marker 1 14.030000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M WWWWWW
DET P N N N N N
Ref Offset 0.5 dB
10 dB/div Ref 20.00 dBm
Log
Mkr1 14.03 GHz
-44.246 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-16.85 dBm
1
Start 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 956 ms (1001 pts)

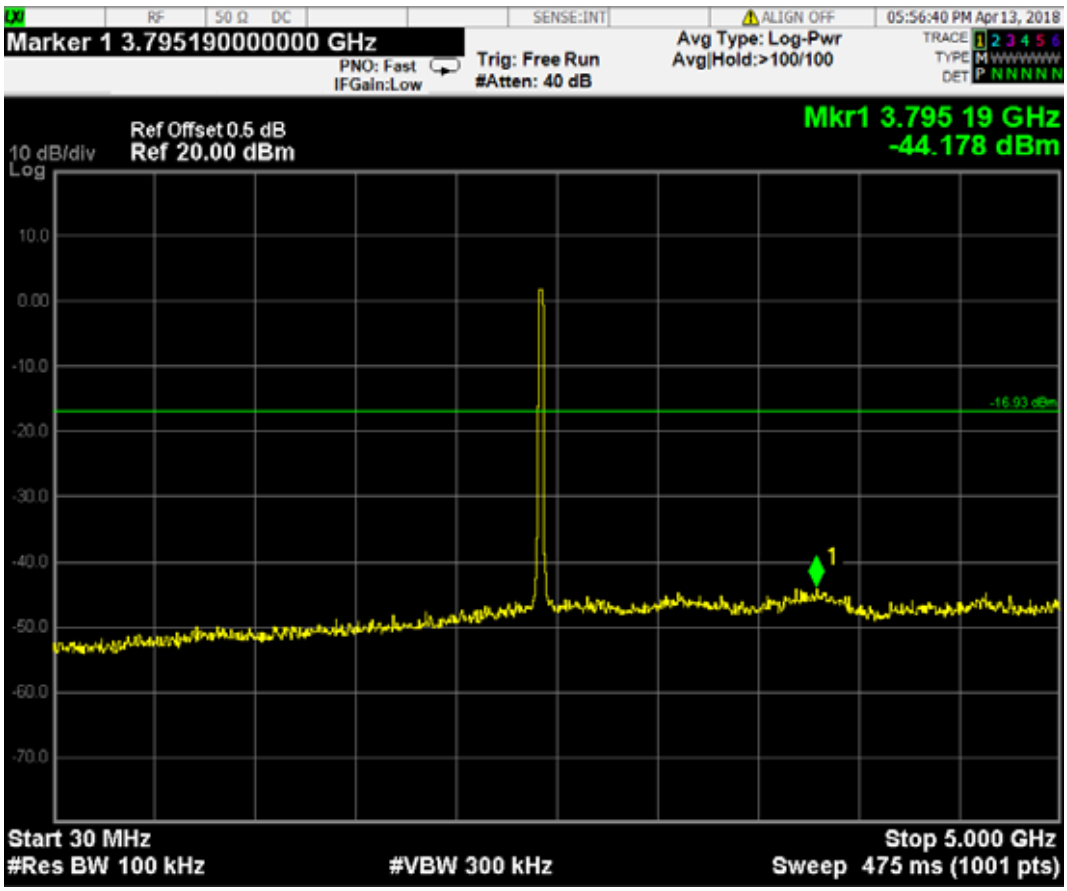

RF 50 Ω DC
SENSE:INT
ALIGN OFF
05:53:59 PM Apr 13, 2018
Marker 1 23.650000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M WWWWWW
DET P N N N N N
Ref Offset 0.5 dB
10 dB/div Ref 20.00 dBm
Log
Mkr1 23.65 GHz
-42.006 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-16.85 dBm
1
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 956 ms (1001 pts)

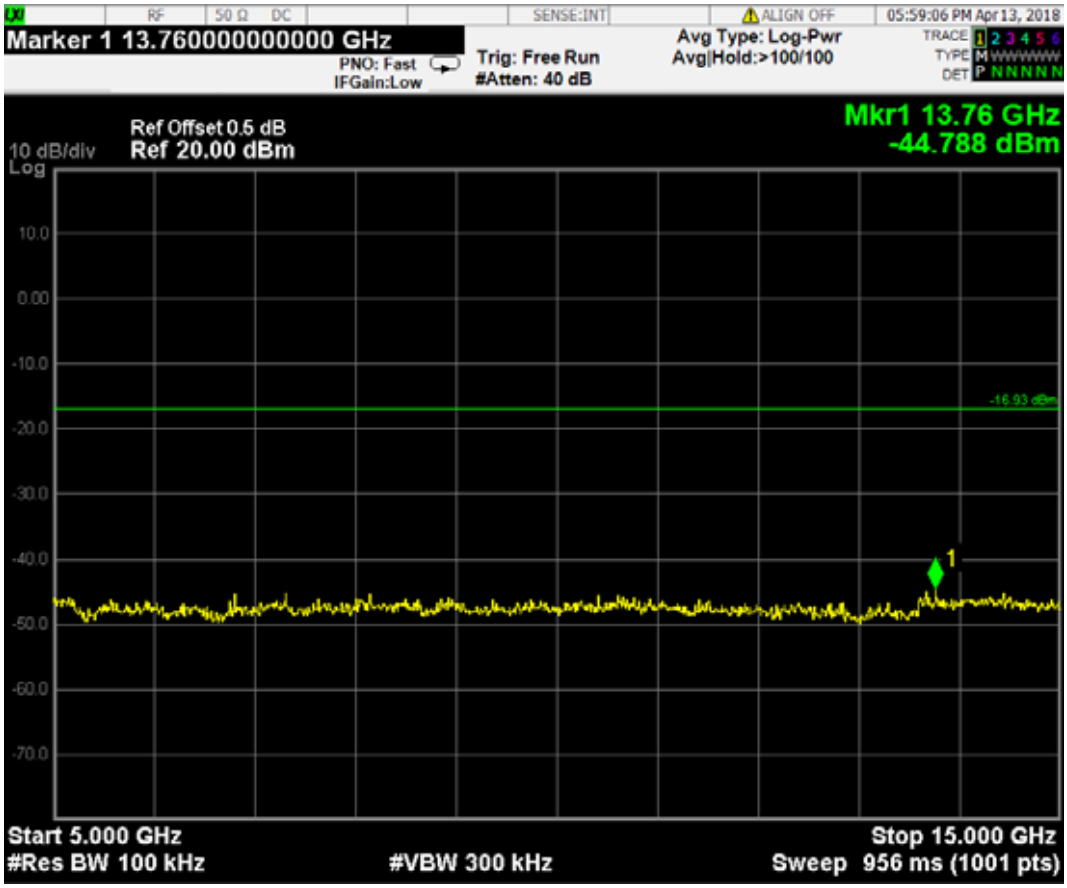
IEEE 802.11n HT20: CH6 (2437 MHz)

