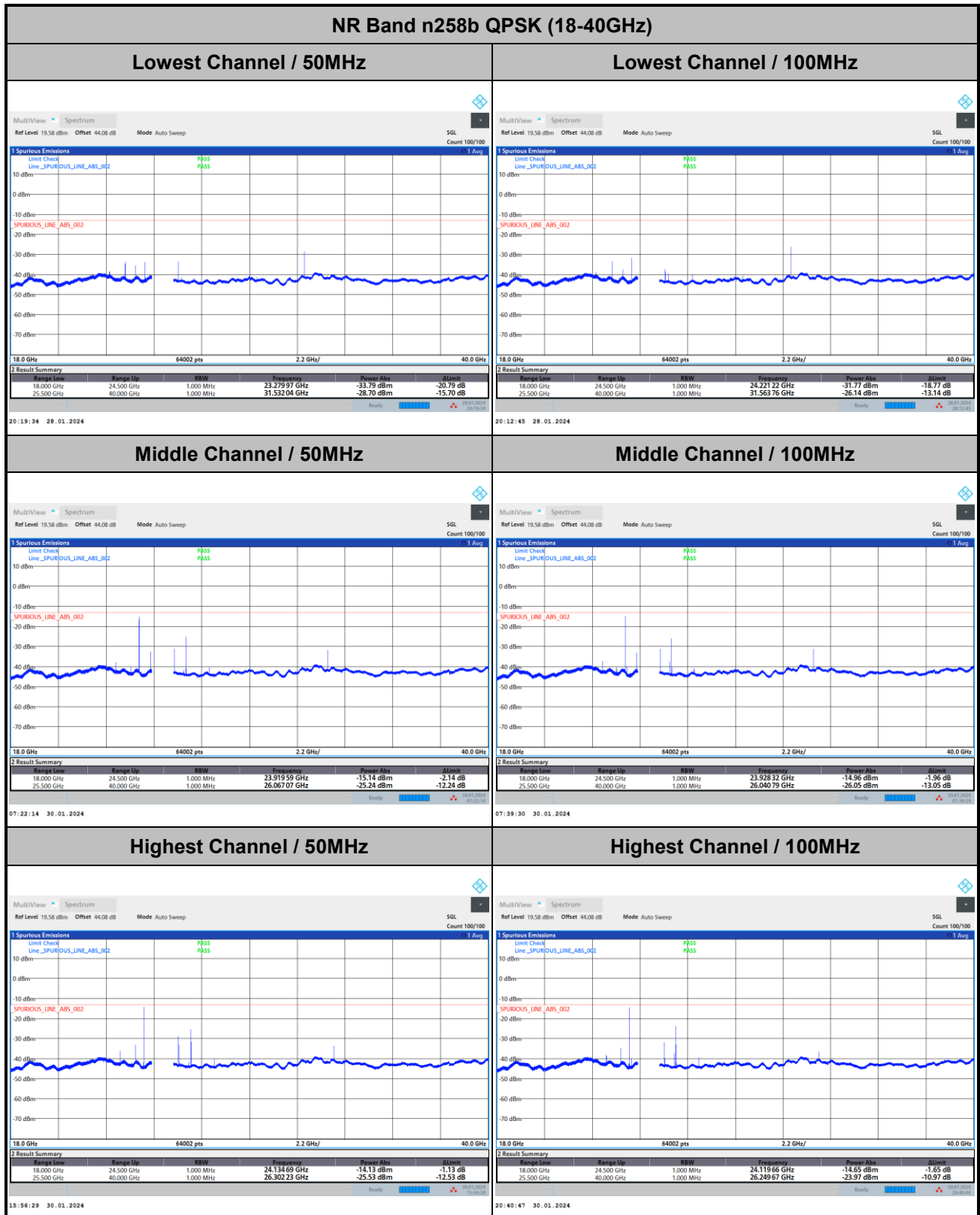




Spurious emission between 18GHz to 40GHz worst case plot is reported as following.

