REPORT No. : XM19080032W06

TEST REPORT

APPLICANT	:	Hot Pepper, Inc.
PRODUCT NAME	:	4G Smart Phone
MODEL NAME	:	HPP-L55
BRAND NAME	:	Hot Pepper
FCC ID	:	2APD4-A95C
STANDARD(S)	:	47 CFR Part 15 Subpart C
RECEIPT DATE	:	2019-10-10
TEST DATE	:	2019-11-09 to 2019-11-10
ISSUE DATE	:	2019-12-30

Edited by : Bowers Zeng

Bowers Zeng(Test engineer)

Review by:

Elvis Wang(Auditor)

Approved by:

Anne Liu (Supervisor)

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DIRECTORY

Change History		
Version	Date	Reason for change
1.0	2019-12-30	First edition

1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Hot Pepper, Inc.
Applicant Address:	5151 California Ave., Suite 100, Irvine 92617, USA
Manufacturer:	Hot Pepper, Inc.
Manufacturer Address:	5151 California Ave., Suite 100, Irvine 92617, USA

1.2. Equipment Under Test (EUT) Description

Product Name:	4G Smart Phone
Serial No:	(N/A, marked #1 by test site)
Hardware Version:	A95C_MAINBOARD_P3
Software Version:	HPP-L55-C1.0.0
Modulation Type:	DSSS, OFDM
Operating Frequency Range:	802.11b/g/n-20MHz: 2.412GHz - 2.472GHz 802.11n-40MHz: 2.422GHz - 2.462GHz
Channel Number:	802.11b/g/n-20MHz: 13 802.11n-40MHz: 9
Antenna Type:	PIFA Antenna
Antenna Gain:	0.3 dBi

Note 1: The EUT is operating at 2.4GHz ISM; it supports 802.11b, 802.11g, 802.11n and they are all tested in this report.

For 802.11b/g/n-20MHz (2.4GHz band), the frequencies allocated is F (MHz) =2412+5*(n-1) (1<=n<=13). Channel numbers of the EUT used and tested in this report are separately 1 (2412MHz), 6 (2437MHz) ,11 (2462MHz),12(2467MHz) and 13(2472MHz).

For 802.11n-40MHz, the frequencies allocated is F (MHz) =2412+5*(n-1) (3<=n<=11). Channel numbers of the EUT used and tested in this report are separately 3 (2422MHz), 6 (2437MHz) ,9 (2452MHz) and 11(2462MHz).

Note 2: The EUT connected to the serial port of the computer with a serial communication cable, we use the dedicated software to control the EUT continuous transmission.

Note 3: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

1.3. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart C for the EUT FCC ID Certification:

No	Identity	Document Title
1	47 CFR Part 15	Radio Frequency Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Test Date	Test Engineer	Result
1	15.203	Antenna Requirement	N/A	N/A	PASS
2	15.247(b)	Output Power	Nov 09, 2019 Nov 10, 2019	LaiHuihuang	**PASS**
3	15.247(a)	Bandwidth	Nov 09, 2019 Nov 10, 2019	LaiHuihuang	**PASS**
4	15.247(d)	Conducted Spurious Emission and Band Edge	Nov 09, 2019 Nov 10, 2019	LaiHuihuang	**PASS**
5	15.247(e)	Power spectral density (PSD)	Nov 09, 2019 Nov 10, 2019	LaiHuihuang	**PASS**
6	15.247(d)	Restricted Frequency Bands	Nov 18, 2019 Nov 22, 2019	Hao Wang	**PASS**
7	15.207	Conducted Emission	Nov 18, 2019 Nov 22, 2019	Hao Wang	**PASS**
8	15.209, 15.247(d)	Radiated Emission	Nov 18, 2019 Nov 22, 2019	Hao Wang	**PASS**
Note: The tests of Conducted Emission and Radiated Emission were performed according to the method of measurements prescribed in ANSI C63.10 2013 and KDB558074 D01 v05r02.					

1.4. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 35
Relative Humidity (%):	30 -60
Atmospheric Pressure (kPa):	86-106

2. 47 CFR Part 15C Requirements

2.1. Antenna requirement

2.1.1. Applicable Standard

According to FCC 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

2.1.2. Result: Compliant

The EUT has a N type antenna connector. The antenna is N type Omni-Directional FRP antenna and max gain is 0.3dBi. Please refer to the EUT external photos.

2.2. Output Power

2.2.1. Requirement

According to FCC section 15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: The maximum peak conducted output power of the intentional radiator shall not exceed1 Watt.

2.2.2. Test Description

The measured output power was calculated by the reading of the USB Wideband Power Sensor and calibration.

A. Test Setup:

The EUT (Equipment under the test) which is coupled to the USB Wideband Power Sensor; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

B. Equipments List:

Please refer ANNEX B(4).

2.2.3. Test Result

Duty Cycle Factor

Mode	Channel	Frequency (MHz)	T_{on} (ms)	$T_{(on+off)}$ (ms)	Duty Cycle (%)	Duty Cycle Factor
802.11b	6	2437	100	100	100	0
802.11g	6	2437	100	100	100	0
802.11n-20MHz	6	2437	100	100	100	0
802.11n-40MHz	6	2437	100	100	100	0

Output Average Power

Mode	Channel	Frequency (MHz)	Output Average Power		Limit		Verdict
			dBm	W	dBm	W	
802.11 b	1	2412	17.29	0.054	30	1	**PASS**
	6	2437	17.64	0.058			**PASS**
	11	2462	17.03	0.050			**PASS**
	12	2467	16.48	0.044			**PASS**
	13	2472	15.89	0.039			**PASS**
802.11 g	1	2412	16.66	0.046			**PASS**
	6	2437	16.81	0.048			**PASS**
	11	2462	16.49	0.045			**PASS**
	12	2467	16.08	0.041			**PASS**
	13	2472	16.10	0.041			**PASS**
802.11 HT20	1	2412	17.25	0.053			**PASS**
	6	2437	17.88	0.061			**PASS**
	11	2462	16.96	0.050			**PASS**
	12	2467	16.30	0.043			**PASS**
	13	2472	15.99	0.040			**PASS**
802.11 HT40	3	2422	15.32	0.034			**PASS**
	6	2437	14.94	0.031			**PASS**
	9	2452	15.29	0.034			**PASS**
	11	2462	14.94	0.031			**PASS**

Note: The duty cycle factor has been compensated into the test result

2.3. Bandwidth

2.3.1. Requirement

According to FCC section 15.247(a) (2), Systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

2.3.2. Test Description

A. Test Set:

The EUT is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW.
KDB558074 V05R02 Section 8.1 Option 1 was used in order to prove compliance.

B. Equipments List:

Please refer ANNEX B(4).

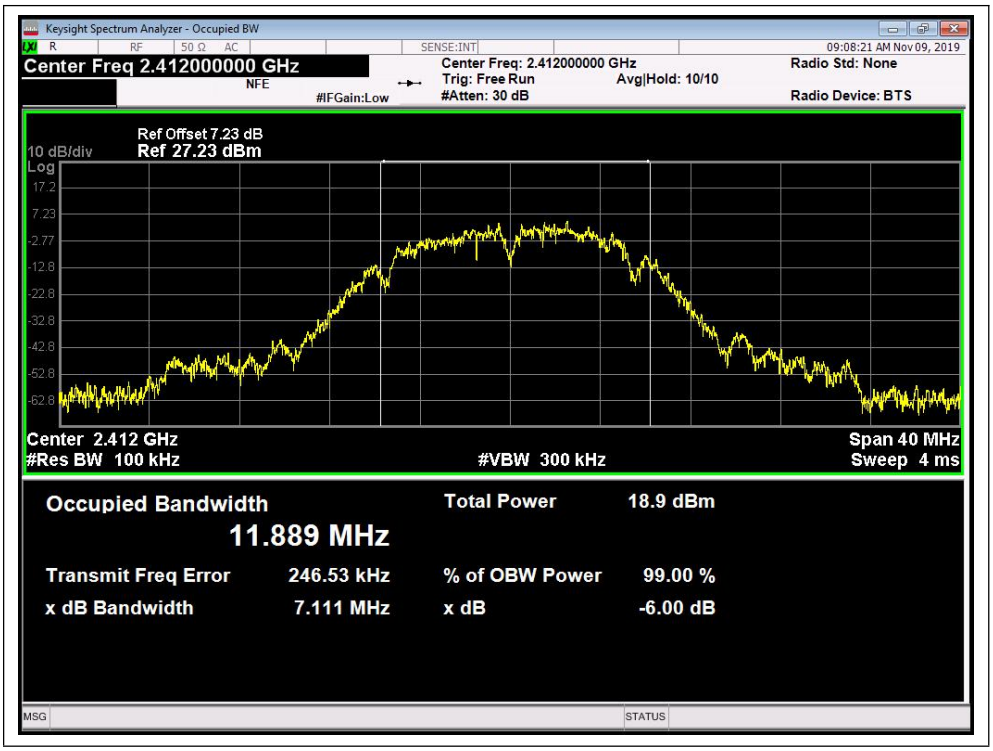
2.3.3. Test Result

802.11b Test mode

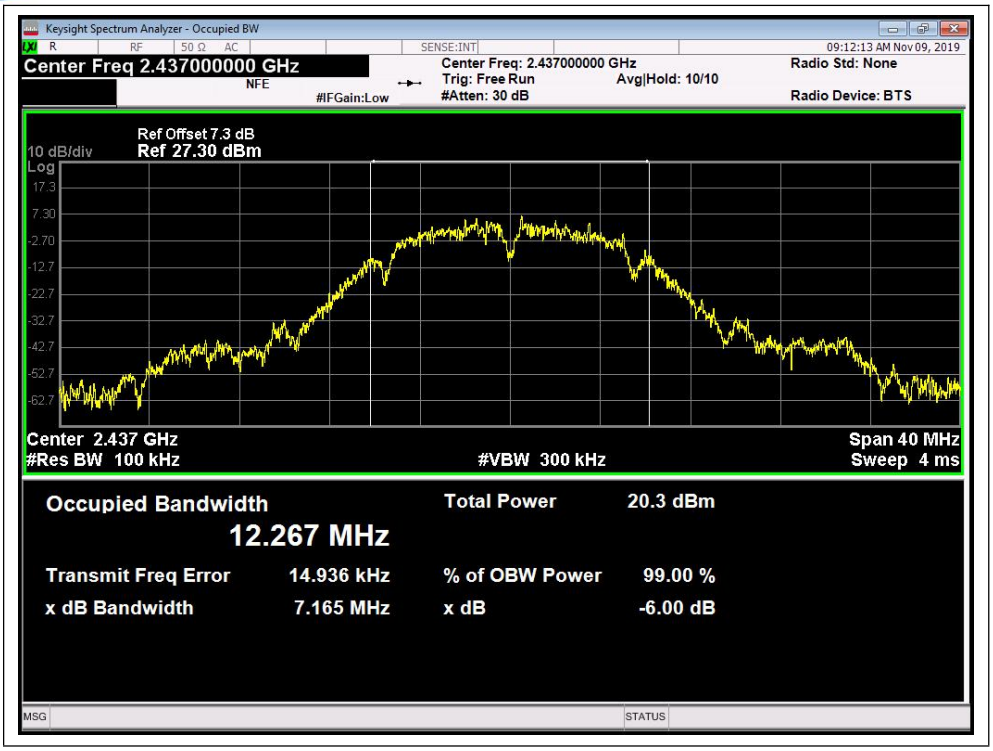
A. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limits(kHz)	Result
1	2412	7.111	≥500	**PASS**
6	2437	7.165	≥500	**PASS**
11	2462	8.621	≥500	**PASS**
12	2467	8.668	≥500	**PASS**
13	2472	7.549	≥500	**PASS**

