

7.6. Power Spectral Density Measurement

7.6.1. Test Limit

For client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

If transmitting antennas of directional gain greater than 6dBi are used, the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

7.6.2. Test Procedure Used

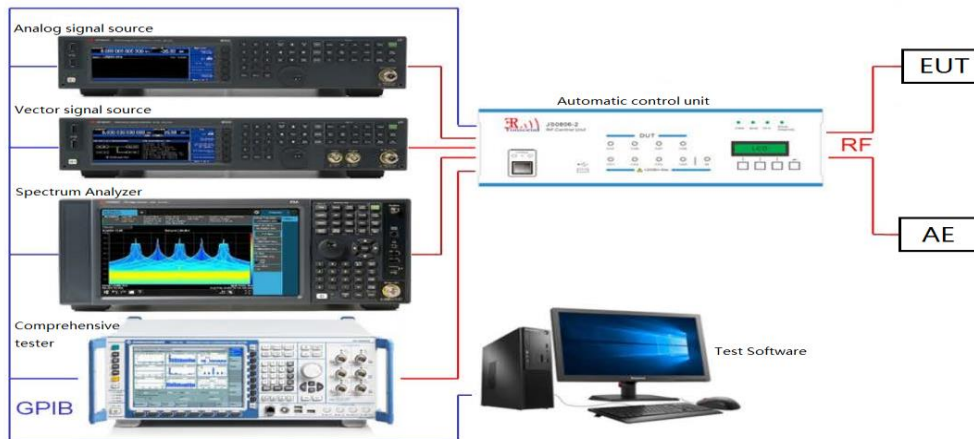
KDB 789033 D02v02r01 - Section F

ANSI C63.10-2013 - Section 12.3.2.2

7.6.3. Test Setting

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire 26dB EBW of the signal.
3. RBW = 1MHz
4. VBW = 3MHz
5. Number of sweep points $\geq 2 \times (\text{span} / \text{RBW})$
6. Detector = power averaging (Average)
7. Sweep time = auto
8. Trigger = free run
9. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
10. Add $10 \cdot \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add $10 \cdot \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.
11. When the measurement bandwidth of Maximum PSD is specified in 500 kHz, add a constant factor $10 \cdot \log(500\text{kHz}/300\text{kHz}) = 2.2$ dB to the measured result

7.6.4. Test Setup



7.6.5. Test Result

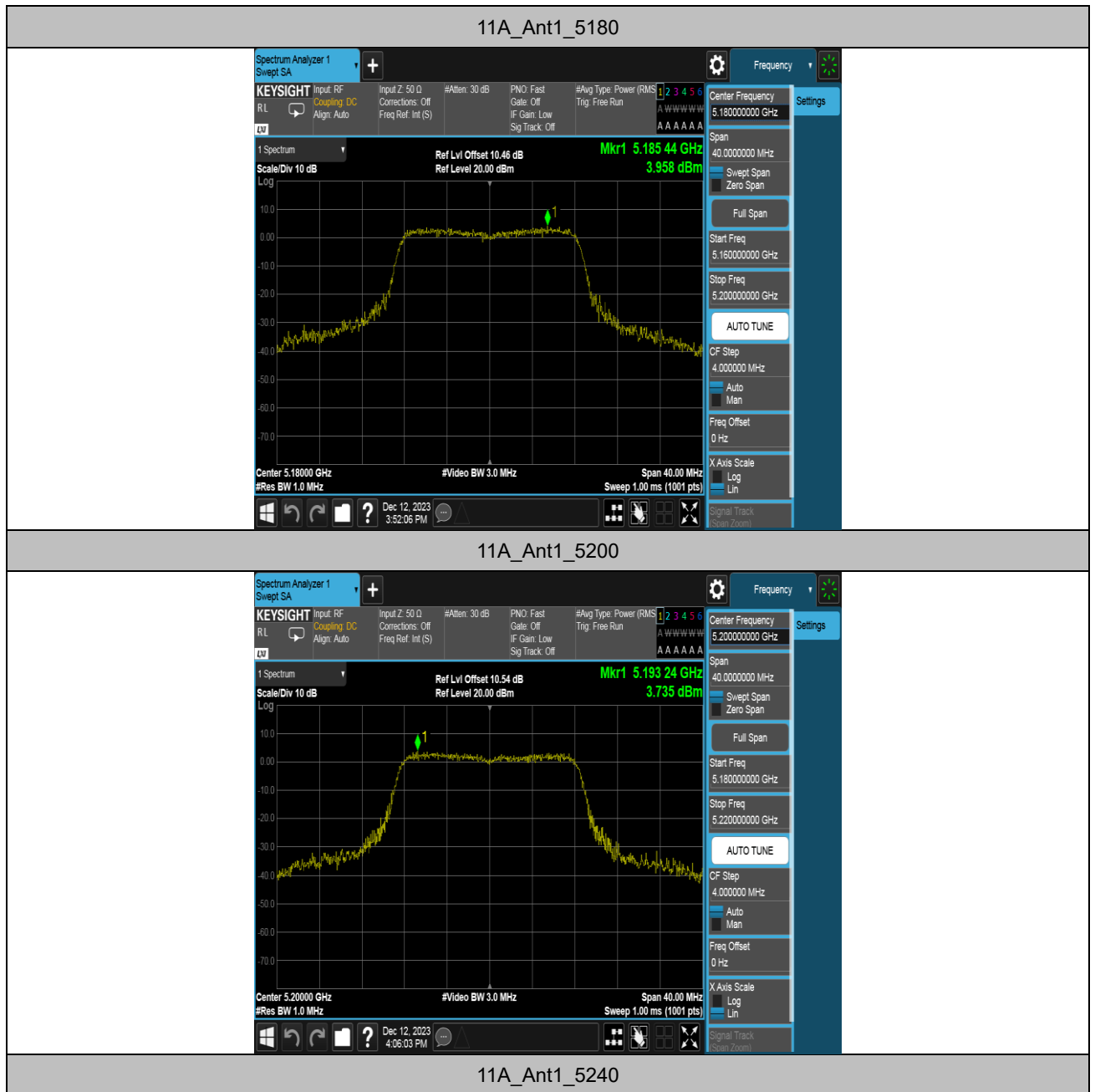
Test Mode	Antenna	Channel	Power [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	Ant1	5180	3.96	≤11.00	PASS
		5200	3.74	≤11.00	PASS
		5240	3.39	≤11.00	PASS
		5260	3.92	≤11.00	PASS
		5280	3.71	≤11.00	PASS
		5320	4.61	≤11.00	PASS
		5500	2.06	≤11.00	PASS
		5580	0.85	≤11.00	PASS
		5700	0.32	≤11.00	PASS
		5745	0.02	≤30.00	PASS
		5785	0.18	≤30.00	PASS
		5825	0.65	≤30.00	PASS
11N20SISO	Ant1	5180	3.70	≤11.00	PASS
		5200	3.53	≤11.00	PASS
		5240	3.79	≤11.00	PASS
		5260	4.55	≤11.00	PASS
		5280	4.02	≤11.00	PASS
		5320	4.52	≤11.00	PASS
		5500	0.70	≤11.00	PASS
		5580	0.13	≤11.00	PASS
		5700	-0.29	≤11.00	PASS
		5745	0.00	≤30.00	PASS
		5785	0.14	≤30.00	PASS
		5825	0.17	≤30.00	PASS
11N40SISO	Ant1	5190	1.43	≤11.00	PASS
		5230	1.64	≤11.00	PASS
		5270	1.50	≤11.00	PASS
		5310	1.69	≤11.00	PASS
		5510	-1.02	≤11.00	PASS
		5550	-2.86	≤11.00	PASS
		5670	-2.56	≤11.00	PASS
		5755	-2.69	≤30.00	PASS
		5795	-2.13	≤30.00	PASS

