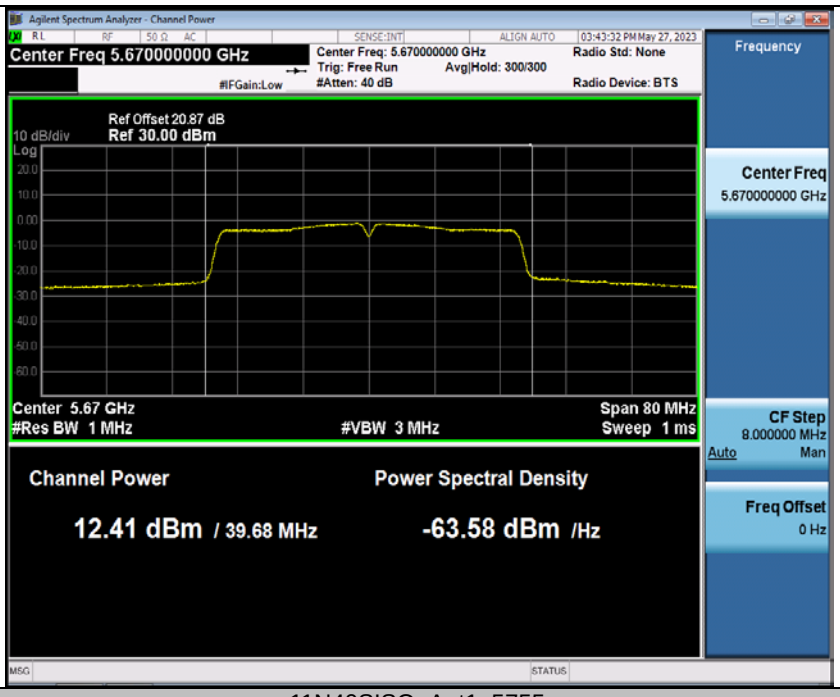
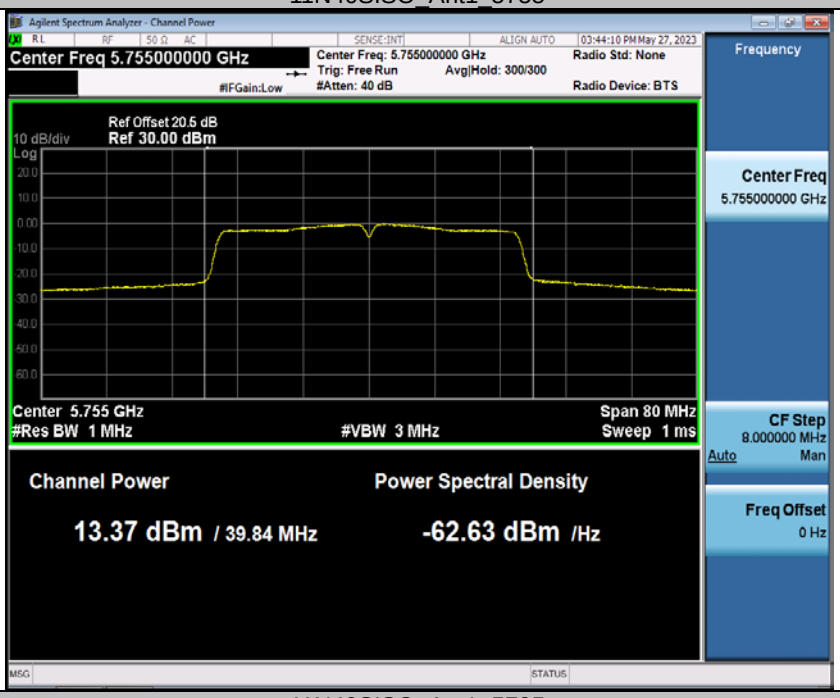


11N40SISO_Ant1_5755



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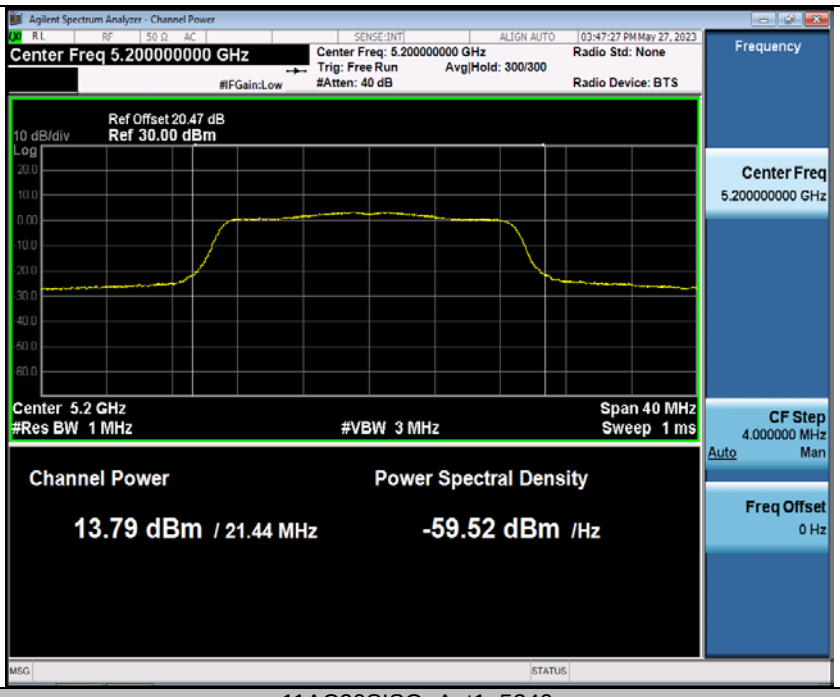
11AC20SISO_Ant1_5180

11AC20SISO_Ant1_5200



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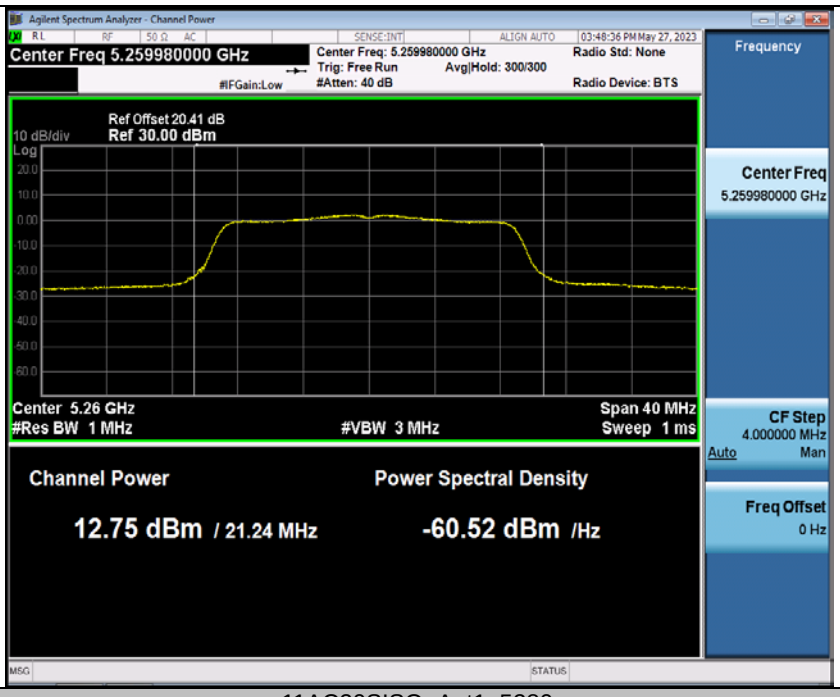

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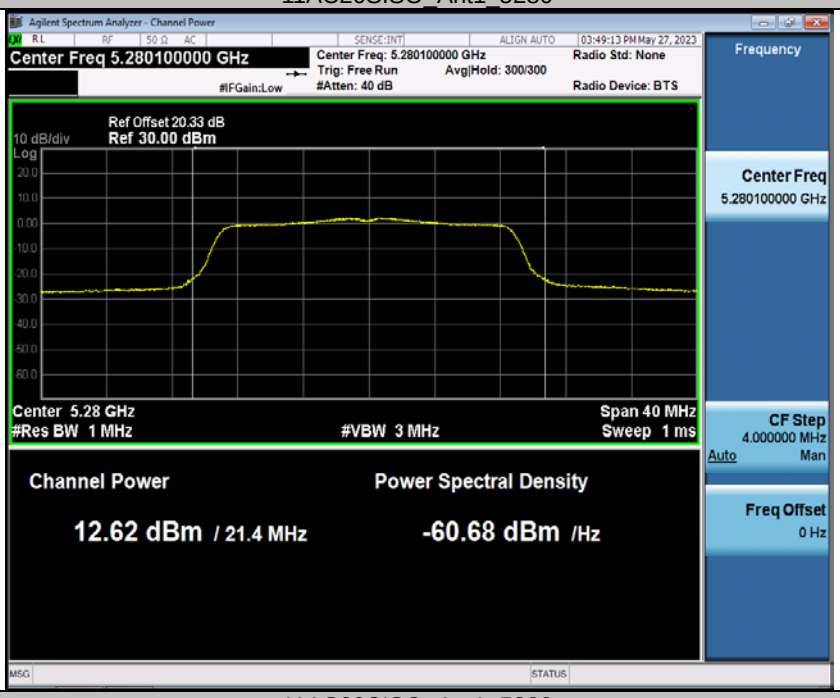