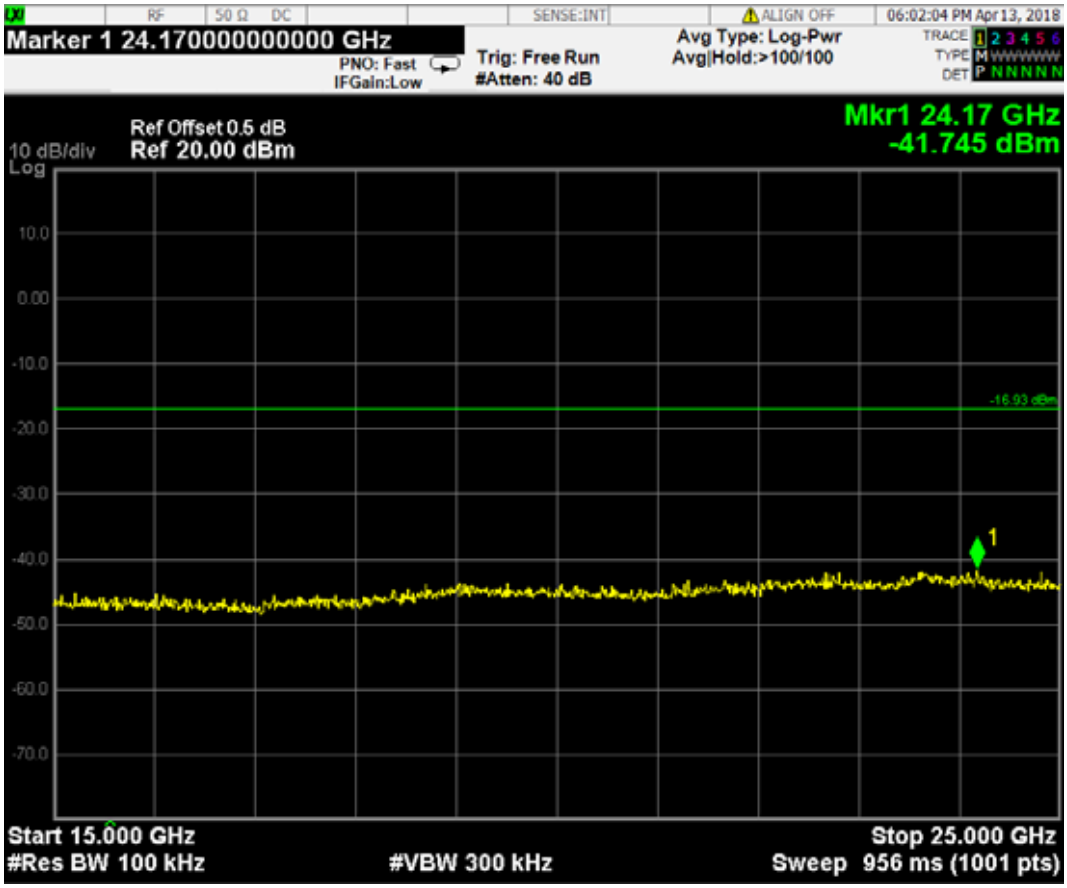
Reference level



Emission level

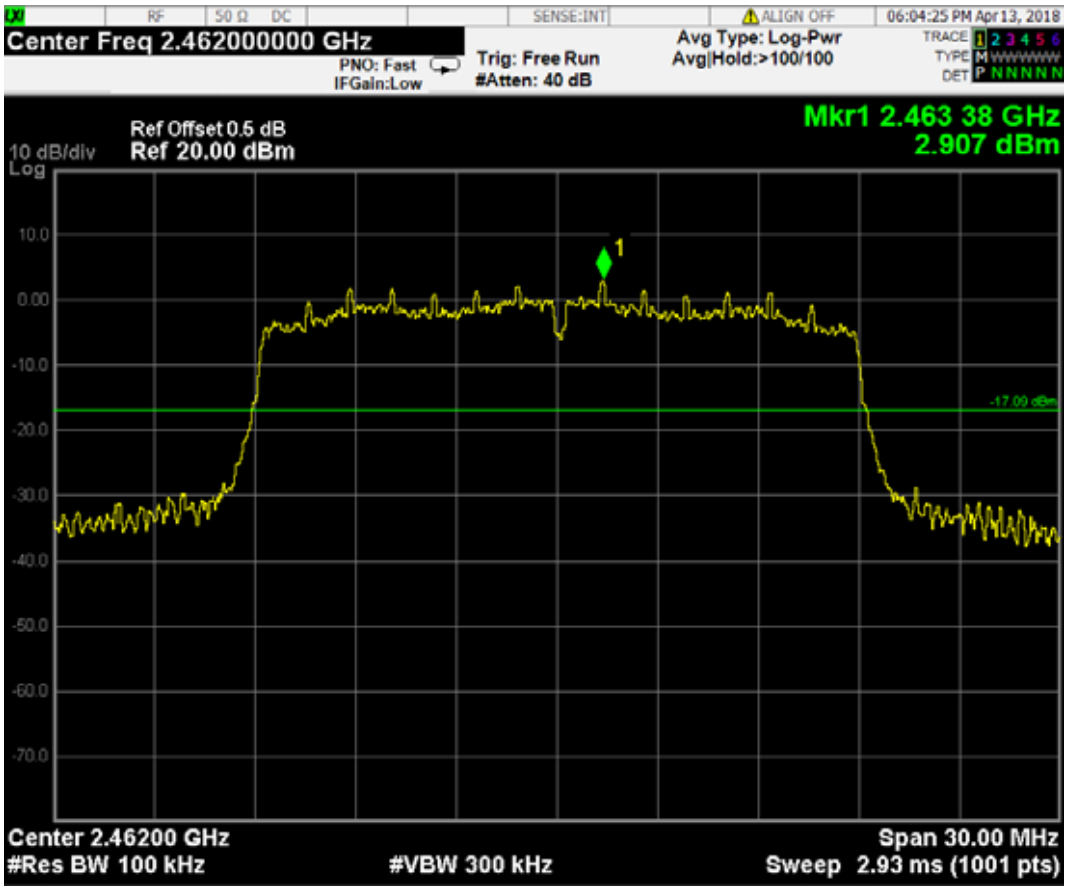



Marker 1 13.760000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
05:59:06 PM Apr 13, 2018
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 13.76 GHz
-44.788 dBm
-16.93 dBm
Start 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 956 ms (1001 pts)

