

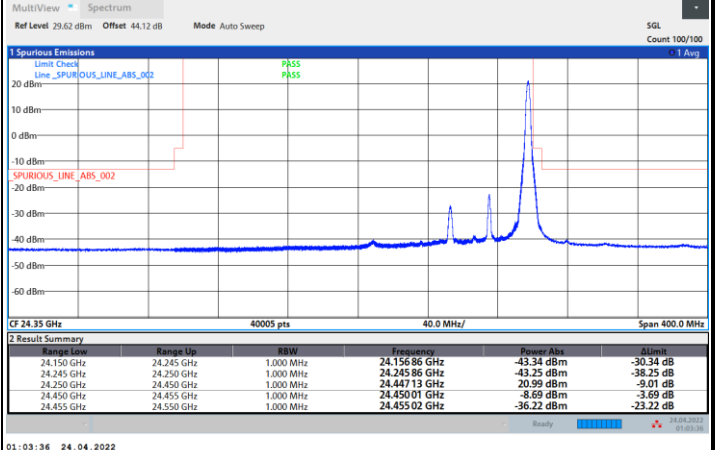
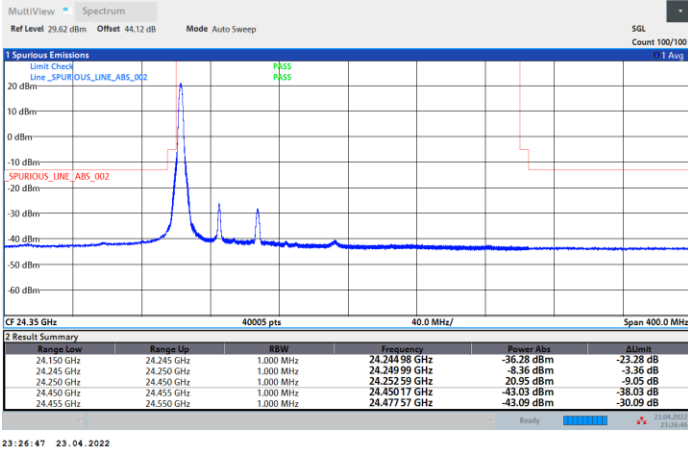


CP-OFDM Module B

NR Band n258A/ 50MHz / QPSK

Lowest Band Edge / 1 RB

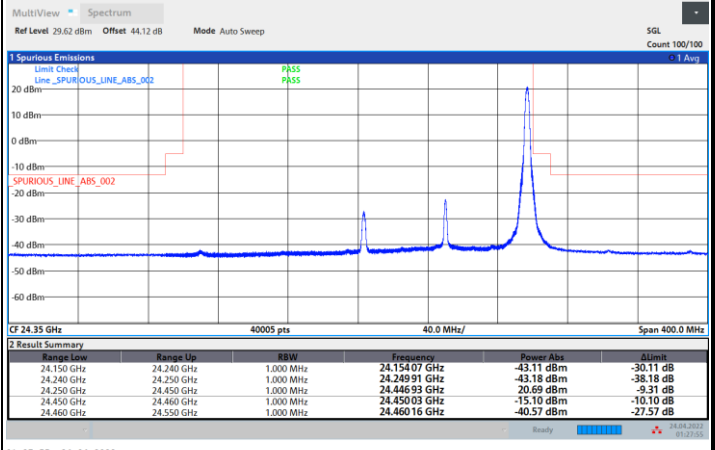
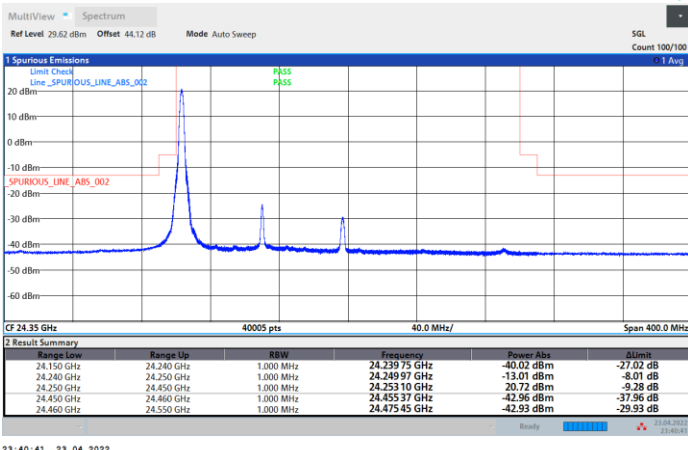
Highest Band Edge / 1 RB



