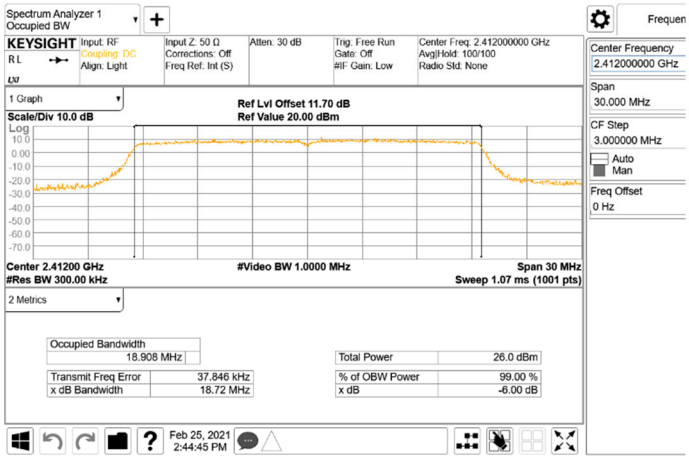
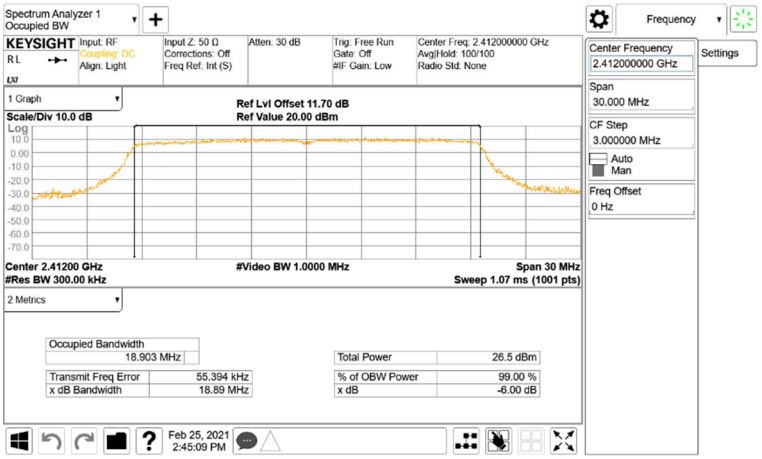
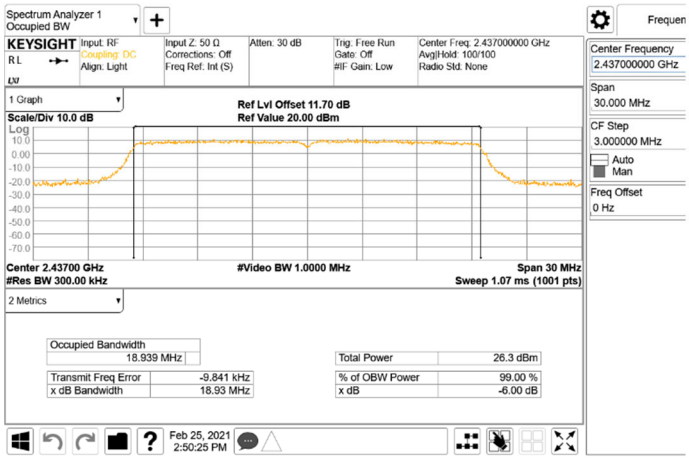
IC OBW 99%_802.11ax_20MHz_Chain0_2412MHz



IC OBW 99%_802.11ax_20MHz_Chain1_2412MHz



IC OBW 99%_802.11ax_20MHz_Chain0_2437MHz



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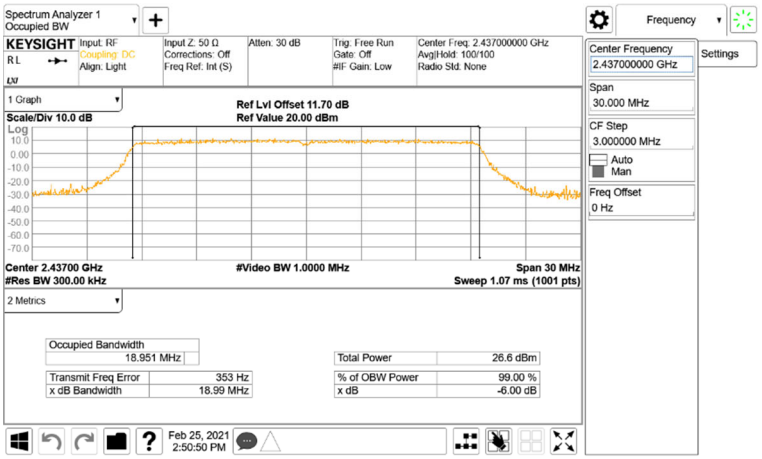
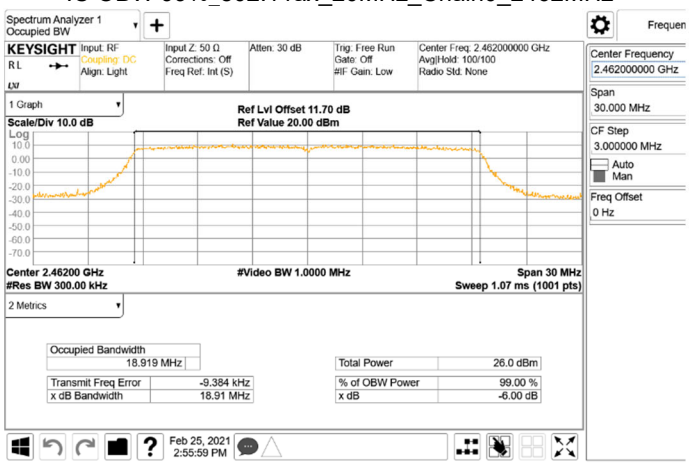


