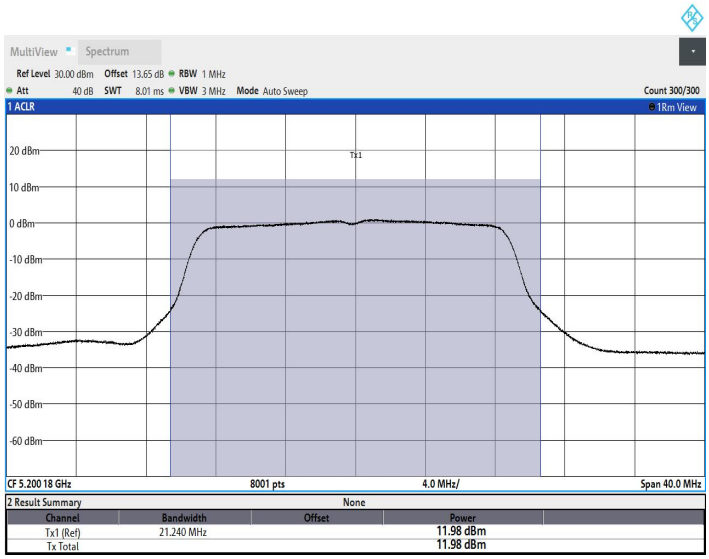

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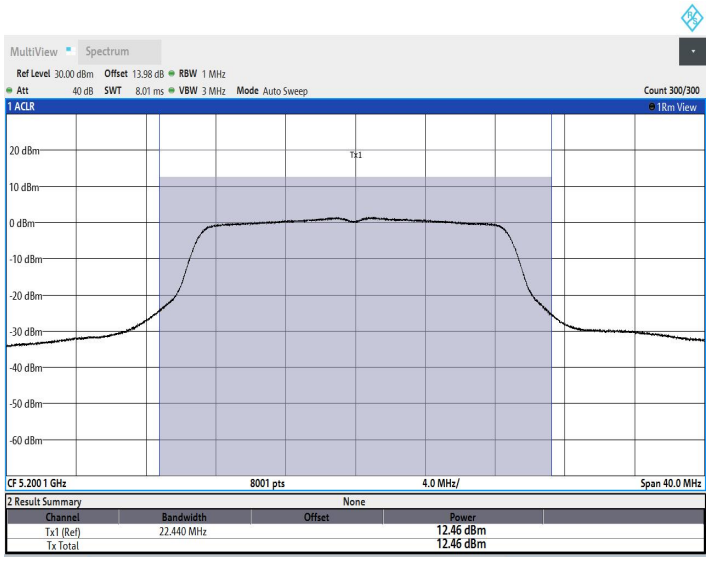

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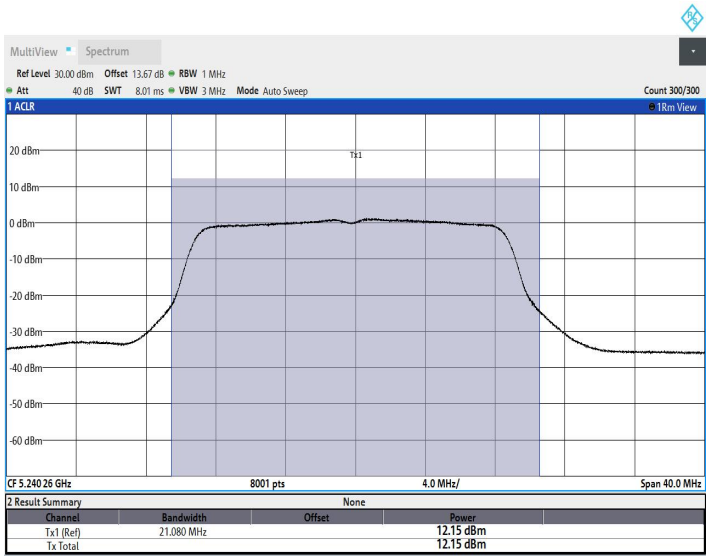

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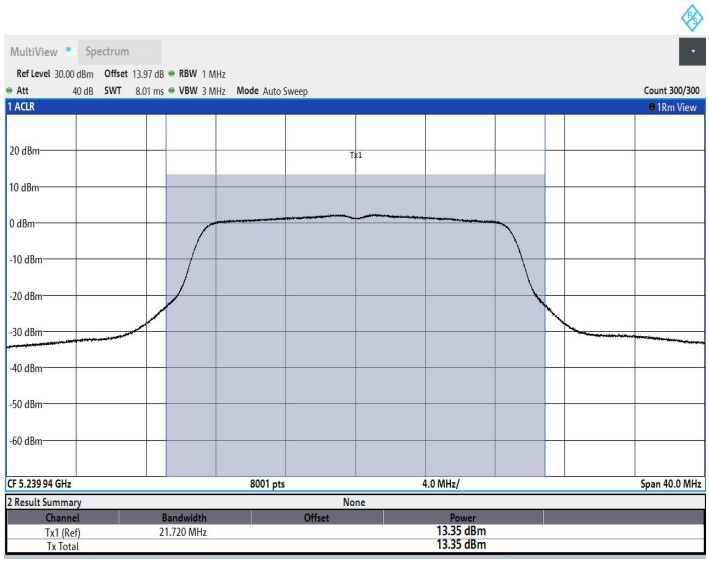

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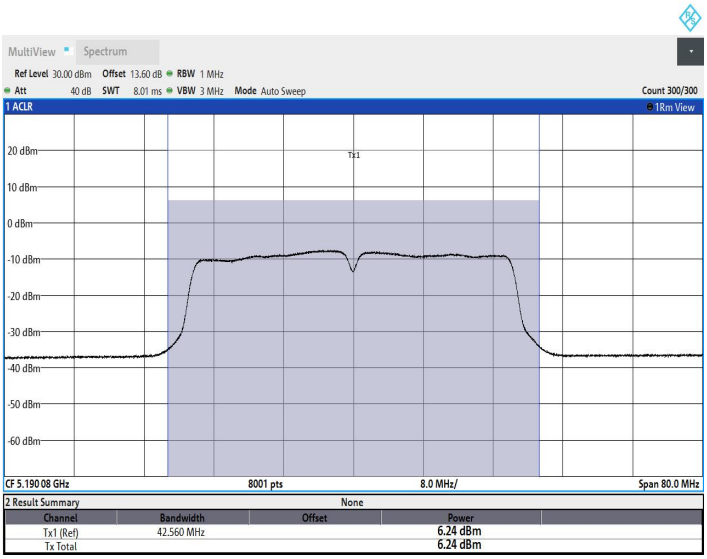

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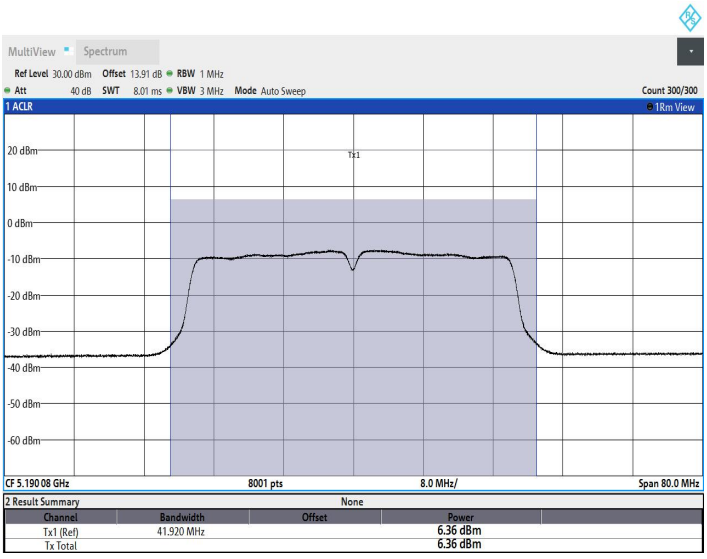

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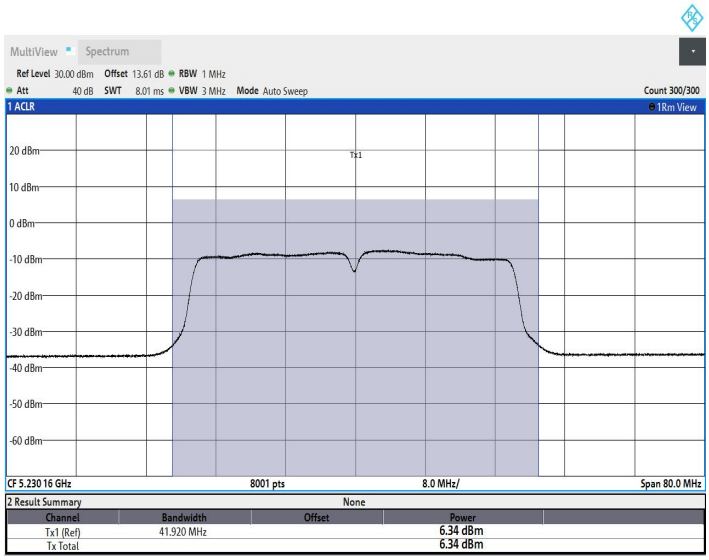

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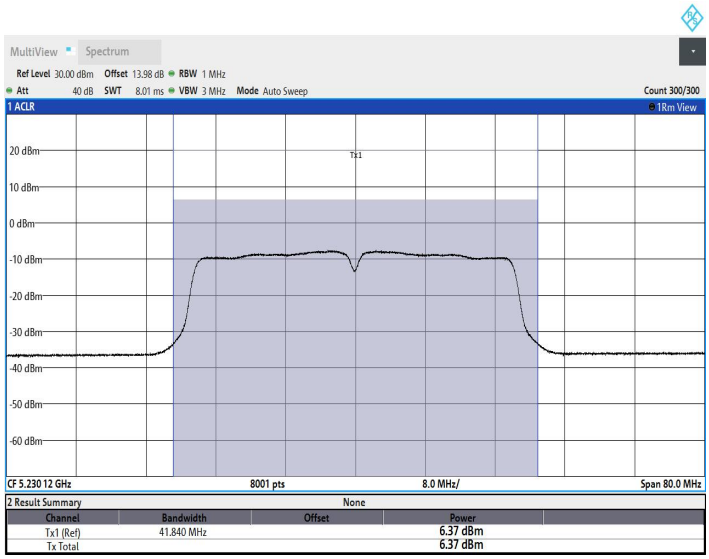

