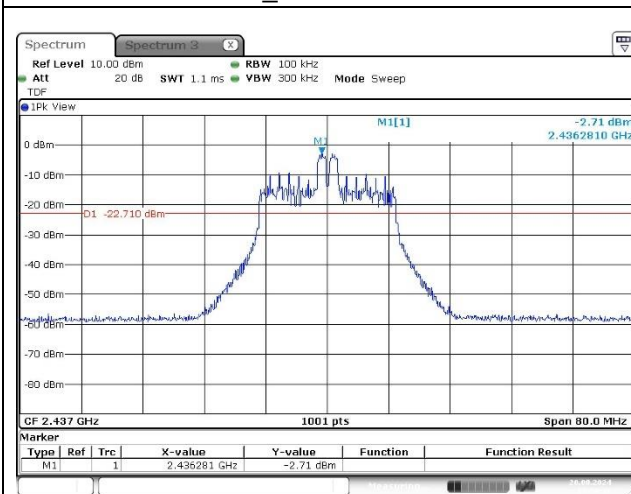
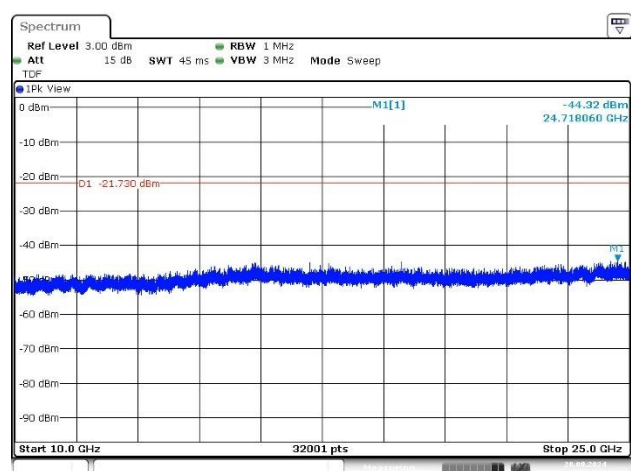
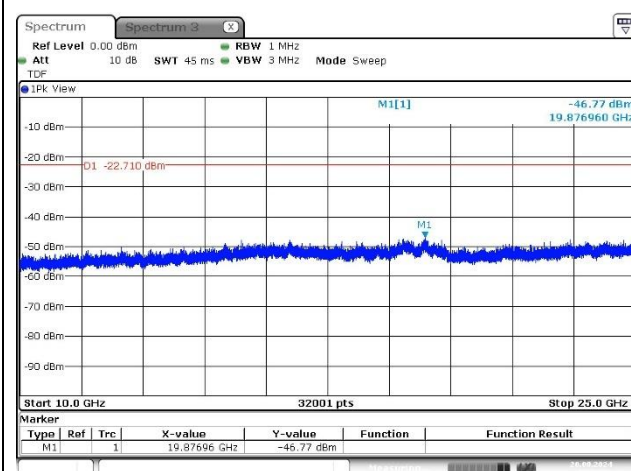
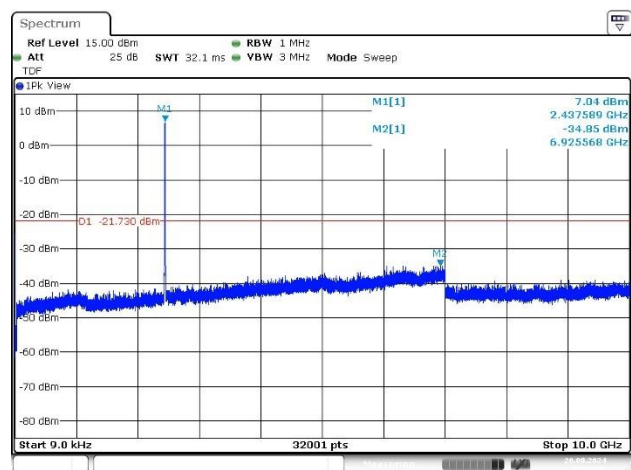
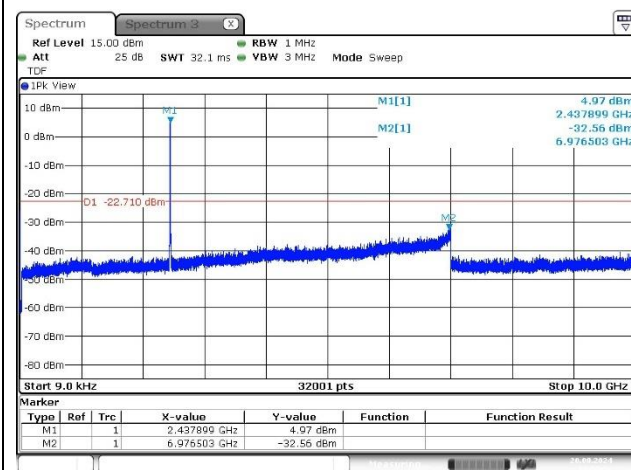
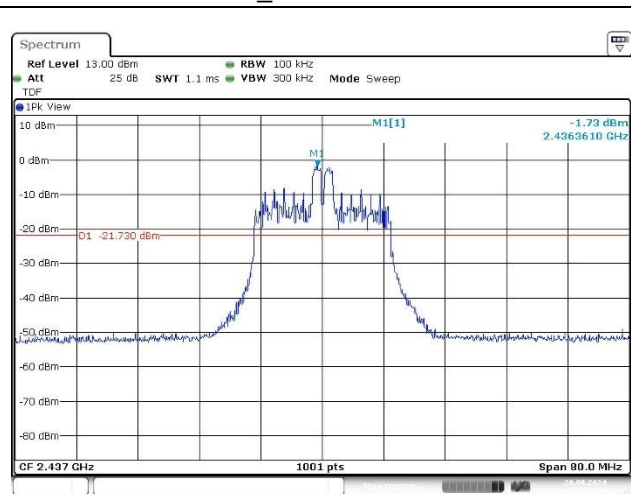