IC OBW 99%_802.11ax_20MHz_Chain0_2462MHz



IC OBW 99%_802.11ax_20MHz_Chain1_2462MHz

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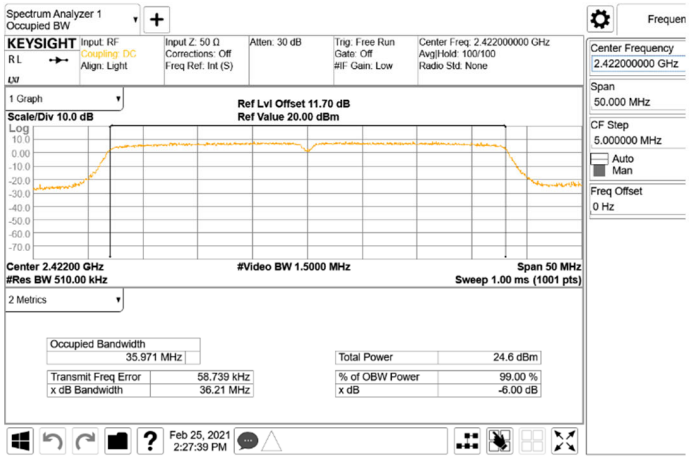
IC OBW 99%_802.11n_40MHz_Chain0_2422MHz



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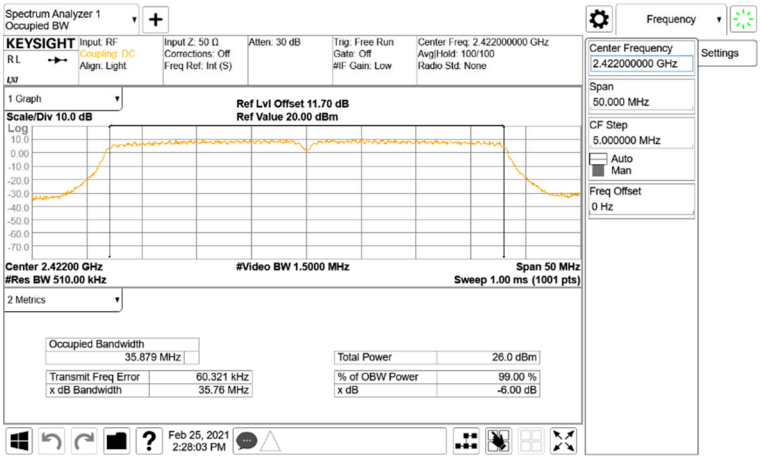

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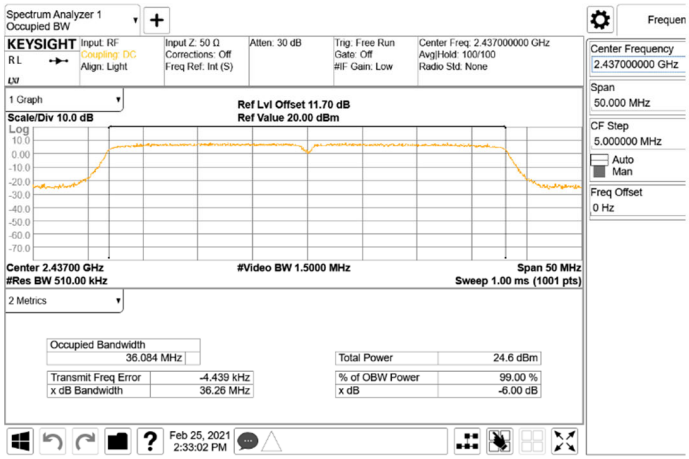

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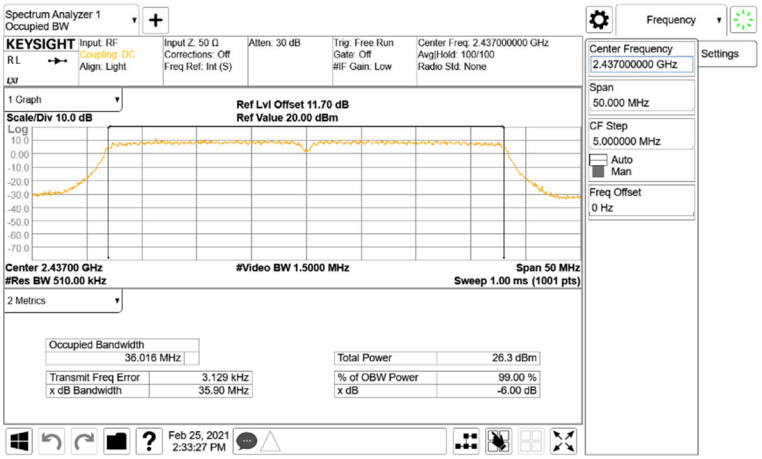
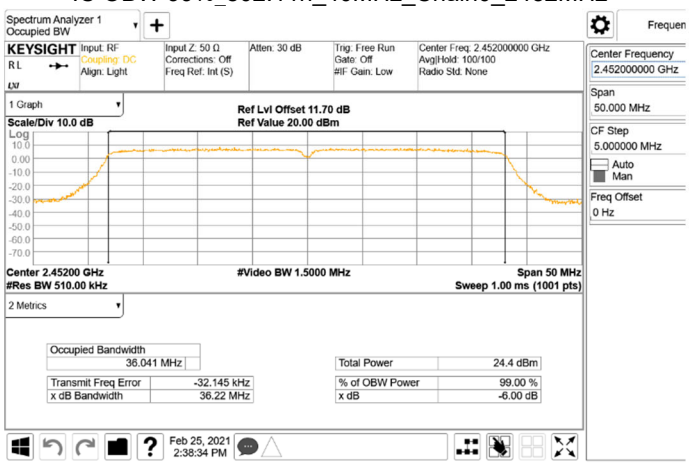


