

3.4.4 Table of Parameters of Text Software Setting

UNII-1			
Test Software Version	MPTool		
Frequency (MHz)	5180	5200	5240
IEEE 802.11a	40	40	40
IEEE 802.11n20	40	40	40
IEEE 802.11ac20	40	40	40
Frequency (MHz)	5190	5230	
IEEE 802.11n40	40	40	
IEEE 802.11ac40	40	40	
Frequency (MHz)	5210		
IEEE 802.11ac80	40		

UNII-3			
Test Software Version	MPTool		
Frequency (MHz)	5745	5785	5825
IEEE 802.11a	9	9	9
IEEE 802.11n(HT20)	10	10	10
IEEE 802.11ac(VHT20)	10	10	10
Frequency (MHz)	5755	5795	
IEEE 802.11n(HT40)	10	10	
IEEE 802.11ac(VHT40)	10	10	
Frequency (MHz)	5775		
IEEE 802.11ac(VHT80)	9		

3.4.5 The Result

Test Mode	Antenna	Freq(MHz)	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	13.39	≤23.98	PASS
		5200	13.49	≤23.98	PASS
		5240	13.71	≤23.98	PASS
		5745	6.84	≤30.00	PASS
		5785	6.42	≤30.00	PASS
		5825	6.91	≤30.00	PASS
11N20SISO	Ant1	5180	12.59	≤23.98	PASS
		5200	13.46	≤23.98	PASS
		5240	13.81	≤23.98	PASS
		5745	6.99	≤30.00	PASS
		5785	7.20	≤30.00	PASS
		5825	7.10	≤30.00	PASS
11N40SISO	Ant1	5190	11.92	≤23.98	PASS
		5230	12.04	≤23.98	PASS
		5755	7.27	≤30.00	PASS
		5795	7.55	≤30.00	PASS
11AC20SISO	Ant1	5180	13.15	≤23.98	PASS
		5200	14.46	≤23.98	PASS
		5240	13.74	≤23.98	PASS
		5745	7.65	≤30.00	PASS
		5785	6.90	≤30.00	PASS
		5825	6.79	≤30.00	PASS
11AC40SISO	Ant1	5190	11.59	≤23.98	PASS
		5230	11.96	≤23.98	PASS
		5755	7.62	≤30.00	PASS
		5795	7.53	≤30.00	PASS
11AC80SISO	Ant1	5210	12.27	≤23.98	PASS
		5775	8.26	≤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:

- 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 $10 \log (500 \text{ kHz}/300 \text{ kHz})$ 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 factor+ $10\log(500\text{kHz}/300\text{kHz})$.

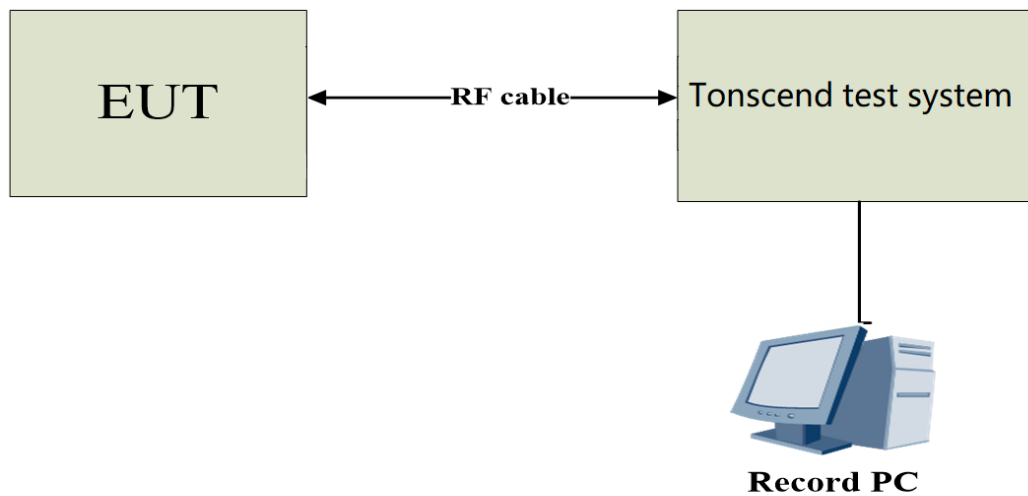
3.5.2 Test Procedure

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 tonscond 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	$\geq 3 \times \text{RBW}$
Frequency span	2 x Nominal Channel Bandwidth
Detector Mode	RMS
Trace Mode	Average
Sweep Time	Auto Couple

3.5.3 Test Setup



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3.5.4 The Result

For 5150MHz-5250MHz

Test Mode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	2.70	≤11.00	PASS
11A	Ant1	5200	3.34	≤11.00	PASS
11A	Ant1	5240	3.09	≤11.00	PASS
11N20SISO	Ant1	5180	2.49	≤11.00	PASS
11N20SISO	Ant1	5200	3.35	≤11.00	PASS
11N20SISO	Ant1	5240	2.96	≤11.00	PASS
11N40SISO	Ant1	5190	-1.95	≤11.00	PASS
11N40SISO	Ant1	5230	-1.02	≤11.00	PASS
11AC20SISO	Ant1	5180	3.31	≤11.00	PASS
11AC20SISO	Ant1	5200	3.07	≤11.00	PASS
11AC20SISO	Ant1	5240	2.95	≤11.00	PASS
11AC40SISO	Ant1	5190	-1.22	≤11.00	PASS
11AC40SISO	Ant1	5230	-1.64	≤11.00	PASS
11AC80SISO	Ant1	5210	-2.85	≤11.00	PASS

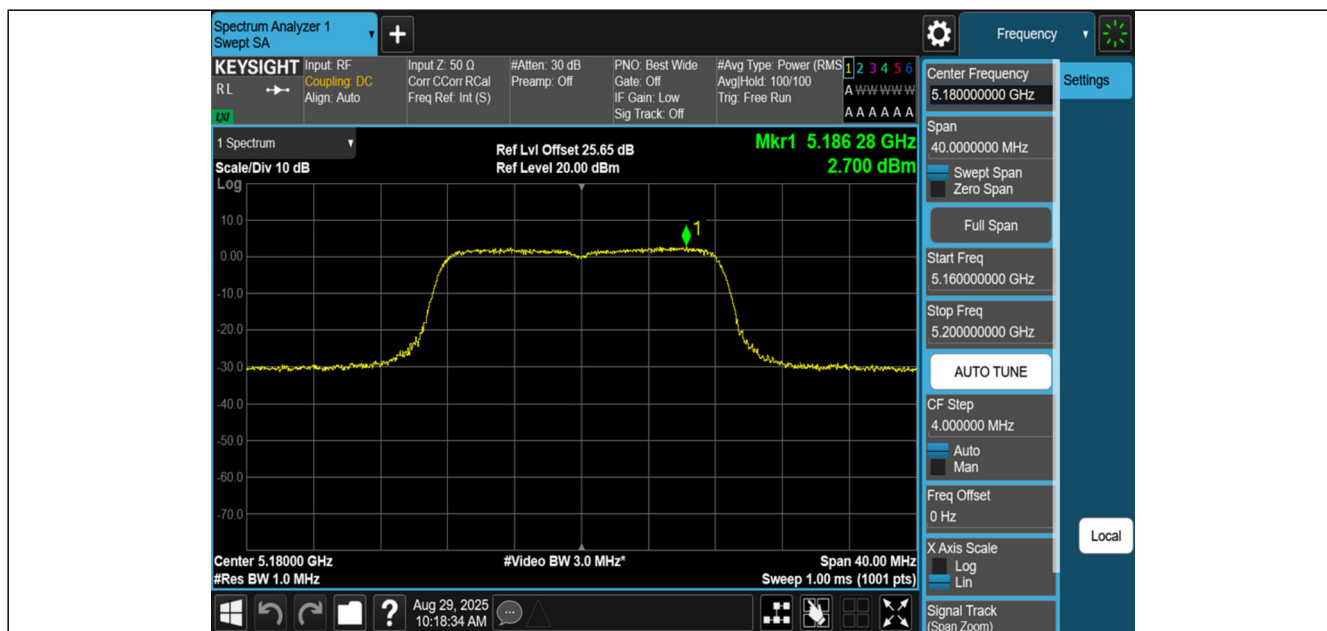
For 5725-5850MHz

Test Mode	Antenna	Frequency[MHz]	Result [dBm/500kHz]	Limi[dBm/500kHz]	Verdict
11A	Ant1	5745	-7.26	≤30.00	PASS
11A	Ant1	5785	-5.84	≤30.00	PASS
11A	Ant1	5825	-6.74	≤30.00	PASS
11N20SISO	Ant1	5745	-6.25	≤30.00	PASS
11N20SISO	Ant1	5785	-6.64	≤30.00	PASS
11N20SISO	Ant1	5825	-6.59	≤30.00	PASS
11N40SISO	Ant1	5755	-7.58	≤30.00	PASS
11N40SISO	Ant1	5795	-8.47	≤30.00	PASS
11AC20SISO	Ant1	5745	-6.40	≤30.00	PASS
11AC20SISO	Ant1	5785	-6.49	≤30.00	PASS
11AC20SISO	Ant1	5825	-6.79	≤30.00	PASS
11AC40SISO	Ant1	5755	-8.79	≤30.00	PASS
11AC40SISO	Ant1	5795	-8.83	≤30.00	PASS
11AC80SISO	Ant1	5775	-9.87	≤30.00	PASS

