

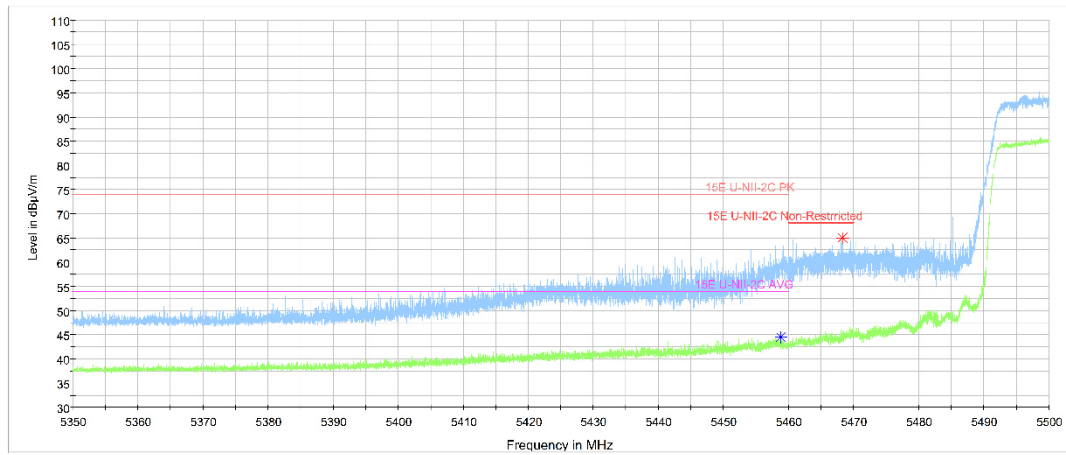


Fig. 23 Band Edges (802.11ac-HT80 Ch106, 5530MHz)

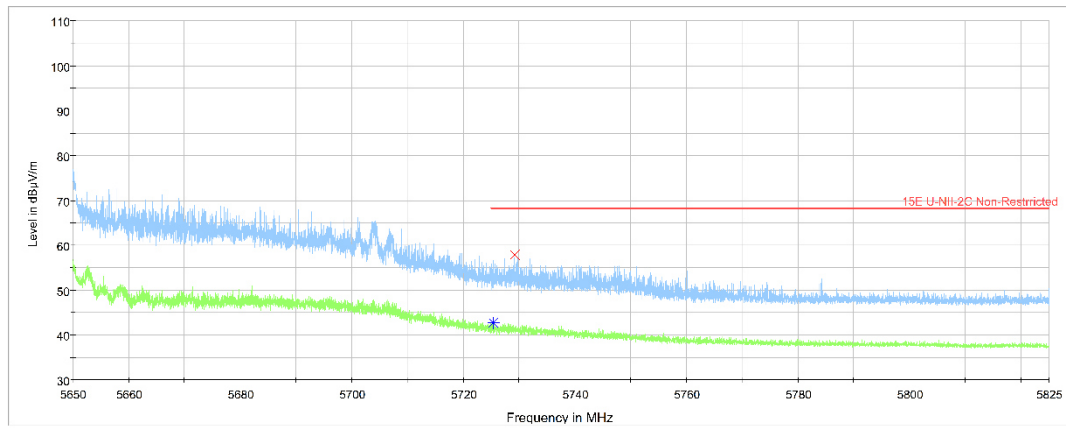


Fig. 24 Band Edges (802.11ac-HT80 Ch122, 5610MHz)

A.6. AC Powerline Conducted Emission (150kHz- 30MHz)

A.6.1 Summary

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section

A.6.2 Method of Measurement

See Clause 6.2 of ANSI C63.10 specifically.

See Clause 4 and Clause 5 of ANSI C63.10 generally.

The conducted emissions from the AC port of the EUT are measured in a shielding room. The EUT is connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection was performed. The measurements were performed with a quasi-peak detector and if required, an average detector.

The conducted emission measurements were made with the following detector of the test receiver: Quasi-Peak / Average Detector.

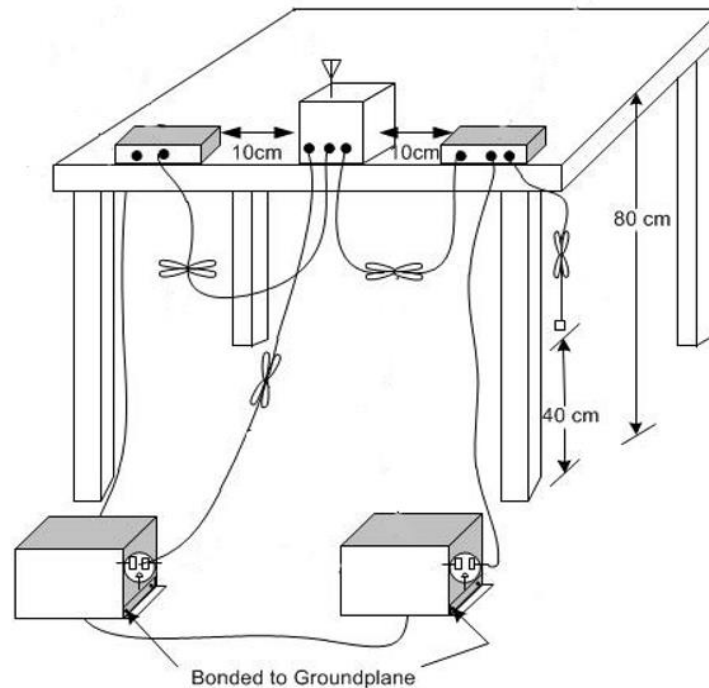
The measurement bandwidth is:

Frequency of Emission (MHz)	RBW/IF bandwidth
0.15-30	9kHz

A.6.3 Test Condition

Voltage (V)	Frequency (Hz)
120	60

A.6.4 Test setup



Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig. 25	Fig. 26	P
0.5 to 5	56			
5 to 30	60			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig. 25	Fig. 26	P
0.5 to 5	46			
5 to 30	50			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Conclusion: PASS

Test graphs as below:

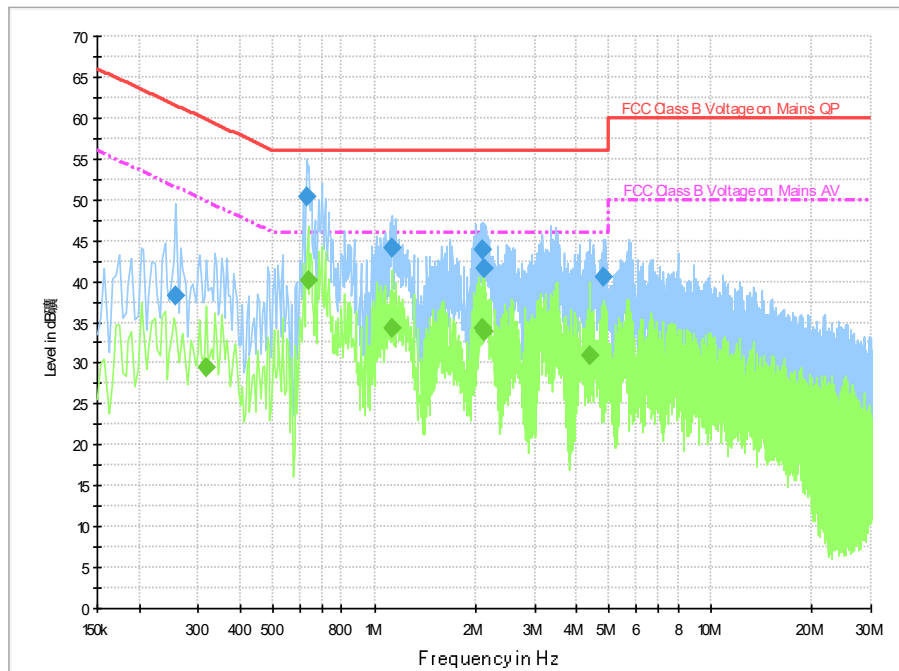


Fig. 25 Conducted Emission(802.11a, Ch40, TX)

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.258000	38.2	2000.0	9.000	On	N	19.7	23.3	61.5	
0.630000	50.3	2000.0	9.000	On	L1	19.7	5.7	56.0	
1.134000	44.2	2000.0	9.000	On	L1	19.6	11.8	56.0	
2.102000	43.8	2000.0	9.000	On	L1	19.6	12.2	56.0	
2.130000	41.6	2000.0	9.000	On	N	19.6	14.4	56.0	
4.818000	40.5	2000.0	9.000	On	L1	19.6	15.5	56.0	

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.318000	29.4	2000.0	9.000	On	L1	19.7	20.4	49.8	
0.634000	40.2	2000.0	9.000	On	L1	19.7	5.8	46.0	
1.130000	34.4	2000.0	9.000	On	L1	19.6	11.6	46.0	
2.102000	34.2	2000.0	9.000	On	L1	19.6	11.8	46.0	
2.130000	33.9	2000.0	9.000	On	L1	19.6	12.1	46.0	
4.354000	30.9	2000.0	9.000	On	L1	19.6	15.1	46.0	

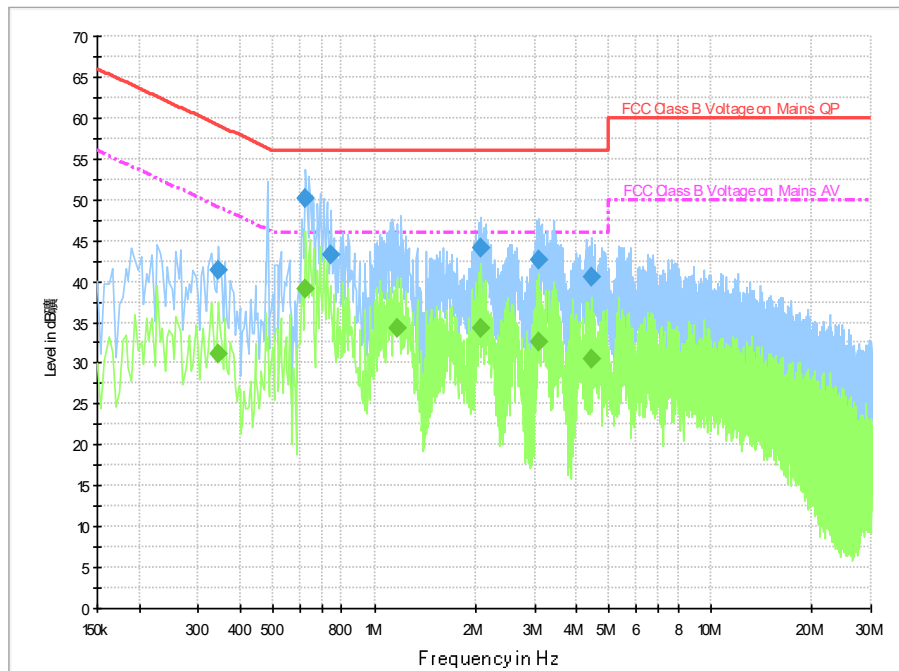


Fig. 26 Conducted Emission(802.11a, IDLE)

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.342000	41.3	2000.0	9.000	On	L1	19.8	17.8	59.2	
0.626000	50.1	2000.0	9.000	On	L1	19.7	5.9	56.0	
0.746000	43.3	2000.0	9.000	On	L1	19.7	12.7	56.0	
2.082000	44.1	2000.0	9.000	On	L1	19.6	11.9	56.0	
3.074000	42.7	2000.0	9.000	On	L1	19.6	13.3	56.0	
4.438000	40.5	2000.0	9.000	On	L1	19.6	15.5	56.0	

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.342000	31.1	2000.0	9.000	On	L1	19.8	18.1	49.2	
0.626000	39.1	2000.0	9.000	On	L1	19.7	6.9	46.0	
1.170000	34.3	2000.0	9.000	On	L1	19.6	11.7	46.0	
2.082000	34.2	2000.0	9.000	On	L1	19.6	11.8	46.0	
3.074000	32.6	2000.0	9.000	On	L1	19.6	13.4	46.0	
4.438000	30.6	2000.0	9.000	On	L1	19.6	15.4	46.0	

A.7. 99% Occupied bandwidth

Method of Measurement: See ANSI C63.10-2013-clause 12.4.2.

