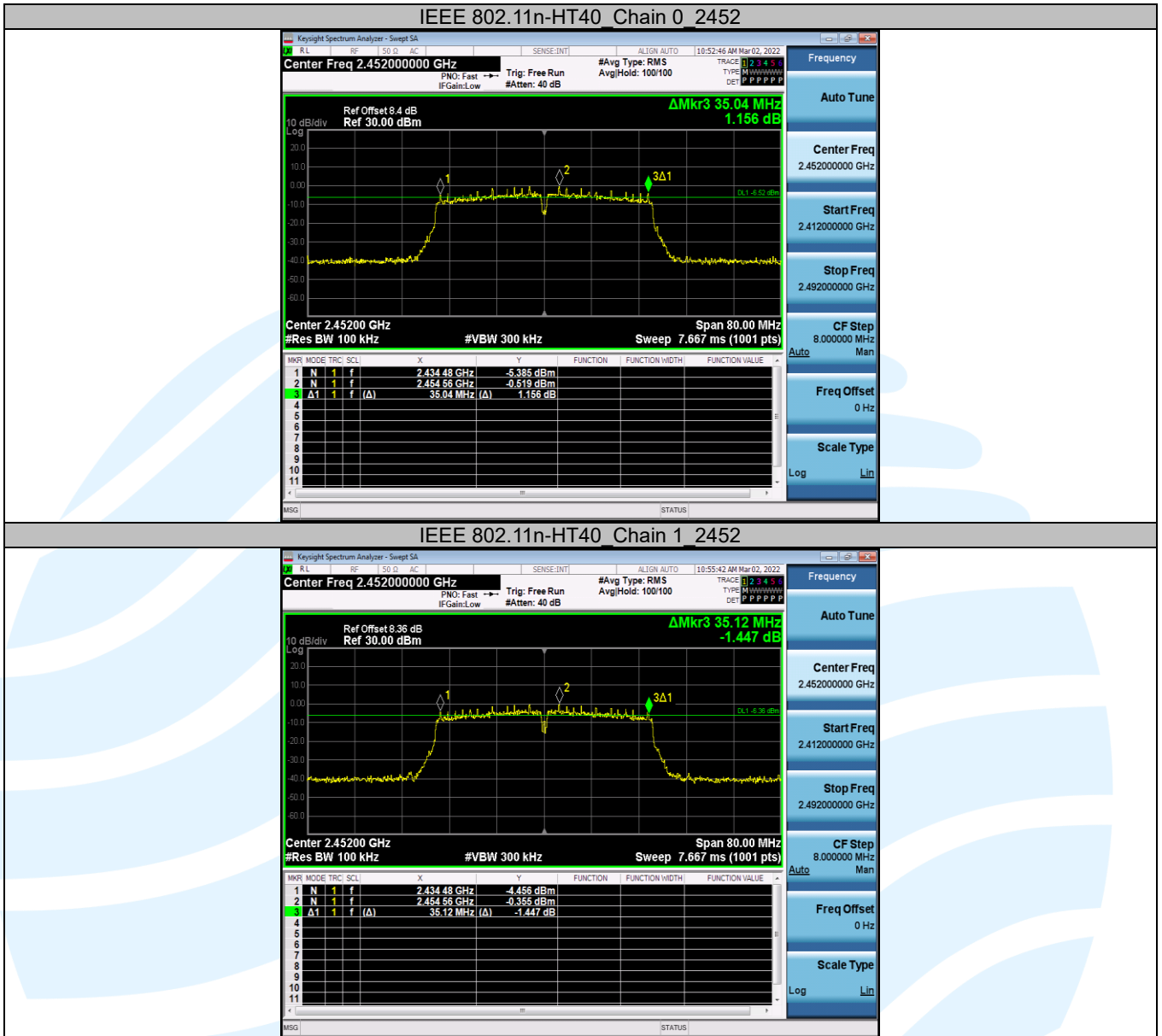




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Occupied Channel Bandwidth



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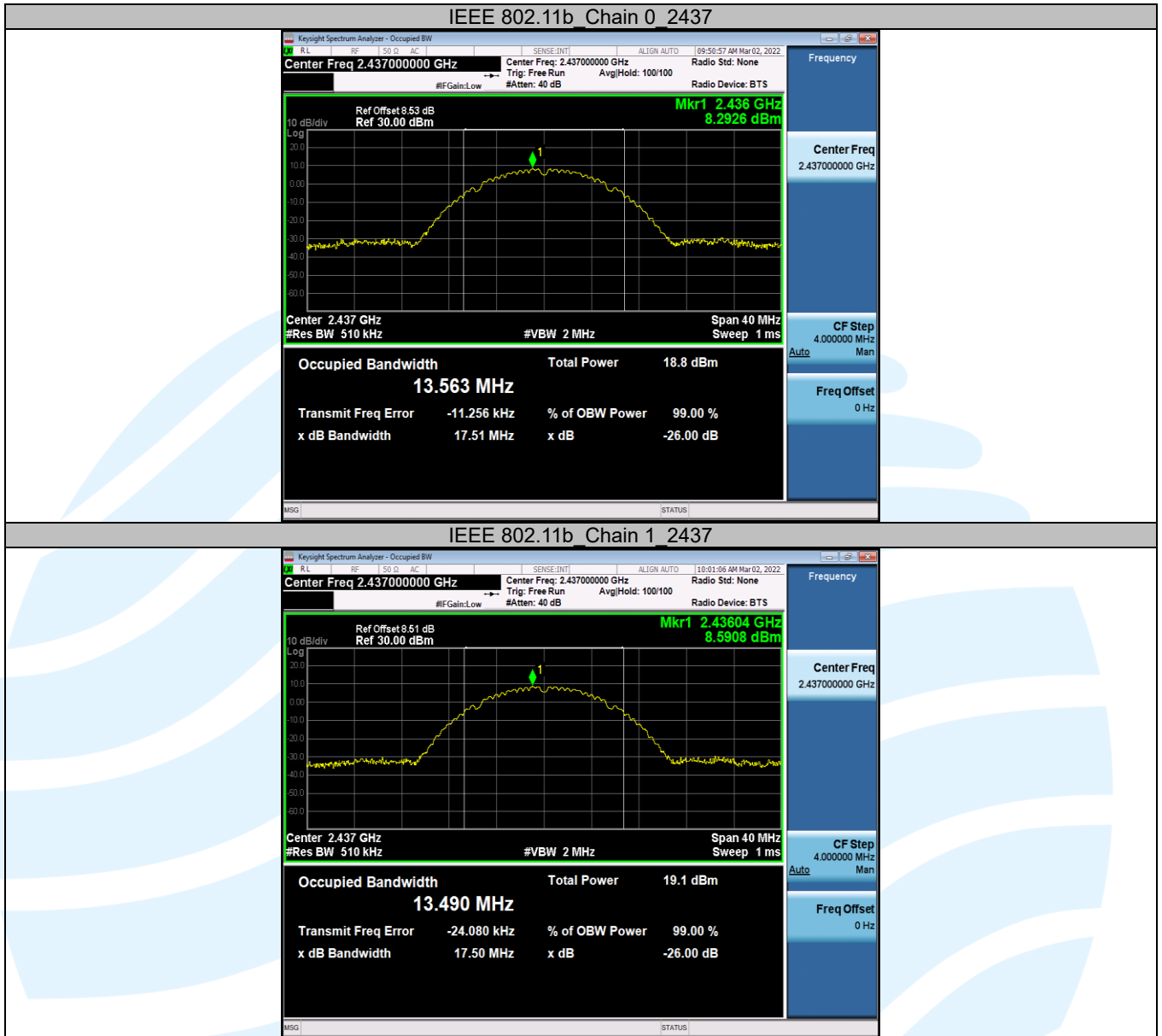
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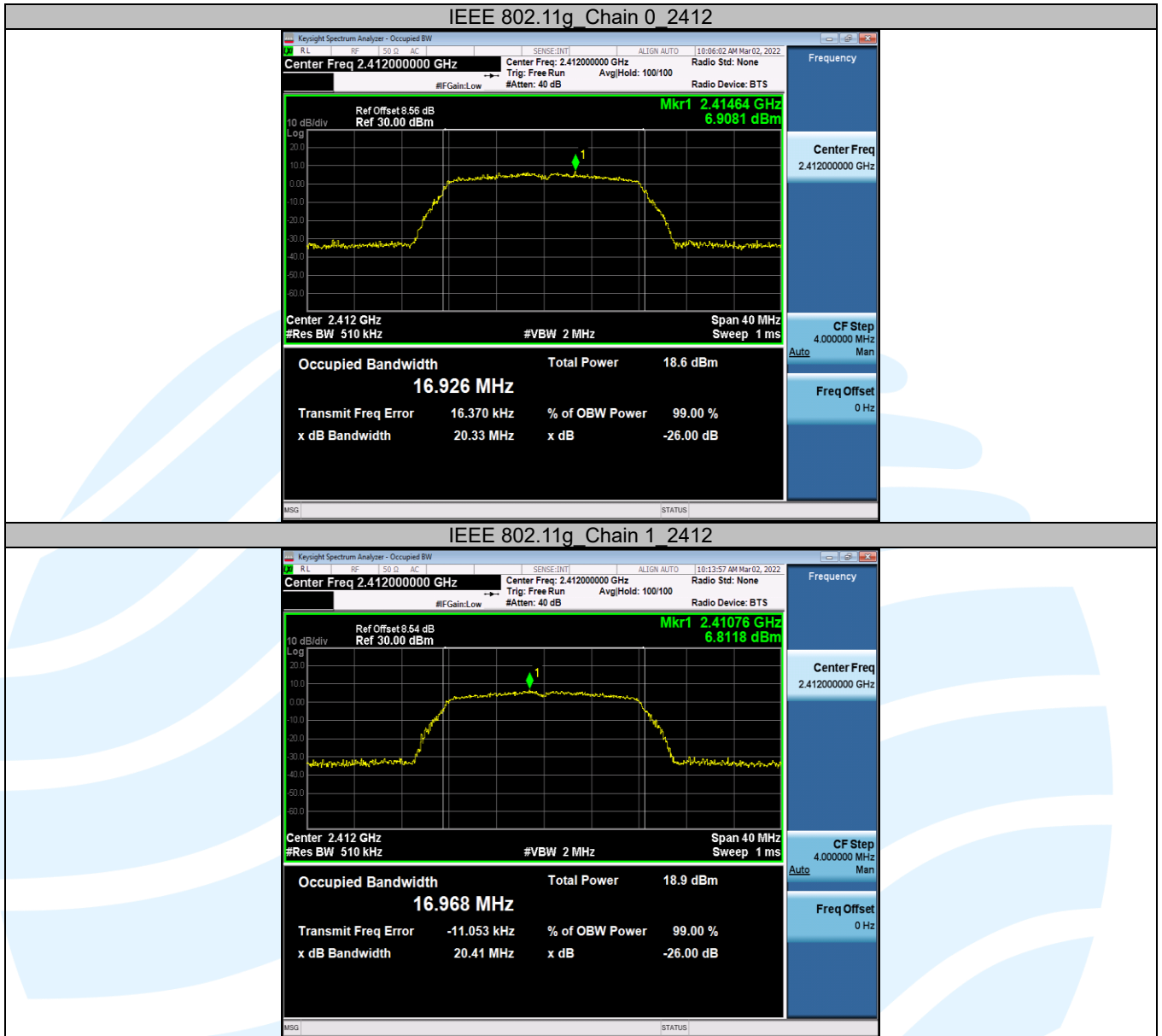
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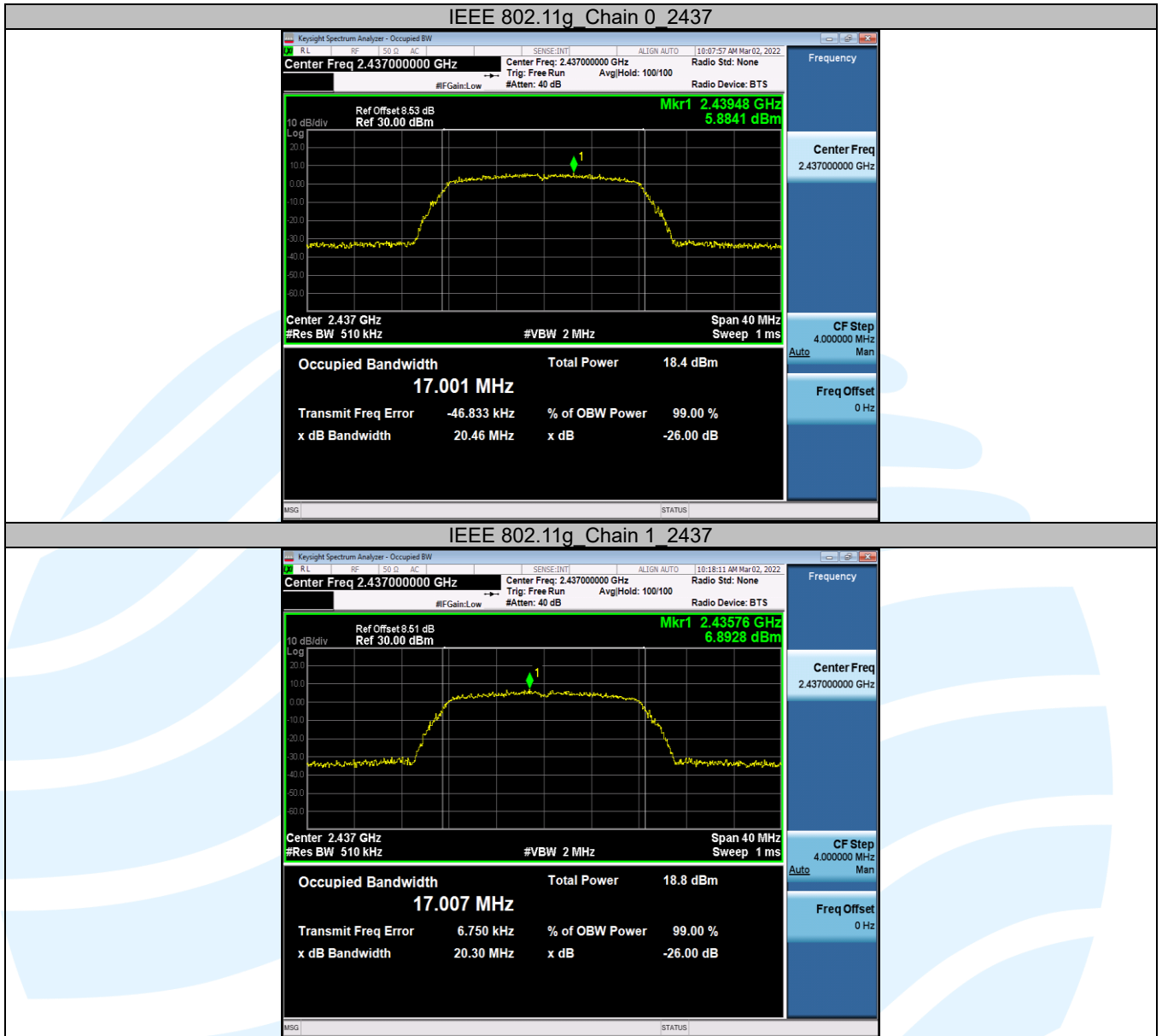
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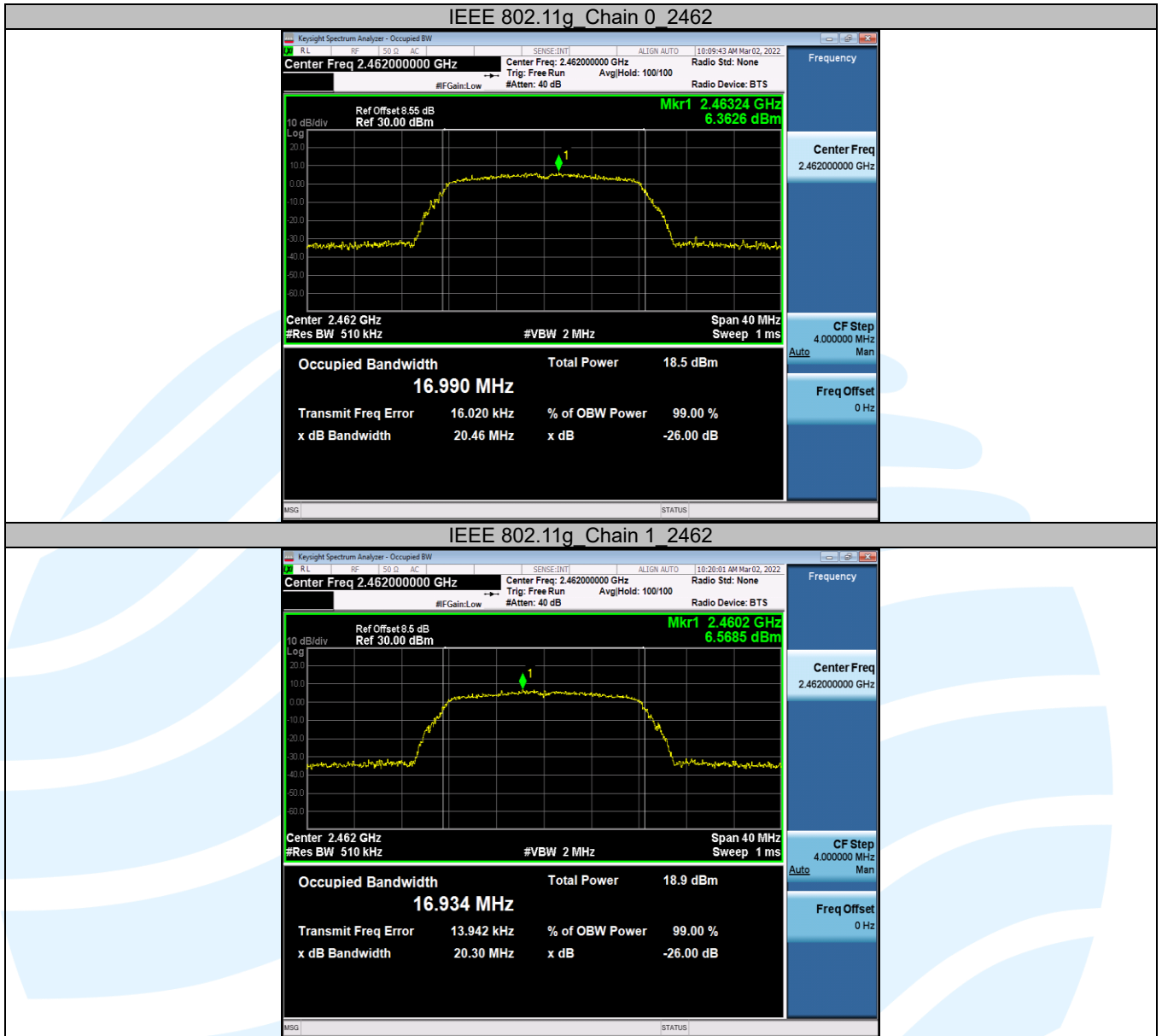
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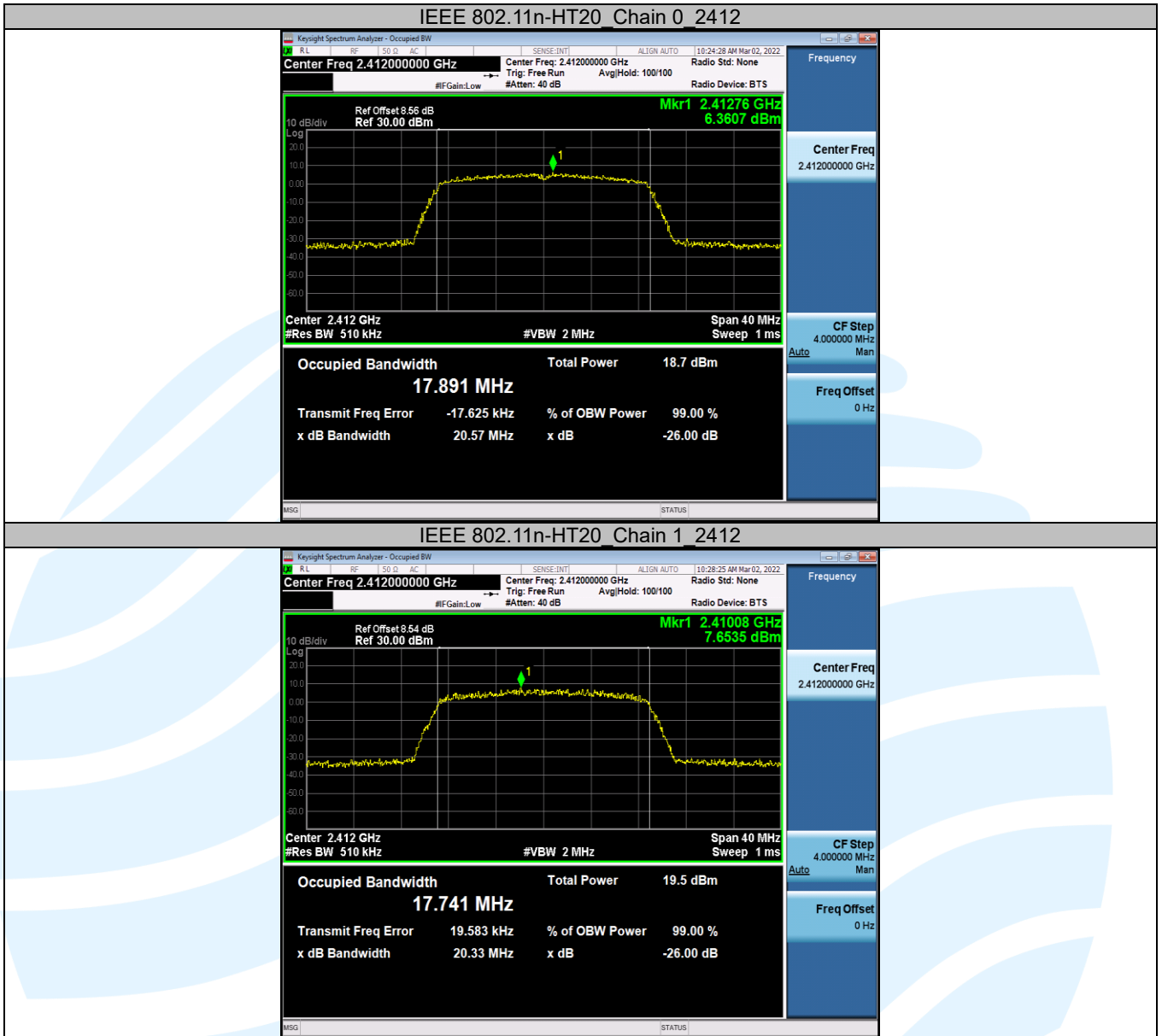
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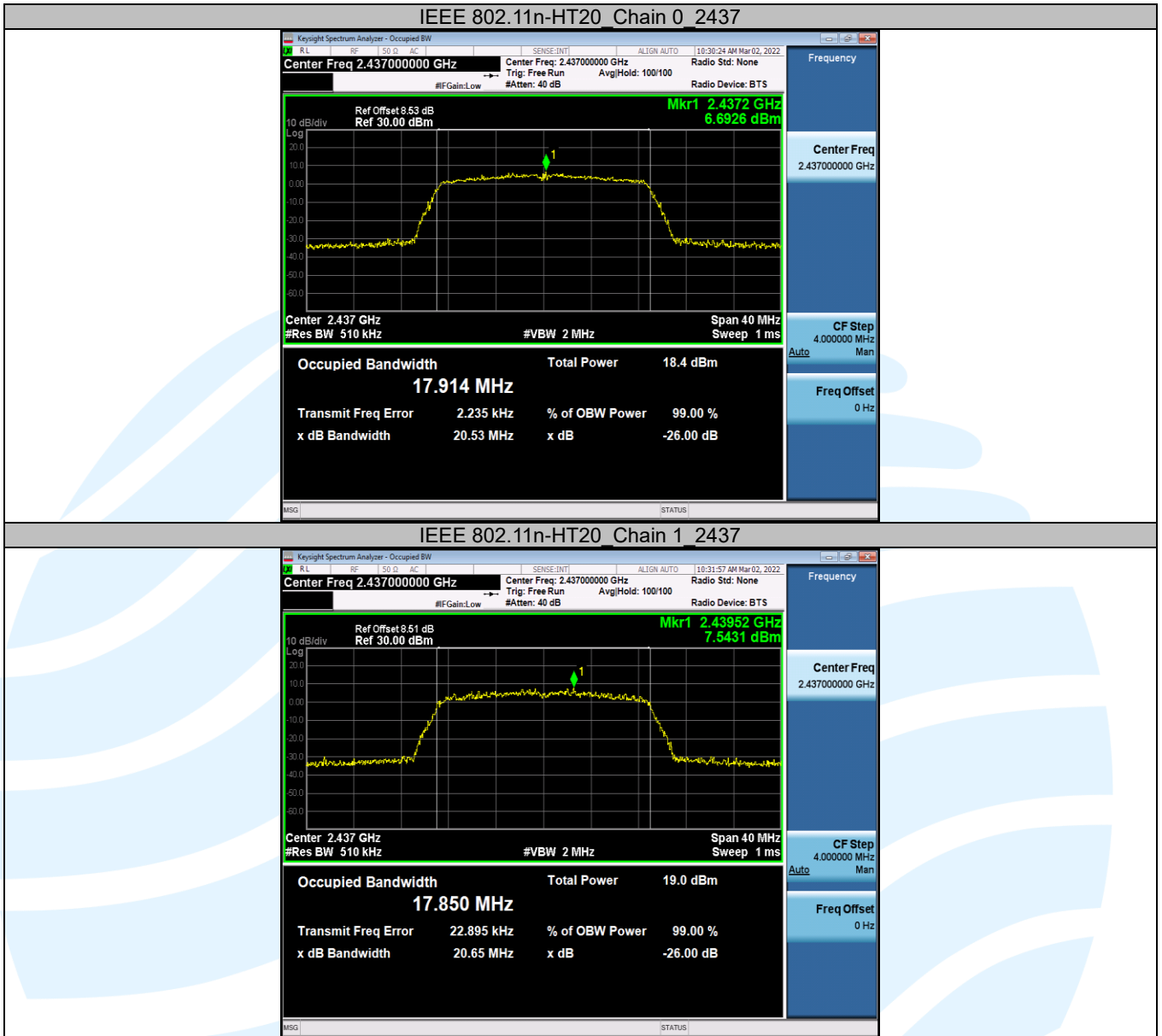
