

TEST REPORT

Report Number: R15799203-E4

Applicant : Resideo
2 Corporate Center Drive
Melville, NY, 11747

Model : THX1200W5

FCC ID : HS9-THX1200WF01

IC : 573R-THX1200WF01

EUT Description : Wireless Thermostat

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 3
ISED RSS-GEN ISSUE 5 + A1 + A2

Date Of Issue:

2025-06-17

Prepared by:

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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
1	2025-06-12	Initial Issue	B. Kiewra
2	2025-06-17	Unnecessary bandedge tests removed	B. Kiewra

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1. ATTESTATION OF TEST RESULTS

APPLICANT: Resideo
2 Corporate Center Drive
Melville, NY, 117472

EUT DESCRIPTION: Wireless Thermostat

MODEL: THX1200W5

SERIAL NUMBER: 52591080000119, 52591160000146

SAMPLE RECEIPT DATE: 2025-05-08

DATE TESTED: 2025-05-23 to 2025-06-06

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	See Section 2
ISED RSS-247 Issue 3	See Section 2
ISED RSS-GEN Issue 5 + A1 + A2	See Section 2

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document.

Approved & Released
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2. TEST RESULTS SUMMARY

This report contains data provided by the customer which can impact the validity of results. UL LLC is only responsible for correctly integrating customer-provided data with measurements performed by UL LLC.

Below is a list of information provided by the customer:

1. Antenna Gain (Section 6.3)

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	See Comment	See Note 1
-	RSS-GEN 6.7	99% OBW		
15.247 (a) (2)	RSS-247 5.2 (a)	6dB BW		
15.247 (b) (3)	RSS-247 5.4 (d)	Output Power		
See Comment		Average power	See Comment	See Note 1
15.247 (e)	RSS-247 5.2 (b)	PSD	See Comment	See Note 1
15.247 (d)	RSS-247 5.5	Conducted Spurious Emissions		
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions	Compliant.	None.
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions	Compliant.	None.

Note 1: This testing performed on 802.11ax HE modes for 2.4GHz WLAN only (with exception of 99%OBW for 802.11b/g/n modes). This testing was performed by manufacturer for the BLE radio and 2.4GHz WLAN 802.11 non-ax modes.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with:

- FCC CFR 47 Part 2,
- FCC CFR 47 Part 15,
- ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024,
- KDB 558074 D01 15.247 Meas Guidance v05r02,
- KDB 414788 D01 Radiated Test Site v01r01,
- RSS-GEN Issue 5 + A1 + A2, and
- RSS-247 Issue 3.

4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, Certificate Number 0751.06, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☐	Building: 12 Laboratory Dr RTP, NC 27709, U.S.A	US0067	2180C	825374
☒	Building: 2800 Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A		27265	

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	ULab
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
Power Spectral Density	2.47 dB
RF Power Measurement Direct Method Using Power Meter	1.3 dB (PK) / 0.45 dB (AV)
Unwanted Emissions, Conducted	1.94 dB
Worst Case Radiated Disturbance, 9kHz to 40 GHz	6.01 dB
Time Domain Measurements	3.39%
Temperature	0.57°C
Humidity	3.39%
DC Supply Voltages	0.57%

Uncertainty figures are valid to a confidence level of 95%.

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
 $36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
 $36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a Wireless Thermostat. This report covers the full radiated testing of BLE and 2.4GHz Wi-Fi and conducted testing on 802.11ax 2.4GHz WLAN only. All other testing can be found in reports to be provided by the manufacturer.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Antenna	Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
1	2412 - 2462	802.11ax HE20	23.27	212.32
	2422 - 2462	802.11ax HE40	22.96	197.70
2	2412 - 2462	802.11ax HE20	22.72	187.07
	2422 - 2462	802.11ax HE40	22.37	172.58

Refer to manufacturer provide report for power for all other modes.

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The EUT supports 2 antennas for diversity with the following antenna gains:

Antenna	Frequency Range (MHz)	Maximum 3D Gain (dBi)
1	2402-2480MHz	3.0
2	2402-2480MHz	1.9

6.4. SOFTWARE AND FIRMWARE

EUT FW Version: 1.0
EUT HW Version: 1.0

6.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz, above 18GHz, and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario. All antennas were tested, with the worst-case scenario per mode being reported.

Band edge and radiated spurious emissions between 1GHz and 18GHz were performed with the EUT set to transmit at the highest power on low, middle (spurious only) and high channels.

The EUT is intended to operate in only one orientation. Therefore, all radiated testing was performed with the EUT in its intended orientation of operation.

The worst-case data-rates are as follows:

802.11ax HE20 (26T-242T) mode: MCS0

802.11ax HE20 (SU) mode: MCS8

802.11ax HE40 (484T) mode: MCS0

802.11ax HE40 (SU) mode: MCS8

BLE only supports 1Mbps.

This report covers the full radiated testing of BLE and 2.4GHz Wi-Fi and conducted testing on 802.11ax 2.4GHz WLAN only. All other testing can be found in reports to be provided by the manufacturer.

PSD performed on the modes with the highest power and narrowest bandwidth only to cover all other modes. PSD performed at highest power setting of all channels.

6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adaptor	Triad	WAU24-1000	N/A	N/A

I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	4 Pin PWR	1	AC In	Unshielded	<3m	Connects EUT to AC Lines

TEST SETUP

The EUT was set to transmit continuously throughout the test.

SETUP DIAGRAM

Please refer to R15799203-EP1 for setup diagrams

7. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
90416	Spectrum Analyzer	Keysight Technologies	N9030A	2024-09-23	2025-09-23
226561	SMA Coaxial 10dB Attenuator 25MHz-18GHz	CentricRF	C18S2-10	2025-04-01	2026-04-01
CBL091	Micro-Coax UTiFLEX Cable Assembly, Low Loss,40Ghz	Carlisle Interconnect Technologies	UFA147A-2-0360-200200	2025-03-07	2026-03-07
179892	Environmental Meter	Fisher Scientific	15-077-963	2024-08-12	2025-08-12
SOFTEMI	Antenna Port Software	UL	Version 2024.2.23	NA	NA
ETSI Power Software	EMPower ETSI Burst Measurement System	ETS-Lindgren	Version 1.0.3.18	NA	NA
Power Software	Boonton Power Analyzer	Boonton	Version 3.0.13.0	NA	NA

Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
70374	EMI Test Receiver	ROHDE & SCHWARZ	ESCI7	2024-07-30	2025-07-30
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2025-04-17	2026-04-17
179892	Environmental Meter	Fisher Scientific	15-077-963	2024-08-12	2025-08-12
80391	LISN, 50-ohm/50-uH, 250uH 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50/250-25-2-01	2024-08-01	2025-08-01
52859	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2025-04-17	2026-04-17
236852	CW-AC Power Source	Ametek	CW2501	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 4)

Equipment ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
0.009-30MHz					
135144	Active Loop Antenna	ETS-Lindgren	6502	2024-10-02	2025-10-02
30-1000 MHz					
90628	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2024-01-02	2026-01-02
1-18 GHz					
89509	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2023-05-23	2025-05-23
206211	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2024-04-09	2026-04-09
18-40 GHz					
91186	Horn Antenna, 18-26.5GHz	Antenna Research Associates	MWH-1826/B	2024-05-16	2025-05-16
204705	Horn Antenna, 26-40GHz	Com-Power	AH-640	2023-07-20	2025-07-20
Gain-Loss Chains					
207638	Gain-loss string: 0.009-30MHz	Various	Various	2024-05-22	2025-06-06
207639	Gain-loss string: 25-1000MHz	Various	Various	2024-05-22	2025-06-06
207640	Gain-loss string: 1-18GHz	Various	Various	2024-05-22	2025-06-06
225795	Gain-loss string: 18-40GHz	Various	Various	2024-05-22	2025-06-06
Receiver & Software					
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2025-04-21	2026-04-21
81018	Spectrum Analyzer	Agilent	E4446A	2024-07-31	2025-07-31
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
241204	Environmental Meter	Fisher Scientific	15-077-963	2023-09-05	2025-09-05

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

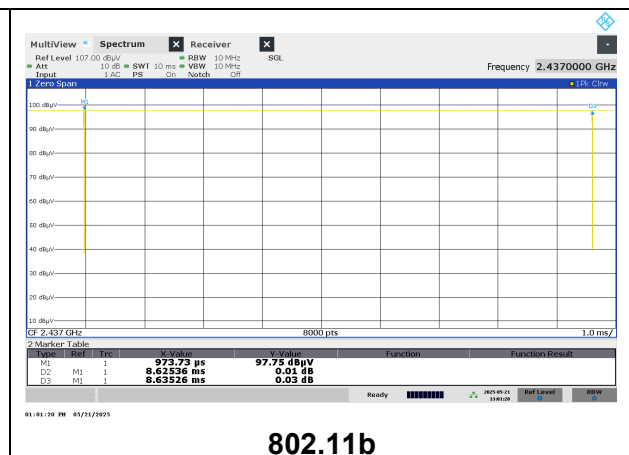
LIMITS

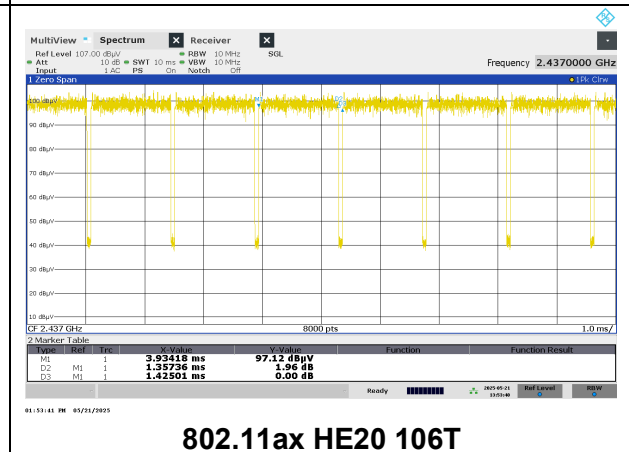
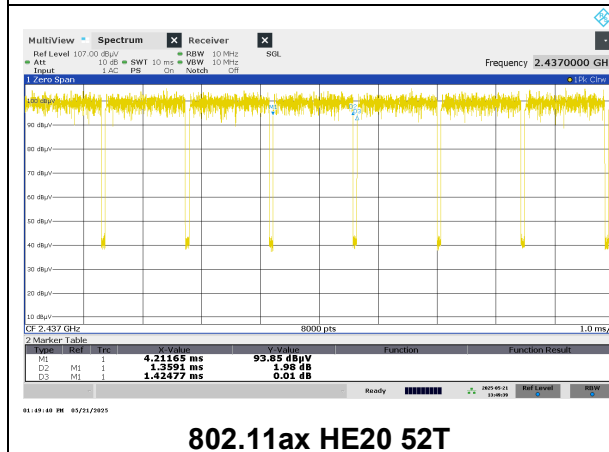
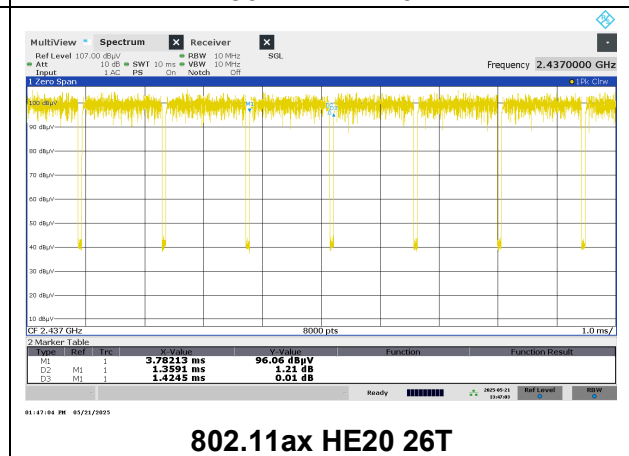
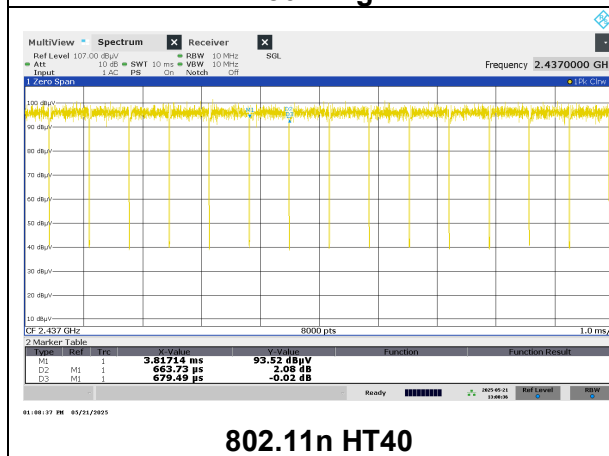
None; for reporting purposes only.

