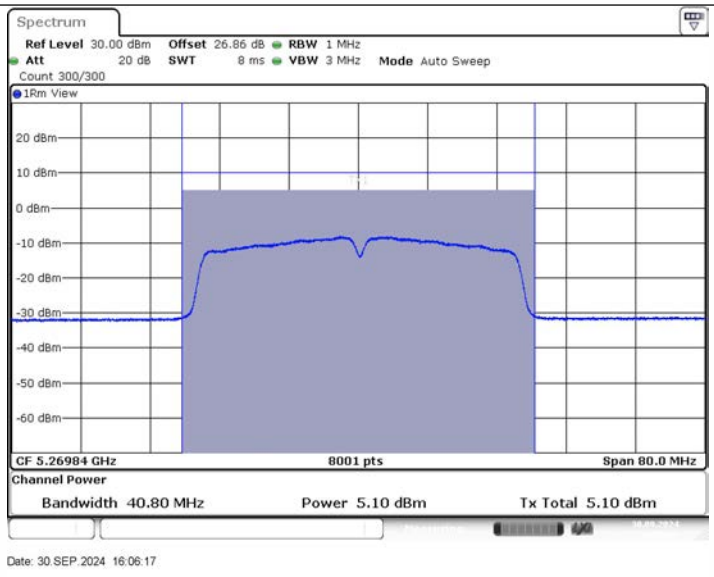
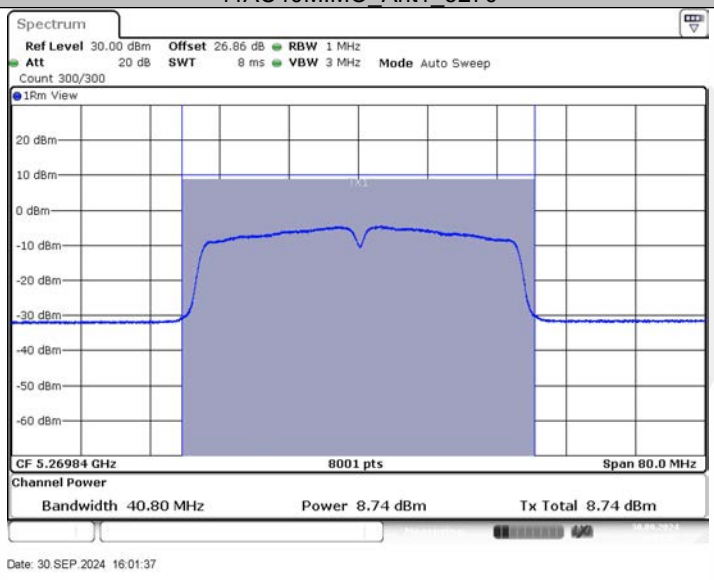
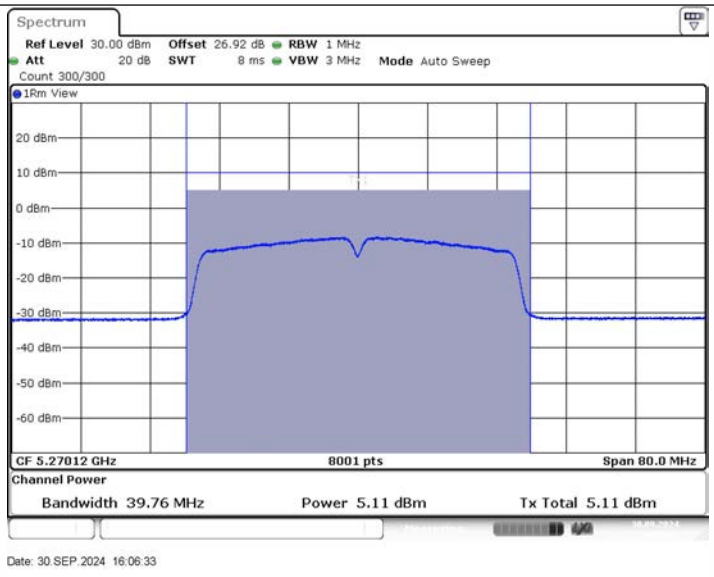


