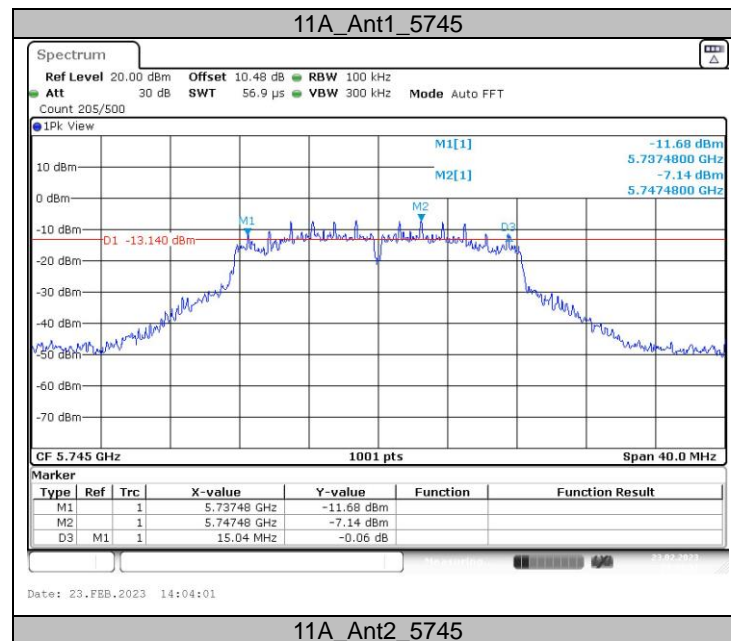
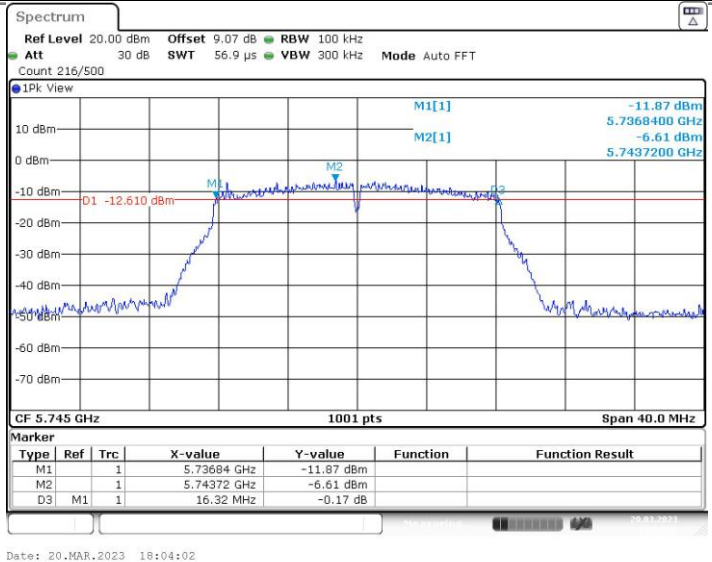


## Appendix E3: Min emission bandwidth

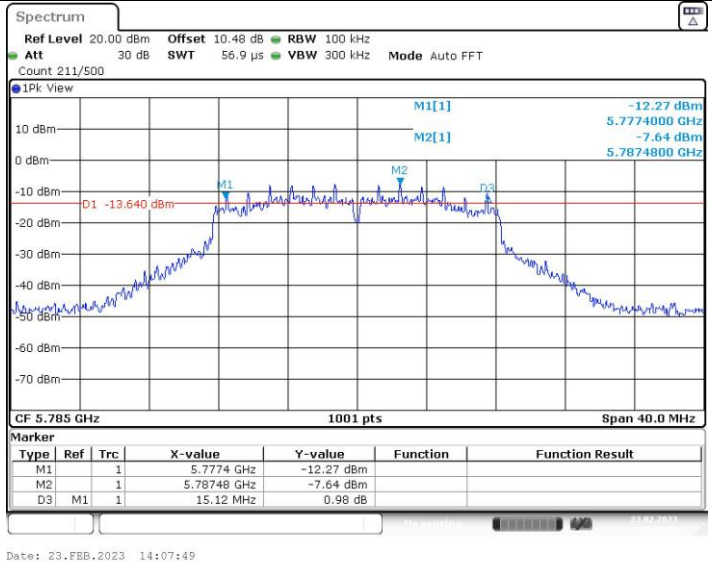
TestMode	Antenna	Freq(MHz)	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	15.04	5737.48	5752.52	0.5	PASS
	Ant2	5745	16.32	5736.84	5753.16	0.5	PASS
	Ant1	5785	15.12	5777.40	5792.52	0.5	PASS
	Ant2	5785	14.76	5777.72	5792.48	0.5	PASS
	Ant1	5825	15.12	5817.40	5832.52	0.5	PASS
	Ant2	5825	16.36	5816.80	5833.16	0.5	PASS
11N20SISO	Ant1	5745	15.12	5737.40	5752.52	0.5	PASS
	Ant2	5745	17.40	5736.36	5753.76	0.5	PASS
	Ant1	5785	15.12	5777.40	5792.52	0.5	PASS
	Ant2	5785	17.56	5776.20	5793.76	0.5	PASS
	Ant1	5825	15.08	5817.44	5832.52	0.5	PASS
	Ant2	5825	17.56	5816.20	5833.76	0.5	PASS
11N40SISO	Ant1	5755	35.12	5737.40	5772.52	0.5	PASS
	Ant2	5755	35.20	5737.40	5772.60	0.5	PASS
	Ant1	5795	33.84	5778.68	5812.52	0.5	PASS
	Ant2	5795	34.88	5777.24	5812.12	0.5	PASS
11AC20SISO	Ant1	5745	15.12	5737.40	5752.52	0.5	PASS
	Ant2	5745	15.08	5737.44	5752.52	0.5	PASS
	Ant1	5785	15.12	5777.40	5792.52	0.5	PASS
	Ant2	5785	15.12	5777.44	5792.56	0.5	PASS
	Ant1	5825	15.12	5817.40	5832.52	0.5	PASS
	Ant2	5825	17.56	5816.20	5833.76	0.5	PASS
11AC40SISO	Ant1	5755	35.12	5737.40	5772.52	0.5	PASS
	Ant2	5755	35.84	5737.08	5772.92	0.5	PASS
	Ant1	5795	35.04	5777.48	5812.52	0.5	PASS
	Ant2	5795	35.20	5777.40	5812.60	0.5	PASS
11AC80SISO	Ant1	5775	75.20	5737.40	5812.60	0.5	PASS
	Ant2	5775	62.72	5743.64	5806.36	0.5	PASS

