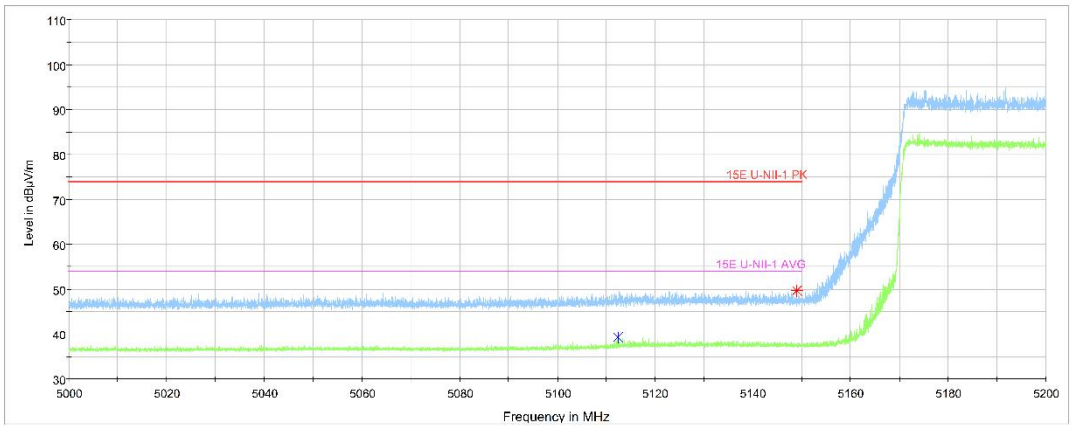

Fig. 46 Band Edges (802.11be-HT80 , full RU, Ch42 , 5210MHz)

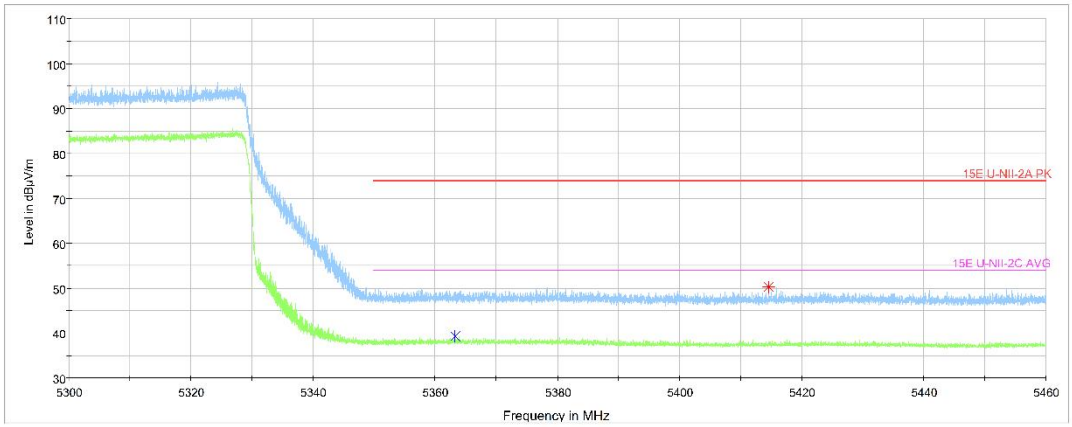

Fig. 47 Band Edges (802.11be-HT80 , full RU, Ch58, 5290MHz)

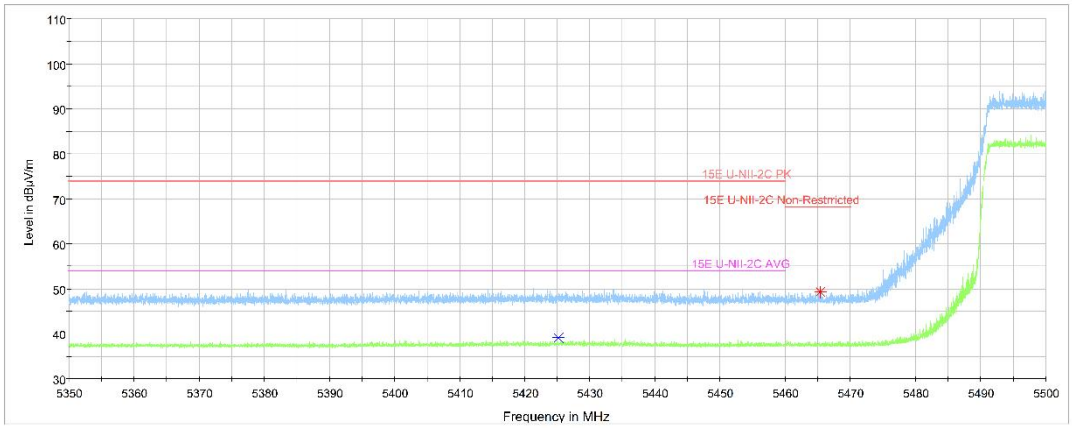

Fig. 48 Band Edges (802.11be-HT80 , full RU, Ch106, 5530MHz)

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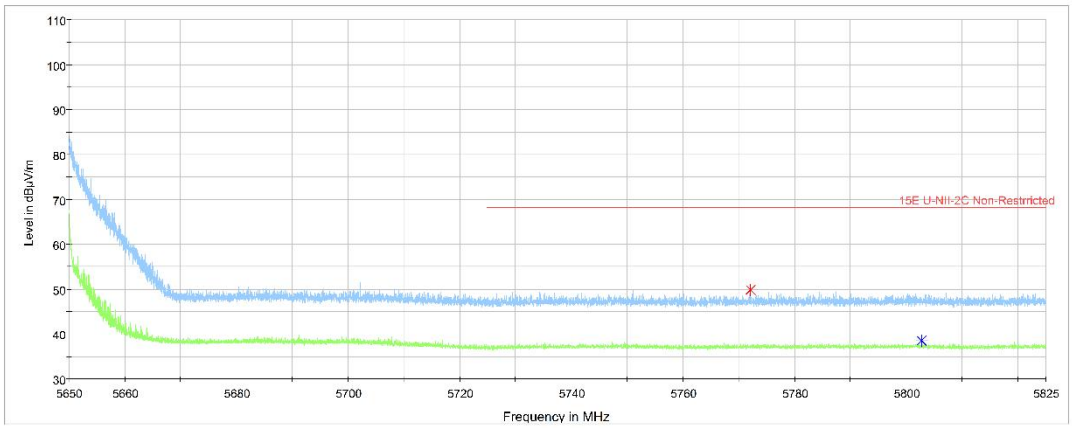

Fig. 49 Band Edges (802.11be-HT80 , full RU, Ch122, 5610MHz)

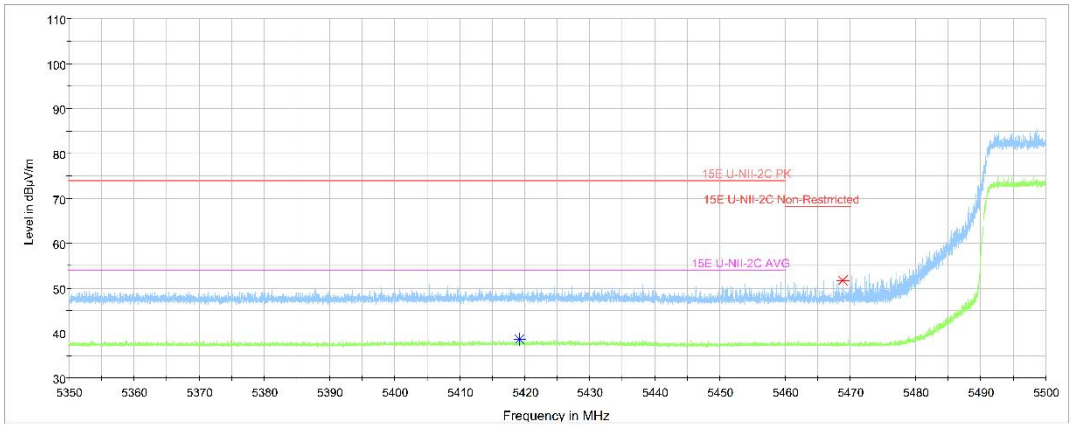

Fig. 50 Band Edges (802.11be-HT160 , full RU, Ch114, 5570MHz)

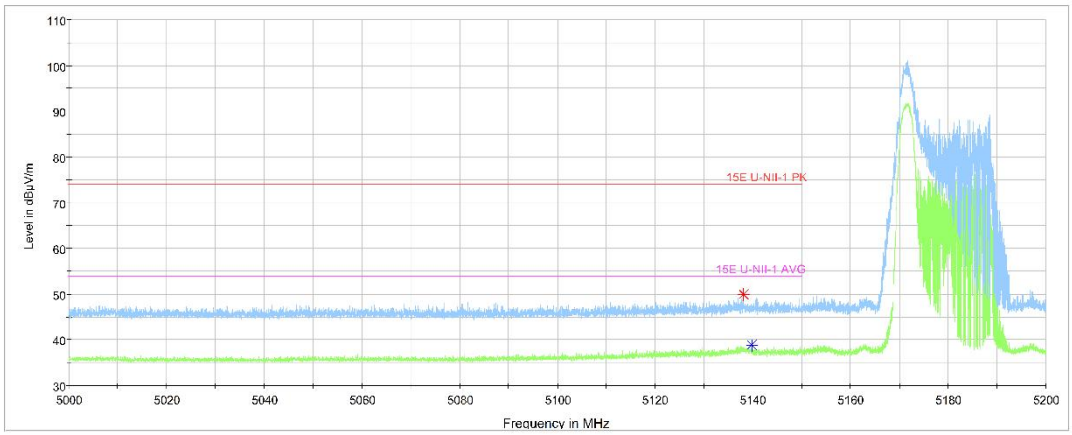

Fig. 51 Band Edges (802.11ax-HT20 , partial RU, Ch36, 5180MHz)

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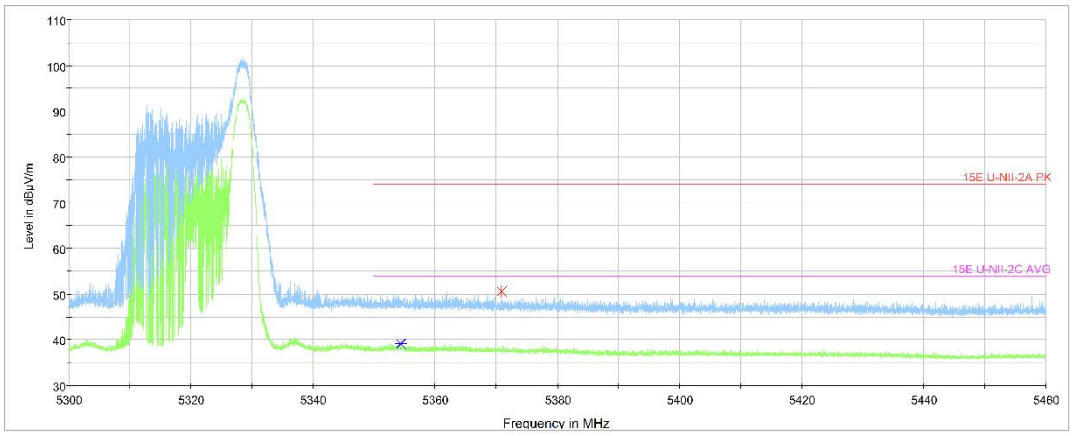

Fig. 52 Band Edges (802.11ax-HT20 , partial RU, Ch64, 5320MHz)