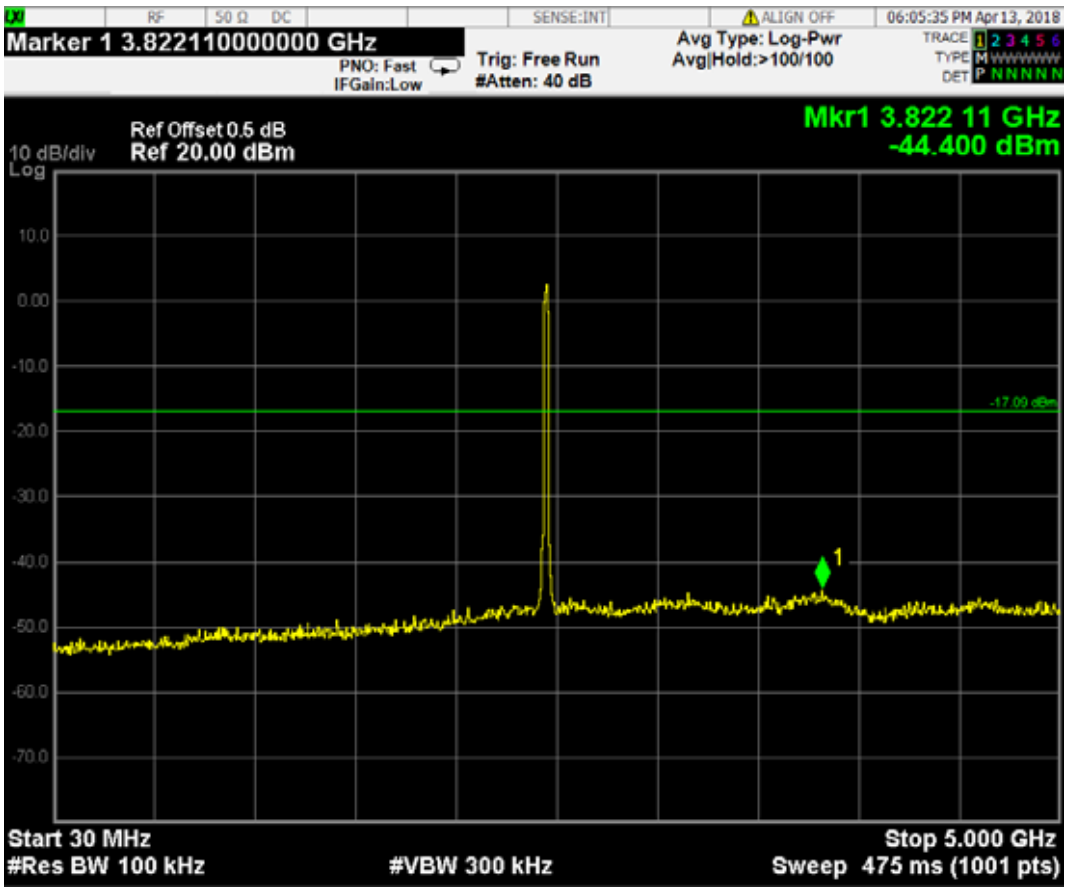

Marker 1 24.170000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
06:02:04 PM Apr 13, 2018
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 24.17 GHz
-41.745 dBm
-16.93 dBm
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 956 ms (1001 pts)

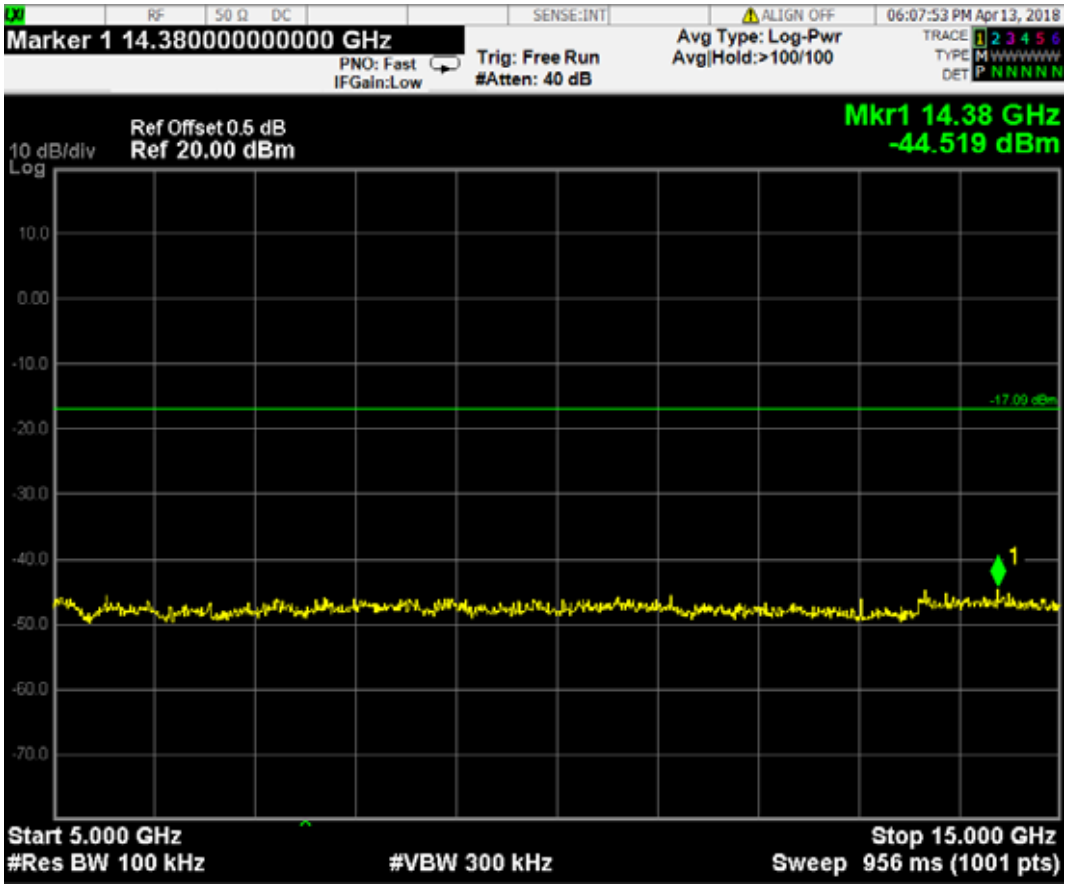
IEEE 802.11n HT20: CH11 (2462 MHz)

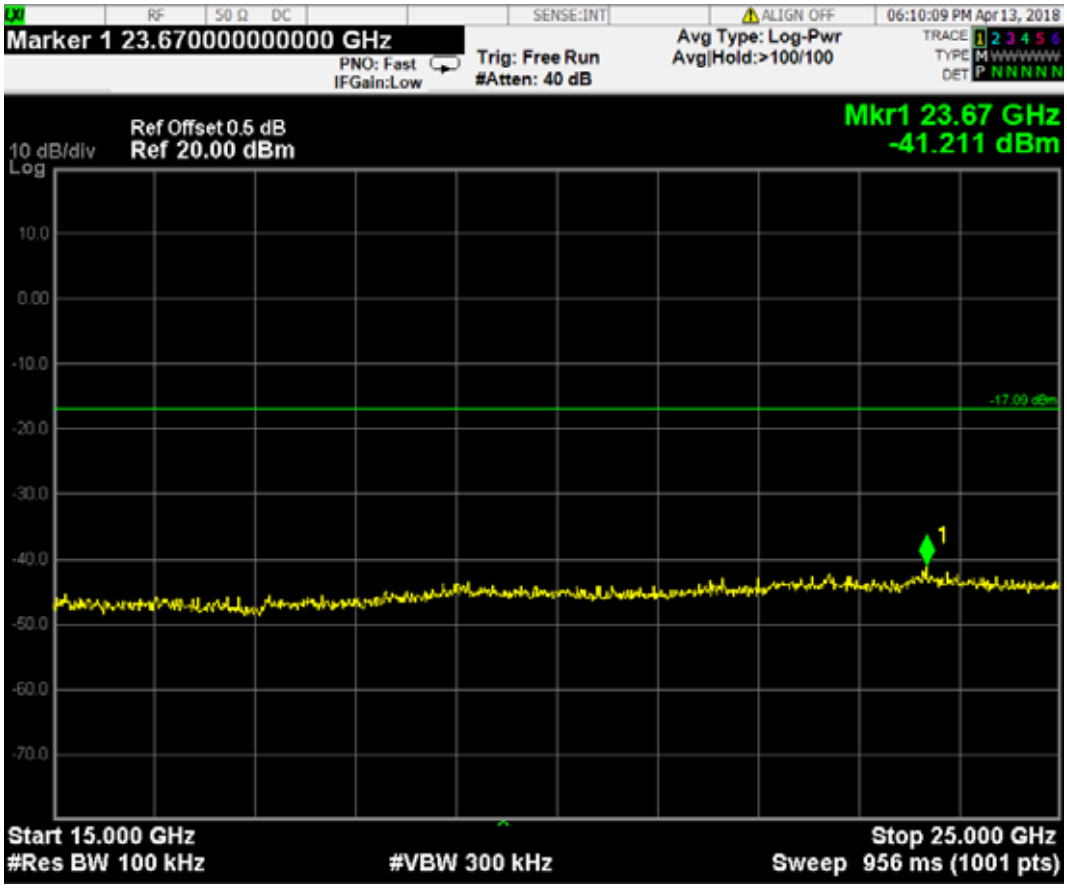
Reference level



Emission level




Marker 1 14.380000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
06:07:53 PM Apr 13, 2018
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 14.38 GHz
-44.519 dBm
-17.09 dBm
Start 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 956 ms (1001 pts)


Marker 1 23.670000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
06:10:09 PM Apr 13, 2018
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 23.67 GHz
-41.211 dBm
-17.09 dBm
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 956 ms (1001 pts)

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.	Spectrum Analyzer	Agilent	N9010A	MY52221182	Jun 12, 2017	Jun 11, 2018

8.2 Block Diagram of Test Setup

The Same as section.4.2.

