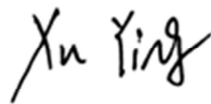


RF TEST REPORT

Applicant Clourney Semiconductor Corp.
FCC ID 2BTZL-CS8862A
Product Access Point
Brand Clourney Semiconductor
Model CS8862A
Report No. EFTA25110280-IE-02-R1
Issue Date February 27, 2026

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15C (2025)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.



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Approved by: Xu Kai

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Summary of Measurement Results

Number	Test Case	Clause in FCC rules	Verdict
1	Maximum output power	15.247(b)(3)	PASS
2	99% Bandwidth and 6dB Bandwidth	15.247(a)(2) C63.10 6.9	PASS
3	Power spectral density	15.247(e)	PASS
4	Band Edge	15.247(d)	PASS
5	Spurious RF Conducted Emissions	15.247(d)	PASS
6	Unwanted Emissions	15.247(d), 15.205, 15.209	PASS
7	Conducted Emissions	15.207	PASS
Date of Testing: December 3, 2025 ~ January 10, 2026			
Date of Sample Received: November 20, 2025			
Note: All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

1. Test Laboratory

1.1. Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **Eurofins TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2. Test Facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3. Testing Location

Company: Eurofins TA Technology (Shanghai) Co., Ltd.
Address: Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
City: Shanghai
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E-mail: Kain.Xu@cpt.eurofinscn.com

2. General Description of Equipment Under Test

2.1. Applicant and Manufacturer Information

Applicant	Clourney Semiconductor Corp.
Applicant address	19 Bailongjiang East Street, Jianye District Nanjing JiangSu China
Manufacturer	Clourney Semiconductor Corp.
Manufacturer address	19 Bailongjiang East Street, Jianye District Nanjing JiangSu China

2.2. General Information

EUT Description	
Model	CS8862A
Lab internal SN	251120-19-002
Hardware Version	D2K_RDK_V24
Software Version	openwrt-clsemi-cs8862a-cs8862a-rdk-squashfs-sysupgrade-V6.0 .1.67
Power Supply	AC adapter
Antenna Type	External Antenna
Antenna Connector	SMA Male antenna (meet with the standard FCC Part 15.203 requirement)
Antenna Gain	Antenna 1: 4.30 dBi Antenna 2: 4.30 dBi
Additional Beamforming Gain	NA
Direction Gain	Power: 4.30 dBi PSD: 7.31dBi
Operating Frequency Range(s)	802.11b/g/n(HT20)/ax(HE20): 2412 ~ 2462 MHz 802.11n(HT40)/ax(HE40): 2422 ~ 2452 MHz
Modulation Type	802.11b: DSSS 802.11g/n: OFDM 802.11ax SU: OFDMA
Max. Output Power	Wi-Fi 2.4GHz: 17.82 dBm
Operating voltage range	10 Vdc to 14 Vdc
State voltage	12 Vdc
Note: 1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant.	

3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards:

FCC CFR47 Part 15C (2025) Radio Frequency Devices

ANSI C63.10-2020

Reference standard:

KDB 558074 D01 15.247 Meas Guidance v05r02

KDB 662911 D01 Multiple Transmitter Output v02r01

4. Test Configuration

Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all the configuration for confirming worst case. Data rate below means worst-case rate of each test item.

The test software is used CLS_Cal_Tool_2.7.1 S6.

Worst-case data rates are shown as following table.

Test Mode	Data Rate		
	Antenna 1	Antenna 2	MIMO
802.11b	1 Mbps	1 Mbps	1 Mbps
802.11g	6 Mbps	6 Mbps	6 Mbps
802.11n HT20	MCS0	MCS0	MCS8
802.11n HT40	MCS0	MCS0	MCS8
802.11ax HE20	MCS0	MCS0	MCS0
802.11ax HE40	MCS0	MCS0	MCS0

The worst case Antenna mode for each of the following tests for Wi-Fi:

Test Cases	Antenna 1	Antenna 2	MIMO
Maximum output power	O	O	O
6dB Bandwidth	--	O	--
Band Edge	--	O	--
Power Spectral Density	O	O	O
Spurious RF Conducted Emissions	--	O	--
Unwanted Emissions	--	--	O
Conducted Emission	--	--	O
Note: "O": test all bands			

5. Test Case

5.1. Maximum output power

Ambient Condition

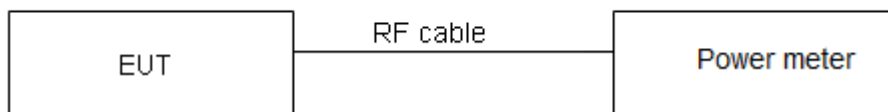
Temperature	Relative humidity
25°C	57%

Methods of Measurement

During the process of the testing, The EUT was connected to Power meter with a known loss. The EUT is max power transmission with proper modulation.

The conducted Power is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

Test Setup



Limits

Rule Part 15.247 (b) (3) specifies that " For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz: 1 Watt."

Average Output Power	$\leq 1W$ (30dBm)
----------------------	-------------------

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.44$ dB.

5.2. 99% Bandwidth and 6dB Bandwidth

Ambient Condition

Temperature	Relative humidity
25°C	57%

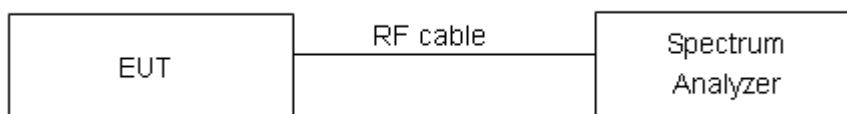
Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator and a known loss cable. RBW is set to 100 kHz; VBW is set to 300 kHz on spectrum analyzer.

Dector=Peak, Trace mode=max hold.

The EUT was connected to the spectrum analyzer through a known loss cable. The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value.

Test Setup



Limits

Rule Part 15.247 (a) (2) specifies that “Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.”

minimum 6 dB bandwidth	≥ 500 kHz
------------------------	-----------

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 936$ Hz.

5.3. Band Edge

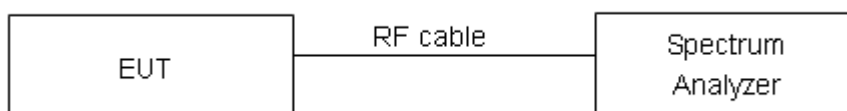
Ambient Condition

Temperature	Relative humidity
25°C	57%

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator and a known loss cable the band edge of the lowest and highest channels were measured. The peak detector is used and RBW is set to 100 kHz and VBW is set to 300 kHz on spectrum analyzer. Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

Rule Part 15.247(d) specifies that “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.” If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.”

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
2GHz-3GHz	1.407 dB

5.4. Power Spectral Density

Ambient Condition

Temperature	Relative humidity
25°C	57%

Method of Measurement

During the process of the testing, The EUT was connected to Spectrum Analyzer with a known loss. The EUT is max power transmission with proper modulation.

Method AVGPSD-1 was used for this test.

- Set instrument center frequency to DTS channel center frequency
- Set span to at least 1.5 times the OBW
- Set RBW to: $3\text{kHz} \leq \text{RBW} \leq 100\text{kHz}$
- Set VBW $\geq [3 \times \text{RBW}]$
- Detector=power averaging (rms) or sample detector (when rms not available)
- Ensure that the number of measurement points in the sweep $\geq [2 \times \text{span}/\text{RBW}]$
- Sweep time auto couple
- Employ trace averaging (rms) mode over a minimum of 100 traces
- Use the peak marker function to determine the maximum amplitude level.
- If the measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced)

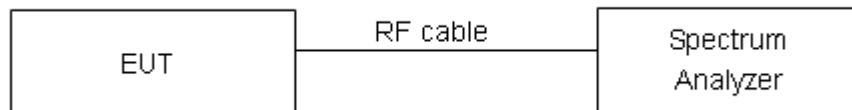
Method AVGPSD-2 was used for this test.

- Measure the duty cycle (D) of the transmitter output signal as described in 11.6
- Set instrument center frequency to DTS channel center frequency
- Set span to at least 1.5 times the OBW
- Set RBW to: $3\text{kHz} \leq \text{RBW} \leq 100\text{kHz}$
- Set VBW $\geq [3 \times \text{RBW}]$
- Detector= power averaging (rms) or sample detector (when rms not available)
- Ensure that the number of measurement points in the sweep $\geq [2 \times \text{span}/\text{RBW}]$
- Sweep time =auto couple
- Do not use sweep triggering; allow sweep to "free run"
- Employ trace averaging (rms) mode over a minimum of 100 traces
- Use the peak marker function to determine the maximum amplitude level

l) Add $[10 \log(1/D)]$, where D is the duty cycle measured in step a), to the measured PSD to compute the average PSD during the actual transmission time

m) If measured value exceeds requirement specified by regulatory agency then reduce RBW (but no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced)

Test setup



Limits

Rule Part 15.247(e) specifies that "For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. "

Limits	$\leq 8 \text{ dBm} / 3\text{kHz}$
--------	------------------------------------

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.75\text{dB}$.

5.5. Spurious RF Conducted Emissions

Ambient Condition

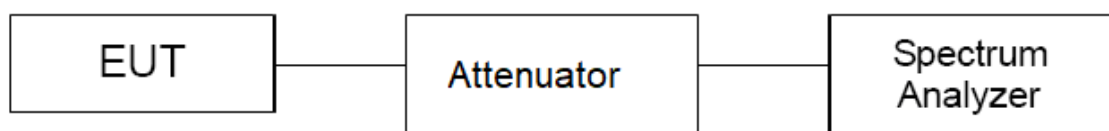
Temperature	Relative humidity
25°C	57%

Method of Measurement

The EUT was connected to the spectrum analyzer with a known loss. The spectrum analyzer scans from 30MHz to the 10th harmonic of the carrier. The peak detector is used. Set RBW to 100 kHz and VBW to 300 kHz, Sweep is set to AUTO.

The test is in transmitting mode.

Test Setup



Limits

Rule Part 15.247(d) specifies that "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. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB."

SISO

Antenna 1

Test Mode	Carrier frequency (MHz)	Reference value (dBm)	Limit
802.11b	2412	7.90	-22.10
	2437	8.15	-21.85
	2462	7.56	-22.44
802.11g	2412	4.12	-25.88
	2437	3.59	-26.41
	2462	4.17	-25.83
802.11n	2412	3.01	-26.99

HT20	2437	3.16	-26.84
	2462	2.93	-27.07
802.11n HT40	2422	0.42	-29.58
	2437	0.32	-29.68
	2452	0.54	-29.46
802.11ax HE20	2412	3.33	-26.67
	2437	2.39	-27.61
	2462	3.04	-26.96
802.11ax HE40	2422	-0.05	-30.05
	2437	0.27	-29.73
	2452	-0.29	-30.29

Antenna 2

Test Mode	Carrier frequency (MHz)	Reference value (dBm)	Limit
802.11b	2412	7.66	-22.34
	2437	6.76	-23.24
	2462	7.21	-22.79
802.11g	2412	2.47	-27.53
	2437	4.11	-25.89
	2462	4.95	-25.05
802.11n HT20	2412	4.88	-25.12
	2437	3.93	-26.07
	2462	4.81	-25.19
802.11n HT40	2422	1.35	-28.65
	2437	1.85	-28.15
	2452	1.99	-28.01
802.11ax HE20	2412	4.03	-25.97
	2437	4.23	-25.77
	2462	4.55	-25.45
802.11ax HE40	2422	1.11	-28.89
	2437	1.65	-28.35
	2452	1.40	-28.60

MIMO

Test Mode	Carrier frequency (MHz)	Reference value (dBm)	Limit
802.11b	2412	5.47	-24.53
	2437	5.06	-24.94
	2462	5.15	-24.85

802.11g	2412	2.55	-27.45
	2437	2.93	-27.07
	2462	1.16	-28.84
802.11n HT20	2412	2.41	-27.59
	2437	2.76	-27.24
	2462	3.01	-26.99
802.11n HT40	2422	-0.13	-30.13
	2437	-0.10	-30.10
	2452	0.22	-29.78
802.11ax HE20	2412	1.82	-28.18
	2437	2.42	-27.58
	2462	2.54	-27.46
802.11ax HE40	2422	-1.49	-31.49
	2437	-0.82	-30.82
	2452	-0.40	-30.40

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-26GHz	1.407 dB

5.6. Unwanted Emission

Ambient Condition

Temperature	Relative humidity
25°C	57%

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.10.

The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m/10m below 1GHz, 3m above 1GHz between the EUT and the receiving antenna.

The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. Sweep the Restricted Band and the emissions less than 20 dB below the permissible value are reported.

The radiated emissions measurements were made in a typical installation configuration.

Sweep the whole frequency band through the range from 9 kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

This method refer to ANSI C63.10.

The procedure for peak unwanted emissions measurements above 1000 MHz is as follows:

Set the spectrum analyzer in the following:

9kHz~150 kHz

RBW=200Hz, VBW=1kHz/ Sweep=AUTO

150 kHz~30MHz

RBW=9kHz, VBW=30kHz,/ Sweep=AUTO

Below 1GHz

RBW=100kHz / VBW=300kHz / Sweep=AUTO

a) Peak emission levels are measured by setting the instrument as follows:

Above 1GHz

PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO

b) Average emission levels are measured by setting the instrument as follows:

Above 1GHz

AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

c) Detector: The measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage

averaging. Log or dB averaging shall not be used.)

e) Sweep time = auto.

f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of $1 / D$, where D is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)

g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:

1) If power averaging (rms) mode was used in the preceding step e), then the correction factor is $[10 \log (1 / D)]$, where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.

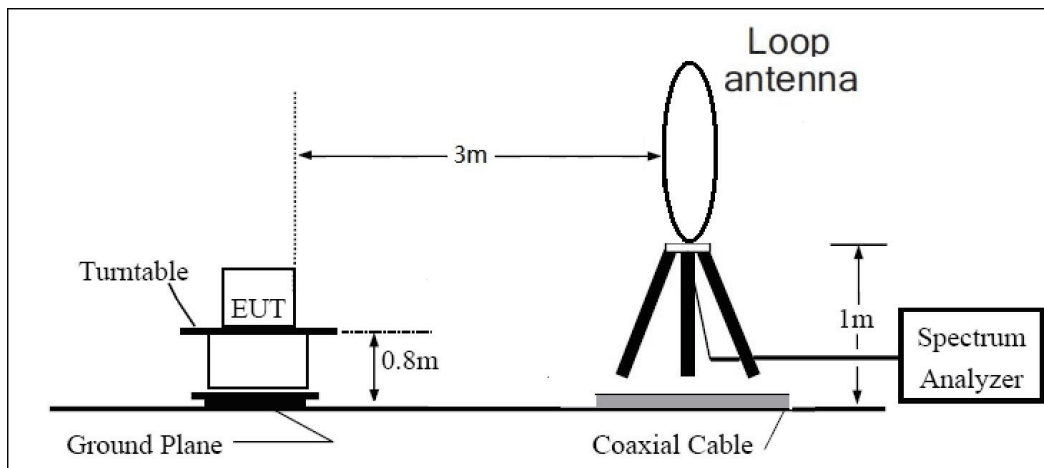
2) If linear voltage averaging mode was used in the preceding step e), then the correction factor is $[20 \log (1 / D)]$, where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB shall be added to the measured emission levels.

3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

The test is in transmitting mode.

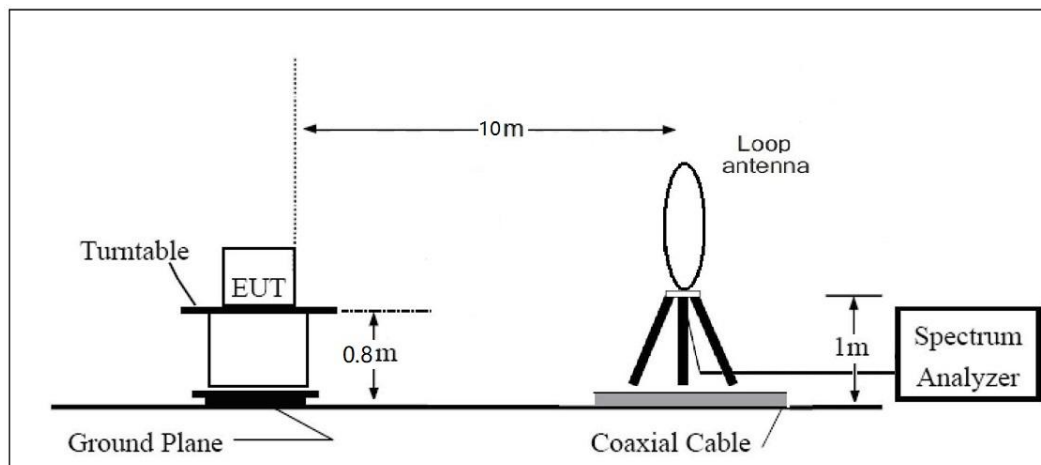
Test Setup

9kHz~ 30MHz



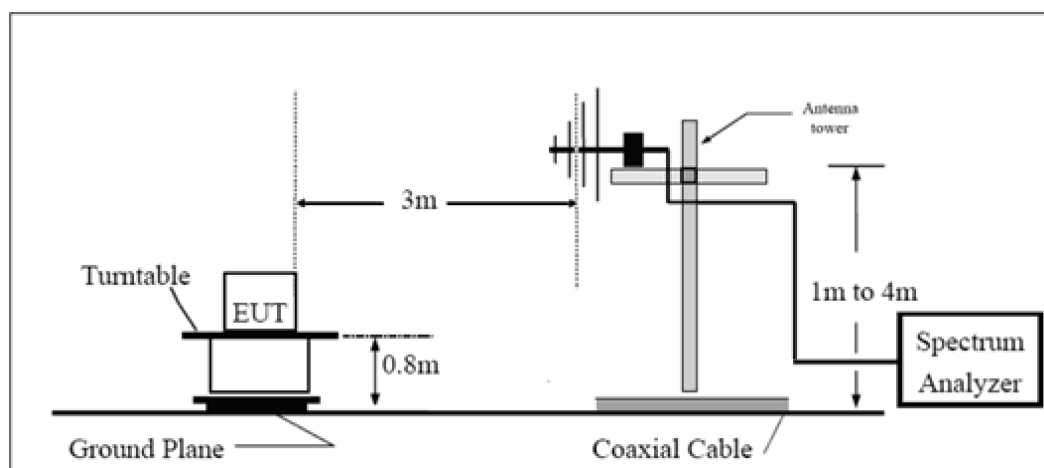
Note: Area side:2.4mX3.6m

Distance 10m



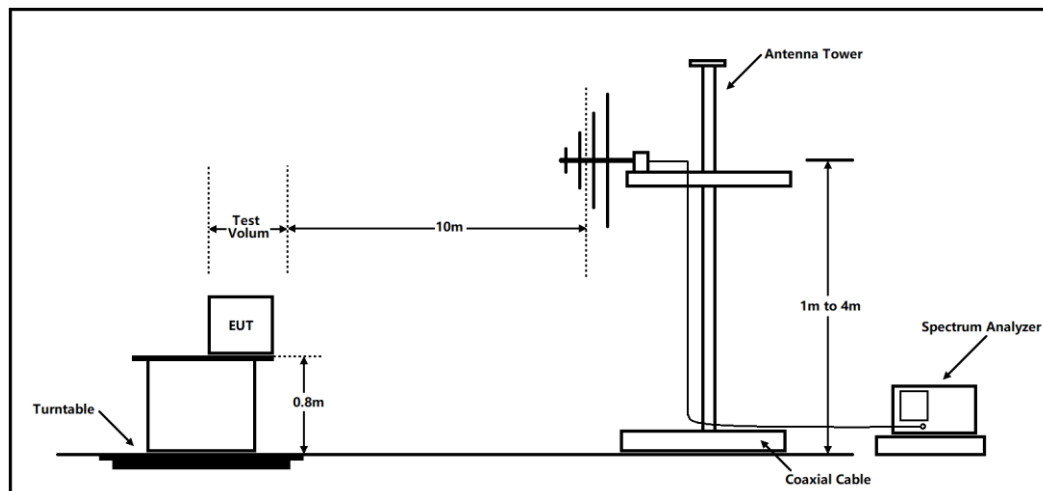
Note: Area side: 21m x 12m

30MHz~ 1GHz



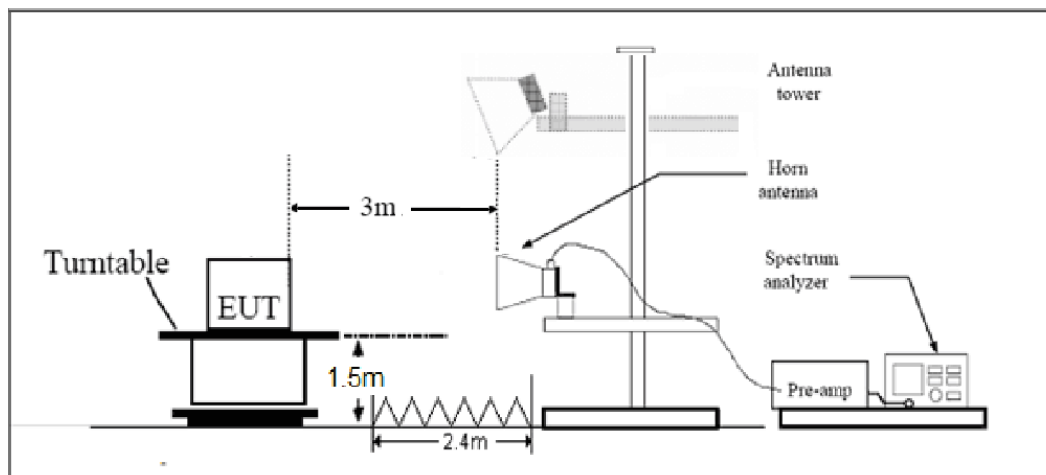
Note: Area side:2.4mX3.6m

Distance 10m



Note: Area side: 21m x 12m

Above 1GHz



Note: Area side:2.4mX3.6m

Limits

Rule Part 15.247(d) specifies that “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) (see § 15.205(c)).”

Limit in restricted band

Frequency of emission (MHz)	Field strength (μV/m)	Field strength (dBμV/m) @ 3 m	Field strength (dBμV/m) @ 10 m
0.009–0.490	2400/F(kHz)	/	/
0.490–1.705	24000/F(kHz)	/	/
1.705–30.0	30	/	/
30-88	100	40	30
88-216	150	43.5	33.5
216-960	200	46	36
960 -1000	500	54	44
Above 1000	500	54	--

§15.35(b)

There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

Peak Limit=74 dBμV/m

Average Limit=54 dBμV/m

Spurious Radiated Emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty for 3m
9kHz-30MHz	3.55 dB
30MHz-200MHz	4.17 dB
200MHz-1GHz	4.84 dB
1-18GHz	4.35 dB
18-26.5GHz	5.90 dB
26.5GHz~40GHz	5.92 dB
Frequency	Uncertainty for 10m
30MHz – 200MHz	3.39 dB
200MHz – 1GHz	3.82 dB
1GHz – 18GHz	6.51 dB
18GHz – 40GHz	6.31 dB

5.7. Conducted Emission

Ambient Condition

Temperature	Relative humidity
25°C	57%

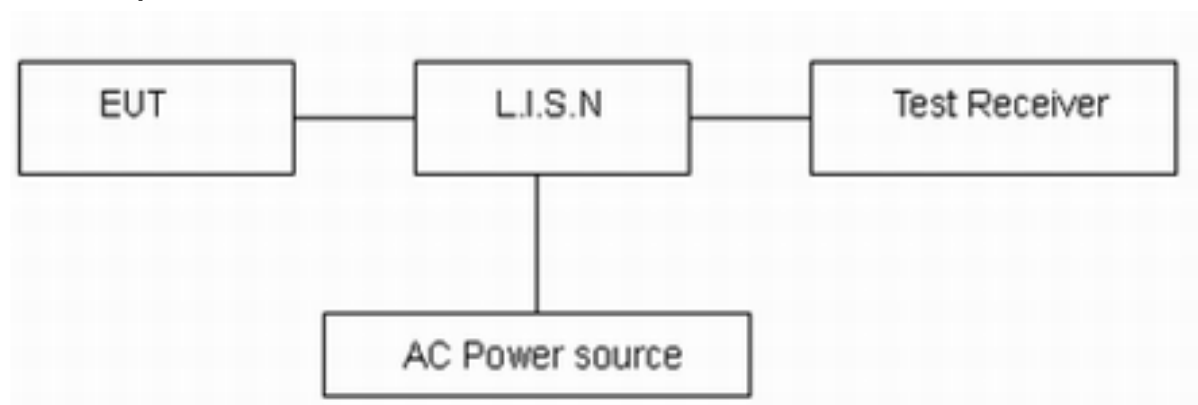
Methods of Measurement

The EUT is placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.10. Connect the AC power line of the EUT to the L.I.S.N. Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9 kHz, VBW is set to 30kHz.

The measurement result should include both L line and N line.

The test is in transmitting mode.

Test Setup



Note: AC Power source is used to change the voltage 110V/60Hz.

Limits

Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50

*: Decreases with the logarithm of the frequency.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U = 2.69$ dB.

6. Test Results

6.1. Maximum output power

SISO Antenna Power Index								
Antenna	Channel	802.11b	802.11g	802.11n HT20	802.11ax HE20	Channel	802.11n HT40	802.11ax HE40
Antenna 1	CH1	16	17	17	17	CH3	17	17
	CH6	16	17	17	17	CH6	17	17
	CH11	16	17	17	17	CH9	17	17
Antenna 2	CH1	16	17	17	17	CH3	17	17
	CH6	16	17	17	17	CH6	17	17
	CH11	16	17	17	17	CH9	17	17
MIMO Antenna Power Index								
Antenna	Channel	802.11b	802.11g	802.11n HT20	802.11ax HE20	Channel	802.11n HT40	802.11ax HE40
Antenna 1	CH1	14	15	14	13	CH3	14	13
	CH6	14	14	14	14	CH6	14	14
	CH11	14	14	14	14	CH9	14	14
Antenna 2	CH1	14	15	14	13	CH3	14	13
	CH6	14	14	14	14	CH6	14	14
	CH11	14	14	14	14	CH9	14	14

Test Mode	Duty cycle	Duty cycle correction Factor (dB)
802.11b	0.944	0.25
802.11g	0.978	0.10
802.11n HT20	0.943	0.25
802.11n HT40	0.932	0.31
802.11ax HE20	0.928	0.32
802.11ax HE40	0.916	0.38
Note: when Duty cycle ≥ 0.98 , Duty cycle correction Factor not required.		

SISO

Antenna 1

Test Mode	Carrier frequency (MHz)/ Channel	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11b	2412/CH 1	16.71	16.96	30	PASS
	2437/CH 6	17.15	17.40	30	PASS
	2462/CH11	17.28	17.53	30	PASS
802.11g	2412/CH 1	16.94	17.04	30	PASS
	2437/CH 6	16.77	16.87	30	PASS
	2462/CH11	17.03	17.13	30	PASS
802.11n HT20	2412/CH 1	16.57	16.82	30	PASS
	2437/CH 6	16.62	16.87	30	PASS
	2462/CH11	16.65	16.90	30	PASS
802.11n HT40	2422/CH3	16.50	16.81	30	PASS
	2437/CH6	16.61	16.92	30	PASS
	2452/CH9	16.70	17.01	30	PASS
802.11ax HE20	2412/CH 1	16.50	16.82	30	PASS
	2437/CH 6	16.88	17.20	30	PASS
	2462/CH11	16.63	16.95	30	PASS
802.11ax HE40	2422/CH3	16.57	16.95	30	PASS
	2437/CH6	16.58	16.96	30	PASS
	2452/CH9	16.77	17.15	30	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

Antenna 2

Test Mode	Carrier frequency (MHz)/ Channel	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11b	2412/CH 1	17.18	17.43	30	PASS
	2437/CH 6	17.16	17.41	30	PASS
	2462/CH11	17.29	17.54	30	PASS
802.11g	2412/CH 1	17.28	17.38	30	PASS
	2437/CH 6	16.86	16.96	30	PASS
	2462/CH11	16.88	16.98	30	PASS
802.11n HT20	2412/CH 1	17.06	17.31	30	PASS
	2437/CH 6	17.00	17.25	30	PASS
	2462/CH11	16.84	17.09	30	PASS
802.11n HT40	2422/CH3	17.23	17.54	30	PASS
	2437/CH6	16.99	17.30	30	PASS
	2452/CH9	17.02	17.33	30	PASS
802.11ax HE20	2412/CH 1	16.59	16.91	30	PASS
	2437/CH 6	17.24	17.56	30	PASS
	2462/CH11	17.32	17.64	30	PASS
802.11ax HE40	2422/CH3	16.60	16.98	30	PASS
	2437/CH6	16.85	17.23	30	PASS
	2452/CH9	17.10	17.48	30	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

MIMO

Test Mode	Carrier frequency (MHz) / Channel	MIMO Antenna 1		MIMO Antenna 2		Total Power (dBm)	Limit (dBm)	Conclusion
		Average Power Measured (dBm)	Average Power with duty factor (dBm)	Average Power Measured (dBm)	Average Power with duty factor (dBm)			
802.11b	2412/CH 1	14.43	14.68	13.95	14.20	17.46	30	PASS
	2437/CH 6	14.48	14.73	14.64	14.89	17.82	30	PASS
	2462/CH11	14.62	14.87	14.28	14.53	17.71	30	PASS
802.11g	2412/CH 1	13.73	13.83	14.23	14.33	17.10	30	PASS
	2437/CH 6	14.05	14.15	13.69	13.79	16.98	30	PASS
	2462/CH11	14.23	14.33	13.61	13.71	17.04	30	PASS
802.11n HT20	2412/CH 1	13.78	14.03	13.77	14.02	17.03	30	PASS
	2437/CH 6	14.07	14.32	14.18	14.43	17.38	30	PASS
	2462/CH11	13.71	13.96	14.07	14.32	17.15	30	PASS
802.11n HT40	2422/CH3	13.57	13.88	13.56	13.87	16.88	30	PASS
	2437/CH6	14.02	14.33	14.40	14.71	17.53	30	PASS
	2452/CH9	13.92	14.23	14.26	14.57	17.42	30	PASS
802.11ax HE20	2412/CH 1	13.17	13.49	13.27	13.59	16.55	30	PASS
	2437/CH 6	13.90	14.22	14.42	14.74	17.50	30	PASS
	2462/CH11	14.24	14.56	14.10	14.42	17.50	30	PASS
802.11ax HE40	2422/CH3	13.62	14.00	13.21	13.59	16.81	30	PASS
	2437/CH6	14.22	14.60	14.39	14.77	17.70	30	PASS
	2452/CH9	13.89	14.27	14.19	14.57	17.43	30	PASS

Note: 1.Average Power with duty factor = Average Power Measured +Duty cycle correction factor

2. For Total Power, according to KDB 662911 D01 Multiple Transmitter Output v02r01 1),

The Total Power = $10\log(10^{(\text{Power antenna1 in dBm}/10)} + 10^{(\text{Power antenna2 in dBm}/10)})$.

3. The transmitter output signals is CDD mode.. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f)(i):

If all antennas have the same gain, Directional gain = $G_{\text{ANT}} + \text{Array Gain}$,

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{\text{ANT}} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{\text{ANT}} \geq 5$.

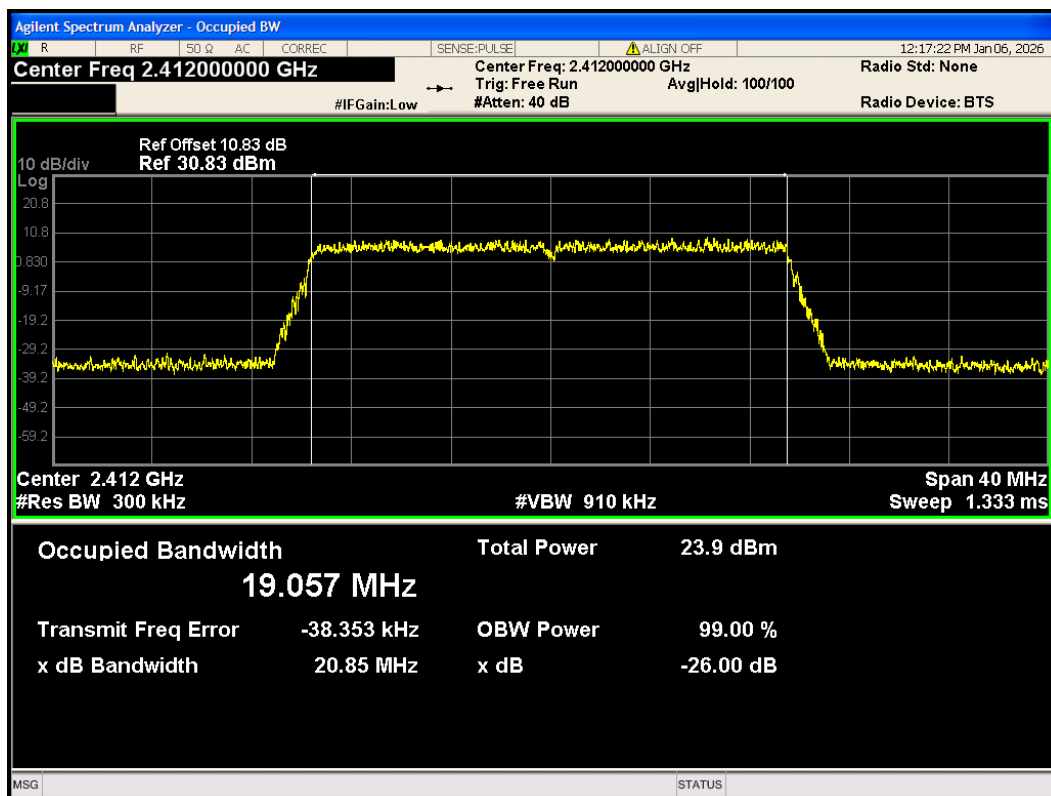
So directional gain = $G_{\text{ANT}} + \text{Array Gain} = 4.30 + 0 = 4.30 \text{ dBi} < 6 \text{ dBi}$. So the power limit is 30dBm

6.2. 99% Bandwidth and 6dB Bandwidth

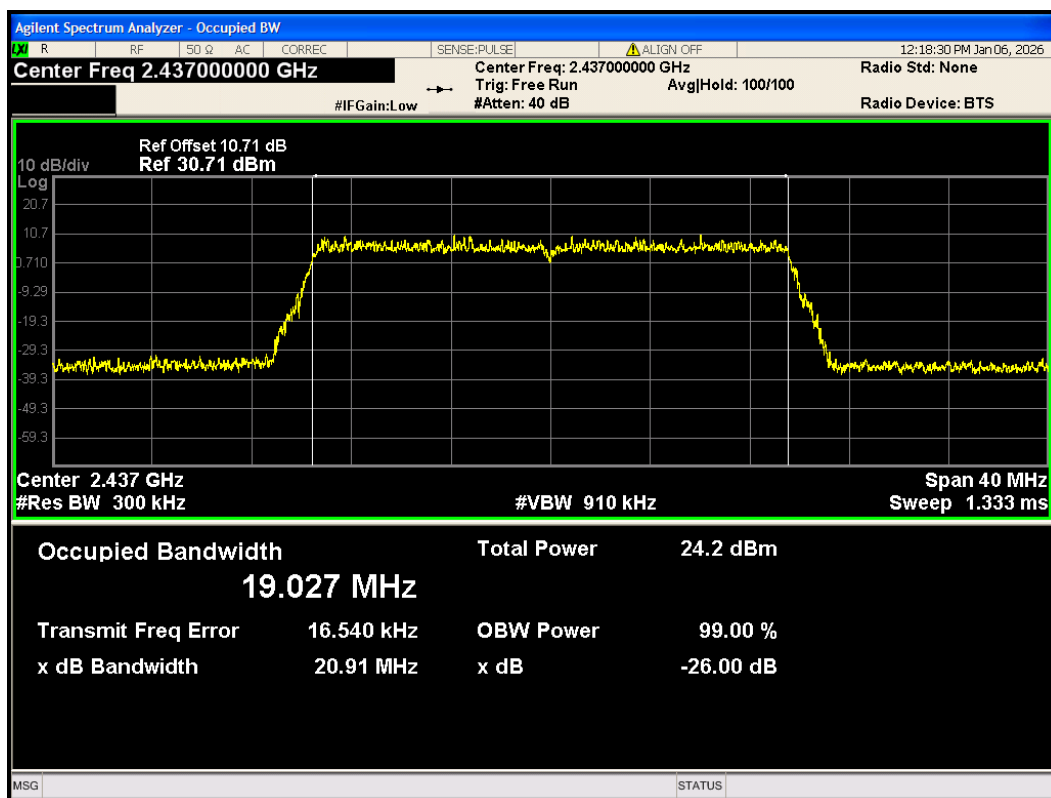
Test Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11b	2412	14.835	10.247	500	PASS
	2437	14.839	10.253	500	PASS
	2462	14.843	10.248	500	PASS
802.11g	2412	16.768	16.420	500	PASS
	2437	16.796	16.440	500	PASS
	2462	16.751	16.455	500	PASS
802.11n HT20	2412	17.982	17.725	500	PASS
	2437	17.962	17.708	500	PASS
	2462	17.975	17.640	500	PASS
802.11n HT40	2422	36.517	36.664	500	PASS
	2437	36.551	36.632	500	PASS
	2452	36.549	36.608	500	PASS
802.11ax HE20	2412	19.057	18.972	500	PASS
	2437	19.027	18.998	500	PASS
	2462	19.028	18.937	500	PASS
802.11ax HE40	2422	37.895	37.782	500	PASS
	2437	37.847	37.870	500	PASS
	2452	37.841	38.121	500	PASS

99%bandwidth

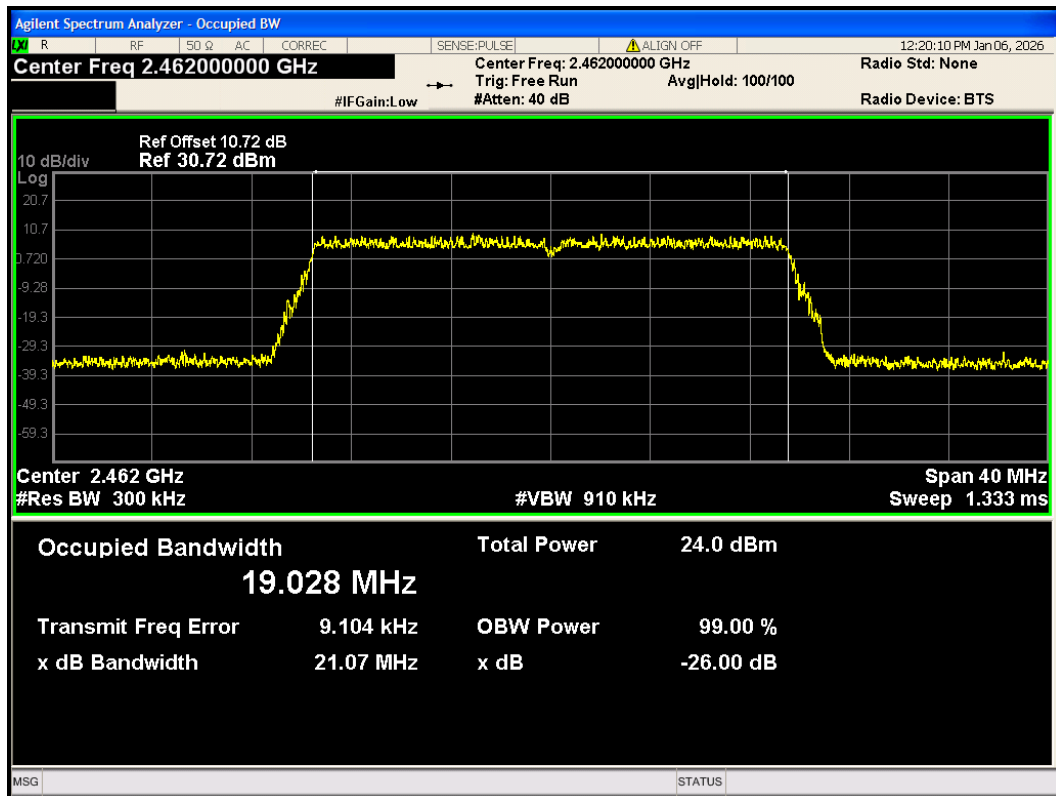
OBW 802.11ax(HE20) 2412MHz



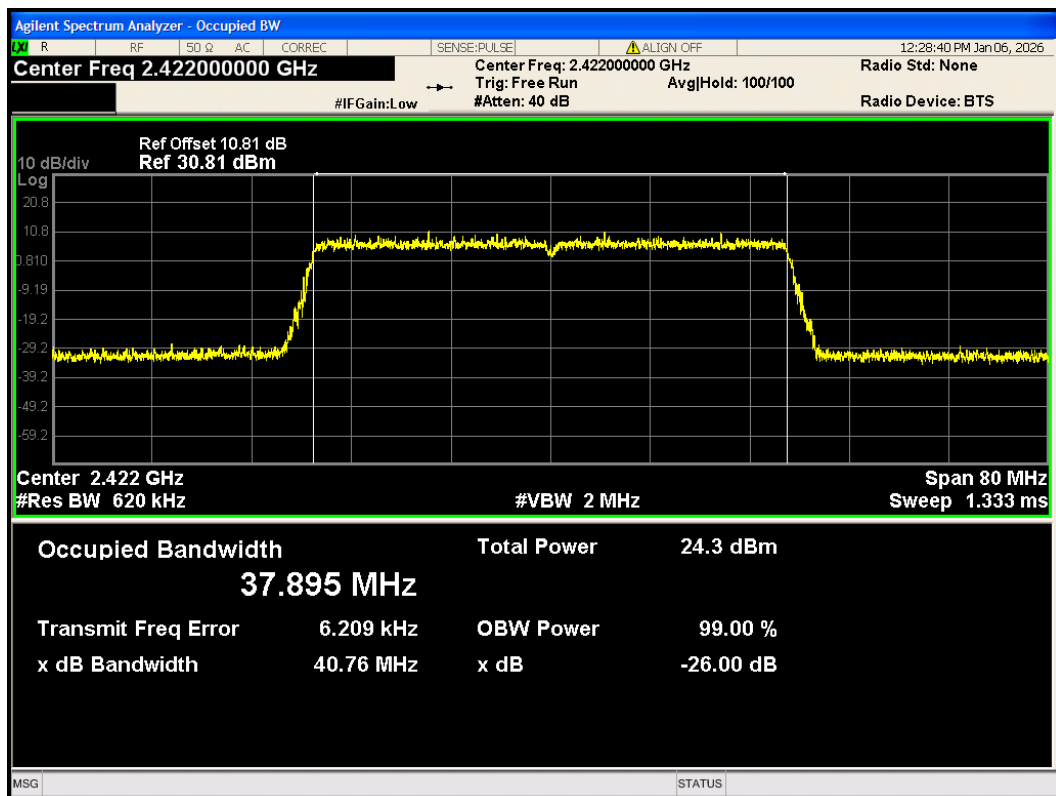
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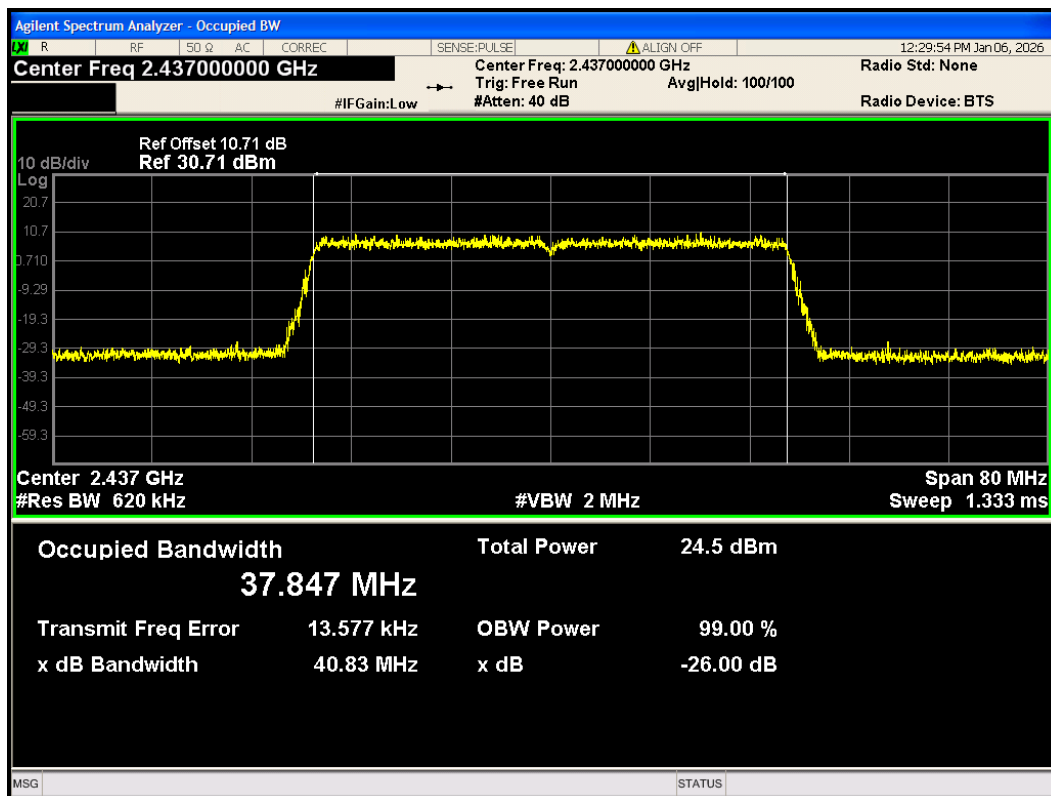
OBW 802.11ax(HE20) 2462MHz



