



REPORT No. : XM20080060W04

TEST REPORT

APPLICANT : HATCH BABY, INC.

PRODUCT NAME : Restore - Sound Machine & Night Light

MODEL NAME : RESTORE02

BRAND NAME : Hatch

FCC ID : 2AFYZ-RESTORE02

STANDARD(S) : 47 CFR Part 15 Subpart C

RECEIPT DATE : 2020-08-31

TEST DATE : 2020-09-01 to 2020-10-16

ISSUE DATE : 2020-10-30

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Change History		
Version	Date	Reason for change
1.0	2020-10-30	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	HATCH BABY, INC
Applicant Address:	3525 Alameda de las Pulgas, Suite D, Menlo Park CA 94025

1.2. Equipment Under Test (EUT) Description

Product Name:	Restore - Sound Machine & Night Light
Serial No:	(N/A, marked #1 by test site)
Hardware Version:	5.3.1
Software Version:	5.0.939
Modulation Type:	OFDM,DSSS
Operating Frequency Range:	802.11b/g/n-20MHz: 2.412GHz - 2.462GHz 802.11n-40MHz: 2.422GHz - 2.452GHz
Channel Number:	802.11b/g/n-20MHz: 11 802.11n-40MHz: 7
Antenna Type:	PCB Antenna
Antenna Gain:	2dBi

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 $F \text{ (MHz)} = 2412 + 5 * (n - 1)$ ($1 \leq n \leq 11$). The lowest, middle, highest channel numbers of the EUT used and tested in this report are separately 1 (2412MHz), 6 (2437MHz) and 11 (2462MHz).

For 802.11n-40MHz, the frequencies allocated is $F \text{ (MHz)} = 2412 + 5 * (n - 1)$ ($3 \leq n \leq 9$). The lowest, middle, highest channel numbers of the EUT used and tested in this report are separately 3 (2422MHz), 6 (2437MHz) and 9 (2452MHz).

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. Modulation type of EUT

Modulation technology	Modulation Type	Transfer Rate (Mbps)	The Frequency Equal to the Transmission Rate of Modulation Signal
DSSS (802.11b)	DBPSK	1	1MHz
	DQPSK	2	
	CCK	5.5/ 11	1.375MHz
OFDM (802.11g)	BPSK	6 / 9	1MHz
	QPSK	12 / 18	
	16QAM	24 / 36	
	64QAM	48 / 54	
OFDM (802.11n-20MHz)	BPSK	6.5	1MHz
	QPSK	13/19.5	
	16QAM	26/39	
	64QAM	52/58.5/65	
OFDM (802.11n-40MHz)	BPSK	13.5	1MHz
	QPSK	27/40.5	
	16QAM	54/81/108	
	64QAM	121.5/135	

We only record the worst mode(black font) in the report

1.4. 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	Sept 15, 2020 Oct 16, 2020	Elvis Wang	PASS
3	15.247(a)	Bandwidth	Sept 15, 2020	Elvis Wang	PASS
4	15.247(d)	Conducted Spurious Emission and Band Edge	Sept 15, 2020	Elvis Wang	PASS
5	15.247(e)	Power spectral density (PSD)	Sept 15, 2020	Elvis Wang	PASS



6	15.247(d)	Restricted Frequency Bands	Sept 12, 2020	Yaming Luo	<u>PASS</u>
7	15.207	Conducted Emission	Sept 12, 2020	Yaming Luo	<u>PASS</u>
8	15.209, 15.247(d)	Radiated Emission	Sept 12, 2020	Yaming Luo	<u>PASS</u>

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.

1.5. 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 PIFA Antenna and max gain is 2dBi. Please refer to the EUT internal 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 exceed 1 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	13.47	0.022	30	1	PASS
	6	2437	12.83	0.019			PASS
	11	2462	12.63	0.183			PASS
802.11 g	1	2412	11.57	0.014			PASS
	6	2437	11.23	0.013			PASS
	11	2462	11.33	0.014			PASS
802.11 HT20	1	2412	11.42	0.014			PASS
	6	2437	11.24	0.013			PASS
	11	2462	11.34	0.014			PASS
802.11 HT40	3	2422	10.02	0.010			PASS
	6	2437	10.32	0.011			PASS
	9	2452	10.26	0.011			PASS



Output Peak Power

Mode	Channel	Frequency (MHz)	Output Peak Power		Limit		Verdict
			dBm	W	dBm	W	
802.11 b	1	2412	13.88	0.024	30	1	PASS
	6	2437	13.10	0.020			PASS
	11	2462	12.69	0.019			PASS
802.11 g	1	2412	11.67	0.015			PASS
	6	2437	11.35	0.014			PASS
	11	2462	11.50	0.014			PASS
802.11 HT20	1	2412	12.18	0.017			PASS
	6	2437	11.46	0.014			PASS
	11	2462	11.41	0.014			PASS
802.11 HT40	3	2422	10.15	0.010			PASS
	6	2437	10.48	0.011			PASS
	9	2452	10.37	0.011			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).

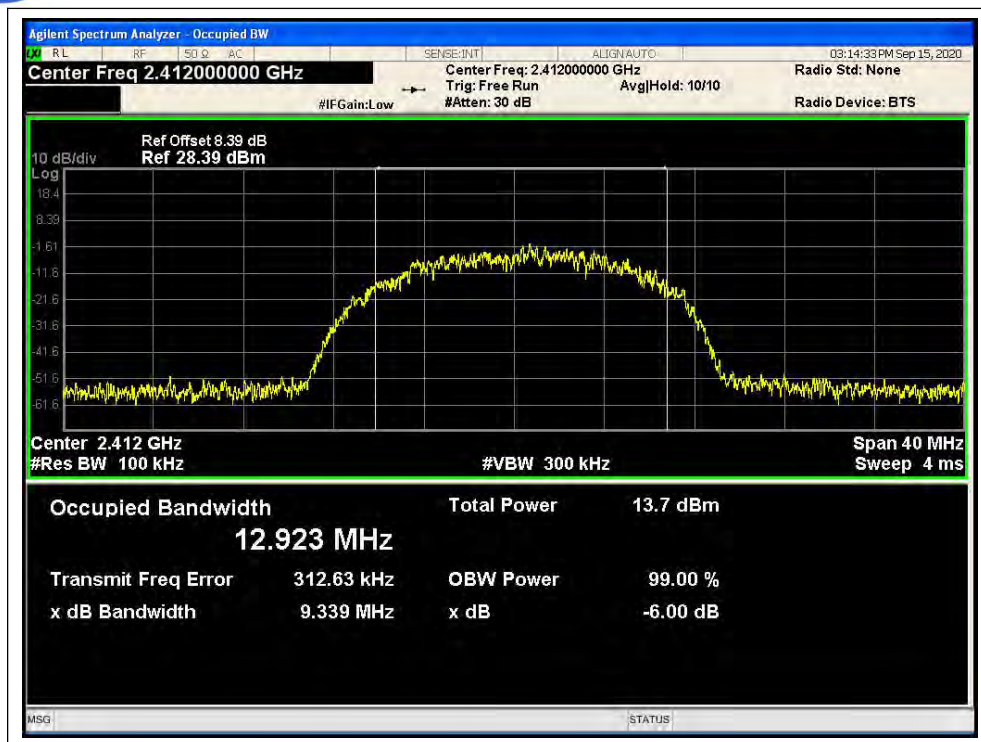
2.3.3. Test Result

802.11b Test mode

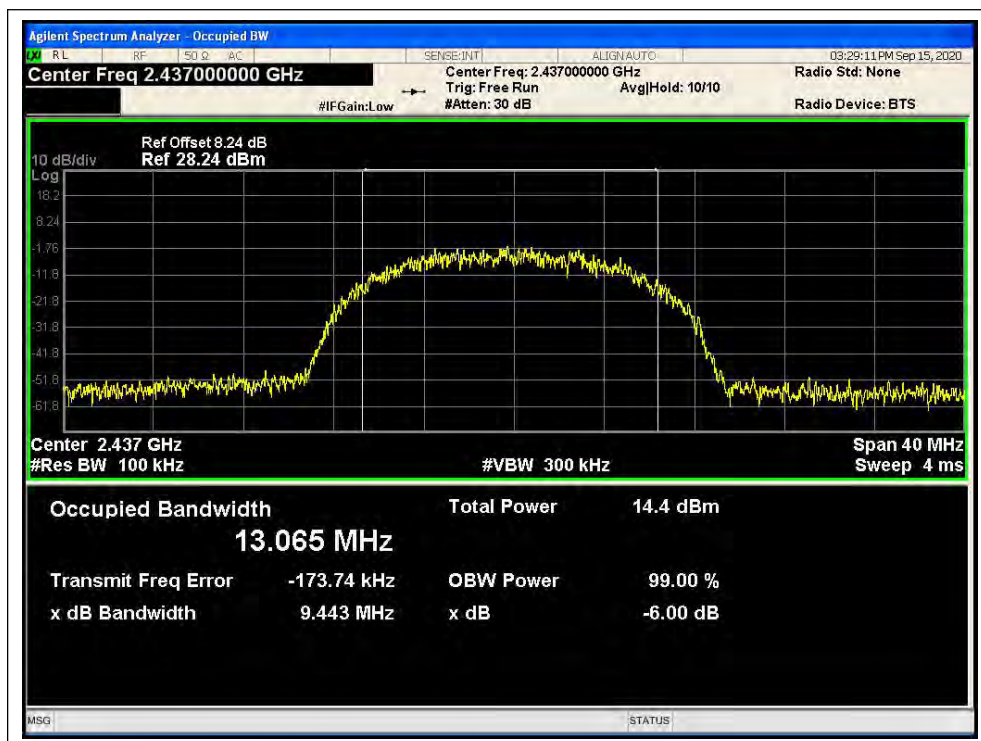
A. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limits(kHz)	Result
1	2412	9.339	≥500	PASS
6	2437	9.443	≥500	PASS
11	2462	9.506	≥500	PASS

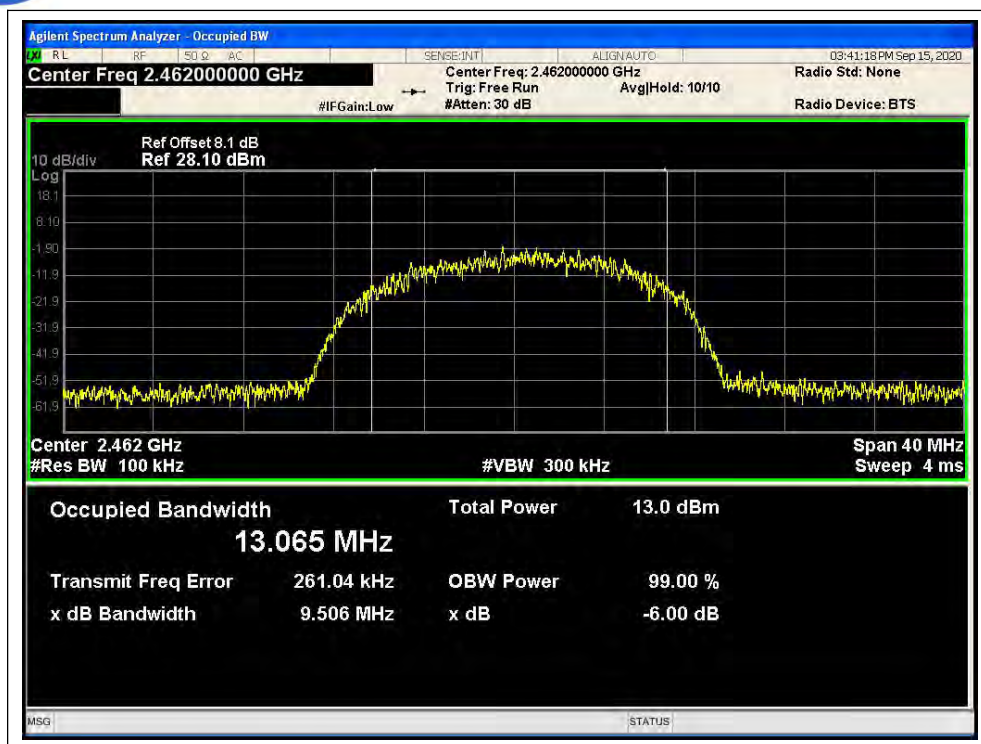
B. Test Plots



(Channel 1, 2412MHz, 802.11b)



(Channel 6, 2437 MHz, 802.11b)



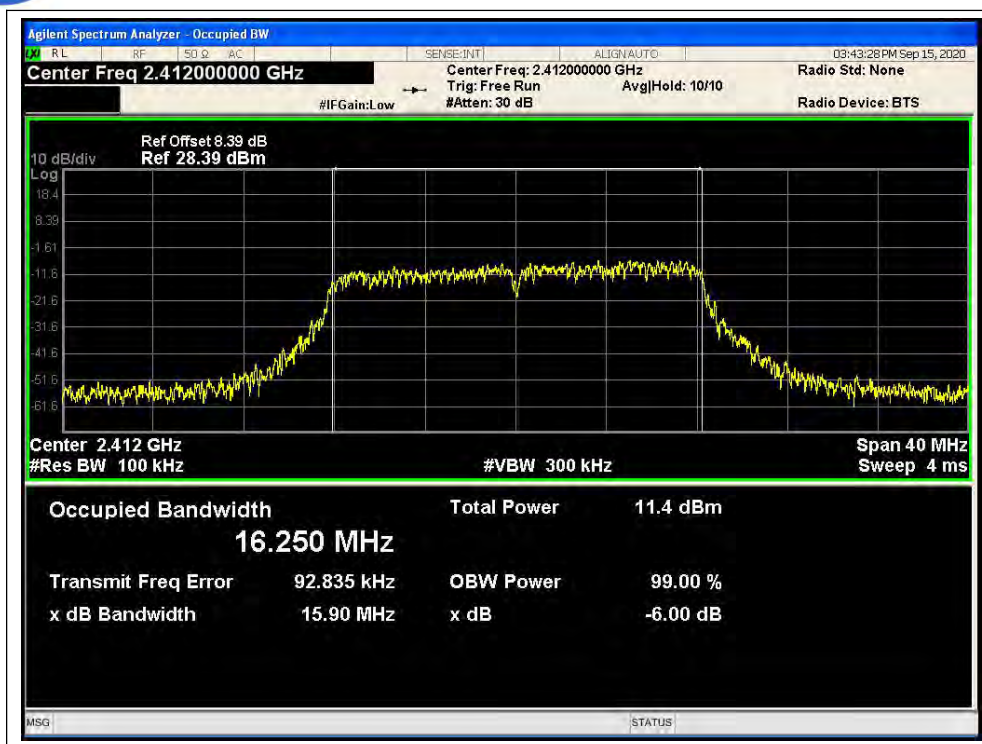
(Channel 11, 2462MHz, 802.11b)

802.11g Test mode

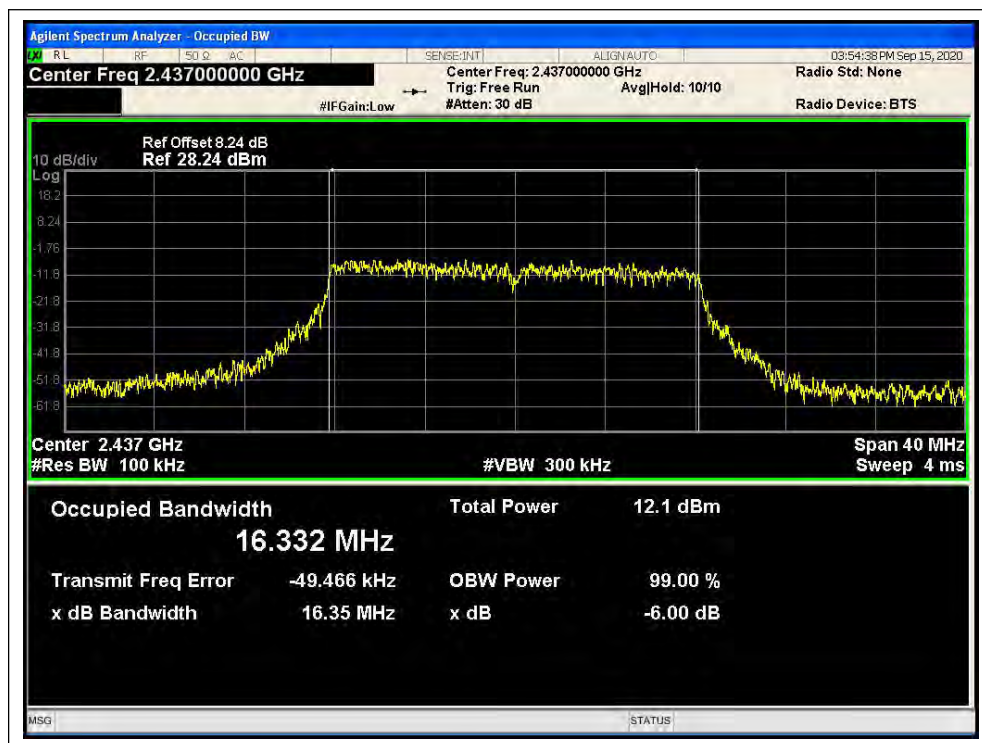
A. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limits (kHz)	Result
1	2412	15.904	≥500	PASS
6	2437	16.348	≥500	PASS
11	2462	16.063	≥500	PASS

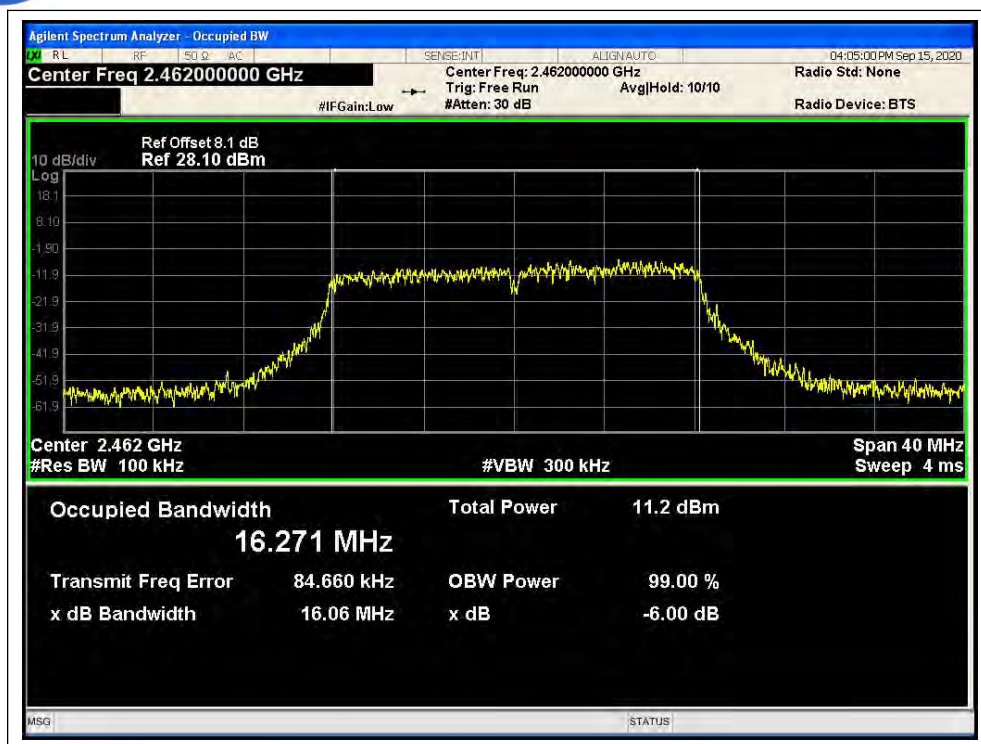
B. Test Plots:



(Channel 1, 2412MHz, 802.11g)



(Channel 6, 2437MHz, 802.11g)



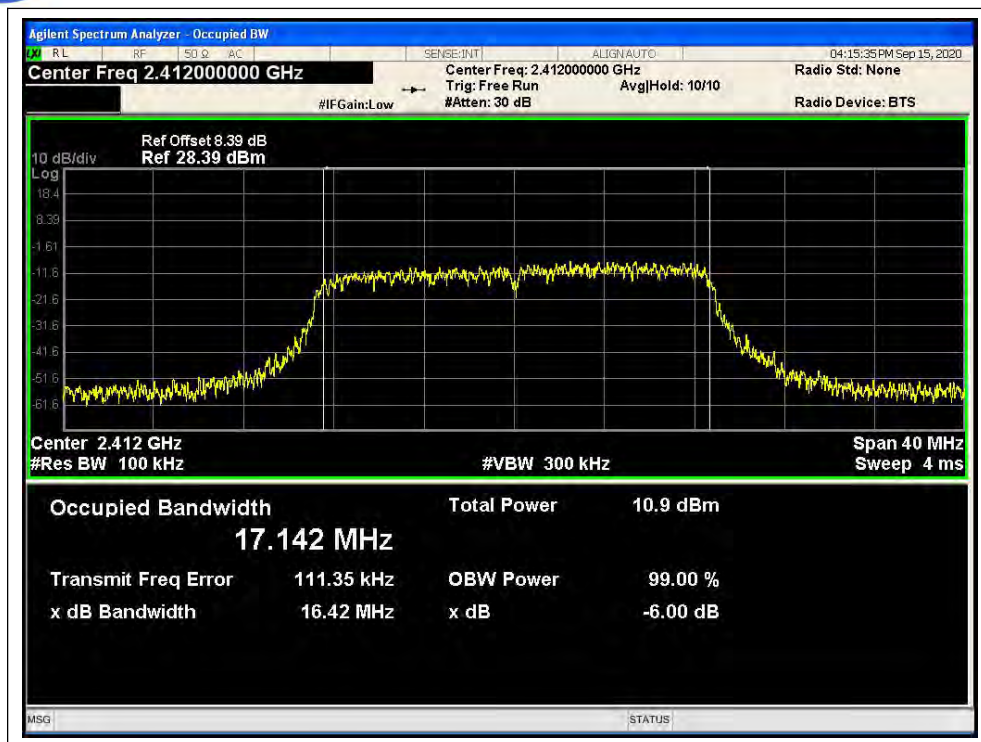
(Channel 11, 2462MHz, 802.11g)