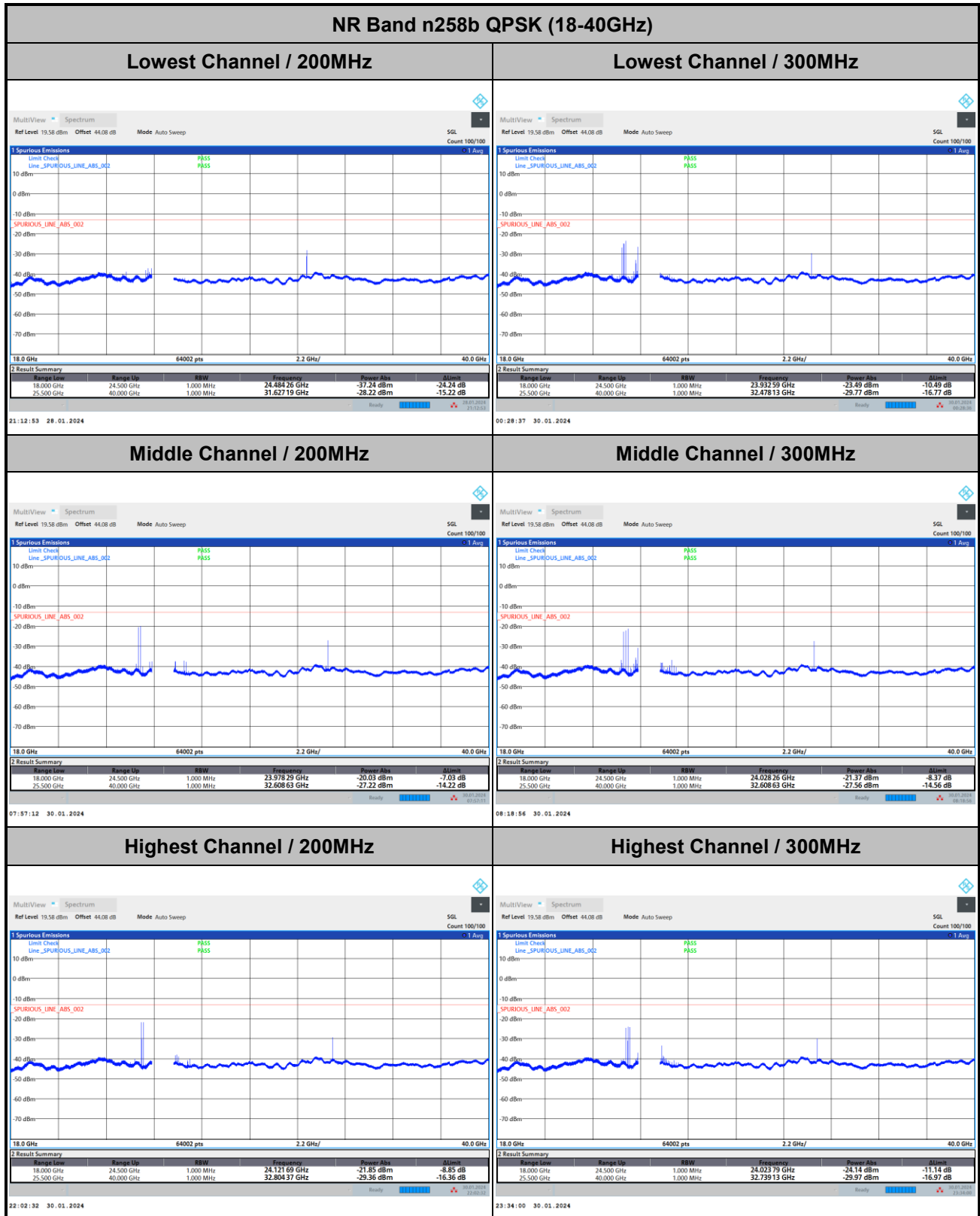
DFT-s-OFDM Module A



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



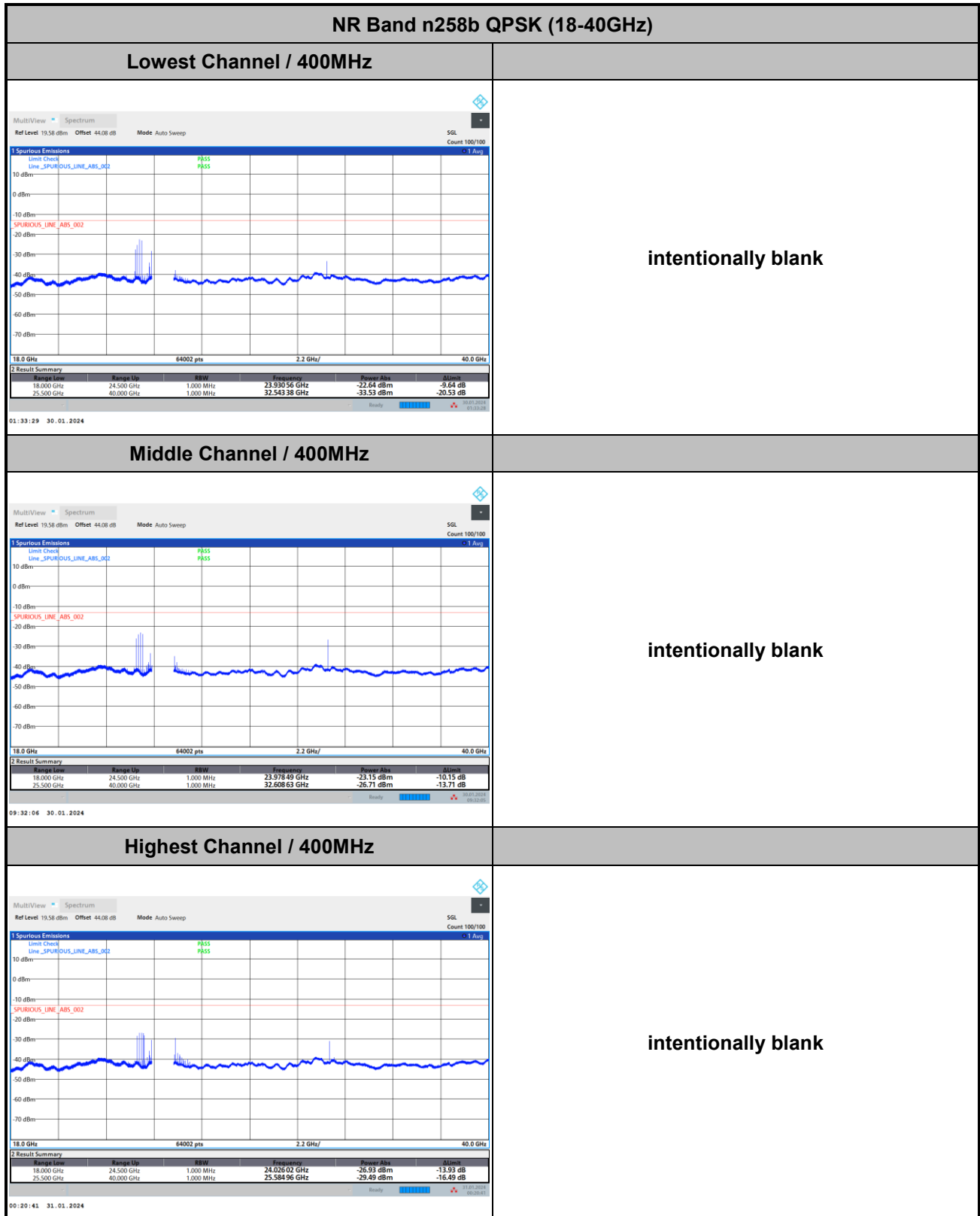
DFT-s-OFDM Module A



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



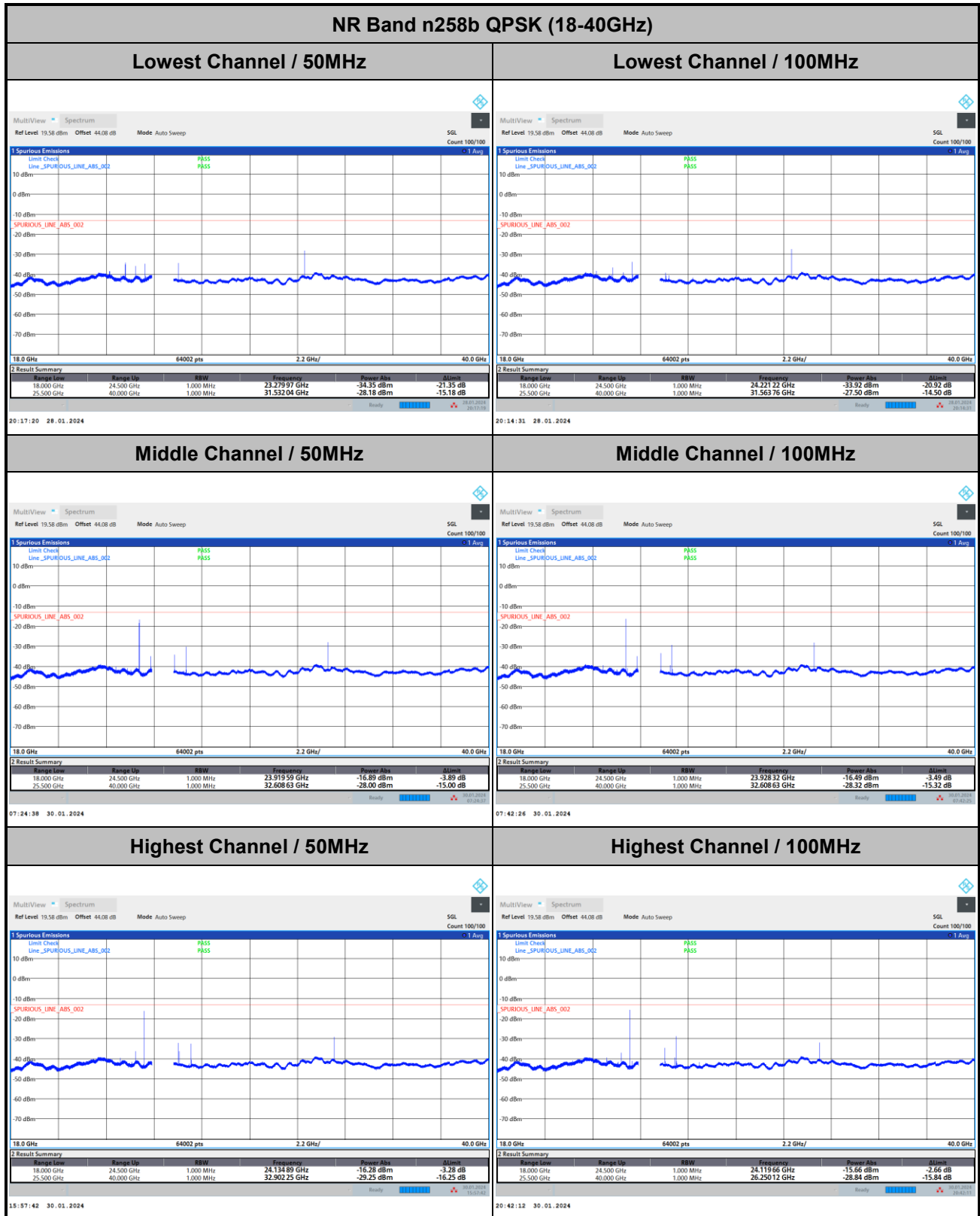
DFT-s-OFDM Module A



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



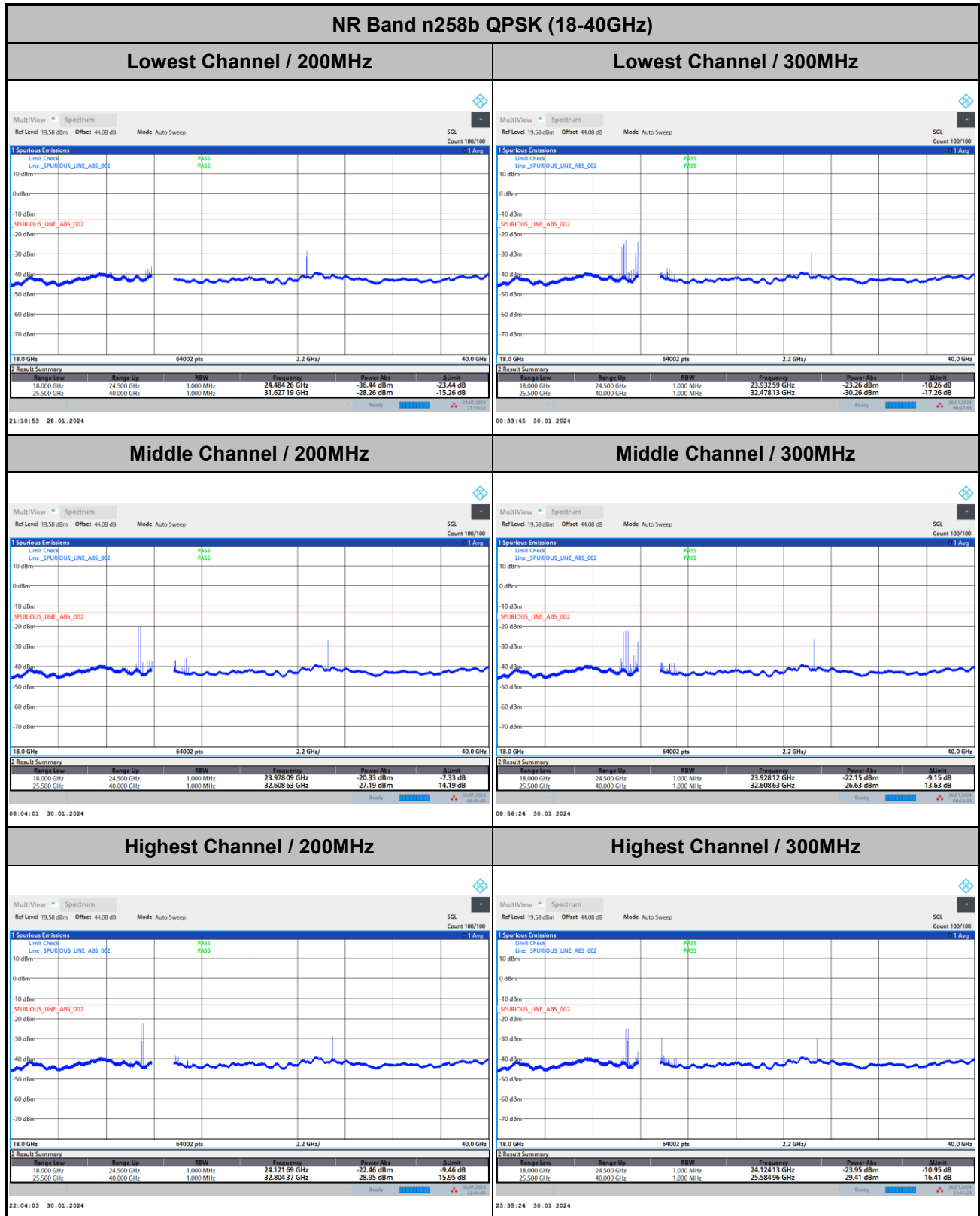
CP-OFDM Module A



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



CP-OFDM Module A



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

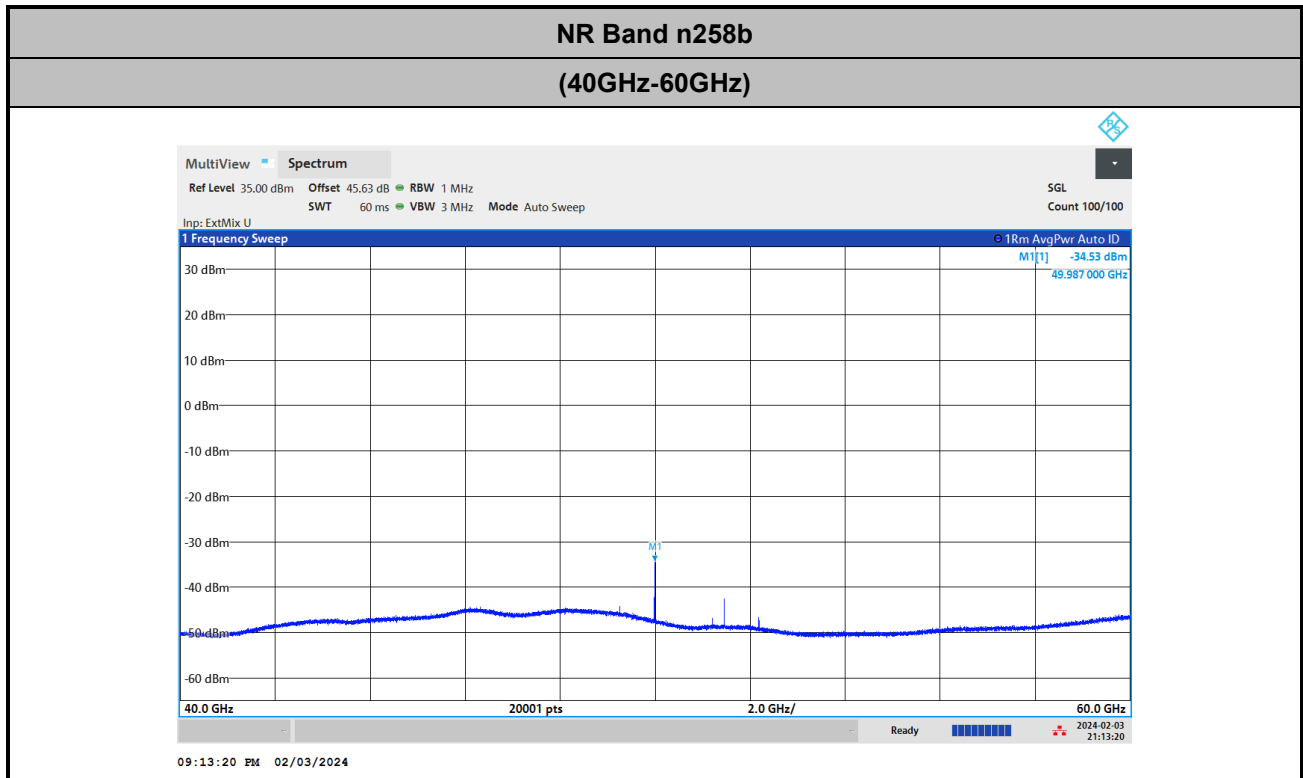


CP-OFDM Module A

NR Band n258b QPSK (18-40GHz)																			
Lowest Channel / 400MHz																			
MultiView Spectrum Ref Level 19.58 dBm Offset 44.08 dB Mode Auto Sweep SGL Count 100/100 1 Spurious Emissions Limit Check Line SPURIOUS_LINE_ABS_002 PASS PASS 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 18.0 GHz 64002 pts 2.2 GHz 40.0 GHz 0 Result Summary <table><tr><th>Range Low</th><th>Range Up</th><th>RBW</th><th>Frequency</th><th>Power Abs</th><th>ΔLimit</th></tr><tr><td>18.000 GHz</td><td>24.500 GHz</td><td>1.000 MHz</td><td>23.930 35 GHz</td><td>-22.60 dBm</td><td>-9.60 dB</td></tr><tr><td>25.500 GHz</td><td>40.000 GHz</td><td>1.000 MHz</td><td>32.543 38 GHz</td><td>-34.51 dBm</td><td>-21.51 dB</td></tr></table> 01:34:45 30.01.2024	Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit	18.000 GHz	24.500 GHz	1.000 MHz	23.930 35 GHz	-22.60 dBm	-9.60 dB	25.500 GHz	40.000 GHz	1.000 MHz	32.543 38 GHz	-34.51 dBm	-21.51 dB	intentionally blank
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit														
18.000 GHz	24.500 GHz	1.000 MHz	23.930 35 GHz	-22.60 dBm	-9.60 dB														
25.500 GHz	40.000 GHz	1.000 MHz	32.543 38 GHz	-34.51 dBm	-21.51 dB														
Middle Channel / 400MHz																			
MultiView Spectrum Ref Level 19.58 dBm Offset 44.08 dB Mode Auto Sweep SGL Count 100/100 1 Spurious Emissions Limit Check Line SPURIOUS_LINE_ABS_002 PASS PASS 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 18.0 GHz 64002 pts 2.2 GHz 40.0 GHz 0 Result Summary <table><tr><th>Range Low</th><th>Range Up</th><th>RBW</th><th>Frequency</th><th>Power Abs</th><th>ΔLimit</th></tr><tr><td>18.000 GHz</td><td>24.500 GHz</td><td>1.000 MHz</td><td>23.978 29 GHz</td><td>-22.82 dBm</td><td>-9.82 dB</td></tr><tr><td>25.500 GHz</td><td>40.000 GHz</td><td>1.000 MHz</td><td>32.608 63 GHz</td><td>-26.55 dBm</td><td>-13.55 dB</td></tr></table> 09:45:46 30.01.2024	Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit	18.000 GHz	24.500 GHz	1.000 MHz	23.978 29 GHz	-22.82 dBm	-9.82 dB	25.500 GHz	40.000 GHz	1.000 MHz	32.608 63 GHz	-26.55 dBm	-13.55 dB	intentionally blank
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit														
18.000 GHz	24.500 GHz	1.000 MHz	23.978 29 GHz	-22.82 dBm	-9.82 dB														
25.500 GHz	40.000 GHz	1.000 MHz	32.608 63 GHz	-26.55 dBm	-13.55 dB														
Highest Channel / 400MHz																			
MultiView Spectrum Ref Level 19.58 dBm Offset 44.08 dB Mode Auto Sweep SGL Count 100/100 1 Spurious Emissions Limit Check Line SPURIOUS_LINE_ABS_002 PASS PASS 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 18.0 GHz 64002 pts 2.2 GHz 40.0 GHz 0 Result Summary <table><tr><th>Range Low</th><th>Range Up</th><th>RBW</th><th>Frequency</th><th>Power Abs</th><th>ΔLimit</th></tr><tr><td>18.000 GHz</td><td>24.500 GHz</td><td>1.000 MHz</td><td>24.026 02 GHz</td><td>-27.12 dBm</td><td>-14.12 dB</td></tr><tr><td>25.500 GHz</td><td>40.000 GHz</td><td>1.000 MHz</td><td>25.584 51 GHz</td><td>-30.57 dBm</td><td>-17.57 dB</td></tr></table> 00:22:12 31.01.2024	Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit	18.000 GHz	24.500 GHz	1.000 MHz	24.026 02 GHz	-27.12 dBm	-14.12 dB	25.500 GHz	40.000 GHz	1.000 MHz	25.584 51 GHz	-30.57 dBm	-17.57 dB	intentionally blank
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit														
18.000 GHz	24.500 GHz	1.000 MHz	24.026 02 GHz	-27.12 dBm	-14.12 dB														
25.500 GHz	40.000 GHz	1.000 MHz	25.584 51 GHz	-30.57 dBm	-17.57 dB														