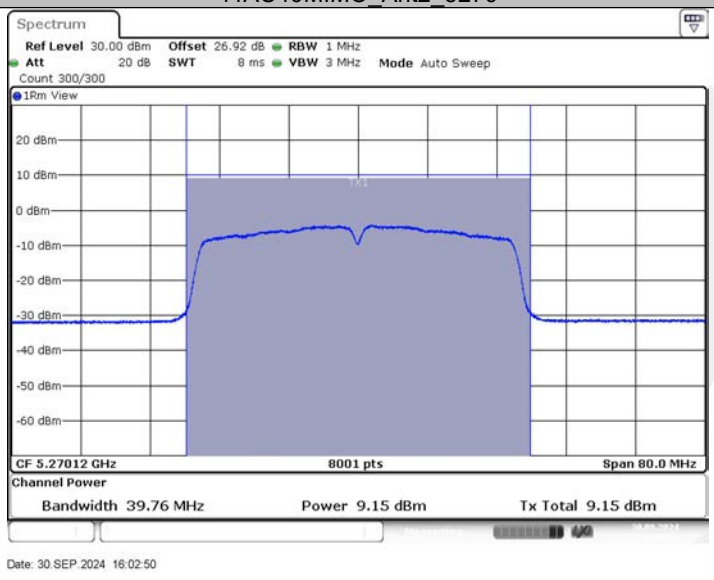
11AC40MIMO_Ant1_5270



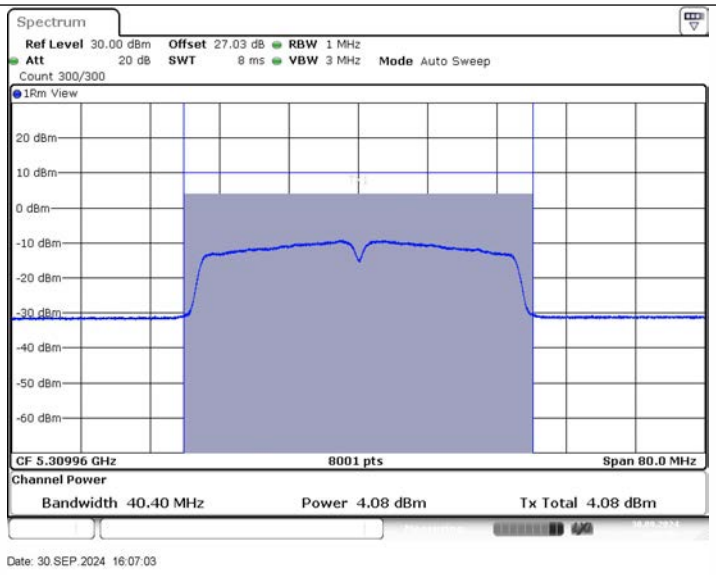
11AC40MIMO_Ant2_5270



11AC40MIMO_Ant2_5270

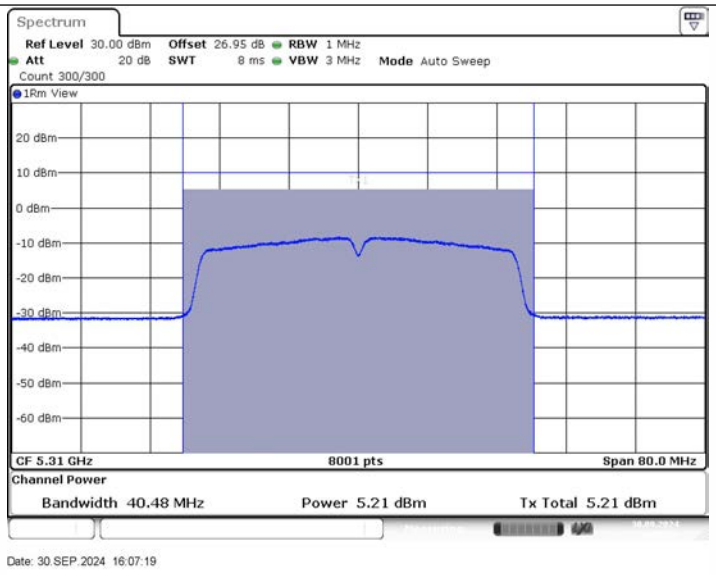


11AC40MIMO_Ant1_5310



11AC40MIMO_Ant1_5310

11AC40MIMO_Ant2_5310

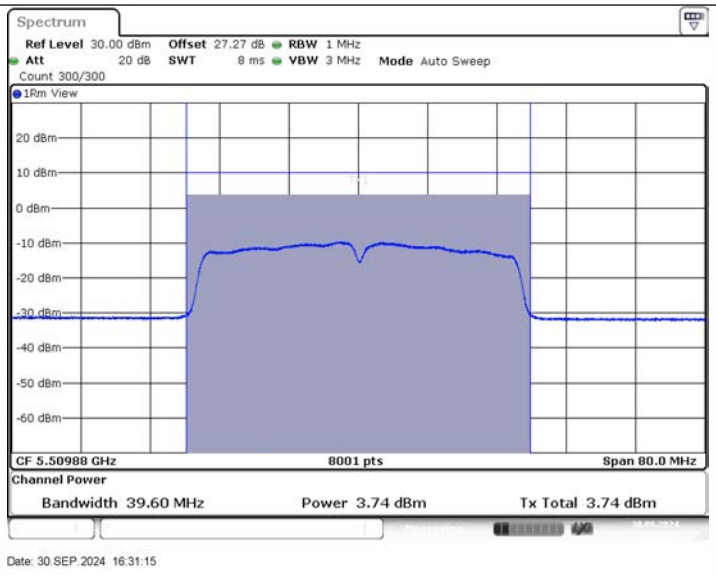


11AC40MIMO_Ant2_5310

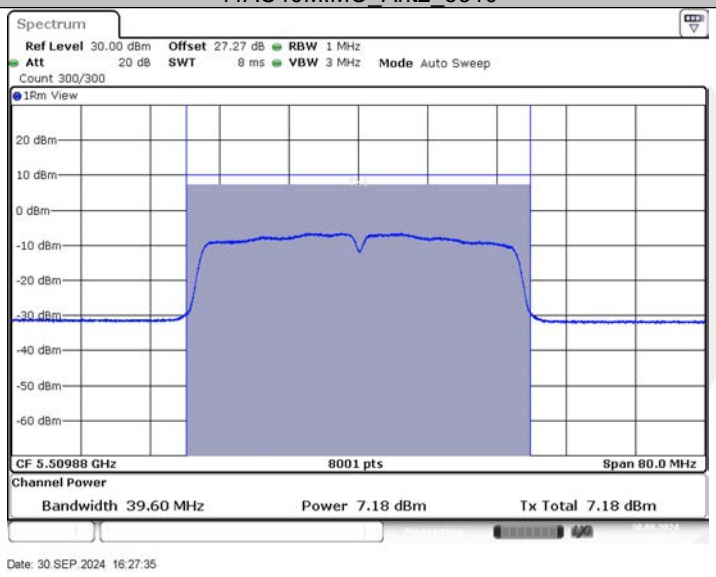
11AC40MIMO_Ant1_5510

11AC40MIMO_Ant1_5510

11AC40MIMO_Ant2_5510

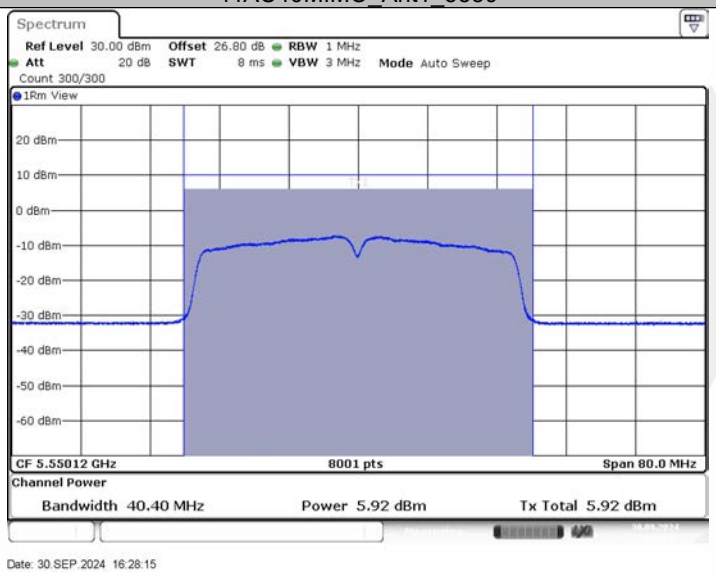


11AC40MIMO_Ant2_5510



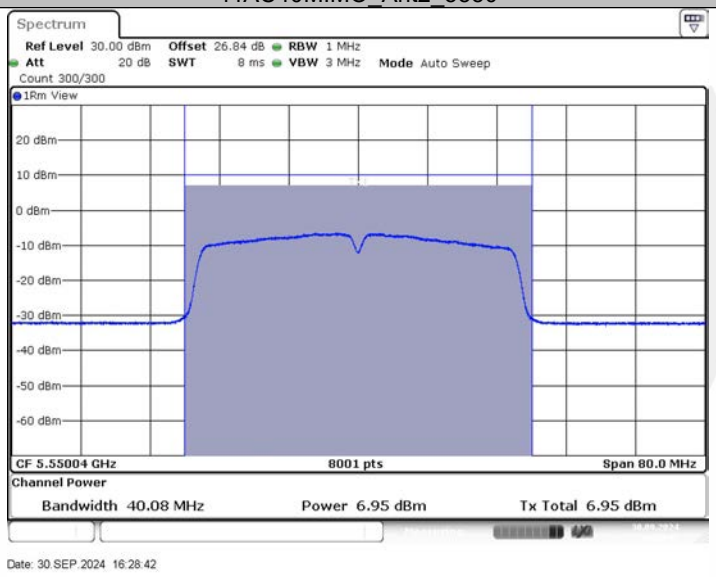
11AC40MIMO_Ant1_5550

11AC40MIMO_Ant1_5550



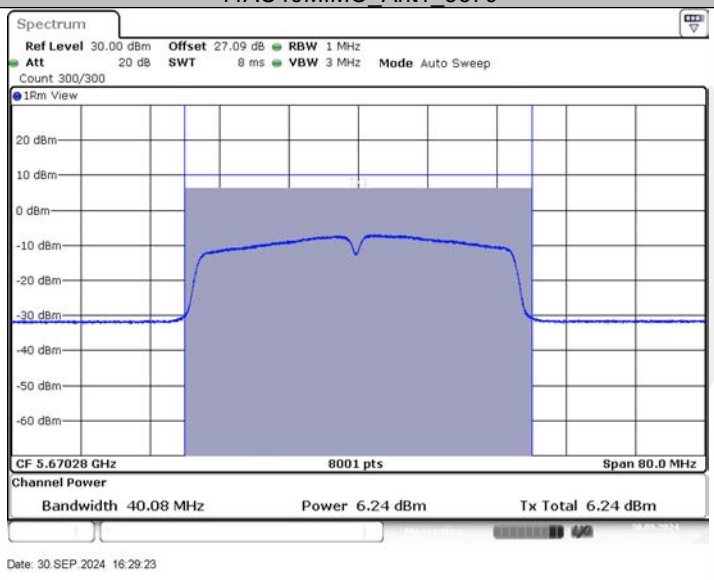
11AC40MIMO_Ant2_5550

11AC40MIMO_Ant2_5550



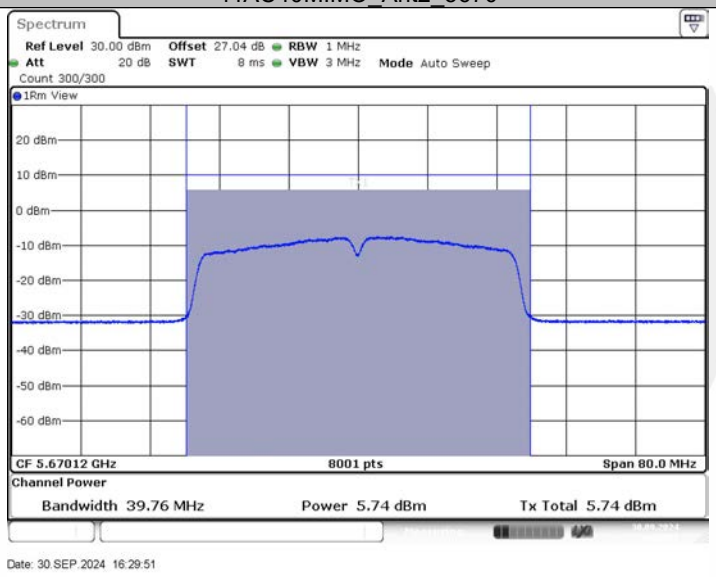
11AC40MIMO_Ant1_5670

11AC40MIMO_Ant1_5670



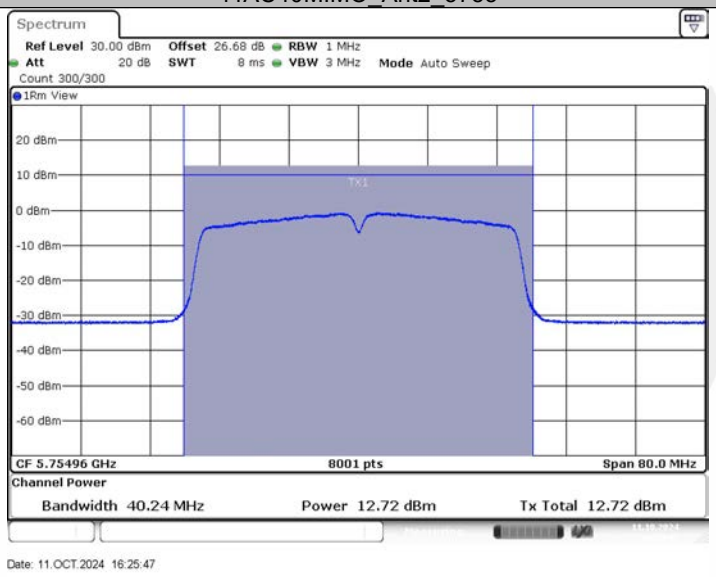
11AC40MIMO_Ant2_5670

11AC40MIMO_Ant2_5670



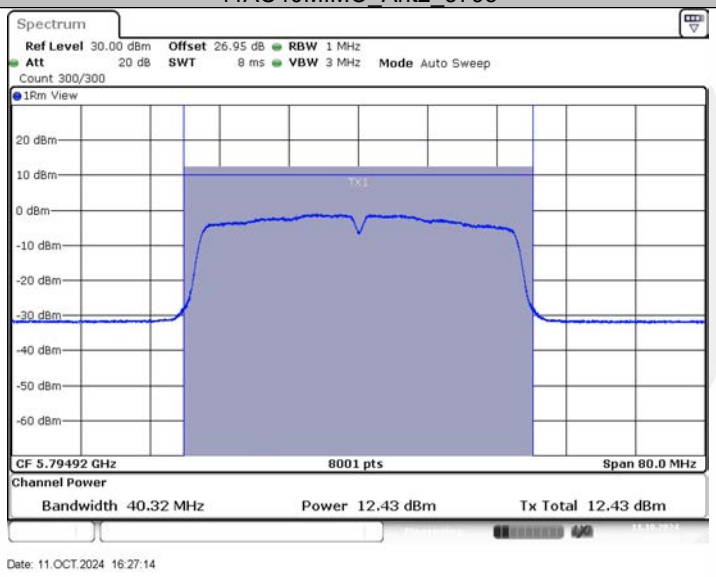
11AC40MIMO_Ant1_5755

11AC40MIMO_Ant2_5755



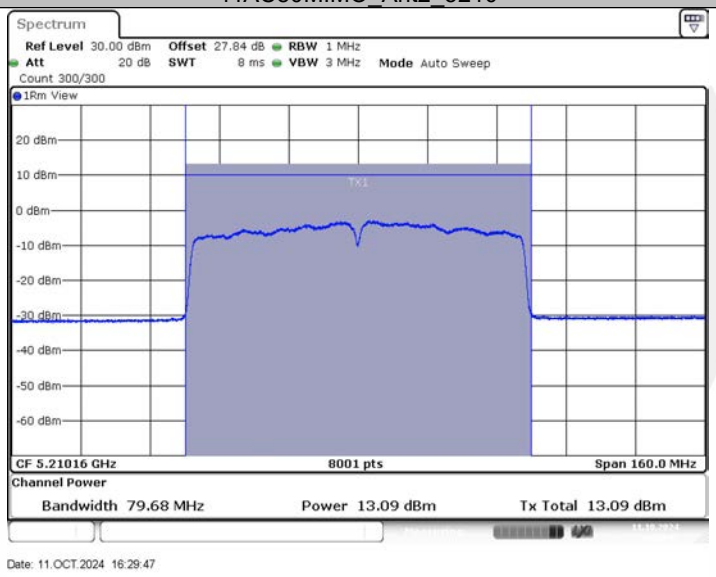
11AC40MIMO_Ant1_5795

11AC40MIMO_Ant2_5795



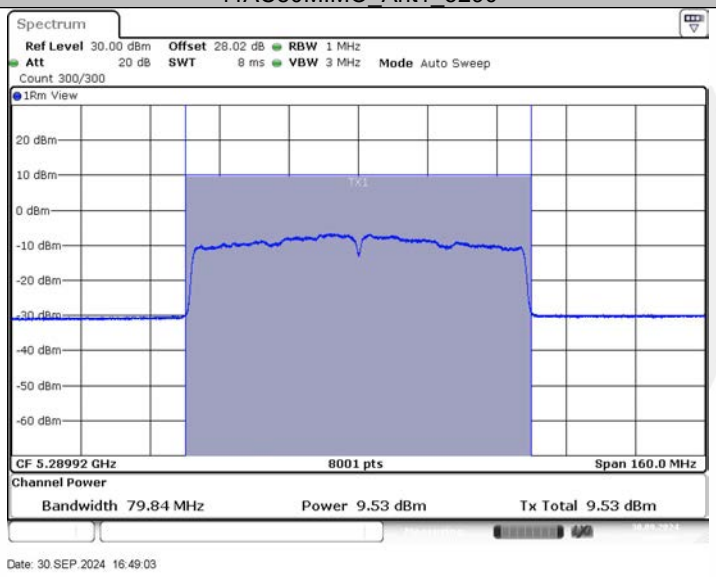
11AC80MIMO_Ant1_5210

11AC80MIMO_Ant2_5210

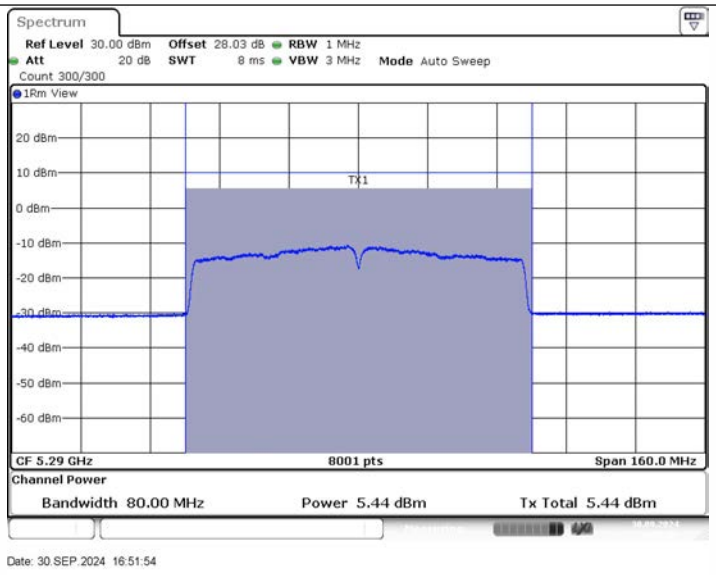


11AC80MIMO_Ant1_5290

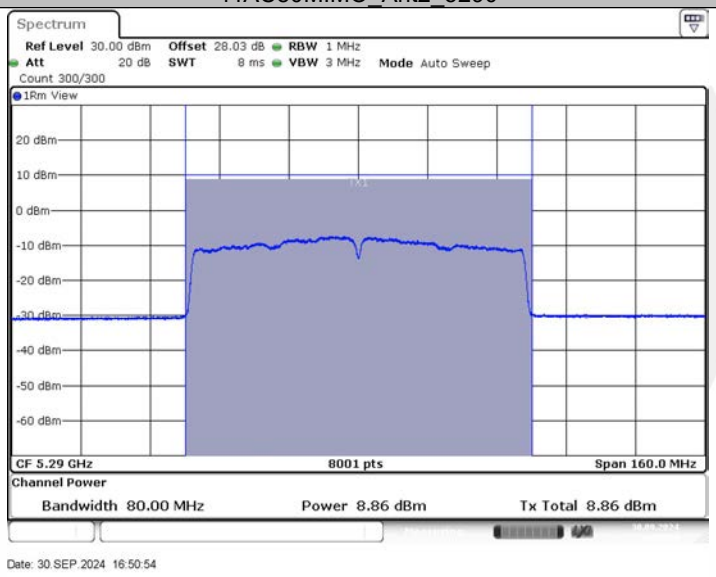
11AC80MIMO_Ant1_5290



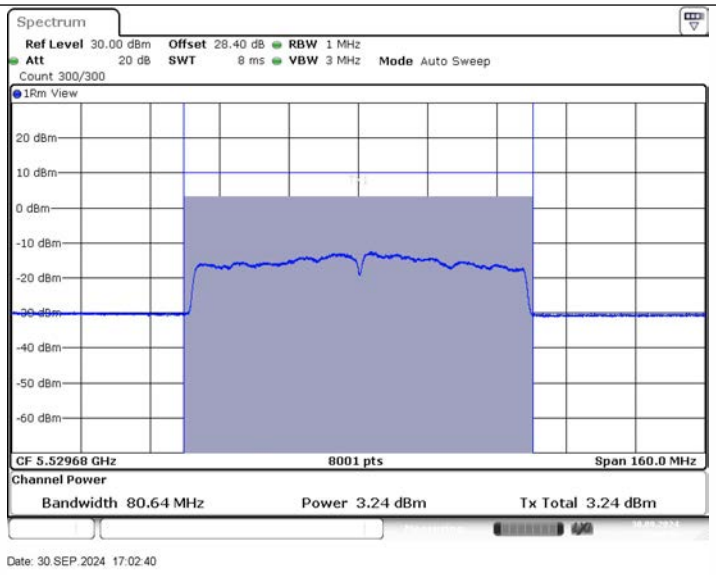
11AC80MIMO_Ant2_5290



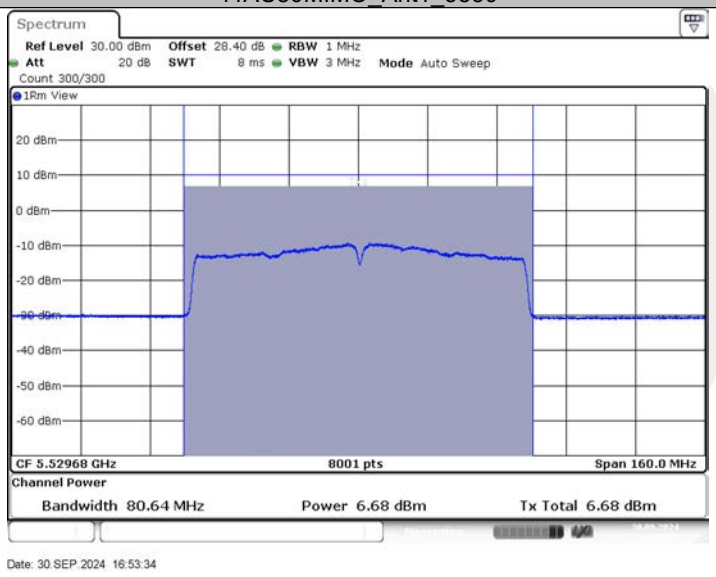
11AC80MIMO_Ant2_5290



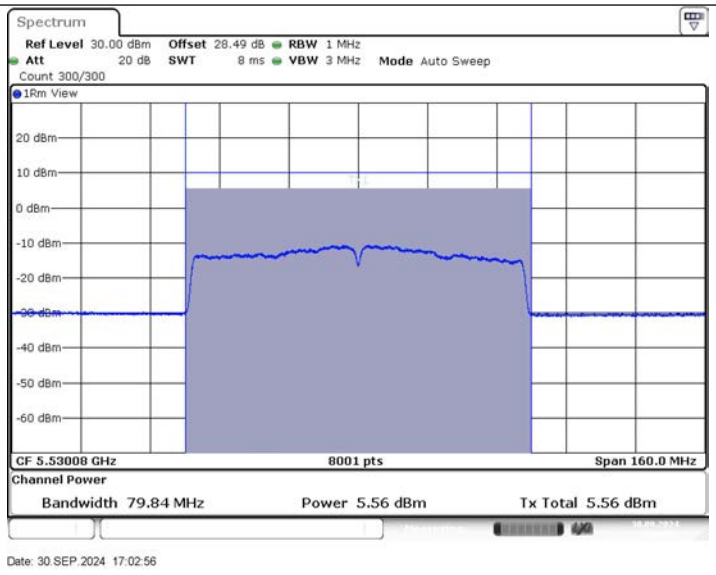
11AC80MIMO_Ant1_5530



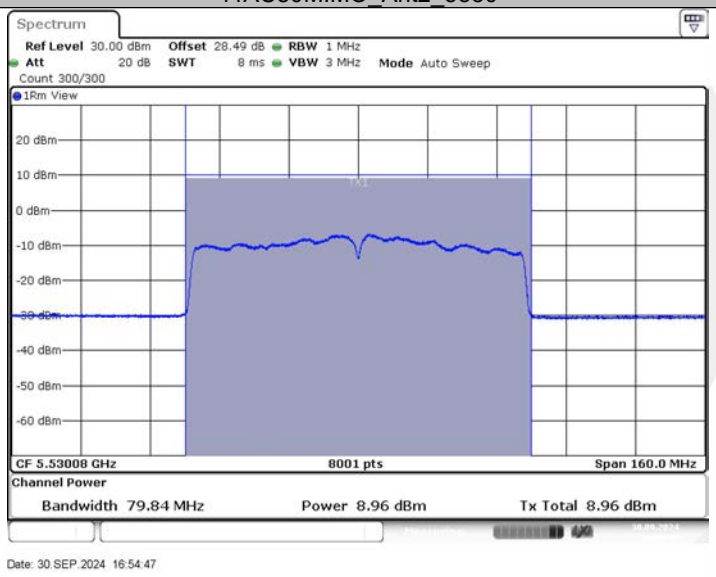
11AC80MIMO_Ant1_5530



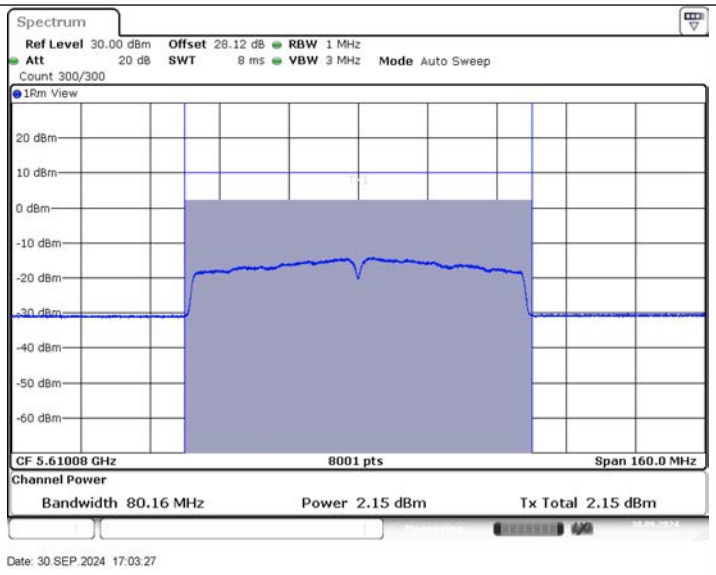
11AC80MIMO_Ant2_5530



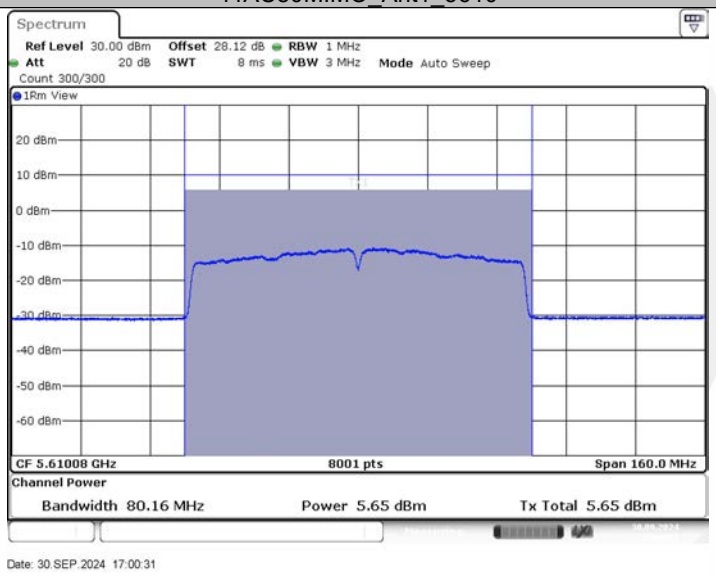
11AC80MIMO_Ant2_5530



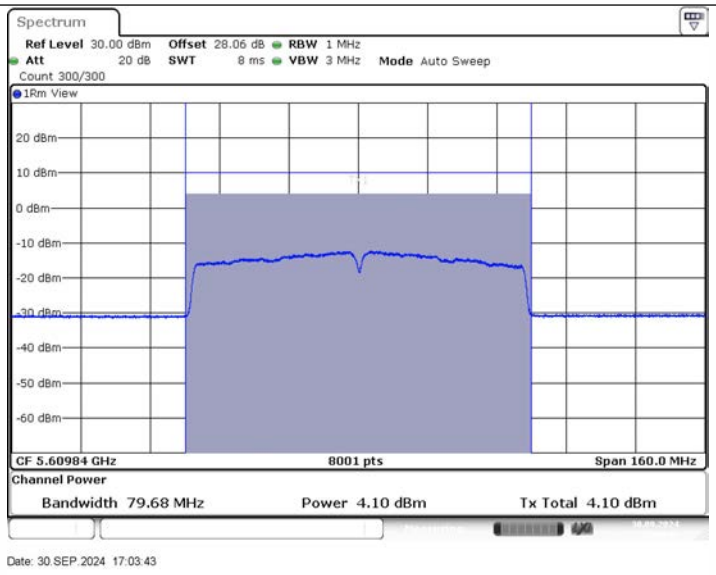
11AC80MIMO_Ant1_5610



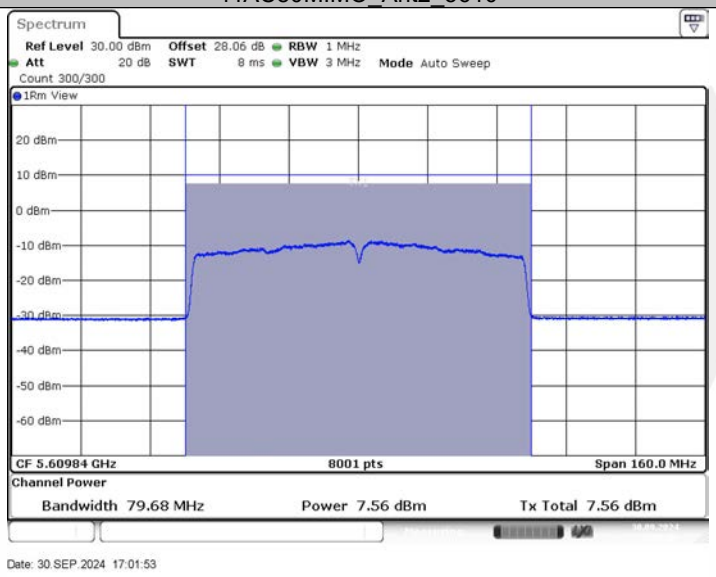
11AC80MIMO_Ant1_5610



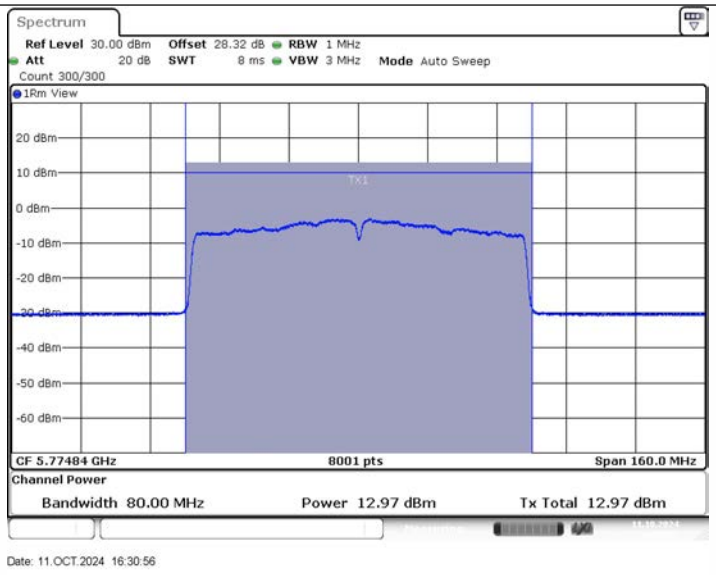
11AC80MIMO_Ant2_5610



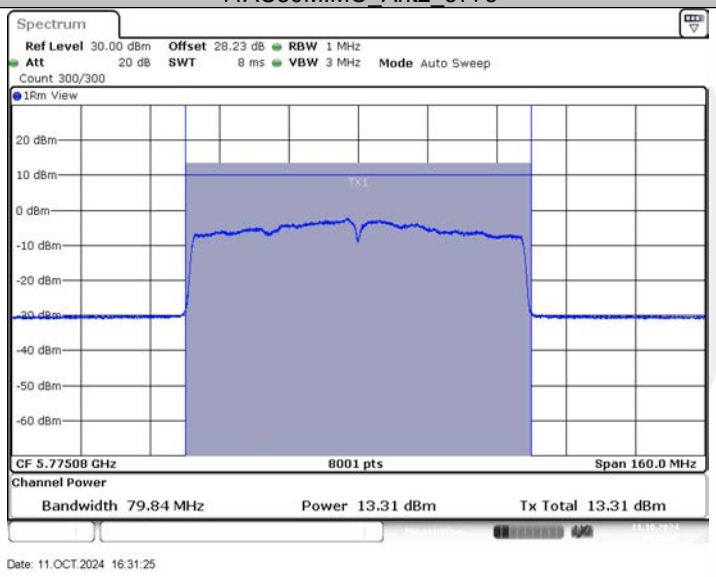
11AC80MIMO_Ant2_5610



11AC80MIMO_Ant1_5775



11AC80MIMO_Ant2_5775



8.3 MAXIMUM PEAK POWER DENSITY

8.3.1 Applicable Standard

According to FCC Part 15.407(a)(1) for UNII Band I
According to FCC Part 15.407(a)(2) for UNII Band II-A and UNII Band II-C
According to FCC Part 15.407(a)(3) for UNII Band III
According to 789033 D02 Section II(F)

8.3.2 Conformance Limit

■ For the band 5.15-5.25 GHz

(a) (1) (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
(a) (1) (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
(a) (1) (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
(a) (1) (iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the 5.25-5.35 GHz and 5.47-5.725 GHz

(b) (2) the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the band 5.725-5.85 GHz

(a) (3)For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.3.3 Test Configuration

Test according to clause 6.1 radio frequency test setup 1.

8.3.4 Test Procedure

Methods refer to FCC KDB 789033.

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, "provided that the measured power is integrated over the full reference bandwidth" to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/T, where T is defined in section II.B.I.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10log(1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections.

5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

8.3.5 Test Results

Temperature :	25℃	ATM Pressure::	1011 mbar
Humidity :	60 %	Test Engineer:	GJ

Power Density

For 802.11a, Output Power Limit as below.

Frequency [MHz]	Limit[dBm/MHz]
5150~5250MHz Band	17
5250~5350MHz Band	11
5470~5725MHz Band	11
5725~5850MHz Band	30

For others, Output Power Limit as below.

Frequency [MHz]	Limit[dBm/MHz]
5150~5250MHz Band	2.44
5250~5350MHz Band	-3.81
5470~5725MHz Band	-4.52
5725~5850MHz Band	14.34

TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Verdict
11A	Ant1	5180	0.14	PASS
	Ant2	5180	-0.03	PASS
	Ant1	5200	0.11	PASS
	Ant2	5200	0.42	PASS
	Ant1	5240	-0.63	PASS
	Ant2	5240	0.78	PASS
	Ant1	5260	-5.98	PASS
	Ant2	5260	-5.67	PASS
	Ant1	5280	-5.82	PASS
	Ant2	5280	-6.11	PASS
	Ant1	5320	-5.70	PASS
	Ant2	5320	-5.96	PASS
	Ant1	5500	-7.40	PASS
	Ant2	5500	-7.63	PASS
	Ant1	5580	-9.04	PASS
	Ant2	5580	-8.63	PASS
	Ant1	5700	-7.69	PASS
	Ant2	5700	-8.28	PASS
	Ant1	5745	-5.53	PASS
	Ant2	5745	-5.49	PASS
	Ant1	5785	-5.45	PASS
	Ant2	5785	-5.01	PASS
	Ant1	5825	-6.24	PASS
	Ant2	5825	-5.90	PASS
11N20MIMO	Ant1	5180	-3.50	PASS
	Ant2	5180	-2.56	PASS
	total	5180	0.01	PASS

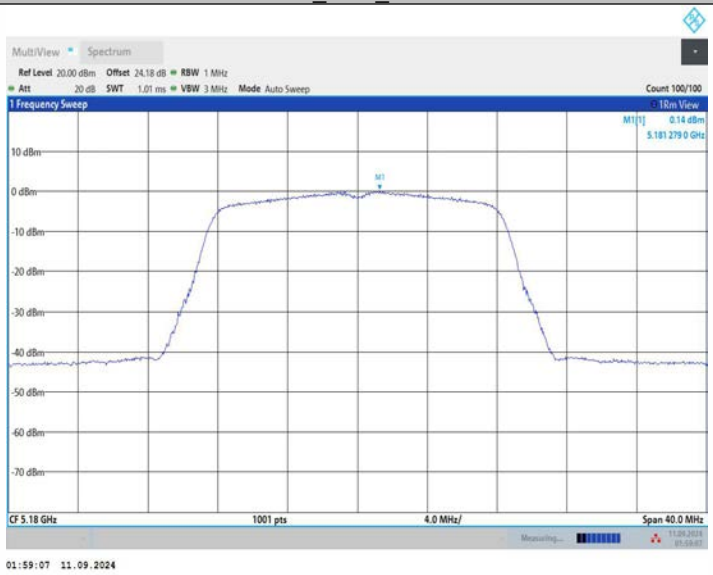
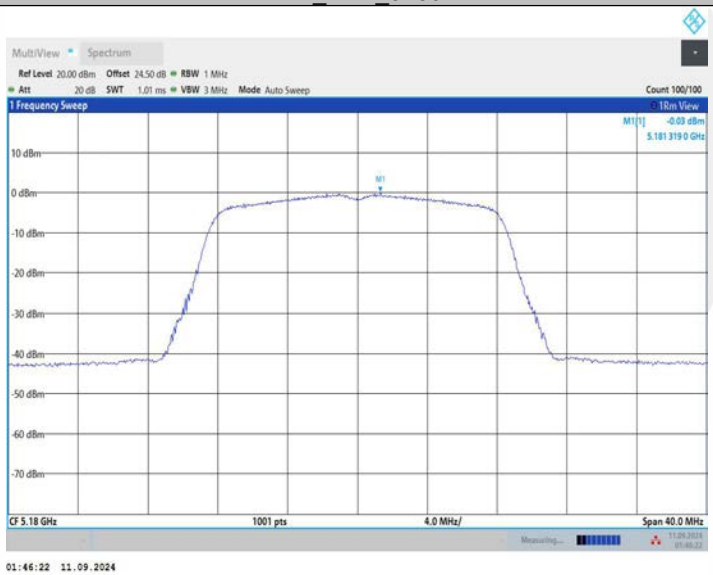
	Ant1	5200	-4.40	PASS
	Ant2	5200	-2.22	PASS
	total	5200	-0.16	PASS
	Ant1	5240	-4.69	PASS
	Ant2	5240	-2.68	PASS
	total	5240	-0.56	PASS
	Ant1	5260	-9.49	PASS
	Ant2	5260	-9.58	PASS
	total	5260	-6.52	PASS
	Ant1	5280	-9.54	PASS
	Ant2	5280	-9.93	PASS
	total	5280	-6.72	PASS
	Ant1	5320	-9.48	PASS
	Ant2	5320	-9.57	PASS
	total	5320	-6.51	PASS
	Ant1	5500	-11.49	PASS
	Ant2	5500	-9.93	PASS
	total	5500	-7.63	PASS
	Ant1	5580	-12.83	PASS
	Ant2	5580	-11.30	PASS
	total	5580	-8.99	PASS
	Ant1	5700	-11.23	PASS
	Ant2	5700	-10.04	PASS
	total	5700	-7.58	PASS
	Ant1	5745	-8.51	PASS
	Ant2	5745	-9.21	PASS
	total	5745	-5.84	PASS
	Ant1	5785	-8.72	PASS
	Ant2	5785	-8.56	PASS
	total	5785	-5.63	PASS
	Ant1	5825	-9.13	PASS
	Ant2	5825	-8.66	PASS
	total	5825	-5.88	PASS
11N40MIMO	Ant1	5190	-7.59	PASS
	Ant2	5190	-5.46	PASS
	total	5190	-3.39	PASS
	Ant1	5230	-7.33	PASS
	Ant2	5230	-5.02	PASS
	total	5230	-3.01	PASS
	Ant1	5270	-12.58	PASS
	Ant2	5270	-12.49	PASS
	total	5270	-9.52	PASS
	Ant1	5310	-11.99	PASS
	Ant2	5310	-12.51	PASS
	total	5310	-9.23	PASS
	Ant1	5510	-14.55	PASS
	Ant2	5510	-12.97	PASS
	total	5510	-10.68	PASS
	Ant1	5550	-15.01	PASS
	Ant2	5550	-14.11	PASS
	total	5550	-11.53	PASS
	Ant1	5670	-14.47	PASS
	Ant2	5670	-14.06	PASS
	total	5670	-11.25	PASS
	Ant1	5755	-11.85	PASS
	Ant2	5755	-12.26	PASS
	total	5755	-9.04	PASS
	Ant1	5795	-12.35	PASS
	Ant2	5795	-11.84	PASS
	total	5795	-9.08	PASS
11AC20MIMO	Ant1	5180	-3.33	PASS

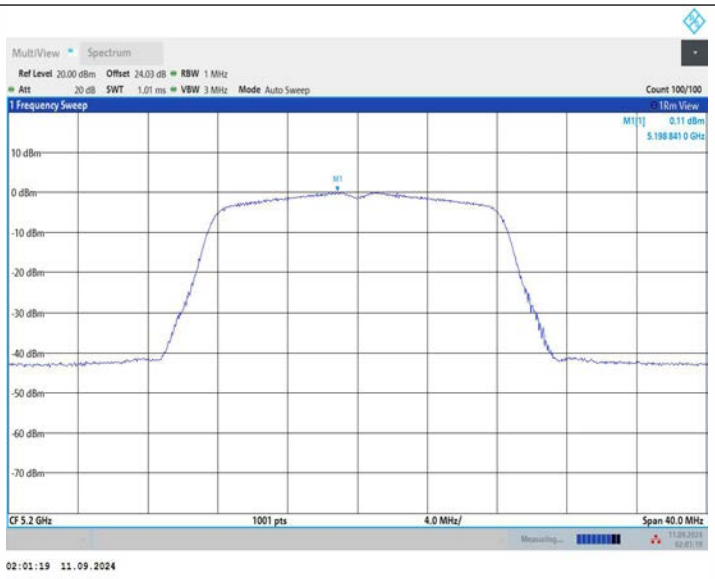
	Ant2	5180	-2.10	PASS
	total	5180	0.34	PASS
	Ant1	5200	-3.57	PASS
	Ant2	5200	-1.91	PASS
	total	5200	0.35	PASS
	Ant1	5240	-3.42	PASS
	Ant2	5240	-2.75	PASS
	total	5240	-0.06	PASS
	Ant1	5260	-8.98	PASS
	Ant2	5260	-9.21	PASS
	total	5260	-6.08	PASS
	Ant1	5280	-9.46	PASS
	Ant2	5280	-9.65	PASS
	total	5280	-6.54	PASS
	Ant1	5320	-9.14	PASS
	Ant2	5320	-9.41	PASS
	total	5320	-6.26	PASS
	Ant1	5500	-10.90	PASS
	Ant2	5500	-9.87	PASS
	total	5500	-7.34	PASS
	Ant1	5580	-12.46	PASS
	Ant2	5580	-10.99	PASS
	total	5580	-8.65	PASS
	Ant1	5700	-11.20	PASS
	Ant2	5700	-10.20	PASS
	total	5700	-7.66	PASS
	Ant1	5745	-8.72	PASS
	Ant2	5745	-9.71	PASS
	total	5745	-6.18	PASS
	Ant1	5785	-8.65	PASS
	Ant2	5785	-8.49	PASS
	total	5785	-5.56	PASS
	Ant1	5825	-9.81	PASS
	Ant2	5825	-8.90	PASS
	total	5825	-6.32	PASS
11AC40MIMO	Ant1	5190	-6.03	PASS
	Ant2	5190	-4.91	PASS
	total	5190	-2.42	PASS
	Ant1	5230	-6.18	PASS
	Ant2	5230	-5.30	PASS
	total	5230	-2.71	PASS
	Ant1	5270	-12.35	PASS
	Ant2	5270	-12.21	PASS
	total	5270	-9.27	PASS
	Ant1	5310	-11.91	PASS
	Ant2	5310	-11.86	PASS
	total	5310	-8.87	PASS
	Ant1	5510	-13.74	PASS
	Ant2	5510	-13.11	PASS
	total	5510	-10.40	PASS
	Ant1	5550	-14.37	PASS
	Ant2	5550	-13.69	PASS
	total	5550	-11.01	PASS
	Ant1	5670	-13.88	PASS
	Ant2	5670	-13.91	PASS
	total	5670	-10.88	PASS
	Ant1	5755	-12.47	PASS
	Ant2	5755	-12.11	PASS
	total	5755	-9.28	PASS
	Ant1	5795	-12.10	PASS
	Ant2	5795	-11.76	PASS

	total	5795	-8.92	PASS
11AC80MIMO	Ant1	5210	-8.65	PASS
	Ant2	5210	-7.14	PASS
	total	5210	-4.82	PASS
	Ant1	5290	-14.28	PASS
	Ant2	5290	-14.61	PASS
	total	5290	-11.43	PASS
	Ant1	5530	-16.78	PASS
	Ant2	5530	-15.41	PASS
	total	5530	-13.03	PASS
	Ant1	5610	-17.72	PASS
	Ant2	5610	-16.35	PASS
	total	5610	-13.97	PASS
	Ant1	5775	-13.57	PASS
	Ant2	5775	-13.77	PASS
	total	5775	-10.66	PASS

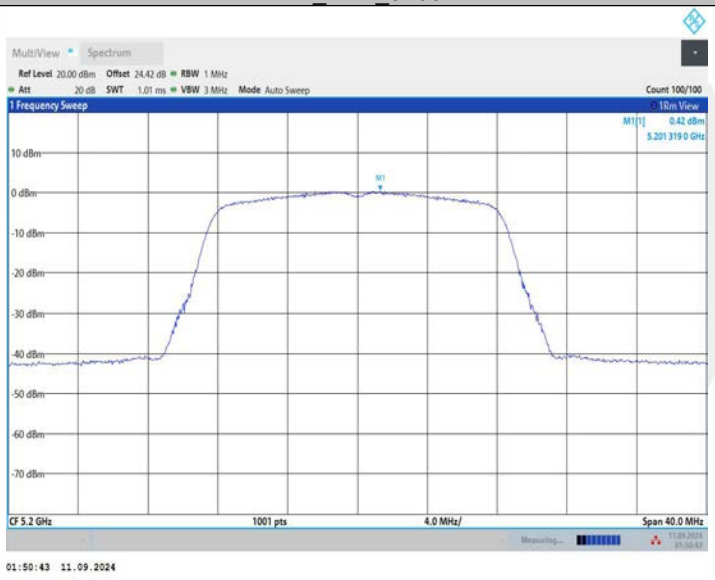
Note：1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