802.11n-20 Test mode

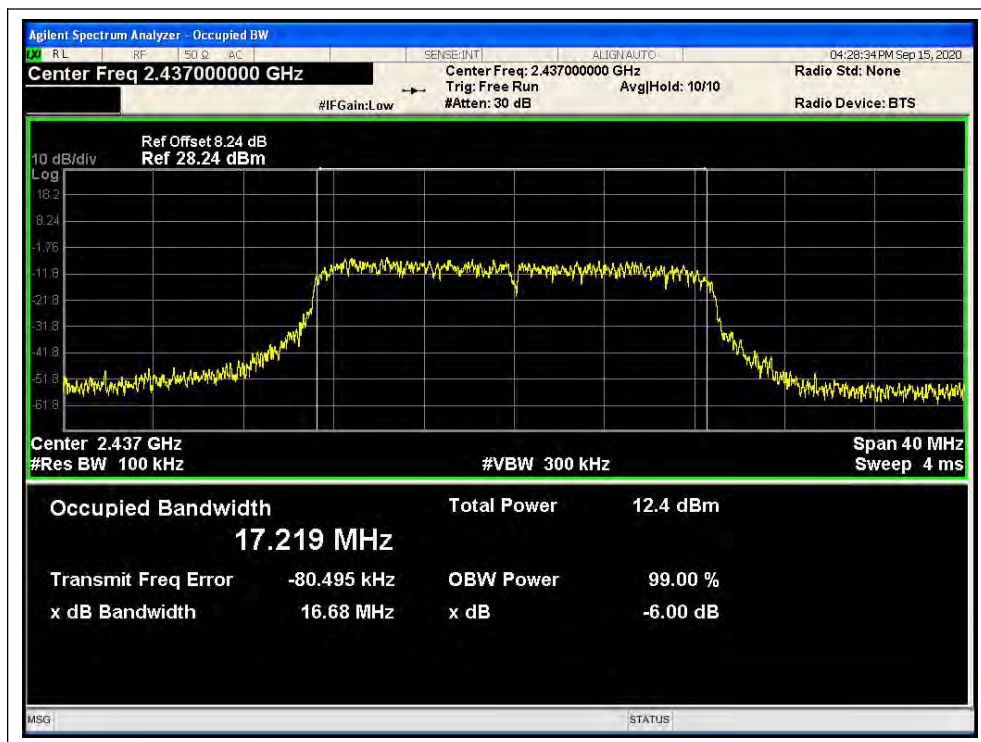
A. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limits (kHz)	Result
1	2412	16.424	≥500	PASS
6	2437	16.678	≥500	PASS
11	2462	16.390	≥500	PASS

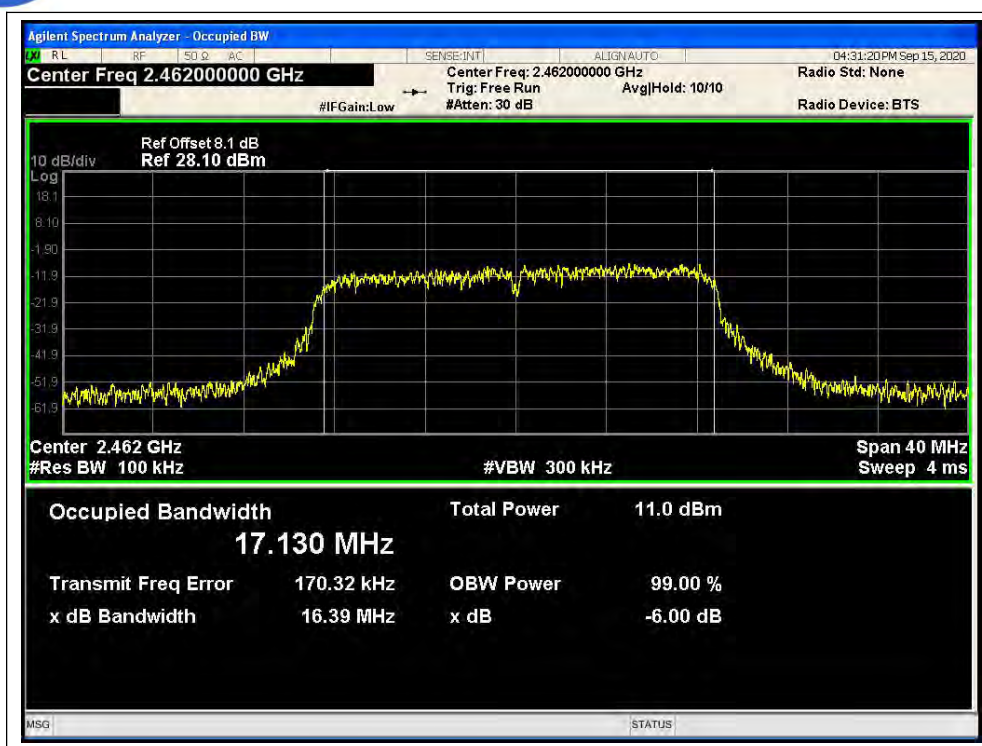
B. Test Plots:



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



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



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

802.11n-40 Test mode

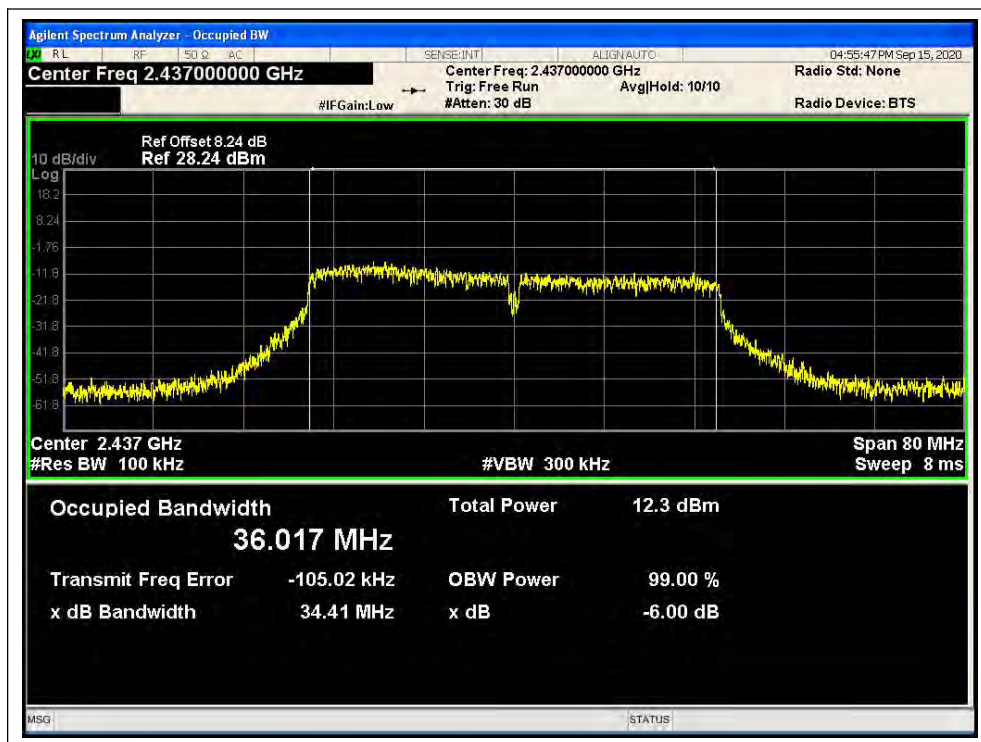
A. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limits (kHz)	Result
3	2422	33.106	≥500	PASS
6	2437	34.409	≥500	PASS
9	2452	35.956	≥500	PASS

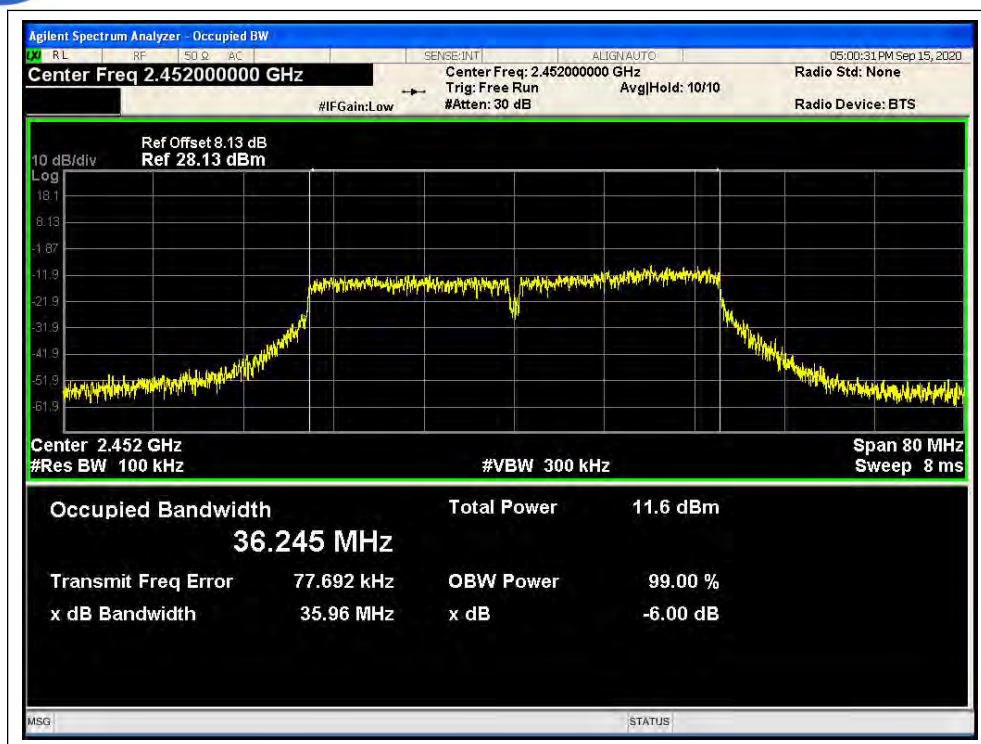
B. Test Plots:



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



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



(Channel 9, 2452MHz, 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 digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

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.

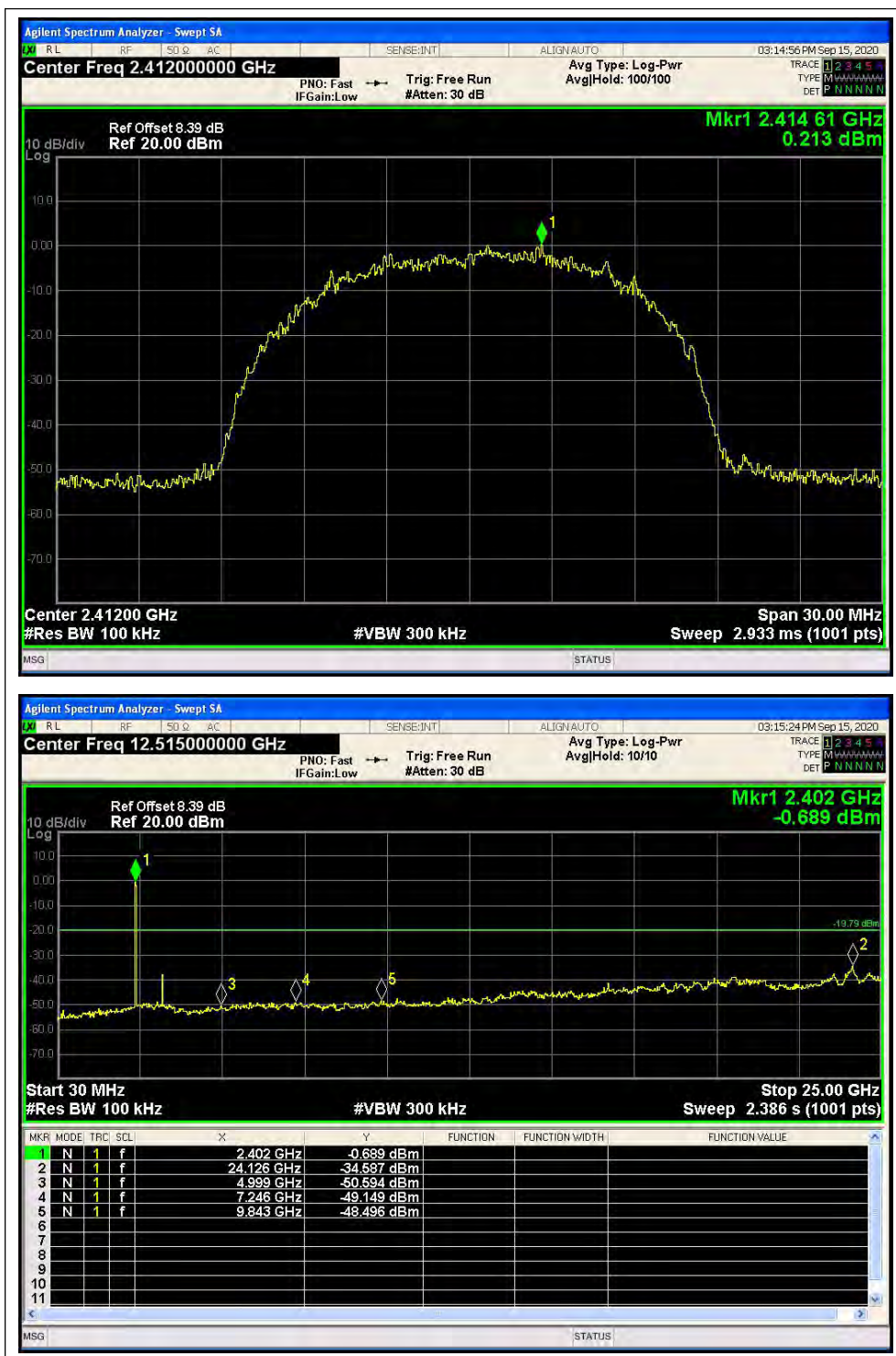
KDB 558074 D01 v05r02 Section 11.0 was used in order to prove compliance.

B. Equipments List:

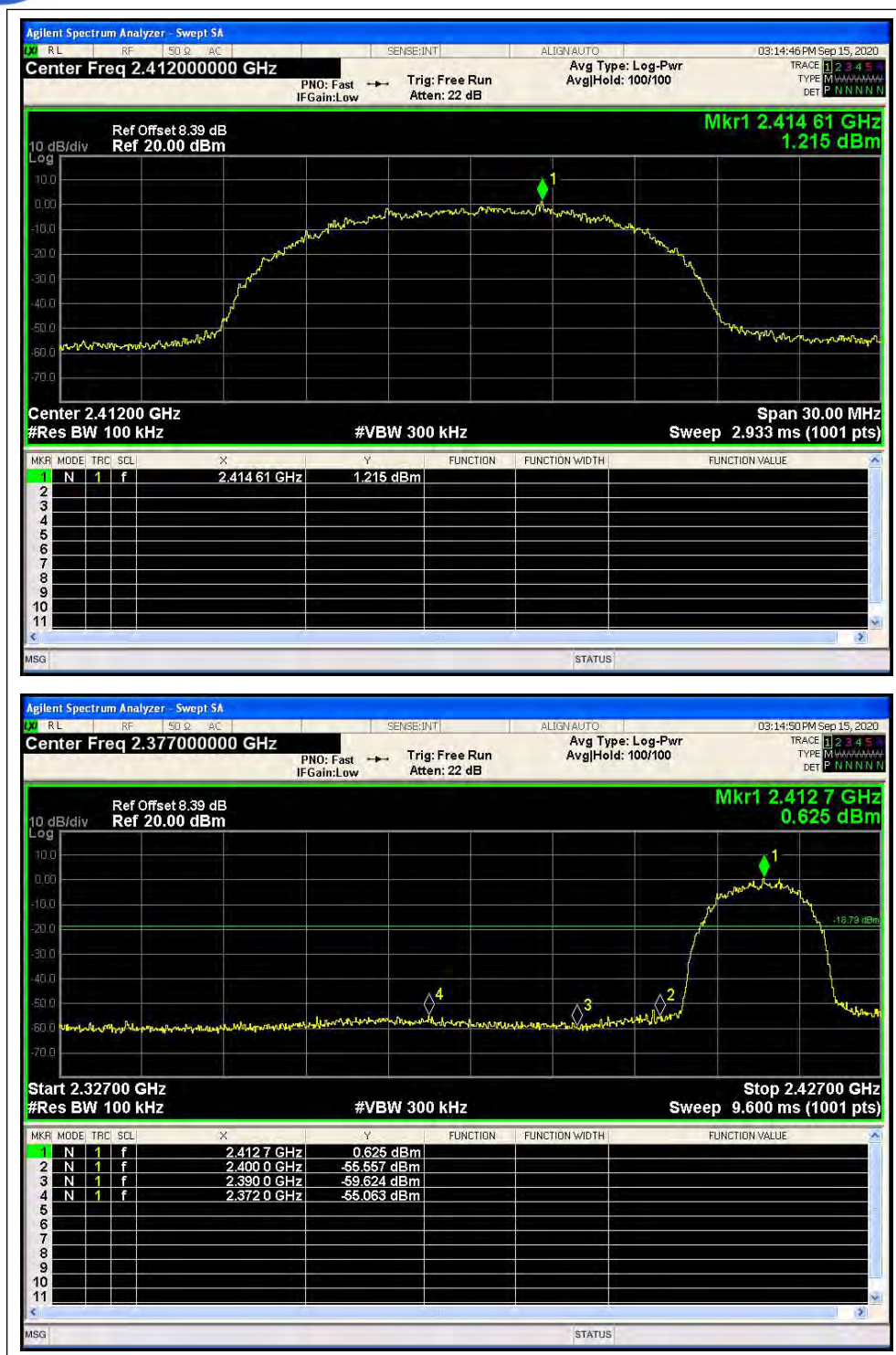
Please refer ANNEX B(4).



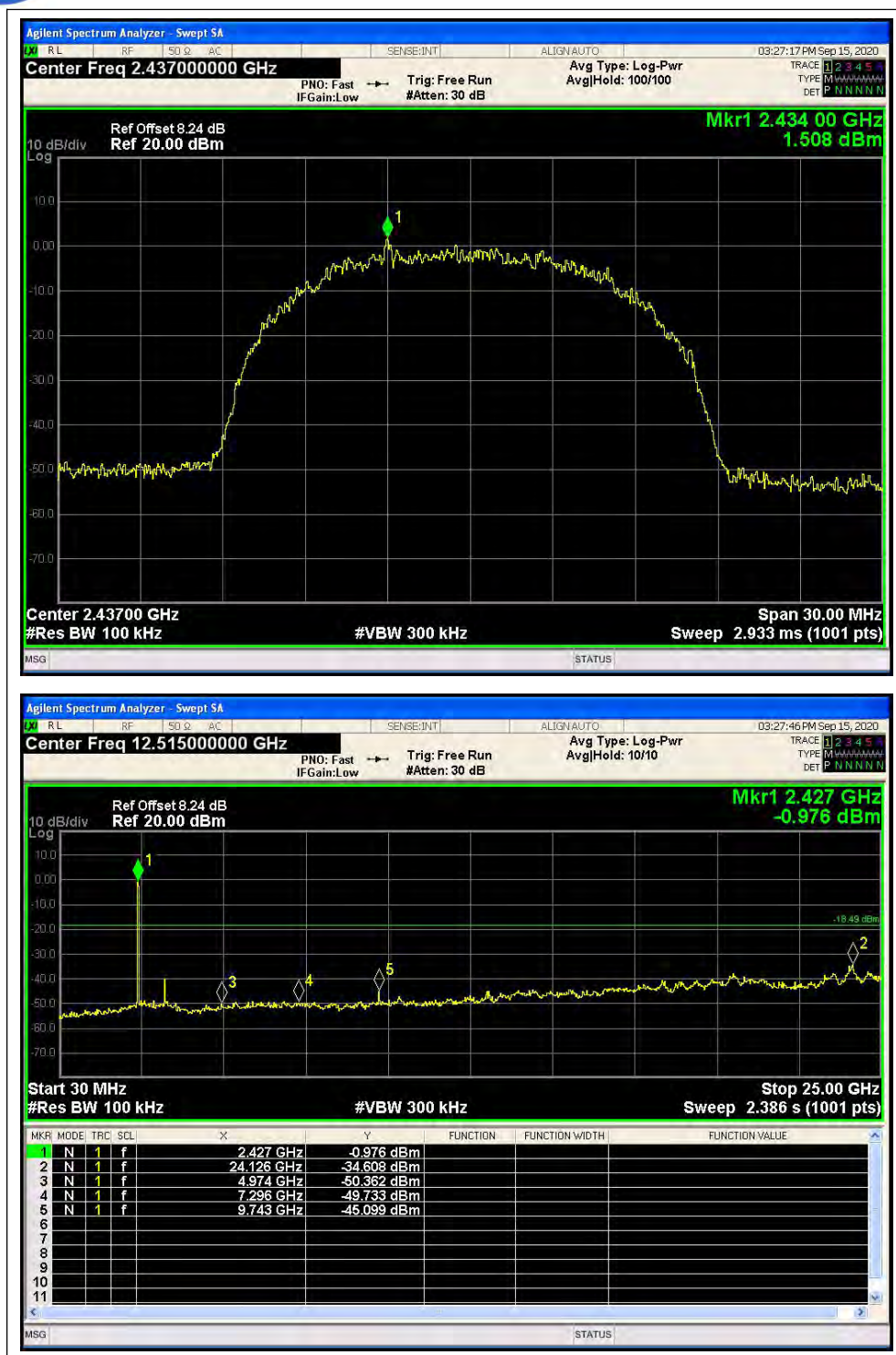
2.4.3. Test Result



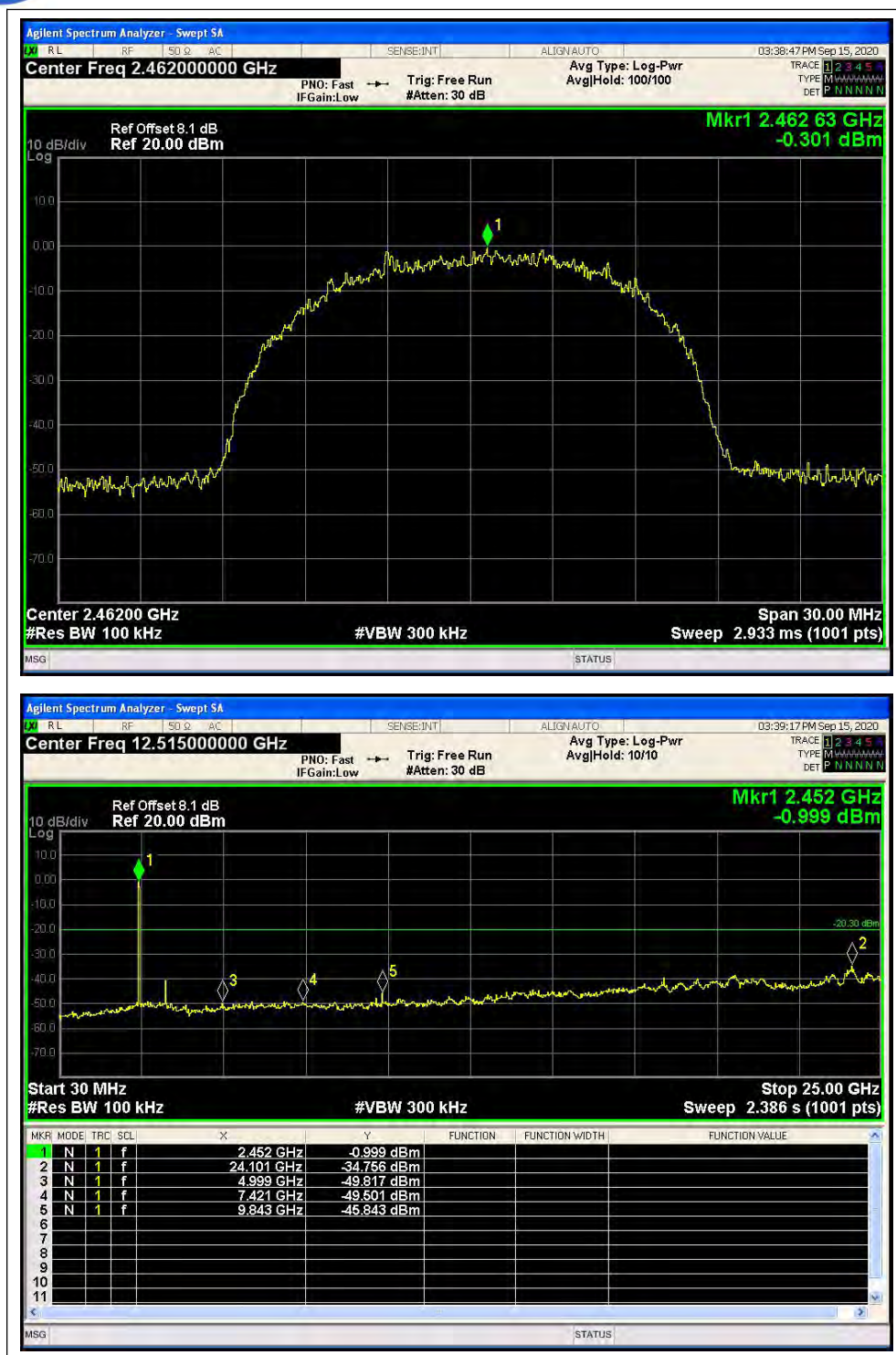
(802.11 b, Channel = 1, 30MHz to 25GHz)