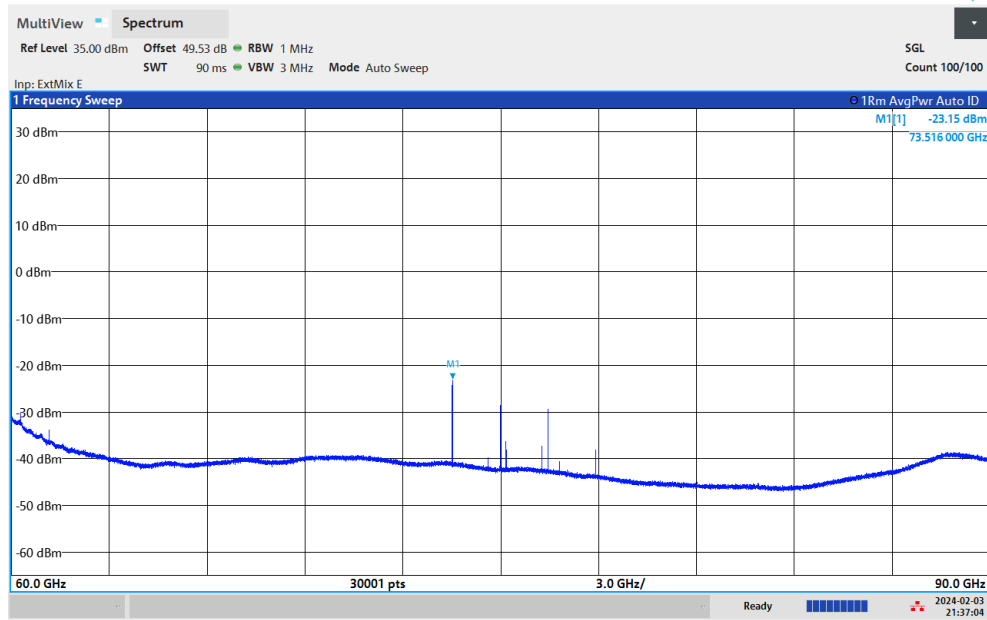
Remark: In band and out of band frequencies are omitted.

There is no significant spurious emission signal found for frequency started from 40GHz up to 200GHz.
Only the noise floor is reported.



$$\text{Offset} = \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} + 107 + 20\log(D) - 104.8$$

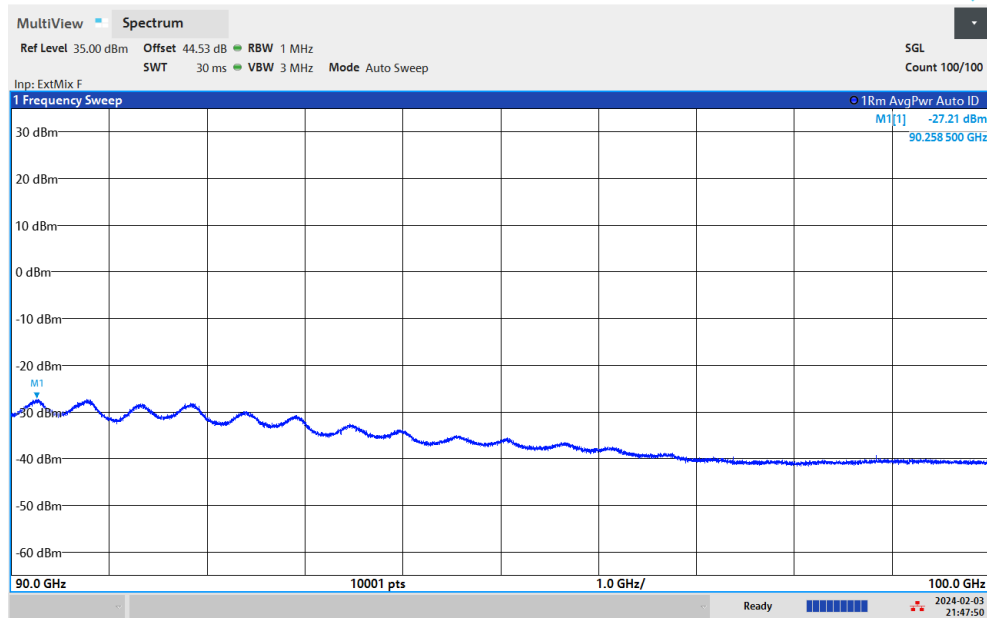
$$= 43 + 0.43 + 107 + 20\log(1) - 104.8 = 45.63(\text{dB})$$

NR Band n258b
(60GHz-90GHz)


09:37:04 PM 02/03/2024

$$\text{Offset} = \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} + 107 + 20\log(D) - 104.8$$

$$= 46.9 + 0.43 + 107 + 20\log(1) - 104.8 = 49.53 \text{ (dB)}$$

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	24.9999351	101.900	4.076	Pass
40	Normal Voltage	24.9999471	89.900	3.596	
30	Normal Voltage	24.999964	73.000	2.920	
20(Ref.)	Normal Voltage	25.000037	0.000	0.000	
10	Normal Voltage	25.000032	5.000	0.200	
0	Normal Voltage	25.0001069	-69.900	2.796	
-10	Normal Voltage	25.0001279	-90.900	3.636	
-20	Normal Voltage	25.0001339	-96.900	3.876	
-30	Normal Voltage	25.0001139	-76.900	3.076	
20	Maximum Voltage	25.000023	14.000	0.560	
20	Normal Voltage	25.000024	13.000	0.520	
20	Battery End Point	25.000022	15.000	0.600	

Note:

1. Normal Voltage = 3.89 V. ; Battery End Point (BEP) = 3.6 V. ; Maximum Voltage = 4.5 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	46.30	46.13	46.10	91.22	91.00	90.98	191.38	191.15	191.17
Middle CH	46.29	46.16	46.14	91.19	91.17	91.26	191.33	191.06	191.40
Highest CH	46.16	46.09	45.99	91.23	90.97	90.98	191.87	191.58	191.98

Mode	DFT-s-OFDM Module B NR Band n258b : 99%OBW(MHz)					
BW	300MHz			400MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	292.22	291.09	291.35	392.36	390.89	389.63
Middle CH	291.96	290.37	289.80	393.46	391.99	390.61
Highest CH	292.70	291.23	290.52			

Mode	CP-OFDM Module B NR Band n258b : 99%OBW(MHz)		
BW	50MHz	100MHz	200MHz
Mod.	QPSK	QPSK	QPSK
Lowest CH	46.37	94.36	195.65
Middle CH	46.28	94.48	194.75
Highest CH	46.15	94.34	196.48

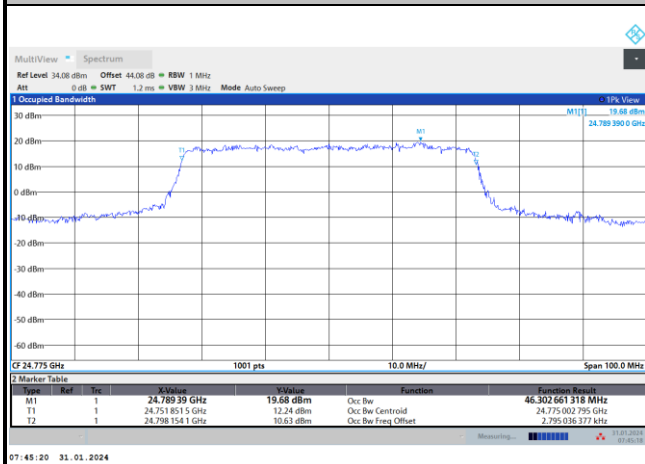
Mode	CP-OFDM Module B NR Band n258b : 99%OBW(MHz)	
BW	300MHz	400MHz
Mod.	QPSK	QPSK
Lowest CH	295.28	397.78
Middle CH	294.51	398.53
Highest CH	294.99	396.87



