
FCC Test Report

Report No.: AGC10232240701FR03

FCC ID : 2AEAN-0558

APPLICATION PURPOSE : Original Equipment

PRODUCT DESIGNATION : Video and Audio Production Console

BRAND NAME : RØDE

MODEL NAME : RØDECASTER VIDEO

APPLICANT : Rode Microphones

DATE OF ISSUE : Aug. 13, 2024

STANDARD(S) : FCC Part 15 Subpart C §15.247

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	/	Aug. 13, 2024	Valid	Initial Release

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1. General Information

Applicant	Rode Microphones
Address	107 Carnarvon Street, Silverwater 2128, Australia
Manufacturer	Rode Microphones
Address	107 Carnarvon Street, Silverwater 2128, Australia
Factory	Rode Microphones
Address	107 Carnarvon Street, Silverwater 2128, Australia
Product Designation	Video and Audio Production Console
Brand Name	RØDE
Test Model	RØDECASTER VIDEO
Series Model(s)	N/A
Difference Description	N/A
Date of receipt of test item	Jul. 11, 2024
Date of Test	Jul. 11, 2024~ Aug. 12, 2024
Deviation from Standard	No any deviation from the test method
Condition of Test Sample	Normal
Test Result	Pass
Test Report Form No	AGCER-FCC-2.4GWLAN-V1

Note: The test results of this report relate only to the tested sample identified in this report.

Prepared By		
	Jack Gui (Project Engineer)	Aug. 12, 2024
Reviewed By		
	Calvin Liu (Reviewer)	Aug. 12, 2024
Approved By		
	Max Zhang (Authorized Officer)	Aug. 12, 2024

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2. Product Information

2.1 Product Technical Description

Equipment Type	WLAN 2.4G
Frequency Band	2400MHz ~ 2483.5MHz
Operation Frequency	2412MHz ~ 2462MHz
Output Power (Average)	IEEE 802.11b:14.48dBm; IEEE 802.11g:13.90dBm; IEEE 802.11n(HT20):13.54dBm; IEEE 802.11n(HT40):13.11dBm IEEE 802.11ax (HE20):12.79dBm; IEEE 802.11ax (HE40):12.47dBm
Output Power (Peak)	IEEE 802.11b:17.23dBm; IEEE 802.11g:21.43dBm; IEEE 802.11n(HT20):21.25dBm; IEEE 802.11n(HT40):20.82dBm IEEE 802.11ax (HE20):20.34dBm; IEEE 802.11ax (HE40):20.33dBm
Output Power (MIMO- Average)	IEEE 802.11n(HT20):16.52dBm; IEEE 802.11n(HT40):15.89dBm IEEE 802.11ax (HE20):15.58dBm; IEEE 802.11ax (HE40):15.39dBm
Output Power (MIMO- Peak)	IEEE 802.11n(HT20):24.20dBm; IEEE 802.11n(HT40):23.70dBm IEEE 802.11ax (HE20):23.51dBm; IEEE 802.11ax (HE40):23.24dBm
Modulation	802.11b:(DQPSK, DBPSK, CCK) DSSS 802.11g/n:(64-QAM,16-QAM, QPSK, BPSK) OFDM 802.11ax:(1024-QAM,256-QAM,64-QAM,16-QAM,QPSK,BPSK)OFDMA
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	V1.0
Software Version	V1.0
Antenna Designation	Reverse SMA Antenna
Antenna Gain	Please refer to report section 2.9 description
Number of transmit chain	2(802.11b/g/n all used two antennas, 802.11b/g support SISO and 802.11n/ax support MIMO)
Power Supply	DC 20V by adapter

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2.2 Table of Carrier Frequency

For 2412-2462MHz:

11 channels are provided for 802.11b/g/n(HT20)/ax(HE20):

Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz
04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz
10	2457 MHz	11	2462 MHz		

7 channels are provided for 802.11n(HT40)/ax(HE40):

Channel	Frequency	Channel	Frequency	Channel	Frequency
01	--	02	--	03	2422 MHz
04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz
10	--	11	--		

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2.3 IEEE 802.11n Modulation Scheme

MCS Index	N _{ss}	Modulation	R	N _{BPSC}	N _{CBPS}		N _{DBPS}		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 Related Submittal(S) / Grant (S)

This submittal(s) (test report) is intended for FCC ID: 2AEAN-0558, filing to comply with Part 2, Part 15 of the Federal Communication Commission rules.

2.5 Test Methodology

The tests were performed according to following standards:

No.	Identity	Document Title
1	FCC 47 CFR Part 2	Frequency allocations and radio treaty matters; general rules and regulations
2	FCC 47 CFR Part 15	Radio Frequency Devices
3	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices
4	KDB 662911	KDB 662911 D01 Multiple Transmitter Output v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)

2.6 Special Accessories

Refer to section 4.4.

2.7 Equipment Modifications

Not available for this EUT intended for grant.

2.8 Antenna Requirement

Standard Requirement
<p>15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</p> <p>15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi</p>
<p>EUT Antenna: The detachable antenna inside the device cannot be replaced by the user at will. For the antenna gain, please refer to the description in Chapter 2.9 of the report.</p>

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2.9 Description of Available Antennas

Antenna Type	Frequency Band (MHz)	TX Paths	Bandwidth (MHz)	Max Peak Gain (dBi)		Max Directional Gain (dBi)
				Chain A	Chain B	
2.4GWIFI Reverse SMA Antenna List (2.4GHz 2*2 MIMO)						
Reverse SMA Antenna	2400~2483.5	2	20, 40	3.08	3.08	6.09

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 = $G_{ANT} + \text{Array Gain}$, 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:

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

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

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

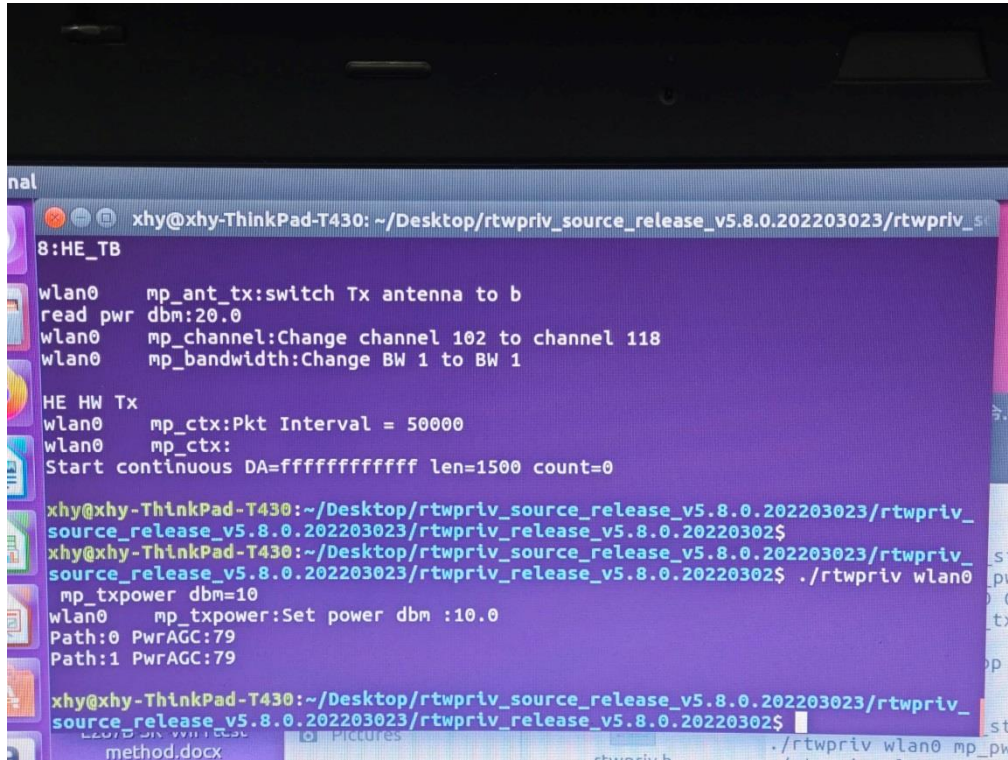
If antenna gains are not equal, Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain.

2.10 Description of Test Software

For IEEE 802.11 mode:

The test utility software used during testing was “rtwpriv_release_v5.8.0.20220302”.

Software Setting Diagram



```

xhy@xhy-ThinkPad-T430: ~/Desktop/rtwpriv_source_release_v5.8.0.202203023/rtwpriv_release_v5.8.0.20220302
8:HE_TB
wlan0 mp_ant_tx:switch Tx antenna to b
read pwr dbm:20.0
wlan0 mp_channel:Change channel 102 to channel 118
wlan0 mp_bandwidth:Change BW 1 to BW 1
HE HW Tx
wlan0 mp_ctx:Pkt Interval = 50000
wlan0 mp_ctx:
Start continuous DA=fffffffffff len=1500 count=0
xhy@xhy-ThinkPad-T430:~/Desktop/rtwpriv_source_release_v5.8.0.202203023/rtwpriv_release_v5.8.0.20220302$
xhy@xhy-ThinkPad-T430:~/Desktop/rtwpriv_source_release_v5.8.0.202203023/rtwpriv_release_v5.8.0.20220302$ ./rtwpriv wlan0
mp_txpower dbm=10
wlan0 mp_txpower:Set power dbm :10.0
Path:0 PwrAGC:79
Path:1 PwrAGC:79
xhy@xhy-ThinkPad-T430:~/Desktop/rtwpriv_source_release_v5.8.0.202203023/rtwpriv_release_v5.8.0.20220302$

```

Test Mode	Channel	Power Index	
		Chain A	Chain B
802.11b	L/M/H	14	14
802.11g	L/M/H	13	13
802.11n-HT20	L/M/H	13	13
802.11ax-HE20	L/M/H	12	12
802.11n-HT40	L/M/H	13	13
802.11ax-HE40	L/M/H	12	12

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3. Test Environment

3.1 Address of The Test Laboratory

Laboratory: Attestation of Global Compliance (Shenzhen) Co., Ltd.

Address: 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L5488

Attestation of Global Compliance (Shenzhen) Co., Ltd. has been assessed and proved to follow CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories).

A2LA-Lab Cert. No.: 5054.02

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to follow ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 975832

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files with Registration 975832.

IC-Registration No.: 24842 (CAB identifier: CN0063)

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the Certification and Engineering Bureau of Industry Canada. The acceptance letter from the IC is maintained in our files with Registration 24842.

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3.3 Environmental Conditions

	Normal Conditions
Temperature range (°C)	15 - 35
Relative humidity range	20 % - 75 %
Pressure range (kPa)	86 - 106

3.4 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	$U_c = \pm 2.9 \text{ dB}$
Uncertainty of Radiated Emission below 1GHz	$U_c = \pm 3.9 \text{ dB}$
Uncertainty of Radiated Emission above 1GHz	$U_c = \pm 4.9 \text{ dB}$
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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3.5 List of Equipment Used

● RF Conducted Test System							
Used	Equipment No.	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
<input checked="" type="checkbox"/>	AGC-ER-E036	Spectrum Analyzer	Agilent	N9020A	MY49100060	2024-05-24	2025-05-23
<input checked="" type="checkbox"/>	AGC-ER-E062	Power Sensor	Agilent	U2021XA	MY54110007	2024-02-01	2025-01-31
<input checked="" type="checkbox"/>	AGC-ER-E063	Power Sensor	Agilent	U2021XA	MY54110009	2024-02-01	2025-01-31
<input checked="" type="checkbox"/>	AGC-ER-A001	6dB Attenuator	Eeatsheep	LM-XX-6-5W	N/A	2023-09-21	2025-09-20
<input checked="" type="checkbox"/>	AGC-ER-E083	Signal Generator	Agilent	E4421B	US39340815	2024-05-23	2025-05-22
<input checked="" type="checkbox"/>	N/A	RF Connection Cable	N/A	1#	N/A	Each time	N/A
<input checked="" type="checkbox"/>	N/A	RF Connection Cable	N/A	2#	N/A	Each time	N/A

● Radiated Spurious Emission							
Used	Equipment No.	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
<input type="checkbox"/>	AGC-EM-E046	EMI Test Receiver	R&S	ESCI	10096	2024-02-01	2025-01-31
<input checked="" type="checkbox"/>	AGC-EM-E116	EMI Test Receiver	R&S	ESCI	100034	2024-05-24	2025-05-23
<input checked="" type="checkbox"/>	AGC-EM-E061	Spectrum Analyzer	Agilent	N9010A	MY53470504	2024-05-28	2025-05-27
<input checked="" type="checkbox"/>	AGC-EM-E086	Loop Antenna	ZHINAN	ZN30900C	18051	2024-03-05	2026-03-04
<input checked="" type="checkbox"/>	AGC-EM-E001	Wideband Antenna	SCHWARZBECK	VULB9168	D69250	2023-05-11	2025-05-10
<input checked="" type="checkbox"/>	AGC-EM-E029	Broadband Ridged Horn Antenna	ETS	3117	00034609	2024-03-31	2025-03-30
<input checked="" type="checkbox"/>	AGC-EM-E082	Horn Antenna	SCHWARZBECK	BBHA 9170	#768	2023-09-24	2025-09-23
<input checked="" type="checkbox"/>	AGC-EM-E146	Pre-amplifier	ETS	3117-PA	00246148	2024-07-24	2026-07-23
<input checked="" type="checkbox"/>	AGC-EM-A119	2.4G Filter	SongYi	N/A	N/A	2024-05-23	2025-05-22
<input checked="" type="checkbox"/>	AGC-EM-A138	6dB Attenuator	Eeatsheep	LM-XX-6-5W	N/A	2023-06-09	2025-06-08
<input type="checkbox"/>	AGC-EM-A139	6dB Attenuator	Eeatsheep	LM-XX-6-5W	N/A	2023-06-09	2025-06-08

● AC Power Line Conducted Emission							
Used	Equipment No.	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
<input checked="" type="checkbox"/>	AGC-EM-E045	EMI Test Receiver	R&S	ESPI	101206	2024-05-28	2025-05-27
<input checked="" type="checkbox"/>	AGC-EM-A130	6dB Attenuator	Eeatsheep	LM-XX-6-5W	DC-6GZ	2023-06-09	2025-06-08
<input checked="" type="checkbox"/>	AGC-EM-E023	AMN	R&S	100086	ESH2-Z5	2024-05-28	2025-05-27

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● Test Software					
Used	Equipment No.	Test Equipment	Manufacturer	Model No.	Version Information
<input checked="" type="checkbox"/>	AGC-EM-S001	CE Test System	R&S	ES-K1	V1.71
<input checked="" type="checkbox"/>	AGC-EM-S003	RE Test System	FARA	EZ-EMC	VRA-03A
<input checked="" type="checkbox"/>	AGC-ER-S012	BT/WIFI Test System	Tonscend	JS1120-2	2.6
<input checked="" type="checkbox"/>	AGC-EM-S011	RSE Test System	Tonscend	TS+-Ver2.1(JS36-RSE)	4.0.0.0

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4. System Test Configuration

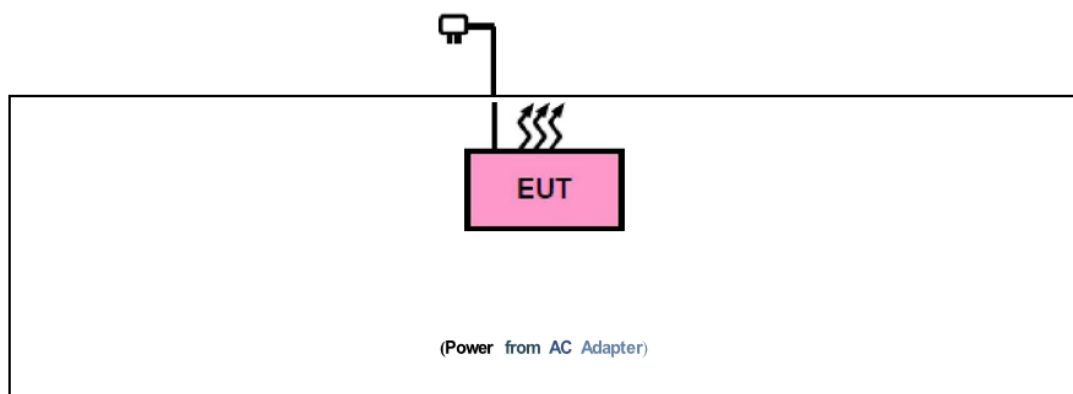
4.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

4.2 EUT Exercise

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

4.3 Configuration of Tested System



4.4 Equipment Used in Tested System

The following peripheral devices and interface cables were connected during the measurement:

☒ Test Accessories Come From The Laboratory

No.	Equipment	Manufacturer	Model No.	Specification Information	Cable
1	Control Box	N/A	USB-TTL	--	--
2	Adapter	N/A	PA-1650-58	Input: AC 100-240 V; 1.6A; Output: DC5V 3A; DC9V 3A; DC12V 3A; DC15V 3A; DC20V 3.25A	--
3	Test Board	N/A	N/A	--	--

☐ Test Accessories Come From The Manufacturer

No.	Equipment	Manufacturer	Model No.	Specification Information	Cable
1	--	--	--	--	--

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Attestation of Global Compliance(Shenzhen)Co., Ltd
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd
Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: http://www.agccert.com/

4.5 Summary of Test Results

Item	FCC Rules	Description of Test	Result
1	§15.203&15.247(b)(4)	Antenna Equipment	Pass
2	§15.247 (b)(1)	RF Output Power	Pass
3	§15.247 (a)(1)	6 dB Bandwidth	Pass
4	§15.247 (e)	Power Spectral Density	Pass
5	§15.247 (d)	Conducted Band Edge and Out-of-Band Emissions	Pass
6	§15.247 (d)&15.209	Radiated Spurious Emission	Pass
7	§15.207	AC Power Line Conducted Emission	Pass

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5. Description of Test Modes

Summary table of Test Cases	
Test Item	Data Rate / Modulation
	2.4G WLAN – 802.11b/g/n/ax (DSSS/OFDM/OFDMA)
Radiated & Conducted Test Cases	Mode 1: 802.11b_TX CH01_2412 MHz_1 Mbps(AC/DC adapter) Mode 2: 802.11b_TX CH06_2437 MHz_1 Mbps(AC/DC adapter) Mode 3: 802.11b_TX CH11_2462 MHz_1 Mbps(AC/DC adapter) Mode 4: 802.11g_TX CH01_2412 MHz_6 Mbps(AC/DC adapter) Mode 5: 802.11g_TX CH06_2437 MHz_6 Mbps(AC/DC adapter) Mode 6: 802.11g_TX CH11_2462 MHz_6 Mbps (AC/DC adapter) Mode 7: 802.11n-HT20_TX CH01_2412 MHz_ MCS0 Mbps(AC/DC adapter) Mode 8: 802.11n-HT20_TX CH06_2437 MHz_ MCS0 Mbps(AC/DC adapter) Mode 9: 802.11n-HT20_TX CH11_2462 MHz_ MCS0 Mbps(AC/DC adapter) Mode 10: 802.11ax-HE20_TX CH01_2412 MHz_ MCS0 Mbps(AC/DC adapter) Mode 11: 802.11ax-HE20_TX CH06_2437 MHz_ MCS0 Mbps(AC/DC adapter) Mode 12: 802.11ax-HE20_TX CH11_2462 MHz_ MCS0 Mbps(AC/DC adapter) Mode 13: 802.11n-HT40_TX CH03_2422 MHz_ MCS0 Mbps(AC/DC adapter) Mode 14: 802.11n-HT40_TX CH06_2437 MHz_ MCS0 Mbps(AC/DC adapter) Mode 15: 802.11n-HT40_TX CH09_2452 MHz_ MCS0 Mbps(AC/DC adapter) Mode 16: 802.11ax-HE40_TX CH03_2422 MHz_ MCS0 Mbps(AC/DC adapter) Mode 17: 802.11ax-HE40_TX CH06_2437 MHz_ MCS0 Mbps(AC/DC adapter) Mode 18: 802.11ax-HE40_TX CH09_2452 MHz_ MCS0 Mbps(AC/DC adapter)
AC Conducted Emission	Mode 1: 2.4G WLAN Link + USB Cable(powered from AC Adapter)

Note:

1. The 802.11ax mode is only tested and evaluated at Full RU bandwidth.
2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
3. For Conducted Test method, a temporary antenna connector is provided by the manufacture.
4. All modes and antennas in the radiation spurious test are pre-scanned. When there is no MIMO technology mode, Chain A is evaluated. When there is MIMO technology mode, Chain A + Chain B are evaluated as the worst data.

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6. Duty Cycle Measurement

2.4GHz WLAN (DTS) operation is possible in 20MHz, and 40MHz channel bandwidths. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz, and detector = Average. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Chain A

Operating mode	Data rates (Mbps)	Duty Cycle (%)	Duty Cycle Factor (dB)
IEEE 802.11b	1	76.33	1.17
IEEE 802.11g	6	33.53	4.75
IEEE 802.11n-HT20	MCS0	33.64	4.73
IEEE 802.11n-HT40	MCS0	20.11	6.97
IEEE 802.11ax-HE20	MCS0	28.19	5.50
IEEE 802.11ax-HE40	MCS0	17.29	7.62

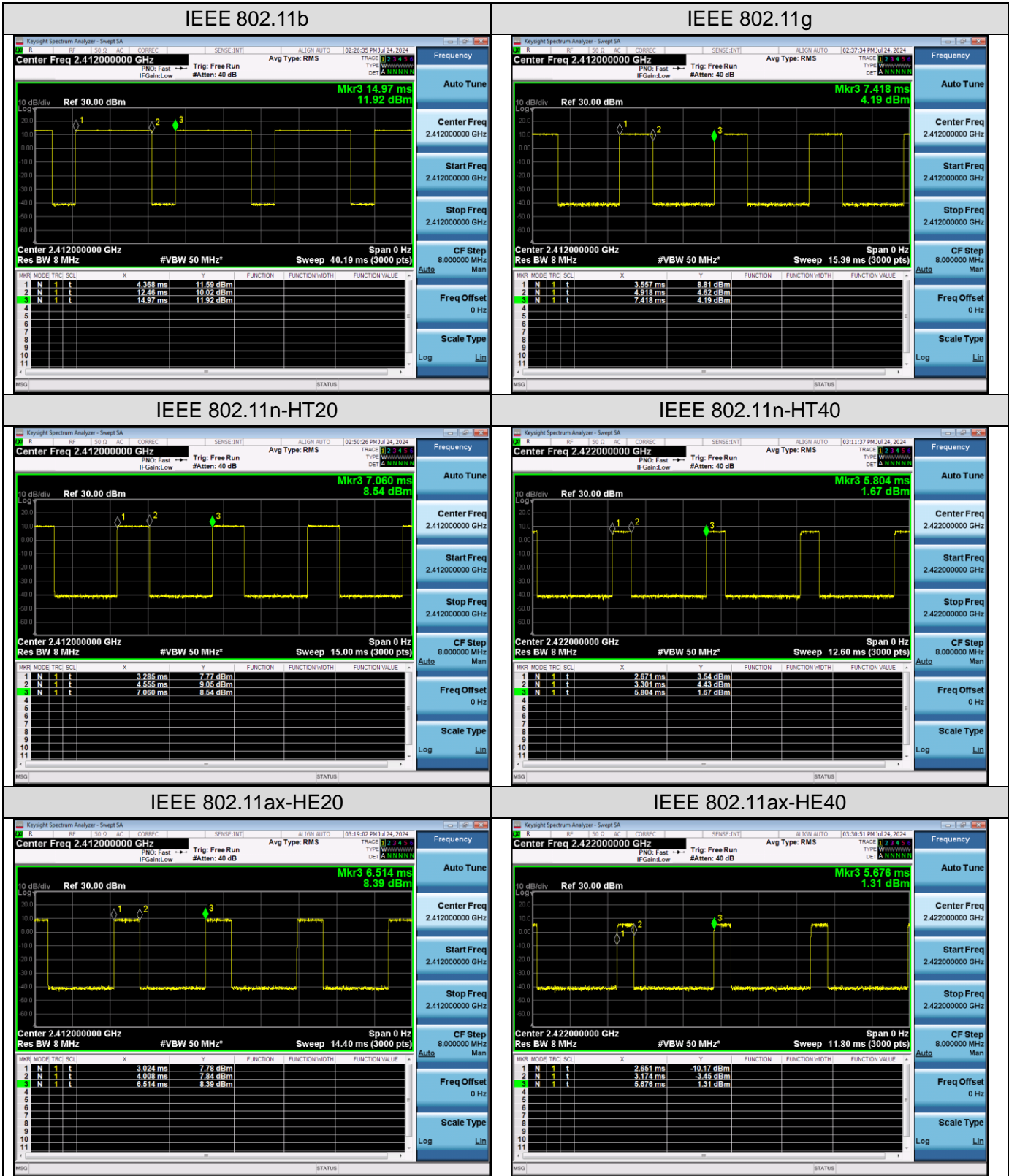
Chain B

Operating mode	Data rates (Mbps)	Duty Cycle (%)	Duty Cycle Factor (dB)
IEEE 802.11b	1	76.41	1.17
IEEE 802.11g	6	35.19	4.54
IEEE 802.11n-HT20	MCS0	33.61	4.74
IEEE 802.11n-HT40	MCS0	10.27	9.88
IEEE 802.11ax-HE20	MCS0	28.22	5.49
IEEE 802.11ax-HE40	MCS0	17.25	7.63

Remark:

1. Duty Cycle factor = $10 * \log (1/ \text{Duty cycle})$
2. The duty cycle of each frequency band mode reflects the determination requirements of the Middle channel measurement value.

The Chain A test plots as follows:



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The Chain B test plots as follows:



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7. RF Output Power Measurement

7.1 Provisions Applicable

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

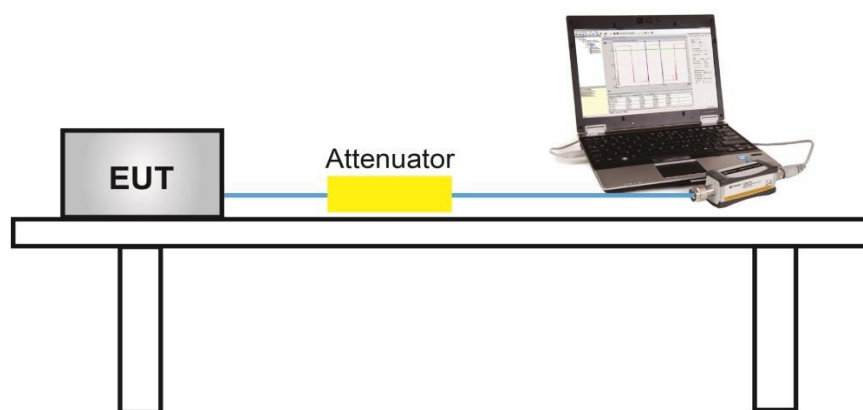
☒ Method PM is Measurement using an RF Peak power meter. The procedure for this method is as follows:

1. The testing follows the ANSI C63.10 Section 11.9.1.3
2. The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

☒ Method PM is Measurement using an RF average power meter. The procedure for this method is as follows:

1. The testing follows the ANSI C63.10 Section 11.9.2.3
2. Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the following conditions are satisfied:
3. The EUT is configured to transmit continuously, or to transmit with a constant duty cycle.
4. At all times when the EUT is transmitting, it shall be transmitting at its maximum power control level.
5. The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.
6. Determine according to the duty cycle of the equipment: when it is less than 98%, follow the steps below.
7. Measure the average power of the transmitter. This measurement is an average over both the ON and OFF periods of the transmitter.
8. Adjust the measurement in dBm by adding $[10 \log (1 / D)]$, where D is the duty cycle {e.g., $[10 \log (1 / 0.25)]$, if the duty cycle is 25%}.
9. Record the test results in the report.

7.3 Measurement Setup (Block Diagram of Configuration)



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7.4 Measurement Result

Test Data of Conducted Output Power Chain A					
Test Mode	Test Frequency (MHz)	Average Power (dBm)	Peak Power (dBm)	Limits (dBm)	Pass or Fail
802.11b	2412	14.48	17.23	≤ 30	Pass
	2437	13.55	16.37	≤ 30	Pass
	2462	13.18	15.86	≤ 30	Pass
802.11g	2412	13.90	21.41	≤ 30	Pass
	2437	12.71	20.40	≤ 30	Pass
	2462	12.04	19.88	≤ 30	Pass
802.11n20	2412	13.54	21.25	≤ 30	Pass
	2437	12.51	20.30	≤ 30	Pass
	2462	12.03	19.78	≤ 30	Pass
802.11n40	2422	12.78	20.55	≤ 30	Pass
	2437	12.37	20.09	≤ 30	Pass
	2452	11.90	19.68	≤ 30	Pass
802.11ax20	2412	12.79	20.65	≤ 30	Pass
	2437	11.40	19.73	≤ 30	Pass
	2462	11.19	19.40	≤ 30	Pass
802.11ax40	2422	12.29	20.12	≤ 30	Pass
	2437	11.45	19.60	≤ 30	Pass
	2452	10.89	18.83	≤ 30	Pass

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Test Data of Conducted Output Power- Chain B					
Test Mode	Test Frequency (MHz)	Average Power (dBm)	Peak Power (dBm)	Limits (dBm)	Pass or Fail
802.11b	2412	14.11	16.70	≤ 30	Pass
	2437	13.88	16.60	≤ 30	Pass
	2462	13.60	16.50	≤ 30	Pass
802.11g	2412	13.49	21.43	≤ 30	Pass
	2437	13.57	20.74	≤ 30	Pass
	2462	12.65	20.30	≤ 30	Pass
802.11n20	2412	13.48	21.13	≤ 30	Pass
	2437	13.33	20.52	≤ 30	Pass
	2462	12.42	20.14	≤ 30	Pass
802.11n40	2422	12.98	20.82	≤ 30	Pass
	2437	12.56	20.14	≤ 30	Pass
	2452	13.11	20.38	≤ 30	Pass
802.11ax20	2412	12.33	20.34	≤ 30	Pass
	2437	12.44	20.11	≤ 30	Pass
	2462	11.40	19.92	≤ 30	Pass
802.11ax40	2422	12.47	20.33	≤ 30	Pass
	2437	11.76	19.83	≤ 30	Pass
	2452	11.47	19.67	≤ 30	Pass

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Test Data of Conducted Output Power-MIMO					
Test Mode	Test Frequency (MHz)	Average Power (dBm)	Peak Power (dBm)	Limits (dBm)	Pass or Fail
802.11n20	2412	16.52	24.20	≤30	Pass
	2437	15.95	23.42	≤30	Pass
	2462	15.24	22.97	≤30	Pass
802.11n40	2422	15.89	23.70	≤30	Pass
	2437	15.48	23.13	≤30	Pass
	2452	15.56	23.05	≤30	Pass
802.11ax20	2412	15.58	23.51	≤30	Pass
	2437	14.96	22.93	≤30	Pass
	2462	14.31	22.68	≤30	Pass
802.11ax40	2422	15.39	23.24	≤30	Pass
	2437	14.62	22.73	≤30	Pass
	2452	14.20	22.28	≤30	Pass

Note:

1. The Total Average Conducted Output Power (dBm) = $10 \cdot \log \{10^{(\text{AntA AVG} / 10)} + 10^{(\text{AntB AVG} / 10)}\}$.
2. The Total Peak Conducted Output Power (dBm) = $10 \cdot \log \{10^{(\text{AntA PK} / 10)} + 10^{(\text{AntB PK} / 10)}\}$.

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8. 6dB Bandwidth Measurement

8.1 Provisions Applicable

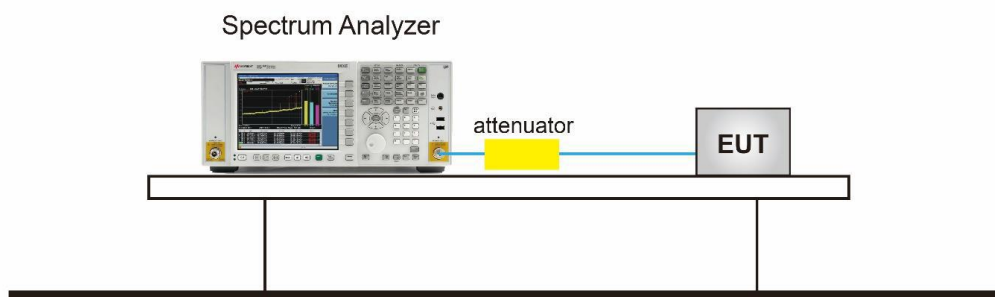
The minimum 6dB bandwidth shall be 500 kHz.

8.2 Measurement Procedure

The testing follows the ANSI C63.10 Section 6.9.3 (OBW) and 11.8.1 (6dB BW).

1. 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.
2. Set to the maximum power setting and enable the EUT transmit continuously.
3. 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.
4. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the OBW and set the Video bandwidth (VBW) $\geq 3 * \text{RBW}$.
5. Detector = peak
6. Trace mode = max hold.
7. Sweep = auto couple.
8. Allow the trace to stabilize.
9. Measure and record the results in the test report.