11AC20SISO	Ant1	5180	3.25	≤11.00	PASS
		5200	3.82	≤11.00	PASS
		5240	3.31	≤11.00	PASS
		5260	4.28	≤11.00	PASS
		5280	3.78	≤11.00	PASS
		5320	3.65	≤11.00	PASS
		5500	1.15	≤11.00	PASS
		5580	-0.36	≤11.00	PASS
		5700	-0.72	≤11.00	PASS
		5745	-0.86	≤30.00	PASS
		5785	-1.46	≤30.00	PASS
		5825	-0.24	≤30.00	PASS
11AC40SISO	Ant1	5190	0.30	≤11.00	PASS
		5230	0.51	≤11.00	PASS
		5270	0.70	≤11.00	PASS
		5310	0.59	≤11.00	PASS
		5510	-1.47	≤11.00	PASS
		5550	-2.95	≤11.00	PASS
		5670	-3.53	≤11.00	PASS
		5755	-3.02	≤30.00	PASS
		5795	-3.45	≤30.00	PASS
11AC80SISO	Ant1	5210	-1.29	≤11.00	PASS
		5290	-0.47	≤11.00	PASS
		5530	-4.43	≤11.00	PASS
		5610	-4.83	≤11.00	PASS
		5775	-8.93	≤30.00	PASS

Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

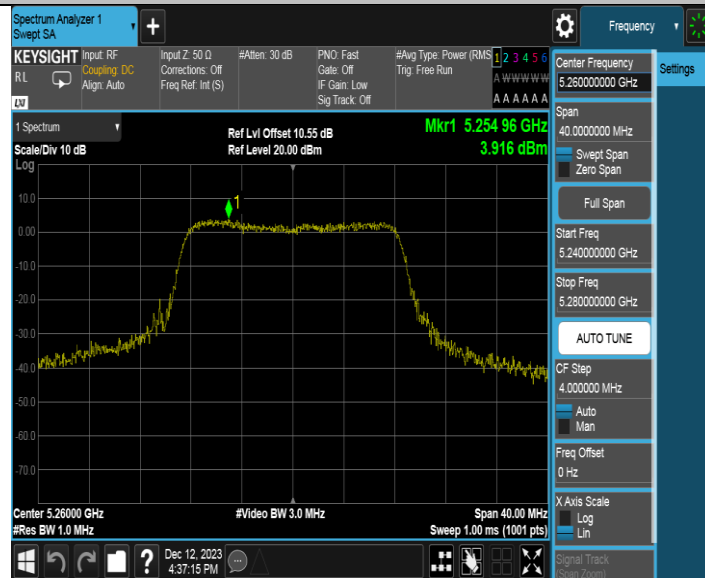
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