- a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
- c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (OBW/RBW)]$ below the reference level. Specific guidance is given in 4.1.5.2.
- d) Step a) through step c) might require iteration to adjust within the specified range.
- e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
- g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
- h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz
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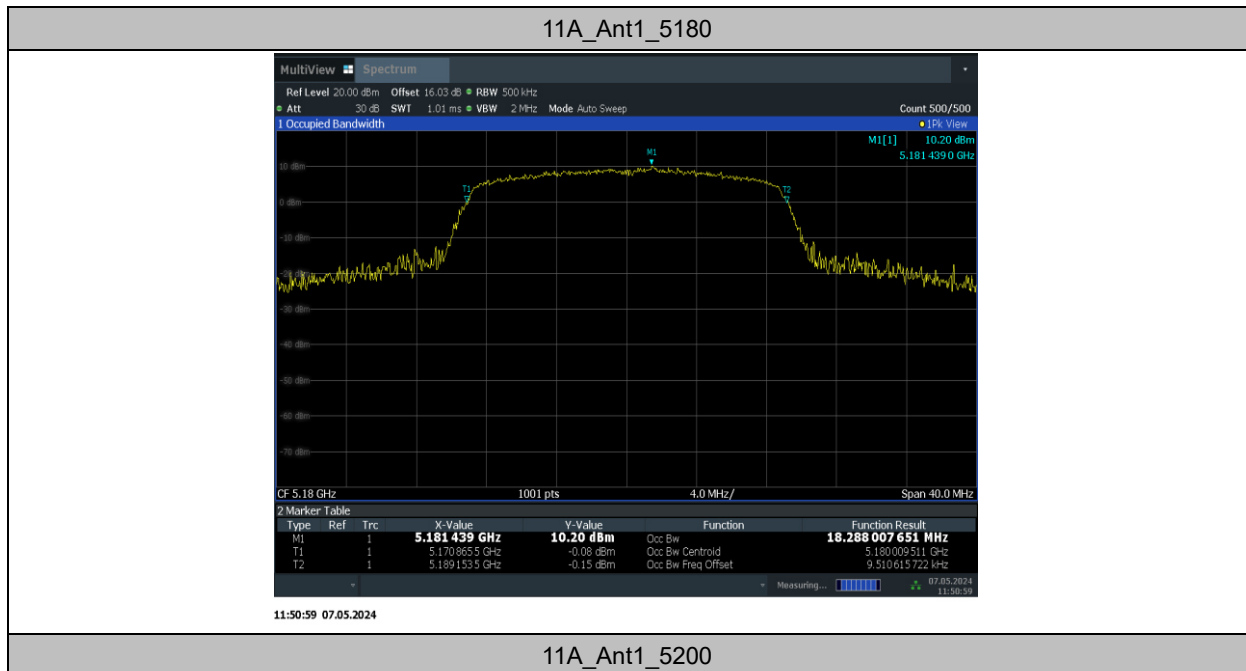
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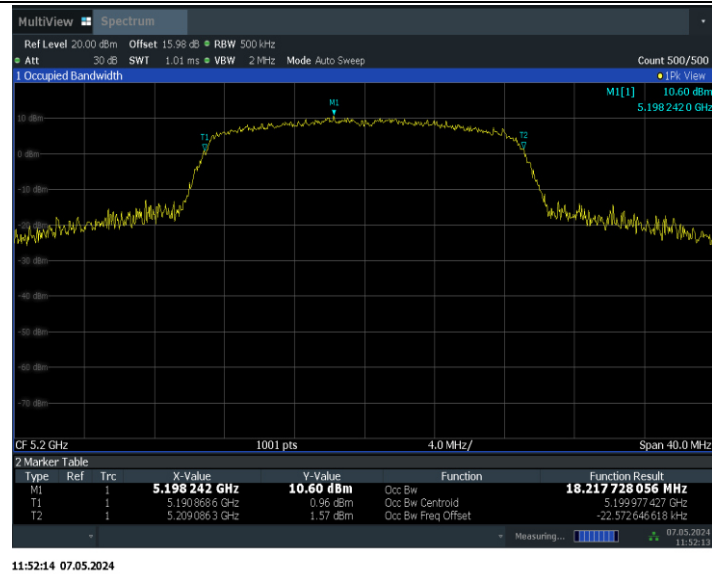
Measurement Result:

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]
11A	Ant1	5180	18.288	5170.8655	5189.1535
		5200	18.218	5190.8686	5209.0863
		5240	18.213	5230.8862	5249.0988
		5260	18.276	5250.8728	5269.1488
		5280	18.17	5270.9105	5289.0806
		5320	18.222	5310.9348	5329.1568
		5500	17.58	5491.1968	5508.7765
		5580	17.507	5571.2300	5588.7366
		5700	17.53	5691.2594	5708.7895
		5720	17.703	5711.1115	5728.8142
11N20SISO	Ant1	5180	18.401	5170.7665	5189.1676

		5200	18.317	5190.7702	5209.0870
		5240	18.309	5230.7787	5249.0879
		5260	18.367	5250.7880	5269.1547
		5280	18.265	5270.8689	5289.1334
		5320	18.312	5310.8651	5329.1773
		5500	18.373	5490.7790	5509.1522
		5580	18.377	5570.7700	5589.1473
		5700	18.339	5690.8160	5709.1546
		5720	18.441	5710.6985	5729.1391
11N40SISO	Ant1	5190	36.887	5171.5452	5208.4324
		5230	36.881	5211.5827	5248.4640
		5270	36.948	5251.5278	5288.4755
		5310	37.034	5291.4248	5328.4591
		5510	36.845	5491.5359	5528.3811
		5550	36.862	5531.5762	5568.4378
		5670	36.994	5651.5283	5688.5227
		5710	36.844	5691.5746	5728.4188
11AC80SISO	Ant1	5210	75.326	5172.3168	5247.6432
		5290	75.404	5252.3176	5327.7216
		5530	75.405	5492.1764	5567.5809
		5610	75.361	5572.3219	5647.6829
		5690	75.382	5652.2198	5727.6013

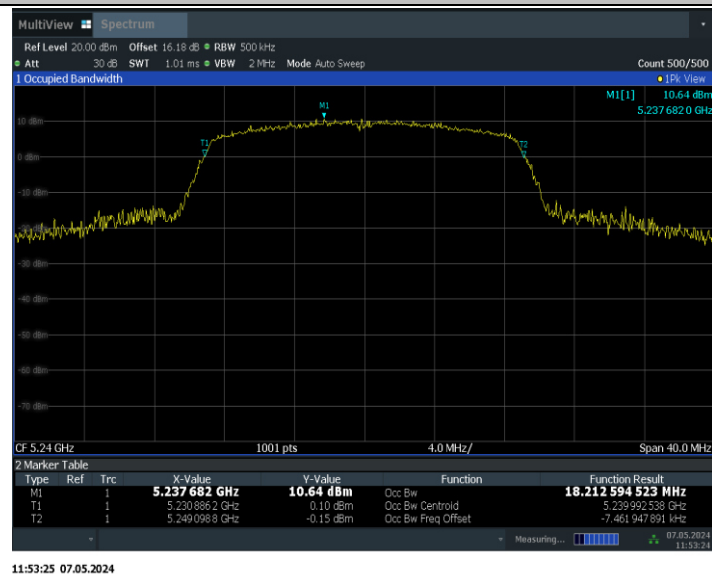
Test graphs as below:





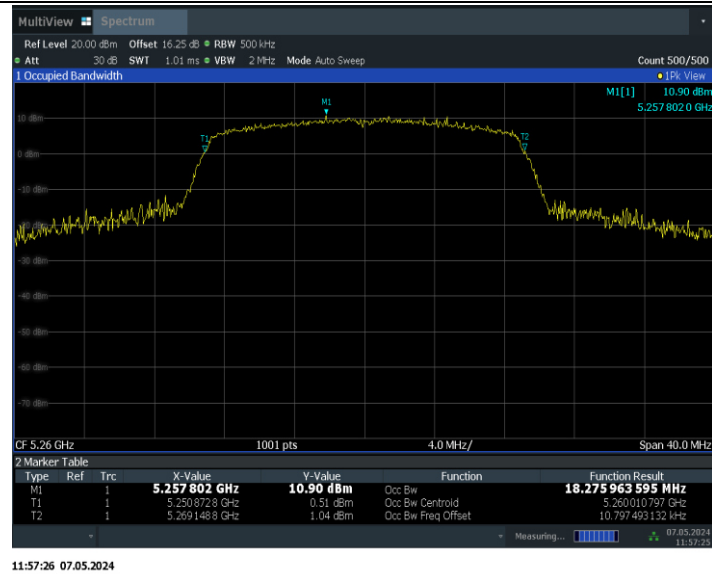
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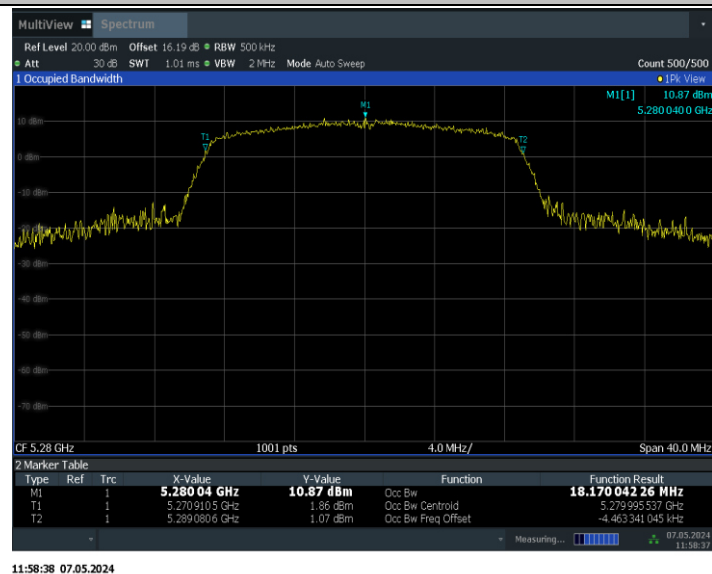
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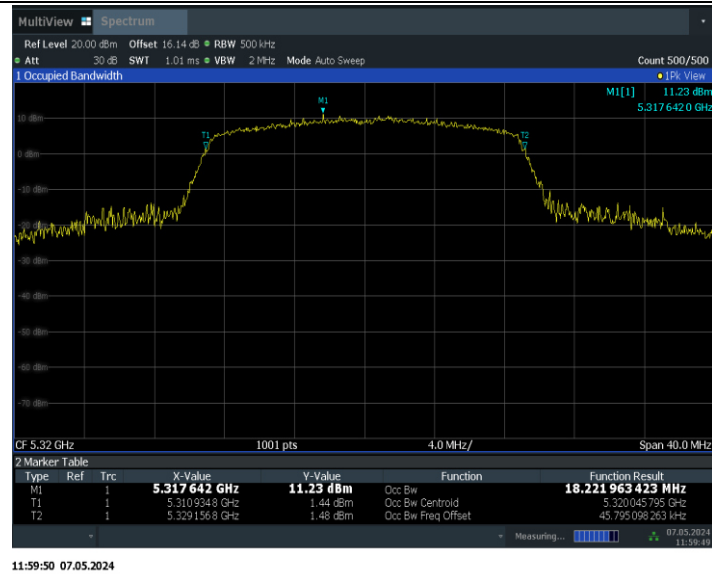
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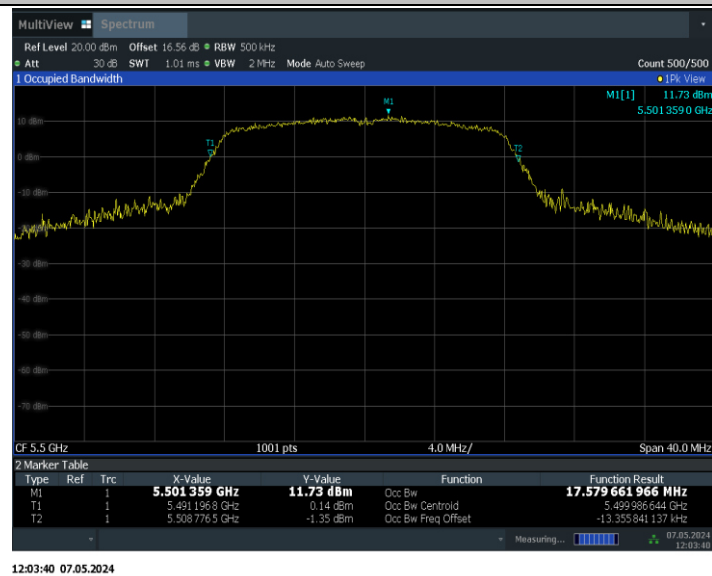


