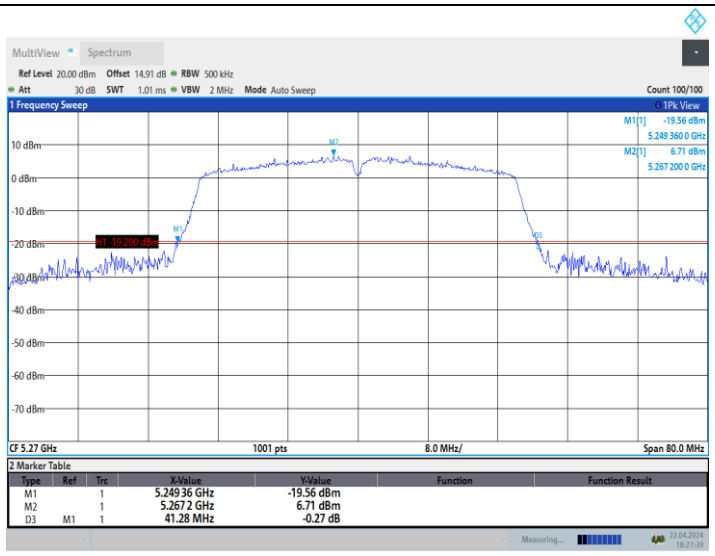

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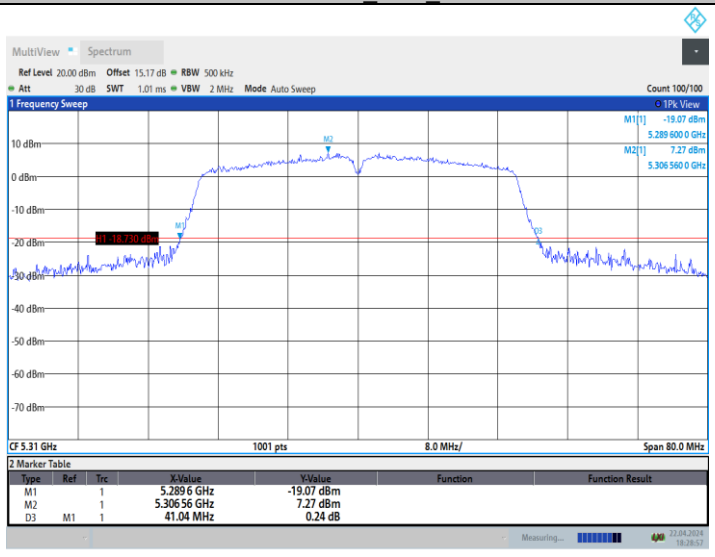

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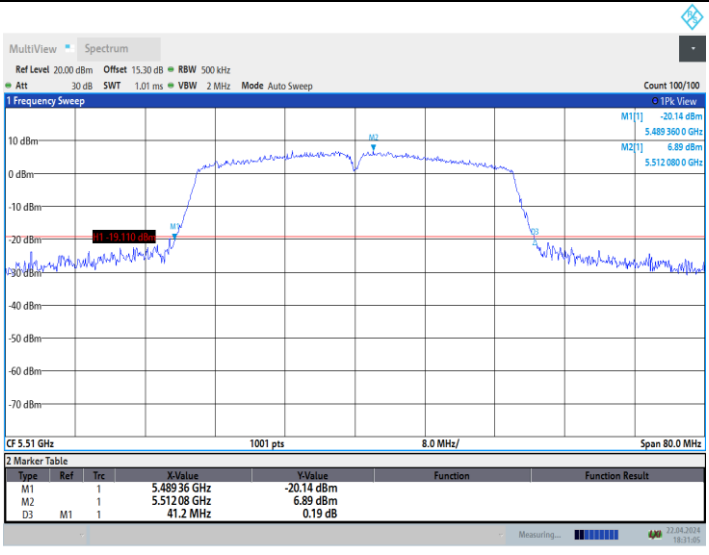

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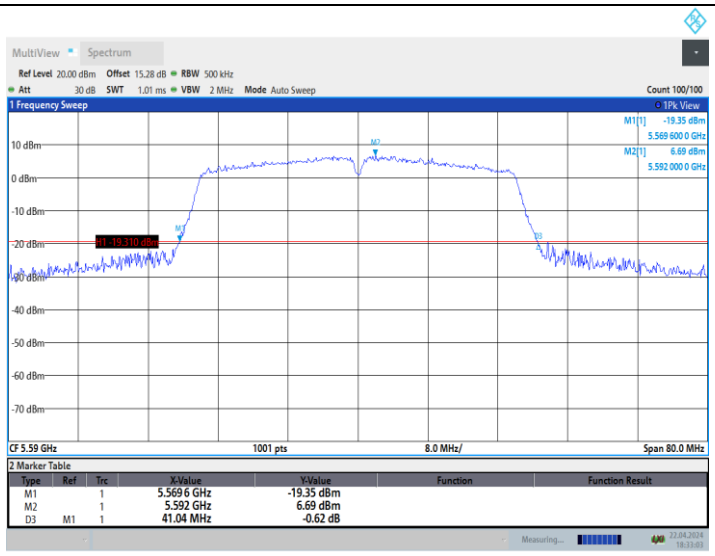

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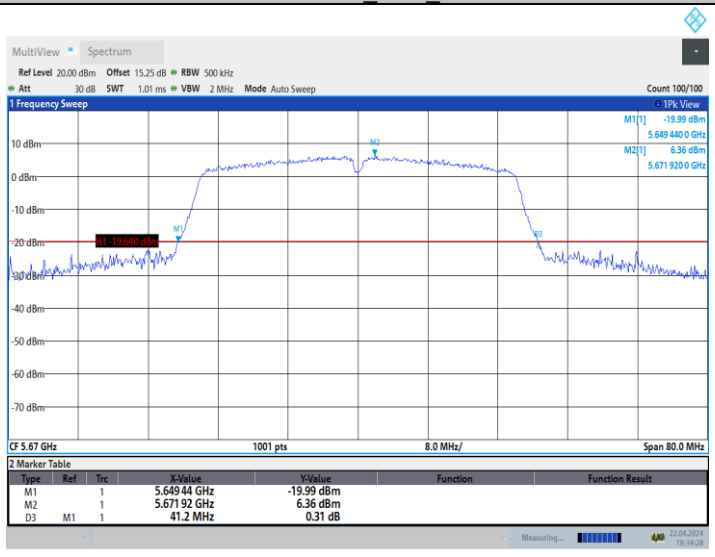

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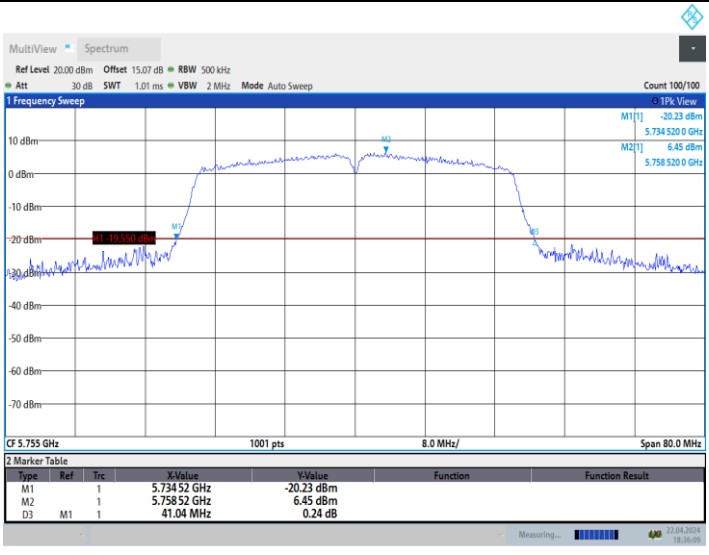

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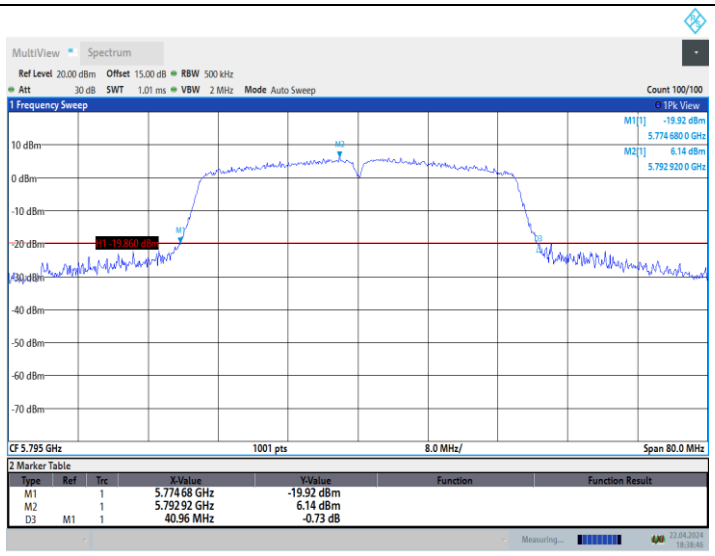

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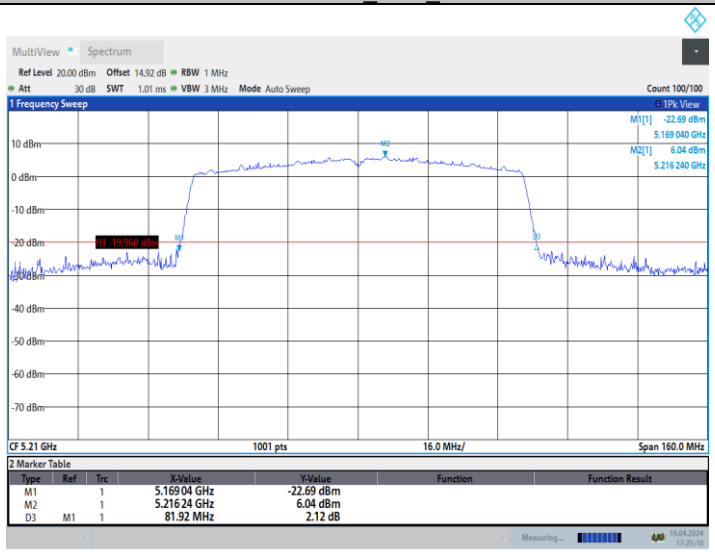

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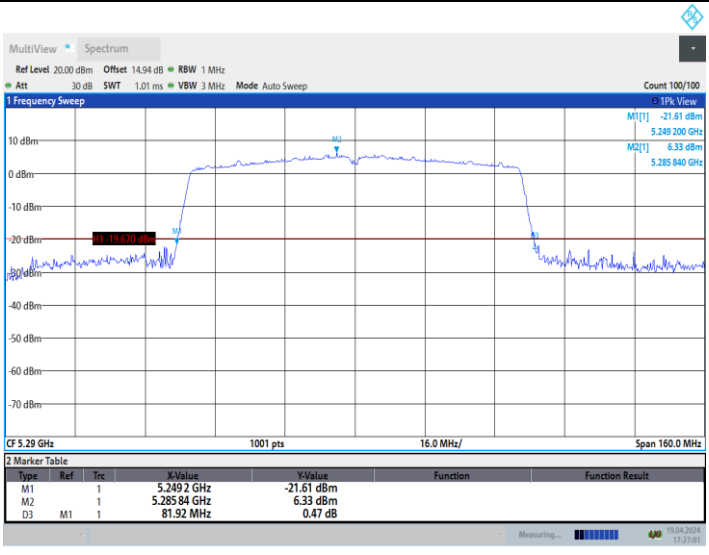

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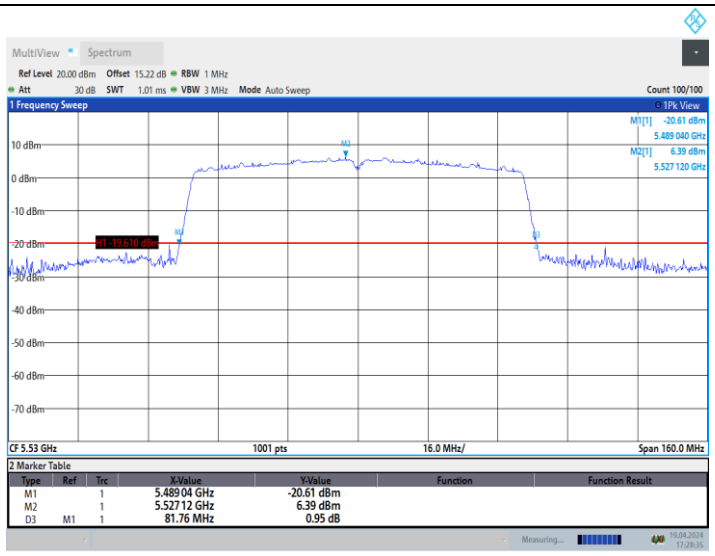

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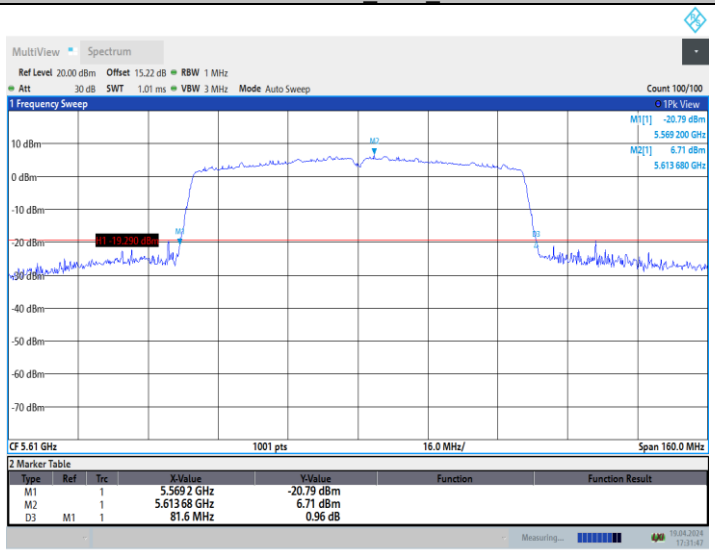

11AC80SISO_Ant1_5775

8. MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

8.1. Limits of Maximum Conducted Output Power Measurement

CFR 47 (FCC) part 15.407 (a)
For the band 5.15–5.25 GHz.
For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the max-imum antenna gain does not exceed 6 dBi.
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 + 10 log B, where B is the 26 dB emission bandwidth in megahertz,the maximum antenna gain does not exceed 6 dBi.
For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

8.2. Test Procedure

(i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied.
The EUT is configured to transmit continuously or to transmit with a constant duty cycle.
At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.
The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.
(ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in section II.B.
(iii) Measure the average power of the transmitter. This measurement is an average overboth the on and off periods of the transmitter.
(iv) Adjust the measurement in dBm by adding 10 log (1/x) where x is the duty cycle (e.g.,10 log (1/0.25) if the duty cycle is 25%).the measurement result.