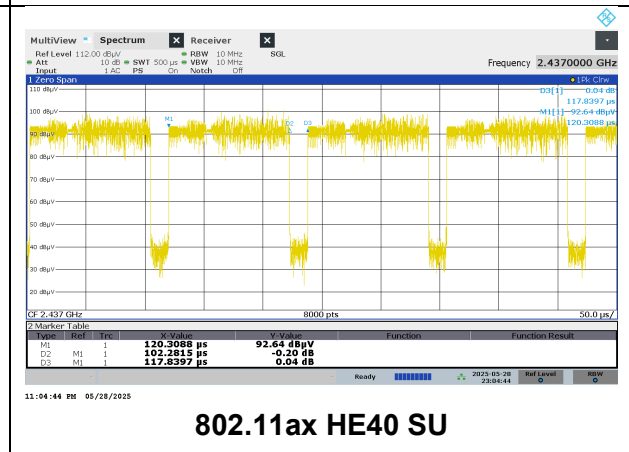
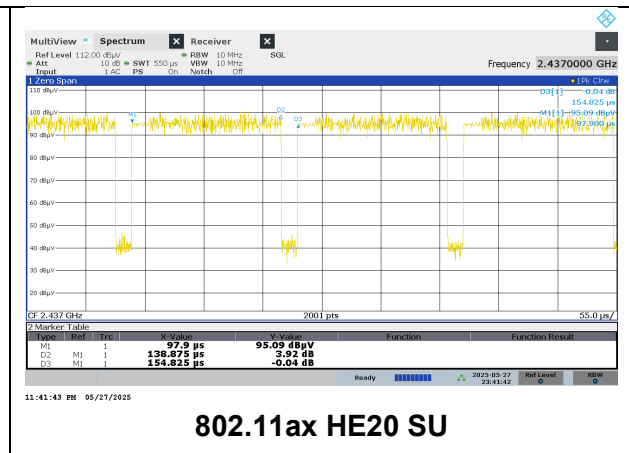
PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

Mode	On Time B (ms)	Period (ms)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
2.4GHz Band					
BLE	0.386	0.626	0.6166	61.66%	4.20
802.11b	8.62536	8.63526	0.9989	99.89%	0.00
802.11g	1.43301	1.44879	0.9891	98.91%	0.00
802.11n HT20	1.33959	1.35425	0.9892	98.92%	0.00
802.11n HT40	0.66373	0.67949	0.9768	97.68%	0.20
802.11ax HE20 26T	1.3591	1.4245	0.9541	95.41%	0.41
802.11ax HE20 52T	1.3591	1.42477	0.9539	95.39%	0.41
802.11ax HE20 106T	1.35736	1.42501	0.9525	95.25%	0.42
802.11ax HE20 242T	1.35837	1.42577	0.9527	95.27%	0.42
802.11ax HE20 SU	0.138875	0.154825	0.8970	89.70%	0.94
802.11ax HE40 484T	1.35824	1.42489	0.9532	95.32%	0.42
802.11ax HE40 SU	0.1022815	0.1178397	0.8680	86.80%	1.23







8.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

PROCEDURE

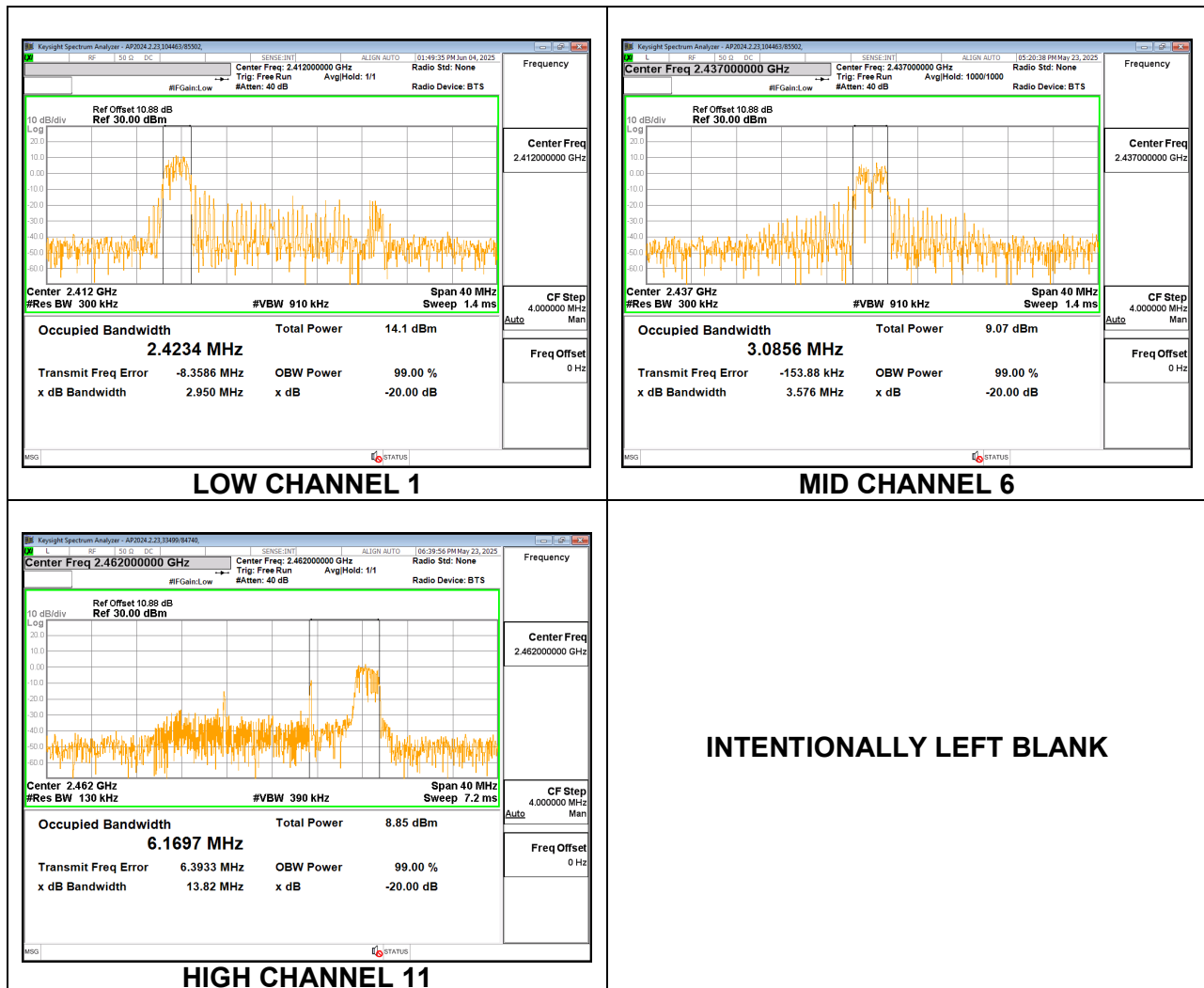
ANSI C63.10-2020 Section 6.9.3

RESULTS

8.2.1. 802.11ax HE20 26T MODE

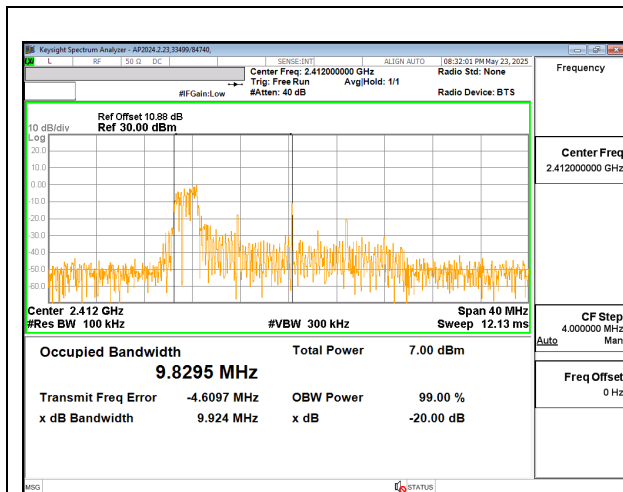
1TX Antenna 1 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	2.4234
Mid	2437	3.0856
High	2462	6.1697

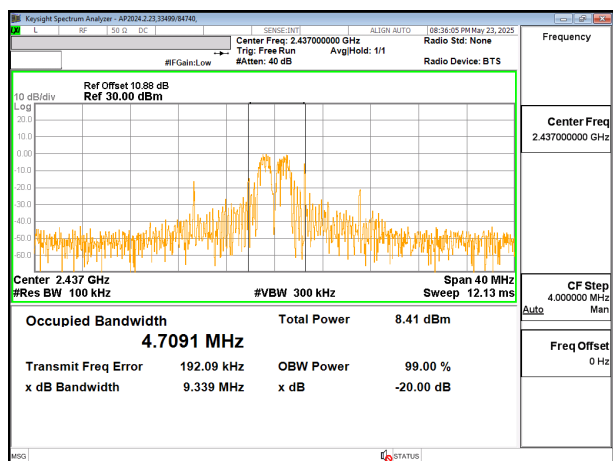


1TX Antenna 2 MODE

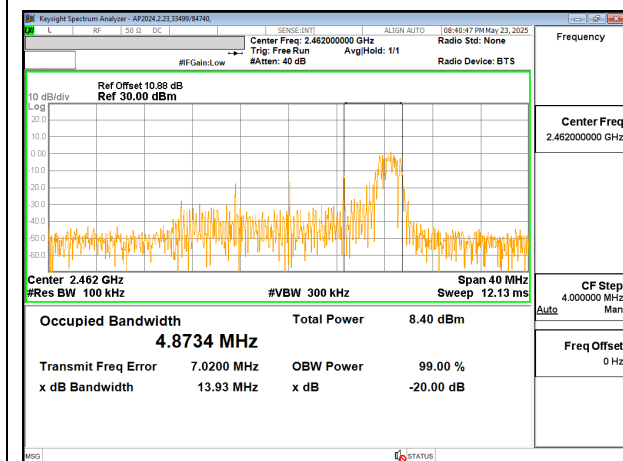
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	9.8295
Mid	2437	4.7091
High 11	2462	4.8734



LOW CHANNEL 1



MID CHANNEL 6



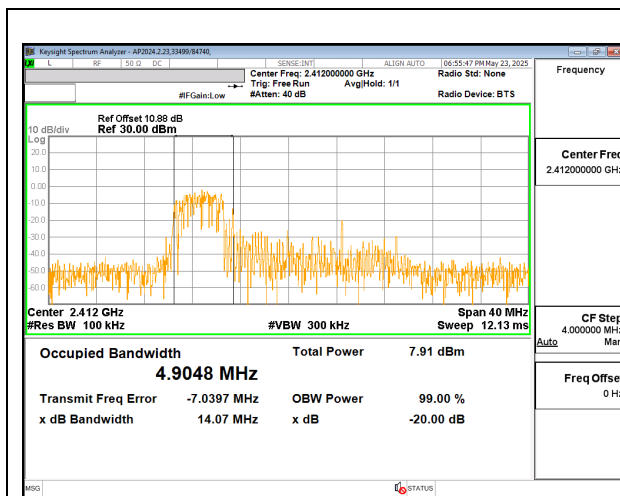
HIGH CHANNEL 11

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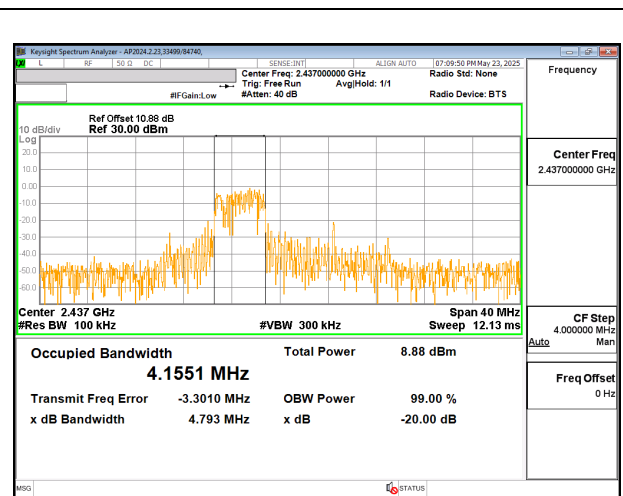
8.2.2. 802.11ax HE20 52T MODE

1TX Antenna 1 MODE

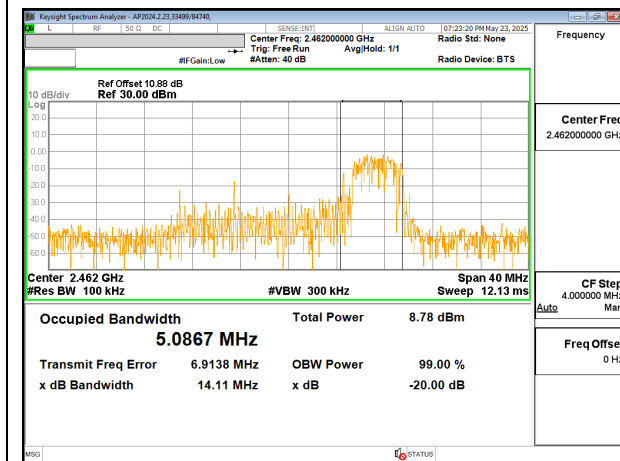
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	4.9048
Mid	2437	4.1551
High 11	2462	5.0867