8.3 Measurement Setup (Block Diagram of Configuration)



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8.4 Measurement Result

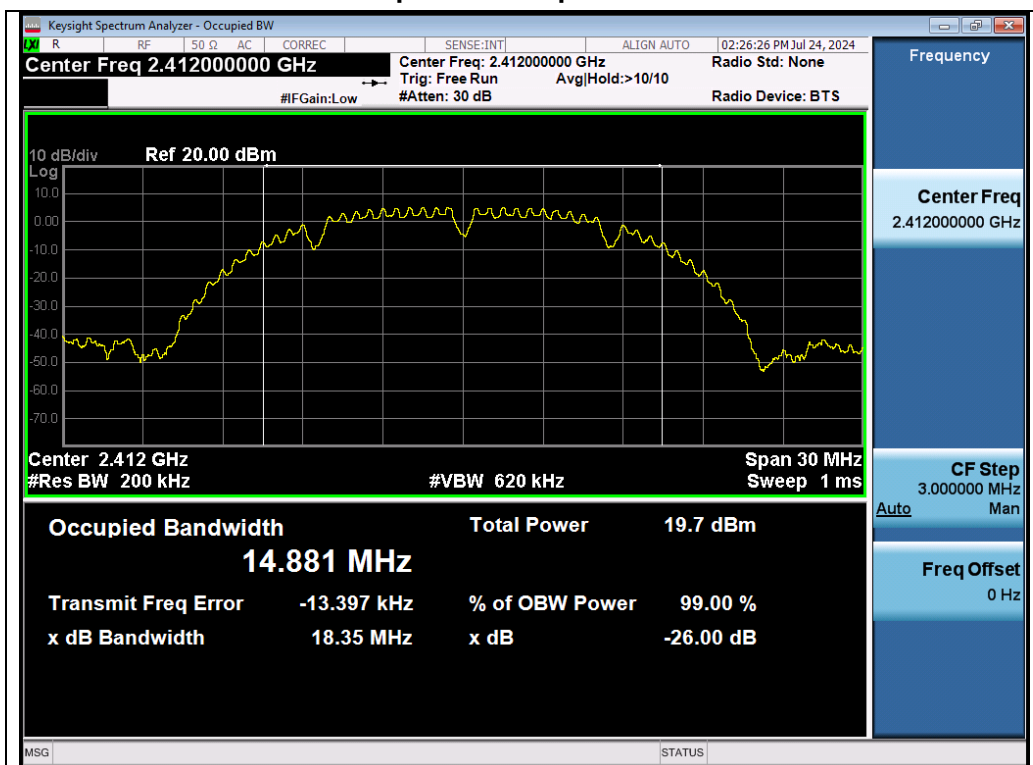
Test Data of Occupied Bandwidth and DTS Bandwidth Chain A					
Test Mode	Test Frequency (MHz)	99% Occupied Bandwidth (MHz)	DTS Bandwidth (MHz)	DTS Bandwidth Limits (MHz)	Pass or Fail
802.11b	2412	14.881	11.093	≥ 0.5	Pass
	2437	14.905	10.138	≥ 0.5	Pass
	2462	14.887	10.148	≥ 0.5	Pass
802.11g	2412	16.331	16.345	≥ 0.5	Pass
	2437	16.334	16.332	≥ 0.5	Pass
	2462	16.345	16.060	≥ 0.5	Pass
802.11n20	2412	17.468	16.286	≥ 0.5	Pass
	2437	17.490	17.058	≥ 0.5	Pass
	2462	17.502	16.801	≥ 0.5	Pass
802.11n40	2422	36.049	35.511	≥ 0.5	Pass
	2437	36.067	35.250	≥ 0.5	Pass
	2452	36.128	36.342	≥ 0.5	Pass
802.11ax20	2412	18.903	17.690	≥ 0.5	Pass
	2437	18.898	17.898	≥ 0.5	Pass
	2462	18.887	17.861	≥ 0.5	Pass
802.11ax40	2422	37.668	37.937	≥ 0.5	Pass
	2437	37.735	37.984	≥ 0.5	Pass
	2452	37.761	37.986	≥ 0.5	Pass

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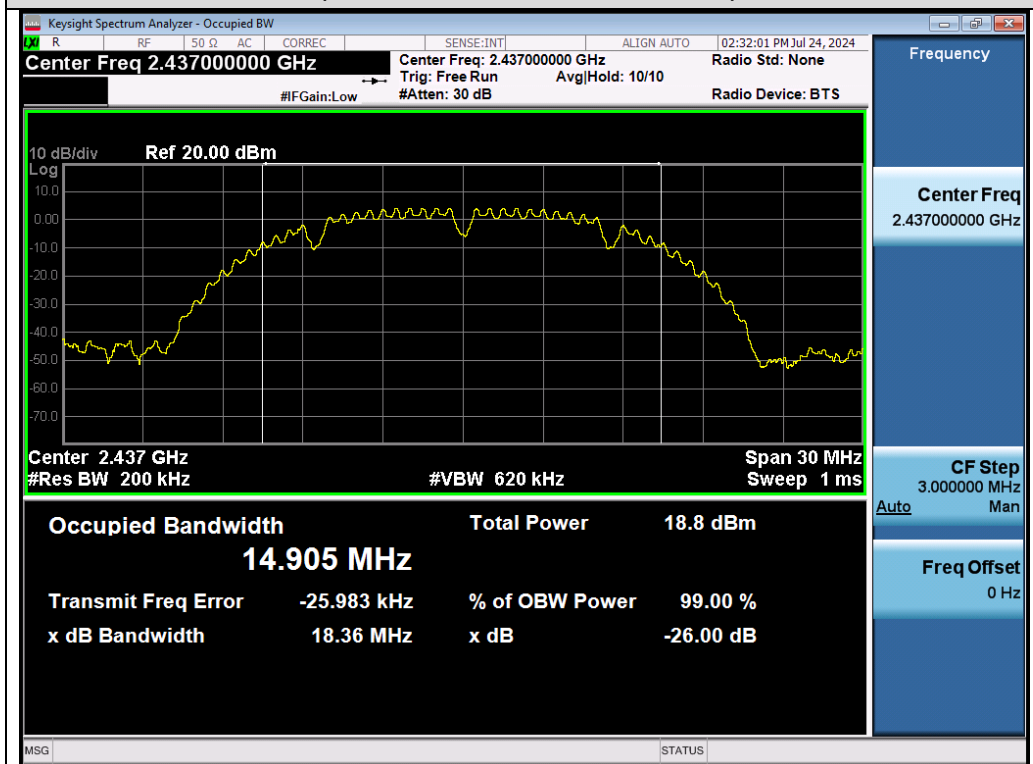
Test Data of Occupied Bandwidth and DTS Bandwidth Chain B					
Test Mode	Test Frequency (MHz)	99% Occupied Bandwidth (MHz)	DTS Bandwidth (MHz)	DTS Bandwidth Limits (MHz)	Pass or Fail
802.11b	2412	14.905	10.152	≥ 0.5	Pass
	2437	14.907	10.145	≥ 0.5	Pass
	2462	14.919	10.165	≥ 0.5	Pass
802.11g	2412	16.343	16.347	≥ 0.5	Pass
	2437	16.362	16.360	≥ 0.5	Pass
	2462	16.337	16.076	≥ 0.5	Pass
802.11n20	2412	17.489	17.178	≥ 0.5	Pass
	2437	17.494	17.183	≥ 0.5	Pass
	2462	17.491	16.992	≥ 0.5	Pass
802.11n40	2422	36.145	36.098	≥ 0.5	Pass
	2437	36.140	36.361	≥ 0.5	Pass
	2452	36.137	35.804	≥ 0.5	Pass
802.11ax20	2412	18.912	18.723	≥ 0.5	Pass
	2437	18.916	17.899	≥ 0.5	Pass
	2462	18.908	17.992	≥ 0.5	Pass
802.11ax40	2422	37.740	37.973	≥ 0.5	Pass
	2437	37.728	37.953	≥ 0.5	Pass
	2452	37.754	37.822	≥ 0.5	Pass

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Test Graphs of Occupied Bandwidth