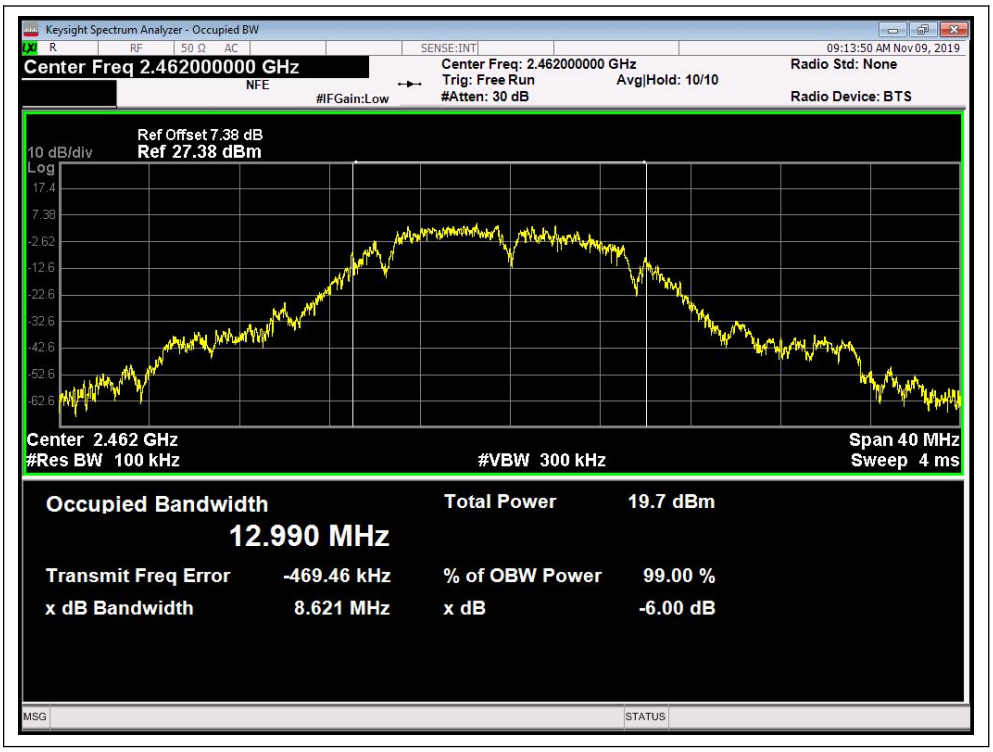
B. Test Plots



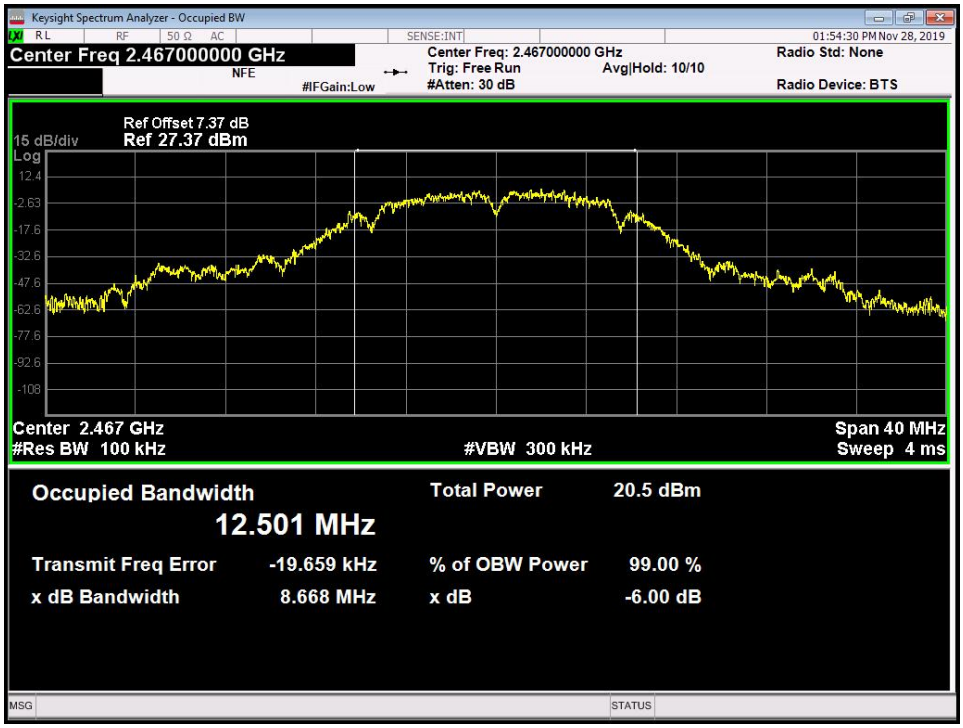
(Channel 1, 2412MHz, 802.11b)



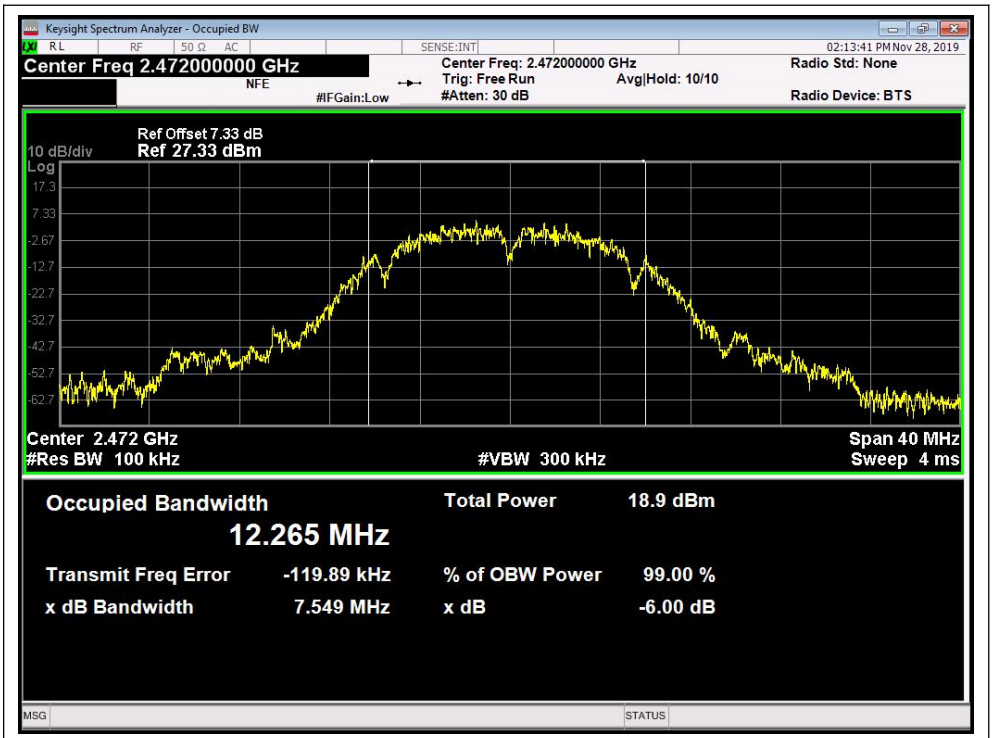
(Channel 6, 2437 MHz, 802.11b)



(Channel 11, 2462MHz, 802.11b)



(Channel 12, 2467MHz, 802.11b)



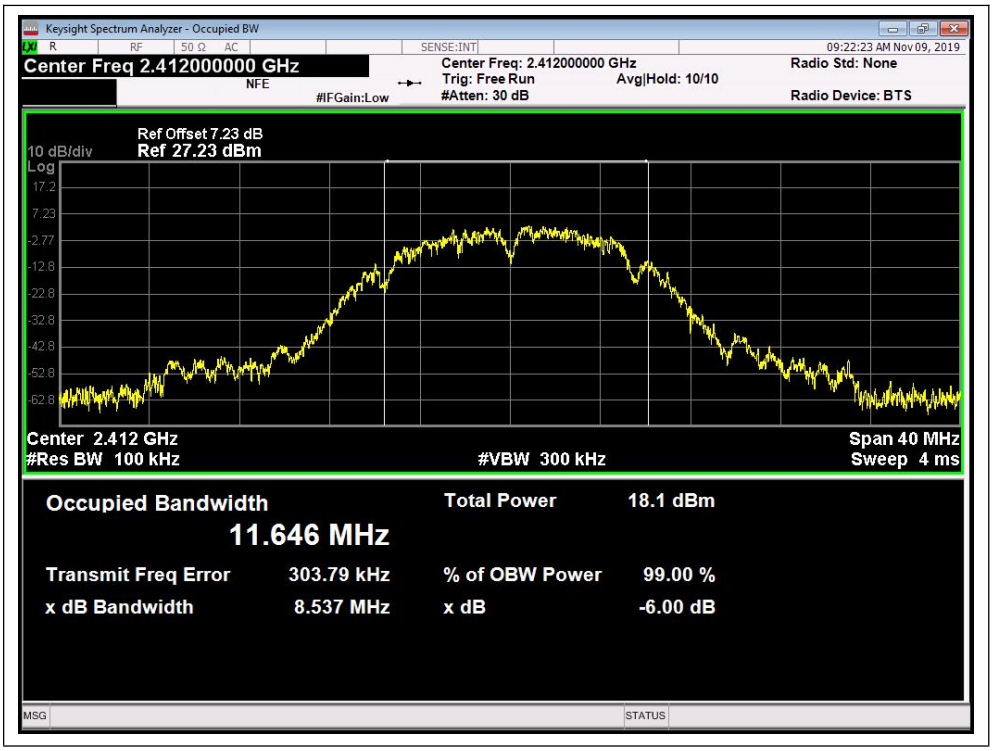
(Channel 13, 2472MHz, 802.11b)

