11AC40SISO-Ant1-5795-PASS

11AC80SISO-Ant1-5775-PASS

3.4 Conducted Output Power

3.4.1 Limit

FCC Part15, Subpart E (15.407)			
Section	Test Item	Limit	Frequency Range (MHz)
15.407(a)	Conducted Output Power	Master device: 1 Watt (30 dBm) Client device: 250 mW (23.98 dBm)	5150-5250
		250 mW (23.98 dBm)	5250-5350
		250 mW (23.98 dBm)	5470-5725
		1 Watt (30dBm)	5725-5850

Note:

a. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

b. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10log B, where B is the 26dB Bandwidth in megahertz.

3.4.2 Test Procedure

Test Method	
●Conducted Measurement	○Radiated Measurement
Test Channels	
●Lowest, Middle and Highest Channel	○ Lowest and Highest Channel
Environmental conditions	
●Normal	○Normal and Extreme
Note:●:Test ○:No Test	

a) The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.

b) Test was performed in accordance with method of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

3.4.3 Test Setup

3.4.4 Table of Parameters of Text Software Setting

UNII-1			
Test Software Version	cmd.exe		
Frequency (MHz)	5180	5200	5240
IEEE 802.11a	Default	Default	Default
IEEE 802.11n(HT20)	Default	Default	Default
IEEE 802.11ac(VHT20)	Default	Default	Default
Frequency (MHz)	5190	5230	
IEEE 802.11n(HT40)	Default	Default	
IEEE 802.11ac(VHT40)	Default	Default	
Frequency (MHz)	5210		
IEEE 802.11ac(VHT80)	Default		

UNII-2A			
Test Software Version	cmd.exe		
Frequency (MHz)	5260	5300	5320
IEEE 802.11a	Default	Default	Default
IEEE 802.11n(HT20)	Default	Default	Default
IEEE 802.11ac(VHT20)	Default	Default	Default
Frequency (MHz)	5270	5310	
IEEE 802.11n(HT40)	Default	Default	
IEEE 802.11ac(VHT40)	Default	Default	
Frequency (MHz)	5290		
IEEE 802.11ac(VHT80)	Default		

UNII-2C			
Test Software Version	cmd.exe		
Frequency (MHz)	5500	5580	5700
IEEE 802.11a	Default	Default	Default
IEEE 802.11n(HT20)	Default	Default	Default
IEEE 802.11ac(VHT20)	Default	Default	Default
Frequency (MHz)	5510	5550	5670
IEEE 802.11n(HT40)	Default	Default	Default
IEEE 802.11ac(VHT40)	Default	Default	Default
Frequency (MHz)	5530	5610	
IEEE 802.11ac(VHT80)	Default	Default	

UNII-3			
Test Software Version	cmd.exe		
Frequency (MHz)	5745	5785	5825
IEEE 802.11a	Default	Default	Default
IEEE 802.11n(HT20)	Default	Default	Default
IEEE 802.11ac(VHT20)	Default	Default	Default
Frequency (MHz)	5755	5795	
IEEE 802.11n(HT40)	Default	Default	
IEEE 802.11ac(VHT40)	Default	Default	
Frequency (MHz)	5775		
IEEE 802.11ac(VHT80)	Default		

3.4.5 The Result

Test Mode	Antenna	Frequency[MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	9.76	≤23.98	PASS
11A	Ant1	5200	9.95	≤23.98	PASS
11A	Ant1	5240	9.53	≤23.98	PASS
11A	Ant1	5260	8.84	≤23.98	PASS
11A	Ant1	5280	8.76	≤23.98	PASS
11A	Ant1	5320	8.23	≤23.98	PASS
11A	Ant1	5500	5.21	≤23.98	PASS
11A	Ant1	5580	4.03	≤23.98	PASS
11A	Ant1	5700	4.31	≤23.98	PASS
11A	Ant1	5745	9.50	≤30.00	PASS
11A	Ant1	5785	10.57	≤30.00	PASS
11A	Ant1	5825	11.02	≤30.00	PASS
11N20SISO	Ant1	5180	9.18	≤23.98	PASS
11N20SISO	Ant1	5200	9.44	≤23.98	PASS
11N20SISO	Ant1	5240	9.21	≤23.98	PASS
11N20SISO	Ant1	5260	8.43	≤23.98	PASS
11N20SISO	Ant1	5280	8.19	≤23.98	PASS
11N20SISO	Ant1	5320	7.73	≤23.98	PASS
11N20SISO	Ant1	5500	4.64	≤23.98	PASS
11N20SISO	Ant1	5580	3.80	≤23.98	PASS
11N20SISO	Ant1	5700	3.76	≤23.98	PASS
11N20SISO	Ant1	5745	9.15	≤30.00	PASS
11N20SISO	Ant1	5785	10.19	≤30.00	PASS
11N20SISO	Ant1	5825	10.58	≤30.00	PASS
11N40SISO	Ant1	5190	7.90	≤23.98	PASS
11N40SISO	Ant1	5230	7.04	≤23.98	PASS
11N40SISO	Ant1	5270	6.34	≤23.98	PASS
11N40SISO	Ant1	5310	5.92	≤23.98	PASS
11N40SISO	Ant1	5510	3.69	≤23.98	PASS
11N40SISO	Ant1	5550	3.60	≤23.98	PASS
11N40SISO	Ant1	5670	4.67	≤23.98	PASS
11N40SISO	Ant1	5755	8.76	≤30.00	PASS
11N40SISO	Ant1	5795	10.40	≤30.00	PASS
11AC20SISO	Ant1	5180	8.46	≤23.98	PASS
11AC20SISO	Ant1	5200	8.68	≤23.98	PASS
11AC20SISO	Ant1	5240	9.90	≤23.98	PASS
11AC20SISO	Ant1	5260	6.24	≤23.98	PASS
11AC20SISO	Ant1	5280	7.03	≤23.98	PASS
11AC20SISO	Ant1	5320	5.04	≤23.98	PASS
11AC20SISO	Ant1	5500	5.89	≤23.98	PASS

11AC20SISO	Ant1	5580	7.59	≤23.98	PASS
11AC20SISO	Ant1	5700	5.37	≤23.98	PASS
11AC20SISO	Ant1	5745	10.12	≤30.00	PASS
11AC20SISO	Ant1	5785	10.42	≤30.00	PASS
11AC20SISO	Ant1	5825	11.62	≤30.00	PASS
11AC40SISO	Ant1	5190	8.00	≤23.98	PASS
11AC40SISO	Ant1	5230	7.09	≤23.98	PASS
11AC40SISO	Ant1	5270	5.39	≤23.98	PASS
11AC40SISO	Ant1	5310	5.45	≤23.98	PASS
11AC40SISO	Ant1	5510	8.37	≤23.98	PASS
11AC40SISO	Ant1	5550	8.91	≤23.98	PASS
11AC40SISO	Ant1	5670	6.90	≤23.98	PASS
11AC40SISO	Ant1	5755	9.05	≤30.00	PASS
11AC40SISO	Ant1	5795	9.75	≤30.00	PASS
11AC80SISO	Ant1	5210	5.68	≤23.98	PASS
11AC80SISO	Ant1	5290	5.36	≤23.98	PASS
11AC80SISO	Ant1	5530	7.36	≤23.98	PASS
11AC80SISO	Ant1	5610	5.66	≤23.98	PASS
11AC80SISO	Ant1	5775	7.57	≤30.00	PASS

Note: The duty cycle factor and line loss are compensated in the average conducted output power.

3.5 Power Spectral Density

3.5.1 Limit

FCC Part15, Subpart E (15.407)			
Section	Test Item	Limit	Frequency Range (MHz)
15.407(a)	Power Spectral Density	Master device: 17 dBm/MHz Client device: 11 dBm/MHz	5150-5250
		11 dBm/MHz	5250-5350
		11 dBm/MHz	5470-5725
		30 dBm/500 kHz	5725-5850

Note:

1. For UNII-3, according to KDB publication 789033 D02 General UNII Test Procedures New Rules v02r01, section II.F.5., it is acceptable to set RBW at 300kHz and VBW at 1500kHz if the spectrum analyzer does not have 500 kHz RBW. Then, add 10 log (500 kHz/300 kHz) to the measured result, i.e. 2.22 dB.
2. During the test of U-NII 3 PSD, the measurement result with RBW=300kHz has been added 2.22 dB by compensating offset, offset=cable loss+duty factor+10log(500kHz/300kHz).

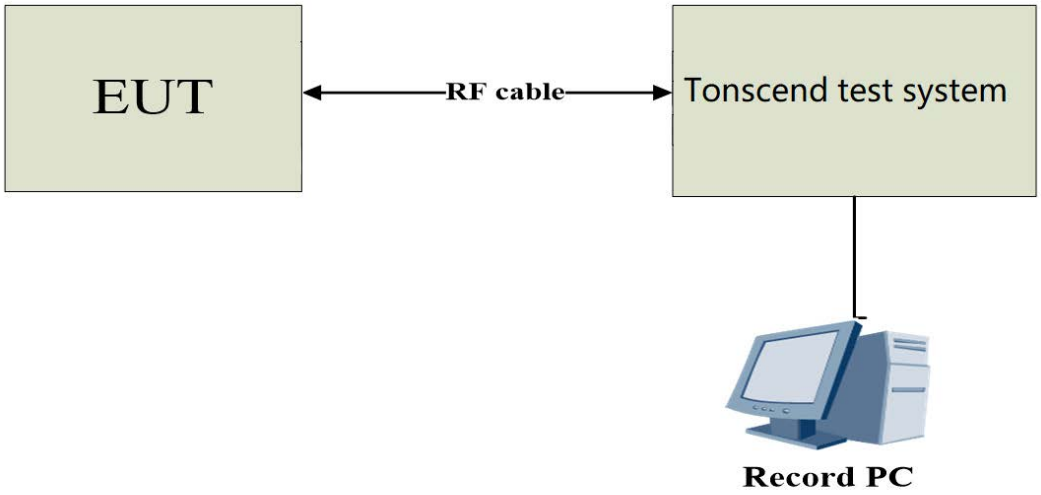
3.5.2 Test Procedure

Test Method	
●Conducted Measurement	○Radiated Measurement
Test Channels	
●Lowest, Middle and Highest Channel	○ Lowest and Highest Channel
Environmental conditions	
●Normal	○Normal and Extreme
Note:●:Test ○:No Test	

a) The EUT was directly connected to the tonscend test system and antenna output port as show in the block diagram below. Spectrum analyser settings as following:

Centre Frequency	The centre frequency of the channel under test
RBW	= 1 MHz (Band1/2/3); = 300kHz (Band4)
VBW	≥3 x RBW
Frequency span	2 x Nominal Channel Bandwidth
Detector Mode	RMS
Trace Mode	Max Hold
Sweep Time	Auto Couple

3.5.3 Test Setup



3.5.4 The Result

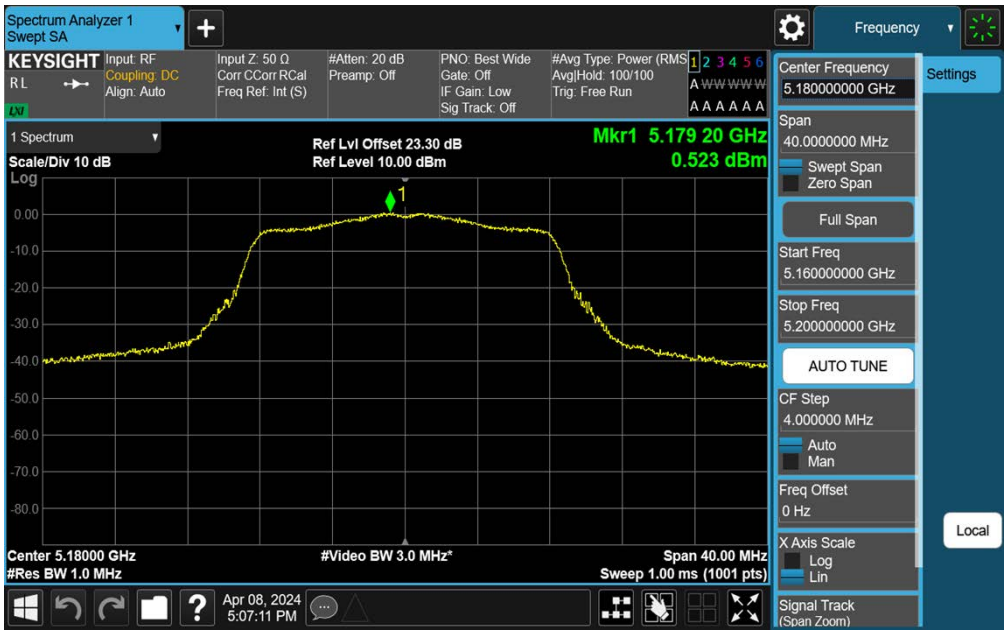
Test Mode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	0.52	≤11.00	PASS
11A	Ant1	5200	0.58	≤11.00	PASS
11A	Ant1	5240	0.11	≤11.00	PASS
11A	Ant1	5260	-0.30	≤11.00	PASS
11A	Ant1	5280	-0.48	≤11.00	PASS
11A	Ant1	5320	-1.02	≤11.00	PASS
11A	Ant1	5500	-4.01	≤11.00	PASS
11A	Ant1	5580	-5.18	≤11.00	PASS
11A	Ant1	5700	-5.02	≤11.00	PASS
11A	Ant1	5745	-2.42	≤30.00	PASS
11A	Ant1	5785	-1.28	≤30.00	PASS
11A	Ant1	5825	-0.77	≤30.00	PASS
11N20SISO	Ant1	5180	-0.23	≤11.00	PASS
11N20SISO	Ant1	5200	0.00	≤11.00	PASS
11N20SISO	Ant1	5240	-0.27	≤11.00	PASS
11N20SISO	Ant1	5260	-1.12	≤11.00	PASS
11N20SISO	Ant1	5280	-1.37	≤11.00	PASS
11N20SISO	Ant1	5320	-1.77	≤11.00	PASS
11N20SISO	Ant1	5500	-4.93	≤11.00	PASS
11N20SISO	Ant1	5580	-5.56	≤11.00	PASS
11N20SISO	Ant1	5700	-6.01	≤11.00	PASS
11N20SISO	Ant1	5745	-2.84	≤30.00	PASS
11N20SISO	Ant1	5785	-1.75	≤30.00	PASS
11N20SISO	Ant1	5825	-1.22	≤30.00	PASS
11N40SISO	Ant1	5190	-4.21	≤11.00	PASS
11N40SISO	Ant1	5230	-5.27	≤11.00	PASS
11N40SISO	Ant1	5270	-5.92	≤11.00	PASS
11N40SISO	Ant1	5310	-6.59	≤11.00	PASS
11N40SISO	Ant1	5510	-6.95	≤11.00	PASS
11N40SISO	Ant1	5550	-8.54	≤11.00	PASS
11N40SISO	Ant1	5670	-7.34	≤11.00	PASS
11N40SISO	Ant1	5755	-4.87	≤30.00	PASS
11N40SISO	Ant1	5795	-3.91	≤30.00	PASS
11AC20SISO	Ant1	5180	-0.82	≤11.00	PASS
11AC20SISO	Ant1	5200	-0.94	≤11.00	PASS
11AC20SISO	Ant1	5240	0.46	≤11.00	PASS
11AC20SISO	Ant1	5260	-2.84	≤11.00	PASS
11AC20SISO	Ant1	5280	-2.57	≤11.00	PASS
11AC20SISO	Ant1	5320	-4.51	≤11.00	PASS
11AC20SISO	Ant1	5500	-12.42	≤11.00	PASS

11AC20SISO	Ant1	5580	-1.96	≤11.00	PASS
11AC20SISO	Ant1	5700	-4.26	≤11.00	PASS
11AC20SISO	Ant1	5745	-1.52	≤30.00	PASS
11AC20SISO	Ant1	5785	-1.10	≤30.00	PASS
11AC20SISO	Ant1	5825	0.04	≤30.00	PASS
11AC40SISO	Ant1	5190	-3.90	≤11.00	PASS
11AC40SISO	Ant1	5230	-5.10	≤11.00	PASS
11AC40SISO	Ant1	5270	-6.96	≤11.00	PASS
11AC40SISO	Ant1	5310	-6.81	≤11.00	PASS
11AC40SISO	Ant1	5510	-3.78	≤11.00	PASS
11AC40SISO	Ant1	5550	-3.49	≤11.00	PASS
11AC40SISO	Ant1	5670	-5.44	≤11.00	PASS
11AC40SISO	Ant1	5755	-5.00	≤30.00	PASS
11AC40SISO	Ant1	5795	-4.12	≤30.00	PASS
11AC80SISO	Ant1	5210	-9.17	≤11.00	PASS
11AC80SISO	Ant1	5290	-9.20	≤11.00	PASS
11AC80SISO	Ant1	5530	-7.07	≤11.00	PASS
11AC80SISO	Ant1	5610	-8.99	≤11.00	PASS
11AC80SISO	Ant1	5775	-10.08	≤30.00	PASS

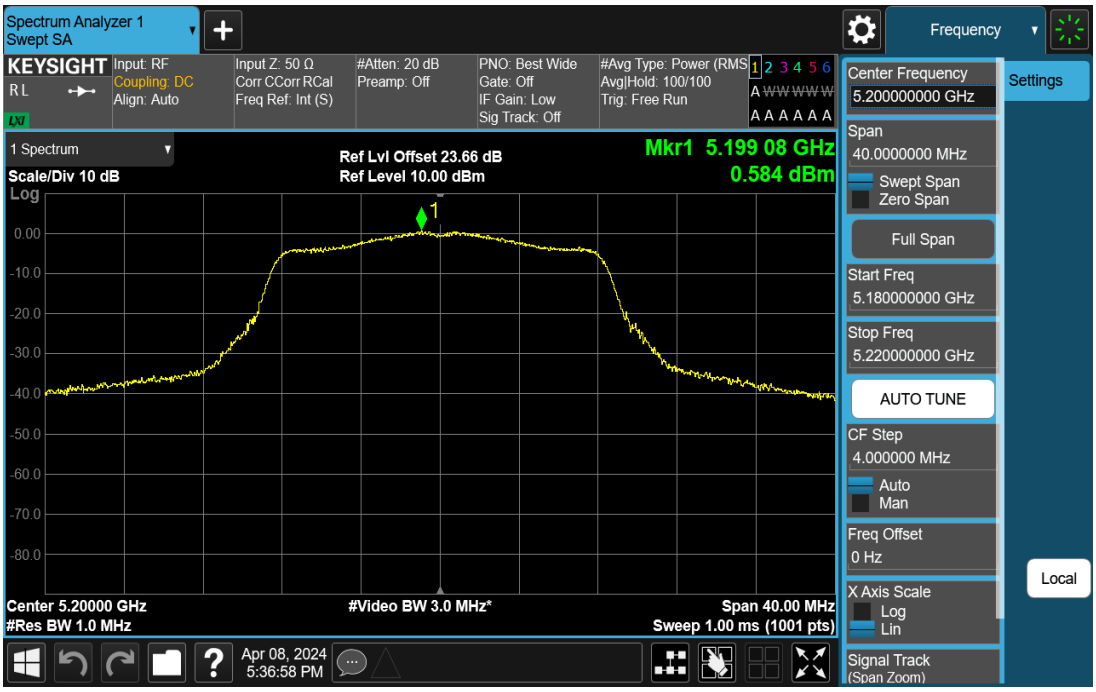
Note: The Duty Cycle Factor and line loss are compensated in the test system

For UNII-3, according to KDB publication 789033 D02 General UNII Test Procedures New Rules v02r01, section II.F.5., it is acceptable to set RBW at 300kHz and VBW at 1500kHz if the spectrum analyzer does not have 500 kHz RBW. Then, add 10 log (500 kHz/300 kHz) to the measured result, i.e. 2.22 dB.

During the test of U-NII 3 PSD, the measurement result with RBW=300kHz has been added 2.22 dB by compensating offset, offset=cable loss+duty cycle factor+10log(500kHz/300kHz).



