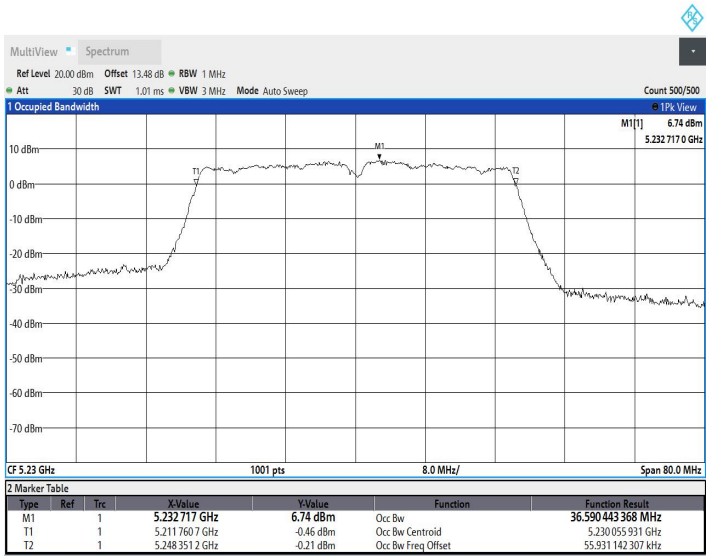

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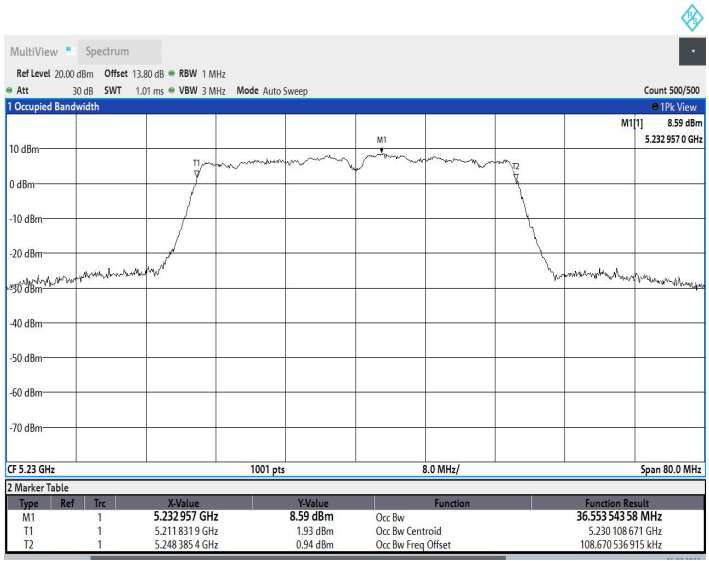

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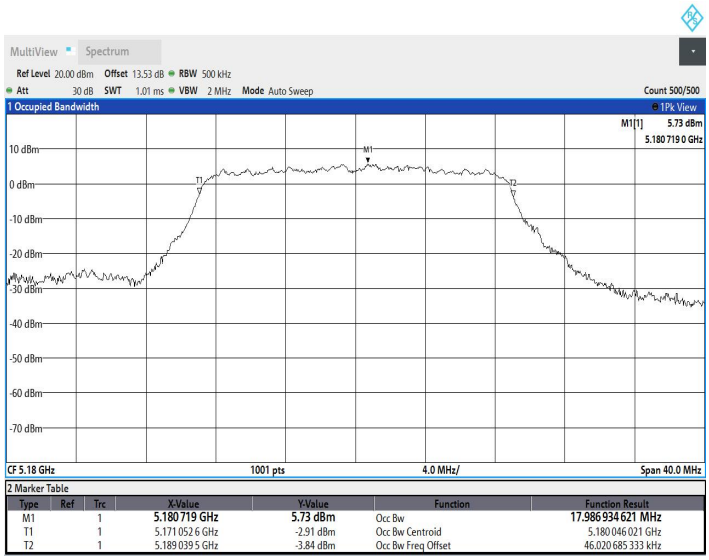

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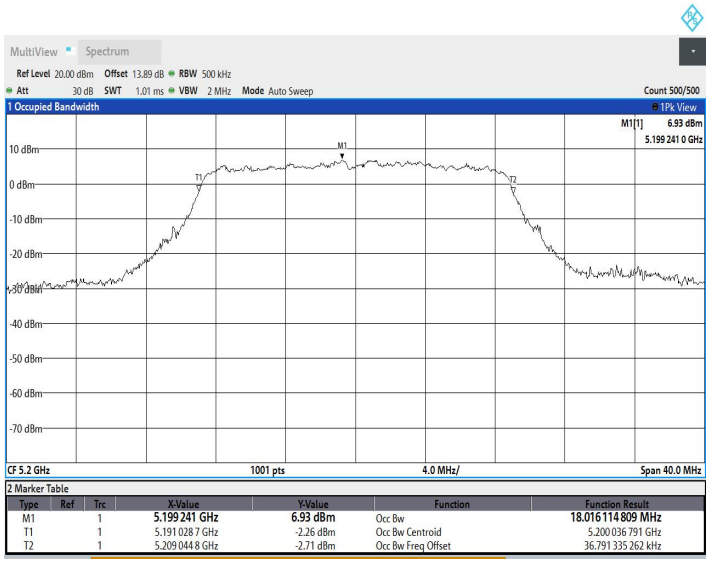

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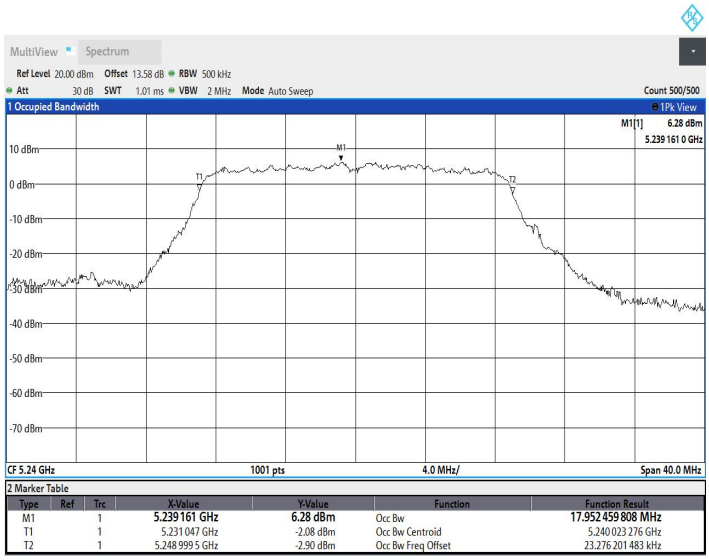

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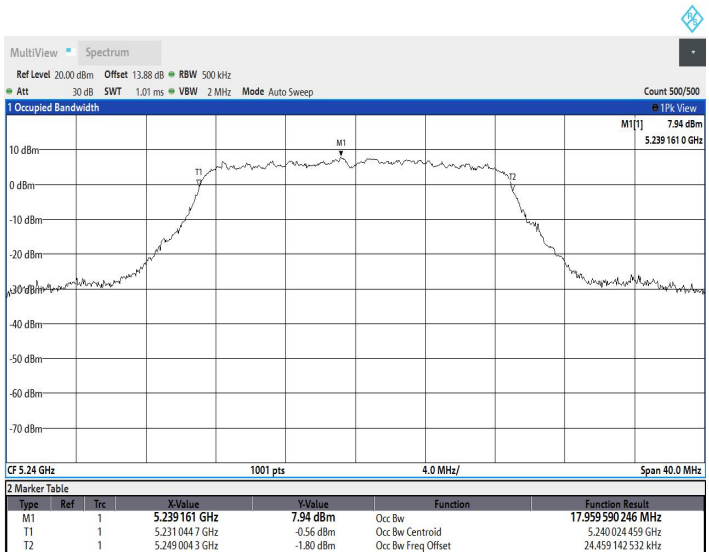

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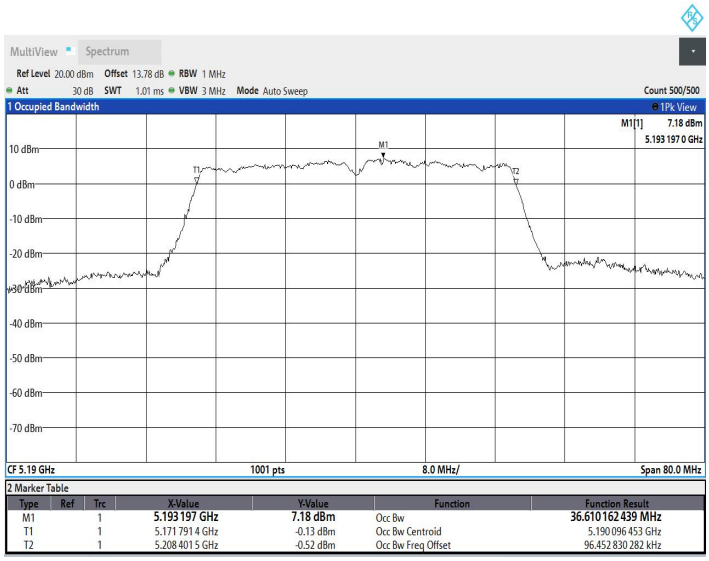