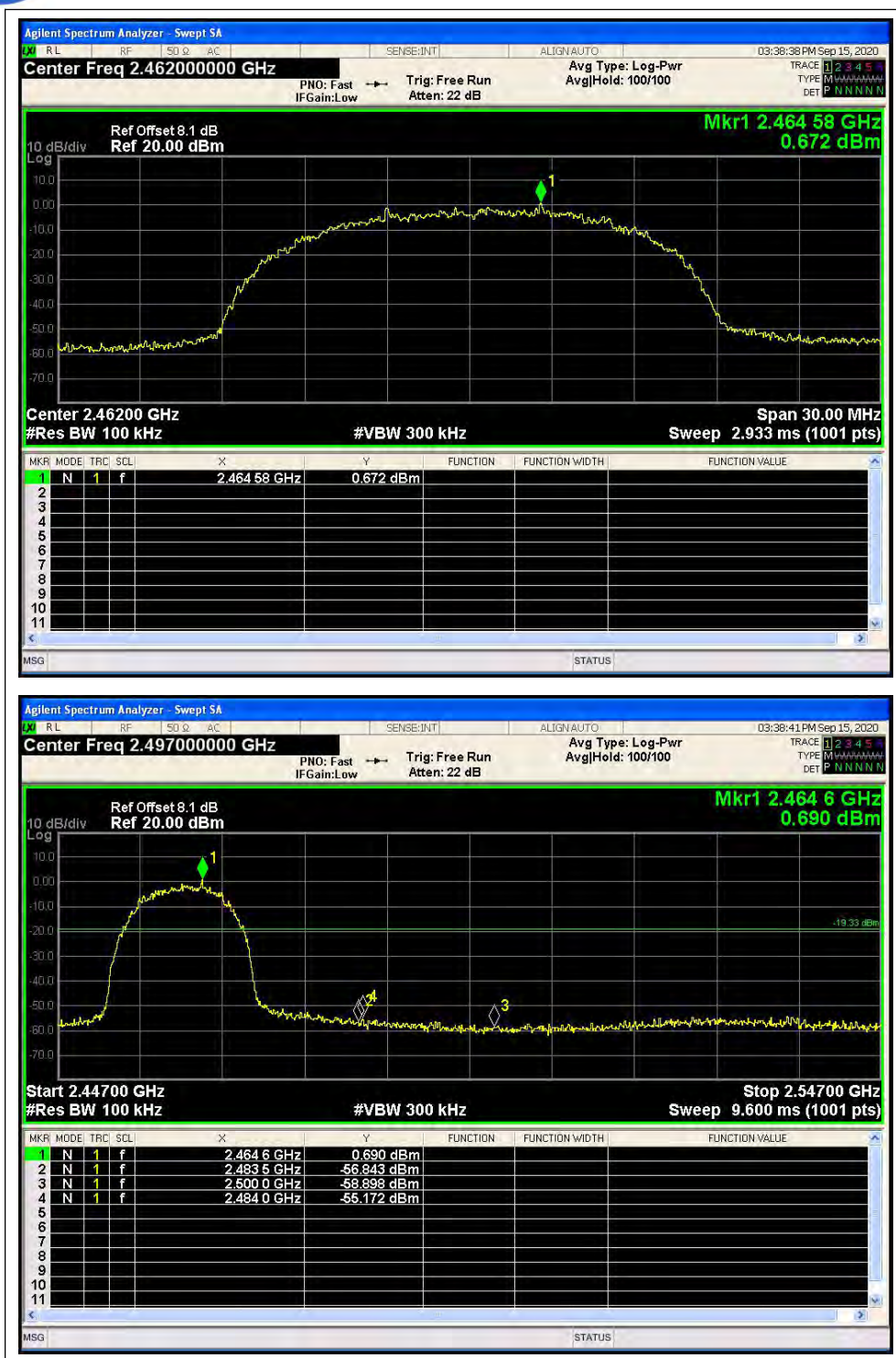
(802.11 b, Band Edge @ Channel = 1)



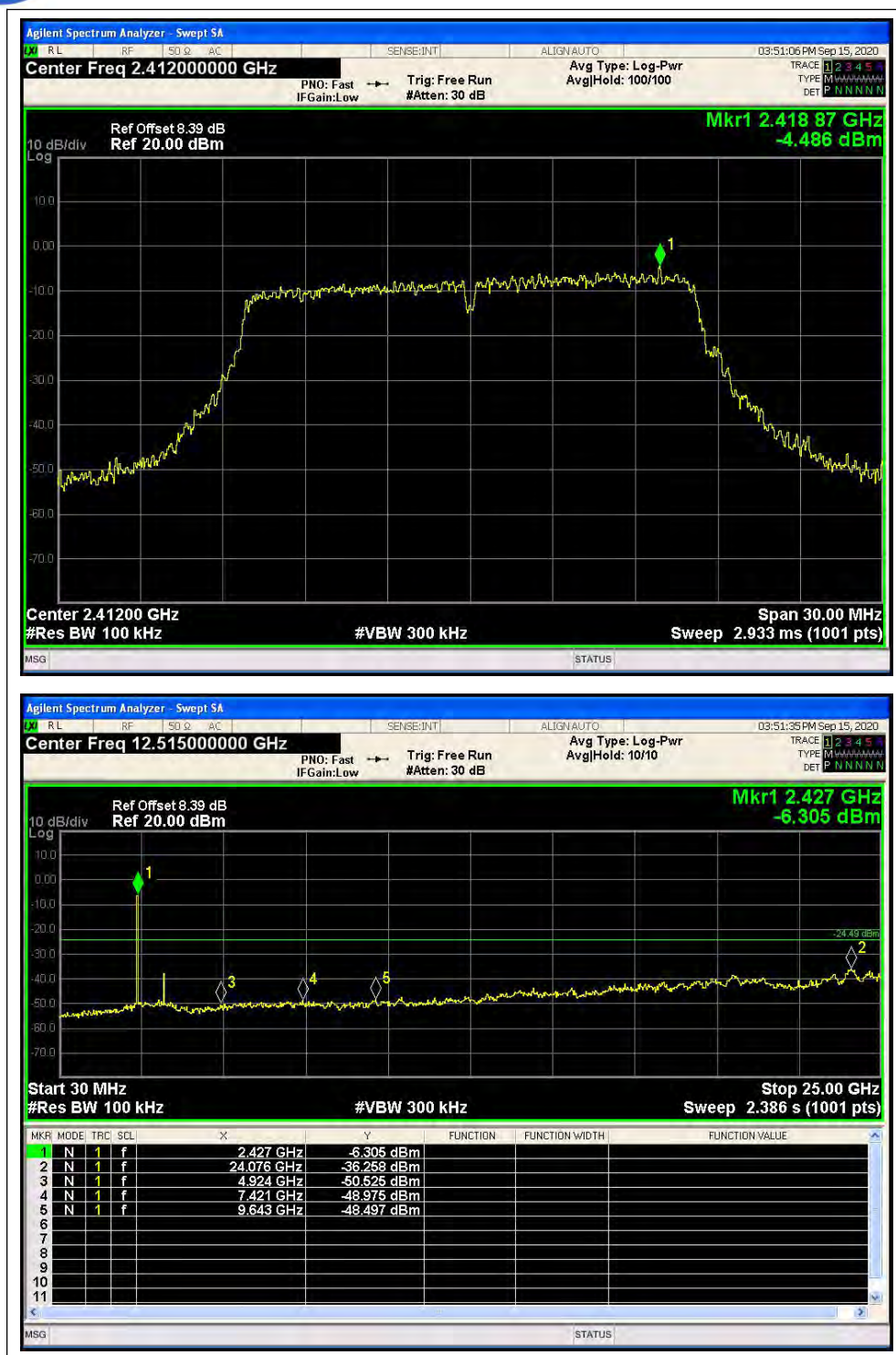
(802.11 b, Channel = 6, 30MHz to 25GHz)



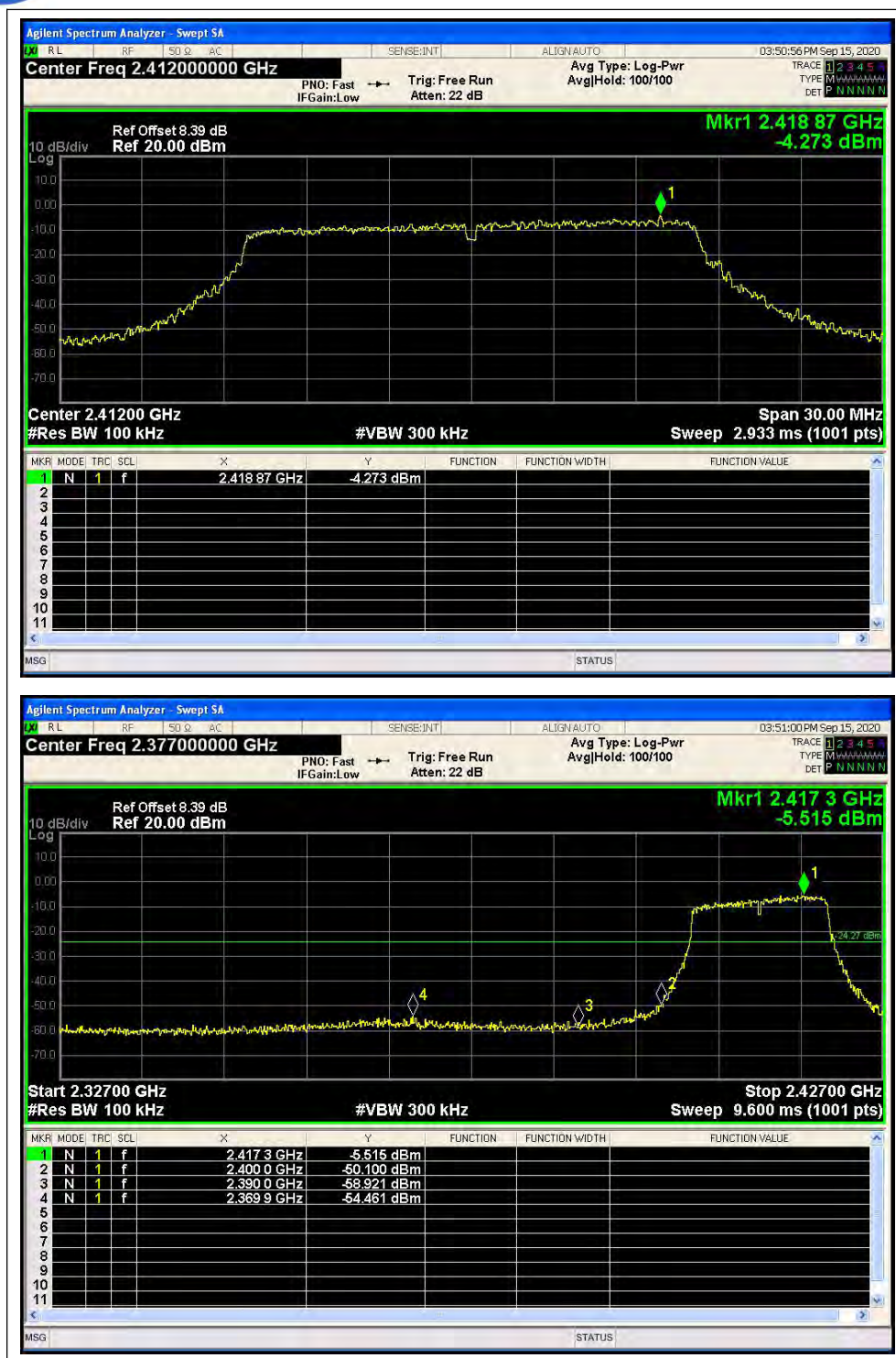
(802.11 b, Channel = 11, 30MHz to 25GHz)



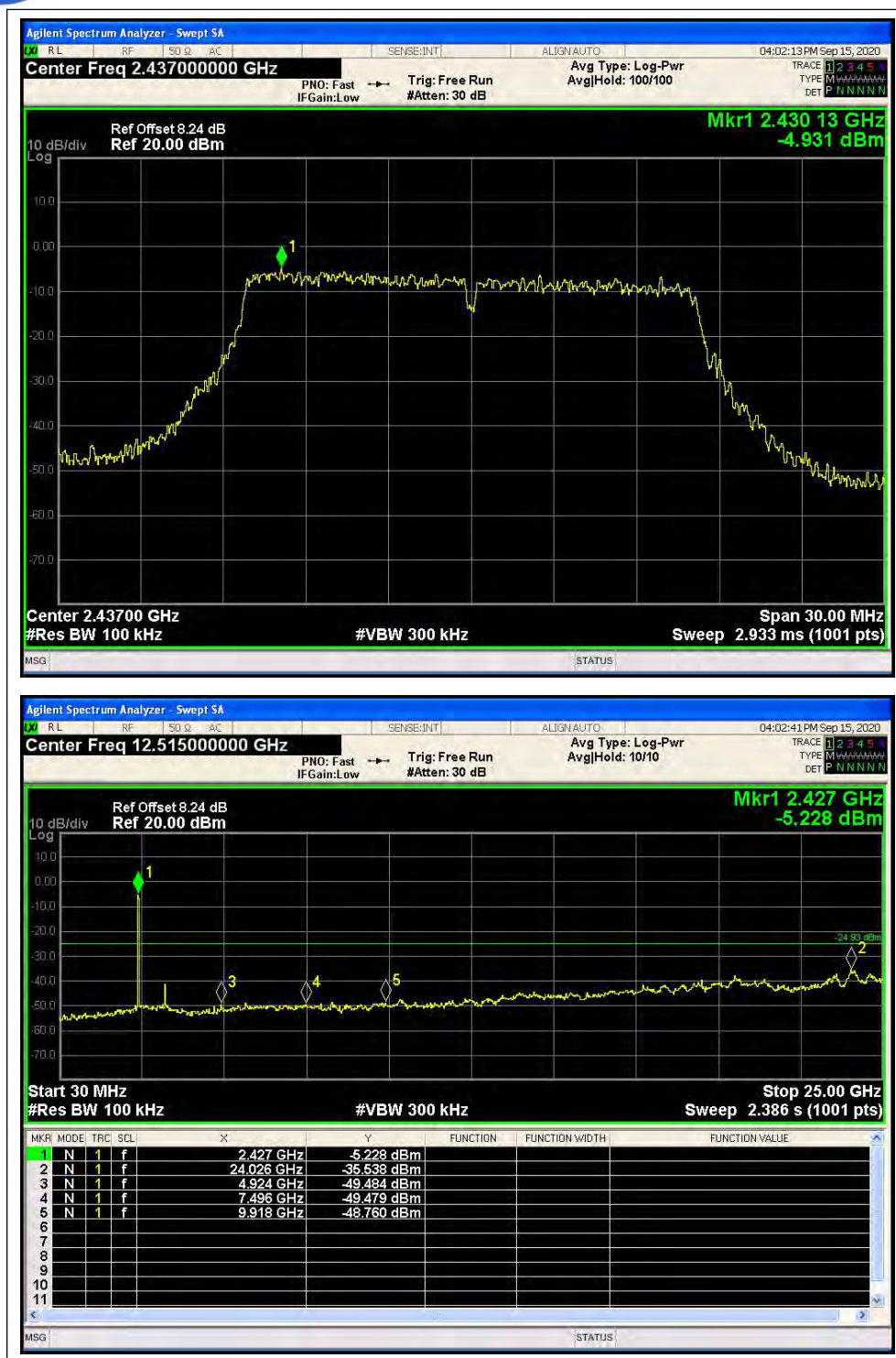
(802.11 b, Band Edge @ Channel = 11)



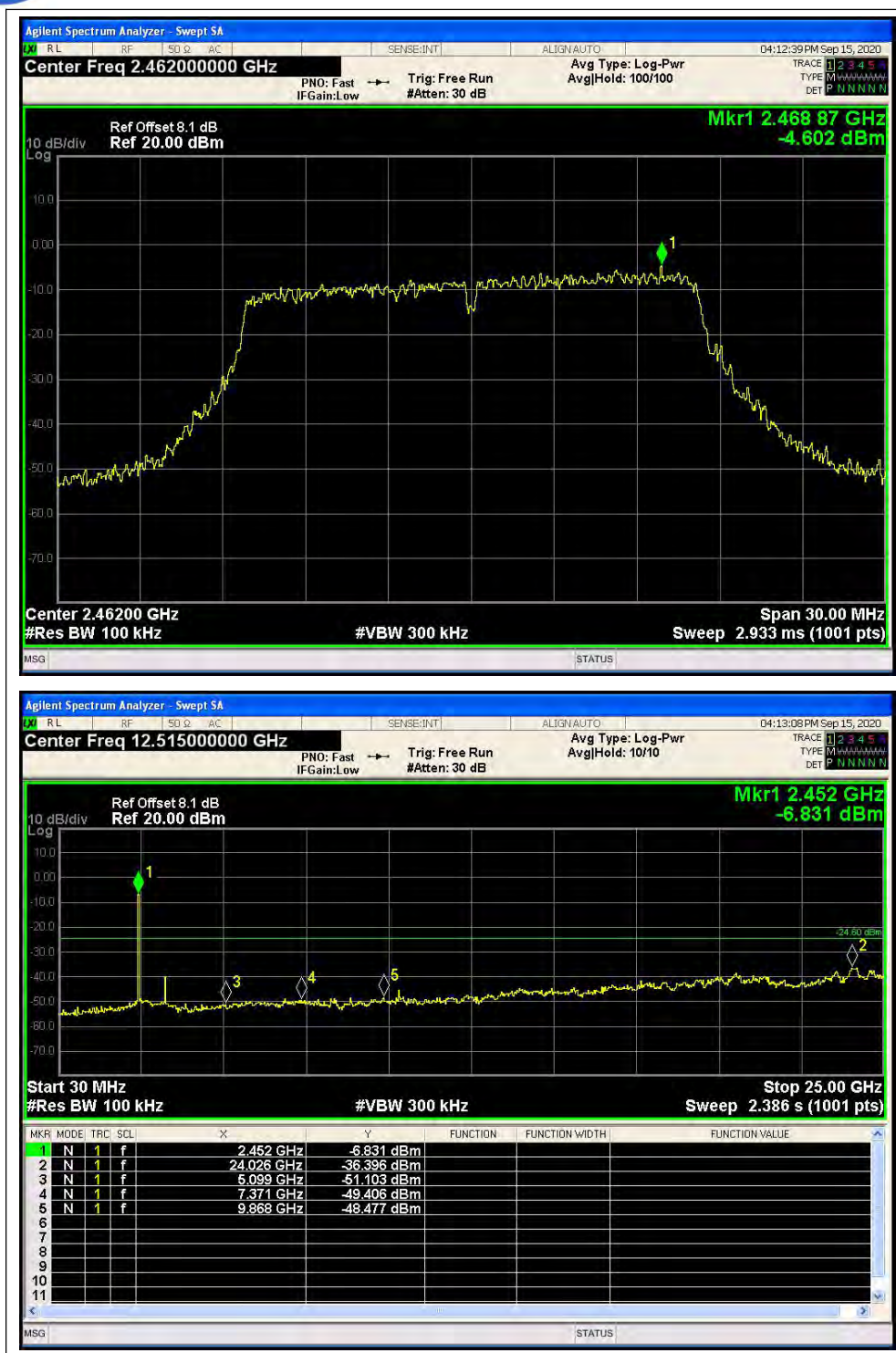
(802.11 g, Channel = 1, 30MHz to 25GHz)