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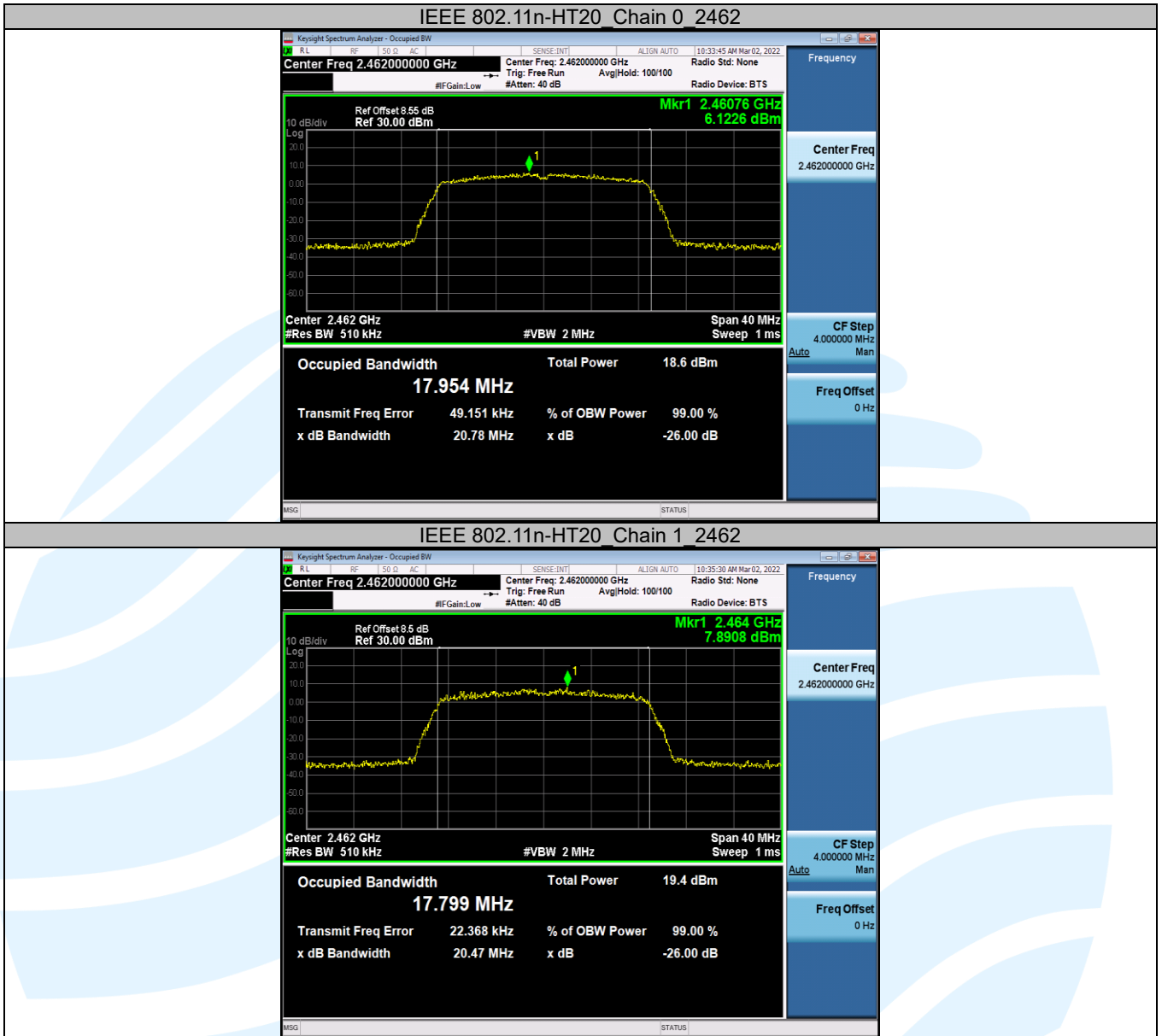
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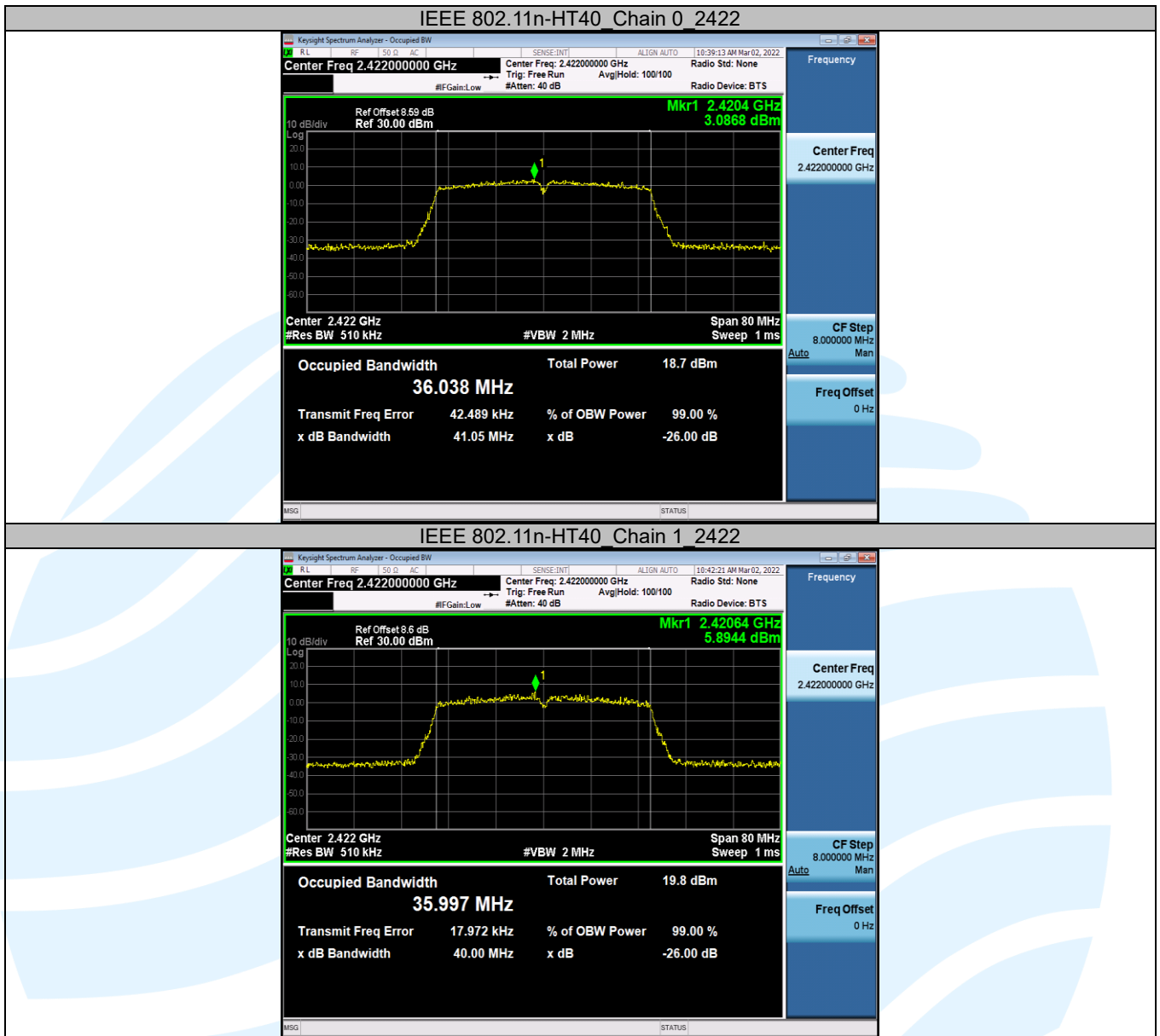
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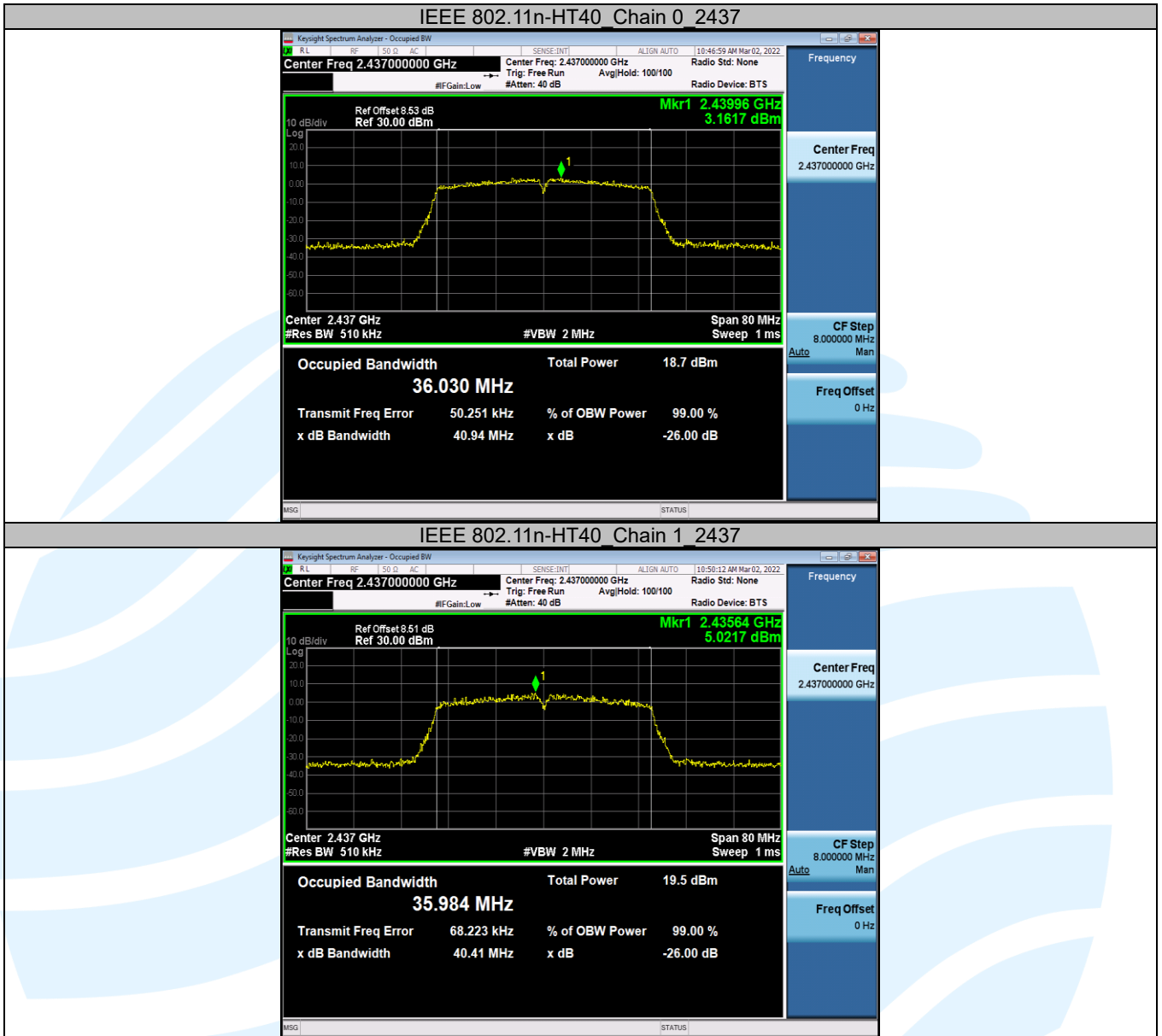
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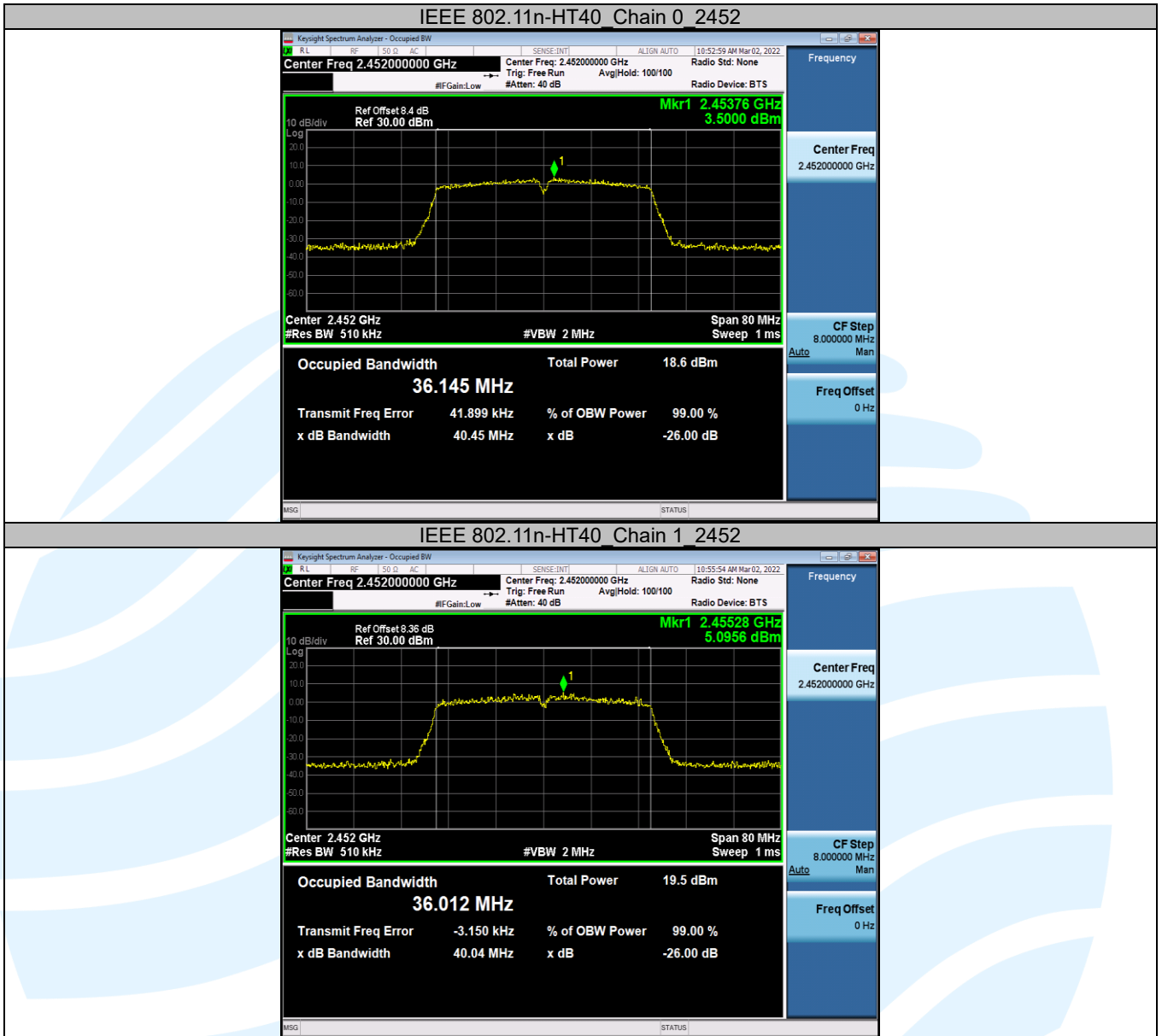
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5.5 POWER SPECTRAL DENSITY

Test Requirement:	FCC 47 CFR Part 15 Subpart C Section 15.247 (e) RSS-247 Issue 2, Section 5.2(b)
Test Method:	ANSI C63.10-2013 Clause 11.10.3
Limit:	For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.
Test Procedure:	Method AVGPS-1 uses trace averaging with EUT transmitting at full power throughout each sweep.