Test Graphs

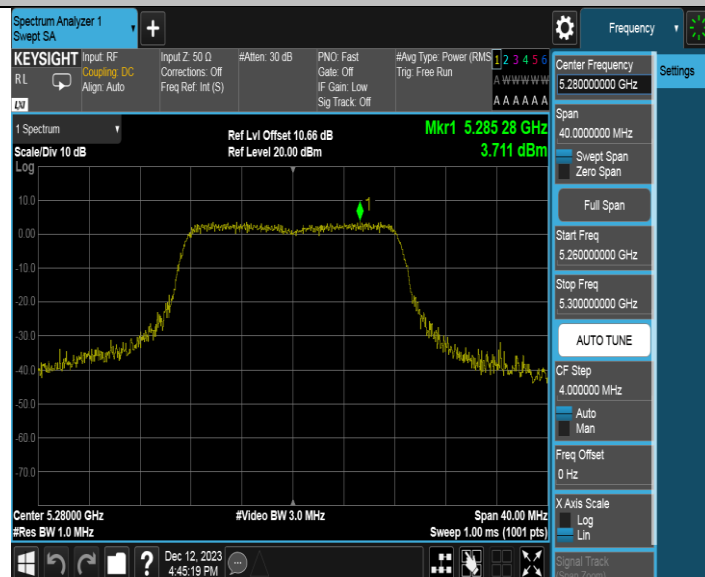




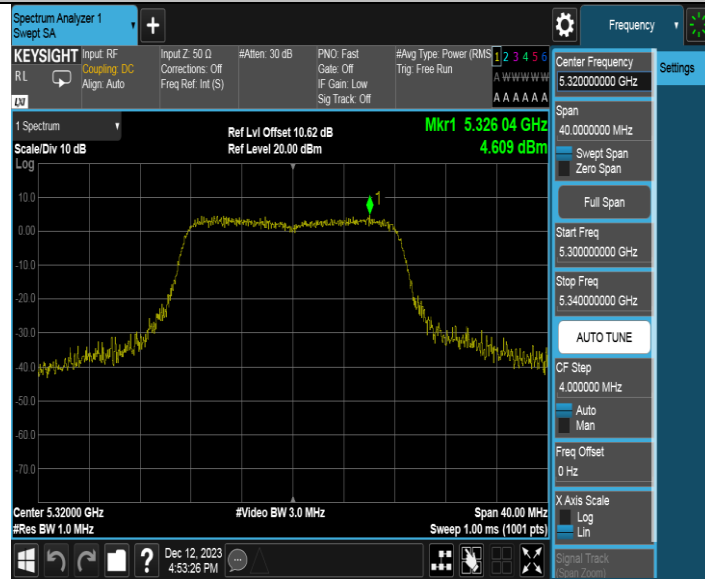
11A_Ant1_5260



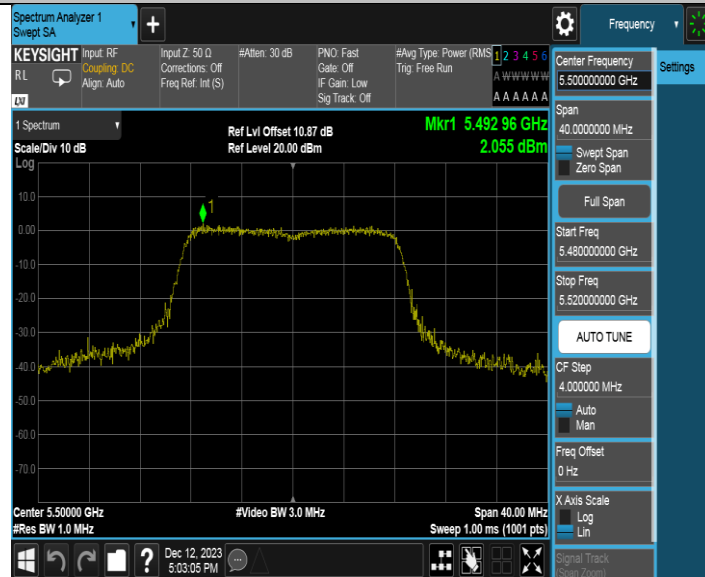
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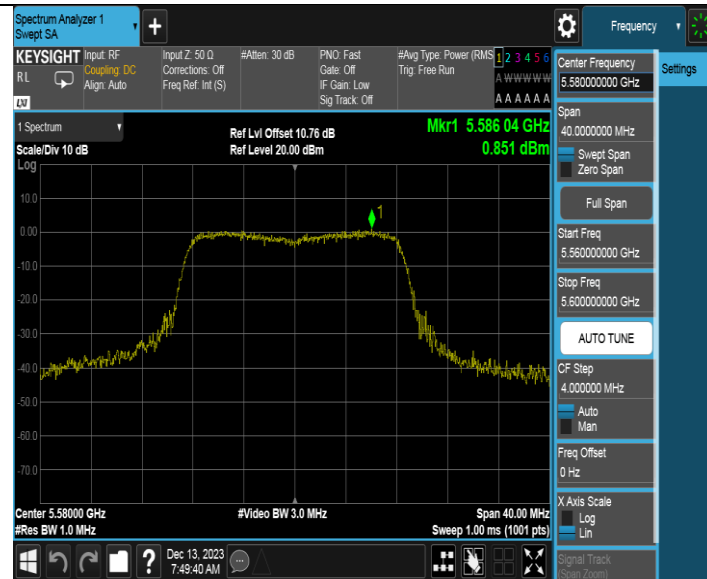
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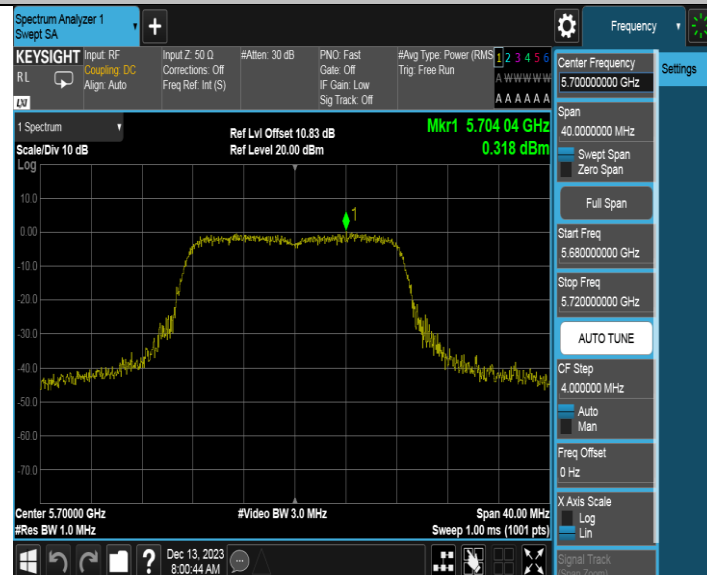
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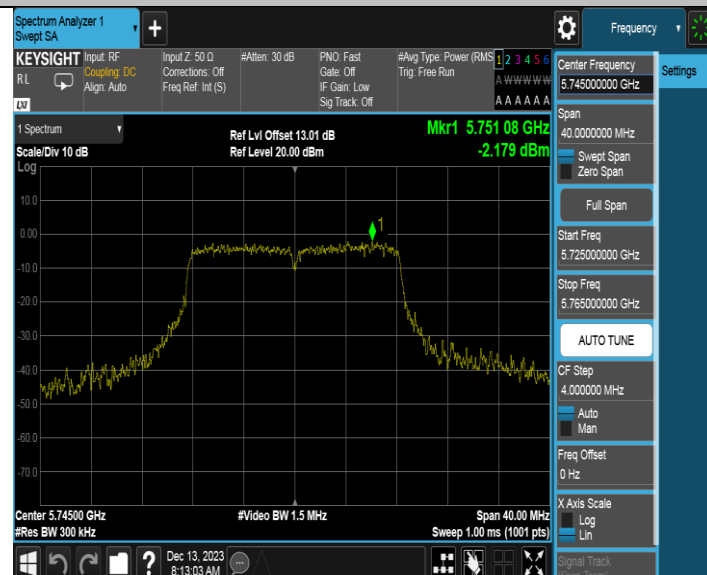
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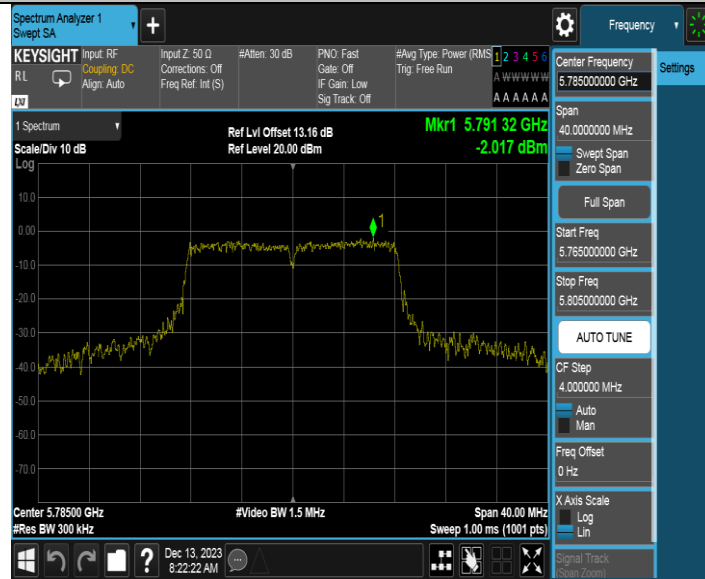
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11A_Ant1_5745



