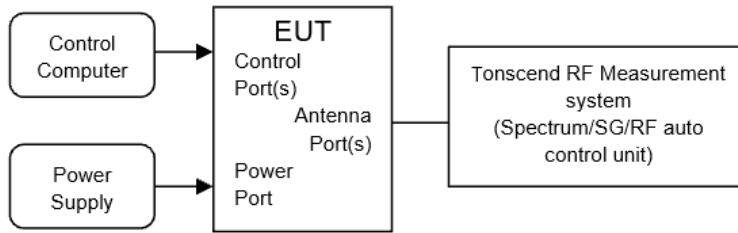


9. Power Spectral Density

9.1. Block diagram of test setup



9.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	For FCC: Other than Mobile and portable:17 dBm/MHz Mobile and portable client devices:11 dBm/MHz	5150-5250
	For RSS eirp: 10 dBm/MHz	
	11 dBm/MHz	5250-5350
	11 dBm/MHz	For FCC: 5470 - 5725 For ISDE: 5470 - 5600 5650 - 5725
	30 dBm/500 kHz	5725-5850
Note: 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, but for fixed point-to-point transmitters operating in 5150-5250MHz band that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum Power Spectral Density.		

9.3. Test procedure

The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 1MHz RBW and 3MHz VBW.

Connect the UUT to the spectrum analyser and use the following settings:

5150 MHz~5250 MHz, 5250 MHz~5350 MHz, 5470 MHz~5725 MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	1MHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

5725 MHz-5850 MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	500 kHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

9.4. Test result

Test Engineer:	Huang Yanwen	Test Site:	RF Measurement System 4#
Ambient Condition:	23.8-26.7°C,42.5-48.6%RH	Test Date:	2025.07.03-2025.07.17
Test Power Supply:	DC 12V	Sample Number:	S25061922-004

FCC UNII-1/ UNII-2A/UNII-2C/UNII-3 &
IC band UNII-2A/UNII-2C/UNII-3:

Test Mode	Antenna	Freq. [MHz]	Result [dBm/MHz]	FCC Limit [dBm/MHz]	IC Limit [dBm/MHz]	EIRP [dBm/MHz]	Verdict
11A	Ant1	5180	-1.46	≤10.32	---	10.96	PASS
	Ant2	5180	-0.54	≤10.32	---	12.14	PASS
	Ant1	5200	-1.50	≤10.32	---	10.92	PASS
	Ant2	5200	5.79	≤10.32	---	18.47	PASS
	Ant1	5240	-0.51	≤10.32	---	11.91	PASS
	Ant2	5240	-0.40	≤10.32	---	12.28	PASS
	Ant1	5260	0.14	≤4.58	≤11	12.56	PASS
	Ant2	5260	0.09	≤4.32	≤11	12.77	PASS
	Ant1	5280	-0.21	≤4.58	≤11	12.21	PASS
	Ant2	5280	-0.08	≤4.32	≤11	12.60	PASS
	Ant1	5320	-0.04	≤4.58	≤11	12.38	PASS
	Ant2	5320	-1.08	≤4.32	≤11	11.60	PASS
	Ant1	5500	0.91	≤4.58	≤11	13.33	PASS
	Ant2	5500	0.55	≤4.32	≤11	13.23	PASS
	Ant1	5580	0.31	≤4.58	≤11	12.73	PASS
	Ant2	5580	-0.99	≤4.32	≤11	11.69	PASS
	Ant1	5700	-0.03	≤4.58	≤11	12.39	PASS
	Ant2	5700	-1.59	≤4.32	≤11	11.09	PASS
	Ant1	5745	6.50	≤23.32	≤23.32	18.92	PASS
	Ant2	5745	6.88	≤23.32	≤23.32	19.56	PASS
	Ant1	5785	6.72	≤23.32	≤23.32	19.14	PASS
	Ant2	5785	6.28	≤23.32	≤23.32	18.96	PASS
	Ant1	5825	6.47	≤23.32	≤23.32	18.89	PASS
	Ant2	5825	6.18	≤23.32	≤23.32	18.86	PASS
11N20MIMO	Ant1	5180	2.53	≤10.32	---	14.95	PASS
	Ant2	5180	3.48	≤10.32	---	16.16	PASS
	total	5180	6.04	≤10.32	---	18.61	PASS
	Ant1	5200	2.22	≤10.32	---	14.64	PASS
	Ant2	5200	3.64	≤10.32	---	16.32	PASS
	total	5200	6.00	≤10.32	---	18.57	PASS
	Ant1	5240	2.95	≤10.32	---	15.37	PASS
	Ant2	5240	3.47	≤10.32	---	16.15	PASS
	total	5240	6.23	≤10.32	---	18.79	PASS
	Ant1	5260	-3.73	≤4.58	≤11	8.69	PASS
	Ant2	5260	-3.14	≤4.32	≤11	9.54	PASS
	total	5260	-0.41	≤4.32	≤11	12.15	PASS
	Ant1	5280	-4.07	≤4.58	≤11	8.35	PASS
	Ant2	5280	-2.89	≤4.32	≤11	9.79	PASS
	total	5280	-0.43	≤4.32	≤11	12.14	PASS
	Ant1	5320	-3.66	≤4.58	≤11	8.76	PASS
	Ant2	5320	-4.17	≤4.32	≤11	8.51	PASS
	total	5320	-0.90	≤4.32	≤11	11.65	PASS
	Ant1	5500	-3.06	≤4.58	≤11	9.36	PASS
	Ant2	5500	-2.13	≤4.32	≤11	10.55	PASS
	total	5500	0.44	≤4.32	≤11	13.01	PASS
	Ant1	5580	-3.43	≤4.58	≤11	8.99	PASS
	Ant2	5580	-3.64	≤4.32	≤11	9.04	PASS
	total	5580	-0.52	≤4.32	≤11	12.03	PASS
	Ant1	5700	-3.21	≤4.58	≤11	9.21	PASS
	Ant2	5700	-4.24	≤4.32	≤11	8.44	PASS
	total	5700	-0.68	≤4.32	≤11	11.85	PASS
	Ant1	5745	3.14	≤23.32	≤23.32	15.56	PASS

	Ant2	5745	2.81	≤23.32	≤23.32	15.49	PASS
	total	5745	5.99	≤23.32	≤23.32	18.54	PASS
	Ant1	5785	3.24	≤23.32	≤23.32	15.66	PASS
	Ant2	5785	3.07	≤23.32	≤23.32	15.75	PASS
	total	5785	6.17	≤23.32	≤23.32	18.72	PASS
	Ant1	5825	2.48	≤23.32	≤23.32	14.90	PASS
	Ant2	5825	2.14	≤23.32	≤23.32	14.82	PASS
11N40MIMO	total	5825	5.32	≤23.32	≤23.32	17.87	PASS
	Ant1	5190	1.58	≤10.32	---	14.00	PASS
	Ant2	5190	3.01	≤10.32	---	15.69	PASS
	total	5190	5.36	≤10.32	---	17.94	PASS
	Ant1	5230	2.59	≤10.32	---	15.01	PASS
	Ant2	5230	5.31	≤10.32	---	17.99	PASS
	total	5230	7.17	≤10.32	---	19.76	PASS
	Ant1	5270	-3.59	≤4.58	≤11	8.83	PASS
	Ant2	5270	-3.03	≤4.32	≤11	9.65	PASS
	total	5270	-0.29	≤4.32	≤11	12.27	PASS
	Ant1	5310	-3.69	≤4.58	≤11	8.73	PASS
	Ant2	5310	-3.49	≤4.32	≤11	9.19	PASS
	total	5310	-0.58	≤4.32	≤11	11.98	PASS
	Ant1	5510	-3.29	≤4.58	≤11	9.13	PASS
	Ant2	5510	-2.11	≤4.32	≤11	10.57	PASS
	total	5510	0.35	≤4.32	≤11	12.92	PASS
	Ant1	5550	-2.70	≤4.58	≤11	9.72	PASS
	Ant2	5550	-3.89	≤4.32	≤11	8.79	PASS
	total	5550	-0.24	≤4.32	≤11	12.29	PASS
	Ant1	5670	-5.35	≤4.58	≤11	7.07	PASS
	Ant2	5670	-5.04	≤4.32	≤11	7.64	PASS
	total	5670	-2.18	≤4.32	≤11	10.37	PASS
	Ant1	5755	0.74	≤23.58	≤23.32	13.16	PASS
	Ant2	5755	0.85	≤23.32	≤23.32	13.53	PASS
	total	5755	3.81	≤23.32	≤23.32	16.36	PASS
	Ant1	5795	0.10	≤23.58	≤23.32	12.52	PASS
	Ant2	5795	-0.68	≤23.32	≤23.32	12.00	PASS
	total	5795	2.74	≤23.32	≤23.32	15.28	PASS
11AC20MIMO	Ant1	5180	2.16	≤10.58	---	14.58	PASS
	Ant2	5180	3.27	≤10.32	---	15.95	PASS
	total	5180	5.76	≤10.32	---	18.33	PASS
	Ant1	5200	1.52	≤10.58	---	13.94	PASS
	Ant2	5200	3.03	≤10.32	---	15.71	PASS
	total	5200	5.35	≤10.32	---	17.92	PASS
	Ant1	5240	2.99	≤10.58	---	15.41	PASS
	Ant2	5240	3.29	≤10.32	---	15.97	PASS
	total	5240	6.15	≤10.32	---	18.71	PASS
	Ant1	5260	-3.37	≤4.58	≤11	9.05	PASS
	Ant2	5260	-2.48	≤4.32	≤11	10.20	PASS
	total	5260	0.11	≤4.32	≤11	12.67	PASS
	Ant1	5280	-3.57	≤4.58	≤11	8.85	PASS
	Ant2	5280	-2.56	≤4.32	≤11	10.12	PASS
	total	5280	-0.03	≤4.32	≤11	12.54	PASS
	Ant1	5320	-3.53	≤4.58	≤11	8.89	PASS
	Ant2	5320	-3.68	≤4.32	≤11	9.00	PASS
	total	5320	-0.59	≤4.32	≤11	11.96	PASS
	Ant1	5500	-3.07	≤4.58	≤11	9.35	PASS
	Ant2	5500	-1.70	≤4.32	≤11	10.98	PASS
	total	5500	0.68	≤4.32	≤11	13.25	PASS
	Ant1	5580	-3.68	≤4.58	≤11	8.74	PASS
	Ant2	5580	-3.45	≤4.32	≤11	9.23	PASS
	total	5580	-0.55	≤4.32	≤11	12.00	PASS
	Ant1	5700	-3.57	≤4.58	≤11	8.85	PASS
	Ant2	5700	-4.20	≤4.32	≤11	8.48	PASS
	total	5700	-0.86	≤4.32	≤11	11.68	PASS
	Ant1	5745	3.56	≤23.58	≤23.32	15.98	PASS
	Ant2	5745	4.05	≤23.32	≤23.32	16.73	PASS

	total	5745	6.82	≤ 23.32	≤ 23.32	19.38	PASS
	Ant1	5785	3.08	≤ 23.58	≤ 23.32	15.50	PASS
	Ant2	5785	3.36	≤ 23.32	≤ 23.32	16.04	PASS
	total	5785	6.23	≤ 23.32	≤ 23.32	18.79	PASS
	Ant1	5825	3.01	≤ 23.58	≤ 23.32	15.43	PASS
	Ant2	5825	2.17	≤ 23.32	≤ 23.32	14.85	PASS
	total	5825	5.62	≤ 23.32	≤ 23.32	18.16	PASS
	Ant1	5190	2.16	≤ 10.58	---	14.58	PASS
	Ant2	5190	2.86	≤ 10.32	---	15.54	PASS
	total	5190	5.53	≤ 10.32	---	18.10	PASS
	Ant1	5230	2.93	≤ 10.58	---	15.35	PASS
	Ant2	5230	3.44	≤ 10.32	---	16.12	PASS
	total	5230	6.20	≤ 10.32	---	18.76	PASS
	Ant1	5270	-5.37	≤ 4.58	≤ 11	7.05	PASS
	Ant2	5270	-4.40	≤ 4.32	≤ 11	8.28	PASS
	total	5270	-1.85	≤ 4.32	≤ 11	10.72	PASS
	Ant1	5310	-5.10	≤ 4.58	≤ 11	7.32	PASS
	Ant2	5310	-4.77	≤ 4.32	≤ 11	7.91	PASS
	total	5310	-1.92	≤ 4.32	≤ 11	10.64	PASS
	Ant1	5510	-4.63	≤ 4.58	≤ 11	7.79	PASS
	Ant2	5510	-3.70	≤ 4.32	≤ 11	8.98	PASS
	total	5510	-1.13	≤ 4.32	≤ 11	11.44	PASS
	Ant1	5550	-3.99	≤ 4.58	≤ 11	8.43	PASS
	Ant2	5550	-4.12	≤ 4.32	≤ 11	8.56	PASS
	total	5550	-1.04	≤ 4.32	≤ 11	11.51	PASS
	Ant1	5670	-5.40	≤ 4.58	≤ 11	7.02	PASS
	Ant2	5670	-5.52	≤ 4.32	≤ 11	7.16	PASS
	total	5670	-2.45	≤ 4.32	≤ 11	10.10	PASS
	Ant1	5755	0.41	≤ 23.58	≤ 23.32	12.83	PASS
	Ant2	5755	0.75	≤ 23.32	≤ 23.32	13.43	PASS
	total	5755	3.59	≤ 23.32	≤ 23.32	16.15	PASS
	Ant1	5795	0.09	≤ 23.58	≤ 23.32	12.51	PASS
	Ant2	5795	-0.18	≤ 23.32	≤ 23.32	12.50	PASS
	total	5795	2.97	≤ 23.32	≤ 23.32	15.52	PASS
	Ant1	5210	0.61	≤ 10.58	---	13.03	PASS
	Ant2	5210	1.85	≤ 10.32	---	14.53	PASS
	total	5210	4.28	≤ 10.32	---	16.85	PASS
	Ant1	5290	-6.34	≤ 4.58	≤ 11	6.08	PASS
	Ant2	5290	-5.07	≤ 4.32	≤ 11	7.61	PASS
	total	5290	-2.65	≤ 4.32	≤ 11	9.92	PASS
	Ant1	5530	-5.39	≤ 4.58	≤ 11	7.03	PASS
	Ant2	5530	-4.22	≤ 4.32	≤ 11	8.46	PASS
	total	5530	-1.76	≤ 4.32	≤ 11	10.81	PASS
	Ant1	5610	-6.37	≤ 4.58	≤ 11	6.05	PASS
	Ant2	5610	-6.51	≤ 4.32	≤ 11	6.17	PASS
	total	5610	-3.43	≤ 4.32	≤ 11	9.14	PASS
	Ant1	5775	-2.25	≤ 23.58	≤ 23.32	10.17	PASS
	Ant2	5775	-3.01	≤ 23.32	≤ 23.32	9.67	PASS
	total	5775	0.40	≤ 23.32	≤ 23.32	12.94	PASS