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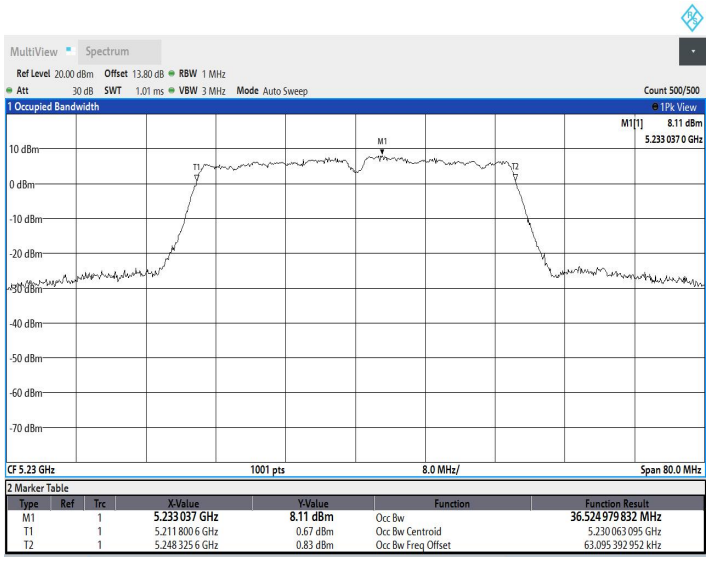

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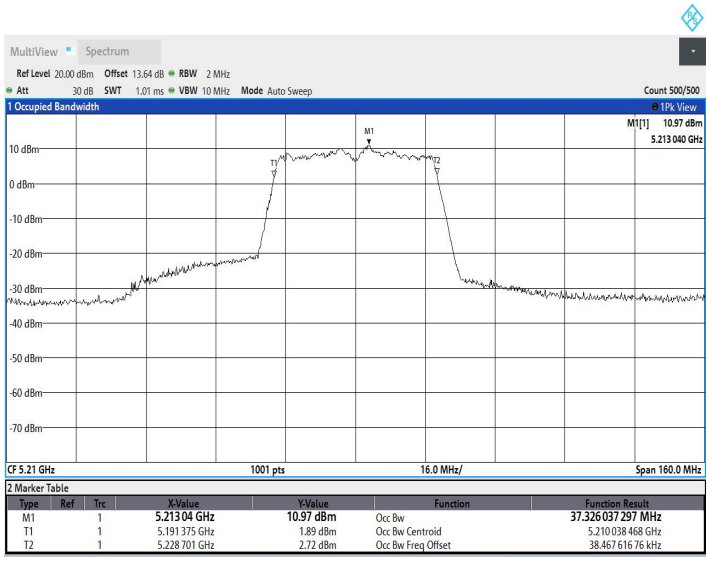

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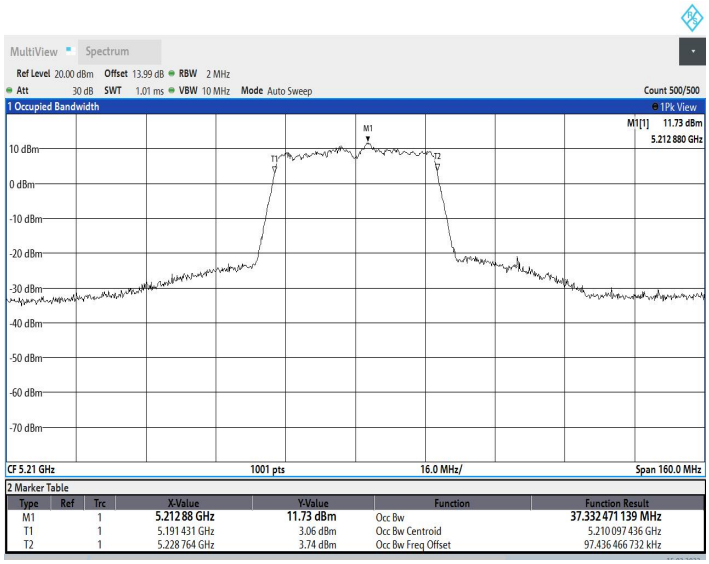


6.4 Maximum conducted output power

Specifications:	FCC 47 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)
FCC 47 Part 15.407(a)	<30

Measurement Uncertainty:

Measurement Uncertainty	±0.48dB

The measurement method SA-2 is made according to KDB 789033 E

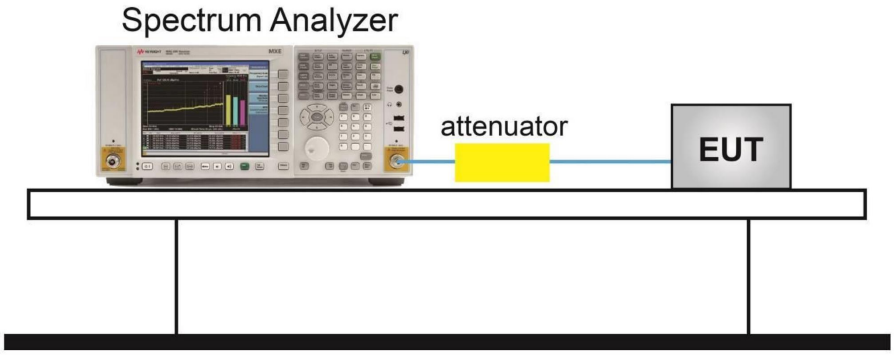
Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

1. Measure the duty cycle, x, of the transmitter output signal as described in II.B.
2. Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
3. Set RBW = 1 MHz. (iv) Set VBW ≥ 3 MHz.
4. Number of points in sweep ≥ 2 × span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
5. Sweep time = auto.
6. Detector = power averaging (rms), if available. Otherwise, use sample detector mode.
7. Do not use sweep triggering. Allow the sweep to “free run.”
8. Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
9. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or,

alternatively, the entire 99% occupied bandwidth) of the signal.

Add 10 log (1/x), where x is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add 10 log (1/0.25) = 6 dB if the duty cycle is 25%

Test setup



Antenna gain of EUT

Antenna Type	Frequency Band(MHz)	TX path	Max Antenna Gain(dBi)	CDD Directional Gain (dBi)	
				For Power	For PSD
External Antenna	5180 - 5240MHz 5745 - 5825MHz	2	3.9	3.9	6.91

Note:

The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated. For CDD transmissions, directional gain is calculated as follows, NANT = 2,Nss = 1.

lf all antennas have the same gain, GANT, Directional gain =GaNr +Array Gain, where Array Gain isas follows.

a. For power spectral density (PSD) measurements on all devices,

Array Gain = 10 log(NANT/ Nss) dB= 3.01;

b. For power measurements on lEEE 802.11 devices,

Array Gain =0 dB for NANT≤4

Test Result Channel Power

SISO:

Test Mode	Antenna	Frequency [MHz]	Channel Powert [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Gain [dBi]	EIRP [dBm]
11A	Ant1	5180	11.76	98.57	0.06	11.82	≤23.98	3.90	15.72
	Ant2	5180	12.16	98.10	0.08	12.24	≤23.98	3.90	16.14
	Ant1	5200	12.12	98.10	0.08	12.20	≤23.98	3.90	16.10
	Ant2	5200	12.52	98.57	0.06	12.58	≤23.98	3.90	16.48
	Ant1	5240	12.24	98.57	0.06	12.30	≤23.98	3.90	16.20
	Ant2	5240	13.43	98.57	0.06	13.49	≤23.98	3.90	17.39