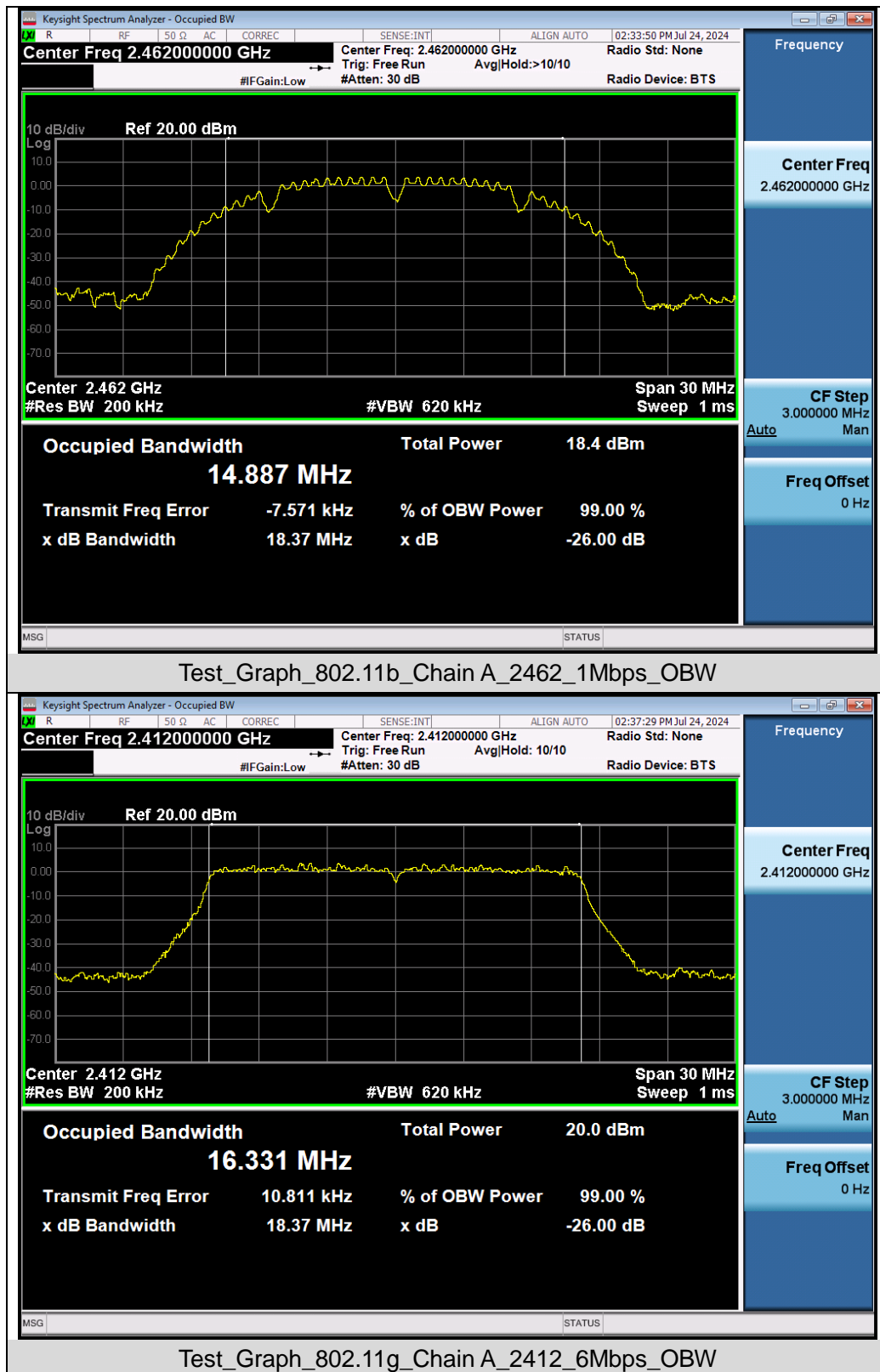


Test_Graph_802.11b_Chain A_2412_1Mbps_OBW

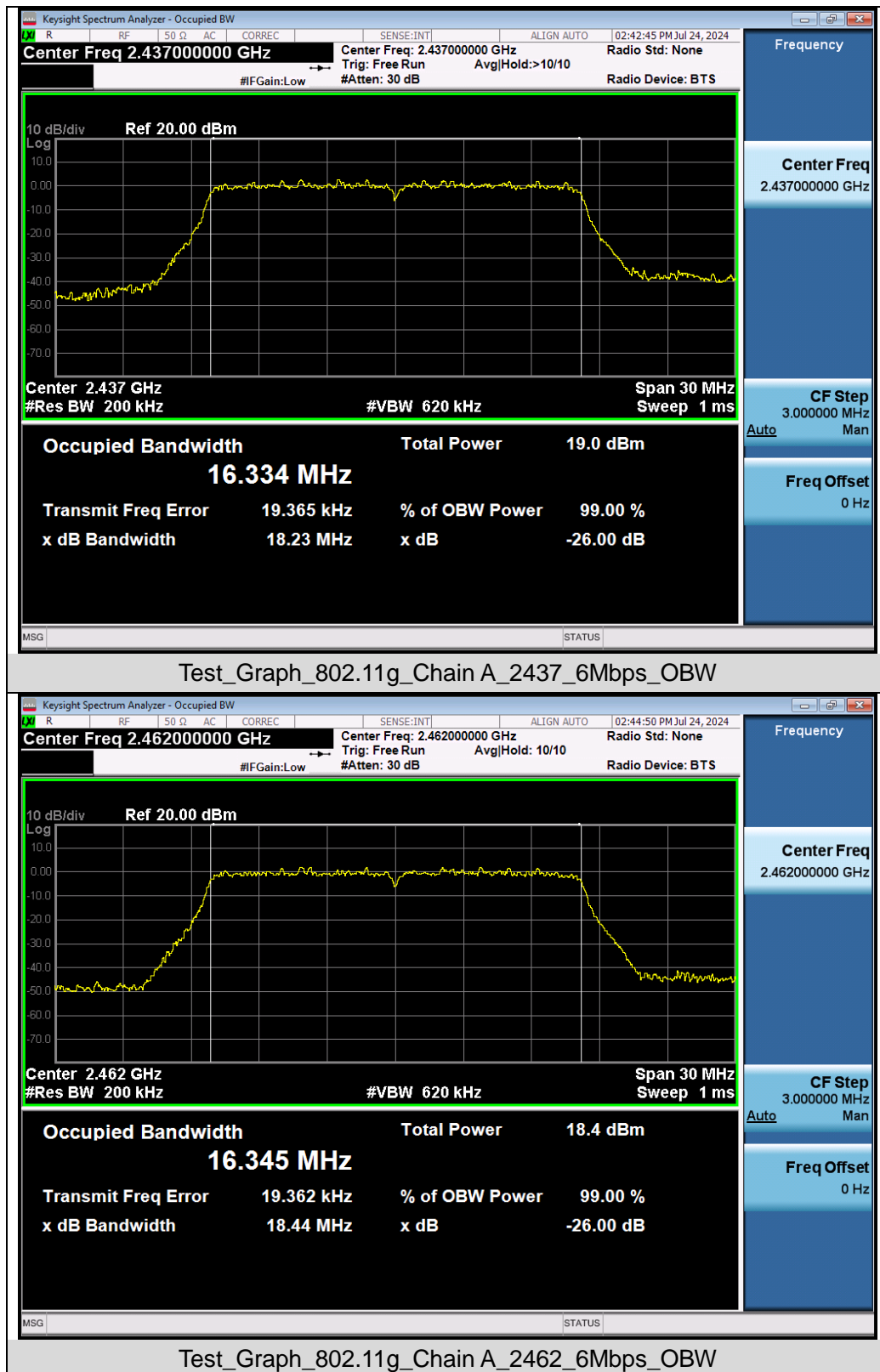


Test_Graph_802.11b_Chain A_2437_1Mbps_OBW

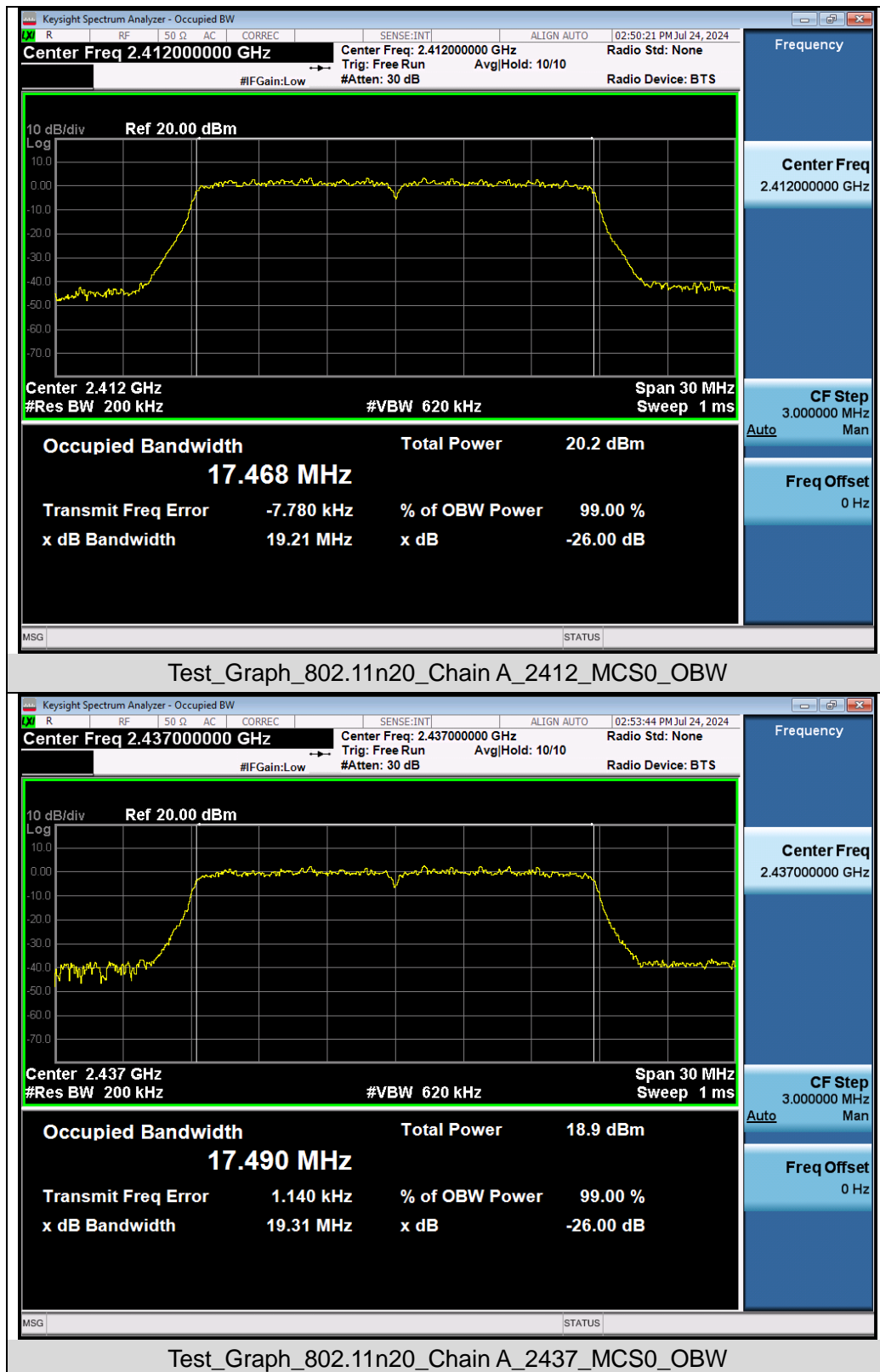
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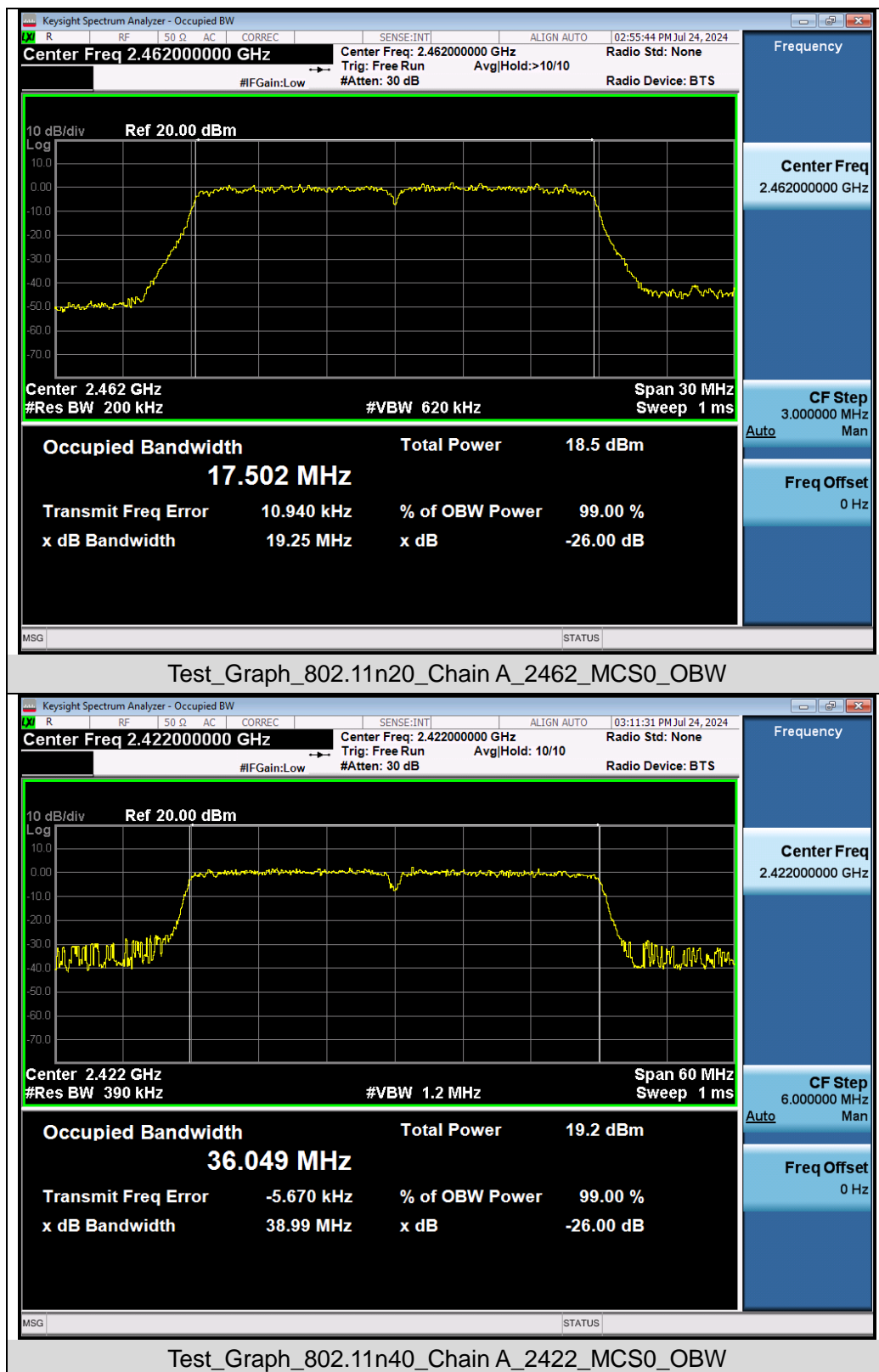