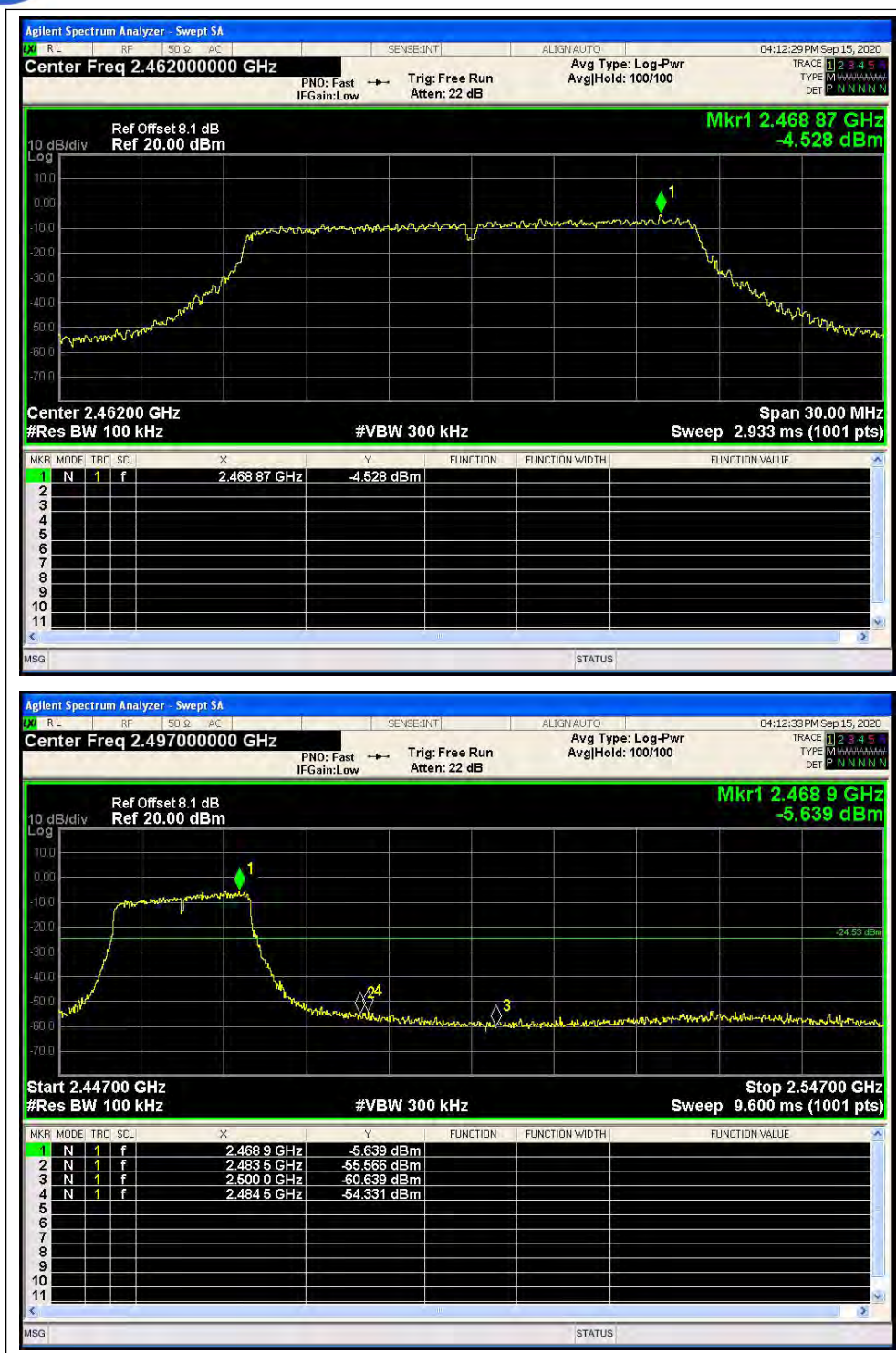
(802.11 g, Band Edge @ Channel = 1)



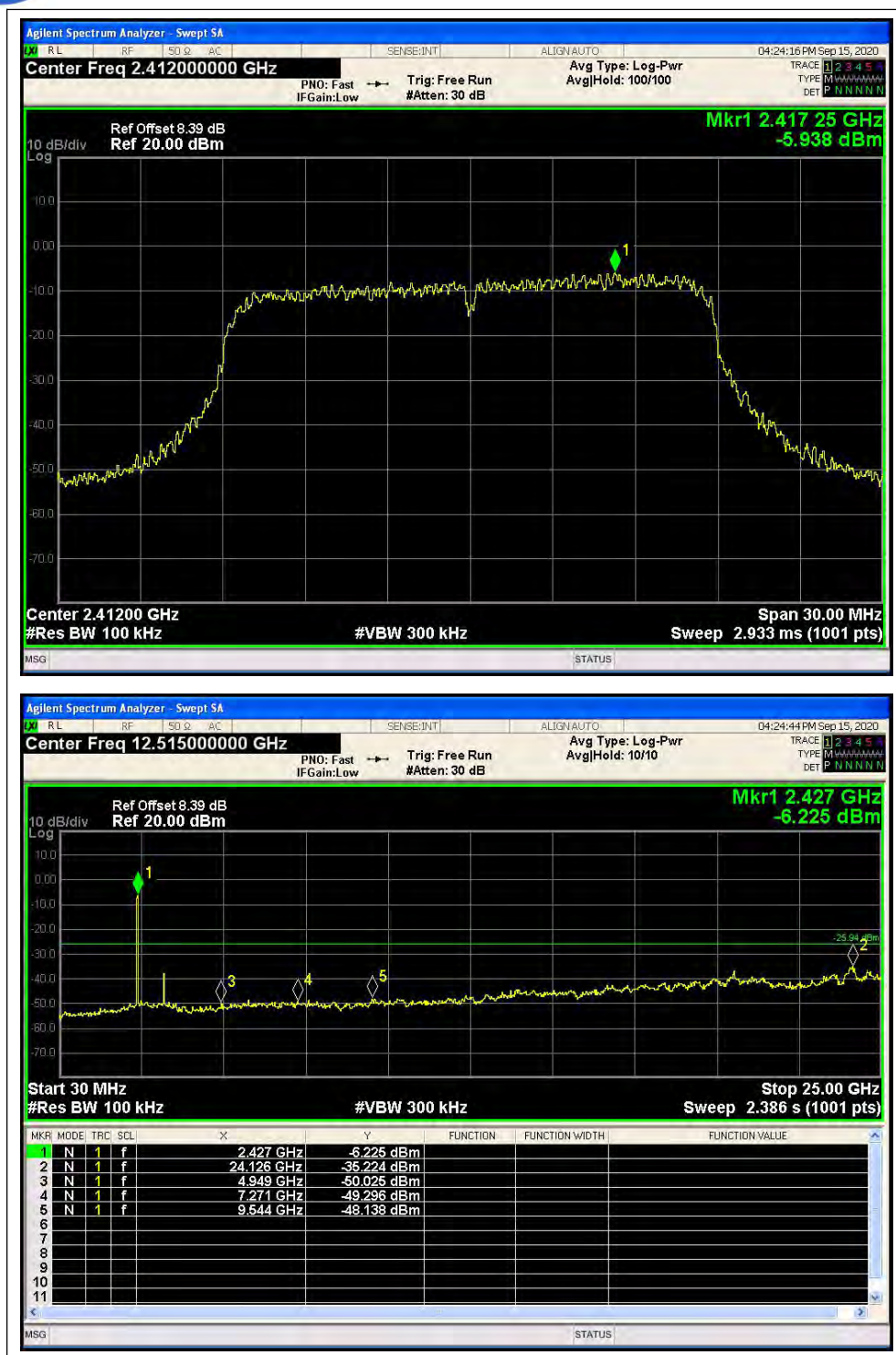
(802.11 g, Channel = 6, 30MHz to 25GHz)



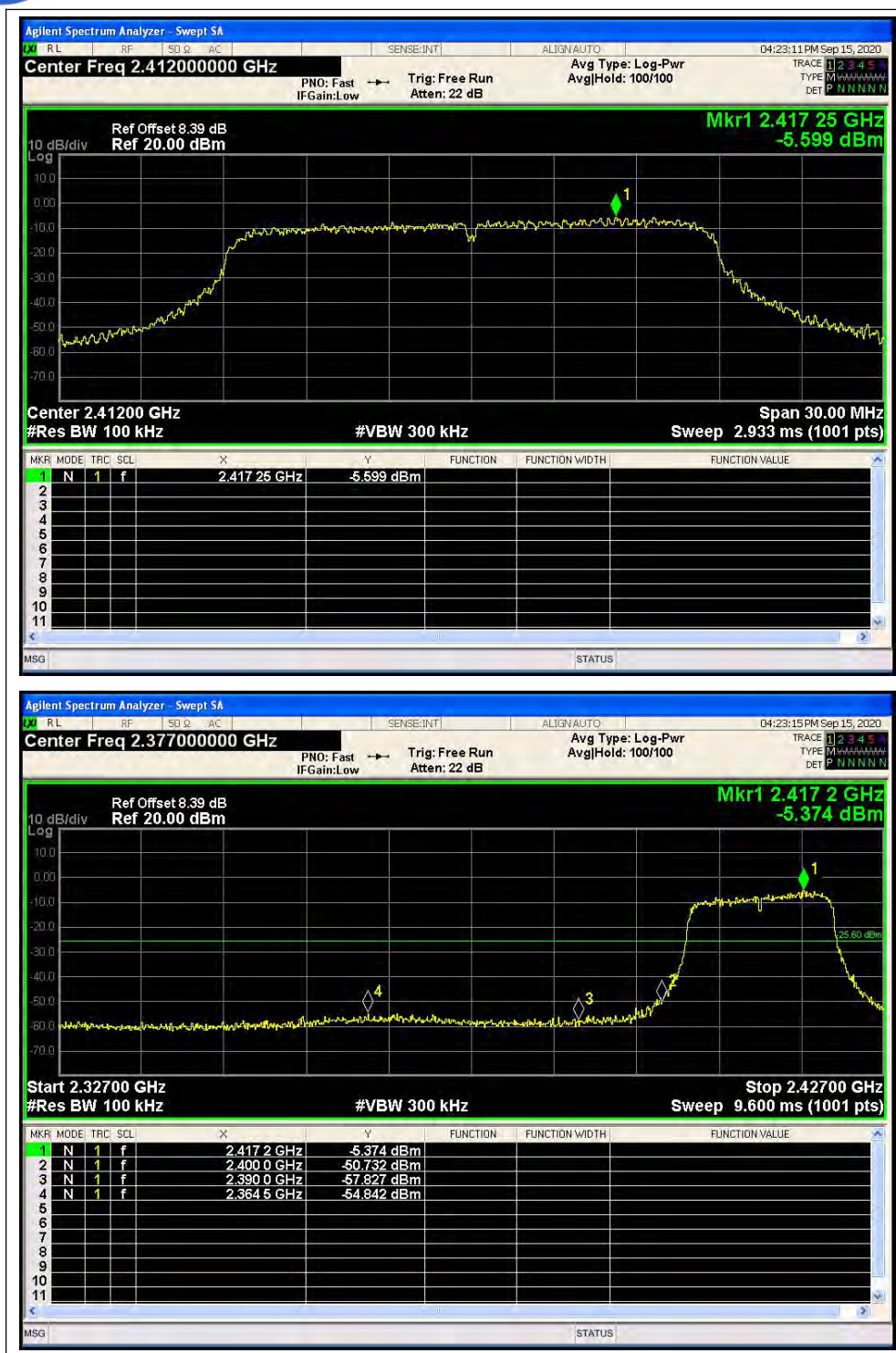
(802.11 g, Channel = 11, 30MHz to 25GHz)



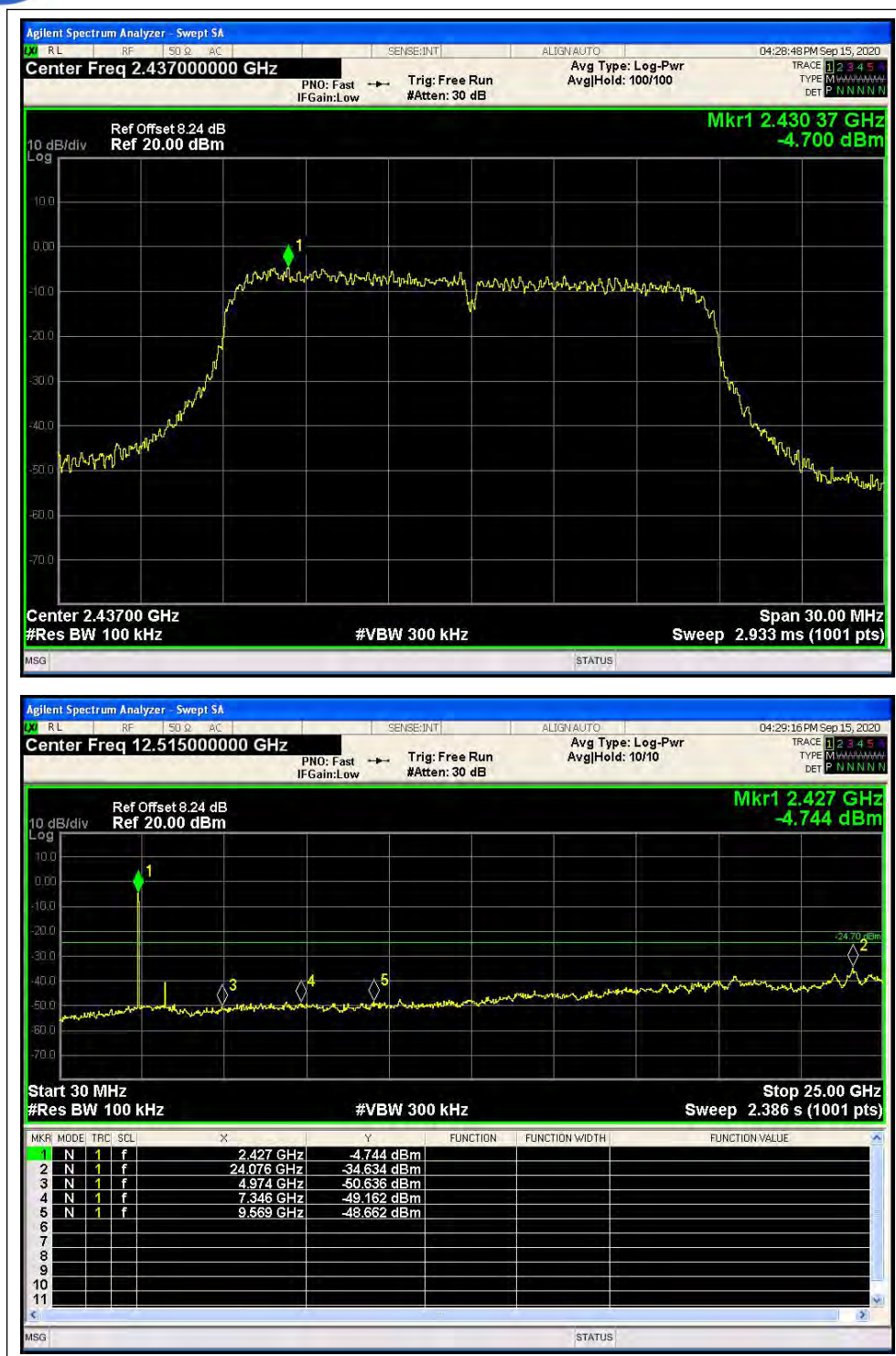
(802.11 g, Band Edge @ Channel = 11)



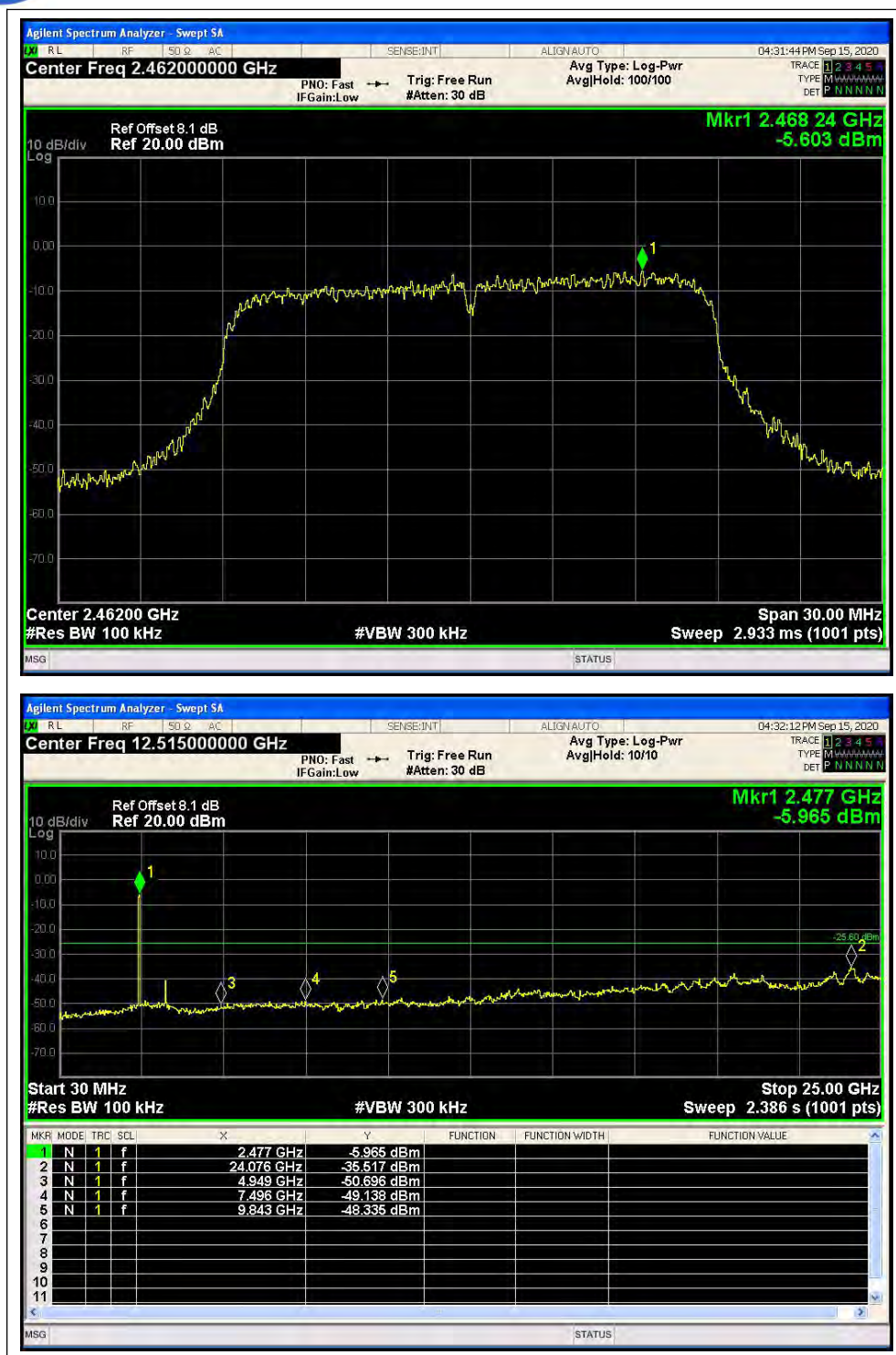
(802.11 HT20, Channel = 1, 30MHz to 25GHz)



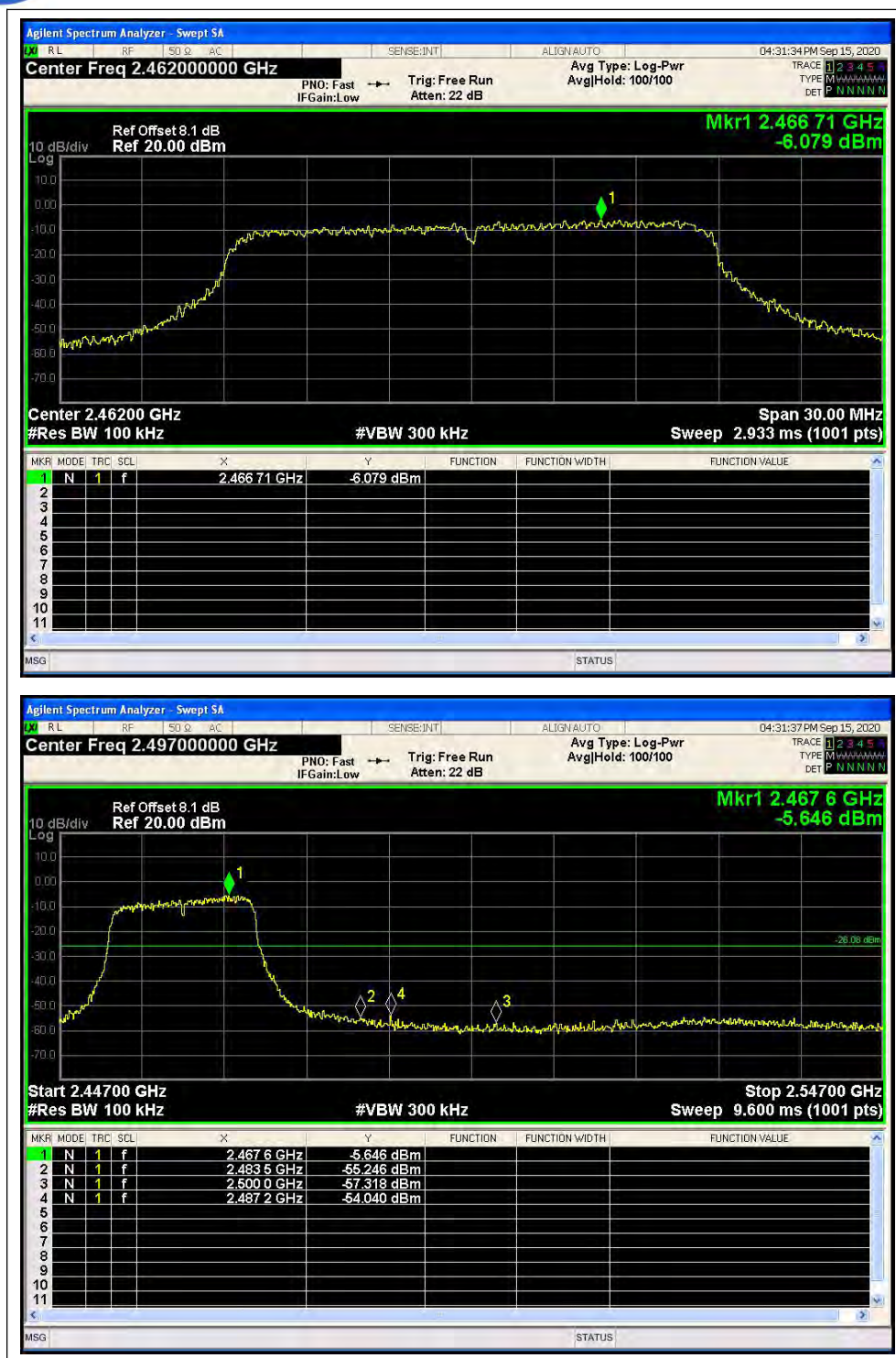
(802.11 HT20, Band Edge @ Channel = 1)