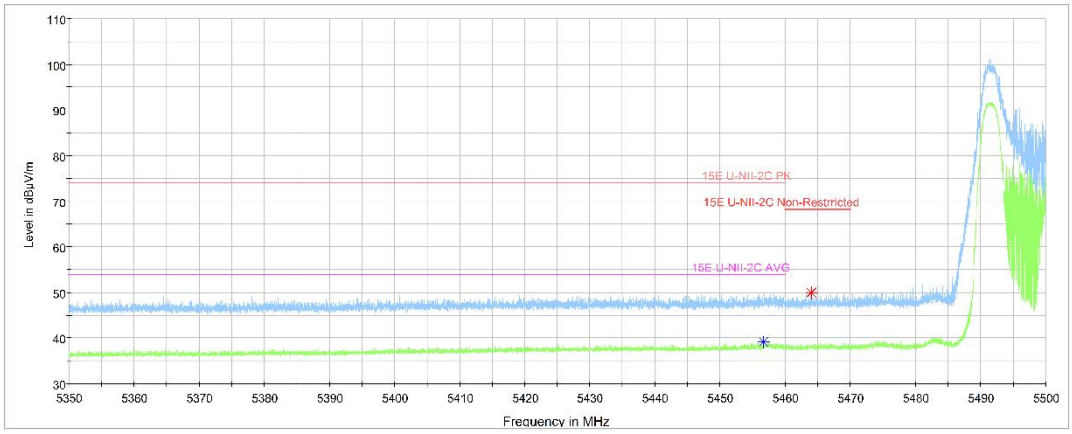

Fig. 53 Band Edges (802.11ax-HT20 , partial RU, Ch100, 5500MHz)

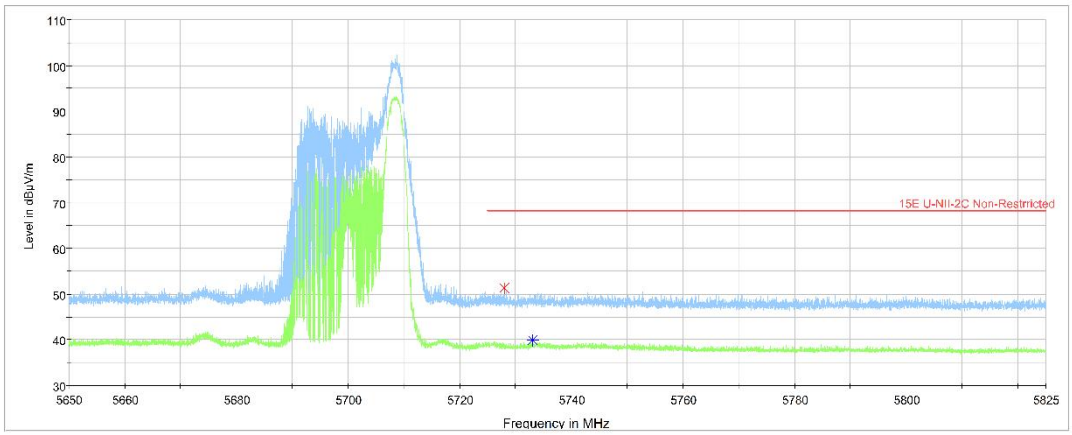

Fig. 54 Band Edges (802.11ax-HT20 , partial RU, Ch140, 5700MHz)

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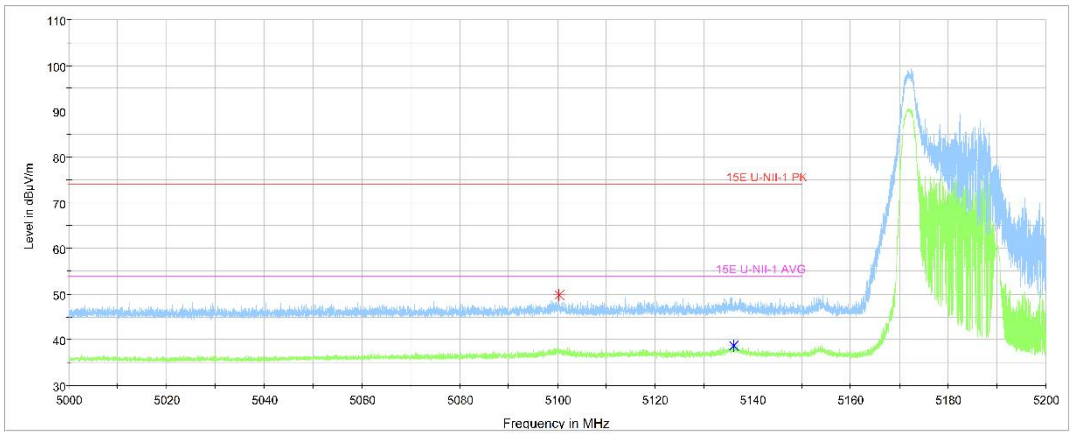

Fig. 55 Band Edges (802.11ax-HT40 , partial RU, Ch38, 5190MHz)

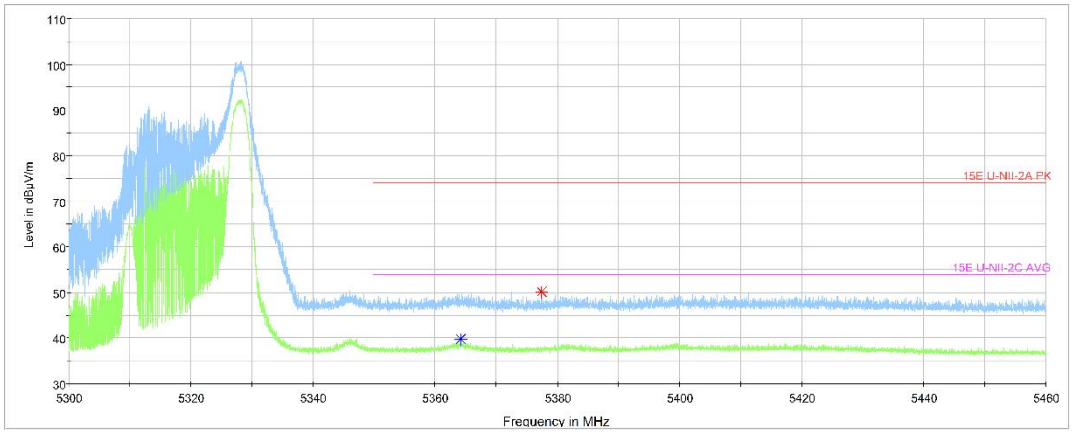

Fig. 56 Band Edges (802.11ax-HT40 , partial RU, Ch62, 5310MHz)

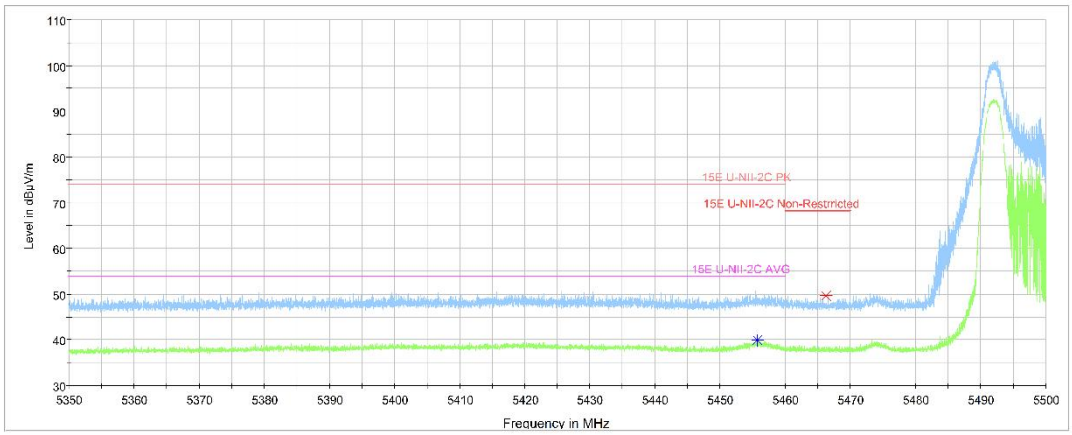

Fig. 57 Band Edges (802.11ax-HT40 , partial RU, Ch102, 5510MHz)

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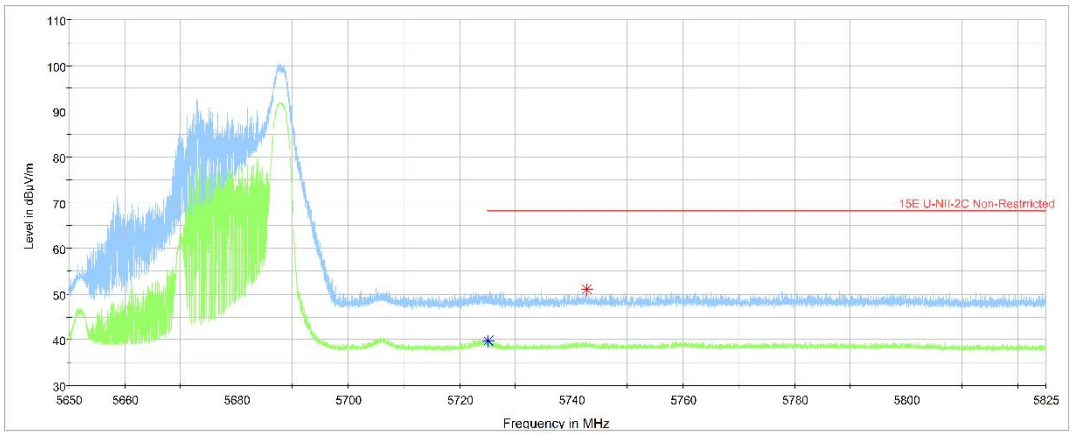

Fig. 58 Band Edges (802.11ax-HT40 , partial RU, Ch134, 5670MHz)

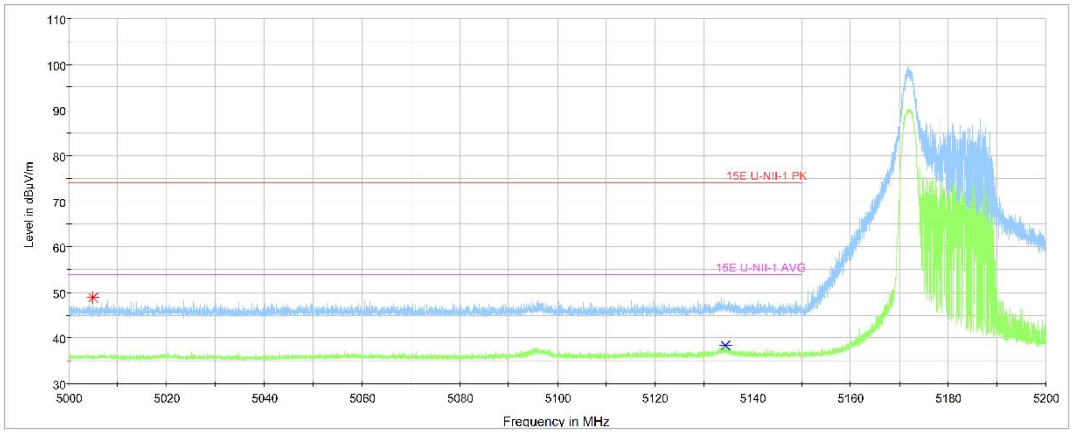

Fig. 59 Band Edges (802.11ax-HT80 , partial RU, Ch42 , 5210MHz)