LOW CHANNEL 1



MID CHANNEL 6

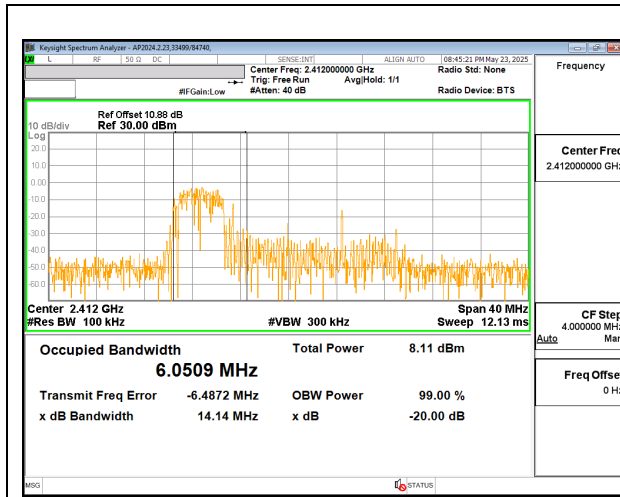


HIGH CHANNEL 11

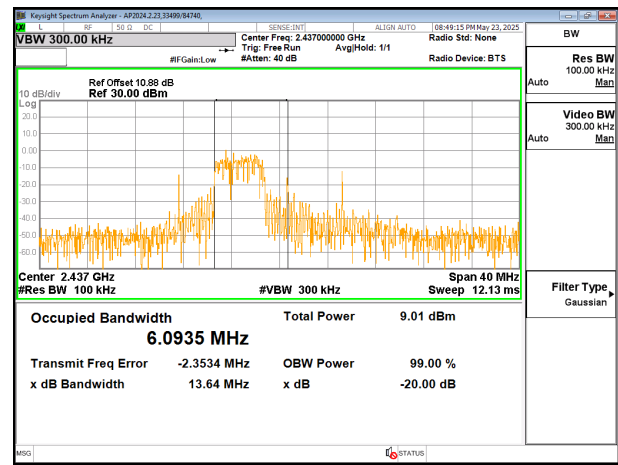
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1TX Antenna 2 MODE

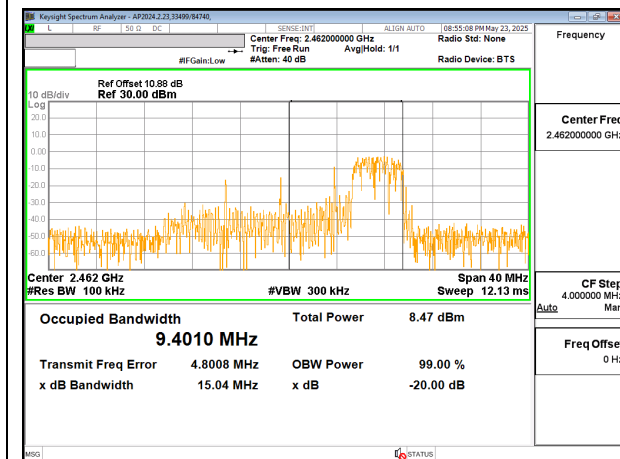
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	6.0509
Mid	2437	6.0935
High 11	2462	9.4010



LOW CHANNEL 1



MID CHANNEL 6



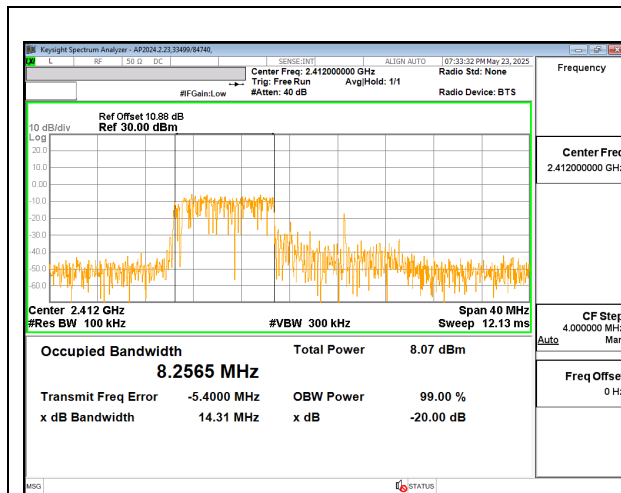
HIGH CHANNEL 11

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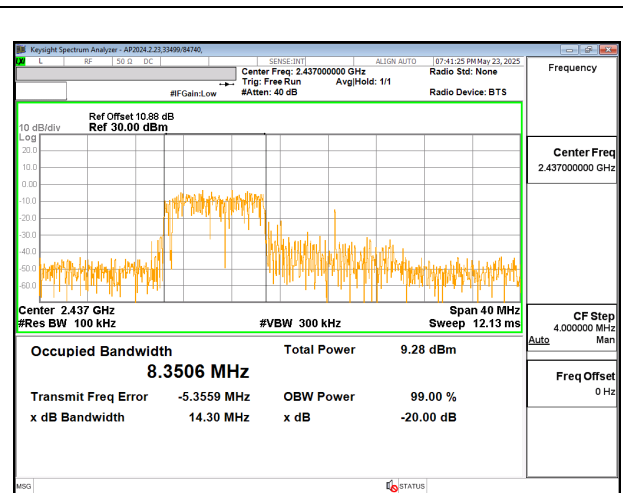
8.2.3. 802.11ax HE20 106T MODE

1TX Antenna 1 MODE

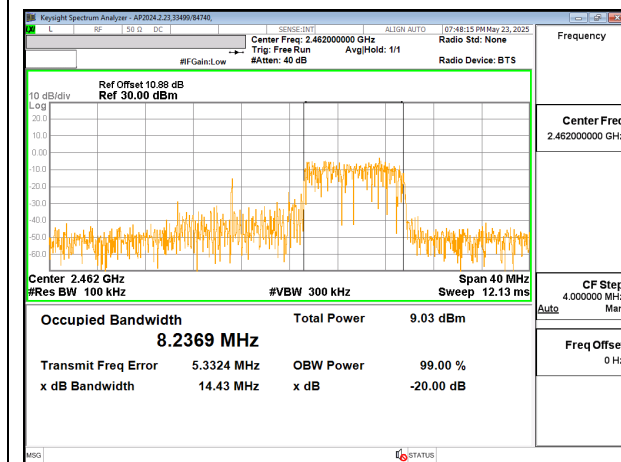
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	8.2565
Mid	2437	8.3506
High 11	2462	8.2369



LOW CHANNEL 1



MID CHANNEL 6

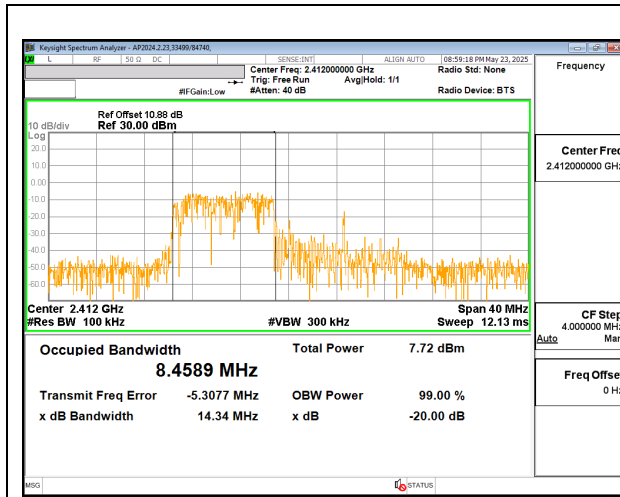


HIGH CHANNEL 11

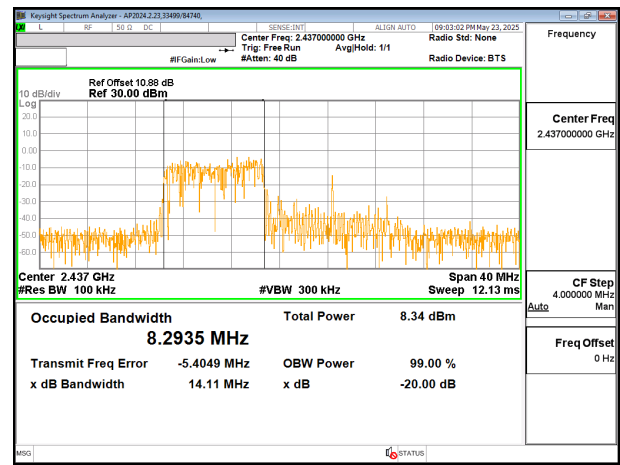
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1TX Antenna 2 MODE

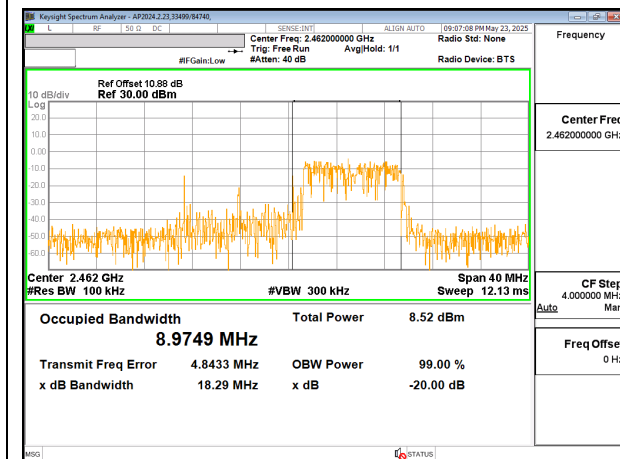
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	8.4589
Mid	2437	8.2935
High 11	2462	8.9749



LOW CHANNEL 1



MID CHANNEL 6



HIGH CHANNEL 11

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8.2.4. 802.11ax HE20 242T MODE

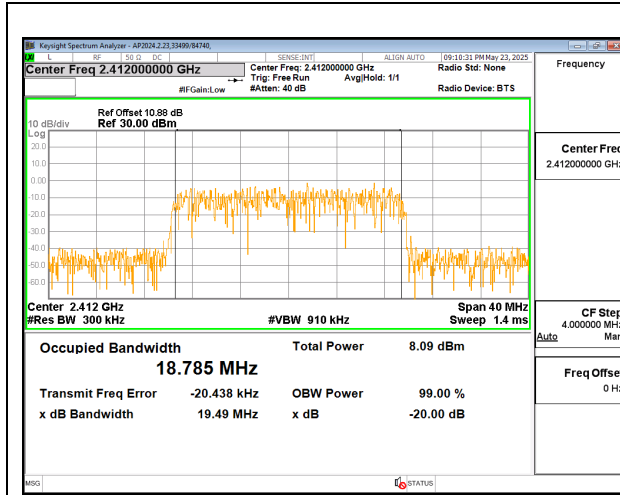
1TX Antenna 1 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	18.793
Mid	2437	18.784
High 11	2462	18.887

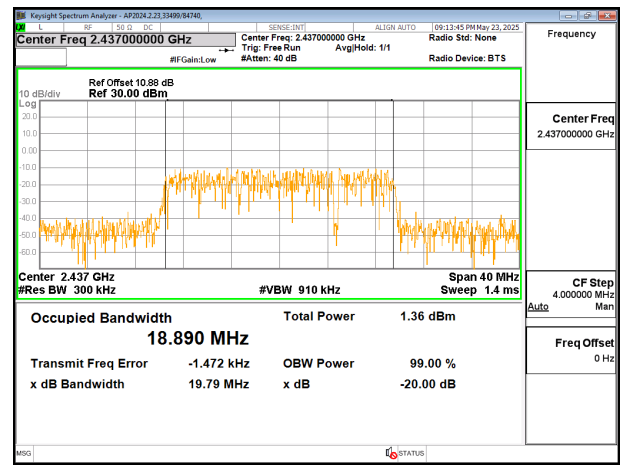


1TX Antenna 2 MODE

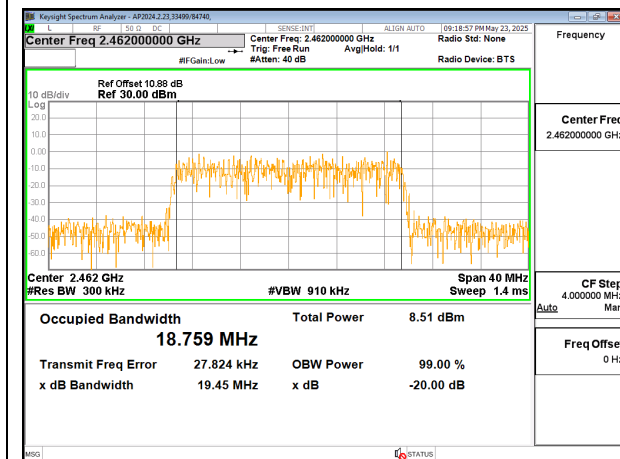
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	18.785
Mid	2437	18.890
High 11	2462	18.759