8.3. Test Setup

8.4. Test Data

Maximum Conducted Output Power Test Data

TestMode	Antenna	Channel	Result	Limit	Verdict
11A	Ant1	5180	13.28	≤23.98	PASS
		5200	13.39	≤23.98	PASS
		5240	13.57	≤23.98	PASS

		5260	11.42	≤23.98	PASS
		5280	11.23	≤23.98	PASS
		5320	11.16	≤23.98	PASS
		5500	10.26	≤23.98	PASS
		5600	9.74	≤23.98	PASS
		5700	9.74	≤23.98	PASS
		5745	13.33	≤30.00	PASS
		5785	13.75	≤30.00	PASS
		5825	13.86	≤30.00	PASS
11N20SISO	Ant1	5180	13.51	≤23.98	PASS
		5200	13.96	≤23.98	PASS
		5240	13.61	≤23.98	PASS
		5260	11.30	≤23.98	PASS
		5280	11.83	≤23.98	PASS
		5320	11.57	≤23.98	PASS
		5500	9.65	≤23.98	PASS
		5600	9.60	≤23.98	PASS
		5700	9.72	≤23.98	PASS
		5745	14.28	≤30.00	PASS
		5785	14.10	≤30.00	PASS
		5825	14.40	≤30.00	PASS
11N40SISO	Ant1	5190	14.96	≤23.98	PASS
		5230	15.34	≤23.98	PASS
		5270	16.16	≤23.98	PASS
		5310	16.78	≤23.98	PASS
		5510	16.30	≤23.98	PASS
		5550	16.13	≤23.98	PASS
		5590	16.13	≤23.98	PASS
		5670	15.88	≤23.98	PASS
		5755	14.14	≤30.00	PASS
		5795	14.13	≤30.00	PASS
11AC20SISO	Ant1	5180	15.19	≤23.98	PASS
		5200	15.33	≤23.98	PASS
		5240	15.02	≤23.98	PASS
		5260	11.76	≤23.98	PASS
		5280	11.47	≤23.98	PASS
		5320	11.87	≤23.98	PASS
		5500	10.49	≤23.98	PASS
		5600	10.17	≤23.98	PASS
		5700	10.43	≤23.98	PASS
		5745	14.15	≤30.00	PASS
		5785	13.79	≤30.00	PASS
		5825	15.51	≤30.00	PASS
11AC40SISO	Ant1	5190	14.95	≤23.98	PASS
		5230	15.54	≤23.98	PASS
		5270	14.12	≤23.98	PASS
		5310	14.78	≤23.98	PASS
		5510	14.83	≤23.98	PASS
		5590	14.75	≤23.98	PASS
		5670	14.54	≤23.98	PASS
		5755	14.23	≤30.00	PASS
		5795	14.05	≤30.00	PASS
11AC80SISO	Ant1	5210	13.26	≤23.98	PASS
		5290	13.38	≤23.98	PASS
		5530	13.67	≤23.98	PASS
		5610	13.76	≤23.98	PASS
		5775	13.30	≤30.00	PASS

Note：The Duty Cycle Factor is compensated in the graph.

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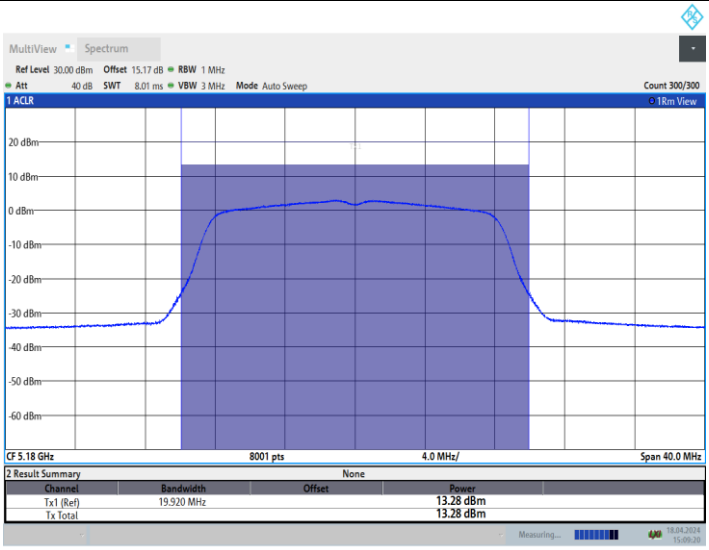

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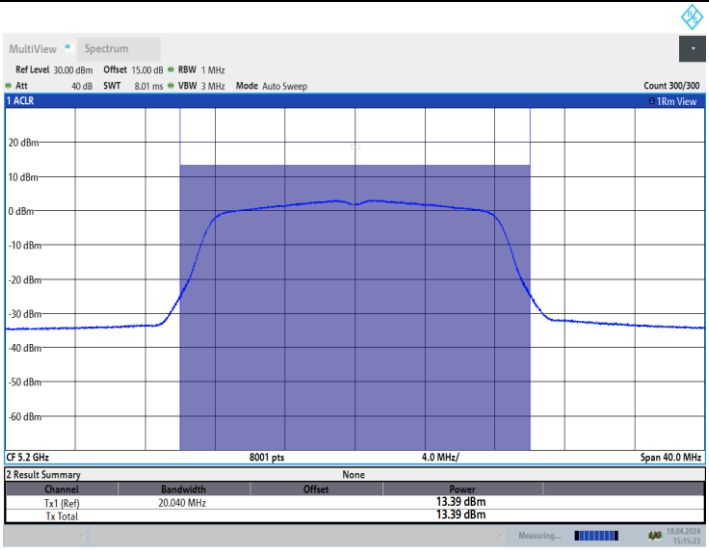

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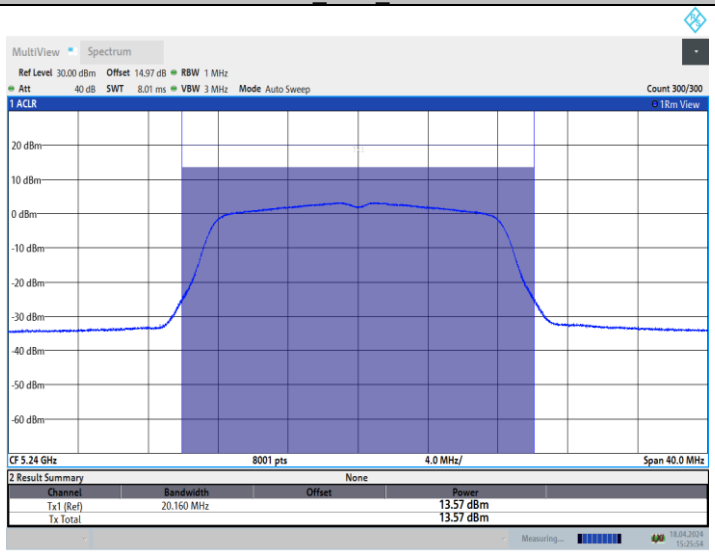

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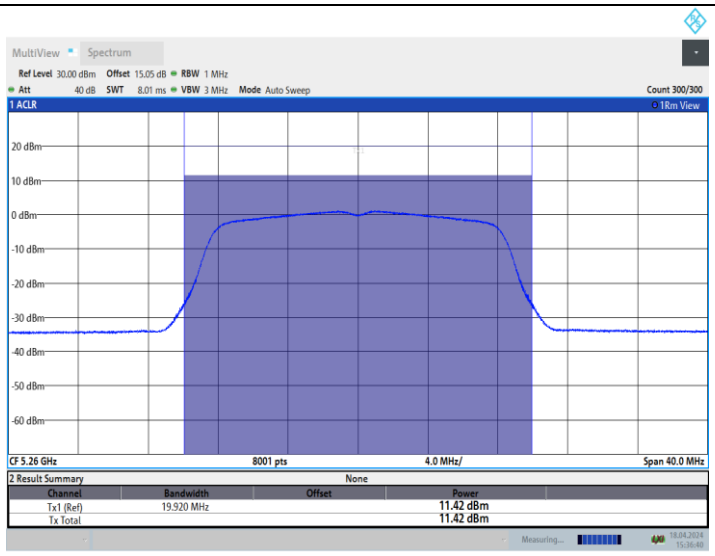

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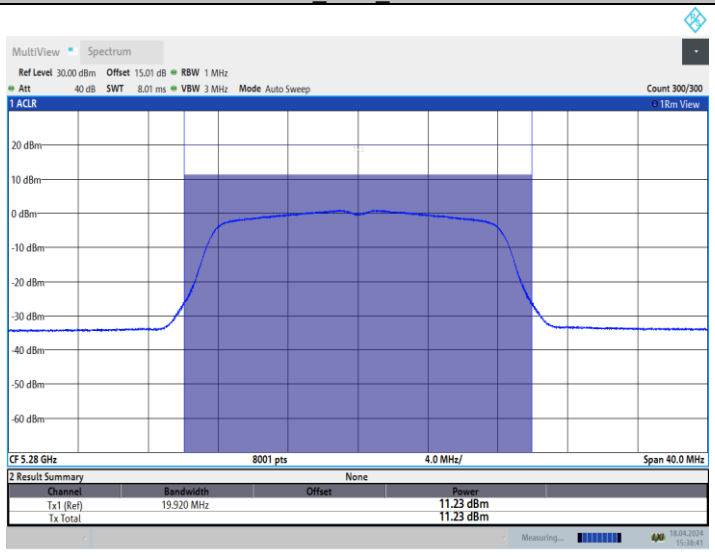

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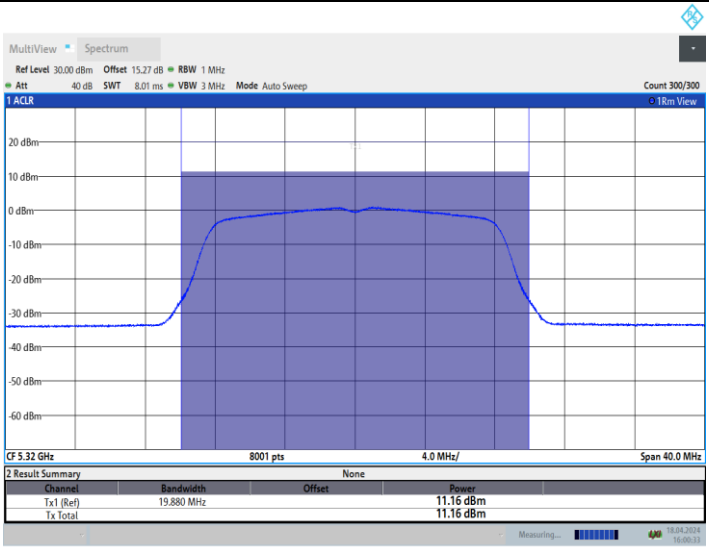

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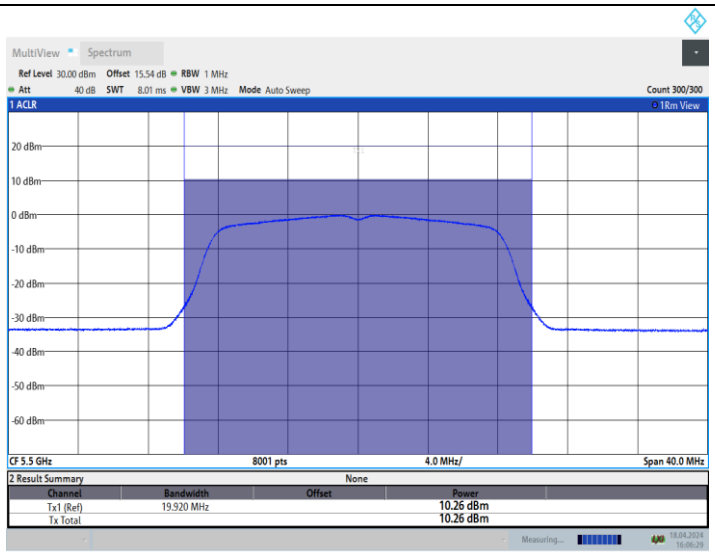

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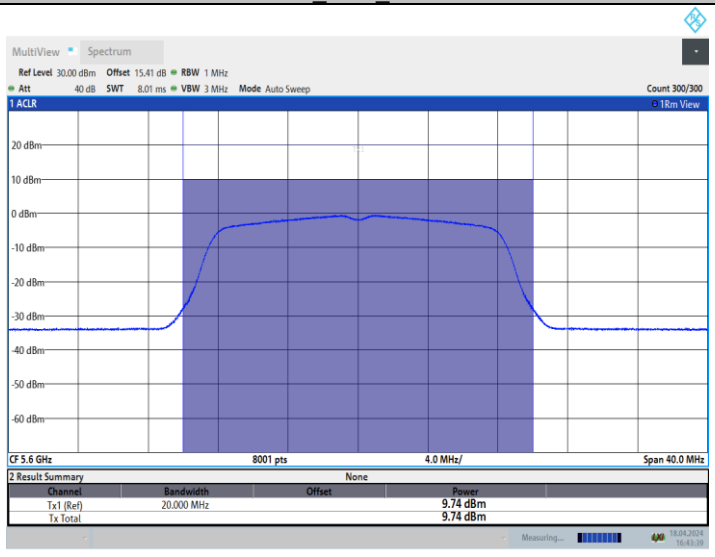

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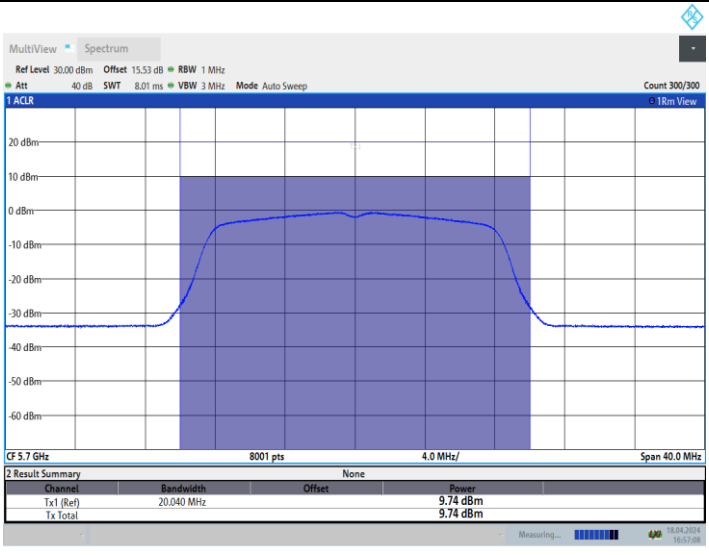