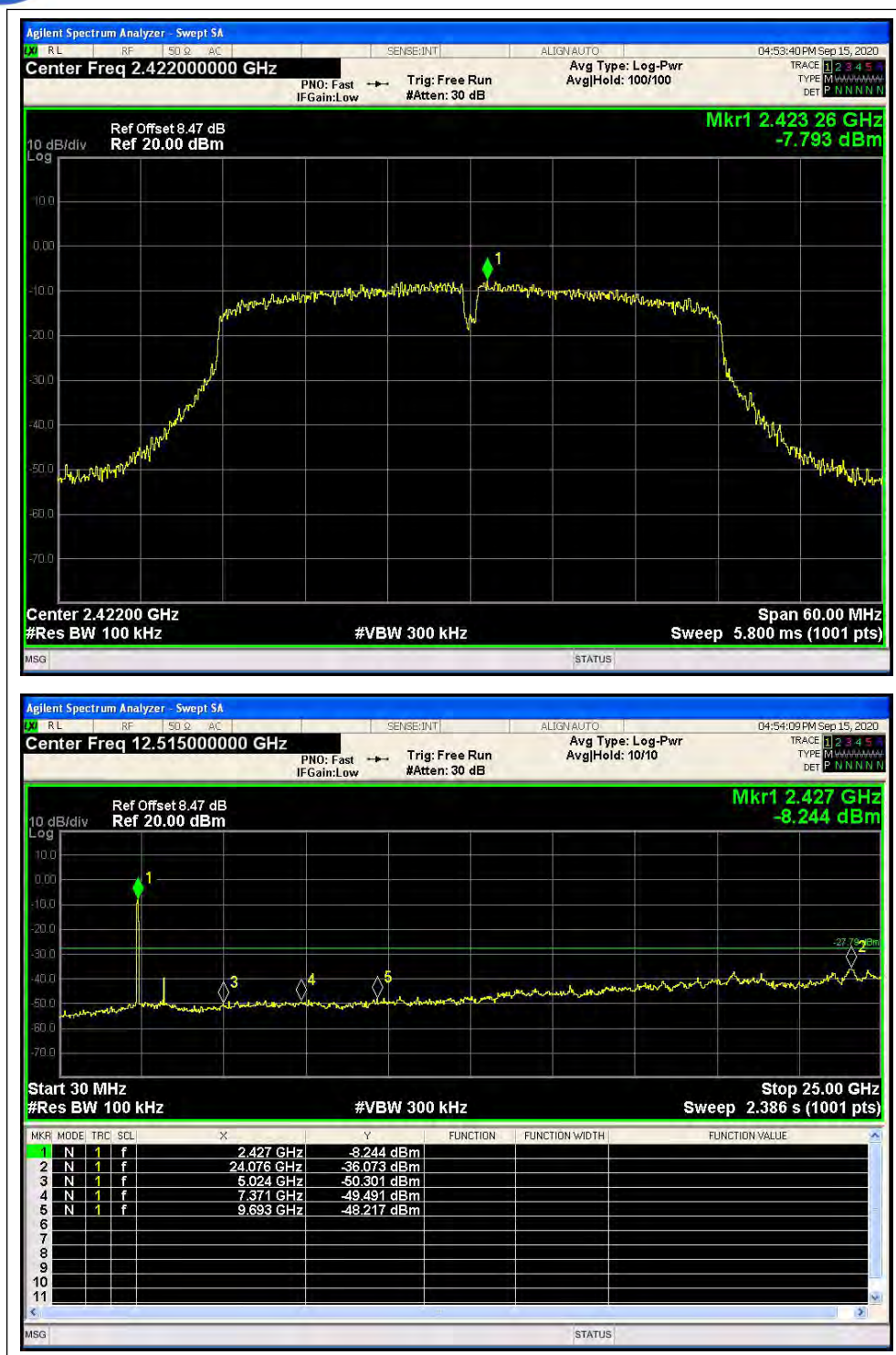
(802.11 HT20, Channel = 6, 30MHz to 25GHz)



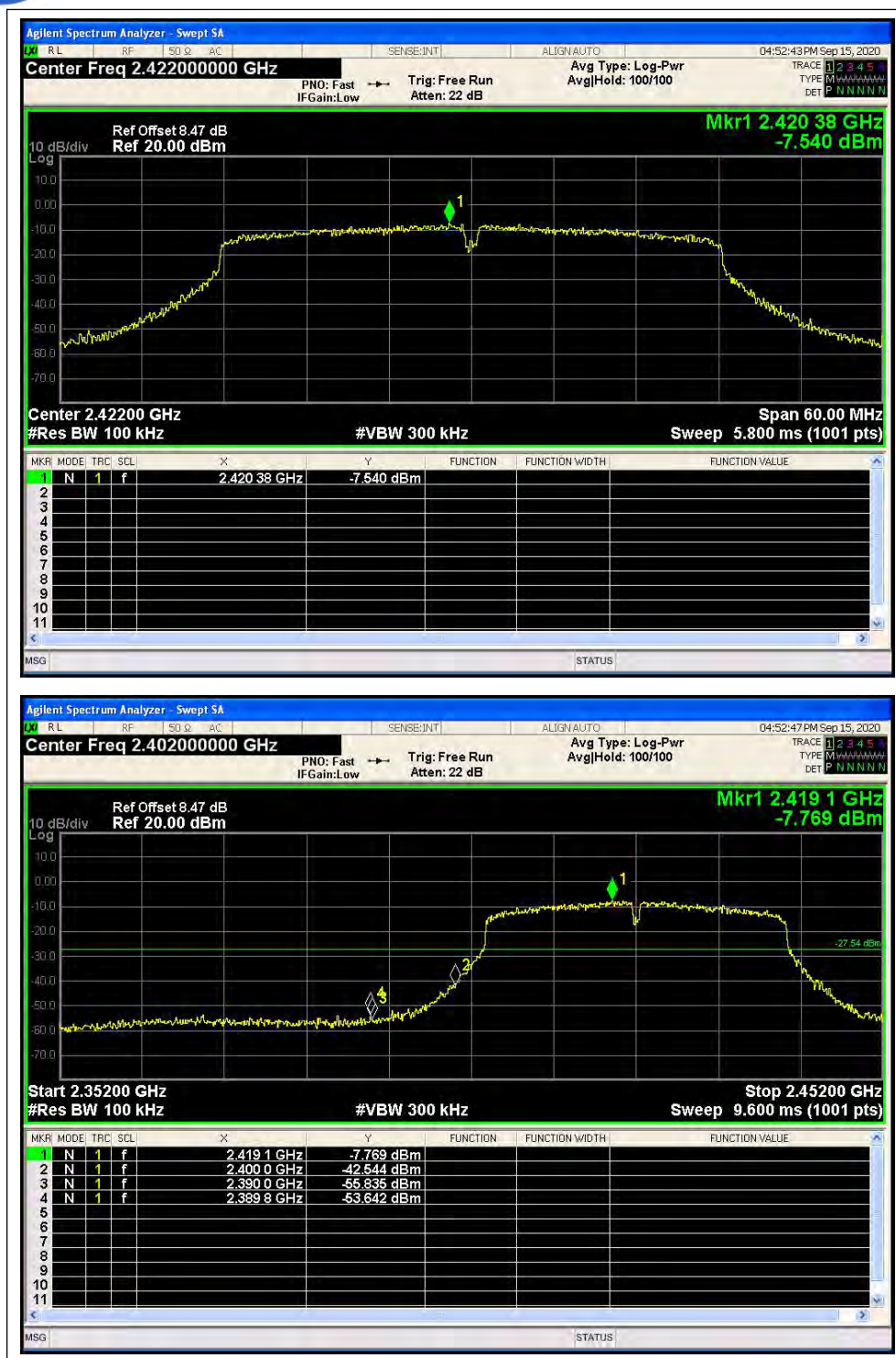
(802.11 HT20, Channel = 11, 30MHz to 25GHz)



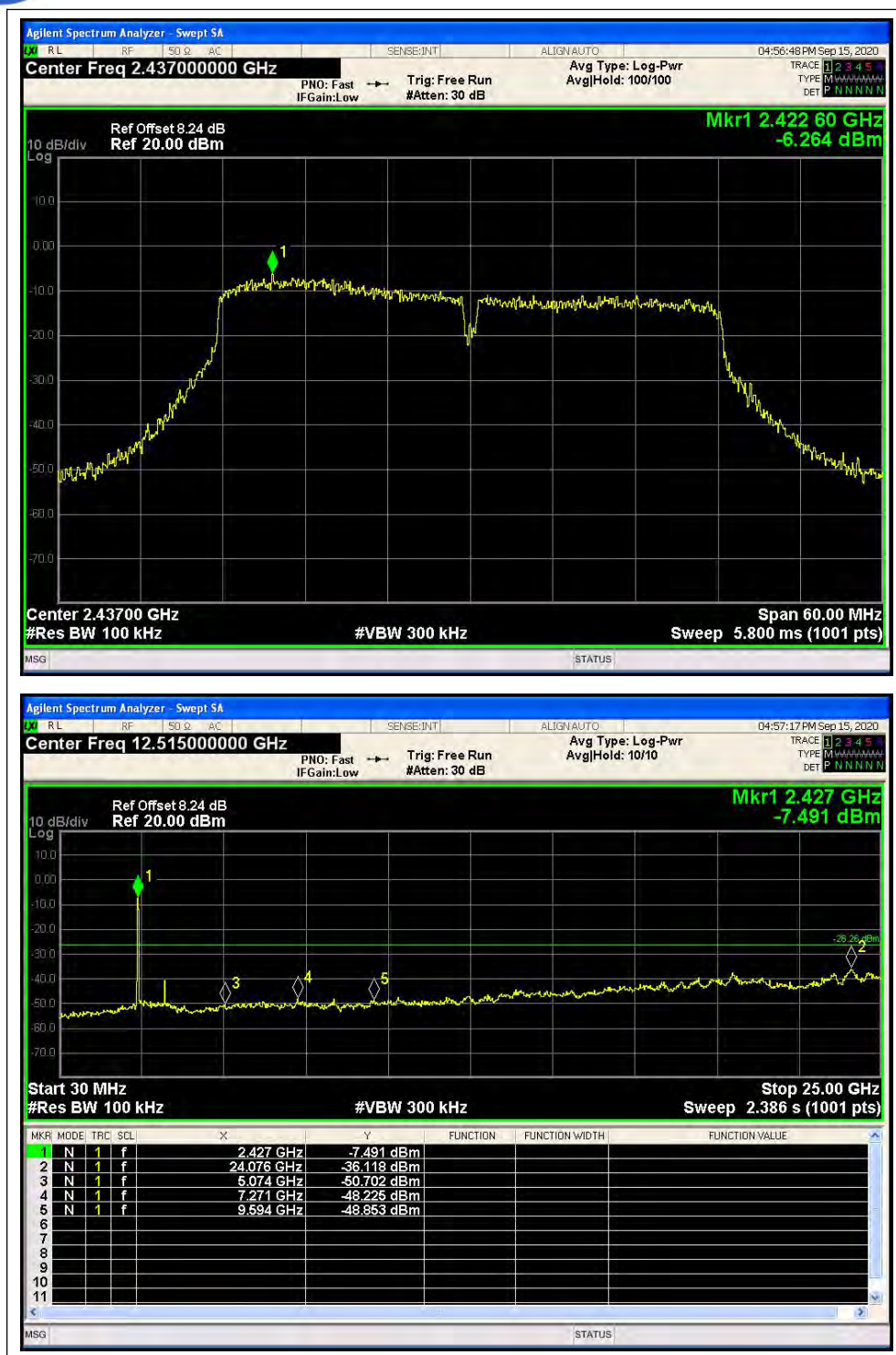
(802.11 HT20, Band Edge @ Channel = 11)



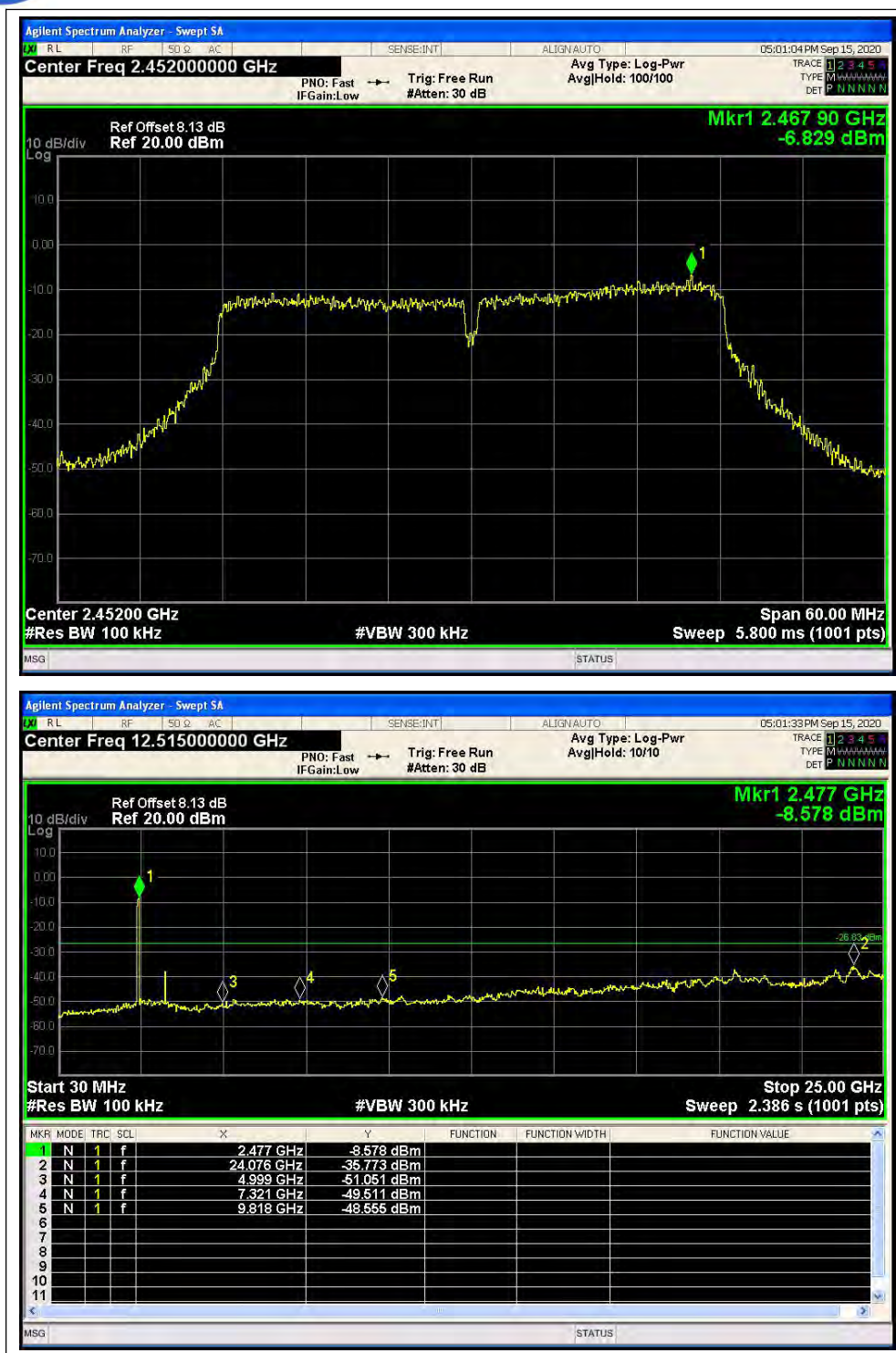
(802.11 HT40, Channel = 3, 30MHz to 25GHz)



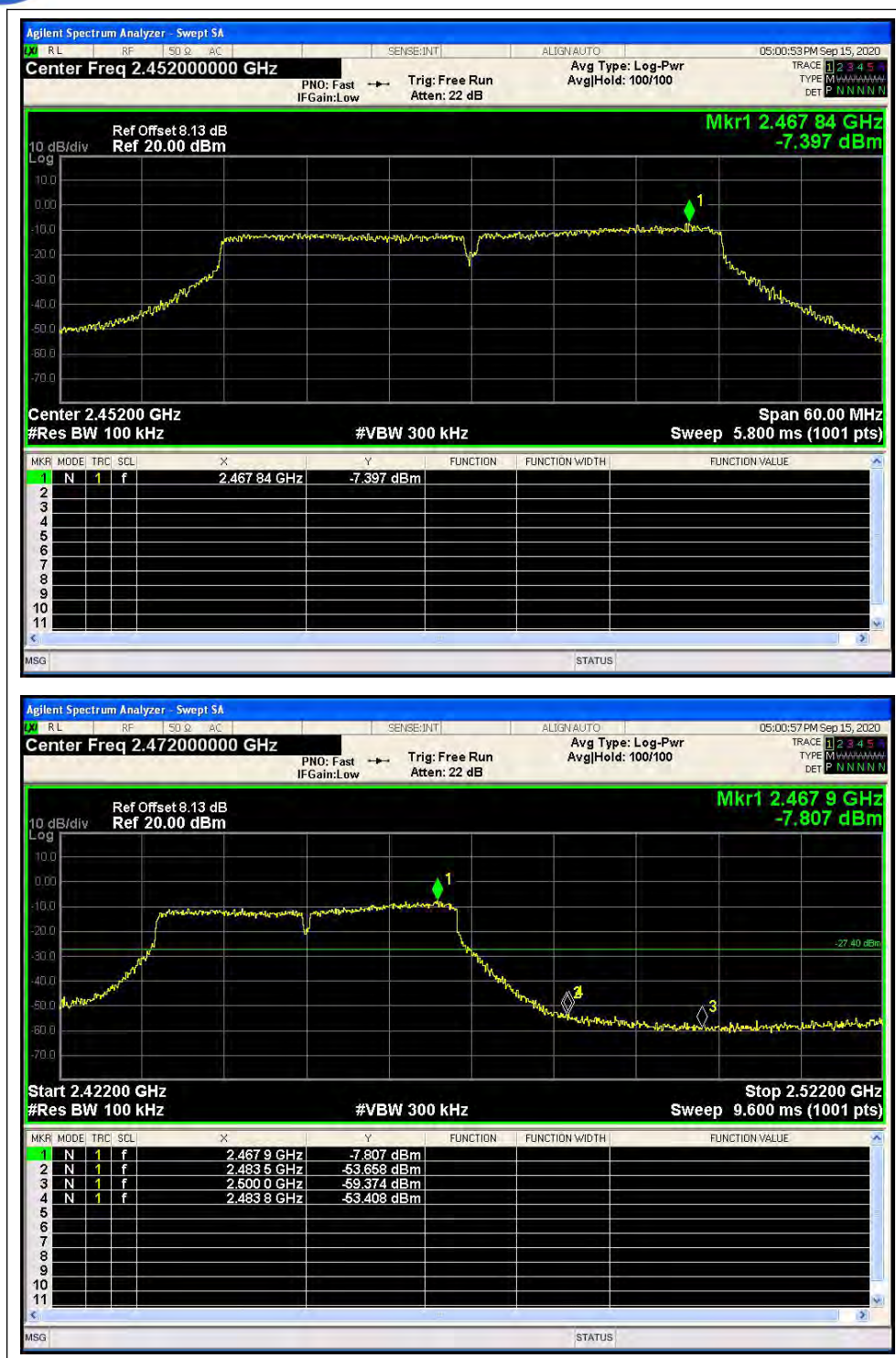
(802.11 HT40, Band Edge @ Channel = 3)



(802.11 HT40, Channel = 6, 30MHz to 25GHz)



(802.11 HT40, Channel = 9, 30MHz to 25GHz)



(802.11 HT40, Band Edge @ Channel = 9)

2.5. Power spectral density (PSD)

2.5.1. Requirement

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

2.5.2. 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.

KDB 558074 D01 v05r02 Section 10.2 was used in order to prove compliance.

B. Equipments List:

Please refer ANNEX B(4).



