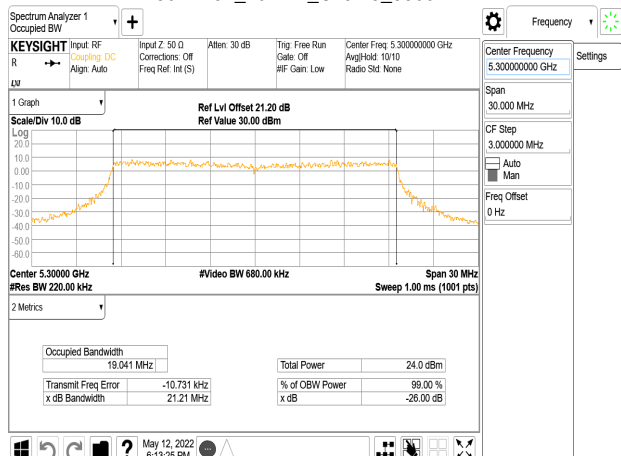
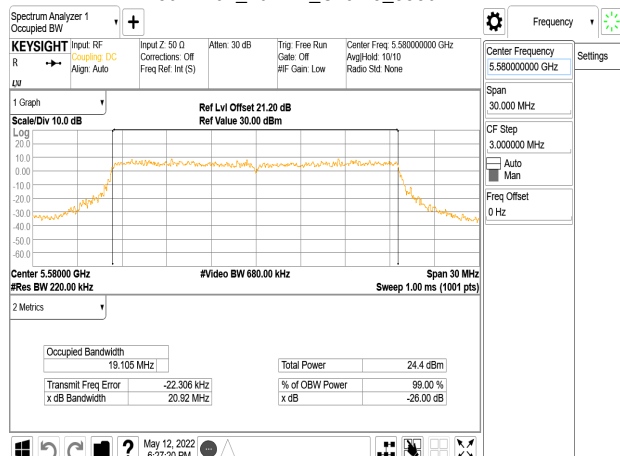


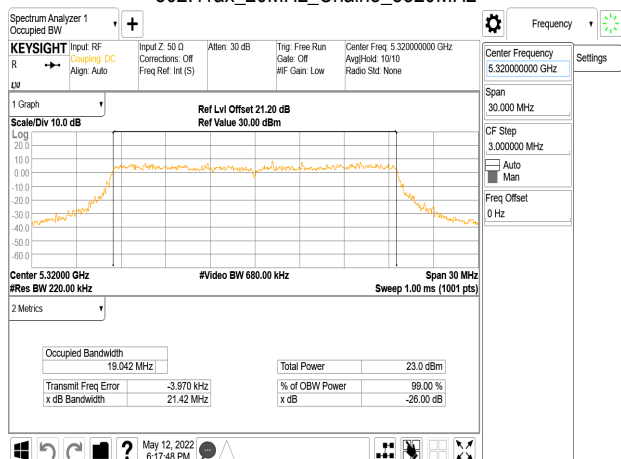
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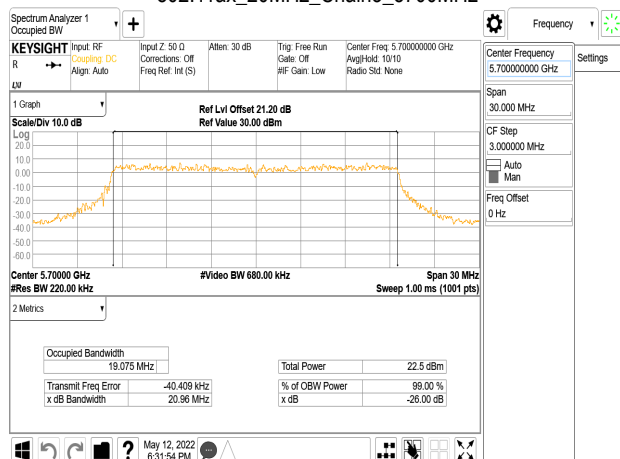
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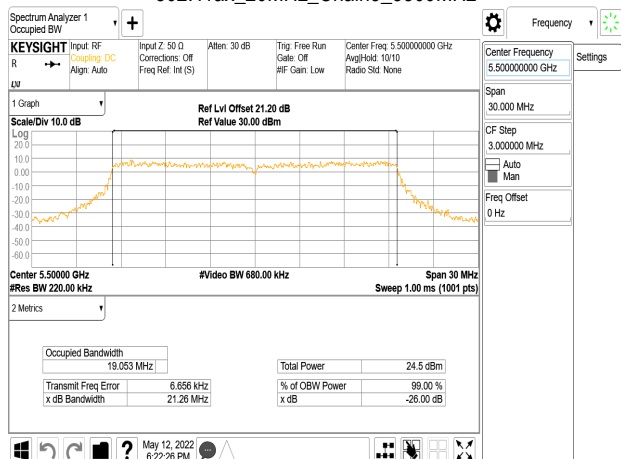
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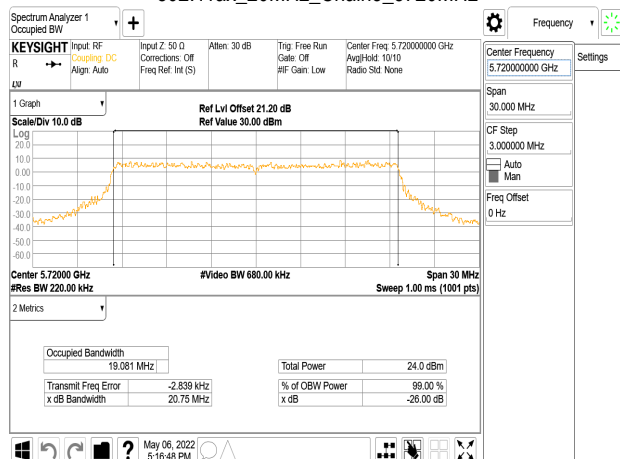
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802.11ax_20MHz_Chain3_5500MHz