LOW CHANNEL 1



MID CHANNEL 6



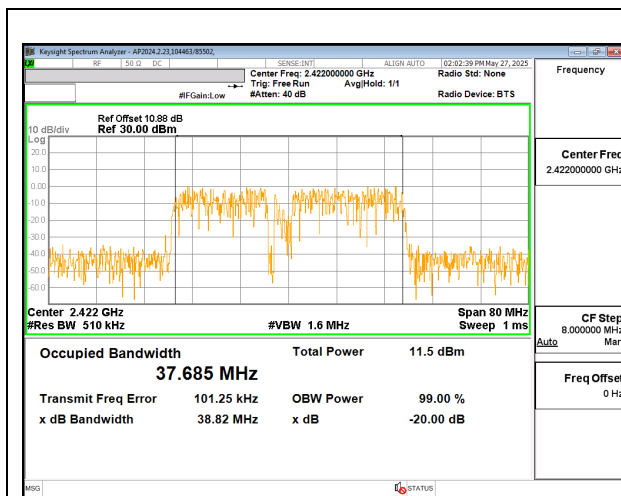
HIGH CHANNEL 11

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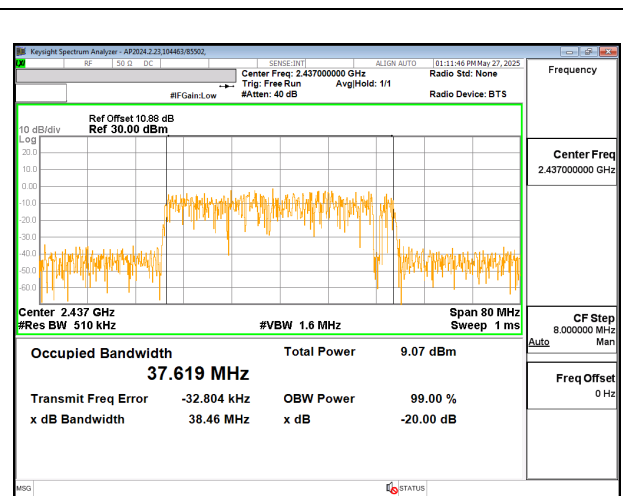
8.2.5. 802.11ax HE40 484T MODE

1TX Antenna 1 MODE

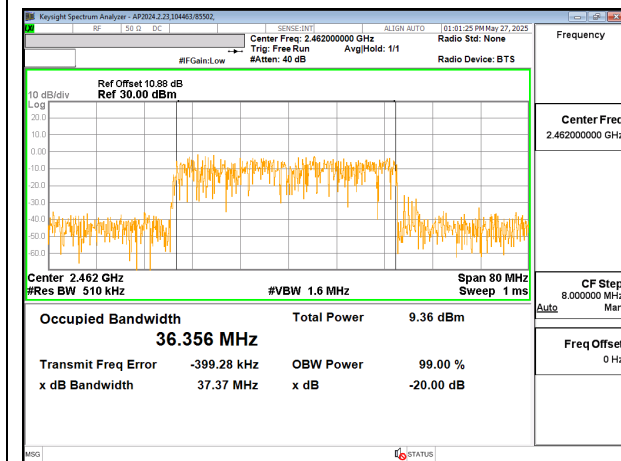
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2422	37.685
Mid	2437	37.619
High	2462	36.356



LOW CHANNEL 3



MID CHANNEL 6

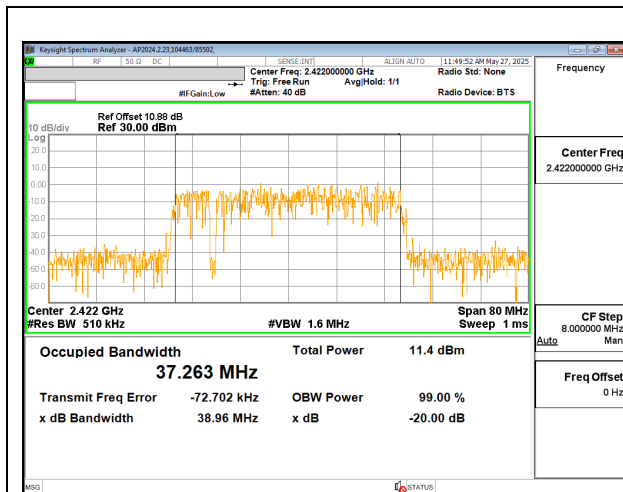


HIGH CHANNEL 11

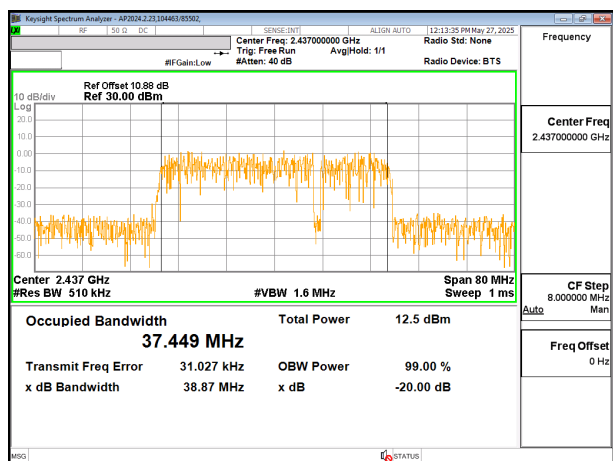
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1TX Antenna 2 MODE

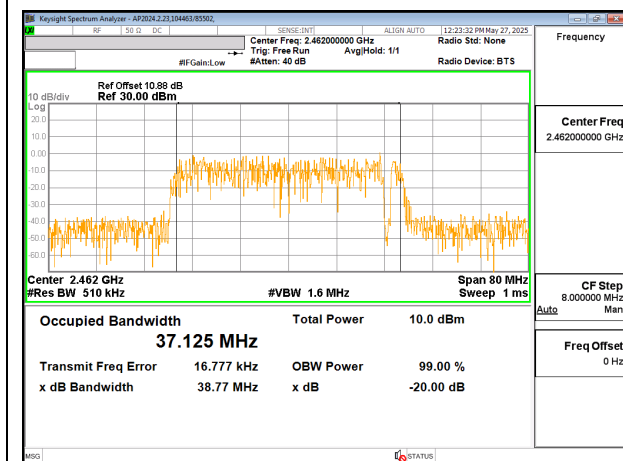
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2422	37.263
Mid	2437	37.449
High	2462	37.125



LOW CHANNEL 3



MID CHANNEL 6



HIGH CHANNEL 11

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8.3. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)
RSS-247 5.2 (a)

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

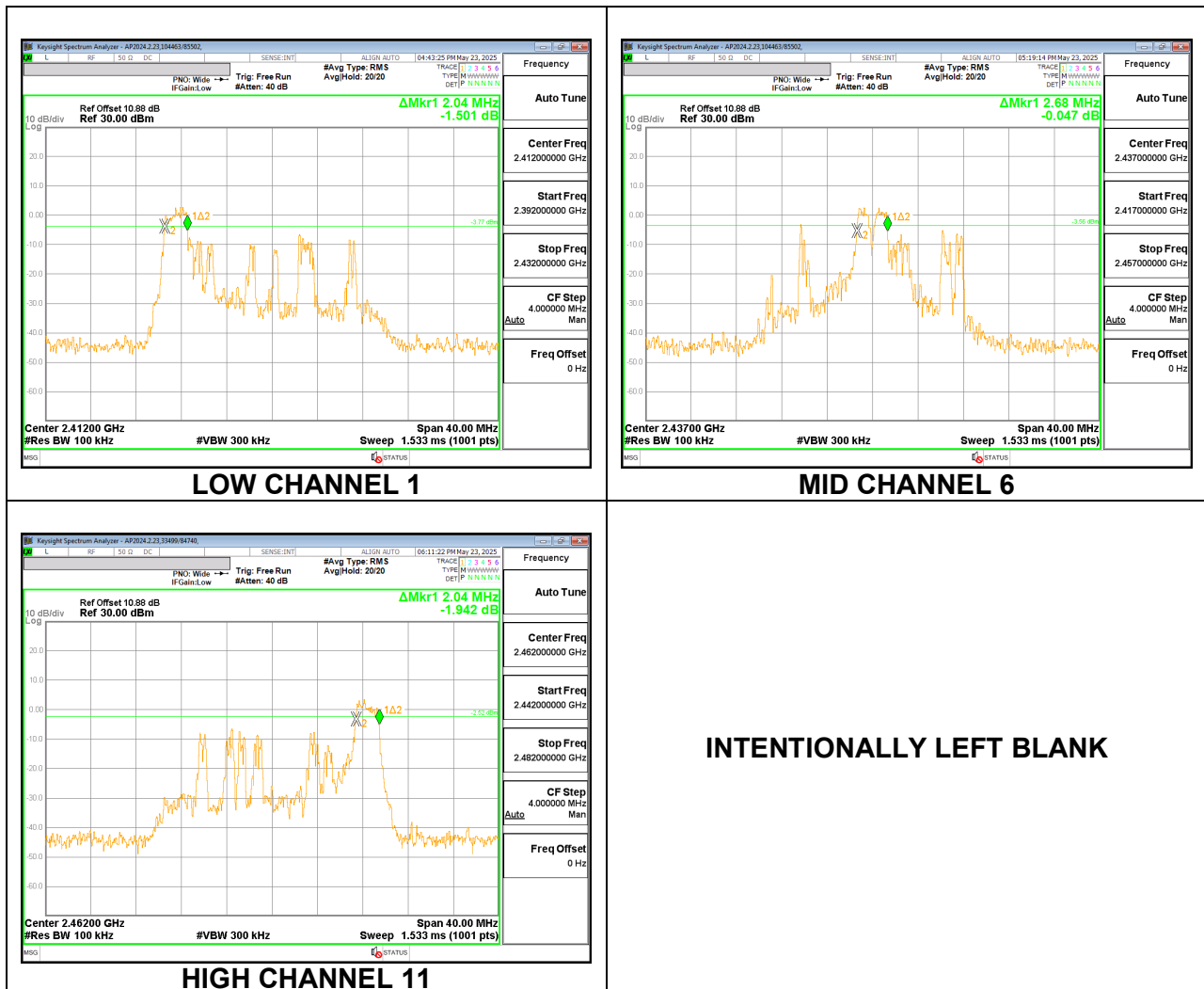
PROCEDURE

ANSI C63.10 Subclause -11.8.2: $RBW \leq DTS\ BW$

8.3.1. 802.11ax HE20 26T MODE

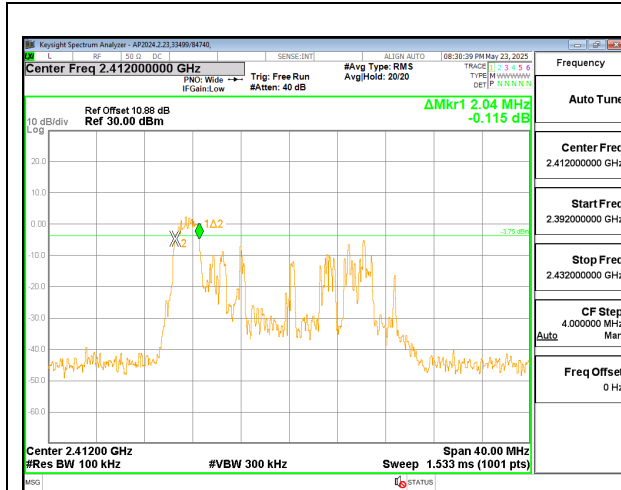
1TX Antenna 1 MODE

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	2.04	0.5
Mid	2437	2.68	0.5
High 11	2462	2.04	0.5

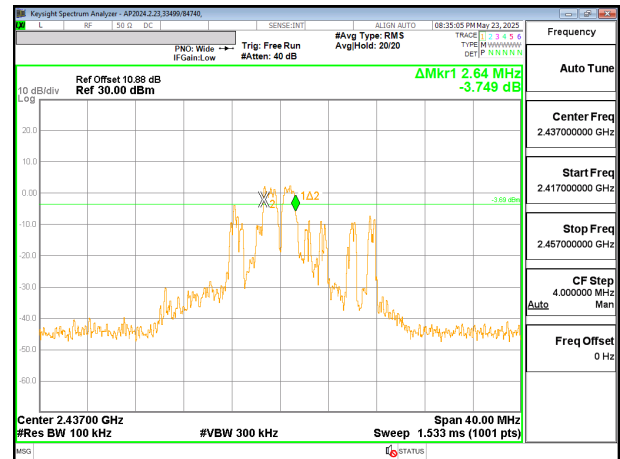


1TX Antenna 2 MODE

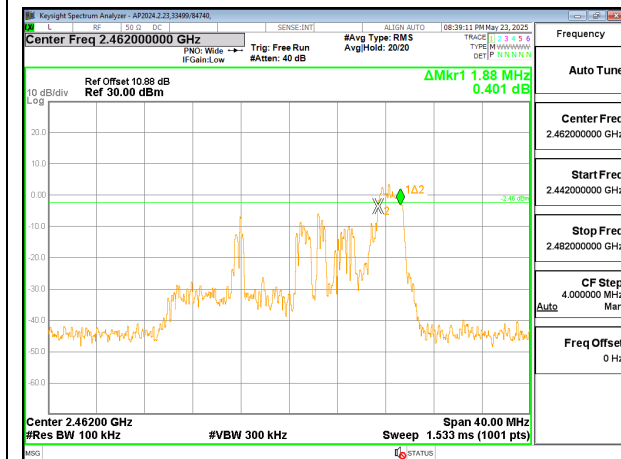
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	2.04	0.5
Mid	2437	2.64	0.5
High 11	2462	1.88	0.5