11N20SISO	Ant1	5180	11.59	97.96	0.09	11.68	≤23.98	3.90	15.58
	Ant2	5180	12.01	98.47	0.07	12.08	≤23.98	3.90	15.98
	Ant1	5200	10.77	97.96	0.09	10.86	≤23.98	3.90	14.76
	Ant2	5200	11.37	98.47	0.07	11.44	≤23.98	3.90	15.34
	Ant1	5240	12.09	97.96	0.09	12.18	≤23.98	3.90	16.08
	Ant2	5240	13.29	98.47	0.07	13.36	≤23.98	3.90	17.26
11N40SISO	Ant1	5190	6.05	96.94	0.13	6.18	≤23.98	3.90	10.08
	Ant2	5190	6.50	96.94	0.13	6.63	≤23.98	3.90	10.53
	Ant1	5230	6.12	96.94	0.13	6.25	≤23.98	3.90	10.15
	Ant2	5230	6.40	95.96	0.18	6.58	≤23.98	3.90	10.48
11AC20SISO	Ant1	5180	11.63	98.47	0.07	11.70	≤23.98	3.90	15.60
	Ant2	5180	12.56	96.94	0.13	12.69	≤23.98	3.90	16.59
	Ant1	5200	12.00	97.97	0.09	12.09	≤23.98	3.90	15.99
	Ant2	5200	12.77	98.47	0.07	12.84	≤23.98	3.90	16.74
	Ant1	5240	12.12	97.97	0.09	12.21	≤23.98	3.90	16.11
	Ant2	5240	13.55	97.97	0.09	13.64	≤23.98	3.90	17.54
11AC40SISO	Ant1	5190	5.93	92.59	0.33	6.26	≤23.98	3.90	10.16
	Ant2	5190	6.45	95.96	0.18	6.63	≤23.98	3.90	10.53
	Ant1	5230	6.03	94.34	0.25	6.28	≤23.98	3.90	10.18
	Ant2	5230	6.29	96.94	0.13	6.42	≤23.98	3.90	10.32
11AC80SISO	Ant1	5210	5.99	92.59	0.33	6.32	≤23.98	3.90	10.22
	Ant2	5210	6.66	95.96	0.18	6.84	≤23.98	3.90	10.74

MIMO：

Test Mode	Antenna	Frequency [MHz]	Channel Powert [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Gain [dBi]	EIRP [dBm]
11A-CDD	Ant1	5180	11.94	98.10	0.08	12.02	≤23.98	3.90	15.92
	Ant2	5180	12.20	98.10	0.08	12.28	≤23.98	3.90	16.18
	total	5180	---	---	---	15.16	≤23.98	---	19.06
	Ant1	5200	12.29	98.10	0.08	12.37	≤23.98	3.90	16.27
	Ant2	5200	12.61	98.57	0.06	12.67	≤23.98	3.90	16.57
	total	5200	---	---	---	15.53	≤23.98	---	19.43
	Ant1	5240	12.34	98.10	0.08	12.42	≤23.98	3.90	16.32
	Ant2	5240	13.43	98.10	0.08	13.51	≤23.98	3.90	17.41
	total	5240	---	---	---	16.01	≤23.98	---	19.91
11N20MIMO	Ant1	5180	11.62	97.97	0.09	11.71	≤23.98	3.90	15.61
	Ant2	5180	11.90	97.96	0.09	11.99	≤23.98	3.90	15.89
	total	5180	---	---	---	14.86	≤23.98	---	18.76
	Ant1	5200	11.91	98.47	0.07	11.98	≤23.98	3.90	15.88

	Ant2	5200	12.37	97.96	0.09	12.46	≤23.98	3.90	16.36
	total	5200	---	---	---	15.24	≤23.98	---	19.14
	Ant1	5240	12.06	97.96	0.09	12.15	≤23.98	3.90	16.05
	Ant2	5240	13.26	97.96	0.09	13.35	≤23.98	3.90	17.25
	total	5240	---	---	---	15.80	≤23.98	---	19.70
11N40MIMO	Ant1	5190	6.11	96.94	0.13	6.24	≤23.98	3.90	10.14
	Ant2	5190	6.23	96.94	0.13	6.36	≤23.98	3.90	10.26
	total	5190	---	---	---	9.31	≤23.98	---	13.21
	Ant1	5230	6.21	96.94	0.13	6.34	≤23.98	3.90	10.24
	Ant2	5230	6.19	95.96	0.18	6.37	≤23.98	3.90	10.27
	total	5230	---	---	---	9.37	≤23.98	---	13.27
11AC20MIMO	Ant1	5180	11.57	96.12	0.17	11.74	≤23.98	3.90	15.64
	Ant2	5180	11.93	96.12	0.17	12.10	≤23.98	3.90	16.00
	total	5180	---	---	---	14.93	≤23.98	---	18.83
	Ant1	5200	8.72	96.12	0.17	8.89	≤23.98	3.90	12.79
	Ant2	5200	9.16	96.12	0.17	9.33	≤23.98	3.90	13.23
	total	5200	---	---	---	12.13	≤23.98	---	16.03
	Ant1	5240	12.12	96.12	0.17	12.29	≤23.98	3.90	16.19
	Ant2	5240	13.26	96.12	0.17	13.43	≤23.98	3.90	17.33
	total	5240	---	---	---	15.91	≤23.98	---	19.81
11AC40MIMO	Ant1	5190	5.80	94.34	0.25	6.05	≤23.98	3.90	9.95
	Ant2	5190	6.16	92.59	0.33	6.49	≤23.98	3.90	10.39
	total	5190	---	---	---	9.29	≤23.98	---	13.19
	Ant1	5230	6.17	92.59	0.33	6.50	≤23.98	3.90	10.4
	Ant2	5230	6.05	92.59	0.33	6.38	≤23.98	3.90	10.28
	total	5230	---	---	---	9.45	≤23.98	---	13.35
11AC80MIMO	Ant1	5210	5.88	92.59	0.33	6.21	≤23.98	3.90	10.11
	Ant2	5210	6.44	92.59	0.33	6.77	≤23.98	3.90	10.67
	total	5210	---	---	---	9.51	≤23.98	---	13.41

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

Test Graphs Channel Power

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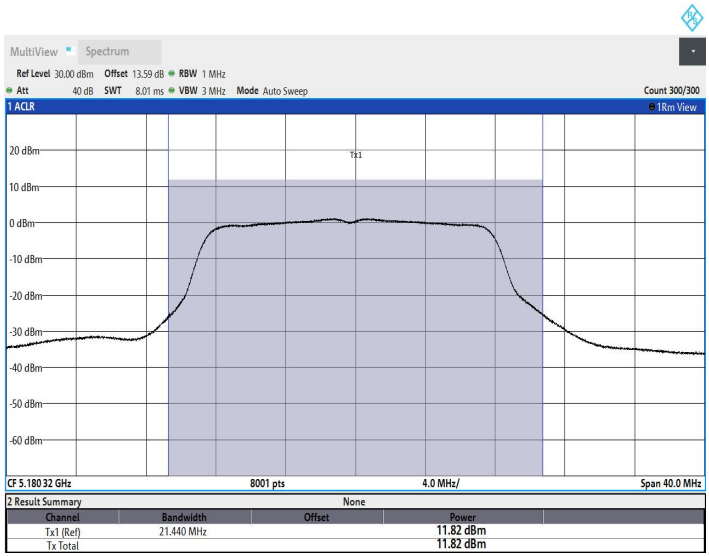

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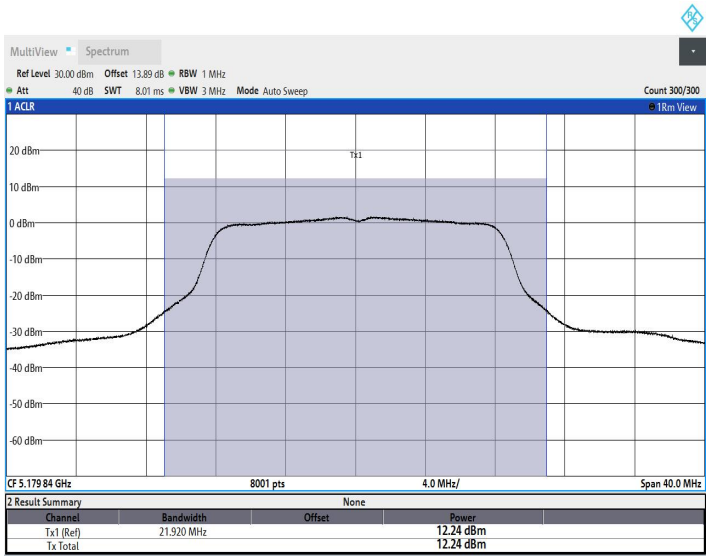

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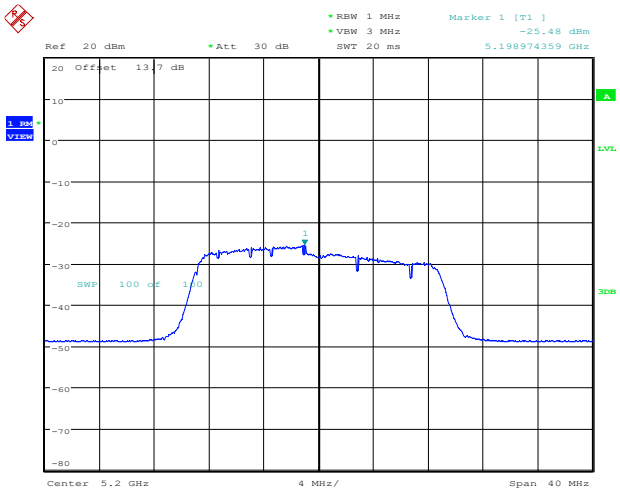