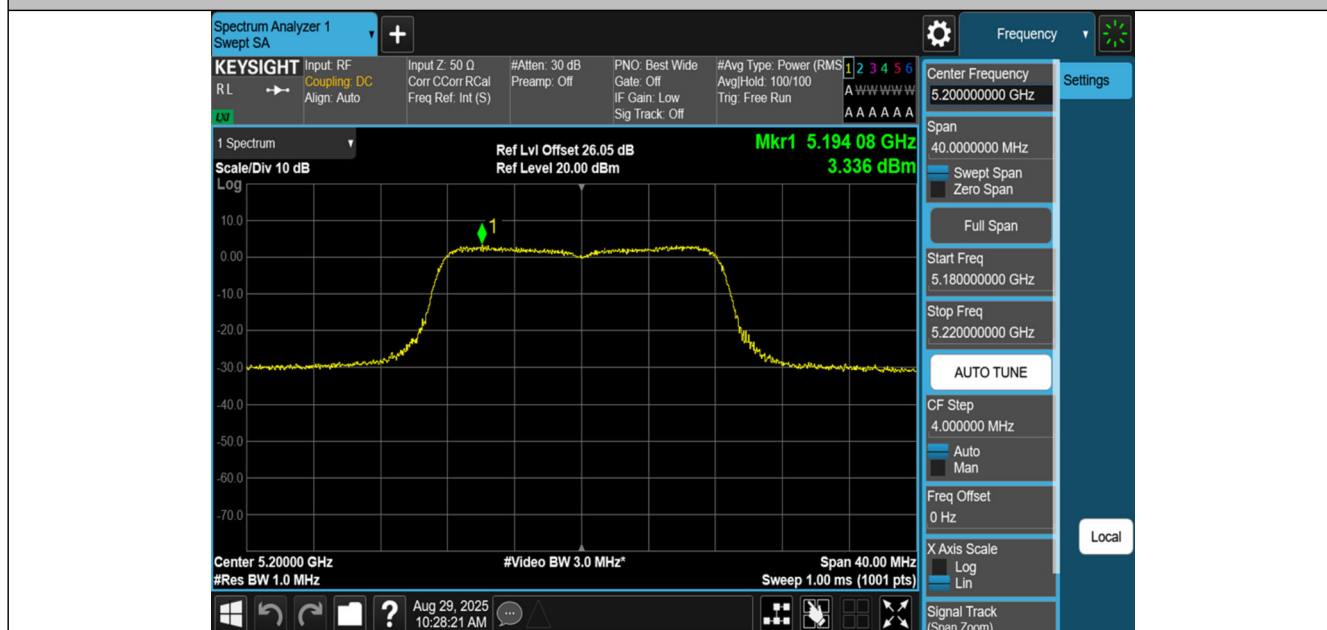
Note: The Duty Cycle Factor and line loss are compensated in the test system

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 $10 \log (500 \text{ kHz}/300 \text{ kHz})$ to the measured result, i.e. 2.22 dB.

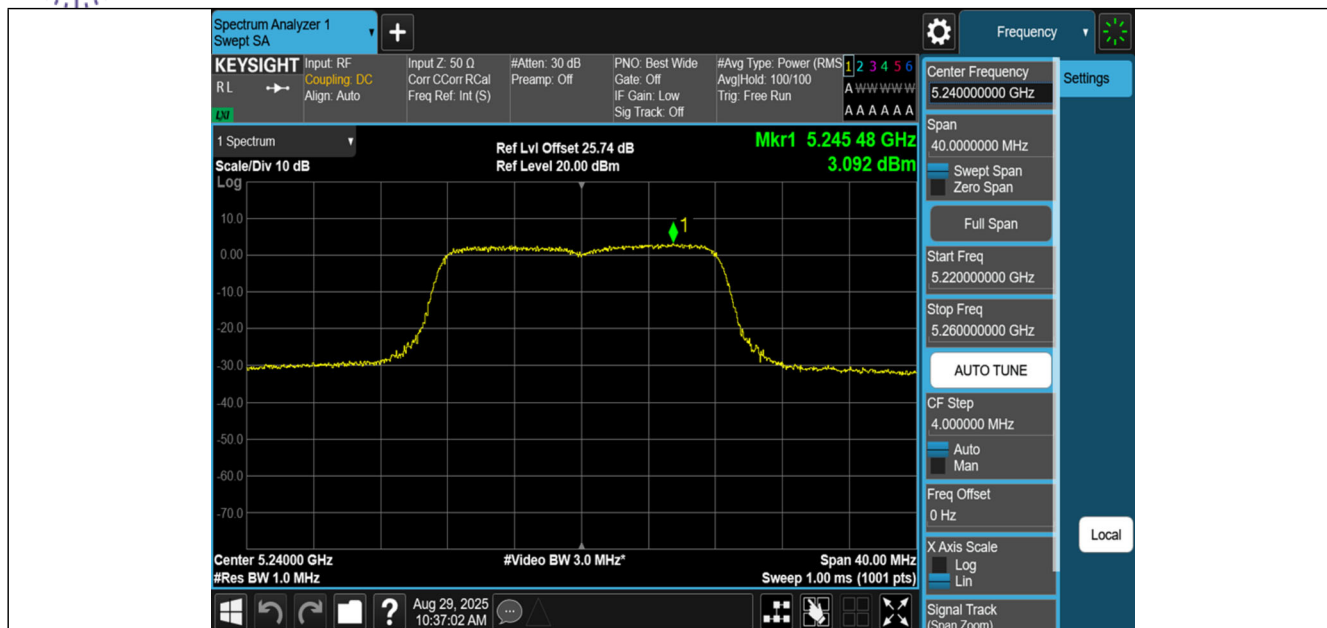
During the test of U-NII 3 PSD, the measurement result with RBW=300kHz has been added 2.22 dB by compensating offset, $\text{offset} = \text{cable loss} + \text{duty cycle factor} + 10 \log(500 \text{ kHz}/300 \text{ kHz})$.