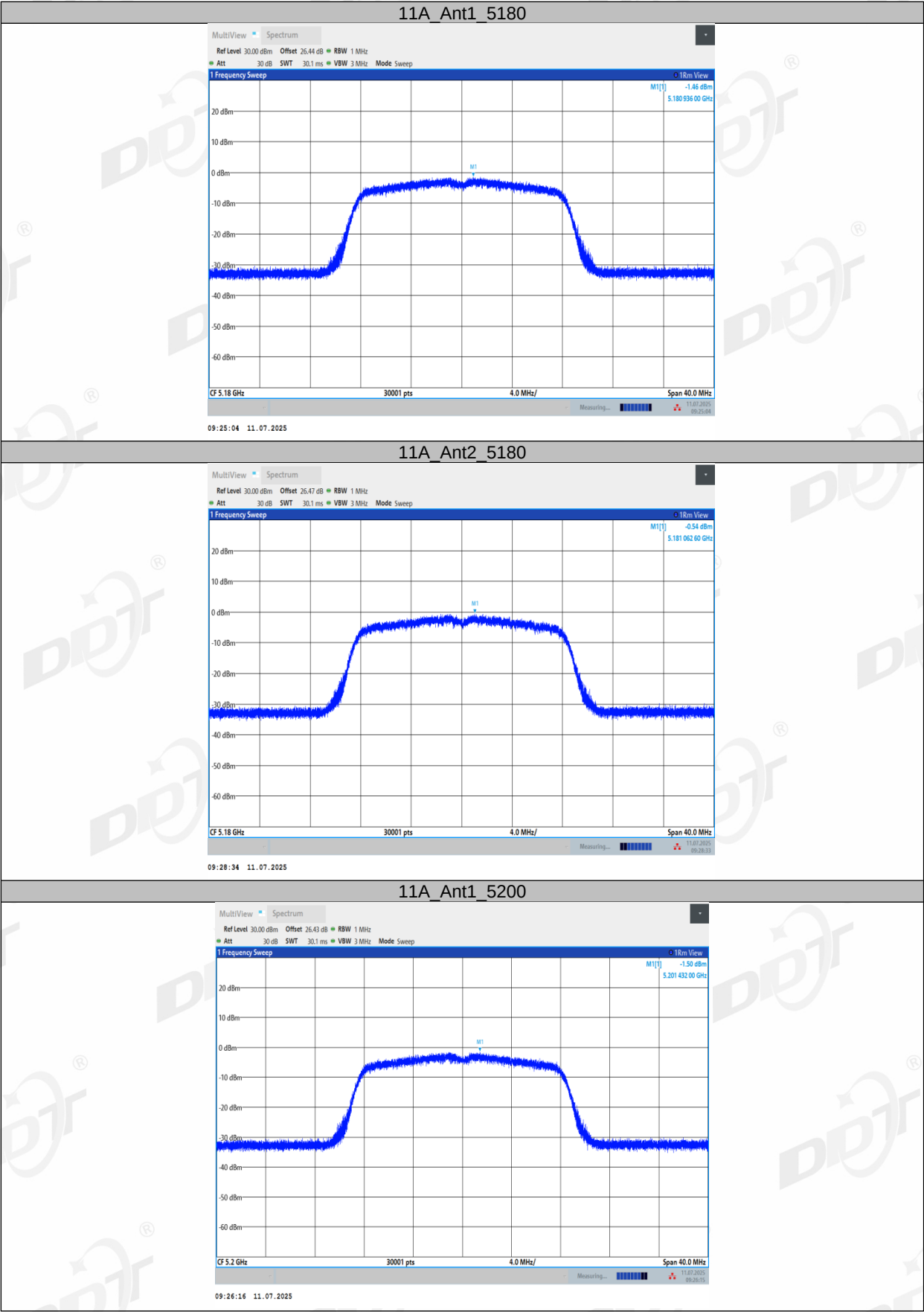
- Note: 1. The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
2. The Duty Cycle Factor is compensated in the graph.
3. The limit and EIRP caculation for MIMO results refer to the stricter antenna gain 12.68dBi

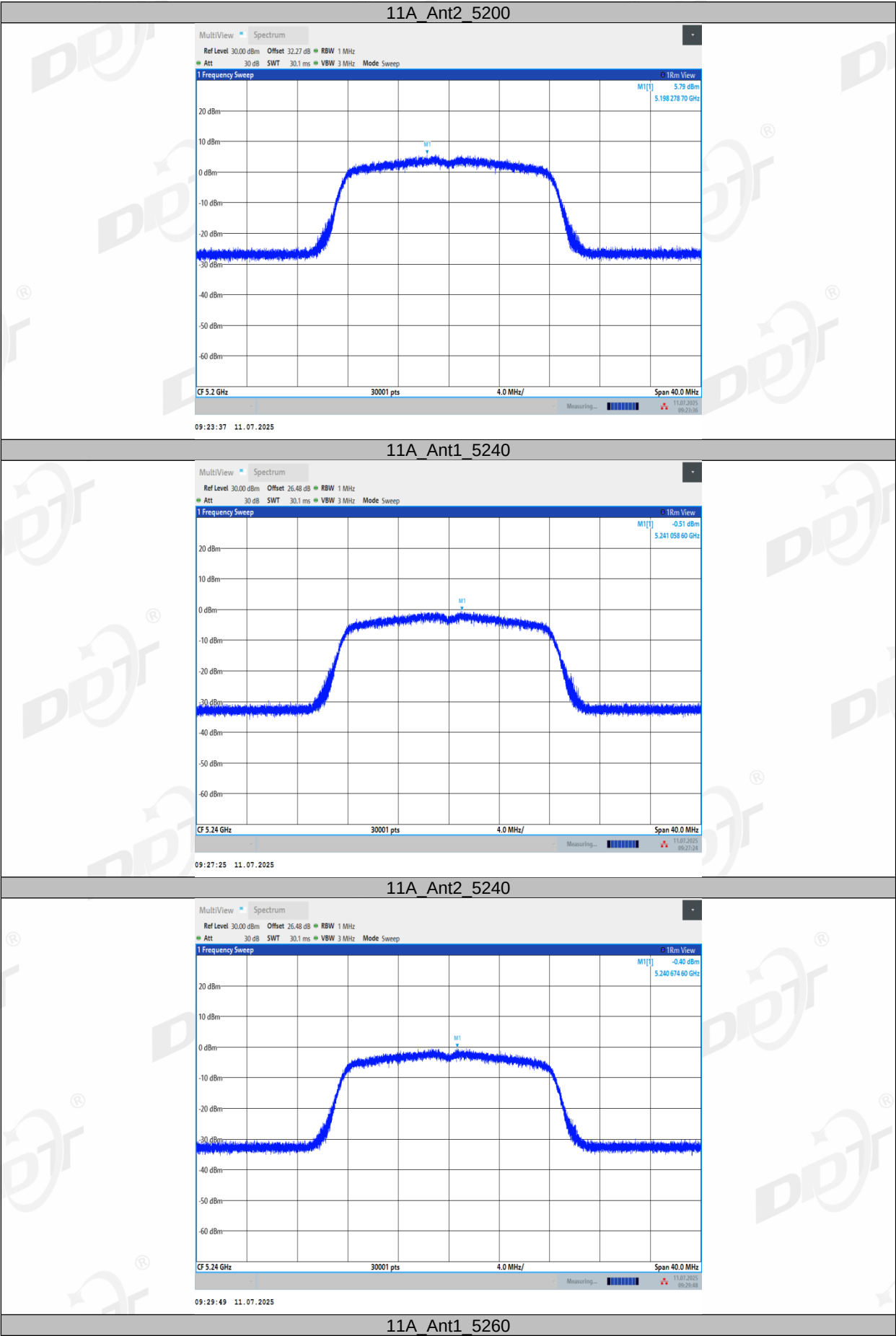
IC UNII-1:

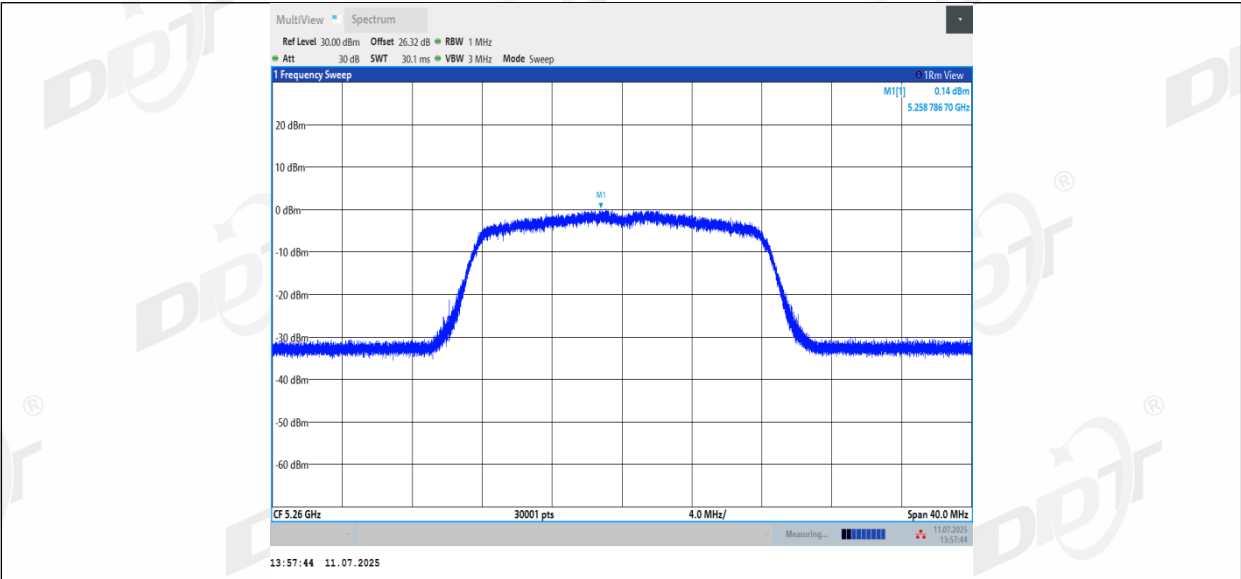
Test Mode	Antenna	Freq. [MHz]	Result [dBm/MHz]	EIRP [dBm/MHz]	ISED EIRP Limit [dBm/MHz]	Verdict
11A	Ant1	5180	-4.35	8.07	≤10.00	PASS
	Ant2	5180	-3.69	8.99	≤10.00	PASS
	Ant1	5200	-4.66	7.76	≤10.00	PASS
	Ant2	5200	-3.48	9.20	≤10.00	PASS
	Ant1	5240	-3.90	8.52	≤10.00	PASS
	Ant2	5240	-3.34	9.34	≤10.00	PASS
11N20MIMO	Ant1	5180	-7.93	4.49	≤10.00	PASS
	Ant2	5180	-6.98	5.70	≤10.00	PASS
	total	5180	-4.42	8.15	≤10.00	PASS
	Ant1	5200	-8.14	4.28	≤10.00	PASS
	Ant2	5200	-5.40	7.28	≤10.00	PASS
	total	5200	-3.55	9.04	≤10.00	PASS
	Ant1	5240	-6.07	6.35	≤10.00	PASS
	Ant2	5240	-5.97	6.71	≤10.00	PASS
11N40MIMO	total	5240	-3.01	9.54	≤10.00	PASS
	Ant1	5190	-11.64	0.78	≤10.00	PASS
	Ant2	5190	-10.39	2.29	≤10.00	PASS
	total	5190	-7.96	4.61	≤10.00	PASS
	Ant1	5230	-10.71	1.71	≤10.00	PASS
	Ant2	5230	-10.64	2.04	≤10.00	PASS
11AC20MIMO	total	5230	-7.66	4.89	≤10.00	PASS
	Ant1	5180	-8.84	3.58	≤10.00	PASS
	Ant2	5180	-7.73	4.95	≤10.00	PASS
	total	5180	-5.24	7.33	≤10.00	PASS
	Ant1	5200	-8.62	3.80	≤10.00	PASS
	Ant2	5200	-7.81	4.87	≤10.00	PASS
	total	5200	-5.19	7.38	≤10.00	PASS
	Ant1	5240	-8.00	4.42	≤10.00	PASS
11AC40MIMO	Ant2	5240	-7.56	5.12	≤10.00	PASS
	total	5240	-4.76	7.79	≤10.00	PASS
	Ant1	5190	-11.39	1.03	≤10.00	PASS
	Ant2	5190	-10.86	1.82	≤10.00	PASS
	total	5190	-8.11	4.45	≤10.00	PASS
	Ant1	5230	-10.21	2.21	≤10.00	PASS
11AC80MIMO	Ant2	5230	-10.14	2.54	≤10.00	PASS
	total	5230	-7.16	5.39	≤10.00	PASS
	Ant1	5210	-12.94	-0.52	≤10.00	PASS
	Ant2	5210	-12.04	0.64	≤10.00	PASS
	total	5210	-9.46	3.11	≤10.00	PASS

9.5. Test graphs

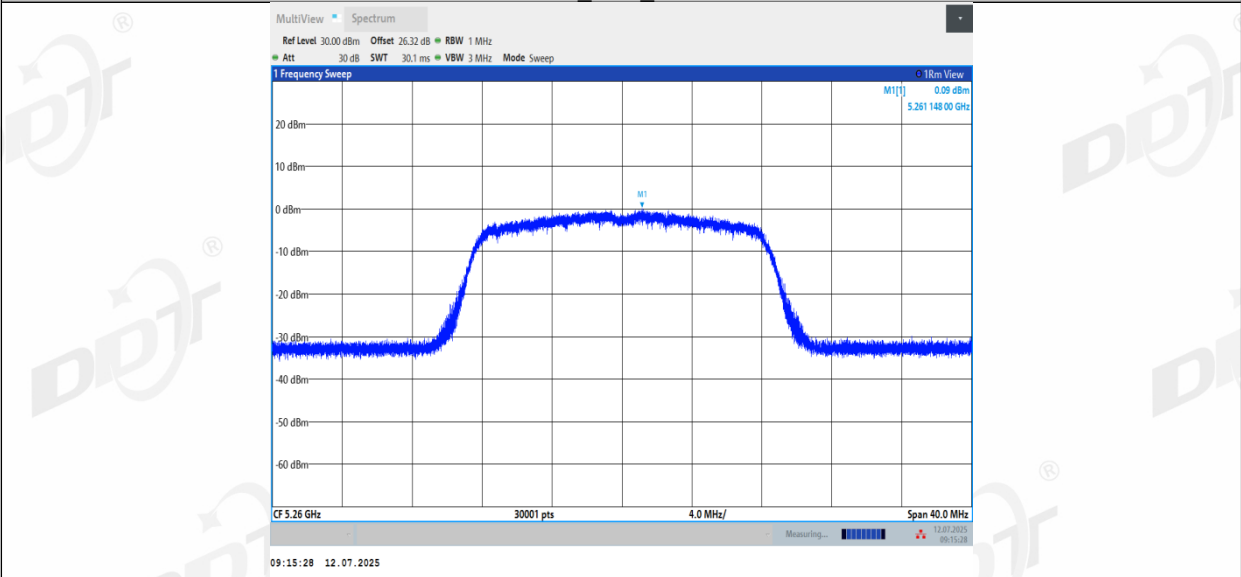
FCC UNII-1/ UNII-2A/UNII-2C/UNII-3and IC band UNII-2A/UNII-2C/UNII-3:



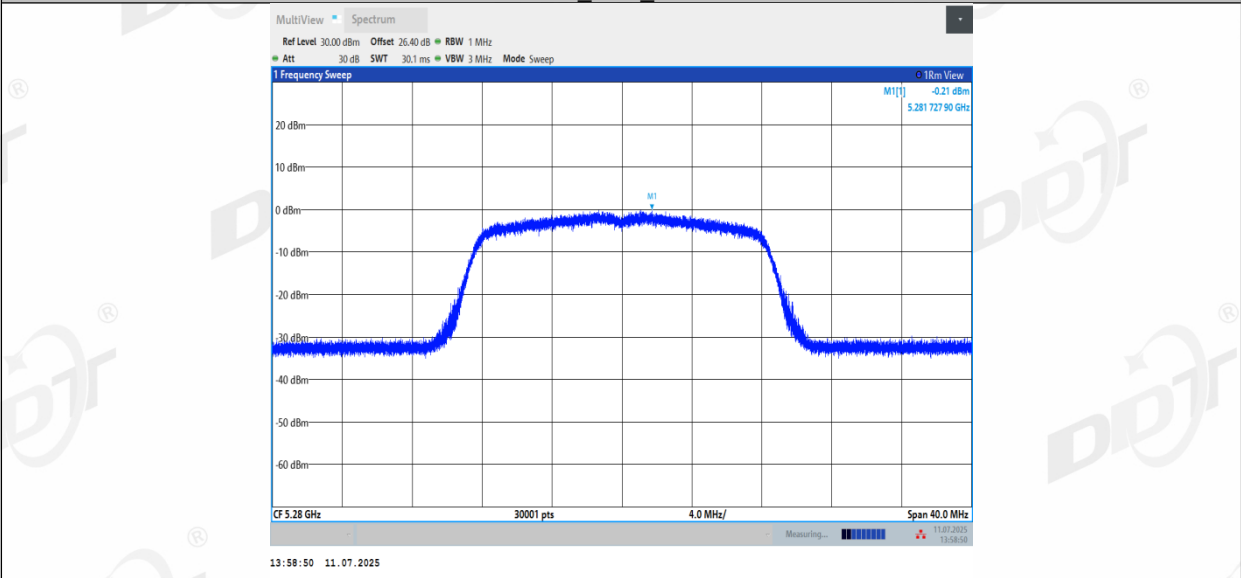




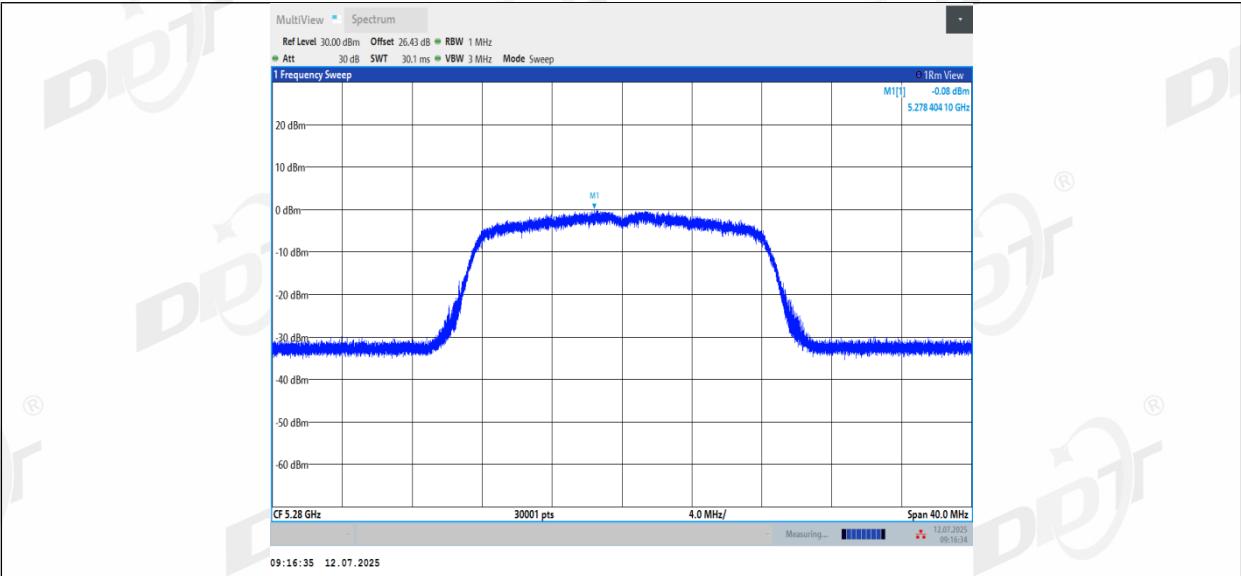
11A_Ant2_5260



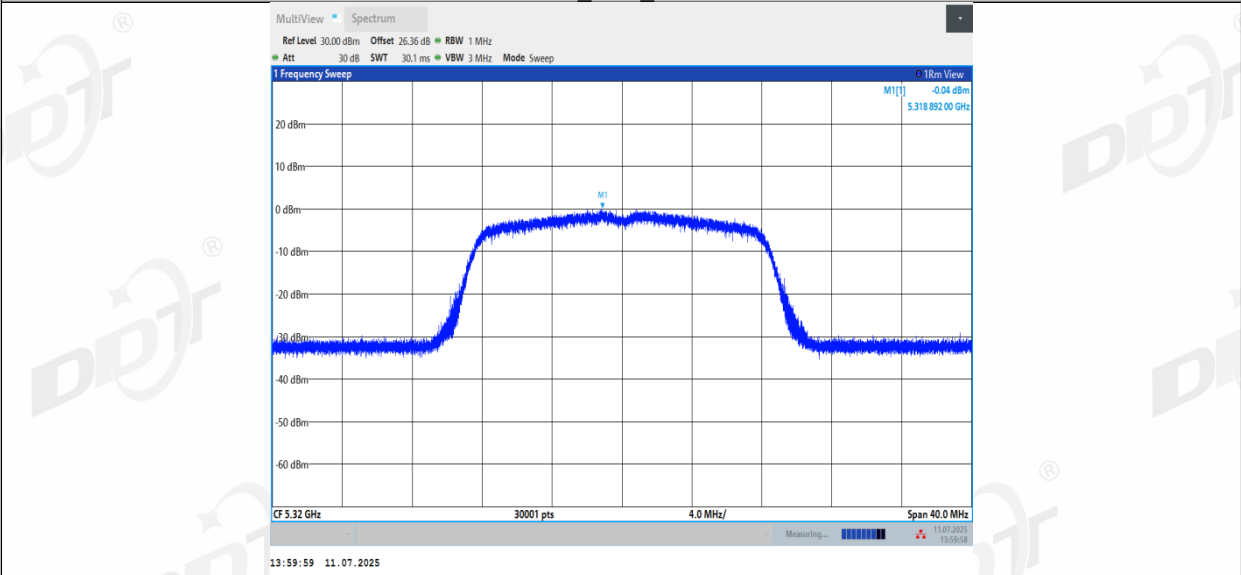
11A_Ant1_5280



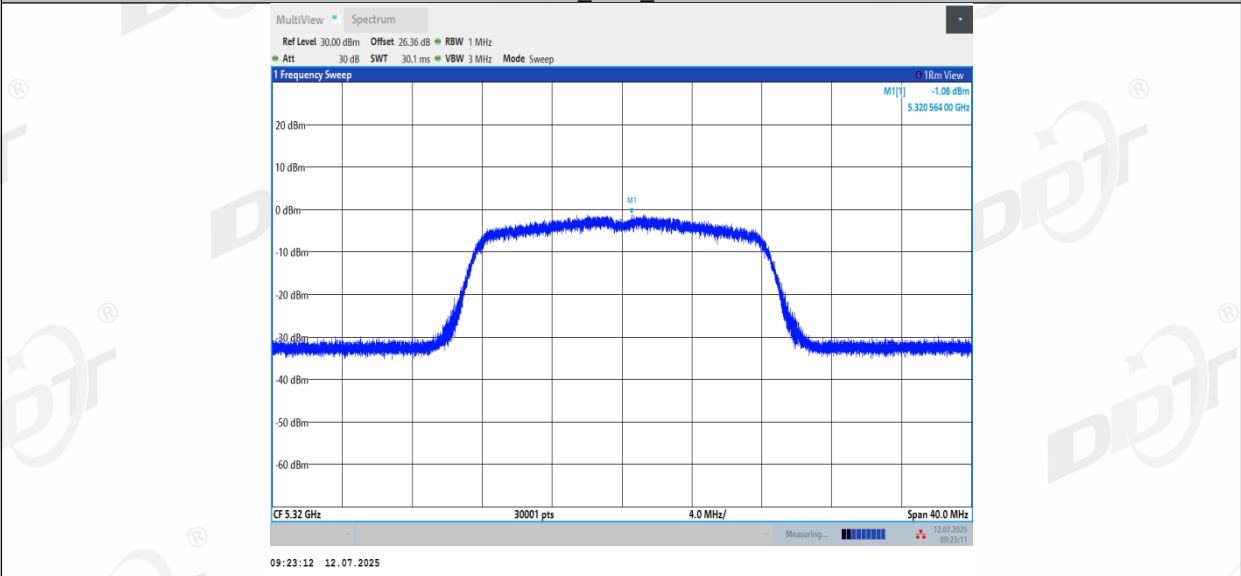
11A_Ant2_5280



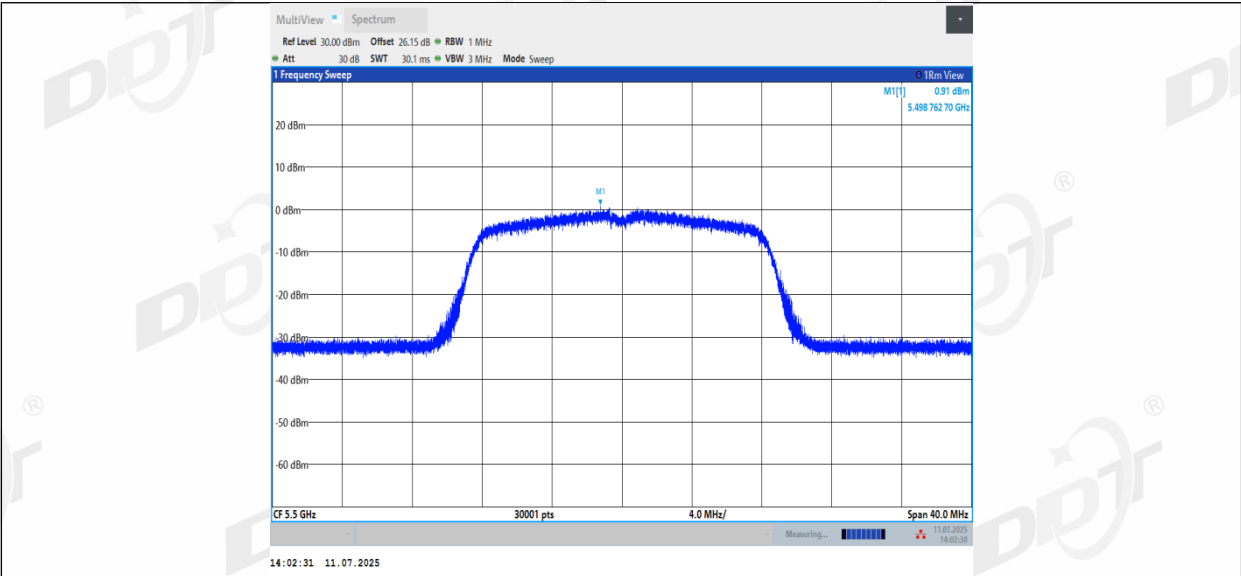
11A_Ant1_5320



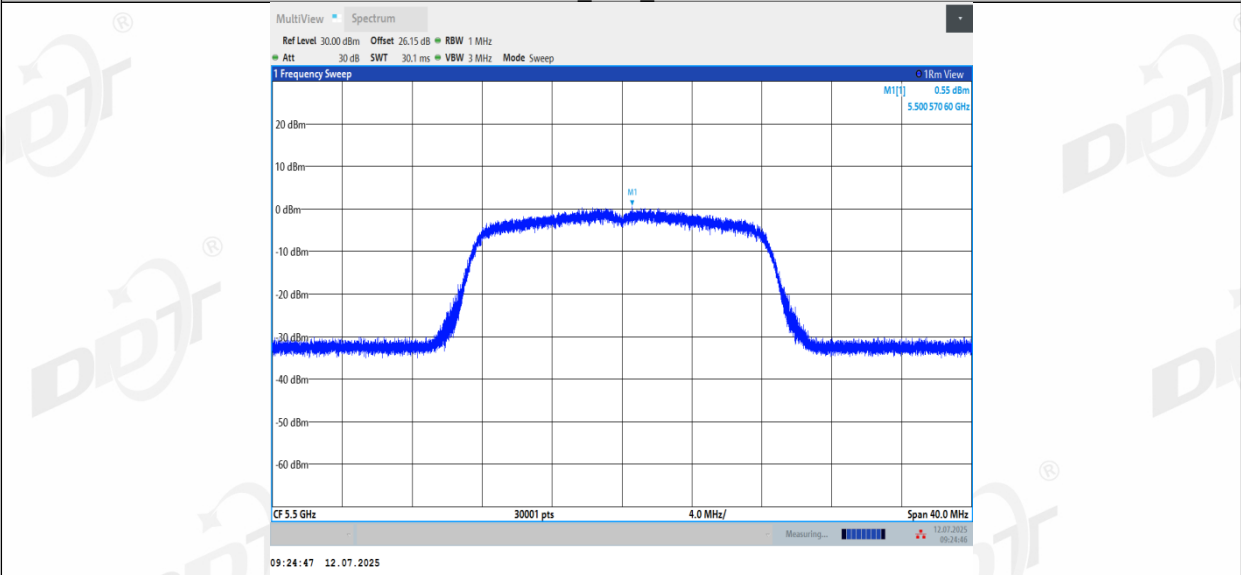
11A_Ant2_5320



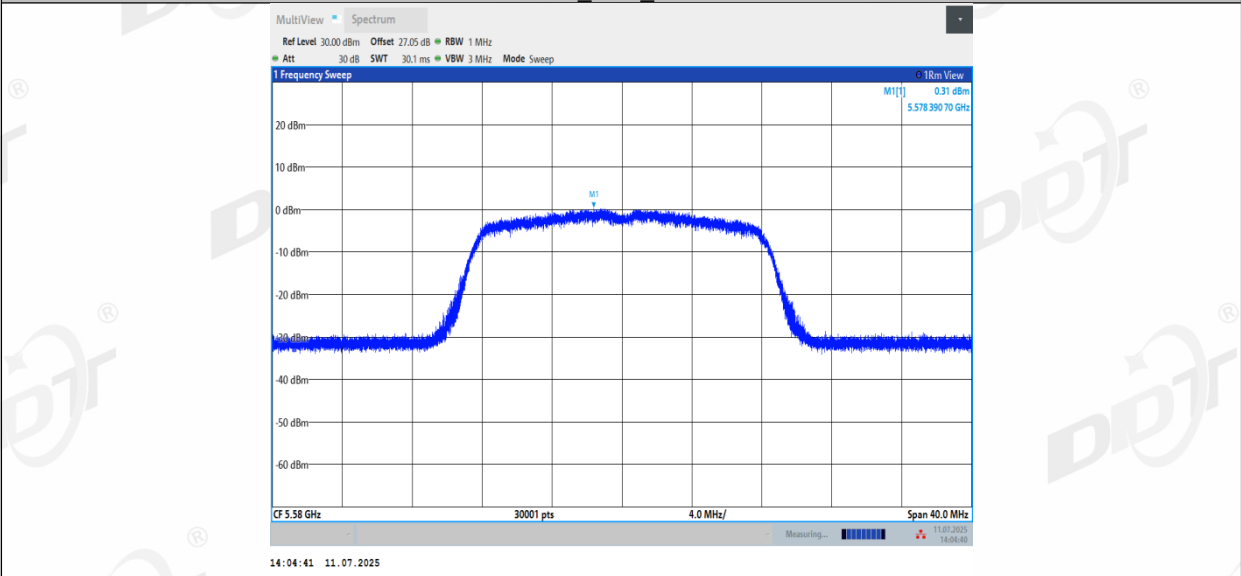
11A_Ant1_5500



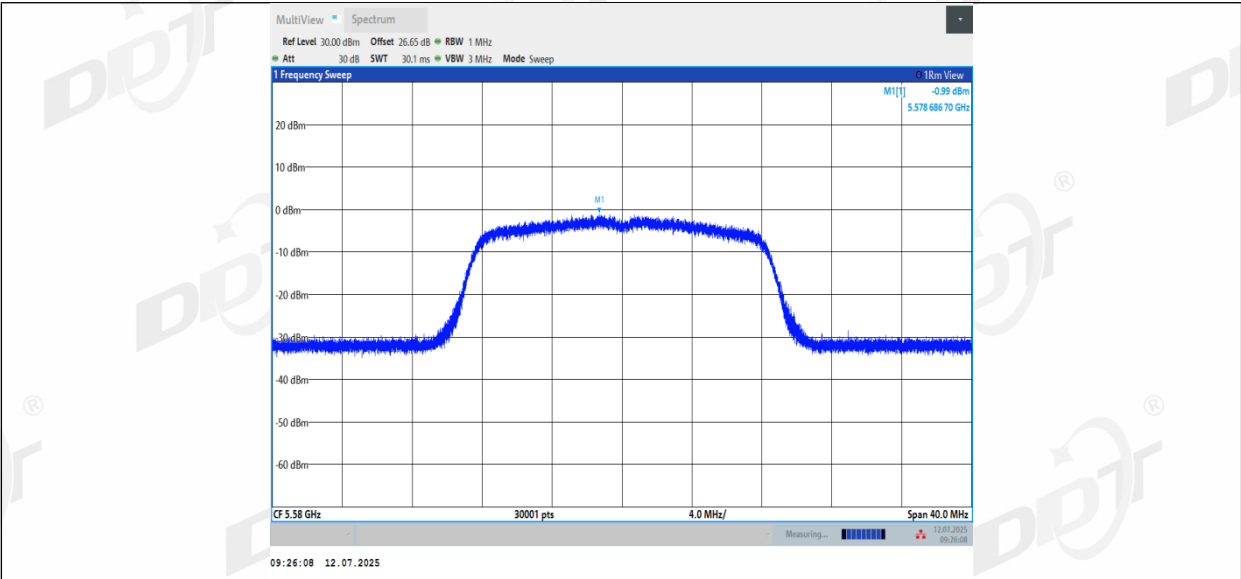
11A_Ant2_5500



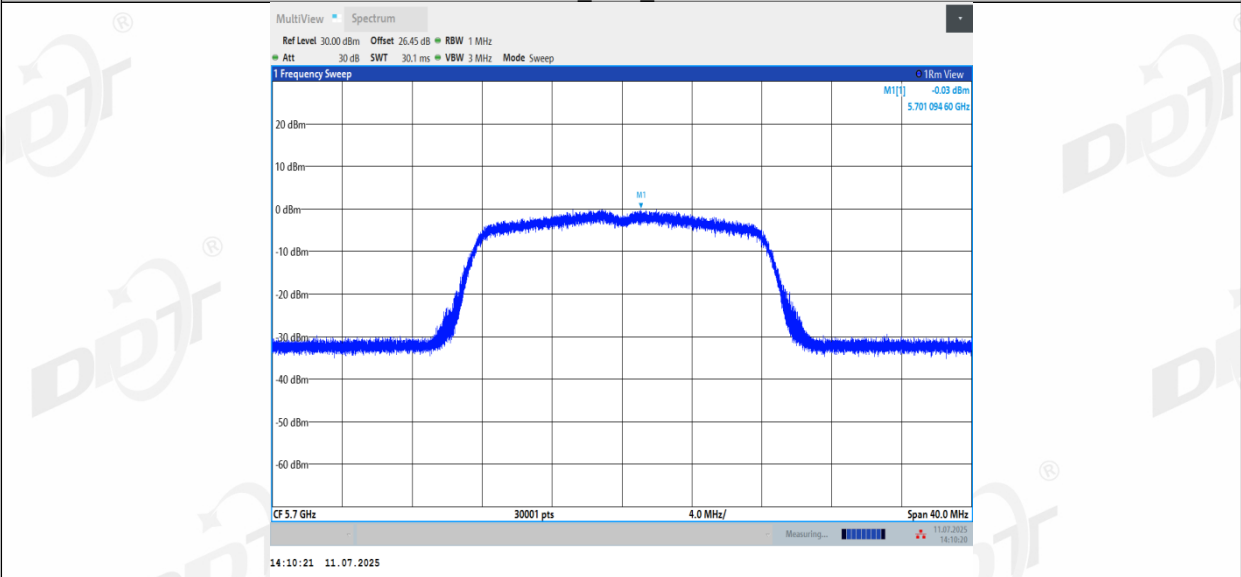
11A_Ant1_5580



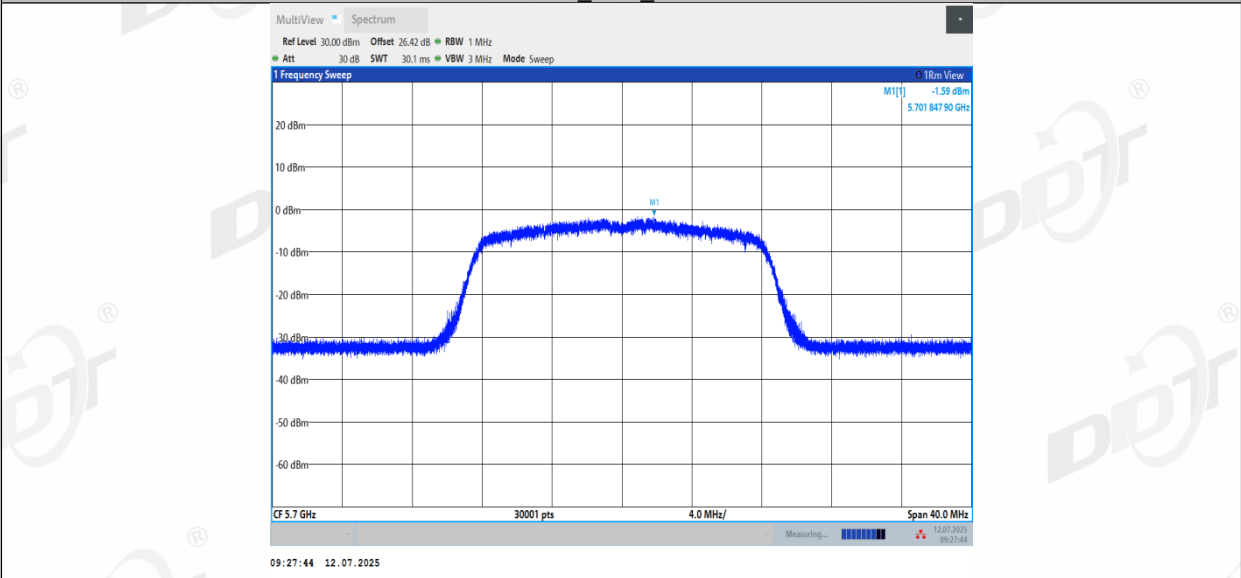
11A_Ant2_5580