11ax_HE20_26T 4 RU

Port 1_Middle Channel

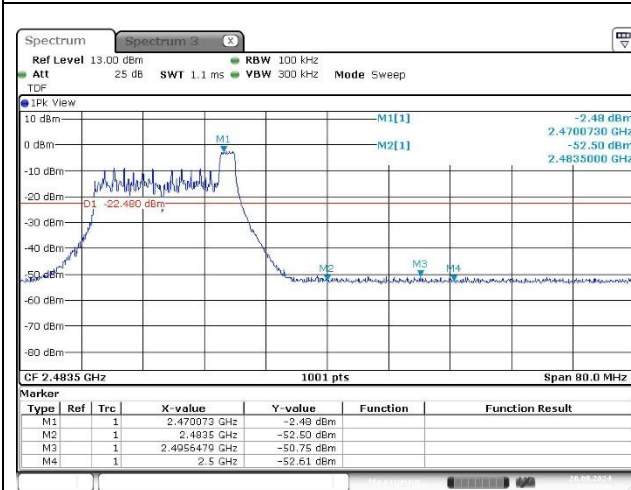


Port 2_Middle Channel

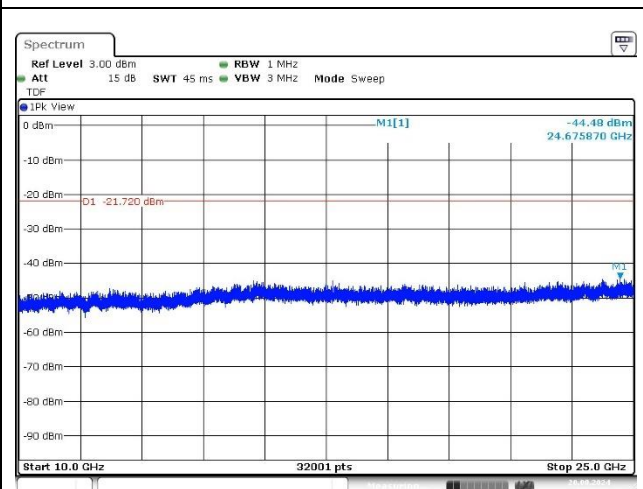
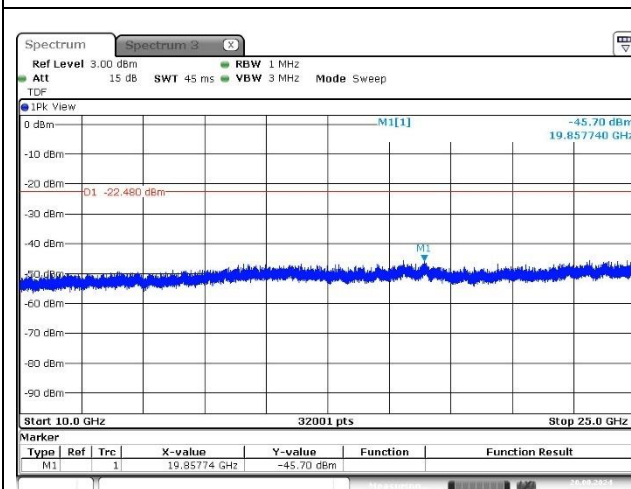
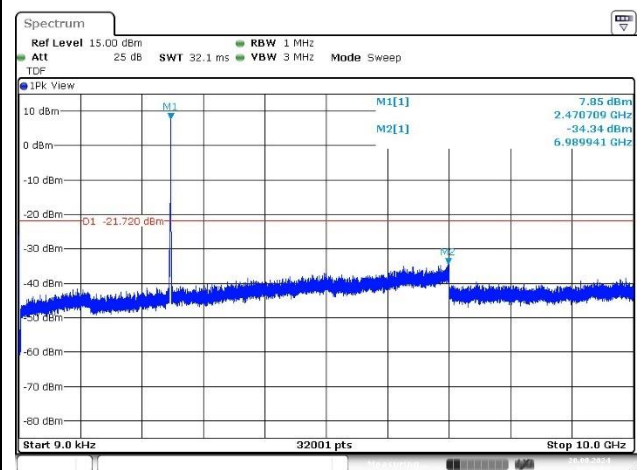
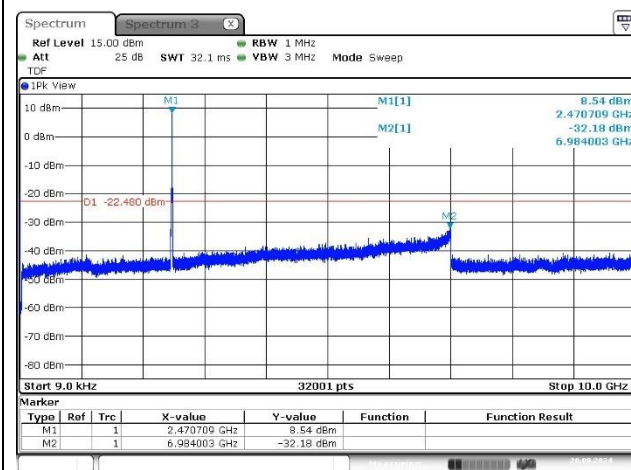
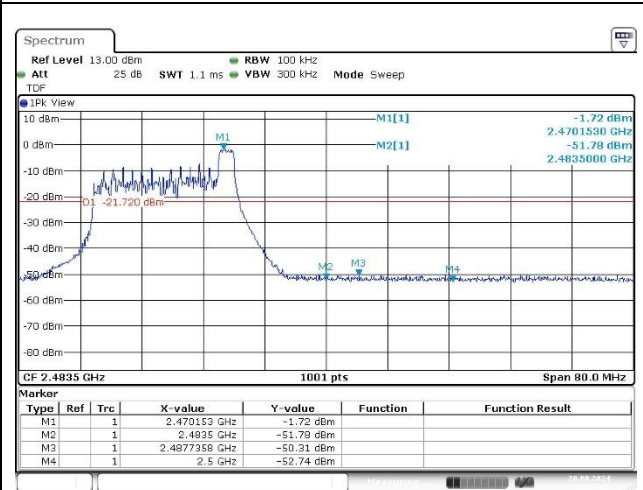


