

RF TEST REPORT

Applicant Nokia Shanghai Bell Co., Ltd.

FCC ID 2ADZRG1426GD

Product NOKIA ONT

Brand NOKIA

Model G-1426G-D; G-0126G-A

Report No. R2410A1477-R1V1

Issue Date December 23, 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.	December 17, 2024
Rev.1	Updated information.	December 23, 2024
Note: This revised report (Report No.: R2410A1477-R1V1) supersedes and replaces the previously issued report (Report No.: R2410A1477-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: October 30, 2024 ~ November 26, 2024			
Date of Sample Received: October 12, 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.
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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 Shanghai Bell Co., Ltd.
Manufacturer address	No.388, Ningqiao Rd, Pilot Free Trade Zone, Shanghai, 201206 P.R. China

2.2. General Information

EUT Description			
Model	G-1426G-D; G-0126G-A		
SN	Conducted	ALCLB458EBCA	
	Radiated	ALCLB458EBD5	
Hardware Version	PEM2		
Software Version	3TN01213HJLL48		
Power Supply	AC adapter		
Antenna Type	External Antenna		
Antenna Connector	I-PEX antenna (meet with the standard FCC Part 15.203 requirement)		
Antenna Gain		Antenna 1 (dBi)	Antenna 2 (dBi)
	2400	4.46	4.65
	2450	4.02	4.83
	2500	3.83	5.23
Direction Gain	MIMO/ Beamforming	Power (dBi)	PSD (dBi)
	2400	4.65	7.36
	2450	4.83	7.32
	2500	5.23	7.29
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: OFDMA		
Max. Output Power	25.37 dBm		
EUT Accessory			
Adapter 1	Manufacturer: MOSO Model: MS-V1000R120-012R0-AG		
Adapter 2	Manufacturer: MNC Model: MAUS-1201001202		
Adapter 3	Manufacturer: Keli Model: KL-WA120100-E		

Note: The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant.

The differences between G-1426G-D and G-0126G-A are as follows.

Model	G-1426G-D	G-0126G-A
GE ports	4	1
POTS port	1	/
USB port	And also, G-1426G-D have two different variants, one have USB port, one do not have USB port.	/
Others	The same	

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 (vertical), lie-down position (horizontal). The worst emission was found in EUT stand-up position (vertical) 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		
	Antenna 1	Antenna 2	MIMO
802.11b	1 Mbps	1 Mbps	/
802.11g	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	Beamforming
Maximum output power	O	O	802.11n HT20/40 802.11ax HE20/40	802.11n HT20/40 802.11ax HE20/40
6dB Bandwidth	--	802.11b/g	802.11n HT20/40 802.11ax HE20/40	--
Band Edge	--	802.11b/g	802.11n HT20/40 802.11ax HE20/40	--
Power Spectral Density	O	O	802.11n HT20/40 802.11ax HE20/40	802.11n HT20/40 802.11ax HE20/40
Spurious RF Conducted Emissions	O	802.11b/g	802.11n HT20/40 802.11ax HE20/40	--
Unwanted Emissions	--	802.11b/g	802.11n HT20/40 802.11ax HE20/40	--
Conducted Emission	--	802.11b/g	802.11n HT20/40 802.11ax HE20/40	--
Note: "O": test all bands				

5. Test Case Results

5.1. Maximum output power

Ambient Condition

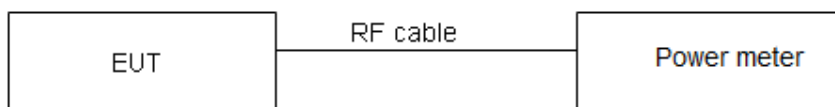
Temperature	Relative humidity
15°C ~ 35°C	20% ~ 80%

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					
Test Mode	Carrier frequency (MHz)/ Channel	SISO Antenna 1	SISO Antenna 2	MIMO	Beamforming
802.11b	2412/CH 1	2300	2300	-	-
	2417/CH 2	1950	1950	-	-
	2422/CH 3	2200	2200	-	-
	2427/CH 4	2300	2300	-	-
	2432/CH 5	2400	2400	-	-
	2437/CH 6	2400	2400	-	-
	2442/CH 7	2100	2100	-	-
	2447/CH 8	2000	2000	-	-
	2452/CH 9	2000	2000	-	-
	2457/CH 10	1900	1900	-	-
	2462/CH 11	1800	1800	-	-
802.11g	2412/CH 1	1900	1900	-	-
	2417/CH 2	1800	1800	-	-
	2422/CH 3	2100	2100	-	-
	2427/CH 4	2200	2200	-	-
	2432/CH 5	2000	2000	-	-
	2437/CH 6	2200	2200	-	-
	2442/CH 7	2200	2200	-	-
	2447/CH 8	2000	2000	-	-
	2452/CH 9	2000	2000	-	-
	2457/CH 10	1800	1800	-	-
	2462/CH 11	1600	1600	-	-
802.11n HT20	2412/CH 1	1700	1700	1700	1700
	2417/CH 2	1900	1900	1900	1900
	2422/CH 3	2000	2000	2000	2000
	2427/CH 4	2200	2200	2200	2200
	2432/CH 5	2300	2300	2300	2300
	2437/CH 6	2300	2300	2300	2300
	2442/CH 7	2200	2200	2200	2200
	2447/CH 8	2000	2000	2000	2000
	2452/CH 9	1900	1900	1900	1900
	2457/CH 10	1800	1800	1800	1800
	2462/CH 11	1600	1600	1600	1600
802.11n HT40	2422/CH 3	1300	1300	1300	1300
	2427/CH 4	1300	1300	1300	1300
	2432/CH 5	1400	1400	1400	1400
	2437/CH 6	1500	1500	1500	1500
	2442/CH 7	1300	1300	1300	1300

	2447/CH 8	1000	1000	1000	1000
	2452/CH 9	1000	1000	1000	1000
802.11ax HE20	2412/CH 1	1700	1700	1700	1700
	2417/CH 2	1900	1900	1900	1900
	2422/CH 3	2100	2100	2100	2100
	2427/CH 4	2200	2200	2200	2200
	2432/CH 5	2300	2300	2300	2300
	2437/CH 6	2400	2400	2400	2400
	2442/CH 7	2200	2200	2200	2200
	2447/CH 8	2000	2000	2000	2000
	2452/CH 9	1900	1900	1900	1900
	2457/CH 10	1700	1700	1700	1700
	2462/CH 11	1400	1400	1400	1400
802.11ax HE40	2422/CH 3	1300	1300	1300	1300
	2427/CH 4	1300	1300	1300	1300
	2432/CH 5	1500	1500	1500	1500
	2437/CH 6	1500	1500	1500	1500
	2442/CH 7	1200	1200	1200	1200
	2447/CH 8	1100	1100	1100	1100
	2452/CH 9	1100	1100	1100	1100

Test Mode	Duty cycle	Duty cycle correction Factor (dB)
802.11b	0.988	0.000
802.11g	0.930	0.310
802.11n HT20	0.926	0.340
802.11n HT40	0.861	0.650
802.11ax HE20	0.906	0.430
802.11ax HE40	0.836	0.780
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	21.98	21.98	30	PASS
	2417/CH 2	18.44	18.44	30	PASS
	2422/CH 3	20.95	20.95	30	PASS
	2427/CH 4	21.84	21.84	30	PASS
	2432/CH 5	22.77	22.77	30	PASS
	2437/CH 6	22.73	22.73	30	PASS
	2442/CH 7	19.89	19.89	30	PASS
	2447/CH 8	18.89	18.89	30	PASS
	2452/CH 9	18.95	18.95	30	PASS
	2457/CH 10	17.97	17.97	30	PASS
	2462/CH 11	16.96	16.96	30	PASS
802.11g	2412/CH 1	17.80	18.11	30	PASS
	2417/CH 2	16.85	17.16	30	PASS
	2422/CH 3	19.69	20.00	30	PASS
	2427/CH 4	20.50	20.81	30	PASS
	2432/CH 5	18.82	19.13	30	PASS
	2437/CH 6	20.37	20.68	30	PASS
	2442/CH 7	20.40	20.71	30	PASS
	2447/CH 8	18.52	18.83	30	PASS
	2452/CH 9	18.45	18.76	30	PASS
	2457/CH 10	16.45	16.76	30	PASS
	2462/CH 11	14.51	14.82	30	PASS
802.11n HT20	2412/CH 1	15.71	16.05	30	PASS
	2417/CH 2	17.67	18.01	30	PASS
	2422/CH 3	18.68	19.02	30	PASS
	2427/CH 4	20.45	20.79	30	PASS
	2432/CH 5	21.29	21.63	30	PASS
	2437/CH 6	21.12	21.46	30	PASS
	2442/CH 7	20.34	20.68	30	PASS
	2447/CH 8	18.44	18.78	30	PASS
	2452/CH 9	17.33	17.67	30	PASS
	2457/CH 10	16.36	16.70	30	PASS
	2462/CH 11	14.32	14.66	30	PASS
802.11n HT40	2422/CH 3	11.87	12.52	30	PASS
	2427/CH 4	11.92	12.57	30	PASS
	2432/CH 5	12.91	13.56	30	PASS
	2437/CH 6	13.57	14.22	30	PASS
	2442/CH 7	11.74	12.39	30	PASS

	2447/CH 8	9.12	9.77	30	PASS
	2452/CH 9	8.96	9.61	30	PASS
802.11ax HE20	2412/CH 1	15.55	15.98	30	PASS
	2417/CH 2	17.50	17.93	30	PASS
	2422/CH 3	19.33	19.76	30	PASS
	2427/CH 4	20.20	20.63	30	PASS
	2432/CH 5	21.07	21.50	30	PASS
	2437/CH 6	21.69	22.12	30	PASS
	2442/CH 7	20.02	20.45	30	PASS
	2447/CH 8	18.27	18.70	30	PASS
	2452/CH 9	17.11	17.54	30	PASS
	2457/CH 10	15.15	15.58	30	PASS
	2462/CH 11	12.30	12.73	30	PASS
802.11ax HE40	2422/CH 3	11.79	12.57	30	PASS
	2427/CH 4	11.86	12.64	30	PASS
	2432/CH 5	13.65	14.43	30	PASS
	2437/CH 6	13.54	14.32	30	PASS
	2442/CH 7	10.77	11.55	30	PASS
	2447/CH 8	9.95	10.73	30	PASS
	2452/CH 9	9.69	10.47	30	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

SISO 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	22.43	22.43	30	PASS
	2417/CH 2	18.83	18.83	30	PASS
	2422/CH 3	21.43	21.43	30	PASS
	2427/CH 4	22.41	22.41	30	PASS
	2432/CH 5	23.39	23.39	30	PASS
	2437/CH 6	23.45	23.45	30	PASS
	2442/CH 7	20.33	20.33	30	PASS
	2447/CH 8	19.33	19.33	30	PASS
	2452/CH 9	19.33	19.33	30	PASS
	2457/CH 10	18.32	18.32	30	PASS
	2462/CH 11	17.23	17.23	30	PASS
802.11g	2412/CH 1	18.07	18.38	30	PASS
	2417/CH 2	17.00	17.31	30	PASS
	2422/CH 3	19.98	20.29	30	PASS
	2427/CH 4	20.83	21.14	30	PASS
	2432/CH 5	18.92	19.23	30	PASS
	2437/CH 6	20.74	21.05	30	PASS
	2442/CH 7	20.83	21.14	30	PASS
	2447/CH 8	18.87	19.18	30	PASS
	2452/CH 9	18.75	19.06	30	PASS
	2457/CH 10	16.71	17.02	30	PASS
	2462/CH 11	14.63	14.94	30	PASS
802.11n HT20	2412/CH 1	15.98	16.32	30	PASS
	2417/CH 2	18.01	18.35	30	PASS
	2422/CH 3	18.84	19.18	30	PASS
	2427/CH 4	20.82	21.16	30	PASS
	2432/CH 5	21.69	22.03	30	PASS
	2437/CH 6	21.52	21.86	30	PASS
	2442/CH 7	20.69	21.03	30	PASS
	2447/CH 8	18.81	19.15	30	PASS
	2452/CH 9	17.53	17.87	30	PASS
	2457/CH 10	16.60	16.94	30	PASS
	2462/CH 11	14.42	14.76	30	PASS
802.11n HT40	2422/CH 3	11.80	12.45	30	PASS
	2427/CH 4	11.75	12.40	30	PASS
	2432/CH 5	12.73	13.38	30	PASS
	2437/CH 6	13.61	14.26	30	PASS
	2442/CH 7	11.56	12.21	30	PASS
	2447/CH 8	8.53	9.18	30	PASS

	2452/CH 9	8.28	8.93	30	PASS
802.11ax HE20	2412/CH 1	15.67	16.10	30	PASS
	2417/CH 2	17.65	18.08	30	PASS
	2422/CH 3	19.70	20.13	30	PASS
	2427/CH 4	20.55	20.98	30	PASS
	2432/CH 5	21.42	21.85	30	PASS
	2437/CH 6	22.26	22.69	30	PASS
	2442/CH 7	20.58	21.01	30	PASS
	2447/CH 8	18.63	19.06	30	PASS
	2452/CH 9	17.38	17.81	30	PASS
	2457/CH 10	15.33	15.76	30	PASS
	2462/CH 11	12.16	12.59	30	PASS
802.11ax HE40	2422/CH 3	11.68	12.46	30	PASS
	2427/CH 4	11.51	12.29	30	PASS
	2432/CH 5	13.56	14.34	30	PASS
	2437/CH 6	13.45	14.23	30	PASS
	2442/CH 7	10.42	11.20	30	PASS
	2447/CH 8	9.38	10.16	30	PASS
	2452/CH 9	9.15	9.93	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)			
802.11n HT20	2412/CH 1	15.67	16.01	16.10	16.44	19.24	30	PASS
	2417/CH 2	17.70	18.04	18.14	18.48	21.28	30	PASS
	2422/CH 3	18.58	18.92	19.04	19.38	22.16	30	PASS
	2427/CH 4	20.34	20.68	20.83	21.17	23.95	30	PASS
	2432/CH 5	21.21	21.55	21.77	22.11	24.85	30	PASS
	2437/CH 6	21.04	21.38	21.61	21.95	24.68	30	PASS
	2442/CH 7	20.21	20.55	20.68	21.02	23.80	30	PASS
	2447/CH 8	18.35	18.69	18.86	19.20	21.96	30	PASS
	2452/CH 9	17.27	17.61	17.67	18.01	20.82	30	PASS
	2457/CH 10	16.29	16.63	16.53	16.87	19.76	30	PASS
	2462/CH 11	14.40	14.74	14.64	14.98	17.87	30	PASS
802.11n HT40	2422/CH 3	11.82	12.47	11.72	12.37	15.43	30	PASS
	2427/CH 4	11.93	12.58	11.66	12.31	15.46	30	PASS
	2432/CH 5	12.88	13.53	12.62	13.27	16.41	30	PASS
	2437/CH 6	13.58	14.23	13.56	14.21	17.23	30	PASS
	2442/CH 7	11.84	12.49	11.54	12.19	15.35	30	PASS
	2447/CH 8	9.20	9.85	8.39	9.04	12.47	30	PASS
	2452/CH 9	8.95	9.60	8.19	8.84	12.25	30	PASS
802.11ax HE20	2412/CH 1	15.56	15.99	15.81	16.24	19.13	30	PASS
	2417/CH 2	17.56	17.99	17.75	18.18	21.10	30	PASS
	2422/CH 3	19.41	19.84	19.73	20.16	23.01	30	PASS
	2427/CH 4	20.19	20.62	20.59	21.02	23.84	30	PASS
	2432/CH 5	21.11	21.54	21.42	21.85	24.71	30	PASS
	2437/CH 6	21.66	22.09	22.18	22.61	25.37	30	PASS
	2442/CH 7	20.01	20.44	20.34	20.77	23.62	30	PASS
	2447/CH 8	18.27	18.70	18.49	18.92	21.82	30	PASS
	2452/CH 9	17.17	17.60	17.19	17.62	20.62	30	PASS
	2457/CH 10	15.28	15.71	15.13	15.56	18.64	30	PASS
	2462/CH 11	12.32	12.75	12.13	12.56	15.67	30	PASS
802.11ax HE40	2422/CH 3	11.80	12.58	11.58	12.36	15.48	30	PASS
	2427/CH 4	11.83	12.61	11.50	12.28	15.46	30	PASS
	2432/CH 5	13.56	14.34	13.51	14.29	17.33	30	PASS
	2437/CH 6	13.42	14.20	13.41	14.19	17.20	30	PASS
	2442/CH 7	10.73	11.51	10.31	11.09	14.31	30	PASS
	2447/CH 8	9.89	10.67	9.25	10.03	13.37	30	PASS
	2452/CH 9	9.69	10.47	9.09	9.87	13.19	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 = 4.83 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)			
802.11n HT20	2412/CH 1	15.66	16.00	16.03	16.37	19.20	30	PASS
	2417/CH 2	17.62	17.96	17.94	18.28	21.13	30	PASS
	2422/CH 3	18.53	18.87	18.92	19.26	22.08	30	PASS
	2427/CH 4	20.28	20.62	20.77	21.11	23.88	30	PASS
	2432/CH 5	21.12	21.46	21.66	22.00	24.74	30	PASS
	2437/CH 6	21.02	21.36	21.58	21.92	24.66	30	PASS
	2442/CH 7	20.16	20.50	20.62	20.96	23.75	30	PASS
	2447/CH 8	18.35	18.69	18.77	19.11	21.92	30	PASS
	2452/CH 9	17.30	17.64	17.53	17.87	20.77	30	PASS
	2457/CH 10	16.24	16.58	16.41	16.75	19.68	30	PASS
	2462/CH 11	14.31	14.65	14.43	14.77	17.72	30	PASS
802.11n HT40	2422/CH 3	11.83	12.48	11.64	12.29	15.39	30	PASS
	2427/CH 4	11.87	12.52	11.47	12.12	15.34	30	PASS
	2432/CH 5	12.84	13.49	12.51	13.16	16.34	30	PASS
	2437/CH 6	13.54	14.19	13.39	14.04	17.12	30	PASS
	2442/CH 7	11.66	12.31	11.23	11.88	15.11	30	PASS
	2447/CH 8	9.10	9.75	8.28	8.93	12.37	30	PASS
	2452/CH 9	8.89	9.54	8.00	8.65	12.13	30	PASS
802.11ax HE20	2412/CH 1	15.58	16.01	15.68	16.11	19.07	30	PASS
	2417/CH 2	17.45	17.88	17.62	18.05	20.98	30	PASS
	2422/CH 3	19.29	19.72	19.59	20.02	22.88	30	PASS
	2427/CH 4	20.21	20.64	20.45	20.88	23.77	30	PASS
	2432/CH 5	20.99	21.42	21.28	21.71	24.58	30	PASS
	2437/CH 6	21.63	22.06	22.07	22.50	25.30	30	PASS
	2442/CH 7	20.01	20.44	20.29	20.72	23.59	30	PASS
	2447/CH 8	18.21	18.64	18.35	18.78	21.72	30	PASS
	2452/CH 9	17.03	17.46	17.17	17.60	20.54	30	PASS
	2457/CH 10	15.19	15.62	15.05	15.48	18.56	30	PASS
	2462/CH 11	12.25	12.68	11.97	12.40	15.55	30	PASS
802.11ax HE40	2422/CH 3	11.65	12.43	11.37	12.15	15.30	30	PASS
	2427/CH 4	11.73	12.51	11.31	12.09	15.31	30	PASS
	2432/CH 5	13.53	14.31	13.43	14.21	17.27	30	PASS
	2437/CH 6	13.33	14.11	13.13	13.91	17.02	30	PASS
	2442/CH 7	10.64	11.42	10.12	10.90	14.18	30	PASS
	2447/CH 8	9.80	10.58	9.02	9.80	13.22	30	PASS
	2452/CH 9	9.64	10.42	8.86	9.64	13.06	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 = 4.83 dBi < 6dBi. So the power limit is 30dBm.