11A-Ant1-5180-PASS



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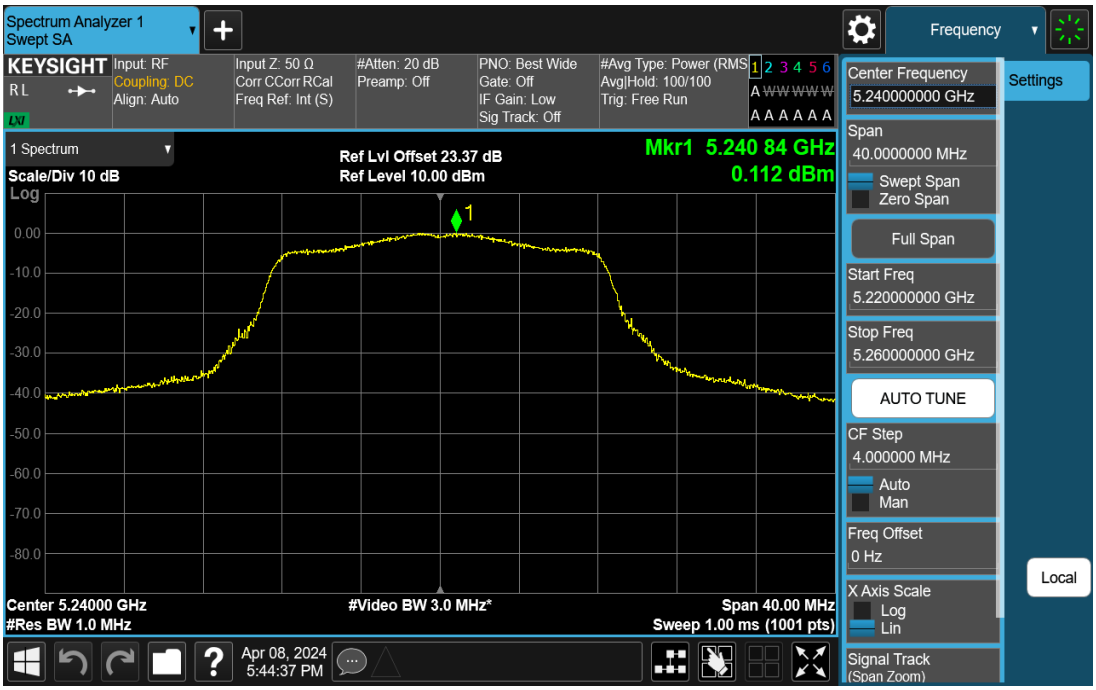
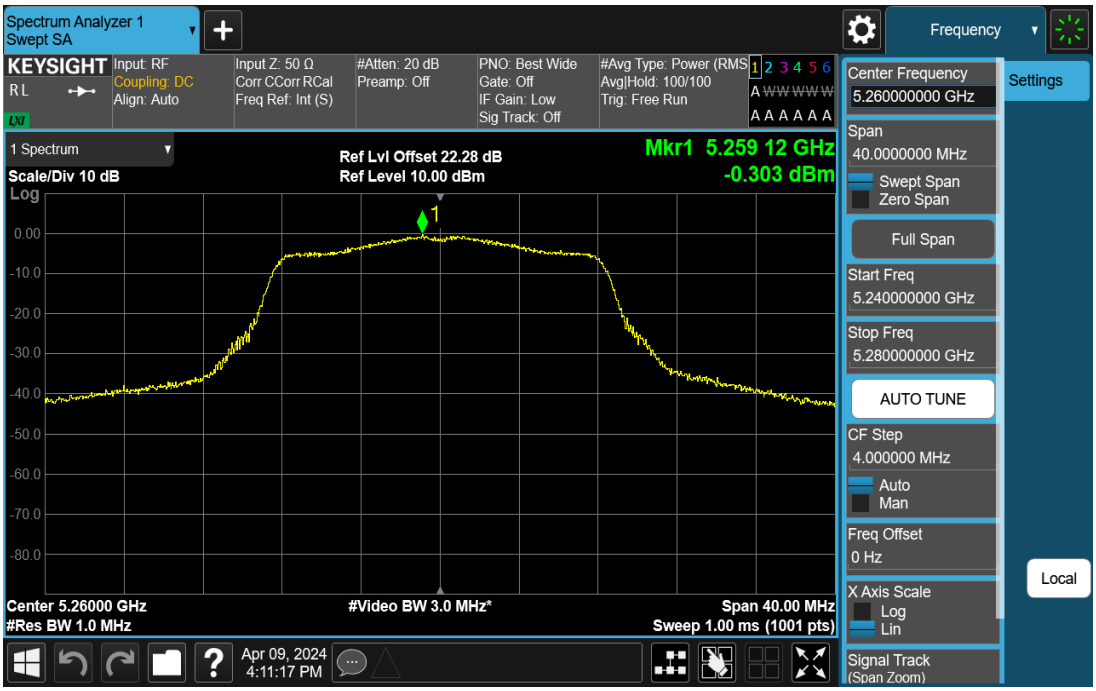
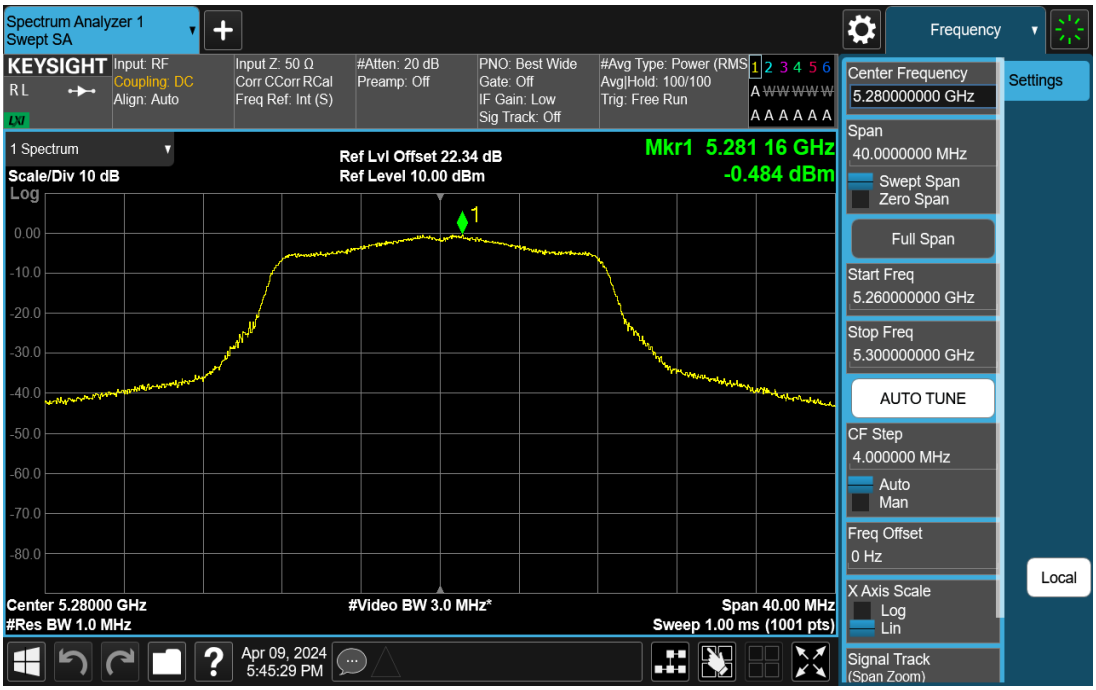


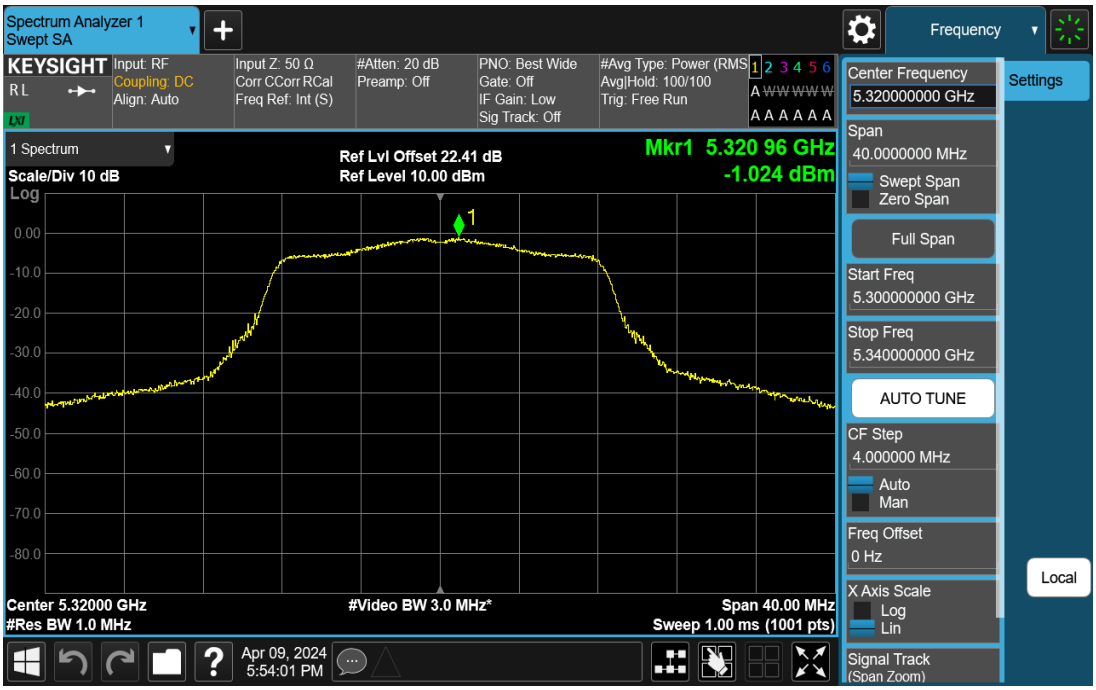
11A-Ant1-5240-PASS



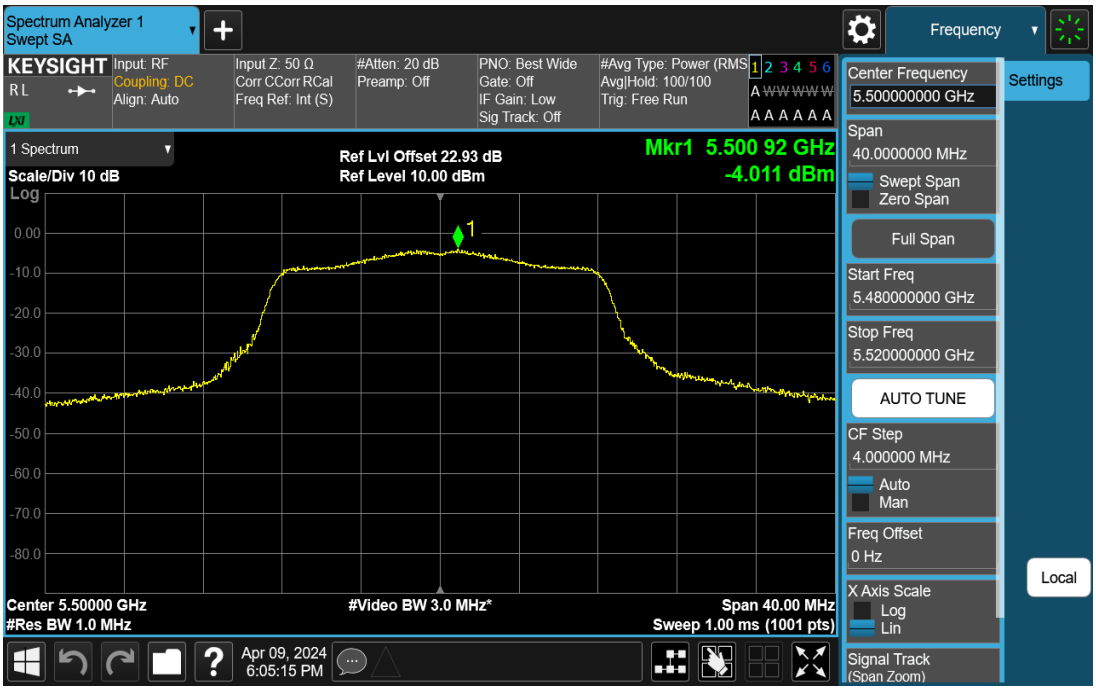
11A-Ant1-5260-PASS



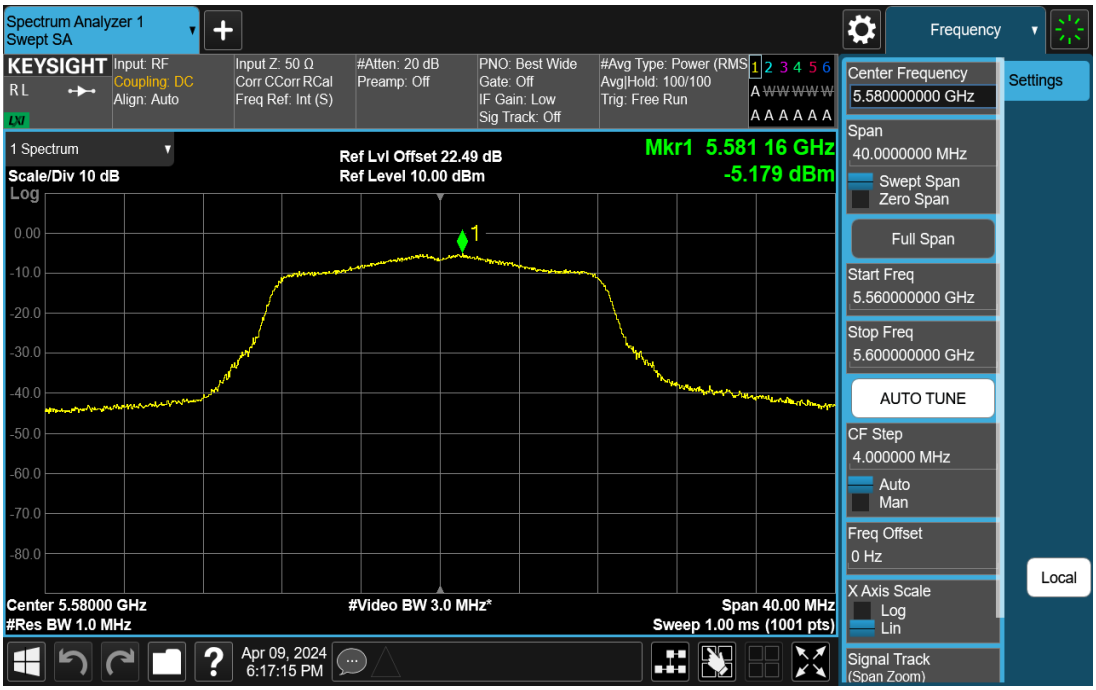
11A-Ant1-5280-PASS



11A-Ant1-5320-PASS



11A-Ant1-5500-PASS



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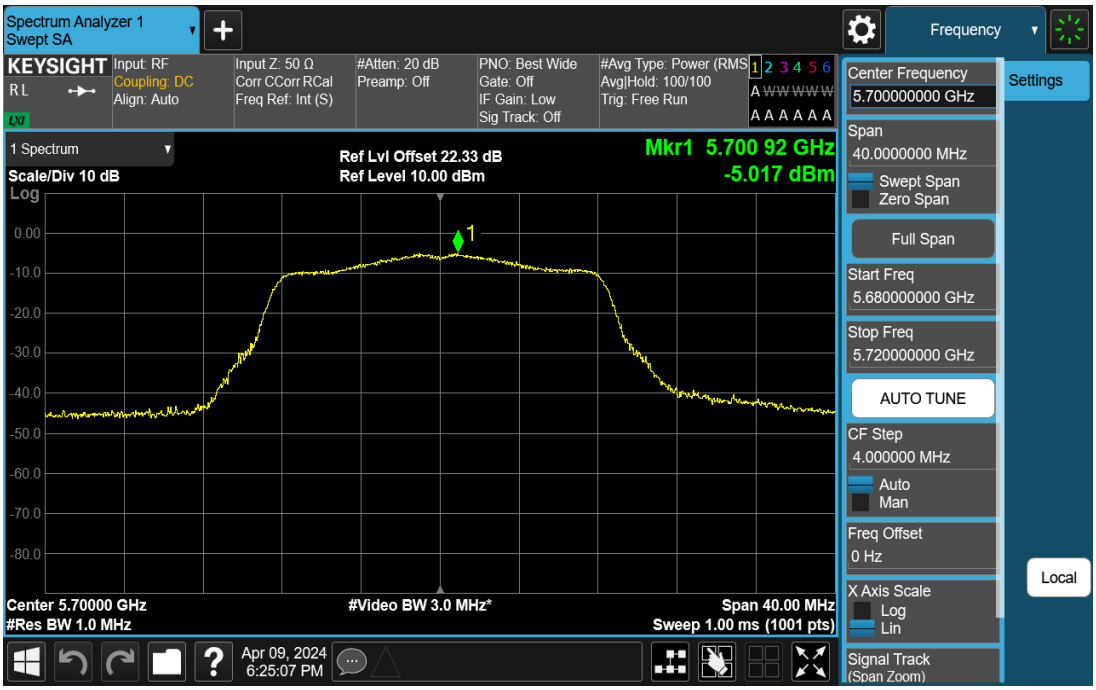
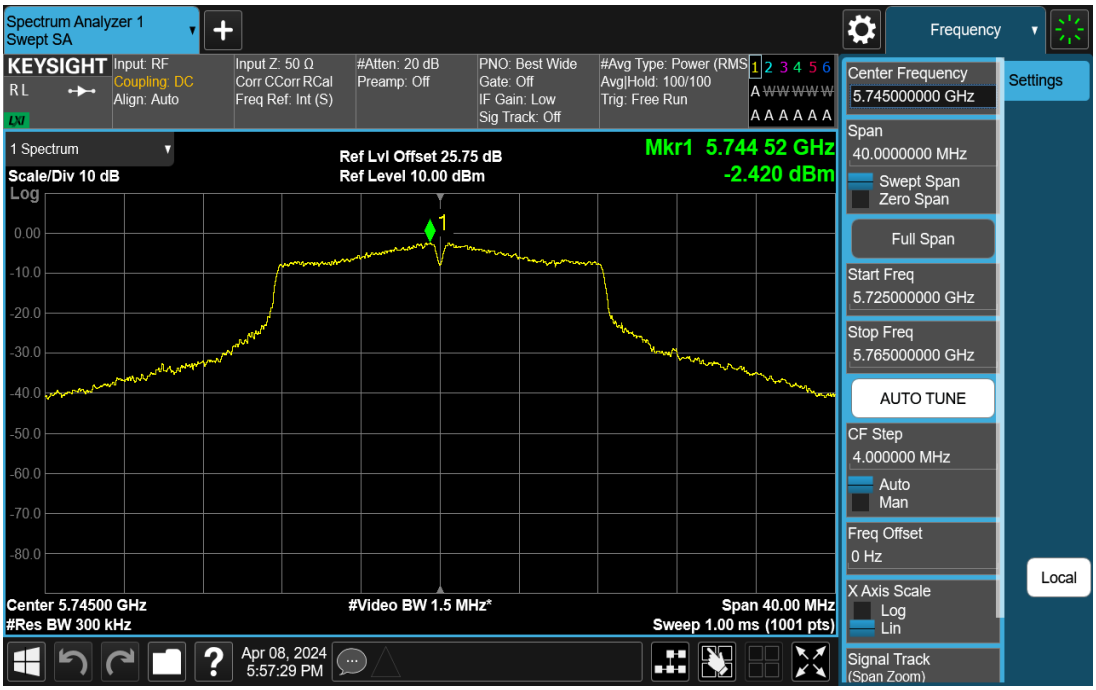
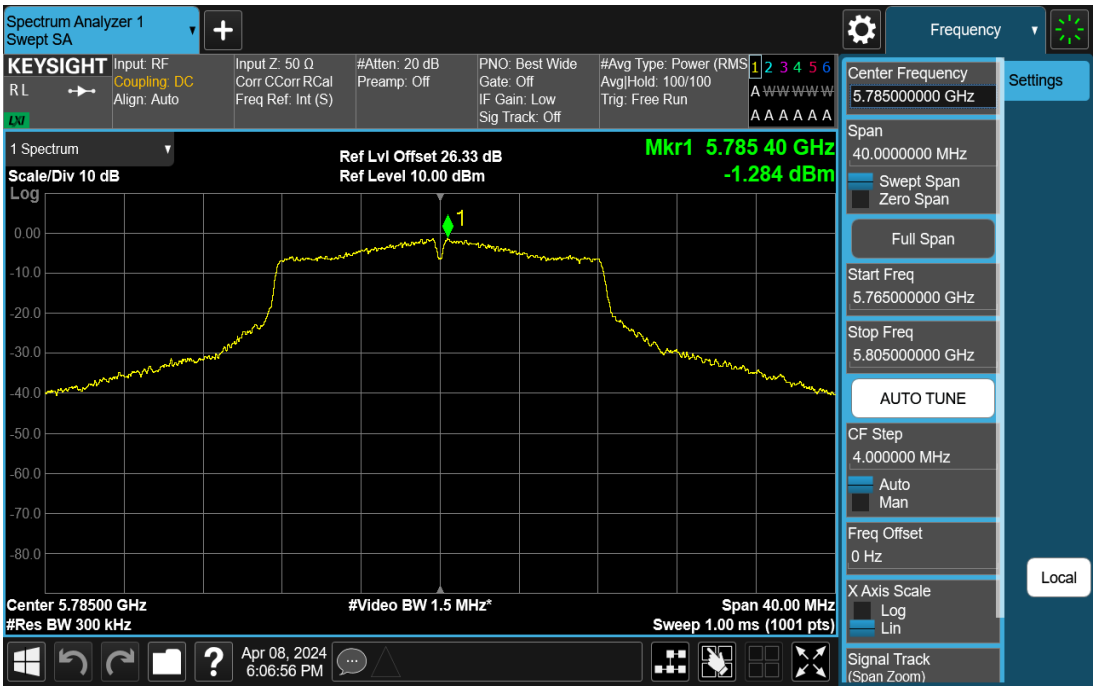


