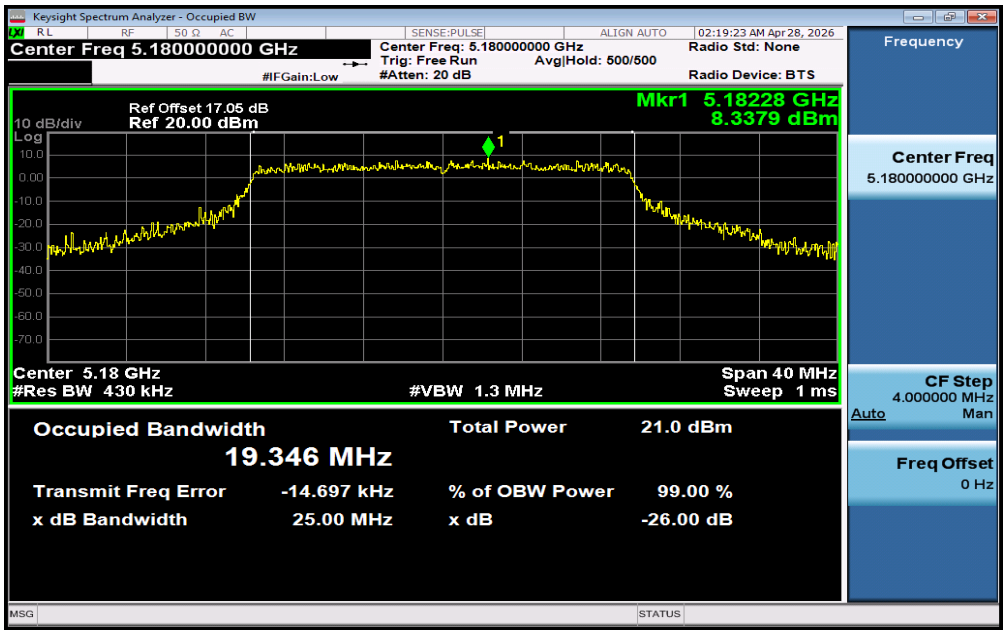
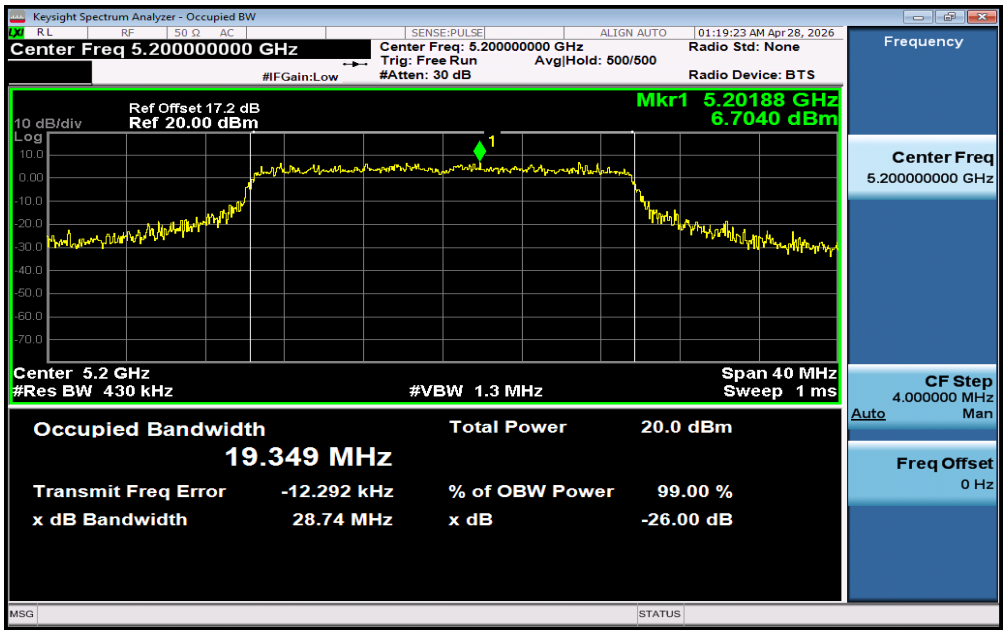
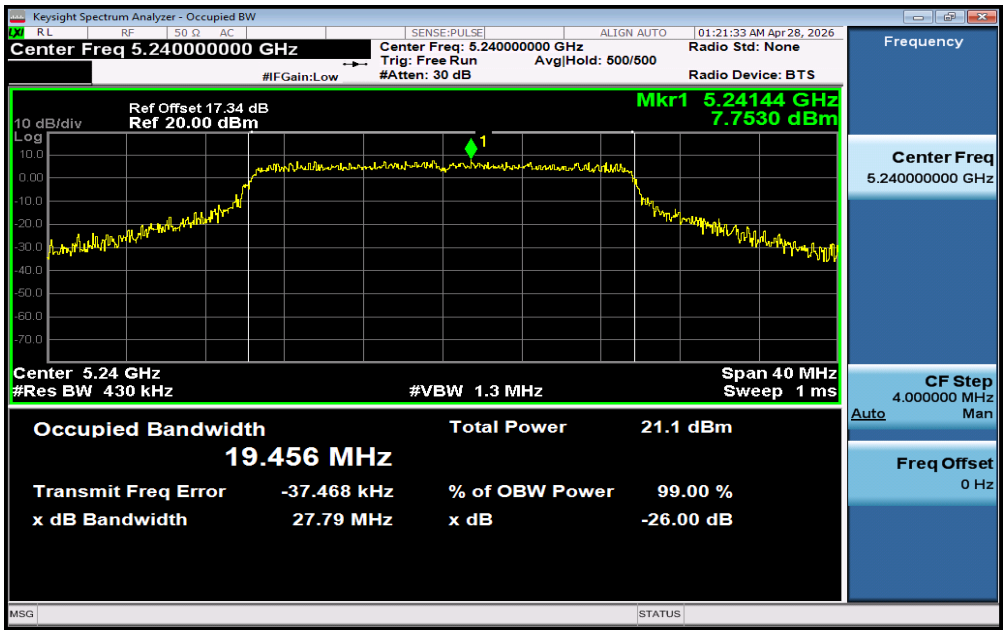