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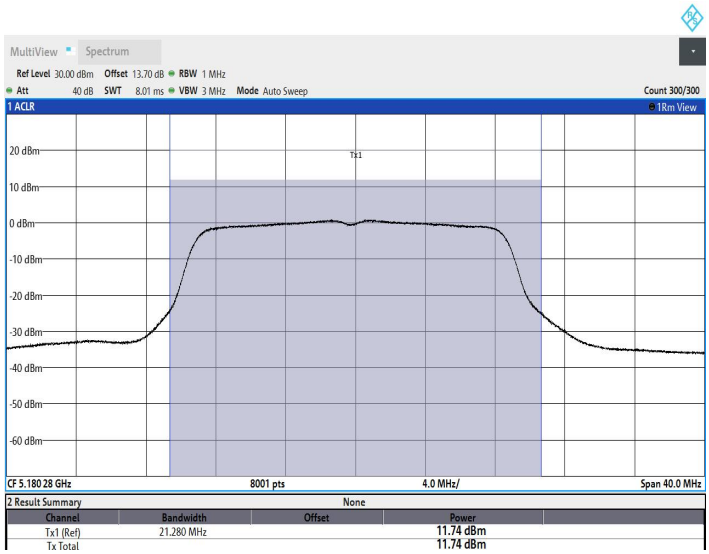

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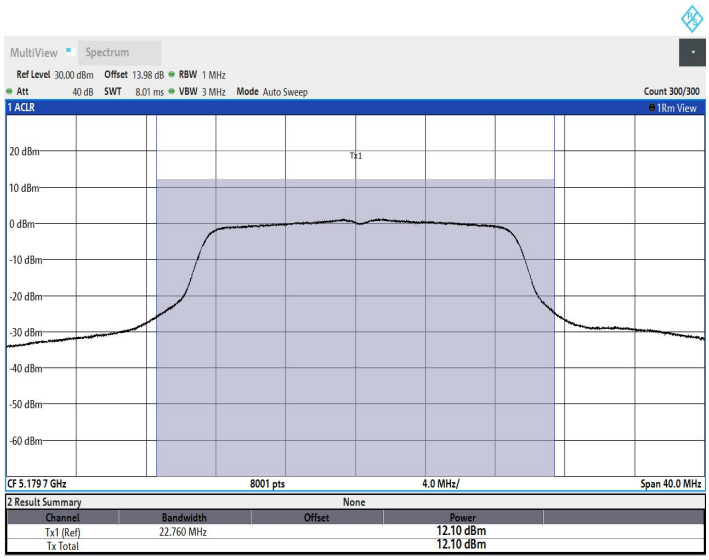

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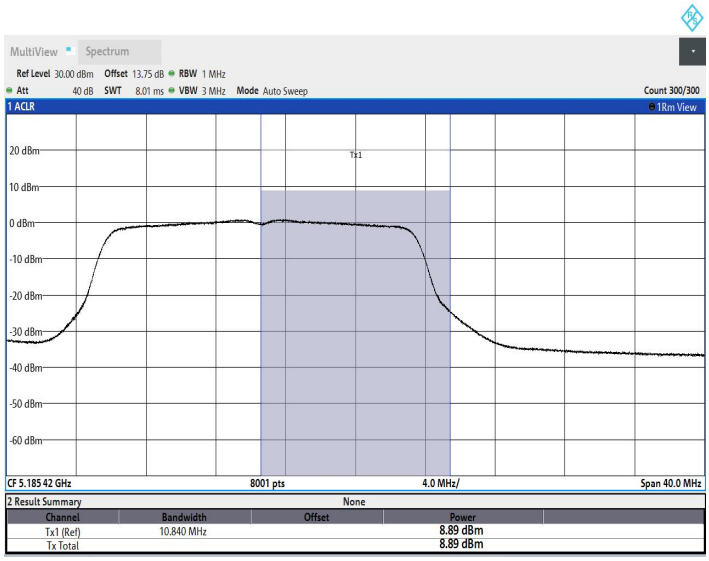

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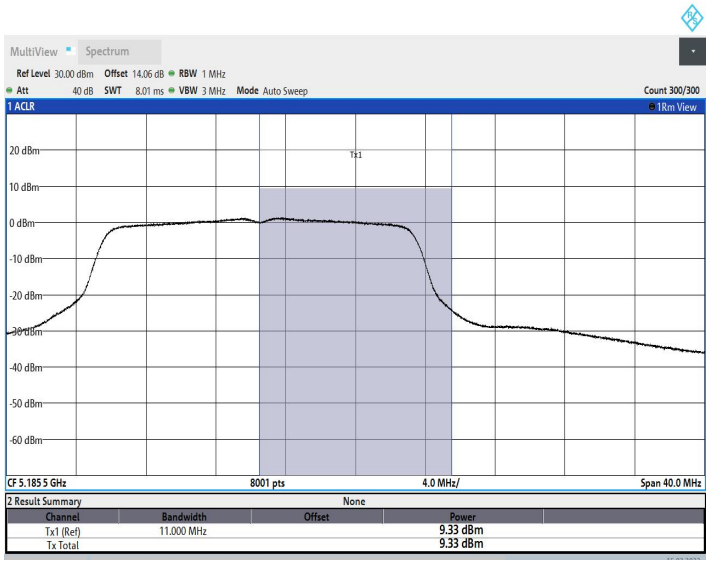

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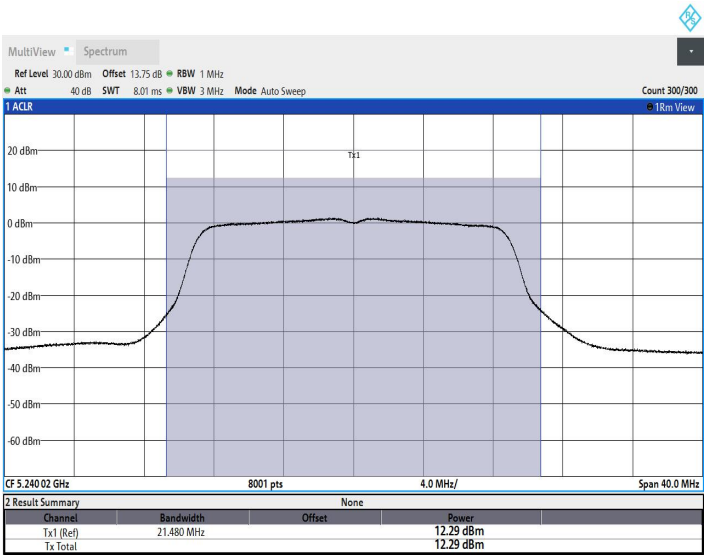

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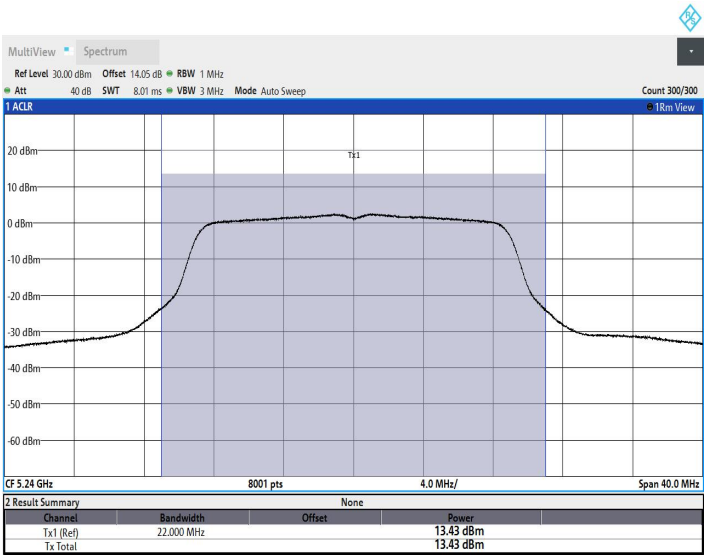

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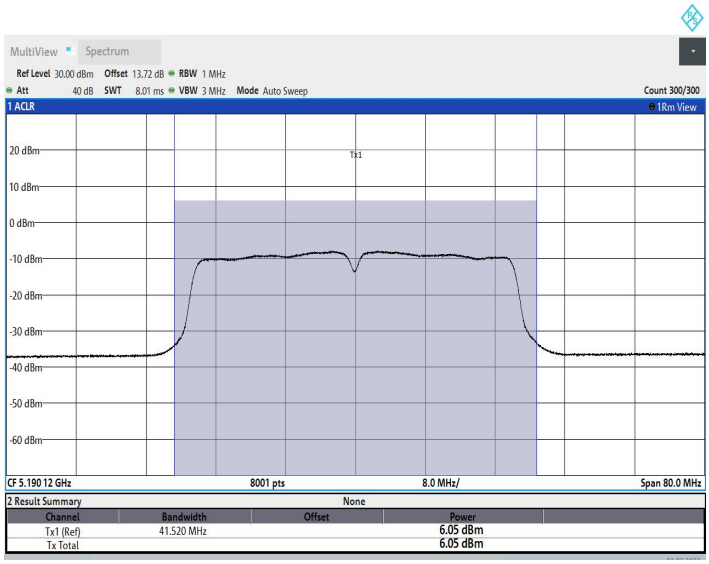

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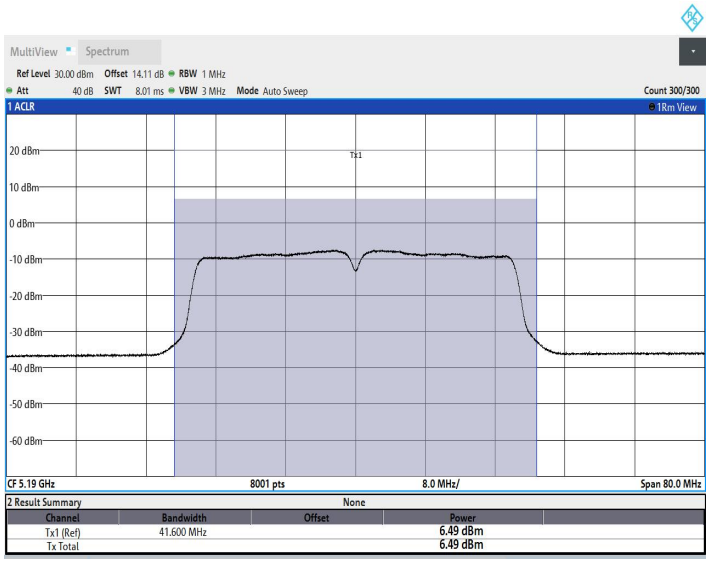