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 switch ON/OFF was used to enable the EUT to change the channel one by one.

8.5 Test Procedure

The transmitter output was connected to the spectrum analyzer. Set RBW of Test Receiver to 100kHz and VBW to 300kHz with suitable frequency span including 100kHz bandwidth from band edge.
The test procedure is defined in ANSI C63.10-2013 (11.11.3 Emission level measurement was used).

8.6 Test Results

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

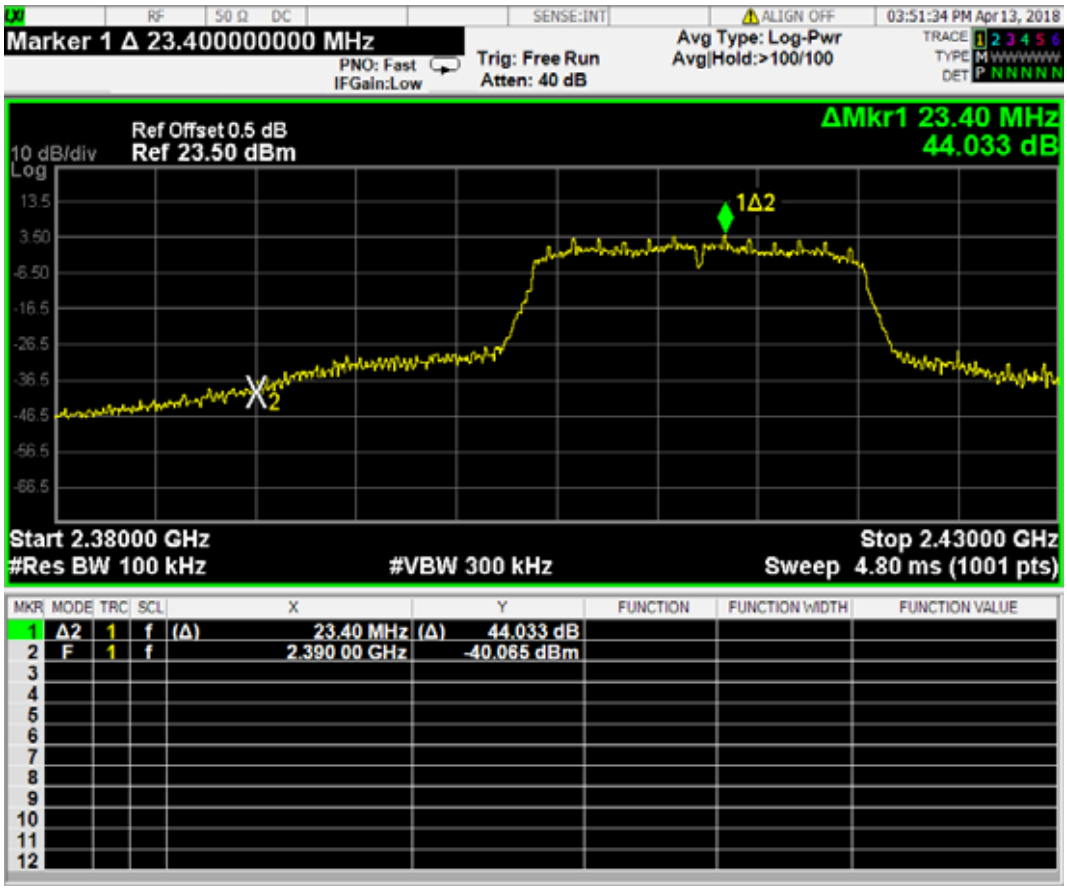
(Test Date: 2018.03.23 Temperature: 23℃ Humidity: 51 %)

Modulation	Location	Channel	Frequency (MHz)	**Delta Marker (dB)**	Result
IEEE 802.11b	Below Band Edge	1	2412	**55.771**	More than **20 dB** below the highest level of the desired power
	Upper Band Edge	11	2462	**56.647**	
IEEE 802.11g	Below Band Edge	1	2412	**44.033**	More than **20 dB** below the highest level of the desired power
	Upper Band Edge	11	2462	**45.837**	
IEEE 802.11n HT20	Below Band Edge	1	2412	**44.635**	More than **20 dB** below the highest level of the desired power
	Upper Band Edge	11	2462	**45.783**	

IEEE 802.11b: CH1 2412MHz (Below Edge 2390 MHz)

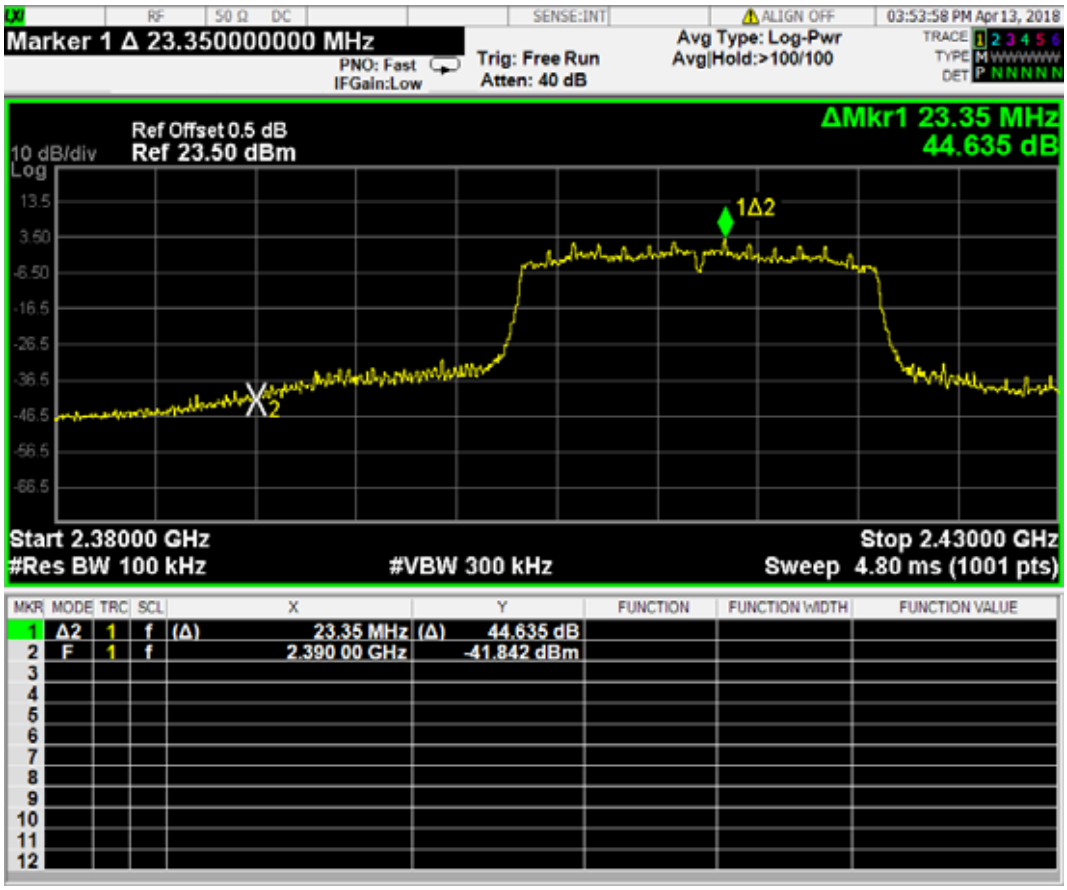
IEEE 802.11b: CH11 2462MHz (Upper Edge 2483.5 MHz)

IEEE 802.11g: CH1 2412MHz (Below Edge 2390 MHz)



IEEE 802.11g: CH11 2462MHz (Upper Edge 2483.5 MHz)

IEEE 802.11n HT20: CH1 2412MHz (Below Edge 2390 MHz)



IEEE 802.11 n HT20: CH11 2462MHz (Upper Edge 2483.5 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.	Spectrum Analyzer	Agilent	N9010A	MY52221182	Jun 12, 2017	Jun 11, 2018

9.2 Block Diagram of Test Setup

The Same as section 4.2.