LOW CHANNEL 1



MID CHANNEL 6



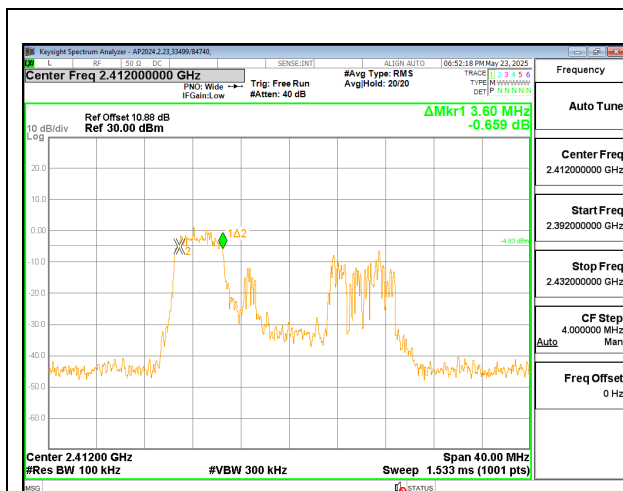
HIGH CHANNEL 11

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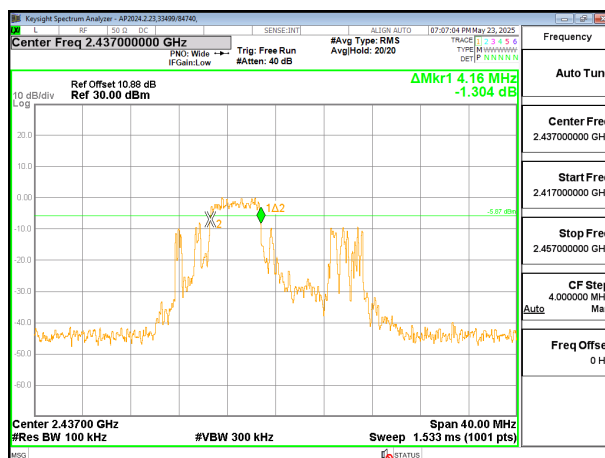
8.3.2. 802.11ax HE20 52T MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	3.60	0.5
Mid	2437	4.16	0.5
High 11	2462	3.80	0.5



LOW CHANNEL 1



MID CHANNEL 6

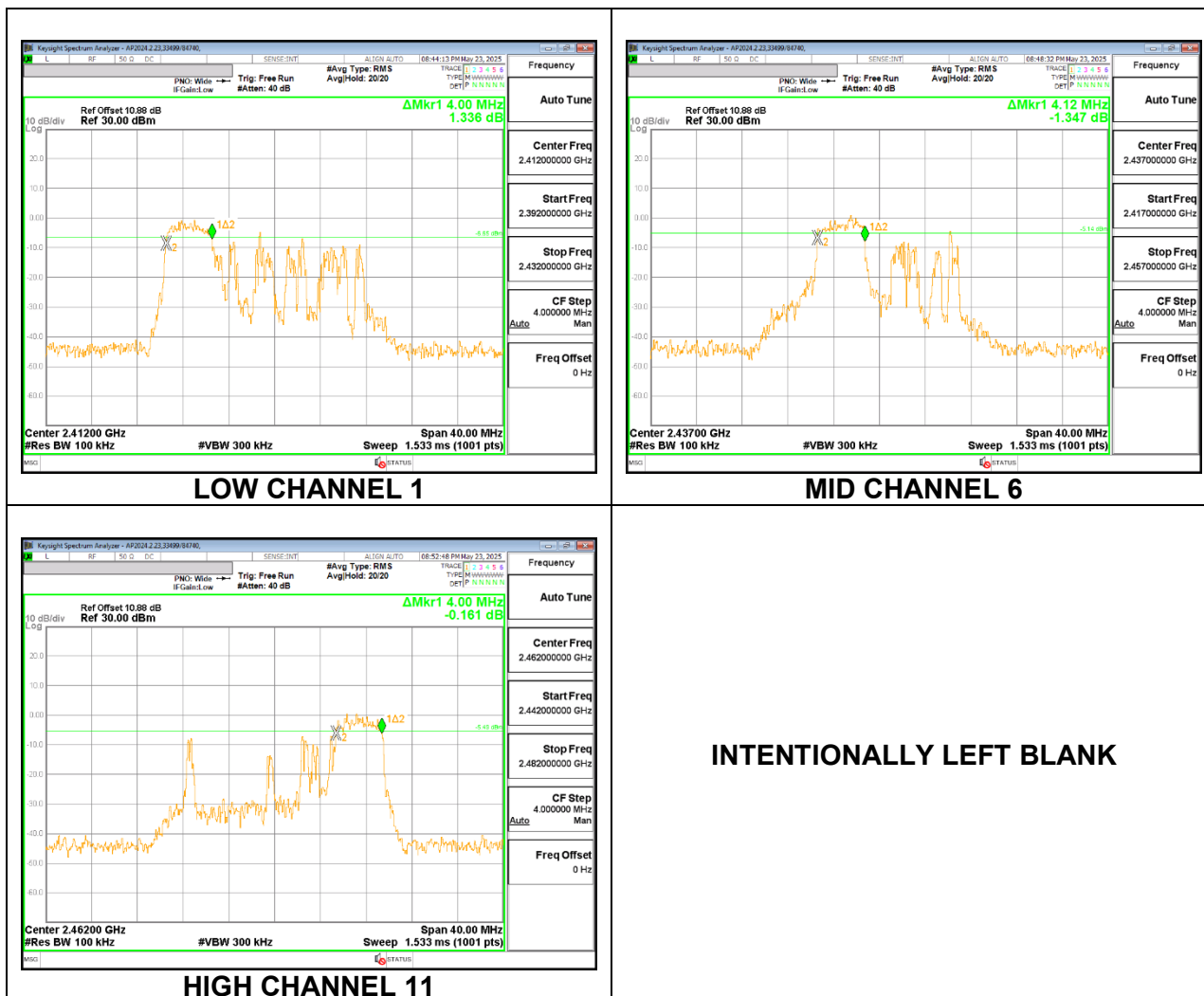


HIGH CHANNEL 11

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1TX Antenna 2 MODE

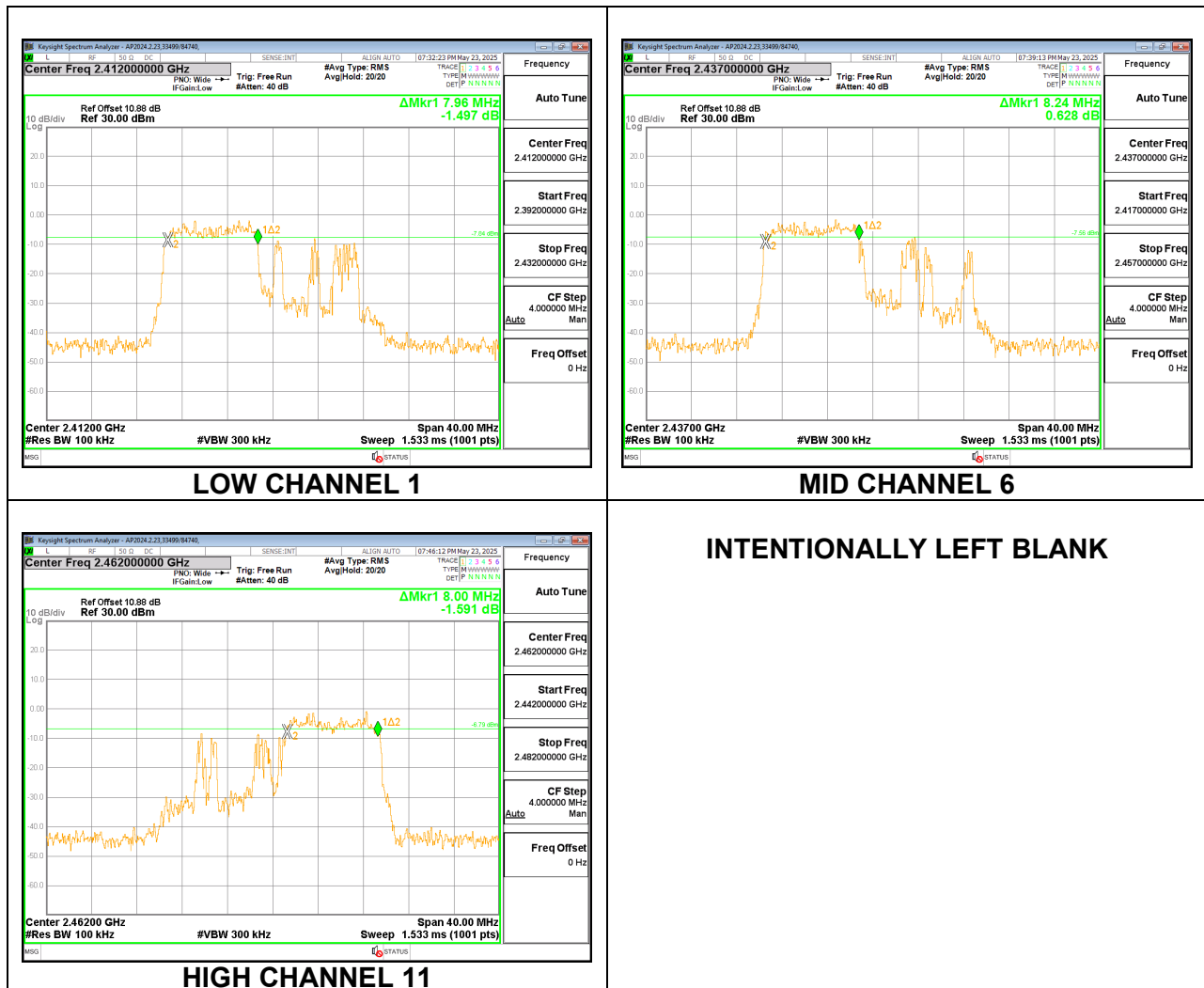
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	4.00	0.5
Mid	2437	4.12	0.5
High 11	2462	4.00	0.5



8.3.3. 802.11ax HE20 106T MODE

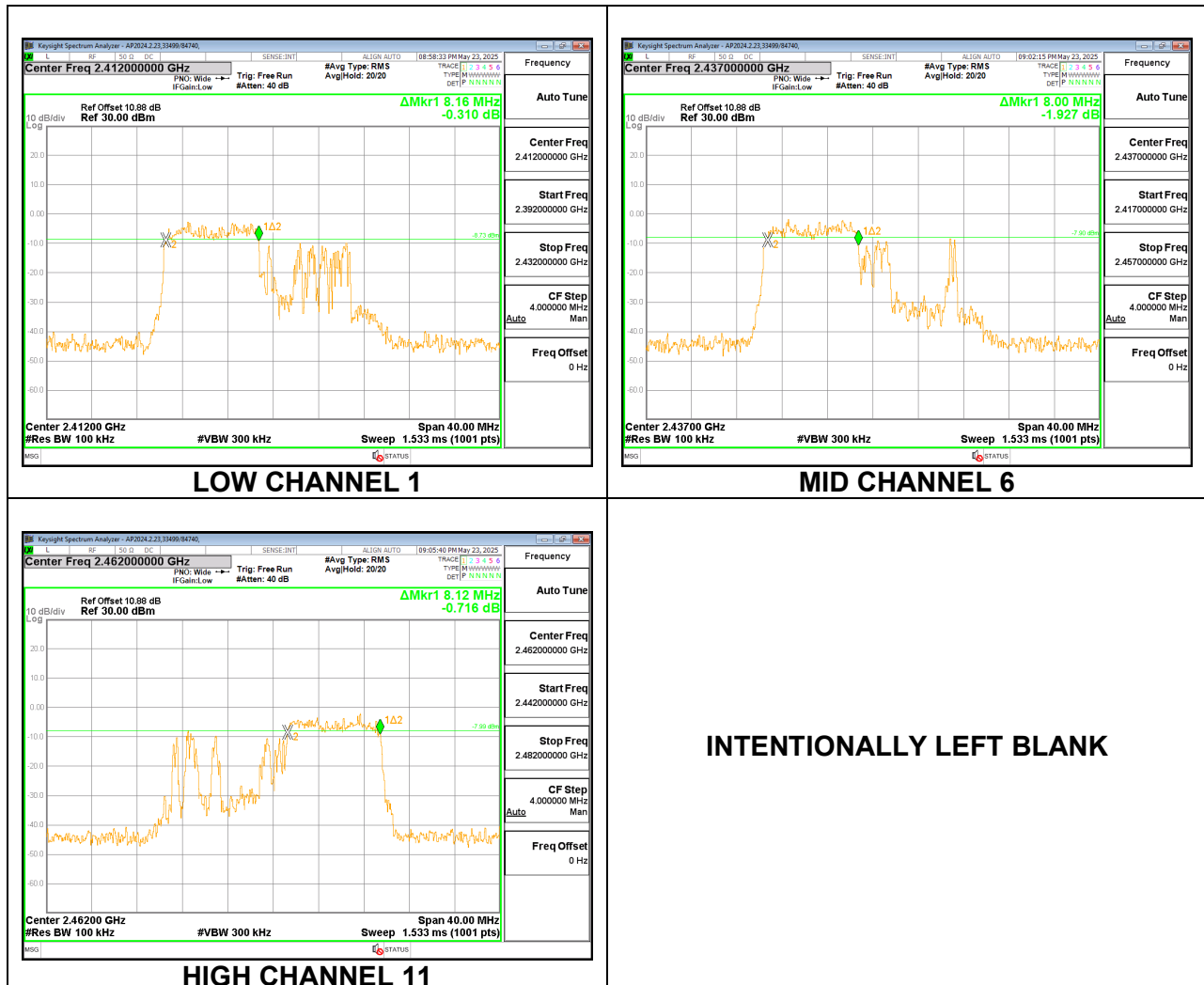
1TX Antenna 1 MODE

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	7.96	0.5
Mid	2437	8.24	0.5
High 11	2462	8.00	0.5