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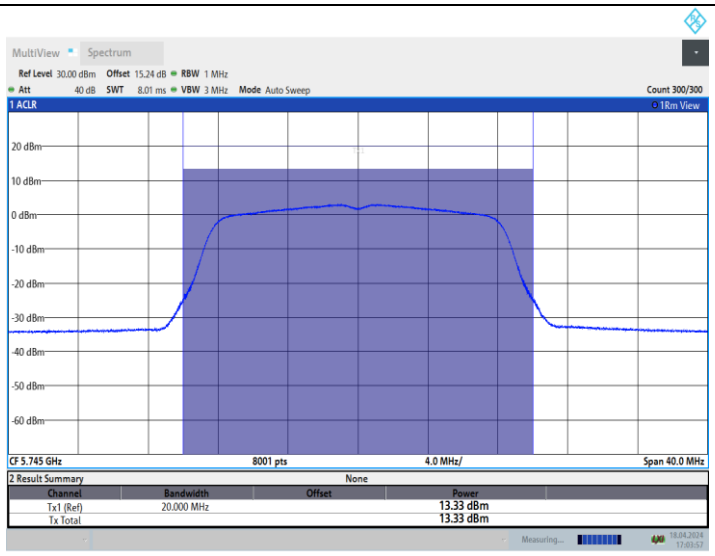

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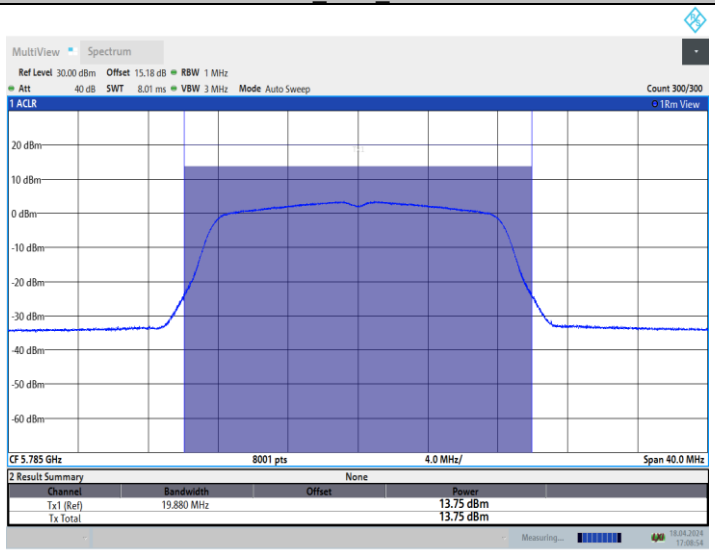

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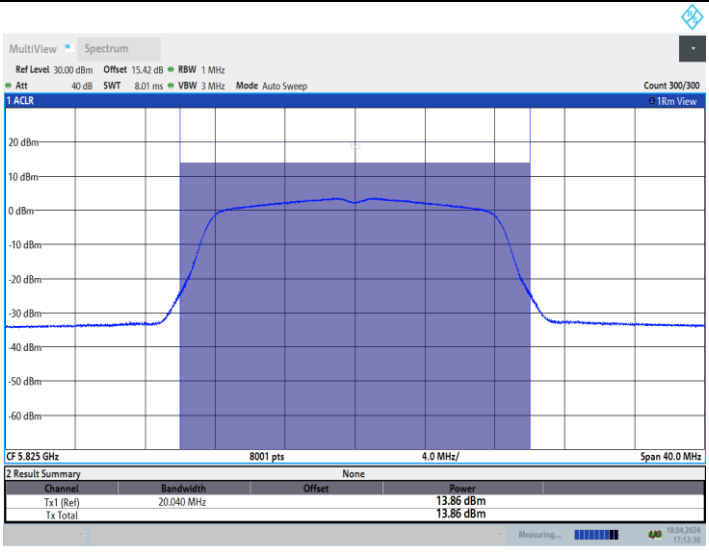

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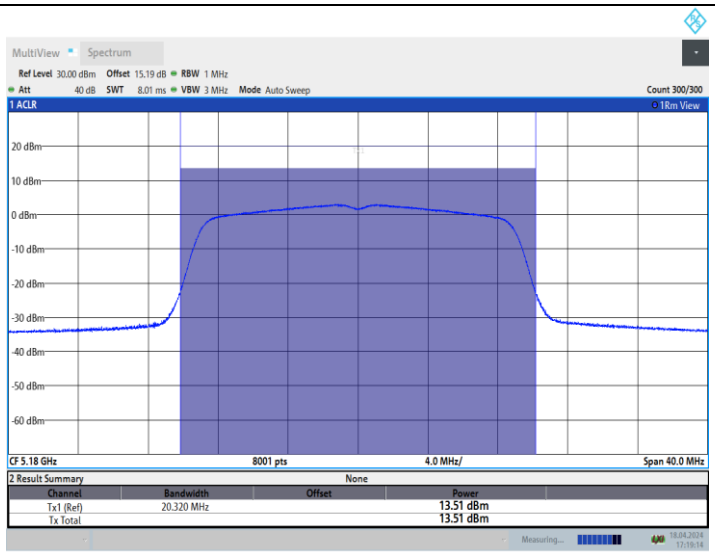

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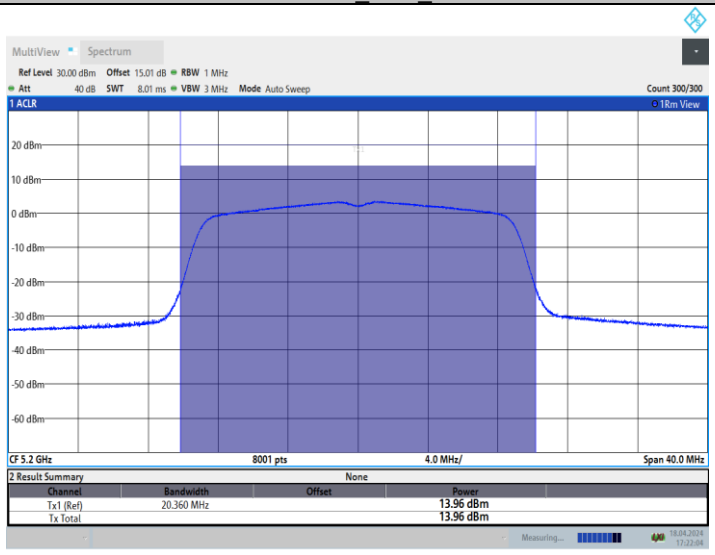

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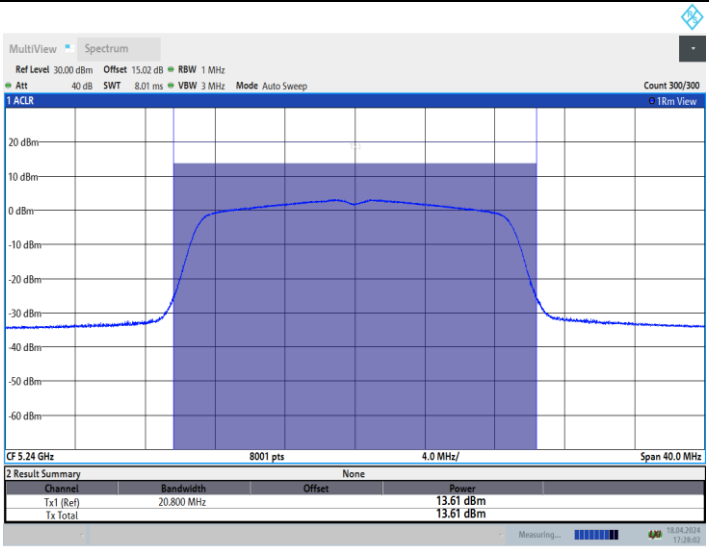

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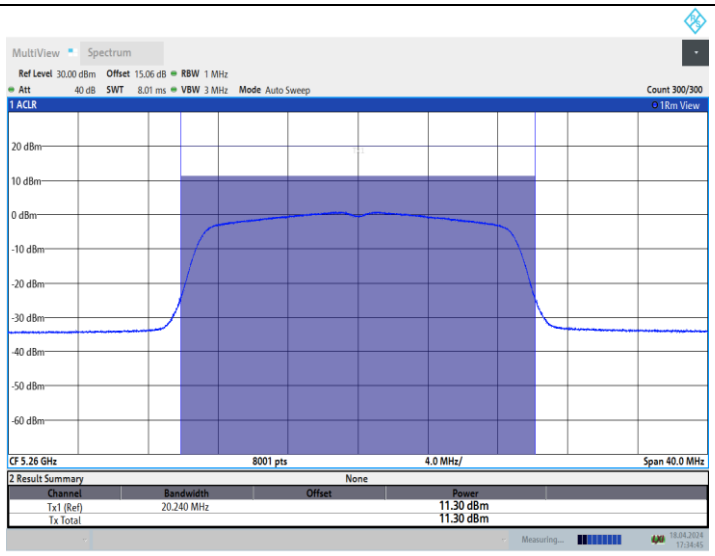

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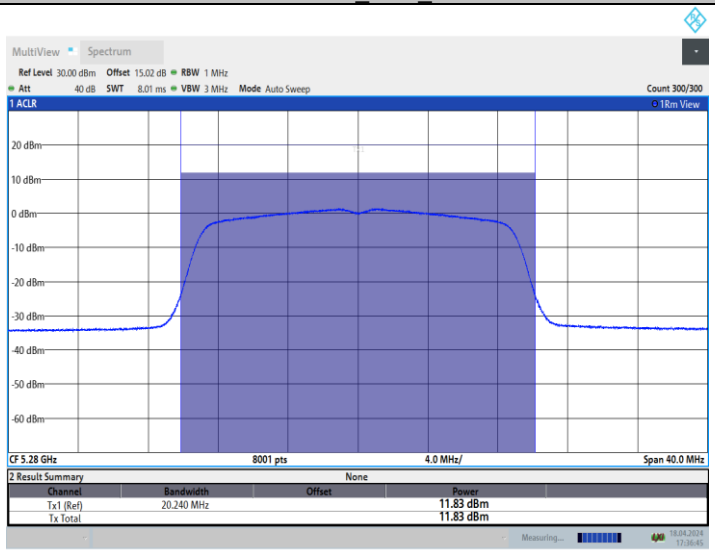

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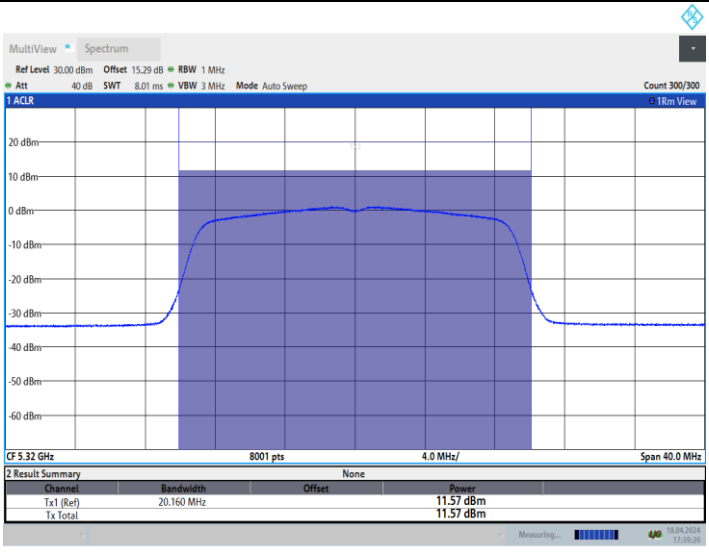

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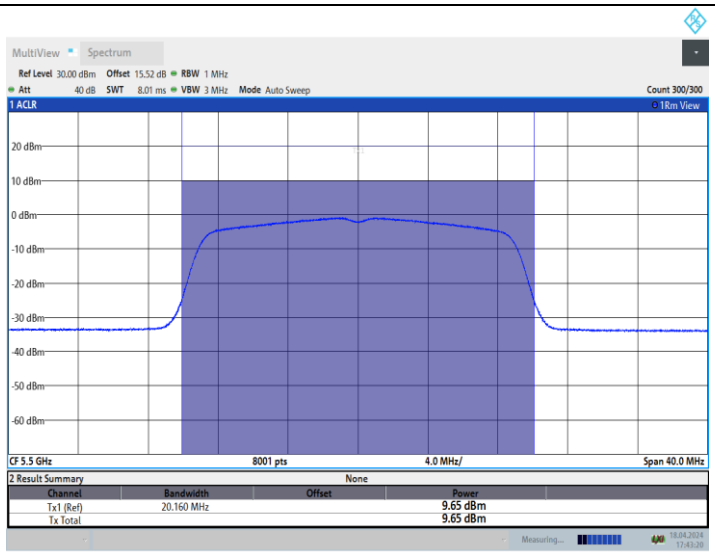

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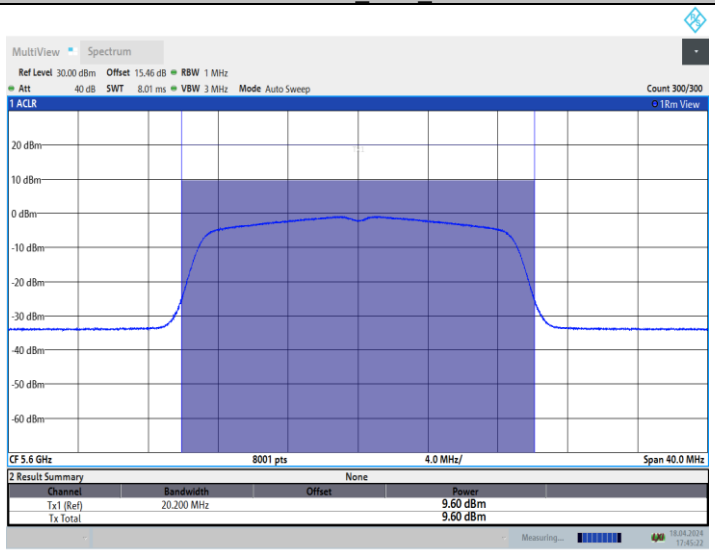

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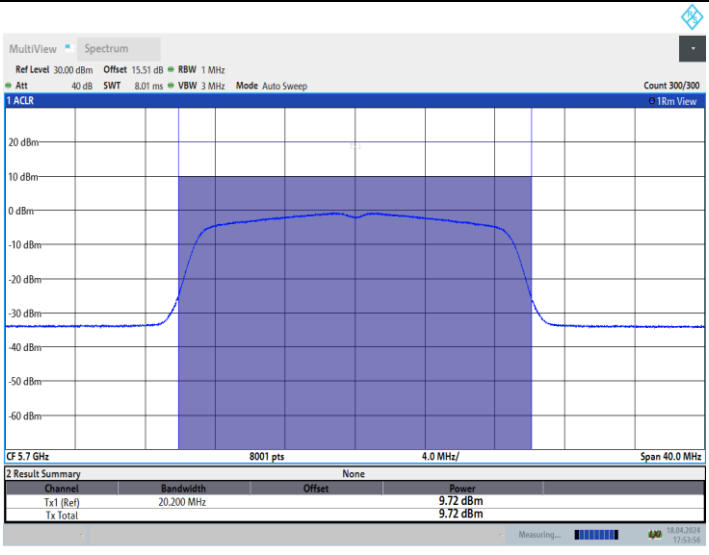