802.11ax_20MHz_Chain3_5720MHz

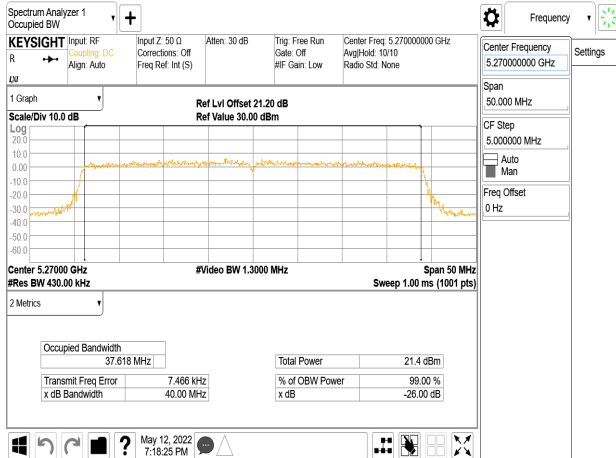


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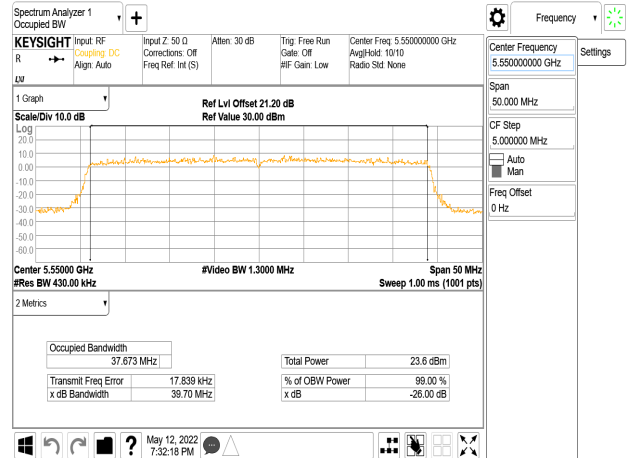
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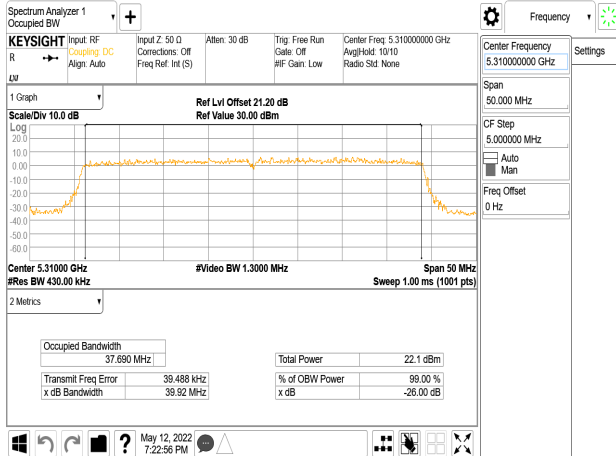
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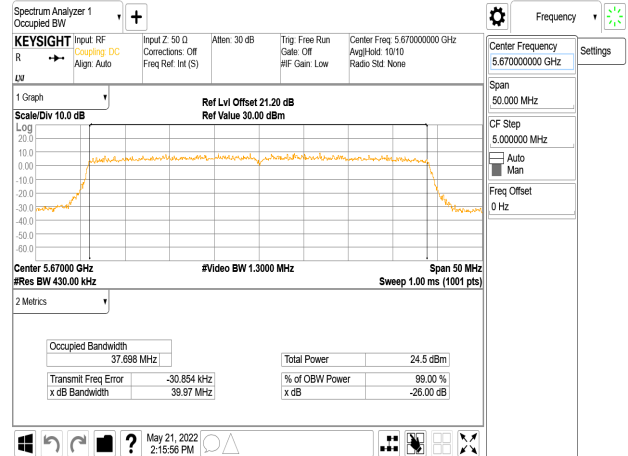
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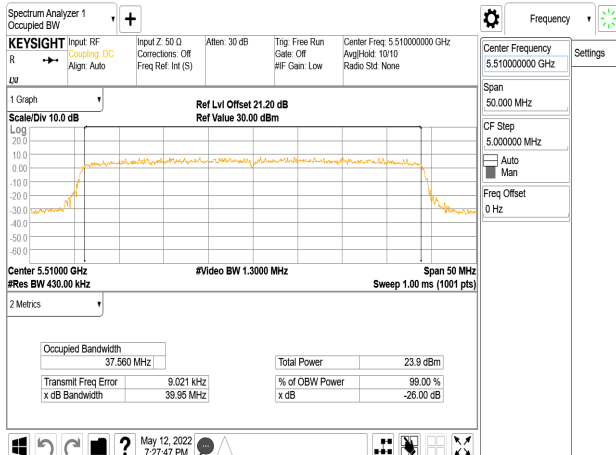
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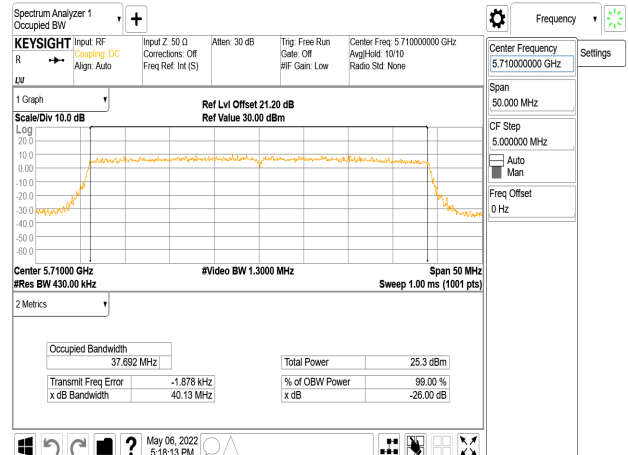
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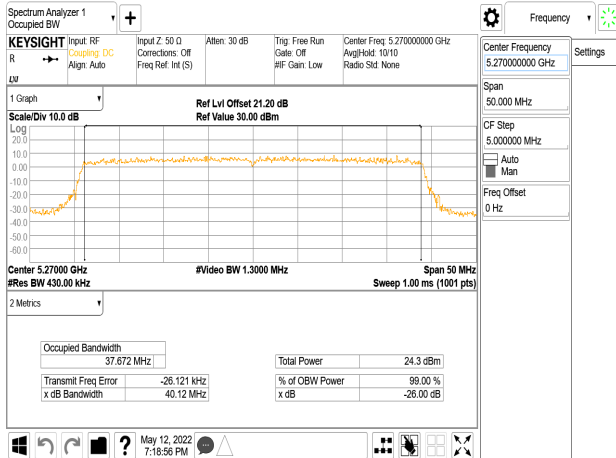