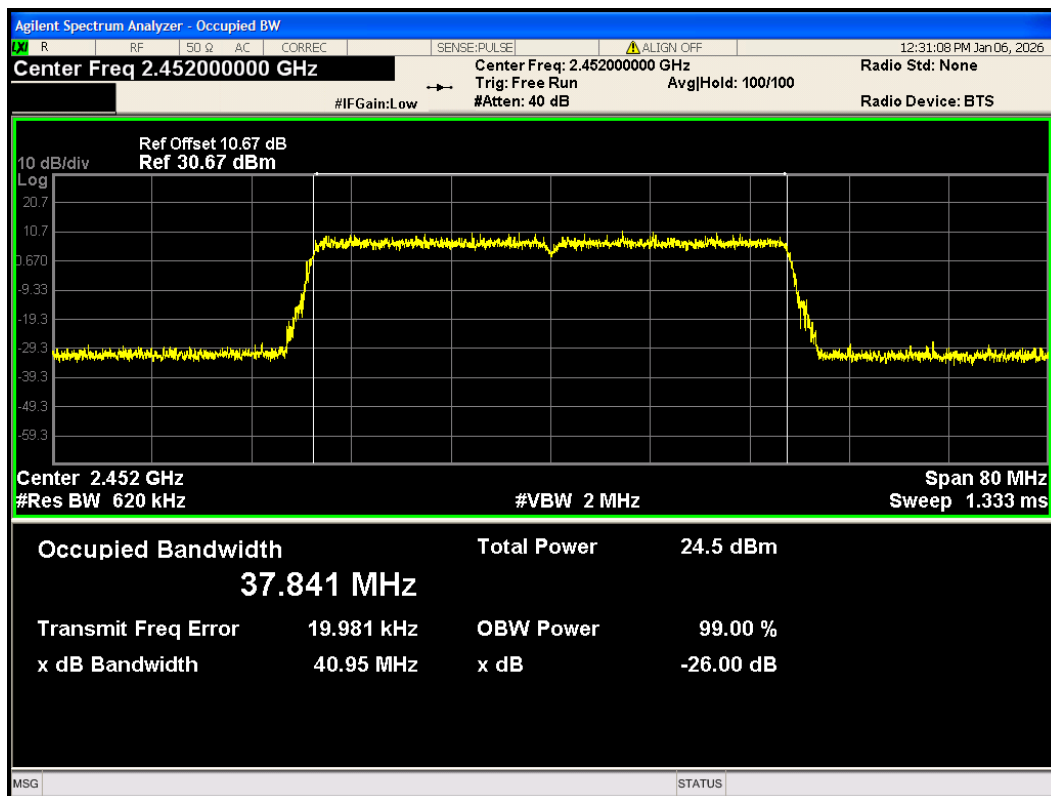
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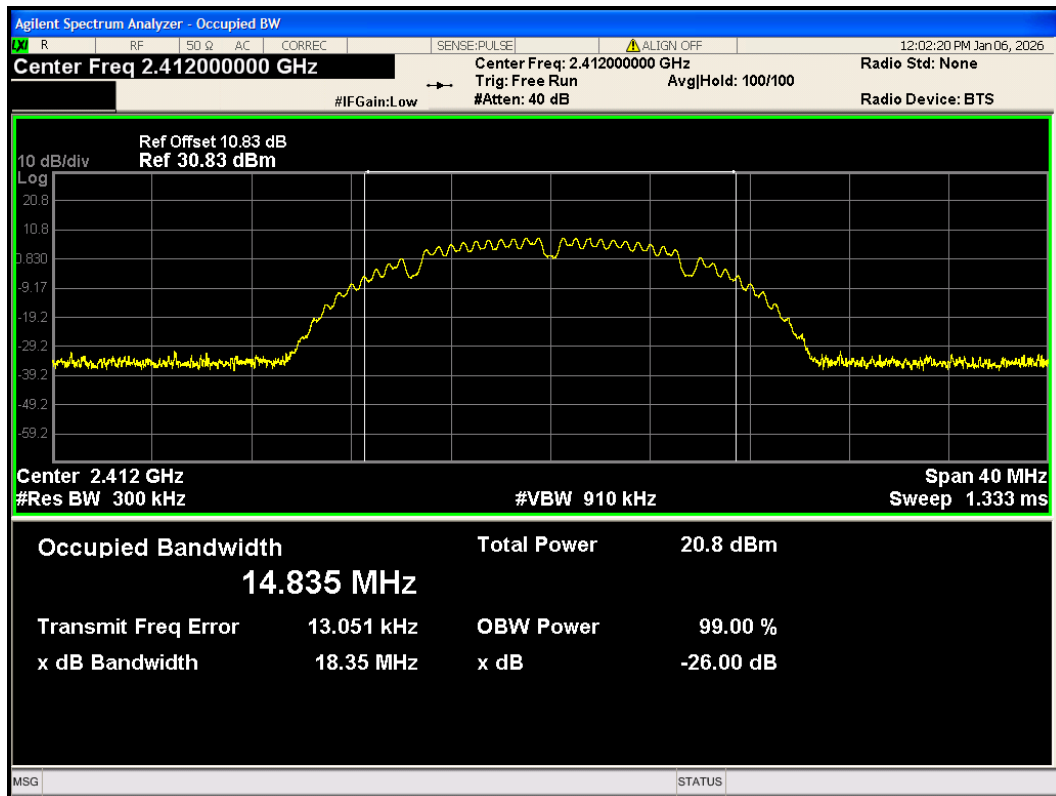
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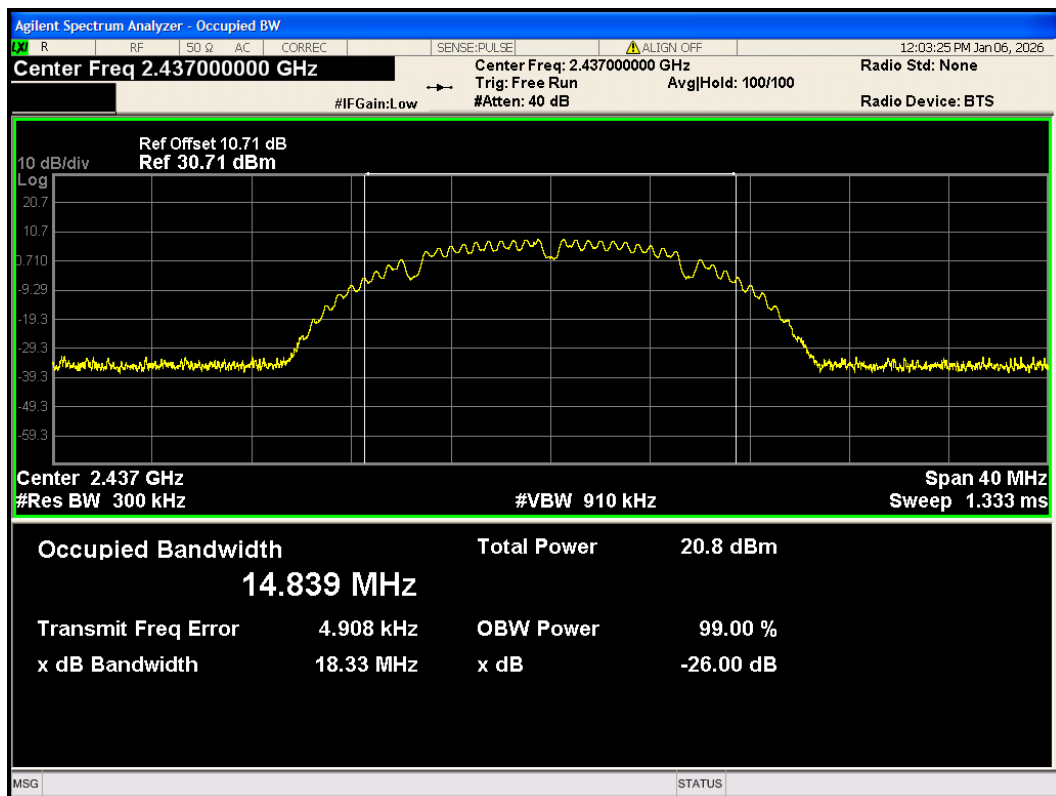
OBW 802.11ax(HE40) 2452MHz



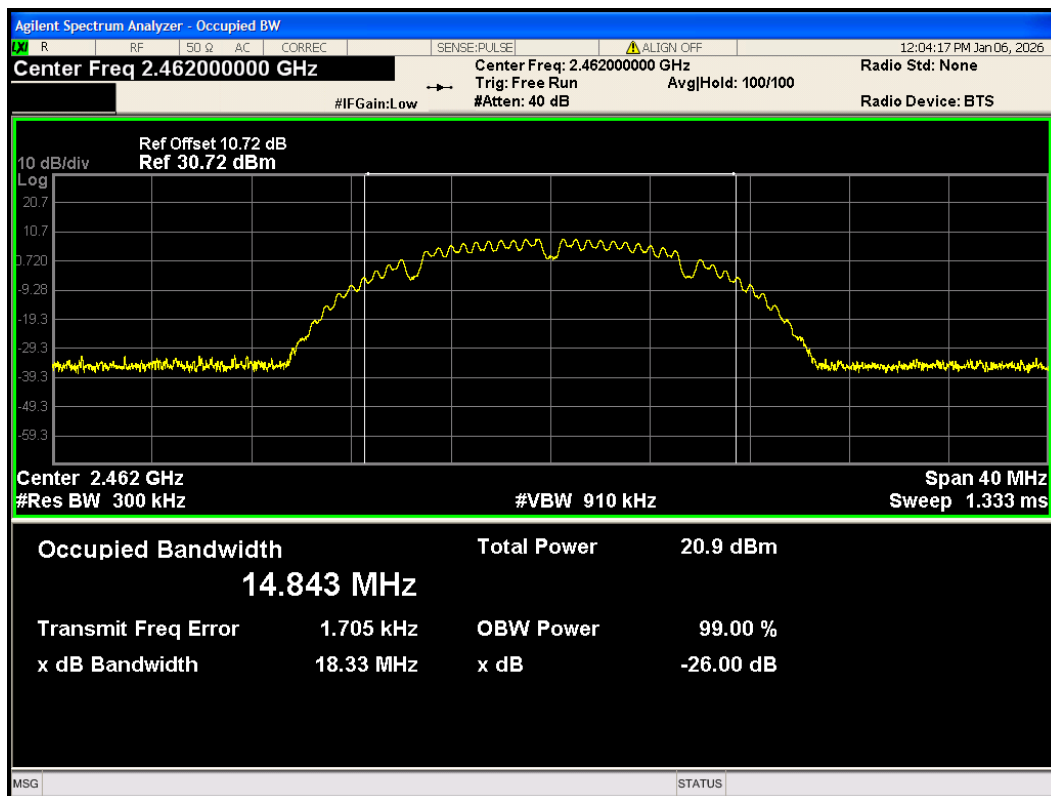
OBW 802.11b 2412MHz



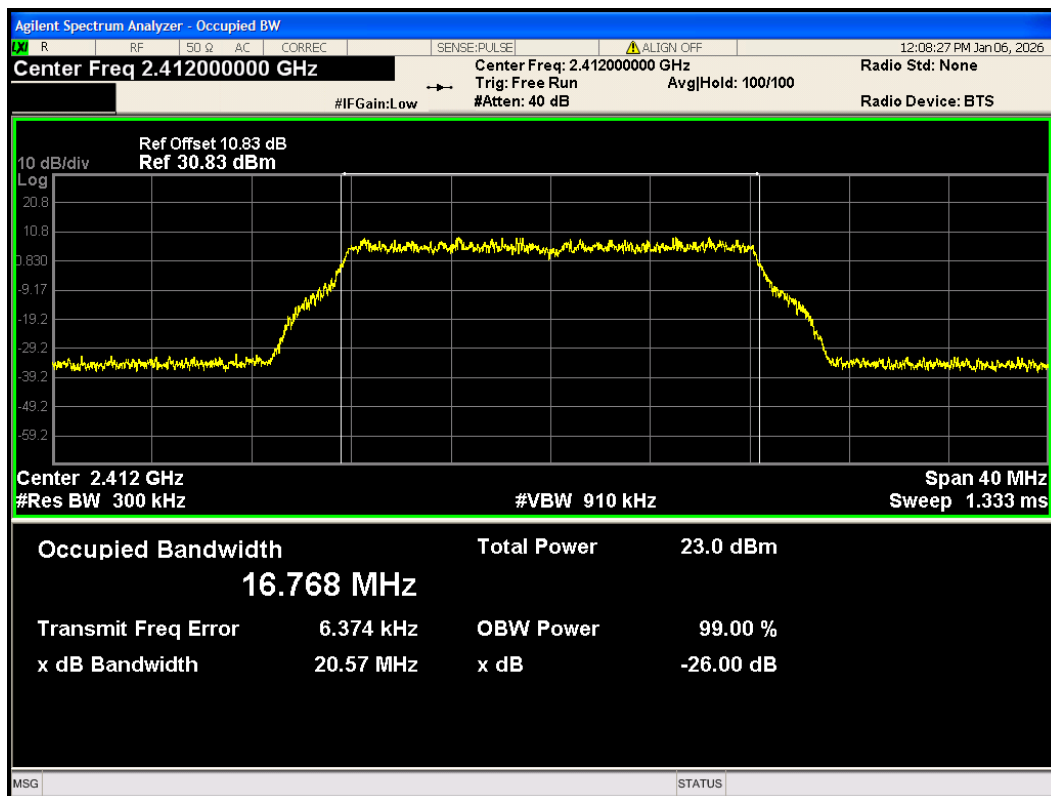
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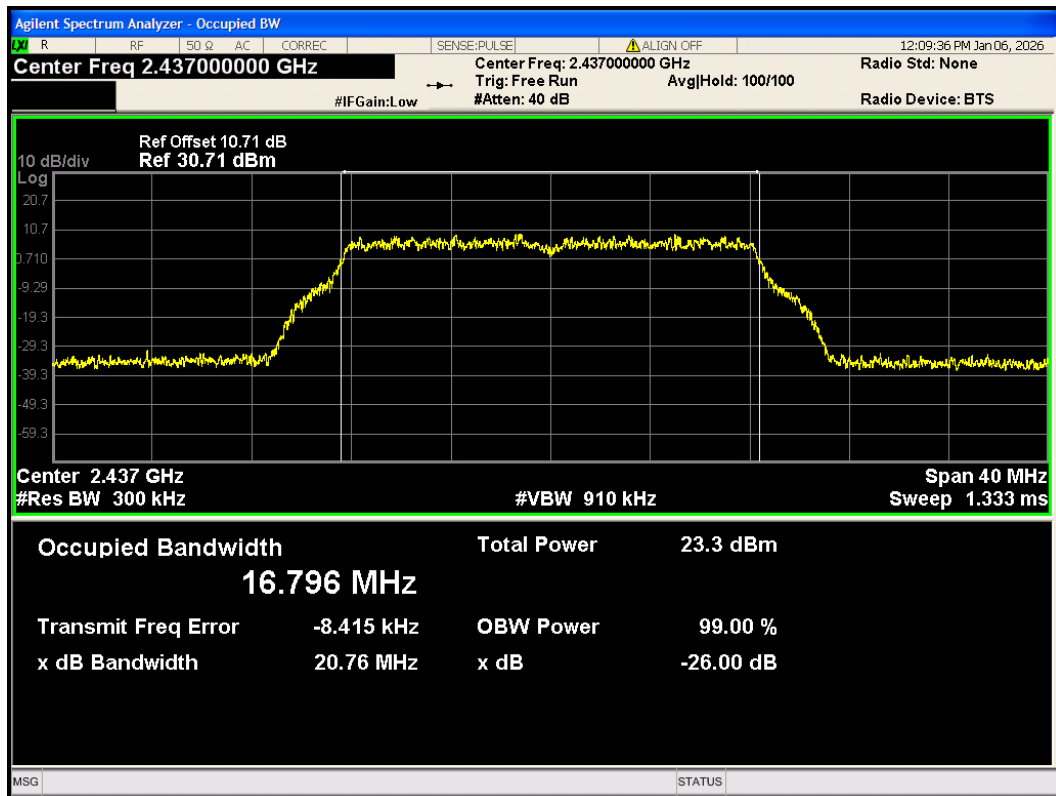
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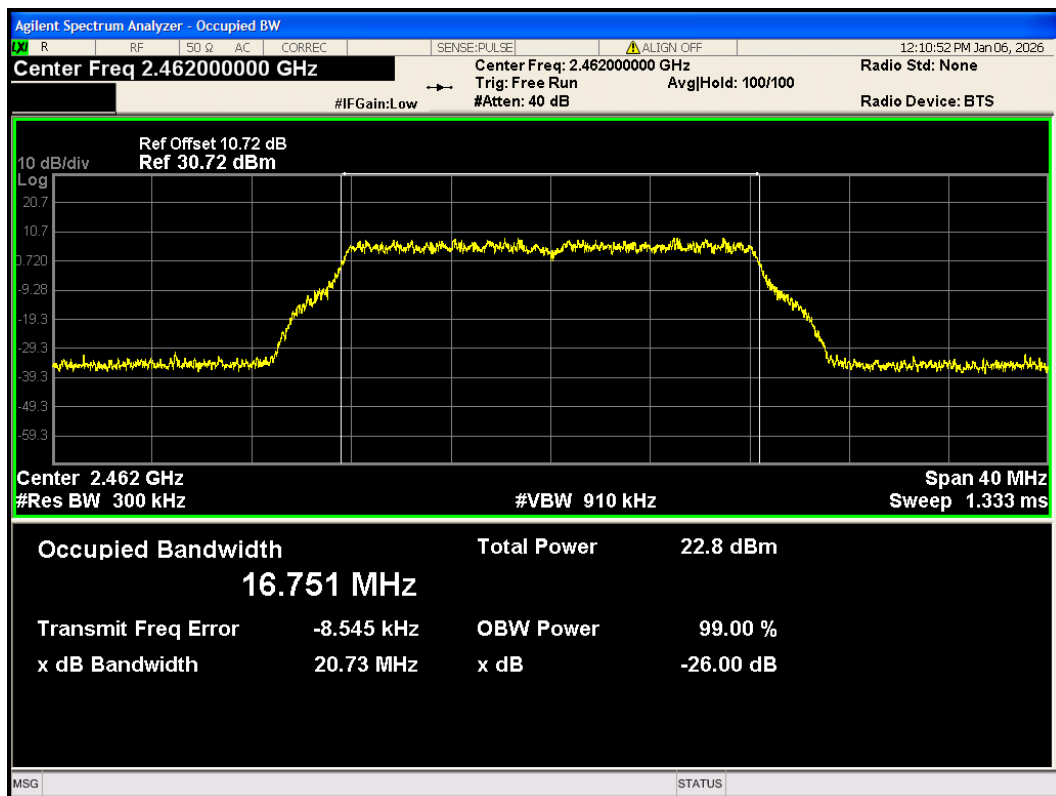
OBW 802.11g 2412MHz