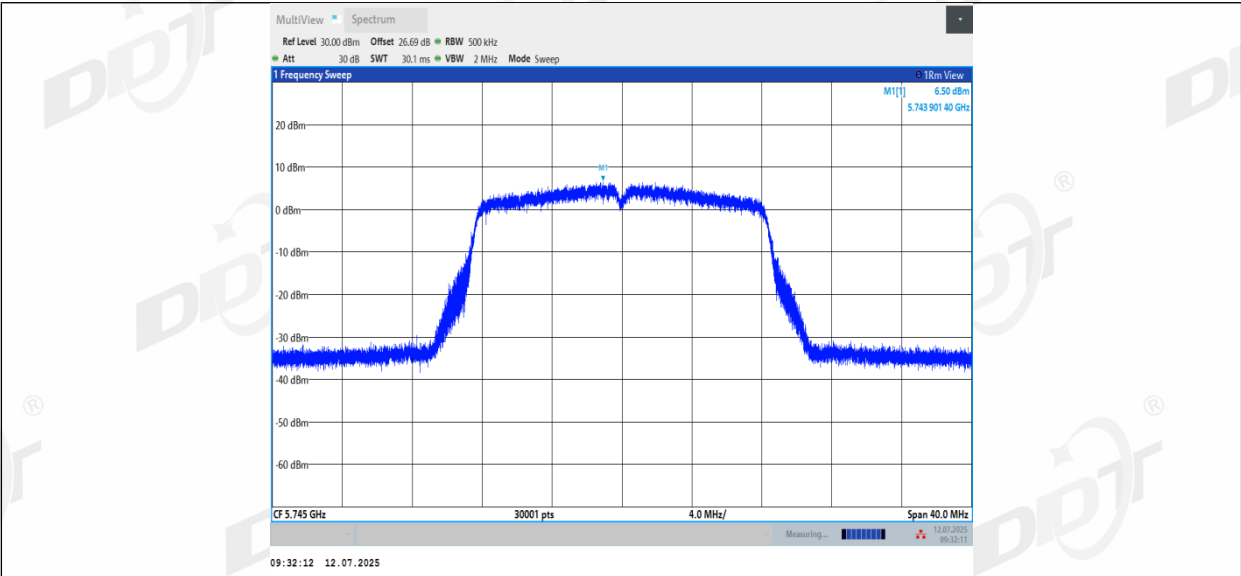
11A_Ant1_5700



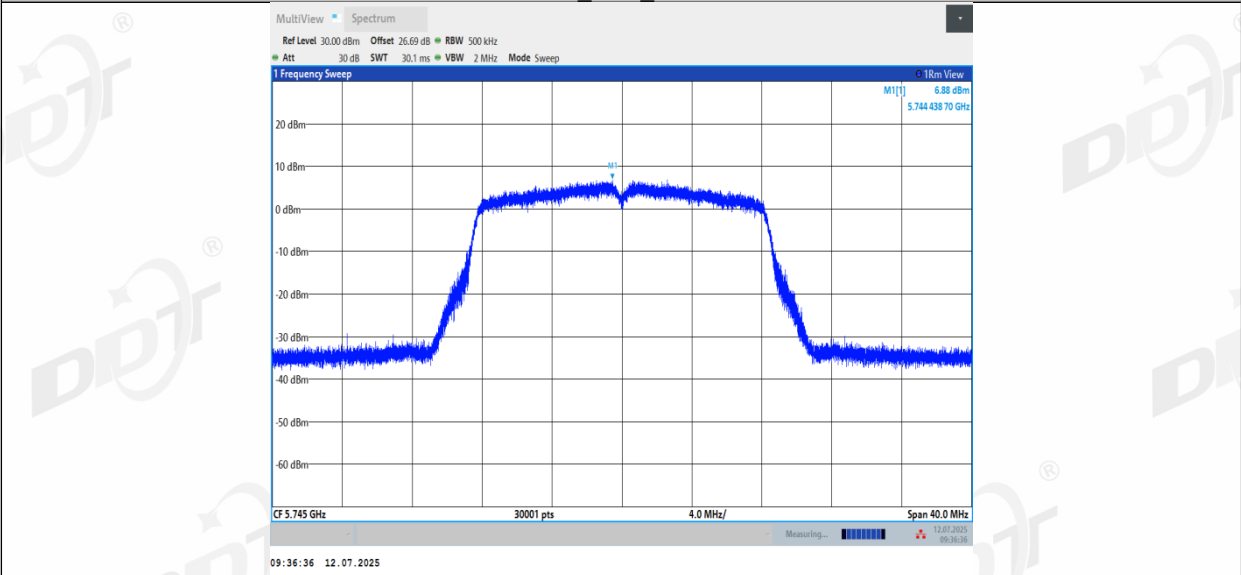
11A_Ant2_5700



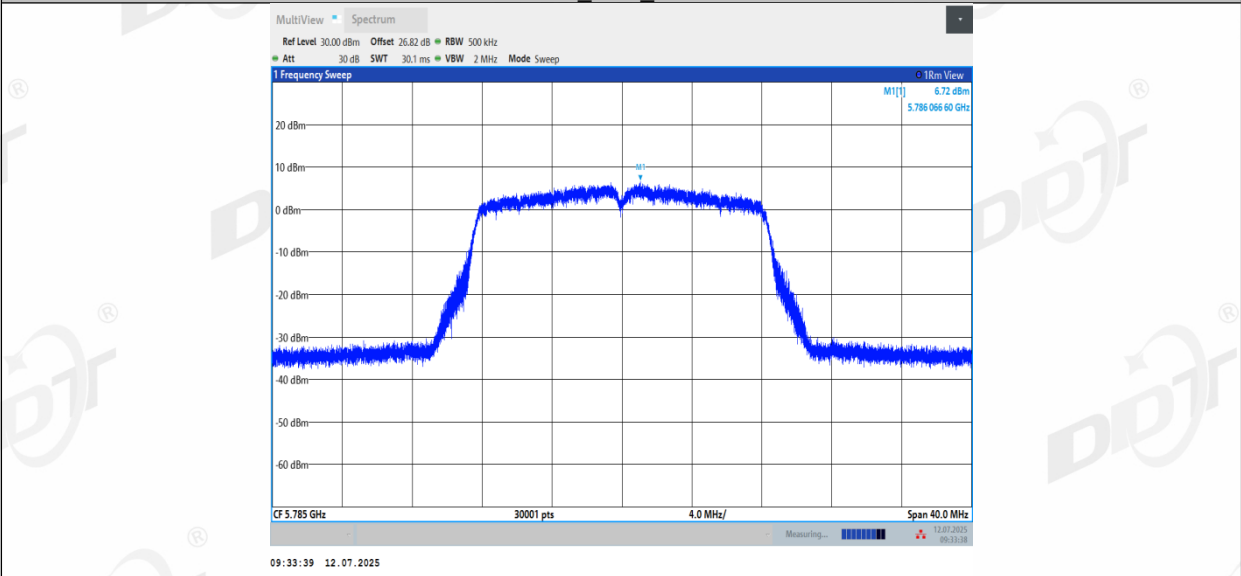
11A_Ant1_5745



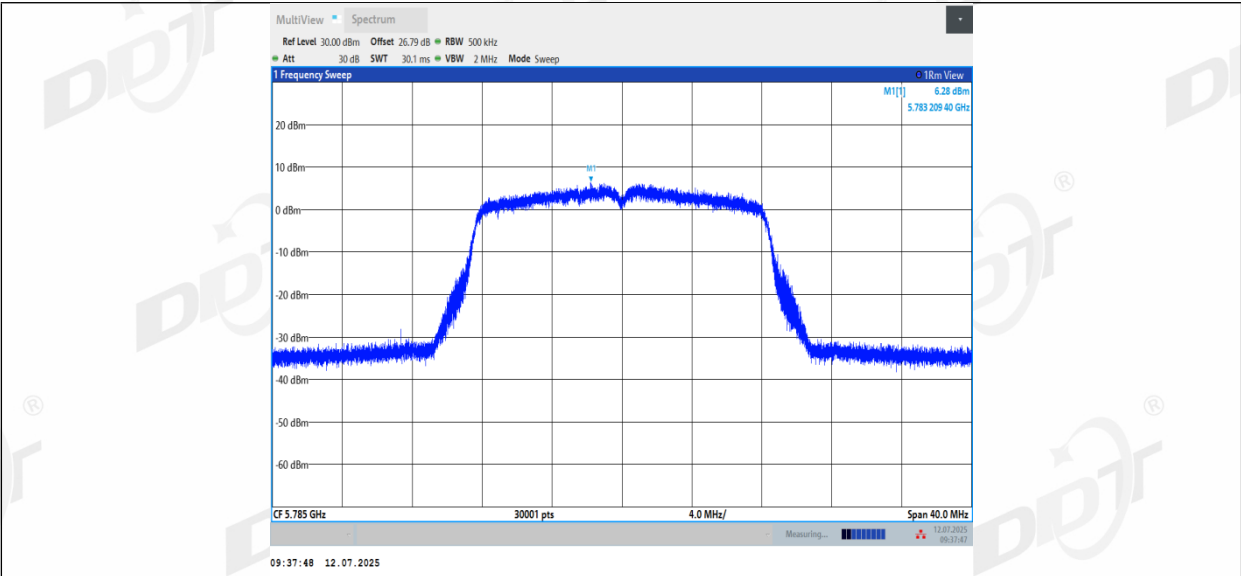
11A_Ant2_5745



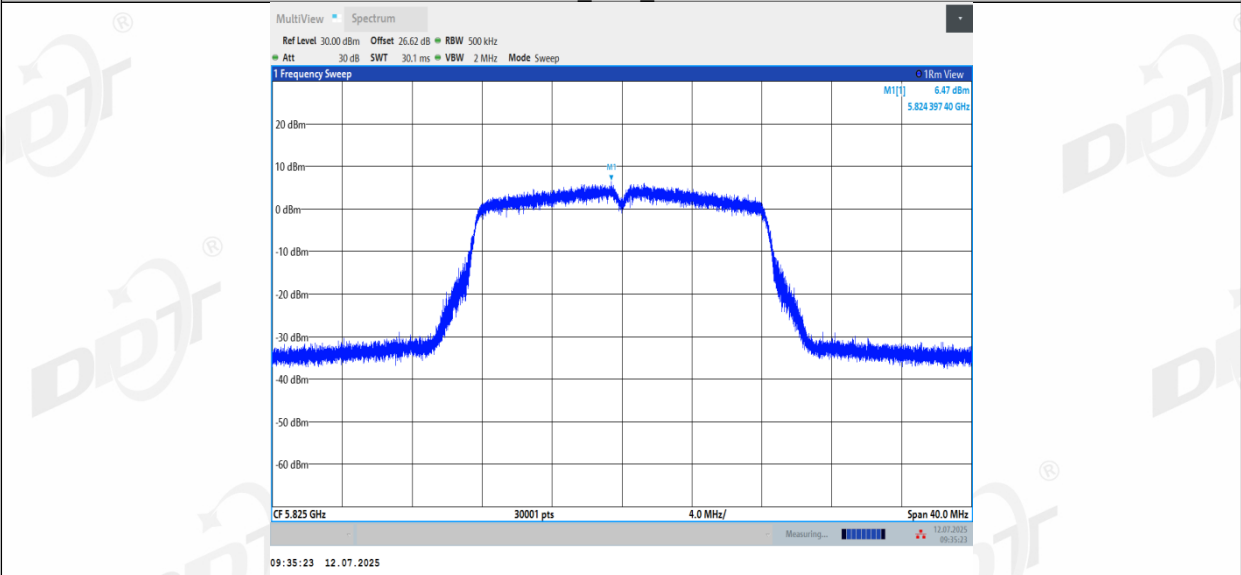
11A_Ant1_5785



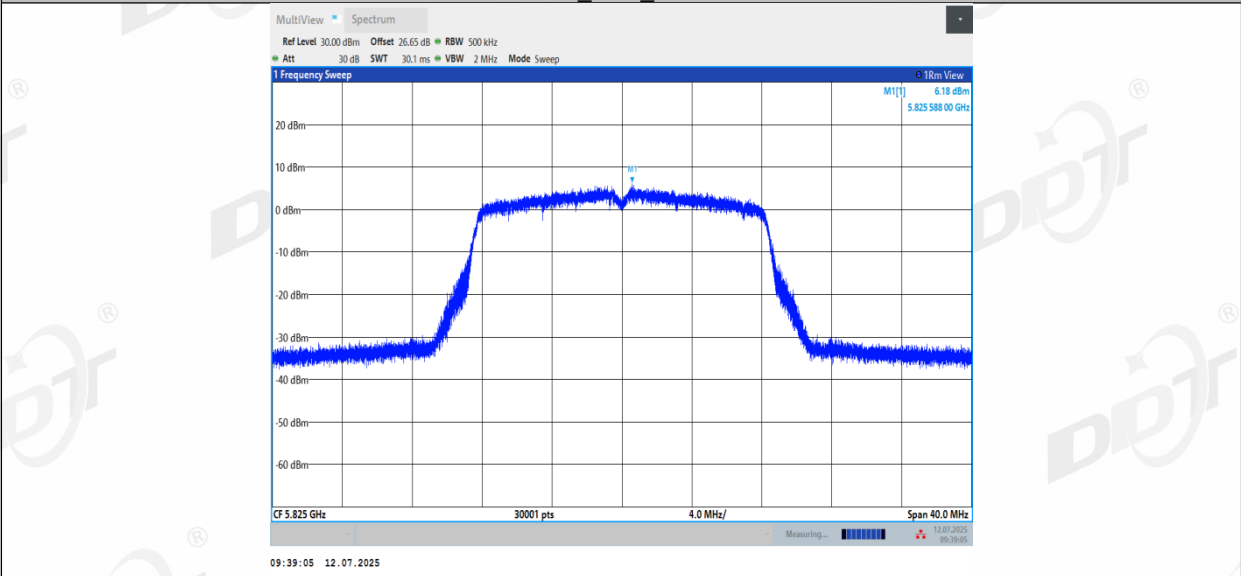
11A_Ant2_5785



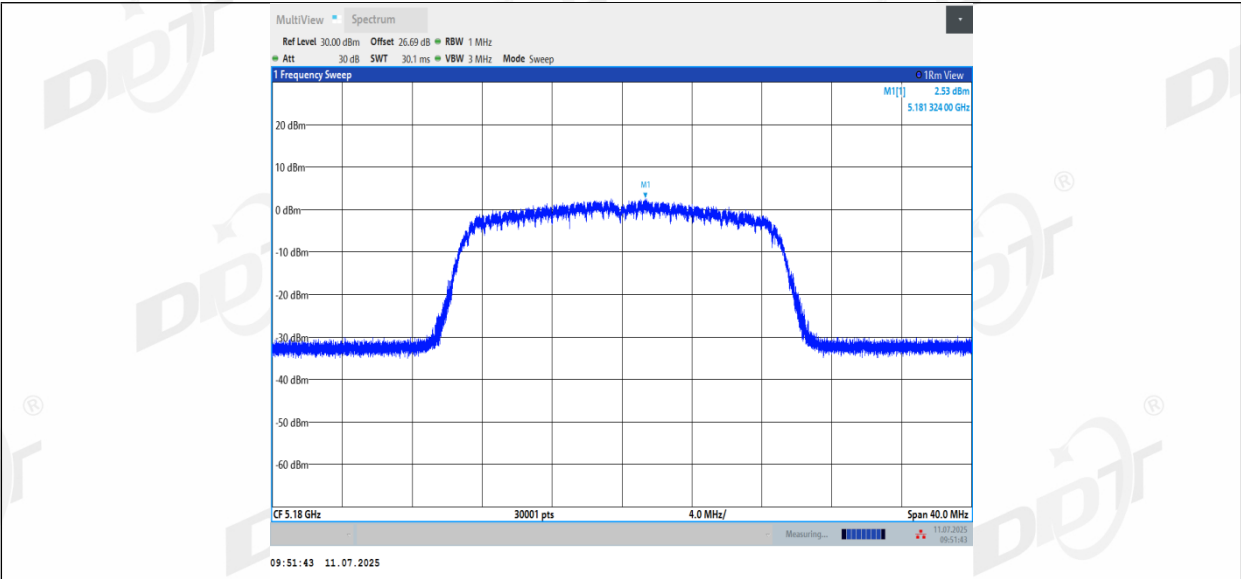
11A_Ant1_5825



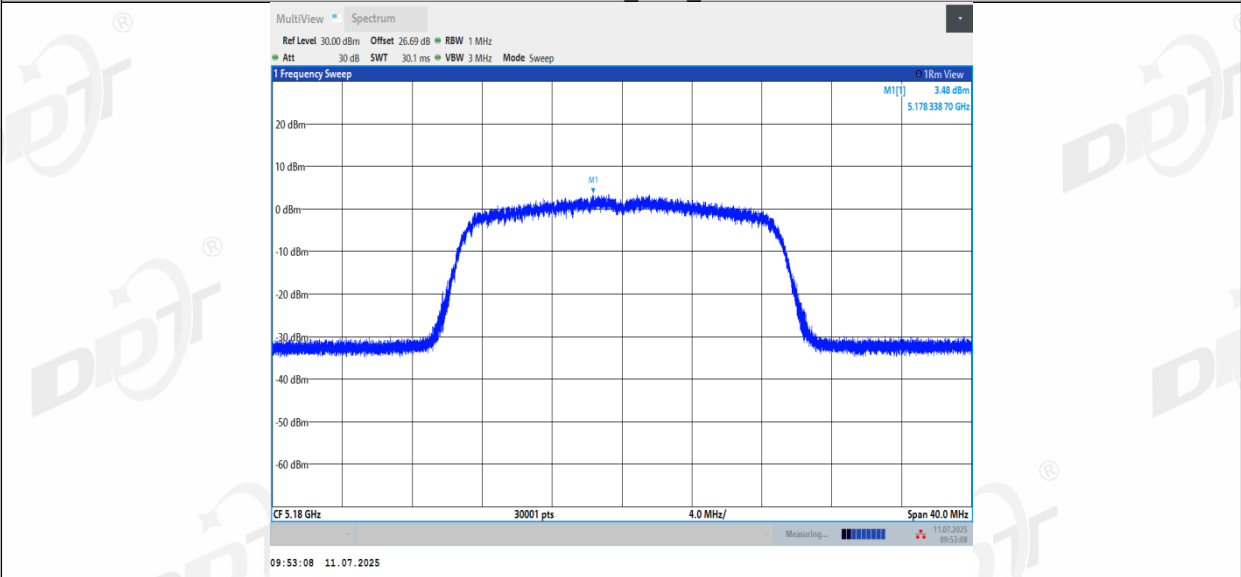
11A_Ant2_5825



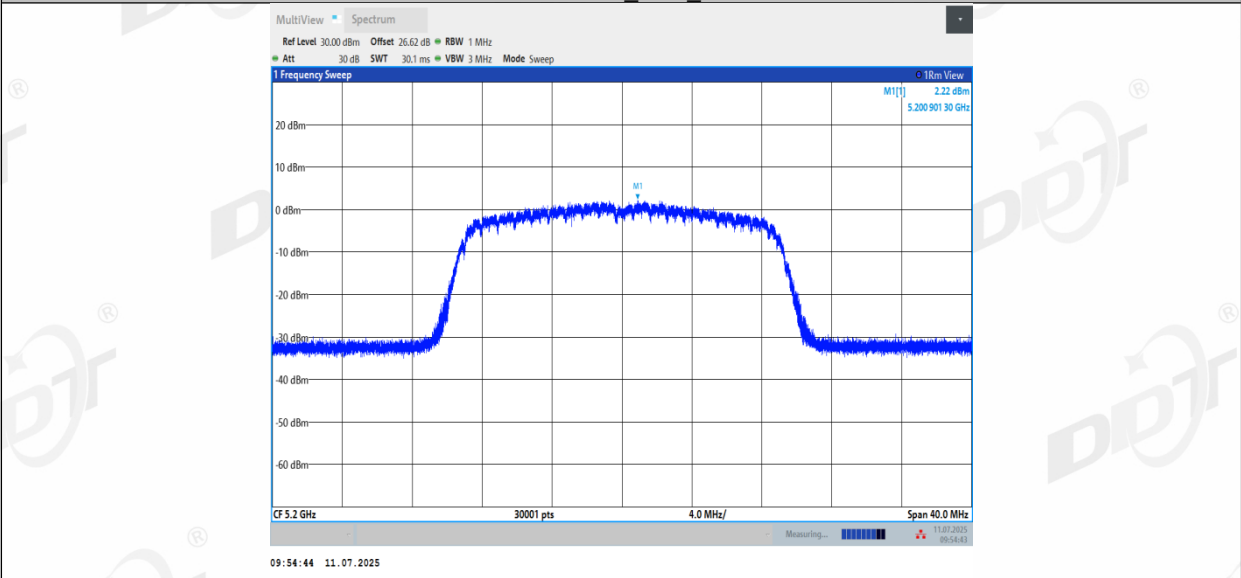
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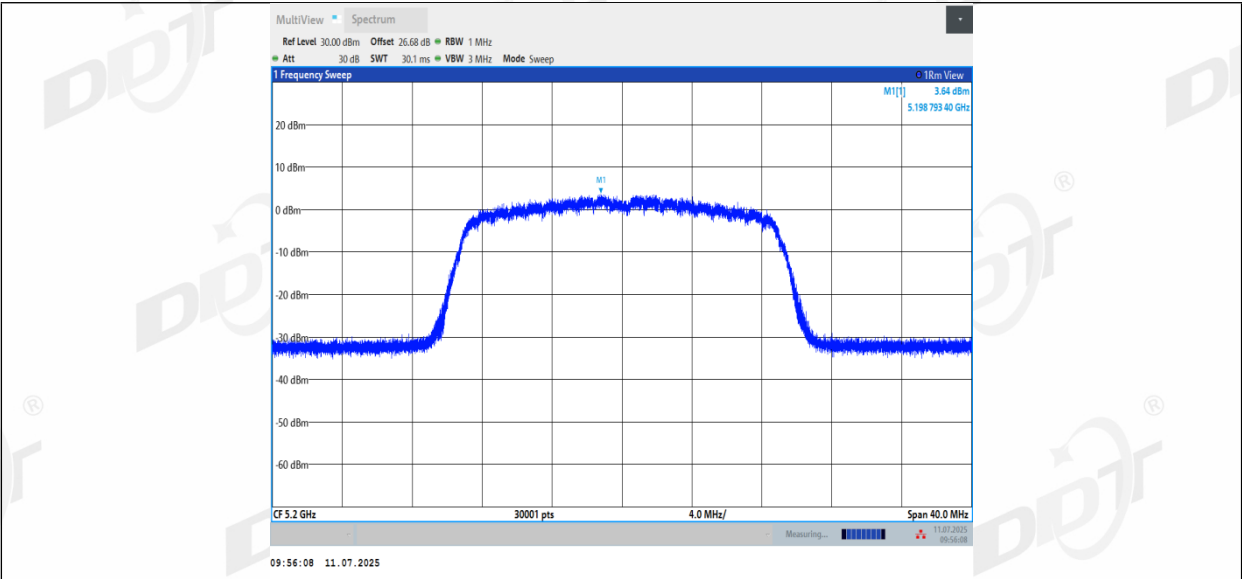