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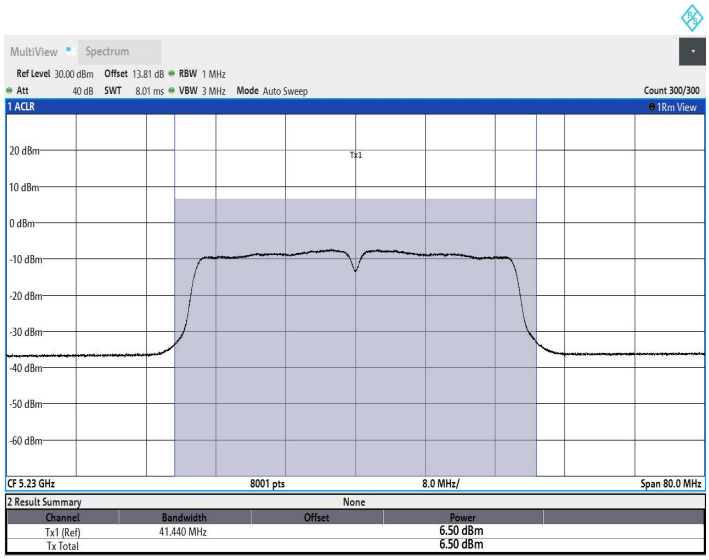
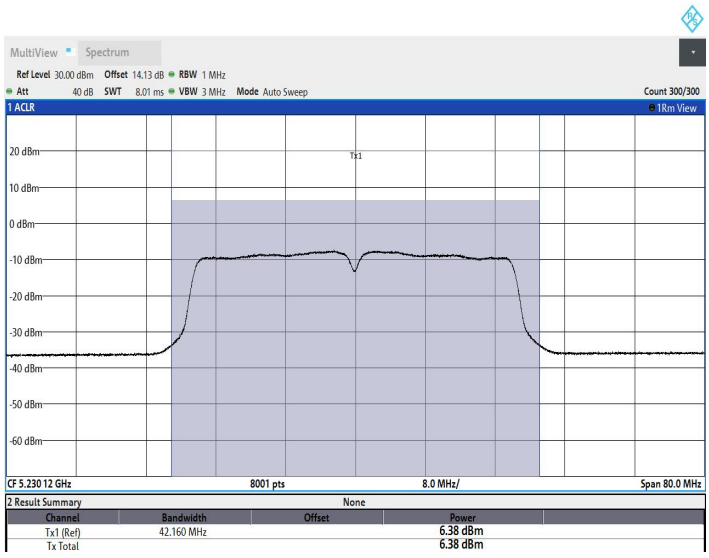
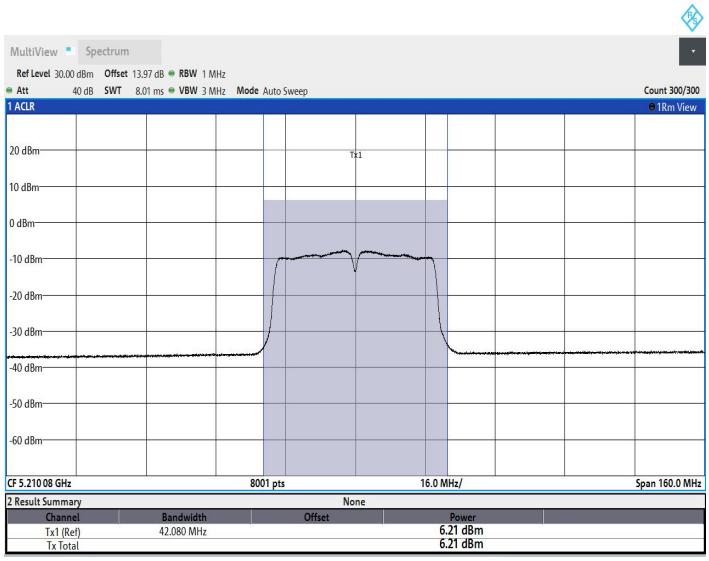


11AC40MIMO_Ant2_5230



11AC80MIMO_Ant1_5210



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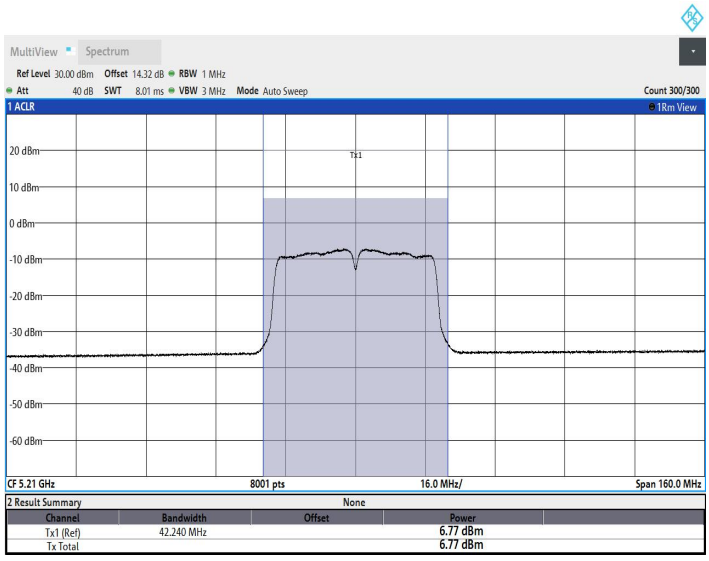


6.5 Peak Power Spectral Density

Specifications:	FCC 47 CFR Part 15.407(a)
DUT Serial Number:	S1
Test conditions:	Ambient Temperature:20℃ Relative Humidity:40% Air pressure: 90kPa
Test Results:	Pass

Measurement Limit and Method

Standard	Limit (dBm/MHz)	EIRP Limit (dBm/MHz)
FCC 47 CFR Part 15.407(a)(1)(iv)	≤17	≤17

Measurement Uncertainty:

Measurement Uncertainty	±0.48 dB

The measurement method is made according to KDB 789033 F

1. Create an average power spectrum for the EUT operating mode being tested by following the instructions in II.E.2. for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, “Compute power….” (This procedure is required even if the maximum conducted output power measurement was performed using a power meter, method PM.)
2. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
3. Make the following adjustments to the peak value of the spectrum, if applicable:

a) If Method SA-2 or SA-2 Alternative was used, add 10 log (1/x), where x is the duty cycle, to the peak of the spectrum.

b) If Method SA-3 Alternative was used and the linear mode was used in step II.E.2.g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.

4. The result is the Maximum PSD over 1 MHz reference bandwidth.
5. 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 Section 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) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:

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

b) Set VBW ≥ 3 RBW.

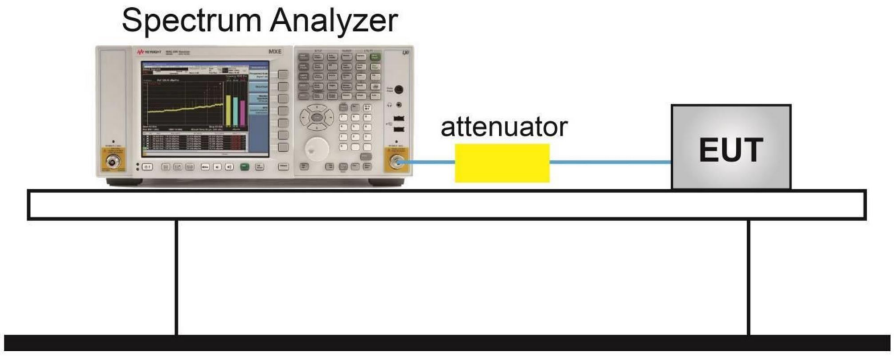
c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10 log (500 kHz/RBW) to the measured result, whereas RBW (<500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10 log (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 steps 5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

Test setup



Test Result

SISO:

TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Verdict
11A	Ant1	5180	1.4	PASS
	Ant2	5180	1.92	PASS
	Ant1	5200	1.75	PASS
	Ant2	5200	2.09	PASS
	Ant1	5240	1.83	PASS
	Ant2	5240	3	PASS
11N20SISO	Ant1	5180	0.81	PASS
	Ant2	5180	1.09	PASS
	Ant1	5200	0.01	PASS
	Ant2	5200	0.63	PASS
	Ant1	5240	1.38	PASS
	Ant2	5240	2.47	PASS
11N40SISO	Ant1	5190	-7.61	PASS
	Ant2	5190	-7.3	PASS
	Ant1	5230	-7.53	PASS
	Ant2	5230	-7.24	PASS
11AC20SISO	Ant1	5180	0.77	PASS
	Ant2	5180	-1.17	PASS
	Ant1	5200	1.19	PASS
	Ant2	5200	1.93	PASS
	Ant1	5240	1.29	PASS
	Ant2	5240	2.84	PASS
11AC40SISO	Ant1	5190	-7.49	PASS
	Ant2	5190	-7.04	PASS
	Ant1	5230	-7.46	PASS
	Ant2	5230	-7.54	PASS
11AC80SISO	Ant1	5210	-7.49	PASS
	Ant2	5210	-7.07	PASS

MIMO:

TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Verdict
11A-CDD	Ant1	5180	0.73	PASS
	Ant2	5180	0.3	PASS
	total	5180	3.53	PASS
	Ant1	5200	0.24	PASS
	Ant2	5200	1.14	PASS
	total	5200	3.72	PASS
	Ant1	5240	0.09	PASS