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 switch ON/OFF was used to enable the EUT to change the channel one by one.

9.5 Test Procedure

The transmitter output was connected to the spectrum analyzer. The Test Receiver was set as 3kHz ≤ RBW ≤ 100kHz, VBW ≥ 3 x RBW, span = 1.5 times the DTS channel bandwidth.

The test procedure is defined in ANSI C63.10-2013 (11.10.2 Measurement Procedure “Method PKPSD (peak PSD)” was used).

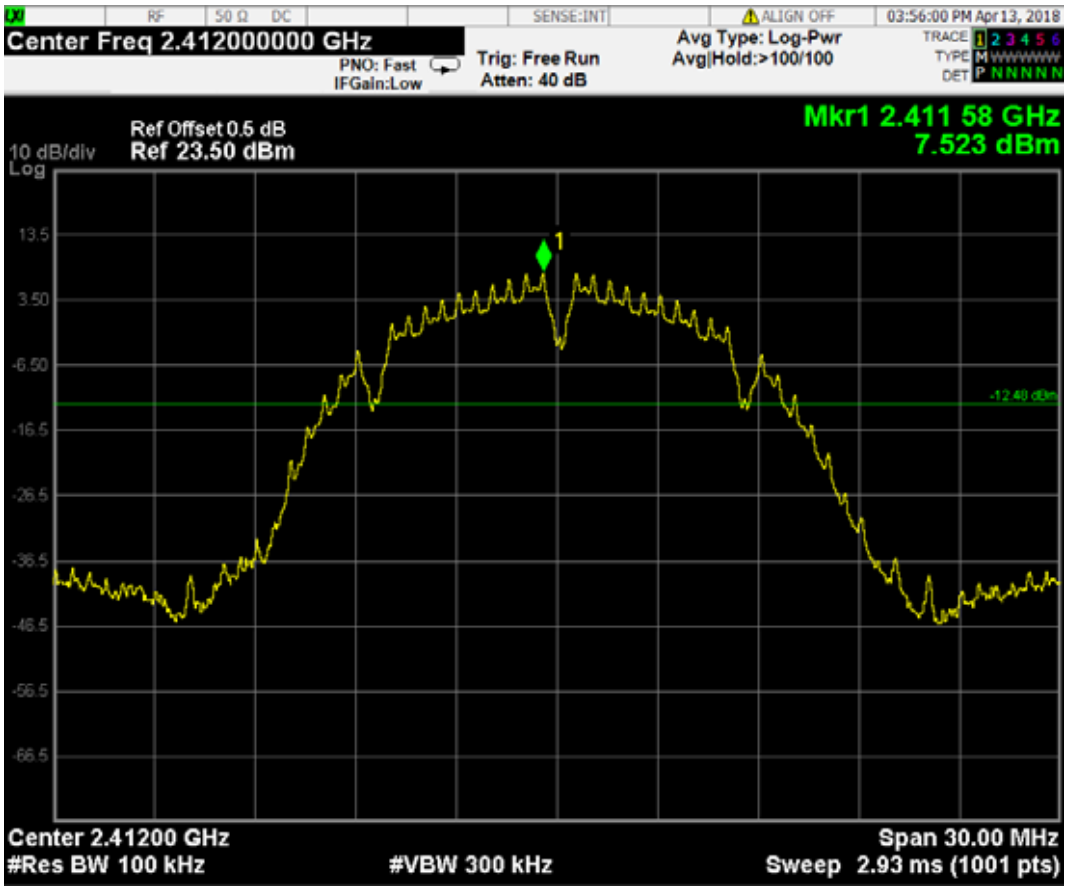
9.6 Test Results

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

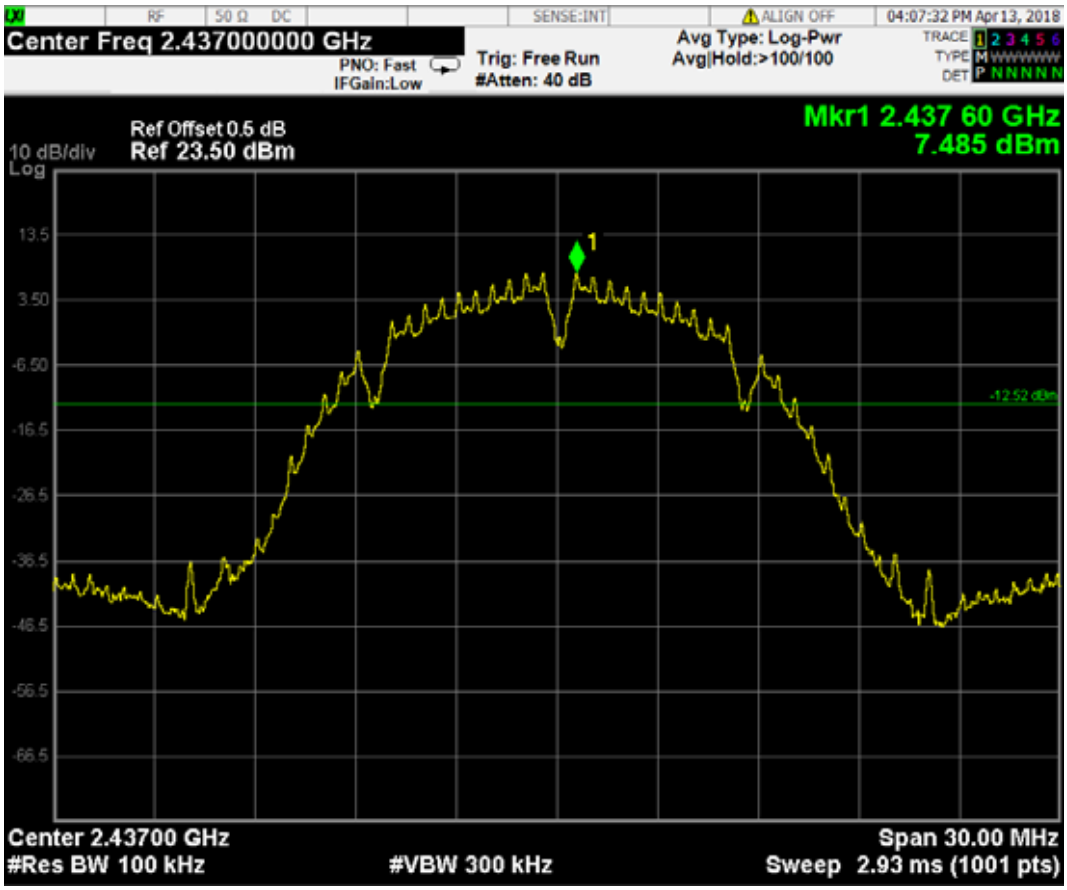
(Test Date: 2018.03.23 Temperature: 23℃ Humidity: 51 %)

