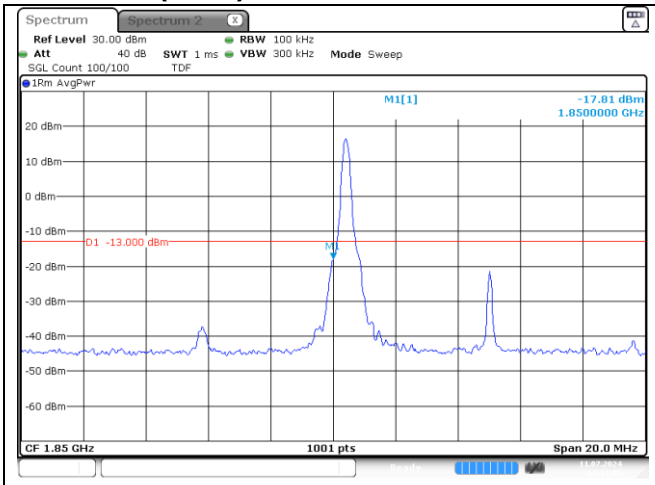
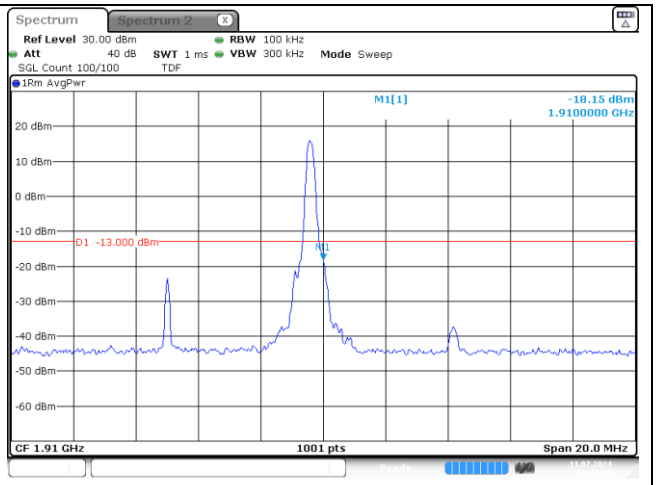
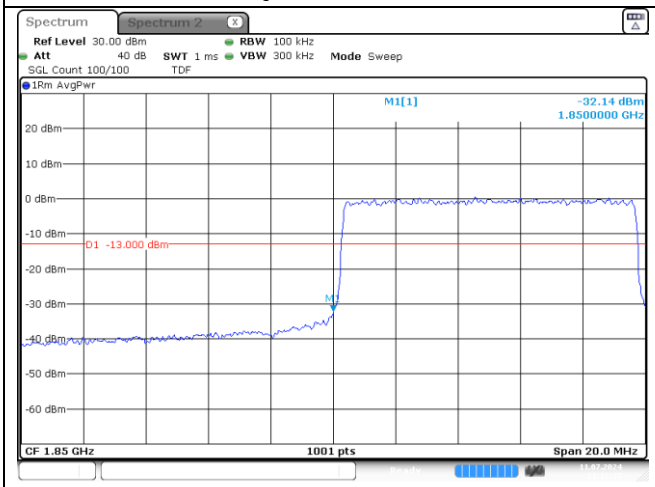
NR band 2 (10 ㎒)



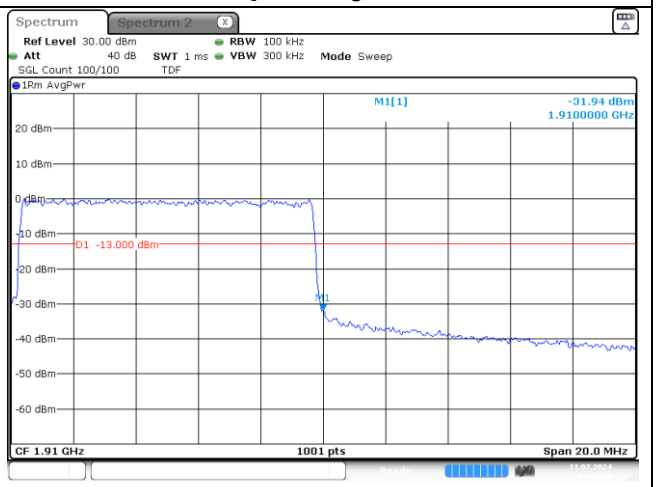
CP-OFDM 16QAM - Low Channel - 1 RB



CP-OFDM 16QAM - High Channel - 1 RB

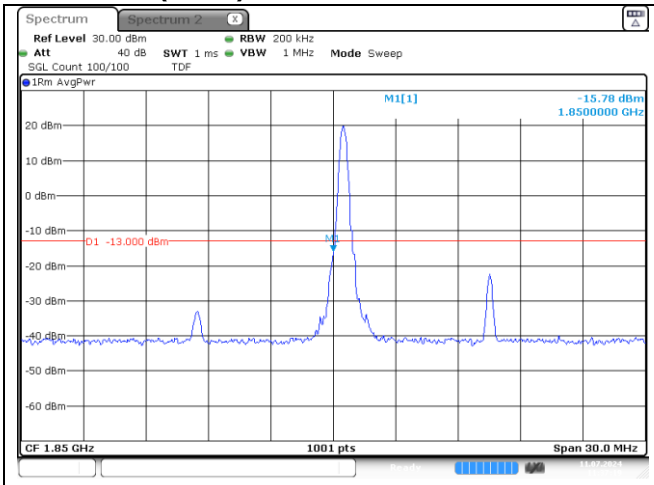


CP-OFDM 16QAM - Low Channel - Full RB

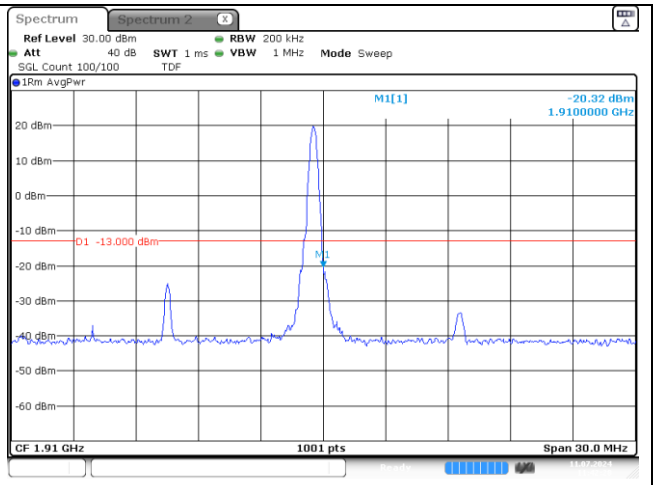


CP-OFDM 16QAM - High Channel - Full RB

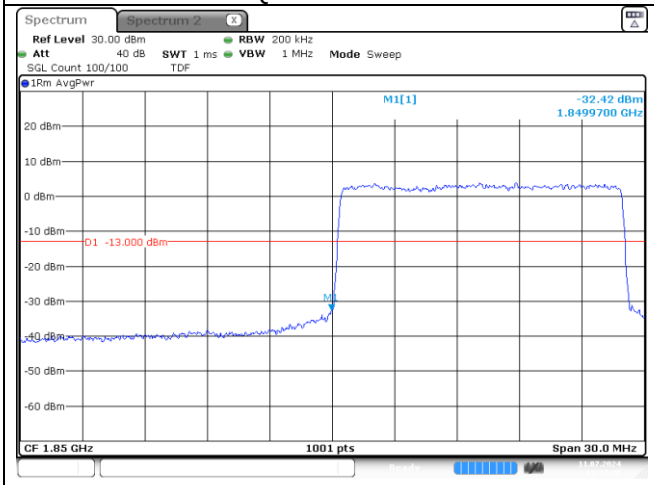
NR band 2 (15 ㎒)



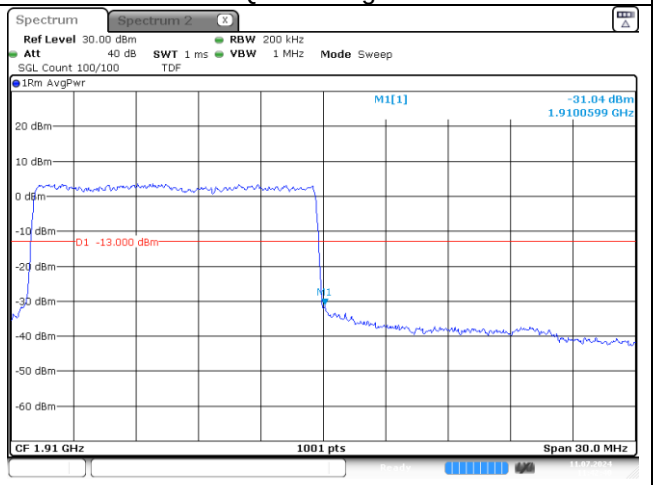
DFT-S-OFDM QPSK - Low Channel - 1 RB



DFT-S-OFDM QPSK - High Channel - 1 RB

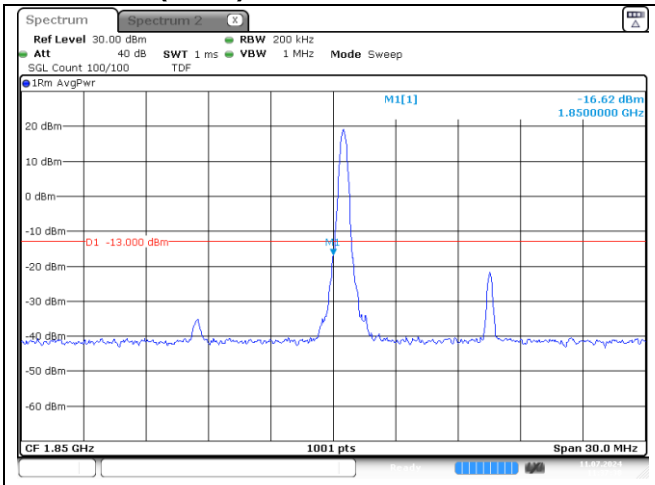


DFT-S-OFDM QPSK - Low Channel - Full RB

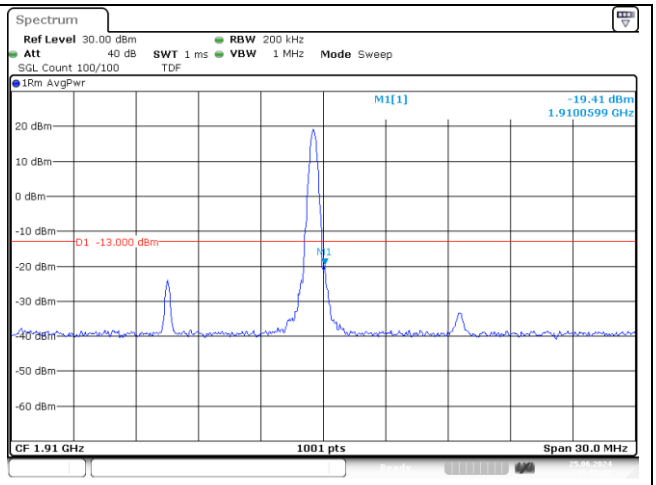


DFT-S-OFDM QPSK - High Channel - Full RB

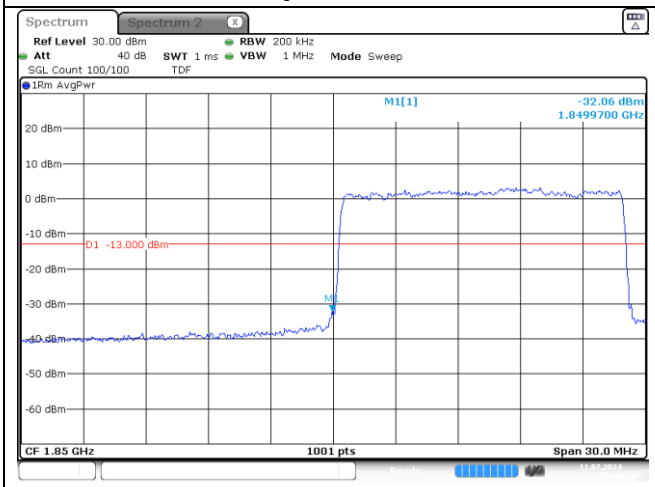
NR band 2 (15 ㎒)



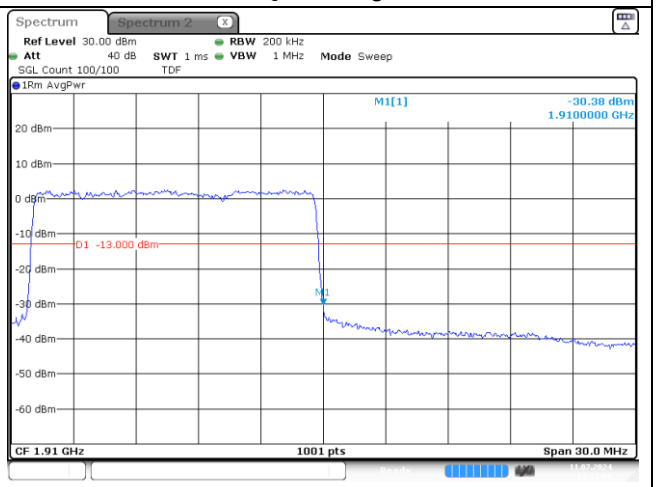
DFT-S-OFDM 16QAM - Low Channel - 1 RB



DFT-S-OFDM 16QAM - High Channel - 1 RB

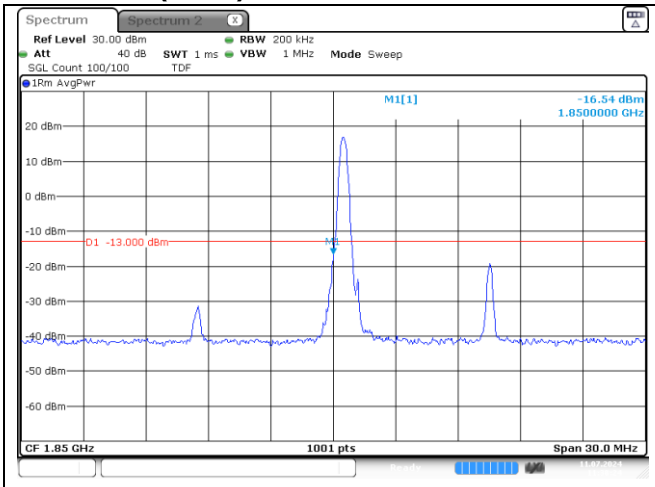


DFT-S-OFDM 16QAM - Low Channel - Full RB

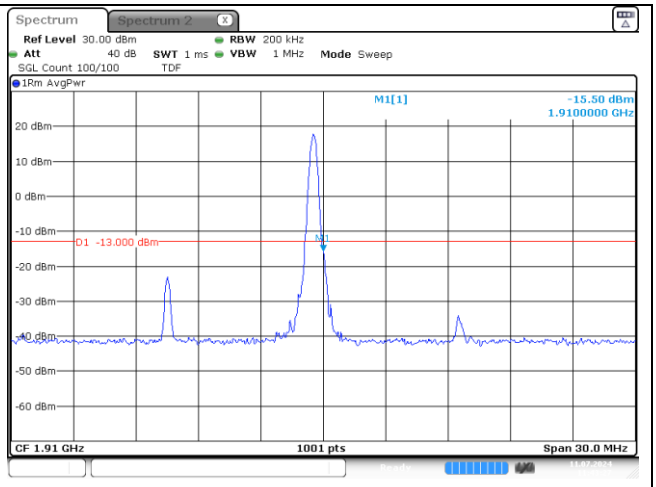


DFT-S-OFDM 16QAM - High Channel - Full RB

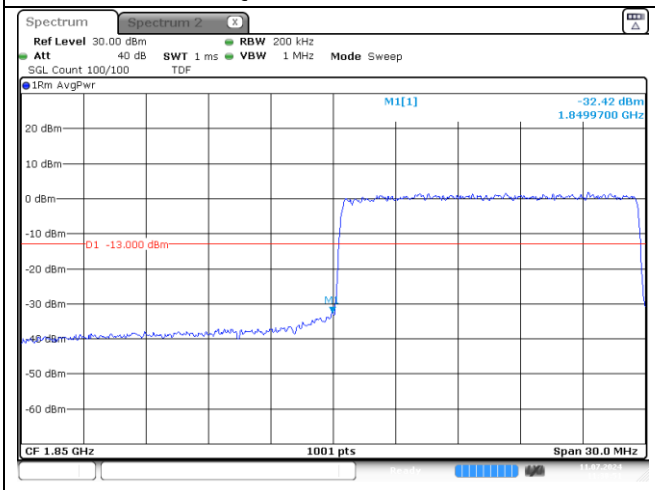
NR band 2 (15 ㎒)