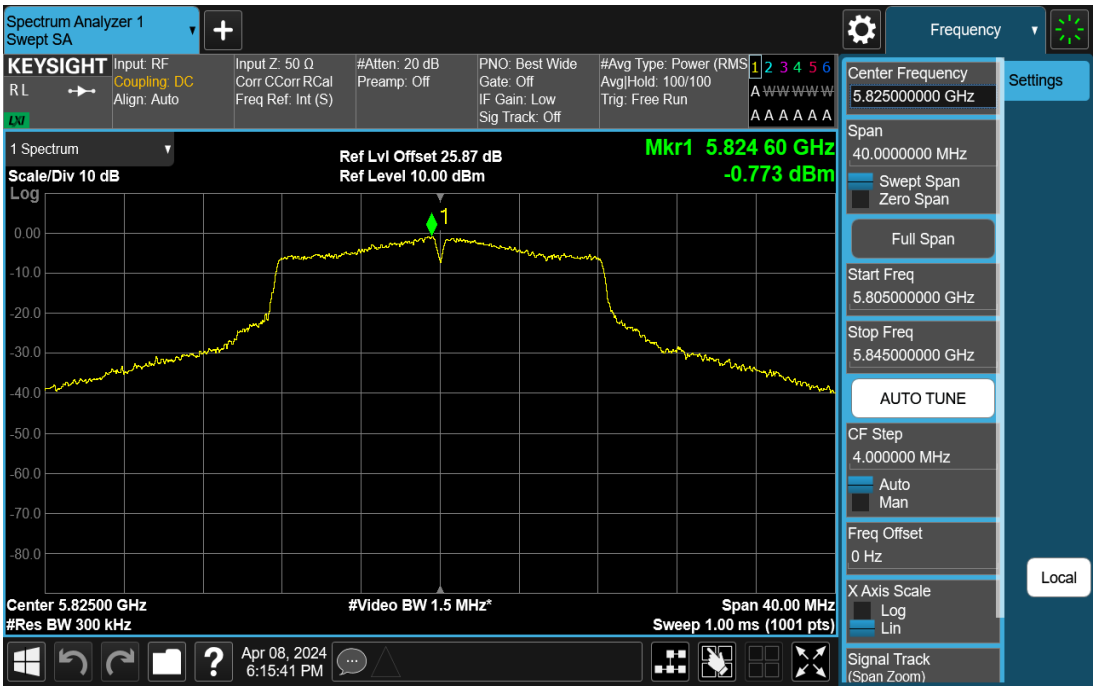
11A-Ant1-5700-PASS



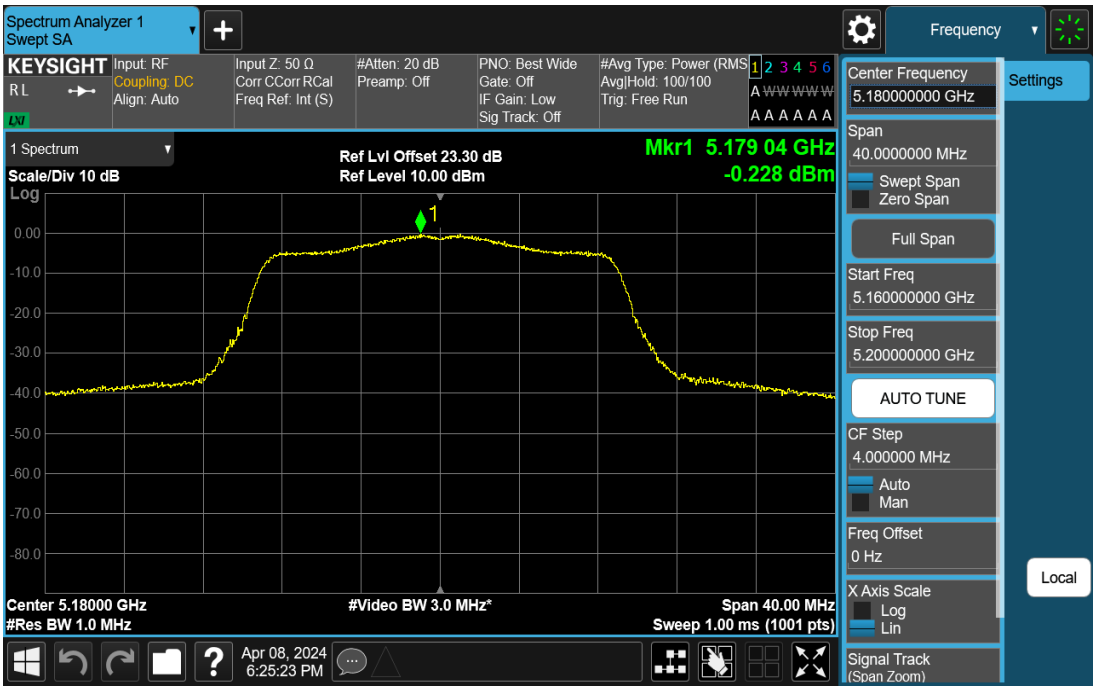
11A-Ant1-5745-PASS



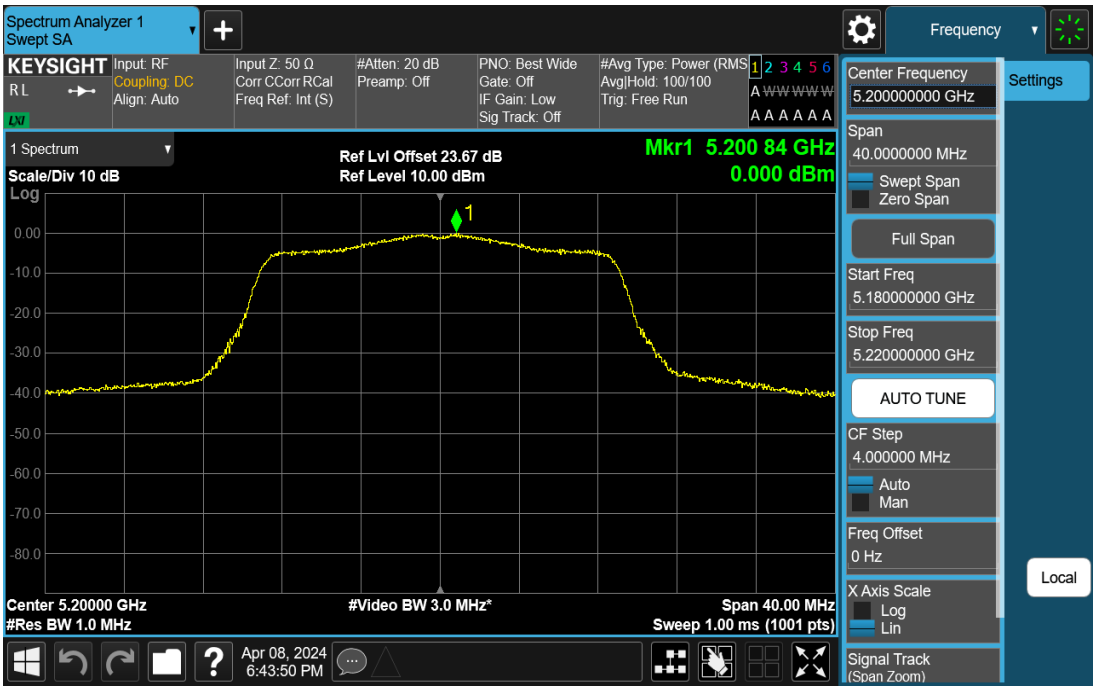
11A-Ant1-5785-PASS



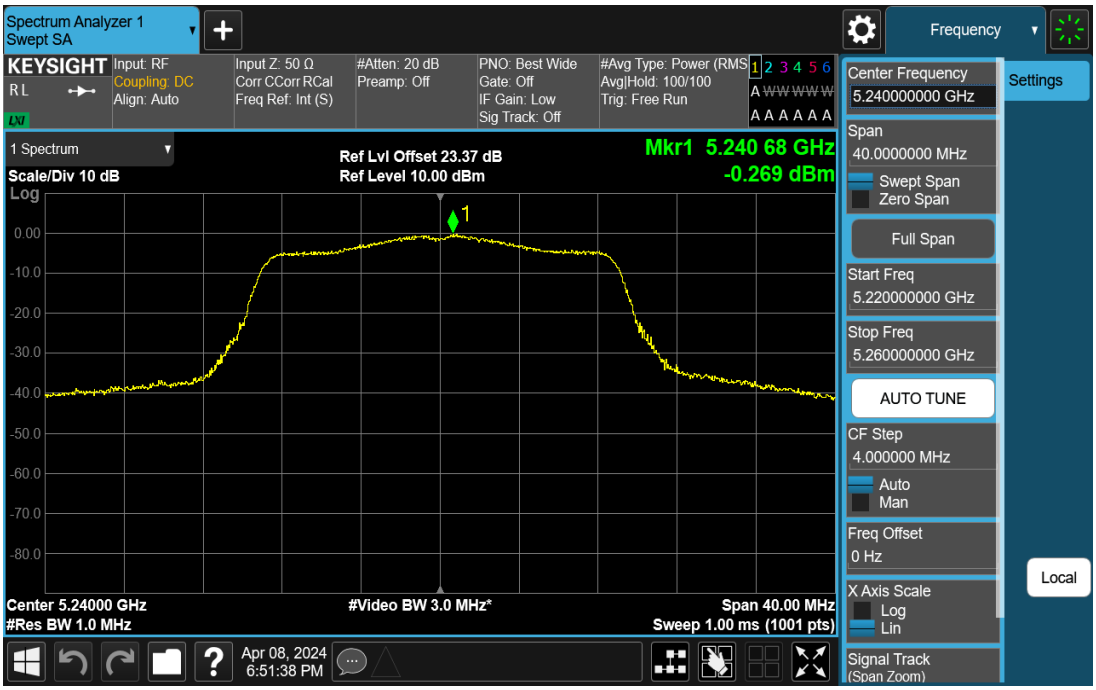
11A-Ant1-5825-PASS



11N20SISO-Ant1-5180-PASS



11N20SISO-Ant1-5200-PASS



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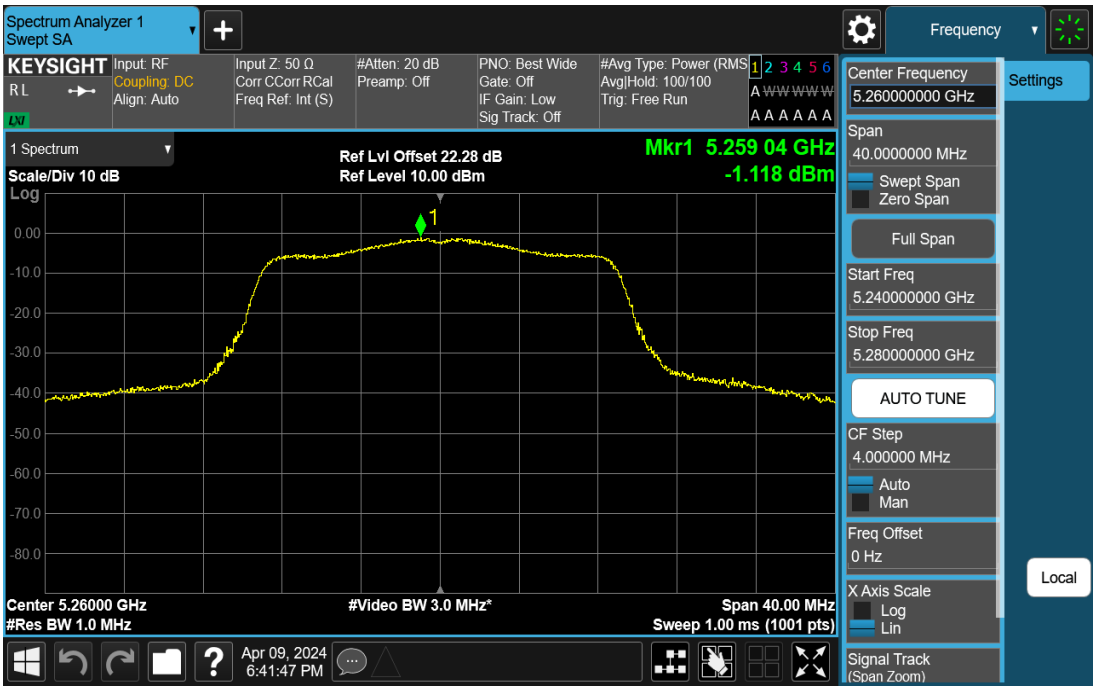
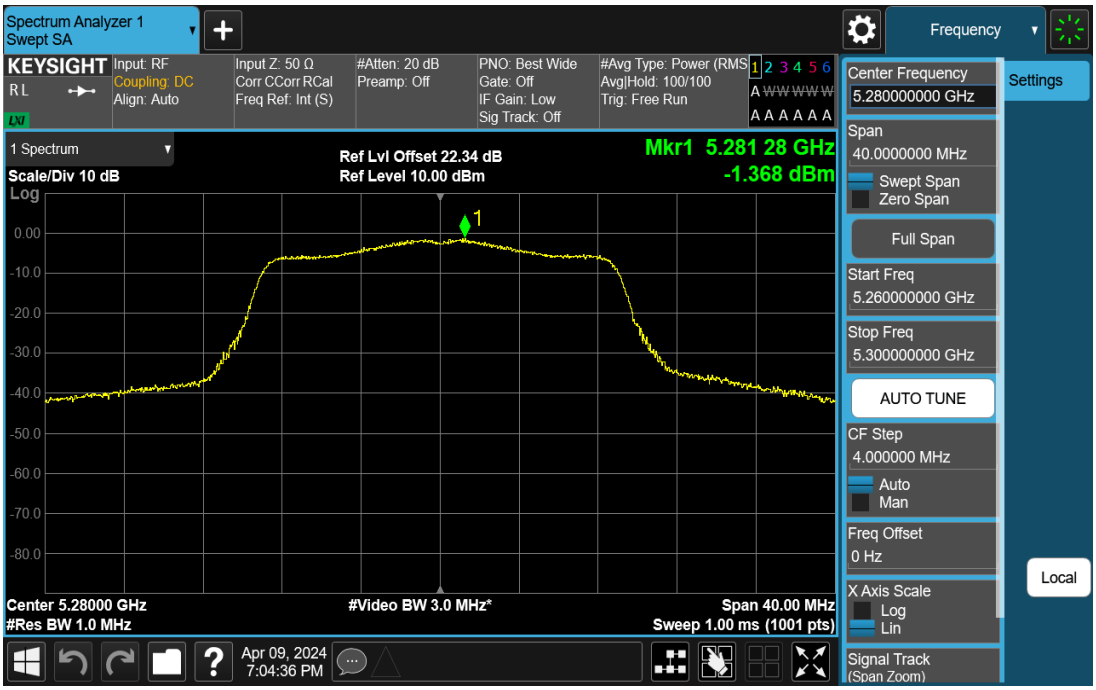
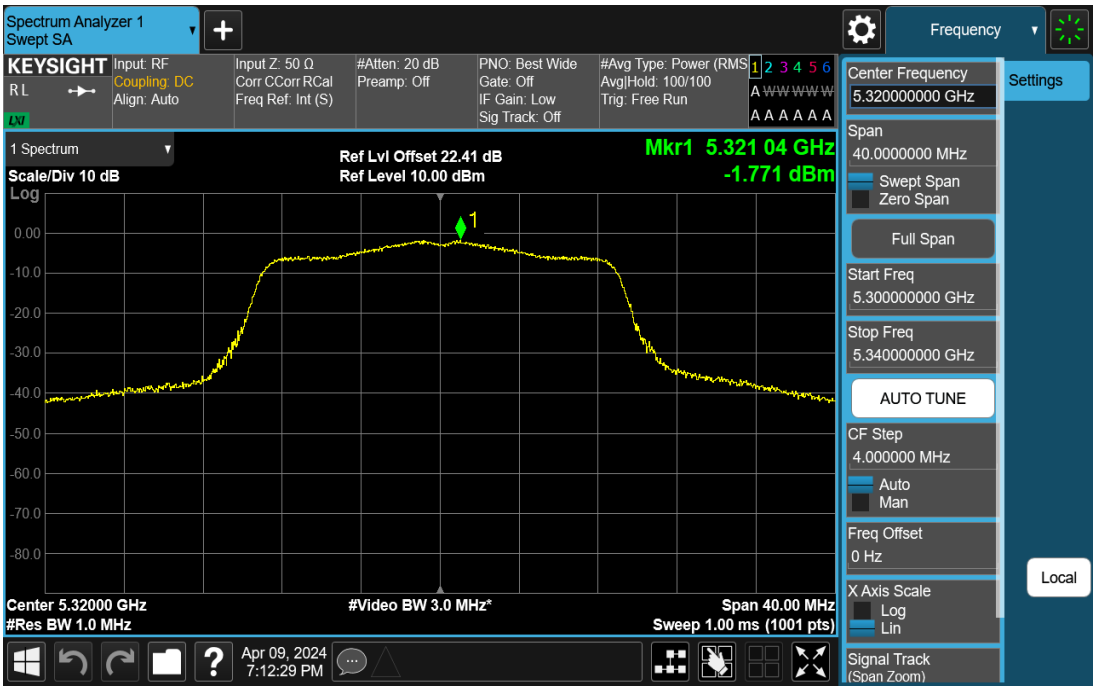