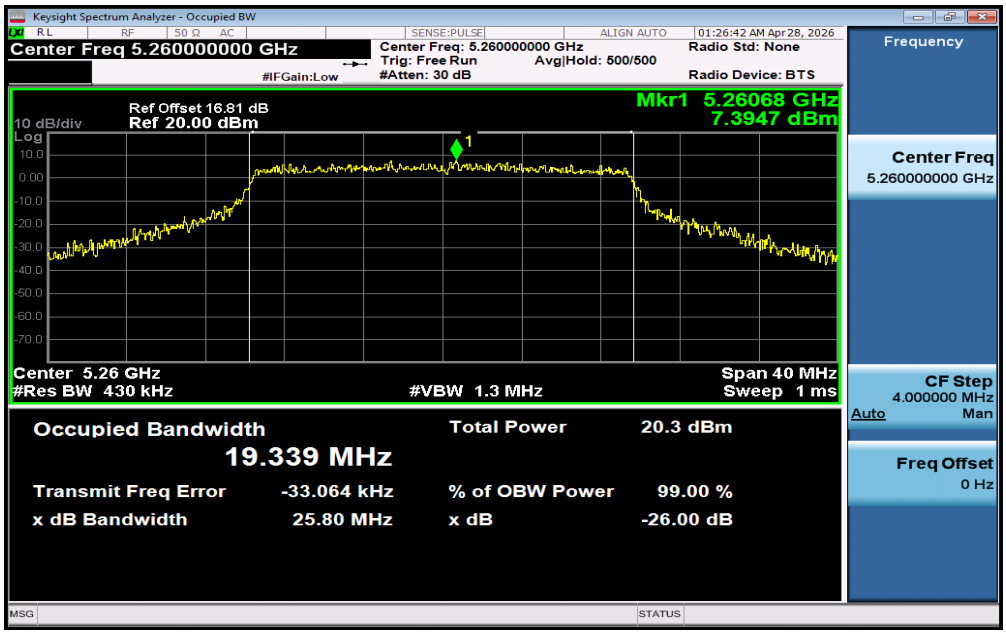
11AX20SISO-Ant1-5180



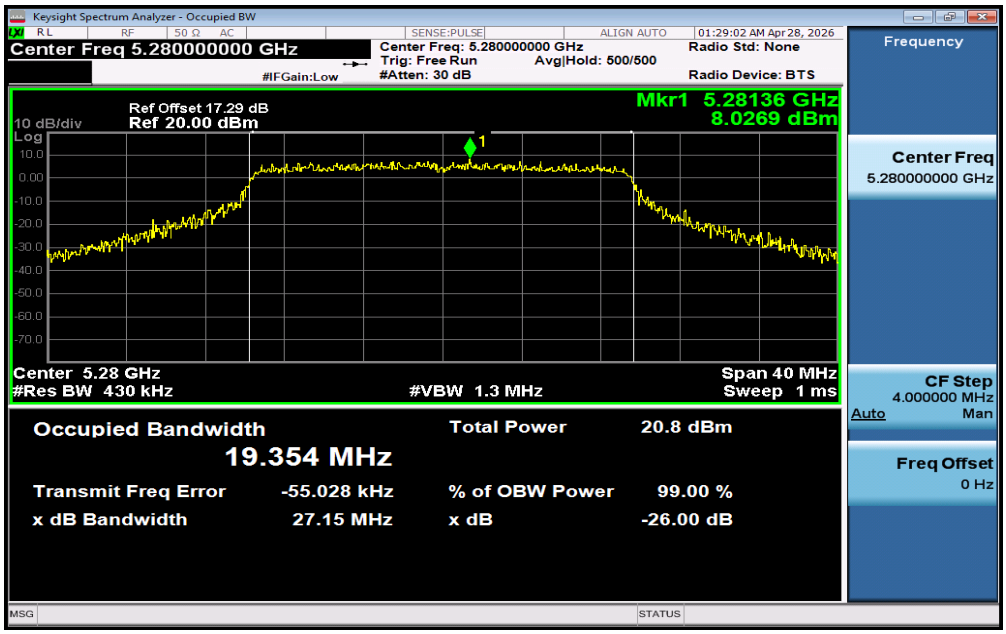
11AX20SISO-Ant1-5200



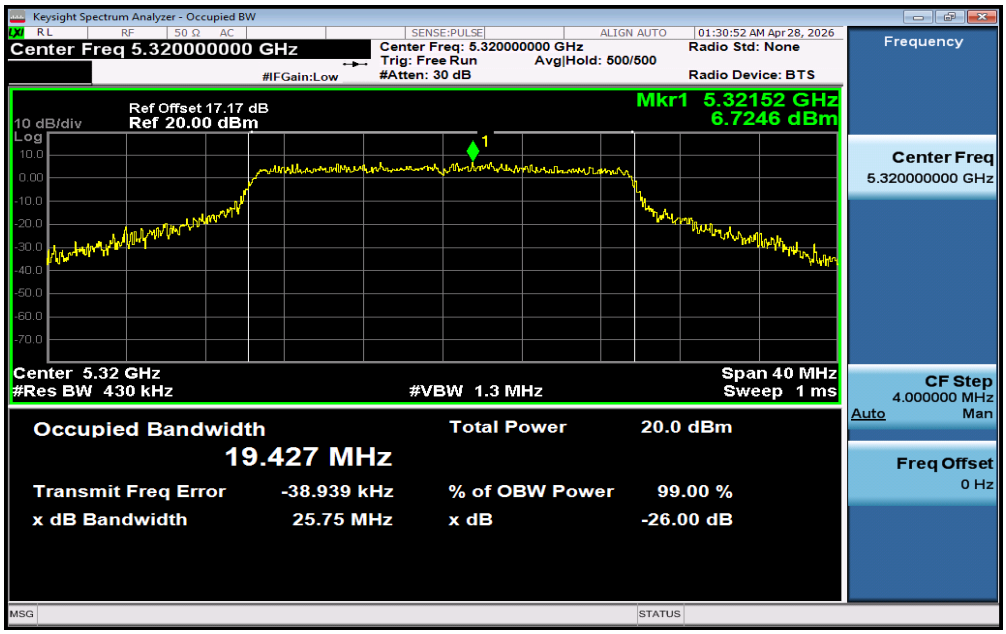
11AX20SISO-Ant1-5240



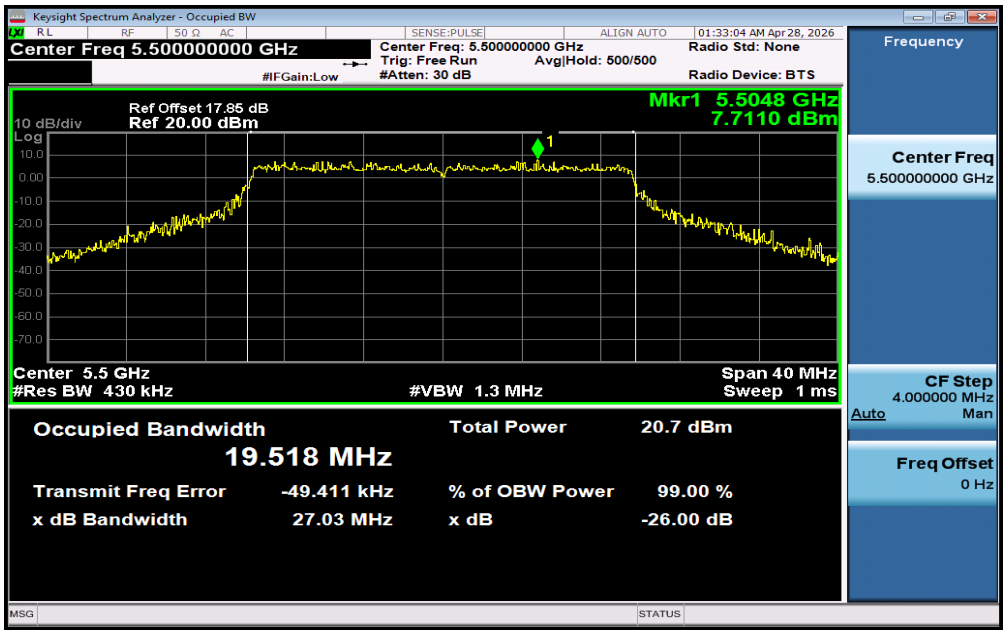
11AX20SISO-Ant1-5260



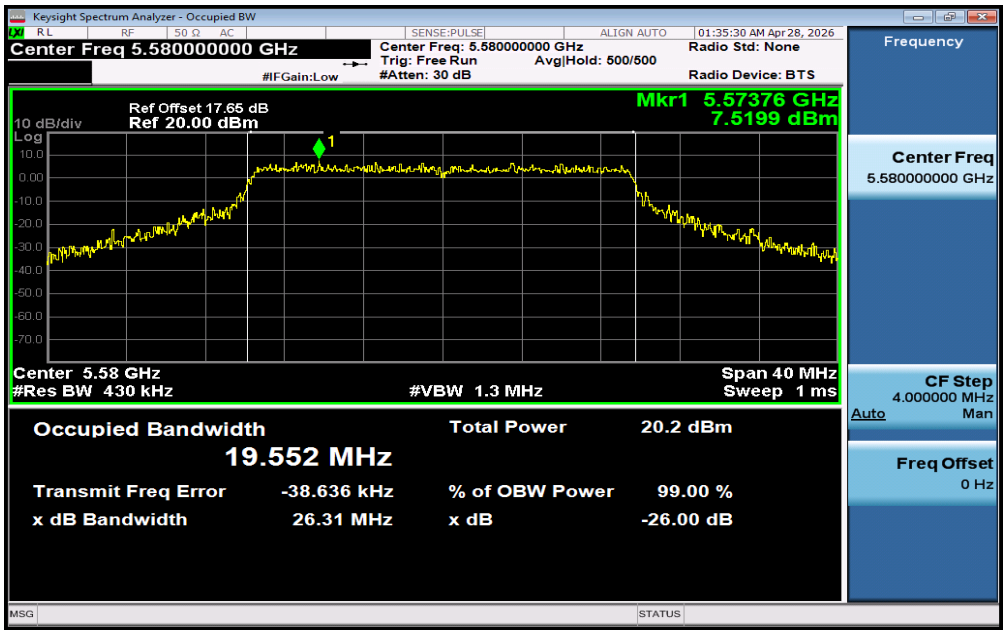
11AX20SISO-Ant1-5280



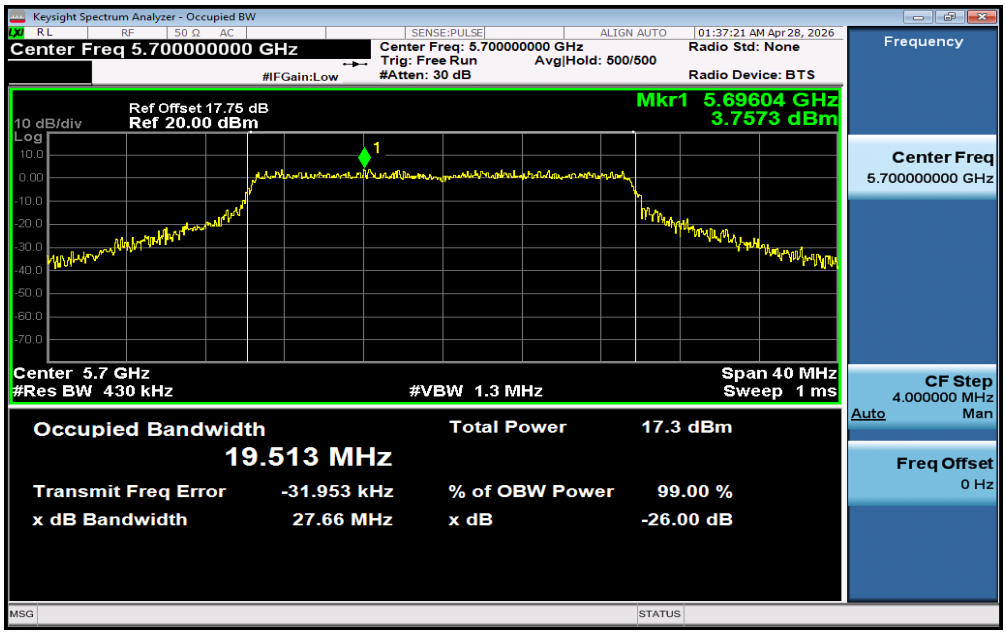
11AX20SISO-Ant1-5320



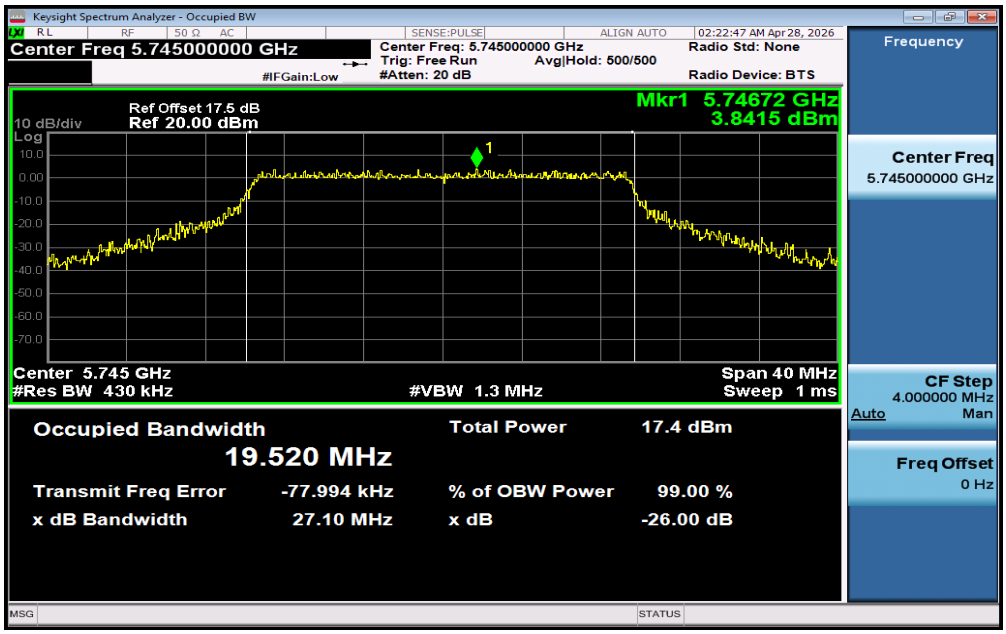
11AX20SISO-Ant1-5500



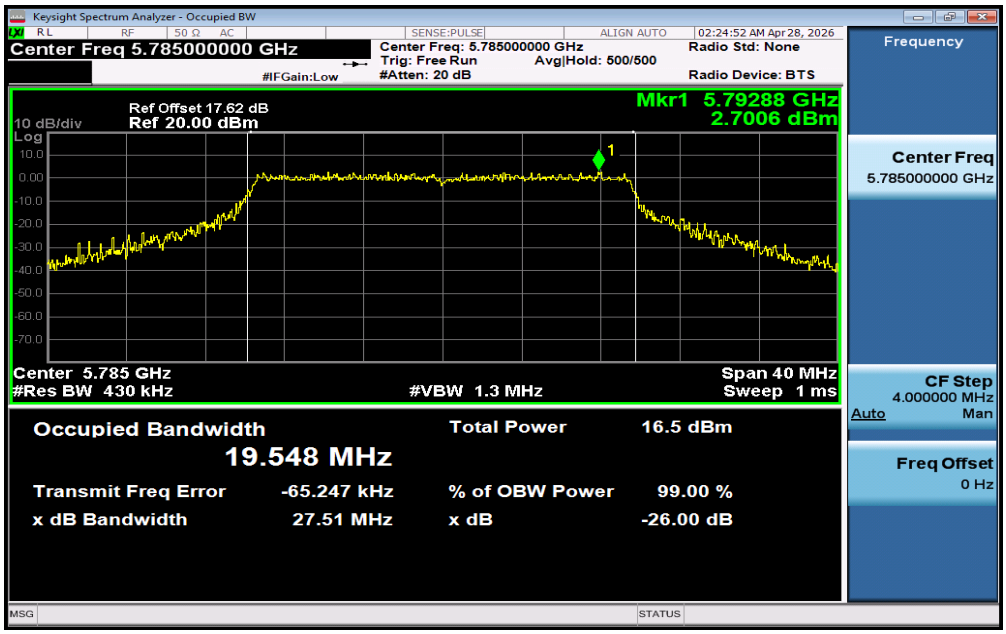
11AX20SISO-Ant1-5580



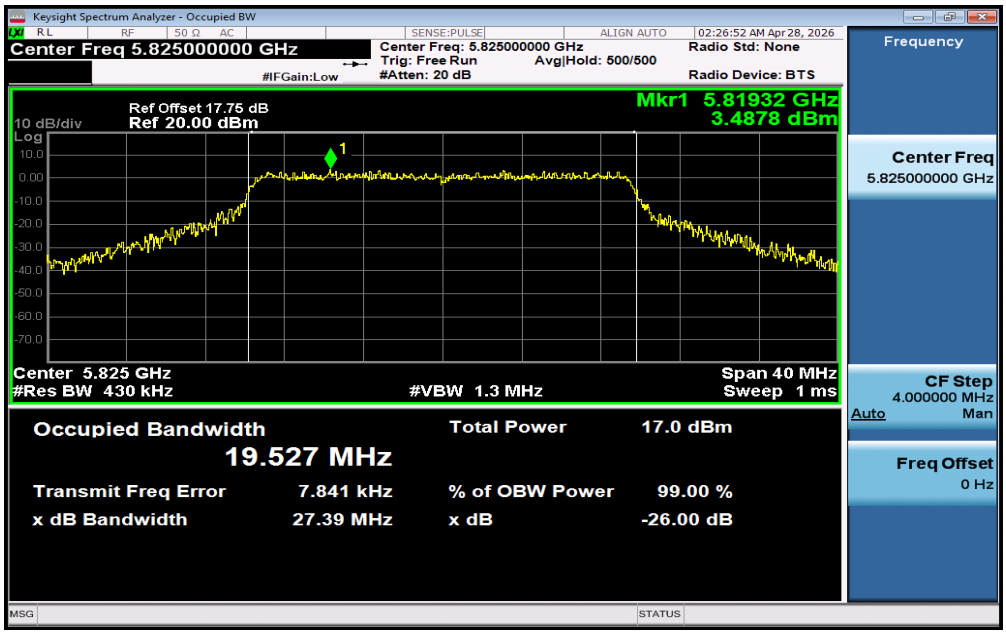
11AX20SISO-Ant1-5700



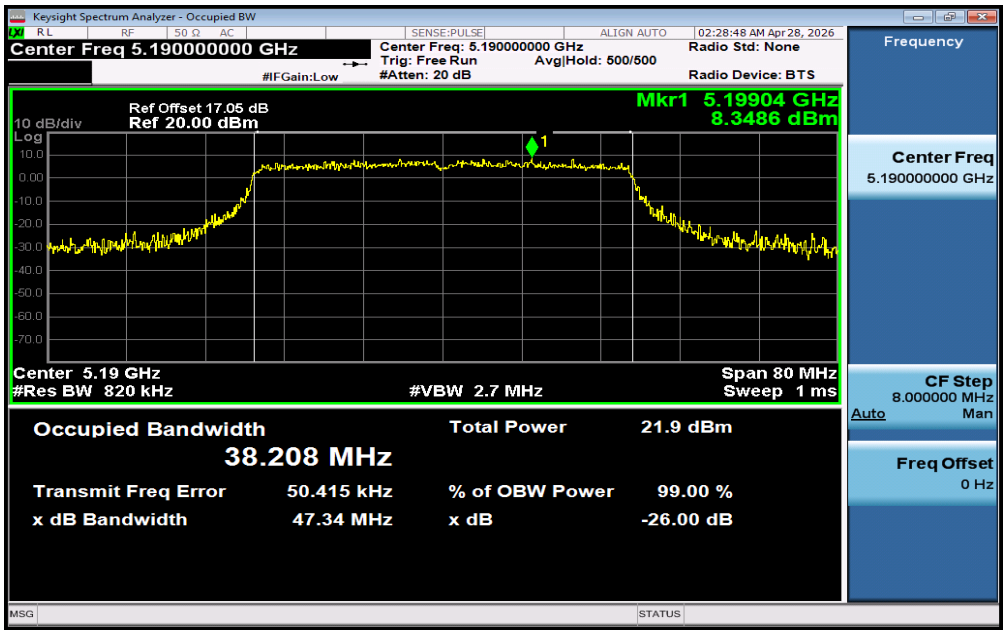
11AX20SISO-Ant1-5745



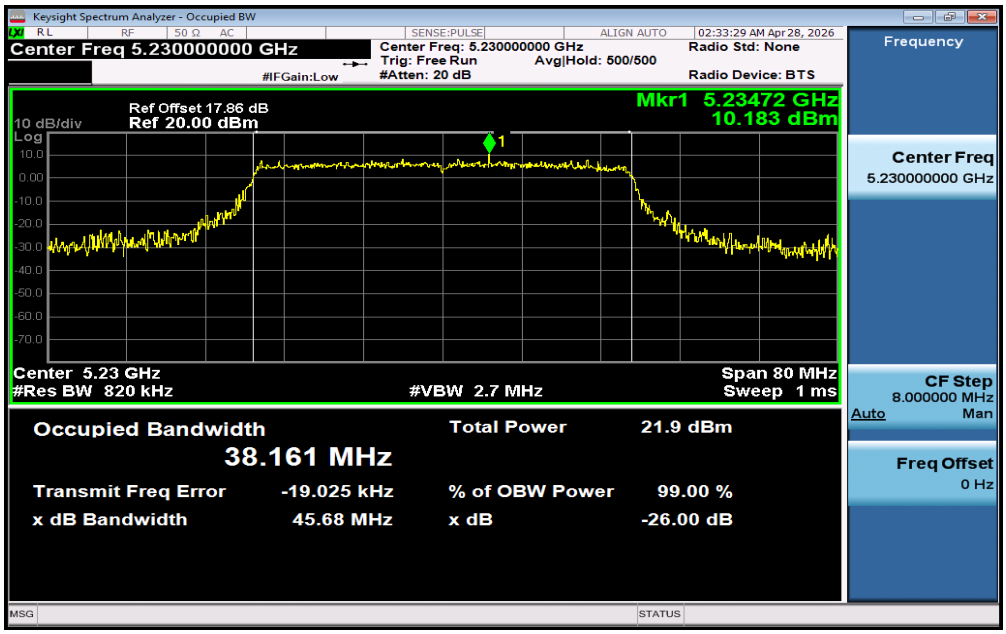
11AX20SISO-Ant1-5785



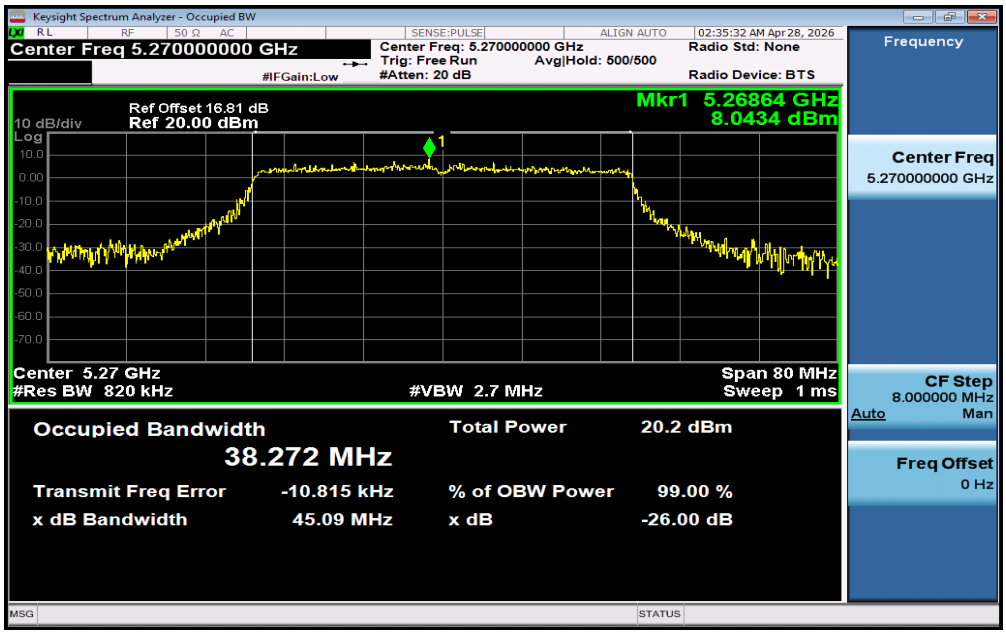
11AX20SISO-Ant1-5825



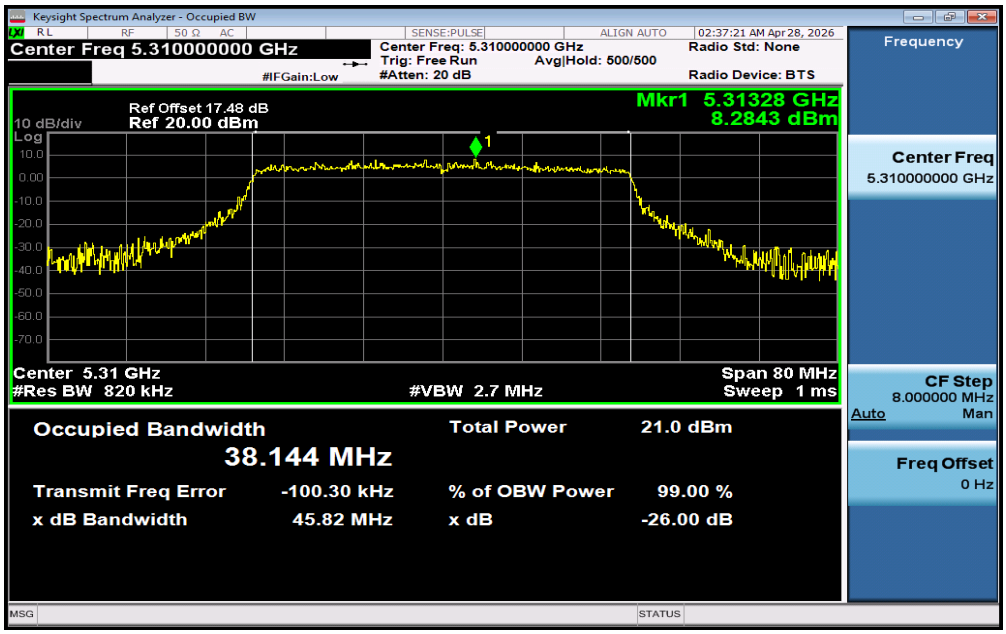
11AX40SISO-Ant1-5190



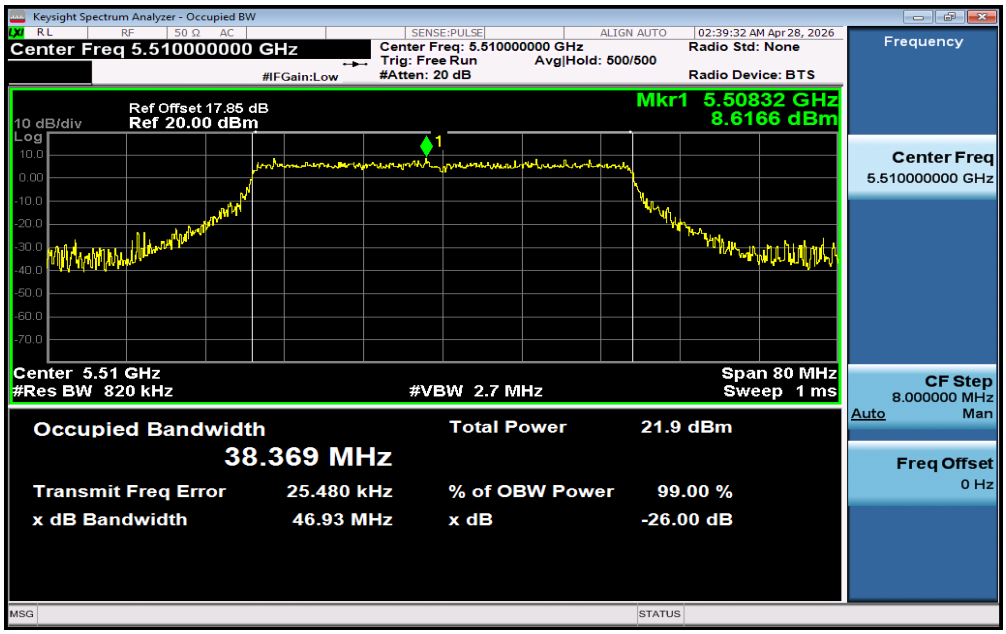
11AX40SISO-Ant1-5230



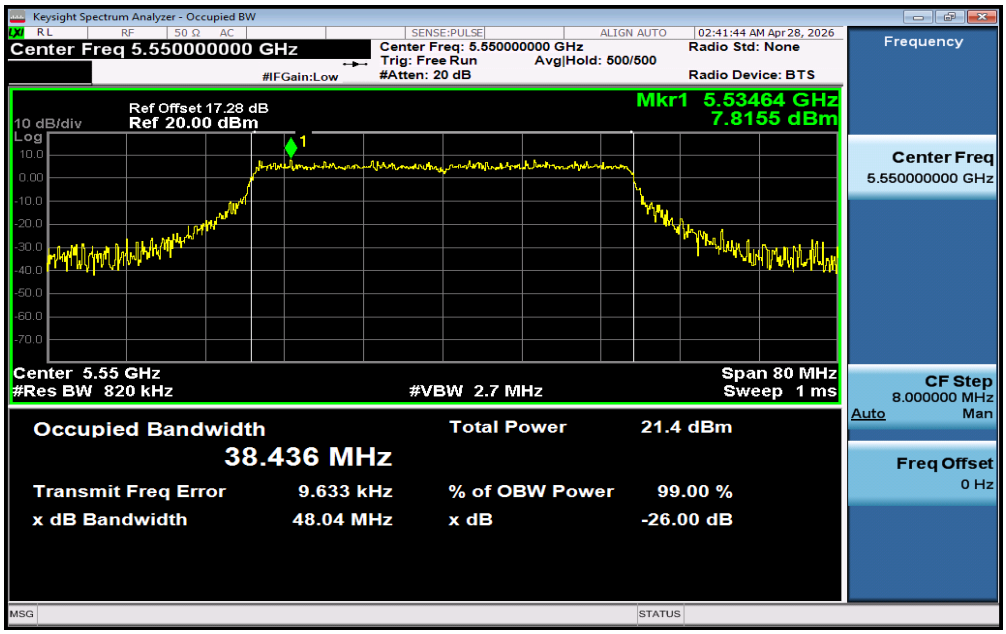
11AX40SISO-Ant1-5270



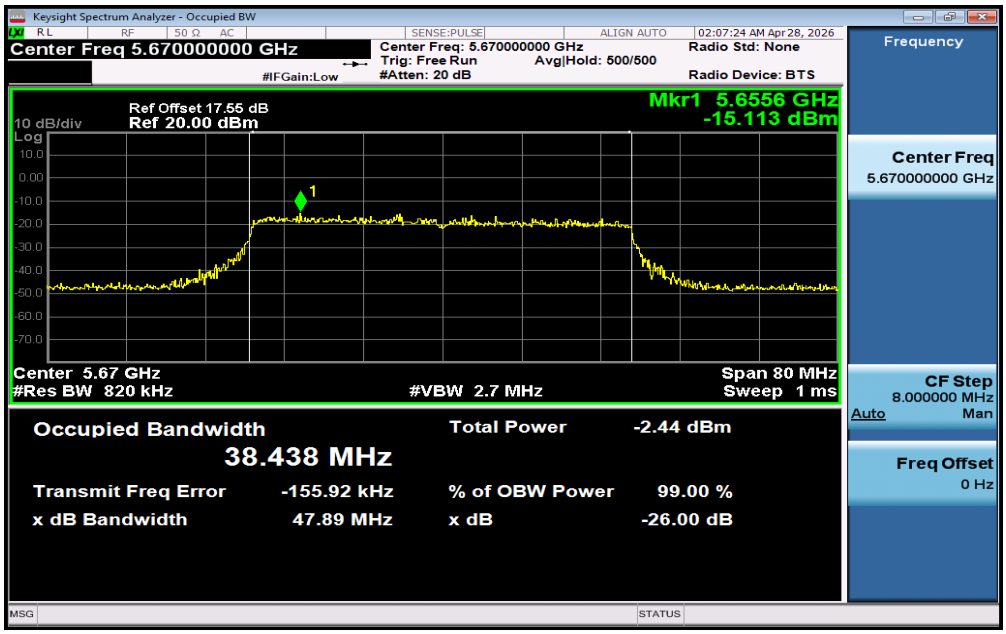
11AX40SISO-Ant1-5310



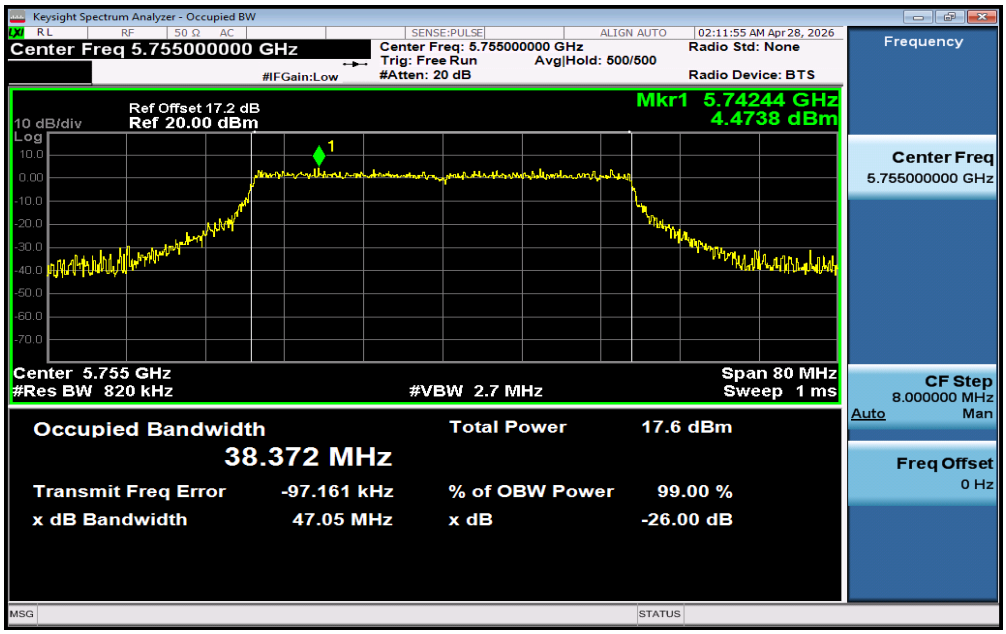
11AX40SISO-Ant1-5510



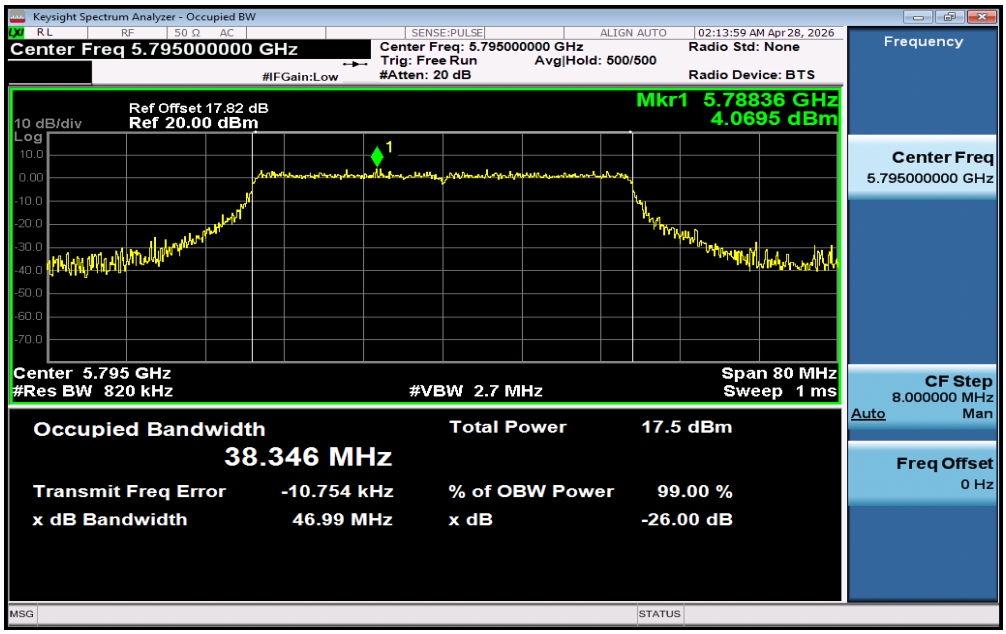