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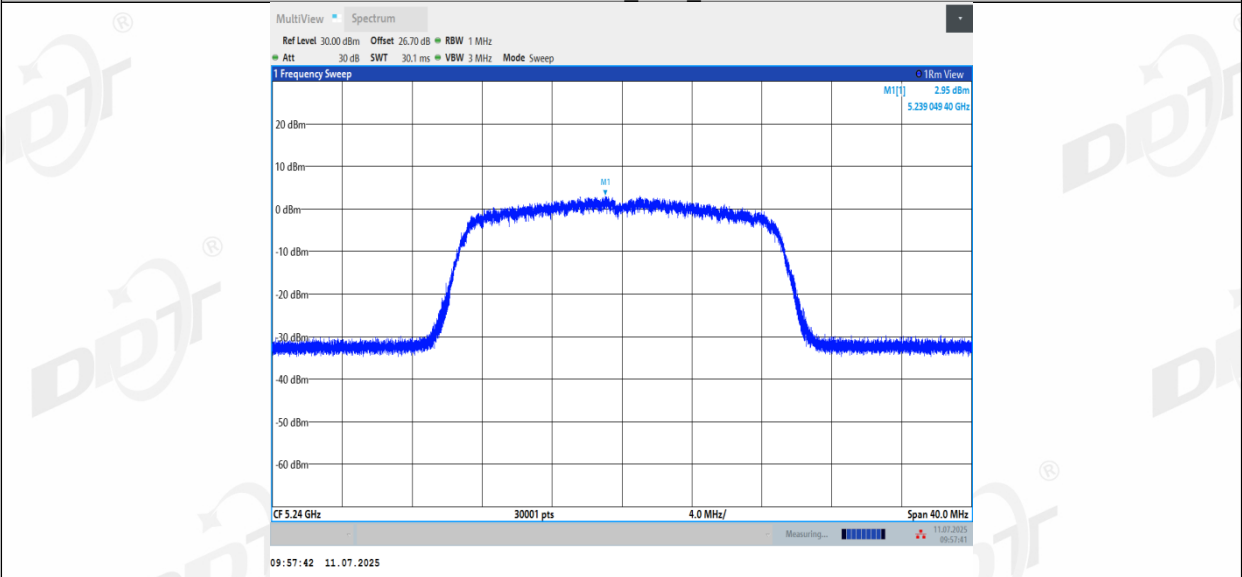
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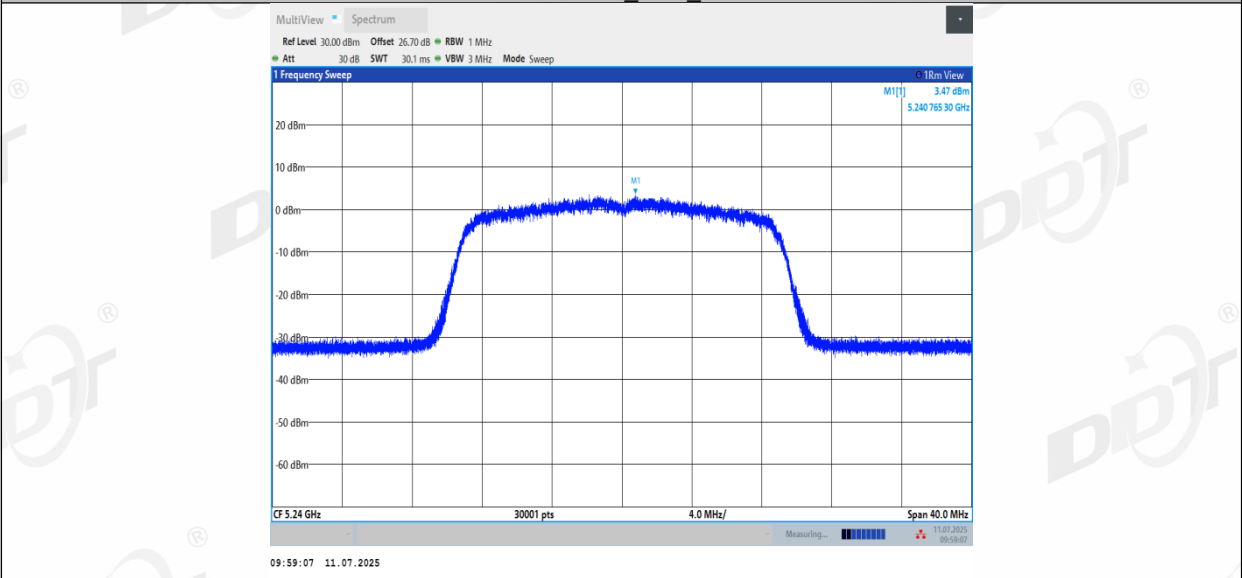
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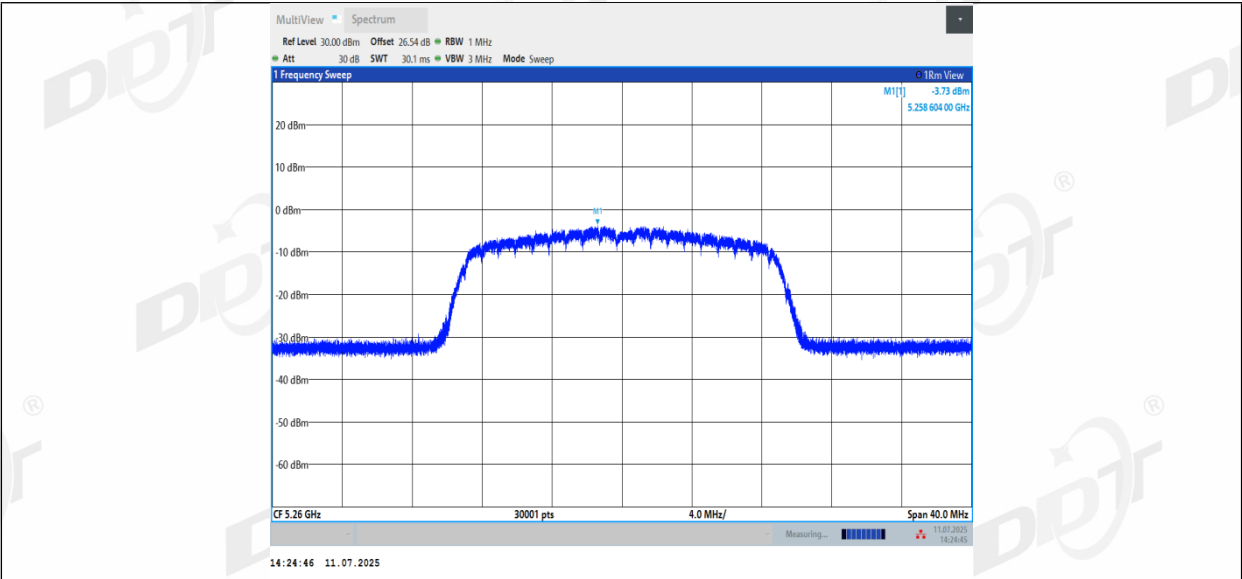
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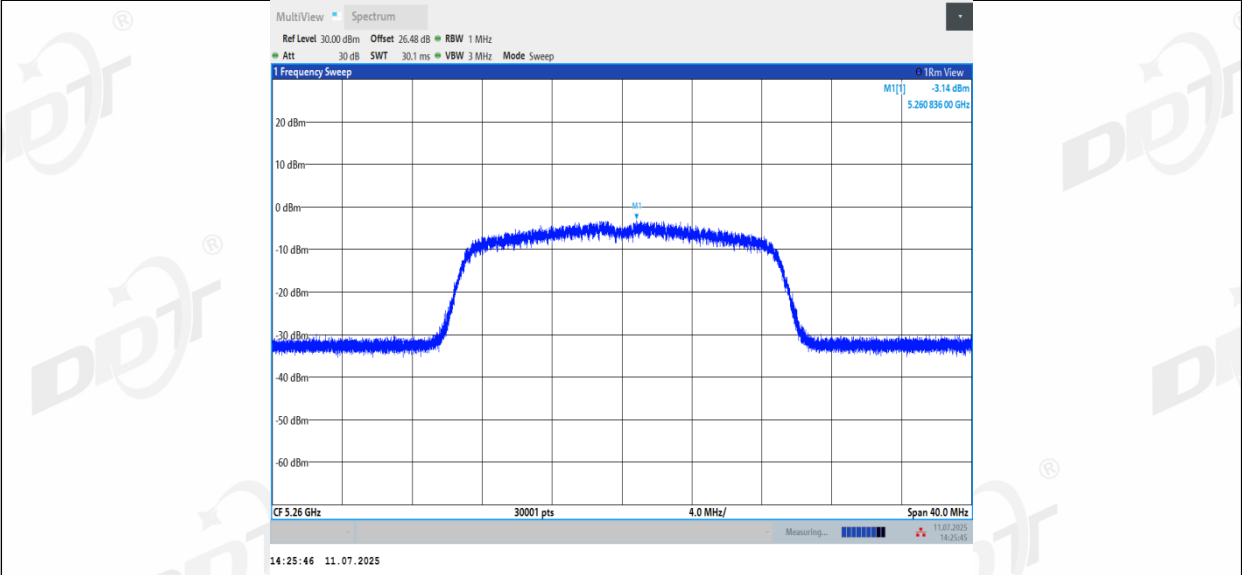
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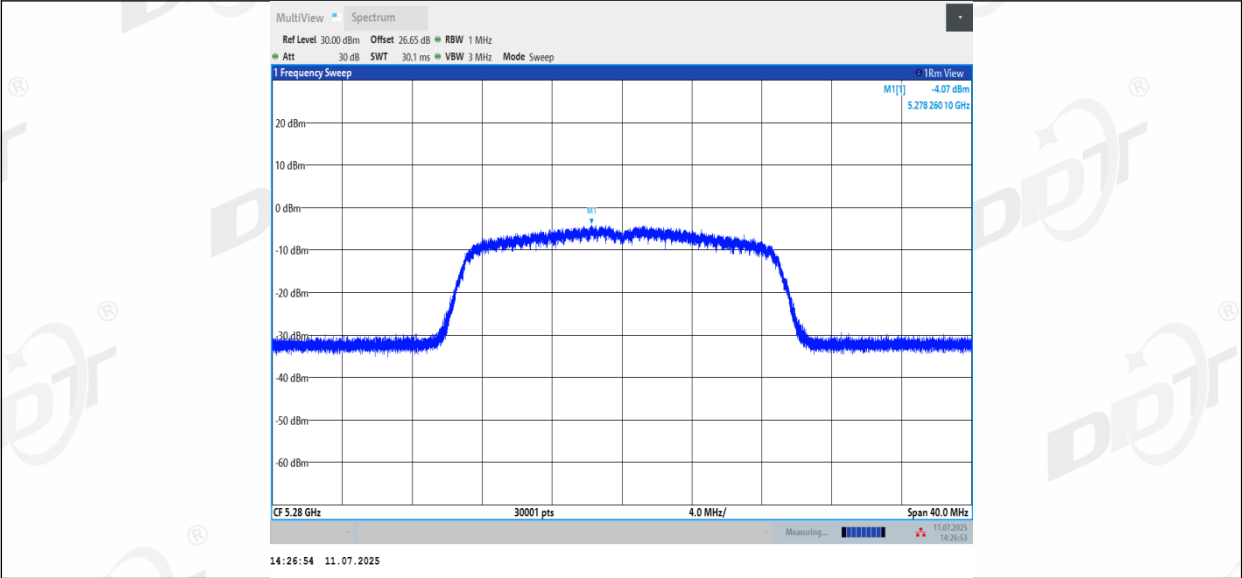
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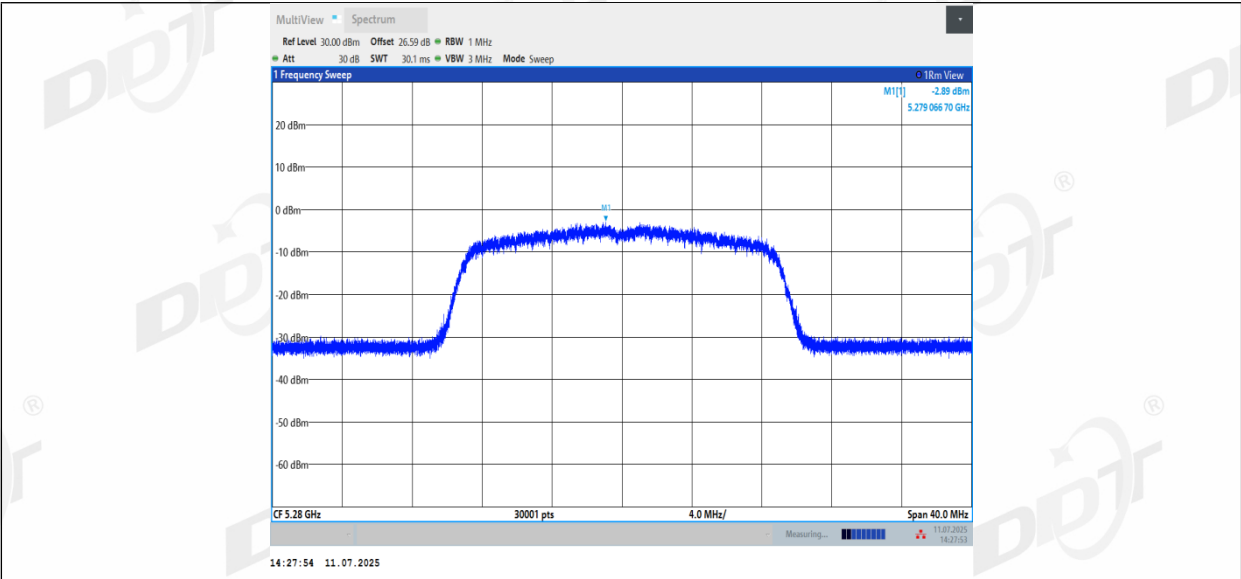