11N20SISO-Ant1-5260-PASS



11N20SISO-Ant1-5280-PASS



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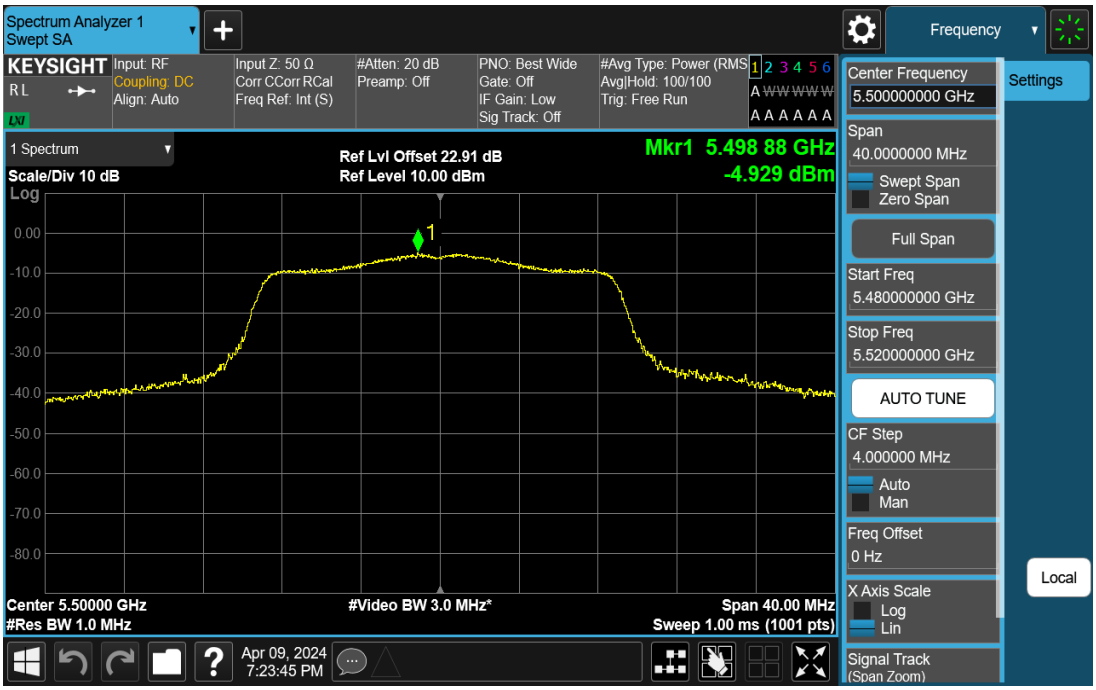

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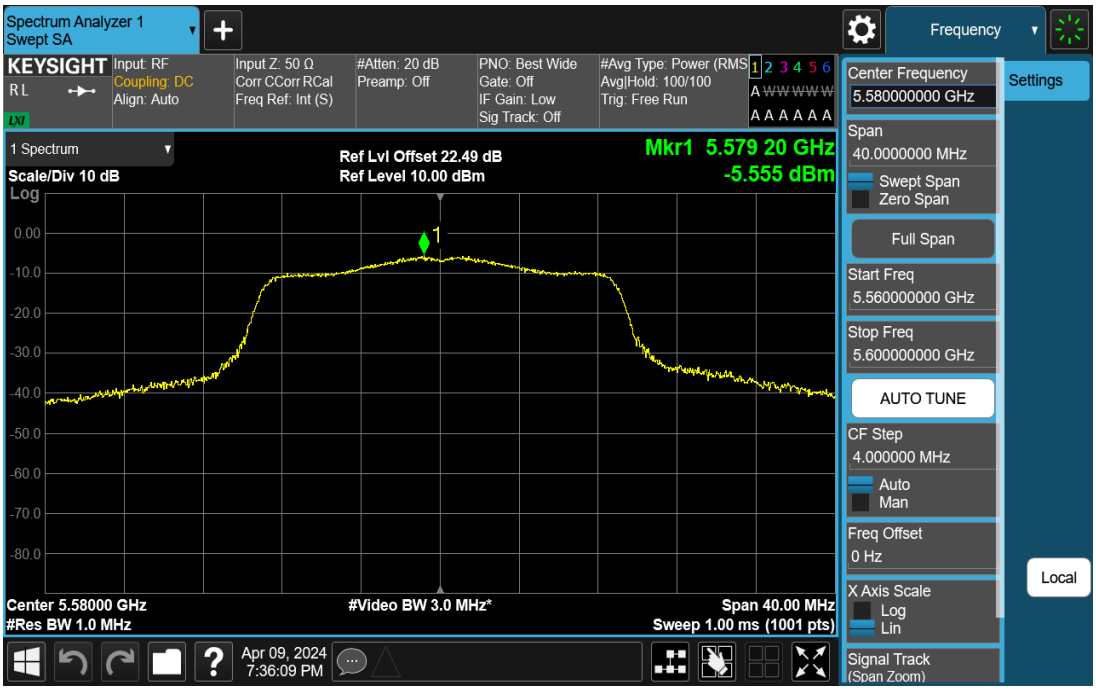

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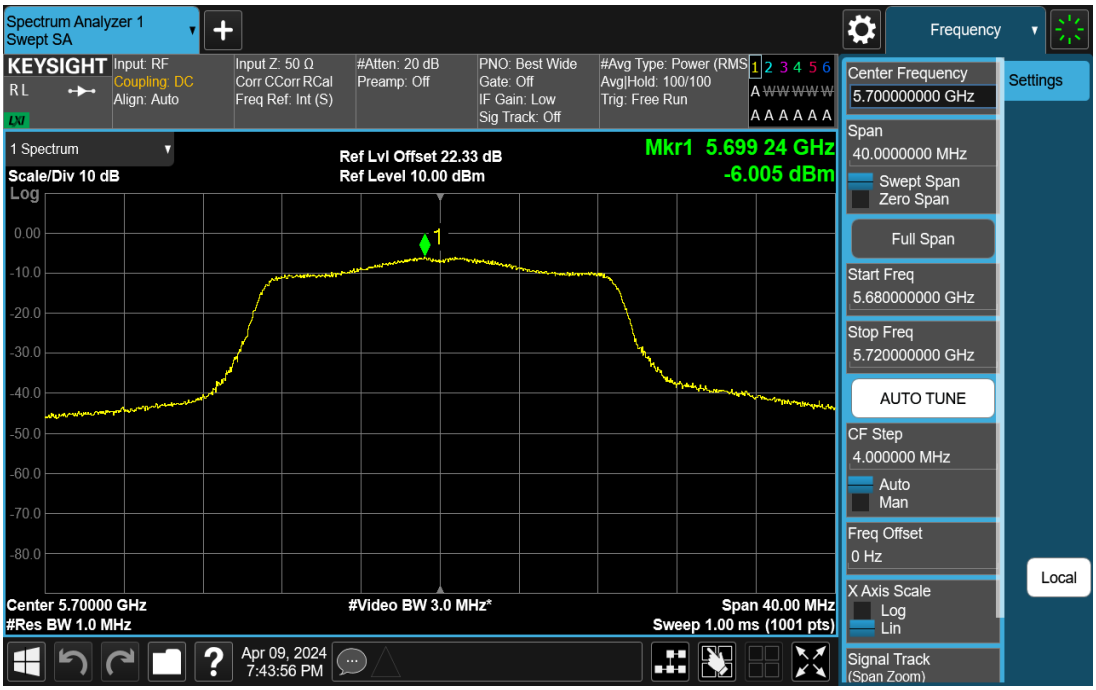
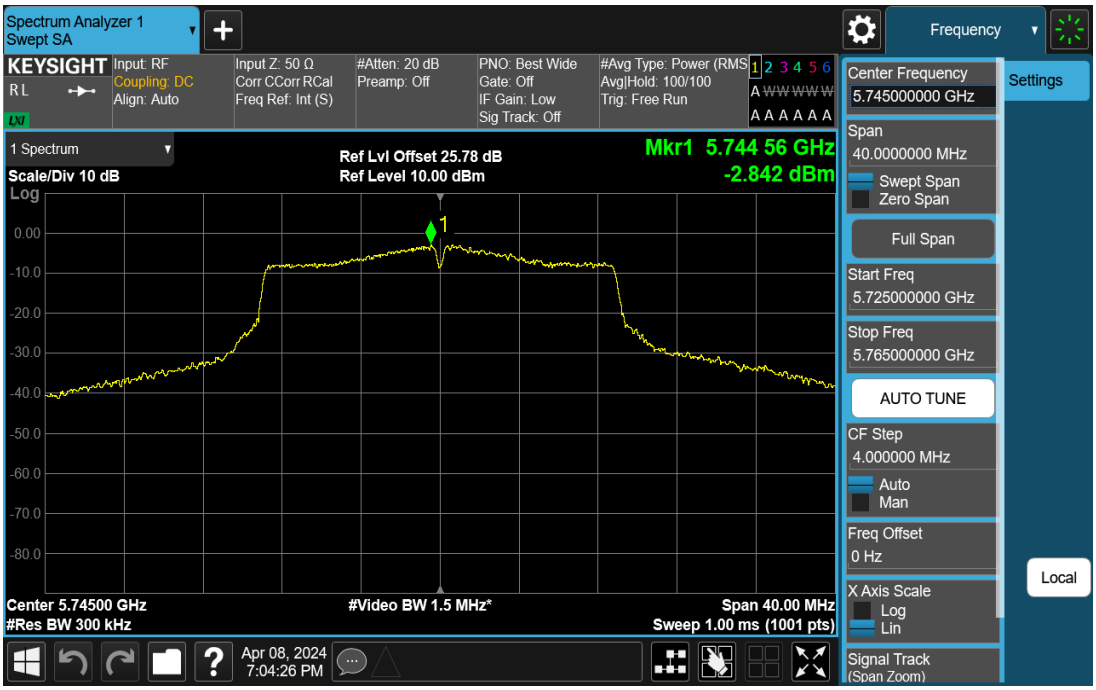
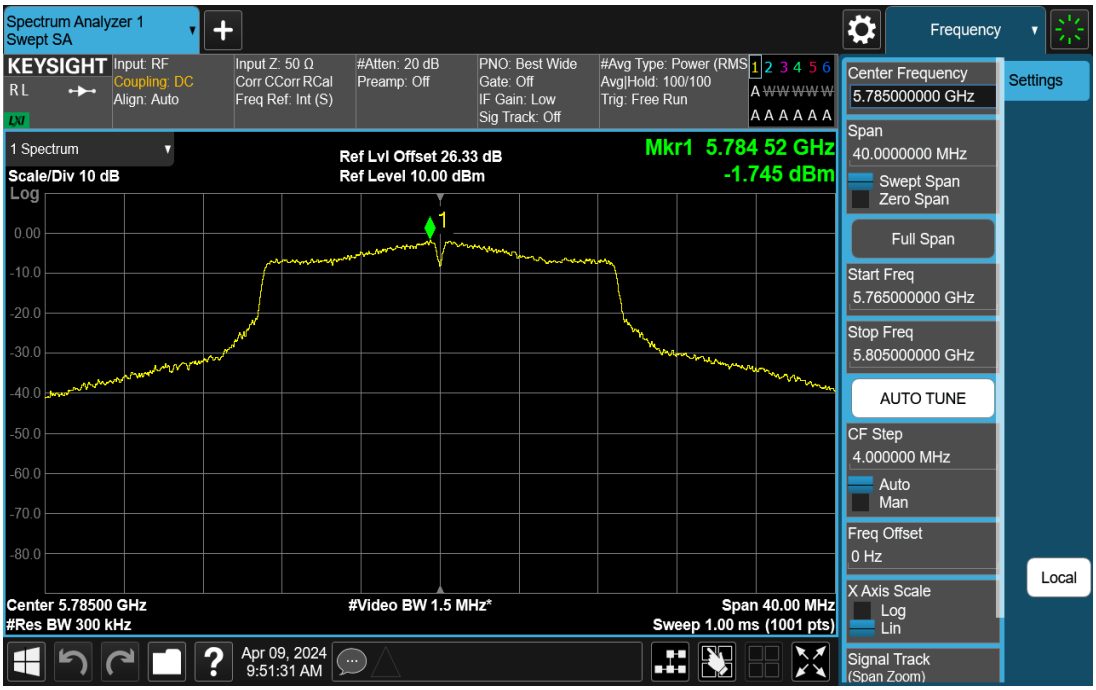


11N20SISO-Ant1-5700-PASS



11N20SISO-Ant1-5745-PASS



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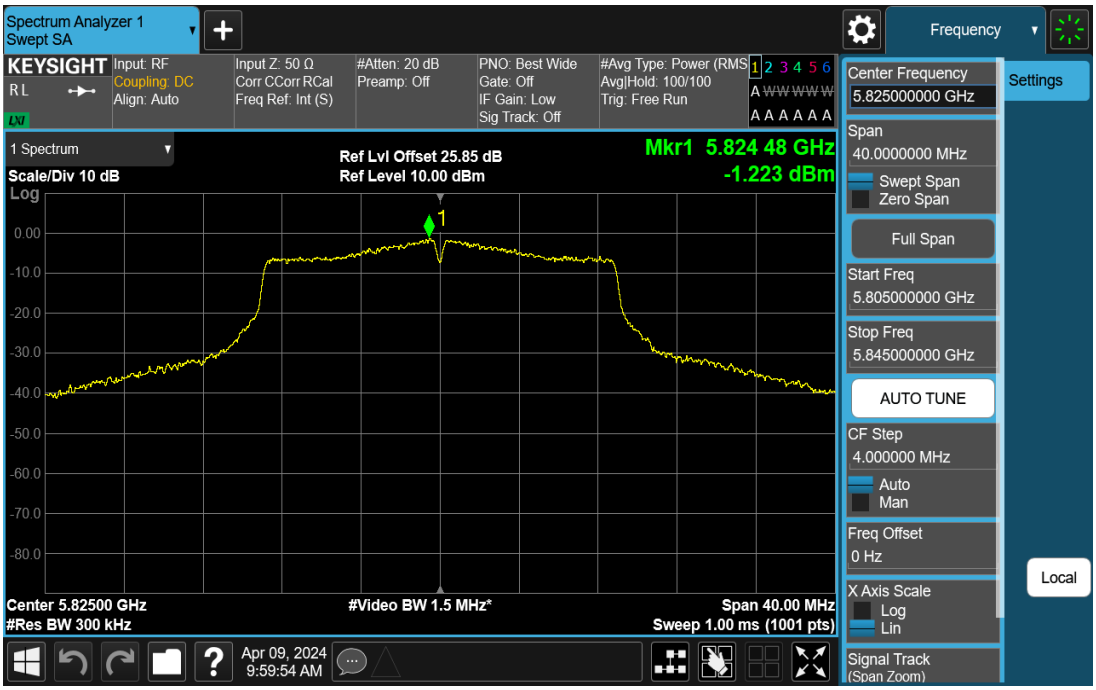
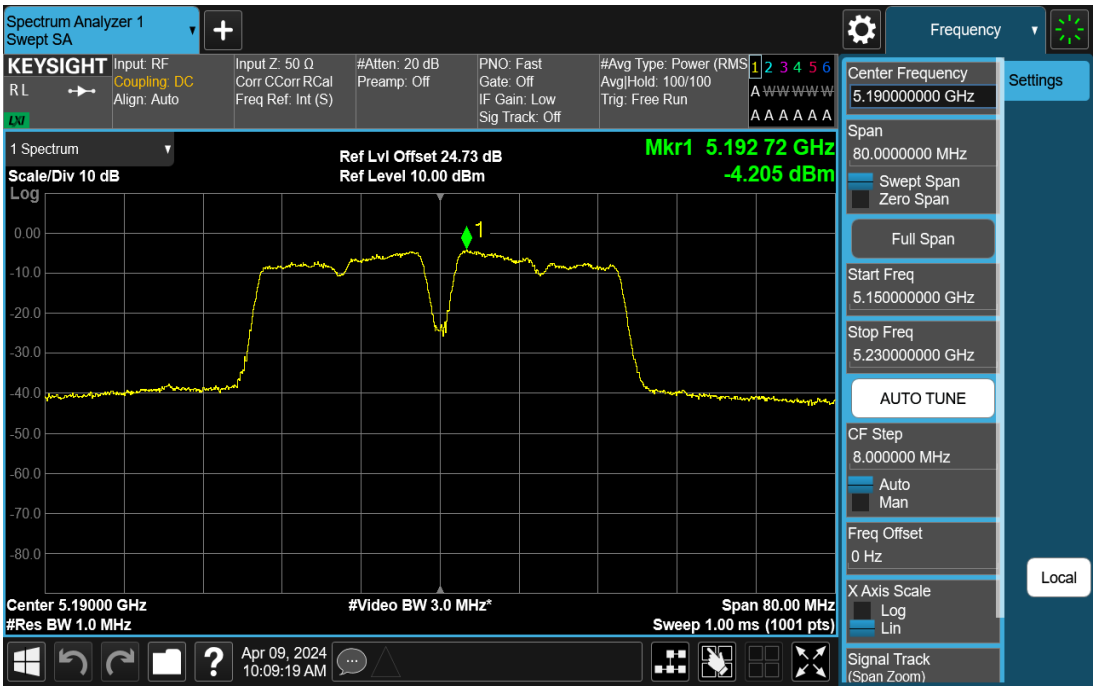
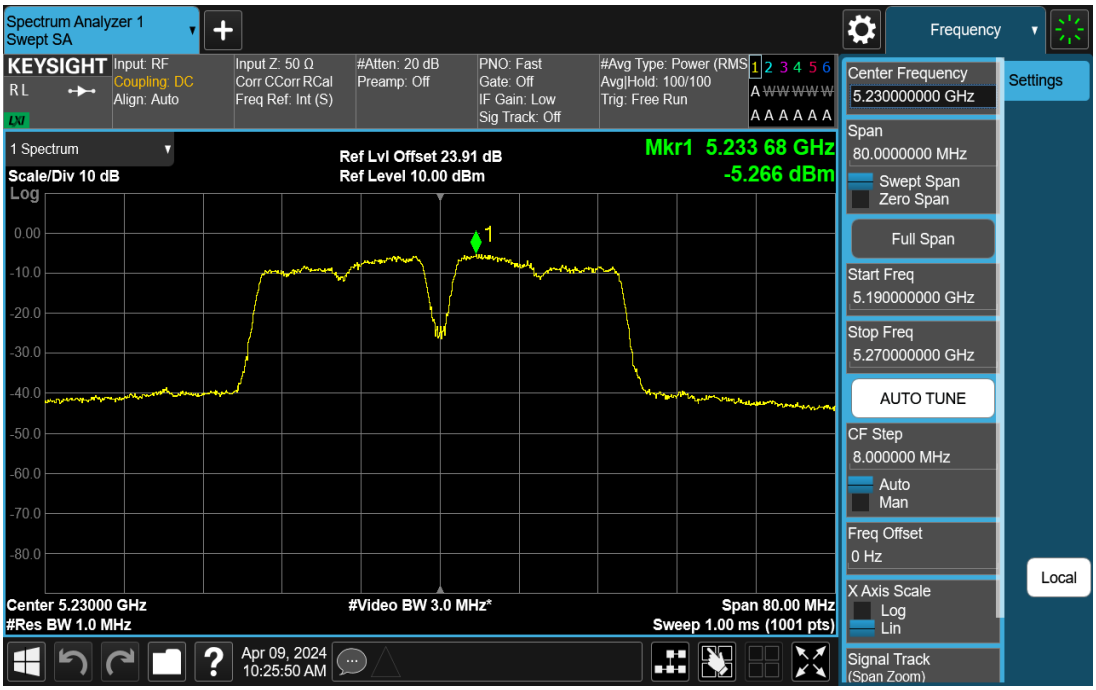