The following procedure may be used when the maximum (average) conducted output power was used to determine compliance to the fundamental output power limit. This is the baseline method for determining the maximum (average) conducted PSD level. If the instrument has a power averaging (rms) detector, then it must be used; otherwise, use the sample detector. The EUT must be configured to transmit continuously ($D \geq 98\%$), or else sweep triggering/signal gating must be implemented to ensure that measurements are made only when the EUT is transmitting at its maximum power control level (no transmitter OFF time to be considered):

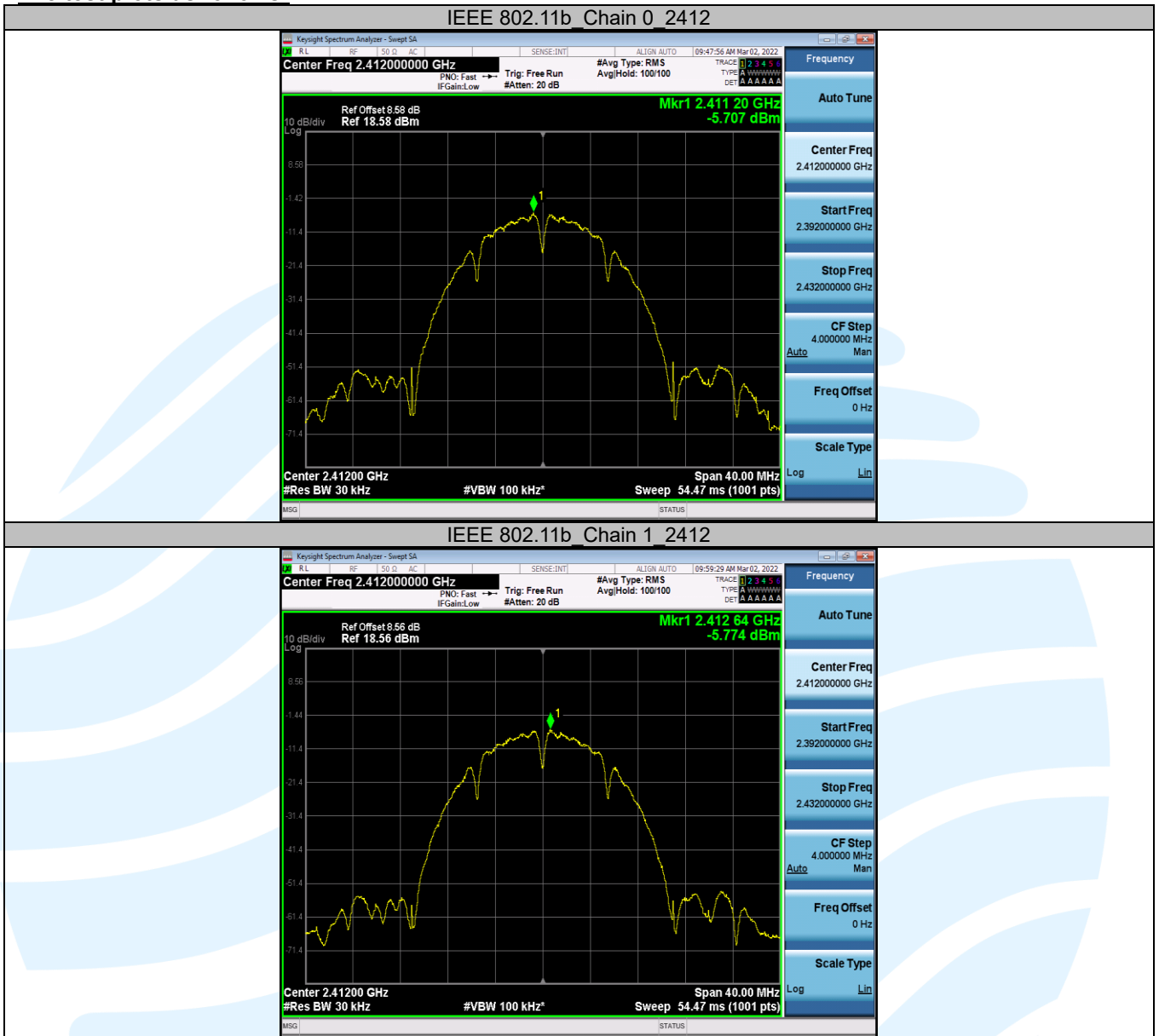
- a) Set instrument center frequency to DTS channel center frequency.
- b) Set span to at least 1.5 times the OBW.
- c) Set RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- d) Set VBW $\geq [3 \times \text{RBW}]$.
- e) Detector = power averaging (rms) or sample detector (when rms not available).
- f) Ensure that the number of measurement points in the sweep $\geq [2 \times \text{span} / \text{RBW}]$.
- g) Sweep time = auto couple.
- h) Employ trace averaging (rms) mode over a minimum of 100 traces.
- i) Use the peak marker function to determine the maximum amplitude level.
- j) If the measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced).

Test Setup:	Refer to section 4.5.3 for details.
