
FCC Test Report

Report No.: AGC12060221001FE05

FCC ID : 2AY4C-GM05
APPLICATION PURPOSE : Original Equipment
PRODUCT DESIGNATION : Mini PC
BRAND NAME : GEEKOM
MODEL NAME : Mini IT12
APPLICANT : Shenzhen Jiteng Network Technology Co., Ltd
DATE OF ISSUE : Dec. 05, 2022
STANDARD(S) : FCC Part 15.247
TEST PROCEDURE(S)
REPORT VERSION : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd



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REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Dec. 05, 2022	Valid	Initial Release

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1. VERIFICATION OF CONFORMITY

Applicant	Shenzhen Jiteng Network Technology Co., Ltd
Address	No.1202, Bitian Pavilion, Bizhong Garden, No.10 Bibo First Street, Bibo Community, Huangbei Street, Luohu District, Shenzhen City, China.
manufacturer	Shenzhen Jiteng Network Technology Co., Ltd
Address	No.1202, Bitian Pavilion, Bizhong Garden, No.10 Bibo First Street, Bibo Community, Huangbei Street, Luohu District, Shenzhen City, China.
Product Designation	Mini PC
Brand Name	GEEKOM
Test Model	Mini IT12
Date of receipt of test item	Oct. 26, 2022
Date of Test	Oct. 28, 2022 –Dec. 02, 2022
Deviation	No any deviation from the test method
Condition of Test Sample	Normal
Test Result	Pass
Report Template	AGCRT-US-BGN/RF

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rules Part 15.247.

Prepared By



Alan Duan
(Project Engineer) Dec. 05, 2022

Reviewed By



Calvin Liu
(Reviewer) Dec. 05, 2022

Approved By



Max Zhang
(Authorized Officer) Dec. 05, 2022

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2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as “Mini PC”. It is designed by way of utilizing the DSSS and OFDM technology to achieve the system operation.

A major technical description of EUT is described as following

Equipment Type	WLAN 2.4G
Frequency Band	2400MHz ~ 2483.5MHz
Operation Frequency	2412MHz ~ 2462MHz
Output Power (Average)	IEEE 802.11b:12.54dBm; IEEE 802.11g:11.47dBm; IEEE 802.11n(HT20):11.27dBm; IEEE 802.11n(HT40):10.64dBm IEEE 802.11ax (HE20):10.71dBm; IEEE 802.11ax(HE40):10.39dBm
Output Power (Peak)	IEEE 802.11b:15.16dBm; IEEE 802.11g:18.40dBm; IEEE 802.11n(HT20):18.08dBm; IEEE 802.11n(HT40):18.12dBm IEEE 802.11ax (HE20):19.02dBm; IEEE 802.11ax(HE40):18.95dBm
Output Power (MIMO-Average)	IEEE 802.11n(HT20):14.25dBm; IEEE 802.11n(HT40):13.56dBm IEEE 802.11ax (HE20):13.70dBm; IEEE 802.11ax(HE40):13.33dBm
Output Power (MIMO-Peak)	IEEE 802.11n(HT20):21.08dBm; IEEE 802.11n(HT40):21.04dBm IEEE 802.11ax (HE20):21.97dBm; IEEE 802.11ax(HE40):21.83dBm
Modulation	802.11b:DSSS(DQPSK, DBPSK, CCK) 802.11g/n: OFDM(64-QAM, 16-QAM, QPSK, BPSK) 802.11ax:OFDMA(1024-QAM,256-QAM,64-QAM, 16-QAM, QPSK, BPSK)
Data Rate	802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 300Mbps 802.11ax: up to 574Mbps
Number of channels	11
Hardware Version	NUCAL02
Software Version	Window 11
Antenna Designation	PIFA Antenna (Comply with requirements of the FCC part 15.203)
Antenna Gain	Refer to Chapter 2.10 of the report.
Number of transmit chain	2(802.11b/g/n/ax all used two antennas,802.11n/ax support MIMO)
Power Supply	DC 19V

Note: The tested device has 5 adaptors (adapter 1#: BSY065T1903423D, adapter 2#: A653-1903420DI, adapter 3#: A1001-1904740DI, adapter 4#: SOY-1900474-410, adapter 5#: MS-Z6320R190-120D0-E) and 4 CPUs (CPU 1#: I7-12700H, CPU 2#: I7-1260P, CPU 3#: I3-1220P, CPU 4#: I5-1240P) respectively. The radiation part only shows the following 3 adaptors (adapter 2#: A653-1903420DI, adapter 3#: A1001-1904740DI, adapter 5#: MS-Z6320R190-120D0-E) and the highest performance CPU: I7-12700H is the worst test result.

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Product: Mini PC

Model Number: Mini IT12

NOTE: The following information is for sale collocation, select the highest configuration for matching test

Object/part no.	Manufacturer/ Trademark	Type/Model	Technical Data
CPU	Intel	I7-12700H	4.70 GHz, 6 core
DDR	Crucial	CT32G4SFD832A	32GB*2
Hard disk	Toshiba	ST2000LM015	1TB
SSD	Kingston	OM8PDP3 Series	512GB

Object/part no.	Manufacturer/ Trademark	Type/Model	Technical Data
CPU	Intel	I7-1260P	4.70 GHz, 4 core
DDR	Crucial	CT32G4SFD832A	8GB*2
Hard disk	Toshiba	ST2000LM015	1TB
SSD	Kingston	OM8PDP3 Series	256GB

Object/part no.	Manufacturer/ Trademark	Type/Model	Technical Data
CPU	Intel	I3-1220P	4.70 GHz, 4 core
DDR	Crucial	CT32G4SFD832A	8GB*2
Hard disk	Toshiba	ST2000LM015	1TB
SSD	Kingston	OM8PDP3 Series	256GB

Object/part no.	Manufacturer/ Trademark	Type/Model	Technical Data
CPU	Intel	I5-1240P	4.70 GHz, 4 core
DDR	Crucial	CT32G4SFD832A	8GB*2
Hard disk	Toshiba	ST2000LM015	1TB
SSD	Kingston	OM8PDP3 Series	256GB

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2.2. TABLE OF CARRIER FREQUENCIES

Frequency Band	Channel Number	Frequency
2400~2483.5MHZ	1	2412 MHZ
	2	2417 MHZ
	3	2422 MHZ
	4	2427 MHZ
	5	2432 MHZ
	6	2437 MHZ
	7	2442 MHZ
	8	2447 MHZ
	9	2452 MHZ
	10	2457 MHZ
	11	2462 MHZ

Note: For 20MHZ bandwidth system use Channel 1 to Channel 11. For 40MHZ bandwidth system use Channel 3 to Channel 9

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2.3. IEEE 802.11N MODULATION SCHEME

MCS Index	Nss	Modulation	R	NBPSC	NCBPS		NDBPS		Data rate(Mbps)	
									800nsGI	
					20MHz	40MHz	20MHz	40MHz	20MHz	40MHz
0	1	BPSK	1/2	1	52	108	26	54	6.5	13.5
1	1	QPSK	1/2	2	104	216	52	108	13.0	27.0
2	1	QPSK	3/4	2	104	216	78	162	19.5	40.5
3	1	16-QAM	1/2	4	208	432	104	216	26.0	54.0
4	1	16-QAM	3/4	4	208	432	156	324	39.0	81.0
5	1	64-QAM	2/3	6	312	648	208	432	52.0	108.0
6	1	64-QAM	3/4	6	312	648	234	489	58.5	121.5
7	1	64-QAM	5/6	6	312	648	260	540	65.0	135.0

Symbol	Explanation
NSS	Number of spatial streams
R	Code rate
NBPSC	Number of coded bits per single carrier
NCBPS	Number of coded bits per symbol
NDBPS	Number of data bits per symbol
GI	Guard interval

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2.4. IEEE 802.11AX MODULATION SCHEME

Table 27-79—HE-MCSs for 242-tone RU, $N_{SS} = 1$

HE-MCS Index	DCM	Modulation	R	N_{BPSCS}	N_{SD}	N_{CBPS}	N_{DBPS}	Data rate (Mb/s)		
								0.8 μ s GI	1.6 μ s GI	3.2 μ s GI
0	1	BPSK	1/2	1	117	117	58	4.3	4.0	3.6
	0		1/2		234	234	117	8.6	8.1	7.3
1	1	QPSK	1/2	2	117	234	117	8.6	8.1	7.3
	0		1/2		234	468	234	17.2	16.3	14.6
2	N/A		3/4		234	468	351	25.8	24.4	21.9
3	1	16-QAM	1/2	4	117	468	234	17.2	16.3	14.6
	0		1/2		234	936	468	34.4	32.5	29.3
4	1		3/4		117	468	351	25.8	24.4	21.9
	0		3/4		234	936	702	51.6	48.8	43.9
5	N/A	64-QAM	2/3	6	234	1 404	936	68.8	65.0	58.5
6			3/4				1 053	77.4	73.1	65.8
7			5/6				1 170	86.0	81.3	73.1
8		256-QAM	3/4	8		1 872	1 404	103.2	97.5	87.8
9			5/6				1 560	114.7	108.3	97.5
10		1024-QAM	3/4	10		2 340	1 755	129.0	121.9	109.7
11			5/6				1 950	143.4	135.4	121.9

Symbol	Explanation
NSS	Number of spatial streams
R	Code rate
NBPSC	Number of coded bits per single carrier
NCBPS	Number of coded bits per symbol
NDBPS	Number of data bits per symbol
GI	Guard interval

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Table 27-87—HE-MCSs for 484-tone RU, $N_{SS} = 1$

HE-MCS Index	DCM	Modulation	R	N_{BPSCS}	N_{SD}	N_{CBPS}	N_{DBPS}	Data rate (Mb/s)		
								0.8 μ s GI	1.6 μ s GI	3.2 μ s GI
0	1	BPSK	1/2	1	234	234	117	8.6	8.1	7.3
	0		1/2		468	468	234	17.2	16.3	14.6
1	1	QPSK	1/2	2	234	468	234	17.2	16.3	14.6
	0		1/2		468	936	468	34.4	32.5	29.3
2	N/A		3/4		468	936	702	51.6	48.8	43.9
3	1	16-QAM	1/2	4	234	936	468	34.4	32.5	29.3
	0		1/2		468	1 872	936	68.8	65.0	58.5
4	1		3/4		234	936	702	51.6	48.8	43.9
	0		3/4		468	1 872	1 404	103.2	97.5	87.8
5	N/A	64-QAM	2/3	6	468	2 808	1 872	137.6	130.0	117.0
6			3/4				2 106	154.9	146.3	131.6
7			5/6				2 340	172.1	162.5	146.3
8		256-QAM	3/4	8		3 744	2 808	206.5	195.0	175.5
9			5/6				3 120	229.4	216.7	195.0
10		1024-QAM	3/4	10		4 680	3 510	258.1	243.8	219.4
11			5/6				3 900	286.8	270.8	243.8

Symbol	Explanation
NSS	Number of spatial streams
R	Code rate
NBPSC	Number of coded bits per single carrier
NCBPS	Number of coded bits per symbol
NDBPS	Number of data bits per symbol
GI	Guard interval

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2.5. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2AY4C-GM05** filing to comply with the FCC Part 15 requirements.

2.6. TEST METHODOLOGY

KDB 558074 D01 15.247 Meas Guidance v05: Guidance for compliance measurements on Digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules
ANSI C63.10:2013: American National Standard for Testing Unlicensed Wireless Devices

2.7. SPECIAL ACCESSORIES

Refer to section 5.2.

2.8. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

2.9. ANTENNA REQUIREMENT

This intentional radiator is designed with a permanently attached antenna of an antenna to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

For more information of the antenna, please refer to the APPENDIX B: PHOTOGRAPHS OF EUT.

2.10. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna Type	Frequency Band (MHz)	TX Paths	Bandwidth (MHz)	Max Peak Gain (dBi)		Max Directional Gain (dBi)
				Ant 1	Ant 2	
2.4GWIFI PCB Antenna List (2.4GHz 2*2 MIMO)						
PIFA Antenna	2400~2500	2	20, 40	1.23	1.47	4.48

Note 1: The EUT supports Cyclic Delay Diversity (CDD) technology for 802.11n/ax mode.

Note 2: The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.

If all antennas have the same gain, G_{ANT} , Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

- For power spectral density (PSD) measurements on devices:

$$\text{Array Gain} = 10 \log (N_{ANT} / N_{SS}) \text{ dB} = 3.01;$$

- For power measurements on IEEE 802.11 devices:

$$\text{Array Gain} = 0 \text{ dB for } N_{ANT} \leq 4;$$

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

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

If antenna gains are not equal, Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain..

3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Item	Measurement Uncertainty
Uncertainty of Conducted Emission for AC Port	$U_c = \pm 3.1 \text{ dB}$
Uncertainty of Radiated Emission below 1GHz	$U_c = \pm 4.0 \text{ dB}$
Uncertainty of Radiated Emission above 1GHz	$U_c = \pm 4.8 \text{ dB}$
Uncertainty of total RF power, conducted	$U_c = \pm 0.8 \text{ dB}$
Uncertainty of RF power density, conducted	$U_c = \pm 2.6 \text{ dB}$
Uncertainty of spurious emissions, conducted	$U_c = \pm 2 \%$
Uncertainty of Occupied Channel Bandwidth	$U_c = \pm 2 \%$

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4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel transmitting (TX)
2	Middle channel transmitting (TX)
3	High channel transmitting (TX)

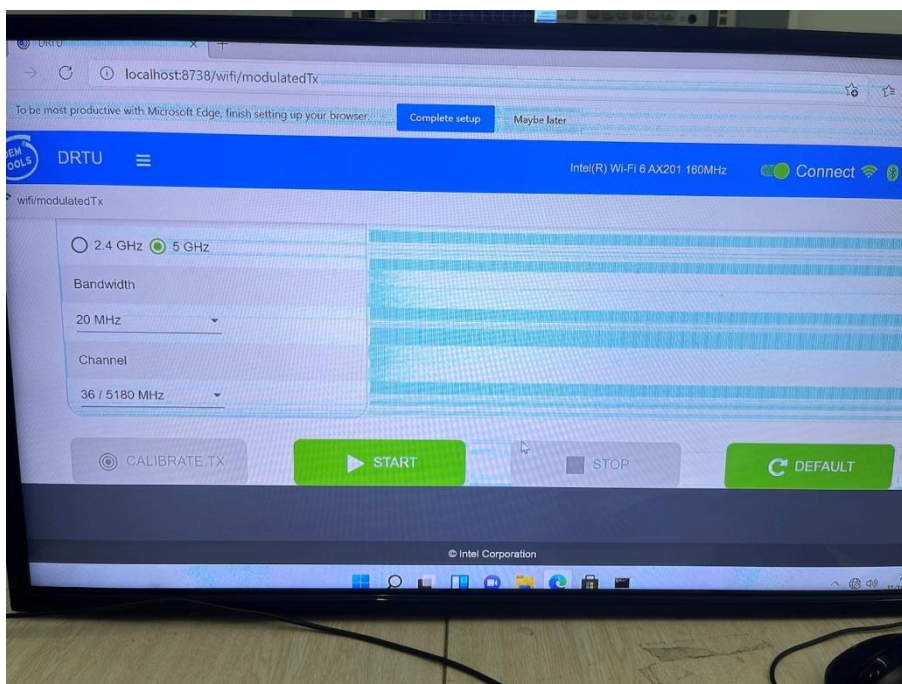
Note:

Transmit by 802.11b with Data rate (1/2/5.5/11)
 Transmit by 802.11g with Data rate (6/9/12/18/24/36/48/54)
 Transmit by 802.11n (20MHz) with Data rate (6.5/13/19.5/26/39/52/58.5/65)
 Transmit by 802.11n (40MHz) with Data rate (13.5/27/40.5/54/81/108/121.5/135)
 Transmit by 802.11ax(20MHz) with Data rate MCS0-MCS11
 Transmit by 802.11ax(40MHz) with Data rate MCS0-MCS11
 The test channel for 20MHZ bandwidth system is channel 1, 6 and 11.
 The test channel for 40MHZ bandwidth system is channel 3, 6 and 9.

Note:

1. The EUT has been set to operate continuously on the lowest, middle and highest operation frequency Individually, and the EUT is operating at its maximum duty cycle>or equal 98%
2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.

Software Setting



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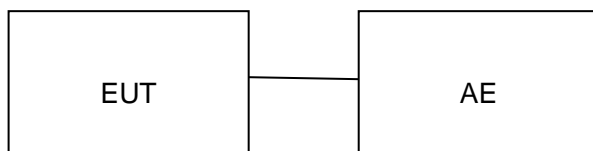
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5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Configure:



5.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	Mini PC	Mini IT12	2AY4C-GM05	EUT
2	Bluetooth speaker	SRS-XB01	--	AE
3	Xiaomi router	R4A	--	AE
4	Adapter 1	BSY065T1903423D	Input: 100-240V, 50/60Hz, 1.5 A Output: DC 19.0V, 3.42A, 64.98W	AE
5	Adapter 2	A653-1903420DI	Input: 100-240V, 50/60Hz, 1.5 A Output: DC 19.0V, 3.42A, 65W	AE
6	Adapter 3	A1001-1904740DI	Input: 100-240V, 50/60Hz, 2.5A Output: DC 19.0V, 4.74A, 90.0W	AE
7	Adapter 4	SOY-1900474-410	Input: 100-240V, 50/60Hz, 1.8A Output: DC19.04V, 4.74A, 90.06W	AE
8	Adapter 5	MS-Z6320R190-120D0-E	Input: 100-240V, 50/60Hz, 2.0 A Output: DC 19.0V, 6.32A, 120.0W	AE

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.247	RF Output Power	Compliant
§15.247	6 dB Bandwidth	Compliant
§15.247	Conducted Spurious Emission	Compliant
§15.247	Maximum Conducted Output Power Spectral Density	Compliant
§15.209	Radiated Emission	Compliant
§15.247	Band Edges	Compliant
§15.207	Line Conduction Emission	Compliant

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6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Designation Number	CN1259
FCC Test Firm Registration Number	975832
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA

TEST EQUIPMENT OF CONDUCTED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESPI	101206	Mar. 28, 2022	Mar. 27, 2023
LISN	R&S	ESH2-Z5	100086	Jun. 08, 2022	Jun. 07, 2023
Test software	R&S	ES-K1	Ver.V1.71	N/A	N/A

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Mar. 28, 2022	Mar. 27, 2023
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Aug. 04, 2022	Aug. 03, 2023
2.4GHz Filter	EM Electronics	2400-2500MHz	N/A	N/A	N/A
Attenuator	ZHINAN	E-002	N/A	Sep. 01, 2022	Aug. 31, 2023
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Oct. 31, 2021	Oct. 30, 2023
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	Mar. 12, 2022	Mar. 11, 2024
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	Apr. 23, 2021	Apr. 22, 2023
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Sep. 01, 2022	Aug. 31, 2023
ANTENNA	SCHWARZBECK	VULB9168	494	Jan. 08, 2021	Jan. 07, 2023
Test software	Tonscend	JS32-RE	Ver.2.5	N/A	N/A

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7. RF OUTPUT POWER MEASUREMENT

7.1 MEASUREMENT LIMITS

According to Section (b)(3) of the FCC PART15.247 standard:

For DTSs employing digital modulation techniques operating in the bands 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1 W.