11AX40SISO-Ant1-5550



11AX40SISO-Ant1-5670



11AX40SISO-Ant1-5755



11AX40SISO-Ant1-5795

Min emission bandwidth

TestMode	Antenna	Frequency[MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.360	5736.800	5753.160	0.5	PASS
11A	Ant1	5785	16.440	5776.720	5793.160	0.5	PASS
11A	Ant1	5825	16.520	5816.720	5833.240	0.5	PASS
11N20SISO	Ant1	5745	17.680	5736.120	5753.800	0.5	PASS
11N20SISO	Ant1	5785	17.560	5776.200	5793.760	0.5	PASS
11N20SISO	Ant1	5825	17.760	5816.120	5833.880	0.5	PASS
11N40SISO	Ant1	5755	36.560	5736.680	5773.240	0.5	PASS
11N40SISO	Ant1	5795	36.320	5776.840	5813.160	0.5	PASS
11AC20SISO	Ant1	5745	17.560	5736.200	5753.760	0.5	PASS
11AC20SISO	Ant1	5785	17.560	5776.200	5793.760	0.5	PASS
11AC20SISO	Ant1	5825	17.560	5816.200	5833.760	0.5	PASS
11AC40SISO	Ant1	5755	36.480	5736.760	5773.240	0.5	PASS
11AC40SISO	Ant1	5795	36.400	5776.760	5813.160	0.5	PASS
11AX20SISO	Ant1	5745	18.960	5735.520	5754.480	0.5	PASS
11AX20SISO	Ant1	5785	18.840	5775.520	5794.360	0.5	PASS
11AX20SISO	Ant1	5825	19.000	5815.480	5834.480	0.5	PASS
11AX40SISO	Ant1	5755	38.160	5735.880	5774.040	0.5	PASS
11AX40SISO	Ant1	5795	37.920	5776.040	5813.960	0.5	PASS