5.2. 99% Bandwidth and 6dB Bandwidth

Ambient Condition

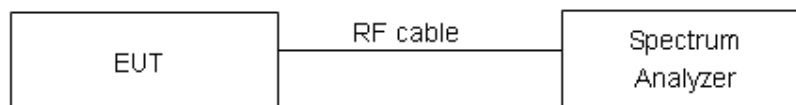
Temperature	Relative humidity
15°C ~ 35°C	20% ~ 80%

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.

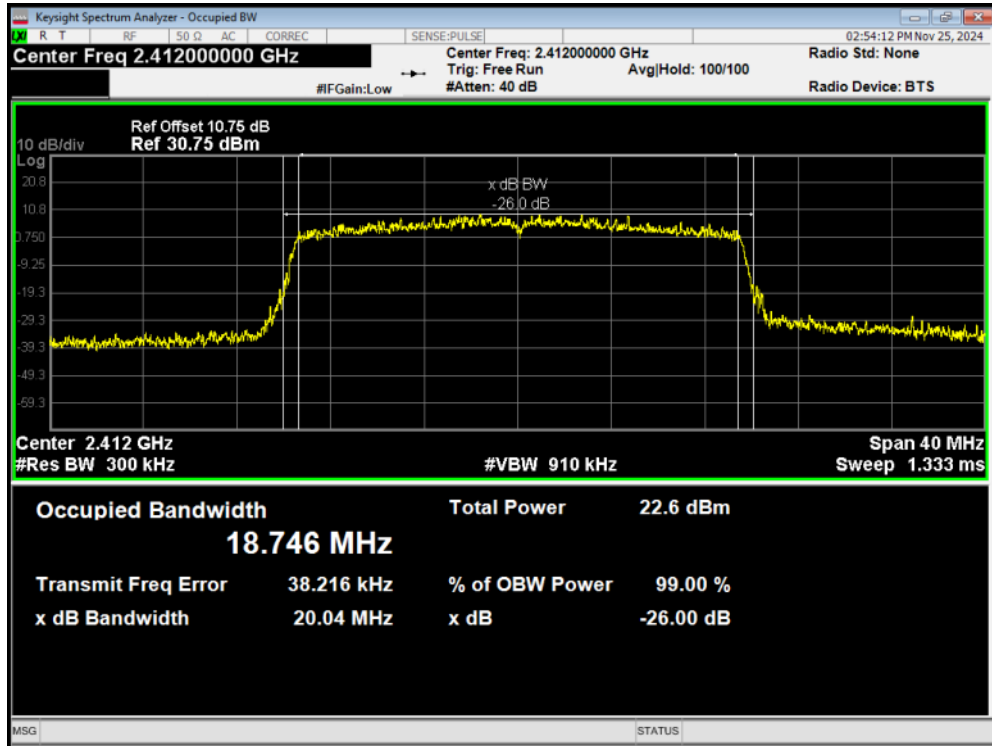
Test Results:

Test Mode	Carrier frequency (MHz)/ Channel	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11b	2412/CH 1	14.086	10.048	500	PASS
	2417/CH 2	14.005	10.061	500	PASS
	2422/CH 3	14.042	11.066	500	PASS
	2427/CH 4	14.099	10.060	500	PASS
	2432/CH 5	14.194	10.088	500	PASS
	2437/CH 6	14.183	10.082	500	PASS
	2442/CH 7	14.020	10.094	500	PASS
	2447/CH 8	14.013	10.081	500	PASS
	2452/CH 9	14.014	10.094	500	PASS
	2457/CH 10	14.007	10.074	500	PASS
	2462/CH 11	14.006	10.090	500	PASS
802.11g	2412/CH 1	16.255	13.878	500	PASS
	2417/CH 2	16.244	14.114	500	PASS
	2422/CH 3	16.268	14.155	500	PASS
	2427/CH 4	16.329	15.221	500	PASS
	2432/CH 5	16.262	14.646	500	PASS
	2437/CH 6	16.337	12.168	500	PASS
	2442/CH 7	16.323	15.061	500	PASS
	2447/CH 8	16.241	15.043	500	PASS
	2452/CH 9	16.244	15.437	500	PASS
	2457/CH 10	16.247	14.695	500	PASS
	2462/CH 11	16.242	14.672	500	PASS
802.11n HT20	2412/CH 1	17.379	13.851	500	PASS
	2417/CH 2	17.386	14.274	500	PASS
	2422/CH 3	17.387	15.344	500	PASS
	2427/CH 4	17.458	15.448	500	PASS
	2432/CH 5	17.537	15.088	500	PASS
	2437/CH 6	17.510	13.982	500	PASS
	2442/CH 7	17.454	14.931	500	PASS
	2447/CH 8	17.385	15.288	500	PASS
	2452/CH 9	17.377	15.072	500	PASS
	2457/CH 10	17.360	15.041	500	PASS
	2462/CH 11	17.361	15.676	500	PASS
802.11n HT40	2422/CH 3	35.766	35.059	500	PASS
	2427/CH 4	35.773	35.044	500	PASS
	2432/CH 5	35.775	35.051	500	PASS
	2437/CH 6	35.759	33.818	500	PASS
	2442/CH 7	35.764	32.579	500	PASS

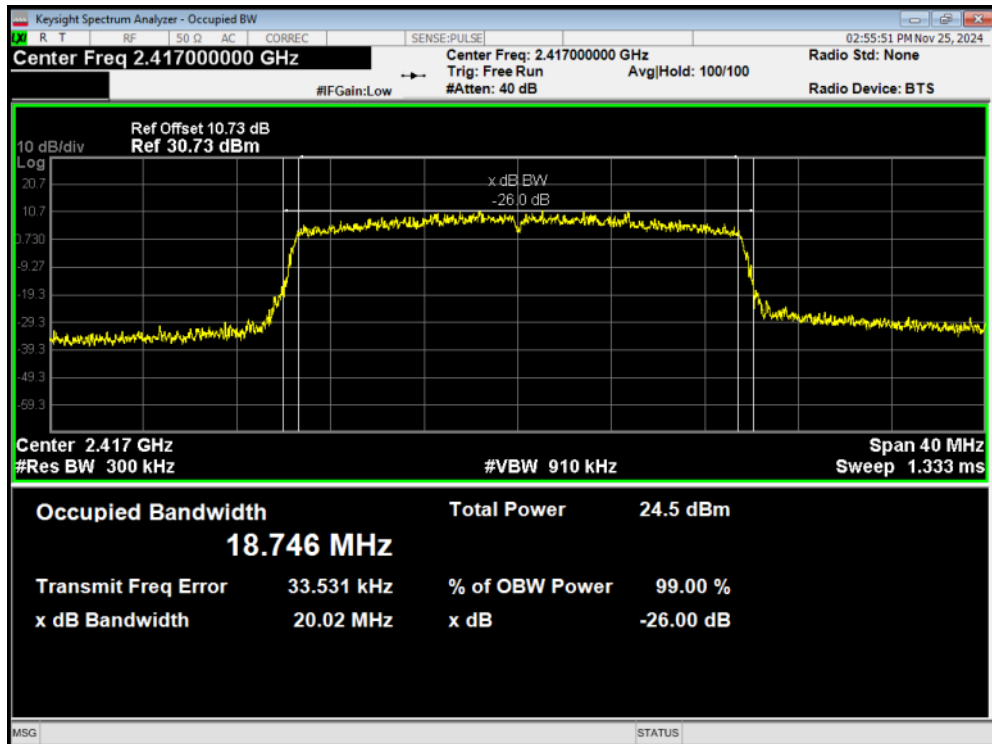
	2447/CH 8	35.785	32.526	500	PASS
	2452/CH 9	35.768	35.073	500	PASS
802.11ax HE20	2412/CH 1	18.746	13.862	500	PASS
	2417/CH 2	18.746	15.010	500	PASS
	2422/CH 3	18.752	15.442	500	PASS
	2427/CH 4	18.785	15.834	500	PASS
	2432/CH 5	18.803	15.841	500	PASS
	2437/CH 6	18.886	13.589	500	PASS
	2442/CH 7	18.754	15.819	500	PASS
	2447/CH 8	18.743	15.878	500	PASS
	2452/CH 9	18.720	16.228	500	PASS
	2457/CH 10	18.722	15.687	500	PASS
	2462/CH 11	18.732	15.407	500	PASS
802.11ax HE40	2422/CH 3	37.378	33.862	500	PASS
	2427/CH 4	37.369	35.078	500	PASS
	2432/CH 5	37.333	35.051	500	PASS
	2437/CH 6	37.363	35.097	500	PASS
	2442/CH 7	37.382	35.020	500	PASS
	2447/CH 8	37.388	35.066	500	PASS
	2452/CH 9	37.359	35.091	500	PASS

