

RF TEST REPORT

Applicant Nokia Shanghai Bell Co., Ltd.

FCC ID 2ADZRG1425GE

Product Nokia ONT

Brand NOKIA

Model G-1425G-E

Report No. R2312A1383-R1V1

Issue Date August 16, 2024

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15C (2023)**. 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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Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	March 21, 2024
Rev.1	Updated information.	August 16, 2024
Note: This revised report (Report No.: R2312A1383-R1V1) supersedes and replaces the previously issued report (Report No.: R2312A1383-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: January 4, 2024 ~ February 26, 2024			
Date of Sample Received: December 14, 2023			
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	Nokia Shanghai Bell Co., Ltd.
Applicant address	No.388, Ningqiao Rd, Pilot Free Trade Zone, Shanghai, 201206 P.R. China
Manufacturer	Nokia of America Corporation
Manufacturer address	2301 Sugar Bush Rd. Raleigh, NC 27612

2.2. General Information

EUT Description		
Model	G-1425G-E	
SN	Conducted	ALCLB43F4492
	Radiated	ALCLB43F44B1
Hardware Version	3TN 00674 AAAA	
Software Version	3TN00702FJLI48	
Power Supply	AC adapter	
Antenna Type	External Antenna	
Antenna Connector	I-PEX (meet with the standard FCC Part 15.203 requirement)	
Direction Gain	MIMO/ Beamforming	
	Power (dBi)	PSD (dBi)
	4.84	4.84
Operating Frequency Range(s)	802.11b/g/n(HT20): 2412 ~ 2462 MHz 802.11n(HT40): 2422 ~ 2452 MHz	
Modulation Type	802.11b: DSSS 802.11g/n: OFDM	
Max. Output Power	26.54 dBm	
EUT Accessory		
Adapter 1	Manufacturer: Ruide Model: RD1201000-C55-35MGD	
Adapter 2	Manufacturer: Keli Model: KL-WA120100-E	
Note: 1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant. 2. There is more than one Adapters, each one should be applied throughout the compliance test respectively, and however, only the worst case (Adapter 1) will be recorded in this report.		

Hardware code information

ONT Mnemonic	Kit Code	EMA Code	Part Description
1	3TN 00683 XXXX (Code can be any capital letter from A to Z)	3TN 00673 XXXX (Code can be any capital letter from A to Z)	GPON ONT,4XGE UNI,1POTS, WIFI 5,2x2 11n + 2x2 11ac

Information of configuration

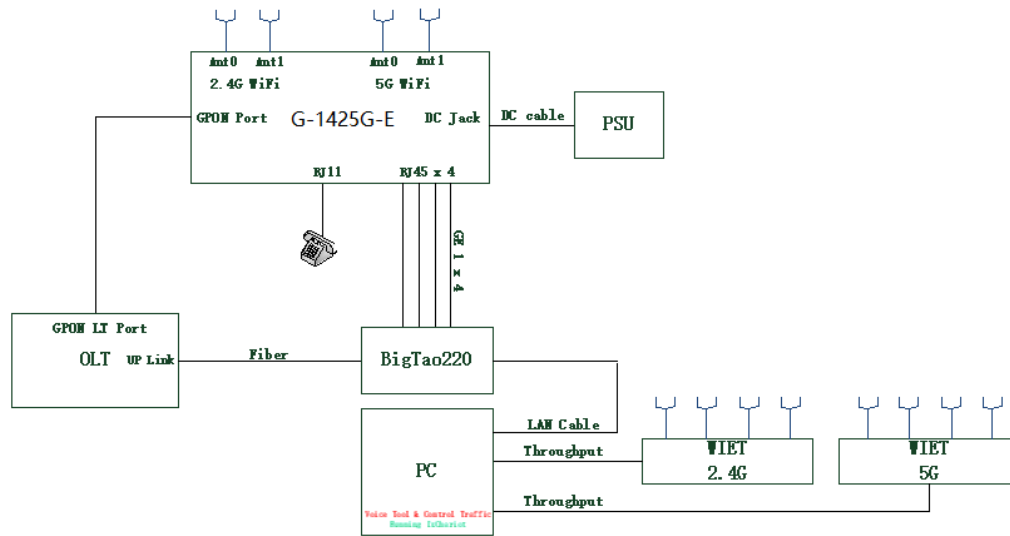
No.	Name	Model/Code No.	Edition	Serial No.
1	G-1425G-E	3TN 00673 AAAA	PEM2	PEM
2	G-1425G-E	3TN 00673 BAAA	PEM2	PEM
3	Power adapter	RD1201000-C55-35MGD	-	PEM
4	Power adapter	RD1201000-C55-35OGD	-	PEM
5	Power adapter	RD1201000-C55 -35YGD	-	PEM
6	Power adapter	KL-WA120100-E	-	PEM
7	Power adapter	KL-WE120100-B	-	PEM
8	Power adapter	KL-WB120100-B	-	PEM

Auxiliary equipment details

No.	Name	Brand name	Model	NSB code	Valid Until
1	BigTao	XINERTEL	BigTao220	DE8708	No Cal. Required
2	PC	Lenovo	T61	7661MC4L3KW965	No Cal. Required
3	PC	Lenovo	T61	7661MC4L3KW959	No Cal. Required
5	7362 ISAM DF-16	NOKIA	3FE45632AAAA	YP1747F403F	No Cal. Required

Information of ports

No.	Port name	Test Number	Shielded or unshielded	Cable type (optic, twisted pair, etc.)	Max. Cable length
1	AC Power Port	1	unshielded	-	-
2	GE	4	unshielded	-	-
1	POTS	1	unshielded	-	-



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 (2023) Radio Frequency Devices

ANSI C63.10-2013

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.

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) 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
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS8
802.11n HT40	MCS8

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

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

5. Test Case Results

5.1. Maximum output power

Ambient Condition

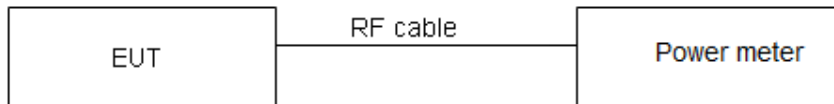
Temperature	Relative humidity
15°C ~ 35°C	20% ~ 80%

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.

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)
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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

Power Index					
Channel	802.11b	802.11g	802.11n HT20	Channel	802.11n HT40
CH 1	23	14	14	CH 3	14
CH 2	25	17	17	CH 4	17
CH 3	25	19	19	CH 5	19
CH 4	24	21	21	CH 6	16
CH 5	24	22	22	CH 7	16
CH 6	23	21	22	CH 8	14
CH 7	21	19	19	CH 9	10
CH 8	21	19	17	--	--
CH 9	22	17	17	--	--
CH 10	22	15	15	--	--
CH 11	14	9	10	--	--

Test Mode	Duty cycle	Duty cycle correction Factor (dB)
802.11b	0.982	0.00
802.11g	0.897	0.47
802.11n HT20	0.912	0.40
802.11n HT40	0.837	0.77
Note: when Duty cycle ≥ 0.98 , Duty cycle correction Factor not required.		

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	20.68	20.68	20.90	20.90	23.80	30	PASS
	2417/CH 2	21.87	21.87	21.88	21.88	24.89	30	PASS
	2422/CH 3	23.00	23.00	23.08	23.08	26.05	30	PASS
	2427/CH 4	23.48	23.48	23.59	23.59	26.54	30	PASS
	2432/CH 5	21.88	21.88	21.83	21.83	24.87	30	PASS
	2437/CH 6	21.63	21.63	21.98	21.98	24.82	30	PASS
	2442/CH 7	22.17	22.17	22.68	22.68	25.45	30	PASS
	2447/CH 8	20.26	20.26	20.89	20.89	23.59	30	PASS
	2452/CH 9	21.47	21.47	22.02	22.02	24.76	30	PASS
	2457/CH 10	19.87	19.87	20.37	20.37	23.14	30	PASS
	2462/CH 11	16.45	16.45	16.81	16.81	19.64	30	PASS
802.11g	2412/CH 1	15.08	15.55	15.47	15.94	18.76	30	PASS
	2417/CH 2	16.95	17.42	17.13	17.60	20.52	30	PASS
	2422/CH 3	17.54	18.01	18.08	18.55	21.30	30	PASS
	2427/CH 4	18.43	18.90	18.93	19.40	22.17	30	PASS
	2432/CH 5	19.27	19.74	19.36	19.83	22.80	30	PASS
	2437/CH 6	18.22	18.69	18.91	19.38	22.06	30	PASS
	2442/CH 7	17.31	17.78	18.33	18.80	21.33	30	PASS
	2447/CH 8	17.30	17.77	18.34	18.81	21.33	30	PASS
	2452/CH 9	16.57	17.04	17.08	17.55	20.31	30	PASS
	2457/CH 10	15.67	16.14	16.08	16.55	19.36	30	PASS
	2462/CH 11	12.69	13.16	13.33	13.80	16.50	30	PASS
802.11n HT20	2412/CH 1	15.11	15.51	15.68	16.08	18.82	30	PASS
	2417/CH 2	16.59	16.99	17.11	17.51	20.27	30	PASS
	2422/CH 3	17.46	17.86	18.19	18.59	21.25	30	PASS
	2427/CH 4	18.42	18.82	19.04	19.44	22.15	30	PASS
	2432/CH 5	19.14	19.54	19.52	19.92	22.75	30	PASS
	2437/CH 6	18.26	18.66	19.19	19.59	22.16	30	PASS
	2442/CH 7	17.14	17.54	18.31	18.71	21.18	30	PASS
	2447/CH 8	16.34	16.74	17.23	17.63	20.22	30	PASS
	2452/CH 9	16.42	16.82	17.37	17.77	20.33	30	PASS
	2457/CH 10	15.43	15.83	16.13	16.53	19.20	30	PASS
	2462/CH 11	13.16	13.56	14.05	14.45	17.03	30	PASS
802.11n HT40	2422/CH 3	14.05	14.82	14.34	14.74	17.79	30	PASS
	2427/CH 4	15.67	16.44	15.85	16.62	19.54	30	PASS
	2432/CH 5	16.77	17.54	17.04	17.81	20.69	30	PASS
	2437/CH 6	15.06	15.83	15.74	16.51	19.19	30	PASS

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	2442/CH 7	14.95	15.72	15.73	16.50	19.14	30	PASS
	2447/CH 8	13.69	14.46	14.46	15.23	17.87	30	PASS
	2452/CH 9	11.94	12.71	12.90	13.67	16.22	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 =10log (10^(Power antenna1 in dBm/10) +10^(Power antenna2 in dBm/10)).

3. The manufacturer declared that the directional gain = 4.84 dBi<6dBi. So the power limit is 30dBm.

Beamforming

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	20.45	20.45	20.61	20.61	23.54	30	PASS
	2417/CH 2	21.56	21.56	21.53	21.53	24.55	30	PASS
	2422/CH 3	23.00	23.00	23.08	23.08	26.05	30	PASS
	2427/CH 4	23.44	23.44	23.47	23.47	26.46	30	PASS
	2432/CH 5	21.67	21.67	21.50	21.50	24.59	30	PASS
	2437/CH 6	21.08	21.08	21.52	21.52	24.32	30	PASS
	2442/CH 7	21.49	21.49	22.04	22.04	24.78	30	PASS
	2447/CH 8	19.82	19.82	20.43	20.43	23.15	30	PASS
	2452/CH 9	21.09	21.09	21.60	21.60	24.36	30	PASS
	2457/CH 10	19.83	19.83	20.27	20.27	23.06	30	PASS
	2462/CH 11	16.18	16.18	16.64	16.64	19.42	30	PASS
802.11g	2412/CH 1	14.67	15.14	15.03	15.50	18.33	30	PASS
	2417/CH 2	16.34	16.81	16.71	17.18	20.01	30	PASS
	2422/CH 3	17.25	17.72	17.67	18.14	20.95	30	PASS
	2427/CH 4	18.29	18.76	18.68	19.15	21.97	30	PASS
	2432/CH 5	19.08	19.55	19.35	19.82	22.70	30	PASS
	2437/CH 6	17.38	17.85	18.38	18.85	21.39	30	PASS
	2442/CH 7	16.76	17.23	17.79	18.26	20.78	30	PASS
	2447/CH 8	17.00	17.47	17.89	18.36	20.95	30	PASS
	2452/CH 9	16.24	16.71	16.96	17.43	20.09	30	PASS
	2457/CH 10	15.34	15.81	15.77	16.24	19.04	30	PASS
	2462/CH 11	12.54	13.01	13.34	13.81	16.44	30	PASS
802.11n HT20	2412/CH 1	14.53	14.93	15.30	15.70	18.34	30	PASS
	2417/CH 2	16.31	16.71	16.83	17.23	19.99	30	PASS
	2422/CH 3	17.12	17.52	17.75	18.15	20.86	30	PASS
	2427/CH 4	18.11	18.51	18.68	19.08	21.81	30	PASS
	2432/CH 5	18.97	19.37	19.32	19.72	22.56	30	PASS
	2437/CH 6	17.77	18.17	18.75	19.15	21.70	30	PASS

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	2442/CH 7	16.68	17.08	17.88	18.28	20.73	30	PASS
	2447/CH 8	16.09	16.49	17.03	17.43	20.00	30	PASS
	2452/CH 9	16.15	16.55	17.05	17.45	20.03	30	PASS
	2457/CH 10	15.26	15.66	15.96	16.36	19.03	30	PASS
	2462/CH 11	12.69	13.09	13.59	13.99	16.58	30	PASS
802.11n HT40	2422/CH 3	13.88	14.65	14.06	14.46	17.57	30	PASS
	2427/CH 4	15.48	16.25	15.65	16.42	19.35	30	PASS
	2432/CH 5	16.26	17.03	16.61	17.38	20.22	30	PASS
	2437/CH 6	14.54	15.31	15.41	16.18	18.78	30	PASS
	2442/CH 7	14.56	15.33	15.35	16.12	18.75	30	PASS
	2447/CH 8	13.45	14.22	14.17	14.94	17.60	30	PASS
	2452/CH 9	11.79	12.56	12.80	13.57	16.11	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 manufacturer declared that the directional gain = 4.84 dBi<6dBi. So the power limit is 30dBm.

5.2. 99% Bandwidth and 6dB Bandwidth

Ambient Condition

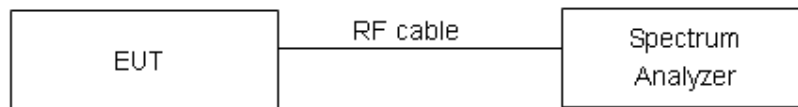
Temperature	Relative humidity
15°C ~ 35°C	20% ~ 80%

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

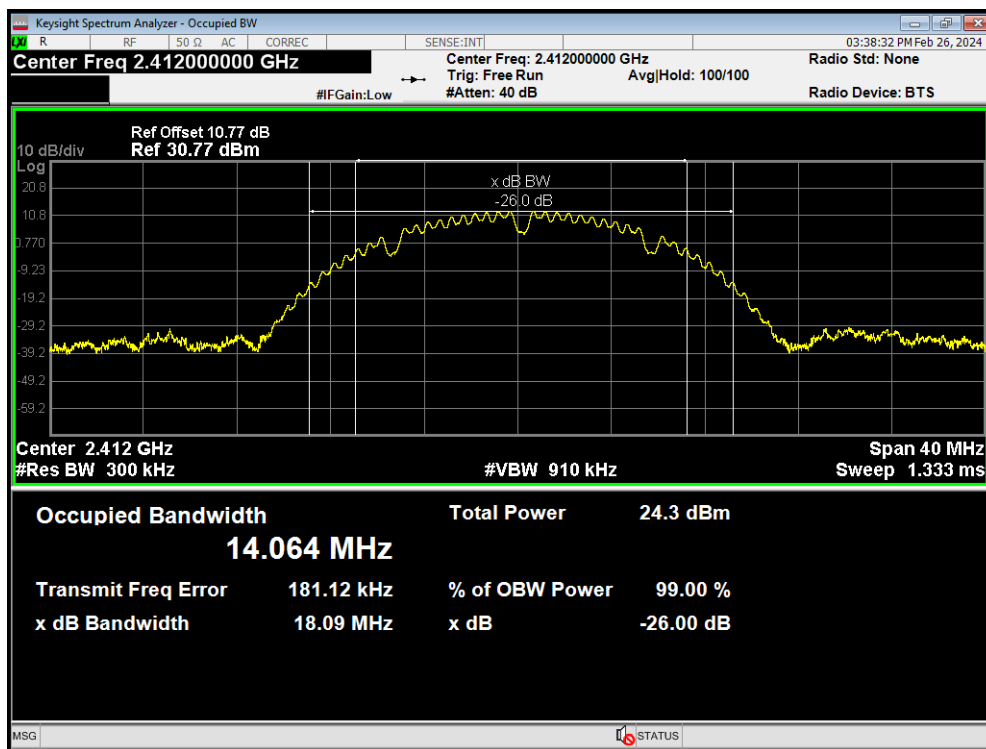
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 936$ Hz.

Test Results:

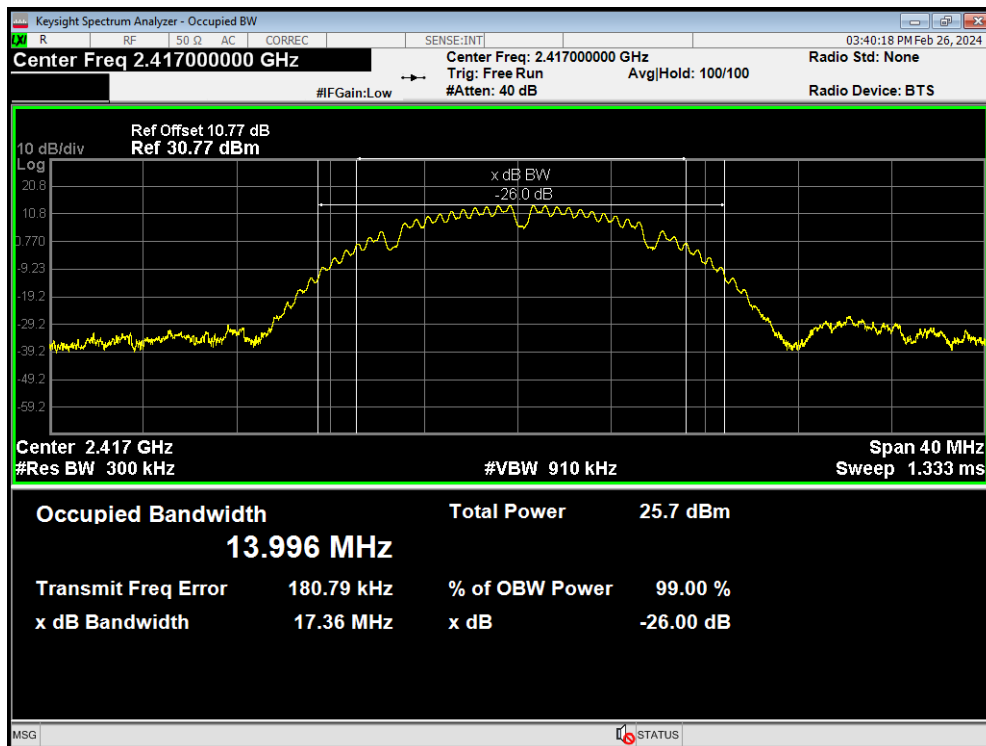
Test Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB Bandwidth (MHz)	Limit (kHz)	Conclusion
802.11b	2412	14.064	9.111	500	PASS
	2417	13.996	9.072	500	PASS
	2422	13.988	9.098	500	PASS
	2427	13.985	9.032	500	PASS
	2432	14.001	9.084	500	PASS
	2437	14.018	9.098	500	PASS
	2442	14.011	9.076	500	PASS
	2447	14.088	9.097	500	PASS
	2452	14.012	9.095	500	PASS
	2457	14.108	9.042	500	PASS
	2462	14.105	9.545	500	PASS
802.11g	2412	16.408	14.983	500	PASS
	2417	16.456	14.351	500	PASS
	2422	16.448	13.875	500	PASS
	2427	16.432	14.689	500	PASS
	2432	16.452	13.295	500	PASS
	2437	16.445	13.816	500	PASS
	2442	16.472	14.944	500	PASS
	2447	16.460	14.954	500	PASS
	2452	16.499	13.845	500	PASS
	2457	16.437	15.451	500	PASS
	2462	16.469	15.069	500	PASS
802.11n HT20	2412	17.532	15.097	500	PASS
	2417	17.561	15.454	500	PASS
	2422	17.541	15.103	500	PASS
	2427	17.491	16.269	500	PASS
	2432	17.512	16.588	500	PASS
	2437	17.508	16.492	500	PASS
	2442	17.473	16.332	500	PASS
	2447	17.490	16.568	500	PASS
	2452	17.481	15.689	500	PASS
	2457	17.481	16.320	500	PASS
	2462	17.471	16.315	500	PASS
802.11n HT40	2422	36.036	33.835	500	PASS
	2427	36.049	35.081	500	PASS
	2432	36.058	33.825	500	PASS
	2437	35.987	33.823	500	PASS
	2442	36.072	35.017	500	PASS
	2447	36.088	35.045	500	PASS
	2452	36.008	35.062	500	PASS