IC OBW 99%_802.11n_40MHz_Chain0_2452MHz



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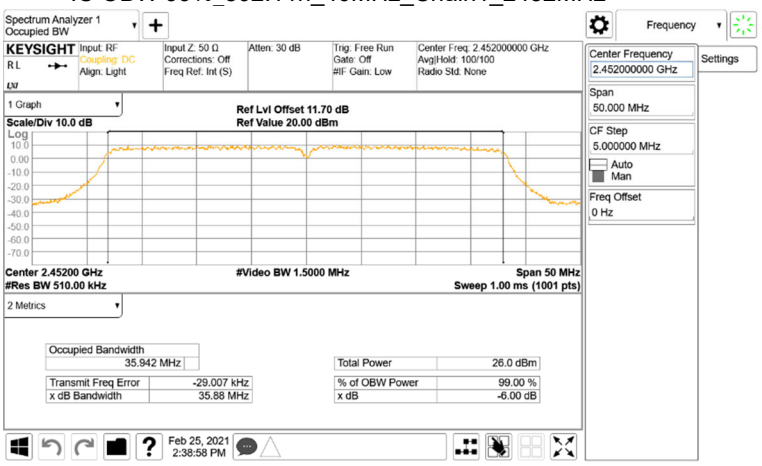

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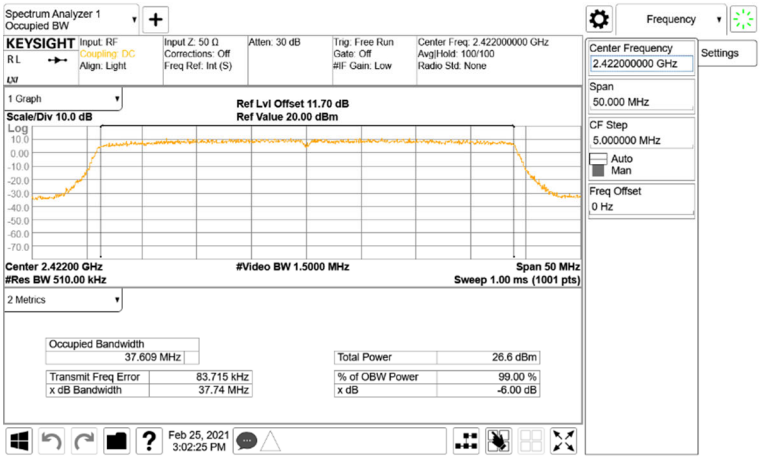
IC OBW 99%_802.11ax_40MHz_Chain0_2422MHz

IC OBW 99%_802.11ax_40MHz_Chain1_2422MHz



IC OBW 99%_802.11ax_40MHz_Chain0_2437MHz

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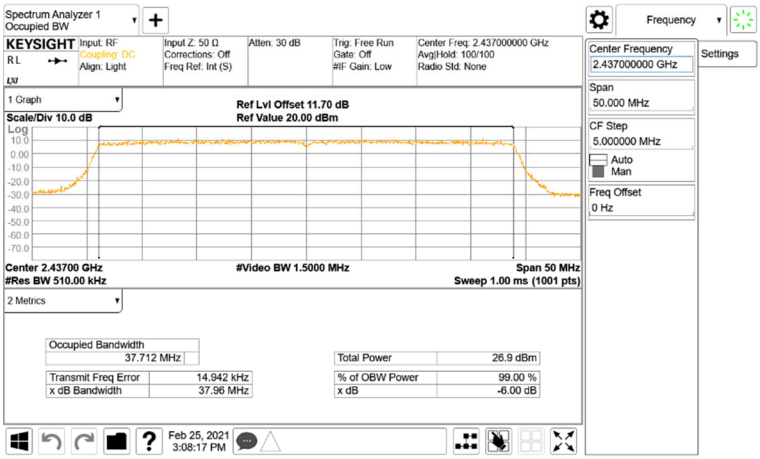

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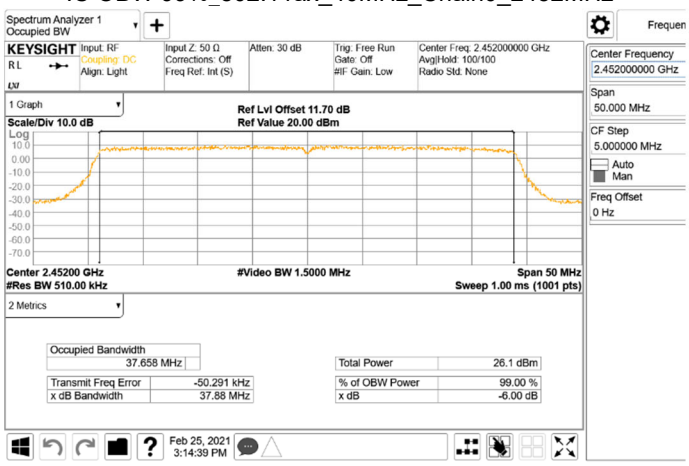
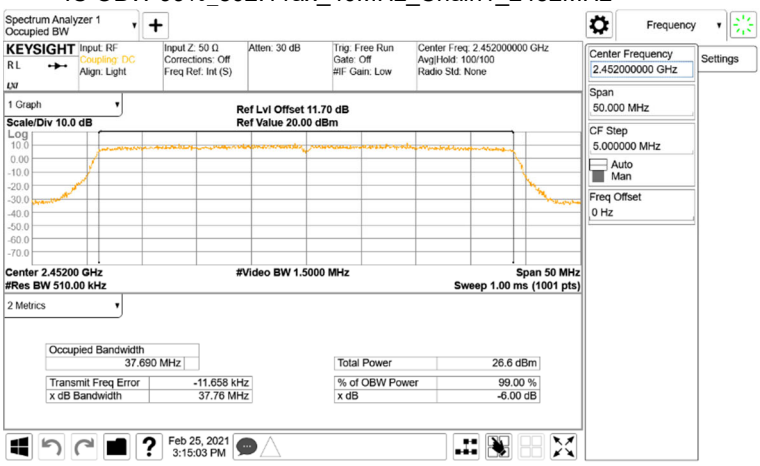


