

RF TEST REPORT

Applicant Jiangsu Jilong Sport And Leisure Products Co., Ltd.

FCC ID 2BC95-SPAPUMP-8

Product SPA

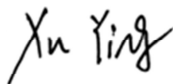
Brand avenli

Model XXX14aaaYYVbbW
(Note: aaa represents numbers 051 to 130, indicating that the heating + filtration power is 1380W. X stands for 26 letters or blank Spaces, and XXX is used for customer code names. Y represents 26 English letters or blank Spaces, YY is the country distinction code. b represents the numbers 0 to 9 or blank, the first digit after V (the first b) is the printing color, material color distinction code, the second digit after V (the second b) is the product configuration distinction code, V can be blank. The last letter represents the SPA model, W is the WiFi base model, and C is the base model)

Report No. R2405A0499-R1V1

Issue Date July 16, 2025

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15C (2024)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.



Prepared by: Xu Ying



Approved by: Xu Kai

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Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	June 25, 2025
Rev.1	Updated information.	July 11, 2025
Note: This revised report (Report No.: R2405A0499-R1V1) supersedes and replaces the previously issued report (Report No.: R2405A0499-R1). Please discard or destroy the previously issued report and dispose of it accordingly.		

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: June 17, 2024 ~ July 13, 2024 Date of Sample Received: May 23, 2024			
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
Post code: 201201
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Telephone: +86-021-50791141/2/3
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Website: <https://www.eurofins.com/electrical-and-electronics>
E-mail: Kain.Xu@cpt.eurofinscn.com

2. General Description of Equipment Under Test

2.1. Applicant and Manufacturer Information

Applicant	Jiangsu Jilong Sport And Leisure Products Co., Ltd.
Applicant address	No.1 Industrial Area, South Zhongchen Road, Zhongyang Town Suqian Jiangsu, P.R. China
Manufacturer	Jiangsu Jilong Sport And Leisure Products Co., Ltd.
Manufacturer address	No.1 Industrial Area, South Zhongchen Road, Zhongyang Town Suqian Jiangsu, P.R. China

2.2. General Information

EUT Description	
Model	XXX14aaaYYVbbW (Note: aaa represents numbers 051 to 130, indicating that the heating + filtration power is 1380W. X stands for 26 letters or blank Spaces, and XXX is used for customer code names. Y represents 26 English letters or blank Spaces, YY is the country distinction code. b represents the numbers 0 to 9 or blank, the first digit after V (the first b) is the printing color, material color distinction code, the second digit after V (the second b) is the product configuration distinction code, V can be blank. The last letter represents the SPA model, W is the WiFi base model, and C is the base model)
Lab internal SN	R2405A0499/S01
Hardware Version	V1.0
Software Version	V1.0
Power Supply	External power supply
Antenna Type	Internal Antenna
Antenna Connector	A permanently attached antenna (meet with the standard FCC Part 15.203 requirement)
Antenna Gain	3.37 dBi
Additional Beamforming Gain	NA
Operating Frequency Range(s)	802.11b/g/n(HT20): 2412 ~ 2462 MHz 802.11n(HT40): 2422 ~ 2452 MHz Bluetooth LE V5.0: 2402 ~2480 MHz
Modulation Type	802.11b: DSSS 802.11g/n: OFDM Bluetooth LE: GFSK
Max. Output Power	Wi-Fi 2.4G: 14.64 dBm Bluetooth LE: -6.78 dBm

Auxiliary Test Equipment	
PC	Manufacturer: DELL Model: Latitude 3301 SN: 1Q6DJW2
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 (2024) Radio Frequency Devices

ANSI C63.10-2013

Reference standard:

KDB 558074 D01 15.247 Meas Guidance v05r02

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.

The radiated emission was measured in the following position: EUT stand-up position (vertical), lie-down position (horizontal). The worst emission was found in lie-down position (horizontal) and the loop antenna is vertical, the others are vertical and horizontal. and the worst case was recorded.

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.

Worst-case data rates are shown as following table.

Test Mode	Data Rate
Bluetooth (Low Energy)	1Mbps
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

5. Test Case Results

5.1. Maximum output power

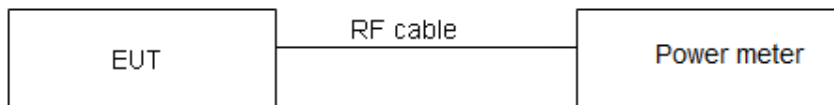
Ambient Condition

Temperature	Relative humidity
15°C ~ 35°C	20% ~ 80%

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.

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	$\leq 1\text{W}$ (30dBm)
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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.

Test Results

Test Mode	Carrier frequency (MHz) / Channel	Power Index
802.11b	2412/CH 1	8
	2437/CH 6	8
	2462/CH11	8
802.11g	2412/CH 1	0
	2437/CH 6	0
	2457/CH 10	0
	2462/CH11	4
802.11n HT20	2412/CH 1	0
	2437/CH 6	0
	2457/CH 10	0
	2462/CH11	4
802.11n HT40	2422/CH3	4
	2427/CH4	0
	2437/CH6	0
	2442/CH7	4
	2447/CH8	4
	2452/CH9	4
Bluetooth (Low Energy)	2402/CH0	7
	2440/CH19	7
	2480/CH39	7

Test Mode	Duty cycle	Duty cycle correction Factor (dB)
802.11b	0.326	4.870
802.11g	0.324	4.910
802.11n HT20	0.314	5.030
802.11n HT40	0.322	4.920
Bluetooth LE	0.838	0.770
Note: when Duty cycle ≥ 0.98 , Duty cycle correction Factor not required.		

Test Mode	Carrier frequency (MHz) / Channel	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11b	2412/CH 1	8.11	12.98	30	PASS
	2437/CH 6	8.20	13.07	30	PASS
	2462/CH11	8.06	12.93	30	PASS
802.11g	2412/CH 1	9.01	13.92	30	PASS
	2437/CH 6	9.32	14.23	30	PASS
	2457/CH 10	9.73	14.64	30	PASS
	2462/CH11	8.38	13.29	30	PASS
802.11n HT20	2412/CH 1	7.27	12.30	30	PASS
	2437/CH 6	8.12	13.15	30	PASS
	2457/CH 10	8.17	13.20	30	PASS
	2462/CH11	6.84	11.87	30	PASS
802.11n HT40	2422/CH3	6.27	11.19	30	PASS
	2427/CH4	7.12	12.04	30	PASS
	2437/CH6	7.13	12.05	30	PASS
	2442/CH7	6.22	11.14	30	PASS
	2447/CH8	6.53	11.45	30	PASS
	2452/CH9	6.48	11.40	30	PASS
Bluetooth (Low Energy)	2402/CH0	-7.55	-6.78	30	PASS
	2440/CH19	-7.70	-6.93	30	PASS
	2480/CH39	-7.93	-7.16	30	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

5.2. 99% Bandwidth and 6dB Bandwidth

Ambient Condition

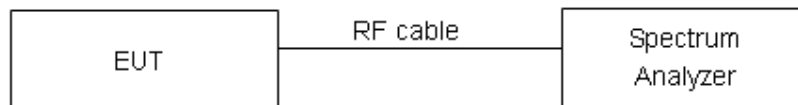
Temperature	Relative humidity
15°C ~ 35°C	20% ~ 80%

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) 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
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Measurement Uncertainty

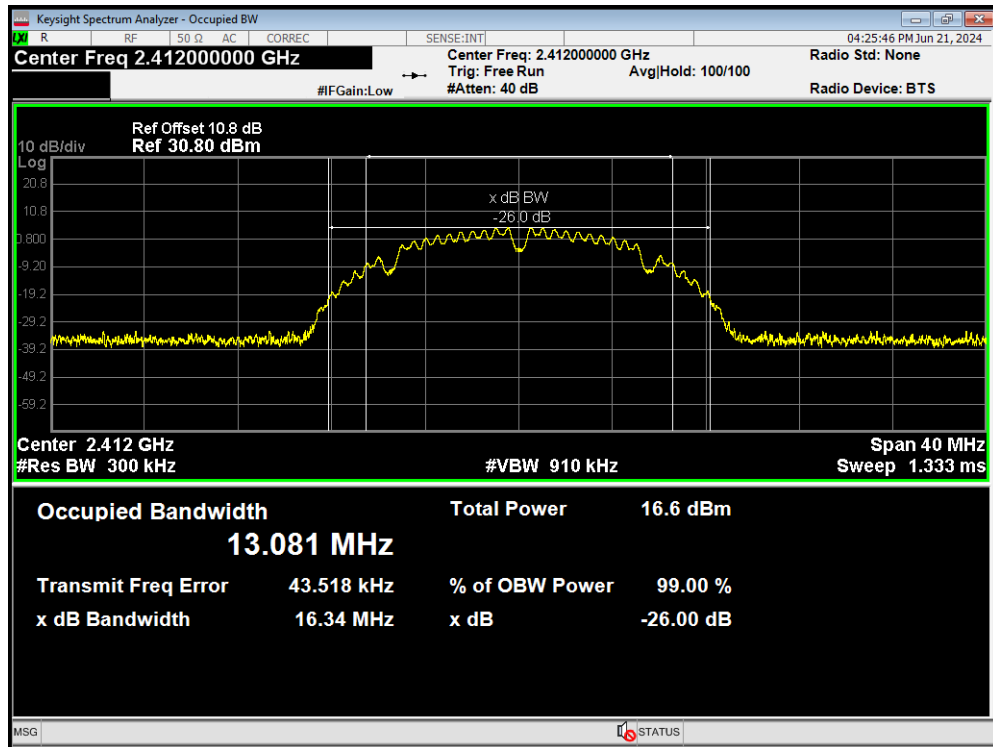
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 936$ Hz.

Test Results:

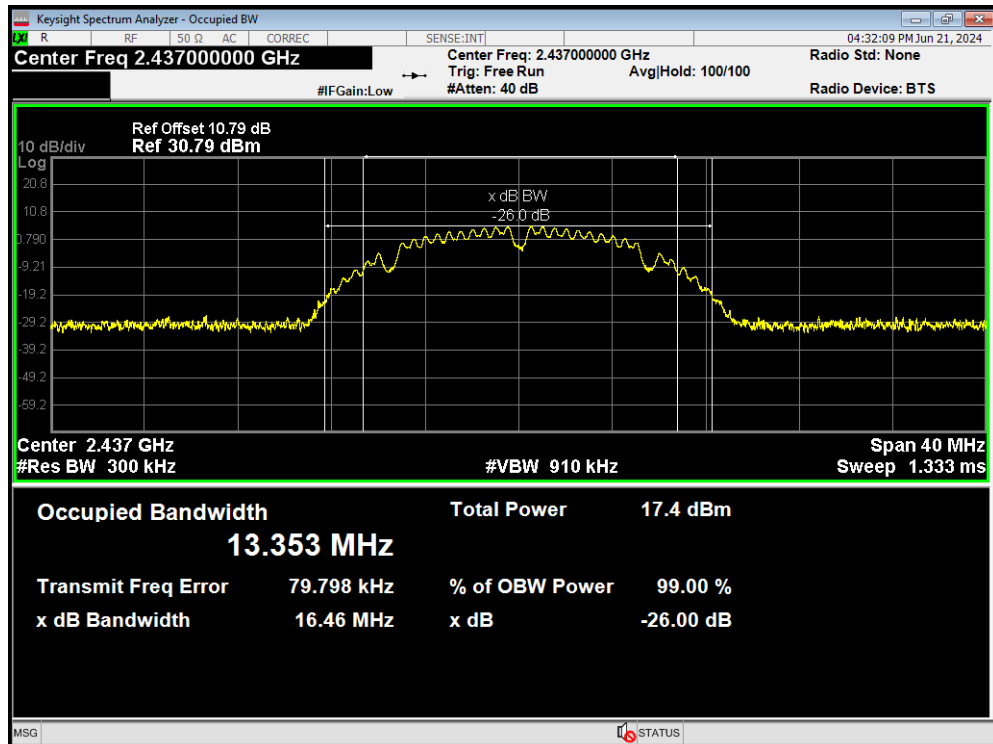
Test Mode	Carrier frequency (MHz) / Channel	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11b	2412/CH 1	13.081	9.074	500	PASS
	2437/CH 6	13.353	8.618	500	PASS
	2462/CH11	13.663	9.856	500	PASS
802.11g	2412/CH 1	16.663	16.367	500	PASS
	2437/CH 6	16.722	16.351	500	PASS
	2457/CH 10	16.619	16.324	500	PASS
	2462/CH11	16.725	16.348	500	PASS
802.11n HT20	2412/CH 1	17.524	16.549	500	PASS
	2437/CH 6	17.522	17.106	500	PASS
	2457/CH 10	17.540	17.008	500	PASS
	2462/CH 11	17.568	16.979	500	PASS
802.11n HT40	2422/CH3	35.950	34.077	500	PASS
	2427/CH4	35.986	33.882	500	PASS
	2437/CH6	36.017	33.848	500	PASS
	2442/CH7	36.102	34.706	500	PASS
	2447/CH8	36.054	33.881	500	PASS
	2452/CH9	35.884	33.889	500	PASS
Bluetooth (Low Energy)	2402/CH0	1.071	0.652	500	PASS
	2440/CH19	1.078	0.623	500	PASS
	2480/CH39	1.073	0.629	500	PASS