99%bandwidth

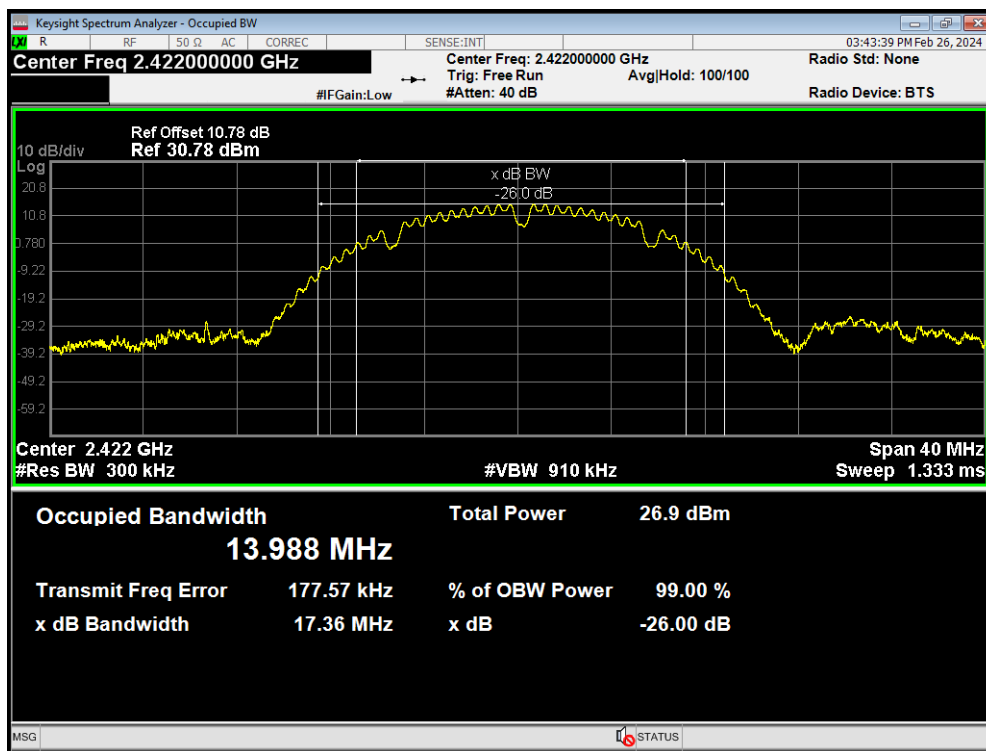
OBW 802.11b 2412MHz



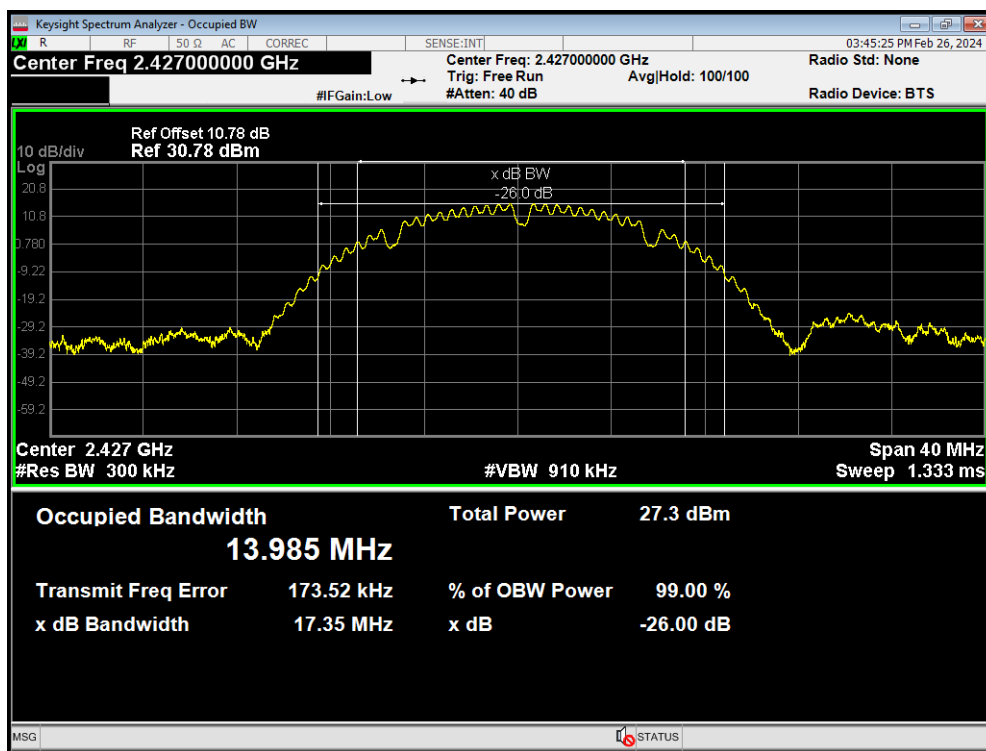
OBW 802.11b 2417MHz



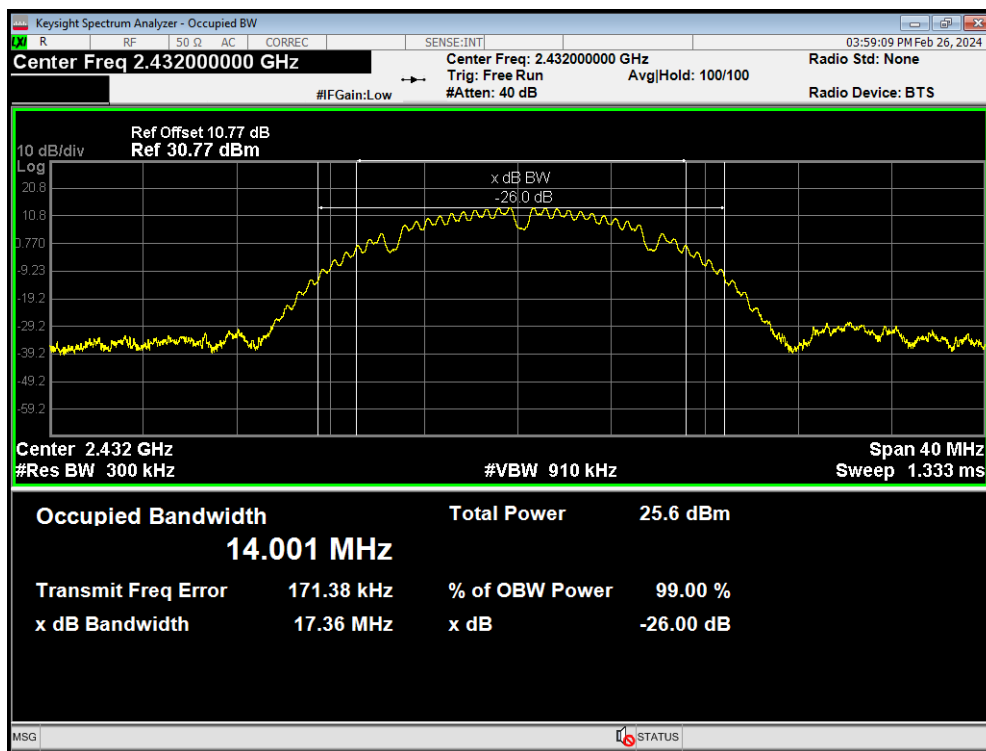
OBW 802.11b 2422MHz



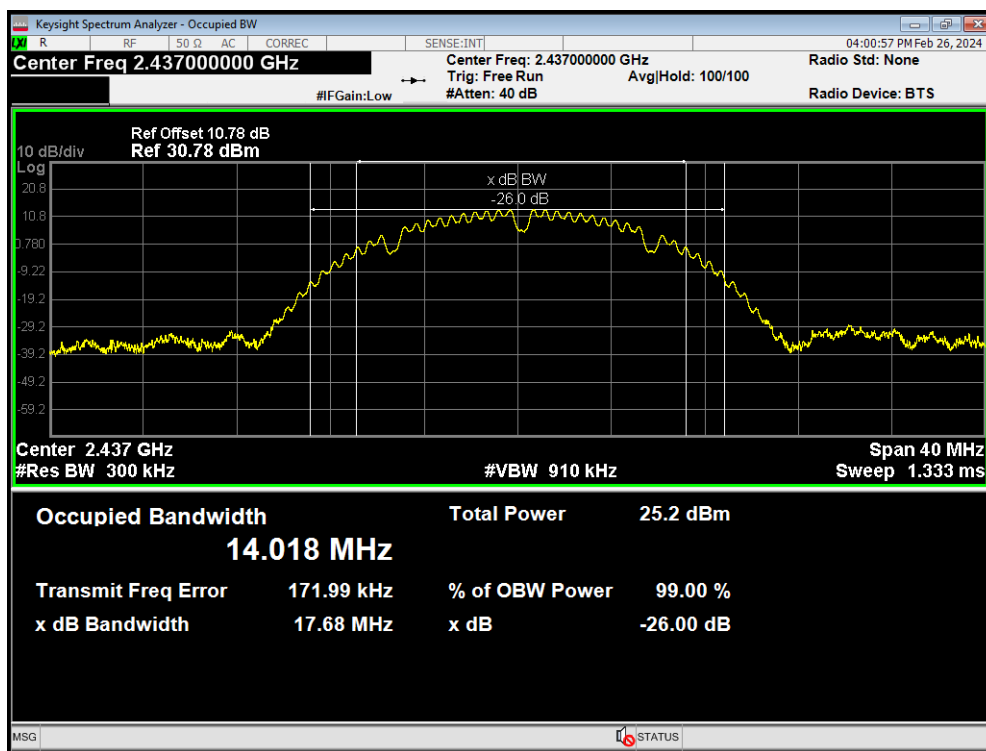
OBW 802.11b 2427MHz



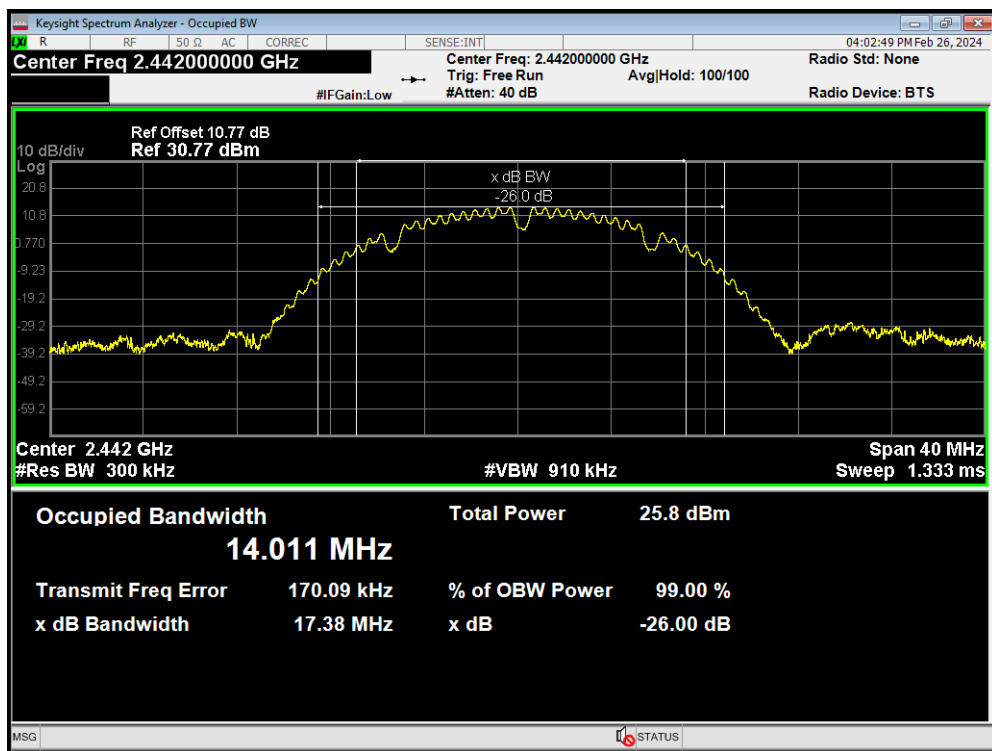
OBW 802.11b 2432MHz



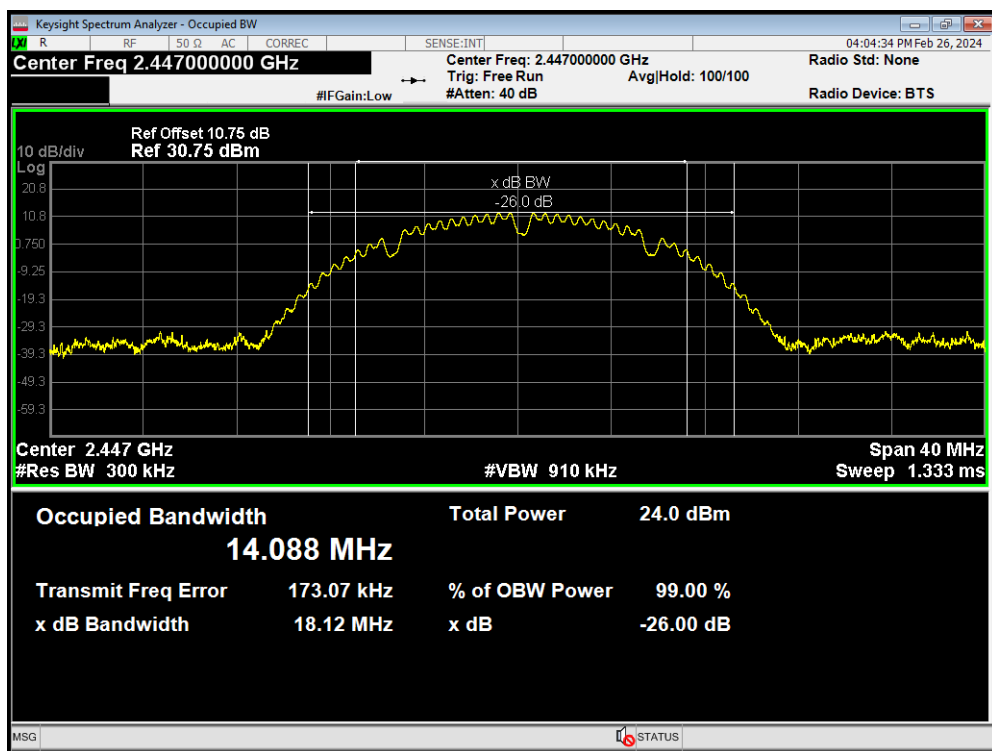
OBW 802.11b 2437MHz



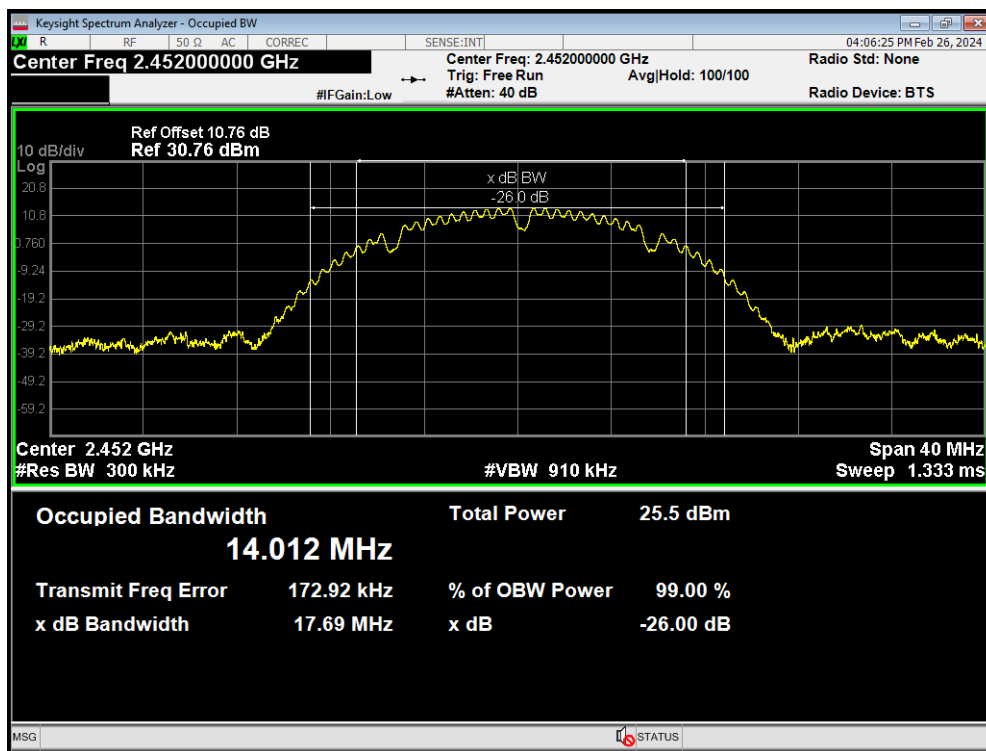
OBW 802.11b 2442MHz



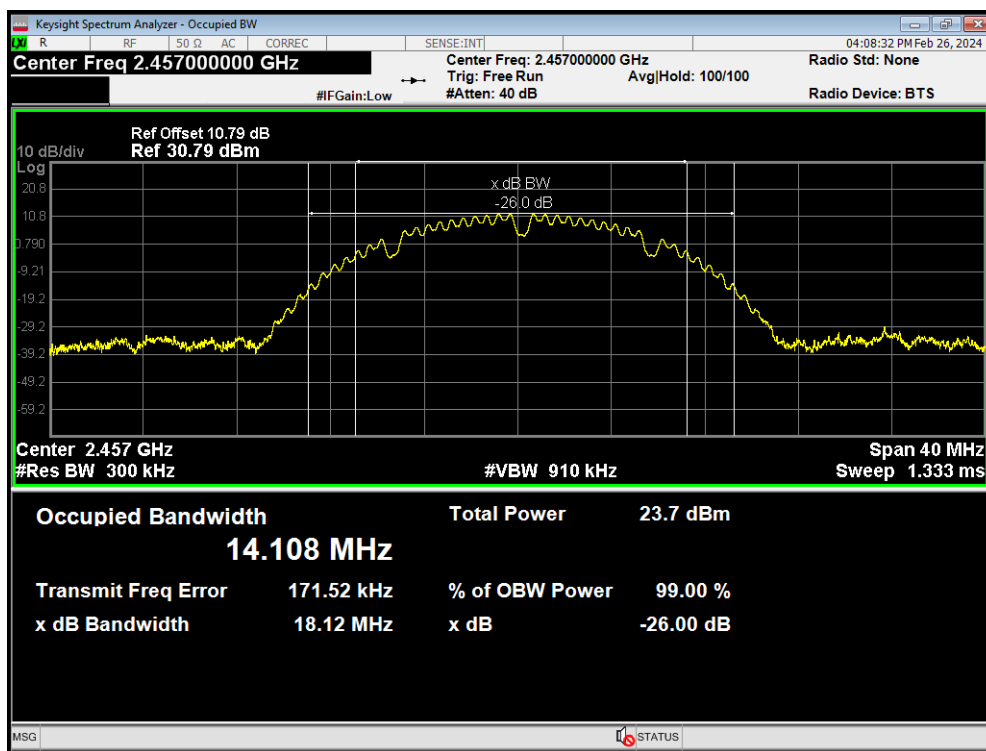
OBW 802.11b 2447MHz



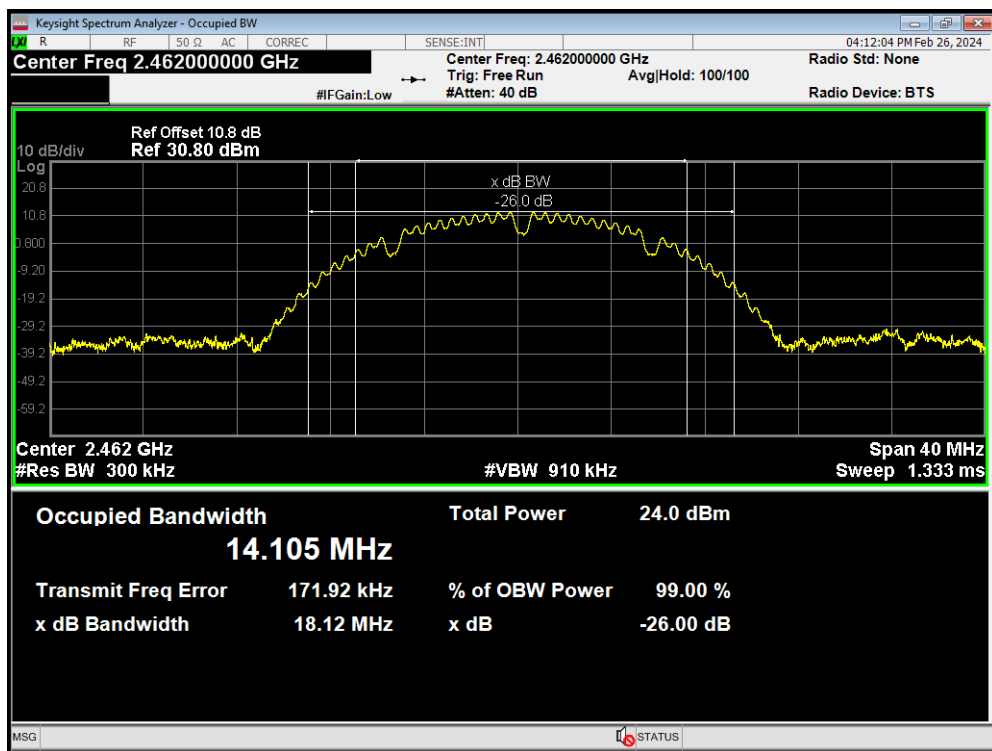
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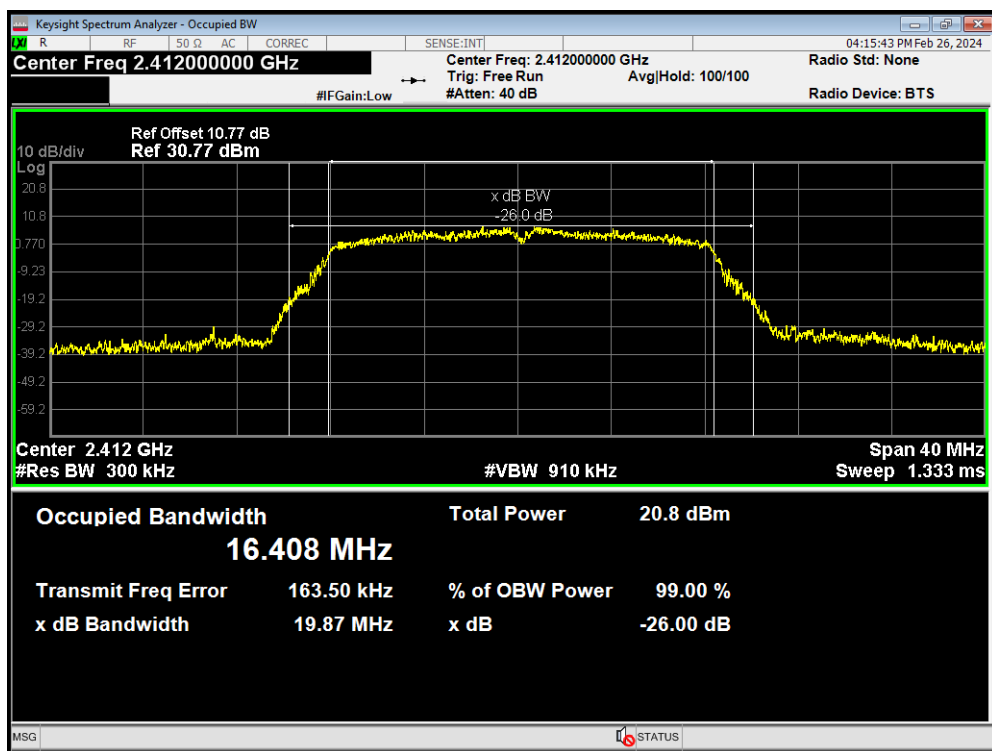
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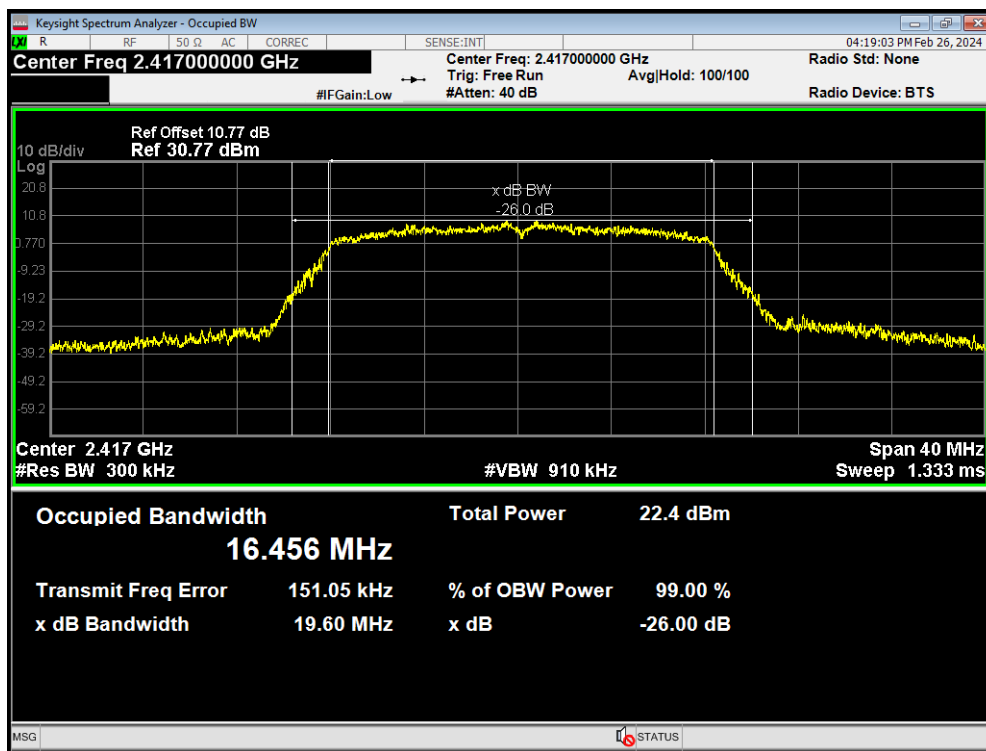
OBW 802.11b 2462MHz



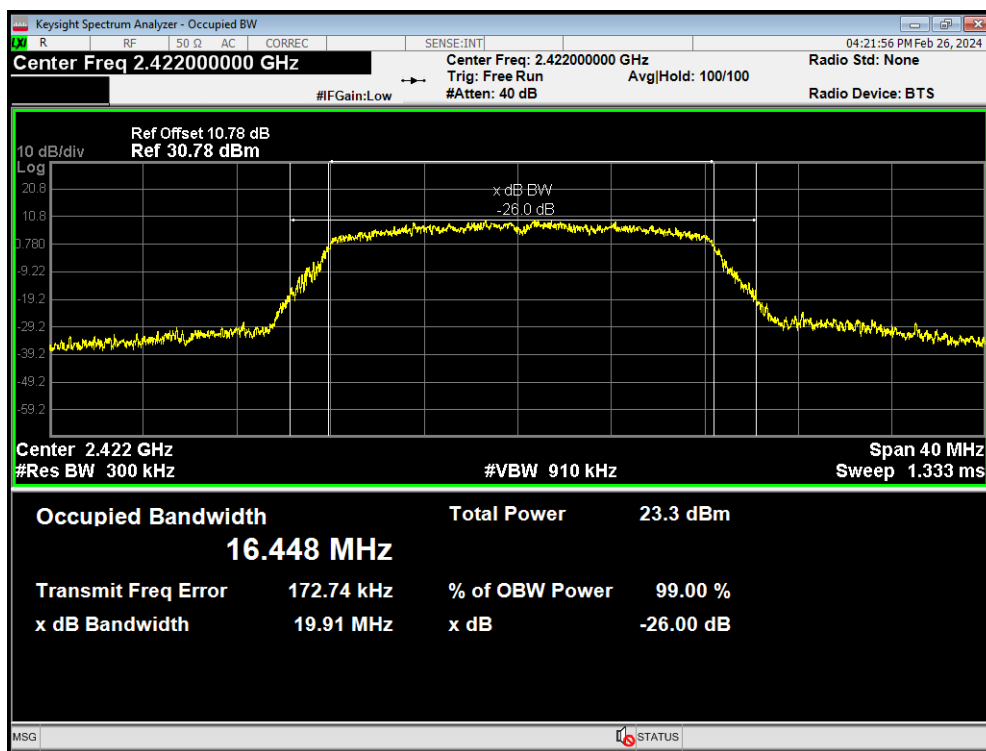
OBW 802.11g 2412MHz



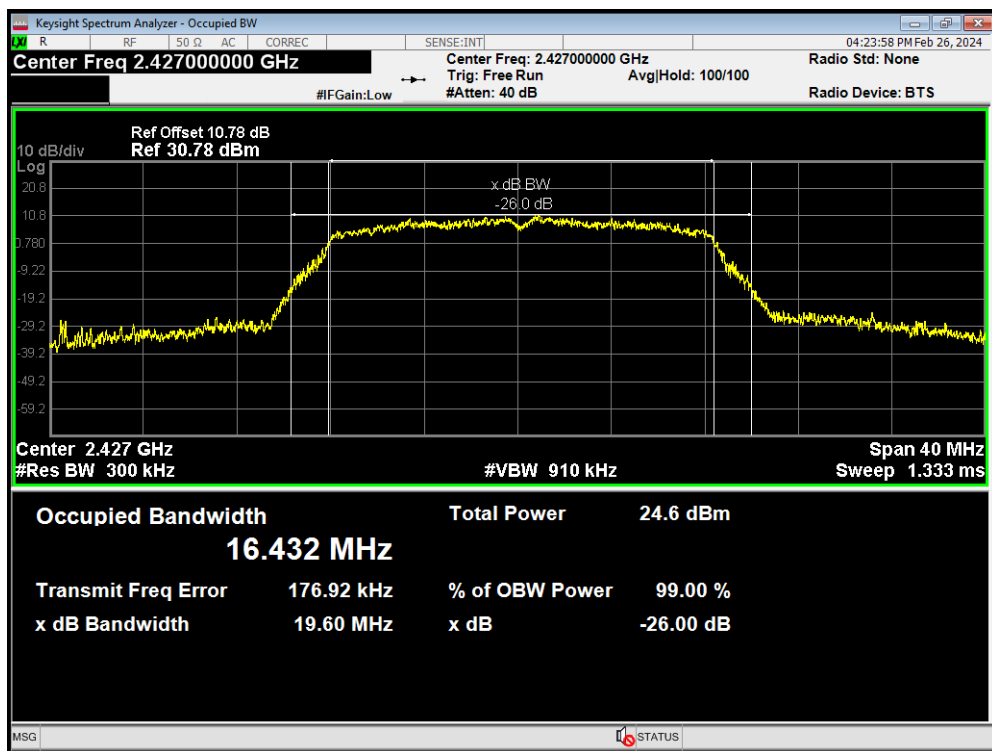
OBW 802.11g 2417MHz



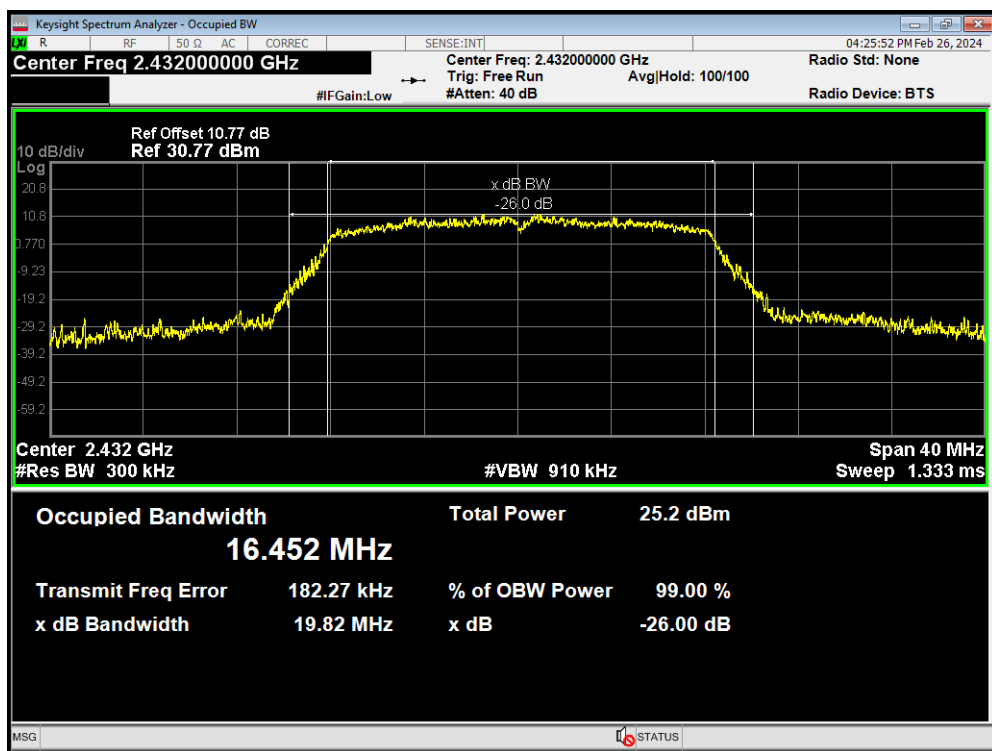
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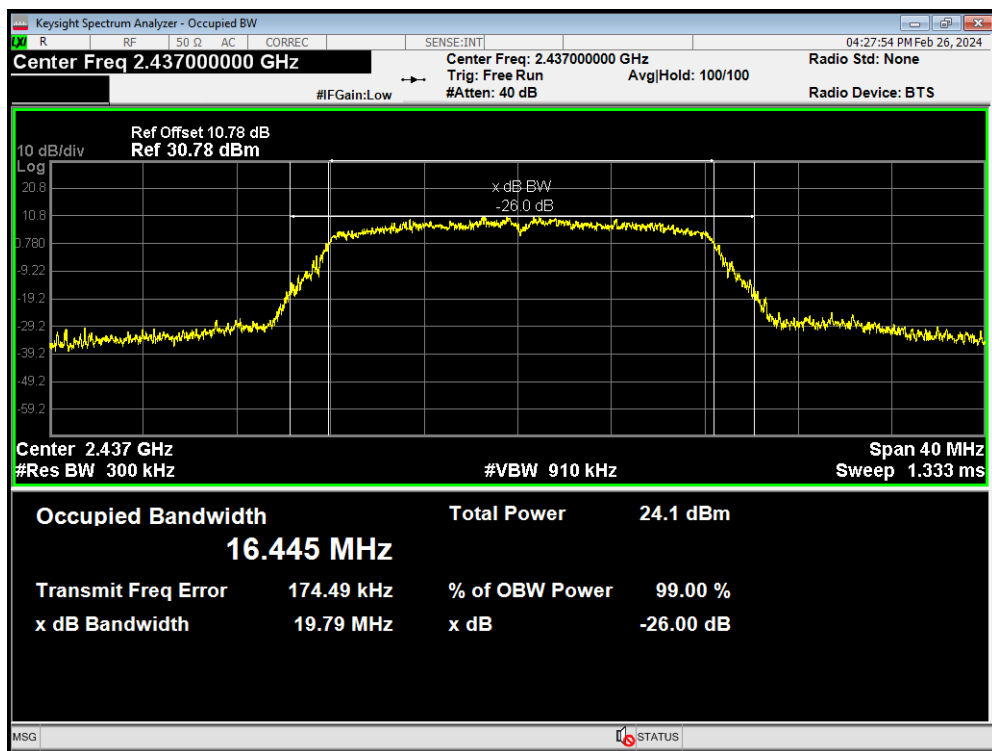
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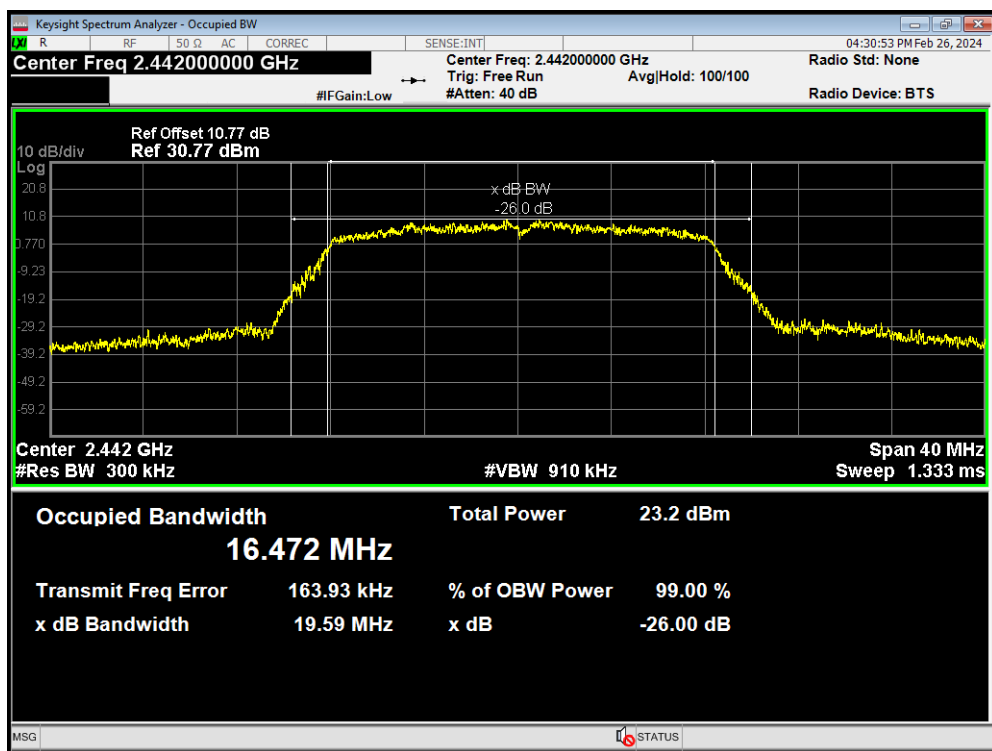
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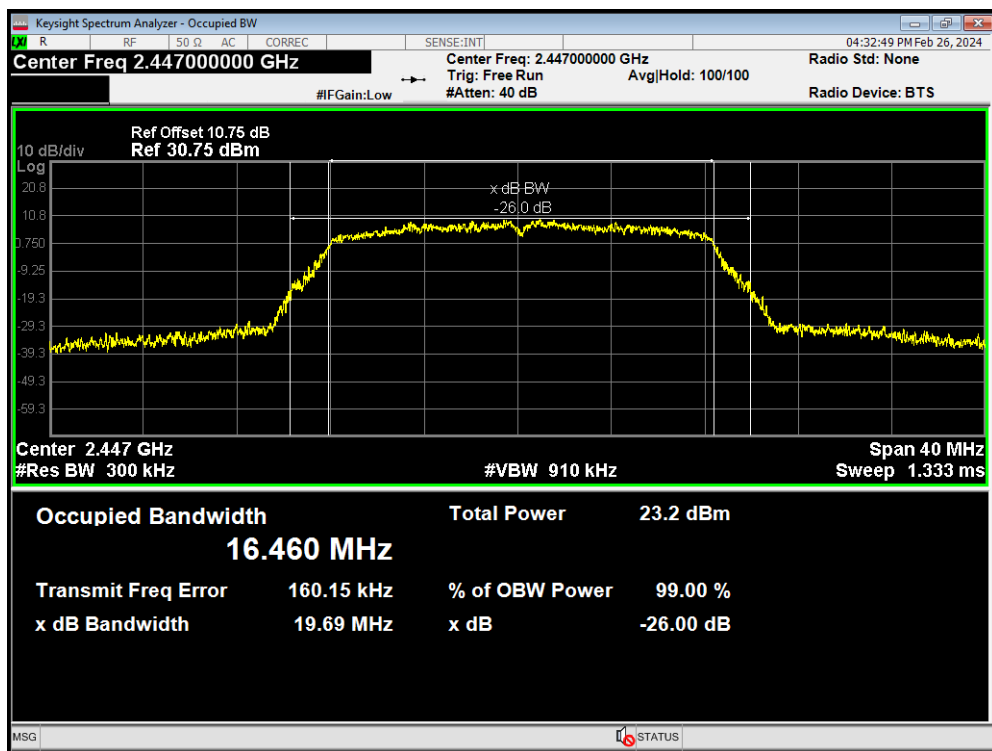
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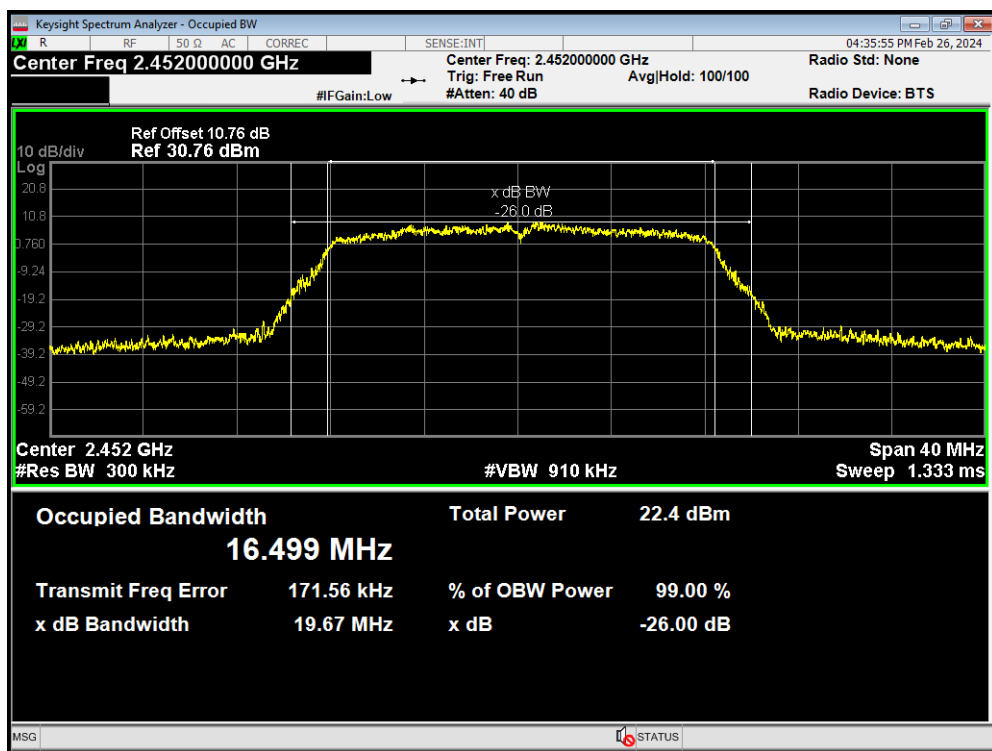
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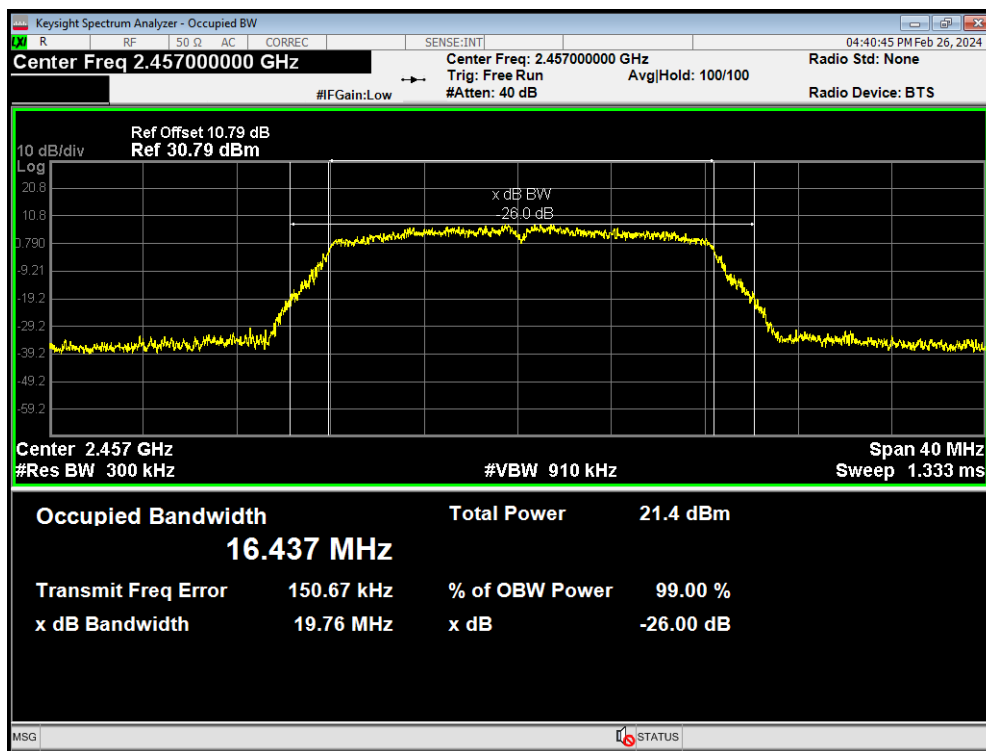
OBW 802.11g 2447MHz



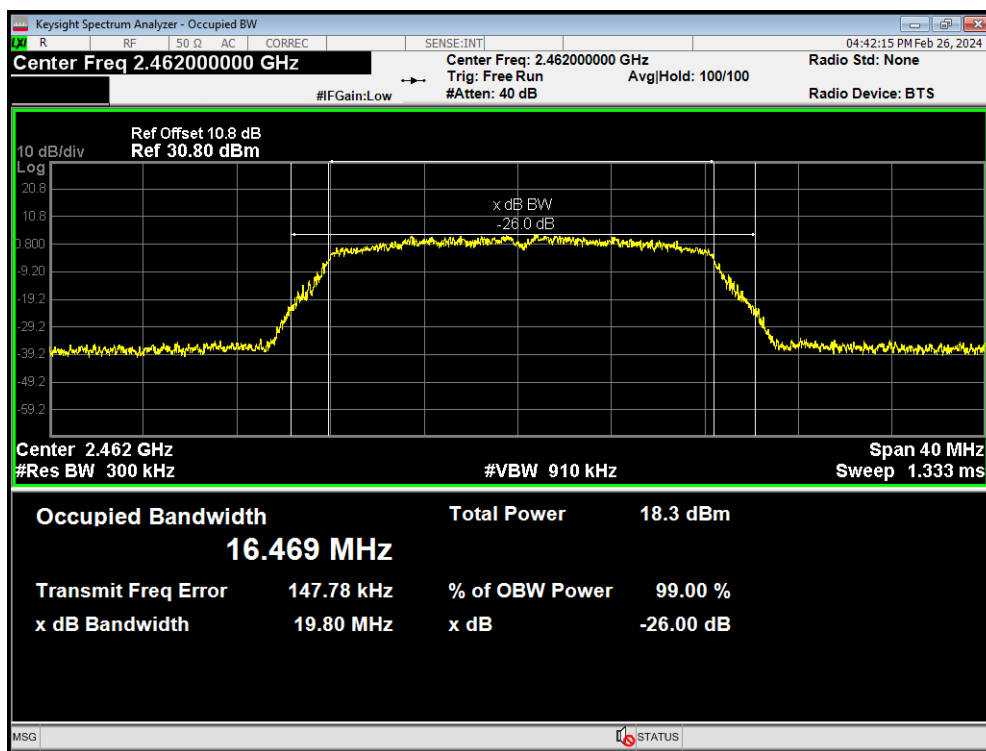
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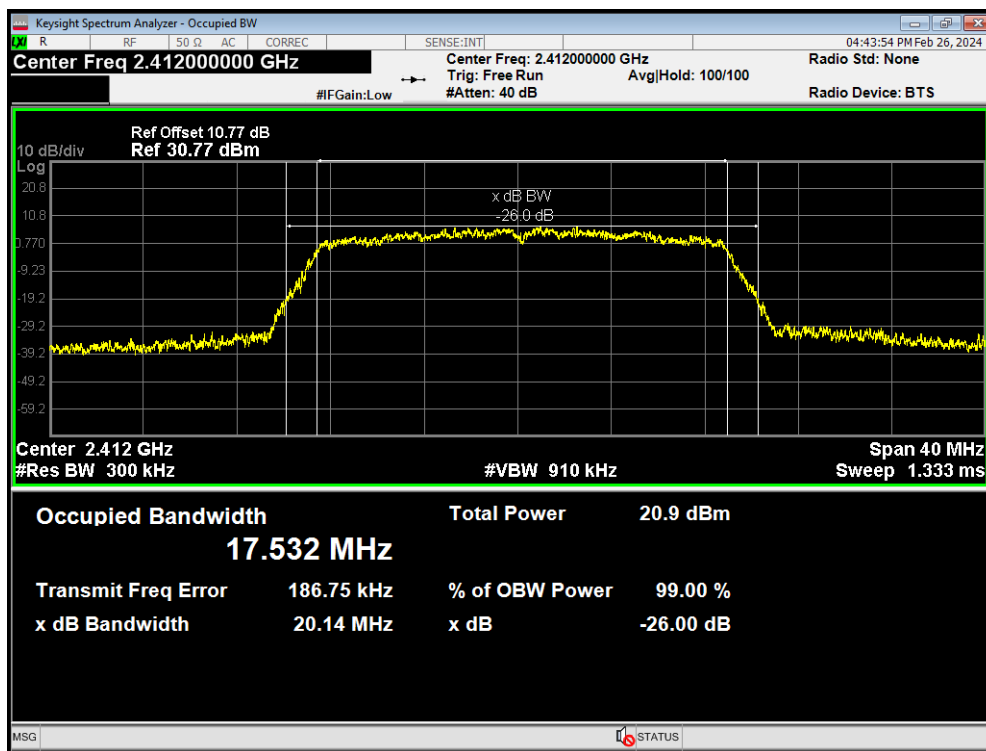
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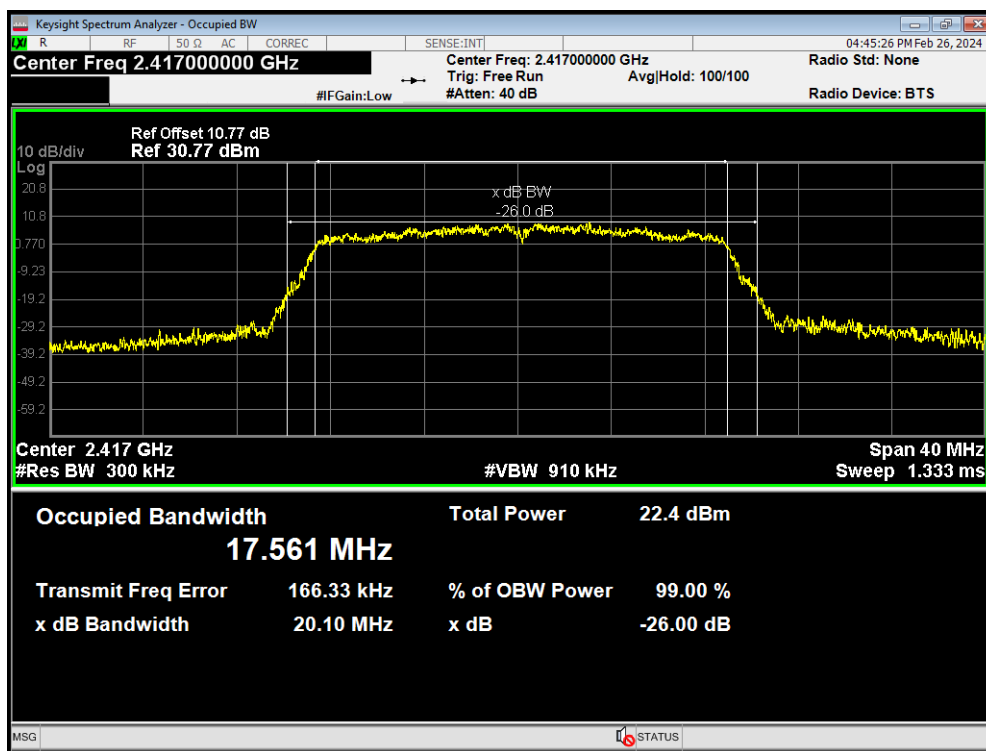
OBW 802.11g 2462MHz