Power Density Test Graphs

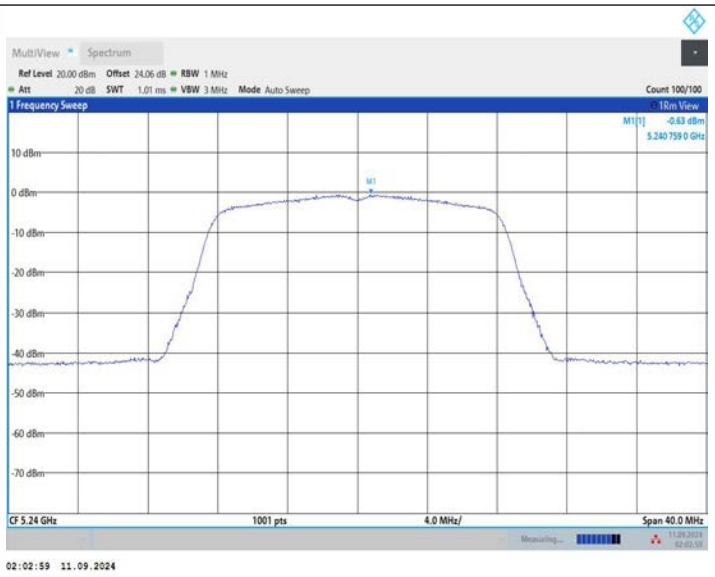
11A_Ant1_5180

11A_Ant2_5180

11A_Ant1_5200



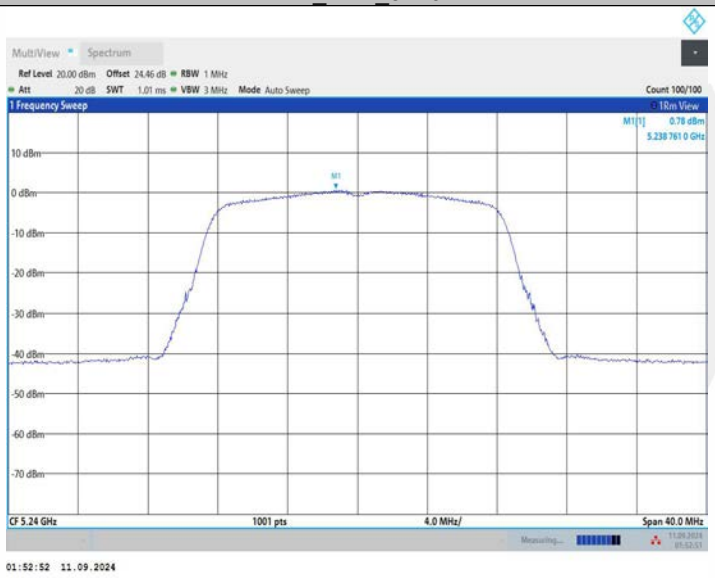
11A_Ant2_5200



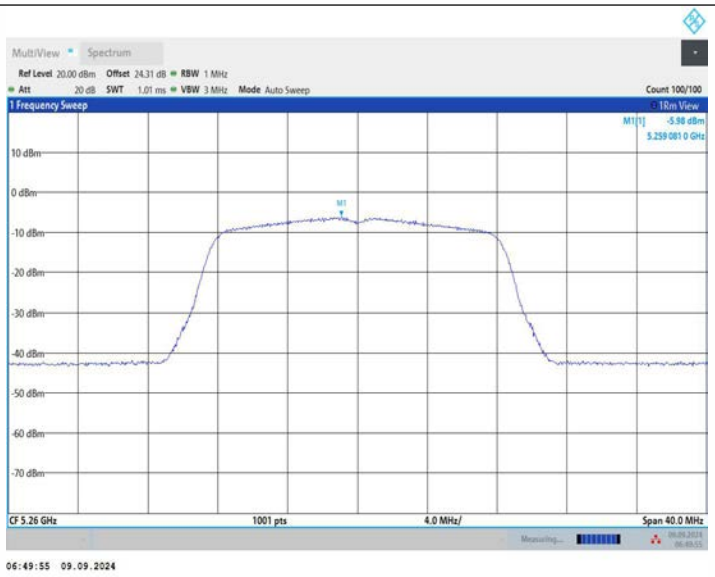
11A_Ant1_5240



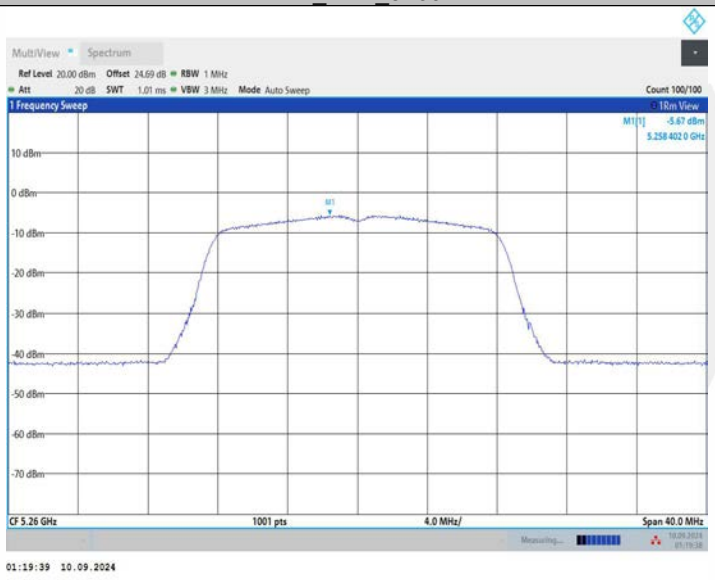
11A_Ant2_5240



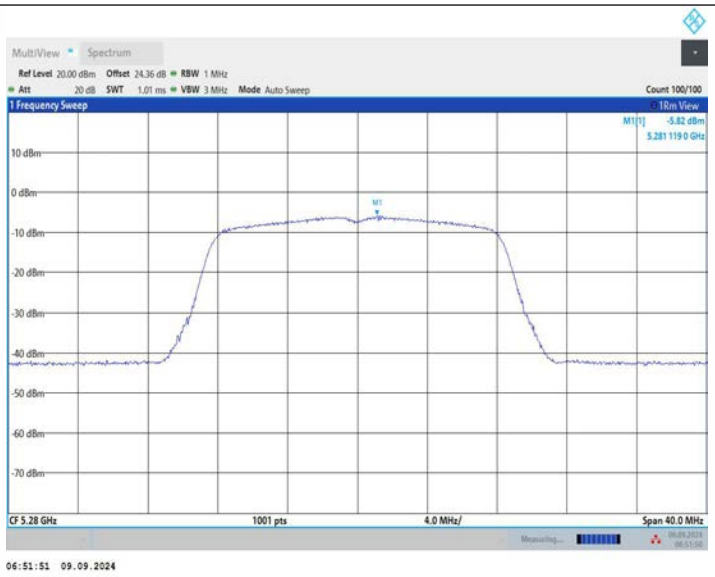
11A_Ant1_5260



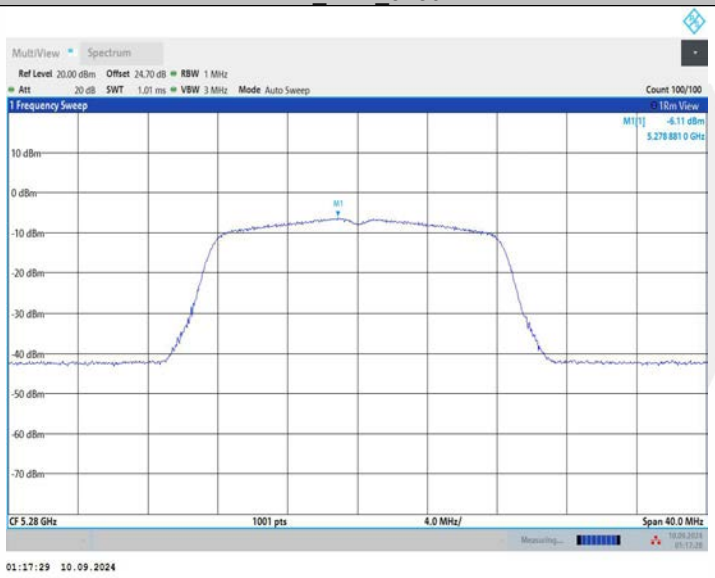
11A_Ant2_5260



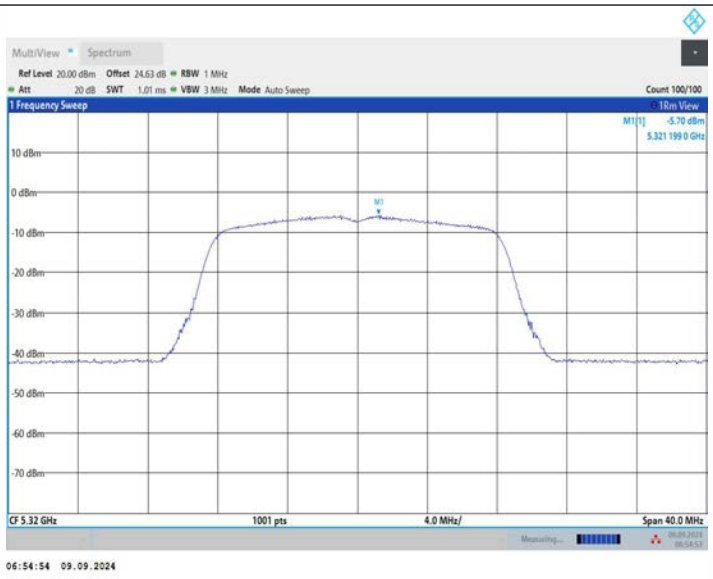
11A_Ant1_5280



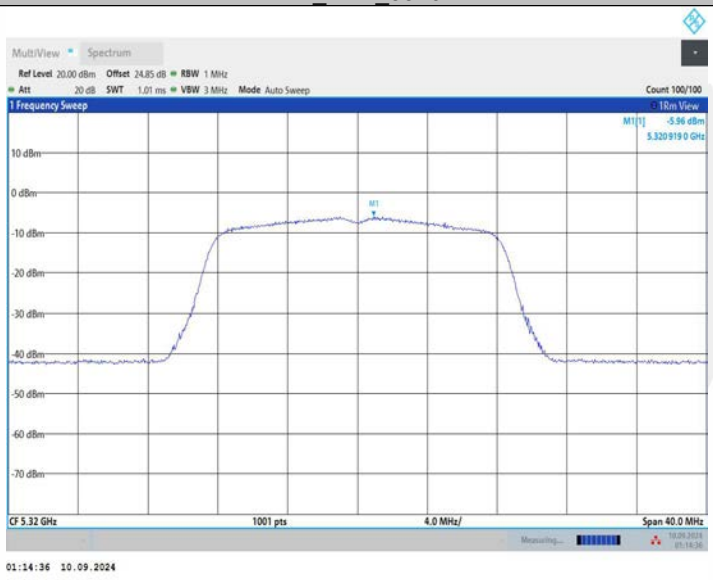
11A_Ant2_5280



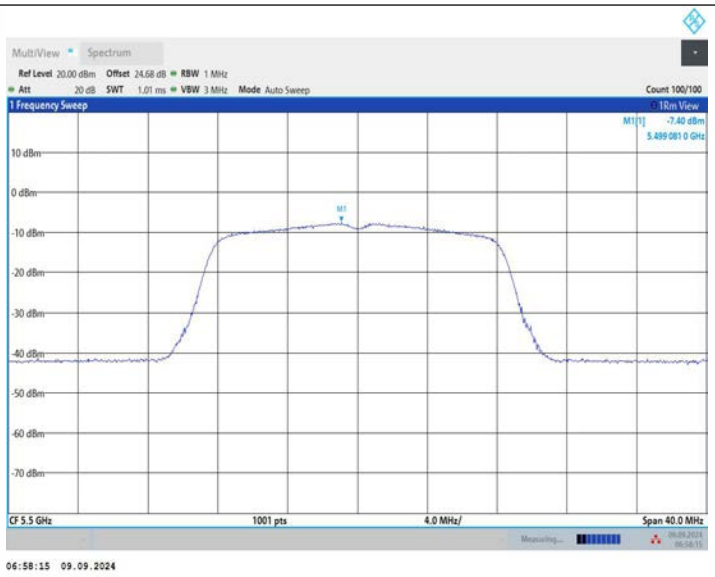
11A_Ant1_5320



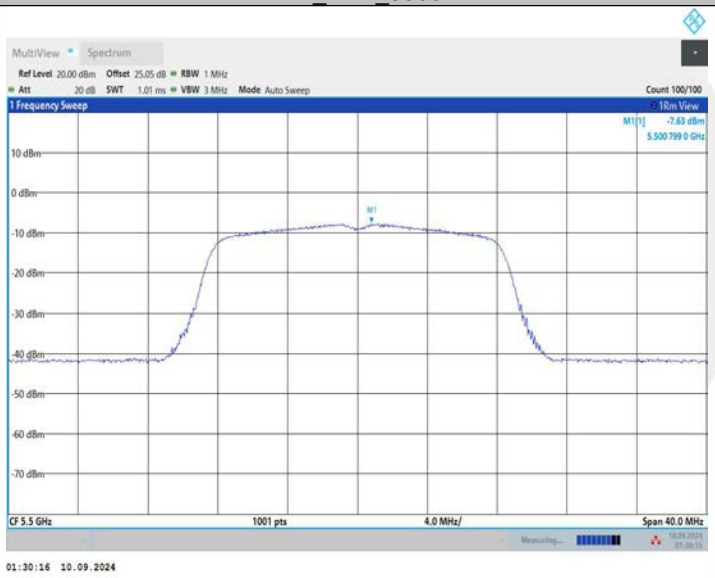
11A_Ant2_5320



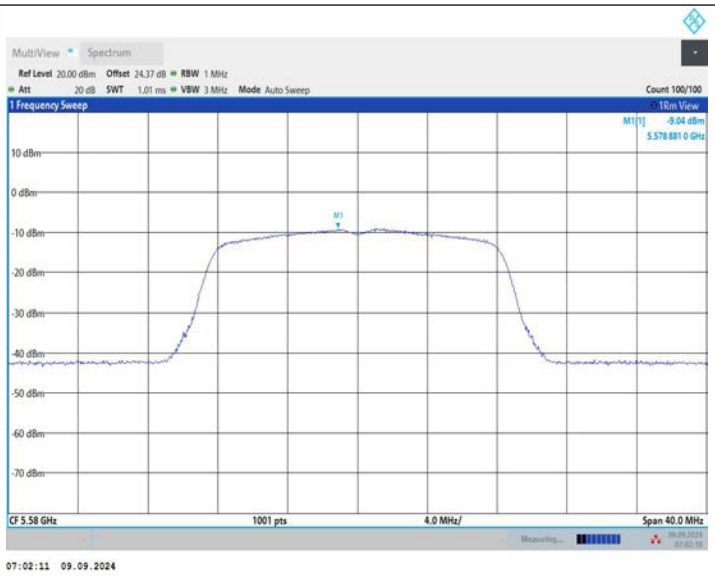
11A_Ant1_5500



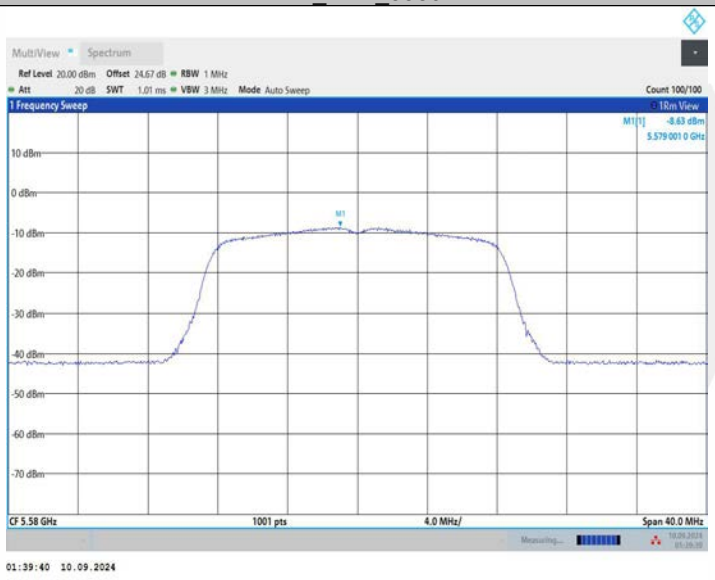
11A_Ant2_5500



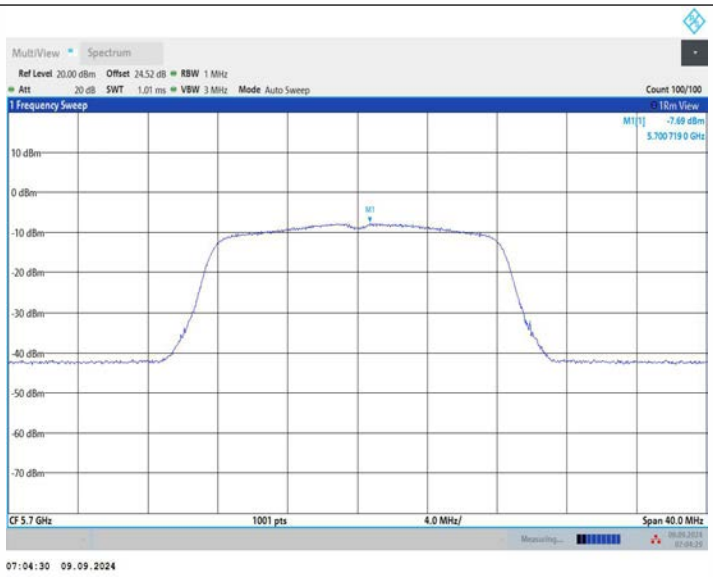
11A_Ant1_5580



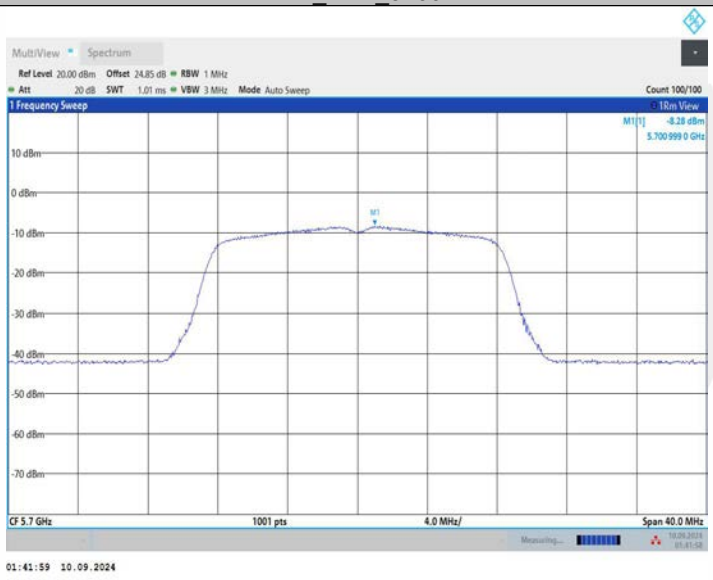
11A_Ant2_5580



11A_Ant1_5700

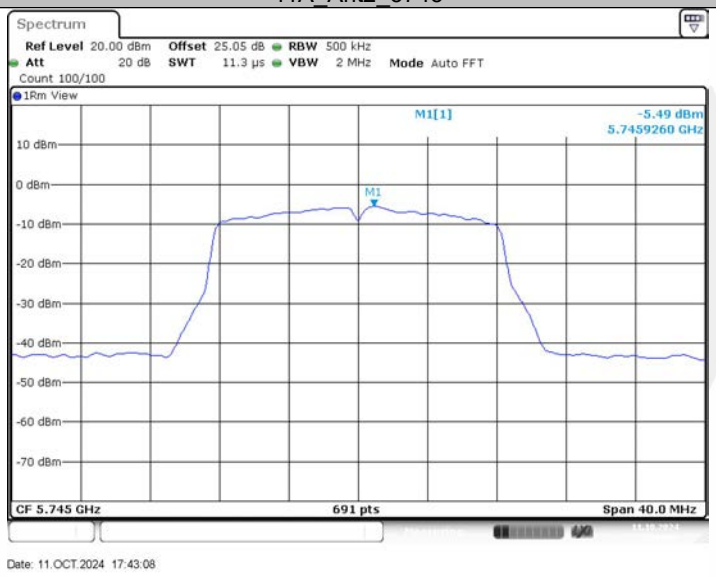


11A_Ant2_5700



11A_Ant1_5745

11A_Ant2_5745

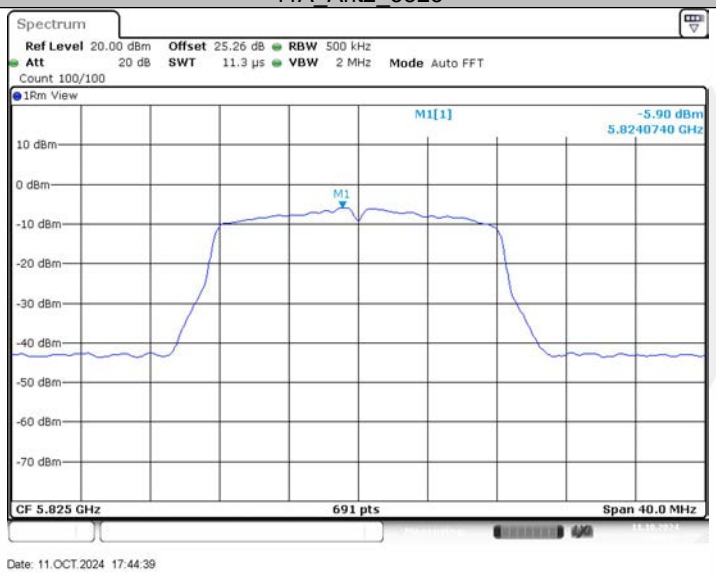


11A_Ant1_5785

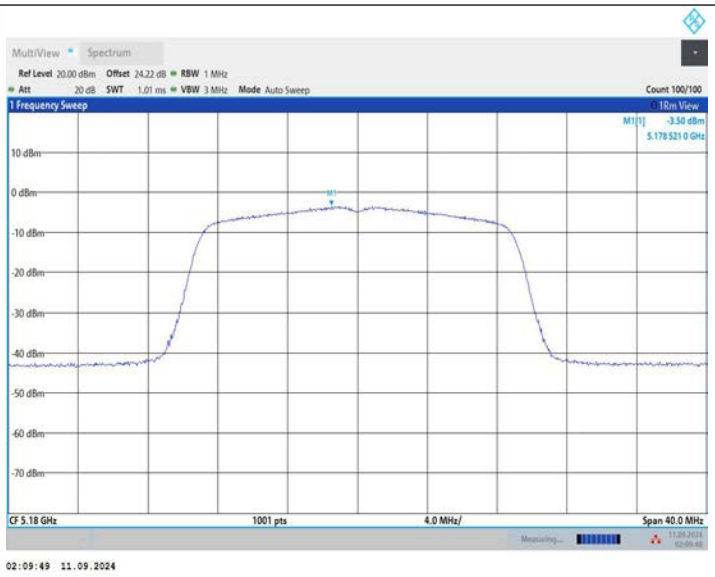
11A_Ant2_5785

11A_Ant1_5825

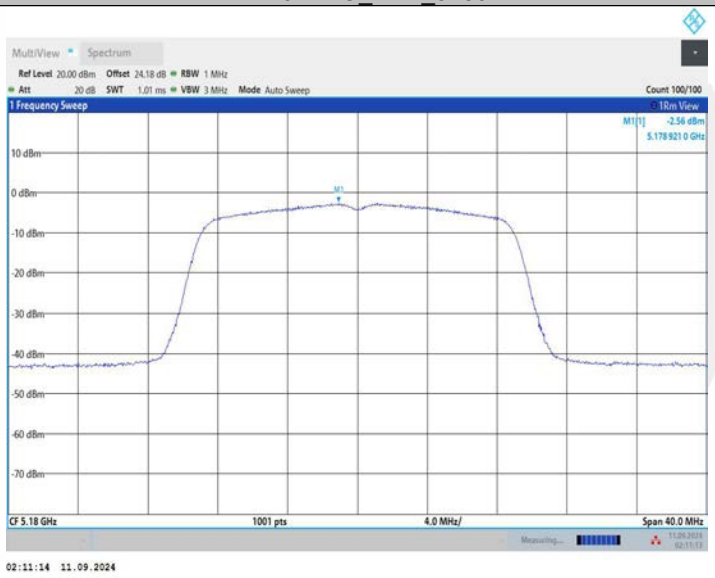
11A_Ant2_5825



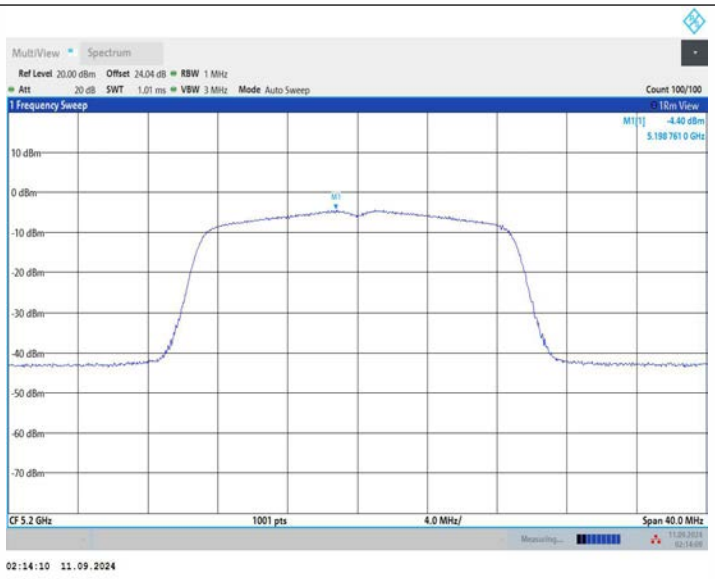
11N20MIMO_Ant1_5180



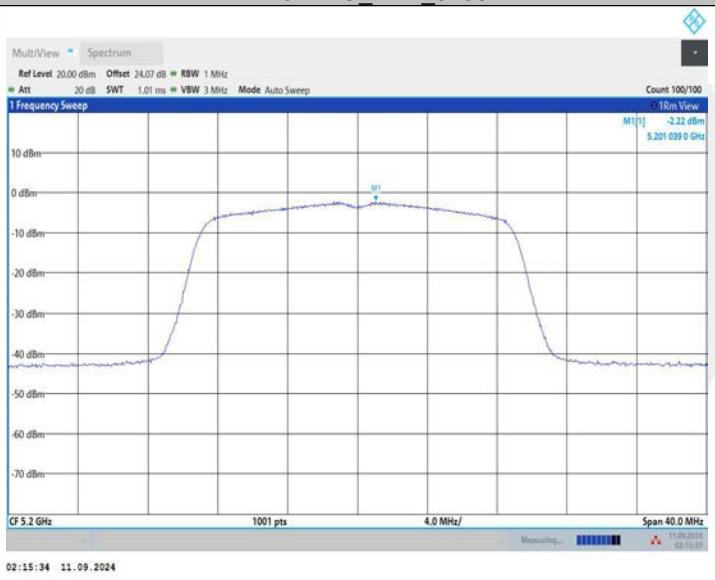
11N20MIMO_Ant2_5180



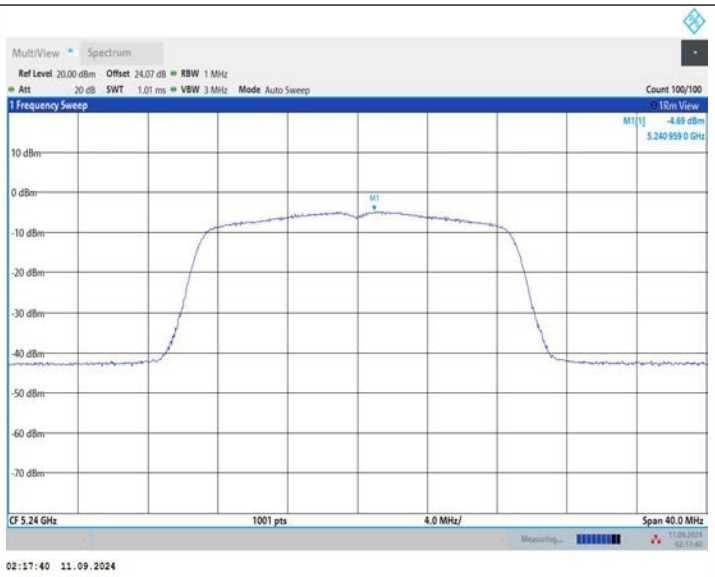
11N20MIMO_Ant1_5200



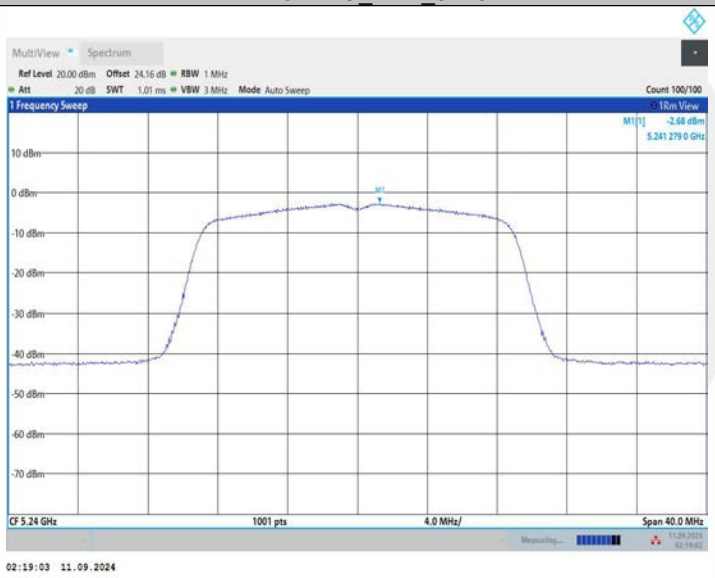
11N20MIMO_Ant2_5200



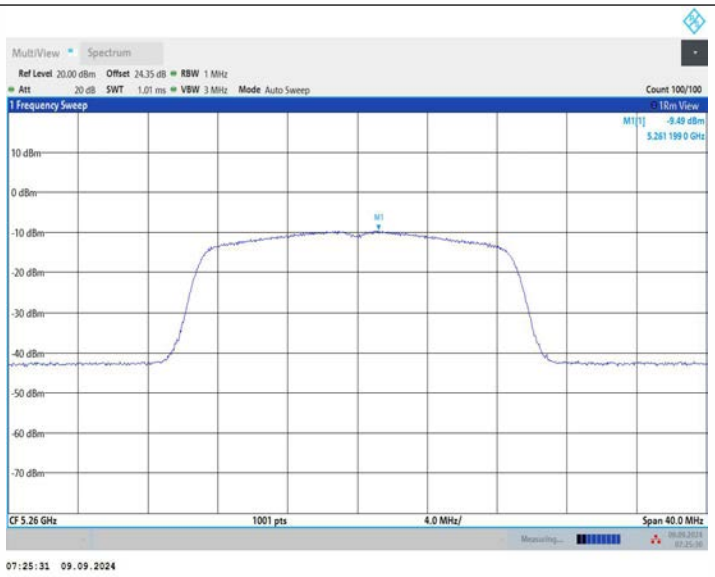
11N20MIMO_Ant1_5240



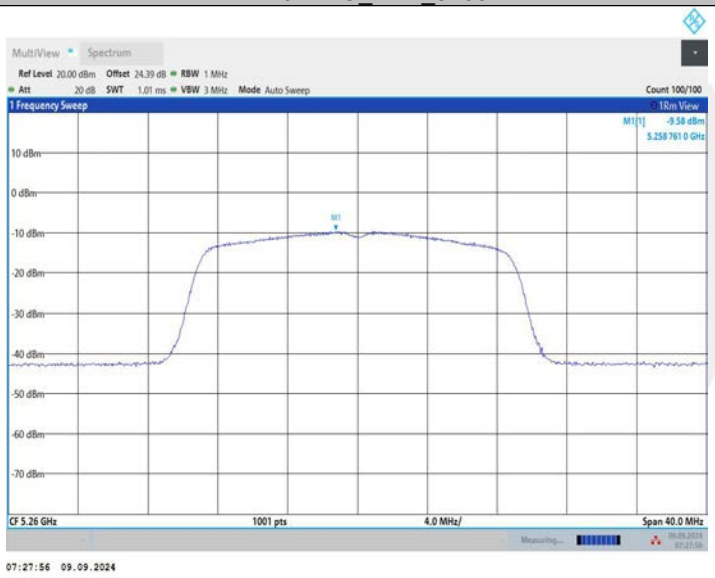
11N20MIMO_Ant2_5240



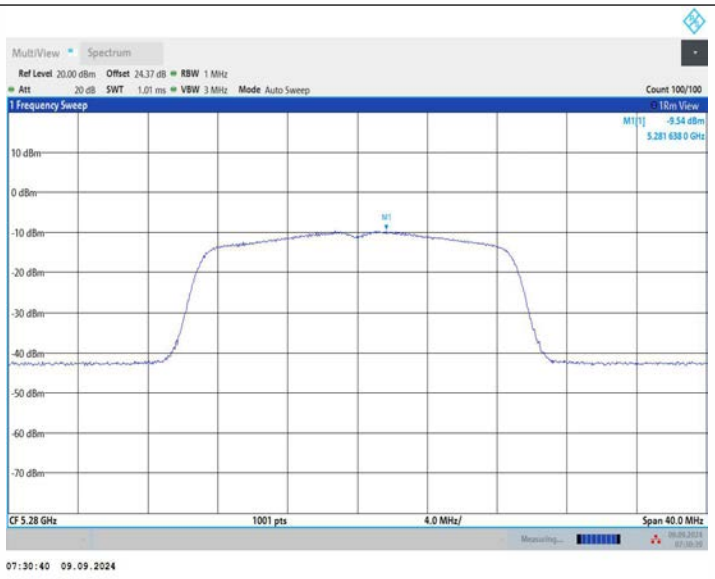
11N20MIMO_Ant1_5260



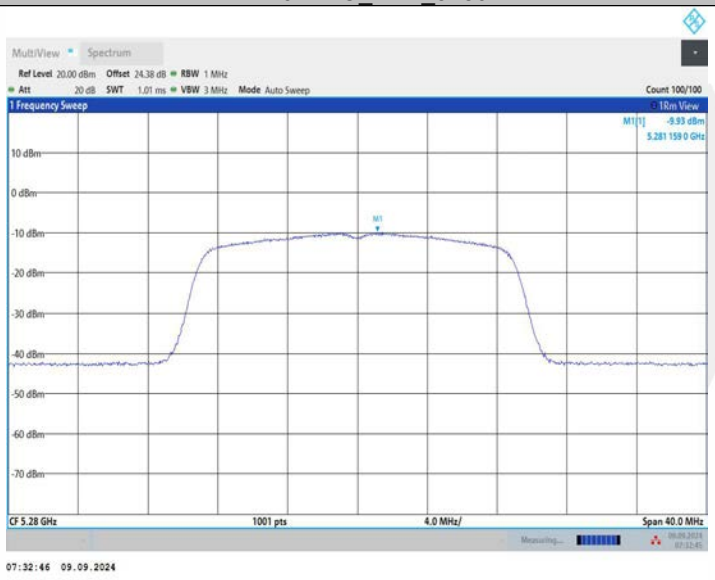
11N20MIMO_Ant2_5260



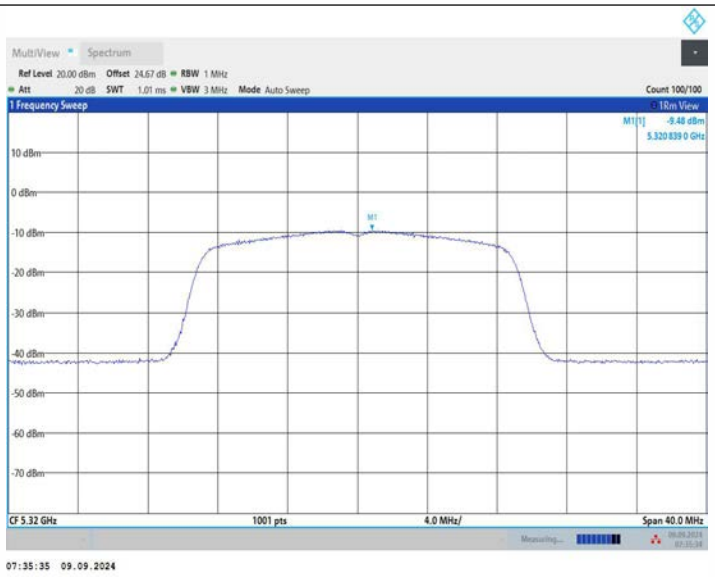
11N20MIMO_Ant1_5280



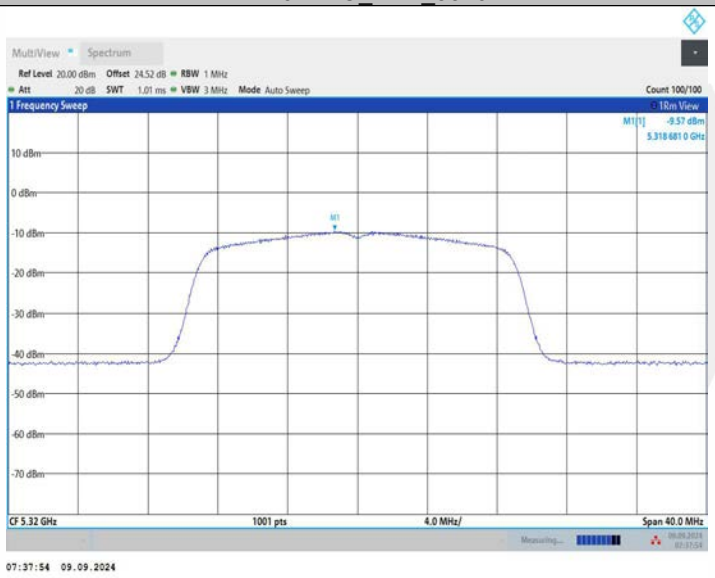
11N20MIMO_Ant2_5280



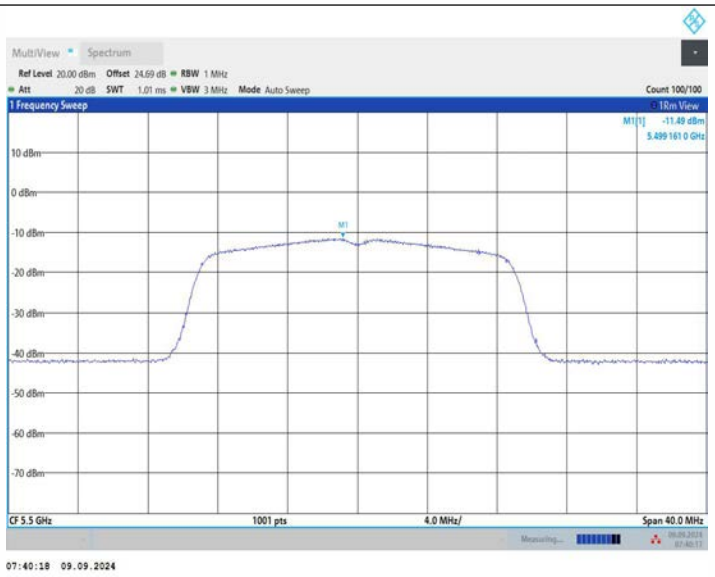
11N20MIMO_Ant1_5320



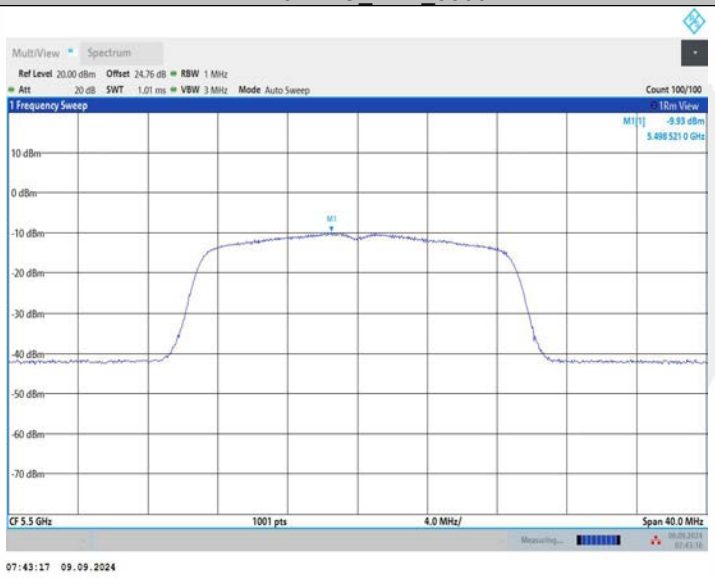
11N20MIMO_Ant2_5320



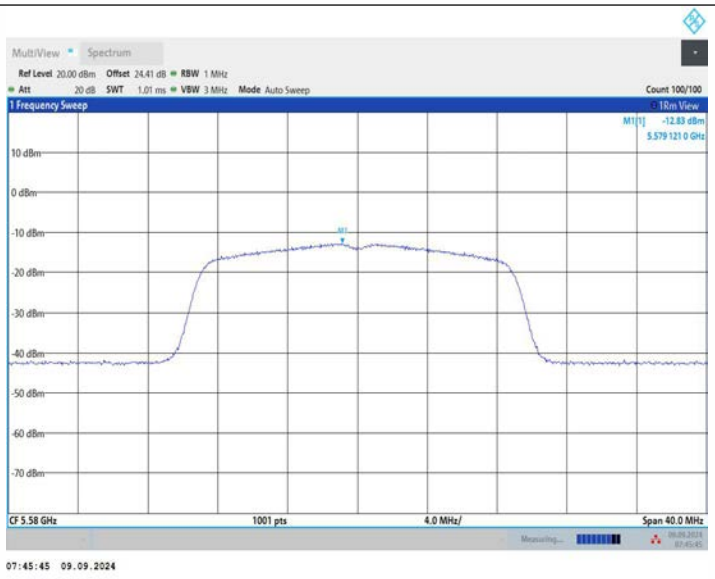
11N20MIMO_Ant1_5500



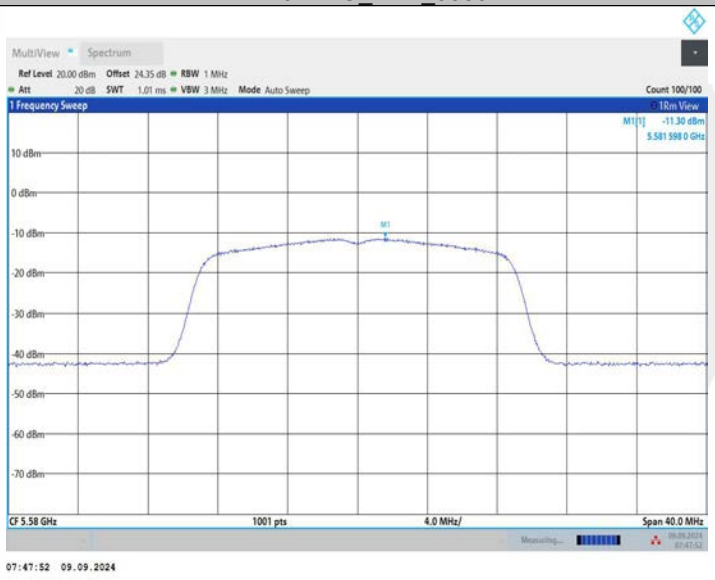
11N20MIMO_Ant2_5500



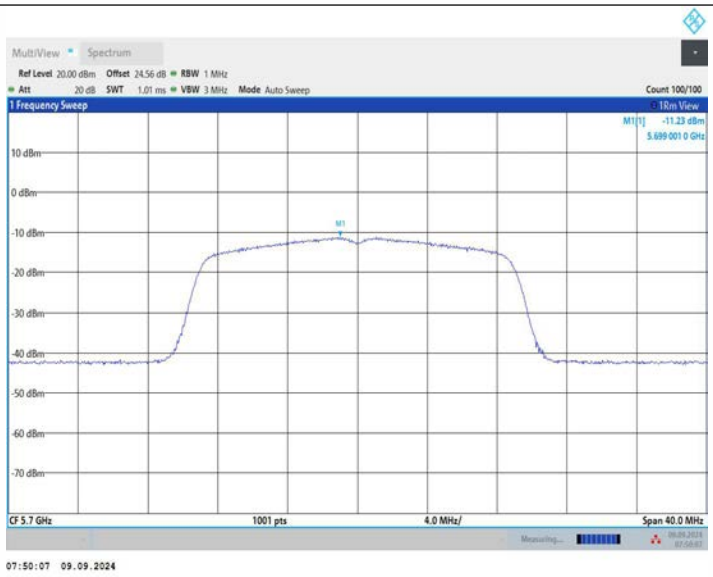
11N20MIMO_Ant1_5580



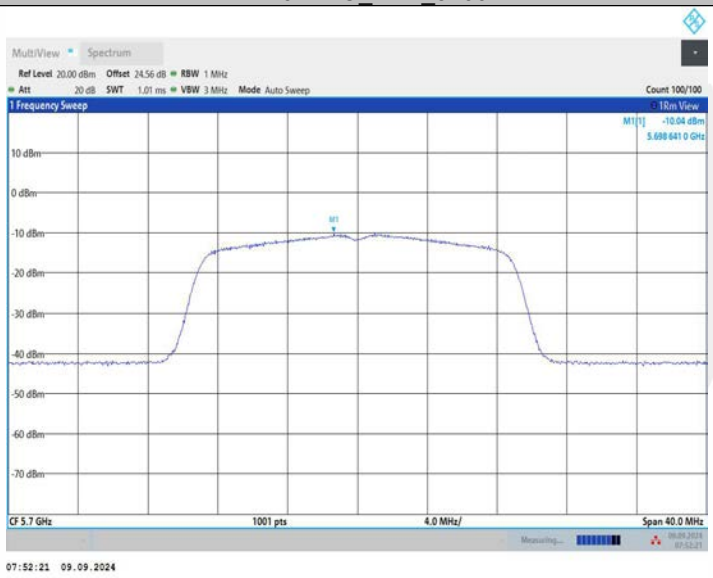
11N20MIMO_Ant2_5580



11N20MIMO_Ant1_5700



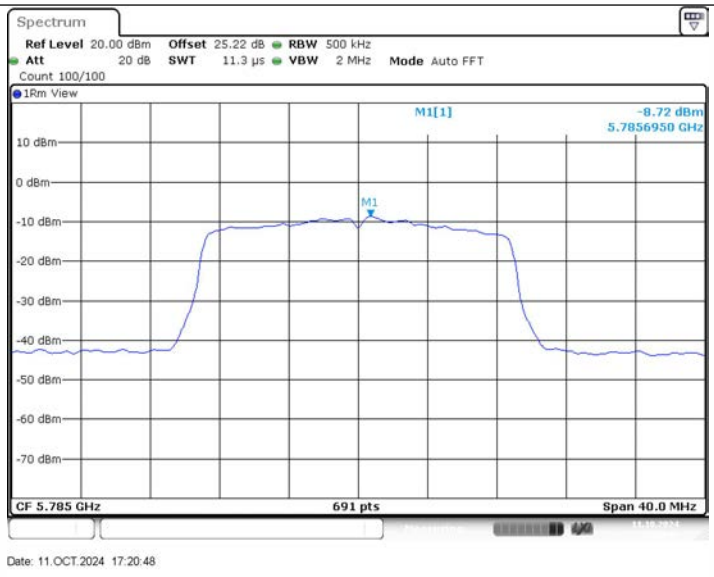
11N20MIMO_Ant2_5700



11N20MIMO_Ant1_5745

11N20MIMO_Ant2_5745

11N20MIMO_Ant1_5785

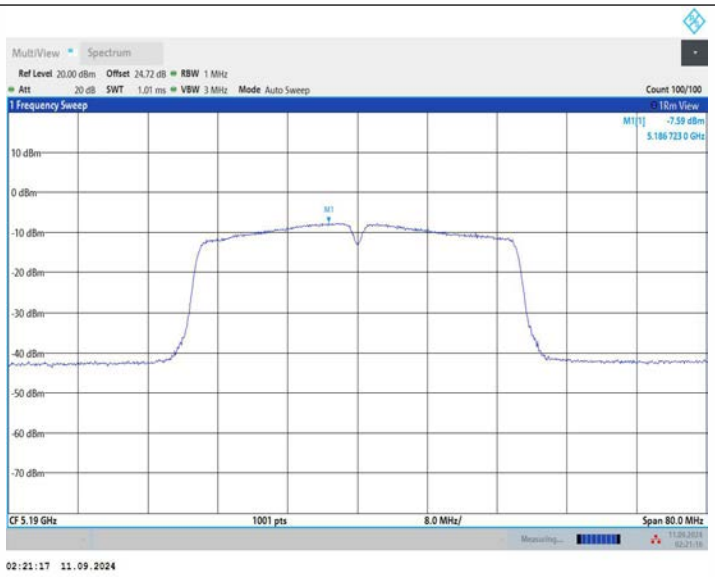


11N20MIMO_Ant2_5785

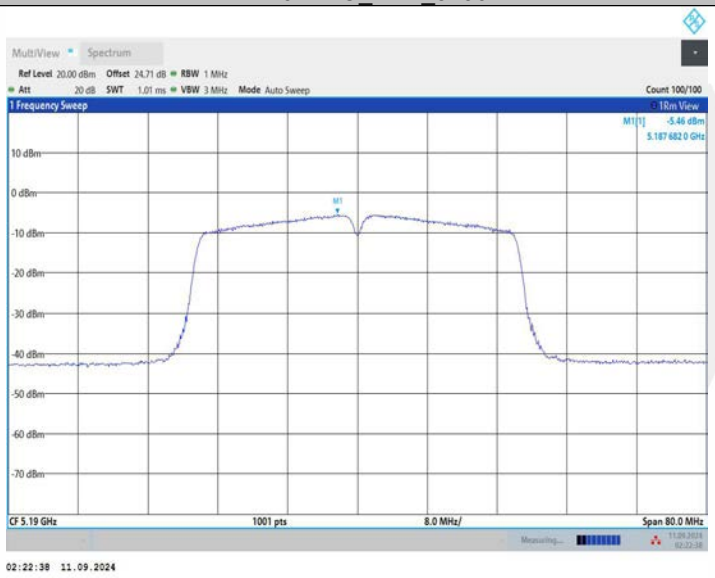
11N20MIMO_Ant1_5825

11N20MIMO_Ant2_5825

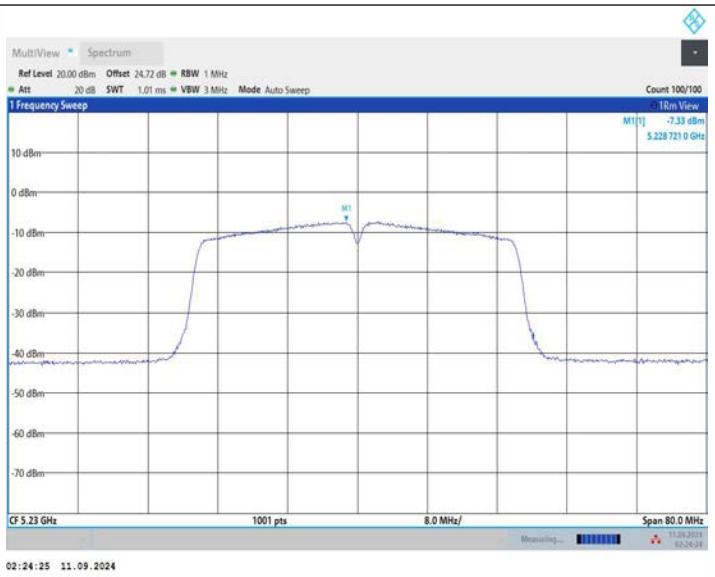
11N40MIMO_Ant1_5190



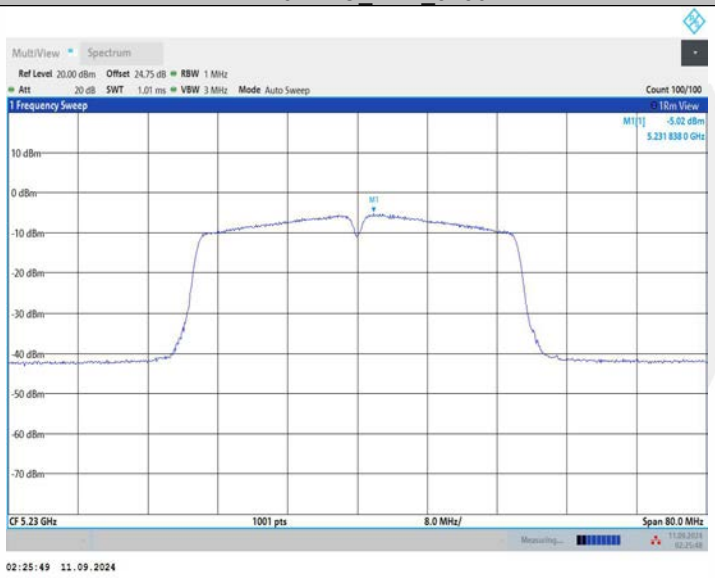
11N40MIMO_Ant2_5190



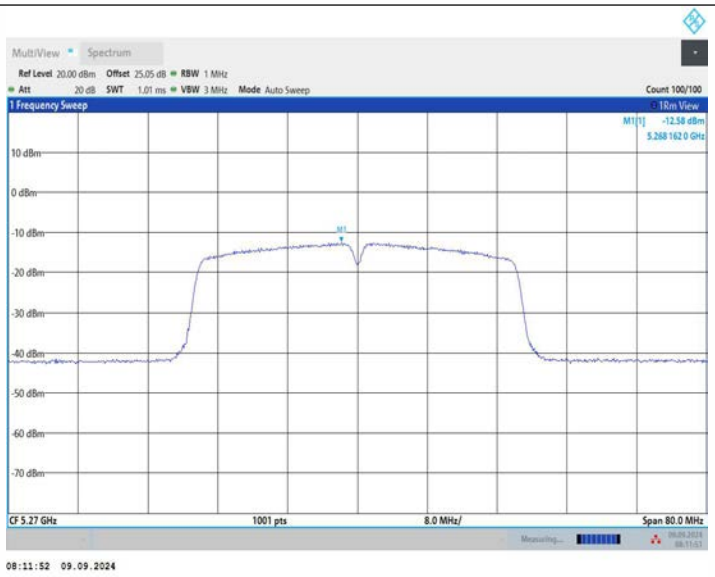
11N40MIMO_Ant1_5230



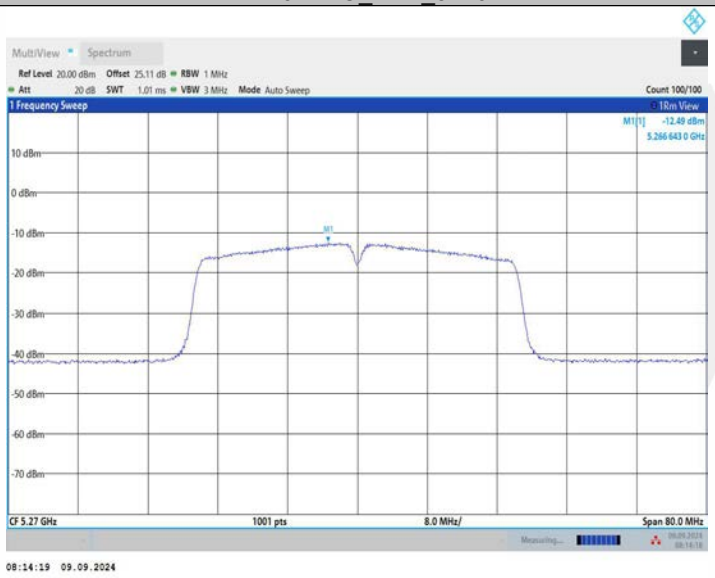
11N40MIMO_Ant2_5230



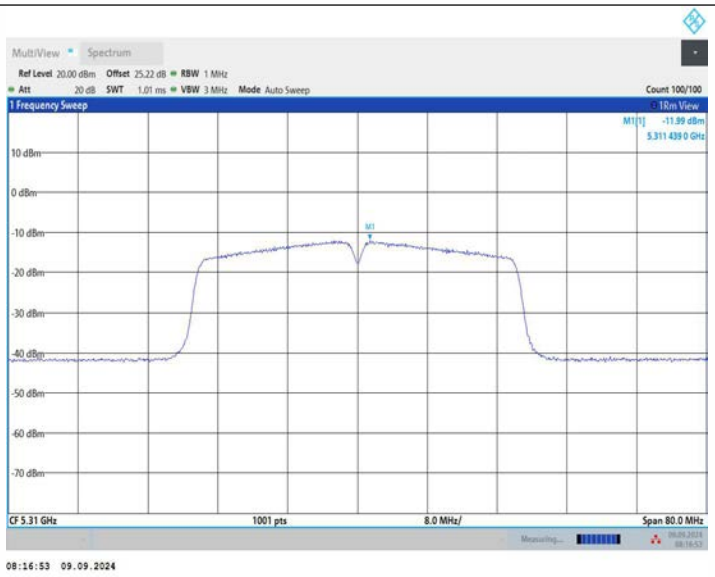
11N40MIMO_Ant1_5270



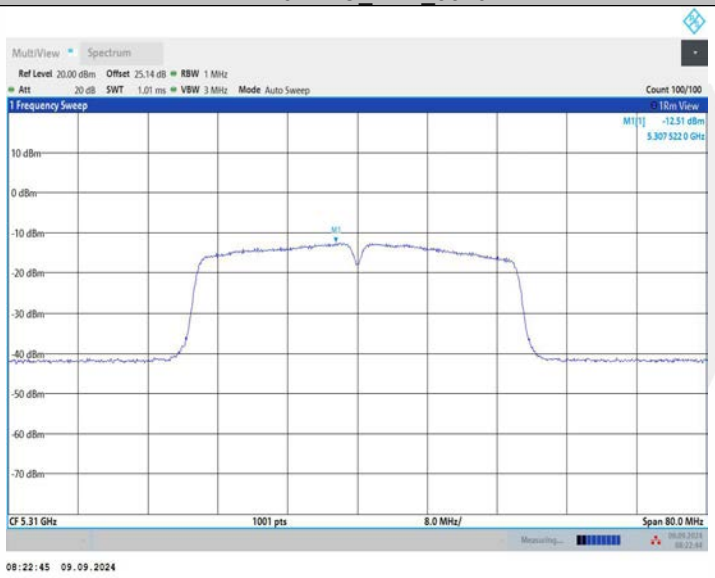
11N40MIMO_Ant2_5270



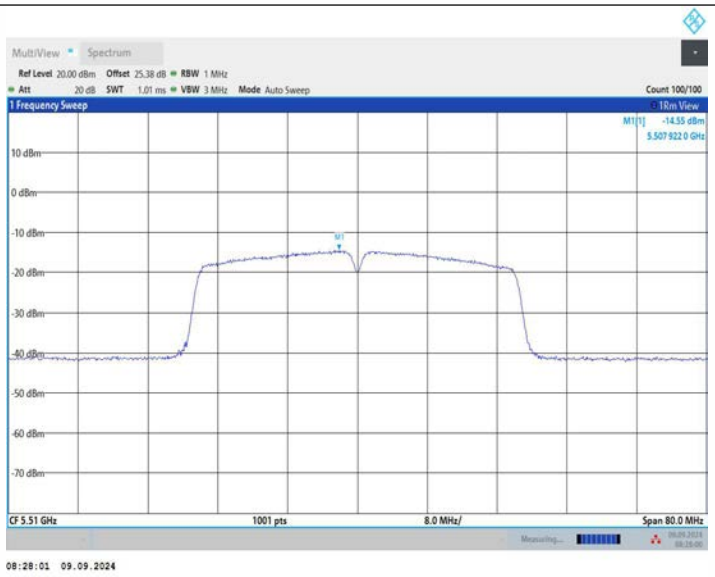
11N40MIMO_Ant1_5310



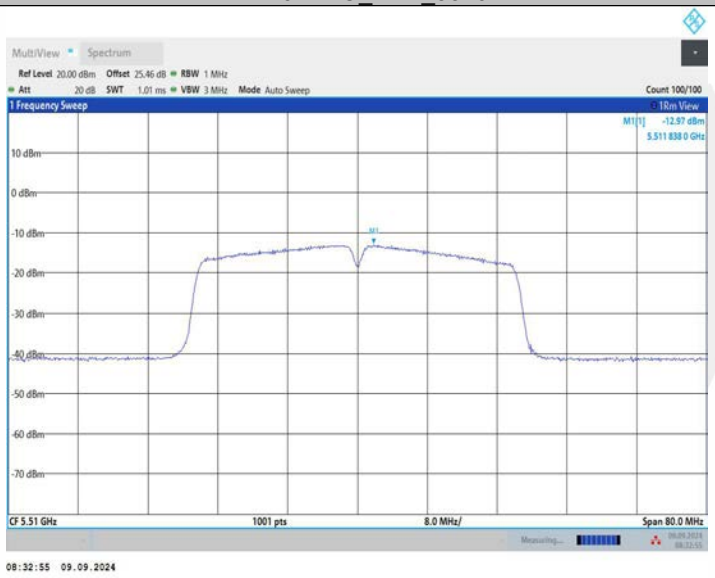
11N40MIMO_Ant2_5310



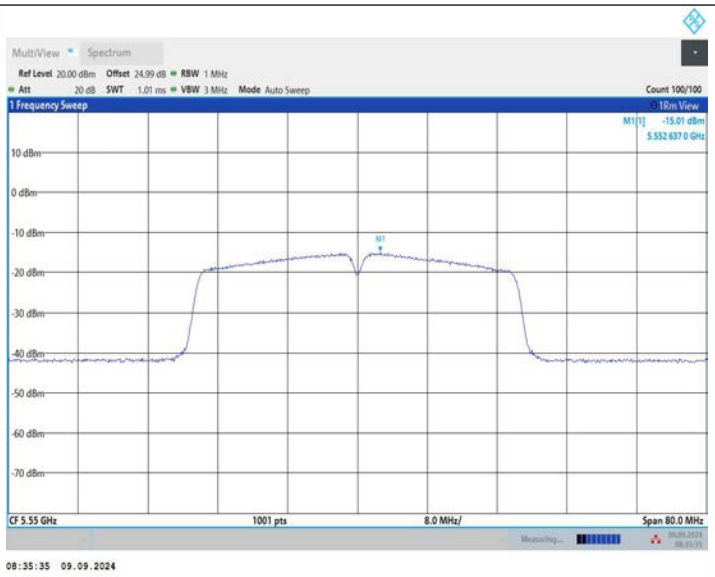
11N40MIMO_Ant1_5510



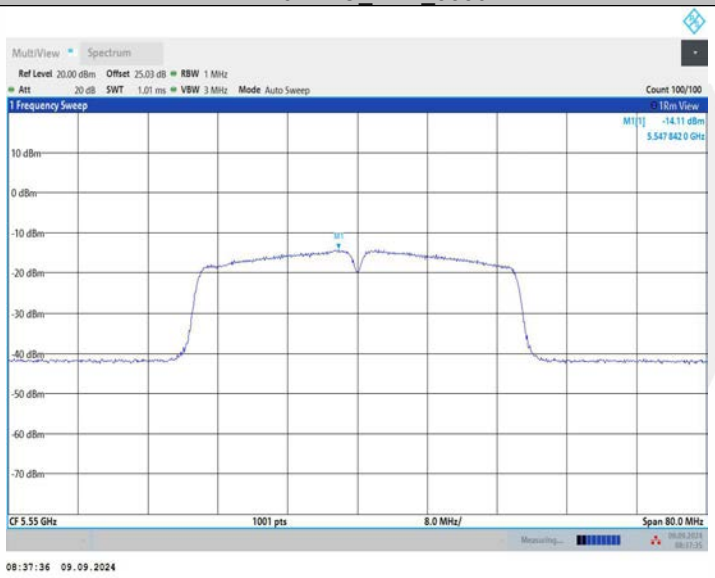
11N40MIMO_Ant2_5510



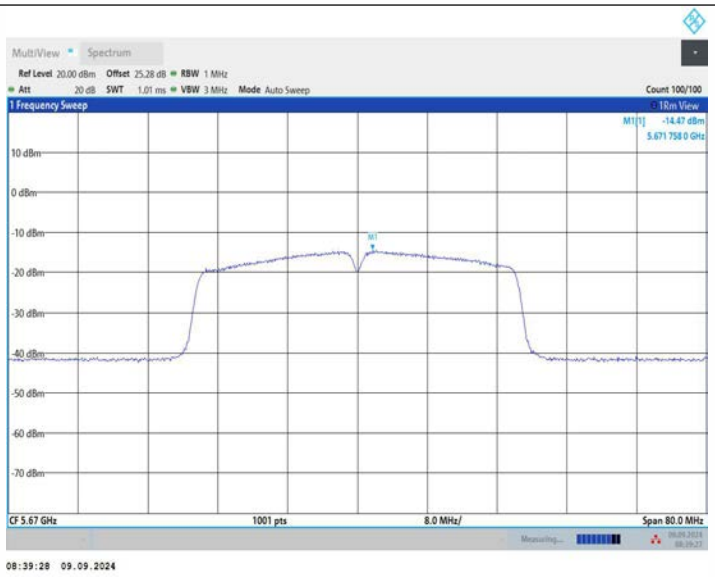
11N40MIMO_Ant1_5550



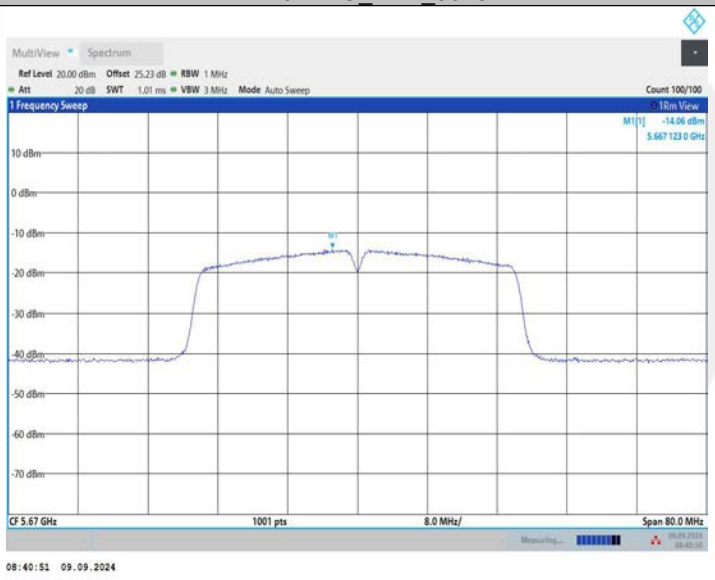
11N40MIMO_Ant2_5550



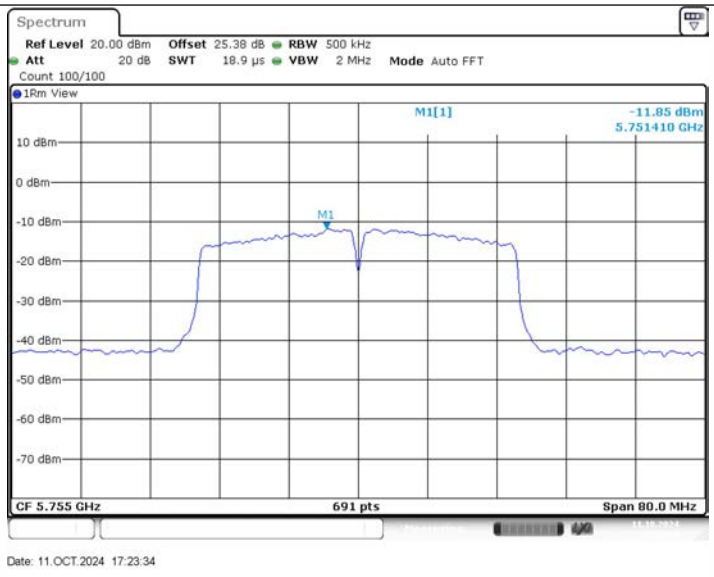
11N40MIMO_Ant1_5670



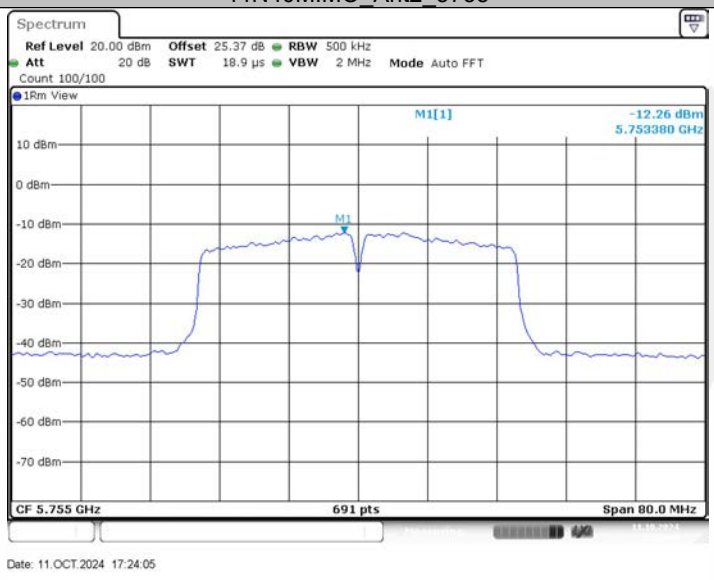
11N40MIMO_Ant2_5670



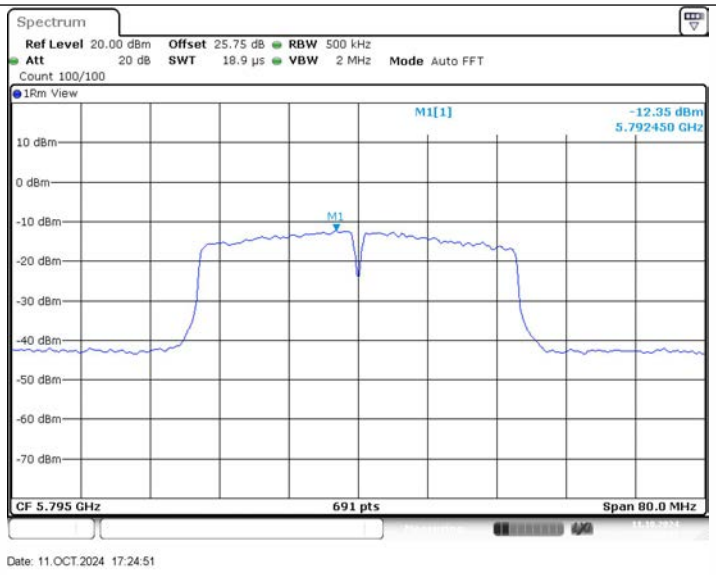
11N40MIMO_Ant1_5755



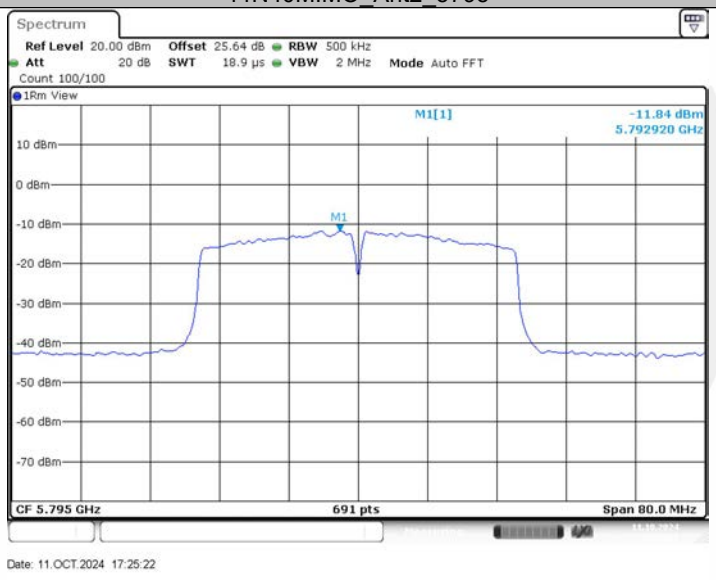
11N40MIMO_Ant2_5755



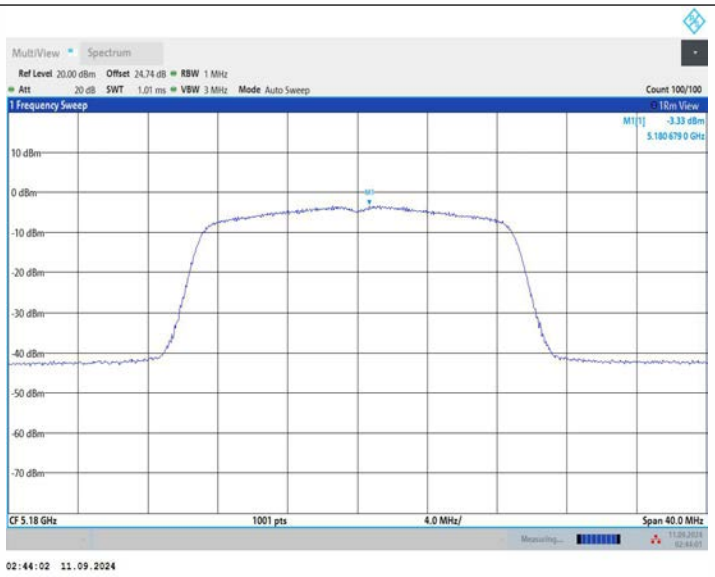
