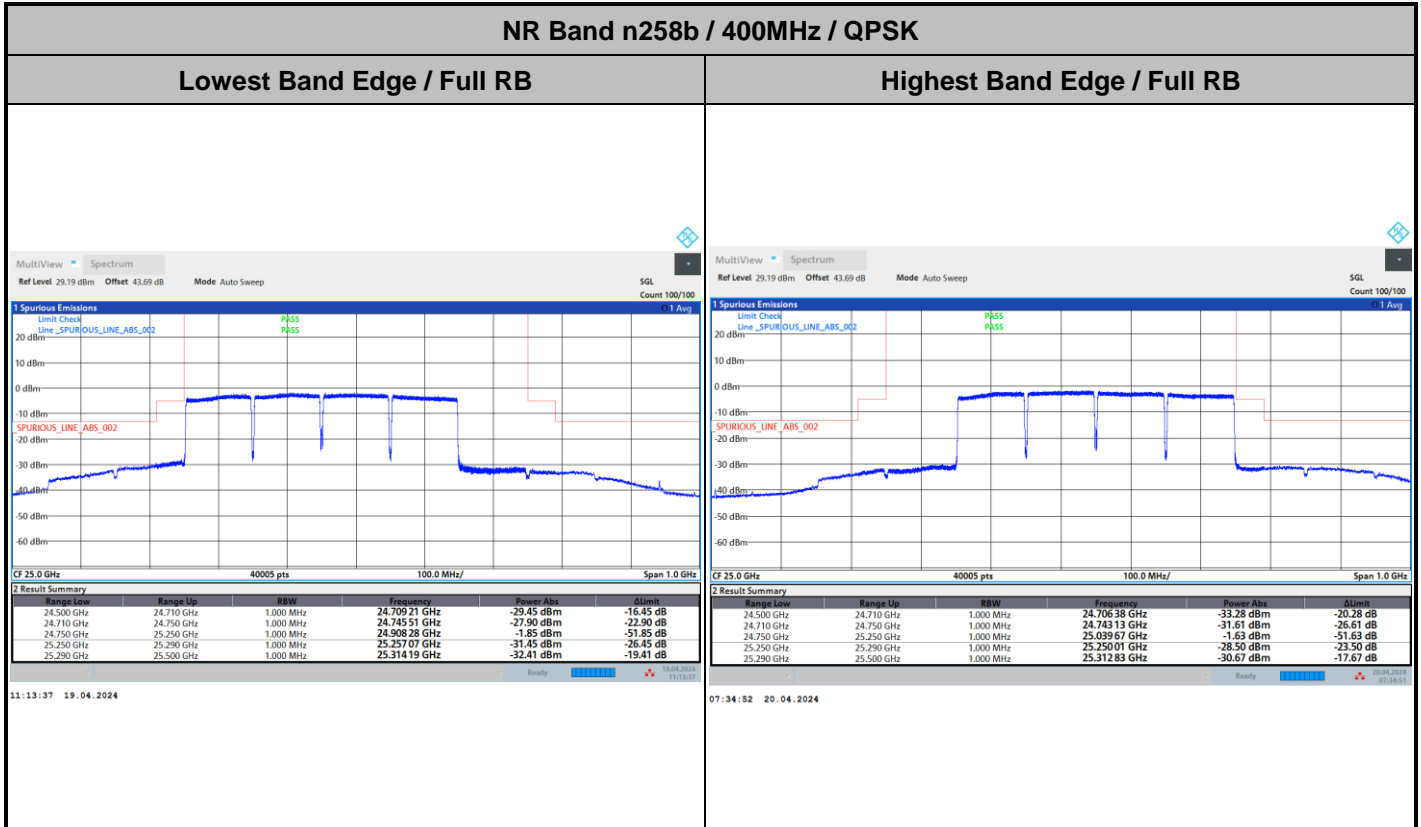




CP-OFDM Module A

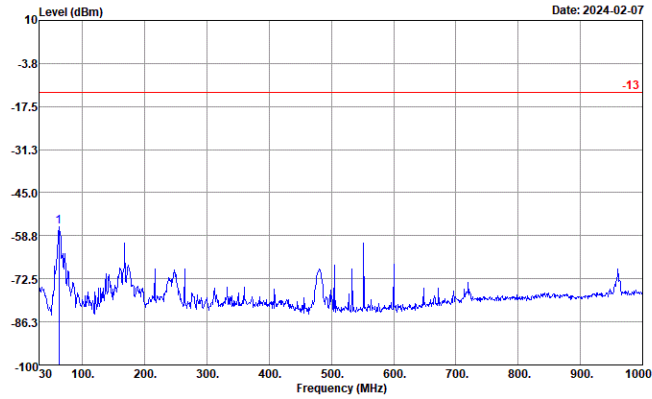




Spurious Emission

NR Band n258b (30MHz-1GHz)

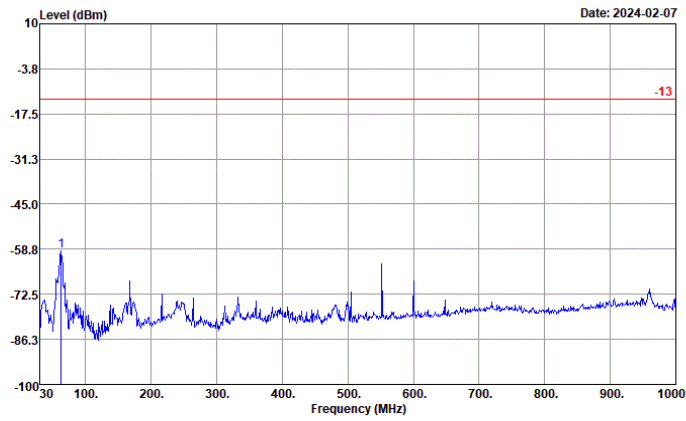
Horizontal



Site : 03CH10-HY
 Condition : -13 EIRP_WO HORIZONTAL
 Project : 3N2326
 : n258b MA

Line	Freq (MHz)	Level (dBm)	Over Limit (dB)	Limit (dBm)
1	62.01	-55.77	-42.77	-13.00

Vertical



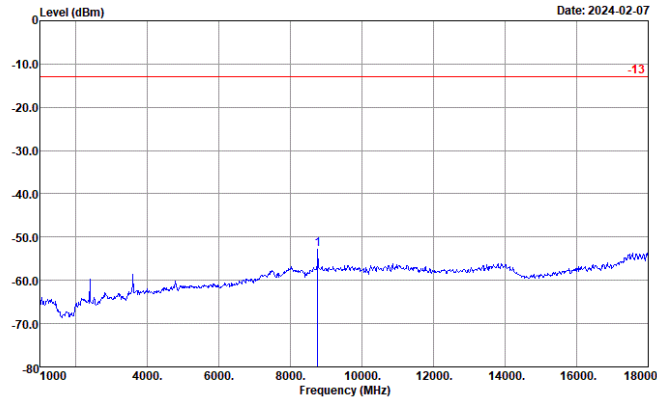
Site : 03CH10-HY
 Condition : -13 EIRP_WO VERTICAL
 Project : 3N2326
 : n258b MA

Line	Freq (MHz)	Level (dBm)	Over Limit (dB)	Limit (dBm)
1	62.98	-59.20	-46.20	-13.00



NR Band n258b (1GHz-18GHz)

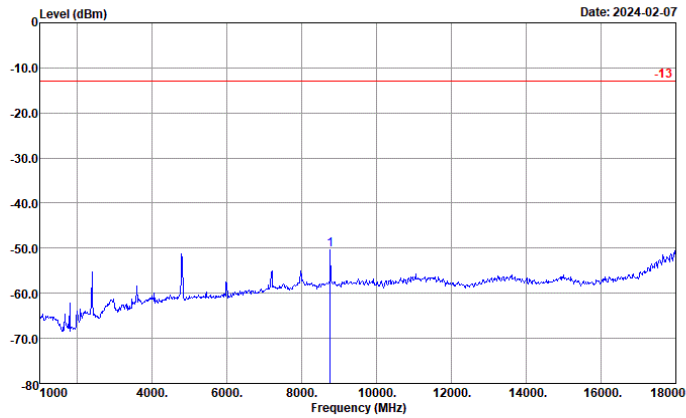
Horizontal



Site : 03CH10-HY
 Condition : -13 EIRP_WO HORIZONTAL
 Project : 3N2326
 : n258b MA

Over	Limit
Level	Line
Freq	Limit
MHz	dBm
1	8769.00 -52.82 -39.82 -13.00

Vertical



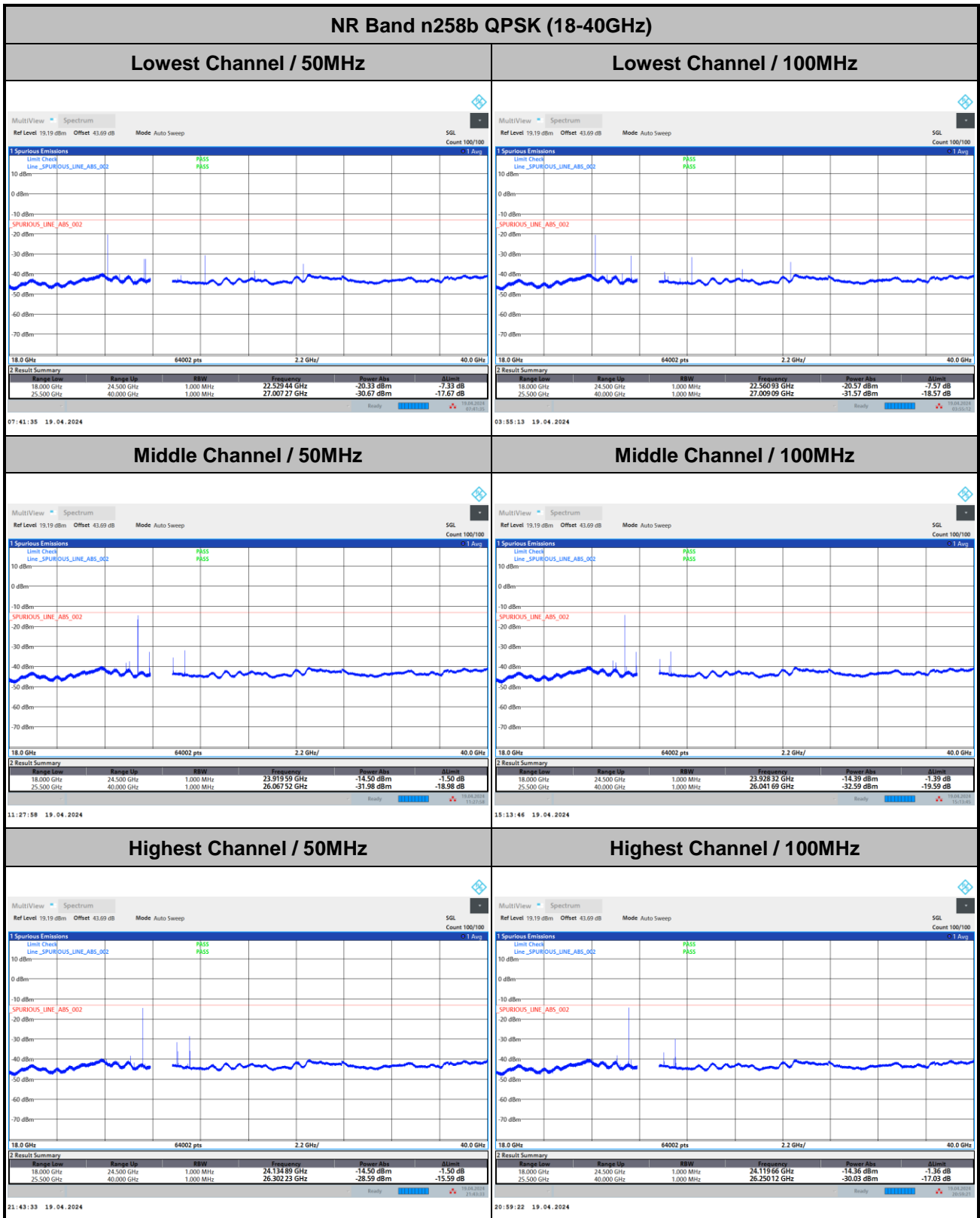
Site : 03CH10-HY
 Condition : -13 EIRP_WO VERTICAL
 Project : 3N2326
 : n258b MA

Over	Limit
Level	Line
Freq	Limit
MHz	dBm
1	8769.00 -50.37 -37.37 -13.00



Spurious emission between 18GHz to 40GHz worst case plot is reported as following.

DFT-s-OFDM Module A



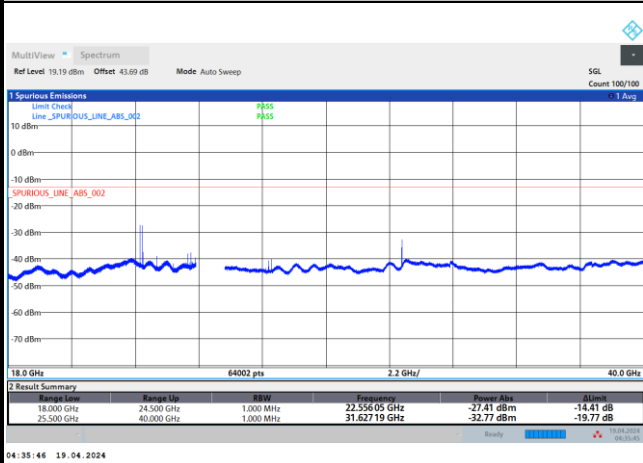
Remark: In band and out of band frequencies are omitted.