99%bandwidth

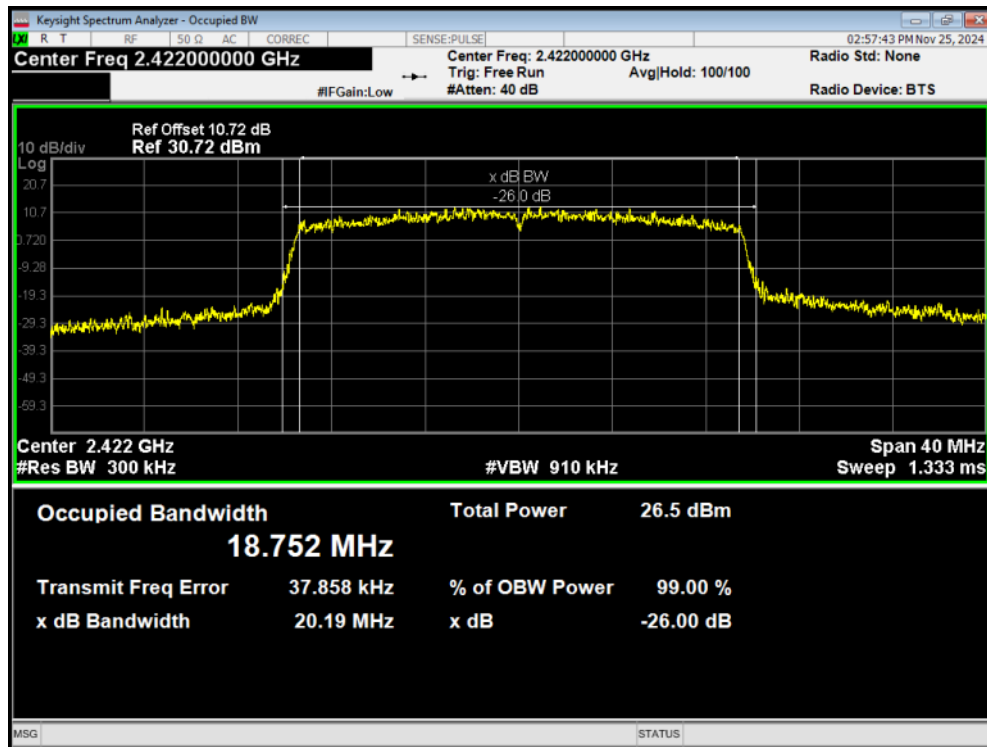
OBW 802.11ax(HE20) 2412MHz



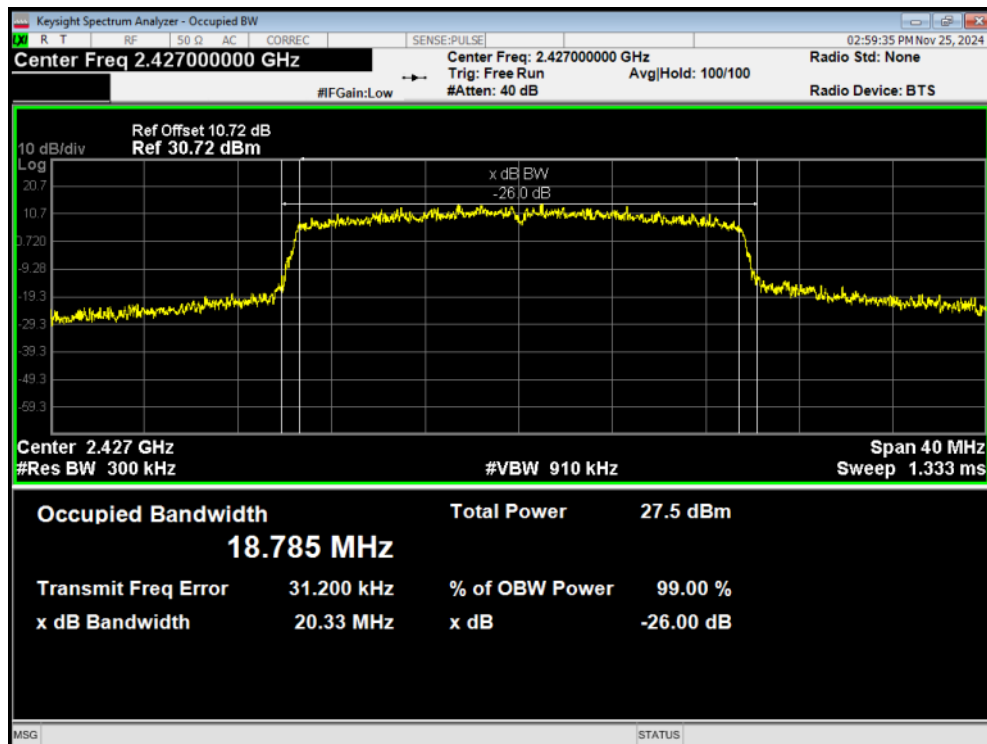
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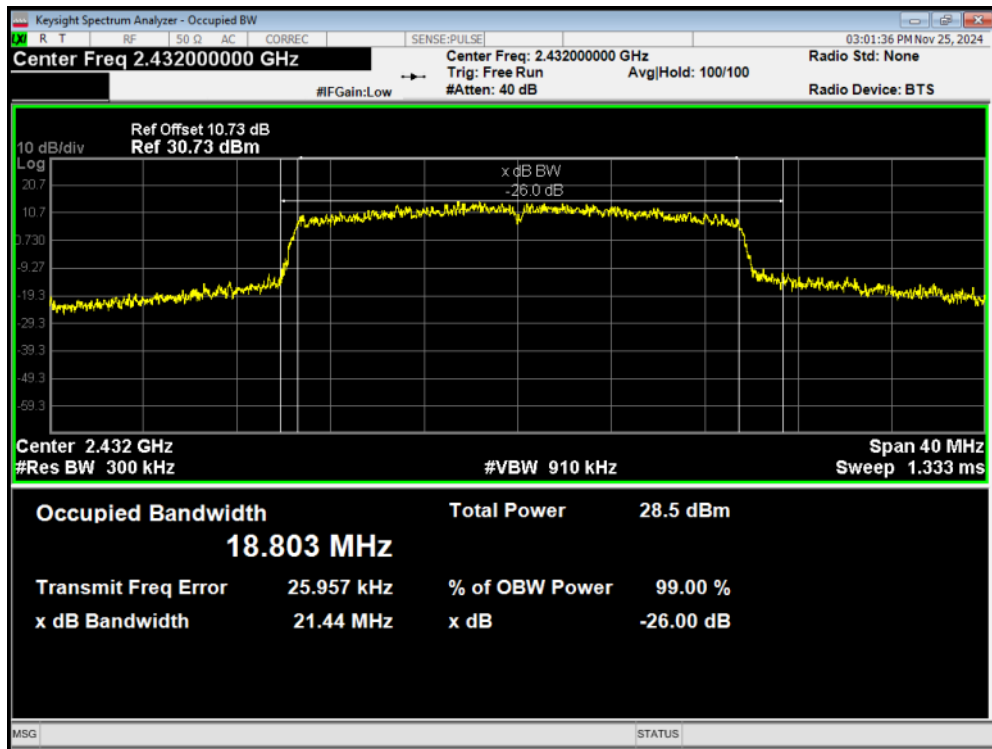
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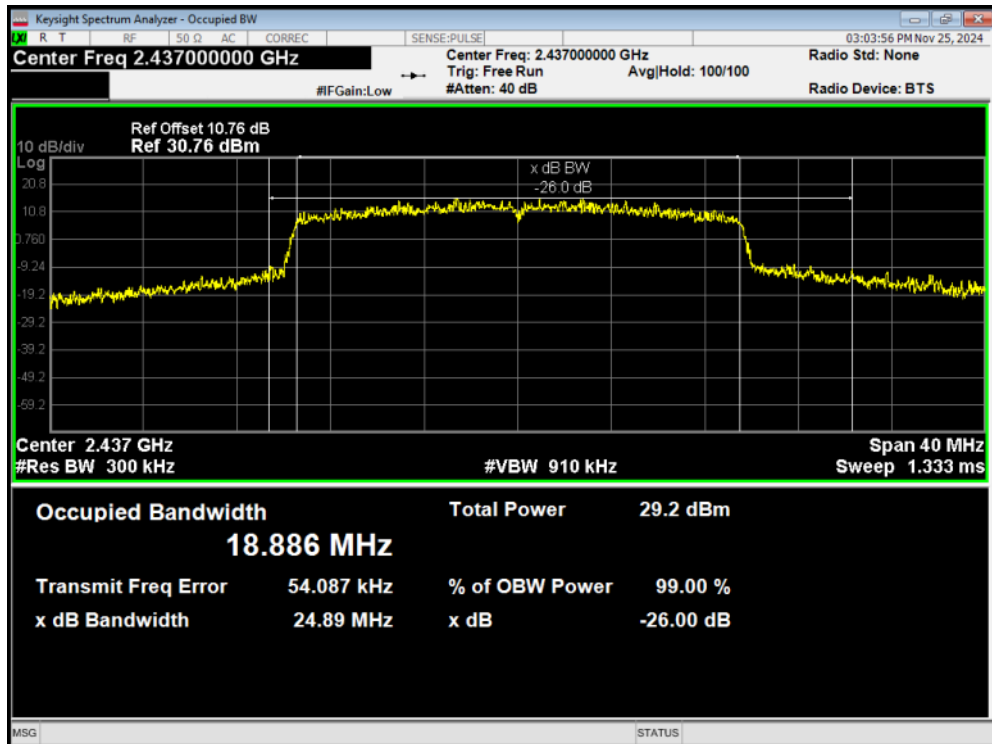
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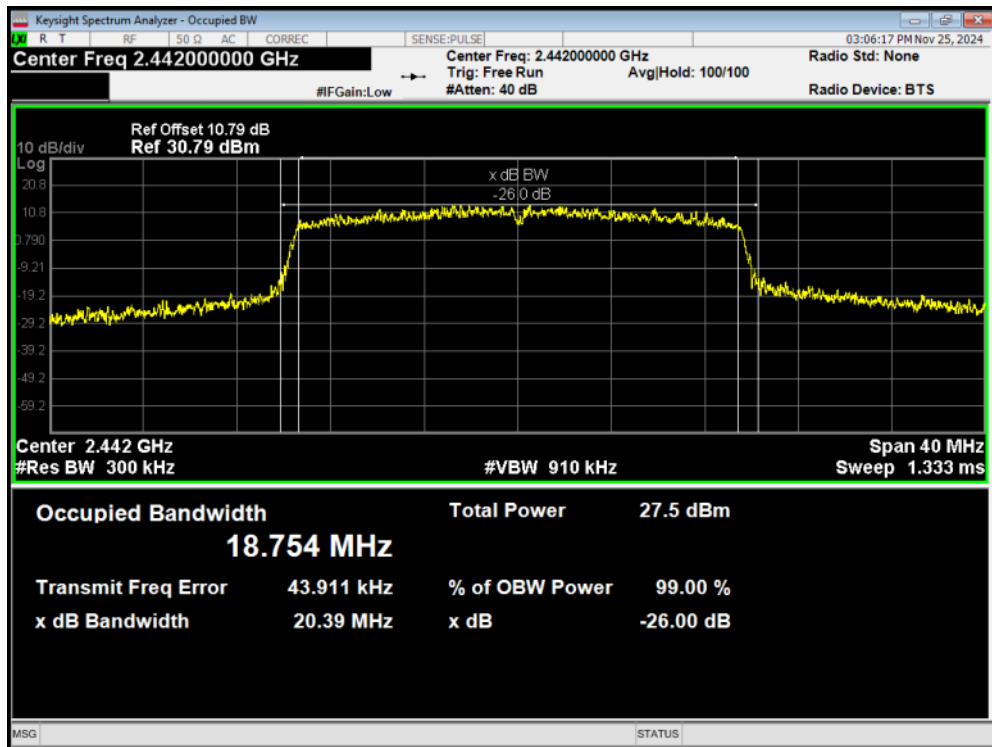
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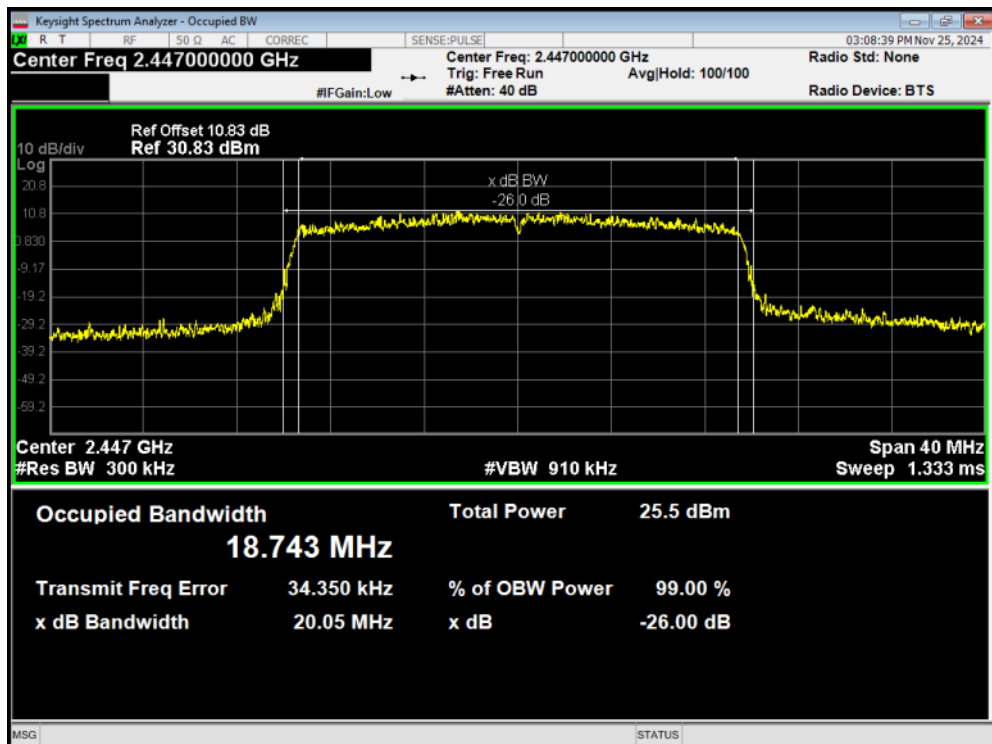
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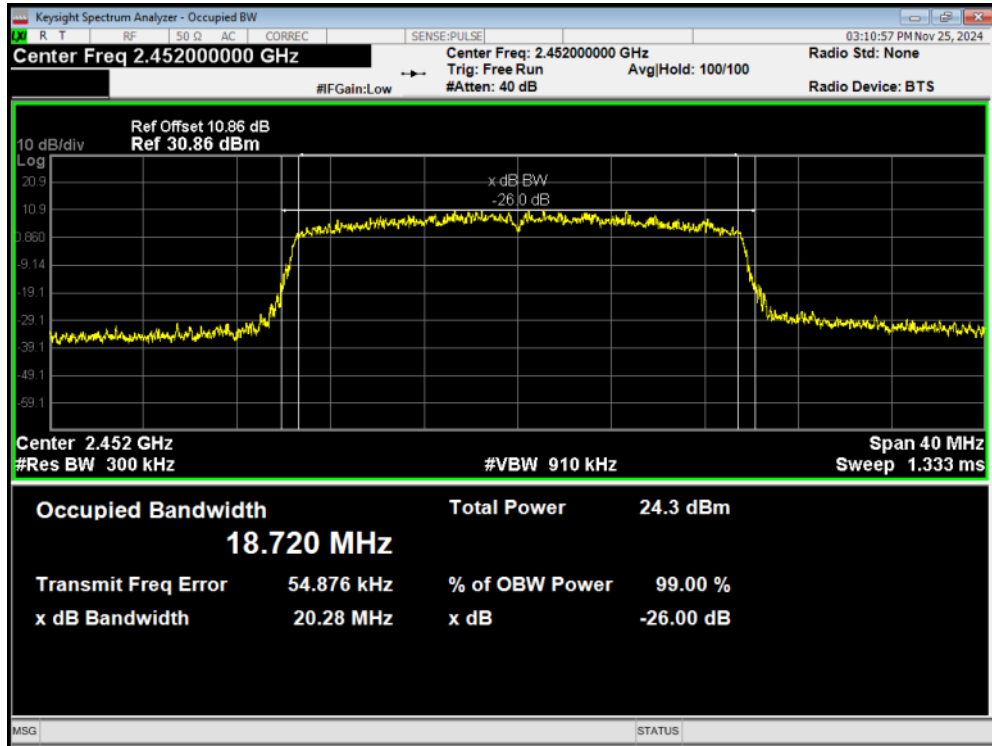
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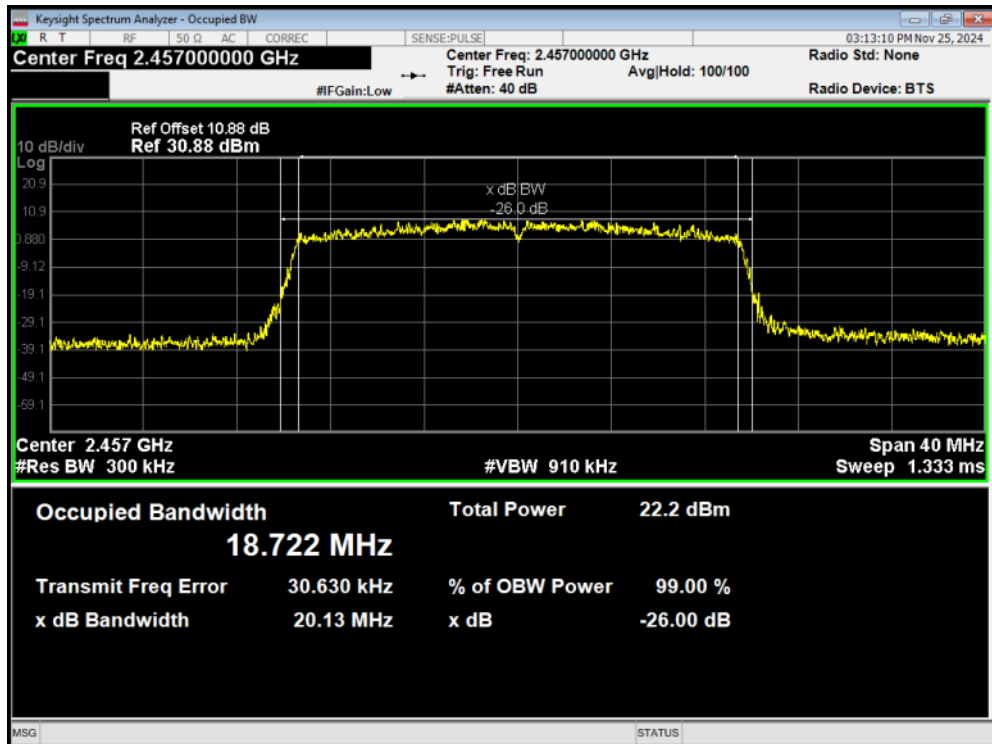
OBW 802.11ax(HE20) 2447MHz