Modulation	Channel	Frequency (MHz)	**Power Spectral Density (dBm)**	Limit
IEEE 802.11b	1	2412	**7.523**	8 dBm
	6	2437	**7.485**	8 dBm
	11	2462	**7.081**	8 dBm
IEEE 802.11g	1	2412	**4.166**	8 dBm
	6	2437	**4.267**	8 dBm
	11	2462	**4.047**	8 dBm
IEEE 802.11n HT20	1	2412	**3.154**	8 dBm
	6	2437	**3.067**	8 dBm
	11	2462	**2.907**	8 dBm

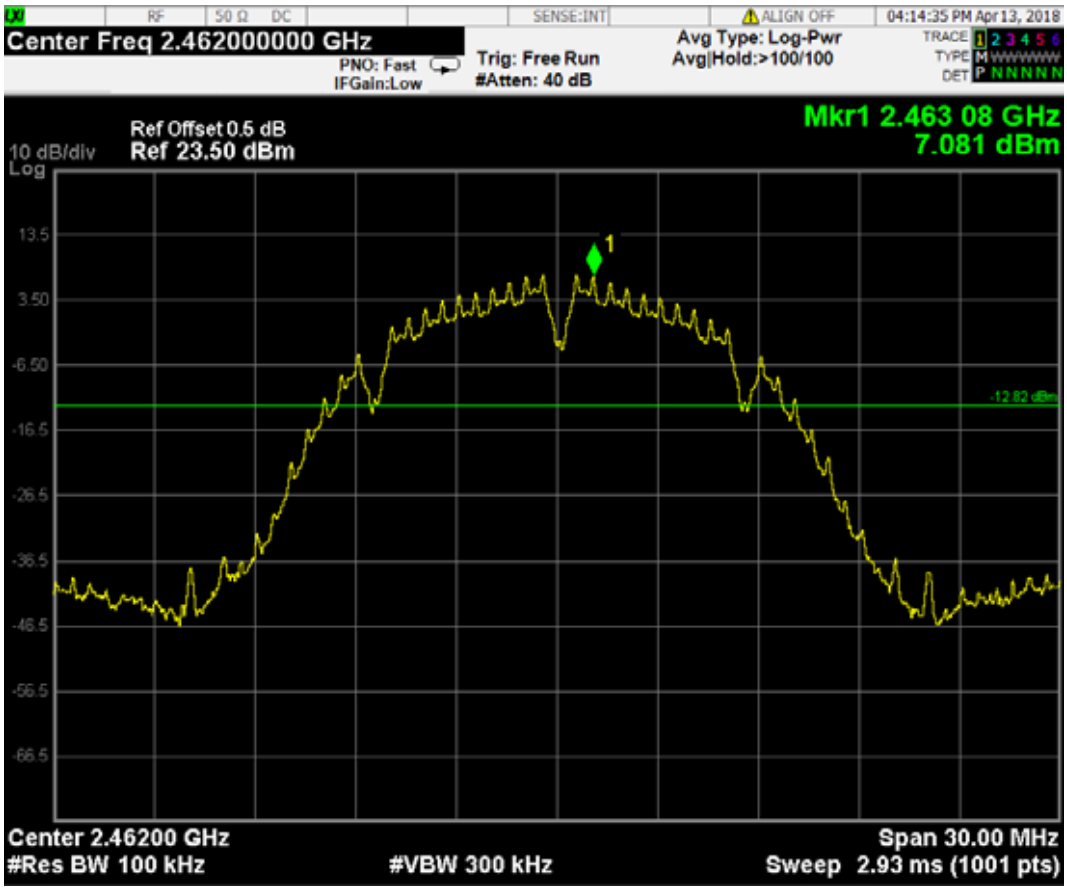
IEEE 802.11b: CH1 2412 MHz



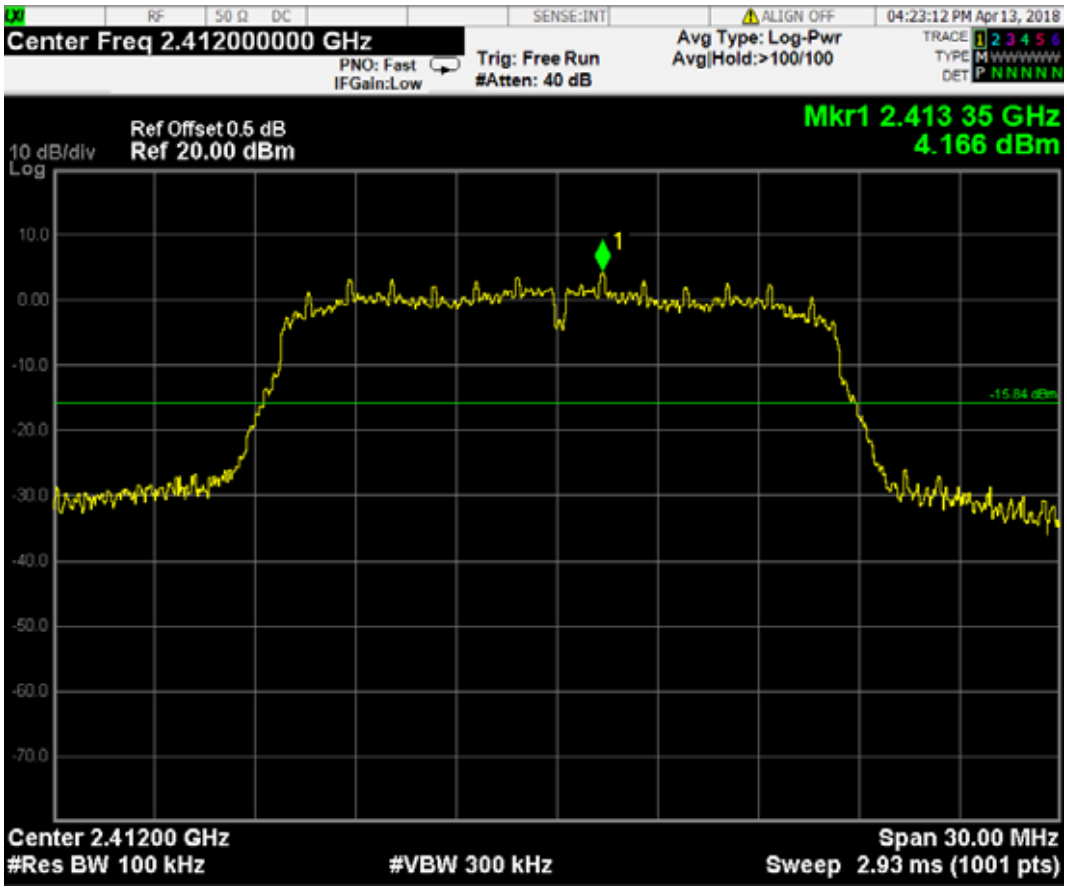
IEEE 802.11b: CH7 2437 MHz



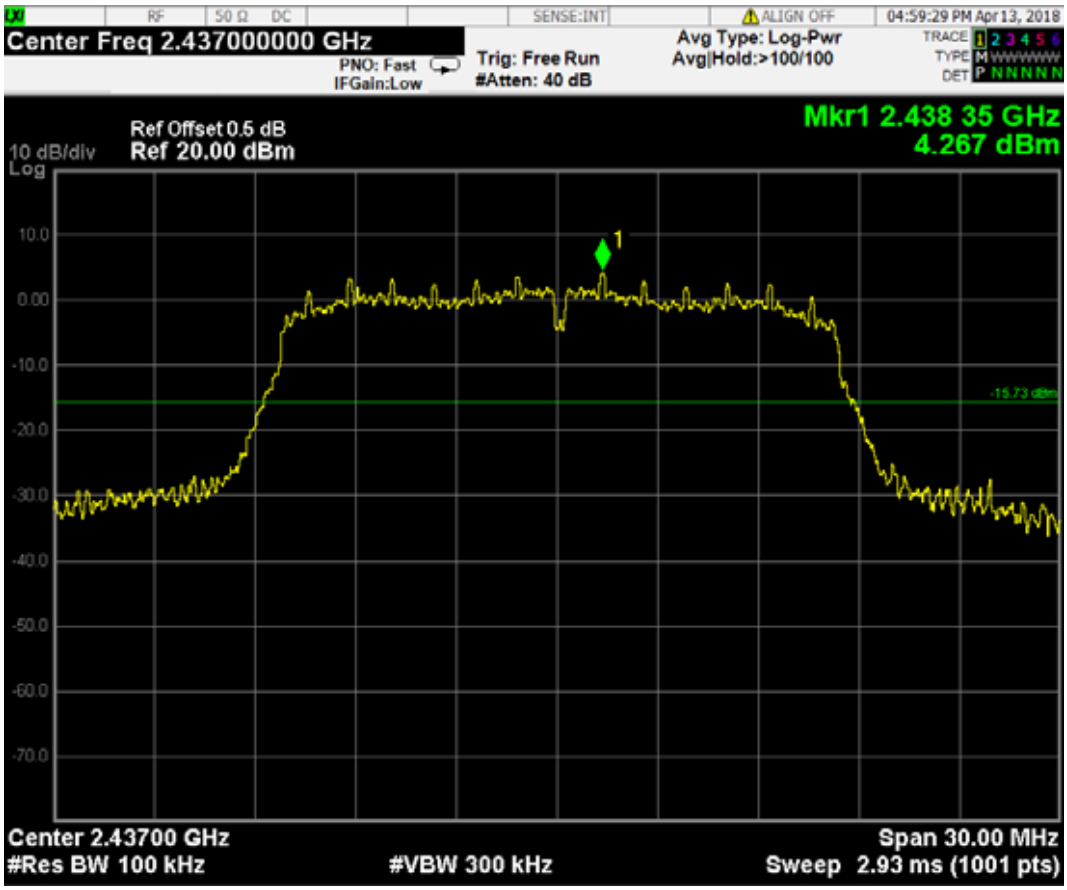
IEEE 802.11b: CH6 2462 MHz



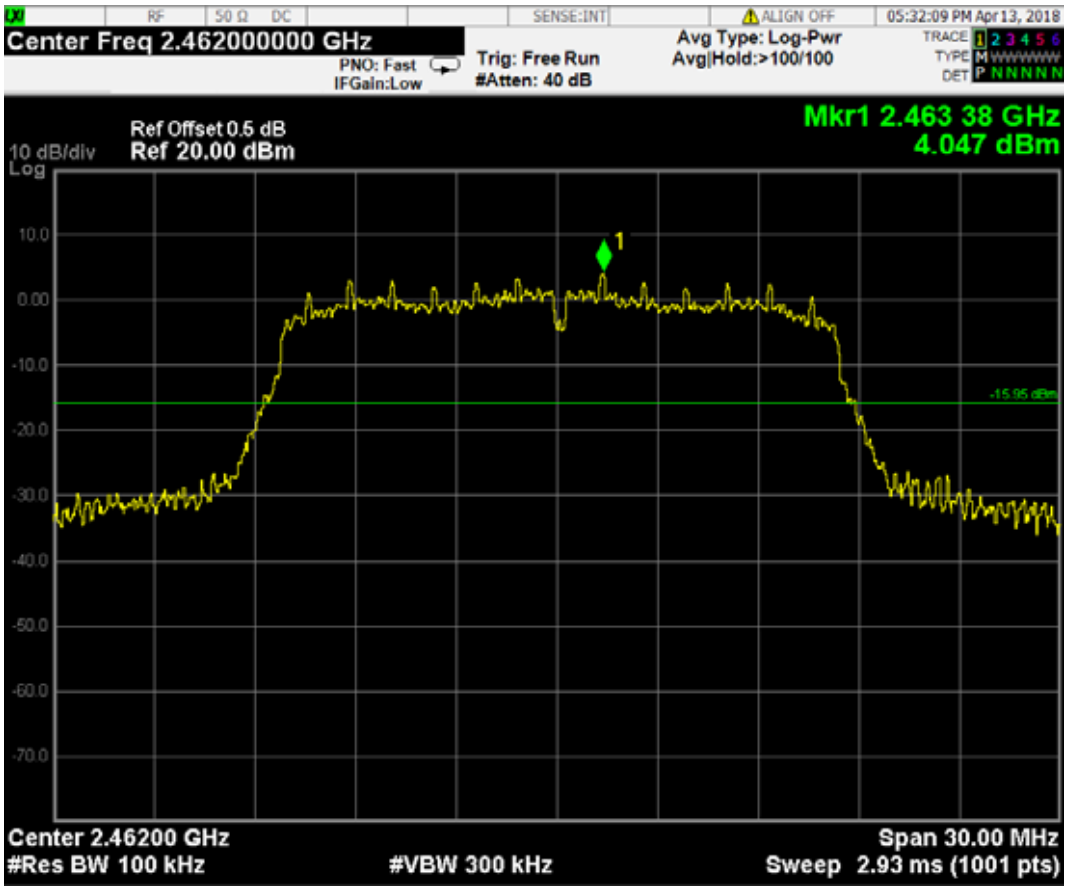
IEEE 802.11g: CH1 2412 MHz