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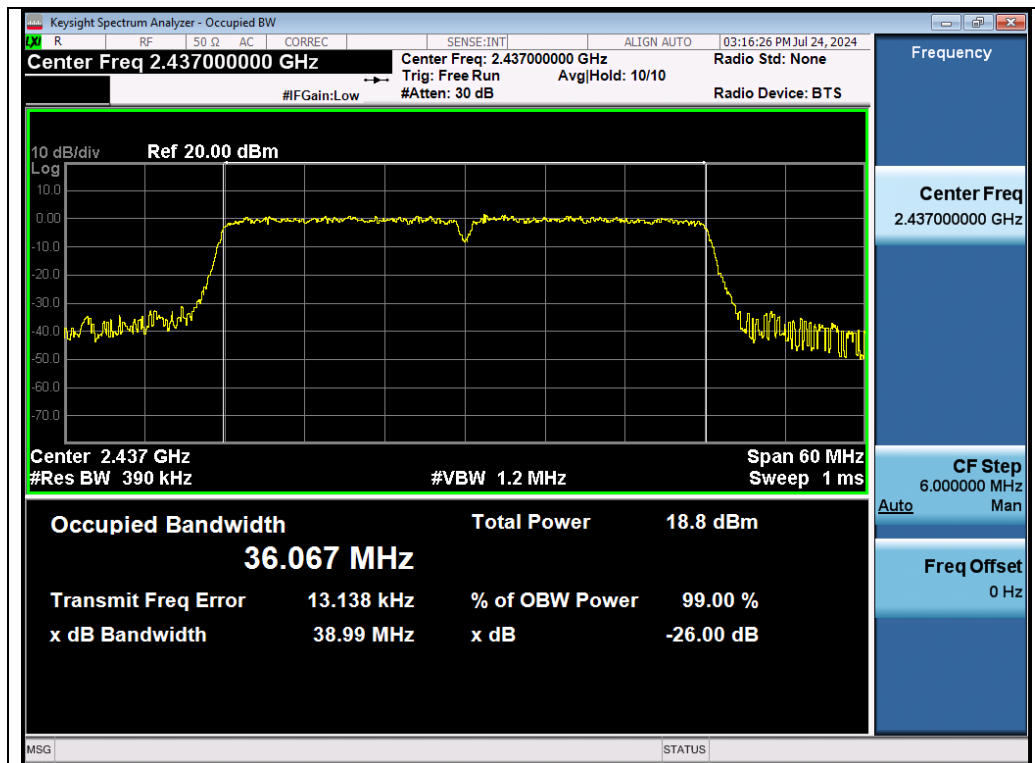
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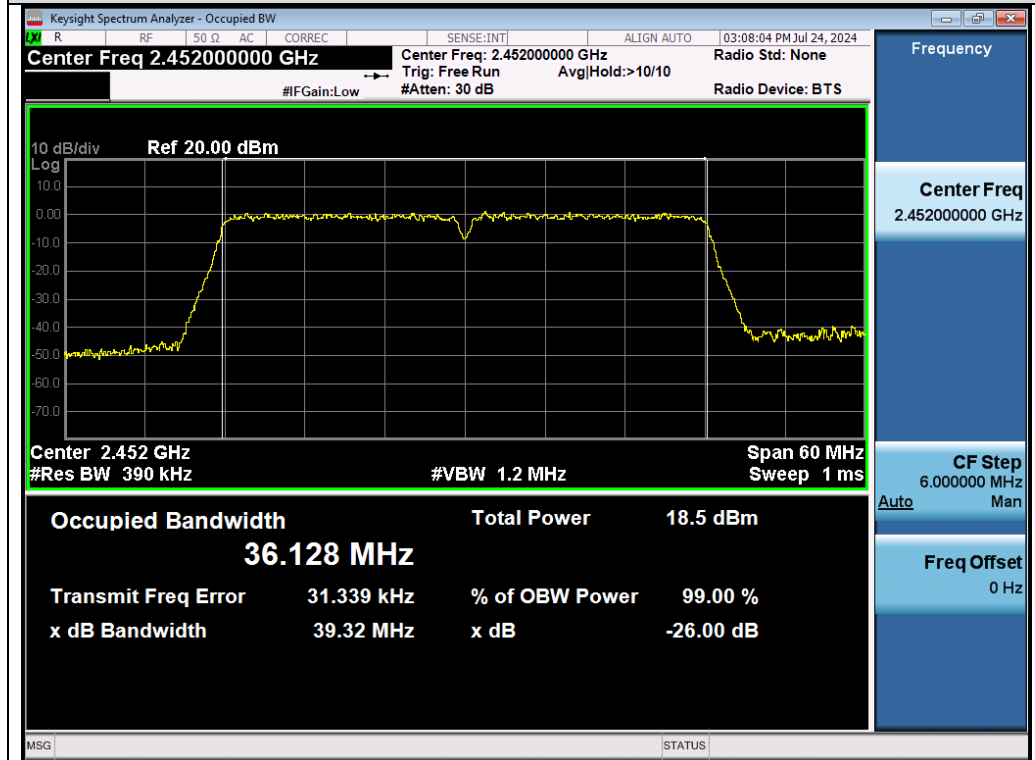
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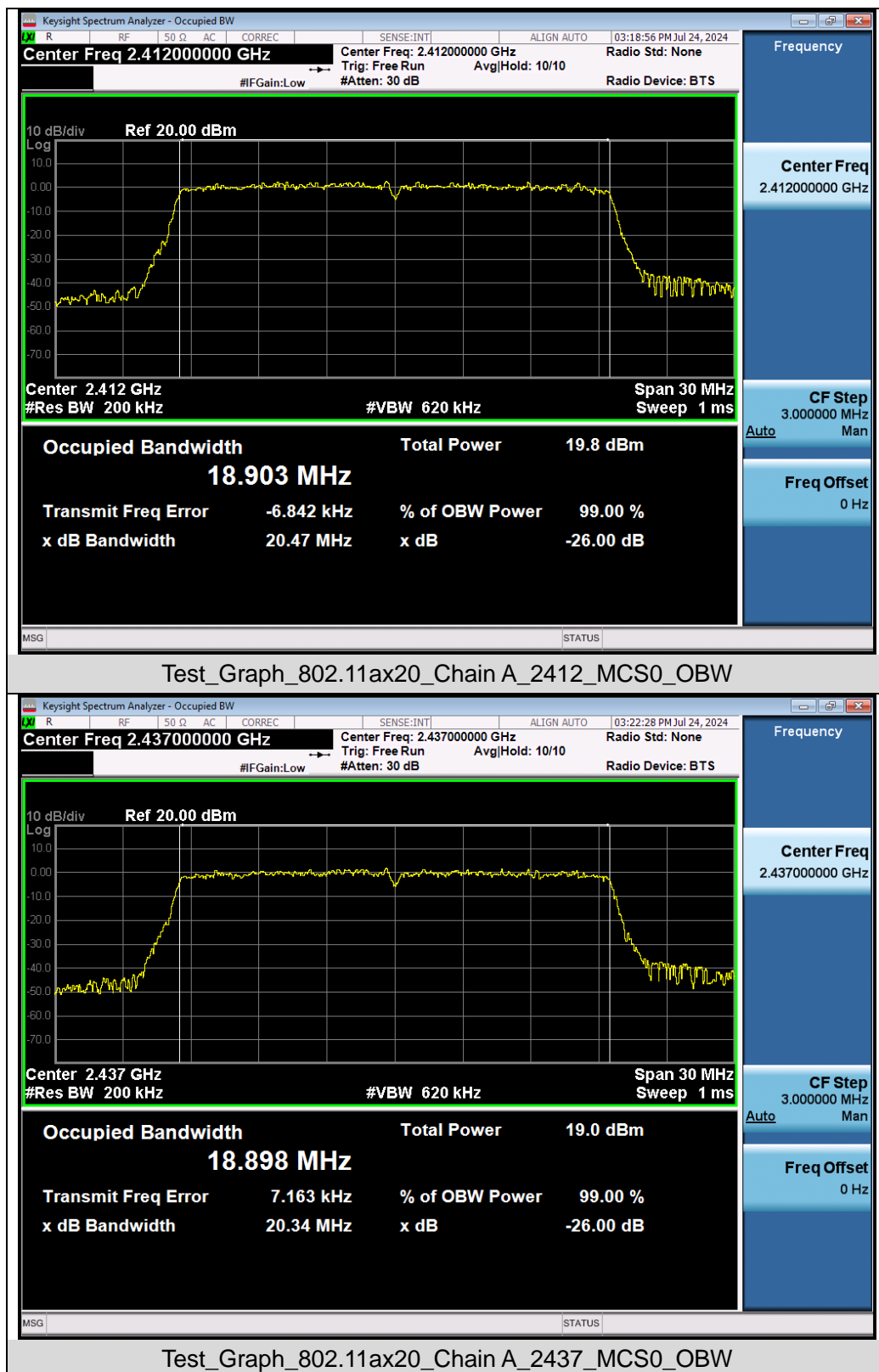