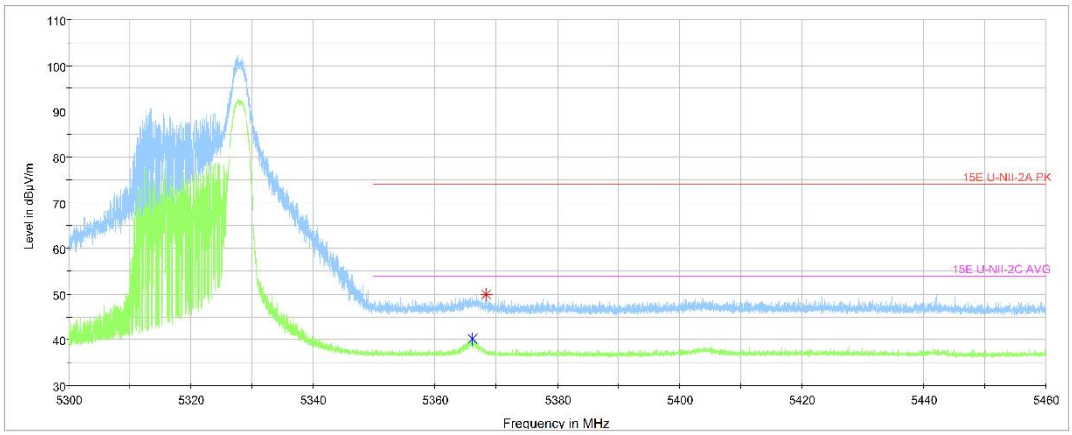

Fig. 60 Band Edges (802.11ax-HT80 , partial RU, Ch58, 5290MHz)

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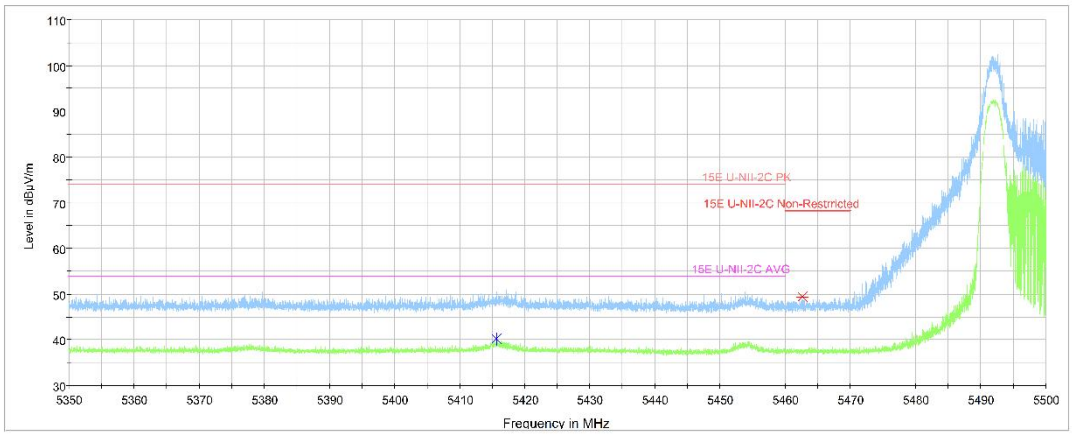

Fig. 61 Band Edges (802.11ax-HT80 , partial RU, Ch106, 5530MHz)

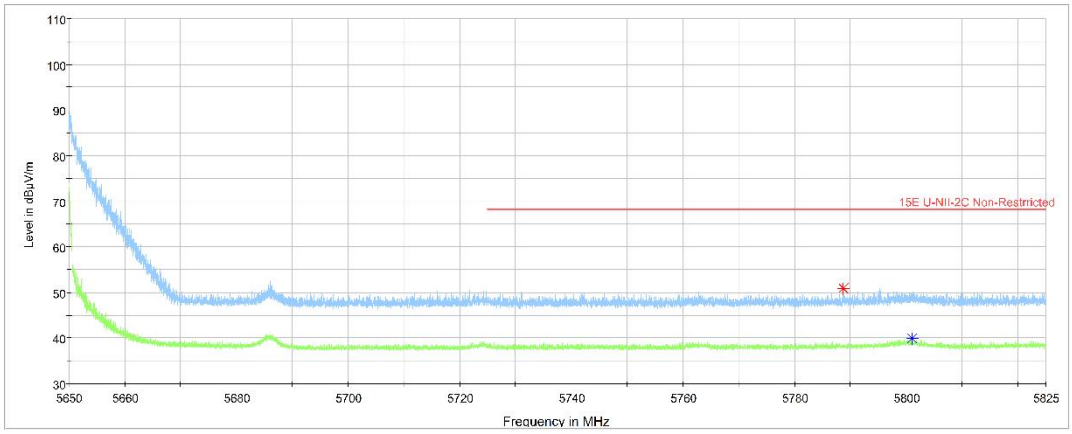

Fig. 62 Band Edges (802.11ax-HT80 , partial RU, Ch122, 5610MHz)

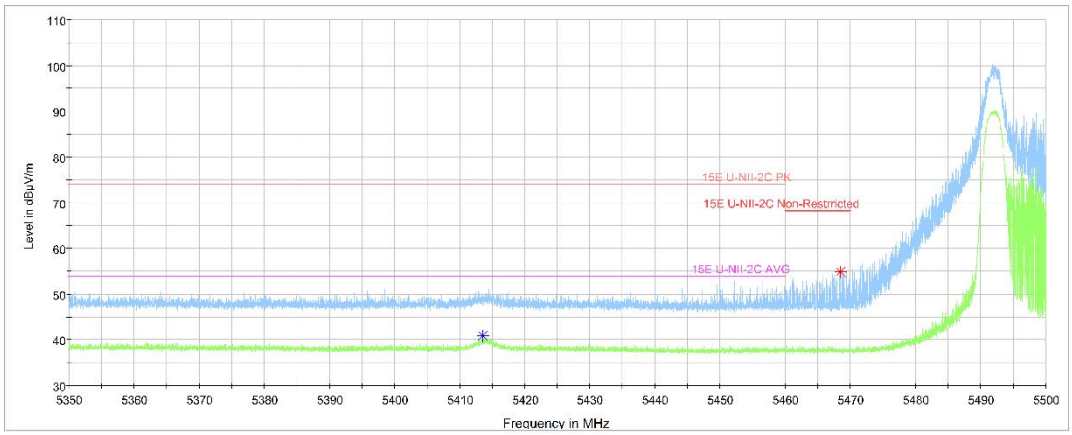

Fig. 63 Band Edges (802.11ax-HT160 , partial RU, Ch114, 5570MHz)

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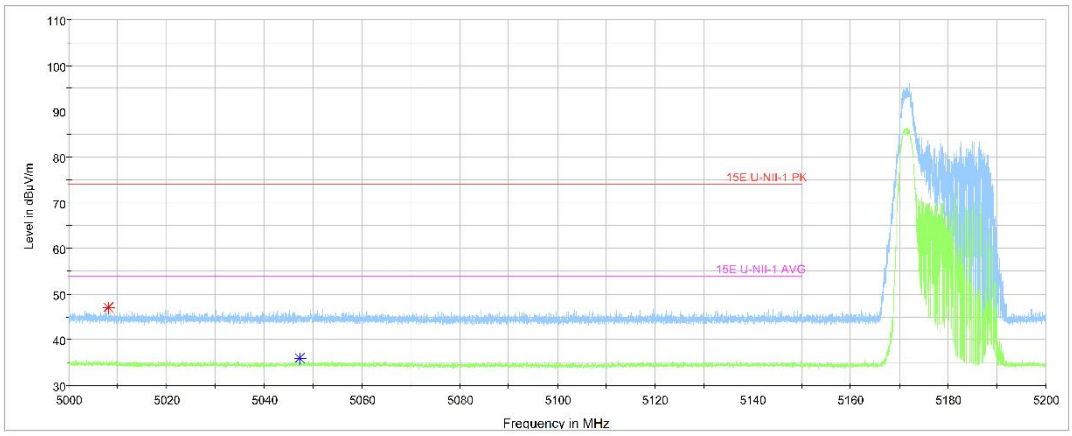

Fig. 64 Band Edges (802.11be-HT20 , partial RU, Ch36, 5180MHz)

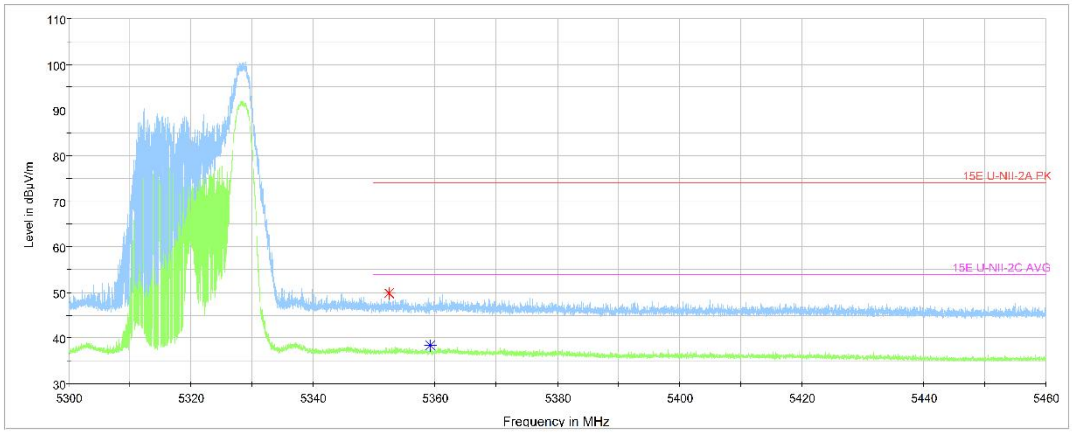

Fig. 65 Band Edges (802.11be-HT20 , partial RU, Ch64, 5320MHz)

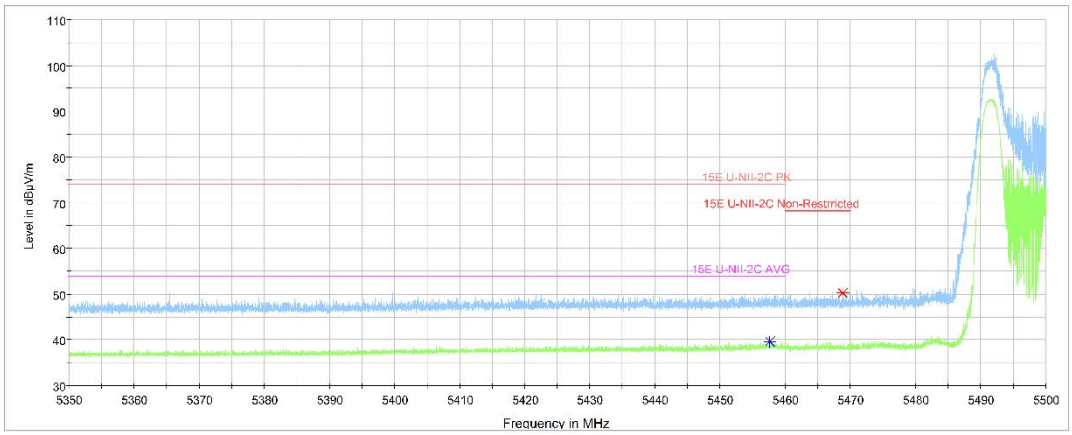

Fig. 66 Band Edges (802.11be-HT20 , partial RU, Ch100, 5500MHz)

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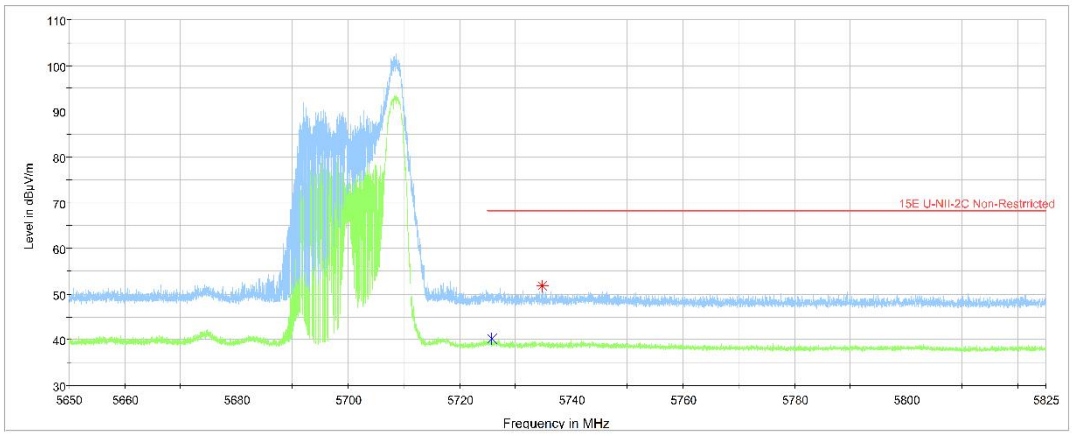