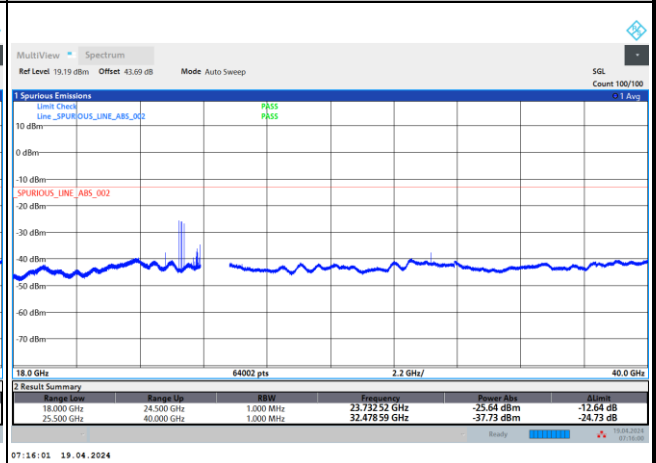
DFT-s-OFDM Module A

NR Band n258b QPSK (18-40GHz)

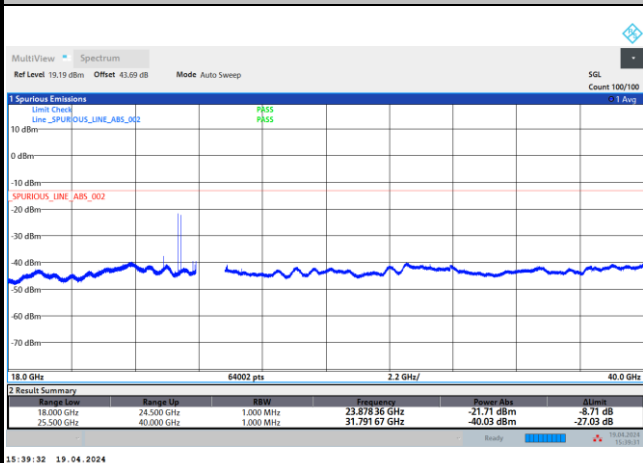
Lowest Channel / 200MHz



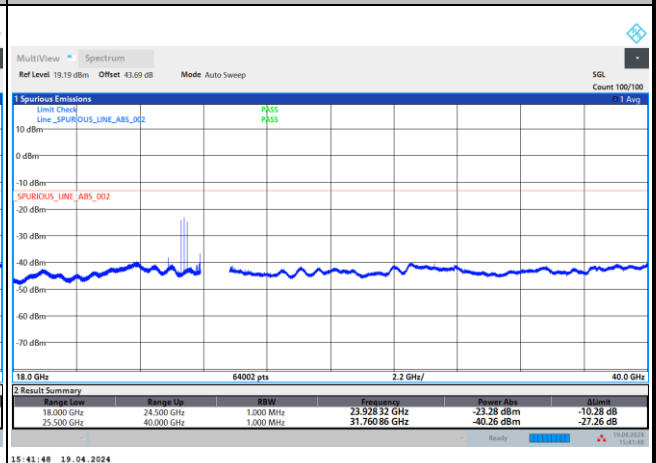
Lowest Channel / 300MHz



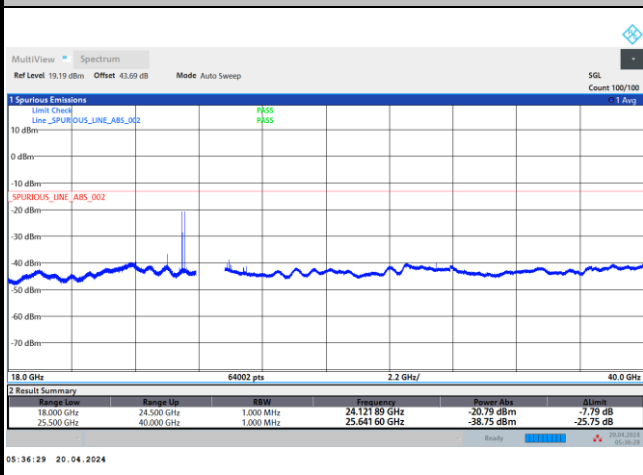
Middle Channel / 200MHz



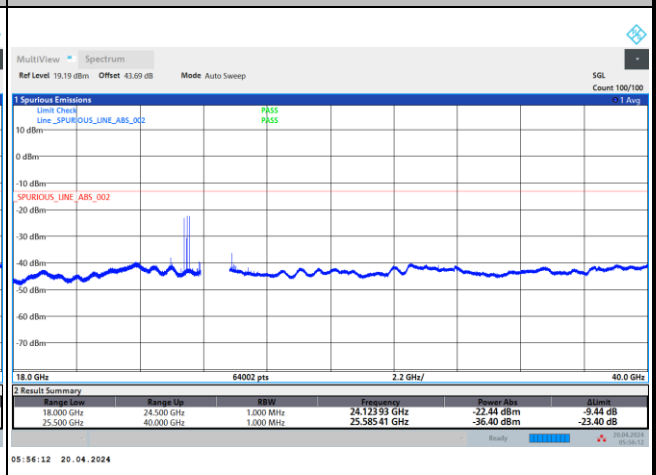
Middle Channel / 300MHz



Highest Channel / 200MHz



Highest Channel / 300MHz



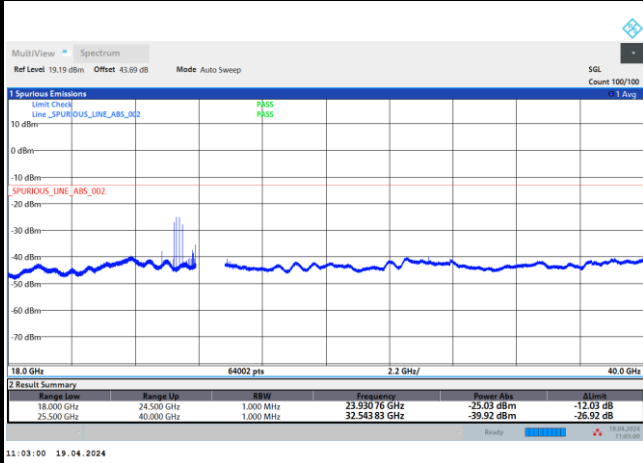
Remark: In band and out of band frequencies are omitted.



DFT-s-OFDM Module A

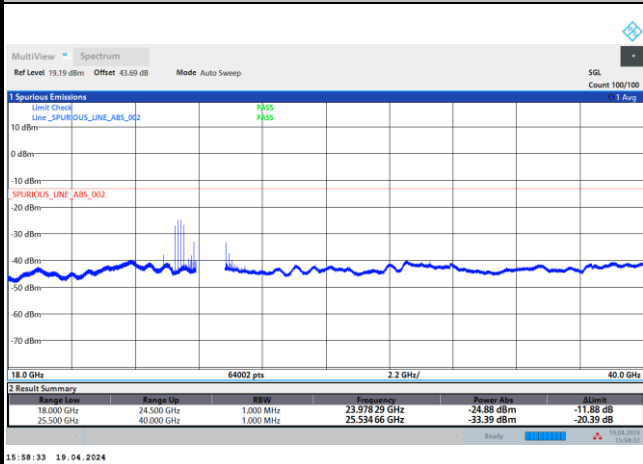
NR Band n258b QPSK (18-40GHz)

Lowest Channel / 400MHz



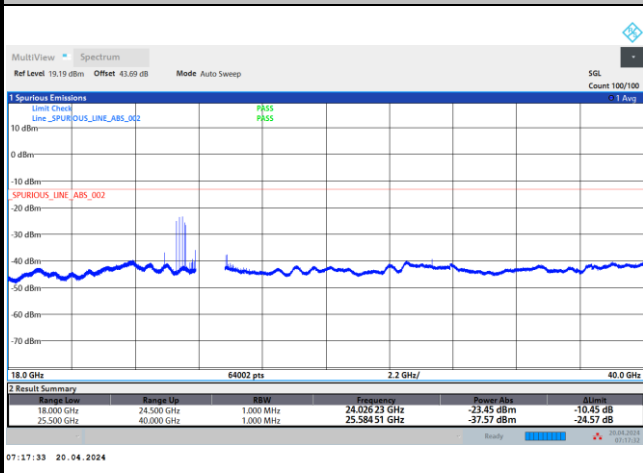
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Middle Channel / 400MHz



intentionally blank

Highest Channel / 400MHz



intentionally blank

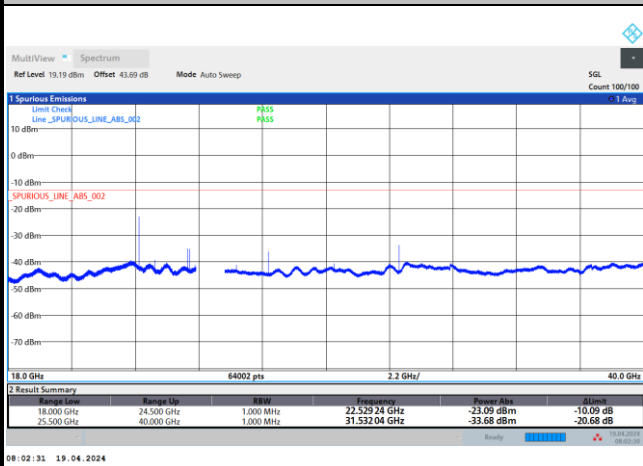
Remark: In band and out of band frequencies are omitted.



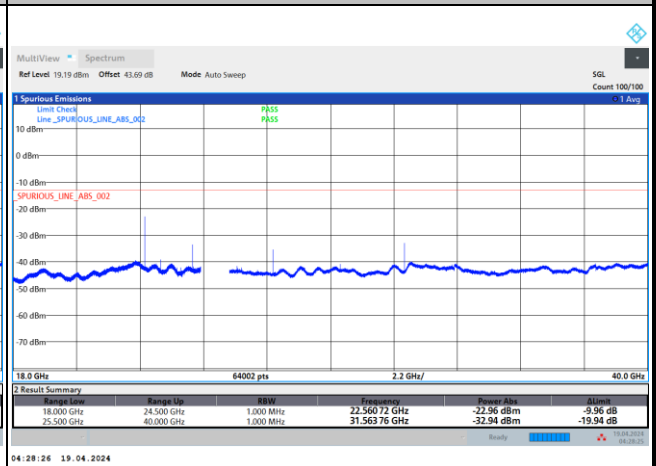
CP-OFDM Module A

NR Band n258b QPSK (18-40GHz)

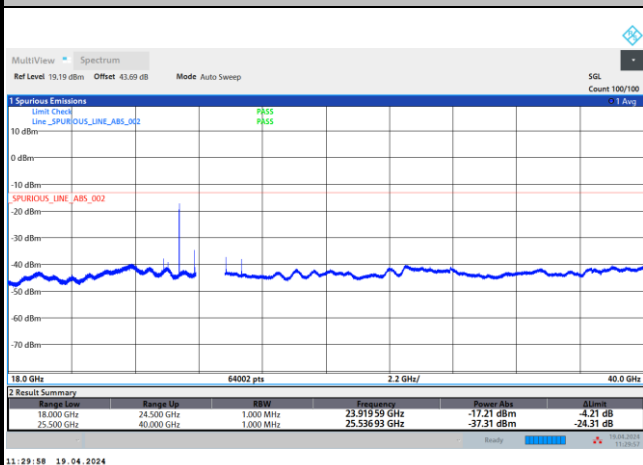
Lowest Channel / 50MHz



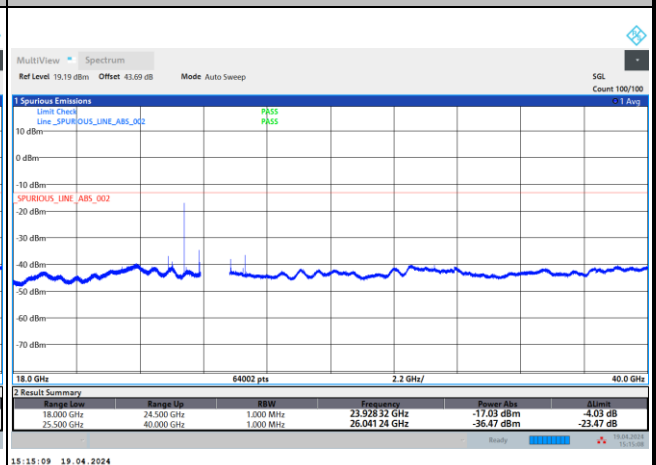
Lowest Channel / 100MHz



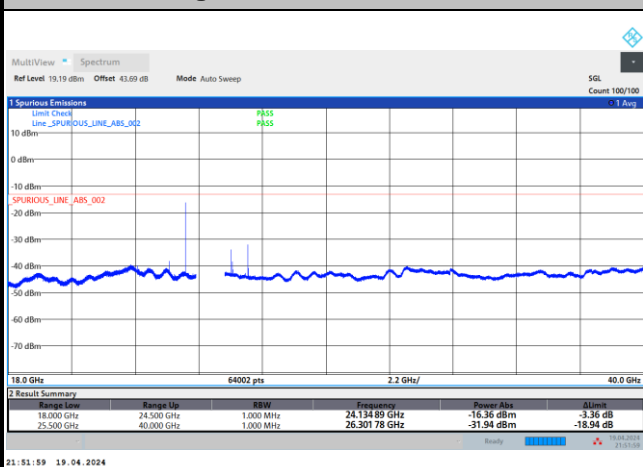
Middle Channel / 50MHz



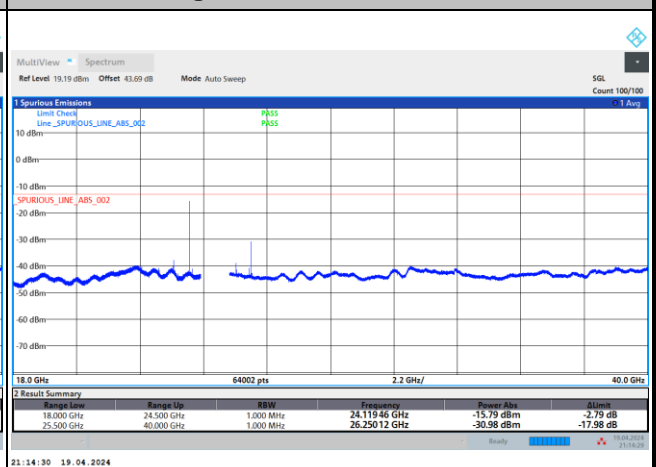
Middle Channel / 100MHz



Highest Channel / 50MHz



Highest Channel / 100MHz



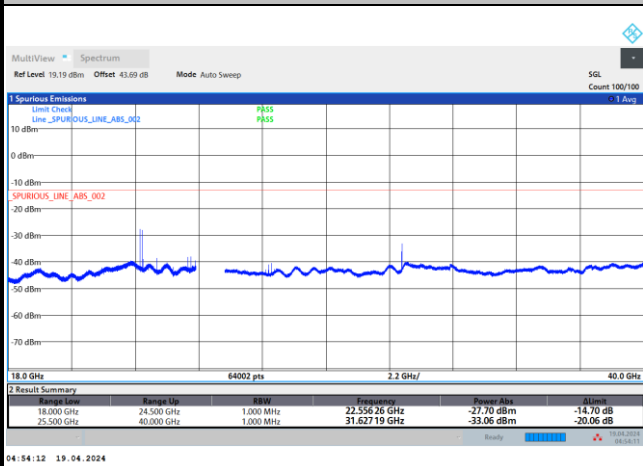
Remark: In band and out of band frequencies are omitted.