NR Band n258A/ 100MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

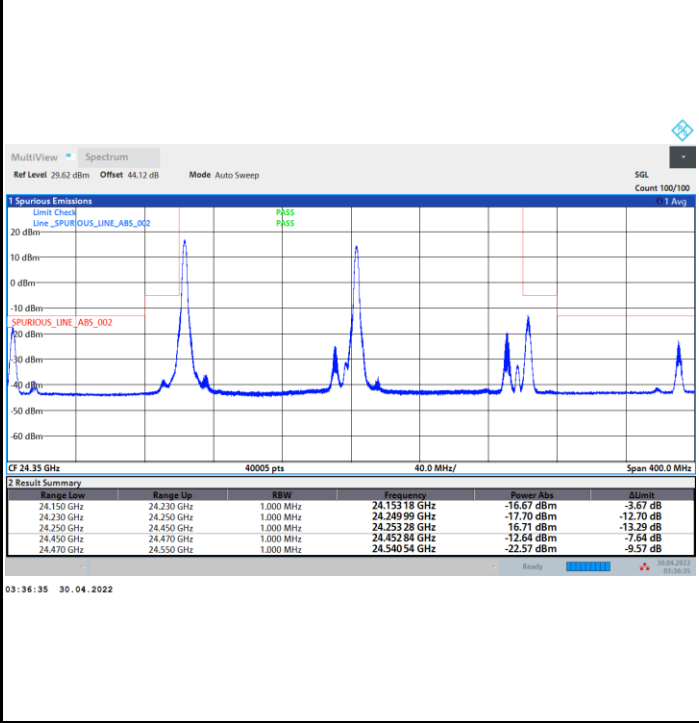




CP-OFDM Module B

NR Band n258A/ 200MHz / QPSK

Middle Band Edge / 1 RB



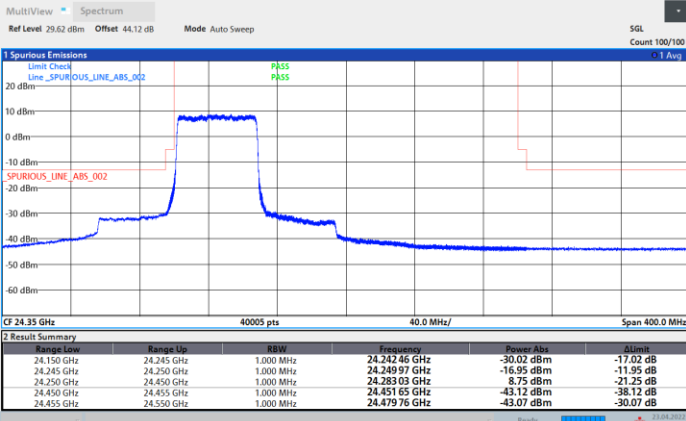
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DFT-s-OFDM Module B