IC OBW 99%_802.11ax_40MHz_Chain1_2452MHz



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10 CONDUCTED BAND EDGES AND SPURIOUS EMISSION MEASUREMENT

10.1 Standard Applicable

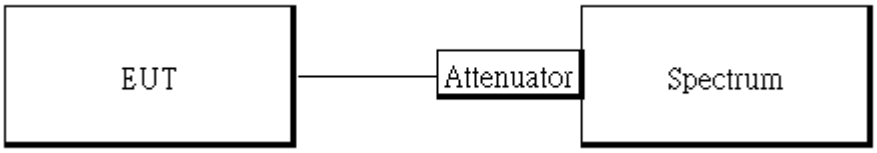
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a) & RSS-Gen §8.10, must also comply with the radiated emission limits specified in §15.209(a) & RSS-Gen §8.9.

10.2 Measurement Equipment Used

Conducted Emission Test Site: Conducted 2					
EQUIPMENT TYPE	MFR/BRAND	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EXA Spectrum Analyzer	KEYSIGHT	N9010B	MY59071571	06/27/2020	06/26/2021
DC Block	Mini-Circuits	BLK-18-S+	1	12/16/2020	12/15/2021

10.3 Test SET-UP



10.4 Measurement Procedure

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Reference Level of Emission Limit:

1. Set analyzer center frequency to DTS channel center frequency.
2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
3. Set the span to 1.5 times the DTS channel bandwidth.
4. Set the RBW = 100kHz & VBW = 300 kHz.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. MIMO mode: offset is set following “measure and add 10 Log (N)” on spectrum to measure for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

Conducted Band Edge:

1. To connect Antenna Port of EUT to Spectrum.
2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
4. Set start to edge frequency, and stop frequency of spectrum analyzer so as to encompass the spectrum to be examined.
5. Set the spectrum analyzer as RBW=100 kHz, VBW=300 kHz, Detector = Peak, Sweep = auto
6. Mark the highest reading of the emission as the reference level measurement.
7. Set DL as the limit = reading on marker of reference level measurement – 20dBm
8. Mark the highest readings of the emissions outside of 2400MHz~2483.5MHz.
9. Repeat above procedures until all default test channel (low, middle, and high) was complete.
10. MIMO mode: offset is set following “measure and add 10 Log (N)” on spectrum to measure for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

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Conducted Spurious Emission:

1. To connect Antenna Port of EUT to Spectrum
2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
3. Set RBW = 100 kHz & VBW= 300 kHz, Detector =Peak, Sweep = Auto.
4. Allow trace to fully stabilize.
5. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
6. Repeat above procedures until all default test channel measured were complete.
7. MIMO mode: offset is set following “measure and add 10 Log (N)” on spectrum to measure for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

Note:

For test of MIMO mode, the highest emission of worst case employing Measure and add 10 log (N) technical is reported on this report after the comparison between Main Antenna at single transmitting mode and Aux that yields the higher value. The MIMO transmitting mode produces higher value of outcome.

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10.5 Measurement Result

Reference Level of Limit 802.11b mode		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2412	11.81	-8.19
2437	11.33	-8.67
2462	11.80	-8.20

Reference Level of Limit 802.11g mode		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2412	9.59	-10.41
2437	9.54	-10.46
2462	9.49	-10.51

Reference Level of Limit 802.11n20 mode		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2412	9.57	-10.43
2437	9.46	-10.54
2462	9.40	-10.60

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Reference Level of Limit 802.11n40 MODE		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2422	6.83	-13.17
2437	6.51	-13.49
2452	6.64	-13.36

Reference Level of Limit 802.11ax20 mode		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2412	9.51	-10.49
2437	9.08	-10.92
2462	9.30	-10.70

Reference Level of Limit 802.11ax40 MODE		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2422	6.61	-13.39
2437	6.44	-13.56
2452	6.44	-13.56

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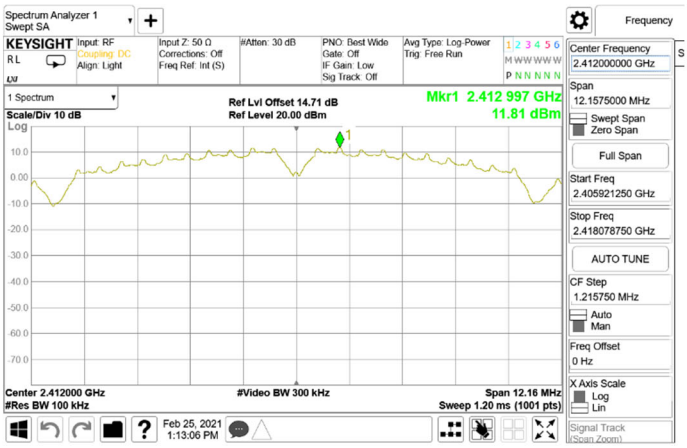
Reference Level _802.11b_20MHz_Chain0_2412MHz