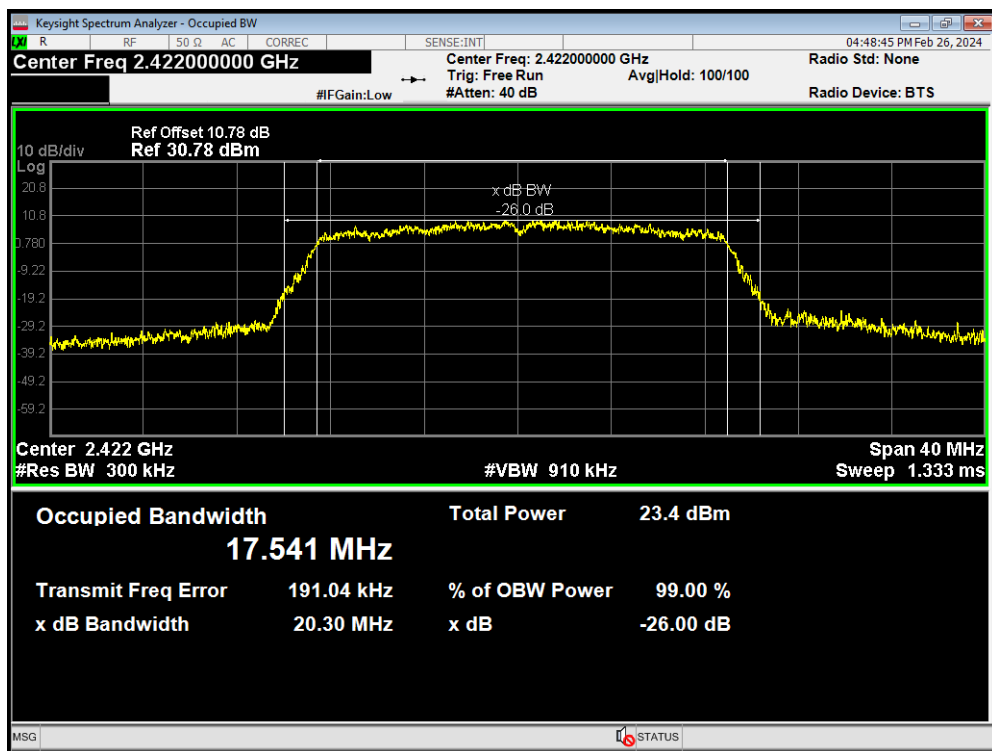
OBW 802.11n(HT20) 2412MHz



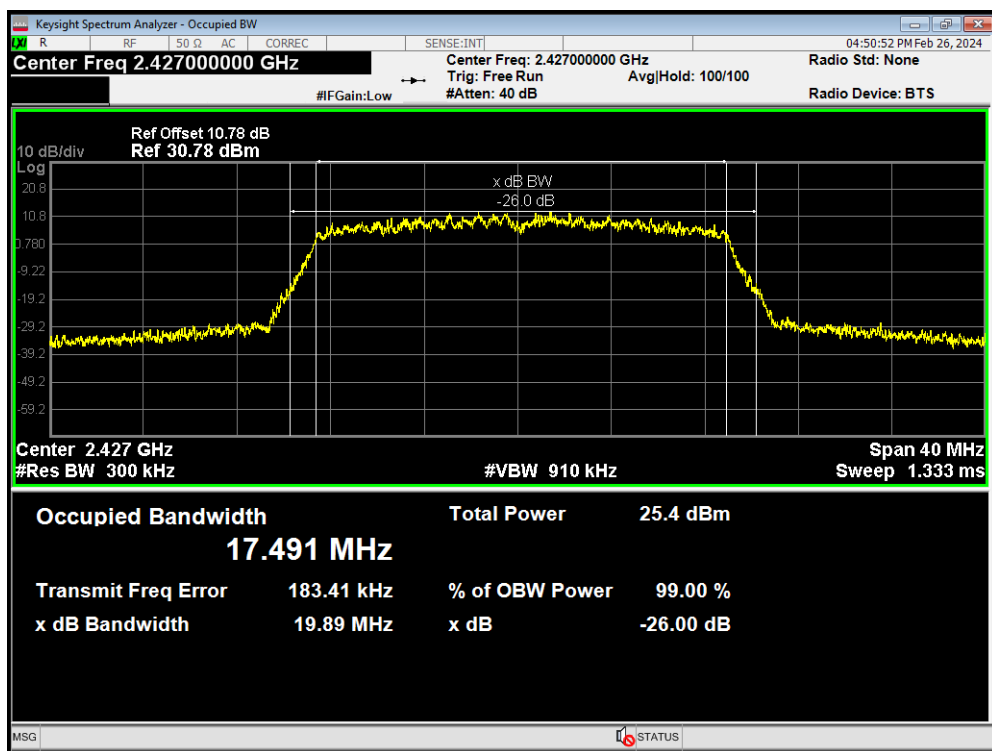
OBW 802.11n(HT20) 2417MHz



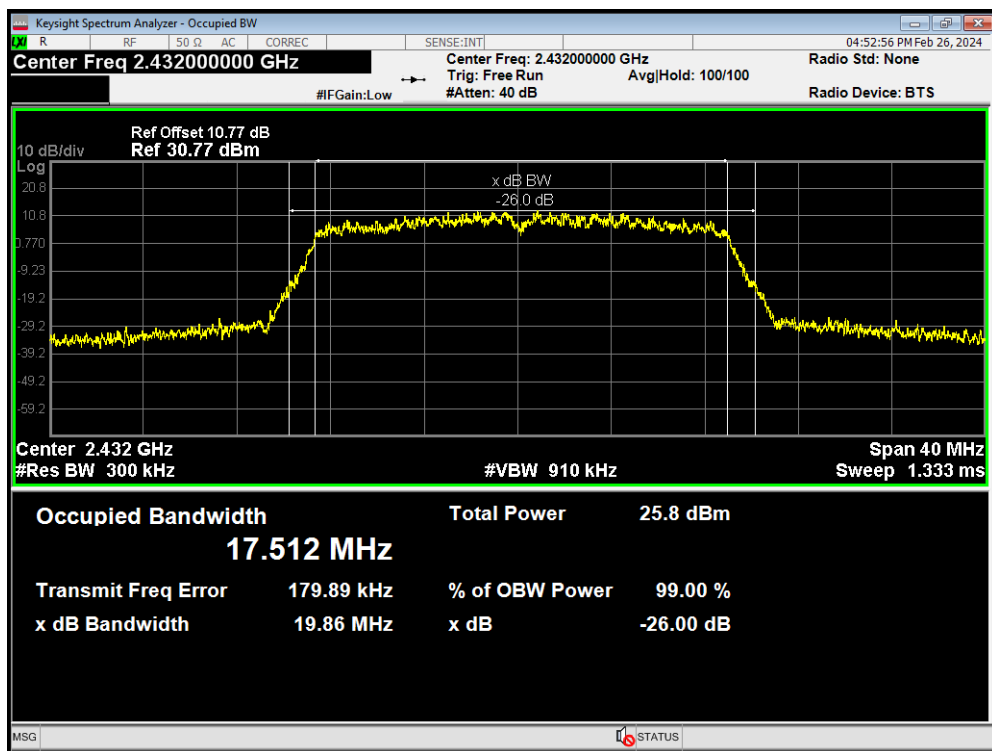
OBW 802.11n(HT20) 2422MHz



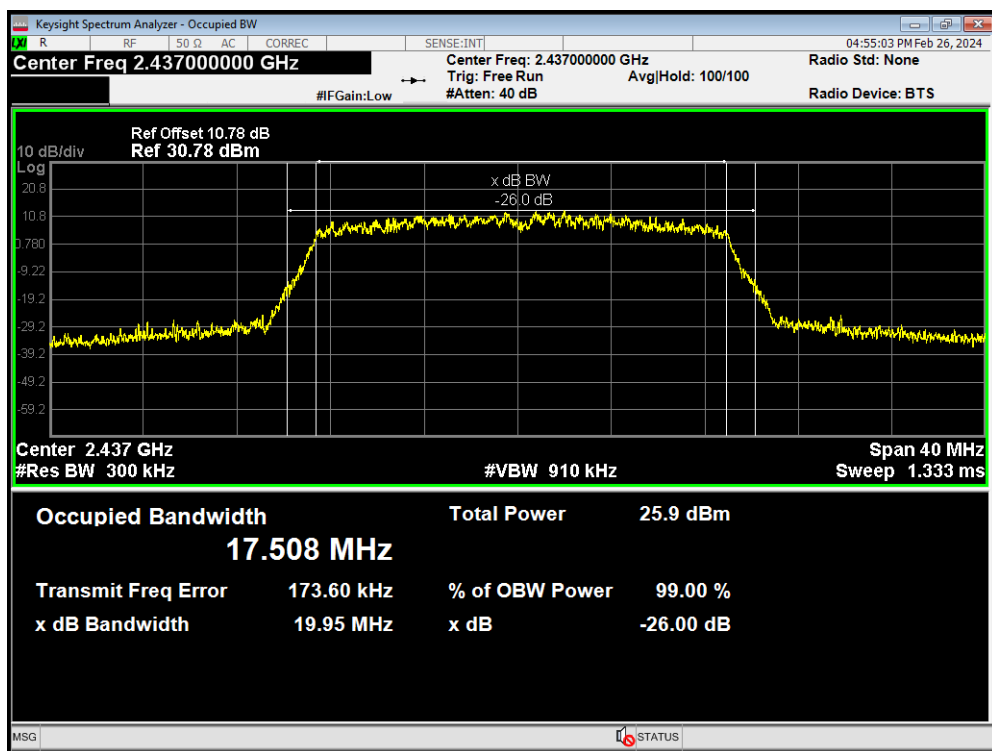
OBW 802.11n(HT20) 2427MHz



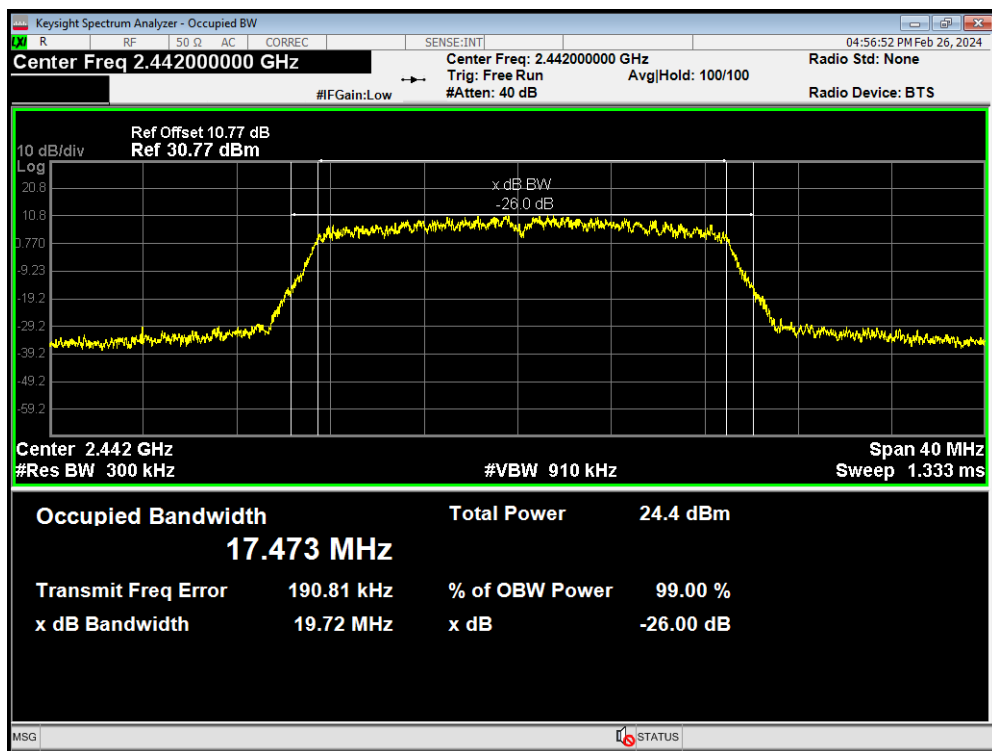
OBW 802.11n(HT20) 2432MHz



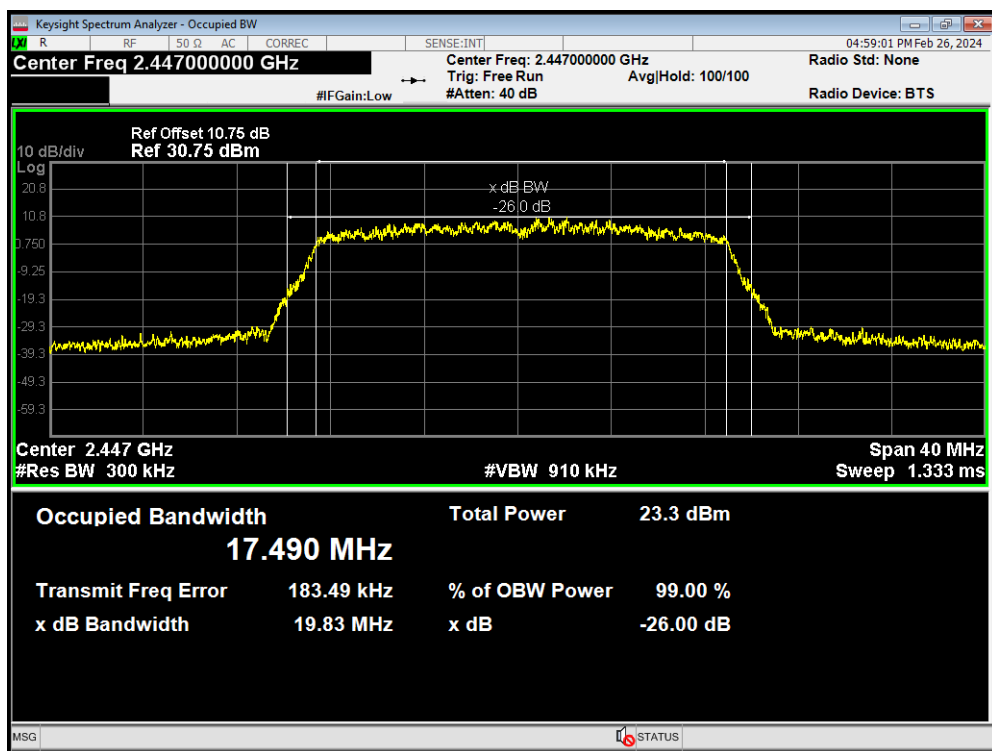
OBW 802.11n(HT20) 2437MHz



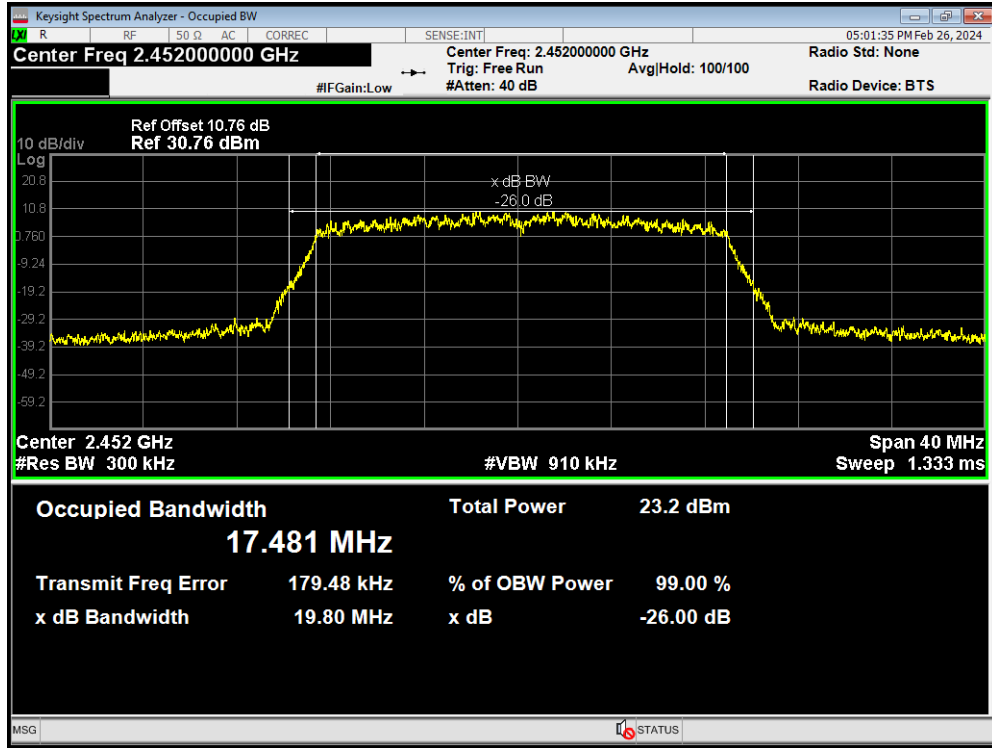
OBW 802.11n(HT20) 2442MHz



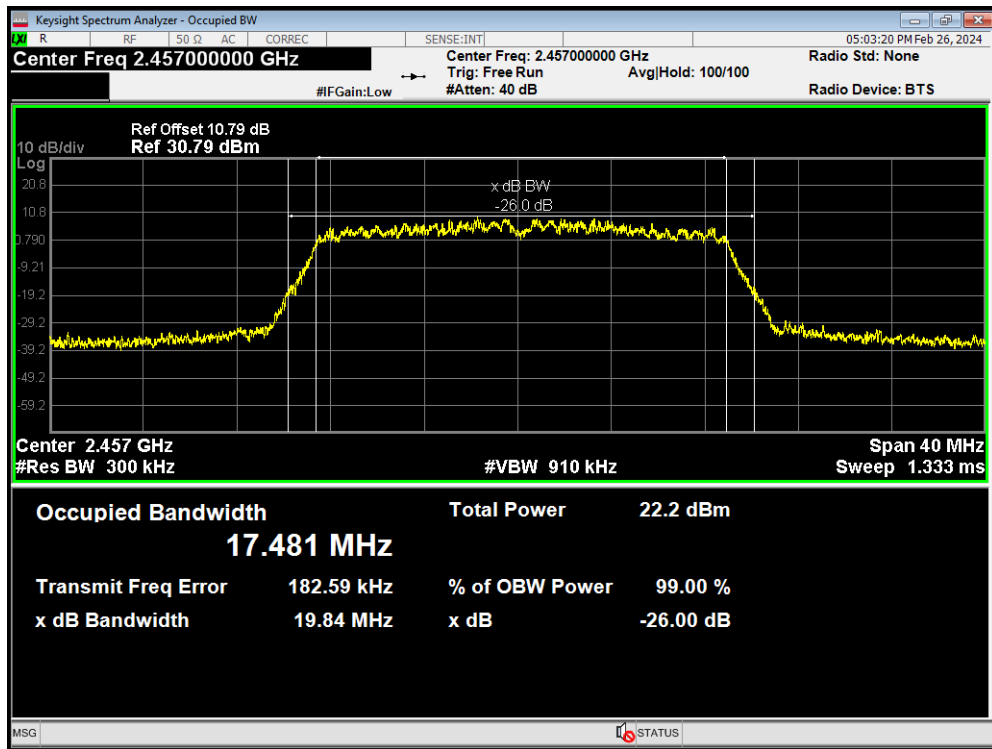
OBW 802.11n(HT20) 2447MHz



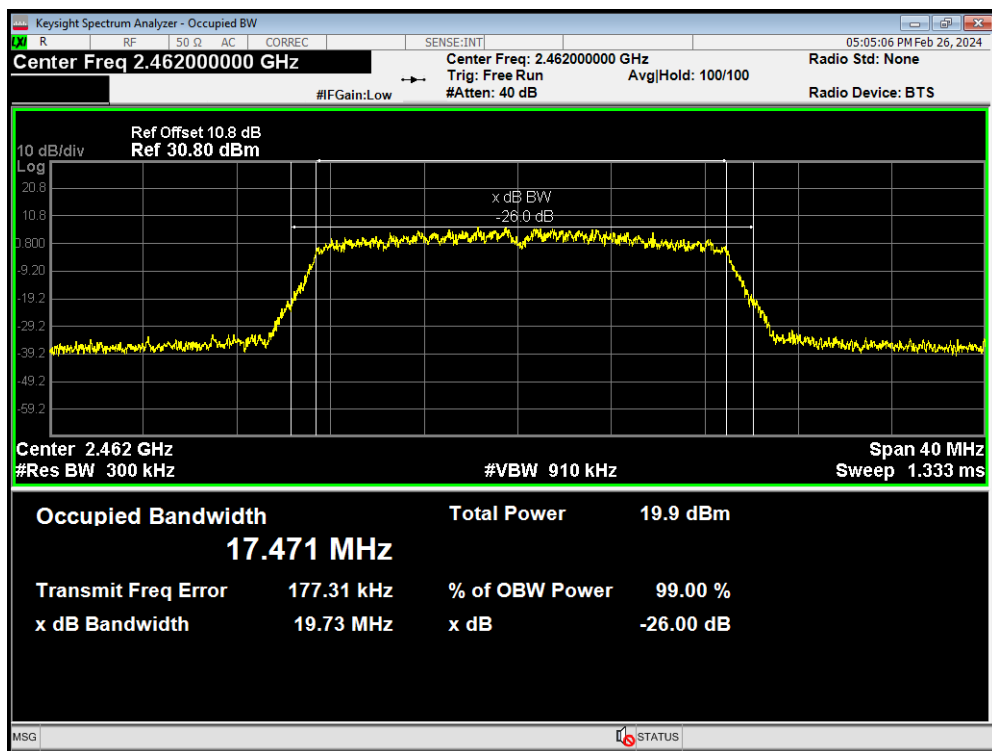
OBW 802.11n(HT20) 2452MHz



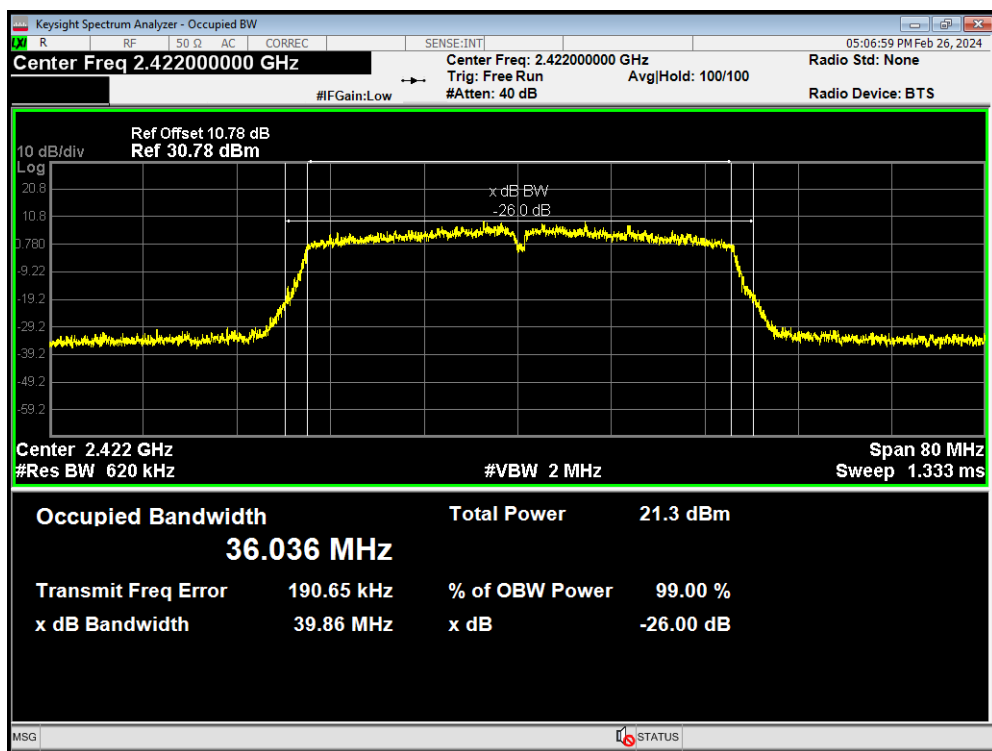
OBW 802.11n(HT20) 2457MHz



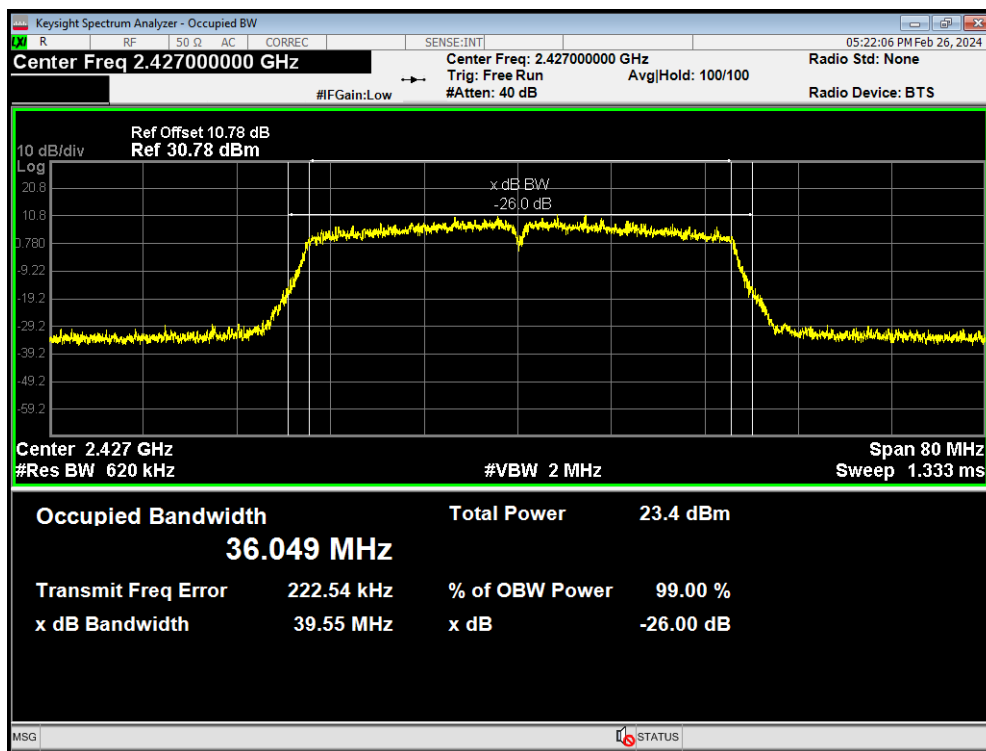
OBW 802.11n(HT20) 2462MHz



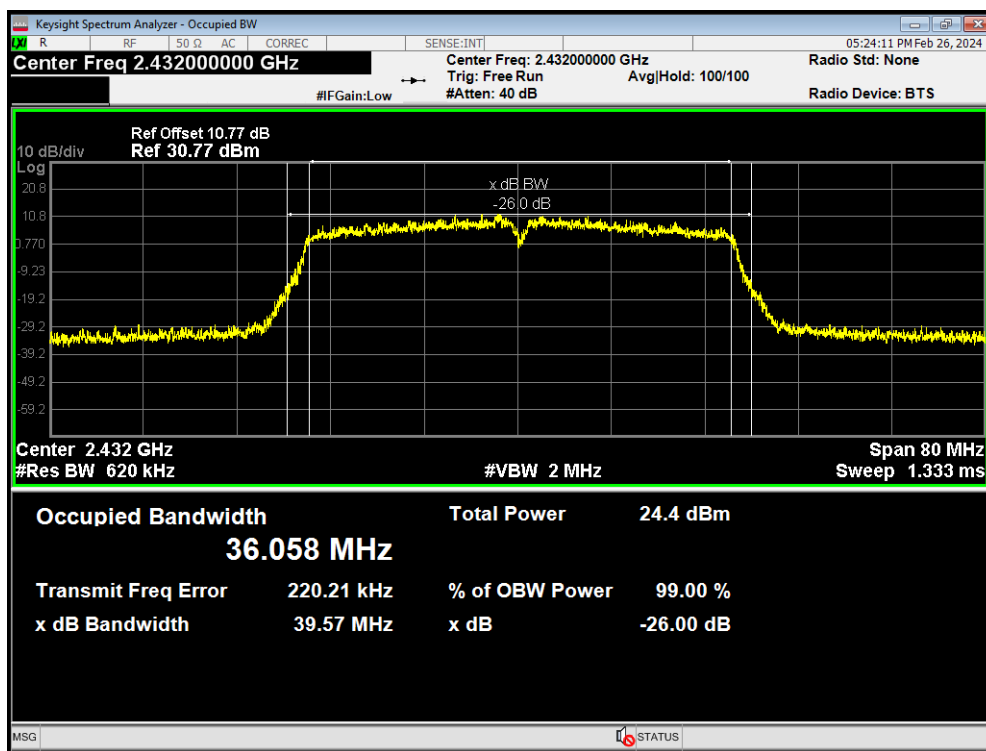
OBW 802.11n(HT40) 2422MHz



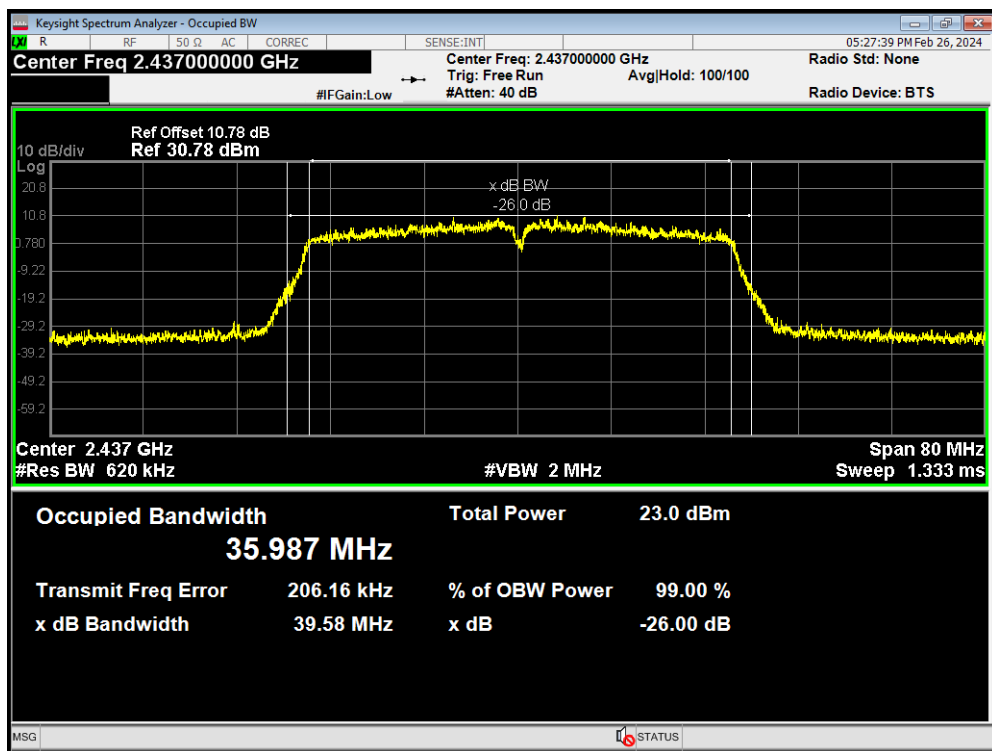
OBW 802.11n(HT40) 2427MHz



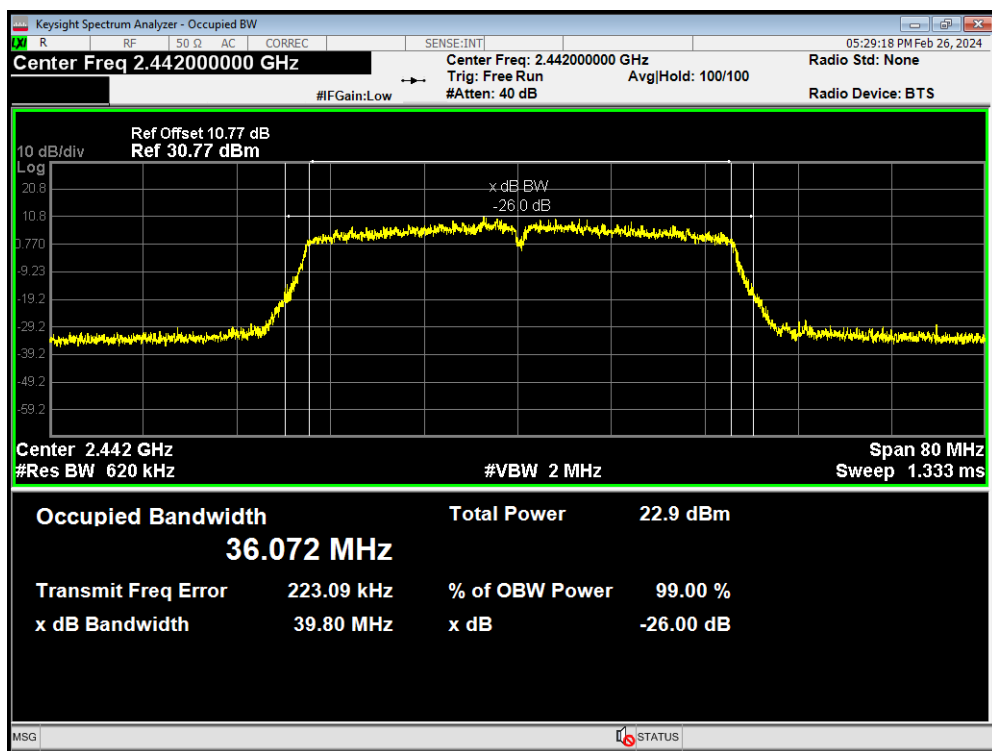
OBW 802.11n(HT40) 2432MHz



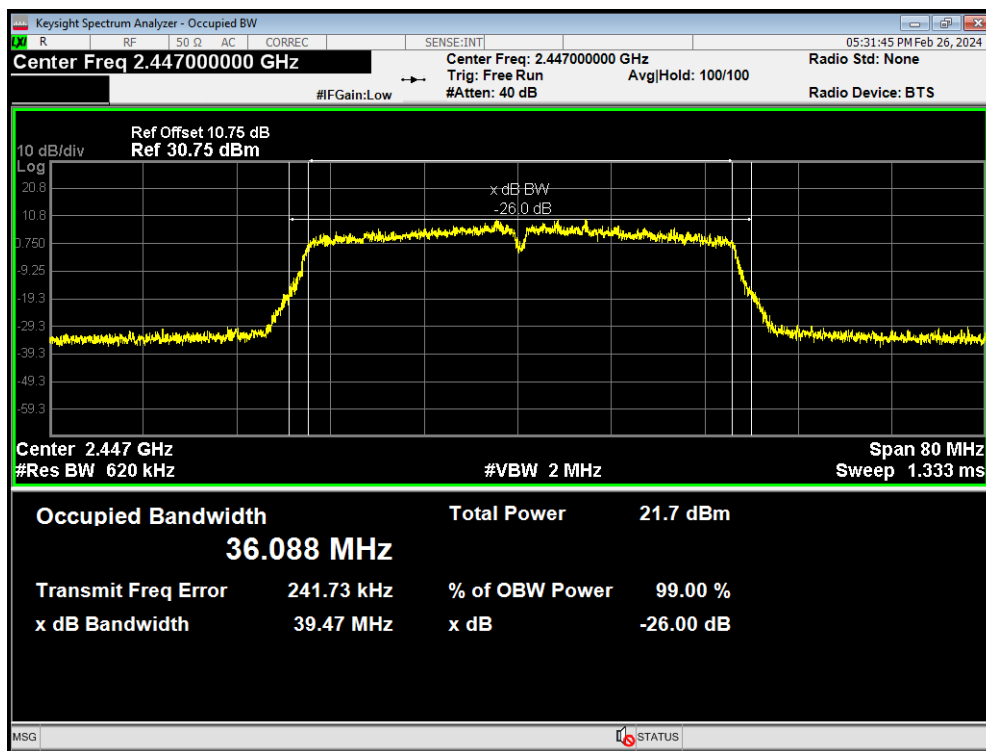
OBW 802.11n(HT40) 2437MHz