7.2 MEASUREMENT PROCEDURE

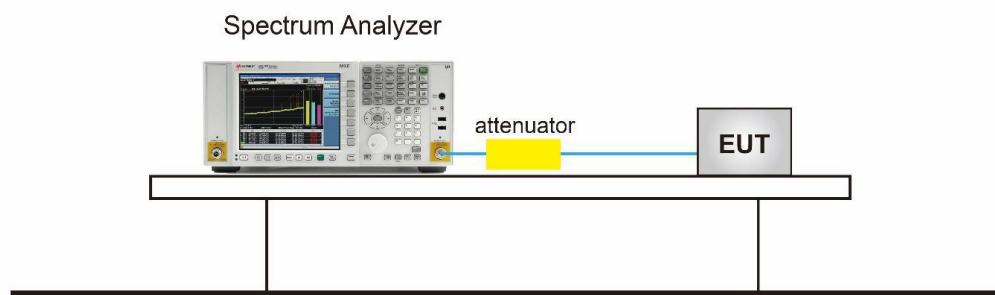
☒ For peak power test:

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the RBW = 1 MHz.
3. Set the VBW $\geq [3 \times \text{RBW}]$.
4. Set the Span $\geq [1.5 \times \text{DTS bandwidth}]$.
5. Sweep time=Auto couple.
6. Detector function=Peak.
7. Trace Mode=Max hold.
8. Allow trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission.
9. The indicated level is the peak output power, after any corrections for external attenuators and cables.

☒ For Average power test:

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set Span to at least 1.5 times the OBW.
3. Set RBW = 1% to 5% of the OBW, not to exceed 1 MHz.
4. Set VBW $\geq [3 \times \text{RBW}]$.
5. Sweep Time=Auto couple.
6. Detector function=RMS (i.e., power averaging).
7. Trace average at least 100 traces in power averaging (rms) mode;
8. Determine according to the duty cycle of the equipment: when it is less than 98%, follow the steps below.
9. Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the ON and OFF times of the transmission). For example, add $[10 \log (1/0.25)] = 6 \text{ dB}$ if the duty cycle is 25%.
10. Record the test results in the report.

7.3 MEASUREMENT SETUP (BLOCK DIAGRAM OF CONFIGURATION)



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7.4. LIMITS AND MEASUREMENT RESULT

Test Data of Conducted Output Power-antenna 1					
Test Mode	Test Channel (MHz)	Average Power (dBm)	Peak Power (dBm)	Limits (dBm)	Pass or Fail
802.11b	2412	12.37	14.96	≤30	Pass
	2437	12.31	14.92	≤30	Pass
	2462	12.54	15.16	≤30	Pass
802.11g	2412	11.47	18.37	≤30	Pass
	2437	11.23	18.16	≤30	Pass
	2462	10.64	18.12	≤30	Pass
802.11n-HT20	2412	11.11	17.97	≤30	Pass
	2437	11.07	17.89	≤30	Pass
	2462	11.20	18.06	≤30	Pass
802.11n-HT40	2422	10.47	17.96	≤30	Pass
	2437	10.50	18.00	≤30	Pass
	2452	10.64	18.12	≤30	Pass
802.11ax-HE20	2412	10.59	19.02	≤30	Pass
	2437	10.48	18.76	≤30	Pass
	2462	10.71	18.96	≤30	Pass
802.11ax-HE40	2422	10.06	18.78	≤30	Pass
	2437	10.30	18.85	≤30	Pass
	2452	10.25	18.95	≤30	Pass

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Test Data of Conducted Output Power-antenna 2					
Test Mode	Test Channel (MHz)	Average Power (dBm)	Peak Power (dBm)	Limits (dBm)	Pass or Fail
802.11b	2412	12.29	15.00	≤30	Pass
	2437	12.28	14.89	≤30	Pass
	2462	12.42	15.03	≤30	Pass
802.11g	2412	11.35	18.23	≤30	Pass
	2437	11.22	18.13	≤30	Pass
	2462	11.44	18.40	≤30	Pass
802.11n-HT20	2412	11.07	17.91	≤30	Pass
	2437	10.96	17.81	≤30	Pass
	2462	11.27	18.08	≤30	Pass
802.11n-HT40	2422	10.49	18.00	≤30	Pass
	2437	10.47	17.96	≤30	Pass
	2452	10.46	17.94	≤30	Pass
802.11ax-HE20	2412	10.45	18.69	≤30	Pass
	2437	10.39	18.72	≤30	Pass
	2462	10.67	18.96	≤30	Pass
802.11ax-HE40	2422	10.39	18.77	≤30	Pass
	2437	10.33	18.72	≤30	Pass
	2452	10.38	18.68	≤30	Pass

Test Data of Conducted Output Power-MIMO					
Test Mode	Test Channel (MHz)	Average Power (dBm)	Peak Power (dBm)	Limits (dBm)	Pass or Fail
802.11n-HT20	2412	14.10	20.95	≤30	Pass
	2437	14.03	20.86	≤30	Pass
	2462	14.25	21.08	≤30	Pass
802.11n-HT40	2422	13.49	20.99	≤30	Pass
	2437	13.50	20.99	≤30	Pass
	2452	13.56	21.04	≤30	Pass
802.11ax-HE20	2412	13.53	21.87	≤30	Pass
	2437	13.45	21.75	≤30	Pass
	2462	13.70	21.97	≤30	Pass
802.11ax-HE40	2422	13.24	21.79	≤30	Pass
	2437	13.33	21.80	≤30	Pass
	2452	13.33	21.83	≤30	Pass

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8. 6DB BANDWIDTH MEASUREMENT

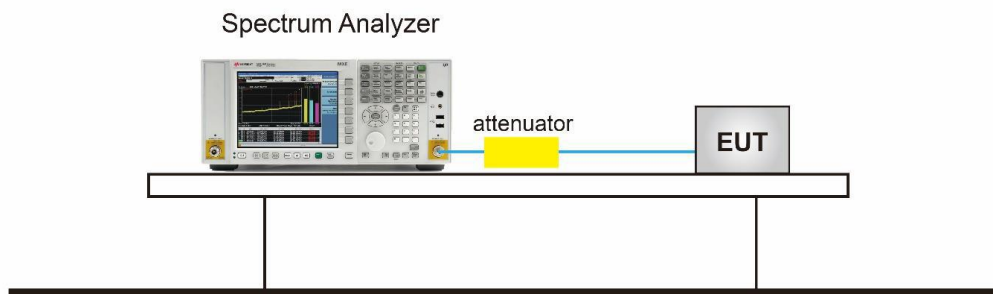
8.1 MEASUREMENT LIMITS

The minimum 6dB bandwidth shall be at least 500 kHz.

8.2 MEASUREMENT PROCEDURE

1. The testing follows the ANSI C63.10 Section 6.9.3 (OBW) and 11.8.1 (6dB BW).
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. For 6dB Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) $\geq 3 * \text{RBW}$.
6. Detector = peak
7. Trace mode = max hold.
8. Sweep = auto couple.
9. Allow the trace to stabilize.
10. Measure and record the results in the test report.

8.3 MEASUREMENT SETUP (BLOCK DIAGRAM OF CONFIGURATION)



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8.4. MEASUREMENT RESULTS

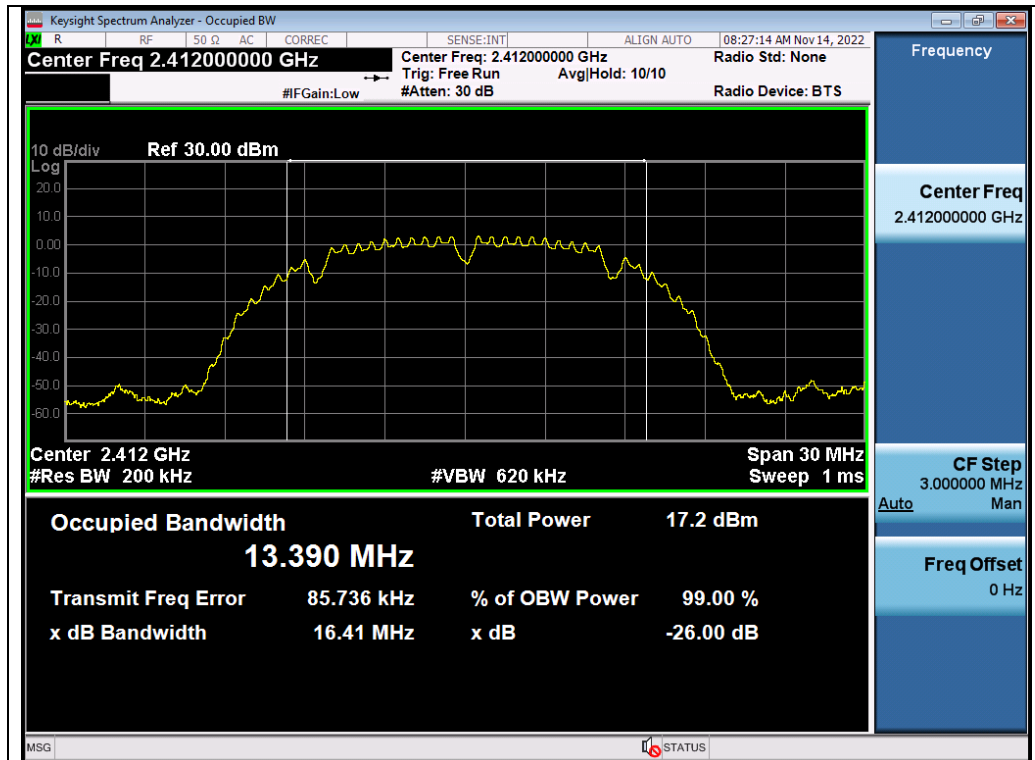
Test Data of Occupied Bandwidth and DTS Bandwidth-ANT 1					
Test Mode	Test Channel (MHz)	99% Occupied Bandwidth (MHz)	-6dB Bandwidth (MHz)	Limits (MHz)	Pass or Fail
802.11b	2412	13.390	10.11	≥0.5	Pass
	2437	13.355	10.11	≥0.5	Pass
	2462	13.348	10.11	≥0.5	Pass
802.11g	2412	16.603	15.12	≥0.5	Pass
	2437	16.555	15.12	≥0.5	Pass
	2462	16.571	15.13	≥0.5	Pass
802.11n20	2412	17.698	15.12	≥0.5	Pass
	2437	17.714	15.12	≥0.5	Pass
	2462	17.683	15.12	≥0.5	Pass
802.11n40	2422	35.962	35.09	≥0.5	Pass
	2437	35.953	35.08	≥0.5	Pass
	2452	35.959	35.08	≥0.5	Pass
802.11ax20	2412	18.886	16.38	≥0.5	Pass
	2437	18.876	15.49	≥0.5	Pass
	2462	18.864	15.13	≥0.5	Pass
802.11ax40	2422	37.461	35.09	≥0.5	Pass
	2437	37.416	35.09	≥0.5	Pass
	2452	37.439	35.09	≥0.5	Pass

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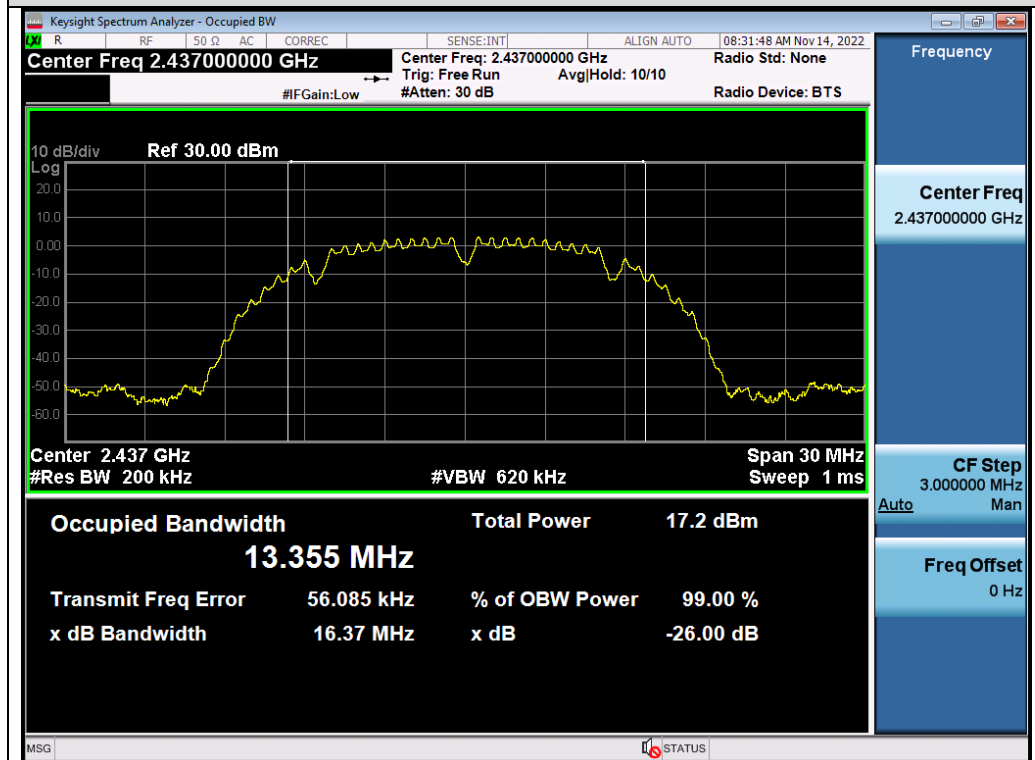
Test Data of Occupied Bandwidth and DTS Bandwidth-ANT 2					
Test Mode	Test Channel (MHz)	99% Occupied Bandwidth (MHz)	-6dB Bandwidth (MHz)	Limits (MHz)	Pass or Fail
802.11b	2412	13.357	10.11	≥0.5	Pass
	2437	13.404	10.11	≥0.5	Pass
	2462	13.429	10.11	≥0.5	Pass
802.11g	2412	16.589	15.13	≥0.5	Pass
	2437	16.603	15.13	≥0.5	Pass
	2462	16.591	15.13	≥0.5	Pass
802.11n20	2412	17.685	15.13	≥0.5	Pass
	2437	17.690	15.13	≥0.5	Pass
	2462	17.721	15.13	≥0.5	Pass
802.11n40	2422	35.949	35.07	≥0.5	Pass
	2437	35.995	35.09	≥0.5	Pass
	2452	36.012	35.08	≥0.5	Pass
802.11ax20	2412	18.883	15.24	≥0.5	Pass
	2437	18.888	15.14	≥0.5	Pass
	2462	18.900	15.53	≥0.5	Pass
802.11ax40	2422	37.424	35.09	≥0.5	Pass
	2437	37.415	35.09	≥0.5	Pass
	2452	37.480	35.12	≥0.5	Pass

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Test Graphs of Occupied Bandwidth-ANT 1