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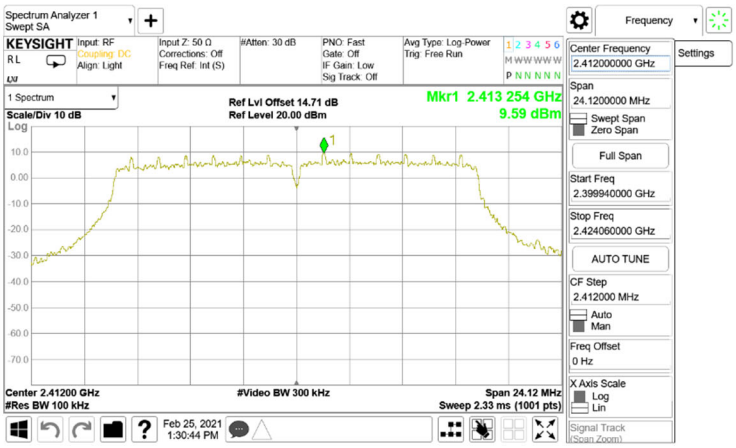
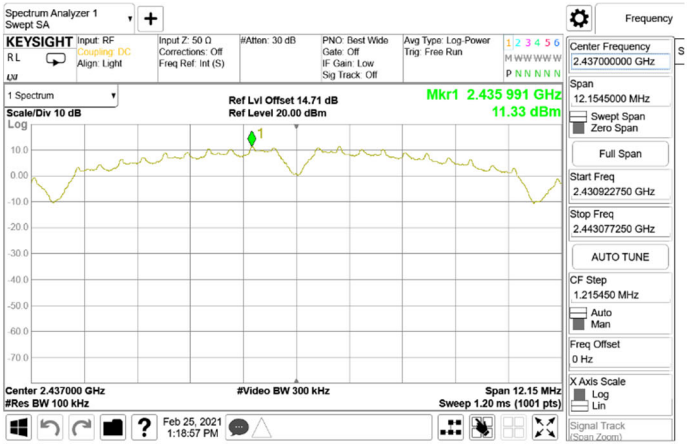
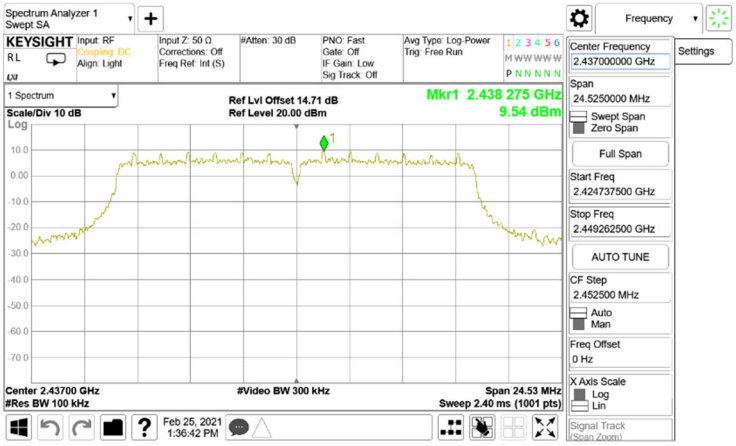


Reference Level _802.11b_20MHz_Chain0_2437MHz



Reference Level _802.11g_20MHz_Chain0_2437MHz



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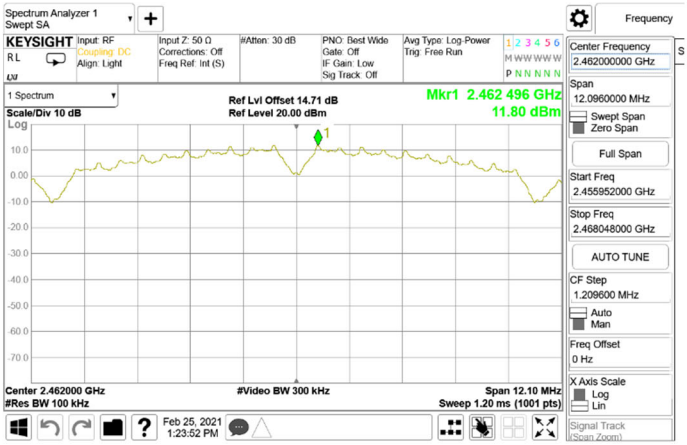

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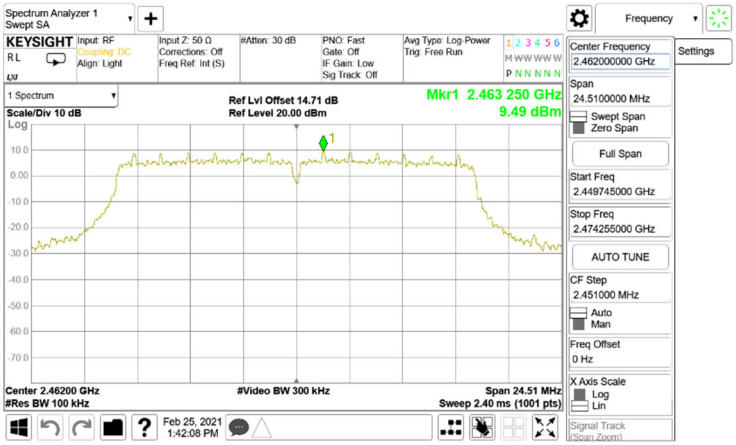