	Ant2	5240	1.36	PASS
	total	5240	3.78	PASS
11N20MIMO	Ant1	5180	0.97	PASS
	Ant2	5180	1.11	PASS
	total	5180	4.05	PASS
	Ant1	5200	0.94	PASS
	Ant2	5200	1.53	PASS
	total	5200	4.26	PASS
	Ant1	5240	1.3	PASS
	Ant2	5240	2.44	PASS
	total	5240	4.92	PASS
11N40MIMO	Ant1	5190	-7.63	PASS
	Ant2	5190	-7.31	PASS
	total	5190	-4.46	PASS
	Ant1	5230	-7.56	PASS
	Ant2	5230	-7.54	PASS
	total	5230	-4.54	PASS
11AC20MIMO	Ant1	5180	0.73	PASS
	Ant2	5180	1.28	PASS
	total	5180	4.02	PASS
	Ant1	5200	-0.49	PASS
	Ant2	5200	0.46	PASS
	total	5200	3.65	PASS
	Ant1	5240	1.33	PASS
	Ant2	5240	2.5	PASS
	total	5240	4.96	PASS
11AC40MIMO	Ant1	5190	-7.97	PASS
	Ant2	5190	-7.44	PASS
	total	5190	-4.69	PASS
	Ant1	5230	-7.4	PASS
	Ant2	5230	-7.39	PASS
	total	5230	-4.38	PASS
11AC80MIMO	Ant1	5210	-7.57	PASS
	Ant2	5210	-6.96	PASS
	total	5210	-4.24	PASS

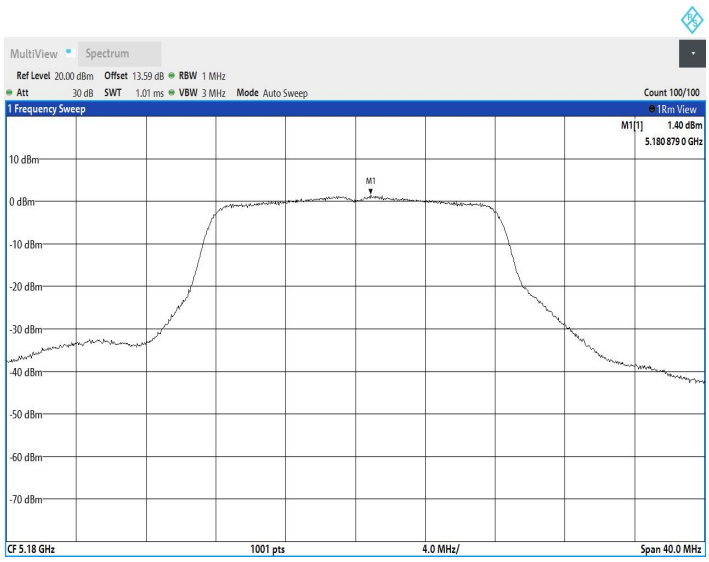
Note:

1. Total PSD(dBm/ MHz)= 10*1log{10(Ant 0 PSD/10)+ 10(Ant1 PSD/10))(dBm/MHz).

2. For the band 5.15-5.25 GHz, The Directional Gain =6.91 dBi, so the PSD Limit was calculated as below:

The PSD Limit (dBm/MHz)=[17 -(6.91 - 6)](dBm/MHz)= 16.09(dBm/MHz).

Test Graphs

11A_Ant1_5180

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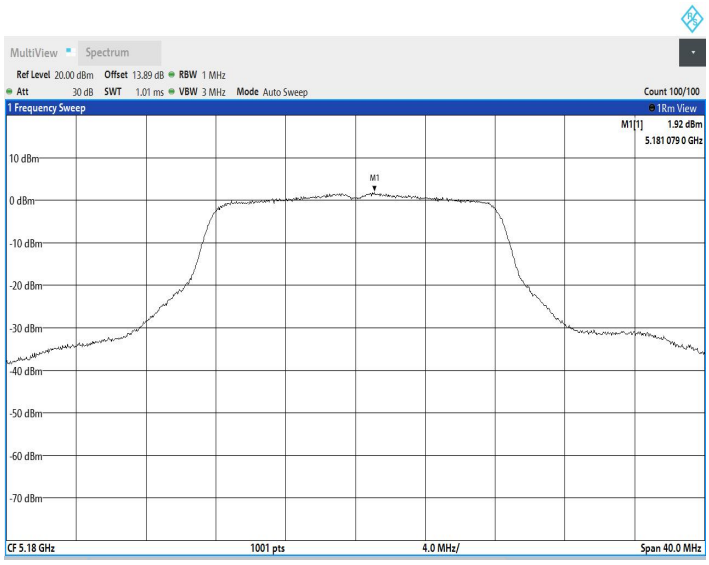
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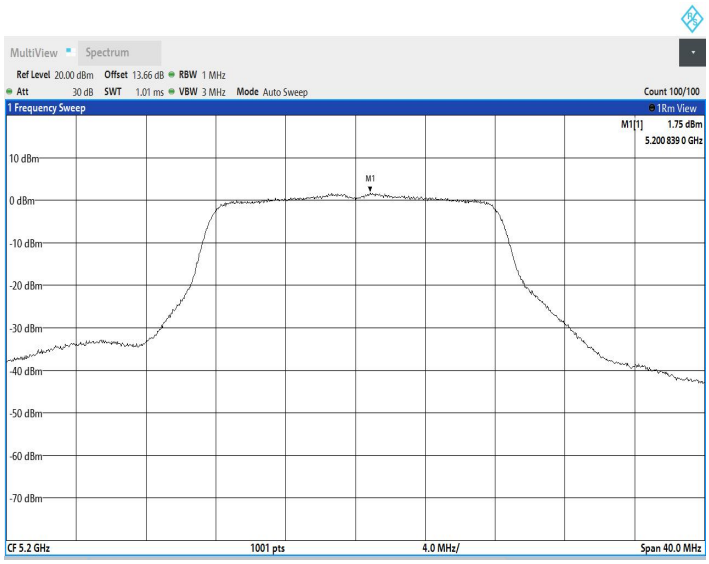

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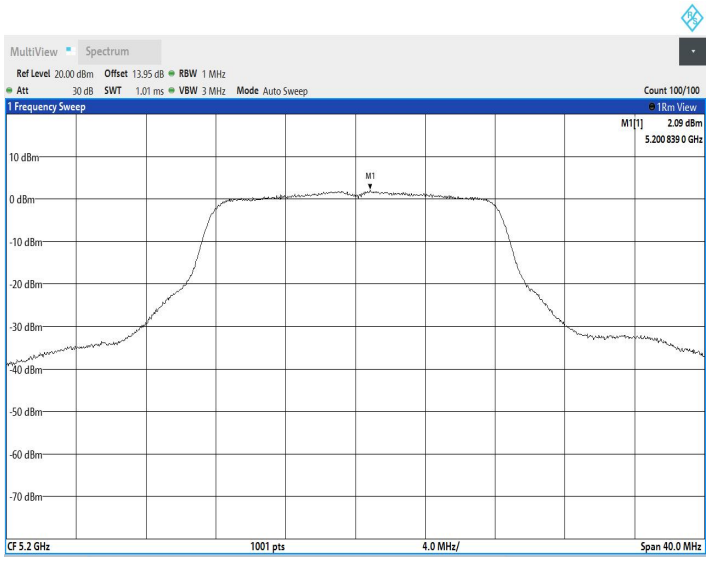

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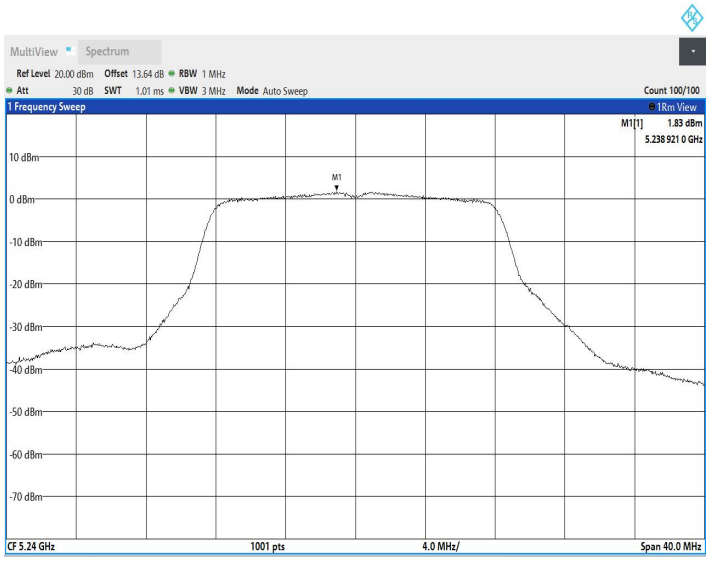

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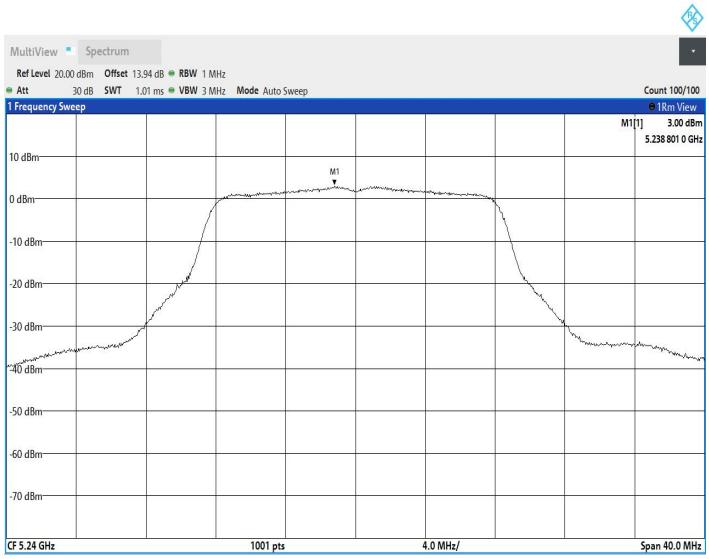