Test_Graph_802.11b_ANT1_2412_1Mbps_OBW



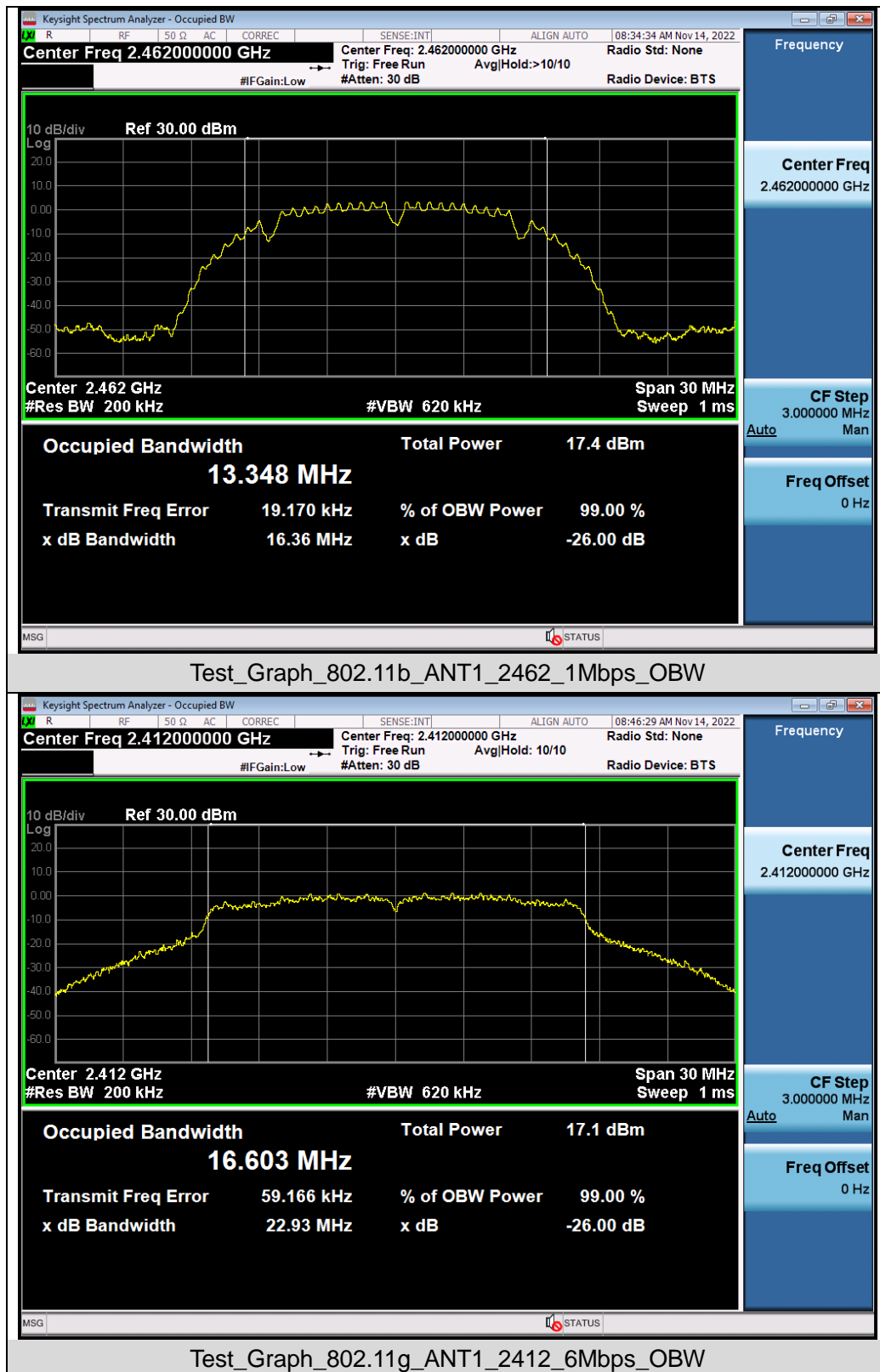
Test_Graph_802.11b_ANT1_2437_1Mbps_OBW

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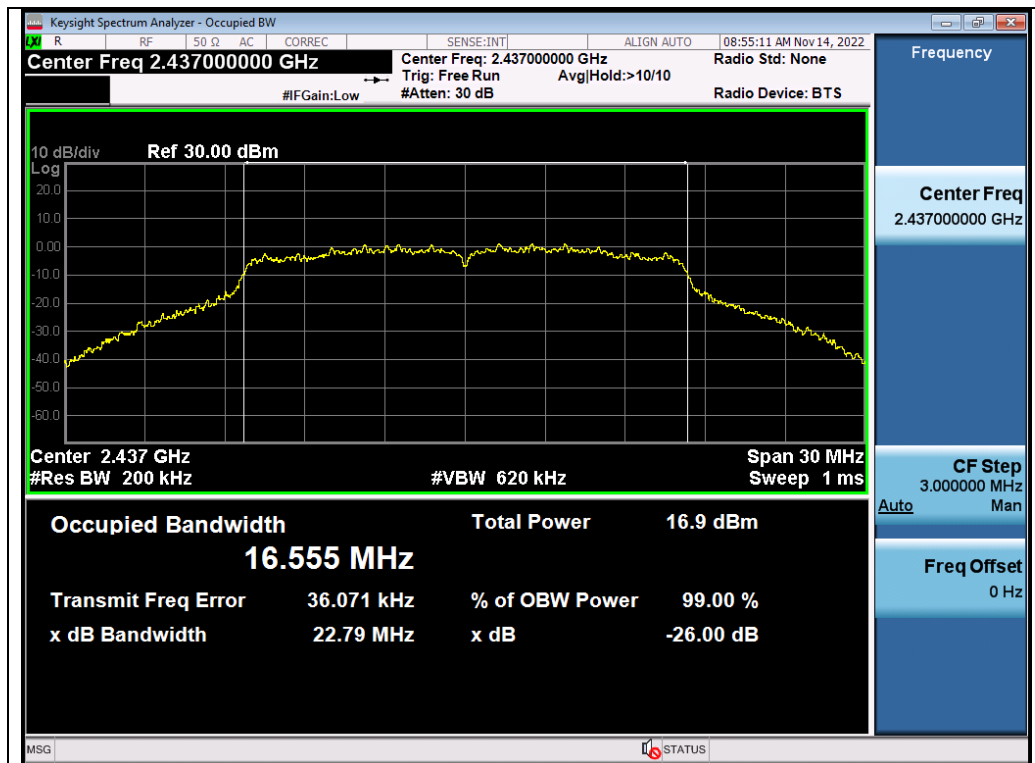
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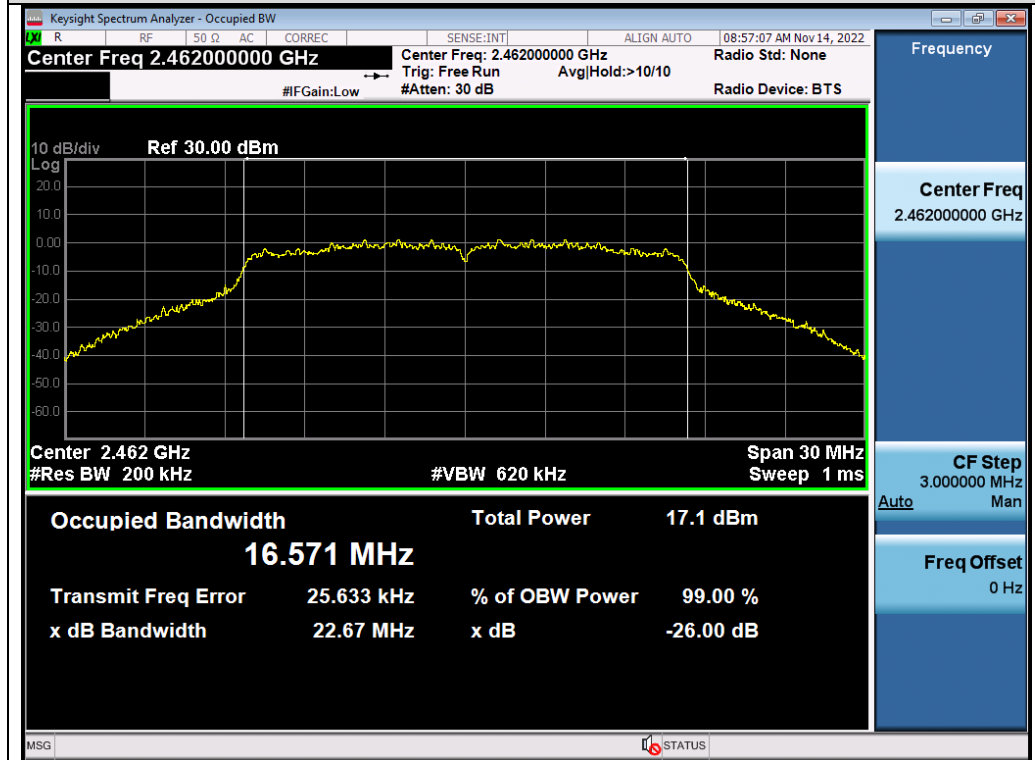
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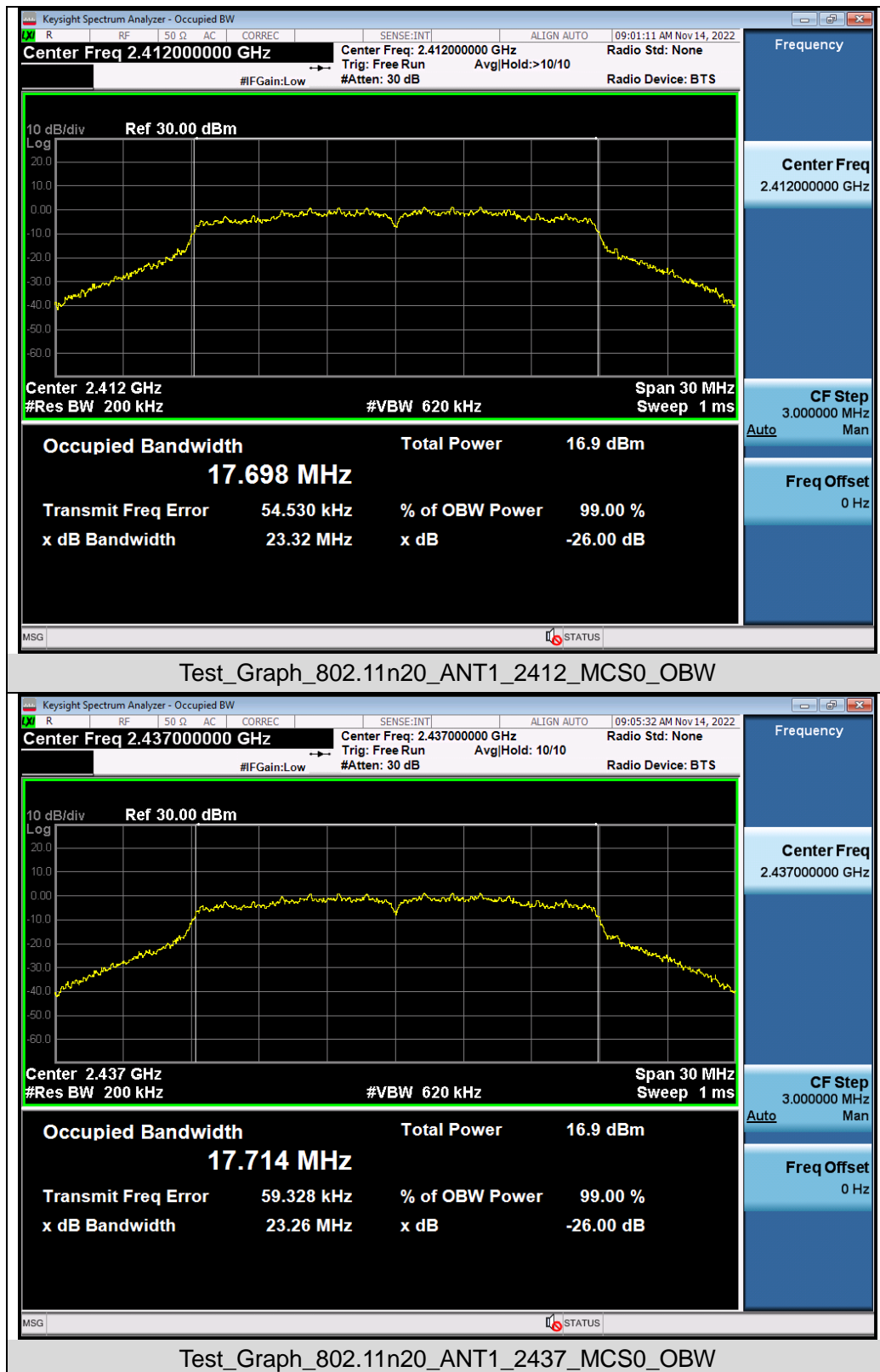