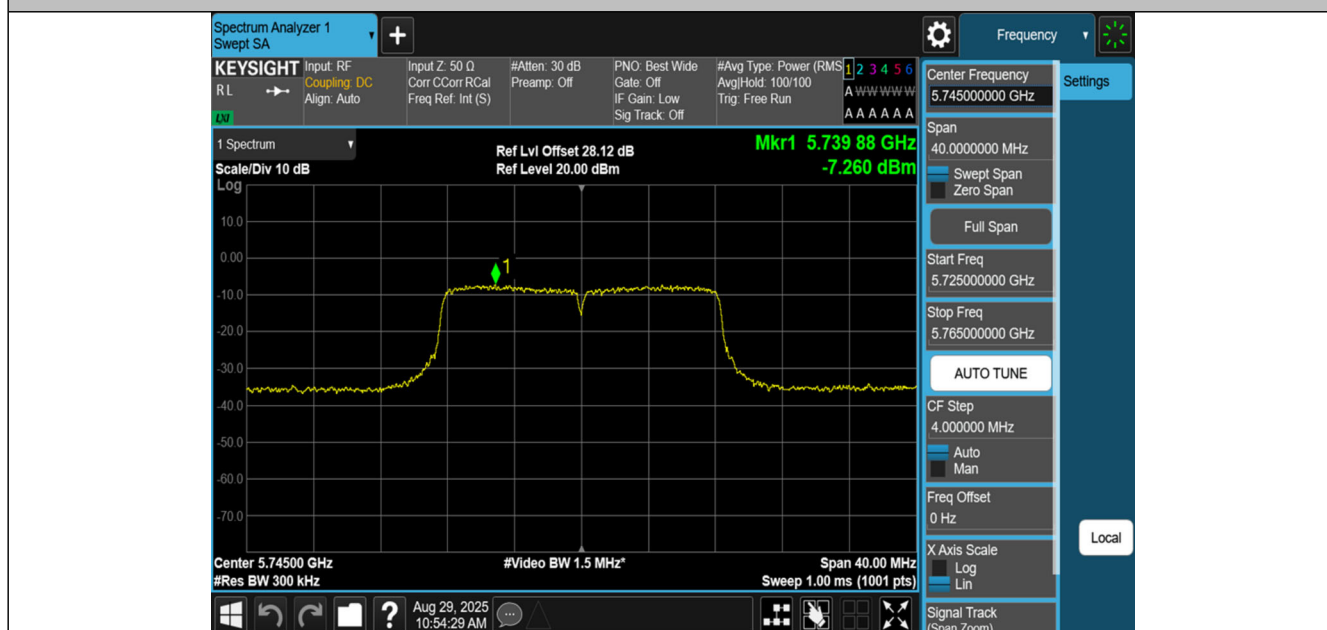
11A-Ant1-5180-PASS



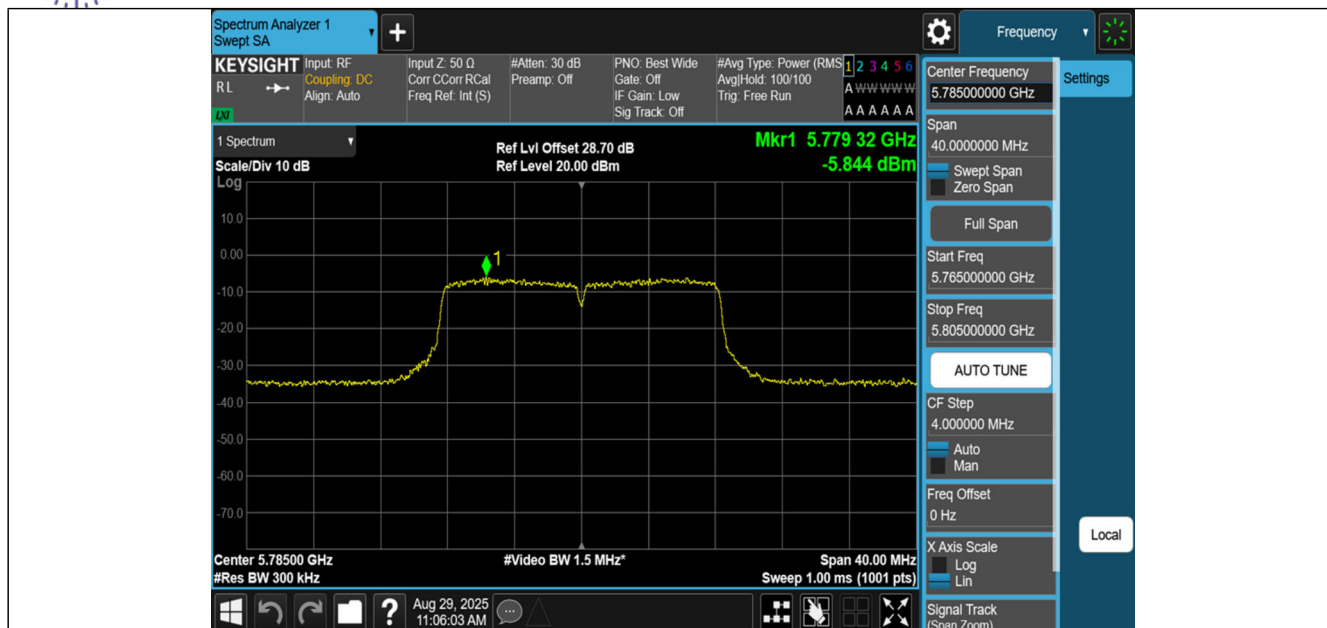
11A-Ant1-5200-PASS



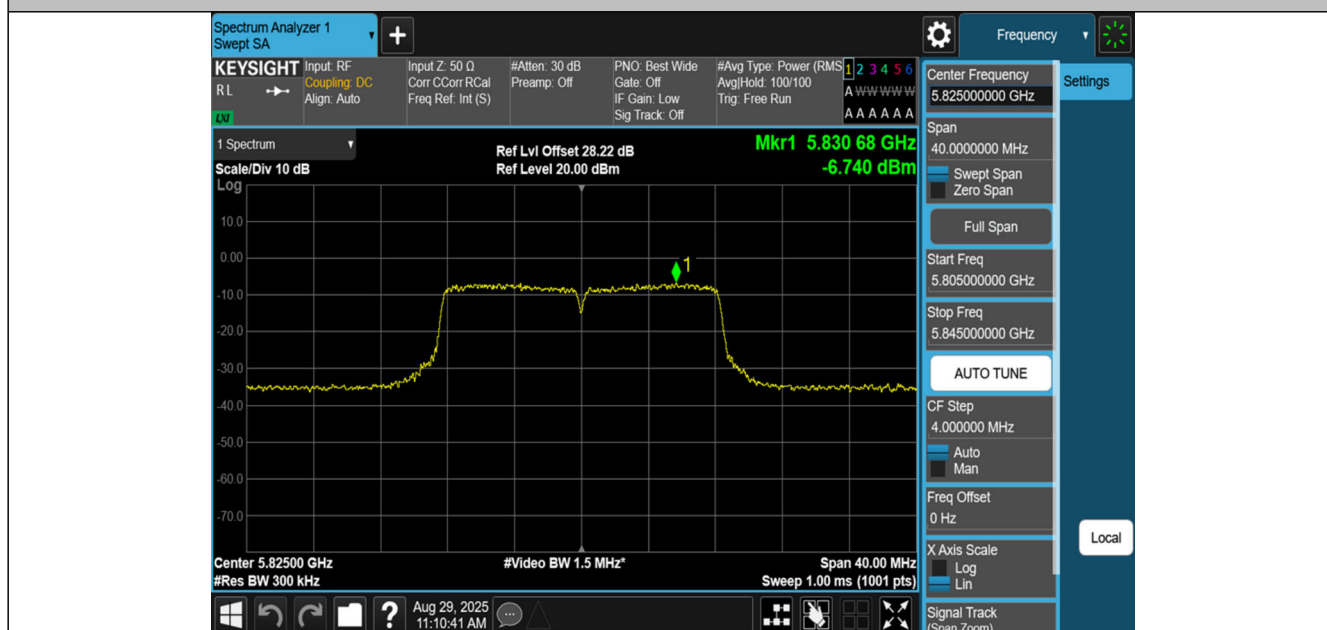
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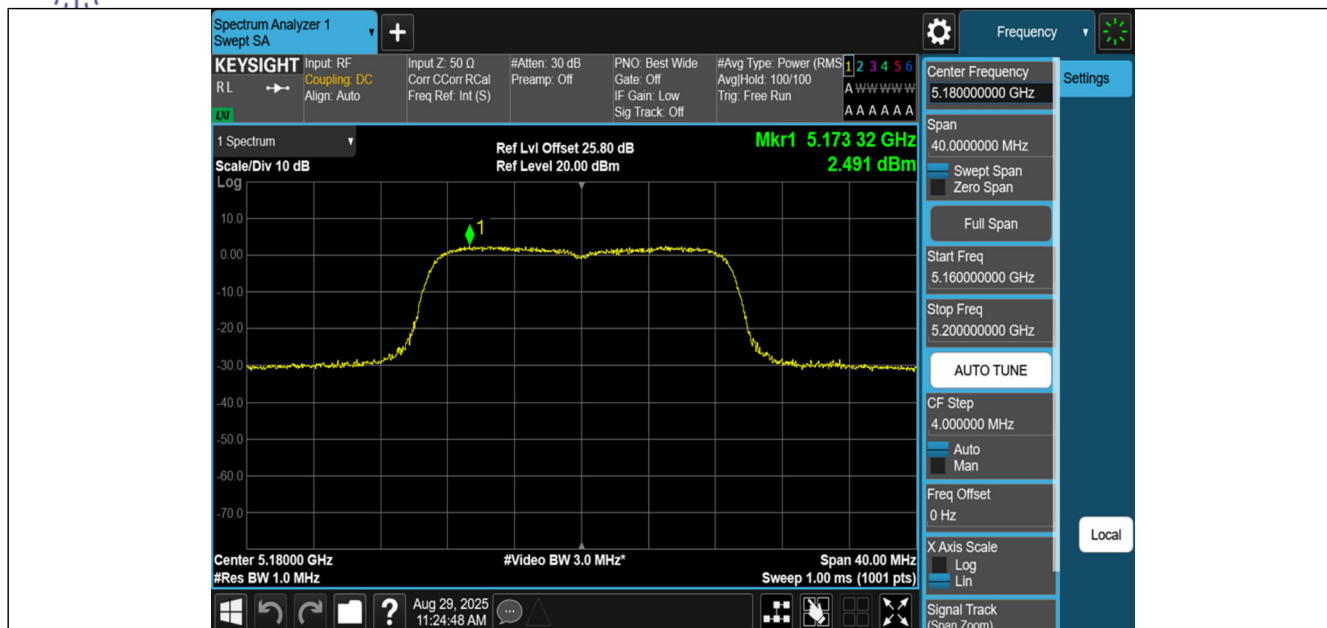