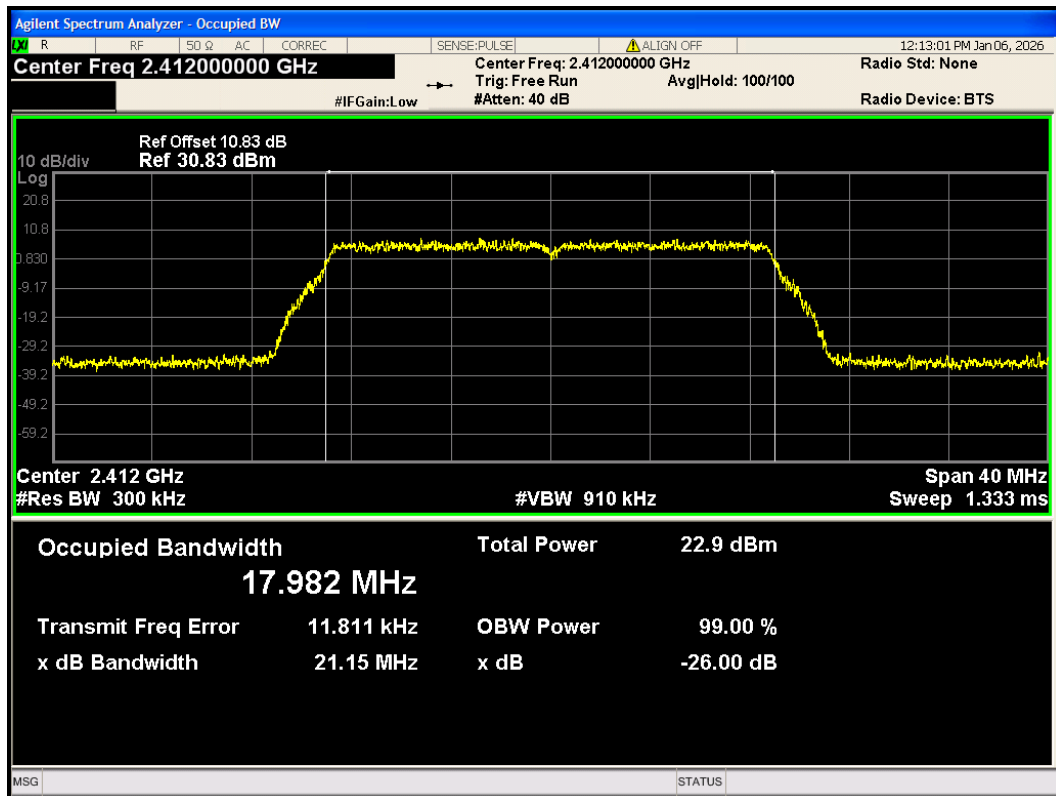
OBW 802.11g 2437MHz



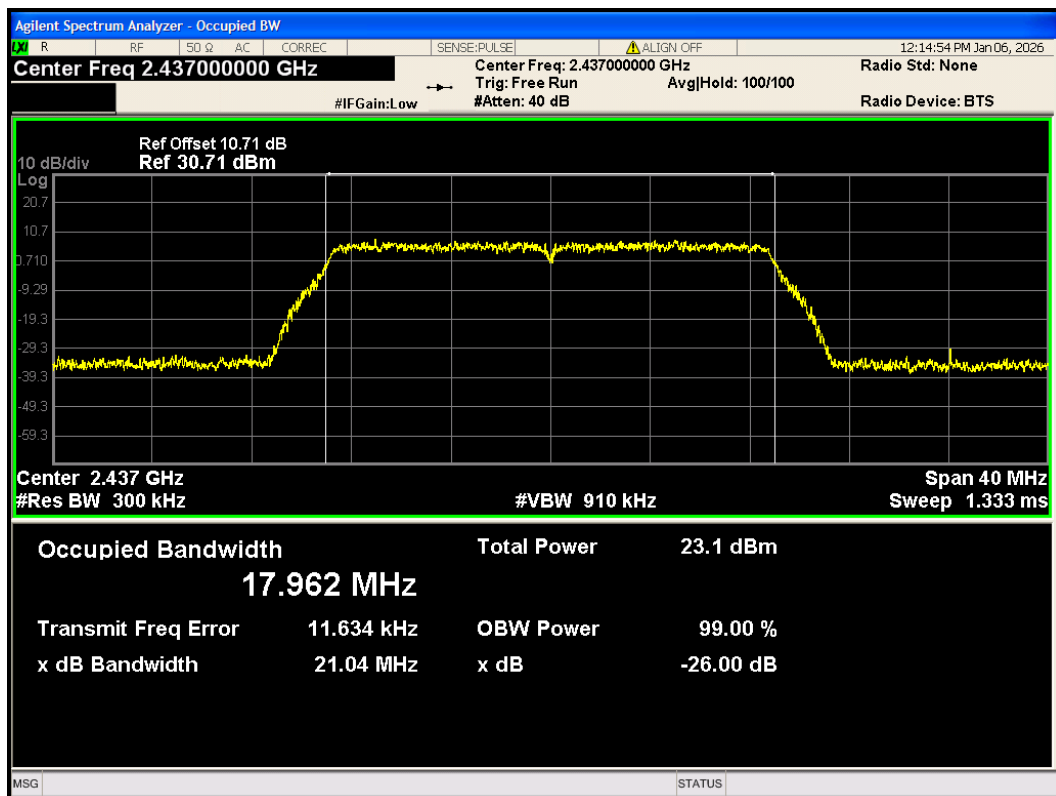
OBW 802.11g 2462MHz



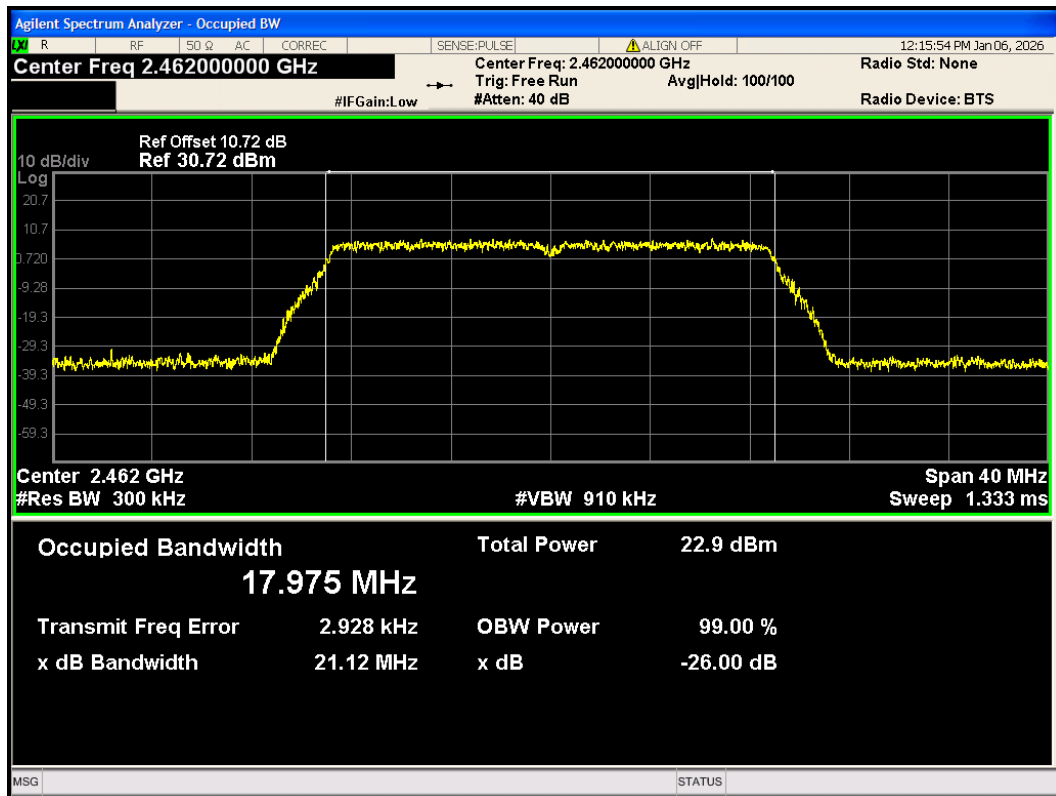
OBW 802.11n(HT20) 2412MHz



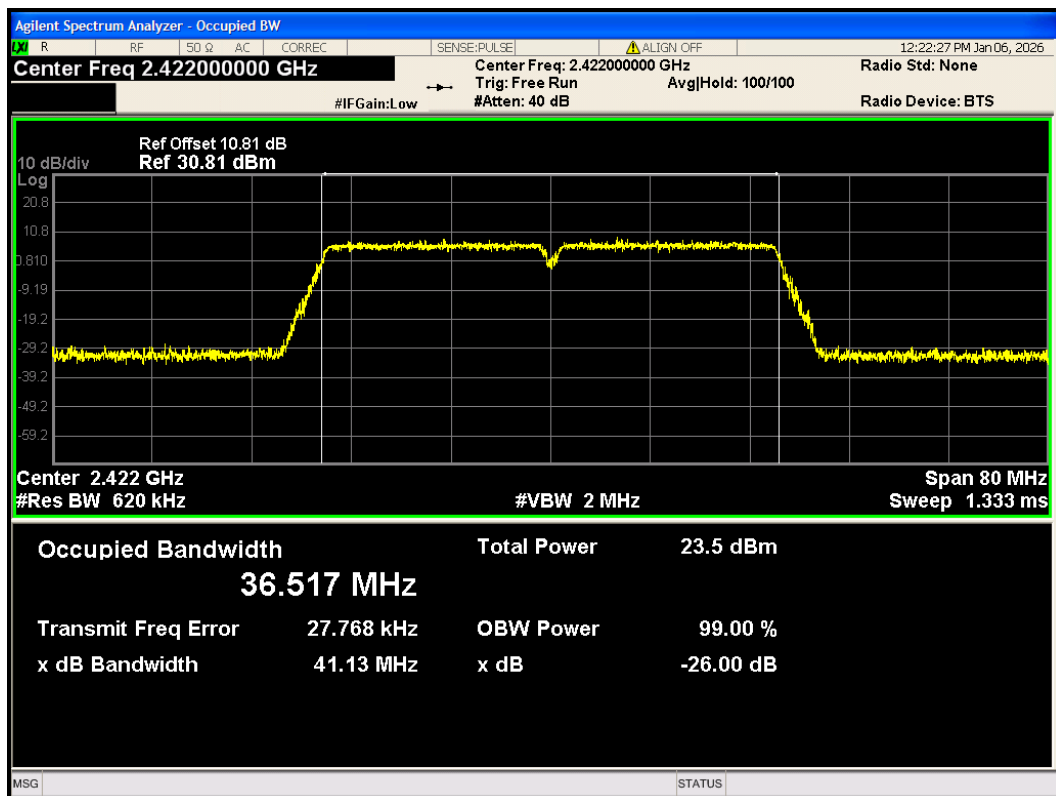
OBW 802.11n(HT20) 2437MHz



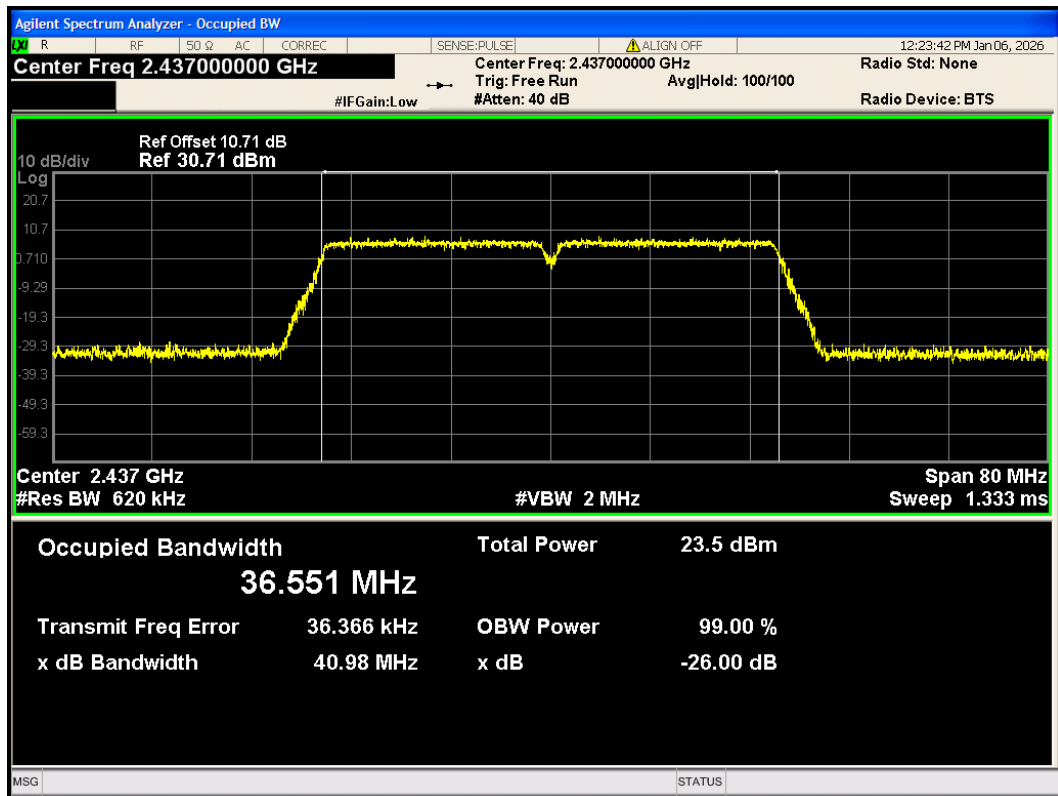
OBW 802.11n(HT20) 2462MHz



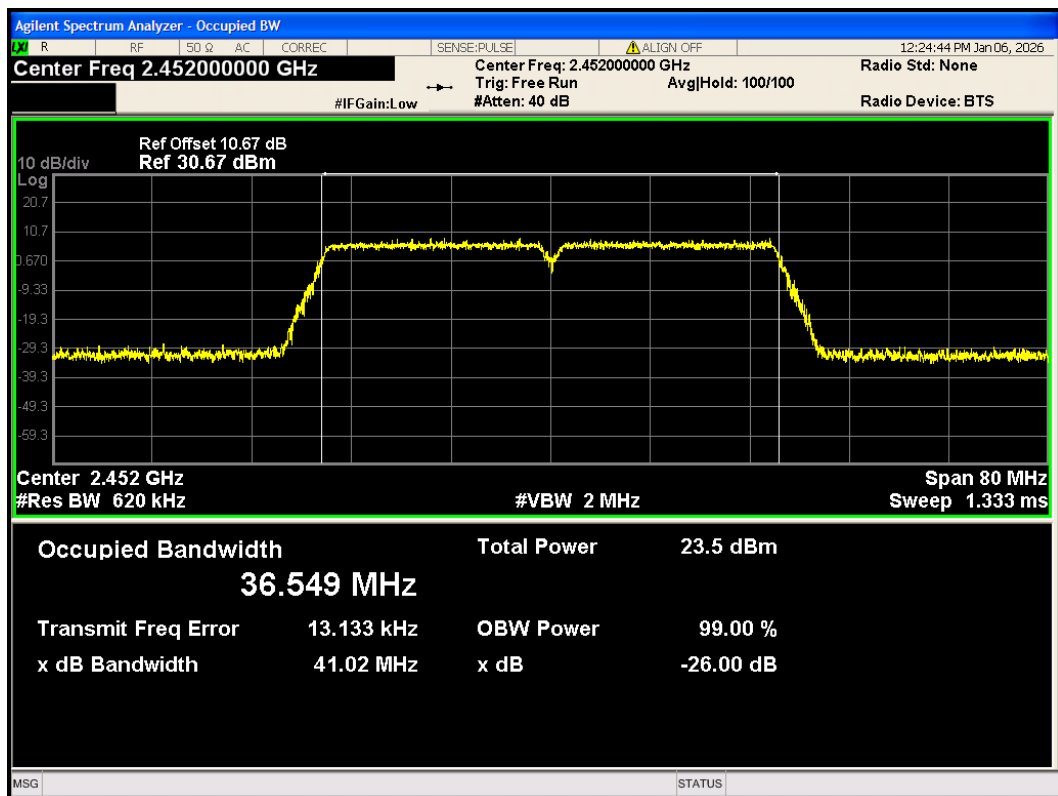
OBW 802.11n(HT40) 2422MHz



OBW 802.11n(HT40) 2437MHz

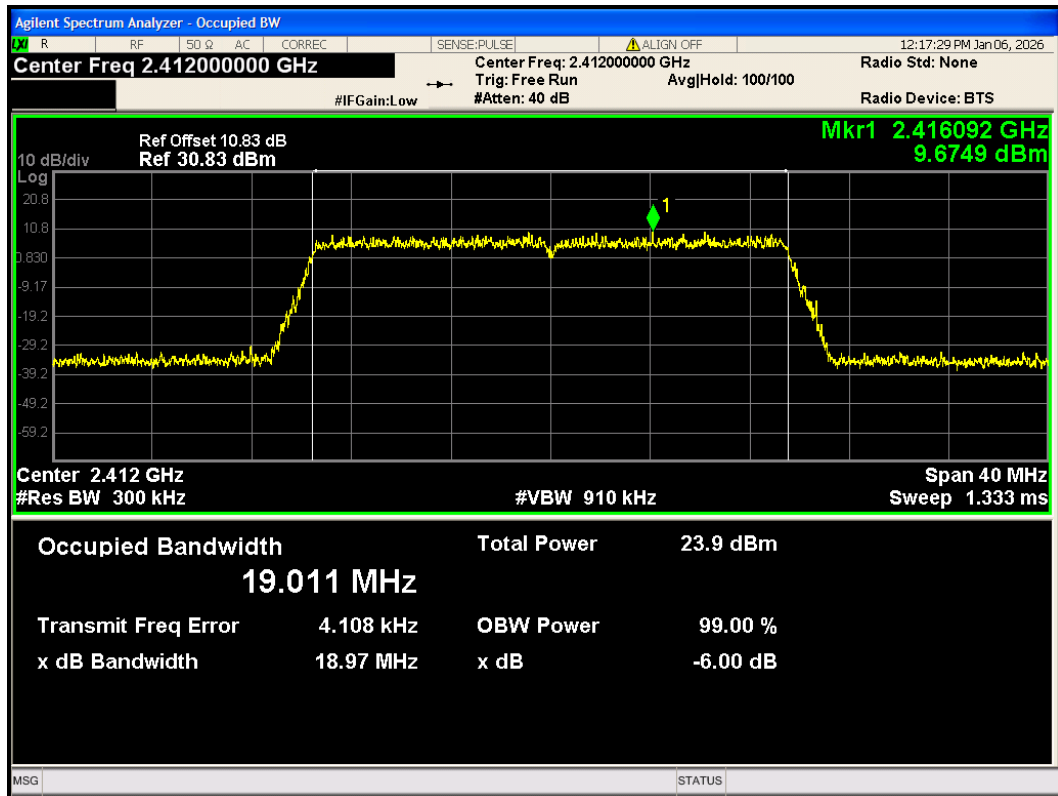


OBW 802.11n(HT40) 2452MHz

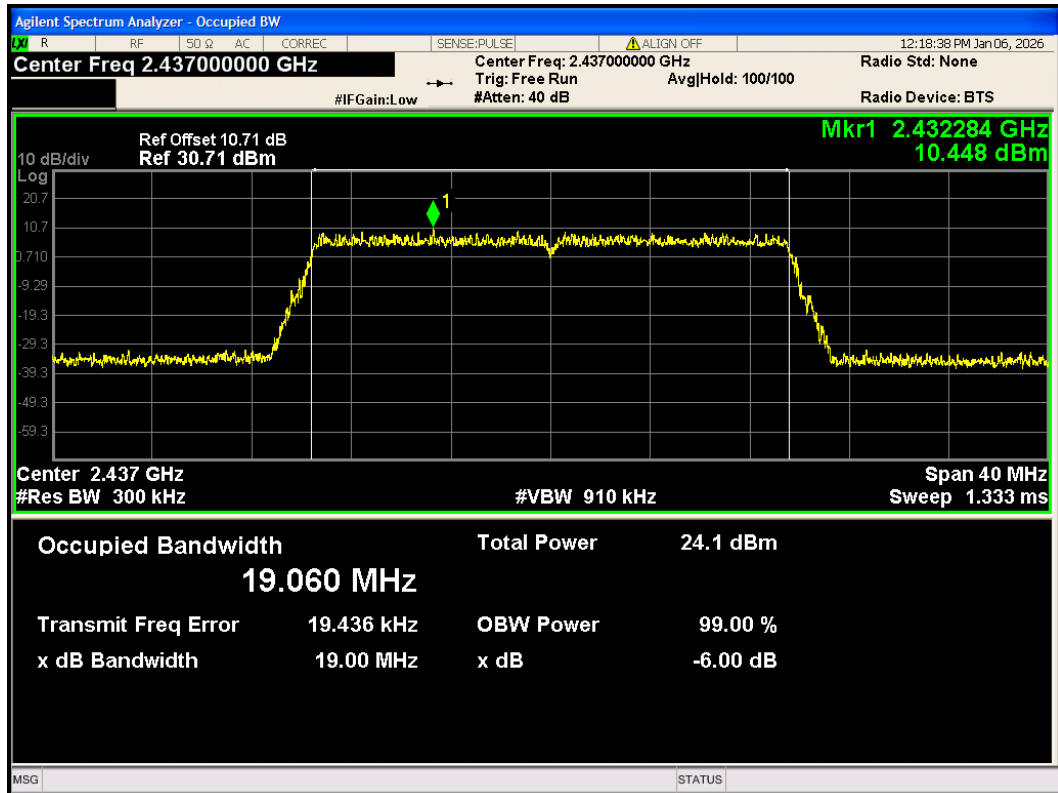


6 dB bandwidth

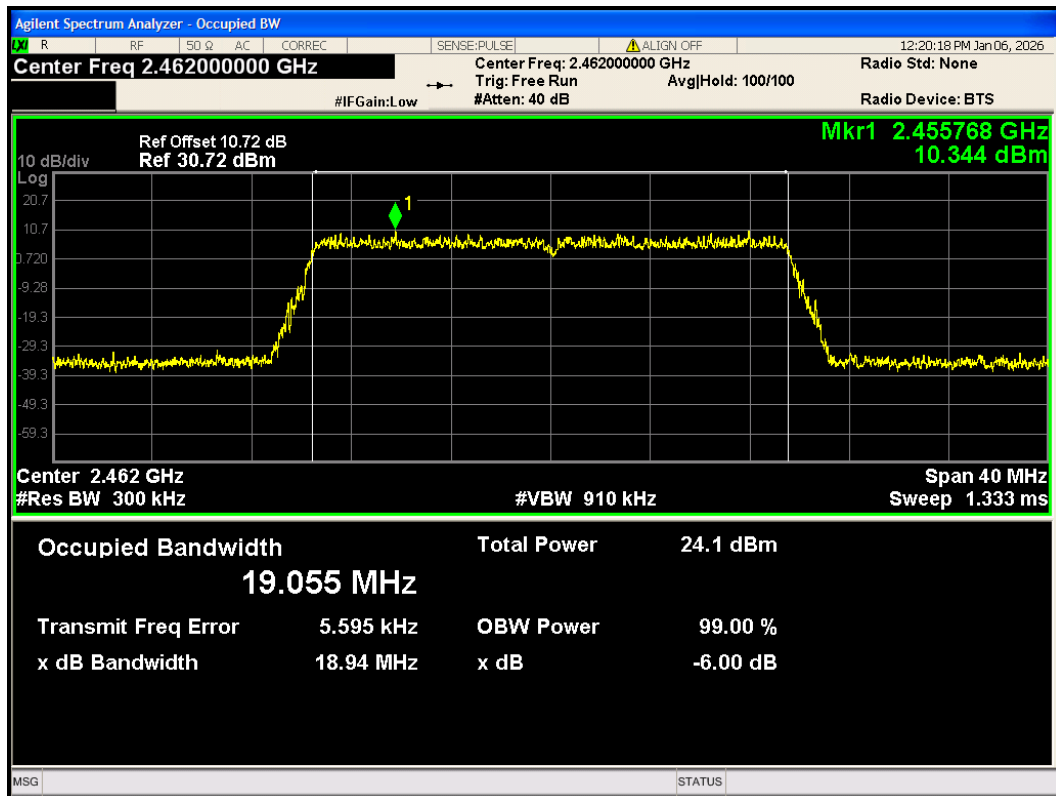
-6dB Bandwidth 802.11ax(HE20) 2412MHz



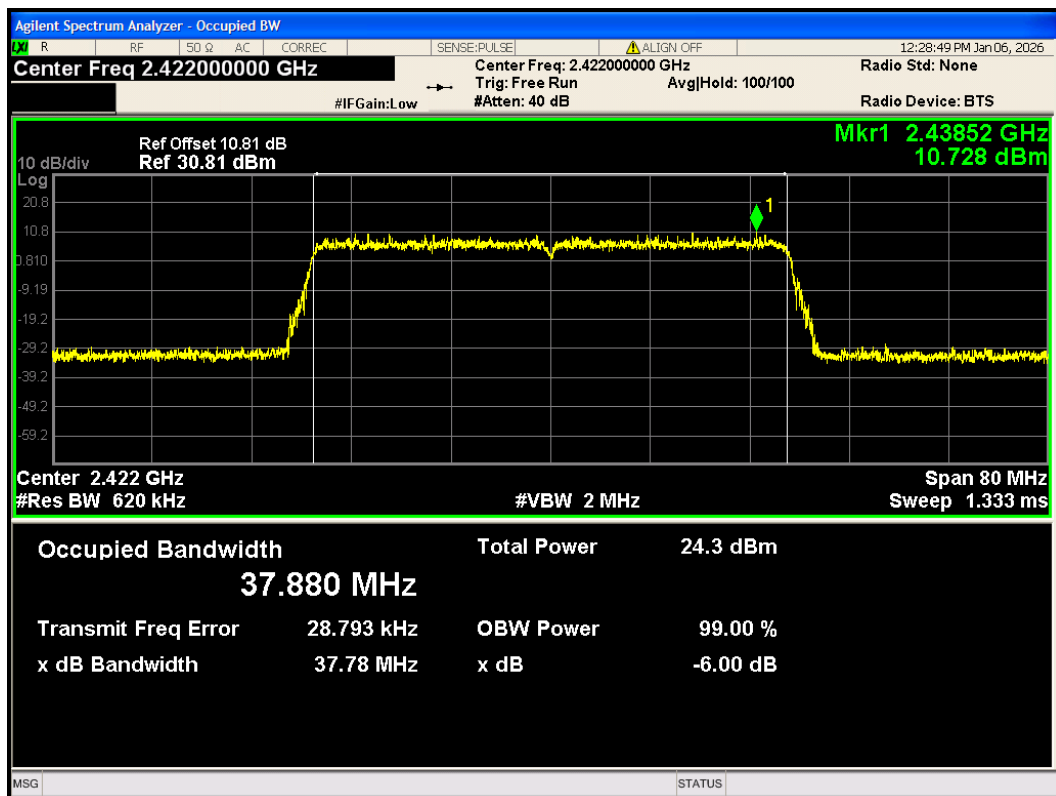
-6dB Bandwidth 802.11ax(HE20) 2437MHz



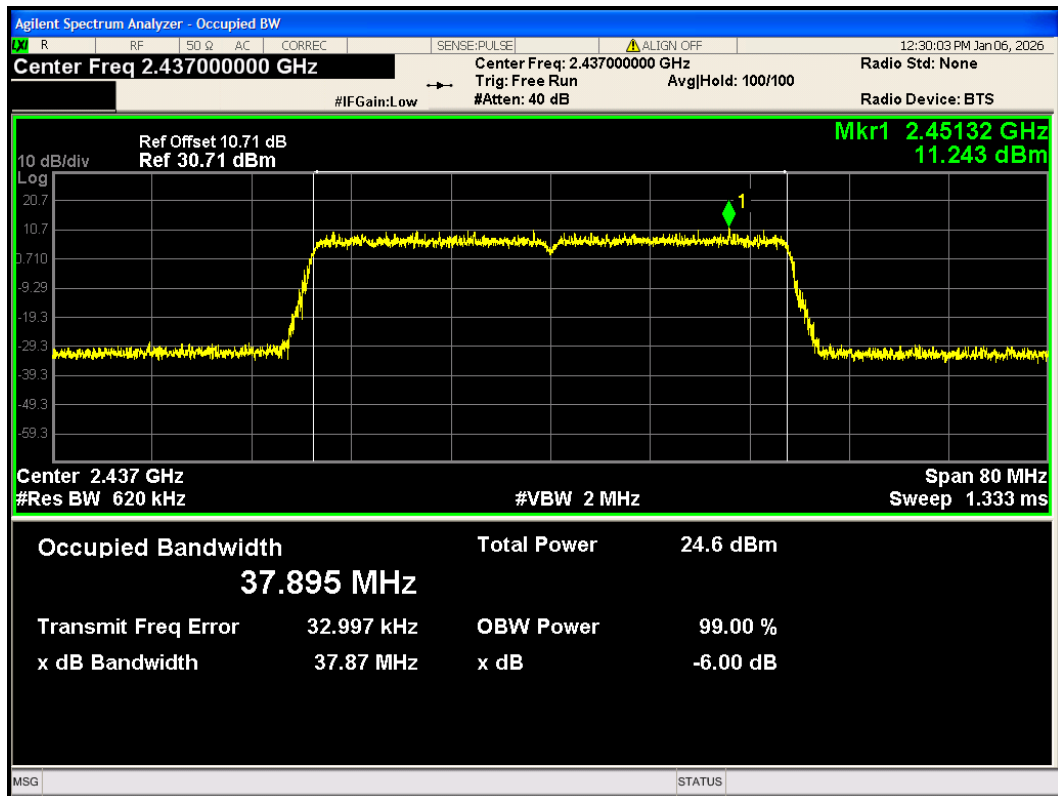
-6dB Bandwidth 802.11ax(HE20) 2462MHz



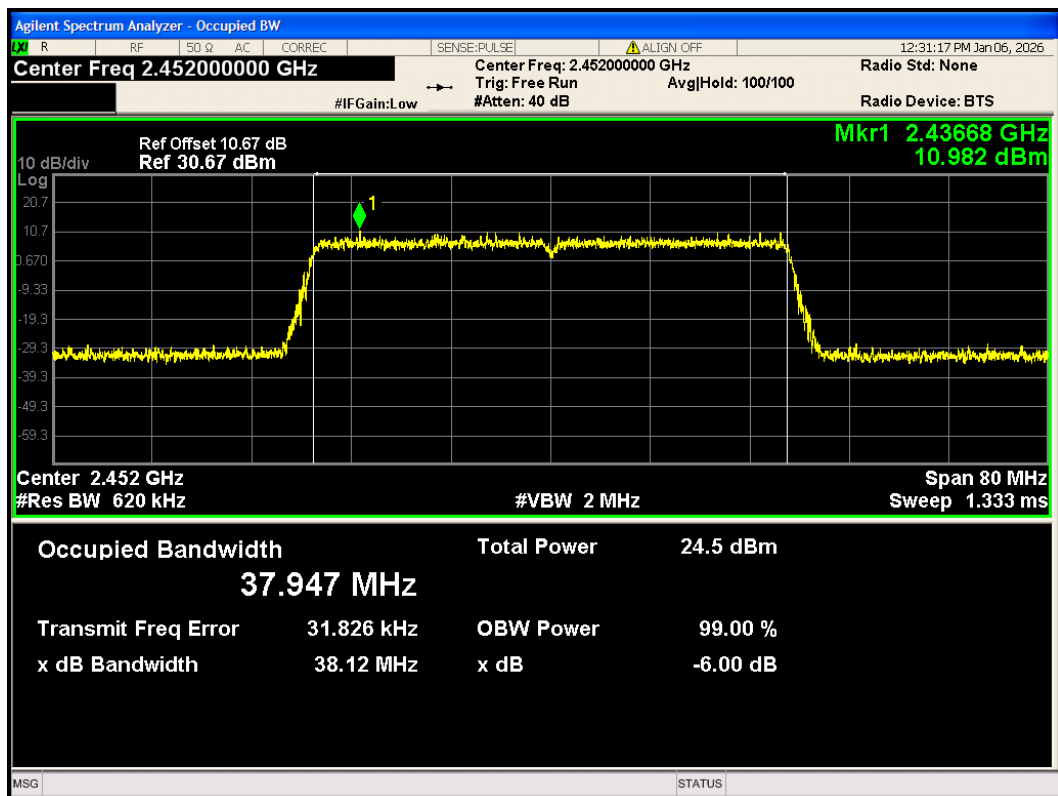
-6dB Bandwidth 802.11ax(HE40) 2422MHz



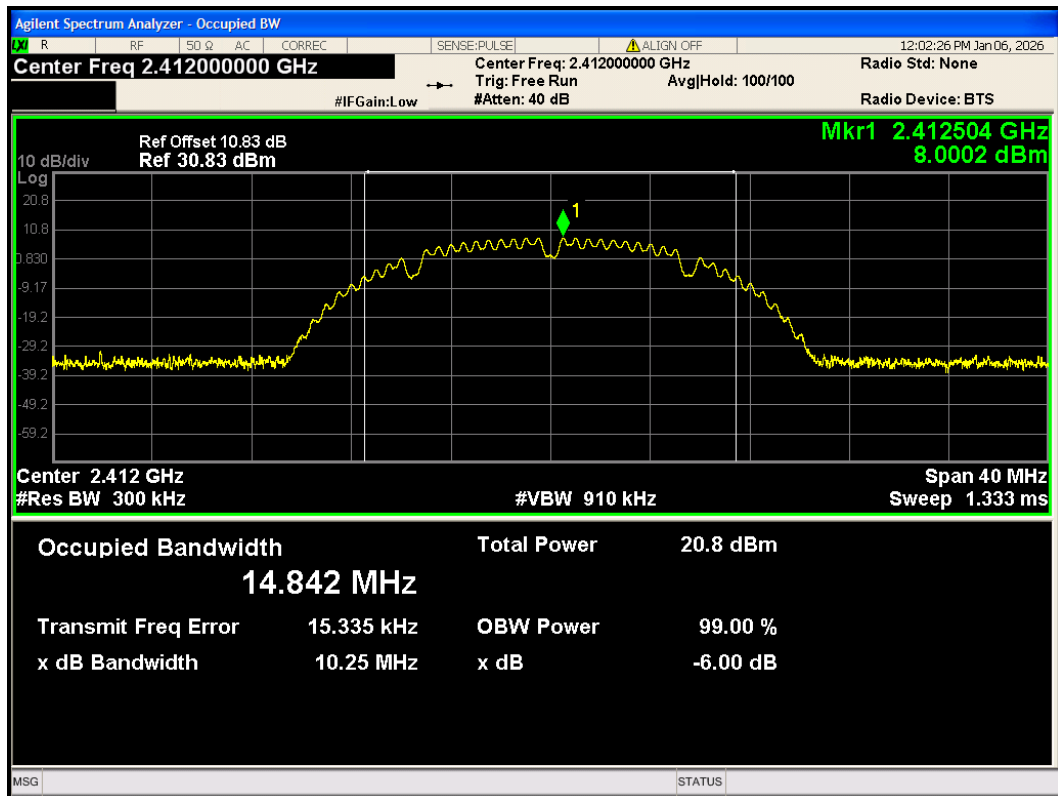
-6dB Bandwidth 802.11ax(HE40) 2437MHz



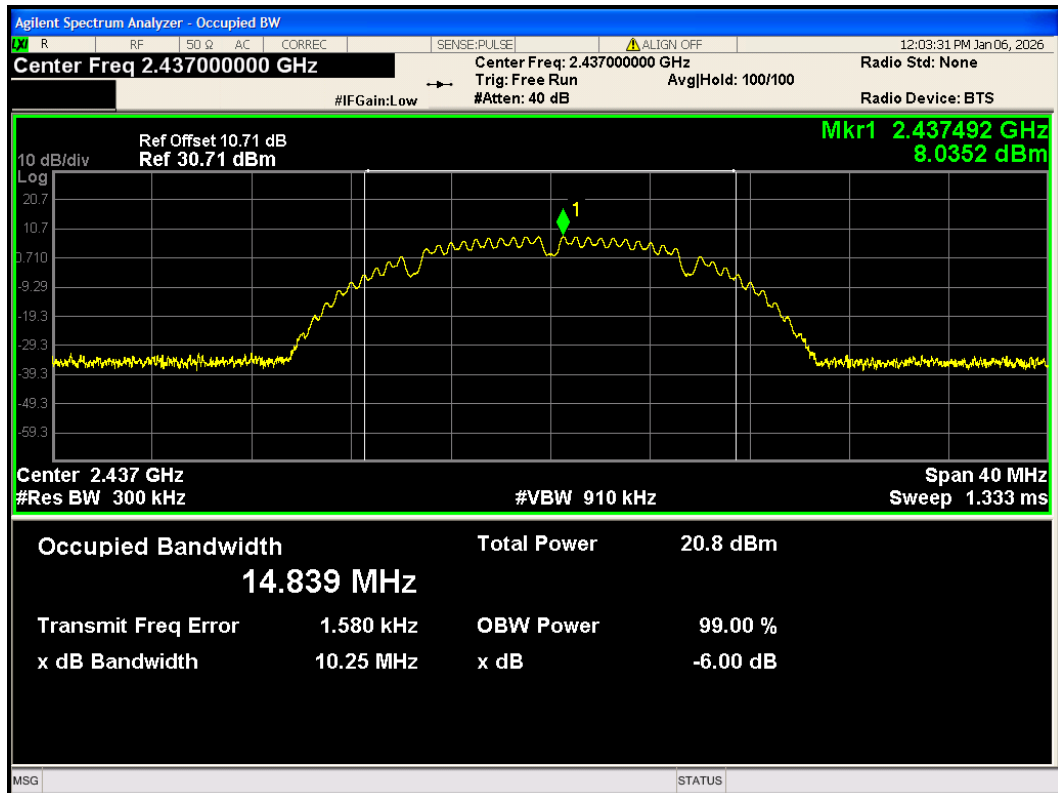
-6dB Bandwidth 802.11ax(HE40) 2452MHz



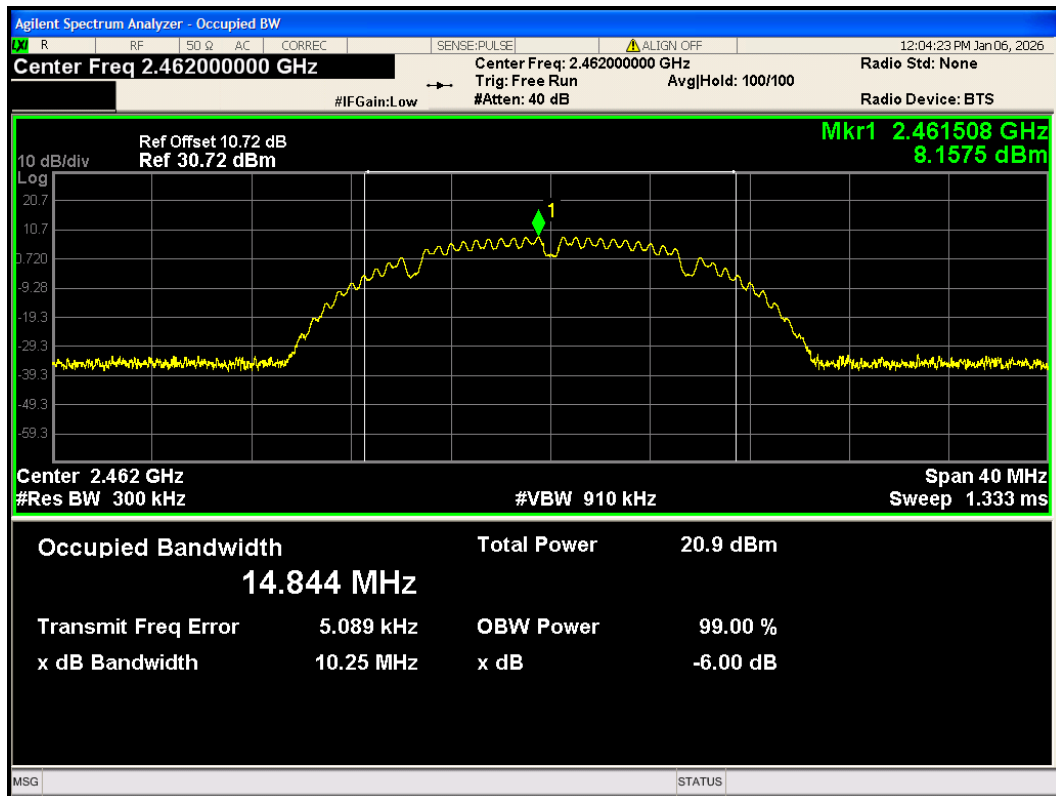
-6dB Bandwidth 802.11b 2412MHz



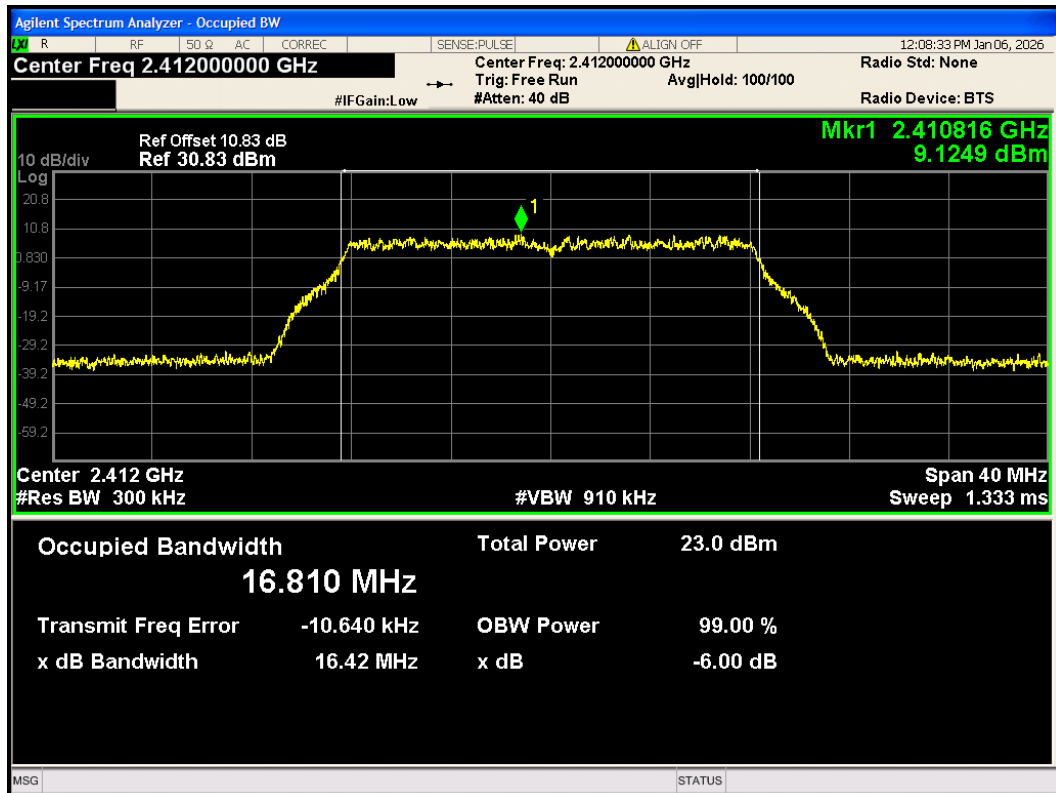
-6dB Bandwidth 802.11b 2437MHz



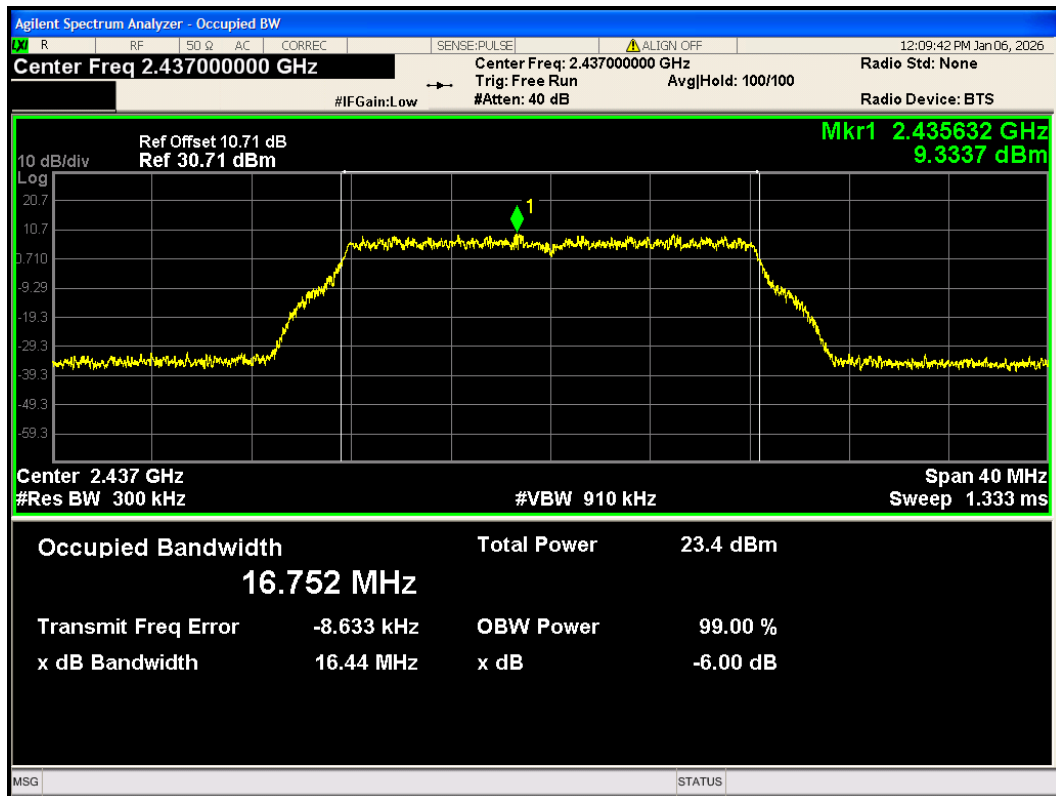
-6dB Bandwidth 802.11b 2462MHz



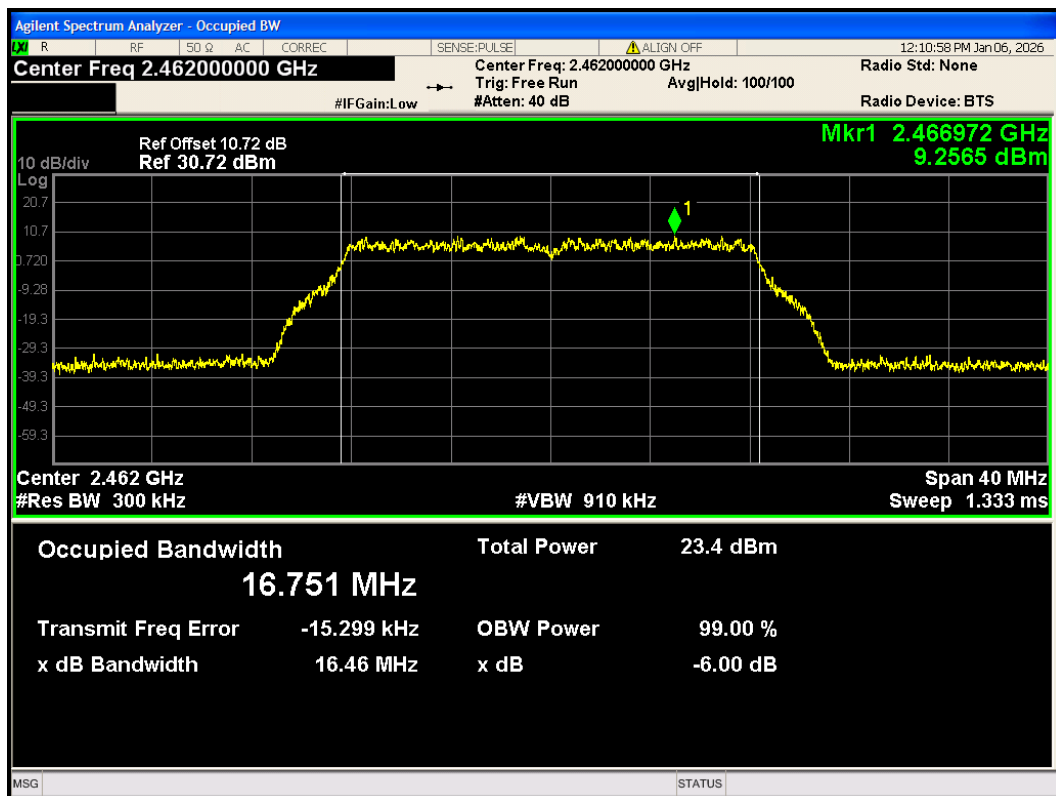
-6dB Bandwidth 802.11g 2412MHz