802.11g Test mode

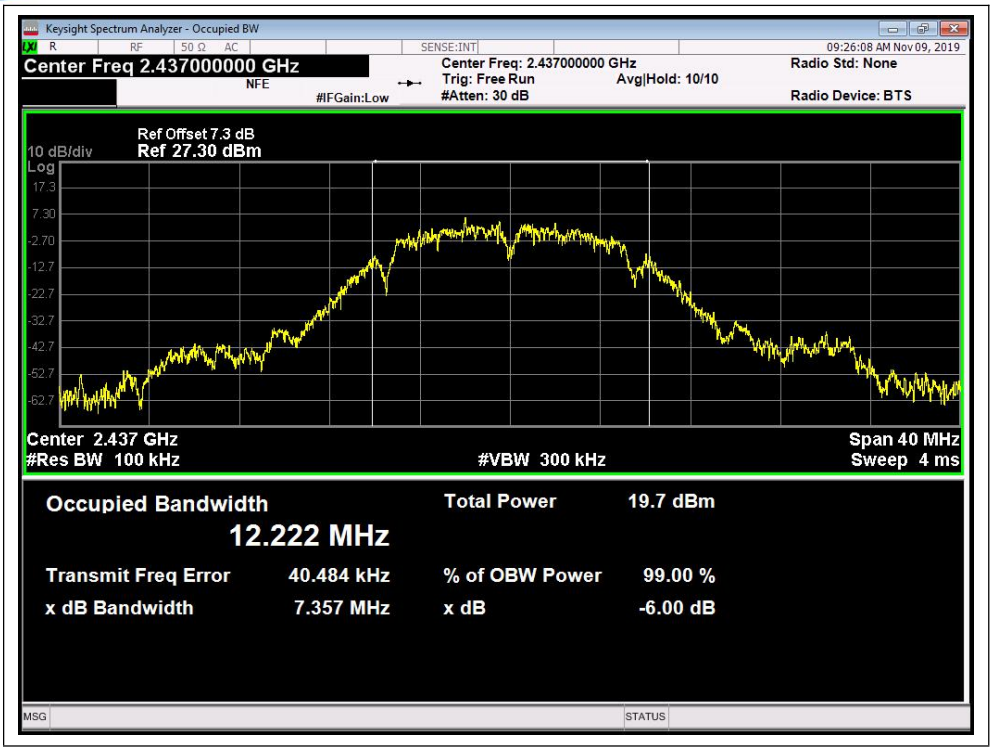
A. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limits (kHz)	Result
1	2412	8.537	≥500	**PASS**
6	2437	7.357	≥500	**PASS**
11	2462	7.866	≥500	**PASS**
12	2467	15.00	≥500	**PASS**
13	2472	11.31	≥500	**PASS**

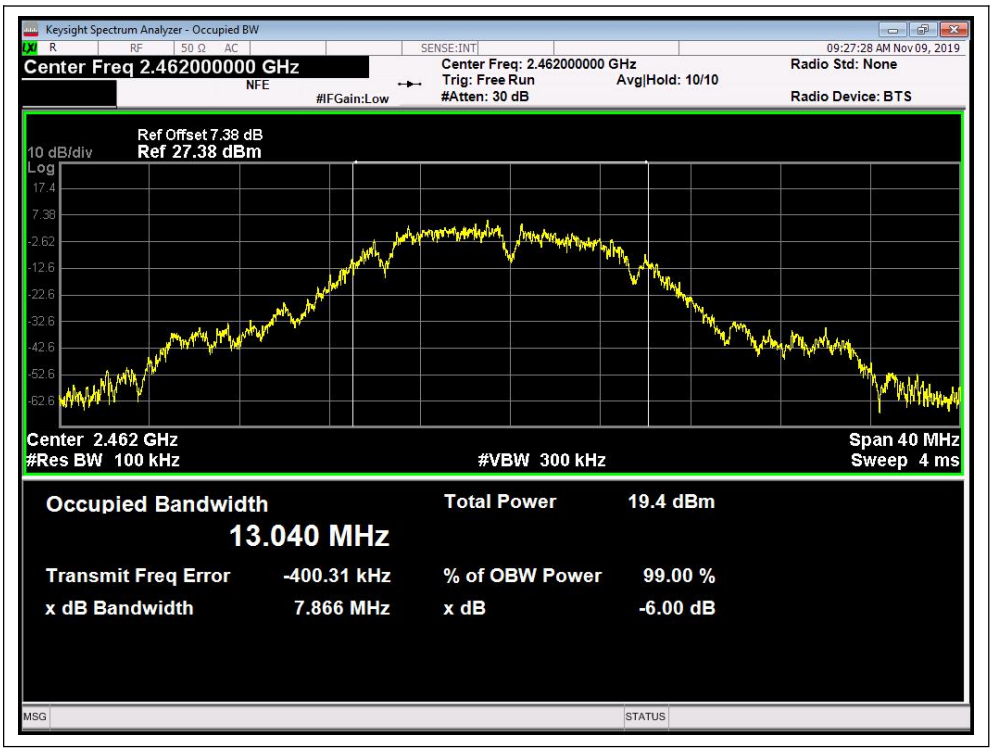
B. Test Plots:



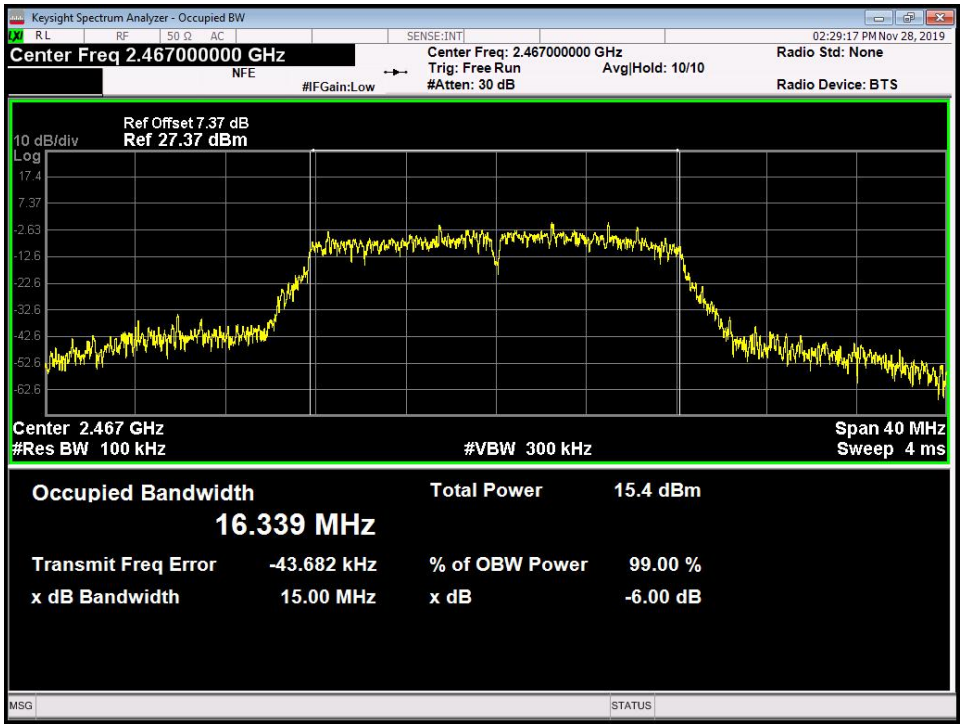
(Channel 1, 2412MHz, 802.11g)



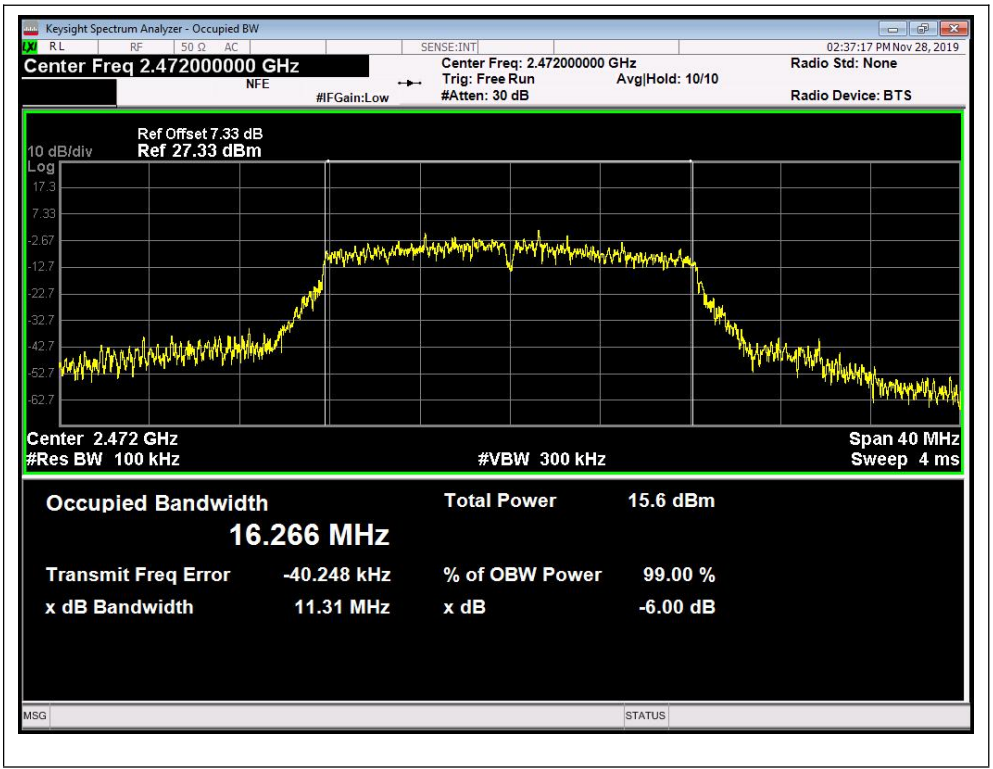
(Channel 6, 2437MHz, 802.11g)



(Channel 11, 2462MHz, 802.11g)



(Channel 12, 2467MHz, 802.11g)



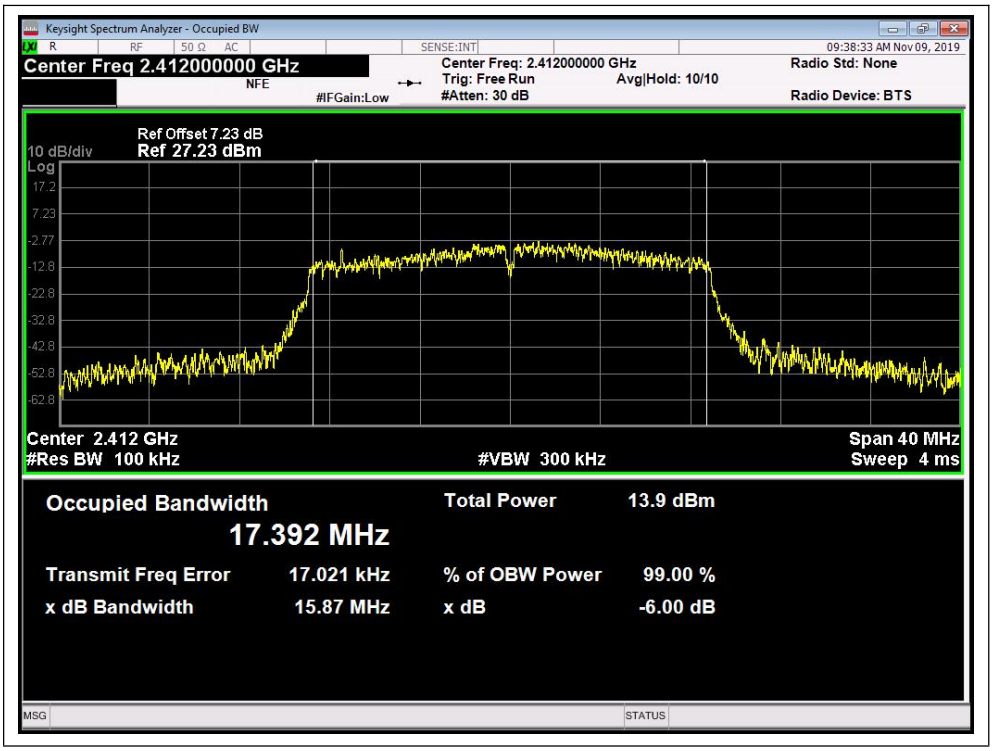
(Channel 13, 2472MHz, 802.11g)