1TX Antenna 2 MODE

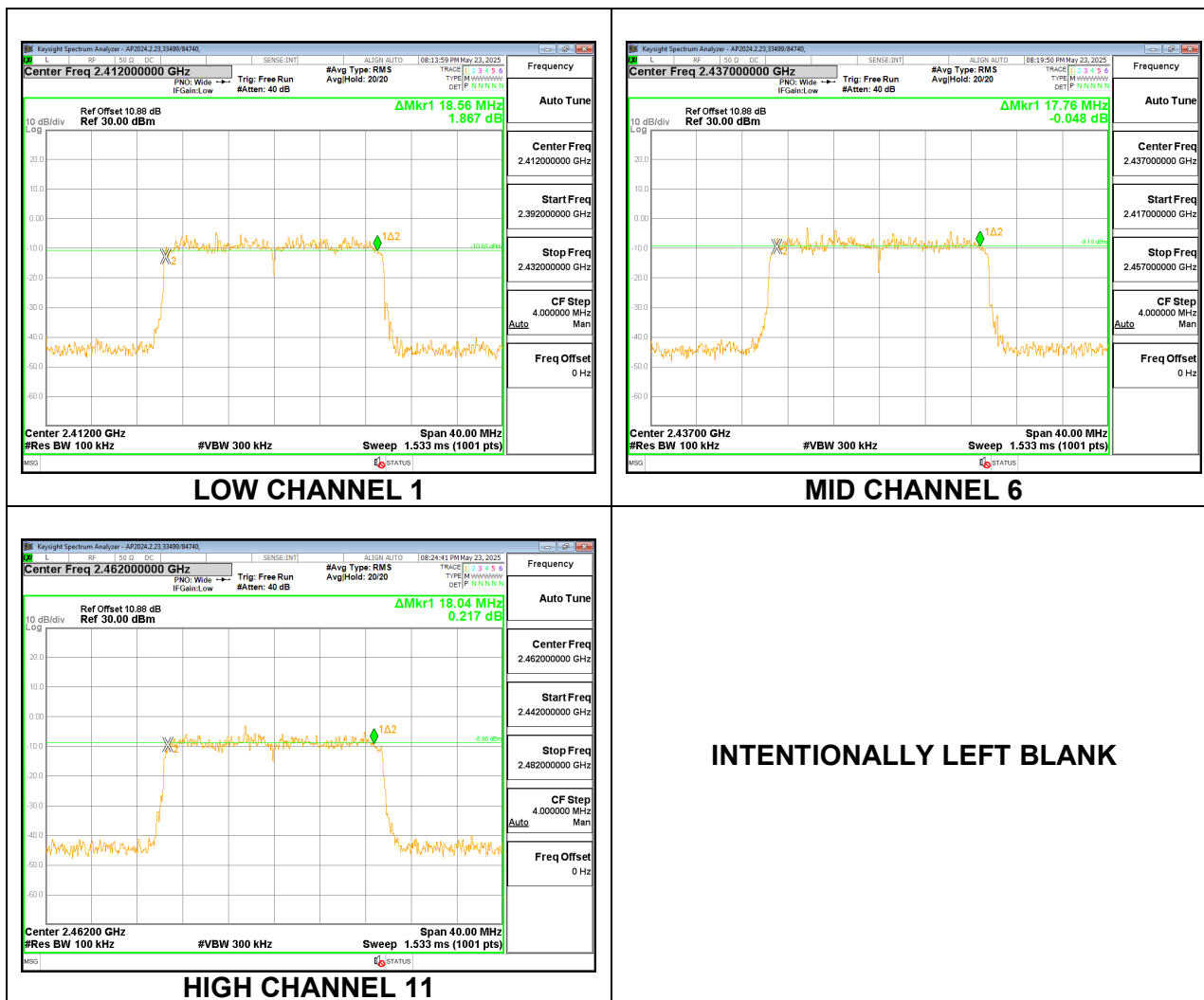
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	8.16	0.5
Mid	2437	8.00	0.5
High 11	2462	8.12	0.5



8.3.4. 802.11ax HE20 242T MODE

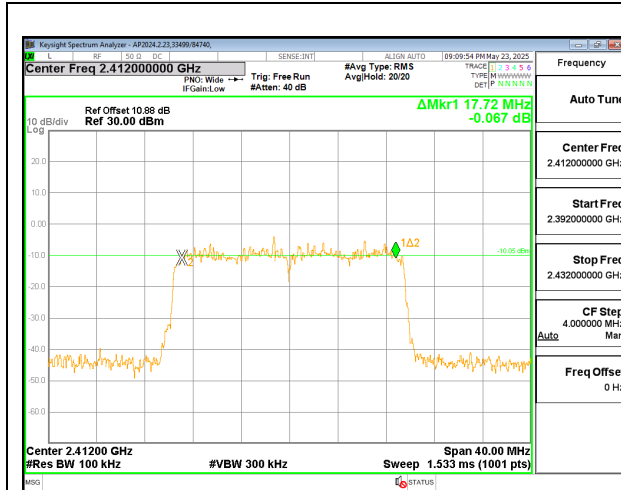
1TX Antenna 1 MODE

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	18.56	0.5
Mid	2437	17.76	0.5
High 11	2462	18.04	0.5

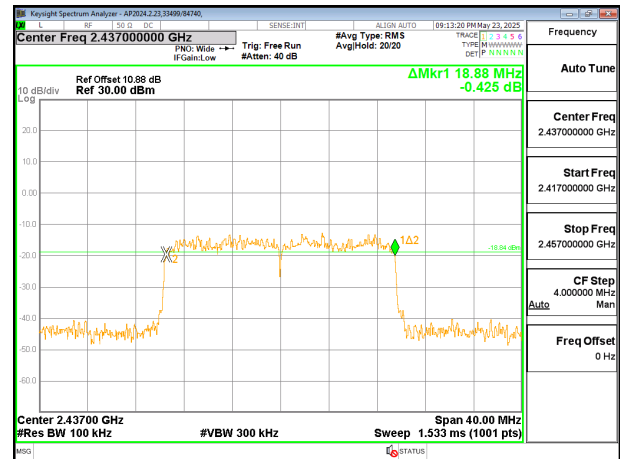


1TX Antenna 2 MODE

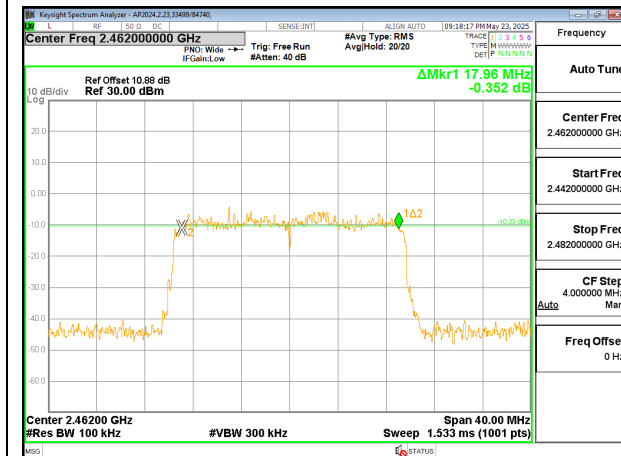
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	17.72	0.5
Mid	2437	18.88	0.5
High 11	2462	17.96	0.5



LOW CHANNEL 1



MID CHANNEL 6



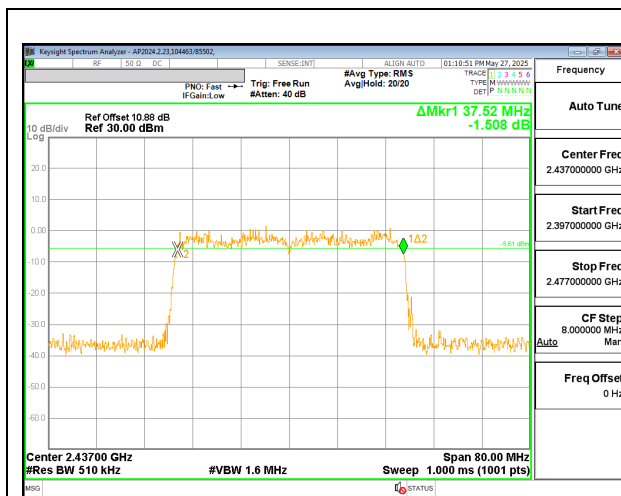
HIGH CHANNEL 11

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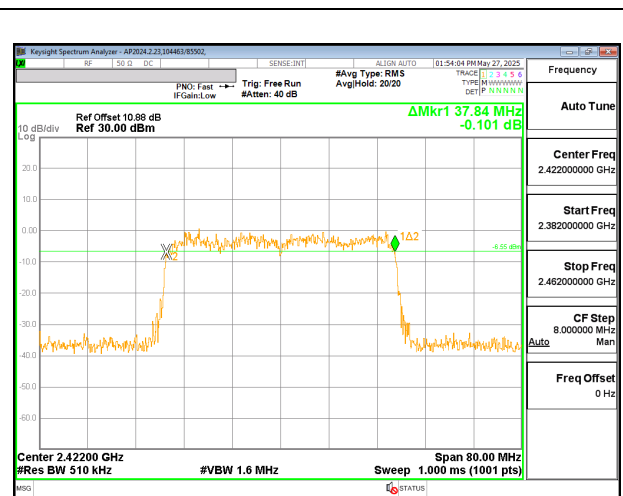
8.3.5. 802.11ax HE40 484T MODE

1TX Antenna 1 MODE

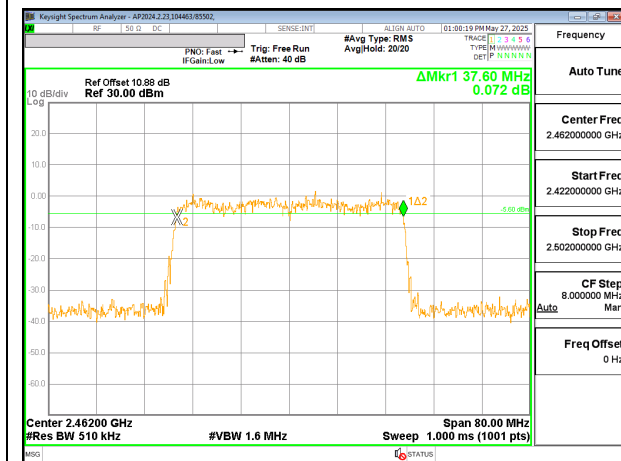
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2422	37.52	0.5
Mid	2437	37.84	0.5
High	2462	37.60	0.5



LOW CHANNEL 3



MID CHANNEL 6



HIGH CHANNEL 11

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1TX Antenna 2 MODE

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2422	37.5	0.5
Mid	2437	37.76	0.5
High	2462	37.68	0.5



8.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)
RSS-247 5.4 (d)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

PROCEDURE

The transmitter output is connected to a power meter.

Peak output power was read directly from power meter.