Fig. 67 Band Edges (802.11be-HT20 , partial RU, Ch140, 5700MHz)

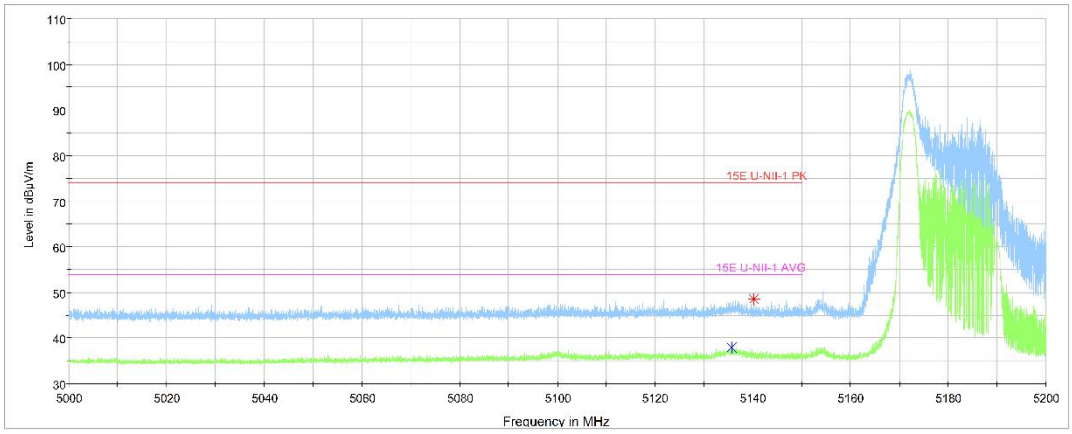

Fig. 68 Band Edges (802.11be-HT40 , partial RU, Ch38, 5190MHz)

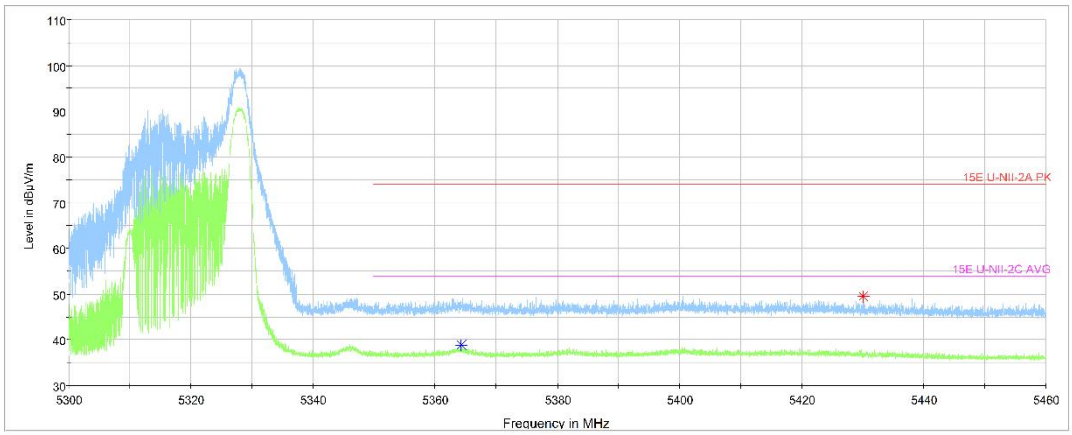

Fig. 69 Band Edges (802.11be-HT40 , partial RU, Ch62, 5310MHz)

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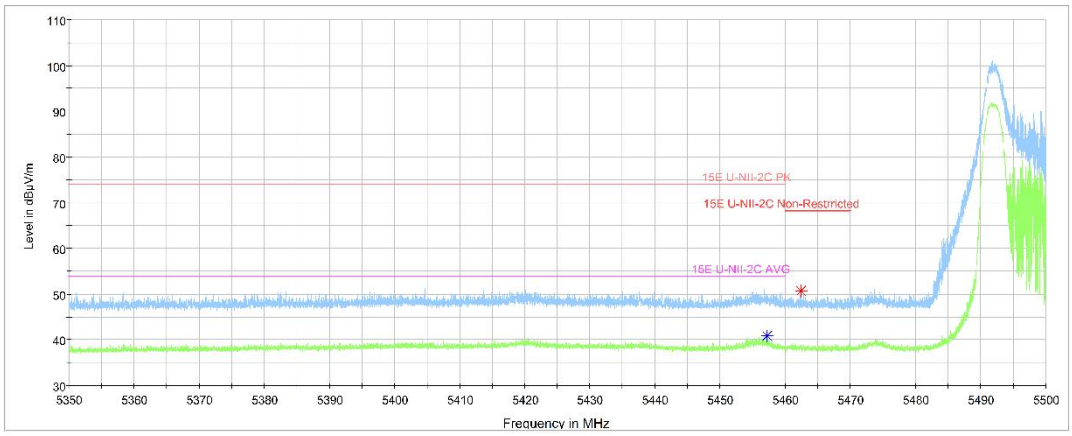

Fig. 70 Band Edges (802.11be-HT40 , partial RU, Ch102, 5510MHz)

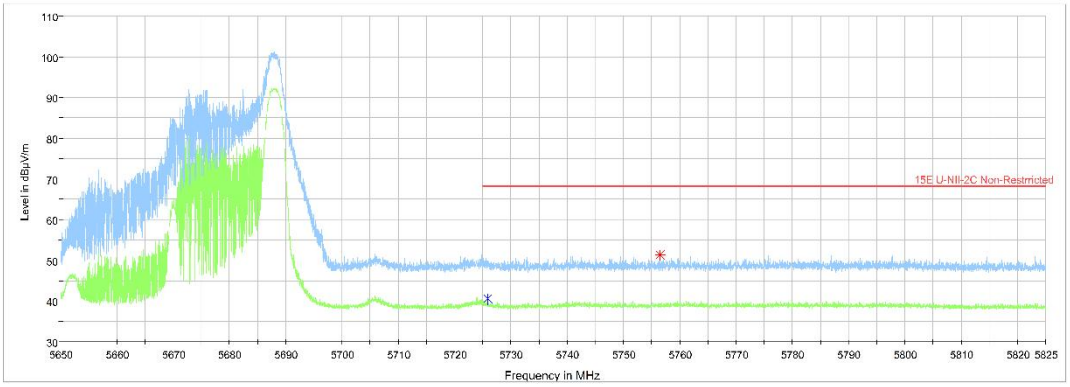

Fig. 71 Band Edges (802.11be-HT40 , partial RU, Ch134, 5670MHz)

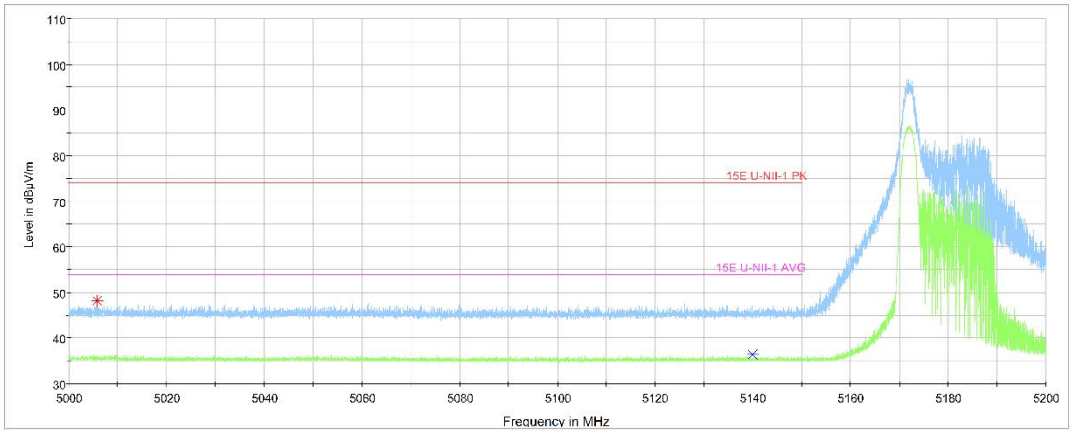

Fig. 72 Band Edges (802.11be-HT80 , partial RU, Ch42 , 5210MHz)

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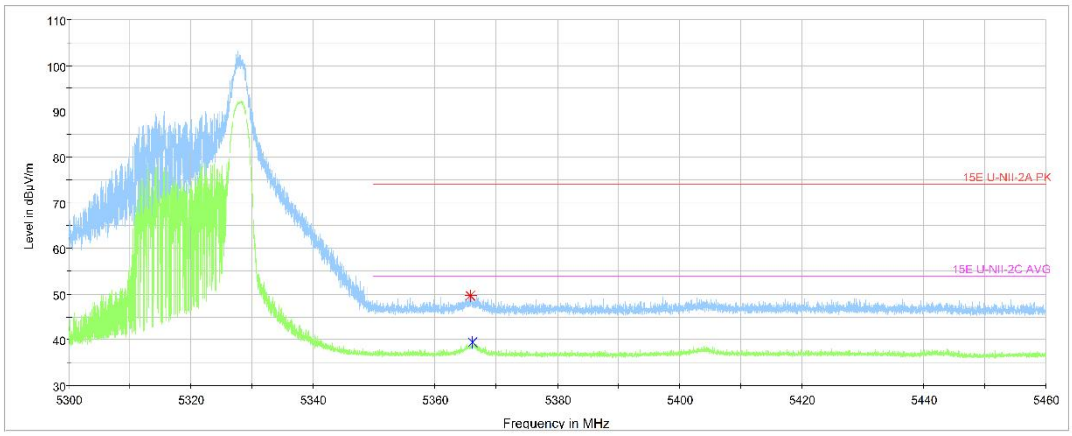

Fig. 73 Band Edges (802.11be-HT80 , partial RU, Ch58, 5290MHz)

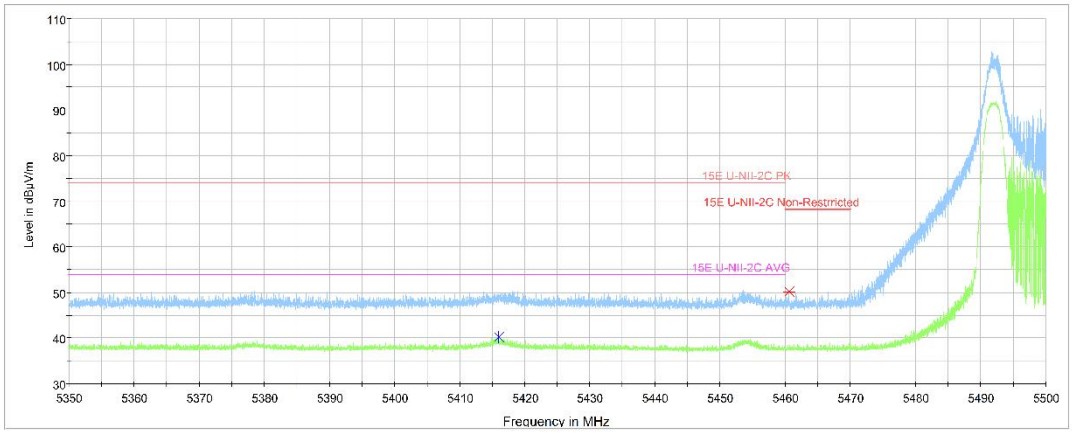

Fig. 74 Band Edges (802.11be-HT80 , partial RU, Ch106, 5530MHz)