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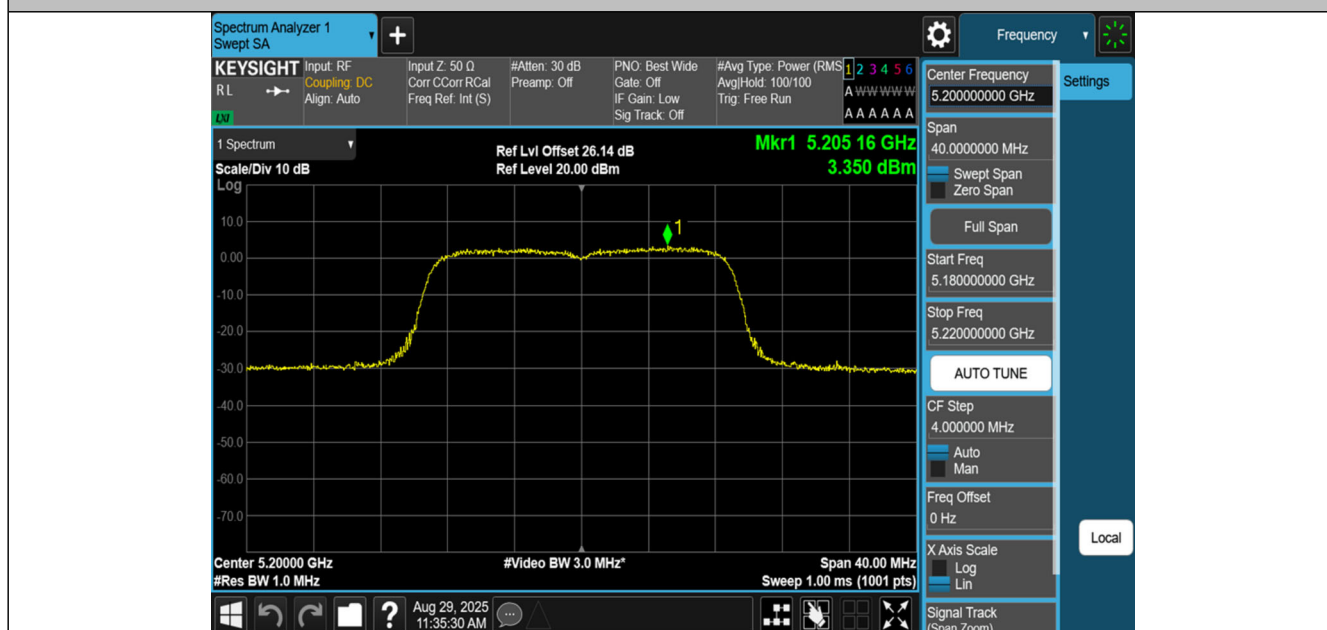
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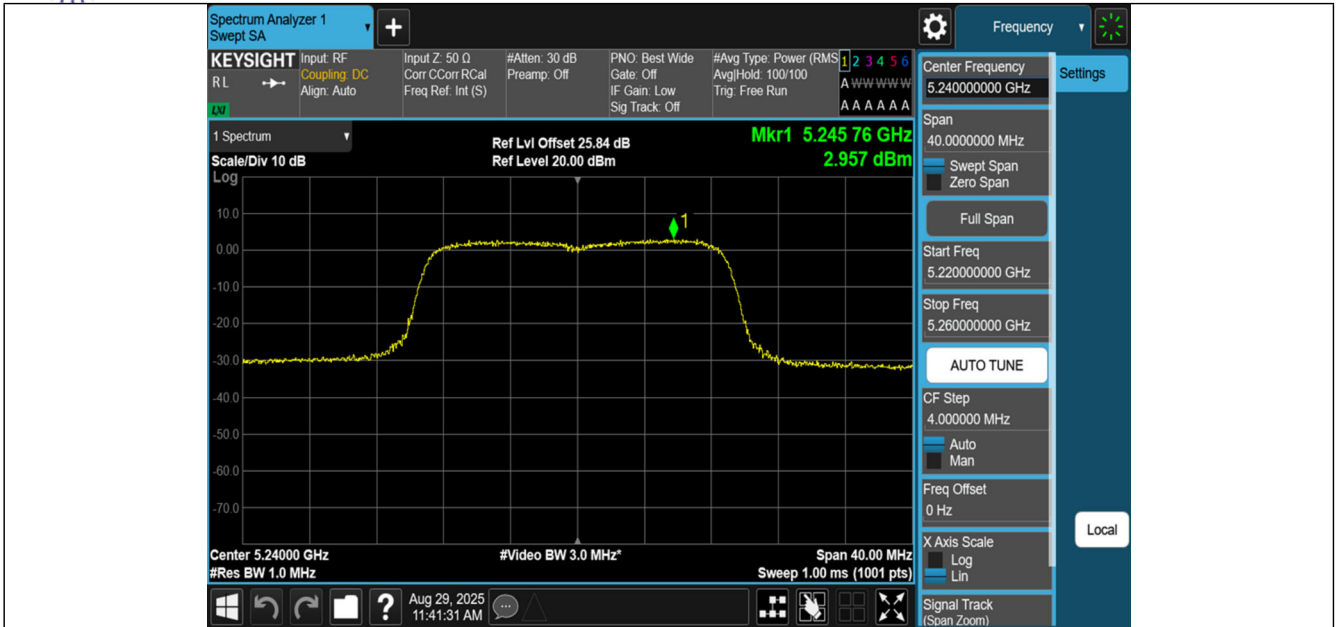
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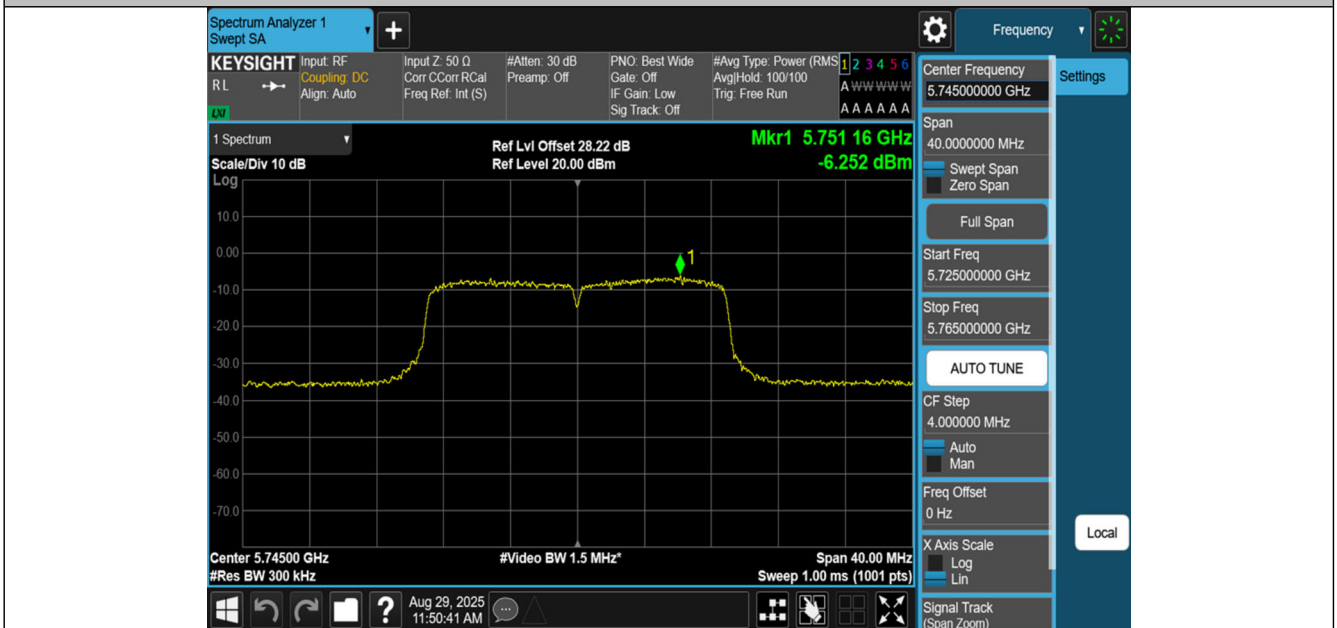
11N20SISO-Ant1-5180-PASS