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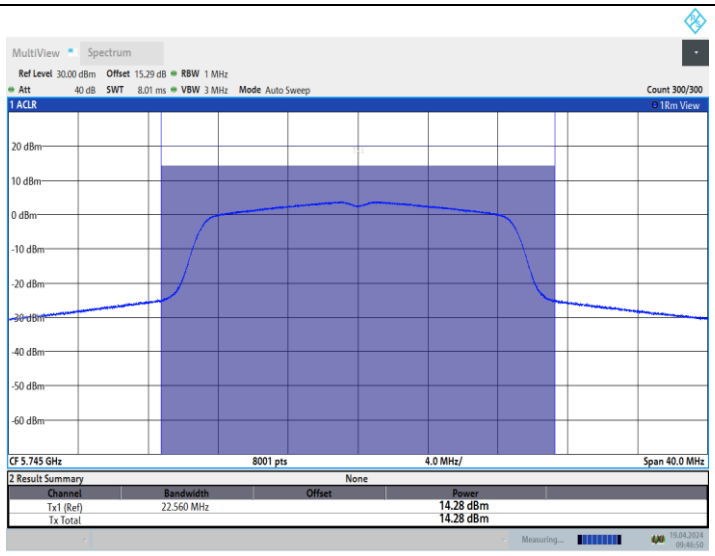

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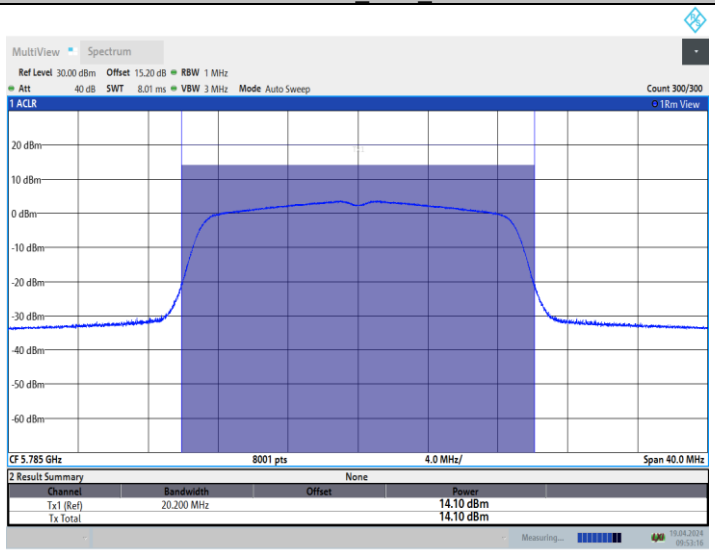

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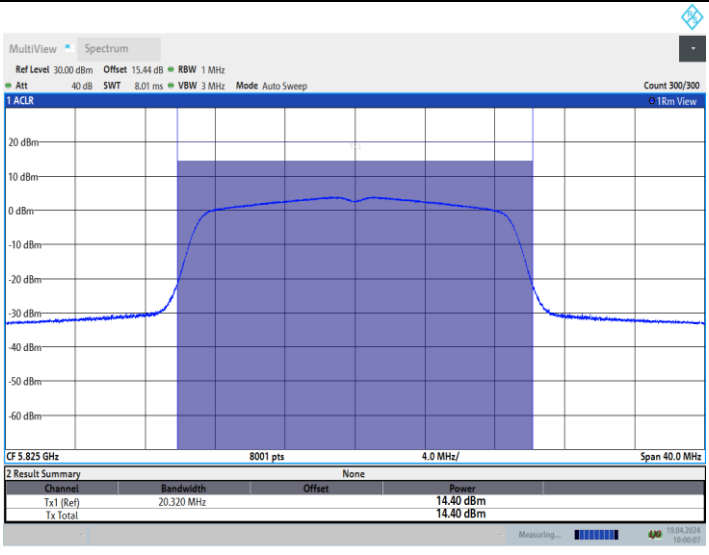

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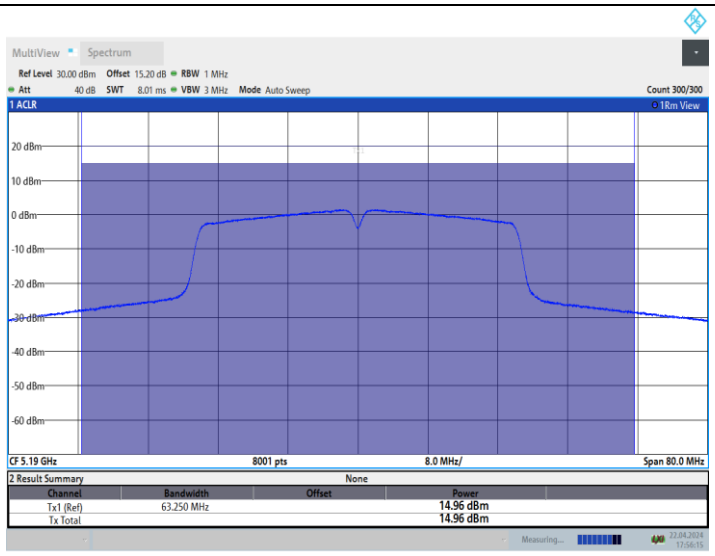

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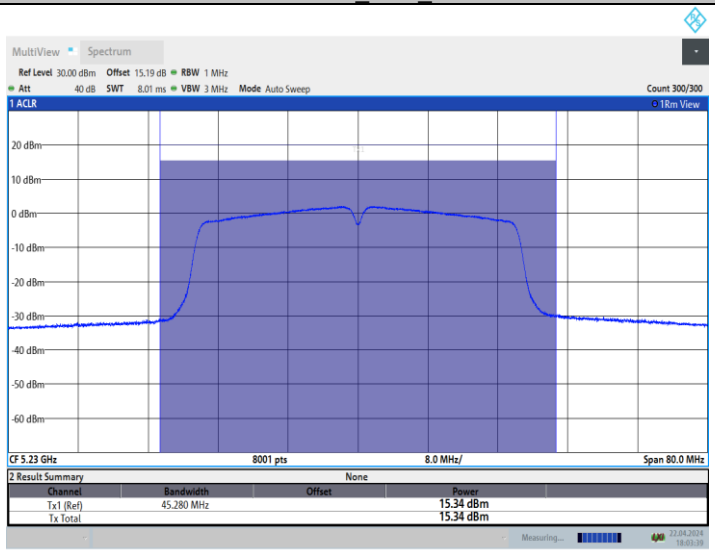

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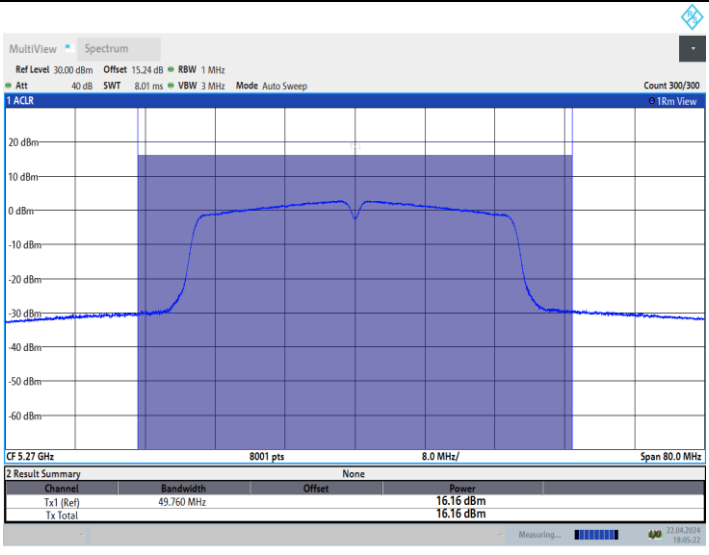

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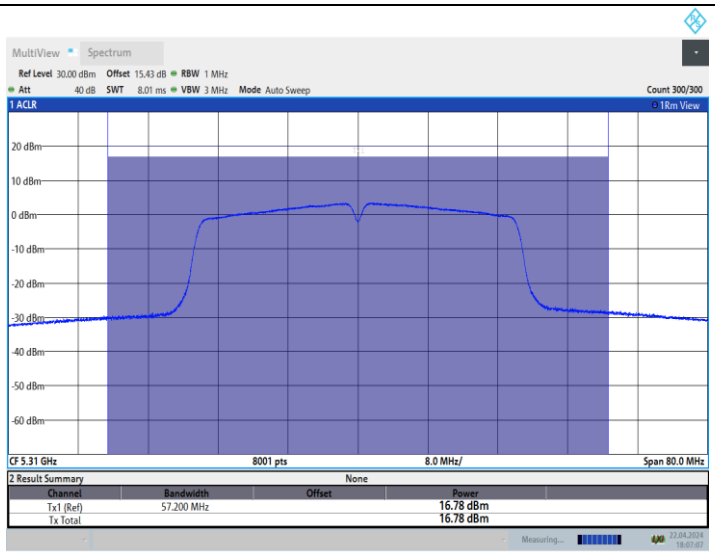

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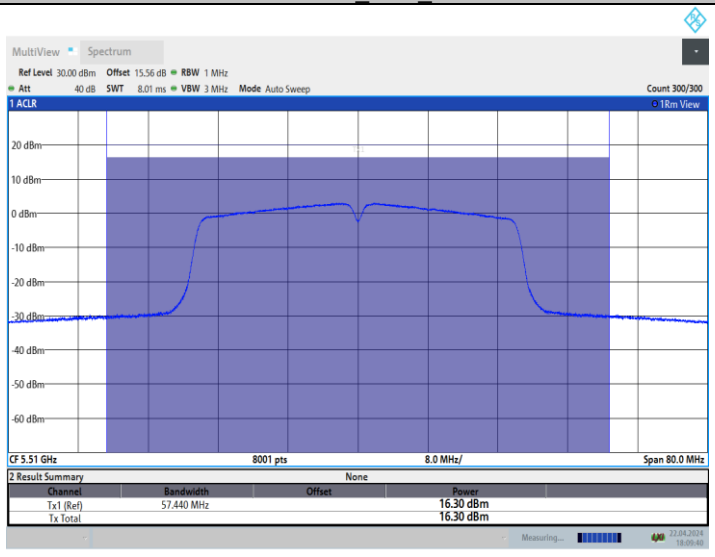

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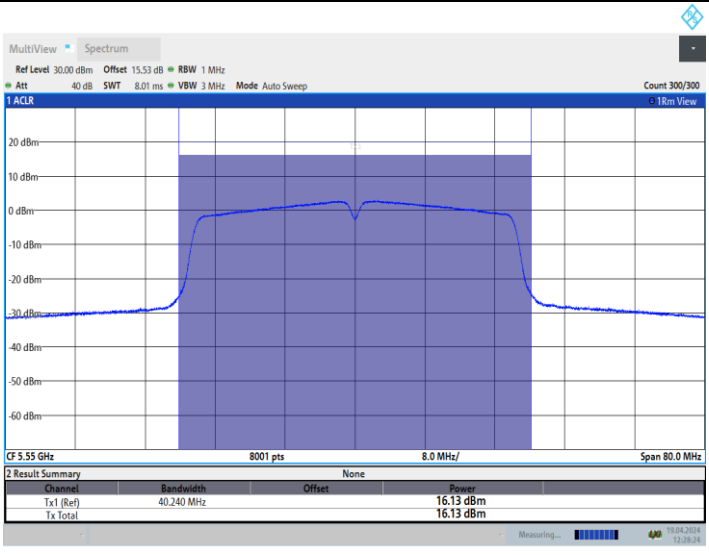

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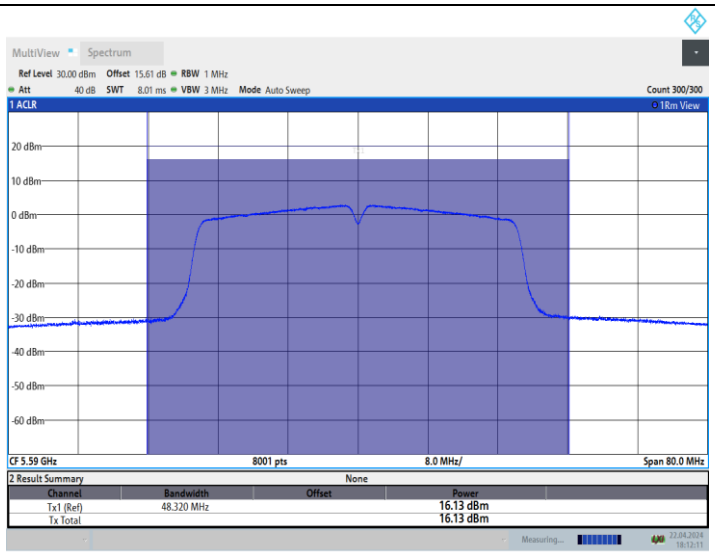

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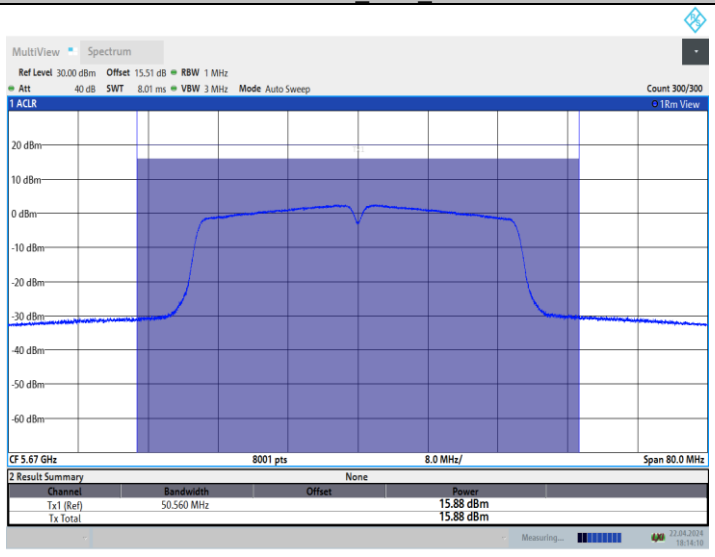