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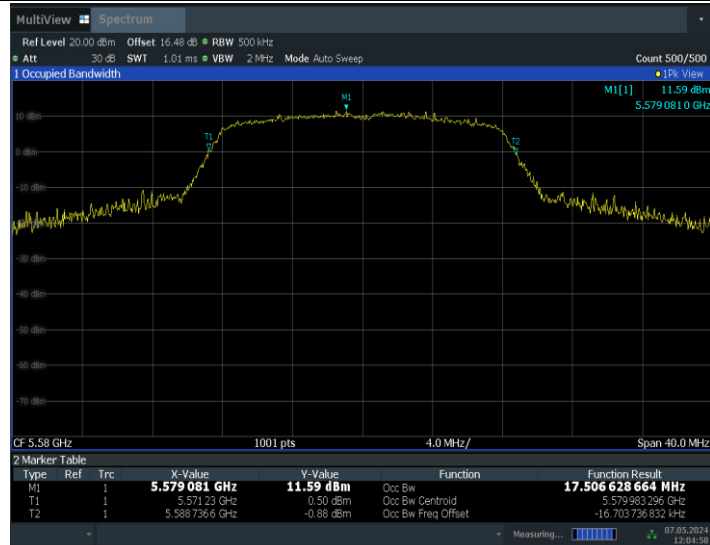
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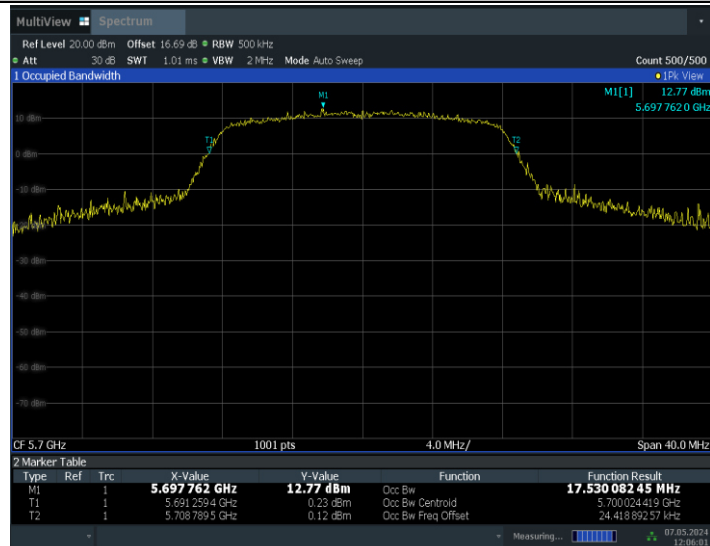