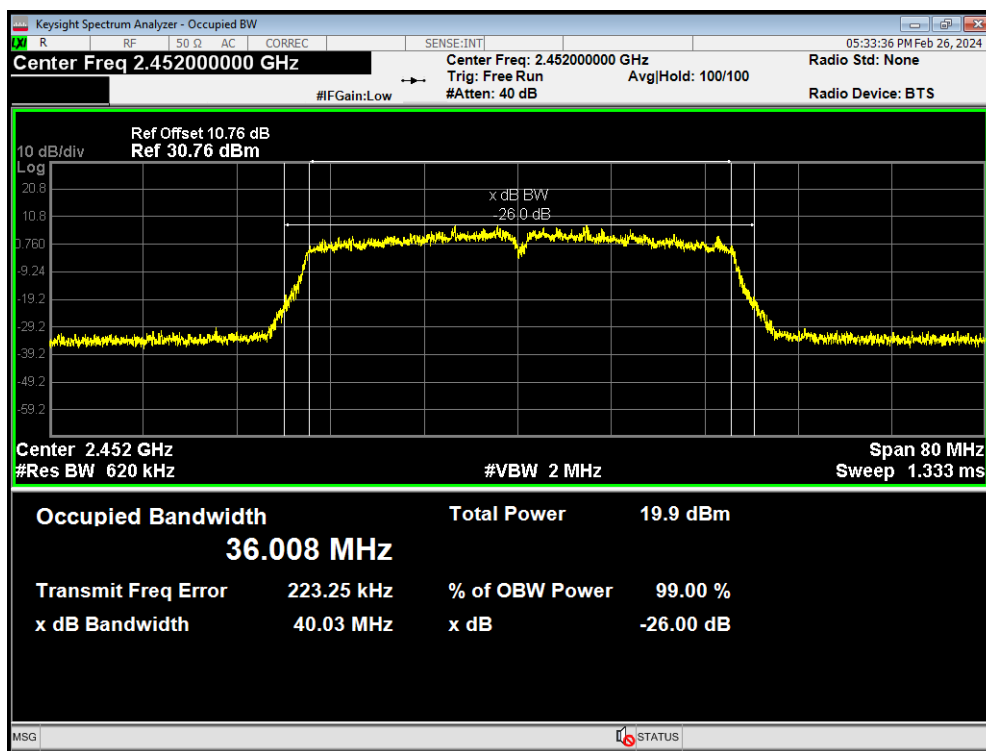
OBW 802.11n(HT40) 2442MHz



OBW 802.11n(HT40) 2447MHz

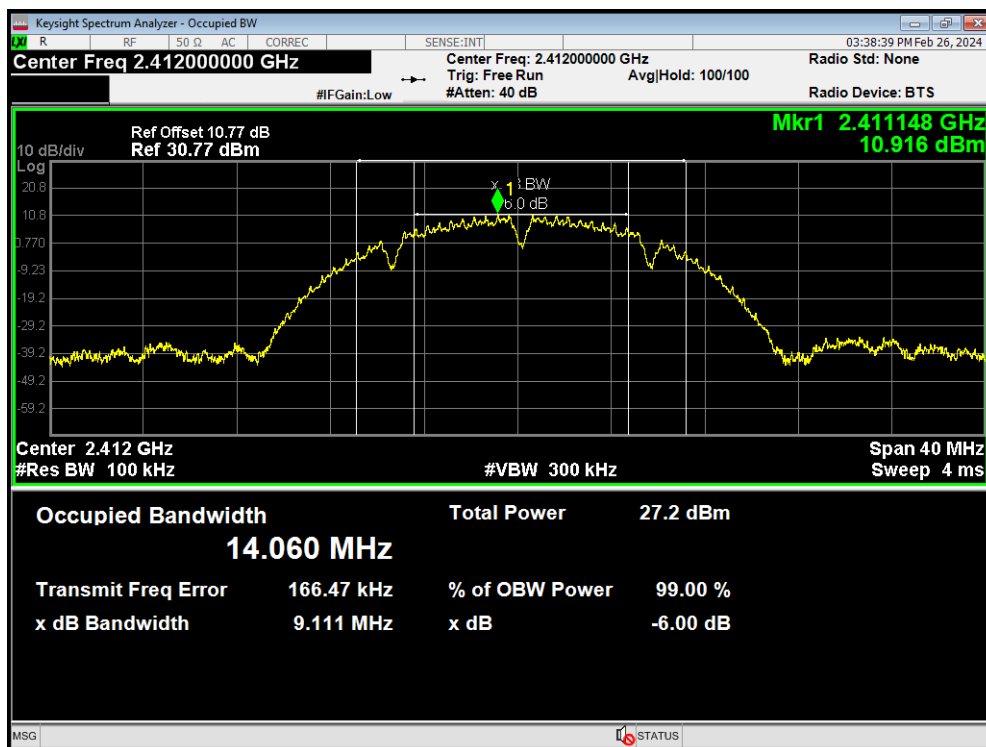


OBW 802.11n(HT40) 2452MHz

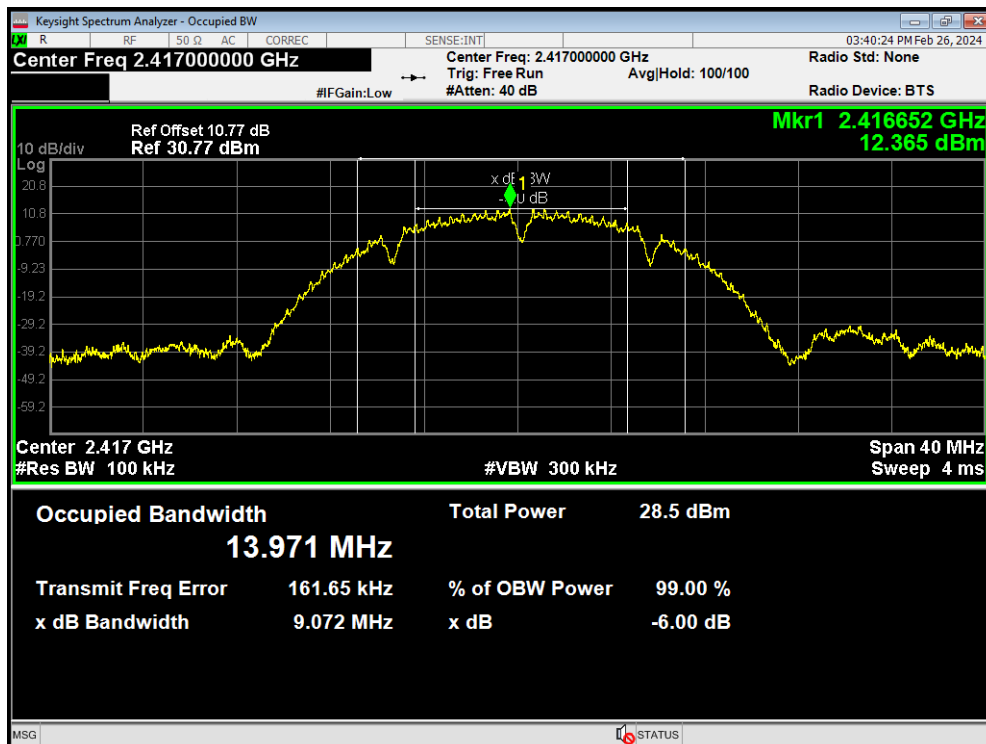


6 dB bandwidth

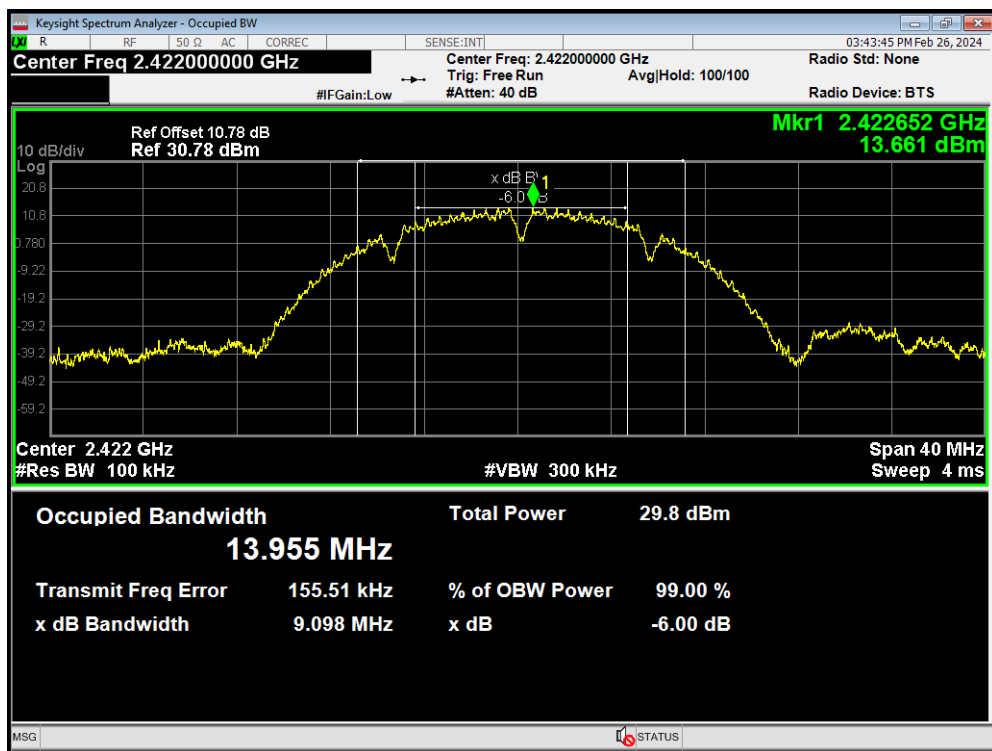
-6dB Bandwidth 802.11b 2412MHz



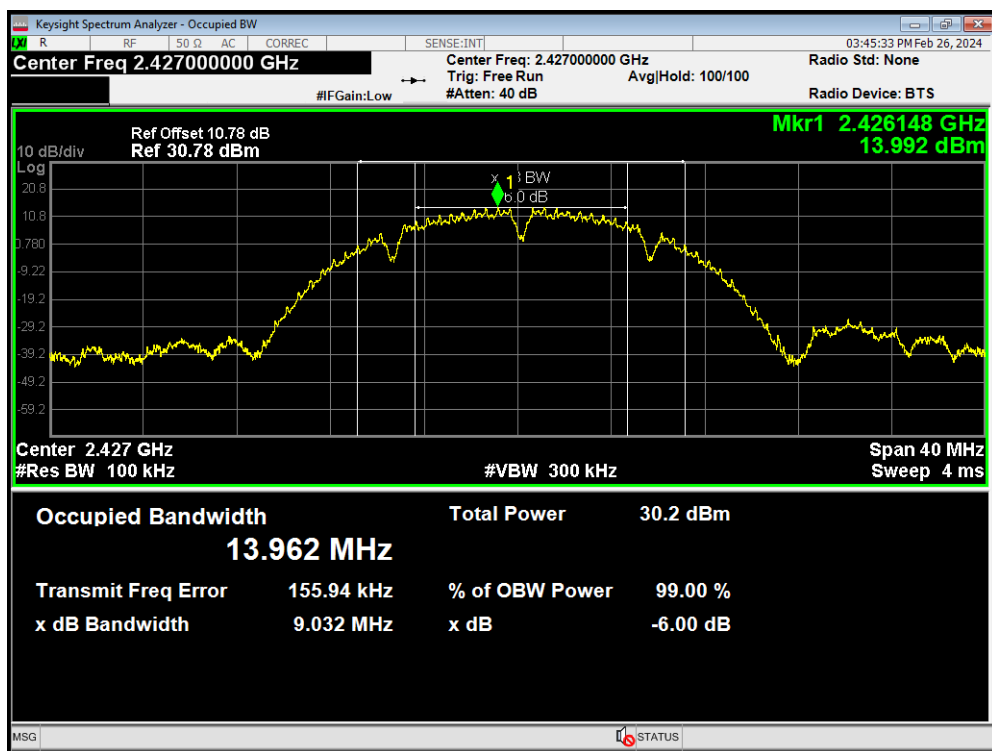
-6dB Bandwidth 802.11b 2417MHz



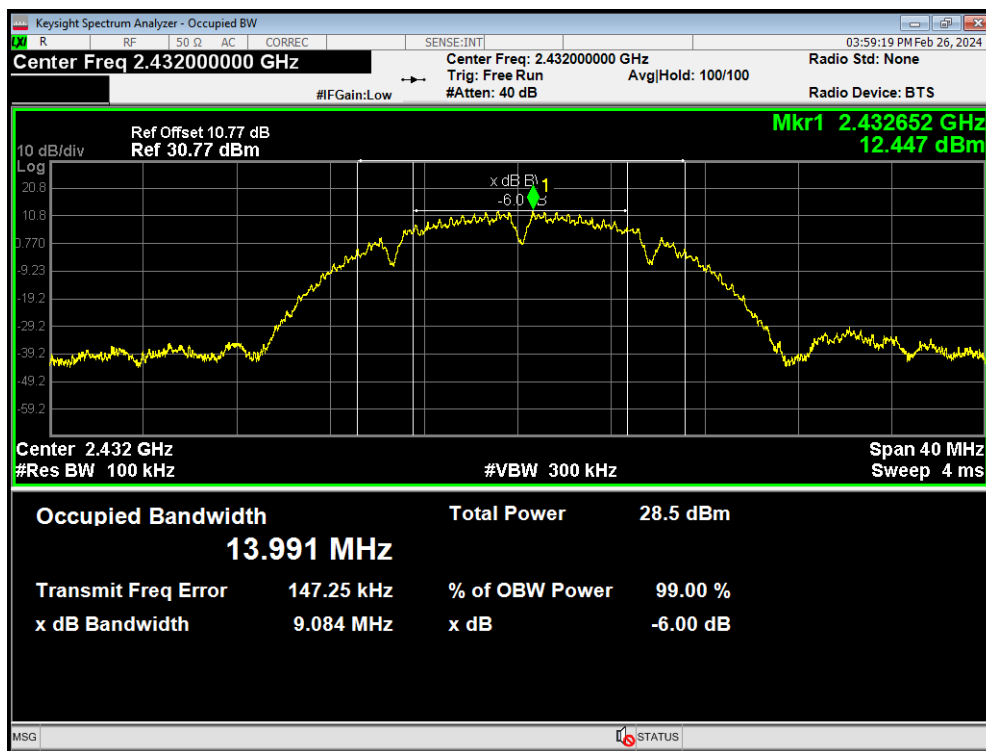
-6dB Bandwidth 802.11b 2422MHz



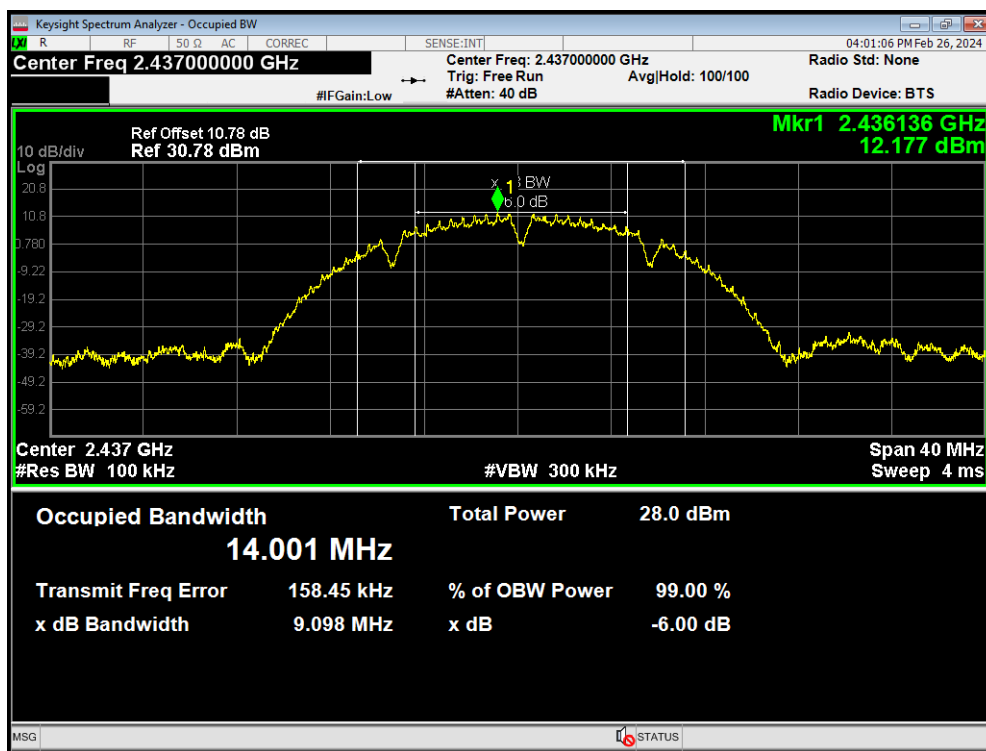
-6dB Bandwidth 802.11b 2427MHz



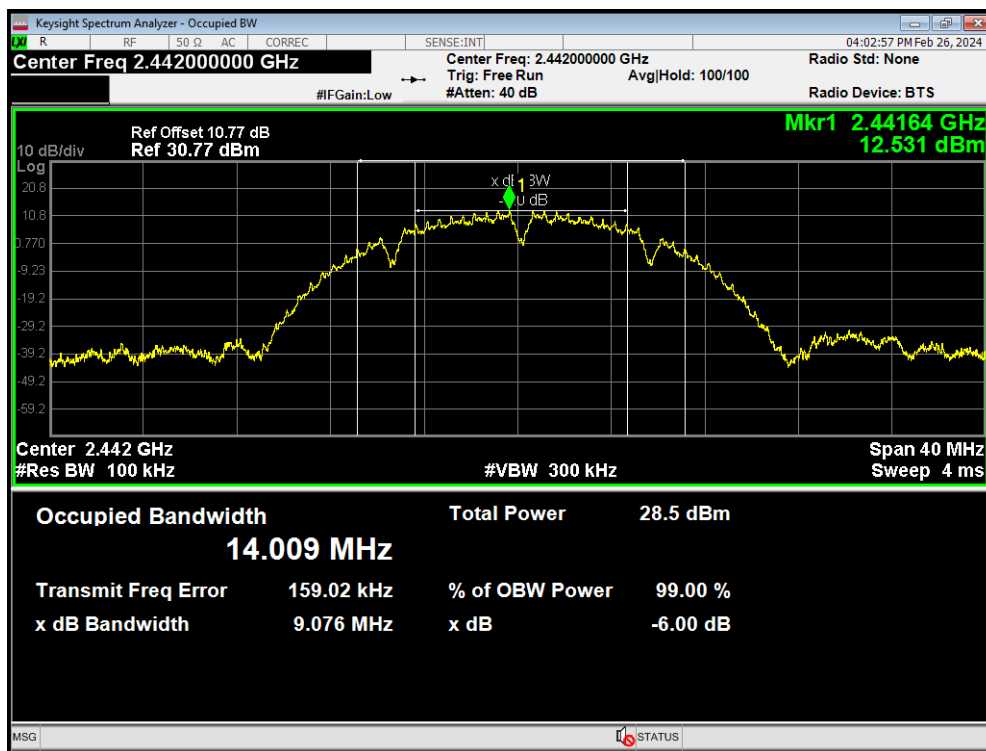
-6dB Bandwidth 802.11b 2432MHz



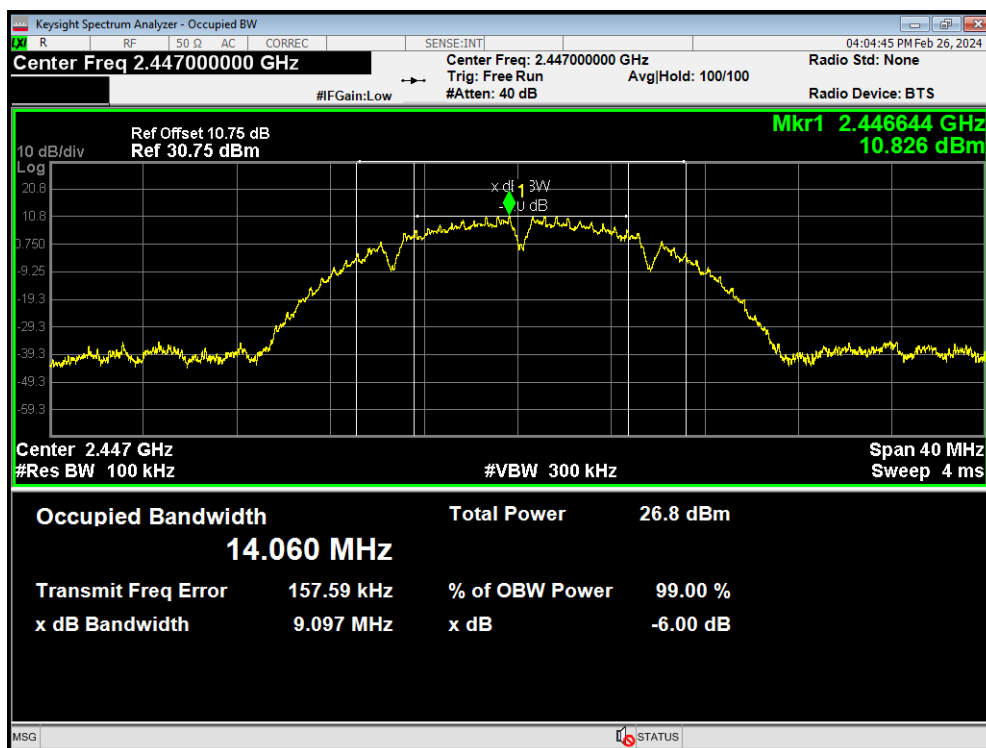
-6dB Bandwidth 802.11b 2437MHz



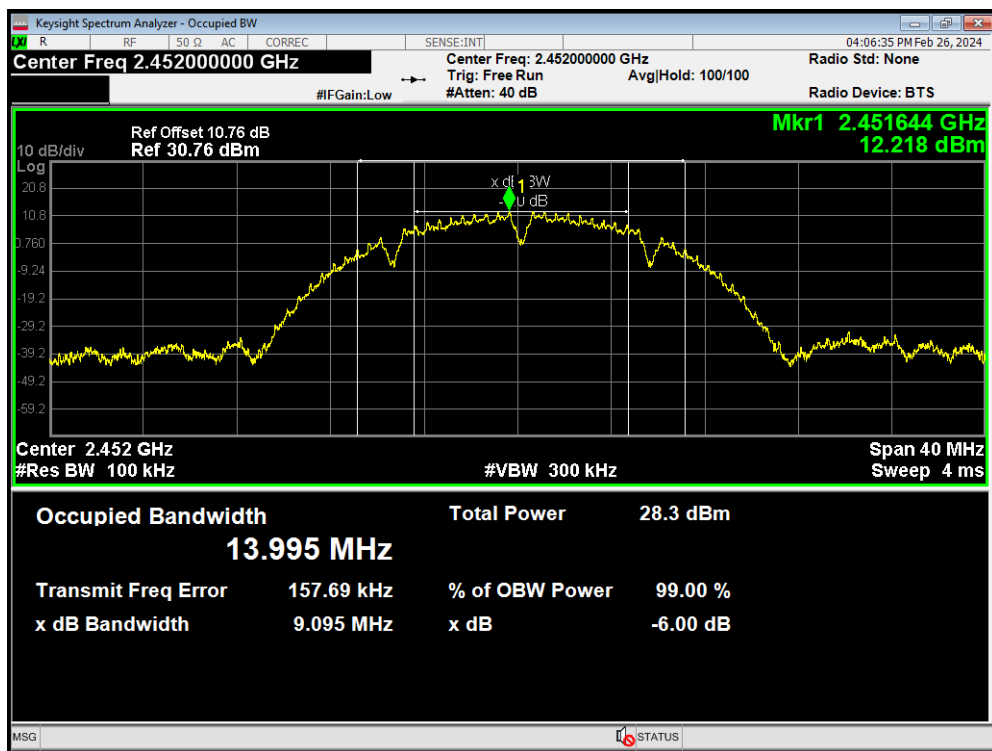
-6dB Bandwidth 802.11b 2442MHz



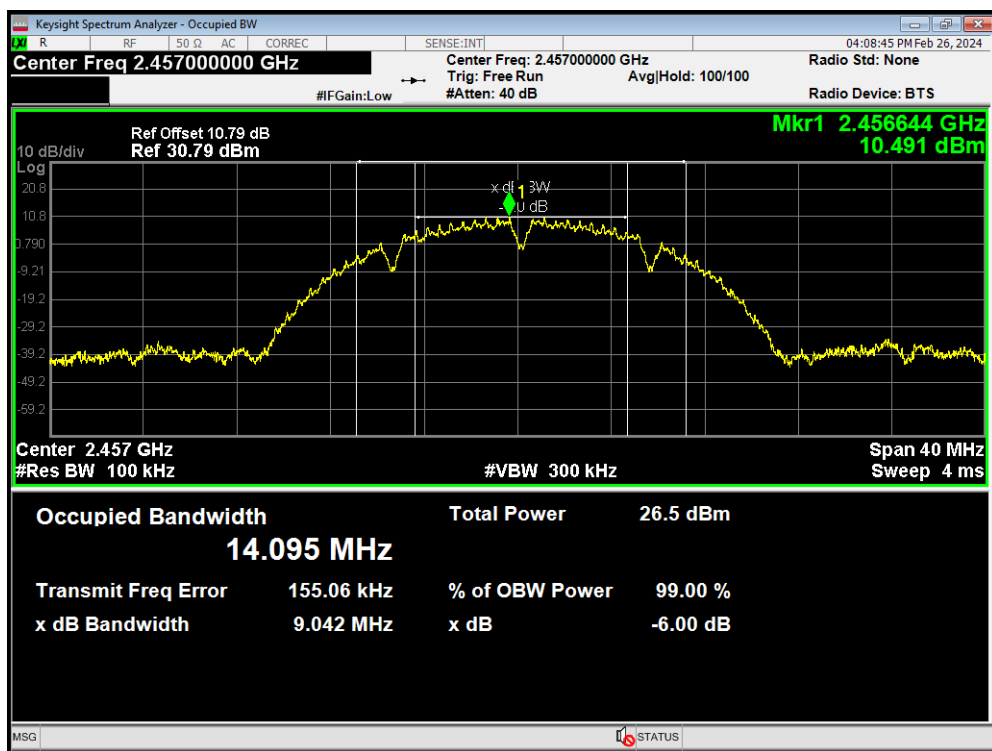
-6dB Bandwidth 802.11b 2447MHz



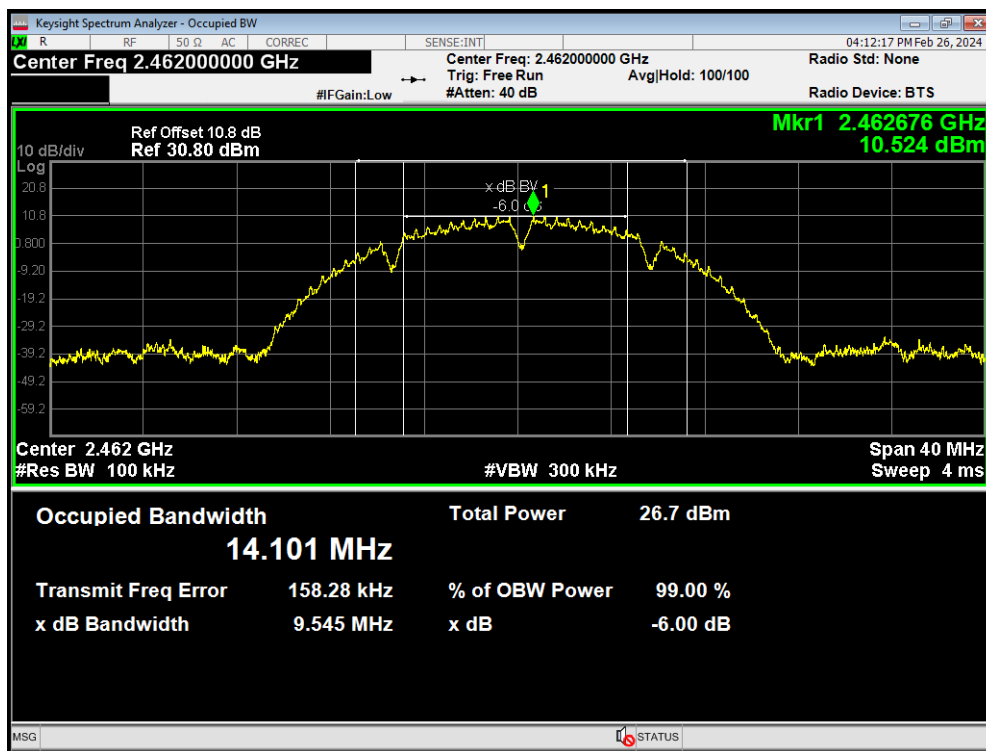
-6dB Bandwidth 802.11b 2452MHz



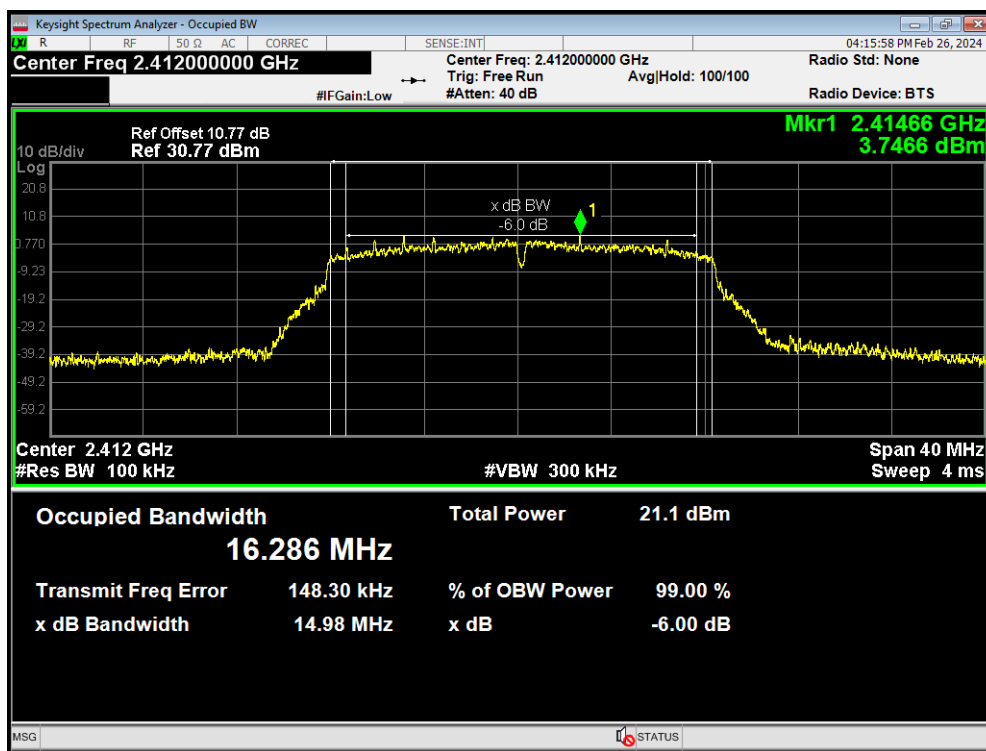
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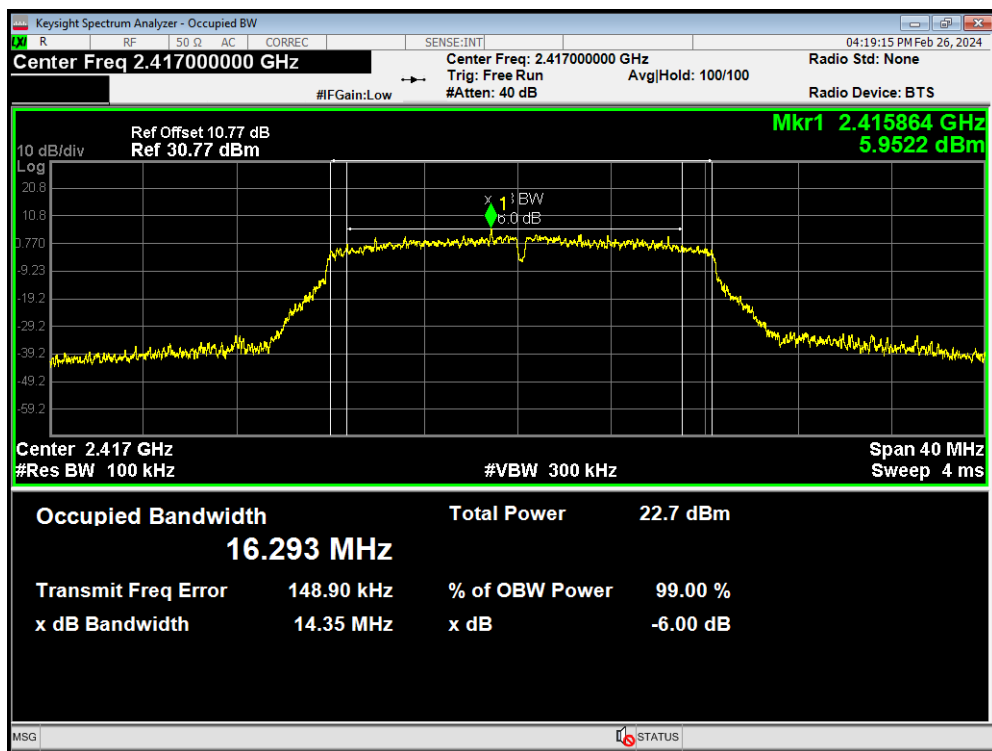
-6dB Bandwidth 802.11b 2462MHz