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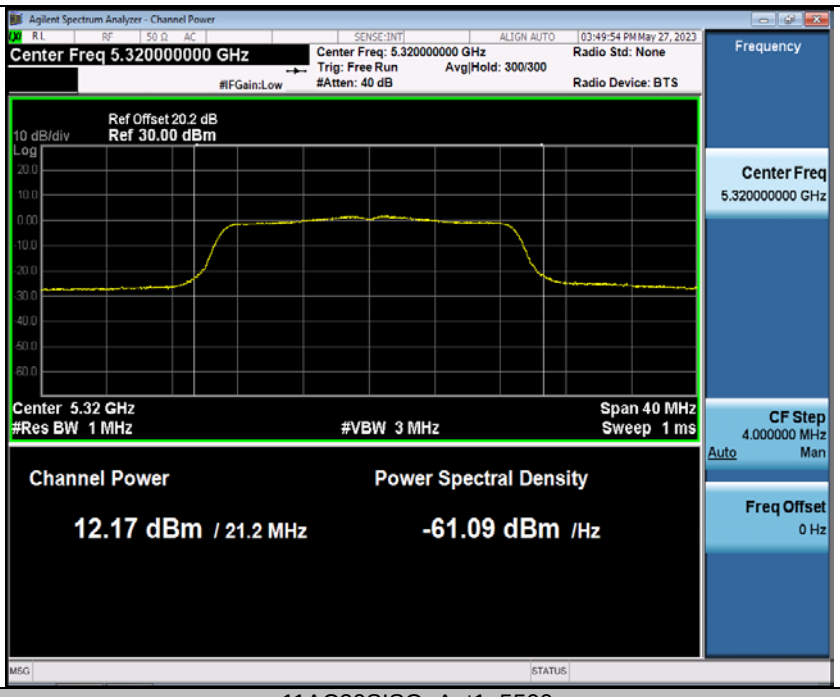

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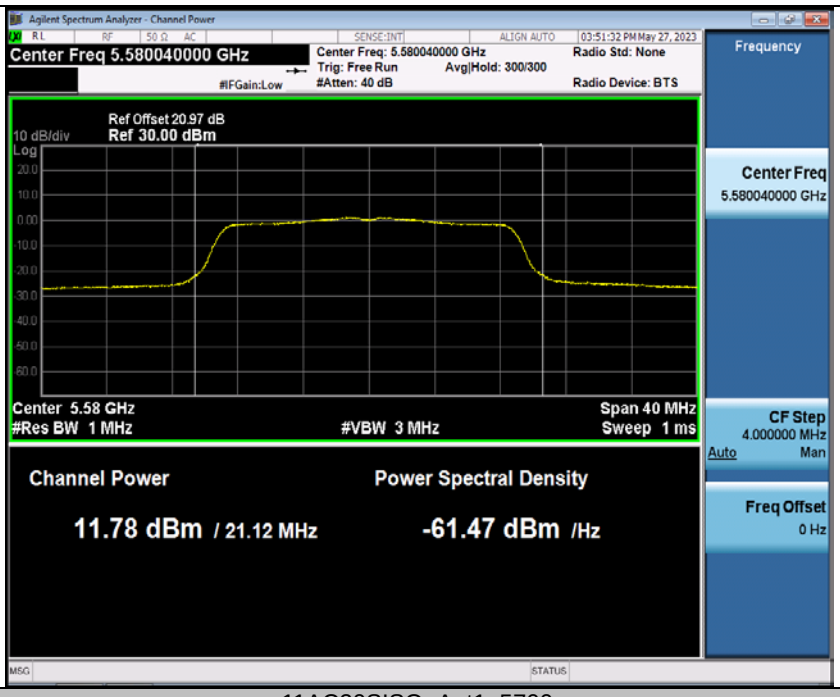

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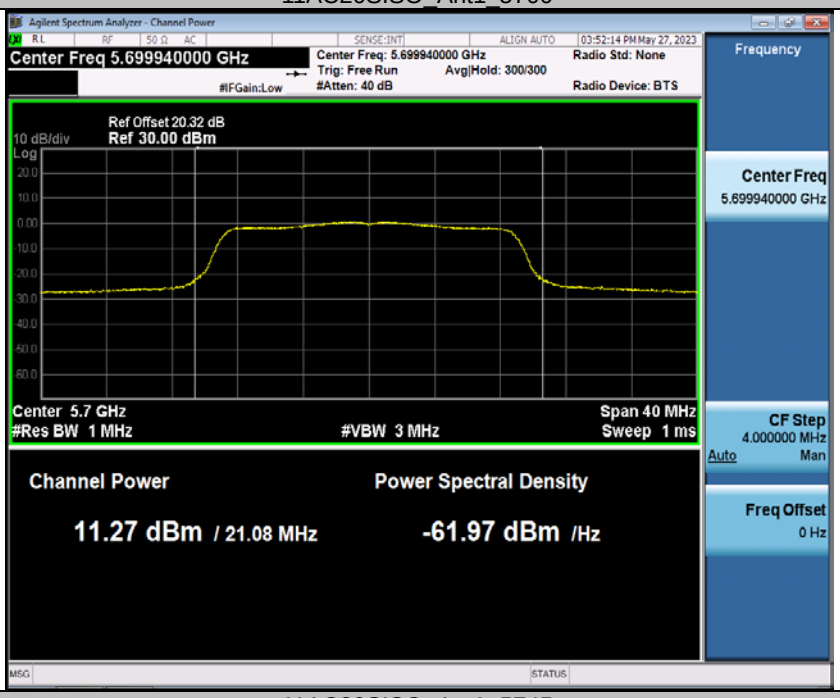

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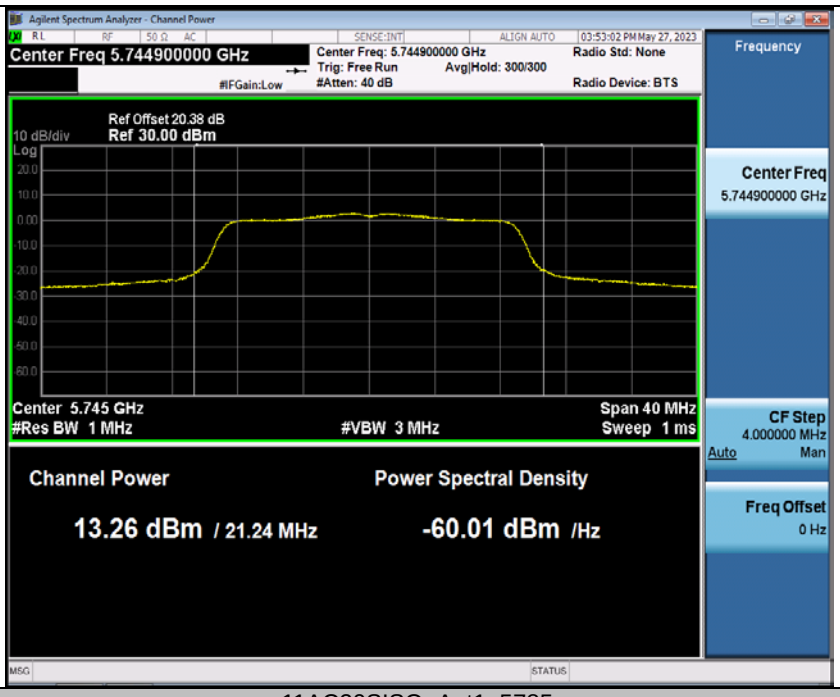

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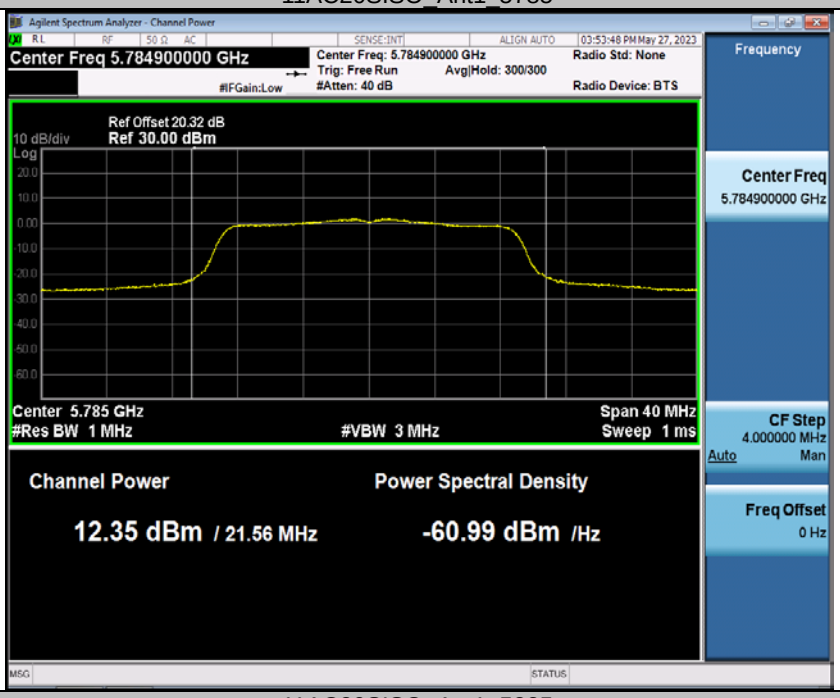

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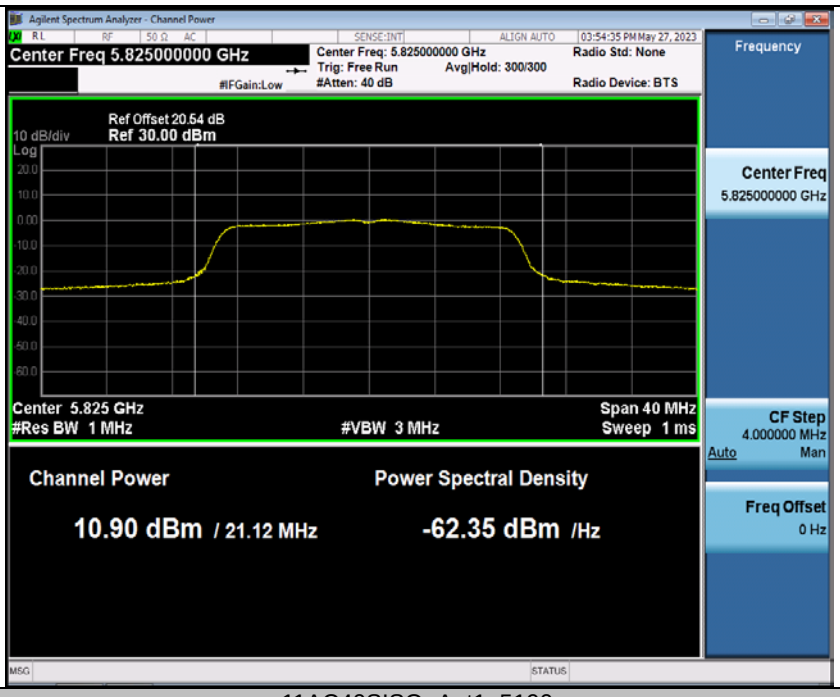