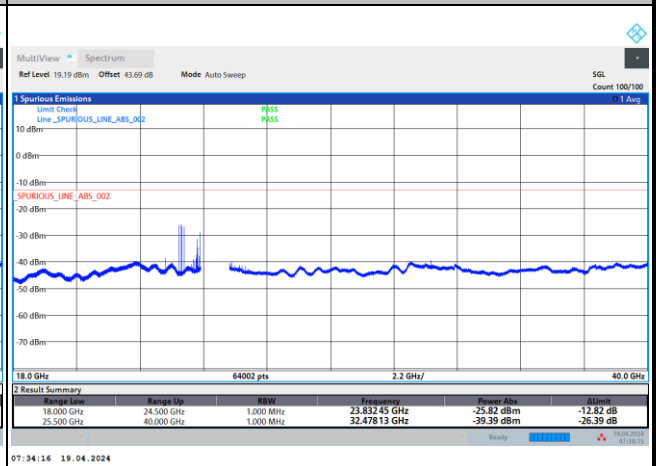
CP-OFDM Module A

NR Band n258b QPSK (18-40GHz)

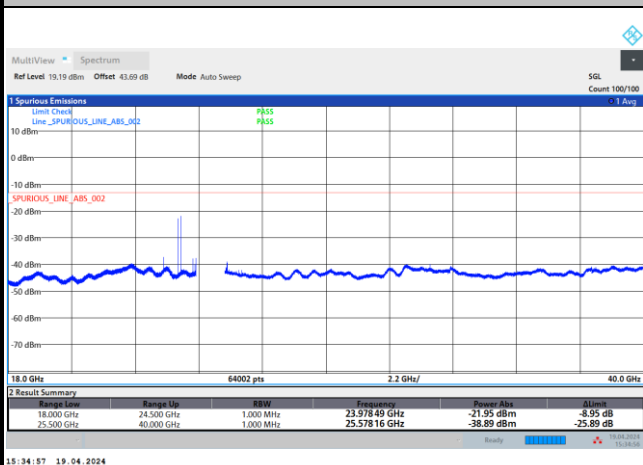
Lowest Channel / 200MHz



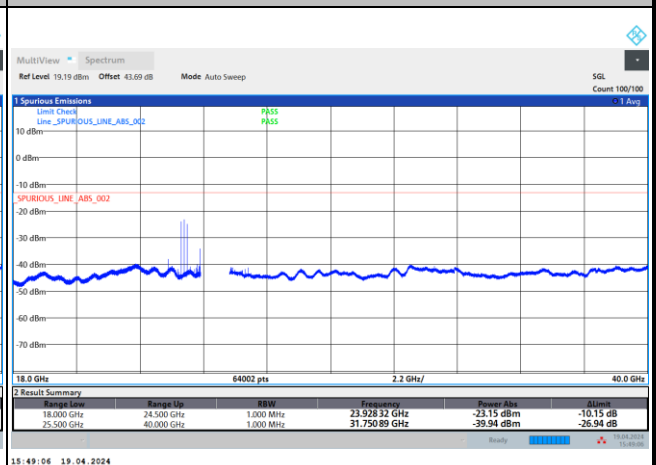
Lowest Channel / 300MHz



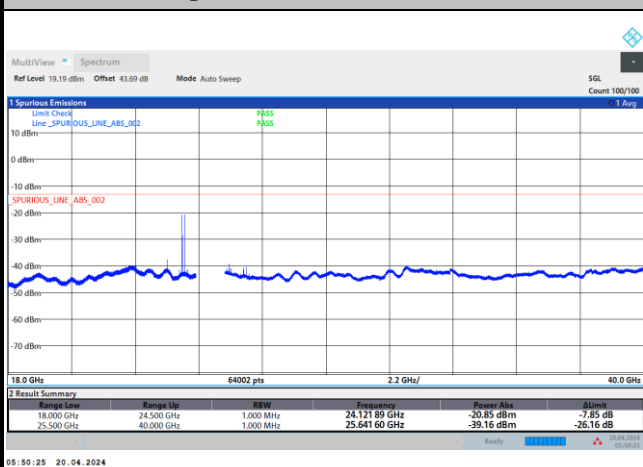
Middle Channel / 200MHz



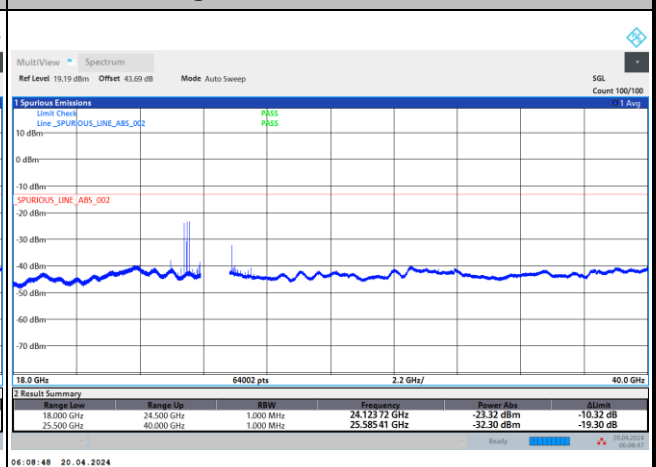
Middle Channel / 300MHz



Highest Channel / 200MHz



Highest Channel / 300MHz



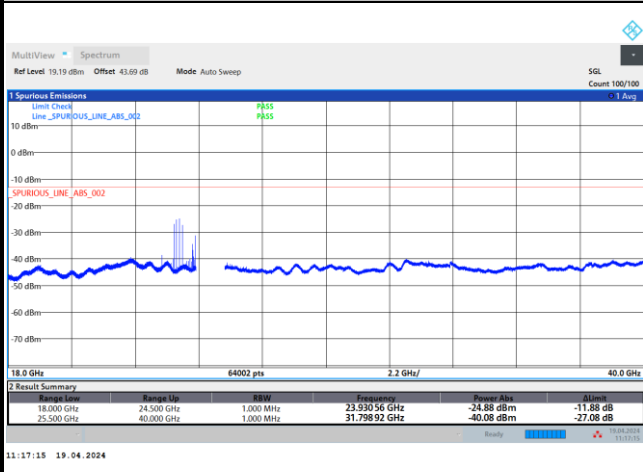
Remark: In band and out of band frequencies are omitted.



CP-OFDM Module A

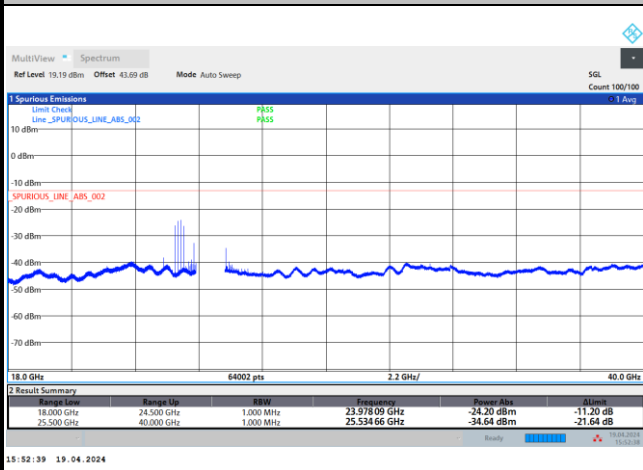
NR Band n258b QPSK (18-40GHz)

Lowest Channel / 400MHz



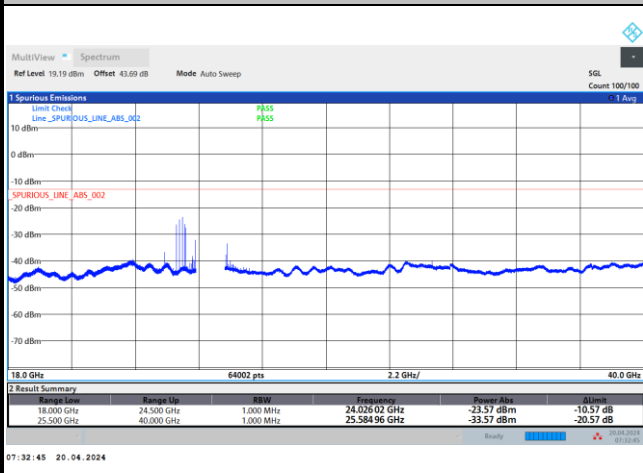
intentionally blank

Middle Channel / 400MHz



intentionally blank

Highest Channel / 400MHz



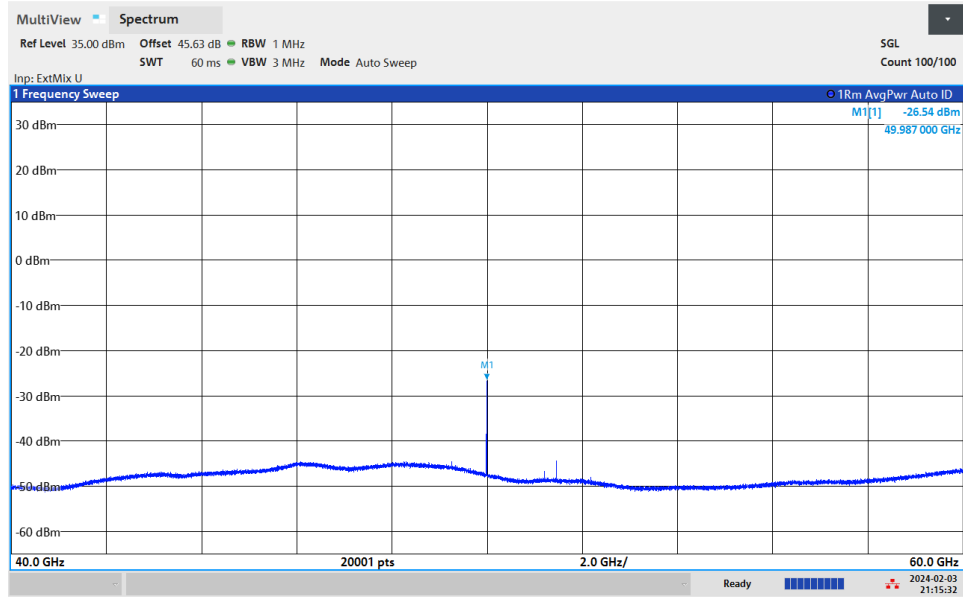
intentionally blank

Remark: In band and out of band frequencies are omitted.



NR Band n258b

(40GHz-60GHz)



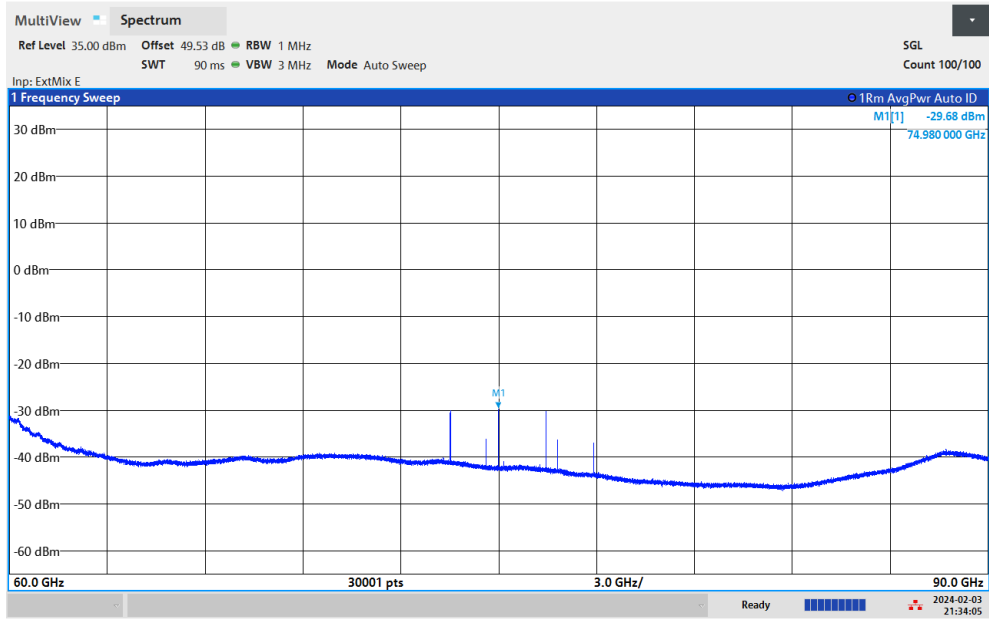
09:15:32 PM 02/03/2024

$$\begin{aligned} \text{Offset} &= \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} + 107 + 20\log(D) - 104.8 \\ &= 43 + 0.43 + 107 + 20\log(1) - 104.8 = 45.63(\text{dB}) \end{aligned}$$



NR Band n258b

(60GHz-90GHz)



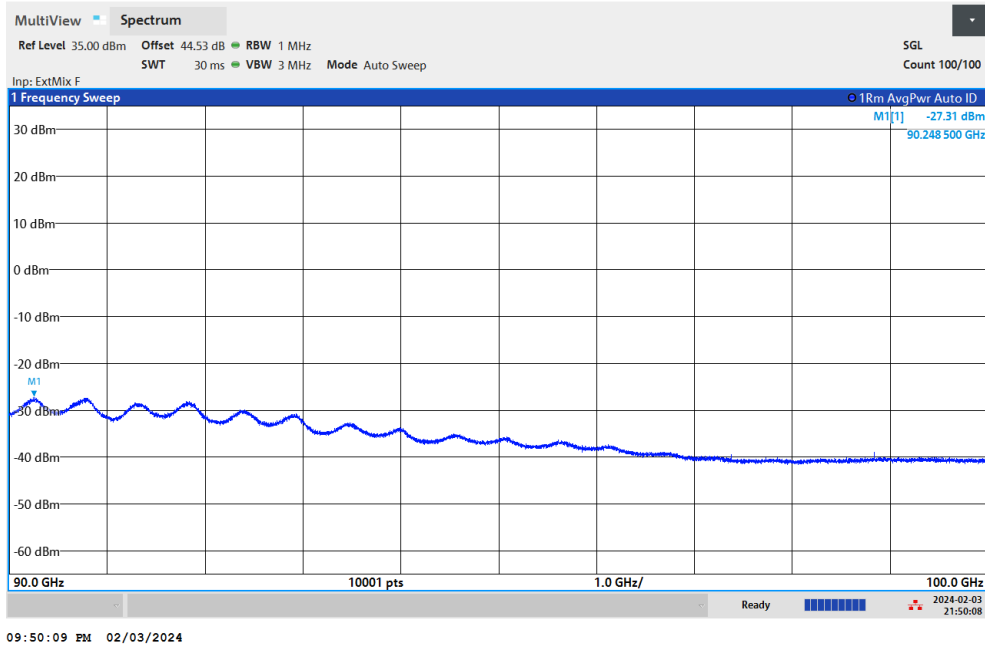
09:34:06 PM 02/03/2024

$$\begin{aligned} \text{Offset} &= \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} + 107 + 20\log(D) - 104.8 \\ &= 46.9 + 0.43 + 107 + 20\log(1) - 104.8 = 49.53 \text{ (dB)} \end{aligned}$$



NR Band n258b

(90GHz-100GHz)



$$\begin{aligned} \text{Offset} &= \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} + 107 + 20\log(D) - 104.8 \\ &= 47.92 + 0.43 + 107 + 20\log(0.5) - 104.8 = 44.53 \text{ (dB)} \end{aligned}$$



Frequency Stability

Test Conditions		NR Band n258b / Middle Channel			Limit
Temperature (°C)	Voltage (Volt)	CW tone			Note 2.
		Frequency (GHz)	Deviation (kHz)	Deviation (ppm)	Result
50	Normal Voltage	24.9999271	42.900	1.716	Pass
40	Normal Voltage	24.9999301	39.900	1.596	
30	Normal Voltage	24.9999341	35.900	1.436	
20(Ref.)	Normal Voltage	24.99997	0.000	0.000	
10	Normal Voltage	25.000048	-78.000	3.120	
0	Normal Voltage	25.0001129	-142.900	5.716	
-10	Normal Voltage	25.0001309	-160.900	6.436	
-20	Normal Voltage	25.0001269	-156.900	6.276	
-30	Normal Voltage	25.0001239	-153.900	6.156	
20	Maximum Voltage	24.999976	-6.000	0.240	
20	Normal Voltage	24.999974	-4.000	0.160	
20	Battery End Point	24.999975	-5.000	0.200	

Note:

1. Normal Voltage = 3.89 V. ; Battery End Point (BEP) = 3.6 V. ; Maximum Voltage = 4.4 V.
2. The frequency fundamental emissions stay within the operation band.