Instruments Used:	Refer to section 3 for details
Test Results:	Pass

Test Mode	Antenna	Channel	Result [dBm/30kHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
IEEE 802.11b	Chain 0	2412	-5.71	-15.71	≤8	PASS
	Chain 1	2412	-5.77	-15.77	≤8	PASS
	Chain 0	2437	-5.79	-15.79	≤8	PASS
	Chain 1	2437	-5.75	-15.75	≤8	PASS
	Chain 0	2462	-5.50	-15.50	≤8	PASS
	Chain 1	2462	-5.75	-15.75	≤8	PASS
IEEE 802.11g	Chain 0	2412	-11.38	-21.38	≤8	PASS
	Chain 1	2412	-11.26	-21.26	≤8	PASS
	Chain 0	2437	-11.44	-21.44	≤8	PASS
	Chain 1	2437	-11.45	-21.45	≤8	PASS
	Chain 0	2462	-11.27	-21.27	≤8	PASS
	Chain 1	2462	-11.17	-21.17	≤8	PASS
IEEE 802.11n-HT20	Chain 0	2412	-11.55	-21.55	≤8	PASS
	Chain 1	2412	-11.20	-21.20	≤8	PASS
	total	2412	-8.36	-18.36	≤8	PASS
	Chain 0	2437	-12.03	-22.03	≤8	PASS
	Chain 1	2437	-11.67	-21.67	≤8	PASS
	Total	2437	-8.84	-18.84	≤8	PASS
	Chain 0	2462	-11.57	-21.57	≤8	PASS
	Chain 1	2462	-11.52	-21.52	≤8	PASS
IEEE 802.11n-HT40	Total	2462	-8.53	-18.53	≤8	PASS
	Chain 0	2422	-14.48	-24.48	≤8	PASS