11N20SISO-Ant1-5825-PASS



11N40SISO-Ant1-5190-PASS



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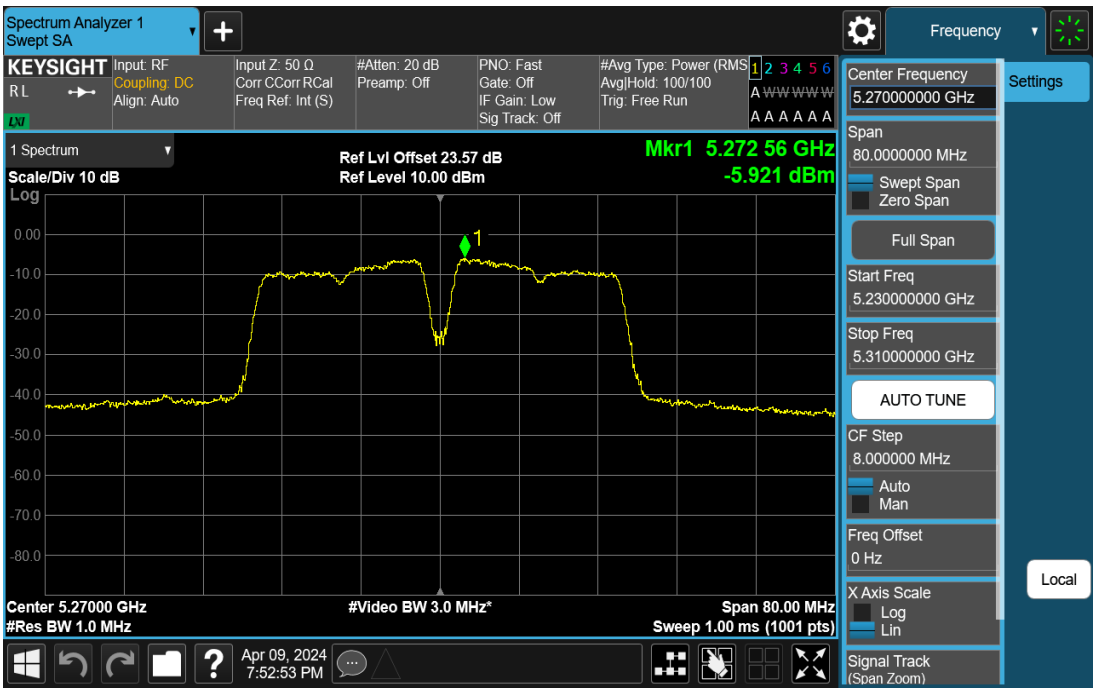
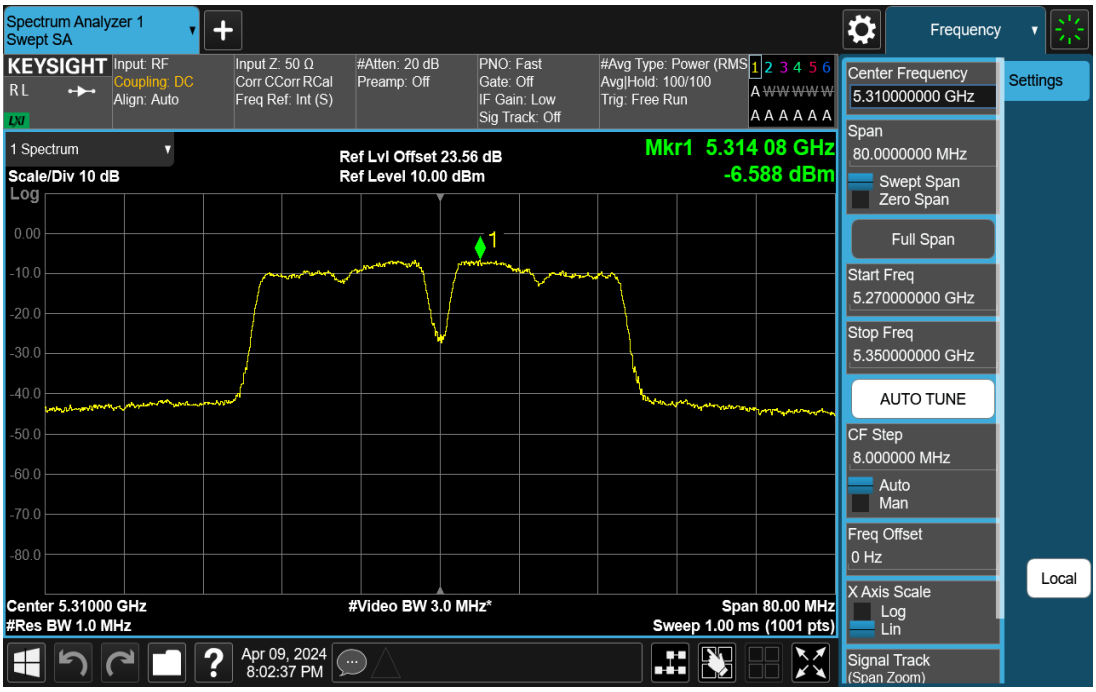


11N40SISO-Ant1-5270-PASS



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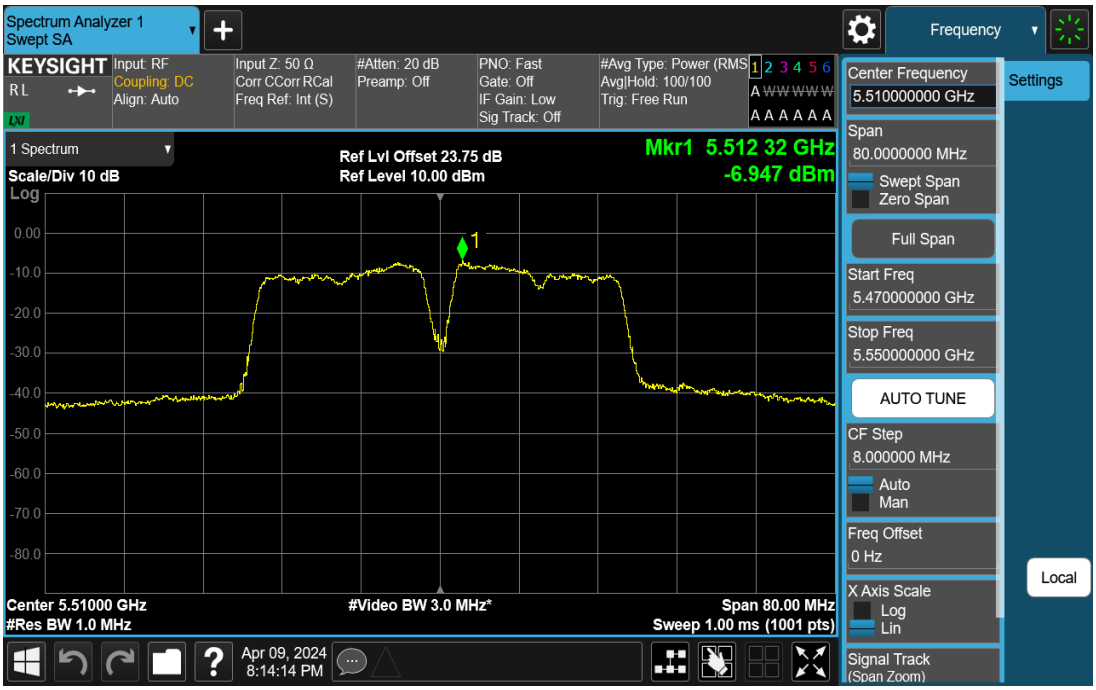

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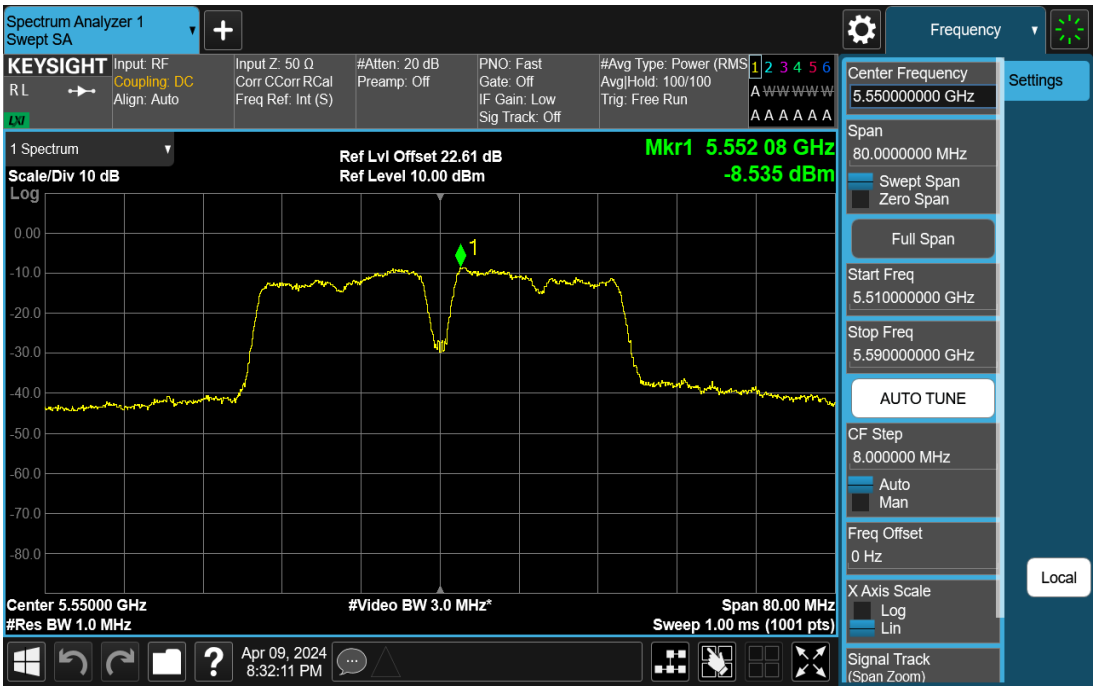
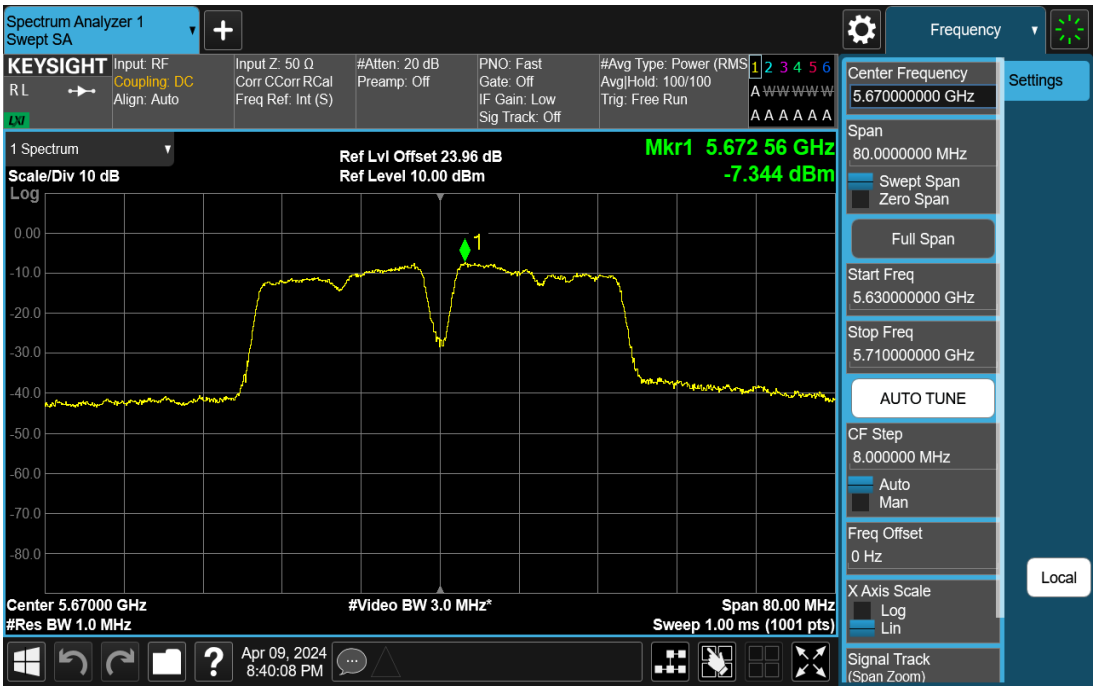
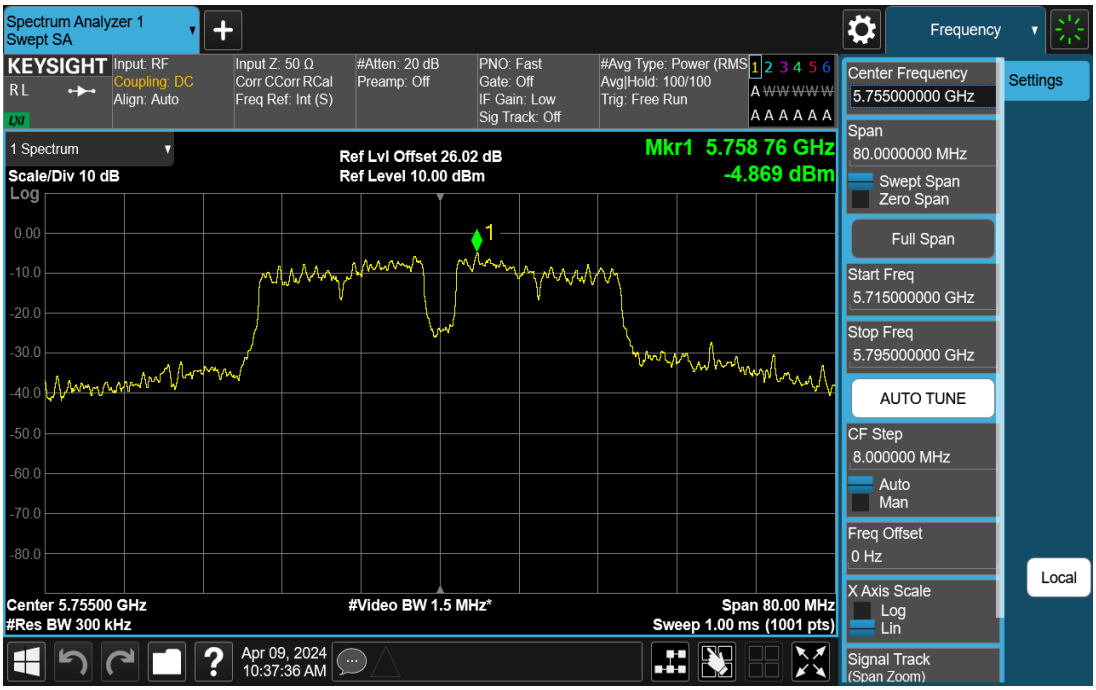


11N40SISO-Ant1-5550-PASS



11N40SISO-Ant1-5670-PASS



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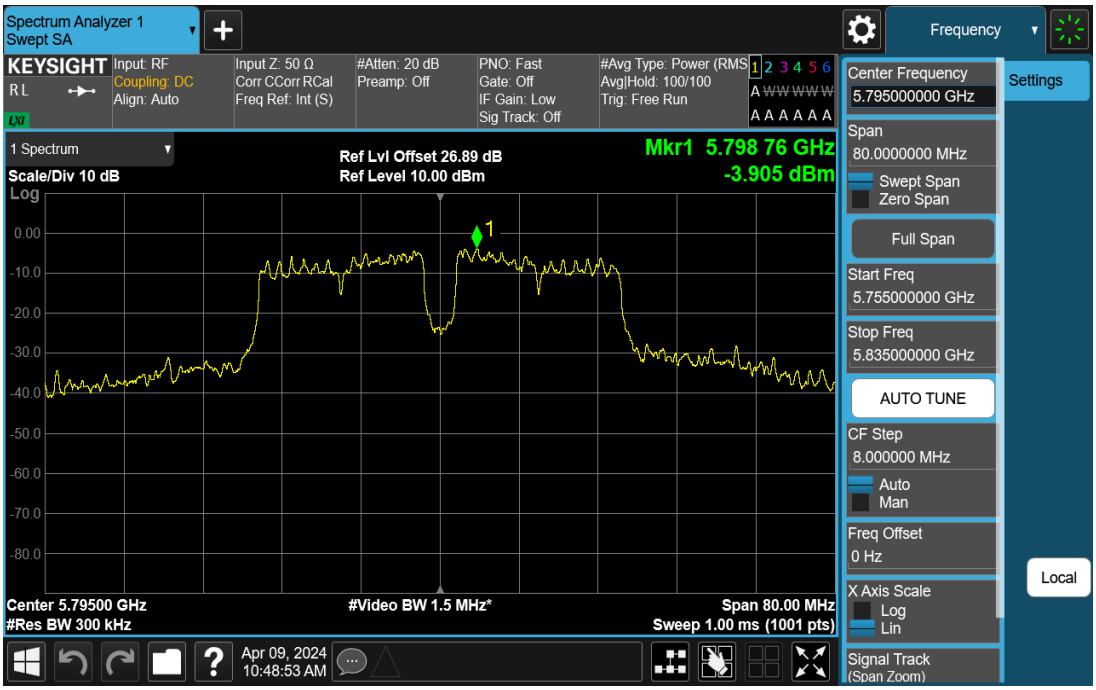
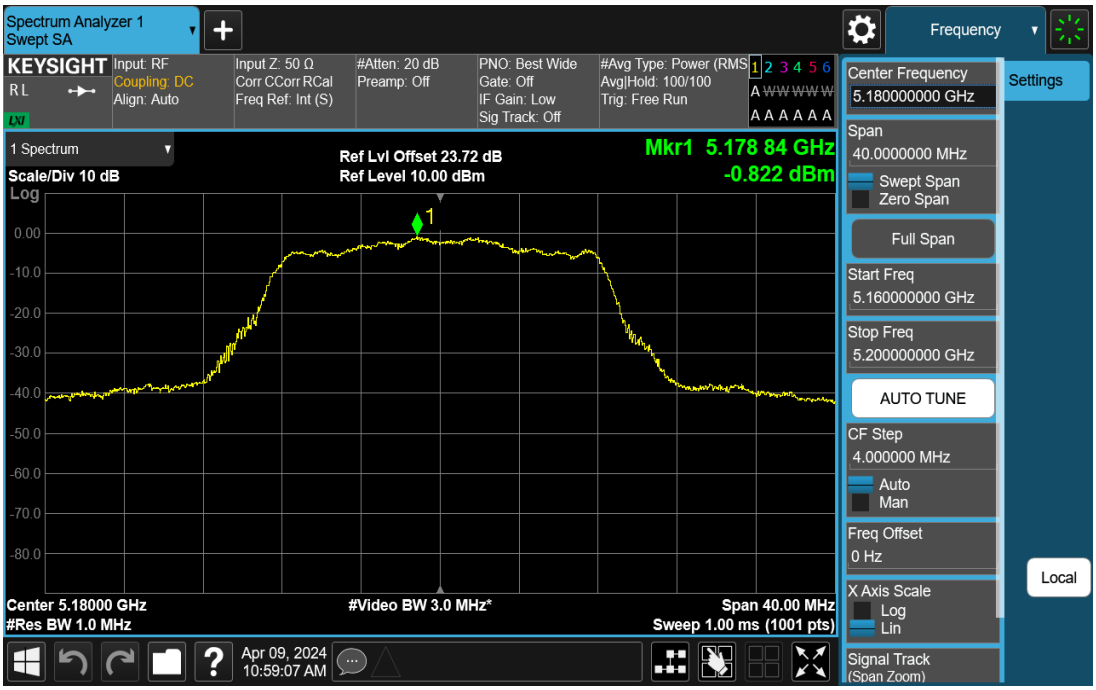


11N40SISO-Ant1-5795-PASS



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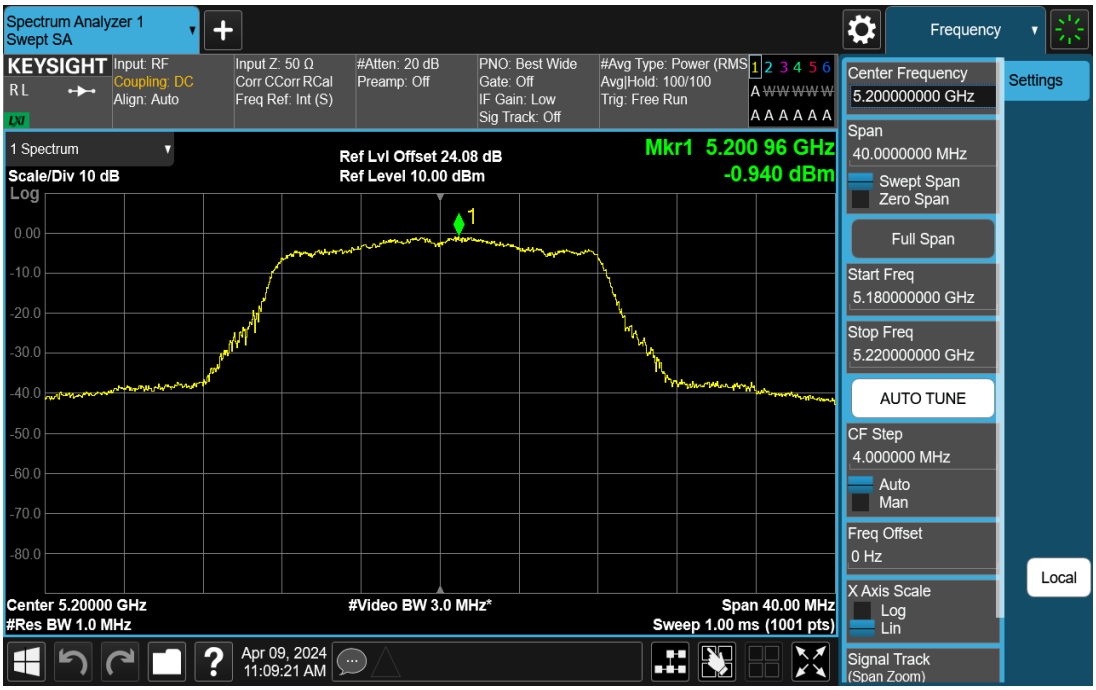