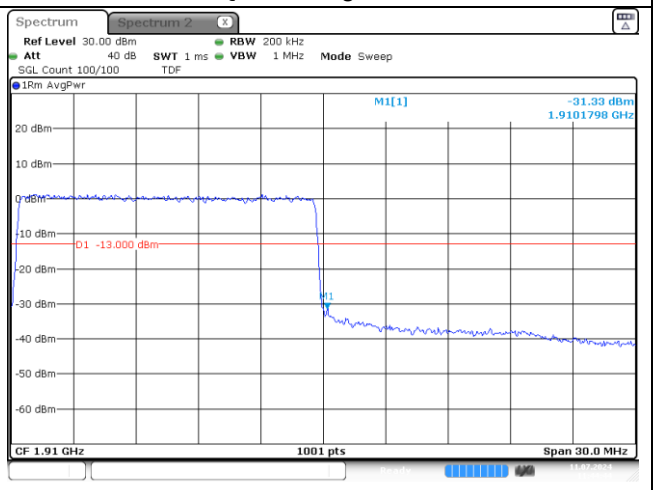
CP-OFDM QPSK - Low Channel - 1 RB



CP-OFDM QPSK - High Channel - 1 RB

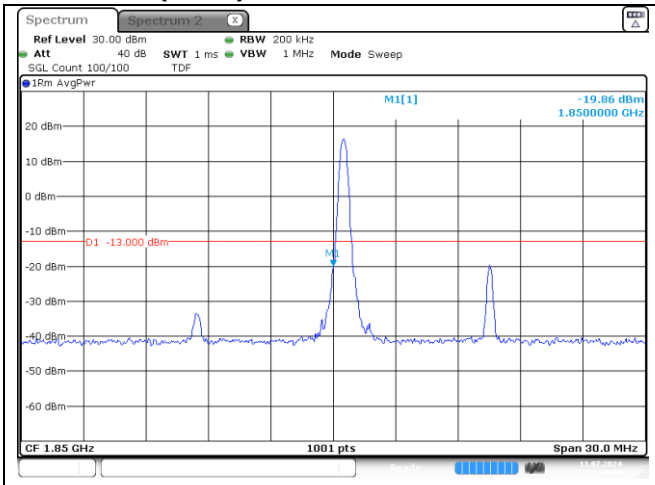


CP-OFDM QPSK - Low Channel - Full RB

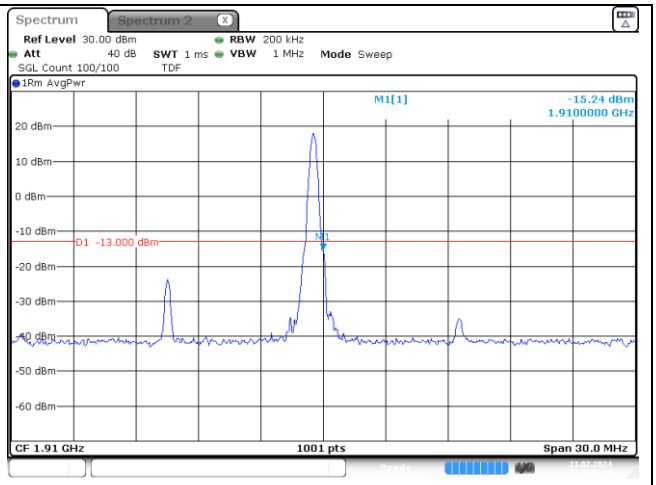


CP-OFDM QPSK - High Channel - Full RB

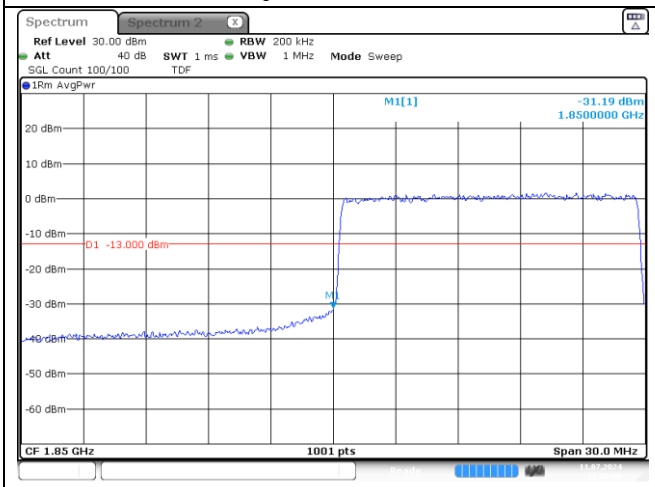
NR band 2 (15 ㎒)



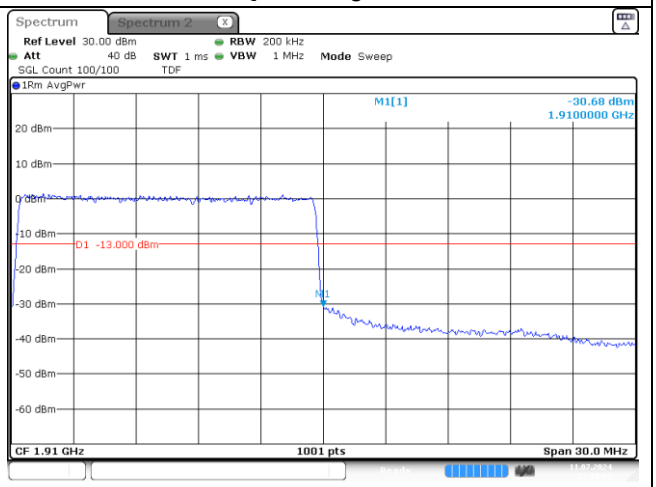
CP-OFDM 16QAM - Low Channel - 1 RB



CP-OFDM 16QAM - High Channel - 1 RB

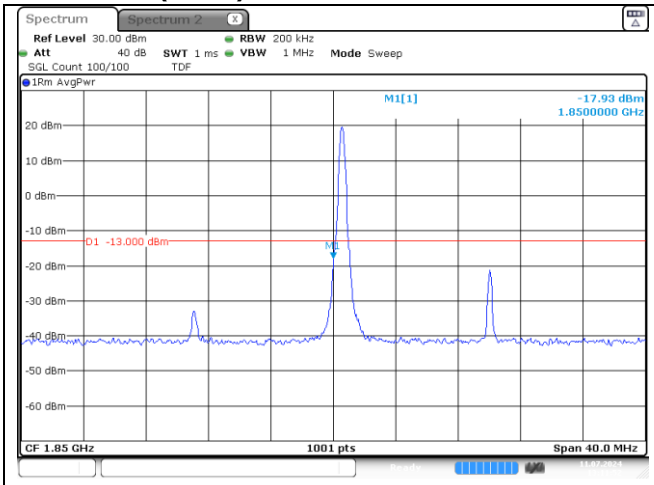


CP-OFDM 16QAM - Low Channel - Full RB

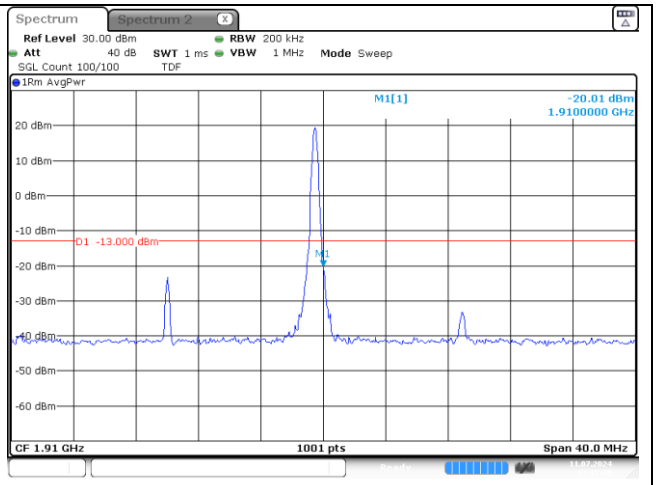


CP-OFDM 16QAM - High Channel - Full RB

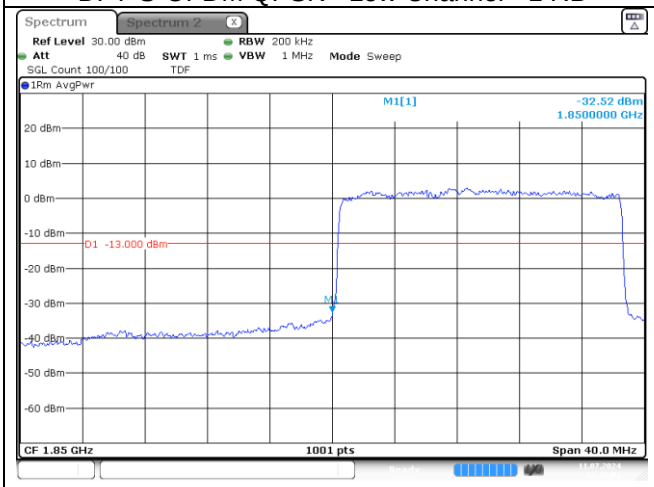
NR band 2 (20 ㎒)



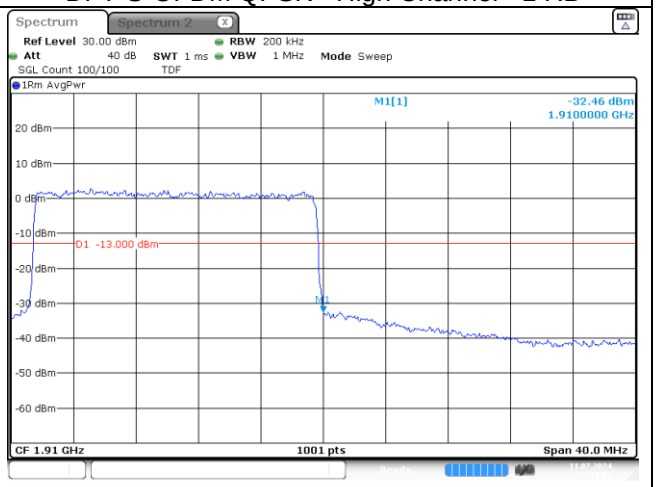
DFT-S-OFDM QPSK - Low Channel - 1 RB



DFT-S-OFDM QPSK - High Channel - 1 RB

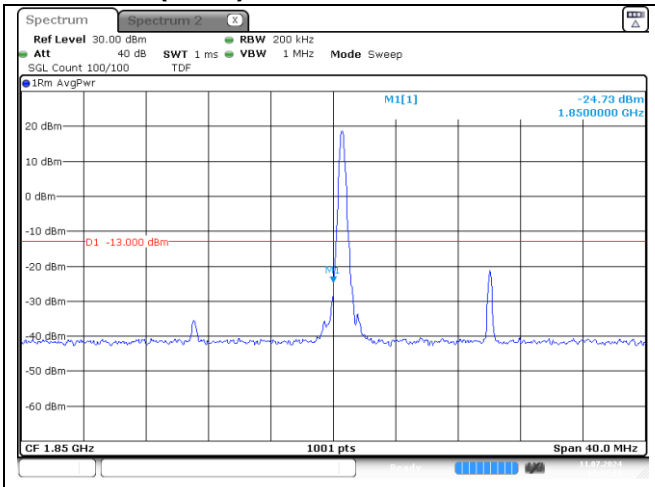


DFT-S-OFDM QPSK - Low Channel - Full RB

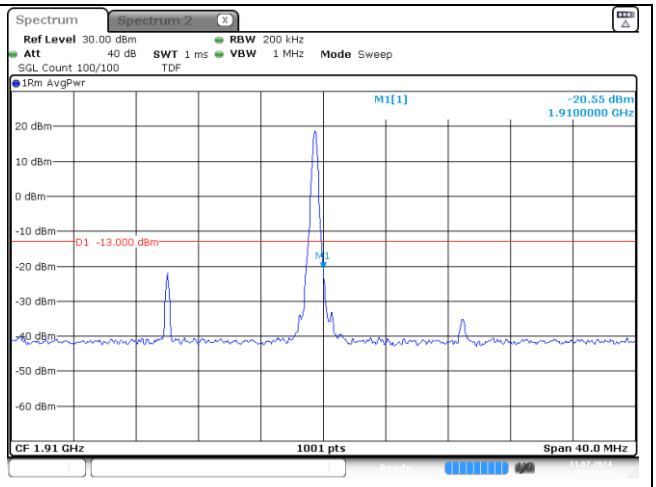


DFT-S-OFDM QPSK - High Channel - Full RB

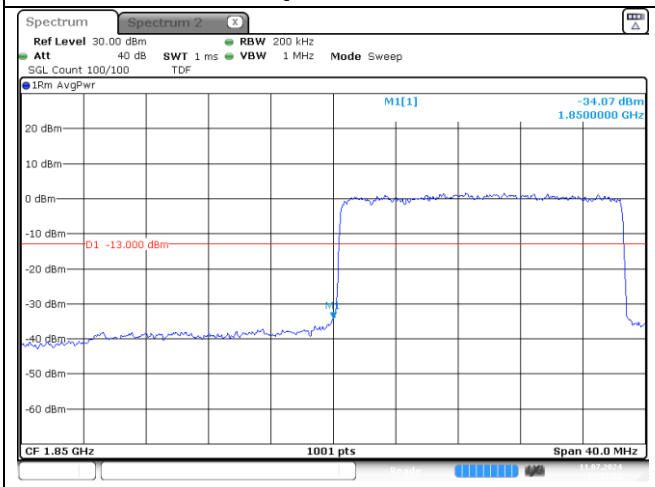
NR band 2 (20 ㎒)