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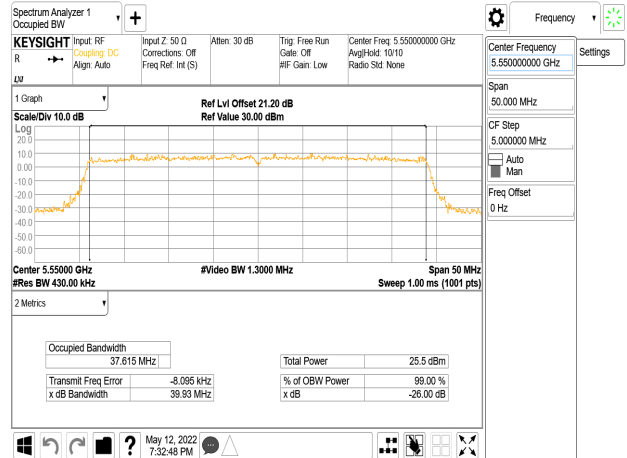
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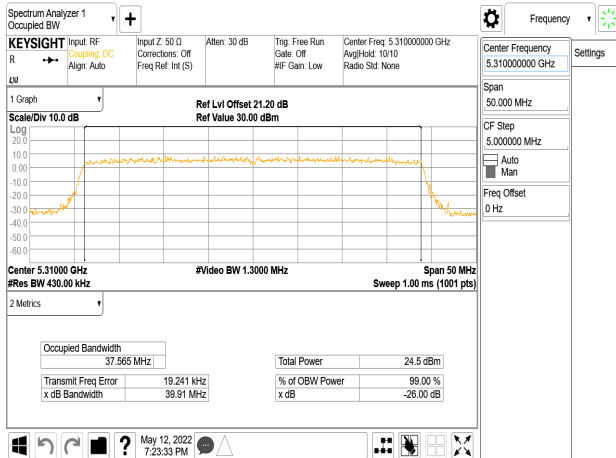
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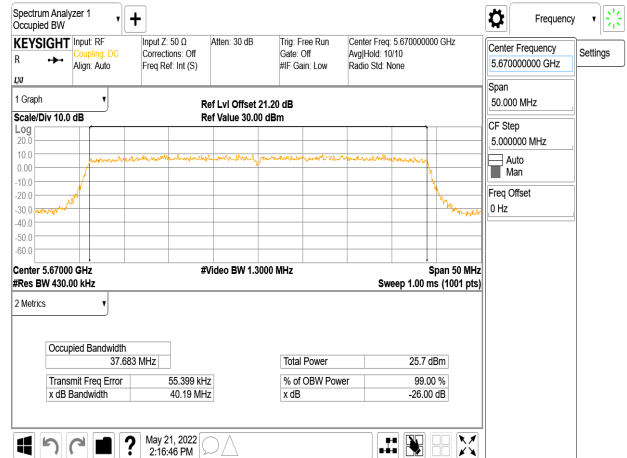
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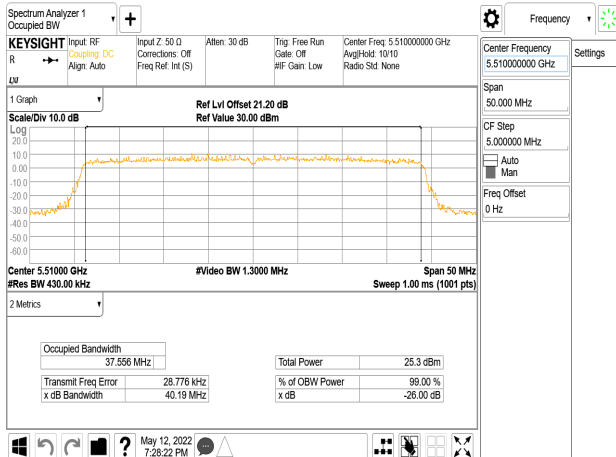
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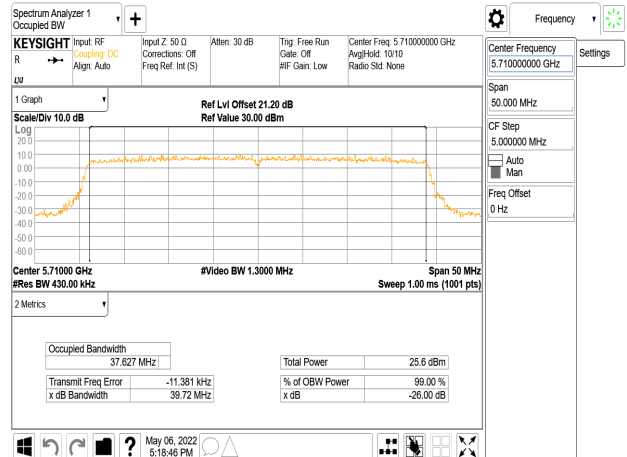
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802.11ax_40MHz_Chain1_5510MHz



802.11ax_40MHz_Chain1_5710MHz

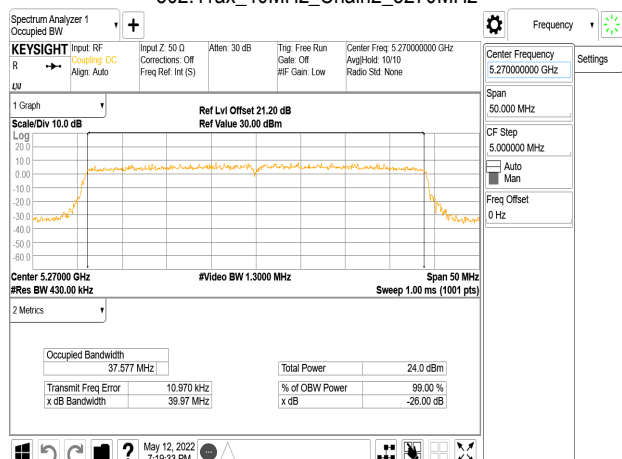


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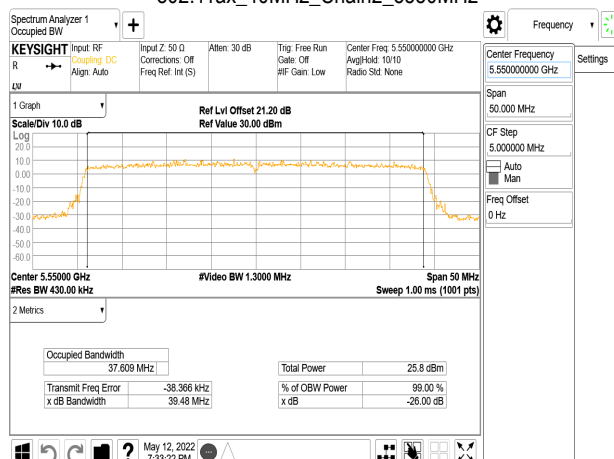
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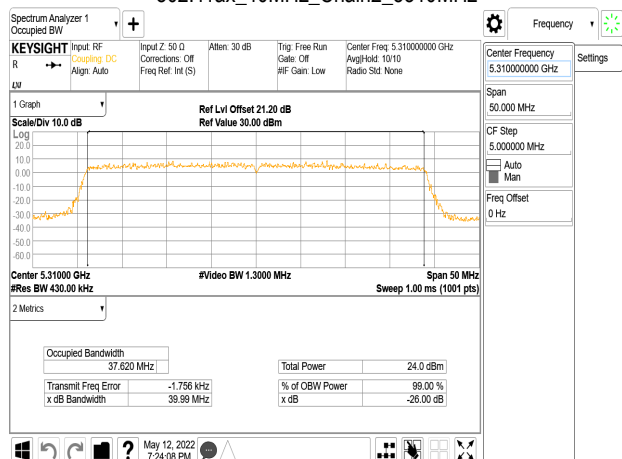
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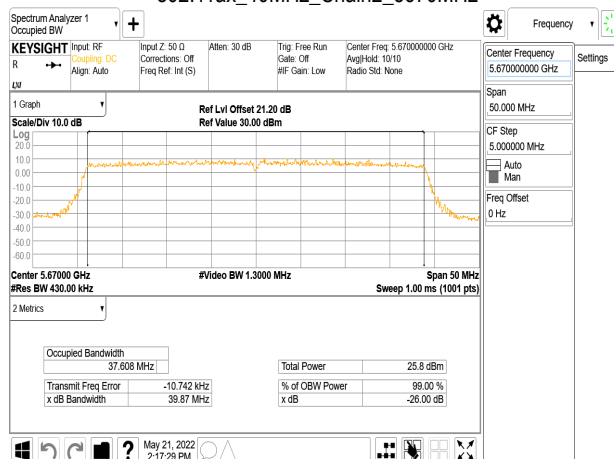
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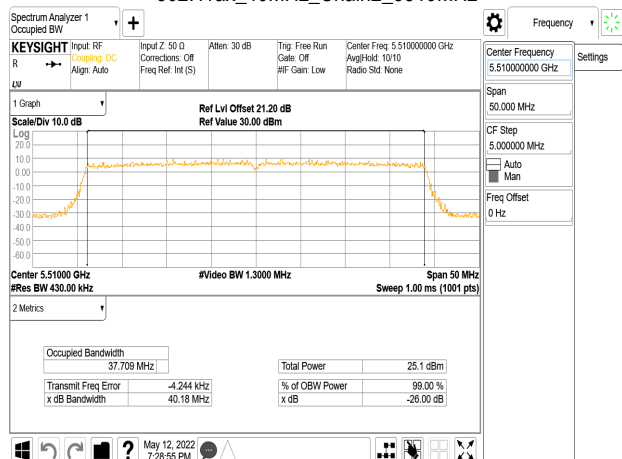
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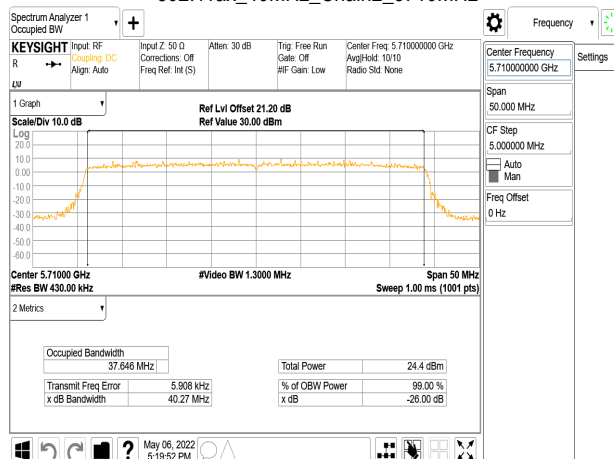
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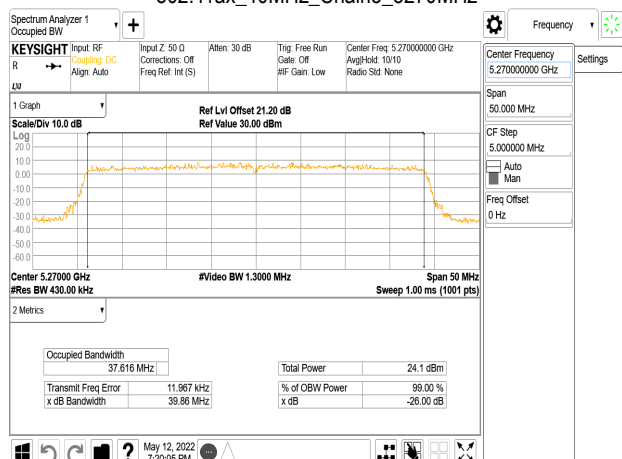