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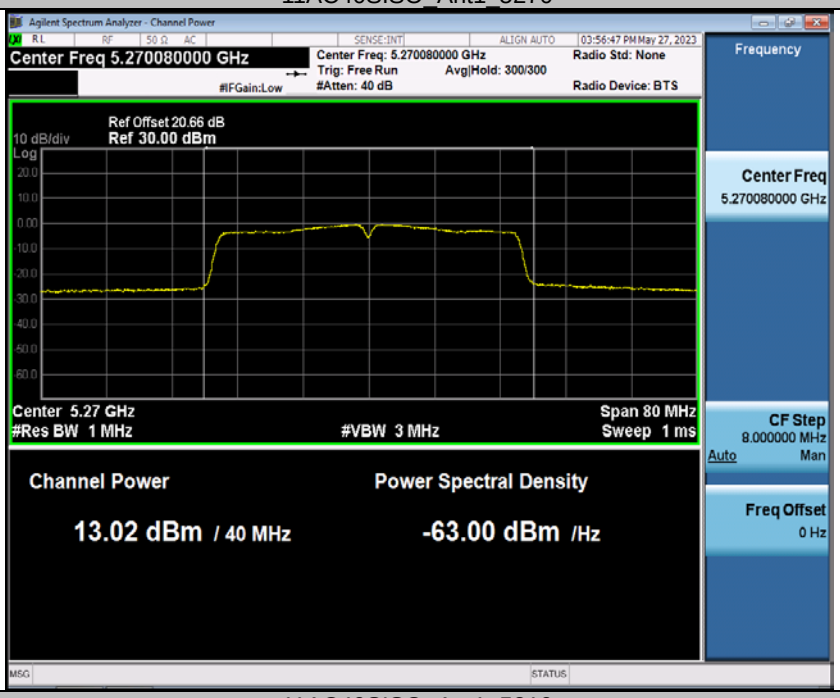

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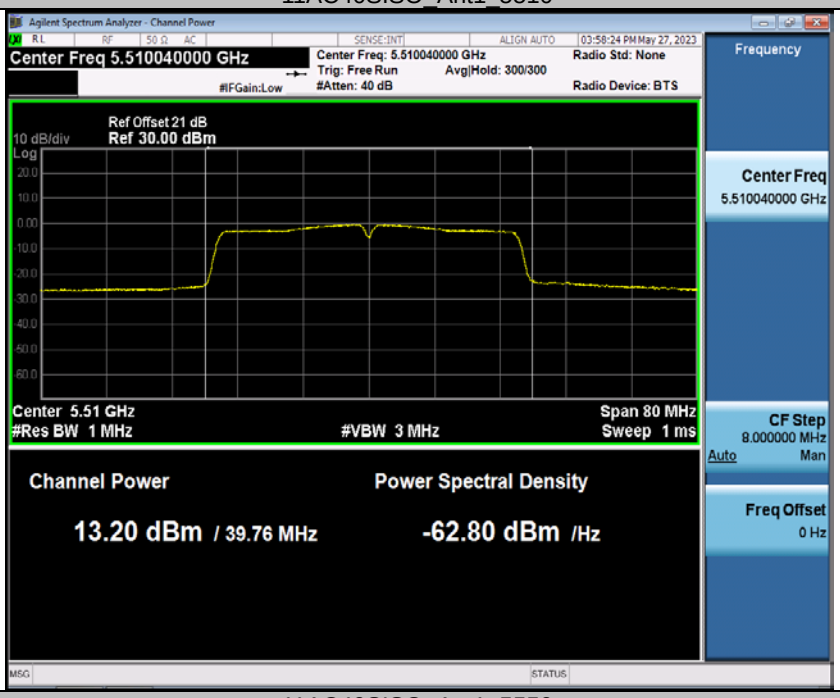

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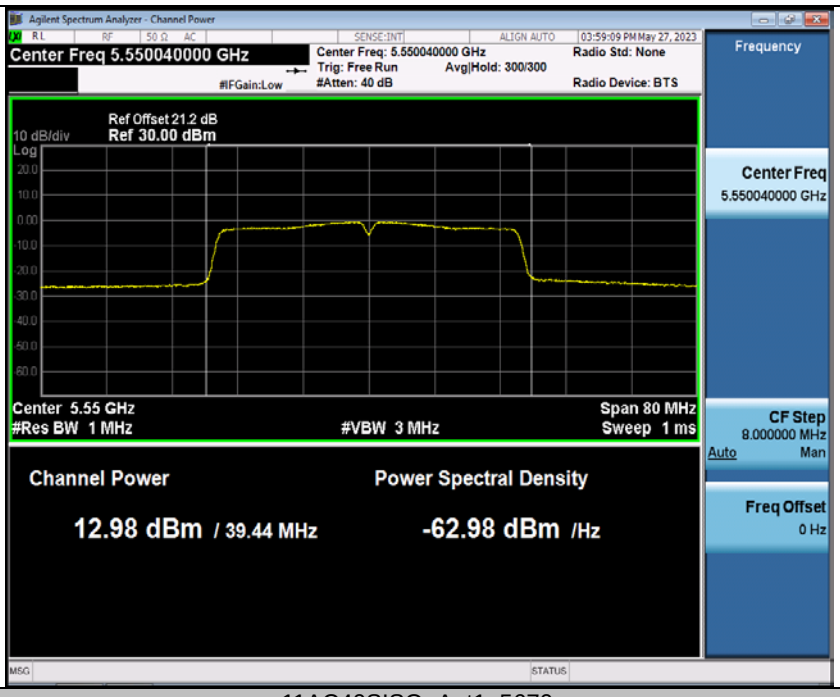

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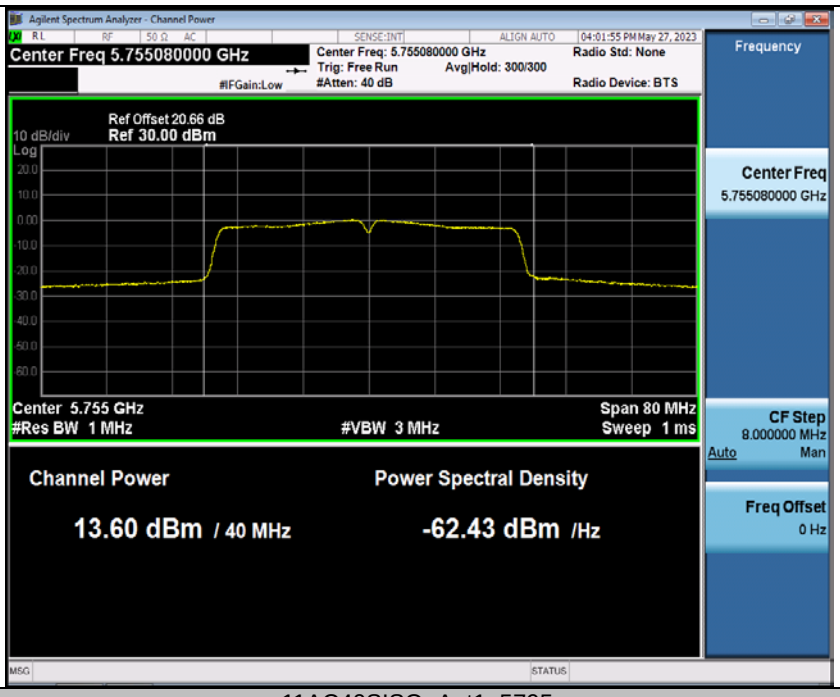

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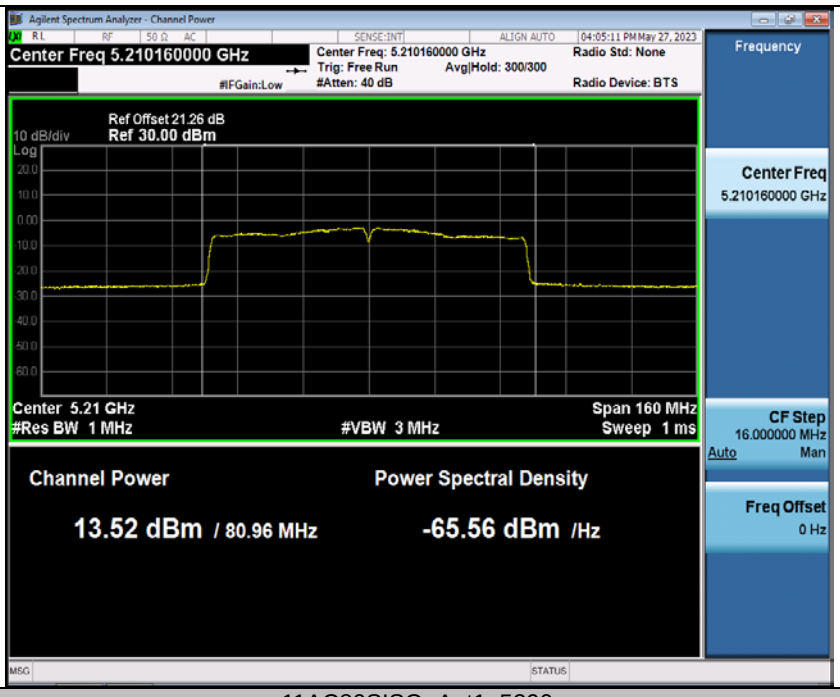
11AC80SISO_Ant1_5210