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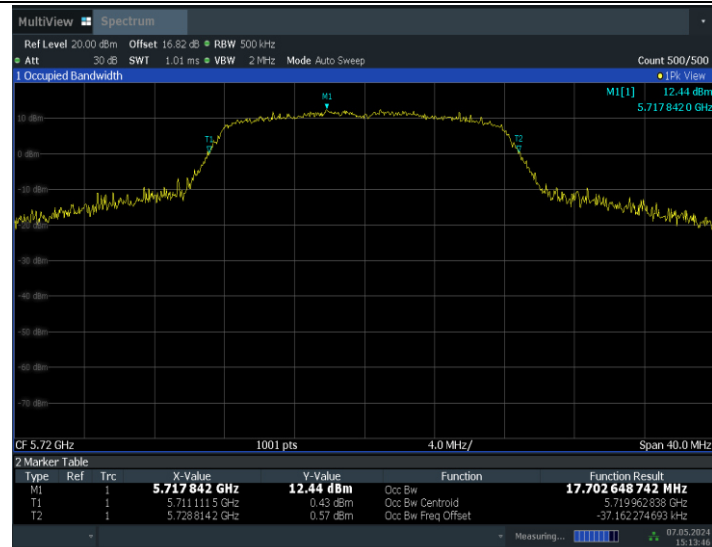
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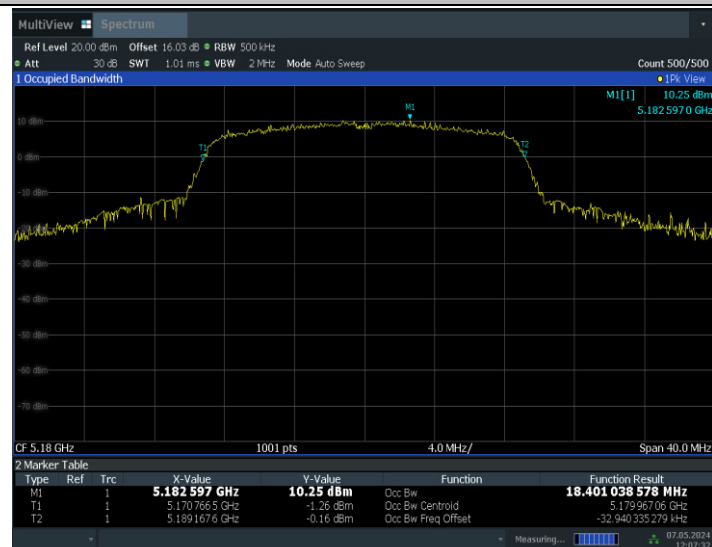
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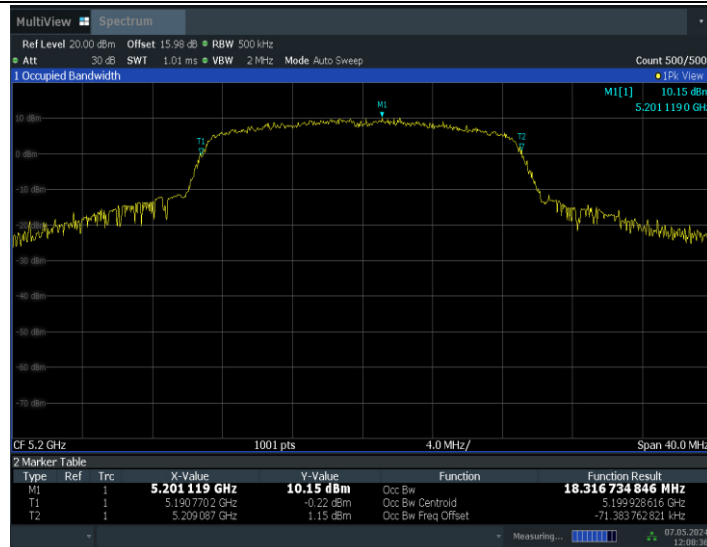
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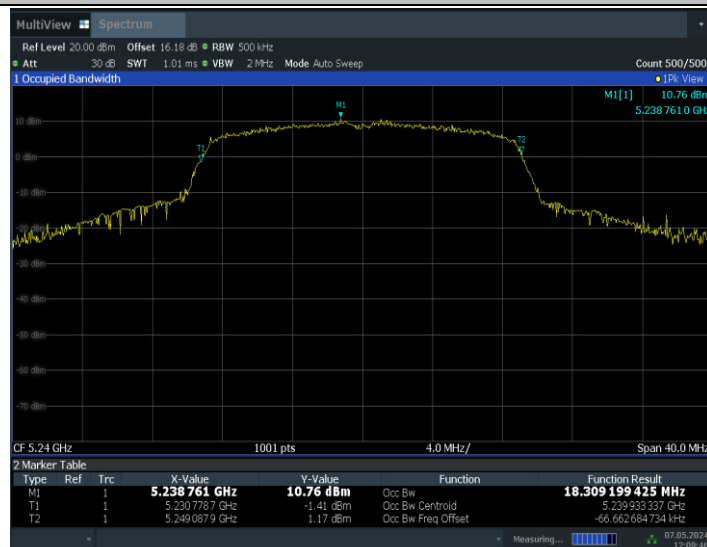
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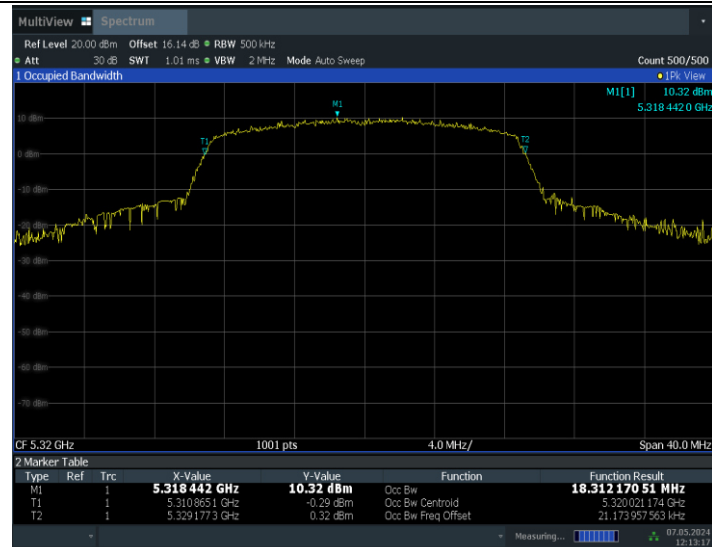
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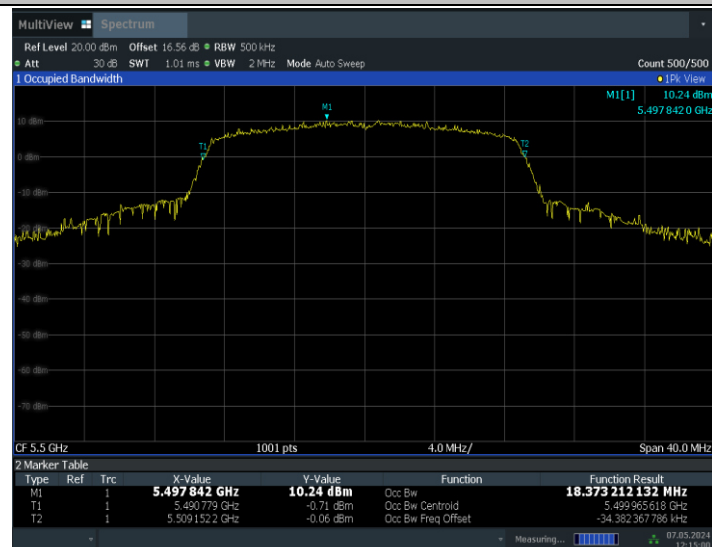