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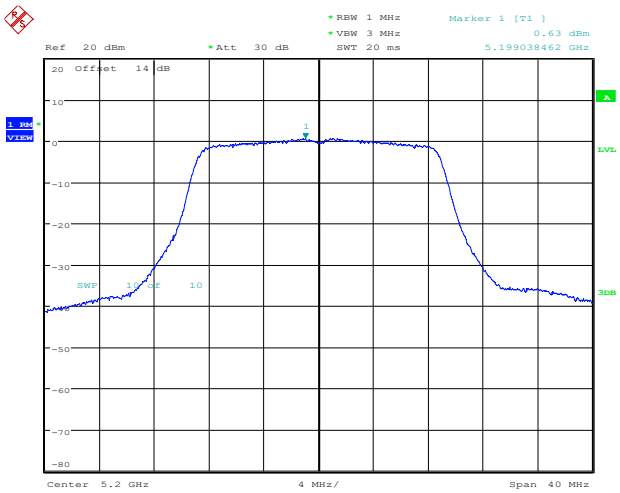

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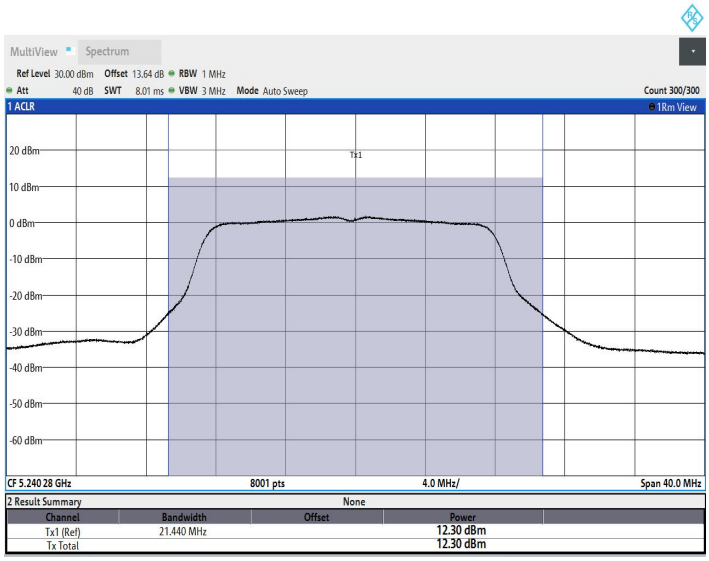

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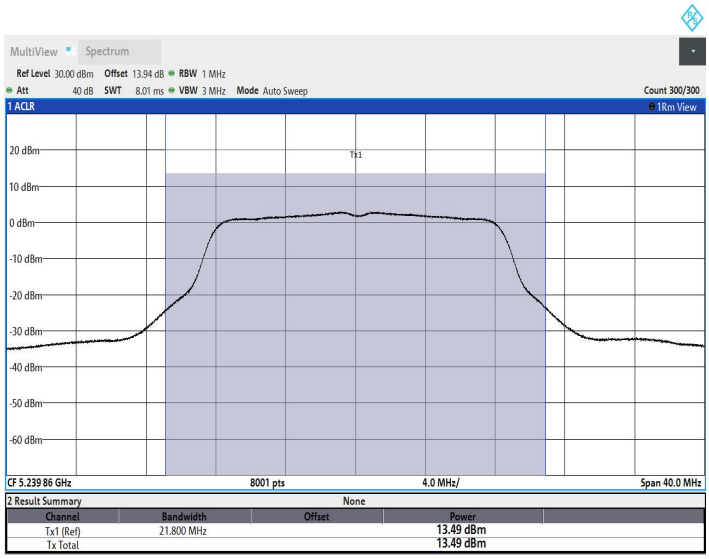

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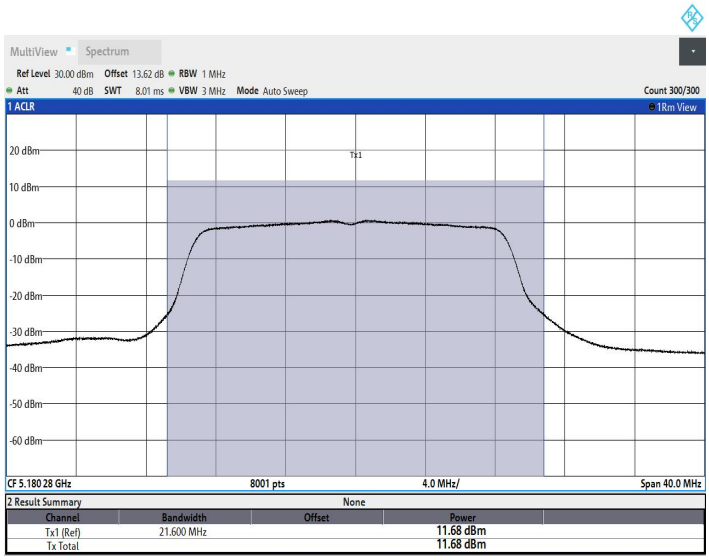

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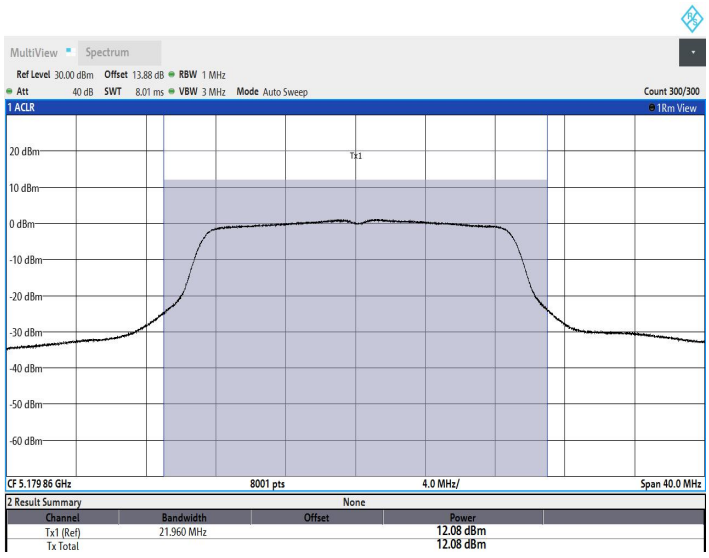

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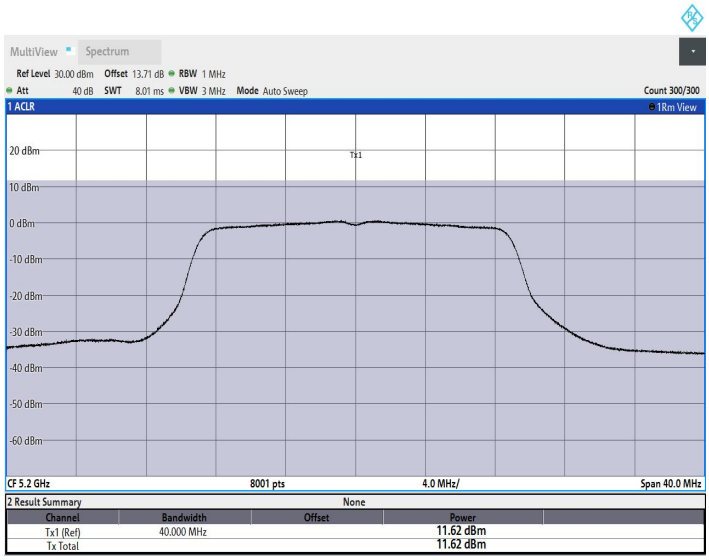

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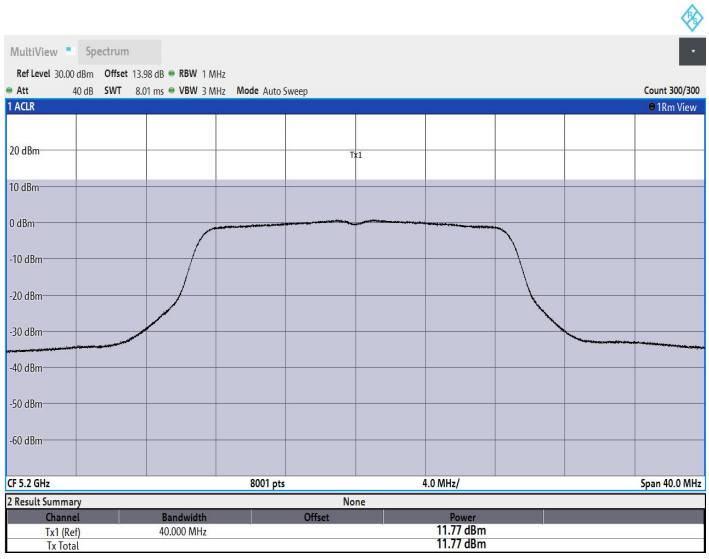