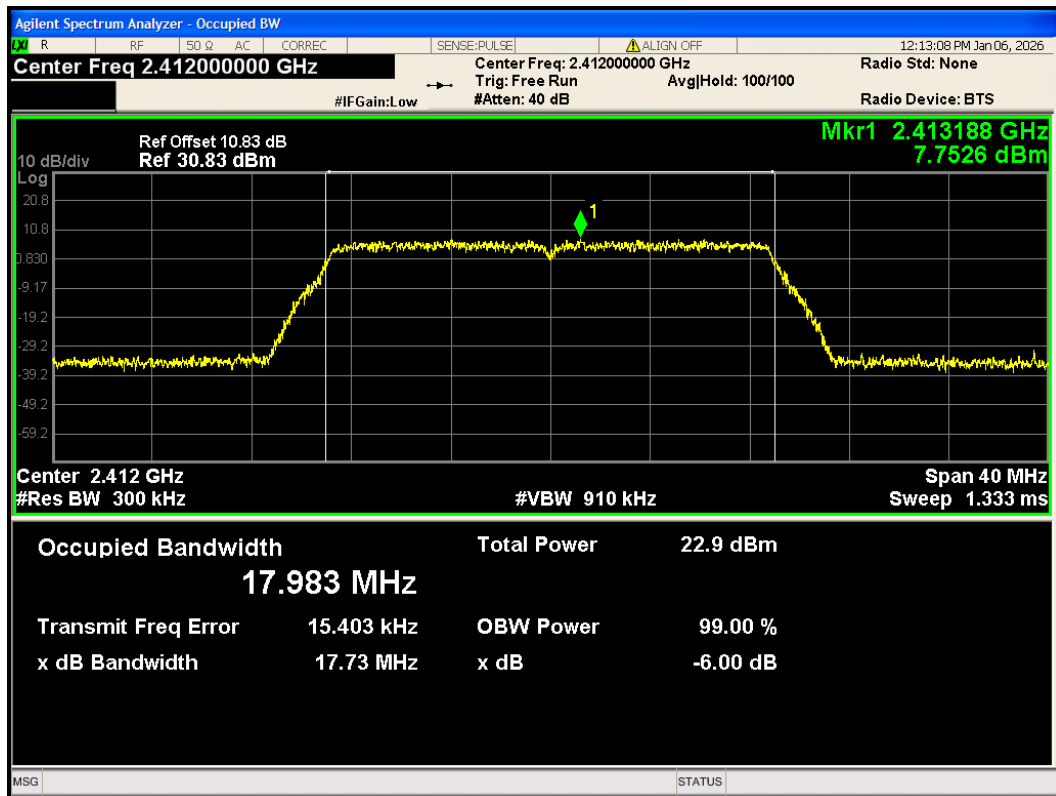
-6dB Bandwidth 802.11g 2437MHz



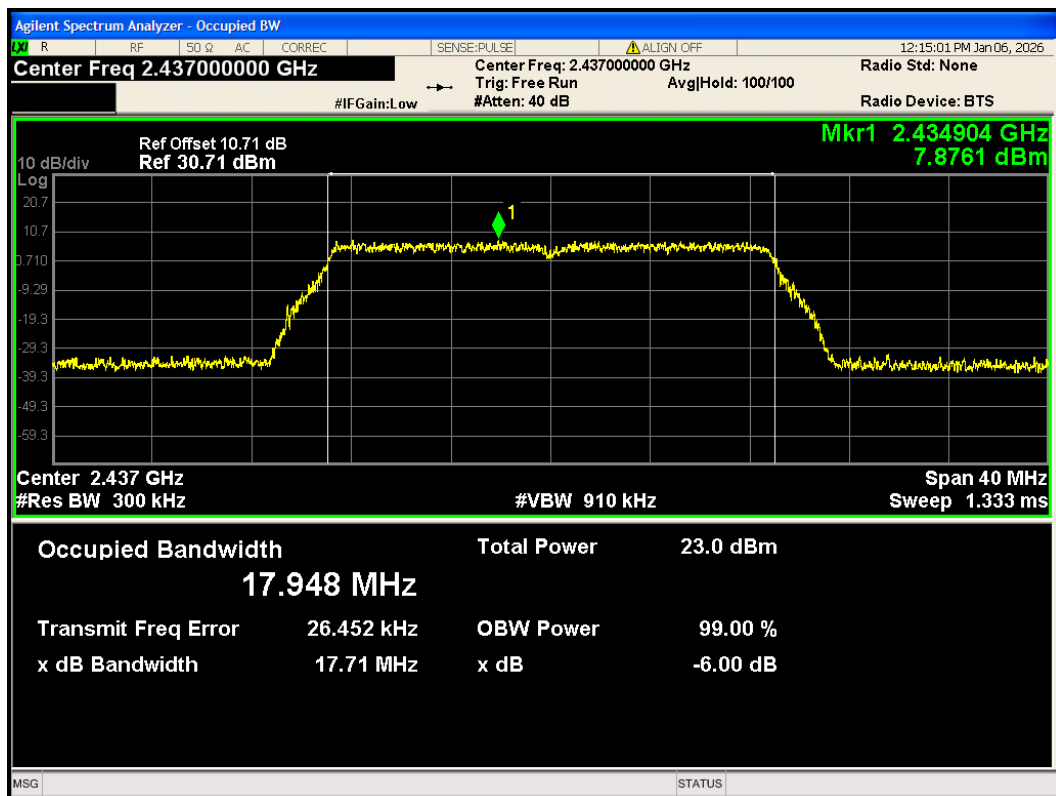
-6dB Bandwidth 802.11g 2462MHz



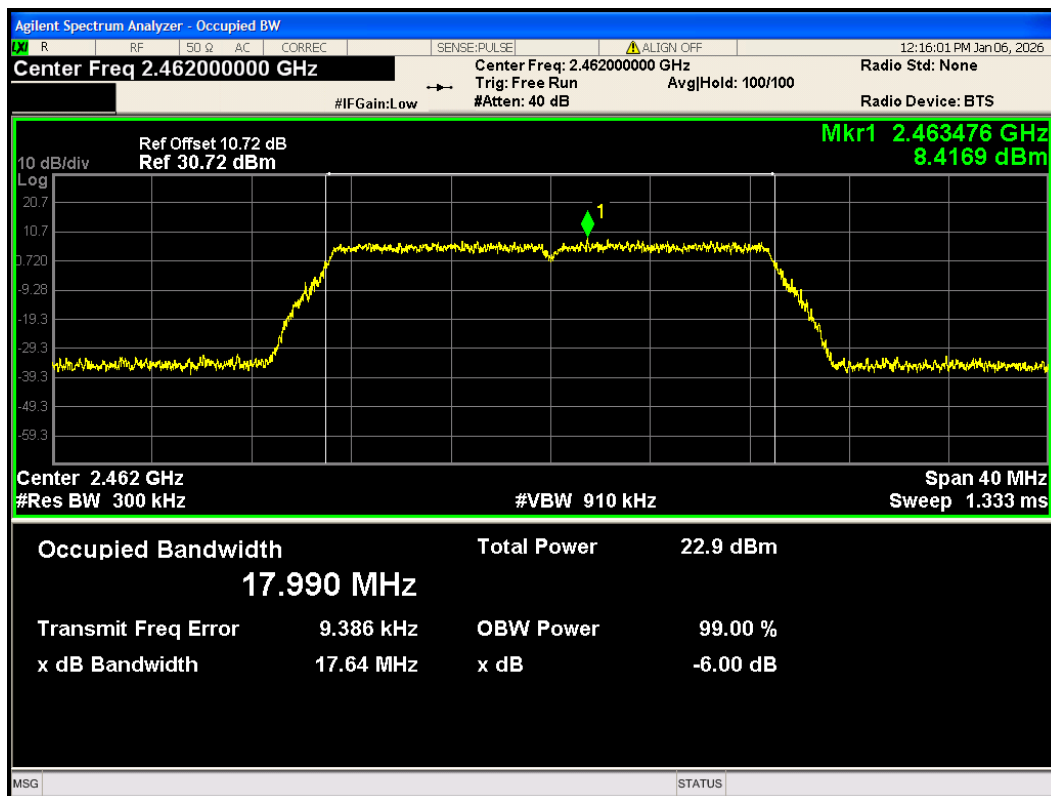
-6dB Bandwidth 802.11n(HT20) 2412MHz



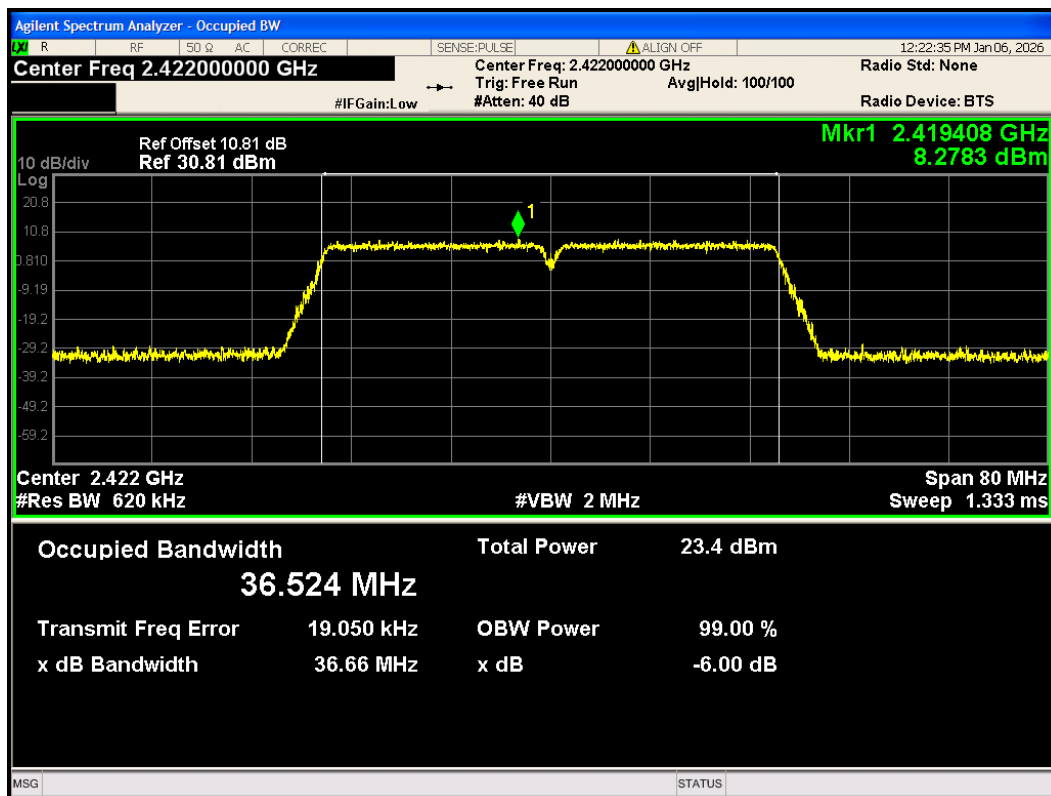
-6dB Bandwidth 802.11n(HT20) 2437MHz



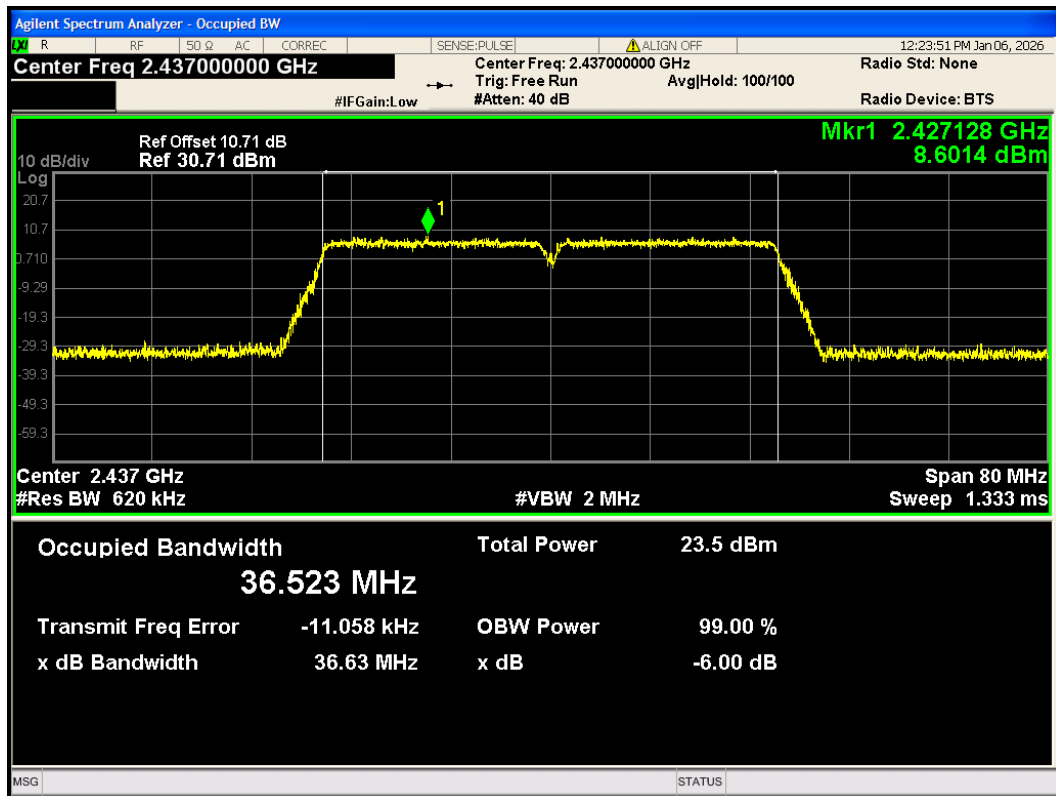
-6dB Bandwidth 802.11n(HT20) 2462MHz



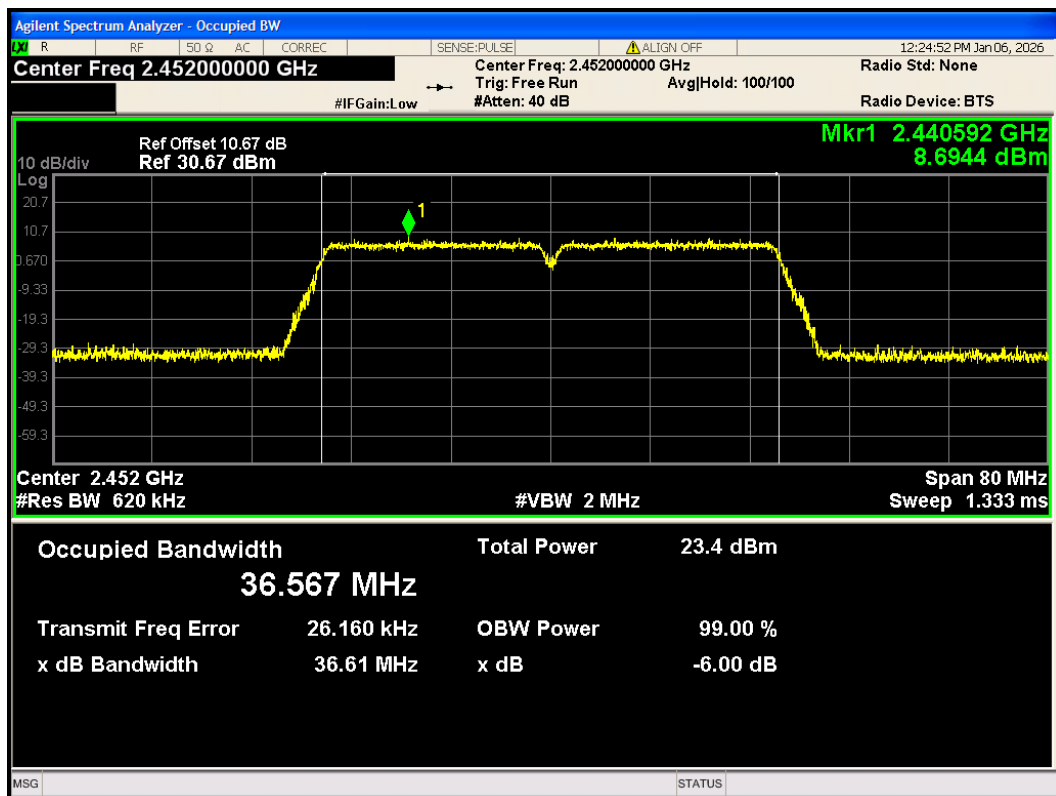
-6dB Bandwidth 802.11n(HT40) 2422MHz



-6dB Bandwidth 802.11n(HT40) 2437MHz

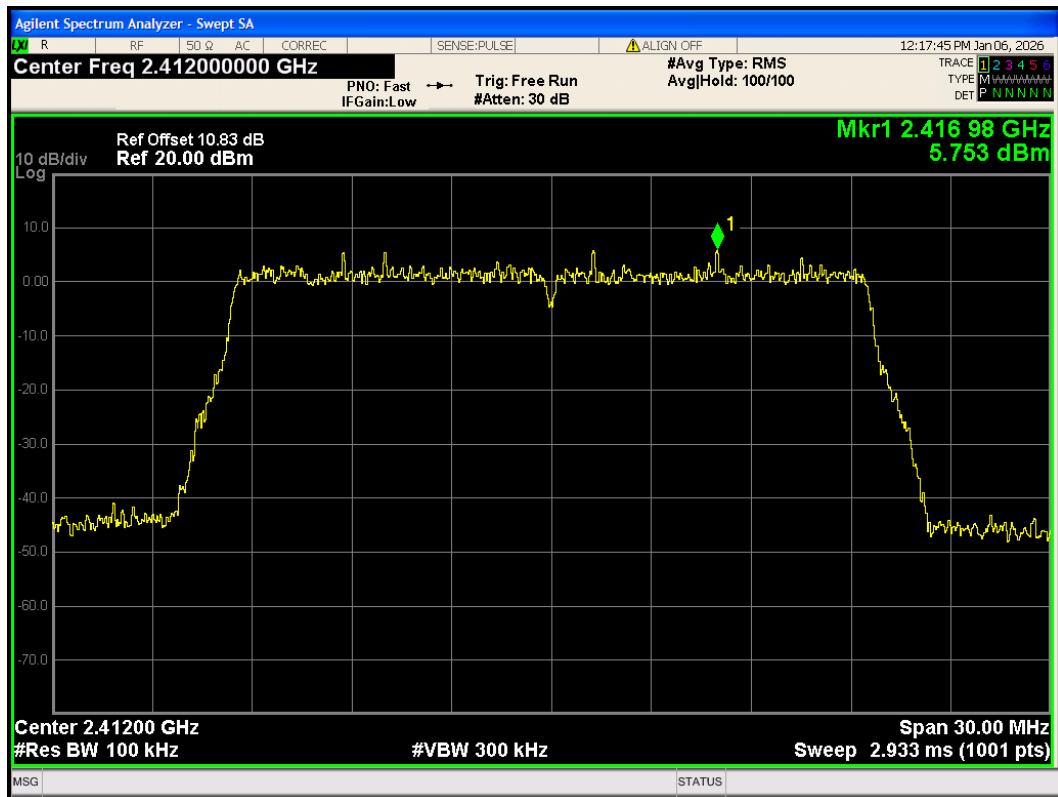


-6dB Bandwidth 802.11n(HT40) 2452MHz

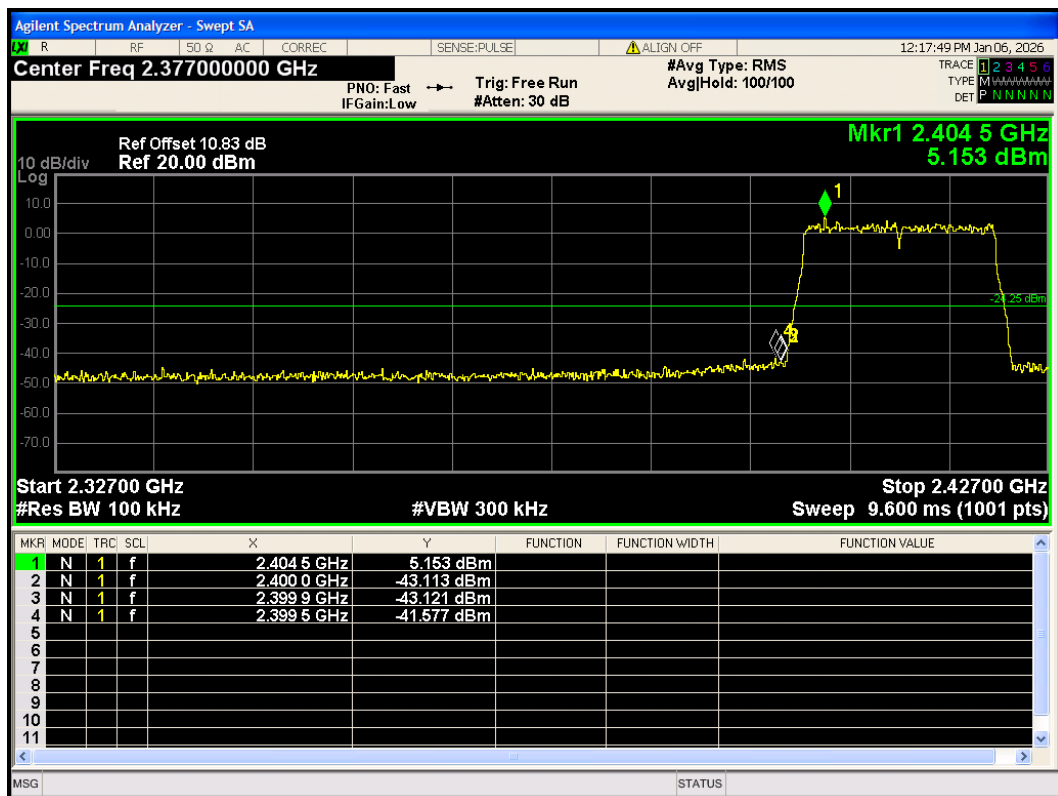


6.3. Band Edge

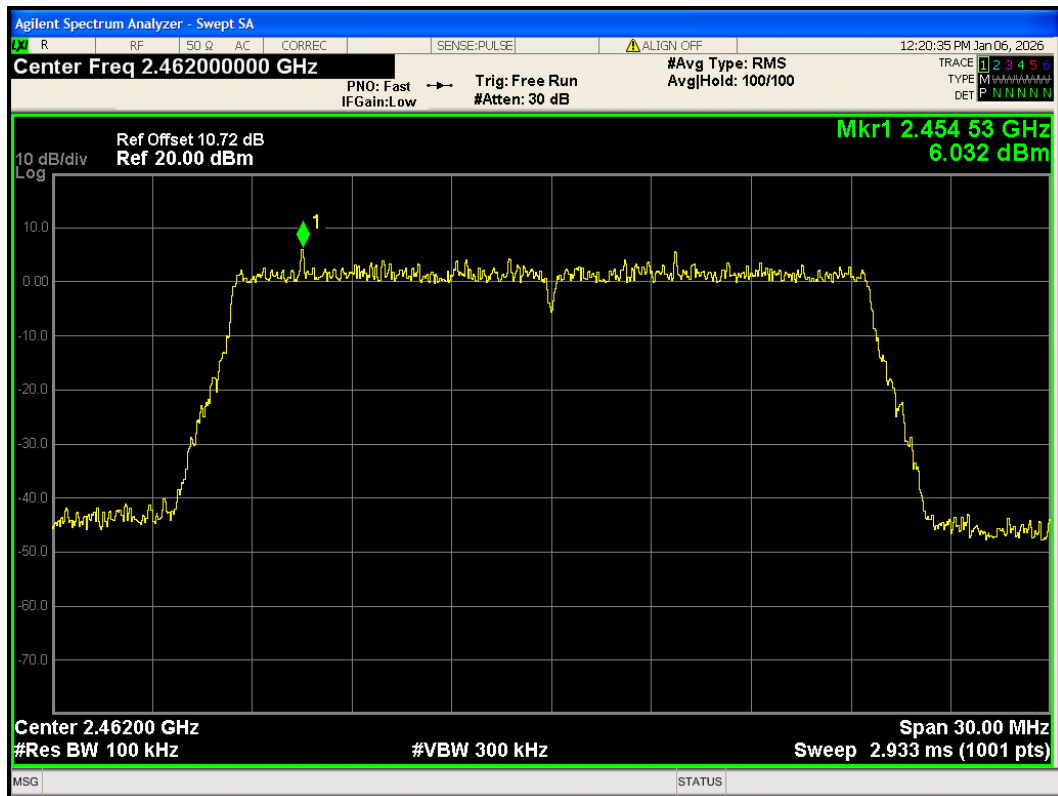
Band Edge 802.11ax(HE20) 2412MHz Ref



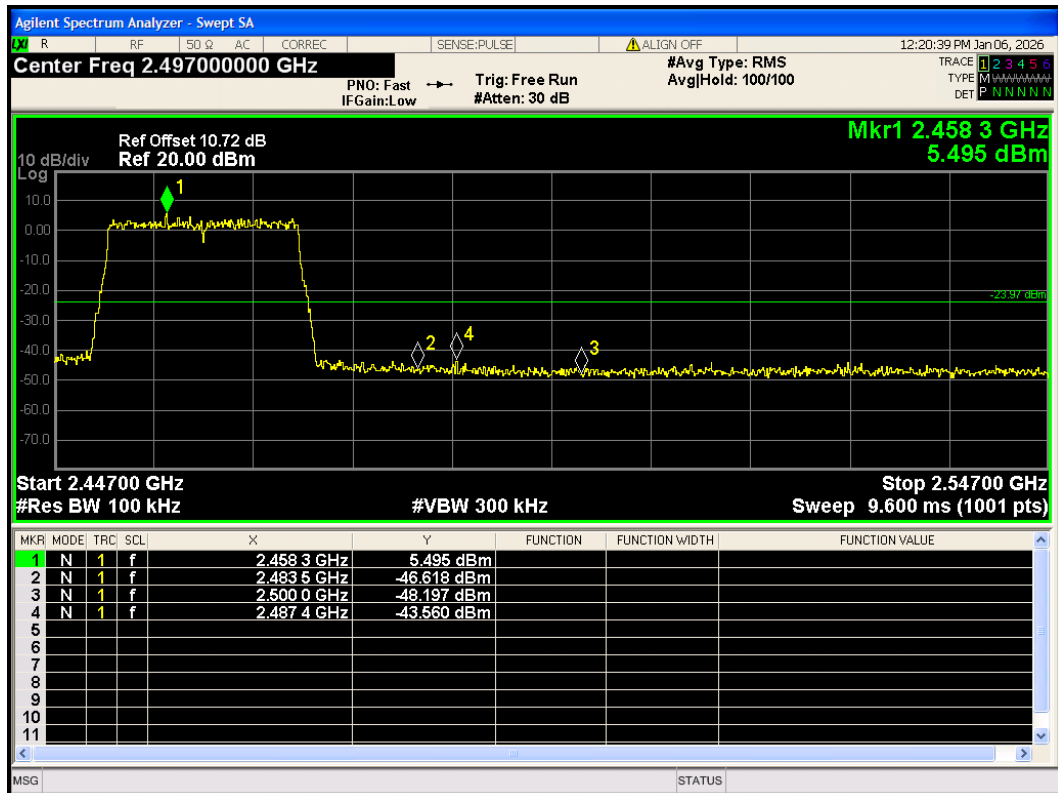
Band Edge 802.11ax(HE20) 2412MHz Emission



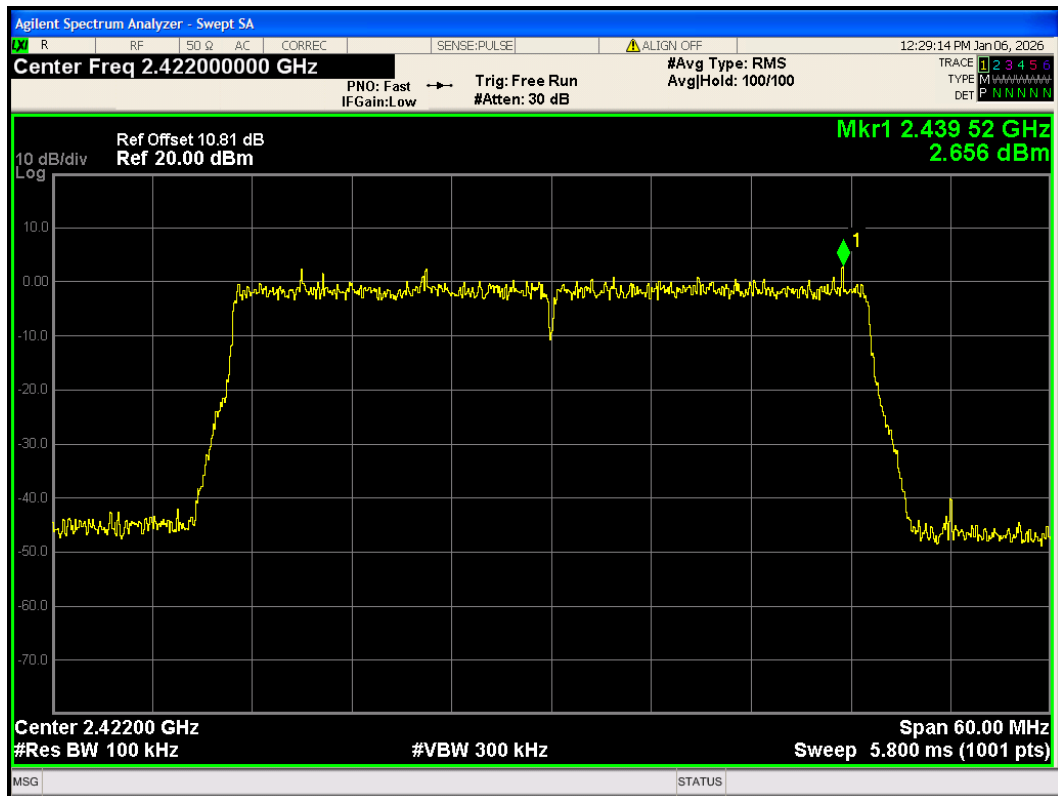
Band Edge 802.11ax(HE20) 2462MHz Ref



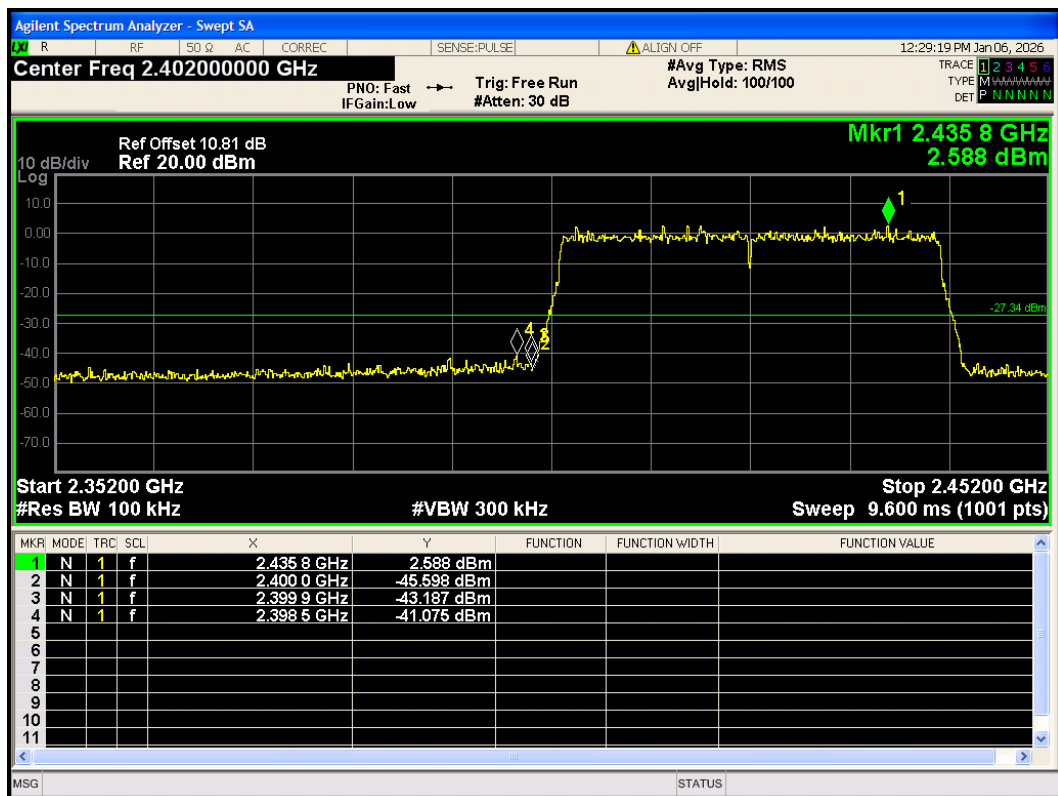
Band Edge 802.11ax(HE20) 2462MHz Emission



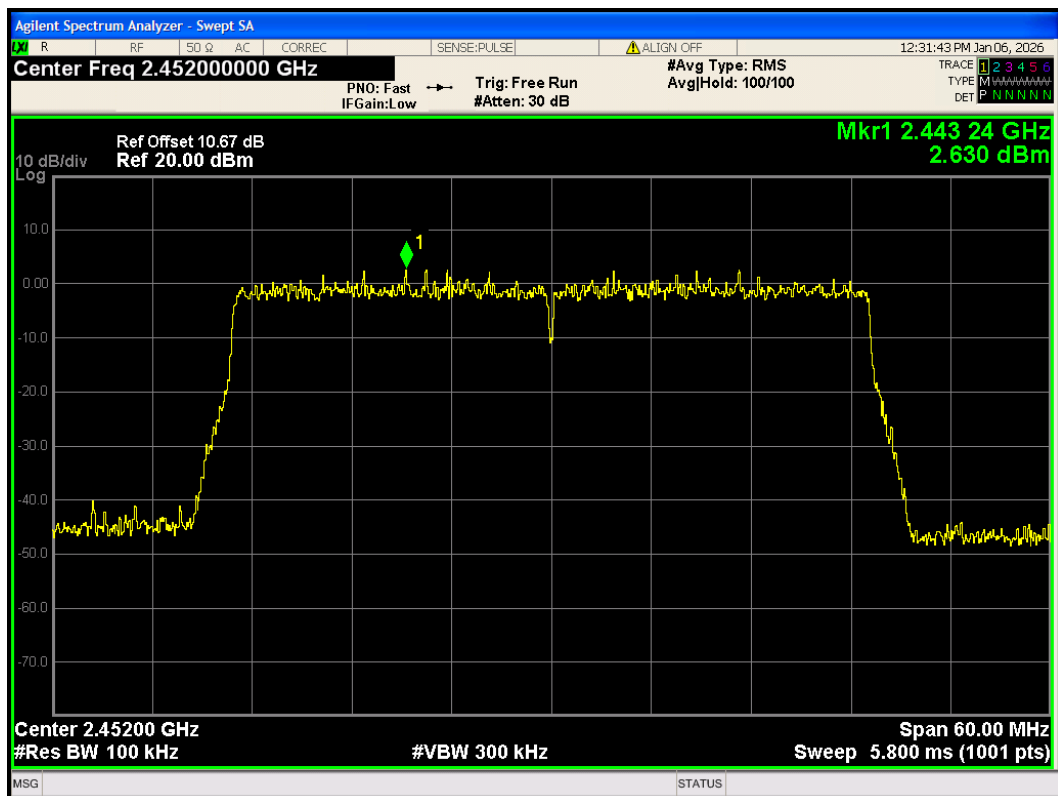
Band Edge 802.11ax(HE40) 2422MHz Ref



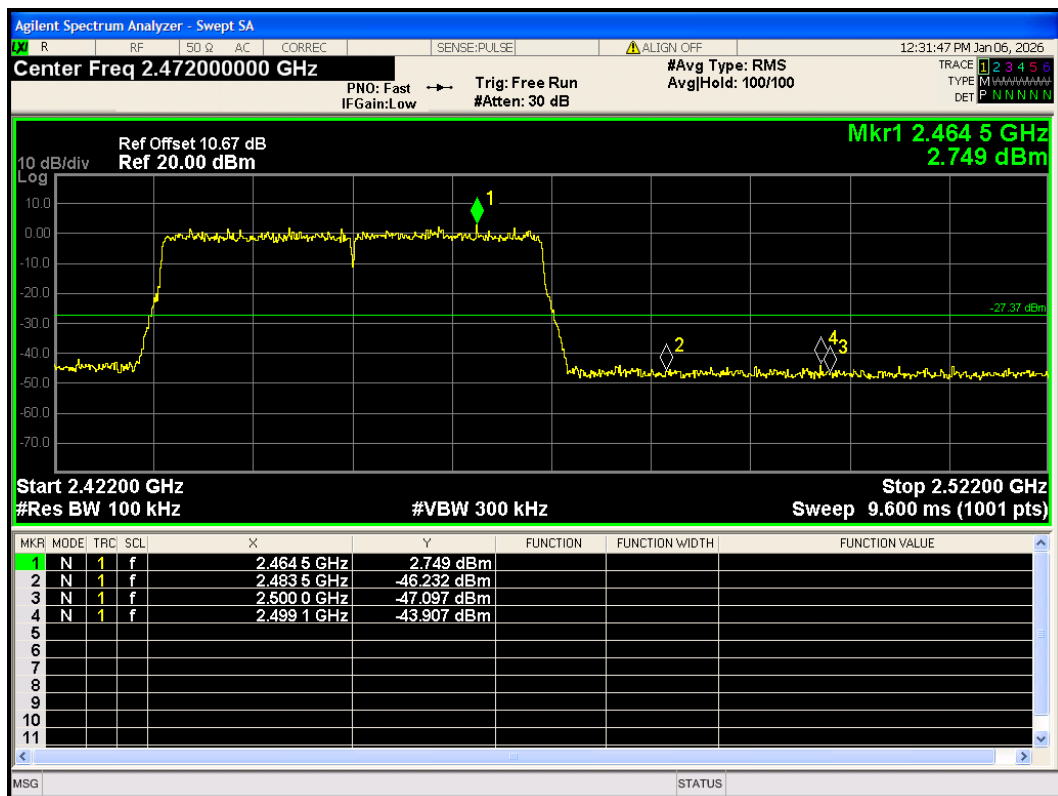
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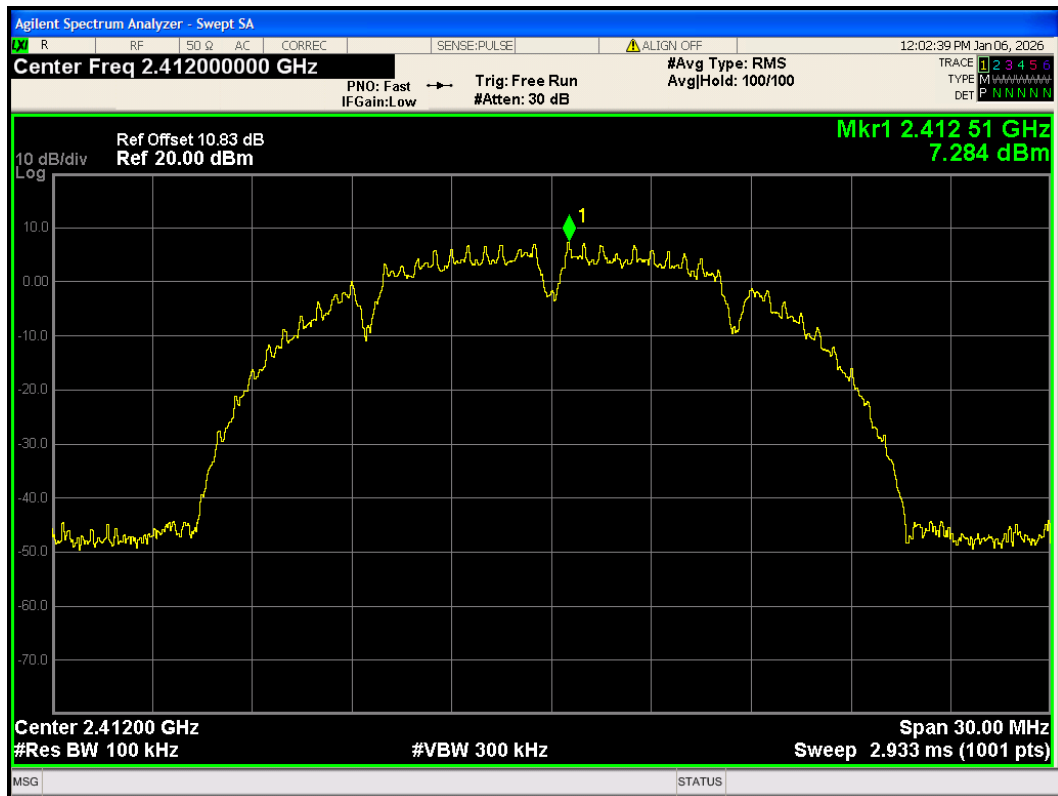
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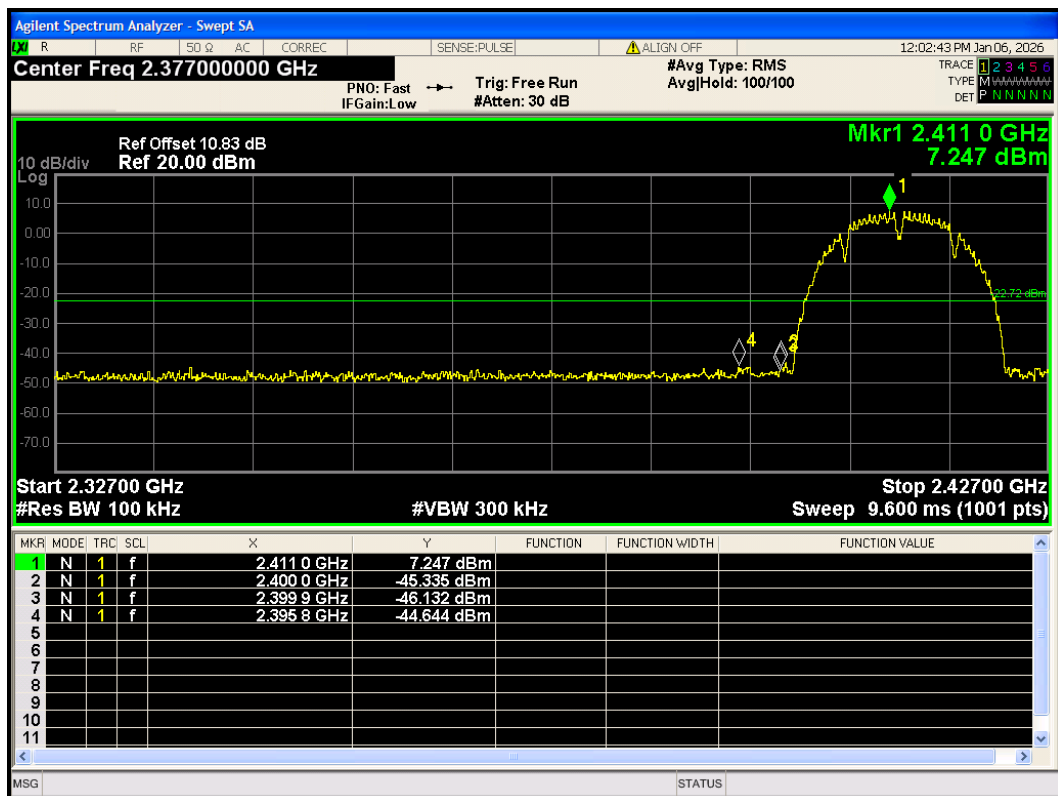
Band Edge 802.11ax(HE40) 2452MHz Emission