### Test Graphs B4

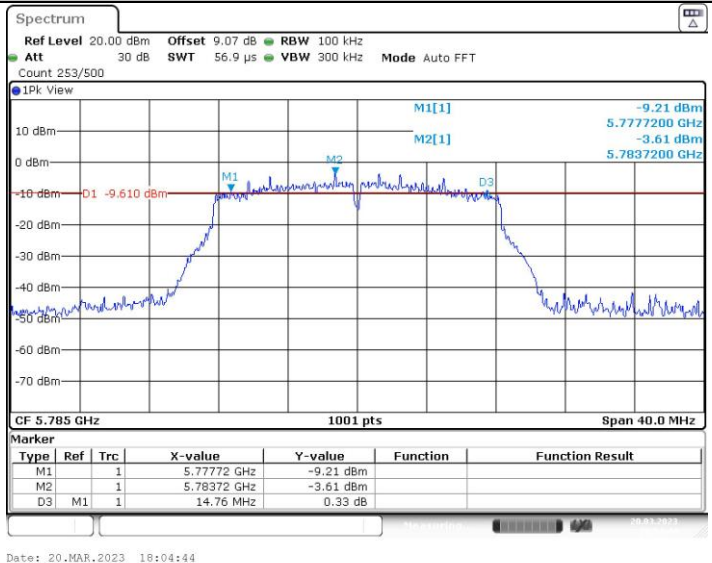




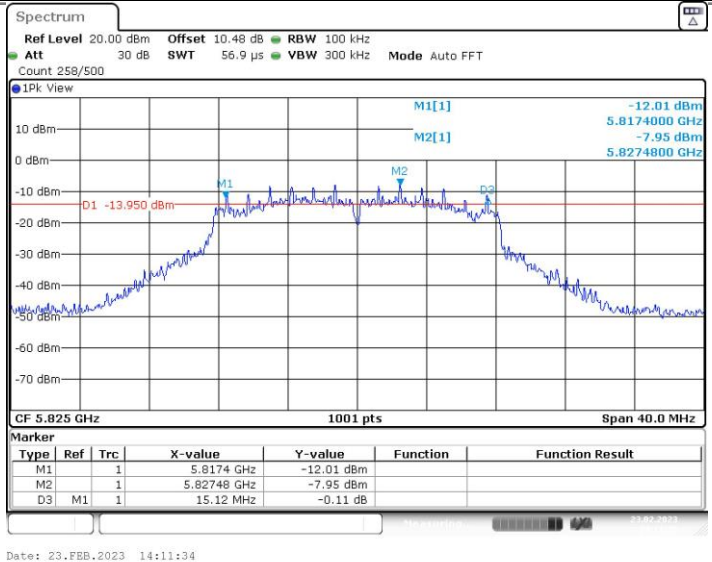
11A\_Ant1\_5785



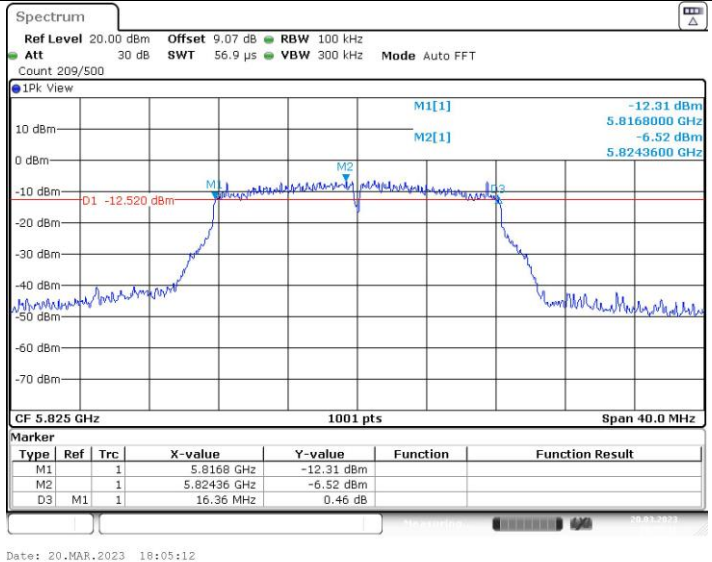
11A\_Ant2\_5785



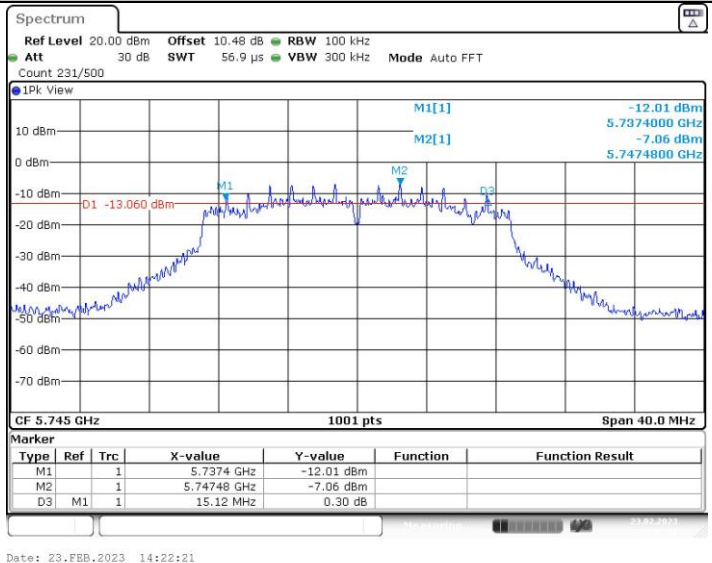
11A\_Ant1\_5825



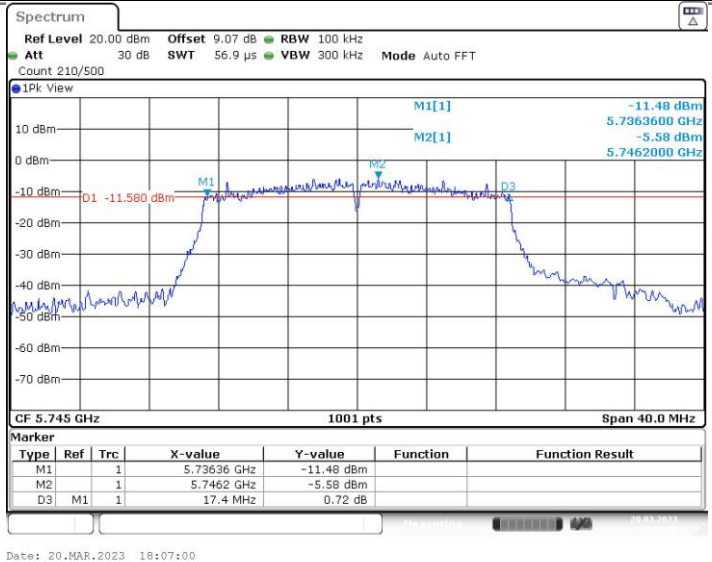
11A\_Ant2\_5825



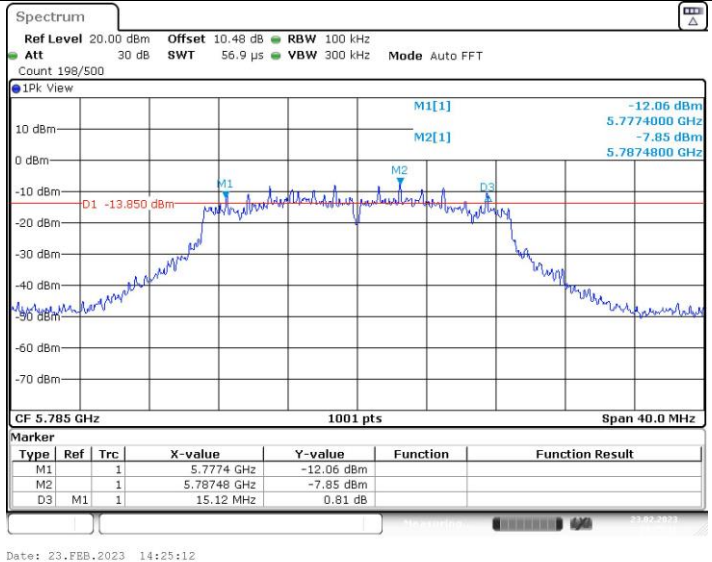
11N20SISO\_Ant1\_5745



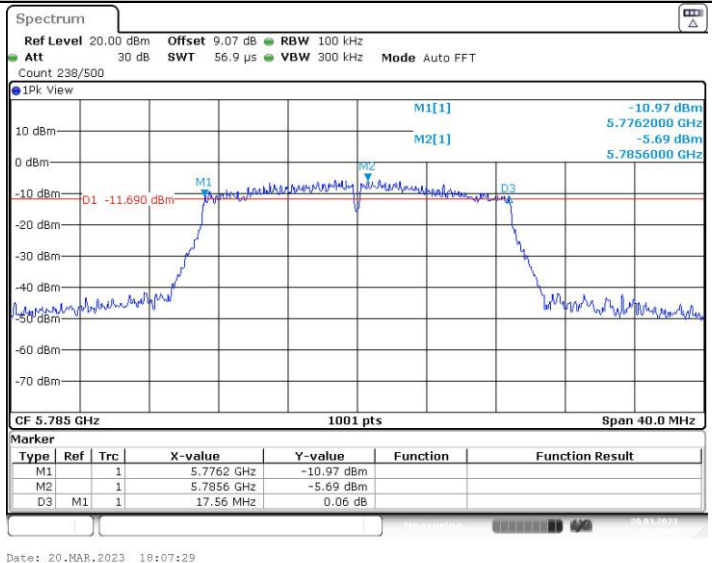
11N20SISO\_Ant2\_5745



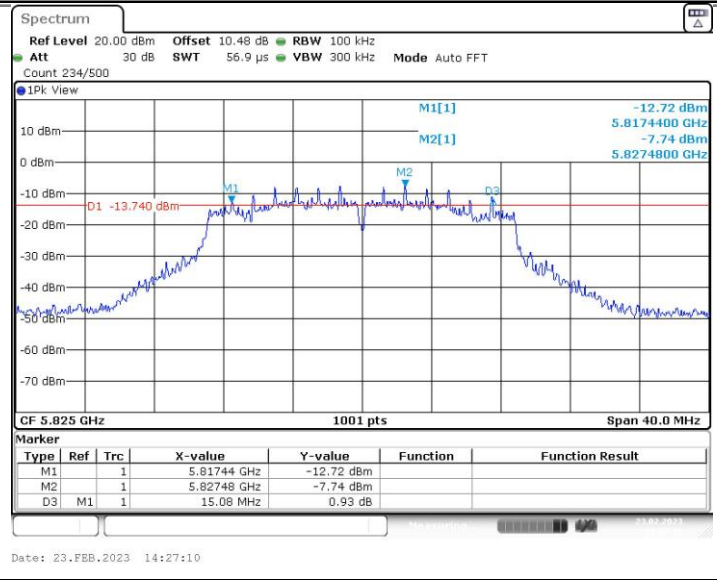
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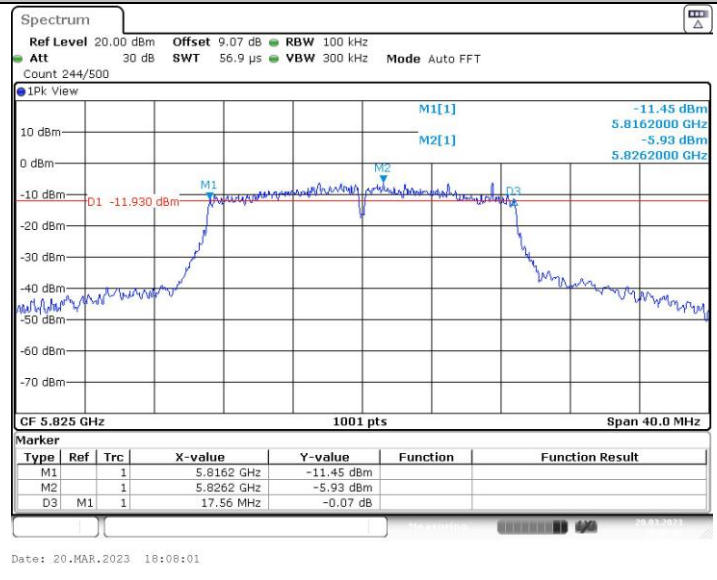
11N20SISO\_Ant2\_5785