11A-Ant1-5745-PASS

11A-Ant1-5785-PASS

11A-Ant1-5825-PASS

11N20SISO-Ant1-5745-PASS

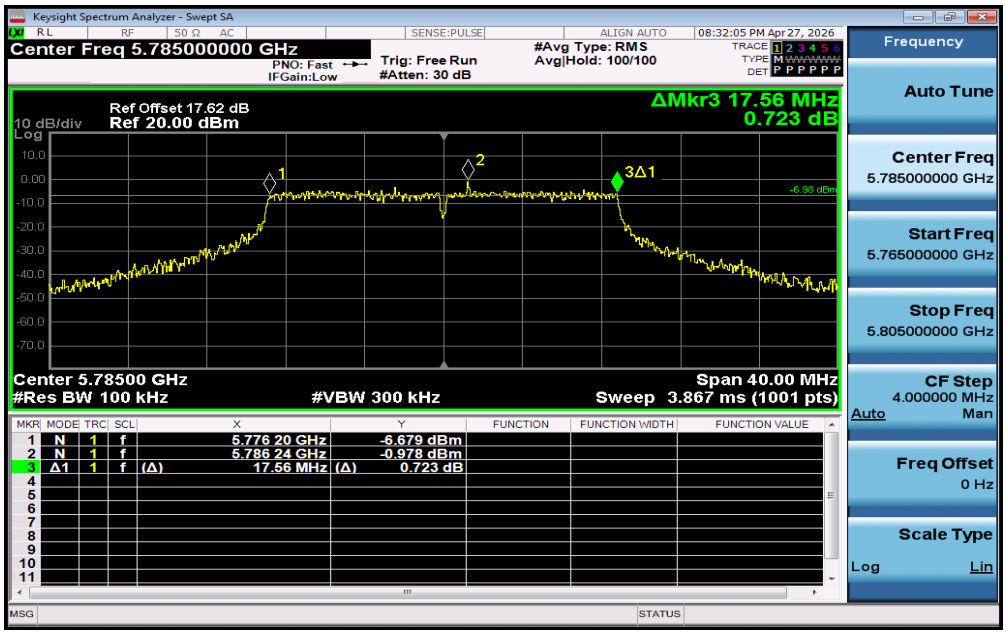
11N20SISO-Ant1-5785-PASS

11N20SISO-Ant1-5825-PASS

11N40SISO-Ant1-5755-PASS

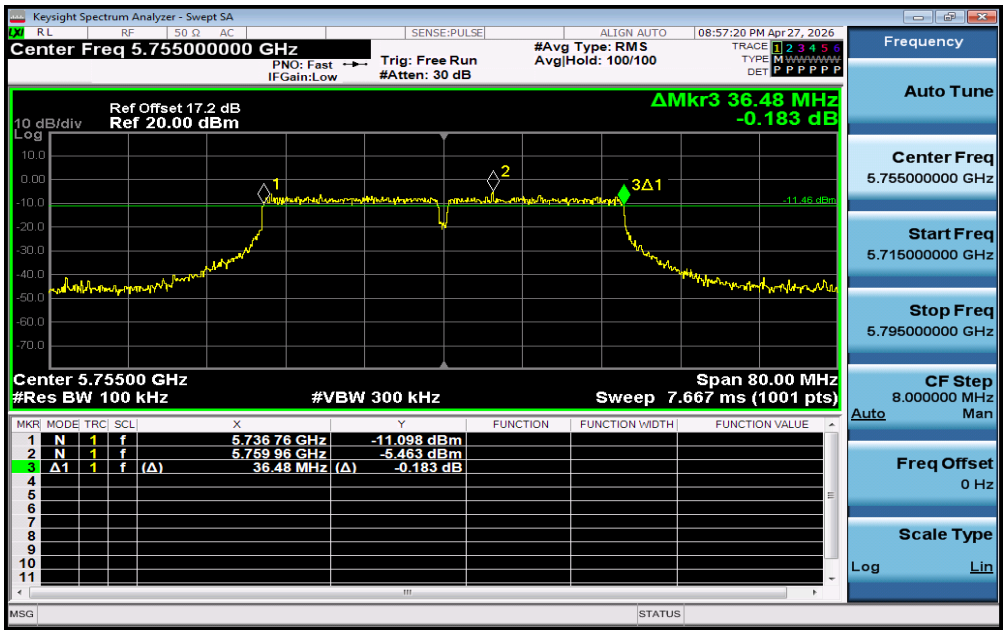
11N40SISO-Ant1-5795-PASS

11AC20SISO-Ant1-5745-PASS

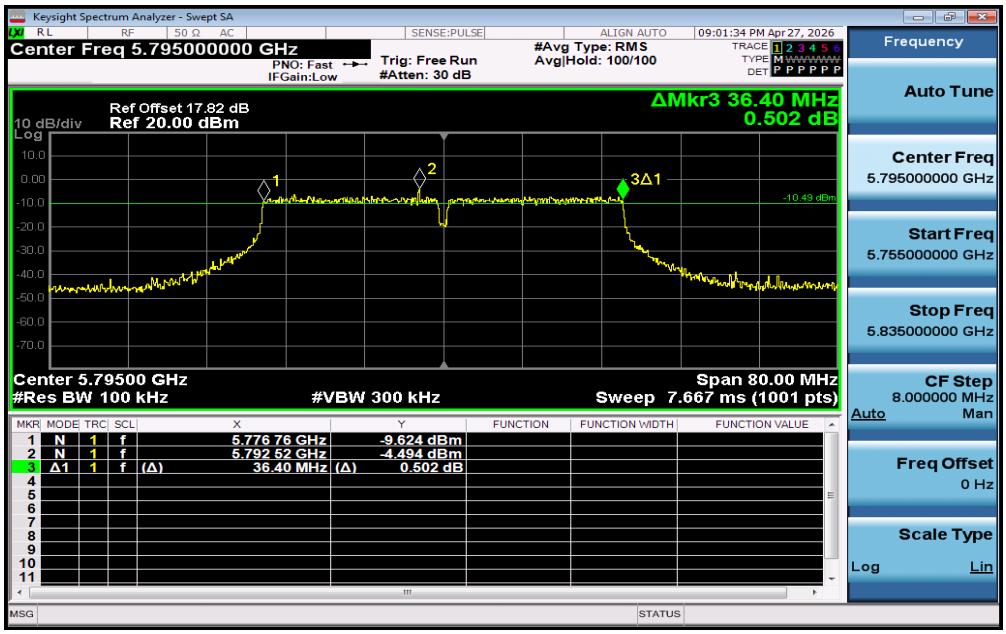


11AC20SISO-Ant1-5785-PASS

11AC20SISO-Ant1-5825-PASS



11AC40SISO-Ant1-5755-PASS



11AC40SISO-Ant1-5795-PASS

11AX20SISO-Ant1-5745-PASS

11AX20SISO-Ant1-5785-PASS

11AX20SISO-Ant1-5825-PASS

11AX40SISO-Ant1-5755-PASS

11AX40SISO-Ant1-5795-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	UART FF		
Frequency (MHz)	5180	5200	5240
IEEE 802.11a	Default	Default	Default
IEEE 802.11n20	Default	Default	Default
IEEE 802.11ac20	Default	Default	Default
IEEE 802.11ax20	Default	Default	Default
Frequency (MHz)	5190	5230	
IEEE 802.11n40	Default	Default	
IEEE 802.11ac40	Default	Default	
IEEE 802.11ax40	Default	Default	

UNII-2A			
Test Software Version	UART FF		
Frequency (MHz)	5260	5280	5320
IEEE 802.11a	Default	Default	Default
IEEE 802.11n20	Default	Default	Default
IEEE 802.11ac20	Default	Default	Default
IEEE 802.11ax20	Default	Default	Default
Frequency (MHz)	5270	5310	
IEEE 802.11n40	Default	Default	
IEEE 802.11ac40	Default	Default	
IEEE 802.11ax40	Default	Default	

UNII-2C			
Test Software Version	UART FF		
Frequency (MHz)	5500	5580	5700
IEEE 802.11a	Default	Default	Default
IEEE 802.11n20	Default	Default	Default
IEEE 802.11ac20	Default	Default	Default
IEEE 802.11ax20	Default	Default	Default
Frequency (MHz)	5510	5550	5670
IEEE 802.11n40	Default	Default	Default
IEEE 802.11ac40	Default	Default	Default
IEEE 802.11ax40	Default	Default	Default

UNII-3			
Test Software Version	UART FF		
Frequency (MHz)	5745	5785	5825
IEEE 802.11a	Default	Default	Default
IEEE 802.11n20	Default	Default	Default
IEEE 802.11ac20	Default	Default	Default
IEEE 802.11ax20	Default	Default	Default
Frequency (MHz)	5755	5795	
IEEE 802.11n40	Default	Default	
IEEE 802.11ac40	Default	Default	
IEEE 802.11ax40	Default	Default	

3.4.5 The Result

Test Mode	Antenna	Frequency[MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	12.04	≤23.98	PASS
11A	Ant1	5200	13.82	≤23.98	PASS
11A	Ant1	5240	13.57	≤23.98	PASS
11A	Ant1	5260	13.64	≤23.98	PASS
11A	Ant1	5280	13.71	≤23.98	PASS
11A	Ant1	5320	14.20	≤23.98	PASS
11A	Ant1	5500	15.45	≤23.98	PASS
11A	Ant1	5580	13.65	≤23.98	PASS
11A	Ant1	5700	11.67	≤23.98	PASS
11A	Ant1	5745	10.47	≤30.00	PASS
11A	Ant1	5785	10.71	≤30.00	PASS
11A	Ant1	5825	10.54	≤30.00	PASS
11N20SISO	Ant1	5180	15.30	≤23.98	PASS
11N20SISO	Ant1	5200	14.47	≤23.98	PASS
11N20SISO	Ant1	5240	14.40	≤23.98	PASS
11N20SISO	Ant1	5260	13.40	≤23.98	PASS
11N20SISO	Ant1	5280	14.07	≤23.98	PASS
11N20SISO	Ant1	5320	13.48	≤23.98	PASS
11N20SISO	Ant1	5500	15.12	≤23.98	PASS
11N20SISO	Ant1	5580	14.47	≤23.98	PASS
11N20SISO	Ant1	5700	10.19	≤23.98	PASS
11N20SISO	Ant1	5745	10.43	≤30.00	PASS
11N20SISO	Ant1	5785	9.40	≤30.00	PASS
11N20SISO	Ant1	5825	9.34	≤30.00	PASS
11N40SISO	Ant1	5190	14.29	≤23.98	PASS
11N40SISO	Ant1	5230	14.60	≤23.98	PASS
11N40SISO	Ant1	5270	13.56	≤23.98	PASS
11N40SISO	Ant1	5310	14.20	≤23.98	PASS
11N40SISO	Ant1	5510	15.08	≤23.98	PASS
11N40SISO	Ant1	5550	14.14	≤23.98	PASS
11N40SISO	Ant1	5670	11.60	≤23.98	PASS
11N40SISO	Ant1	5755	9.55	≤30.00	PASS
11N40SISO	Ant1	5795	9.51	≤30.00	PASS
11AC20SISO	Ant1	5180	15.07	≤23.98	PASS
11AC20SISO	Ant1	5200	**15.90**	≤23.98	PASS
11AC20SISO	Ant1	5240	15.41	≤23.98	PASS
11AC20SISO	Ant1	5260	13.98	≤23.98	PASS
11AC20SISO	Ant1	5280	15.01	≤23.98	PASS
11AC20SISO	Ant1	5320	15.08	≤23.98	PASS
11AC20SISO	Ant1	5500	15.89	≤23.98	PASS

11AC20SISO	Ant1	5580	14.36	≤23.98	PASS
11AC20SISO	Ant1	5700	11.72	≤23.98	PASS
11AC20SISO	Ant1	5745	11.32	≤30.00	PASS
11AC20SISO	Ant1	5785	9.10	≤30.00	PASS
11AC20SISO	Ant1	5825	10.23	≤30.00	PASS
11AC40SISO	Ant1	5190	14.50	≤23.98	PASS
11AC40SISO	Ant1	5230	15.39	≤23.98	PASS
11AC40SISO	Ant1	5270	14.01	≤23.98	PASS
11AC40SISO	Ant1	5310	14.23	≤23.98	PASS
11AC40SISO	Ant1	5510	15.52	≤23.98	PASS
11AC40SISO	Ant1	5550	14.78	≤23.98	PASS
11AC40SISO	Ant1	5670	11.86	≤23.98	PASS
11AC40SISO	Ant1	5755	10.64	≤30.00	PASS
11AC40SISO	Ant1	5795	10.88	≤30.00	PASS
11AX20SISO	Ant1	5180	13.48	≤23.98	PASS
11AX20SISO	Ant1	5200	13.26	≤23.98	PASS
11AX20SISO	Ant1	5240	13.58	≤30.00	PASS
11AX20SISO	Ant1	5260	12.91	≤23.98	PASS
11AX20SISO	Ant1	5280	13.14	≤23.98	PASS
11AX20SISO	Ant1	5320	12.56	≤23.98	PASS
11AX20SISO	Ant1	5500	13.47	≤23.98	PASS
11AX20SISO	Ant1	5580	13.25	≤23.98	PASS
11AX20SISO	Ant1	5700	9.93	≤23.98	PASS
11AX20SISO	Ant1	5745	9.93	≤30.00	PASS
11AX20SISO	Ant1	5785	9.26	≤30.00	PASS
11AX20SISO	Ant1	5825	9.52	≤30.00	PASS
11AX40SISO	Ant1	5190	13.71	≤23.98	PASS
11AX40SISO	Ant1	5230	13.53	≤23.98	PASS
11AX40SISO	Ant1	5270	11.88	≤23.98	PASS
11AX40SISO	Ant1	5310	13.23	≤23.98	PASS
11AX40SISO	Ant1	5510	14.34	≤23.98	PASS
11AX40SISO	Ant1	5550	13.47	≤23.98	PASS
11AX40SISO	Ant1	5670	10.81	≤23.98	PASS
11AX40SISO	Ant1	5755	9.46	≤30.00	PASS
11AX40SISO	Ant1	5795	9.59	≤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).