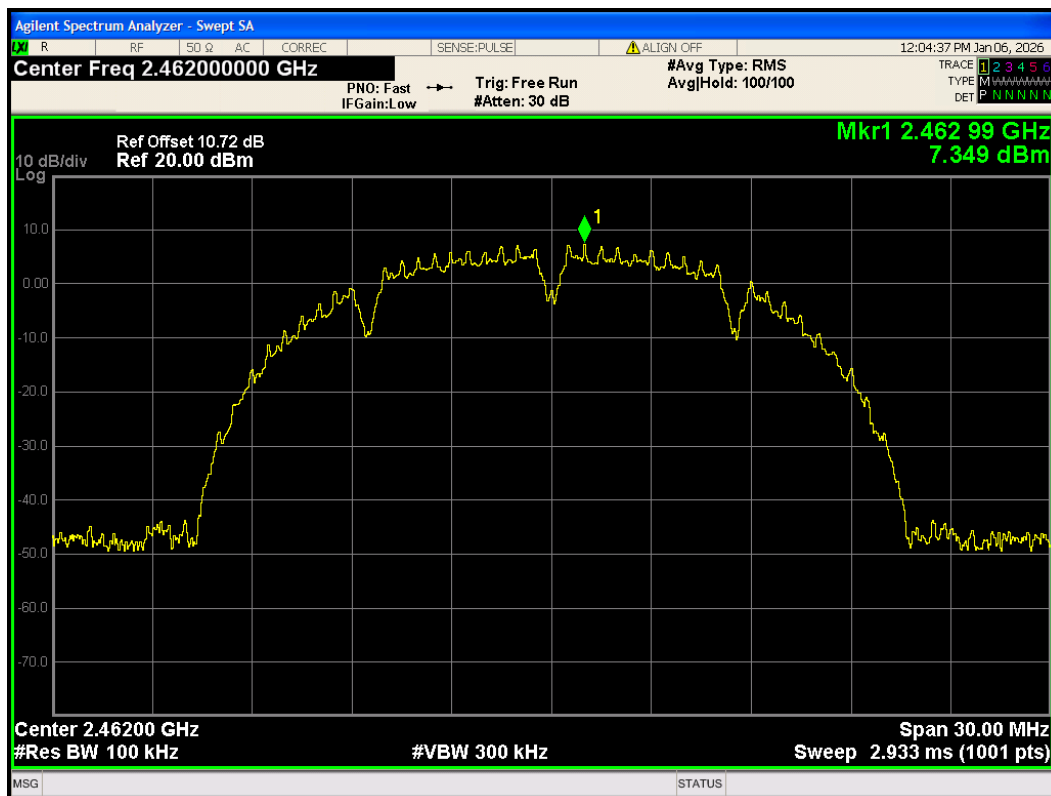
Band Edge 802.11b 2412MHz Ref



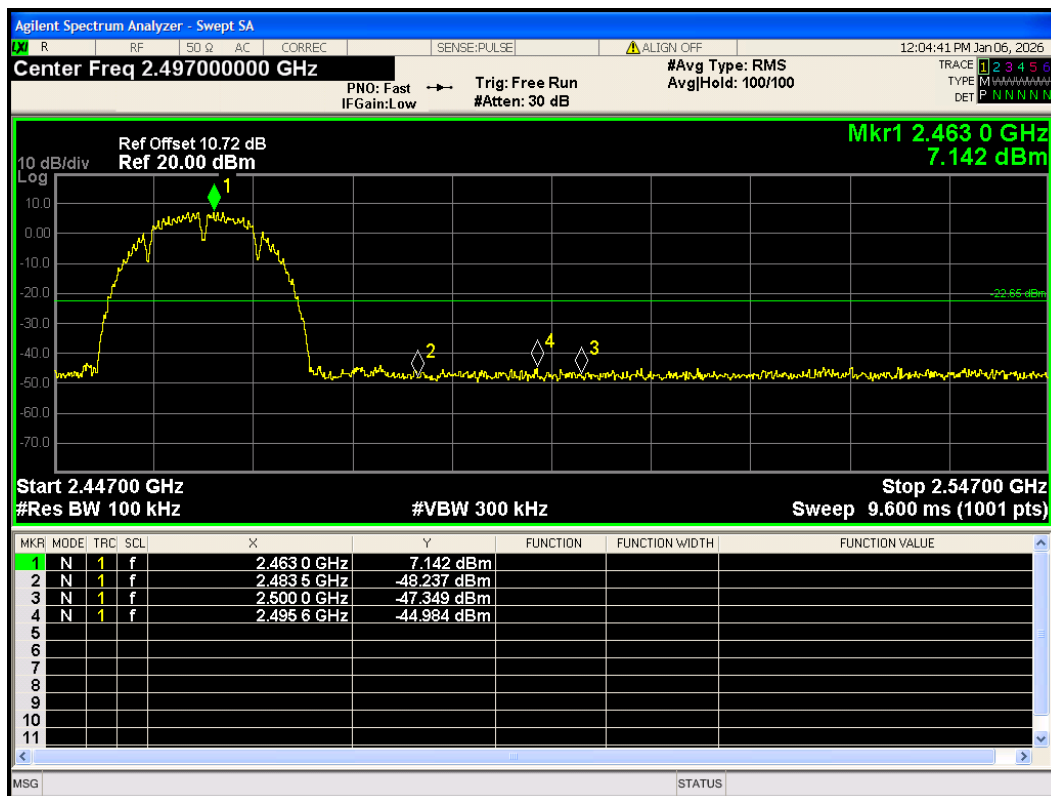
Band Edge 802.11b 2412MHz Emission



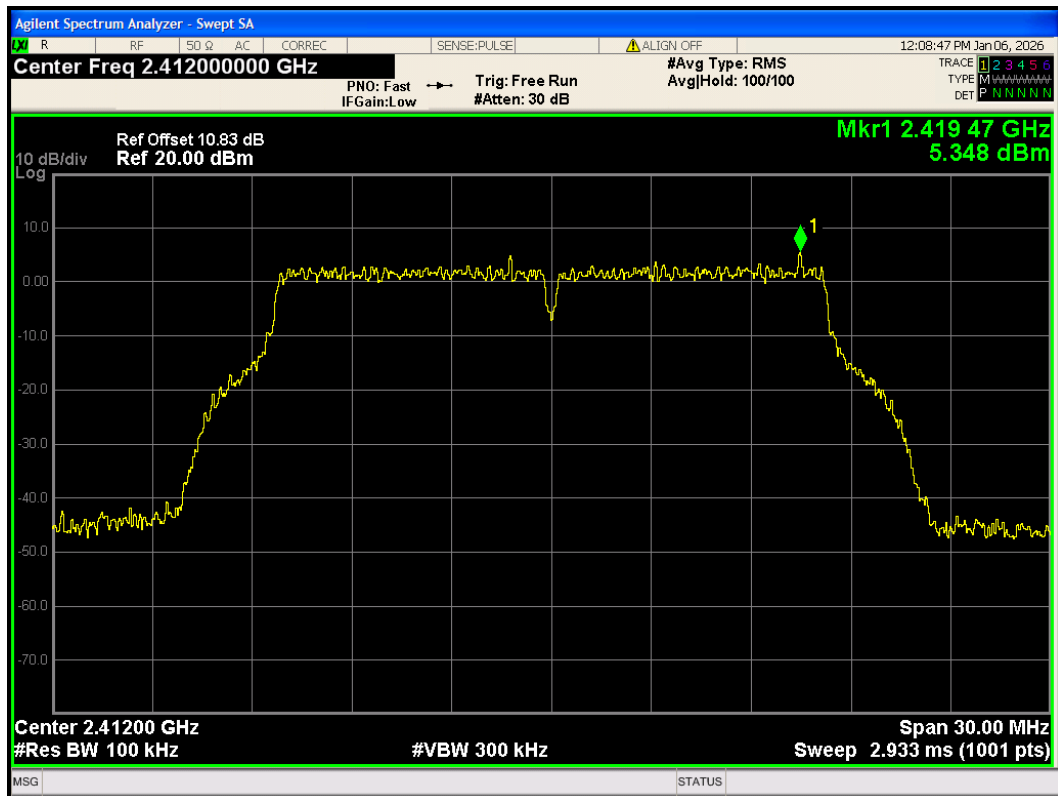
Band Edge 802.11b 2462MHz Ref



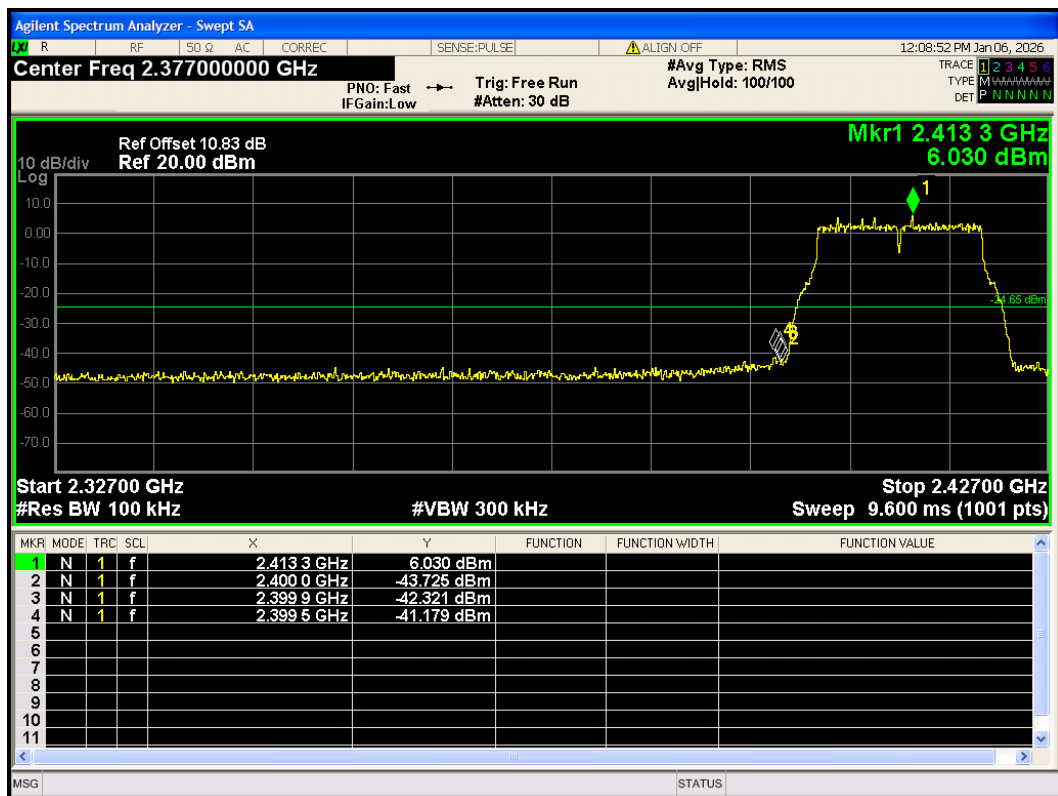
Band Edge 802.11b 2462MHz Emission



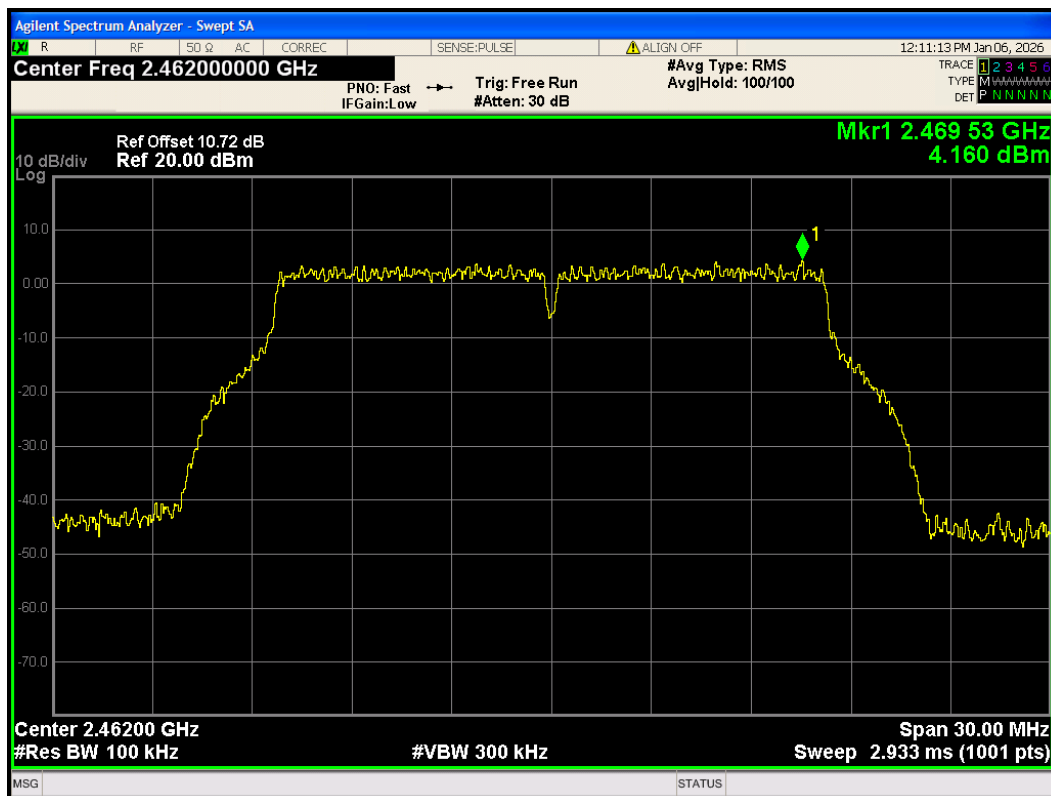
Band Edge 802.11g 2412MHz Ref



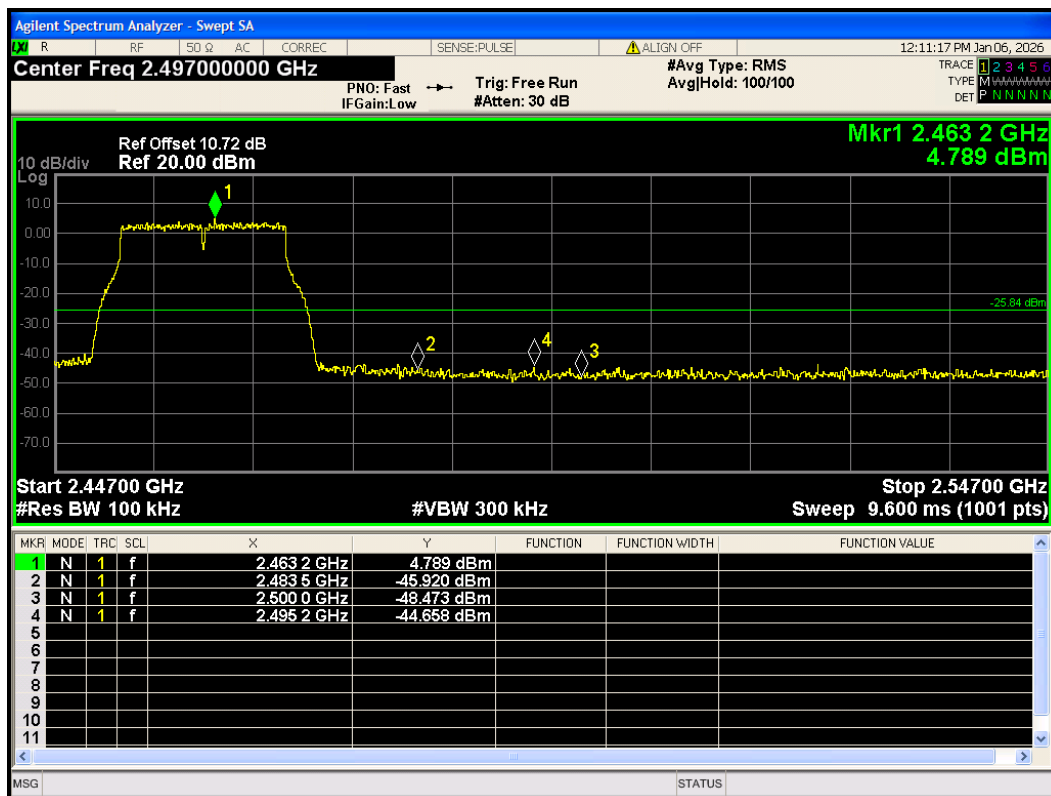
Band Edge 802.11g 2412MHz Emission



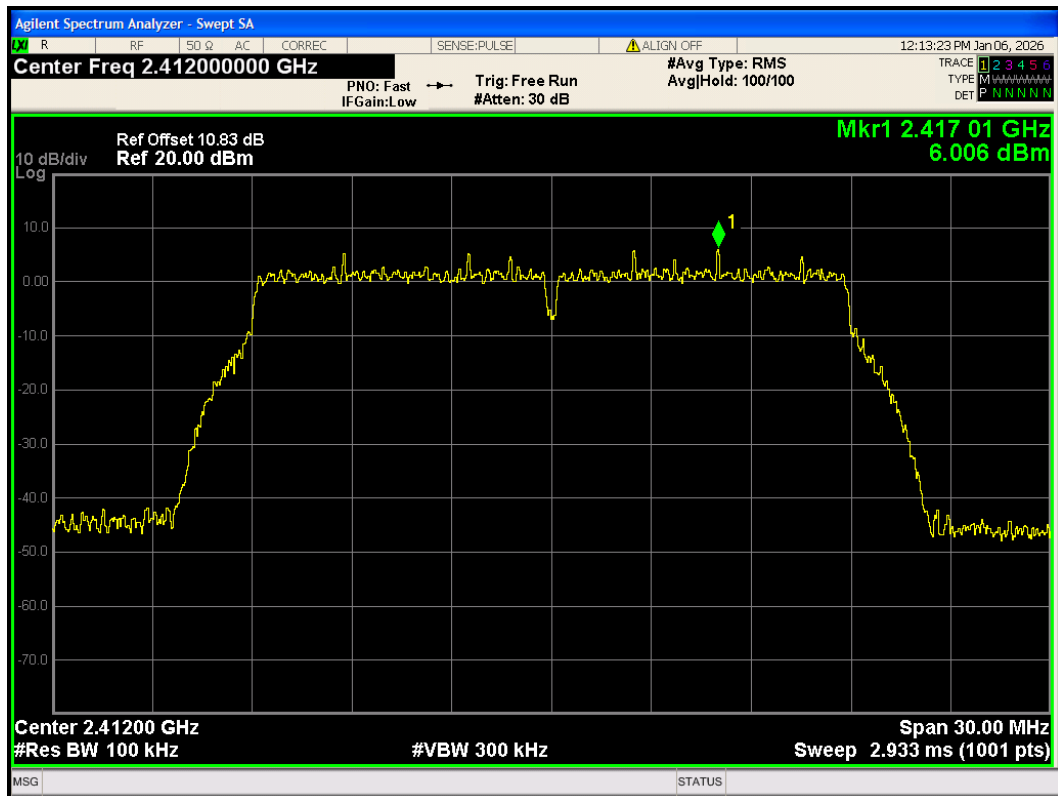
Band Edge 802.11g 2462MHz Ref



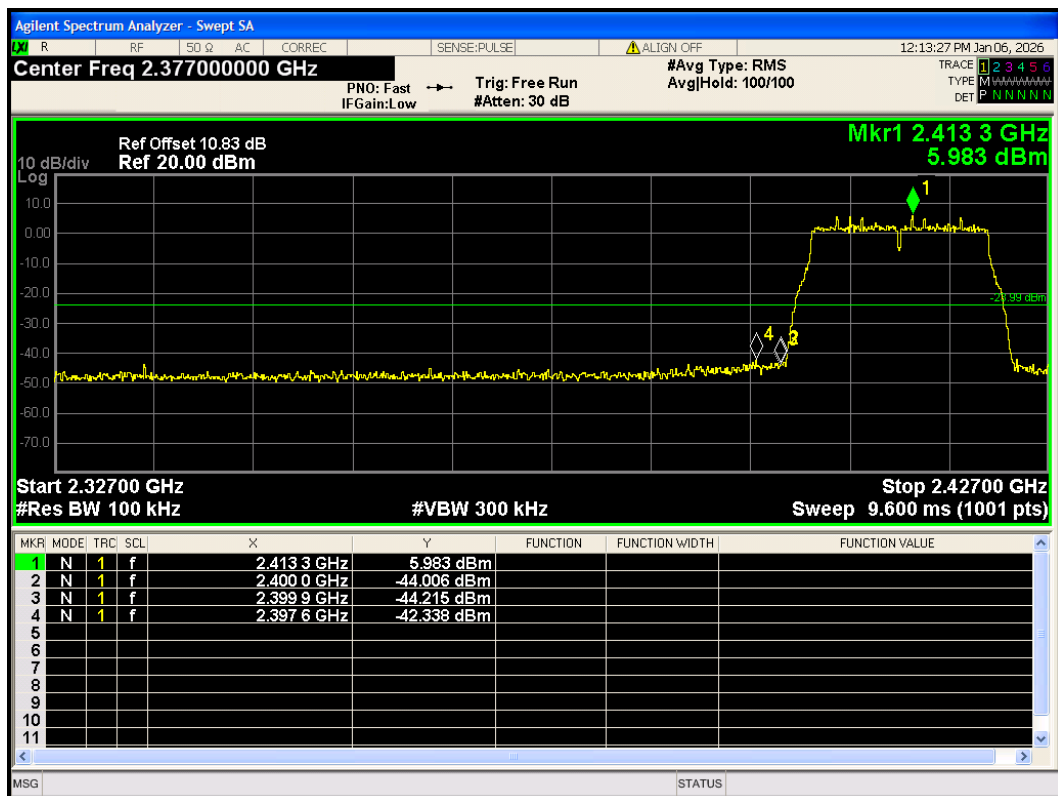
Band Edge 802.11g 2462MHz Emission



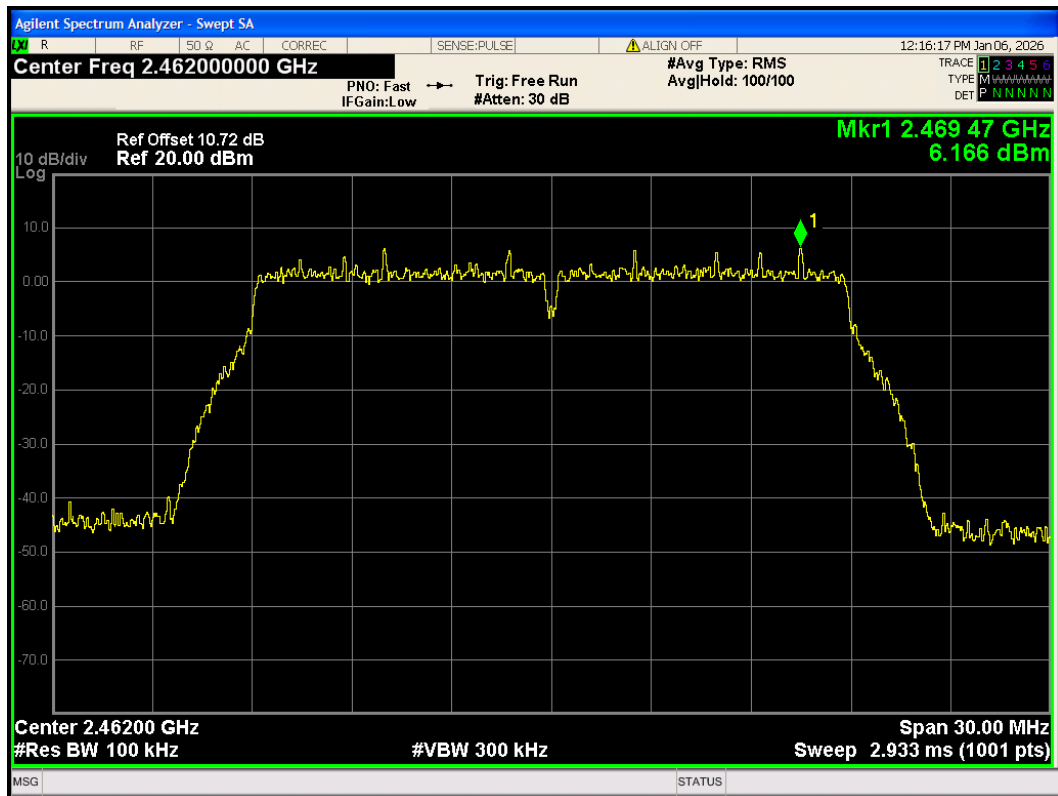
Band Edge 802.11n(HT20) 2412MHz Ref



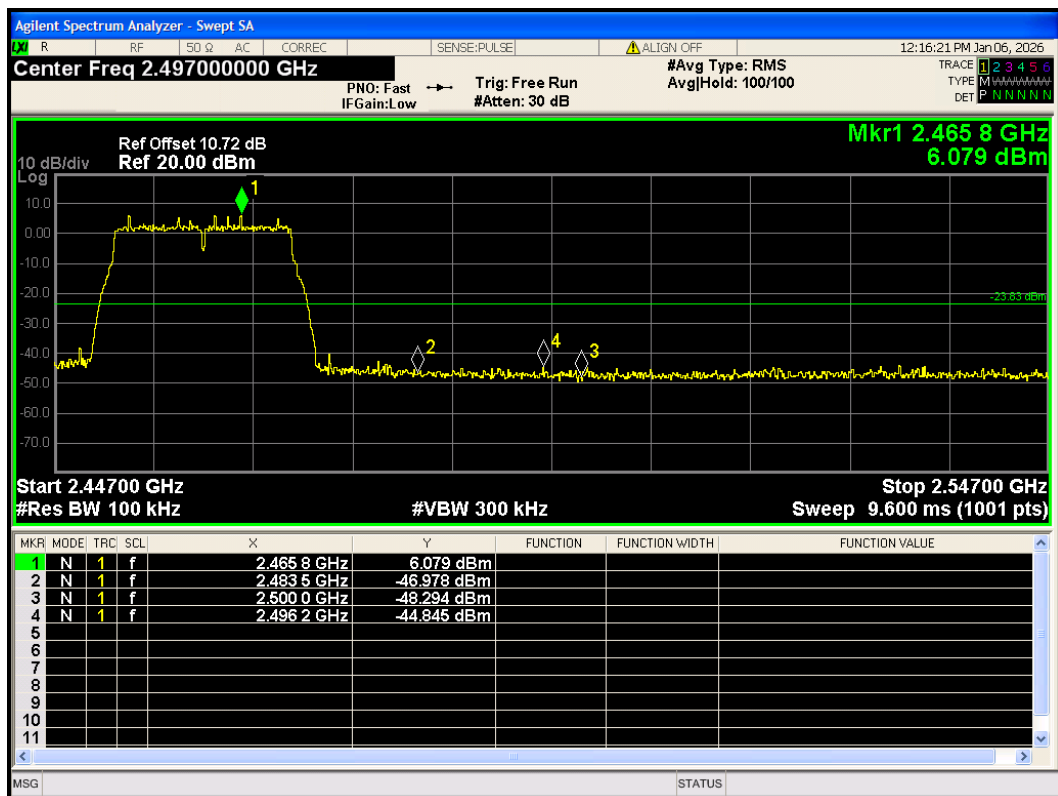
Band Edge 802.11n(HT20) 2412MHz Emission



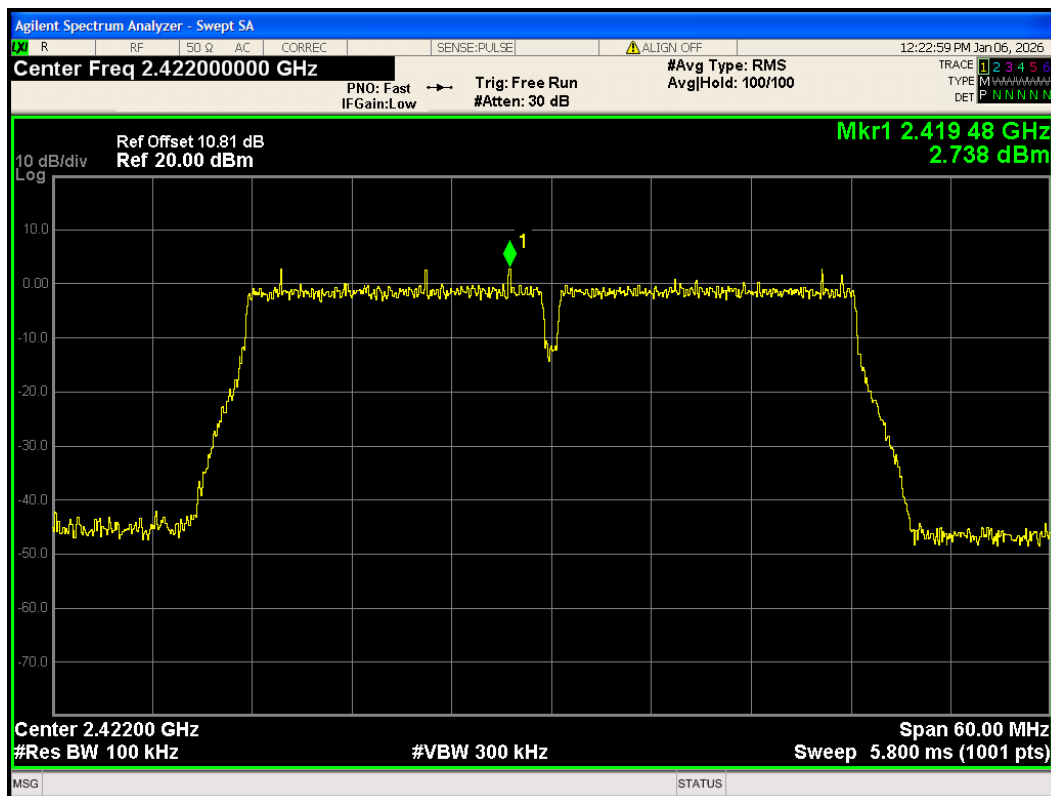
Band Edge 802.11n(HT20) 2462MHz Ref



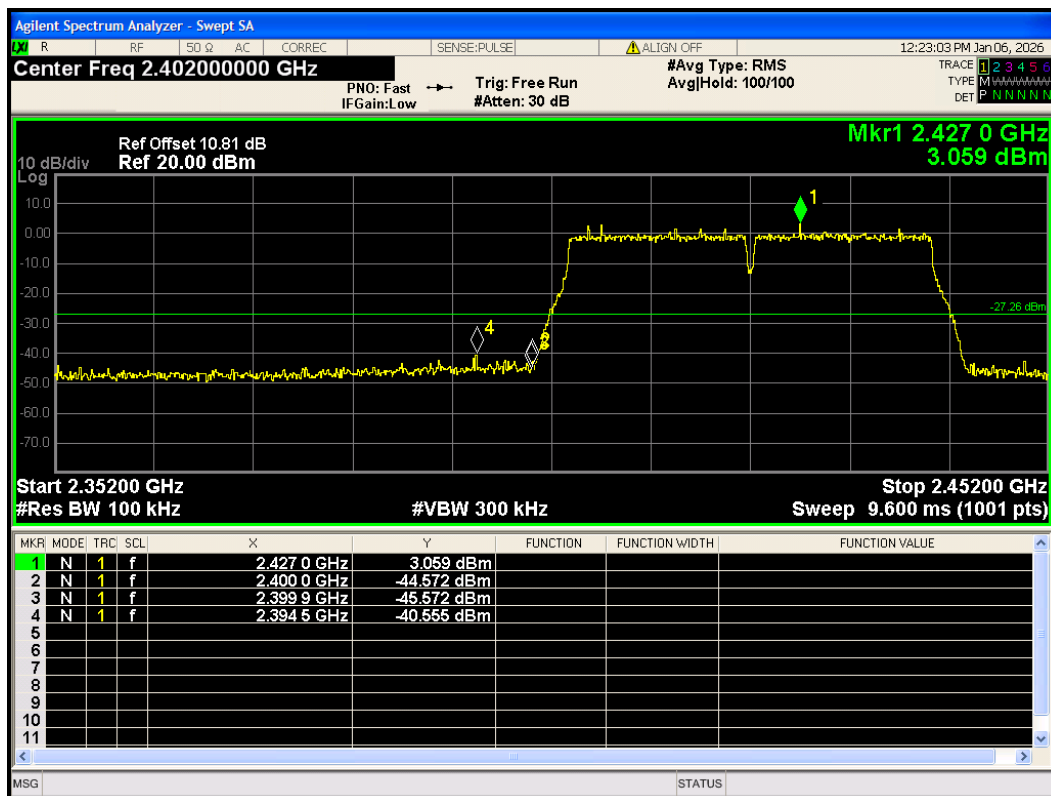
Band Edge 802.11n(HT20) 2462MHz Emission



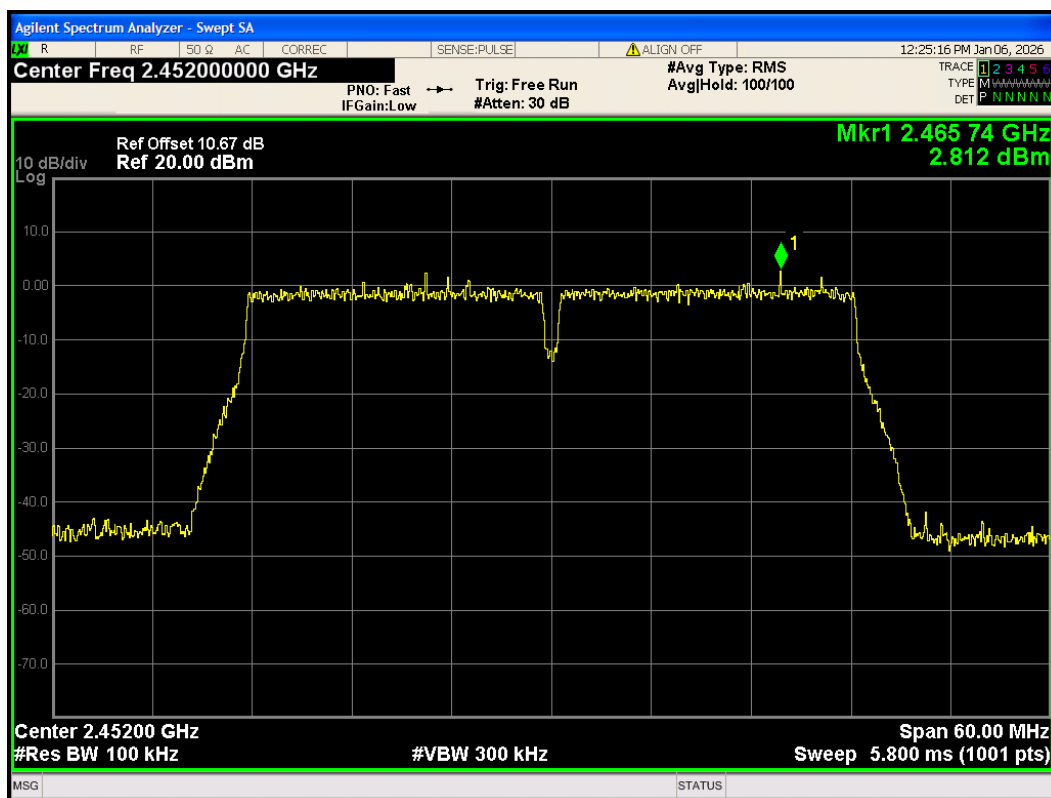
Band Edge 802.11n(HT40) 2422MHz Ref



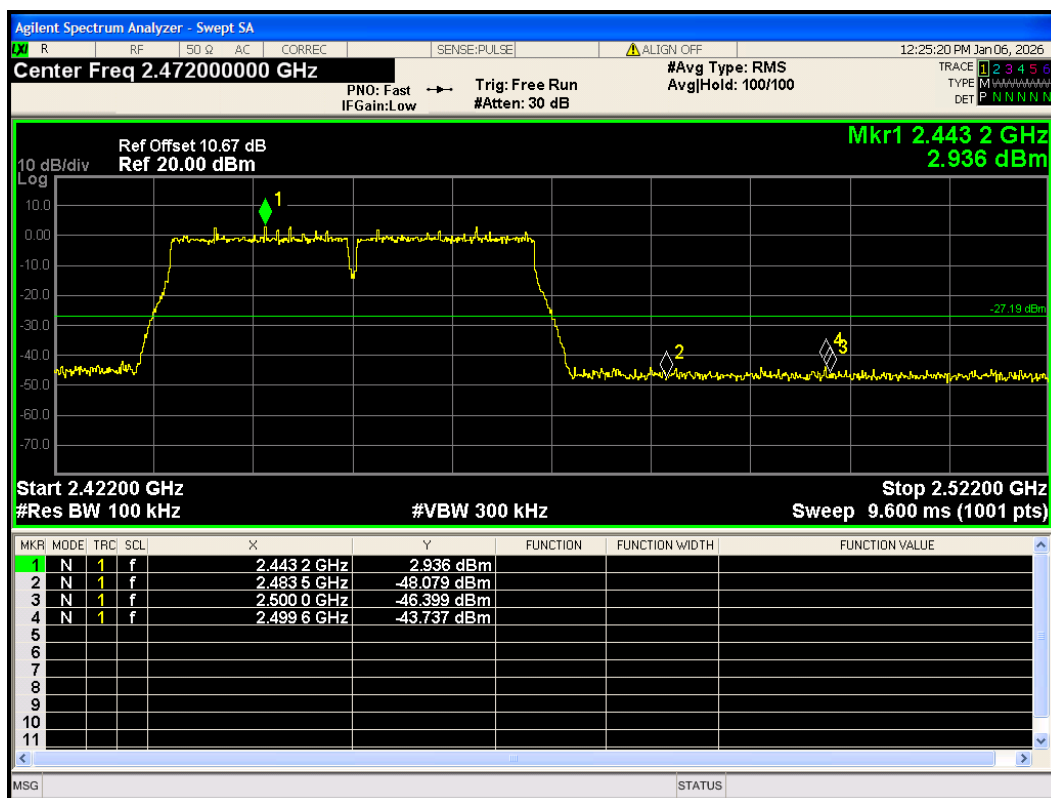
Band Edge 802.11n(HT40) 2422MHz Emission



Band Edge 802.11n(HT40) 2452MHz Ref



Band Edge 802.11n(HT40) 2452MHz Emission



6.4. Power Spectral Density

SISO

Antenna 1

Test Mode	Carrier frequency (MHz)/ Channel	Read Value (dBm / 30kHz)	Power Spectral Density (dBm / 3kHz)	Limit (dBm / 3kHz)	Conclusion
802.11b	2412/CH 1	-5.35	-15.10	8	PASS
	2437/CH 6	-5.81	-15.56	8	PASS
	2462/CH11	-5.17	-14.92	8	PASS
802.11g	2412/CH 1	-7.56	-17.46	8	PASS
	2437/CH 6	-7.70	-17.60	8	PASS
	2462/CH11	-7.45	-17.35	8	PASS
802.11n HT20	2412/CH 1	-8.08	-17.83	8	PASS
	2437/CH 6	-7.90	-17.65	8	PASS
	2462/CH11	-7.76	-17.51	8	PASS
802.11n HT40	2422/CH3	-11.12	-20.81	8	PASS
	2437/CH6	-10.94	-20.63	8	PASS
	2452/CH9	-10.90	-20.59	8	PASS
802.11ax HE20	2412/CH 1	-9.43	-19.11	8	PASS
	2437/CH 6	-8.91	-18.59	8	PASS
	2462/CH11	-8.30	-17.98	8	PASS
802.11ax HE40	2422/CH3	-11.21	-20.83	8	PASS
	2437/CH6	-12.23	-21.85	8	PASS
	2452/CH9	-12.50	-22.12	8	PASS
Note: Power Spectral Density (dBm/3kHz) =Read Value+Duty cycle correction factor + 10*log10(3/30)					

Antenna 2

Test Mode	Carrier frequency (MHz)/ Channel	Read Value (dBm / 30kHz)	Power Spectral Density (dBm / 3kHz)	Limit (dBm / 3kHz)	Conclusion
802.11b	2412/CH 1	-5.51	-15.26	8	PASS
	2437/CH 6	-5.51	-15.26	8	PASS
	2462/CH11	-5.65	-15.40	8	PASS
802.11g	2412/CH 1	-7.34	-17.24	8	PASS
	2437/CH 6	-6.85	-16.75	8	PASS
	2462/CH11	-6.38	-16.28	8	PASS
802.11n HT20	2412/CH 1	-7.38	-17.13	8	PASS
	2437/CH 6	-7.51	-17.26	8	PASS
	2462/CH11	-7.76	-17.51	8	PASS
802.11n HT40	2422/CH3	-10.61	-20.30	8	PASS
	2437/CH6	-10.11	-19.80	8	PASS
	2452/CH9	-10.61	-20.30	8	PASS
802.11ax HE20	2412/CH 1	-8.63	-18.31	8	PASS
	2437/CH 6	-8.81	-18.49	8	PASS
	2462/CH11	-8.82	-18.50	8	PASS
802.11ax HE40	2422/CH3	-11.25	-20.87	8	PASS
	2437/CH6	-11.40	-21.02	8	PASS
	2452/CH9	-11.72	-21.34	8	PASS
Note: Power Spectral Density (dBm/3kHz) =Read Value+Duty cycle correction factor + 10*log10(3/30)					

MIMO

Test Mode	Carrier frequency (MHz)/ Channel	Power Spectral Density				Total PSD	Limit (dBm / 3kHz)	Conclus ion
		Antenna 1		Antenna 2				
		Read Value (dBm / 30kHz)	Power Spectral Density (dBm / 3kHz)	Read Value (dBm / 30kHz)	Power Spectral Density (dBm / 3kHz)	(dBm / 3kHz)		
802.11b	2412/CH 1	-7.85	-17.60	-8.25	-18.00	-14.79	6.69	PASS
	2437/CH 6	-7.94	-17.69	-7.92	-17.67	-14.67	6.69	PASS
	2462/CH11	-7.79	-17.54	-8.02	-17.77	-14.64	6.69	PASS
802.11g	2412/CH 1	-9.27	-19.17	-9.78	-19.68	-16.41	6.69	PASS
	2437/CH 6	-10.16	-20.06	-10.48	-20.38	-17.21	6.69	PASS
	2462/CH11	-9.78	-19.68	-10.42	-20.32	-16.98	6.69	PASS
802.11n HT20	2412/CH 1	-11.12	-20.87	-10.36	-20.11	-17.46	6.69	PASS
	2437/CH 6	-10.52	-20.27	-10.27	-20.02	-17.13	6.69	PASS
	2462/CH11	-10.22	-19.97	-10.01	-19.76	-16.85	6.69	PASS
802.11n HT40	2422/CH3	-13.59	-23.28	-13.22	-22.91	-20.08	6.69	PASS
	2437/CH6	-13.38	-23.07	-12.82	-22.51	-19.77	6.69	PASS
	2452/CH9	-12.54	-22.23	-13.15	-22.84	-19.51	6.69	PASS
802.11ax HE20	2412/CH 1	-10.78	-20.46	-11.53	-21.21	-17.81	6.69	PASS
	2437/CH 6	-9.29	-18.97	-11.18	-20.86	-16.80	6.69	PASS
	2462/CH11	-9.51	-19.19	-10.84	-20.52	-16.79	6.69	PASS
802.11ax HE40	2422/CH3	-13.08	-22.70	-13.69	-23.31	-19.98	6.69	PASS
	2437/CH6	-12.37	-21.99	-13.3	-22.92	-19.42	6.69	PASS
	2452/CH9	-12.34	-21.96	-13.46	-23.08	-19.47	6.69	PASS

Note: 1.Power Spectral Density (dBm/3kHz) =Read Value+Duty cycle correction factor + 10*LOG10(3 / 30)

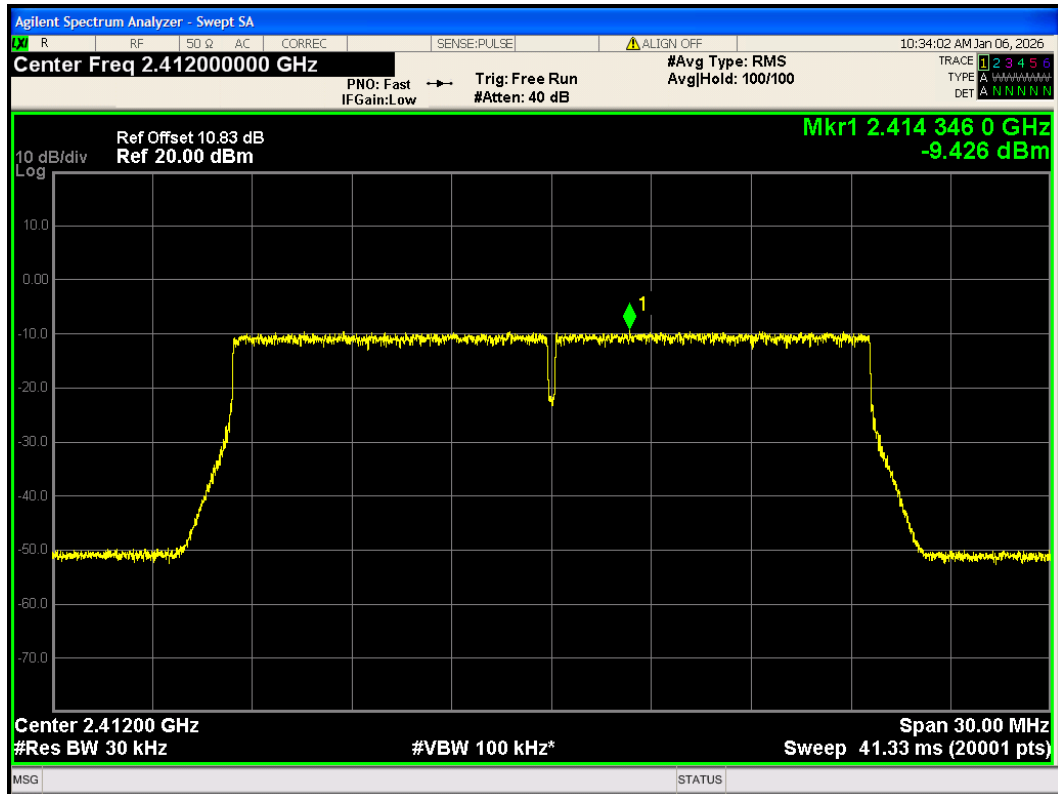
2. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),the power spectral density= $10\log(10^{(PSD_{antenna1} \text{ in dBm}/10)} + 10^{(PSD_{antenna2} \text{ in dBm}/10)})$

3. The manufacturer declared the transmitter output signals is CDD mode. And $N_{ss}=1$. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F2)f(i): If all antennas have the same gain, Directional gain = $G_{ANT} + \text{Array Gain}$. For PSD measurements on all devices, Array Gain= $10\log(N_{ant}/N_{ss})\text{dB}$, so directional gain= $G_{ANT} + \text{Array Gain} = 4.30 + 10\log(2/1) = 7.31 > 6\text{dBi}$. So the PSD limit is $8 + 6 - \text{MAX}(6, \text{directional gain}) \text{ dBm} = 6.69 \text{ dBm}$