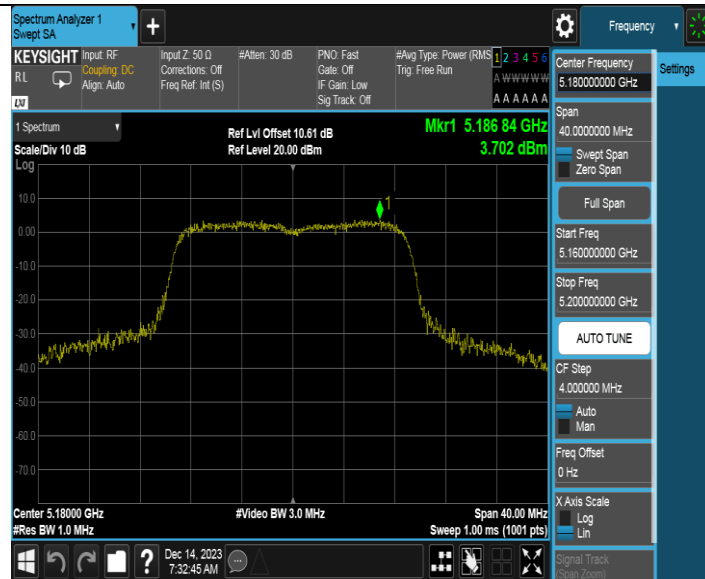
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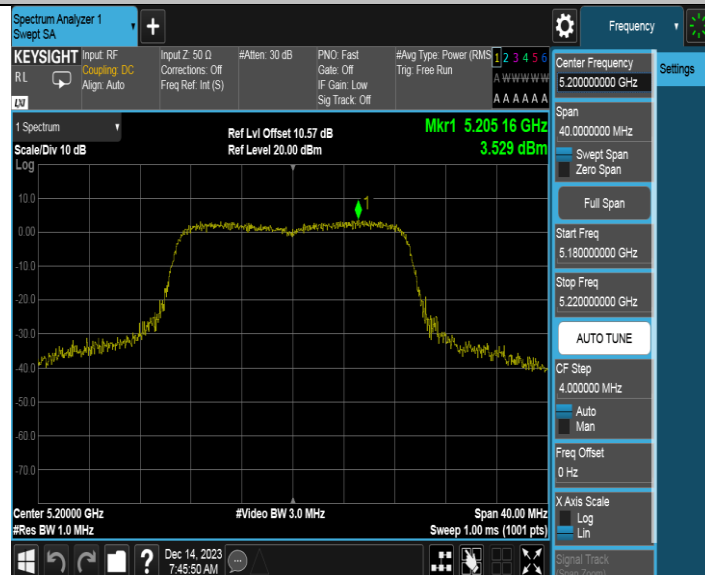
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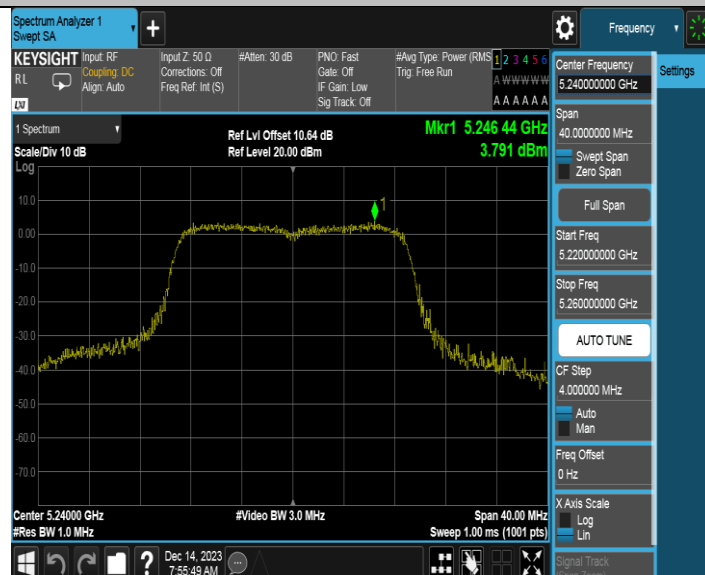
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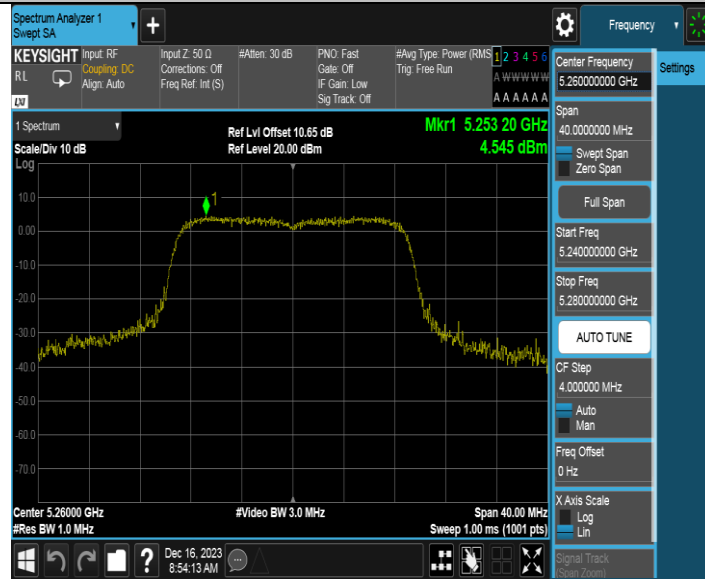