	Chain 1	2422	-14.97	-24.97	≤8	PASS
	Total	2422	-11.71	-21.71	≤8	PASS
	Chain 0	2437	-14.62	-24.62	≤8	PASS
	Chain 1	2437	-14.73	-24.73	≤8	PASS
	Total	2437	-11.66	-21.66	≤8	PASS
	Chain 0	2452	-14.76	-24.76	≤8	PASS
	Chain 1	2452	-14.89	-24.89	≤8	PASS
	Total	2452	-11.81	-15.71	≤8	PASS

Result[dBm/3kHz] = Result[dBm/30kHz]-10*log10(30/3)

The test plots as follows:



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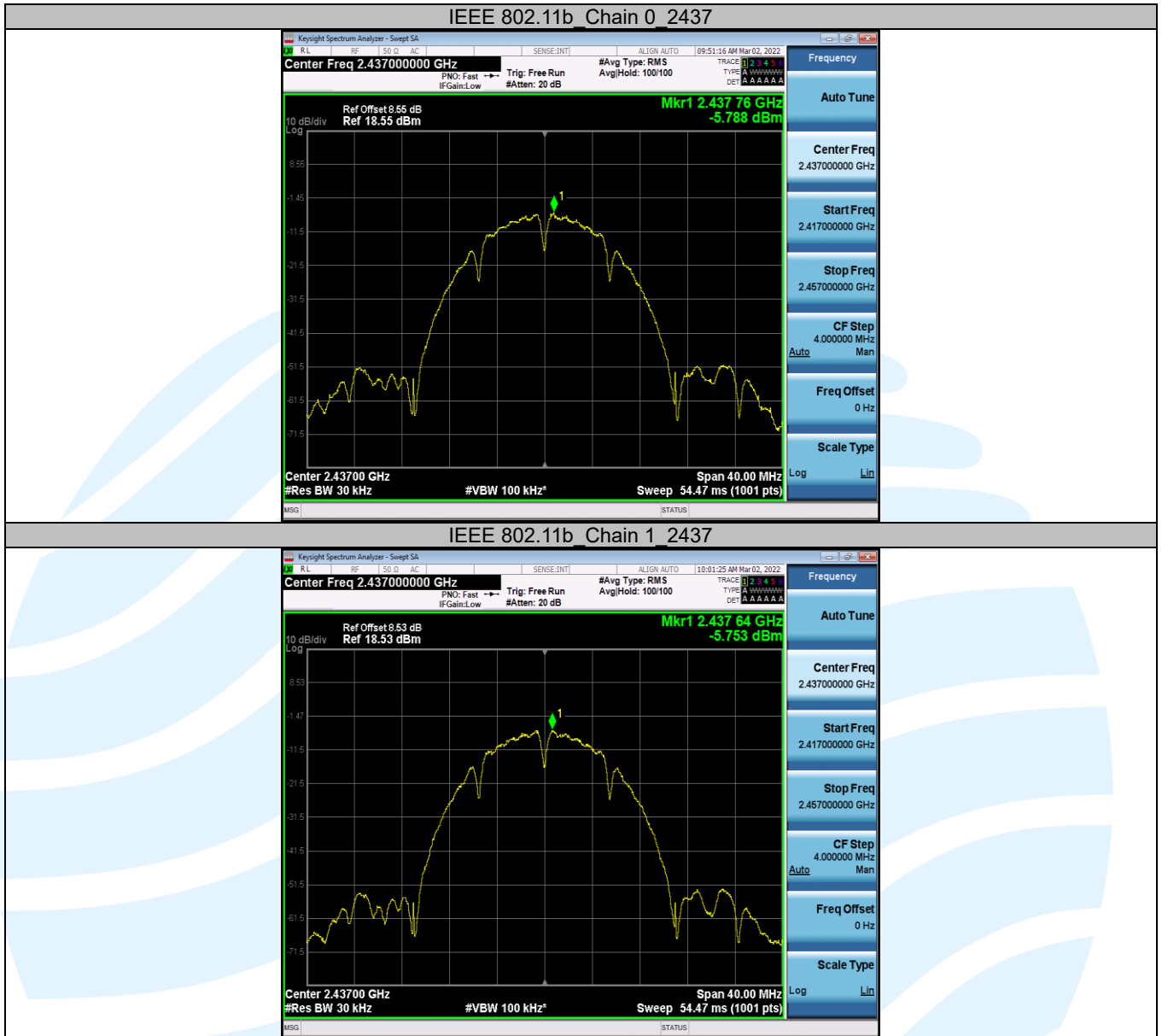
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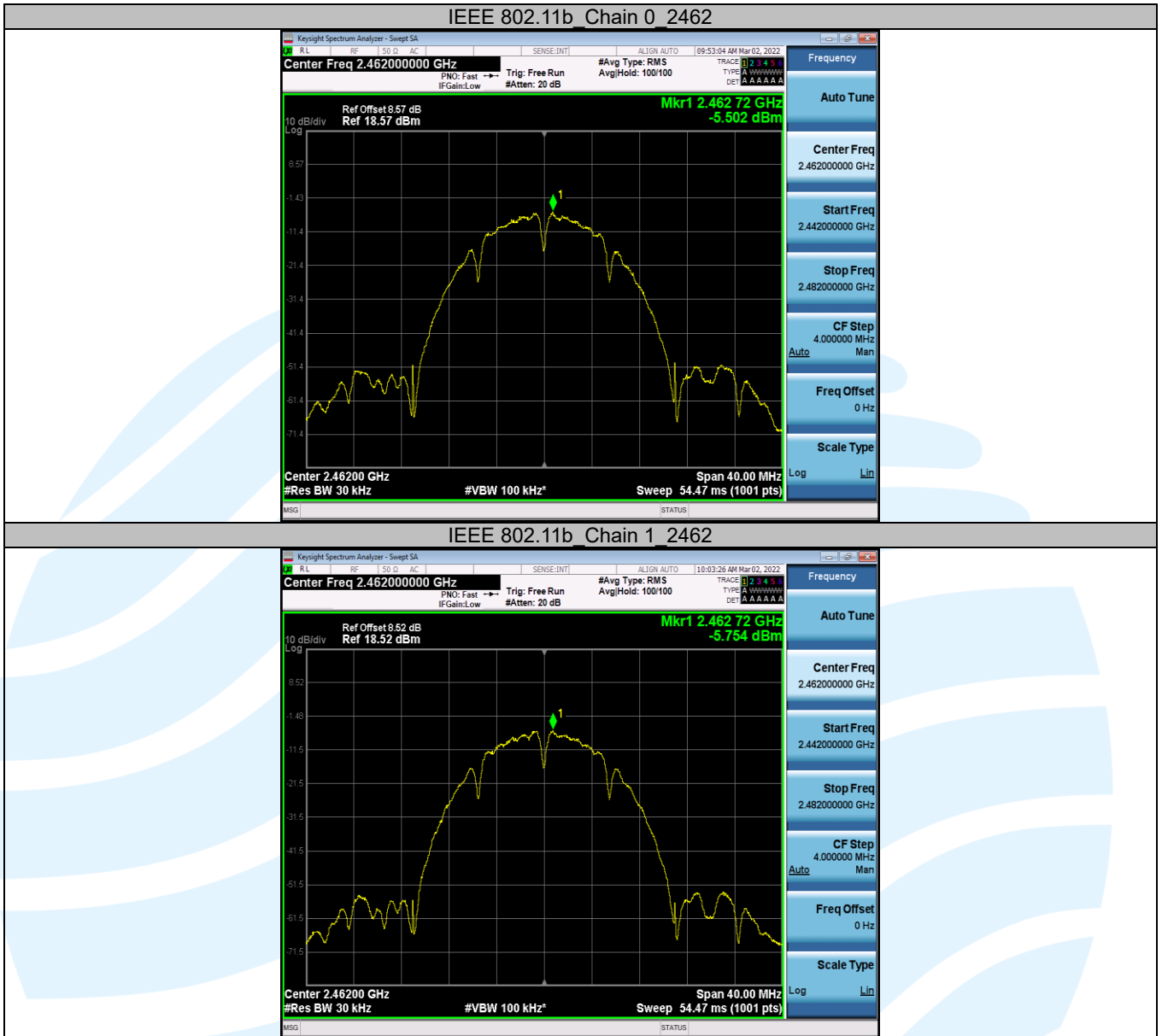
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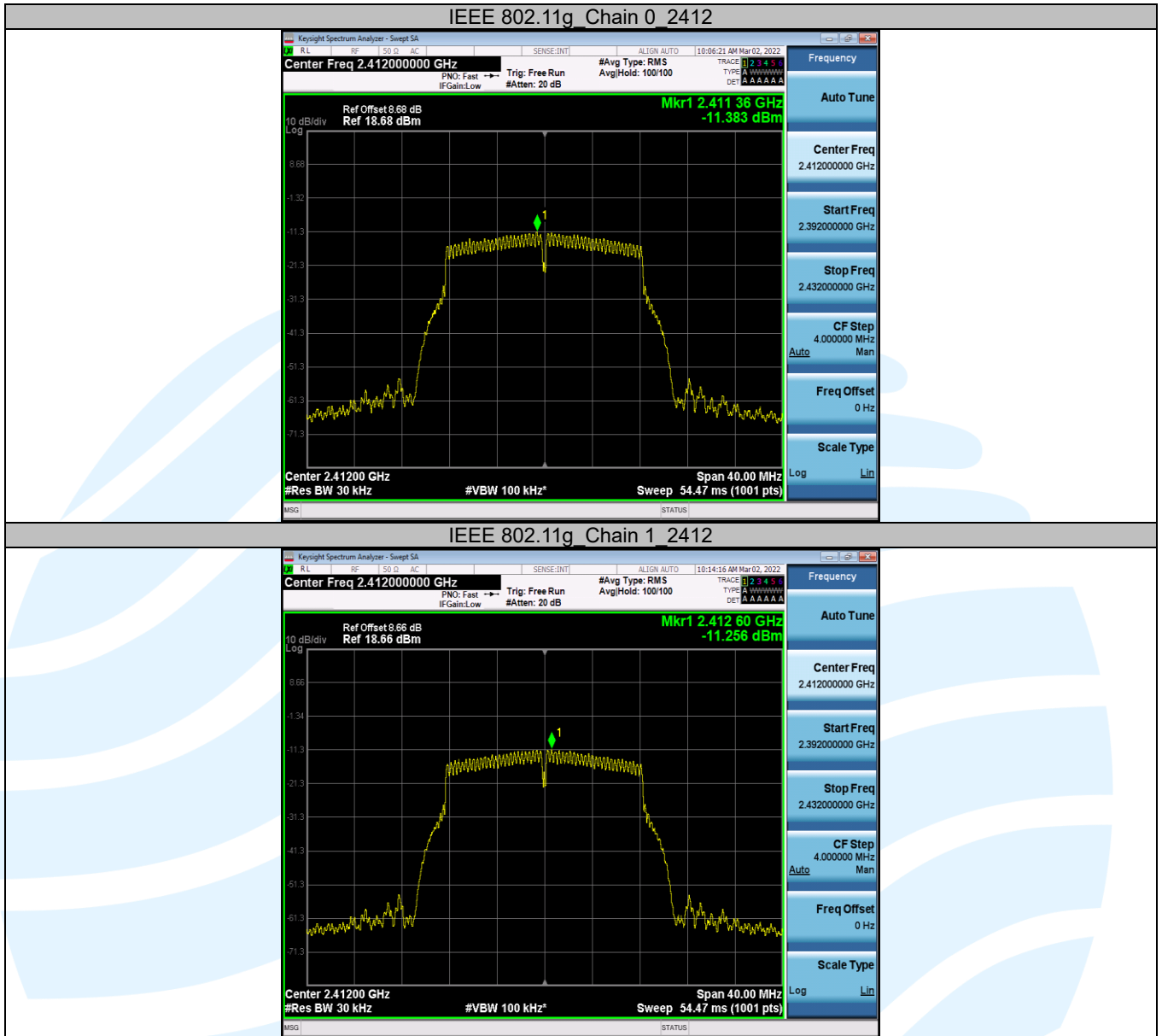
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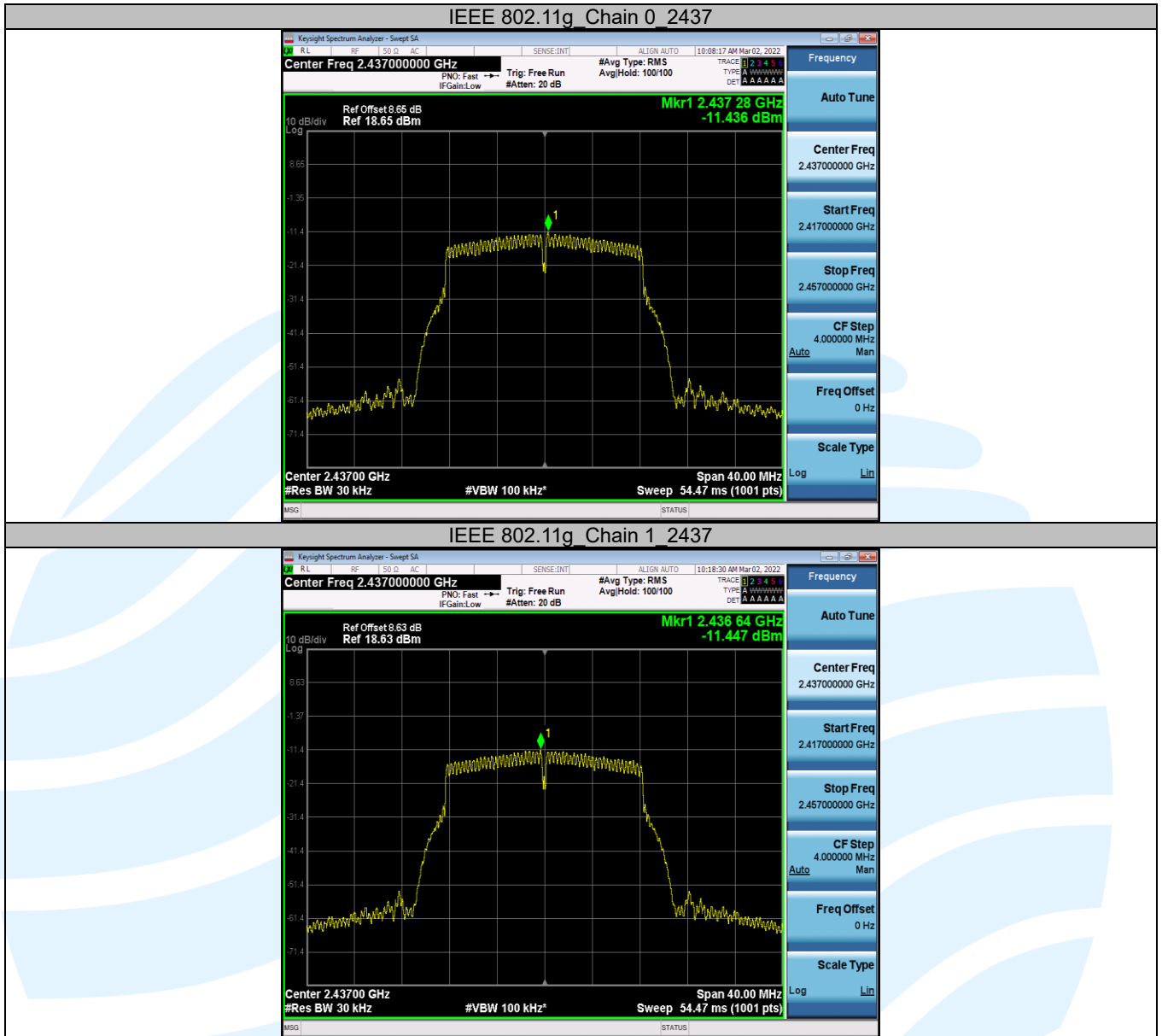
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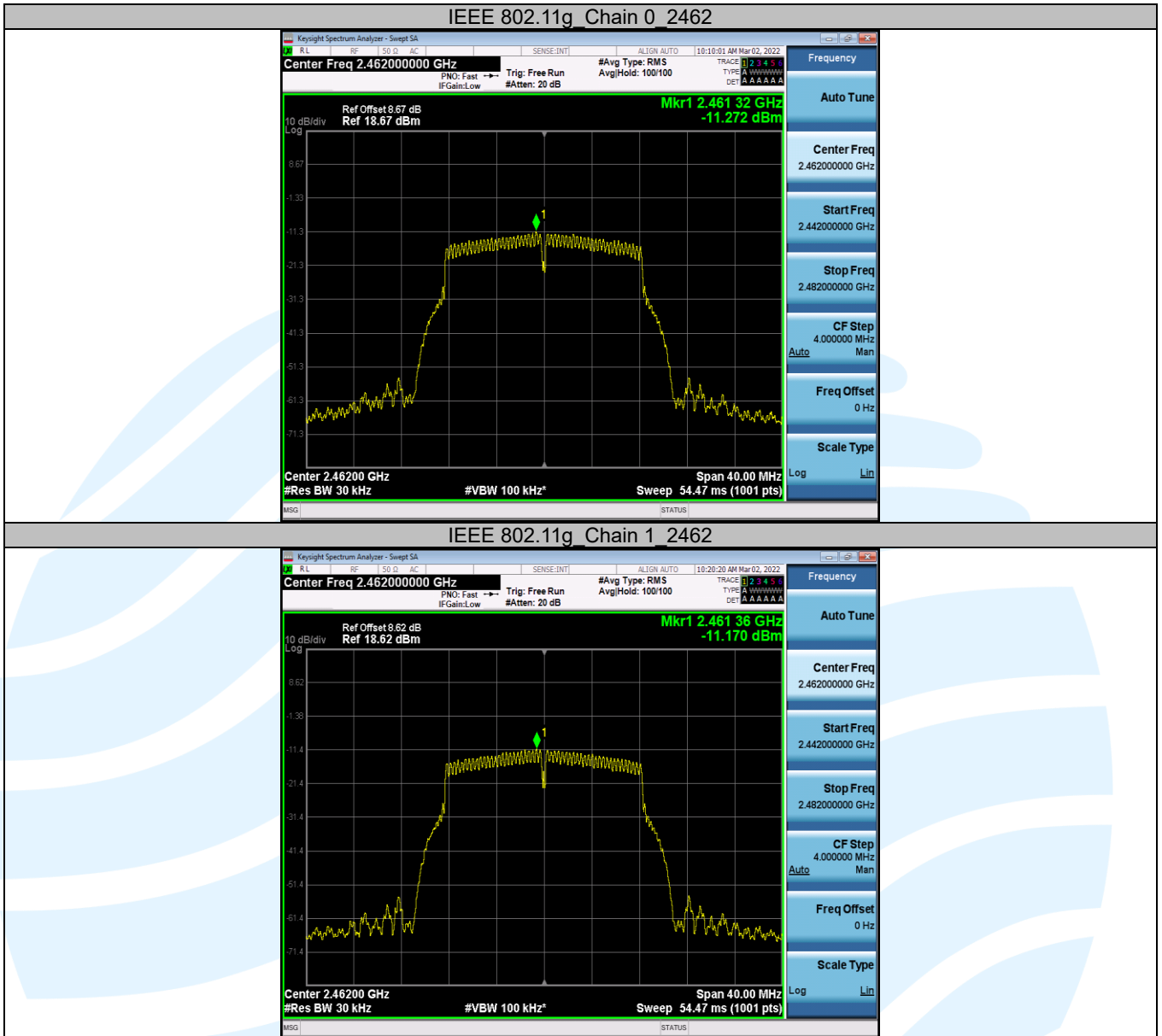
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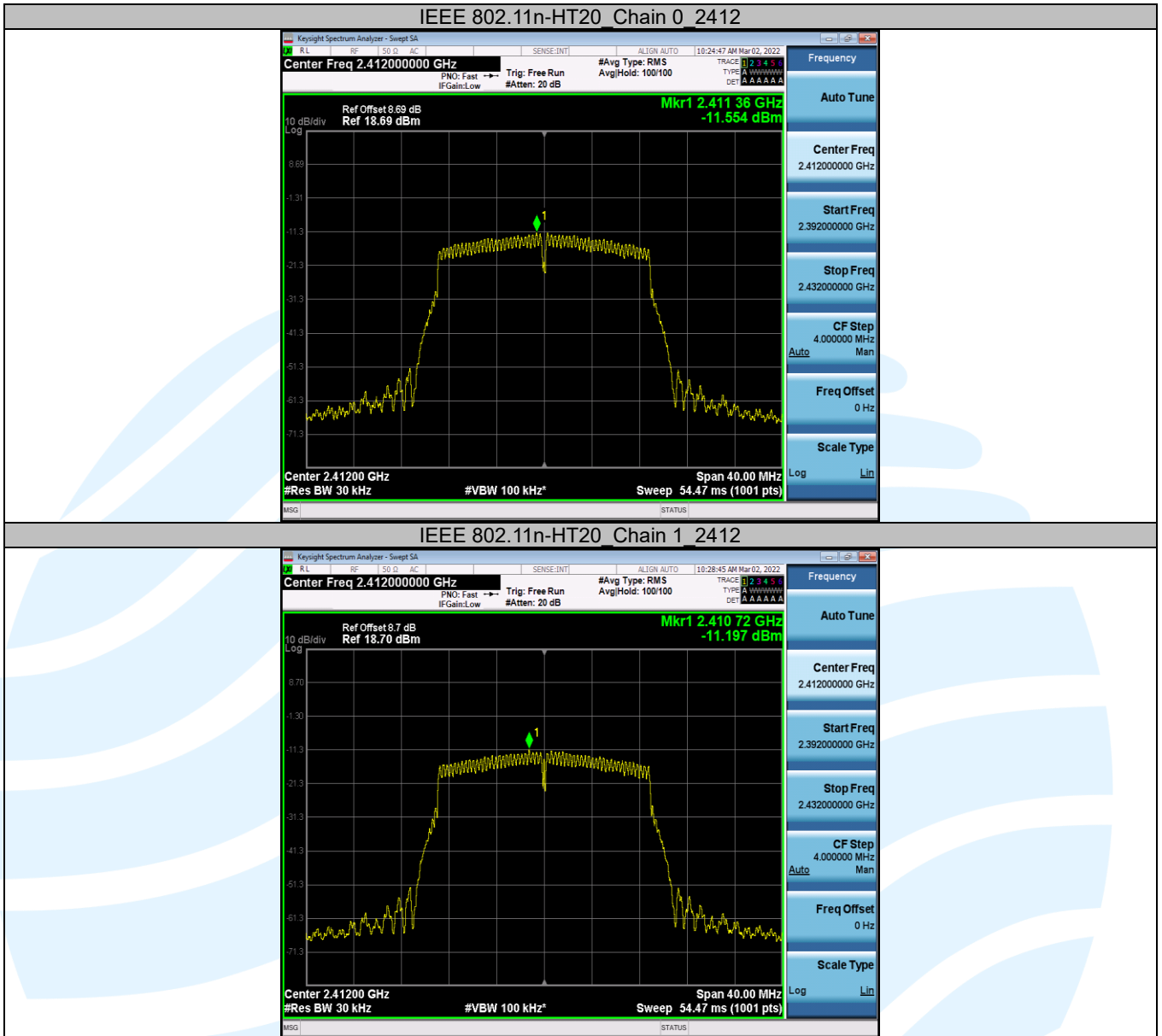