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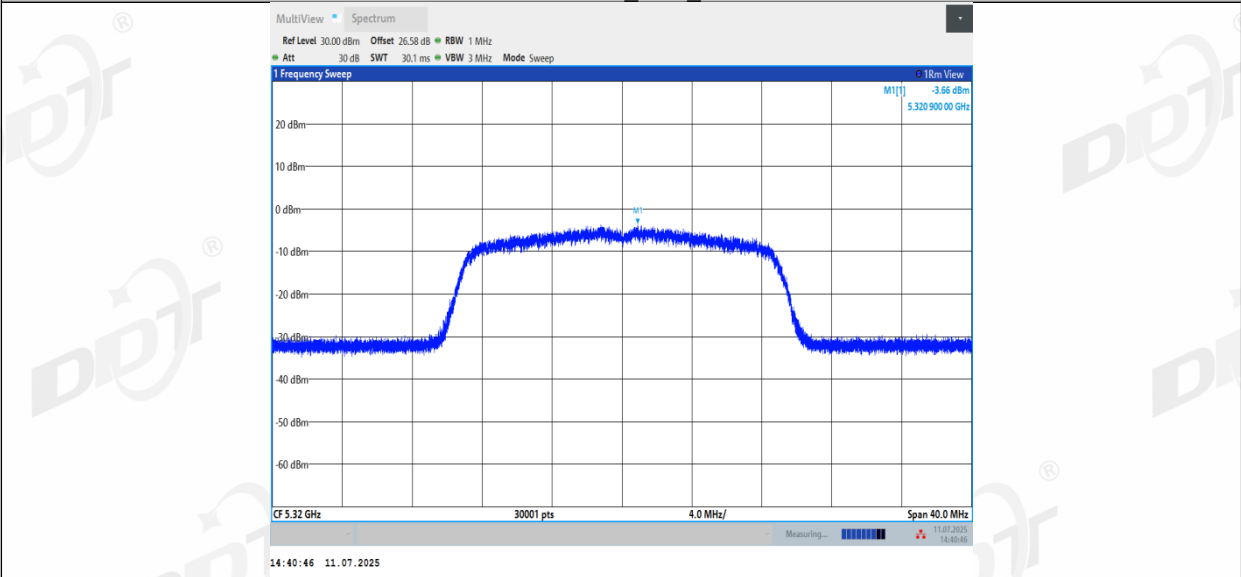
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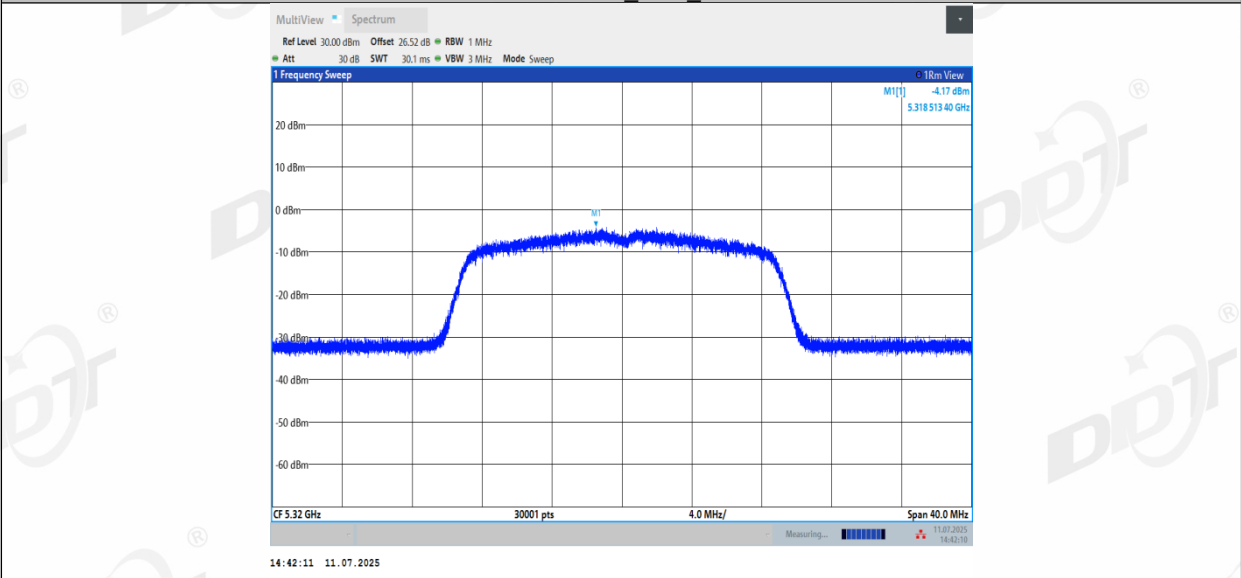
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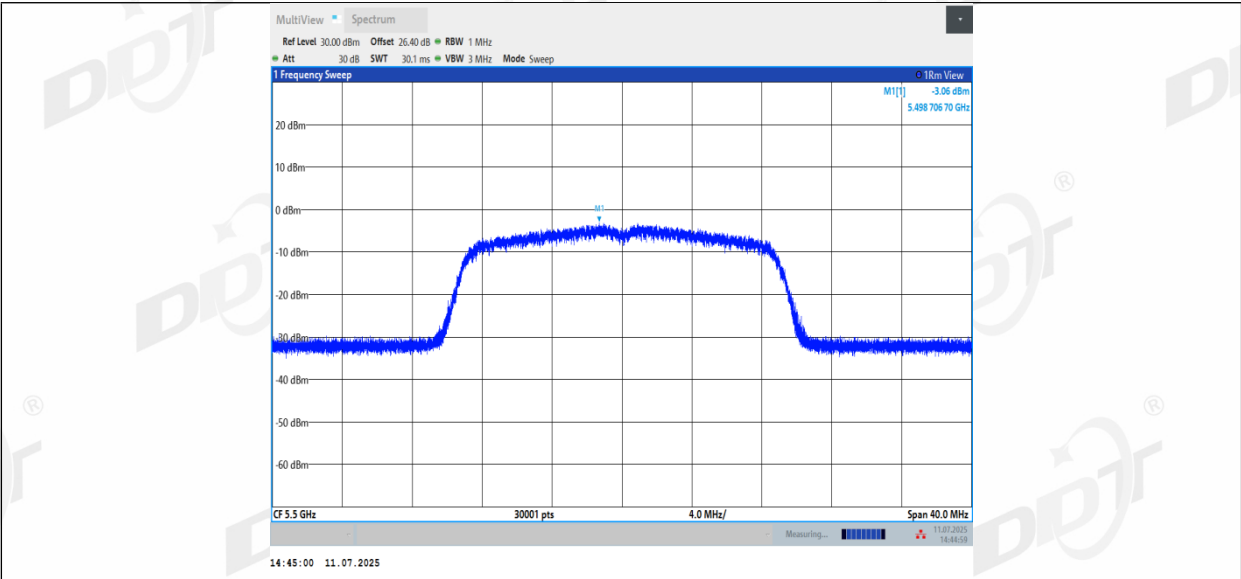
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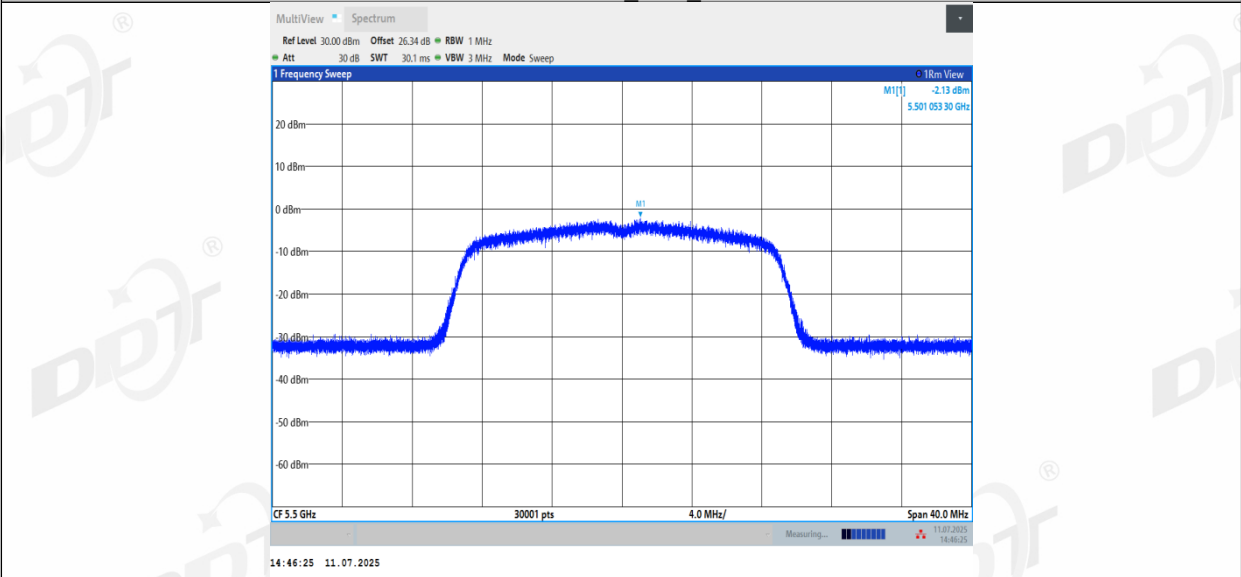
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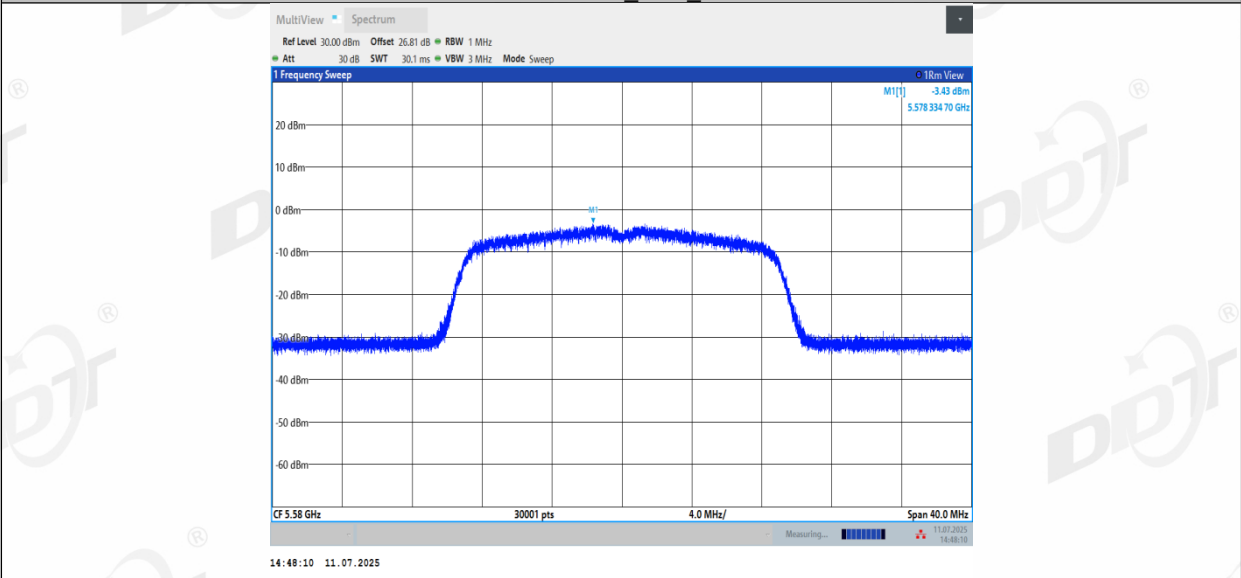
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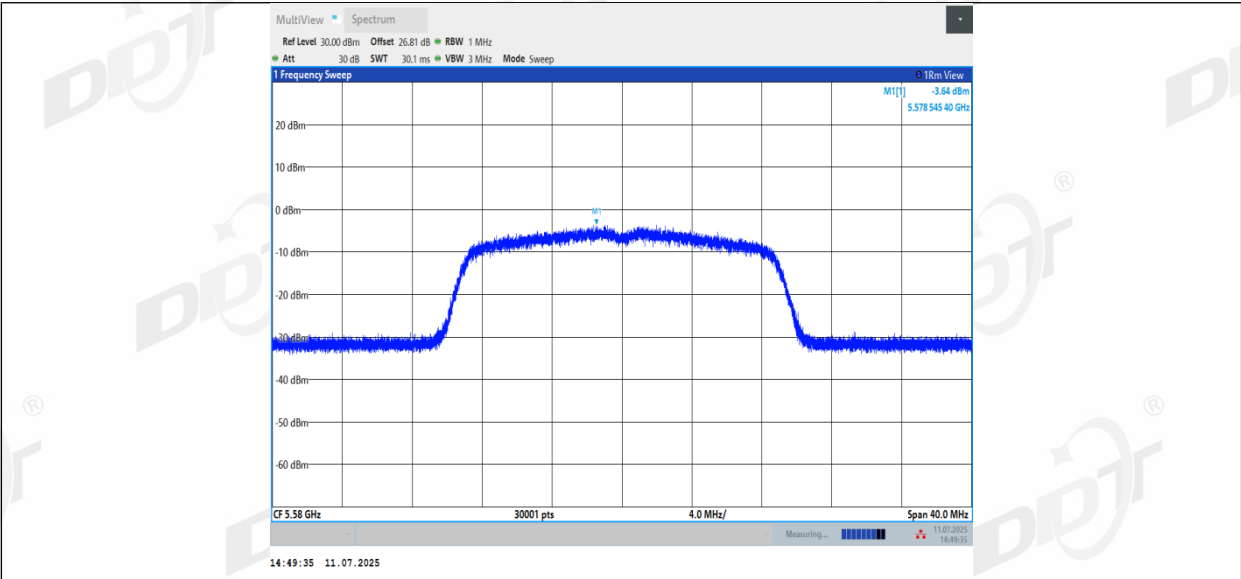