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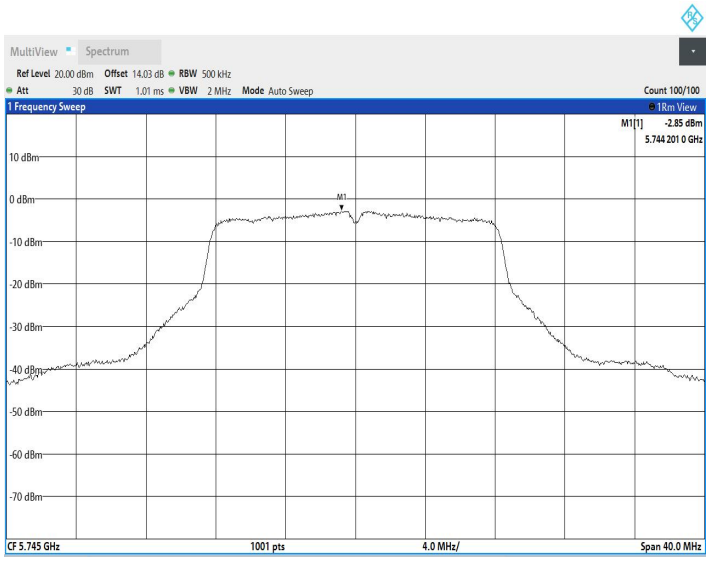

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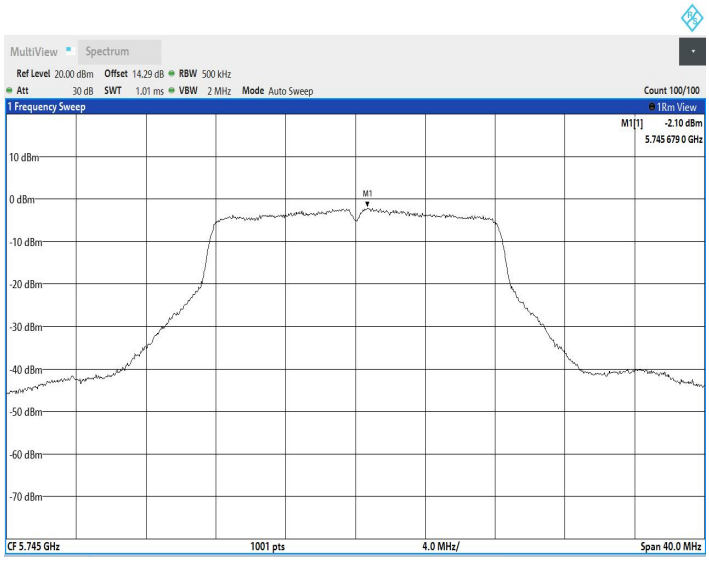

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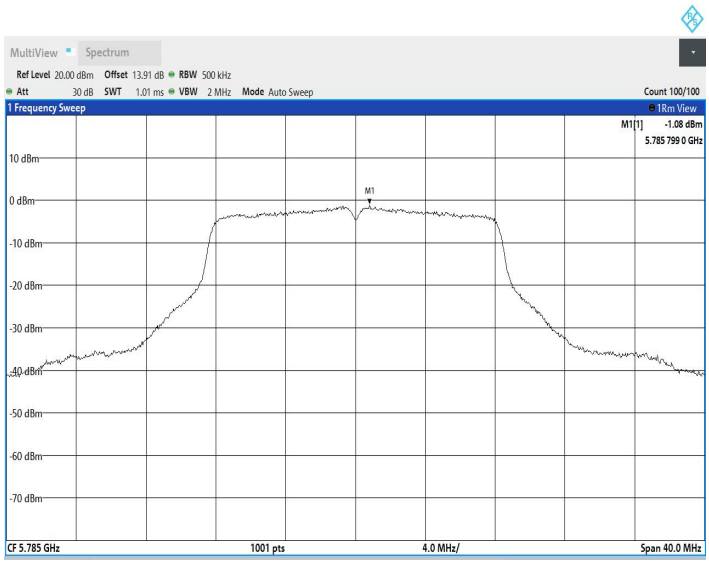

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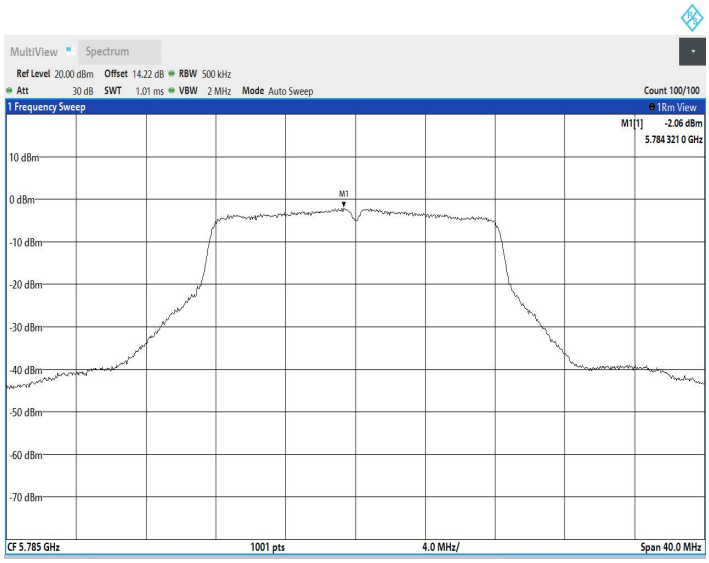

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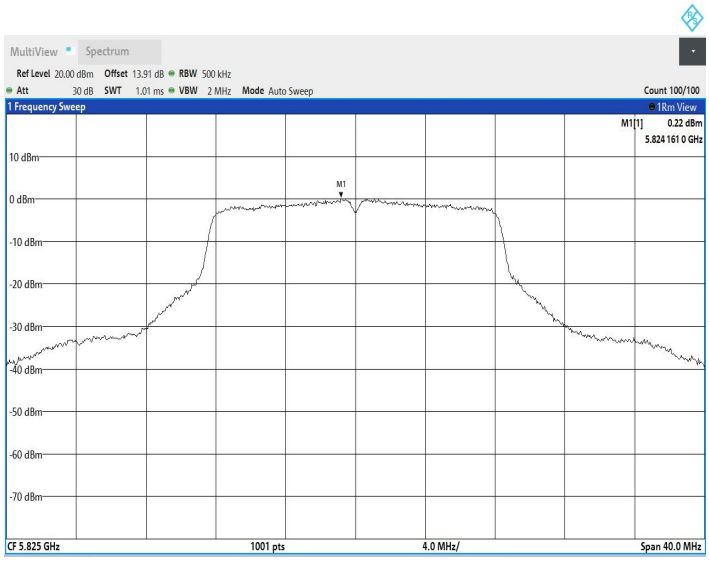

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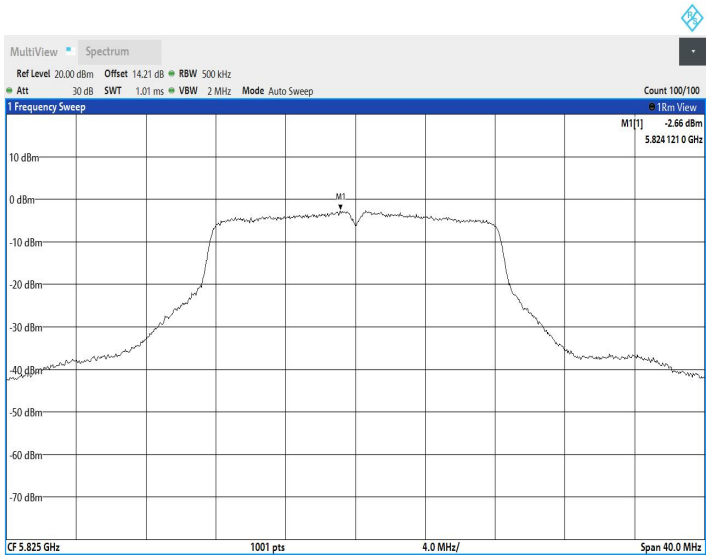

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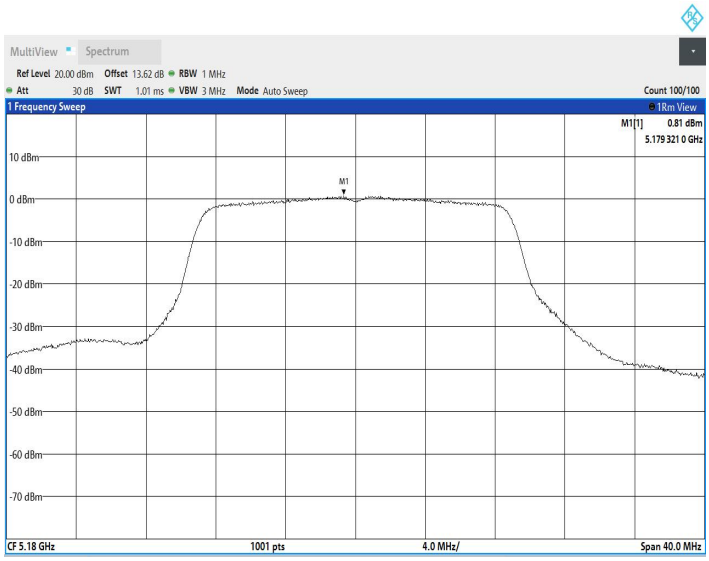

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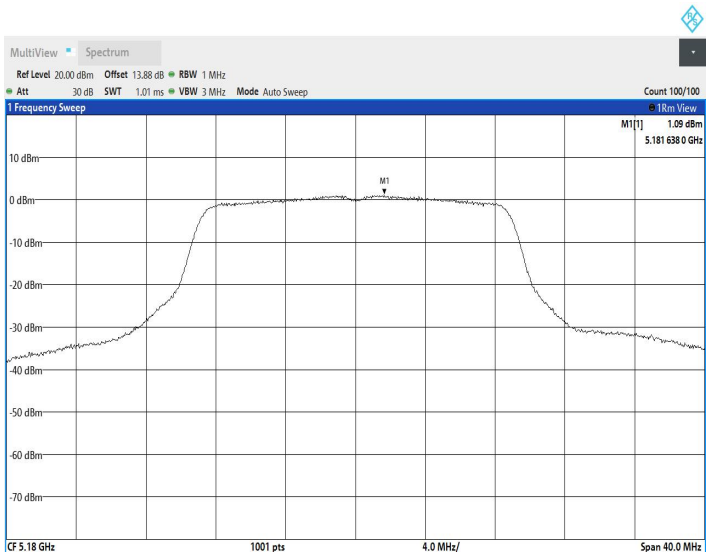