11N40MIMO_Ant1_5795



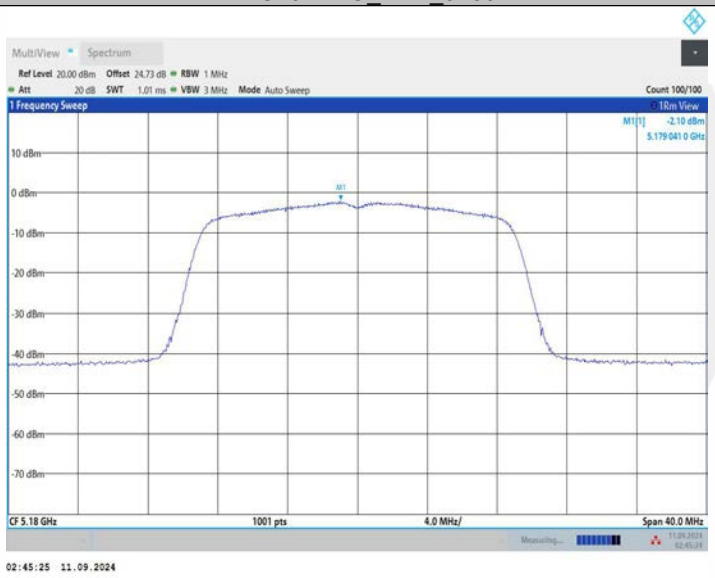
11N40MIMO_Ant2_5795



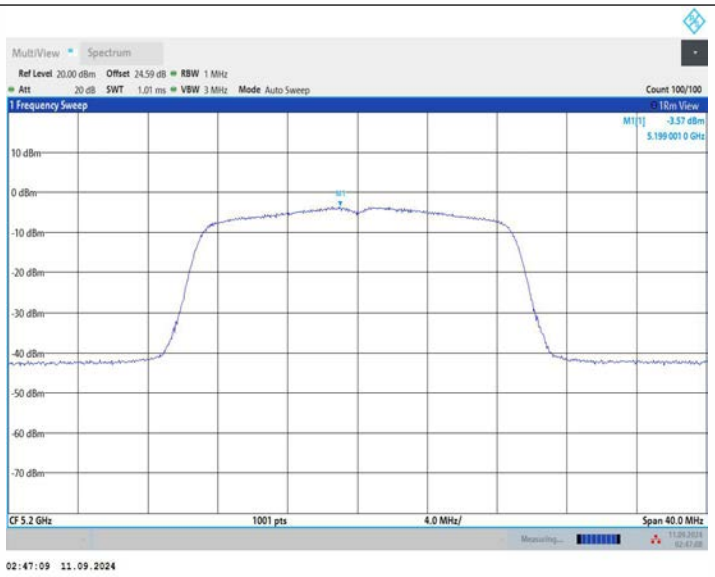
11AC20MIMO_Ant1_5180



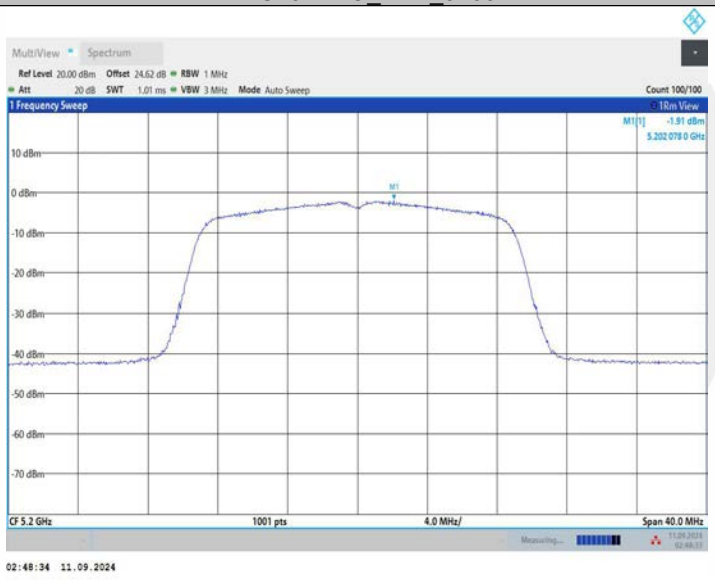
11AC20MIMO_Ant2_5180



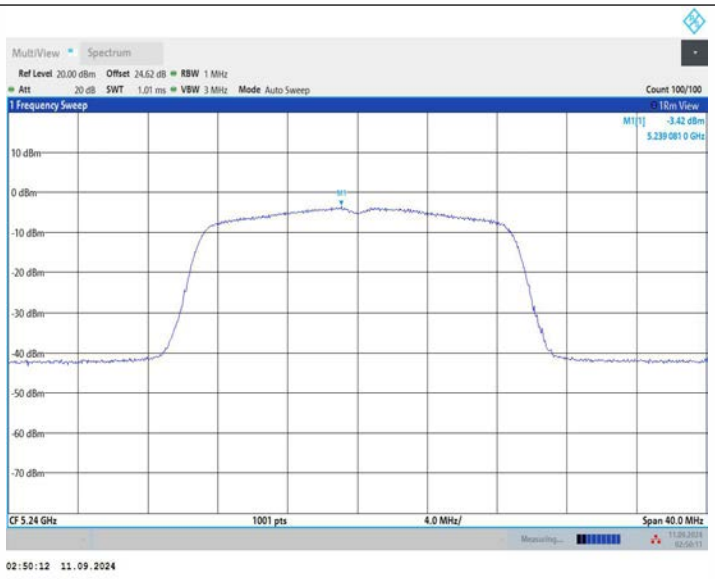
11AC20MIMO_Ant1_5200



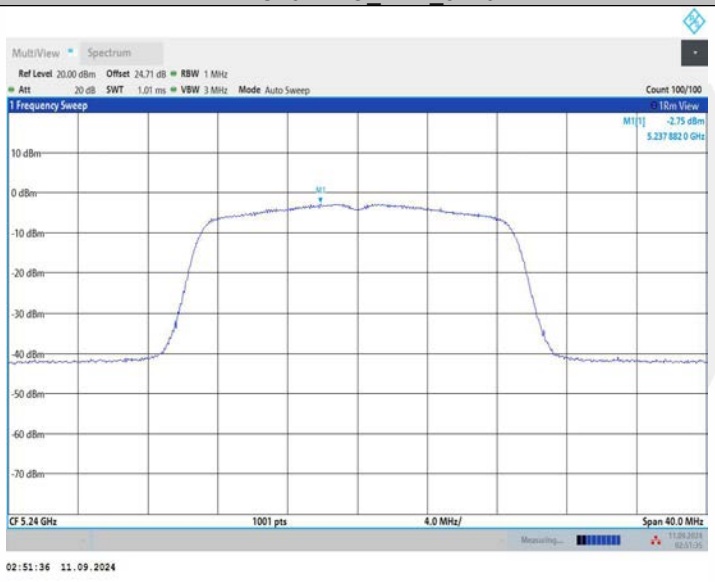
11AC20MIMO_Ant2_5200



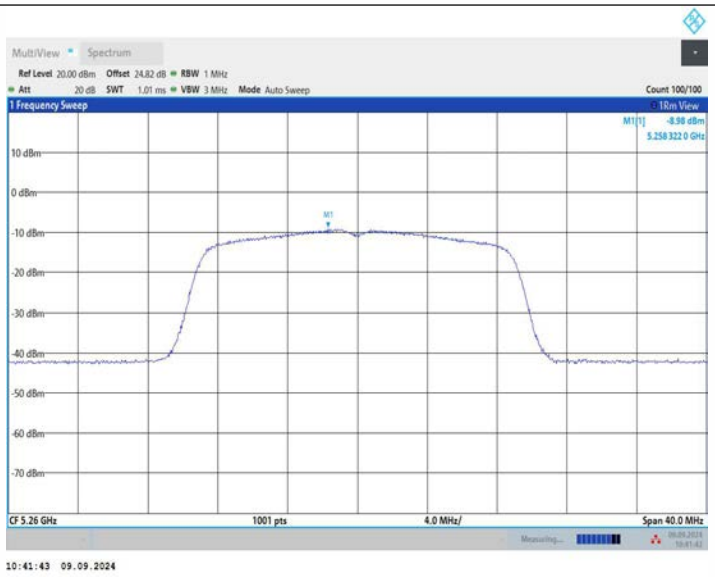
11AC20MIMO_Ant1_5240



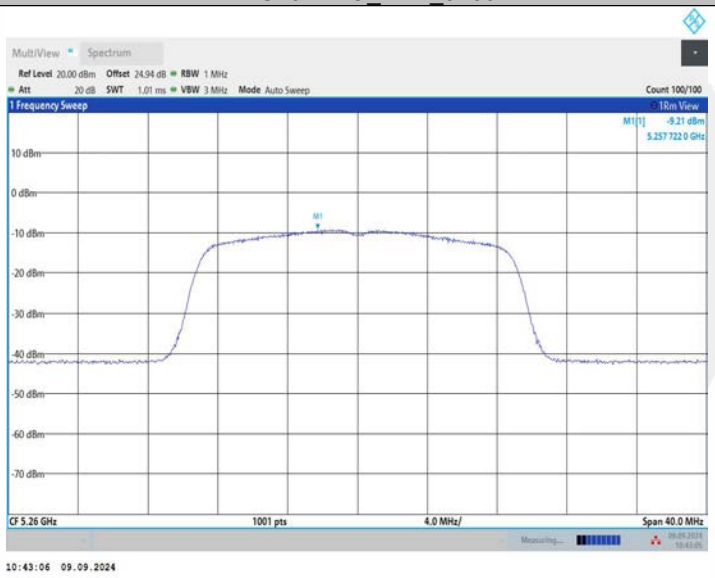
11AC20MIMO_Ant2_5240



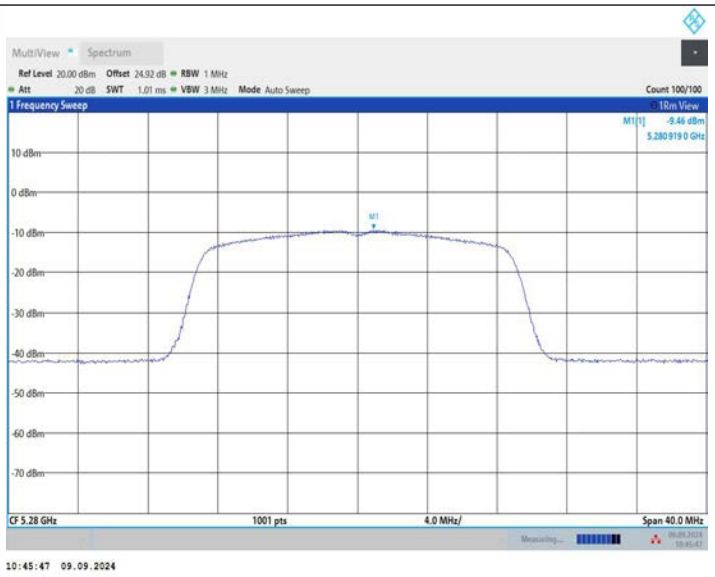
11AC20MIMO_Ant1_5260



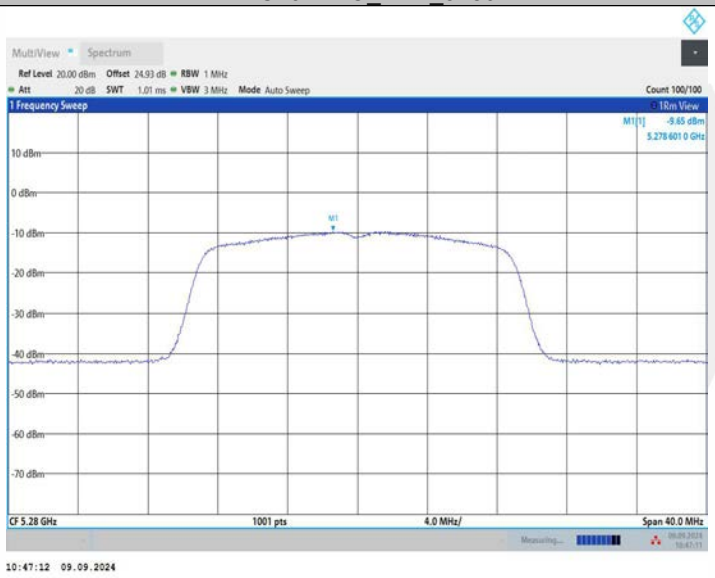
11AC20MIMO_Ant2_5260



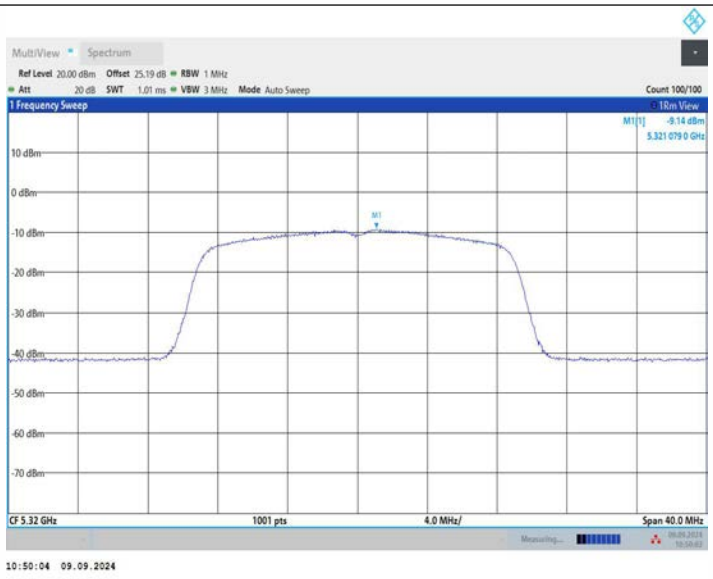
11AC20MIMO_Ant1_5280



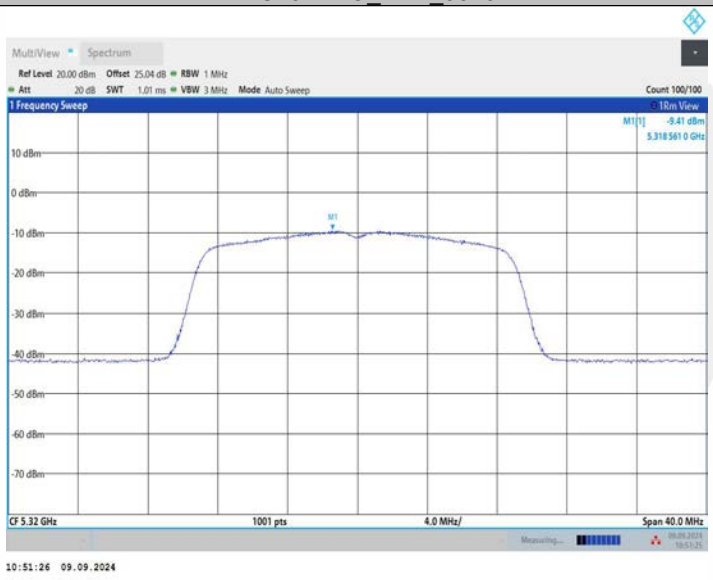
11AC20MIMO_Ant2_5280



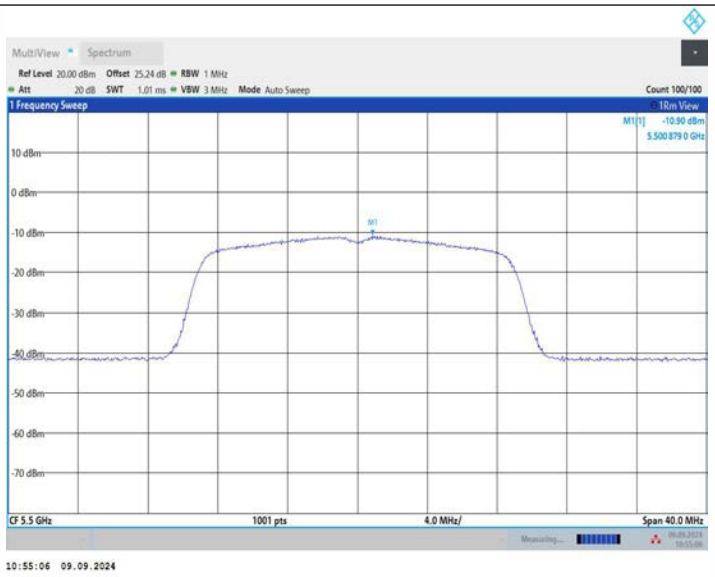
11AC20MIMO_Ant1_5320



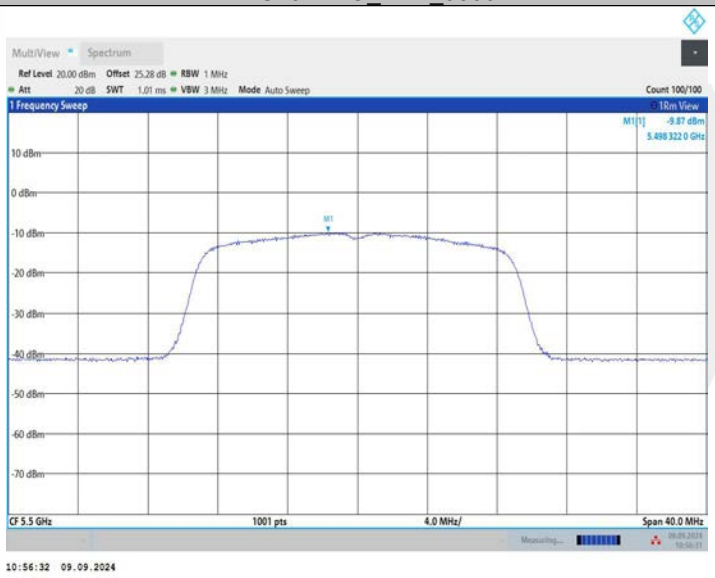
11AC20MIMO_Ant2_5320



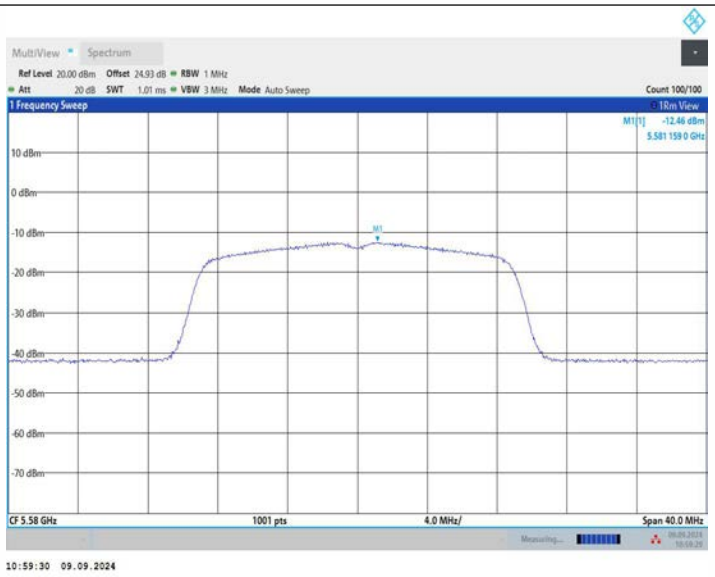
11AC20MIMO_Ant1_5500



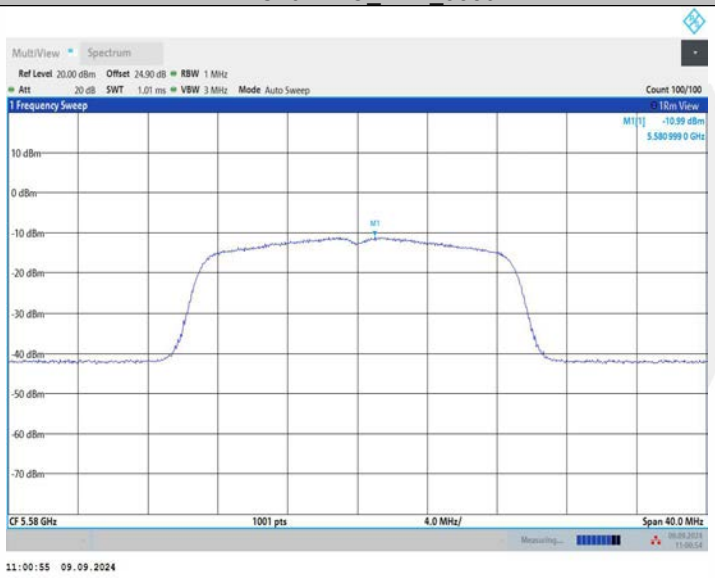
11AC20MIMO_Ant2_5500



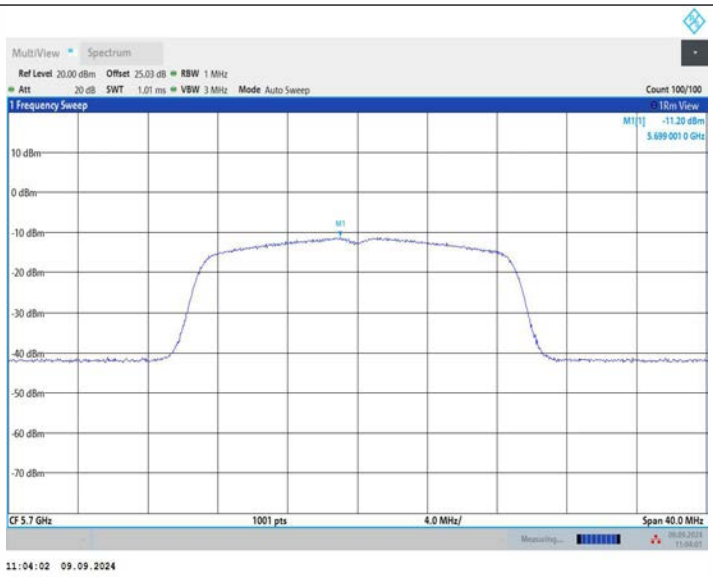
11AC20MIMO_Ant1_5580



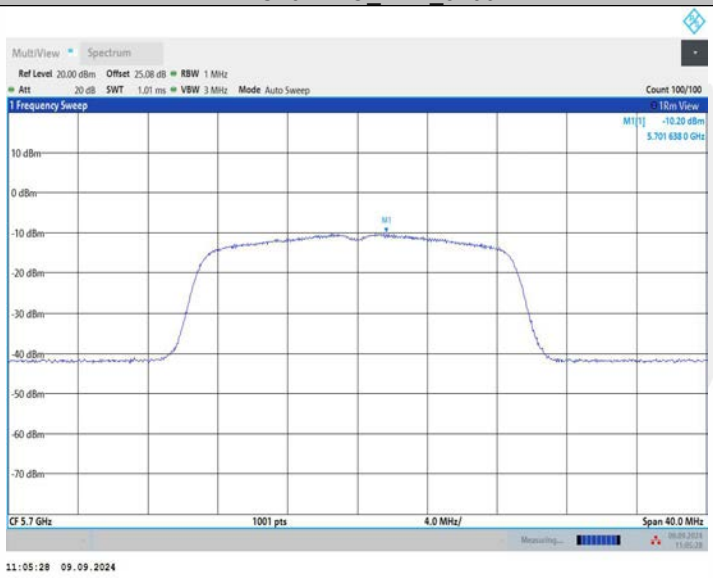
11AC20MIMO_Ant2_5580



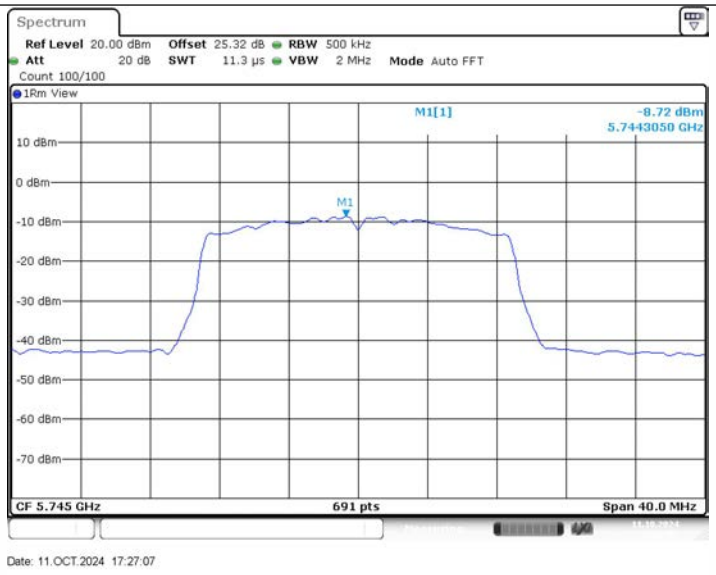
11AC20MIMO_Ant1_5700



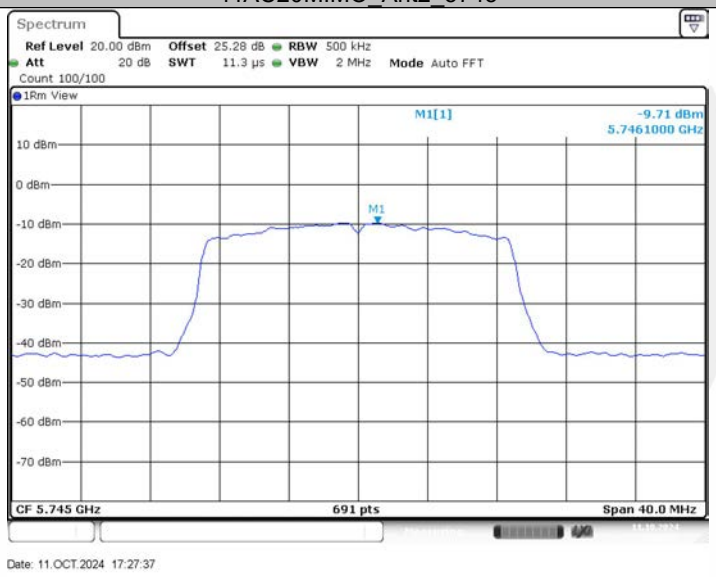
11AC20MIMO_Ant2_5700



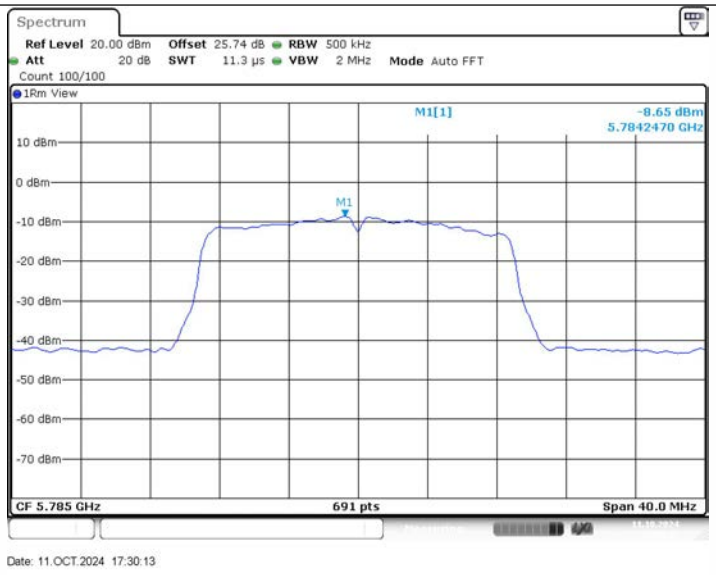
11AC20MIMO_Ant1_5745



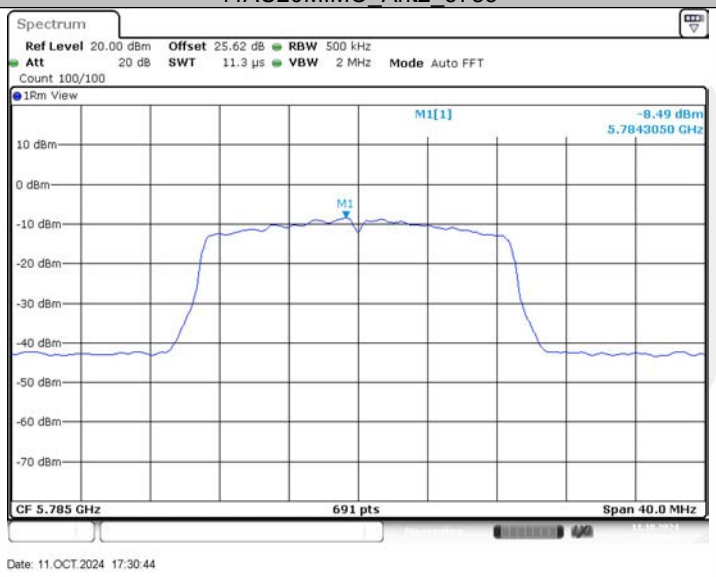
11AC20MIMO_Ant2_5745



11AC20MIMO_Ant1_5785



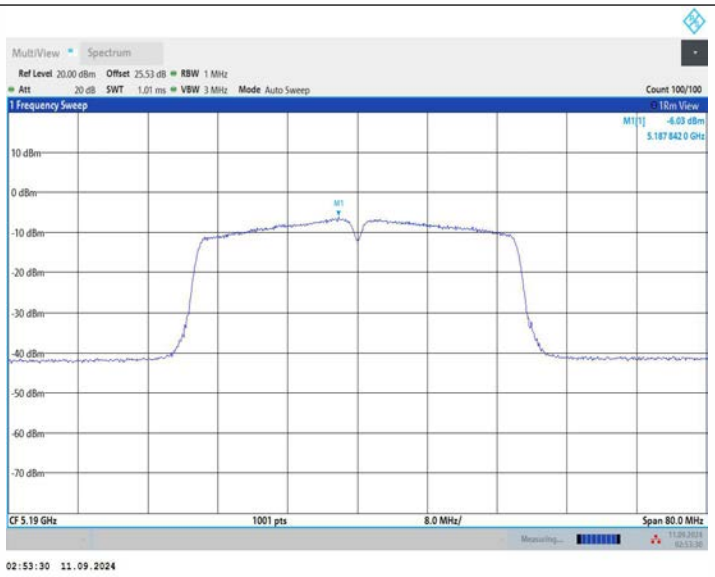
11AC20MIMO_Ant2_5785



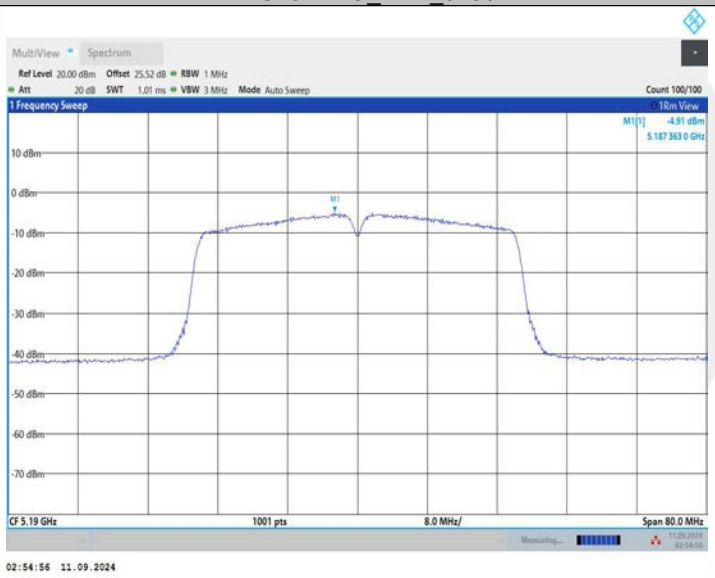
11AC20MIMO_Ant1_5825

11AC20MIMO_Ant2_5825

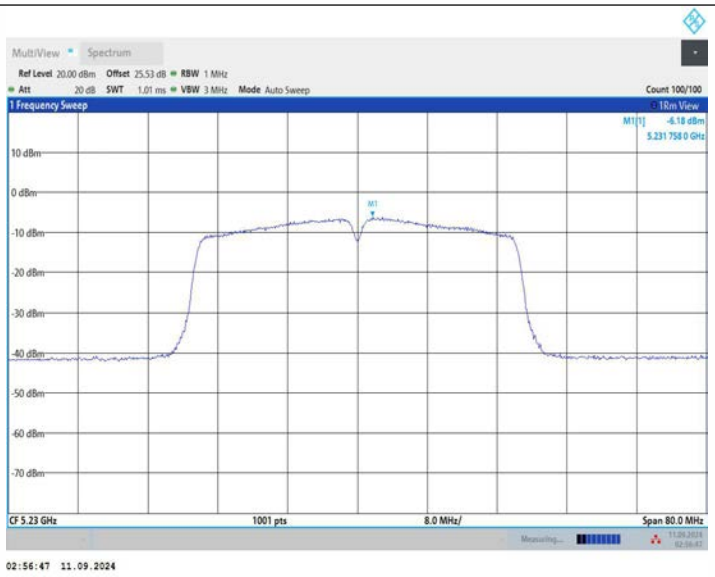
11AC40MIMO_Ant1_5190



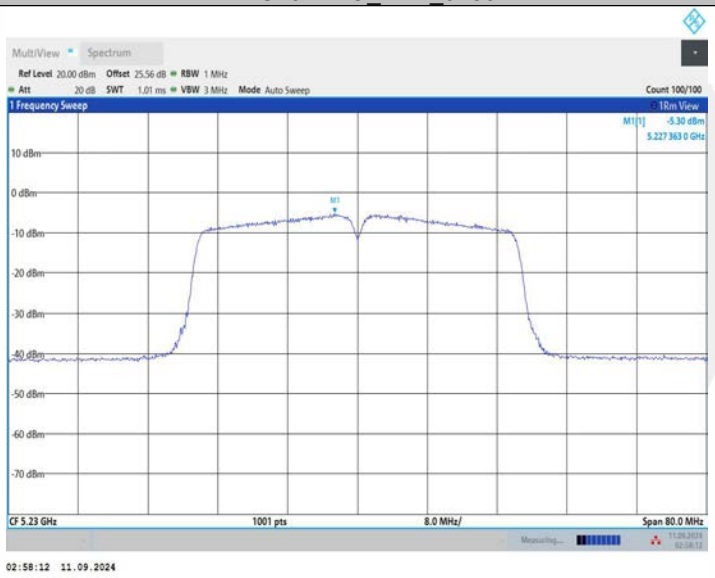
11AC40MIMO_Ant2_5190



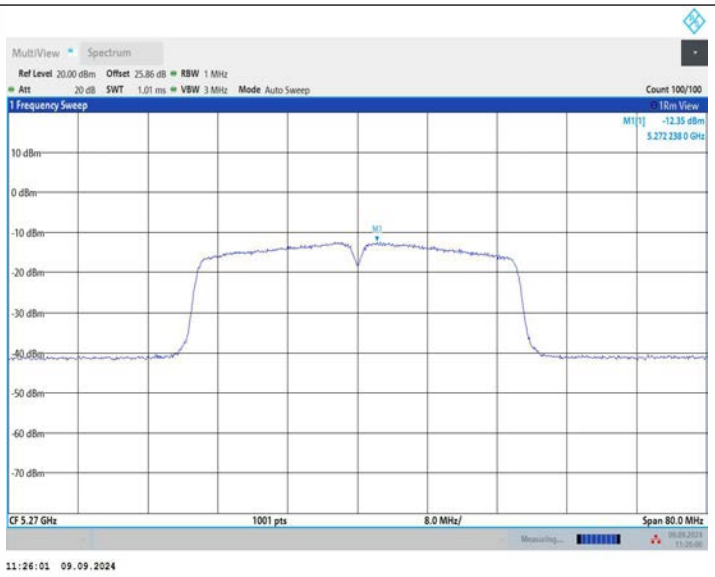
11AC40MIMO_Ant1_5230



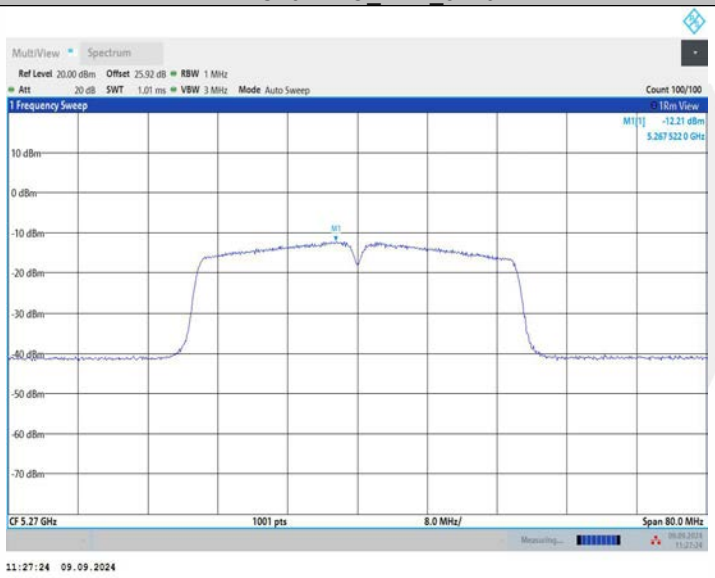
11AC40MIMO_Ant2_5230



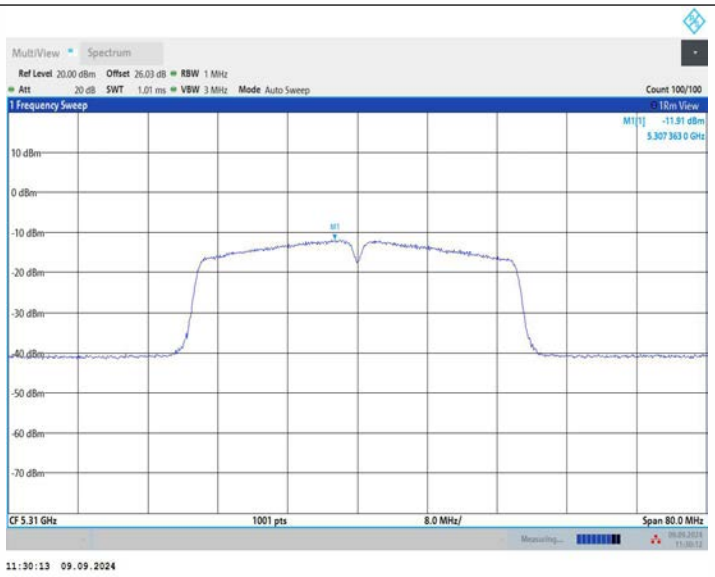
11AC40MIMO_Ant1_5270



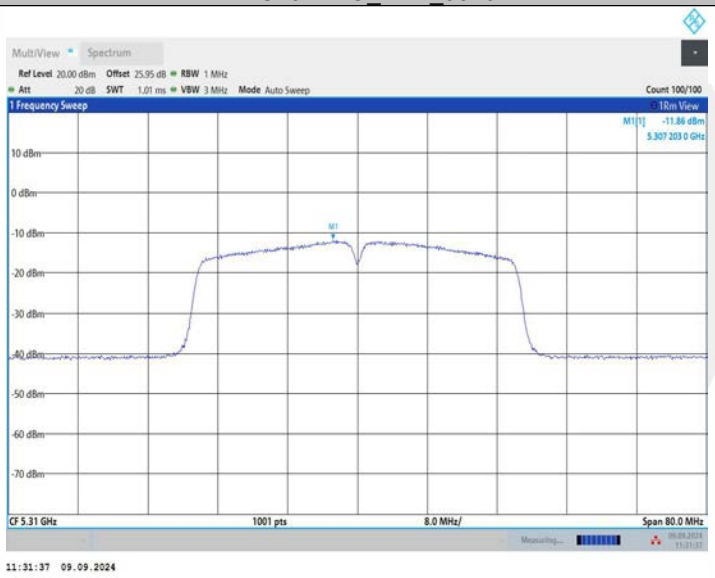
11AC40MIMO_Ant2_5270



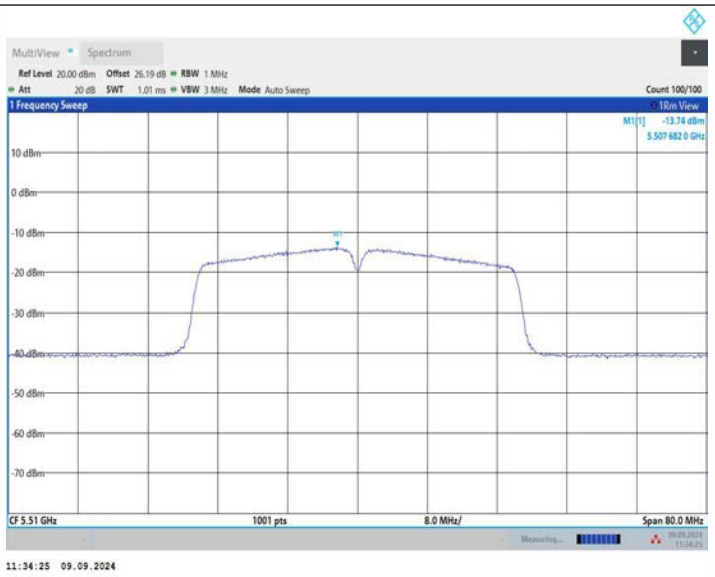
11AC40MIMO_Ant1_5310



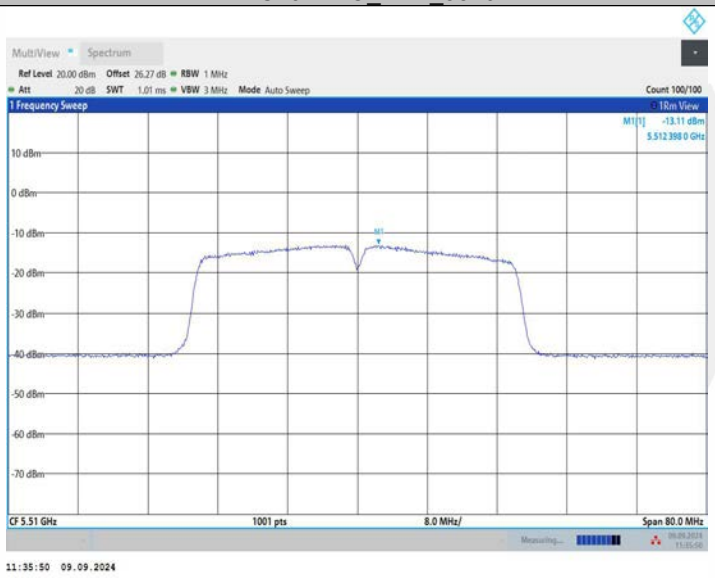
11AC40MIMO_Ant2_5310



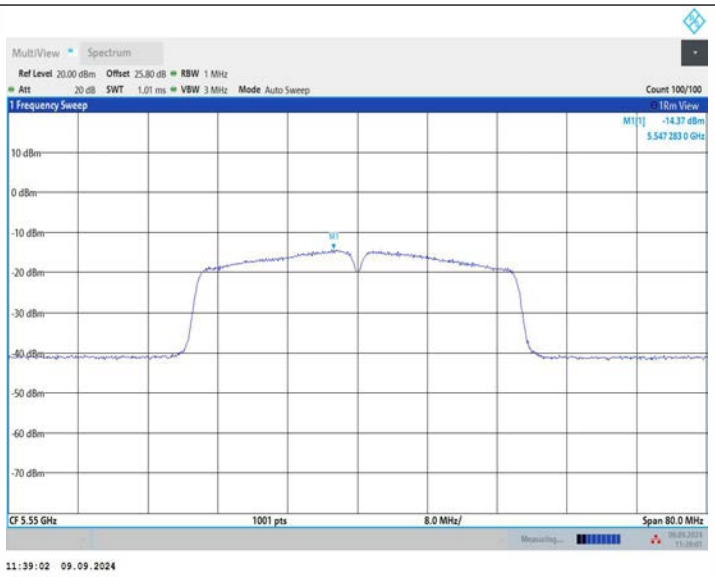
11AC40MIMO_Ant1_5510



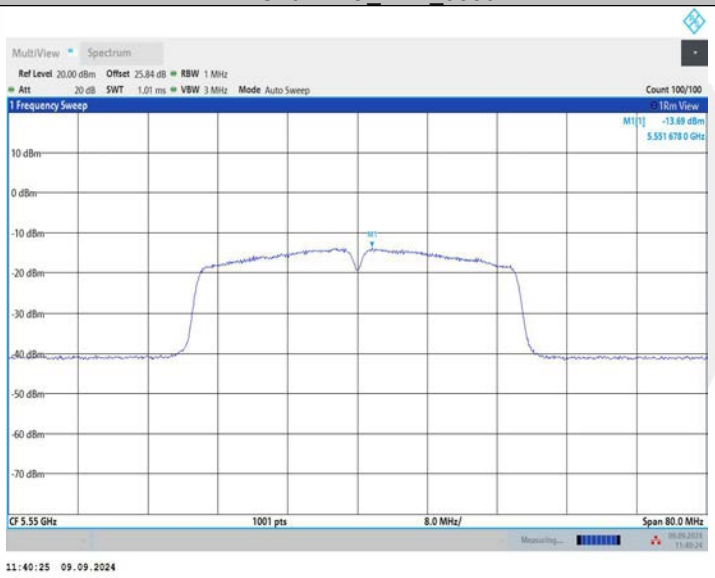
11AC40MIMO_Ant2_5510



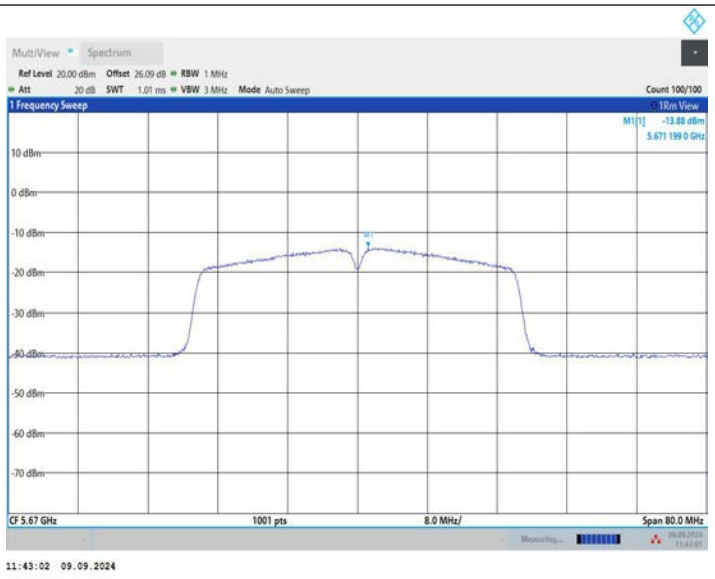
11AC40MIMO_Ant1_5550



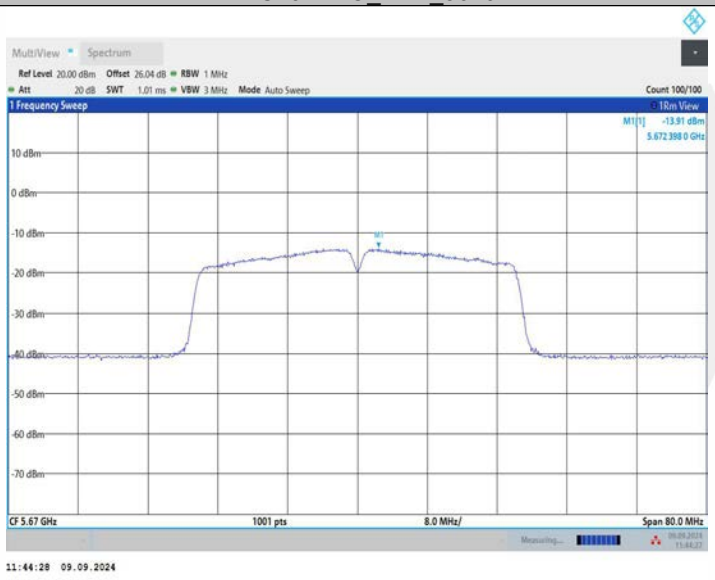
11AC40MIMO_Ant2_5550



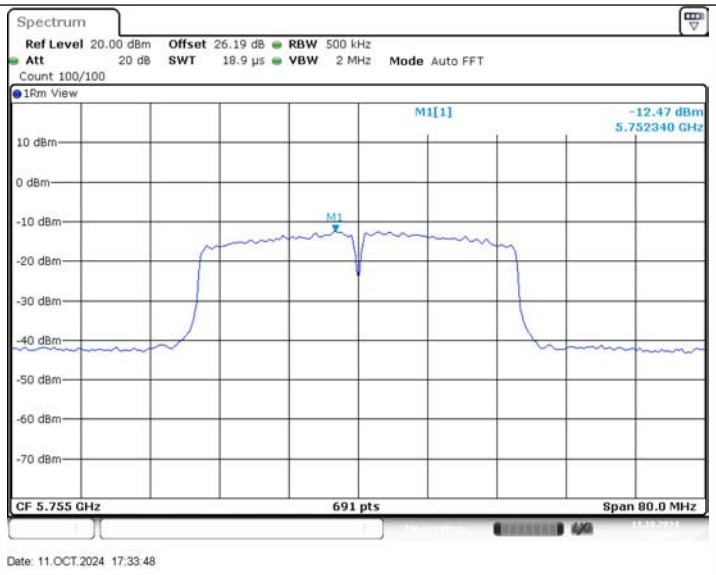
11AC40MIMO_Ant1_5670



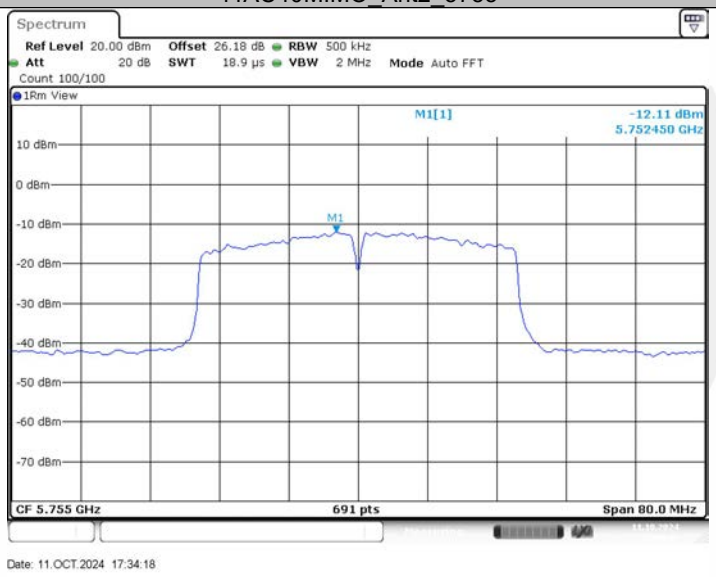
11AC40MIMO_Ant2_5670



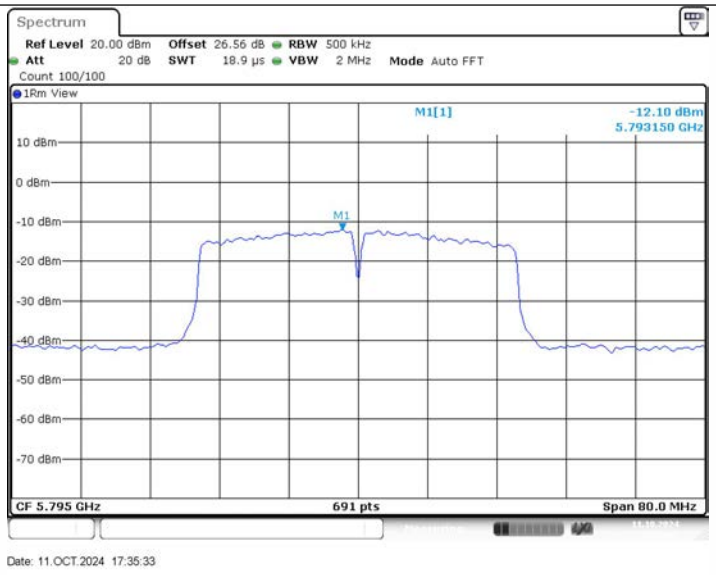
11AC40MIMO_Ant1_5755



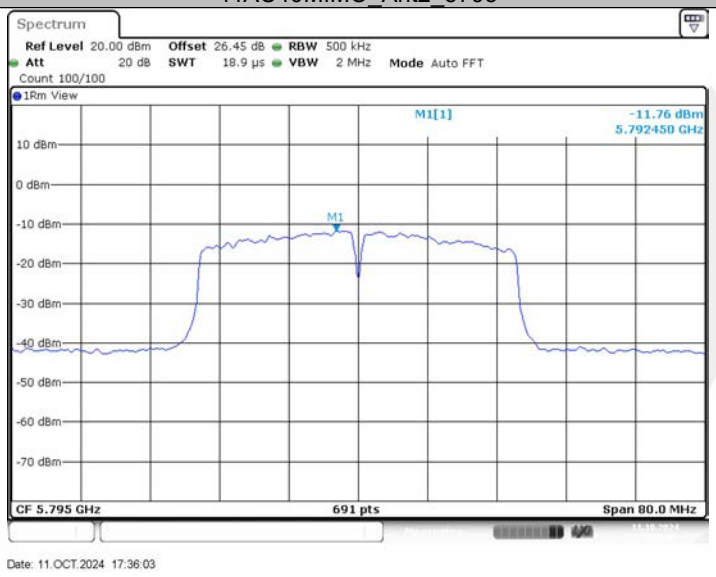
11AC40MIMO_Ant2_5755



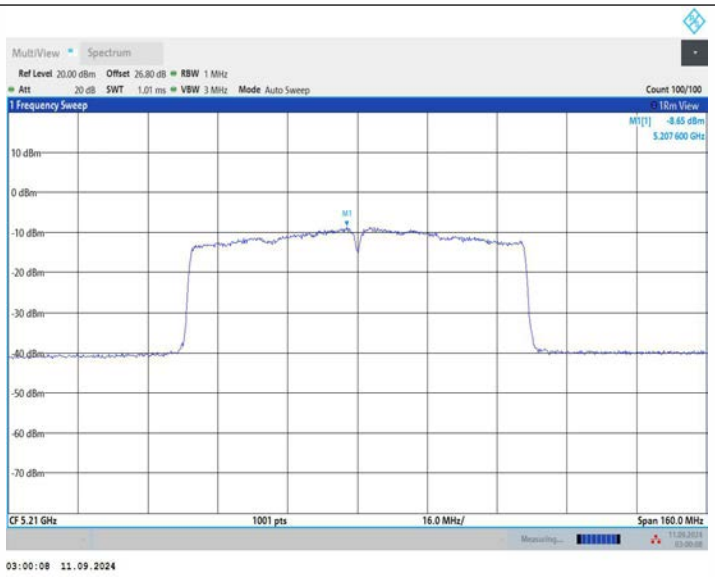
11AC40MIMO_Ant1_5795



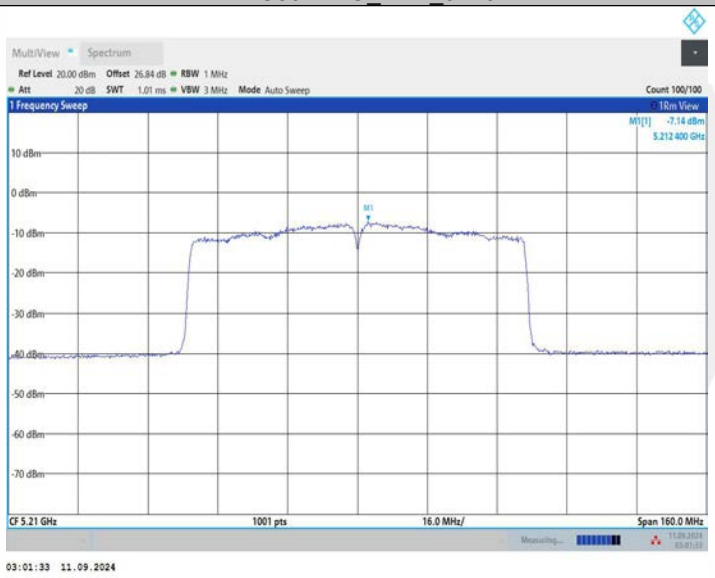
11AC40MIMO_Ant2_5795



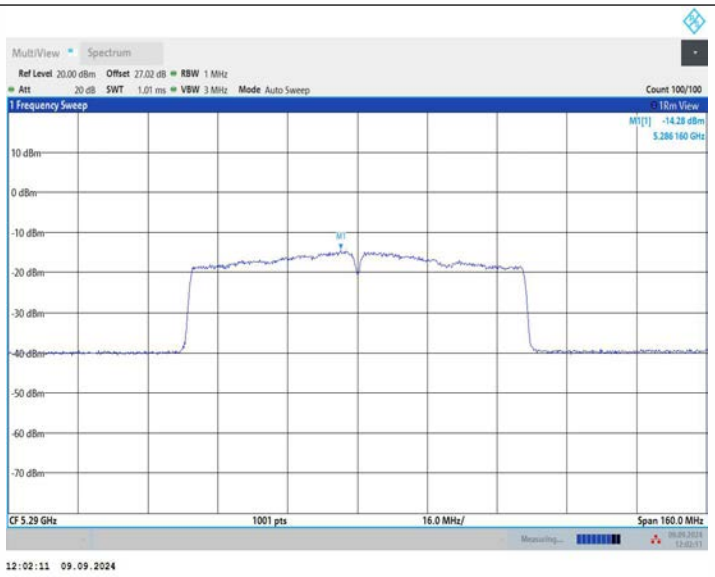
11AC80MIMO_Ant1_5210



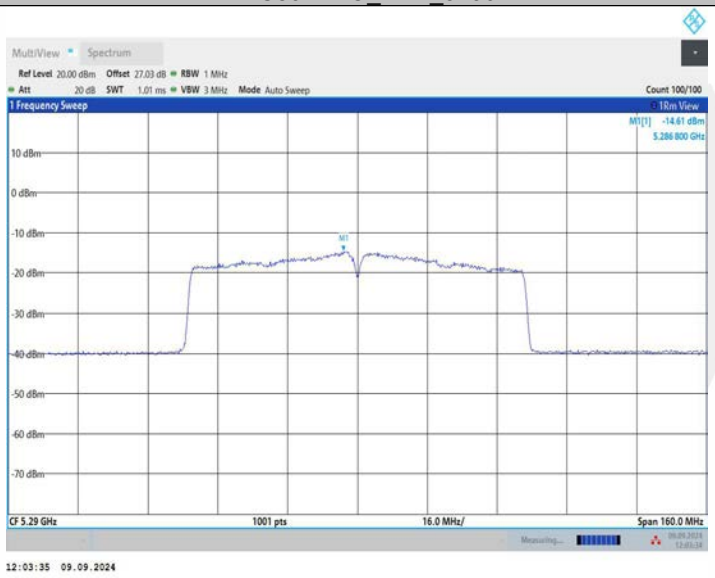
11AC80MIMO_Ant2_5210



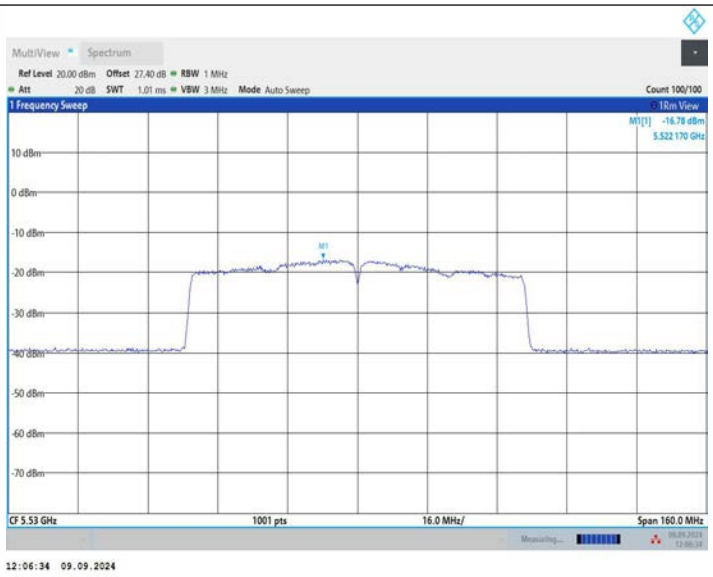
11AC80MIMO_Ant1_5290



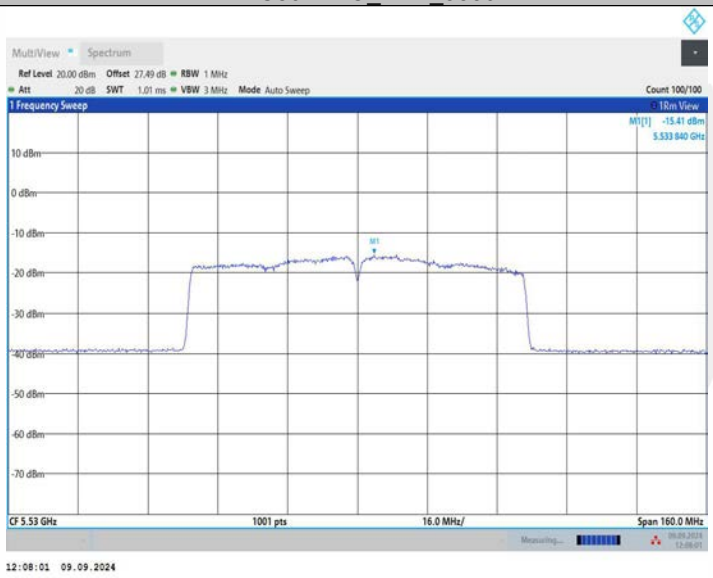
11AC80MIMO_Ant2_5290



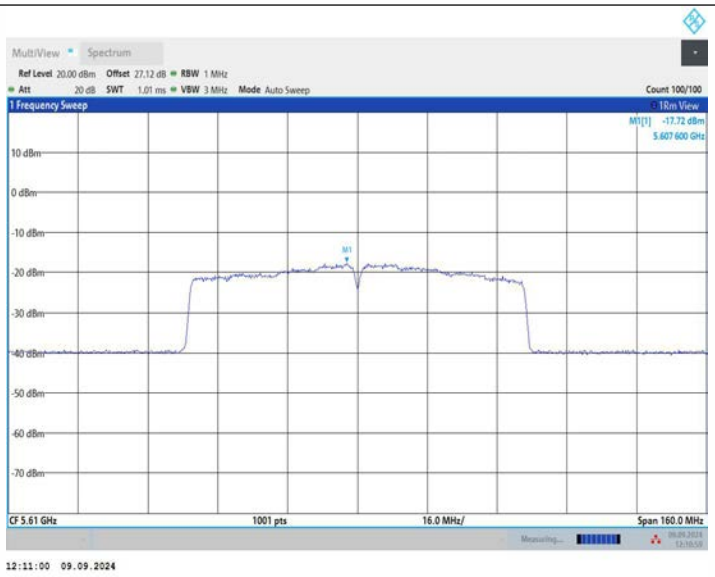
11AC80MIMO_Ant1_5530



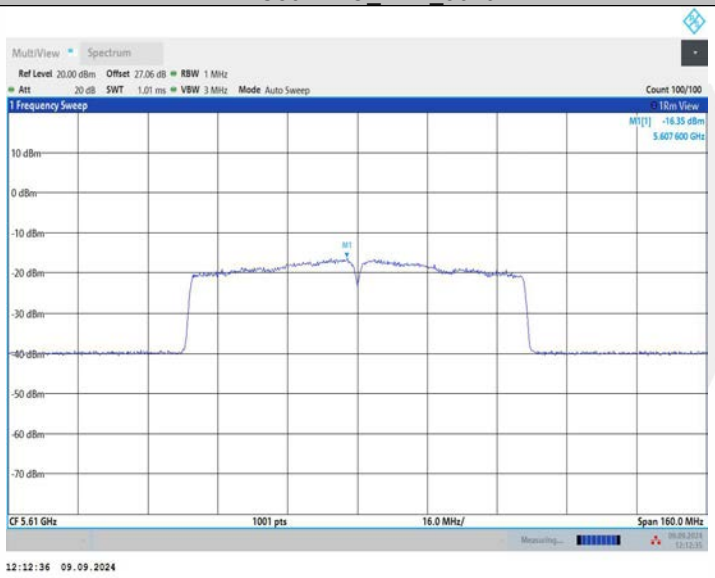
11AC80MIMO_Ant2_5530



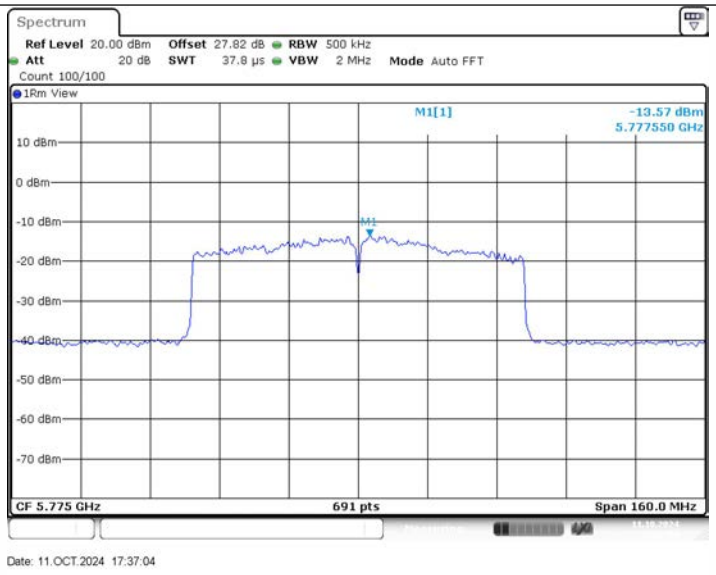
11AC80MIMO_Ant1_5610



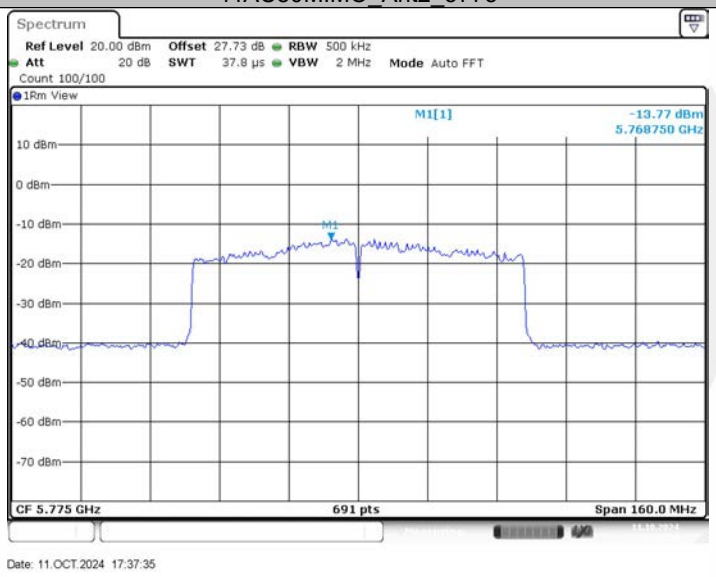
11AC80MIMO_Ant2_5610



11AC80MIMO_Ant1_5775



11AC80MIMO_Ant2_5775



8.4 UNDESIRABLE RADIATED SPURIOUS EMISSION

8.4.1 Applicable Standard

According to FCC Part 15.407 (b)
According to 789033 D02 Section II(G)

8.4.2 Conformance Limit

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table 15.209(a):