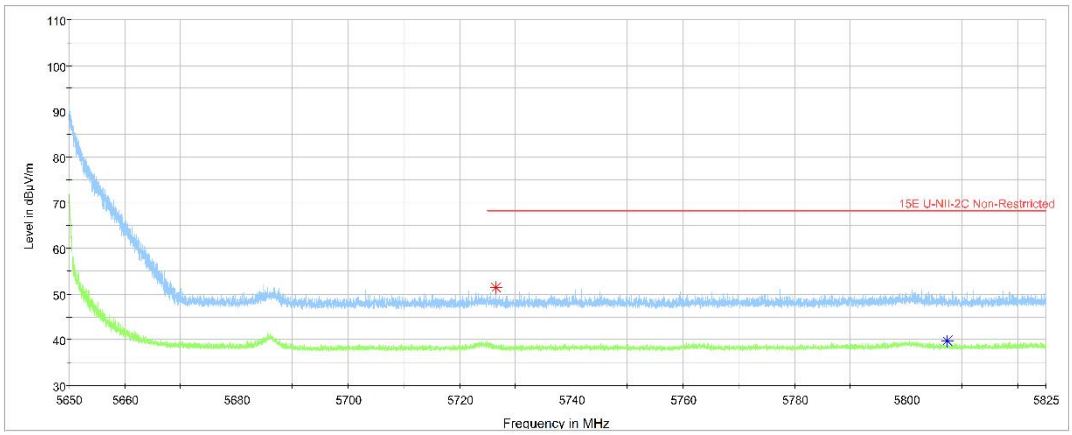

Fig. 75 Band Edges (802.11be-HT80 , partial RU, Ch122, 5610MHz)

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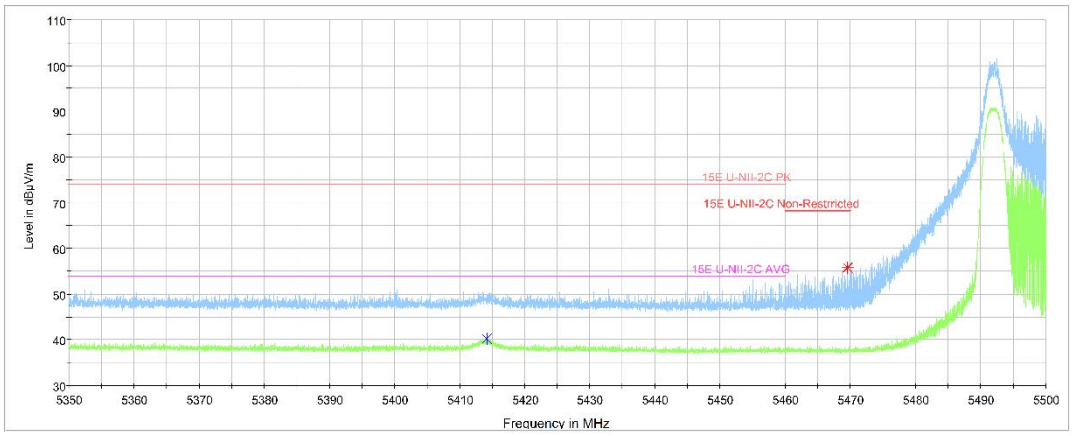

Fig. 76 Band Edges (802.11be-HT160 , partial RU, Ch114, 5570MHz)

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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.

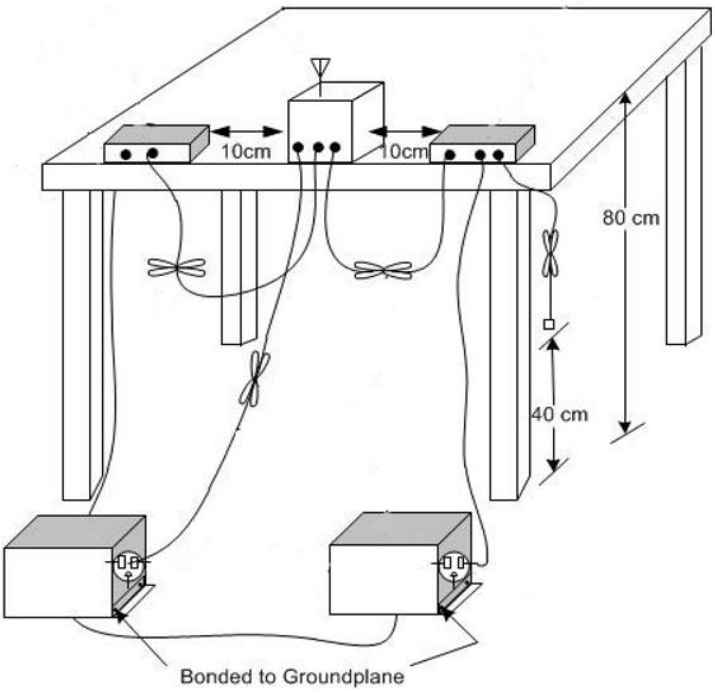
The measurement bandwidth is:

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



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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.77	Fig.78	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.77	Fig.78	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:

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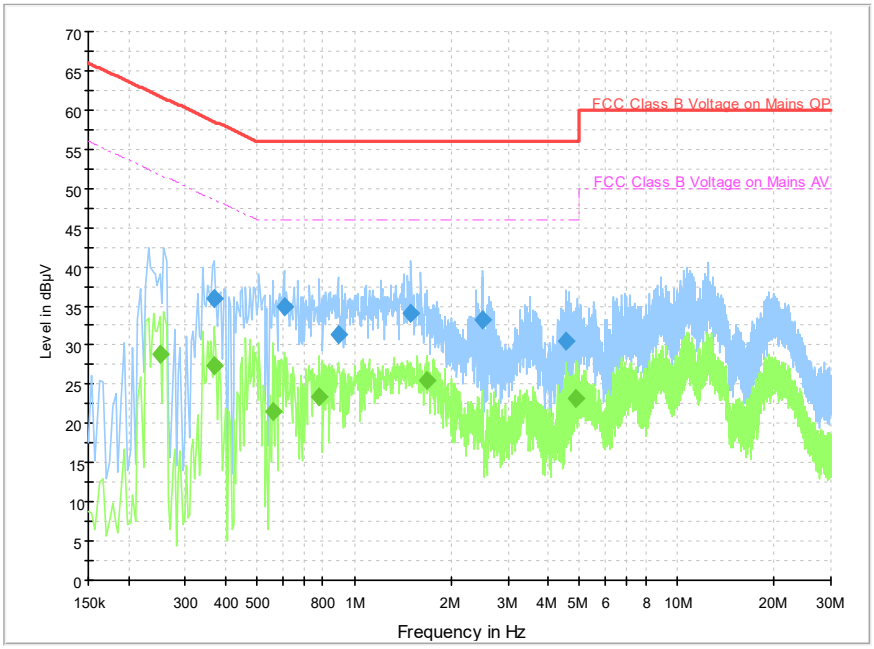

Fig.77 Conducted Emission(802.11a, Ch36, TX)

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.370000	35.9	2000.0	9.000	On	L1	19.9	22.6	58.5	
0.606000	34.8	2000.0	9.000	On	N	19.9	21.2	56.0	
0.890000	31.4	2000.0	9.000	On	L1	19.9	24.6	56.0	
1.502000	34.1	2000.0	9.000	On	L1	19.9	21.9	56.0	
2.498000	33.3	2000.0	9.000	On	N	19.6	22.7	56.0	
4.518000	30.5	2000.0	9.000	On	L1	19.8	25.5	56.0	

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.250000	28.8	2000.0	9.000	On	N	19.8	23.0	51.8	
0.370000	27.3	2000.0	9.000	On	L1	19.9	21.2	48.5	
0.558000	21.6	2000.0	9.000	On	L1	20.0	24.4	46.0	
0.782000	23.3	2000.0	9.000	On	L1	19.9	22.7	46.0	
1.682000	25.4	2000.0	9.000	On	N	19.7	20.6	46.0	
4.882000	23.2	2000.0	9.000	On	L1	19.8	22.8	46.0	

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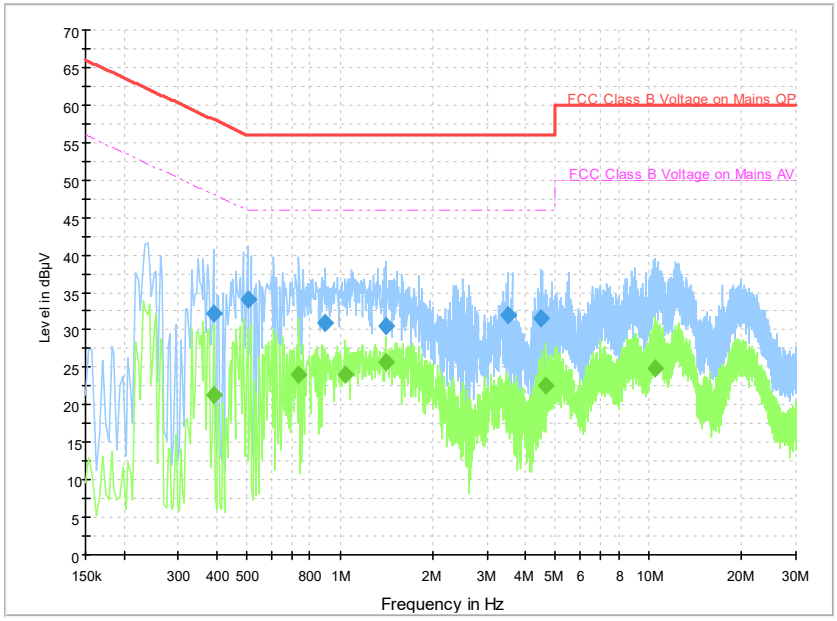

Fig.78 Conducted Emission(802.11a, IDLE)

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.390000	32.2	2000.0	9.000	On	N	19.9	25.8	58.1	
0.502000	34.1	2000.0	9.000	On	L1	20.0	21.9	56.0	
0.898000	30.9	2000.0	9.000	On	L1	19.9	25.1	56.0	
1.414000	30.6	2000.0	9.000	On	N	19.7	25.4	56.0	
3.498000	32.0	2000.0	9.000	On	L1	19.8	24.0	56.0	
4.502000	31.5	2000.0	9.000	On	L1	19.8	24.5	56.0	

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.390000	21.4	2000.0	9.000	On	L1	19.9	26.7	48.1	
0.734000	24.1	2000.0	9.000	On	L1	20.0	21.9	46.0	
1.042000	24.0	2000.0	9.000	On	N	19.7	22.0	46.0	
1.414000	25.7	2000.0	9.000	On	N	19.7	20.3	46.0	
4.646000	22.6	2000.0	9.000	On	L1	19.8	23.4	46.0	
10.526000	24.8	2000.0	9.000	On	N	19.7	25.2	50.0	

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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% ofthe 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

EUT ID: UT11a

Measurement Result:

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]
11A-MIMO	Ant0	5180	17.05
	Ant1	5180	16.86
	Ant0	5200	17.03
	Ant1	5200	16.85
	Ant0	5240	17.08
	Ant1	5240	16.86
	Ant0	5260	17.06
	Ant1	5260	16.85
	Ant0	5280	17.05
	Ant1	5280	16.87