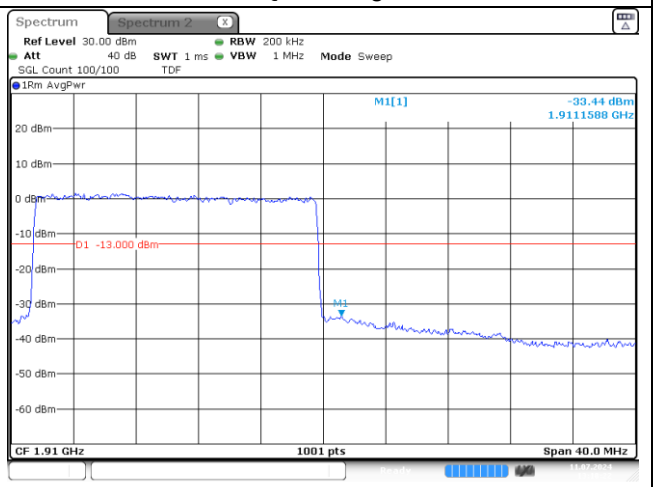
DFT-S-OFDM 16QAM - Low Channel - 1 RB



DFT-S-OFDM 16QAM - High Channel - 1 RB

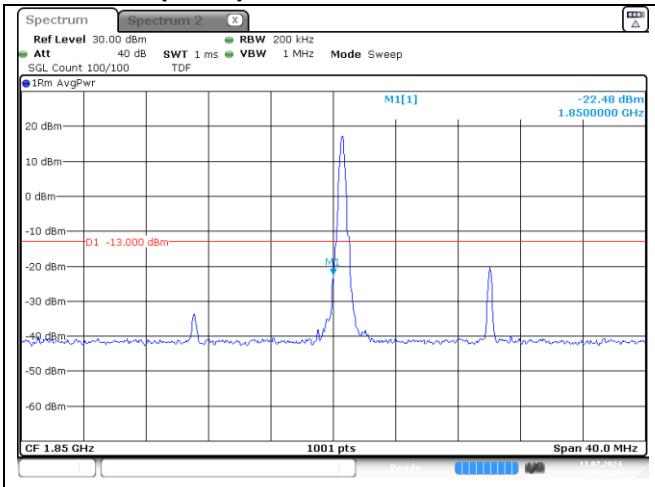


DFT-S-OFDM 16QAM - Low Channel - Full RB

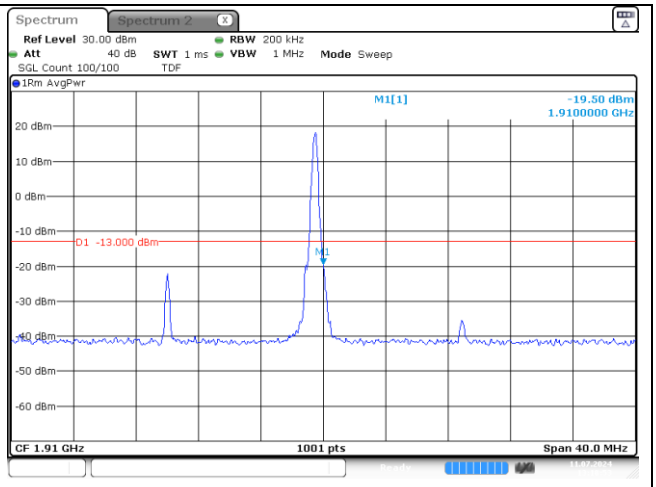


DFT-S-OFDM 16QAM - High Channel - Full RB

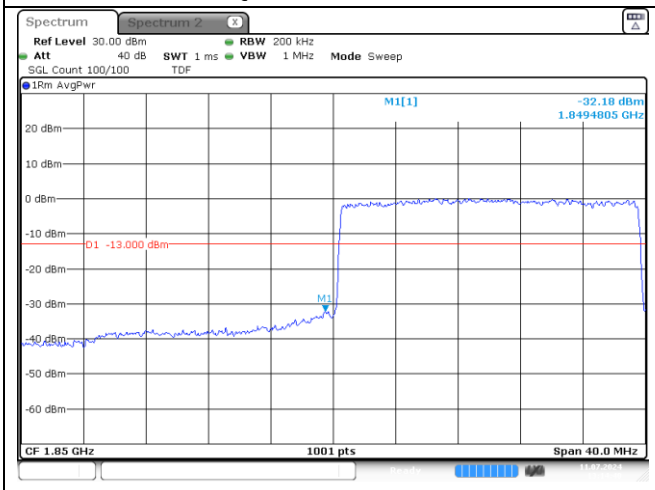
NR band 2 (20 ㎒)



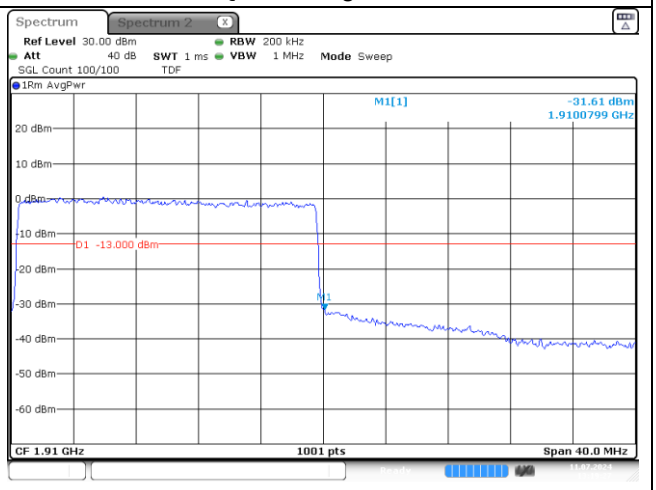
CP-OFDM QPSK - Low Channel - 1 RB



CP-OFDM QPSK - High Channel - 1 RB

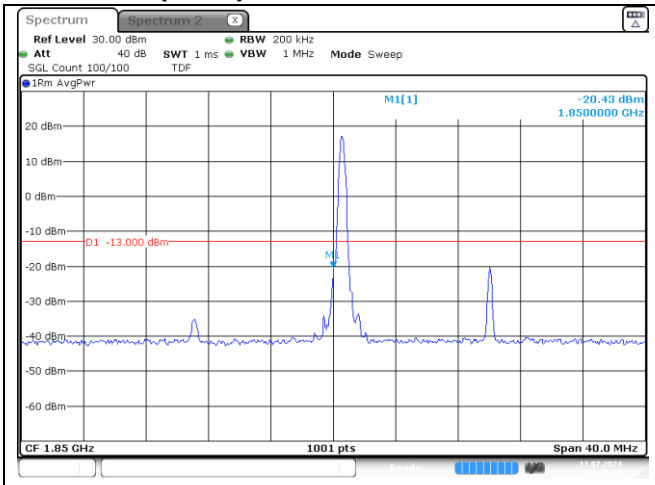


CP-OFDM QPSK - Low Channel - Full RB

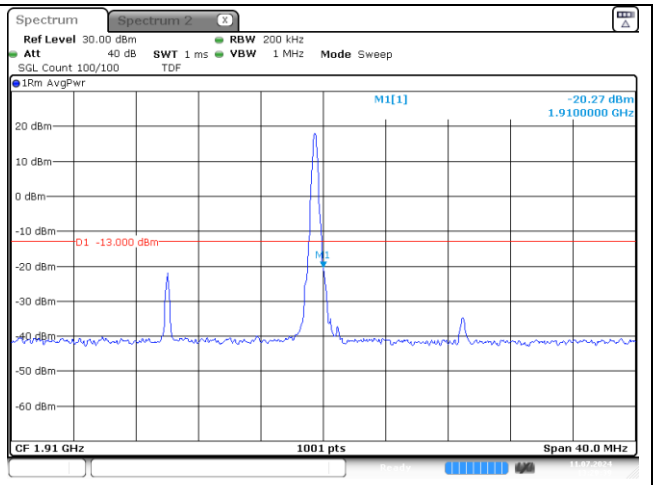


CP-OFDM QPSK - High Channel - Full RB

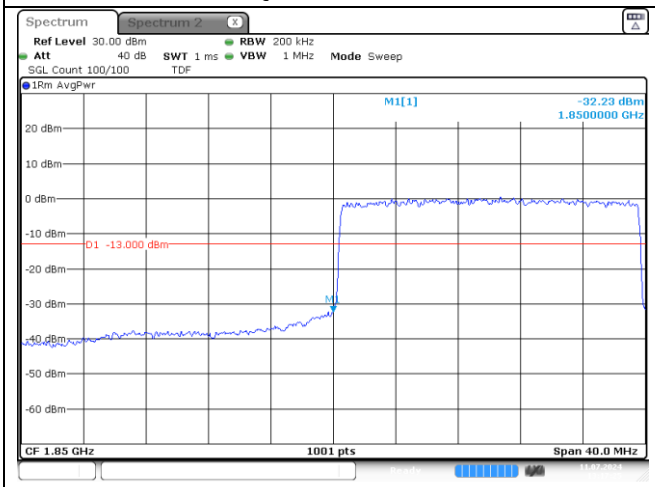
NR band 2 (20 ㎒)



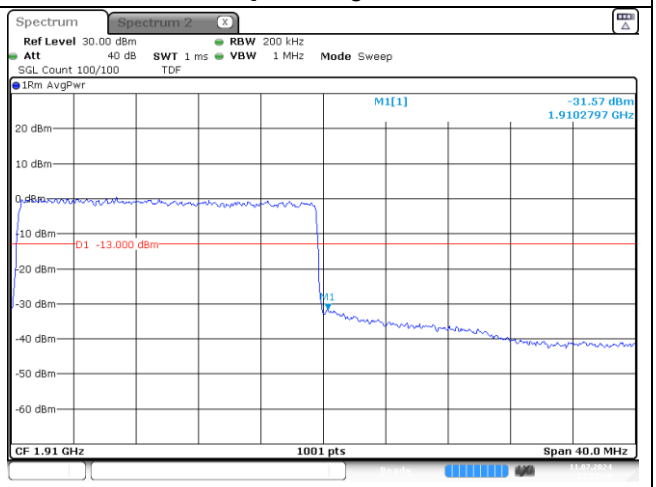
CP-OFDM 16QAM - Low Channel - 1 RB



CP-OFDM 16QAM - High Channel - 1 RB

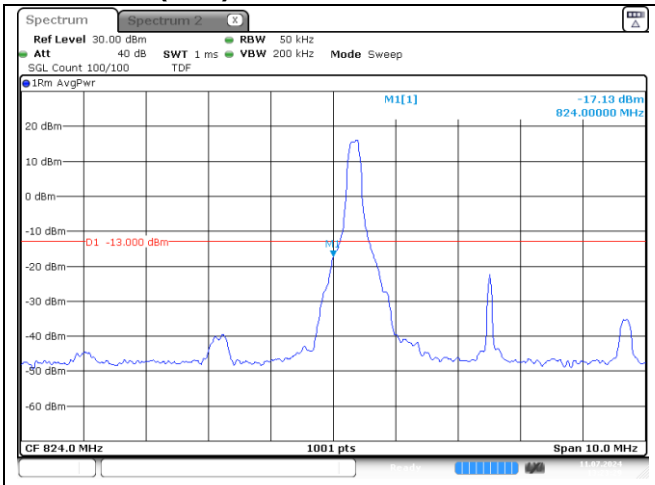


CP-OFDM 16QAM - Low Channel - Full RB

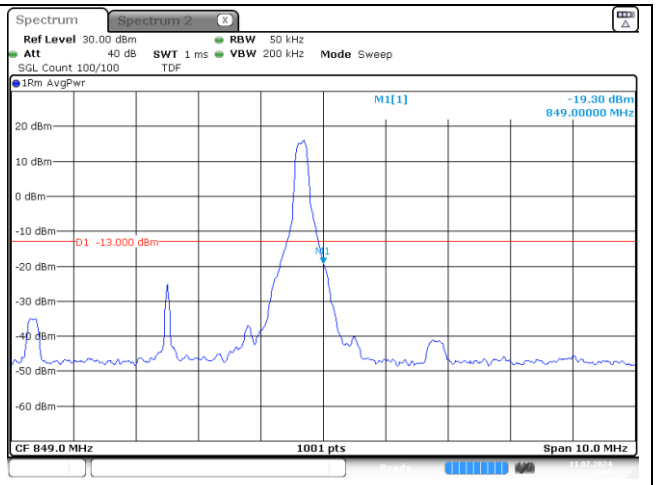


CP-OFDM 16QAM - High Channel - Full RB

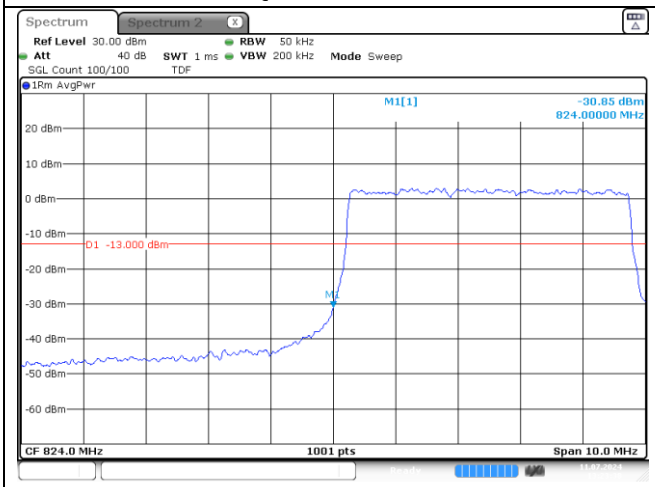
NR band 5 (5 ㎒)