NR Band n258b Module B AGH+V

Occupied Bandwidth

Mode	DFT-s-OFDM Module B NR Band n258b : 99%OBW(MHz)								
BW	50MHz			100MHz			200MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	46.17	46.10	45.97	91.23	91.08	91.21	190.19	190.12	190.19
Middle CH	45.69	45.87	45.78	90.95	90.73	90.92	189.55	189.59	190.15
Highest CH	46.05	46.01	45.99	91.10	91.09	91.05	190.06	190.18	190.25

Mode	DFT-s-OFDM Module B NR Band n258b : 99%OBW(MHz)					
BW	300MHz			400MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	290.37	289.60	289.41	390.14	389.54	389.23
Middle CH	290.18	289.14	289.12	389.68	389.30	389.56
Highest CH	289.28	289.04	288.72	389.62	388.57	388.65

Mode	CP-OFDM Module B NR Band n258b : 99%OBW(MHz)		
BW	50MHz	100MHz	200MHz
Mod.	QPSK	QPSK	QPSK
Lowest CH	46.14	94.13	193.27
Middle CH	45.90	94.02	192.87
Highest CH	45.93	94.13	192.76

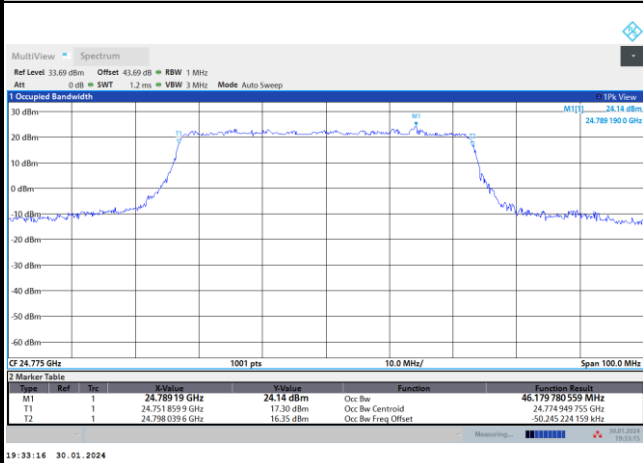
Mode	CP-OFDM Module B NR Band n258b : 99%OBW(MHz)	
BW	300MHz	400MHz
Mod.	QPSK	QPSK
Lowest CH	294.72	393.26
Middle CH	295.70	392.66
Highest CH	292.75	392.28