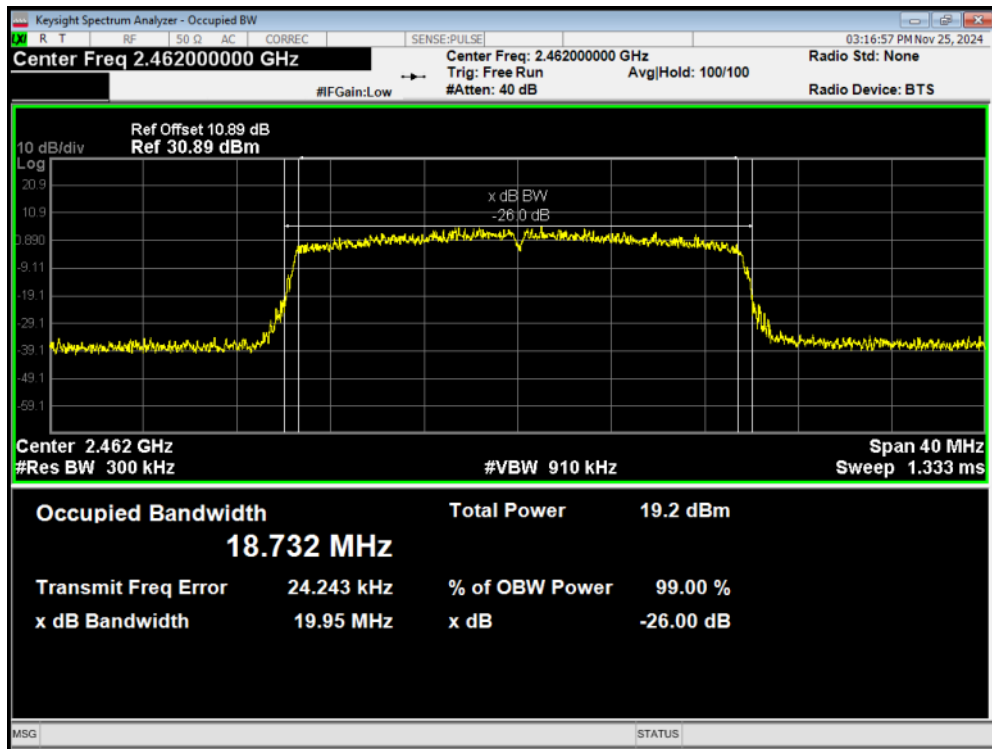
OBW 802.11ax(HE20) 2452MHz



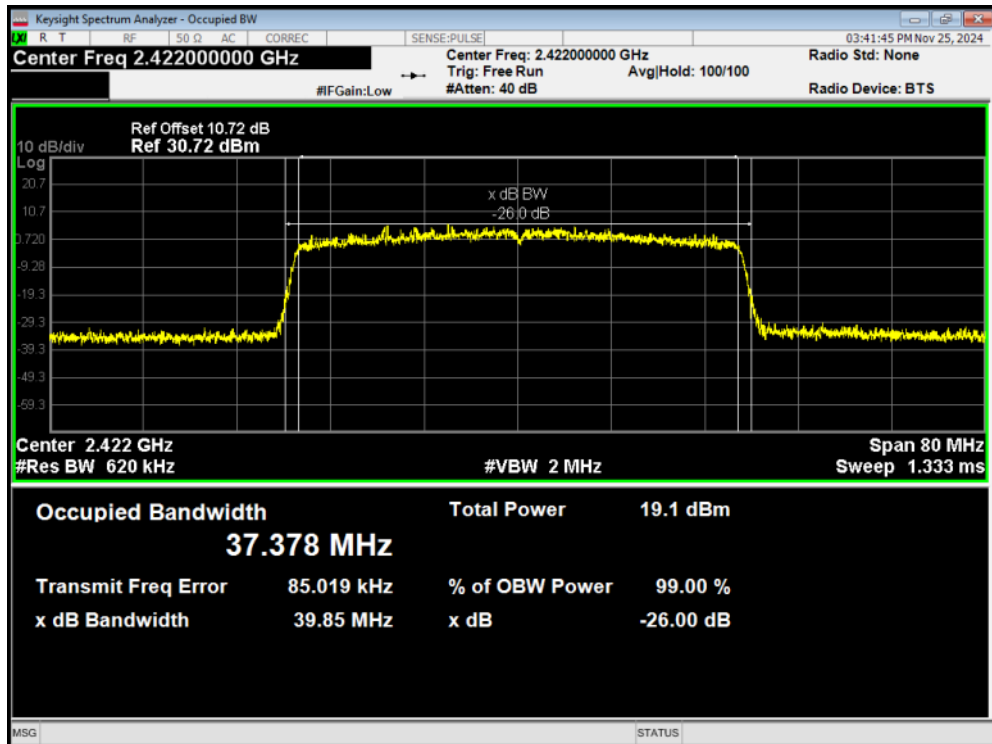
OBW 802.11ax(HE20) 2457MHz



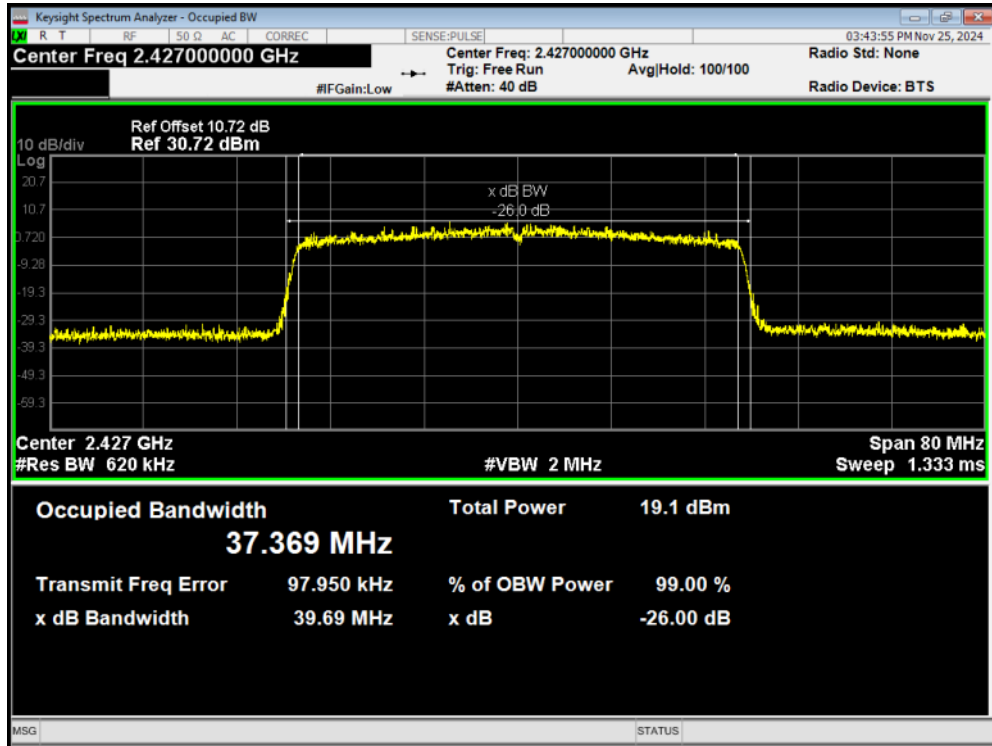
OBW 802.11ax(HE20) 2462MHz



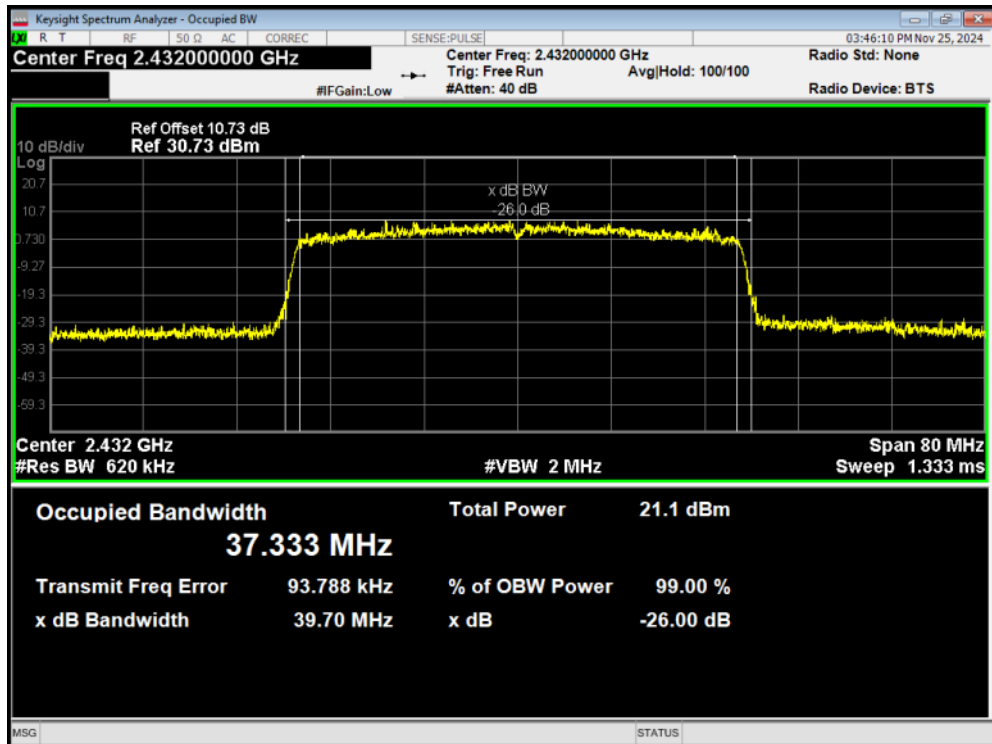
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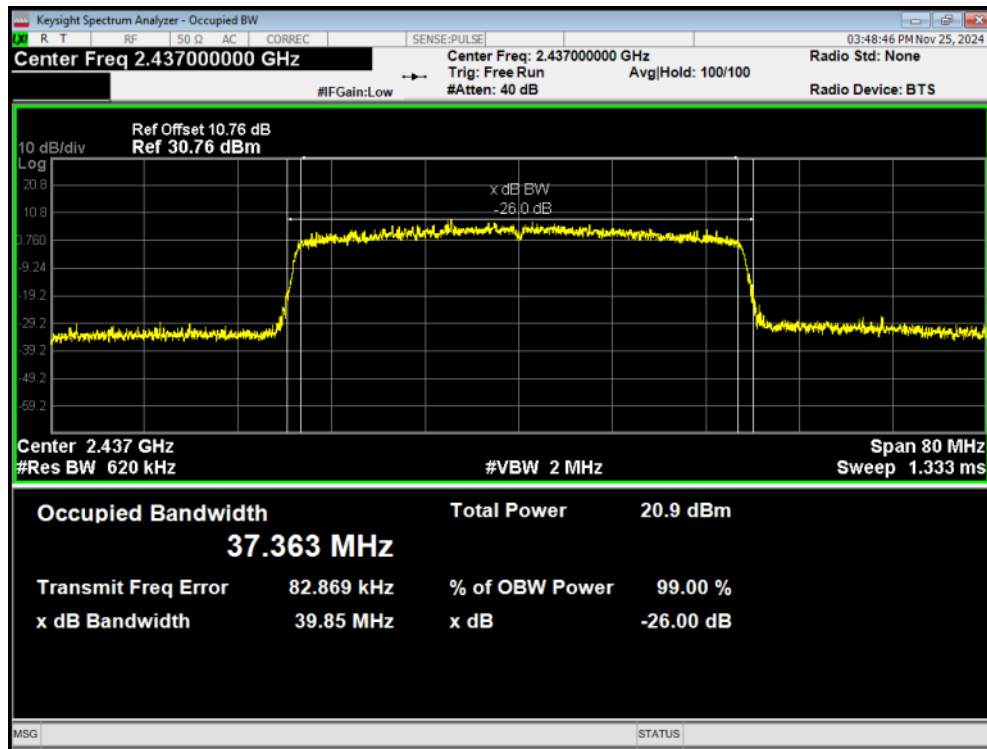
OBW 802.11ax(HE40) 2427MHz