11ax_HE20_26T 8 RU

Port 1_High Channel

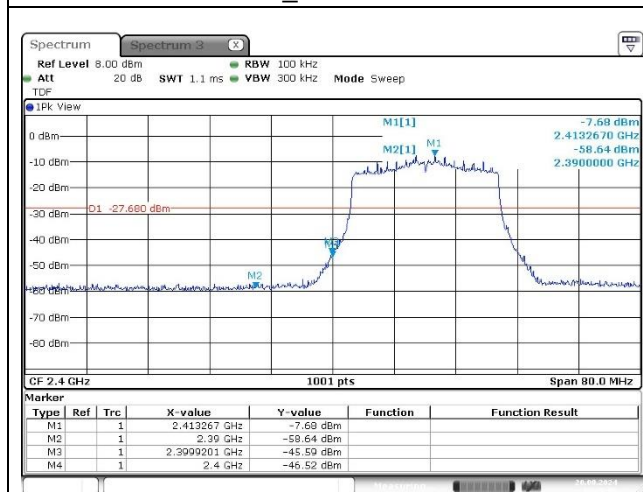


Port 2_High Channel

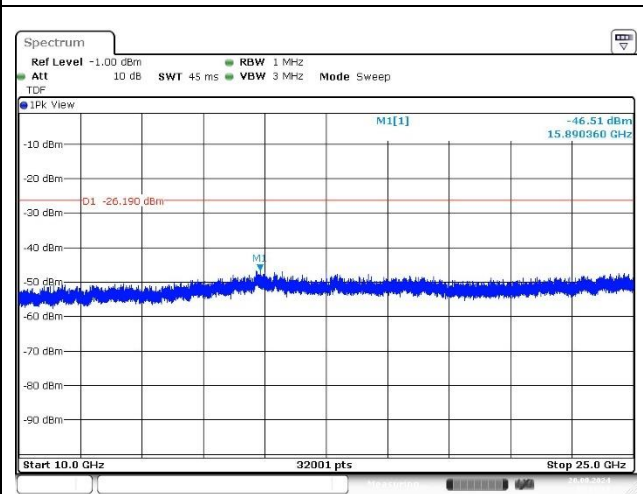
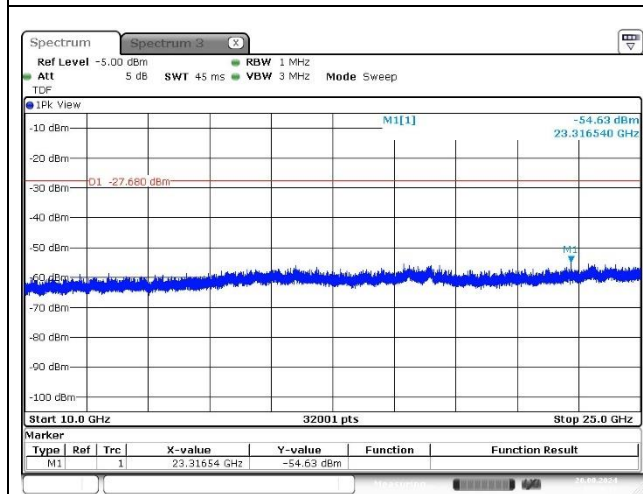
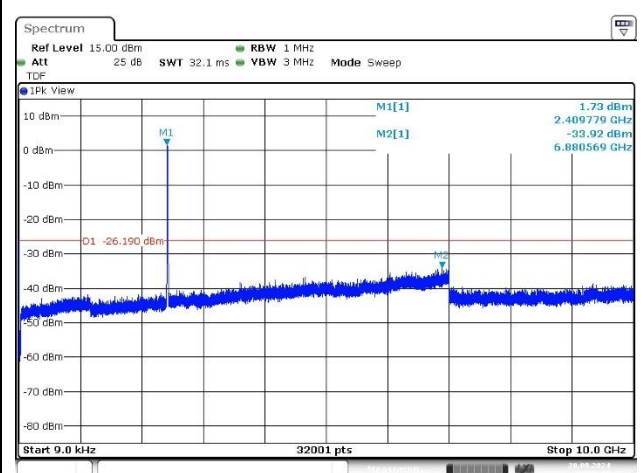
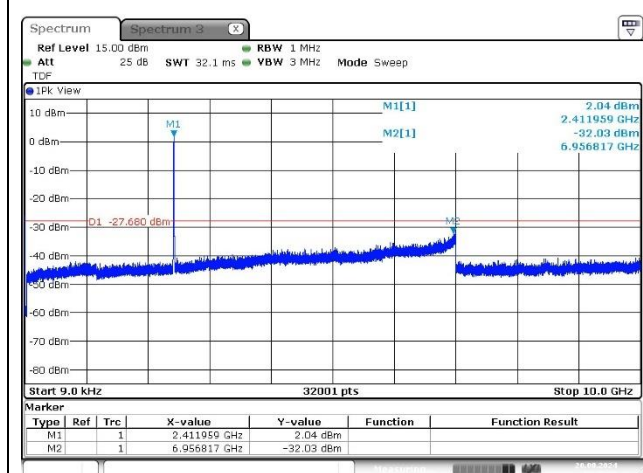
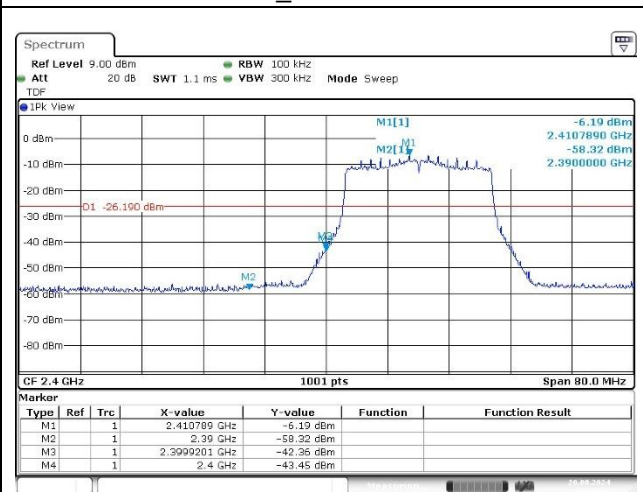


11ax_HE20_SU

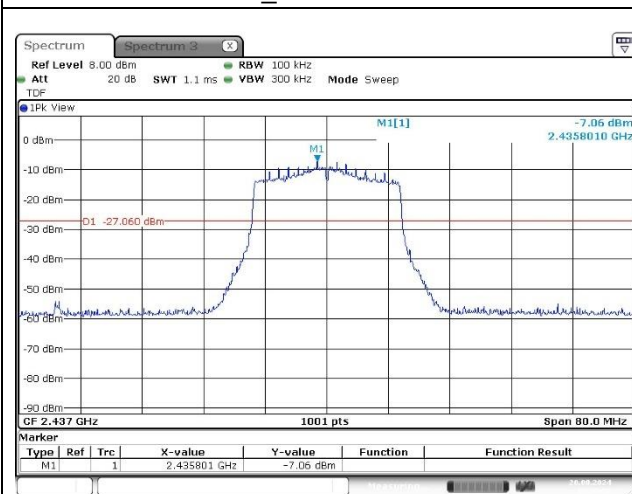
Port 1_Low Channel



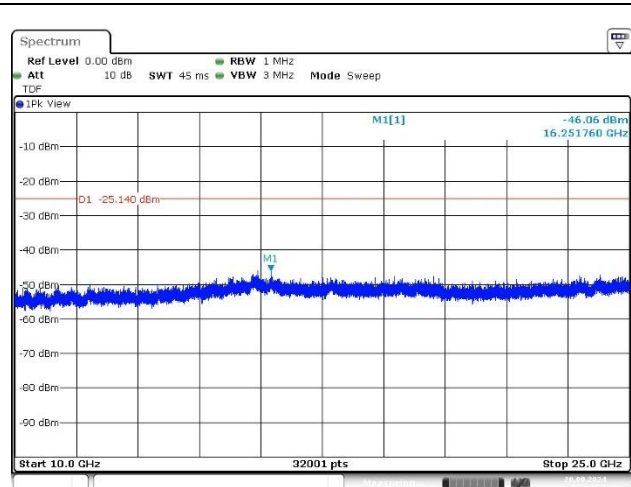
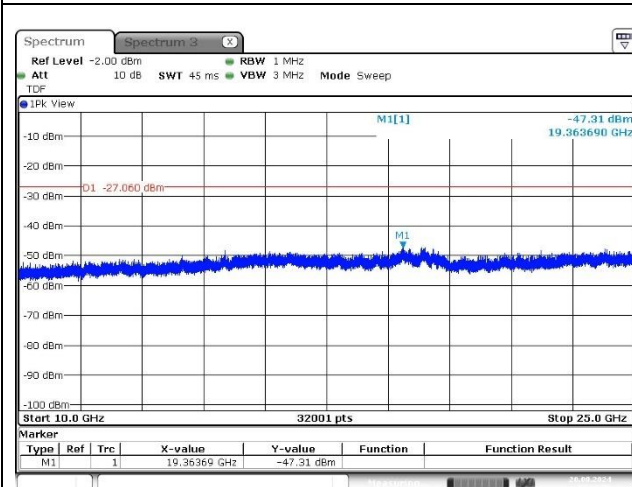
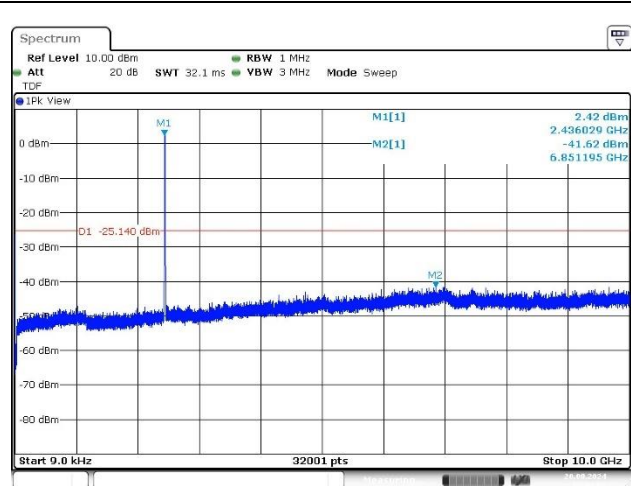
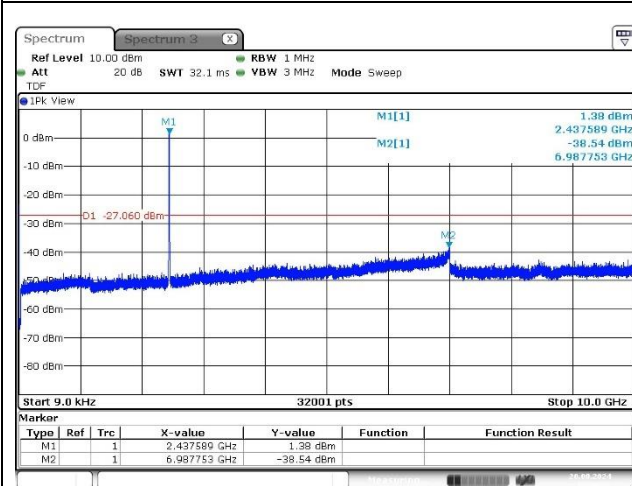
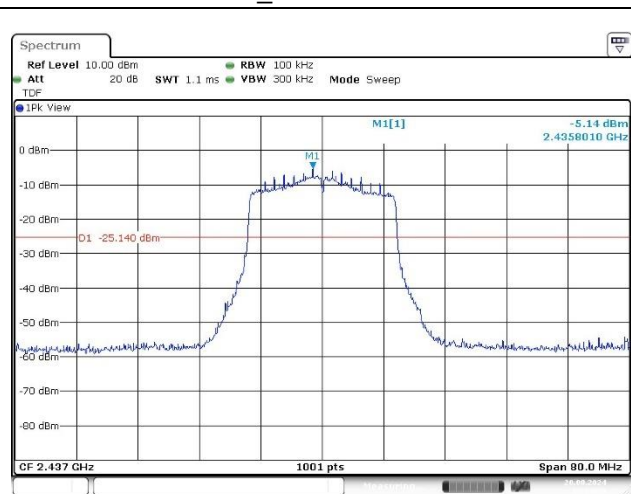
Port 2_Low Channel