Test_Graph_802.11n40_Chain A_2437_MCS0_OBW

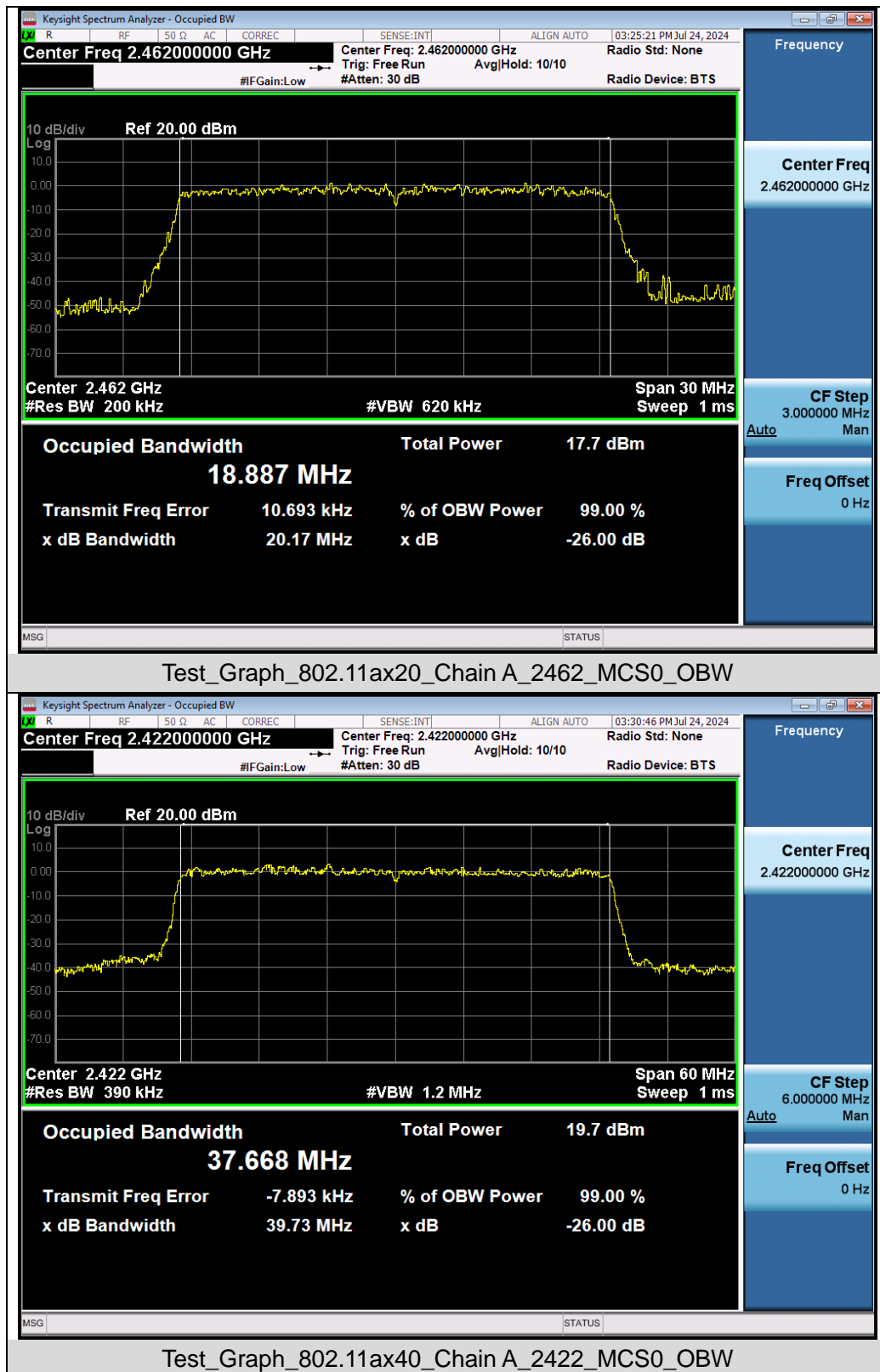


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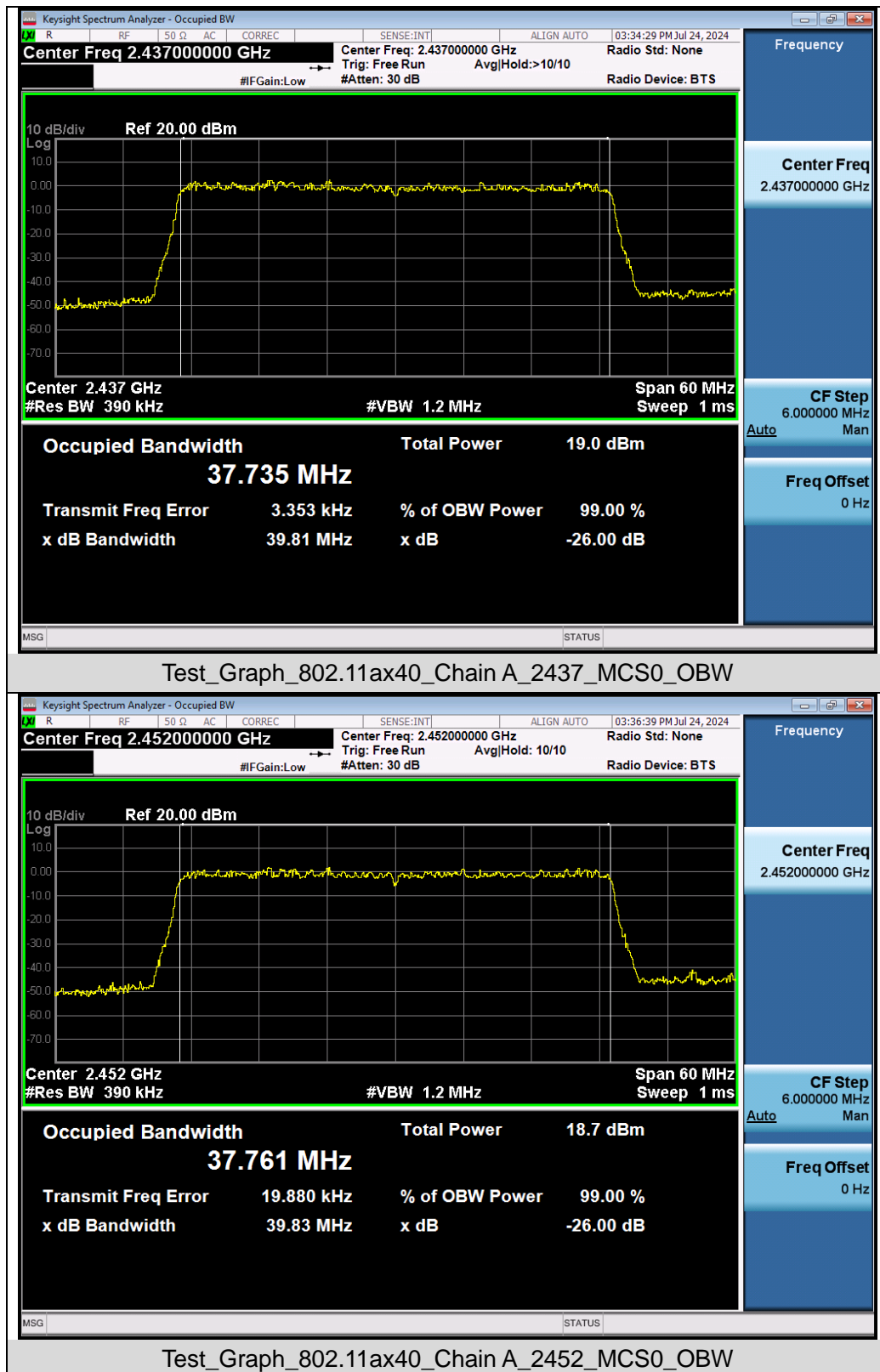
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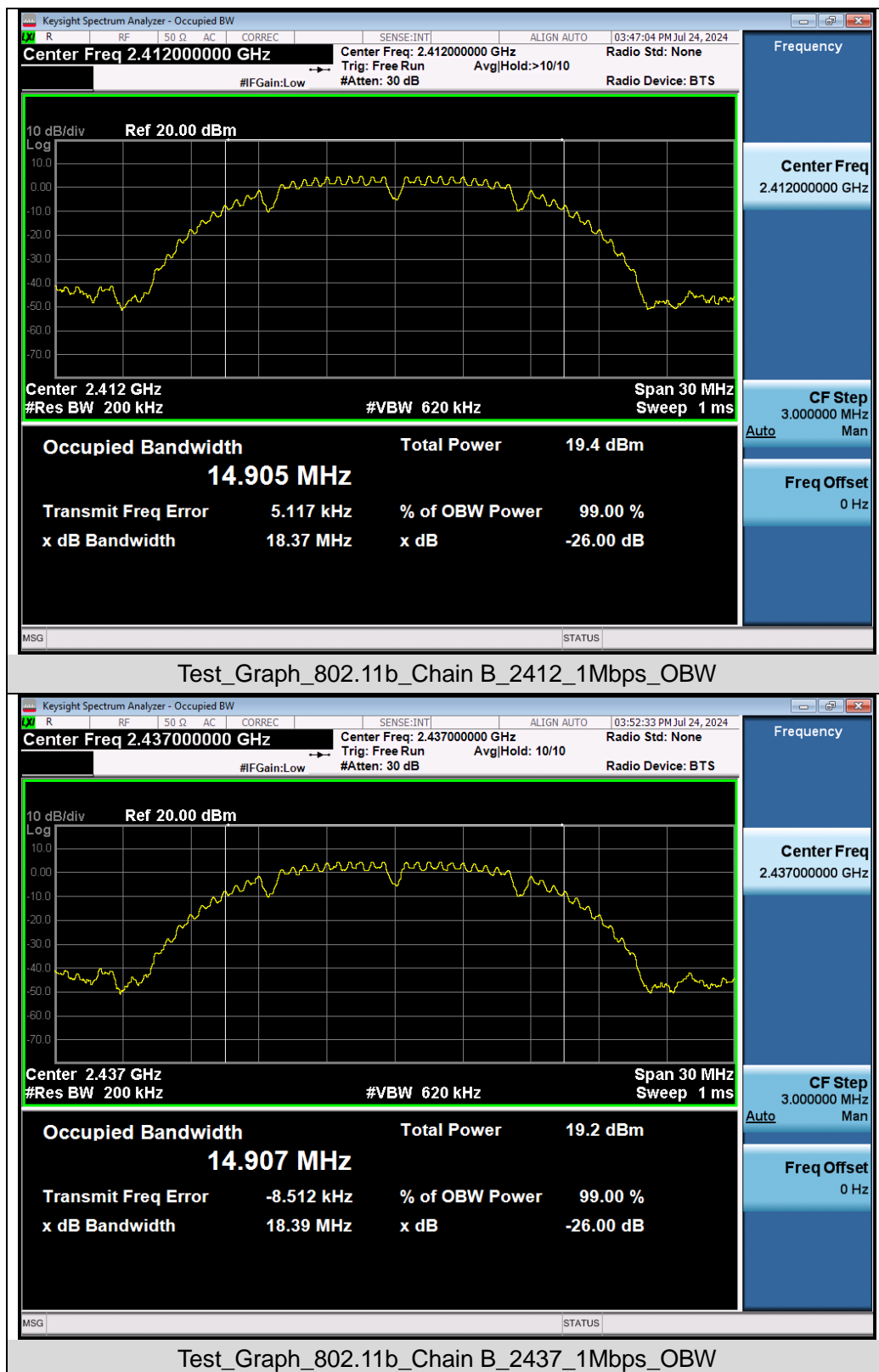
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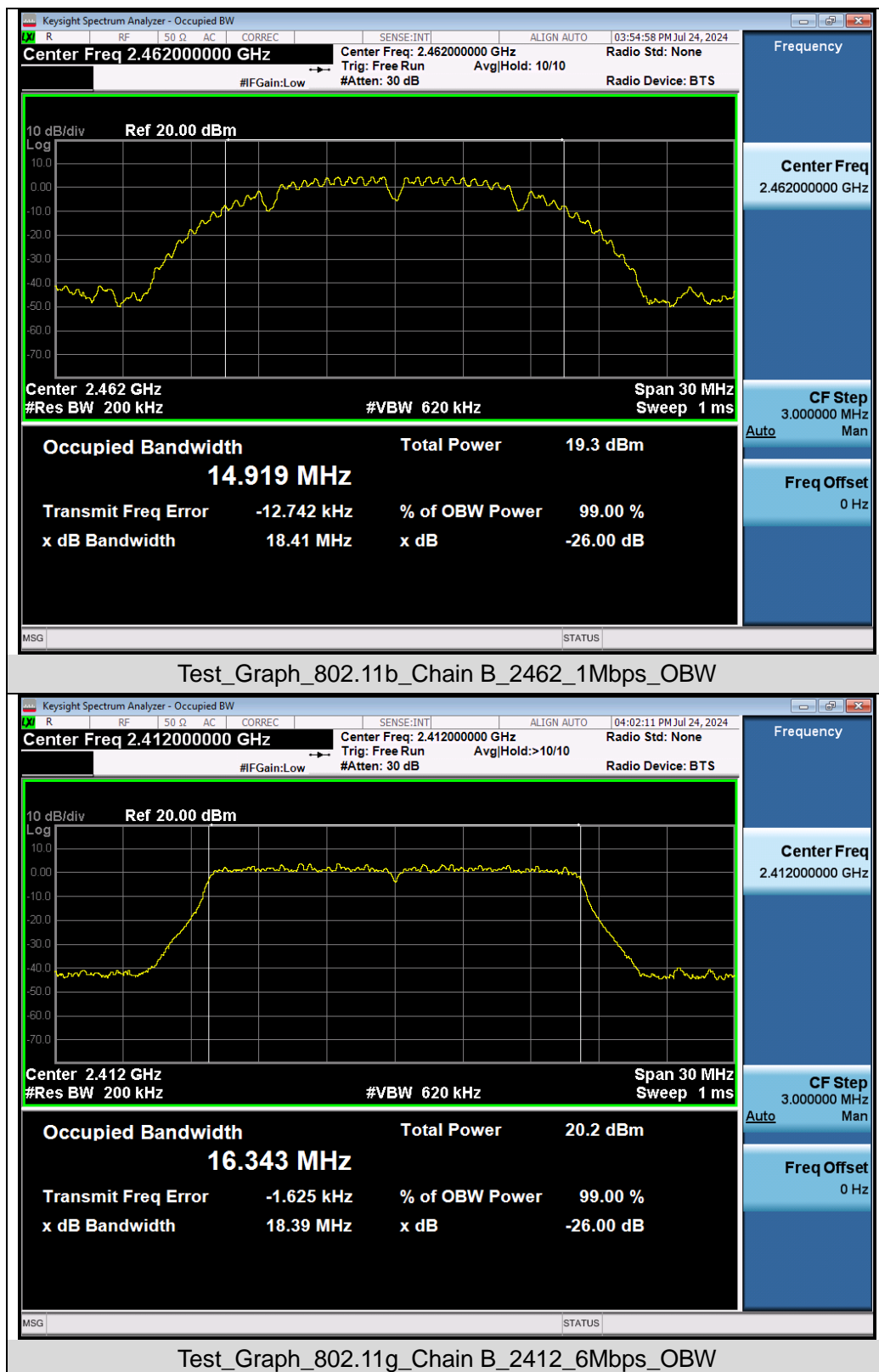
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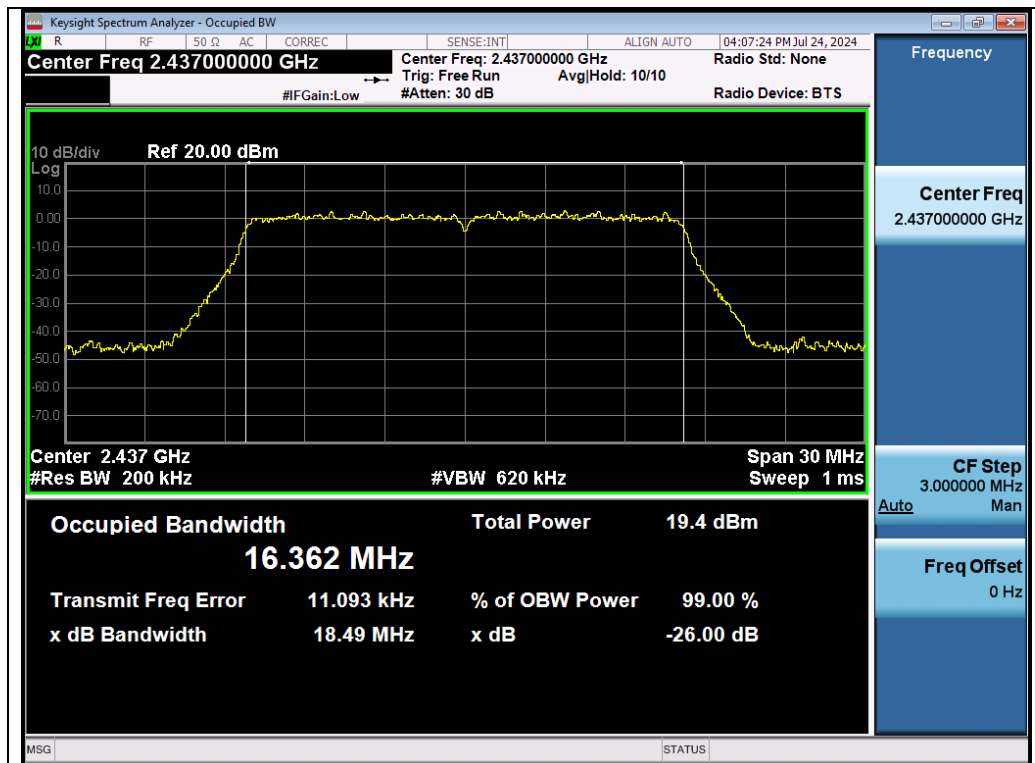
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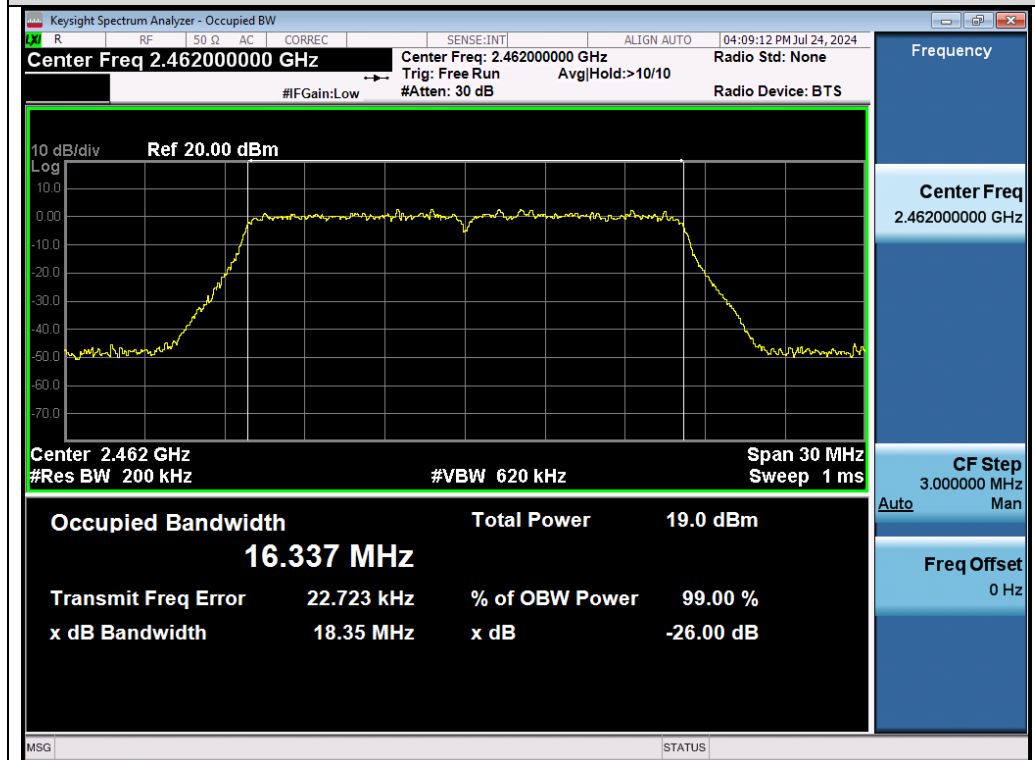
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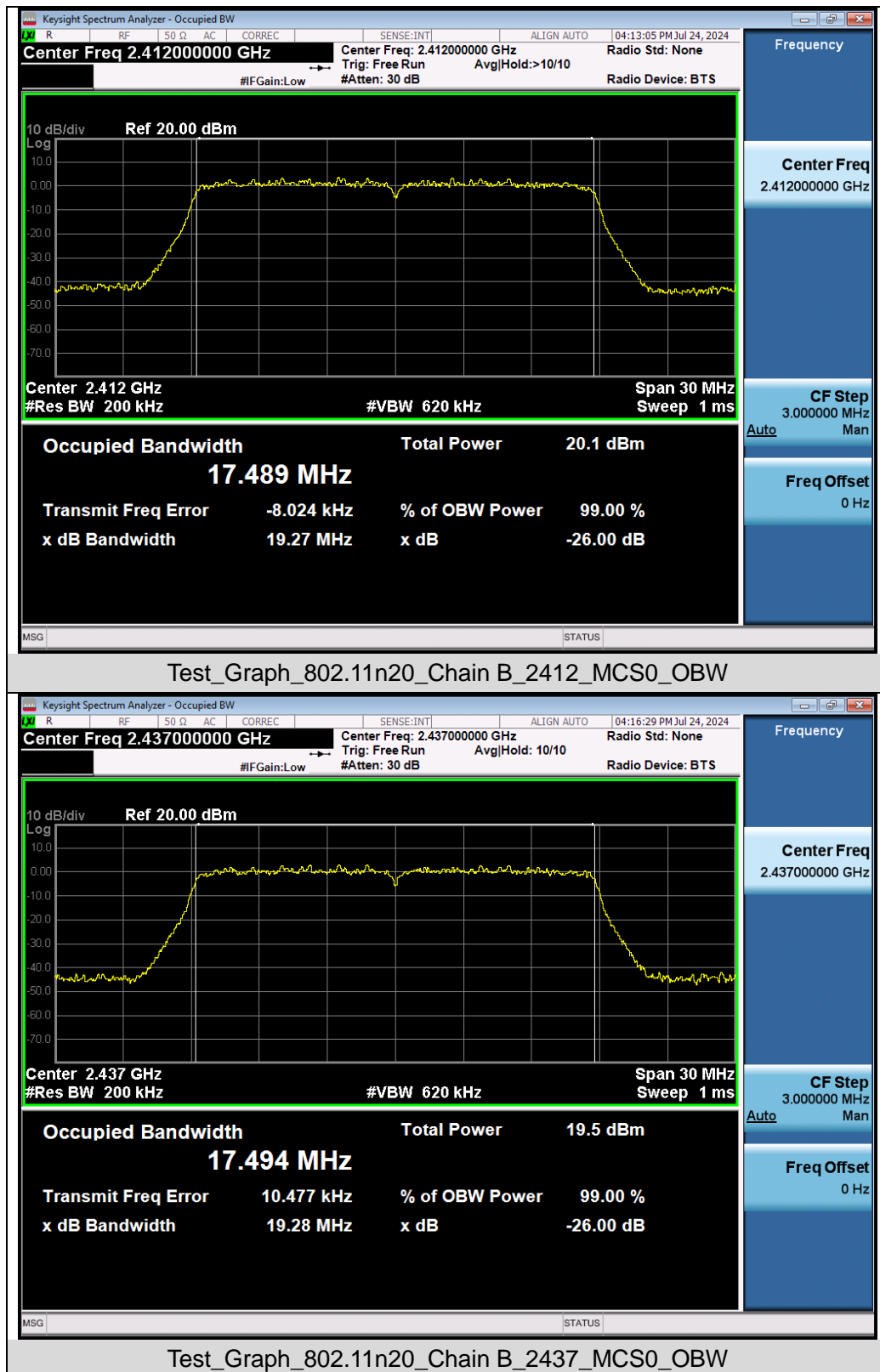