802.11n-20 Test mode

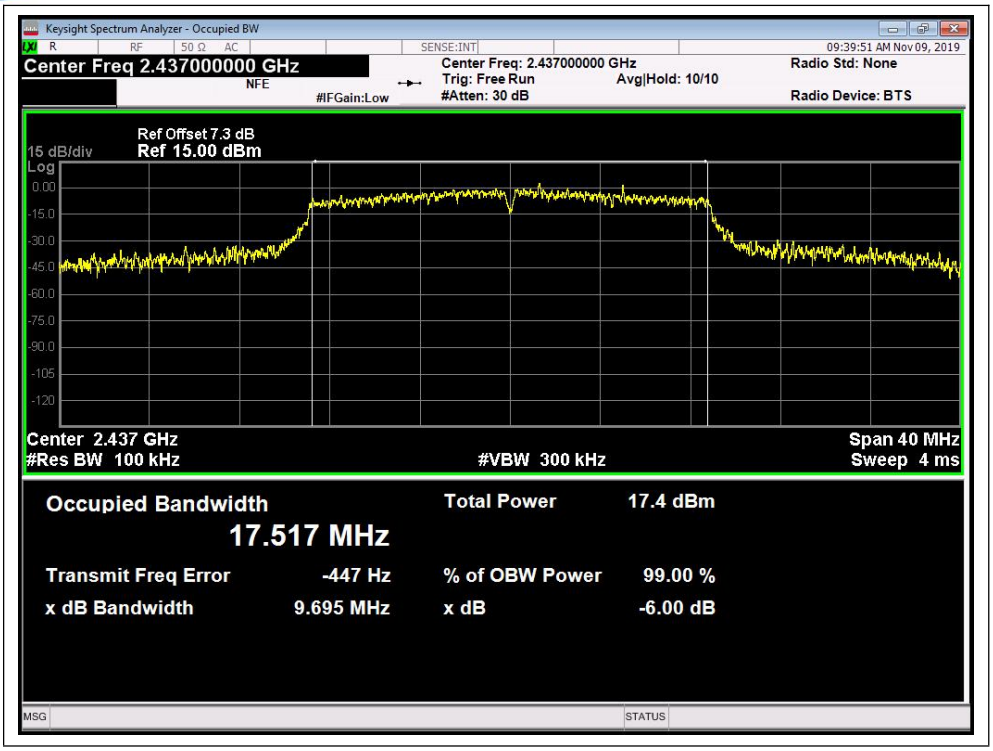
A. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limits (kHz)	Result
1	2412	15.870	≥500	**PASS**
6	2437	9.695	≥500	**PASS**
11	2462	10.290	≥500	**PASS**
12	2467	14.920	≥500	**PASS**
13	2472	13.870	≥500	**PASS**

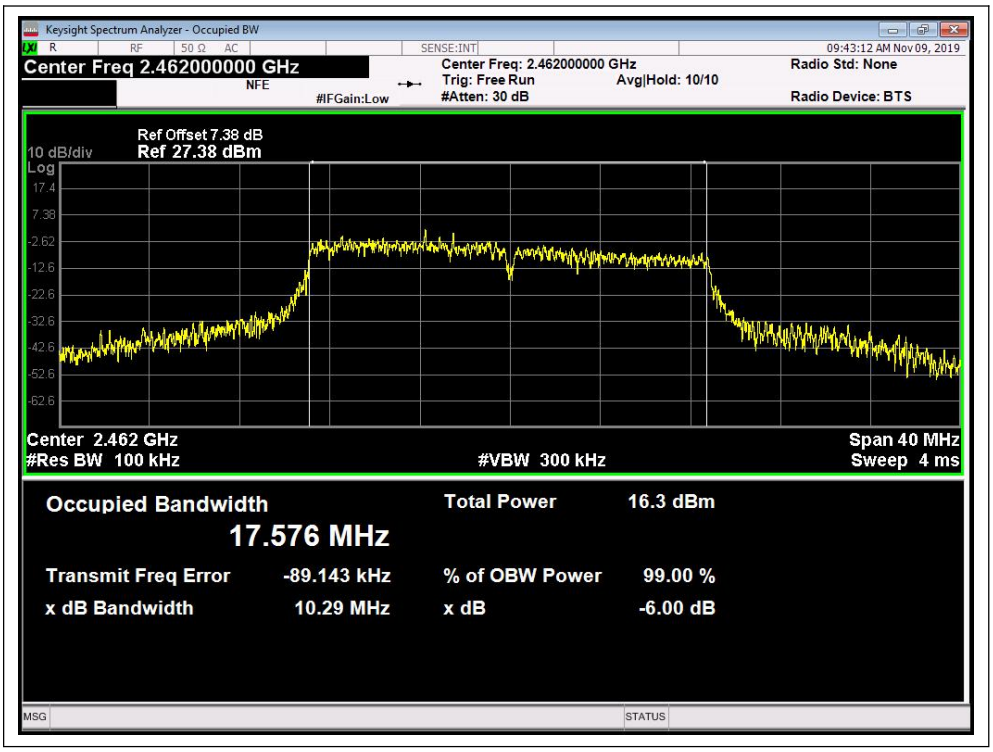
B. Test Plots:



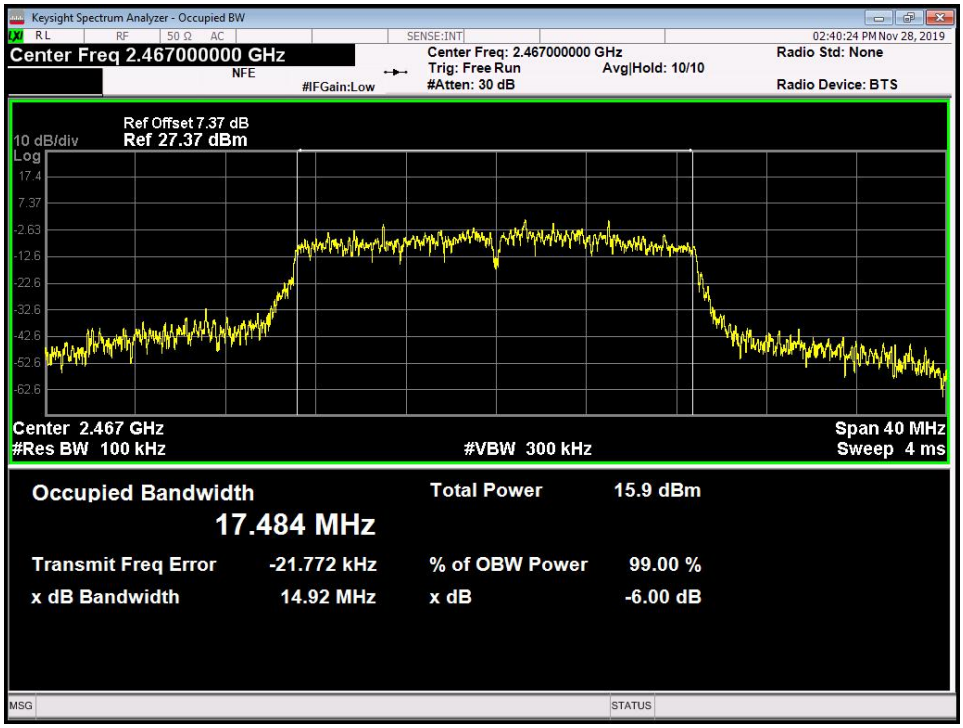
(Channel 1, 2412MHz, 802.11n-20)



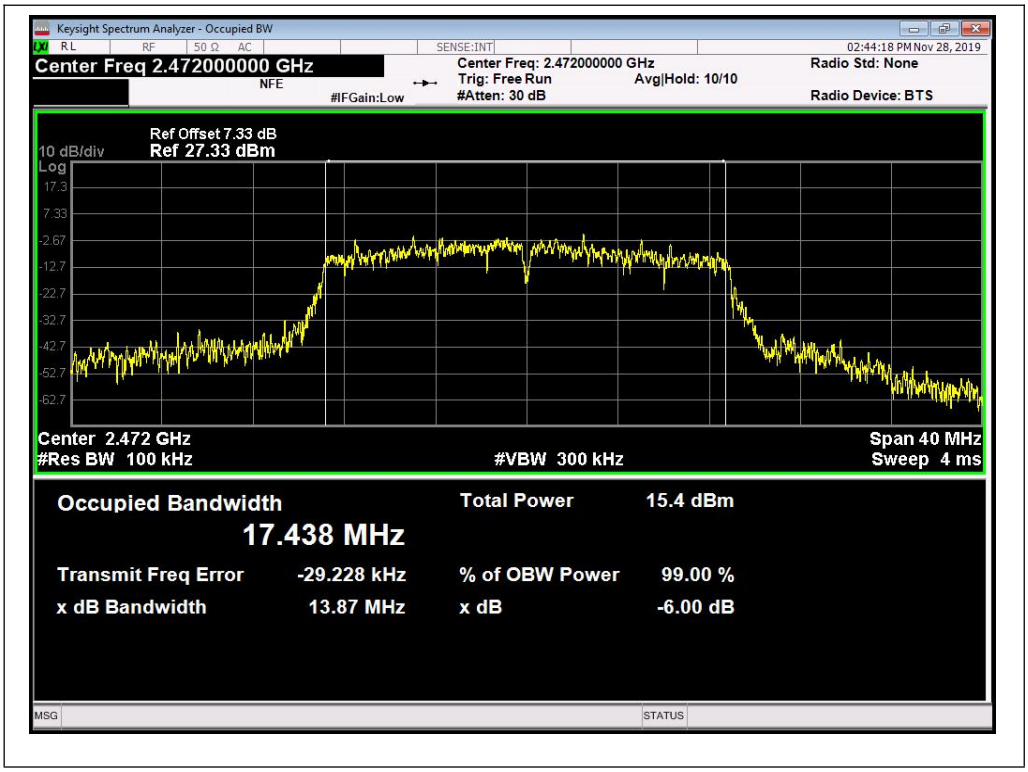
(Channel 6, 2437MHz, 802.11n-20)



(Channel 11, 2462MHz, 802.11n-20)



(Channel 12, 2467MHz, 802.11n-20)