Test_Graph_802.11g_ANT1_2437_6Mbps_OBW

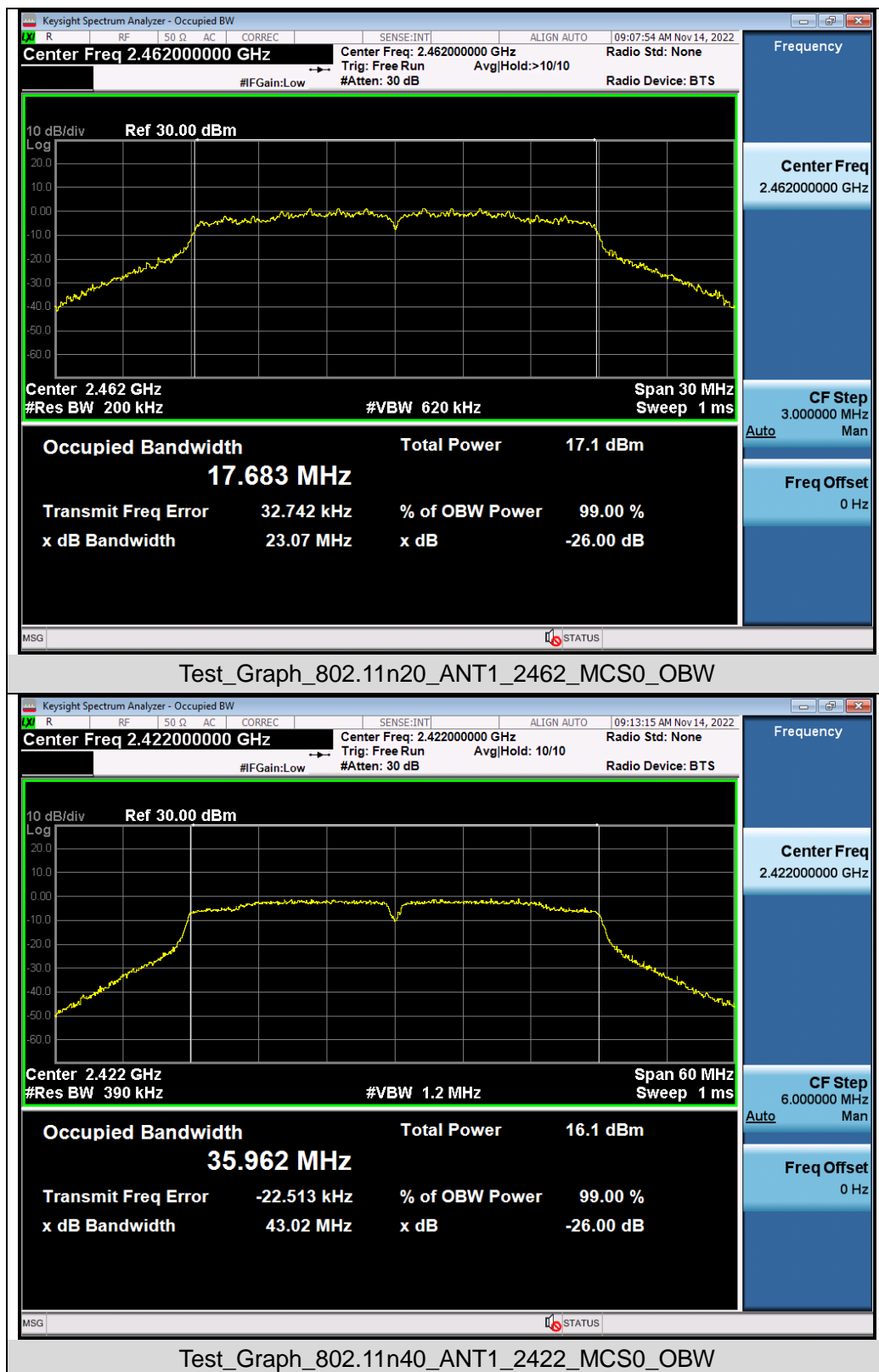


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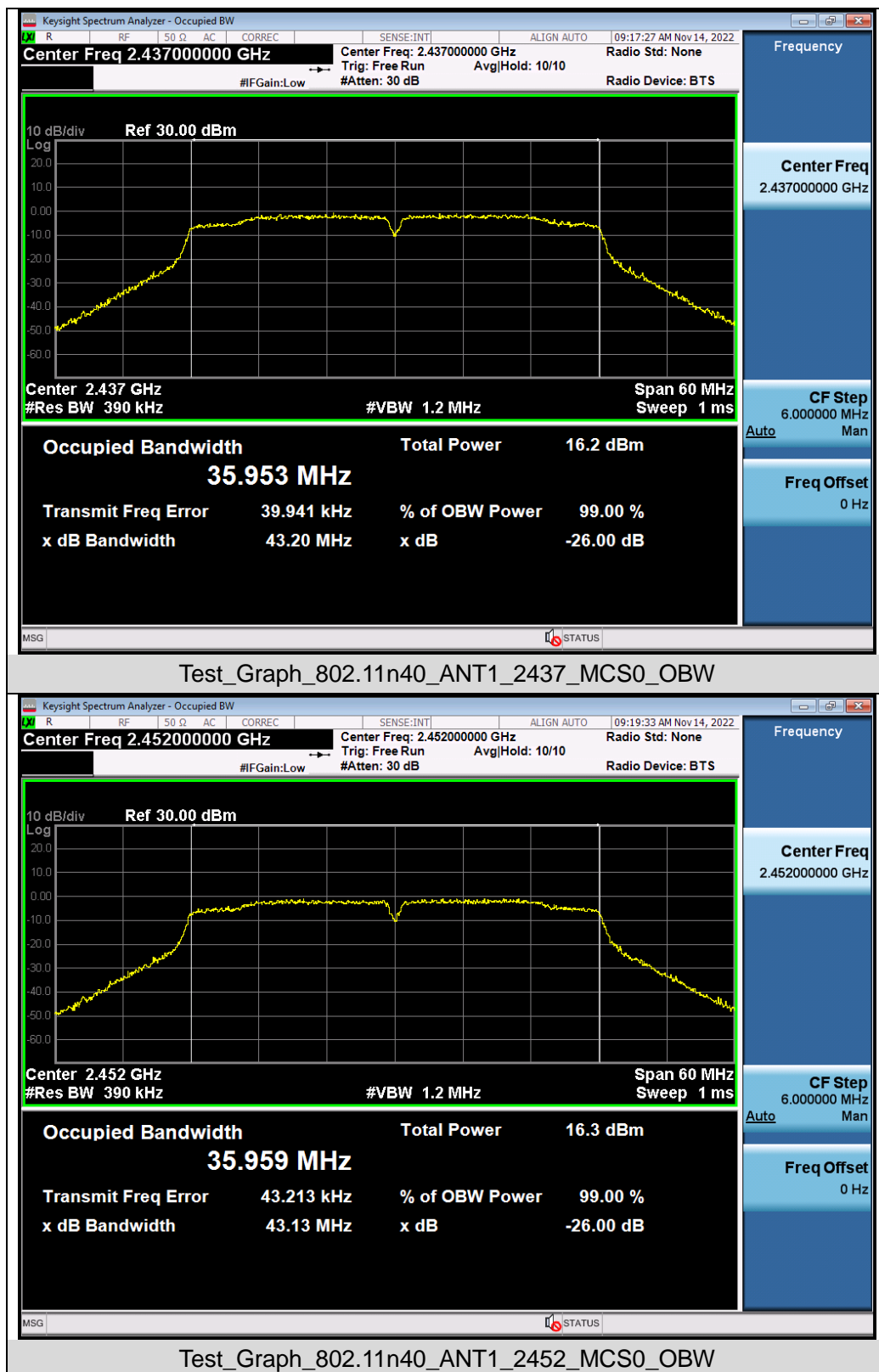
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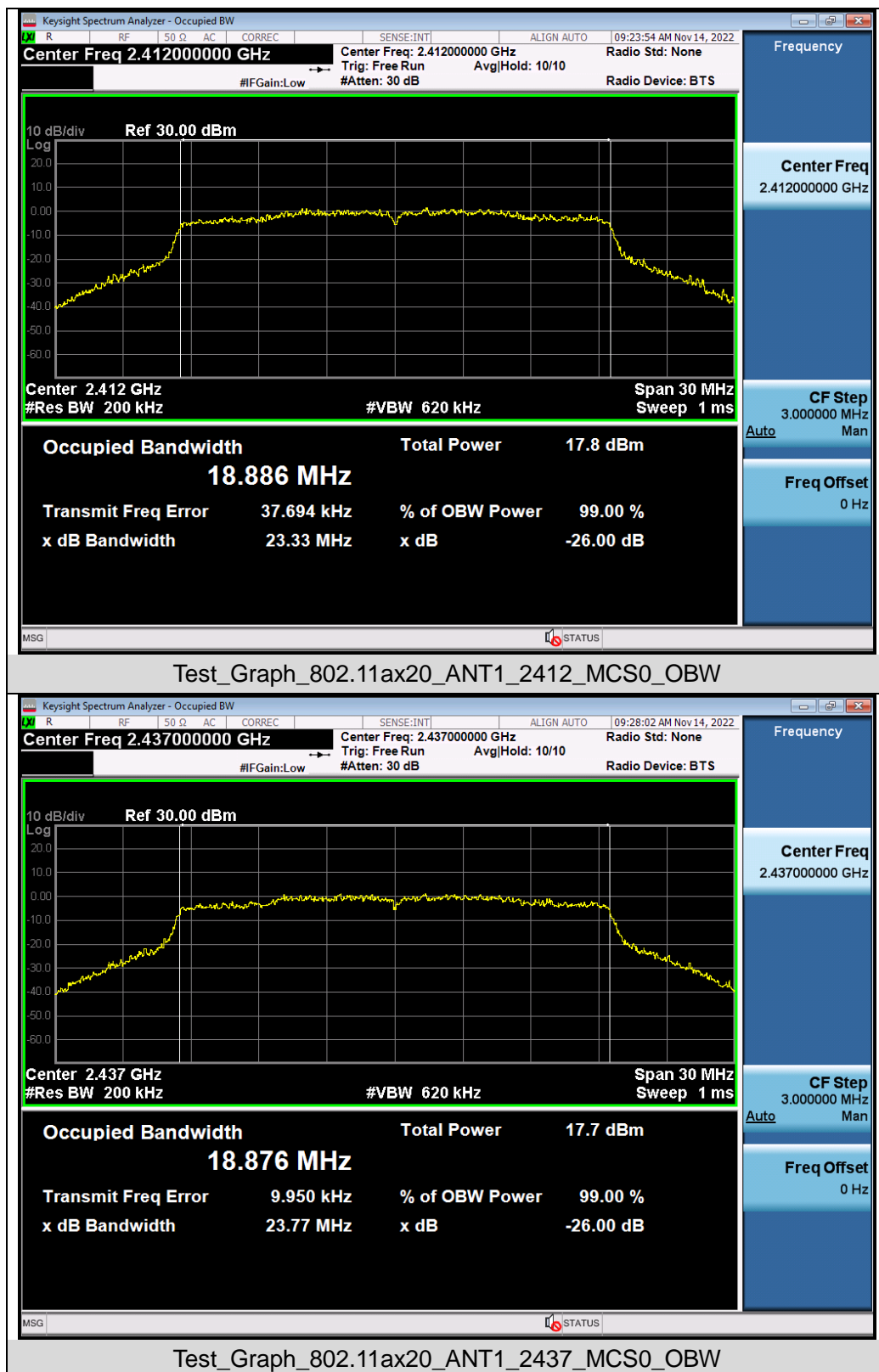
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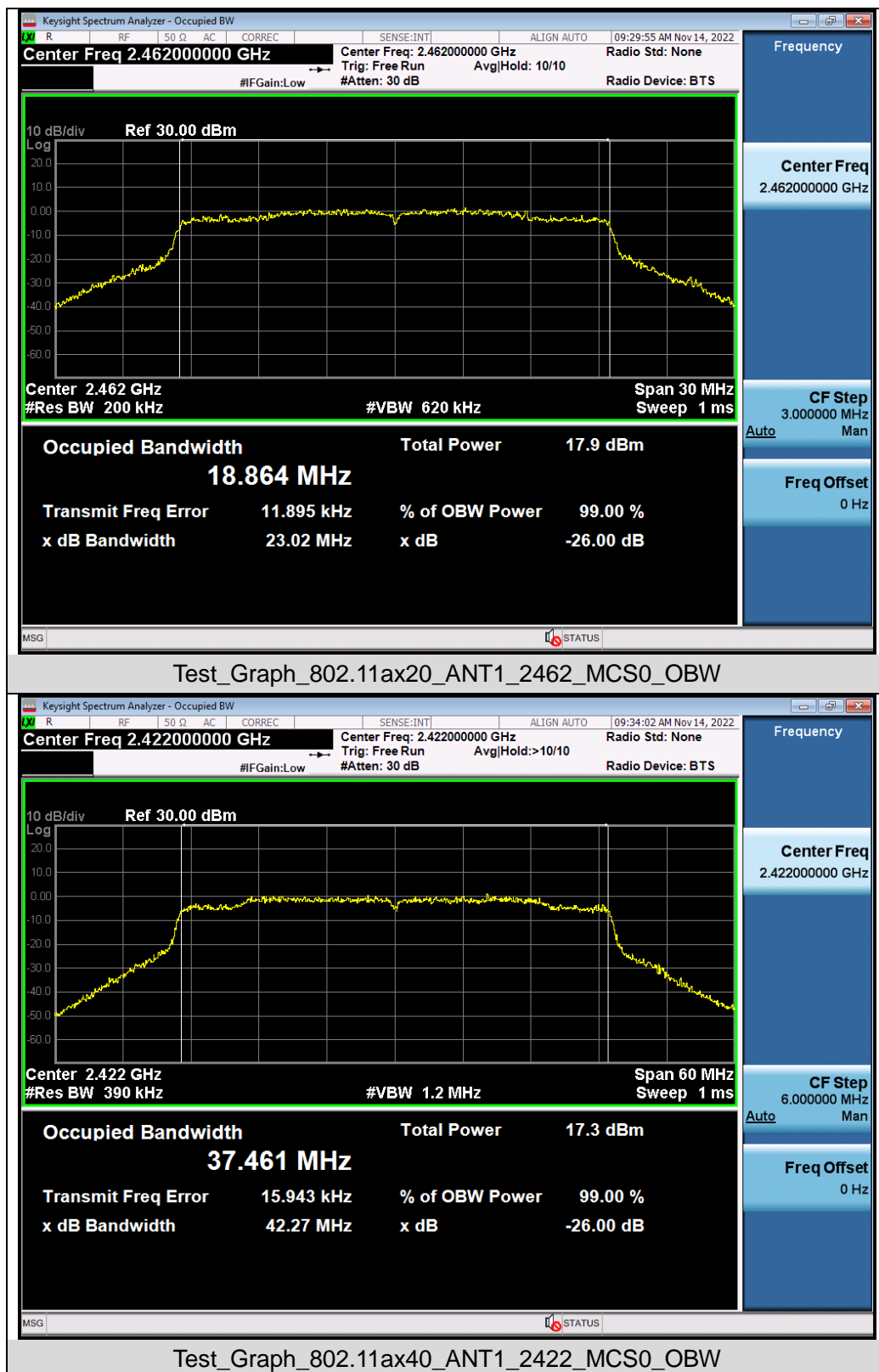
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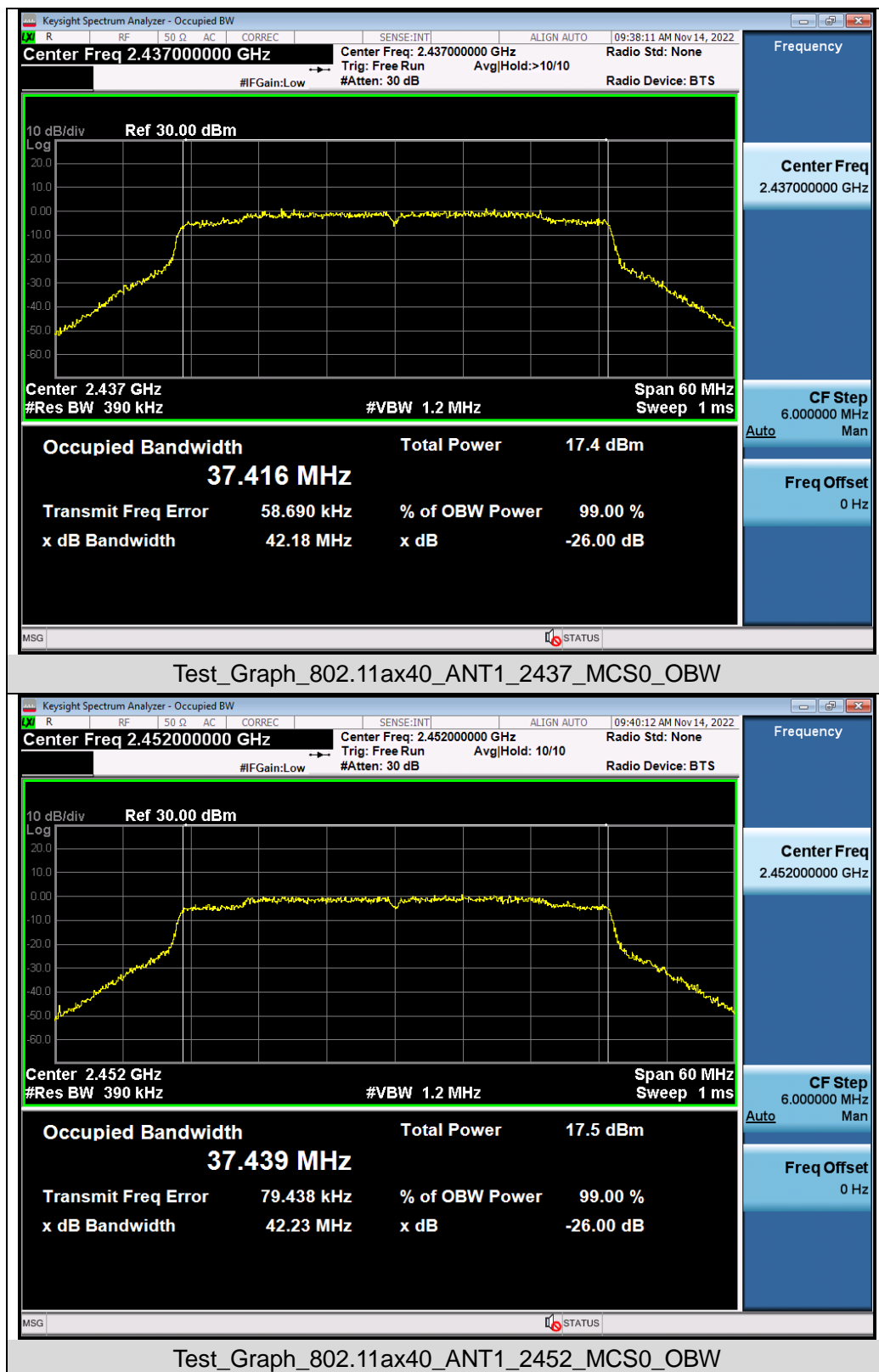
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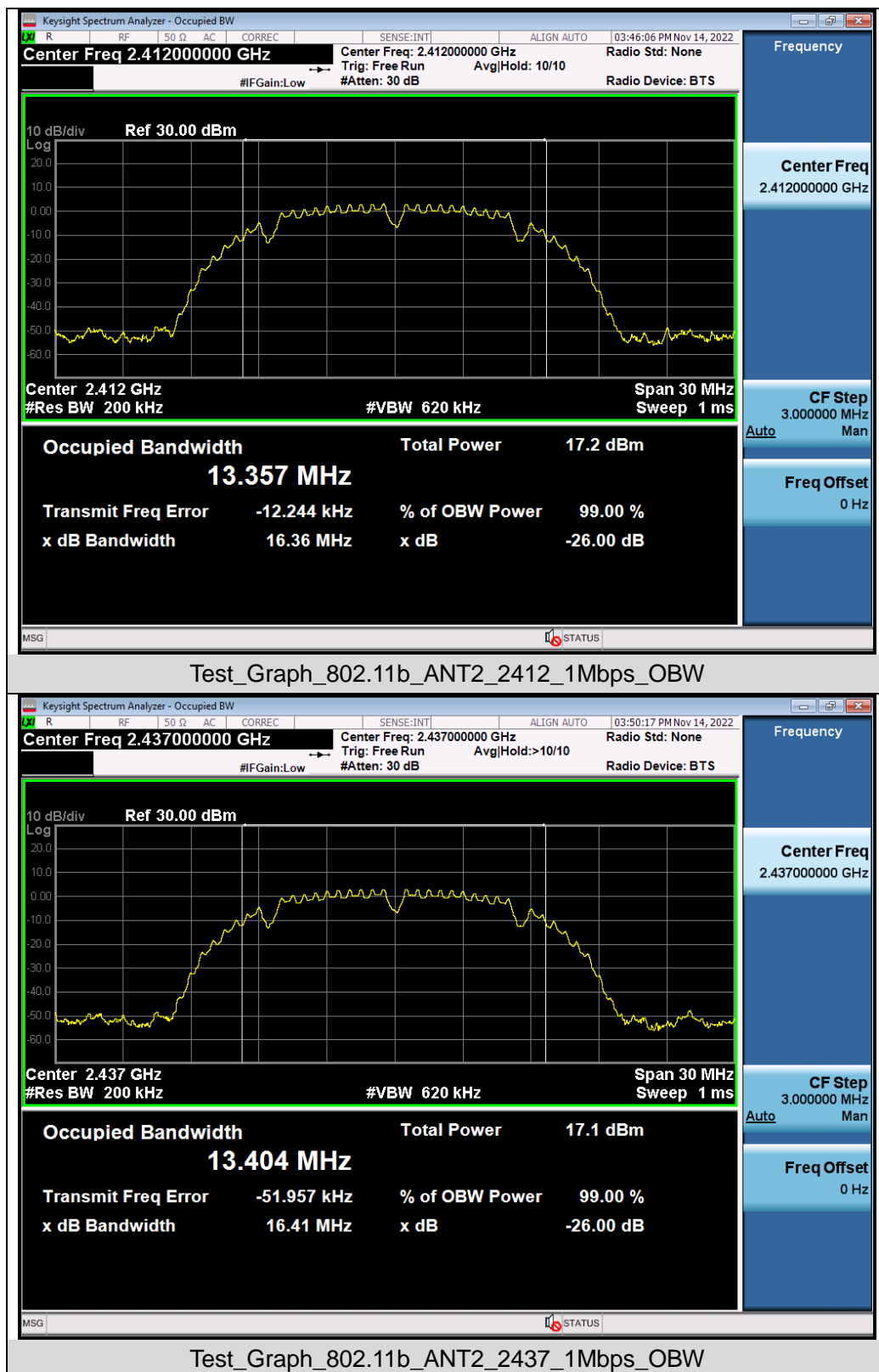
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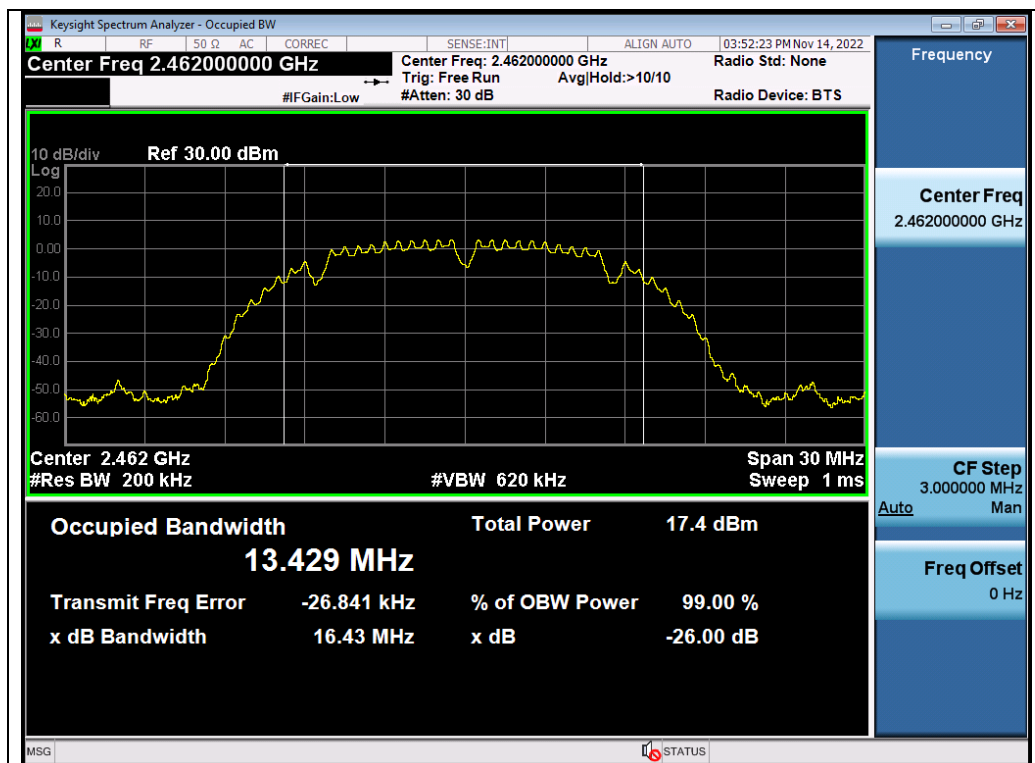
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Test_Graph_802.11b_ANT2_2462_1Mbps_OBW



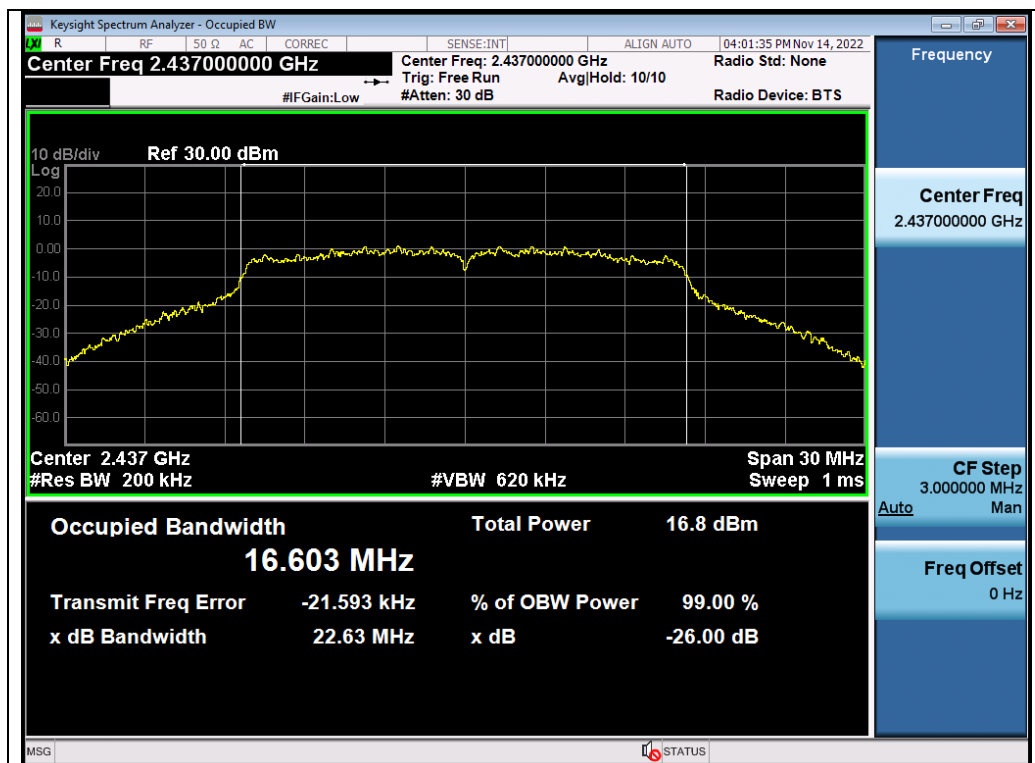
Test_Graph_802.11g_ANT2_2412_6Mbps_OBW

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Test_Graph_802.11g_ANT2_2437_6Mbps_OBW