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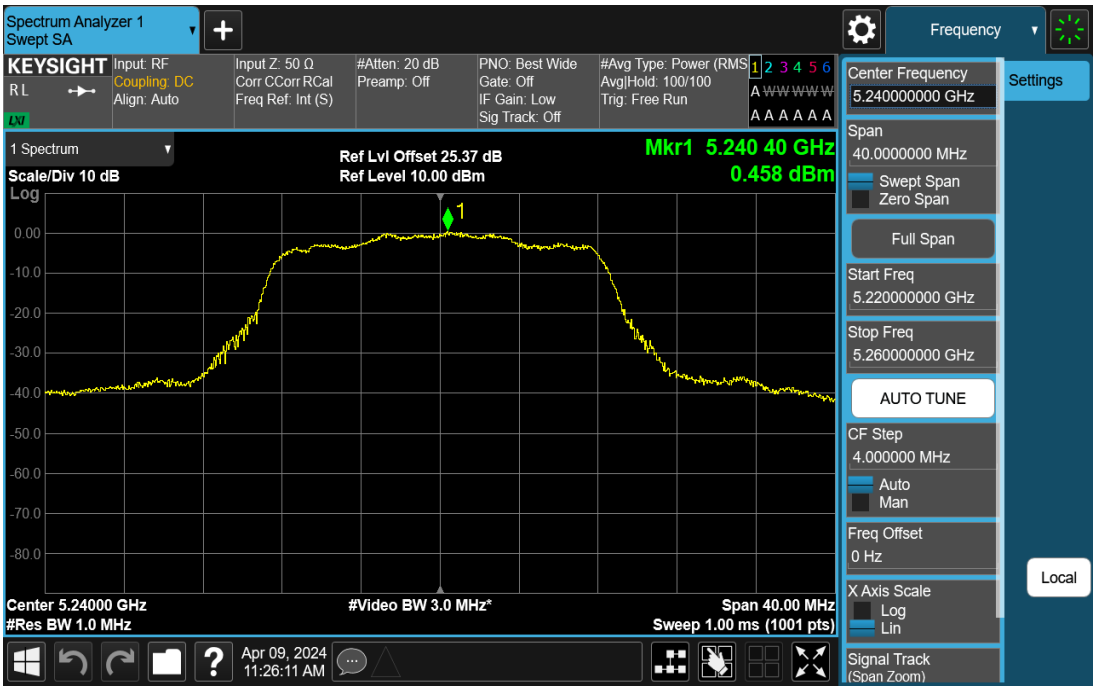

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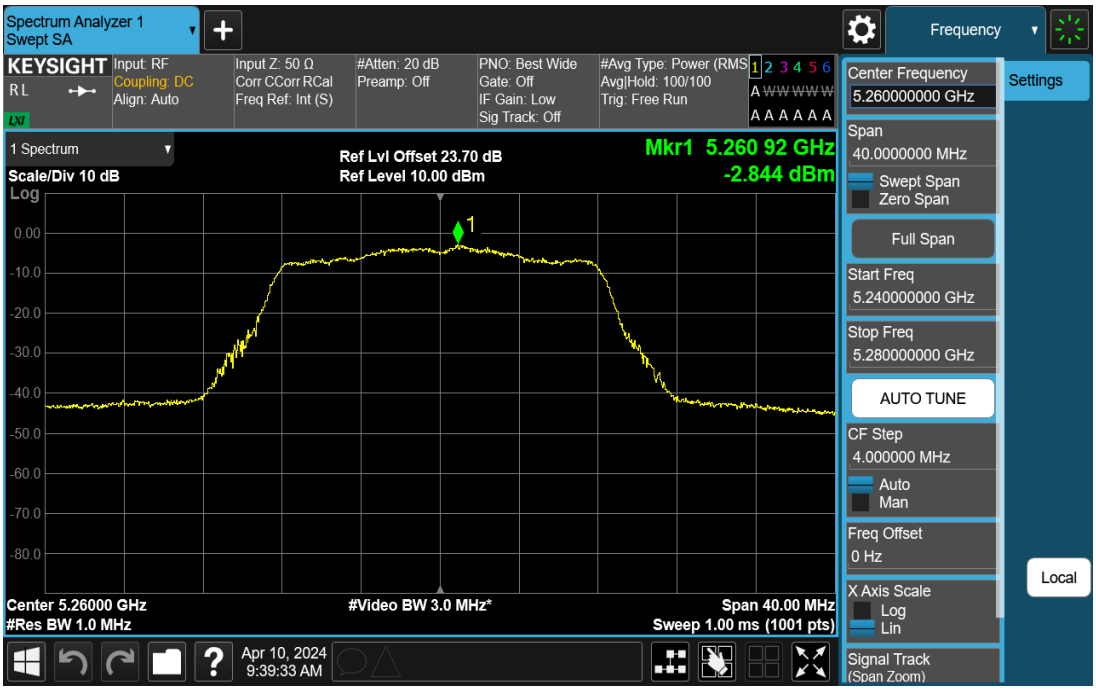

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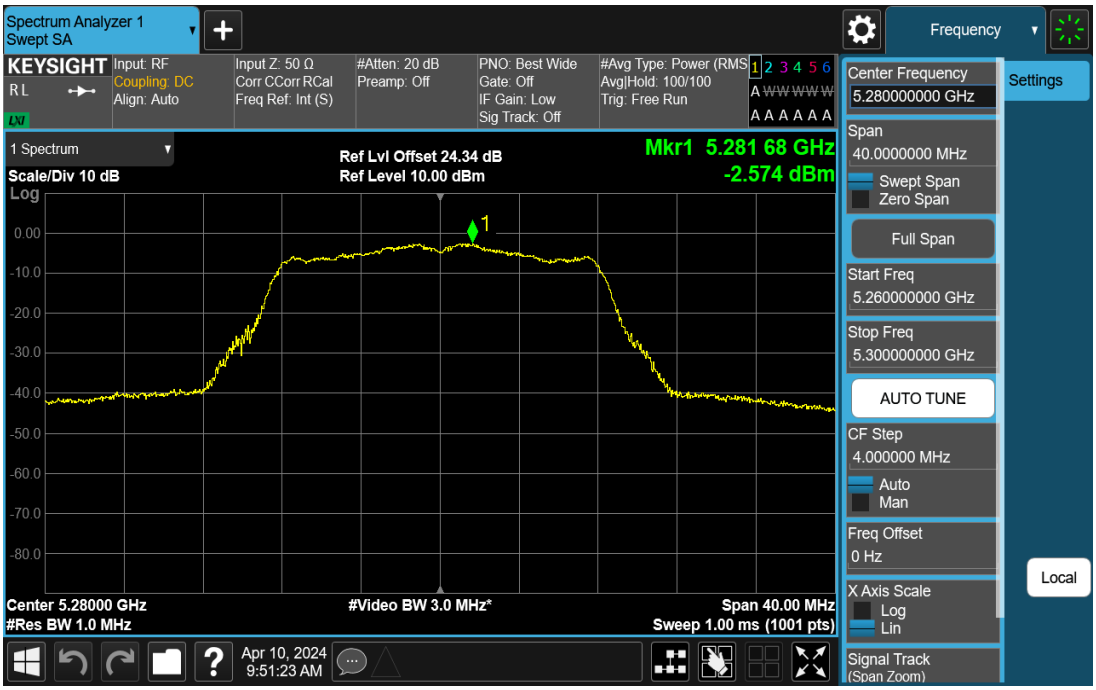
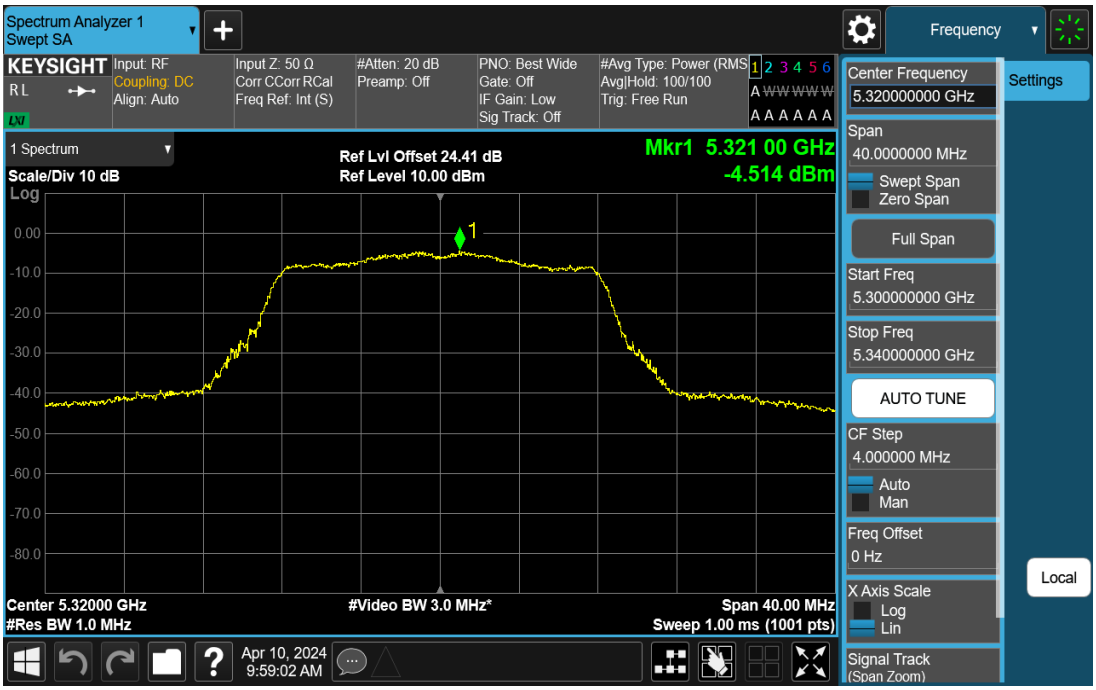


11AC20SISO-Ant1-5280-PASS



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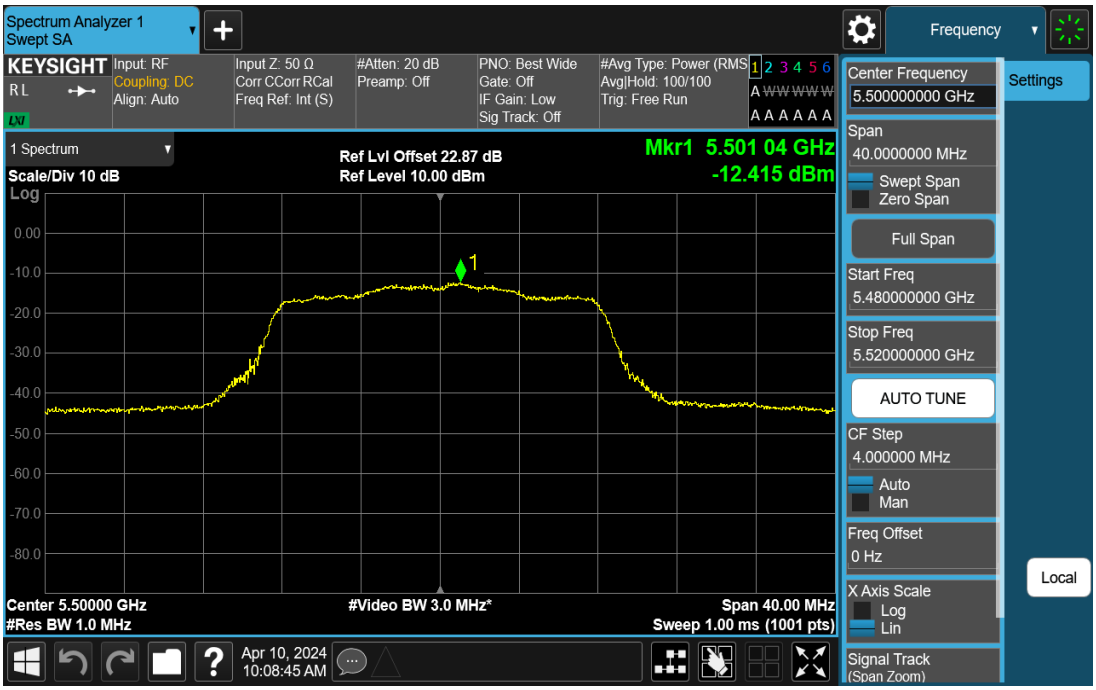

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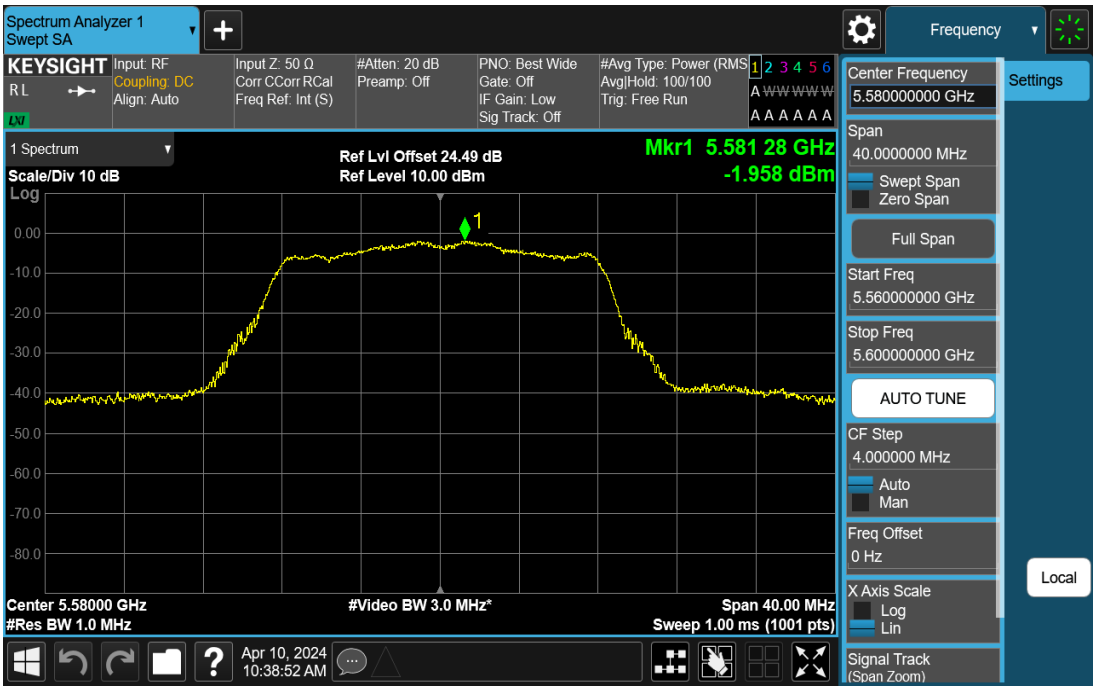

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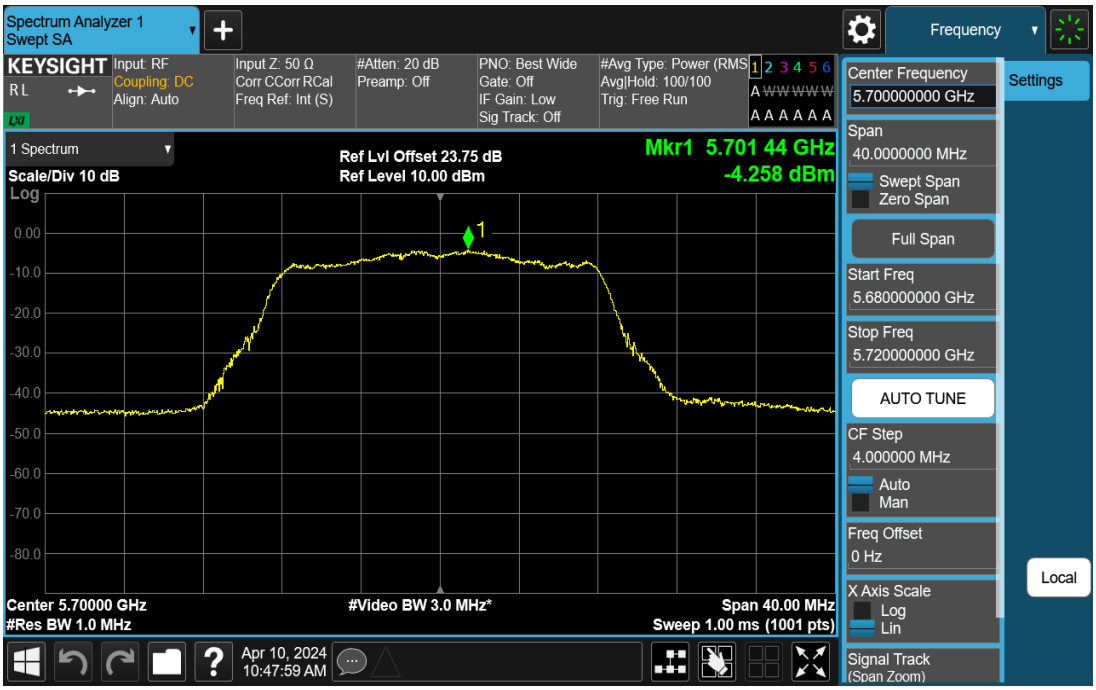

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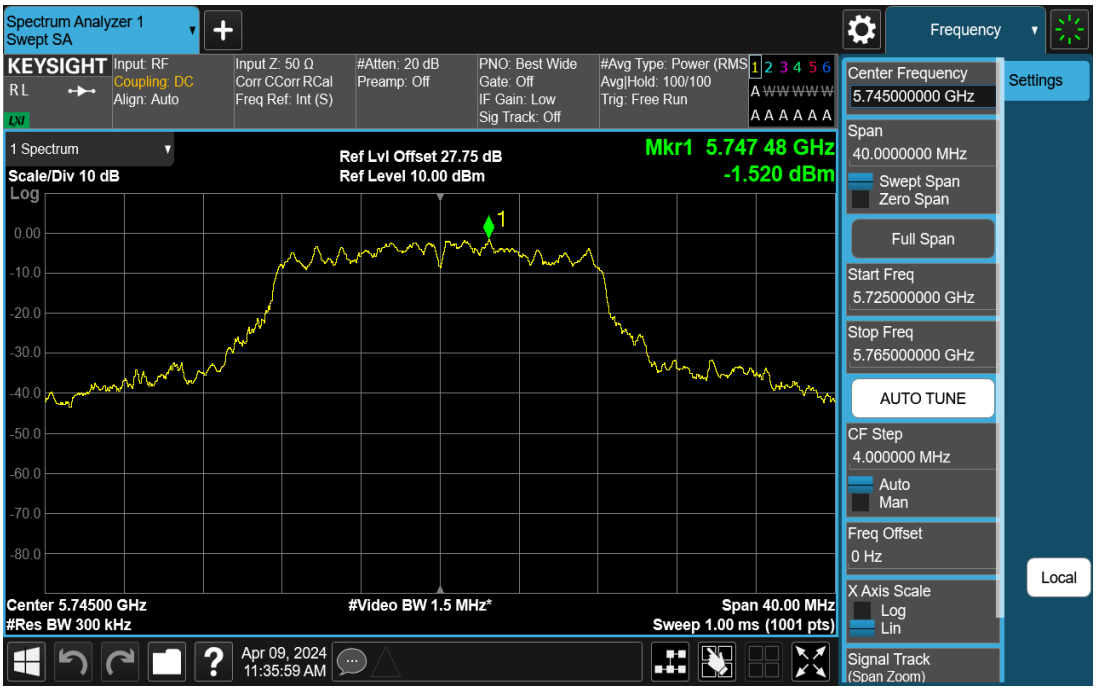