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	Ant0	5320	17.07
	Ant1	5320	16.87
	Ant0	5500	17.05
	Ant1	5500	16.86
	Ant0	5580	17.06
	Ant1	5580	16.85
	Ant0	5700	17.06
	Ant1	5700	16.86
11AC20MIMO	Ant0	5180	18.10
	Ant1	5180	18.05
	Ant0	5200	18.15
	Ant1	5200	18.07
	Ant0	5240	18.14
	Ant1	5240	18.06
	Ant0	5260	18.15
	Ant1	5260	18.06
	Ant0	5280	18.14
	Ant1	5280	18.05
	Ant0	5320	18.15
	Ant1	5320	18.07
	Ant0	5500	18.11
	Ant1	5500	18.03
	Ant0	5580	18.15
	Ant1	5580	18.07
	Ant0	5700	18.16
	Ant1	5700	18.06
11N40MIMO	Ant0	5190	36.47
	Ant1	5190	36.44
	Ant0	5230	36.49
	Ant1	5230	36.49
	Ant0	5270	36.45
	Ant1	5270	36.48
	Ant0	5310	36.48
	Ant1	5310	36.46
	Ant0	5510	36.48
	Ant1	5510	36.44
	Ant0	5550	36.48
	Ant1	5550	36.48
	Ant0	5670	36.45
	Ant1	5670	36.47
11AX160MIMO	Ant0	5250	158.69
	Ant1	5250	159.09

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	Ant0	5570	158.92
	Ant1	5570	159.26
11BE80MIMO	Ant0	5210	78.79
	Ant1	5210	78.70
	Ant0	5290	78.93
	Ant1	5290	78.72
	Ant0	5530	78.82
	Ant1	5530	78.73
	Ant0	5610	78.92
	Ant1	5610	78.87

Test graphs as below:

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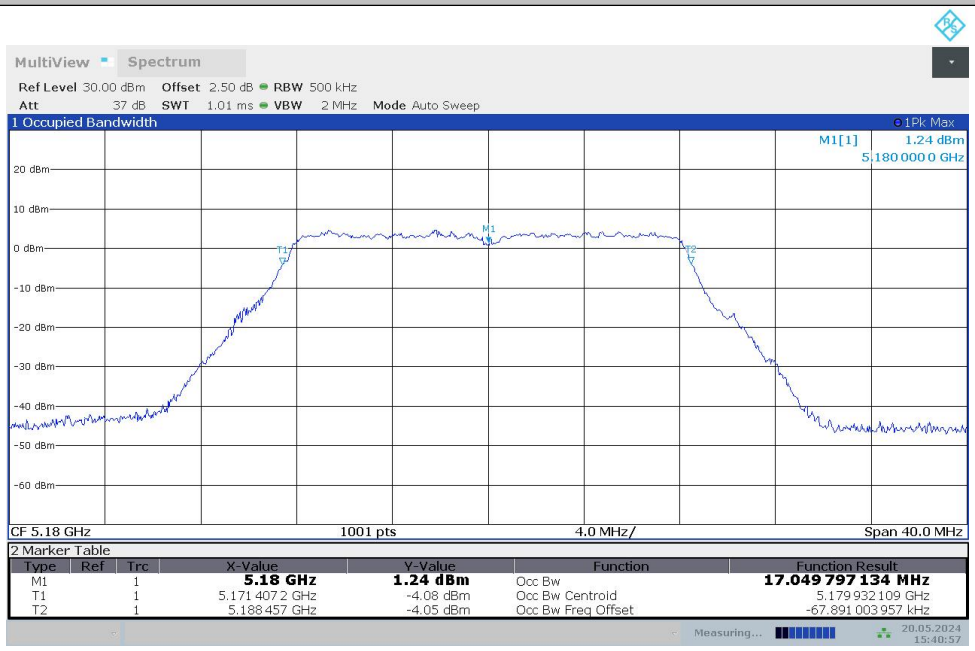

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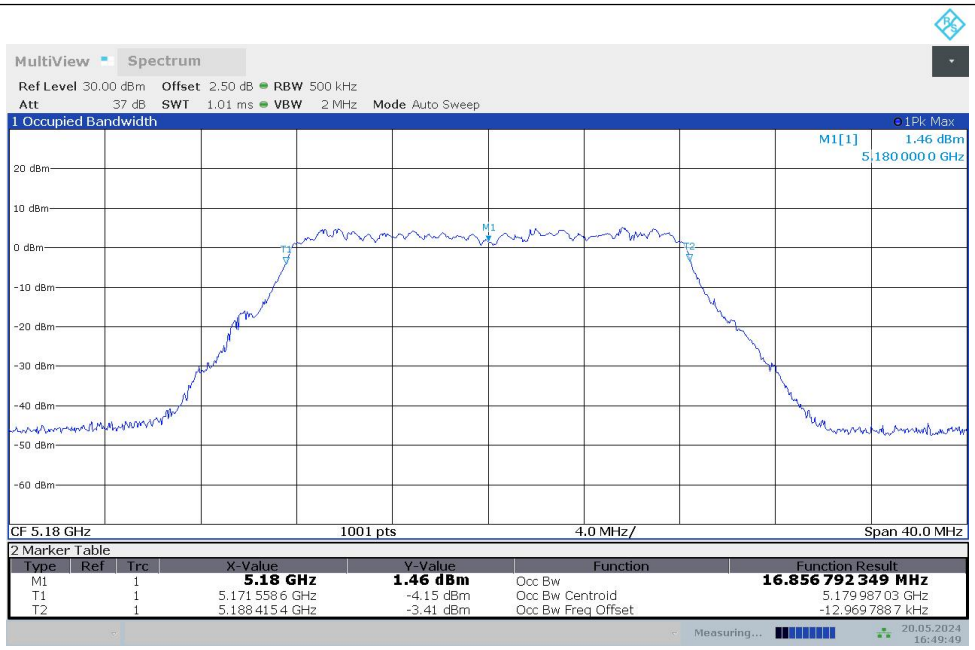

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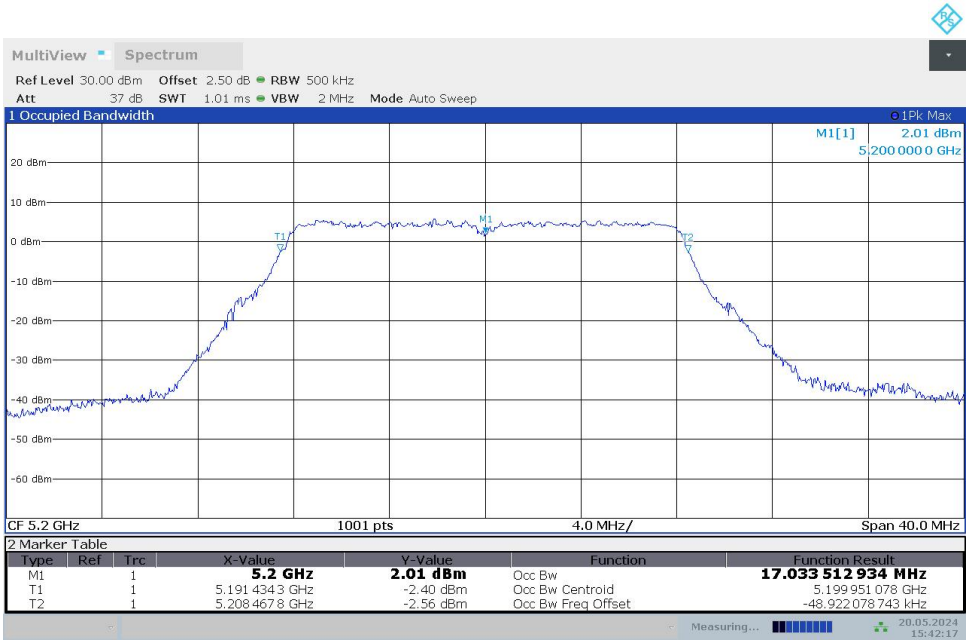

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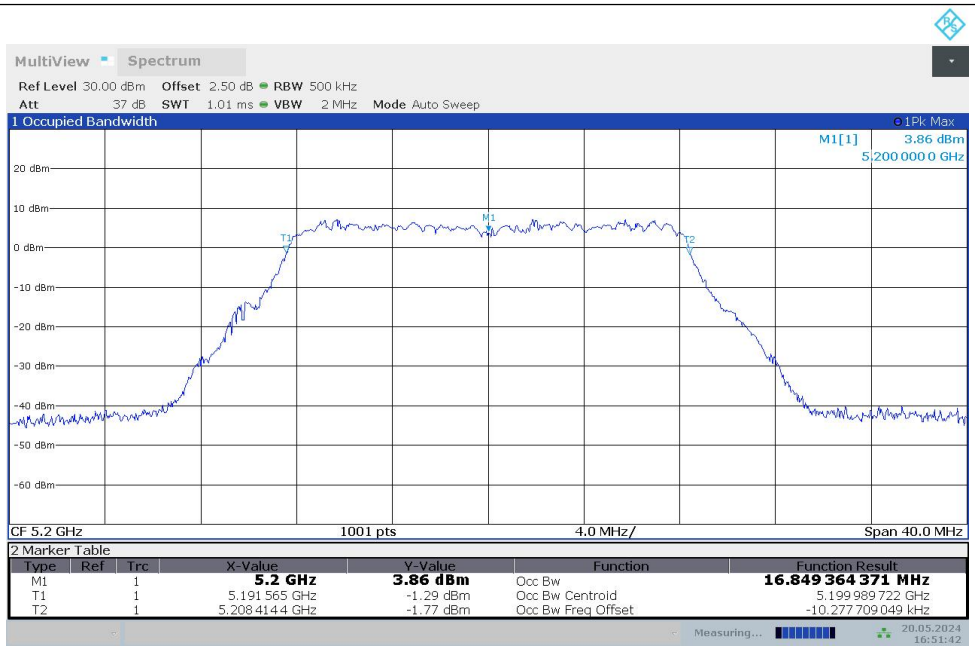

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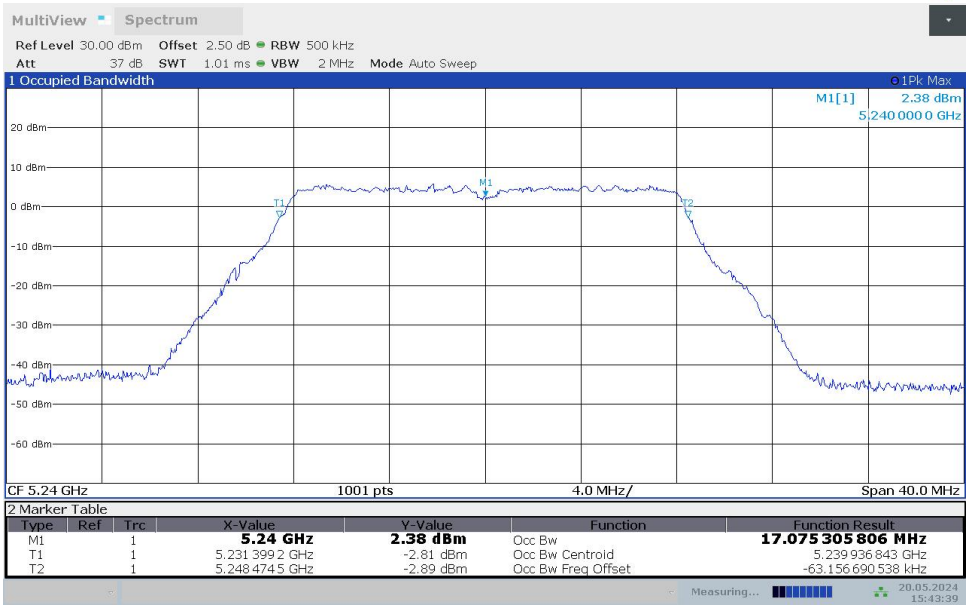