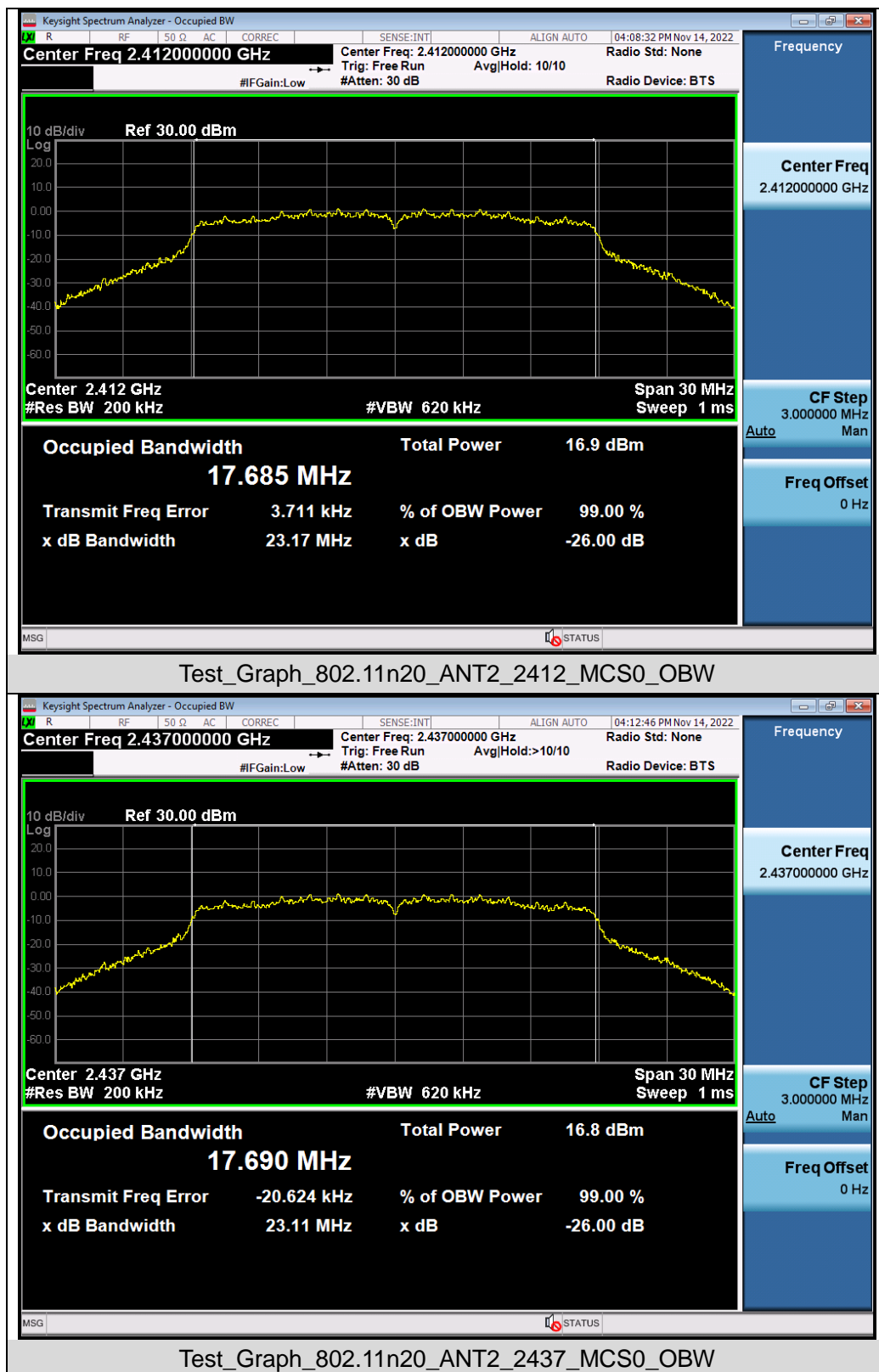
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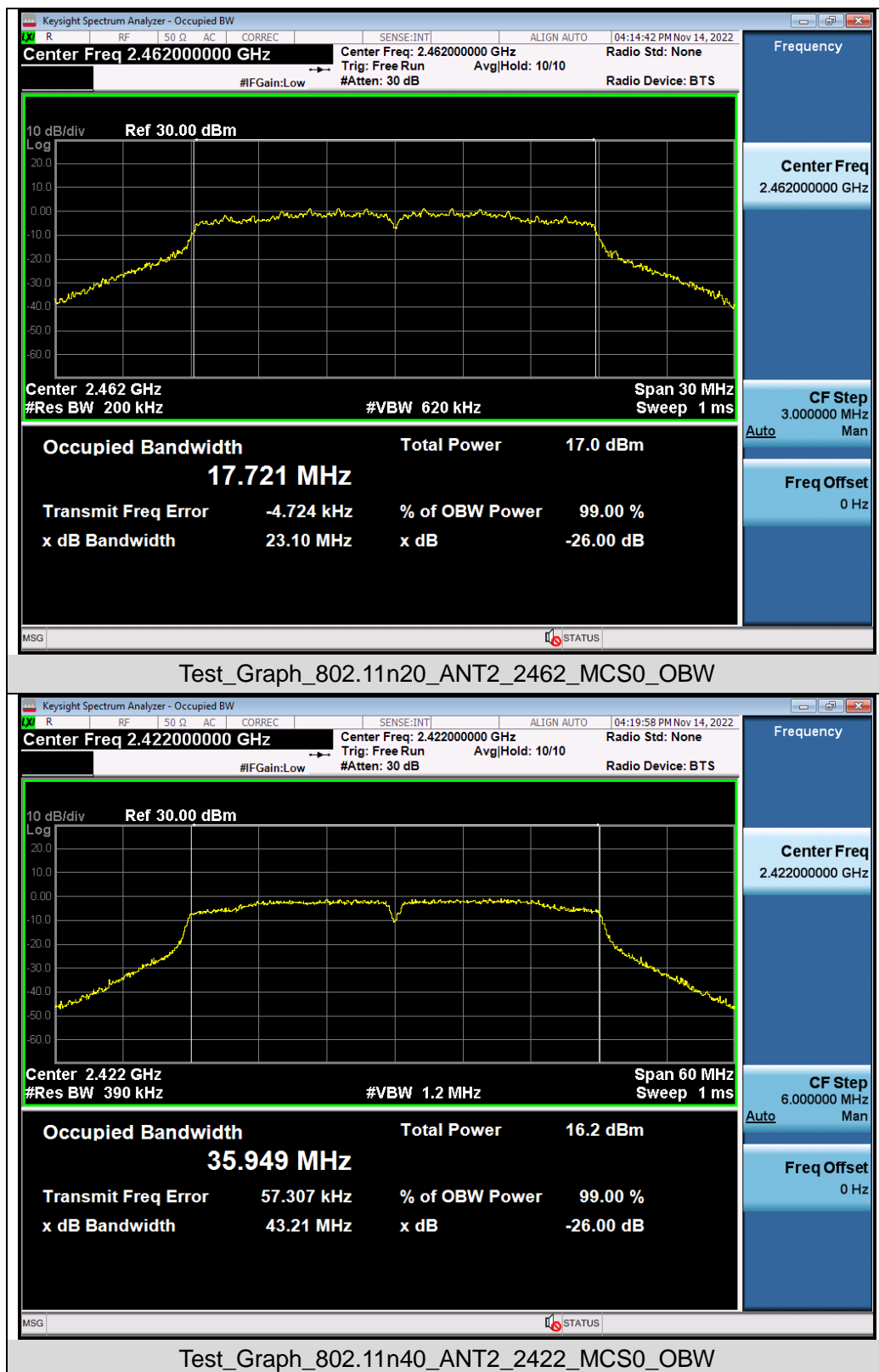
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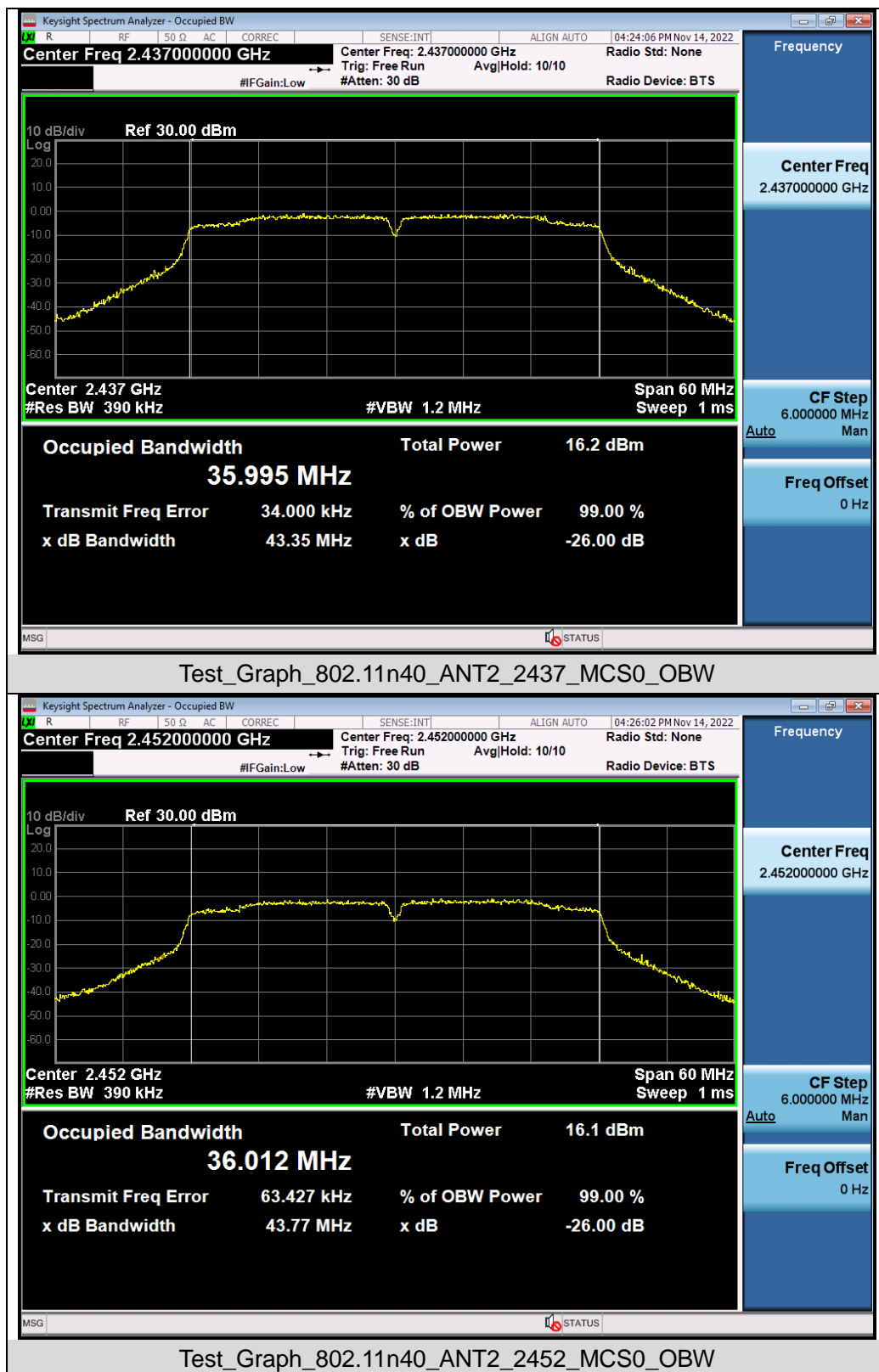
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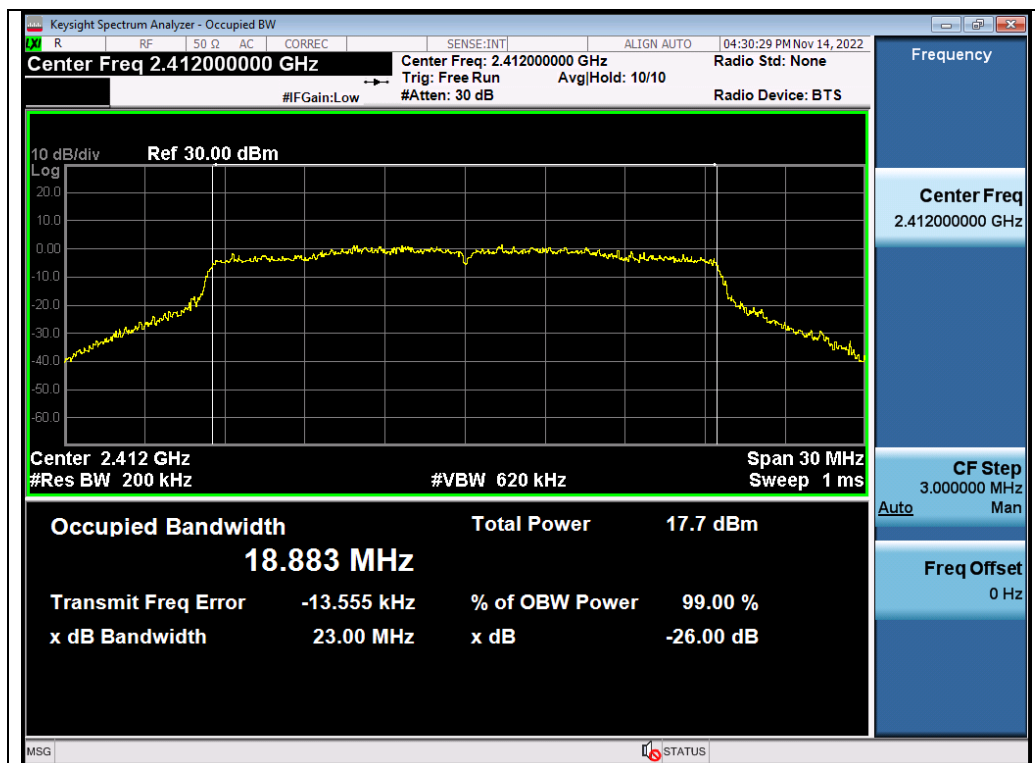
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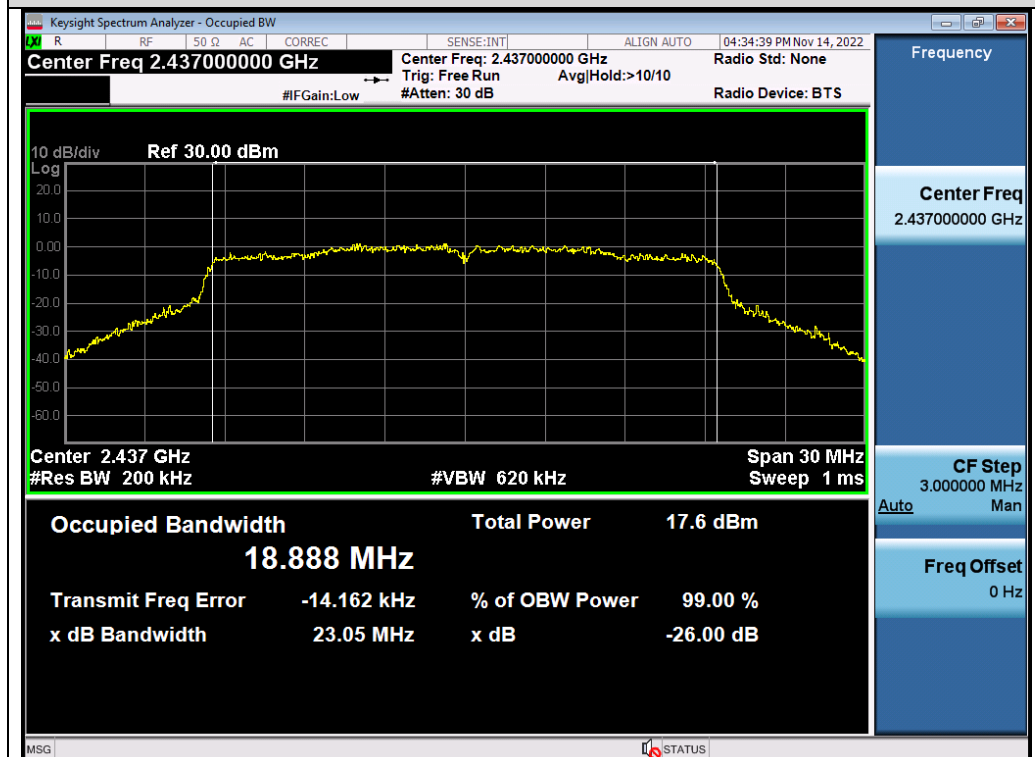
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Test_Graph_802.11ax20_ANT2_2412_MCS0_OBW