Restricted Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log (uV/m)	300
0.490-1.705	2400/F(KHz)	20 log (uV/m)	30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

The provisions of §15.205 apply to intentional radiators operating under this section,15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

Remark: 1. Emission level in dBuV/m=20 log (uV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of ξ 15.205, and the emissions located in restricted bands also comply with 15.209 limit.

8.4.3 Test Configuration

Test according to clause 6.2 radio frequency test setup 2.

8.4.4 Test Procedure

■ Unwanted Emissions Measurements below 1000 MHz

Compliance shall be demonstrated using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.
The EUT was placed on a turn table which is 0.8m above ground plane.
And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
Repeat above procedures until all frequency measured was complete.
We use software control the EUT, Let EUT hopping on and transmit with highest power, All the modes have been tested and the worst result was reported.
Use the following spectrum analyzer settings:
Set RBW=120kHz for f < 1 GHz(30MHz to 1GHz), 200Hz for f<150KHz(9KHz to 150KHz), 9KHz for <30MHz (150KHz to 30KHz).
Set the VBW > RBW.
Detector = Peak.
Trace mode = max hold.
Follow the guidelines in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b). Submit this data.
Repeat above procedures until all frequency measured was complete.

■ Unwanted Maximum peak Emissions Measurements above 1000 MHz

Maximum emission levels are measured by setting the analyzer as follows:
RBW = 1 MHz.
VBW ≥ 3 MHz.
Detector = Peak.
Sweep time = auto.
Trace mode = max hold.
Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle. For example, at 50 percent duty cycle, the measurement time will increase by a factor of two relative to measurement time for continuous transmission.

■ Unwanted Average Emissions Measurements above 1000 MHz

Method VB (Averaging using reduced video bandwidth): Alternative method.
RBW = 1 MHz.
Video bandwidth. • If the EUT is configured to transmit with duty cycle ≥ 98 percent, set VBW ≤ RBW/100 (i.e., 10 kHz) but not less than 10 Hz.
• If the EUT duty cycle is < 98 percent, set VBW ≥ 1/T, where T is defined in section II.B.1.a).
Video bandwidth mode or display mode • The instrument shall be set to ensure that video filtering is applied in the power domain. Typically, this requires setting the detector mode to RMS and setting the Average-VBW Type to Power (RMS).
• As an alternative, the analyzer may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some analyzers require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to “Voltage” regardless of the display mode.
Detector = Peak.

Sweep time = auto.
Trace mode = max hold.
Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of 1/x, where x is the duty cycle. For example, use at least 200 traces if the duty cycle is 25 percent. (If a specific emission is demonstrated to be continuous—i.e., 100 percent duty cycle—rather than turning on and off with the transmit cycle, at least 50 traces shall be averaged).

■ Band edge measurements.

Unwanted band-edge emissions may be measured using either of the special band-edge measurement techniques (the marker-delta or integration methods) described below. Note that the marker-delta method is primarily a radiated measurement technique that requires the 99% occupied bandwidth edge to be within 2 MHz of the authorized band edge, whereas the integration method can be used in either a radiated or conducted measurement without any special requirement with regards to the displacement of the unwanted emission(s) relative to the authorized bandwidth.