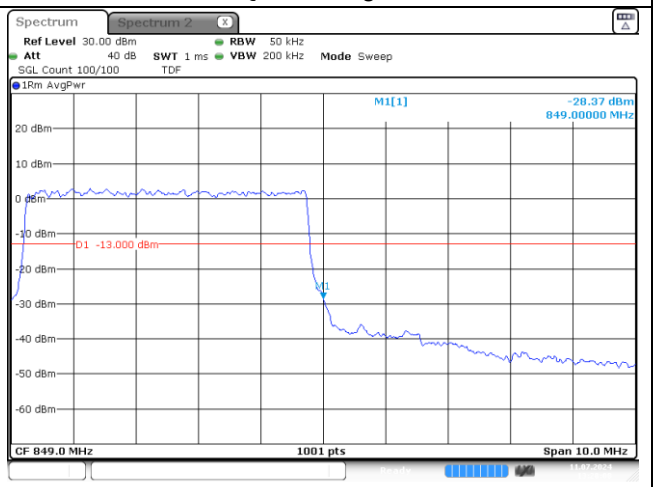
DFT-S-OFDM QPSK - Low Channel - 1 RB



DFT-S-OFDM QPSK - High Channel - 1 RB

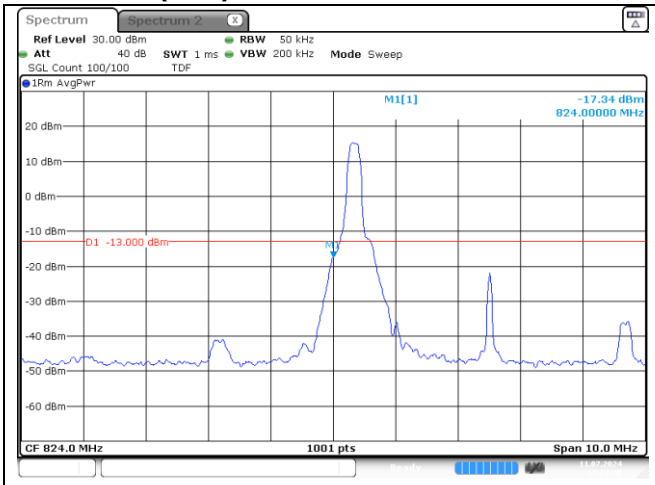


DFT-S-OFDM QPSK - Low Channel - Full RB

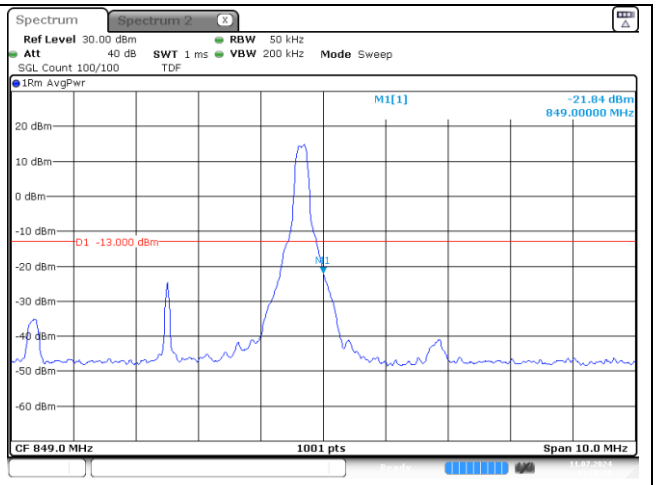


DFT-S-OFDM QPSK - High Channel - Full RB

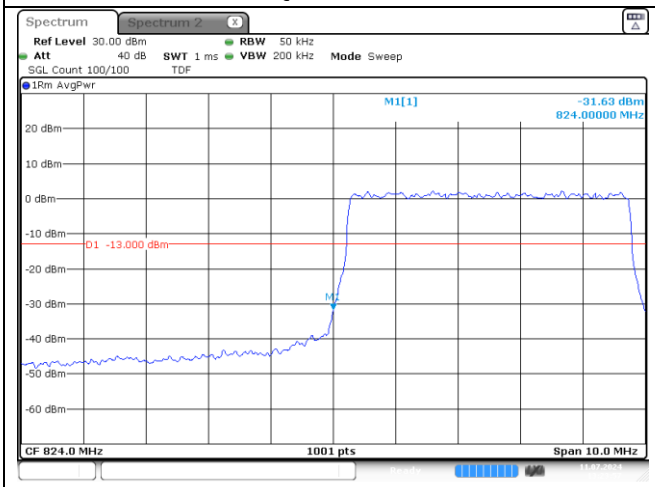
NR band 5 (5 ㎒)



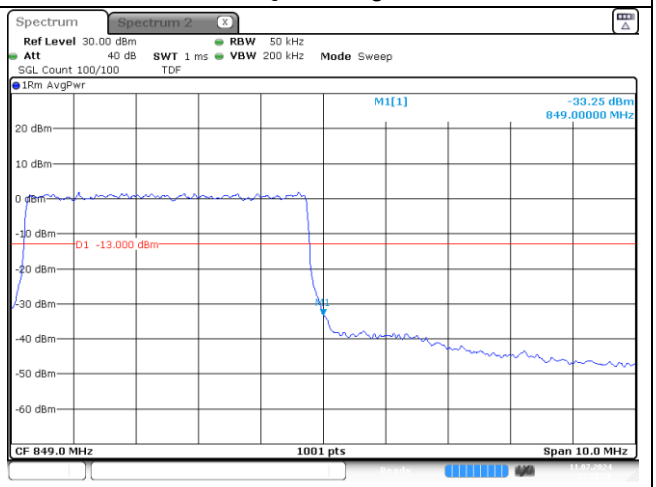
DFT-S-OFDM 16QAM - Low Channel - 1 RB



DFT-S-OFDM 16QAM - High Channel - 1 RB

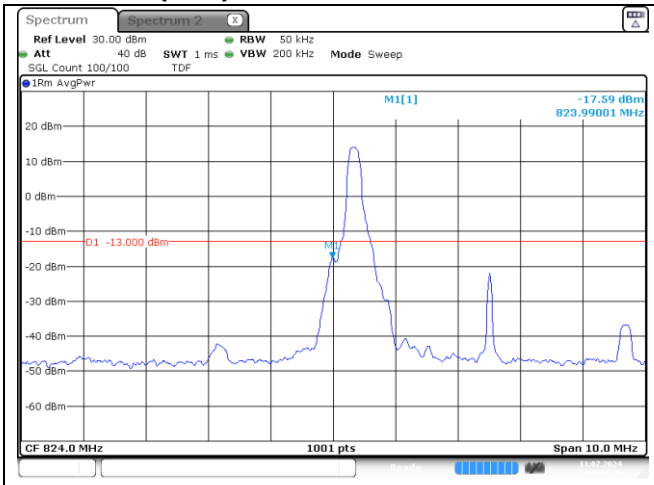


DFT-S-OFDM 16QAM - Low Channel - Full RB

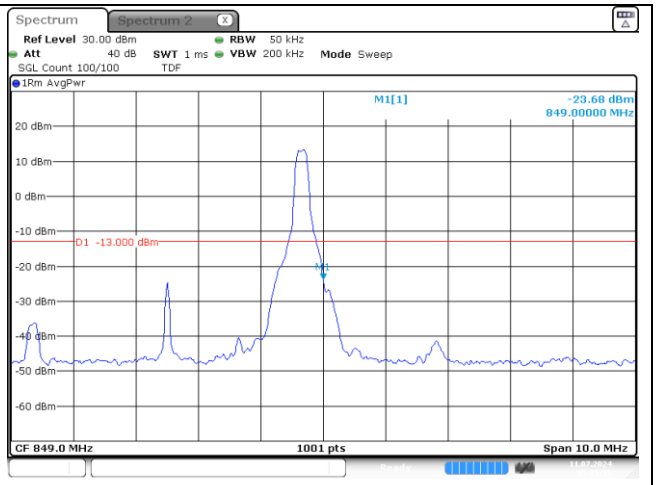


DFT-S-OFDM 16QAM - High Channel - Full RB

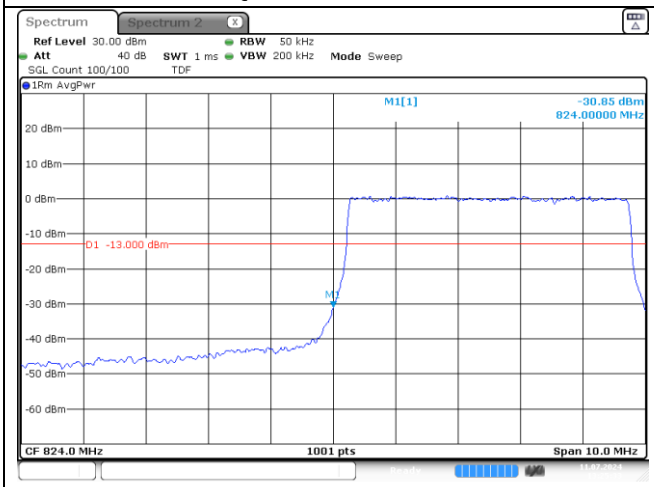
NR band 5 (5 ㎒)



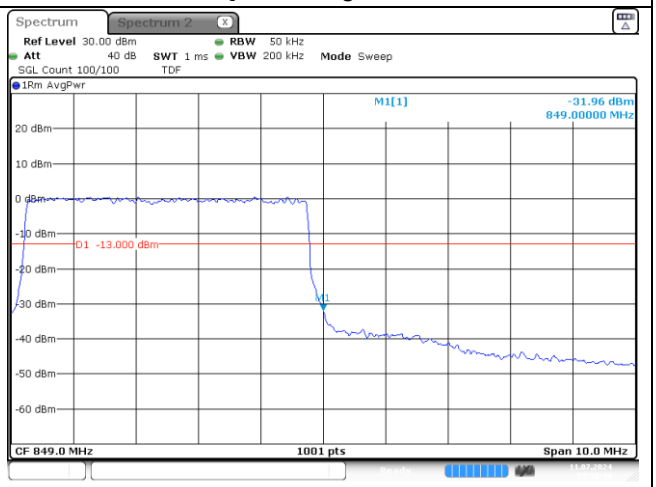
CP-OFDM QPSK - Low Channel - 1 RB



CP-OFDM QPSK - High Channel - 1 RB

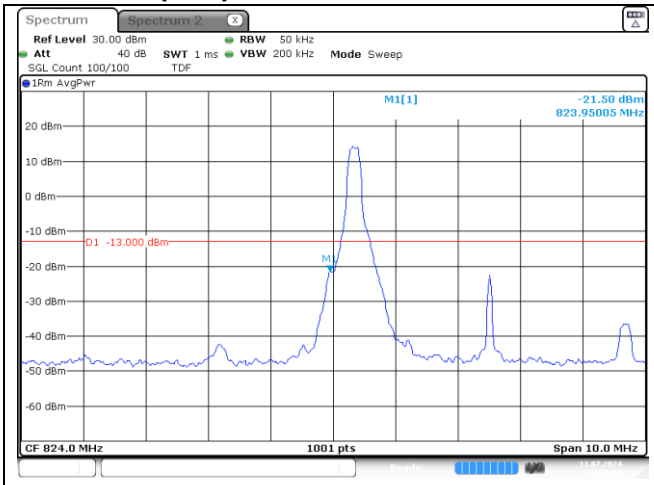


CP-OFDM QPSK - Low Channel - Full RB

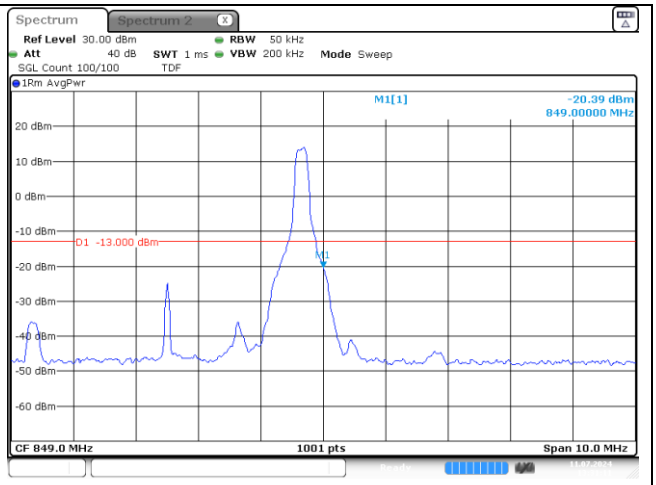


CP-OFDM QPSK - High Channel - Full RB

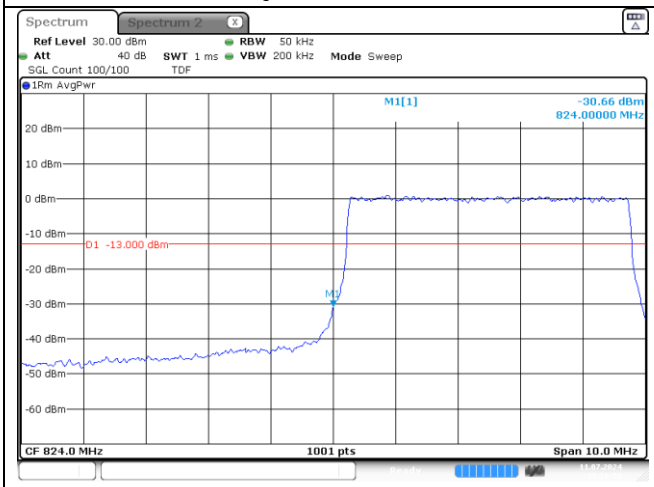
NR band 5 (5 ㎒)