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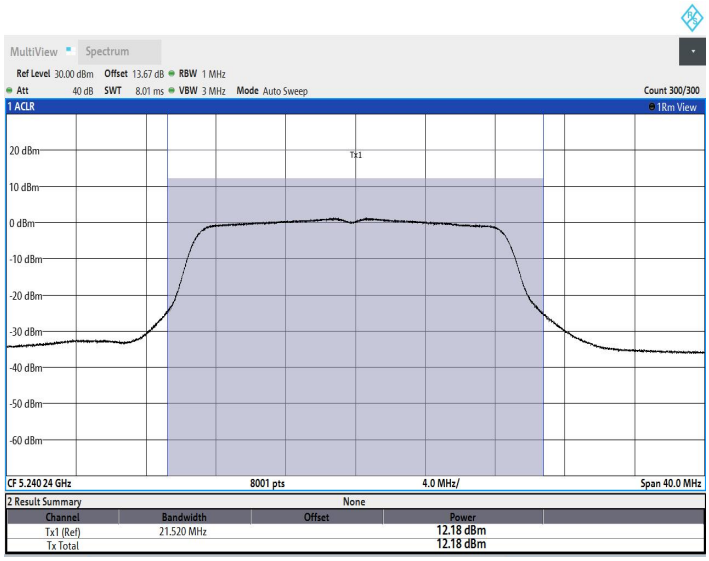

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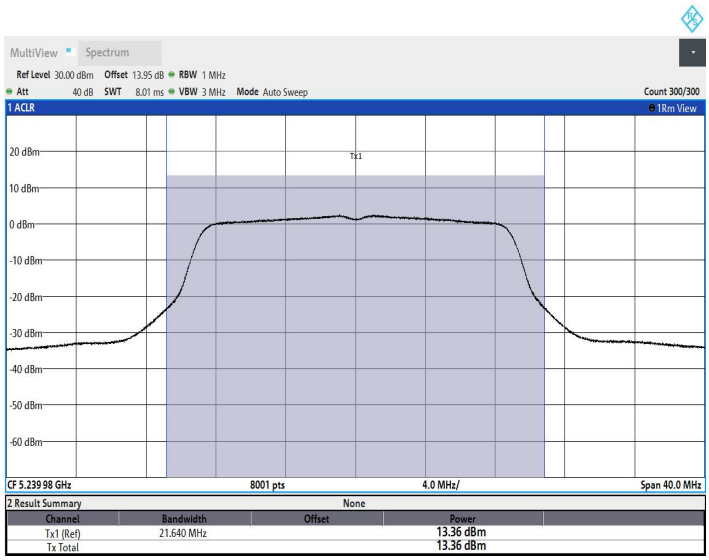

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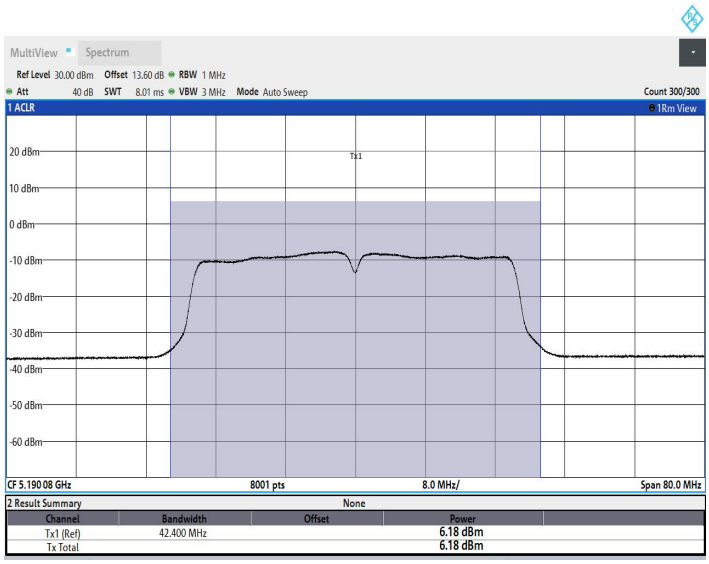

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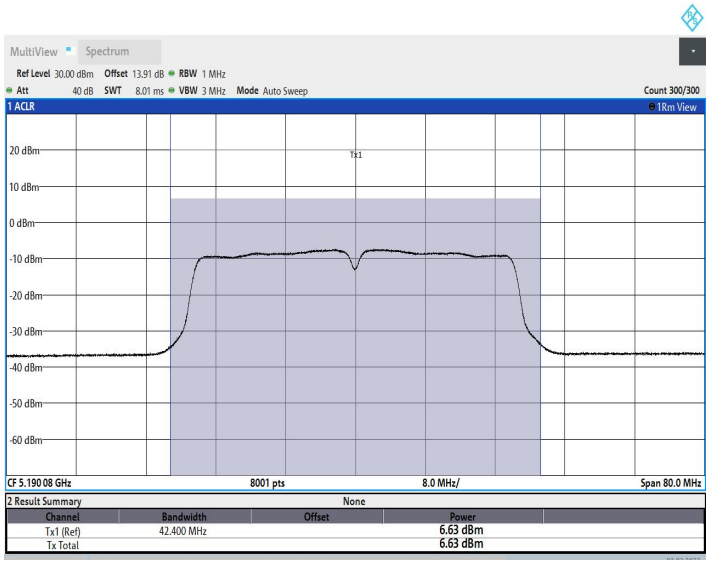

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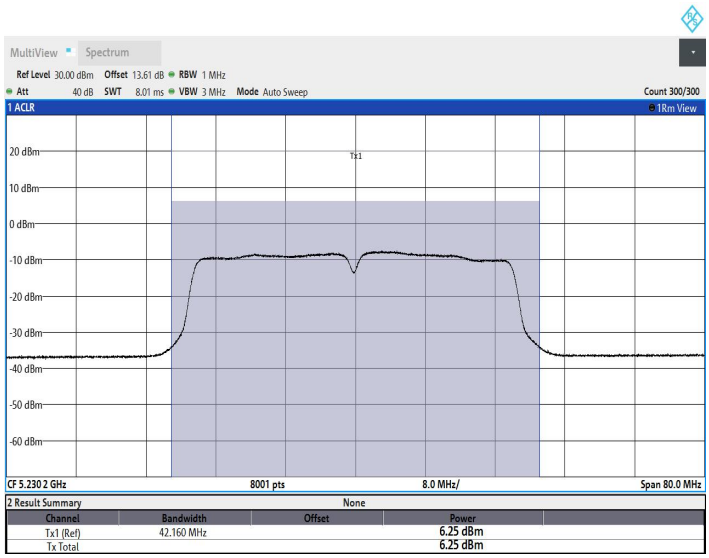

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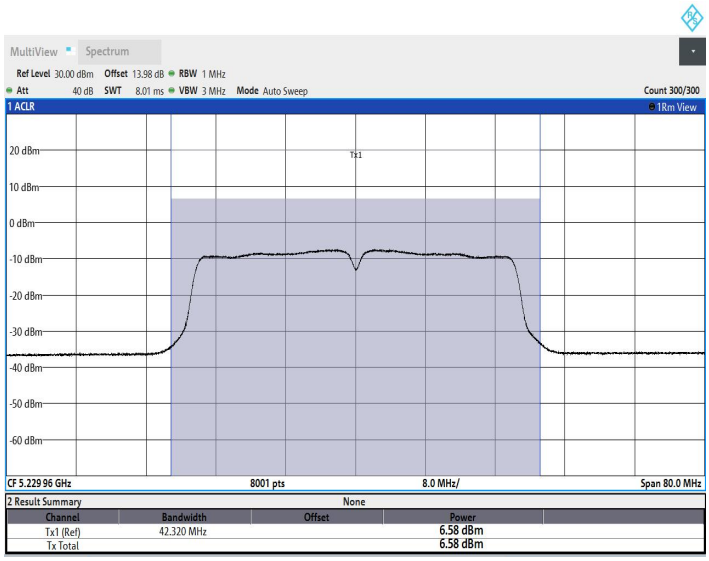