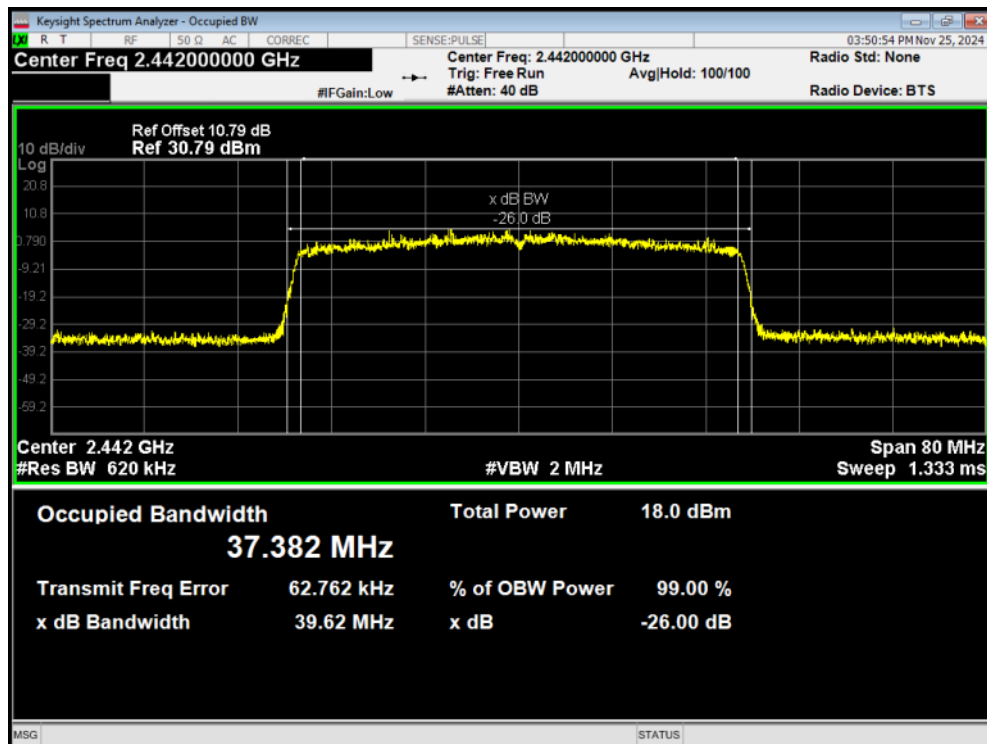
OBW 802.11ax(HE40) 2432MHz



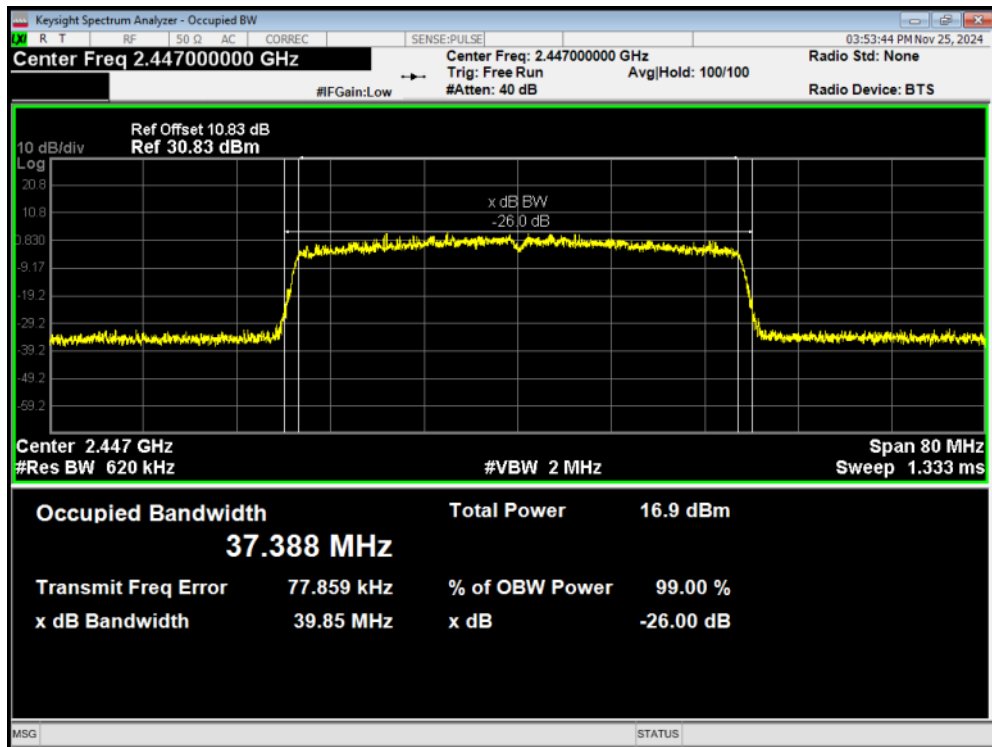
OBW 802.11ax(HE40) 2437MHz



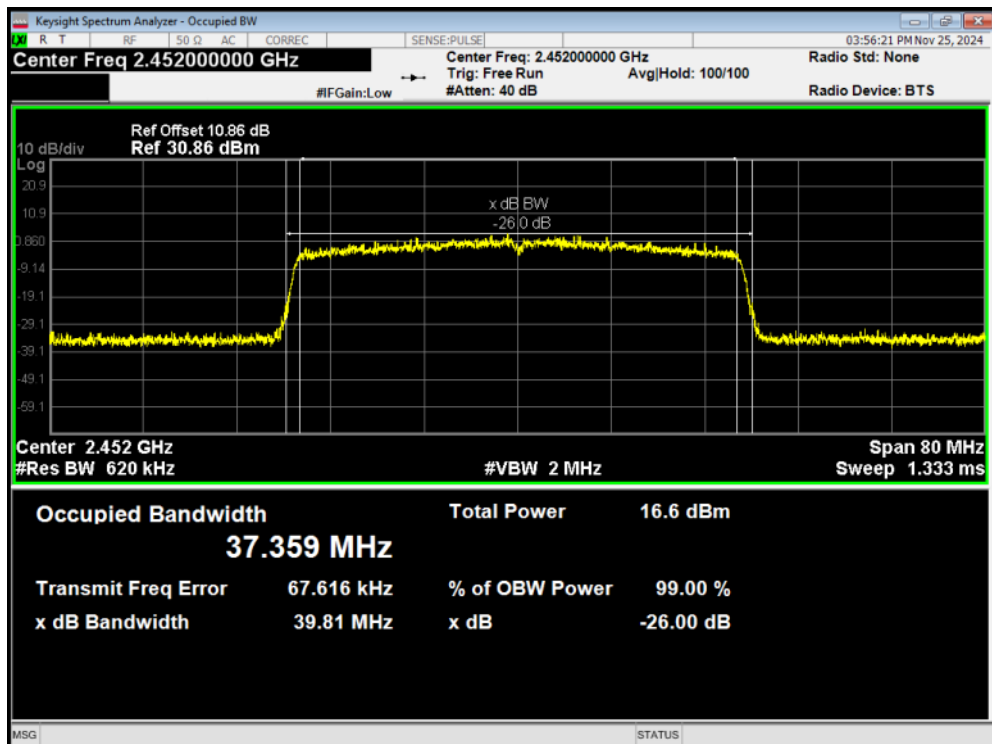
OBW 802.11ax(HE40) 2442MHz



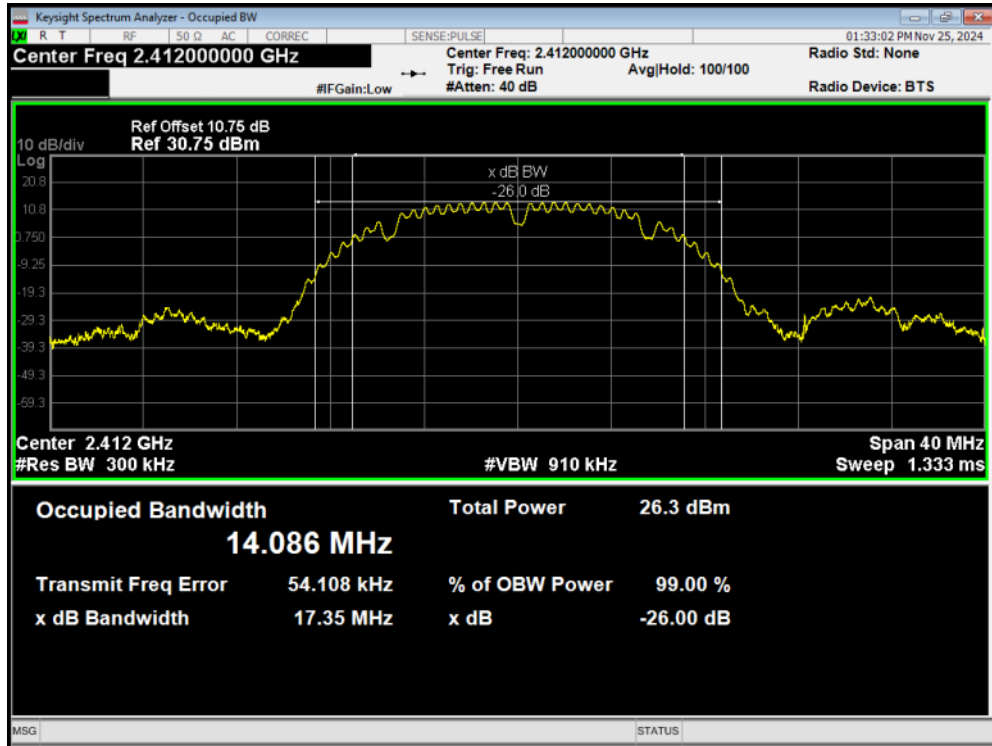
OBW 802.11ax(HE40) 2447MHz



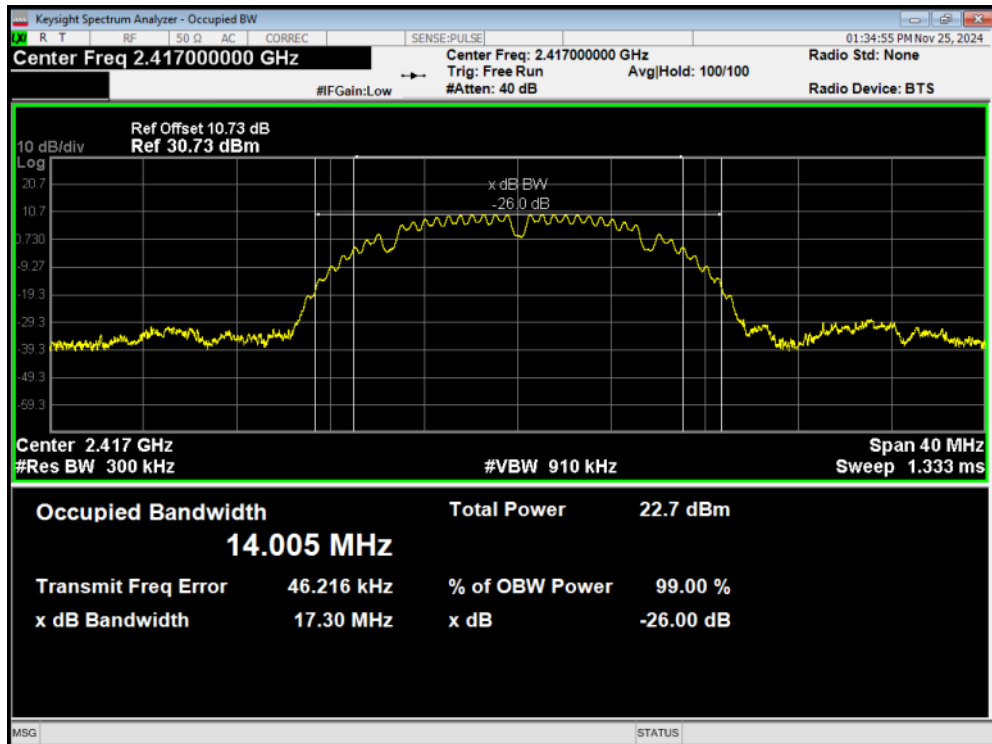
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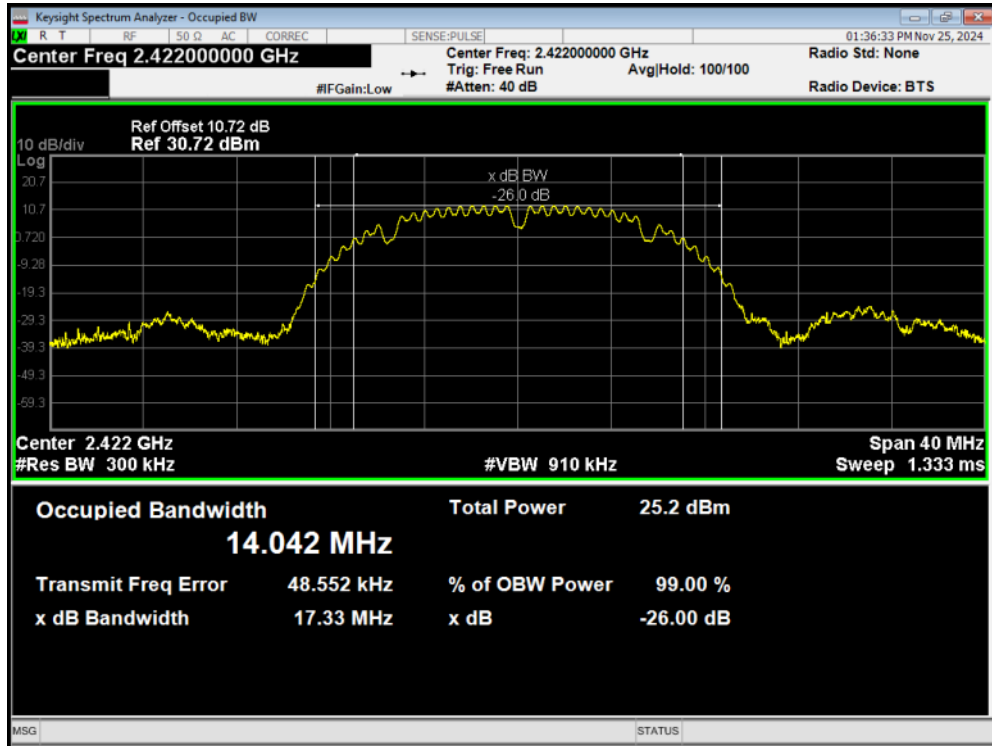
OBW 802.11b 2412MHz



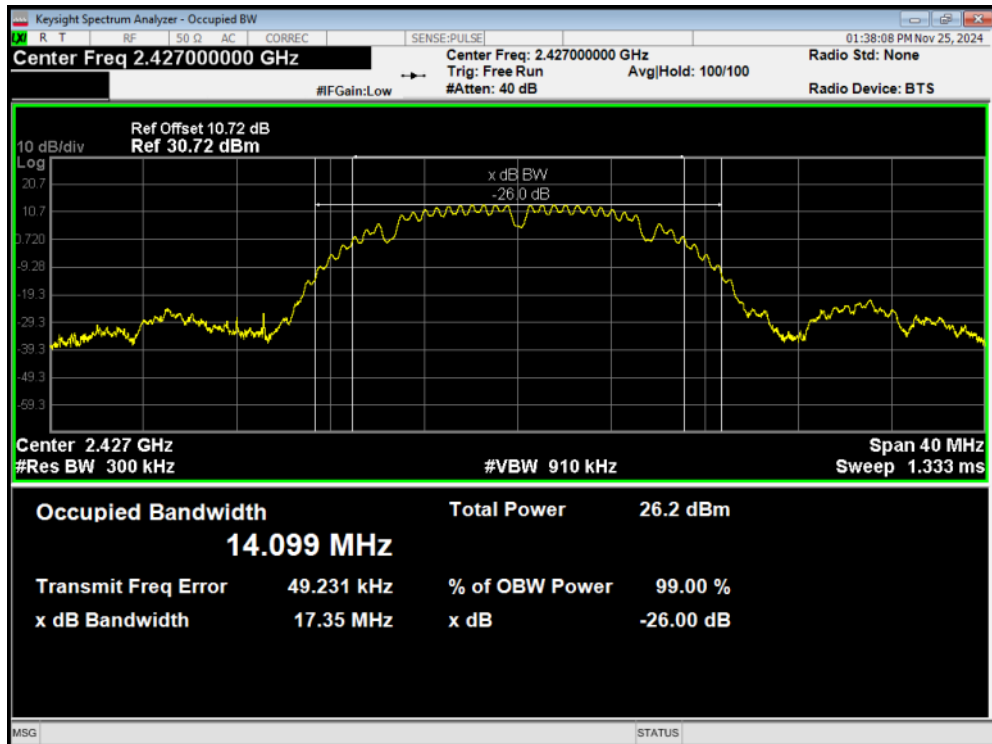
OBW 802.11b 2417MHz



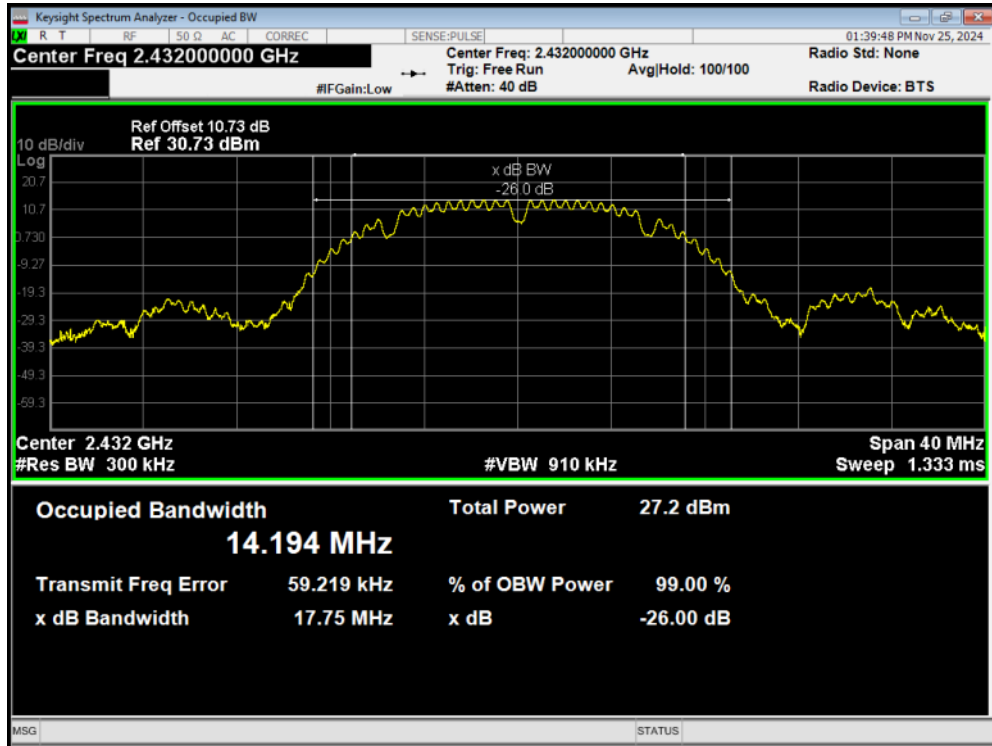
OBW 802.11b 2422MHz



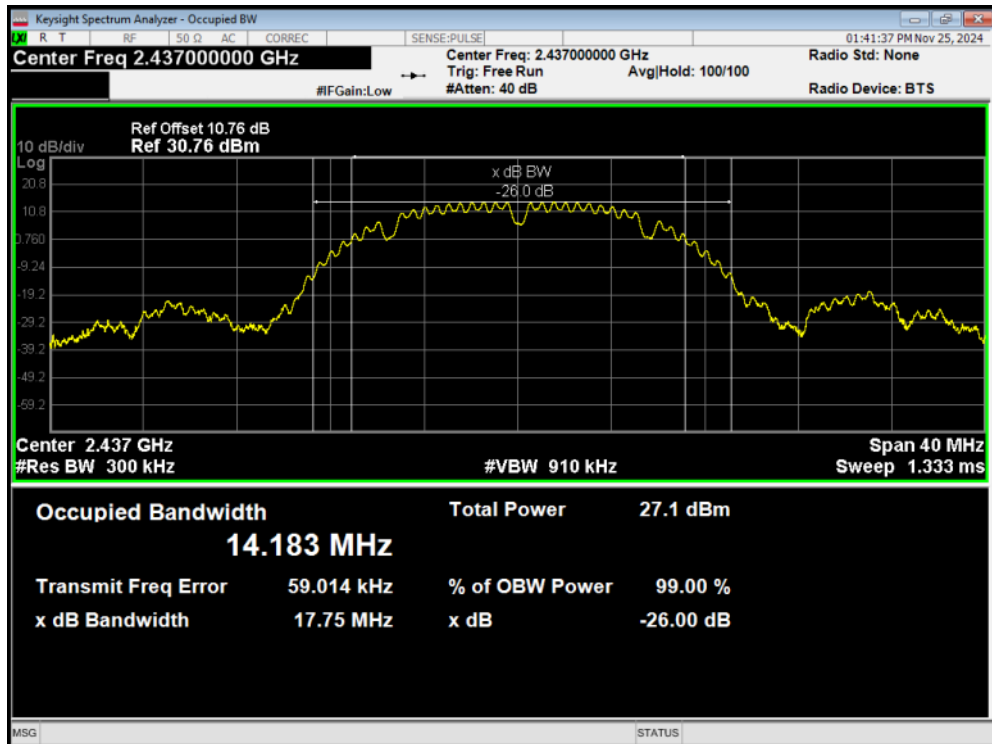
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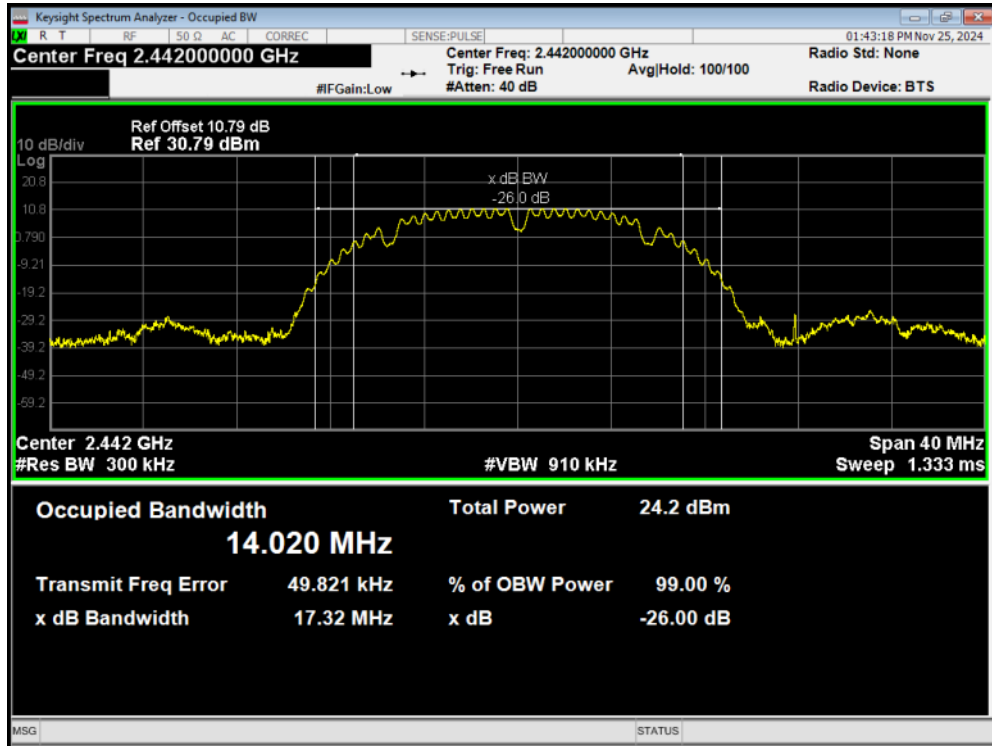
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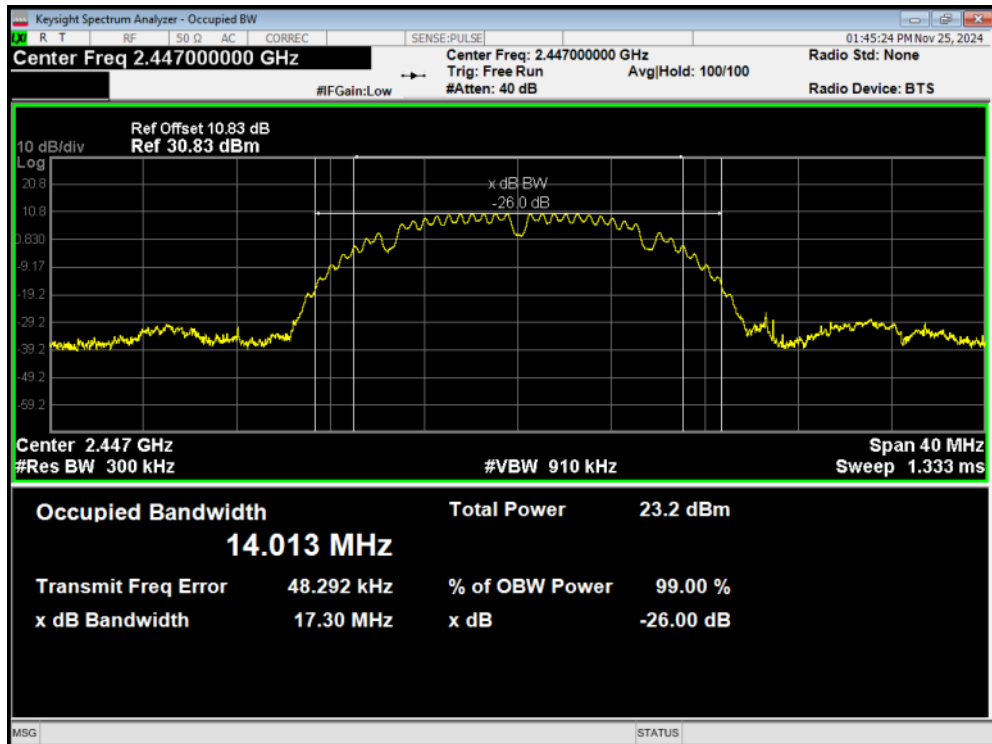
OBW 802.11b 2437MHz