Marker-Delta Method.
The marker-delta method, as described in ANSI C63.10, can be used to perform measurements of the radiated unwanted emissions level of emissions provided that the 99% occupied bandwidth of the fundamental is within 2 MHz of the authorized band-edge.

8.4.5 Test Results

Temperature :	25℃	ATM Pressure::	1011 mbar
Humidity :	60 %	Test Engineer:	CZF

■ ☒For Undesirable radiated Spurious Emission in U-NII – 1
☒Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)
All of the configurations or modes are tested, the data of the worst case is recorded in the report.
Highest gain of each antenna and highest output power is ANT1 and MIMO as below:

ANT1:

Test mode: 802.11n(20) Frequency(MHz): 5180

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7939.4697	V	59.22	-36.01	-27	9.01
9903.9520	V	61.78	-33.45	-27	6.45
12795.3977	V	64.4	-30.83	-27	3.83
8509.2546	H	60.38	-34.85	-27	7.85
11111.5558	H	62.84	-32.39	-27	5.39
15363.6818	H	64.34	-30.89	-27	3.89

Test mode: 802.11n(20) Frequency(MHz): 5200

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8126.5633	V	59.88	-35.35	-27	8.35
10737.3687	V	63.2	-32.03	-27	5.03
15992.9965	V	65.44	-29.79	-27	2.79
7990.4952	H	59.3	-35.93	-27	8.93
10737.3687	H	63.44	-31.79	-27	4.79
16452.2261	H	65.39	-29.84	-27	2.84

Test mode: 802.11n(20) Frequency(MHz): 5240

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8067.0335	V	59.53	-35.70	-27	8.70
11213.6068	V	62.69	-32.54	-27	5.54
15278.6393	V	64.49	-30.74	-27	3.74
7930.9655	H	60.16	-35.07	-27	8.07
11800.4002	H	63.05	-32.18	-27	5.18
14836.4182	H	64.95	-30.28	-27	3.28

MIMO:

Test mode: 802.11n(20) Frequency(MHz): 5180

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7938.0797	V	59.09	-36.14	-27	9.14
9902.5620	V	61.62	-33.61	-27	6.61
12796.6777	V	64.37	-30.86	-27	3.86
8520.9446	H	60.3	-34.93	-27	7.93
11123.2458	H	62.63	-32.60	-27	5.60
15375.3718	H	64.18	-31.05	-27	4.05

Test mode: 802.11n(20) Frequency(MHz): 5200

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8125.1733	V	59.75	-35.48	-27	8.48
10735.9787	V	63.04	-32.19	-27	5.19
15994.2765	V	65.41	-29.82	-27	2.82
8002.1852	H	59.22	-36.01	-27	9.01
10749.0587	H	63.23	-32.00	-27	5.00
16463.9161	H	65.23	-30.00	-27	3.00

Test mode: 802.11n(20) Frequency(MHz): 5240

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8065.6435	V	59.4	-35.83	-27	8.83
11212.2168	V	62.53	-32.70	-27	5.70
15279.9193	V	64.46	-30.77	-27	3.77
7942.6555	H	60.08	-35.15	-27	8.15
11812.0902	H	62.84	-32.39	-27	5.39
14848.1082	H	64.79	-30.44	-27	3.44

Note: (1) All Readings are Peak Value (VBW=3MHz) and AV Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

ANT1:

Test mode:	802.11n(20)	Frequency(MHz):	5180		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7939.4697	V	59.22	74.00	14.78	Peak
9903.952	V	61.78	74.00	12.22	Peak
12795.3977	V	64.40	74.00	9.60	Peak
7939.4697	V	42.29	54.00	11.71	Avg
9903.952	V	42.16	54.00	11.84	Avg
12795.3977	V	47.26	54.00	6.74	Avg
8509.2546	H	60.38	74.00	13.62	Peak
11111.5558	H	62.84	74.00	11.16	Peak
15363.6818	H	64.34	74.00	9.66	Peak
8509.2546	H	42.20	54.00	11.80	Avg
11111.5558	H	43.85	54.00	10.15	Avg
15363.6818	H	41.77	54.00	12.23	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5200		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8126.5633	V	59.88	74.00	14.12	Peak