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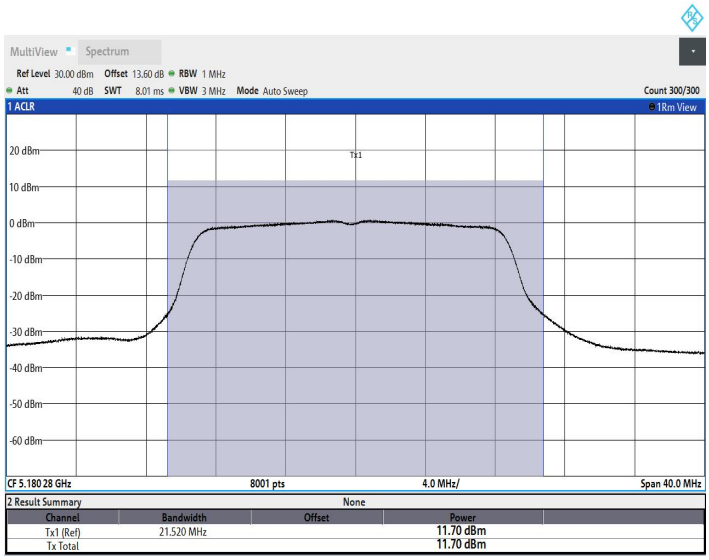

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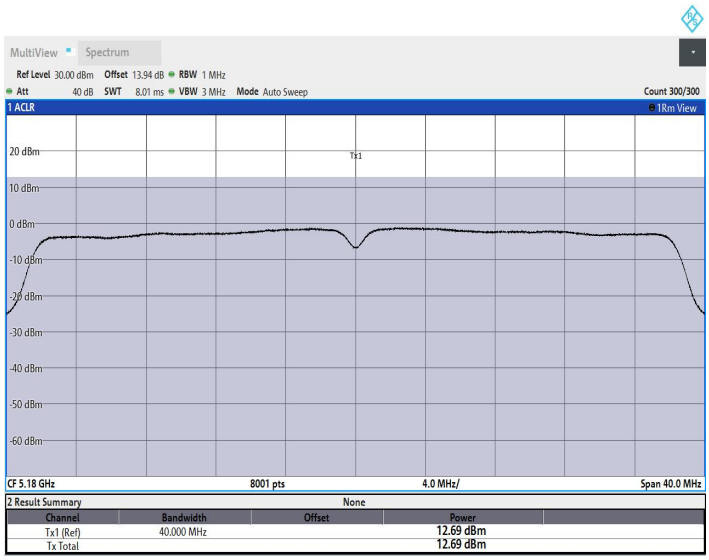

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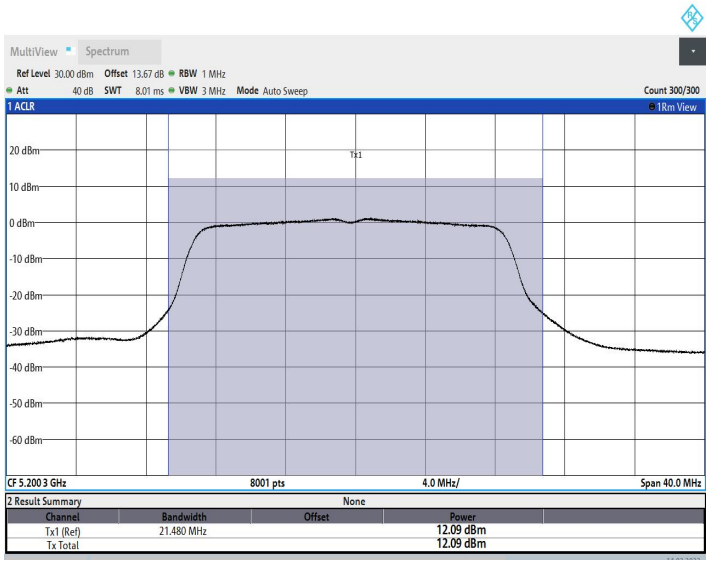

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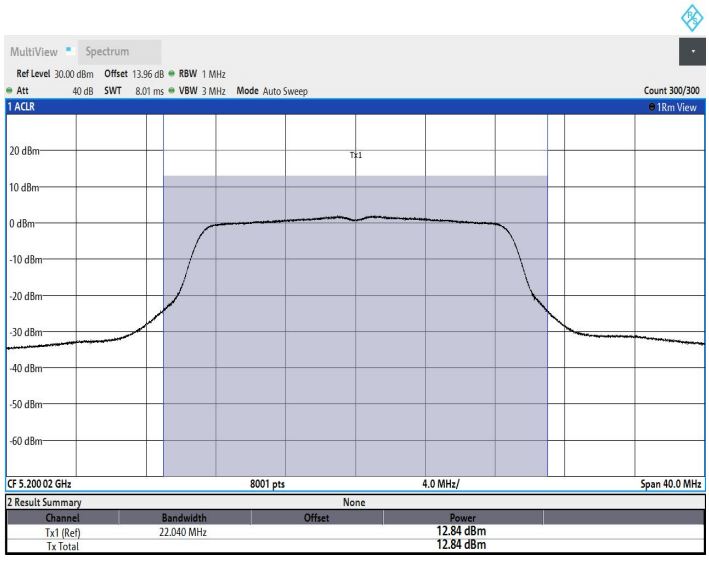

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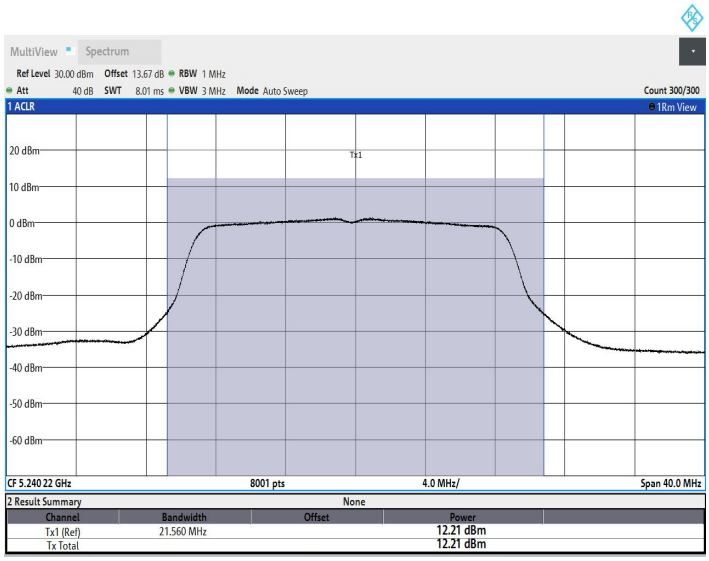

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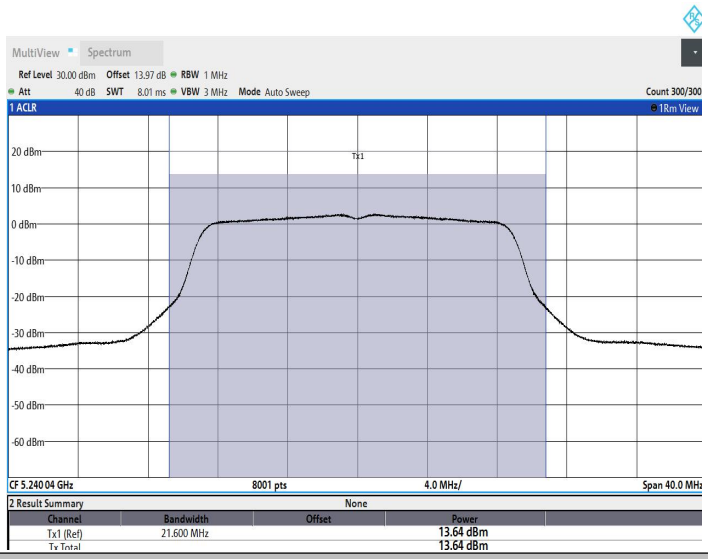

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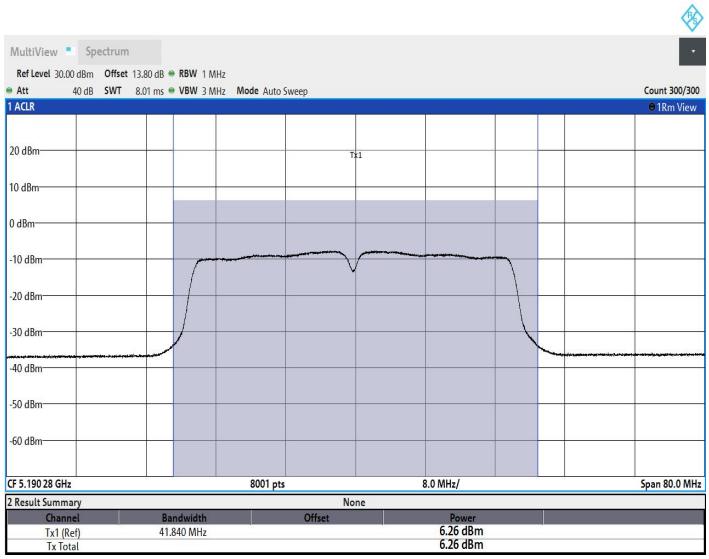