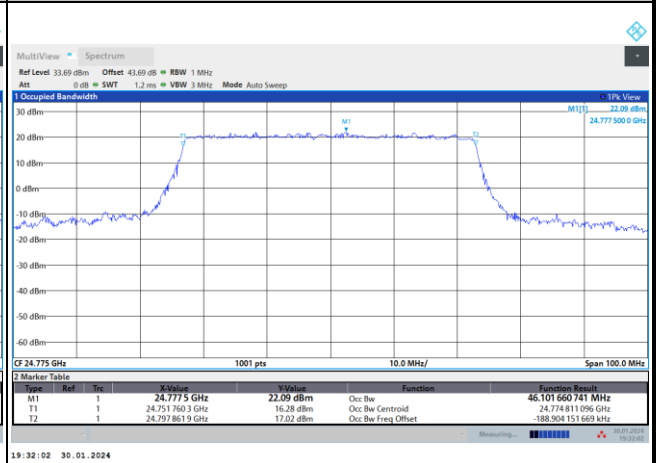
DFT-s-OFDM Module B

NR Band n258b

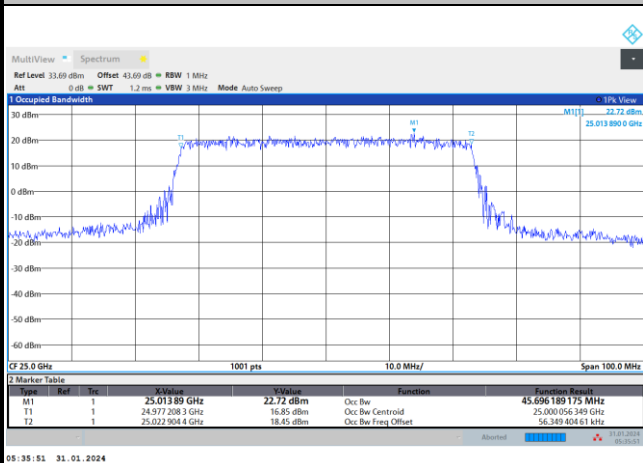
Lowest Channel / 50MHz / QPSK



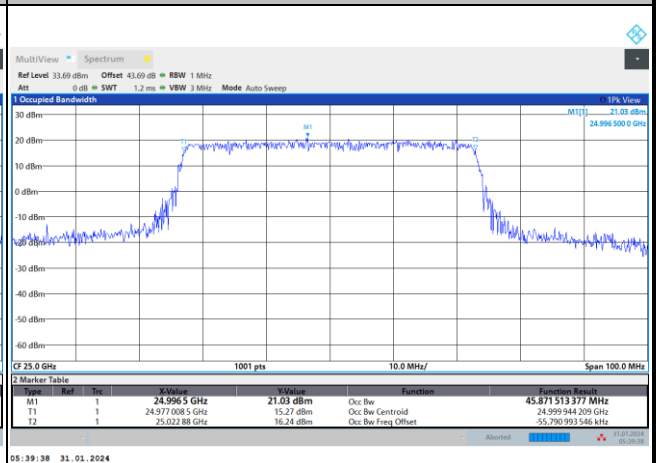
Lowest Channel / 50MHz / 16QAM



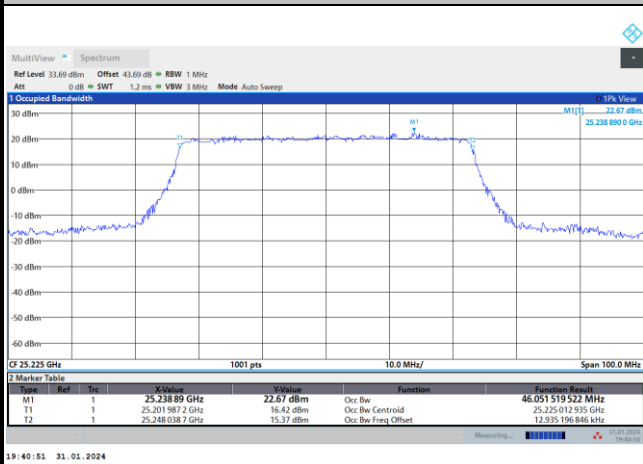
Middle Channel / 50MHz / QPSK



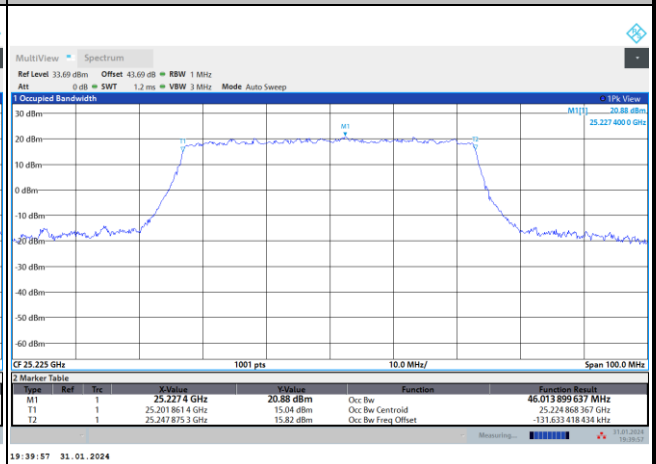
Middle Channel / 50MHz / 16QAM



Highest Channel / 50MHz / QPSK



Highest Channel / 50MHz / 16QAM

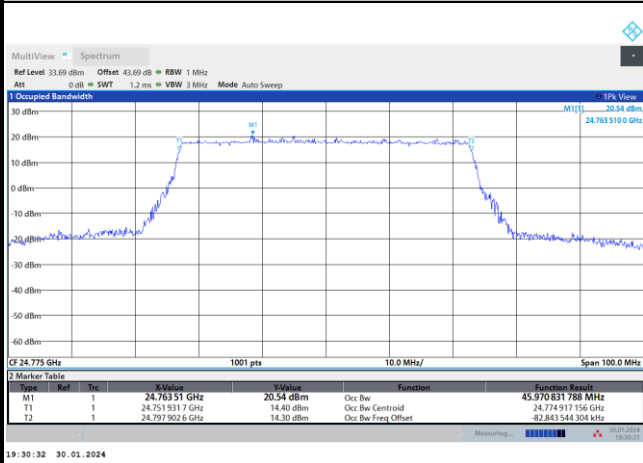




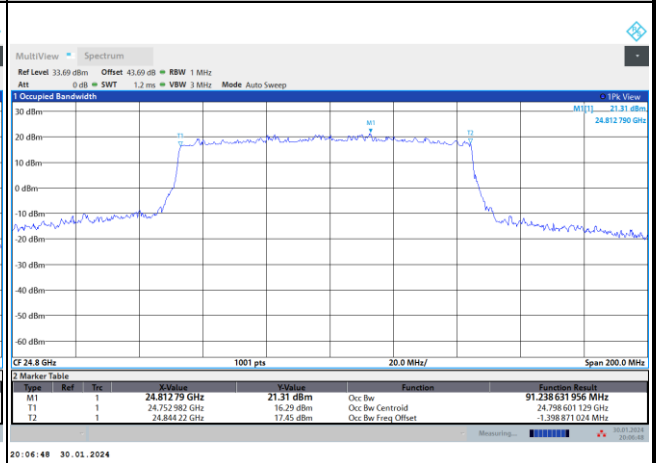
DFT-s-OFDM Module B

NR Band n258b

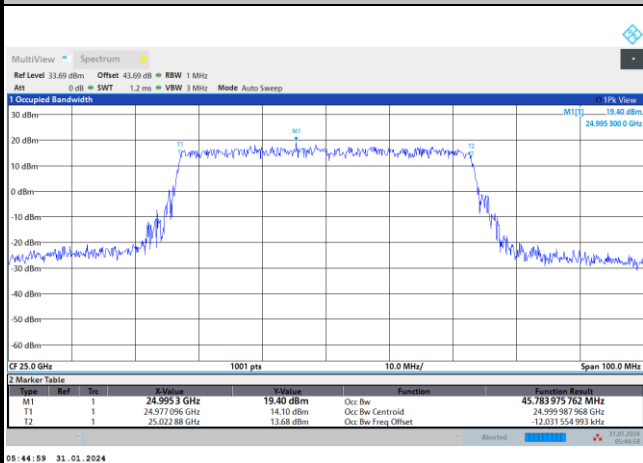
Lowest Channel / 50MHz / 64QAM



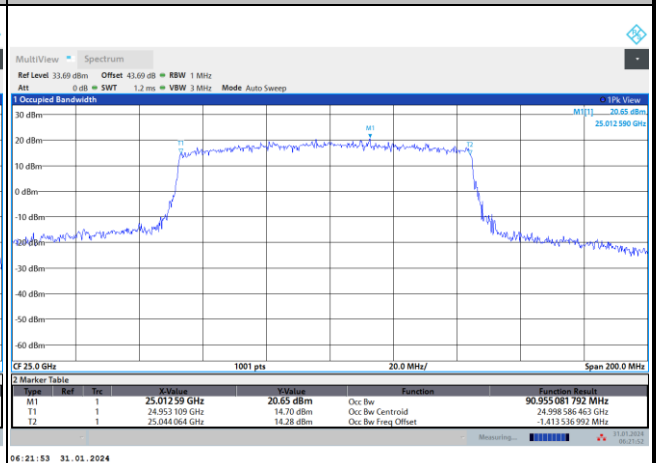
Lowest Channel / 100MHz / QPSK



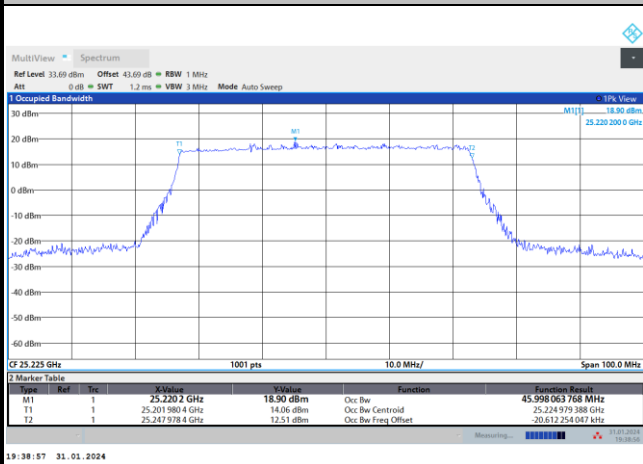
Middle Channel / 50MHz / 64QAM



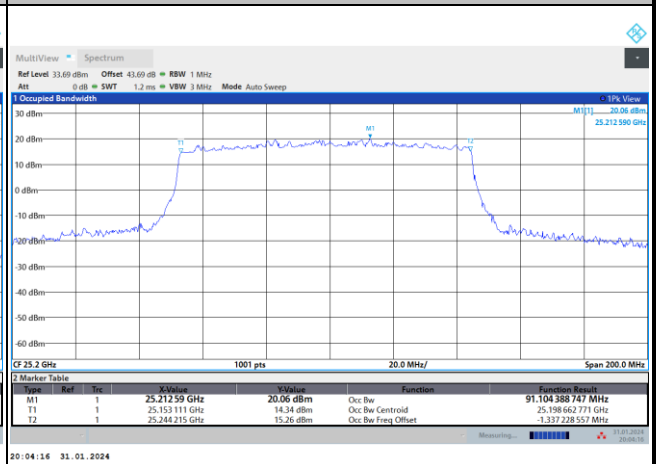
Middle Channel / 100MHz / QPSK



Highest Channel / 50MHz / 64QAM



Highest Channel / 100MHz / QPSK

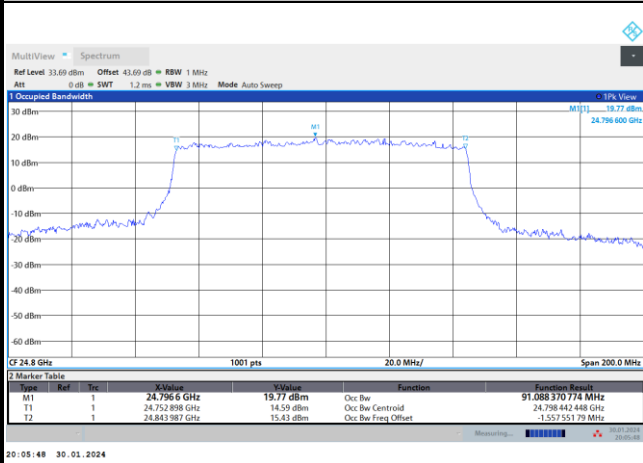




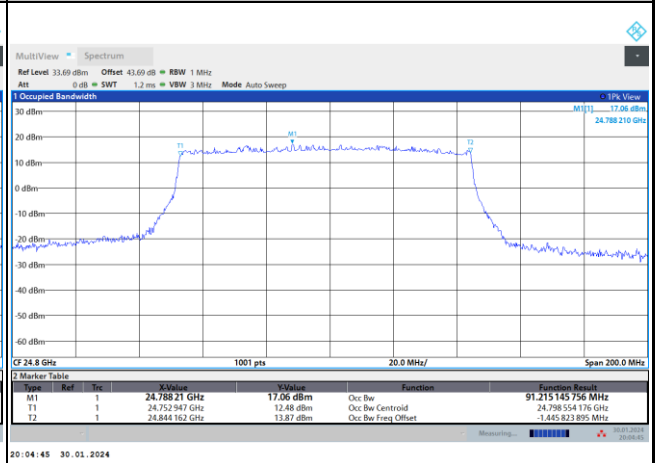
DFT-s-OFDM Module B

NR Band n258b

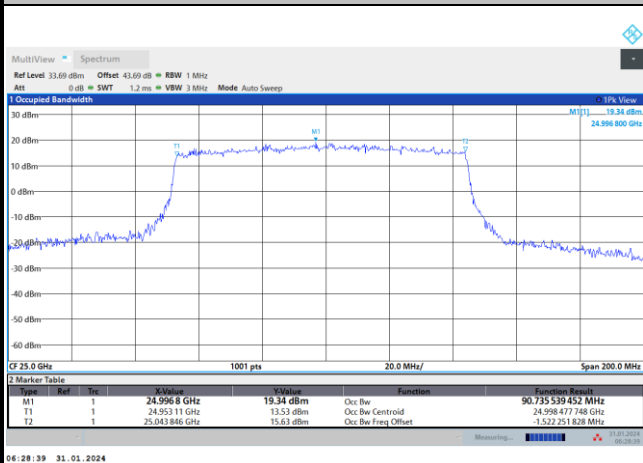
Lowest Channel / 100MHz / 16QAM



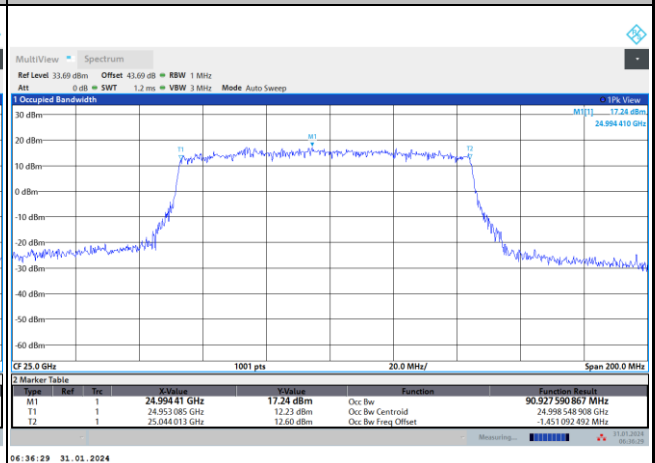
Lowest Channel / 100MHz / 64QAM



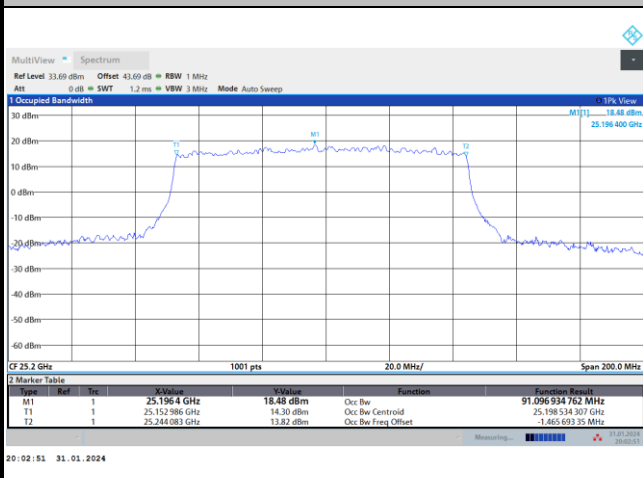
Middle Channel / 100MHz / 16QAM