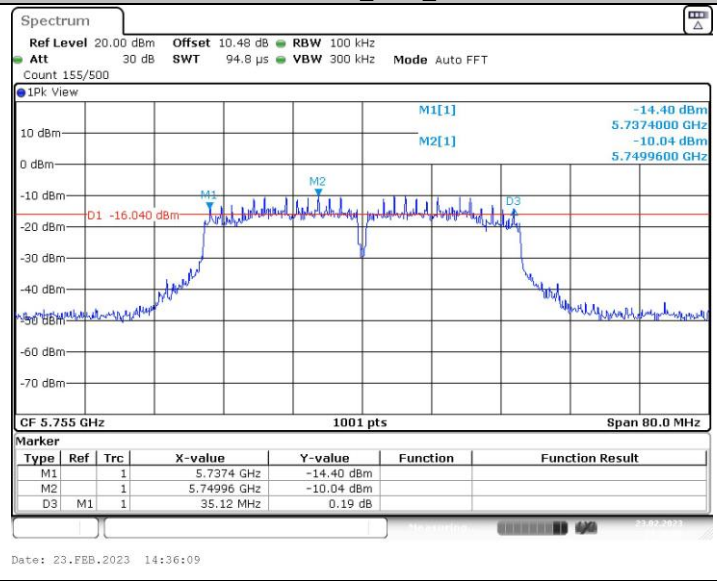
11N20SISO\_Ant1\_5825



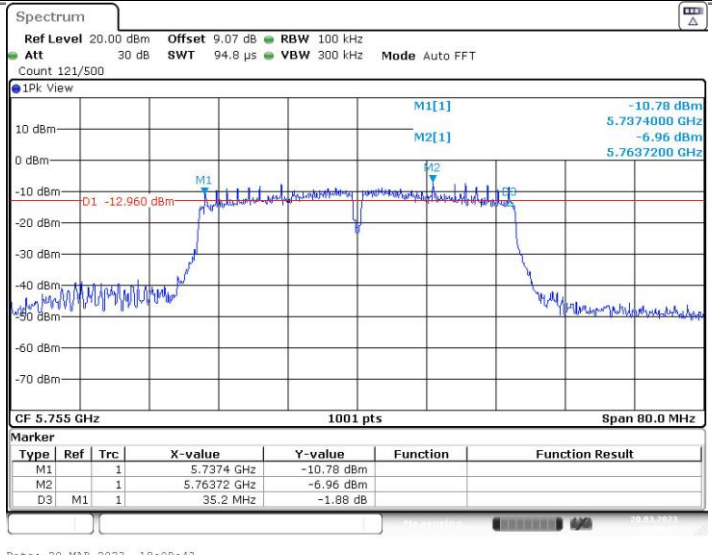
## 11N20SISO\_Ant2\_5825



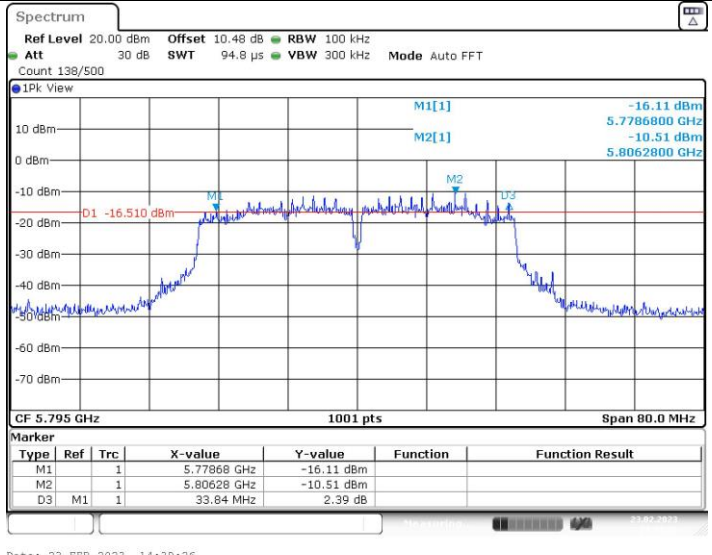
## 11N40SISO\_Ant1\_5755



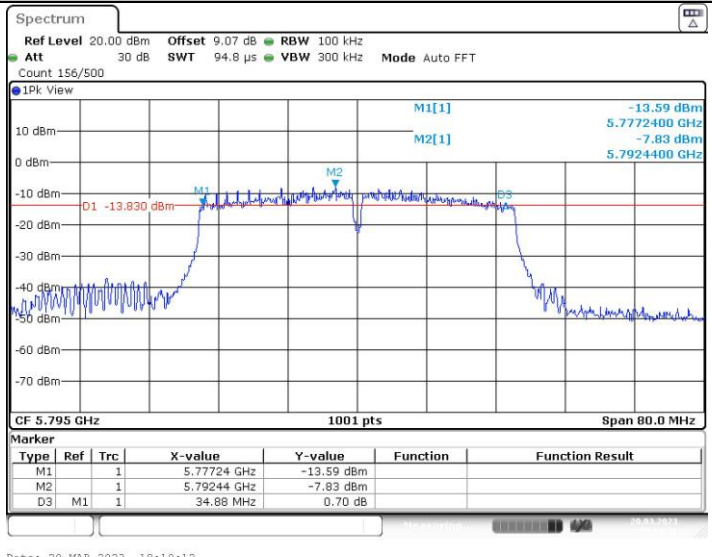
## 11N40SISO\_Ant2\_5755



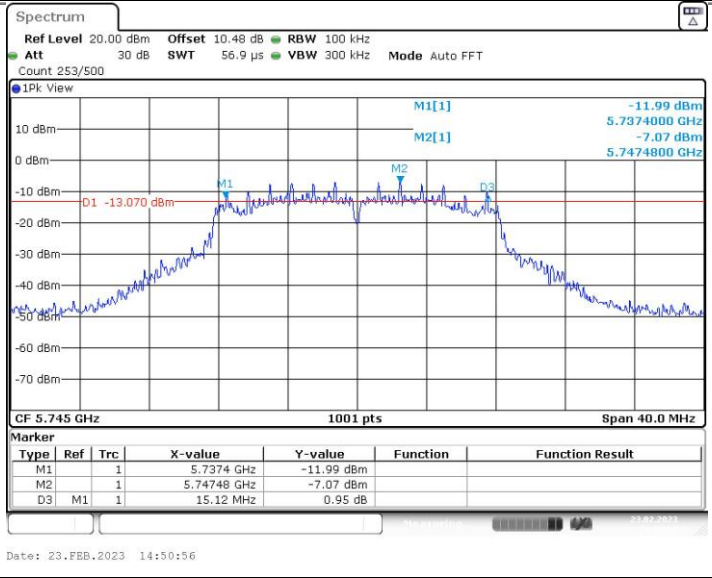
11N40SISO\_Ant1\_5795



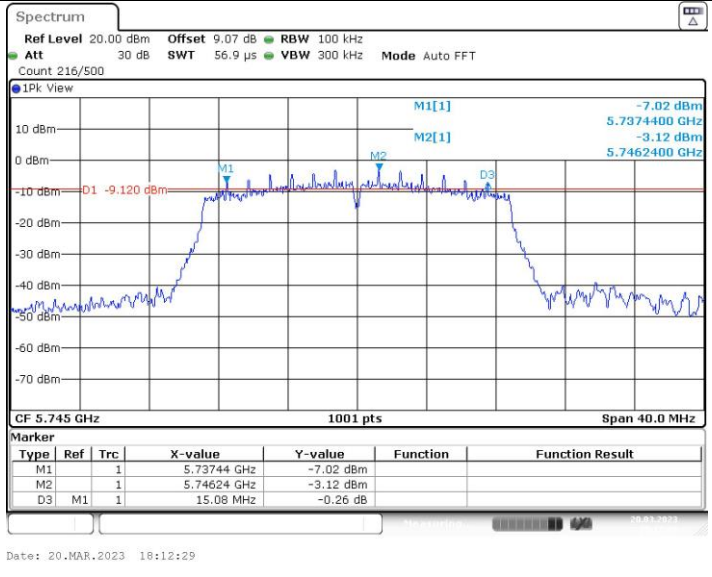
11N40SISO\_Ant2\_5795



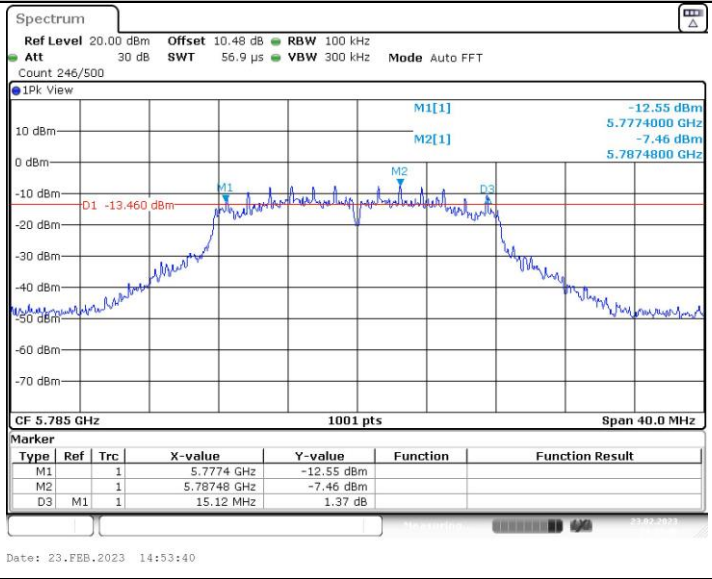
11AC20SISO\_Ant1\_5745



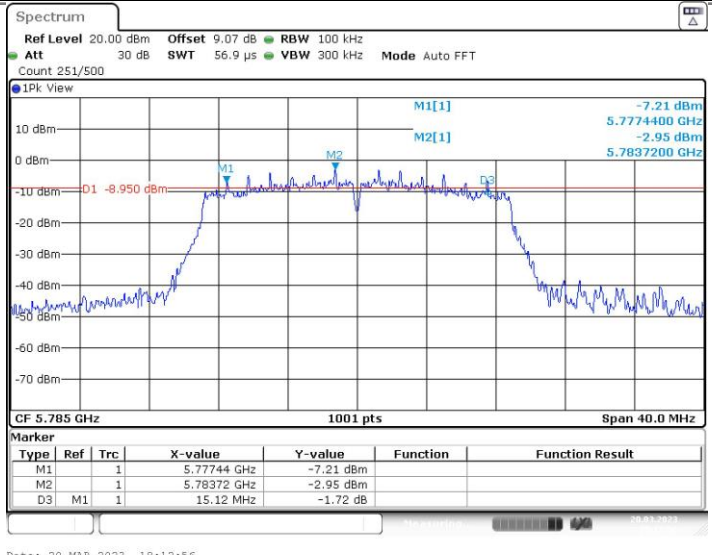
11AC20SISO\_Ant2\_5745



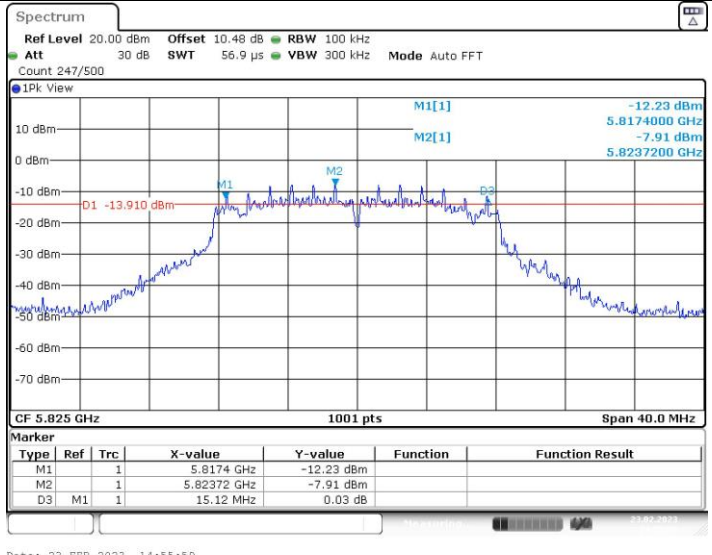
11AC20SISO\_Ant1\_5785



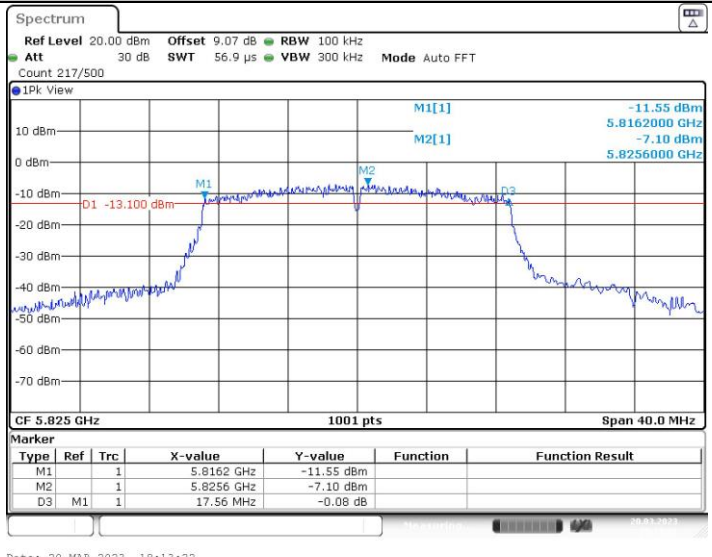
11AC20SISO\_Ant2\_5785



11AC20SISO\_Ant1\_5825

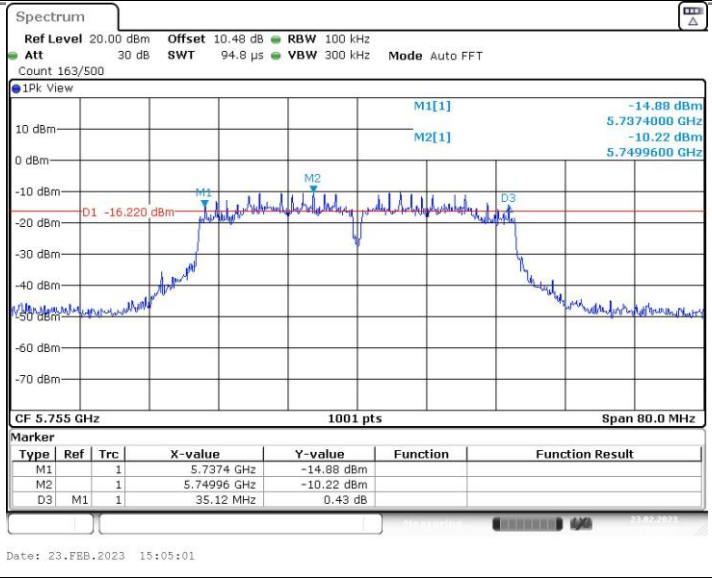


11AC20SISO\_Ant2\_5825

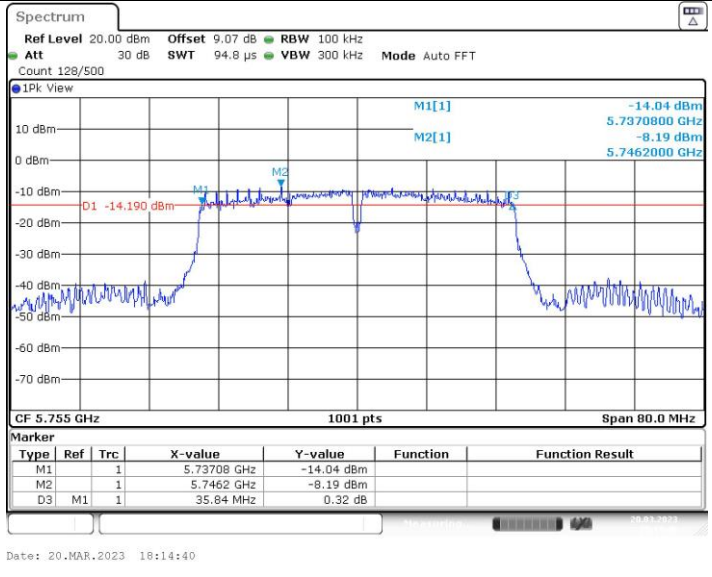


11AC40SISO\_Ant1\_5755