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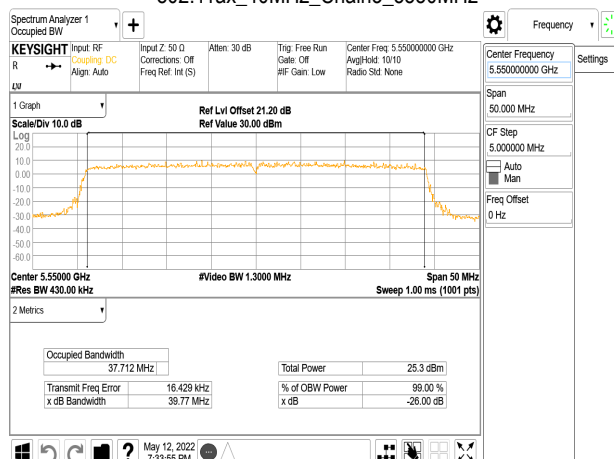
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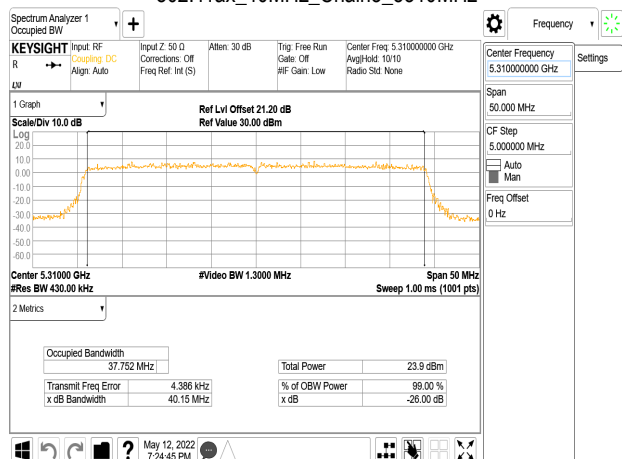
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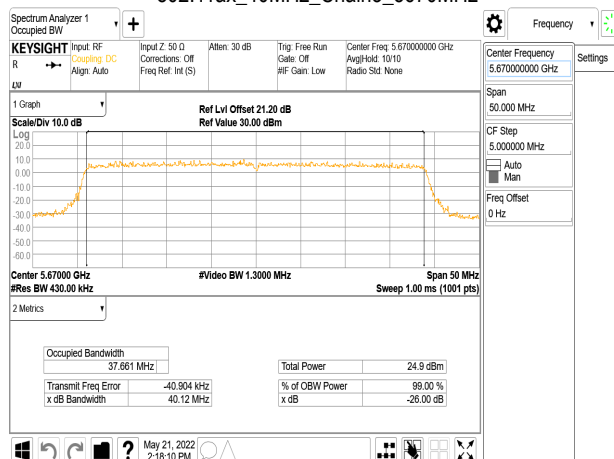
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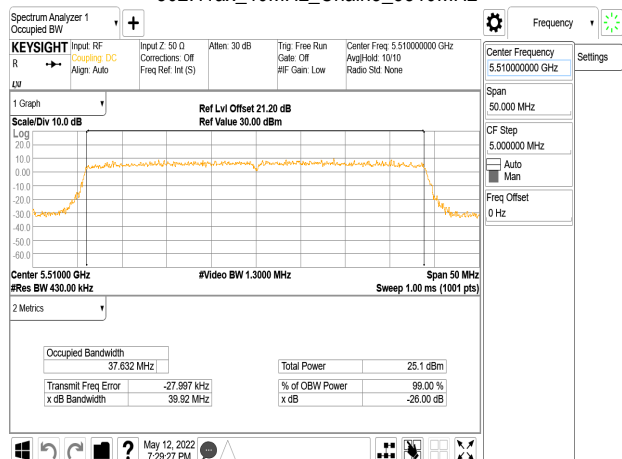
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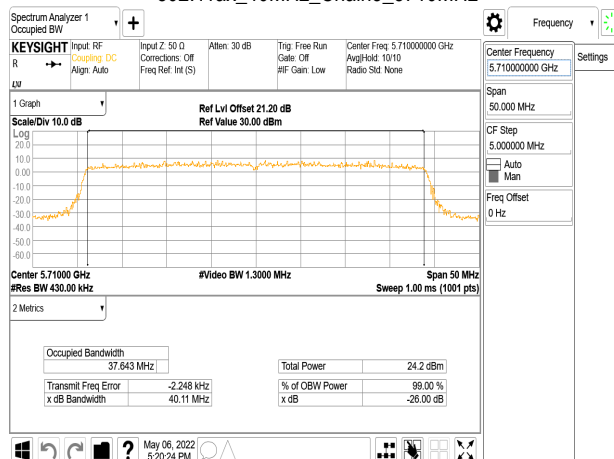
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802.11ax_40MHz_Chain3_5510MHz