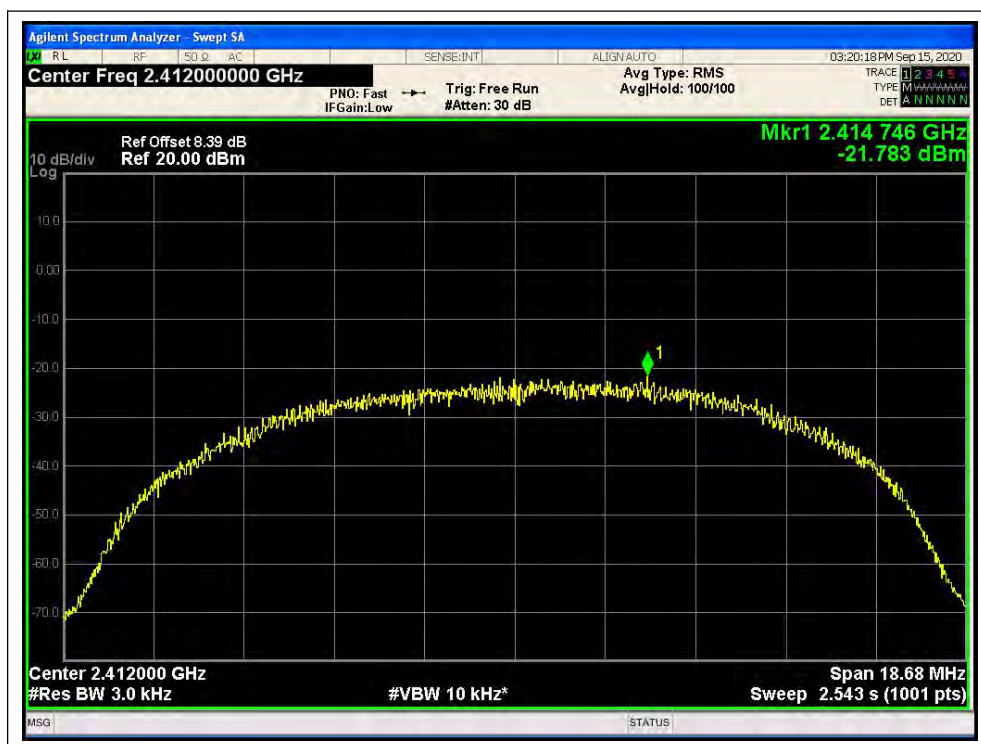
2.5.3. Test Result

802.11b Test mode

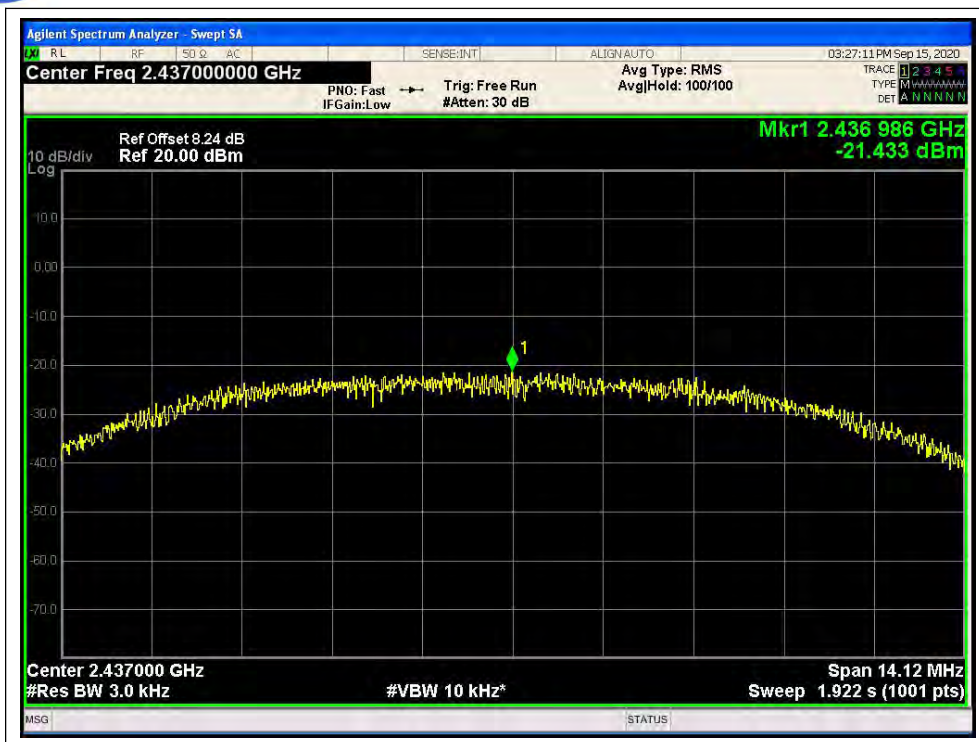
A. Test Verdict:

Spectral power density (dBm/3kHz)				
Channel	Frequency (MHz)	Measured PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
1	2412	-21.78	8	PASS
6	2437	-21.43	8	PASS
11	2462	-21.87	8	PASS

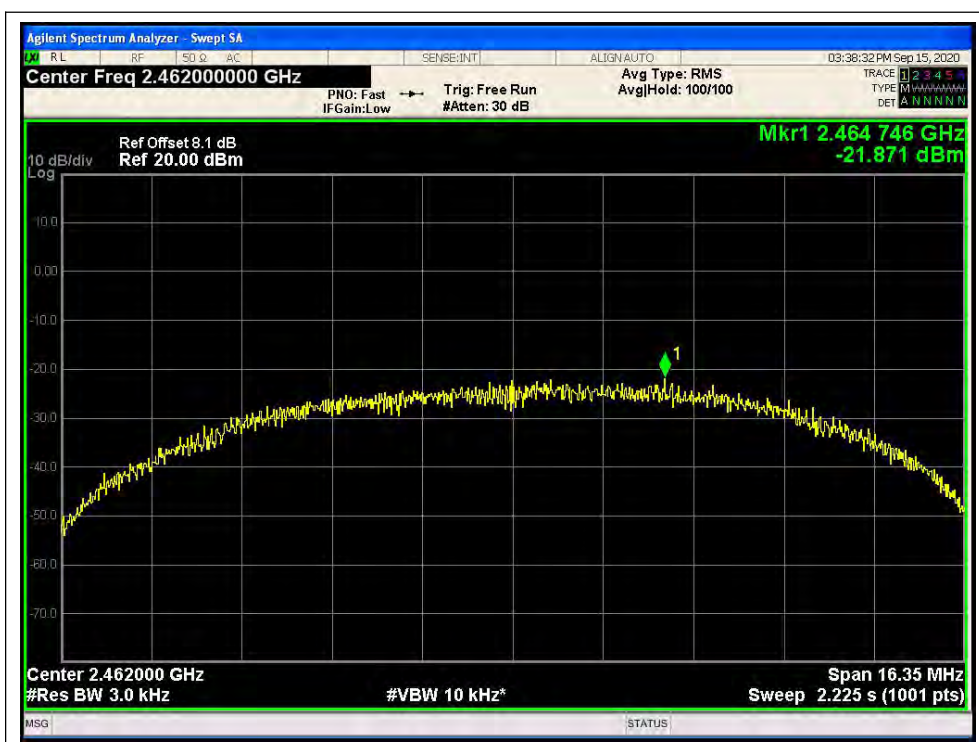
B. Test Plots:



(Channel = 1, 802.11b)



(Channel = 6, 802.11b)



(Channel = 11, 802.11b)

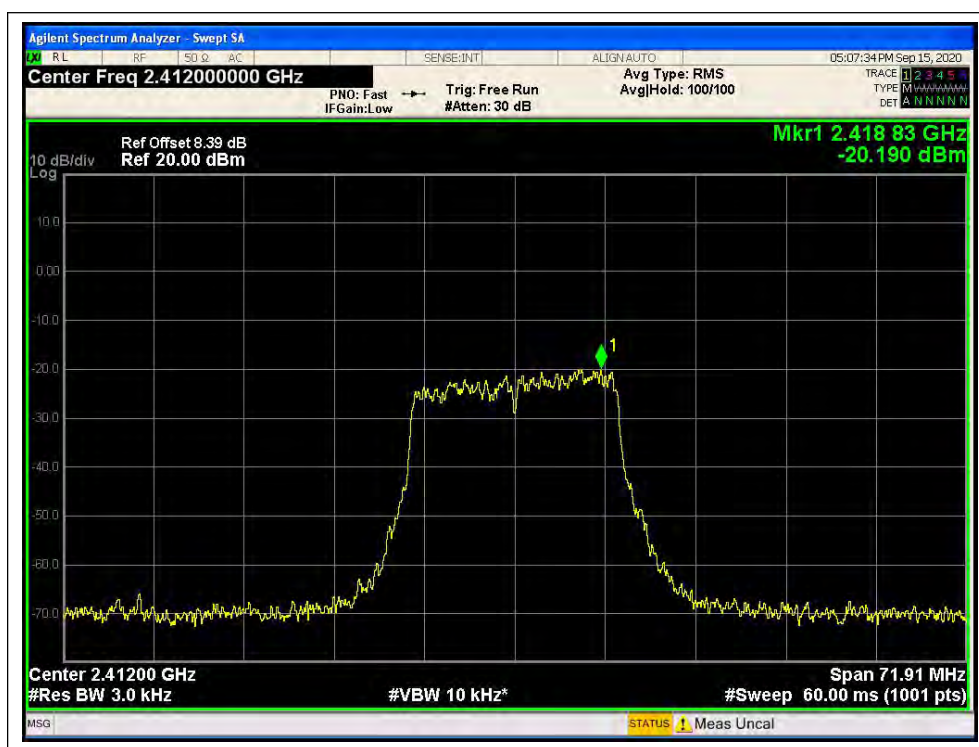


802.11g Test mode

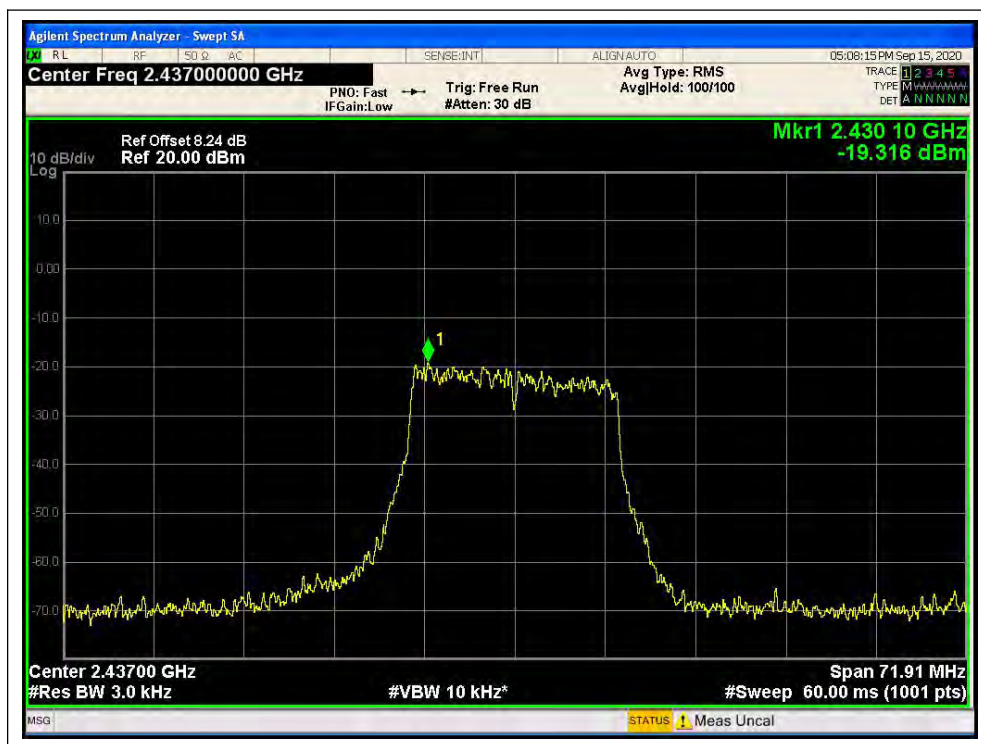
A. Test Verdict:

Spectral power density (dBm/3kHz)				
Channel	Frequency (MHz)	Measured PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
1	2412	-20.19	8	PASS
6	2437	-19.32	8	PASS
11	2462	-20.50	8	PASS

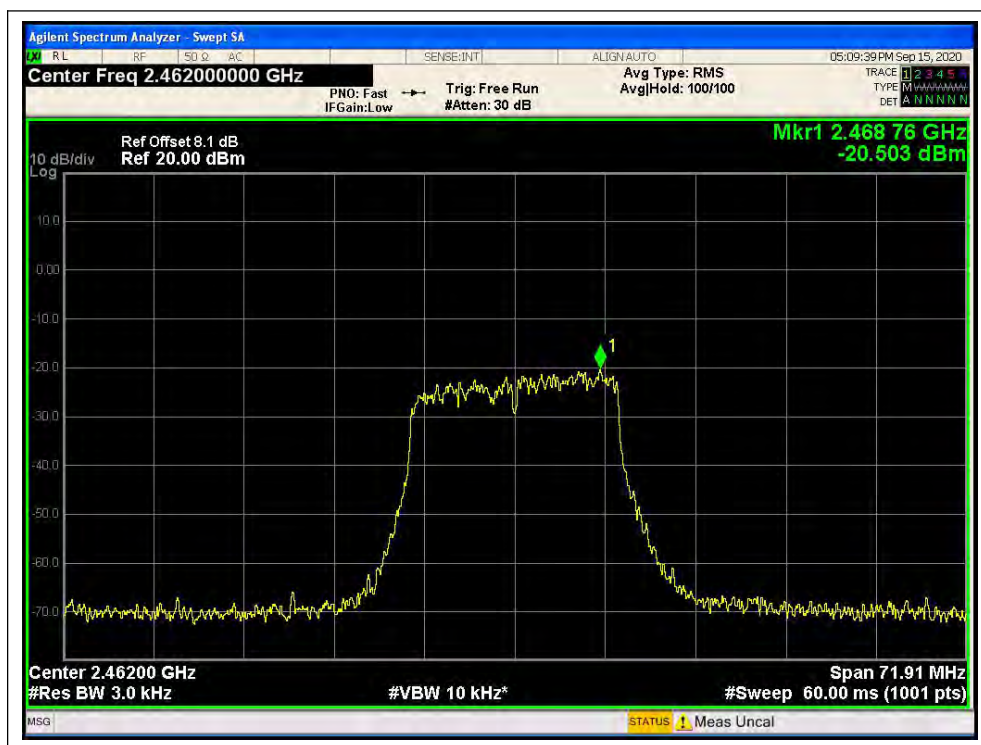
B. Test Plots:



(Channel = 1, 802.11g)



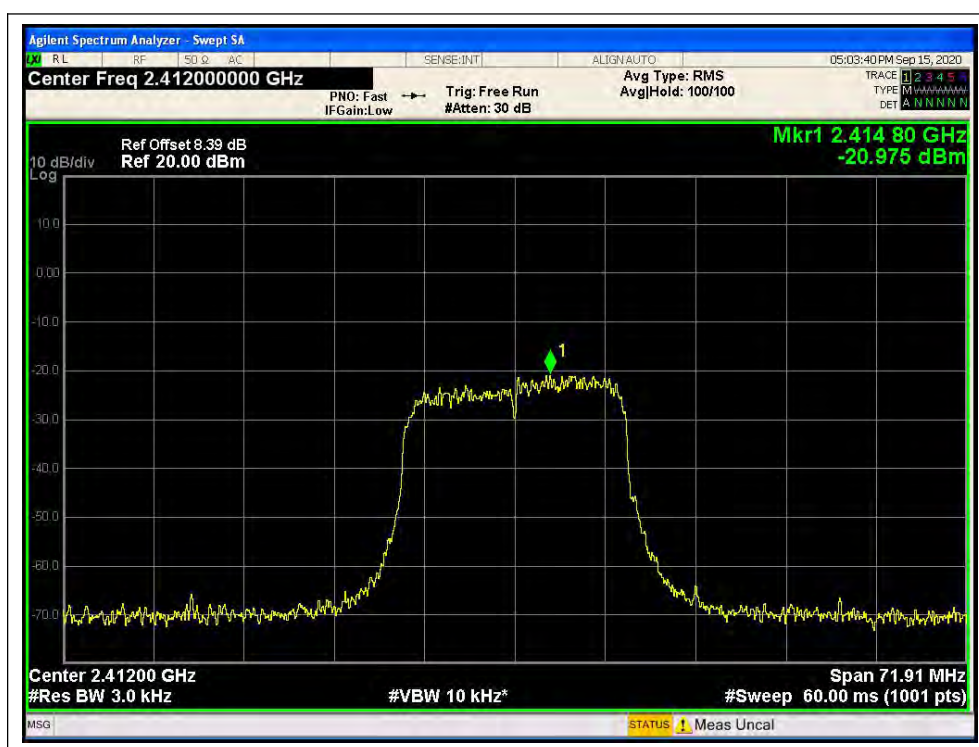
(Channel = 6, 802.11g)



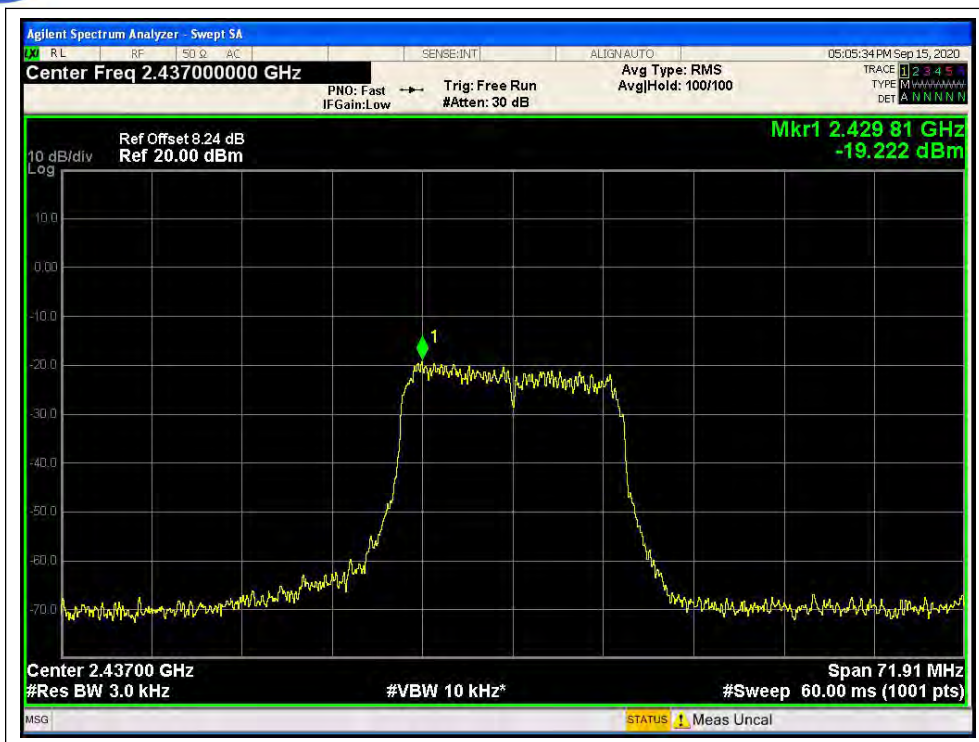
(Channel = 11, 802.11g)

**802.11n-20MHz Test mode****A. Test Verdict:**

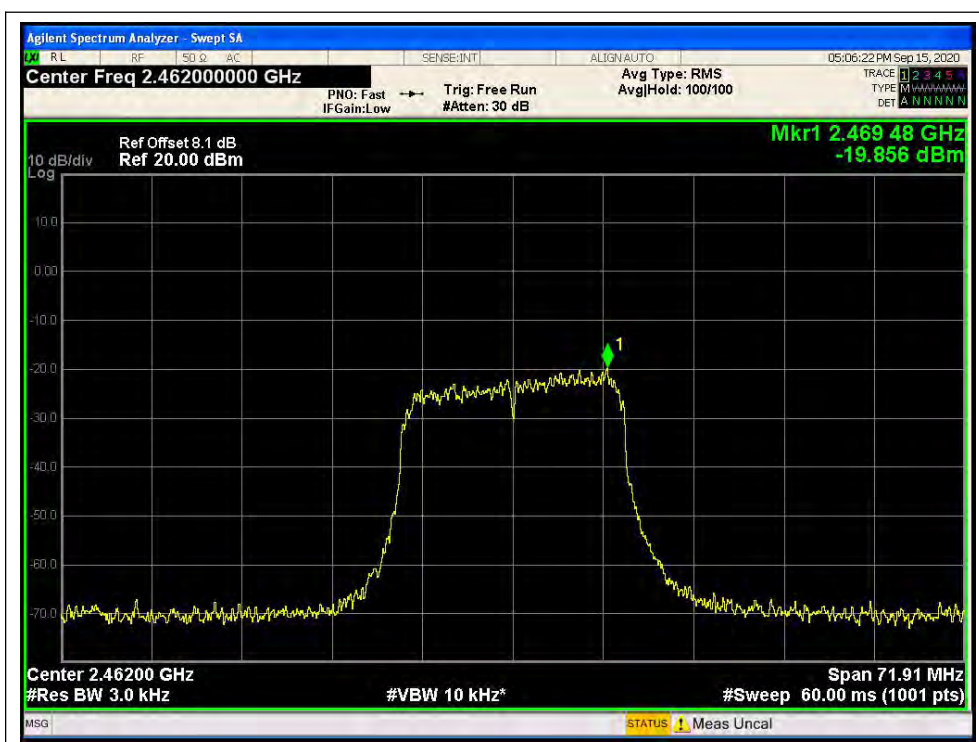
Spectral power density (dBm/3kHz)				
Channel	Frequency (MHz)	Measured PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
1	2412	-20.98	8	PASS
6	2437	-19.22	8	PASS
11	2462	-19.86	8	PASS

B. Test Plots:

(Channel = 1, 802.11n-20MHz)



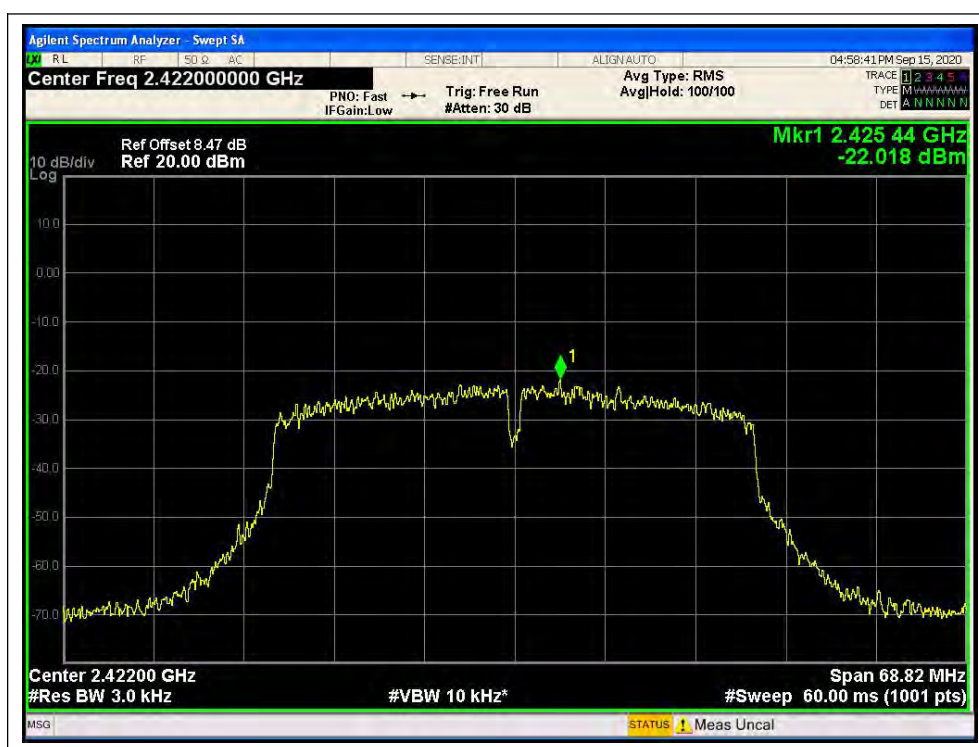
(Channel = 6, 802.11n-20MHz)