DIRECTIONAL ANTENNA GAIN

For 1 TX:

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

Test Date:	2025-05-23
Tester ID:	104463

8.4.1. 802.11ax HE20 26T MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	19.33	30	-10.67
Middle	2437	19.70	30	-10.3
High	2462	19.64	30	-10.36

1TX Antenna 2 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	20	30	-10
Middle	2437	19.51	30	-10.49
High	2462	18.47	30	-11.53

8.4.2. 802.11ax HE20 52T MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	19.19	30	-10.81
Middle	2437	19.65	30	-10.35
High	2462	19.65	30	-10.35

1TX Antenna 2 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	18.2	30	-11.8
Middle	2437	18.39	30	-11.61
High	2462	18.23	30	-11.77

8.4.3. 802.11ax HE20 106T MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	19.23	30	-10.77
Middle	2437	19.71	30	-10.29
High	2462	19.67	30	-10.33

1TX Antenna 2 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	17.98	30	-12.02
Middle	2437	18.32	30	-11.68
High	2462	18.44	30	-11.56

8.4.4. 802.11ax HE20 242T MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	18.79	30	-11.21
Middle	2437	19.81	30	-10.19
High	2462	19.22	30	-10.78

1TX Antenna 2 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	18.23	30	-11.77
Middle	2437	18.72	30	-11.28
High	2462	18.78	30	-11.22

8.4.5. 802.11ax HE20 SU MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	22.98	30	-7.02
Low	2417	22.96	30	-7.04
Low	2422	23.26	30	-6.74
Low	2432	23.27	30	-6.73
Middle	2437	23.23	30	-6.77
High	2457	23.18	30	-6.82
High	2462	22.05	30	-7.95

1TX Antenna 2 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	21.18	30	-8.82
Low	2417	22.12	30	-7.88
Low	2422	22.68	30	-7.32
Low	2432	22.71	30	-7.29
Middle	2437	22.72	30	-7.28
High	2457	22.7	30	-7.3
High	2462	21.74	30	-8.26

8.4.1. 802.11ax HE40 484T MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2422	20.67	30	-9.33
Middle	2437	20.98	30	-9.02
High	2462	21.29	30	-8.71

1TX Antenna 2 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2422	20.35	30	-9.65
Middle	2437	20.47	30	-9.53
High	2462	20.97	30	-9.03

8.4.1. 802.11ax HE40 SU MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2422	21.28	30	-8.72
Low	2432	22.17	30	-7.83
Middle	2437	22.96	30	-7.04
High	2442	21.99	30	-8.01
High	2457	20.74	30	-9.26
High	2462	19.78	30	-10.22

1TX Antenna 2 MODE

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2422	21.14	30	-8.86
Low	2432	22.37	30	-7.63
Middle	2437	21.98	30	-8.02
High	2442	21.10	30	-8.9
High	2457	20.29	30	-9.71
High	2462	19.47	30	-10.53

8.5. AVERAGE POWER

LIMITS

None; for reporting purposes only

TEST PROCEDURE

The transmitter output is connected to a power meter.

Gated average output power was read directly from power meter.

RESULTS

8.5.1. 802.11ax HE20 26T MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2412	8.54
Middle	2437	9.40
High	2462	9.21

1TX Antenna 2 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2412	9.28
Middle	2437	9.14
High	2462	8.31

8.5.2. 802.11ax HE20 52T MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2412	8.49
Middle	2437	9.35
High	2462	9.14

1TX Antenna 2 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2412	7.88
Middle	2437	8.97
High	2462	8.46

8.5.3. 802.11ax HE20 106T MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2412	8.64
Middle	2437	9.27
High	2462	9.26

1TX Antenna 2 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2412	8.12
Middle	2437	8.71
High	2462	8.58

8.5.4. 802.11ax HE20 242T MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2412	8.73
Middle	2437	9.22
High	2462	9.17

1TX Antenna 2 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2412	8.18
Middle	2437	8.65
High	2462	8.58

8.5.1. 802.11ax HE20 SU MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2412	12.79
Low	2417	14.01
Low	2422	16.28
Low	2432	16.46
Middle	2437	15.50
High	2457	15.41
High	2462	13.10

1TX Antenna 2 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2412	12.24
Low	2417	13.39
Low	2422	15.66
Low	2432	15.83
Middle	2437	14.47
High	2457	14.85
High	2462	12.21

8.5.2. 802.11ax HE40 484T MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2422	8.55
Middle	2437	9.25
High	2462	9.73

1TX Antenna 2 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2422	8.47
Middle	2437	8.78
High	2462	9.13

8.5.3. 802.11ax HE40 SU MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2422	12.10
Low	2432	13.29
Middle	2437	13.35
High	2442	12.45
High	2457	11.32
High	2462	10.67

1TX Antenna 2 MODE

Channel	Frequency (MHz)	AV power (dBm)
Low	2422	11.71
Low	2432	12.74
Middle	2437	12.82
High	2442	12.14
High	2457	11.05
High	2462	10.16

8.6. POWER SPECTRAL DENSITY

LIMITS

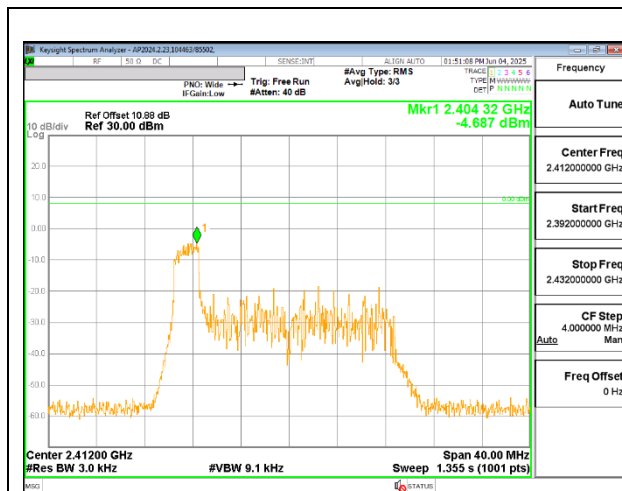
FCC §15.247 (e)
RSS-247 (5.2) (b)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

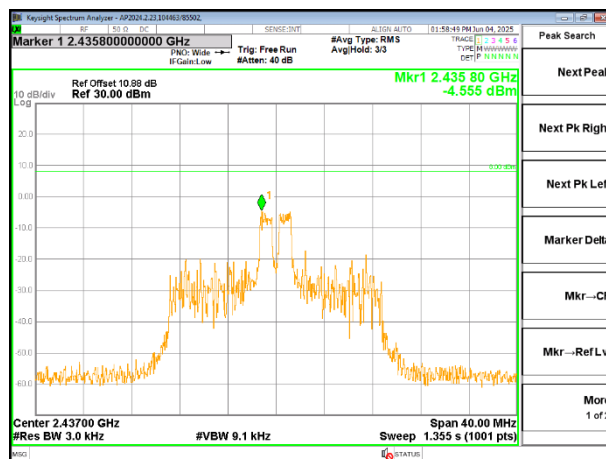
8.6.1. 802.11ax HE20 26T MODE

1TX Antenna 1 MODE

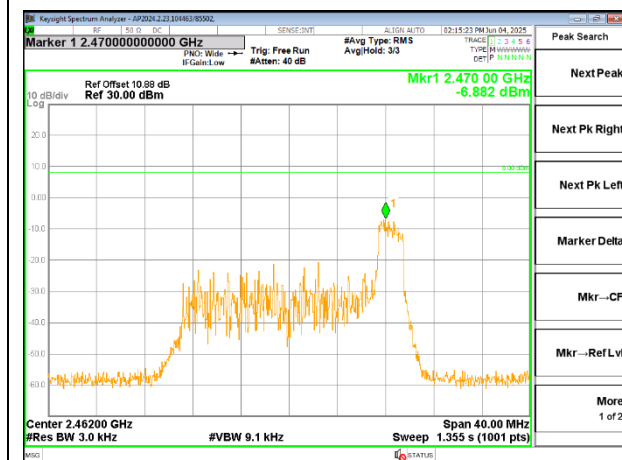
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2412	-4.687	8	-12.687
Middle	2437	-4.555	8	-12.555
High	2462	-6.882	8	-14.882



LOW CHANNEL 1



MID CHANNEL 6

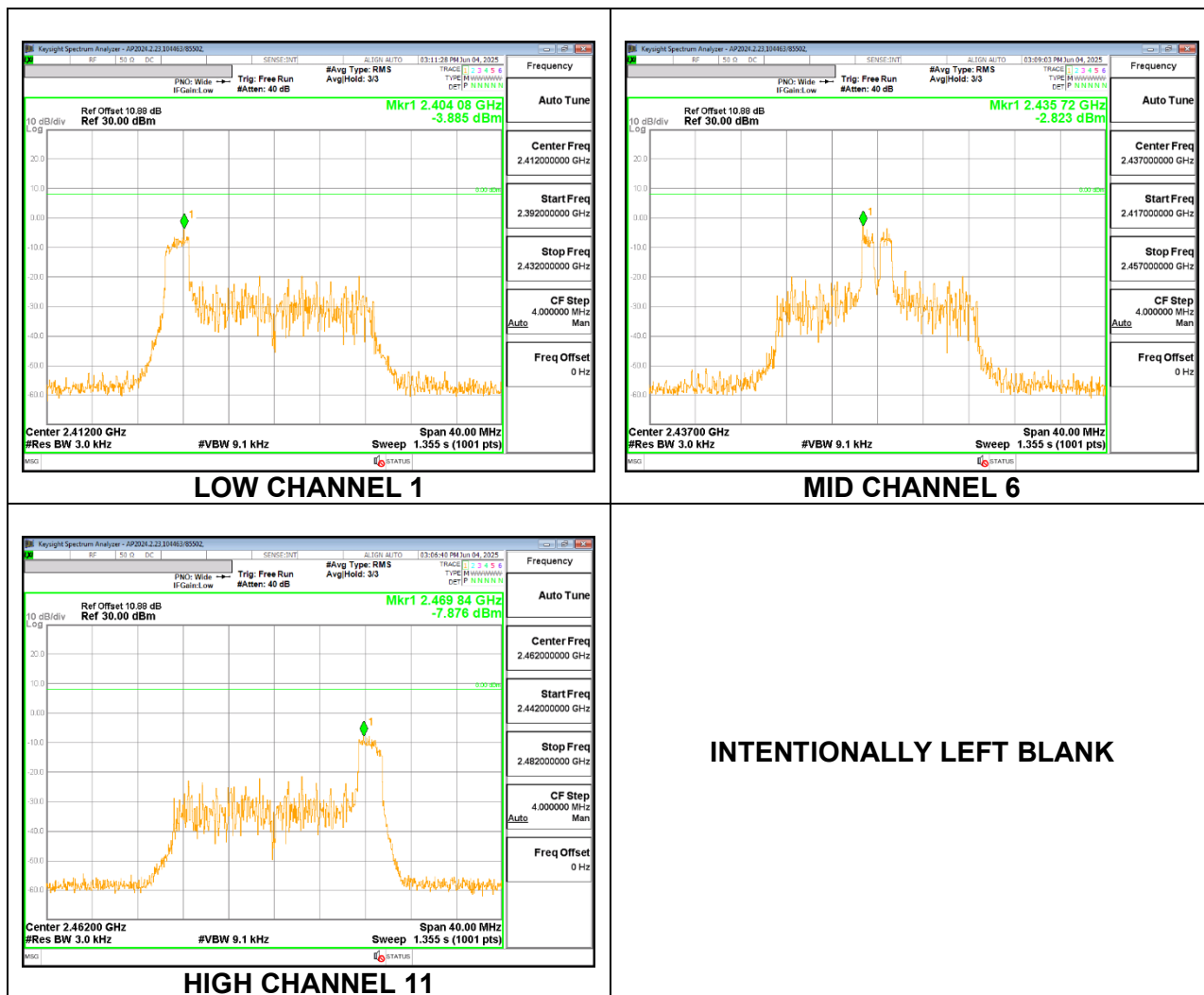


HIGH CHANNEL 11

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1TX Antenna 2 MODE

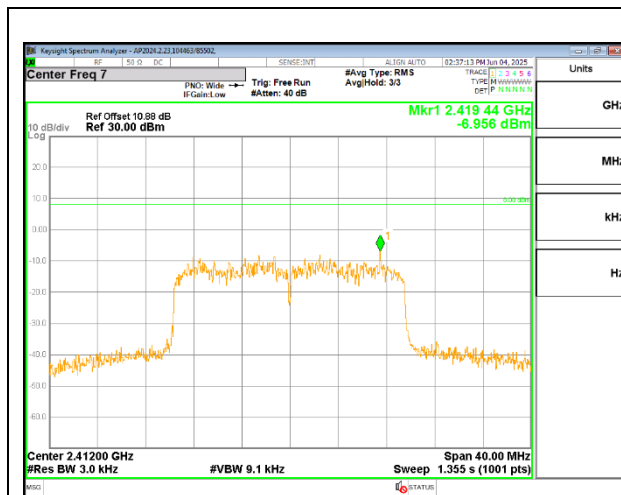
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2412	-3.885	8	-11.885
Middle	2437	-2.823	8	-10.823
High	2462	-7.876	8	-15.876



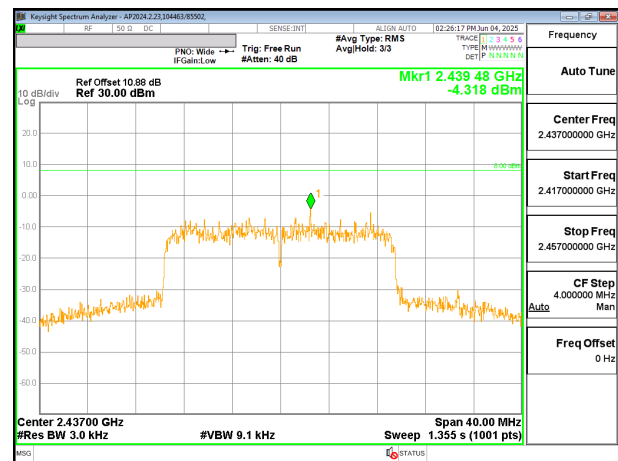
8.6.2. 802.11ax HE20 SU MODE

1TX Antenna 1 MODE

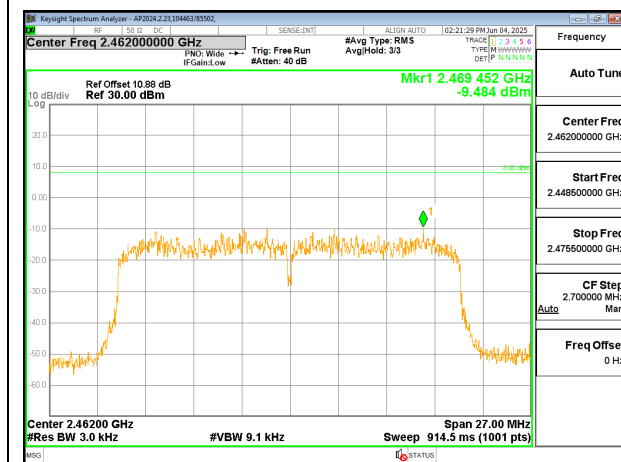
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2412	-6.956	8	-14.956
Middle	2437	-4.318	8	-12.318
High	2462	-9.484	8	-17.484