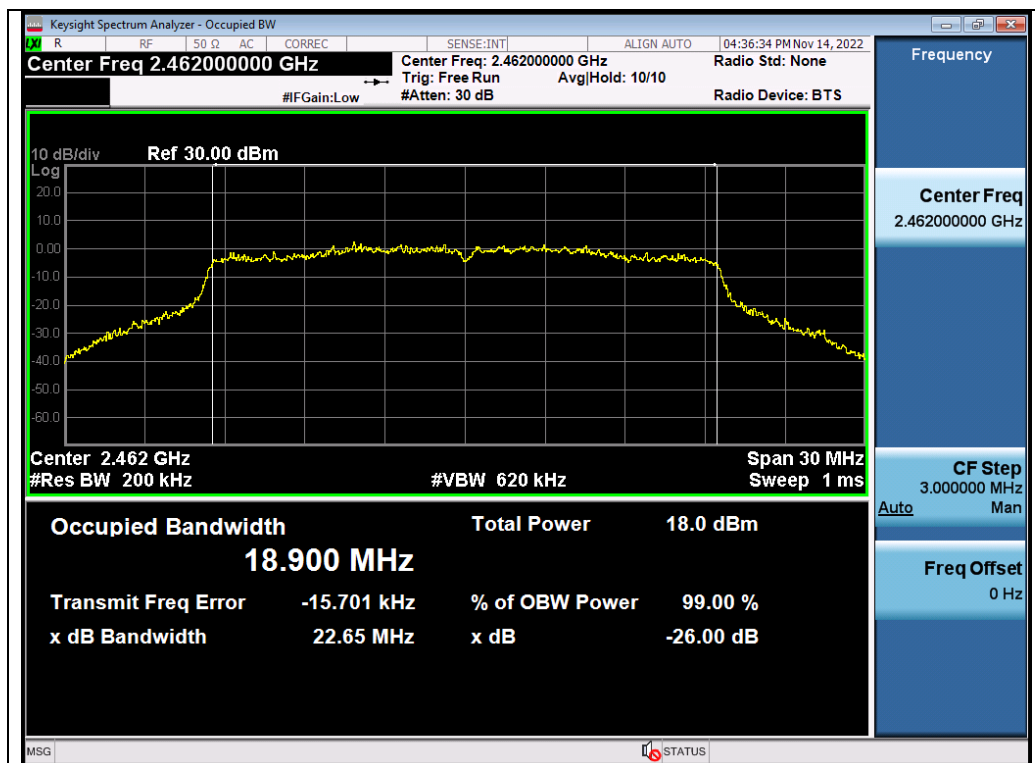
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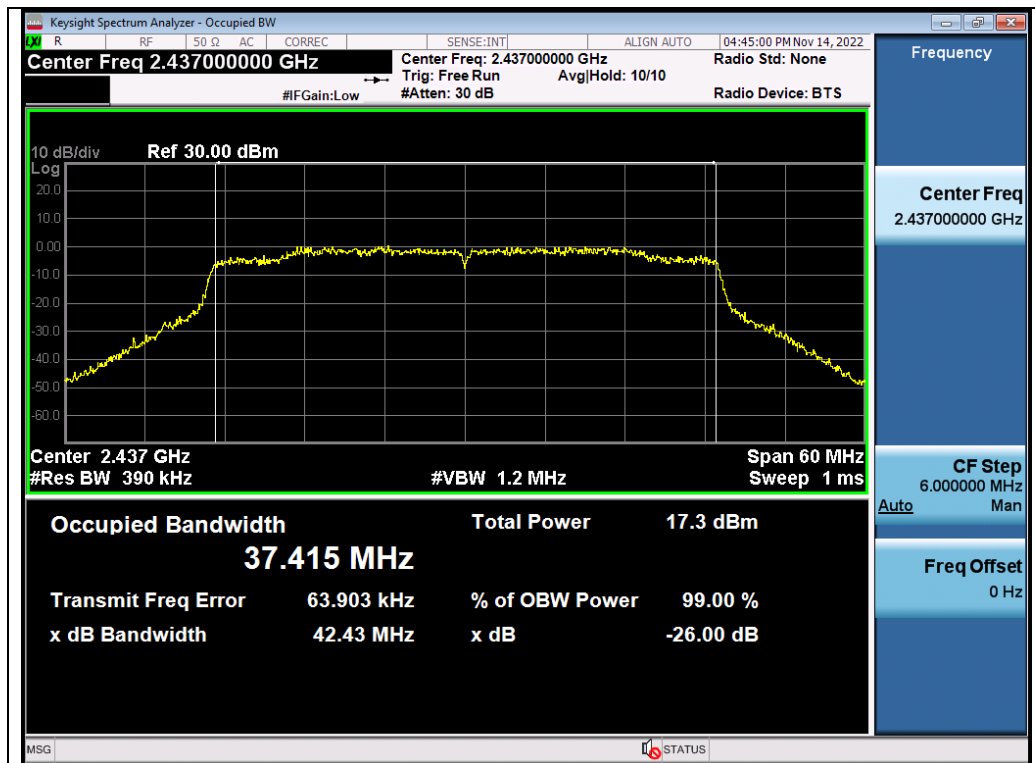


Test_Graph_802.11ax20_ANT2_2462_MCS0_OBW



Test_Graph_802.11ax40_ANT2_2422_MCS0_OBW

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Test_Graph_802.11ax40_ANT2_2437_MCS0_OBW



Test_Graph_802.11ax40_ANT2_2452_MCS0_OBW

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Test Graphs of DTS Bandwidth



Test_Graph_802.11b_ANT1_2412_1Mbps_DTSBW



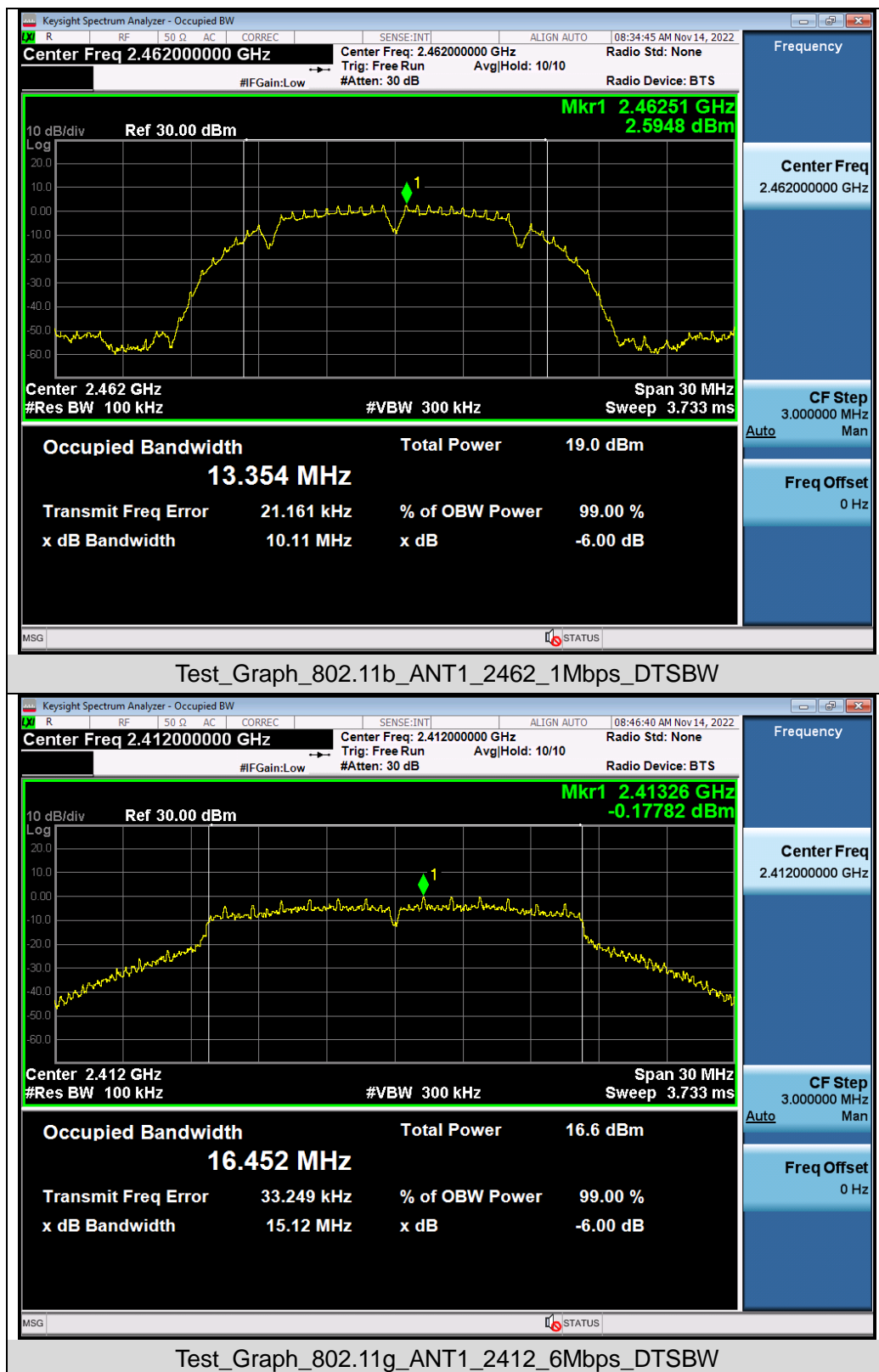
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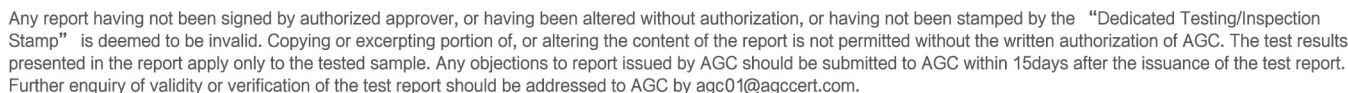
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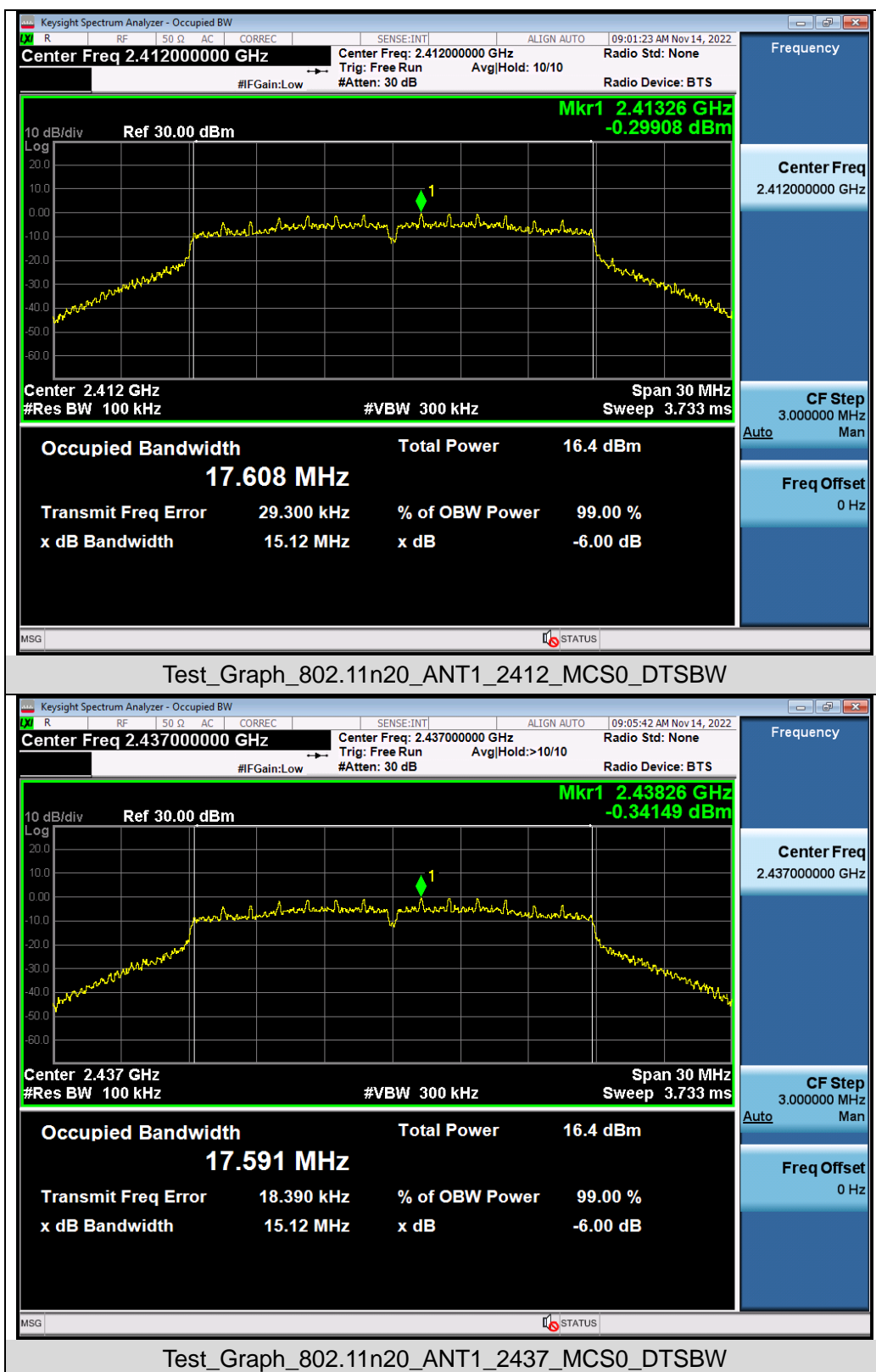
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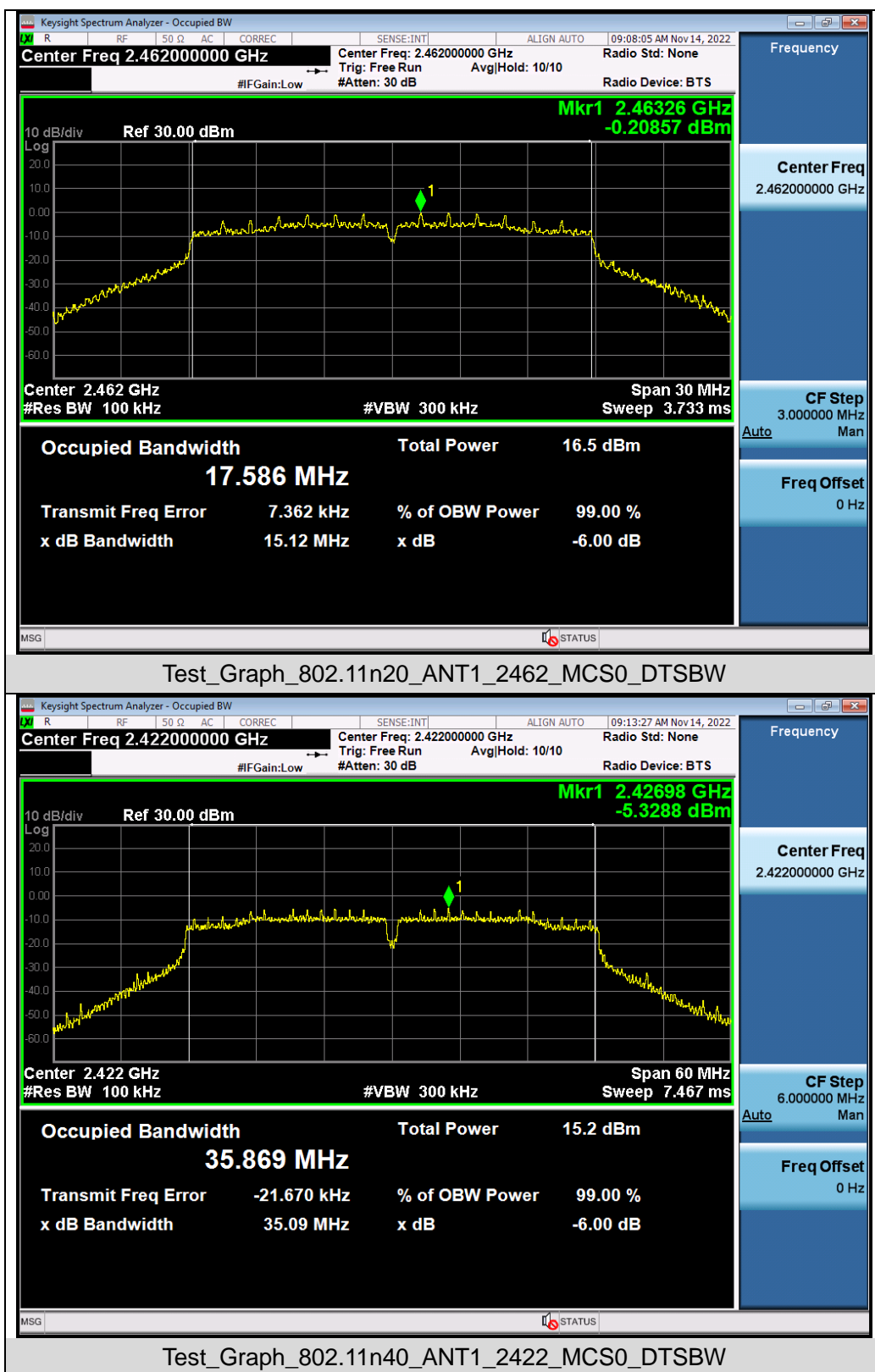


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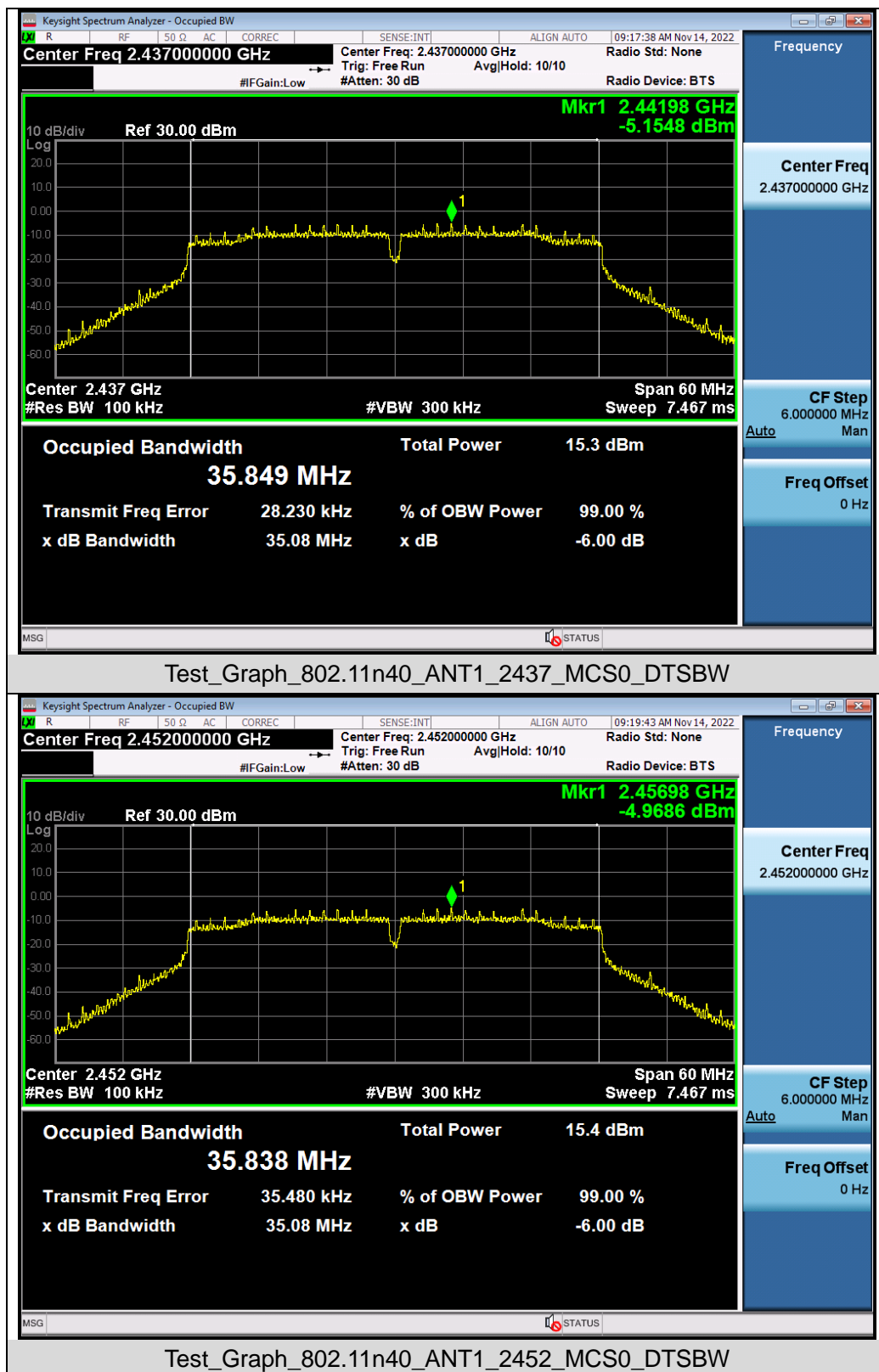