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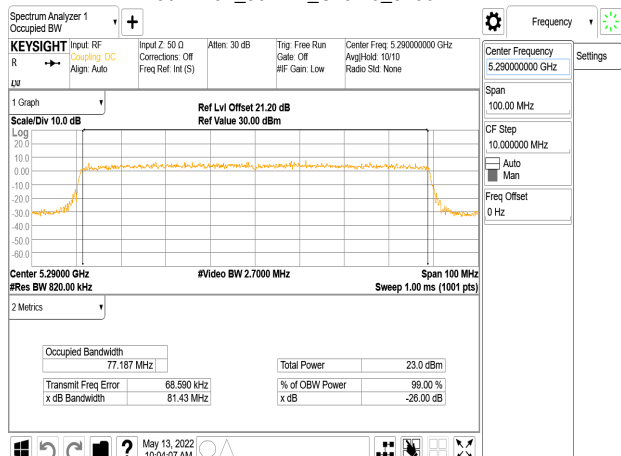


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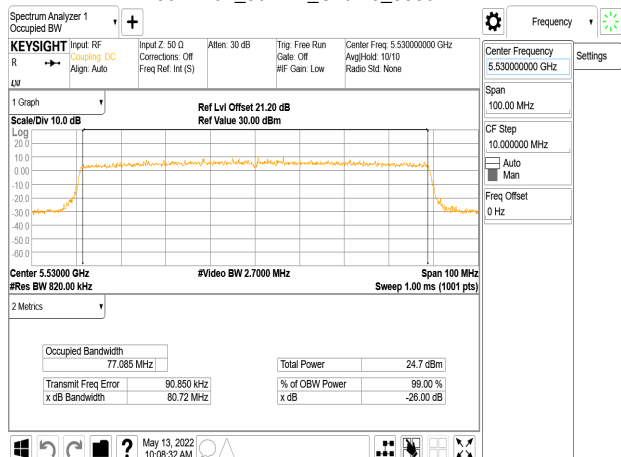
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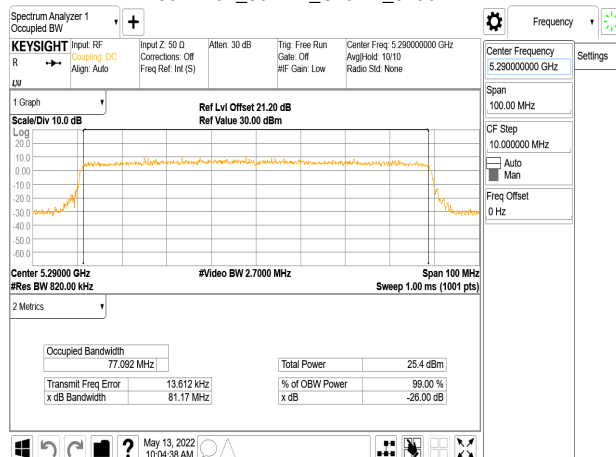
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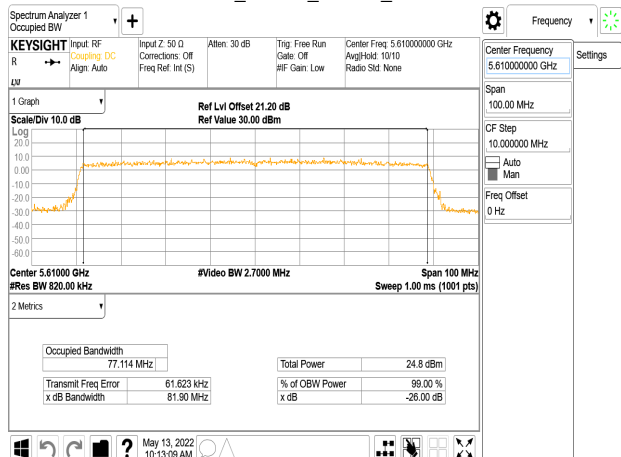
802.11ax_80MHz_Chain0_5530MHz



802.11ax_80MHz_Chain1_5290MHz



802.11ax_80MHz_Chain0_5610MHz



802.11ax_80MHz_Chain1_5530MHz

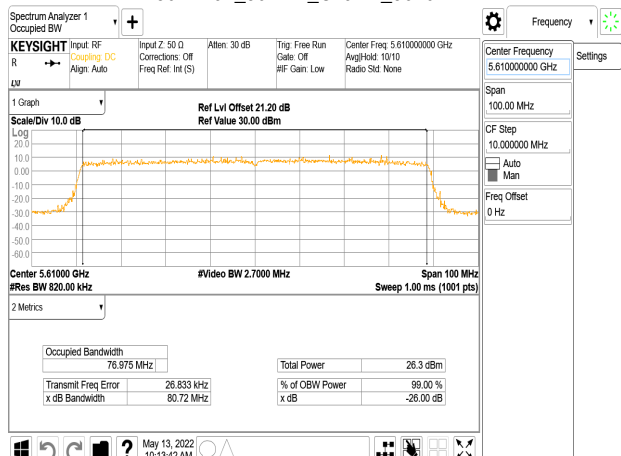


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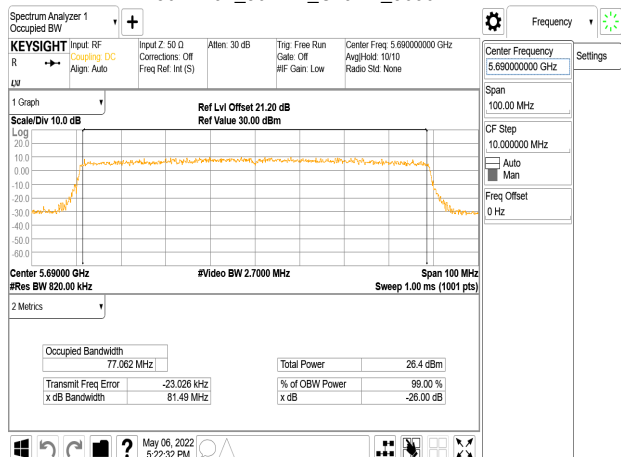
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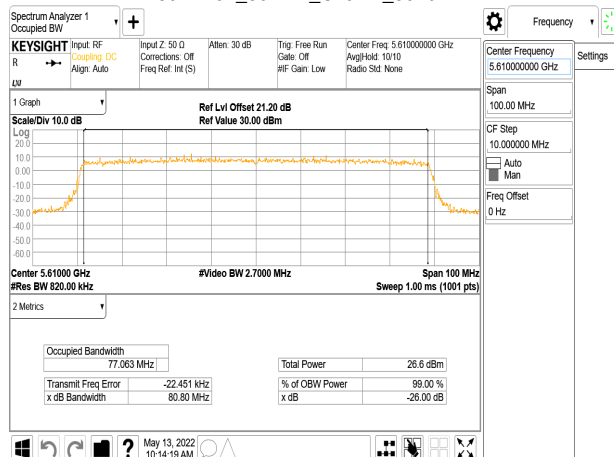
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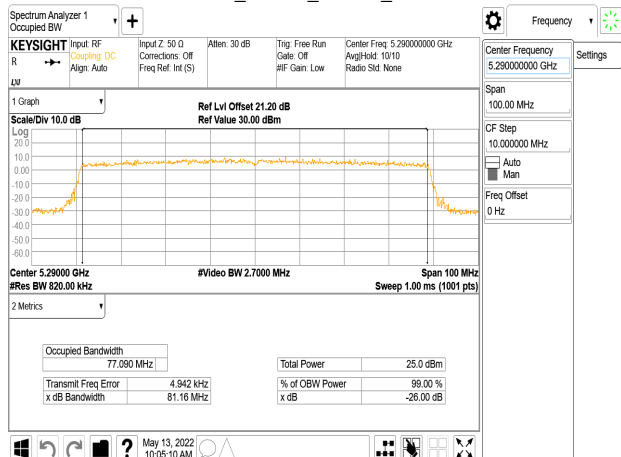
802.11ax_80MHz_Chain1_5690MHz