99% bandwidth

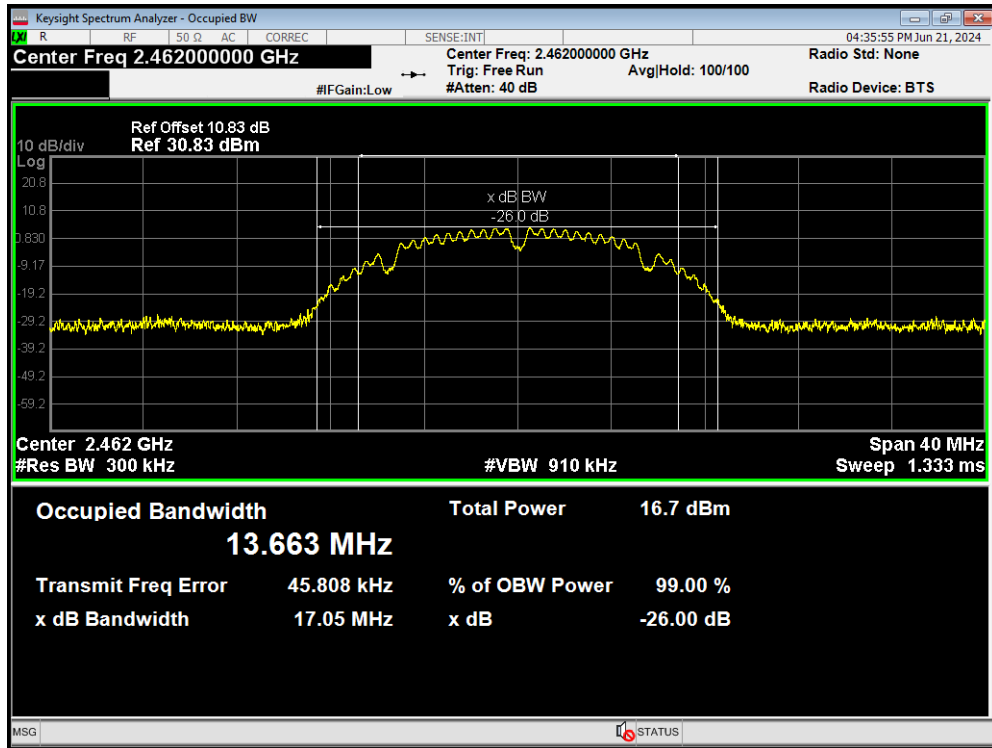
OBW 802.11b 2412MHz



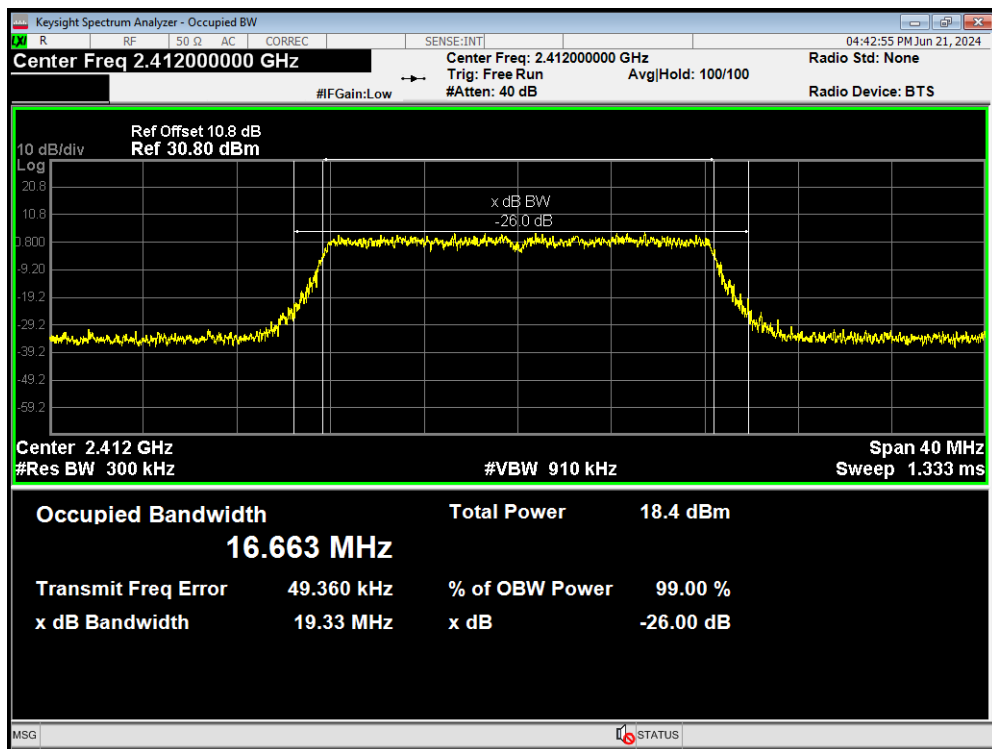
OBW 802.11b 2437MHz



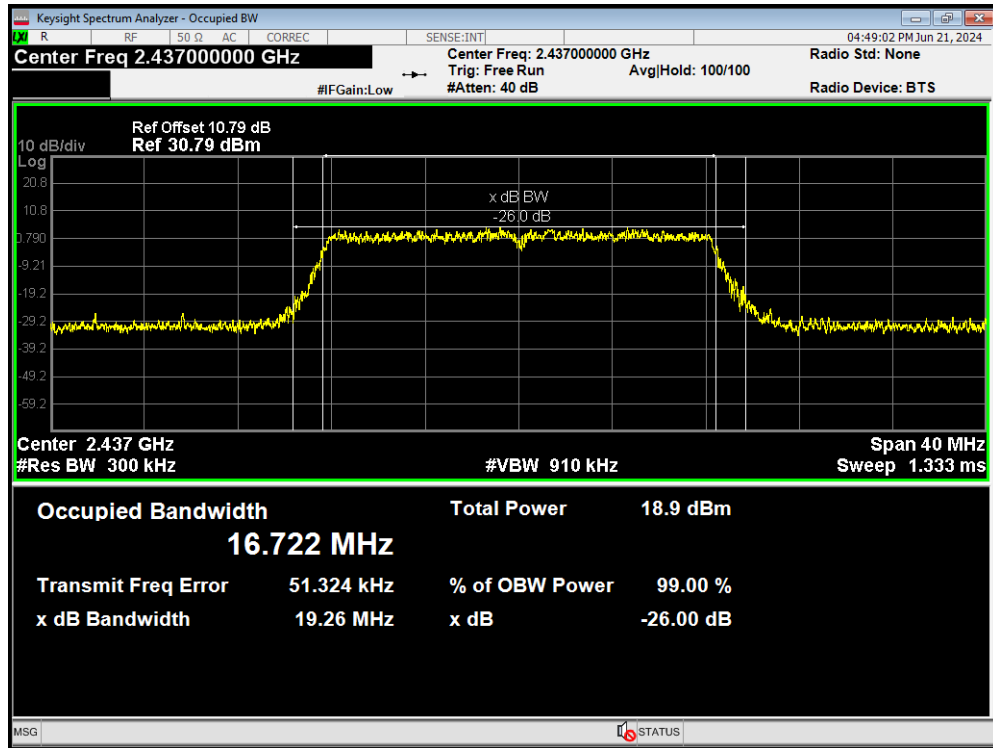
OBW 802.11b 2462MHz



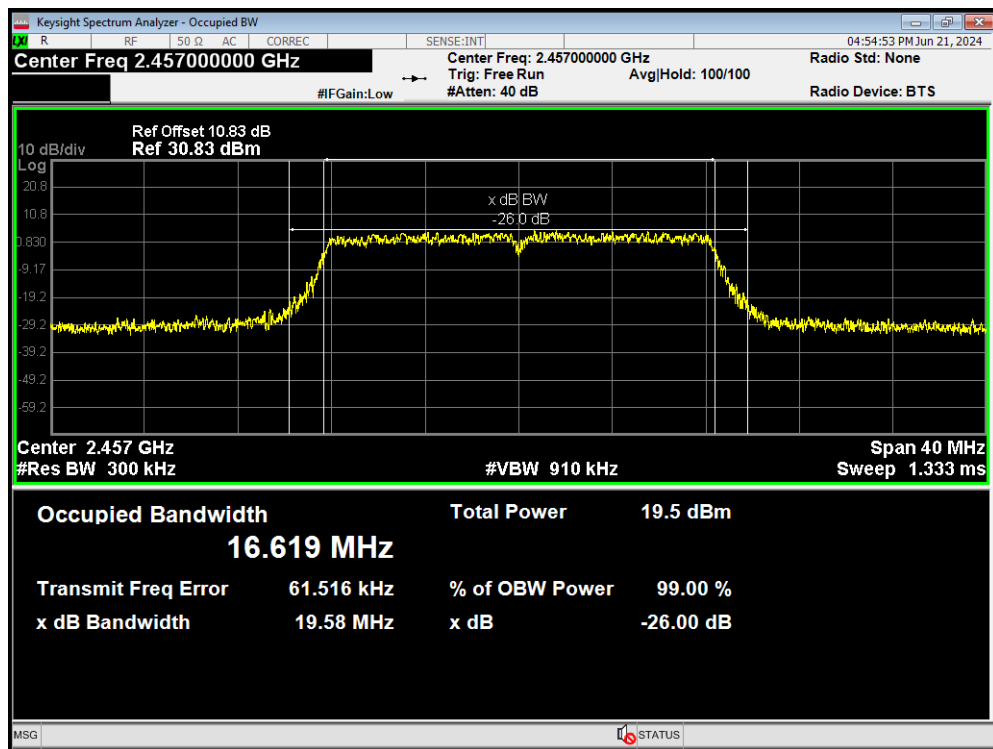
OBW 802.11g 2412MHz



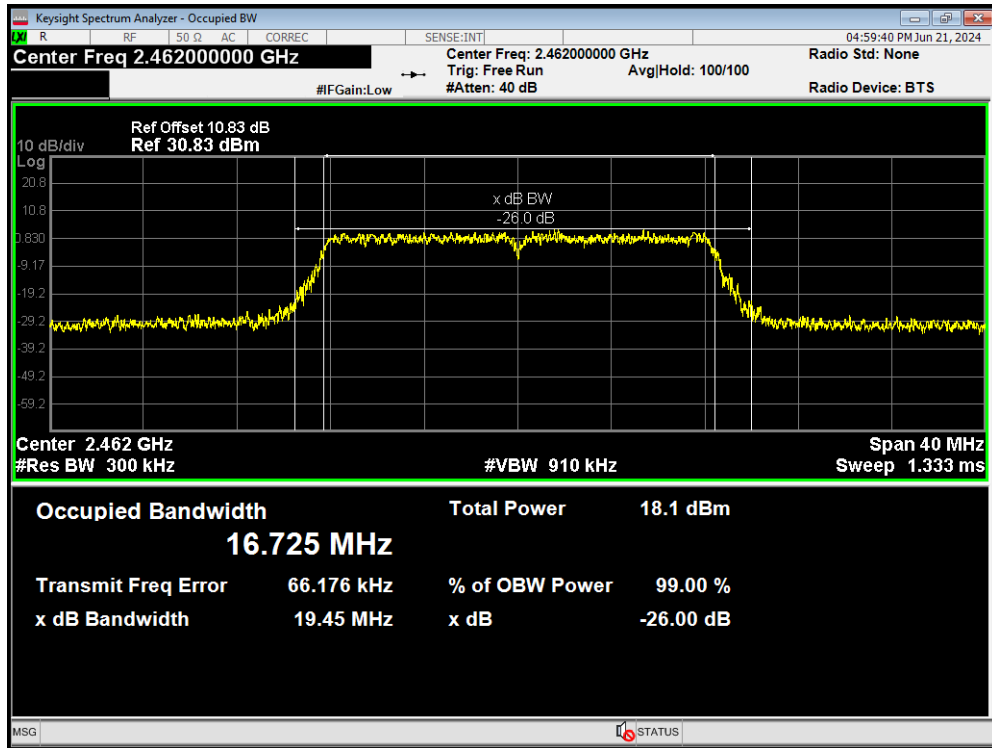
OBW 802.11g 2437MHz



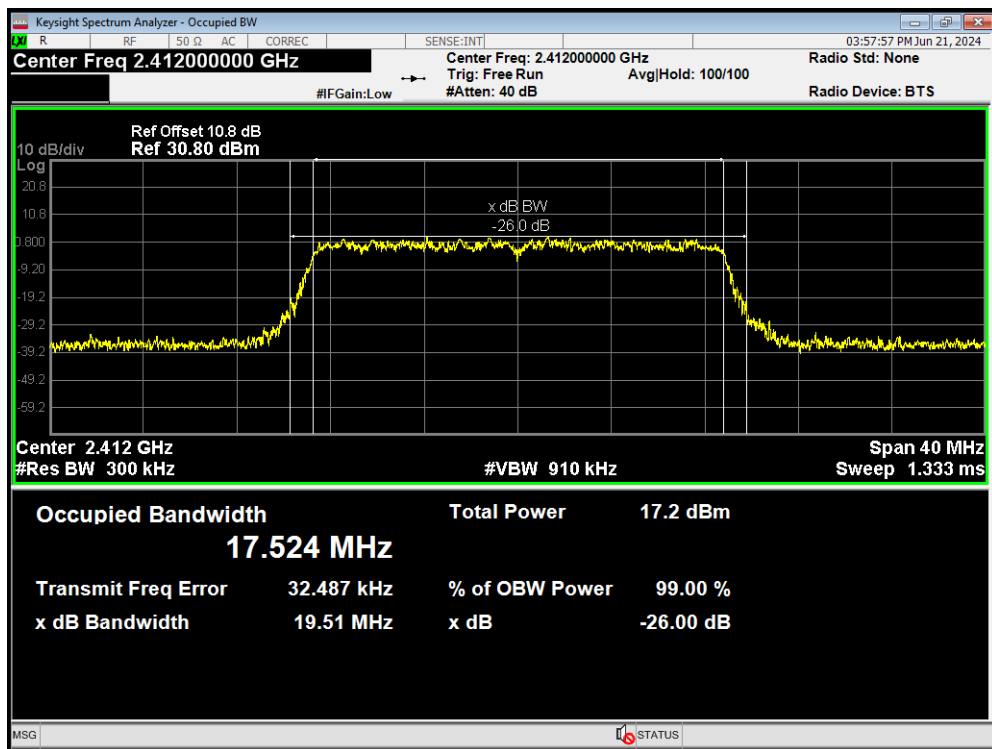
OBW 802.11g 2457MHz



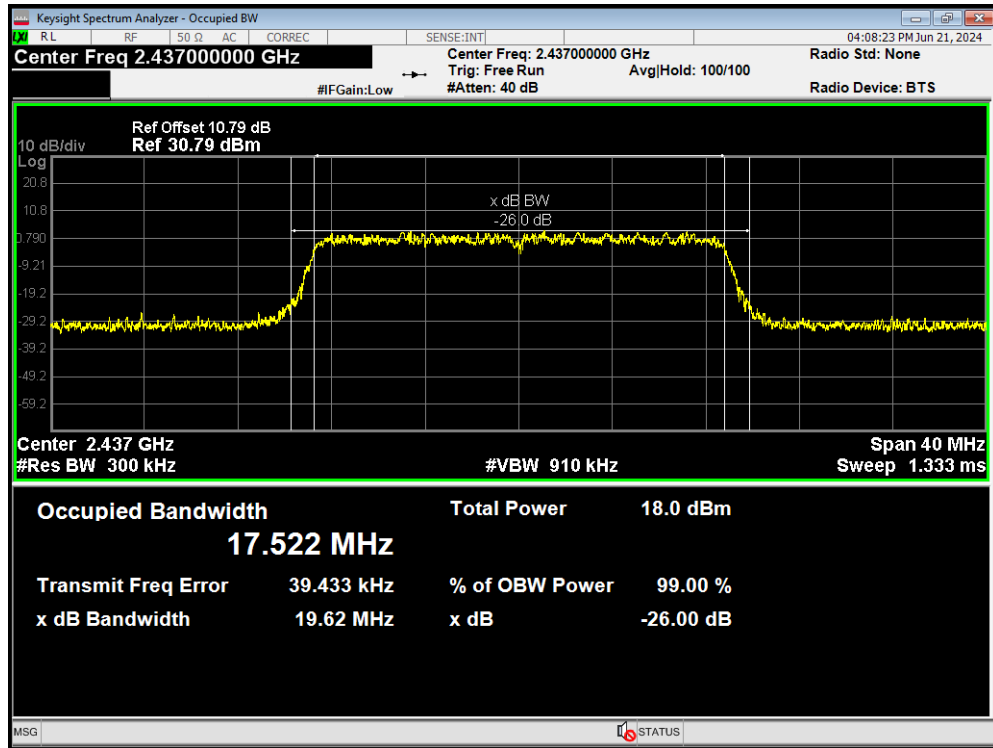
OBW 802.11g 2462MHz



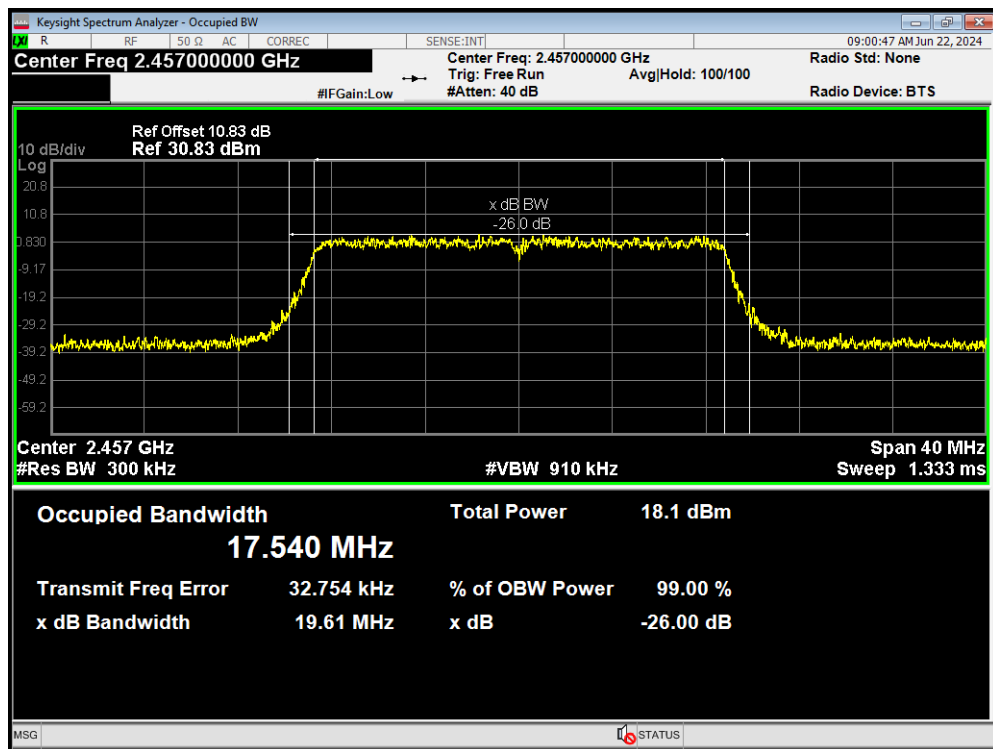
OBW 802.11n(HT20) 2412MHz



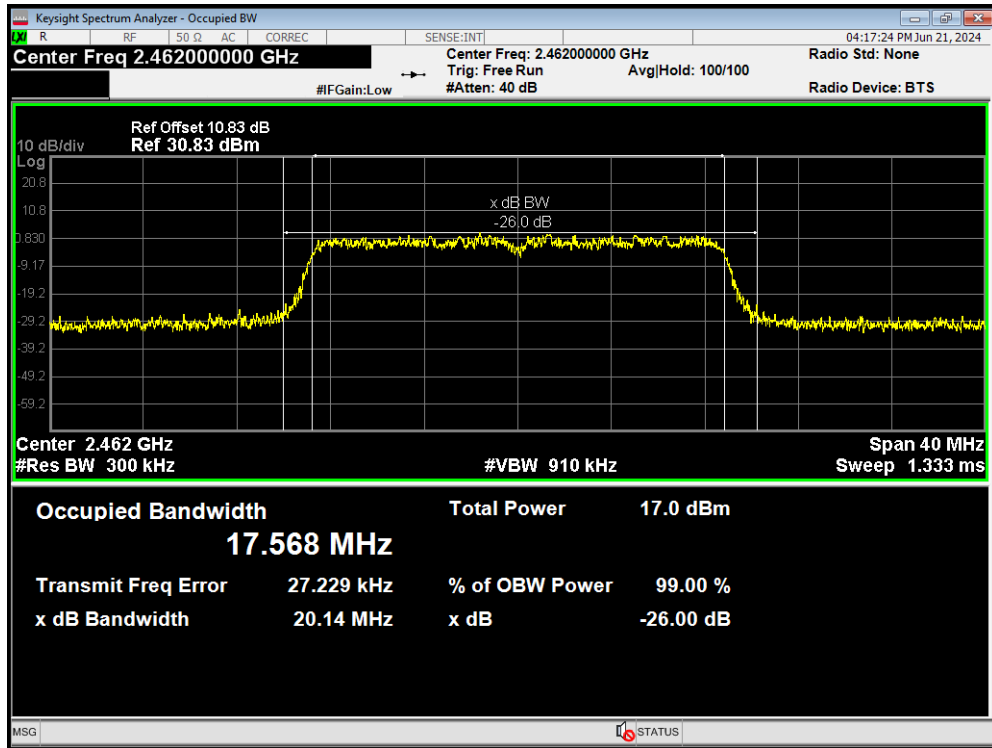
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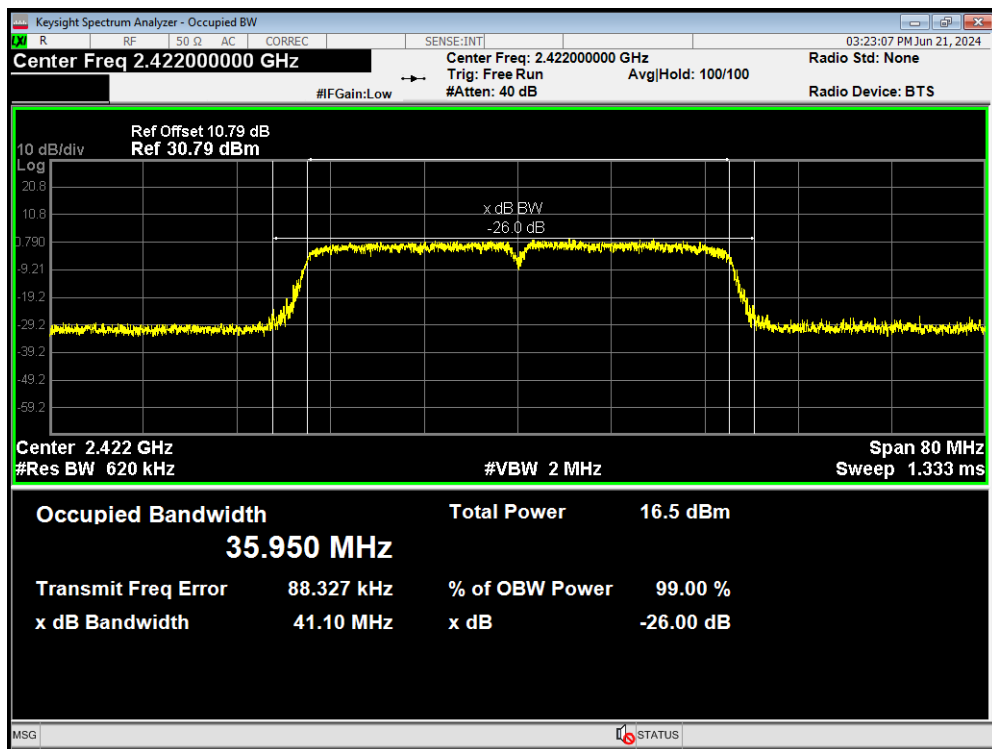
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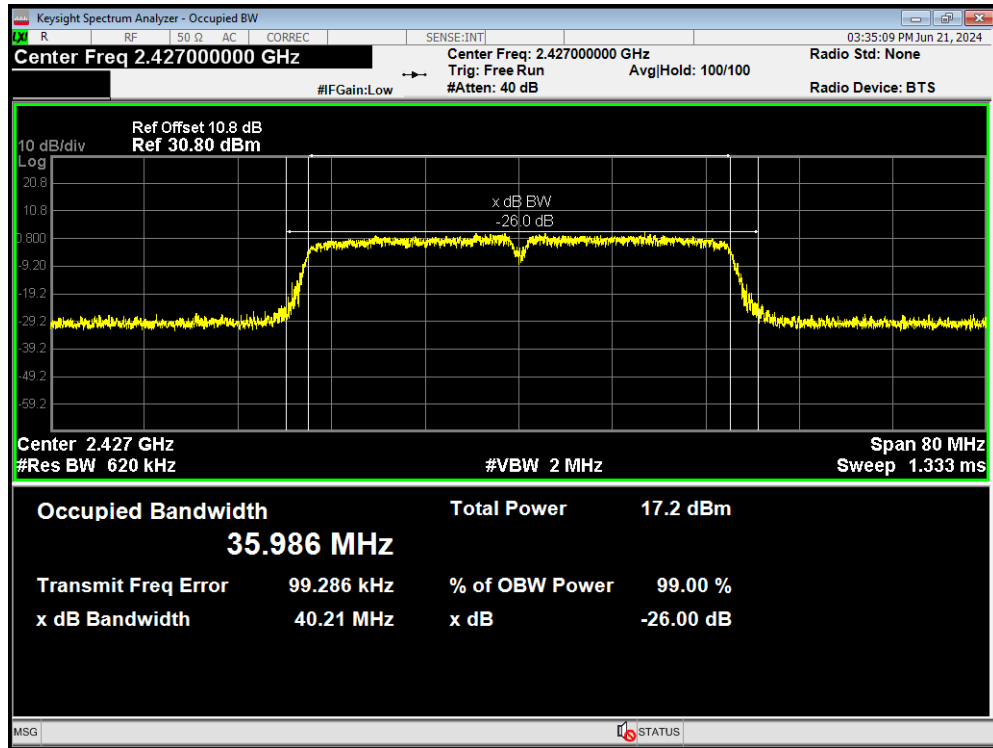
OBW 802.11n(HT20) 2462MHz