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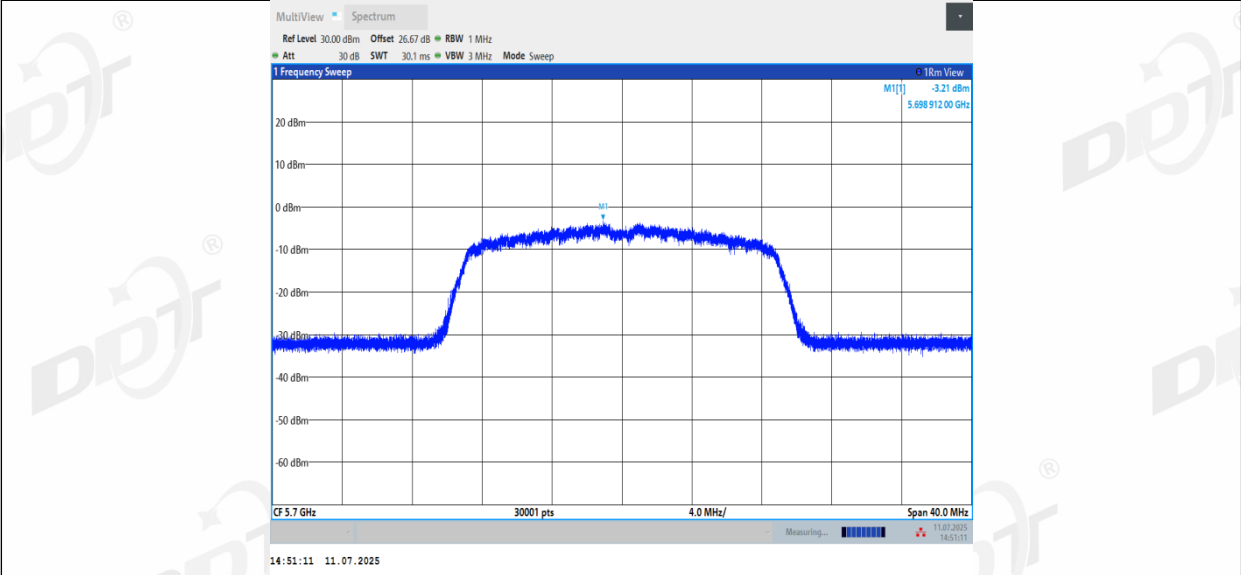
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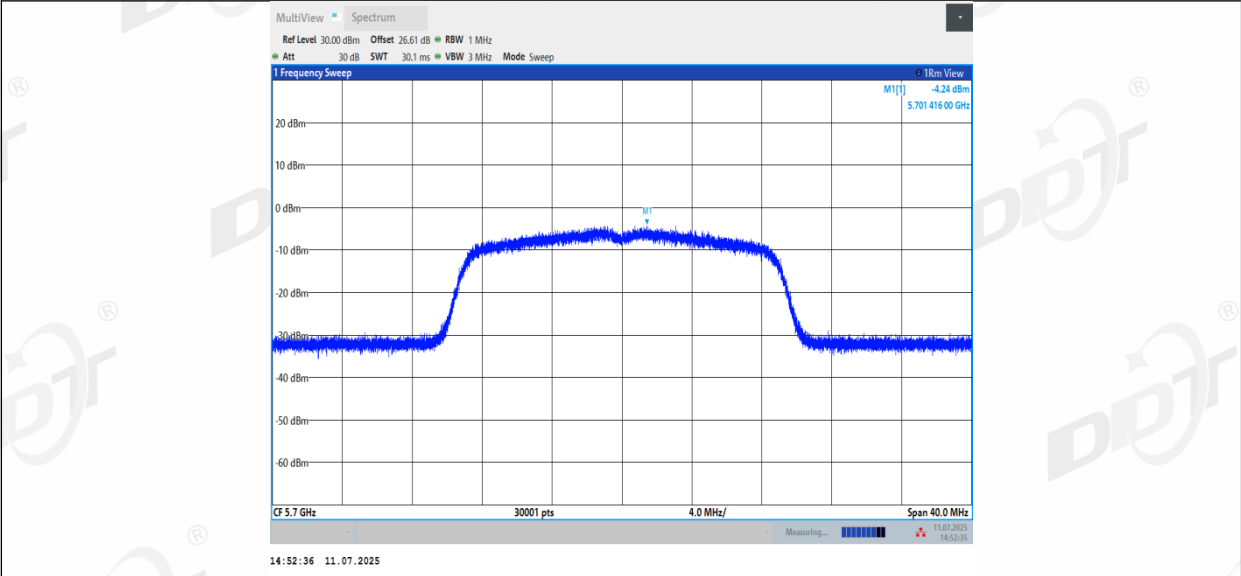
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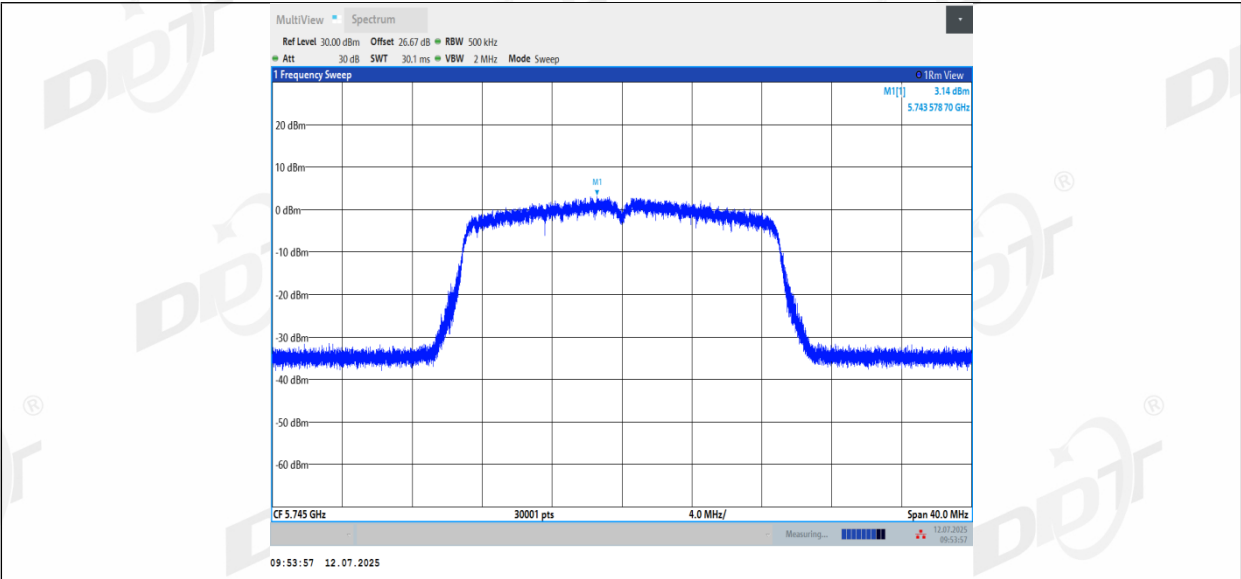
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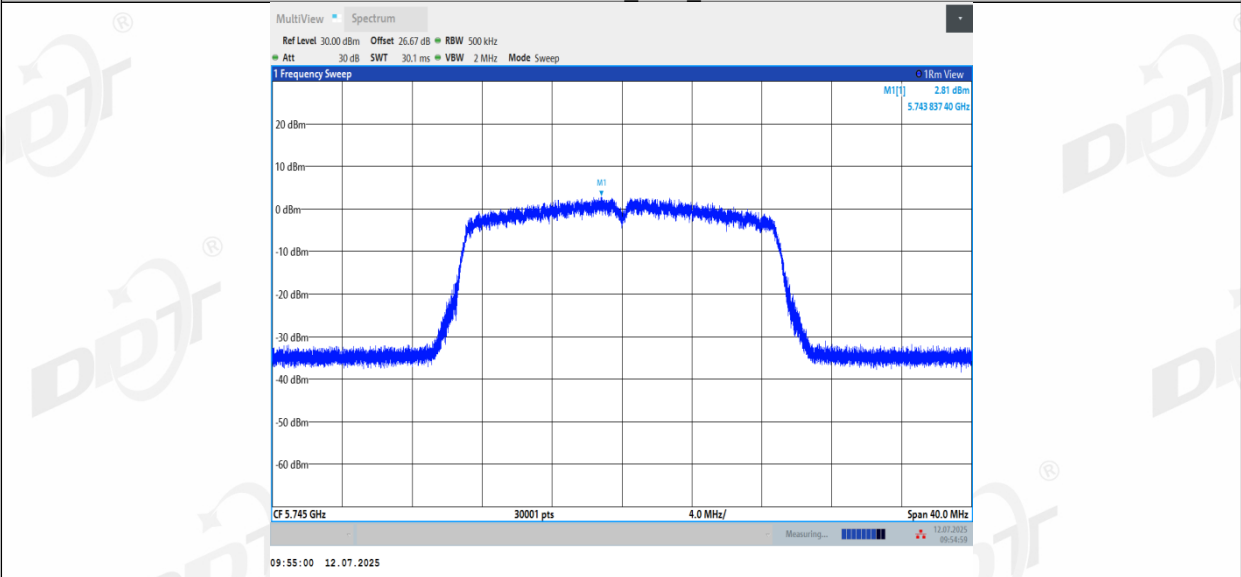
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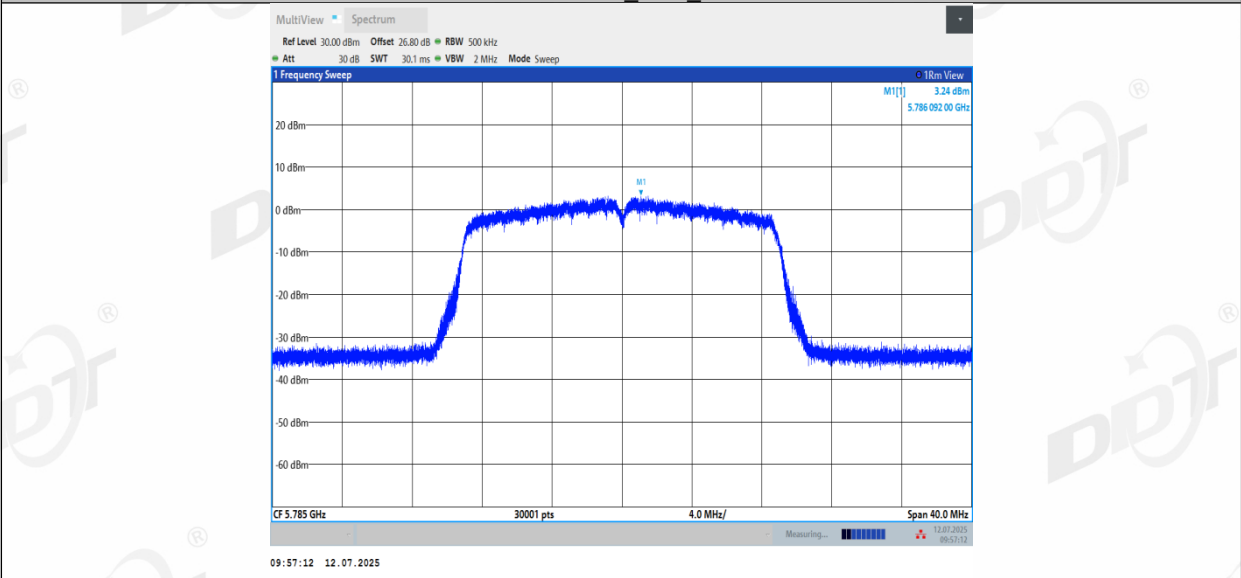
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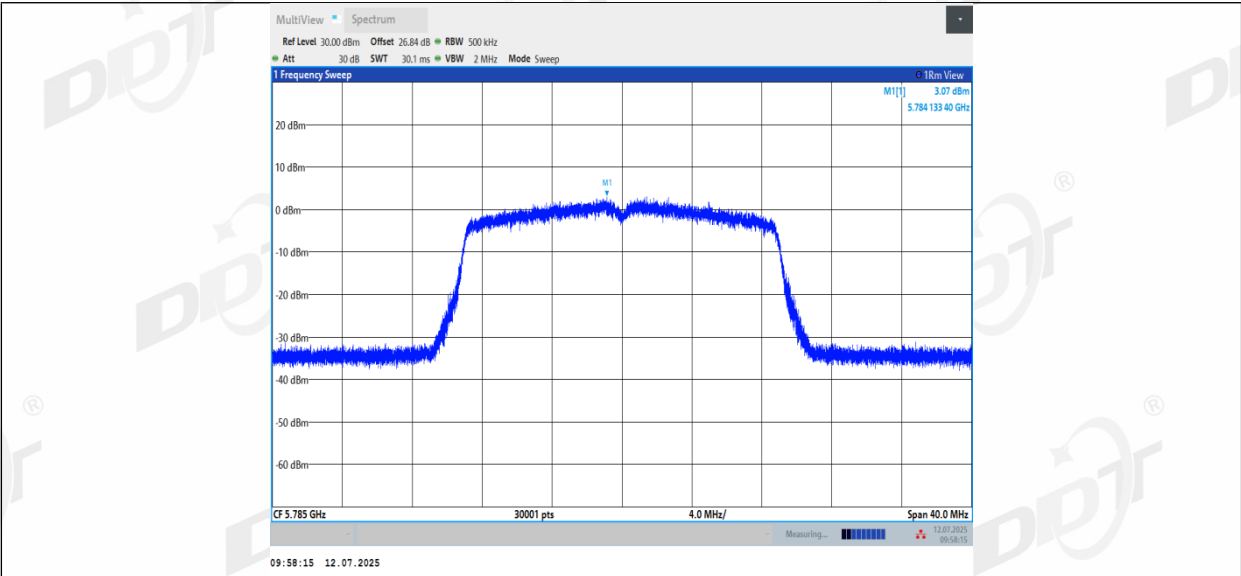