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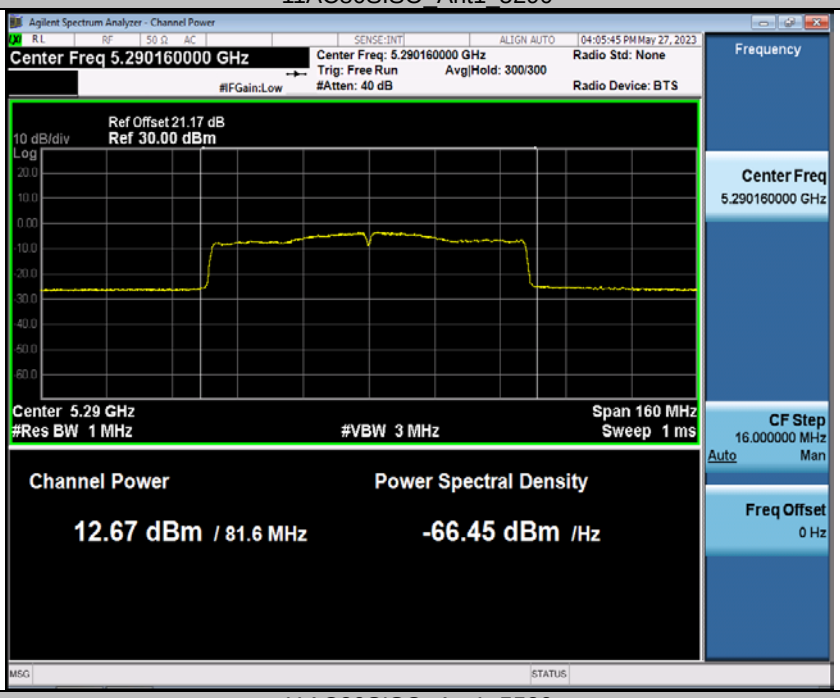

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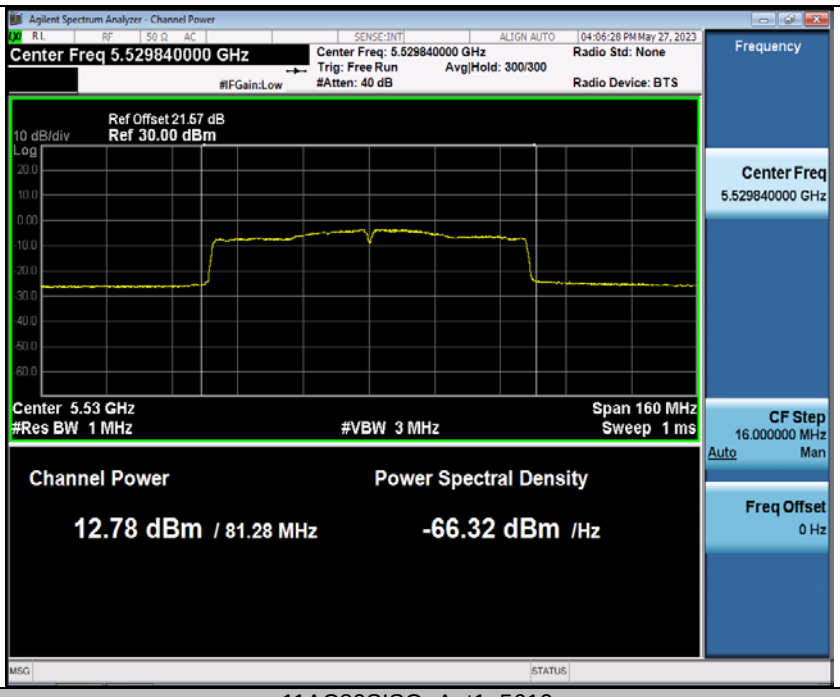

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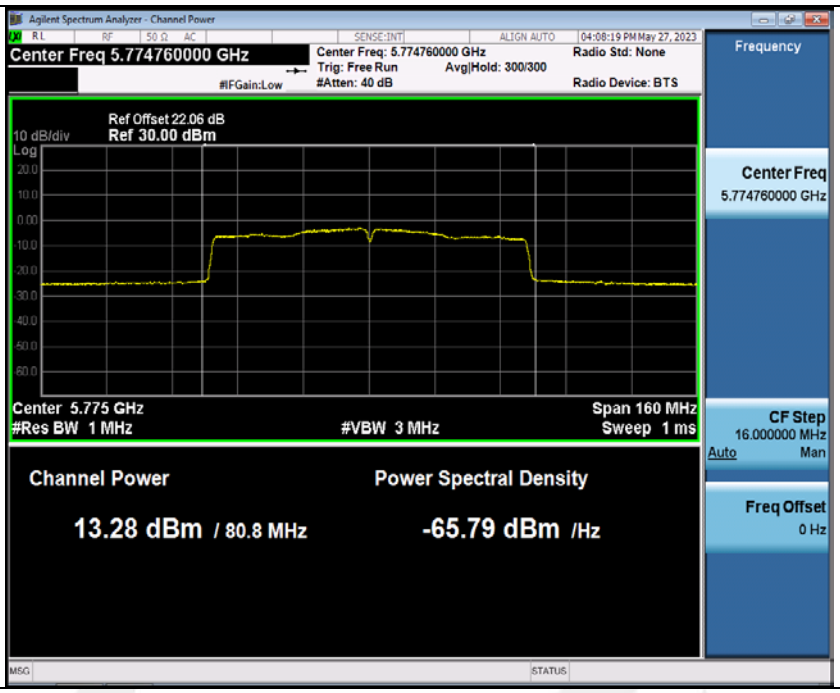
11AC80SISO_Ant1_5775


Agilent Spectrum Analyzer - Channel Power
Center Freq 5.774760000 GHz
Center Freq: 5.774760000 GHz
Trig: Free Run
Avg|Hold: 300/300
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 22.06 dB
10 dB/div
Ref 30.00 dBm
Log
Center Freq
5.774760000 GHz
Center 5.775 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 160 MHz
Sweep 1 ms
CF Step
16.000000 MHz
Auto
Man
Channel Power
13.28 dBm / 80.8 MHz
Power Spectral Density
-65.79 dBm /Hz
Freq Offset
0 Hz

8.3 MAXIMUMPEAK POWER DENSITY

8.3.1 Applicable Standard

According to FCC Part 15.407(a)(1) for UNIIBand I
According to FCC Part 15.407(a)(2) for UNIIBand II-A and UNIIBand II-C
According to FCC Part 15.407(a)(3) for UNIIBand III
According to 789033 D02 Section II(F)
According to RSS 247, 6.2

8.3.2 Conformance Limit

FCC Limit:

■ For the band 5.15-5.25 GHz,

(a)(1) (i) For an outdoor access point, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz bandprovided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(a) (1) (ii) For an indoor access point, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz bandprovided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(a) (1) (iii) For fixed point-to-point access points, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(a) (1) (iv) For client devices, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz bandprovided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the 5.25-5.35 GHz and 5.47-5.725 GHz bands

(b) (2)The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz bandprovided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the band 5.725-5.85 GHz

(a) (3)The maximum power spectral density shall not exceed 30 dBm in any 500-kHz bandprovided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations

IC Limit:

■ Frequency band 5150-5250 MHz

The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

■ Frequency band 5250-5350 MHz

The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

■ Frequency bands 5470-5600 MHz and 5650-5725 MHz

The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

■ Frequency band 5725-5850 MHz

The output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

8.3.3 Test Configuration

Test according to clause 6.1 radio frequency test setup

8.3.4 Test Procedure

Methods refer to FCC KDB 789033

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) andintegrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/T, where T is defined in section II.B.l.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10log(1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections

5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

8.3.5 Test Results

Temperature:	25 ˚C
Relative Humidity:	45%
ATM Pressure:	1011 mbar

Note: N/A

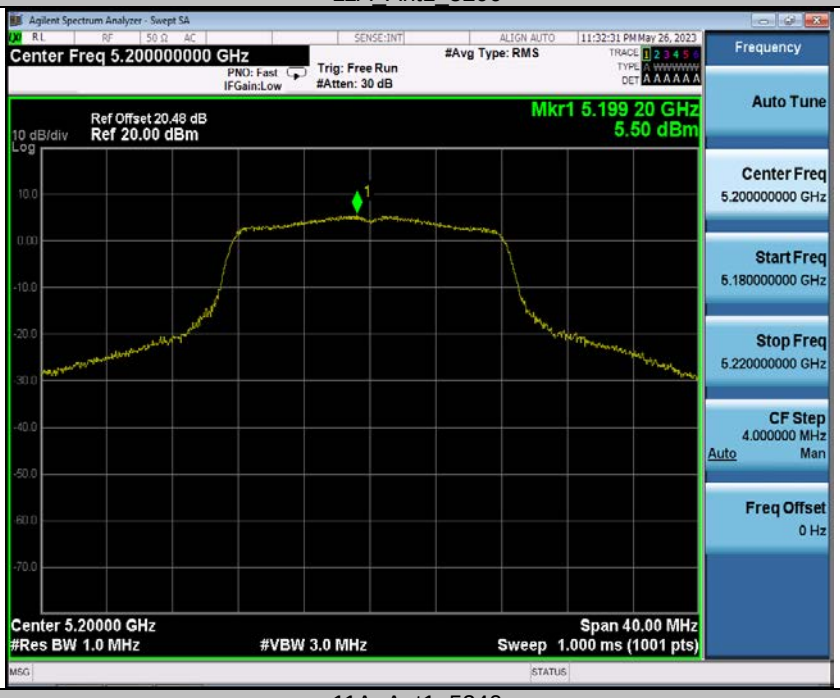
TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	5.77	≤11.00	PASS
		5200	5.5	≤11.00	PASS
		5240	5.12	≤11.00	PASS
		5260	5.04	≤11.00	PASS
		5280	4.53	≤11.00	PASS
		5320	4.32	≤11.00	PASS
		5500	4.49	≤11.00	PASS
		5580	3.77	≤11.00	PASS
		5700	2.99	≤11.00	PASS
		5745	1.24	≤30.00	PASS
		5785	0.75	≤30.00	PASS
		5825	1.54	≤30.00	PASS
11N20SISO	Ant1	5180	5.43	≤11.00	PASS
		5200	5.36	≤11.00	PASS
		5240	4.57	≤11.00	PASS
		5260	4.43	≤11.00	PASS
		5280	4.69	≤11.00	PASS
		5320	3.92	≤11.00	PASS
		5500	3.62	≤11.00	PASS
		5580	3.28	≤11.00	PASS
		5700	2.12	≤11.00	PASS
		5745	0.43	≤30.00	PASS
		5785	-0.34	≤30.00	PASS
		5825	-1.02	≤30.00	PASS
11N40SISO	Ant1	5190	2.5	≤11.00	PASS
		5230	1.93	≤11.00	PASS
		5270	1.02	≤11.00	PASS
		5310	0.89	≤11.00	PASS
		5510	-0.05	≤11.00	PASS
		5550	0.06	≤11.00	PASS
		5670	-1.11	≤11.00	PASS
		5755	-2.45	≤30.00	PASS
		5795	-3.97	≤30.00	PASS
11AC20SISO	Ant1	5180	3.44	≤11.00	PASS
		5200	3.23	≤11.00	PASS
		5240	3.06	≤11.00	PASS
		5260	2.41	≤11.00	PASS
		5280	2.27	≤11.00	PASS
		5320	1.83	≤11.00	PASS
		5500	1.94	≤11.00	PASS
		5580	1.35	≤11.00	PASS
		5700	0.69	≤11.00	PASS
		5745	-0.03	≤30.00	PASS

		5785	-0.87	≤30.00	PASS
		5825	-2.09	≤30.00	PASS
11AC40SISO	Ant1	5190	0.84	≤11.00	PASS
		5230	0.62	≤11.00	PASS
		5270	-0.06	≤11.00	PASS
		5310	-0.46	≤11.00	PASS
		5510	-0.12	≤11.00	PASS
		5550	-0.15	≤11.00	PASS
		5670	-1.48	≤11.00	PASS
		5755	-2.38	≤30.00	PASS
		5795	-3.11	≤30.00	PASS
11AC80SISO	Ant1	5210	-2.63	≤11.00	PASS
		5290	-3.58	≤11.00	PASS
		5530	-3.6	≤11.00	PASS
		5610	-3.13	≤11.00	PASS
		5775	-5.59	≤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 Factorand RBW Factoriscompensatedinthegraph.

11A_Ant1_5180

11A_Ant1_5200



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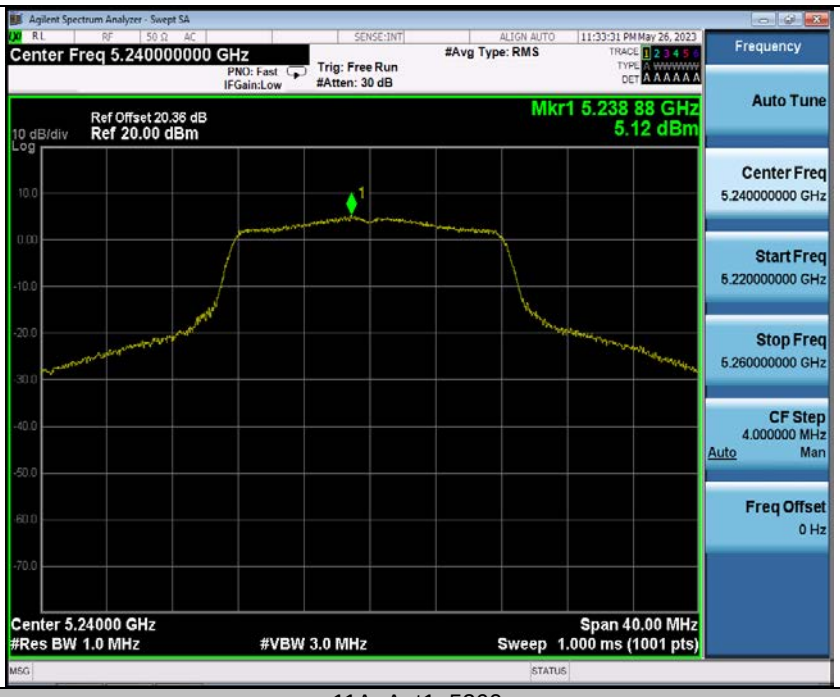
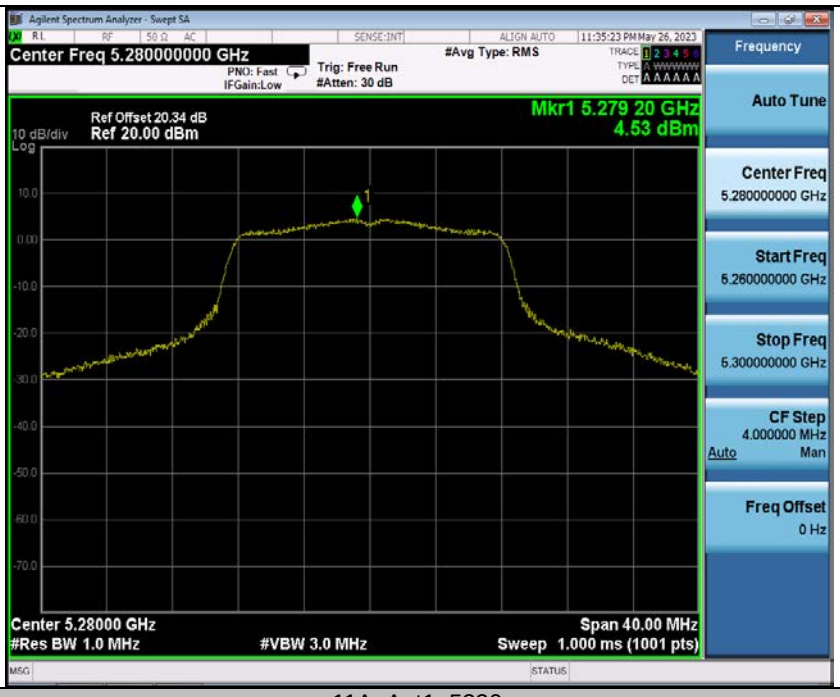