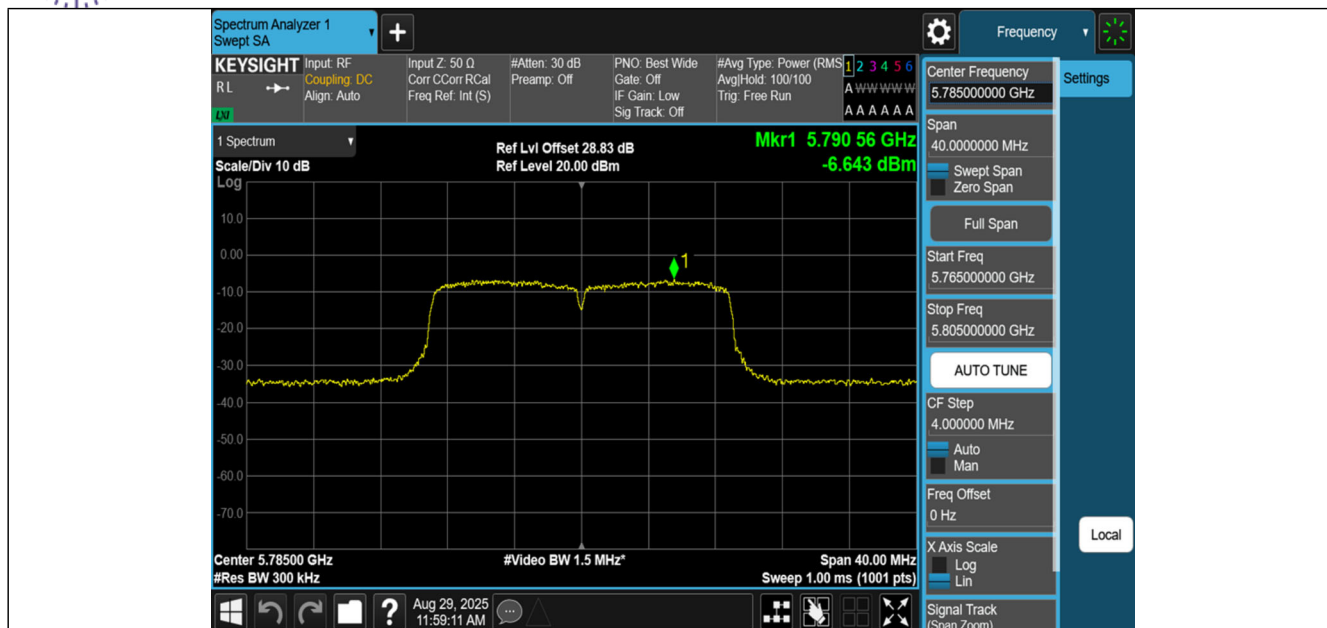
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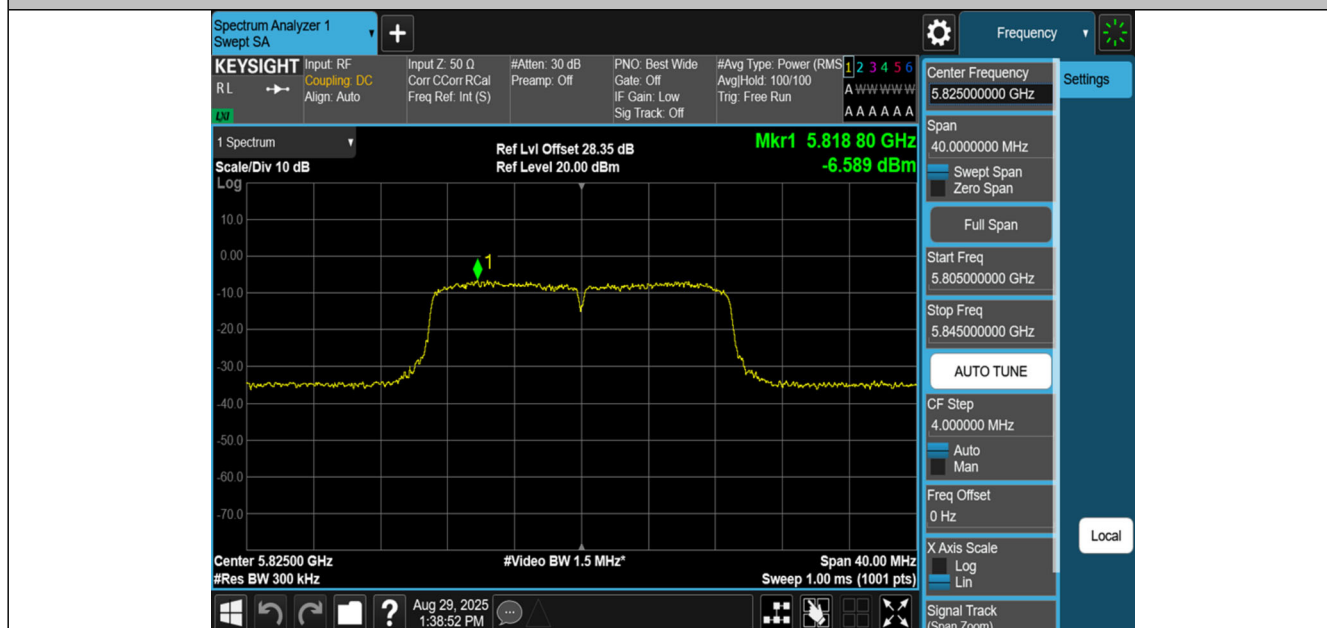
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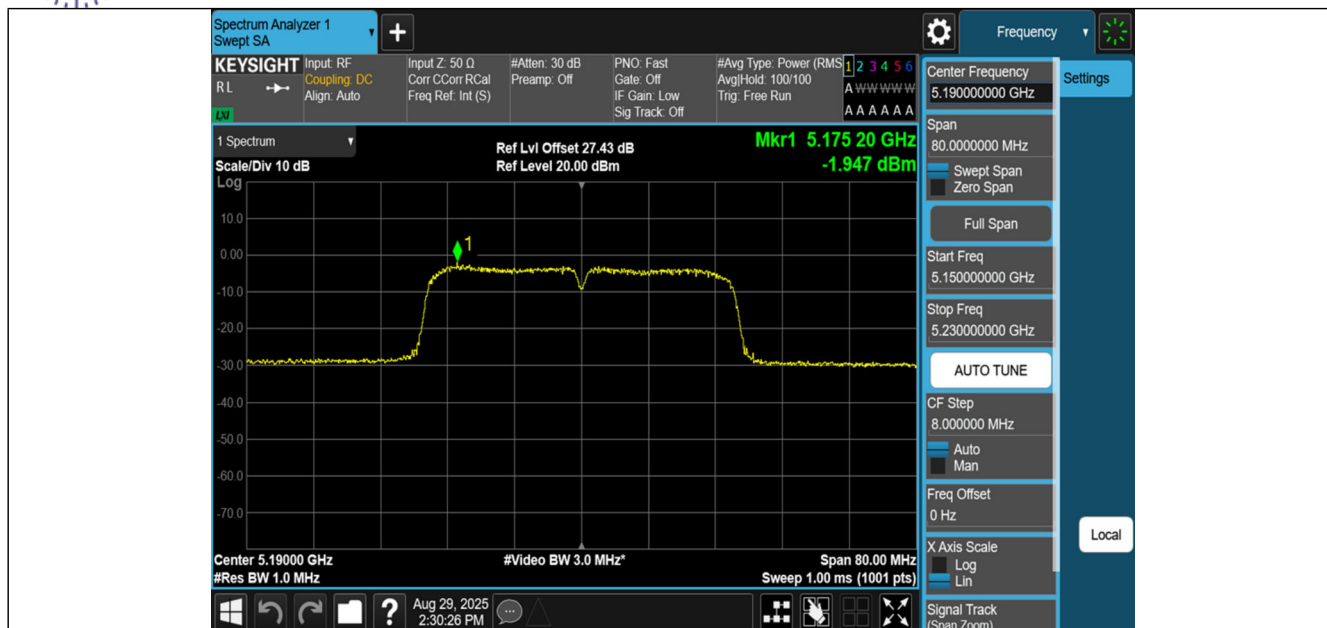
11N20SISO-Ant1-5745-PASS