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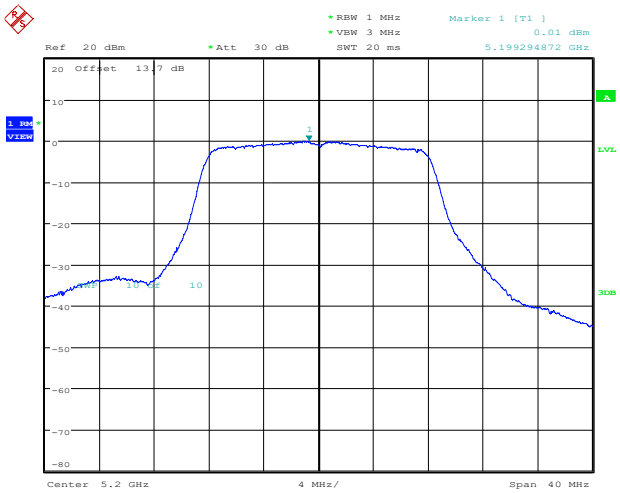

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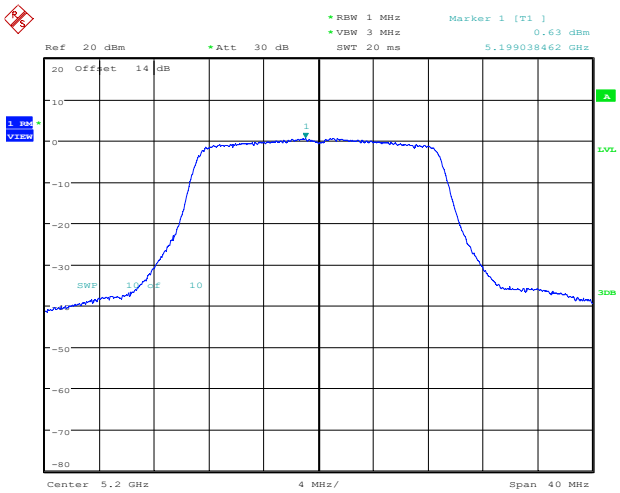

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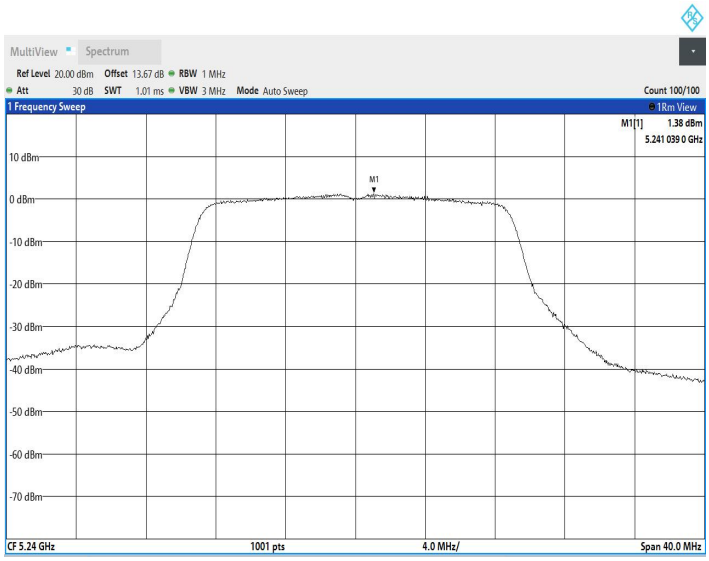

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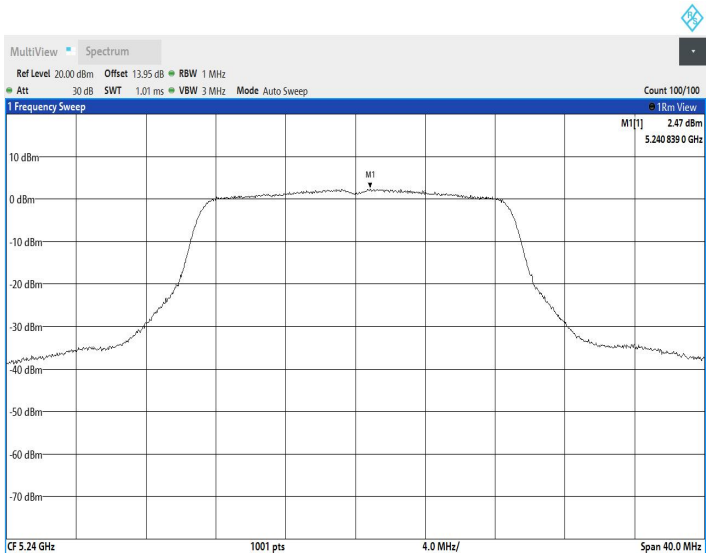

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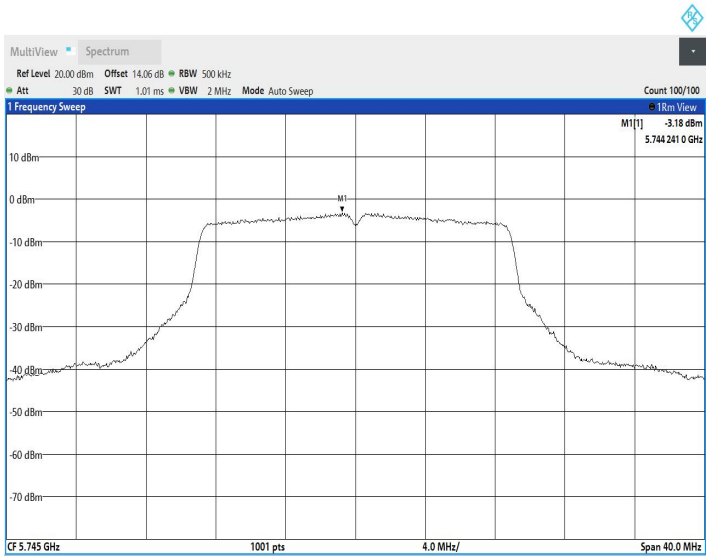

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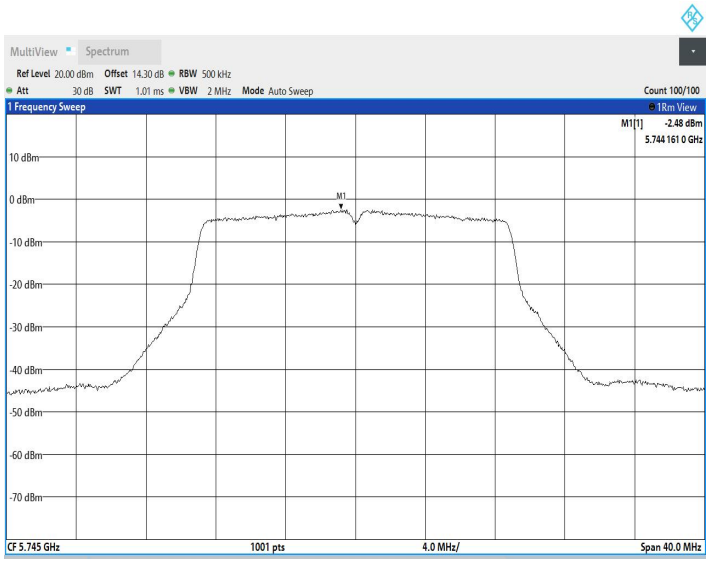

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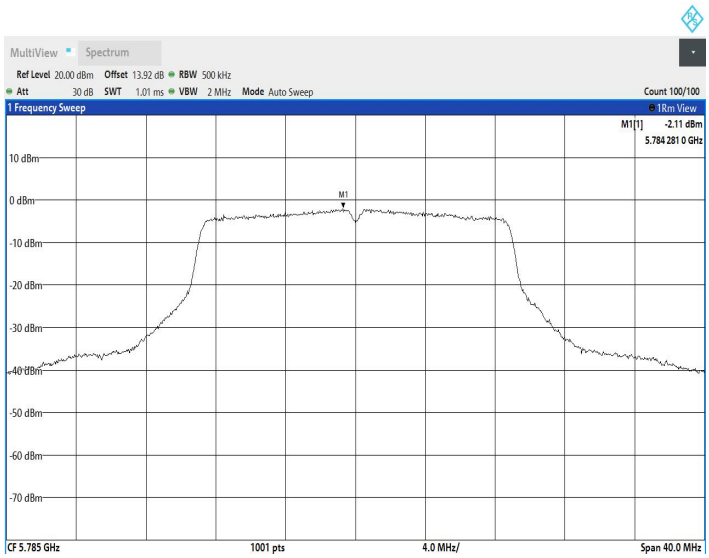

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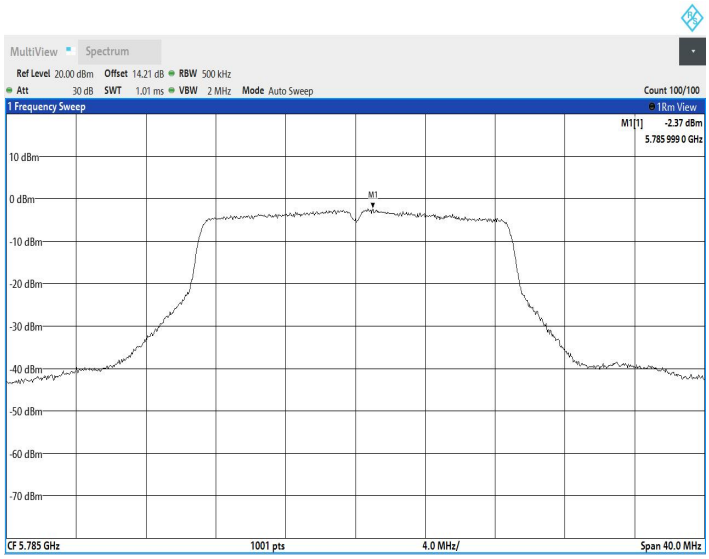