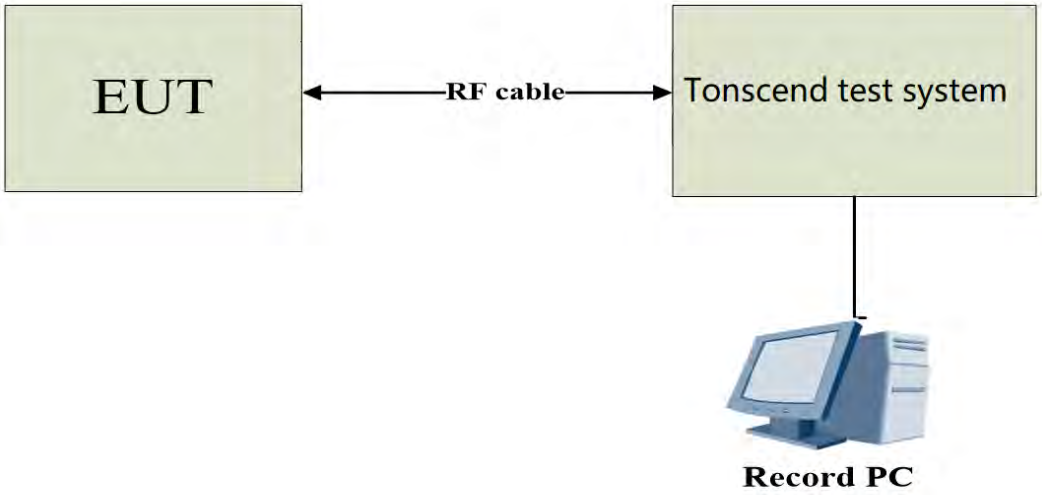
3.5.2 Test Procedure

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

TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	2.92	≤11.00	PASS
11A	Ant1	5200	3.36	≤11.00	PASS
11A	Ant1	5240	5.06	≤11.00	PASS
11A	Ant1	5260	2.67	≤11.00	PASS
11A	Ant1	5280	4.45	≤11.00	PASS
11A	Ant1	5320	3.36	≤11.00	PASS
11A	Ant1	5500	6.38	≤11.00	PASS
11A	Ant1	5580	3.27	≤11.00	PASS
11A	Ant1	5700	0.47	≤11.00	PASS
11A	Ant1	5745	-1.55	≤30.00	PASS
11A	Ant1	5785	-2.39	≤30.00	PASS
11A	Ant1	5825	-2.20	≤30.00	PASS
11N20SISO	Ant1	5180	4.04	≤11.00	PASS
11N20SISO	Ant1	5200	3.51	≤11.00	PASS
11N20SISO	Ant1	5240	3.28	≤11.00	PASS
11N20SISO	Ant1	5260	2.87	≤11.00	PASS
11N20SISO	Ant1	5280	3.33	≤11.00	PASS
11N20SISO	Ant1	5320	3.23	≤11.00	PASS
11N20SISO	Ant1	5500	3.56	≤11.00	PASS
11N20SISO	Ant1	5580	3.48	≤11.00	PASS
11N20SISO	Ant1	5700	-0.38	≤11.00	PASS
11N20SISO	Ant1	5745	-4.67	≤30.00	PASS
11N20SISO	Ant1	5785	-4.50	≤30.00	PASS

11N20SISO	Ant1	5825	-4.68	≤30.00	PASS
11N40SISO	Ant1	5190	0.60	≤11.00	PASS
11N40SISO	Ant1	5230	1.46	≤11.00	PASS
11N40SISO	Ant1	5270	-0.08	≤11.00	PASS
11N40SISO	Ant1	5310	0.61	≤11.00	PASS
11N40SISO	Ant1	5510	0.91	≤11.00	PASS
11N40SISO	Ant1	5550	0.62	≤11.00	PASS
11N40SISO	Ant1	5670	-2.49	≤11.00	PASS
11N40SISO	Ant1	5755	-7.28	≤30.00	PASS
11N40SISO	Ant1	5795	-7.37	≤30.00	PASS
11AC20SISO	Ant1	5180	5.95	≤17.00	PASS
11AC20SISO	Ant1	5200	6.15	≤11.00	PASS
11AC20SISO	Ant1	5240	5.38	≤11.00	PASS
11AC20SISO	Ant1	5260	3.76	≤11.00	PASS
11AC20SISO	Ant1	5280	4.73	≤11.00	PASS
11AC20SISO	Ant1	5320	4.18	≤11.00	PASS
11AC20SISO	Ant1	5500	5.94	≤11.00	PASS
11AC20SISO	Ant1	5580	4.35	≤11.00	PASS
11AC20SISO	Ant1	5700	1.83	≤11.00	PASS
11AC20SISO	Ant1	5745	-3.41	≤30.00	PASS
11AC20SISO	Ant1	5785	-3.08	≤30.00	PASS
11AC20SISO	Ant1	5825	-1.91	≤30.00	PASS
11AC40SISO	Ant1	5190	0.98	≤11.00	PASS
11AC40SISO	Ant1	5230	1.81	≤11.00	PASS
11AC40SISO	Ant1	5270	0.53	≤11.00	PASS
11AC40SISO	Ant1	5310	0.45	≤11.00	PASS
11AC40SISO	Ant1	5510	2.35	≤11.00	PASS
11AC40SISO	Ant1	5550	0.65	≤11.00	PASS
11AC40SISO	Ant1	5670	-1.82	≤11.00	PASS
11AC40SISO	Ant1	5755	-5.76	≤30.00	PASS
11AC40SISO	Ant1	5795	-6.37	≤30.00	PASS
11AX20SISO	Ant1	5180	2.61	≤11.00	PASS
11AX20SISO	Ant1	5200	2.49	≤11.00	PASS
11AX20SISO	Ant1	5240	3.23	≤11.00	PASS
11AX20SISO	Ant1	5260	2.51	≤11.00	PASS
11AX20SISO	Ant1	5280	2.49	≤11.00	PASS
11AX20SISO	Ant1	5320	1.99	≤11.00	PASS
11AX20SISO	Ant1	5500	2.70	≤11.00	PASS
11AX20SISO	Ant1	5580	1.74	≤11.00	PASS
11AX20SISO	Ant1	5700	-0.94	≤11.00	PASS
11AX20SISO	Ant1	5745	-3.49	≤30.00	PASS
11AX20SISO	Ant1	5785	-4.97	≤30.00	PASS
11AX20SISO	Ant1	5825	-3.96	≤30.00	PASS

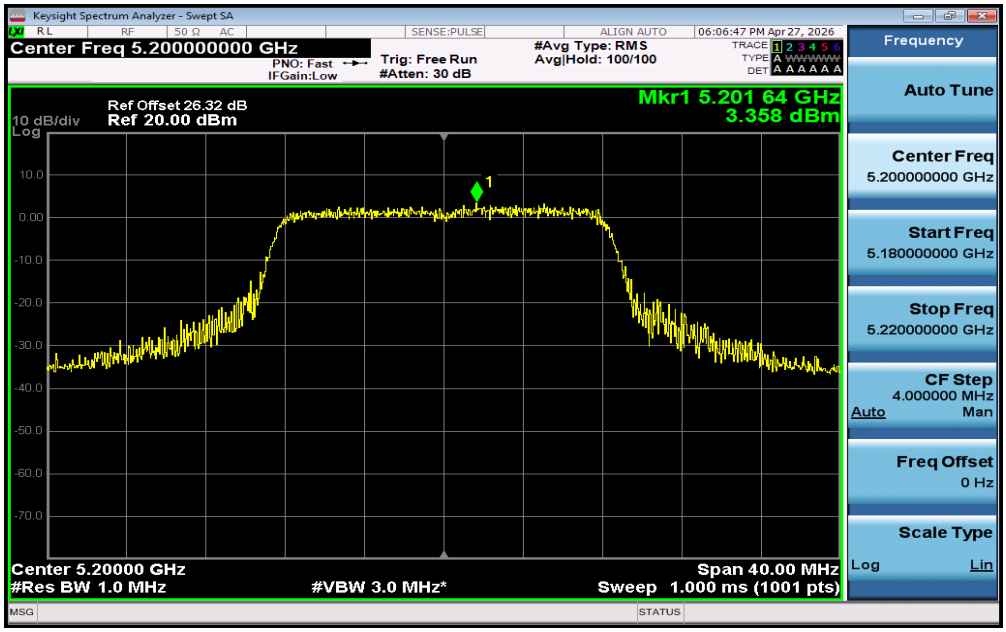
11AX40SISO	Ant1	5190	0.36	≤11.00	PASS
11AX40SISO	Ant1	5230	-0.02	≤11.00	PASS
11AX40SISO	Ant1	5270	-1.44	≤11.00	PASS
11AX40SISO	Ant1	5310	-0.29	≤11.00	PASS
11AX40SISO	Ant1	5510	-0.28	≤11.00	PASS
11AX40SISO	Ant1	5550	-1.51	≤11.00	PASS
11AX40SISO	Ant1	5670	-2.81	≤11.00	PASS
11AX40SISO	Ant1	5755	-7.08	≤30.00	PASS
11AX40SISO	Ant1	5795	-6.88	≤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