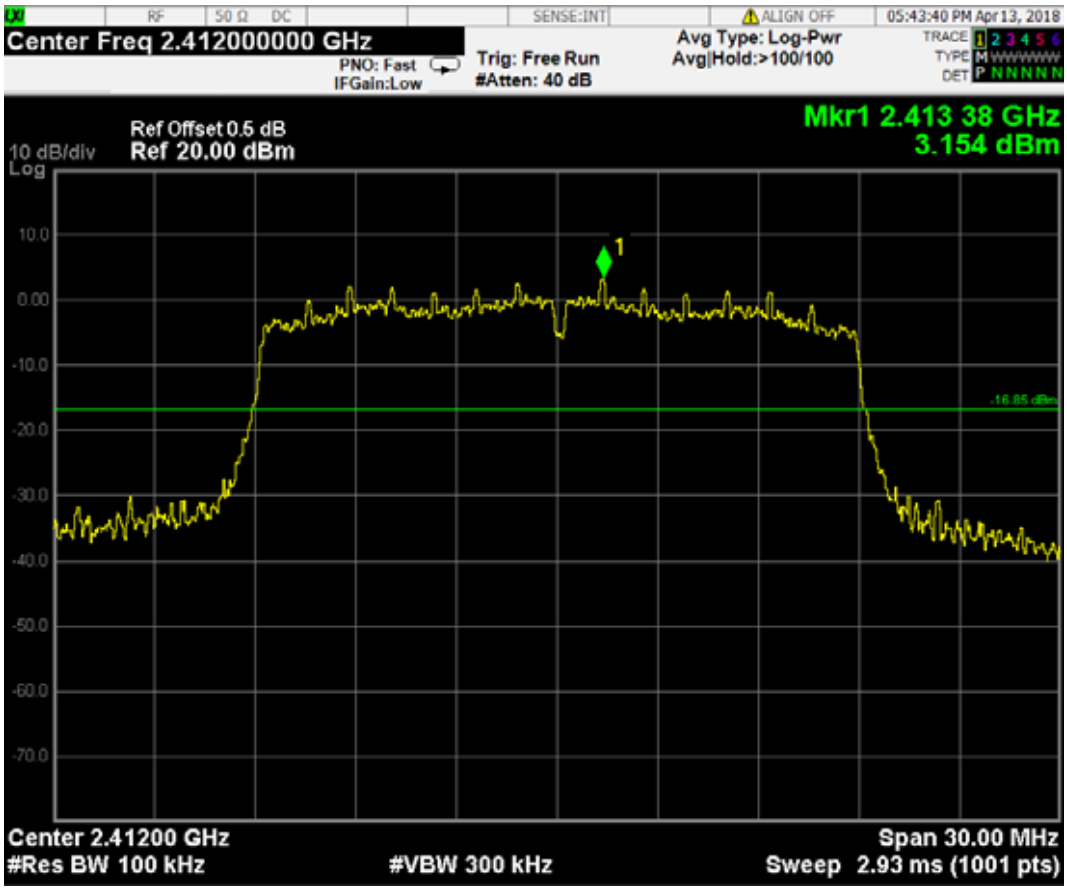
IEEE 802.11g: CH7 2437 MHz



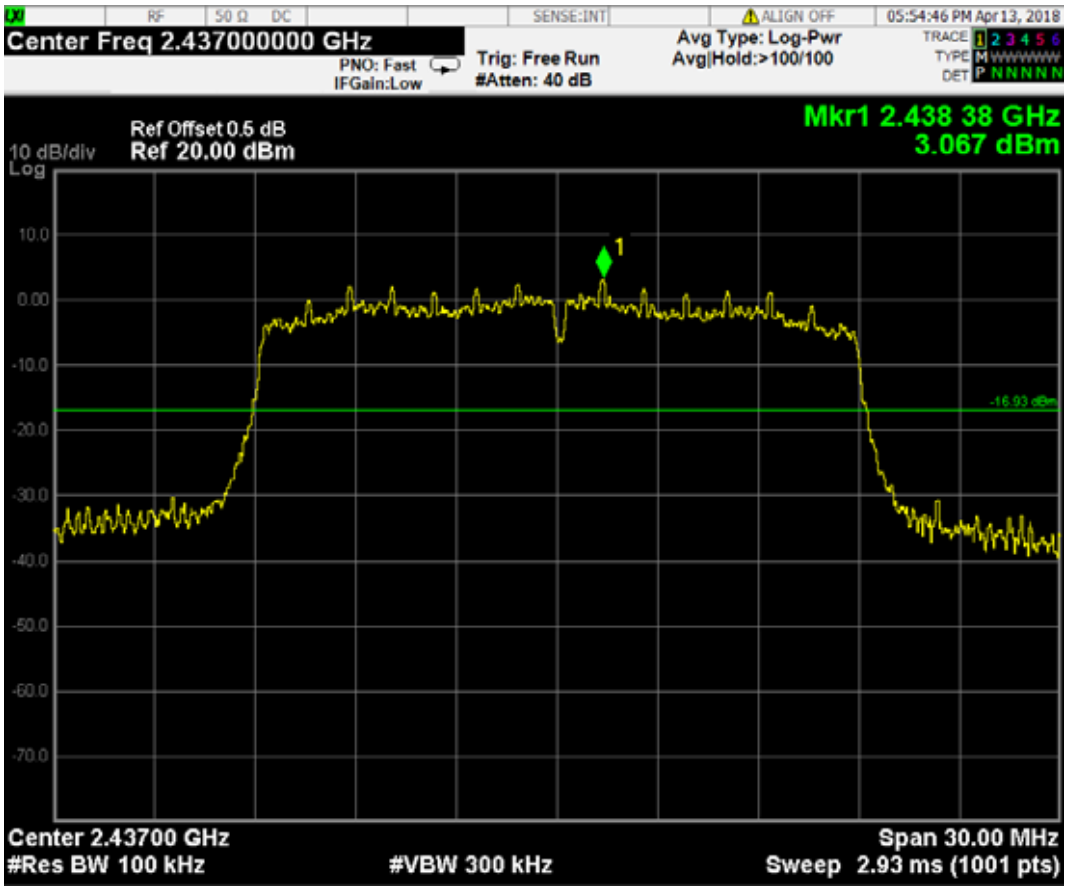
IEEE 802.11g: CH6 2462 MHz



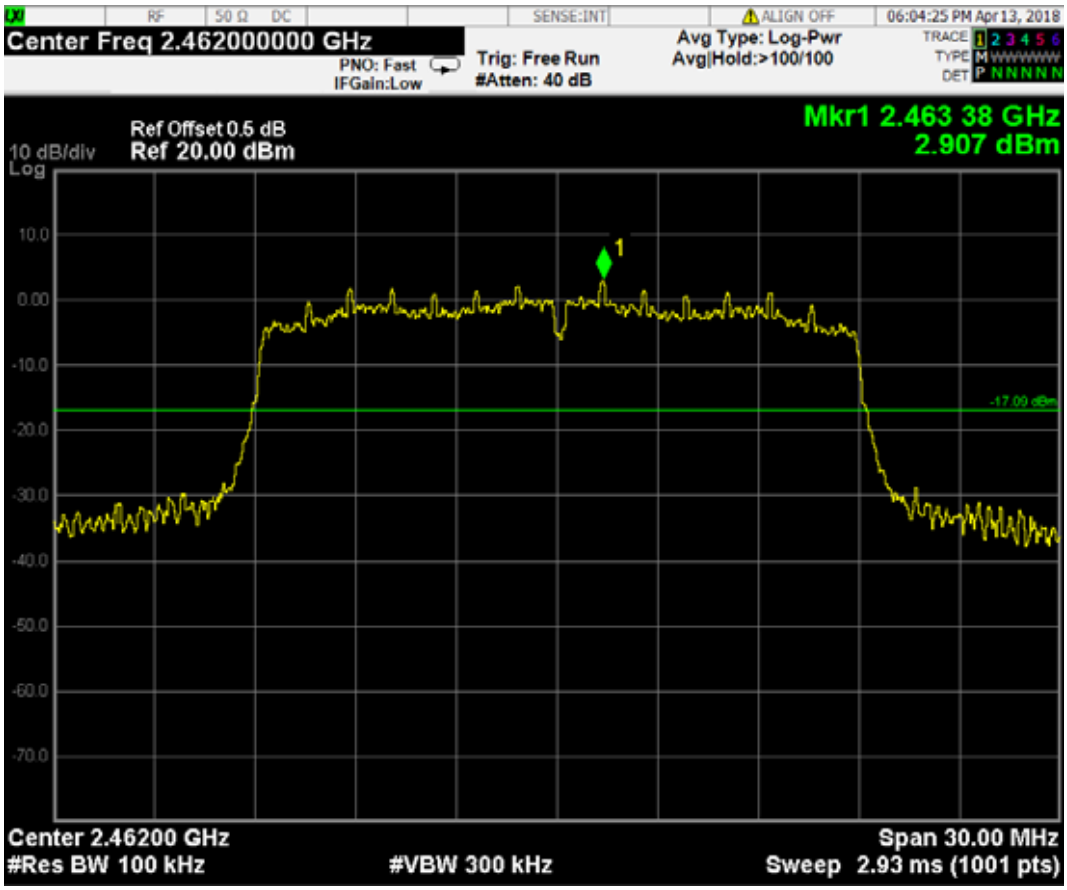
IEEE 802.11n HT20: CH1 2412 MHz



IEEE 802.11n HT20: CH7 2437 MHz



IEEE 802.11n HT20: CH6 2462 MHz



10 DEVIATION TO TEST SPECIFICATIONS

None.