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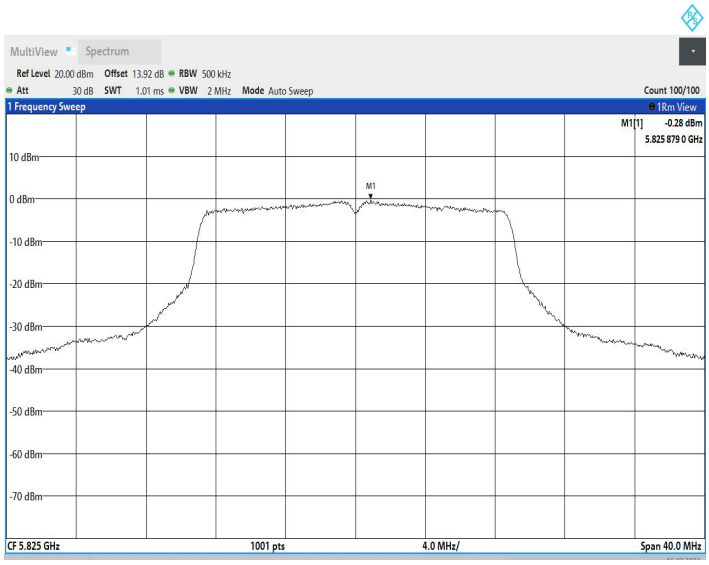

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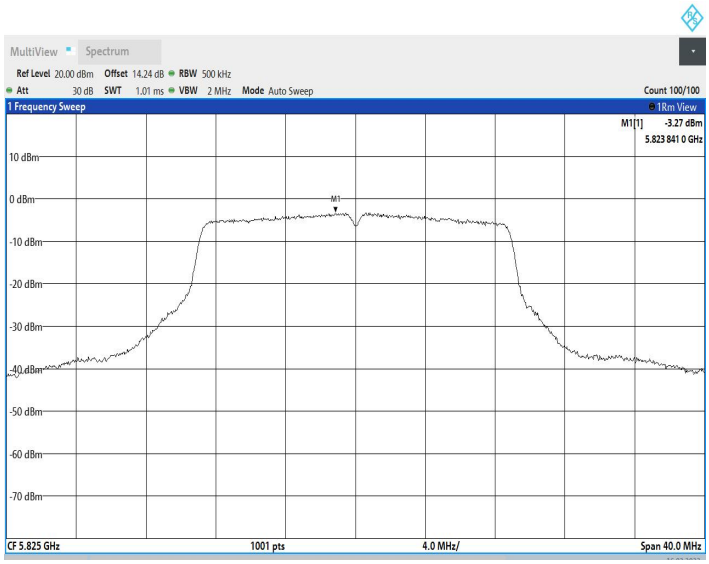
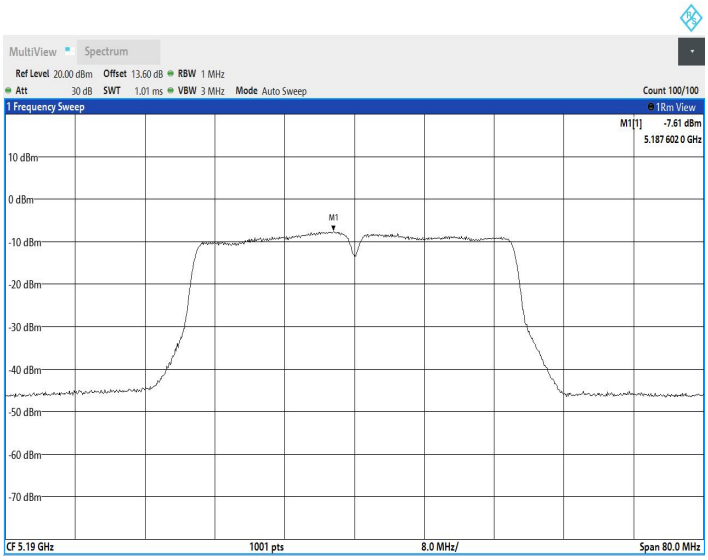


11N40SISO_Ant1_5190



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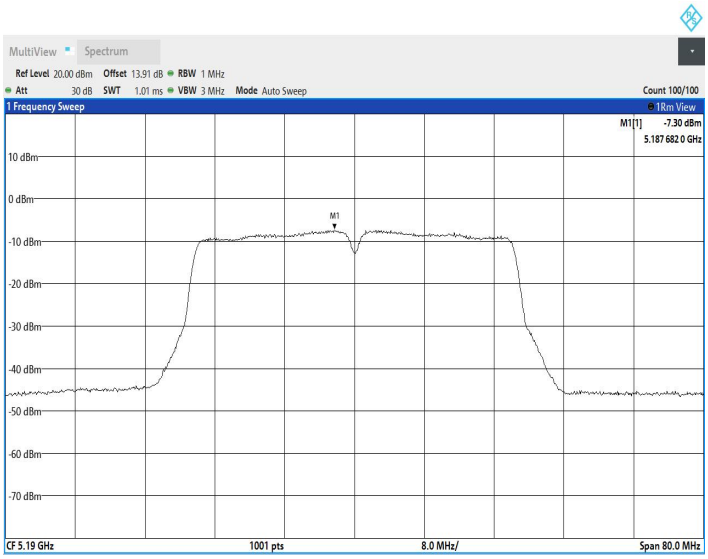

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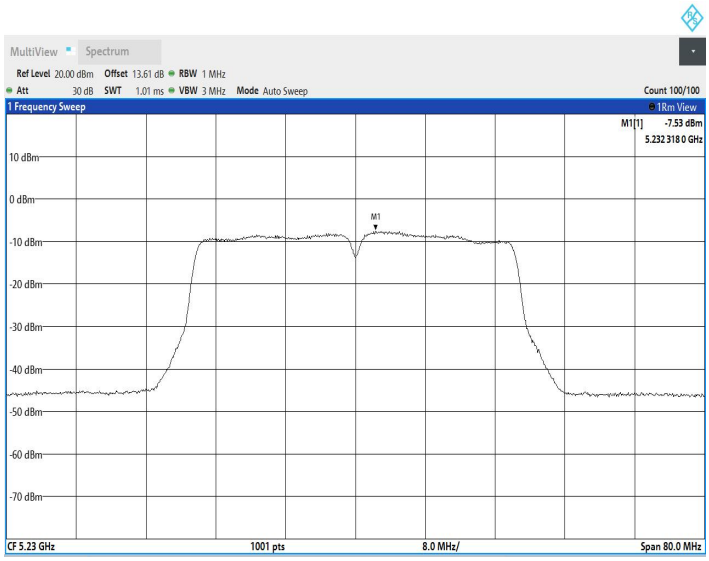

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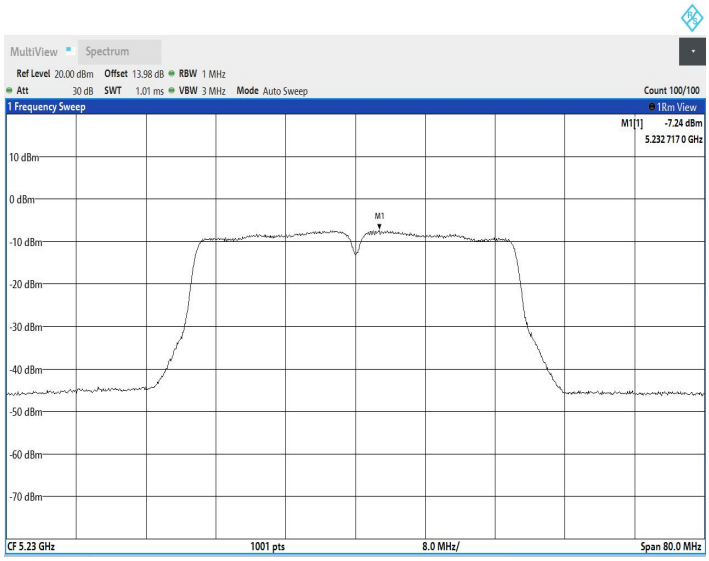

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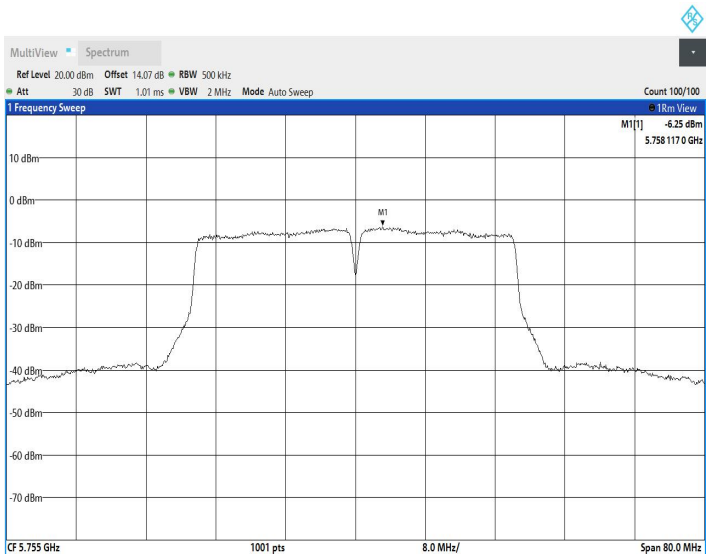

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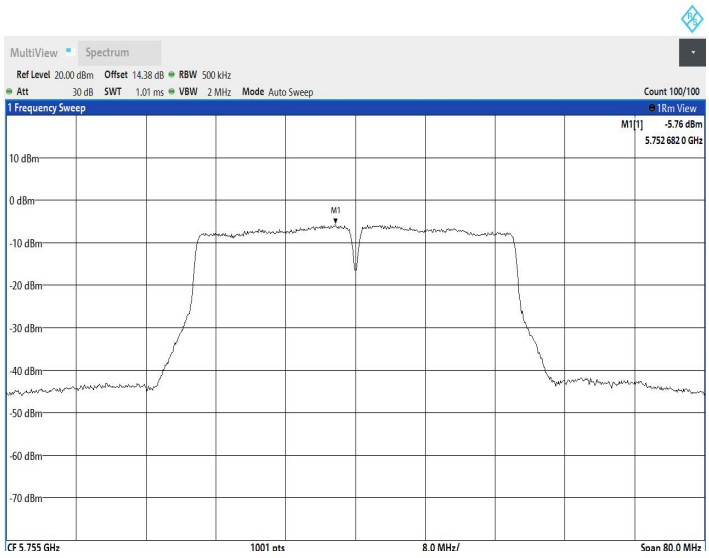