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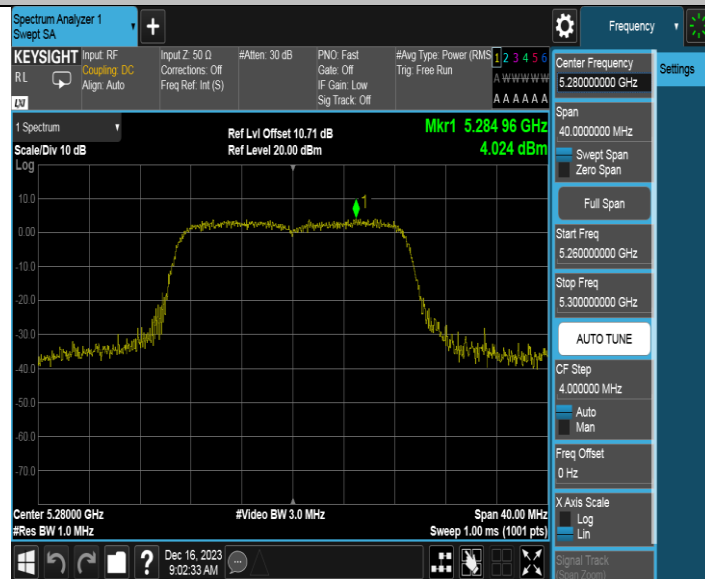
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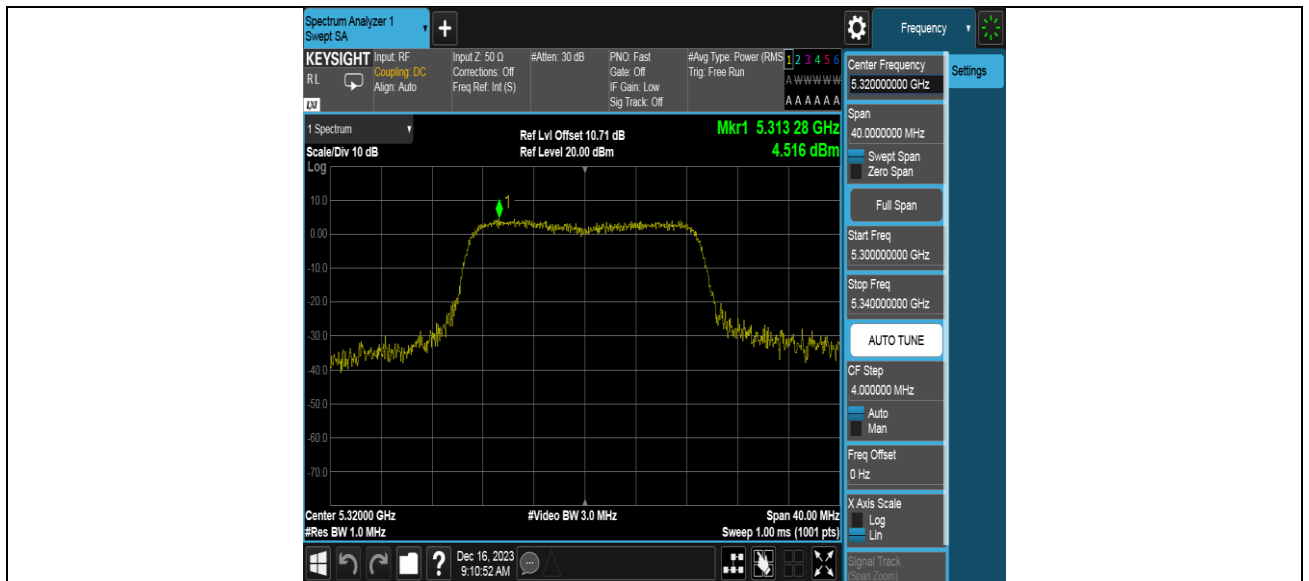
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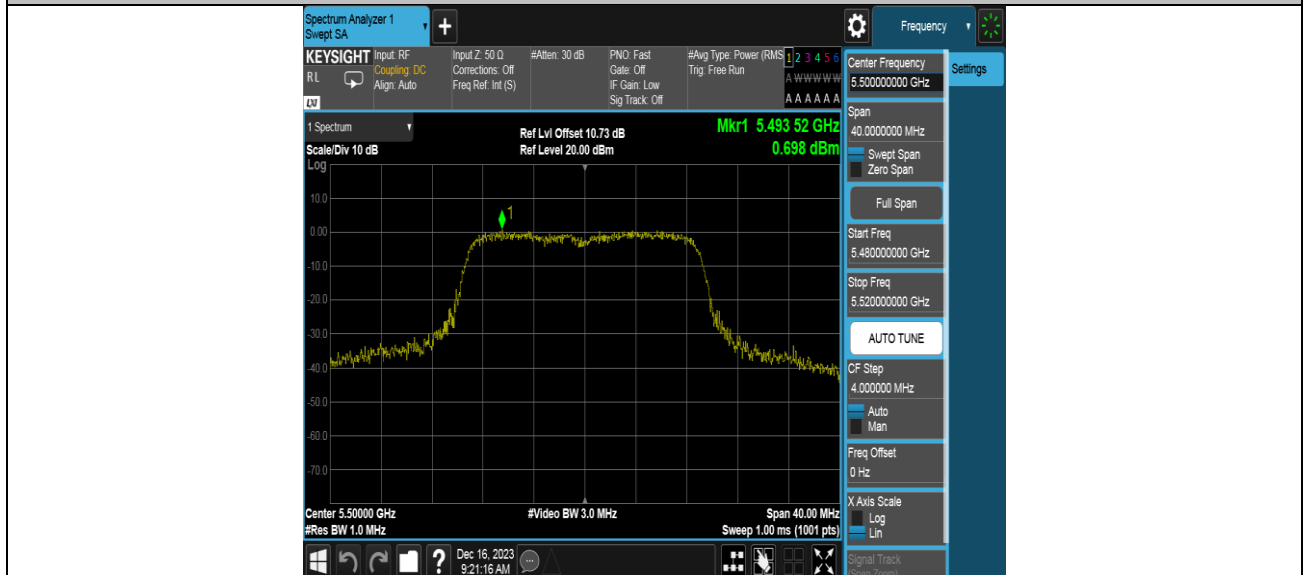