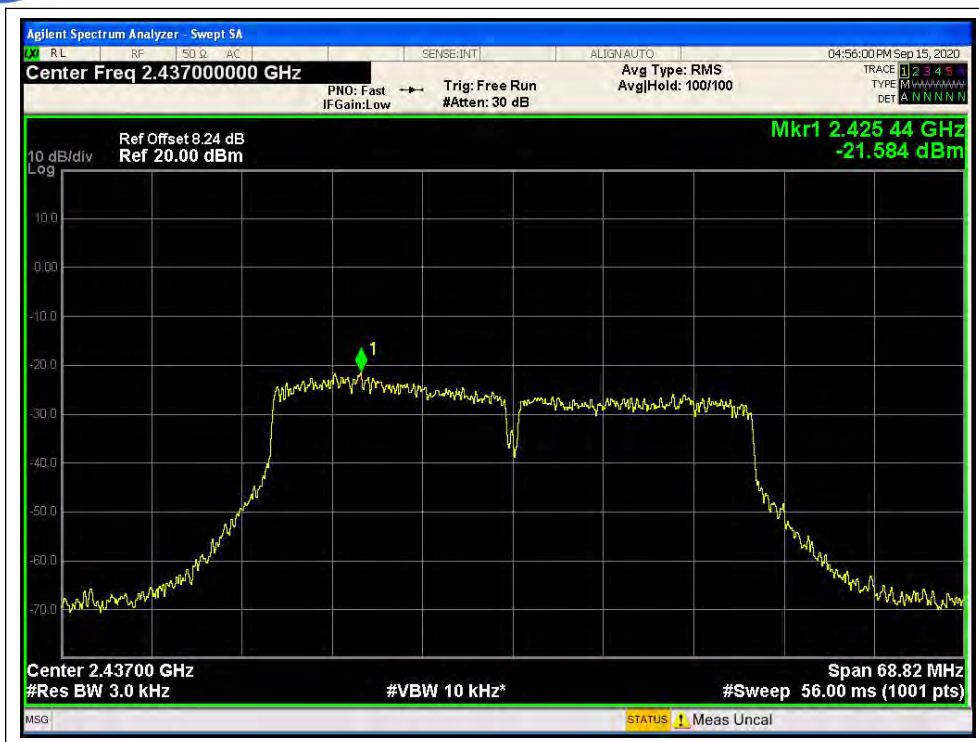
(Channel = 11, 802.11n-20MHz)

**802.11n-40MHz Test mode****A. Test Verdict:**

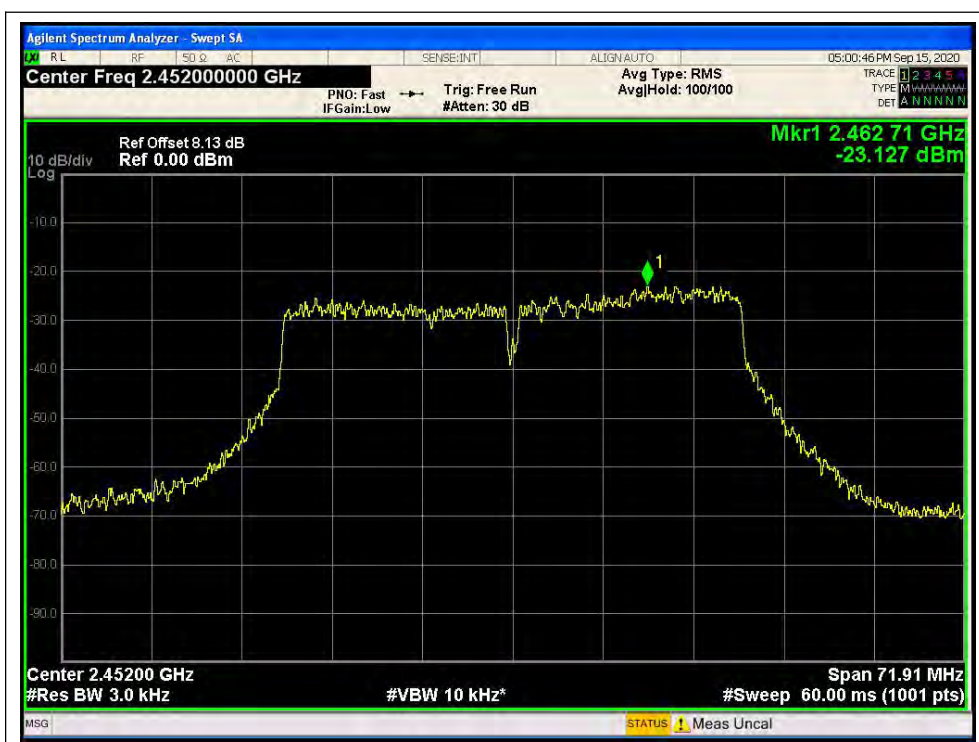
Spectral power density (dBm/3kHz)				
Channel	Frequency (MHz)	Measured PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
3	2422	-22.02	8	PASS
6	2437	-21.58	8	PASS
9	2452	-23.13	8	PASS

B. Test Plots:

(Channel = 3, 802.11n-40MHz)



(Channel = 6, 802.11n-40MHz)



(Channel = 9, 802.11n-40MHz)

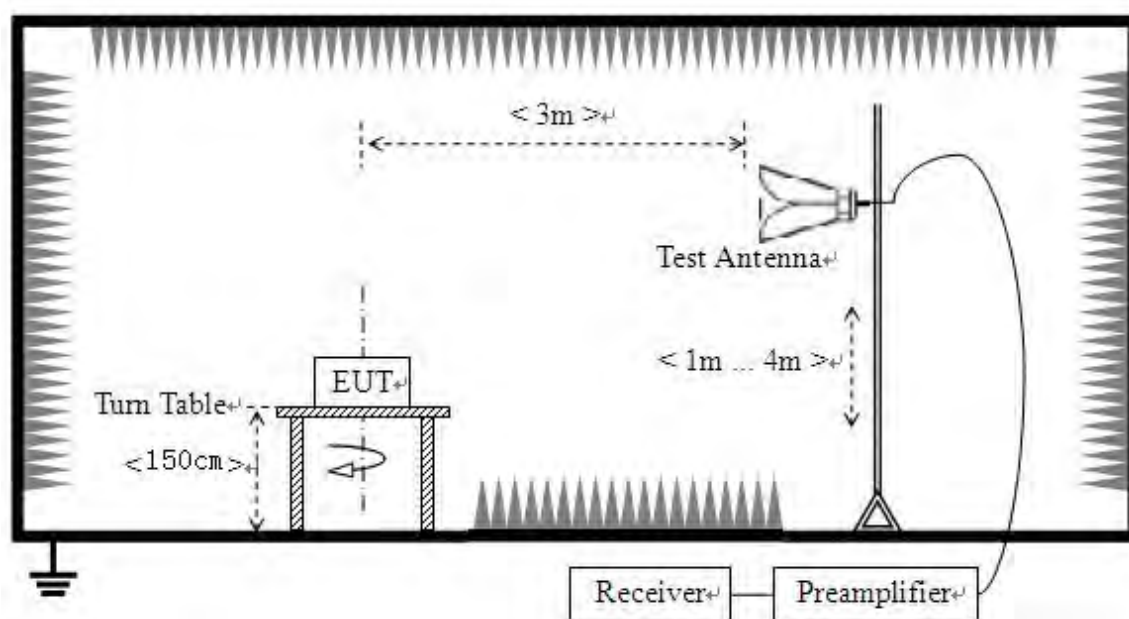
2.6. Restricted Frequency Bands

2.6.1. Requirement

According to FCC section 15.247(d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in 15.205(a), must also comply with the radiated emission limits specified in 15.209(a).

2.6.2. Test Description

A. Test Setup



The EUT is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.

For the Test Antenna:

Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.

KDB 558074 D01 v05r02 Section 12.1 was used in order to prove compliance.



For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

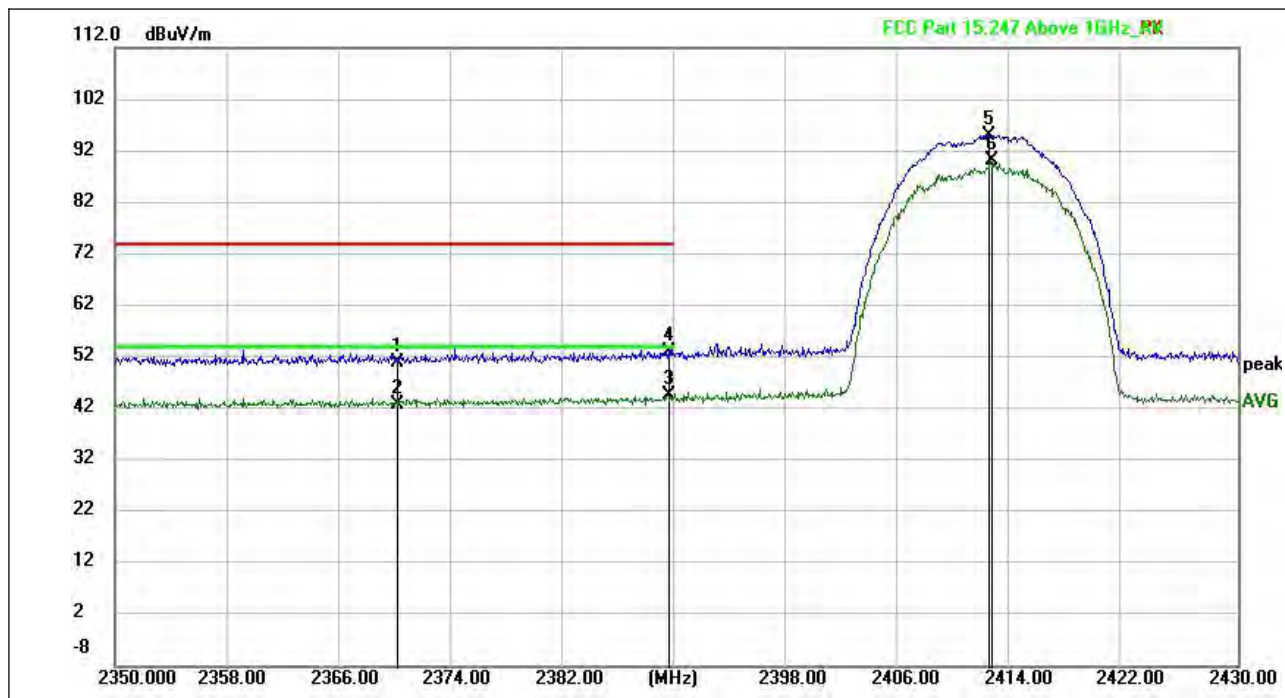
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasipeak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

B. Equipments List:

Please refer ANNEX B(4).

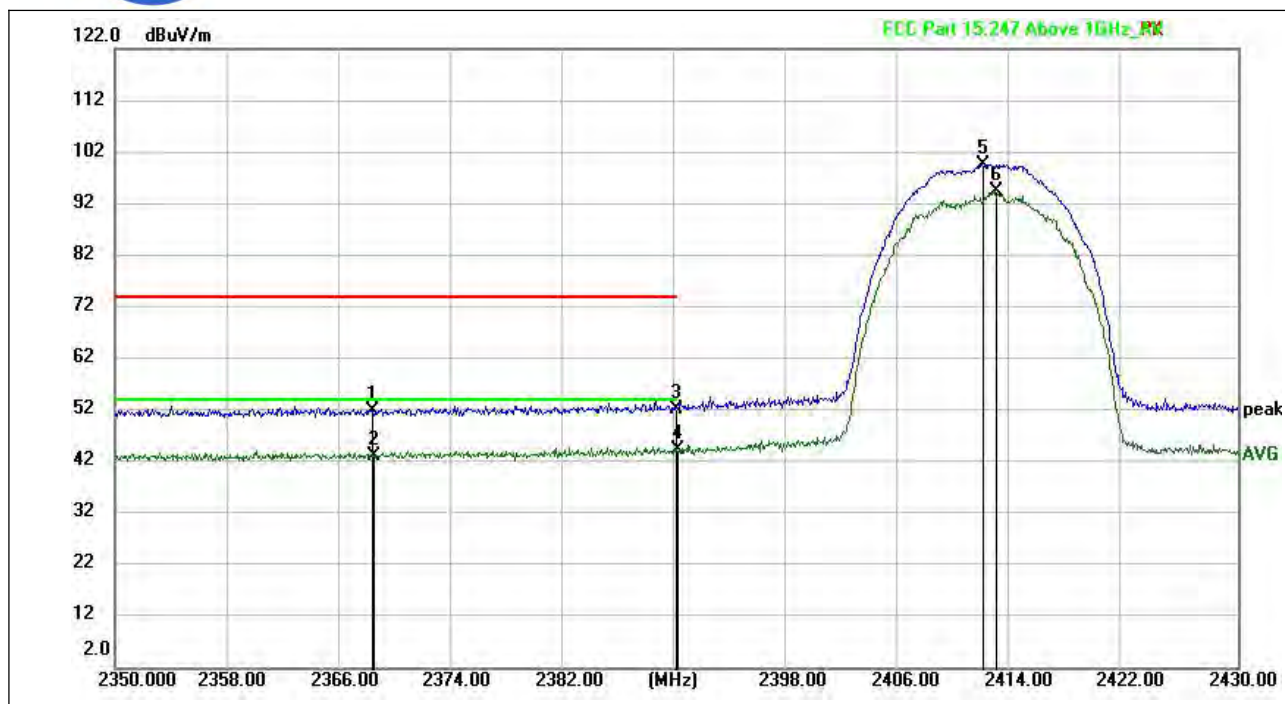
2.6.3. Test Result

802.11b Test mode



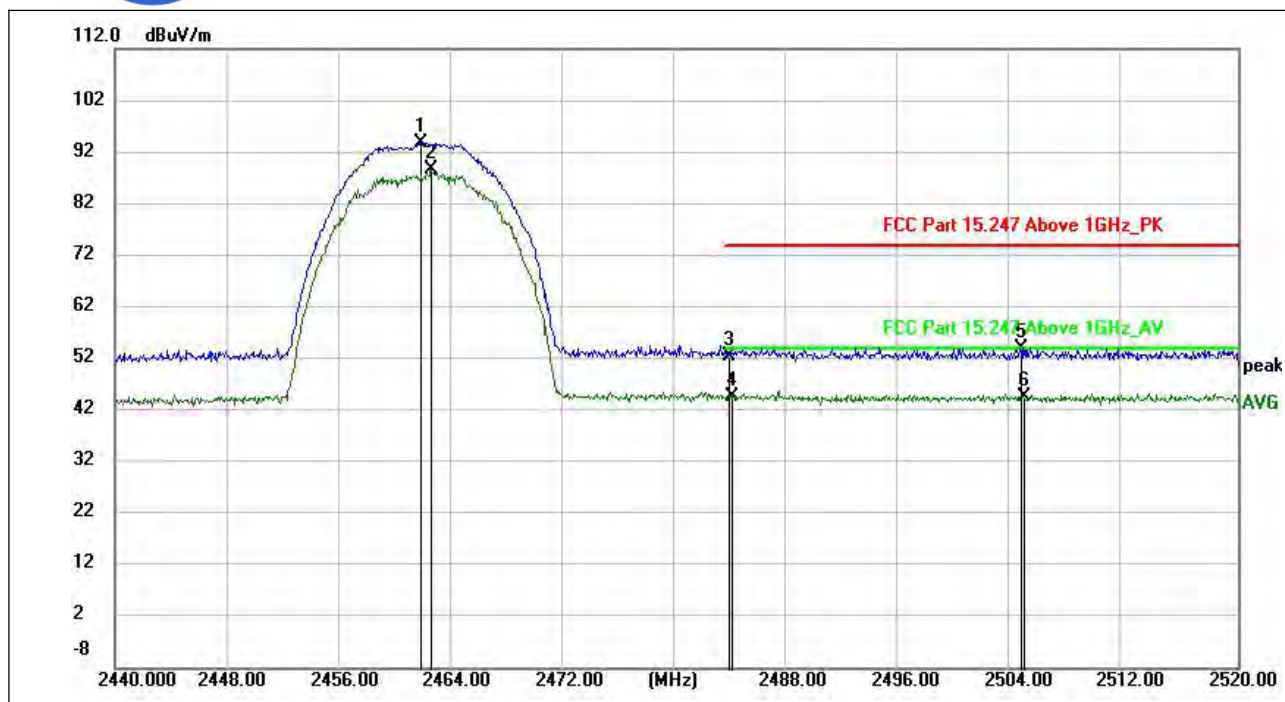
(802.11b _2412MHz, Antenna Horizontal)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
2370.136	10.80	40.15	50.95	74.00	-23.05	peak	H
2370.136	2.78	40.15	42.93	54.00	-11.07	AVG	H
2389.436	3.83	40.92	44.75	54.00	-9.25	AVG	H
2389.508	12.17	40.92	53.09	74.00	-20.91	peak	H
2412.000	53.85	41.12	94.97	NA	NA	peak	H
2412.000	49.03	41.11	90.14	NA	NA	AVG	H



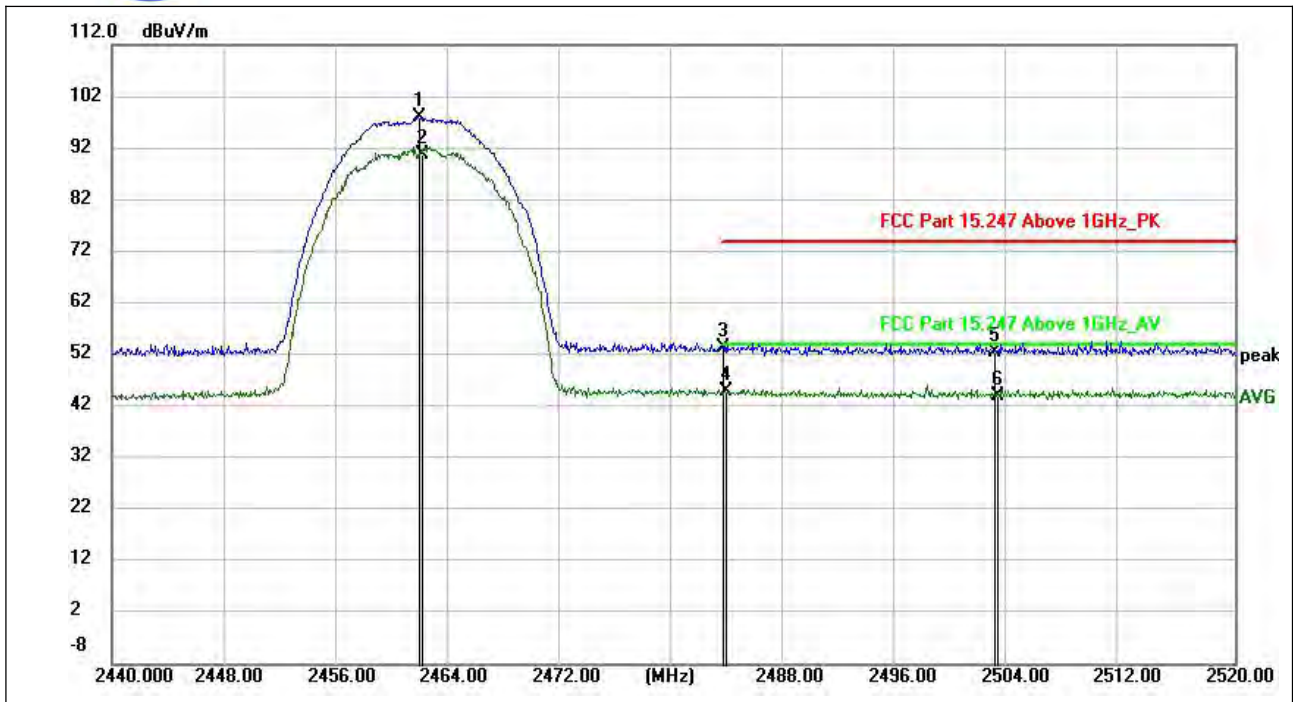
(802.11b _2412MHz, Antenna Vertical)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
2368.288	11.82	40.13	51.95	74.00	-22.05	peak	V
2368.416	3.10	40.13	43.23	54.00	-10.77	AVG	V
2389.932	11.30	40.95	52.25	74.00	-21.75	peak	V
2389.932	3.41	40.96	44.37	54.00	-9.63	AVG	V
2411.820	58.52	41.14	99.66	NA	NA	peak	V
2412.768	53.33	41.09	94.42	NA	NA	AVG	V



(802.11b _2462MHz, Antenna Horizontal)

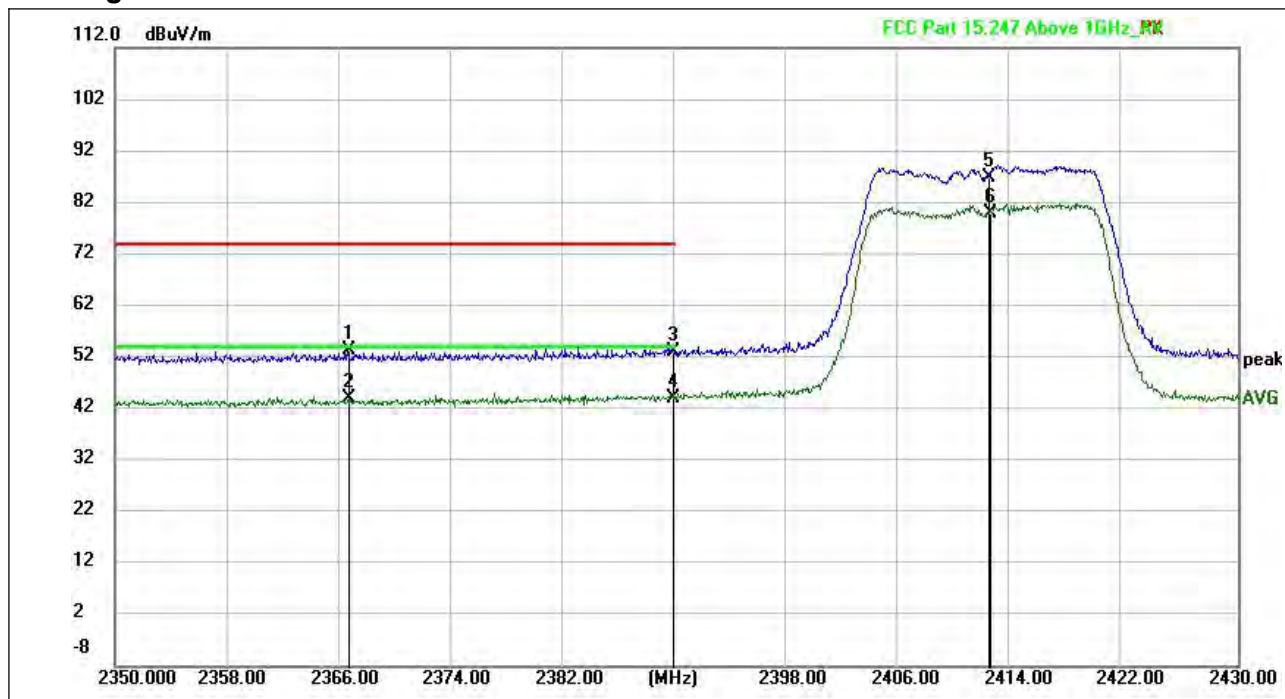
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
2461.756	52.38	41.48	93.86	NA	NA	peak	H
2462.500	47.23	41.51	88.74	NA	NA	AVG	H
2483.736	10.80	41.76	52.56	74.00	-21.44	peak	H
2483.924	2.90	41.75	44.65	54.00	-9.35	AVG	H
2504.556	12.46	41.49	53.95	74.00	-20.05	peak	H
2504.724	3.13	41.49	44.62	54.00	-9.38	AVG	H