11A-Ant1-5200-PASS

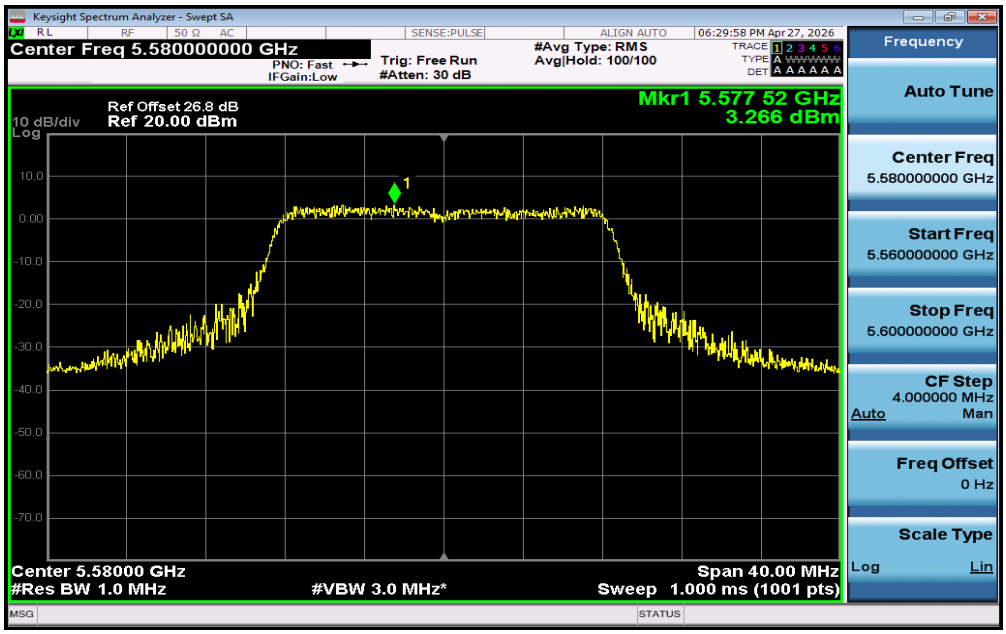
11A-Ant1-5240-PASS

11A-Ant1-5260-PASS

11A-Ant1-5280-PASS

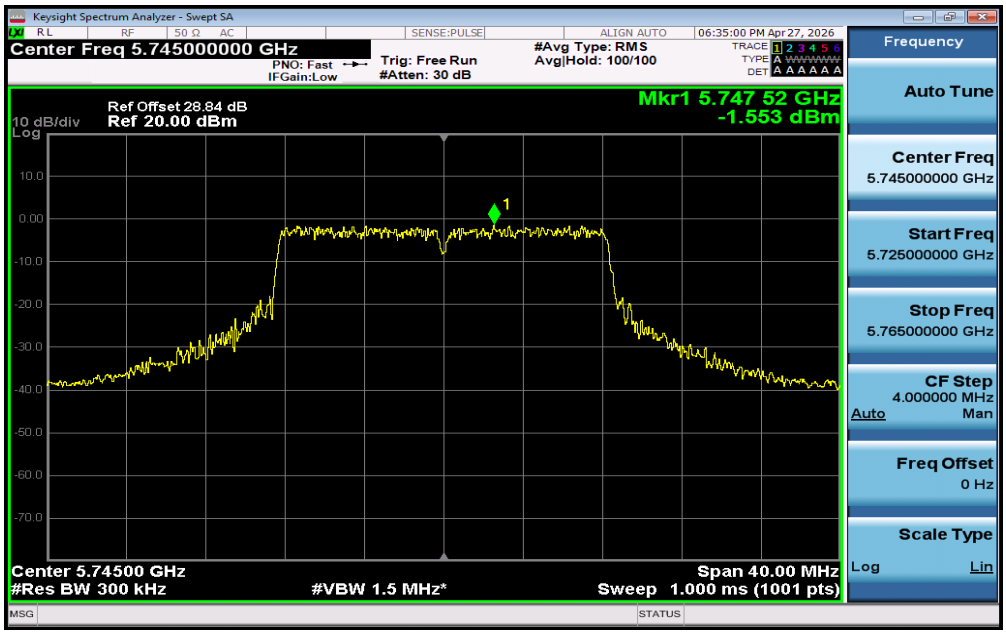
11A-Ant1-5320-PASS

11A-Ant1-5500-PASS



11A-Ant1-5580-PASS

11A-Ant1-5700-PASS

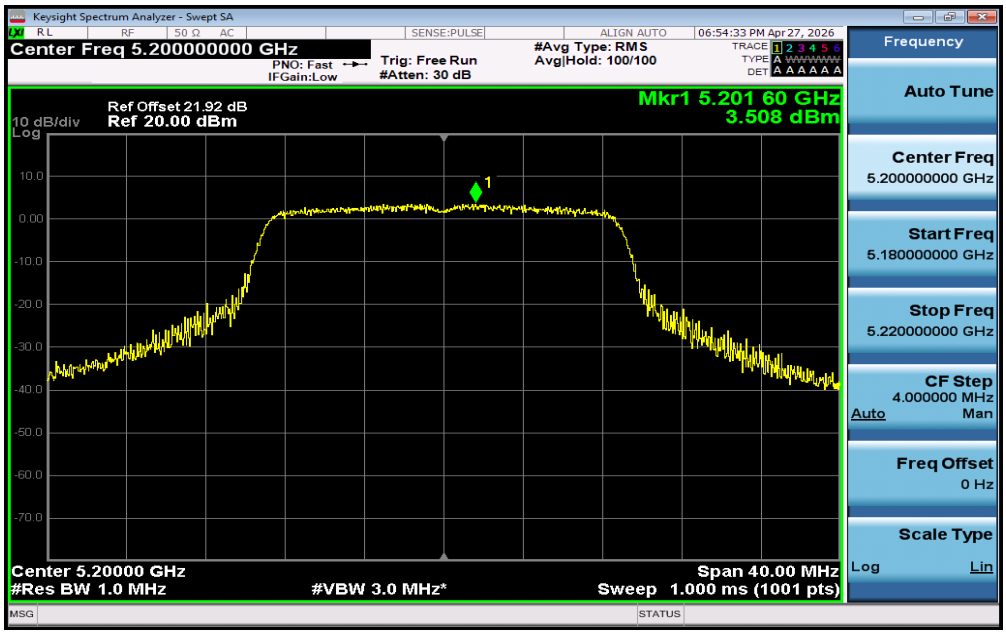


11A-Ant1-5745-PASS

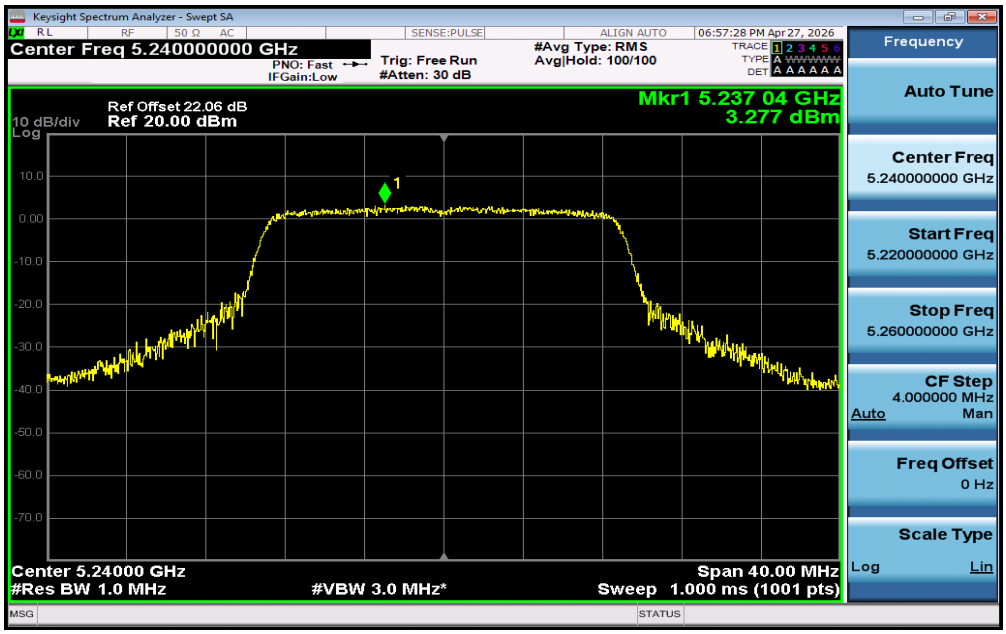
11A-Ant1-5785-PASS

11A-Ant1-5825-PASS

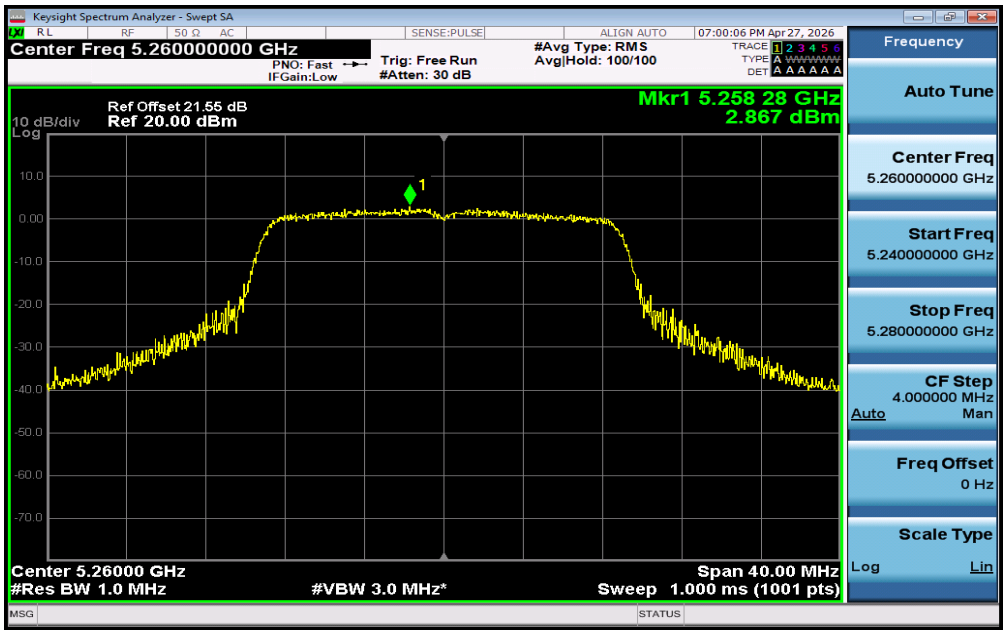
11N20SISO-Ant1-5180-PASS



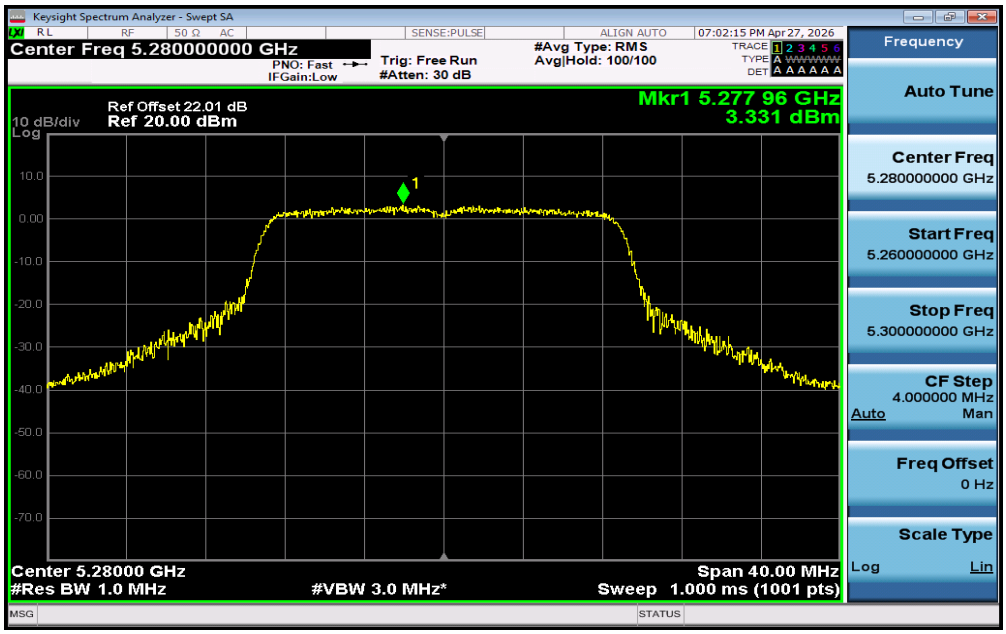
11N20SISO-Ant1-5200-PASS



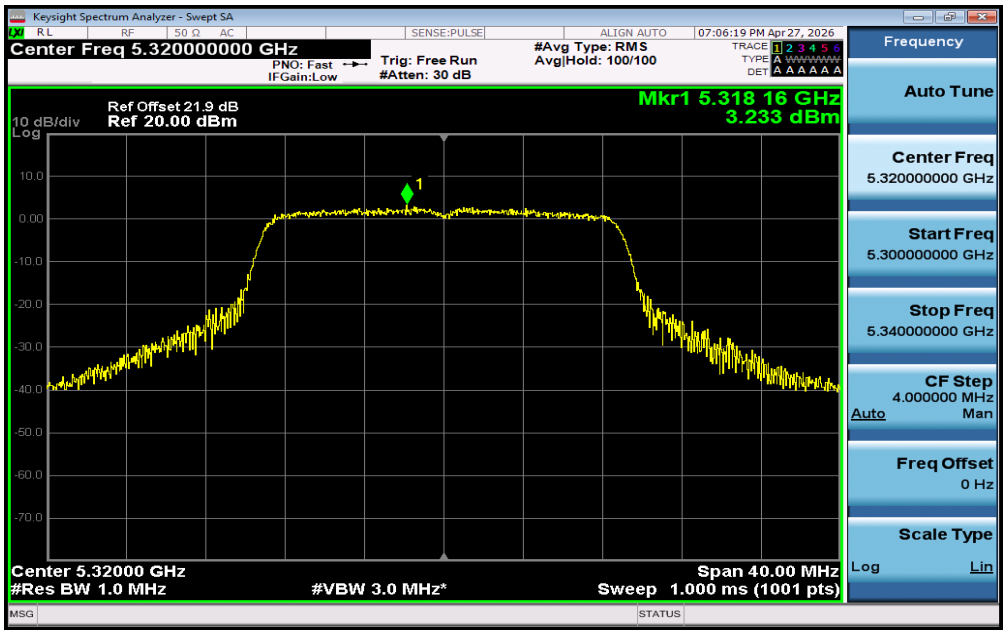
11N20SISO-Ant1-5240-PASS



11N20SISO-Ant1-5260-PASS

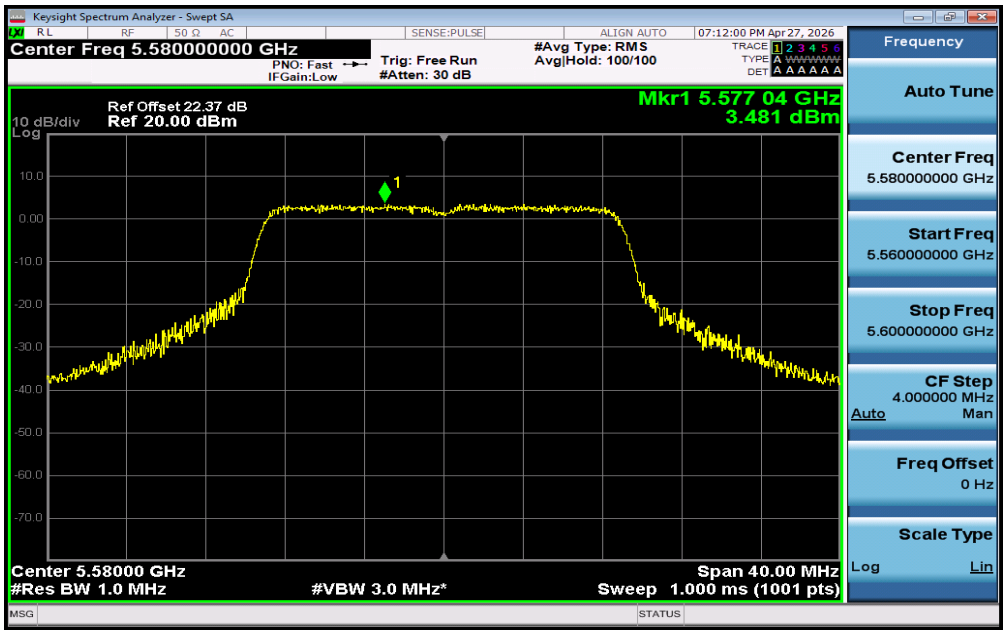