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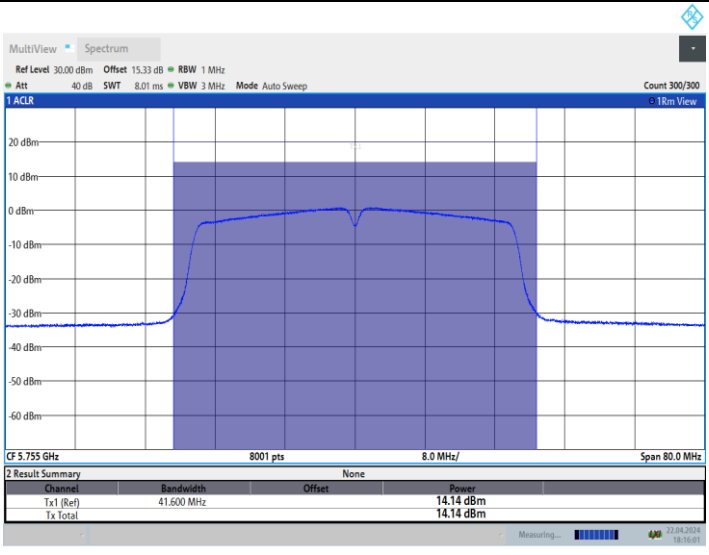

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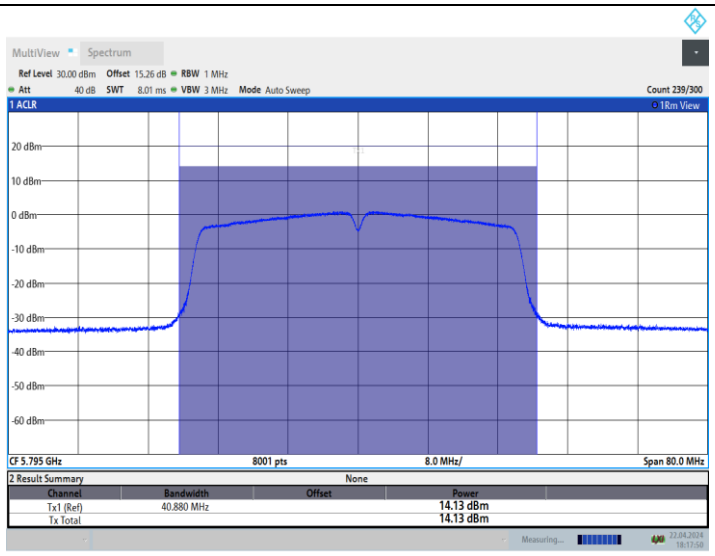

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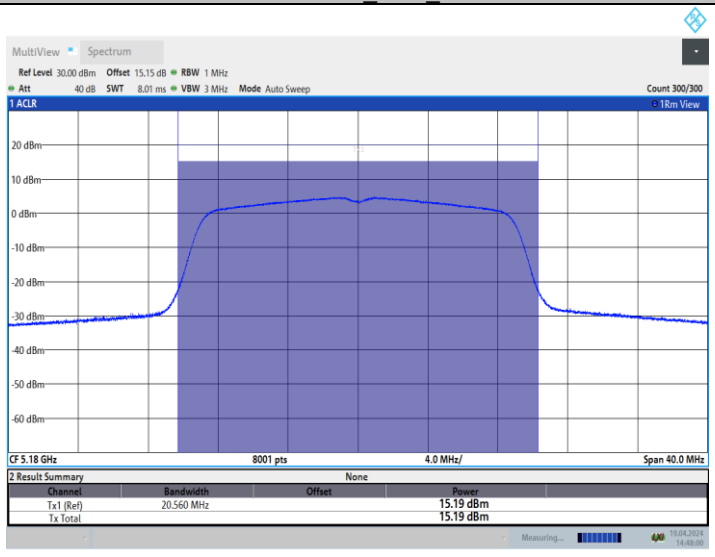

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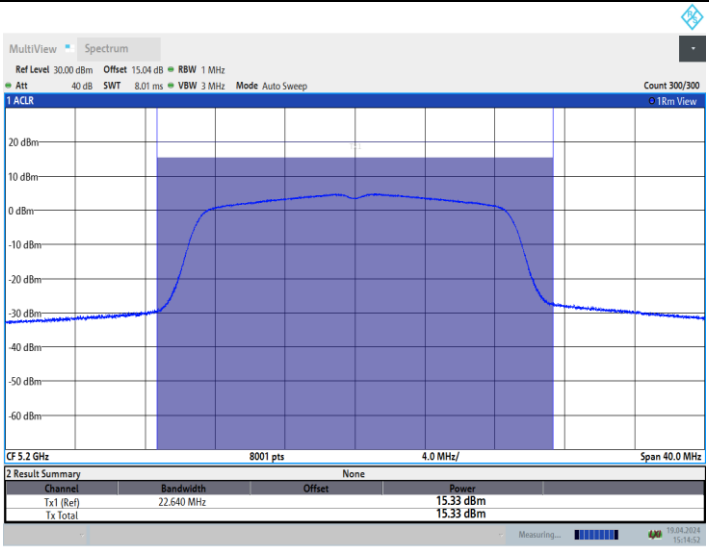

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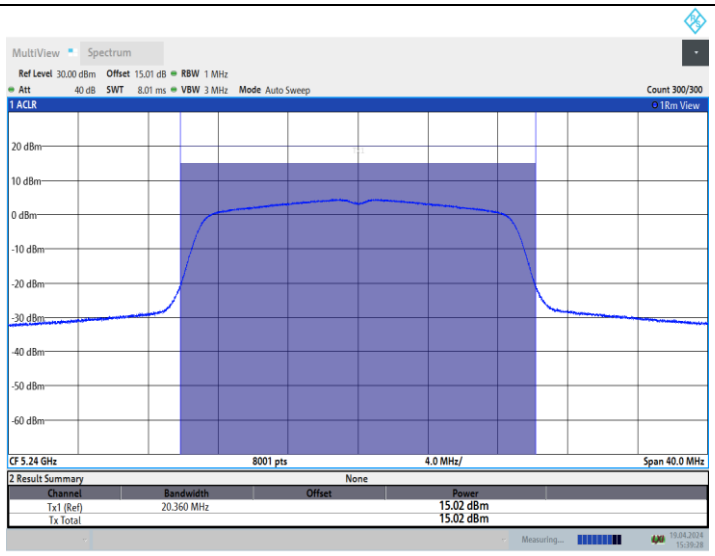

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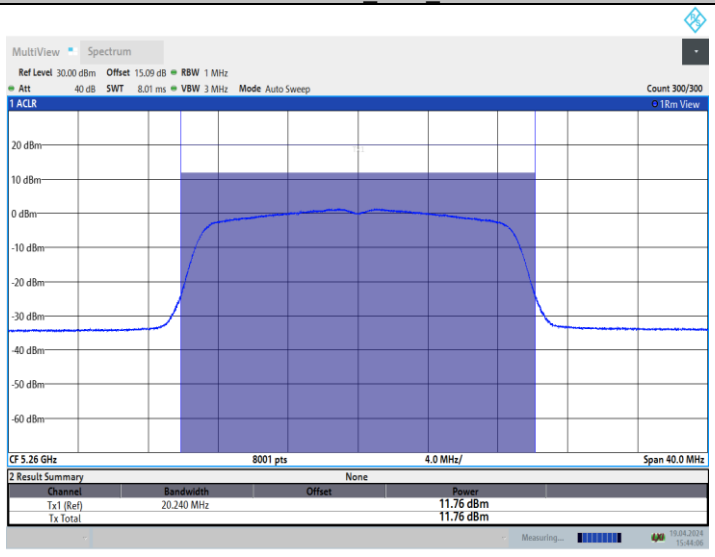

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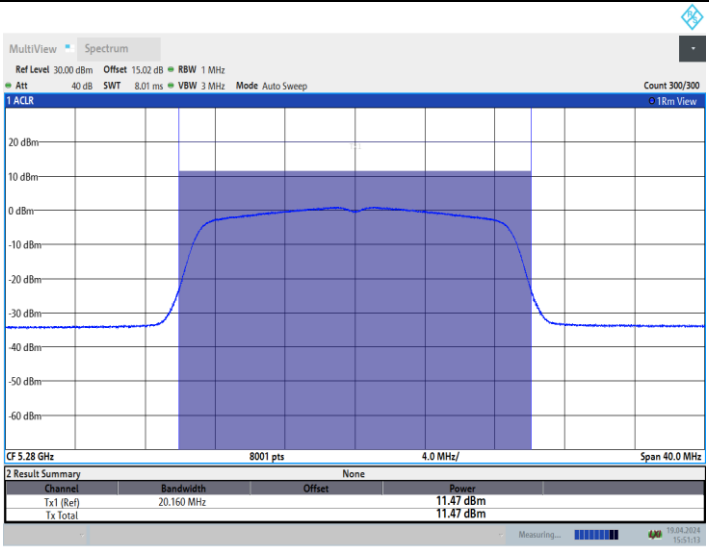

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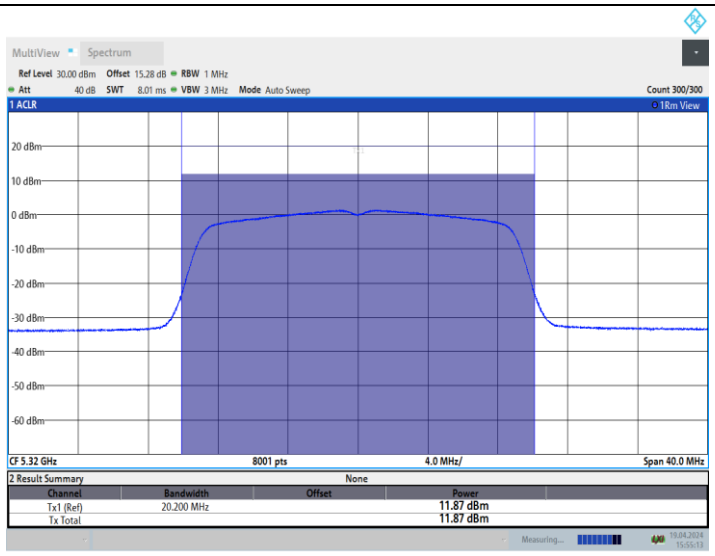

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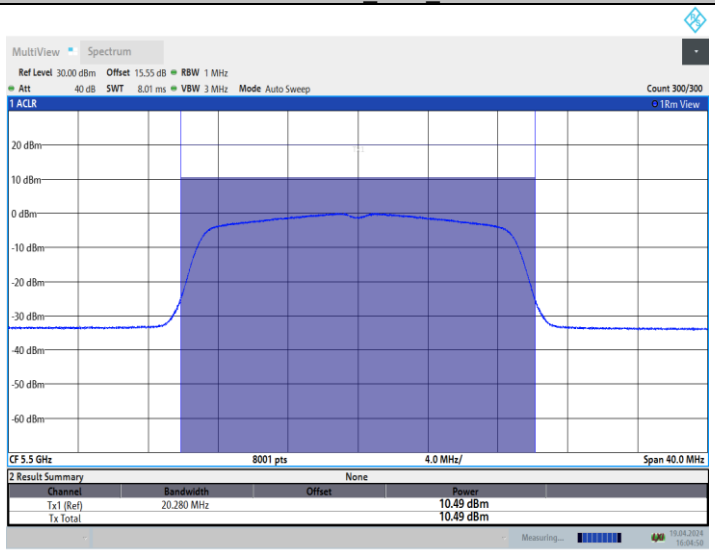

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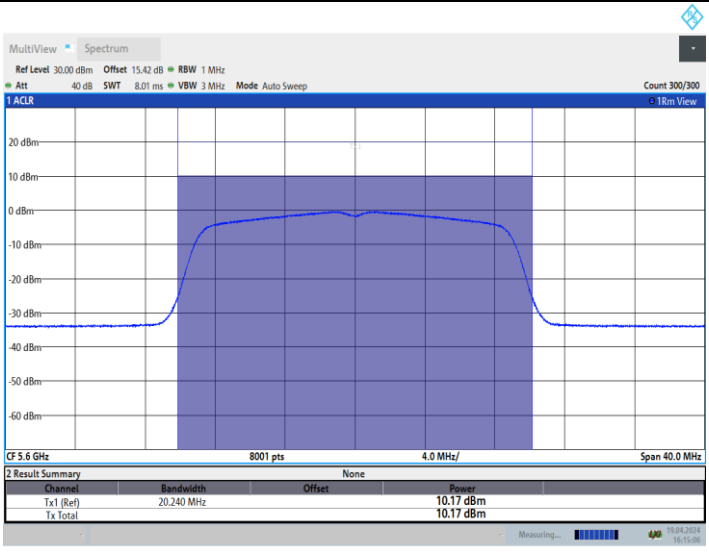

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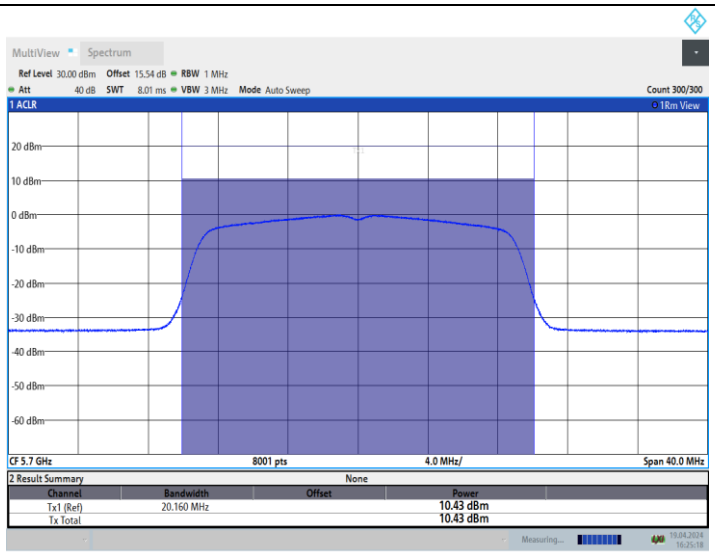

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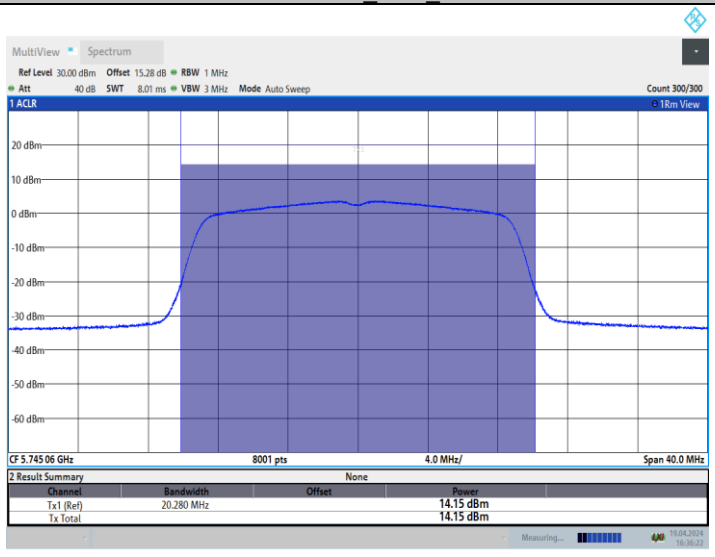