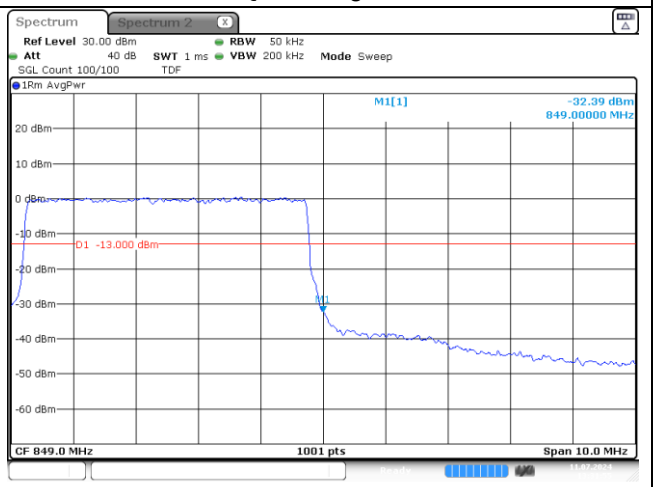
CP-OFDM 16QAM - Low Channel - 1 RB



CP-OFDM 16QAM - High Channel - 1 RB

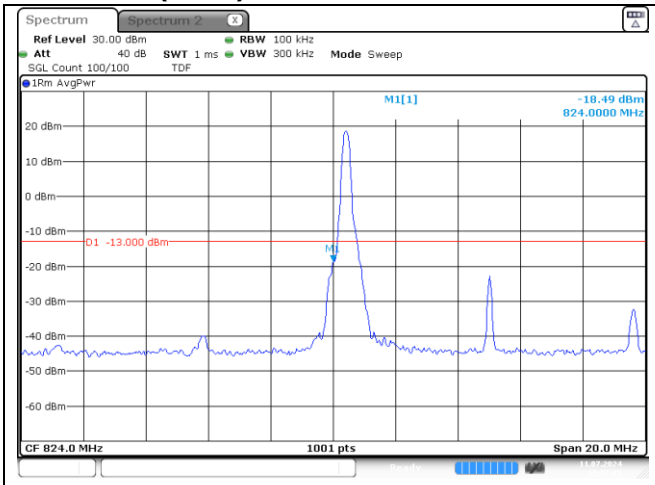


CP-OFDM 16QAM - Low Channel - Full RB

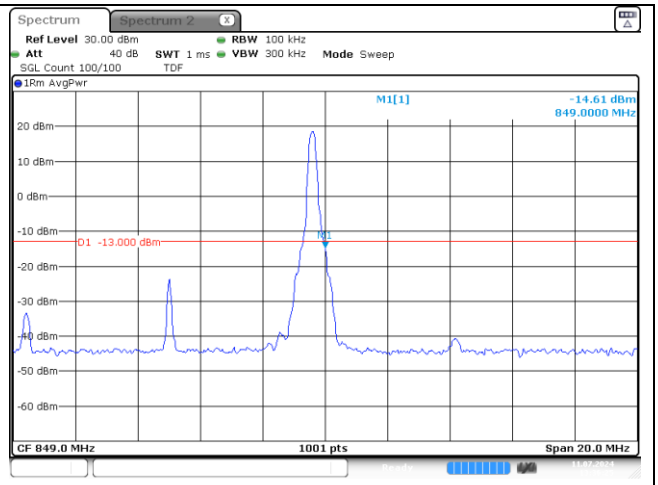


CP-OFDM 16QAM - High Channel - Full RB

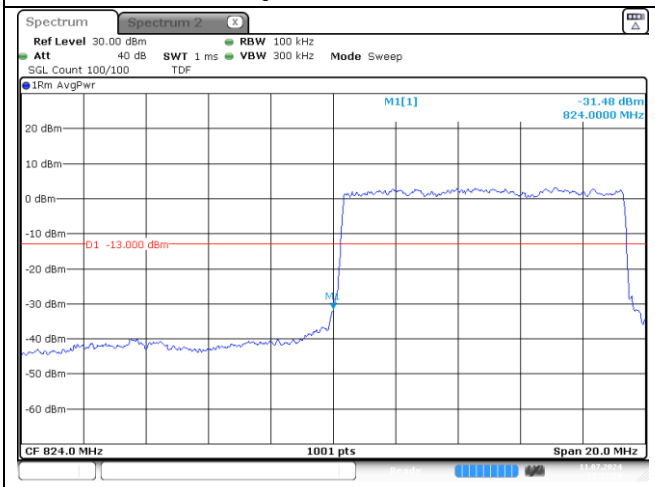
NR band 5 (10 ㎒)



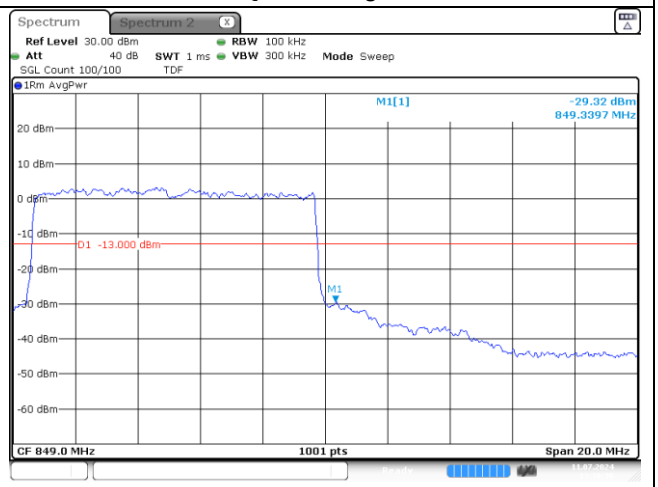
DFT-S-OFDM QPSK - Low Channel - 1 RB



DFT-S-OFDM QPSK - High Channel - 1 RB

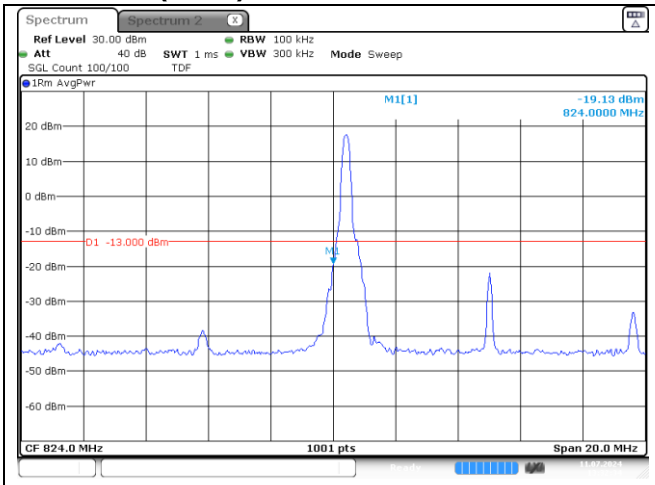


DFT-S-OFDM QPSK - Low Channel - Full RB

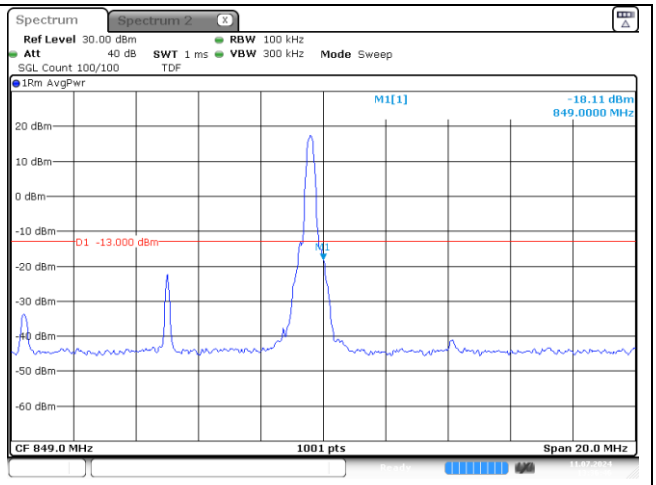


DFT-S-OFDM QPSK - High Channel - Full RB

NR band 5 (10 ㎒)



DFT-S-OFDM 16QAM - Low Channel - 1 RB



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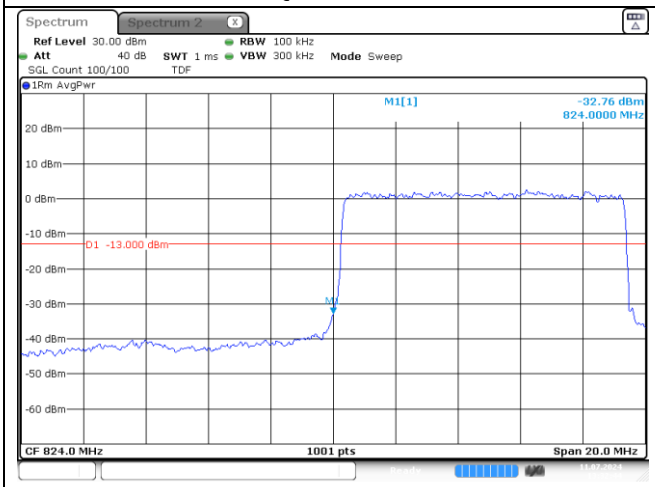
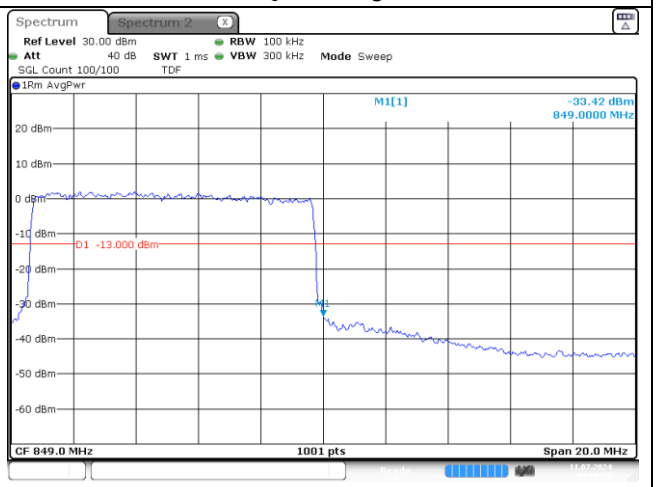
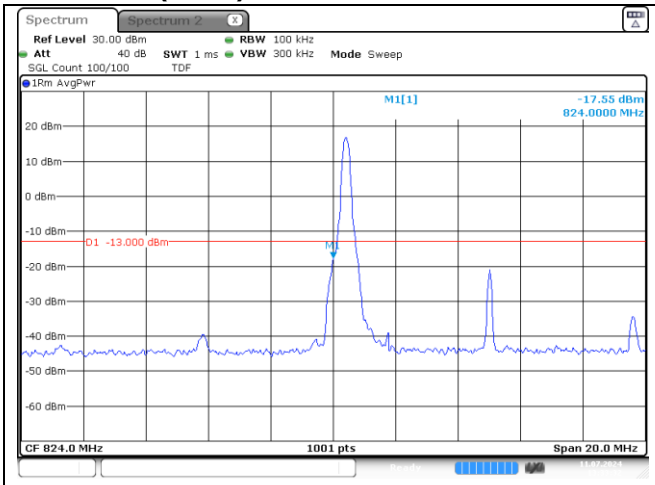


DFT-S-OFDM 16QAM - Low Channel - Full RB

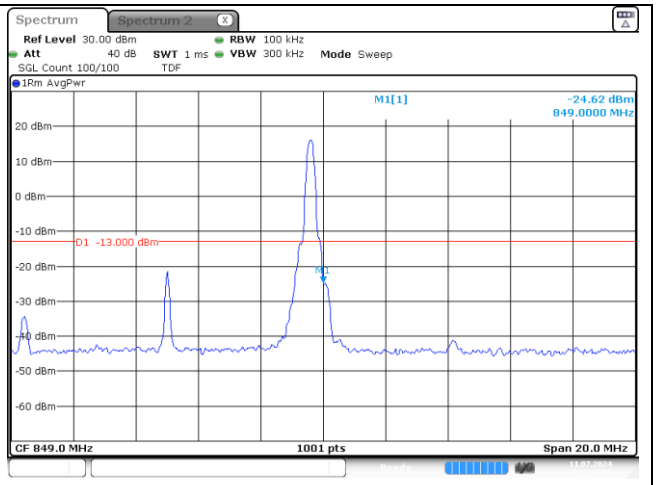


DFT-S-OFDM 16QAM - High Channel - Full RB

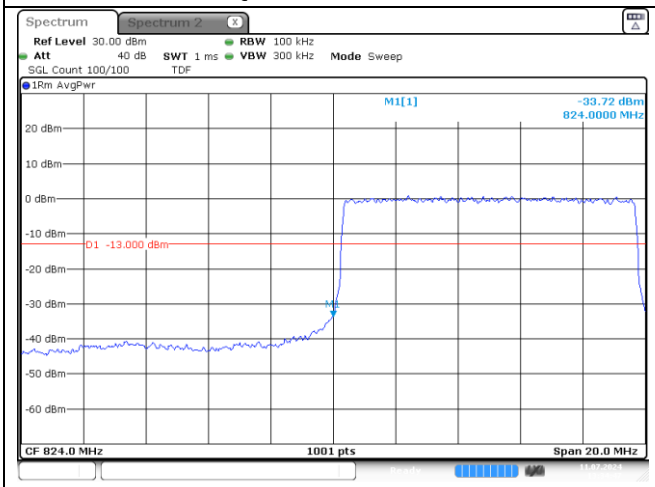
NR band 5 (10 ㎒)