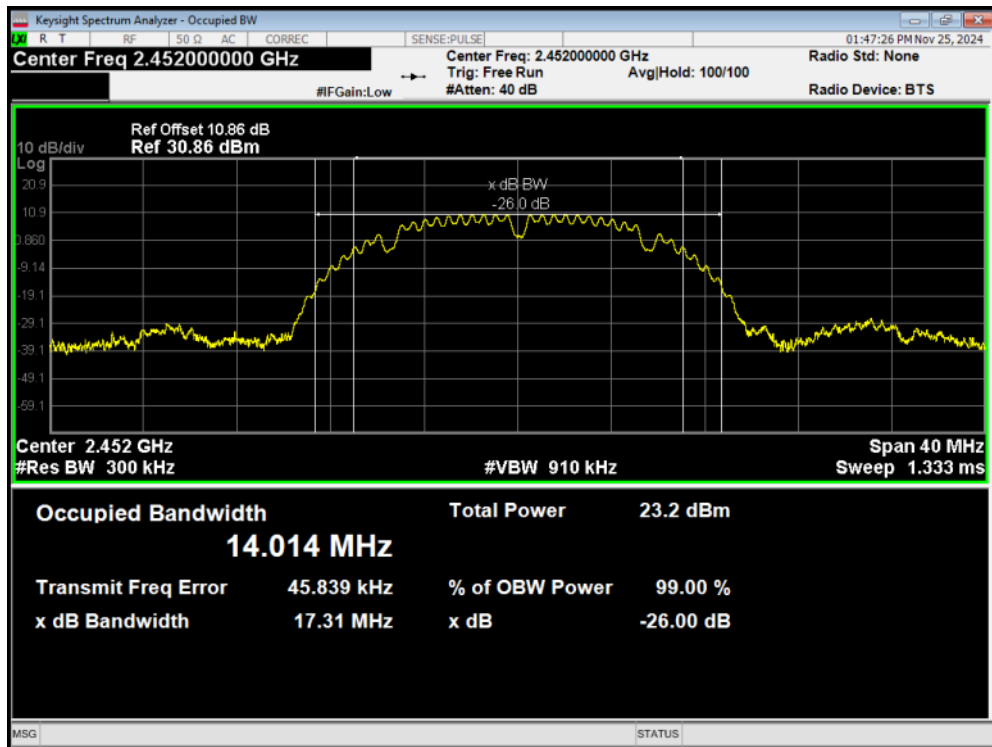
OBW 802.11b 2442MHz



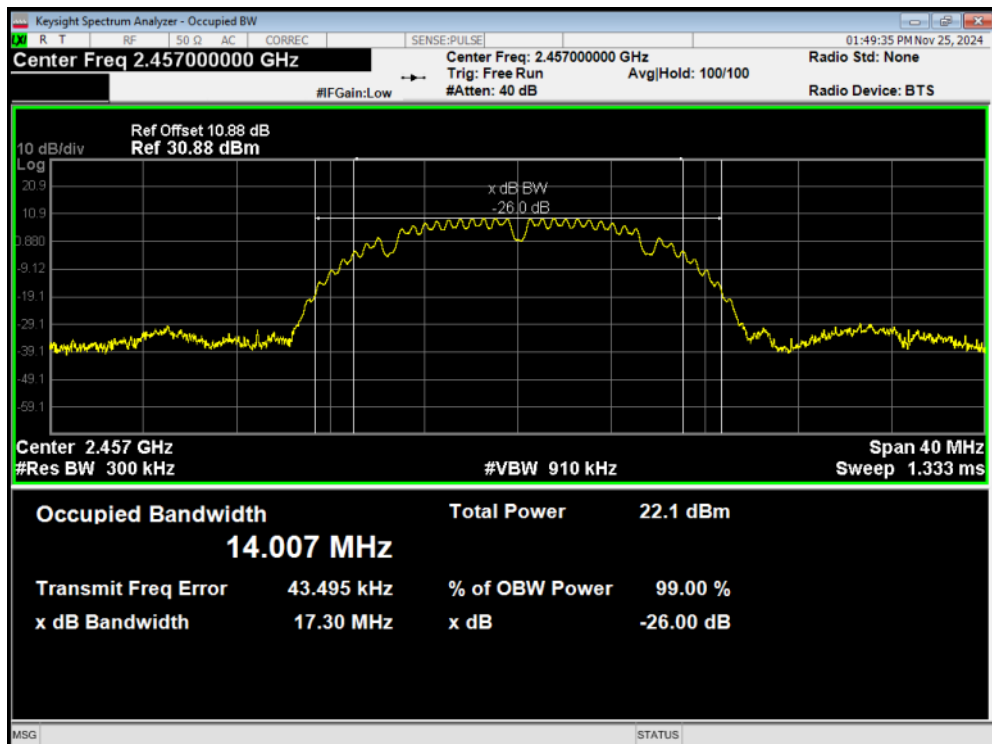
OBW 802.11b 2447MHz



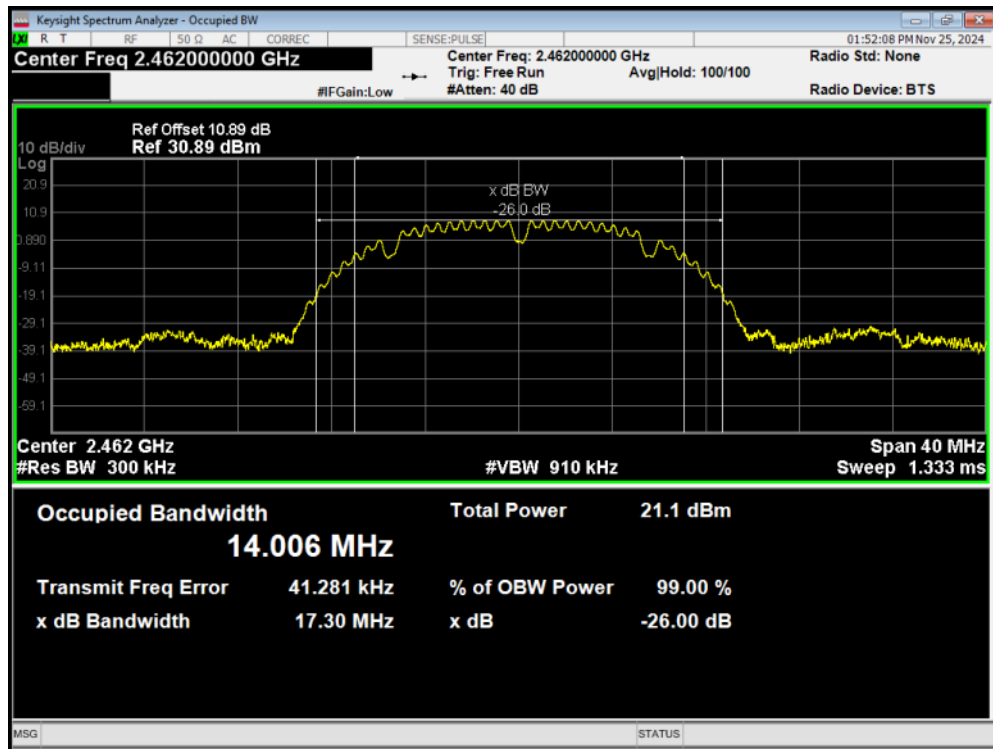
OBW 802.11b 2452MHz



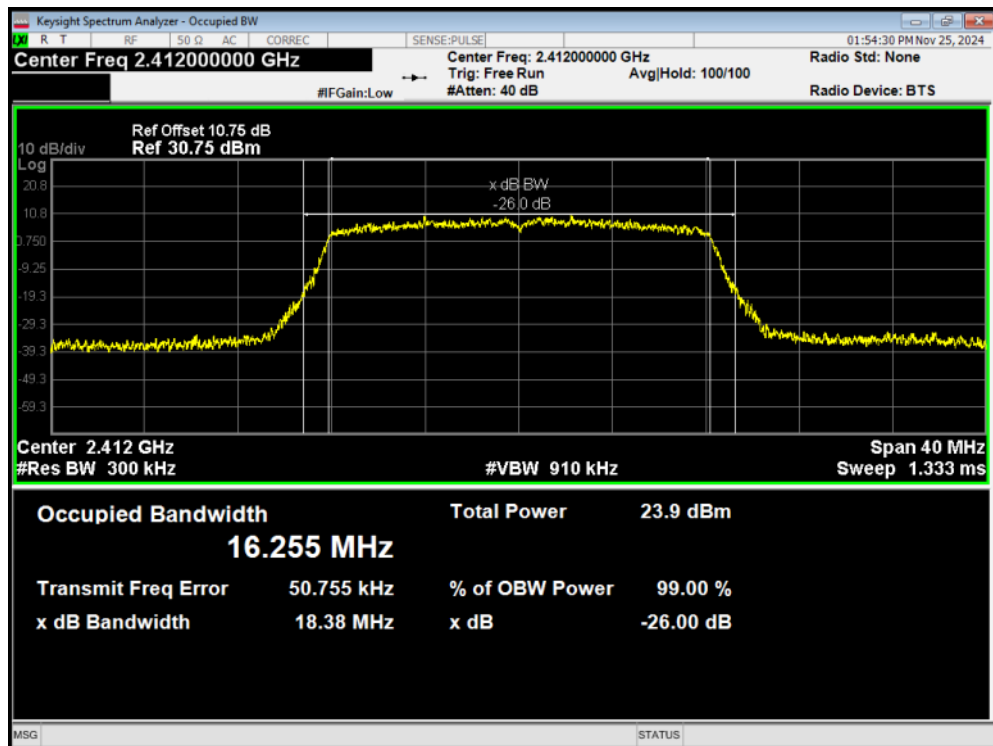
OBW 802.11b 2457MHz



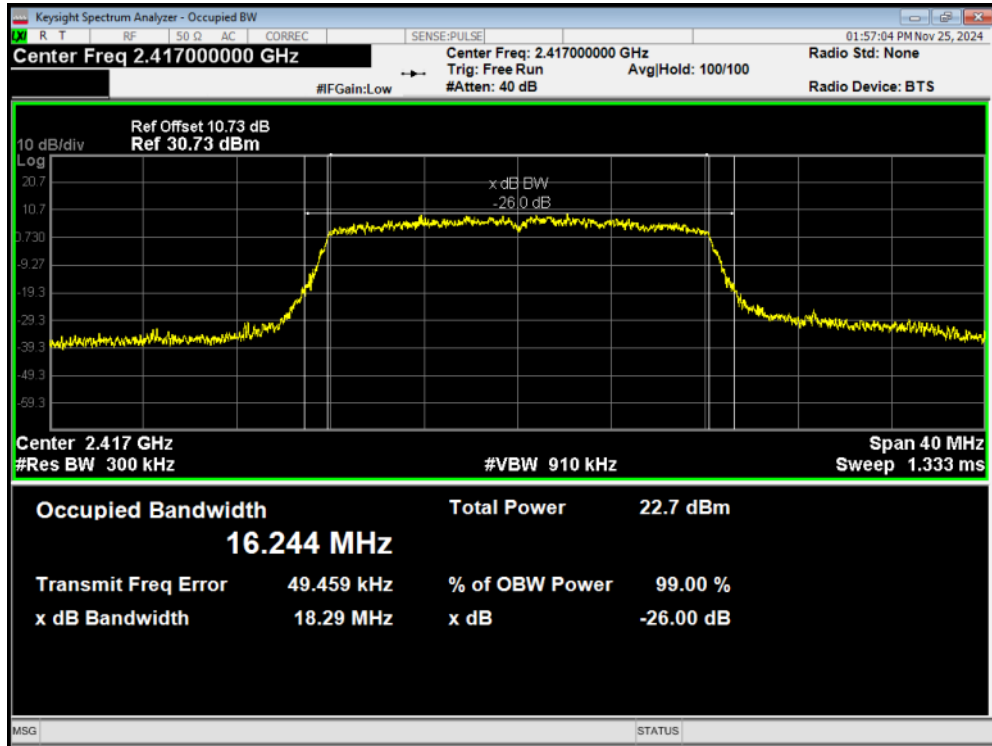
OBW 802.11b 2462MHz



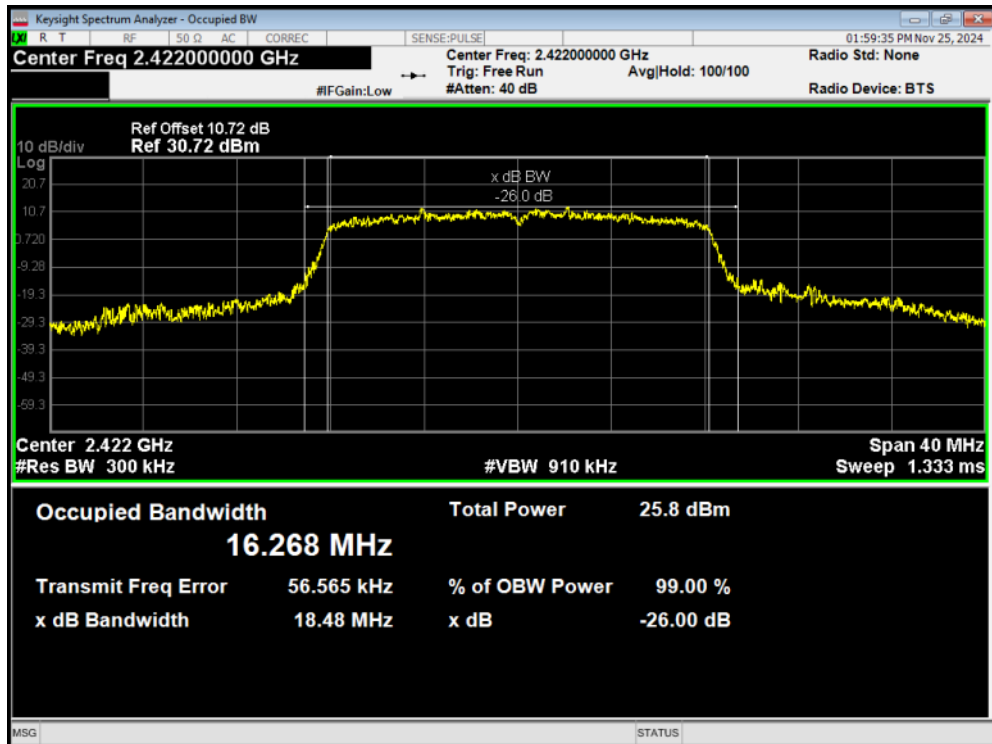
OBW 802.11g 2412MHz



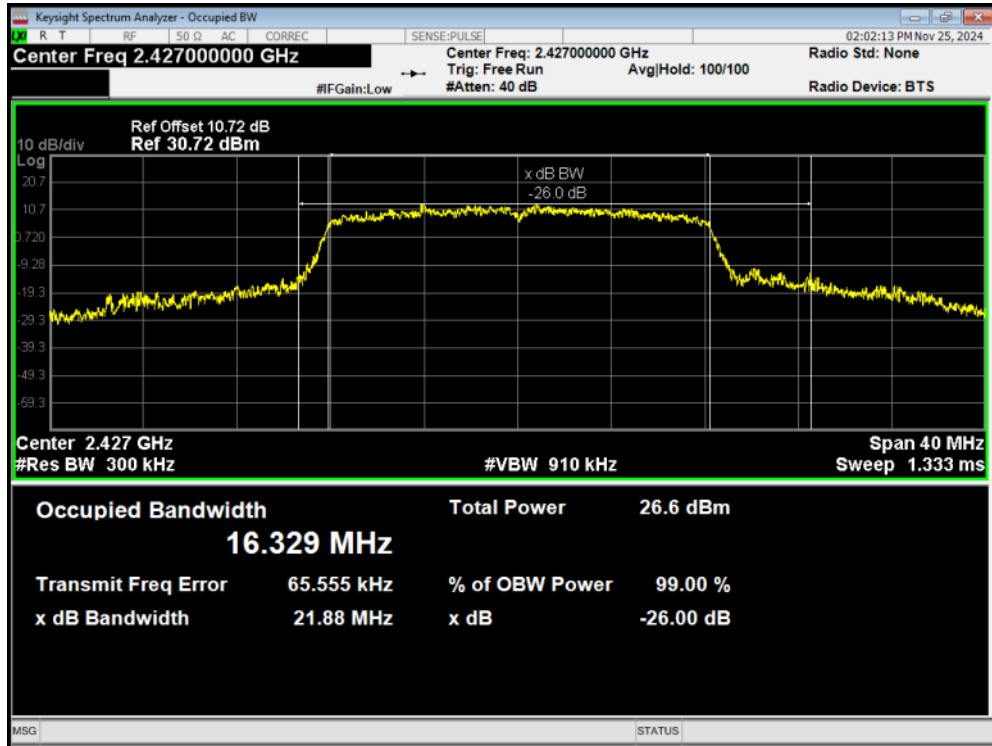
OBW 802.11g 2417MHz



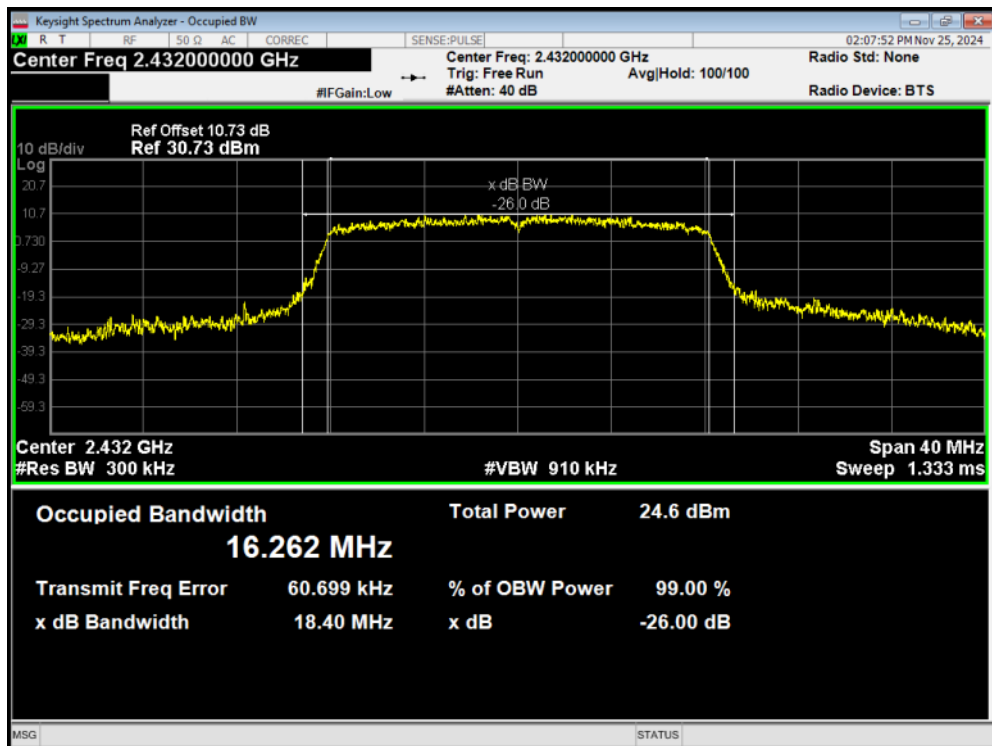
OBW 802.11g 2422MHz



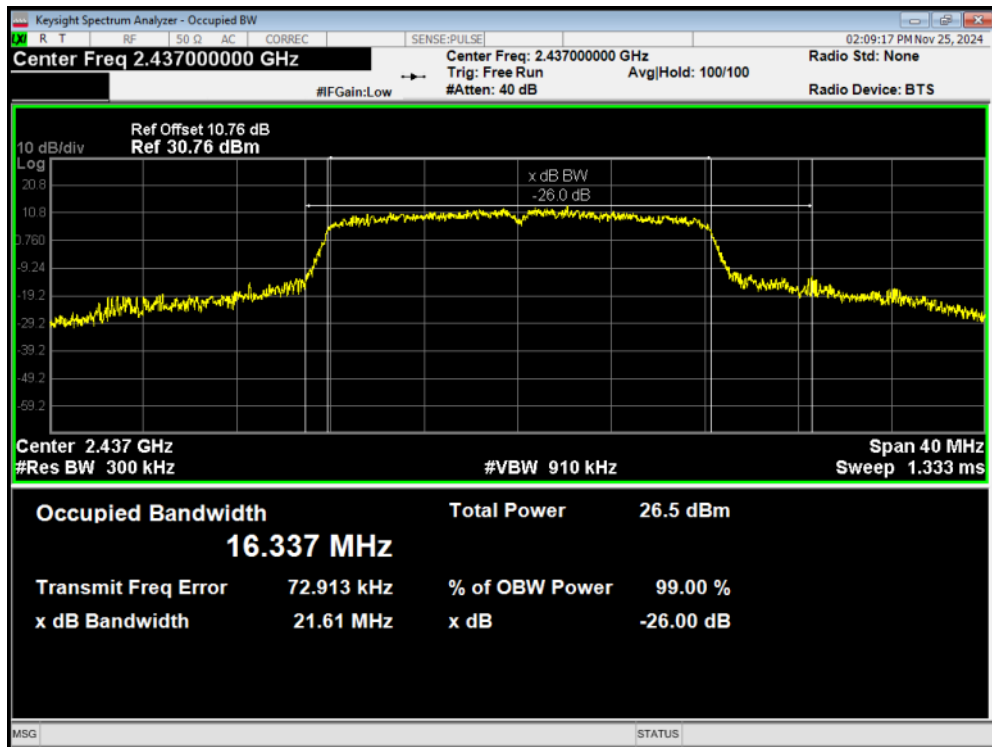
OBW 802.11g 2427MHz



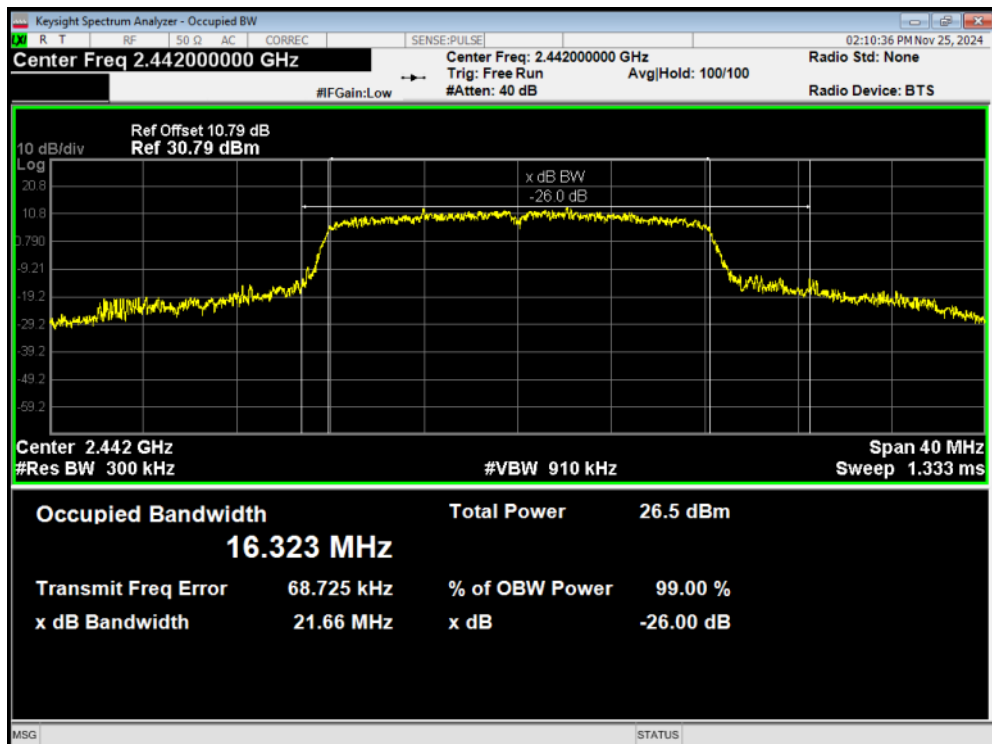