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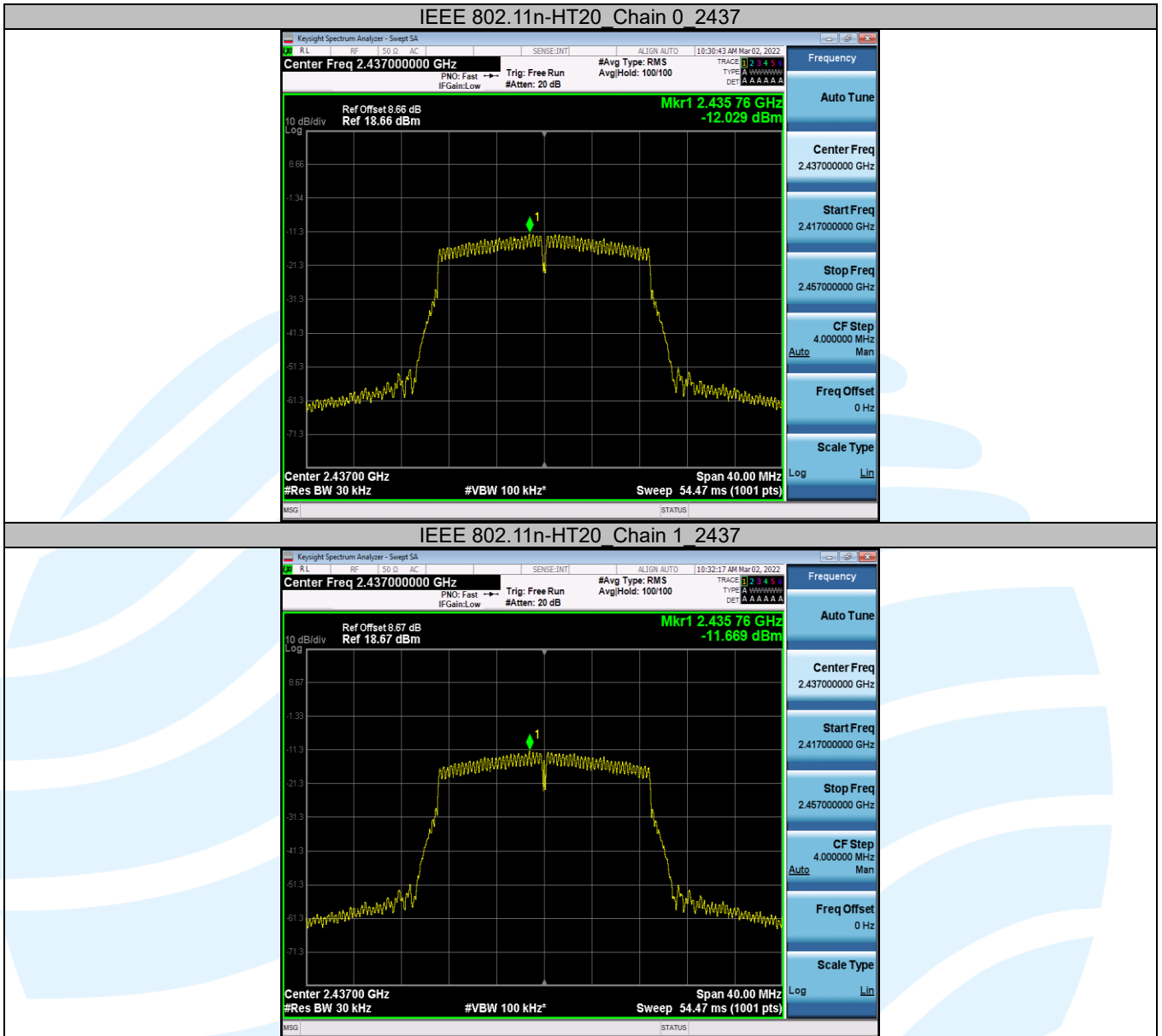
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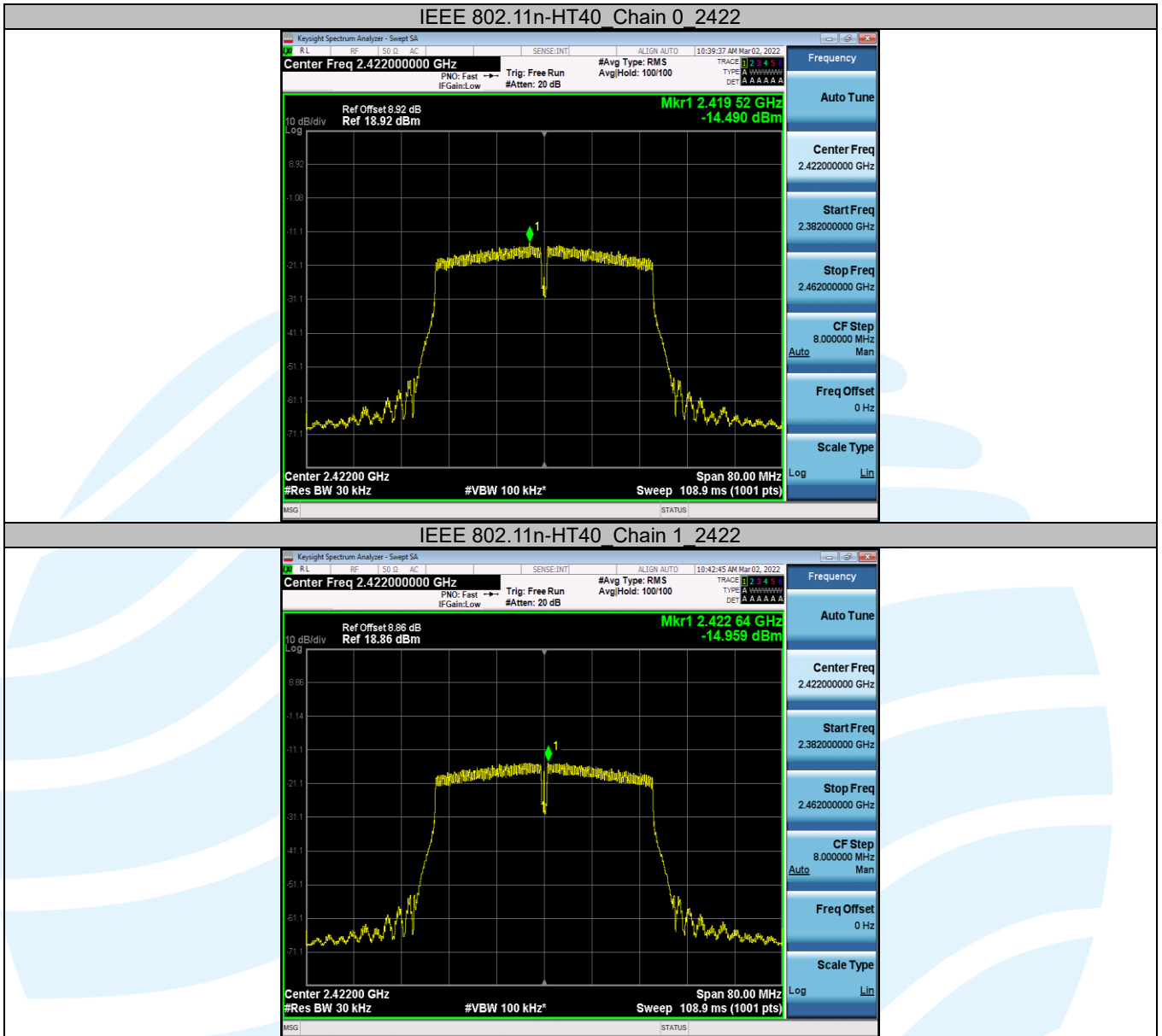
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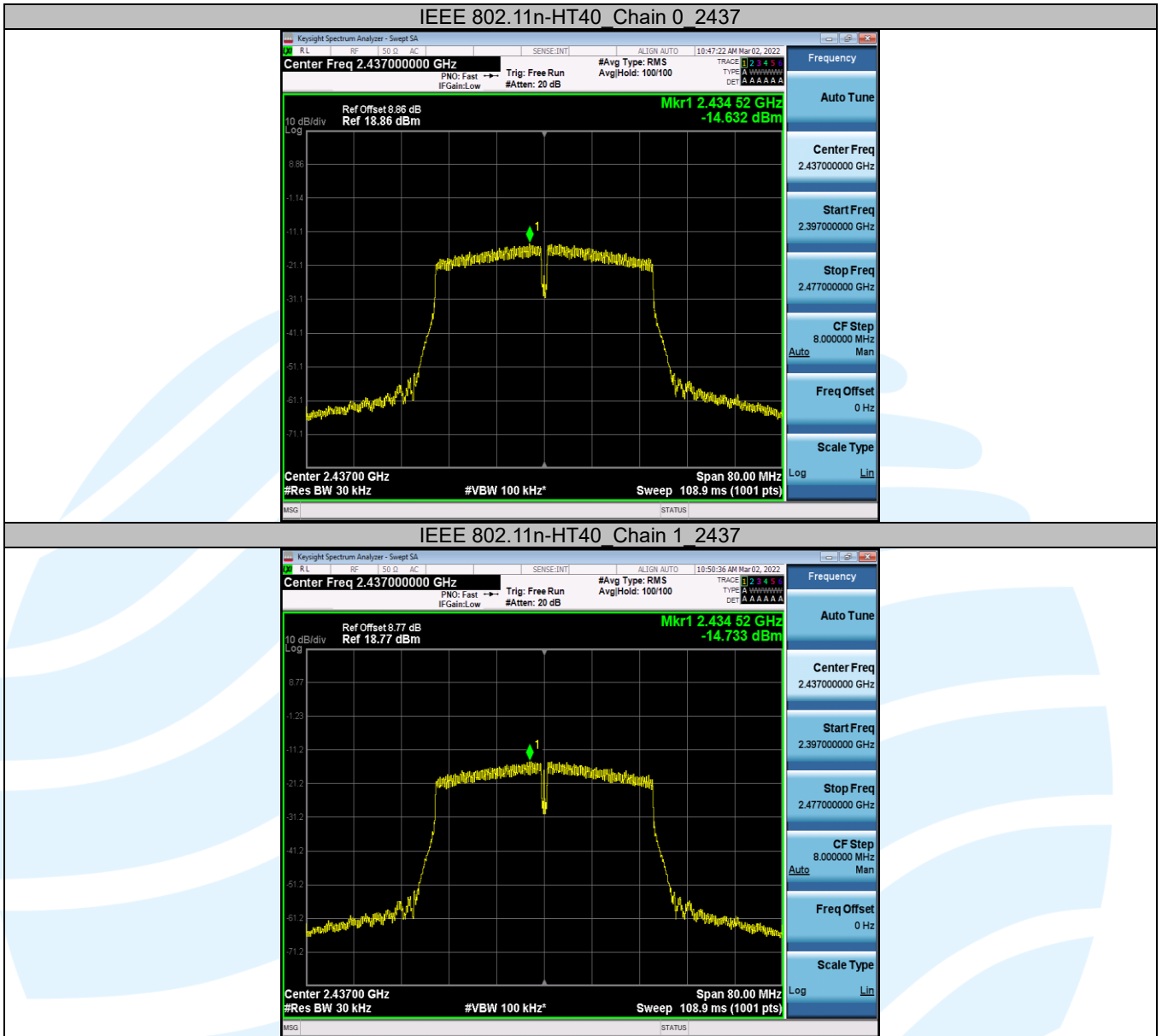
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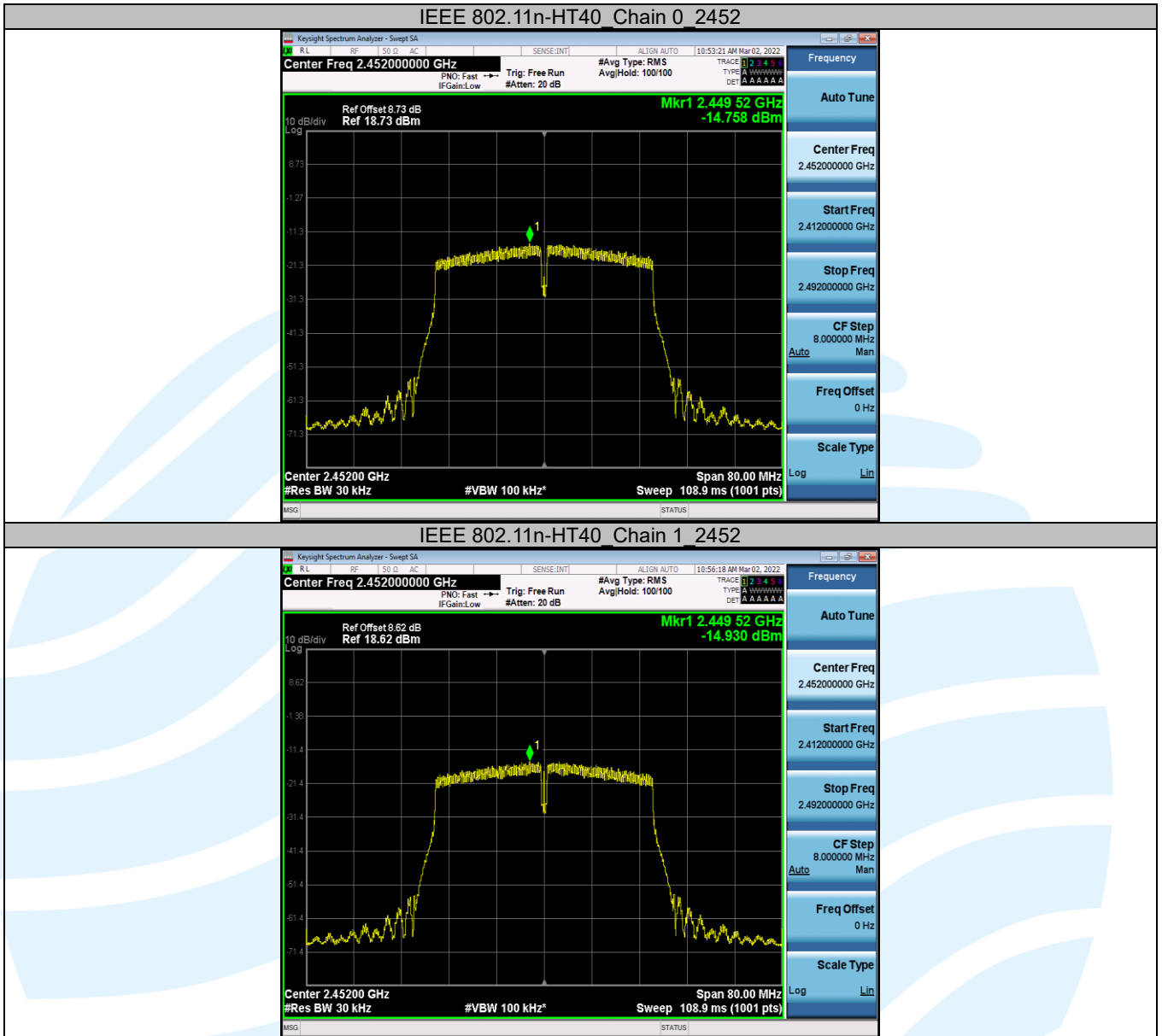
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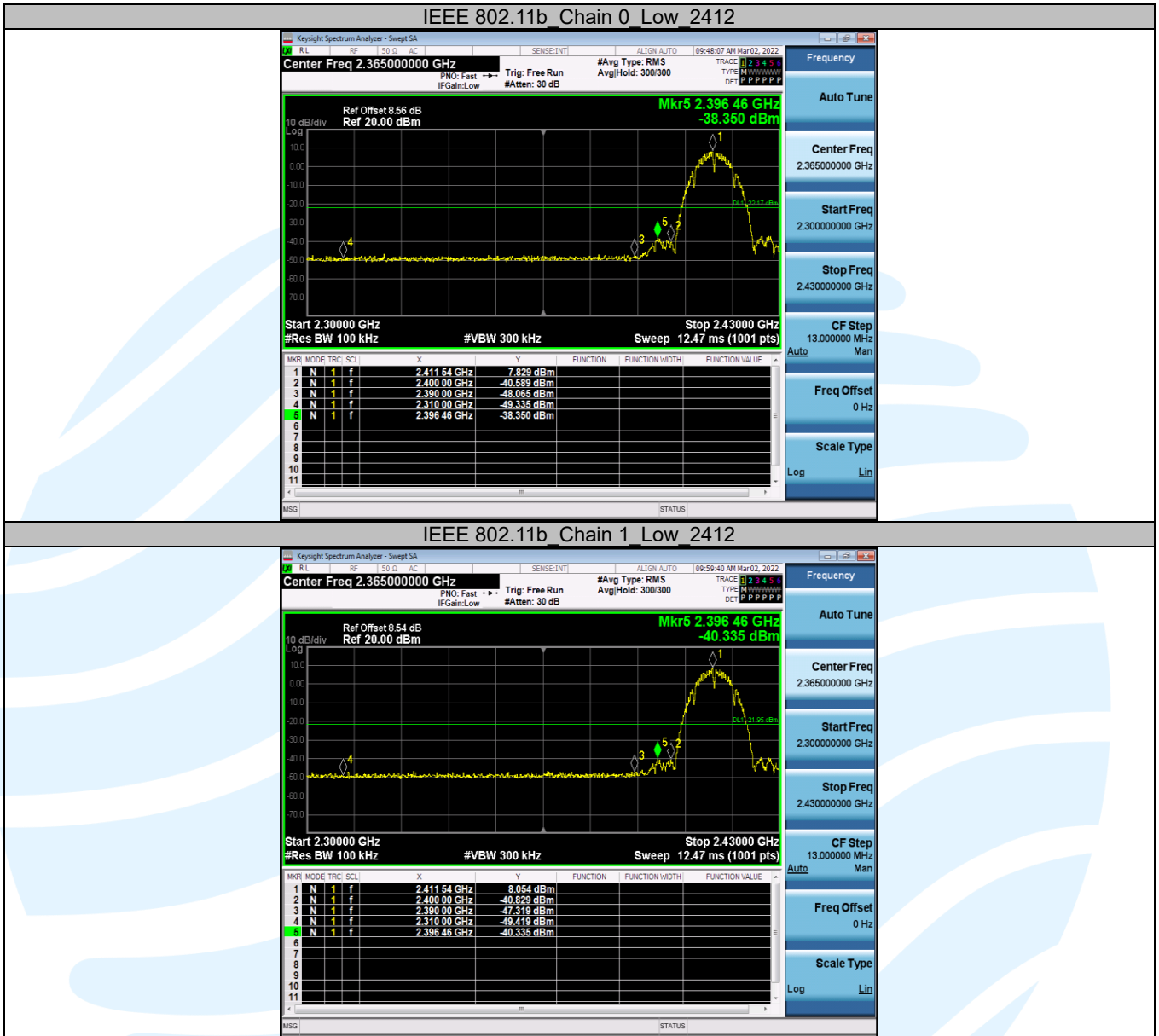
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5.6 CONDUCTED OUT OF BAND EMISSION

Test Requirement:	FCC 47 CFR Part 15 Subpart C Section 15.247(d) RSS-247 Issue 2, Section 5.5
Test Method:	ANSI C63.10-2013 Clause 11.11
Limit:	In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.
Test Procedure:	Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer. Use the following spectrum analyzer settings: Step 1: Measurement Procedure REF a) Set instrument center frequency to DTS channel center frequency. b) Set the span to ≥ 1.5 times the DTS