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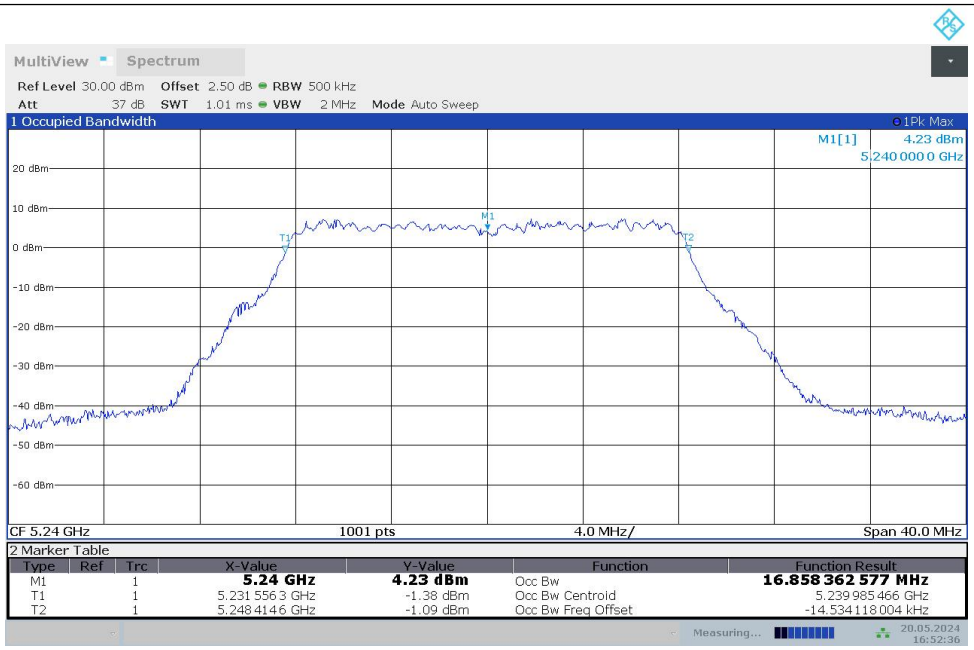

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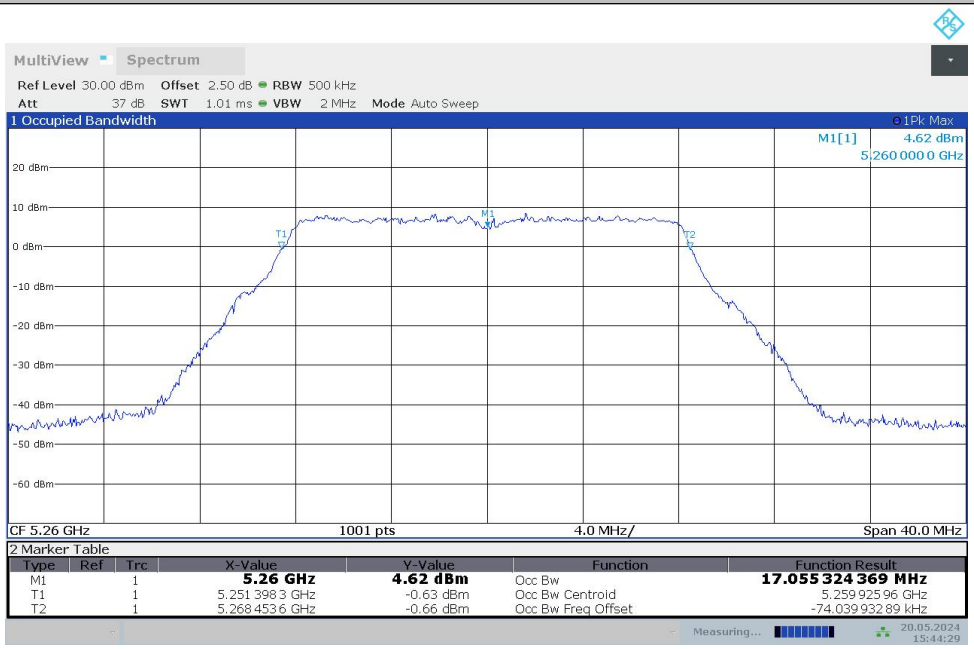

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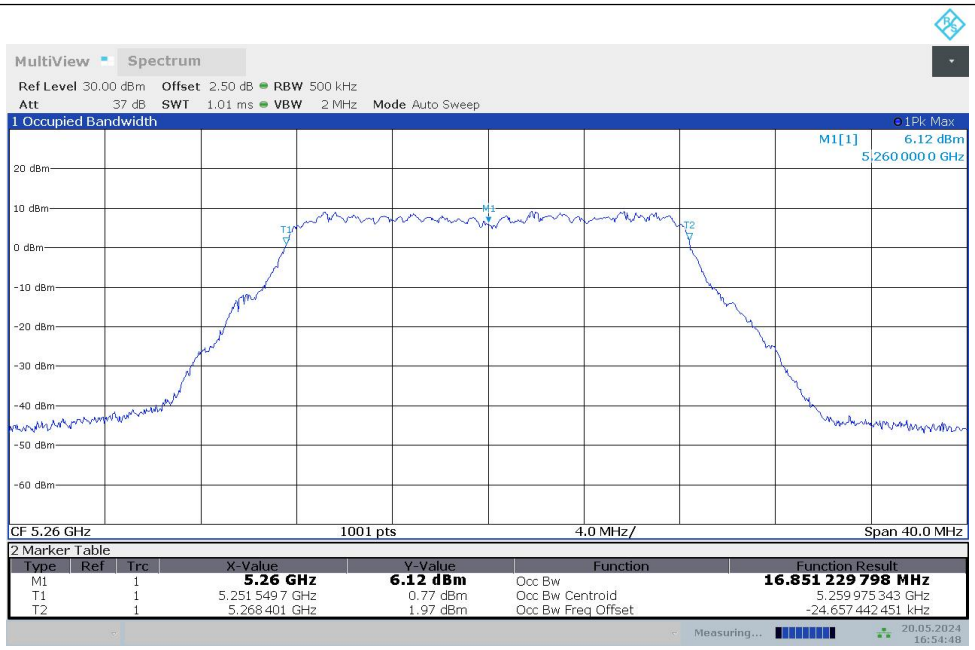

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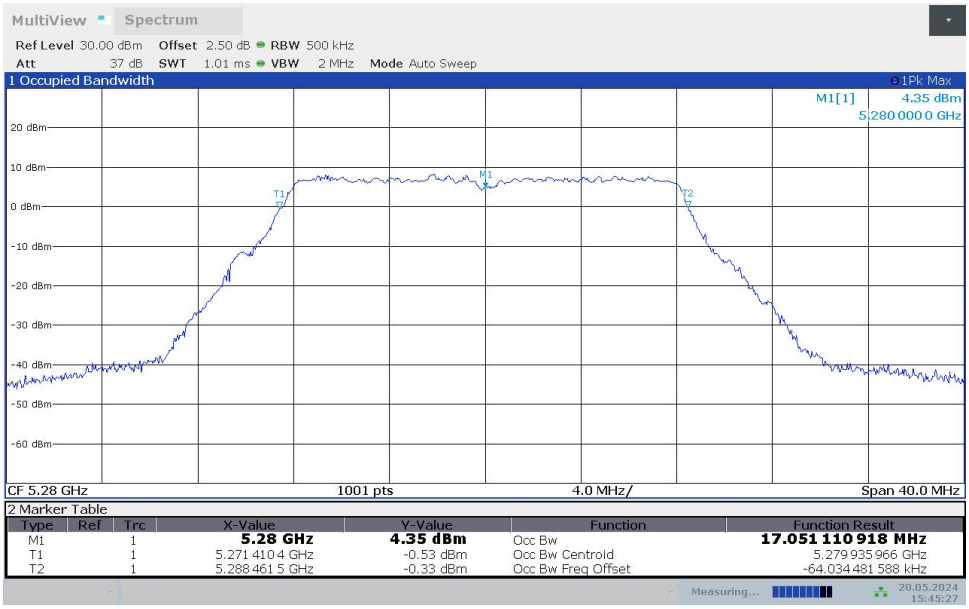

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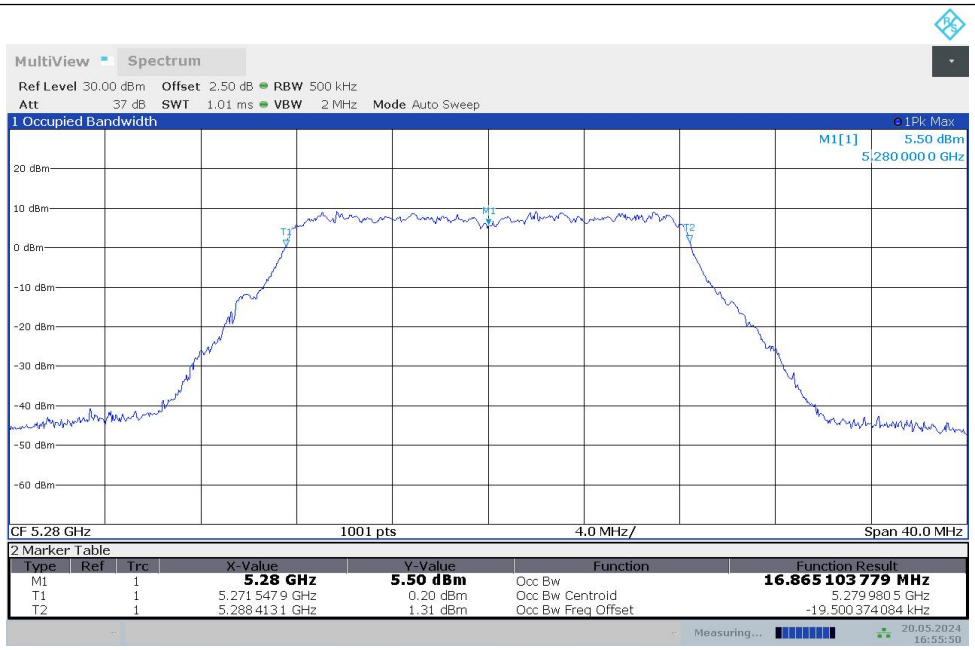

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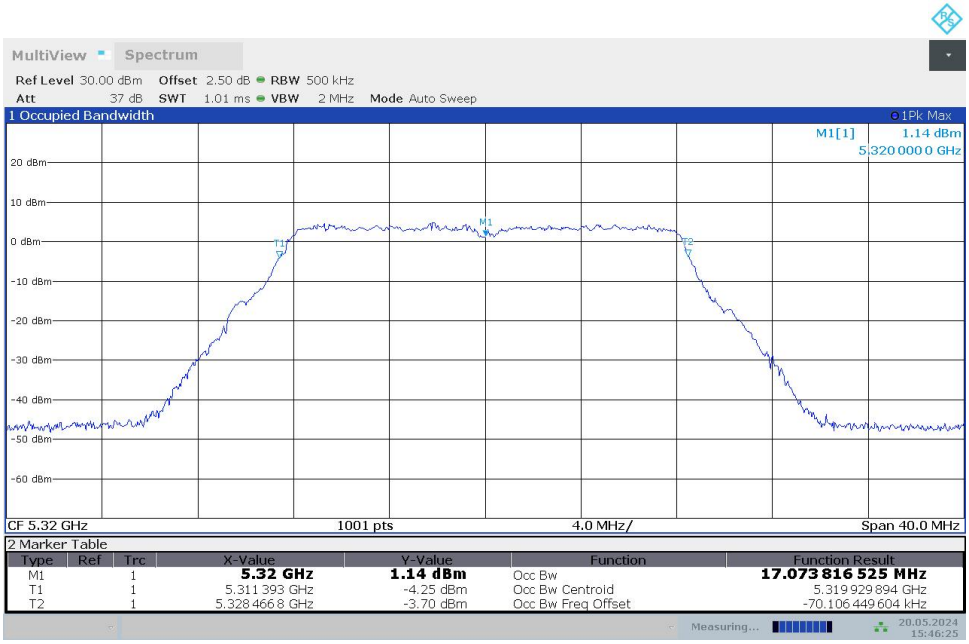