Test_Graph_802.11g_Chain B_2437_6Mbps_OBW

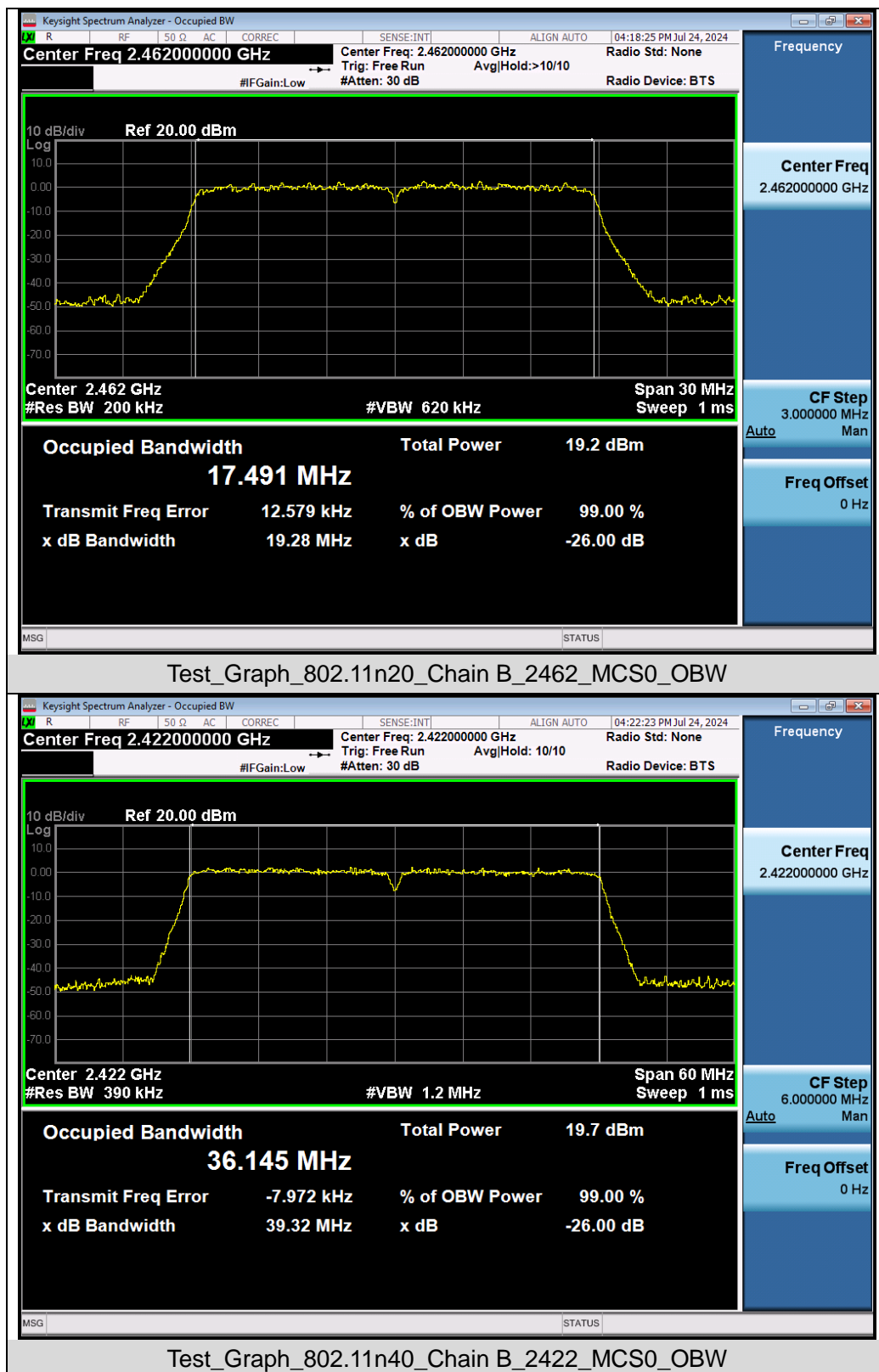


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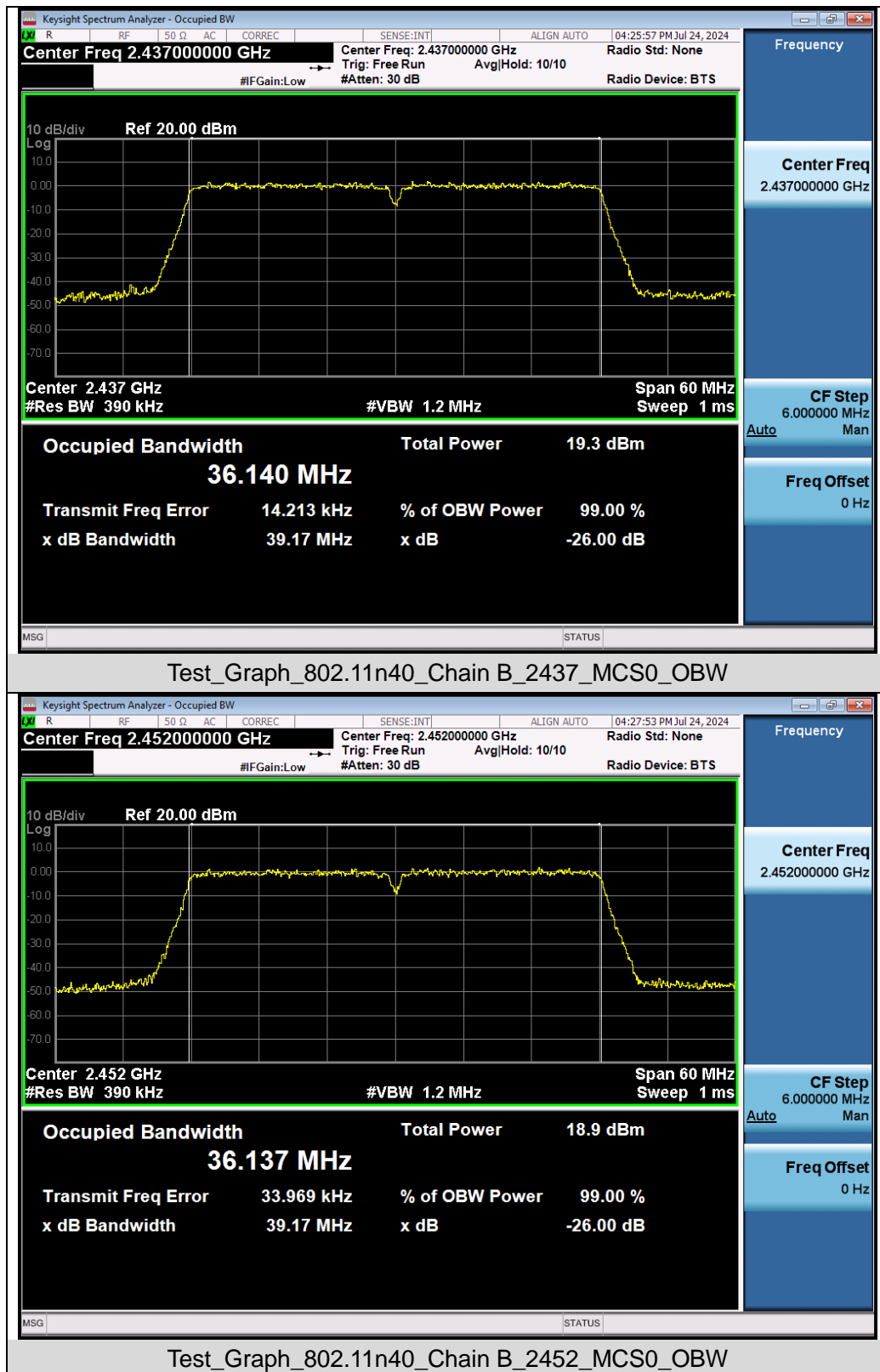
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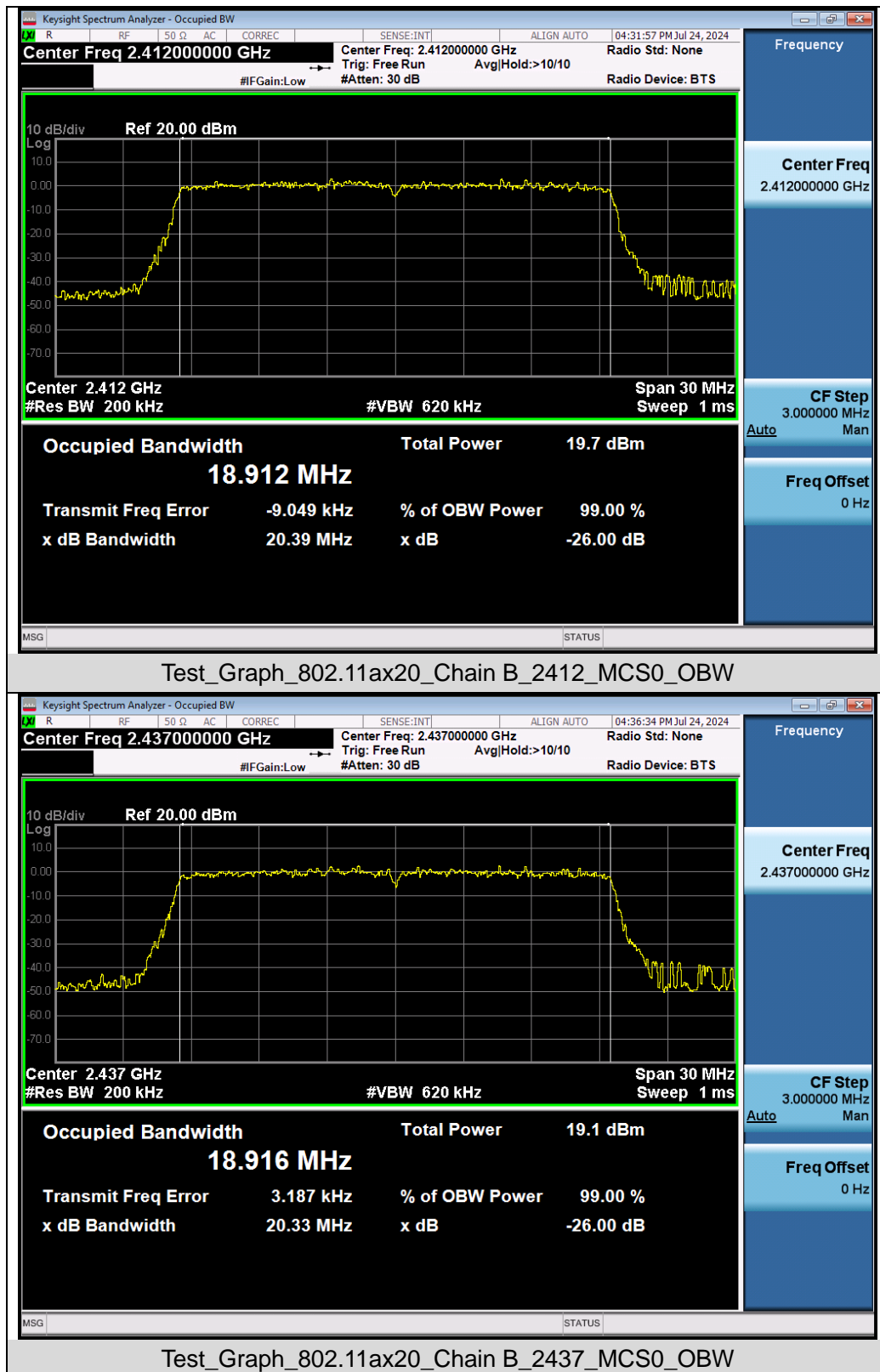
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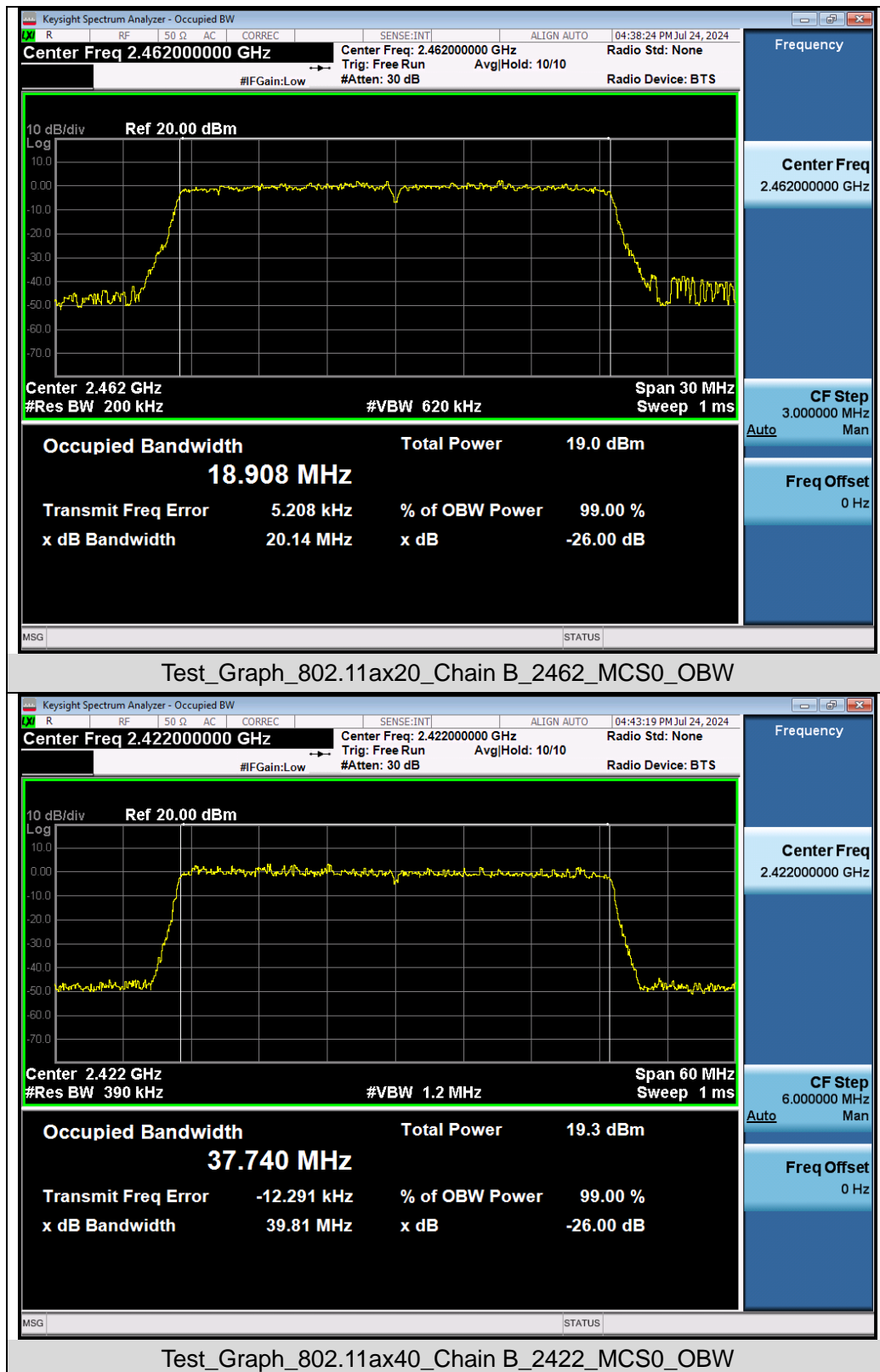
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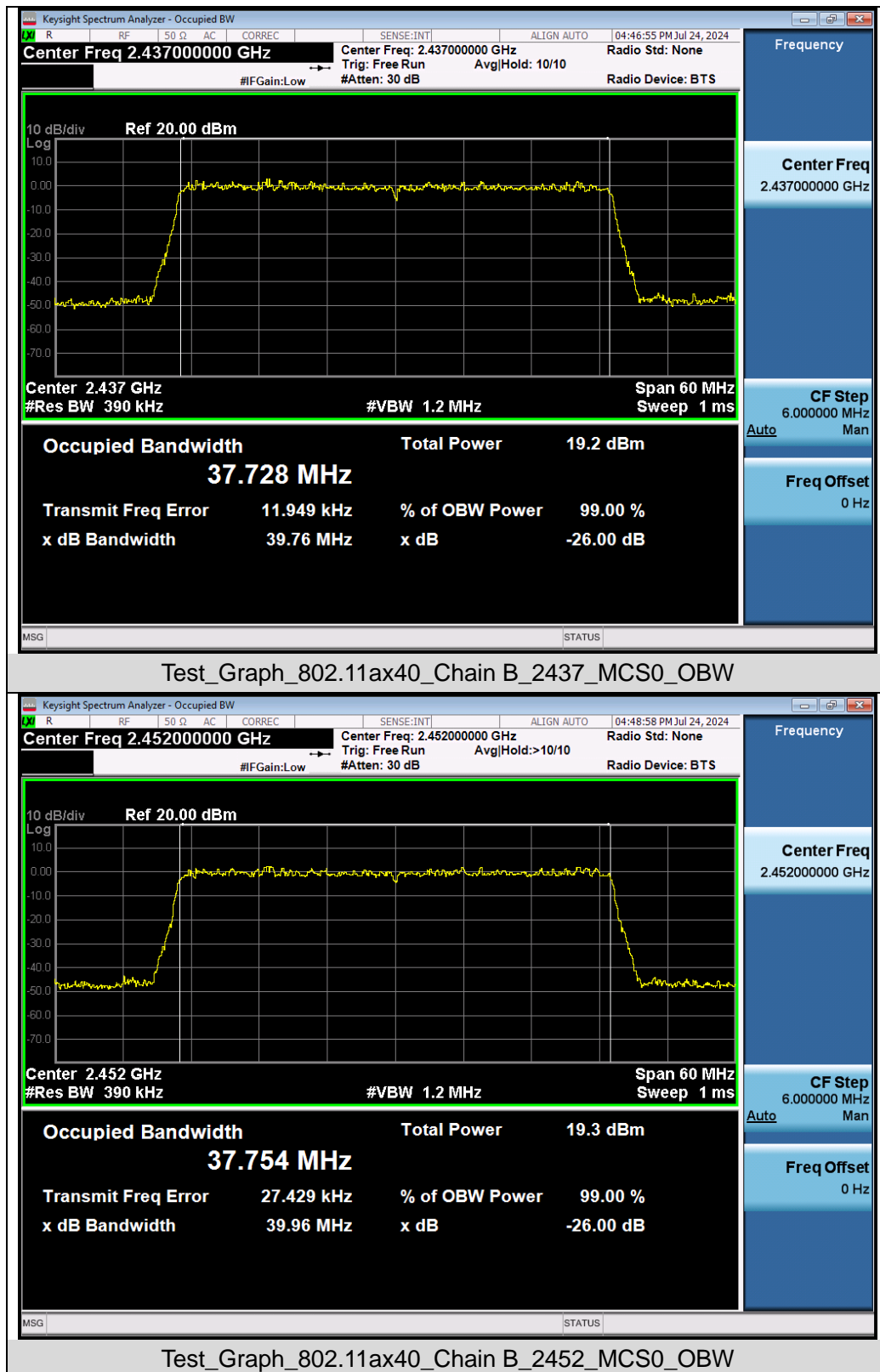
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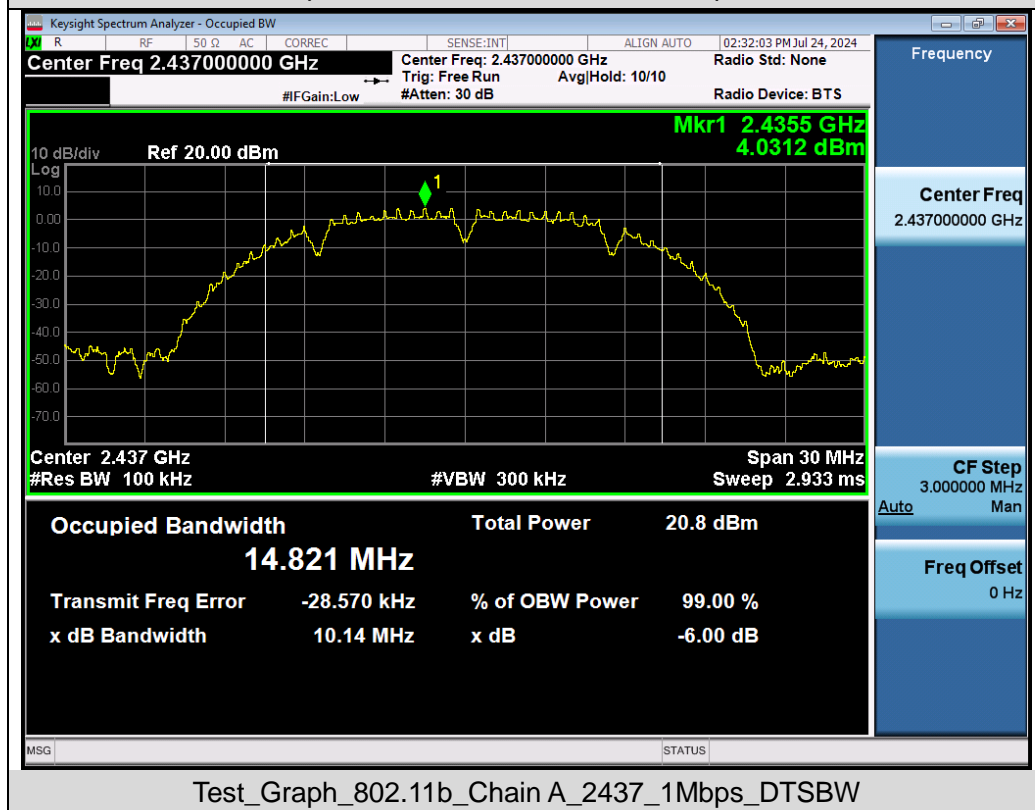


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Test Graphs of DTS Bandwidth