10737.3687	V	63.20	74.00	10.80	Peak
15992.9965	V	65.44	74.00	8.56	Peak
8126.5633	V	42.27	54.00	11.73	Avg
10737.3687	V	44.84	54.00	9.16	Avg
15992.9965	V	42.85	54.00	11.15	Avg
7990.4952	H	59.30	74.00	14.70	Peak
10737.3687	H	63.44	74.00	10.56	Peak
16452.2261	H	65.39	74.00	8.61	Peak
7990.4952	H	42.22	54.00	11.78	Avg
10737.3687	H	45.65	54.00	8.35	Avg
16452.2261	H	42.38	54.00	11.62	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5240		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8067.0335	V	59.53	74.00	14.47	Peak
11213.6068	V	62.69	74.00	11.31	Peak
15278.6393	V	64.49	74.00	9.51	Peak
8067.0335	V	42.91	54.00	11.09	Avg
11213.6068	V	43.16	54.00	10.84	Avg
15278.6393	V	42.06	54.00	11.94	Avg
7930.9655	H	60.16	74.00	13.84	Peak
11800.4002	H	63.05	74.00	10.95	Peak
14836.4182	H	64.95	74.00	9.05	Peak
7930.9655	H	42.55	54.00	11.45	Avg
11800.4002	H	44.84	54.00	9.16	Avg
14836.4182	H	43.29	54.00	10.71	Avg

MIMO:

Test mode:	802.11n(20)	Frequency(MHz):	5180		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7938.0797	V	59.09	74.00	14.91	Peak
9902.5620	V	61.62	74.00	12.38	Peak
12796.6777	V	64.37	74.00	9.63	Peak
7940.7497	V	42.27	54.00	11.73	Avg
9901.7020	V	41.90	54.00	12.10	Avg
12793.1477	V	47.07	54.00	6.93	Avg
8520.9446	H	60.30	74.00	13.70	Peak
11123.2458	H	62.63	74.00	11.37	Peak
15375.3718	H	64.18	74.00	9.82	Peak
8520.9446	H	42.06	54.00	11.94	Avg
11108.2458	H	43.67	54.00	10.33	Avg
15360.3718	H	41.64	54.00	12.36	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5200		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8125.1733	V	59.75	74.00	14.25	Peak
10735.9787	V	63.04	74.00	10.96	Peak
15994.2765	V	65.41	74.00	8.59	Peak
8127.8433	V	42.25	54.00	11.75	Avg
10735.1187	V	44.58	54.00	9.42	Avg
15990.7465	V	42.66	54.00	11.34	Avg
8002.1852	H	59.22	74.00	14.78	Peak
10749.0587	H	63.23	74.00	10.77	Peak
16463.9161	H	65.23	74.00	8.77	Peak
8002.1852	H	42.08	54.00	11.92	Avg
10734.0587	H	45.47	54.00	8.53	Avg
16448.9161	H	42.25	54.00	11.75	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5240		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8065.6435	V	59.40	74.00	14.60	Peak
11212.2168	V	62.53	74.00	11.47	Peak
15279.9193	V	64.46	74.00	9.54	Peak
8068.3135	V	42.89	54.00	11.11	Avg
11211.3568	V	42.90	54.00	11.10	Avg
15276.3893	V	41.87	54.00	12.13	Avg
7942.6555	H	60.08	74.00	13.92	Peak
11812.0902	H	62.84	74.00	11.16	Peak
14848.1082	H	64.79	74.00	9.21	Peak
7942.6555	H	42.41	54.00	11.59	Avg
11797.0902	H	44.66	54.00	9.34	Avg
14833.1082	H	43.16	54.00	10.84	Avg

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

- ☒ Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

Test mode:	802.11n(20)	Frequency(MHz):	5180

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5146.75	V	56.57	-38.66	-27	Pass
5113.19	H	56.32	-38.91	-27	Pass

Test mode:	802.11n(20)	Frequency(MHz):	5240

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5359.21	V	56.9	-38.33	-27	Pass
5355.07	H	57.26	-37.97	-27	Pass

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

Test mode:	802.11n(20)	Frequency(MHz):	5180

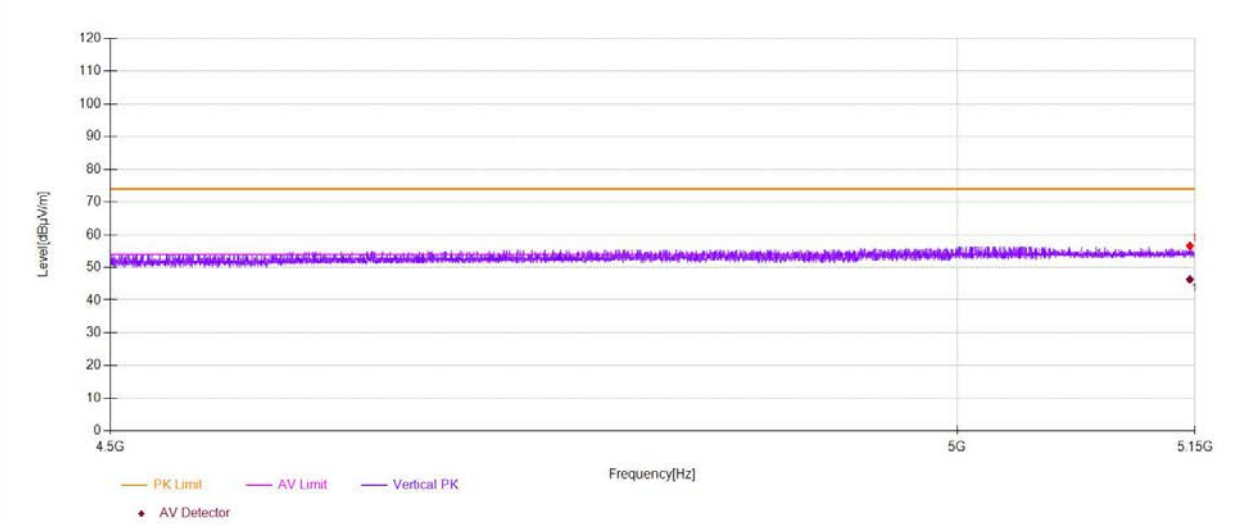
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5146.75	V	56.57	74.00	17.43	Peak
5146.75	V	46.34	54.00	7.66	Avg
5113.19	H	56.32	74.00	17.68	Peak
5113.19	H	45.95	54.00	8.05	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5240

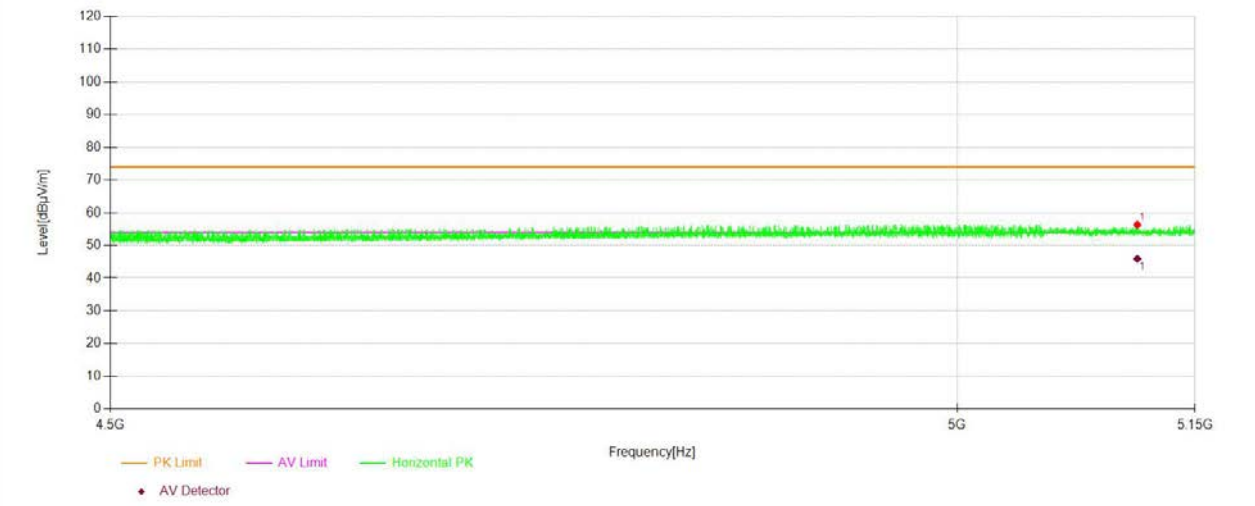
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5359.21	V	56.90	74.00	17.10	Peak
5359.21	V	46.34	54.00	7.66	Avg
5355.07	H	57.26	74.00	16.74	Peak
5355.07	H	46.64	54.00	7.36	Avg