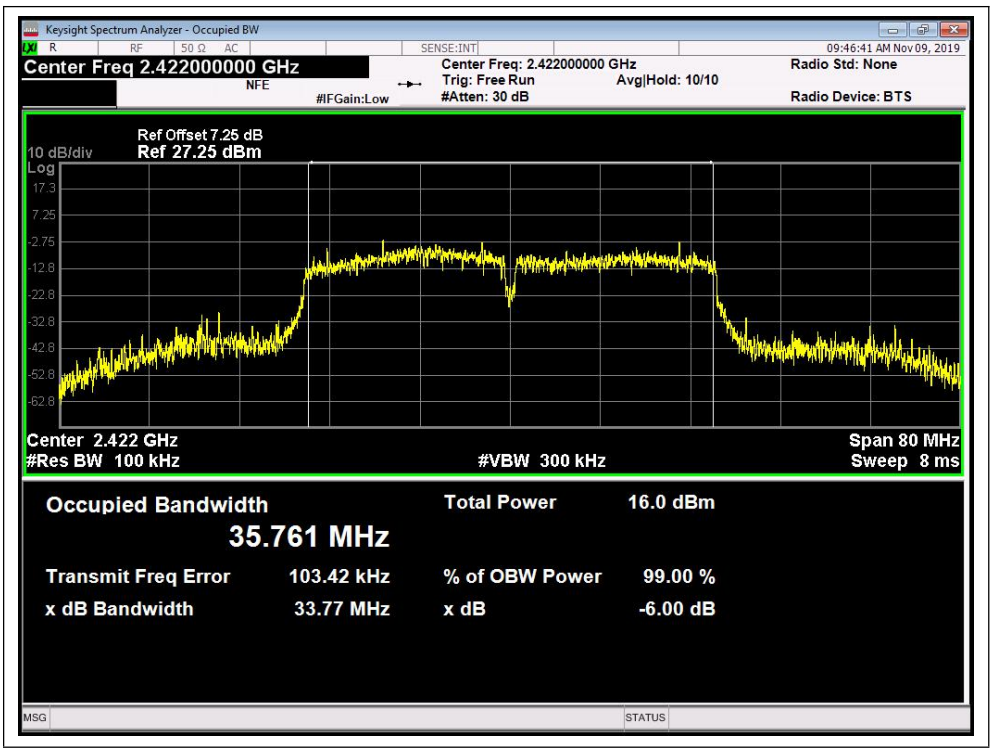
(Channel 13, 2472MHz, 802.11n-20)

802.11n-40 Test mode

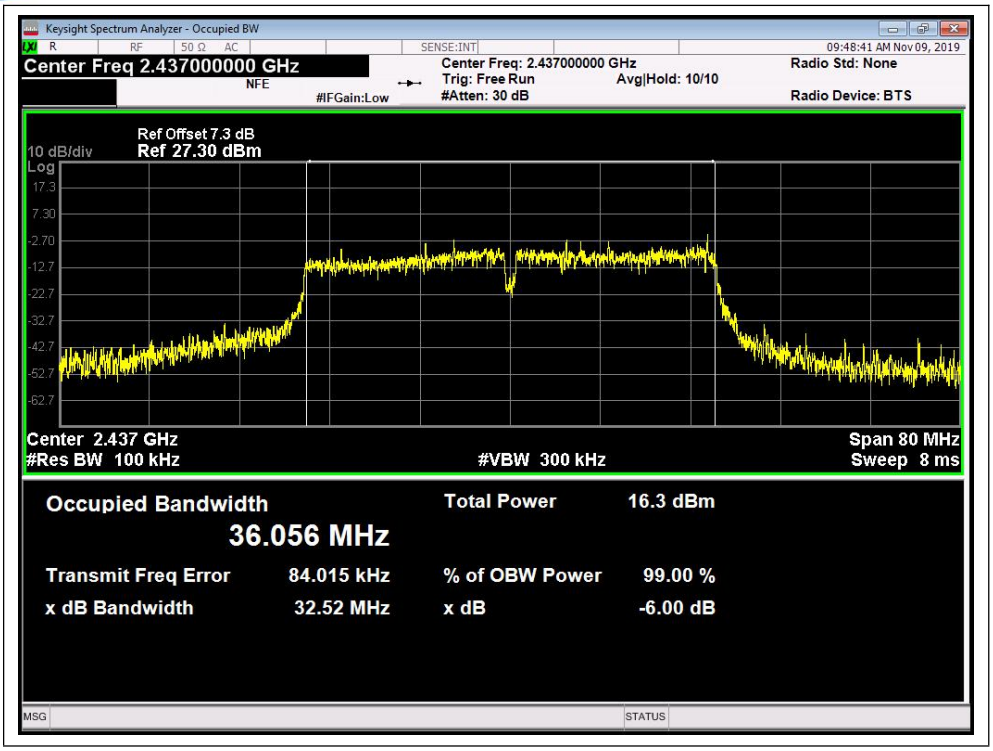
A. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limits (kHz)	Result
3	2422	33.770	≥500	**PASS**
6	2437	32.520	≥500	**PASS**
9	2452	26.520	≥500	**PASS**
11	2462	35.010	≥500	**PASS**

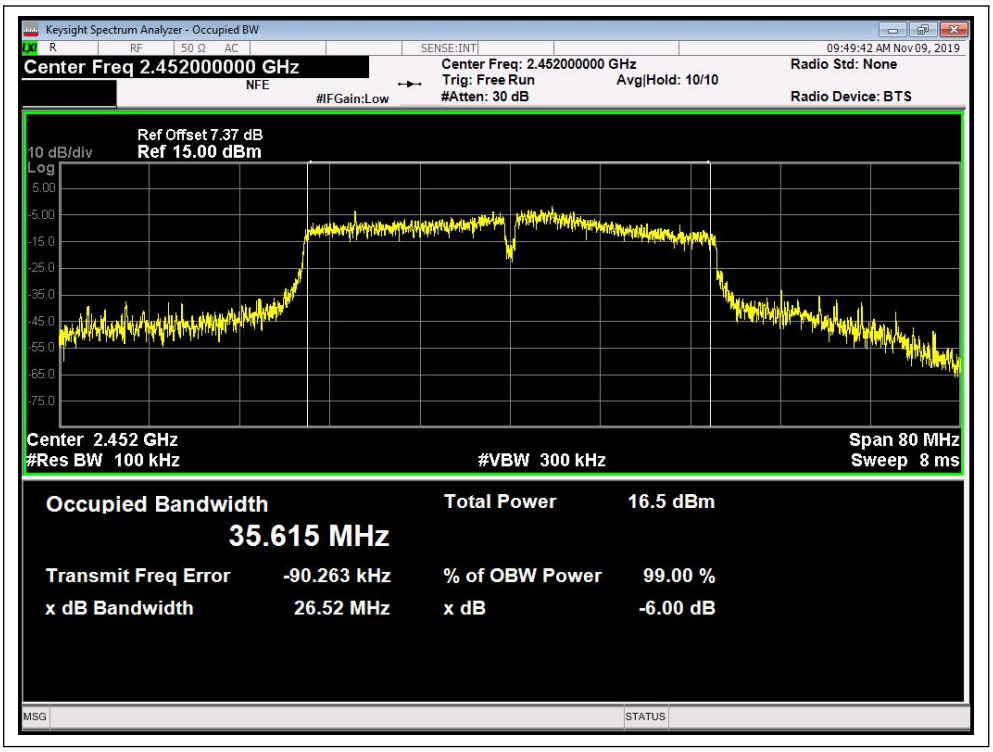
B. Test Plots:



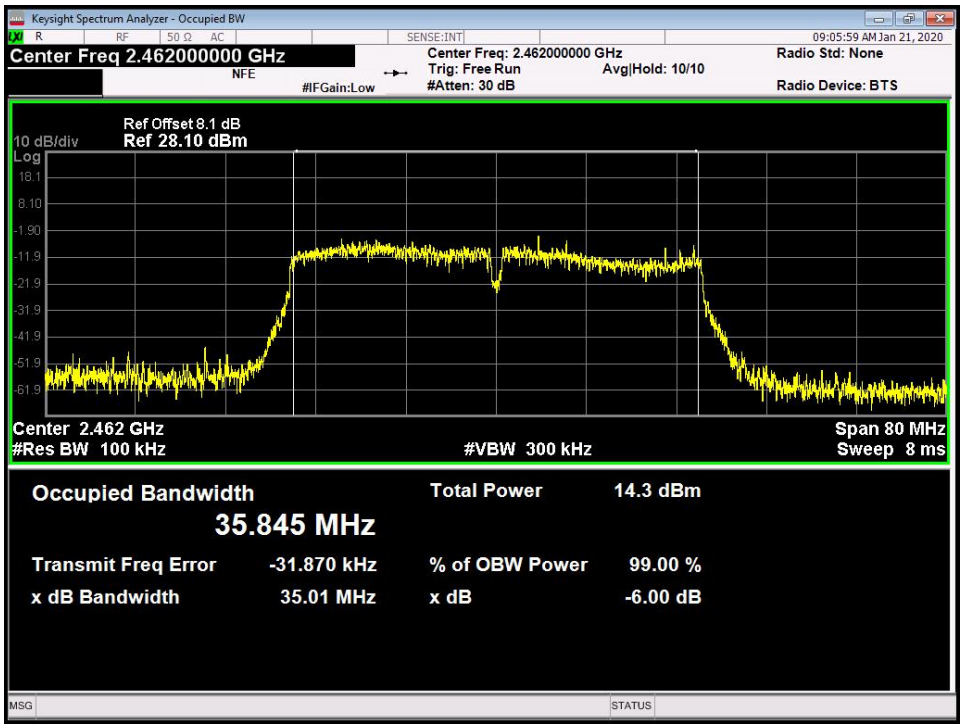
(Channel 3, 2422Mz, 802.11n-40)



(Channel 6, 2437MHz, 802.11n-40)



(Channel 9, 2452MHz, 802.11n-40)



(Channel 11, 2462MHz, 802.11n-40)

2.4. Conducted Spurious Emissions and Band Edge

2.4.1. Requirement

According to FCC section 15.247(c), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitalSly modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

2.4.2. Test Description

A. Test Set:

The EUT is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

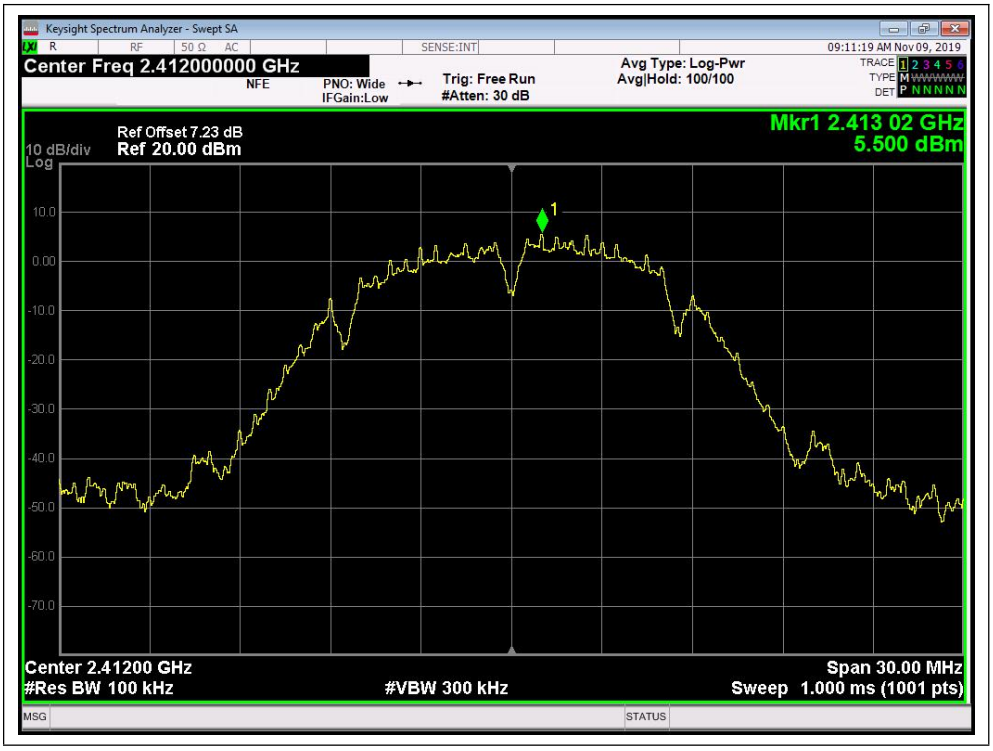
Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW.