802.11ax_80MHz_Chain2_5610MHz



802.11ax_80MHz_Chain2_5290MHz



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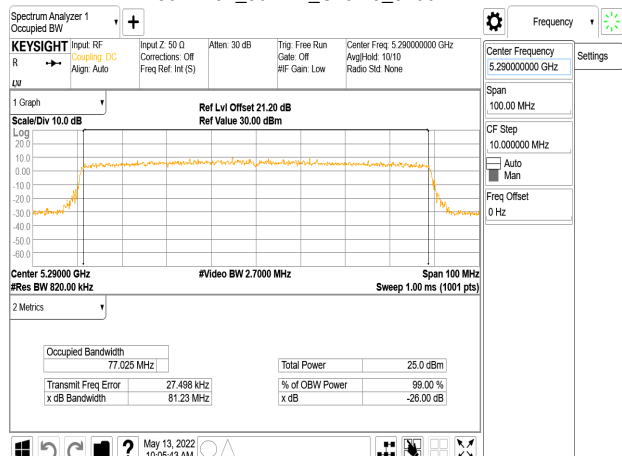


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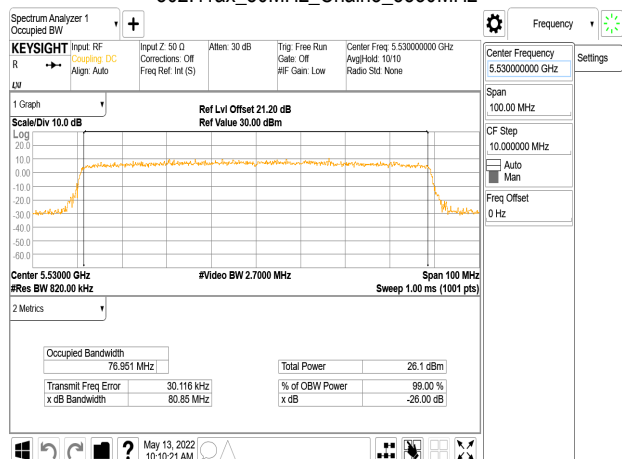
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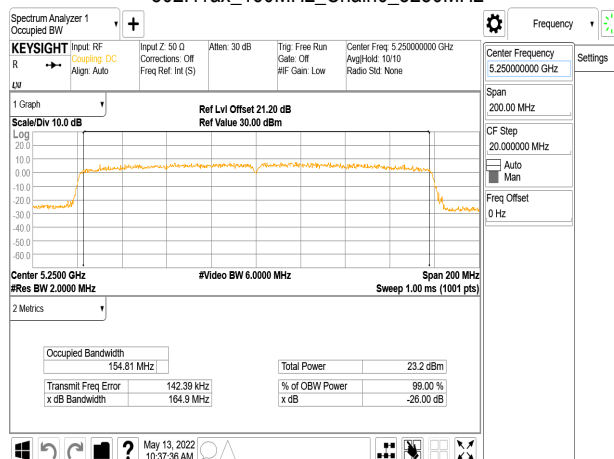
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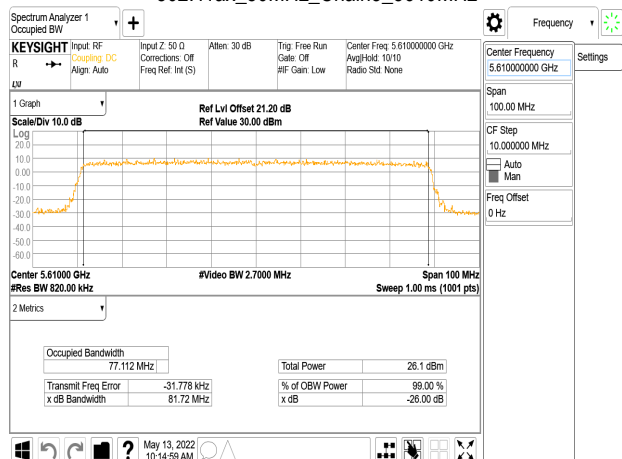
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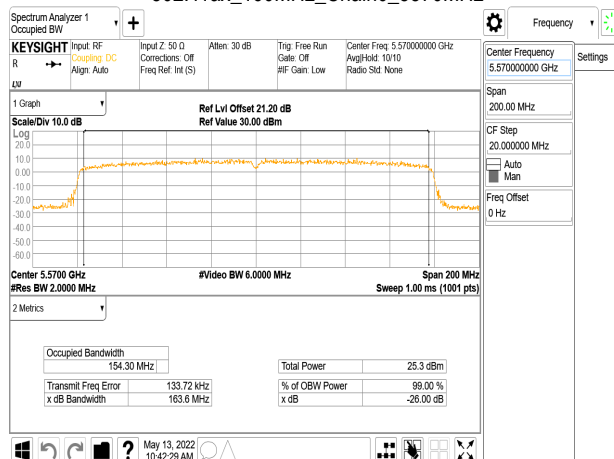
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802.11ax_80MHz_Chain3_5610MHz



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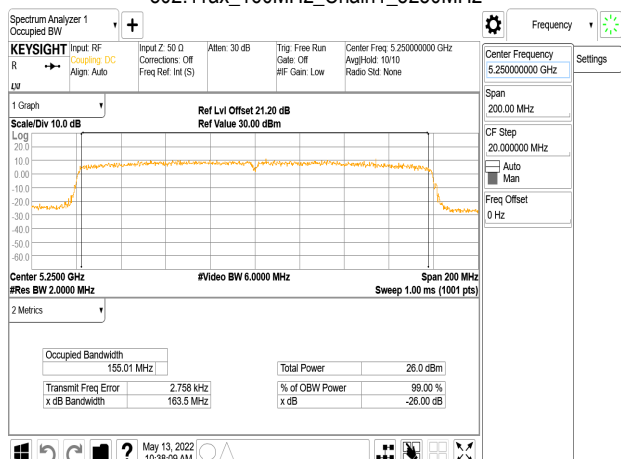