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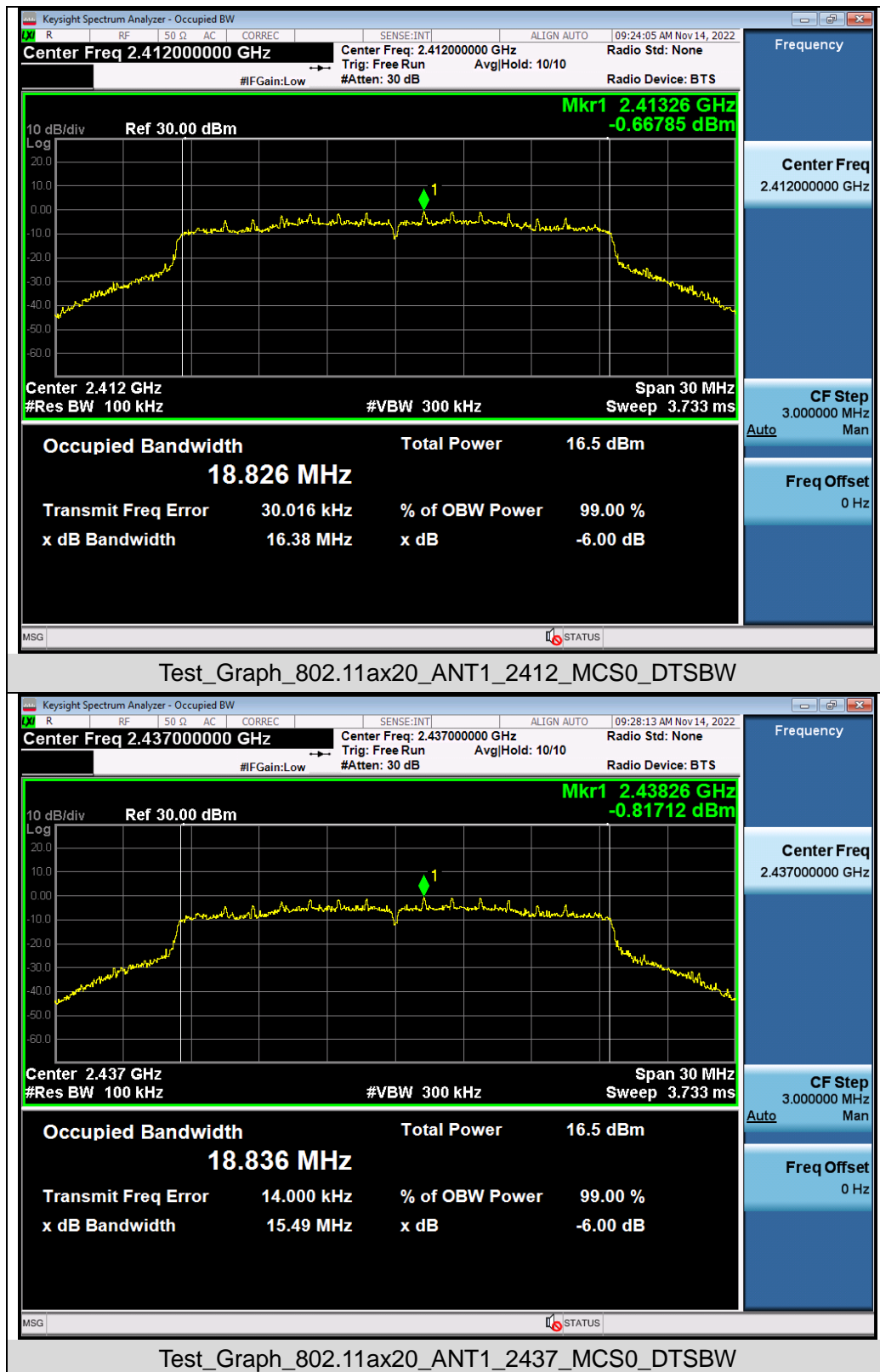
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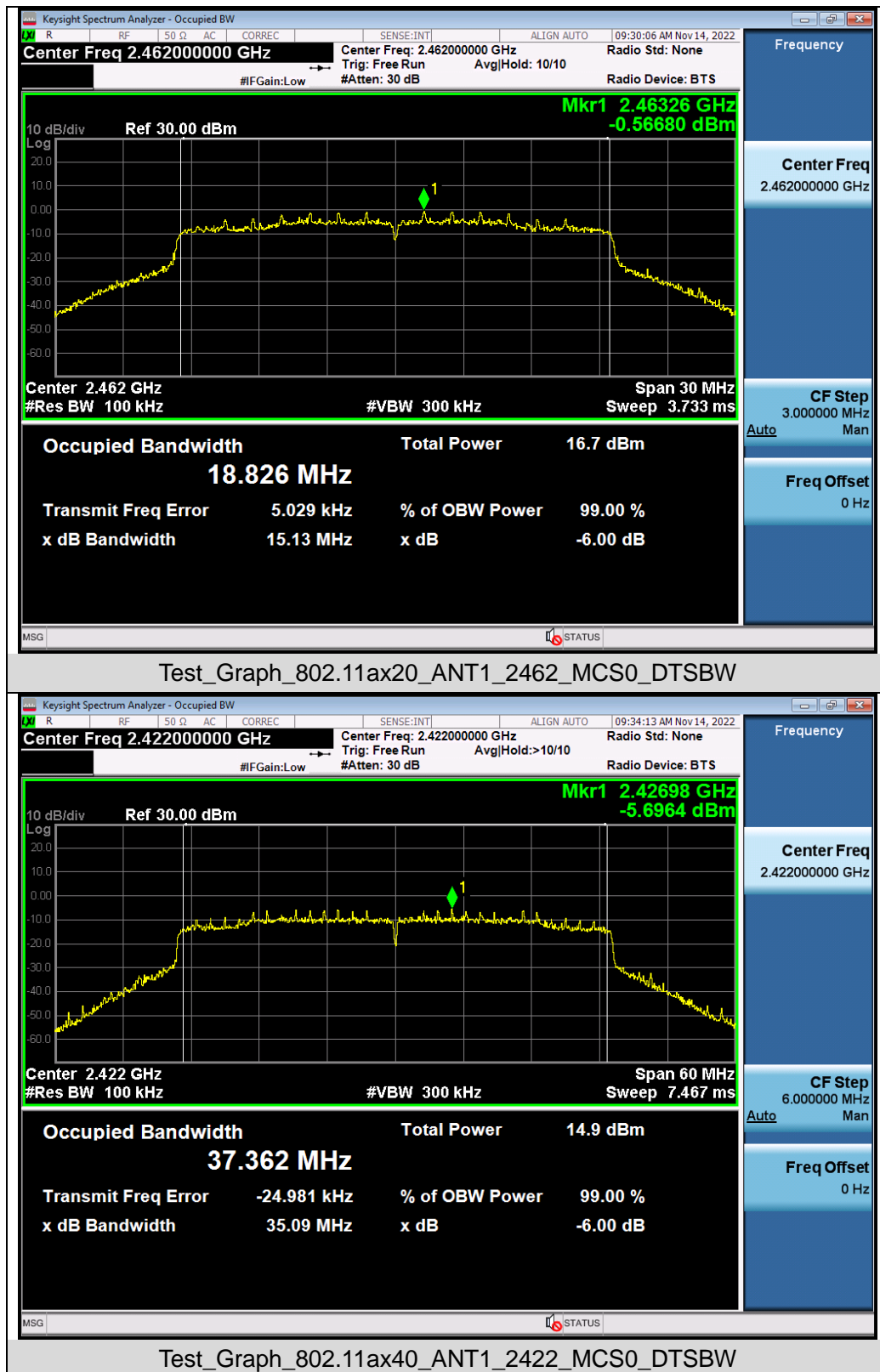
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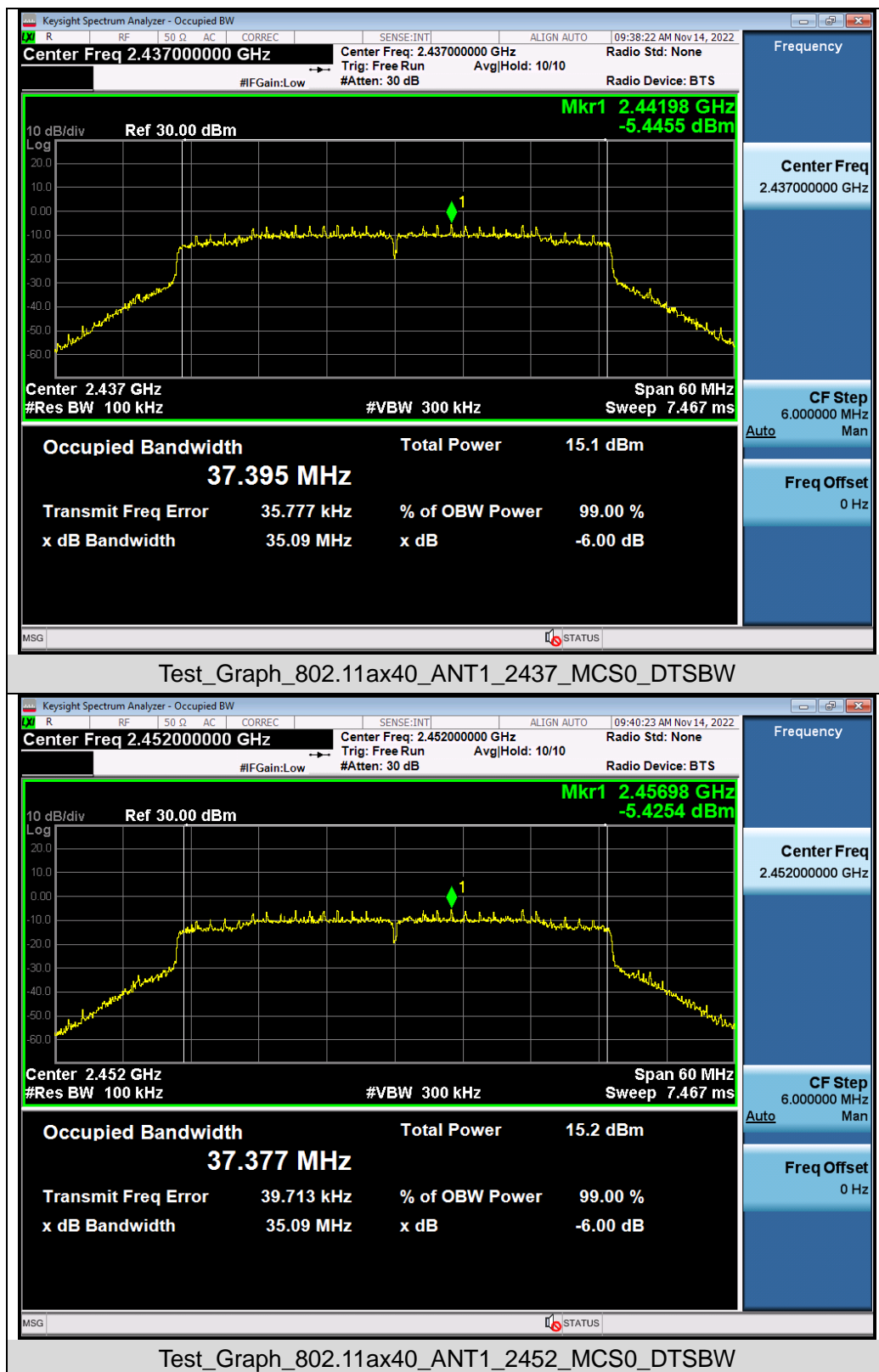
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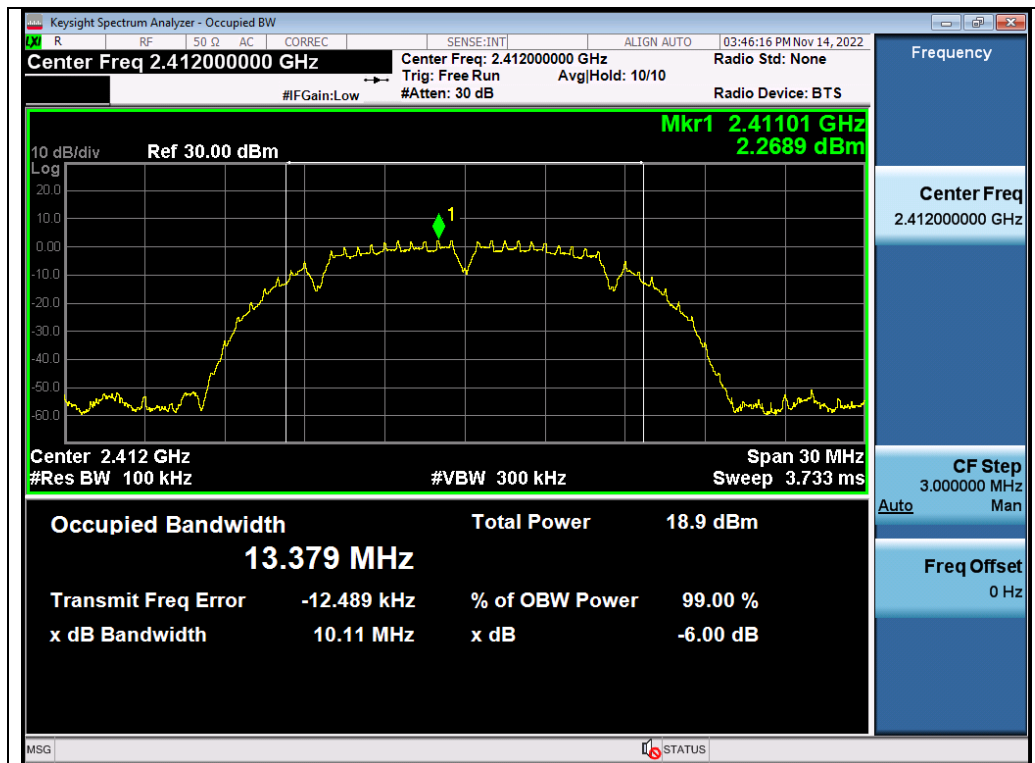
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Test_Graph_802.11b_ANT2_2412_1Mbps_DTSSBW