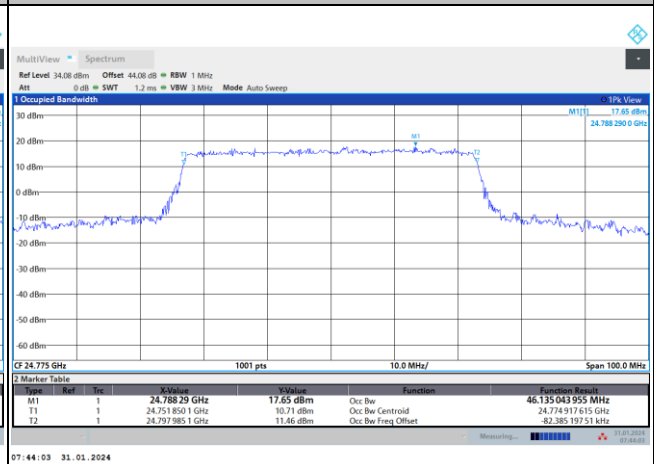
DFT-s-OFDM Module B

NR Band n258b

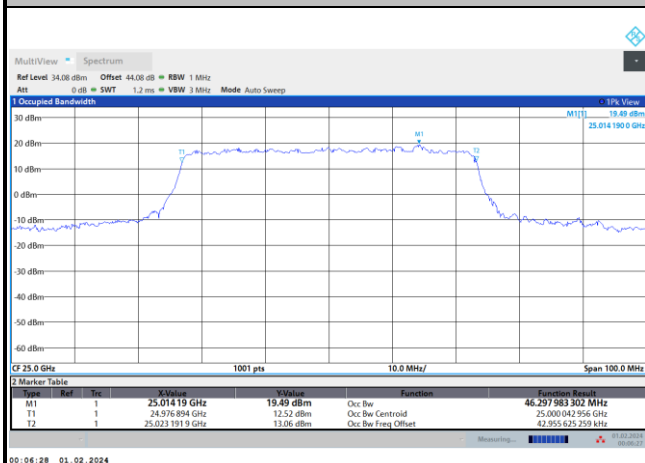
Lowest Channel / 50MHz / QPSK



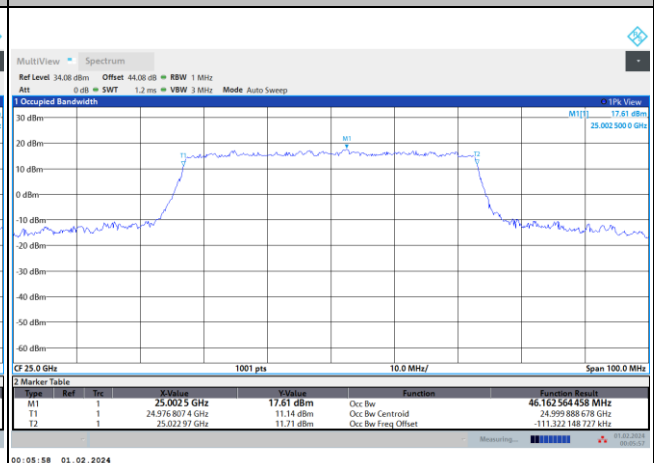
Lowest Channel / 50MHz / 16QAM



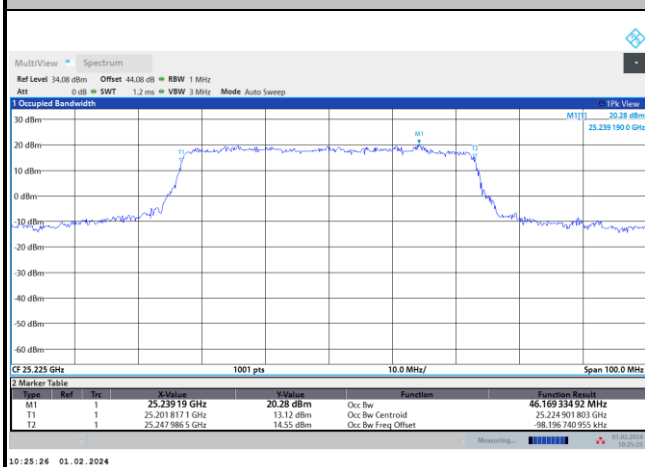
Middle Channel / 50MHz / QPSK



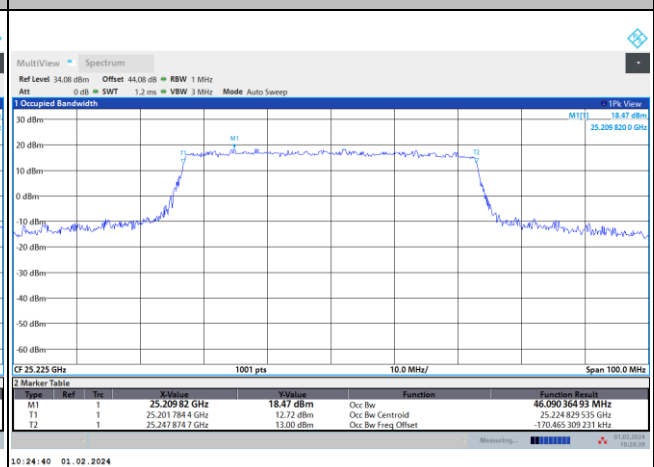
Middle Channel / 50MHz / 16QAM



Highest Channel / 50MHz / QPSK



Highest Channel / 50MHz / 16QAM

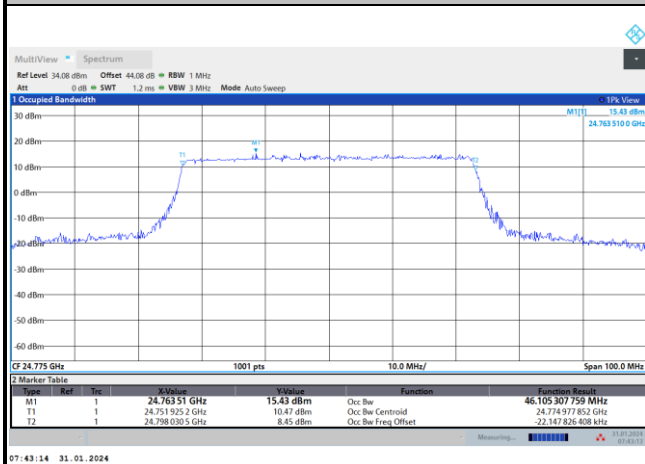




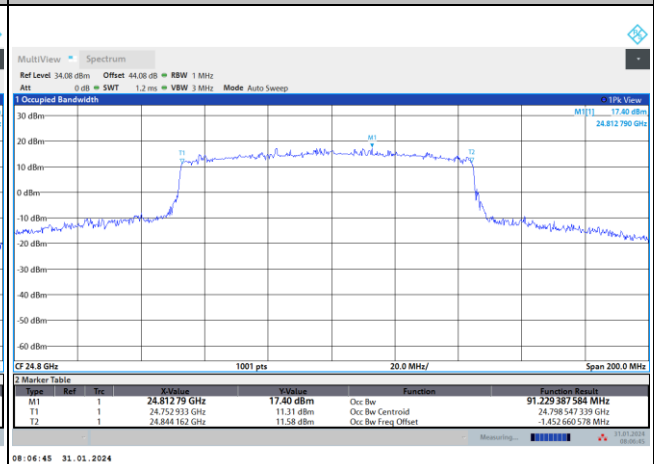
DFT-s-OFDM Module B

NR Band n258b

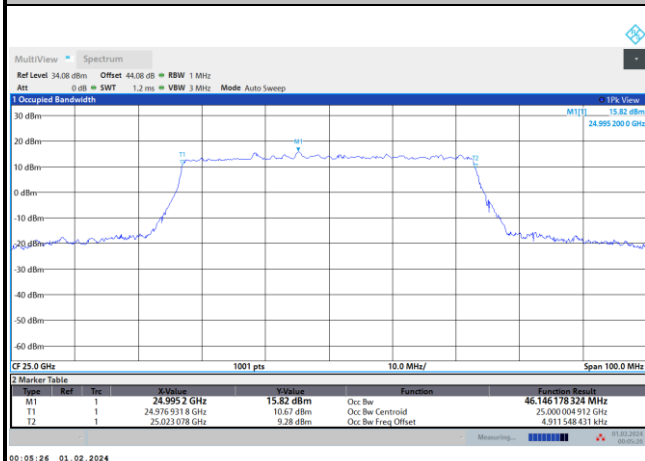
Lowest Channel / 50MHz / 64QAM



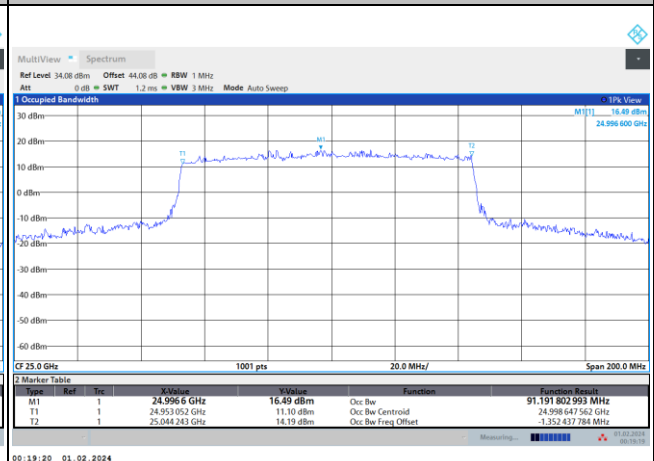
Lowest Channel / 100MHz / QPSK



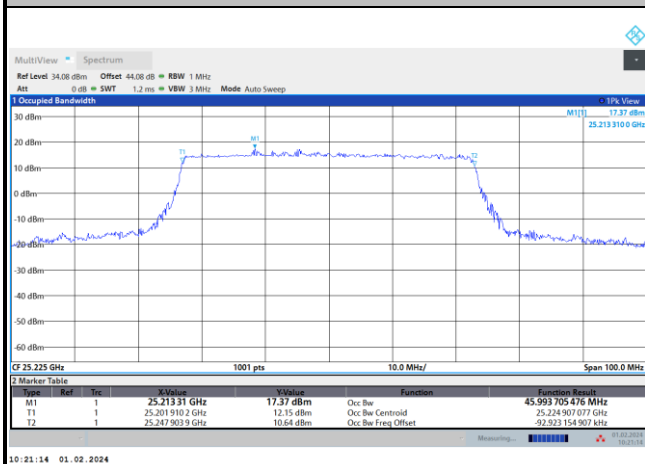
Middle Channel / 50MHz / 64QAM



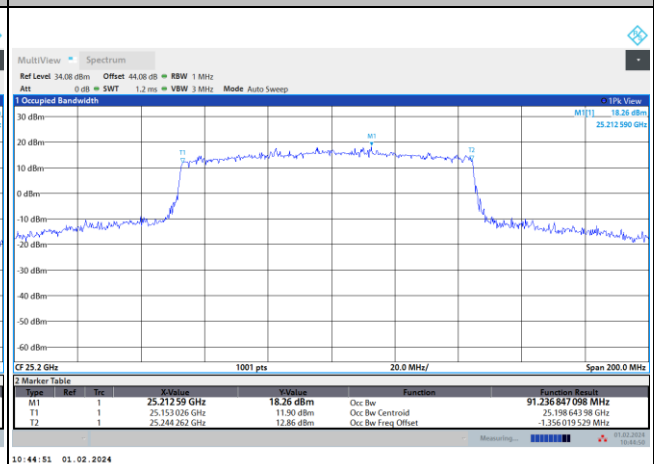
Middle Channel / 100MHz / QPSK



Highest Channel / 50MHz / 64QAM



Highest Channel / 100MHz / QPSK

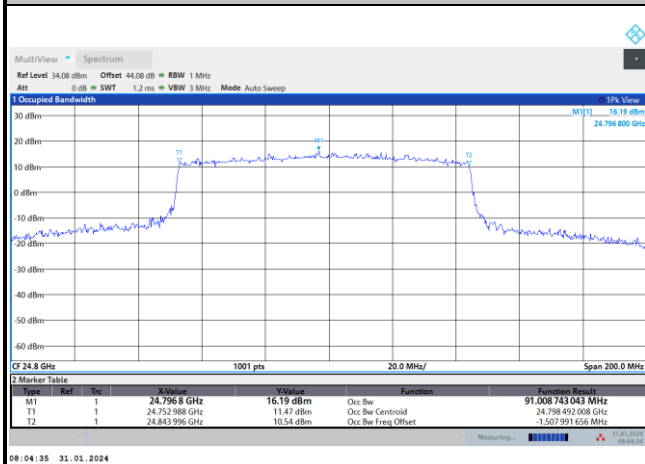




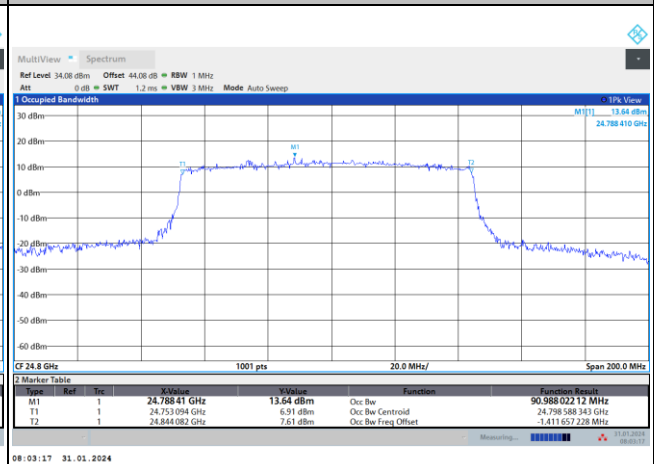
DFT-s-OFDM Module B

NR Band n258b

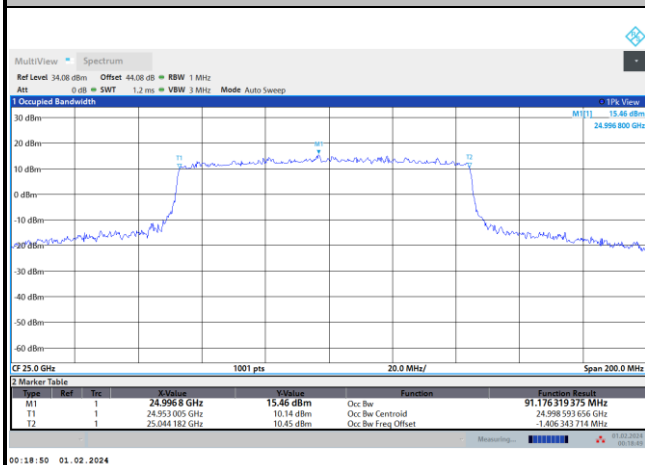