11N20SISO-Ant1-5785-PASS



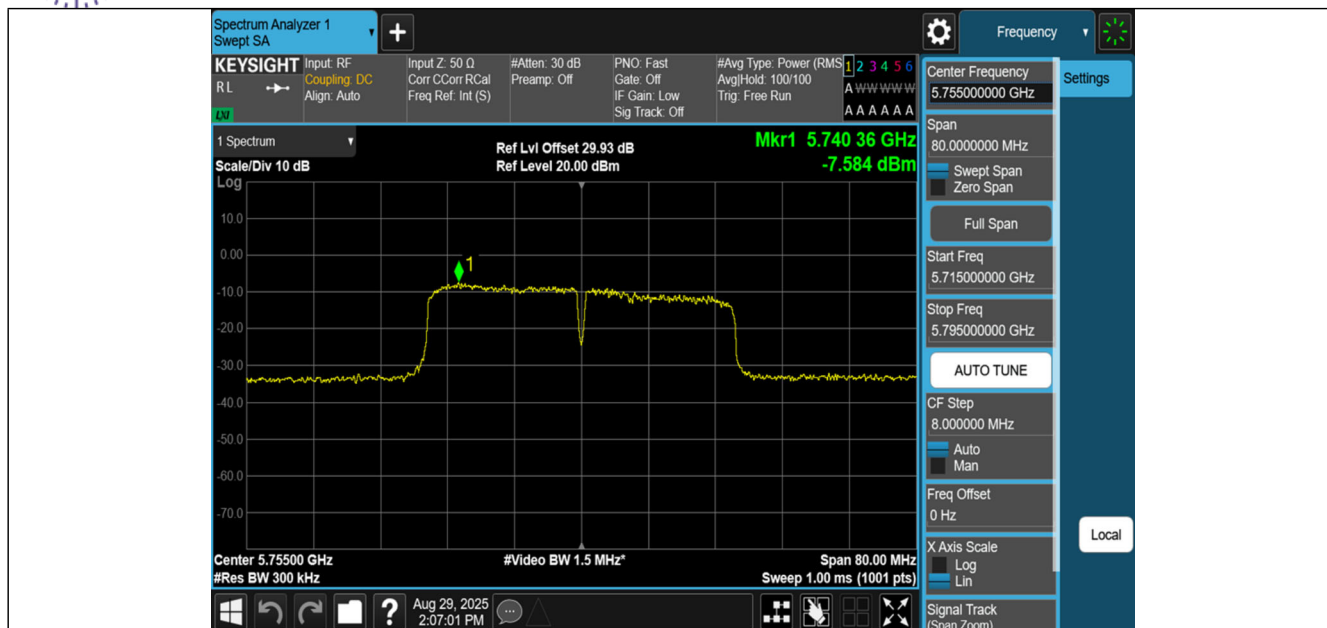
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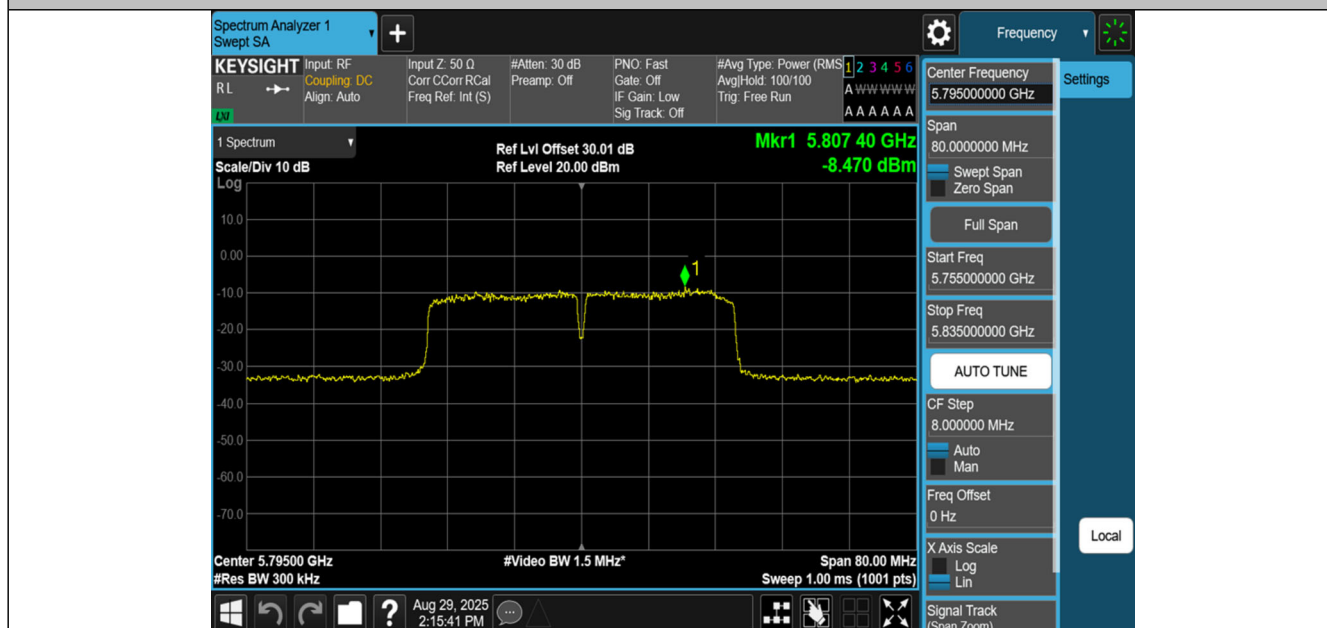
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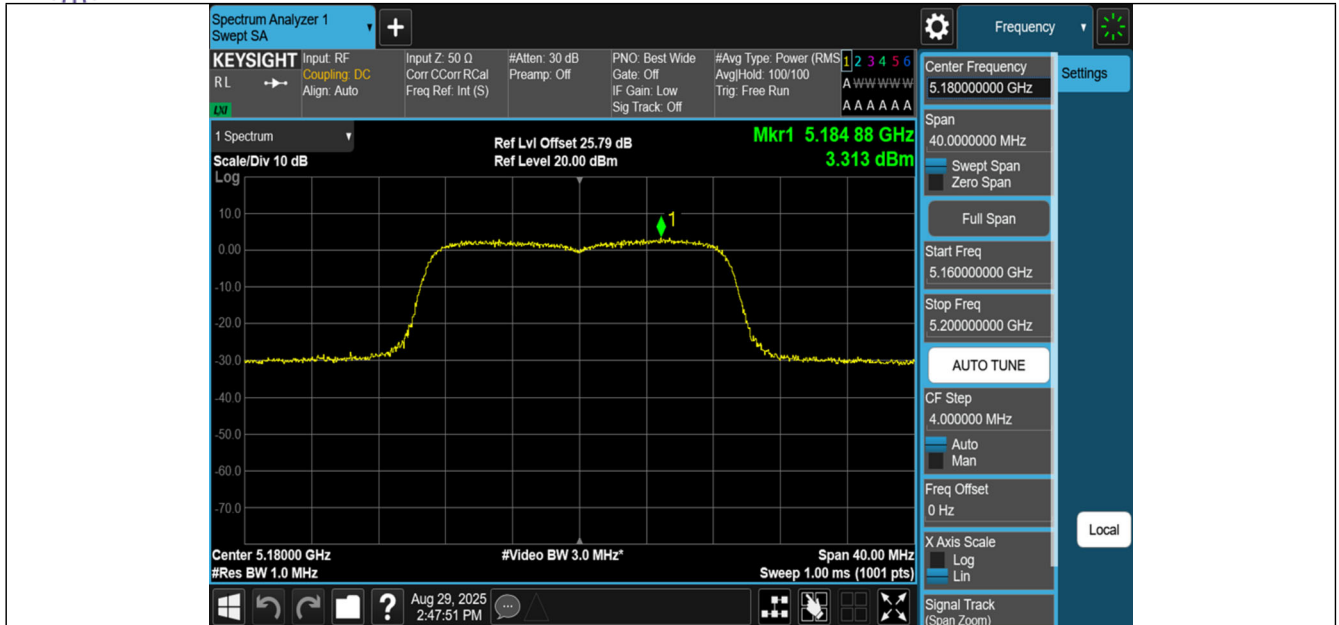
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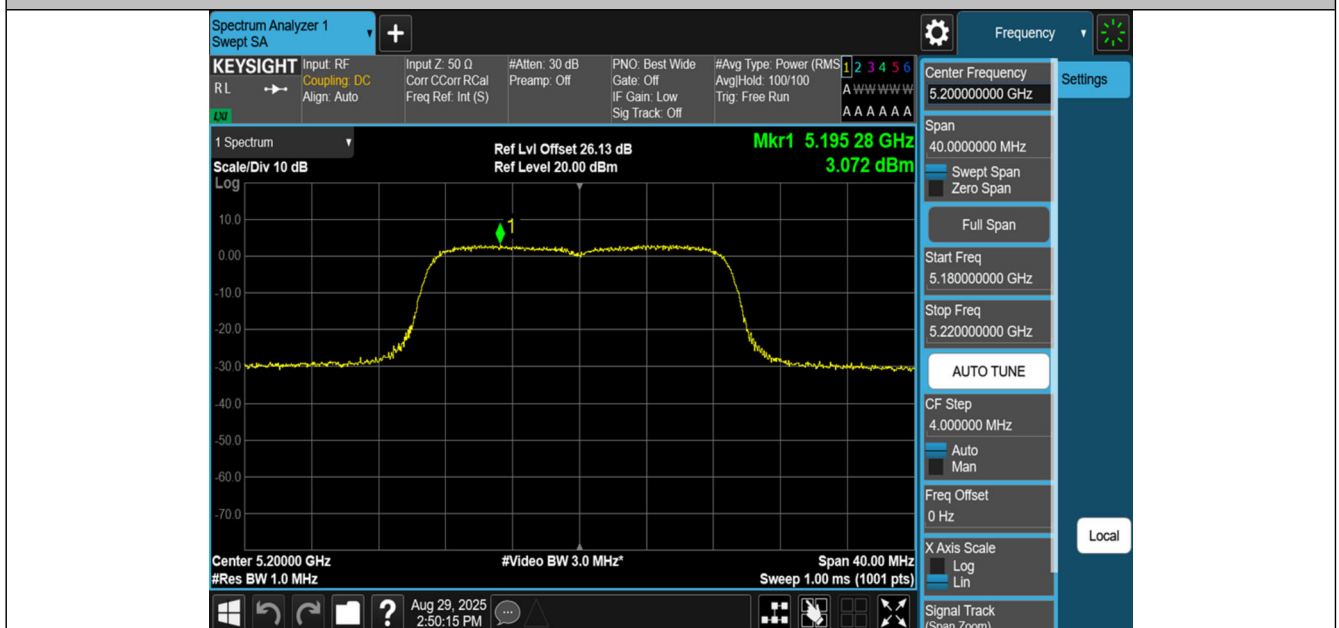