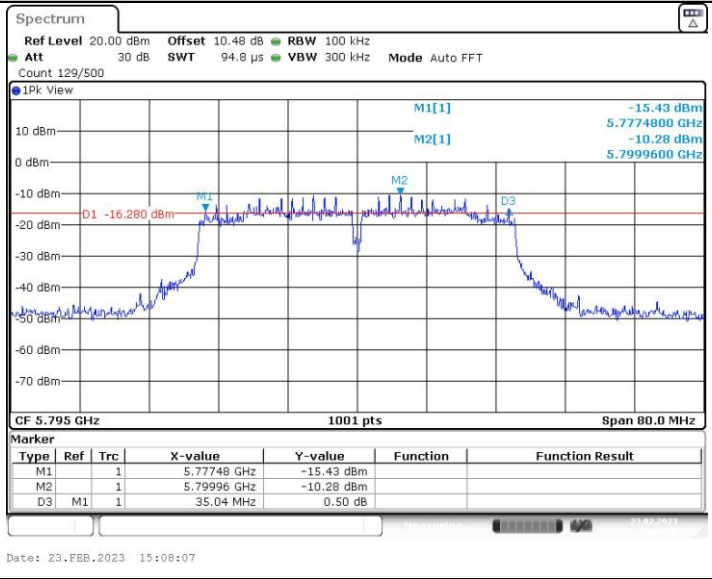




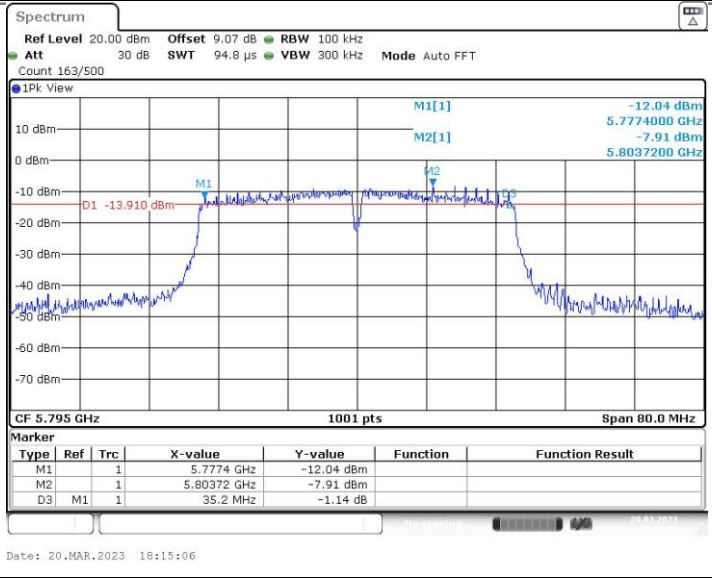
11AC40SISO\_Ant2\_5755



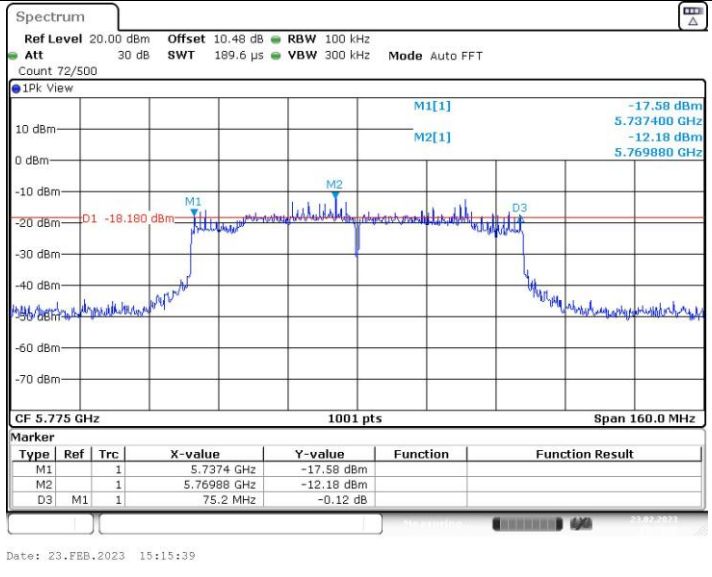
11AC40SISO\_Ant1\_5795



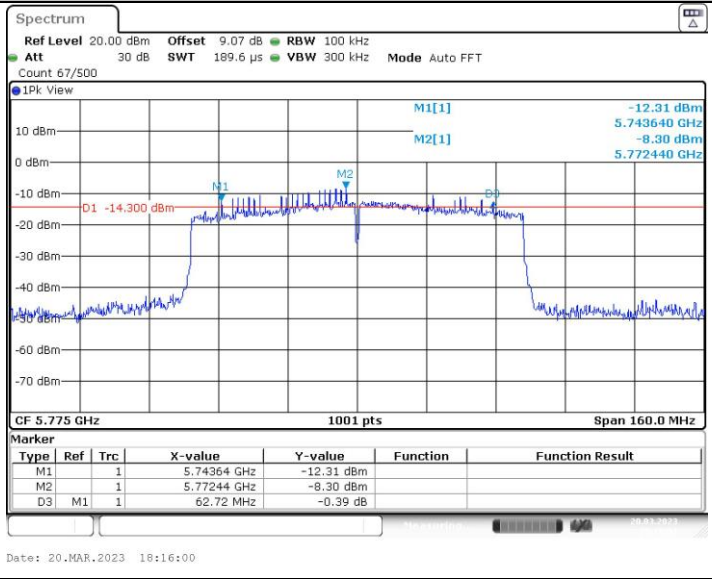
11AC40SISO\_Ant2\_5795



11AC80SISO\_Ant1\_5775



11AC80SISO\_Ant2\_5775



## APPENDIX F - MAXIMUM OUTPUT POWER

### Test result

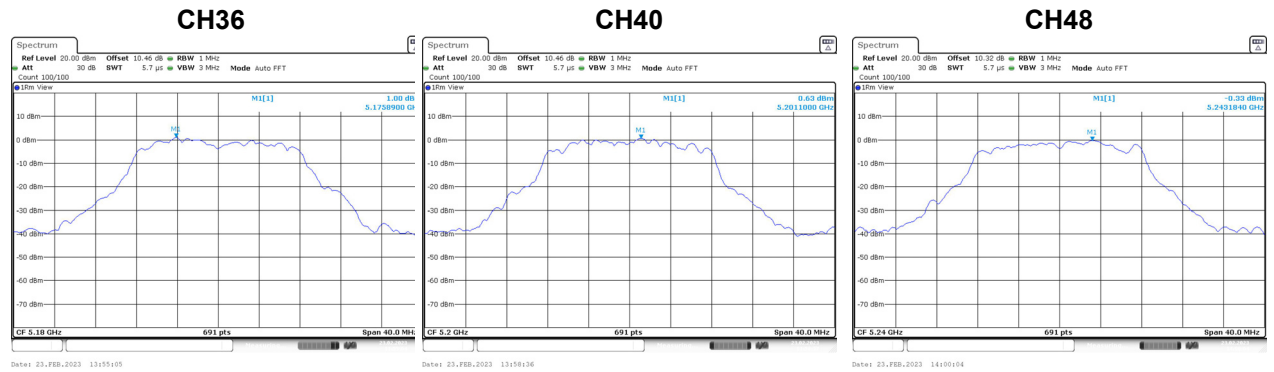
Test Mode	Antenna	Frequency[MHz]	Conducted average power [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	8.48	≤24	PASS
11A	Ant1	5200	8.42	≤24	PASS
11A	Ant1	5240	8.31	≤24	PASS
11A	Ant1	5745	7.85	≤30	PASS
11A	Ant1	5785	7.44	≤30	PASS
11A	Ant1	5825	7.16	≤30	PASS
11A	Ant2	5180	8.32	≤24	PASS
11A	Ant2	5200	8.40	≤24	PASS
11A	Ant2	5240	8.29	≤24	PASS
11A	Ant2	5745	7.80	≤30	PASS
11A	Ant2	5785	7.41	≤30	PASS
11A	Ant2	5825	7.11	≤30	PASS
11AC20MIMO	Ant1	5180	8.36	≤24	PASS