Lowest Channel / 100MHz / 16QAM



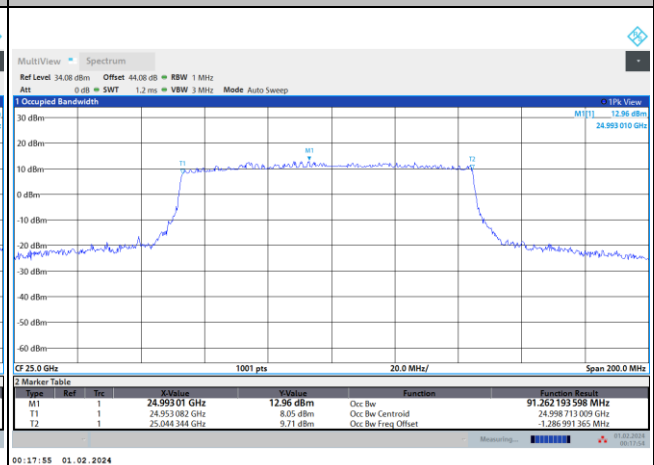
Lowest Channel / 100MHz / 64QAM



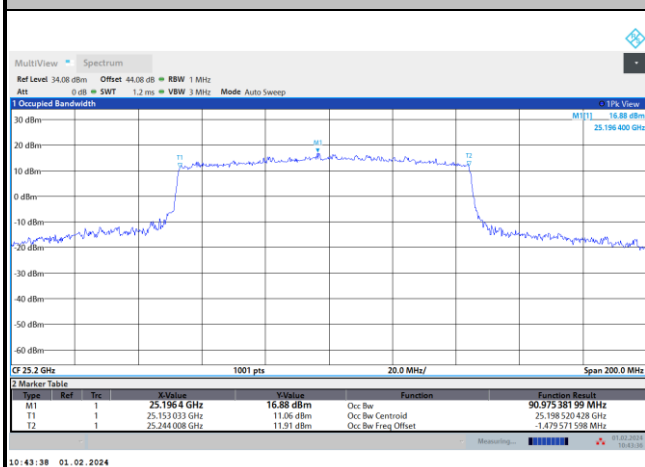
Middle Channel / 100MHz / 16QAM



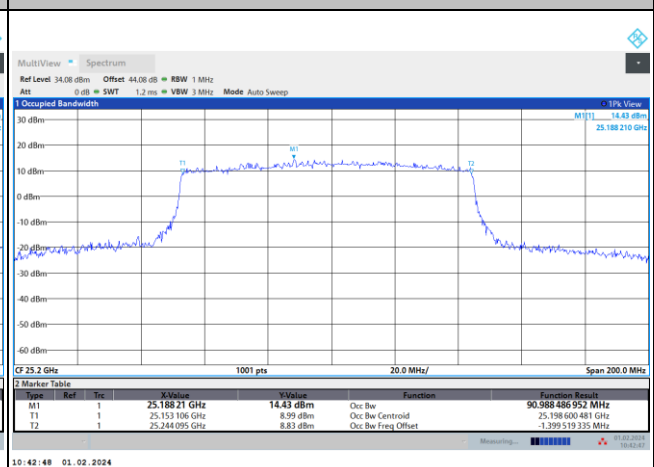
Middle Channel / 100MHz / 64QAM



Highest Channel / 100MHz / 16QAM



Highest Channel / 100MHz / 64QAM

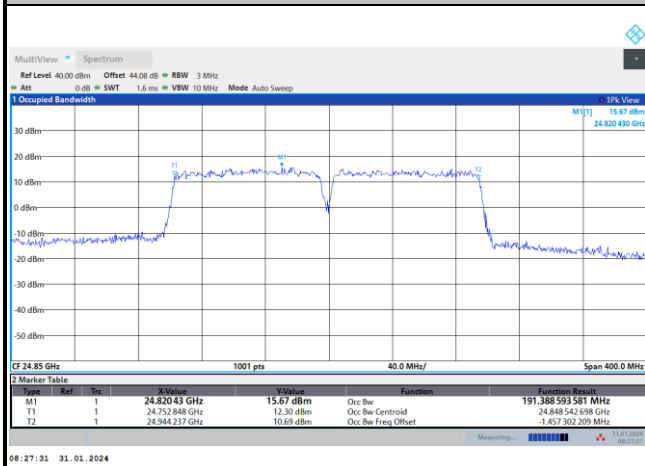




DFT-s-OFDM Module B

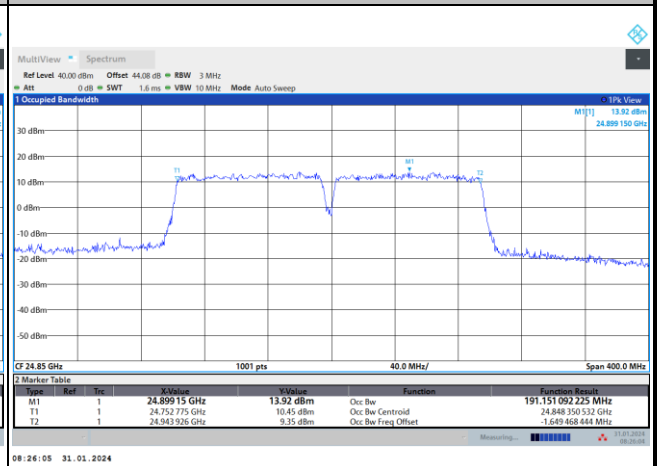
NR Band n258b

Lowest Channel / 200MHz / QPSK



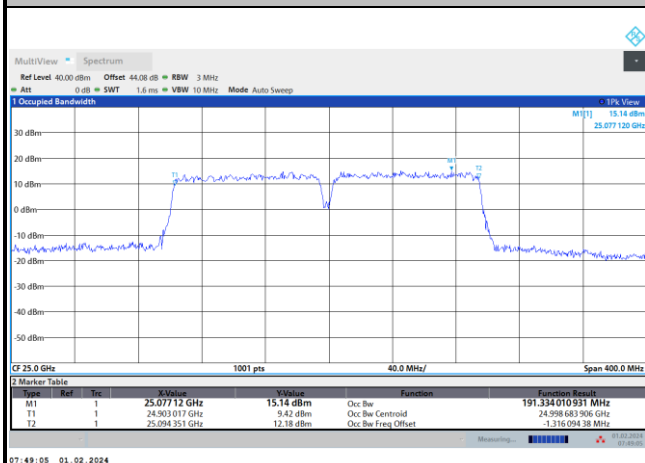
08:27:31 31.01.2024

Lowest Channel / 200MHz / 16QAM



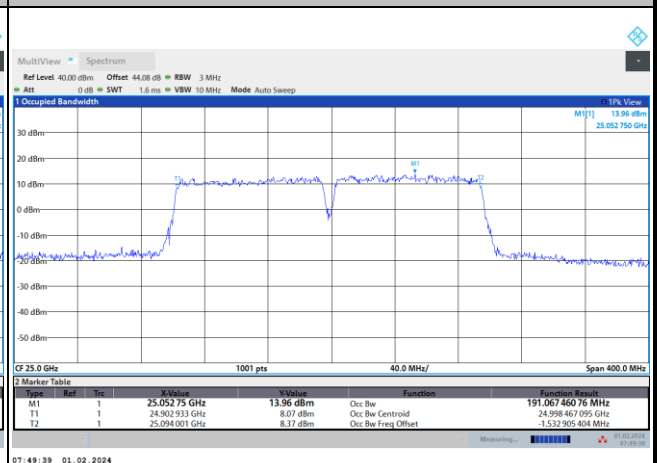
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Middle Channel / 200MHz / QPSK



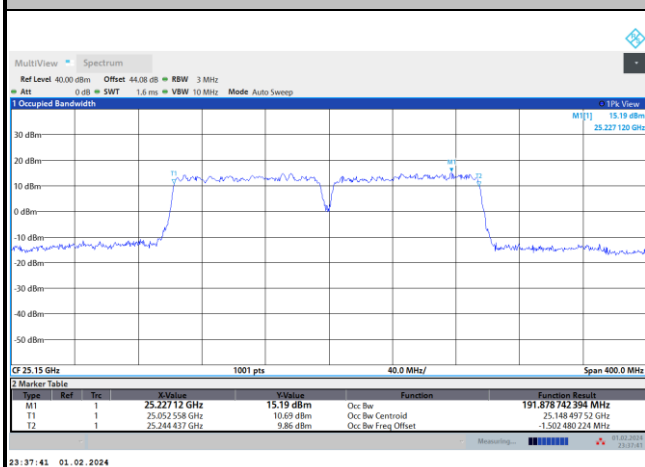
07:49:05 01.02.2024

Middle Channel / 200MHz / 16QAM



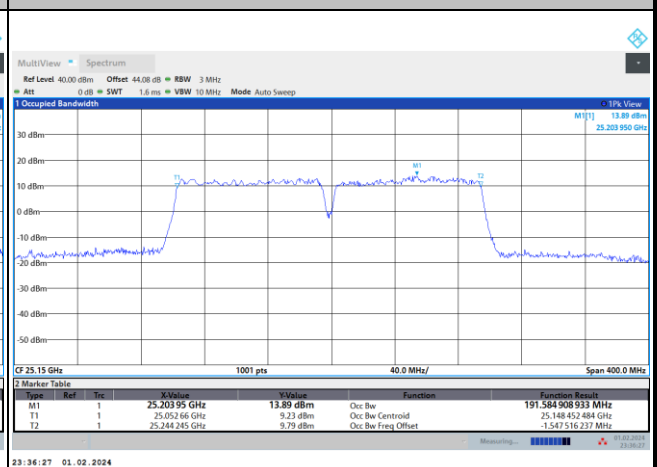
07:49:39 01.02.2024

Highest Channel / 200MHz / QPSK



23:37:41 01.02.2024

Highest Channel / 200MHz / 16QAM



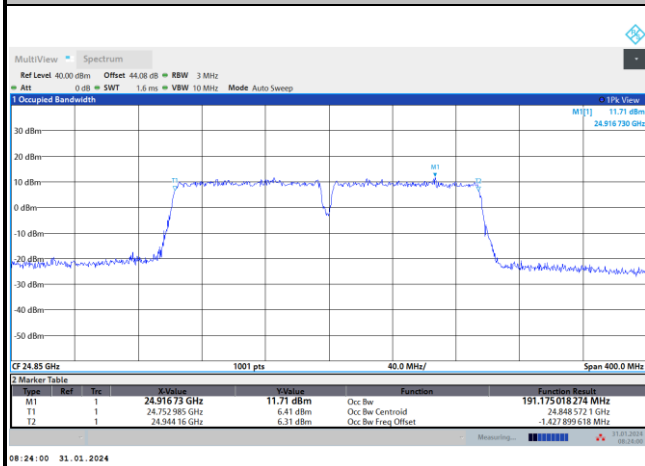
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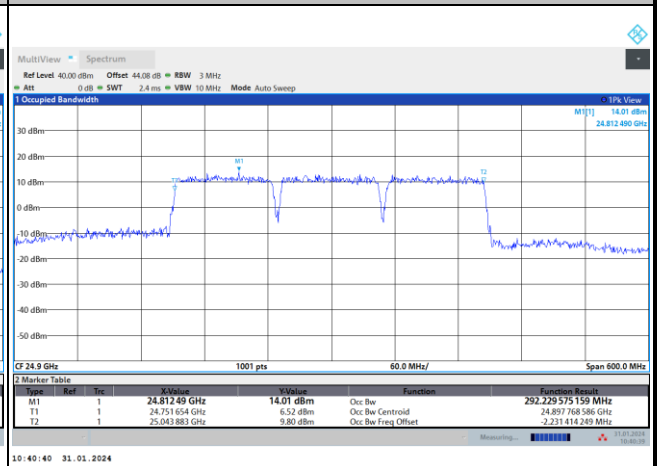
DFT-s-OFDM Module B