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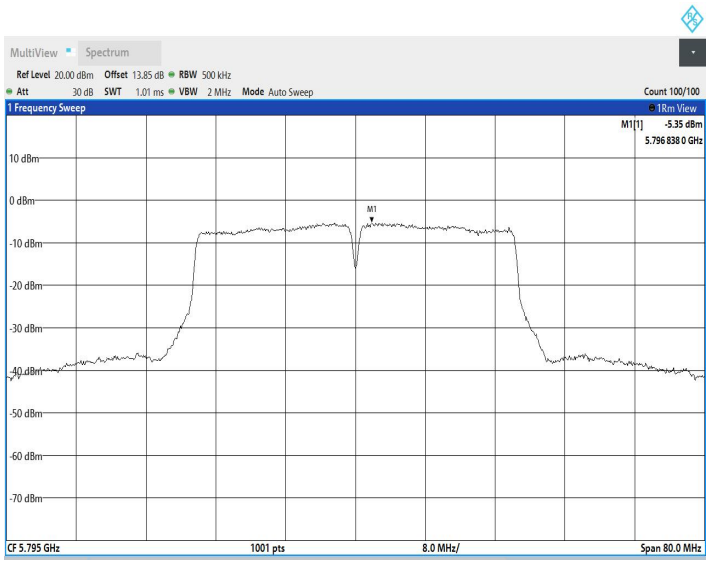

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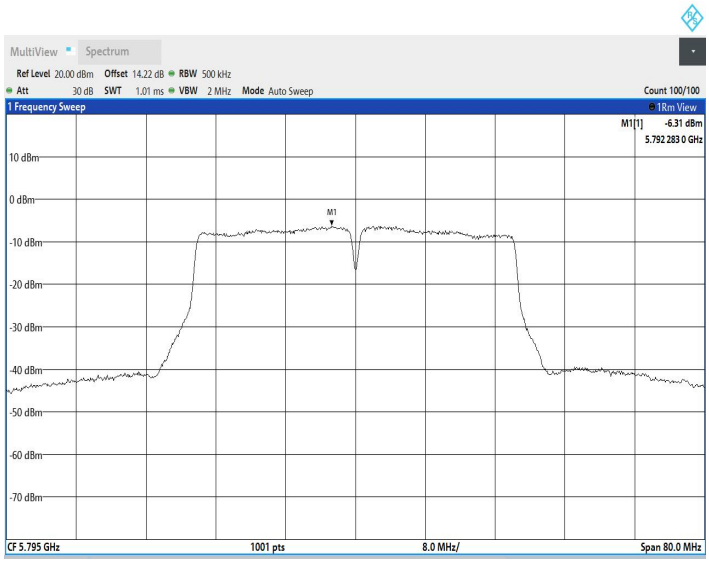

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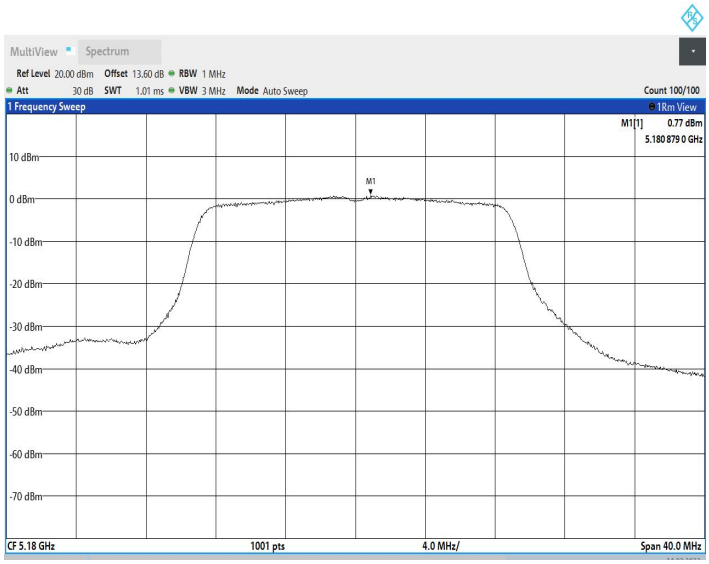

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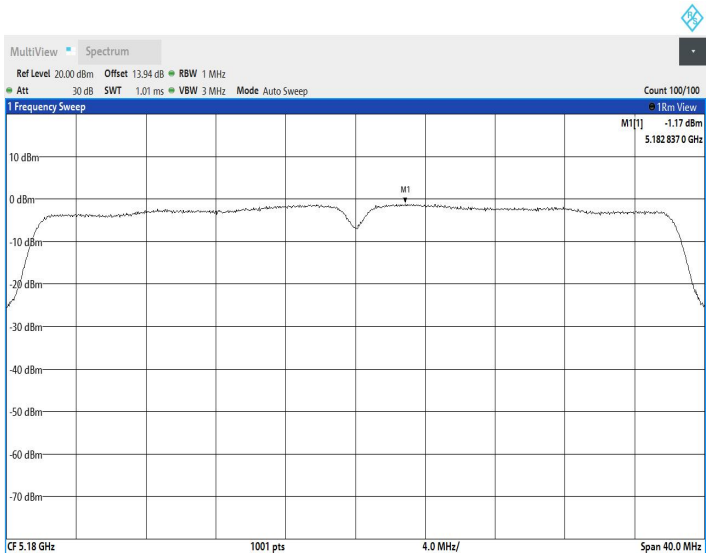

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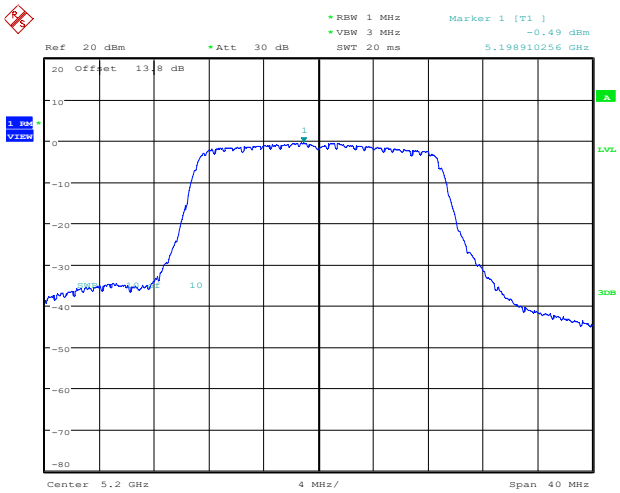

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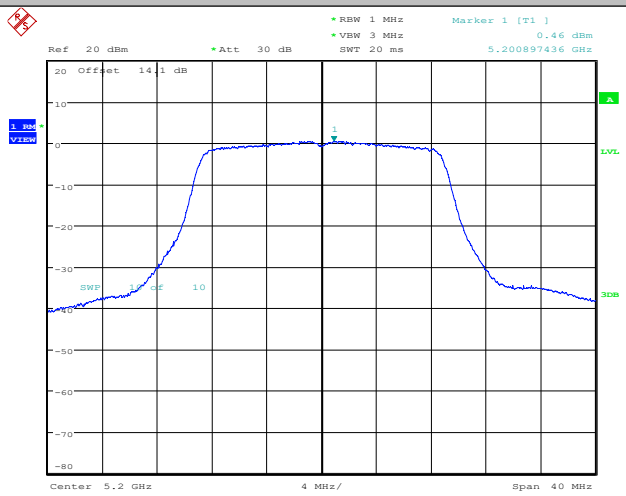

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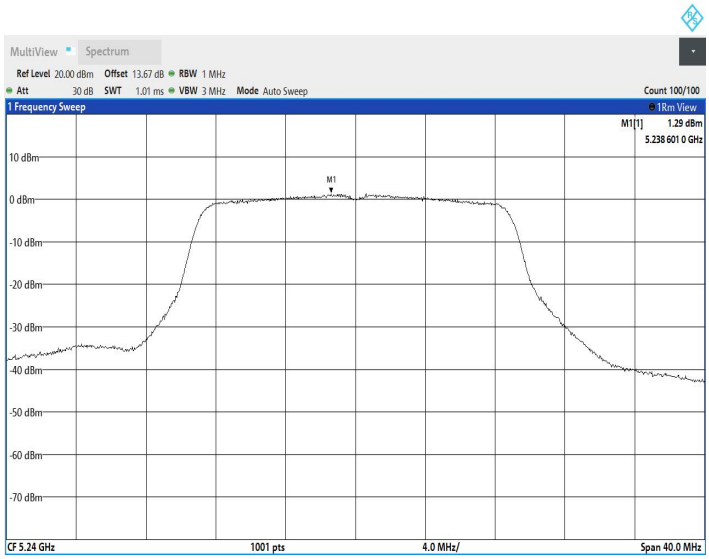

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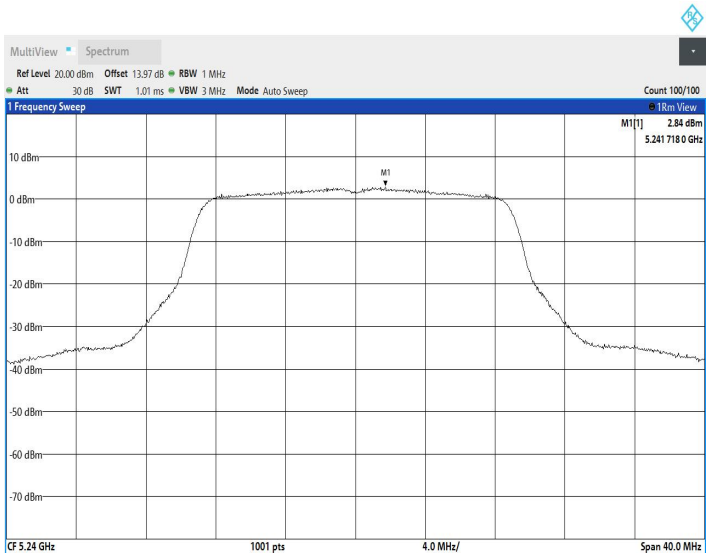

11AC40SISO_Ant1_5190