11AC20MIMO	Ant2	5180	8.76	≤24	PASS
11AC20MIMO	total	5180	11.58	≤24	PASS
11AC20MIMO	Ant1	5200	8.30	≤24	PASS
11AC20MIMO	Ant2	5200	8.32	≤24	PASS
11AC20MIMO	total	5200	11.32	≤24	PASS
11AC20MIMO	Ant1	5240	8.17	≤24	PASS
11AC20MIMO	Ant2	5240	8.44	≤24	PASS
11AC20MIMO	total	5240	11.32	≤24	PASS
11AC20MIMO	Ant1	5745	7.72	≤30	PASS
11AC20MIMO	Ant2	5745	8.82	≤30	PASS
11AC20MIMO	total	5745	11.32	≤30	PASS
11AC20MIMO	Ant1	5785	7.47	≤30	PASS
11AC20MIMO	Ant2	5785	8.99	≤30	PASS
11AC20MIMO	total	5785	11.31	≤30	PASS
11AC20MIMO	Ant1	5825	7.17	≤30	PASS
11AC20MIMO	Ant2	5825	8.54	≤30	PASS
11AC20MIMO	total	5825	10.92	≤30	PASS
11AC40MIMO	Ant1	5190	9.04	≤24	PASS
11AC40MIMO	Ant2	5190	9.31	≤24	PASS
11AC40MIMO	total	5190	12.19	≤24	PASS
11AC40MIMO	Ant1	5230	8.76	≤24	PASS
11AC40MIMO	Ant2	5230	9.31	≤24	PASS
11AC40MIMO	total	5230	12.05	≤24	PASS