KDB 558074 D01 v05r02 Section 11.0 was used in order to prove compliance.

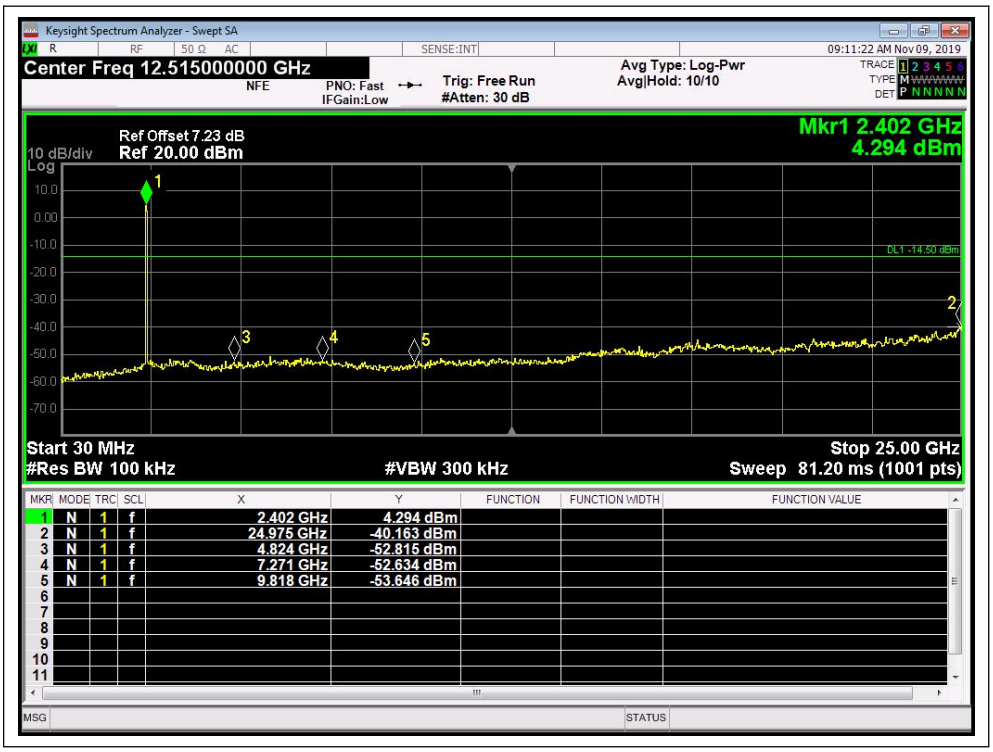
B. Equipments List:

Please refer ANNEX B(4).

2.4.3. Test Result

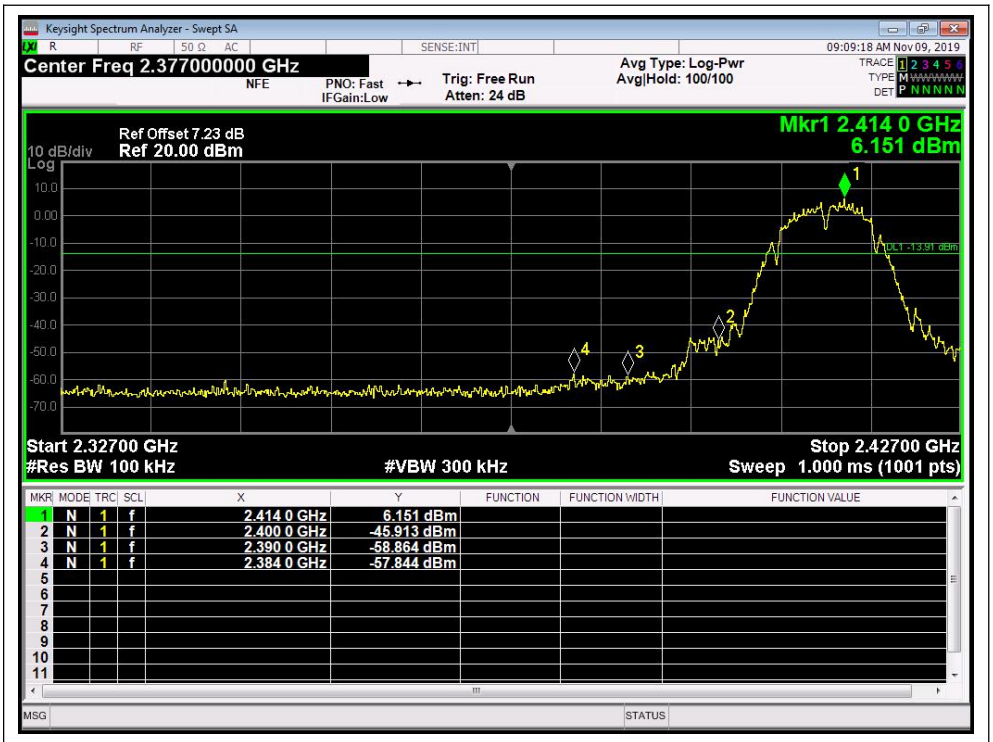


(802.11 b, Channel = 1, 30MHz to 25GHz peak power)

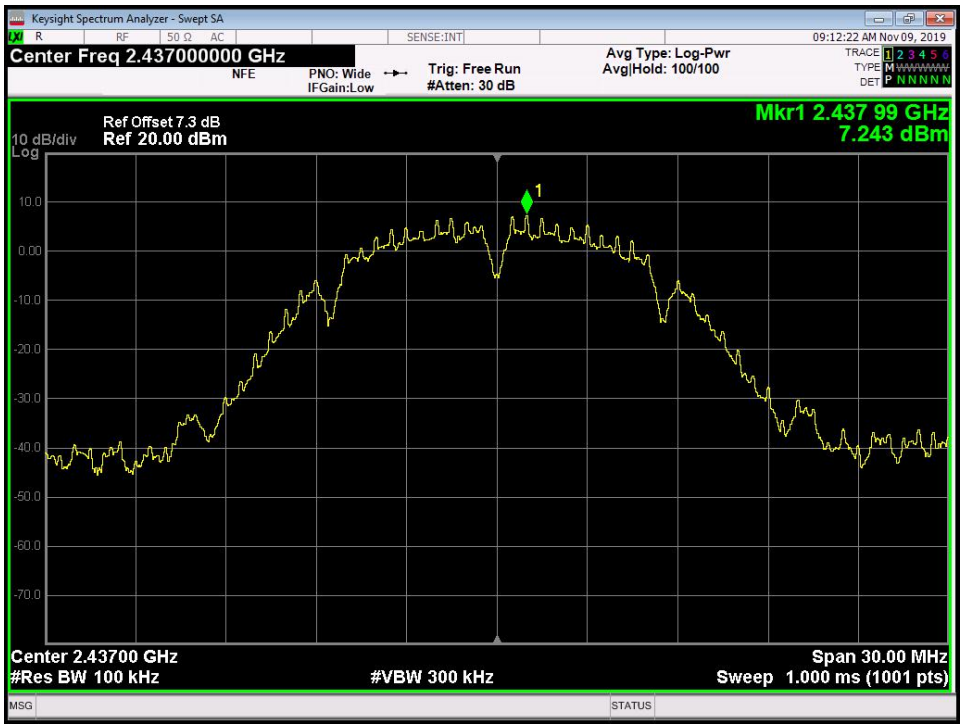


(802.11 b, Channel = 1, 30MHz to 25GHz)

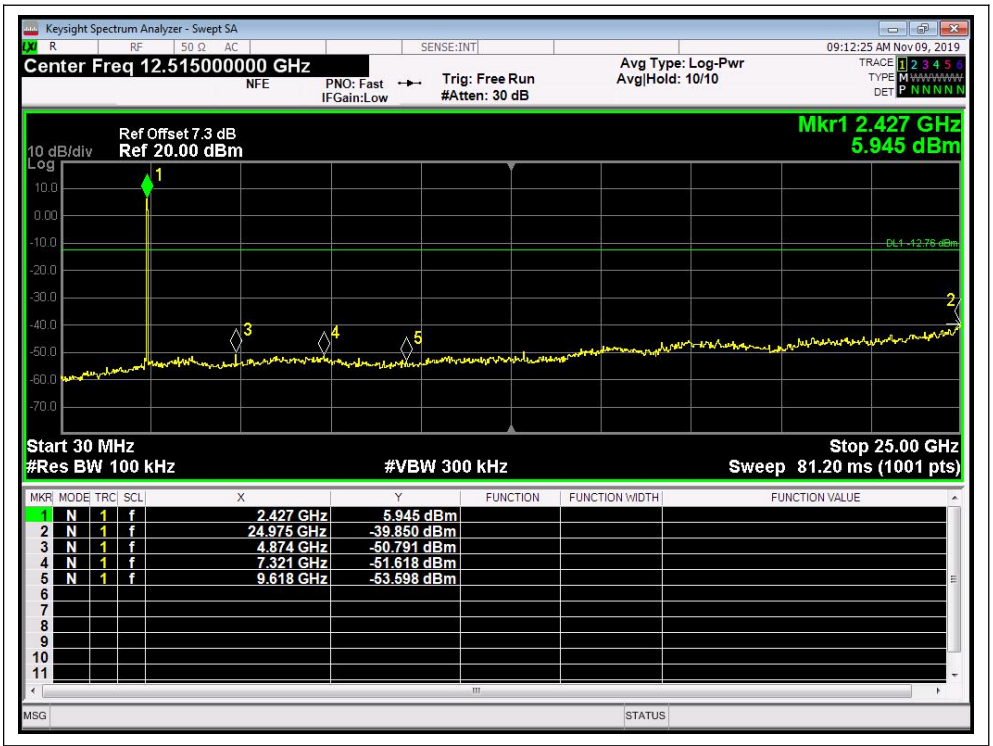
(802.11 b, Band Edge @ Channel = 1 peak power)