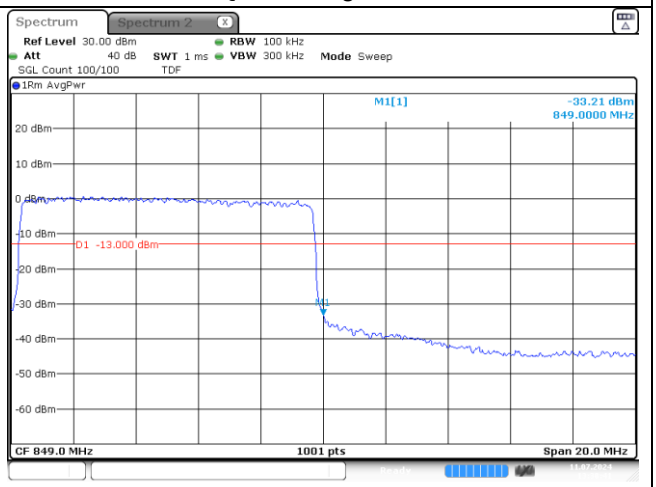
CP-OFDM QPSK - Low Channel - 1 RB



CP-OFDM QPSK - High Channel - 1 RB

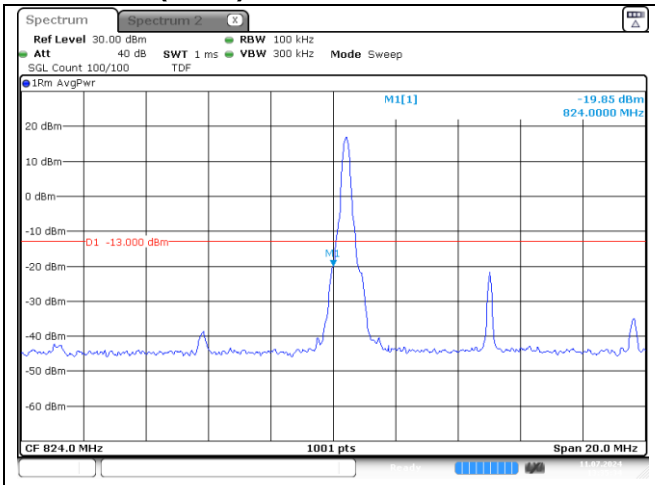


CP-OFDM QPSK - Low Channel - Full RB

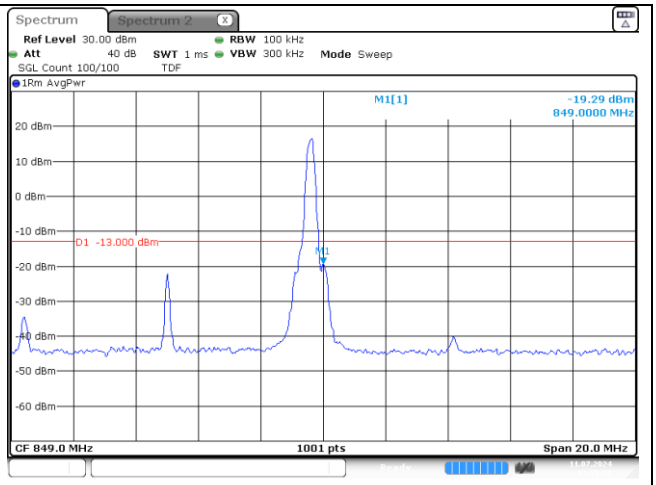


CP-OFDM QPSK - High Channel - Full RB

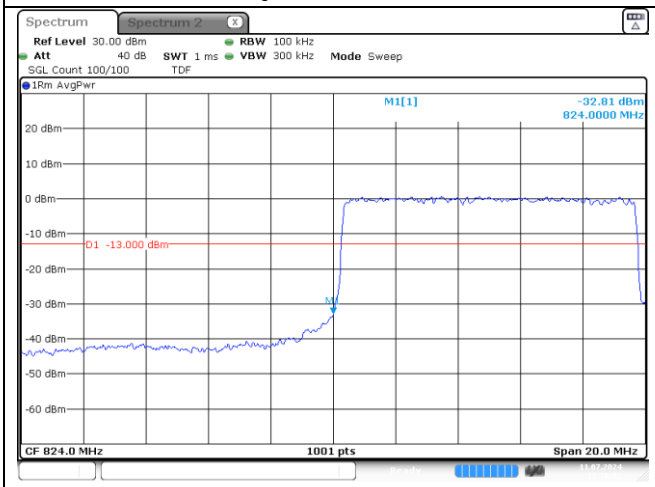
NR band 5 (10 ㎒)



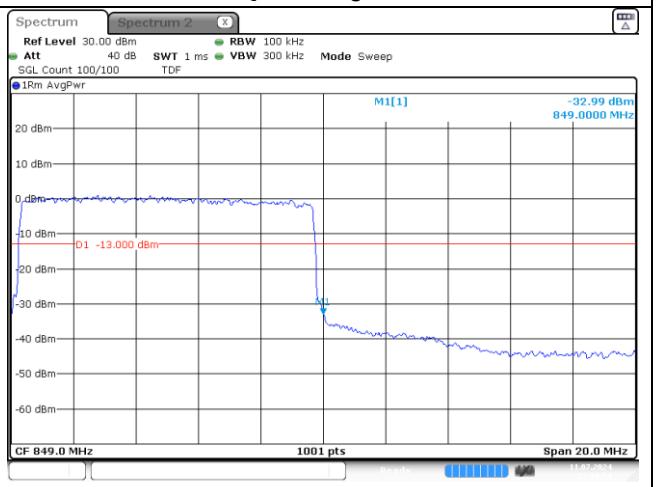
CP-OFDM 16QAM - Low Channel 1 RB



CP-OFDM 16QAM - High Channel - 1 RB

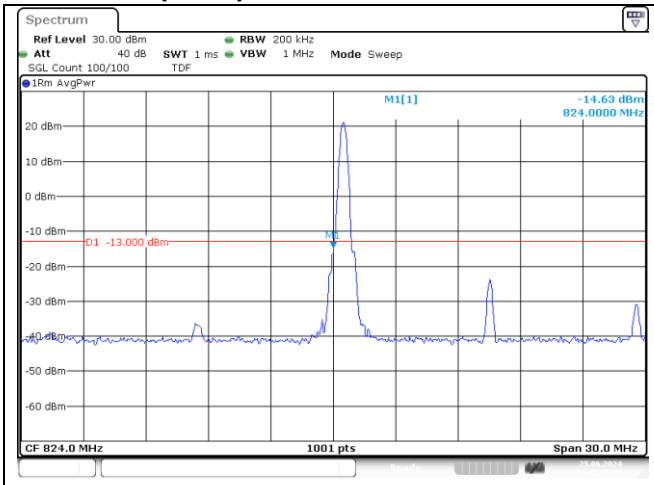


CP-OFDM 16QAM - Low Channel - Full RB

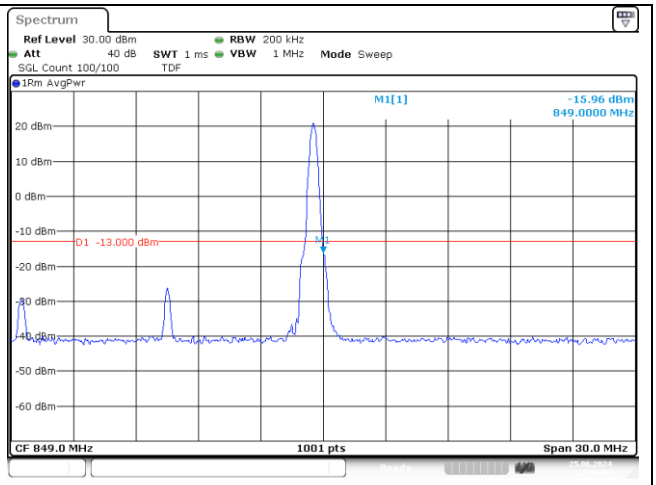


CP-OFDM 16QAM - High Channel - Full RB

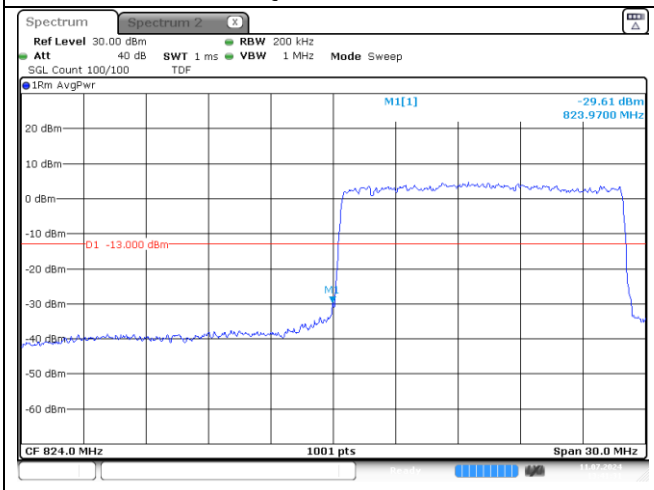
NR band 5 (15 ㎒)



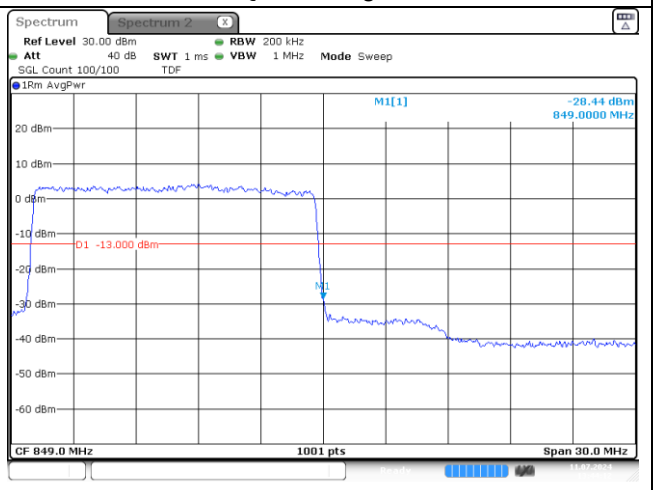
DFT-S-OFDM QPSK - Low Channel - 1 B



DFT-S-OFDM QPSK - High Channel - 1 RB

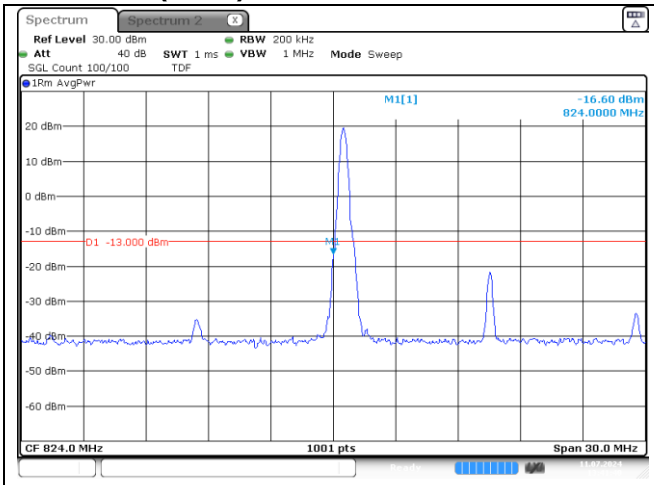


DFT-S-OFDM QPSK - Low Channel - Full RB

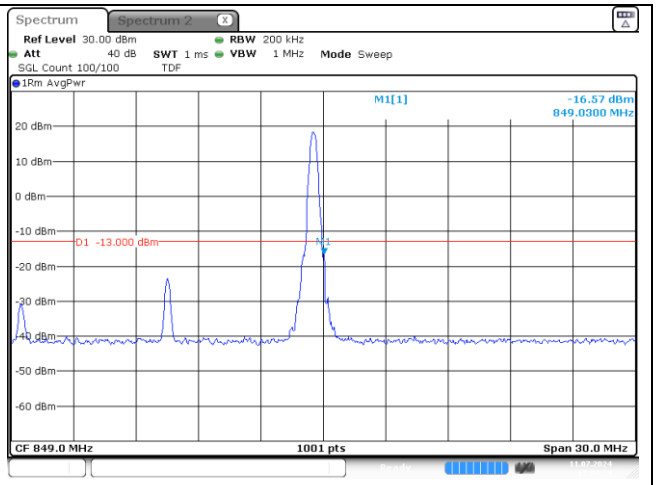


DFT-S-OFDM QPSK - High Channel - Full RB

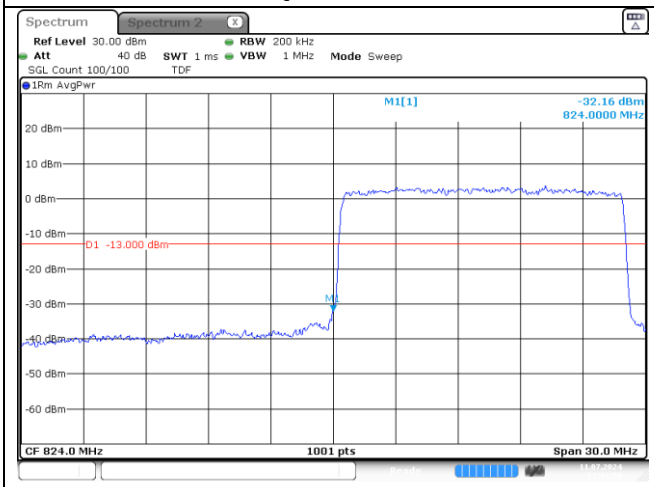
NR band 5 (15 ㎒)



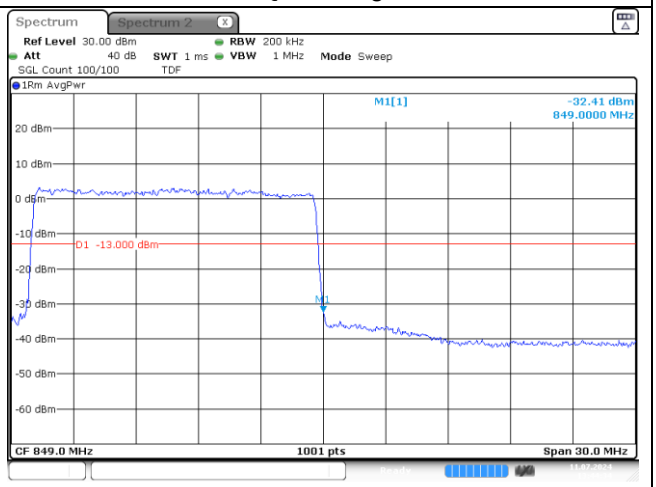
DFT-S-OFDM 16QAM - Low Channel - 1 RB



DFT-S-OFDM 16QAM - High Channel - 1 RB

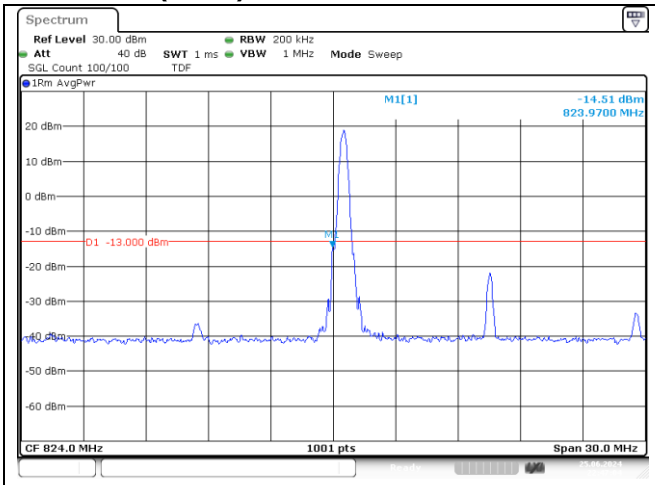


DFT-S-OFDM 16QAM - Low Channel - Full RB

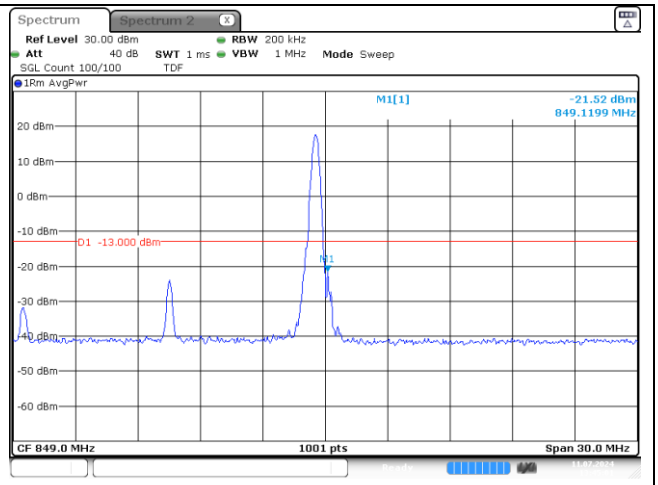


DFT-S-OFDM 16QAM - High Channel - Full RB

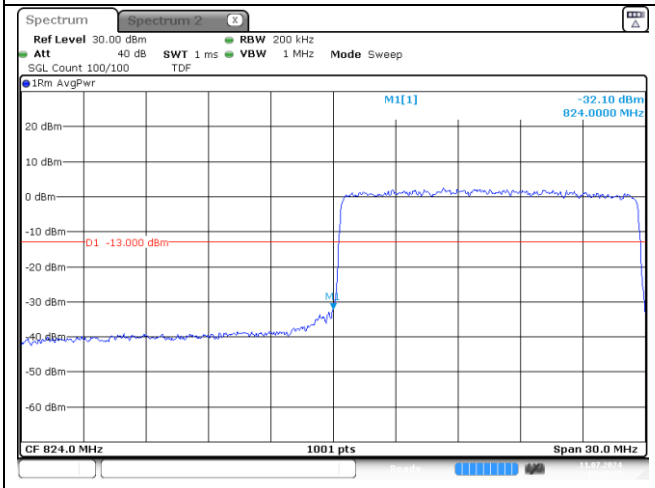
NR band 5 (15 ㎒)