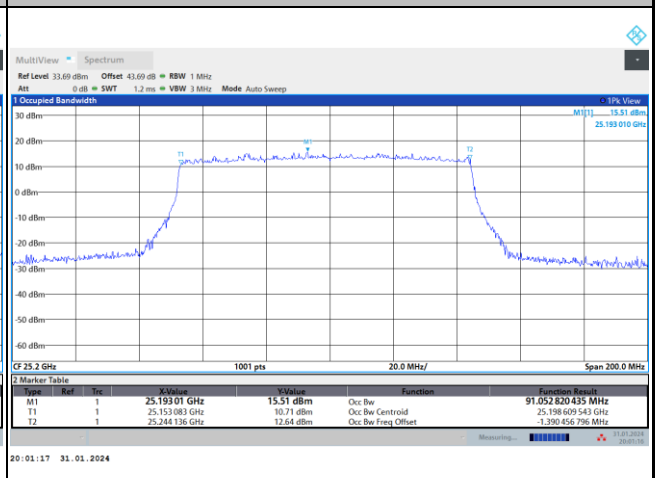
Middle Channel / 100MHz / 64QAM



Highest Channel / 100MHz / 16QAM



Highest Channel / 100MHz / 64QAM

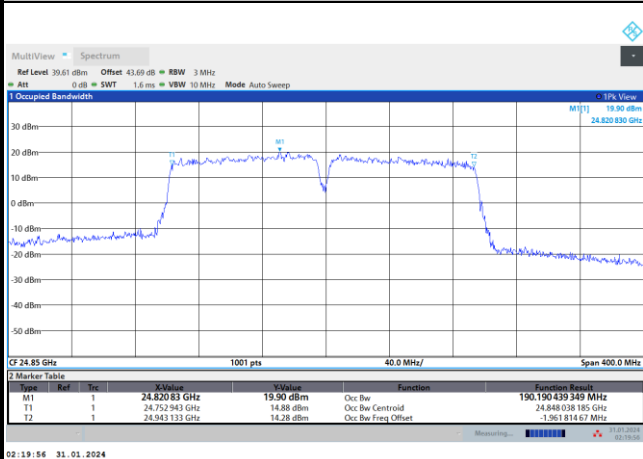




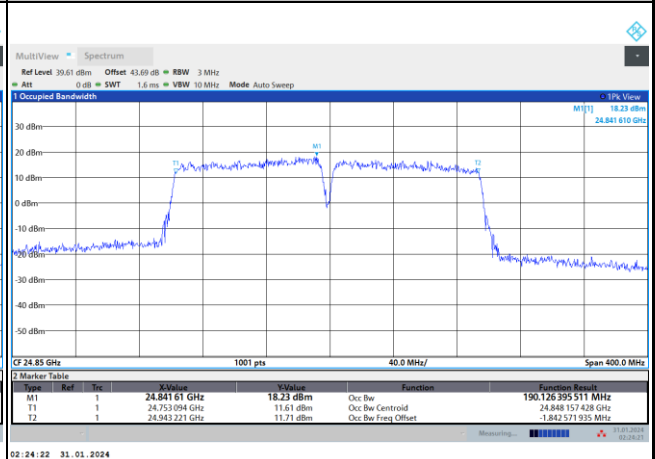
DFT-s-OFDM Module B

NR Band n258b

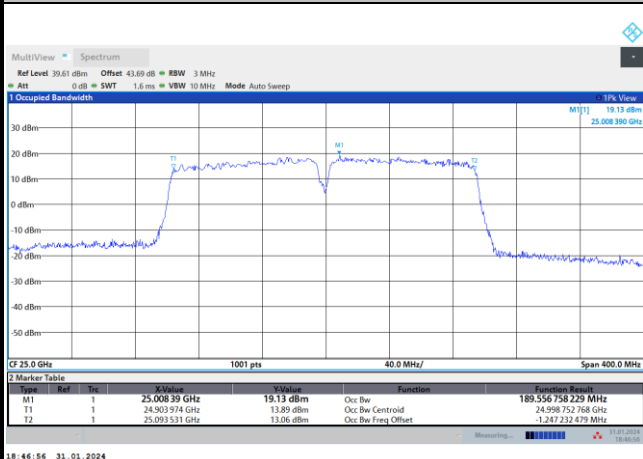
Lowest Channel / 200MHz / QPSK



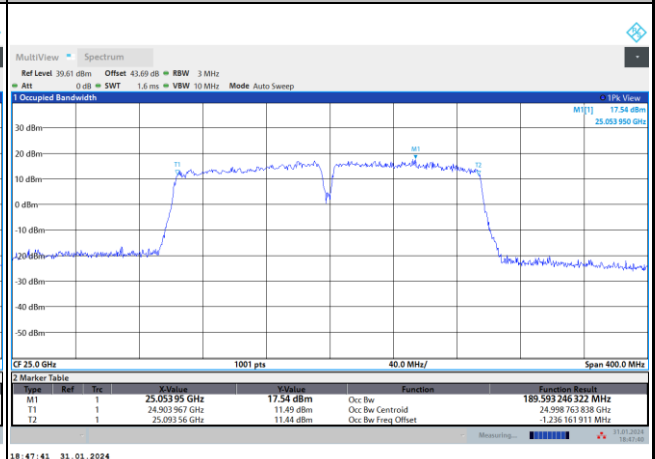
Lowest Channel / 200MHz / 16QAM



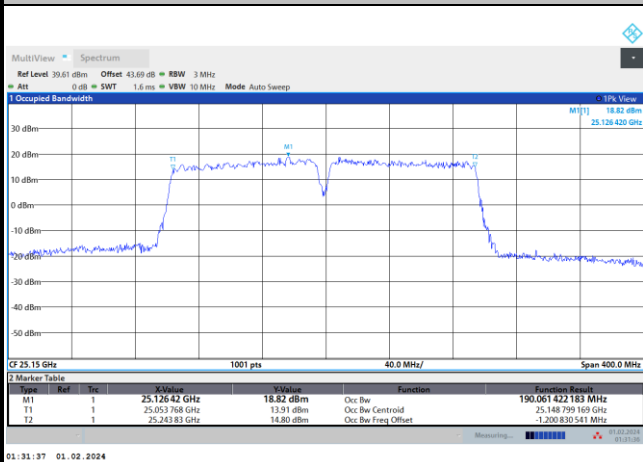
Middle Channel / 200MHz / QPSK



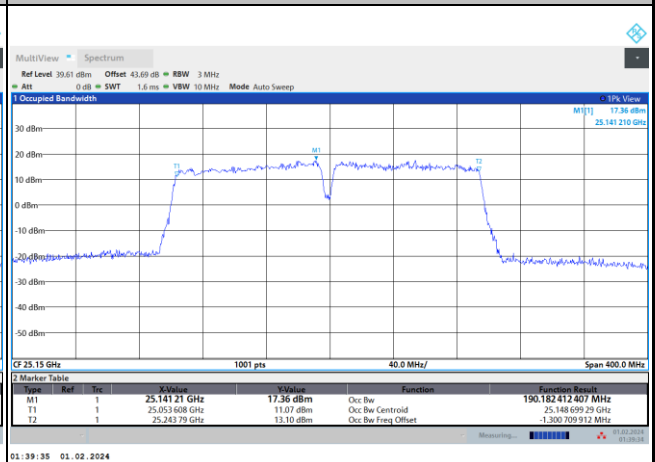
Middle Channel / 200MHz / 16QAM



Highest Channel / 200MHz / QPSK



Highest Channel / 200MHz / 16QAM

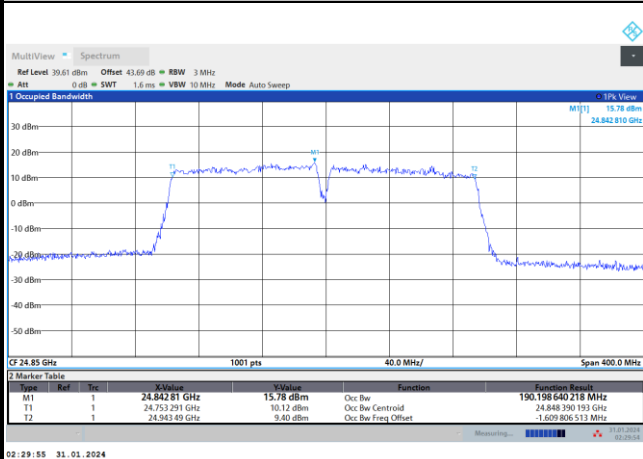




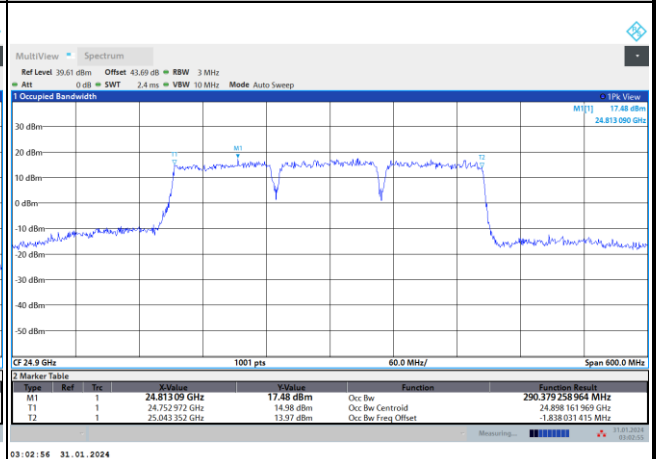
DFT-s-OFDM Module B

NR Band n258b

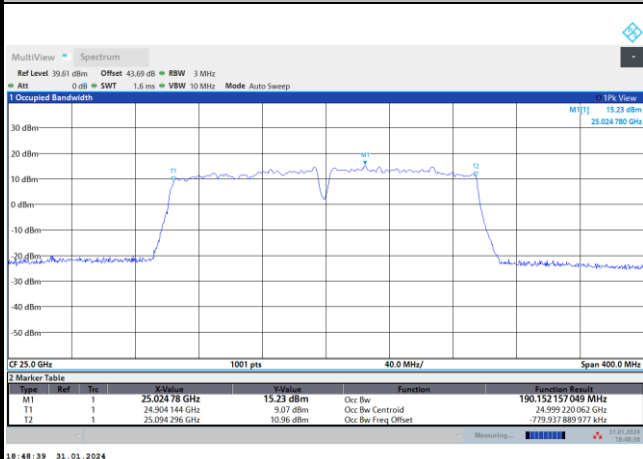
Lowest Channel / 200MHz / 64QAM



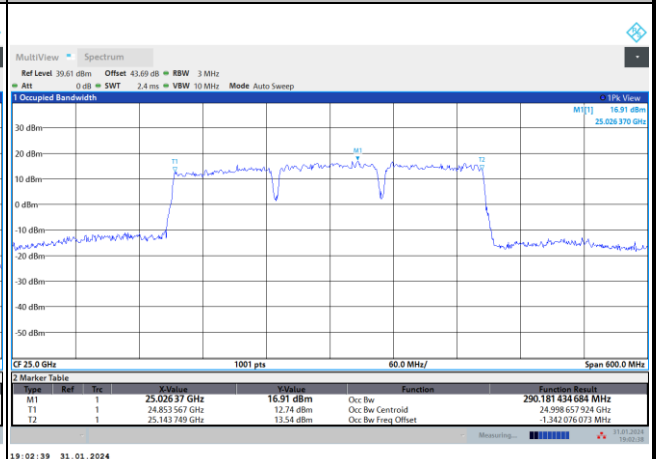
Lowest Channel / 300MHz / QPSK



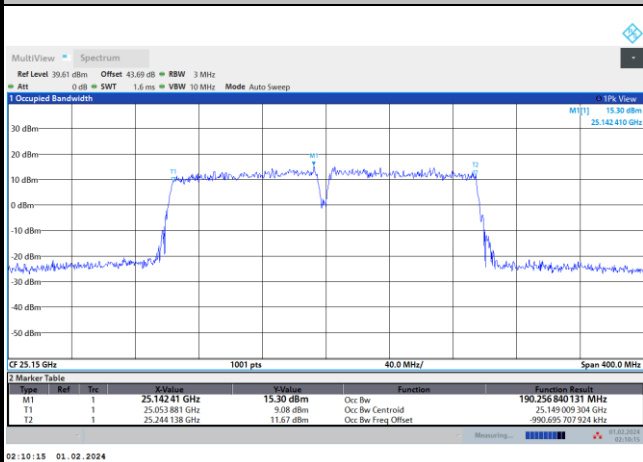
Middle Channel / 200MHz / 64QAM



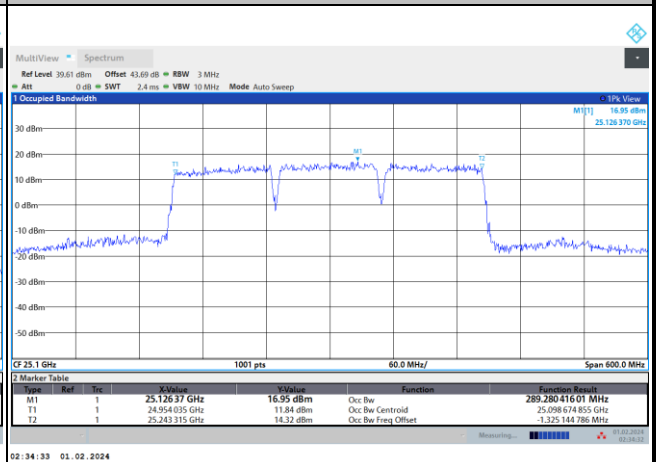
Middle Channel / 300MHz / QPSK



Highest Channel / 200MHz / 64QAM



Highest Channel / 300MHz / QPSK

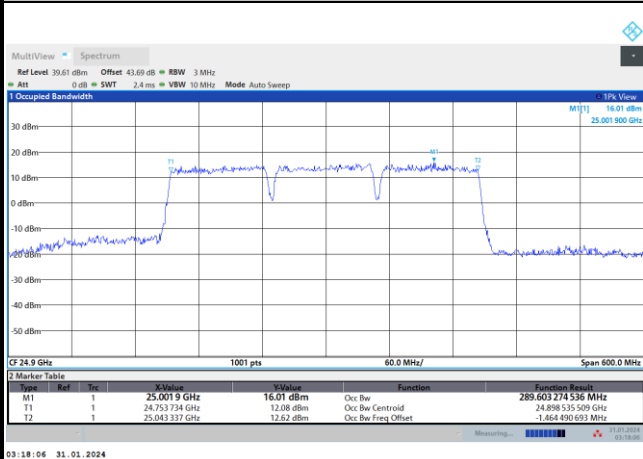




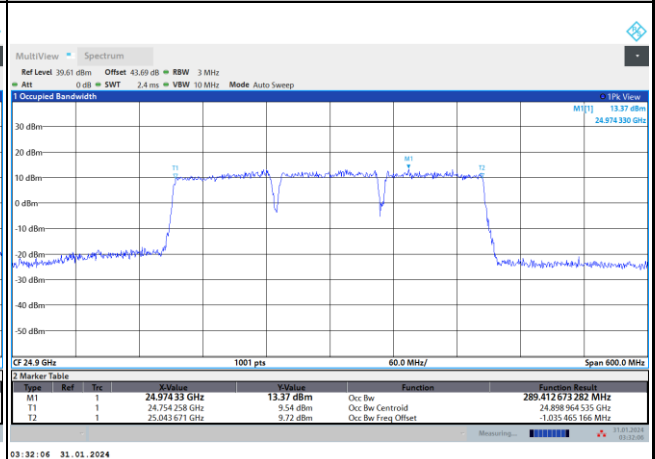
DFT-s-OFDM Module B

NR Band n258b

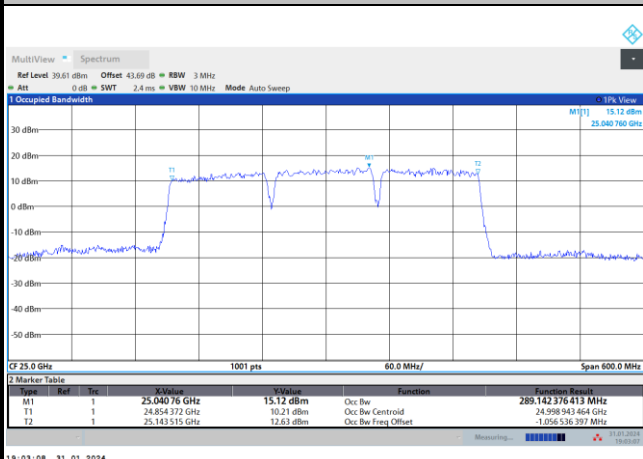