bandwidth. c) Set the RBW = 100 kHz. d) Set the VBW $\geq 3 \times$ RBW. e) Detector = peak. f) Sweep time = auto couple. g) Trace mode = max hold. h) Allow trace to fully stabilize. i) Use the peak marker function to determine the maximum PSD level. j) Note that the channel found to contain the maximum PSD level can be used to establish the reference level. Step 2: Measurement Procedure OOB a) Set RBW = 100 kHz. b) Set VBW ≥ 300 kHz. c) Detector = peak. d) Sweep = auto couple. e) Trace Mode = max hold. f) Allow trace to fully stabilize. g) Use the peak marker function to determine the maximum amplitude level. Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.
Test Setup:	Refer to section 4.5.3 for details.
Instruments Used:	Refer to section 3 for details
Test Results:	Pass

The test plots as follows:
Band EDGE Emission



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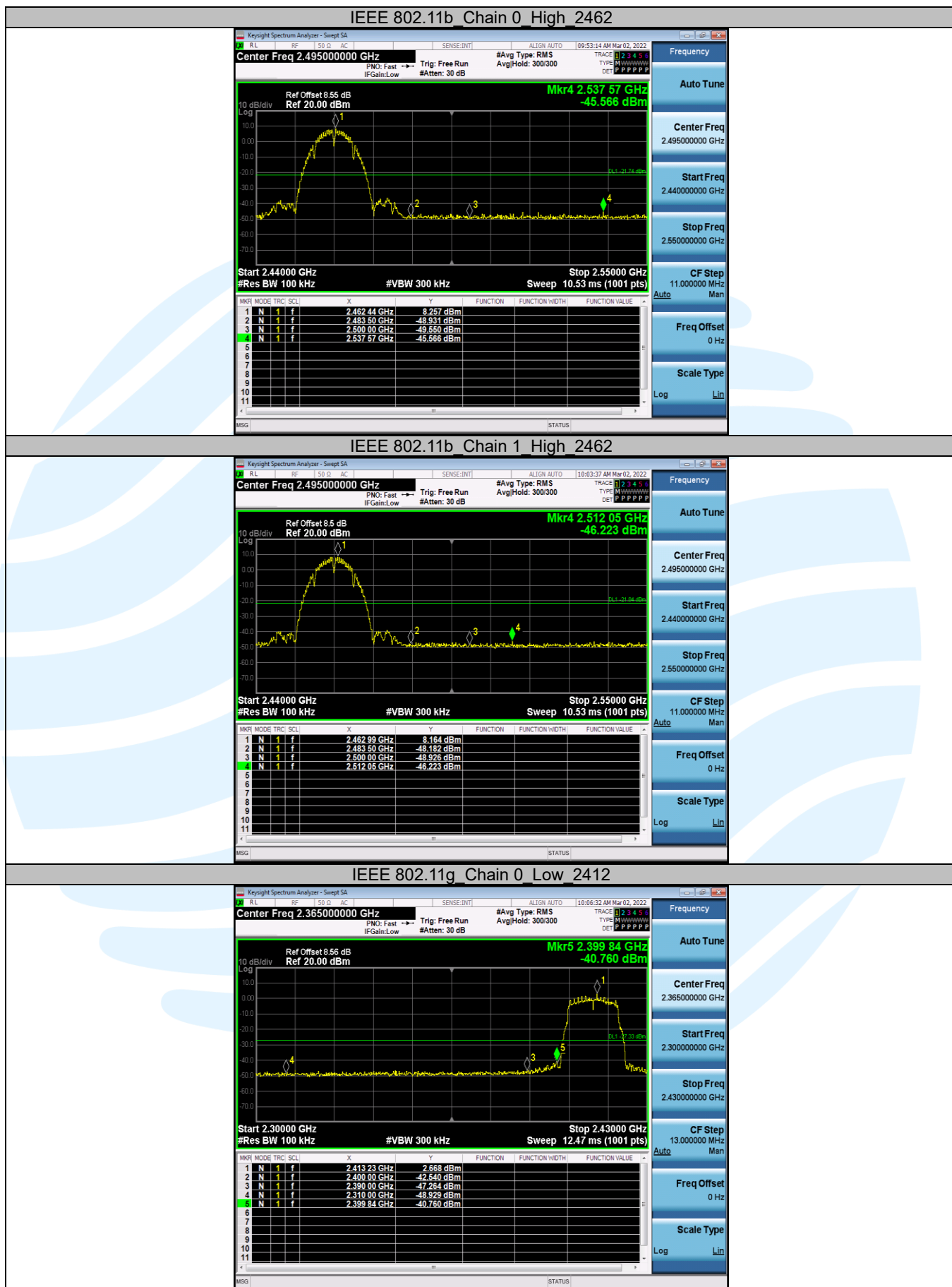
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