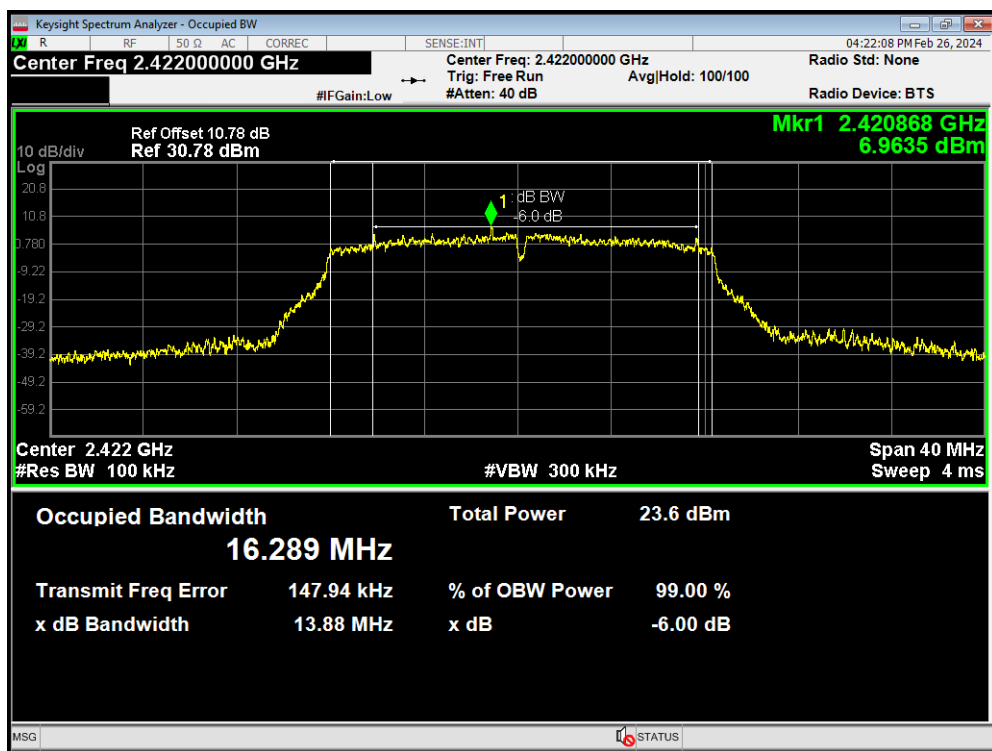
-6dB Bandwidth 802.11g 2412MHz



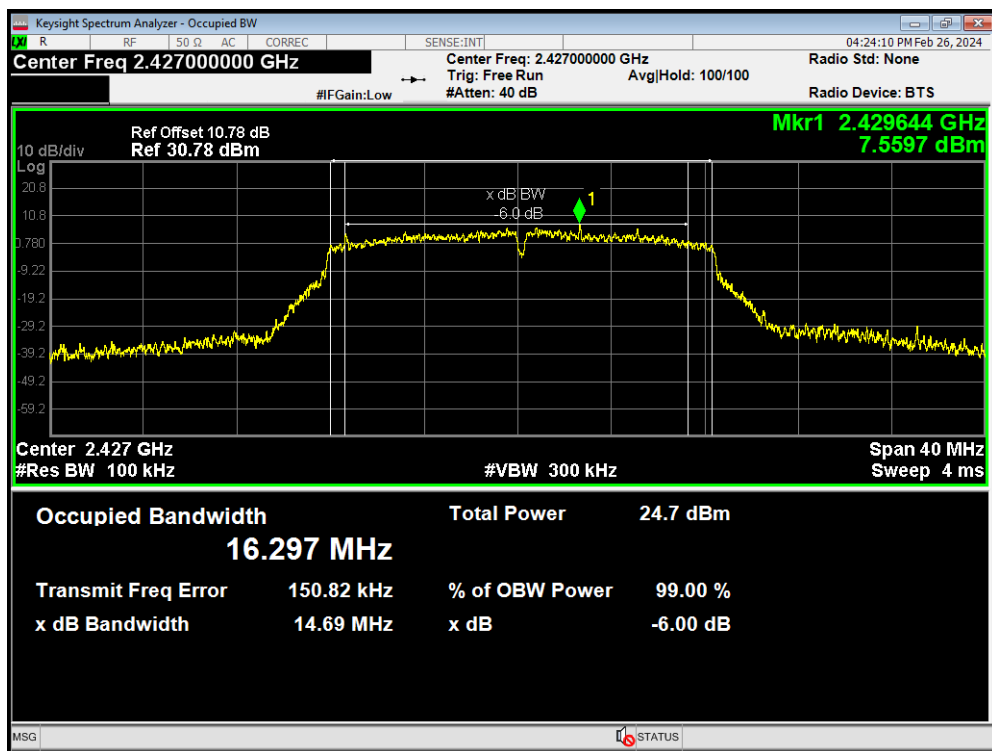
-6dB Bandwidth 802.11g 2417MHz



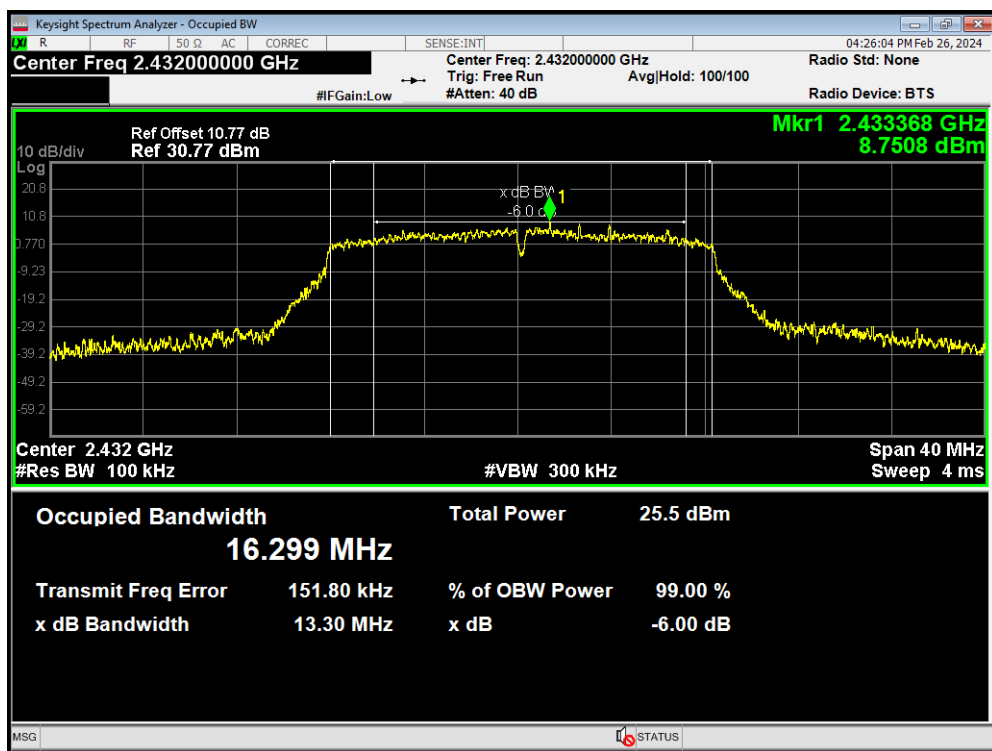
-6dB Bandwidth 802.11g 2422MHz



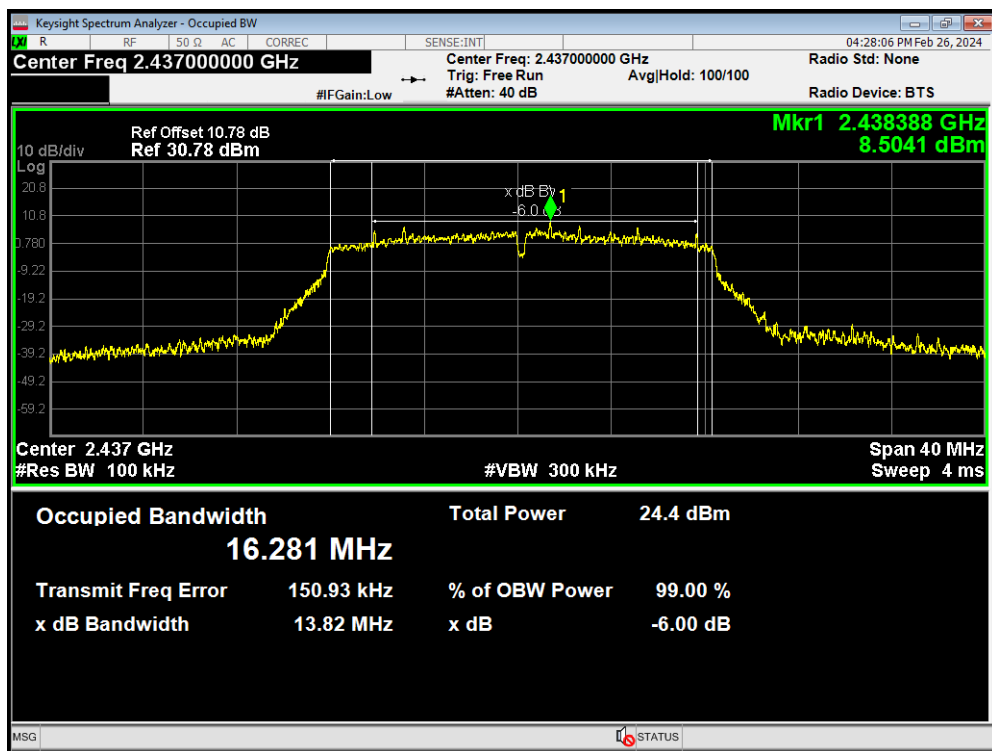
-6dB Bandwidth 802.11g 2427MHz



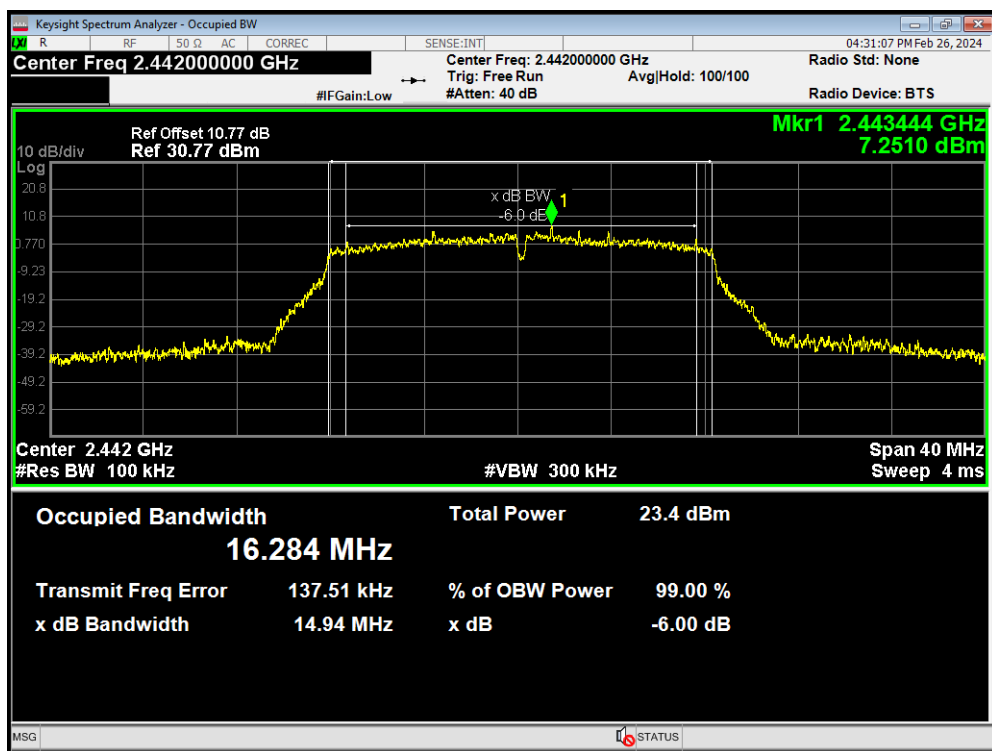
-6dB Bandwidth 802.11g 2432MHz



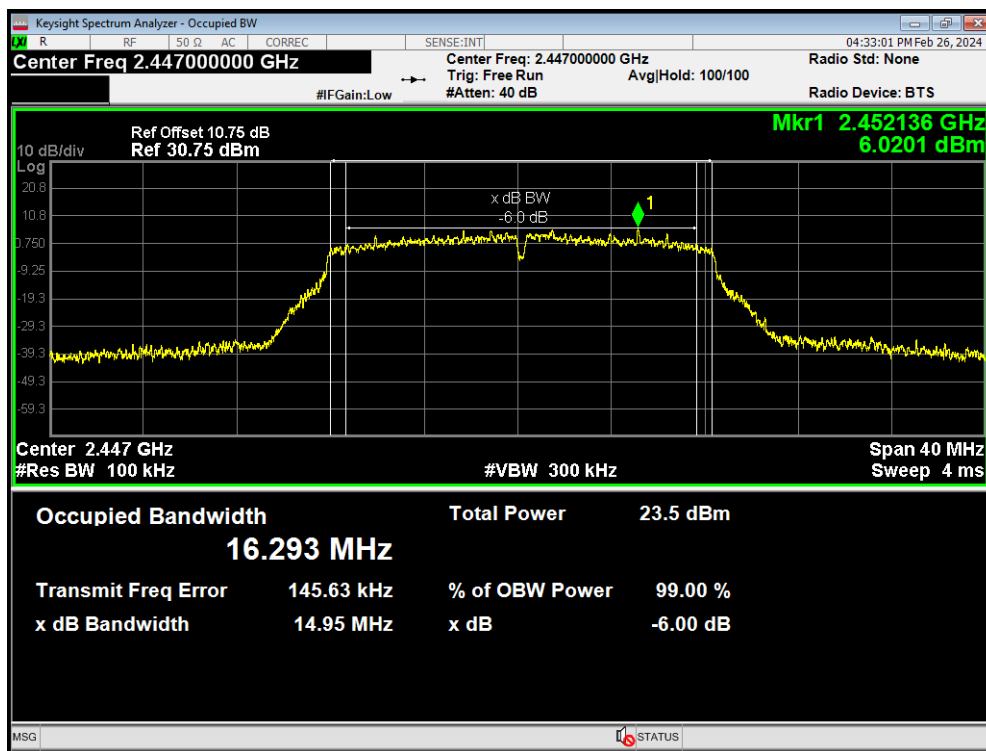
-6dB Bandwidth 802.11g 2437MHz



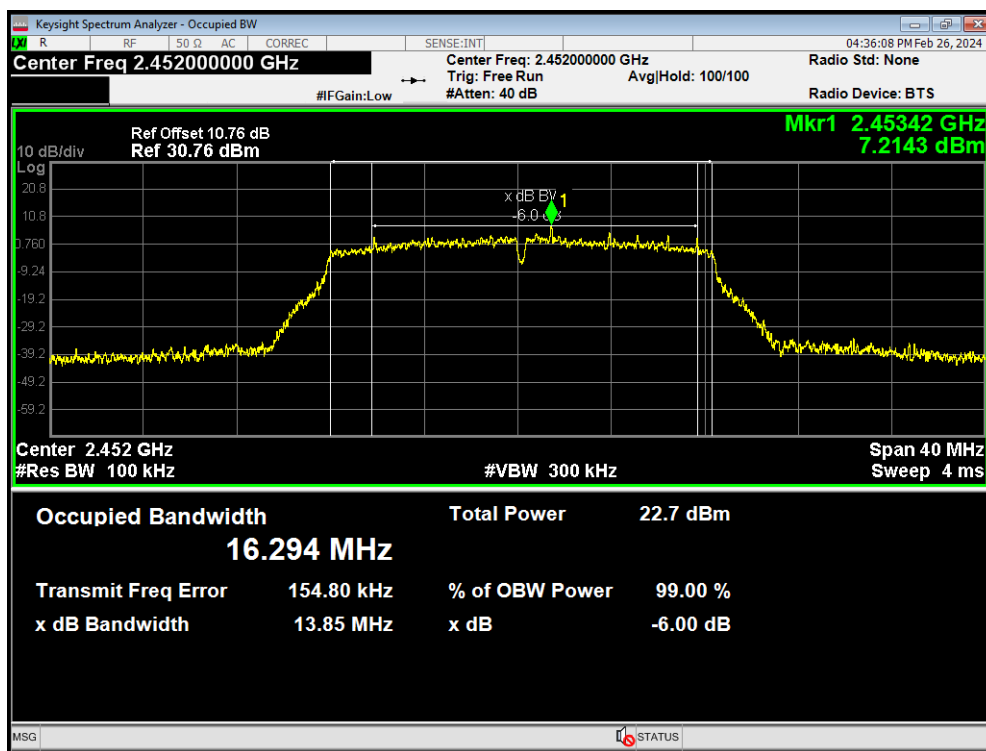
-6dB Bandwidth 802.11g 2442MHz



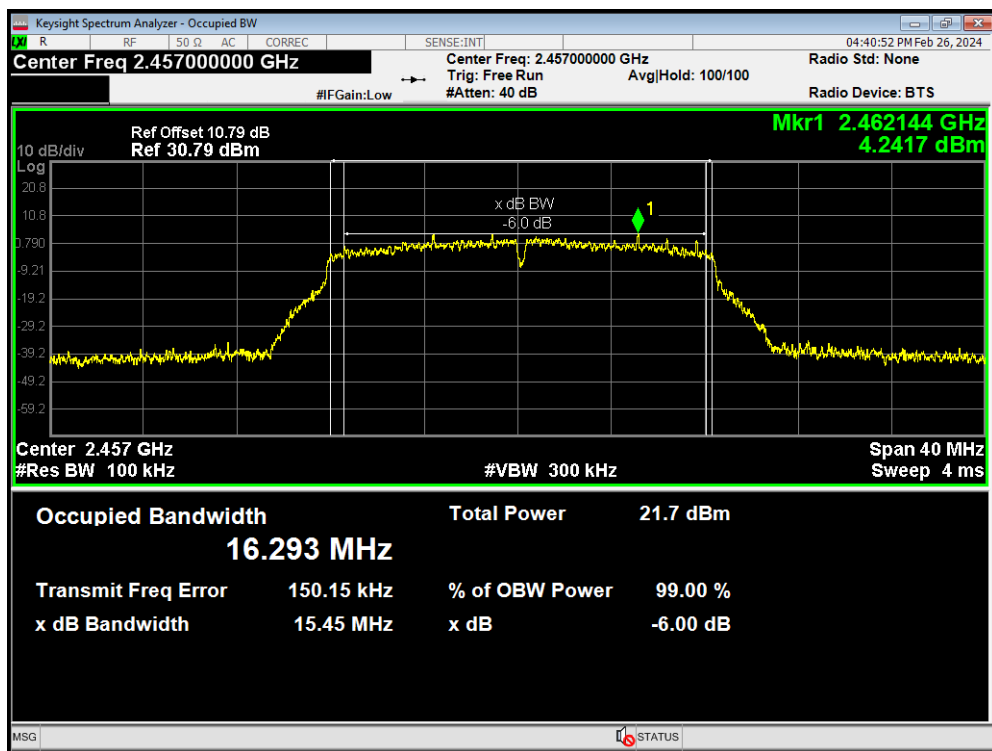
-6dB Bandwidth 802.11g 2447MHz



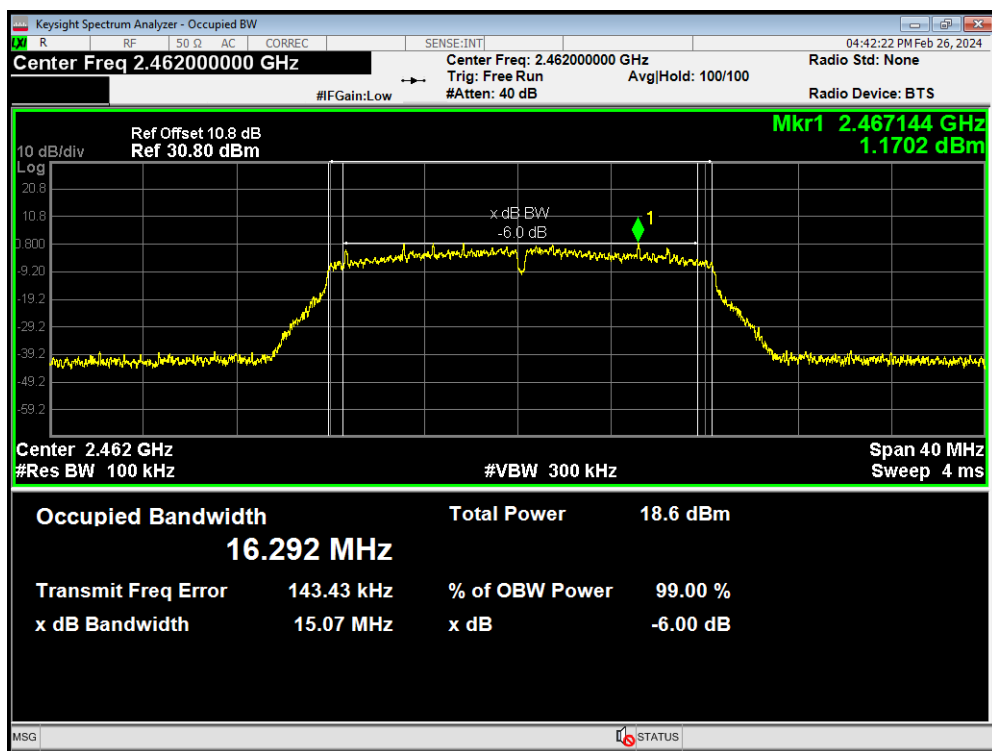
-6dB Bandwidth 802.11g 2452MHz



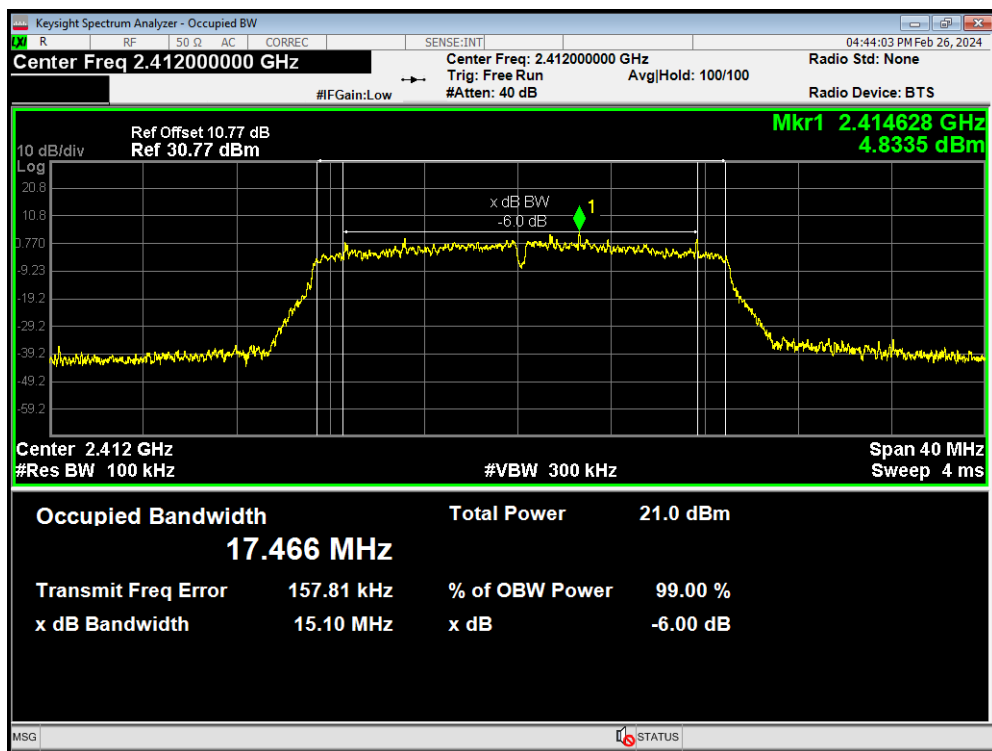
-6dB Bandwidth 802.11g 2457MHz



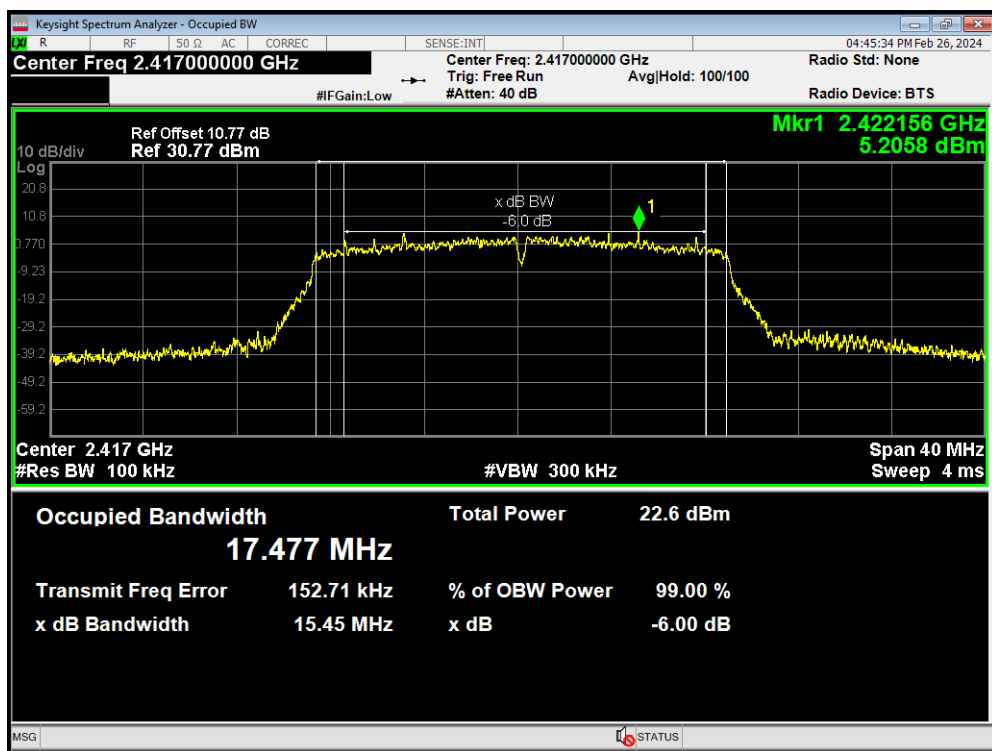
-6dB Bandwidth 802.11g 2462MHz



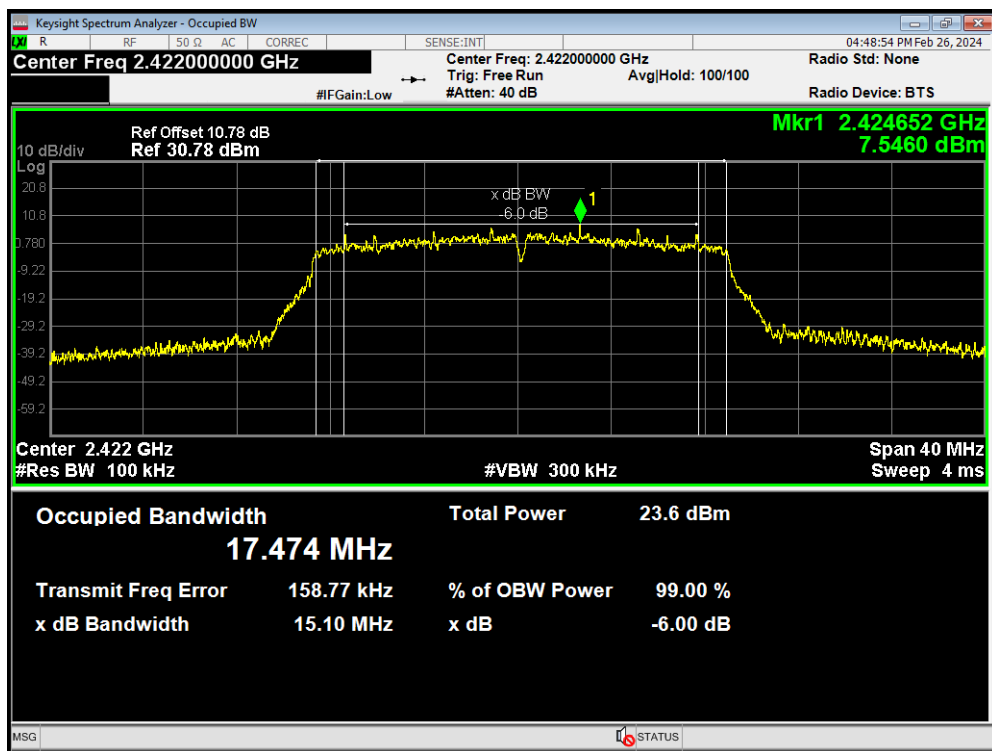
-6dB Bandwidth 802.11n(HT20) 2412MHz



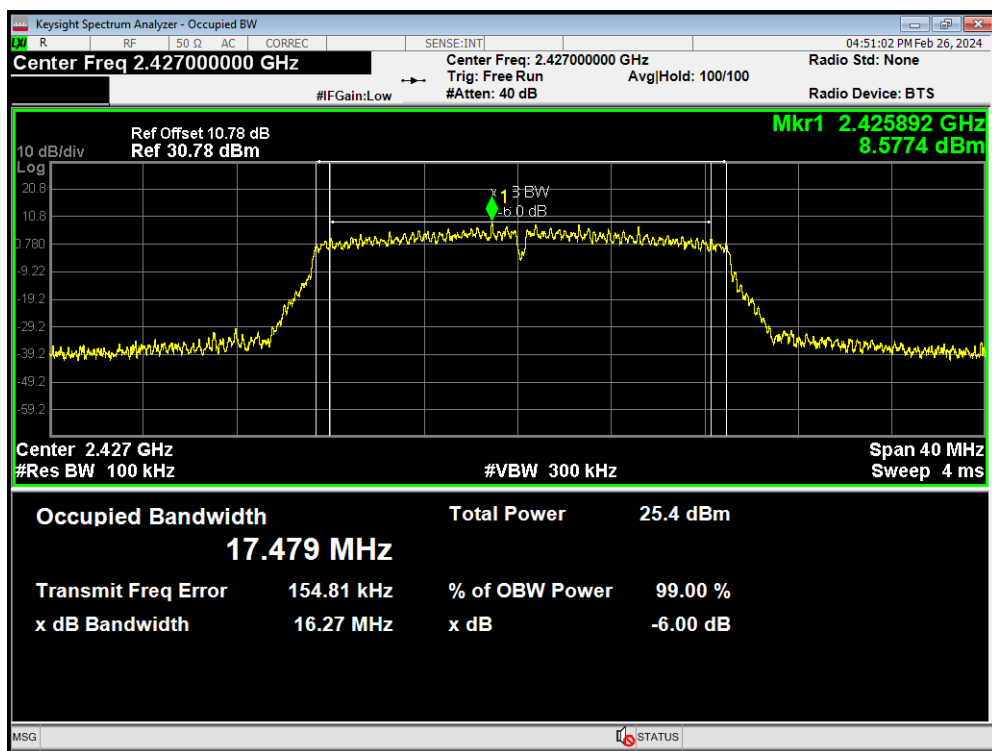
-6dB Bandwidth 802.11n(HT20) 2417MHz



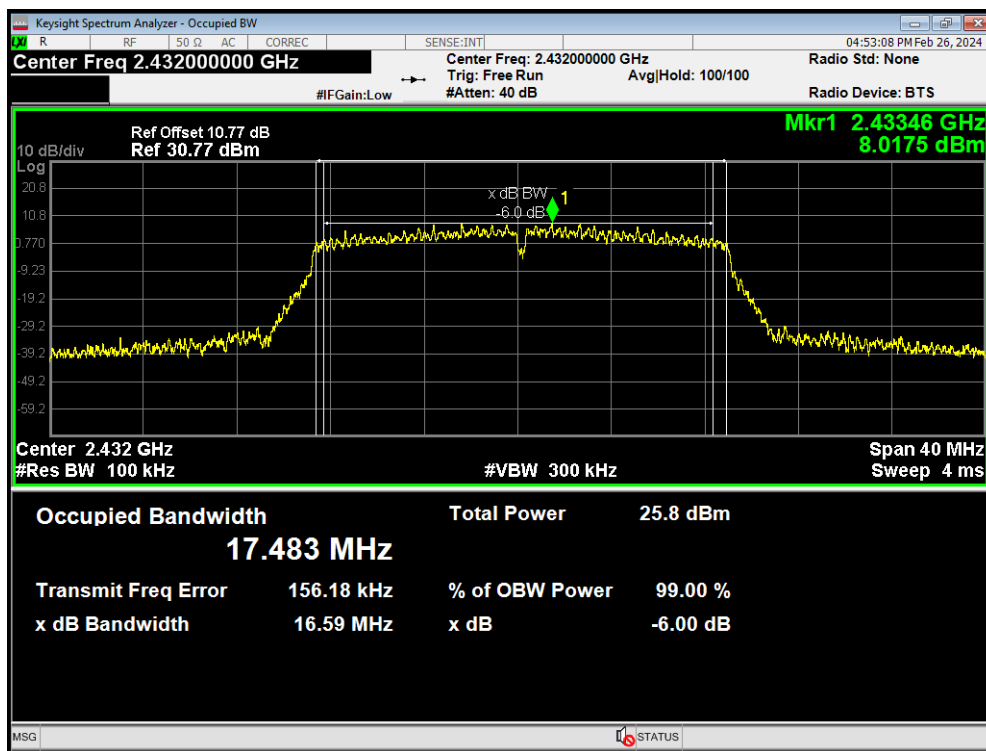
-6dB Bandwidth 802.11n(HT20) 2422MHz



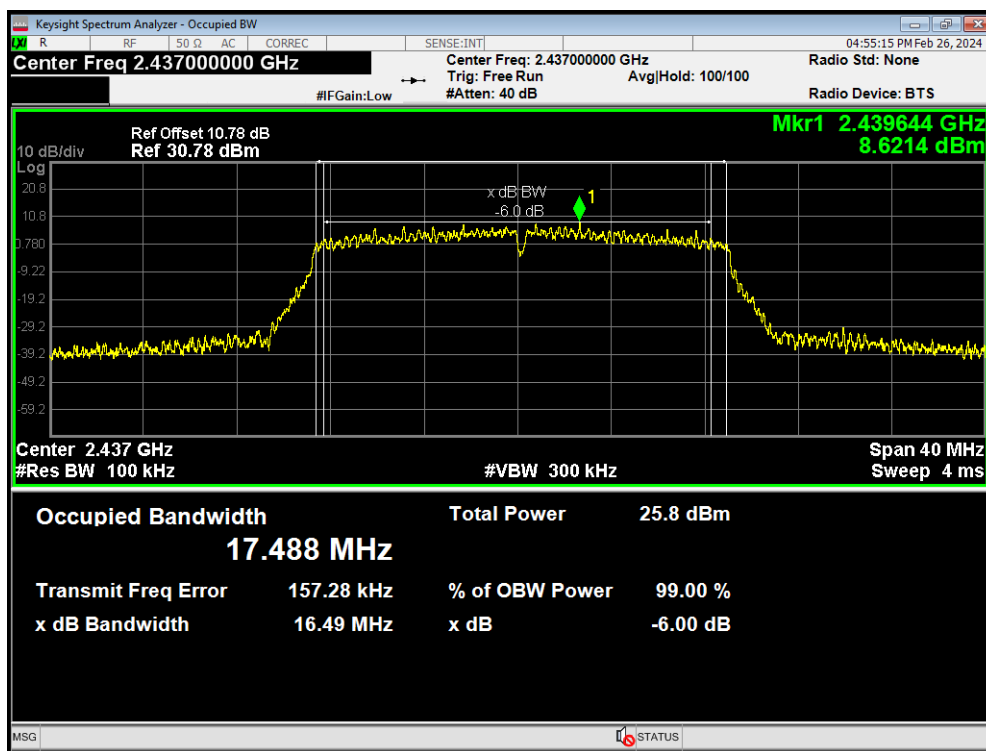
-6dB Bandwidth 802.11n(HT20) 2427MHz



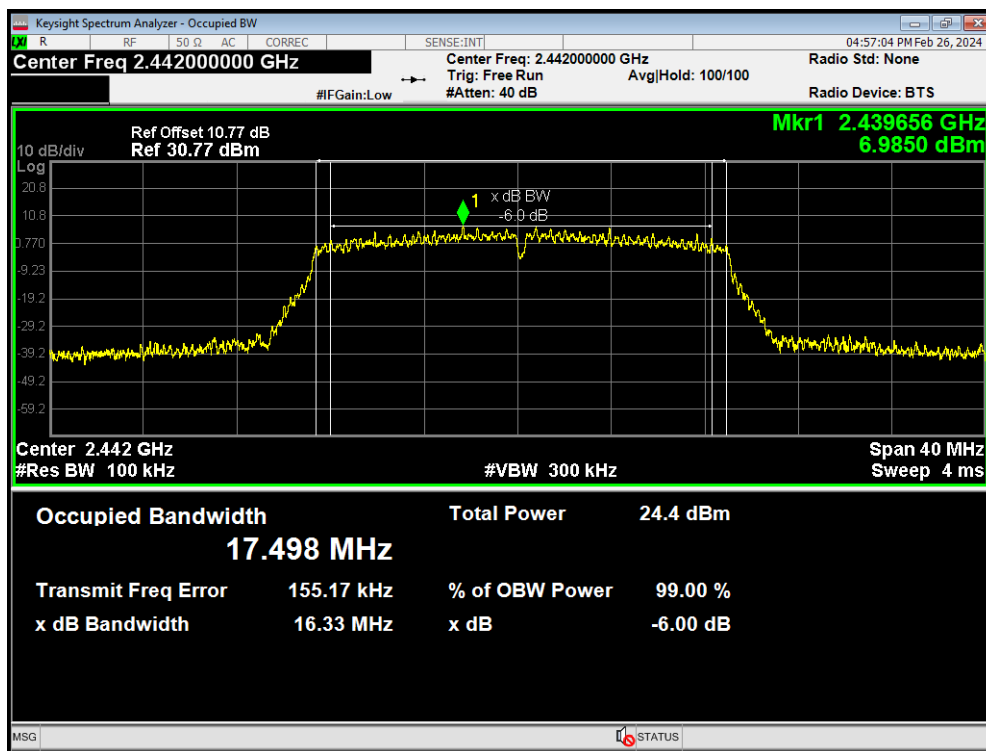
-6dB Bandwidth 802.11n(HT20) 2432MHz



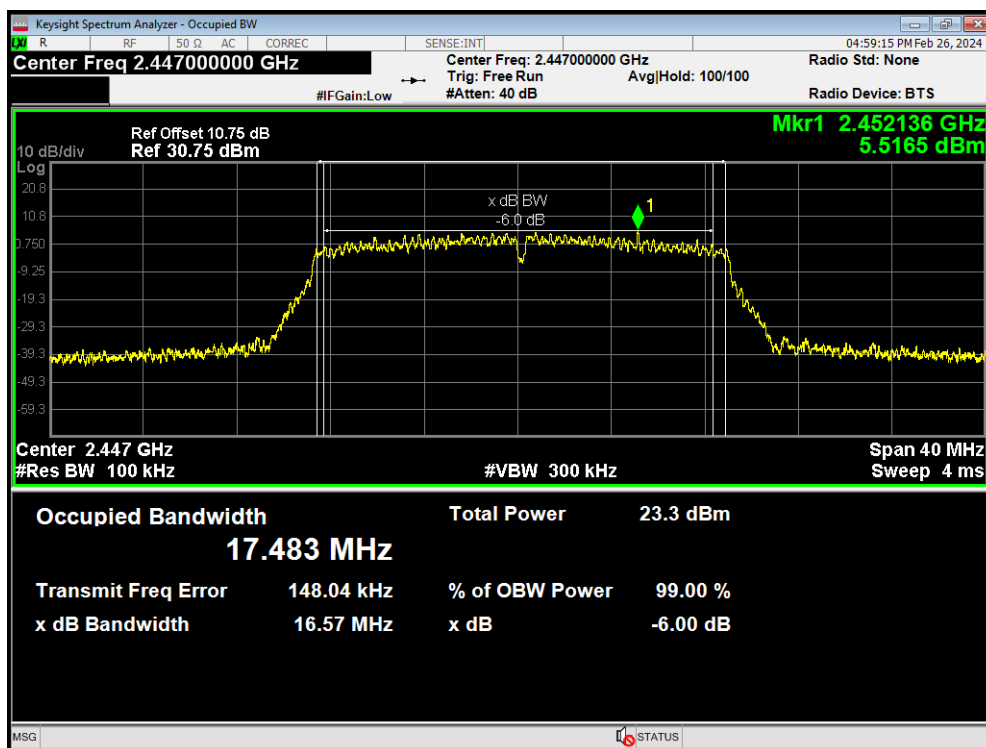