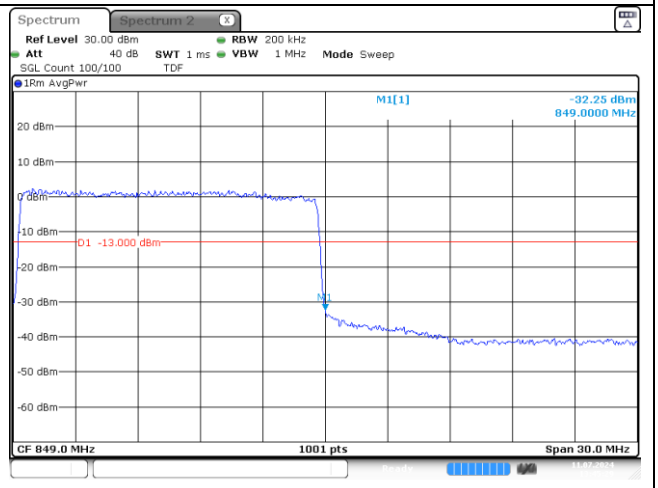
CP-OFDM QPSK - Low Channel - 1 RB



CP-OFDM QPSK - High Channel - 1 RB

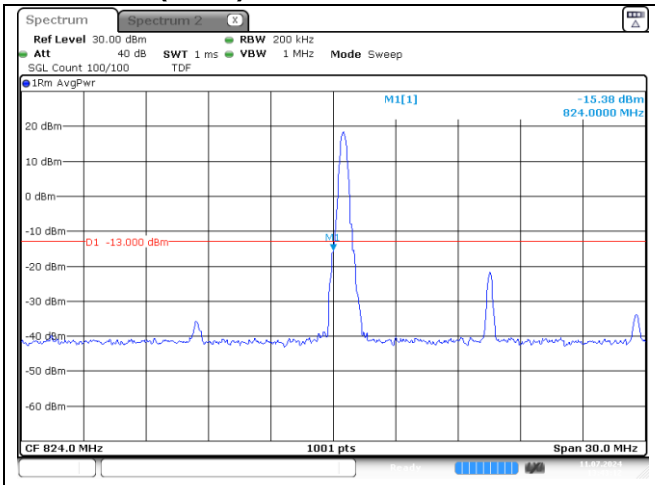


CP-OFDM QPSK - Low Channel - Full RB

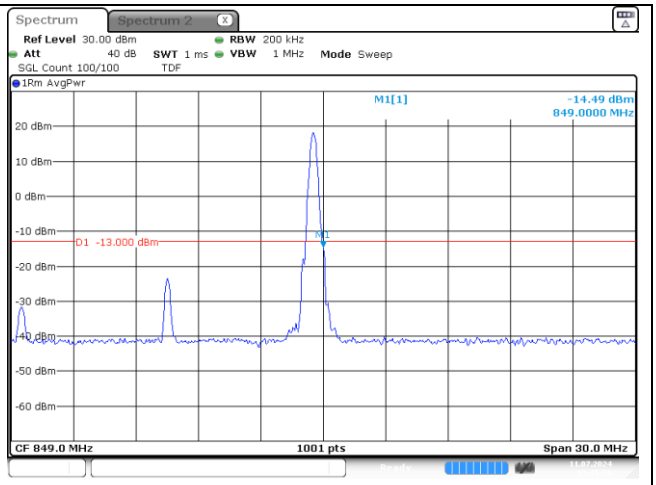


CP-OFDM QPSK - High Channel - Full RB

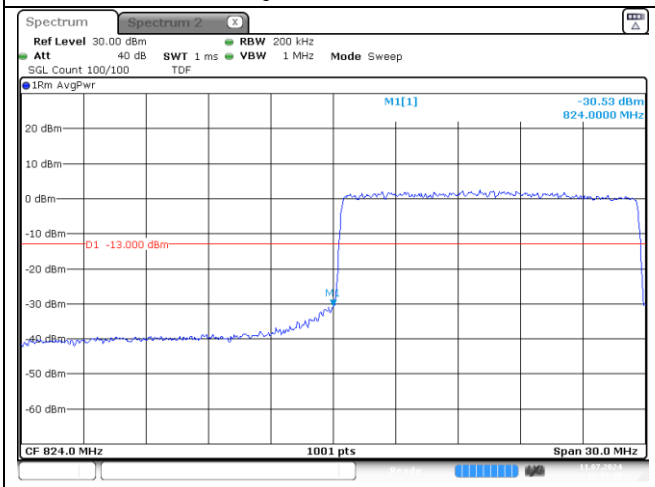
NR band 5 (15 ㎒)



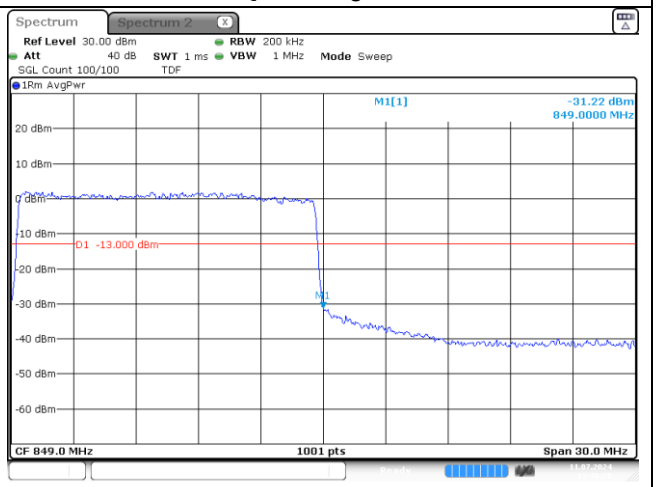
CP-OFDM 16QAM - Low Channel - 1 RB



CP-OFDM 16QAM - High Channel - 1 RB

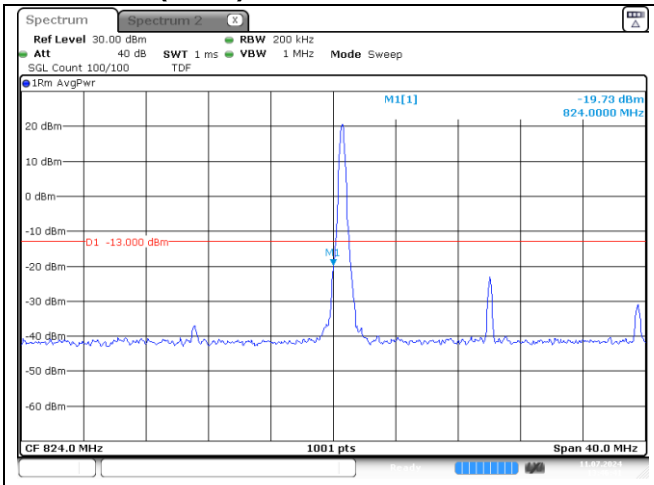


CP-OFDM 16QAM - Low Channel - Full RB

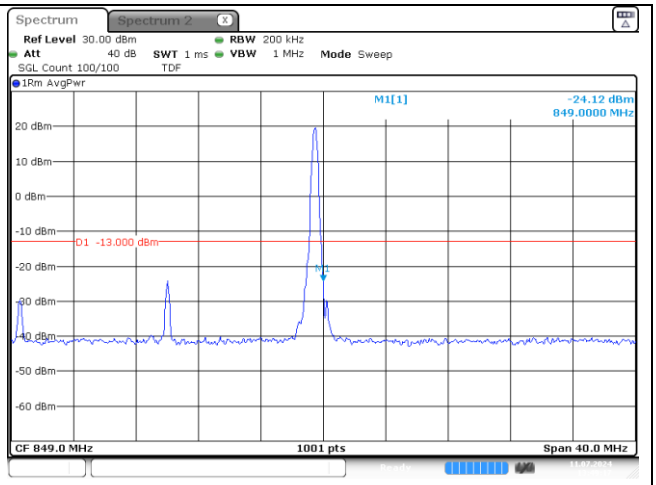


CP-OFDM 16QAM - High Channel - Full RB

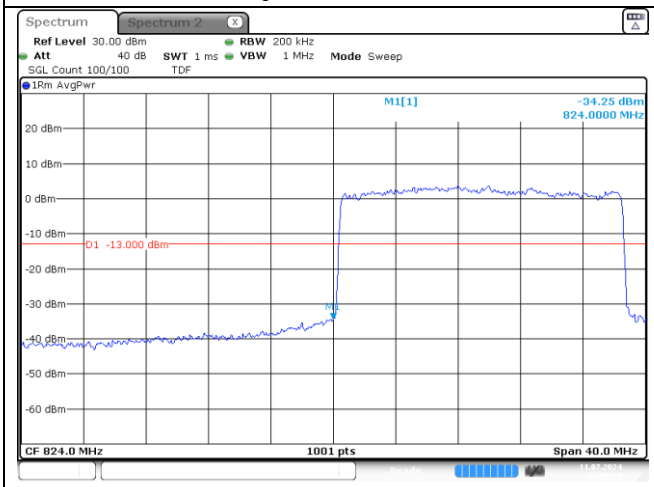
NR band 5 (20 ㎒)



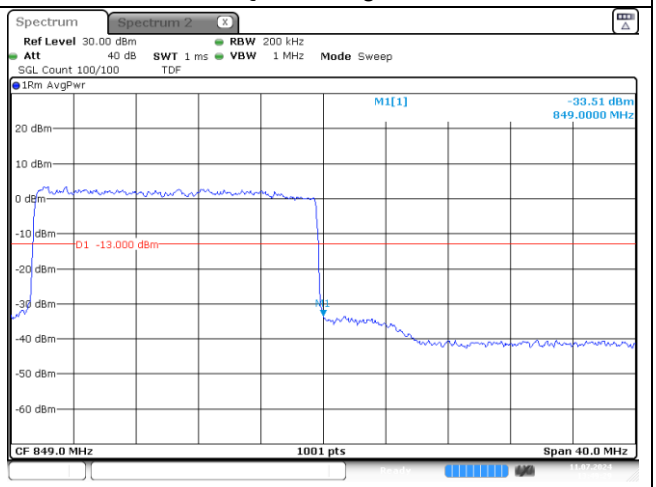
DFT-S-OFDM QPSK - Low Channel - 1 RB



DFT-S-OFDM QPSK - High Channel - 1 RB

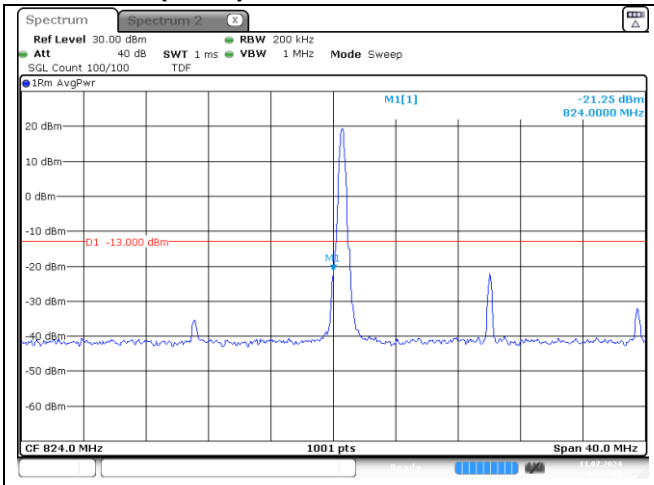


DFT-S-OFDM QPSK - Low Channel - Full RB

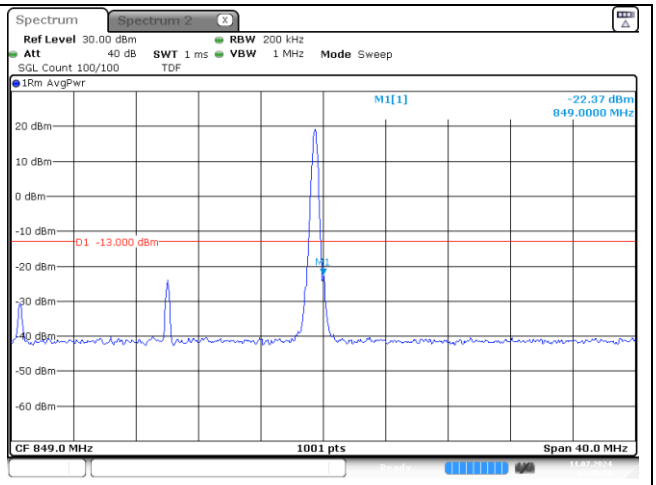


DFT-S-OFDM QPSK - High Channel - Full RB

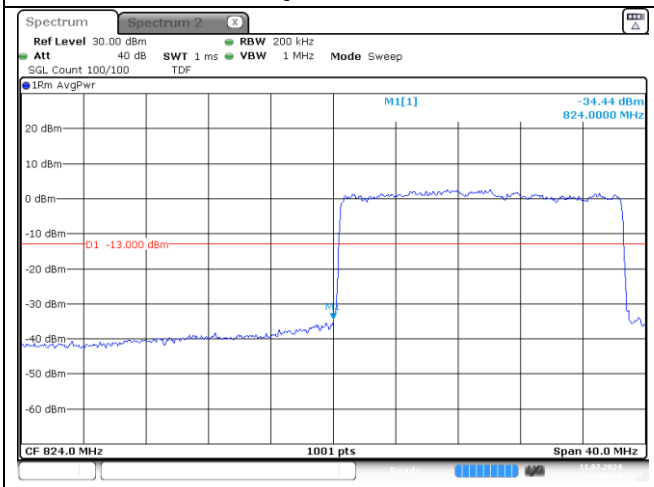
NR band 5 (20 ㎒)