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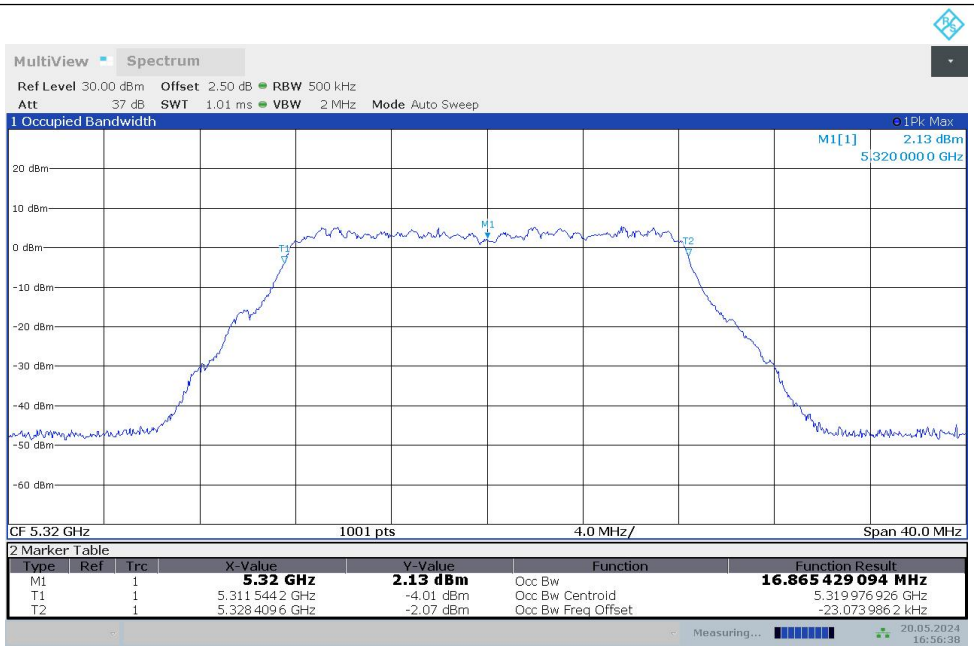

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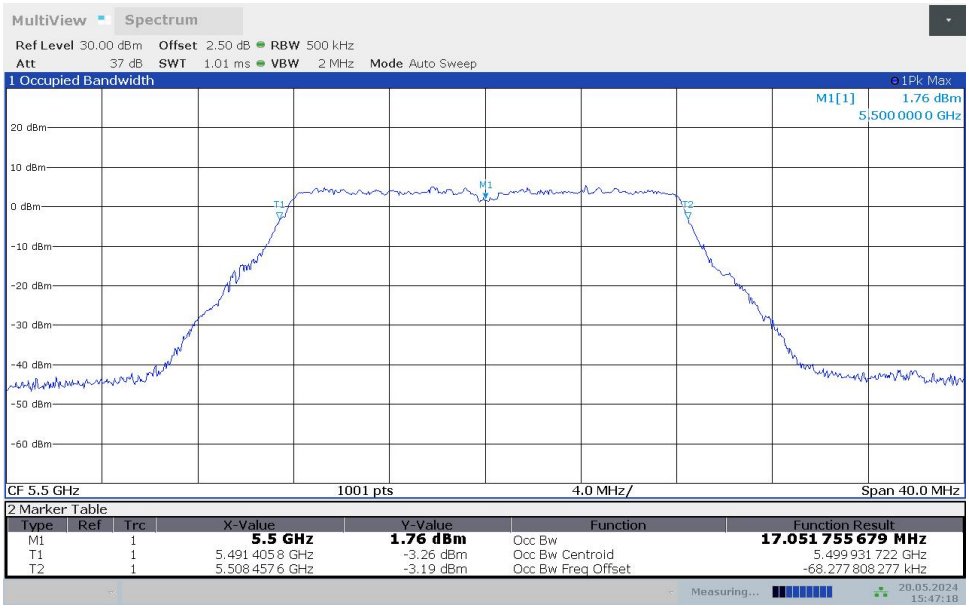

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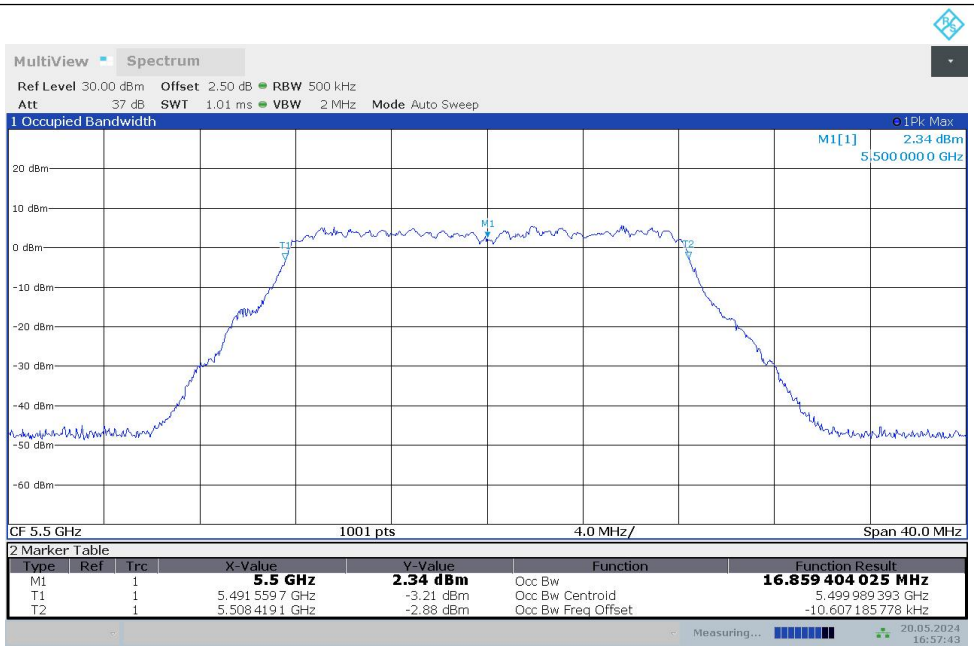

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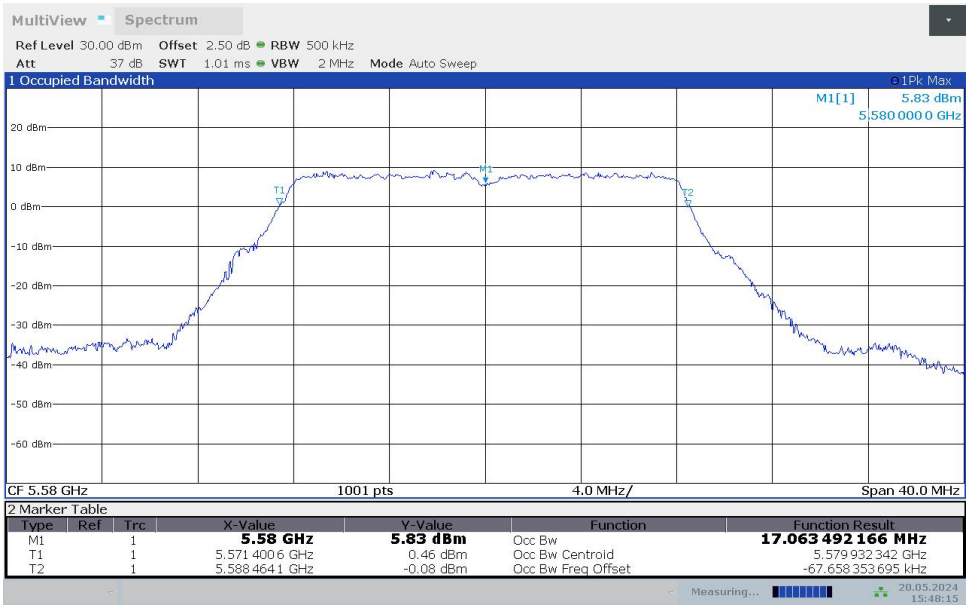

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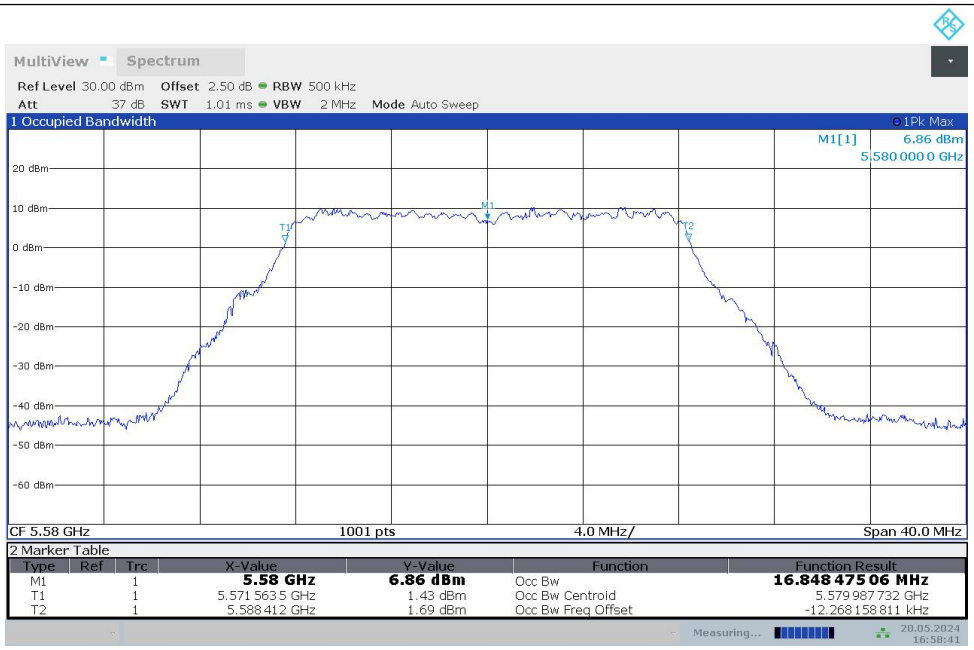

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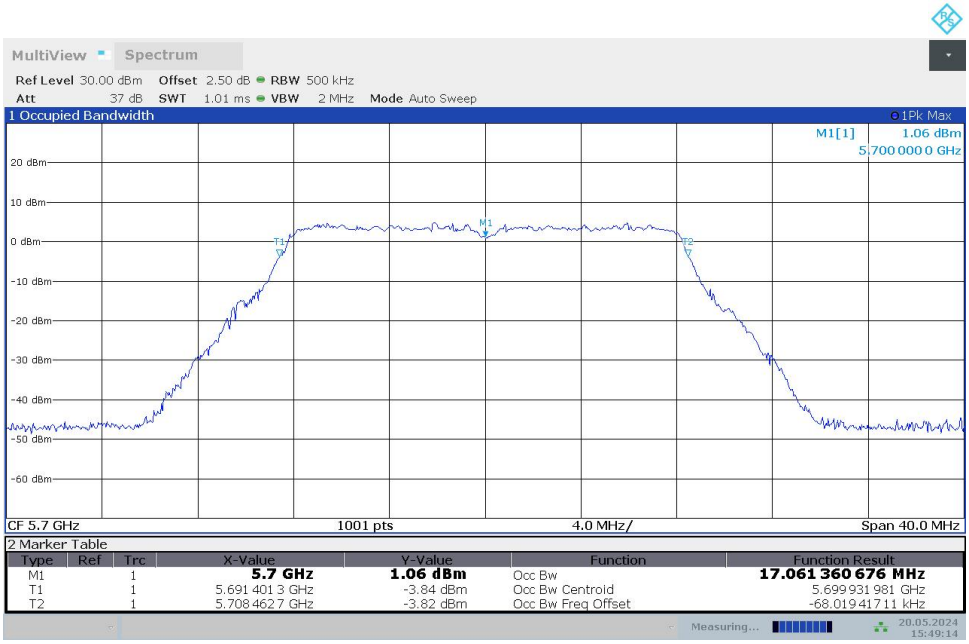

11A-MIMO_Ant1_5700

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