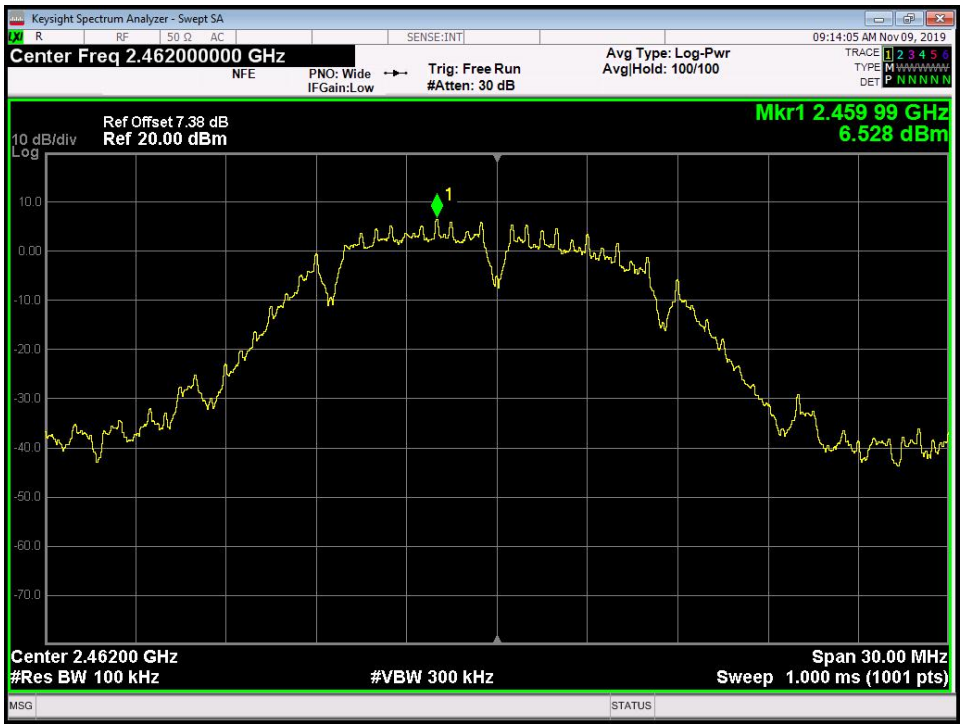
(802.11 b, Band Edge @ Channel = 1)



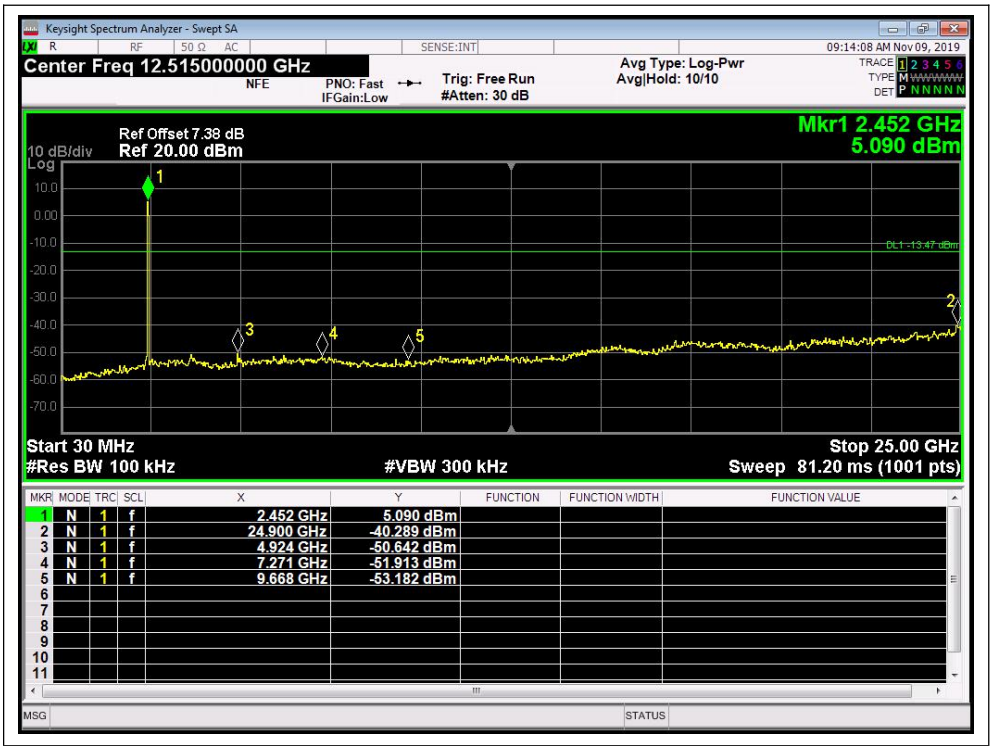
(802.11 b, Channel = 6, 30MHz to 25GHz peak power)



(802.11 b, Channel = 6, 30MHz to 25GHz)



(802.11 b, Channel = 11, 30MHz to 25GHz peak power)

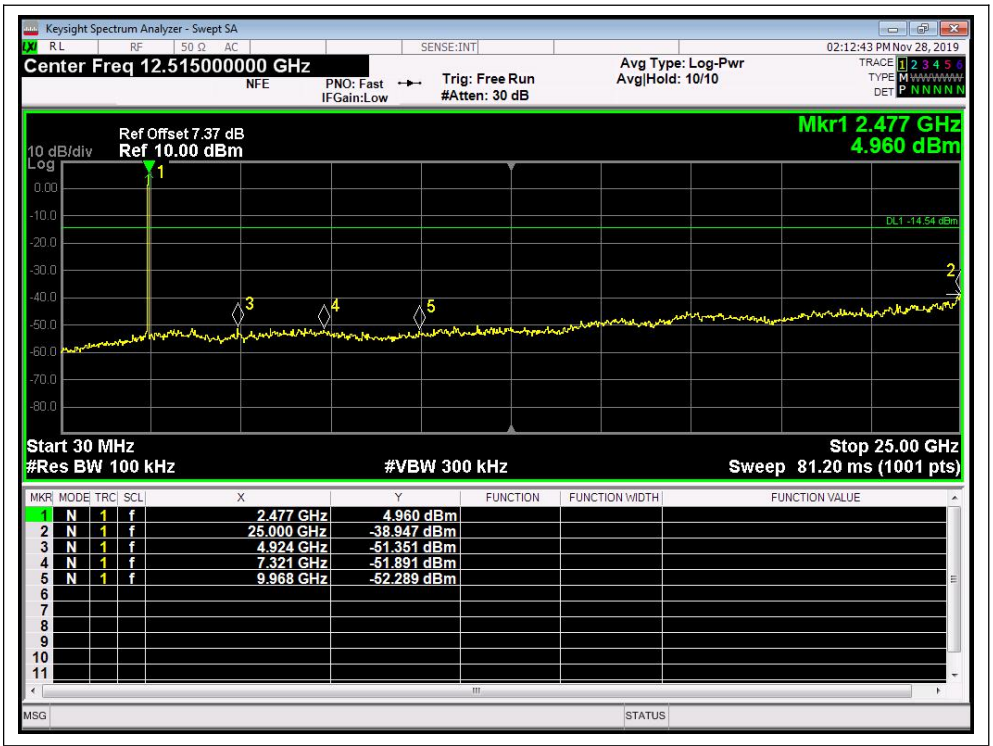


(802.11 b, Channel = 11, 30MHz to 25GHz)

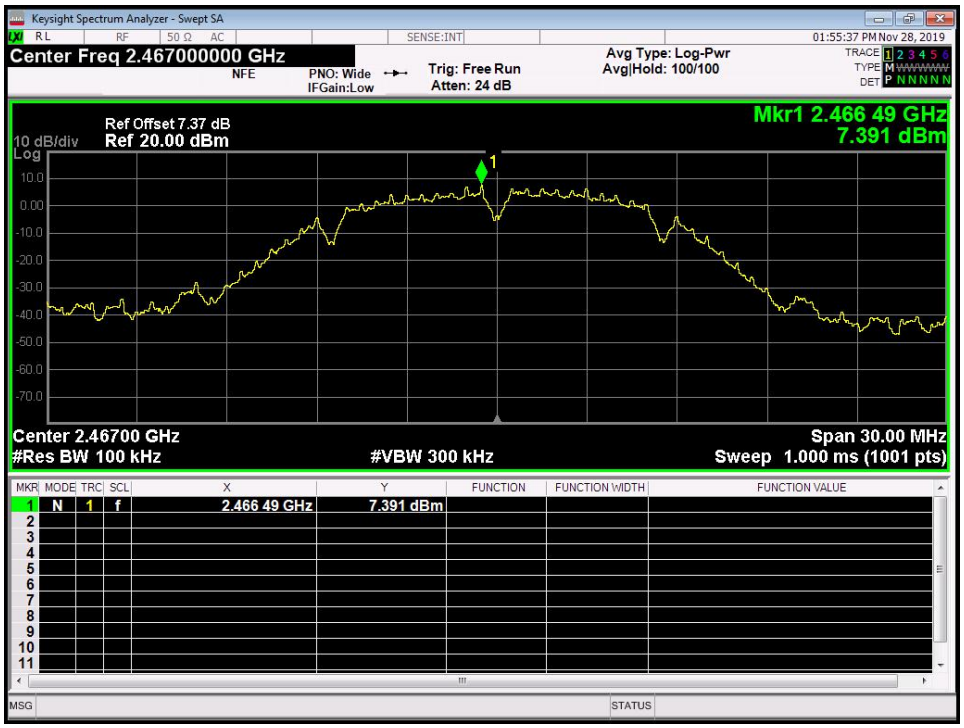
(802.11 b, Band Edge @ Channel = 11 peak power)

(802.11 b, Band Edge @ Channel = 11)

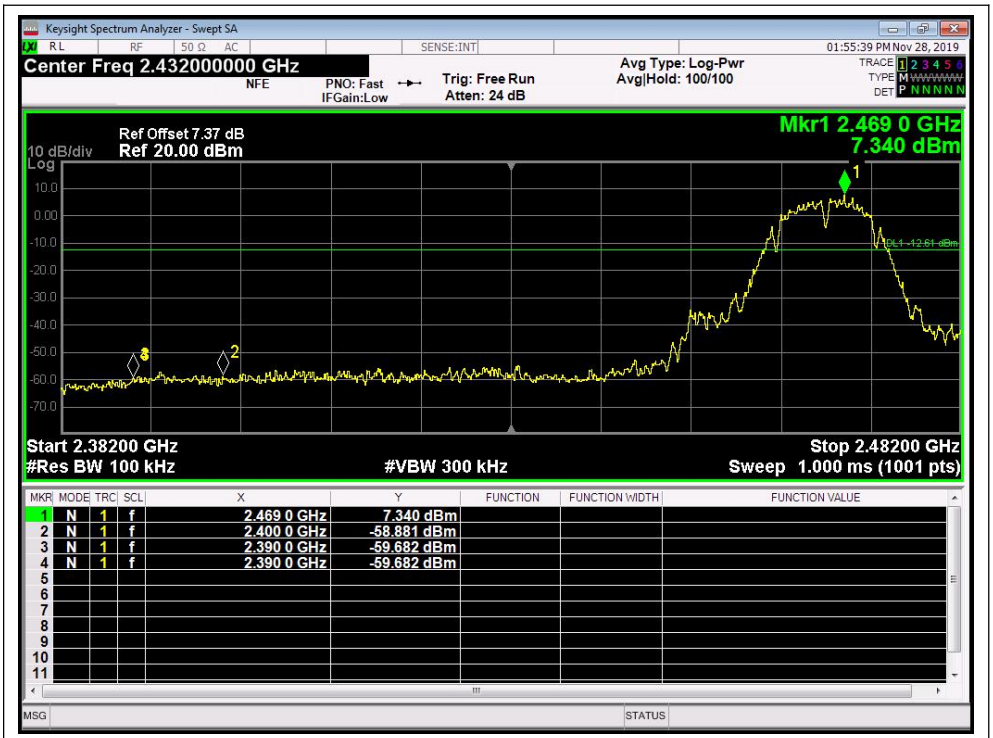
(802.11 b, Channel = 12, 30MHz to 25GHz peak power)