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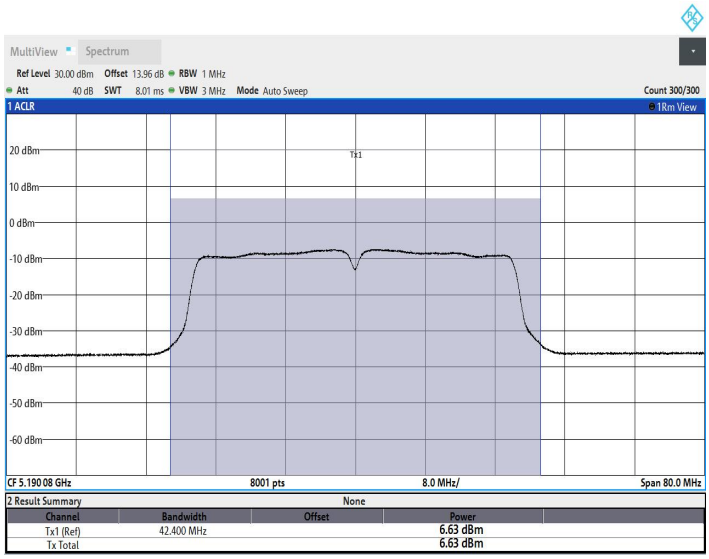

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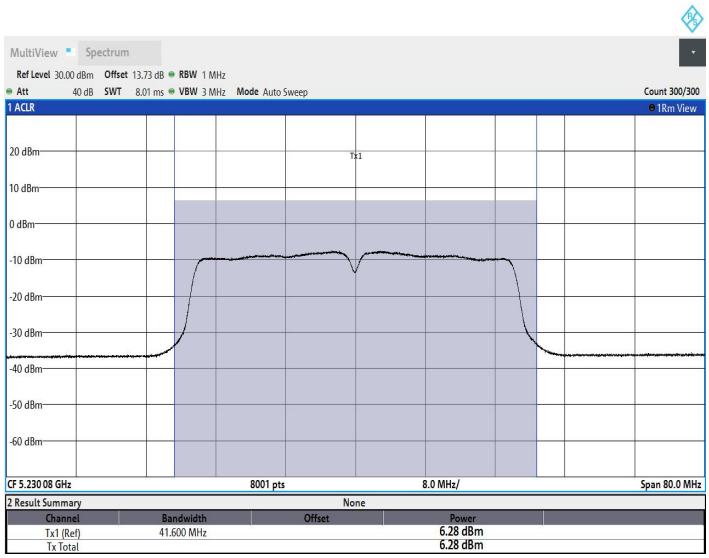

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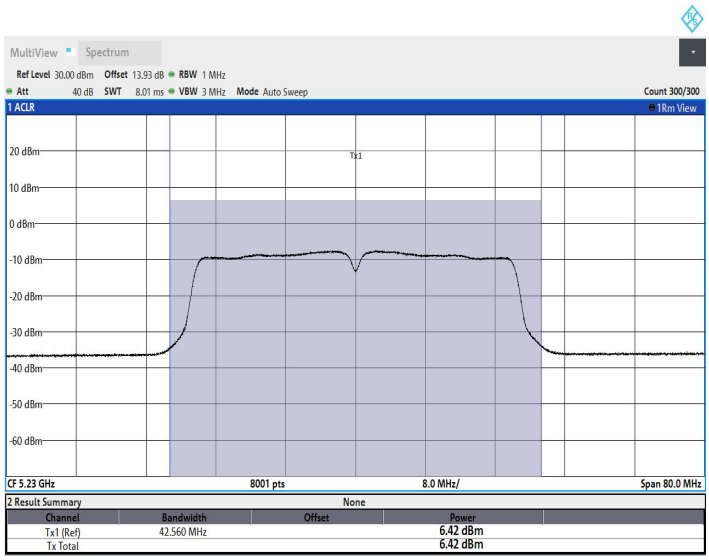

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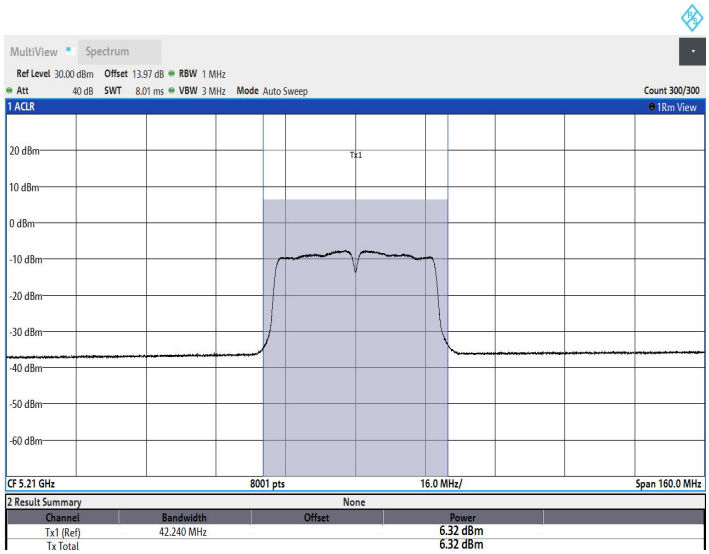

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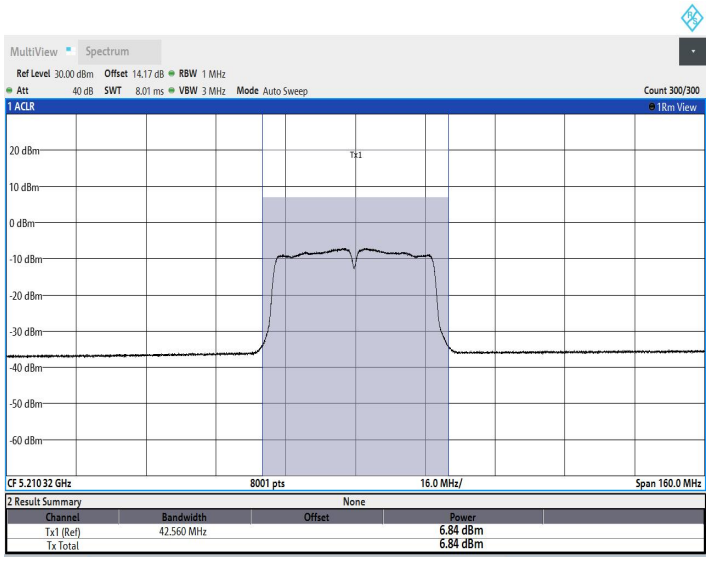

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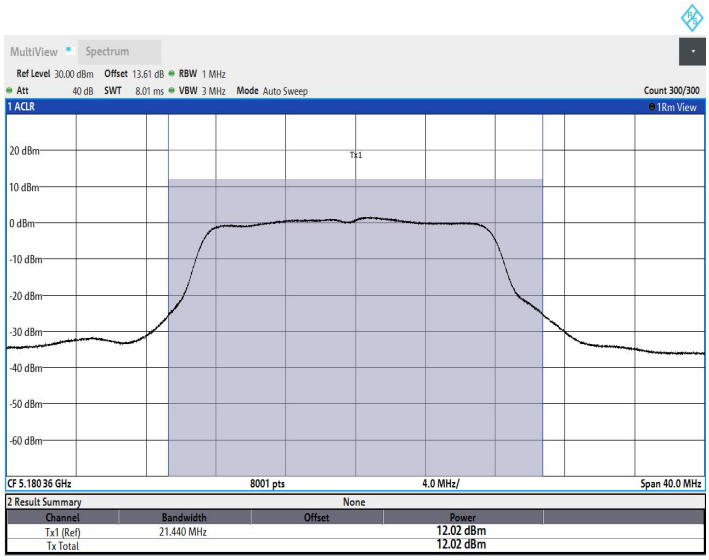