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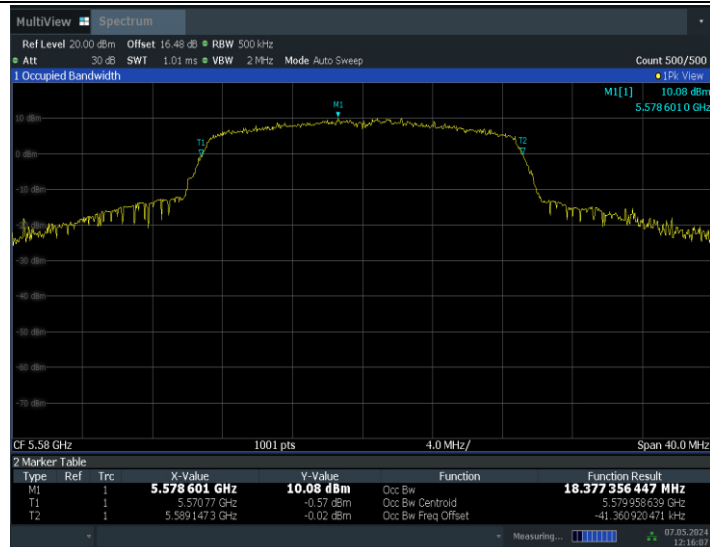
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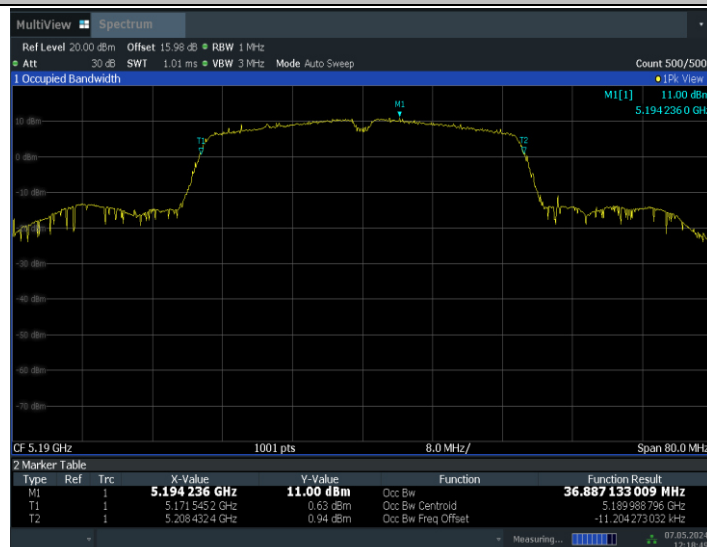
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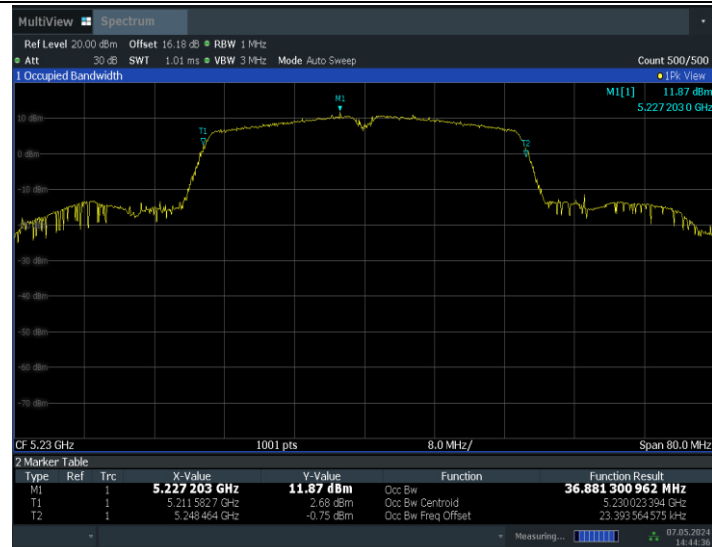
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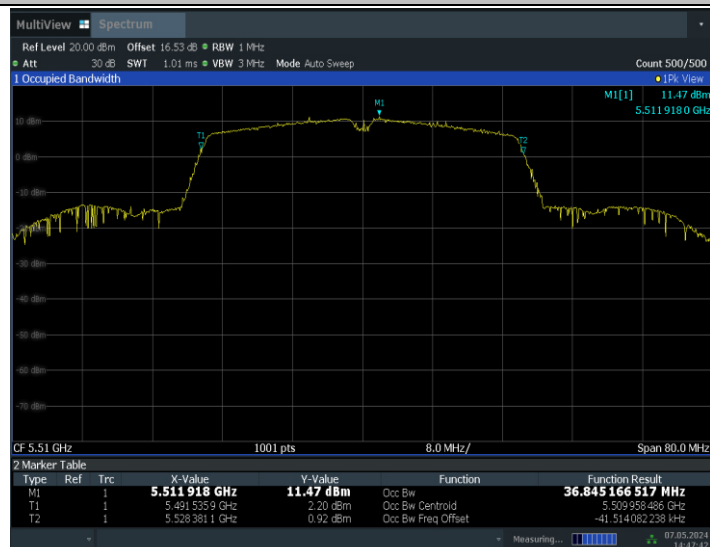
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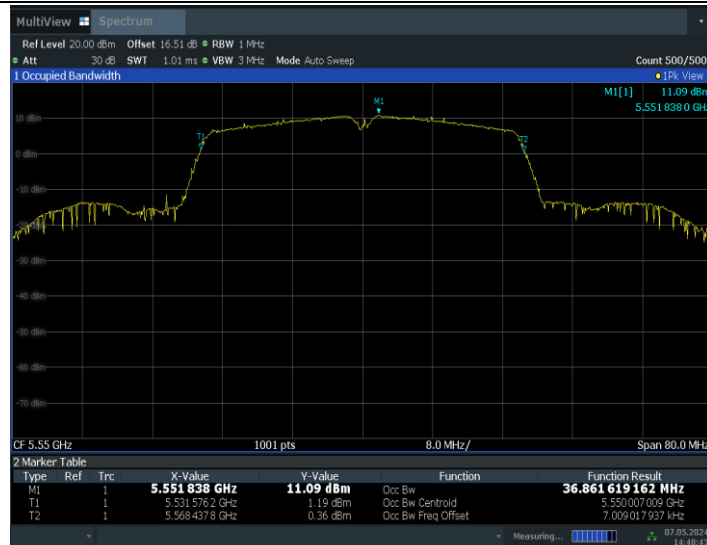
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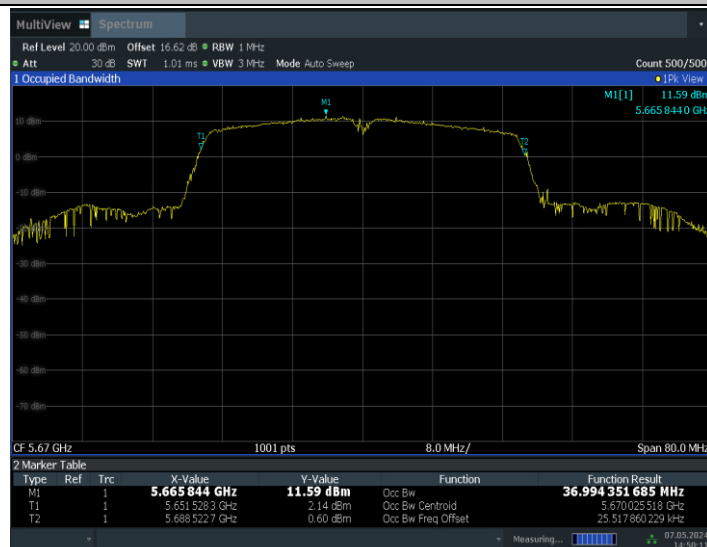
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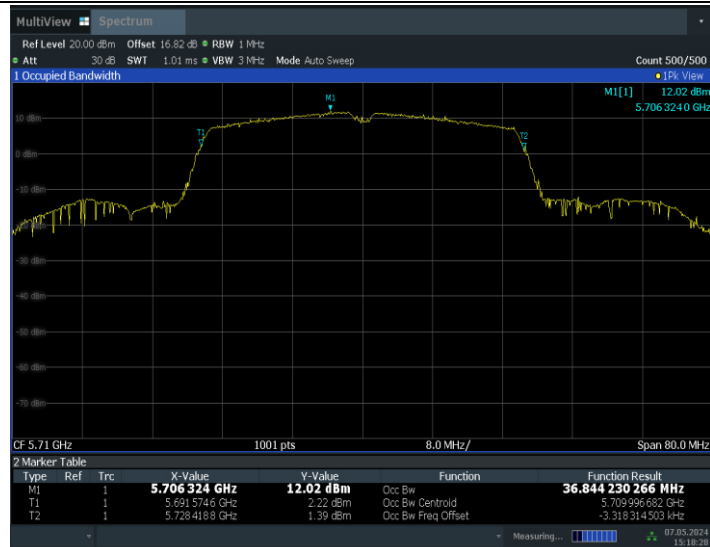