11N20SISO-Ant1-5280-PASS

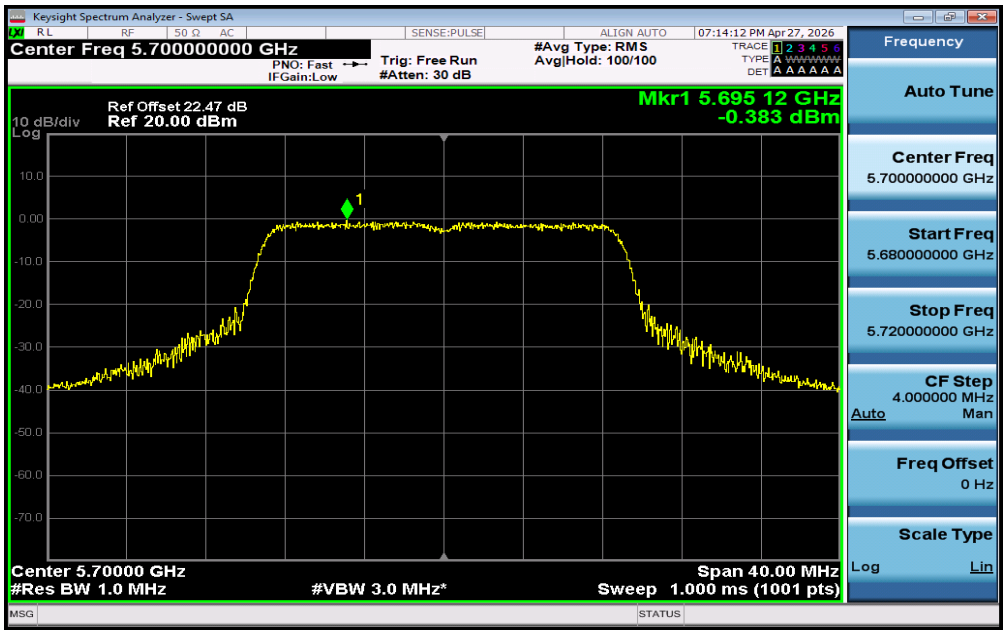


11N20SISO-Ant1-5320-PASS

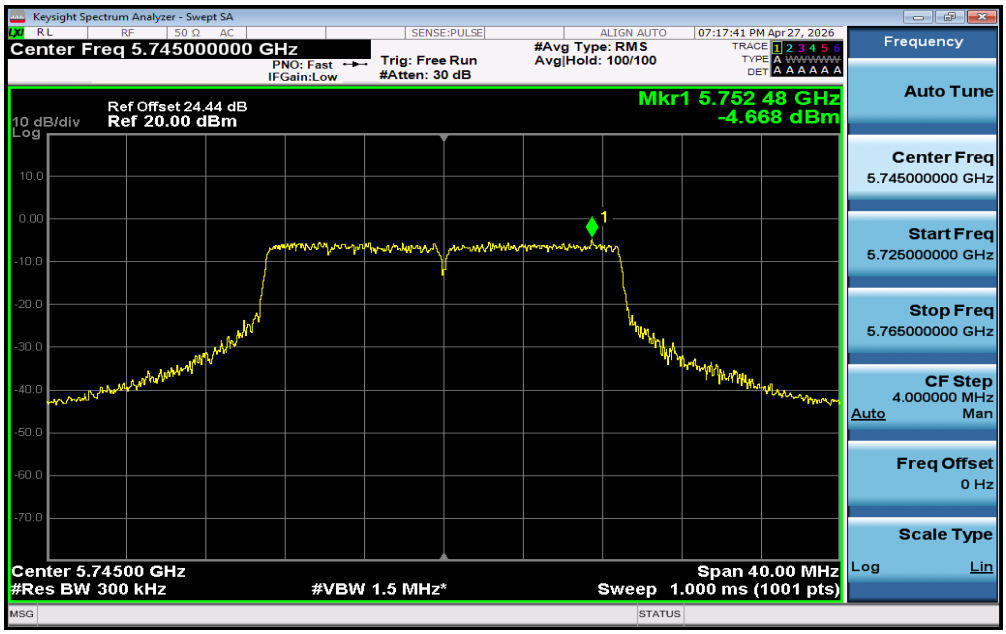
11N20SISO-Ant1-5500-PASS



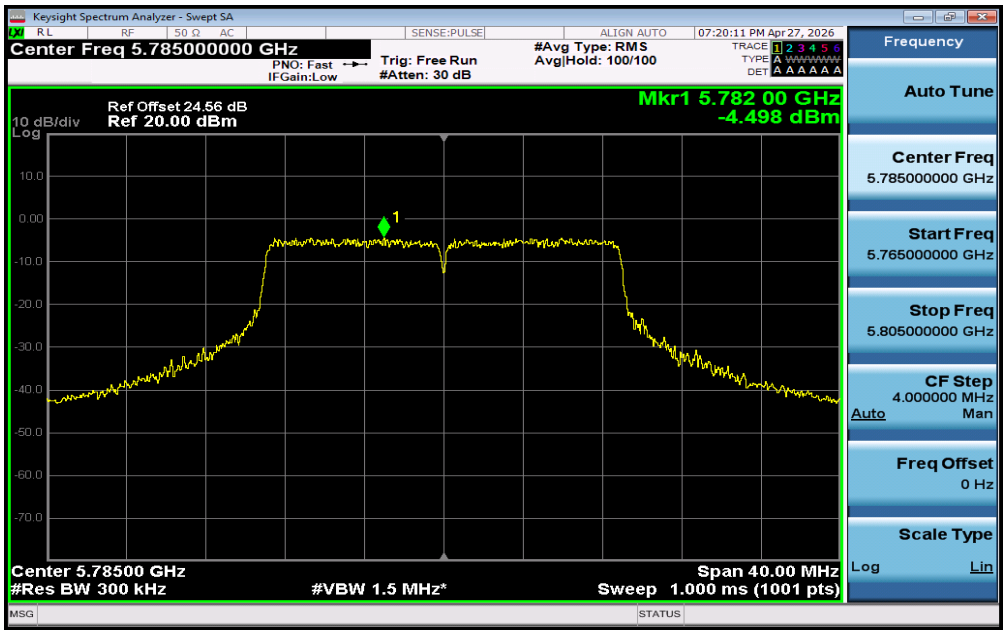
11N20SISO-Ant1-5580-PASS



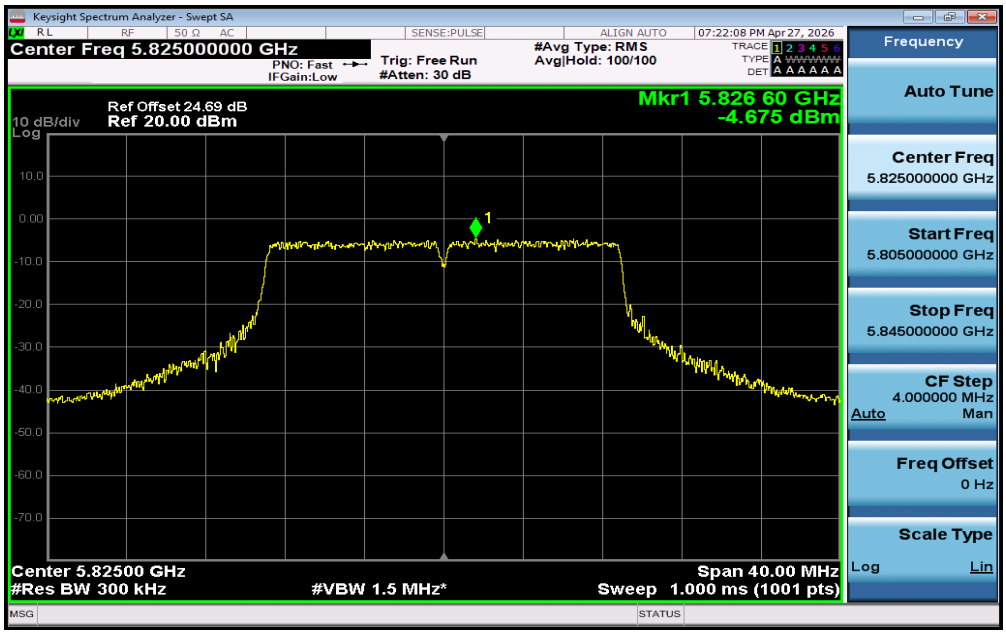
11N20SISO-Ant1-5700-PASS



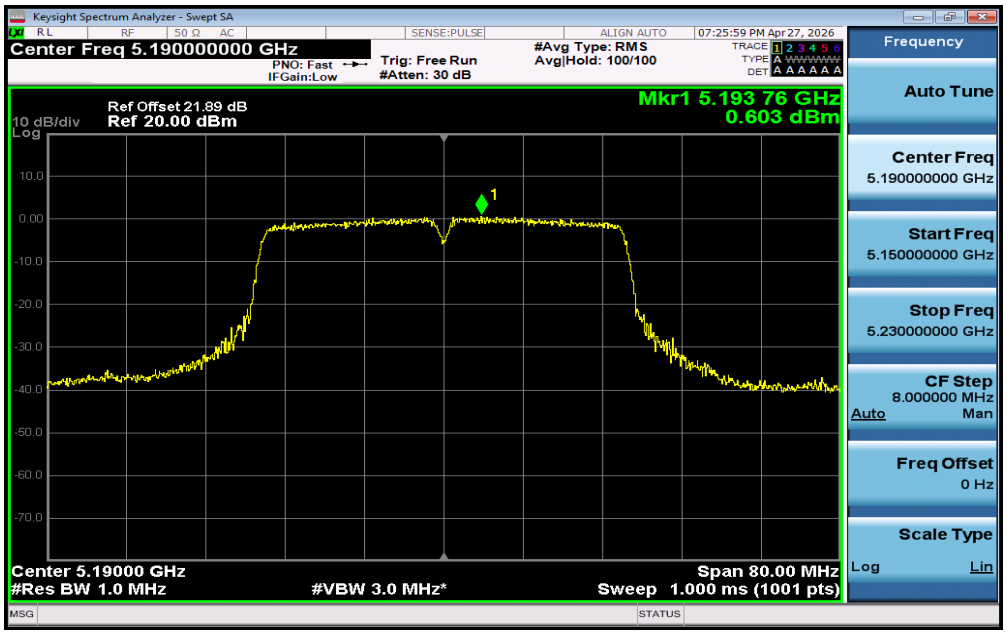
11N20SISO-Ant1-5745-PASS



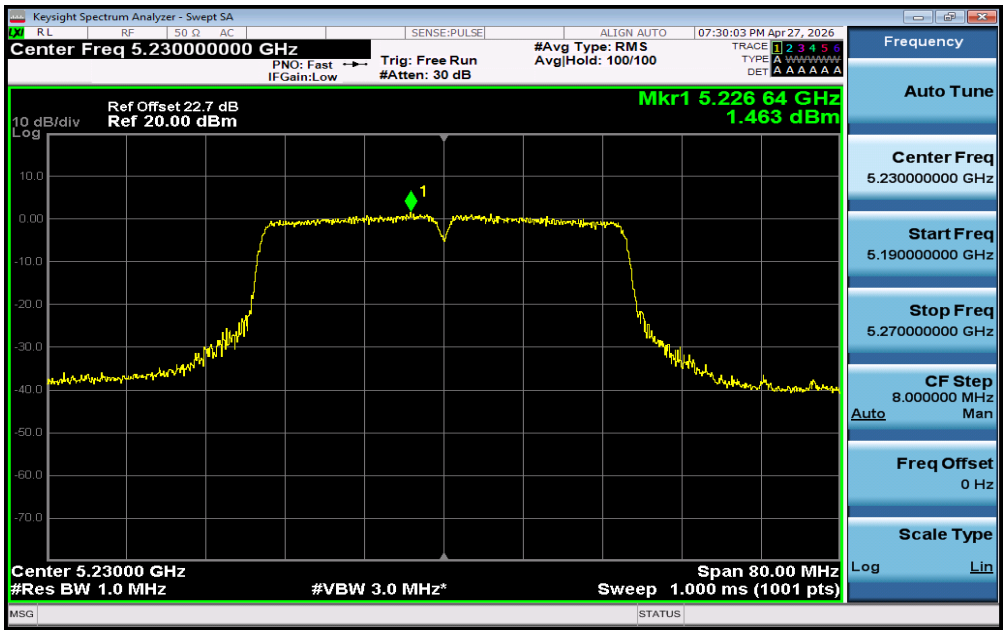
11N20SISO-Ant1-5785-PASS



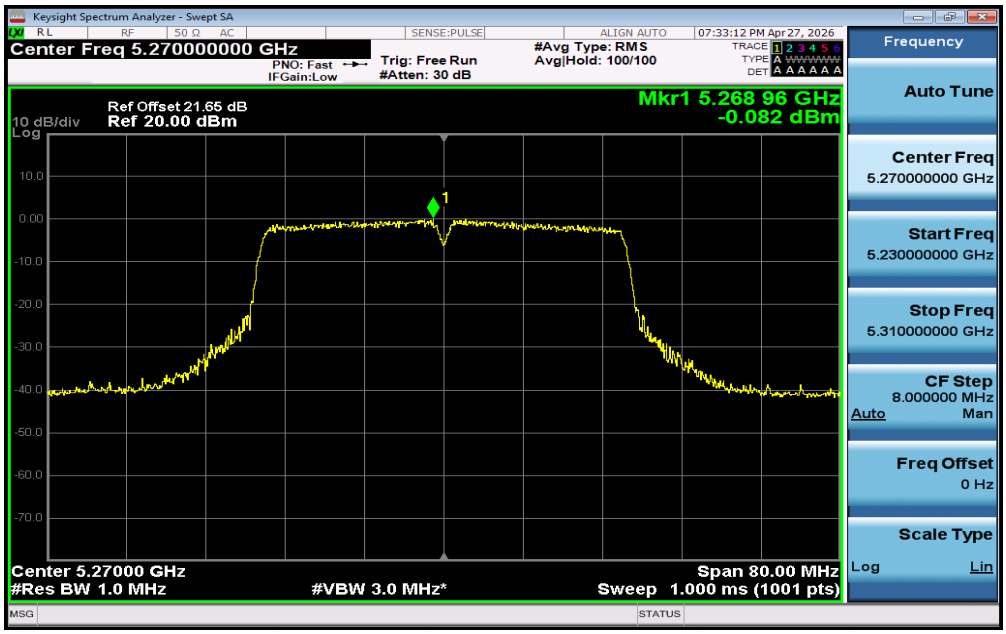
11N20SISO-Ant1-5825-PASS



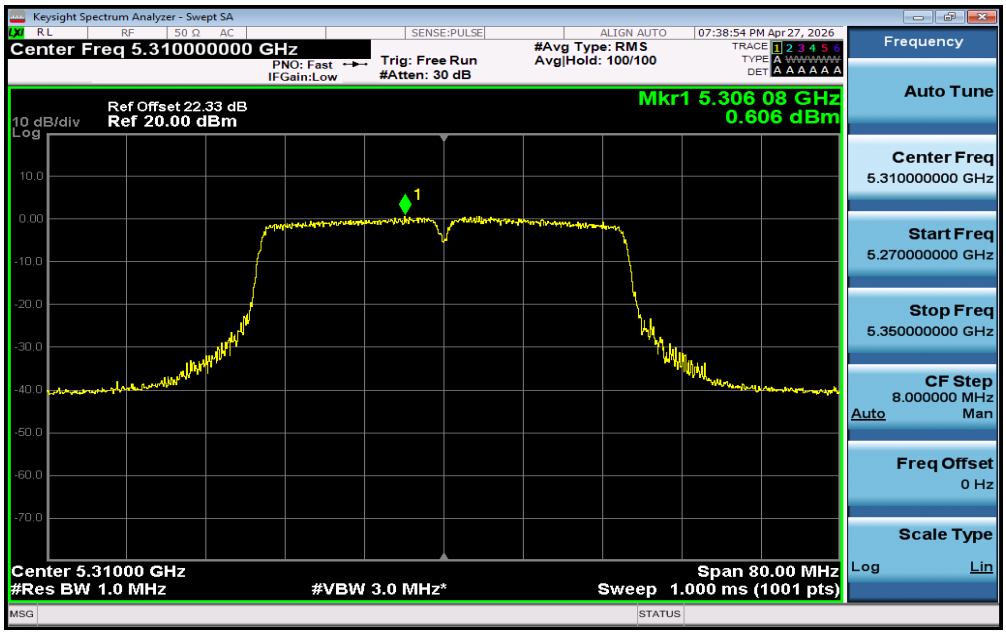
11N40SISO-Ant1-5190-PASS



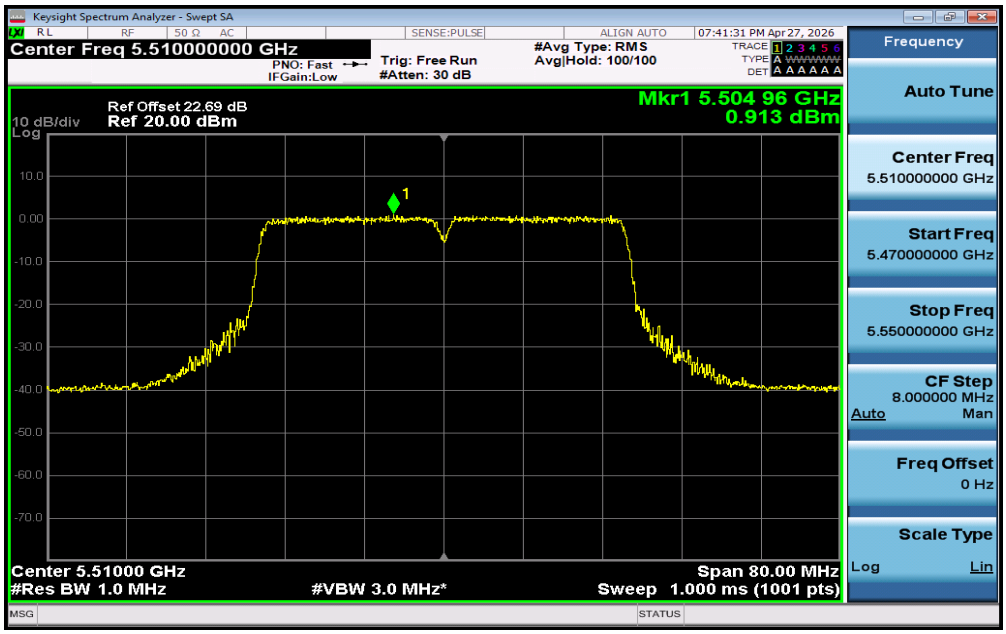
11N40SISO-Ant1-5230-PASS