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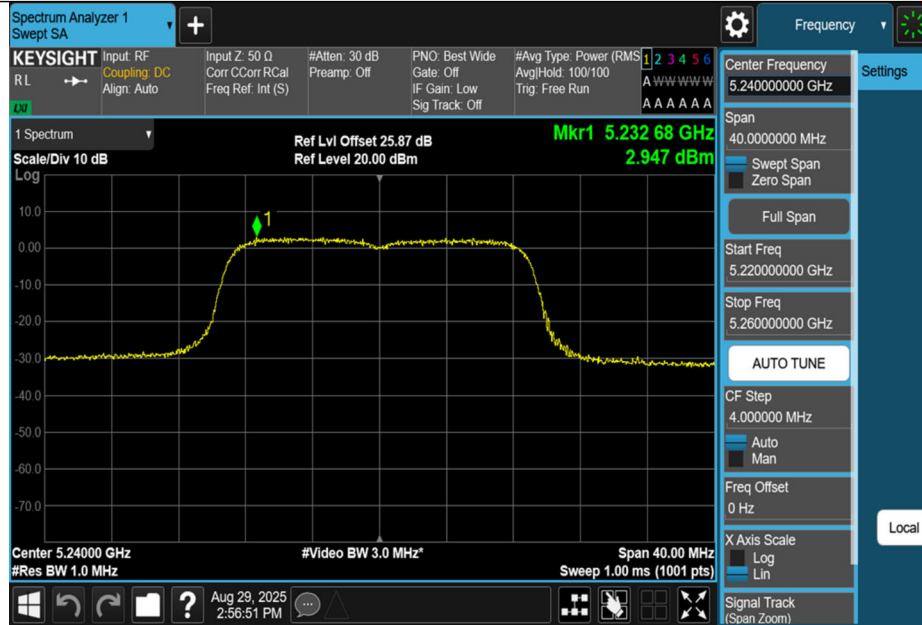
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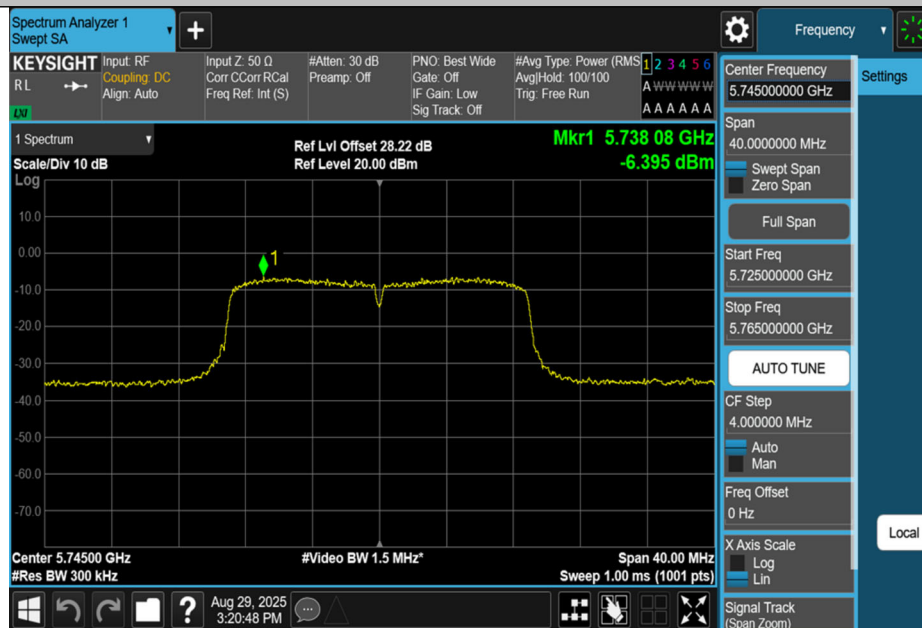
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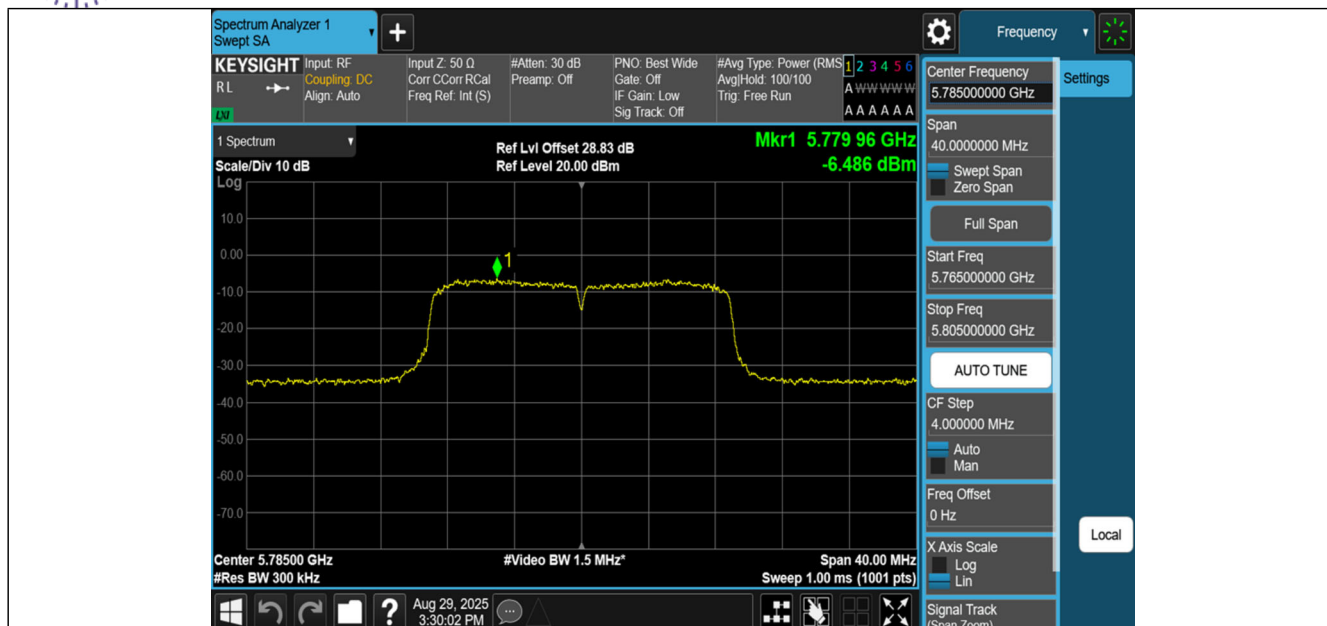
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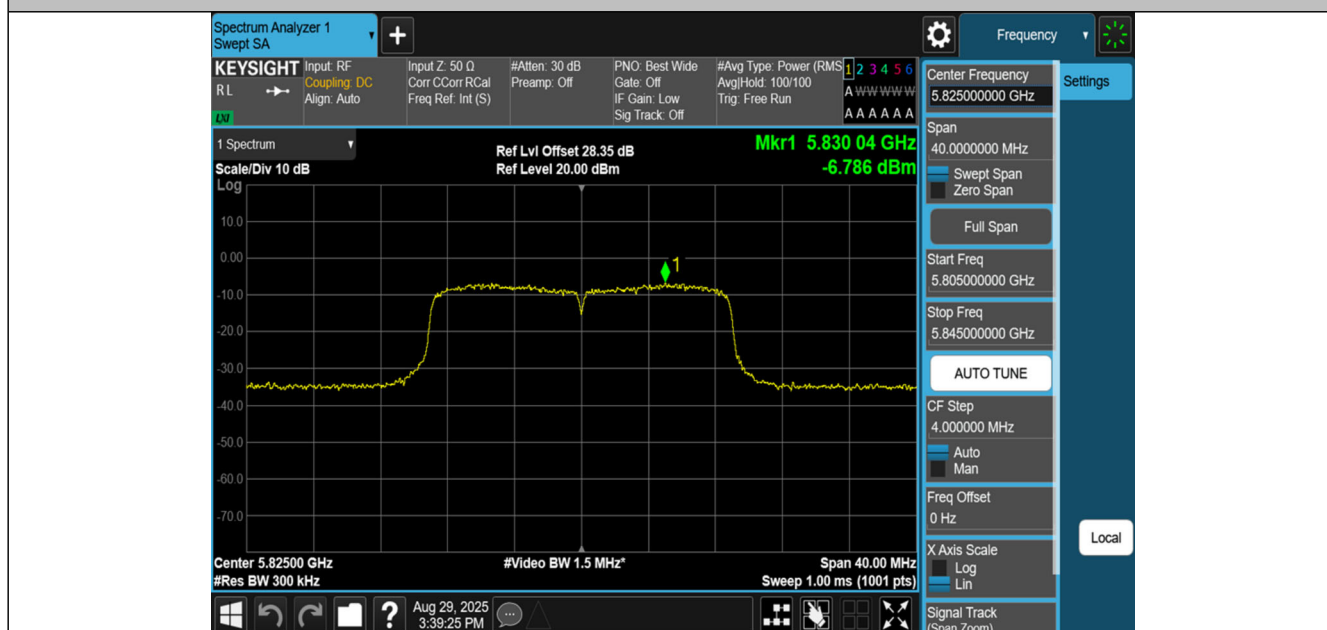
11AC20SISO-Ant1-5240-PASS