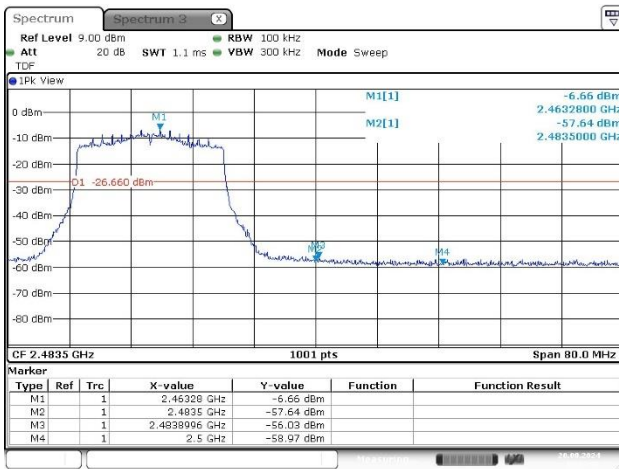
Port 1_Middle Channel



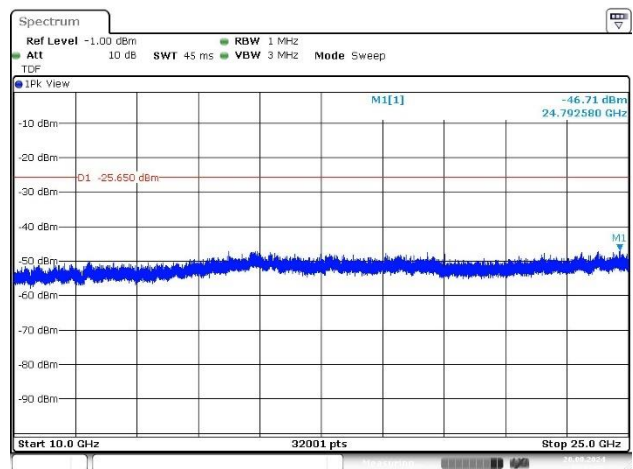
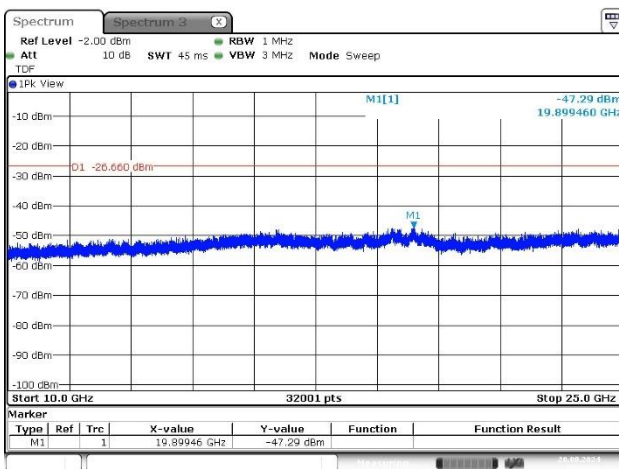
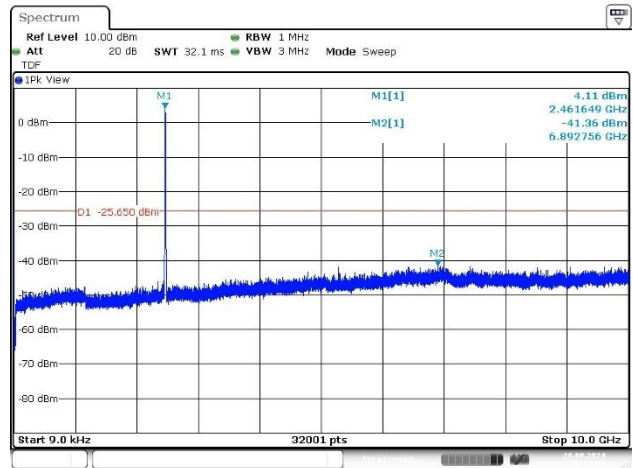
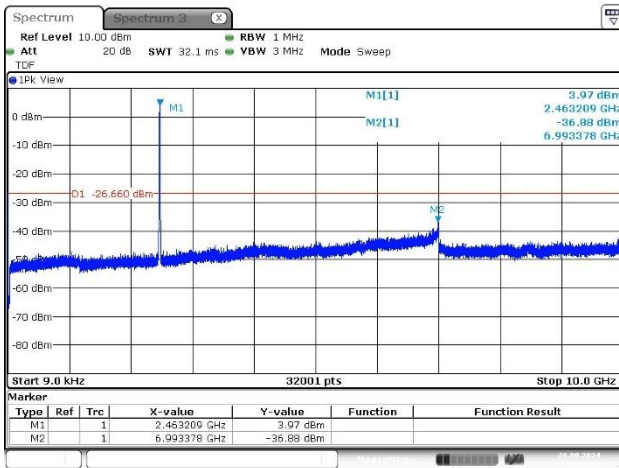
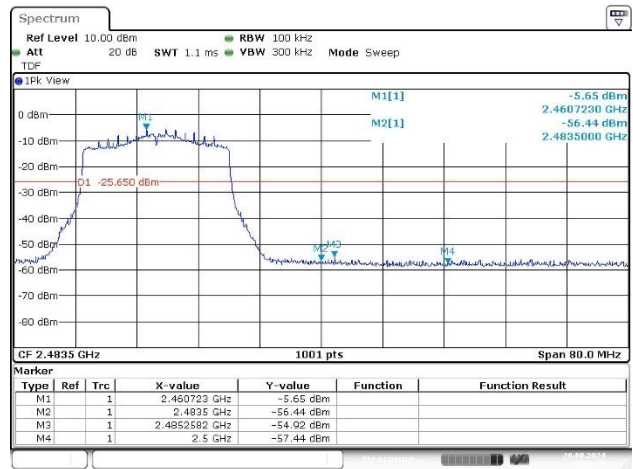
Port 2_Middle Channel