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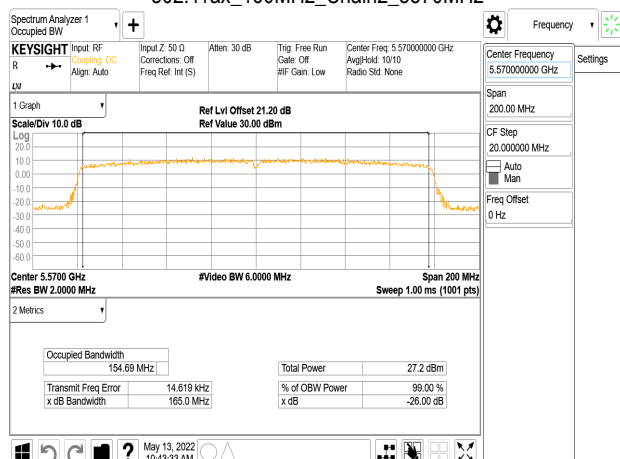
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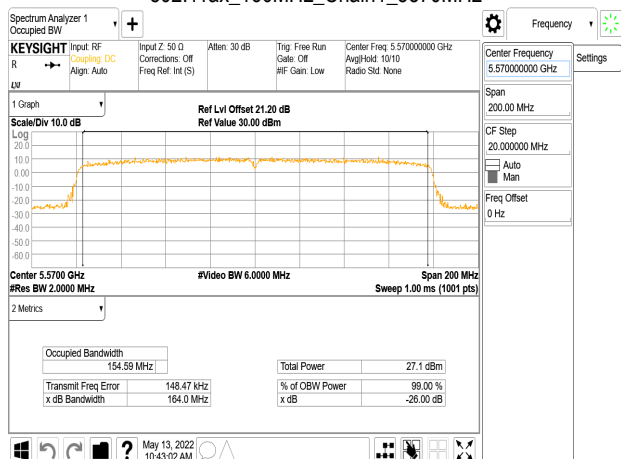
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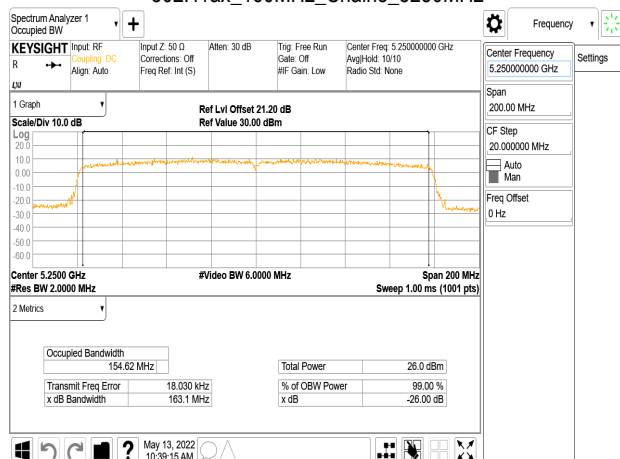
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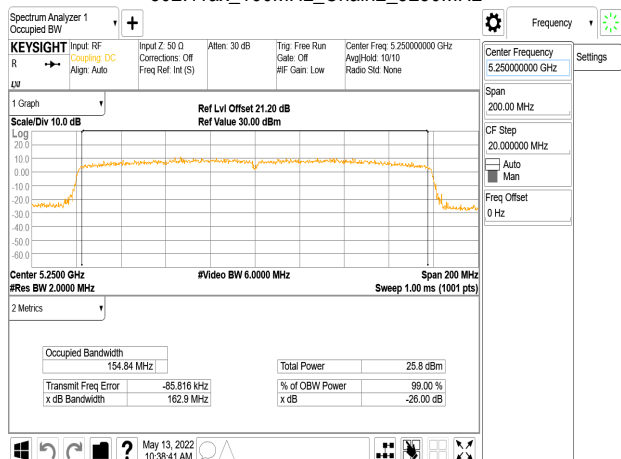
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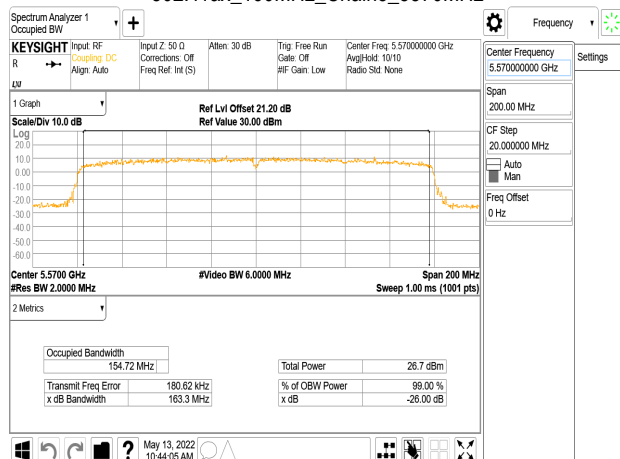
802.11ax_160MHz_Chain3_5250MHz



802.11ax_160MHz_Chain2_5250MHz



802.11ax_160MHz_Chain3_5570MHz



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9 MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

9.1 Standard Applicable

9.1.1 Duty Cycle

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle.

All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

9.1.2 Output Power

Band	EUT CATEGORY		e-CRF Title 47 §15.407			
			Conducted Output Power	EIRP	TPC	Antenna Directional Gain Requirements
U-NII-1		Fixed point-to-point	1 Watt(30dBm)	Not required	Not required	23dBi
		Out door AP	1 Watt(30dBm)	Elevation angle above 30 degrees 125mW (21dBm)	Not required	6dBi
	V	Indoor AP	1 Watt(30dBm)	Not required	Not required	6dBi
		Other	250mW(23.98dBm)	Not required	Not required	6dBi
U-NII-2A	V	Other	250mW(23.98dBm) or 11dBm+10 log B	Not required	When EIRP >500mW At least 6dB below EIRP 1W (30dBm)	6dBi
U-NII-2C	V	Other	250mW(23.98dBm) or 11dBm+10 log B	Not required		6dBi
U-NII-3		Other	1 Watt(30dBm)	Not required	Not required	6dBi
		Fixed point-to-point	1 Watt(30dBm)	Not required	Not required	Not required
U-NII-4		Indoor AP (a channel spans 5725~5850 and 5850~5895MHz)	Not required	36dBm	Not required	Not required
		indoor client (a channel spans 5725~5850 and 5850~5895MHz)	Not required	30dBm	Not required	Not required
		subordinate device	Not required	36dBm	Not required	Not required

1. If transmitting antennas of directional gain greater than the antenna requirements column, the Maximum transmit power shall be reduced by the amount in dB that the direction-al gain of the antenna.

2. For the 10 log B, B is the 26 dB emission bandwidth.

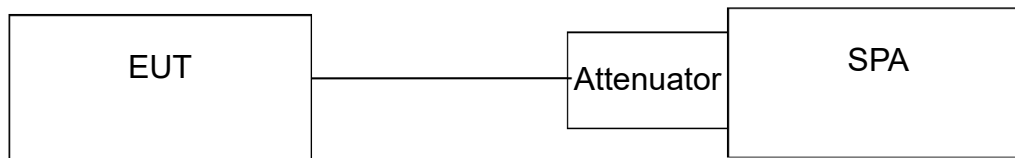
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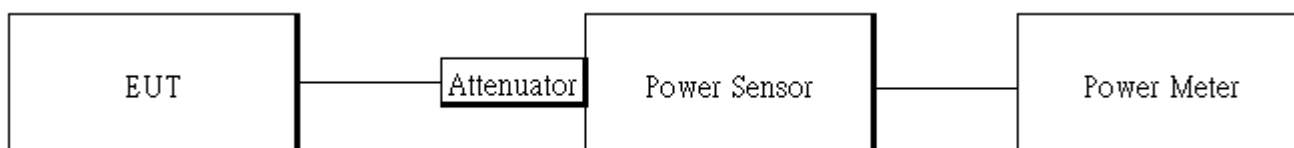
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9.2 Test Setup

9.2.1 Duty Cycle



9.2.2 Output Power



9.3 Measurement Procedure

9.3.1 Duty Cycle Measurements

1. Set span = Zero
2. RBW = 8MHz
3. VBW = 8MHz,
4. Detector = Peak

9.3.2 Output Power Measurements

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules .
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter
4. Power Meter is used as the auxiliary test equipment to conduct the output power measurement.
5. Record the max. reading and add $10 \log(1/\text{duty cycle})$.
6. Repeat above procedures until all frequency (low, middle, and high channel) measured were complete.
7. MIMO mode: offset is set with "measure and add $10 \log(N)$ " to measurement for MIMO mode. Offset = cable loss + $10 \log(N)$, where N is number of transmitting antenna, cable loss is specified below.