-6dB Bandwidth 802.11n(HT20) 2437MHz



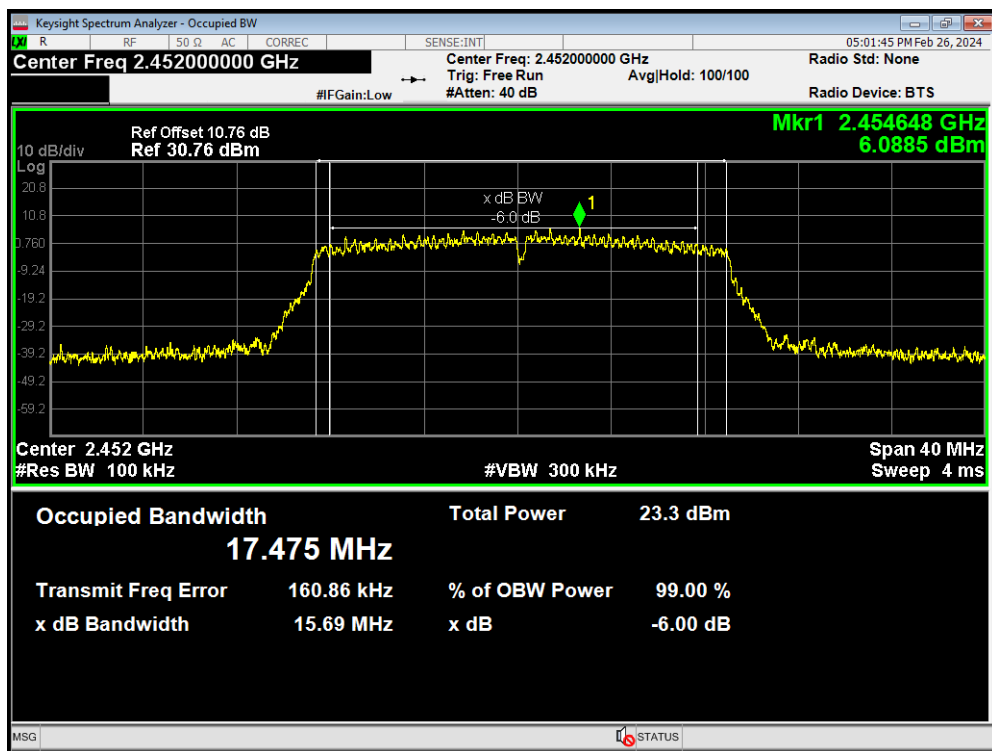
-6dB Bandwidth 802.11n(HT20) 2442MHz



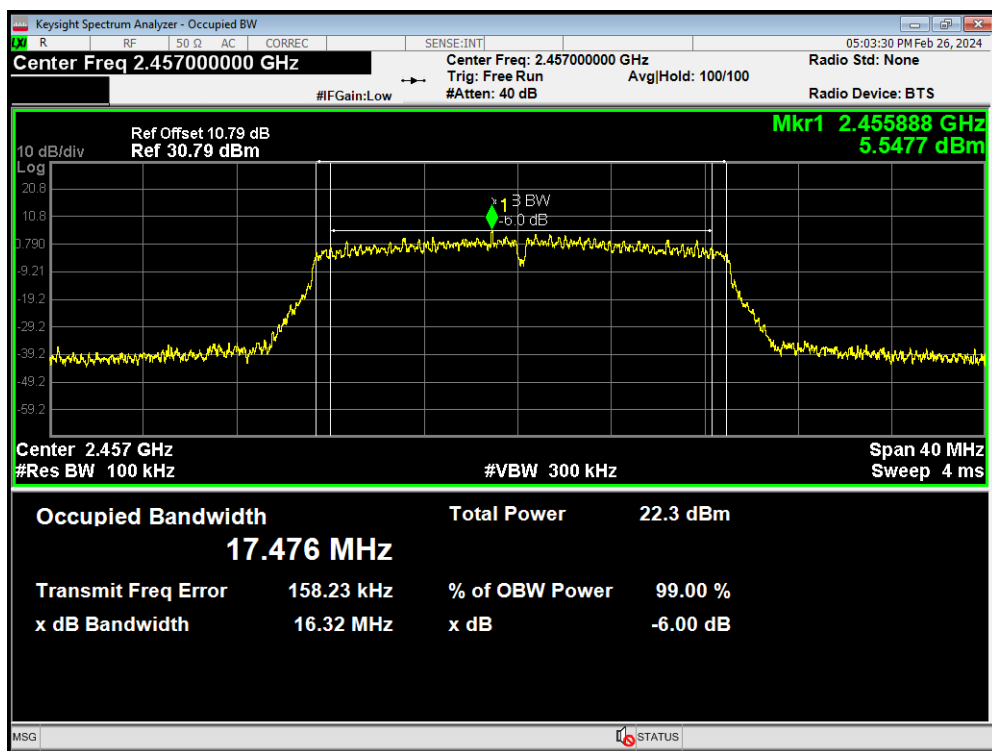
-6dB Bandwidth 802.11n(HT20) 2447MHz



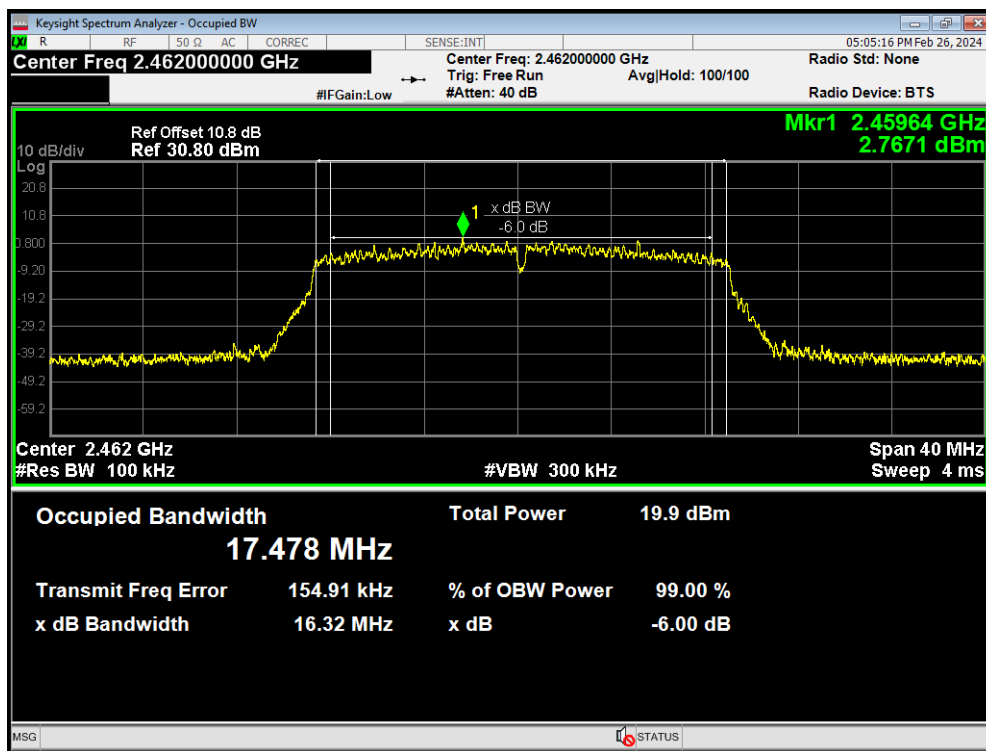
-6dB Bandwidth 802.11n(HT20) 2452MHz



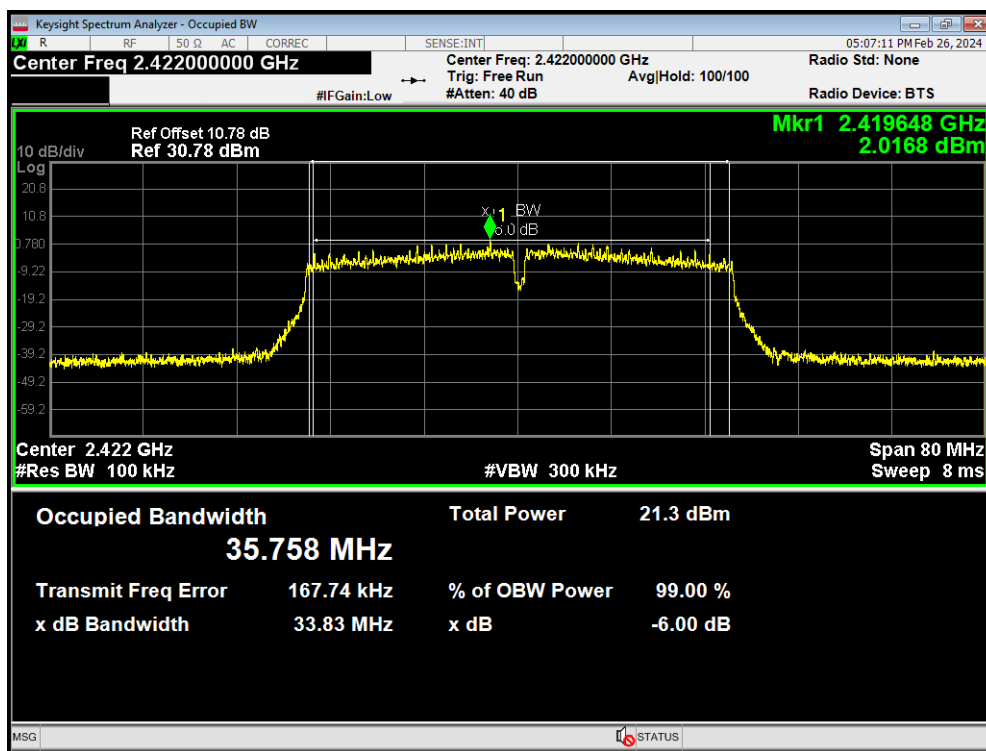
-6dB Bandwidth 802.11n(HT20) 2457MHz



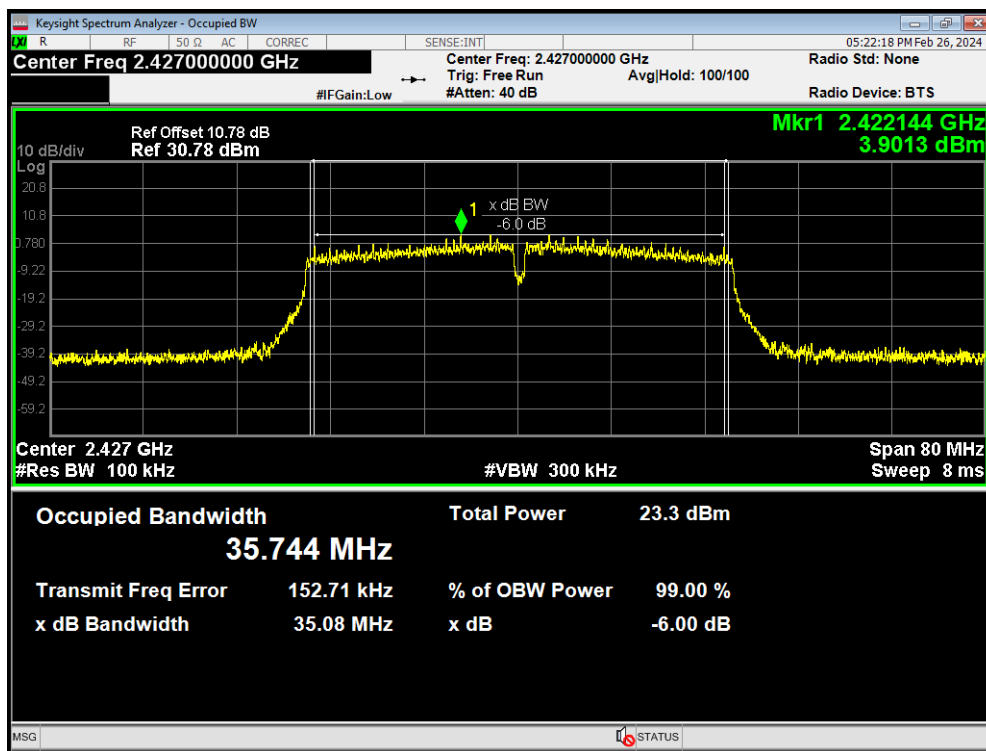
-6dB Bandwidth 802.11n(HT20) 2462MHz



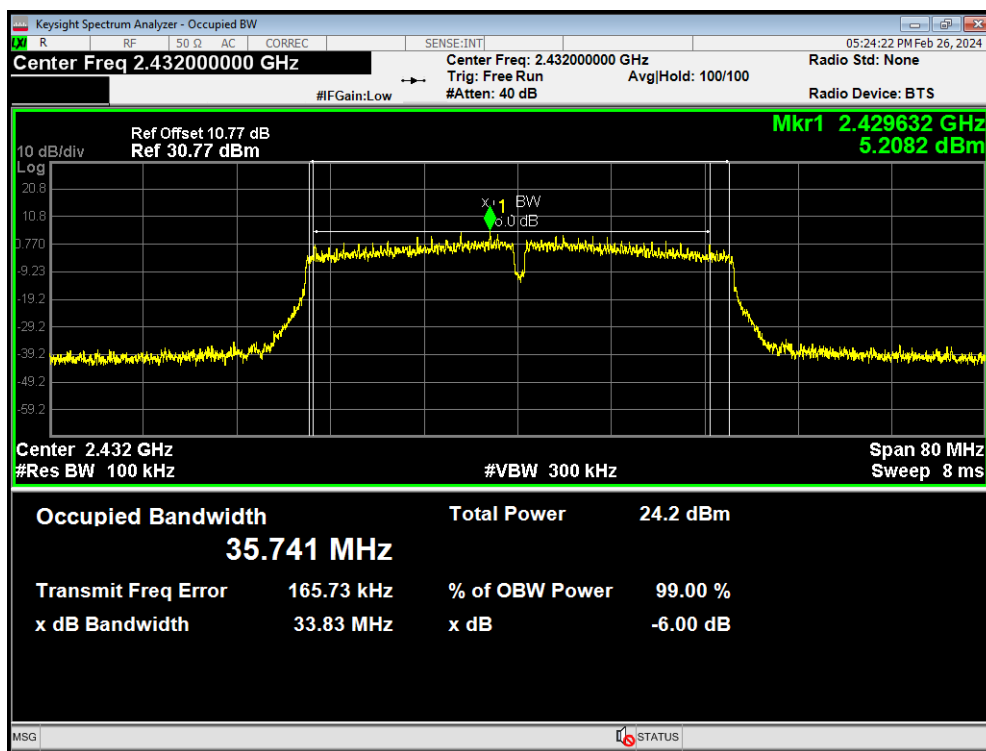
-6dB Bandwidth 802.11n(HT40) 2422MHz



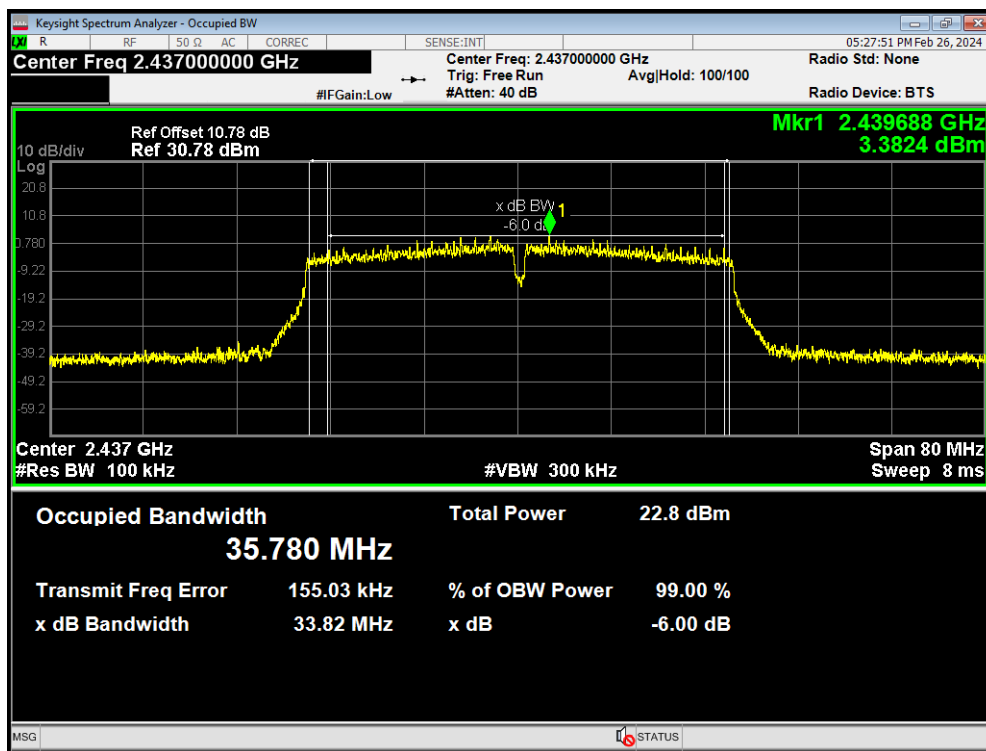
-6dB Bandwidth 802.11n(HT40) 2427MHz



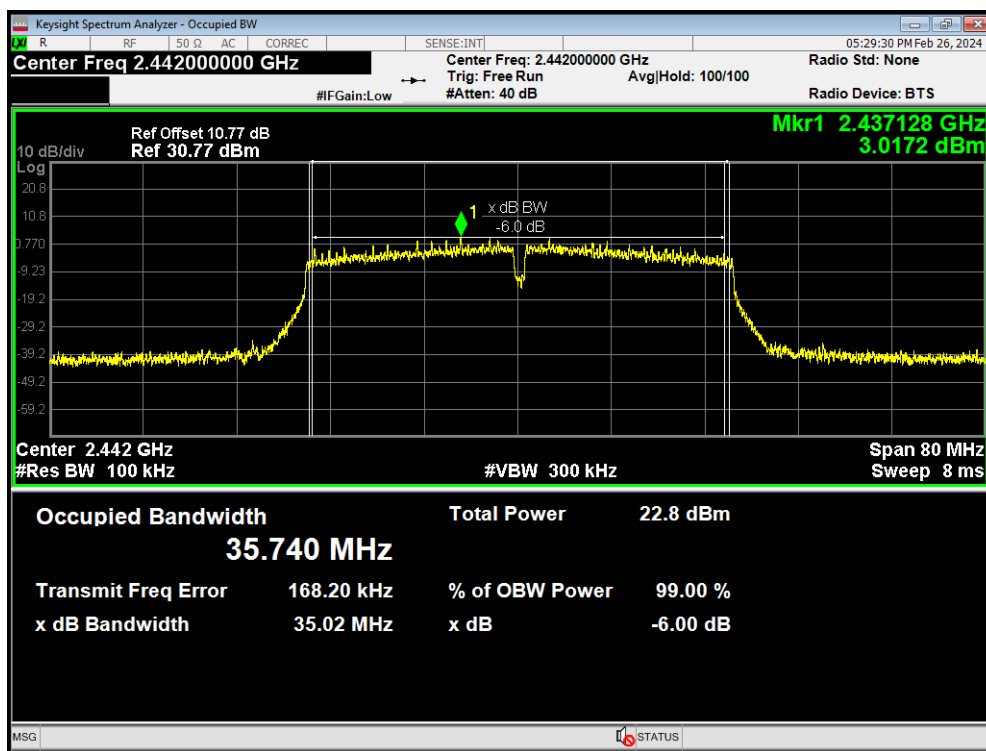
-6dB Bandwidth 802.11n(HT40) 2432MHz



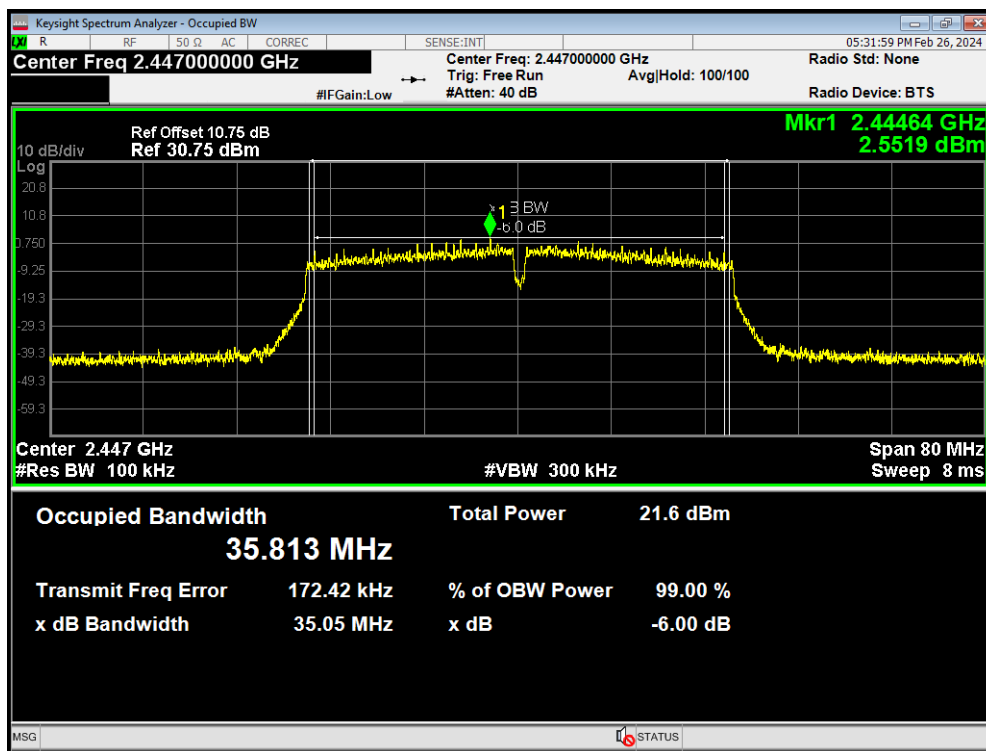
-6dB Bandwidth 802.11n(HT40) 2437MHz



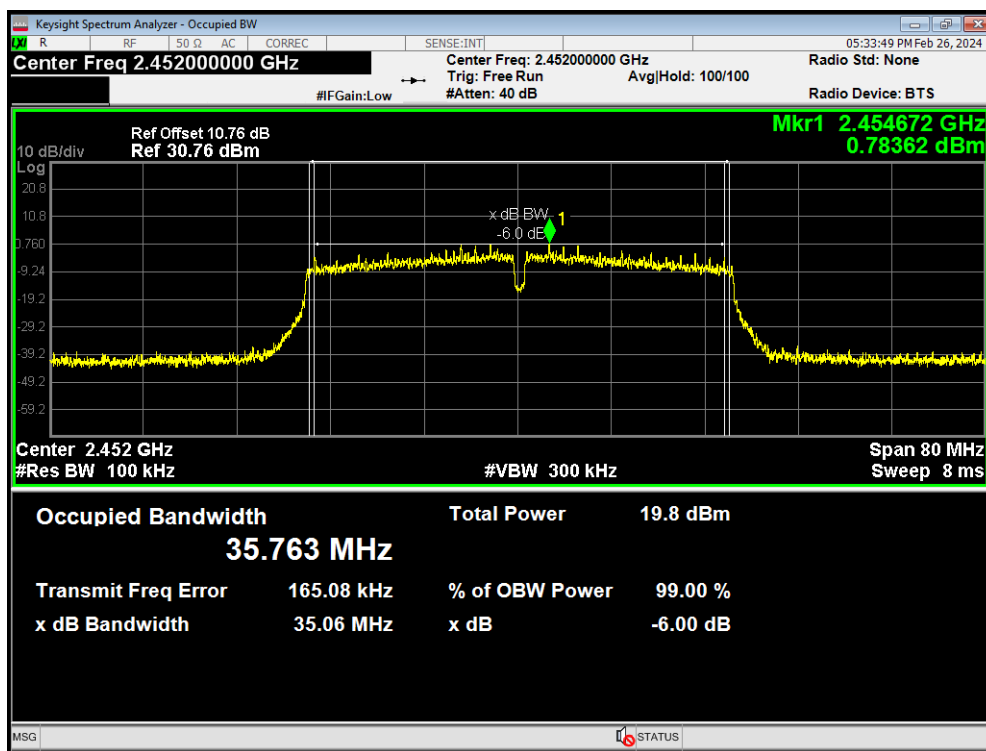
-6dB Bandwidth 802.11n(HT40) 2442MHz



-6dB Bandwidth 802.11n(HT40) 2447MHz



-6dB Bandwidth 802.11n(HT40) 2452MHz



5.3. Band Edge

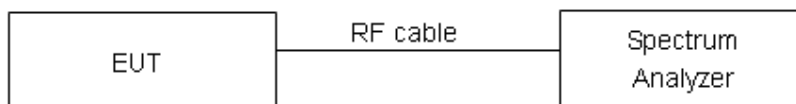
Ambient Condition

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.”

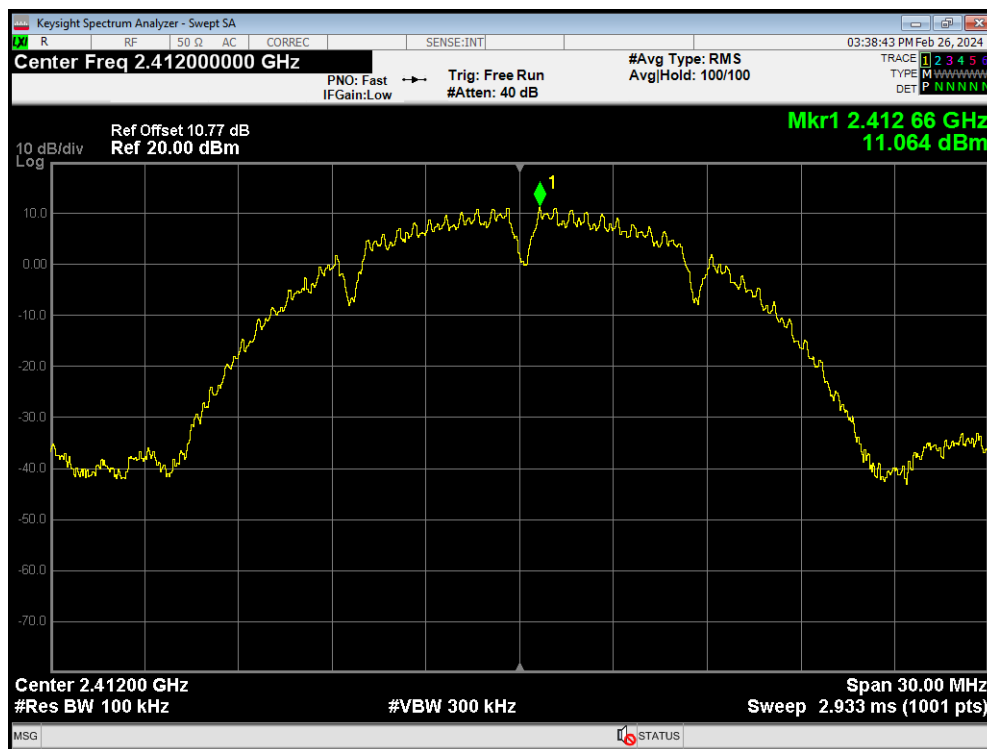
Measurement Uncertainty

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

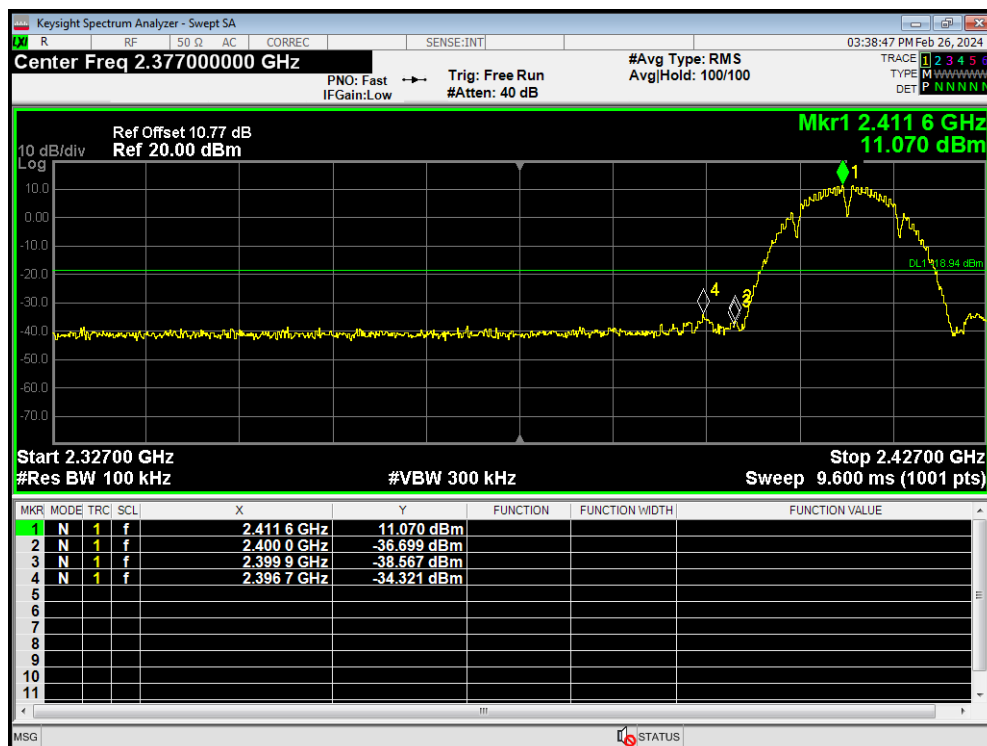
Frequency	Uncertainty
2GHz-3GHz	1.407 dB