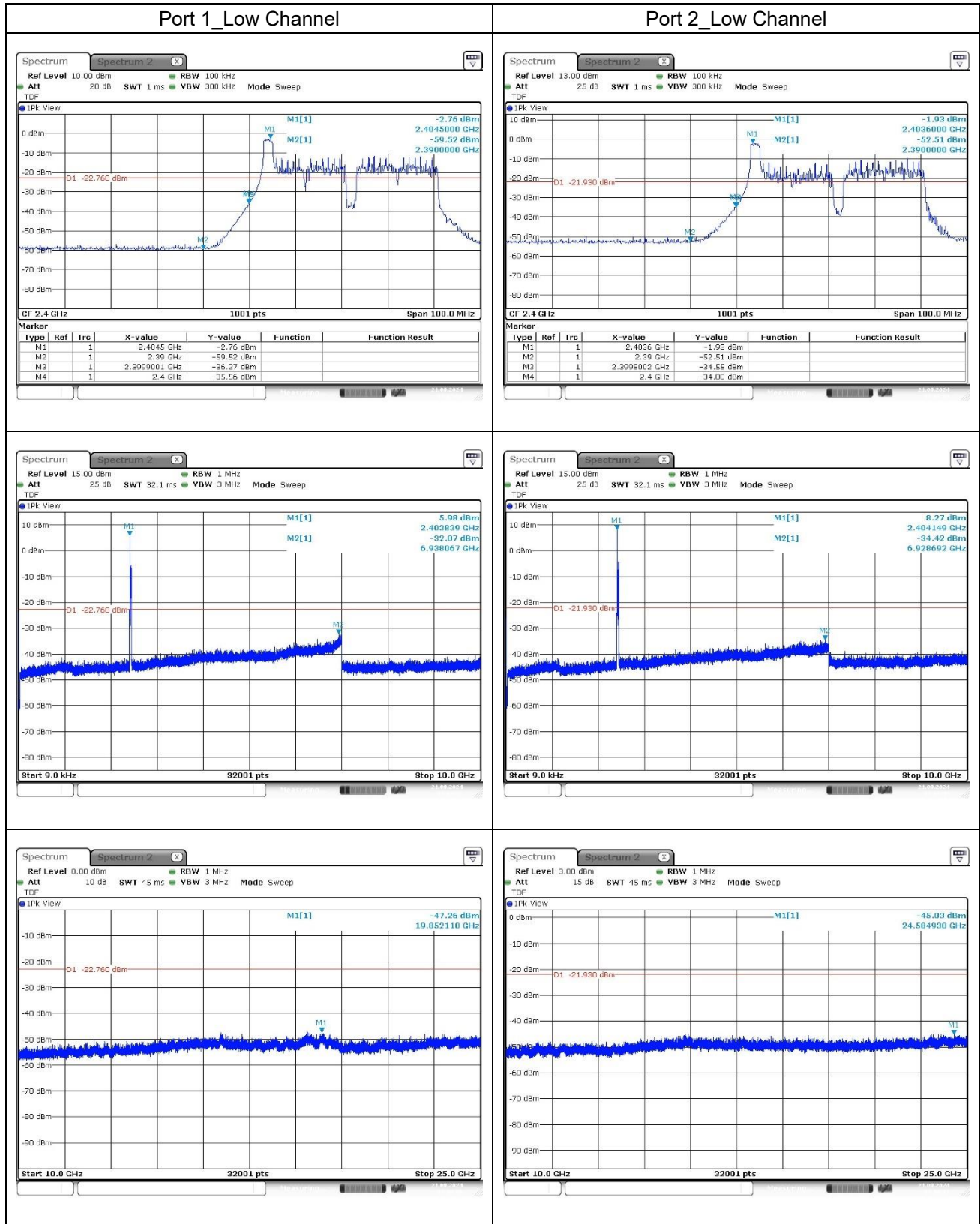
Port 1_High Channel



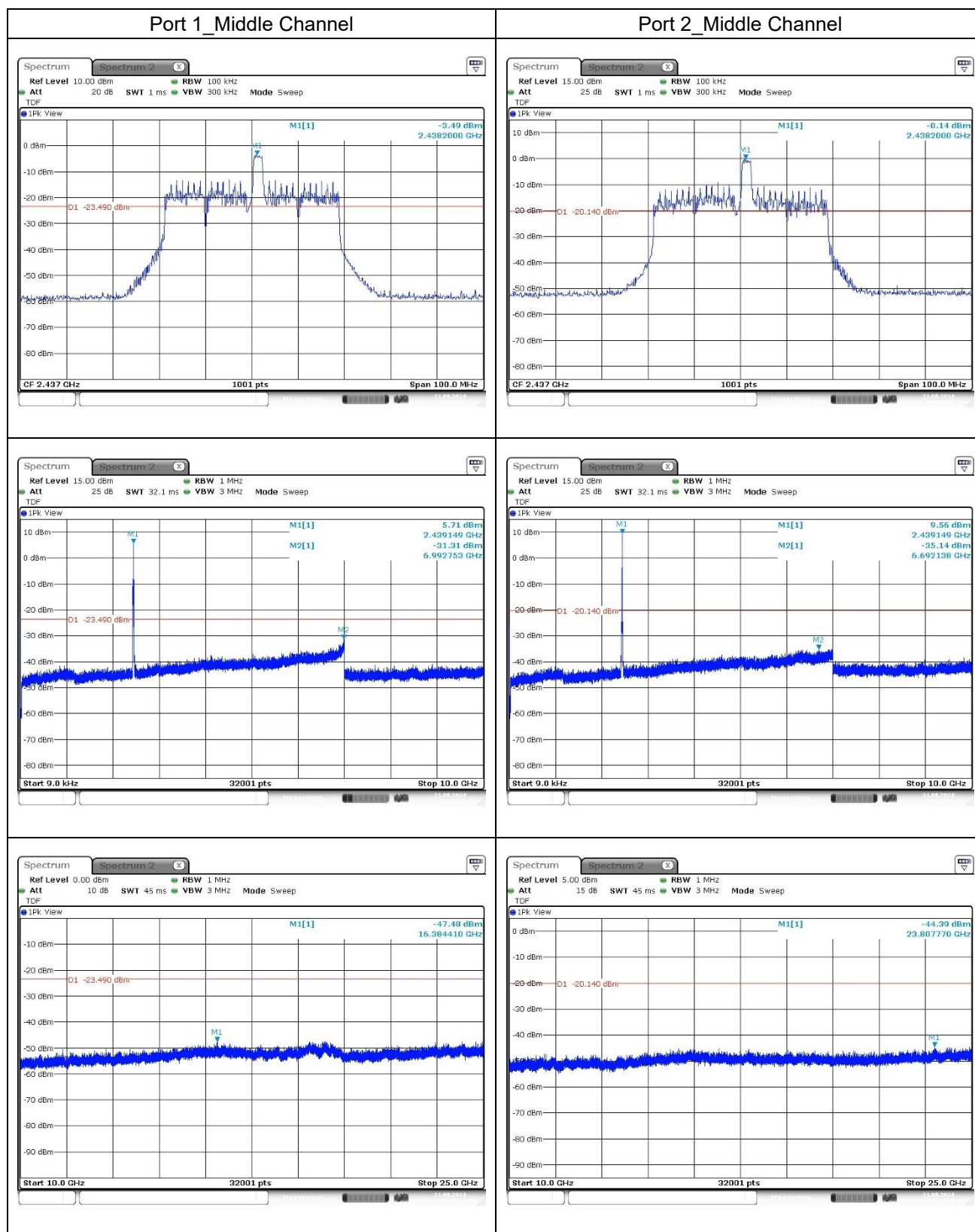
Port 2_High Channel



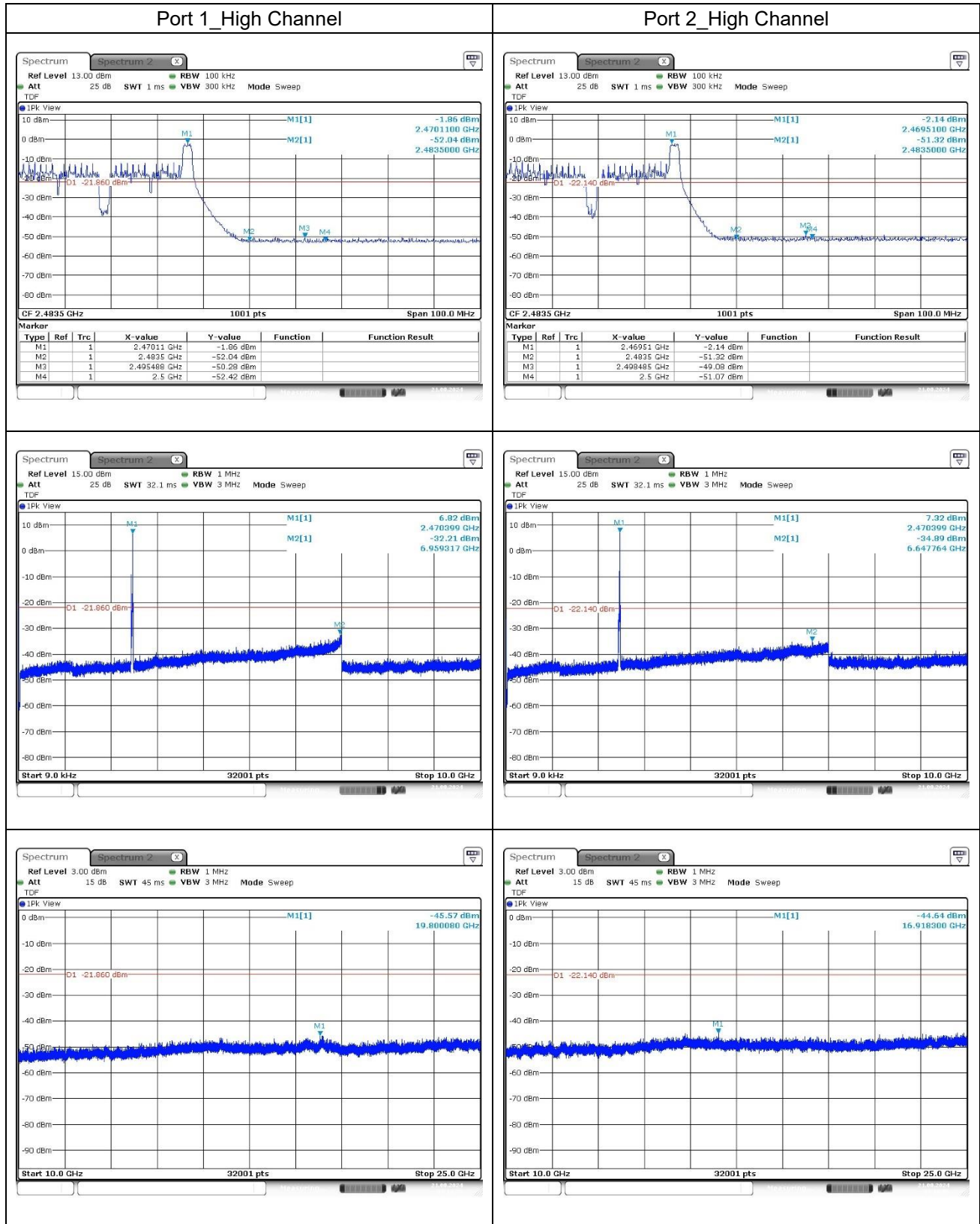