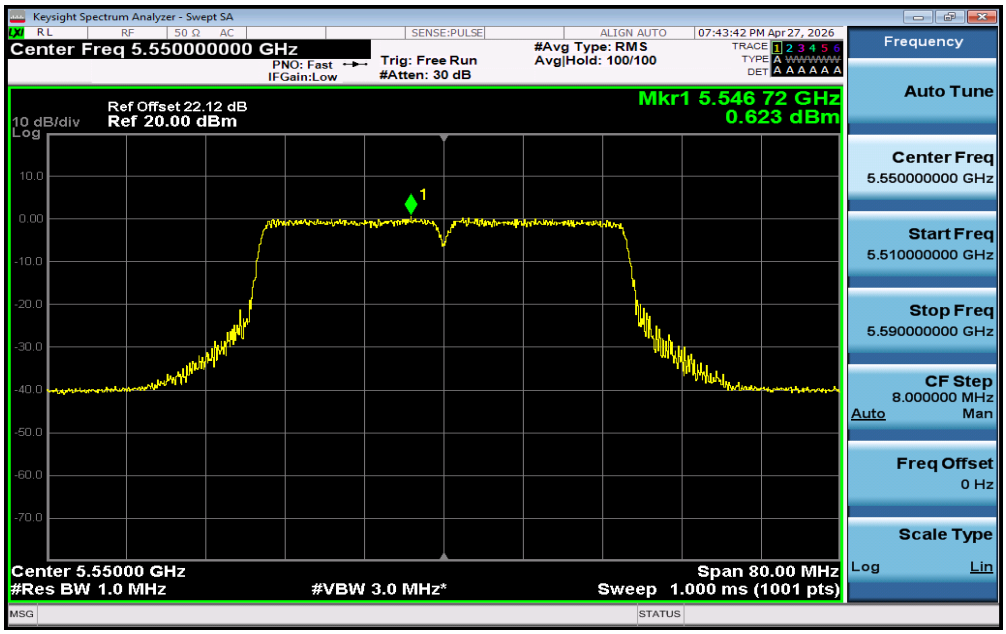
11N40SISO-Ant1-5270-PASS



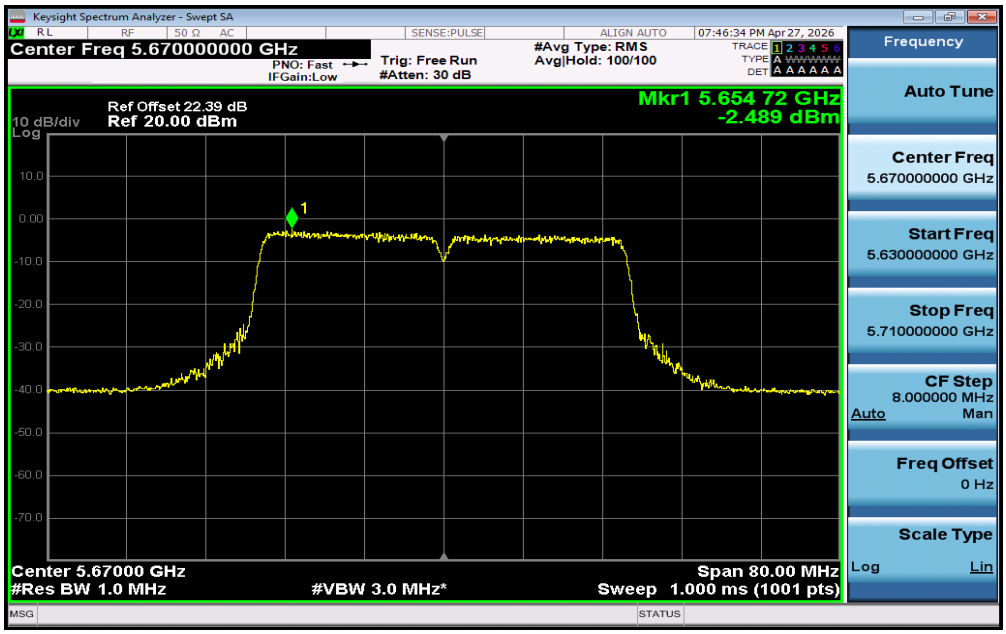
11N40SISO-Ant1-5310-PASS



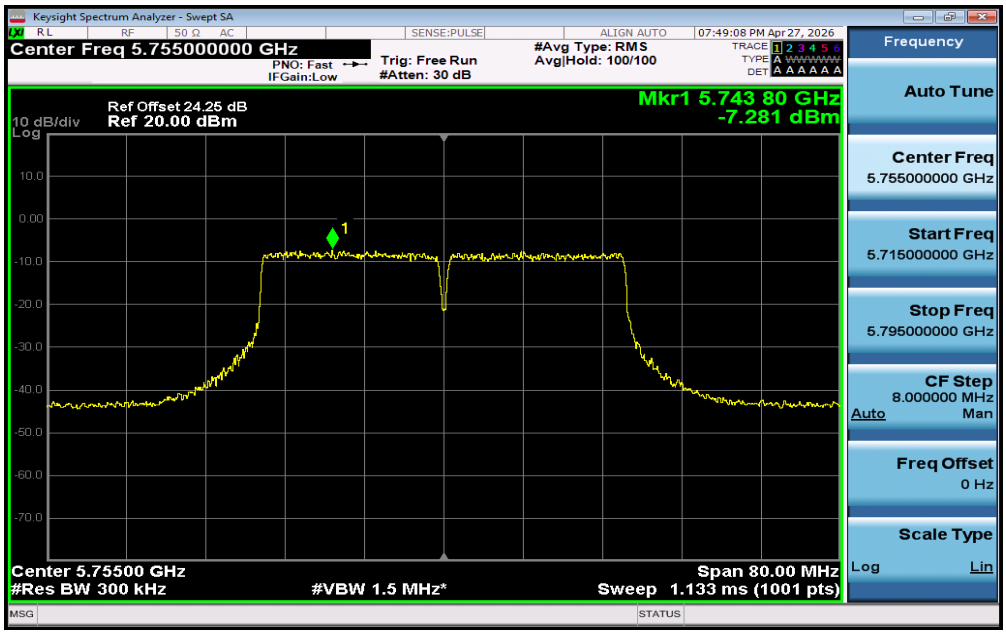
11N40SISO-Ant1-5510-PASS



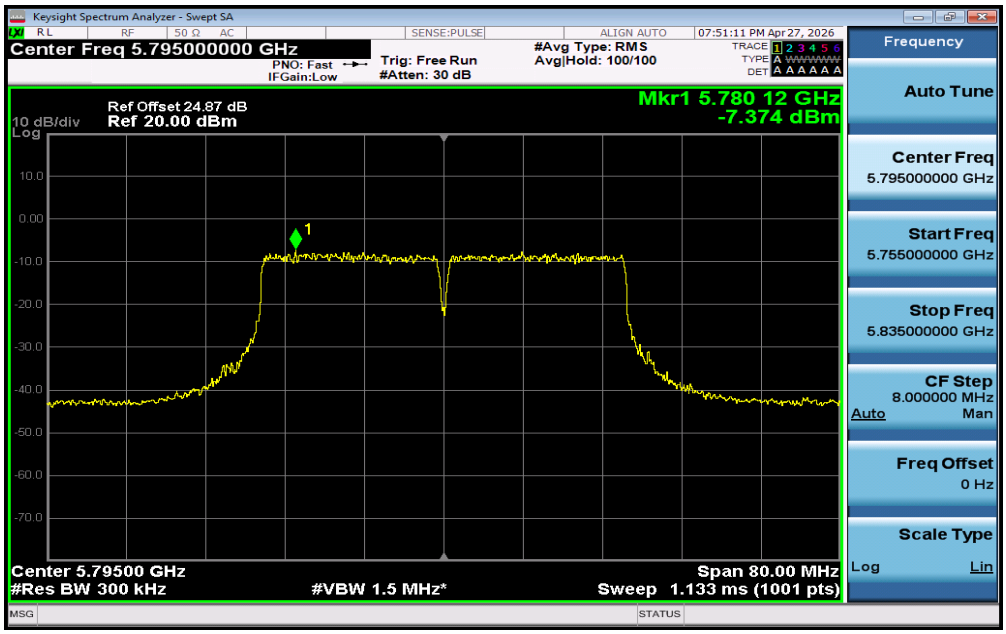
11N40SISO-Ant1-5550-PASS



11N40SISO-Ant1-5670-PASS



11N40SISO-Ant1-5755-PASS



11N40SISO-Ant1-5795-PASS

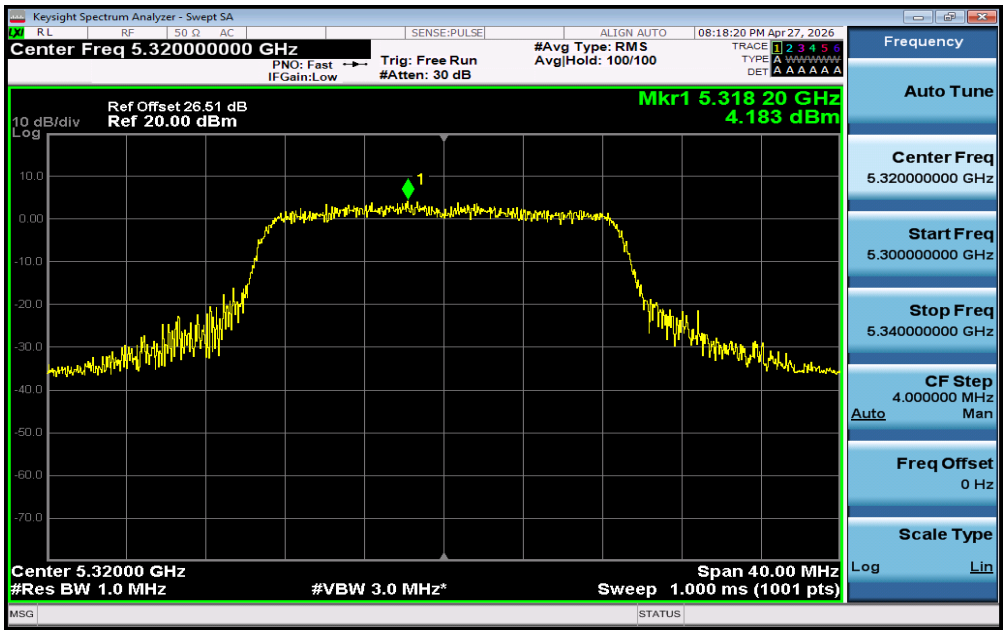
11AC20SISO-Ant1-5180-PASS

11AC20SISO-Ant1-5200-PASS

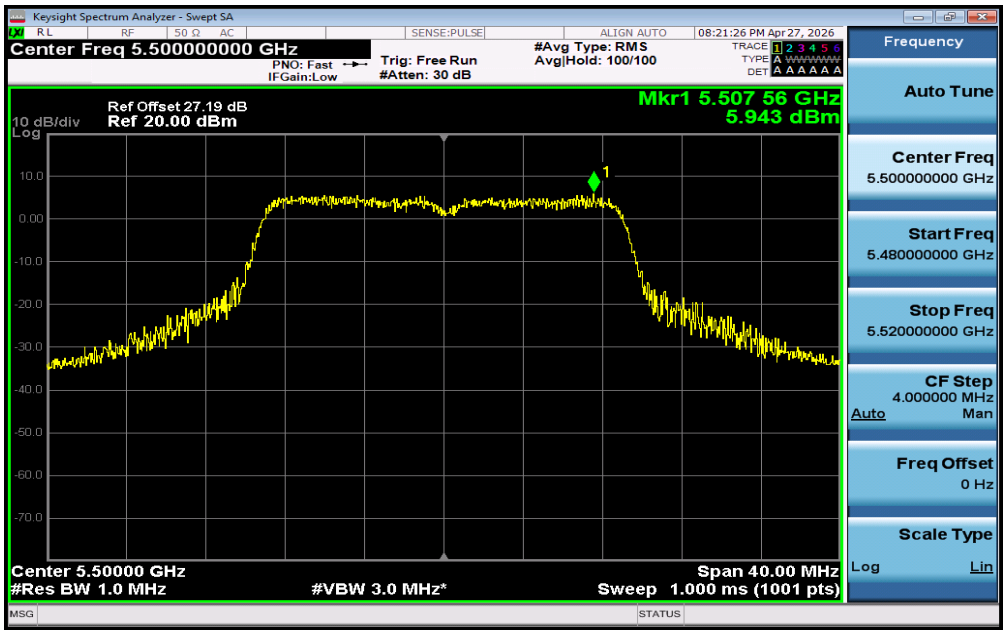
11AC20SISO-Ant1-5240-PASS

11AC20SISO-Ant1-5260-PASS

11AC20SISO-Ant1-5280-PASS



11AC20SISO-Ant1-5320-PASS



11AC20SISO-Ant1-5500-PASS

11AC20SISO-Ant1-5580-PASS

11AC20SISO-Ant1-5700-PASS