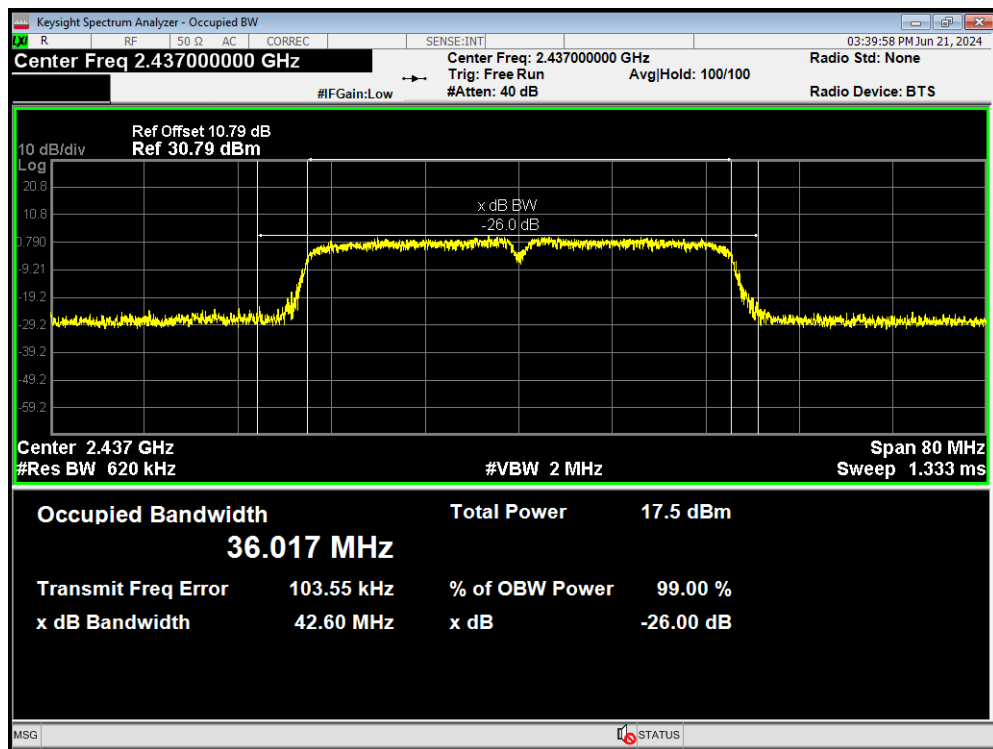
OBW 802.11n(HT40) 2422MHz



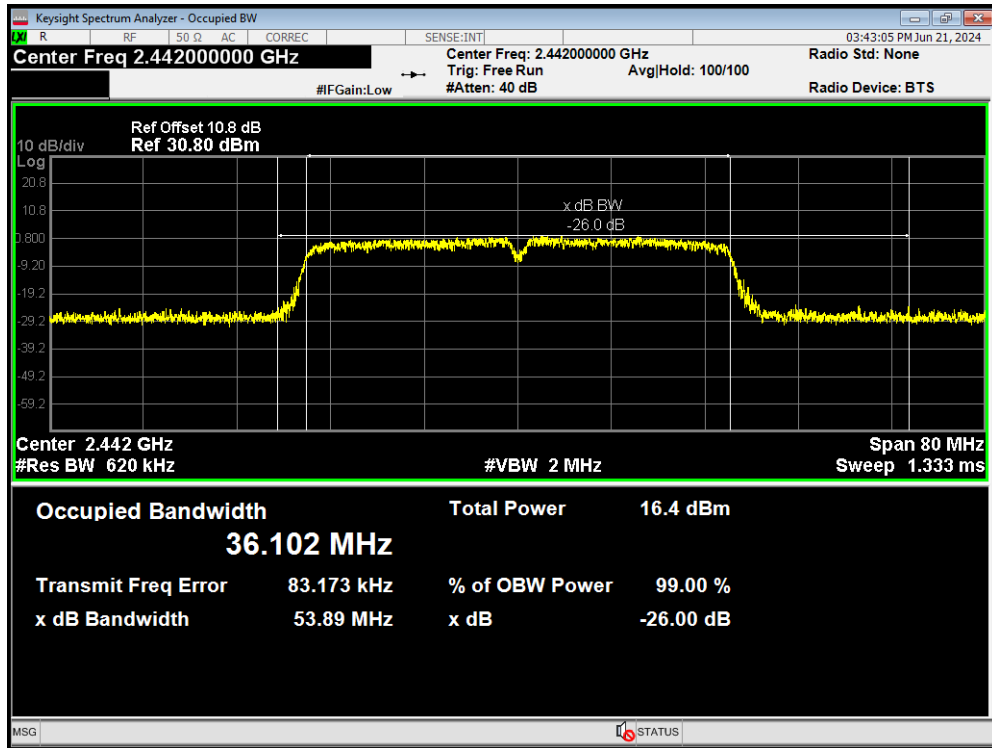
OBW 802.11n(HT40) 2427MHz



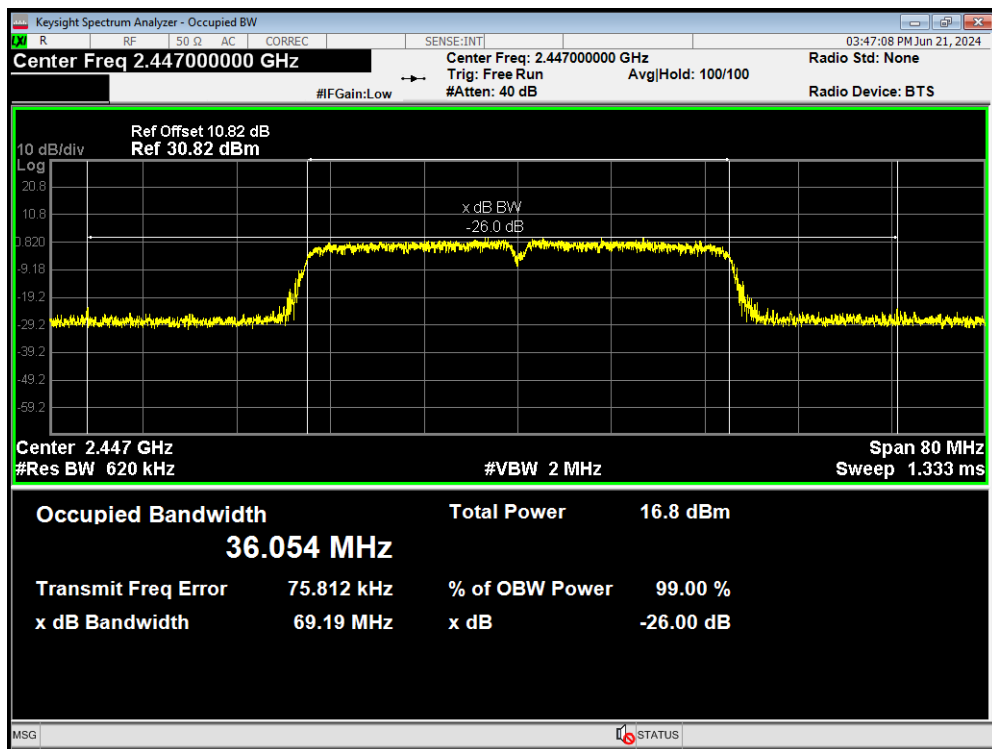
OBW 802.11n(HT40) 2437MHz



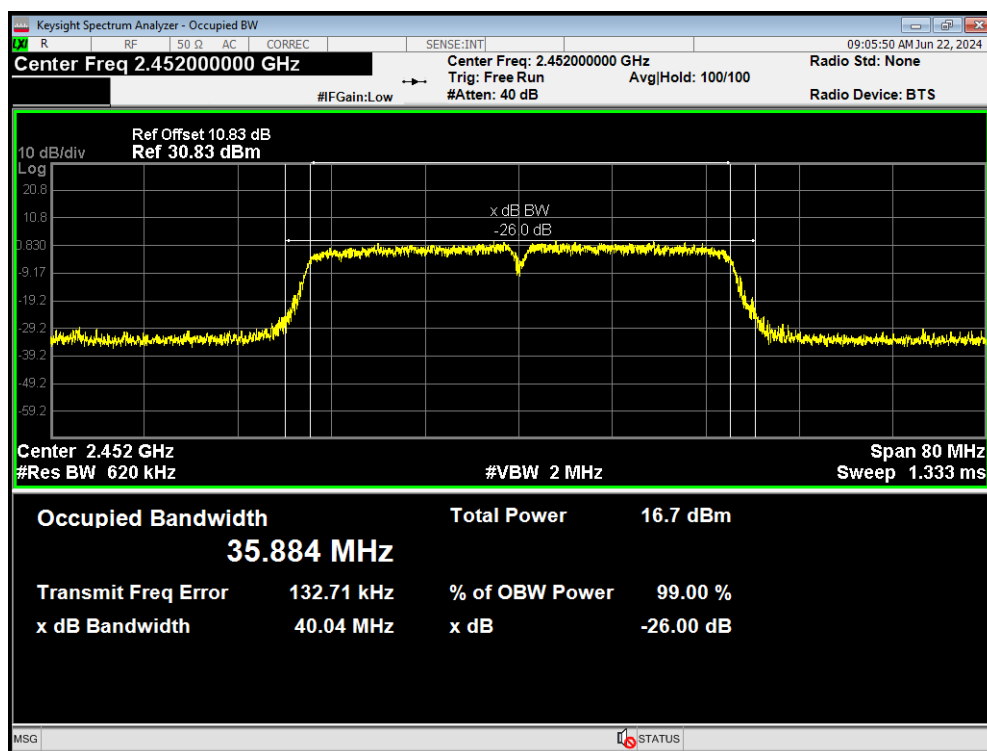
OBW 802.11n(HT40) 2442MHz



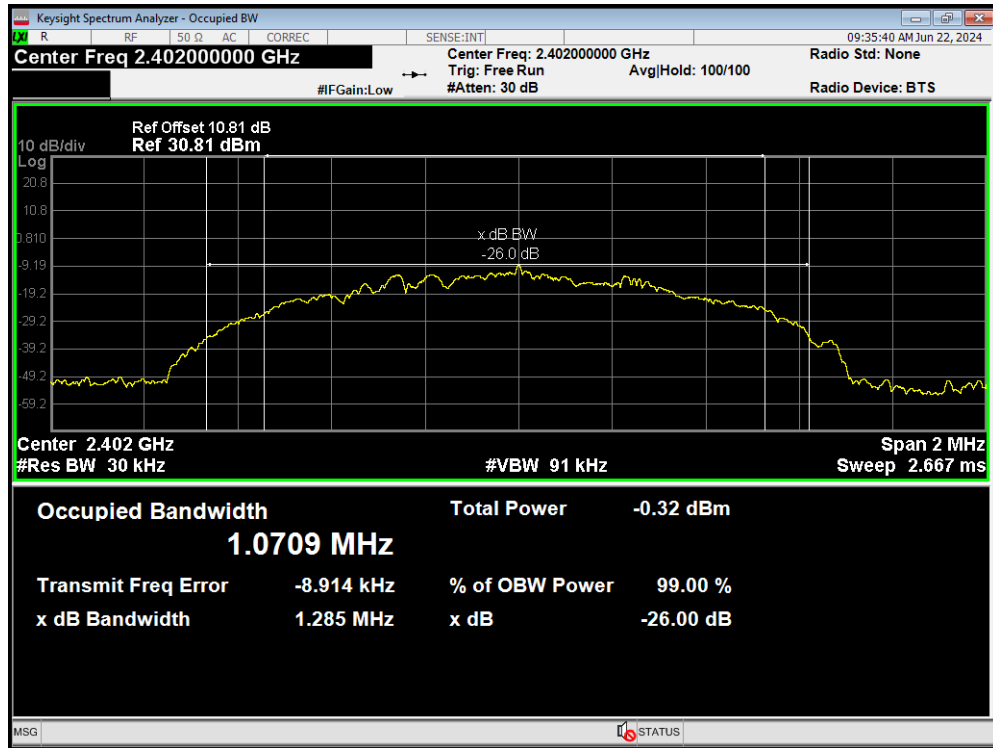
OBW 802.11n(HT40) 2447MHz



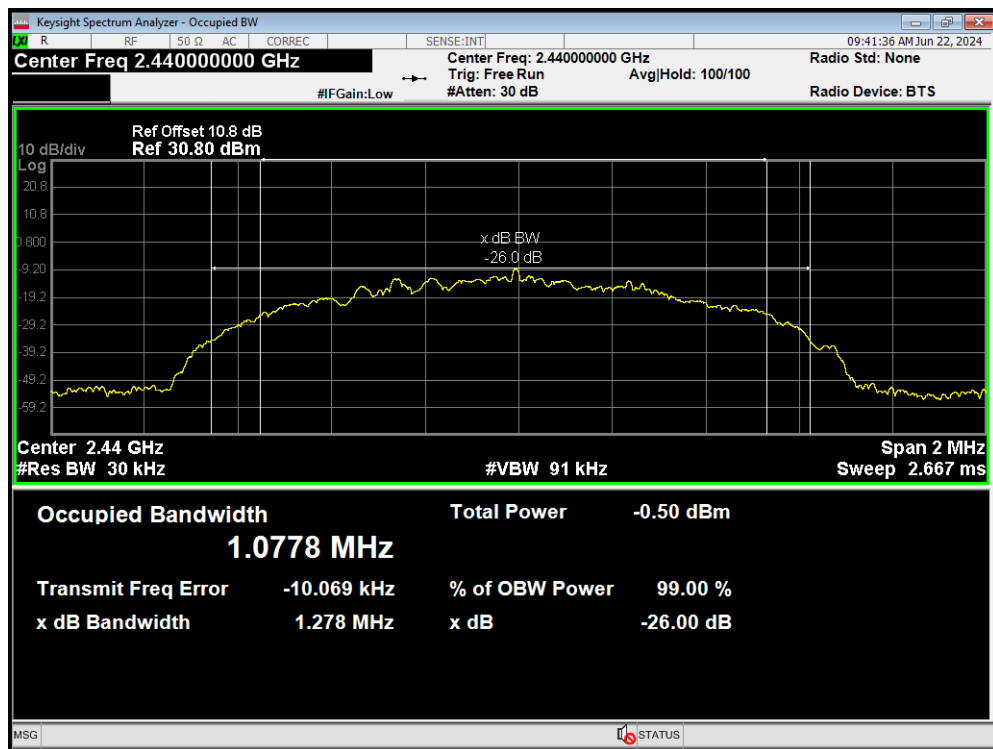
OBW 802.11n(HT40) 2452MHz



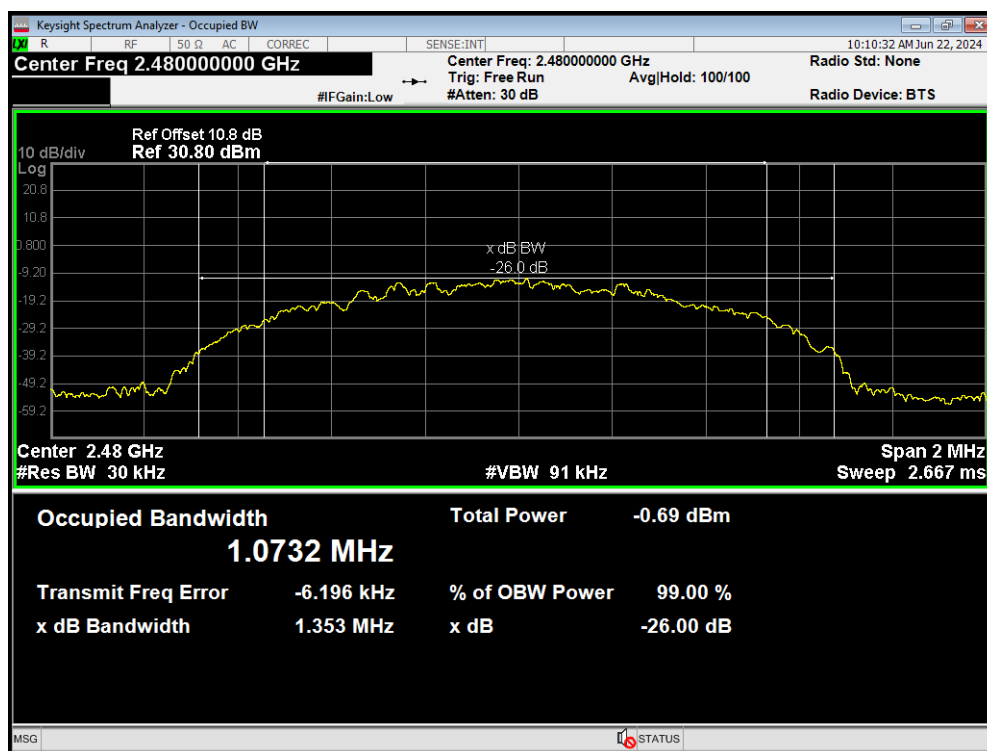
OBW Bluetooth LE 2402MHz



OBW Bluetooth LE 2440MHz

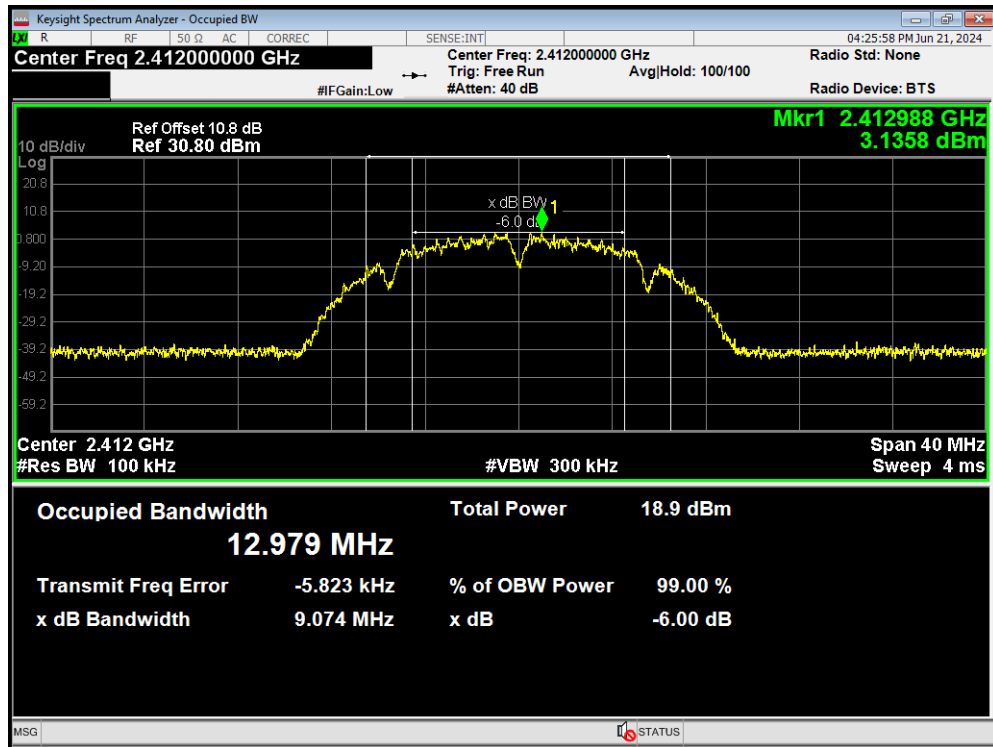


OBW Bluetooth LE 2480MHz

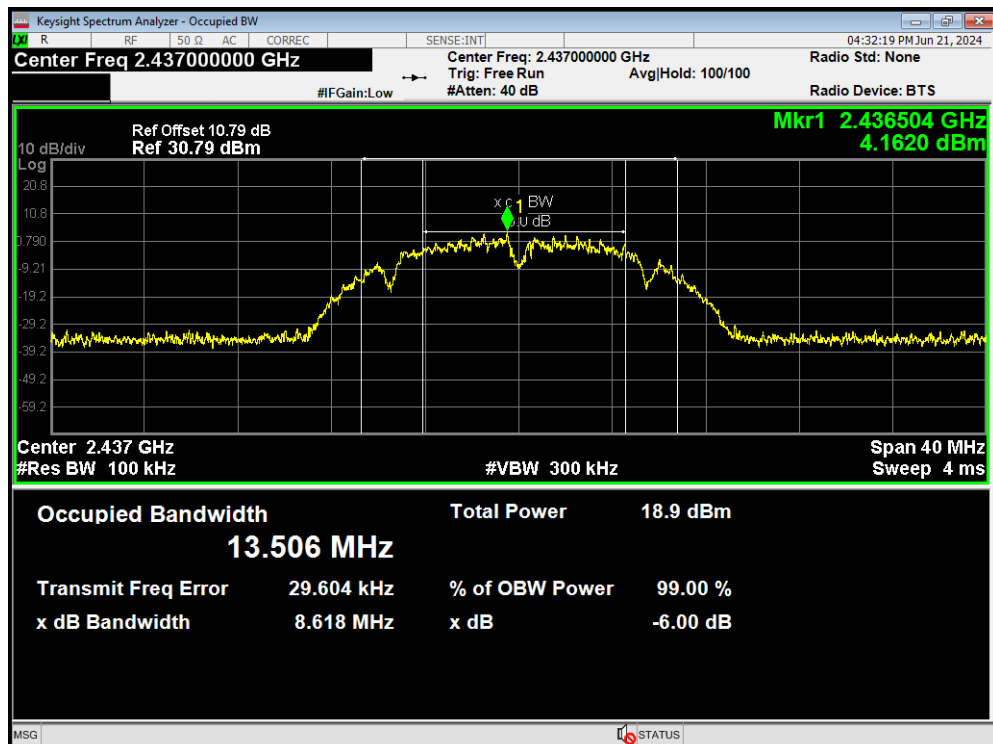


6 dB bandwidth

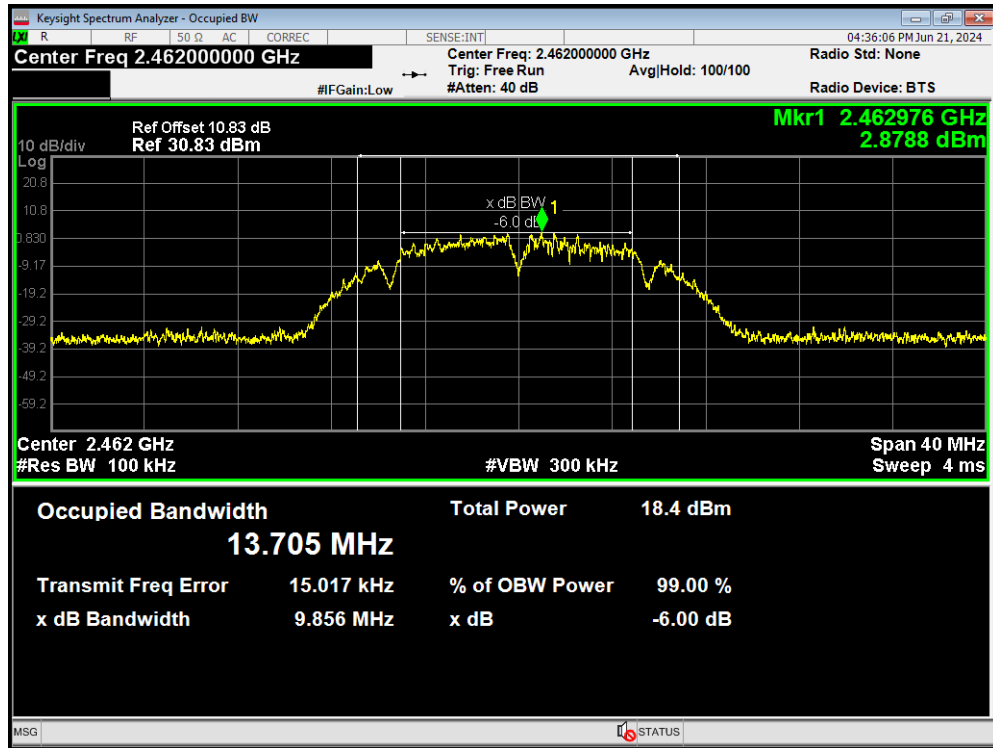
-6dB Bandwidth 802.11b 2412MHz



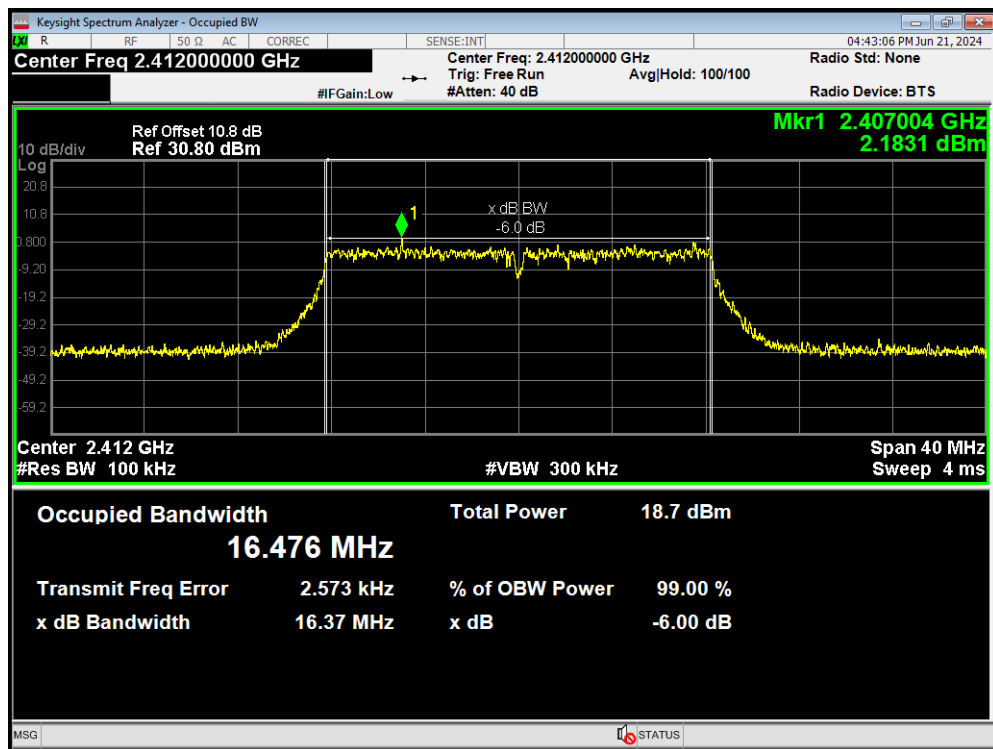
-6dB Bandwidth 802.11b 2437MHz



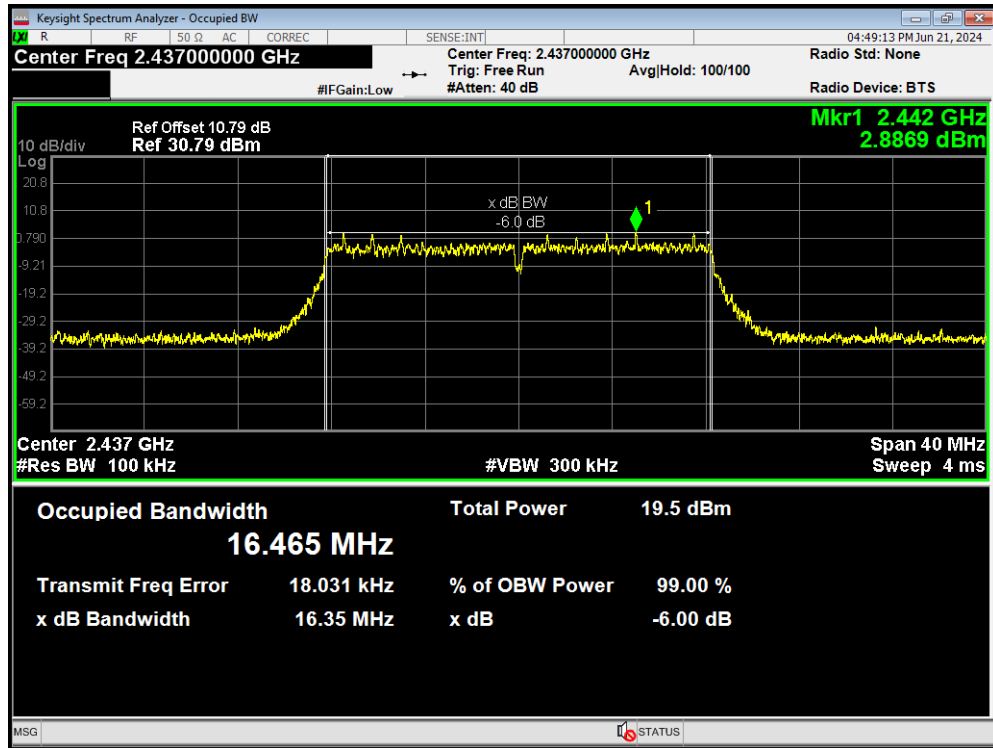
-6dB Bandwidth 802.11b 2462MHz



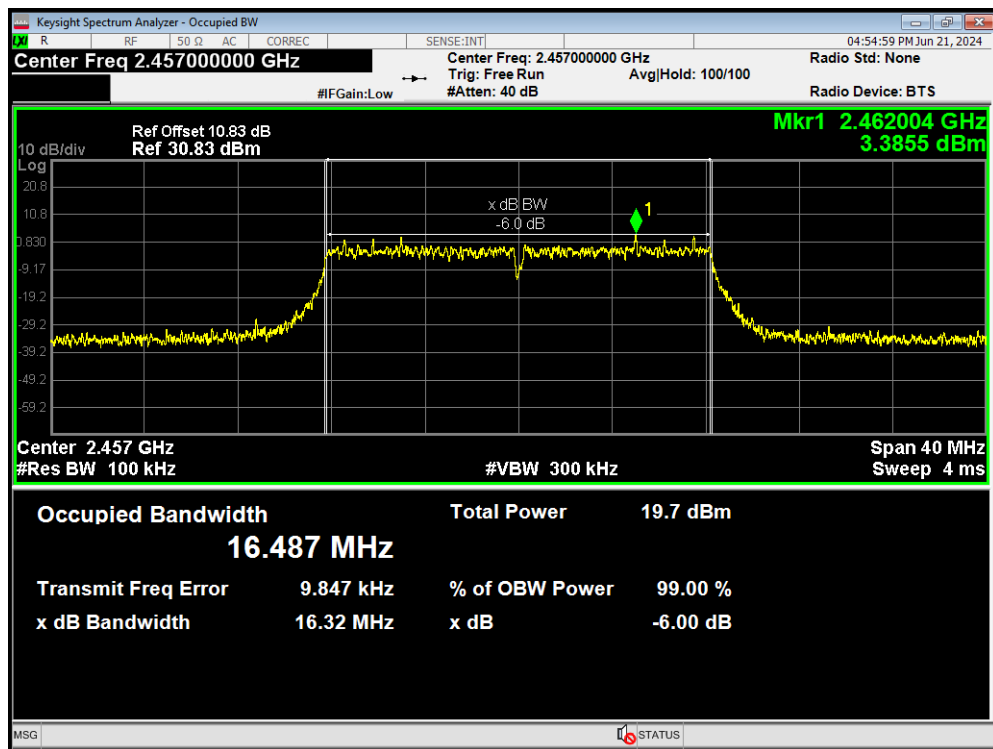
-6dB Bandwidth 802.11g 2412MHz



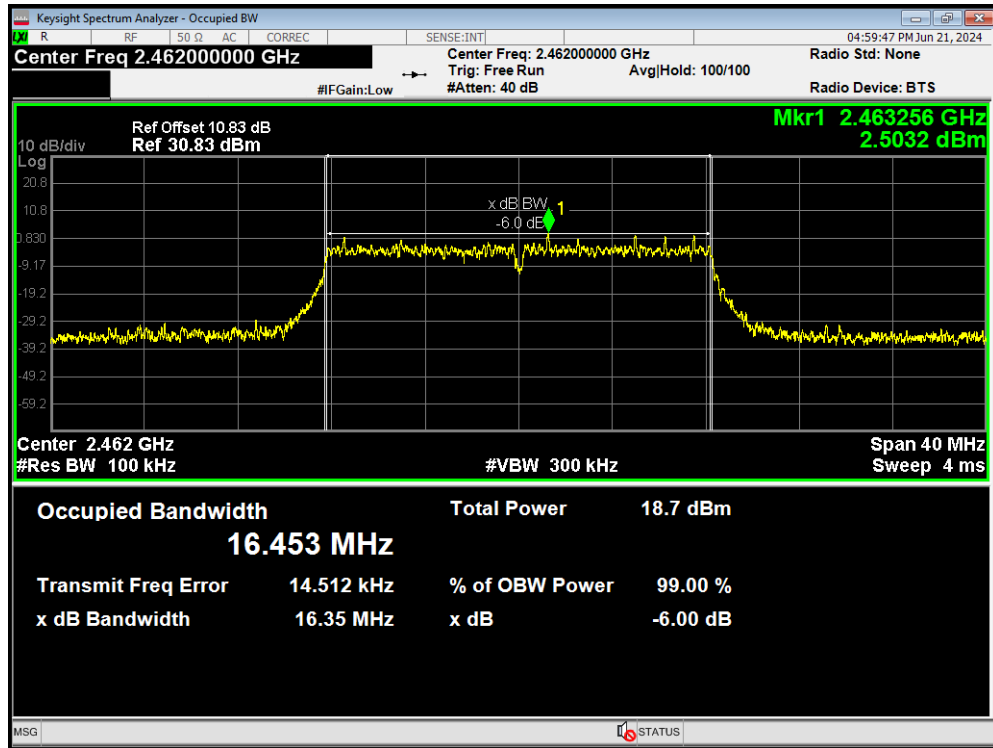
-6dB Bandwidth 802.11g 2437MHz



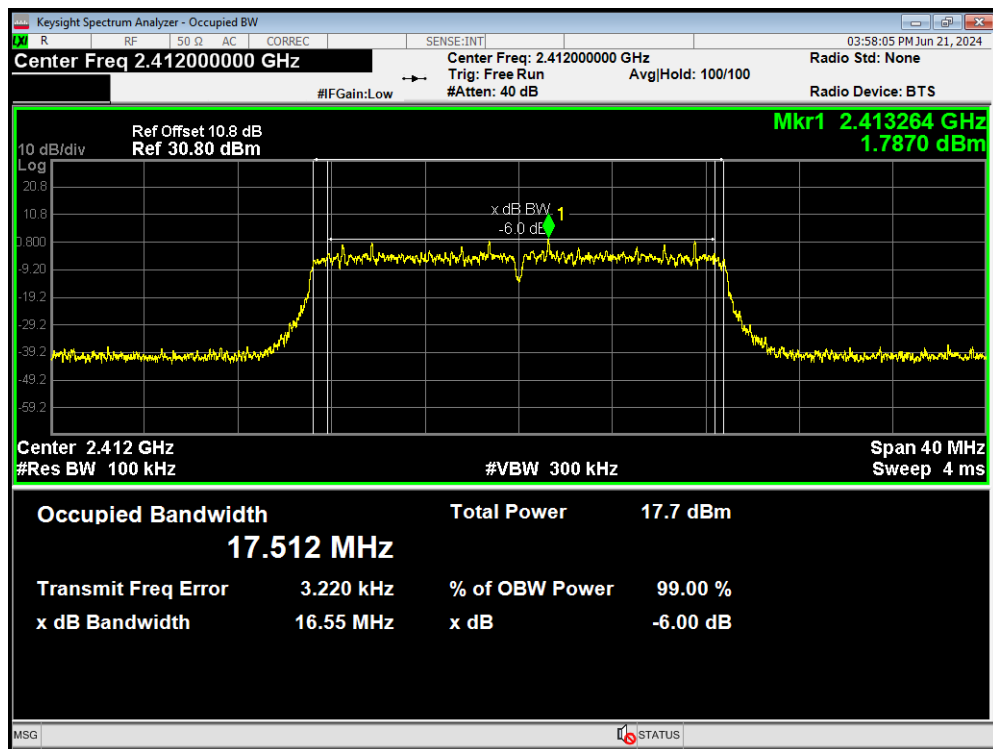
-6dB Bandwidth 802.11g 2457MHz



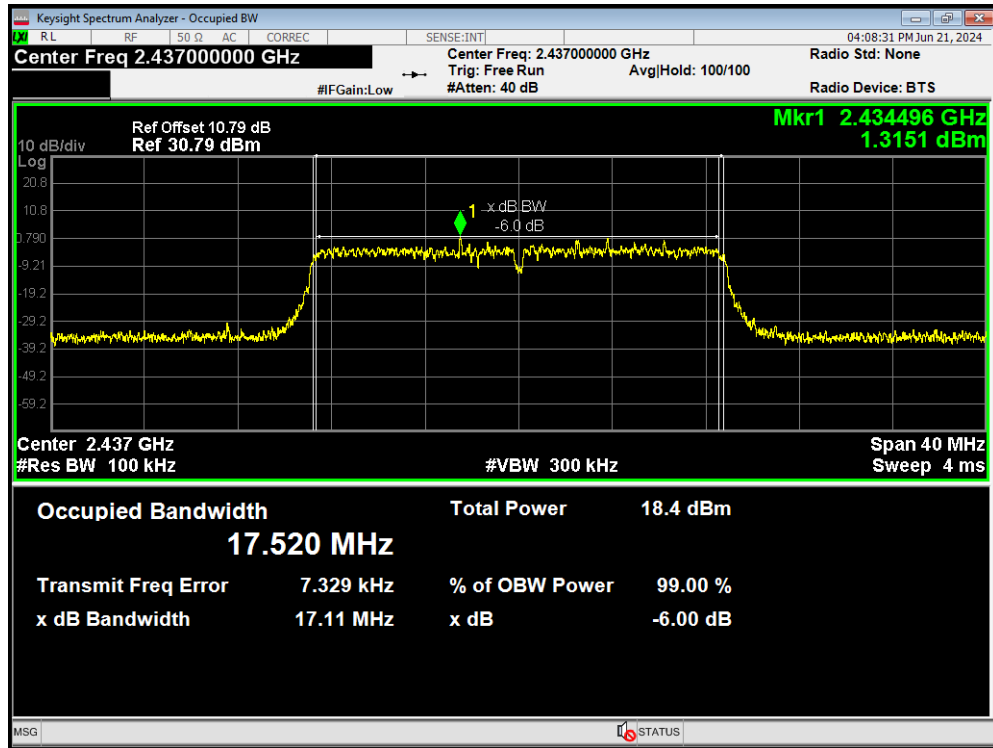
-6dB Bandwidth 802.11g 2462MHz



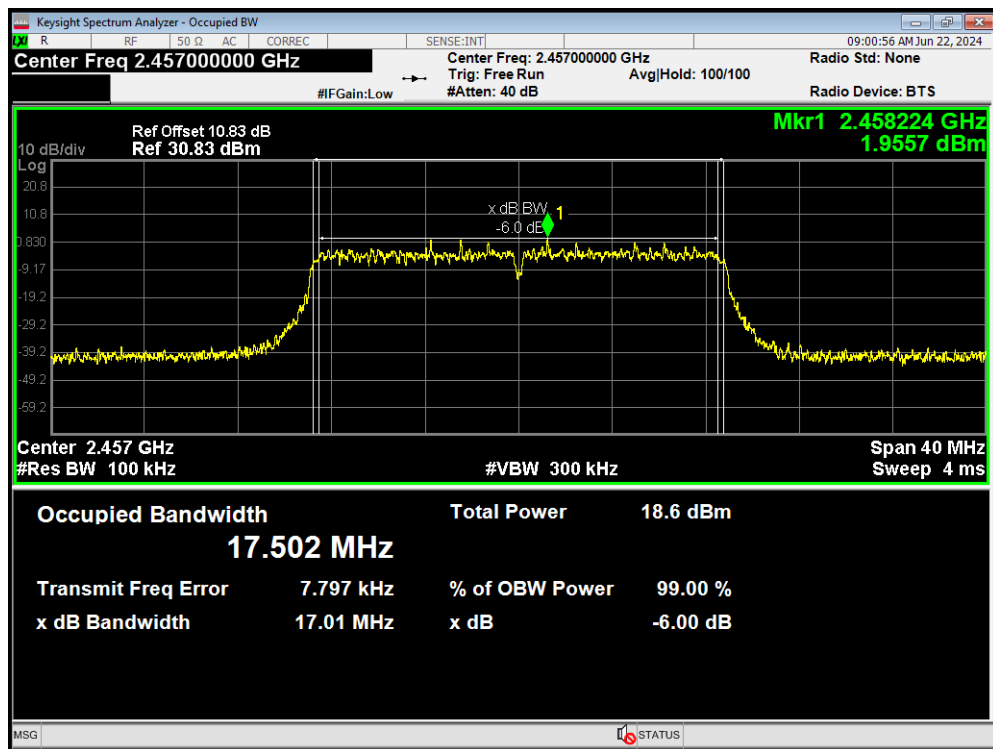
-6dB Bandwidth 802.11n(HT20) 2412MHz



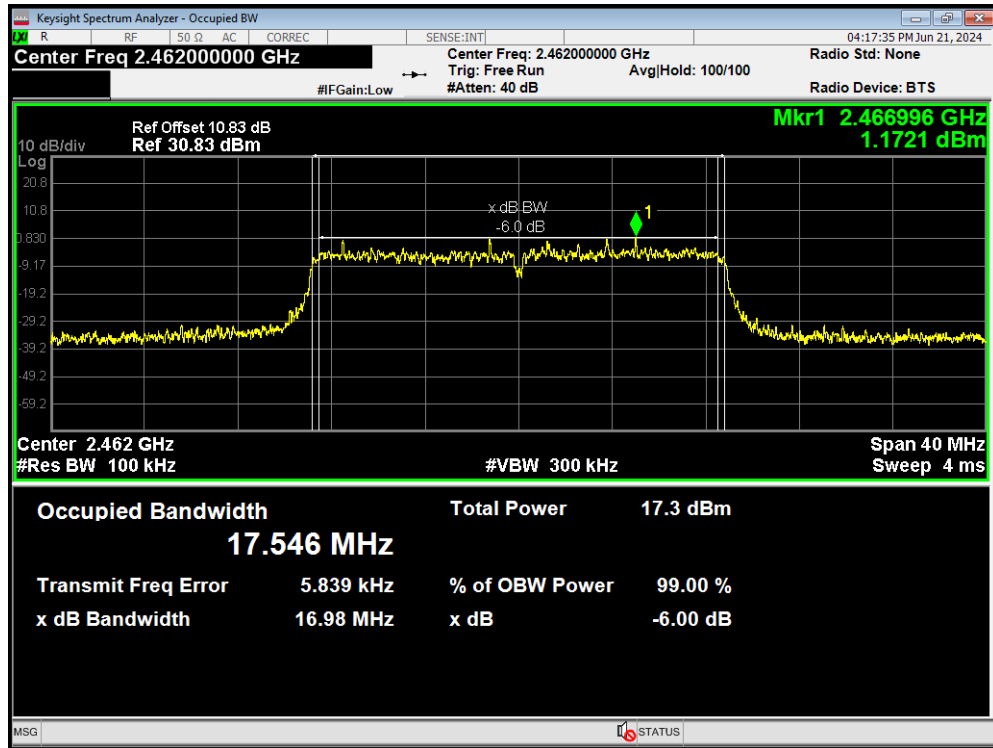