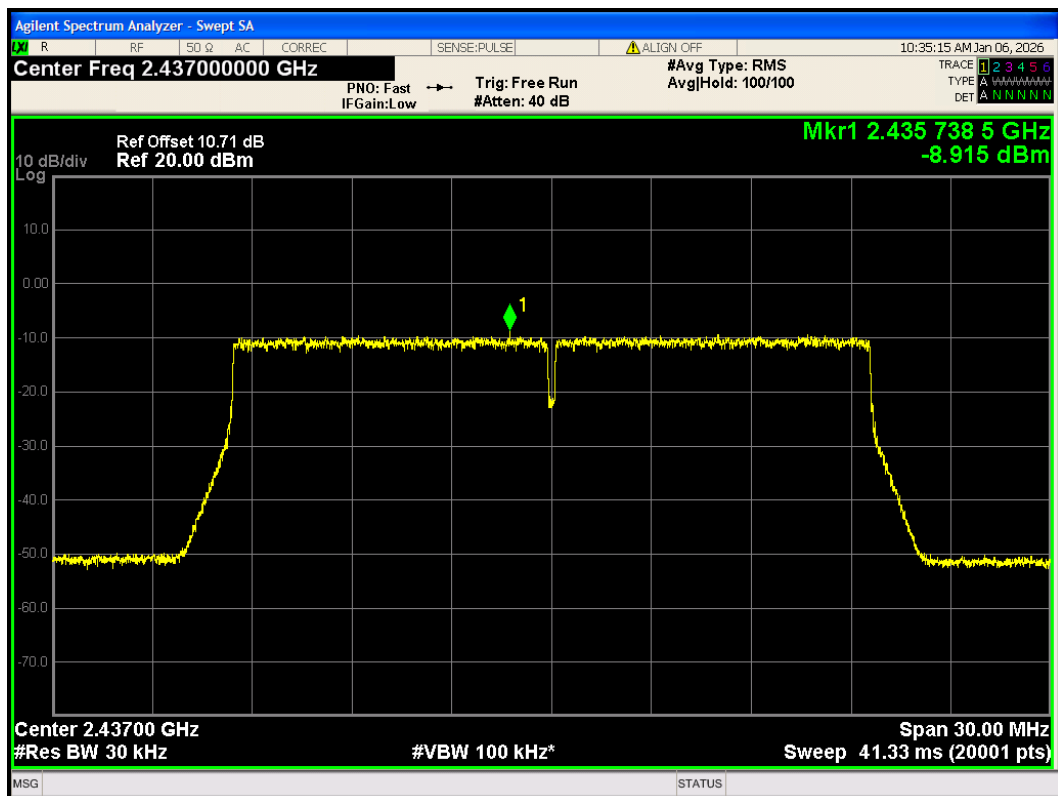
SISO

Antenna 1

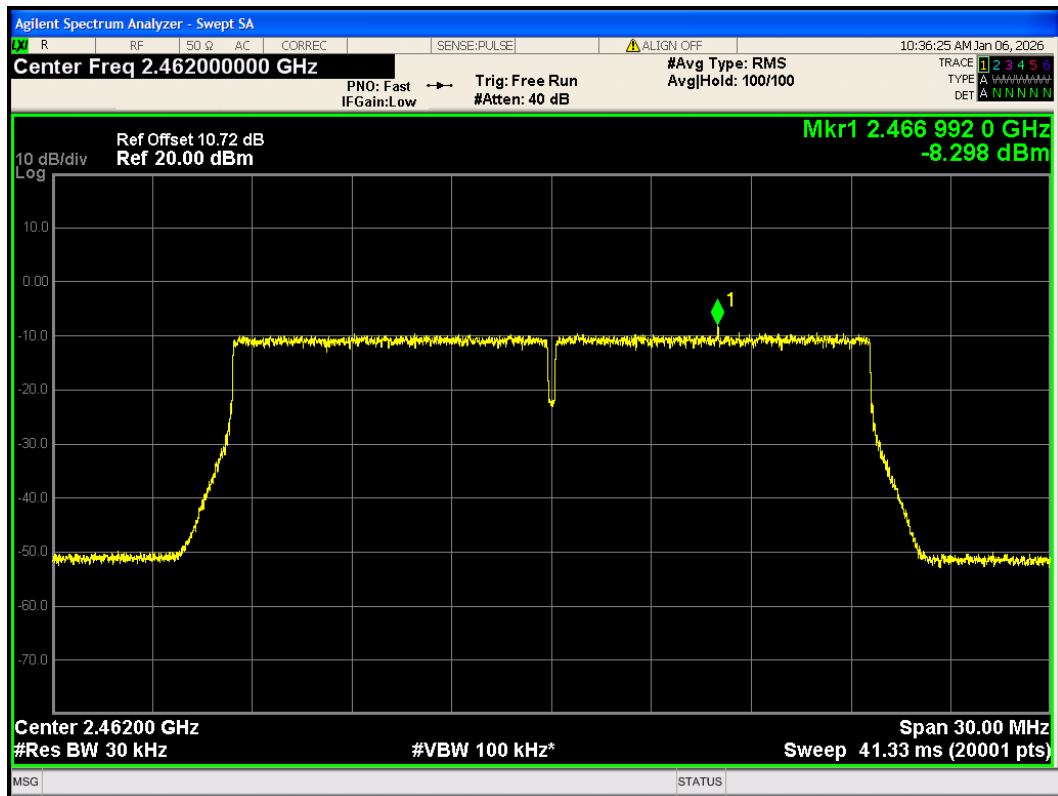
PSD 802.11ax(HE20) 2412MHz



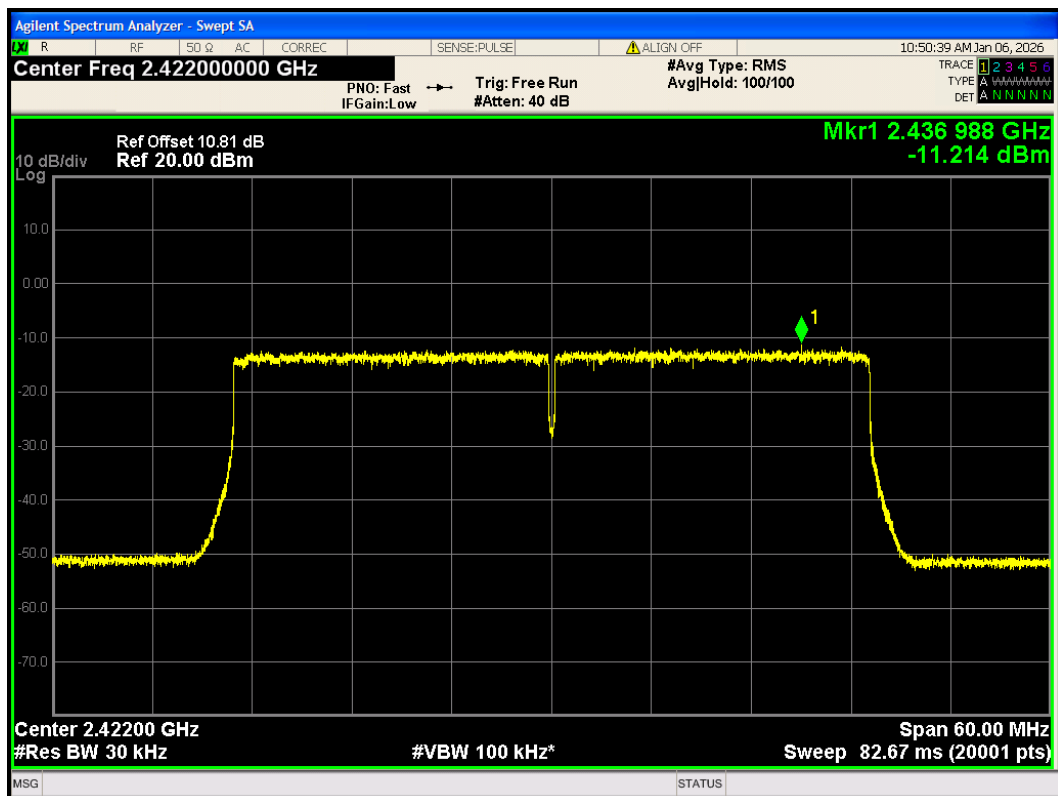
PSD 802.11ax(HE20) 2437MHz



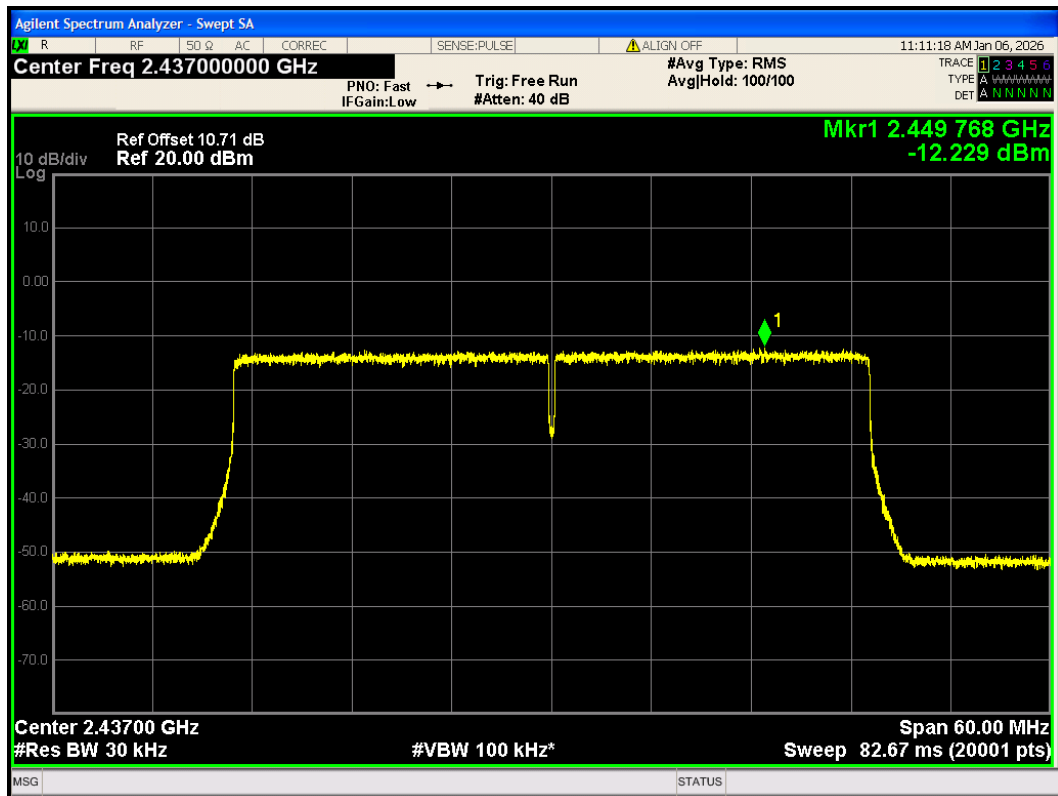
PSD 802.11ax(HE20) 2462MHz



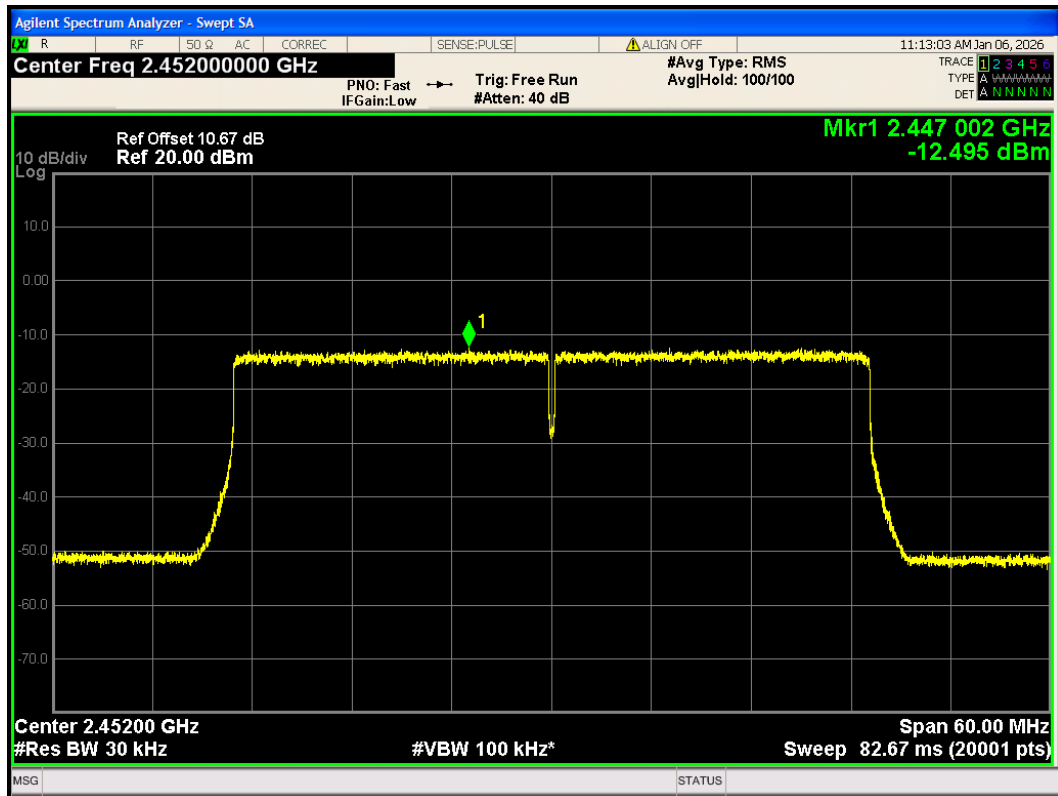
PSD 802.11ax(HE40) 2422MHz



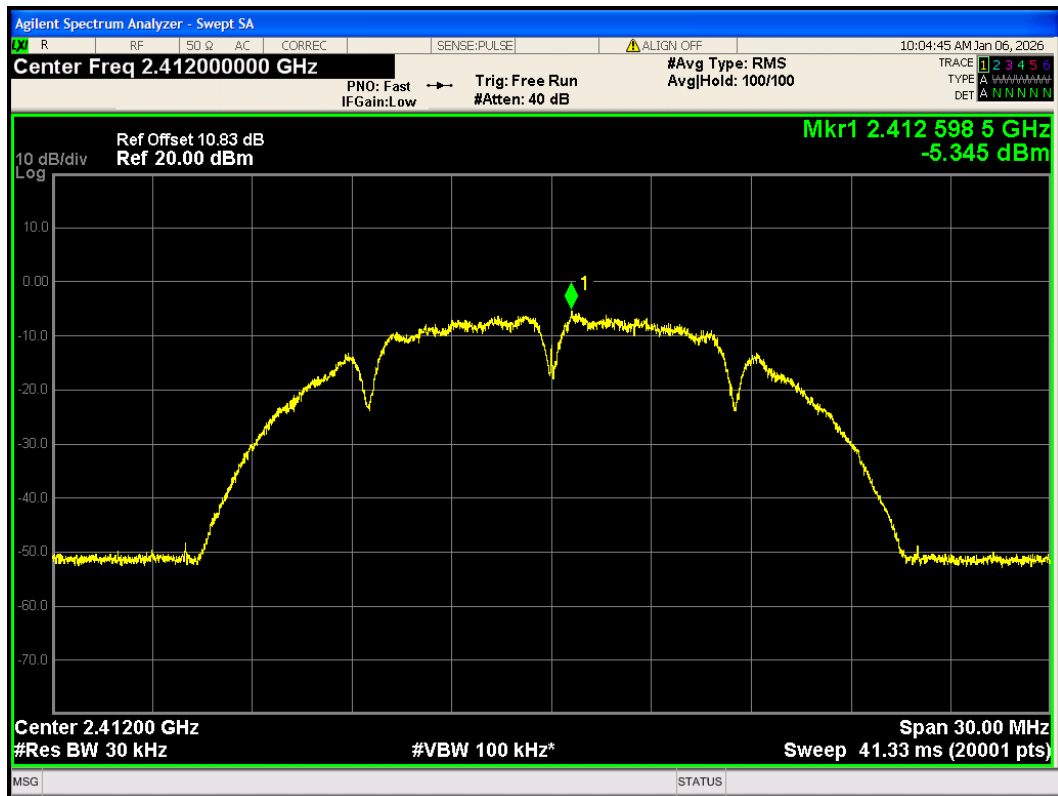
PSD 802.11ax(HE40) 2437MHz



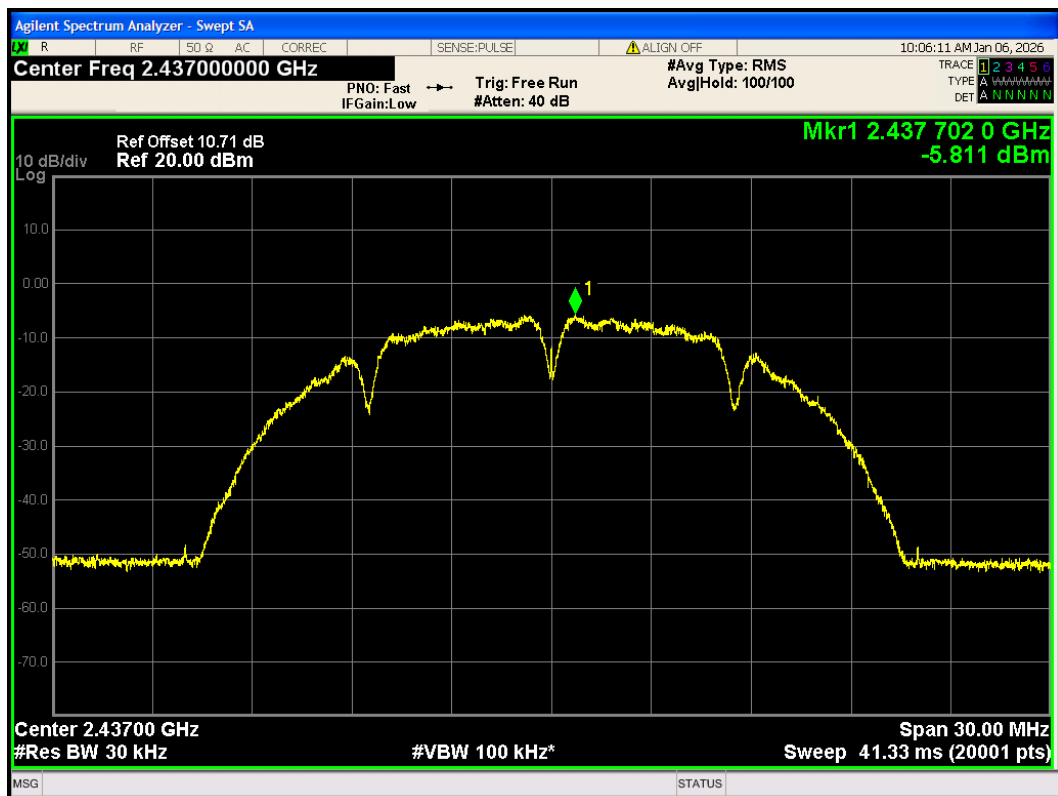
PSD 802.11ax(HE40) 2452MHz



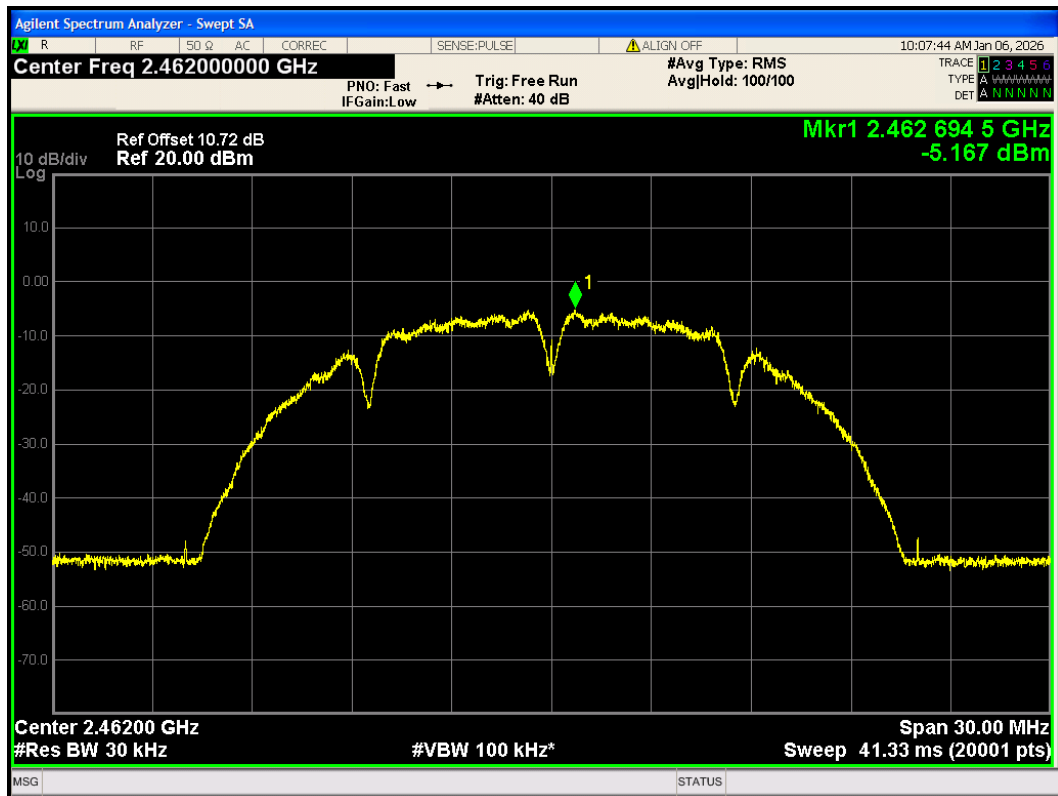
PSD 802.11b 2412MHz



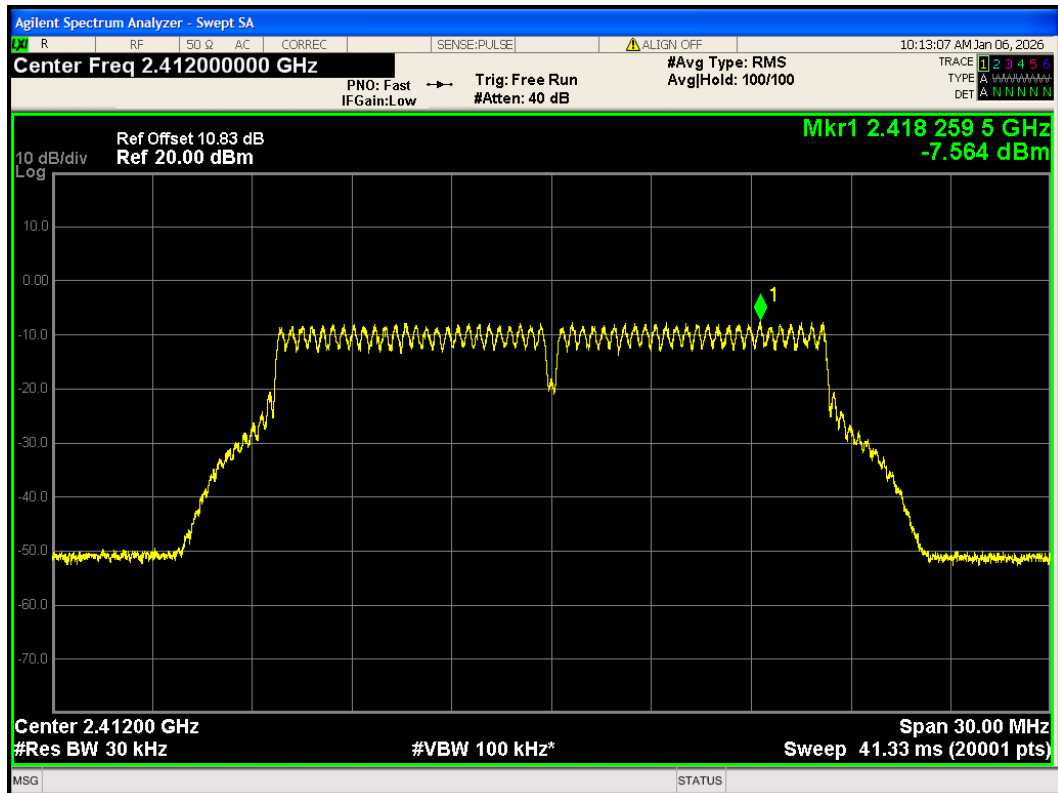
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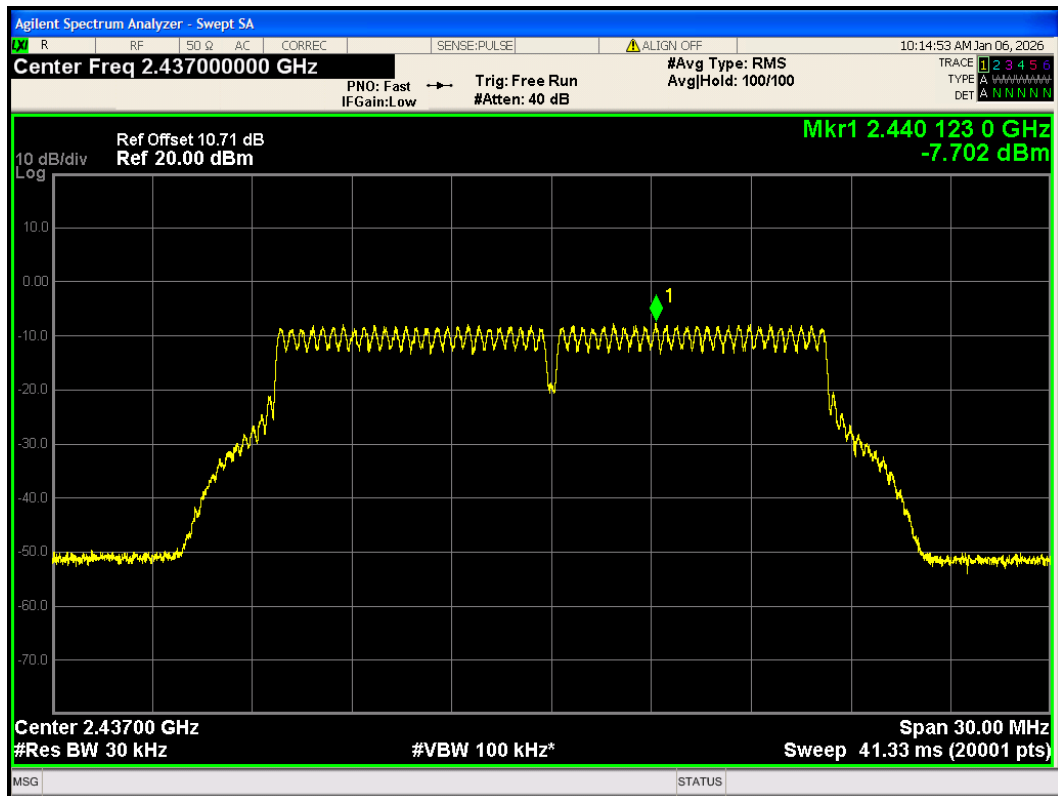
PSD 802.11b 2462MHz



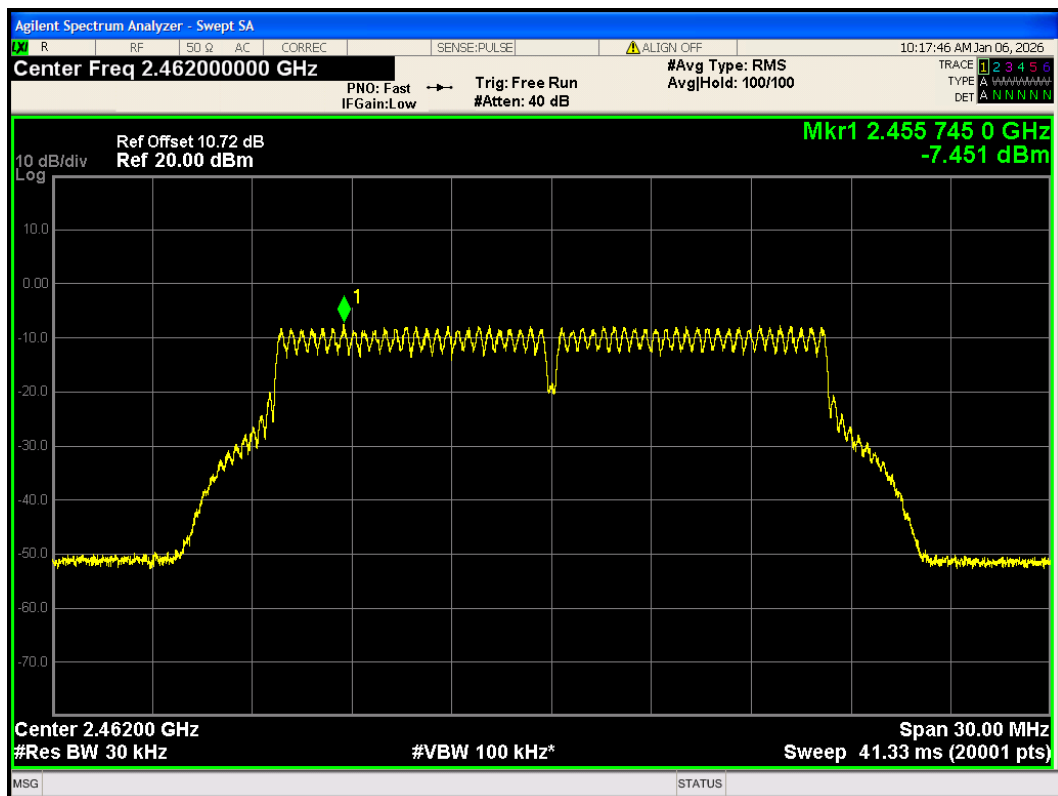
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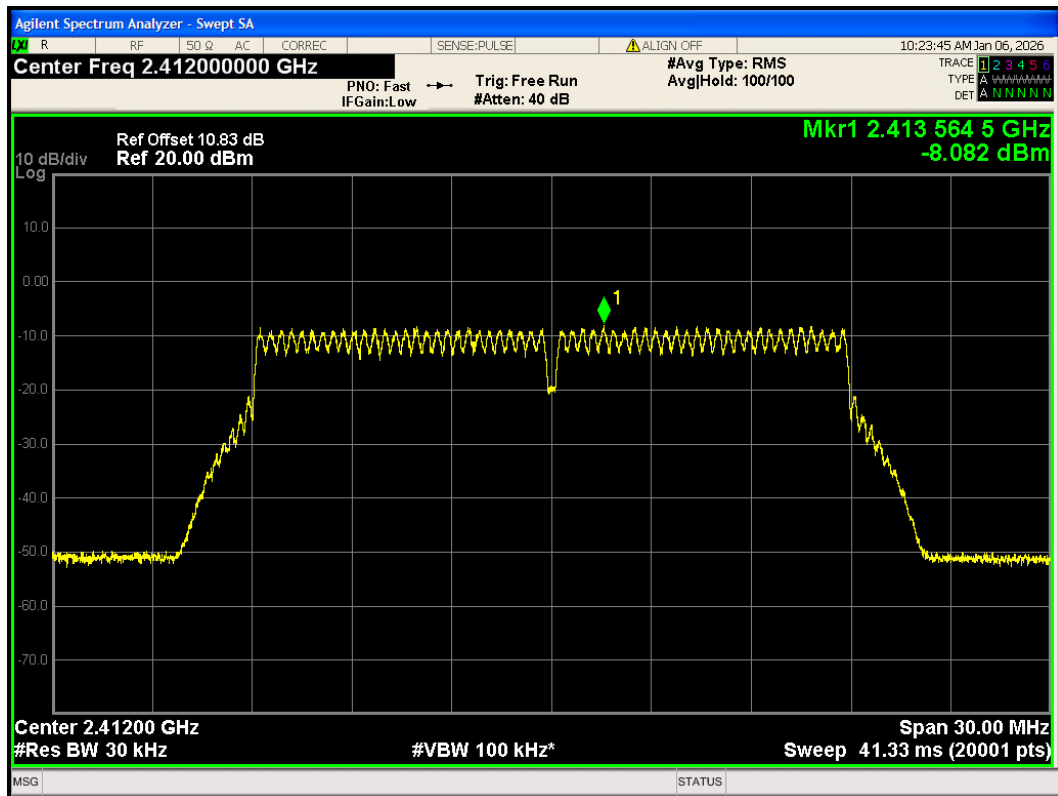
PSD 802.11g 2437MHz



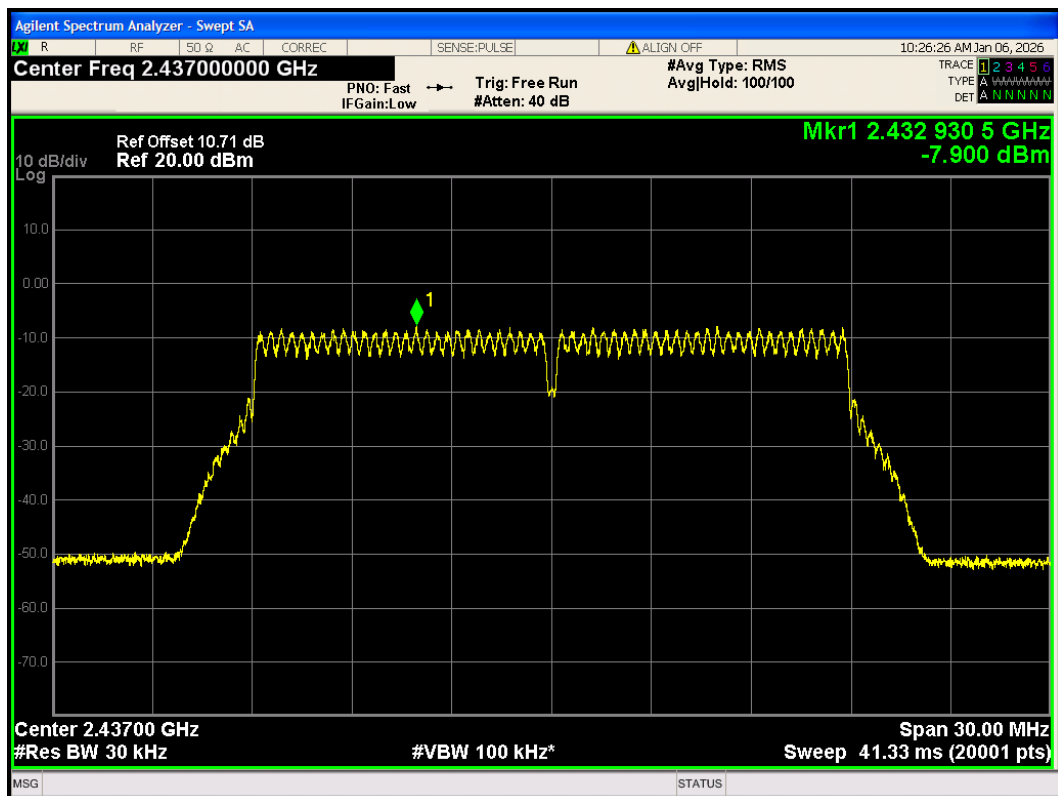
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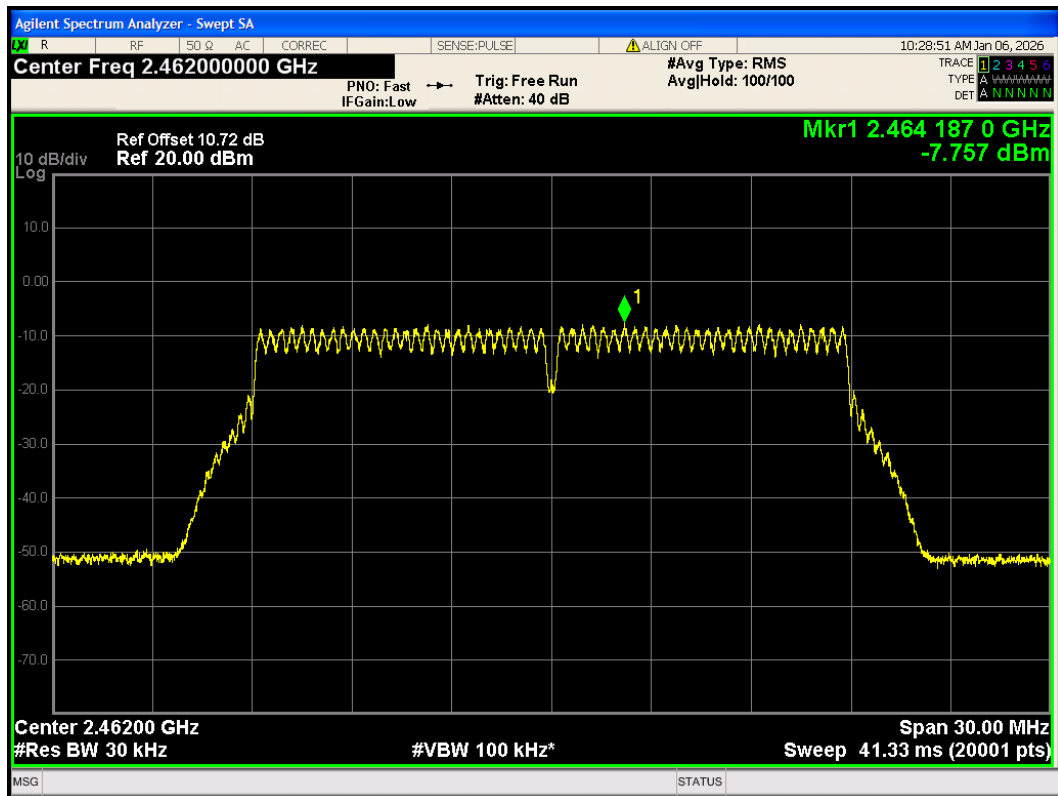
PSD 802.11n(HT20) 2412MHz