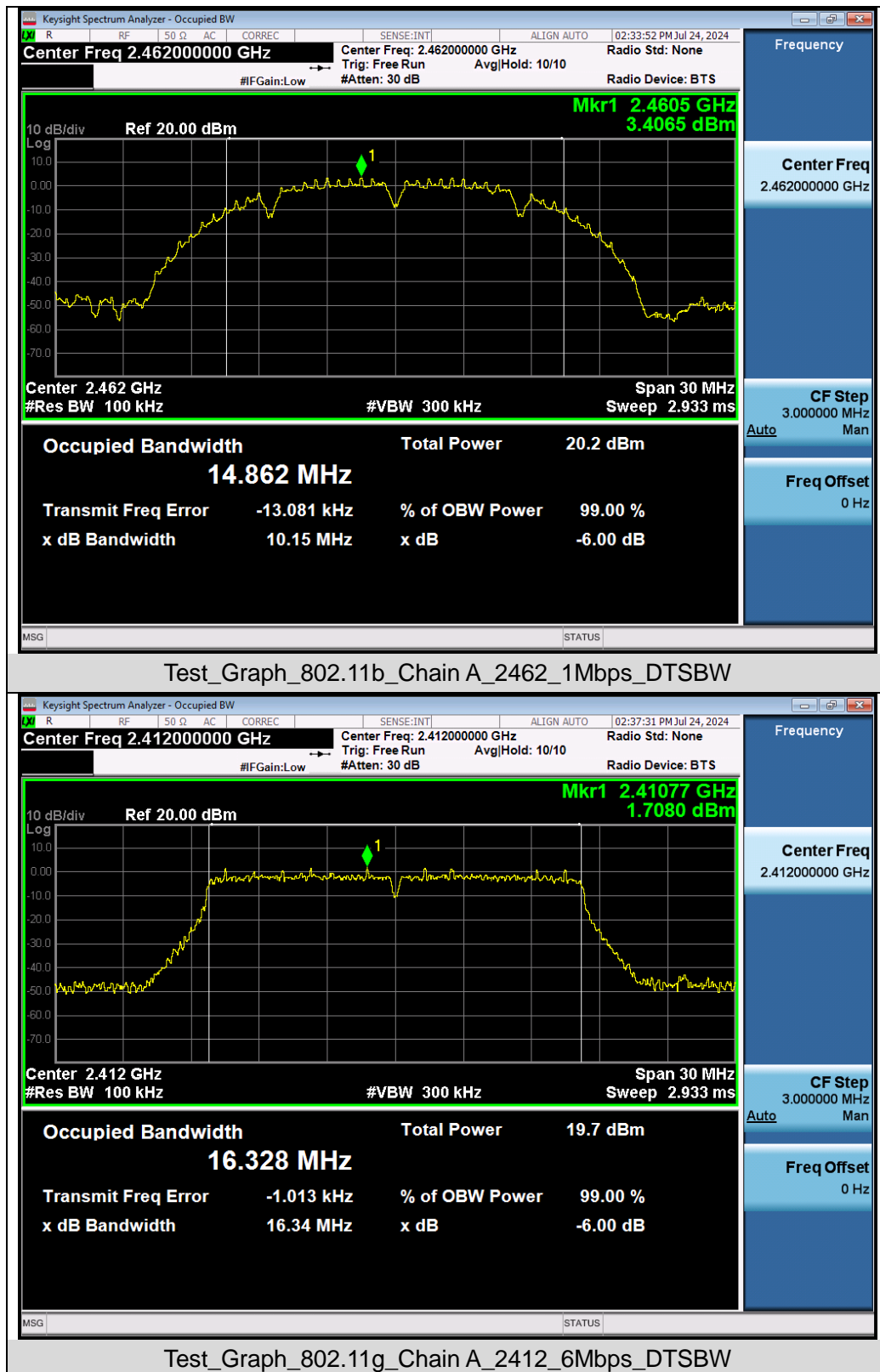


Test_Graph_802.11b_Chain A_2412_1Mbps_DTSBW

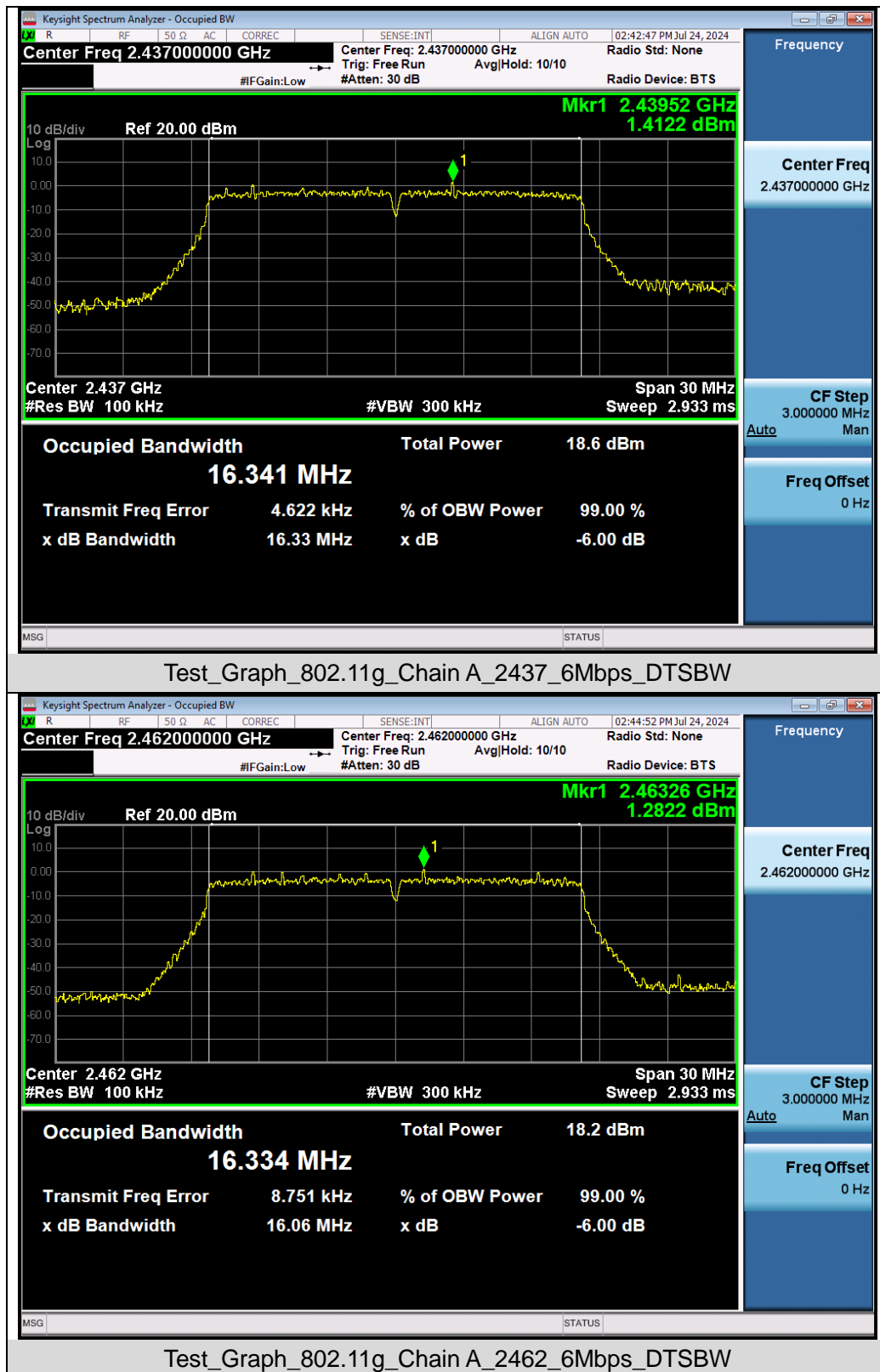


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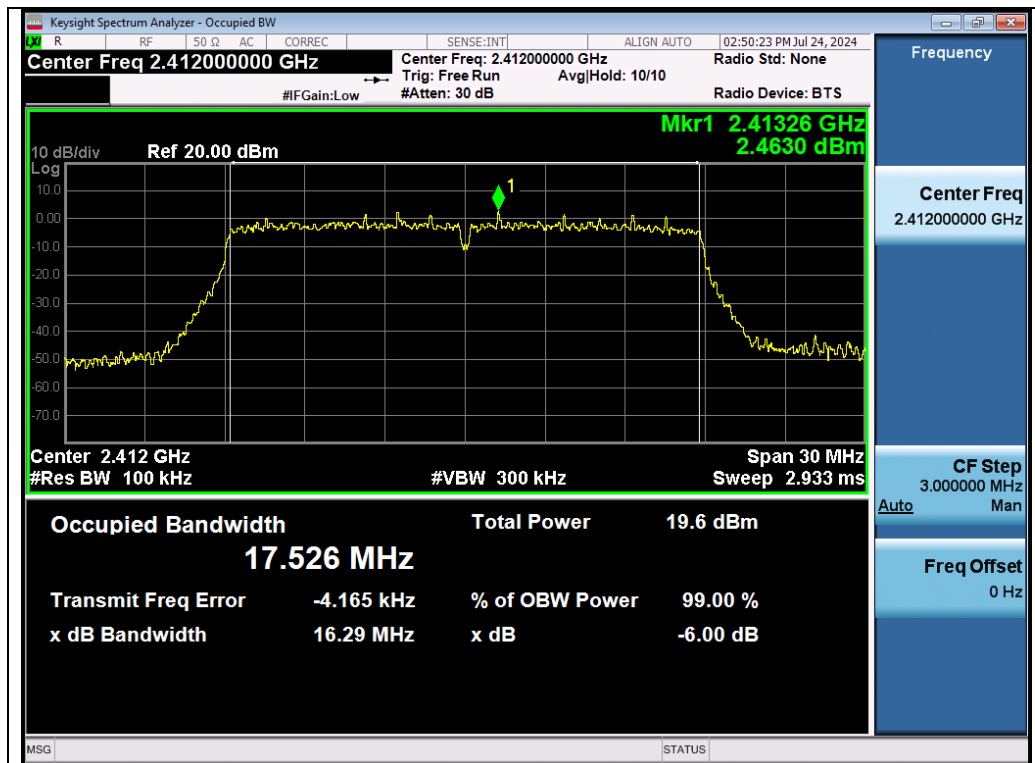
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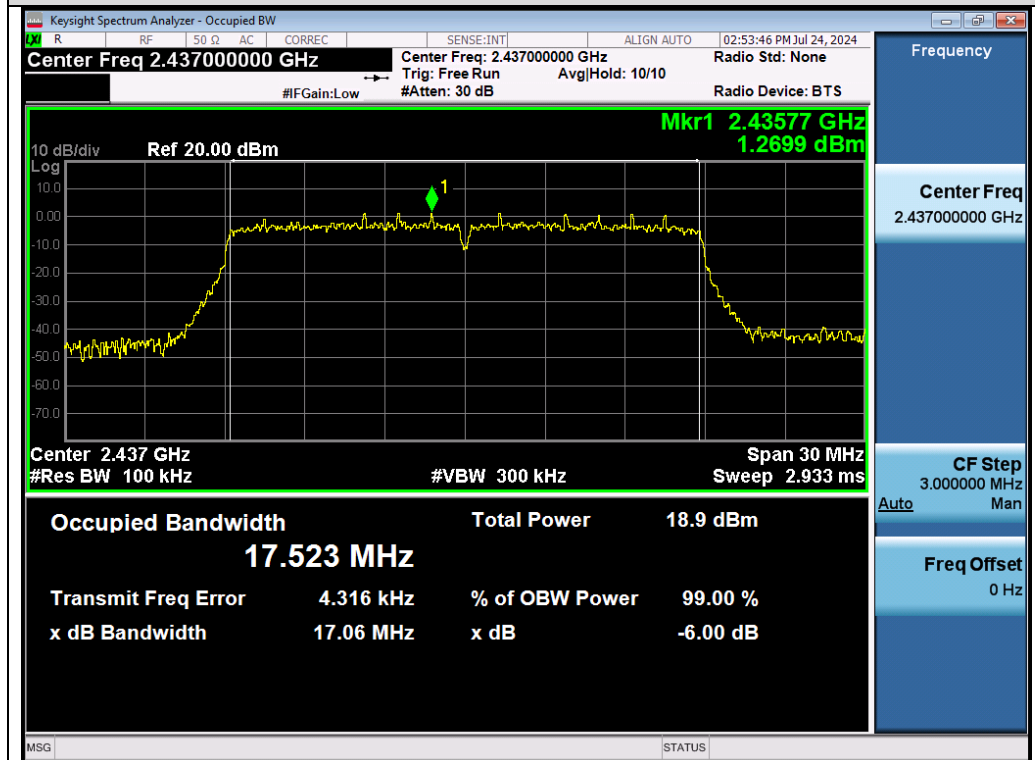
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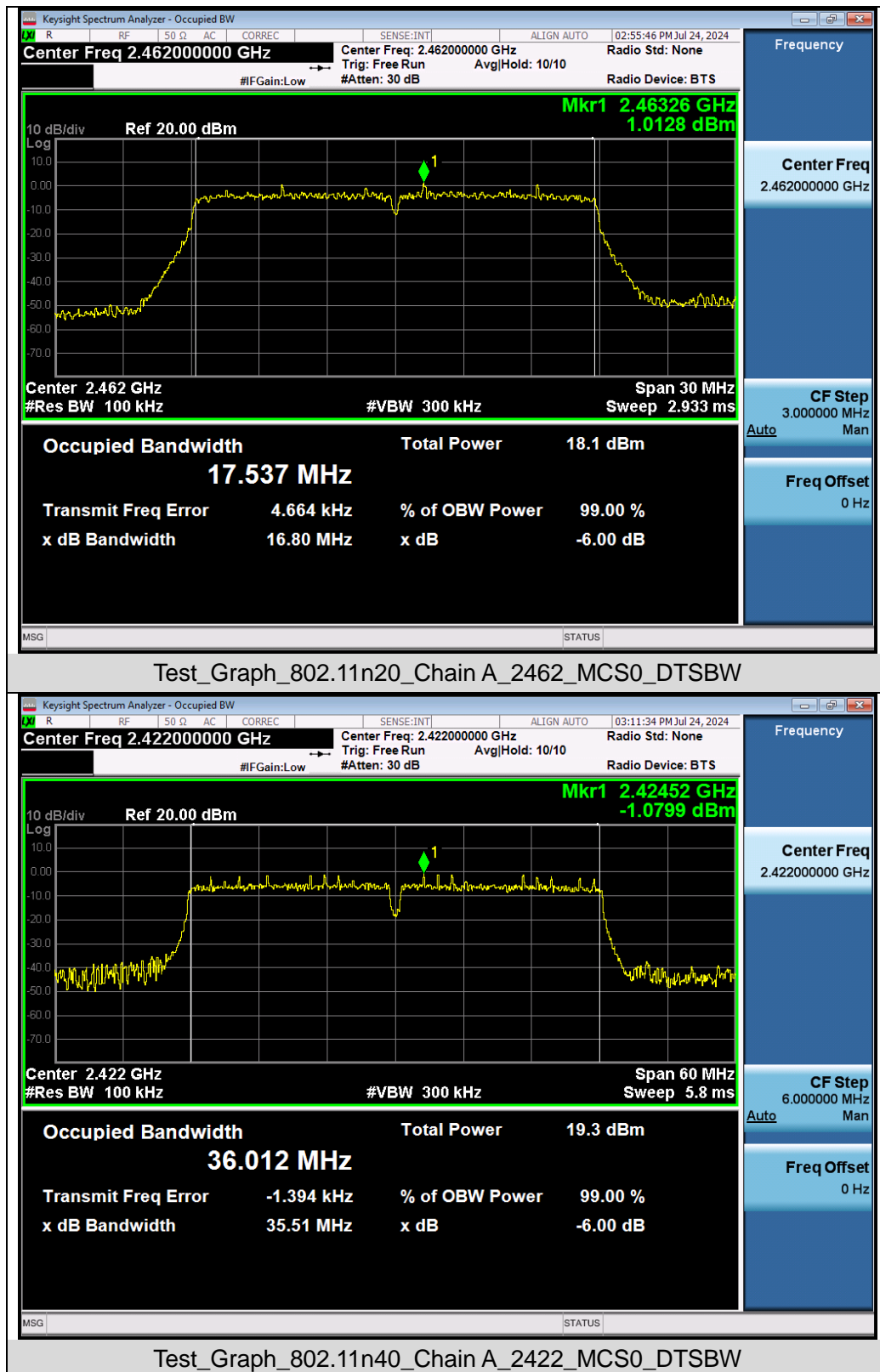


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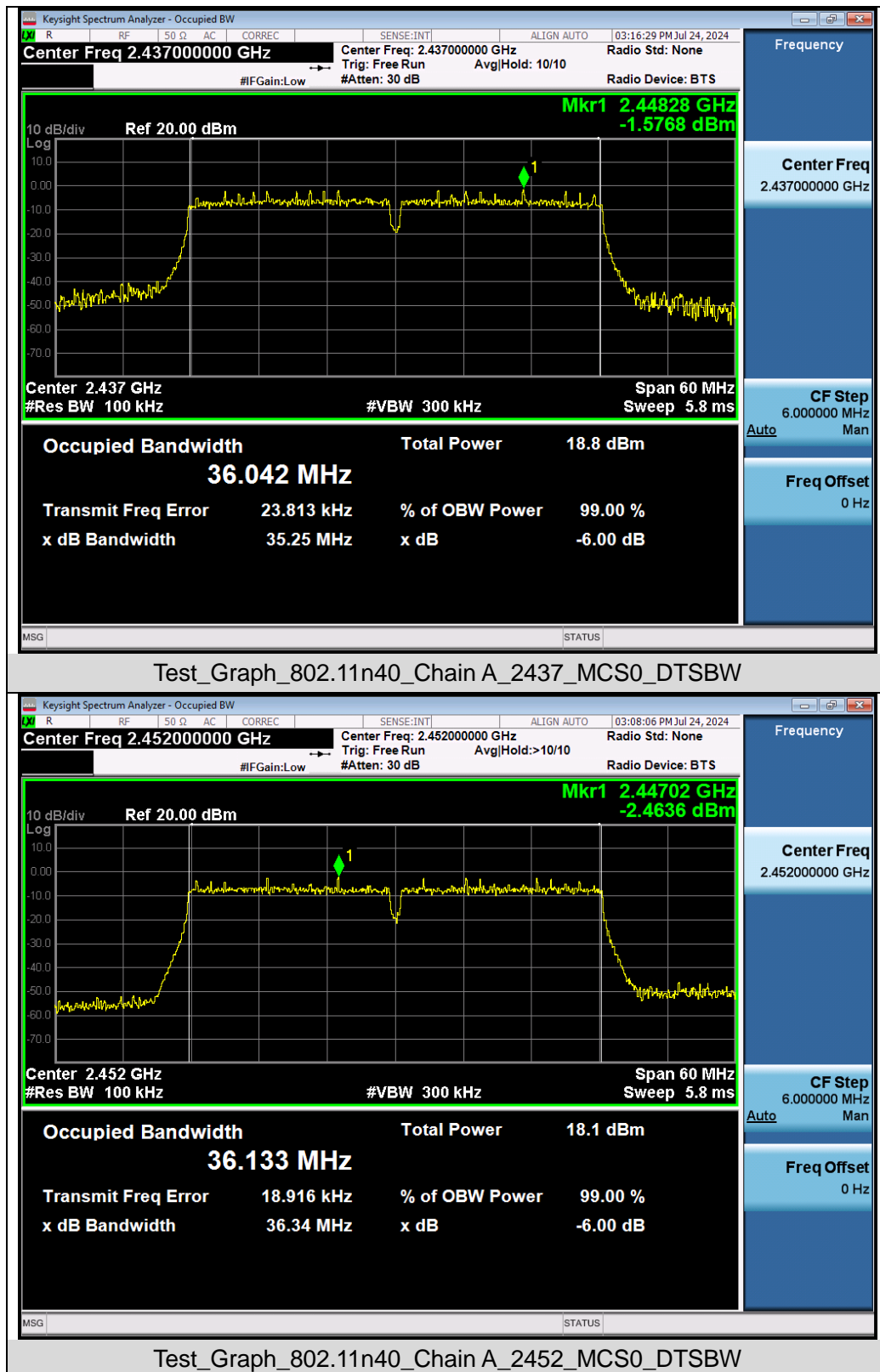


Test_Graph_802.11n20_Chain A_2437_MCS0_DTSBW

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