-6dB Bandwidth 802.11n(HT20) 2437MHz



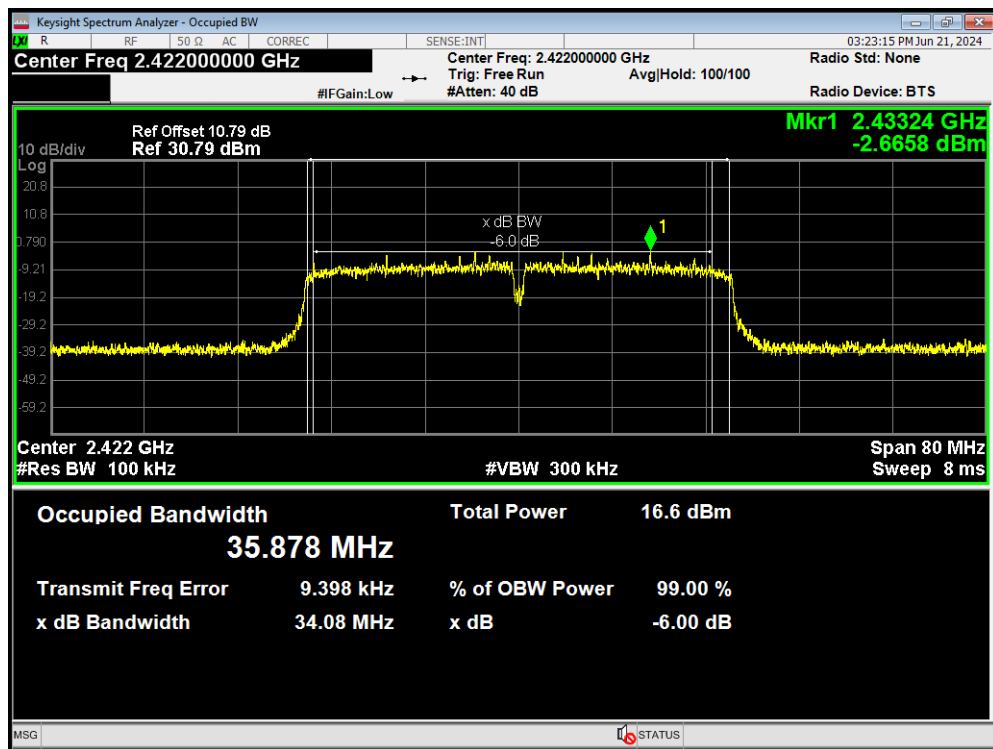
-6dB Bandwidth 802.11n(HT20) 2457MHz



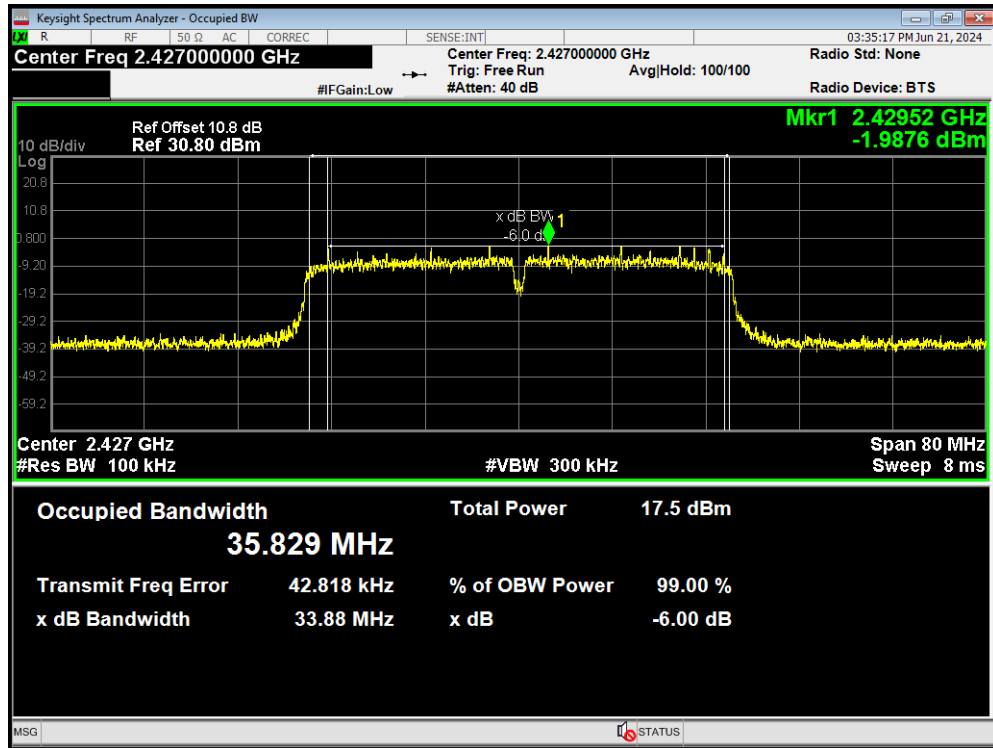
-6dB Bandwidth 802.11n(HT20) 2462MHz



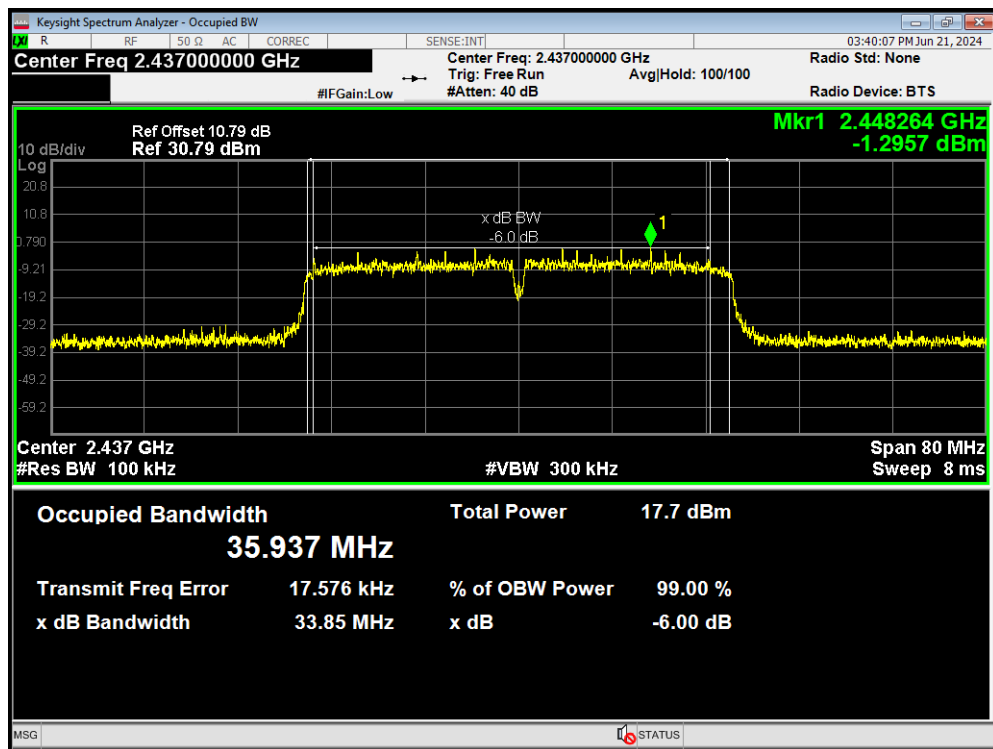
-6dB Bandwidth 802.11n(HT40) 2422MHz



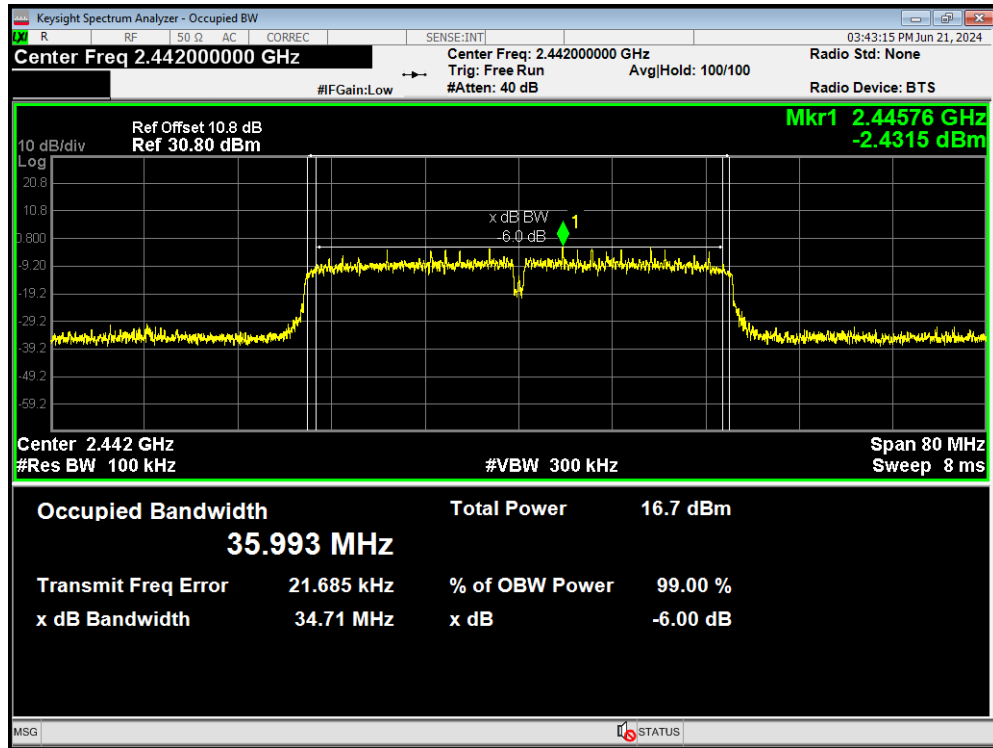
-6dB Bandwidth 802.11n(HT40) 2427MHz



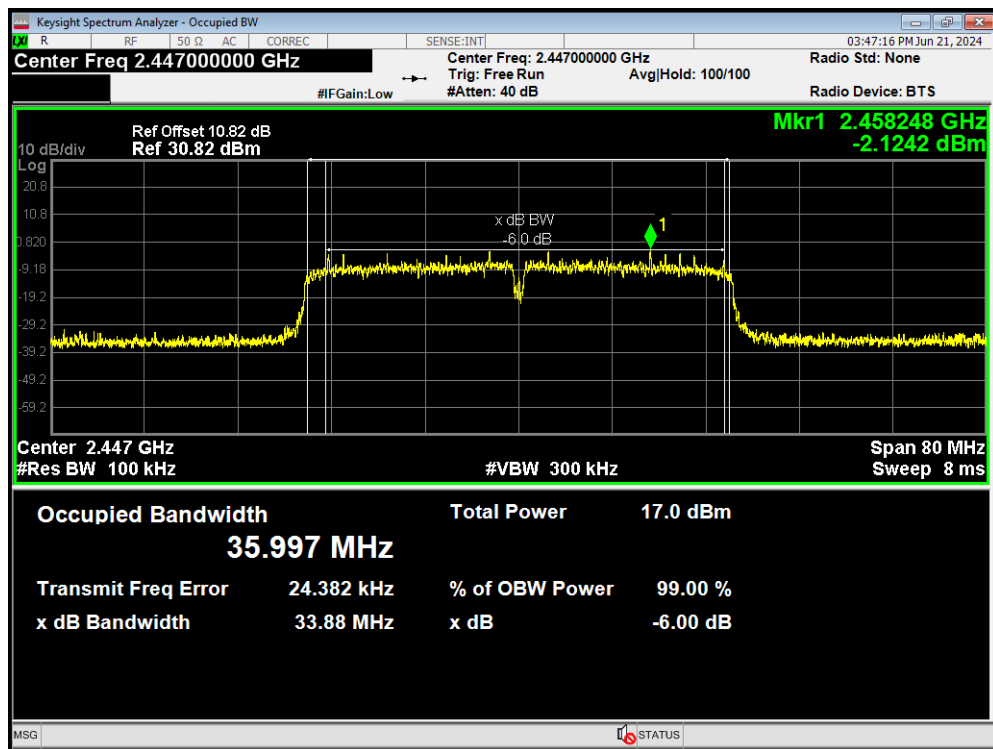
-6dB Bandwidth 802.11n(HT40) 2437MHz



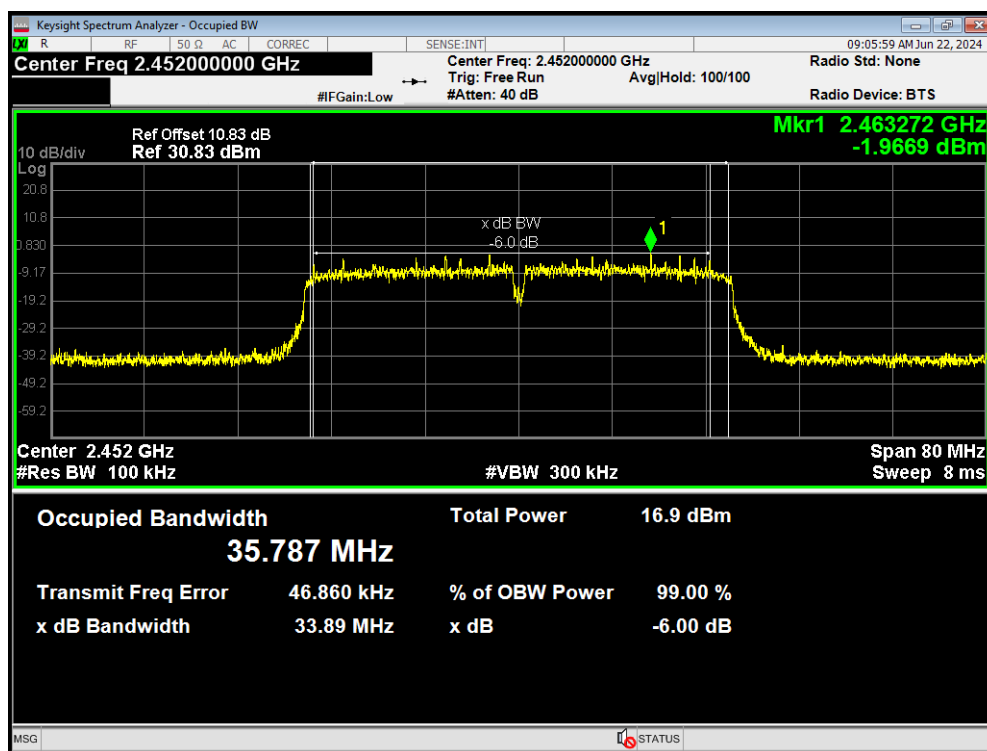
-6dB Bandwidth 802.11n(HT40) 2442MHz



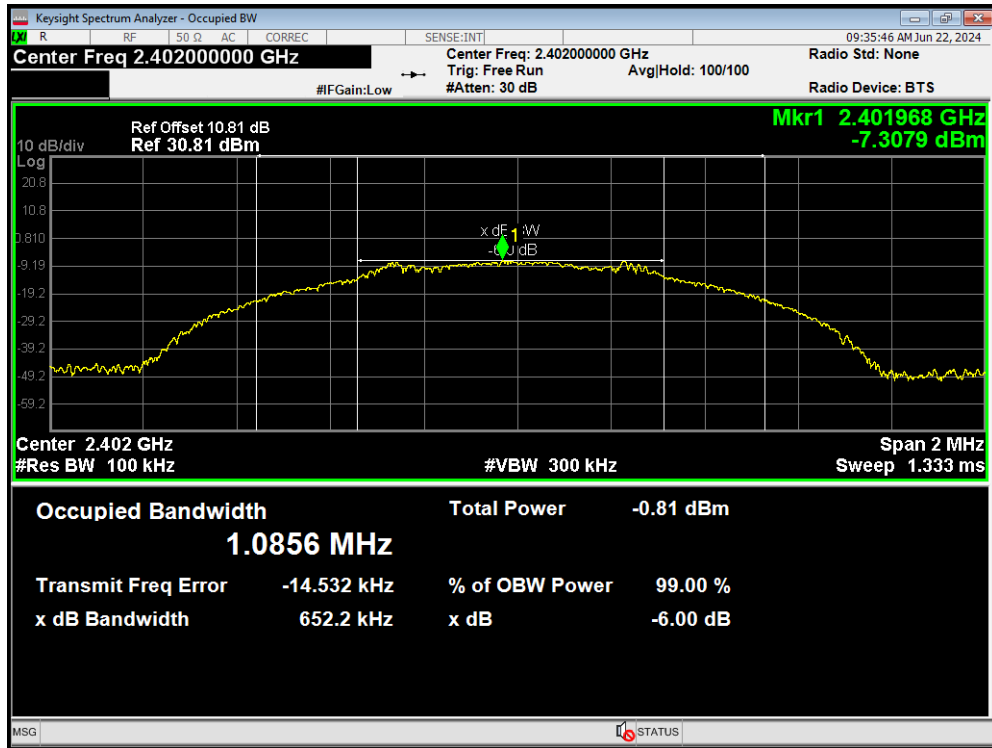
-6dB Bandwidth 802.11n(HT40) 2447MHz



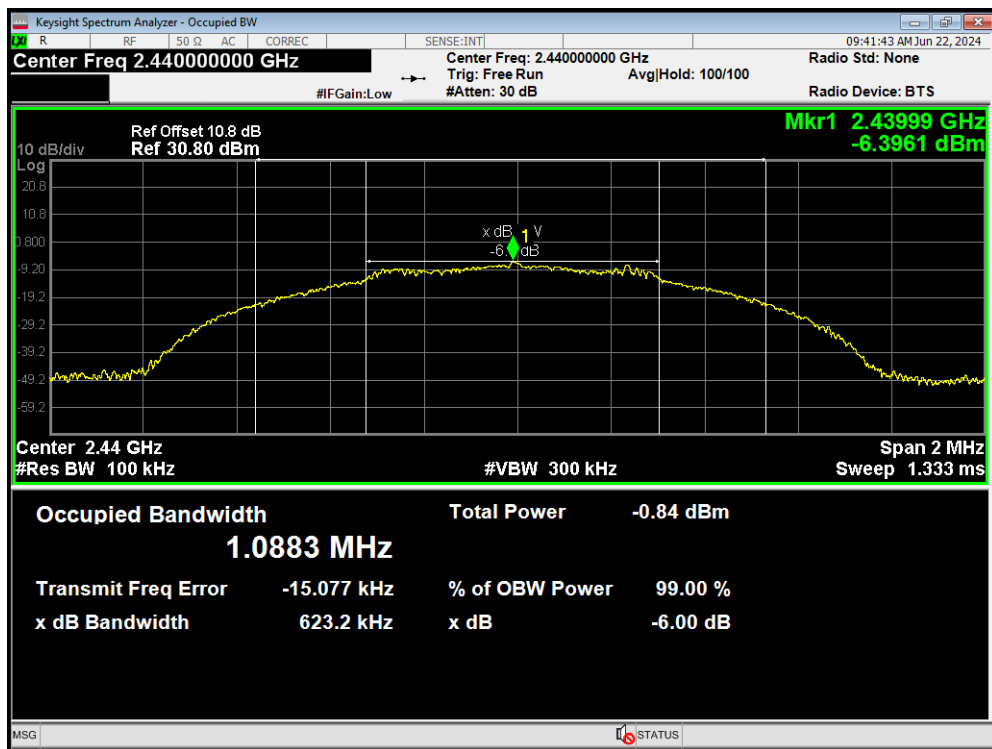
-6dB Bandwidth 802.11n(HT40) 2452MHz



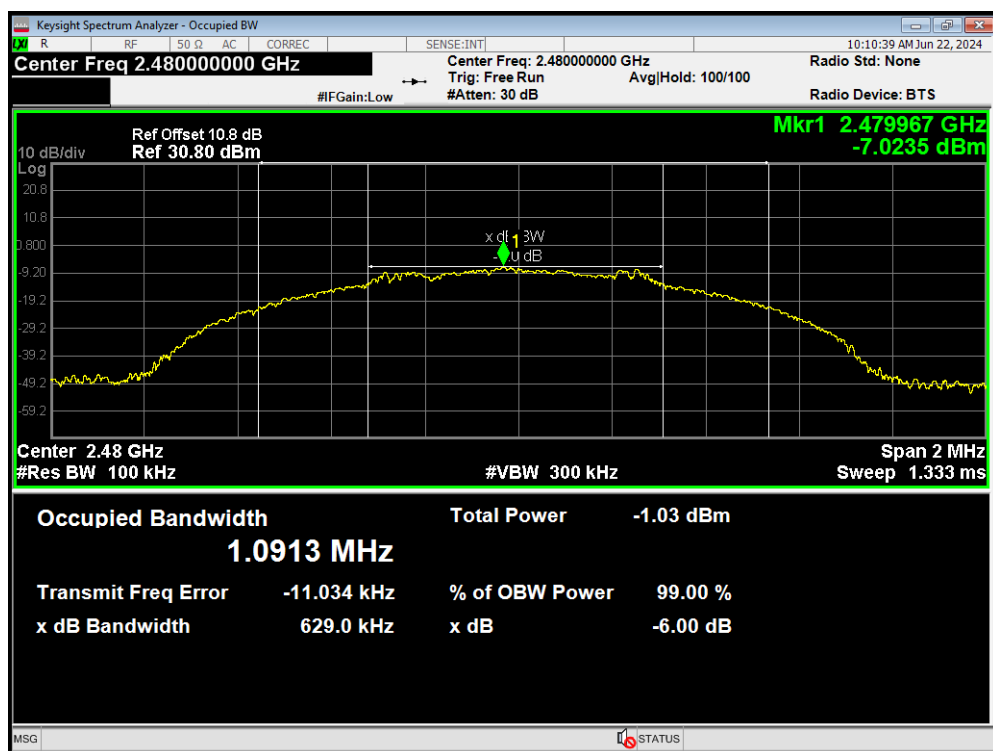
-6dB Bandwidth Bluetooth LE 2402MHz



-6dB Bandwidth Bluetooth LE 2440MHz



-6dB Bandwidth Bluetooth LE 2480MHz



5.3. Band Edge

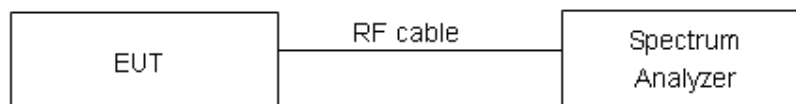
Ambient Condition

Temperature	Relative humidity
15°C ~ 35°C	20% ~ 80%

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) 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.”

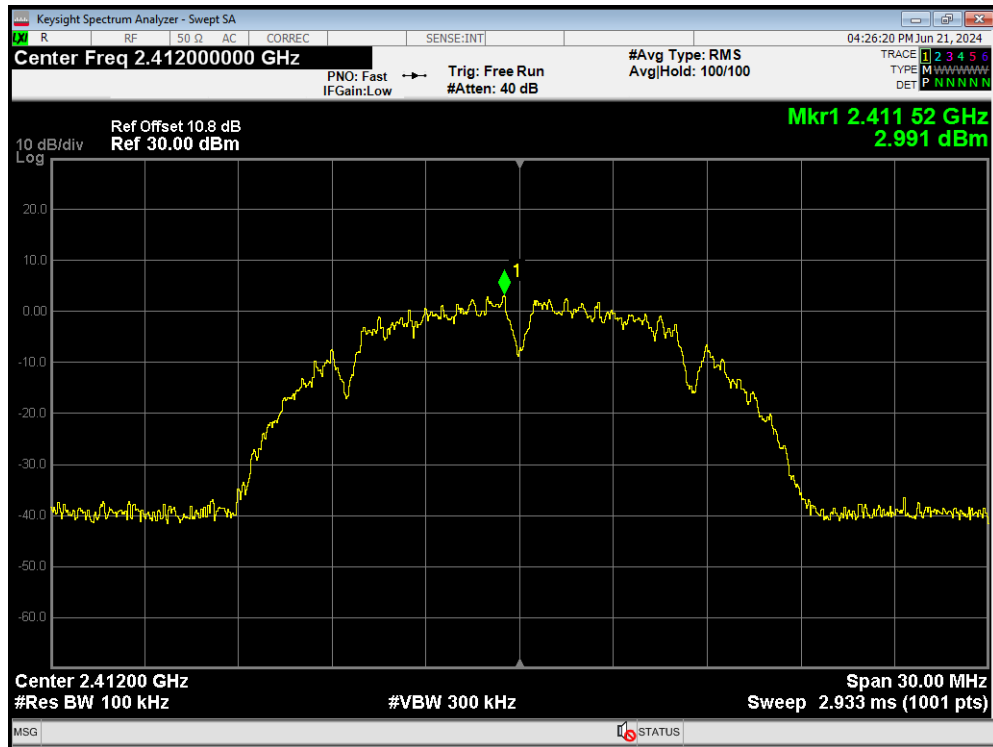
Measurement Uncertainty

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

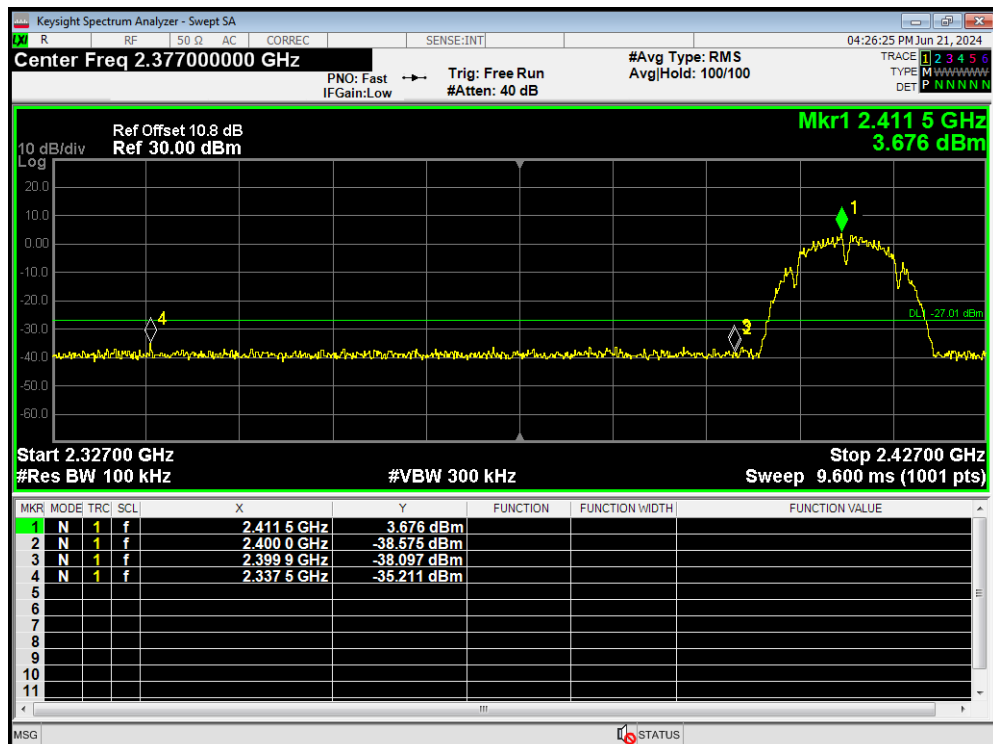
Frequency	Uncertainty
2GHz-3GHz	1.407 dB