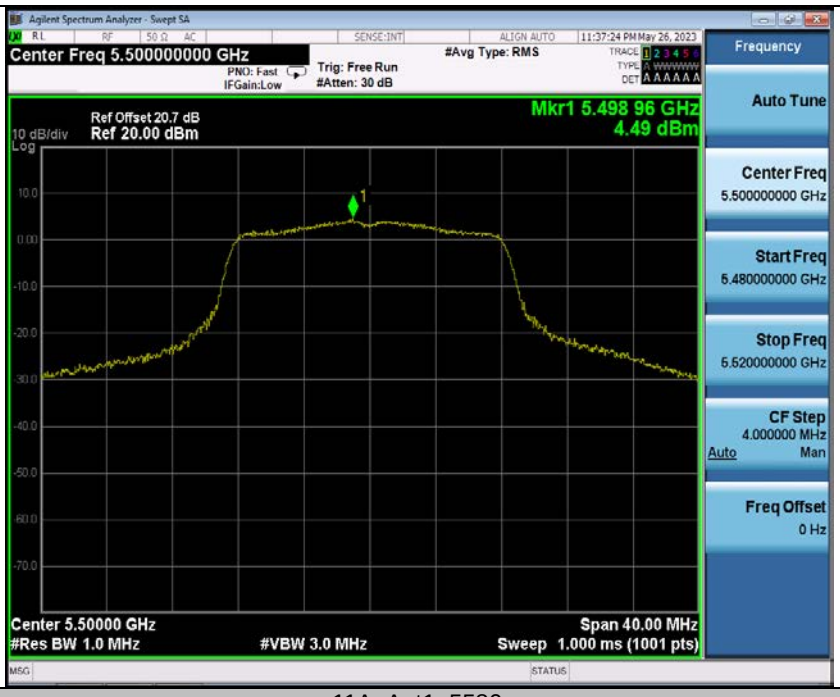
11A_Ant1_5260

11A_Ant1_5280



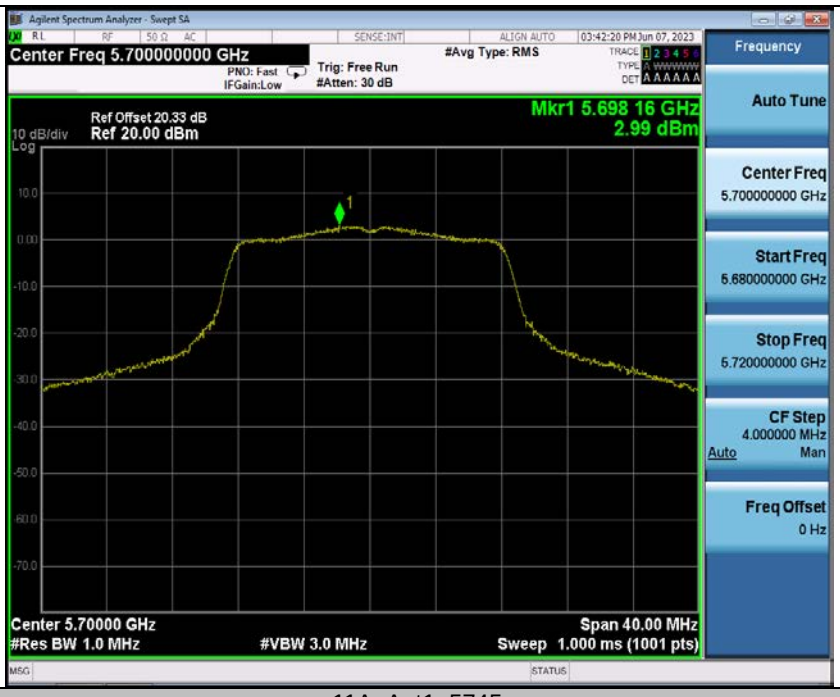
11A_Ant1_5320

11A_Ant1_5500



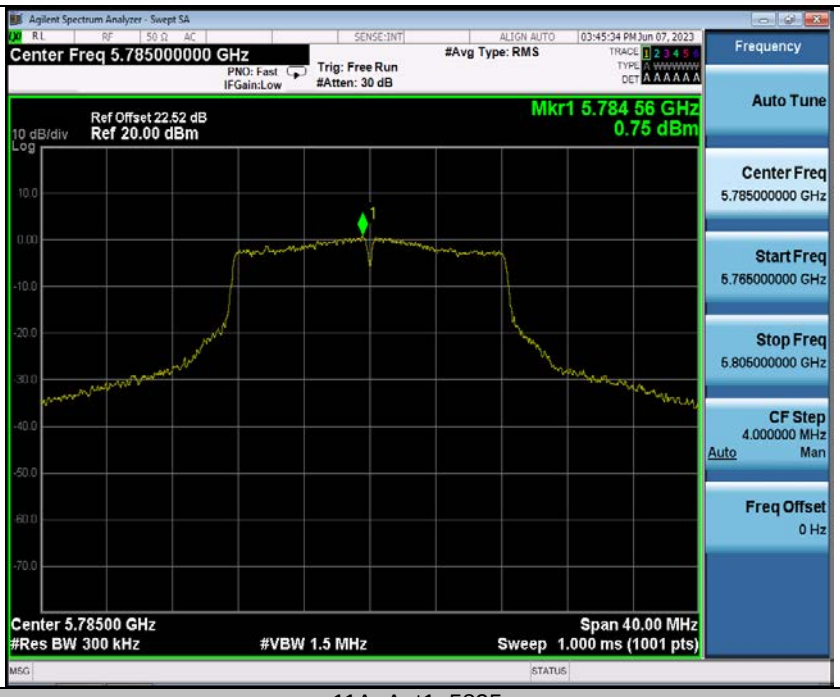
11A_Ant1_5580

11A_Ant1_5700



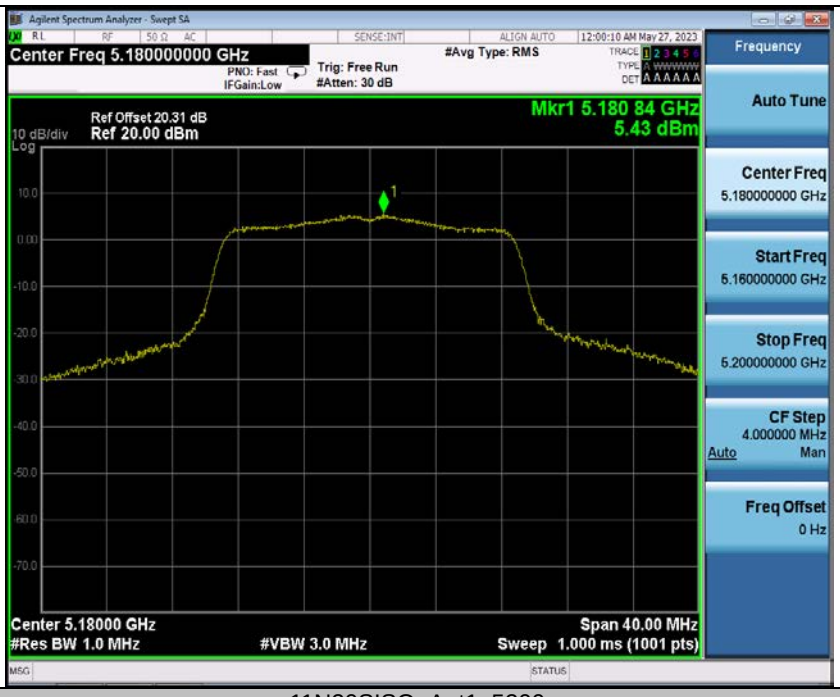
11A_Ant1_5745

11A_Ant1_5785



11A_Ant1_5825

11N20SISO_Ant1_5180



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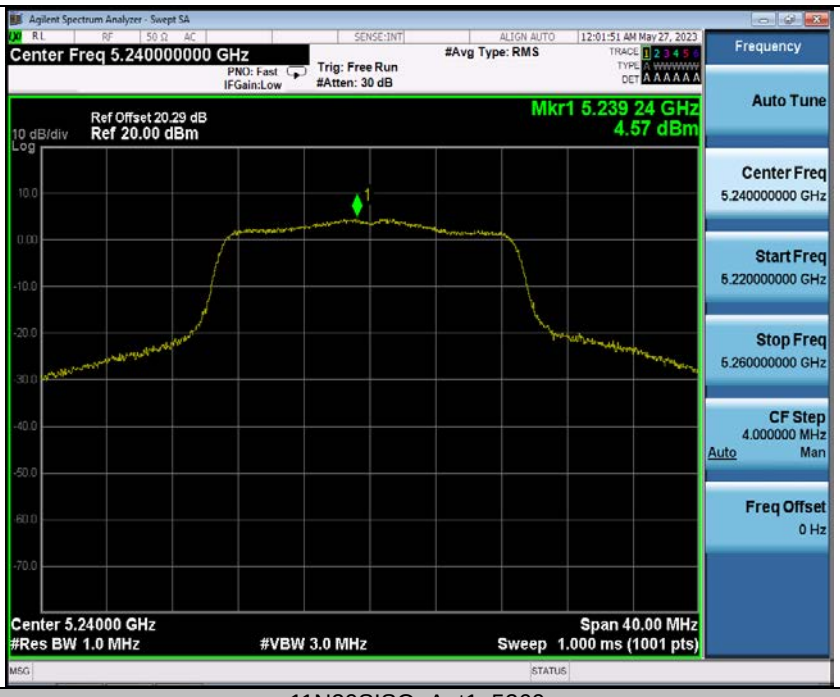
11N20SISO_Ant1_5240



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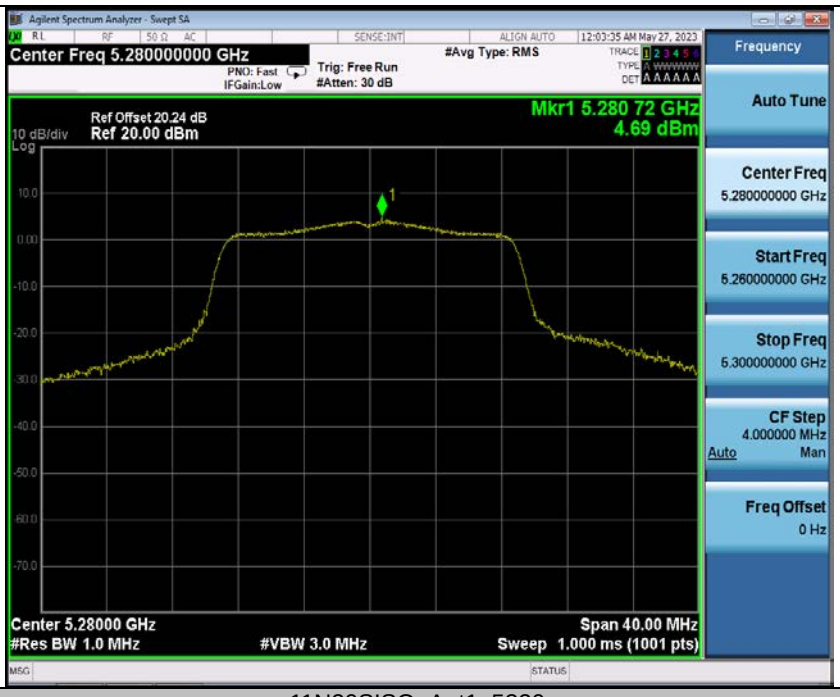
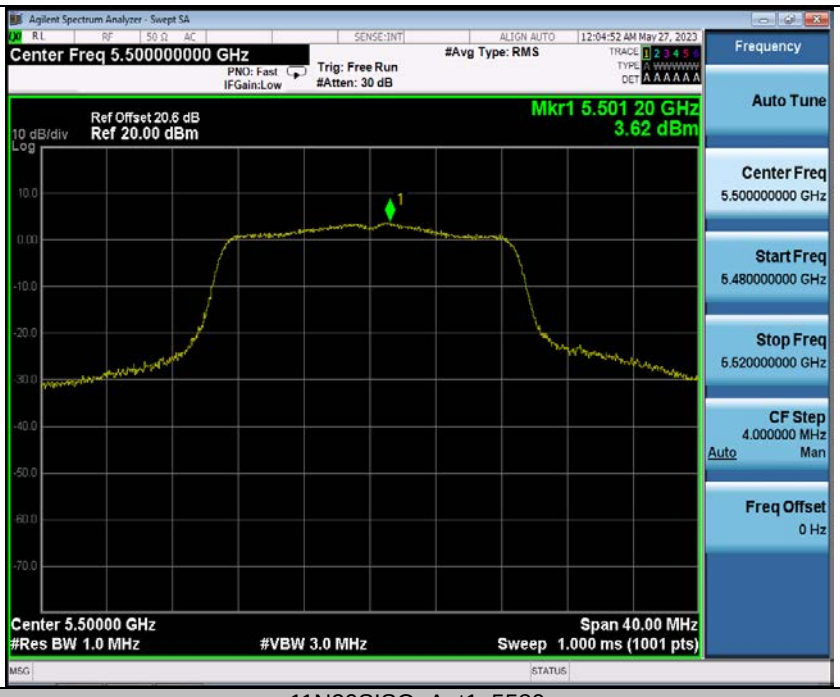
11N20SISO_Ant1_5280