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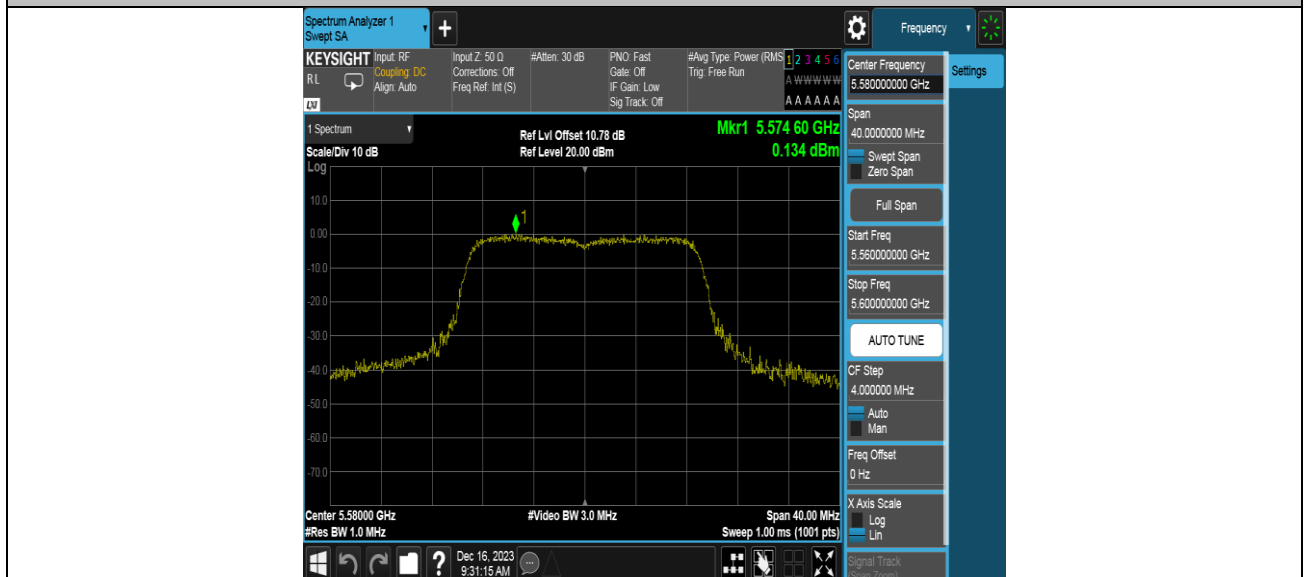
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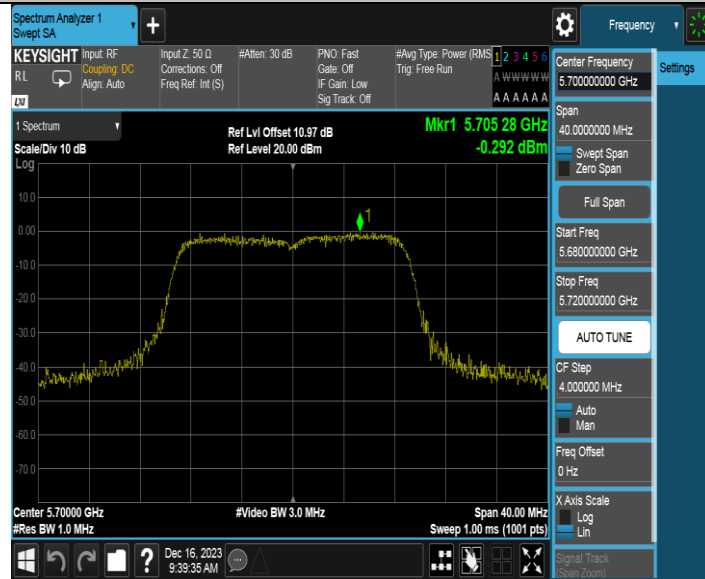
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11N20SISO_Ant1_5580