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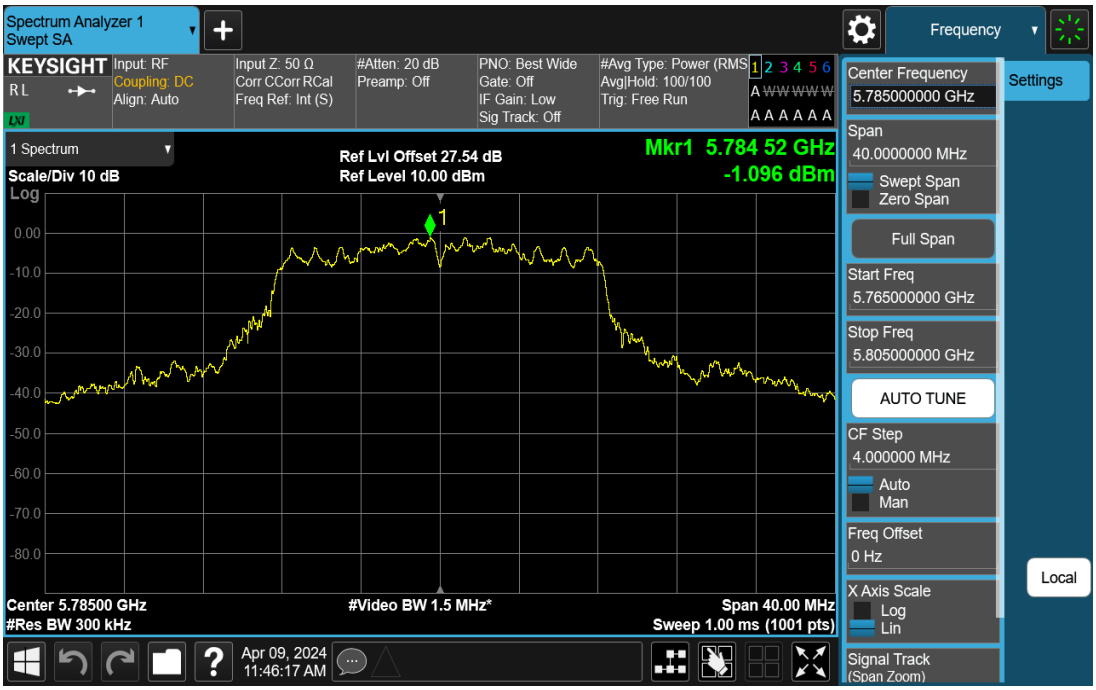

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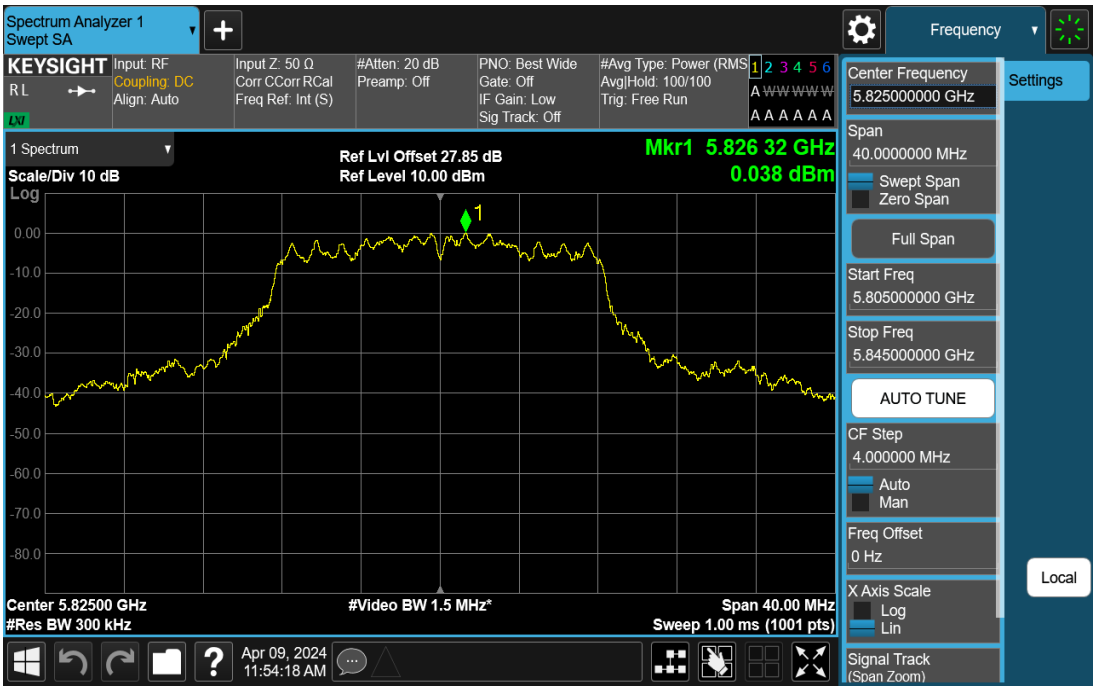

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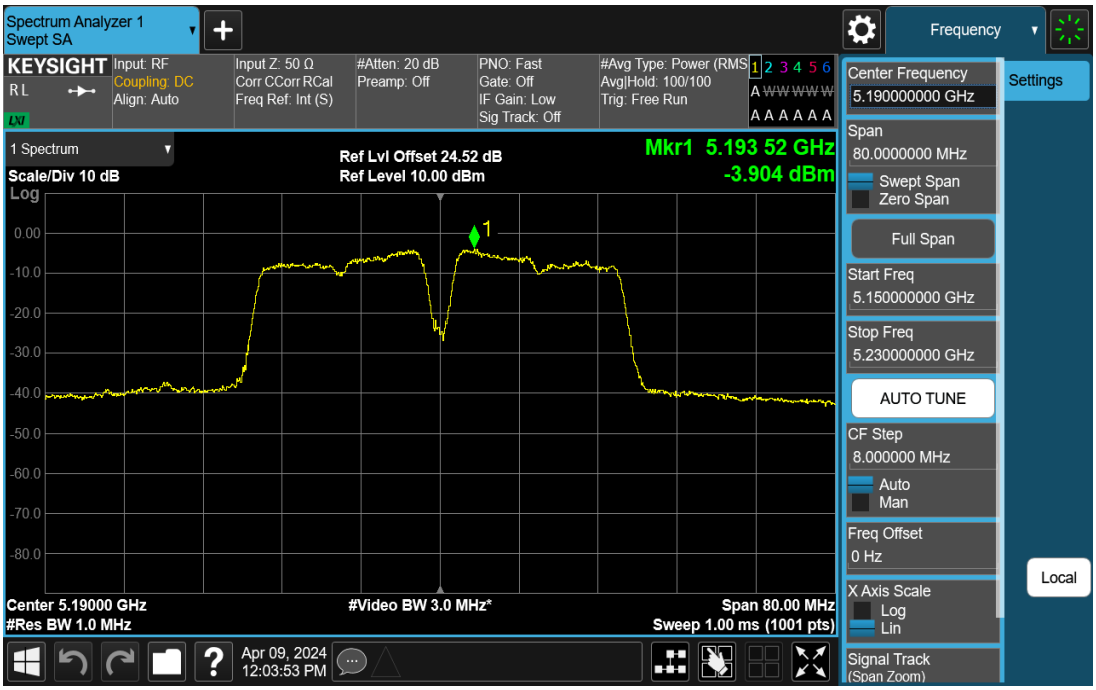
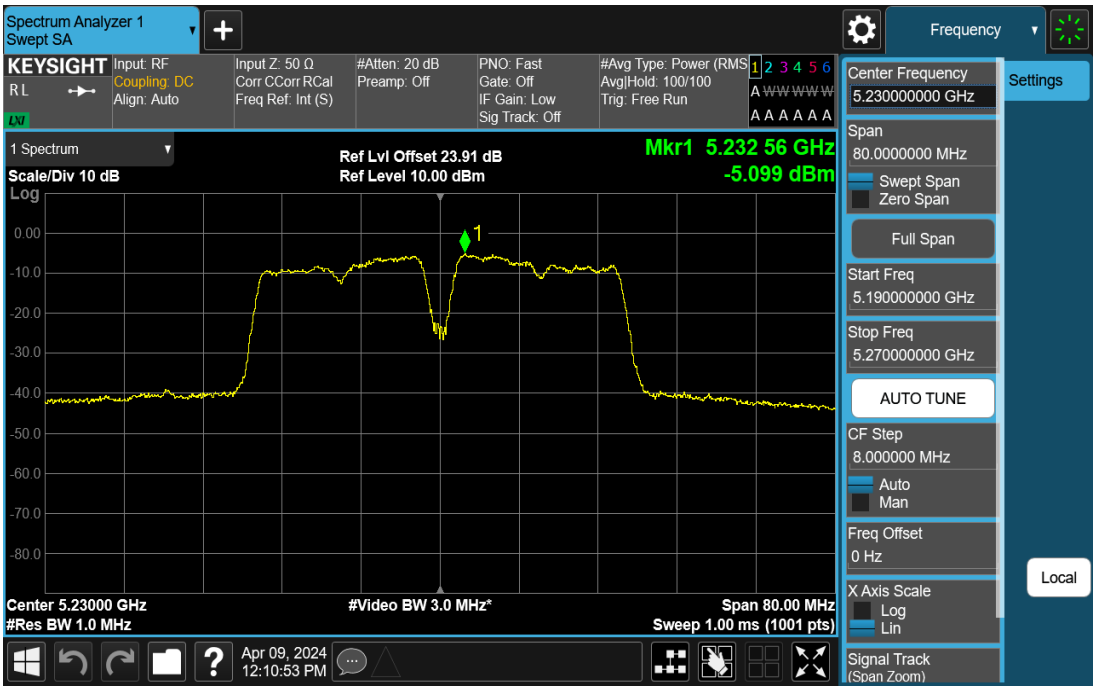


11AC40SISO-Ant1-5190-PASS



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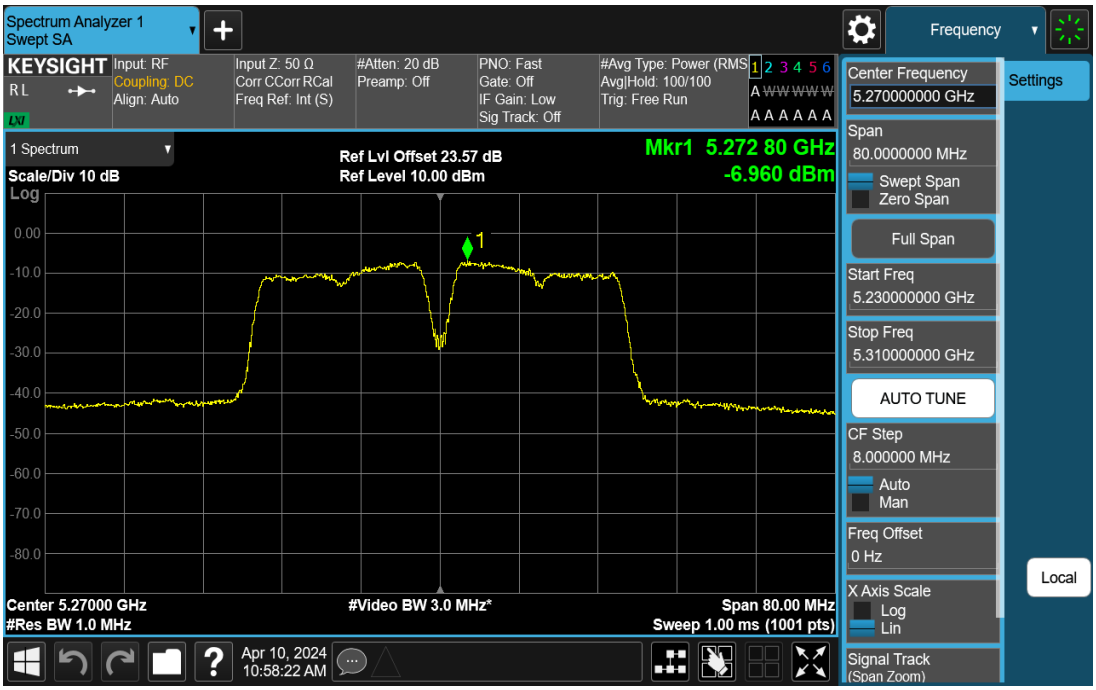

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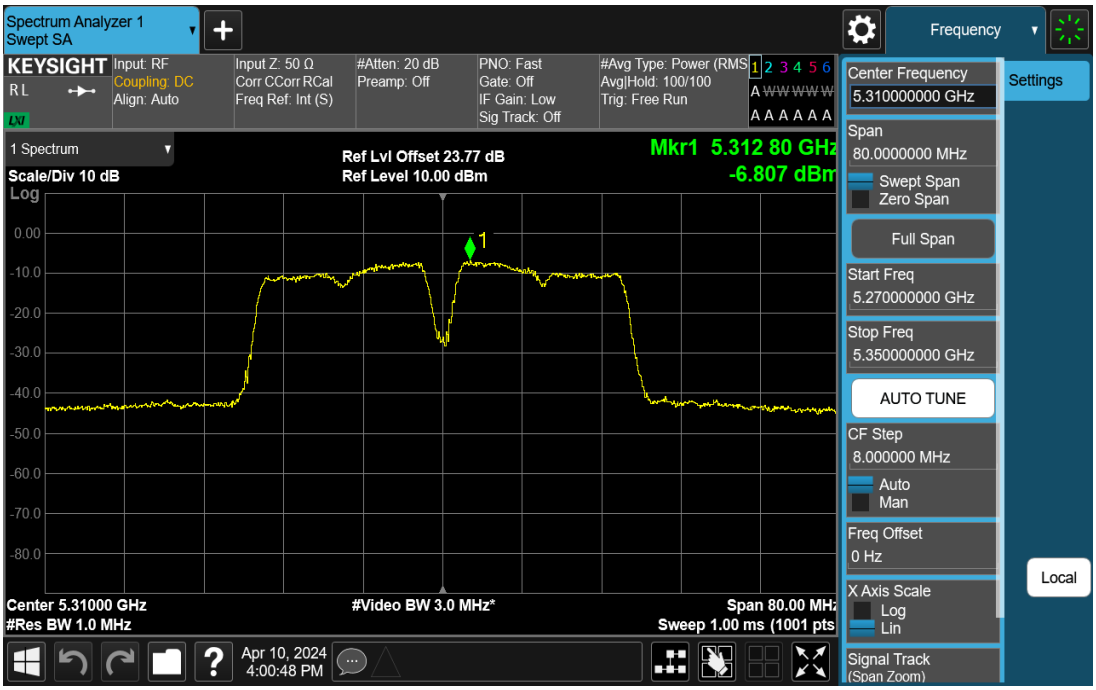

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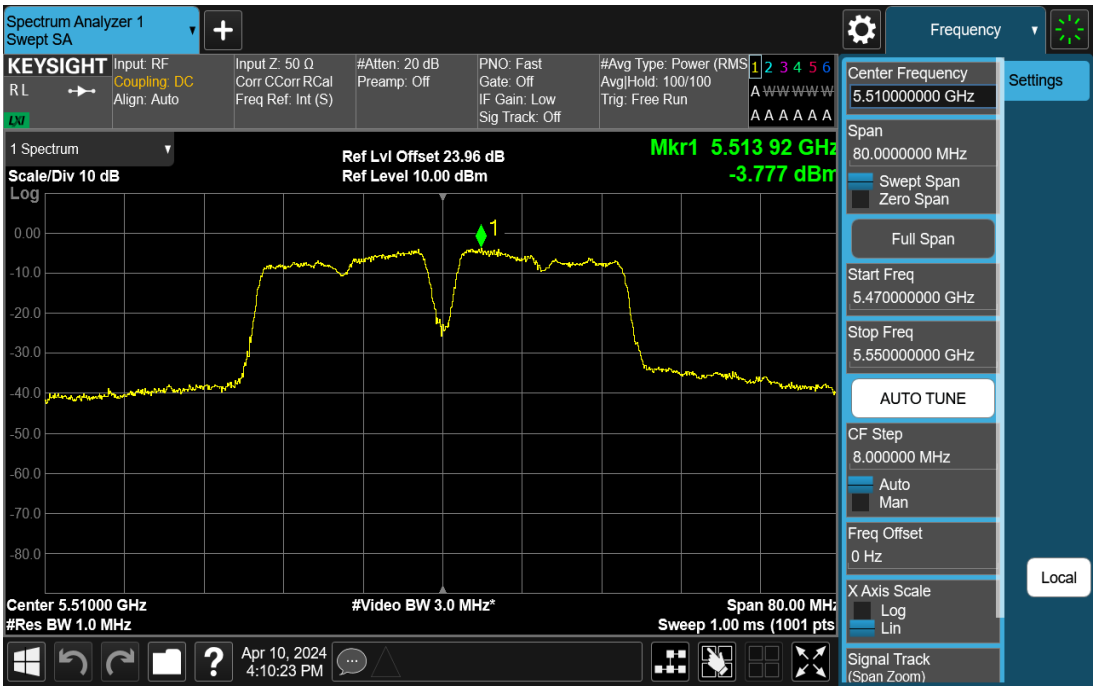

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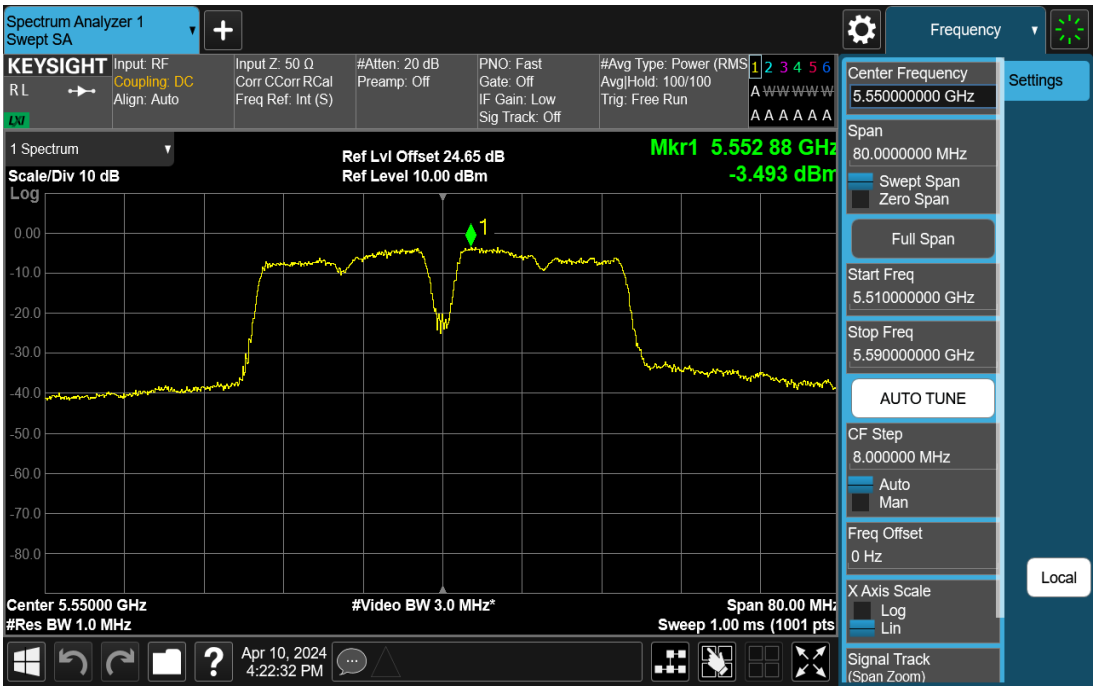