11ax_HE40_26T 0 RU



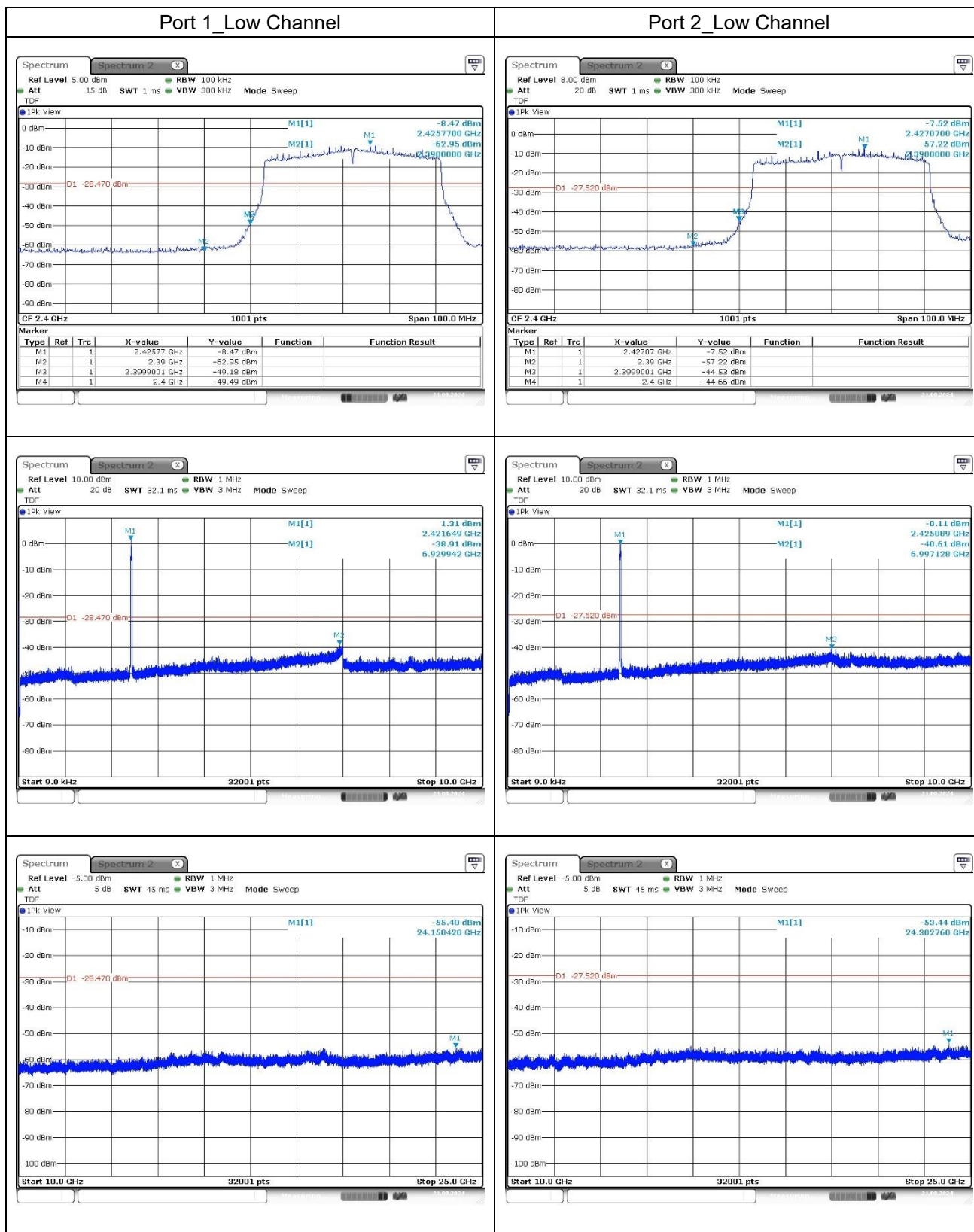
11ax_HE40_26T 9 RU



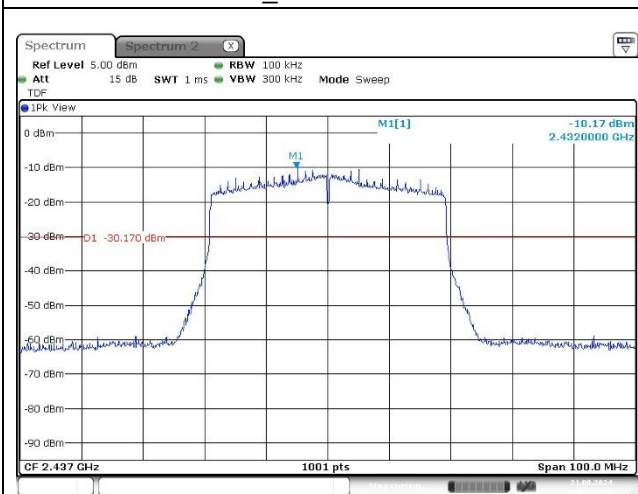
11ax_HE40_26T 17 RU



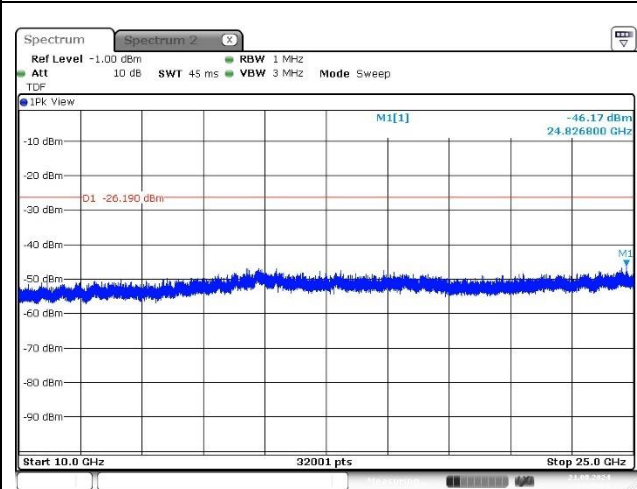