LOW CHANNEL 1



MID CHANNEL 6

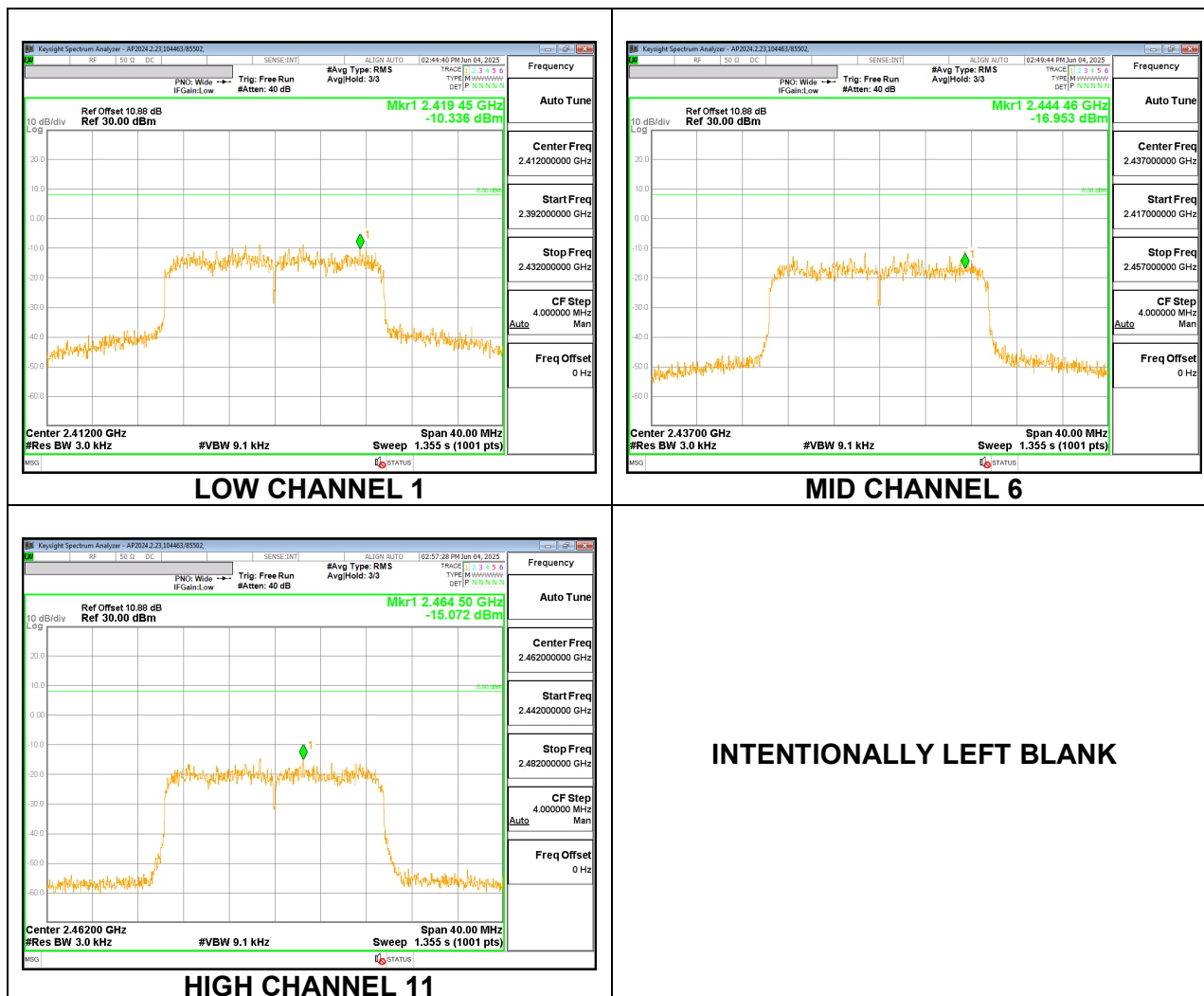


HIGH CHANNEL 11

INTENTIONALLY LEFT BLANK

1TX Antenna 2 MODE

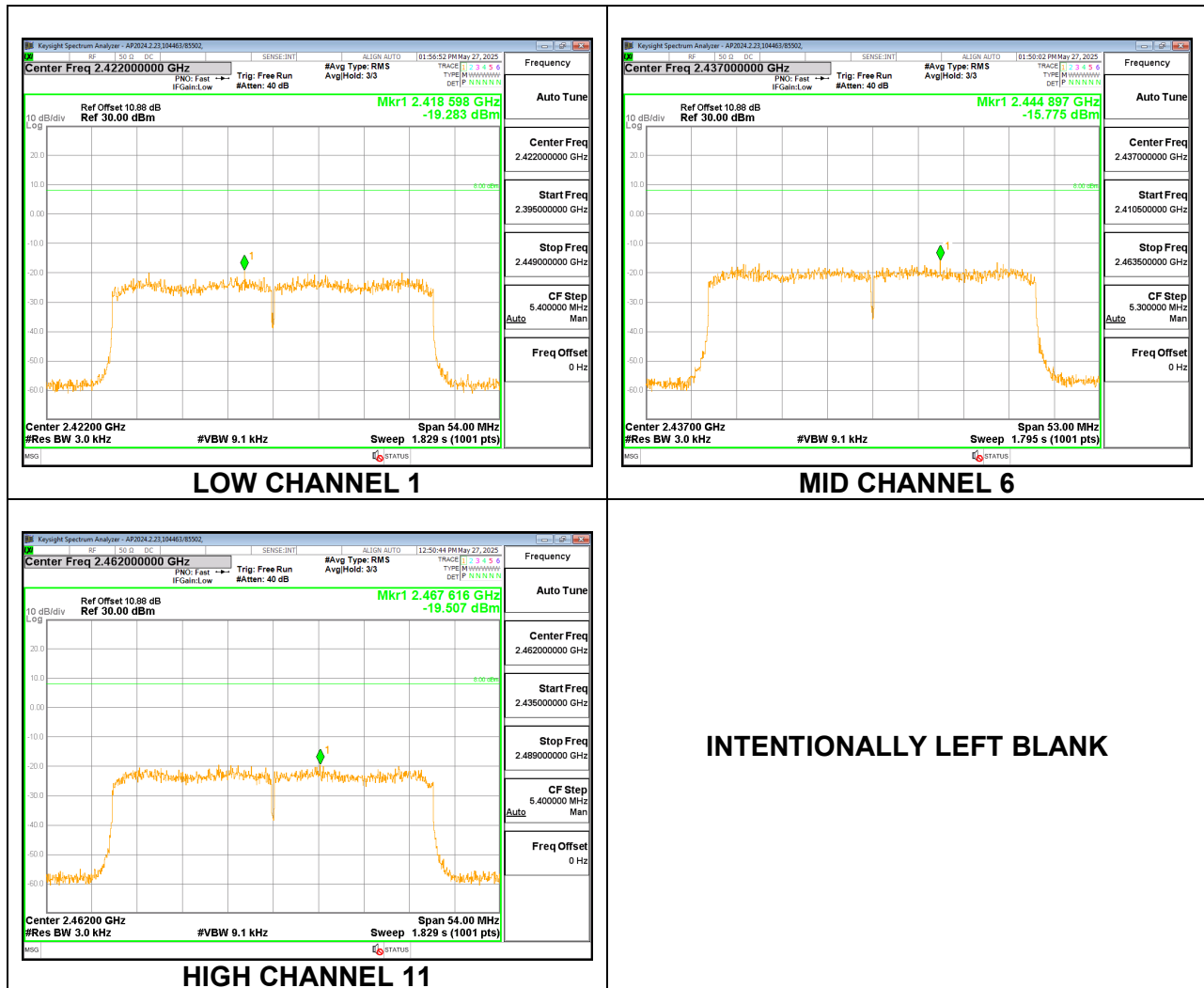
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2412	-10.336	8	-18.336
Middle	2437	-16.953	8	-24.953
High	2462	-15.072	8	-23.072



8.6.3. 802.11ax HE40 SU MODE

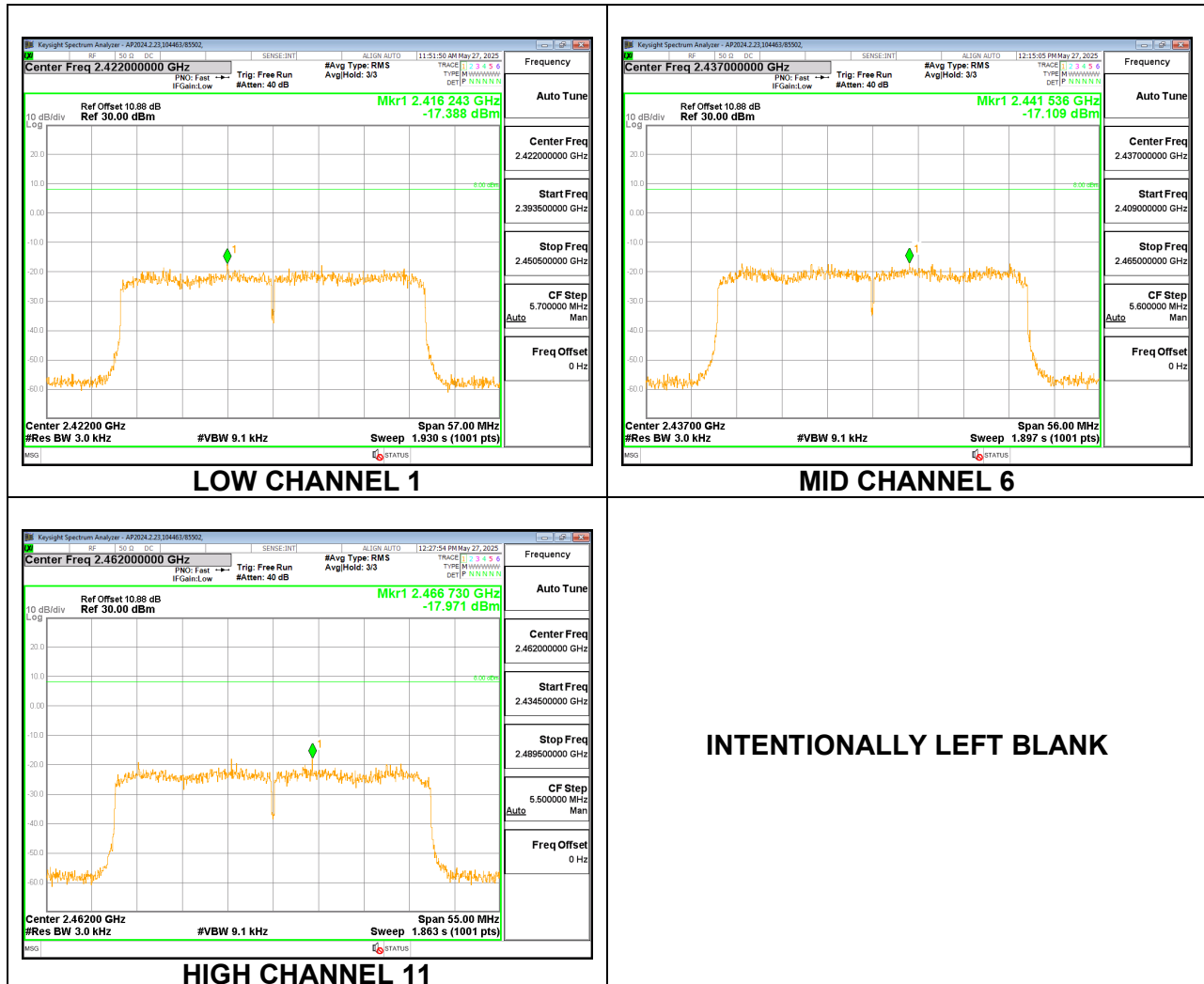
1TX Antenna 1 MODE

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2412	-19.283	8	-27.283
Middle	2437	-15.775	8	-23.775
High	2462	-19.507	8	-27.507



1TX Antenna 2 MODE

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2412	-17.388	8	-25.388
Middle	2437	-17.109	8	-25.109
High	2462	-17.971	8	-25.971



8.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)
RSS-247 5.5

PROCEDURE

Conducted emissions non-restricted frequency bands: ANSI C63.10 Subclause -11.11 and 6.10
Output power was measured based on a peak measurement; therefore the required attenuation is -20 dBc.

RESULTS