11AC40MIMO	Ant1	5755	8.37	≤30	PASS
11AC40MIMO	Ant2	5755	9.68	≤30	PASS
11AC40MIMO	total	5755	12.09	≤30	PASS
11AC40MIMO	Ant1	5795	8.19	≤30	PASS
11AC40MIMO	Ant2	5795	9.58	≤30	PASS
11AC40MIMO	total	5795	11.95	≤30	PASS
11AC80MIMO	Ant1	5210	9.11	≤24	PASS
11AC80MIMO	Ant2	5210	9.64	≤24	PASS
11AC80MIMO	total	5210	12.39	≤24	PASS
11AC80MIMO	Ant1	5775	8.43	≤30	PASS
11AC80MIMO	Ant2	5775	10.21	≤30	PASS
11AC80MIMO	total	5775	12.42	≤30	PASS

## APPENDIX G - POWER SPECTRAL DENSITY

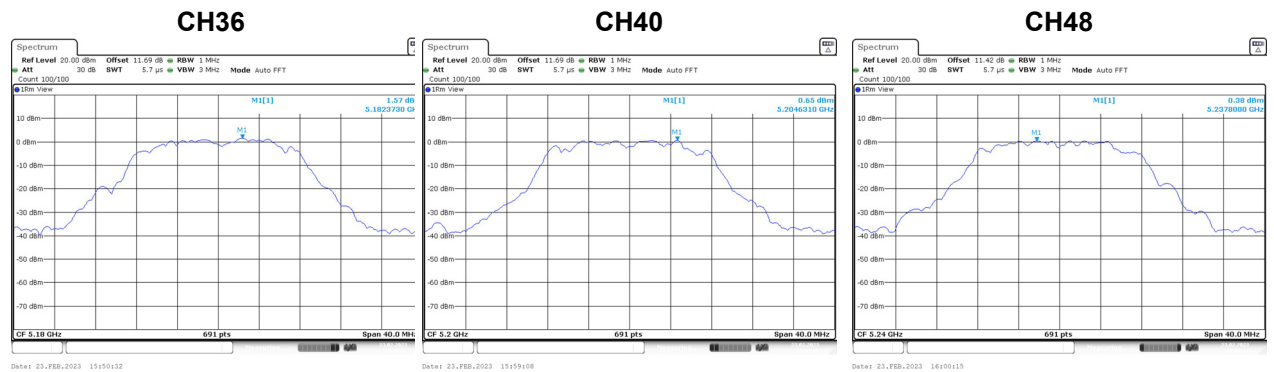
<b>Test Mode</b>	UNII-1_TX A Mode_Ant. 1
------------------	-------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180	1.00	11	Complies
40	5200	0.63	11	Complies
48	5240	-0.33	11	Complies



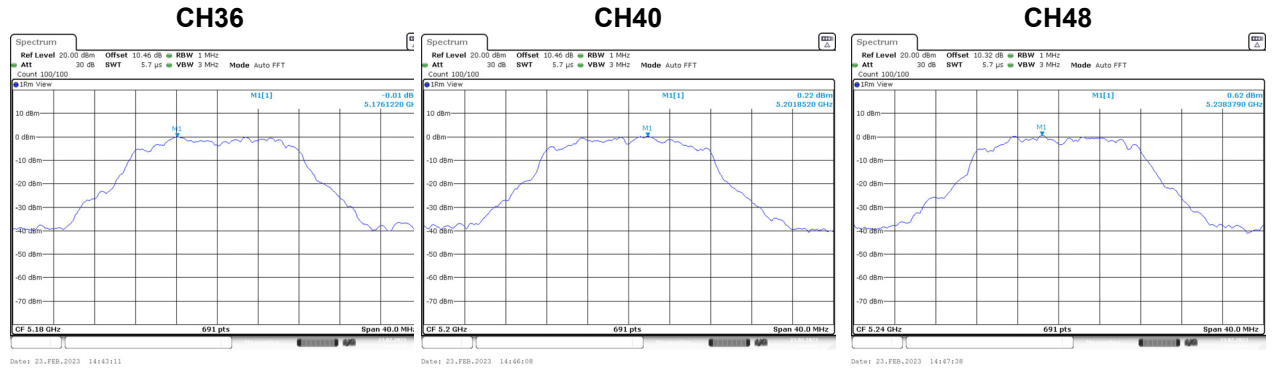
<b>Test Mode</b>	UNII-1_TX A Mode_Ant. 2
------------------	-------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180	1.57	11	Complies
40	5200	0.65	11	Complies
48	5240	0.38	11	Complies



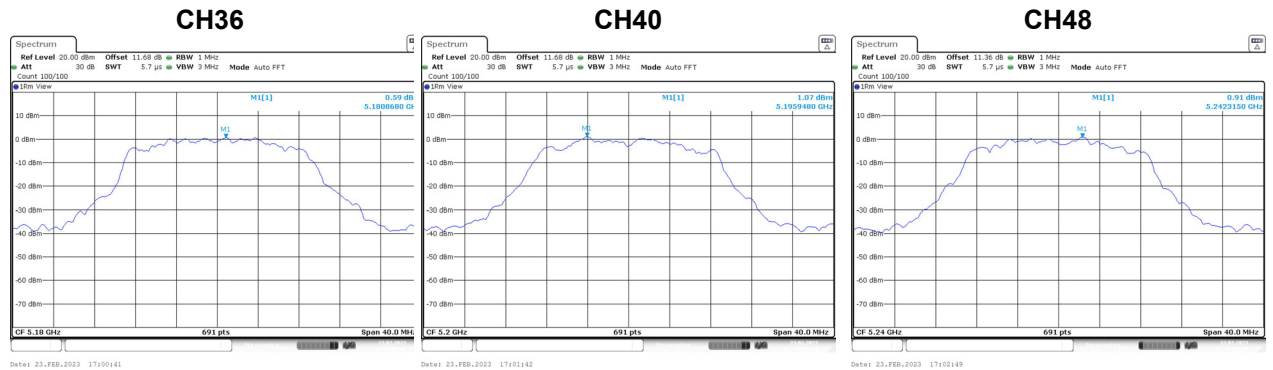
Test Mode	UNII-1_TX AC(VHT20) Mode_Ant. 1
-----------	---------------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180	-0.01	9.26	Complies
40	5200	0.22	9.26	Complies
48	5240	0.62	9.26	Complies



Test Mode	UNII-1_TX AC(VHT20) Mode_Ant. 2
-----------	---------------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180	0.59	9.26	Complies
40	5200	1.07	9.26	Complies
48	5240	0.91	9.26	Complies

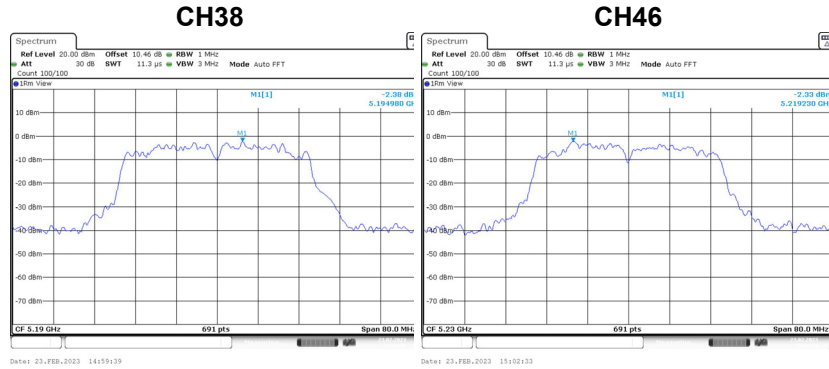


Test Mode	UNII-1_TX AC(VHT20) Mode_Total
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Channel	Frequency (MHz)	Power Spectral Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180	3.311	9.26	Complies
40	5200	3.676	9.26	Complies
48	5240	3.778	9.26	Complies