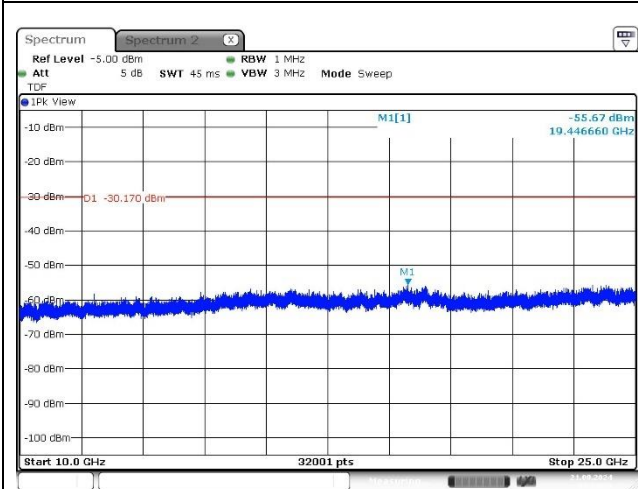
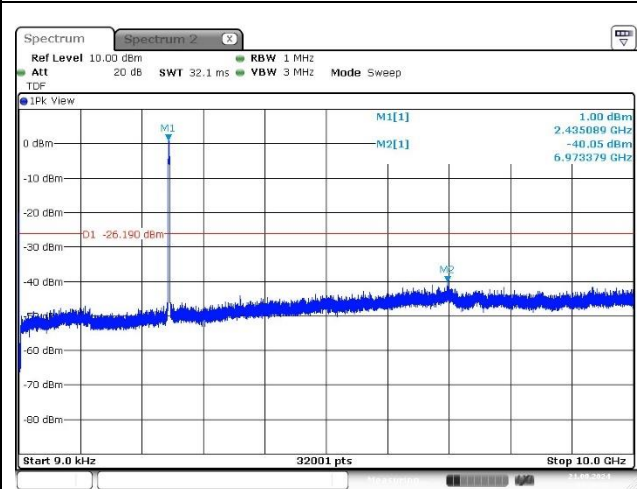
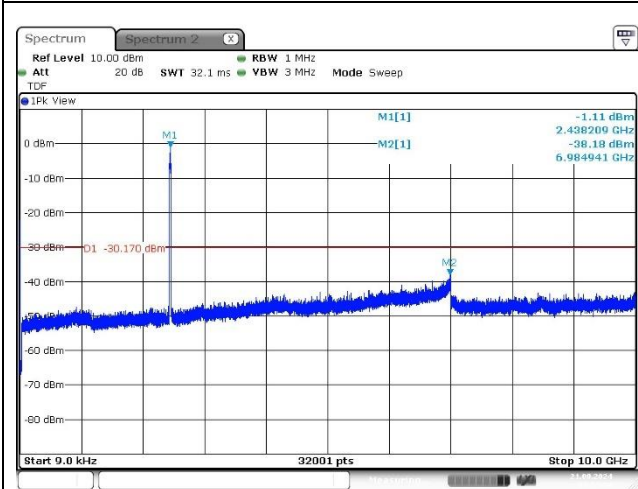
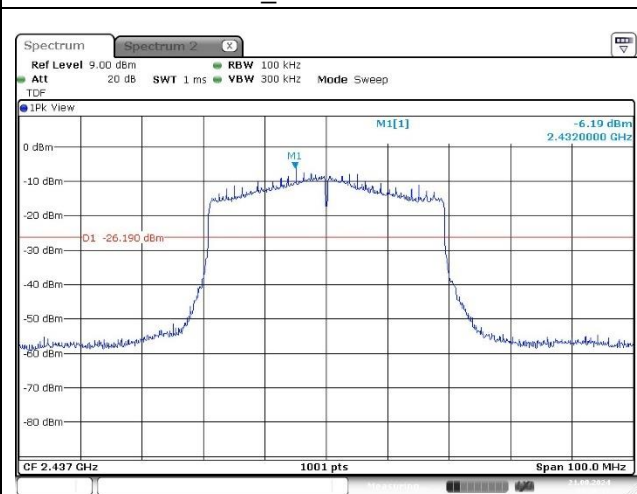
11ax_HE40_SU