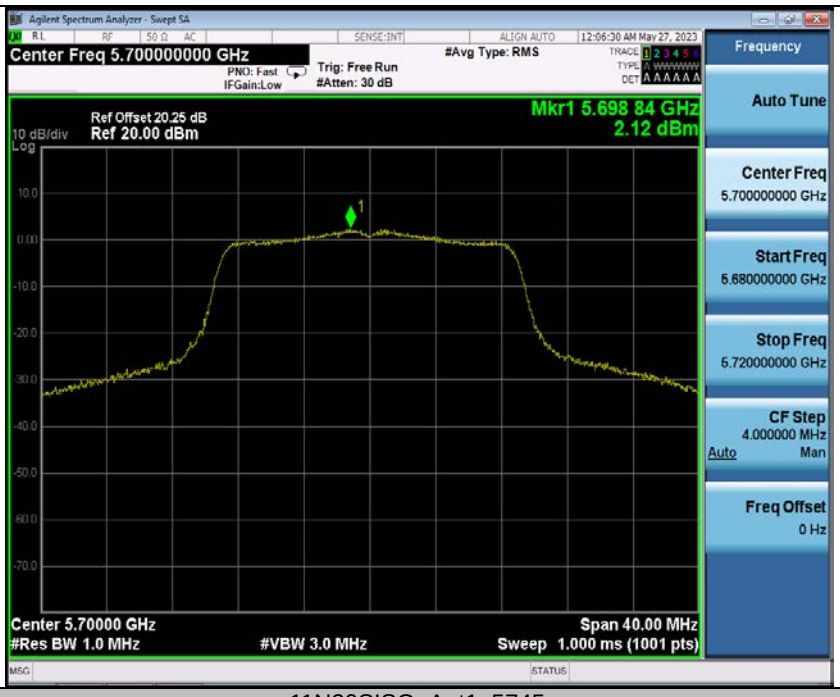
11N20SISO_Ant1_5320

11N20SISO_Ant1_5500



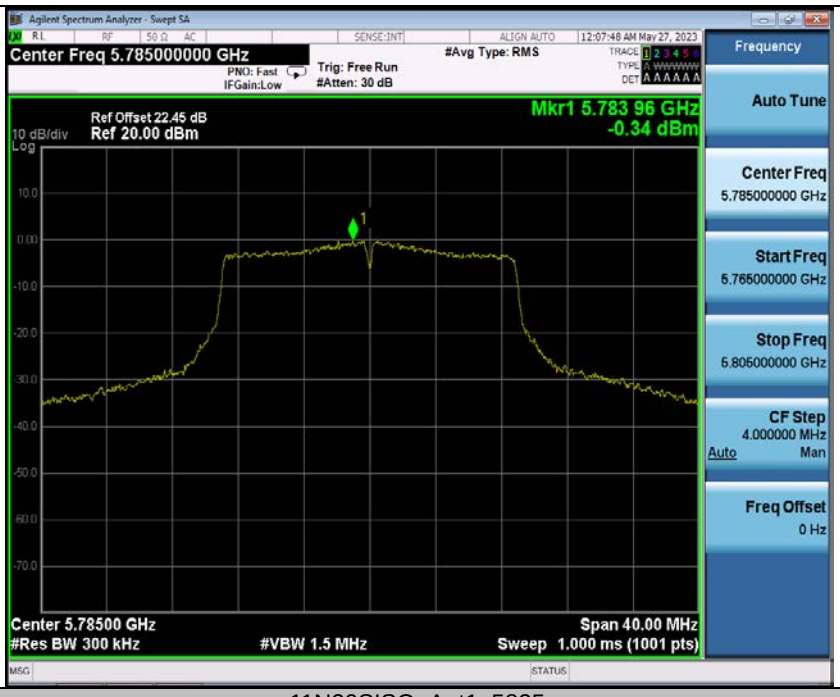
11N20SISO_Ant1_5580

11N20SISO_Ant1_5700



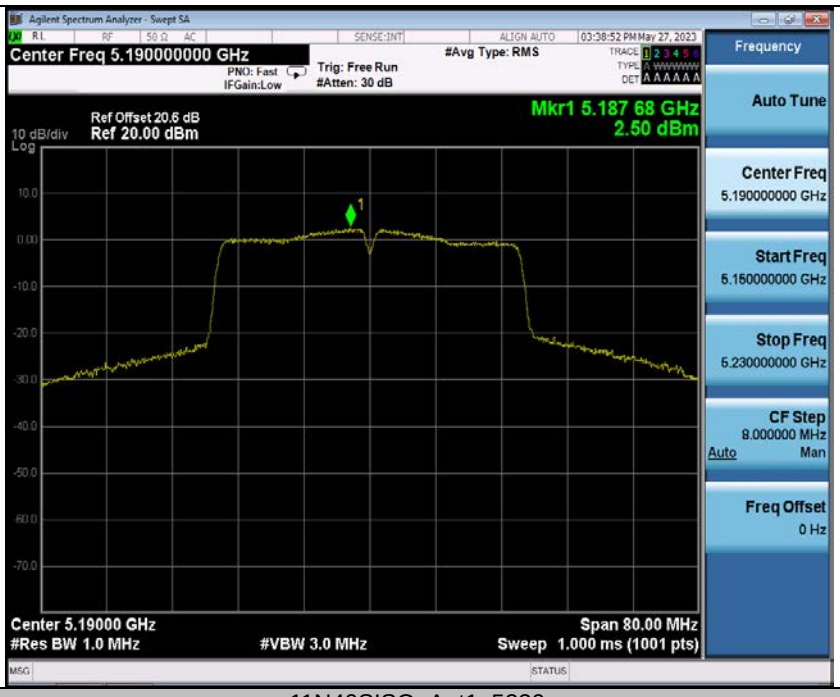
11N20SISO_Ant1_5745

11N20SISO_Ant1_5785



11N20SISO_Ant1_5825

11N40SISO_Ant1_5190



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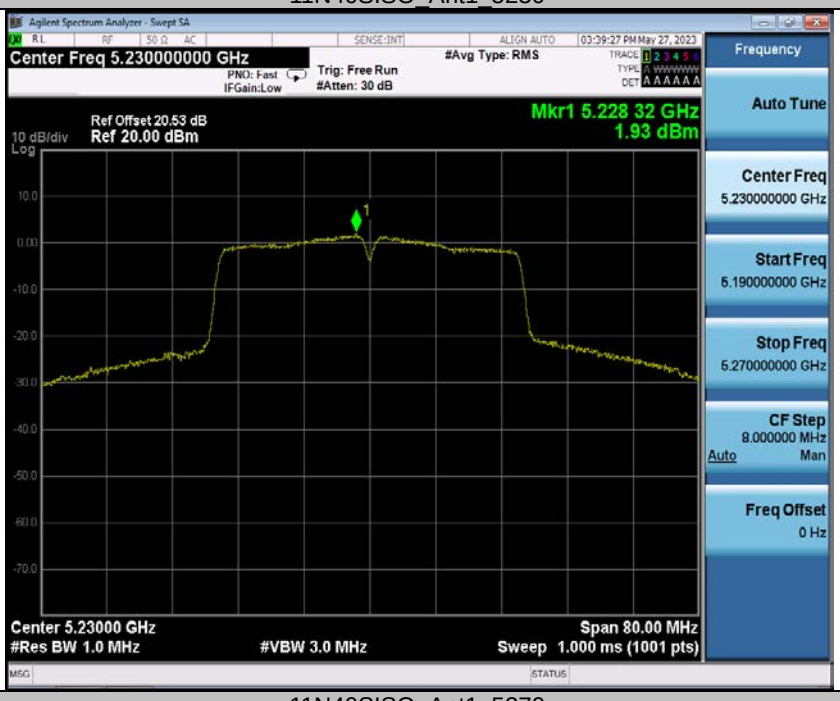

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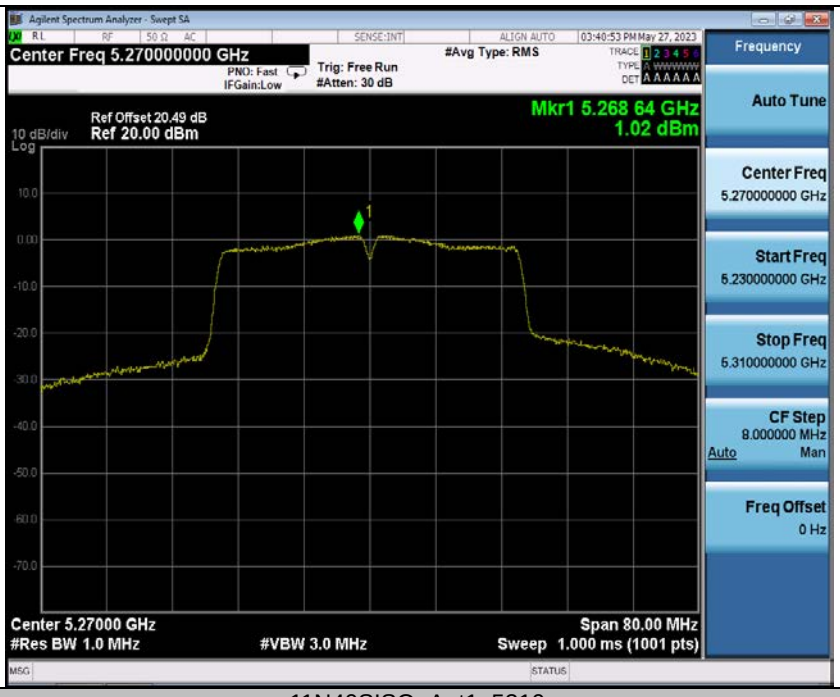