Test Results: PASS

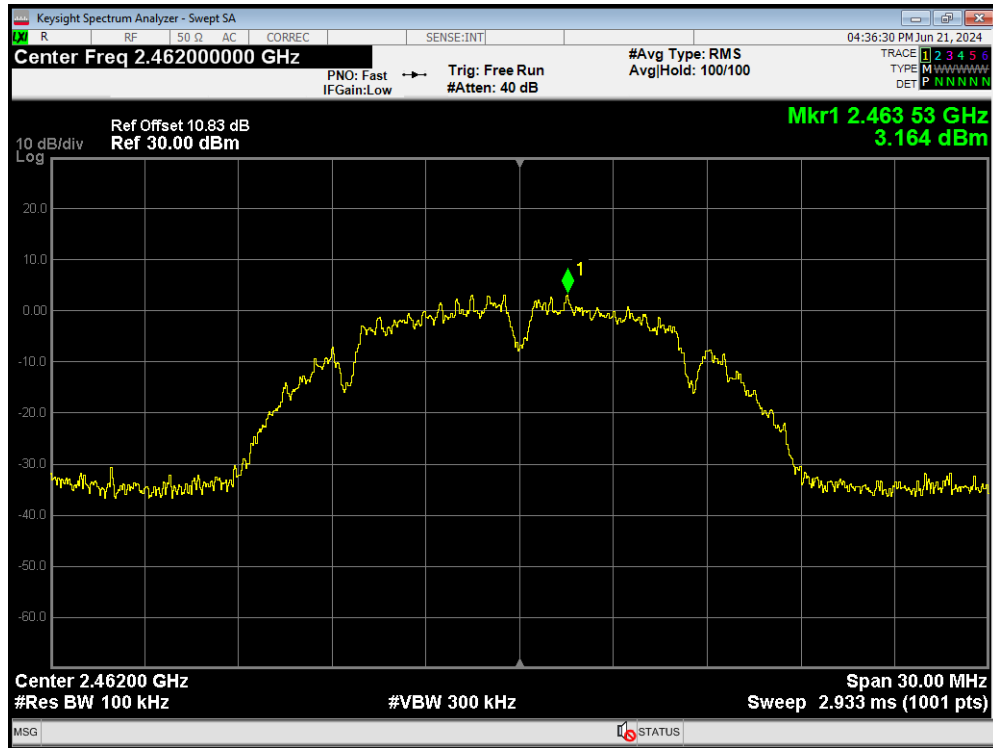
Band Edge 802.11b 2412MHz Ref



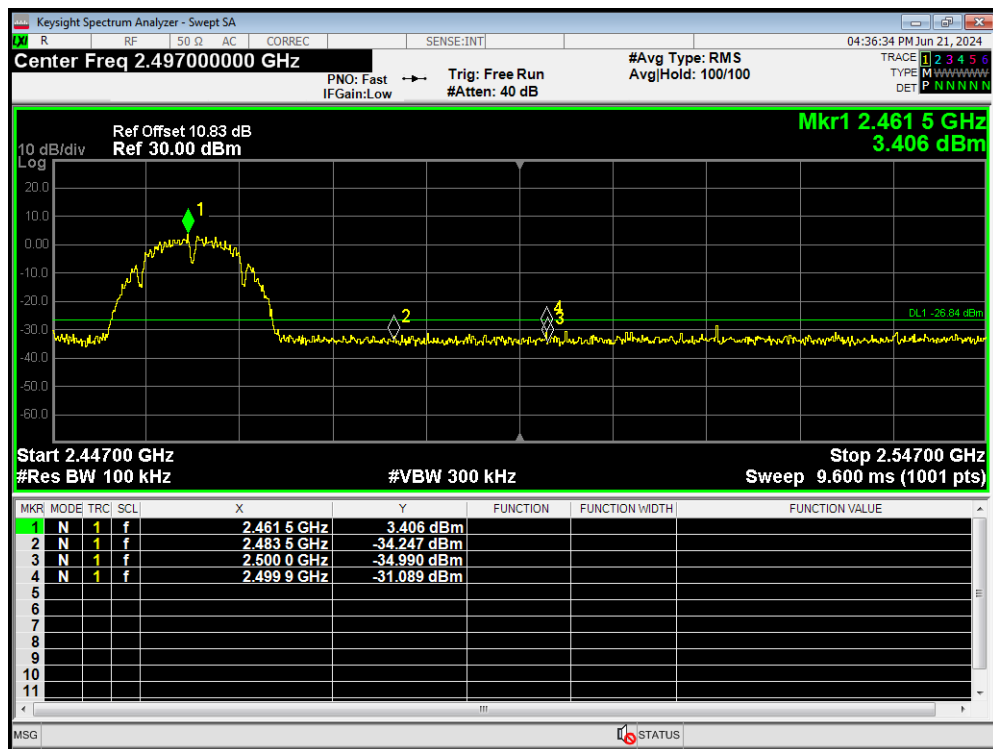
Band Edge 802.11b 2412MHz Emission



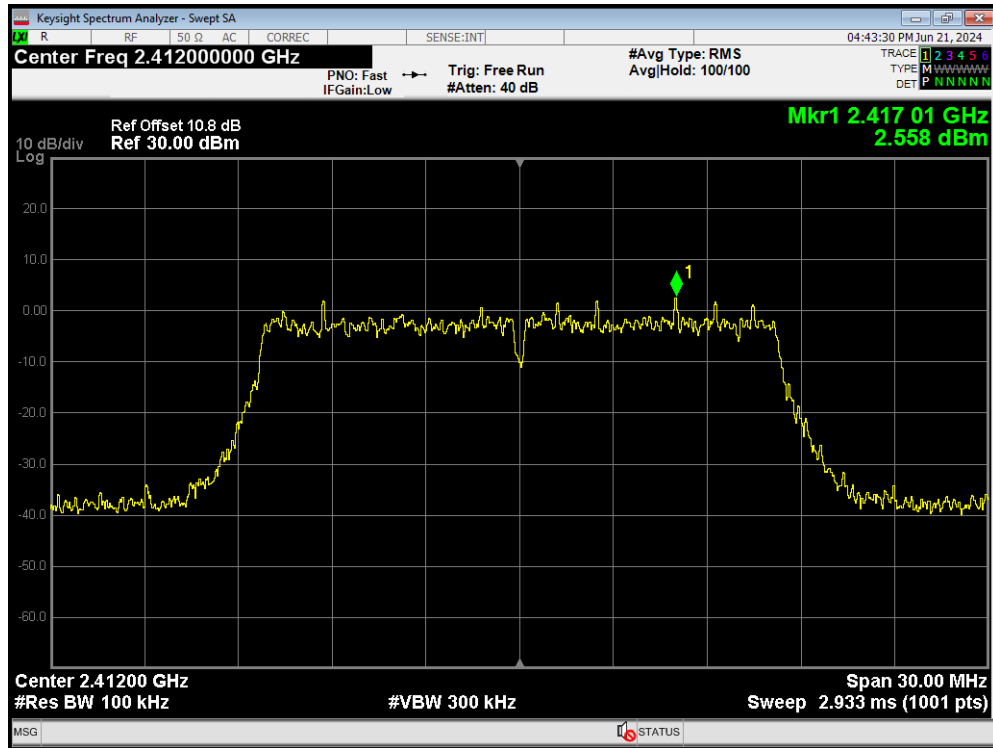
Band Edge 802.11b 2462MHz Ref



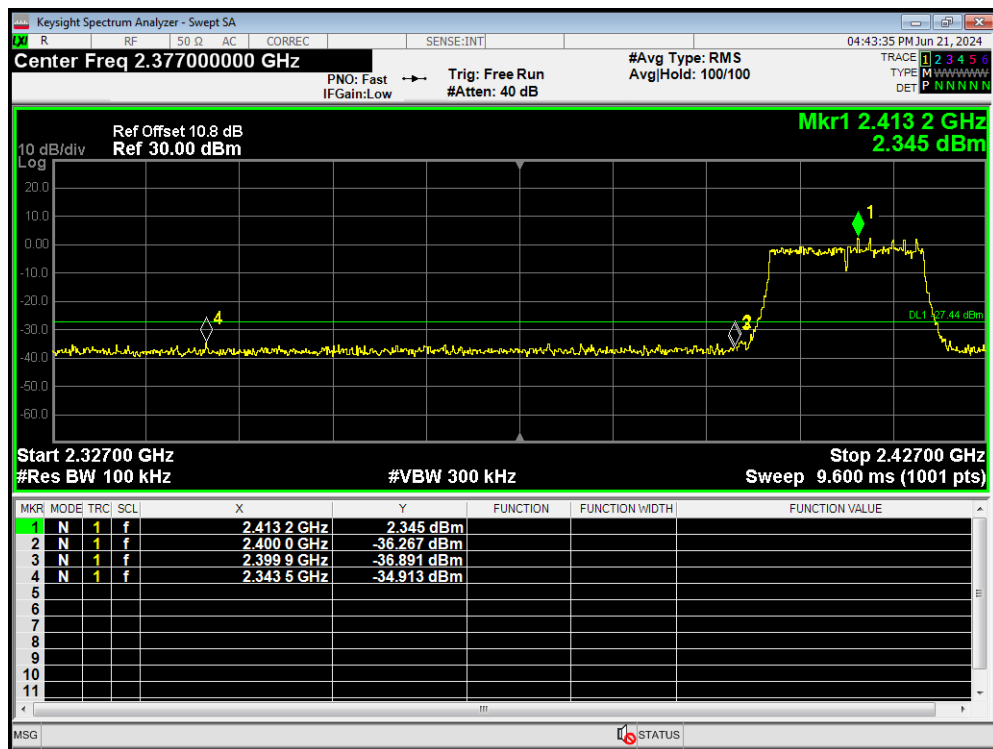
Band Edge 802.11b 2462MHz Emission



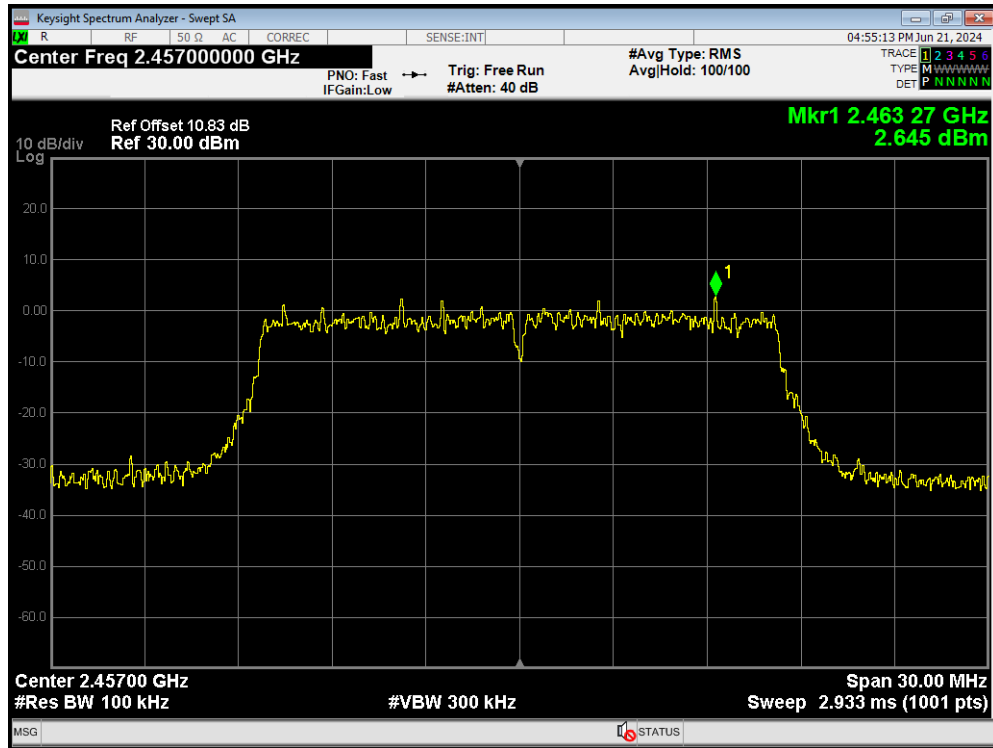
Band Edge 802.11g 2412MHz Ref



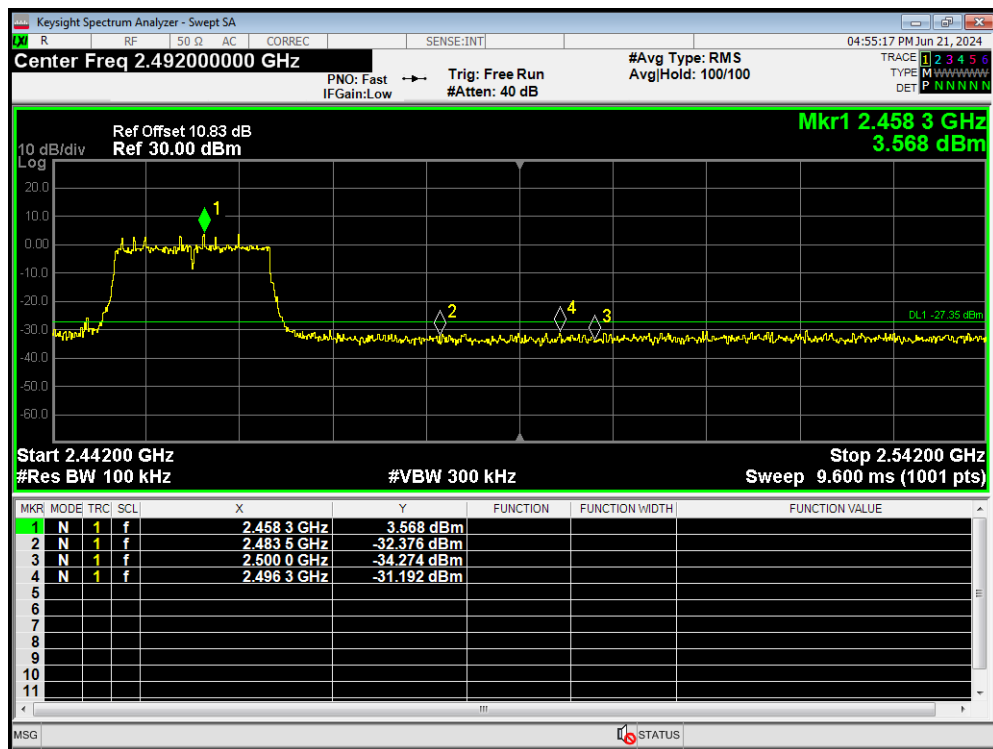
Band Edge 802.11g 2412MHz Emission



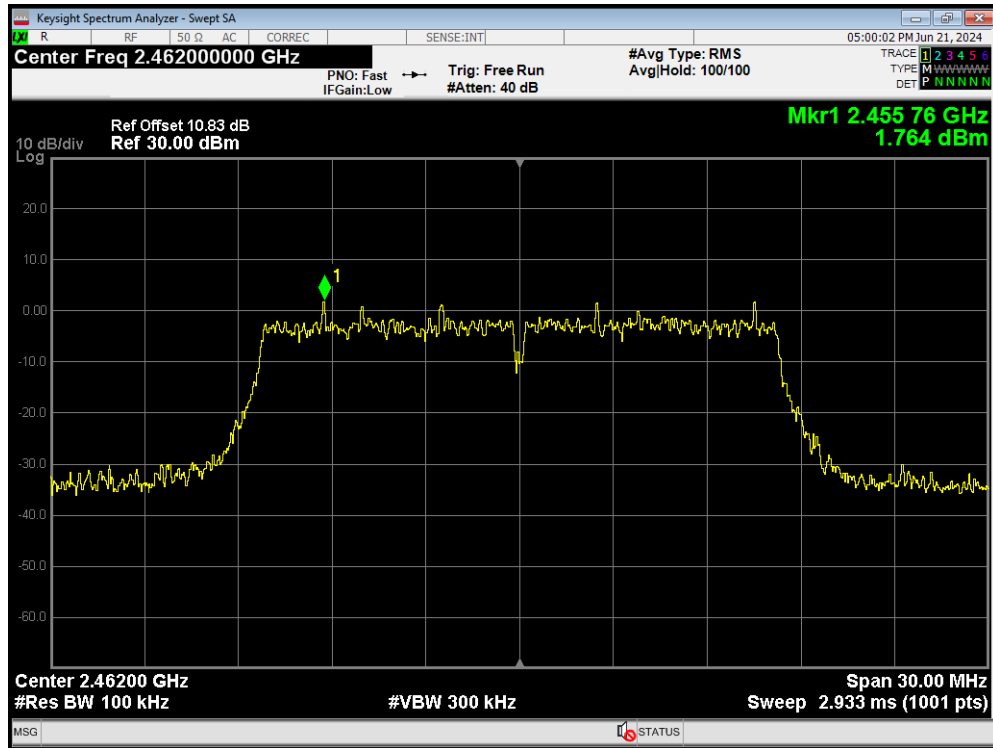
Band Edge 802.11g 2457MHz Ref



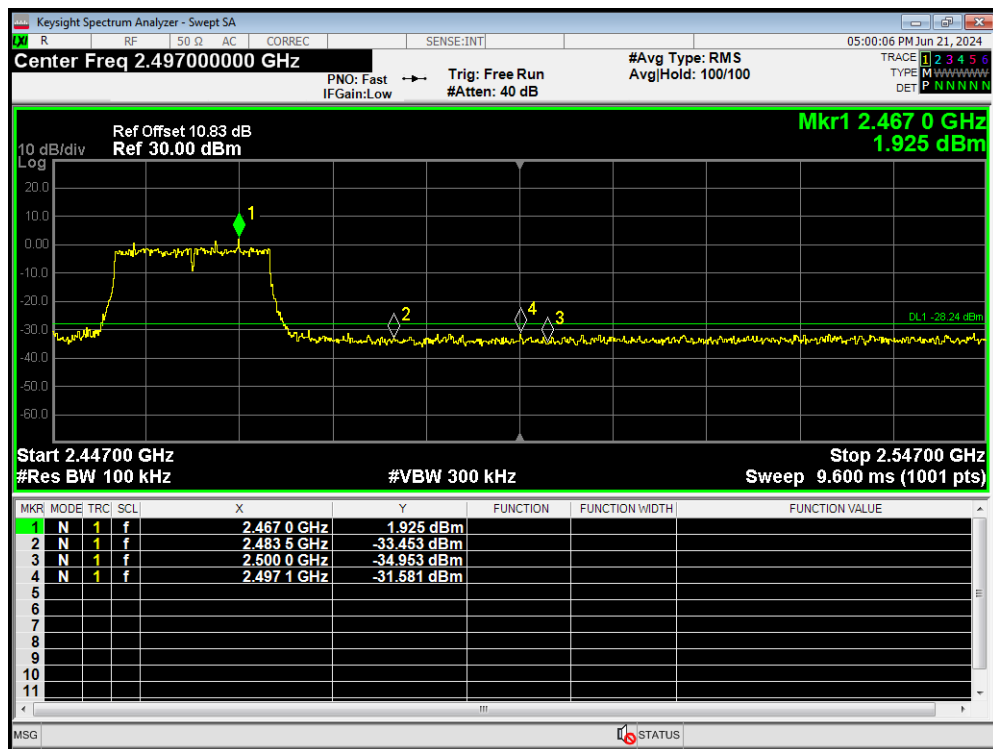
Band Edge 802.11g 2457MHz Emission



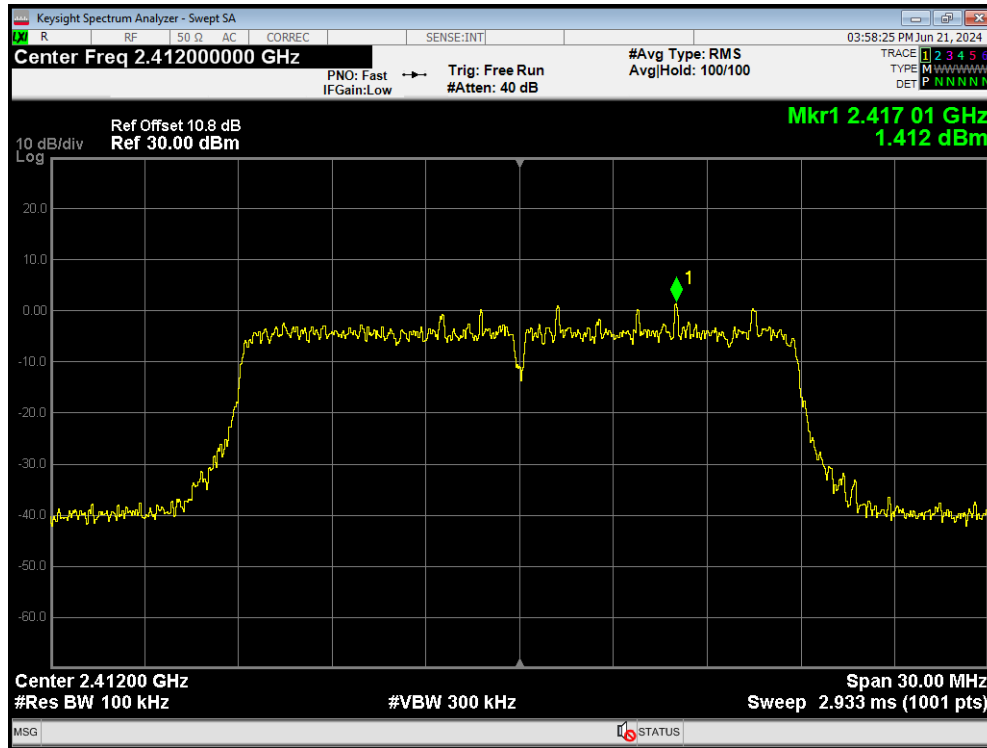
Band Edge 802.11g 2462MHz Ref



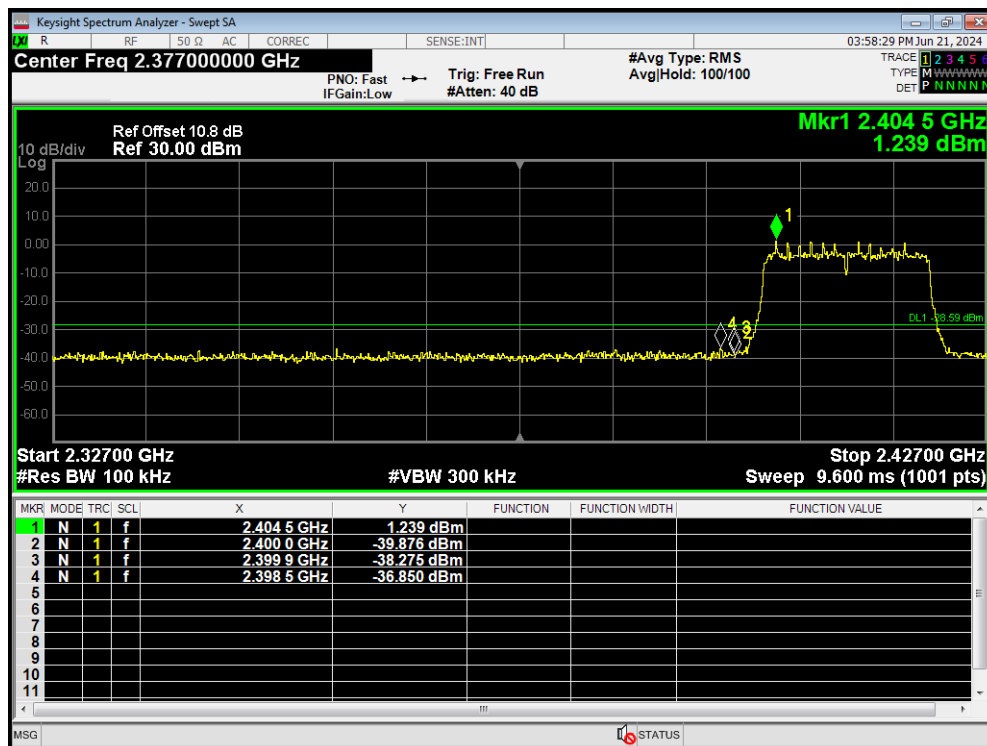
Band Edge 802.11g 2462MHz Emission



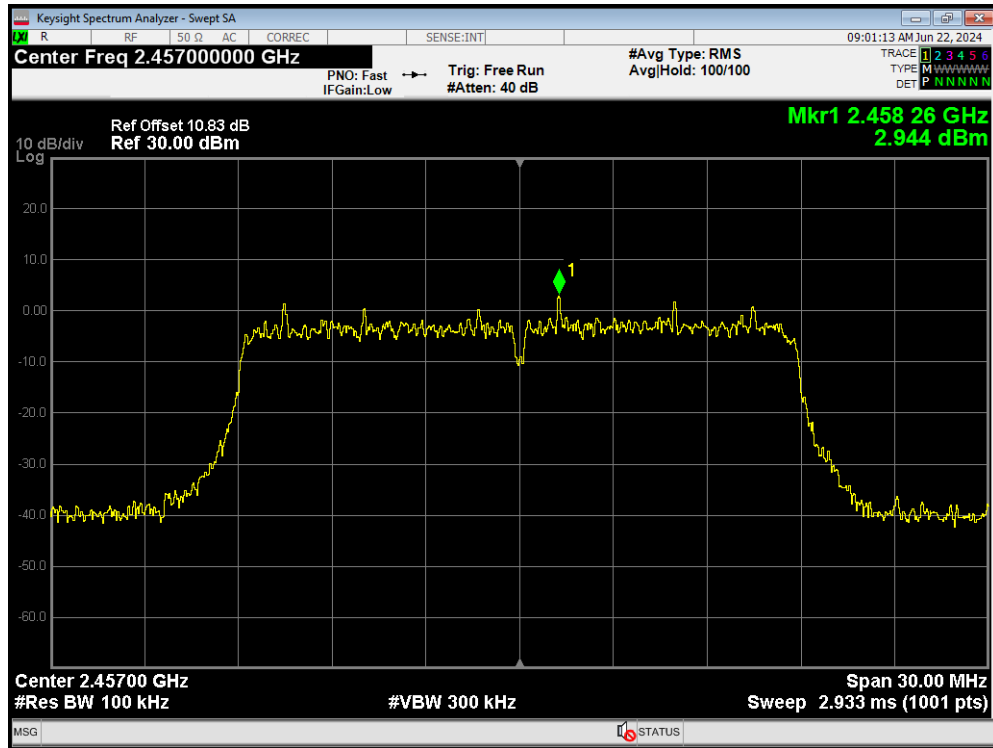
Band Edge 802.11n(HT20) 2412MHz Ref



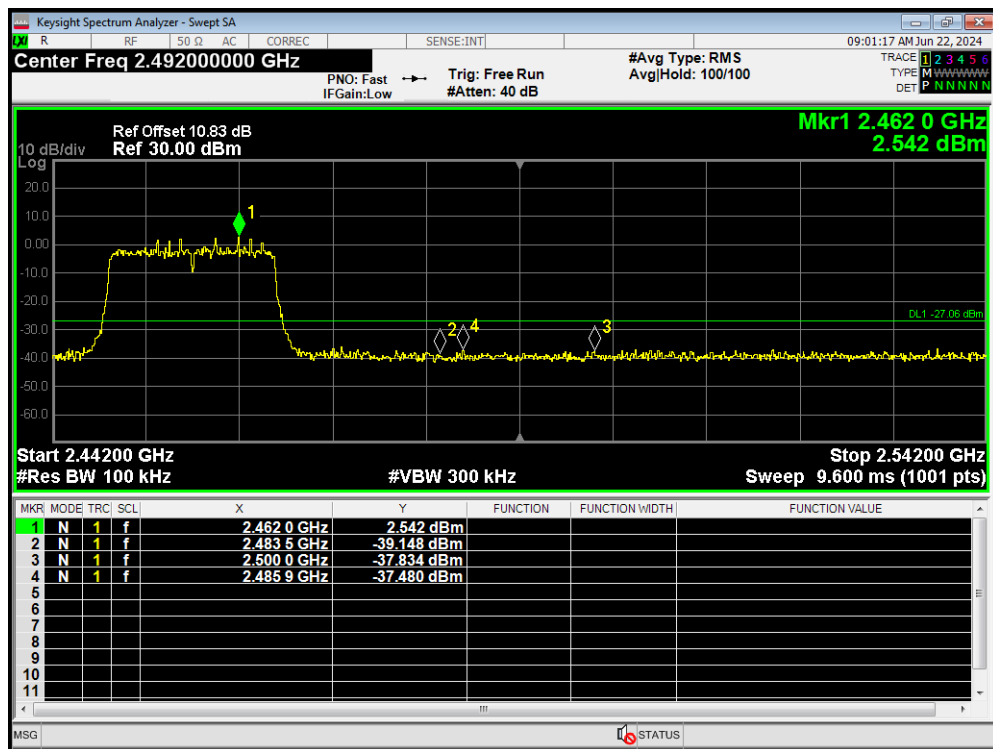
Band Edge 802.11n(HT20) 2412MHz Emission



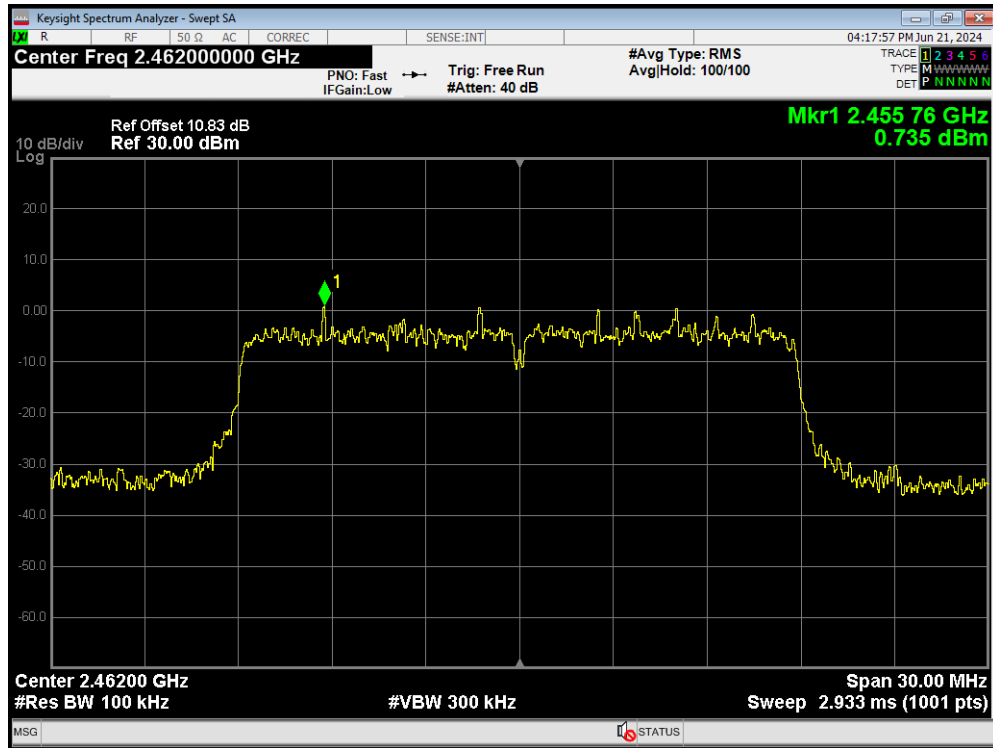
Band Edge 802.11n(HT20) 2457MHz Ref



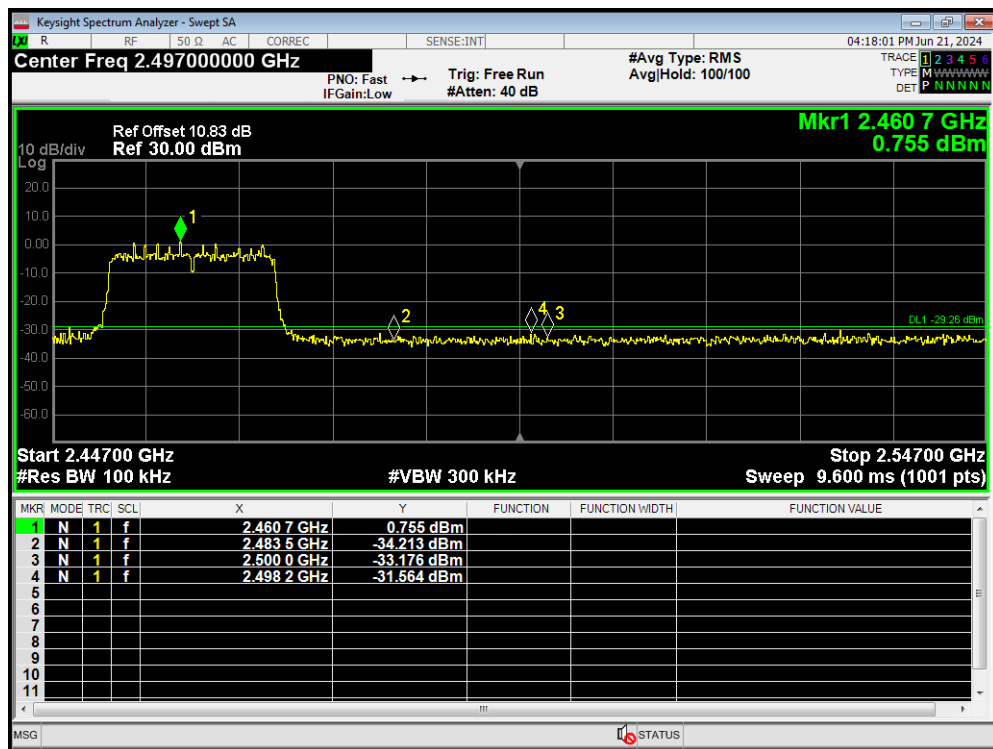
Band Edge 802.11n(HT20) 2457MHz Emission