NR Band n258b

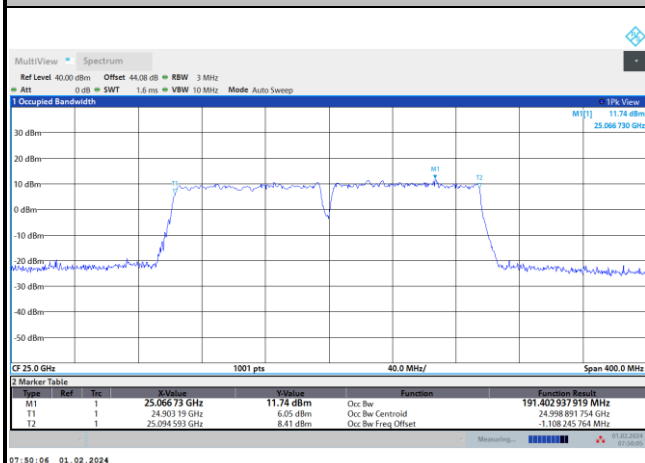
Lowest Channel / 200MHz / 64QAM



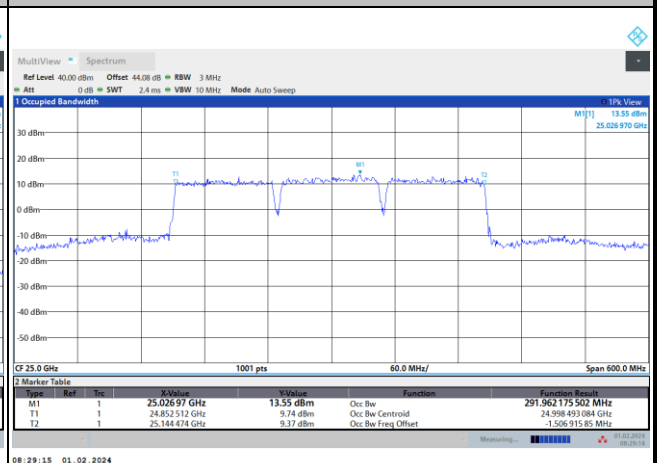
Lowest Channel / 300MHz / QPSK



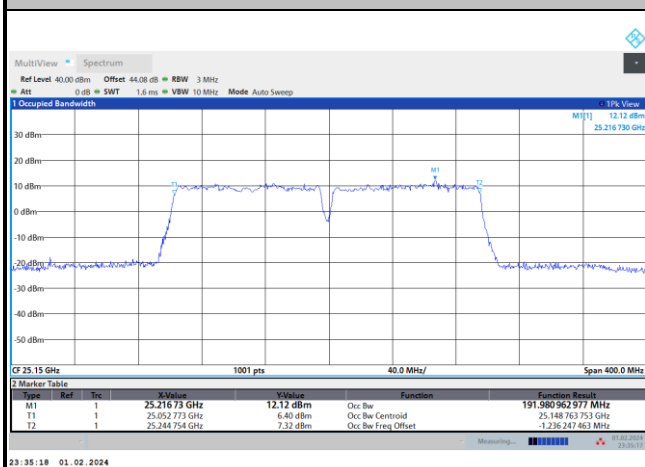
Middle Channel / 200MHz / 64QAM



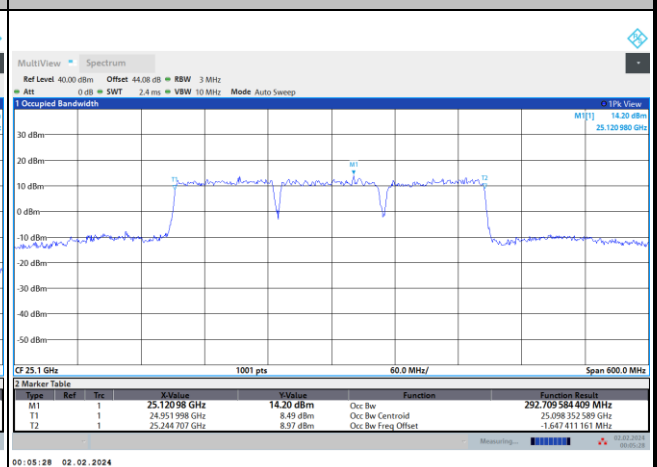
Middle Channel / 300MHz / QPSK



Highest Channel / 200MHz / 64QAM



Highest Channel / 300MHz / QPSK

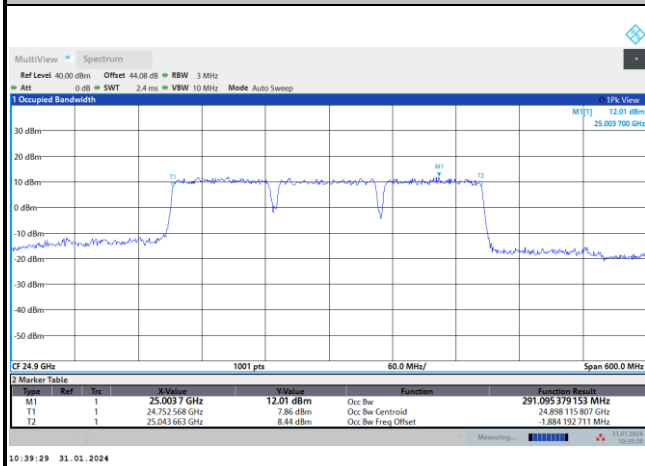




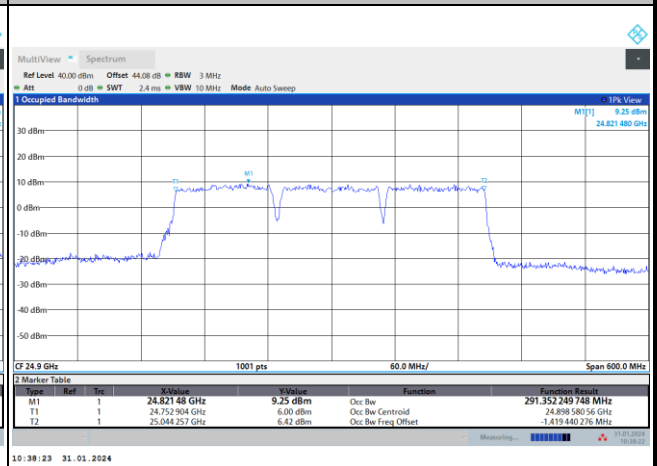
DFT-s-OFDM Module B

NR Band n258b

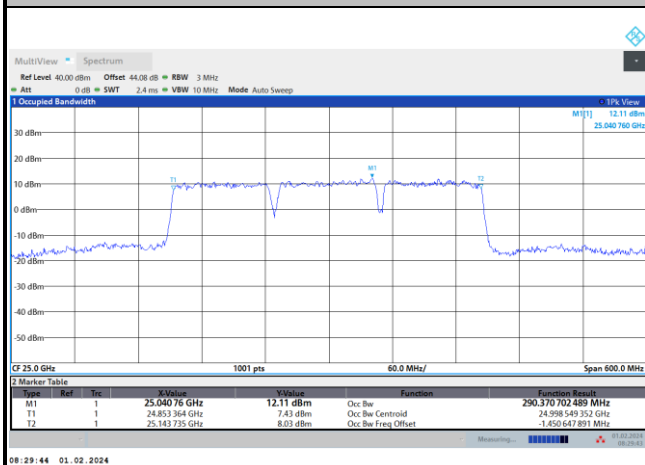
Lowest Channel / 300MHz / 16QAM



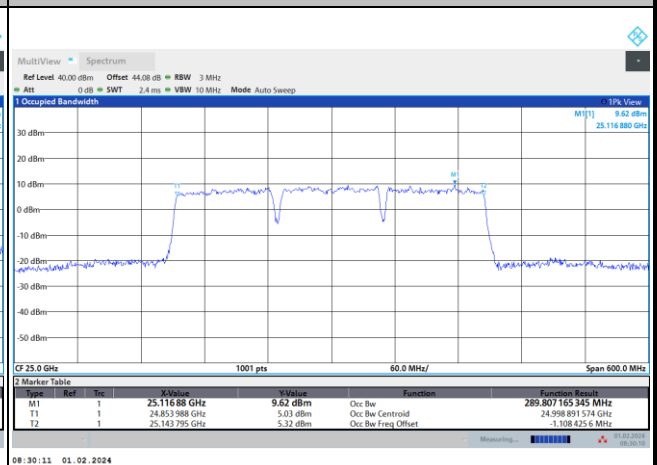
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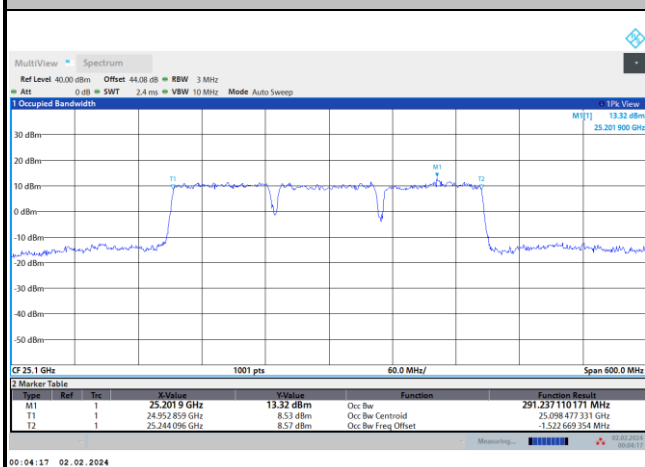
Middle Channel / 300MHz / 16QAM