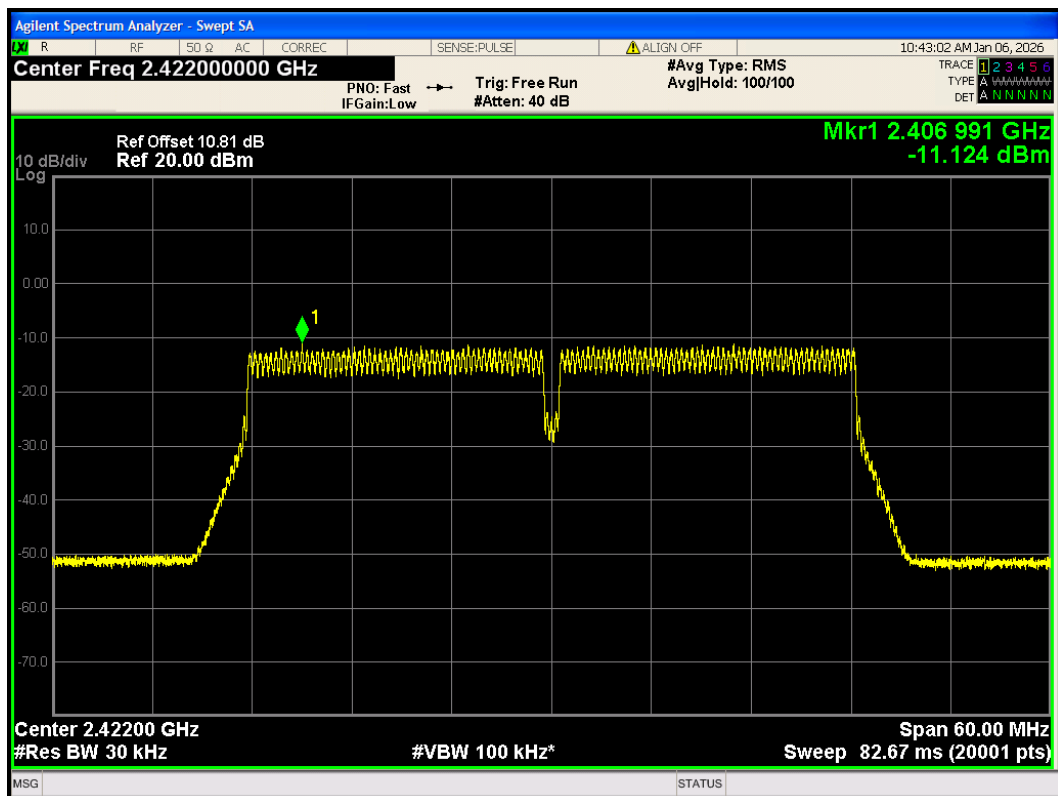
PSD 802.11n(HT20) 2437MHz



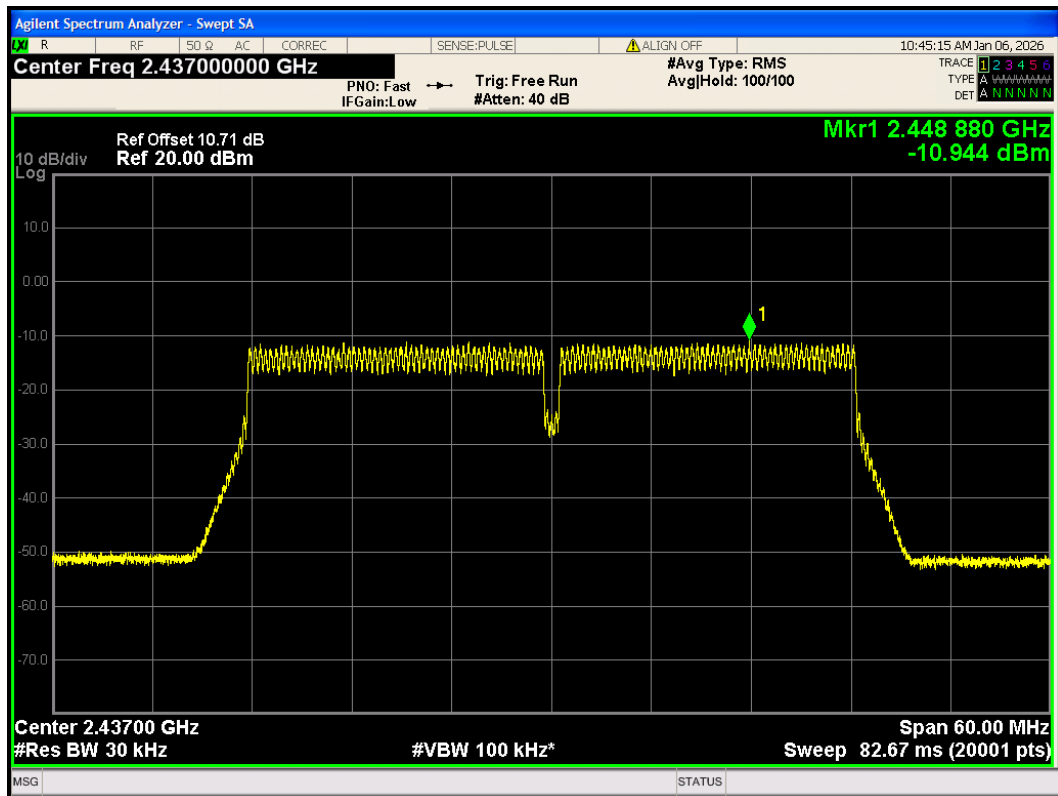
PSD 802.11n(HT20) 2462MHz



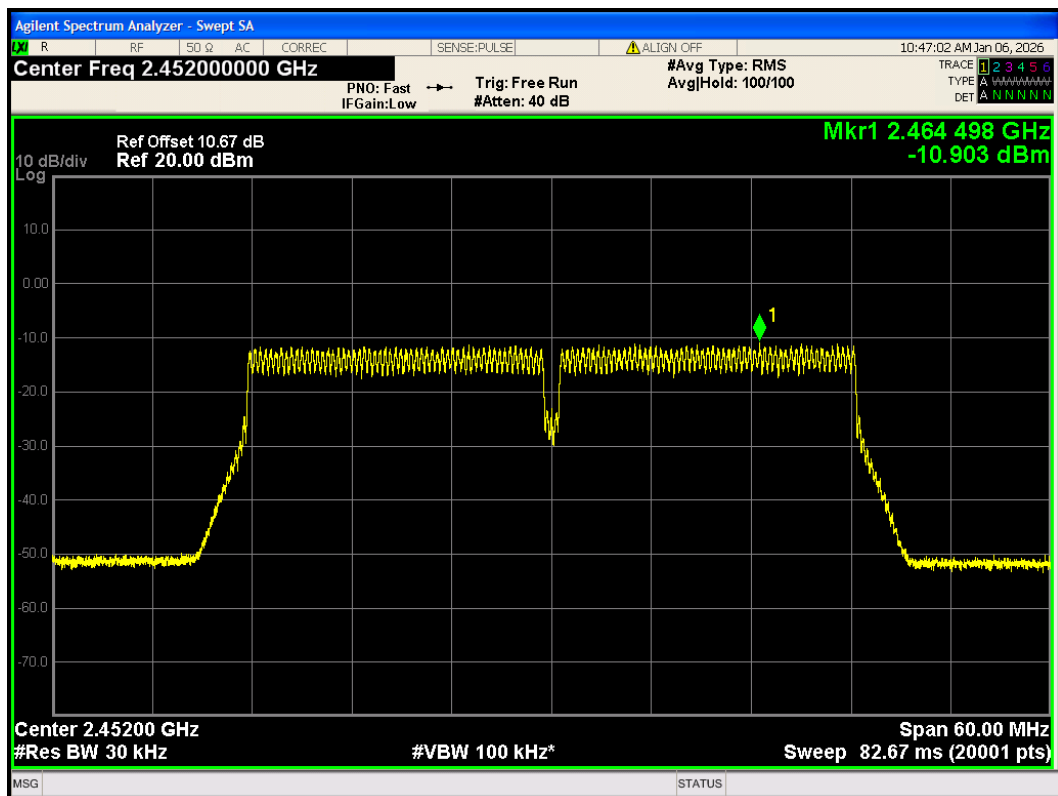
PSD 802.11n(HT40) 2422MHz



PSD 802.11n(HT40) 2437MHz

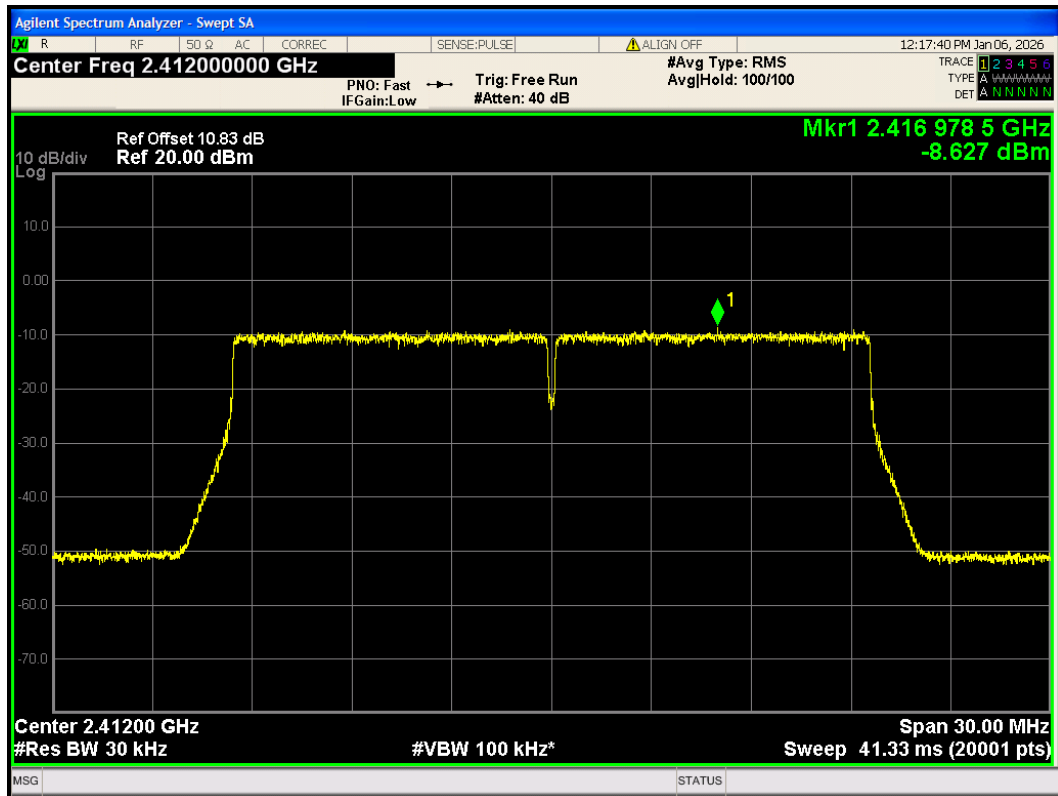


PSD 802.11n(HT40) 2452MHz

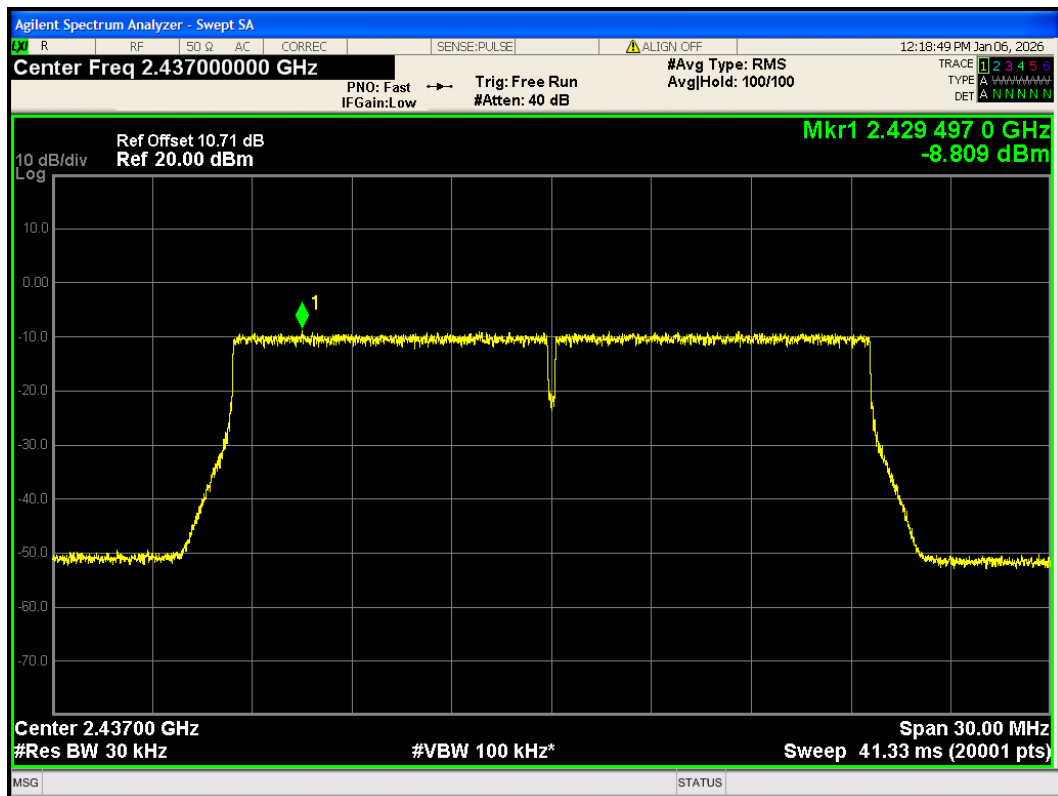


Antenna 2

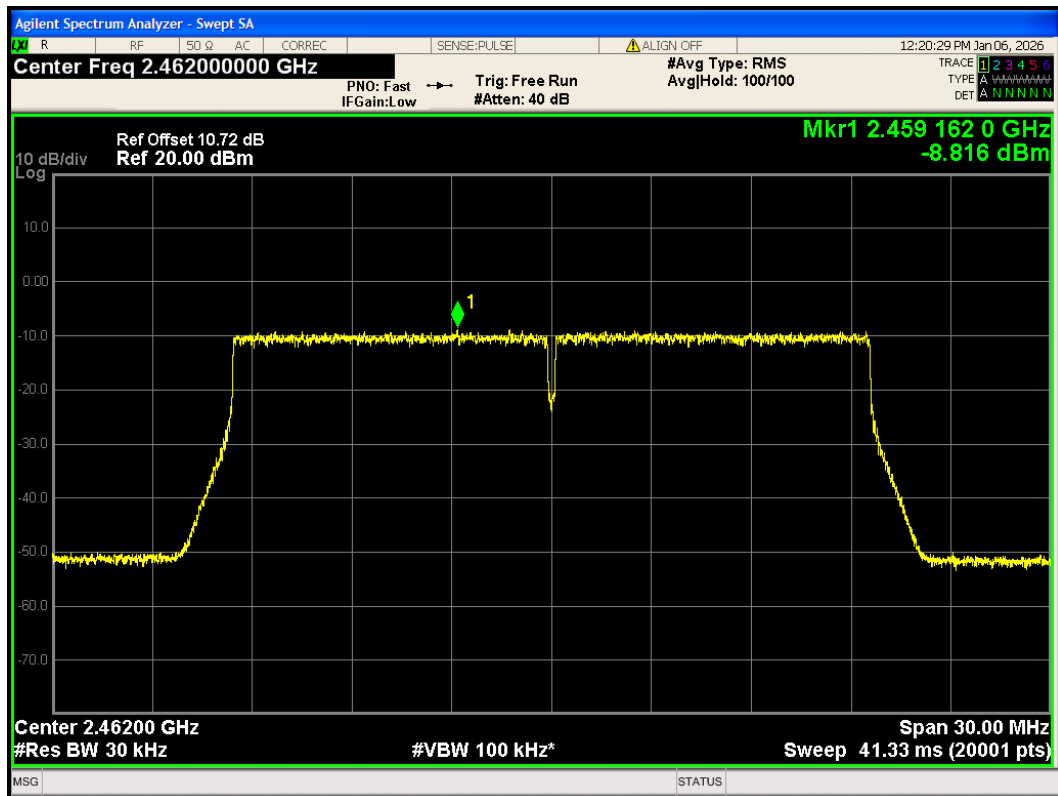
PSD 802.11ax(HE20) 2412MHz



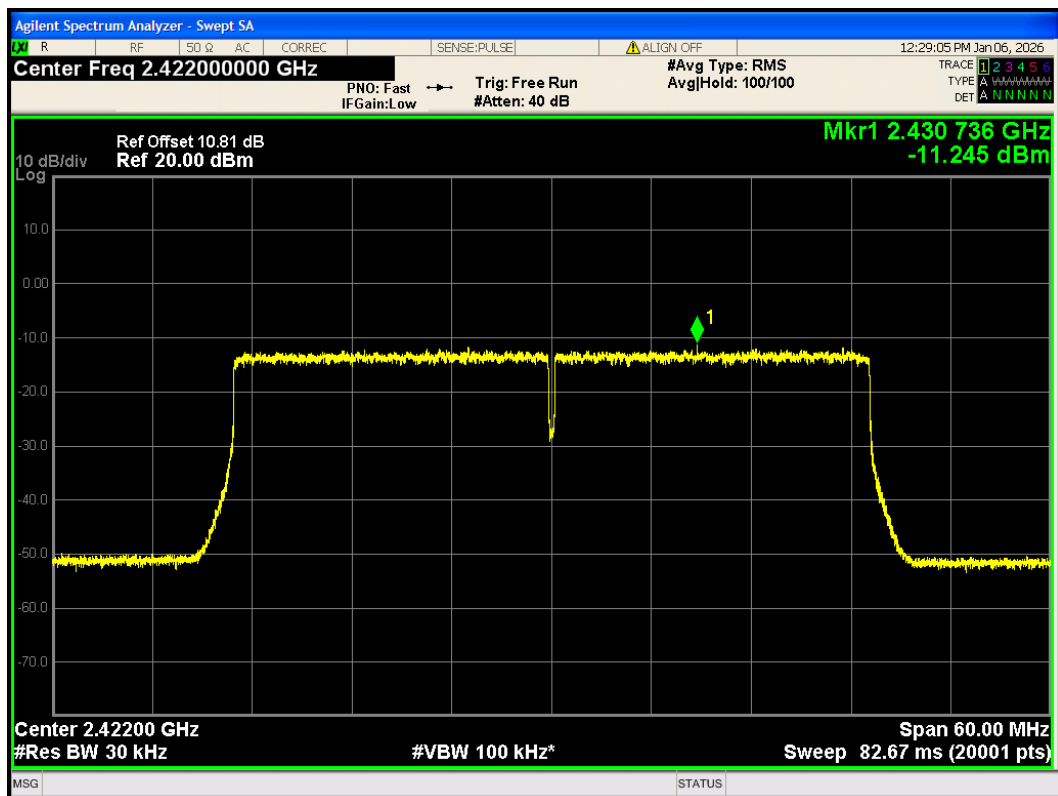
PSD 802.11ax(HE20) 2437MHz



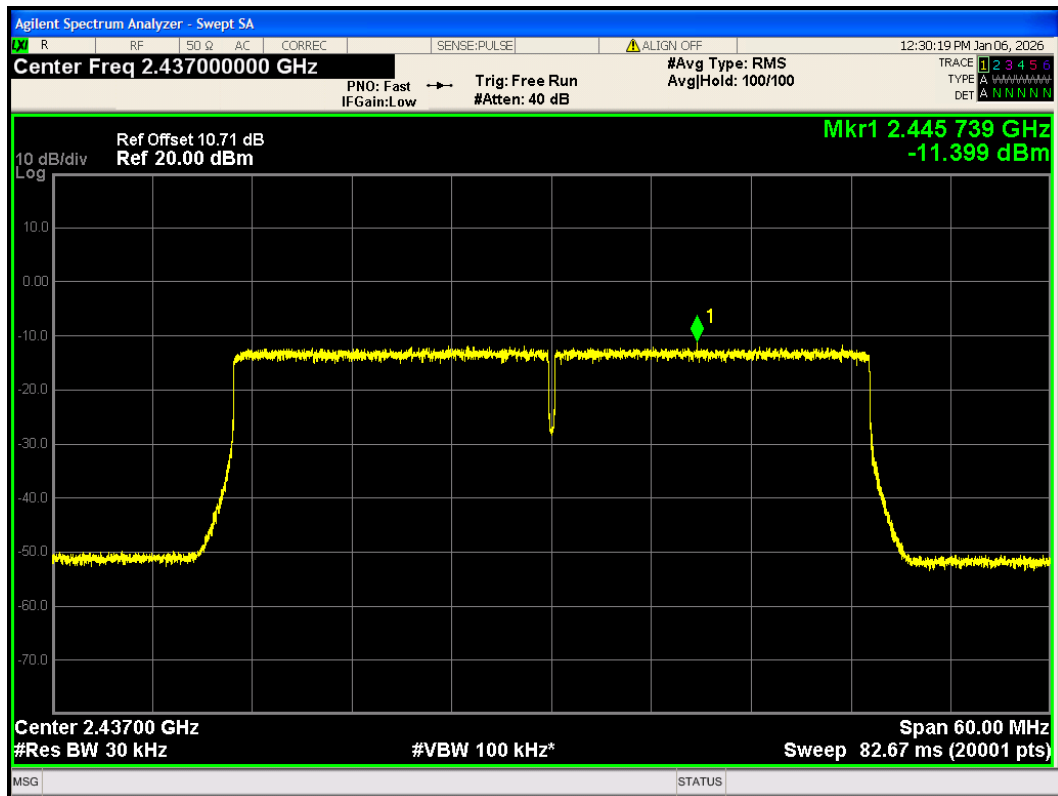
PSD 802.11ax(HE20) 2462MHz



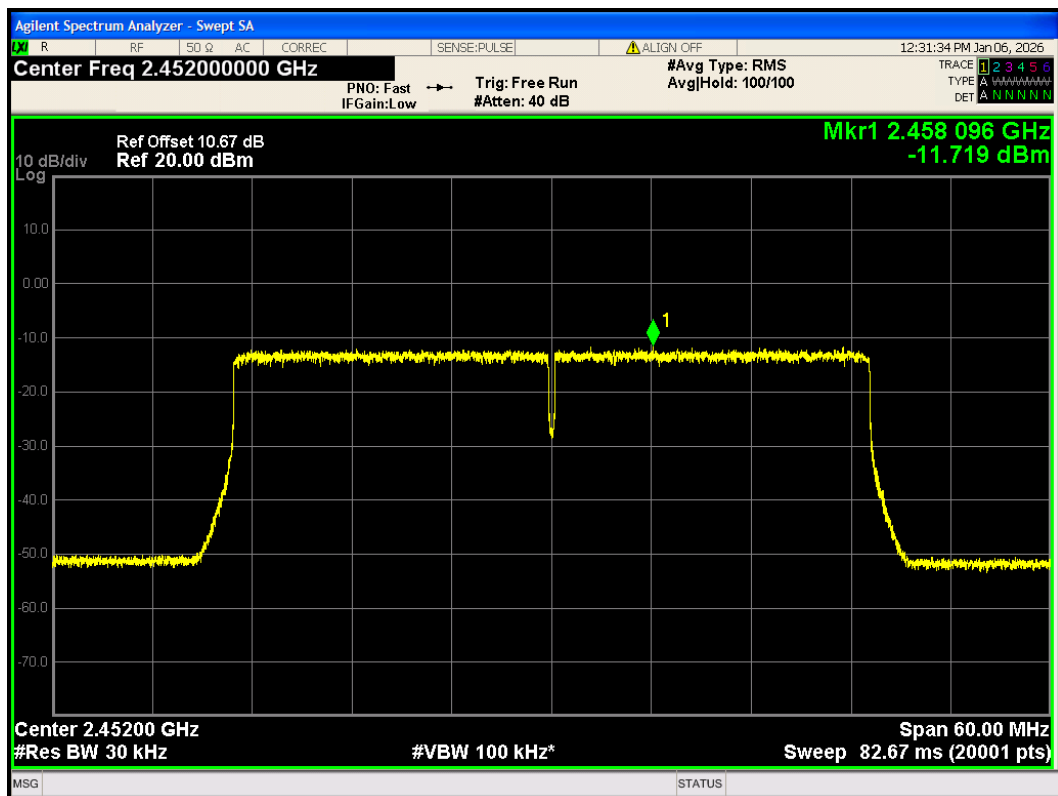
PSD 802.11ax(HE40) 2422MHz



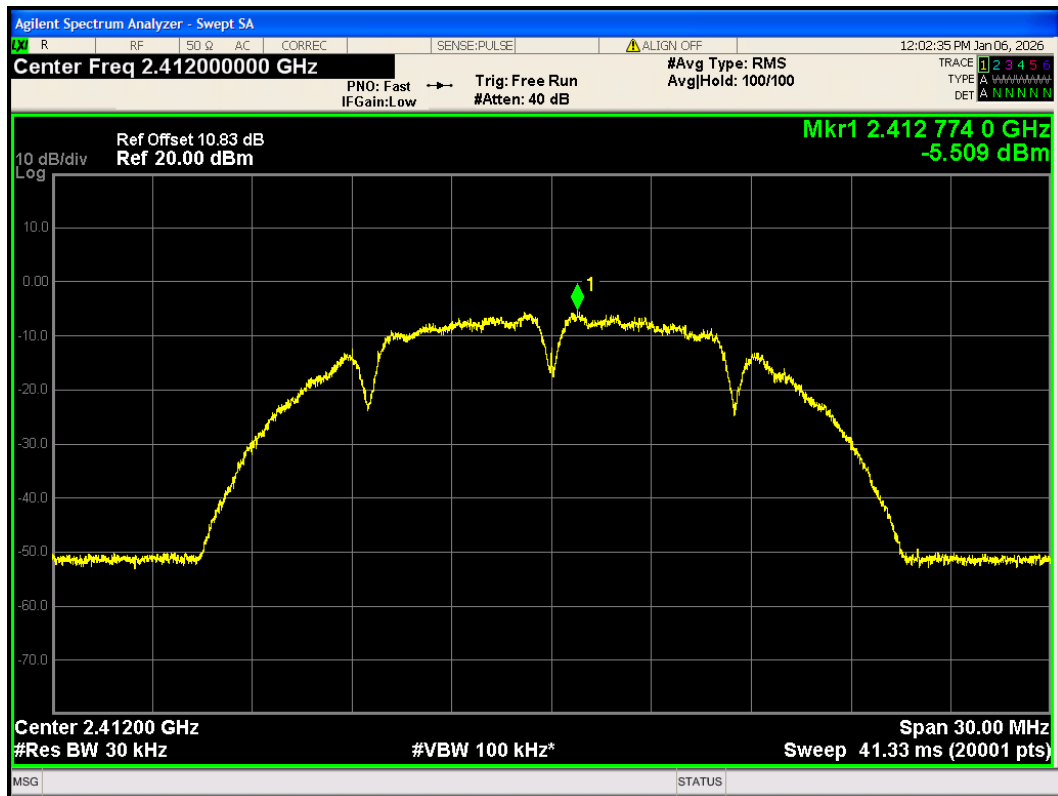
PSD 802.11ax(HE40) 2437MHz



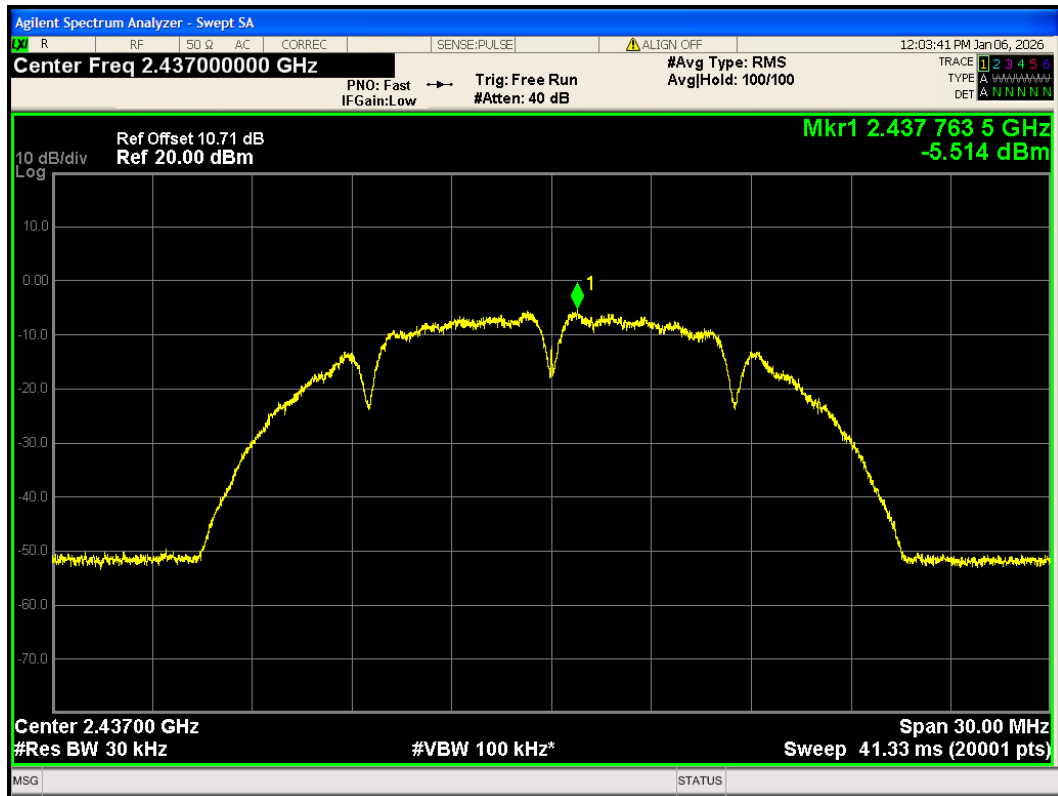
PSD 802.11ax(HE40) 2452MHz



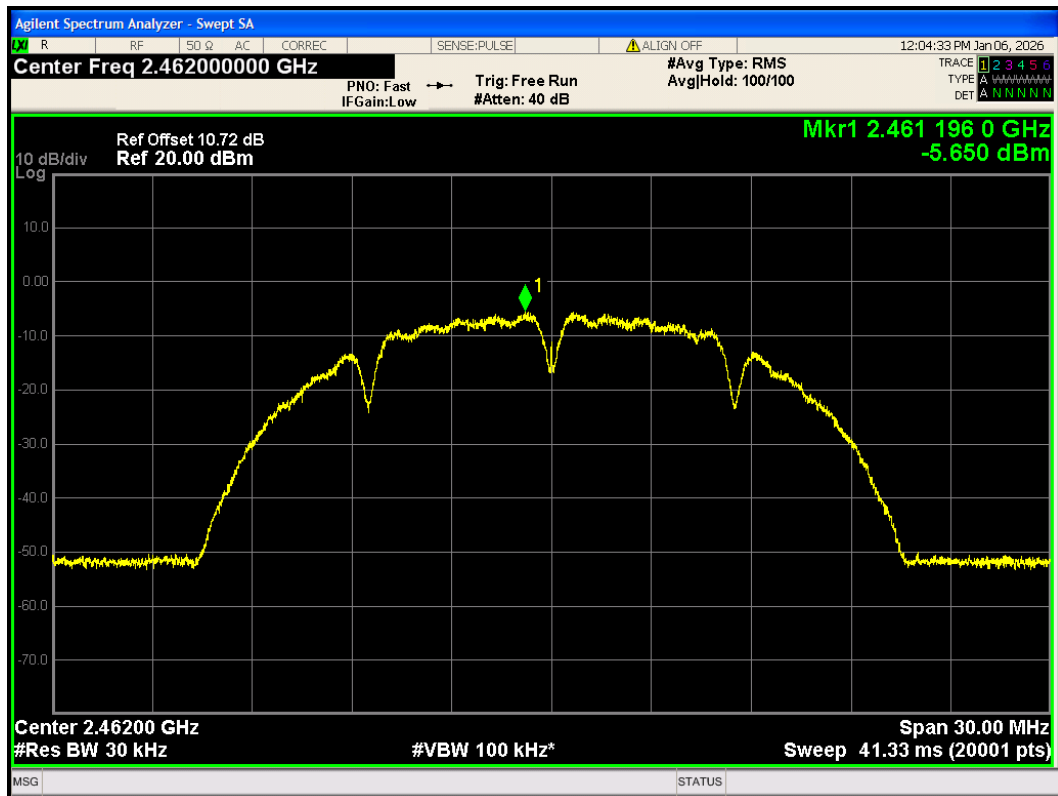
PSD 802.11b 2412MHz



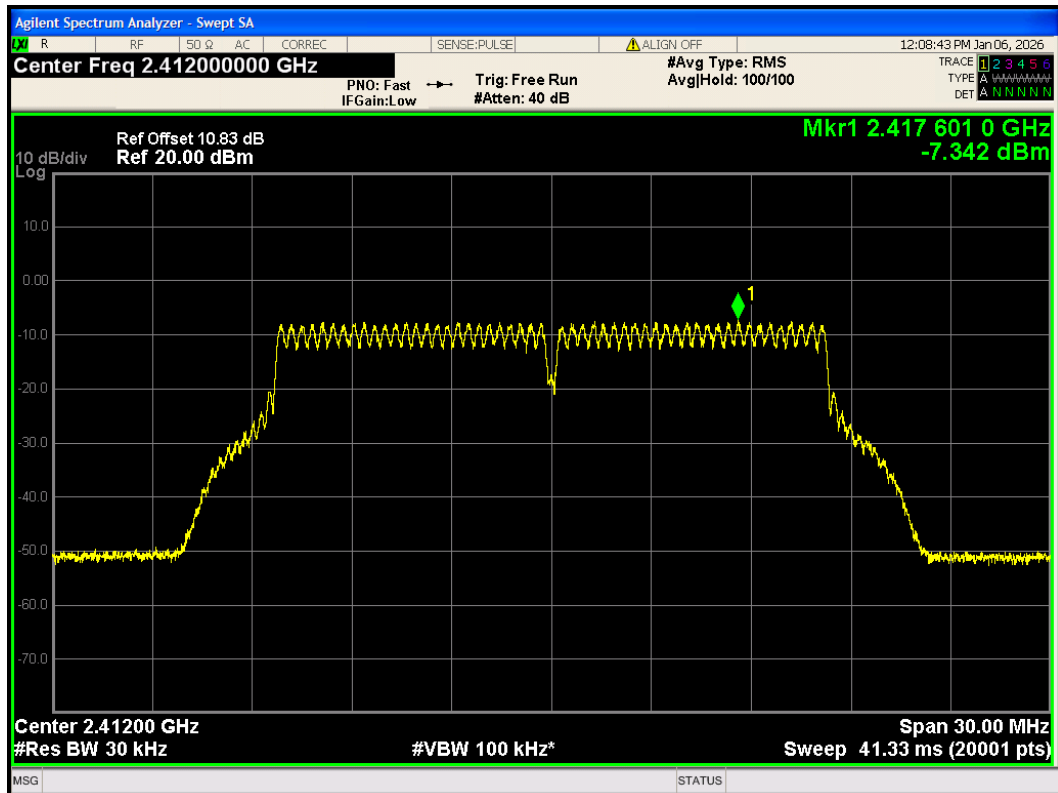
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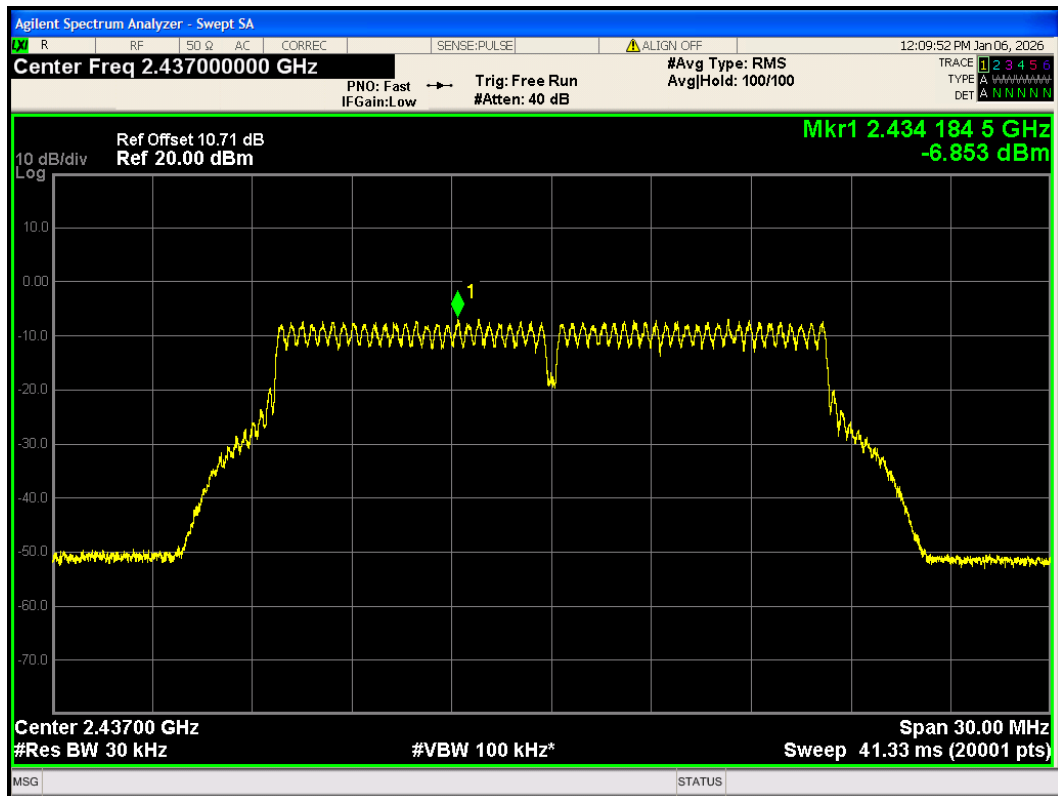
PSD 802.11b 2462MHz



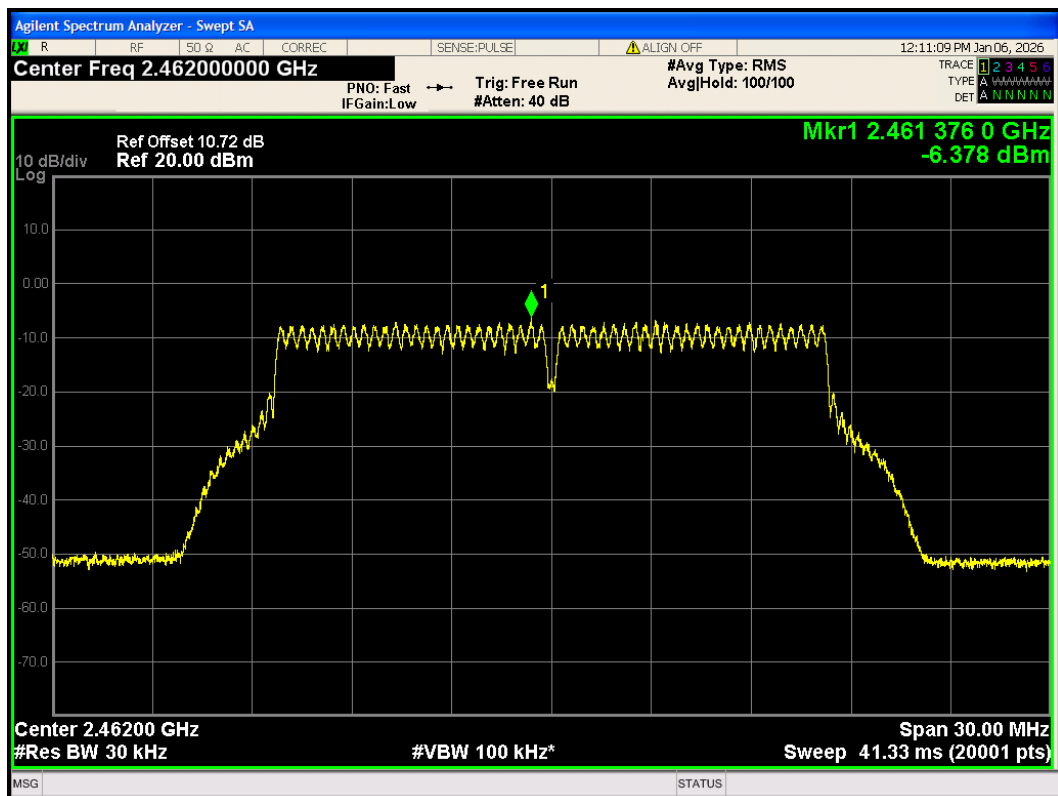
PSD 802.11g 2412MHz



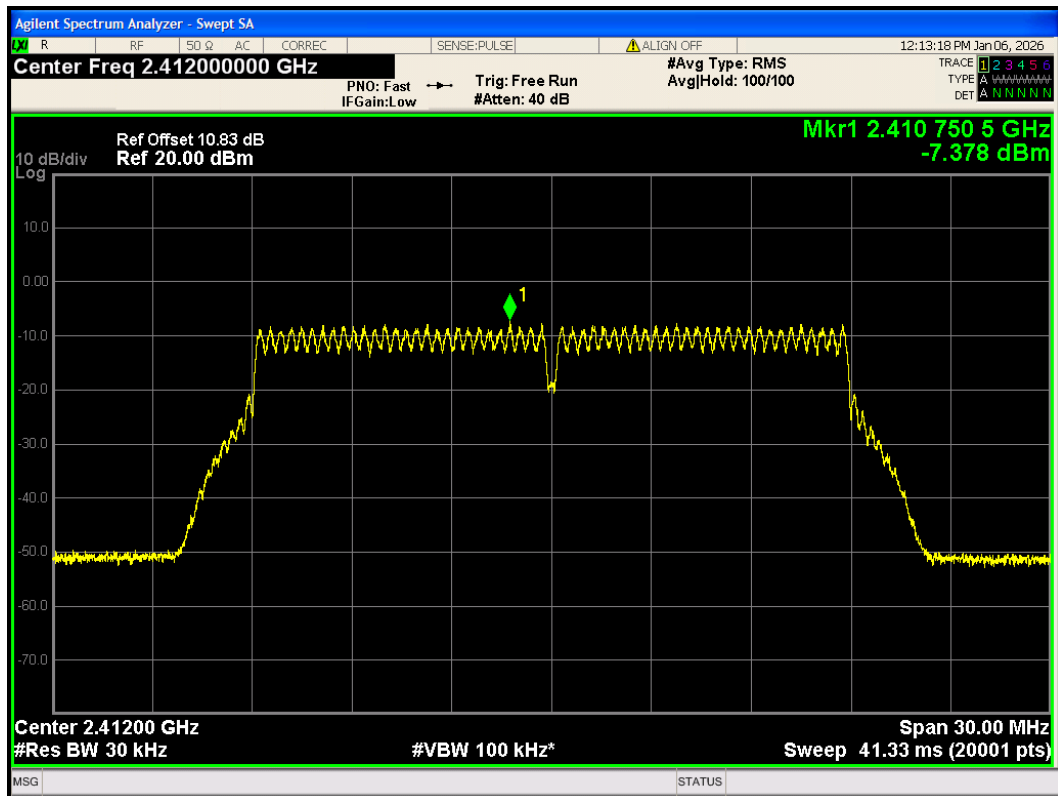
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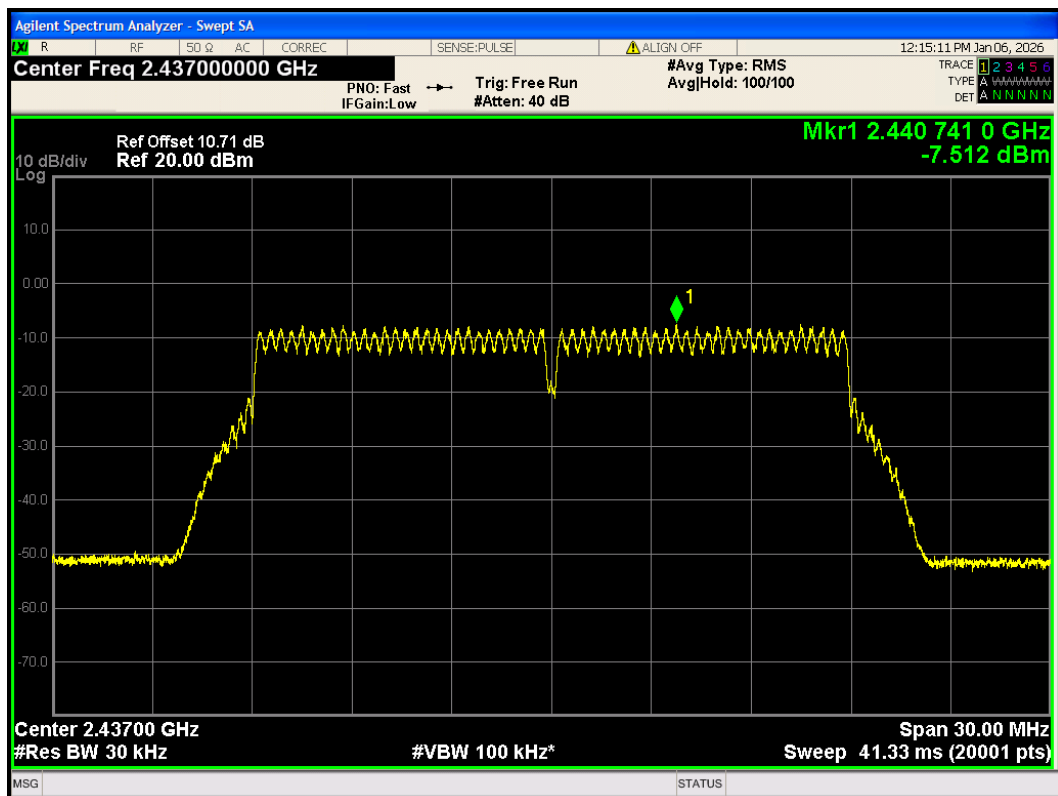
PSD 802.11g 2462MHz