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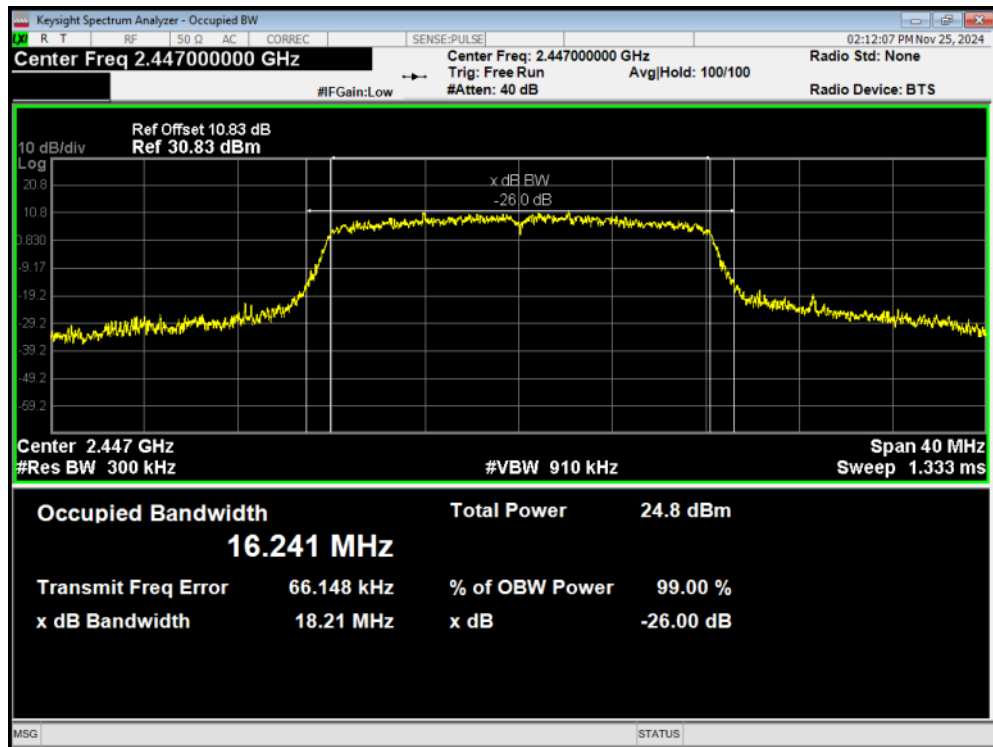
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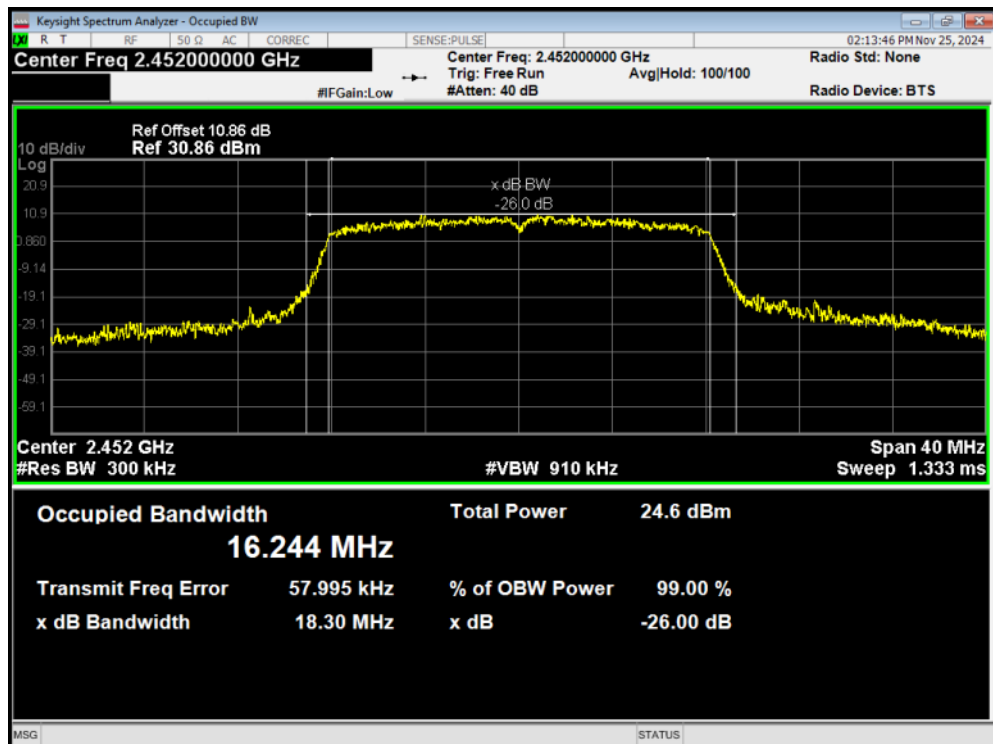
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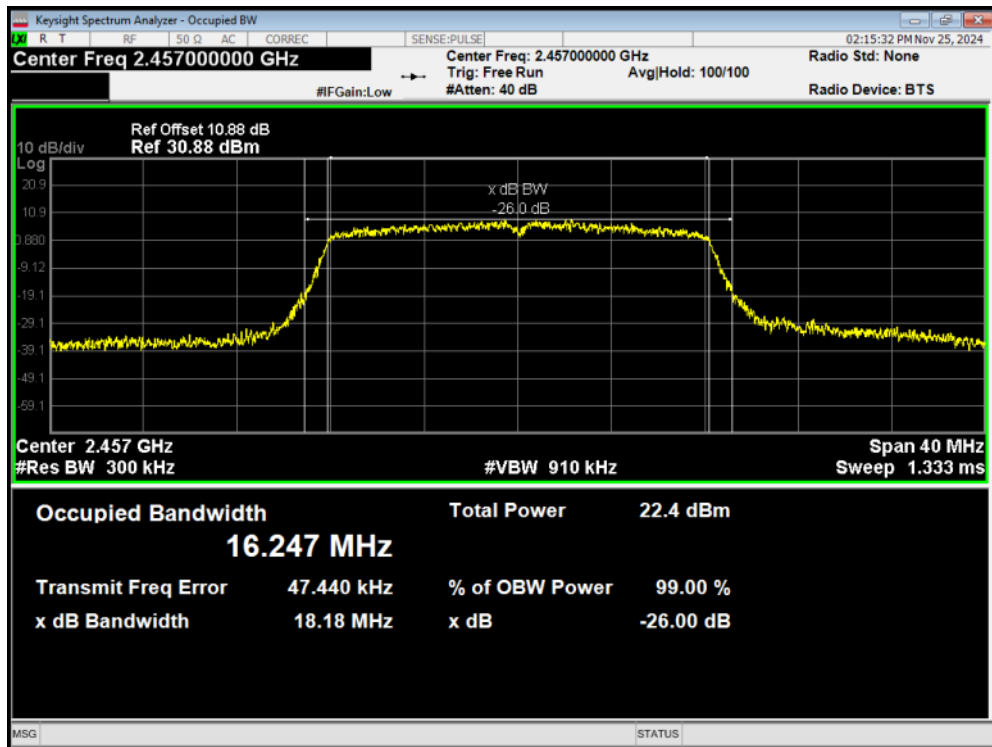
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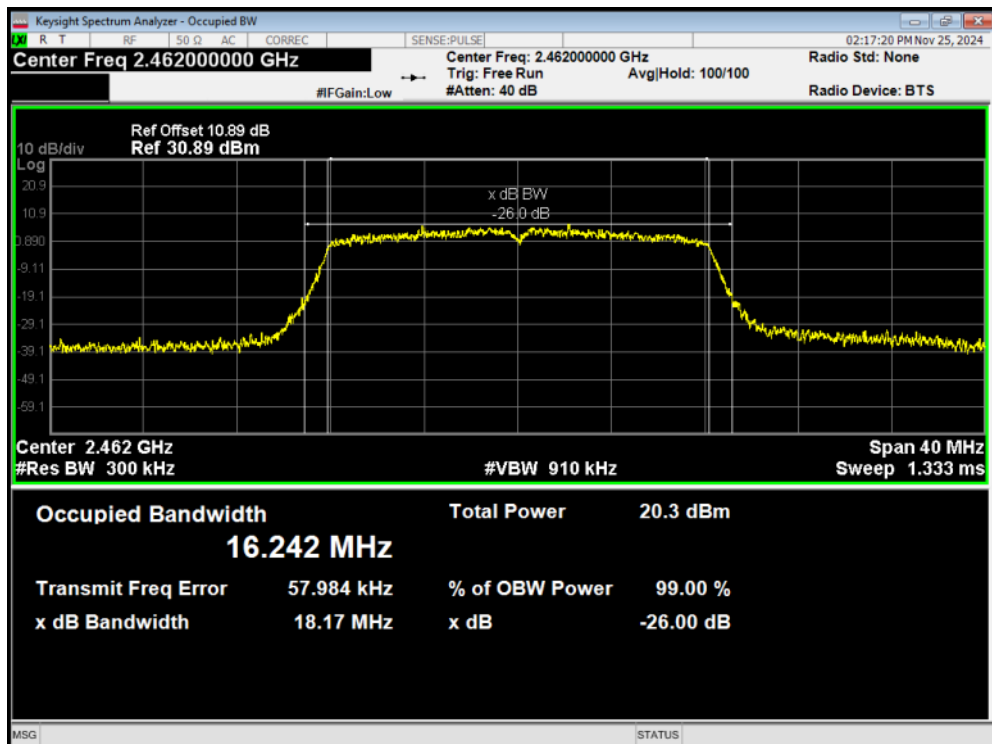
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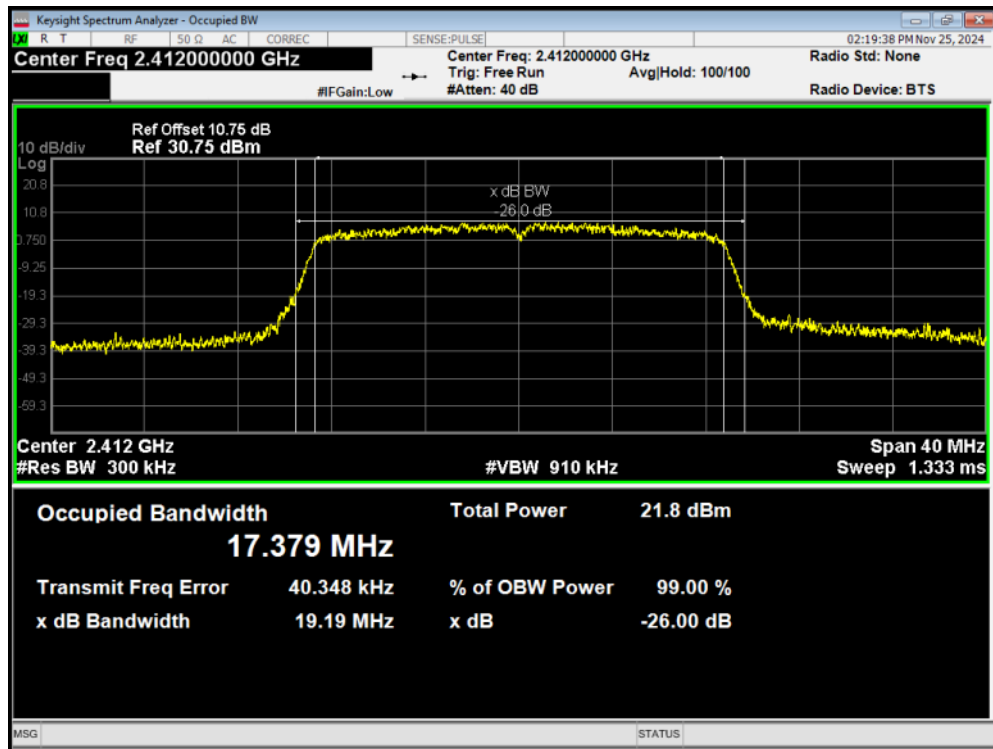
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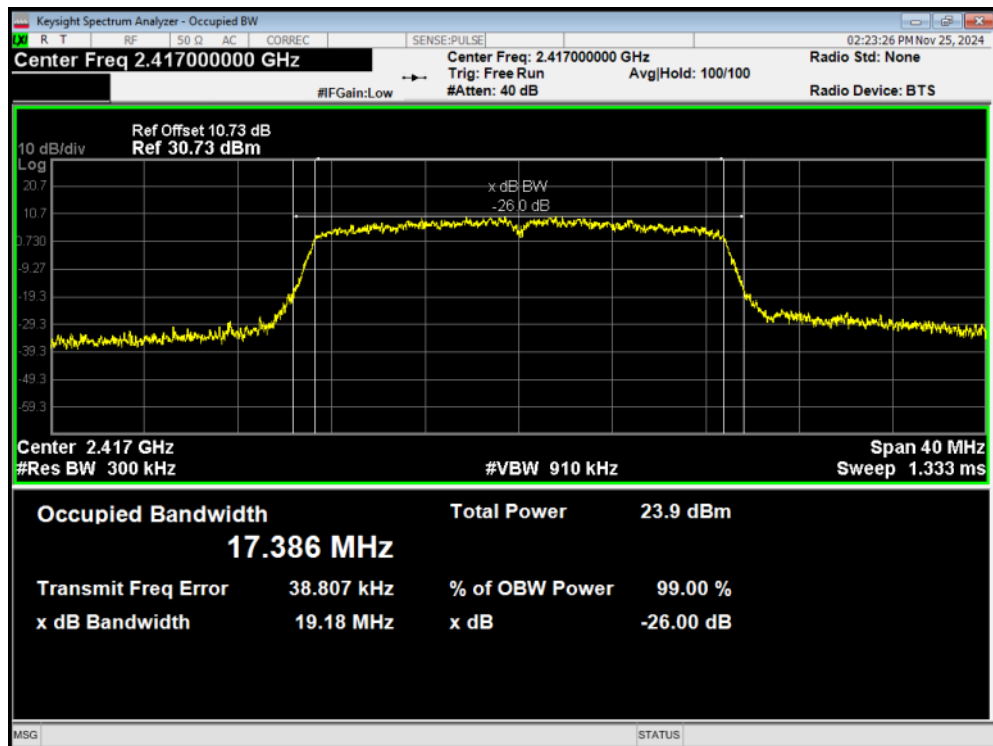
OBW 802.11g 2462MHz