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Note:

As per section F. 2). e). (ii) of FCC KDB 662911 D01

If antenna gains are not equal and each transmit antenna is driven by only one spatial stream, directional gain may be calculated by either of the following formulas.

$$\bullet \quad \text{DirectionalGain} = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

NSS = the number of independent spatial streams of data;

NANT = the total number of antennas

$g_{j,k}$ = / 20 10Gk if the kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

The antenna gain is not greater than 6 dBi. Therefore, reduction of power is not required.

9.4 Duty Cycle Measurement Result

Mode	Duty Cycle (%) =Ton / (Ton+Toff)	Duty Factor (dB) =10*log (1/Duty Cycle)	1/T (kHz)	VBW setting (kHz)
802.11a	94.10	0.26	0.51	1.00
802.11n_20	98.20	0.08	0.19	0.01
802.11ac_20	98.02	0.09	0.19	0.01
802.11n_40	96.77	0.14	0.19	1.00
802.11ac_40	98.71	0.06	0.19	0.01
802.11ac_80	96.78	0.14	0.19	1.00
802.11ac_160	98.57	0.06	0.19	0.01
802.11ax_20	98.01	0.09	0.19	0.01
802.11ax_40	98.89	0.05	0.19	0.01
802.11ax_80	98.07	0.08	0.19	0.01
802.11ax_160	96.14	0.17	0.23	1.00

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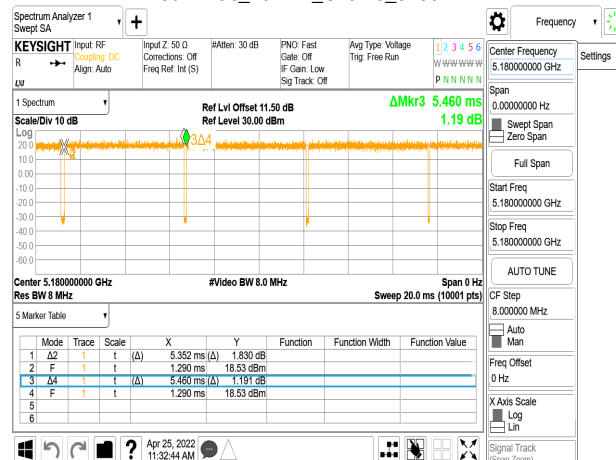
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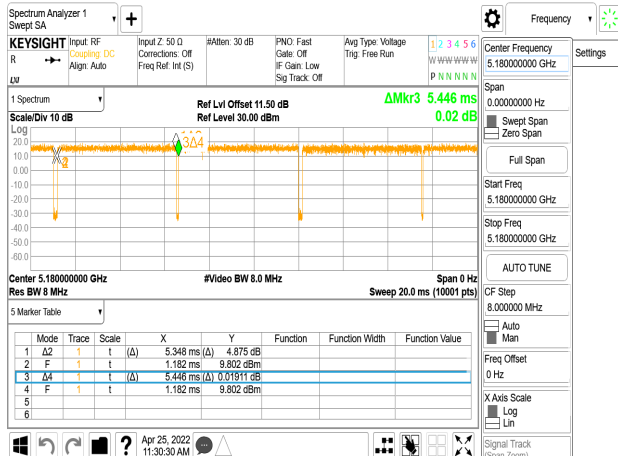
802.11a_20MHz_Chain0_5180MHz



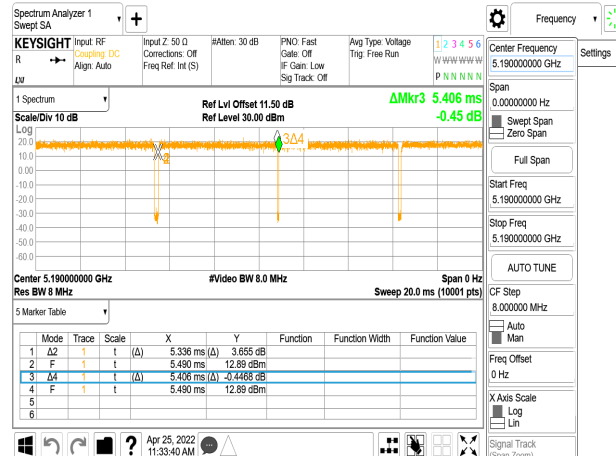
802.11ac_20MHz_Chain0_5180MHz



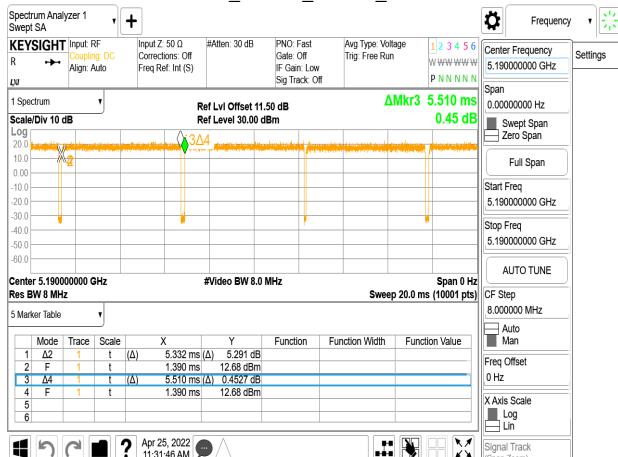
802.11n_20MHz_Chain0_5180MHz



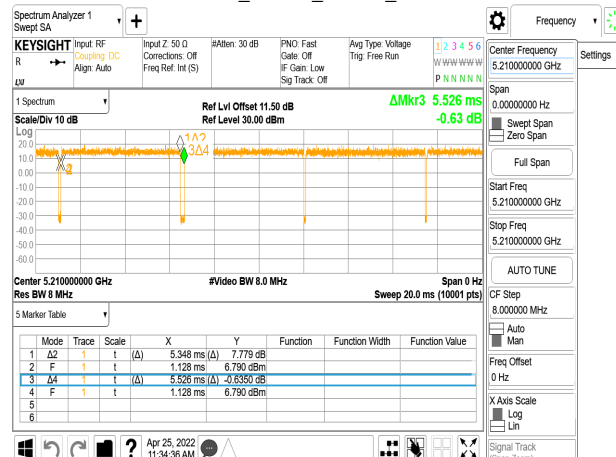
802.11ac_40MHz_Chain0_5190MHz



802.11n_40MHz_Chain0_5190MHz



802.11ac_80MHz_Chain0_5210MHz



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