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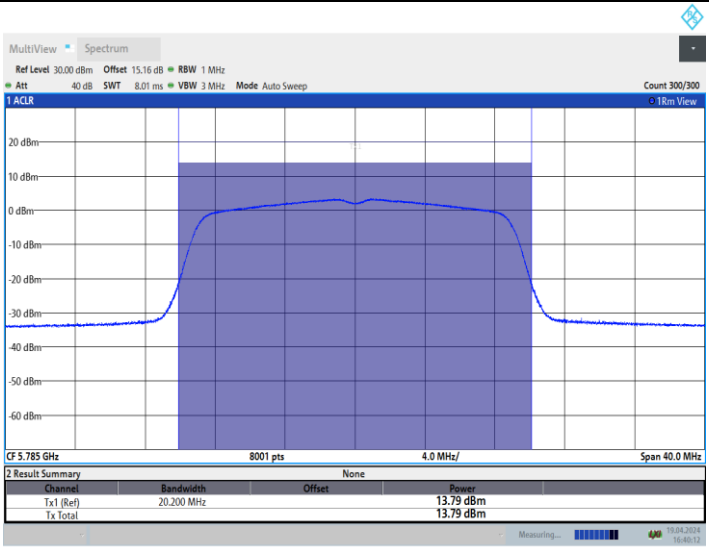

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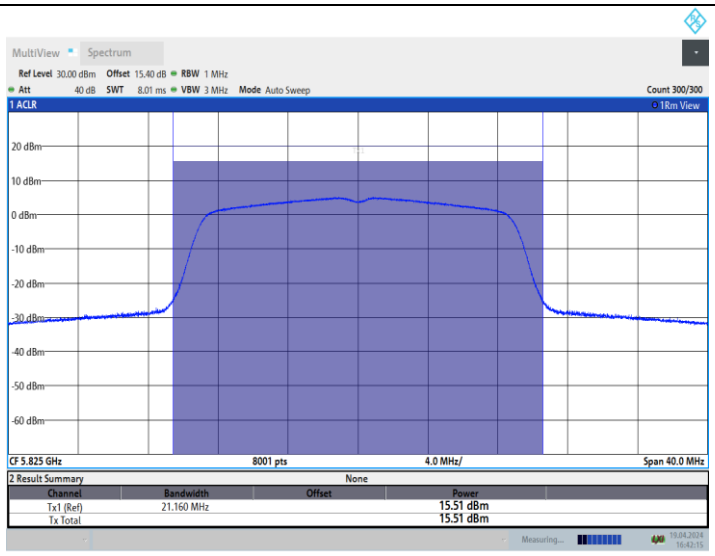

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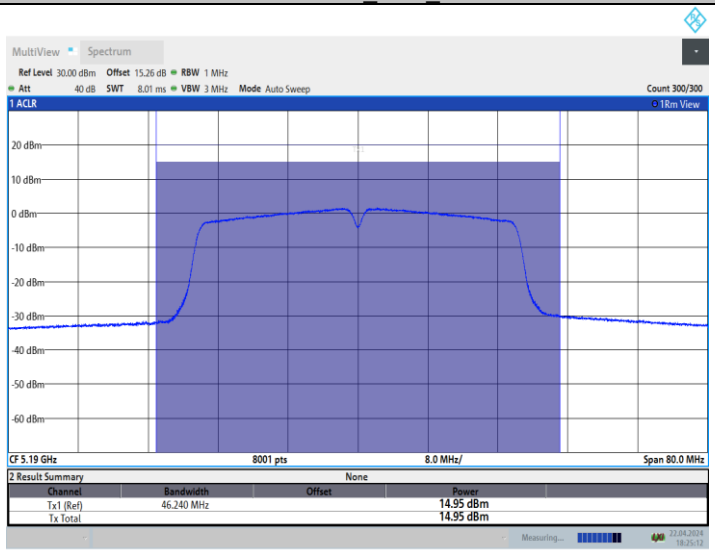

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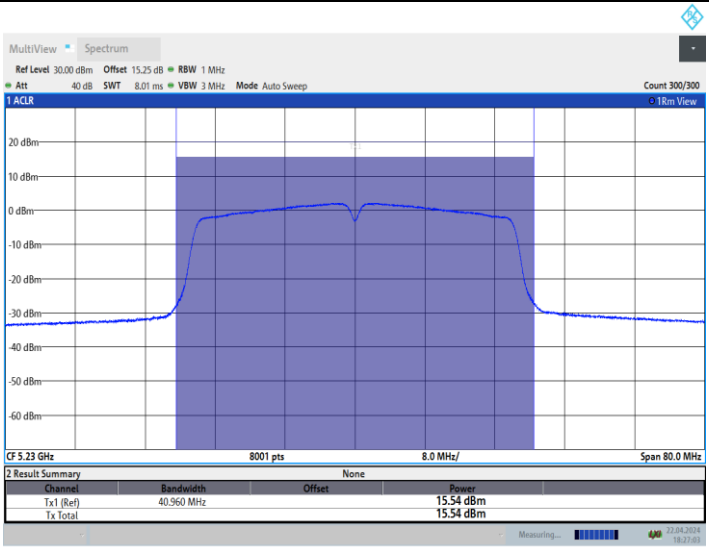

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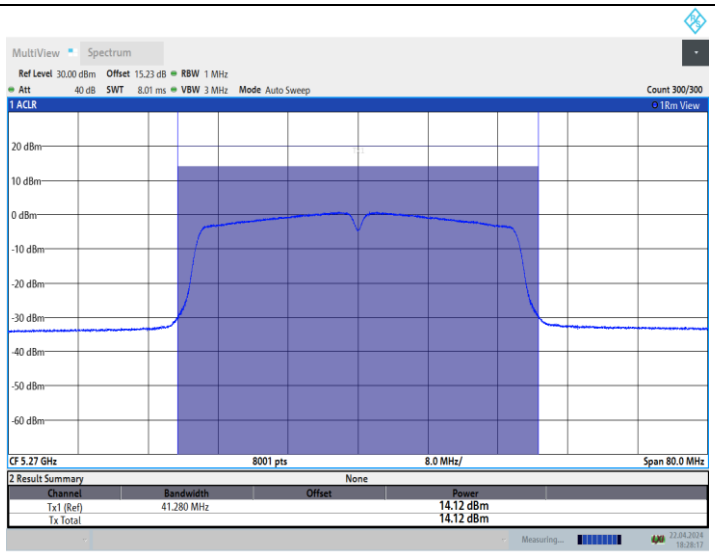

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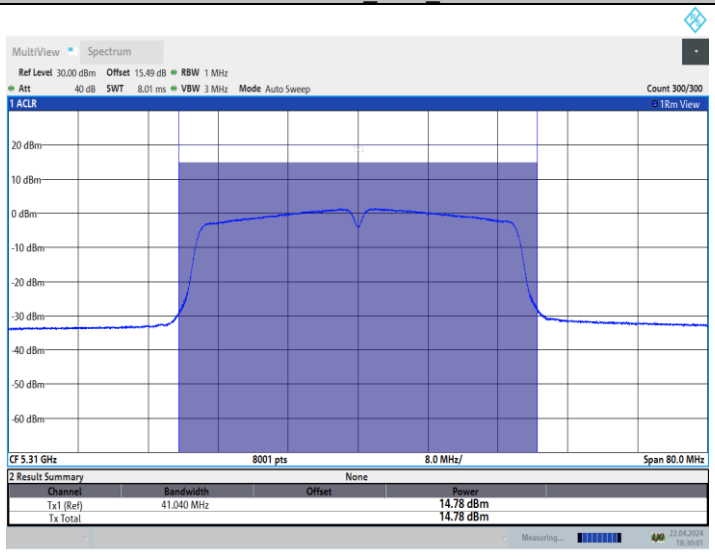

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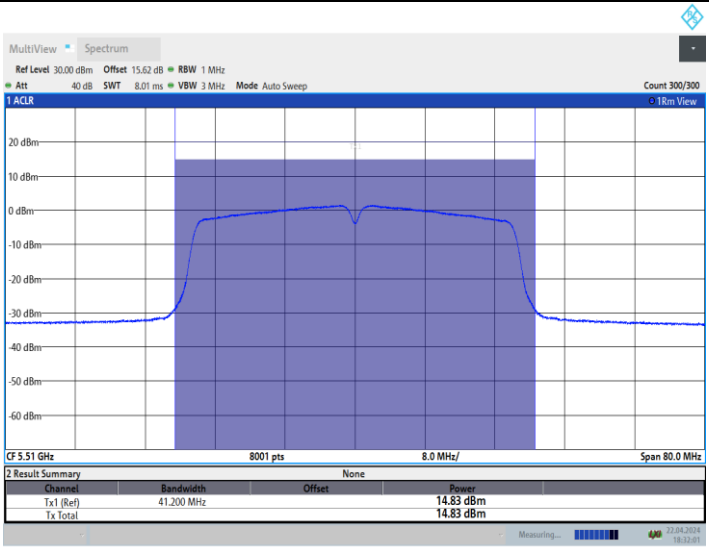

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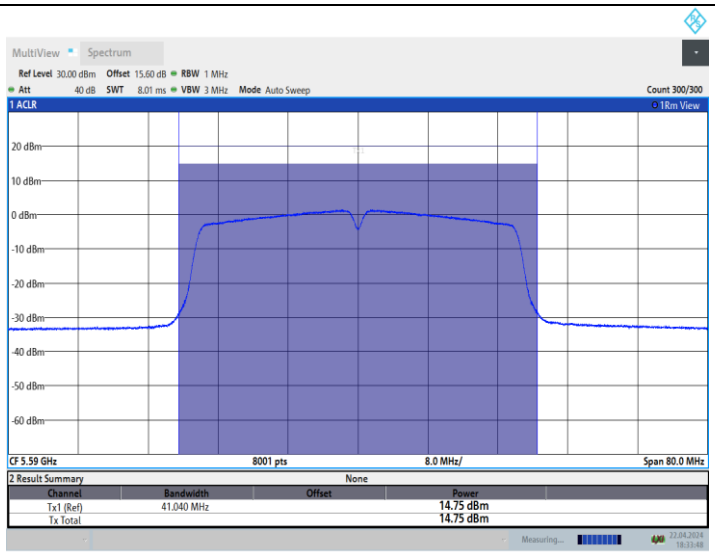

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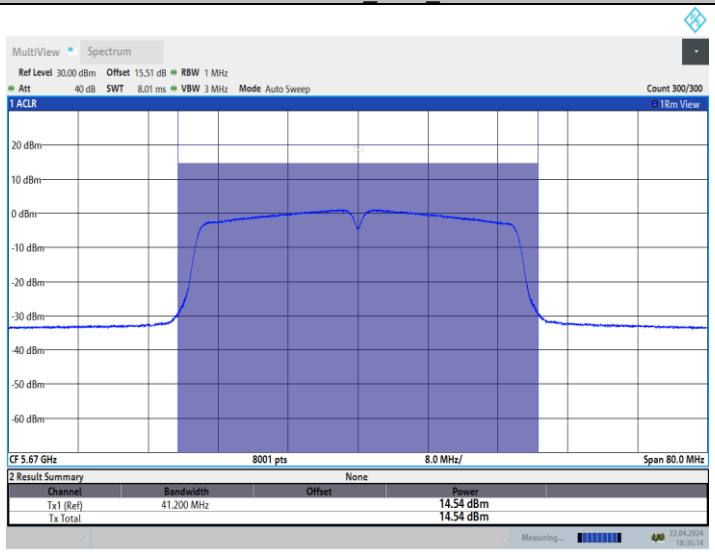

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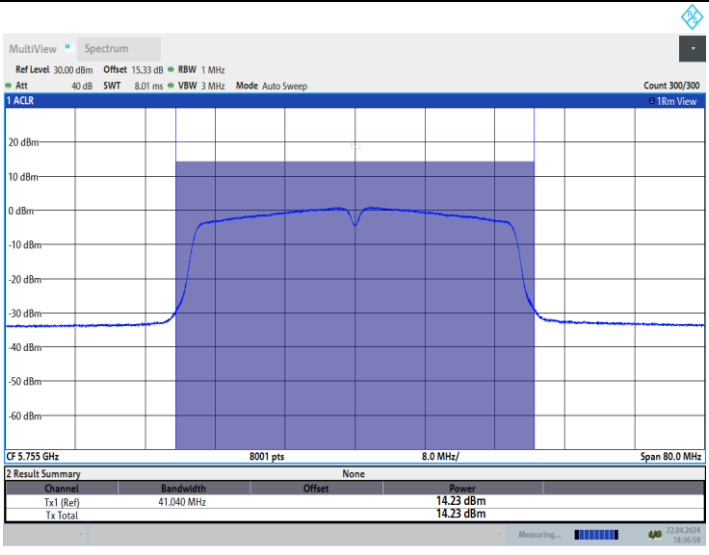

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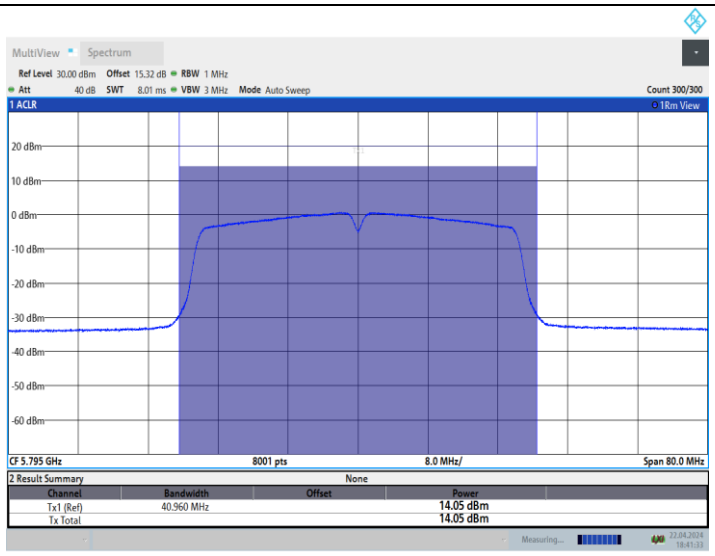

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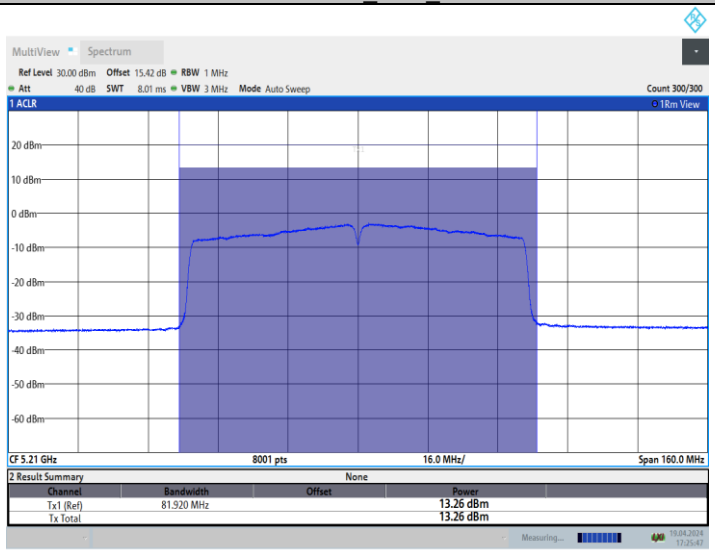