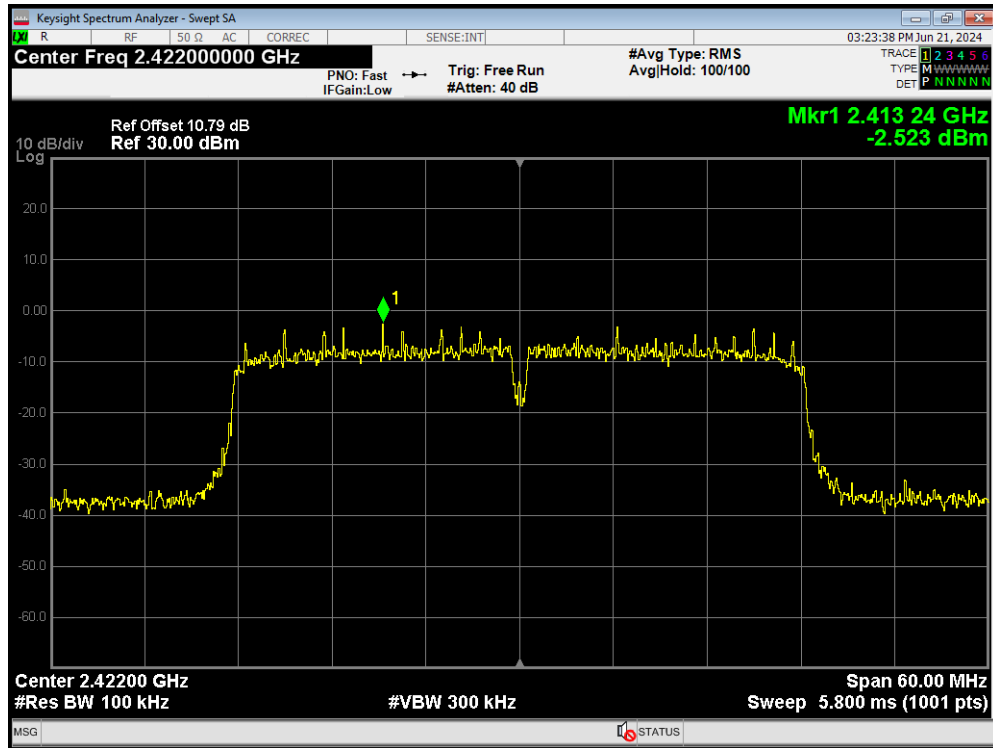
Band Edge 802.11n(HT20) 2462MHz Ref



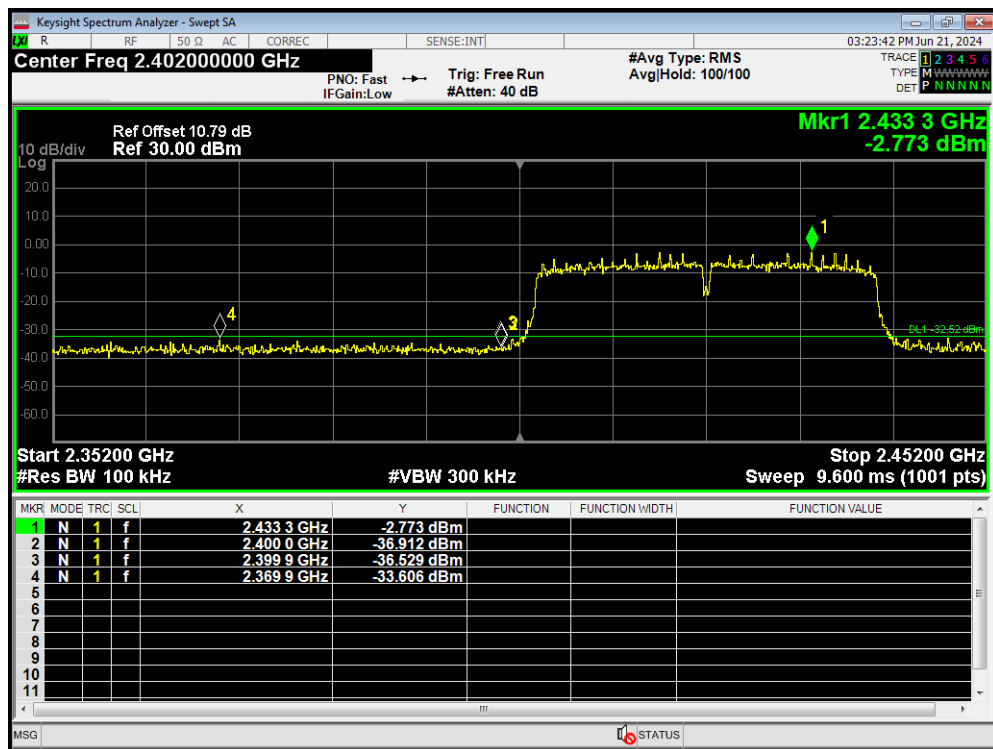
Band Edge 802.11n(HT20) 2462MHz Emission



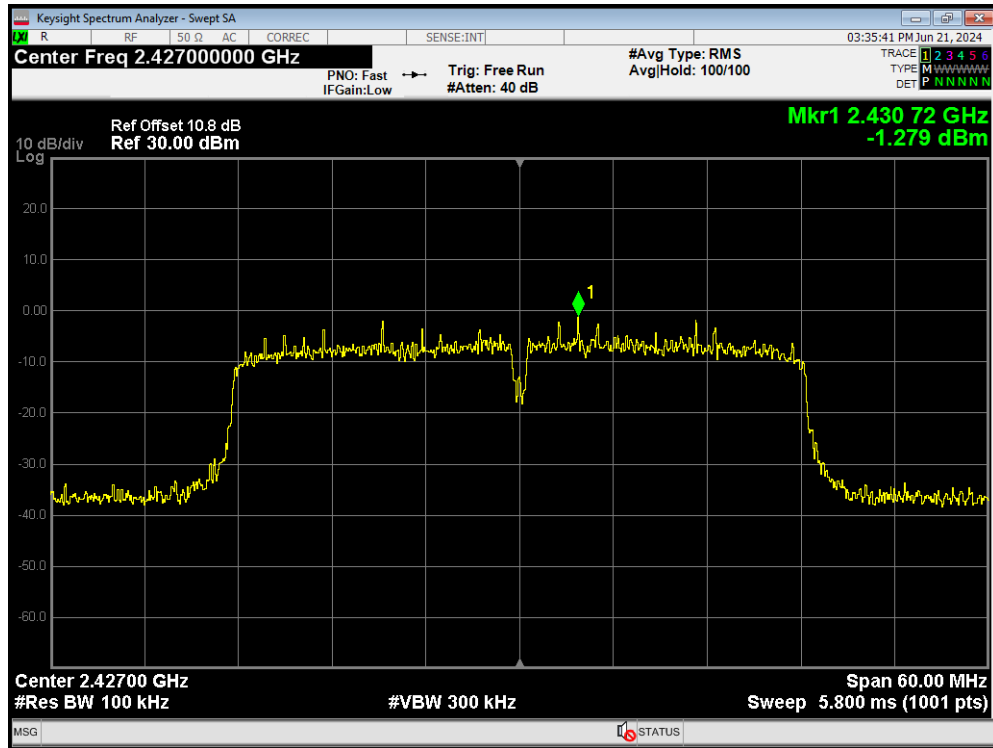
Band Edge 802.11n(HT40) 2422MHz Ref



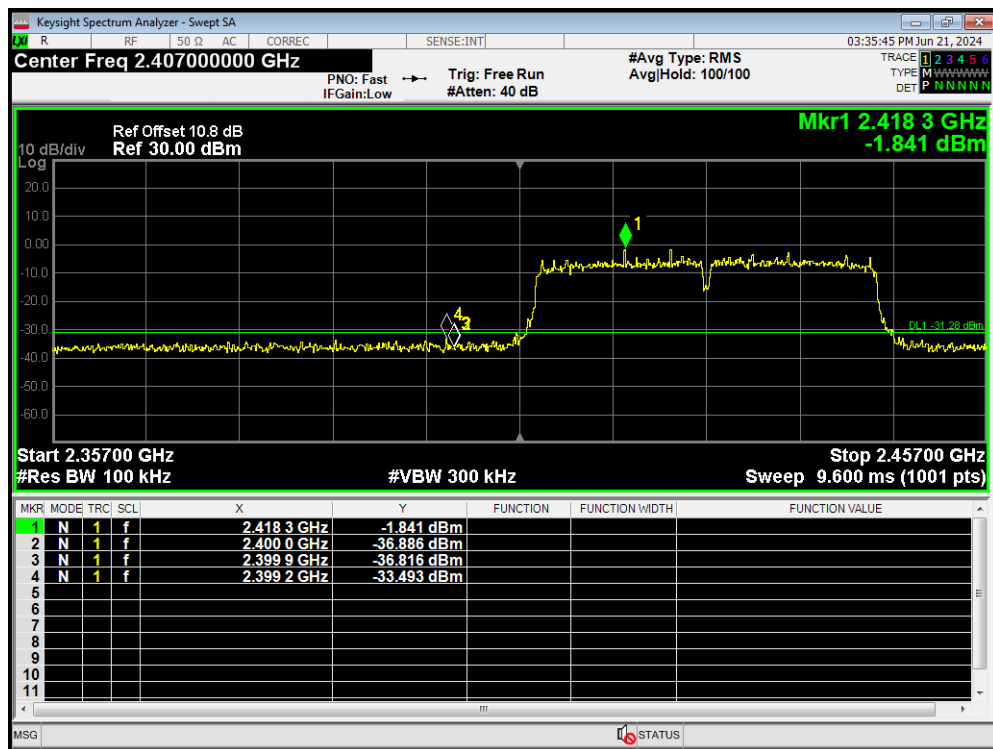
Band Edge 802.11n(HT40) 2422MHz Emission



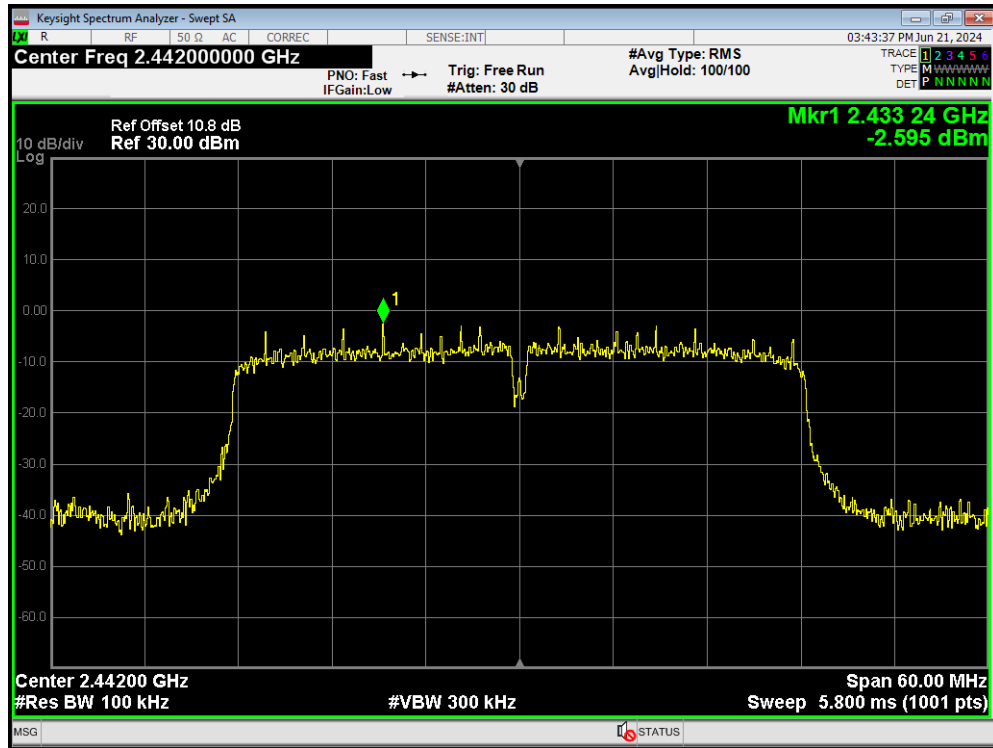
Band Edge 802.11n(HT40) 2427MHz Ref



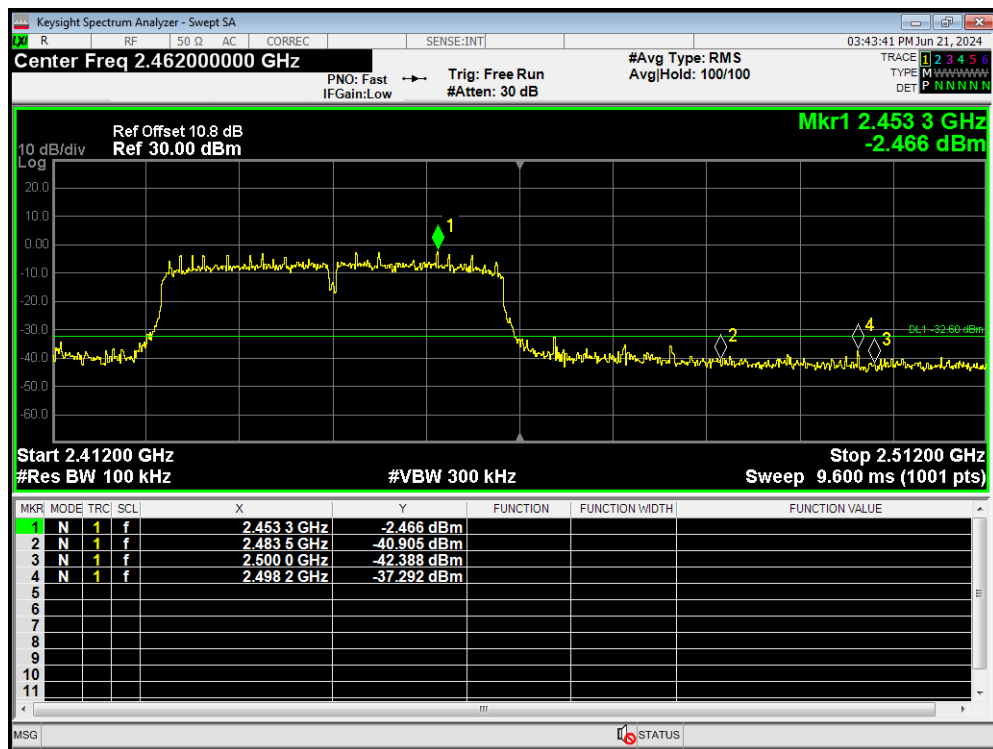
Band Edge 802.11n(HT40) 2427MHz Emission



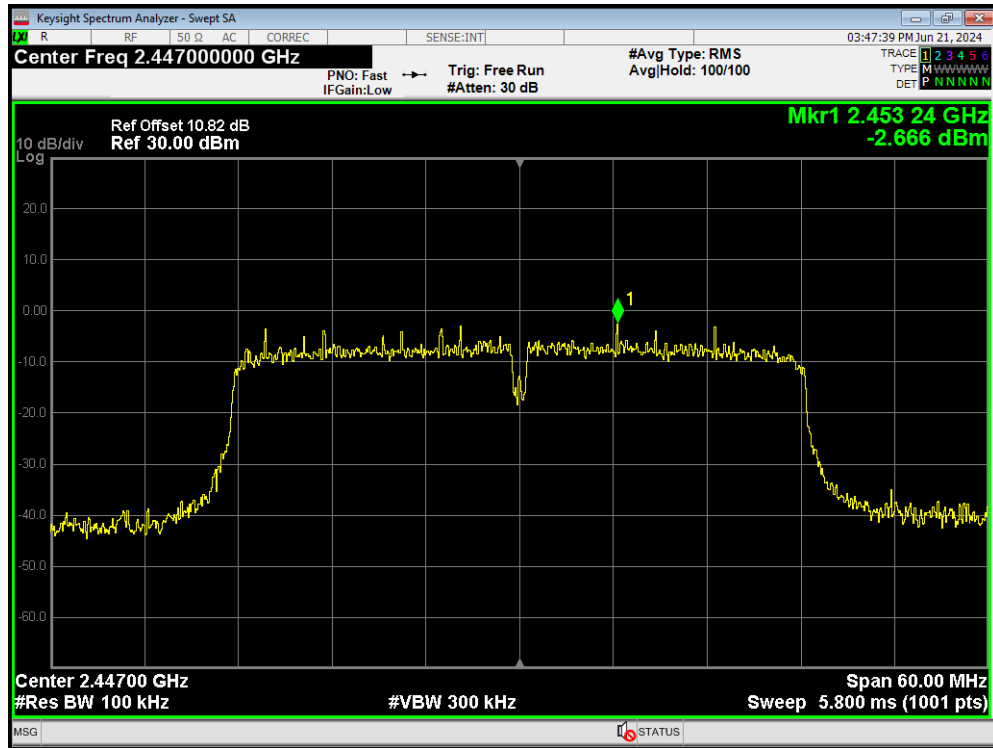
Band Edge 802.11n(HT40) 2442MHz Ref



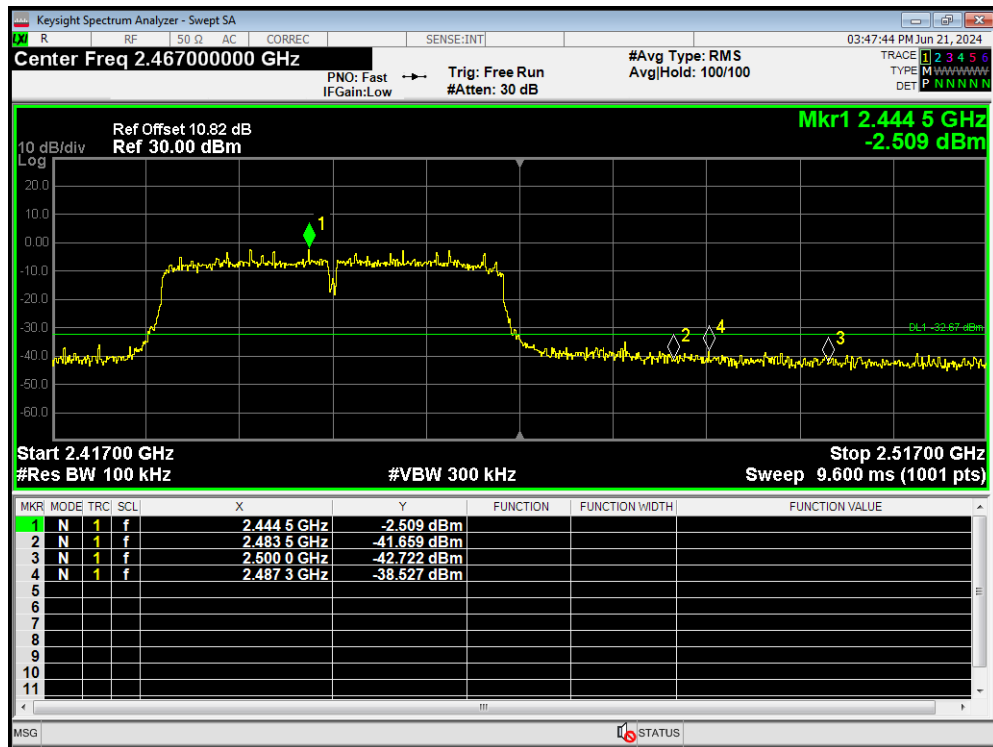
Band Edge 802.11n(HT40) 2442MHz Emission



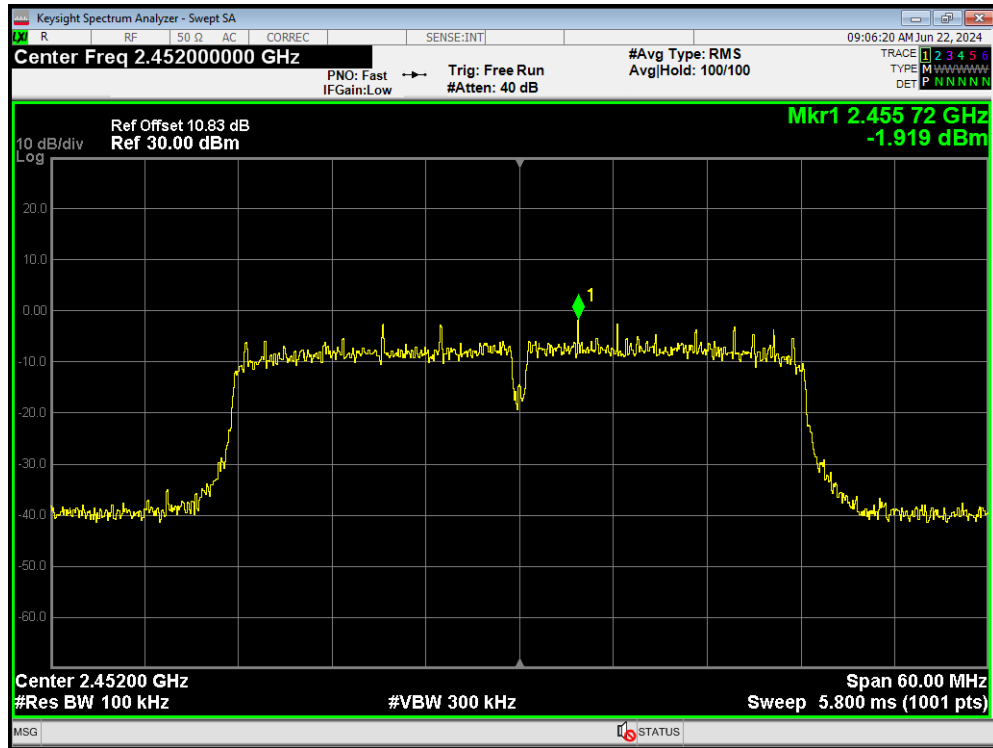
Band Edge 802.11n(HT40) 2447MHz Ref



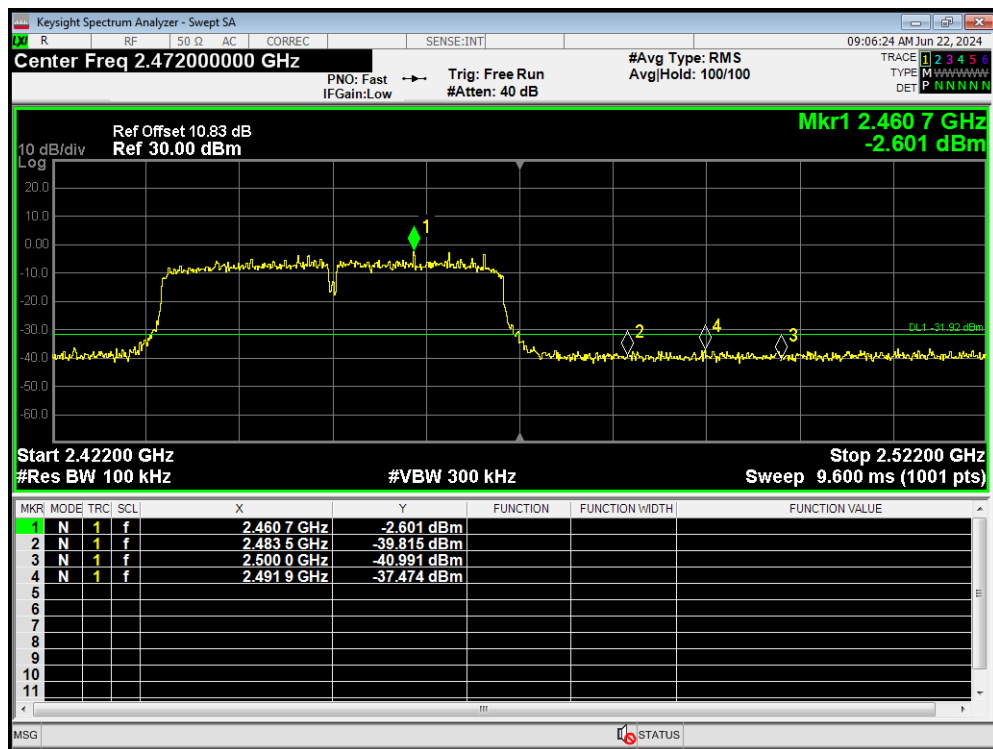
Band Edge 802.11n(HT40) 2447MHz Emission



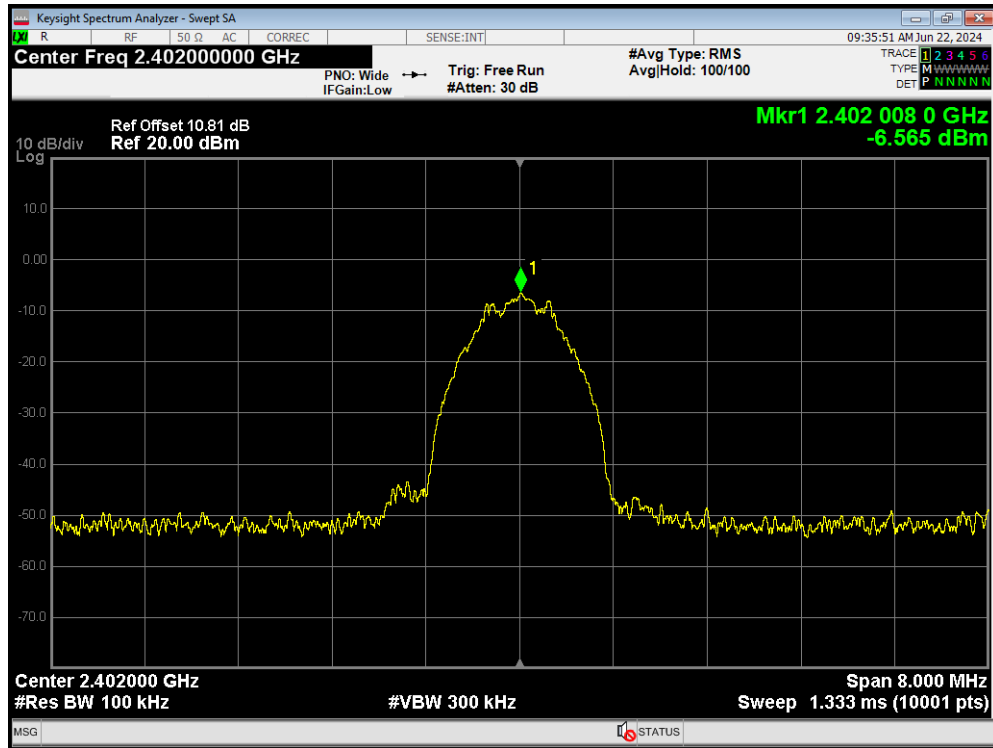
Band Edge 802.11n(HT40) 2452MHz Ref



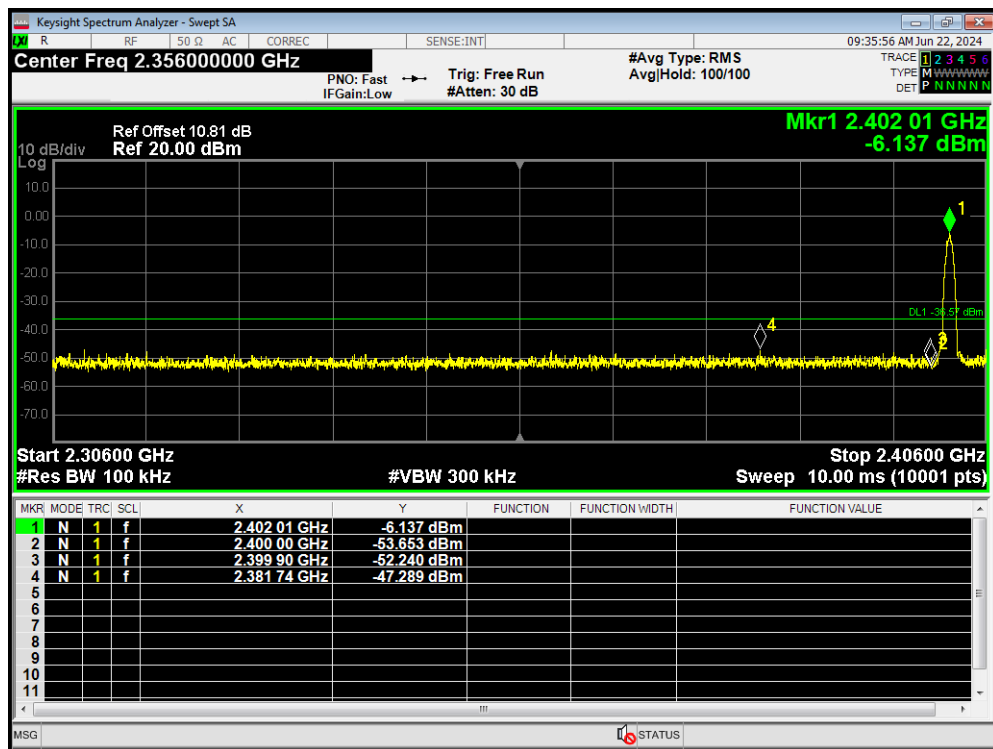
Band Edge 802.11n(HT40) 2452MHz Emission