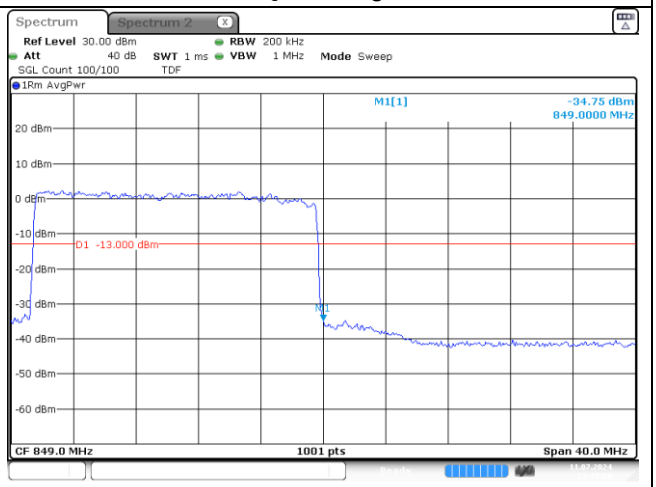
DFT-S-OFDM 16QAM - Low Channel - 1 RB



DFT-S-OFDM 16QAM - High Channel - 1 RB

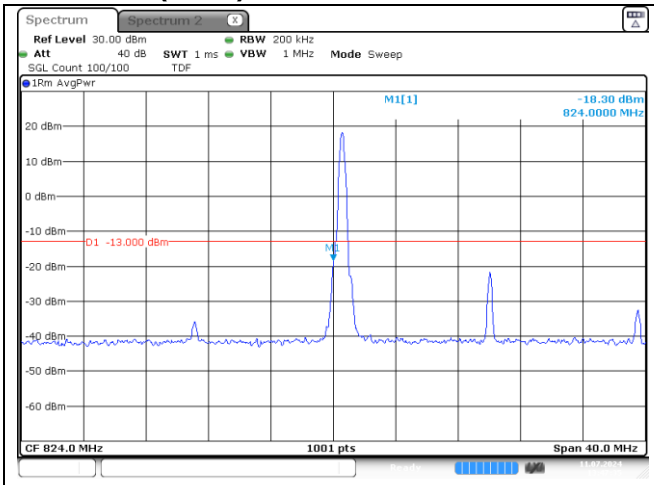


DFT-S-OFDM 16QAM - Low Channel - Full RB

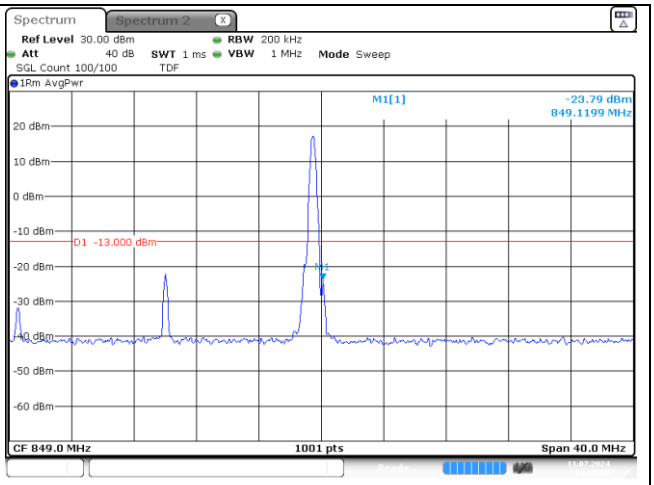


DFT-S-OFDM 16QAM - High Channel - Full RB

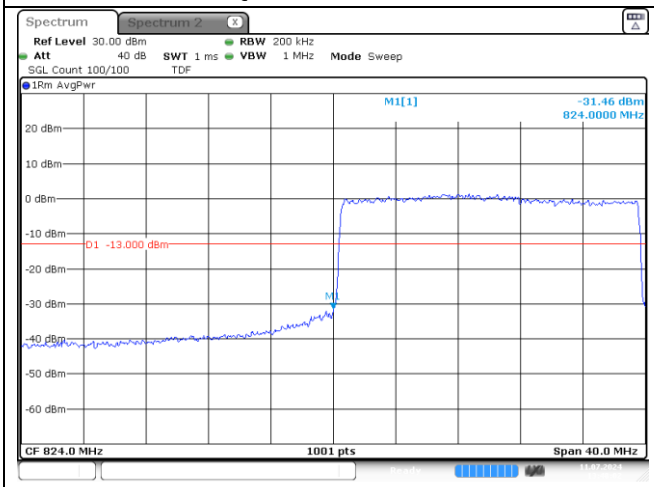
NR band 5 (20 ㎒)



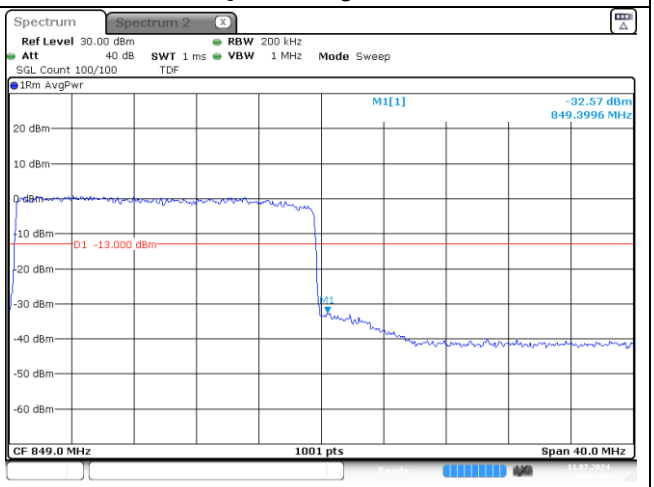
CP-OFDM QPSK - Low Channel - 1 RB



CP-OFDM QPSK - High Channel - 1 RB

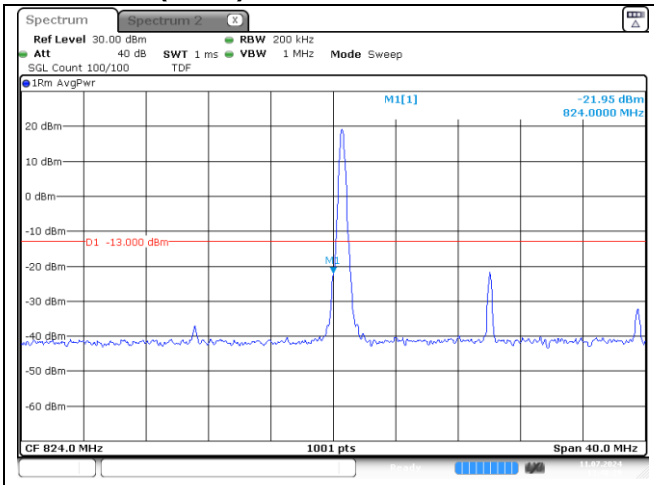


CP-OFDM QPSK - Low Channel - Full RB

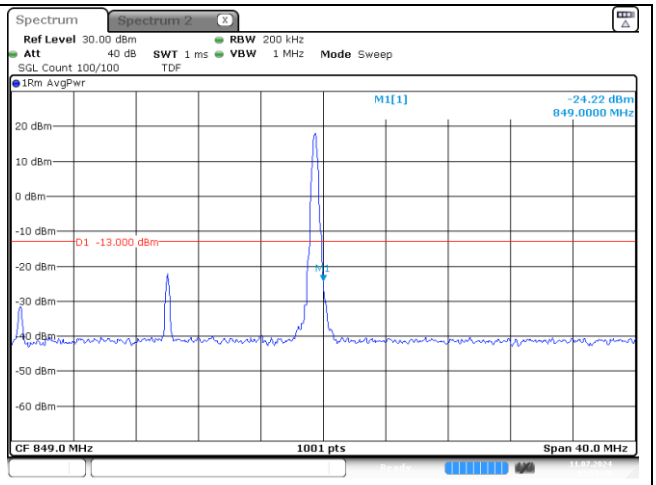


CP-OFDM QPSK - High Channel - Full RB

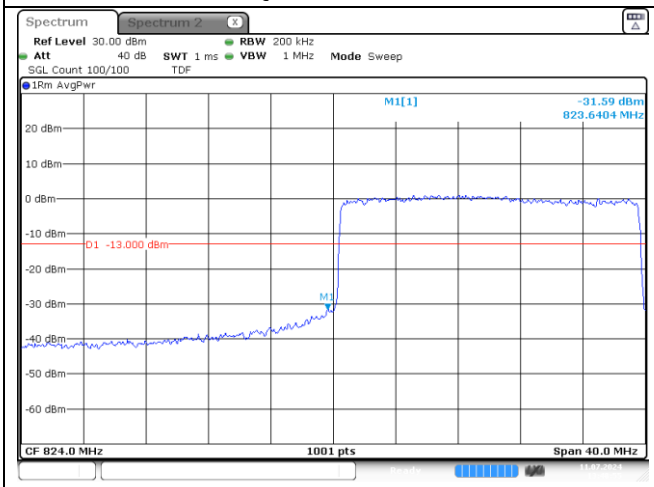
NR band 5 (20 ㎒)



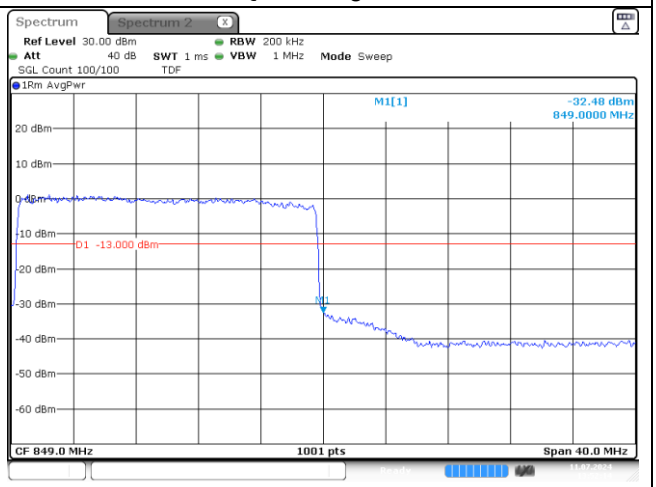
CP-OFDM 16QAM - Low Channel - 1 RB



CP-OFDM 16QAM - High Channel - 1 RB



CP-OFDM 16QAM - Low Channel - Full RB



CP-OFDM 16QAM - High Channel - Full RB

8. Frequency Stability

8.1. Limit

FCC
- § 2.1055 (a), § 2.1055 (d) & following:

- §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table of this section.
For Mobile devices operating in the 824 to 849 ㎒ band at a power level less than or equal to 3 Watts, the limit specified in Table C-1 is +/- 2.5 ppm.

- §24.235, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

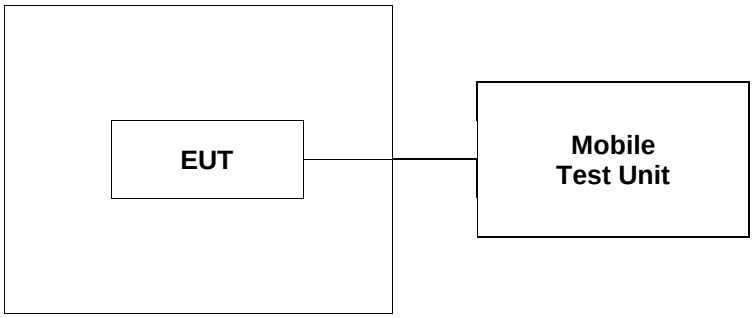
IC
- RSS-Gen Issue 5
6.11, for licensed devices, the following measurement conditions apply:
a. at the temperatures of -30°C (-22°F), +20°C (+68°F) and +50°C (+122°F), and at the manufacturer's rated supply voltage

- RSS-132 Issue 4
5.3, the frequency stability shall be sufficient to ensure that the occupied bandwidth stays within each of the sub-bands when tested at the temperature and supply voltage variations specified in RSS-Gen.

- RSS-133 Issue 6
6.3, the carrier frequency shall not depart from the reference frequency, in excess of ±2.5 ppm for mobile stations and ±1.0 ppm for base stations.

8.2. Test Procedure

1. Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to a Mobile Test Unit via feed-through attenuators.
2. The EUT was placed inside the temperature chamber.
3. After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from Mobile Test Unit.



Temperature Chamber

8.3. Test Results

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

SIM 1

NR band 2 at middle channel

Reference Frequency: 1 880 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	12.5	-3.60	-0.001 01
40		-1.20	0.000 27
30		1.60	0.001 76
20(Ref.)		-1.70	-
10		-0.20	0.000 80
0		2.50	0.002 23
-10		-3.00	-0.000 69
-20		1.40	0.001 65
-30		-2.10	-0.000 21
Frequency Stability versus Power Supply			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	10.63 (85%)	2.30	0.002 13
	14.38 (115%)	2.70	0.002 34

NR band 5 at middle channel

Reference Frequency: 836.5 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	12.5	4.00	0.005 14
40		-2.70	-0.002 87
30		-3.20	-0.003 47
20(Ref.)		-0.30	-
10		-2.80	-0.002 99
0		-3.80	-0.004 18
-10		1.10	0.001 67
-20		-0.20	0.000 12
-30		-0.10	0.000 24
Frequency Stability versus Power Supply			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	10.63 (85%)	2.60	0.003 47
	14.38 (115%)	0.70	0.001 20

SIM 2

NR band 2 at middle channel

Reference Frequency: 1 880 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	12.5	1.30	0.000 21
40		2.40	0.000 80
30		3.30	0.001 28
20(Ref.)		0.90	-
10		1.00	0.000 05
0		-1.80	-0.001 44
-10		0.70	-0.000 11
-20		2.90	0.001 06
-30		-1.10	-0.001 06
Frequency Stability versus Power Supply			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	10.63 (85%)	-2.90	-0.002 02
	14.38 (115%)	3.40	0.001 33

NR band 5 at middle channel

Reference Frequency: 836.5 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	12.5	3.10	0.008 01
40		-1.40	0.002 63
30		3.20	0.008 13
20(Ref.)		-3.60	-
10		-1.20	0.002 87
0		2.00	0.006 69
-10		1.70	0.006 34
-20		-0.80	0.003 35
-30		-0.50	0.003 71
Frequency Stability versus Power Supply			
Environment Temperature (℃)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	10.63 (85%)	2.80	0.007 65
	14.38 (115%)	1.60	0.006 22

- End of the Test Report -