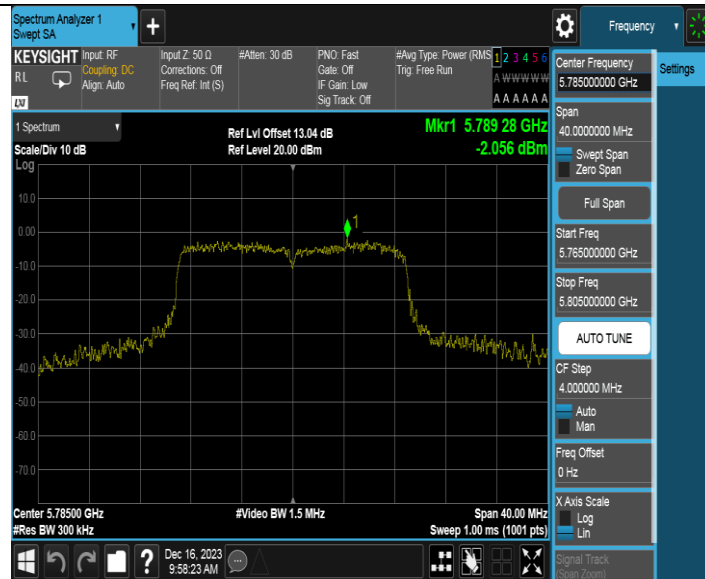
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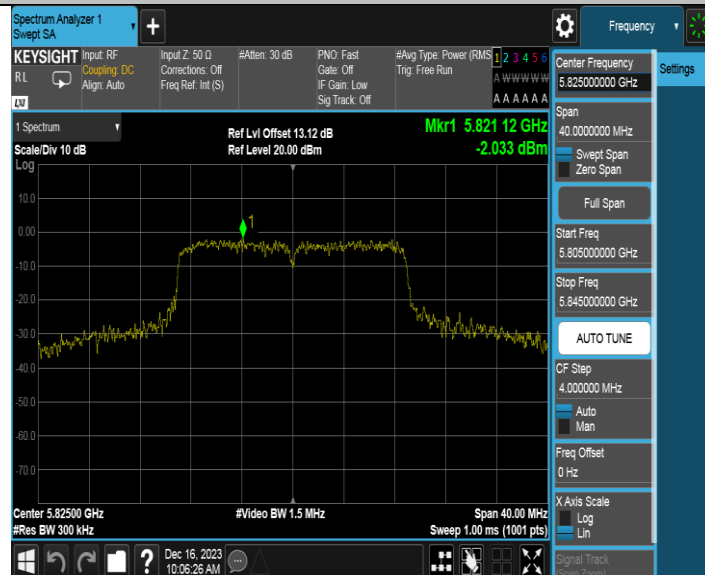
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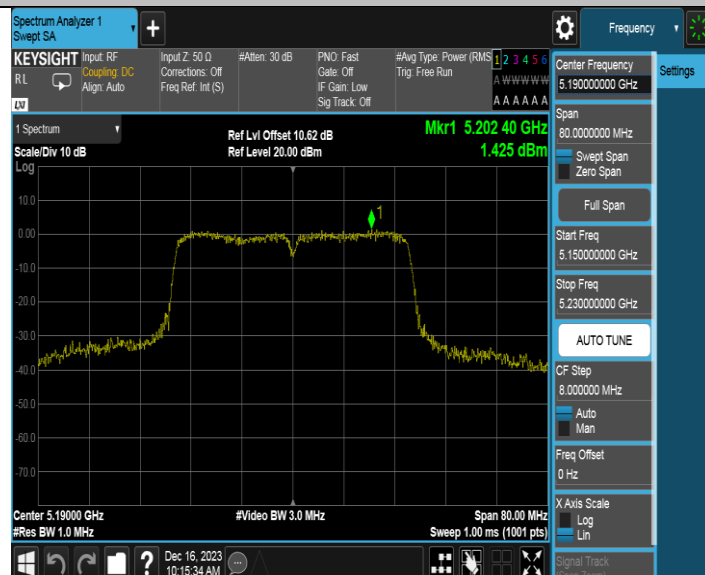
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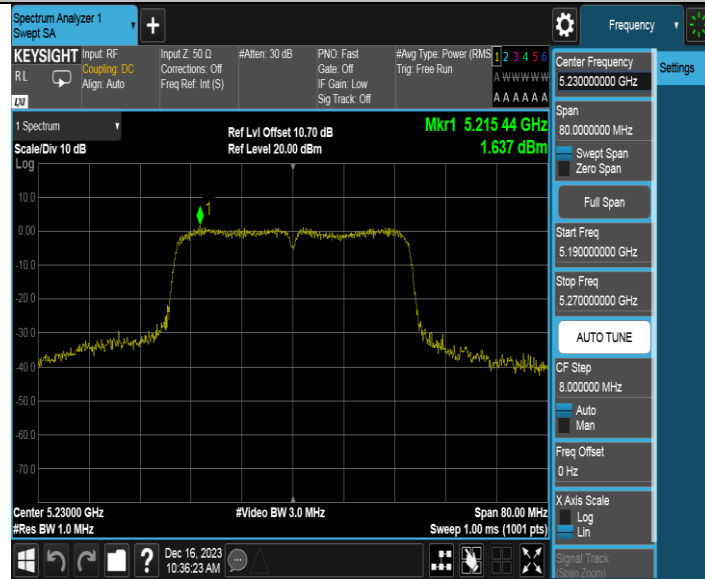
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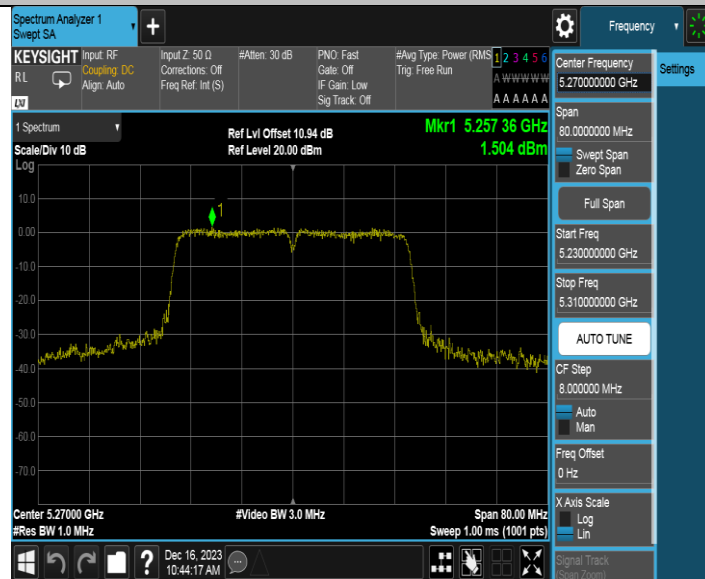