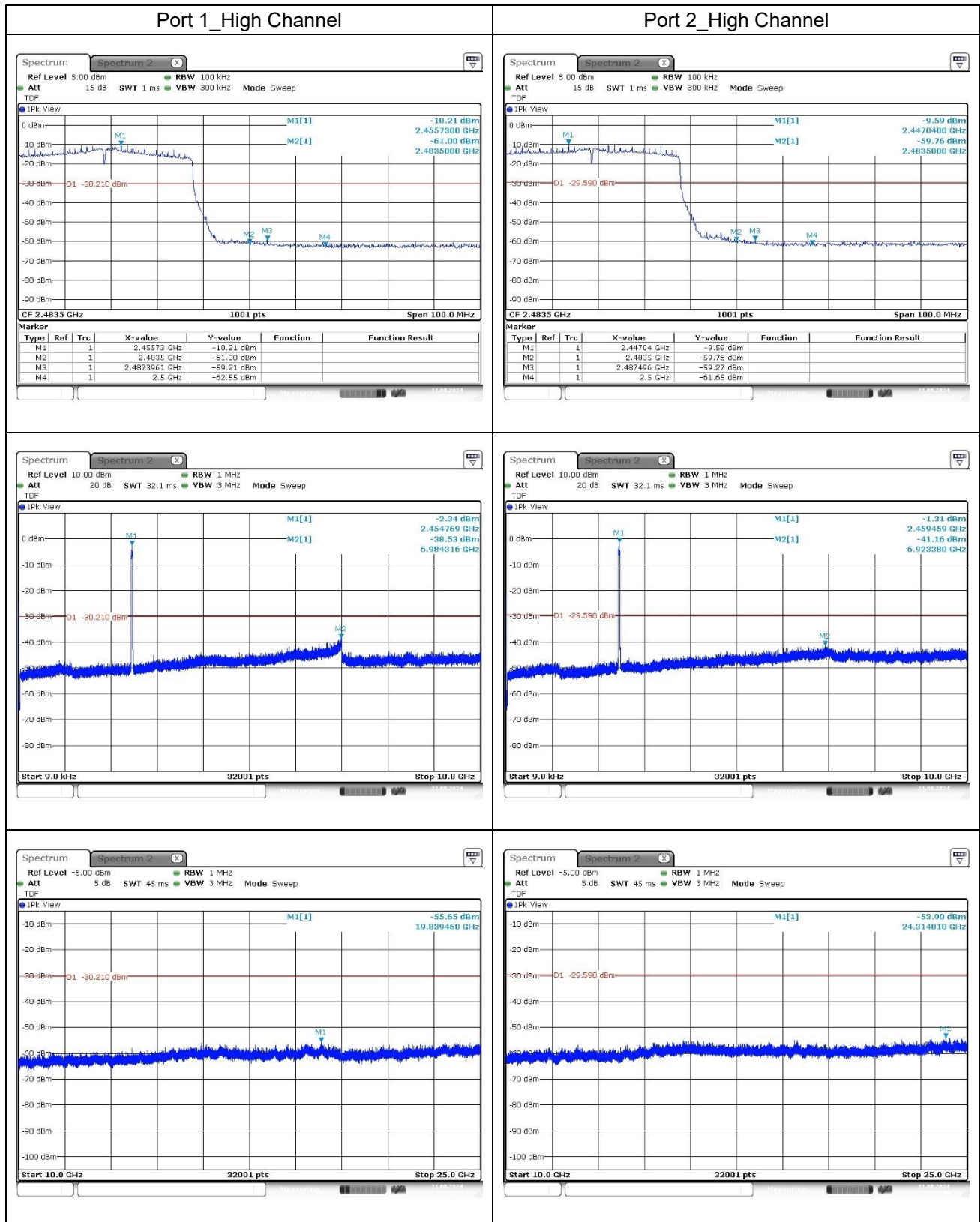


Port 1_Middle Channel



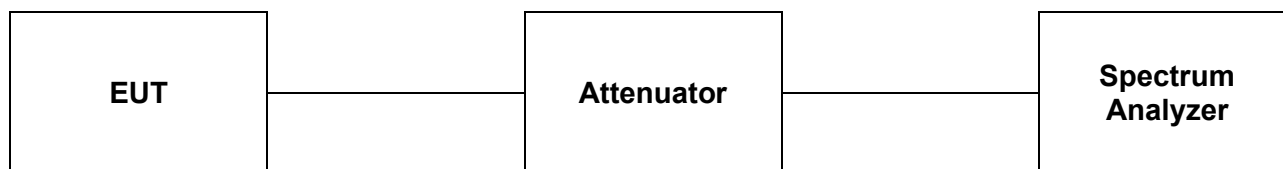
Port 2_Middle Channel





3. 6 dB Bandwidth and 99 % Bandwidth

3.1. Test Setup



3.2. Limit

3.2.1. FCC

According to §15.247(a)(2), systems using digital modulation techniques may operate in the 902-928 MHz, 2 400-2 483.5 MHz, and 5 725-5 850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

3.2.2. IC

According to RSS-247 Issue 3, 5.2(a), the minimum 6 dB bandwidth shall be 500 kHz.

3.3. Test Procedure

3.3.1. 6 dB Bandwidth

The test follows section 11.8 DTS bandwidth of ANSI C63.10-2013.

Tests performed using section 11.8.1 Option 1.

- Option 1:

1. Set RBW to = 100 kHz.
2. Set the VBW $\geq$ [3 x RBW].
3. Detector = peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

3.3.2. 99 % Bandwidth

The following conditions shall be observed for measuring the occupied bandwidth and x dB bandwidth:

- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the spectrum analyzer shall be set large enough to capture all products of the modulation process, including the emission skirts, around the carrier frequency, but small enough to avoid having other emissions (e.g. on adjacent channels) within the span.
- The detector of the spectrum analyzer shall be set to "Sample". However, a peak, or peak hold, may be used in place of the sampling detector since this usually produces a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold (or "Max Hold") may be necessary to determine the occupied / x dB bandwidth if the device is not transmitting continuously.
- The resolution bandwidth (RBW) shall be in the range of 1 % to 5 % of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

Note: It may be necessary to repeat the measurement a few times until the RBW and VBW are in compliance with the above requirement.

For the 99 % emission bandwidth, the trace data points are recovered and directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached, and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency). This frequency is then recorded. The difference between the two recorded frequencies is the occupied bandwidth (or the 99 % emission bandwidth).

3.4. Test Results

Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 % R.H.

Mode		Ch.	Freq. (MHz)	6 dB Bandwidth (MHz)						Minimum Bandwidth (kHz)
				Ru Index						
				Low		Middle		High		
				Ant. 1	Ant. 2	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
MIMO (CDD)	11ax_HE20 26T	Low	2 412	2.158	2.158	2.677	6.394	2.158	2.118	500
		Middle	2 437	2.118	2.118	2.677	2.677	2.118	2.118	
		High	2 462	2.118	2.078	2.677	2.677	2.158	4.595	
	11ax_HE20 SU	Low	2 412	-	-	18.861	18.901	-	-	
		Middle	2 437	-	-	15.185	15.704	-	-	
		High	2 462	-	-	16.583	14.825	-	-	
	11ax_HE40 26T	Low	2 422	2.238	2.158	2.158	2.238	2.238	2.238	
		Middle	2 437	2.238	2.238	2.238	2.318	2.238	2.238	
		High	2 452	2.158	2.238	2.158	2.238	2.238	2.238	
	11ax_HE40 SU	Low	2 422	-	-	34.446	35.564	-	-	
		Middle	2 437	-	-	35.245	31.409	-	-	
		High	2 452	-	-	35.884	36.923	-	-	

Mode		Ch.	Freq. (MHz)	99 % Bandwidth (MHz)						Limit (MHz)
				Ru Index						
				Low		Middle		High		
				Ant. 1	Ant. 2	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
MIMO (CDD)	11ax_HE20 26T	Low	2 412	19.141	18.941	17.542	17.383	19.021	18.901	-
		Middle	2 437	18.901	18.621	17.463	17.183	19.101	18.861	
		High	2 462	18.861	18.741	17.383	17.063	18.981	18.621	
	11ax_HE20 SU	Low	2 412	-	-	18.861	18.981	-	-	
		Middle	2 437	-	-	18.861	18.861	-	-	
		High	2 462	-	-	18.821	18.821	-	-	
	11ax_HE40 26T	Low	2 422	39.640	39.560	36.523	36.763	39.481	39.001	
		Middle	2 437	39.401	39.321	36.843	36.124	39.720	39.321	
		High	2 452	39.401	39.161	36.763	36.923	39.640	39.241	
	11ax_HE40 SU	Low	2 422	-	-	37.882	37.962	-	-	
		Middle	2 437	-	-	38.122	37.722	-	-	
		High	2 452	-	-	38.042	38.042	-	-	

- Test plots

MIMO(CDD)

6 dB Bandwidth

11ax_HE20_26T