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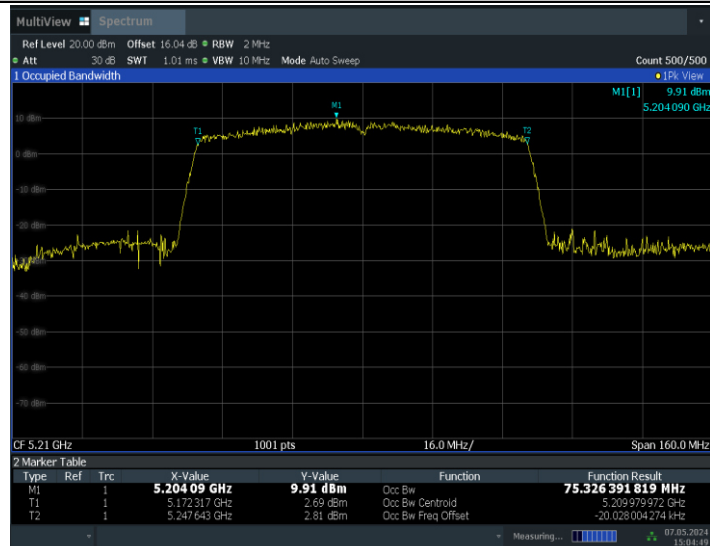
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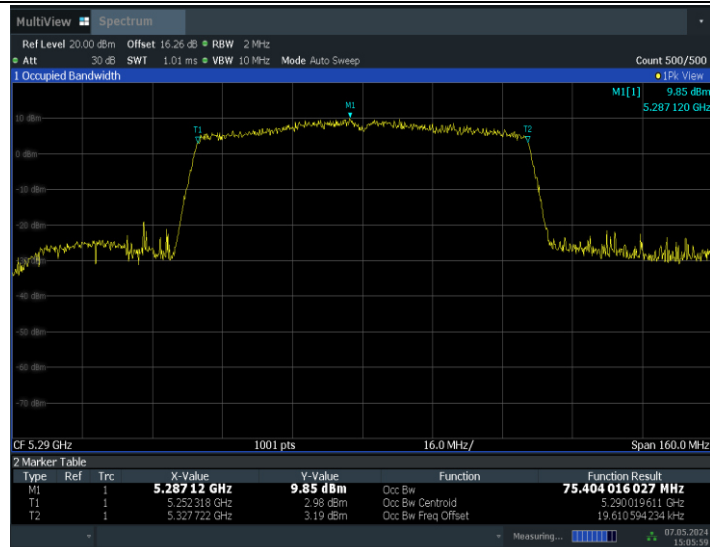
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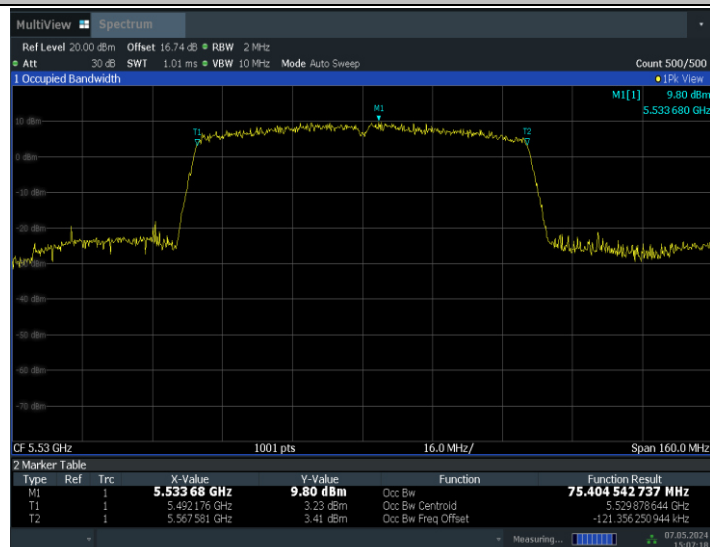
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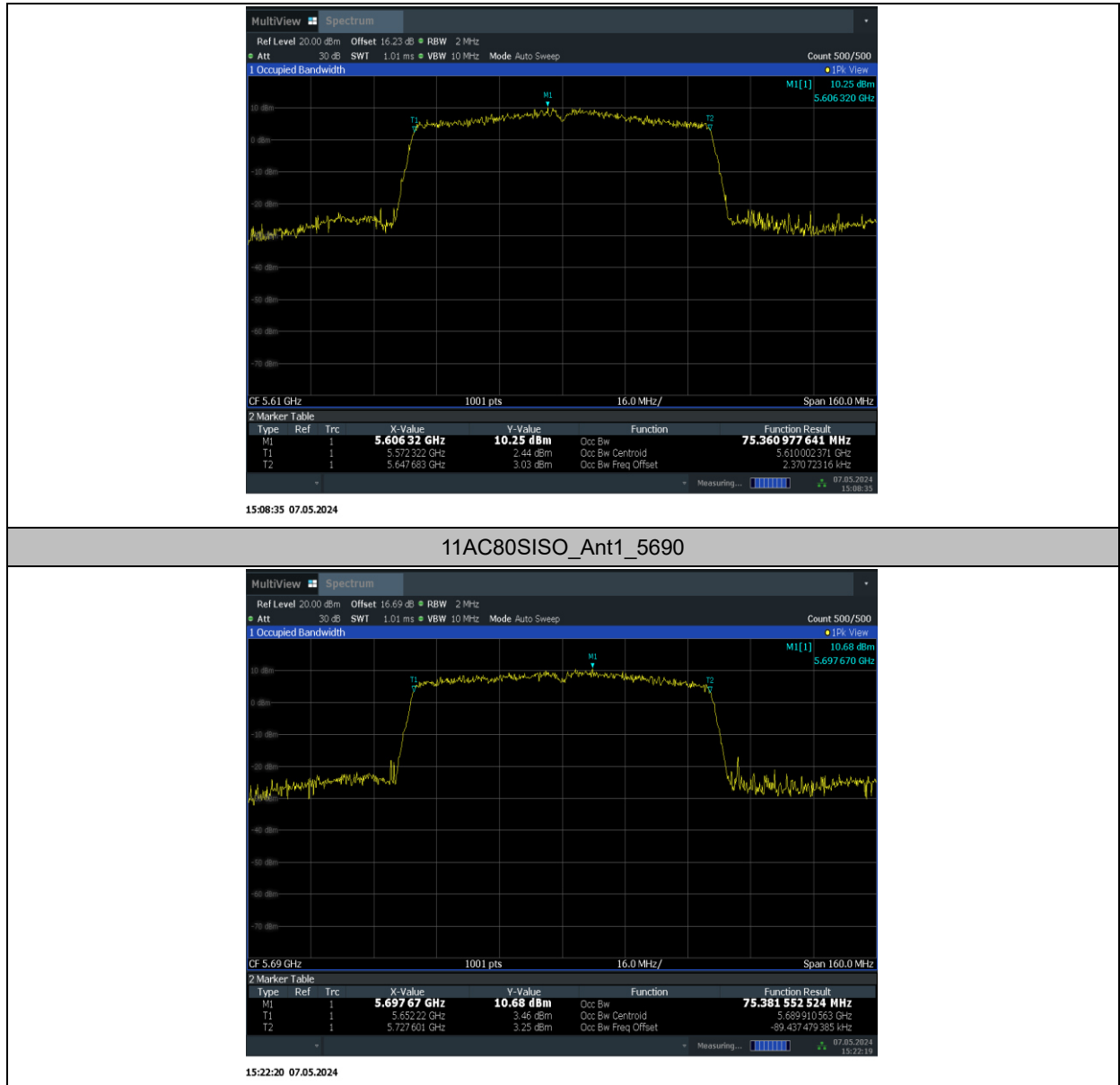
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Conclusion: PASS

A.8. Power control

A Transmission Power Control mechanism is not required for systems with an e.i.r.p. of less than 27dBm (500 mW).