Lowest Channel / 300MHz / 16QAM



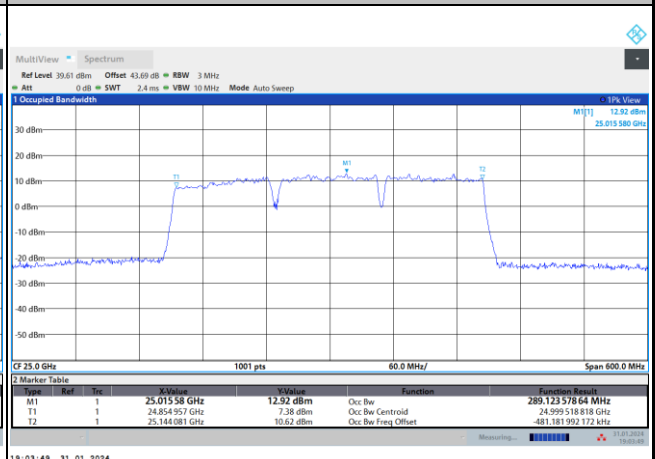
Lowest Channel / 300MHz / 64QAM



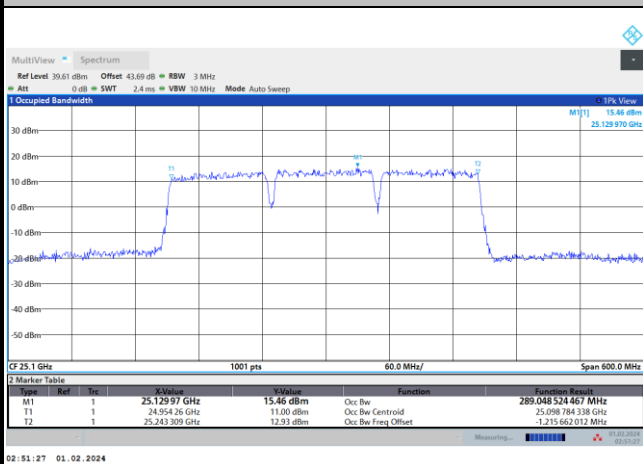
Middle Channel / 300MHz / 16QAM



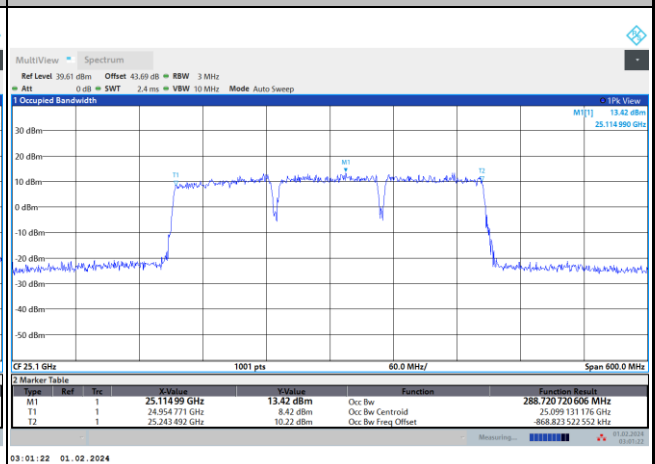
Middle Channel / 300MHz / 64QAM



Highest Channel / 300MHz / 16QAM



Highest Channel / 300MHz / 64QAM

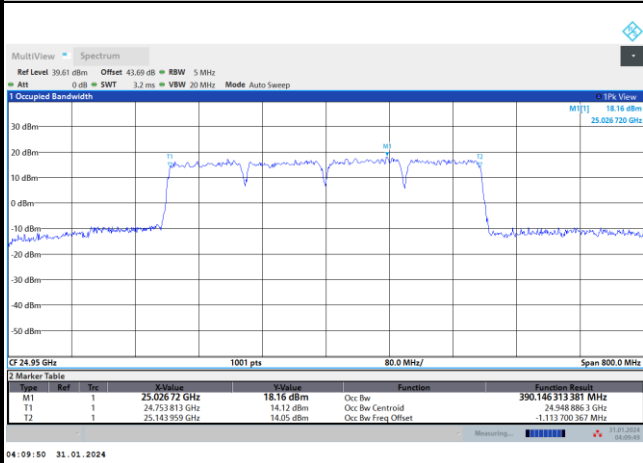




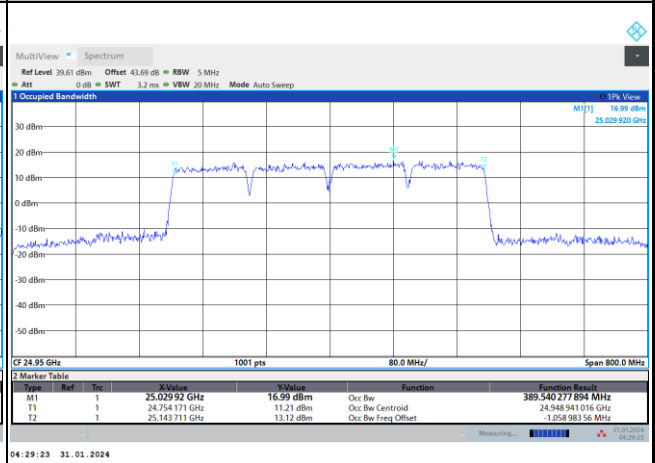
DFT-s-OFDM Module B

NR Band n258b

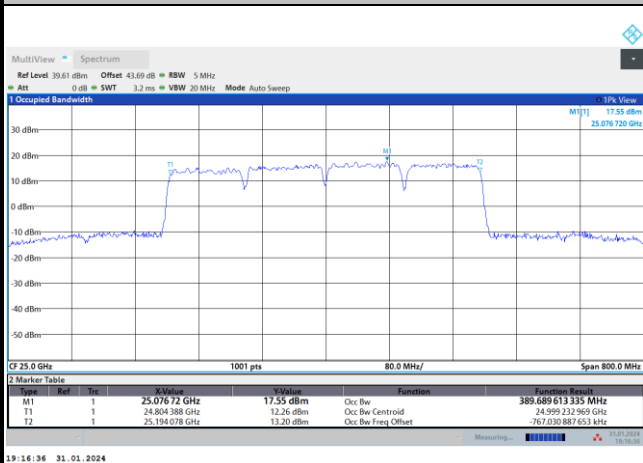
Lowest Channel / 400MHz / QPSK



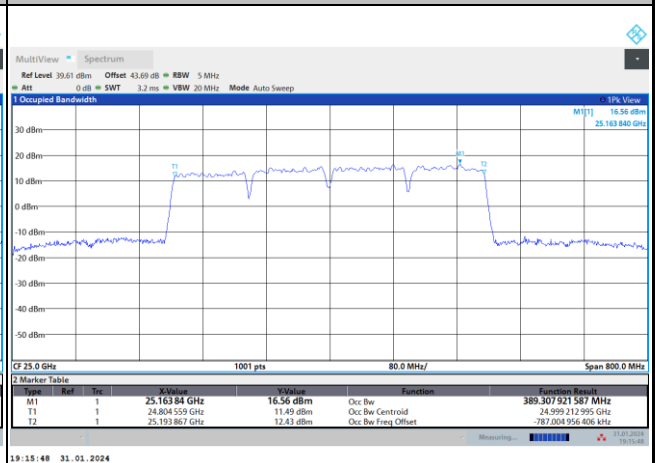
Lowest Channel / 400MHz / 16QAM



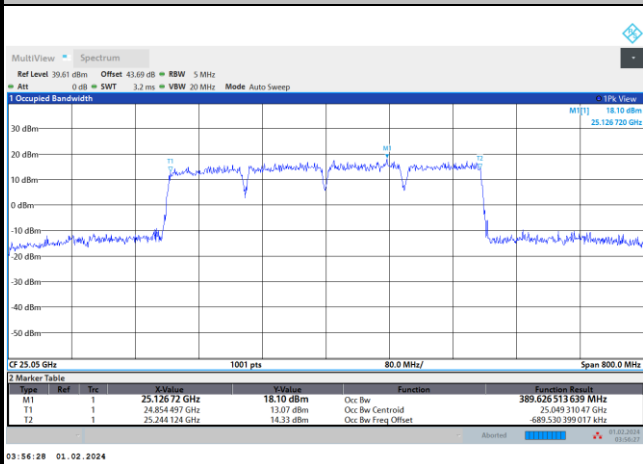
Middle Channel / 400MHz / QPSK



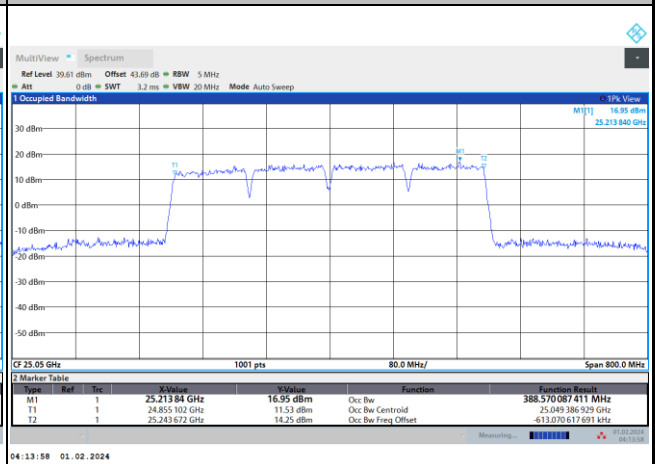
Middle Channel / 400MHz / 16QAM



Highest Channel / 400MHz / QPSK



Highest Channel / 400MHz / 16QAM

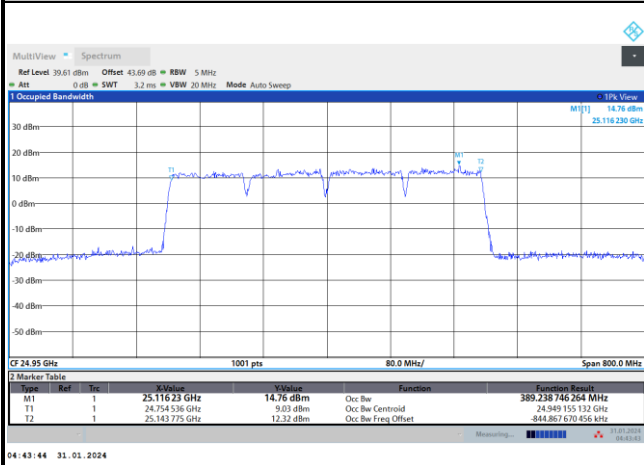




DFT-s-OFDM Module B

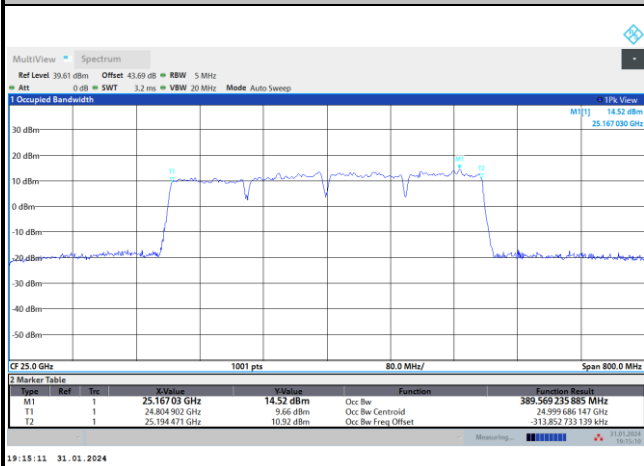
NR Band n258b

Lowest Channel / 400MHz / 64QAM



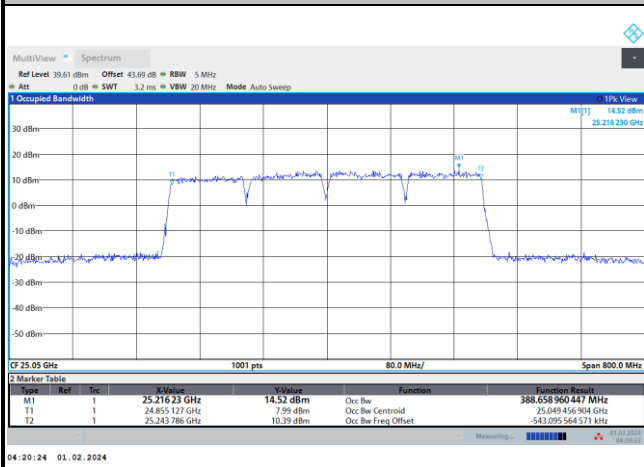
intentionally blank

Middle Channel / 400MHz / 64QAM



intentionally blank

Highest Channel / 400MHz / 64QAM



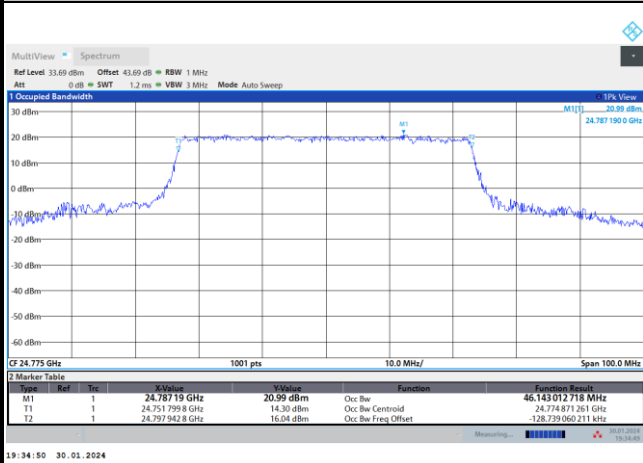
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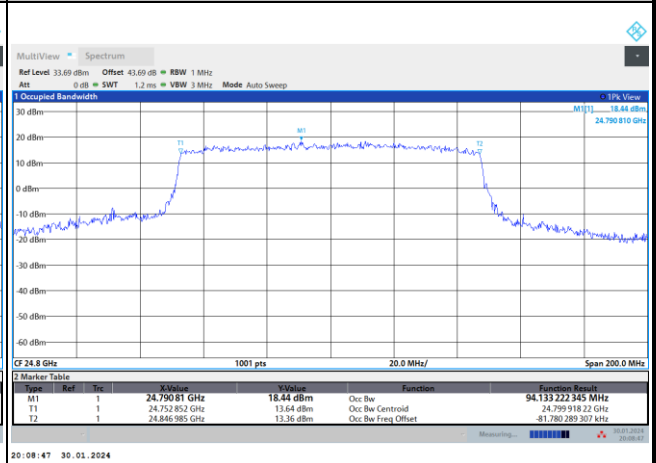
CP-OFDM Module B