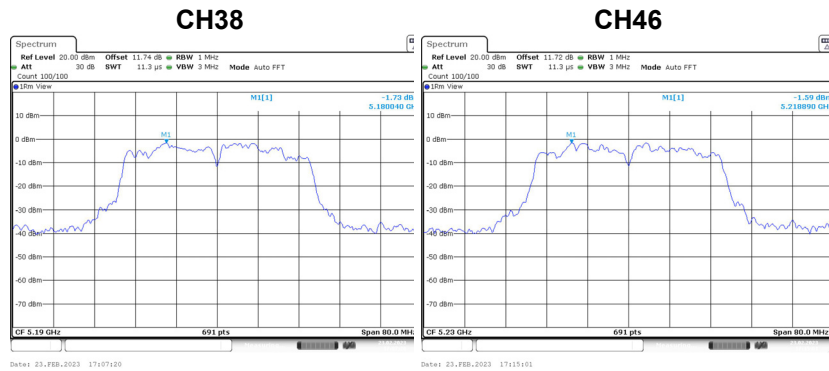
<b>Test Mode</b>	UNII-1_TX AC(VHT40) Mode_Ant. 1
------------------	---------------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190	-2.38	9.26	Complies
46	5230	-2.33	9.26	Complies



<b>Test Mode</b>	UNII-1_TX AC(VHT40) Mode_Ant. 2
------------------	---------------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190	-1.73	9.26	Complies
46	5230	-1.59	9.26	Complies

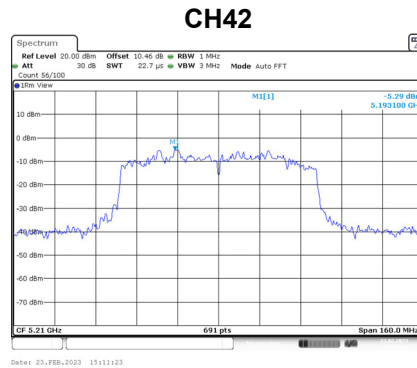


<b>Test Mode</b>	UNII-1_TX AC(VHT40) Mode_Total
------------------	--------------------------------

Channel	Frequency (MHz)	Power Spectral Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190	0.967	9.26	Complies
46	5230	1.066	9.26	Complies

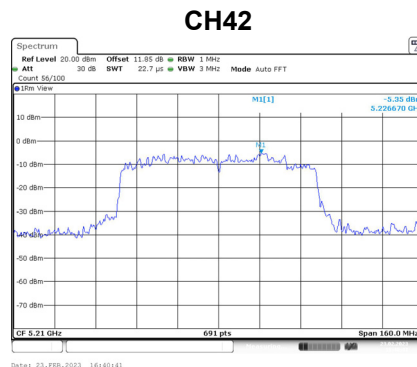
Test Mode	UNII-1_TX AC(VHT80) Mode_Ant. 1
-----------	---------------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210	-5.29	9.26	Complies



Test Mode	UNII-1_TX AC(VHT80) Mode_Ant. 2
-----------	---------------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210	-5.35	9.26	Complies



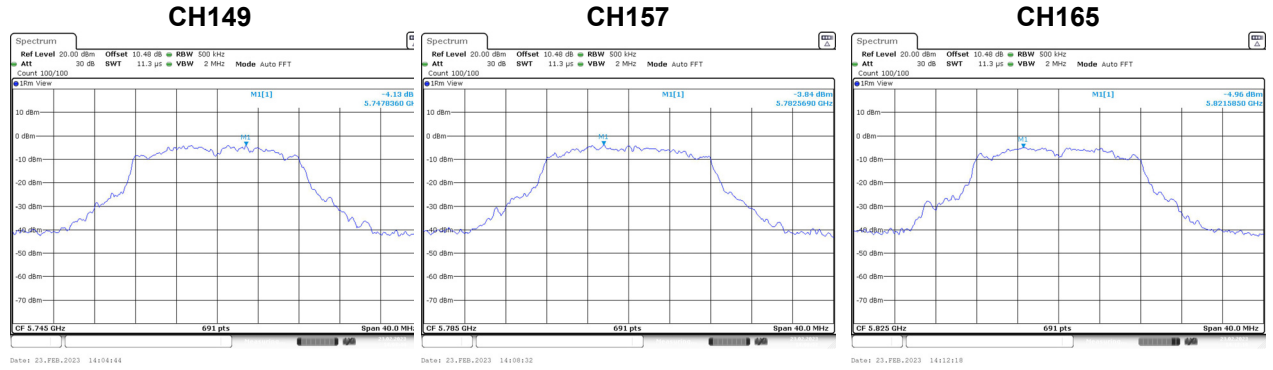
Test Mode	UNII-1_TX AC(VHT80) Mode_Total
-----------	--------------------------------

Channel	Frequency (MHz)	Power Spectral Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210	-2.31	9.26	Complies



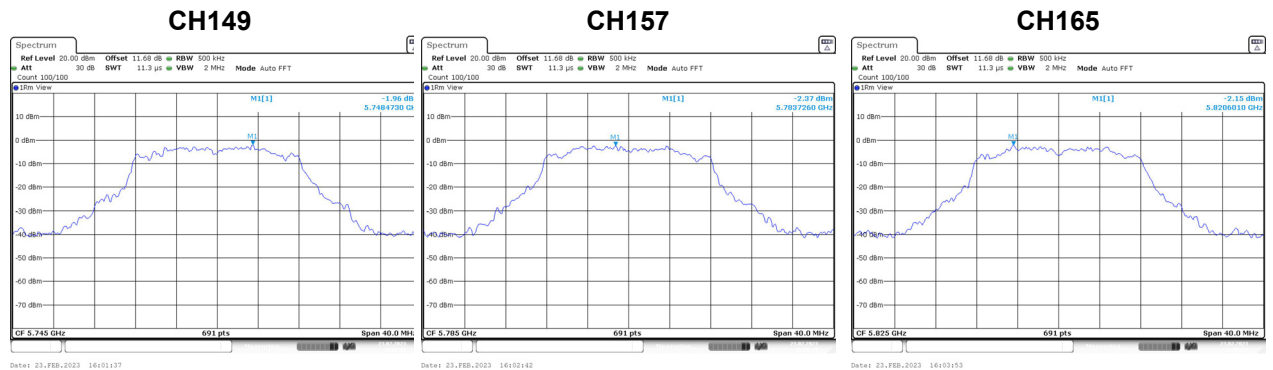
Test Mode	UNII-3_TX A Mode_Ant. 1
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Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/500 kHz)	Max. Limit (dBm/500 kHz)	Result
149	5745	-4.13	30	Complies
157	5785	-3.84	30	Complies
165	5825	-4.96	30	Complies



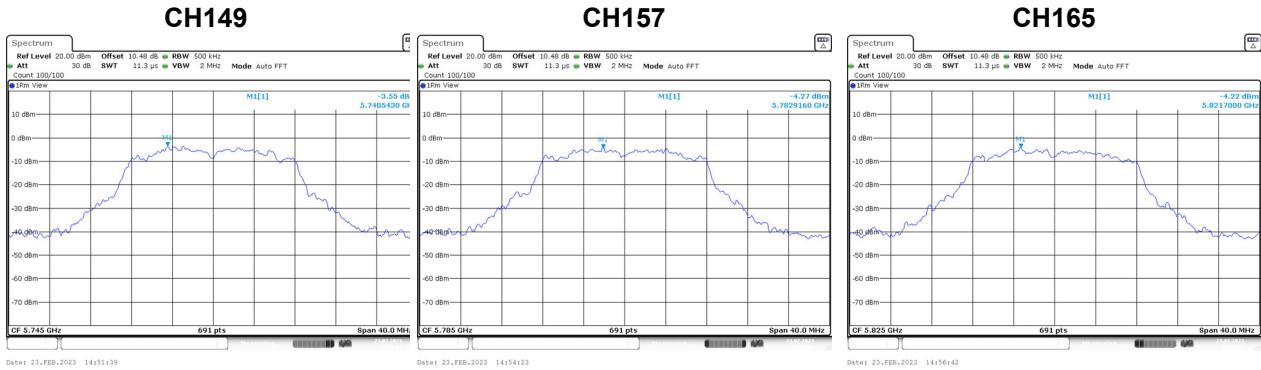
Test Mode	UNII-3_TX A Mode_Ant. 2
-----------	-------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/500 kHz)	Max. Limit (dBm/500 kHz)	Result
149	5745	-1.96	30	Complies
157	5785	-2.37	30	Complies
165	5825	-2.15	30	Complies