Test Results: PASS

Band Edge 802.11b 2412MHz Ref



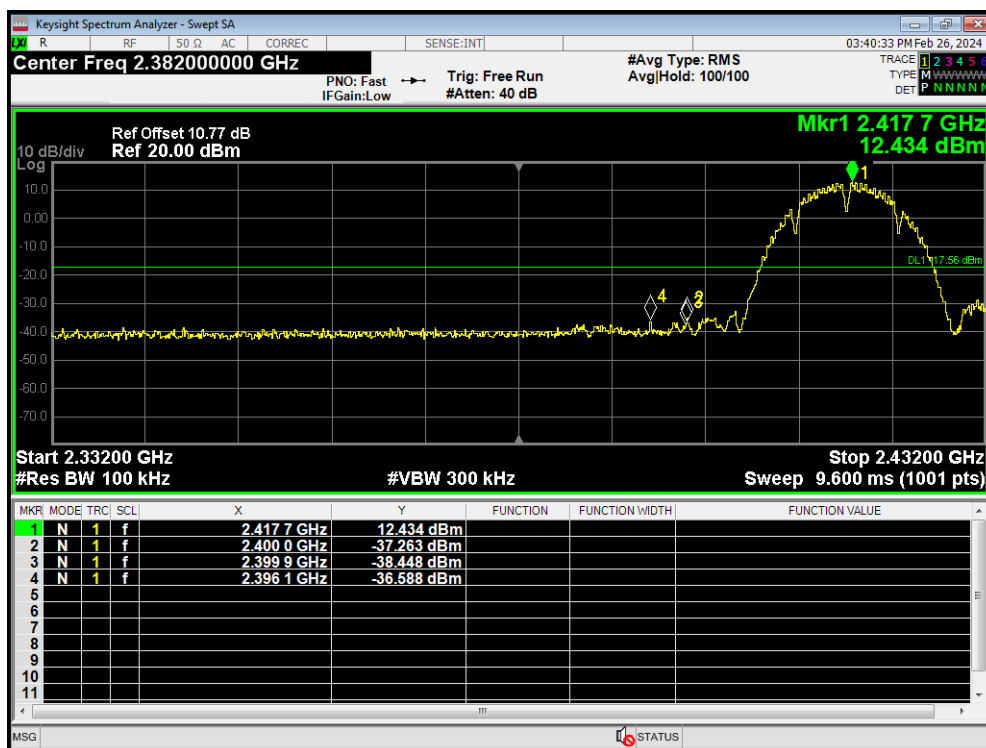
Band Edge 802.11b 2412MHz Emission



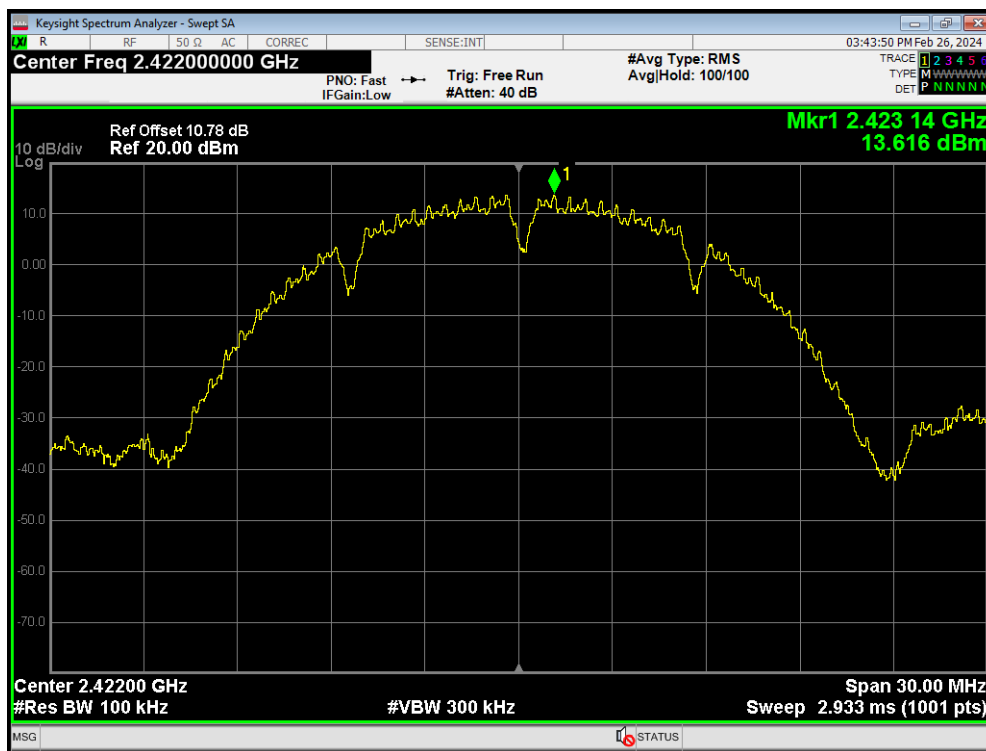
Band Edge 802.11b 2417MHz Ref



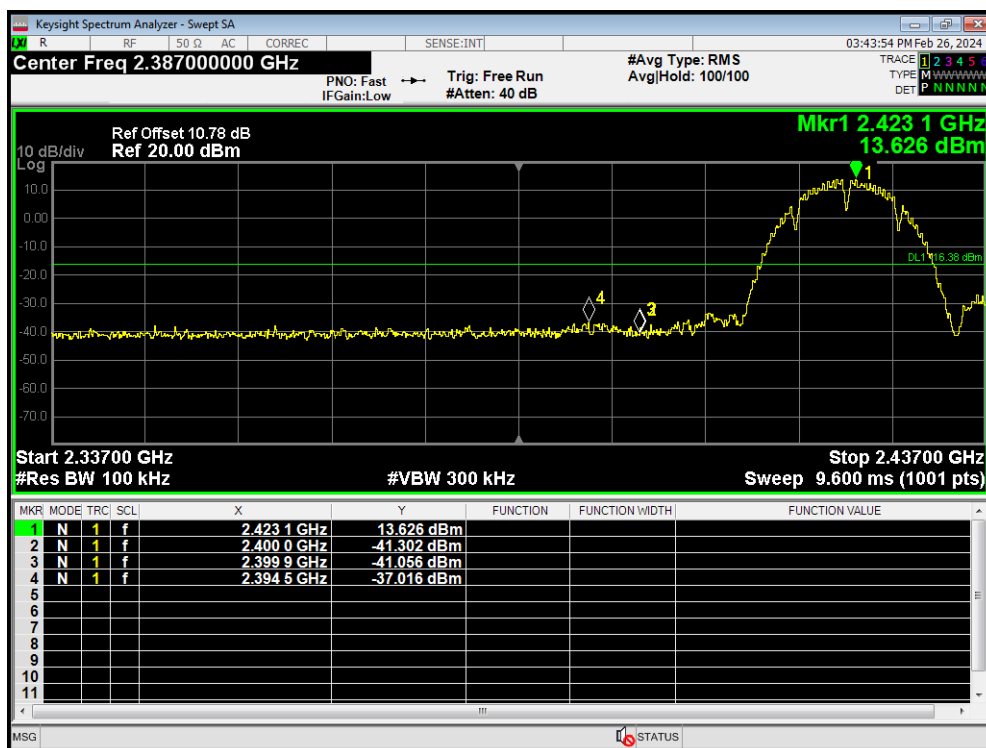
Band Edge 802.11b 2417MHz Emission



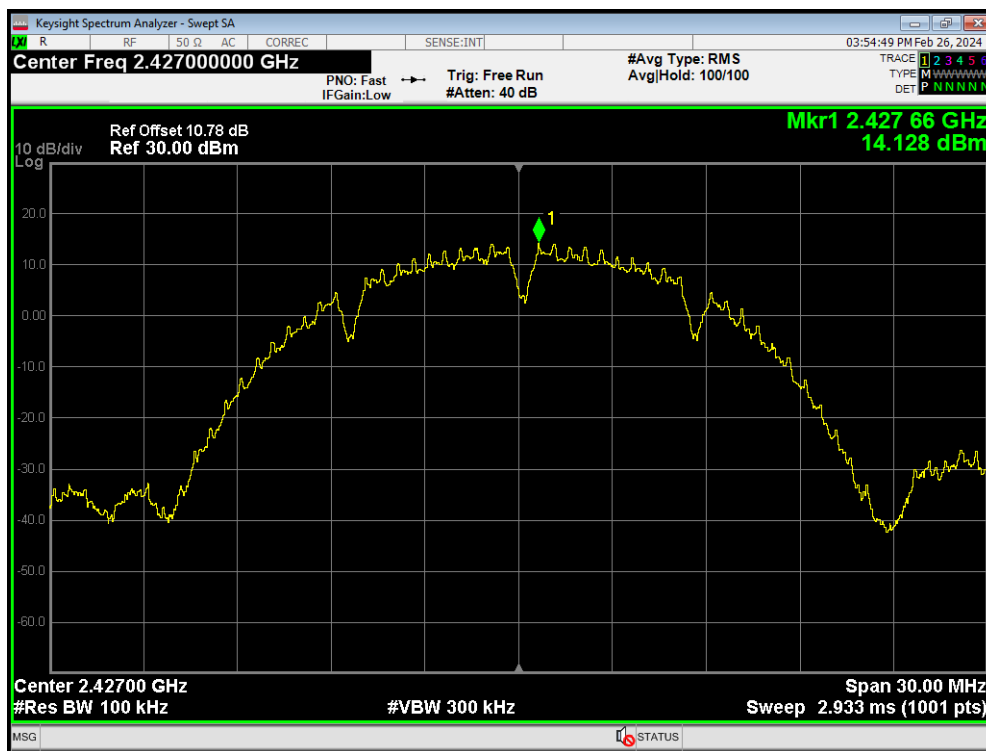
Band Edge 802.11b 2422MHz Ref



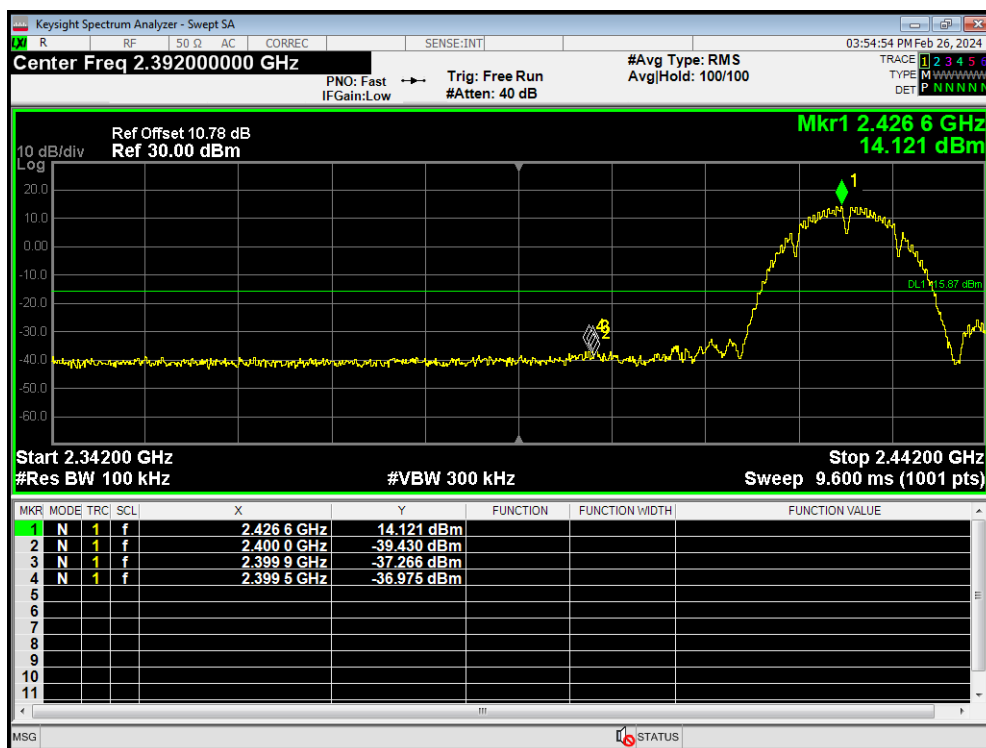
Band Edge 802.11b 2422MHz Emission



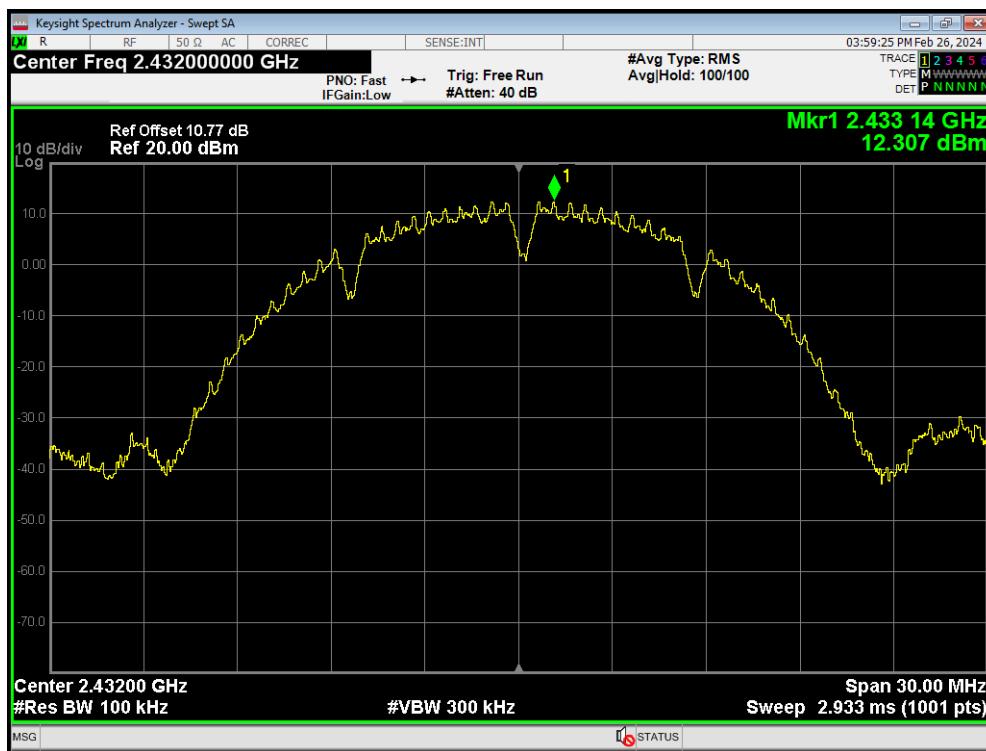
Band Edge 802.11b 2427MHz Ref



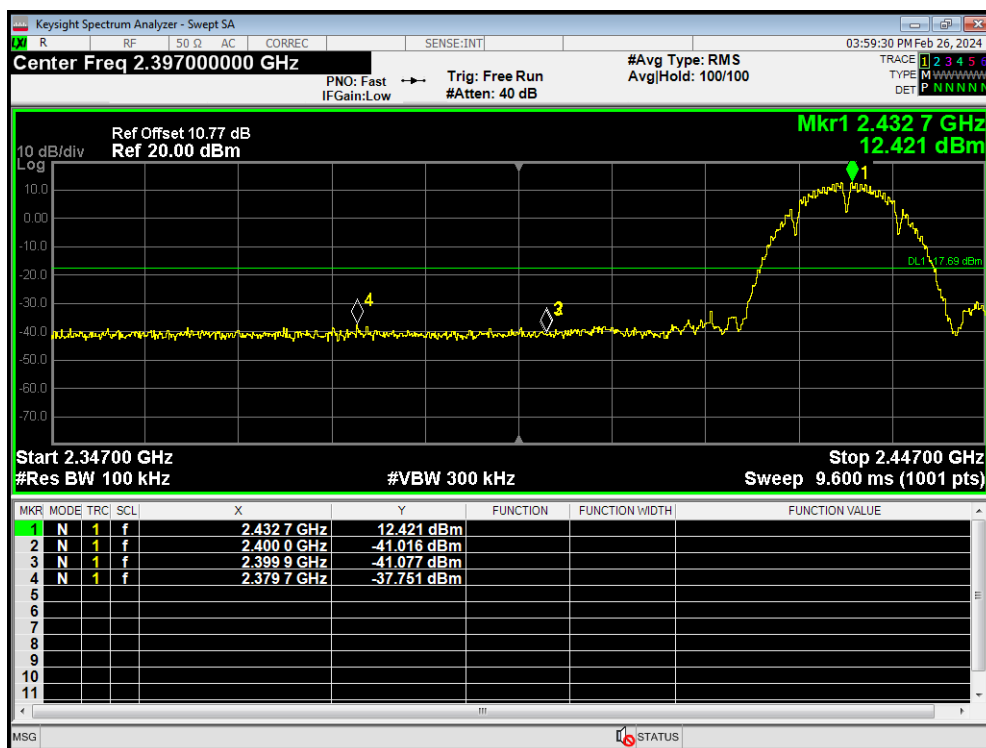
Band Edge 802.11b 2427MHz Emission



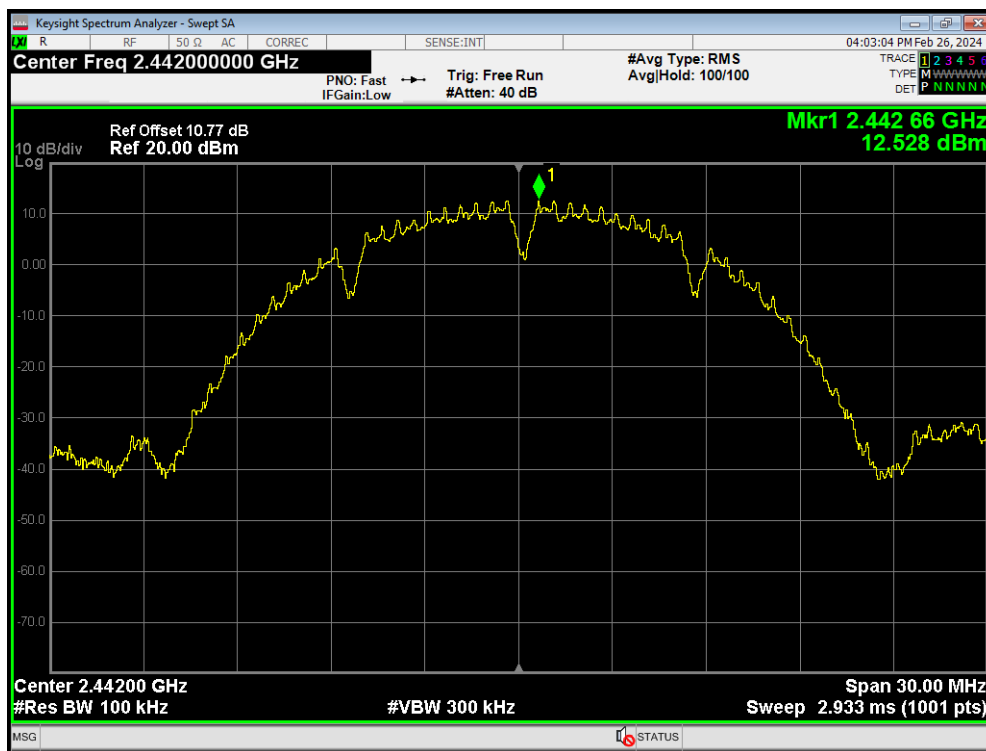
Band Edge 802.11b 2432MHz Ref



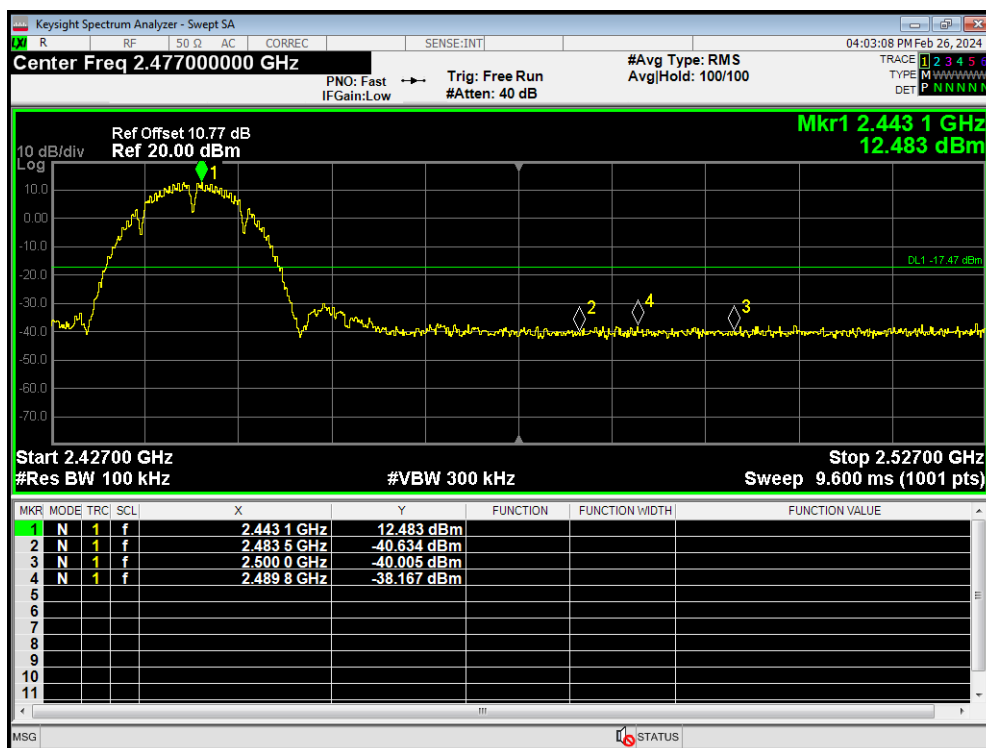
Band Edge 802.11b 2432MHz Emission



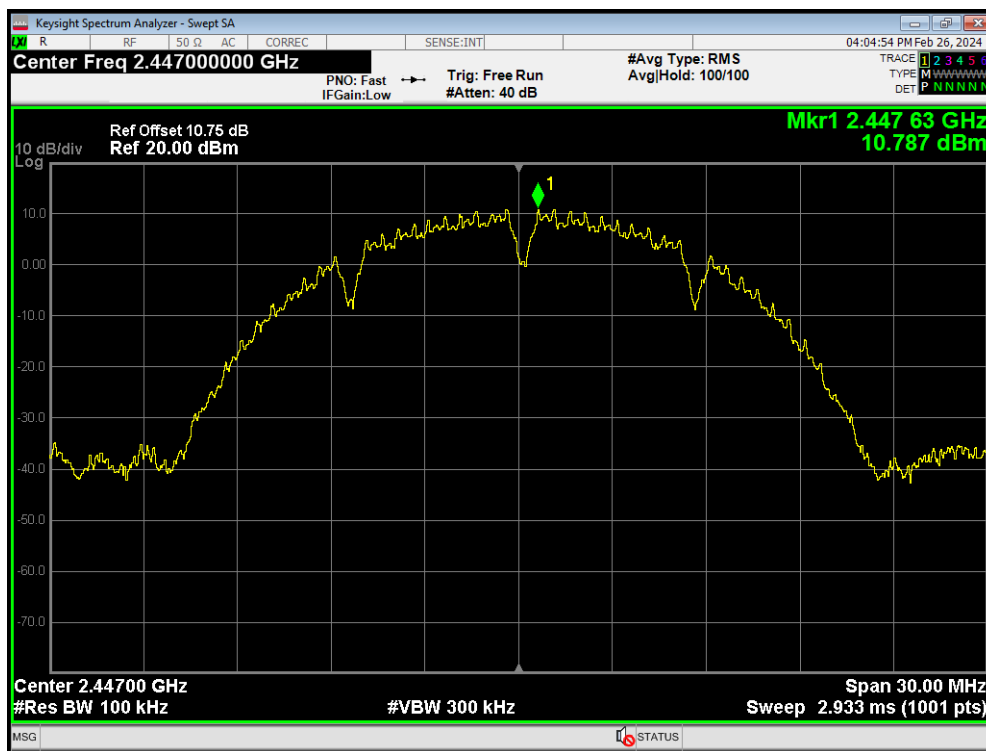
Band Edge 802.11b 2442MHz Ref



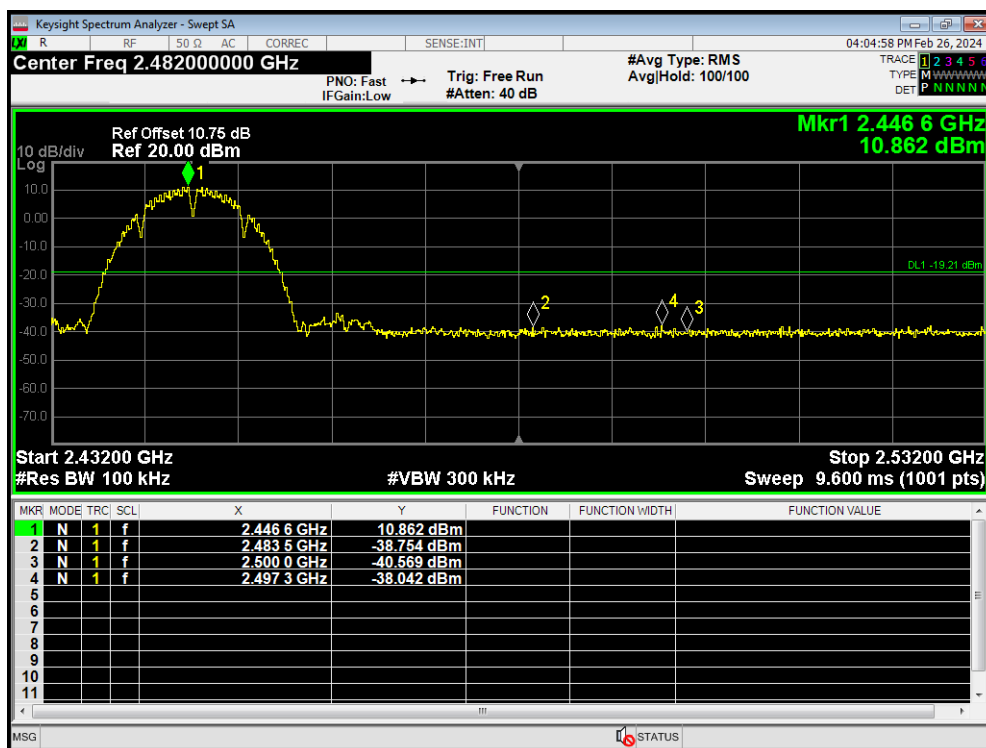
Band Edge 802.11b 2442MHz Emission



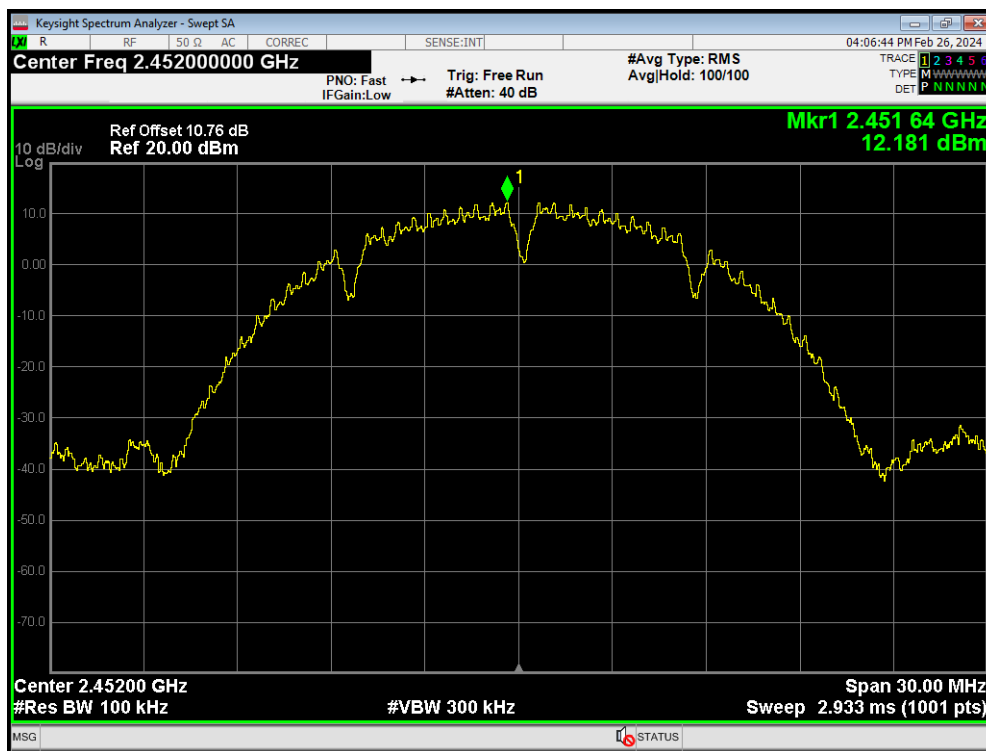
Band Edge 802.11b 2447MHz Ref



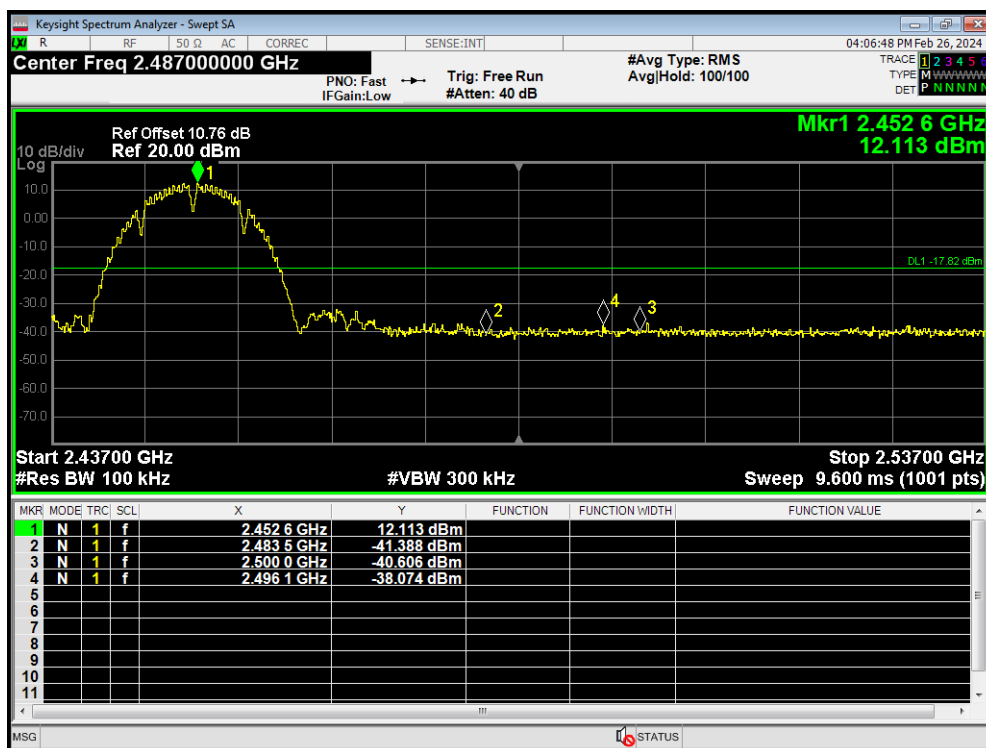
Band Edge 802.11b 2447MHz Emission



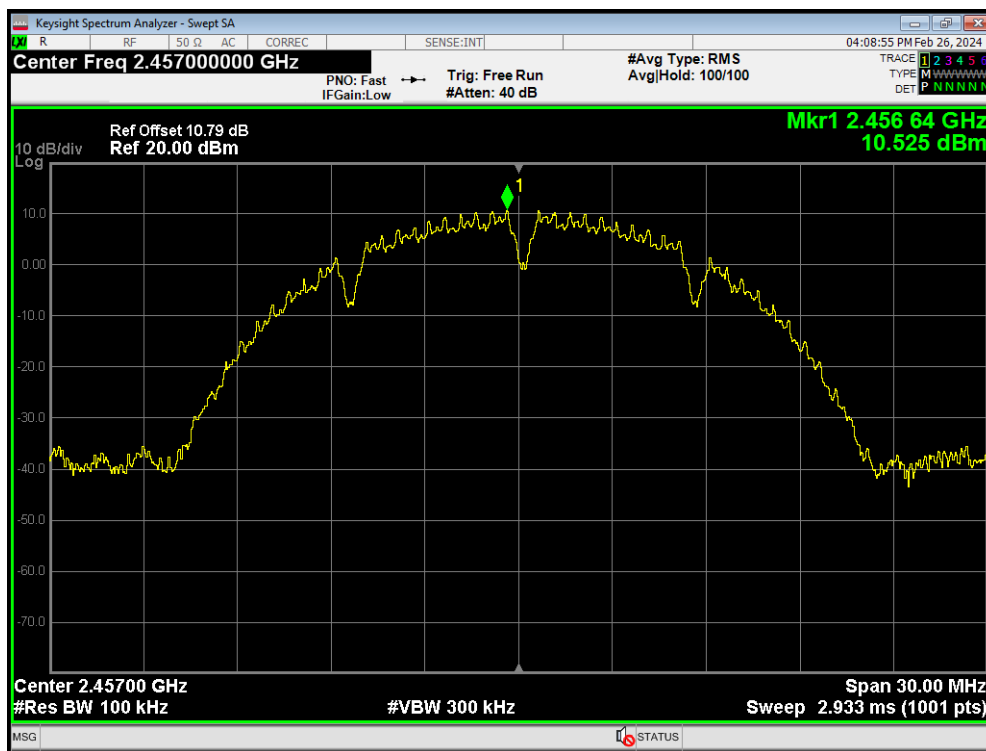
Band Edge 802.11b 2452MHz Ref



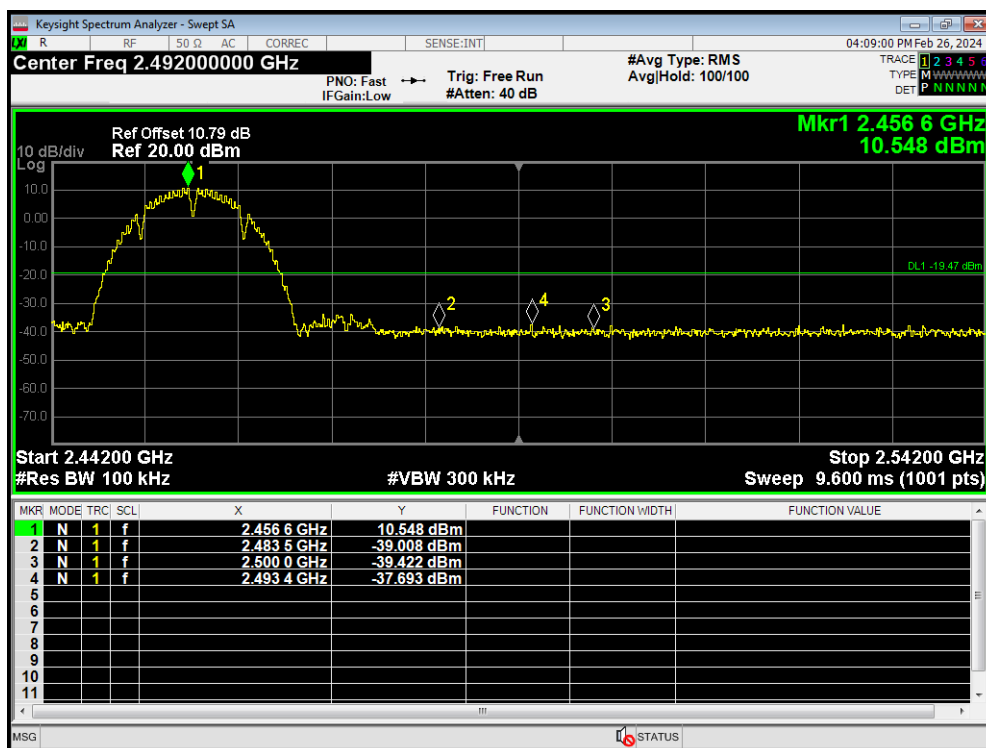
Band Edge 802.11b 2452MHz Emission



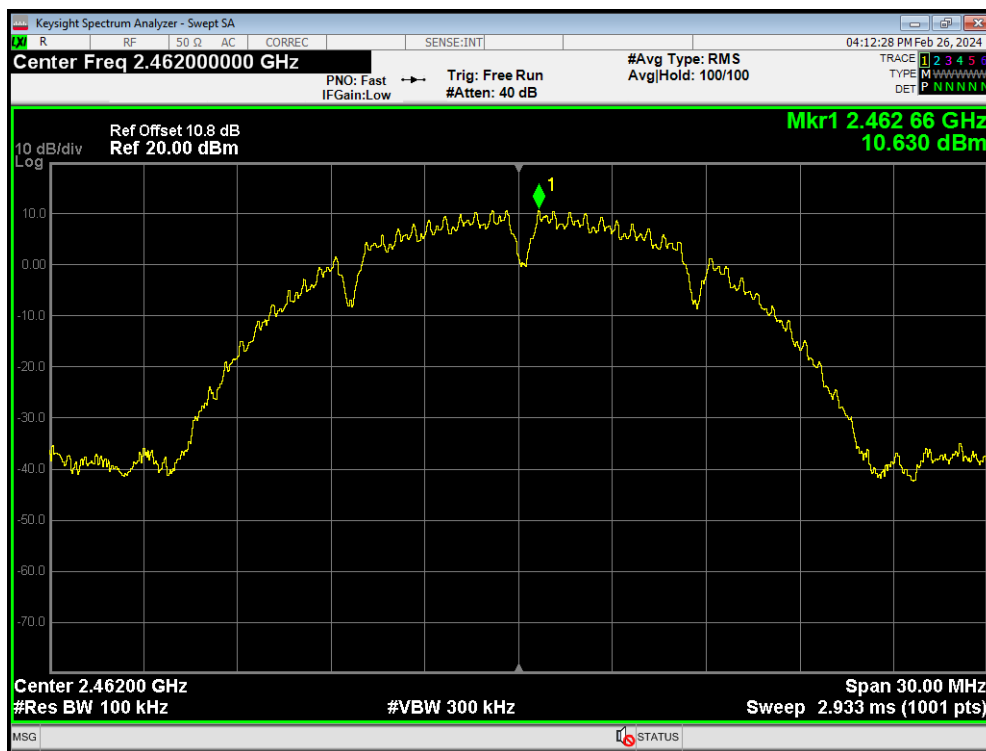
Band Edge 802.11b 2457MHz Ref



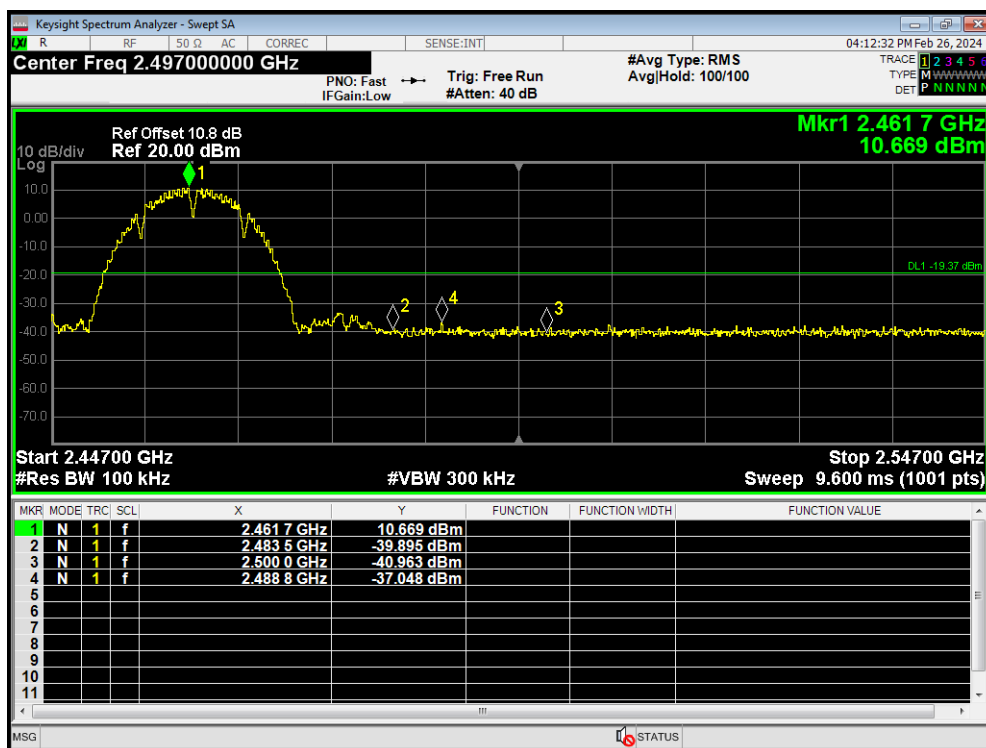
Band Edge 802.11b 2457MHz Emission



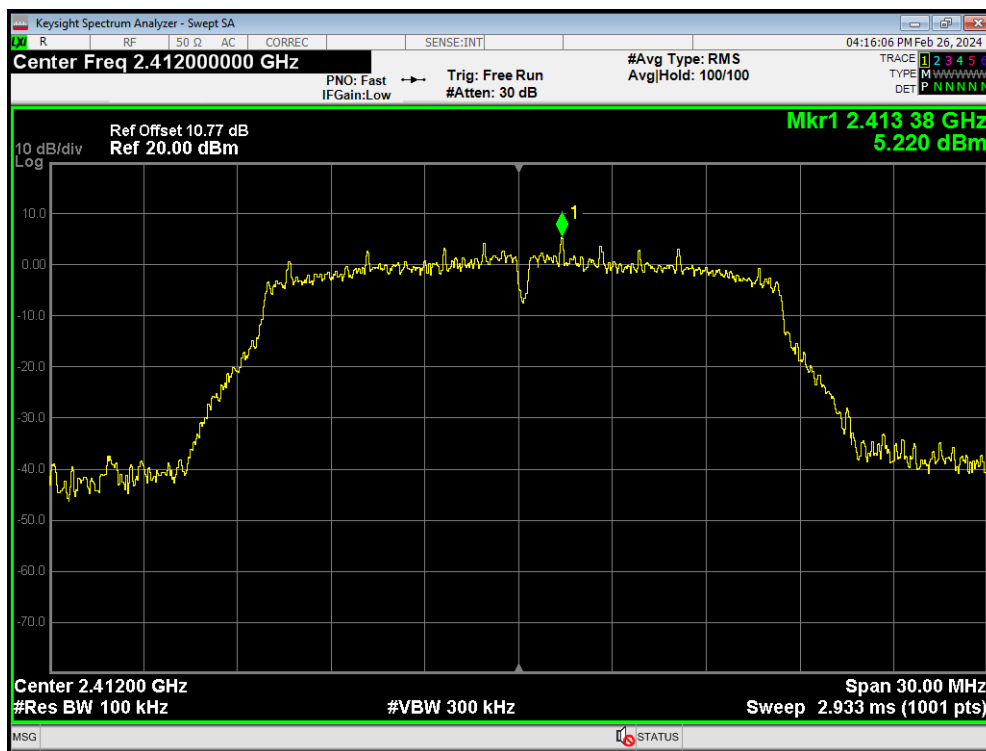
Band Edge 802.11b 2462MHz Ref



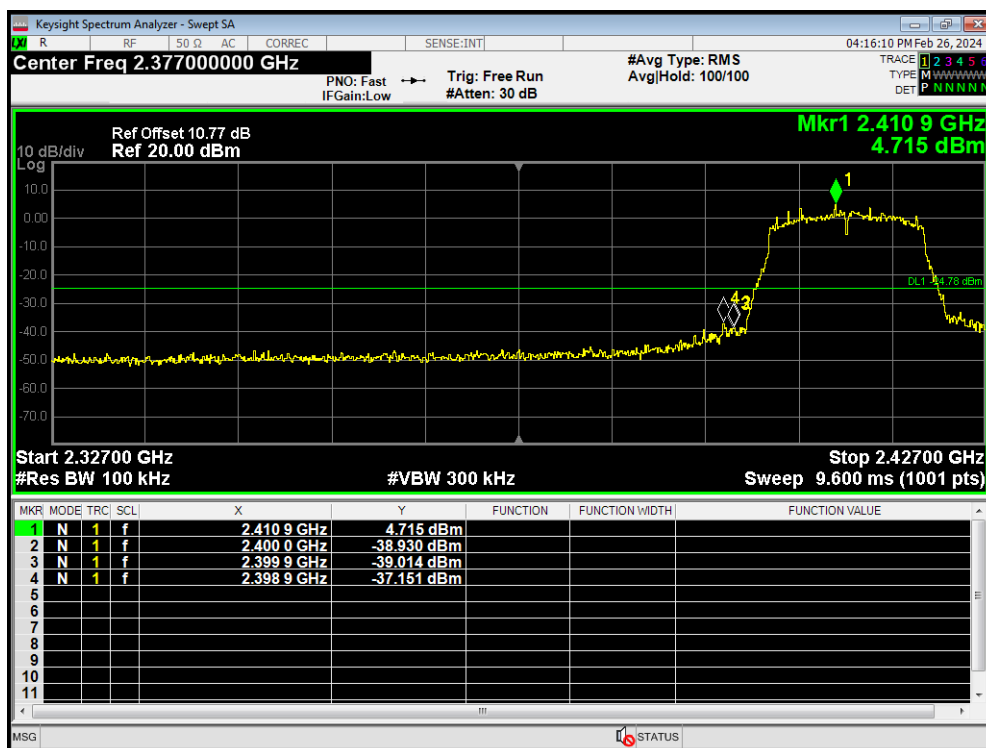
Band Edge 802.11b 2462MHz Emission



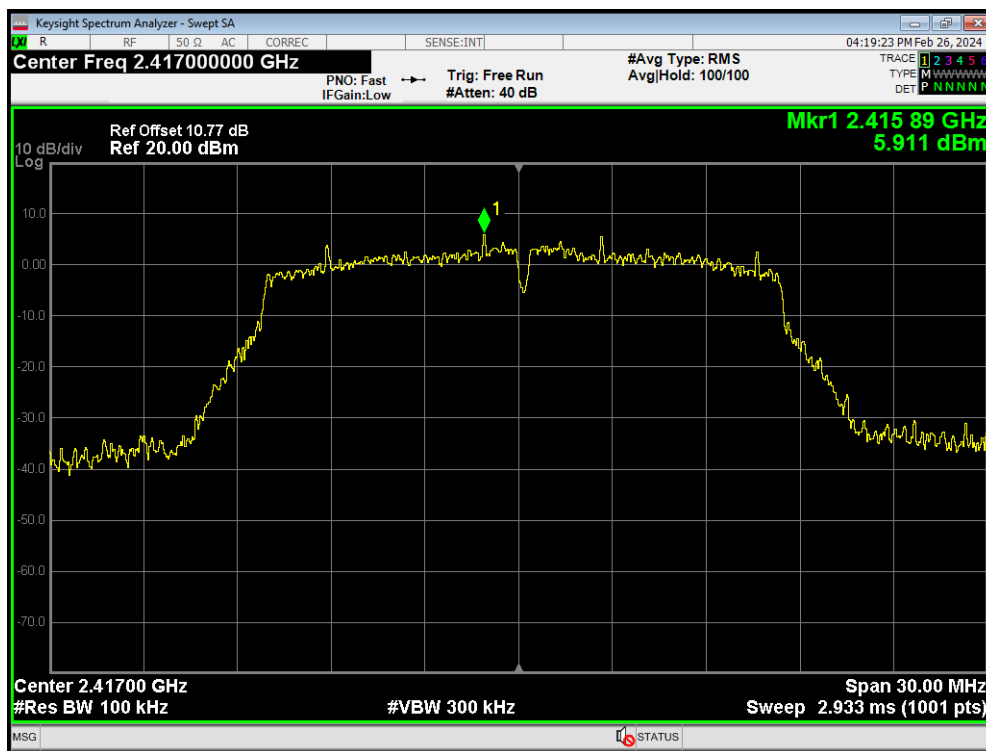
Band Edge 802.11g 2412MHz Ref



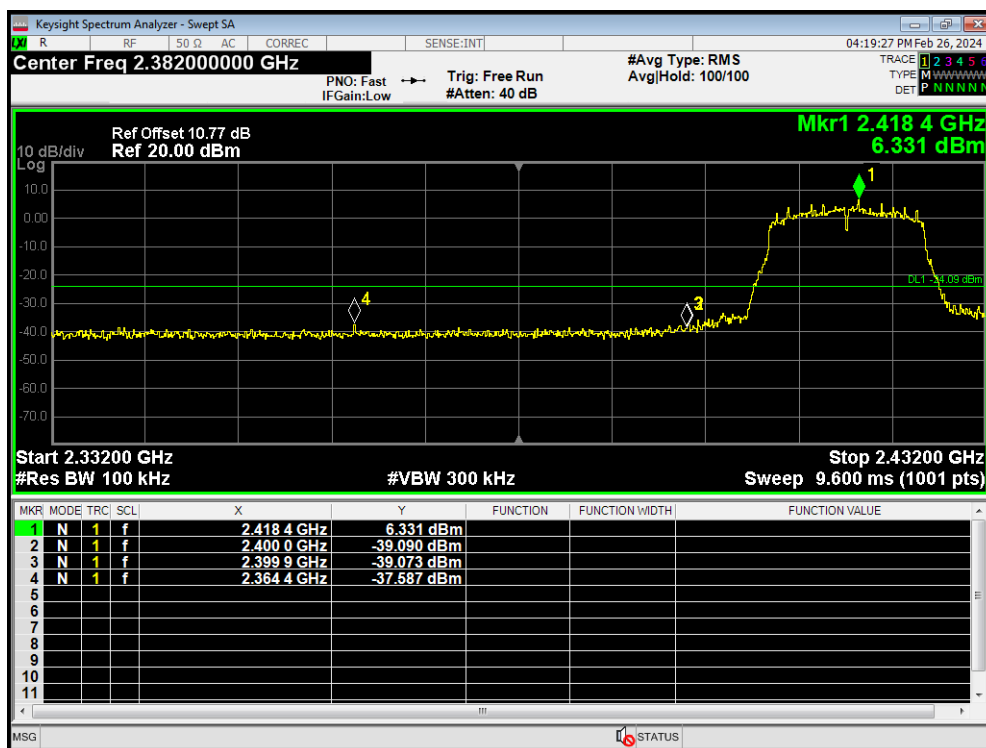