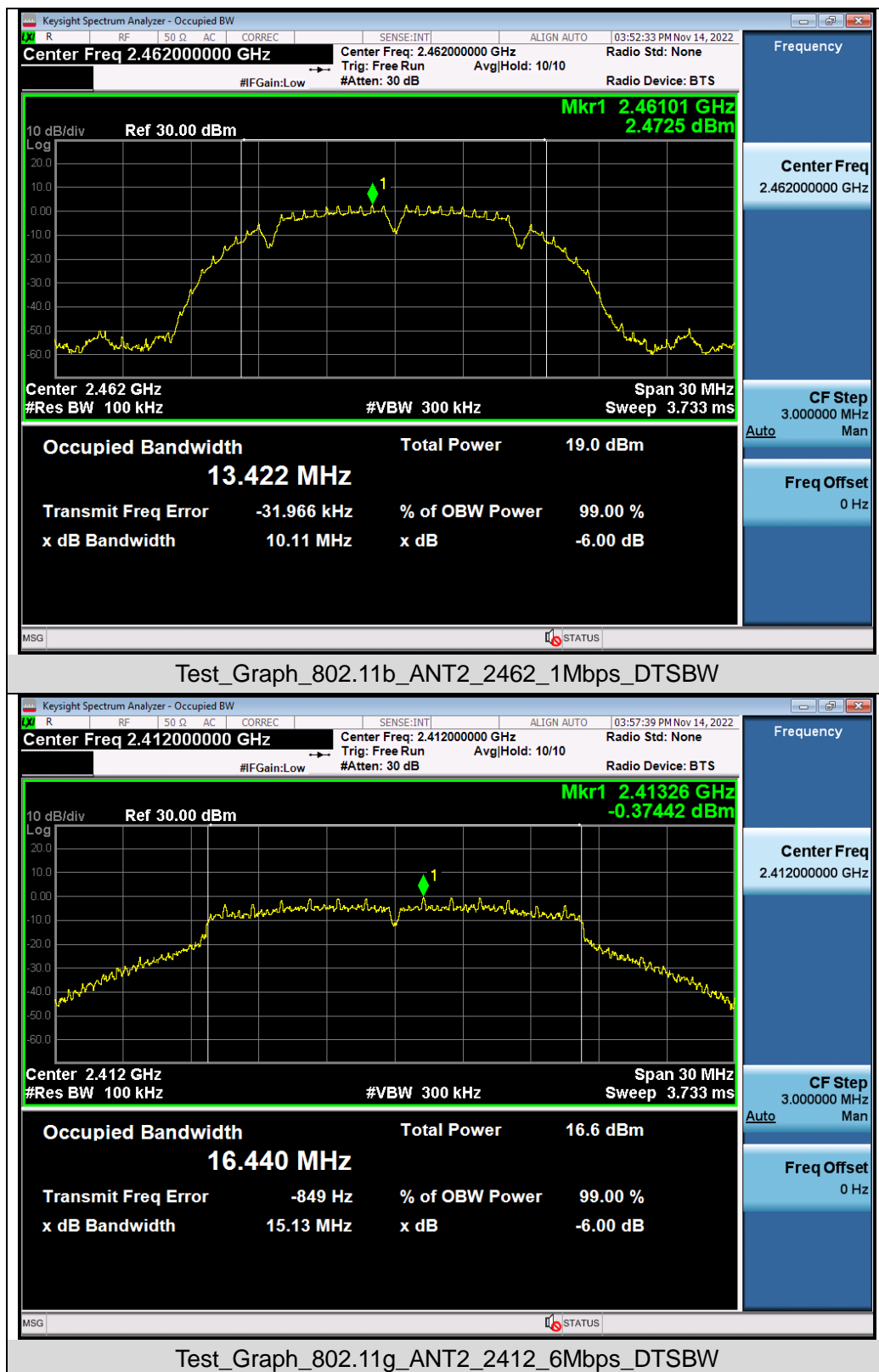
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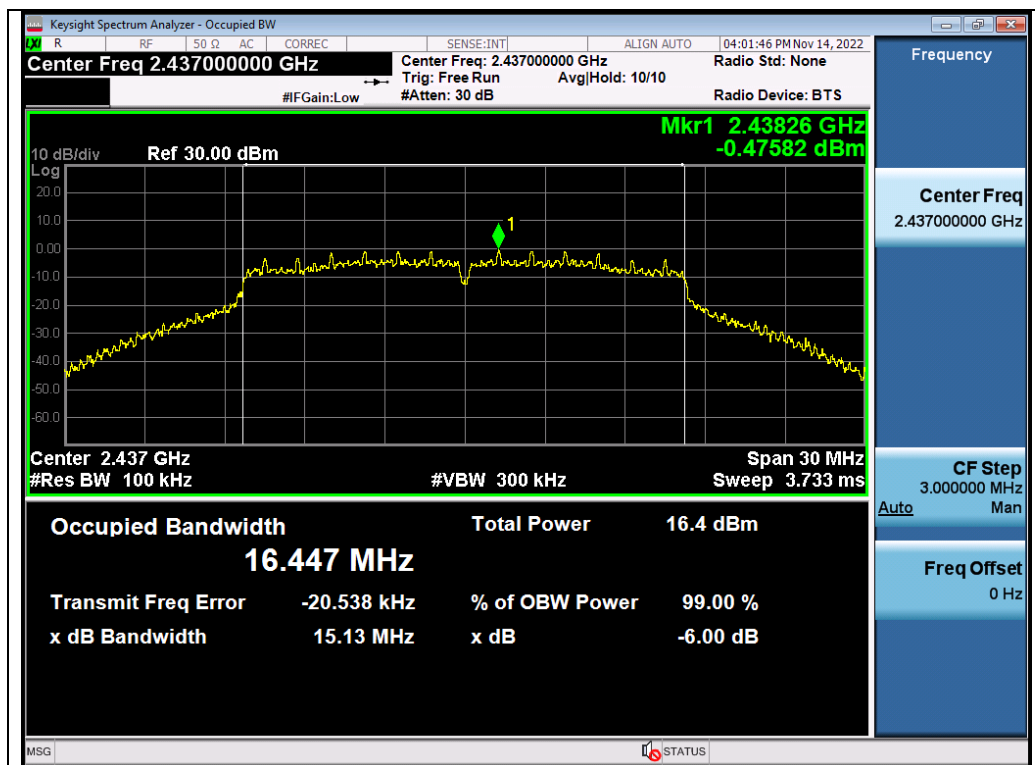


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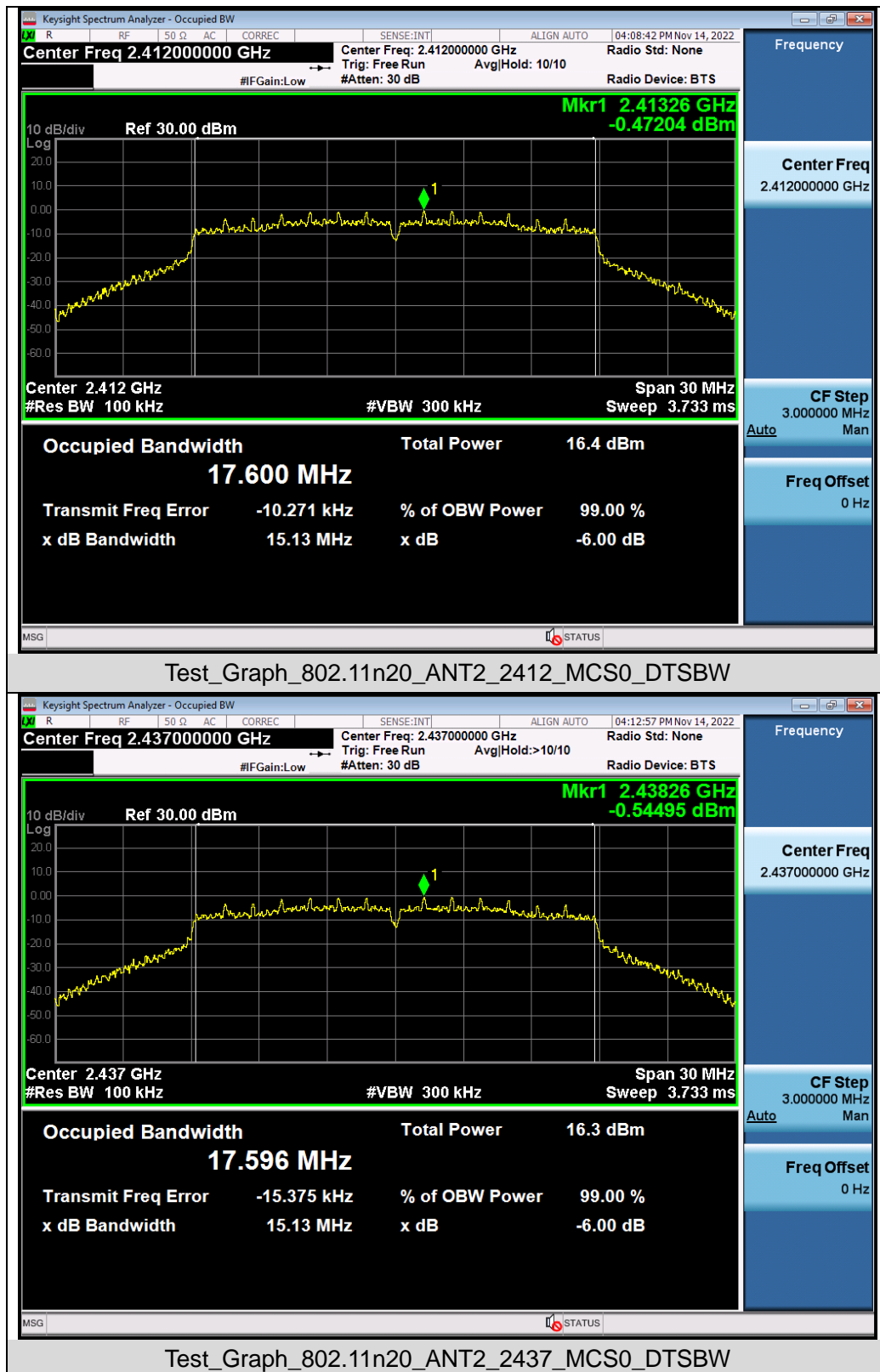
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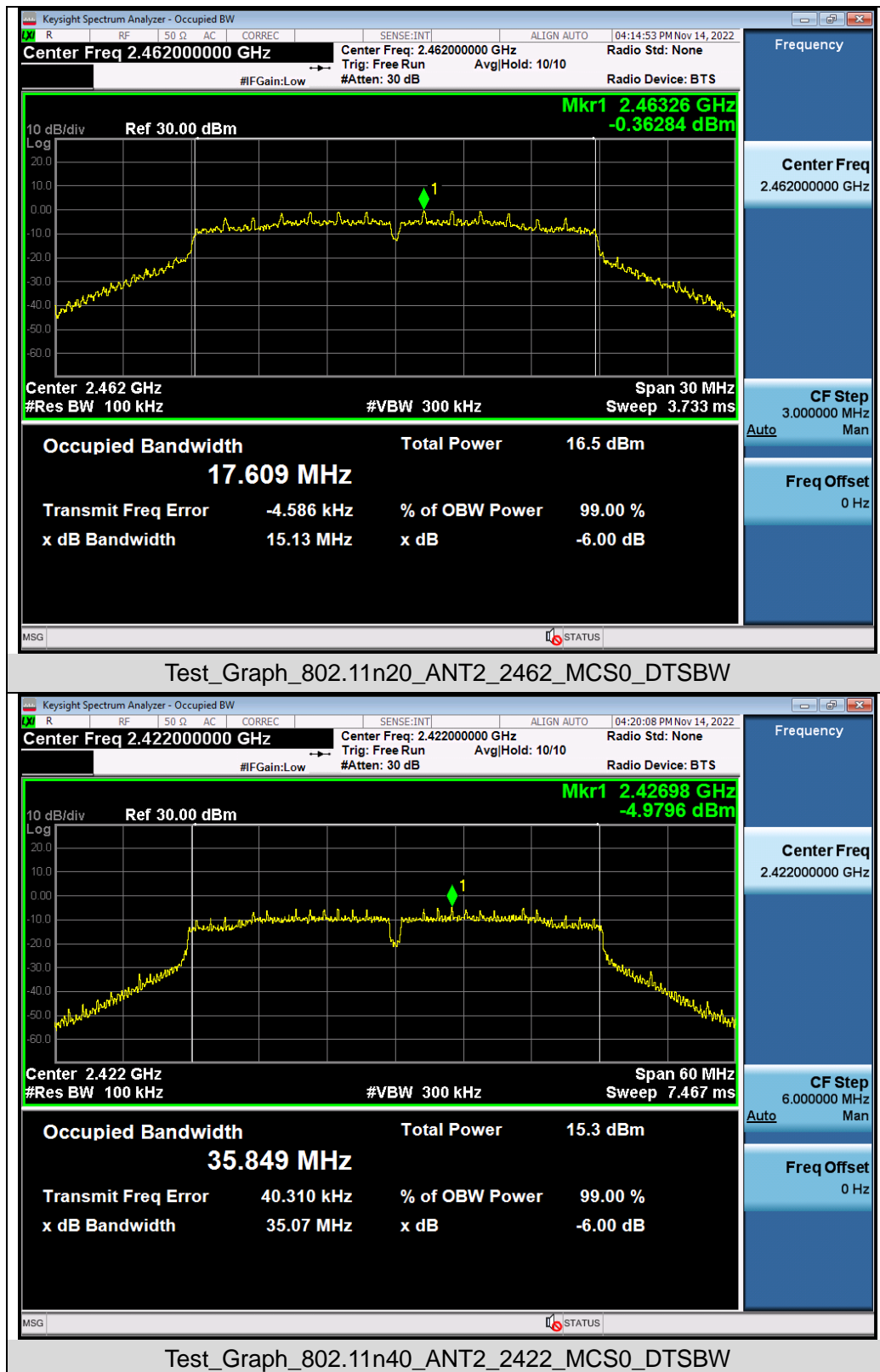
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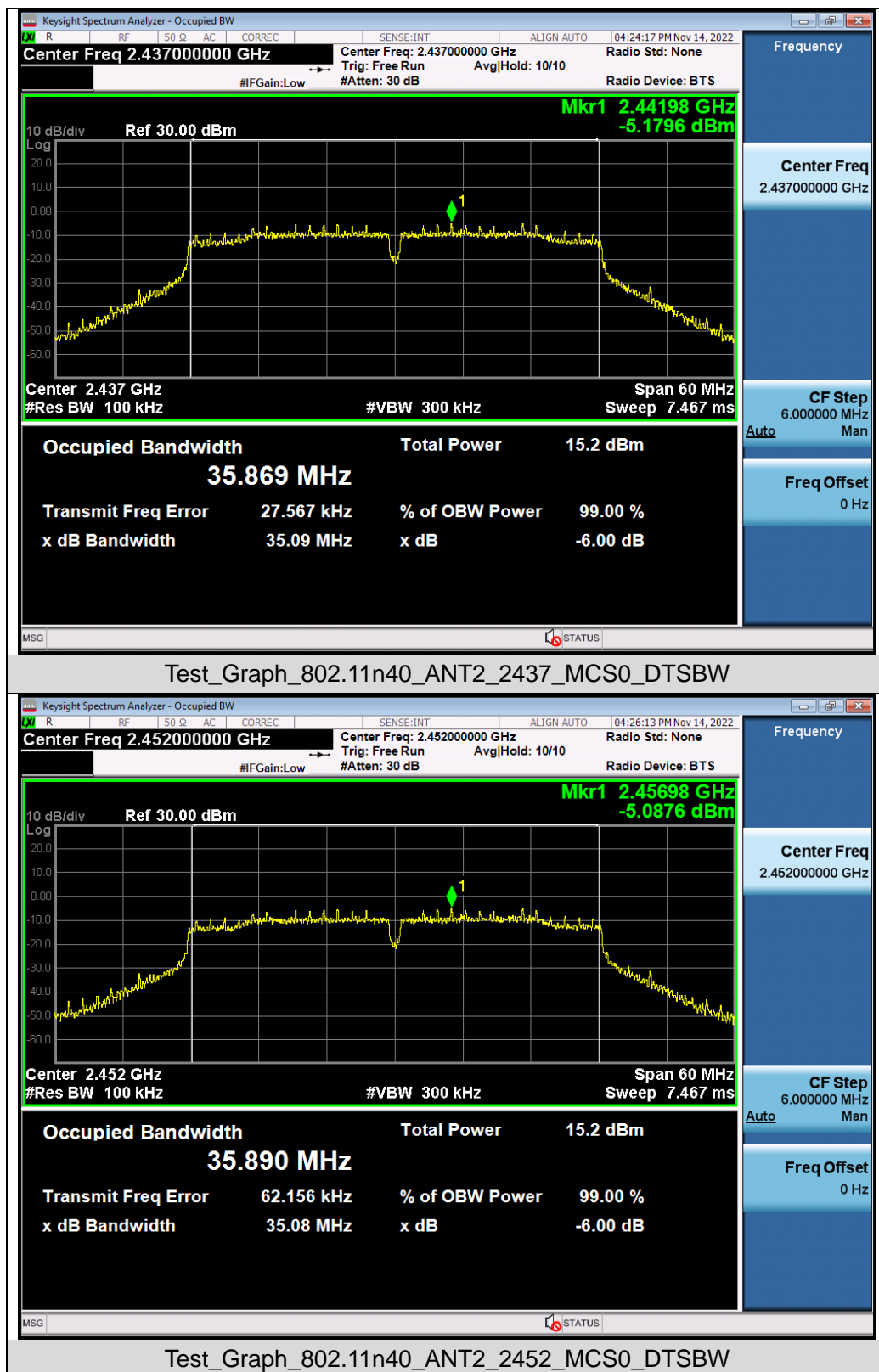
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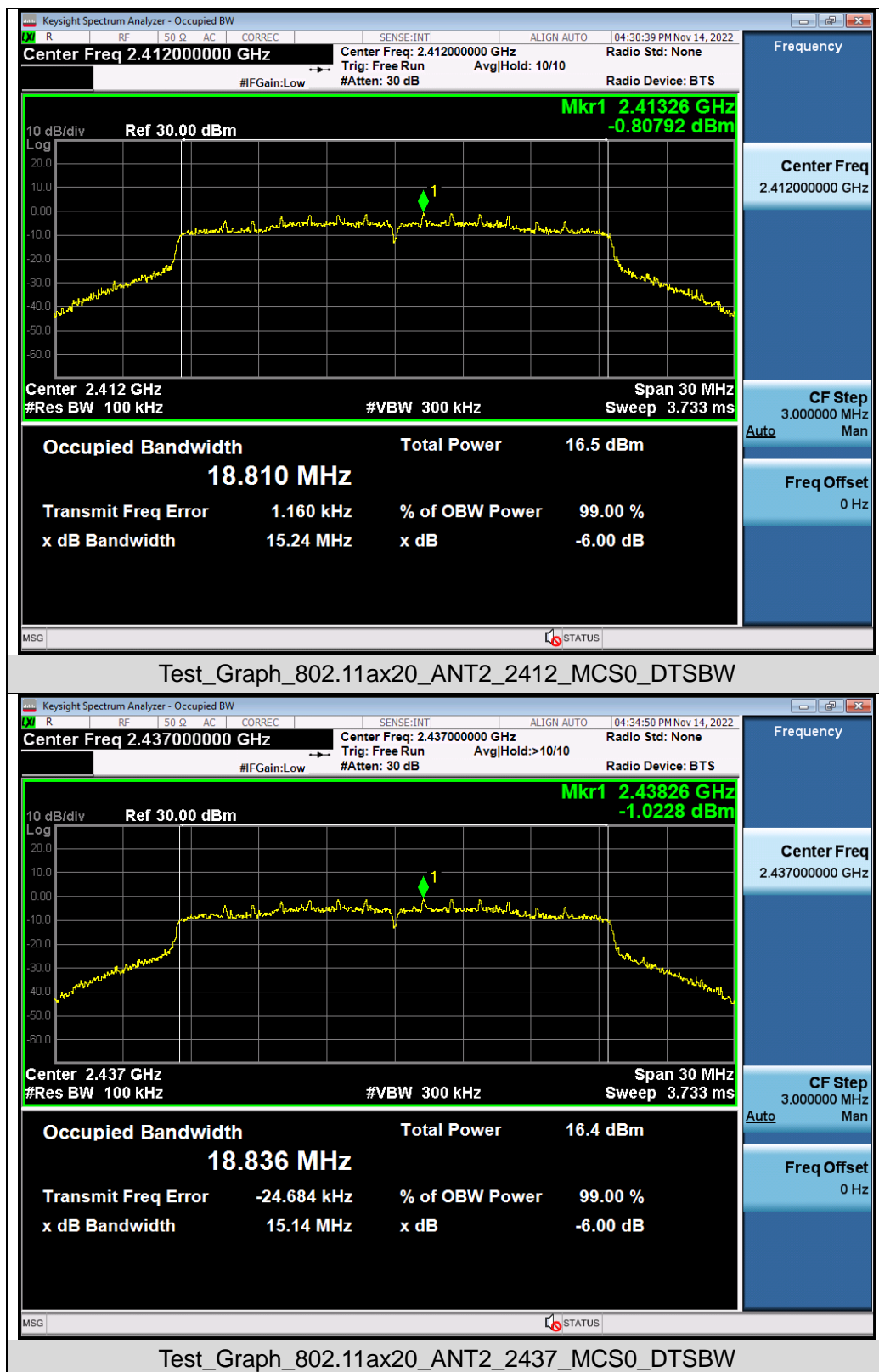
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