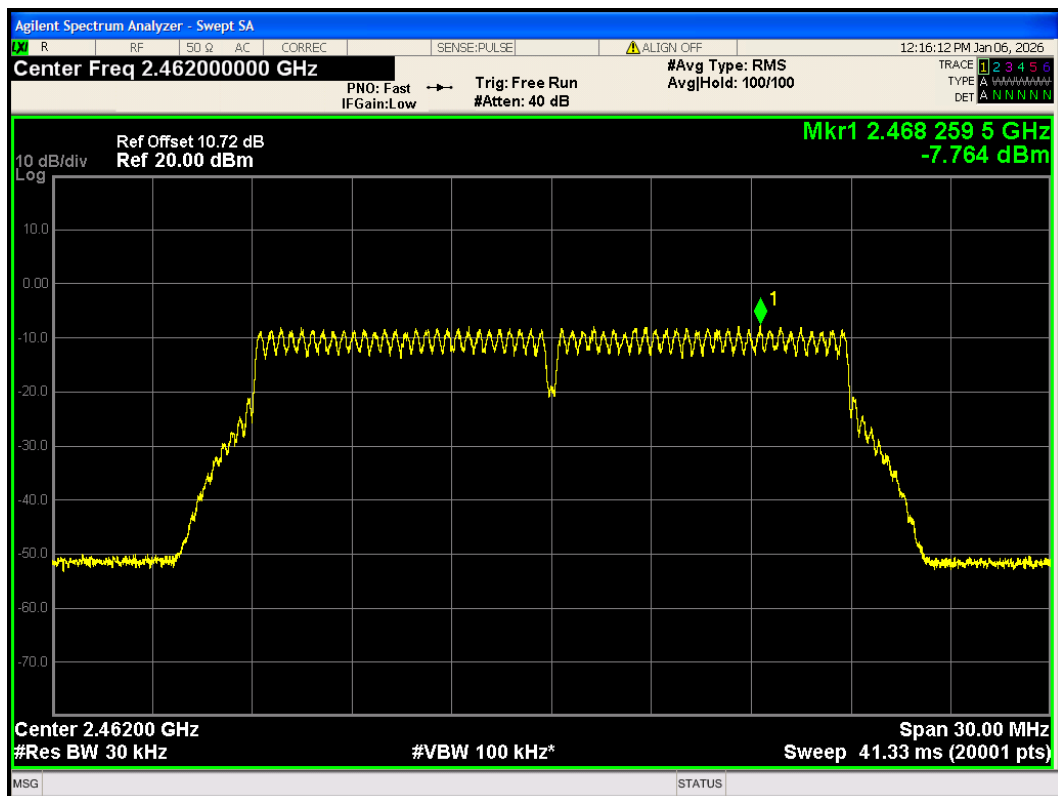
PSD 802.11n(HT20) 2412MHz



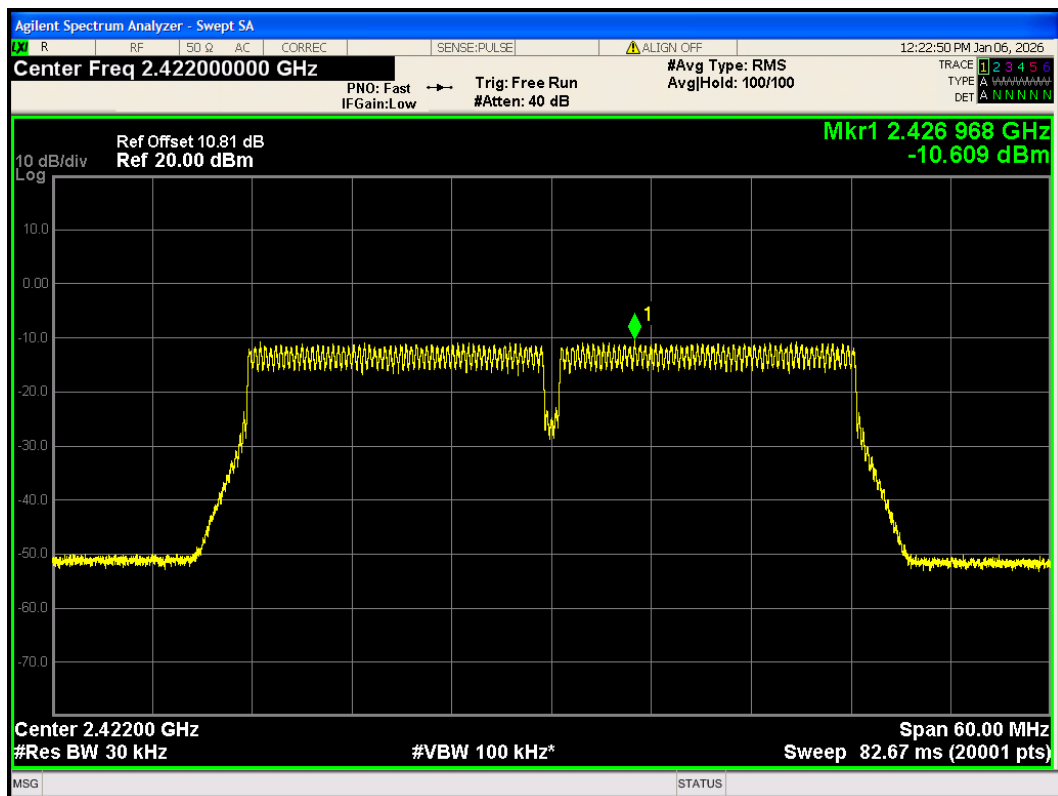
PSD 802.11n(HT20) 2437MHz



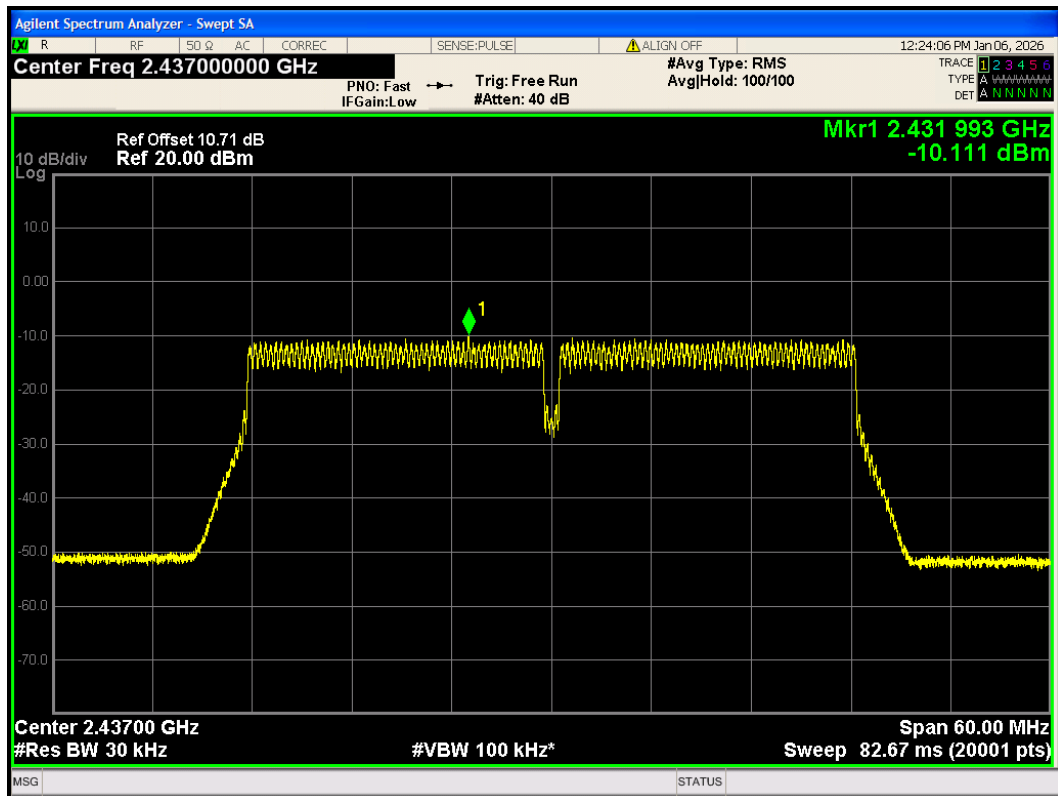
PSD 802.11n(HT20) 2462MHz



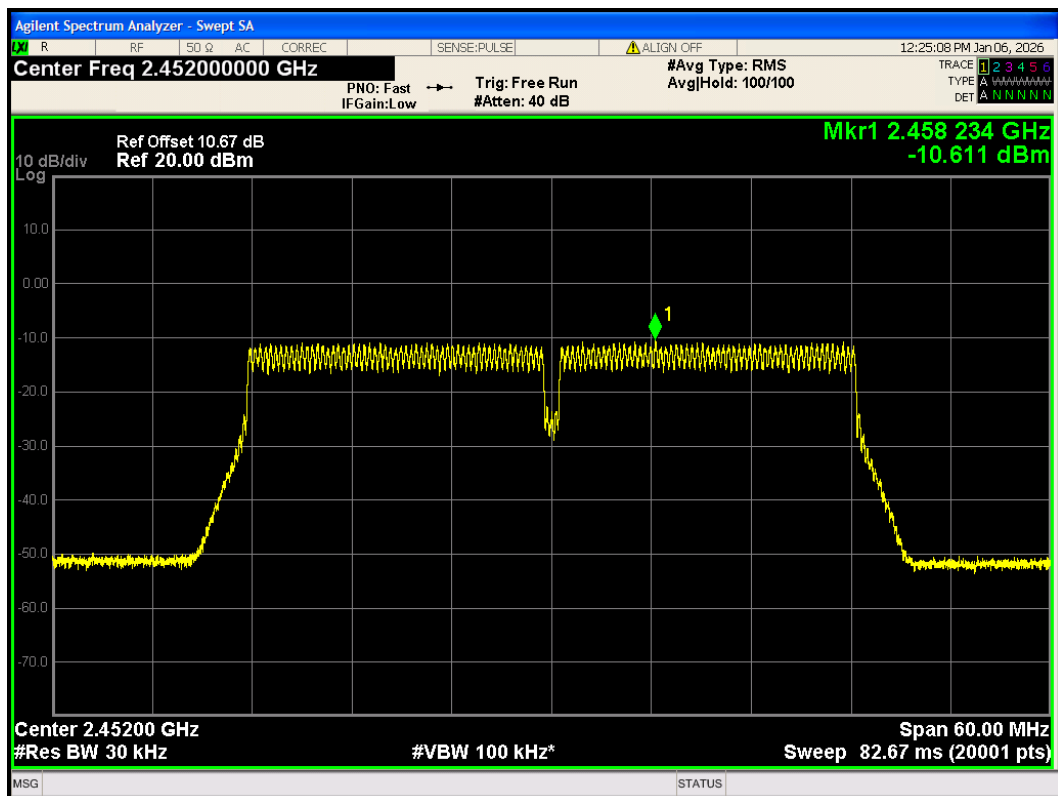
PSD 802.11n(HT40) 2422MHz



PSD 802.11n(HT40) 2437MHz

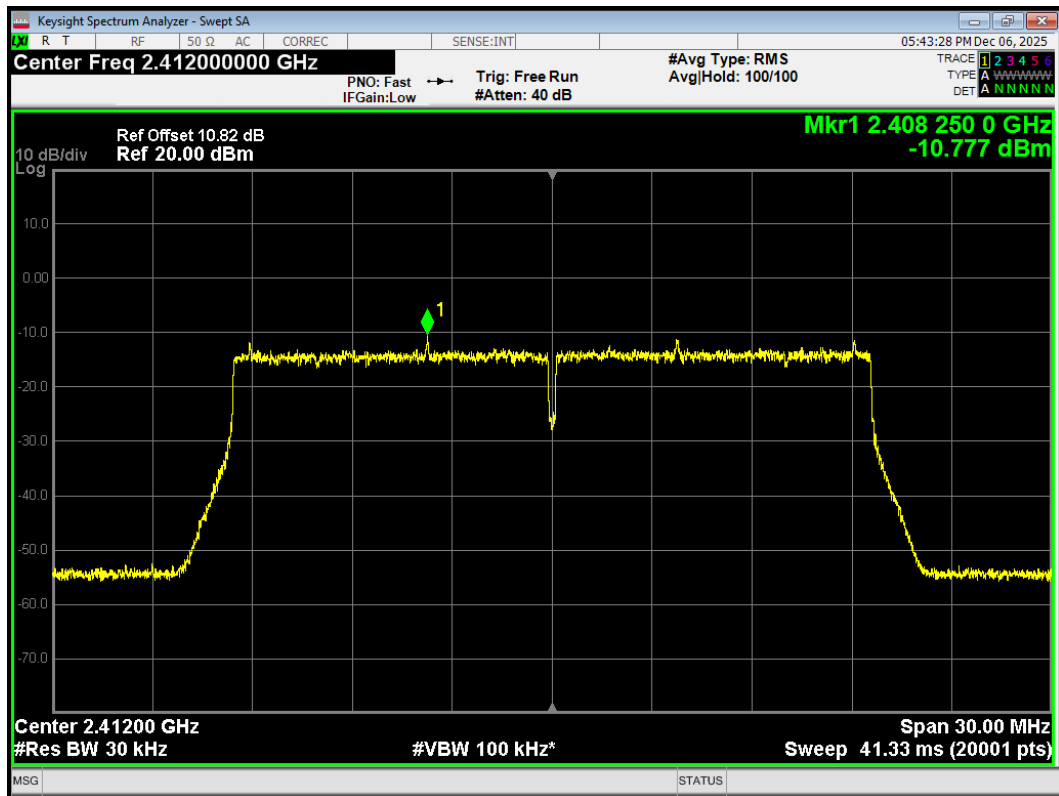


PSD 802.11n(HT40) 2452MHz

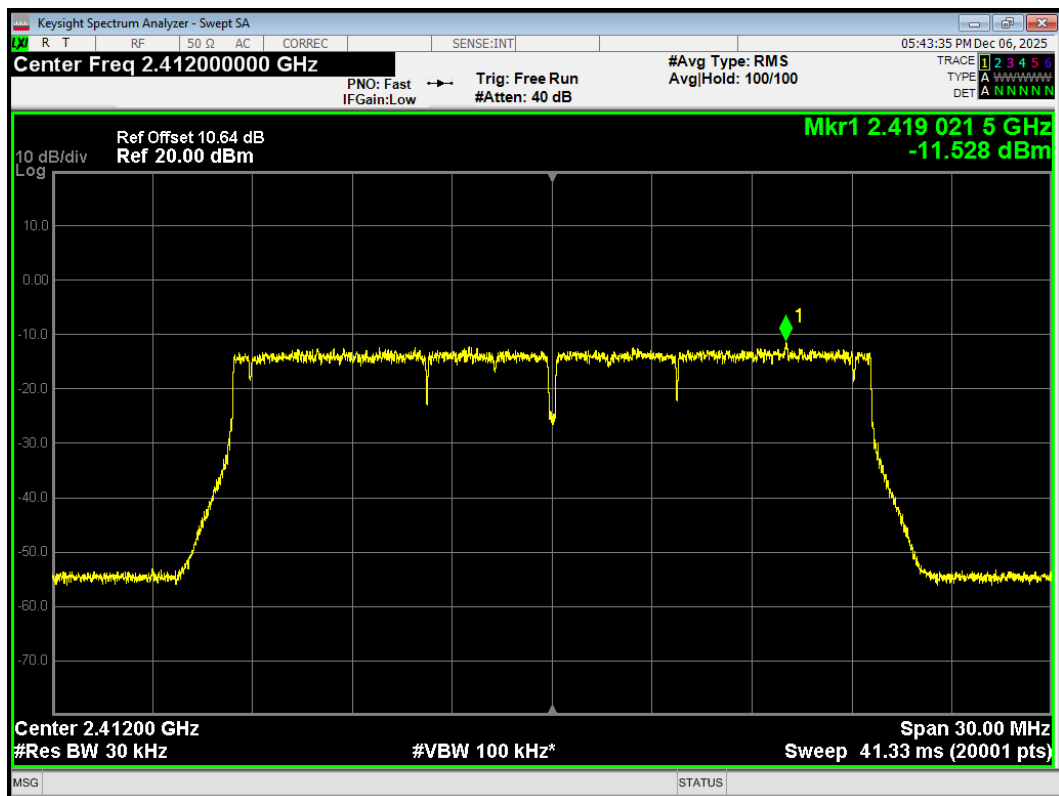


MIMO

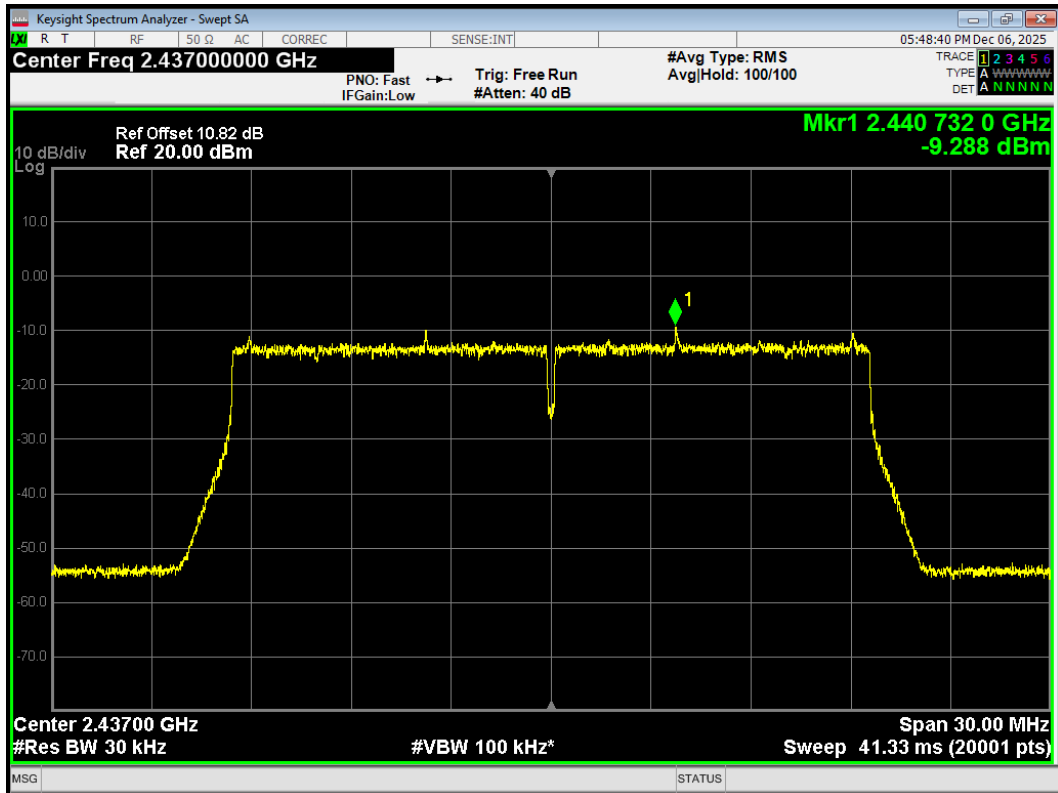
PSD 802.11ax(HE20) 2412MHz Ant1



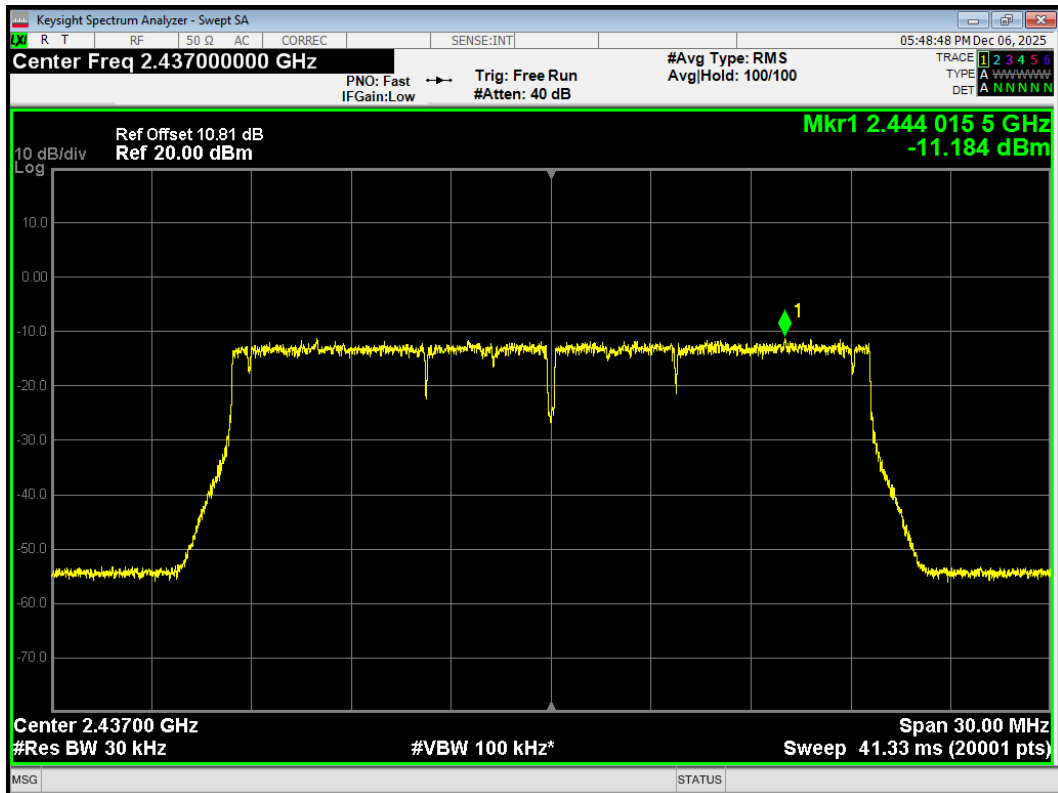
PSD 802.11ax(HE20) 2412MHz Ant2



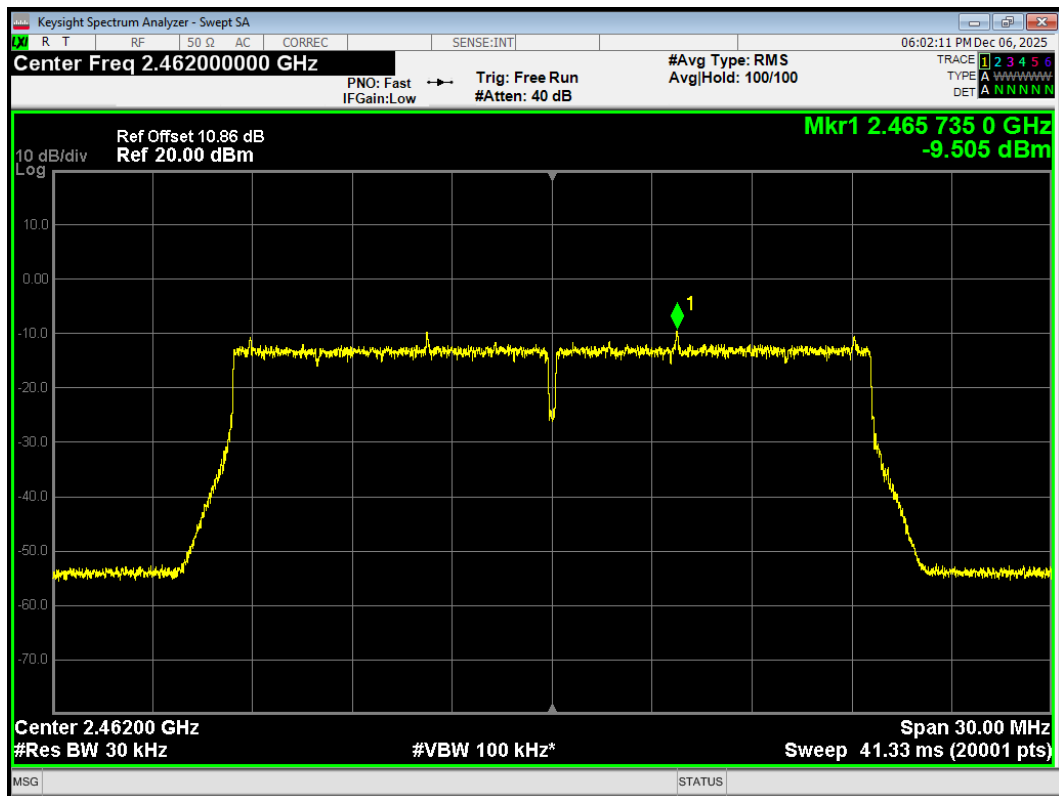
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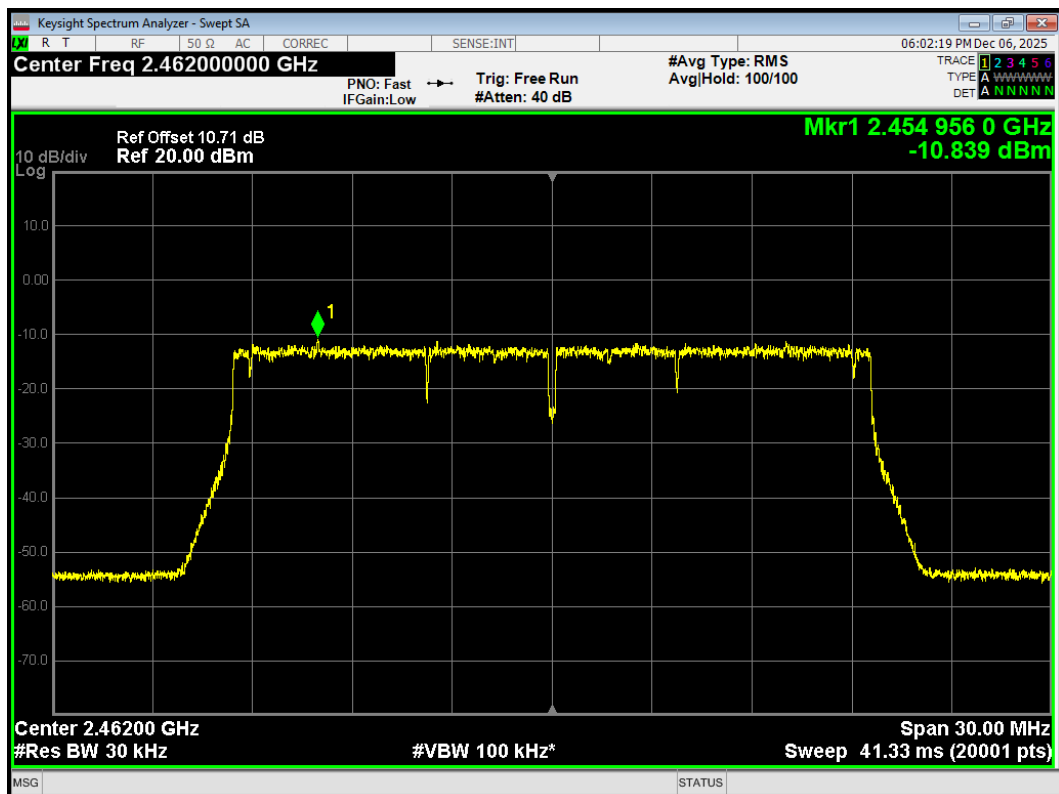
PSD 802.11ax(HE20) 2437MHz Ant2



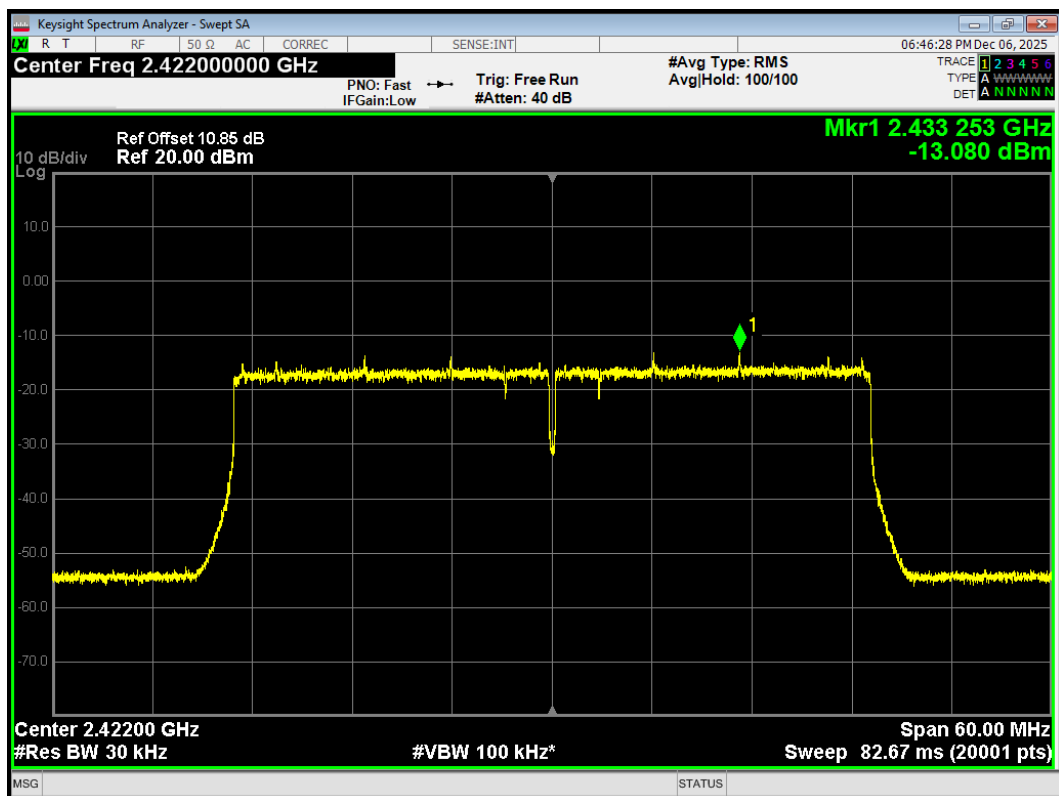
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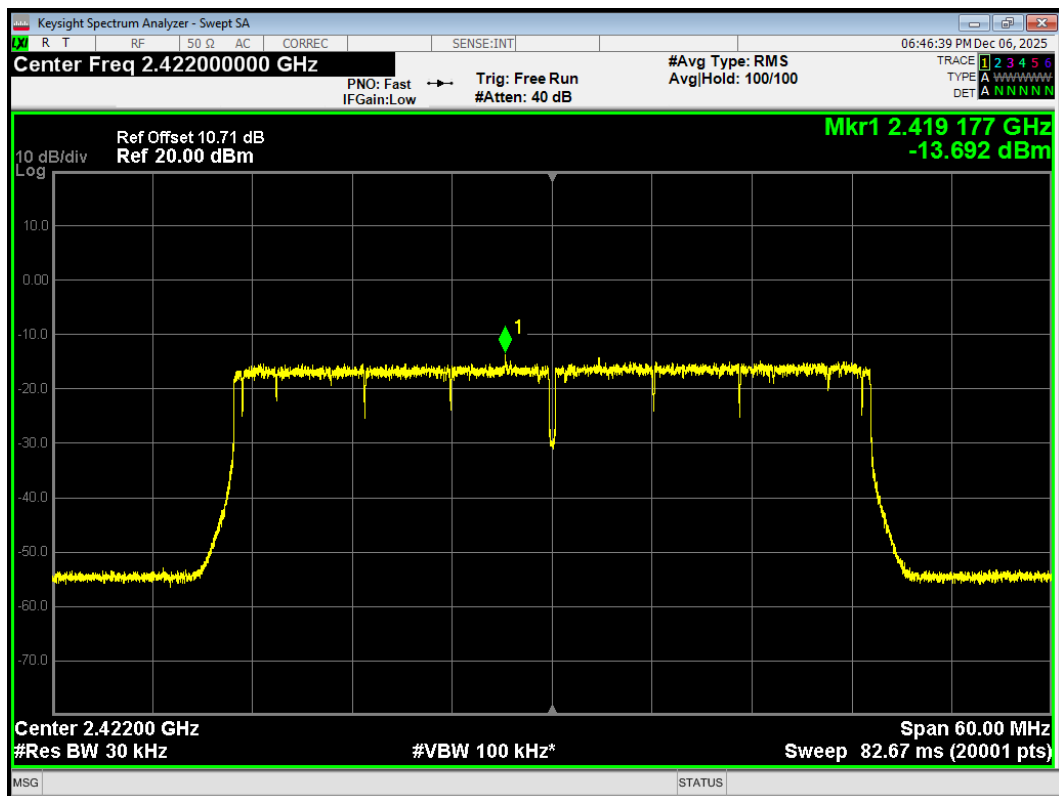
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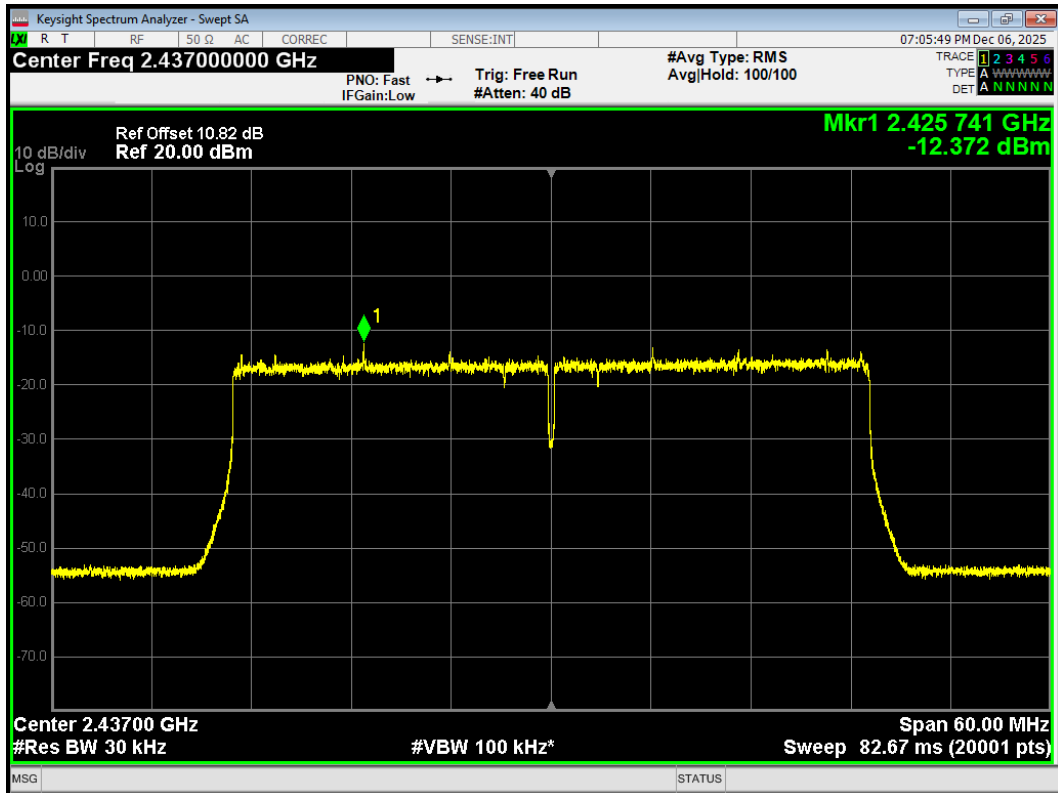
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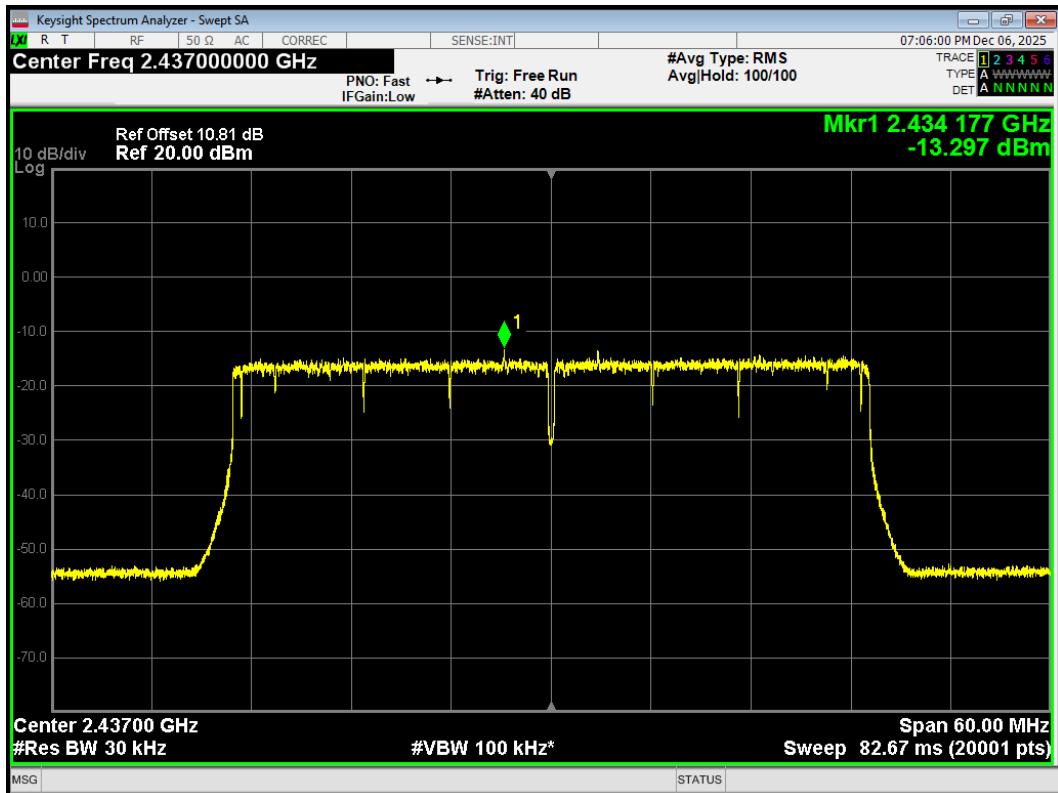
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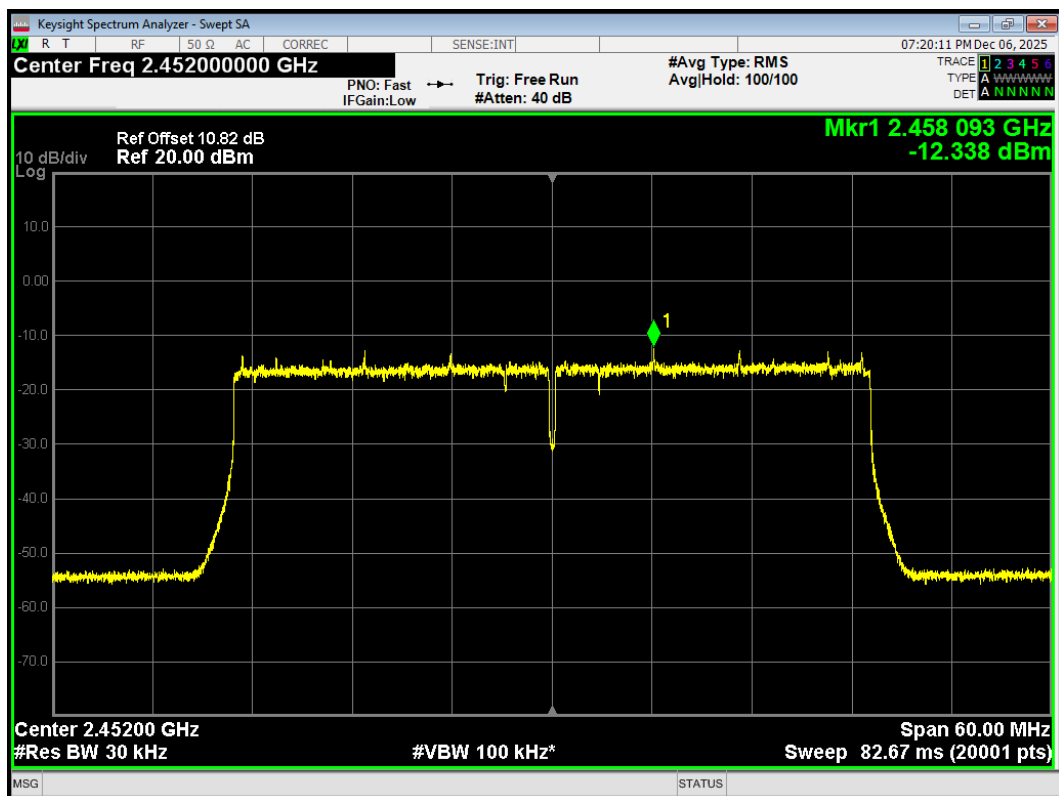
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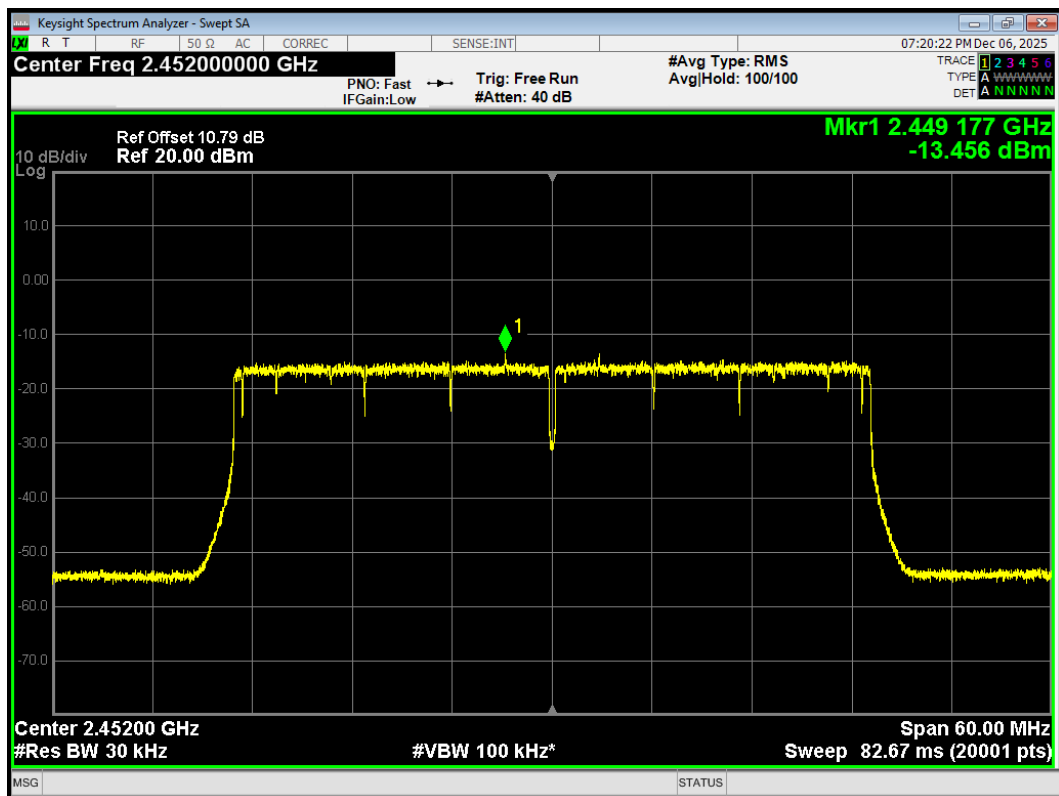
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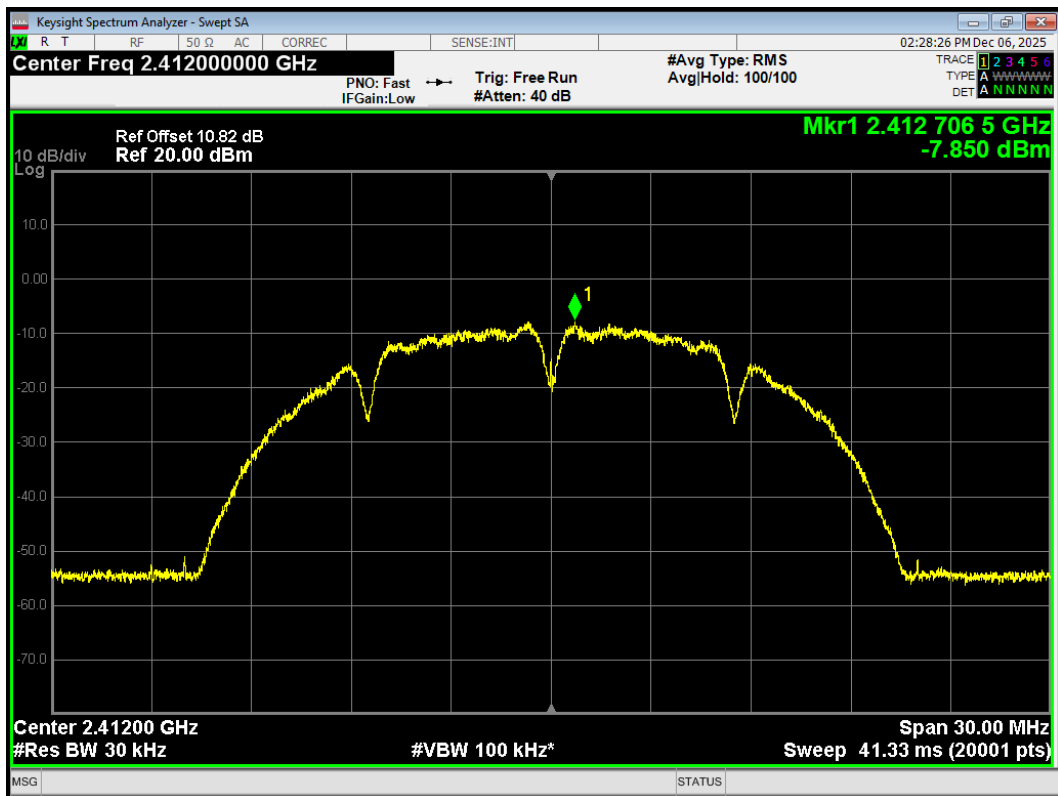
PSD 802.11ax(HE40) 2452MHz Ant1



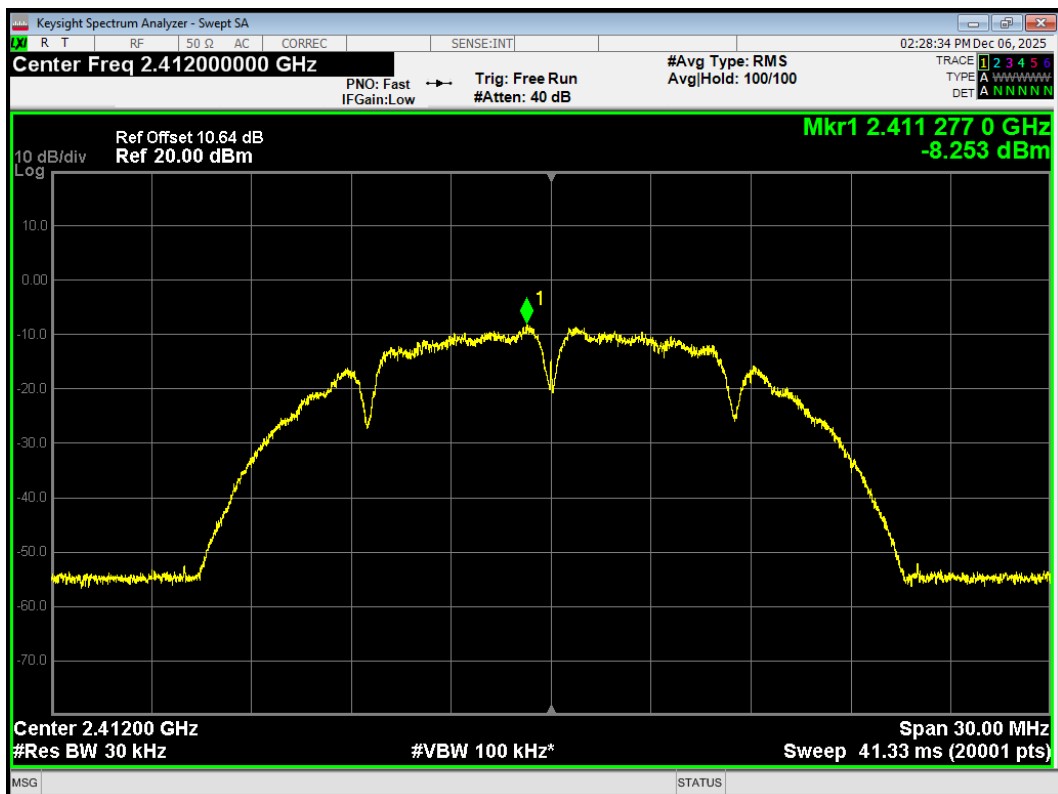
PSD 802.11ax(HE40) 2452MHz Ant2



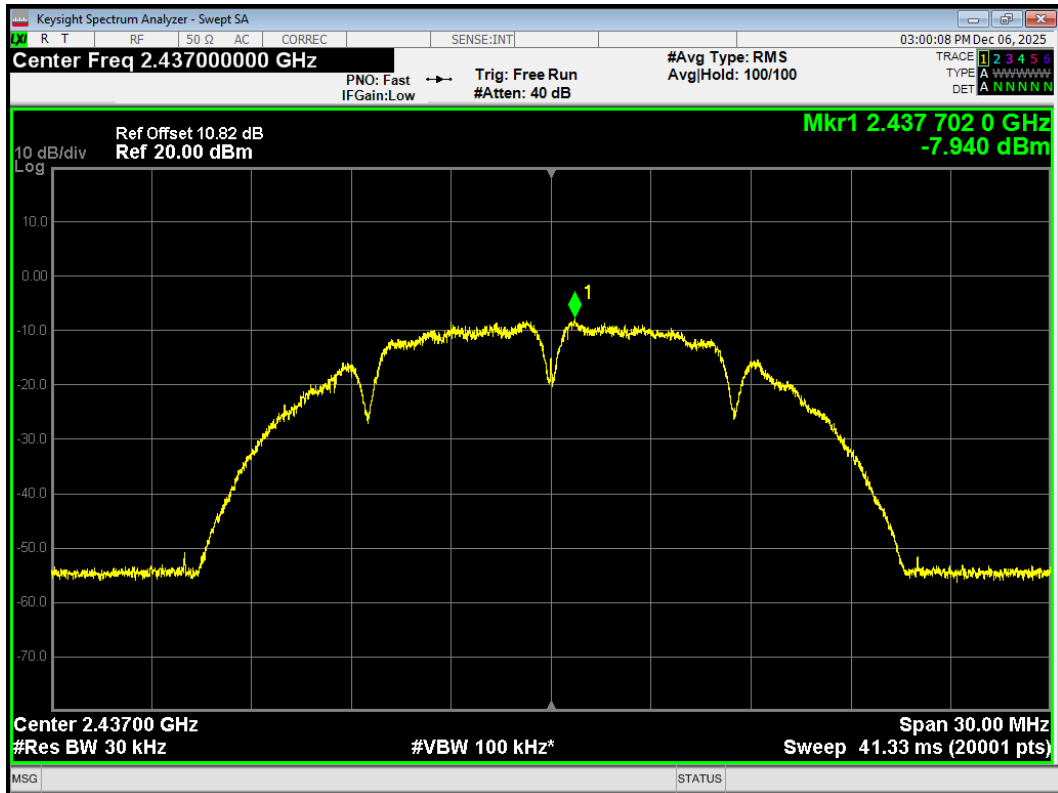
PSD 802.11b 2412MHz Ant1



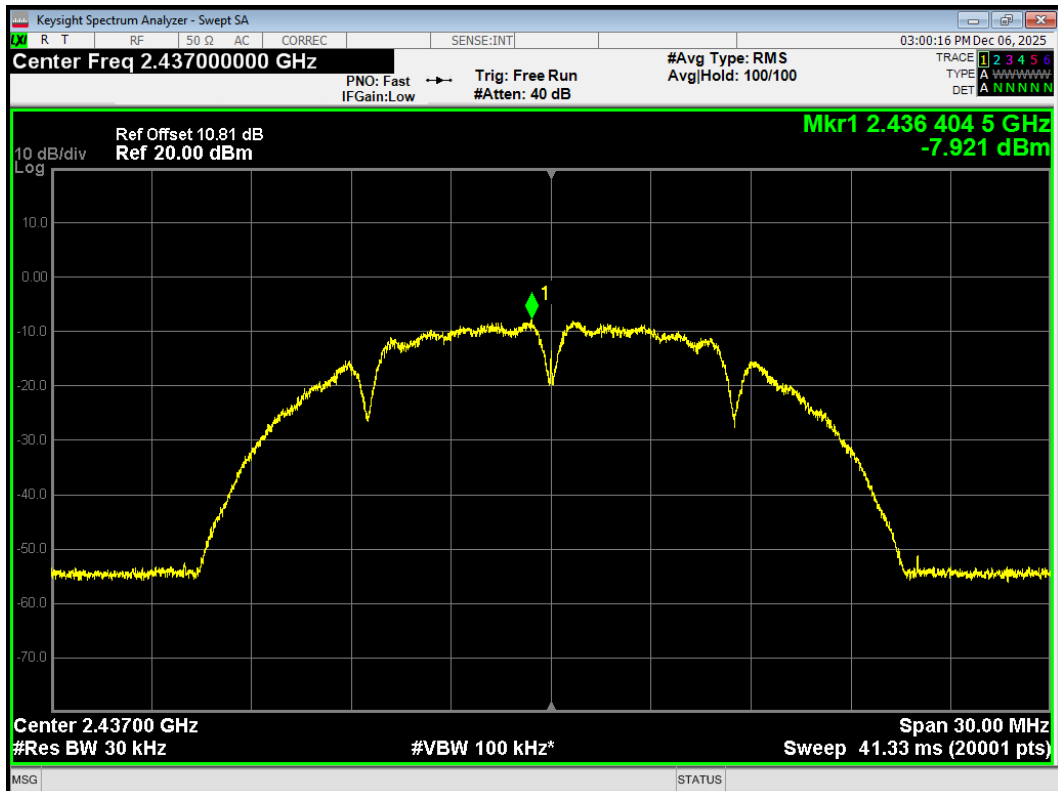
PSD 802.11b 2412MHz Ant2



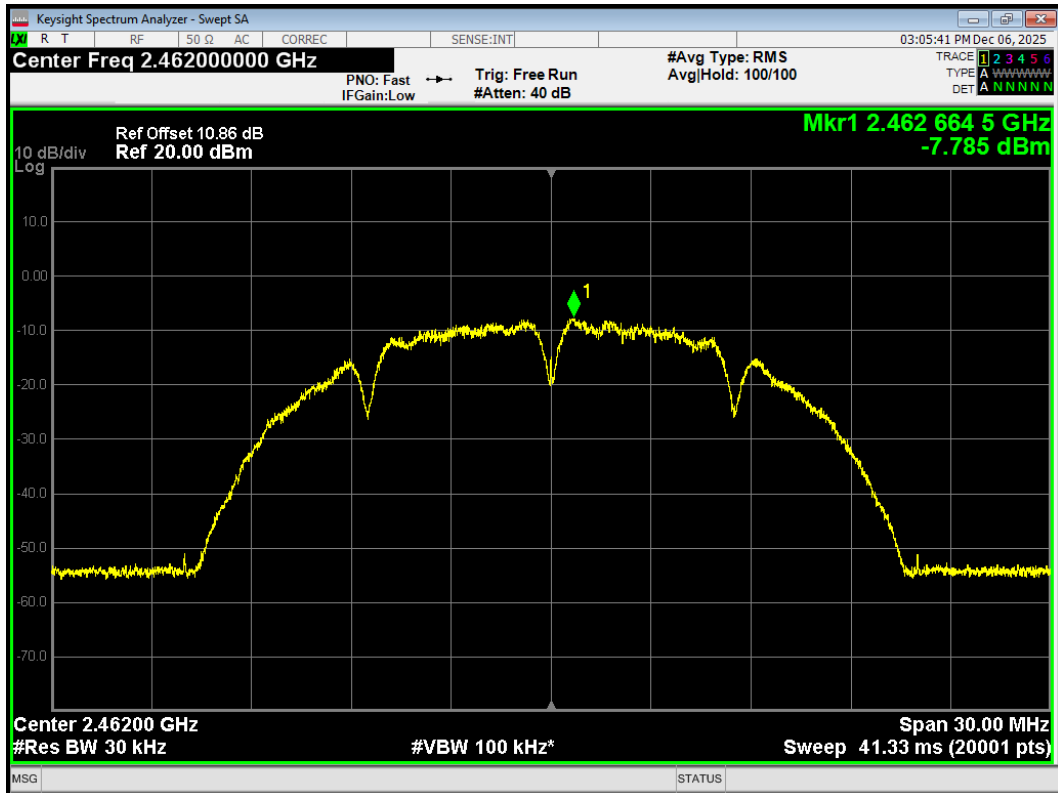
PSD 802.11b 2437MHz Ant1



PSD 802.11b 2437MHz Ant2



PSD 802.11b 2462MHz Ant1



PSD 802.11b 2462MHz Ant2