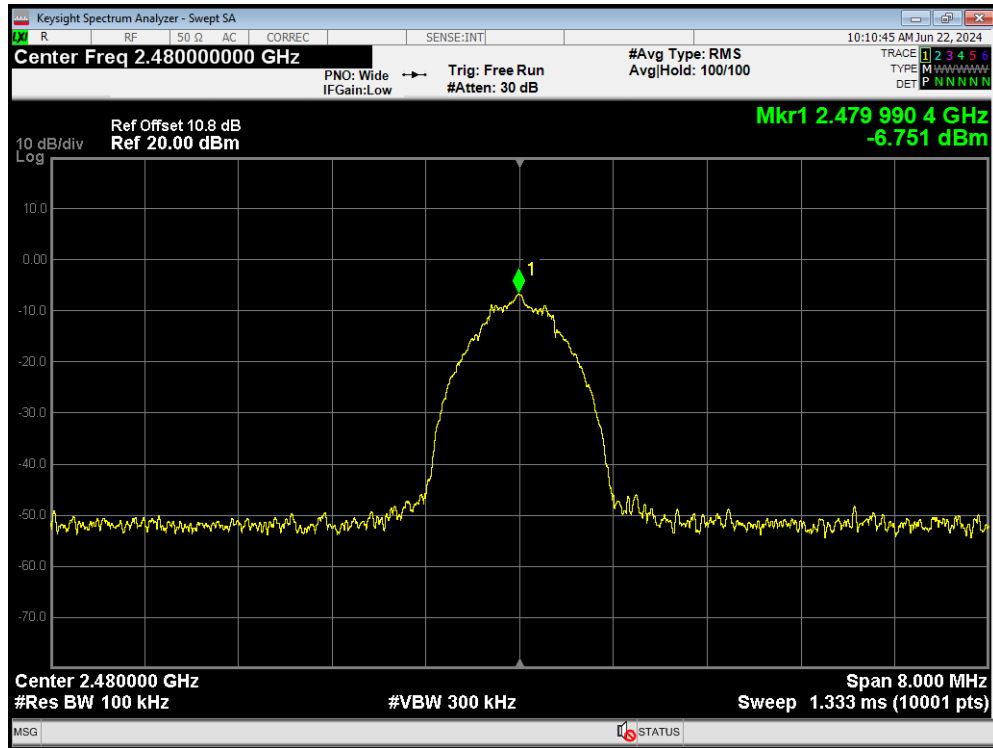
Band Edge Bluetooth LE 2402MHz Ref



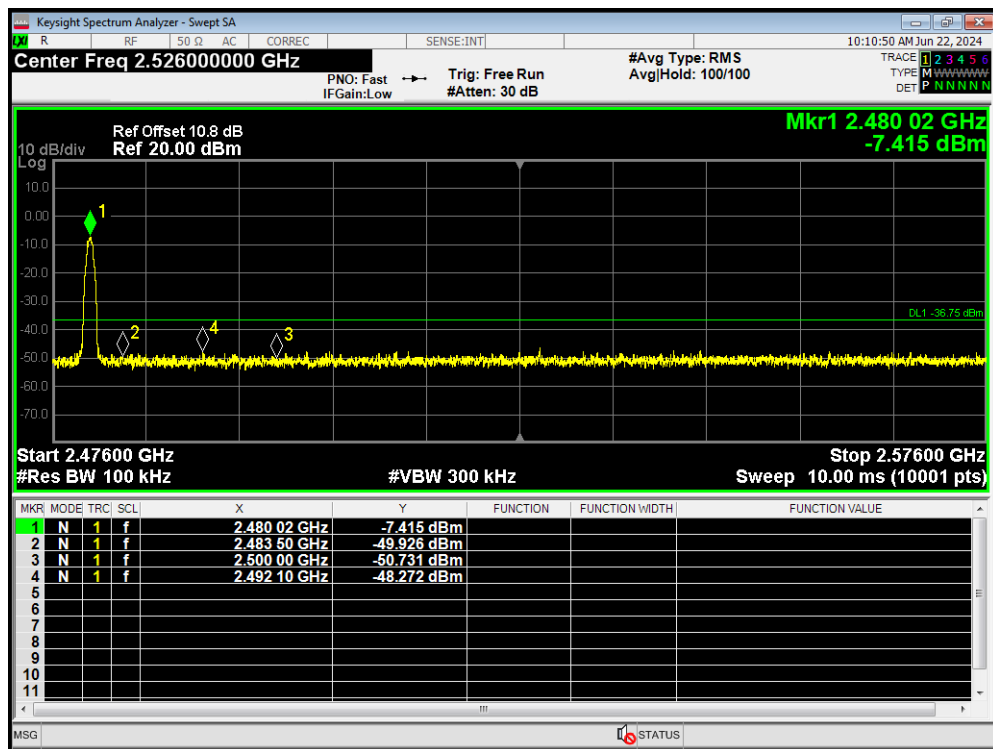
Band Edge Bluetooth LE 2402MHz Emission



Band Edge Bluetooth LE 2480MHz Ref



Band Edge Bluetooth LE 2480MHz Emission



5.4. Power Spectral Density

Ambient Condition

Temperature	Relative humidity
15°C ~ 35°C	20% ~ 80%

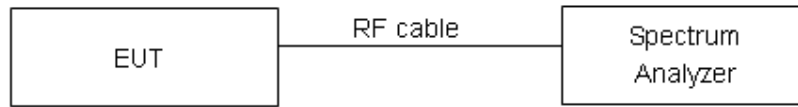
Method of Measurement

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 AVGPS-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
- 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
- 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

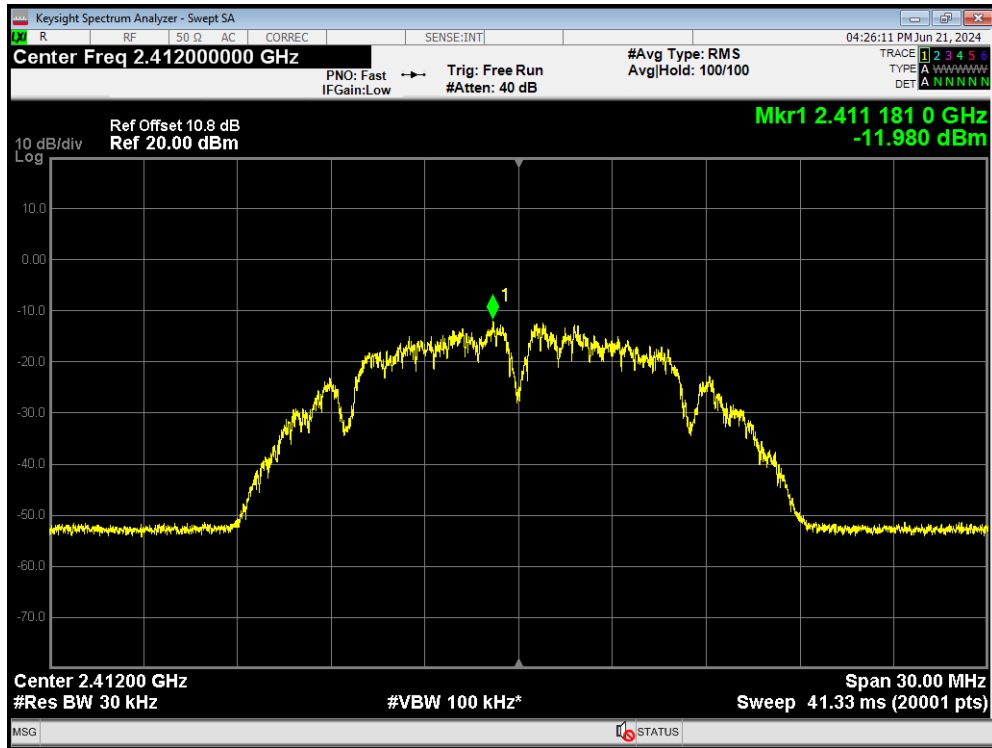
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.75\text{dB}$.

Test Results:

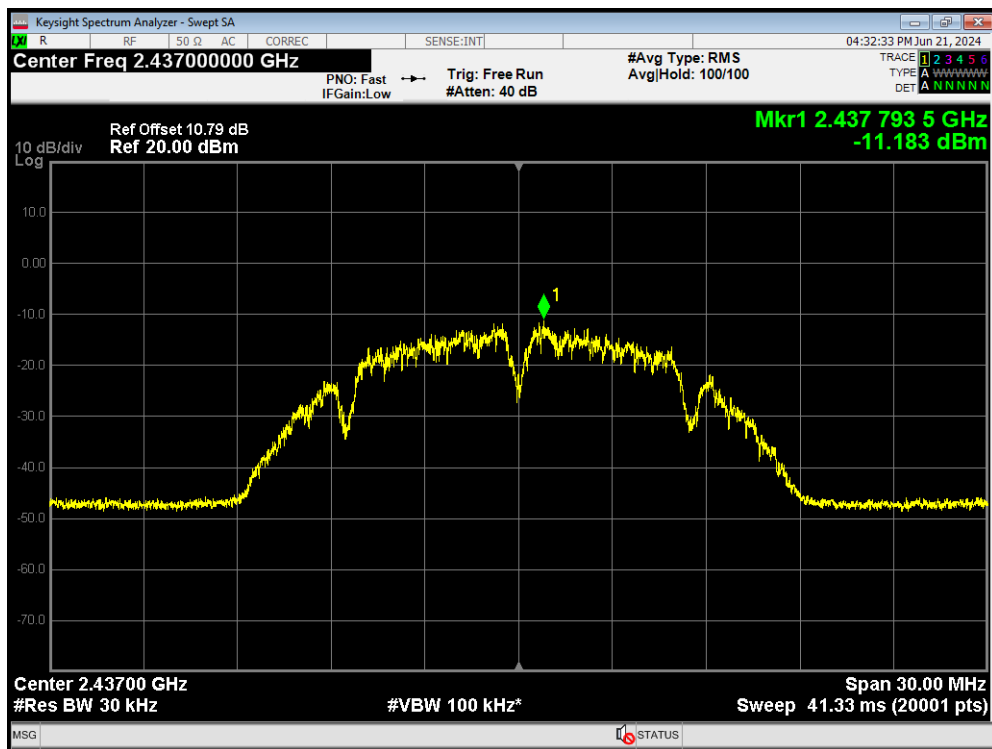
Test Mode	Carrier frequency (MHz) / Channel	Read Value (dBm / 30kHz)	Power Spectral Density (dBm / 3kHz)	Limit (dBm / 3kHz)	Conclusion
802.11b	2412/CH 1	-11.98	-17.11	8	PASS
	2437/CH 6	-11.18	-16.31	8	PASS
	2462/CH11	-12.56	-17.69	8	PASS
802.11g	2412/CH 1	-13.56	-18.65	8	PASS
	2437/CH 6	-13.14	-18.23	8	PASS
	2457/CH 10	-13.20	-18.29	8	PASS
	2462/CH11	-14.65	-19.74	8	PASS
802.11n HT20	2412/CH 1	-15.64	-20.61	8	PASS
	2437/CH 6	-14.99	-19.96	8	PASS
	2457/CH 10	-14.54	-19.51	8	PASS
	2462/CH11	-16.43	-21.40	8	PASS
802.11n HT40	2422/CH3	-18.74	-23.82	8	PASS
	2427/CH4	-17.58	-22.66	8	PASS
	2437/CH6	-16.32	-21.40	8	PASS
	2442/CH7	-18.16	-23.24	8	PASS
	2447/CH8	-17.52	-22.60	8	PASS
	2452/CH9	-19.31	-24.39	8	PASS
Note: Power Spectral Density (dBm/3kHz) =Read Value+Duty cycle correction factor + 10*log10(3/30)					

Test Mode	Carrier frequency (MHz) / Channel	Read Value (dBm / 3kHz)	Power Spectral Density (dBm / 3kHz)	Limit (dBm / 3kHz)	Conclusion
Bluetooth (Low Energy)	2402/CH0	-28.10	-27.33	8	PASS
	2440/CH19	-28.08	-27.31	8	PASS
	2480/CH39	-28.28	-27.51	8	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