(802.11 b, Channel = 12, 30MHz to 25GHz)

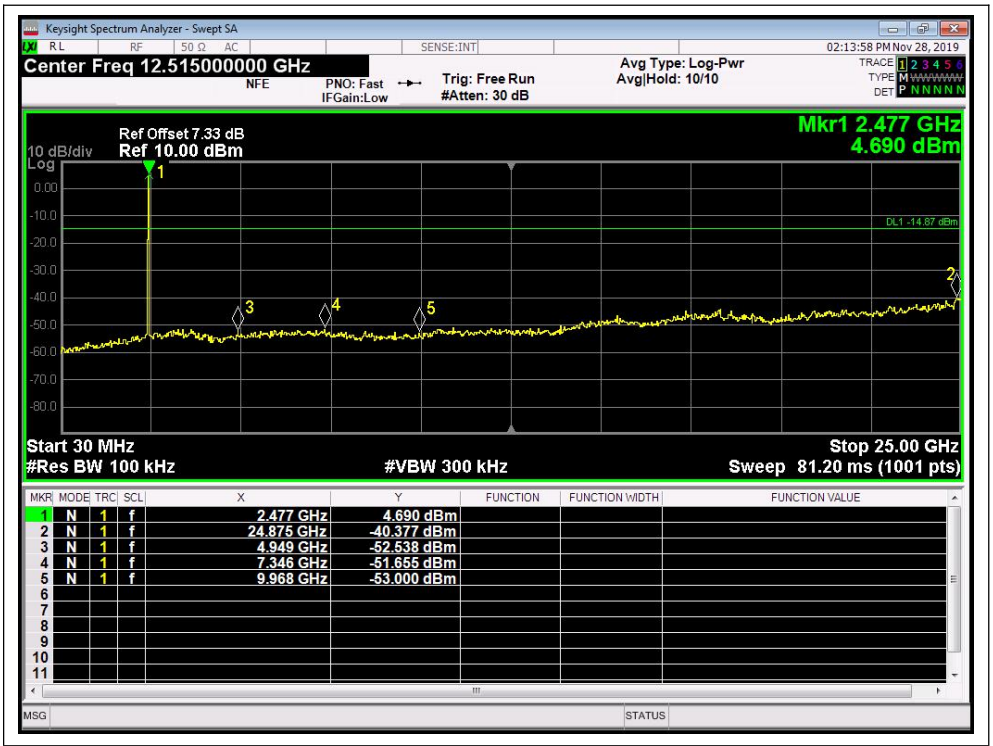


(802.11 b, Band Edge @ Channel = 12 peak power)



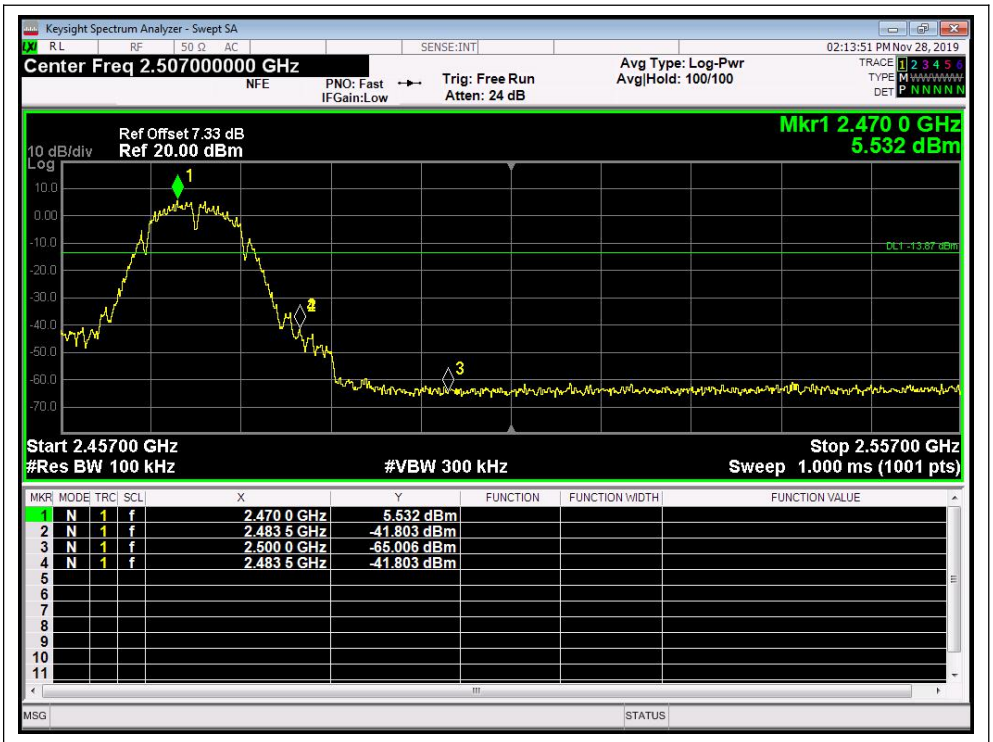
(802.11 b, Band Edge @ Channel = 12)

(802.11 b, Channel = 13, 30MHz to 25GHz peak power)

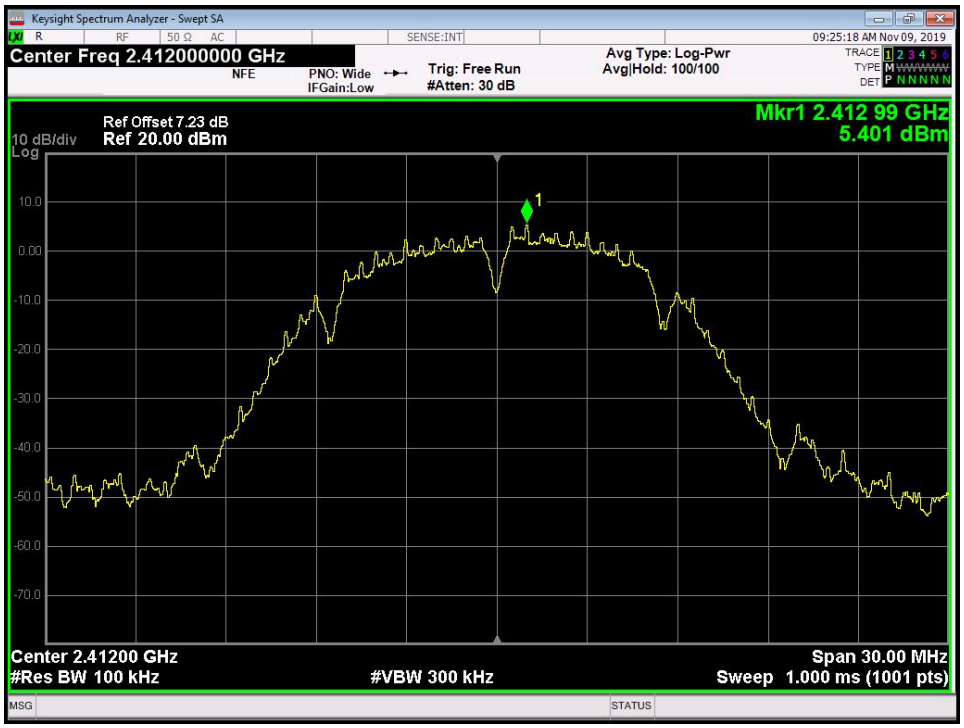


(802.11 b, Channel = 13, 30MHz to 25GHz)

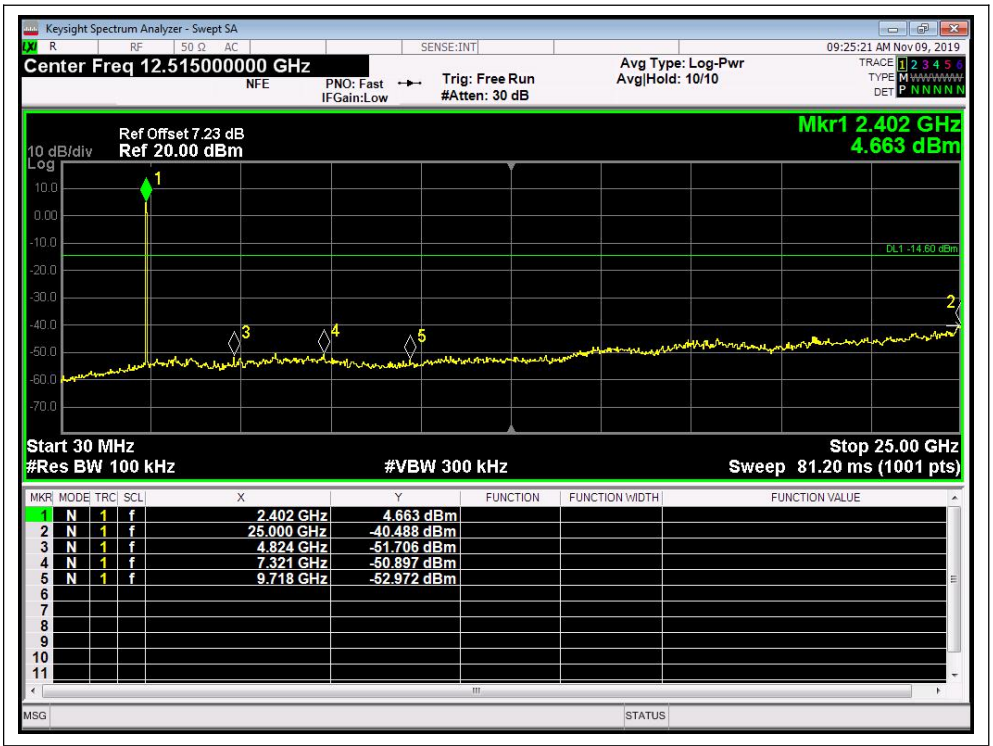
(802.11 b, Band Edge @ Channel = 13 peak power)



(802.11 b, Band Edge @ Channel = 13)



(802.11 g, Channel = 1, 30MHz to 25GHz peak power)



(802.11 g, Channel = 1, 30MHz to 25GHz)