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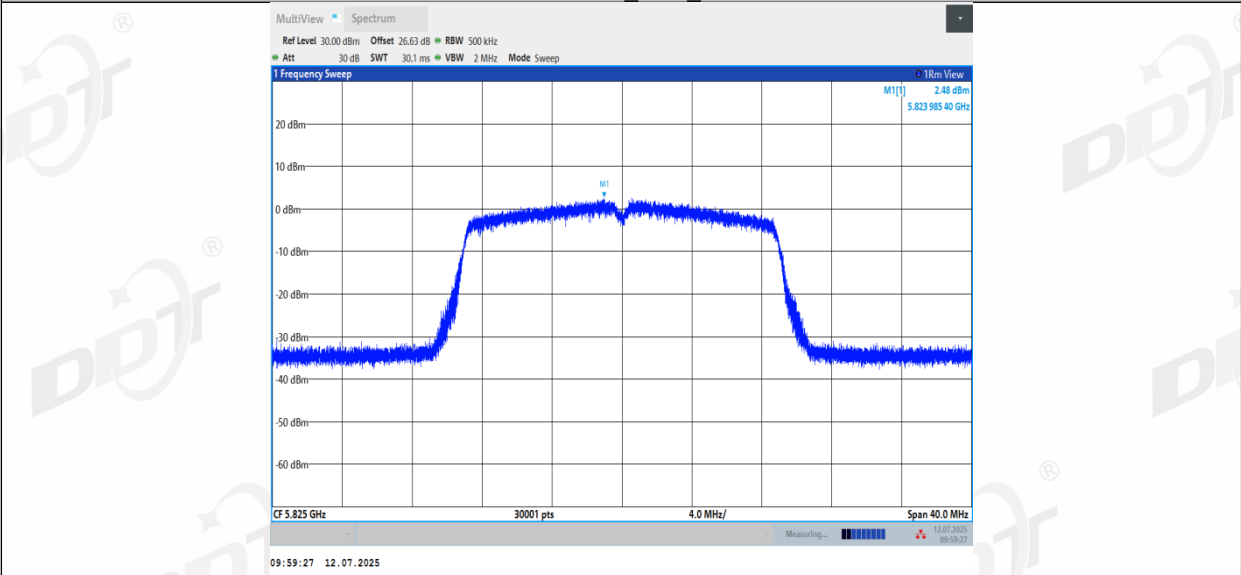
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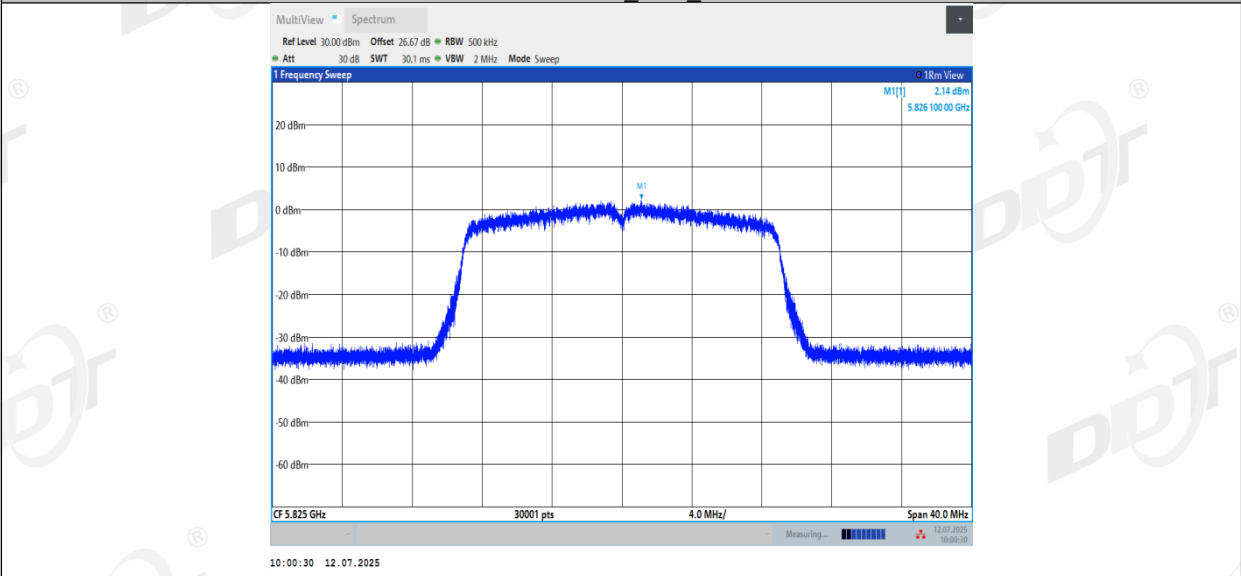
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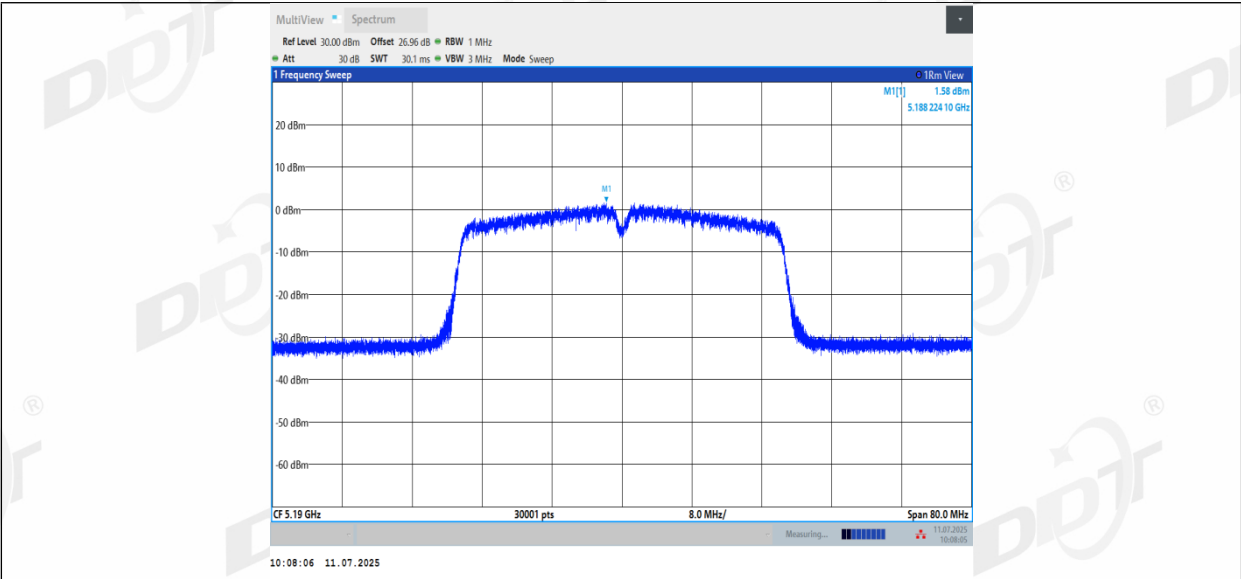
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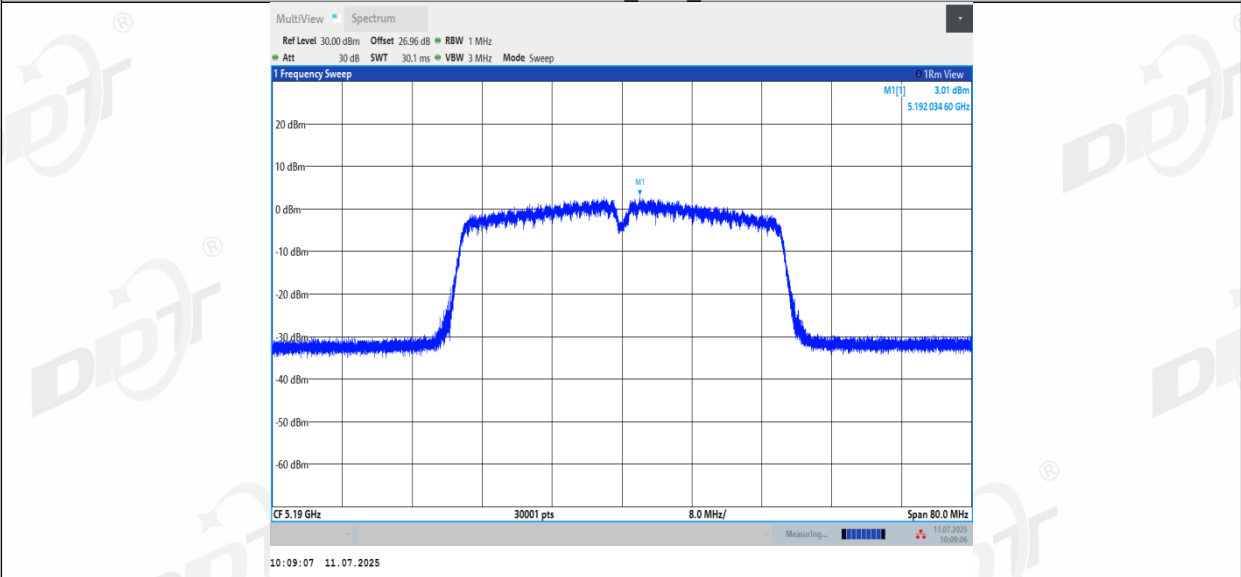
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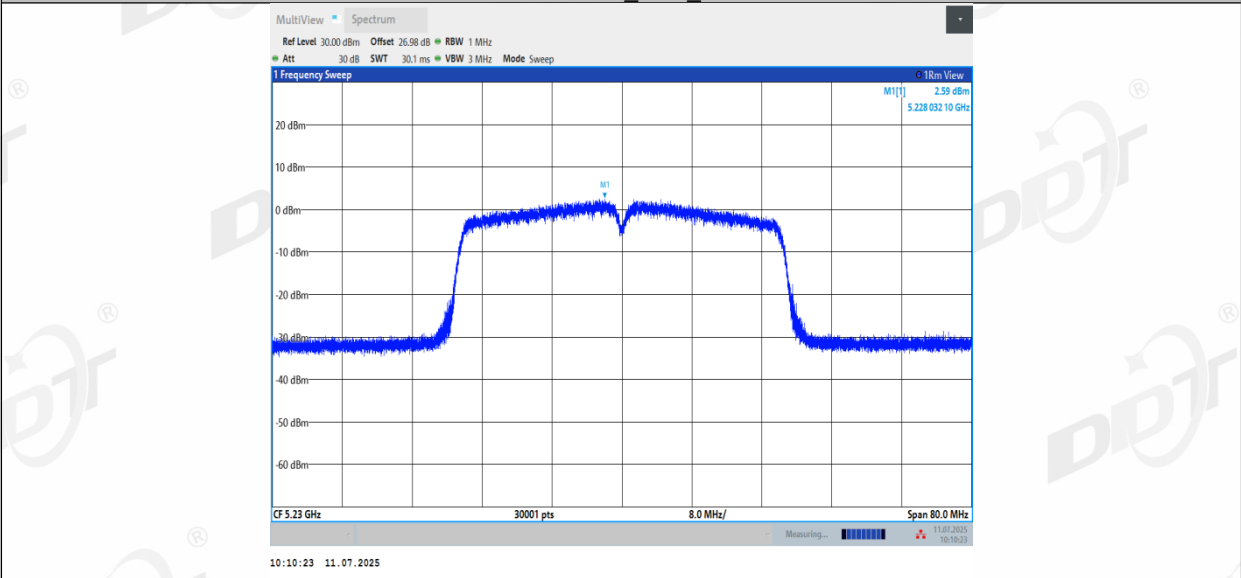
11N40MIMO_Ant1_5190



11N40MIMO_Ant2_5190



11N40MIMO_Ant1_5230



11N40MIMO_Ant2_5230