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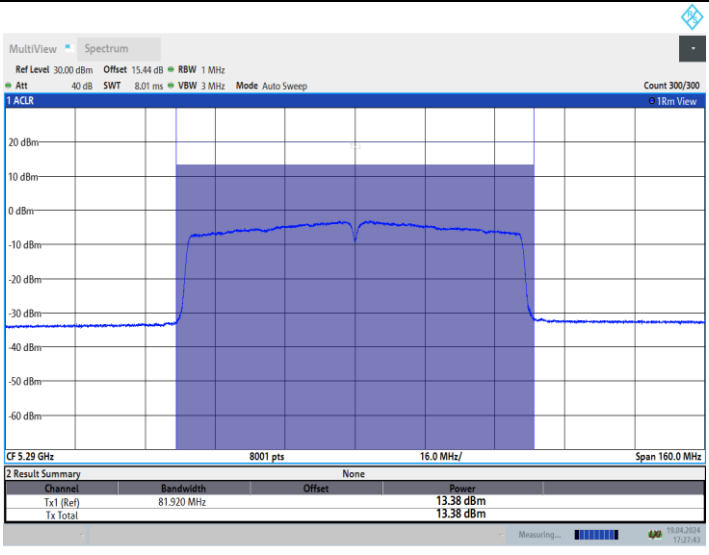

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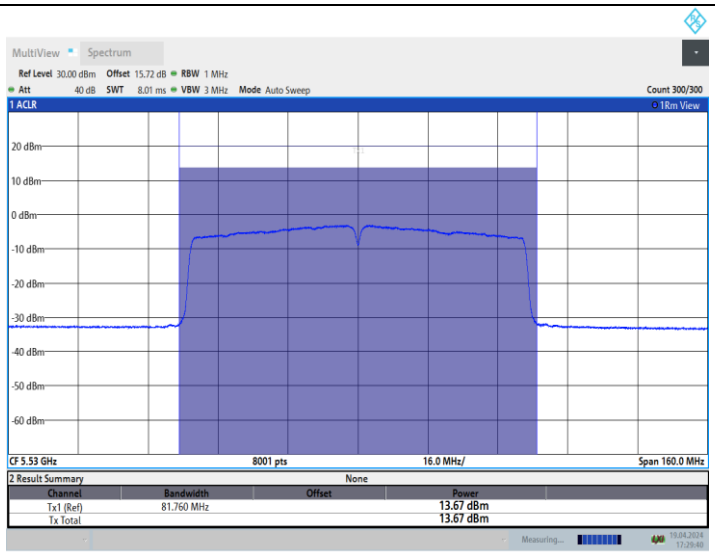

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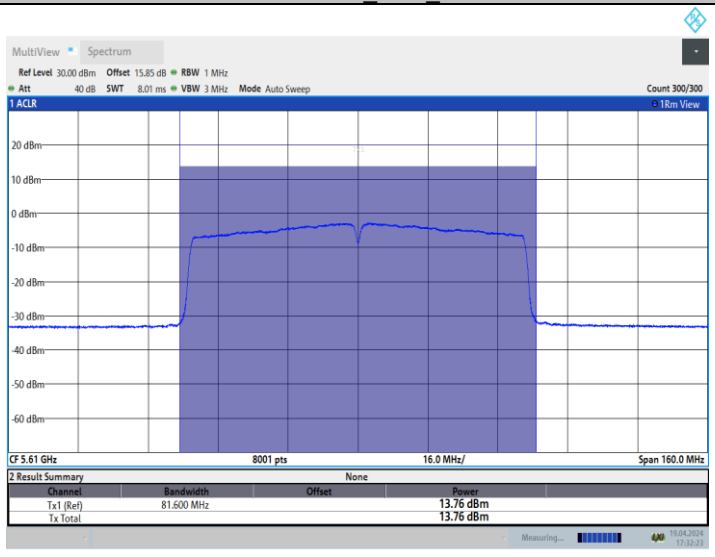

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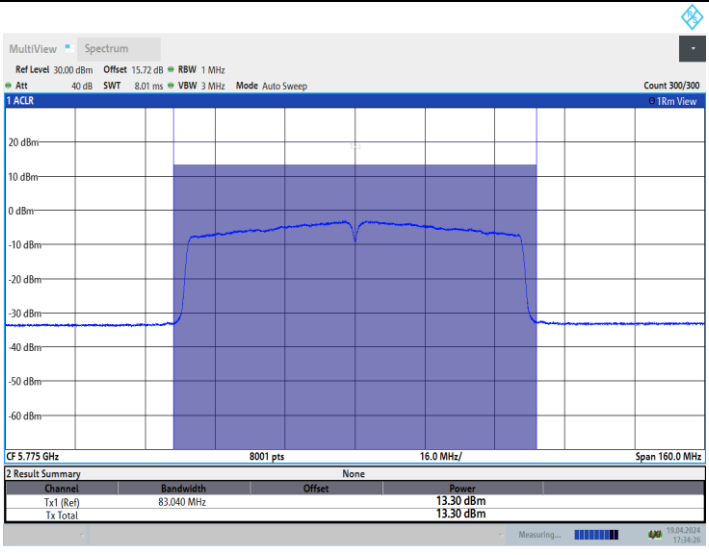


9. MAXIMUM POWER SPECTRAL DENSITY LEVEL MEASUREMENT

9.1. Limits of Maximum Power Spectral Density Level Measurement

CFR 47 (FCC) part 15.407 (a)

For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 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

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 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.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum 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, 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.

9.2. Test Procedure

1.Create an average power spectrum for the EUT operating mode being tested by following the instructions in section 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 § 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 789033 D02 General UNII Test Procedures New Rules v01r02 Page 10 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 section II.B.I.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 the sections
5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

9.3. Test Data

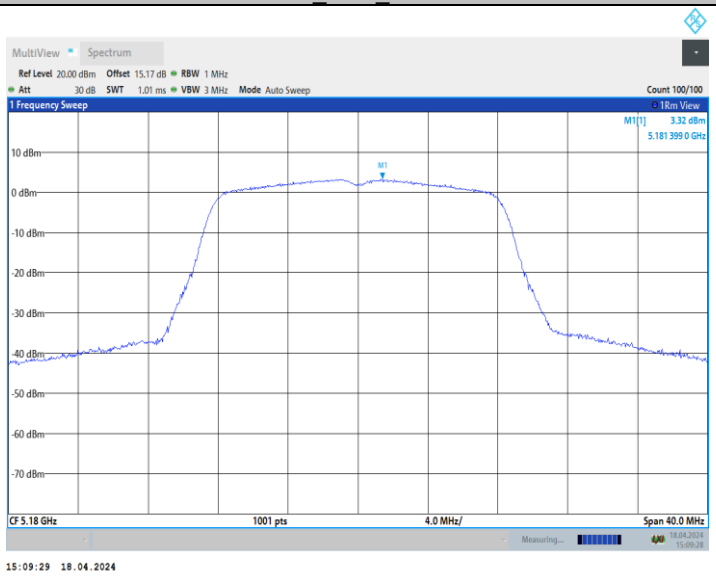
Maximum Power Spectral Density Level

TestMode	Antenna	Channel	Result	Limit	Verdict
11A	Ant1	5180	3.32	≤11.00	PASS
		5200	3.52	≤11.00	PASS
		5240	3.68	≤11.00	PASS
		5260	1.55	≤11.00	PASS
		5280	1.45	≤11.00	PASS
		5320	1.35	≤11.00	PASS
		5500	-0.06	≤11.00	PASS
		5600	-0.25	≤11.00	PASS
		5700	-0.1	≤11.00	PASS
		5745	1	≤30.00	PASS
		5785	1.1	≤30.00	PASS
		5825	1.02	≤30.00	PASS
11N20SISO	Ant1	5180	3.23	≤11.00	PASS
		5200	3.79	≤11.00	PASS
		5240	3.49	≤11.00	PASS
		5260	1.36	≤11.00	PASS
		5280	1.72	≤11.00	PASS
		5320	1.64	≤11.00	PASS
		5500	-0.2	≤11.00	PASS
		5600	-0.27	≤11.00	PASS
		5700	-0.36	≤11.00	PASS
		5745	1.65	≤30.00	PASS
		5785	1.16	≤30.00	PASS
		5825	1.53	≤30.00	PASS
11N40SISO	Ant1	5190	1.91	≤11.00	PASS
		5230	2.52	≤11.00	PASS
		5270	3.13	≤11.00	PASS
		5310	3.77	≤11.00	PASS
		5510	3.49	≤11.00	PASS
		5550	3.15	≤11.00	PASS
		5590	3.19	≤11.00	PASS
		5670	2.83	≤11.00	PASS
		5755	-1.8	≤30.00	PASS
		5795	-1.71	≤30.00	PASS

11AC20SISO	Ant1	5180	5.17	≤11.00	PASS
		5200	5.23	≤11.00	PASS
		5240	5.08	≤11.00	PASS
		5260	1.82	≤11.00	PASS
		5280	1.53	≤11.00	PASS
		5320	2.07	≤11.00	PASS
		5500	0.48	≤11.00	PASS
		5600	0.37	≤11.00	PASS
		5700	0.55	≤11.00	PASS
		5745	1.6	≤30.00	PASS
		5785	1.29	≤30.00	PASS
		5825	2.55	≤30.00	PASS
11AC40SISO	Ant1	5190	1.99	≤11.00	PASS
		5230	2.69	≤11.00	PASS
		5270	1.13	≤11.00	PASS
		5310	1.72	≤11.00	PASS
		5510	1.86	≤11.00	PASS
		5590	1.76	≤11.00	PASS
		5670	1.54	≤11.00	PASS
		5755	-1.72	≤30.00	PASS
		5795	-1.57	≤30.00	PASS
11AC80SISO	Ant1	5210	-2.72	≤11.00	PASS
		5290	-2.97	≤11.00	PASS
		5530	-2.66	≤11.00	PASS
		5610	-2.42	≤11.00	PASS
		5775	-5.6	≤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 Factor and RBW Factor is compensated in the graph.

11A_Ant1_5180



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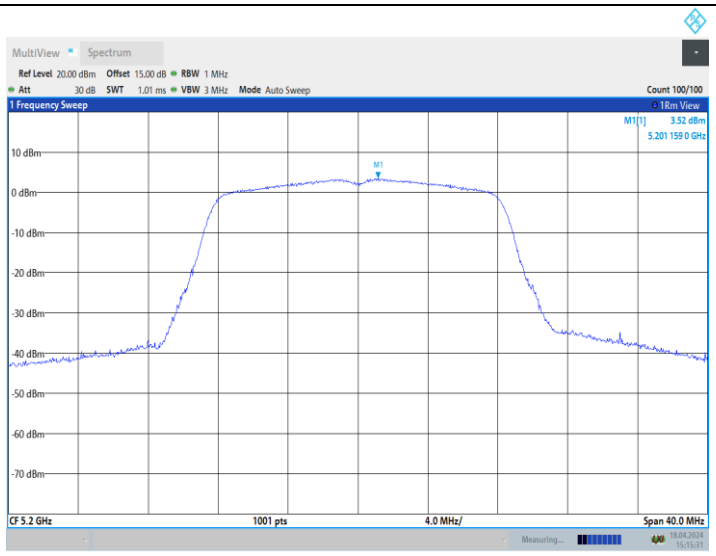

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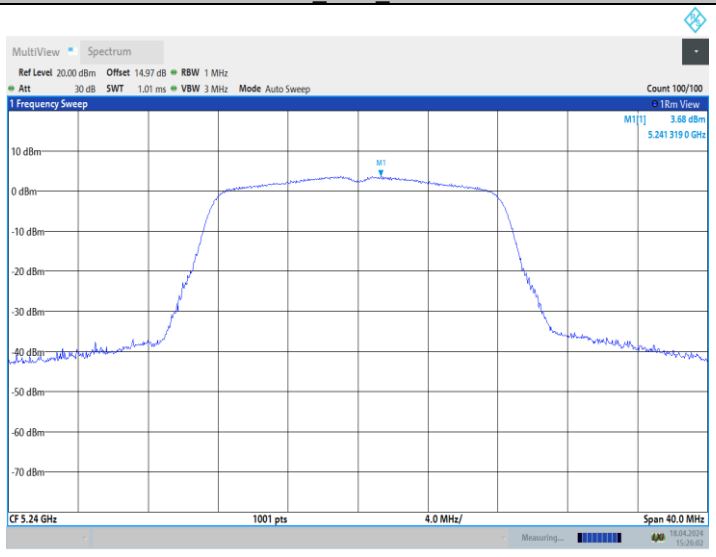

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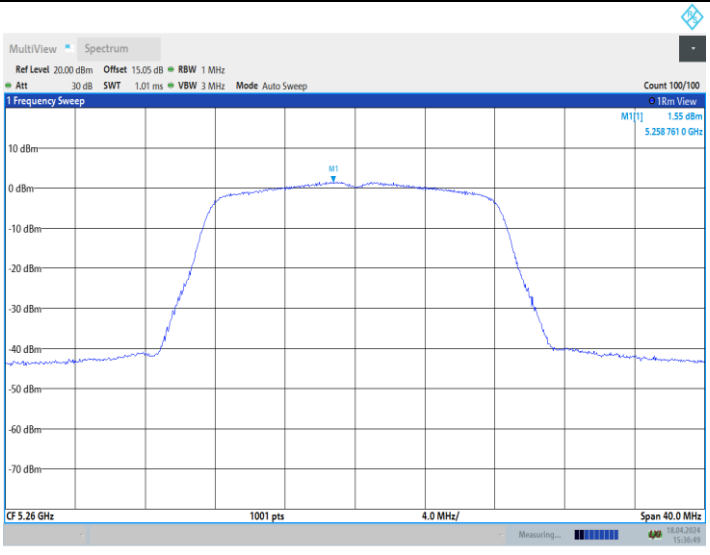

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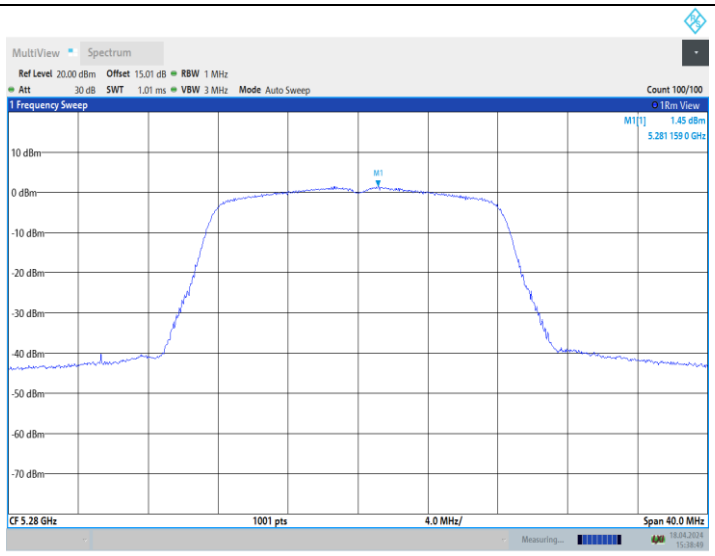