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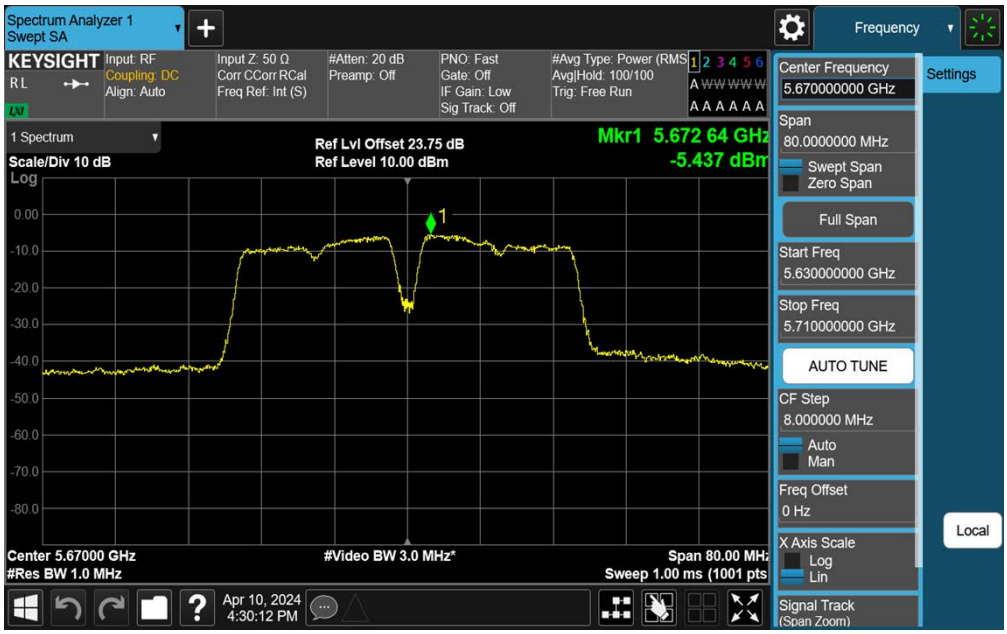

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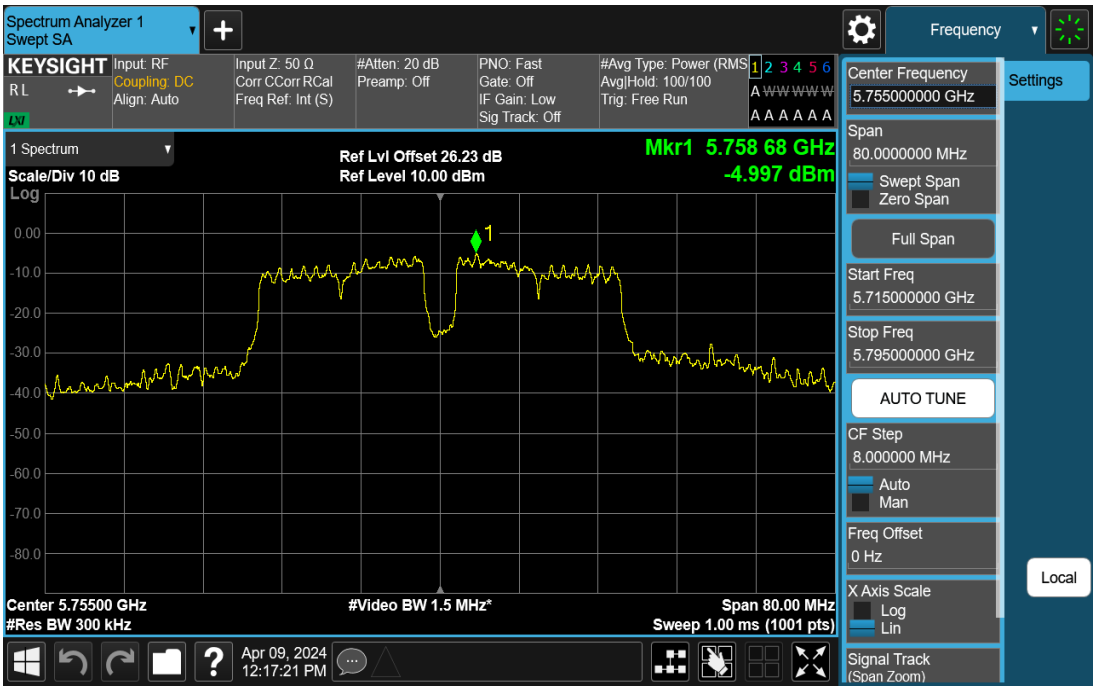

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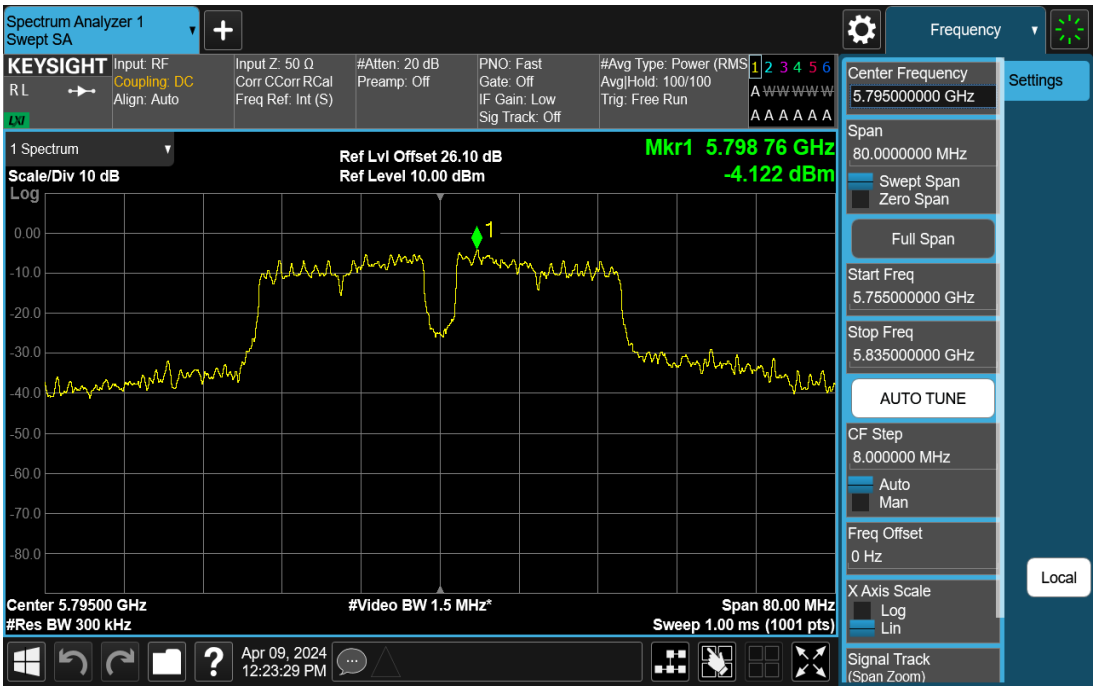

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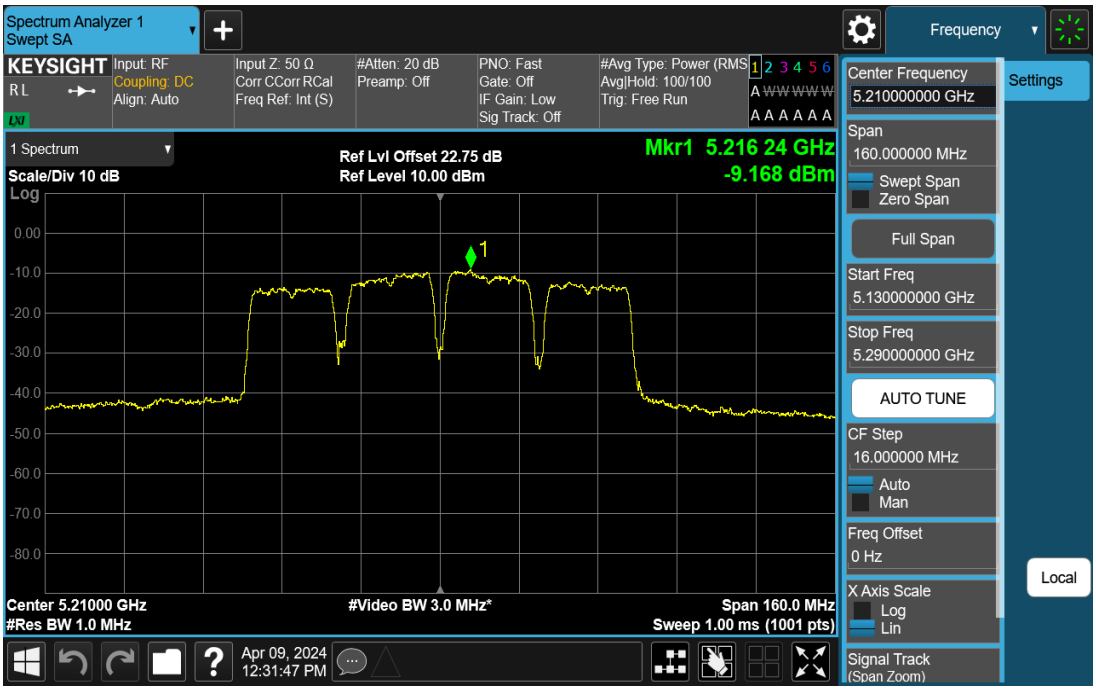
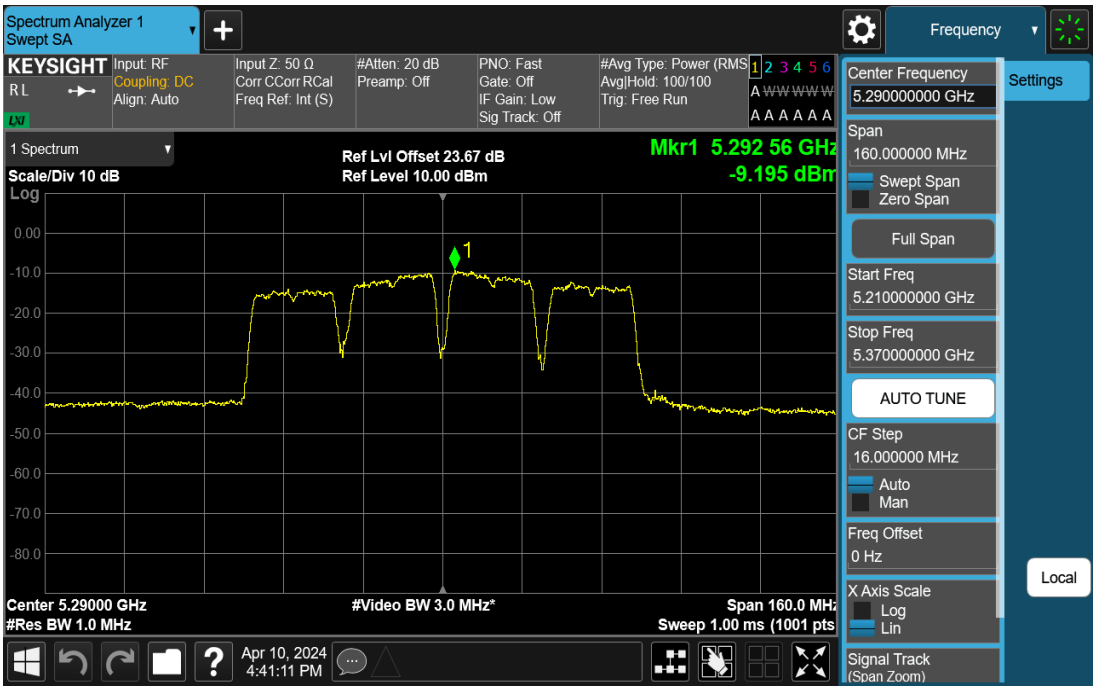


11AC80SISO-Ant1-5210-PASS



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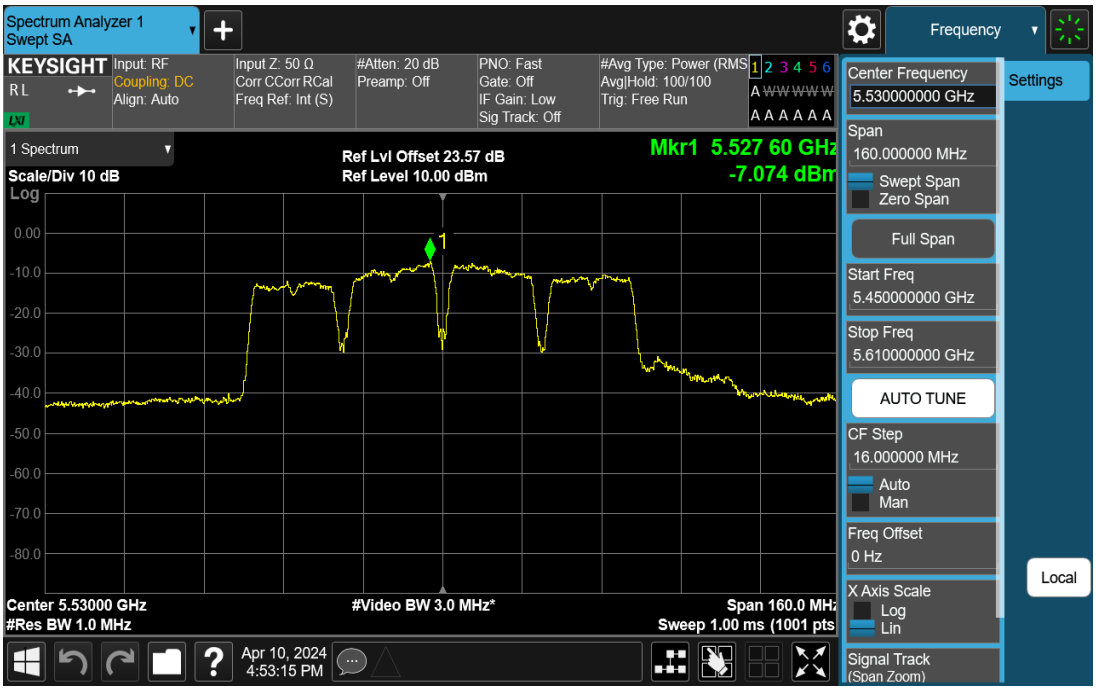

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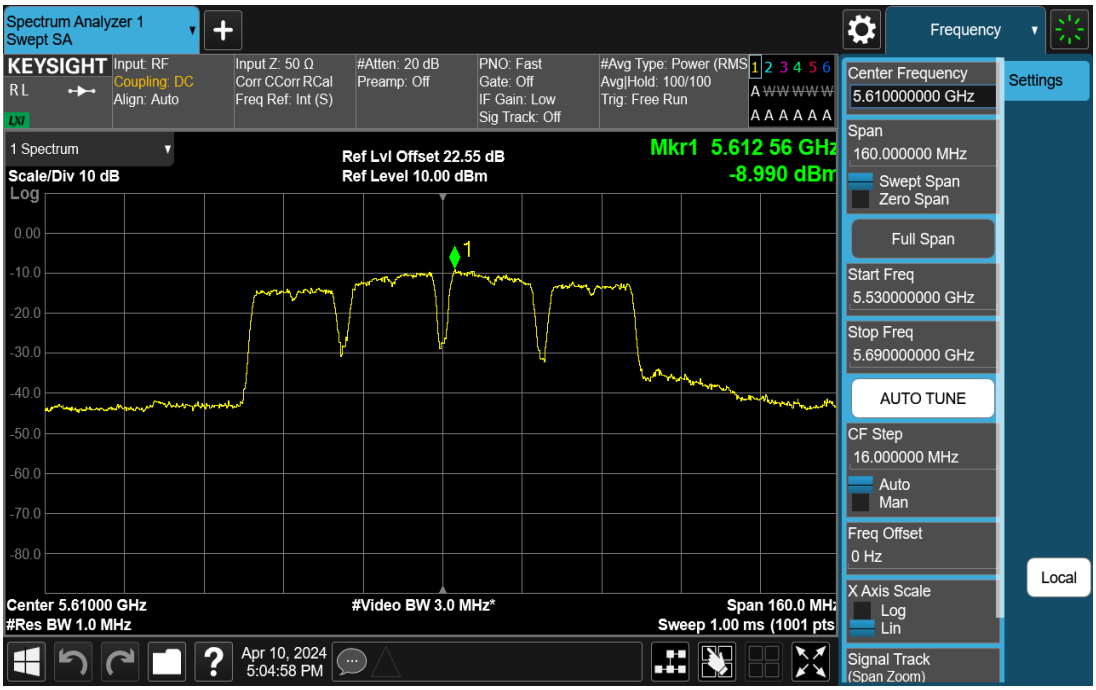

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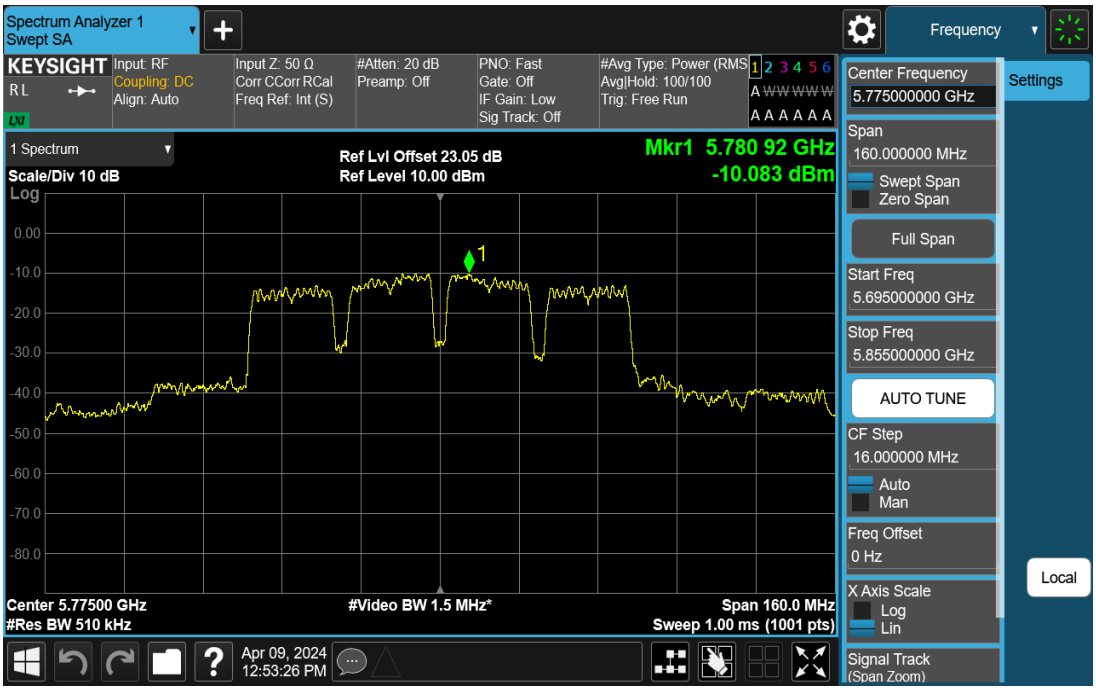

11AC80SISO-Ant1-5775-PASS

Statement

1. The report is invalid without the official seal or special seal of Shenzhen Haiyun Standard Technology Co., Ltd. (hereinafter referred to as the unit).
2. The report is invalid without the signature of the approver.
3. The report is invalid if altered arbitrarily.
4. The report shall not be partially copied without the written approval of the unit.
5. The reported test results are only valid for the tested samples.
6. If there is any objection to the test report, it shall be submitted to the test unit within 15 days from the date of receiving the report, and the overdue shall not be accepted.

Shenzhen Haiyun Standard Technology Co., Ltd.

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(END OF REPORT)