NR Band n258b

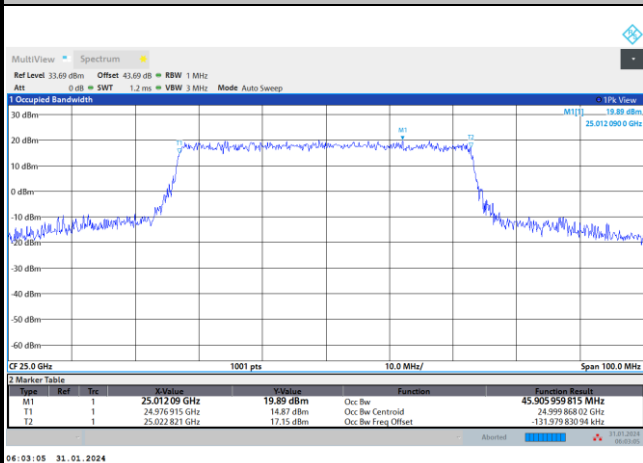
Lowest Channel / 50MHz / QPSK



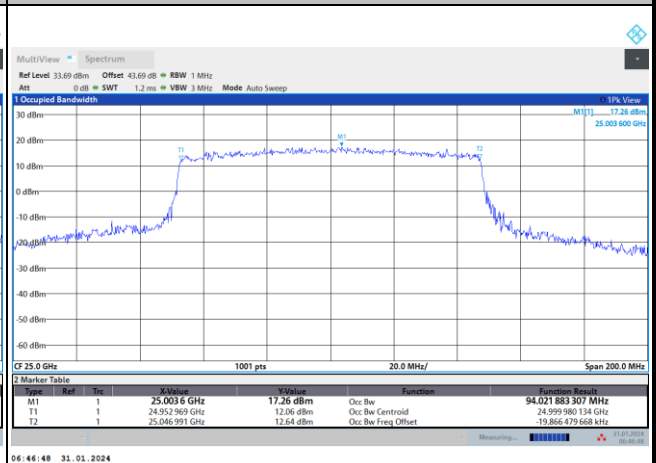
Lowest Channel / 100MHz / QPSK



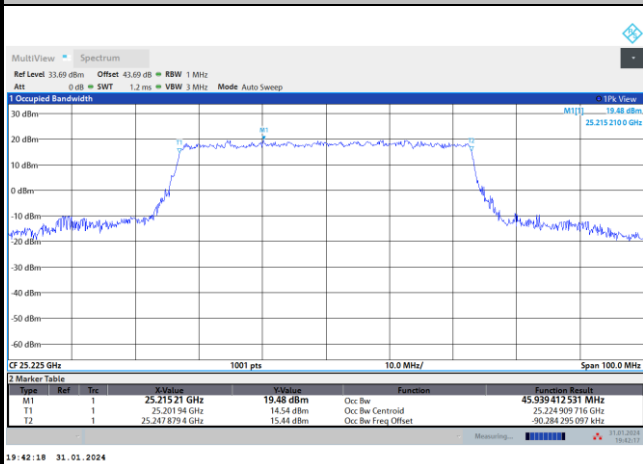
Middle Channel / 50MHz / QPSK



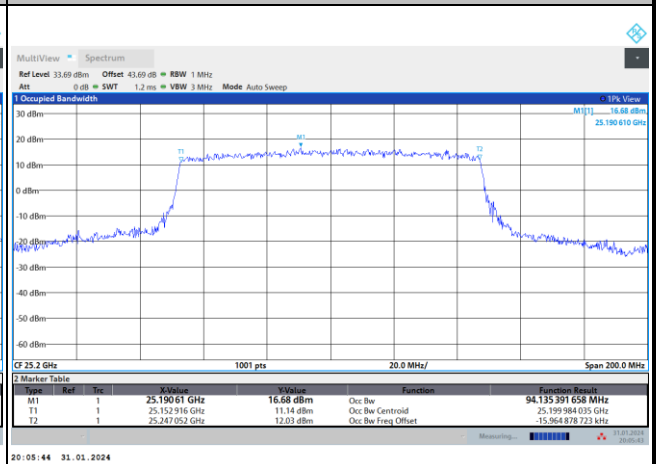
Middle Channel / 100MHz / QPSK



Highest Channel / 50MHz / QPSK



Highest Channel / 100MHz / QPSK

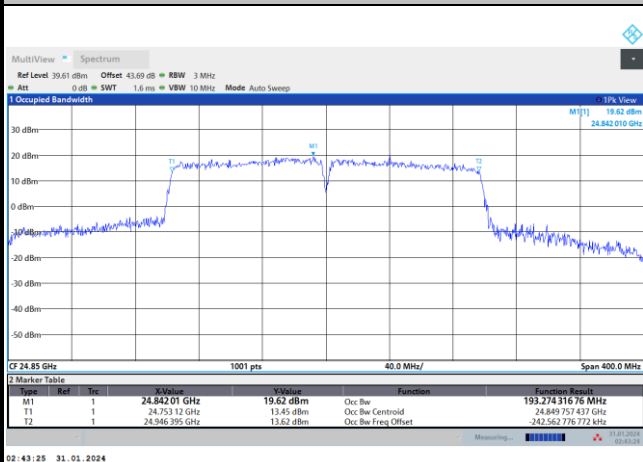




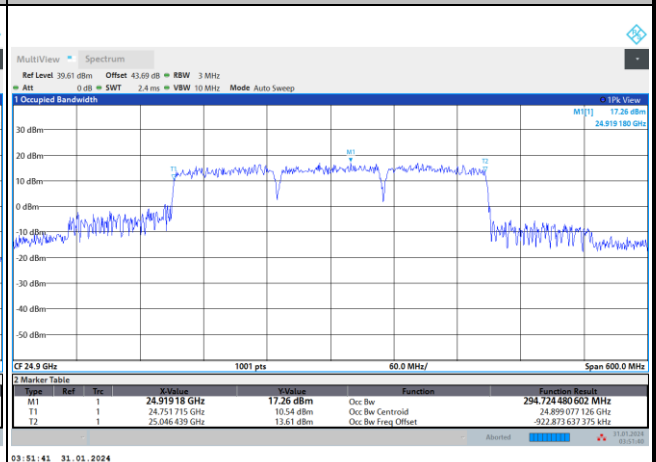
CP-OFDM Module B

NR Band n258b

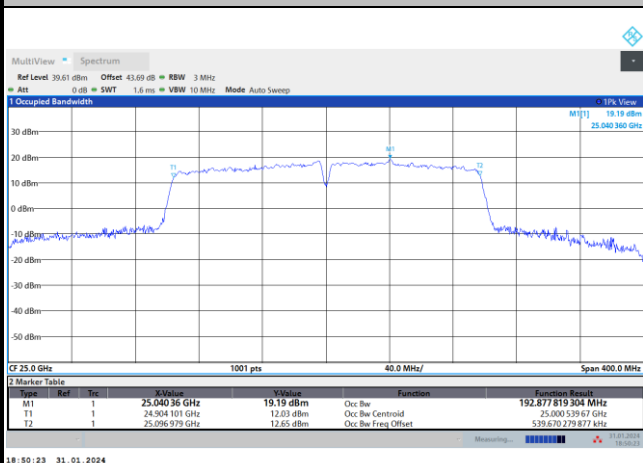
Lowest Channel / 200MHz / QPSK



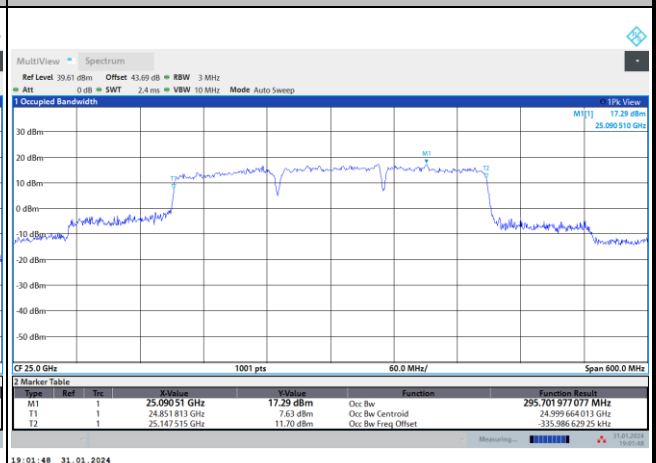
Lowest Channel / 300MHz / QPSK



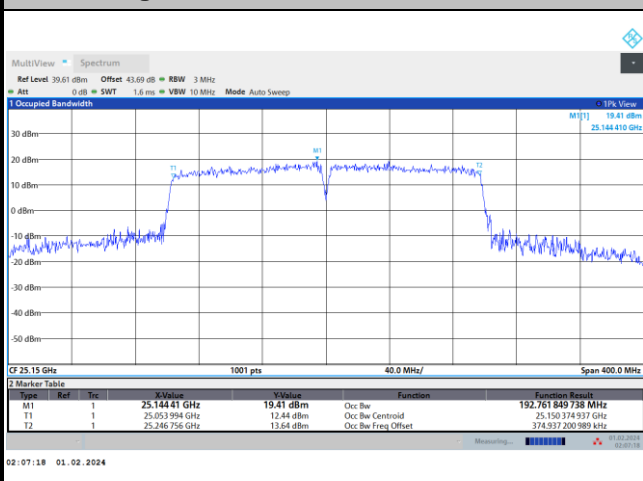
Middle Channel / 200MHz / QPSK



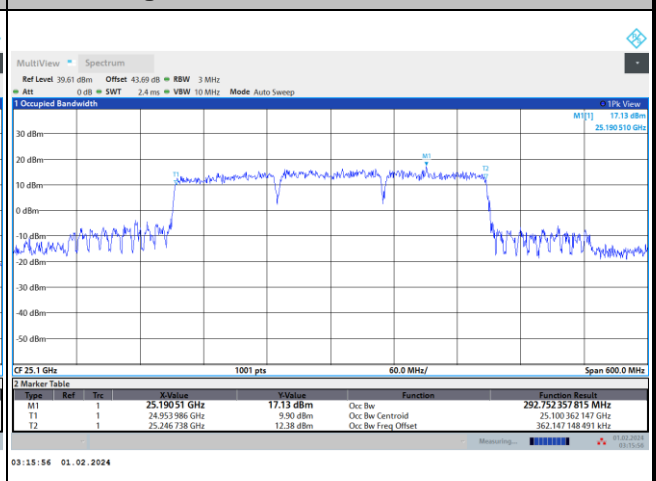
Middle Channel / 300MHz / QPSK



Highest Channel / 200MHz / QPSK



Highest Channel / 300MHz / QPSK

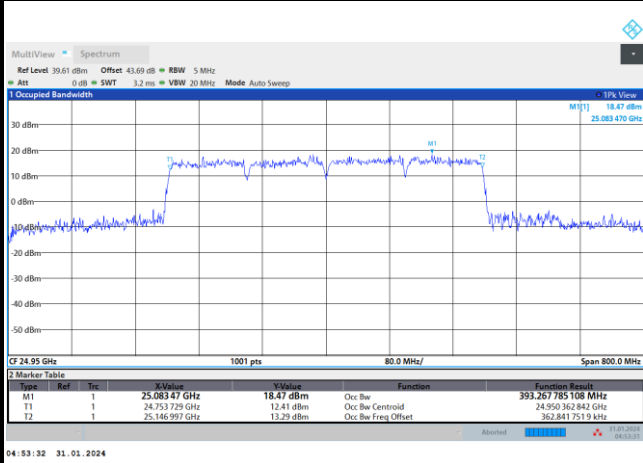




CP-OFDM Module B

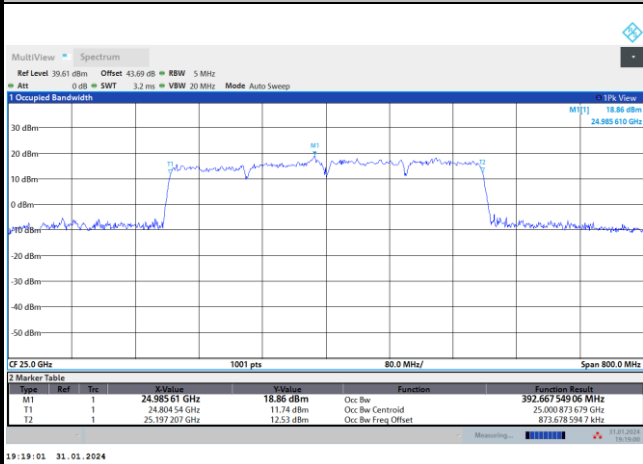
NR Band n258b

Lowest Channel / 400MHz / QPSK



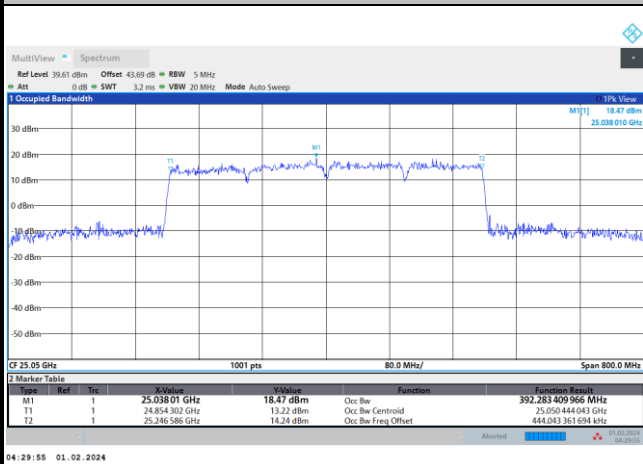
intentionally blank

Middle Channel / 400MHz / QPSK



intentionally blank

Highest Channel / 400MHz / QPSK



intentionally blank

Radiated Out of Band Emissions

Mode			DFT-s-OFDM Module B NR Band n258b : BE (dBm) 1 RB								
BW			50MHz			100MHz			200MHz		
Limit (dBm)			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Low CH	0~10%OB	≤-5	-17.002	-15.201	-19.609	-5.60	-5.30	-7.01	-13.24	-15.09	-16.67
	>10%OB	≤-13	-32.536	-32.571	-32.724	-33.96	-32.98	-34.09	-14.03	-15.74	-21.70
High CH	0~10%OB	≤-5	-17.807	-5.70	-8.54	-7.60	-10.53	-10.88	-16.29	-17.51	-17.33
	>10%OB	≤-13	-32.712	-30.09	-32.23	-29.06	-30.11	-31.71	-21.75	-23.17	-27.09
Result			Compliance								

Mode			DFT-s-OFDM Module B NR Band n258b : BE (dBm) 1 RB					
BW			300MHz			400MHz		
Limit (dBm)			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Low CH	0~10%OB	≤-5	-28.198	-29.820	-19.66	-23.939	-15.09	-18.36
	>10%OB	≤-13	-20.036	-23.903	-17.25	-24.006	-14.90	-20.10
High CH	0~10%OB	≤-5	-29.678	-19.03	-19.23	-24.499	-17.38	-20.21
	>10%OB	≤-13	-24.128	-15.79	-23.25	-23.570	-16.25	-21.27
Result			Compliance					

Mode			CP-OFDM Module B NR Band n258b : BE (dBm) 1 RB		
BW			50MHz	100MHz	200MHz
Limit (dBm)			QPSK	QPSK	QPSK
Low CH	0~10%OB	≤-5	-17.508	-6.72	-26.301
	>10%OB	≤-13	-32.463	-33.65	-23.473
High CH	0~10%OB	≤-5	-19.982	-6.58	-14.11
	>10%OB	≤-13	-32.765	-29.78	-16.87
Result			Compliance		

Mode			CP-OFDM Module B NR Band n258b : BE (dBm) 1 RB	
BW			300MHz	400MHz
Limit (dBm)			QPSK	QPSK
Low CH	0~10%OB	≤-5	-28.293	-19.907
	>10%OB	≤-13	-17.491	-20.126
High CH	0~10%OB	≤-5	-28.550	-20.198
	>10%OB	≤-13	-21.042	-20.069
Result			Compliance	

Mode			DFT-s-OFDM Module B NR Band n258b : BE (dBm) Full RB								
BW			50MHz			100MHz			200MHz		
Limit (dBm)			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Low CH	0~10%OB	≤-5	-9.29	-12.56	-15.61	-15.34	-17.57	-20.14	-21.90	-23.92	-26.11
	>10%OB	≤-13	-15.99	-19.57	-25.38	-19.32	-22.75	-27.88	-26.51	-29.53	-33.46
High CH	0~10%OB	≤-5	-13.02	-16.73	-17.71	-21.63	-24.29	-26.23	-30.47	-31.23	-32.47
	>10%OB	≤-13	-21.78	-25.08	-30.06	-25.11	-28.26	-33.65	-33.67	-35.60	-35.52
Result			Compliance								

Mode			DFT-s-OFDM Module B NR Band n258b : BE (dBm) Full RB					
BW			300MHz			400MHz		
Limit (dBm)			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Low CH	0~10%OB	≤-5	-20.40	-24.33	-29.53	-25.13	-26.98	-30.15
	>10%OB	≤-13	-24.00	-27.68	-33.43	-26.85	-29.50	-34.71
High CH	0~10%OB	≤-5	-28.94	-31.41	-33.71	-28.10	-31.00	-33.23
	>10%OB	≤-13	-27.84	-31.81	-34.00	-26.84	-30.82	-33.06
Result			Compliance					

Mode			CP-OFDM Module B NR Band n258b : BE (dBm) Full RB			
BW			50MHz	100MHz	200MHz	
Limit (dBm)			QPSK	QPSK	QPSK	
Low CH	0~10%OB	≤-5	-11.25	-16.46	-20.83	
	>10%OB	≤-13	-15.82	-19.68	-22.71	
High CH	0~10%OB	≤-5	-16.52	-19.20	-23.22	
	>10%OB	≤-13	-21.46	-25.80	-29.16	
Result			Compliance			

Mode			CP-OFDM Module B NR Band n258b : BE (dBm) Full RB			
BW			300MHz	400MHz		
Limit (dBm)			QPSK	QPSK		
Low CH	0~10%OB	≤-5	-19.10	-23.60		
	>10%OB	≤-13	-20.76	-24.76		
High CH	0~10%OB	≤-5	-23.36	-23.91		
	>10%OB	≤-13	-25.54	-26.18		
Result			Compliance			

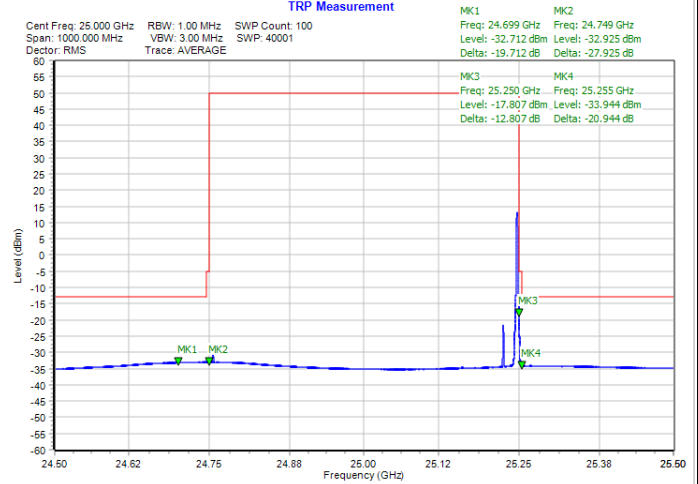
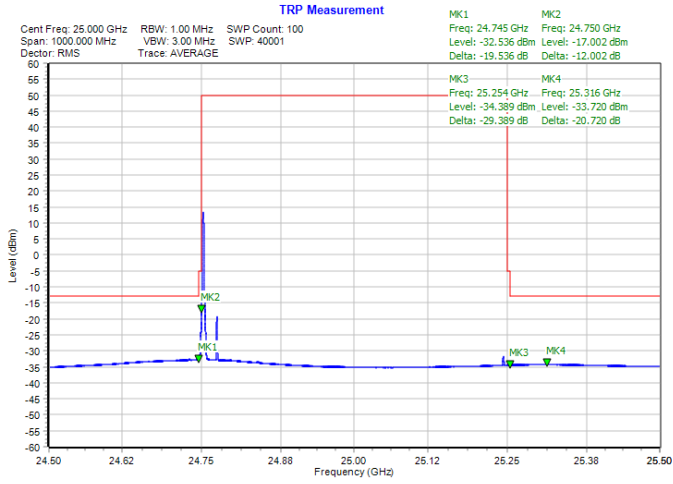


DFT-s-OFDM Module B

NR Band n258b / 50MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



NR Band n258b / 50MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