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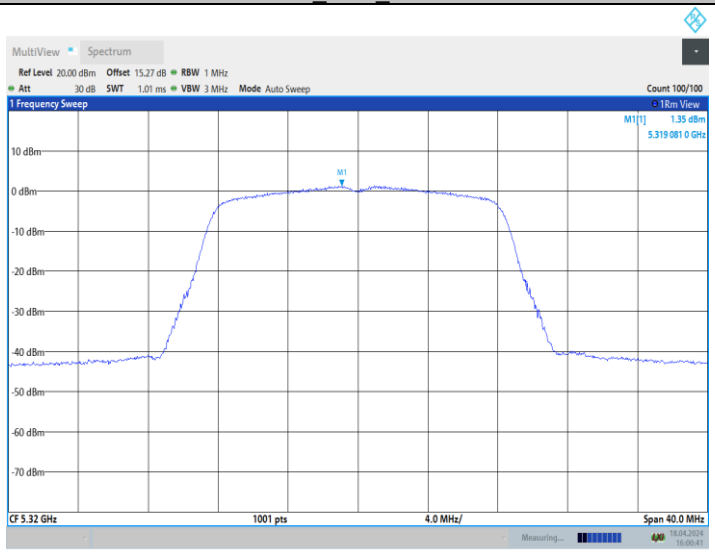

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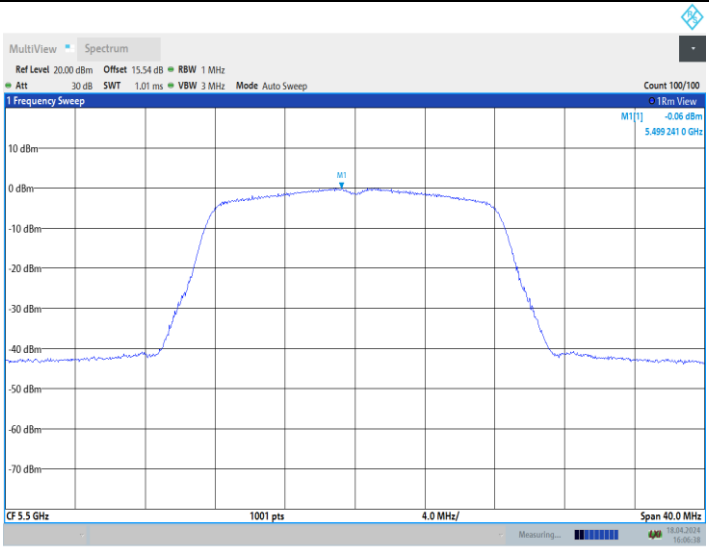

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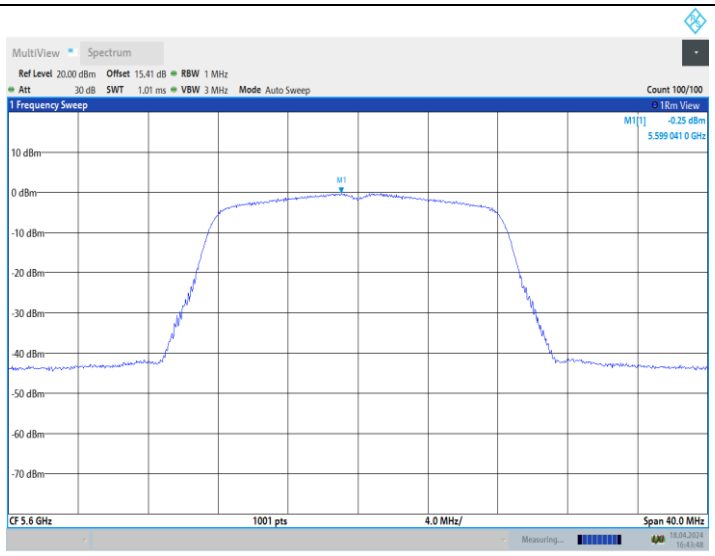

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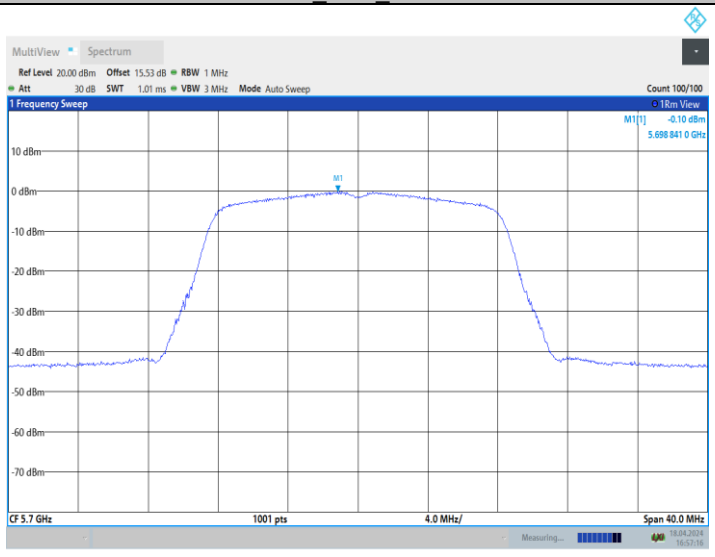

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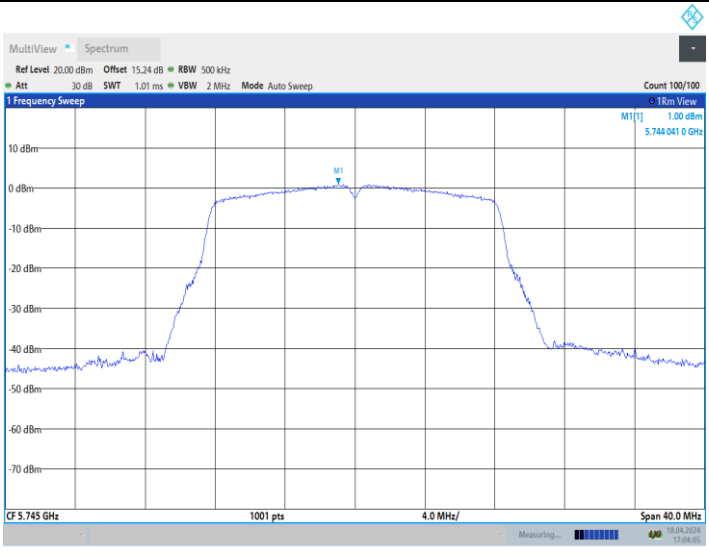

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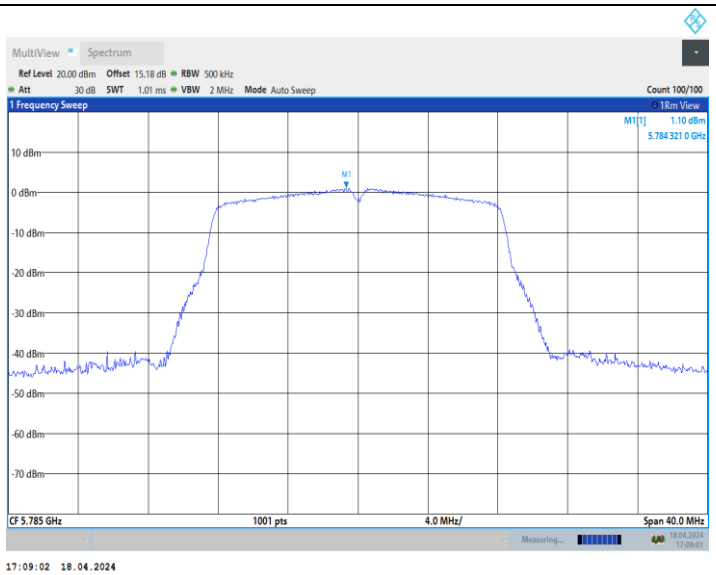

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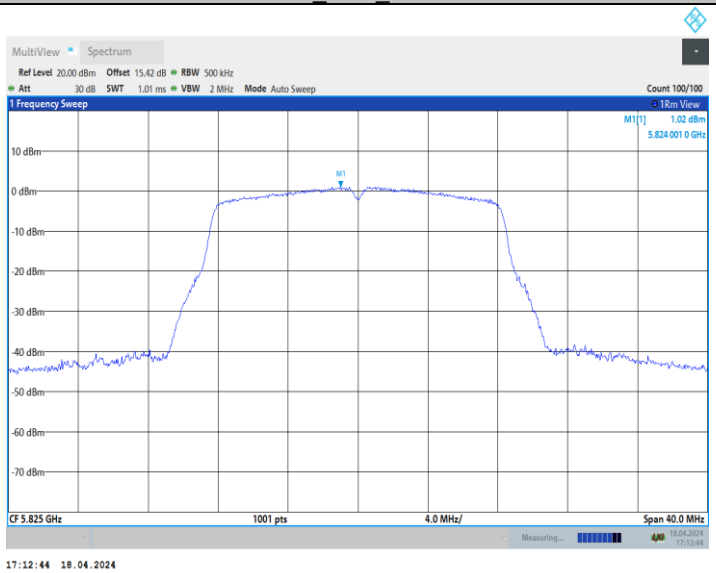

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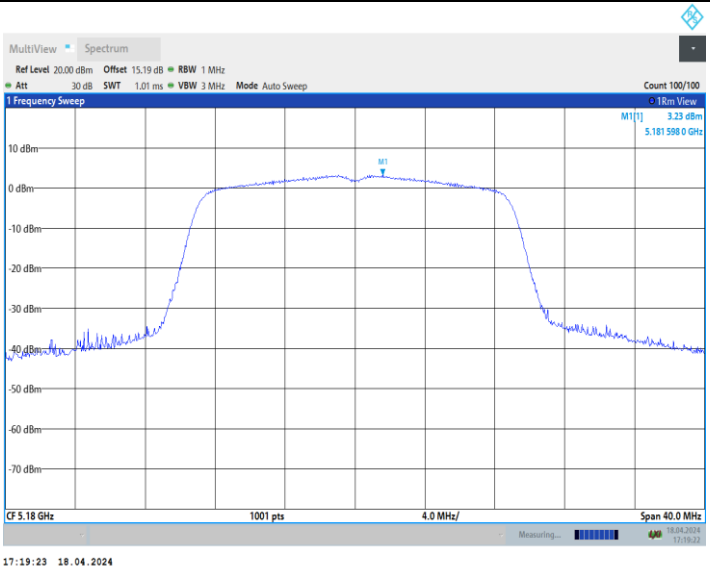

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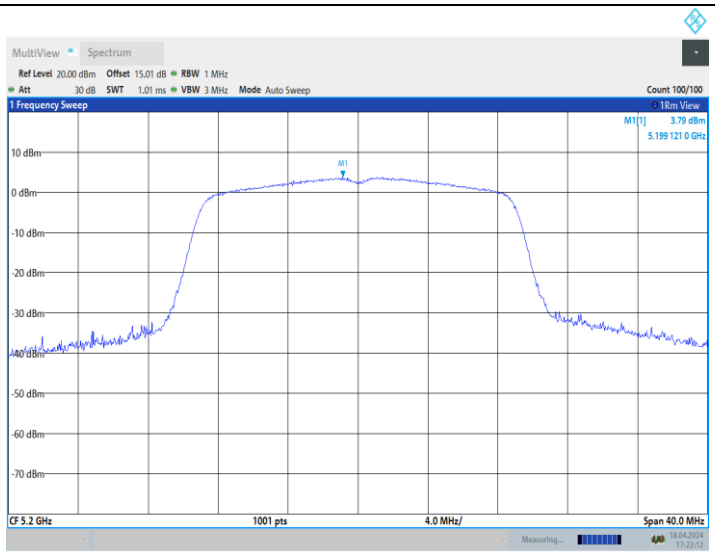

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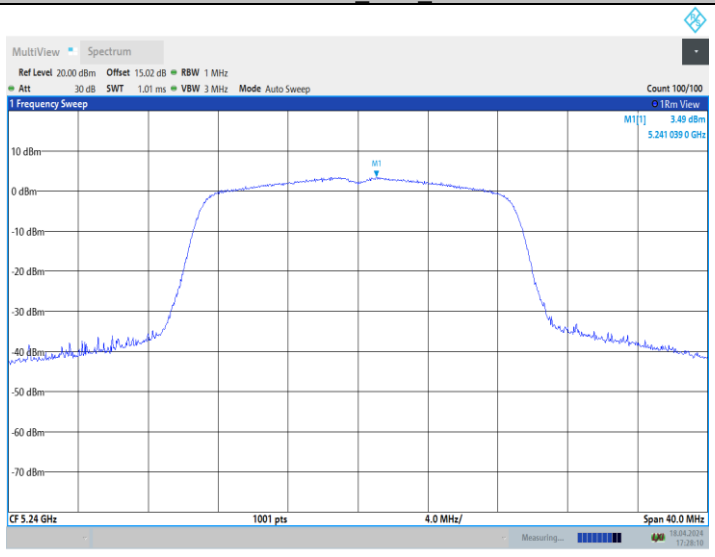

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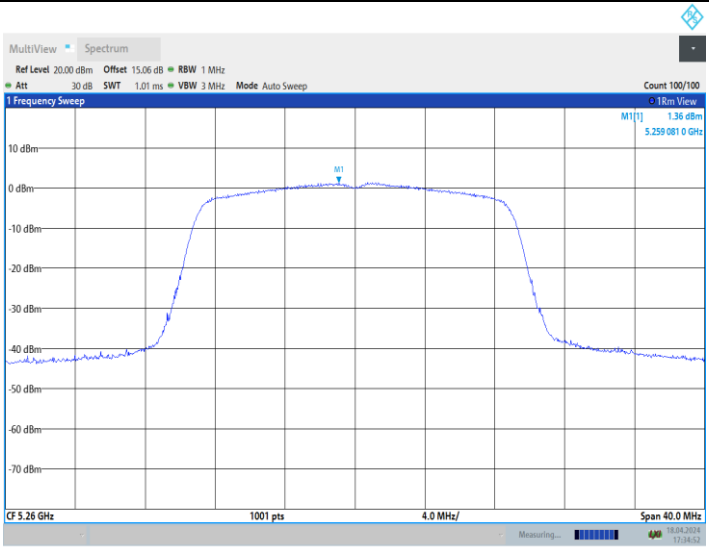

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