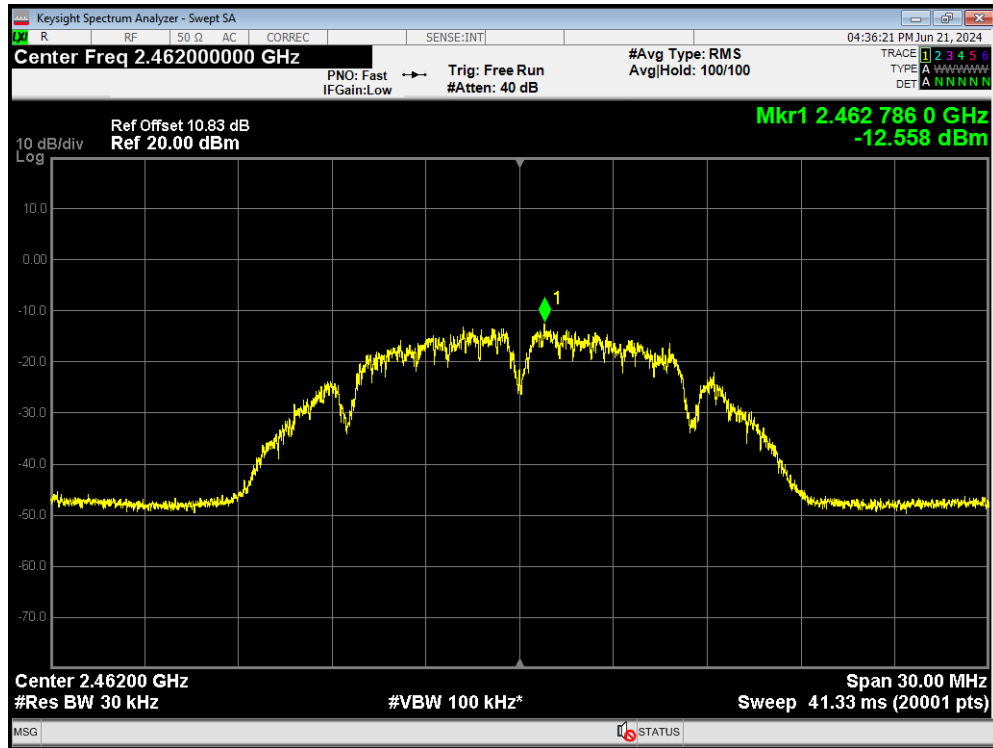
PSD 802.11b 2412MHz



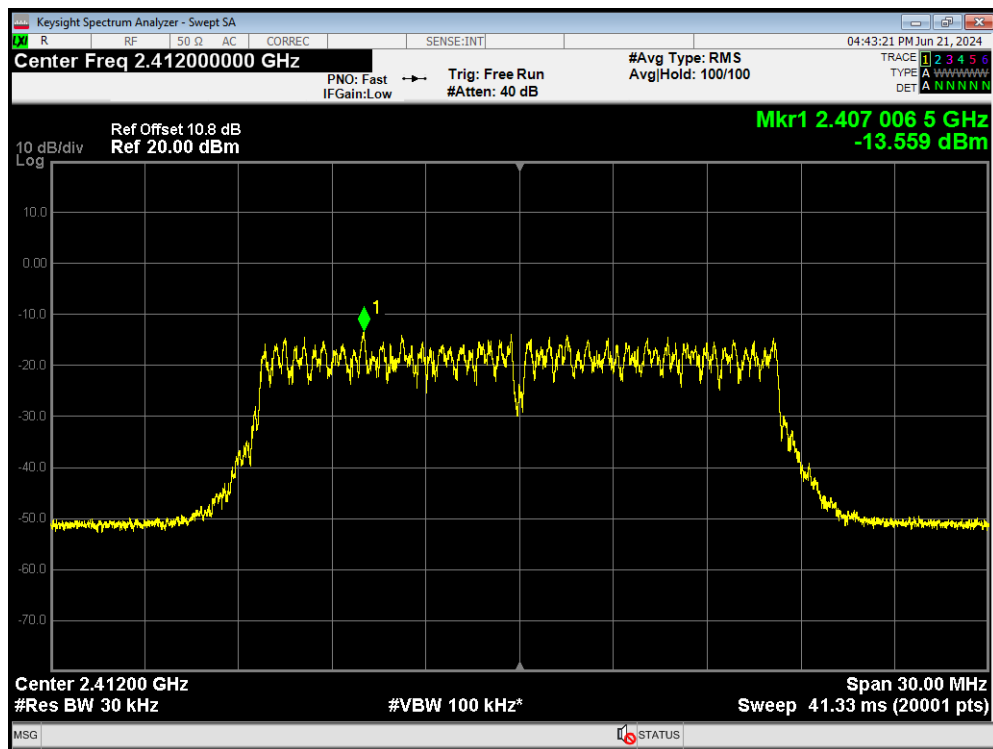
PSD 802.11b 2437MHz



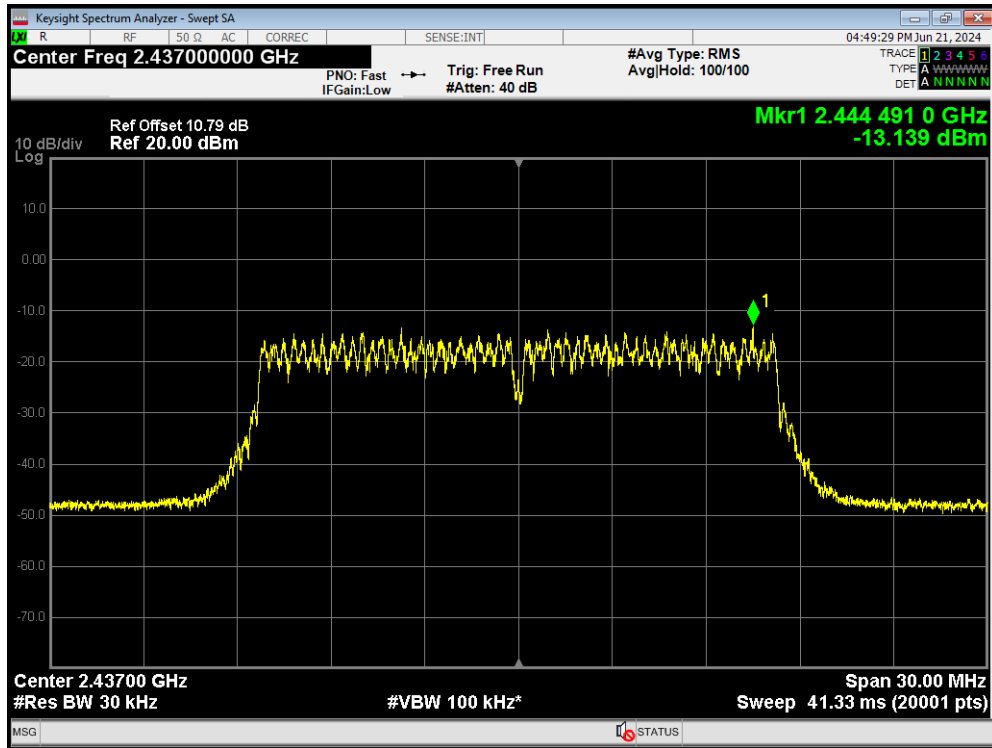
PSD 802.11b 2462MHz



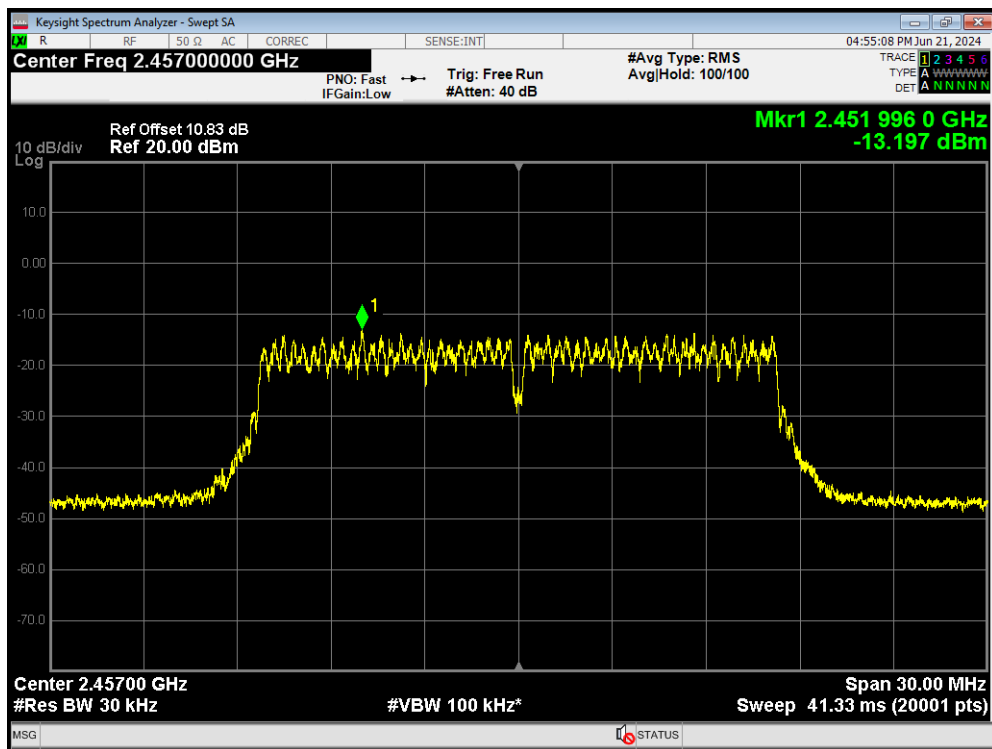
PSD 802.11g 2412MHz



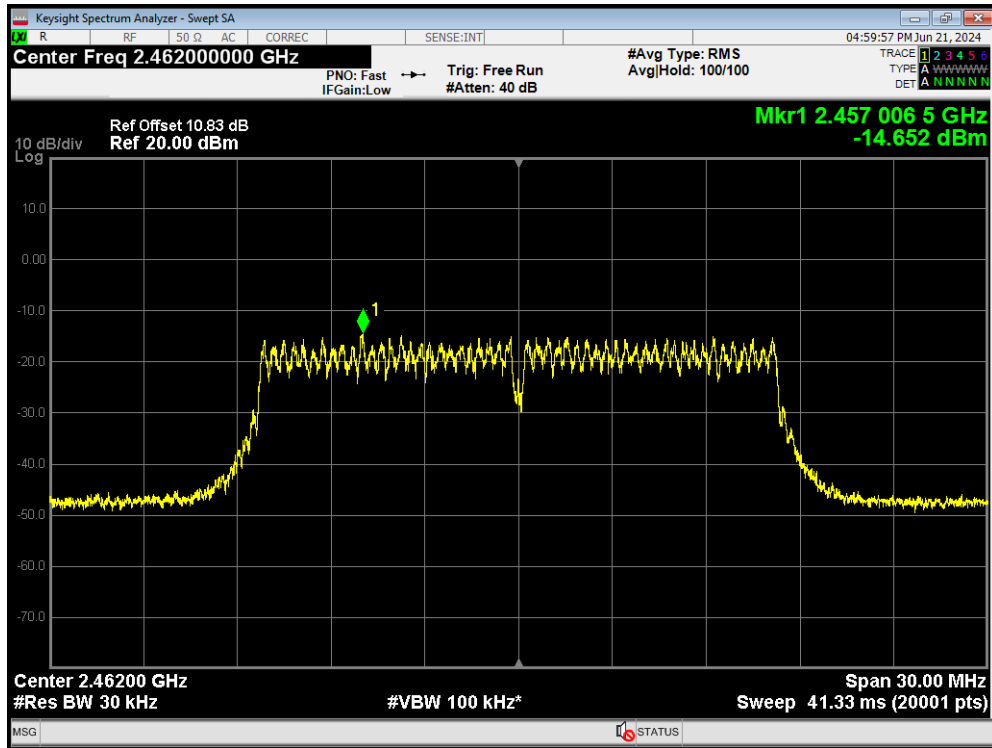
PSD 802.11g 2437MHz



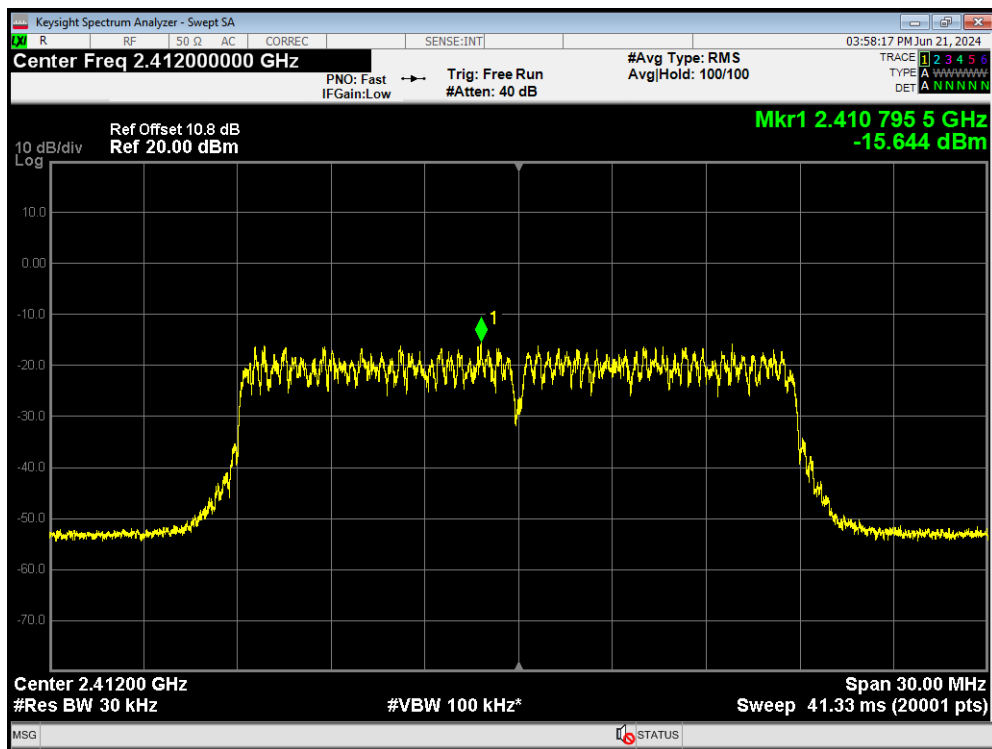
PSD 802.11g 2457MHz



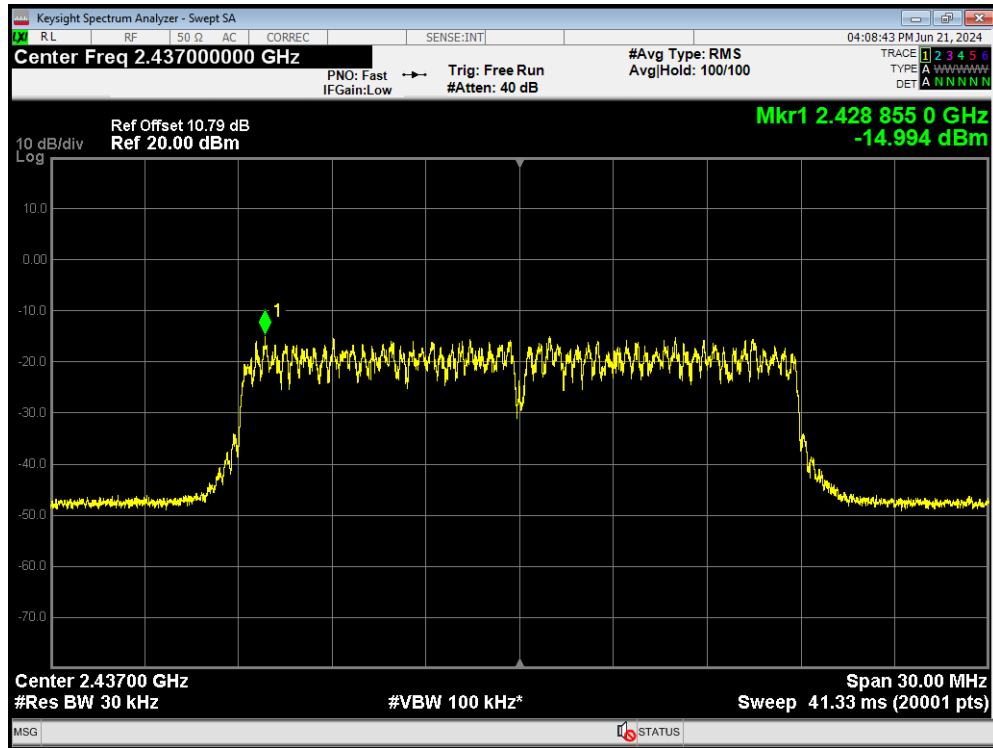
PSD 802.11g 2462MHz



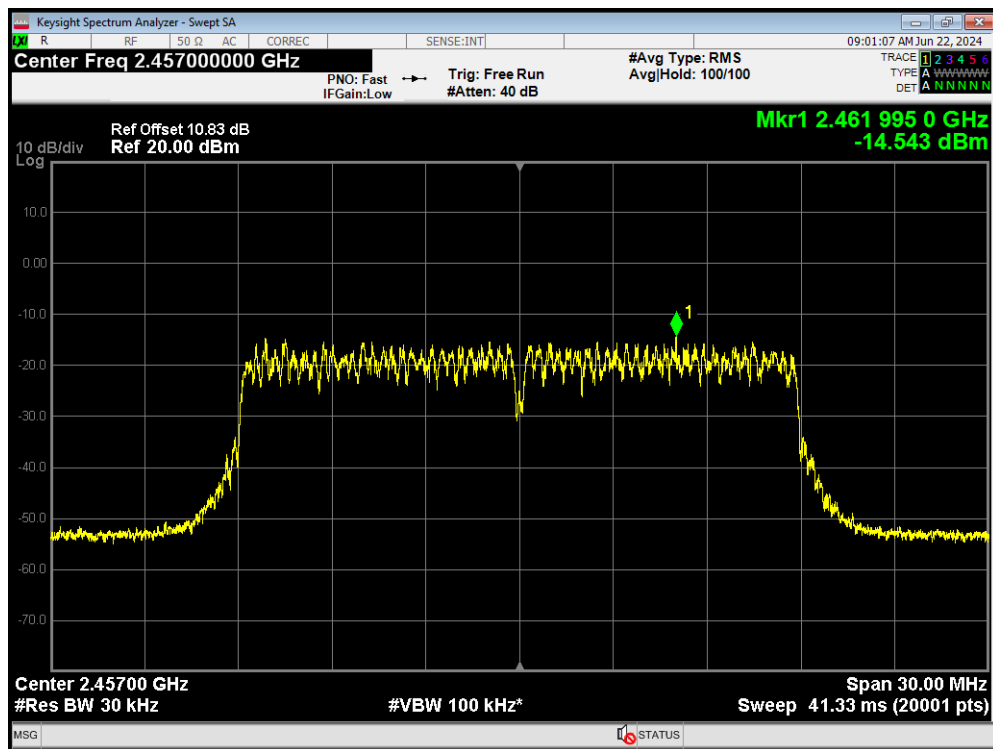
PSD 802.11n(HT20) 2412MHz



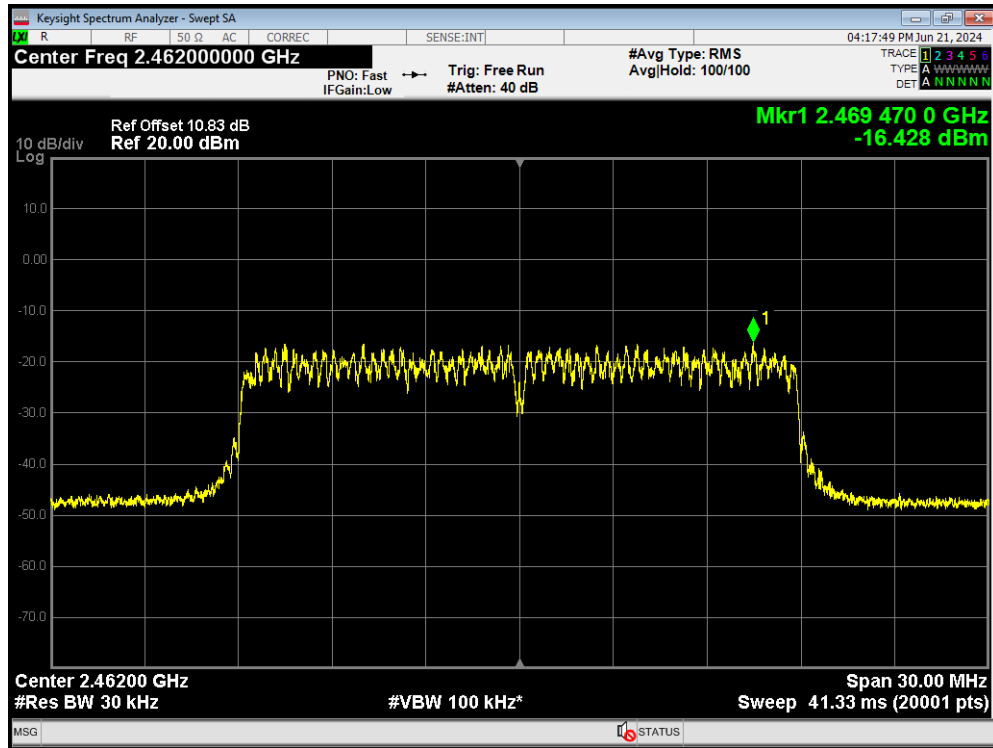
PSD 802.11n(HT20) 2437MHz



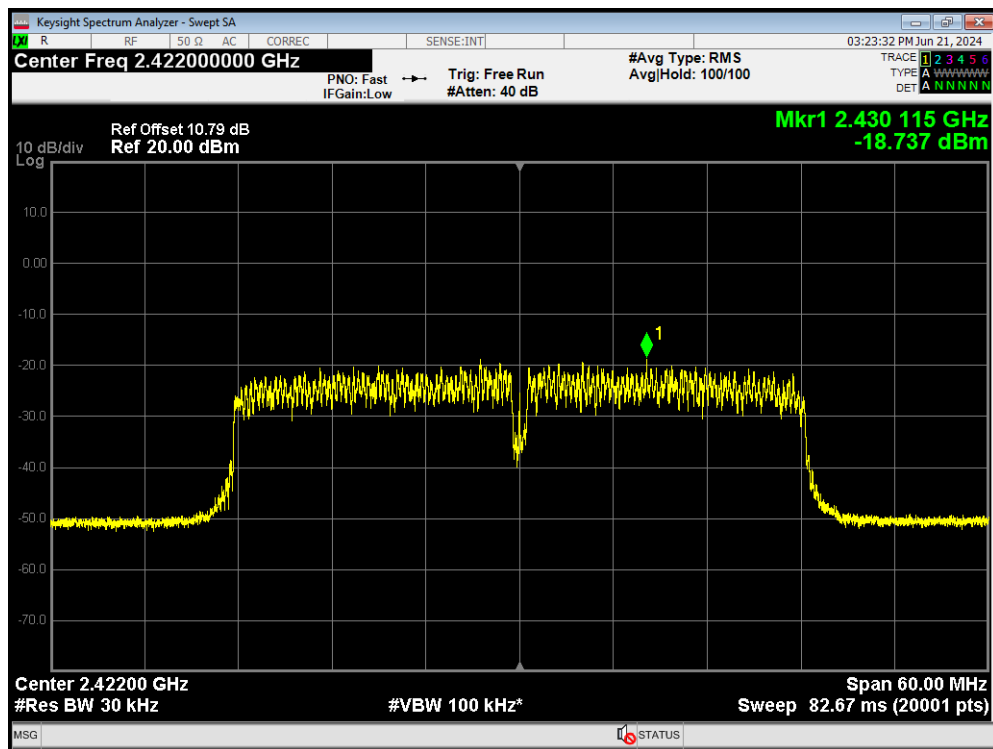
PSD 802.11n(HT20) 2457MHz



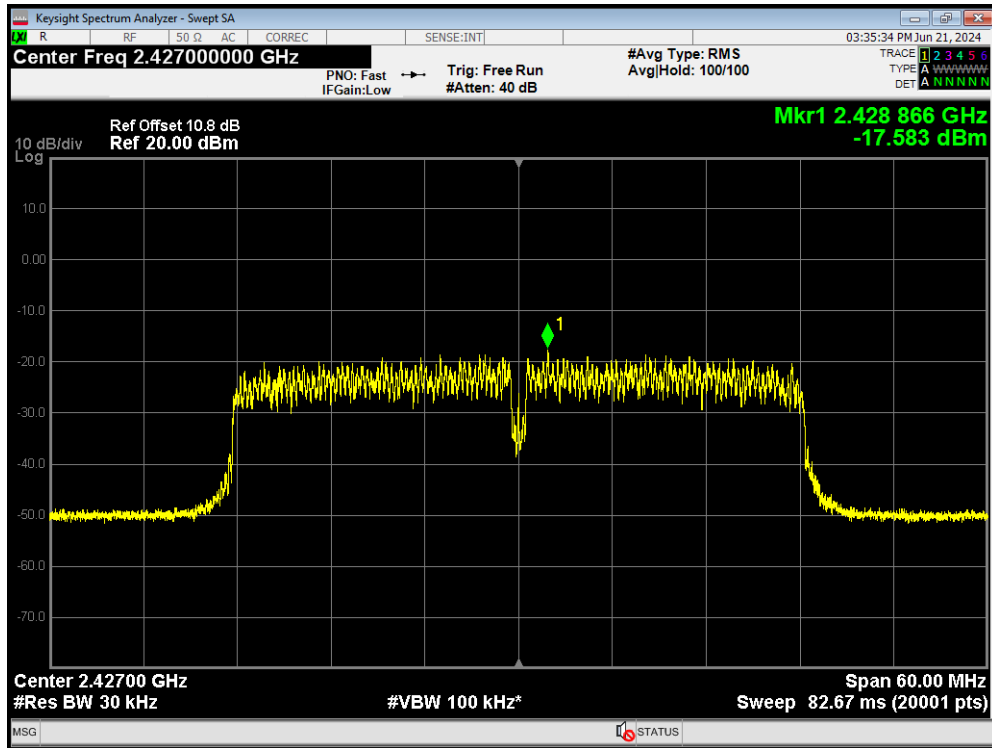
PSD 802.11n(HT20) 2462MHz



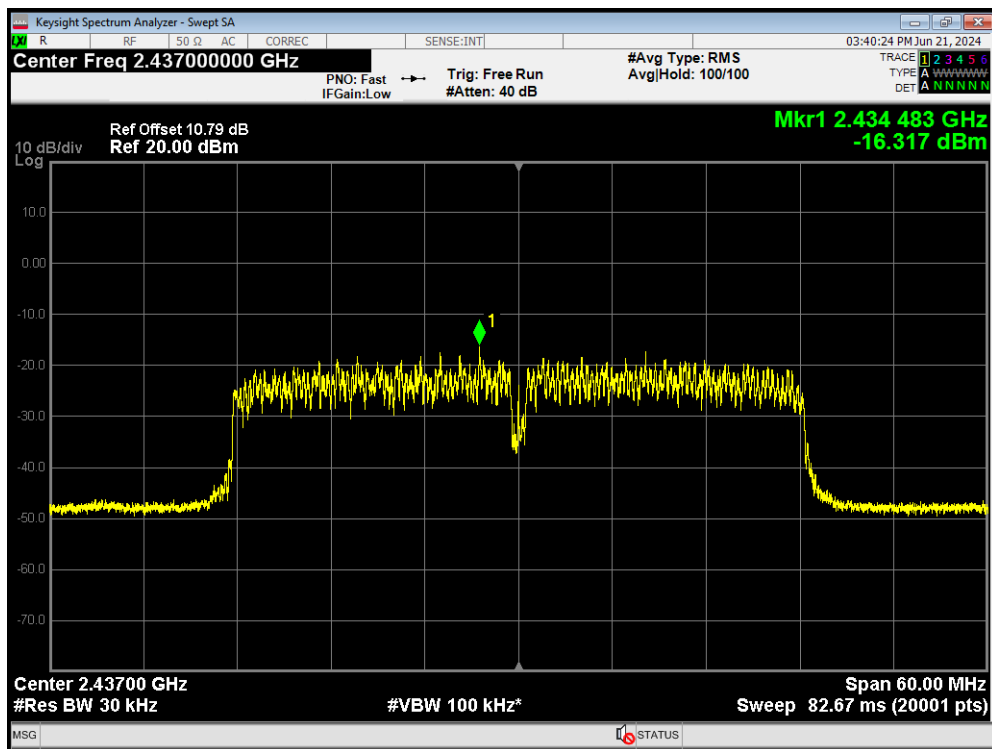
PSD 802.11n(HT40) 2422MHz



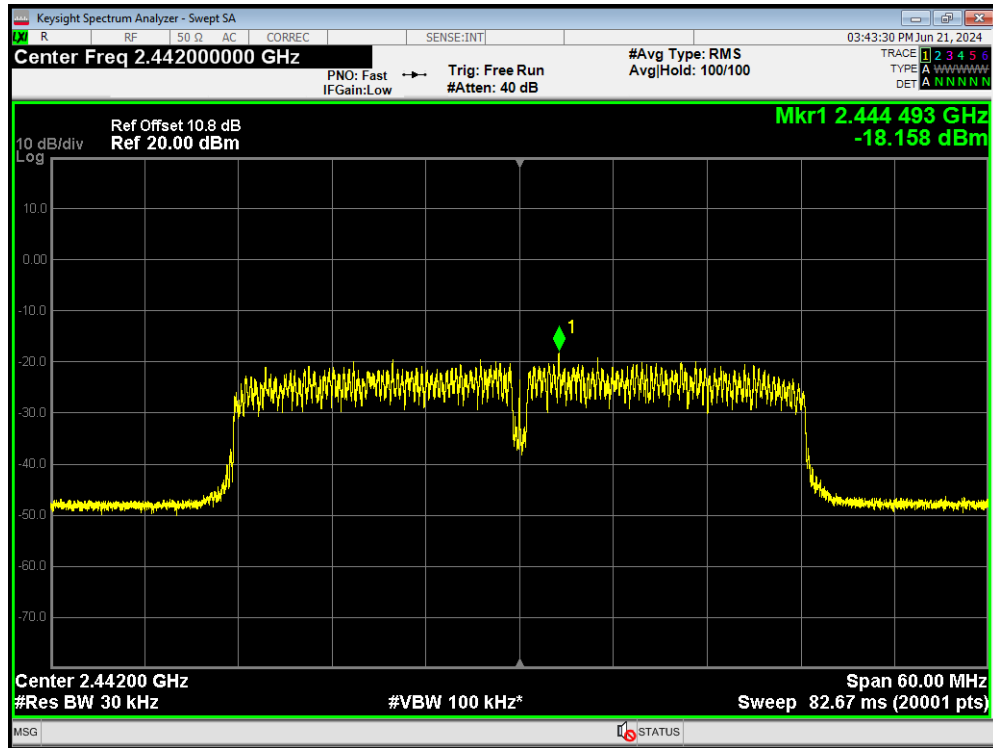
PSD 802.11n(HT40) 2427MHz



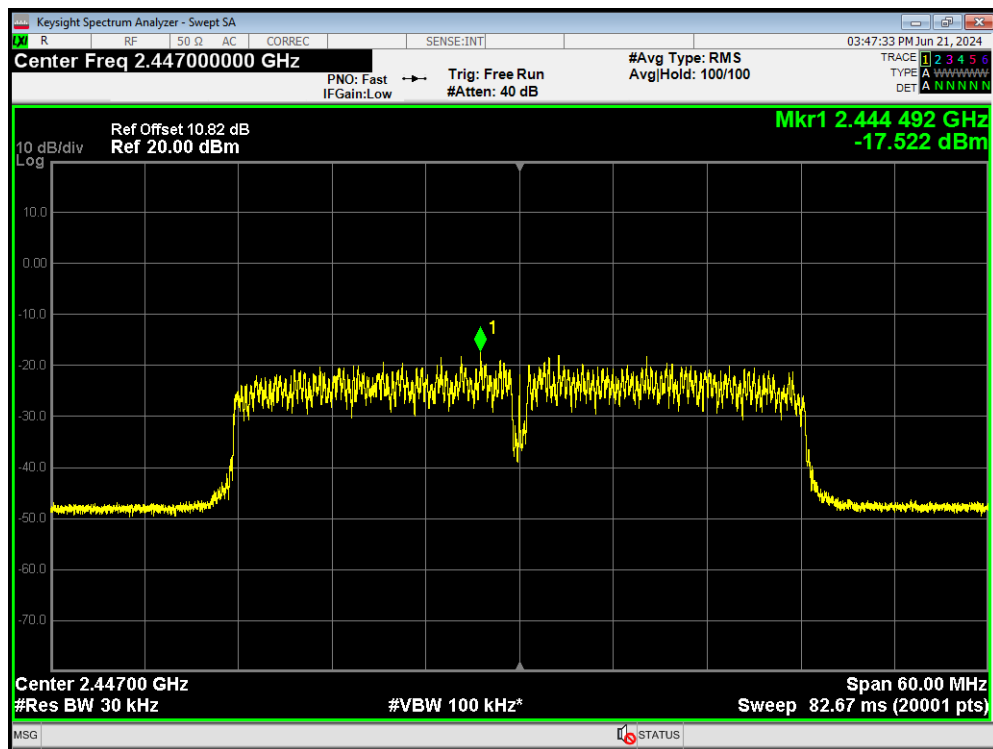
PSD 802.11n(HT40) 2437MHz



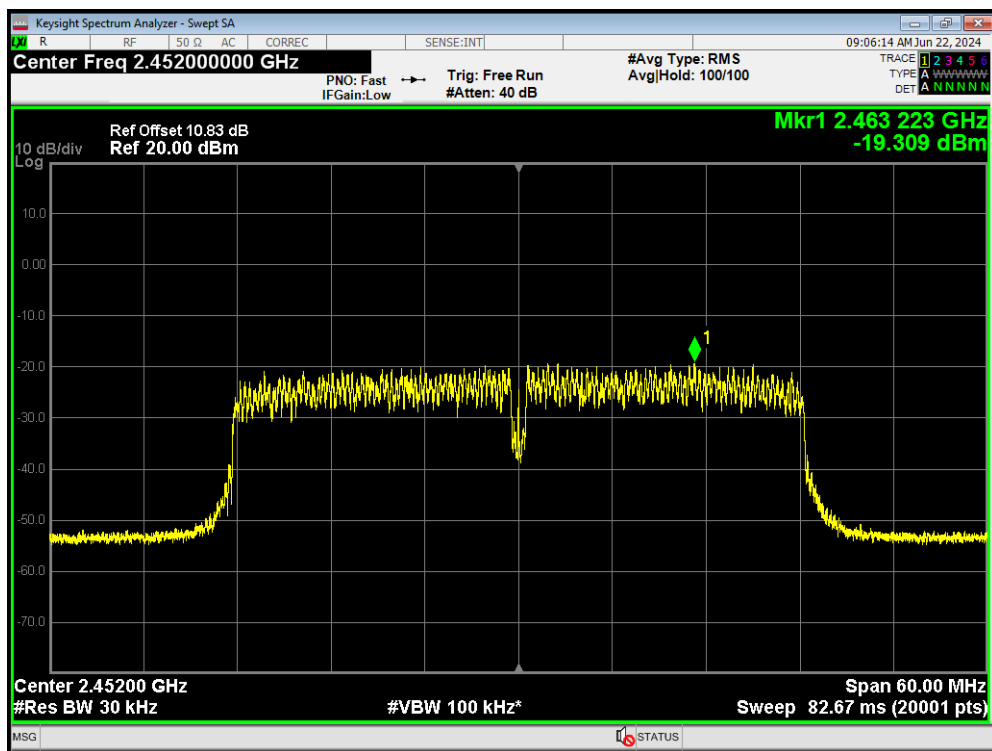
PSD 802.11n(HT40) 2442MHz



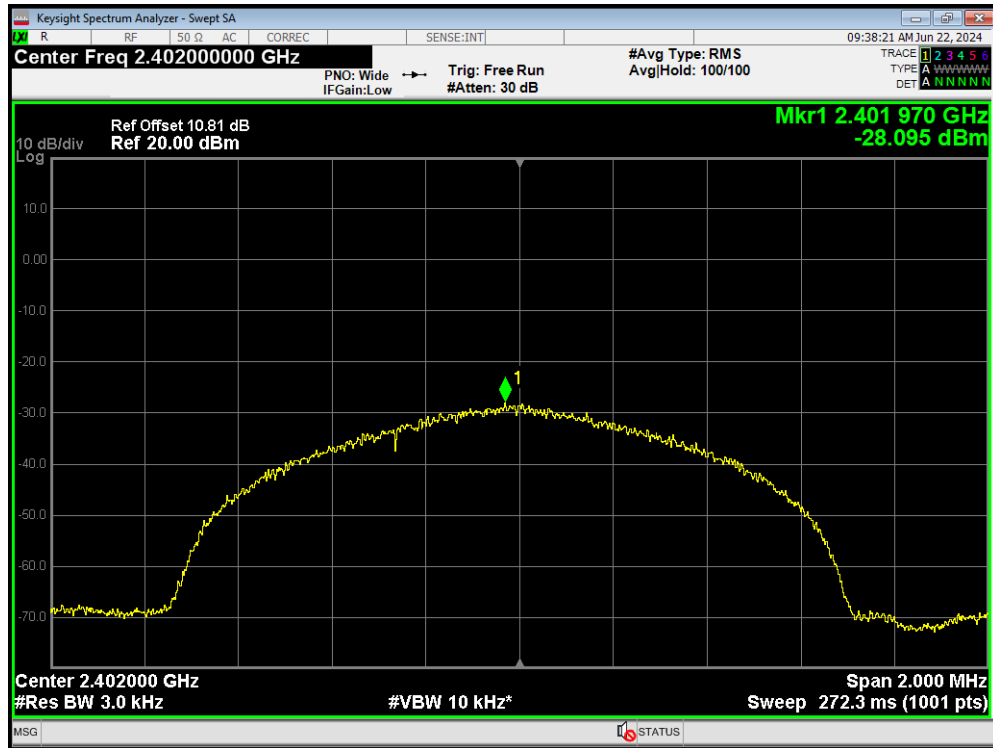
PSD 802.11n(HT40) 2447MHz



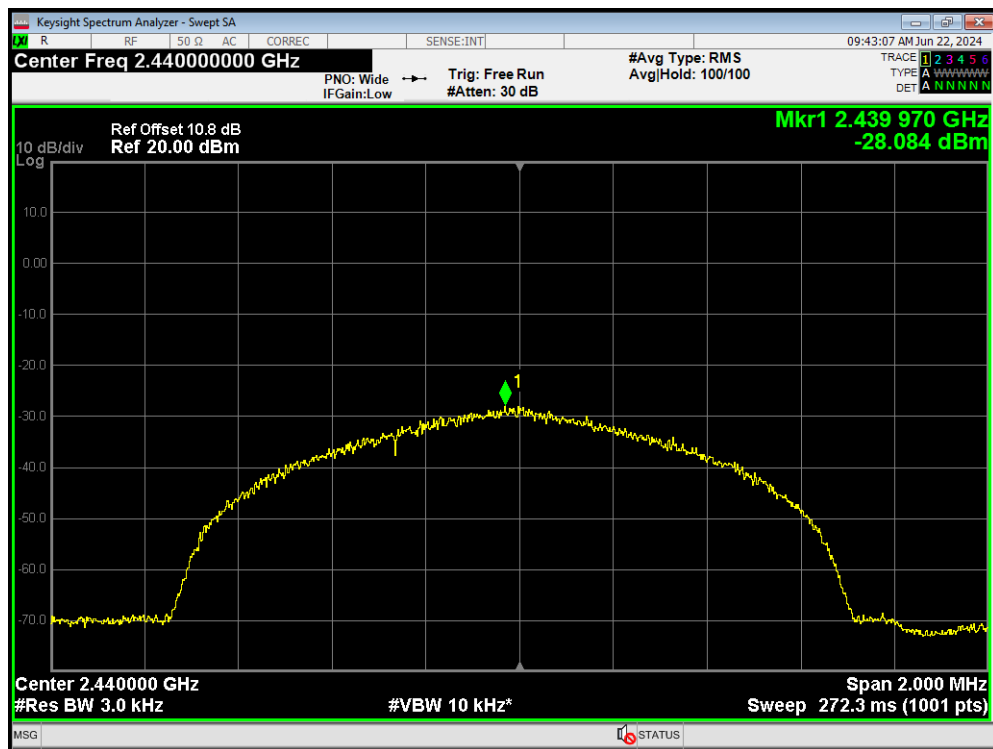
PSD 802.11n(HT40) 2452MHz



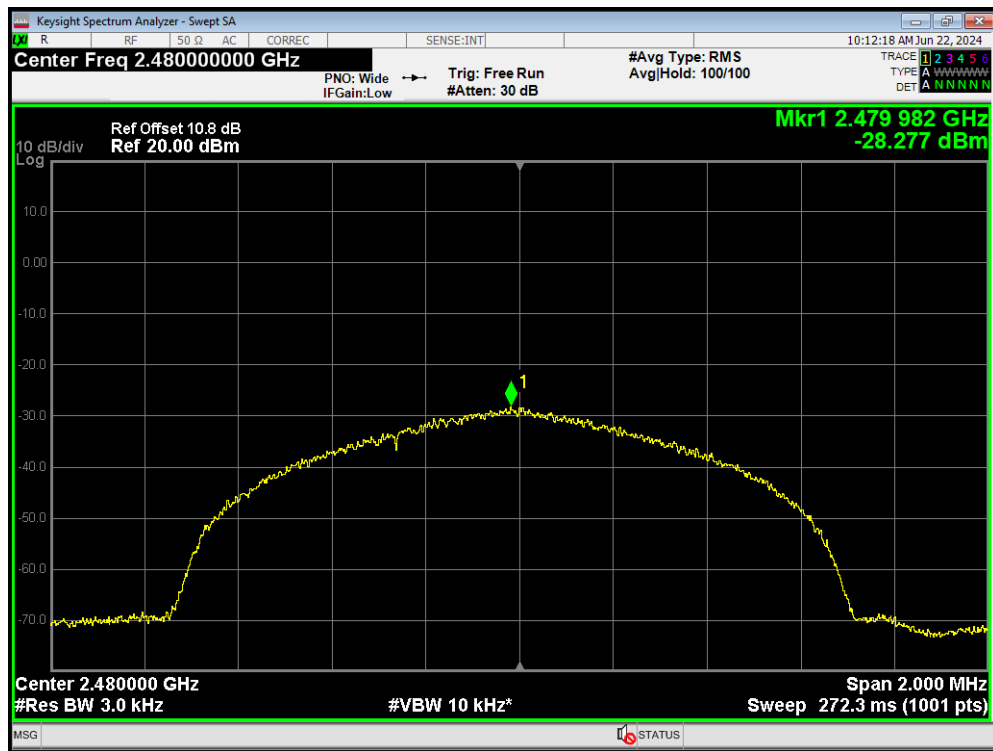
PSD Bluetooth LE 2402MHz



PSD Bluetooth LE 2440MHz



PSD Bluetooth LE 2480MHz



5.5. Spurious RF Conducted Emissions

Ambient Condition

Temperature	Relative humidity
15°C ~ 35°C	20% ~ 80%

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) pacifies 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.”

Test Mode	Carrier frequency (MHz) / Channel	Reference value (dBm)	Limit
802.11b	2412/CH 1	3.36	-26.64
	2437/CH 6	4.05	-25.95
	2462/CH11	3.42	-26.58
802.11g	2412/CH 1	2.16	-27.84
	2437/CH 6	2.79	-27.21
	2457/CH 10	3.15	-26.85
	2462/CH11	2.17	-27.83
802.11n HT20	2412/CH 1	1.37	-28.63
	2437/CH 6	2.22	-27.78

	2457/CH 10	2.03	-27.97
	2462/CH11	1.10	-28.90
802.11n HT40	2422/CH3	-3.04	-33.04
	2427/CH4	-1.38	-31.38
	2437/CH6	-1.46	-31.46
	2442/CH7	-2.57	-32.57
	2447/CH8	-2.33	-32.33
	2452/CH9	-1.89	-31.89
Bluetooth (Low Energy)	2402/CH0	-6.56	-36.56
	2440/CH19	-6.29	-36.29
	2480/CH39	-6.30	-36.30

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