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

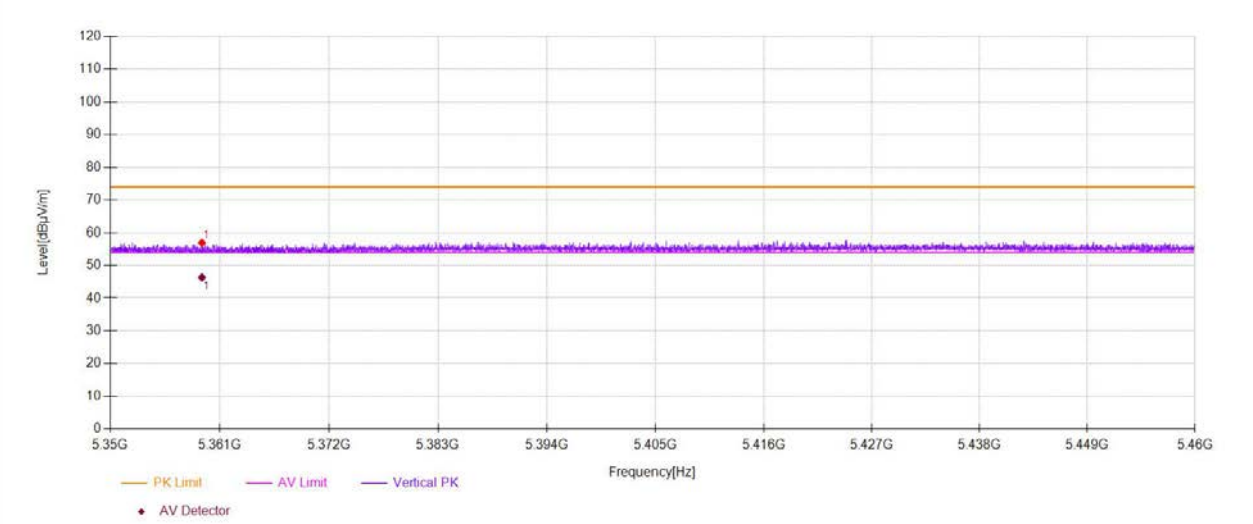
Test Model	U-NII - 1 Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz) ☐ 802.11a ☒ 802.11n(HT20) ☐ 802.11n(HT40) ☒ 5180 ☐ 5200 ☐ 5240 Ant.Pol V



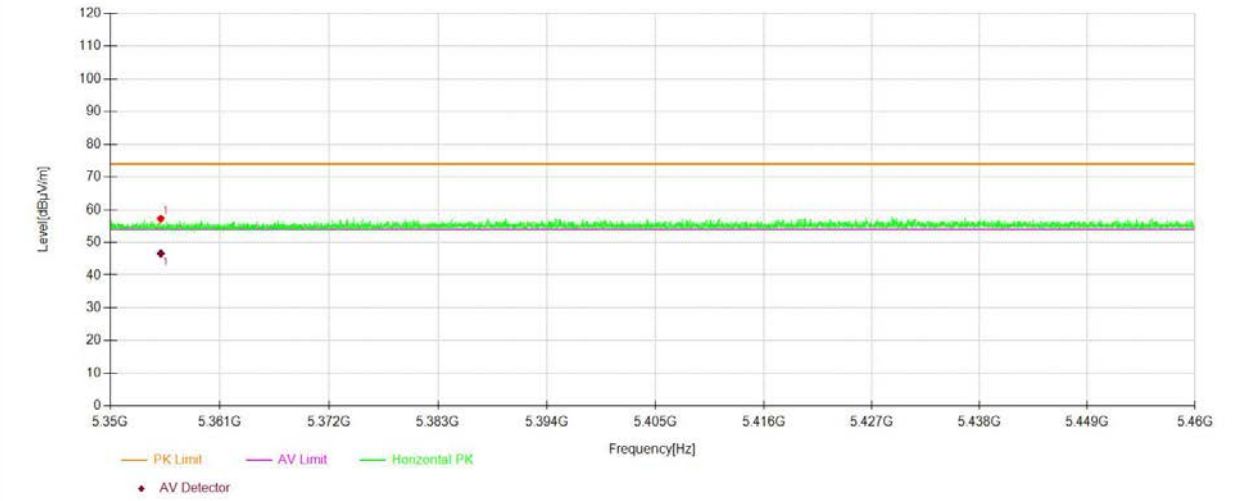
Test Model	U-NII - 1 Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz) ☐ 802.11a ☒ 802.11n(HT20) ☐ 802.11n(HT40) ☒ 5180 ☐ 5200 ☐ 5240 Ant.Pol H



Test Model	U-NII - 1 Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)				
	☐ 802.11a		☒ 802.11n(HT20)		☐ 802.11n(HT40)
	☐ 5180	☐ 5200	☒ 5240	Ant.Pol	V



Test Model	U-NII - 1 Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)				
	☐ 802.11a		☒ 802.11n(HT20)		☐ 802.11n(HT40)
	☐ 5180	☐ 5200	☒ 5240	Ant.Pol	H



■ ☒For Undesirable radiated Spurious Emission in U-NII -2A
☒Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)
All of the configurations or modes are tested, the data of the worst case is recorded in the report.
Highest gain of each antenna and highest output power is ANT1 and MIMO as below:

ANT1:

Test mode: 802.11n(20) Frequency(MHz): 5260

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7922.4612	V	59.64	-35.59	-27	8.59
10847.9240	V	62.52	-32.71	-27	5.71
15253.1266	V	64.64	-30.59	-27	3.59
7871.4357	H	59.52	-35.71	-27	8.71
11077.5388	H	62.77	-32.46	-27	5.46
17081.5408	H	64.84	-30.39	-27	3.39

Test mode: 802.11n(20) Frequency(MHz): 5280

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8084.0420	V	60	-35.23	-27	8.23
11077.5388	V	62.66	-32.57	-27	5.57
14428.2141	V	64.77	-30.46	-27	3.46
8653.8269	H	59.23	-36.00	-27	9.00
12497.7489	H	63.96	-31.27	-27	4.27
17744.8724	H	64.27	-30.96	-27	3.96

Test mode: 802.11n(20) Frequency(MHz): 5320

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8058.5293	V	58.97	-36.26	-27	9.26
10745.8729	V	63.04	-32.19	-27	5.19
14649.3247	V	63.42	-31.81	-27	4.81
7973.4867	H	59.08	-36.15	-27	9.15
10694.8474	H	63.12	-32.11	-27	5.11
14878.9395	H	64.58	-30.65	-27	3.65

MIMO:

Test mode: 802.11n(20) Frequency(MHz): 5260

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7921.0712	V	59.51	-35.72	-27	8.72
10846.5340	V	62.36	-32.87	-27	5.87
15254.4066	V	64.61	-30.62	-27	3.62
7883.1257	H	59.44	-35.79	-27	8.79
11089.2288	H	62.56	-32.67	-27	5.67
17093.2308	H	64.68	-30.55	-27	3.55

Test mode: 802.11n(20) Frequency(MHz): 5280

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8082.6520	V	59.87	-35.36	-27	8.36
11076.1488	V	62.5	-32.73	-27	5.73
14429.4941	V	64.74	-30.49	-27	3.49
8665.5169	H	59.15	-36.08	-27	9.08
12509.4389	H	63.75	-31.48	-27	4.48
17756.5624	H	64.11	-31.12	-27	4.12

Test mode: 802.11n(20) Frequency(MHz): 5320

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8057.1393	V	58.84	-36.39	-27	9.39
10744.4829	V	62.88	-32.35	-27	5.35
14650.6047	V	63.39	-31.84	-27	4.84
7985.1767	H	59	-36.23	-27	9.23
10706.5374	H	62.91	-32.32	-27	5.32
14890.6295	H	64.42	-30.81	-27	3.81

Note: (1) All Readings are Peak Value (VBW=3MHz) and AV Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

ANT1:

Test mode:	802.11n(20)	Frequency(MHz):	5260		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7922.4612	V	59.64	74.00	14.36	Peak
10847.924	V	62.52	74.00	11.48	Peak
15253.1266	V	64.64	74.00	9.36	Peak
7922.4612	V	42.25	54.00	11.75	Avg
10847.924	V	43.79	54.00	10.21	Avg
15253.1266	V	41.99	54.00	12.01	Avg
7871.4357	H	59.52	74.00	14.48	Peak
11077.5388	H	62.77	74.00	11.23	Peak
17081.5408	H	64.84	74.00	9.16	Peak
7871.4357	H	42.15	54.00	11.85	Avg
11077.5388	H	44.10	54.00	9.90	Avg
17081.5408	H	42.69	54.00	11.31	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5280		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8084.042	V	60.00	74.00	14.00	Peak
11077.5388	V	62.66	74.00	11.34	Peak
14428.2141	V	64.77	74.00	9.23	Peak
8084.042	V	42.57	54.00	11.43	Avg
11077.5388	V	43.84	54.00	10.16	Avg
14428.2141	V	46.14	54.00	7.86	Avg
8653.8269	H	59.23	74.00	14.77	Peak
12497.7489	H	63.96	74.00	10.04	Peak
17744.8724	H	64.27	74.00	9.73	Peak
8653.8269	H	43.33	54.00	10.67	Avg
12497.7489	H	46.94	54.00	7.06	Avg
17744.8724	H	42.48	54.00	11.52	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5320		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8058.5293	V	58.97	74.00	15.03	Peak
10745.8729	V	63.04	74.00	10.96	Peak
14649.3247	V	63.42	74.00	10.58	Peak
8058.5293	V	42.71	54.00	11.29	Avg
10745.8729	V	45.07	54.00	8.93	Avg
14649.3247	V	44.49	54.00	9.51	Avg
7973.4867	H	59.08	74.00	14.92	Peak
10694.8474	H	63.12	74.00	10.88	Peak
14878.9395	H	64.58	74.00	9.42	Peak
7973.4867	H	42.07	54.00	11.93	Avg
10694.8474	H	46.02	54.00	7.98	Avg
14878.9395	H	43.31	54.00	10.69	Avg

MIMO:

Test mode:	802.11n(20)	Frequency(MHz):	5260		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7921.0712	V	59.51	74.00	14.49	Peak
10846.5340	V	62.36	74.00	11.64	Peak
15254.4066	V	64.61	74.00	9.39	Peak
7923.7412	V	42.23	54.00	11.77	Avg
10845.6740	V	43.53	54.00	10.47	Avg
15250.8766	V	41.80	54.00	12.20	Avg
7883.1257	H	59.44	74.00	14.56	Peak
11089.2288	H	62.56	74.00	11.44	Peak
17093.2308	H	64.68	74.00	9.32	Peak
7883.1257	H	42.01	54.00	11.99	Avg
11074.2288	H	43.92	54.00	10.08	Avg
17078.2308	H	42.56	54.00	11.44	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5280		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8082.6520	V	59.87	74.00	14.13	Peak
11076.1488	V	62.50	74.00	11.50	Peak
14429.4941	V	64.74	74.00	9.26	Peak
8085.3220	V	42.55	54.00	11.45	Avg
11075.2888	V	43.58	54.00	10.42	Avg
14425.9641	V	45.95	54.00	8.05	Avg
8665.5169	H	59.15	74.00	14.85	Peak
12509.4389	H	63.75	74.00	10.25	Peak
17756.5624	H	64.11	74.00	9.89	Peak
8665.5169	H	43.19	54.00	10.81	Avg
12494.4389	H	46.76	54.00	7.24	Avg
17741.5624	H	42.35	54.00	11.65	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5320		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8057.1393	V	58.84	74.00	15.16	Peak
10744.4829	V	62.88	74.00	11.12	Peak
14650.6047	V	63.39	74.00	10.61	Peak
8059.8093	V	42.69	54.00	11.31	Avg
10743.6229	V	44.81	54.00	9.19	Avg
14647.0747	V	44.30	54.00	9.70	Avg
7985.1767	H	59.00	74.00	15.00	Peak
10706.5374	H	62.91	74.00	11.09	Peak
14890.6295	H	64.42	74.00	9.58	Peak
7985.1767	H	41.93	54.00	12.07	Avg
10691.5374	H	45.84	54.00	8.16	Avg
14875.6295	H	43.18	54.00	10.82	Avg

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

- ☒ Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

Test mode:	802.11n(20)	Frequency(MHz):	5260

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5114.01	V	66.62	-28.61	-27	Pass
5146.18	H	66.41	-28.82	-27	Pass

Test mode:	802.11n(20)	Frequency(MHz):	5320

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5350.25	V	66.42	-28.81	-27	Pass
5351.02	H	67.36	-27.87	-27	Pass

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

Test mode:	802.11n(20)	Frequency(MHz):	5260

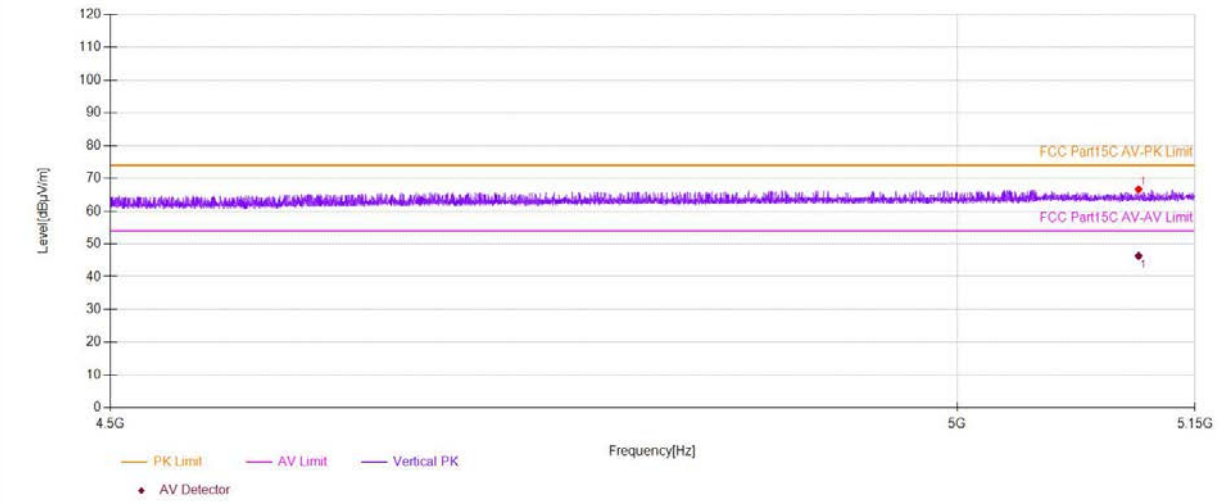
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5114.006	V	66.62	74.00	7.38	Peak
5114.006	V	46.35	54.00	7.65	Avg
5146.181	H	66.41	74.00	7.59	Peak
5146.181	H	46.04	54.00	7.96	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5320

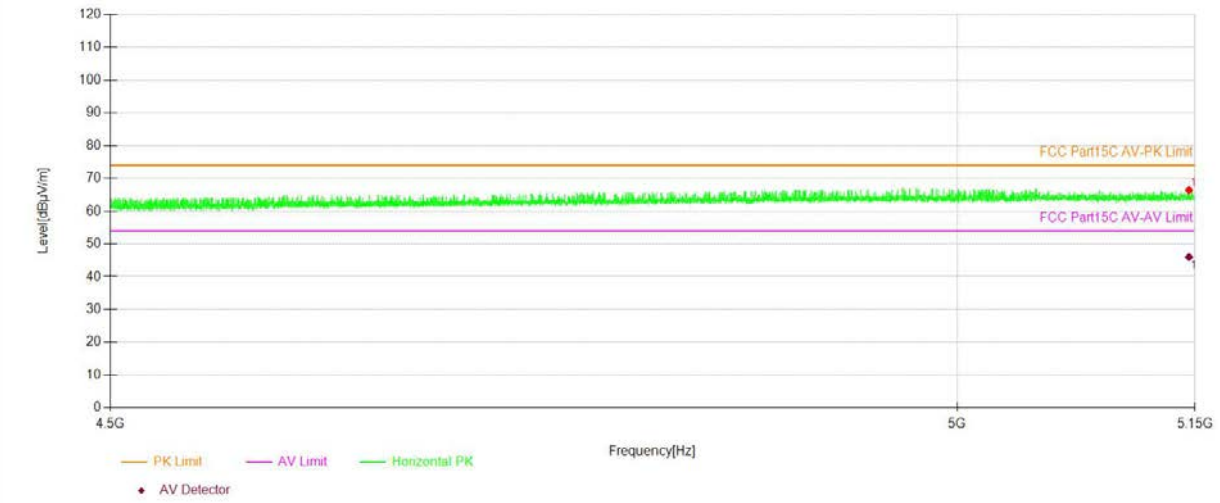
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5350.247	V	66.42	74.00	7.58	Peak
5350.247	V	46.89	54.00	7.11	Avg
5351.017	H	67.36	74.00	6.64	Peak
5351.017	H	46.72	54.00	7.28	Avg

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4)The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

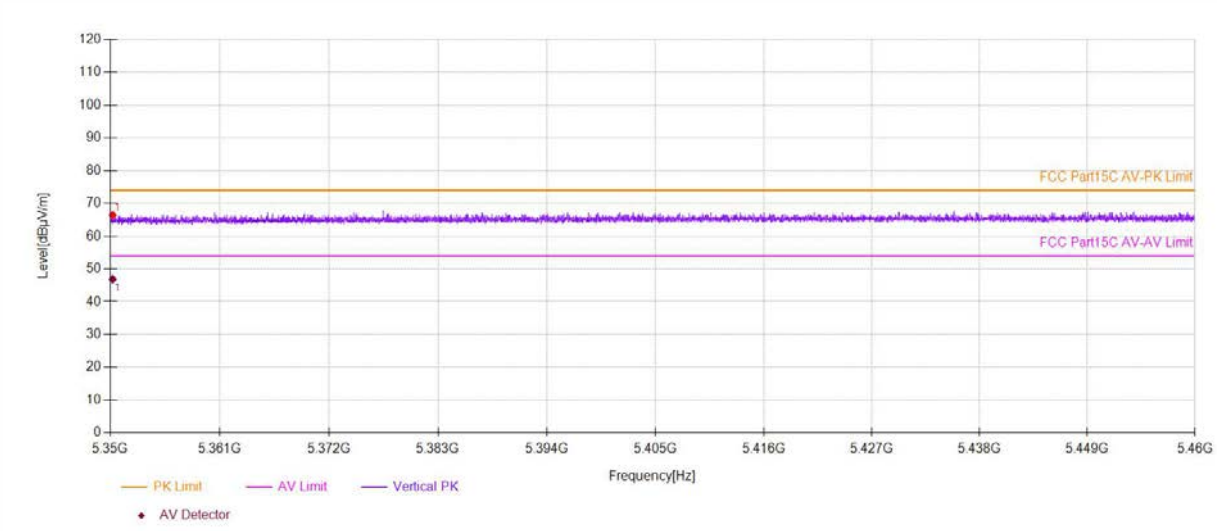
Test Model	U-NII -2A Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz) ☐ 802.11a ☒ 802.11n(HT20) ☐ 802.11 ac (VHT20) ☒ 5260 ☐ 5300 ☐ 5320 Ant.Pol V



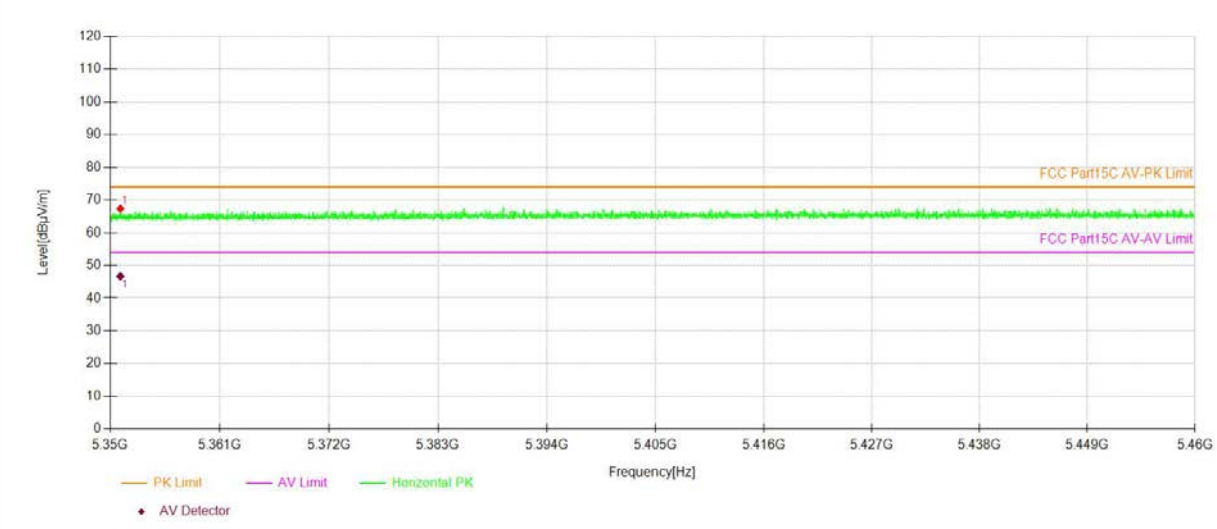
Test Model	U-NII -2A Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz) ☐ 802.11a ☒ 802.11n(HT20) ☐ 802.11 ac (VHT20) ☒ 5260 ☐ 5300 ☐ 5320 Ant.Pol H



Test Model	U-NII -2A Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
	☐802.11a ☒802.11n(HT20) ☐802.11 ac (VHT20)
	☐5260 ☐5300 ☒5320 Ant.Pol V



Test Model	U-NII -2A Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
	☐802.11a ☒802.11n(HT20) ☐802.11 ac (VHT20)
	☐5260 ☐5300 ☒5320 Ant.Pol H



■ ☒For Undesirable radiated Spurious Emission in U-NII -2C
☒Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)
All of the configurations or modes are tested, the data of the worst case is recorded in the report.
Highest gain of each antenna and highest output power is ANT1 and MIMO as below:

ANT1:

Test mode: 802.11n(20) Frequency(MHz): 5500

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8679.3397	V	59.76	-35.47	-27	8.47
11868.4342	V	63.29	-31.94	-27	4.94
17634.3172	V	64.55	-30.68	-27	3.68
9257.6288	H	59.14	-36.09	-27	9.09
10711.8559	H	62.87	-32.36	-27	5.36
15686.8434	H	64.62	-30.61	-27	3.61

Test mode: 802.11n(20) Frequency(MHz): 5580

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7981.9910	V	59.86	-35.37	-27	8.37
10660.8304	V	62.35	-32.88	-27	5.88
14555.7779	V	64.39	-30.84	-27	3.84
8033.0165	H	59.41	-35.82	-27	8.82
11188.0940	H	62.92	-32.31	-27	5.31
16222.6113	H	64.52	-30.71	-27	3.71

Test mode: 802.11n(20) Frequency(MHz): 5700

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8653.8269	V	59.81	-35.42	-27	8.42
10737.3687	V	62.71	-32.52	-27	5.52
16868.9345	V	64.42	-30.81	-27	3.81
7964.9825	H	59.31	-35.92	-27	8.92
10703.3517	H	62.37	-32.86	-27	5.86
16248.1241	H	64.65	-30.58	-27	3.58

MIMO:

Test mode: 802.11n(20) Frequency(MHz): 5500

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8677.9497	V	59.63	-35.60	-27	8.60
11867.0442	V	63.13	-32.10	-27	5.10
17635.5972	V	64.52	-30.71	-27	3.71
9269.3188	H	59.06	-36.17	-27	9.17
10723.5459	H	62.66	-32.57	-27	5.57
15698.5334	H	64.46	-30.77	-27	3.77

Test mode: 802.11n(20) Frequency(MHz): 5580

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7980.6010	V	59.73	-35.50	-27	8.50
10659.4404	V	62.19	-33.04	-27	6.04
14557.0579	V	64.36	-30.87	-27	3.87
8044.7065	H	59.33	-35.90	-27	8.90
11199.7840	H	62.71	-32.52	-27	5.52
16234.3013	H	64.36	-30.87	-27	3.87

Test mode: 802.11n(20) Frequency(MHz): 5700

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8652.4369	V	59.68	-35.55	-27	8.55
10735.9787	V	62.55	-32.68	-27	5.68
16870.2145	V	64.39	-30.84	-27	3.84
7976.6725	H	59.23	-36.00	-27	9.00
10715.0417	H	62.16	-33.07	-27	6.07
16259.8141	H	64.49	-30.74	-27	3.74

Note: (1) All Readings are Peak Value (VBW=3MHz) and AV Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

ANT1:

Test mode:	802.11n(20)	Frequency(MHz):	5500		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8679.3397	V	59.76	74.00	14.24	Peak
11868.4342	V	63.29	74.00	10.71	Peak
17634.3172	V	64.55	74.00	9.45	Peak
8679.3397	V	44.02	54.00	9.98	Avg
11868.4342	V	44.46	54.00	9.54	Avg
17634.3172	V	42.79	54.00	11.21	Avg
9257.6288	H	59.14	74.00	14.86	Peak
10711.8559	H	62.87	74.00	11.13	Peak
15686.8434	H	64.62	74.00	9.38	Peak
9257.6288	H	44.35	54.00	9.65	Avg
10711.8559	H	45.85	54.00	8.15	Avg
15686.8434	H	41.82	54.00	12.18	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5580		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7981.991	V	59.86	74.00	14.14	Peak
10660.8304	V	62.35	74.00	11.65	Peak
14555.7779	V	64.39	74.00	9.61	Peak
7981.991	V	42.20	54.00	11.80	Avg
10660.8304	V	44.75	54.00	9.25	Avg
14555.7779	V	45.45	54.00	8.55	Avg
8033.0165	H	59.41	74.00	14.59	Peak
11188.094	H	62.92	74.00	11.08	Peak
16222.6113	H	64.52	74.00	9.48	Peak
8033.0165	H	42.51	54.00	11.49	Avg
11188.094	H	42.68	54.00	11.32	Avg
16222.6113	H	41.82	54.00	12.18	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5700		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8653.8269	V	59.81	74.00	14.19	Peak
10737.3687	V	62.71	74.00	11.29	Peak
16868.9345	V	64.42	74.00	9.58	Peak
8653.8269	V	43.60	54.00	10.40	Avg
10737.3687	V	45.15	54.00	8.85	Avg
16868.9345	V	42.31	54.00	11.69	Avg
7964.9825	H	59.31	74.00	14.69	Peak
10703.3517	H	62.37	74.00	11.63	Peak
16248.1241	H	64.65	74.00	9.35	Peak
7964.9825	H	42.38	54.00	11.62	Avg
10703.3517	H	45.89	54.00	8.11	Avg
16248.1241	H	42.55	54.00	11.45	Avg

MIMO:

Test mode:	802.11n(20)	Frequency(MHz):	5500		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8677.9497	V	59.63	74.00	14.37	Peak
11867.0442	V	63.13	74.00	10.87	Peak
17635.5972	V	64.52	74.00	9.48	Peak
8680.6197	V	44.00	54.00	10.00	Avg
11866.1842	V	44.20	54.00	9.80	Avg
17632.0672	V	42.60	54.00	11.40	Avg
9269.3188	H	59.06	74.00	14.94	Peak
10723.5459	H	62.66	74.00	11.34	Peak
15698.5334	H	64.46	74.00	9.54	Peak
9269.3188	H	44.21	54.00	9.79	Avg
10708.5459	H	45.67	54.00	8.33	Avg
15683.5334	H	41.69	54.00	12.31	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5580		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7980.6010	V	59.73	74.00	14.27	Peak
10659.4404	V	62.19	74.00	11.81	Peak
14557.0579	V	64.36	74.00	9.64	Peak
7983.2710	V	42.18	54.00	11.82	Avg
10658.5804	V	44.49	54.00	9.51	Avg
14553.5279	V	45.26	54.00	8.74	Avg
8044.7065	H	59.33	74.00	14.67	Peak
11199.7840	H	62.71	74.00	11.29	Peak
16234.3013	H	64.36	74.00	9.64	Peak
8044.7065	H	42.37	54.00	11.63	Avg
11184.7840	H	42.50	54.00	11.50	Avg
16219.3013	H	41.69	54.00	12.31	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5700		
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8652.4369	V	59.68	74.00	14.32	Peak
10735.9787	V	62.55	74.00	11.45	Peak
16870.2145	V	64.39	74.00	9.61	Peak
8655.1069	V	43.58	54.00	10.42	Avg
10735.1187	V	44.89	54.00	9.11	Avg
16866.6845	V	42.12	54.00	11.88	Avg
7976.6725	H	59.23	74.00	14.77	Peak
10715.0417	H	62.16	74.00	11.84	Peak
16259.8141	H	64.49	74.00	9.51	Peak
7976.6725	H	42.24	54.00	11.76	Avg
10700.0417	H	45.71	54.00	8.29	Avg
16244.8141	H	42.42	54.00	11.58	Avg

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

- ☒ Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

Test mode:	802.11n(20)	Frequency(MHz):	5500

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5469.36	V	56.79	-38.44	-27	Pass
5469.48	H	57.11	-38.12	-27	Pass

Test mode:	802.11n(20)	Frequency(MHz):	5700

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5726.30	V	57.88	-37.35	-27	Pass
5725.56	H	58.48	-36.75	-27	Pass

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

Test mode:	802.11n(20)	Frequency(MHz):	5500

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5469.362	V	56.79	74.00	17.21	Peak
5469.362	V	46.34	54.00	7.66	Avg
5469.475	H	57.11	74.00	16.89	Peak
5469.475	H	46.70	54.00	7.30	Avg

Test mode:	802.11n(20)	Frequency(MHz):	5700

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5726.3	V	57.88	74.00	16.12	Peak
5726.3	V	48.00	54.00	6.00	Avg
5725.56	H	58.48	74.00	15.52	Peak
5725.56	H	47.68	54.00	6.32	Avg

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.