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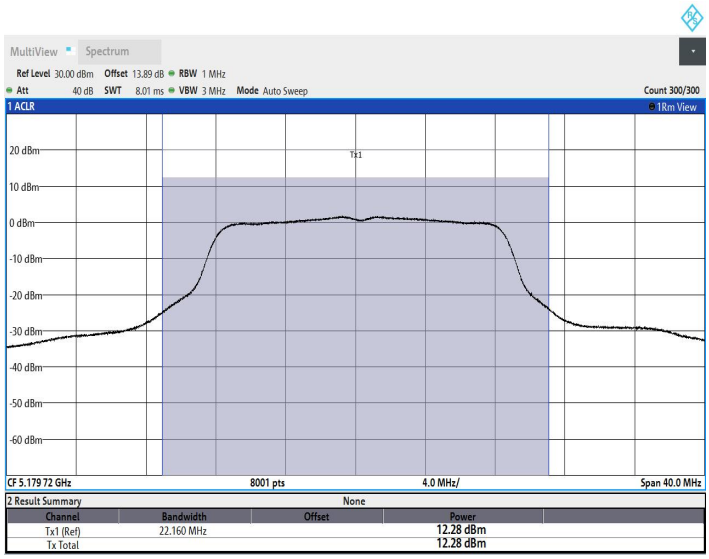

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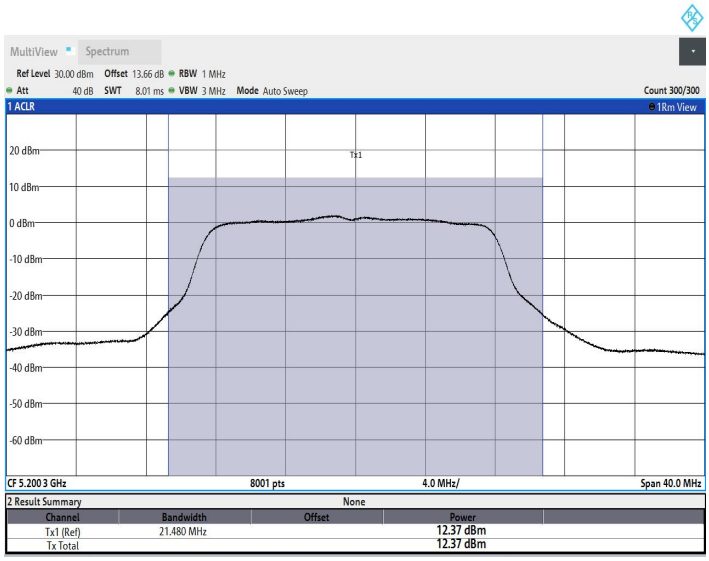

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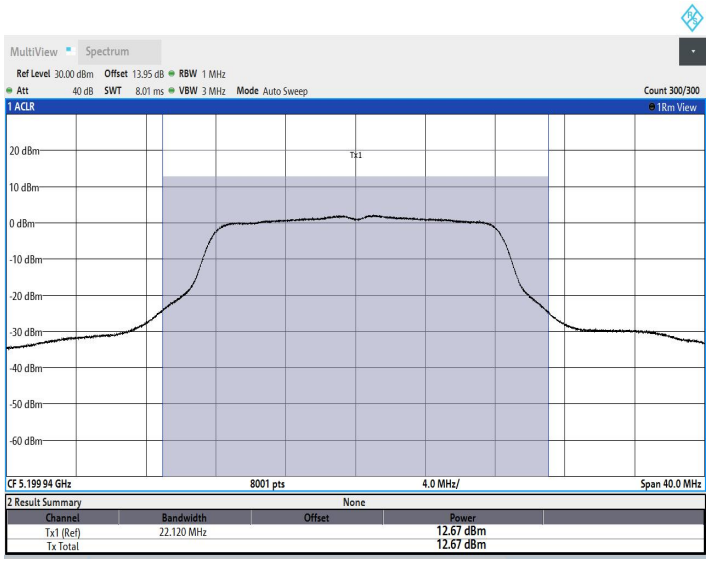

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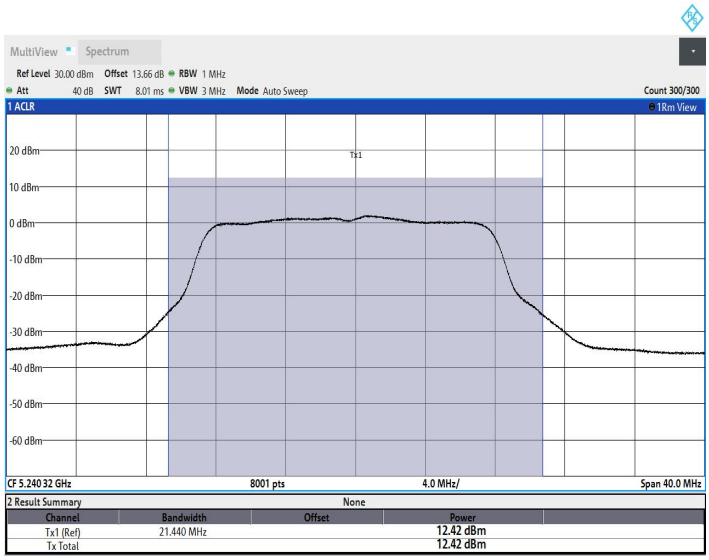

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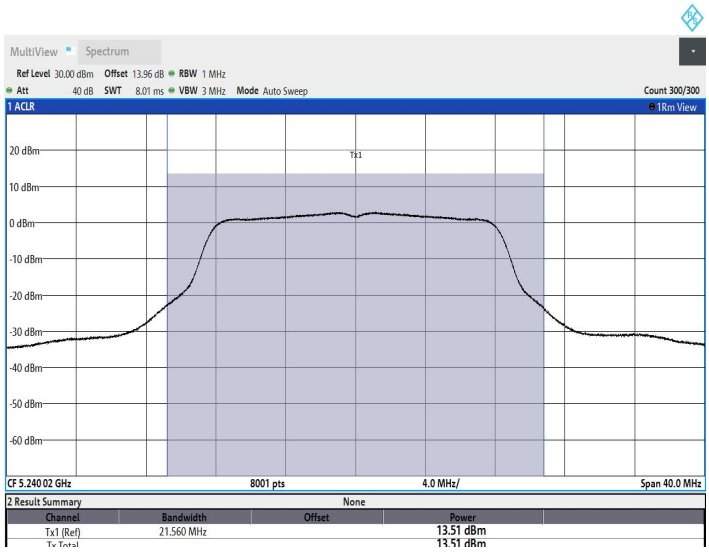

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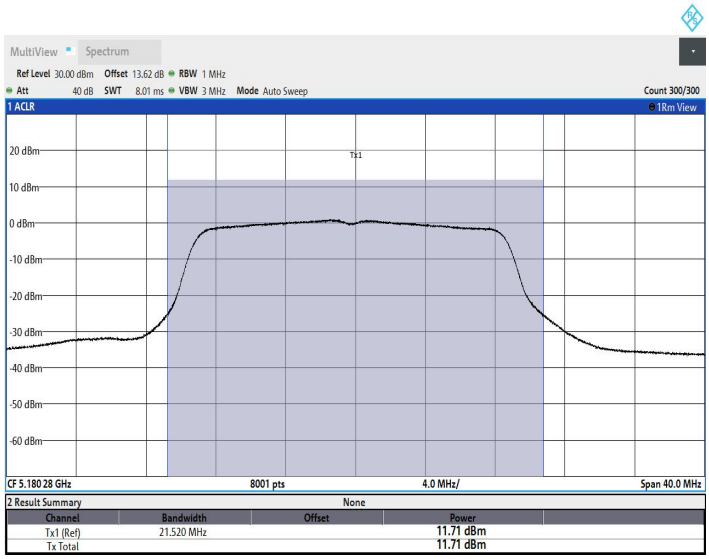

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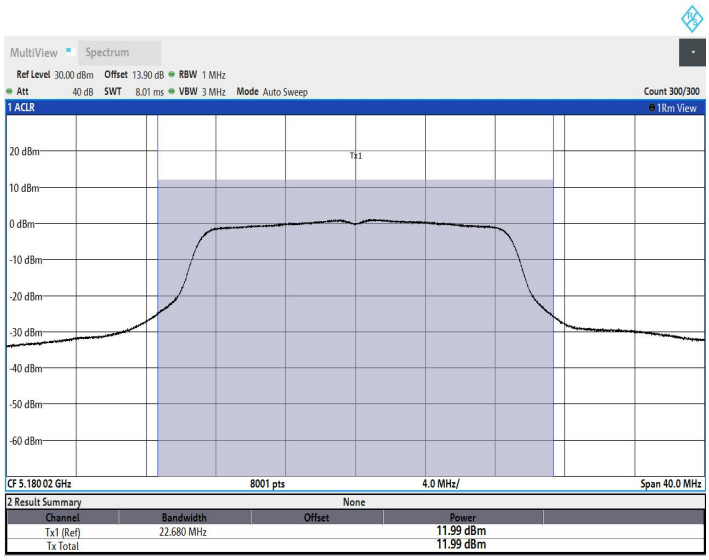

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