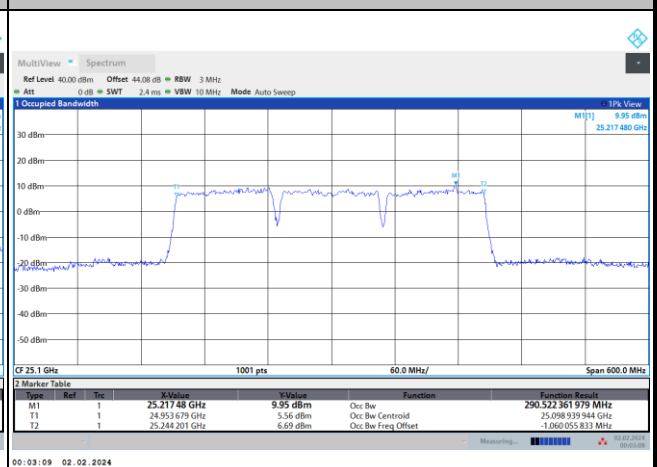
Middle Channel / 300MHz / 64QAM



Highest Channel / 300MHz / 16QAM



Highest Channel / 300MHz / 64QAM

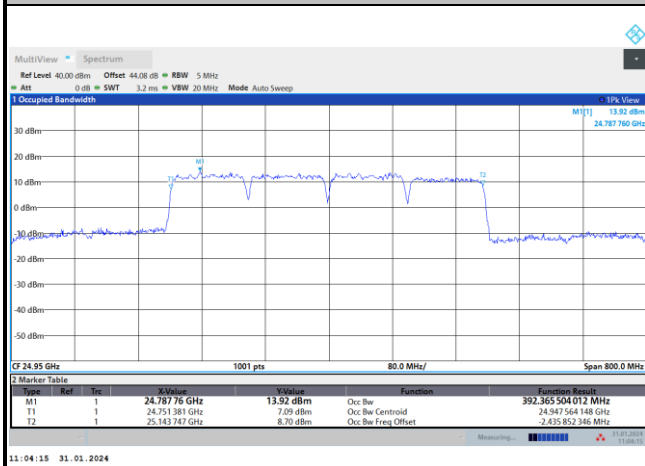




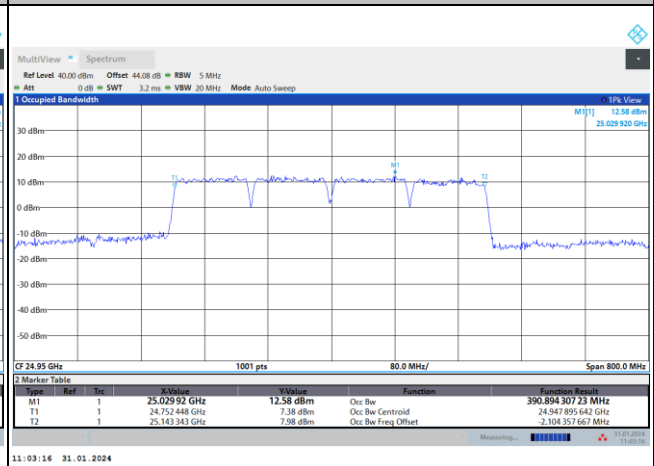
DFT-s-OFDM Module B

NR Band n258b

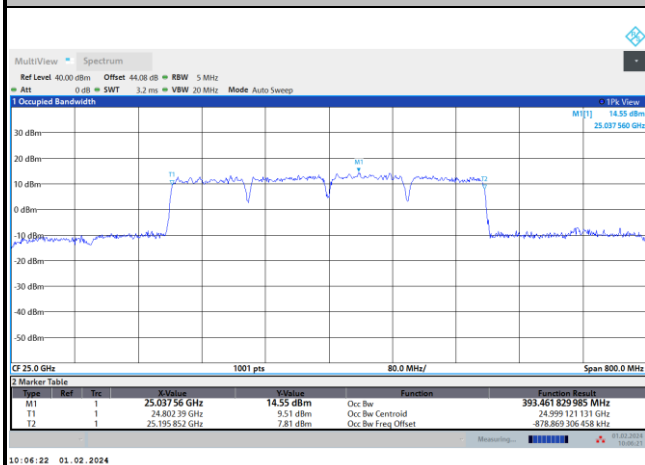
Lowest Channel / 400MHz / QPSK



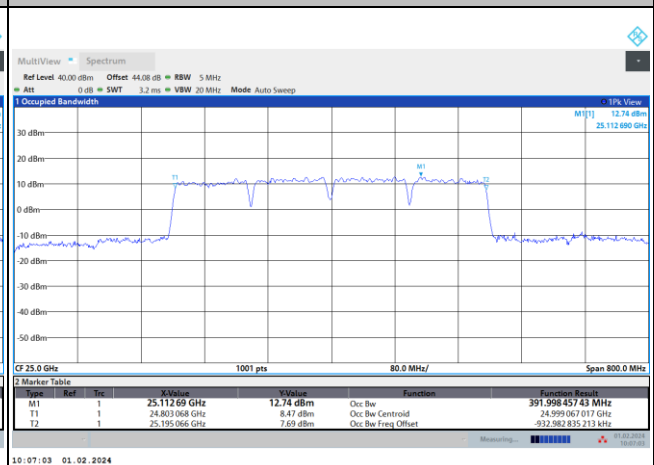
Lowest Channel / 400MHz / 16QAM



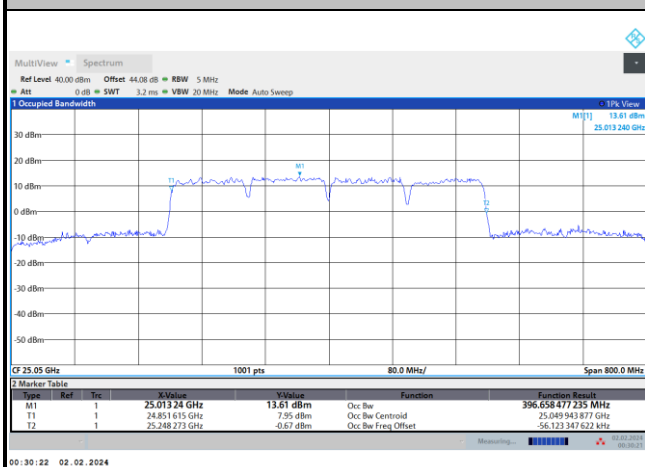
Middle Channel / 400MHz / QPSK



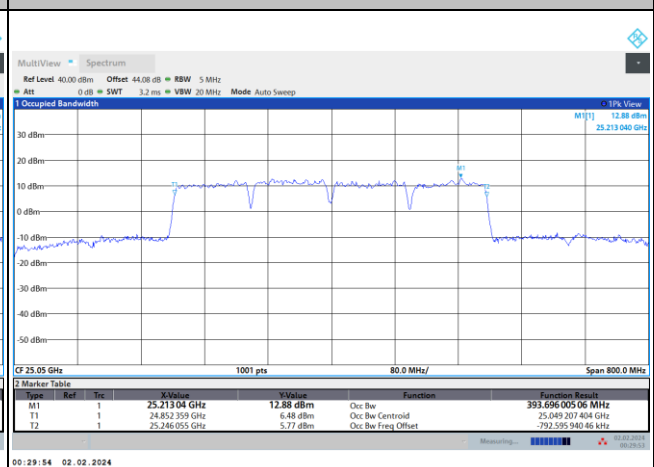
Middle Channel / 400MHz / 16QAM



Highest Channel / 400MHz / QPSK

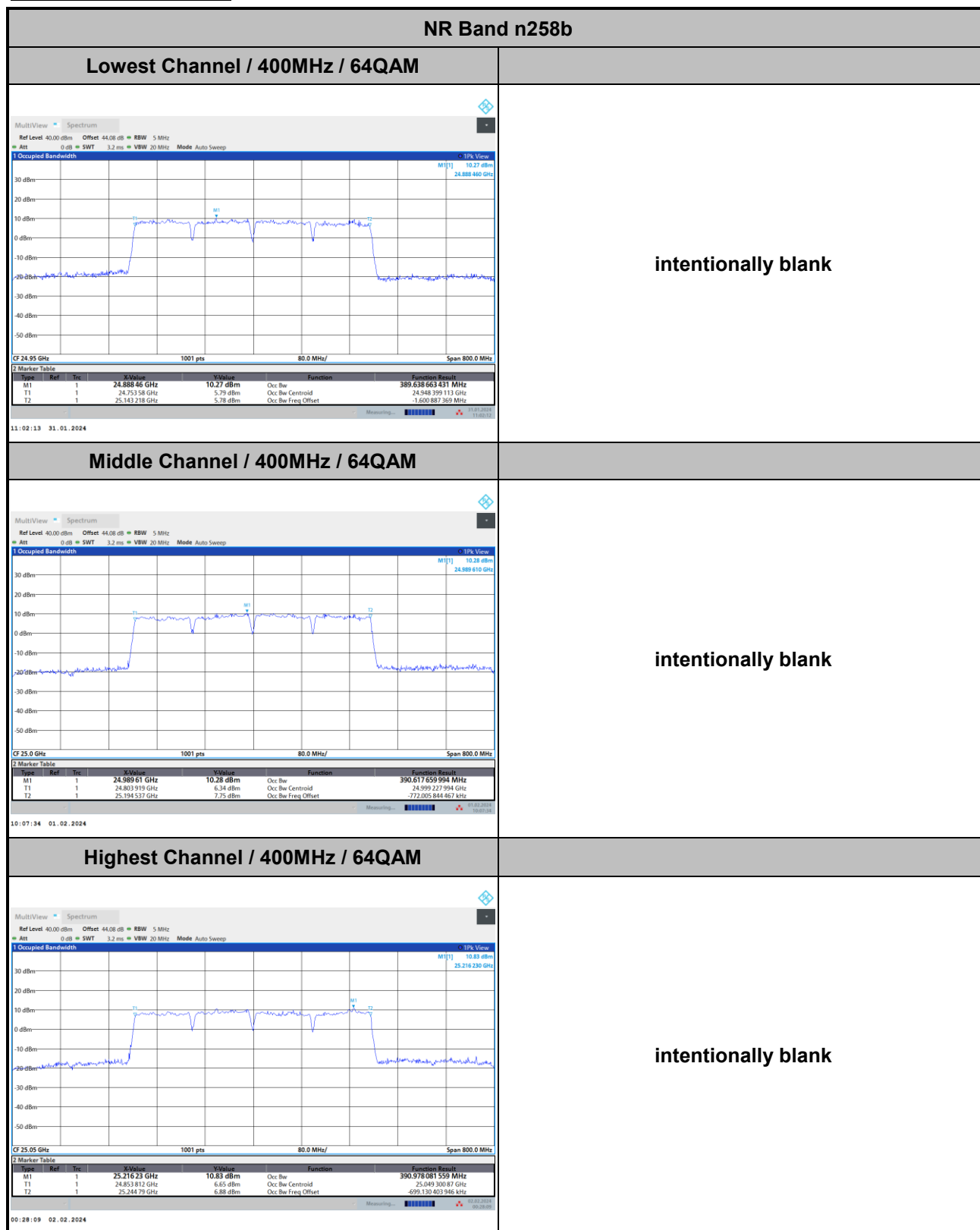


Highest Channel / 400MHz / 16QAM





DFT-s-OFDM Module B

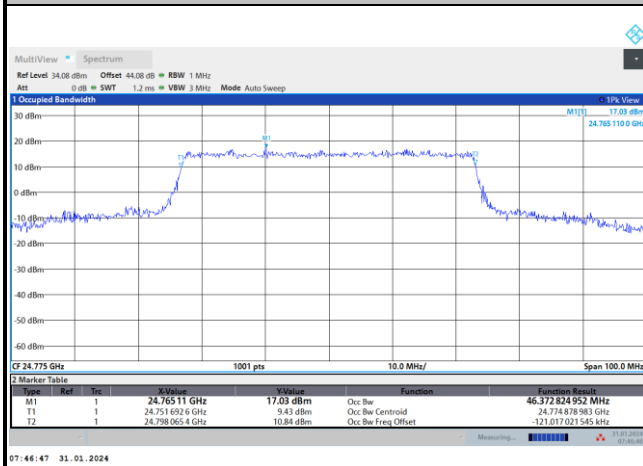




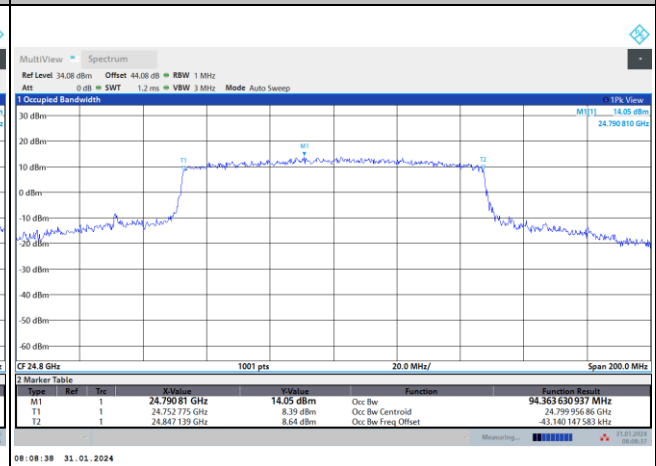
CP-OFDM Module B

NR Band n258b

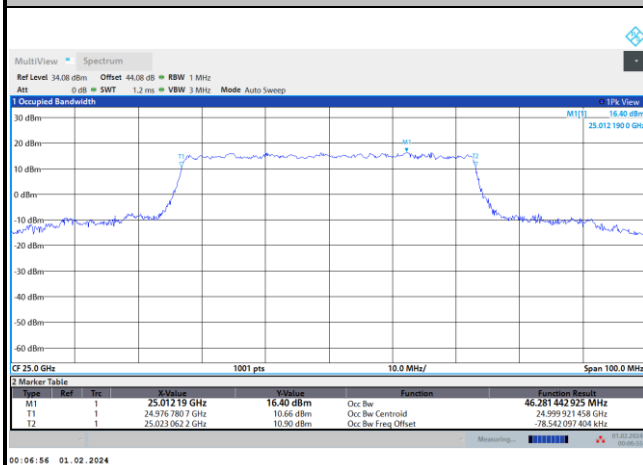
Lowest Channel / 50MHz / QPSK



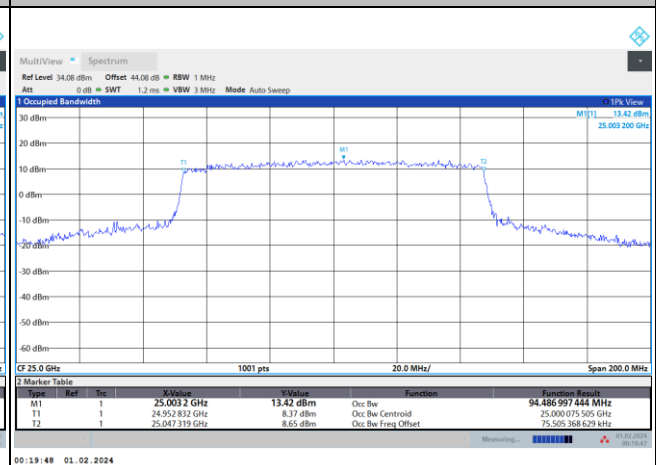
Lowest Channel / 100MHz / QPSK



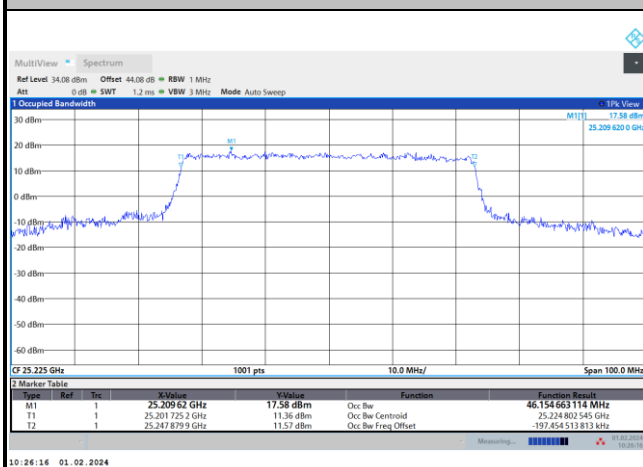
Middle Channel / 50MHz / QPSK



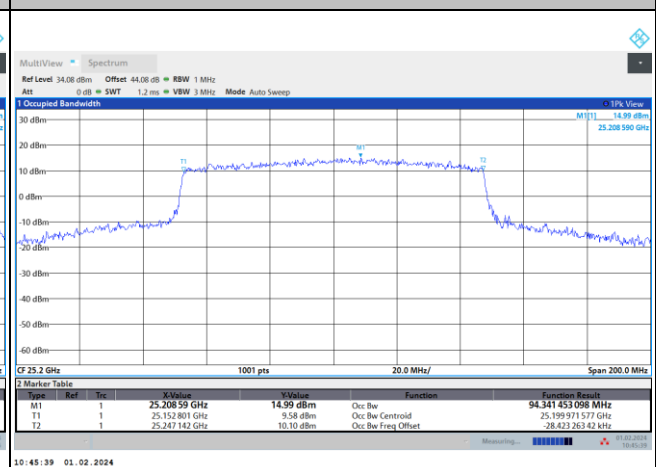
Middle Channel / 100MHz / QPSK



Highest Channel / 50MHz / QPSK



Highest Channel / 100MHz / QPSK

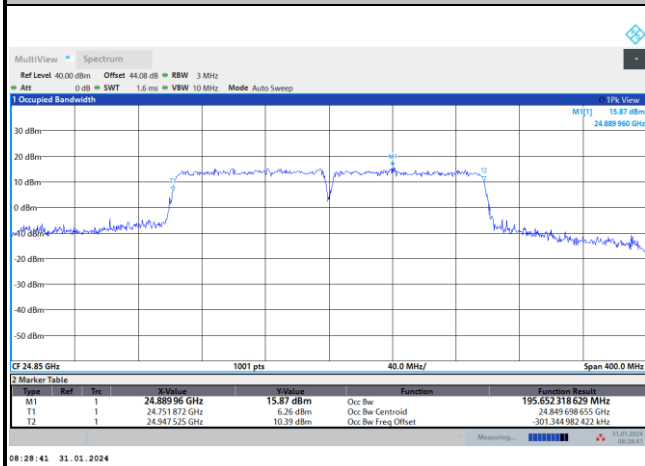




CP-OFDM Module B

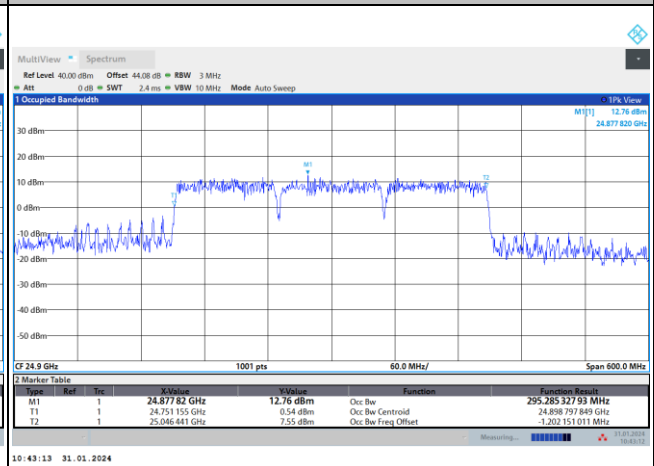
NR Band n258b

Lowest Channel / 200MHz / QPSK



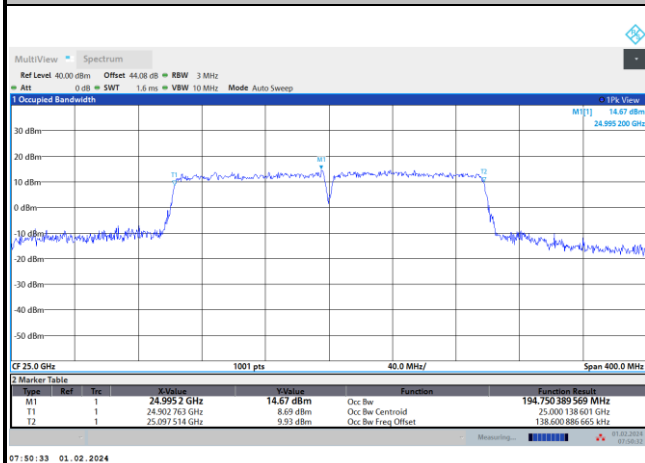
09:28:41 31.01.2024

Lowest Channel / 300MHz / QPSK



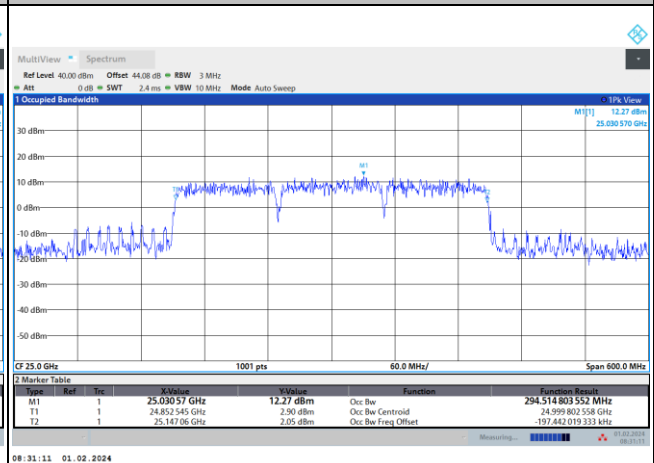
10:43:13 31.01.2024

Middle Channel / 200MHz / QPSK



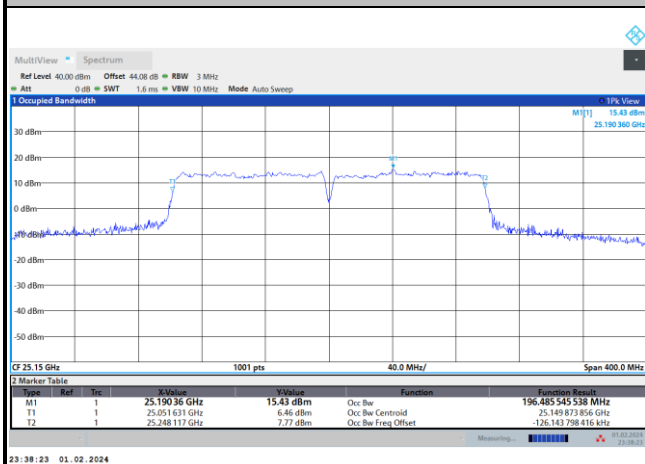
07:50:33 01.02.2024

Middle Channel / 300MHz / QPSK



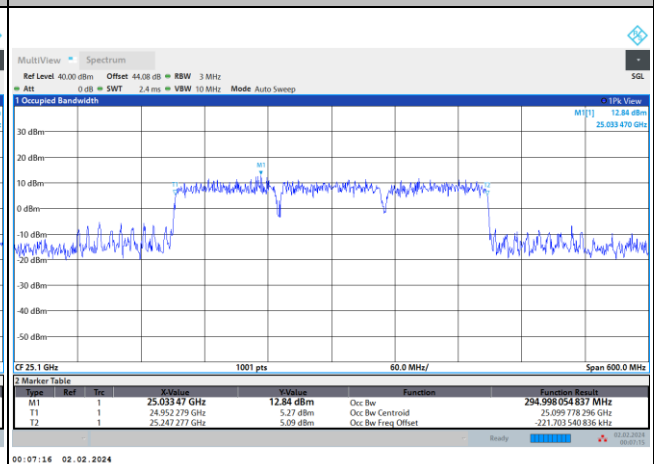
08:31:11 01.02.2024

Highest Channel / 200MHz / QPSK



23:38:23 01.02.2024

Highest Channel / 300MHz / QPSK



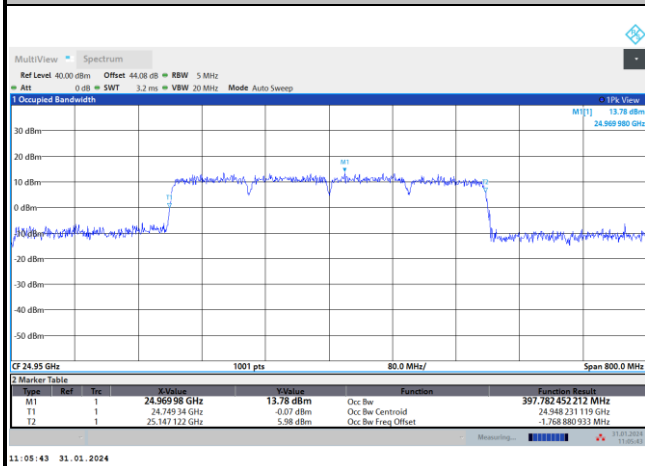
00:07:16 02.02.2024



CP-OFDM Module B

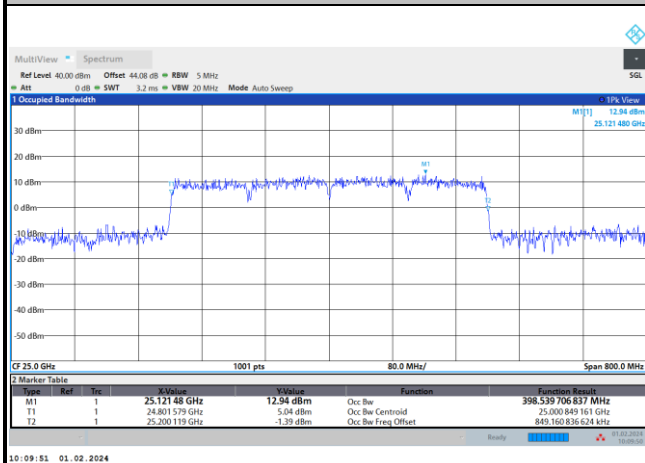
NR Band n258b

Lowest Channel / 400MHz / QPSK



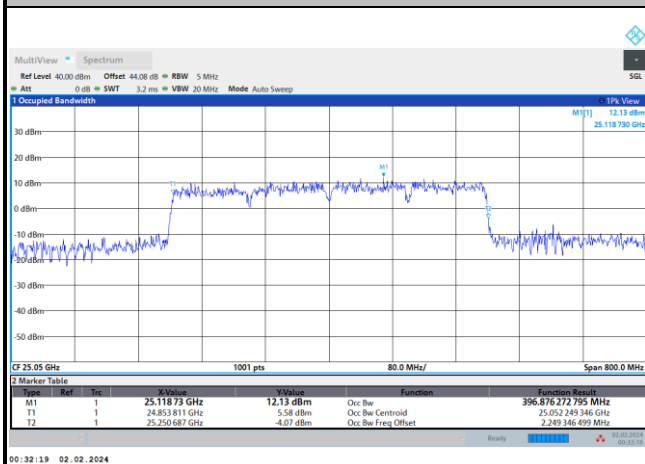
intentionally blank

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	-5.41	-5.61	-9.99	-8.55	-10.20	-11.55	-28.401	-18.77	-18.17
	>10%OB	≤-13	-27.44	-30.81	-33.23	-37.32	-38.66	-38.54	-23.326	-15.10	-17.21