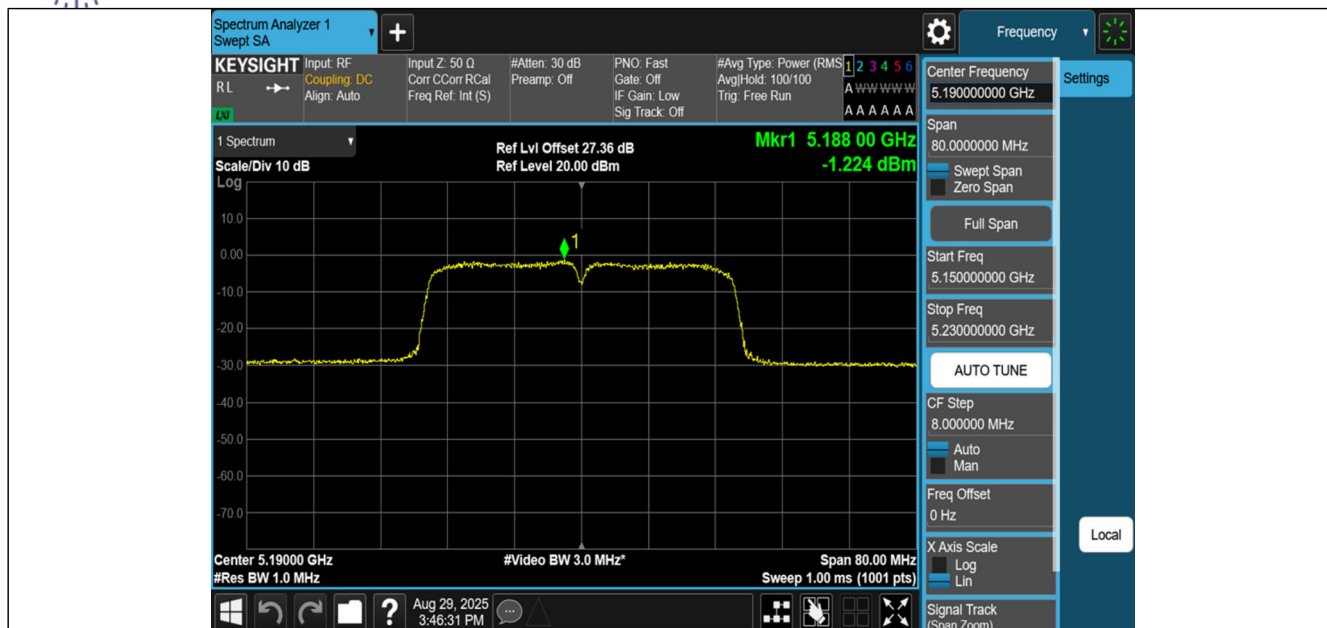
11AC20SISO-Ant1-5745-PASS



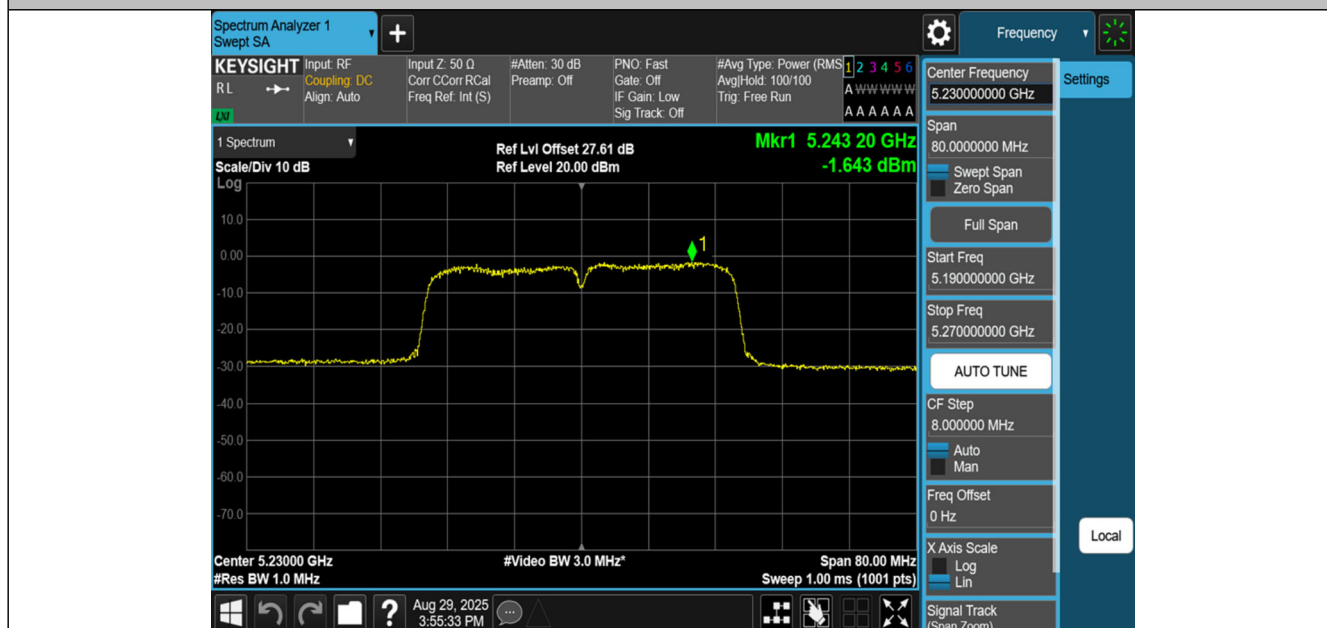
11AC20SISO-Ant1-5785-PASS



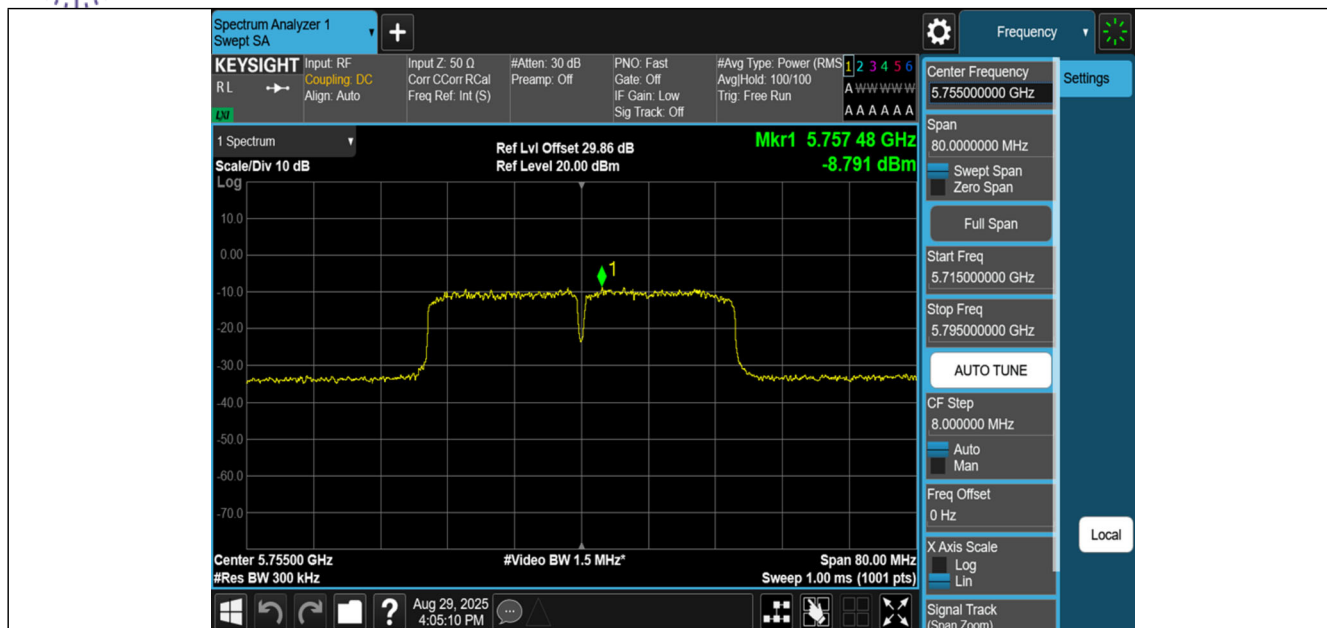
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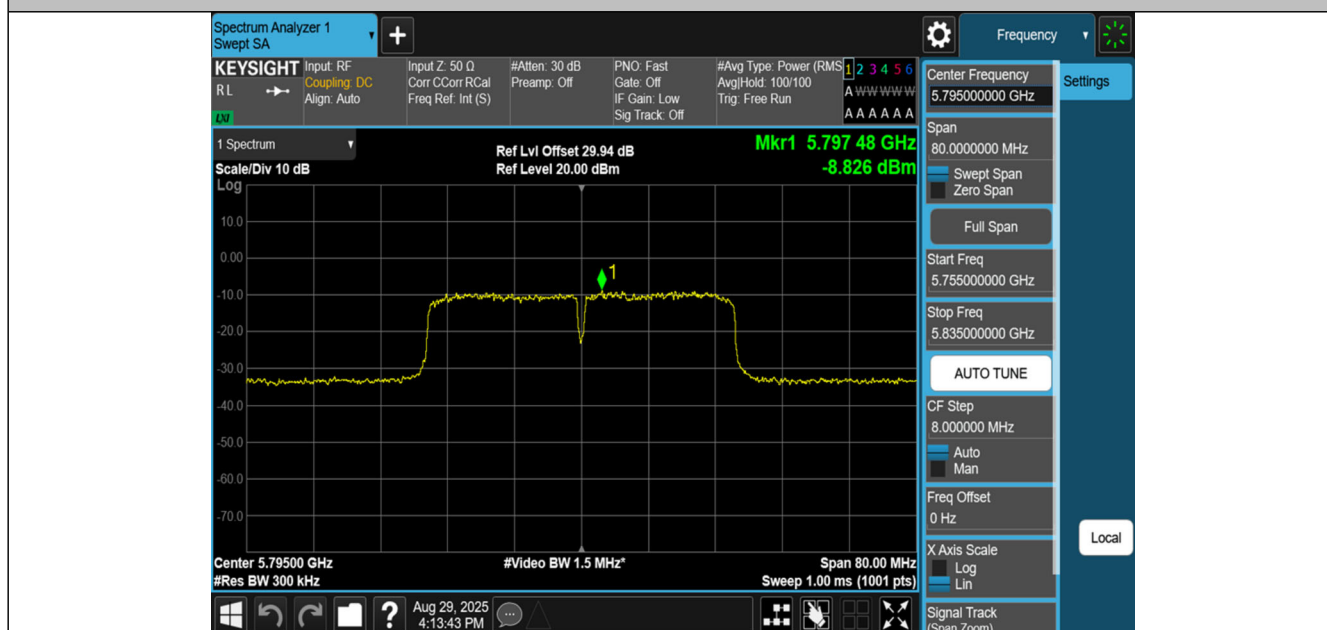
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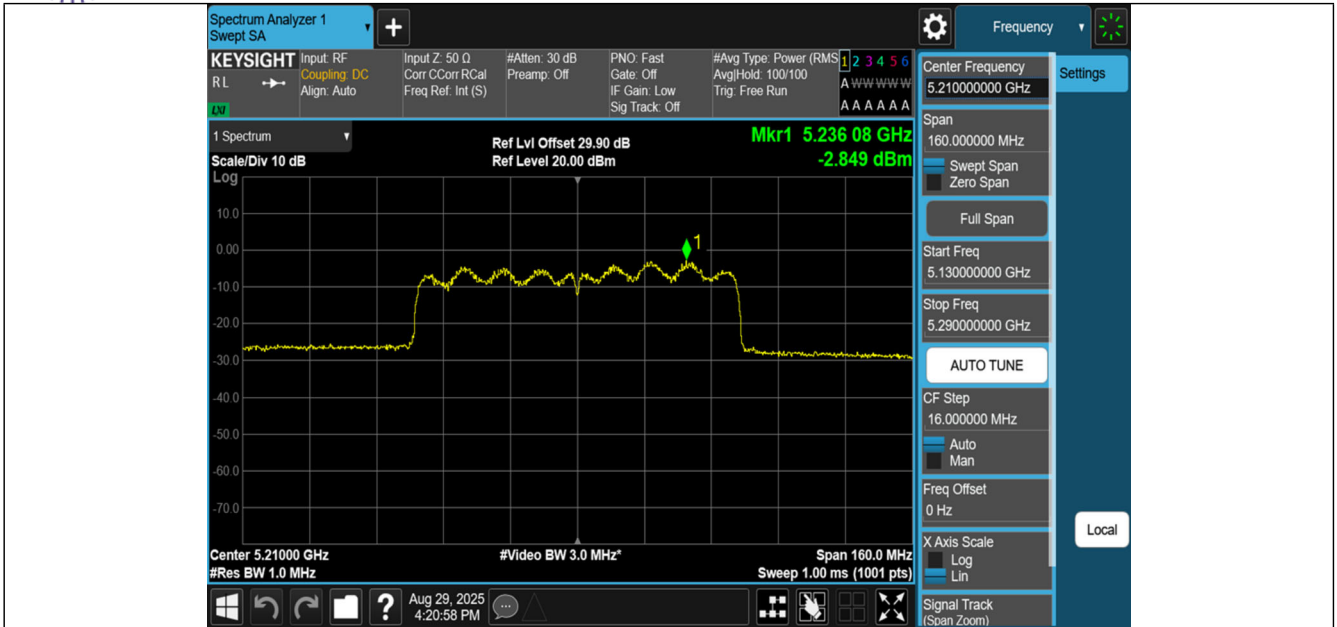
11AC40SISO-Ant1-5230-PASS



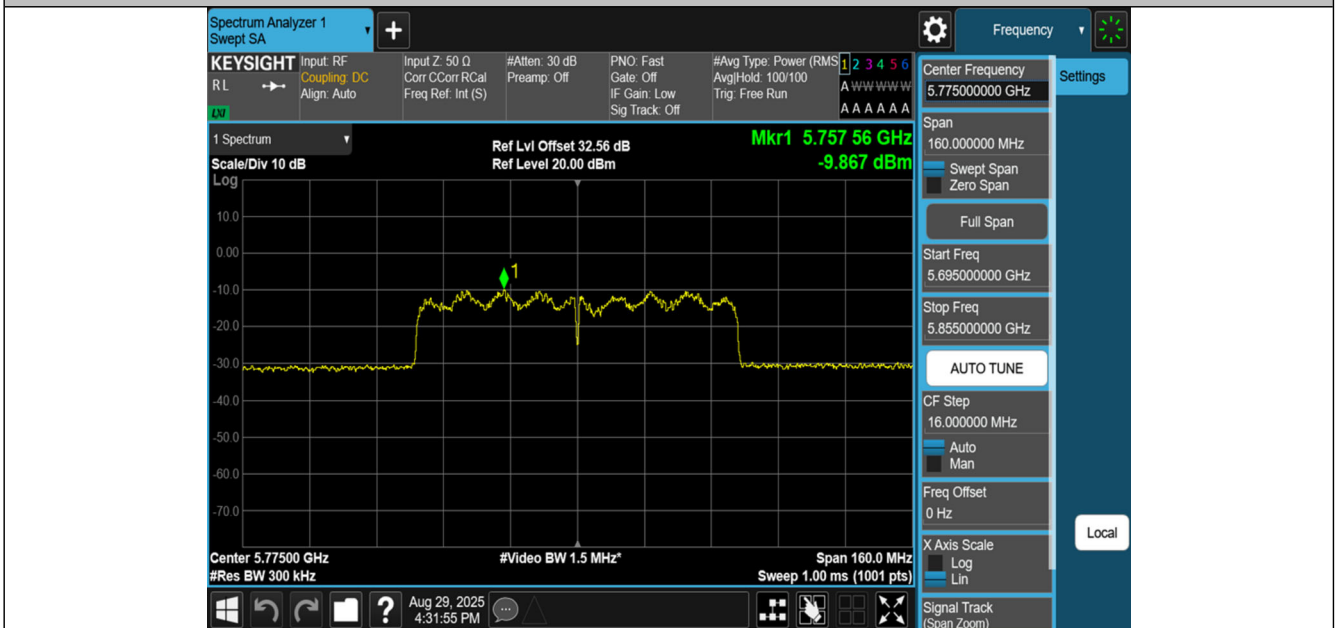
11AC40SISO-Ant1-5755-PASS



11AC40SISO-Ant1-5795-PASS



11AC80SISO-Ant1-5210-PASS



11AC80SISO-Ant1-5775-PASS

Statement

1. The report is invalid without the official seal or special seal of Shenzhen Haiyun Standard Technical 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 Technical Co., Ltd.

Address: Room 110, 111, 112, 113, 115, 116, Block B, Jinyuan Business Building, No. 302, Xixiang Avenue, Labor Community, Xixiang Street, Baoan District, Shenzhen, China

Tel: 0755-26024411

Email: service@hy-lab.cn

(END OF REPORT)