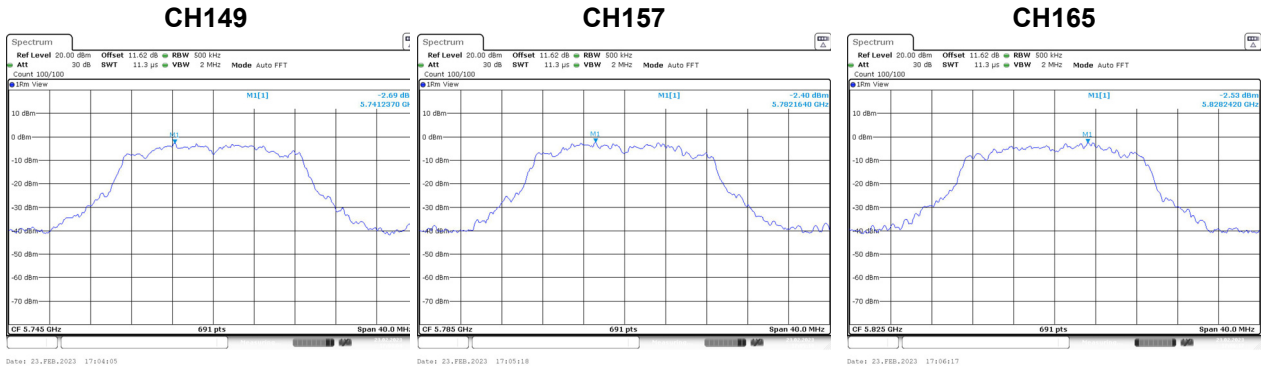
<b>Test Mode</b>	UNII-3_TX AC(VHT20) Mode_Ant. 1
------------------	---------------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/500 kHz)	Max. Limit (dBm/500 kHz)	Result
149	5745	-3.55	28.26	Complies
157	5785	-4.27	28.26	Complies
165	5825	-4.22	28.26	Complies



<b>Test Mode</b>	UNII-3_TX AC(VHT20) Mode_Ant. 2
------------------	---------------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/500 kHz)	Max. Limit (dBm/500 kHz)	Result
149	5745	-2.69	28.26	Complies
157	5785	-2.40	28.26	Complies
165	5825	-2.53	28.26	Complies

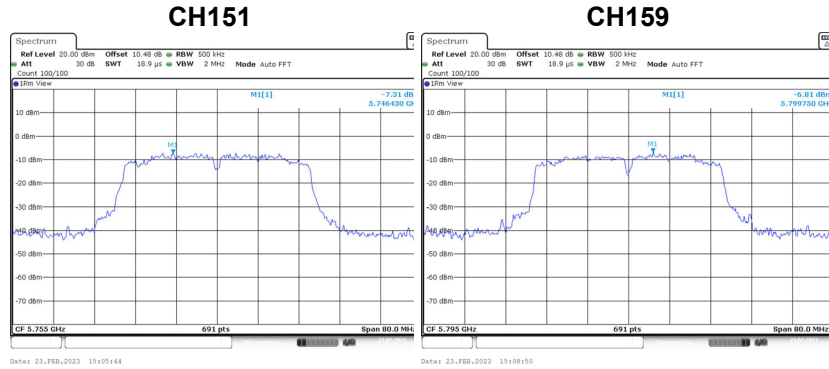


<b>Test Mode</b>	UNII-3_TX AC(VHT20) Mode_Total
------------------	--------------------------------

Channel	Frequency (MHz)	Power Spectral Density (dBm/500 kHz)	Max. Limit (dBm/500 kHz)	Result
149	5745	-0.088	28.26	Complies
157	5785	-0.225	28.26	Complies
165	5825	-0.283	28.26	Complies

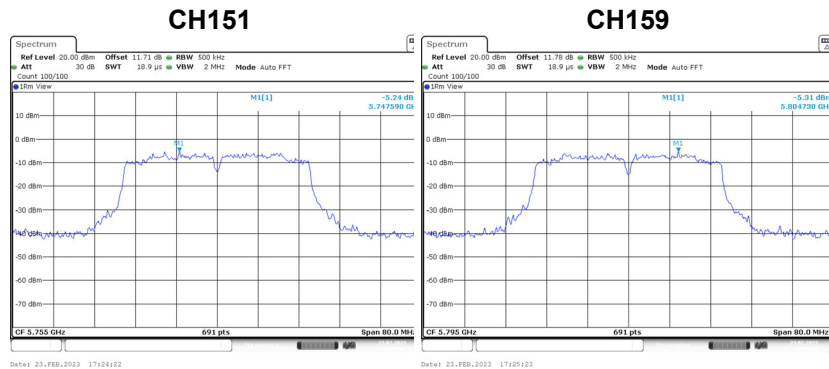
<b>Test Mode</b>	UNII-3_TX AC(VHT40) Mode_Ant. 1
------------------	---------------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/500 kHz)	Max. Limit (dBm/500 kHz)	Result
151	5755	-7.31	28.26	Complies
159	5795	-6.81	28.26	Complies



<b>Test Mode</b>	UNII-3_TX AC(VHT40) Mode_Ant. 2
------------------	---------------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/500 kHz)	Max. Limit (dBm/500 kHz)	Result
151	5755	-5.24	28.26	Complies
159	5795	-5.31	28.26	Complies

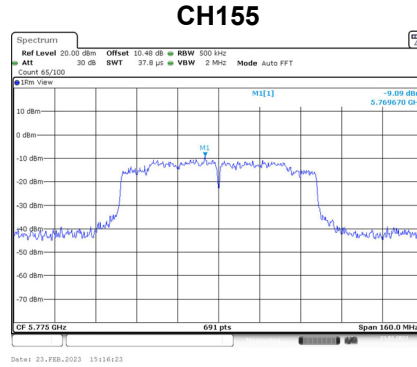


<b>Test Mode</b>	UNII-3_TX AC(VHT40) Mode_Total
------------------	--------------------------------

Channel	Frequency (MHz)	Power Spectral Density (dBm/500 kHz)	Max. Limit (dBm/500 kHz)	Result
151	5755	-3.143	28.26	Complies
159	5795	-2.985	28.26	Complies

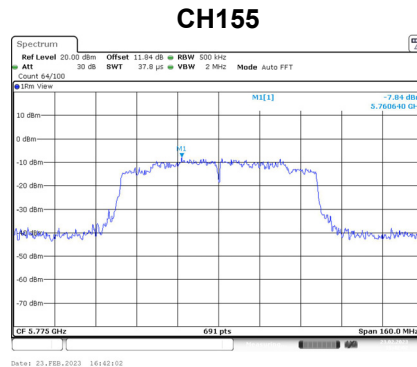
Test Mode	UNII-3_TX AC(VHT80) Mode_Ant. 1
-----------	---------------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/500 kHz)	Max. Limit (dBm/500 kHz)	Result
155	5775	-9.09	28.26	Complies



Test Mode	UNII-3_TX AC(VHT80) Mode_Ant. 2
-----------	---------------------------------

Channel	Frequency (MHz)	Power Spectral Density + Duty Factor (dBm/500 kHz)	Max. Limit (dBm/500 kHz)	Result
155	5775	-7.84	28.26	Complies



Test Mode	UNII-3_TX AC(VHT80) Mode_Total
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Channel	Frequency (MHz)	Power Spectral Density (dBm/500 kHz)	Max. Limit (dBm/500 kHz)	Result
155	5775	-6.080	28.26	Complies

Note:

For power spectral density measurements,  $N_{ANT}=2$ ,  $N_{SS} = 1$ .

So the Directional gain= $G_{ANT}+Array\ Gain=G_{ANT}+10\log(N_{ANT}/N_{SS})\text{dBi}=4.73+10\log(2/1)\text{dBi}=7.74$ .

So limit of power spectral density in MIMO mode is  $11-(7.74-6) = 9.26$ .( UNII-1)

So limit of power spectral density in MIMO mode is  $30-(7.74-6) = 28.26$ .( UNII-3)

## APPENDIX H - FREQUENCY STABILITY

Test Mode	UNII-1
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### Voltage vs. Frequency Stability

Voltage (V)	Measurement Frequency (MHz)
Center Frequency	5180.0000
100	5179.9052
120	5179.9052
240	5179.9048
Maximum Deviation (MHz)	0.0952
Maximum Deviation (ppm)	18.3784

### Temperature vs. Frequency Stability

Temperature (°C)	Measurement Frequency (MHz)
Center Frequency	5180.0000
0	5179.9052
10	5179.9052
20	5179.9052
30	5179.9052
40	5179.9052
45	5179.9052
Maximum Deviation (MHz)	0.0948
Maximum Deviation (ppm)	18.3012

Test Mode	UNII-3
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**Voltage vs. Frequency Stability**

Voltage (V)	Measurement Frequency (MHz)
Center Frequency	5745.0000
100	5744.8956
120	5744.8956
240	5744.8956
Maximum Deviation (MHz)	0.1044
Maximum Deviation (ppm)	18.1723

**Temperature vs. Frequency Stability**

Temperature (°C)	Measurement Frequency (MHz)
Center Frequency	5745.0000
0	5744.8956
10	5744.8956
20	5744.8956
30	5744.8956
40	5744.8956
45	5744.8956
Maximum Deviation (MHz)	0.1044
Maximum Deviation (ppm)	18.1723

**End of Test Report**