Band Edge 802.11g 2412MHz Emission



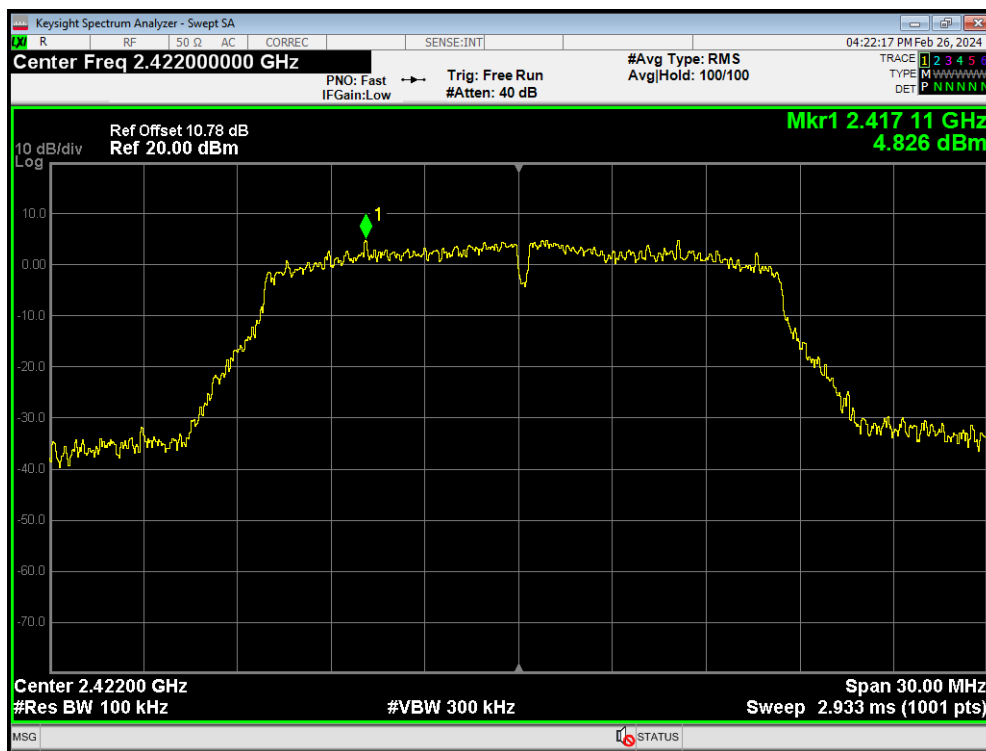
Band Edge 802.11g 2417MHz Ref



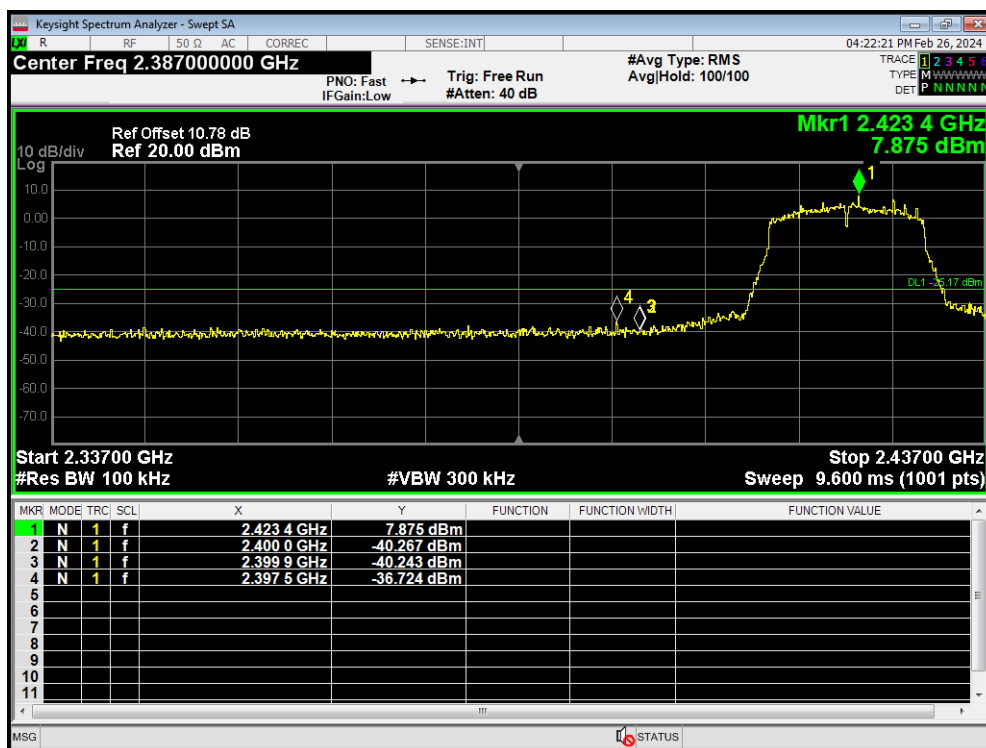
Band Edge 802.11g 2417MHz Emission



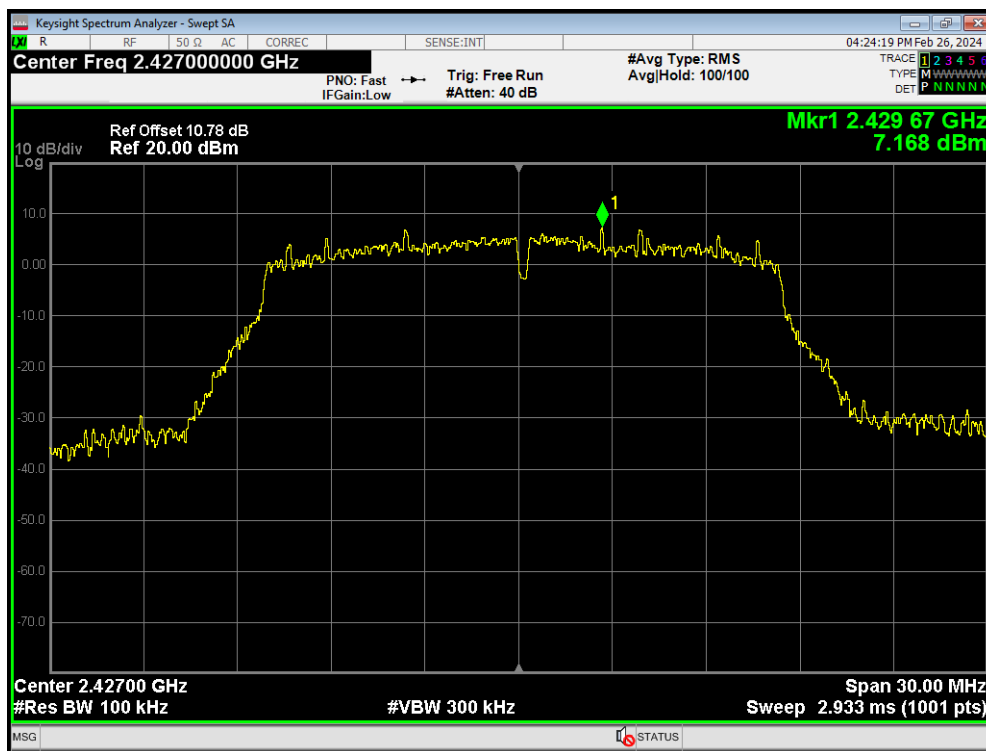
Band Edge 802.11g 2422MHz Ref



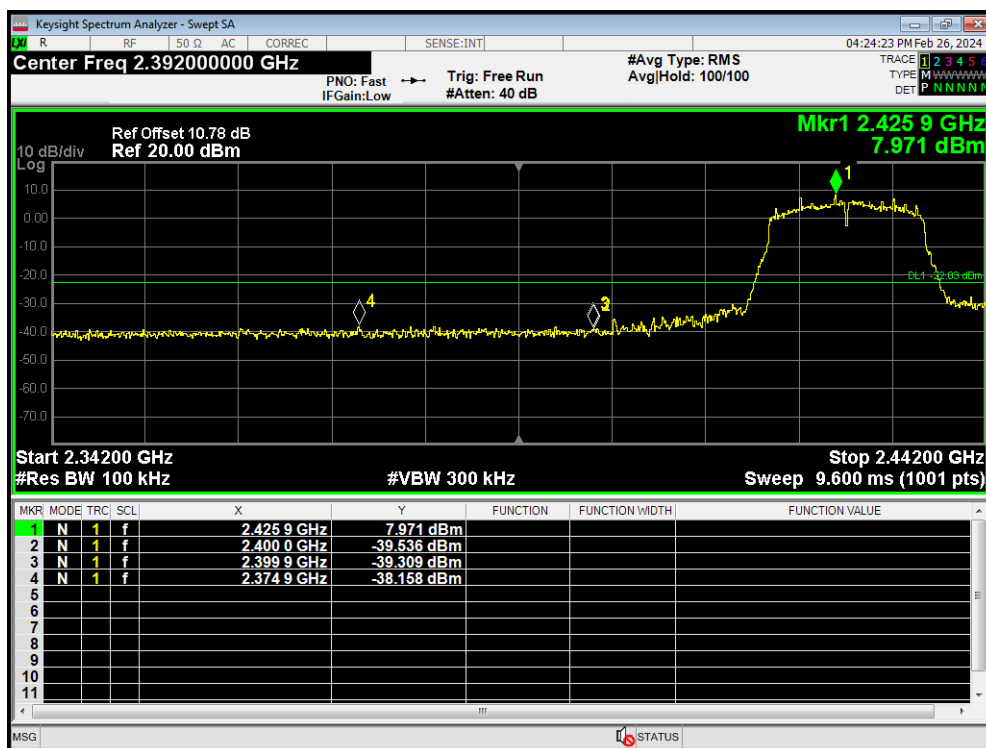
Band Edge 802.11g 2422MHz Emission



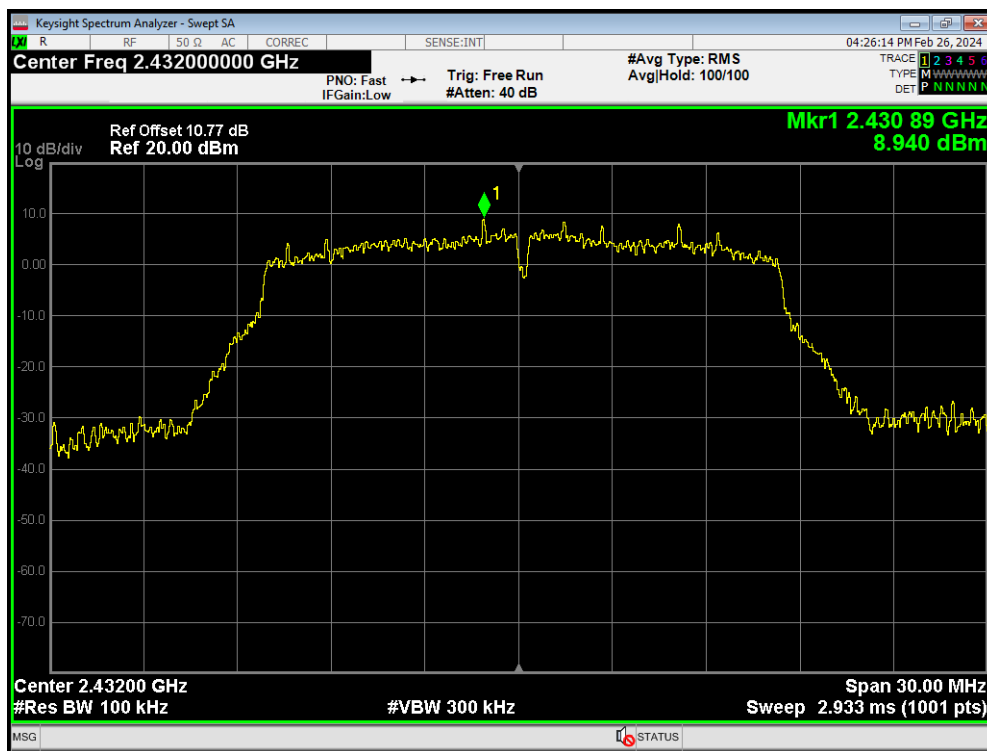
Band Edge 802.11g 2427MHz Ref



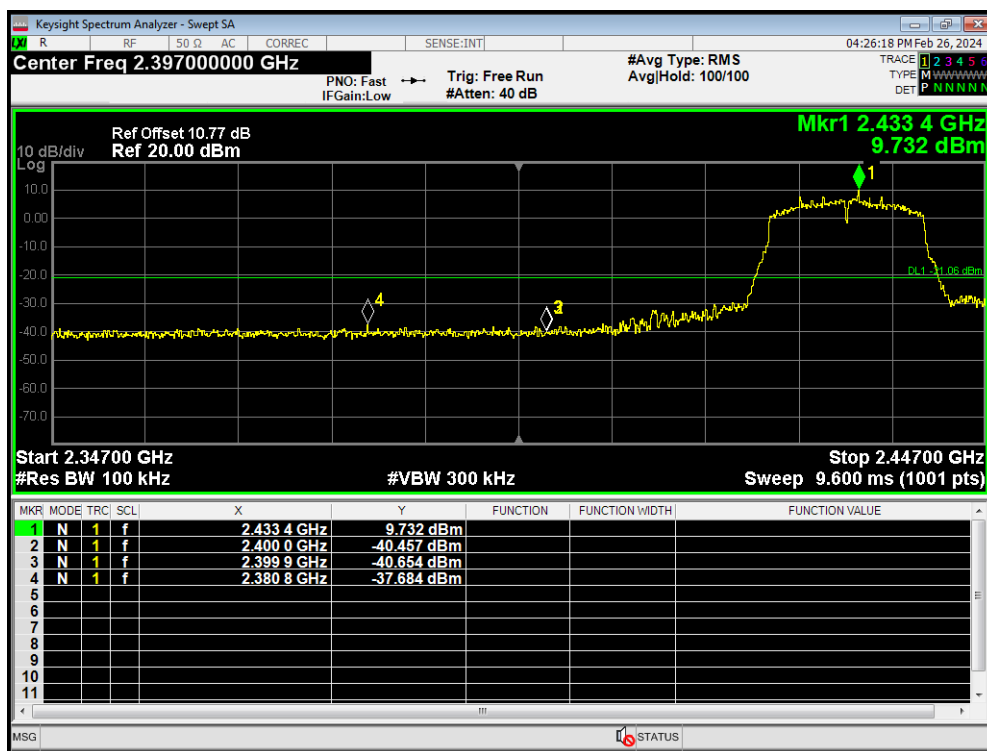
Band Edge 802.11g 2427MHz Emission



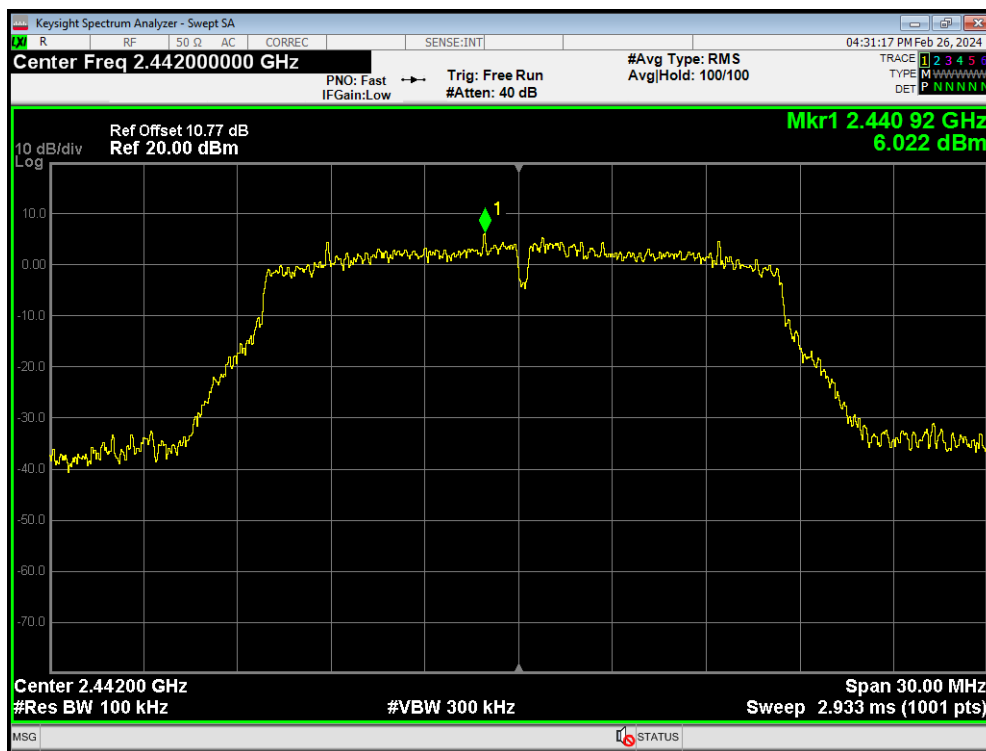
Band Edge 802.11g 2432MHz Ref



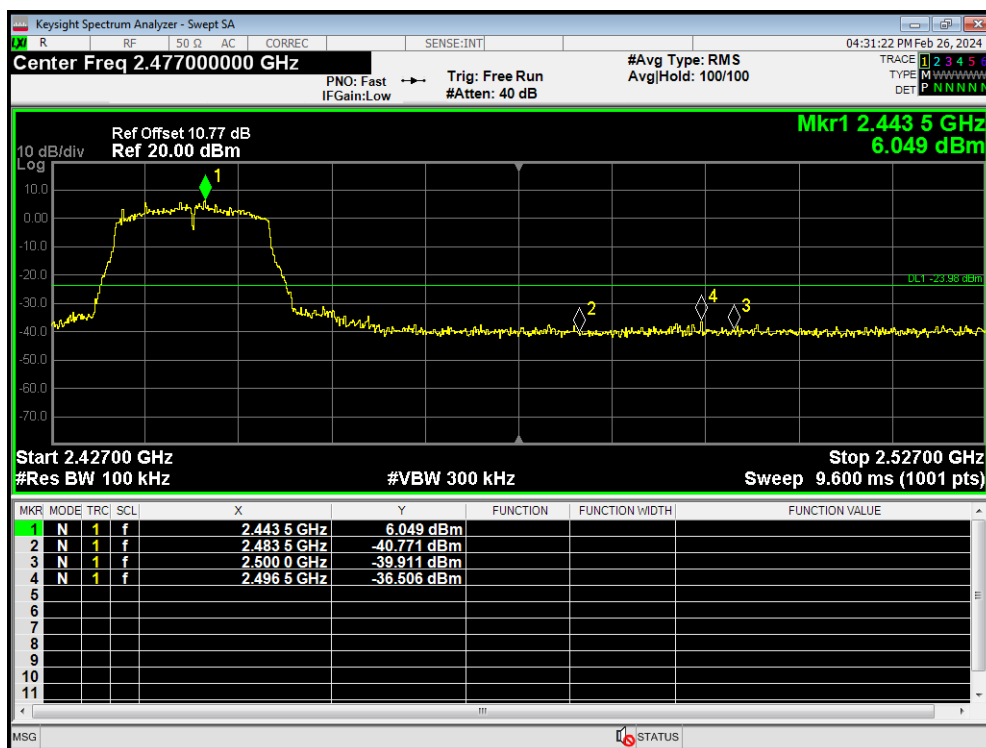
Band Edge 802.11g 2432MHz Emission



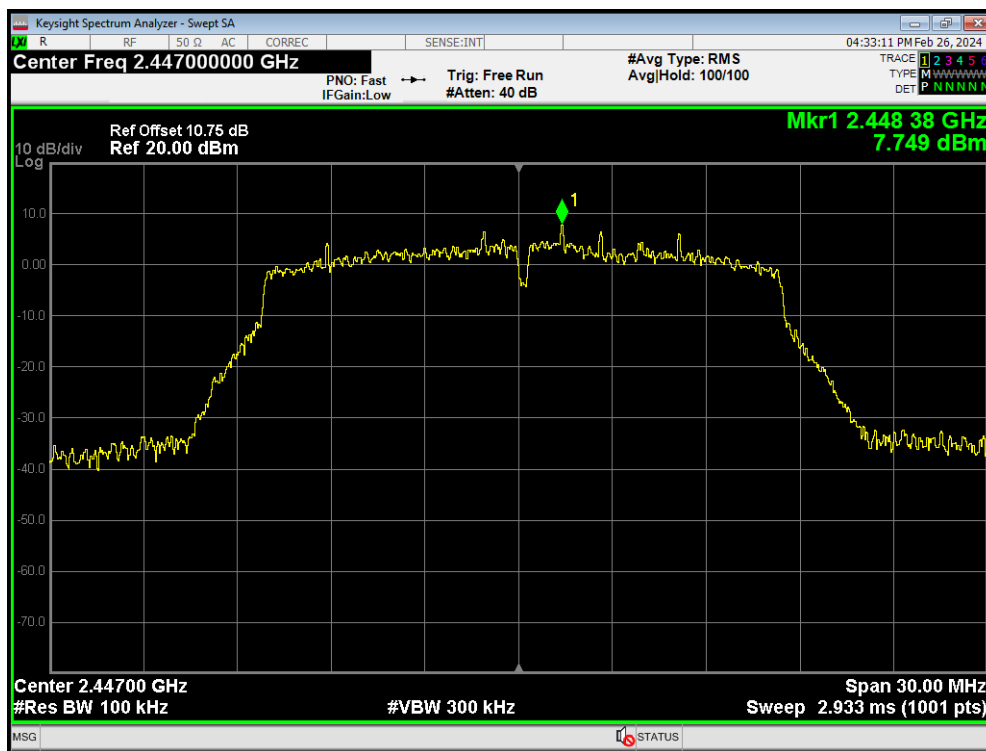
Band Edge 802.11g 2442MHz Ref



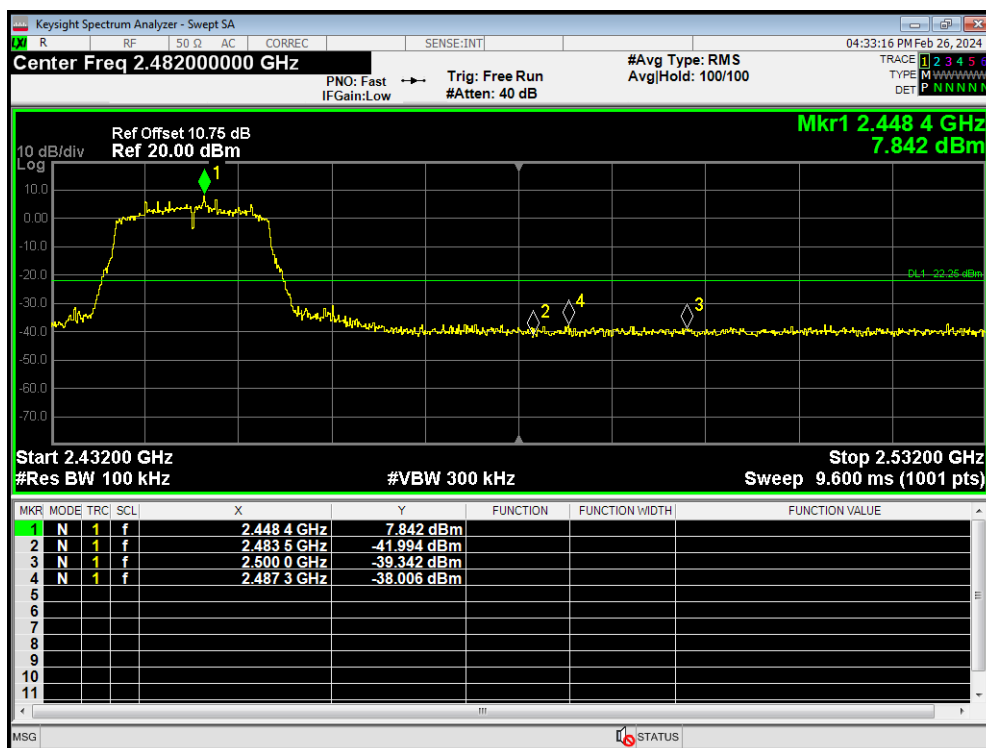
Band Edge 802.11g 2442MHz Emission



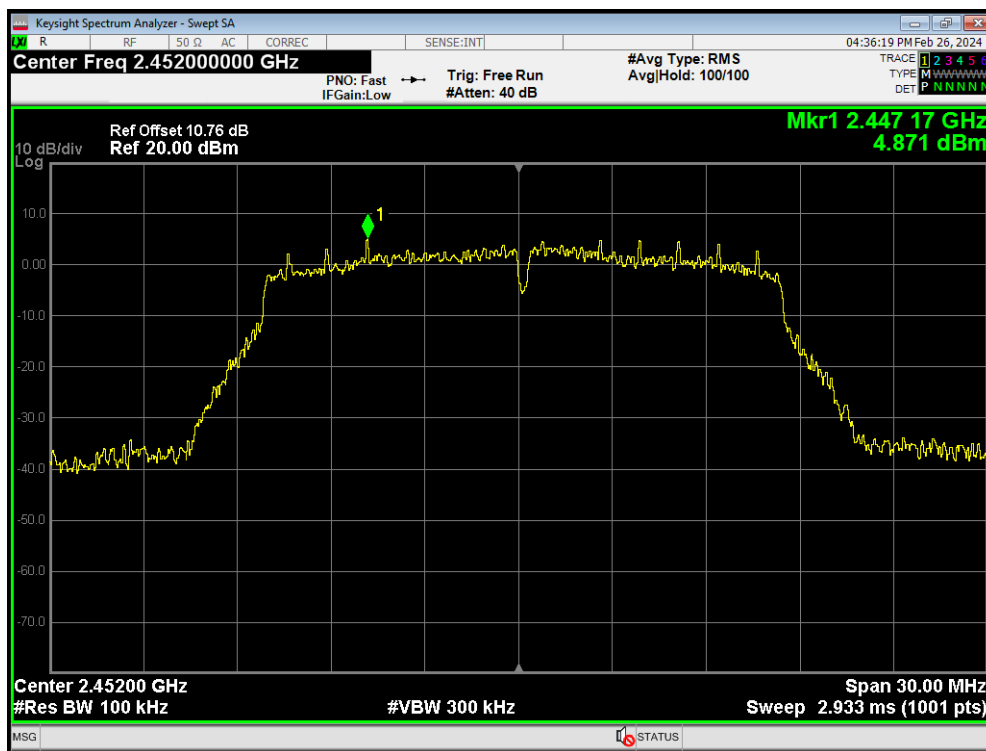
Band Edge 802.11g 2447MHz Ref



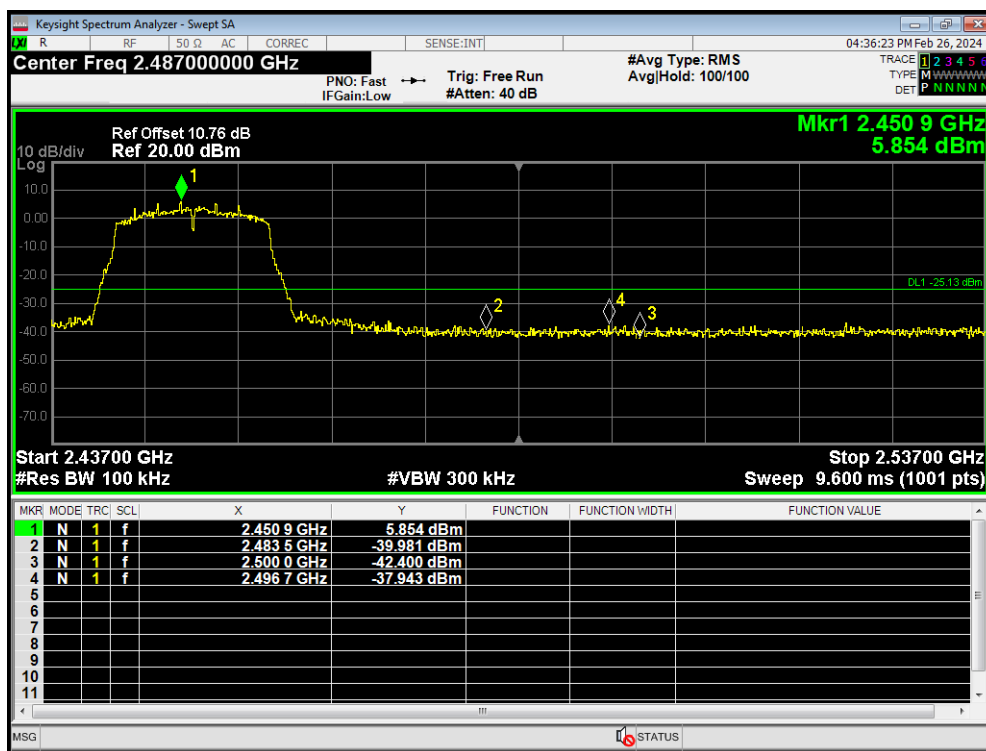
Band Edge 802.11g 2447MHz Emission



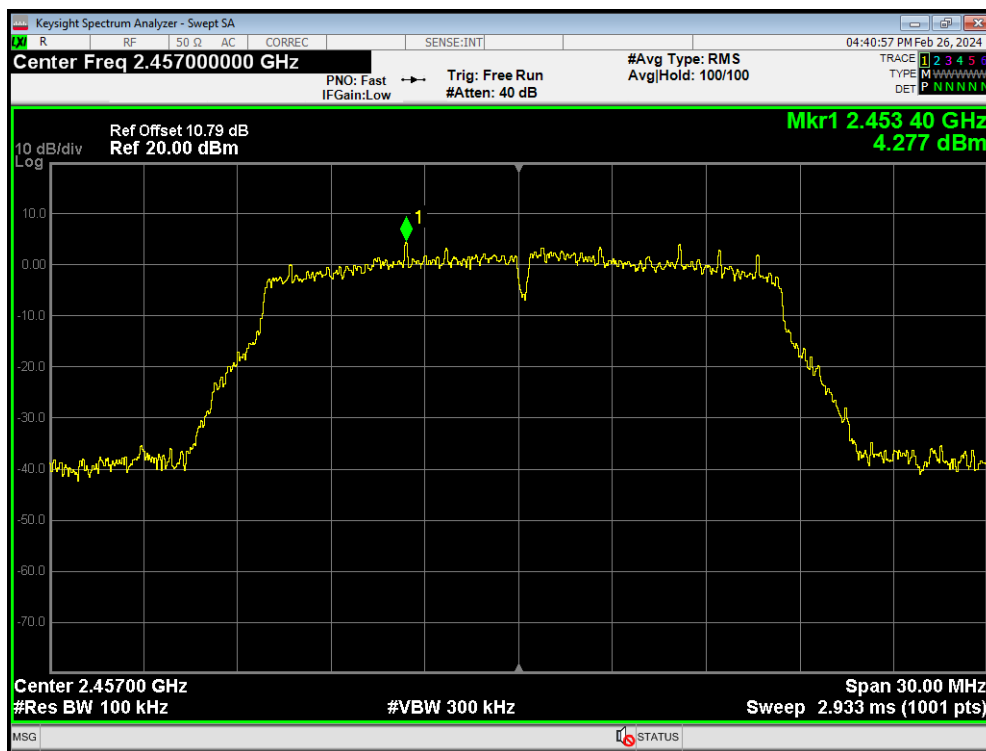
Band Edge 802.11g 2452MHz Ref



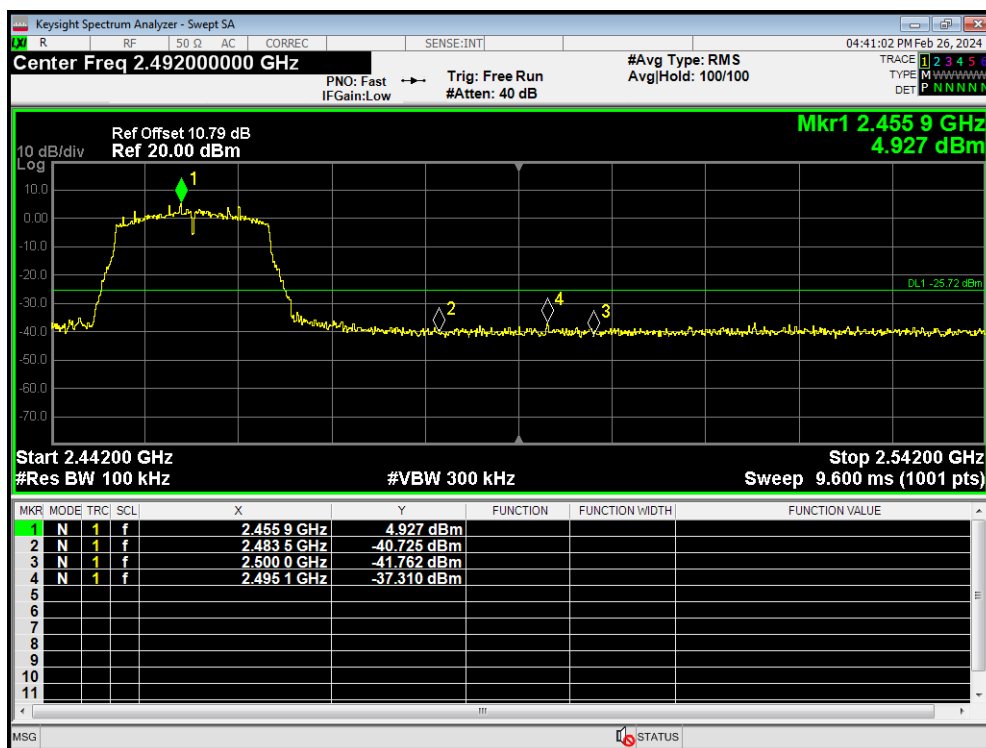
Band Edge 802.11g 2452MHz Emission



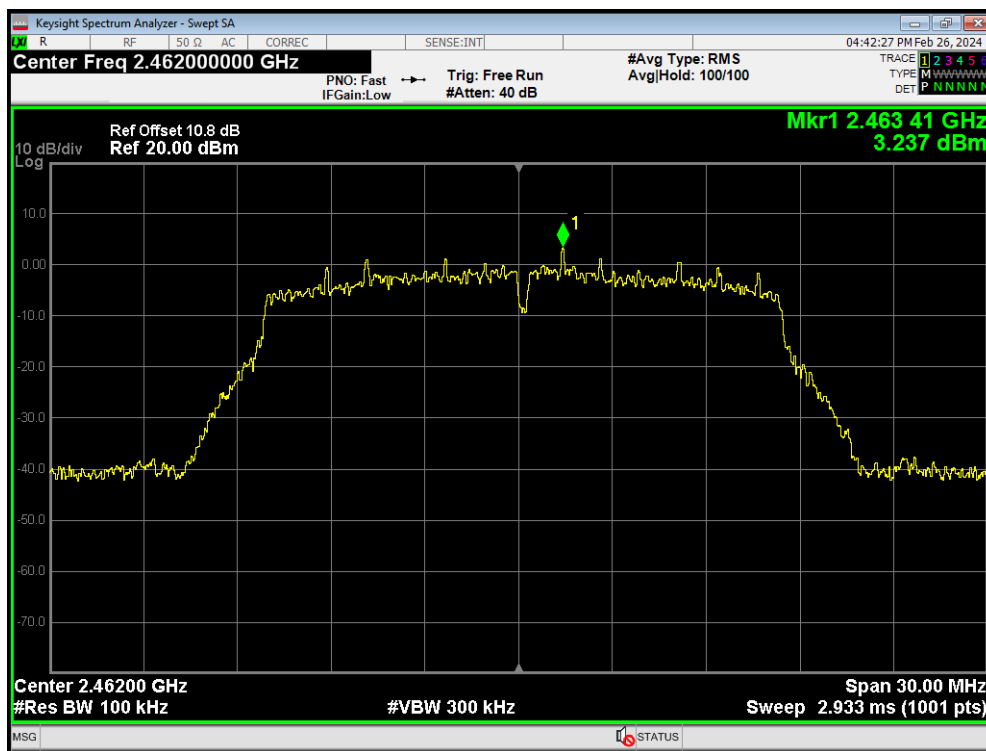
Band Edge 802.11g 2457MHz Ref



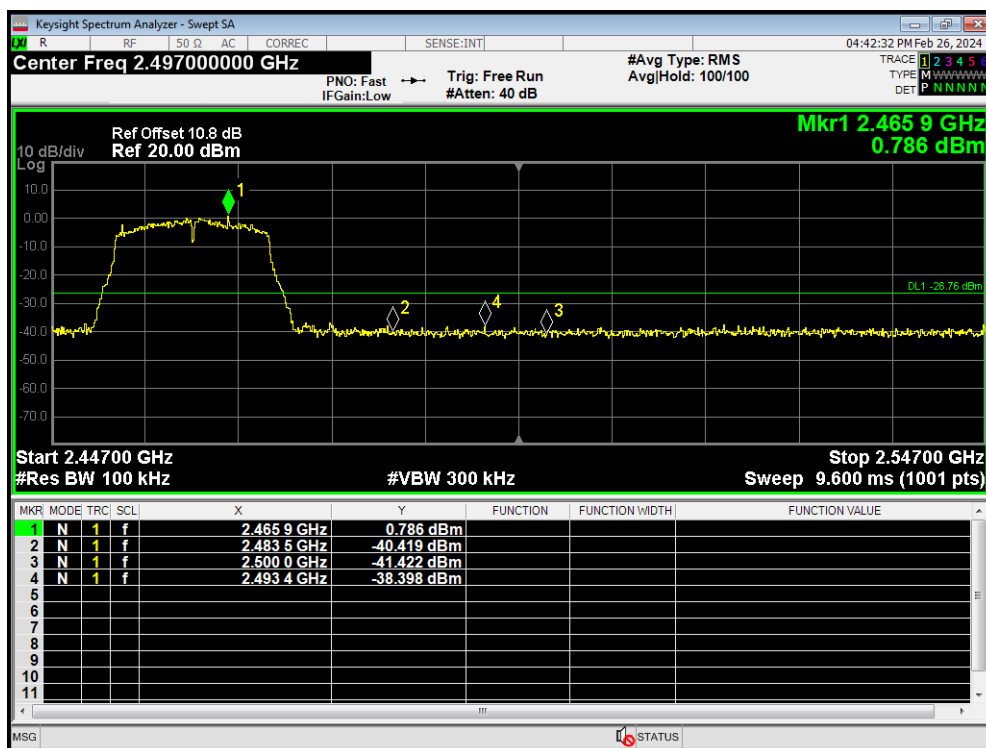
Band Edge 802.11g 2457MHz Emission



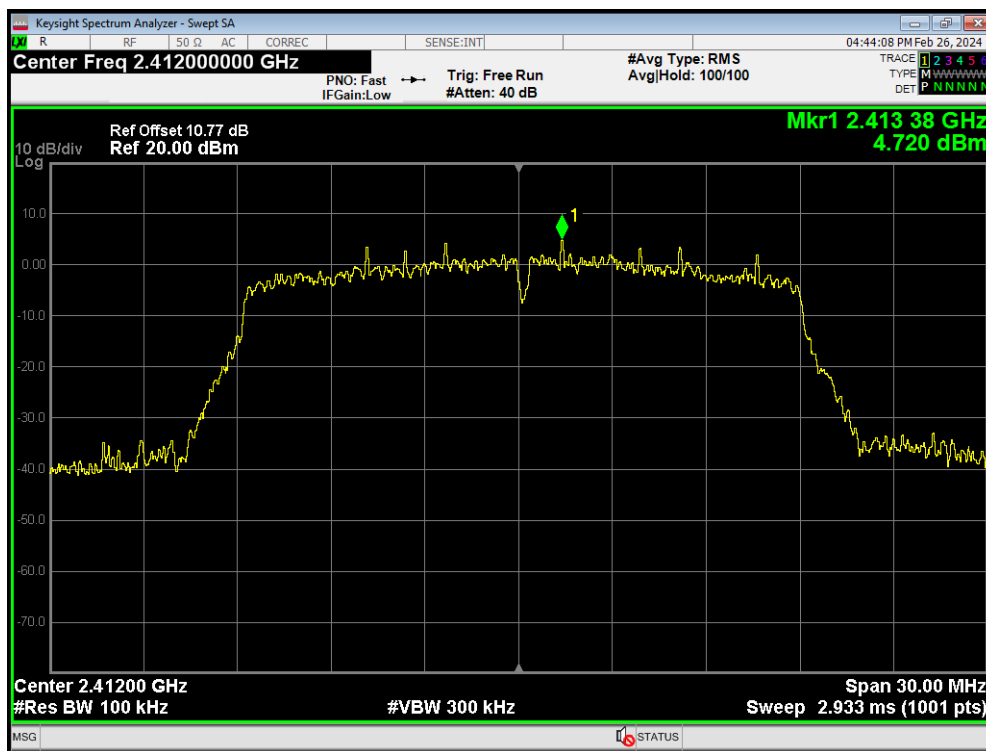
Band Edge 802.11g 2462MHz Ref



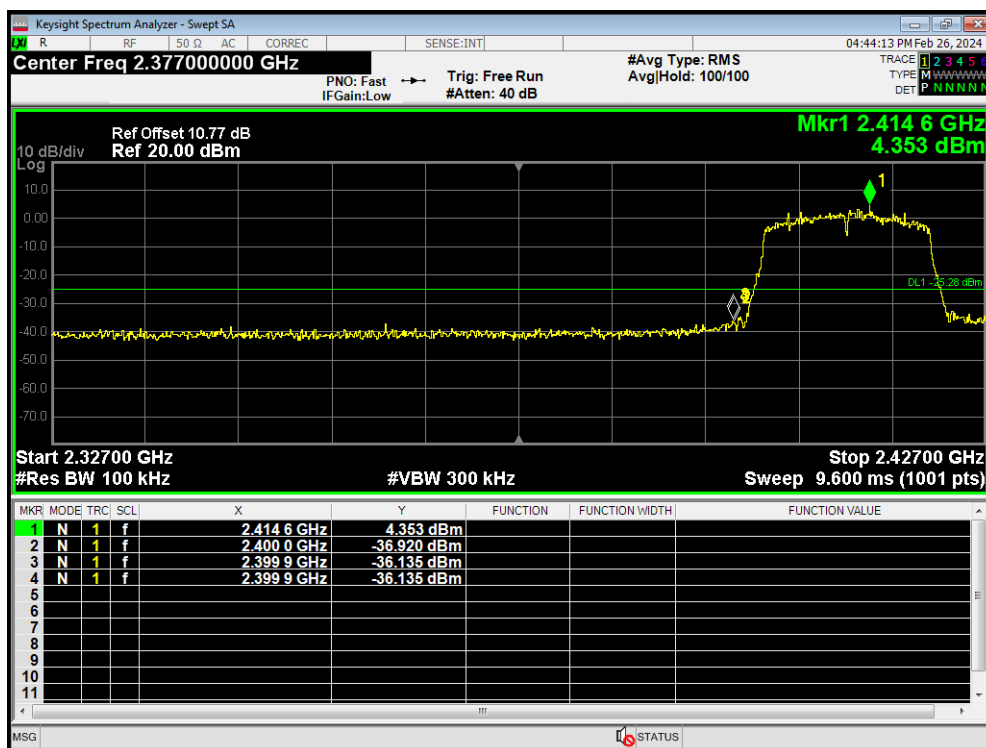
Band Edge 802.11g 2462MHz Emission



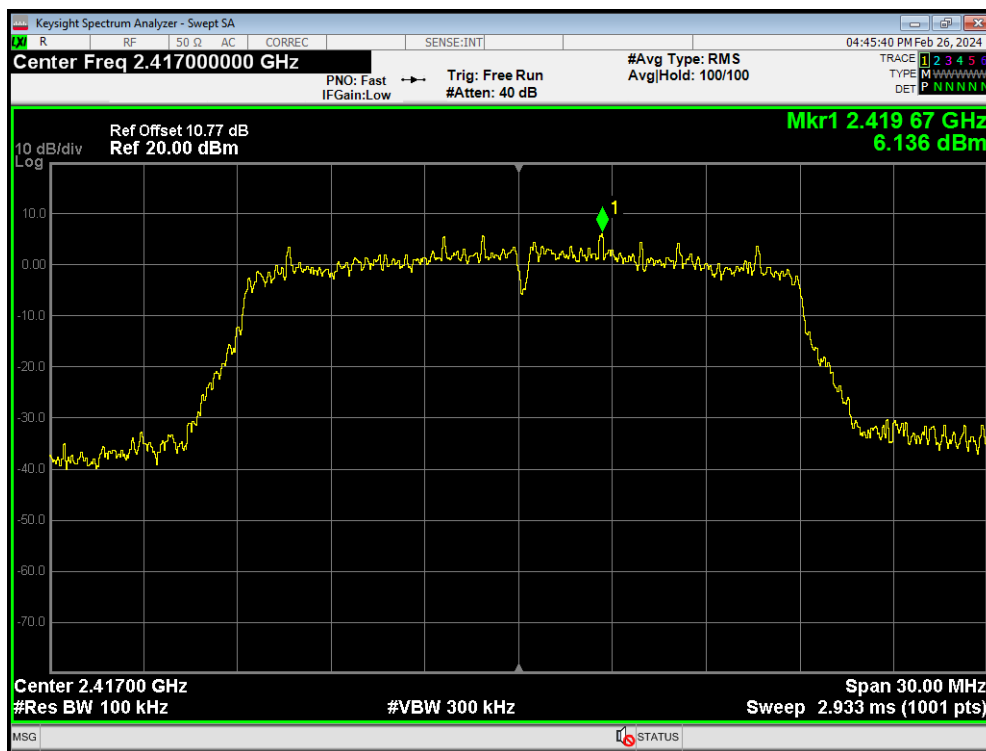
Band Edge 802.11n(HT20) 2412MHz Ref



Band Edge 802.11n(HT20) 2412MHz Emission



Band Edge 802.11n(HT20) 2417MHz Ref



Band Edge 802.11n(HT20) 2417MHz Emission