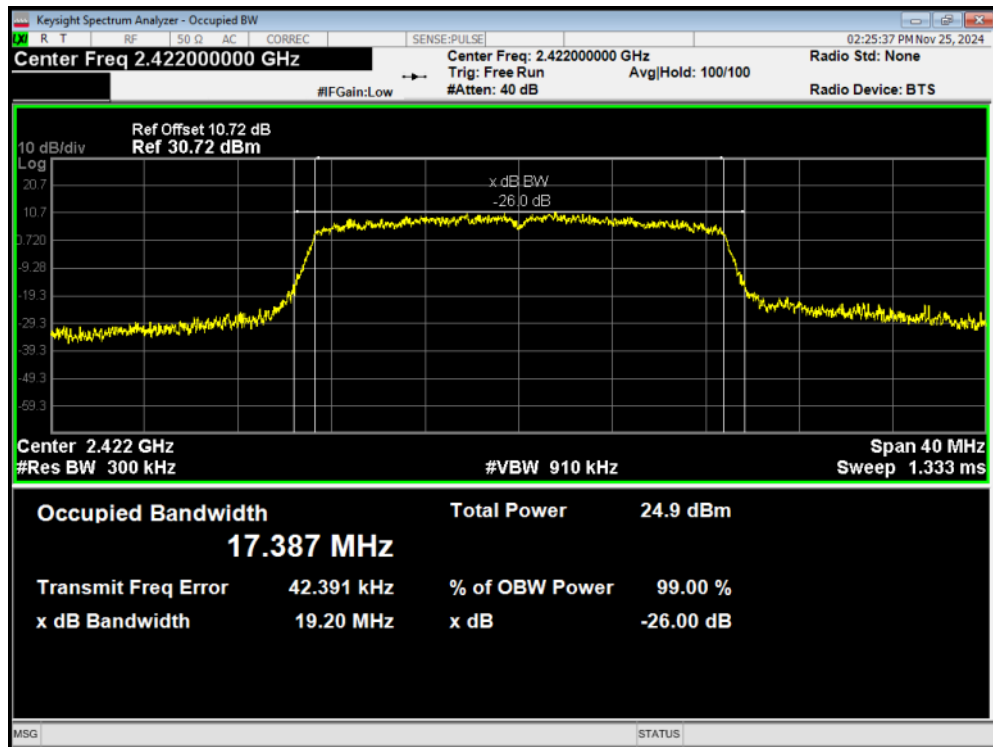
OBW 802.11n(HT20) 2412MHz



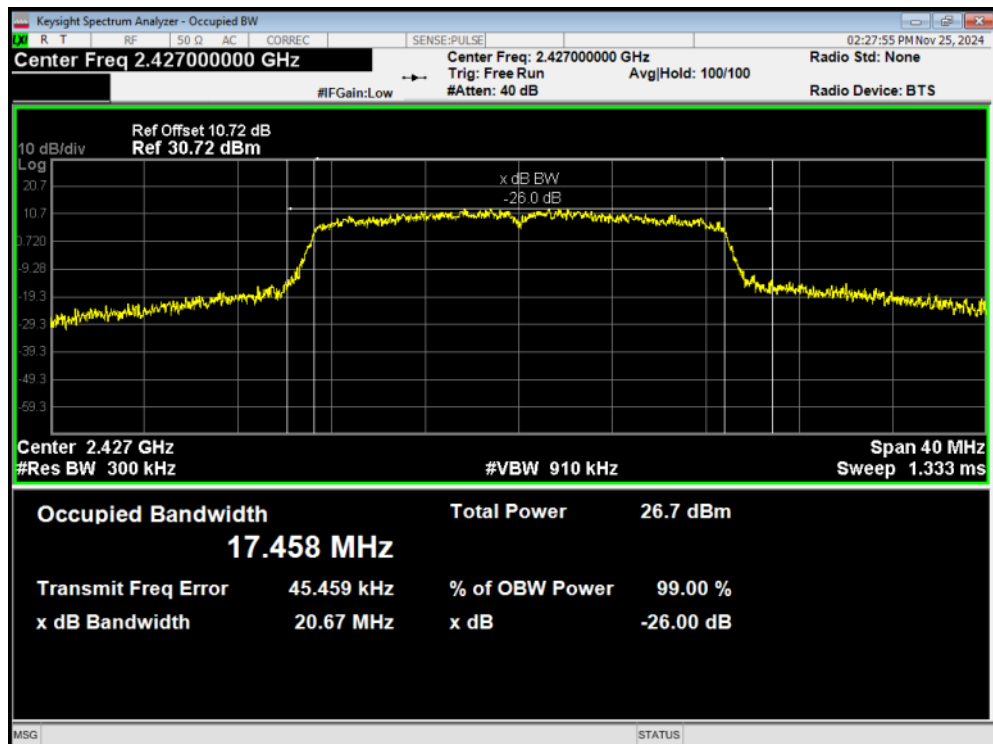
OBW 802.11n(HT20) 2417MHz



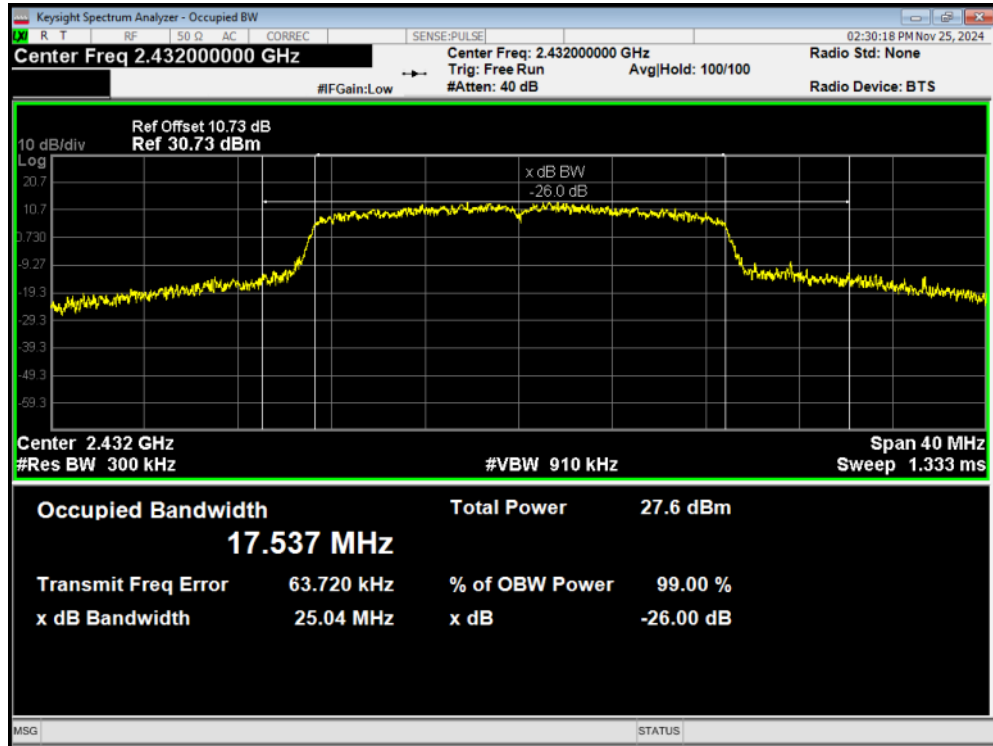
OBW 802.11n(HT20) 2422MHz



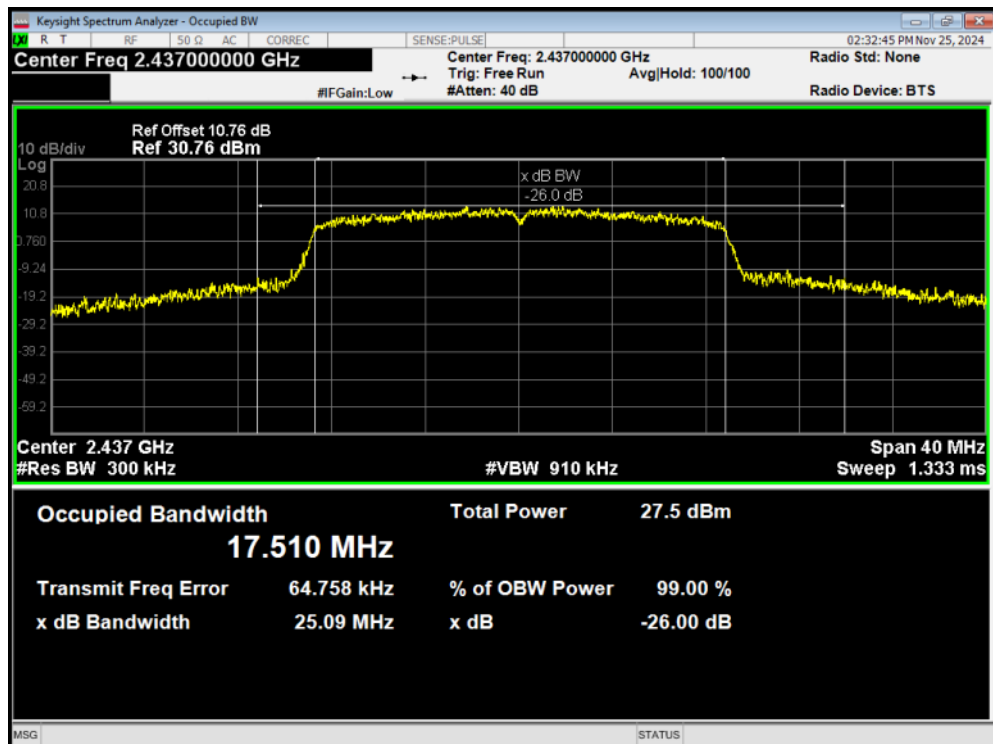
OBW 802.11n(HT20) 2427MHz



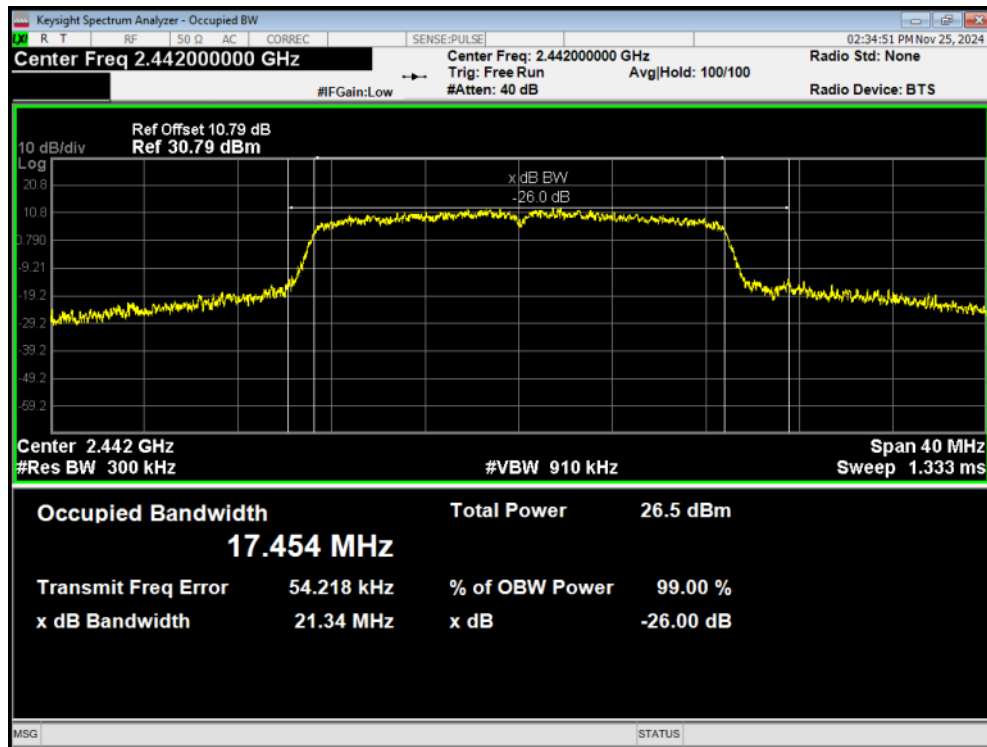
OBW 802.11n(HT20) 2432MHz



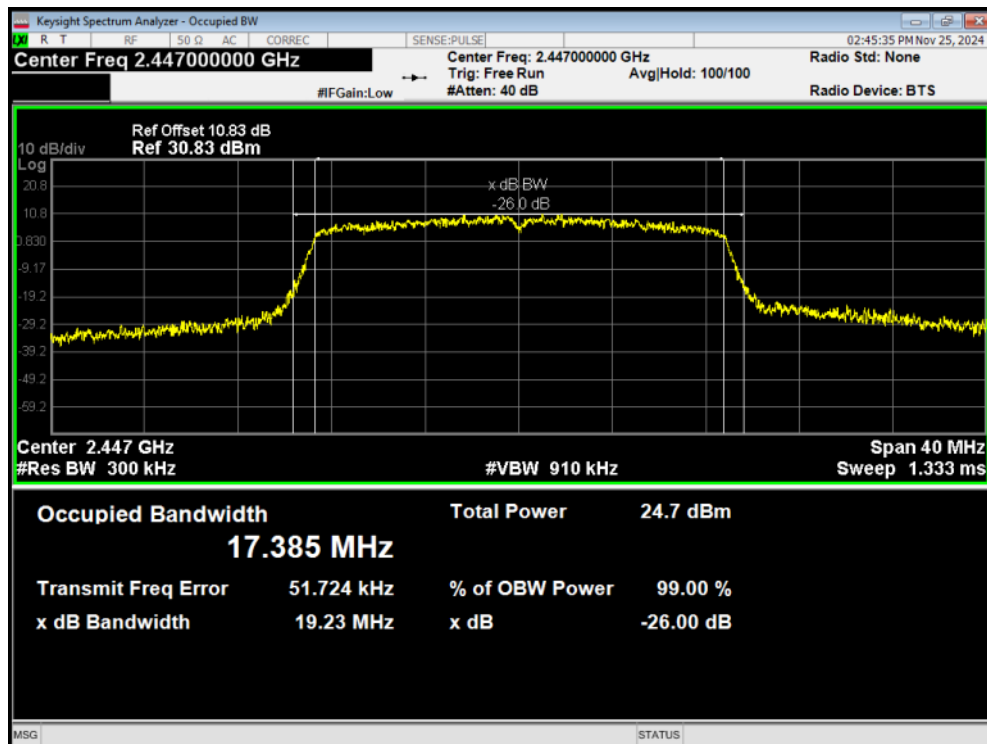
OBW 802.11n(HT20) 2437MHz



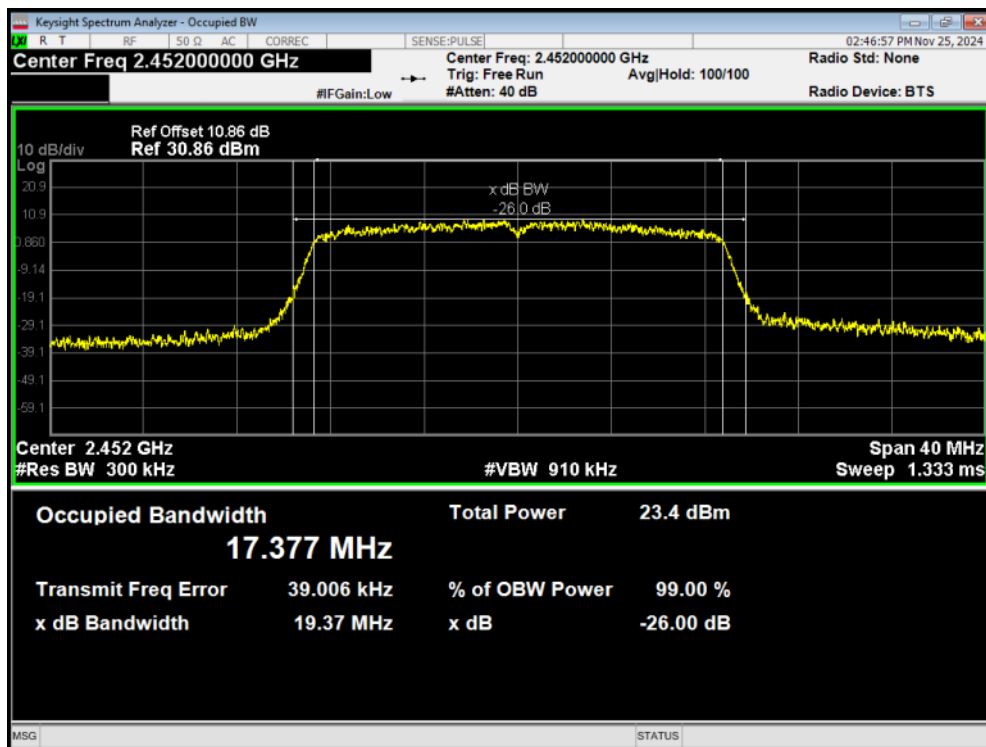
OBW 802.11n(HT20) 2442MHz



OBW 802.11n(HT20) 2447MHz



OBW 802.11n(HT20) 2452MHz



OBW 802.11n(HT20) 2457MHz