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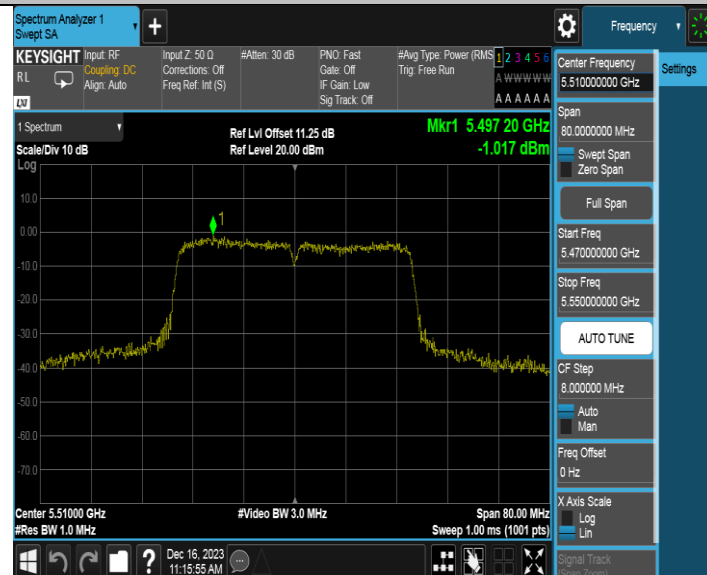
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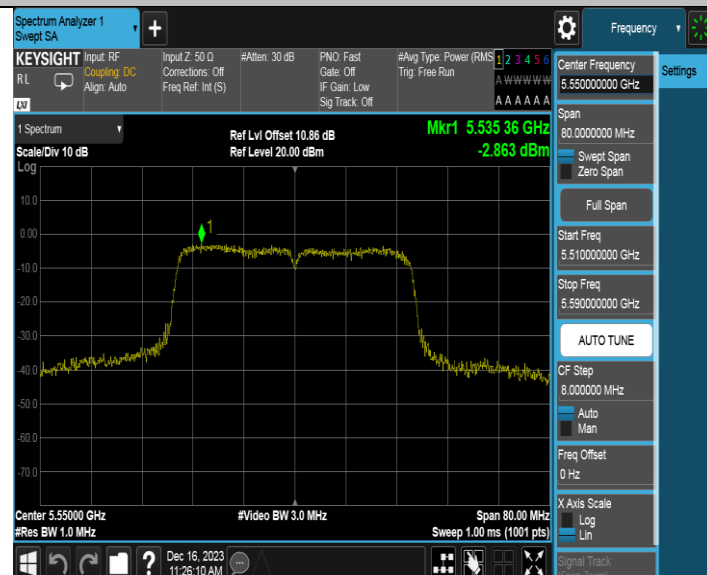
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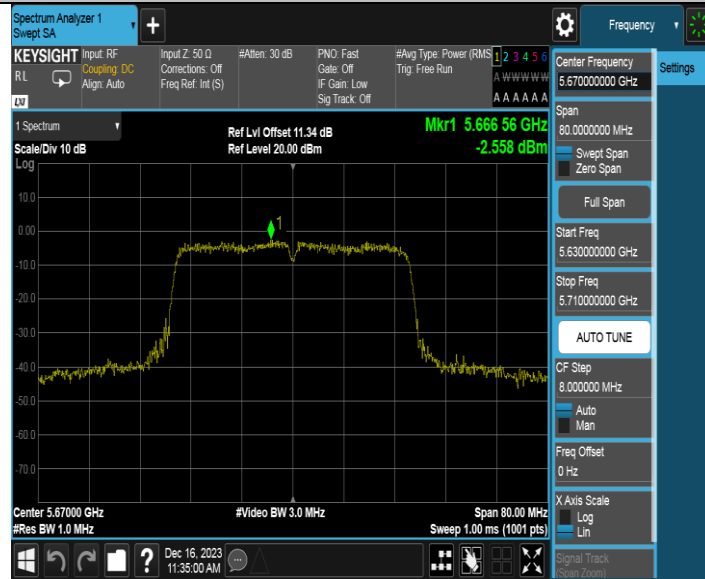
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11N40SISO_Ant1_5550



11N40SISO_Ant1_5670



11N40SISO_Ant1_5755



11N40SISO_Ant1_5795