(802.11b_2462MHz, Antenna Vertical)

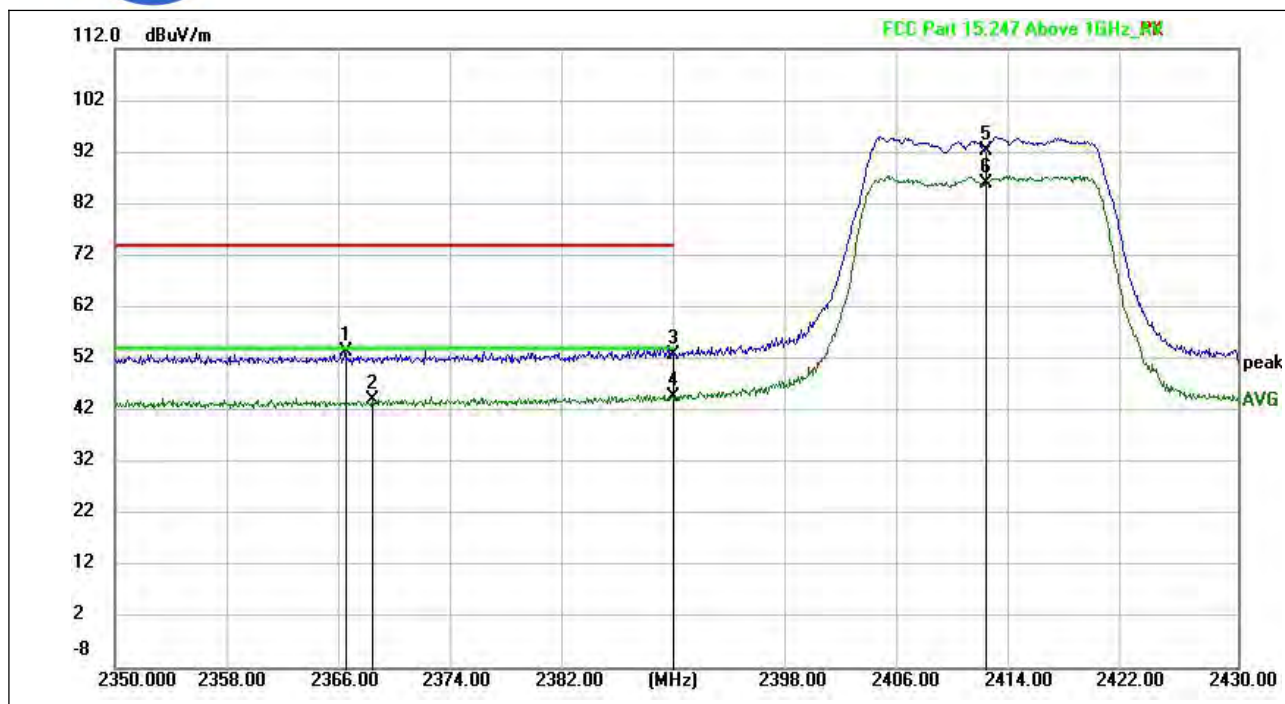
Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Det.	Pol
2461.880	56.49	41.48	97.97	NA	NA	peak	V
2462.028	49.21	41.49	90.70	NA	NA	AVG	V
2483.552	11.57	41.76	53.33	74.00	-20.67	peak	V
2483.752	3.06	41.76	44.82	54.00	-9.18	AVG	V
2502.844	11.05	41.49	52.54	74.00	-21.46	peak	V
2503.076	2.46	41.49	43.95	54.00	-10.05	AVG	V

802.11g Test mode



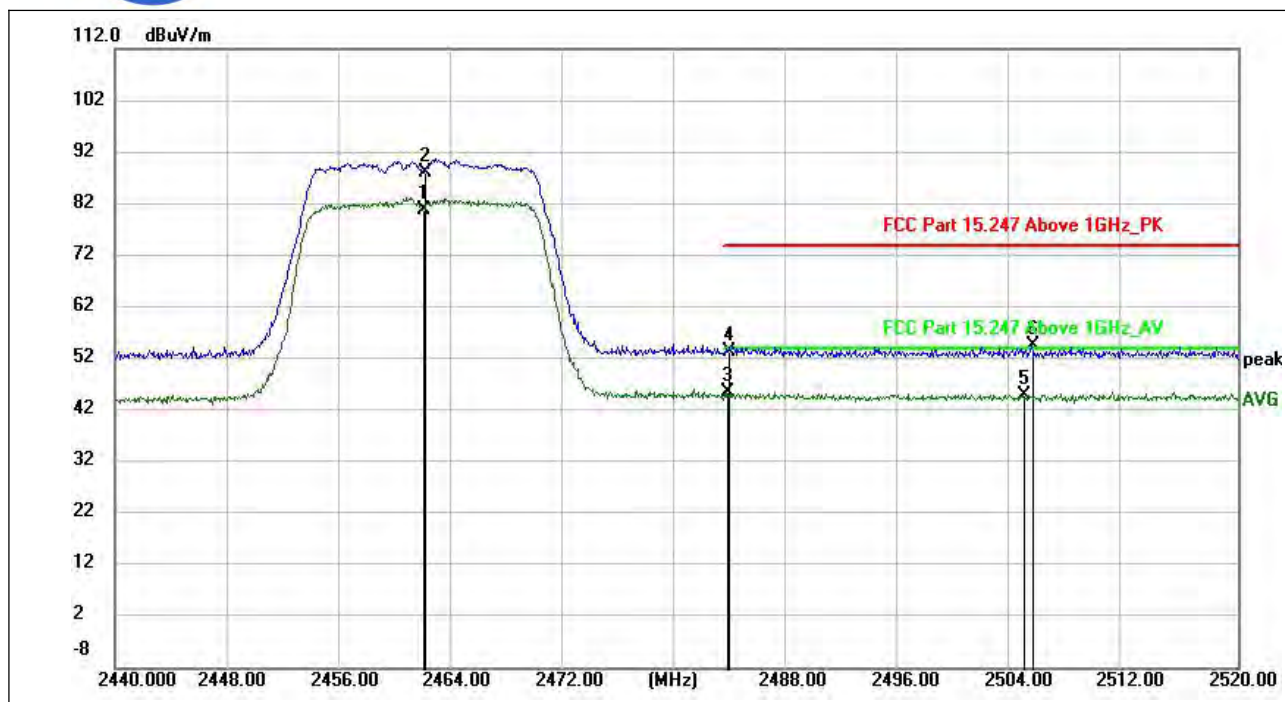
(802.11g _2412MHz, Antenna Horizontal)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
2366.628	13.25	40.11	53.36	74.00	-20.64	peak	H
2366.696	3.82	40.11	43.93	54.00	-10.07	AVG	H
2389.724	12.04	40.94	52.98	74.00	-21.02	peak	H
2389.832	3.20	40.95	44.15	54.00	-9.85	AVG	H
2412.168	45.61	41.12	86.73	NA	NA	peak	H
2412.360	38.82	41.11	79.93	NA	NA	AVG	H



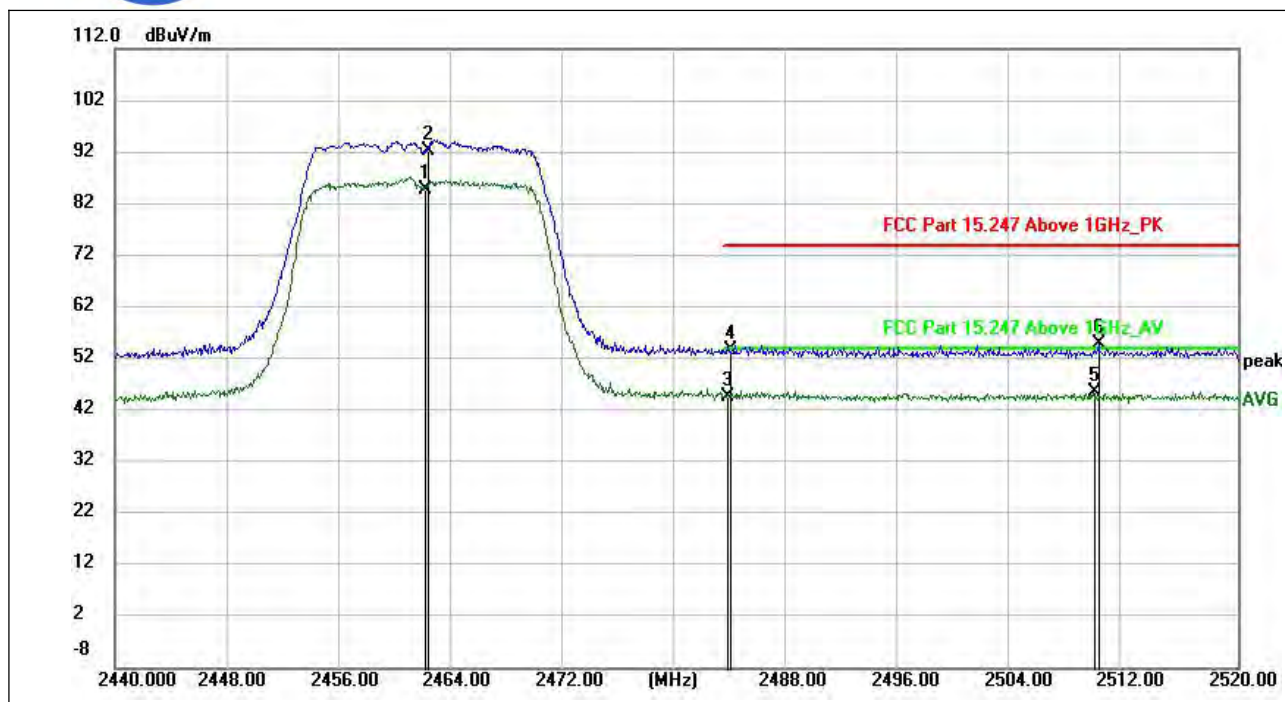
(802.11g _2412MHz, Antenna Vertical)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
2366.444	13.20	40.11	53.31	74.00	-20.69	peak	V
2368.380	3.98	40.13	44.11	54.00	-9.89	AVG	V
2389.756	11.71	40.94	52.65	74.00	-21.35	peak	V
2389.756	3.75	40.94	44.69	54.00	-9.31	AVG	V
2412.004	51.23	41.13	92.36	NA	NA	peak	V
2412.004	44.73	41.13	85.86	NA	NA	AVG	V



(802.11g _2462MHz, Antenna Horizontal)

Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Det.	Pol
2461.992	39.25	41.49	80.74	NA	NA	AVG	H
2462.100	46.63	41.49	88.12	NA	NA	peak	H
2483.608	3.63	41.77	45.40	54.00	-8.60	AVG	H
2483.756	11.51	41.76	53.27	74.00	-20.73	peak	H
2504.736	3.57	41.49	45.06	54.00	-8.94	AVG	H
2505.348	12.92	41.50	54.42	74.00	-19.58	peak	H

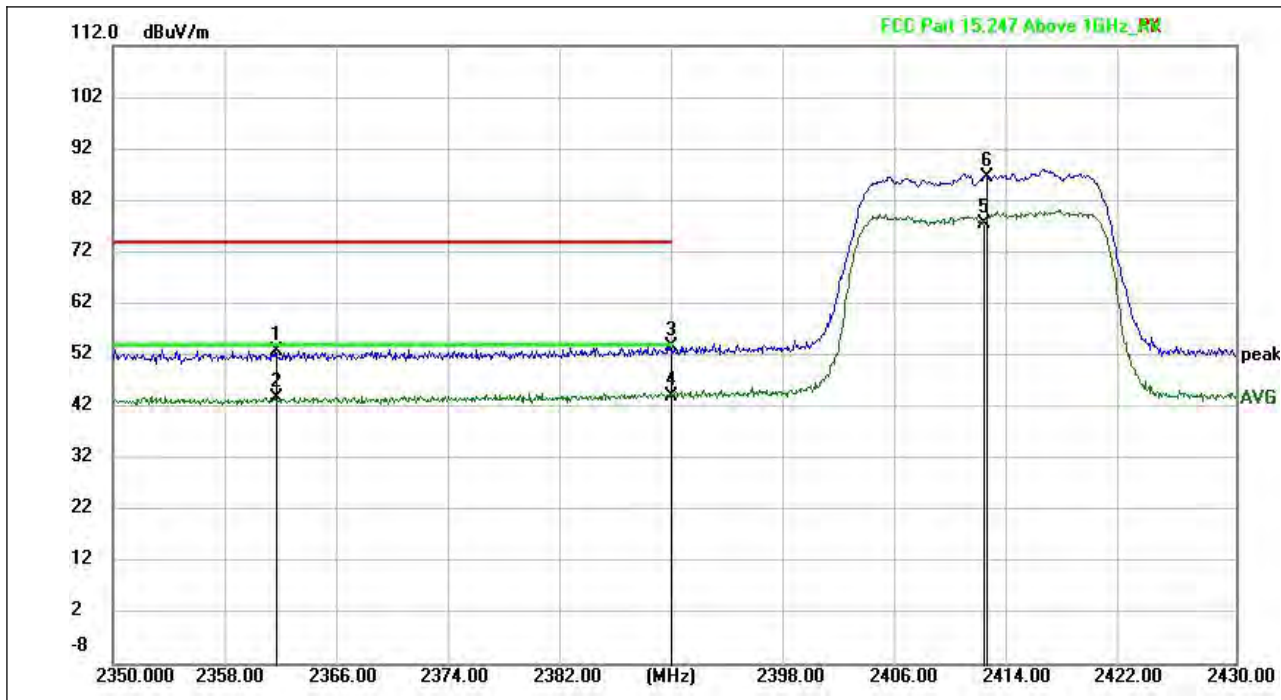


(802.11g _2462MHz, Antenna Vertical)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
2462.068	43.23	41.49	84.72	NA	NA	AVG	V
2462.288	50.67	41.51	92.18	NA	NA	peak	V
2483.620	2.88	41.77	44.65	54.00	-9.35	AVG	V
2483.844	11.76	41.76	53.52	74.00	-20.48	peak	V
2509.772	4.09	41.51	45.60	54.00	-8.40	AVG	V
2510.148	13.24	41.51	54.75	74.00	-19.25	peak	V

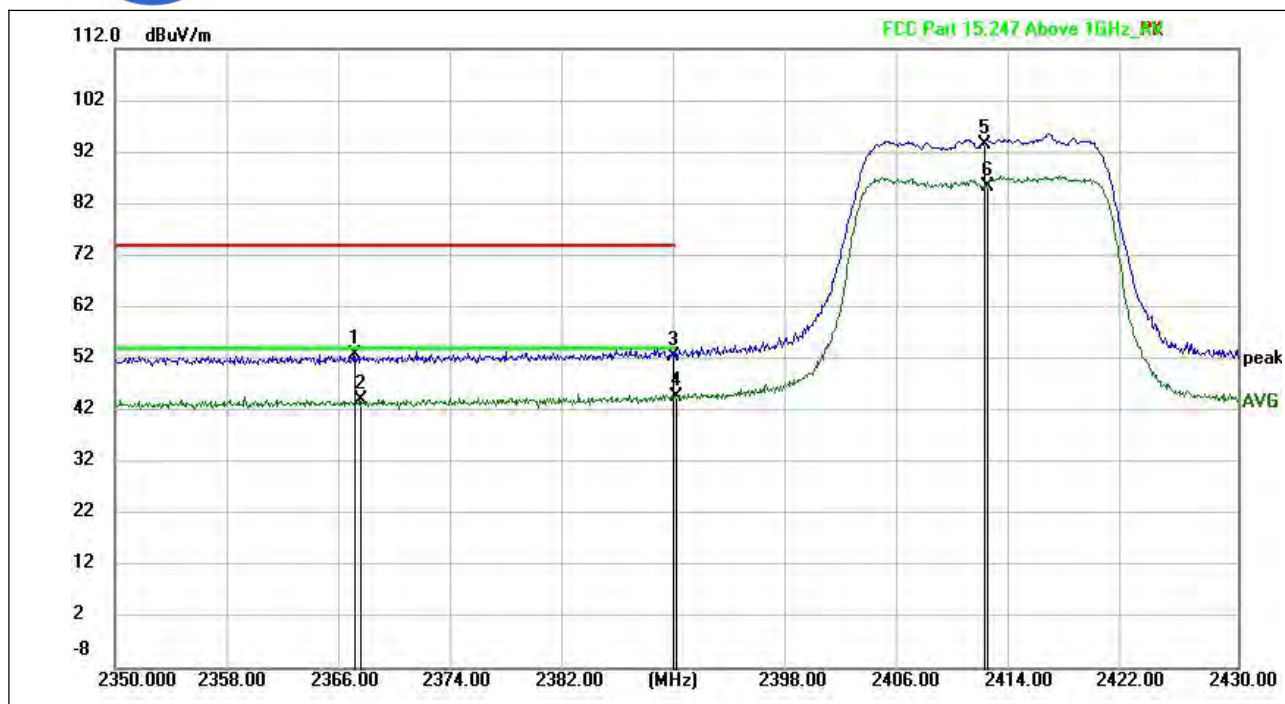


802.11n-20MHz Test mode



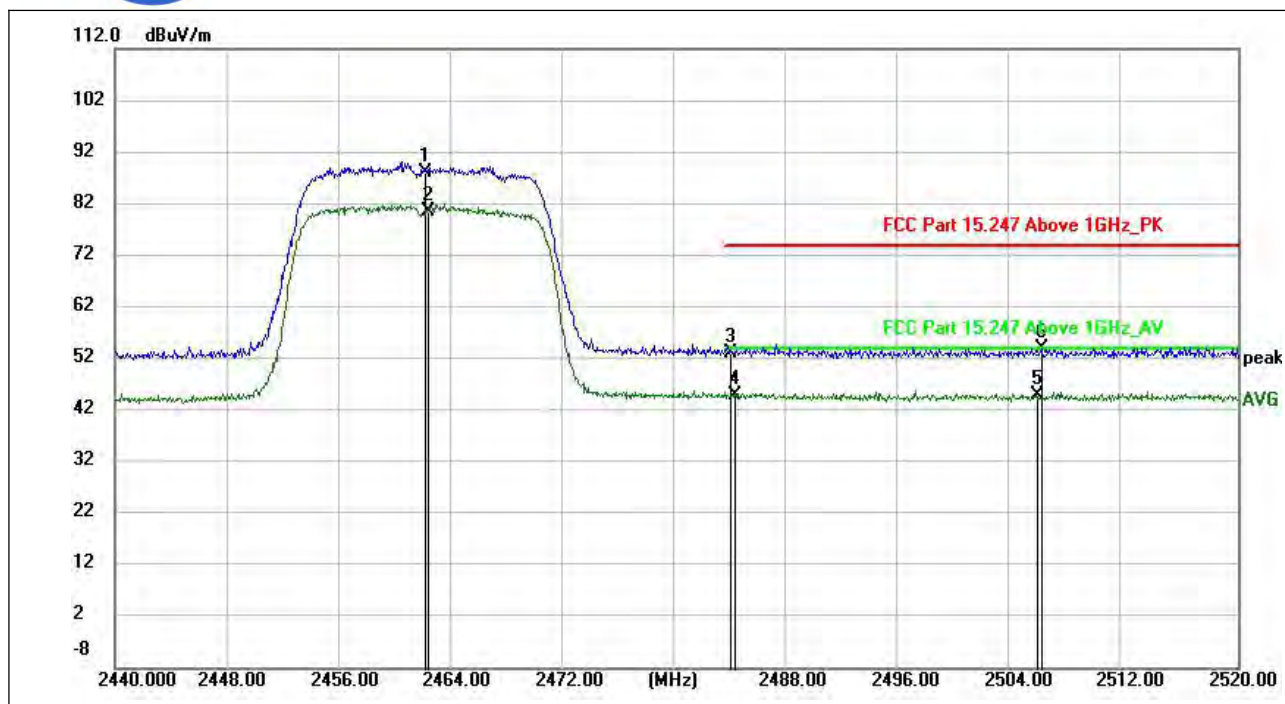
(802.11n_20M_2412MHz, Antenna Horizontal)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
2361.628	12.80	40.06	52.86	74.00	-21.14	peak	H
2361.628	3.69	40.06	43.75	54.00	-10.25	AVG	H
2389.796	12.72	40.94	53.66	74.00	-20.34	peak	H
2389.796	3.10	40.94	44.04	54.00	-9.96	AVG	H
2412.032	36.39	41.13	77.52	NA	NA	AVG	H
2412.180	45.48	41.12	86.60	NA	NA	peak	H



(802.11n_20M_2412MHz, Antenna Vertical)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
2367.108	12.62	40.11	52.73	74.00	-21.27	peak	V
2367.496	3.95	40.11	44.06	54.00	-9.94	AVG	V
2389.840	11.56	40.95	52.51	74.00	-21.49	peak	V
2389.980	3.60	40.96	44.56	54.00	-9.44	AVG	V
2411.912	52.33	41.13	93.46	NA	NA	peak	V
2412.132	44.20	41.12	85.32	NA	NA	AVG	V



(802.11n_20M_2462MHz, Antenna Horizontal)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
2462.016	46.40	41.49	87.89	NA	NA	peak	H
2462.308	38.93	41.51	80.44	NA	NA	AVG	H
2483.784	11.35	41.76	53.11	74.00	-20.89	peak	H
2484.092	3.14	41.75	44.89	54.00	-9.11	AVG	H
2505.684	3.28	41.50	44.78	54.00	-9.22	AVG	H
2506.032	12.47	41.50	53.97	74.00	-20.03	peak	H