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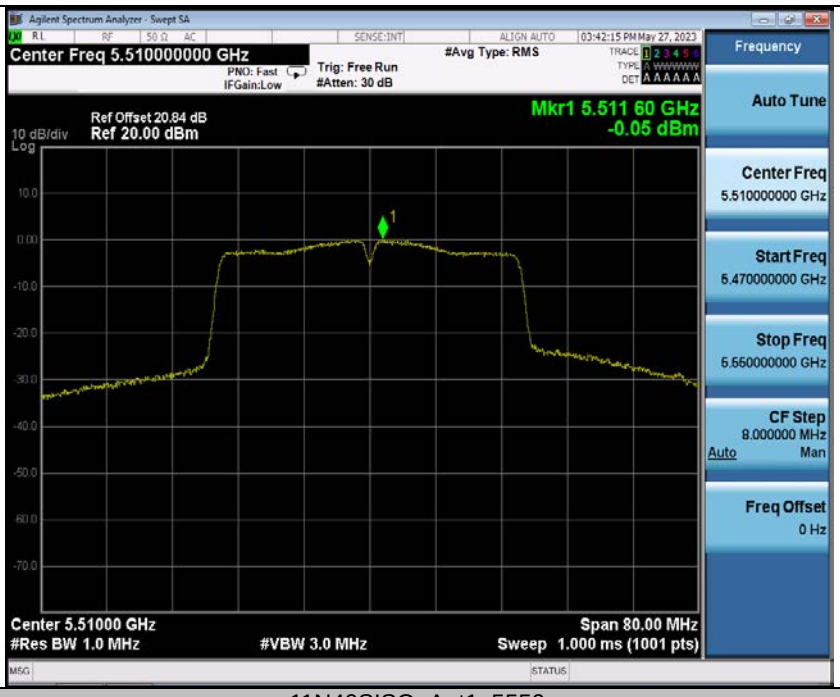
11N40SISO_Ant1_5510



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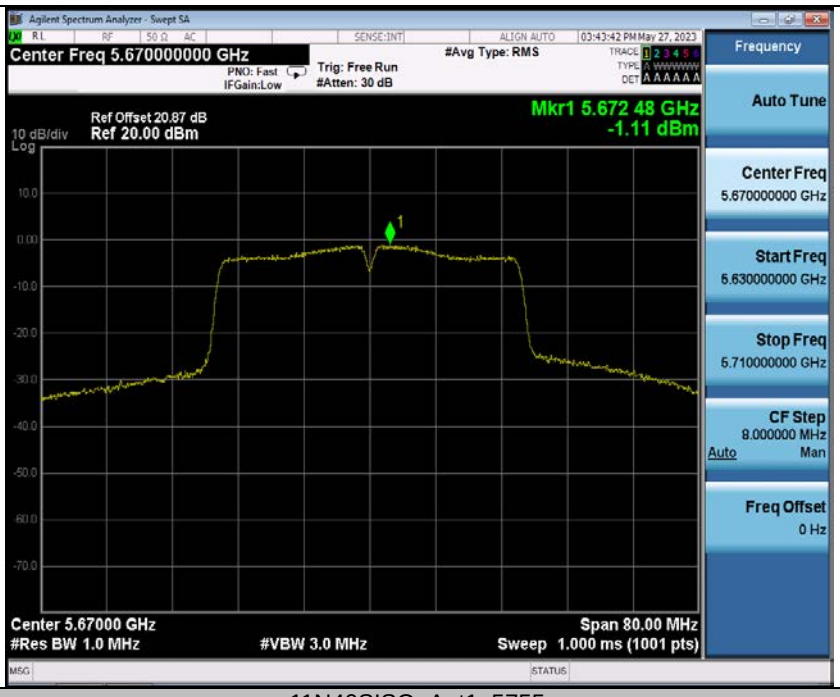

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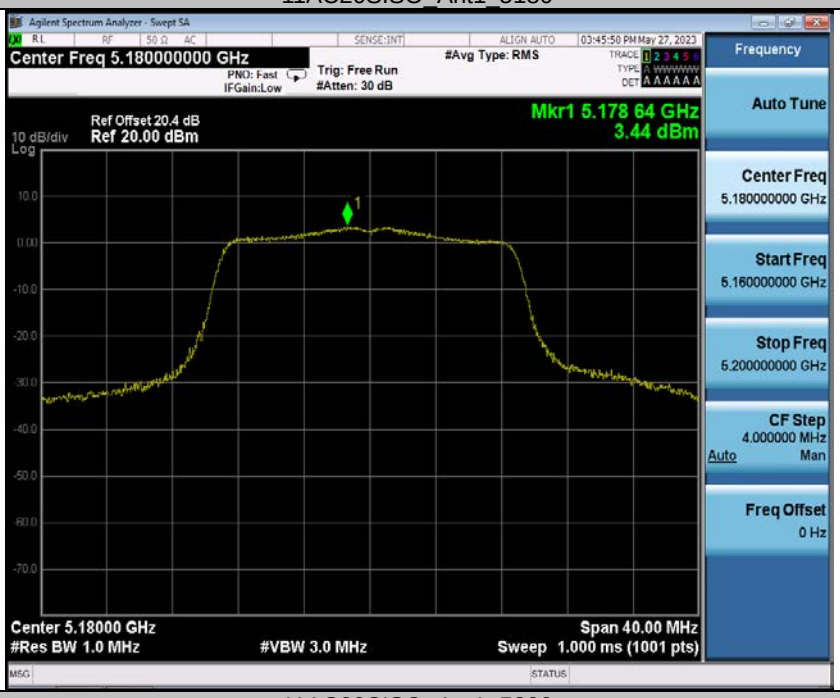

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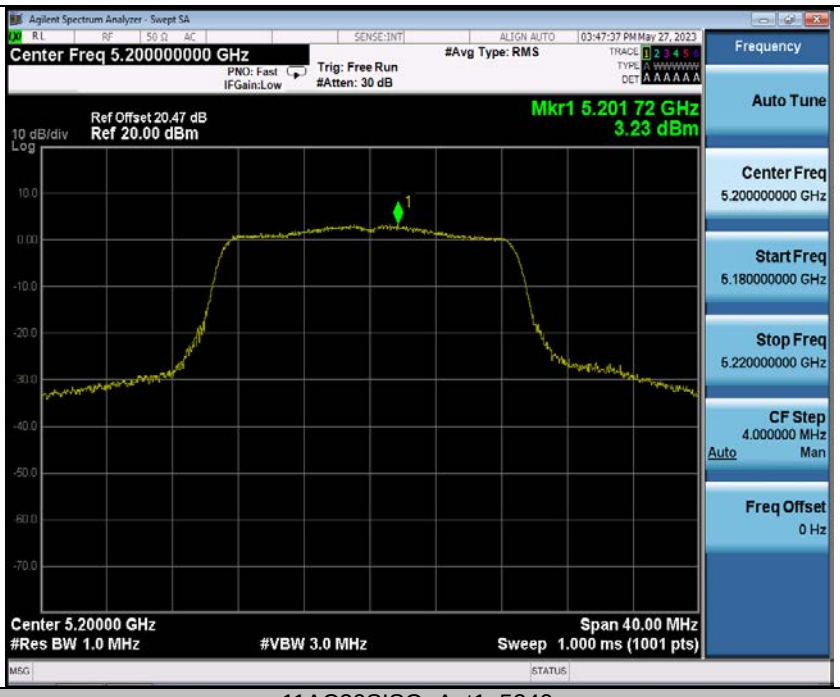

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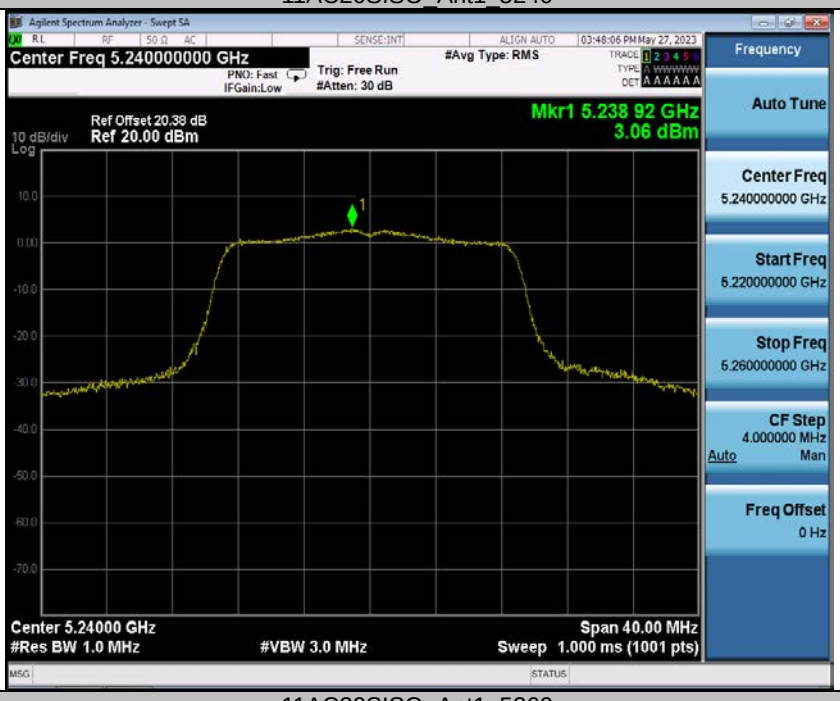

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