High CH	0~10%OB	≤-5	-5.20	-8.12	-9.86	-10.20	-11.54	-12.98	-30.458	-18.75	-19.32
	>10%OB	≤-13	-30.71	-33.40	-34.60	-33.53	-35.14	-34.80	-28.553	-15.02	-19.08
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	-29.468	-31.158	-22.57	-21.469	-16.98	-19.76
	>10%OB	≤-13	-17.507	-22.647	-14.75	-19.958	-13.53	-16.86
High CH	0~10%OB	≤-5	-31.739	-33.096	-22.49	-27.122	-29.838	-18.75
	>10%OB	≤-13	-24.112	-28.794	-16.96	-25.822	-28.845	-16.98
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	-7.90	-9.77	-28.124
	>10%OB	≤-13	-31.21	-38.10	-21.864
High CH	0~10%OB	≤-5	-7.56	-11.72	-30.118
	>10%OB	≤-13	-32.63	-34.94	-27.880
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	-29.729	-21.093
	>10%OB	≤-13	-15.457	-20.636
High CH	0~10%OB	≤-5	-31.373	-24.832
	>10%OB	≤-13	-23.660	-24.181
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	-11.72	-15.17	-20.20	-15.81	-18.56	-23.11	-22.82	-25.40	-28.66
	>10%OB	≤-13	-15.68	-19.12	-25.09	-18.18	-21.19	-26.65	-24.72	-28.34	-34.14
High CH	0~10%OB	≤-5	-13.14	-16.83	-18.84	-18.30	-21.29	-25.30	-27.25	-29.70	-32.29
	>10%OB	≤-13	-17.11	-19.35	-23.99	-19.89	-22.79	-27.53	-27.38	-30.45	-34.88
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	-21.81	-25.71	-28.32	-24.71	-27.67	-32.28
	>10%OB	≤-13	-21.41	-25.64	-32.69	-24.15	-28.15	-34.36
High CH	0~10%OB	≤-5	-24.34	-27.99	-33.79	-24.52	-26.62	-32.95
	>10%OB	≤-13	-23.10	-27.44	-33.15	-23.15	-25.96	-32.53
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	-14.14	-18.05	-21.73
	>10%OB	≤-13	-16.21	-20.02	-22.62
High CH	0~10%OB	≤-5	-16.17	-18.22	-22.86
	>10%OB	≤-13	-17.65	-20.35	-24.87
Result			Compliance		

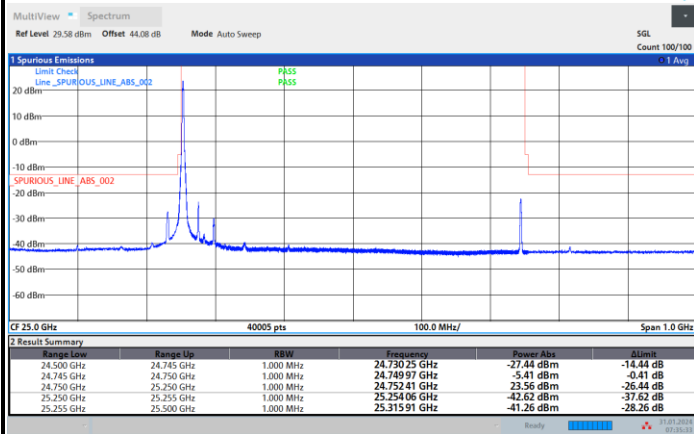
Mode			CP-OFDM Module B NR Band n258b : BE (dBm) Full RB	
BW			300MHz	400MHz
Limit (dBm)			QPSK	QPSK
Low CH	0~10%OB	≤-5	-19.91	-23.53
	>10%OB	≤-13	-20.36	-23.87
High CH	0~10%OB	≤-5	-22.69	-23.15
	>10%OB	≤-13	-22.97	-22.86
Result			Compliance	



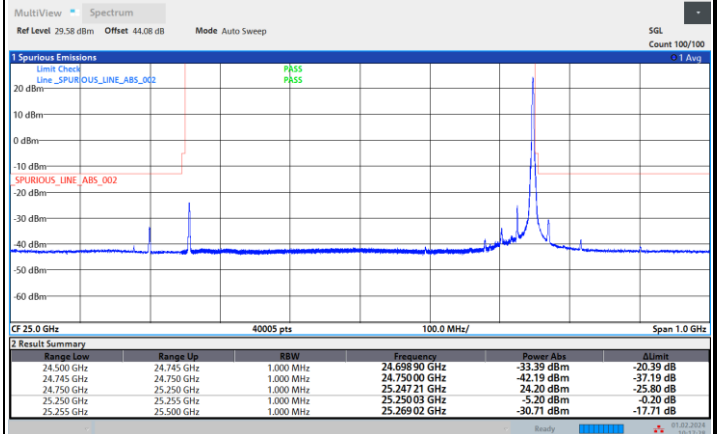
DFT-s-OFDM Module B

NR Band n258b / 50MHz / QPSK

Lowest Band Edge / 1 RB

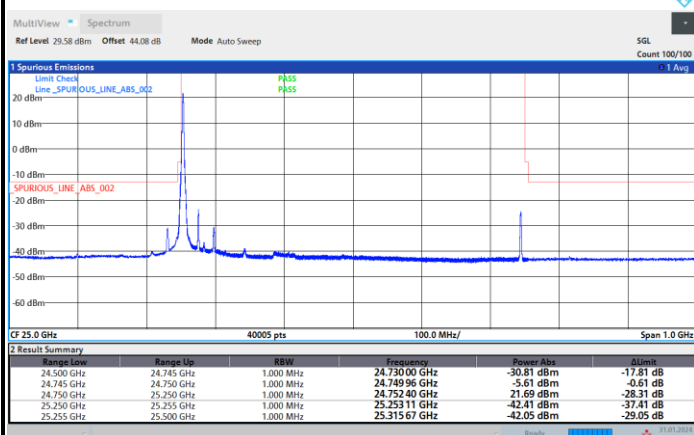


Highest Band Edge / 1 RB



NR Band n258b / 50MHz / 16QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB