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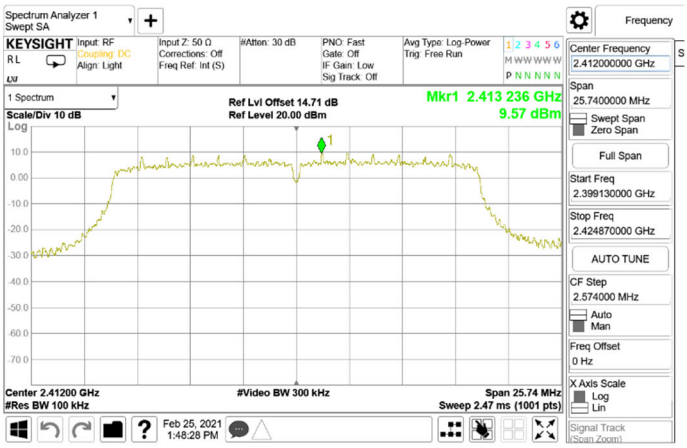
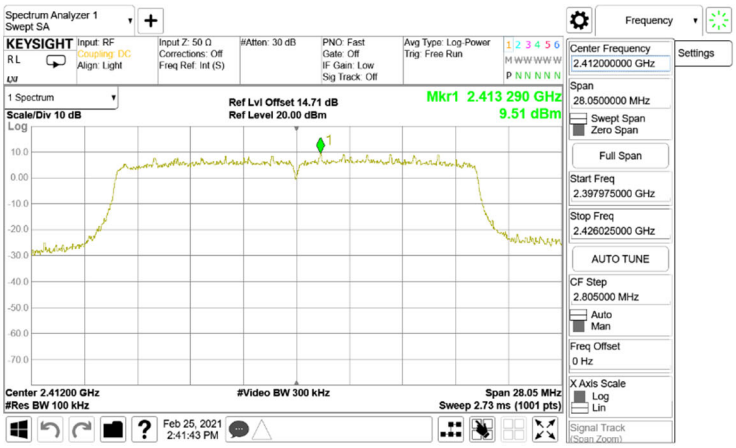
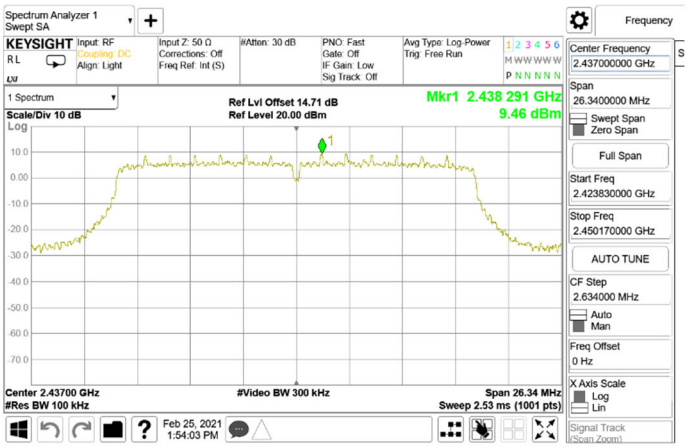
Reference Level _802.11n_20MHz_Chain0_2412MHz



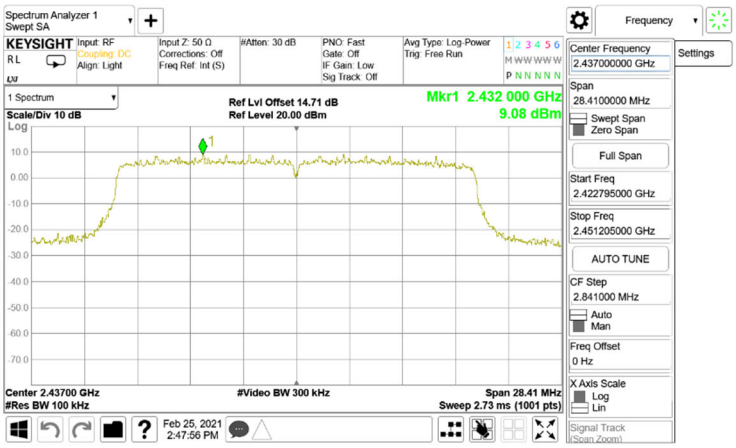
Reference Level _802.11ax_20MHz_Chain0_2412MHz



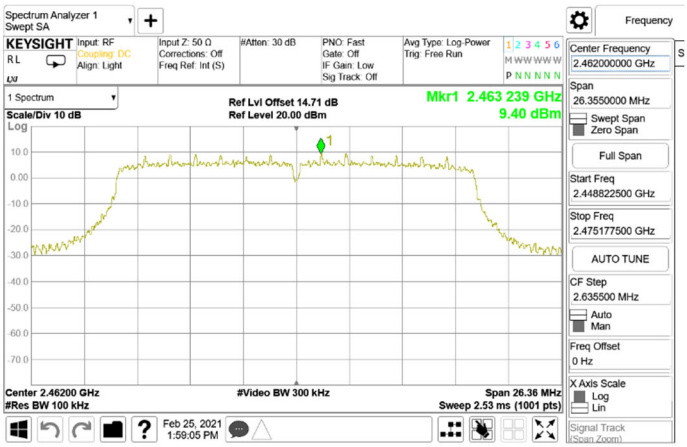
Reference Level _802.11n_20MHz_Chain0_2437MHz



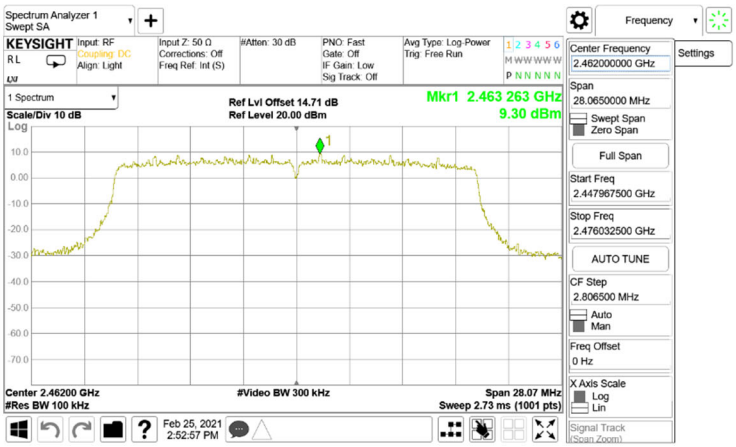
Reference Level _802.11ax_20MHz_Chain0_2437MHz



Reference Level _802.11n_20MHz_Chain0_2462MHz



Reference Level _802.11ax_20MHz_Chain0_2462MHz



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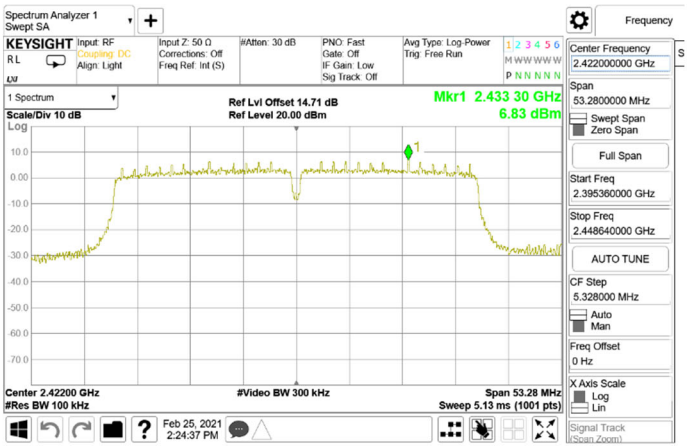
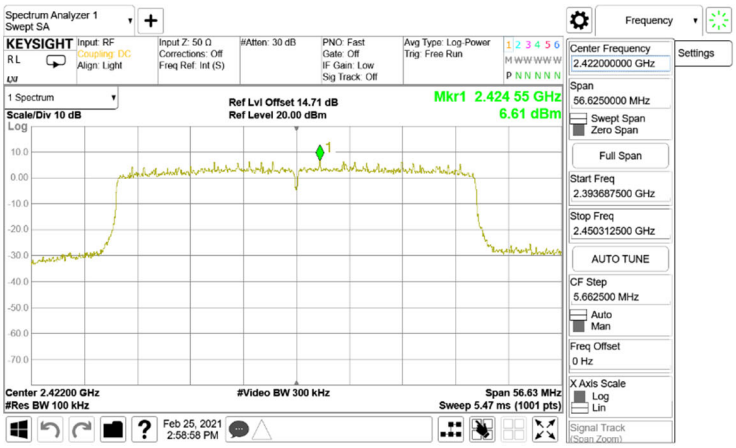
Reference Level _802.11n_40MHz_Chain0_2422MHz

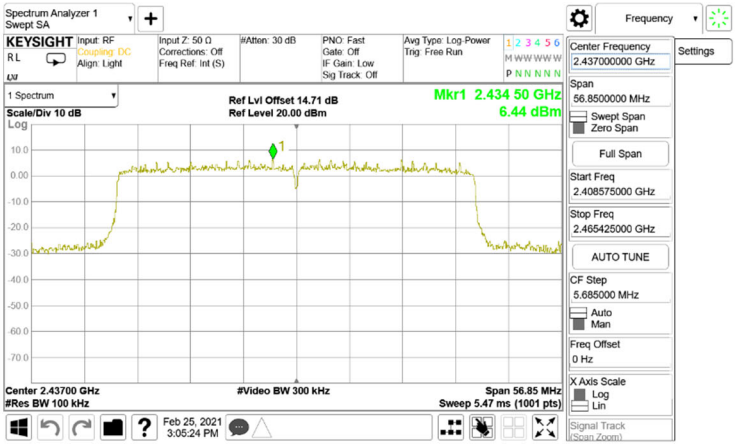


Reference Level _802.11ax_40MHz_Chain0_2422MHz



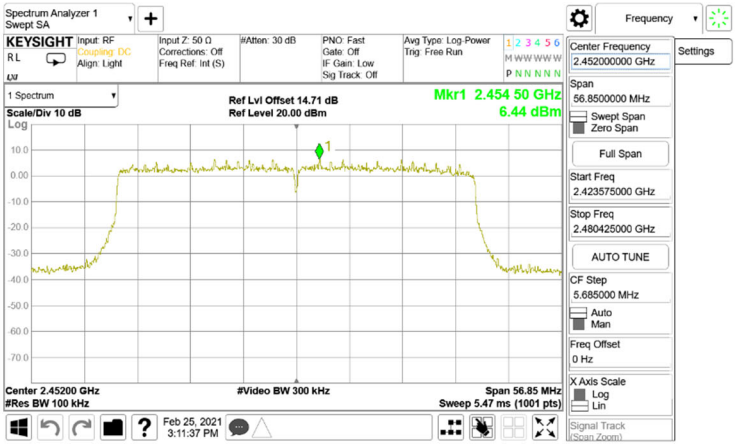
Reference Level _802.11n_40MHz_Chain0_2437MHz

Reference Level _802.11ax_40MHz_Chain0_2437MHz



Reference Level _802.11n_40MHz_Chain0_2452MHz

Reference Level _802.11ax_40MHz_Chain0_2452MHz



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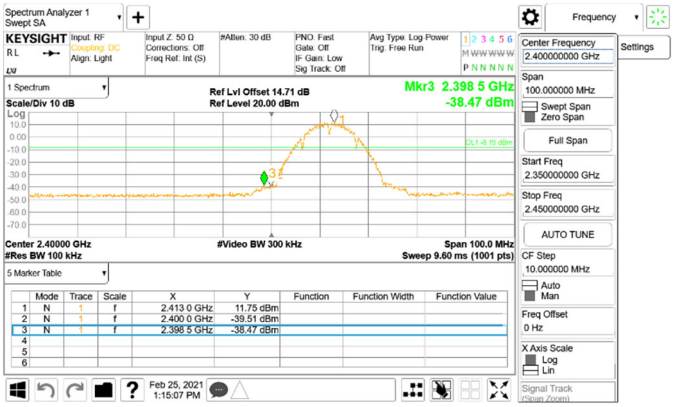
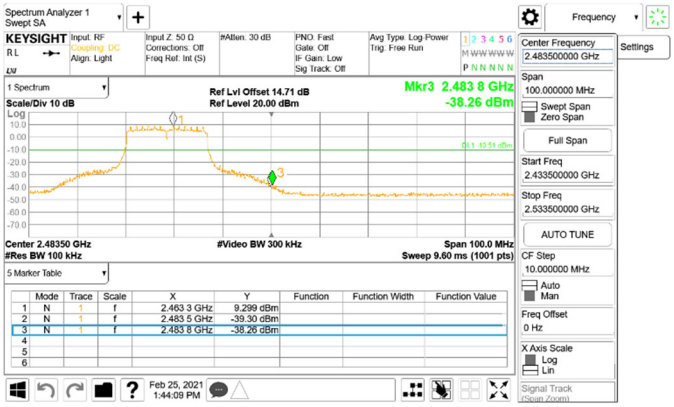
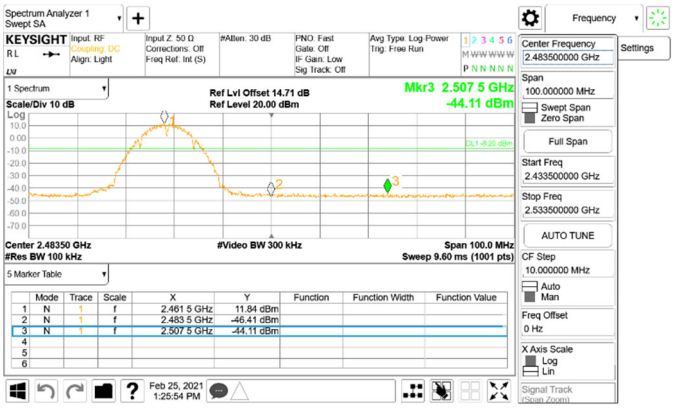
Band Edge_802.11b_20MHz_Chain0_2412MHz



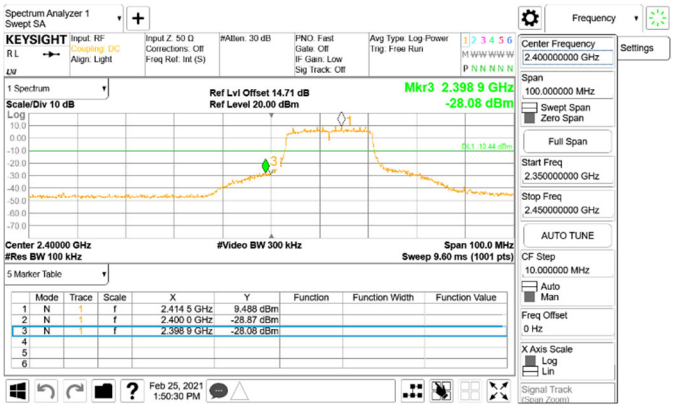
Band Edge_802.11g_20MHz_Chain0_2462MHz



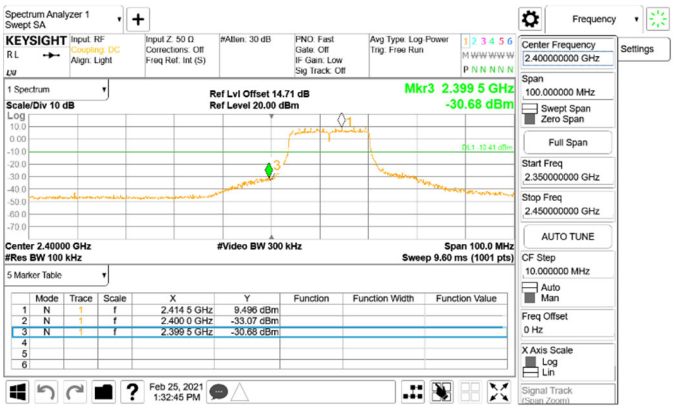
Band Edge_802.11b_20MHz_Chain0_2462MHz



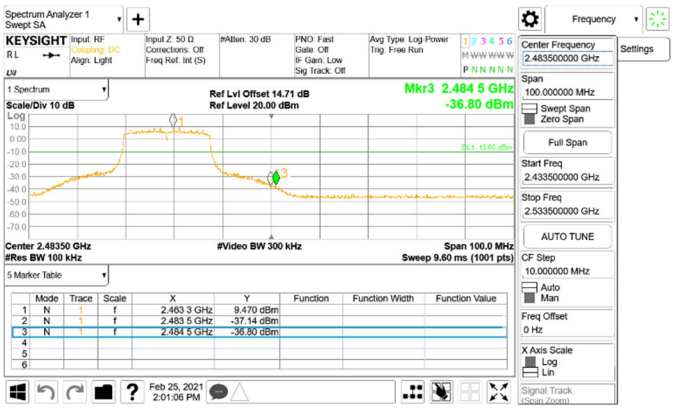
Band Edge_802.11n_20MHz_Chain0_2412MHz



Band Edge_802.11g_20MHz_Chain0_2412MHz



Band Edge_802.11n_20MHz_Chain0_2462MHz



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