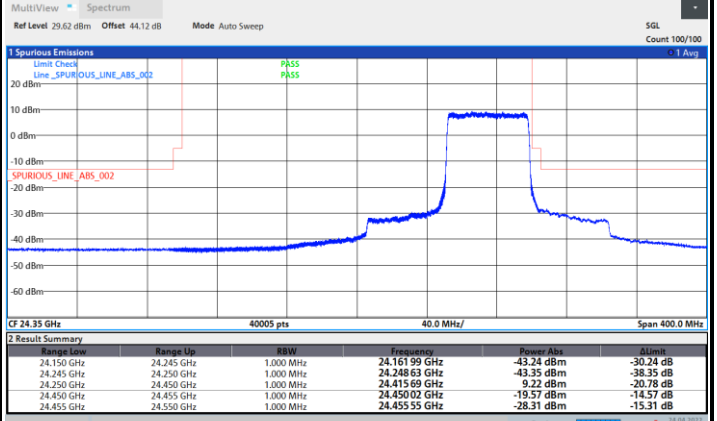
NR Band n258A/ 50MHz / QPSK

Lowest Band Edge / Full RB



23:24:17 23.04.2022

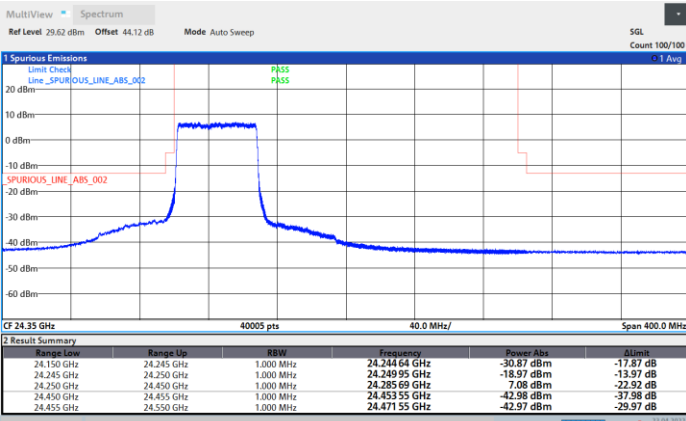
Highest Band Edge / Full RB



00:56:18 24.04.2022

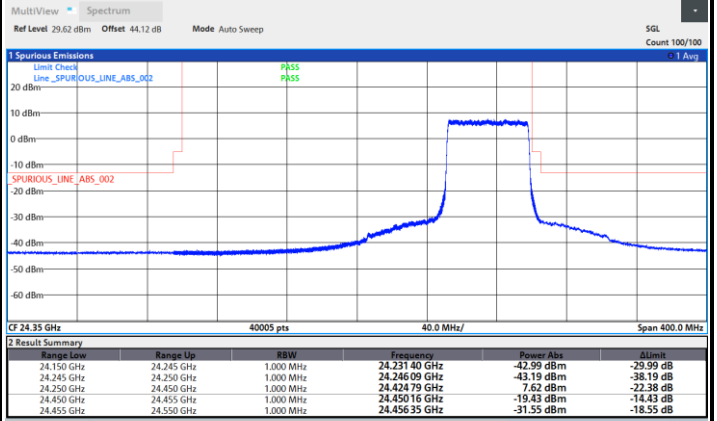
NR Band n258A/ 50MHz / 16QAM

Lowest Band Edge / Full RB



23:23:30 23.04.2022

Highest Band Edge / Full RB



00:55:33 24.04.2022

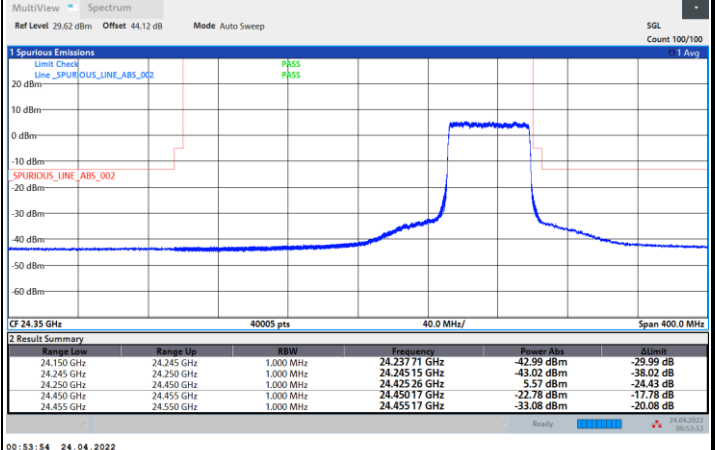
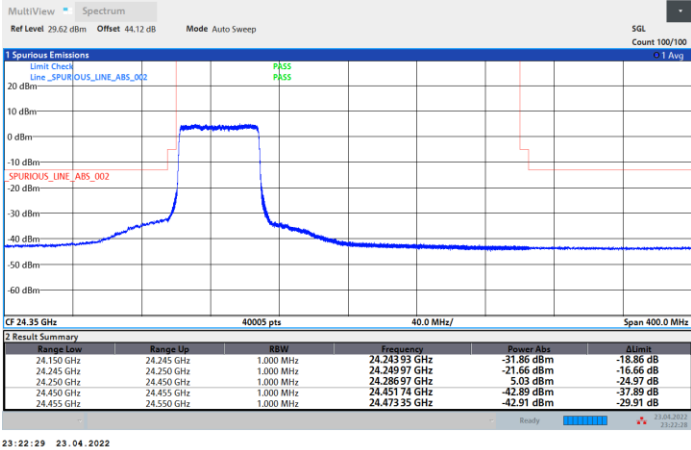


DFT-s-OFDM Module B

NR Band n258A/ 50MHz / 64QAM

Lowest Band Edge / Full RB

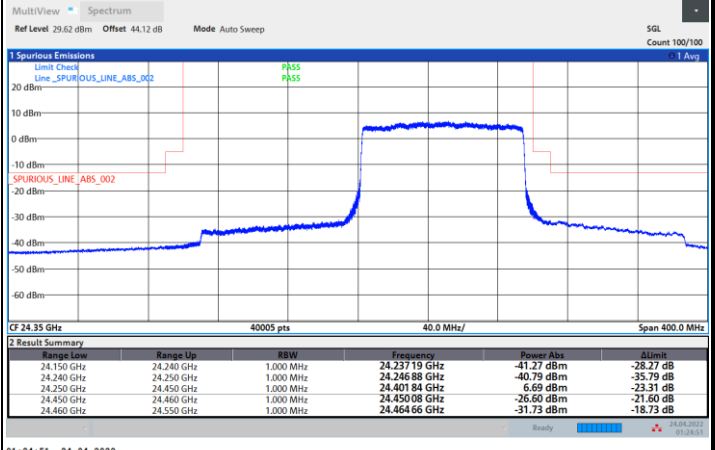
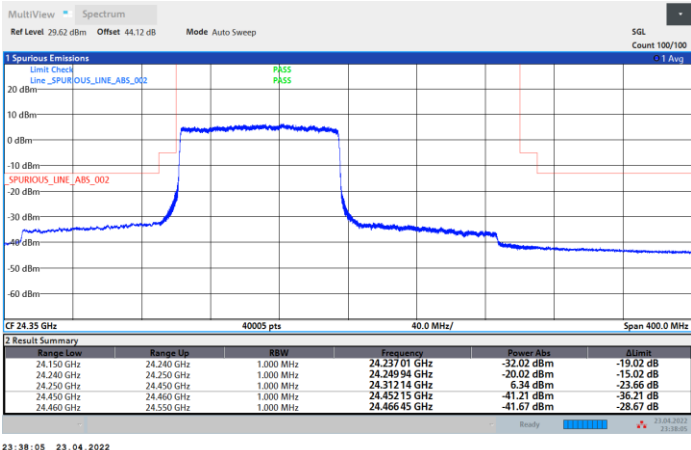
Highest Band Edge / Full RB



NR Band n258A/ 100MHz / QPSK

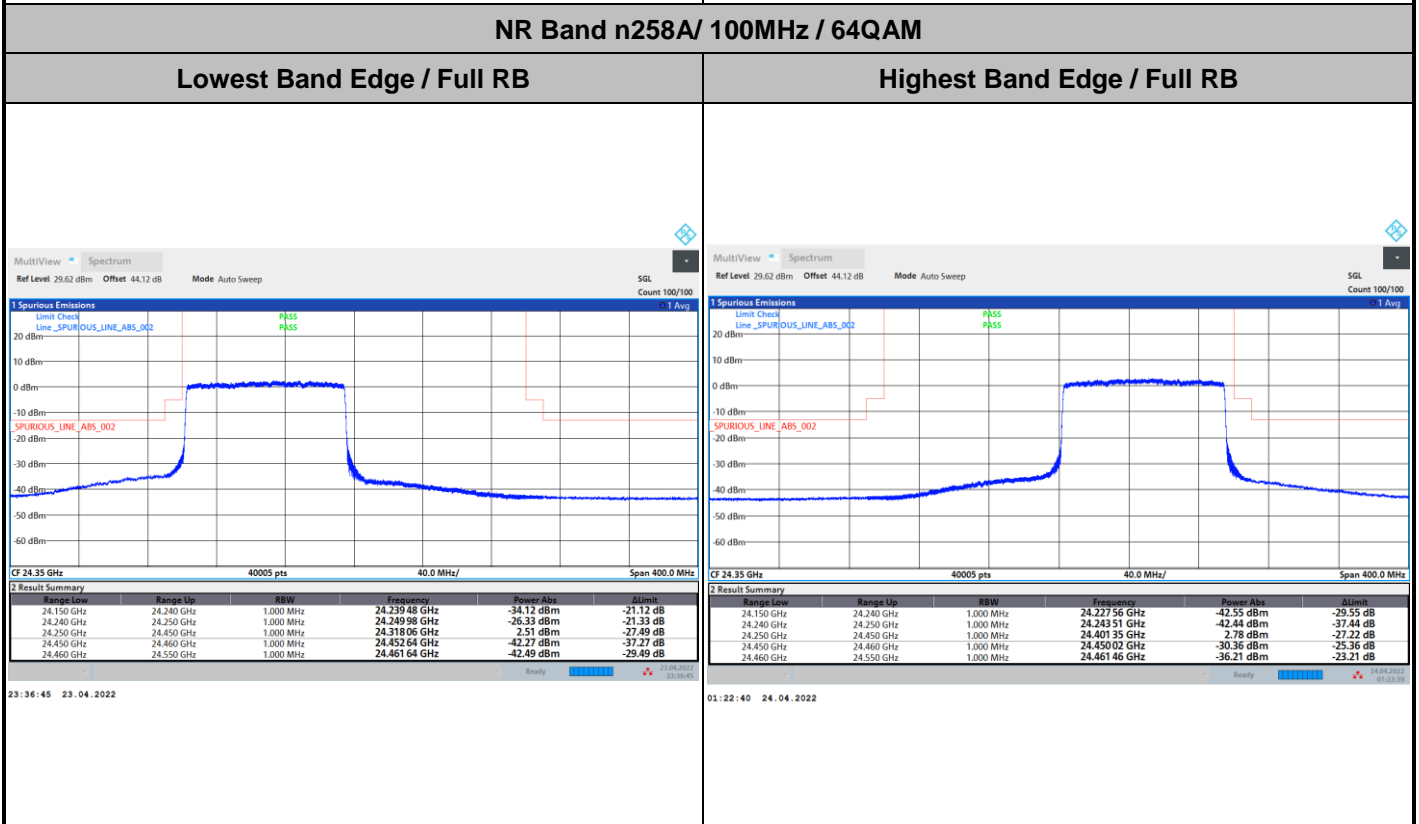
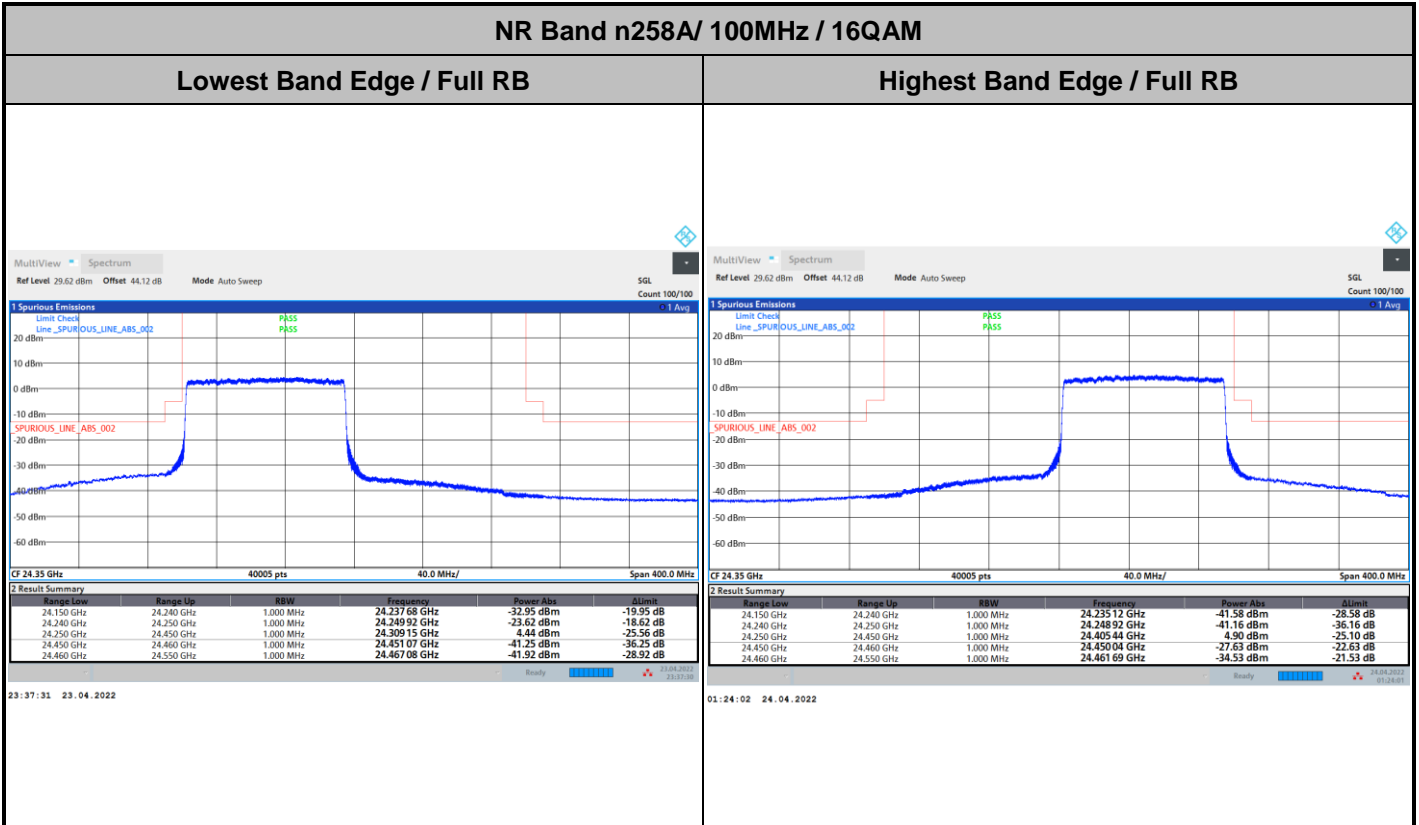
Lowest Band Edge / Full RB

Highest Band Edge / Full RB





DFT-s-OFDM Module B

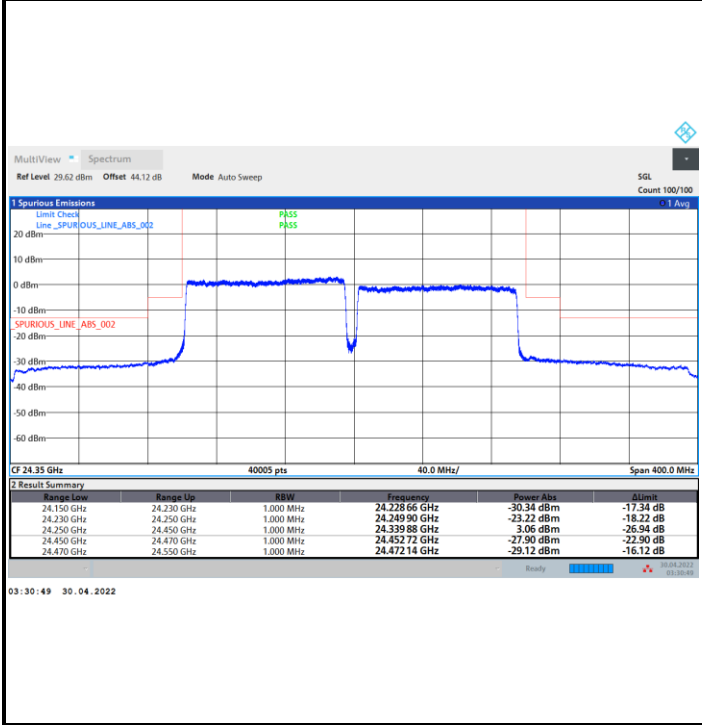




DFT-s-OFDM Module B

NR Band n258A/ 200MHz / QPSK

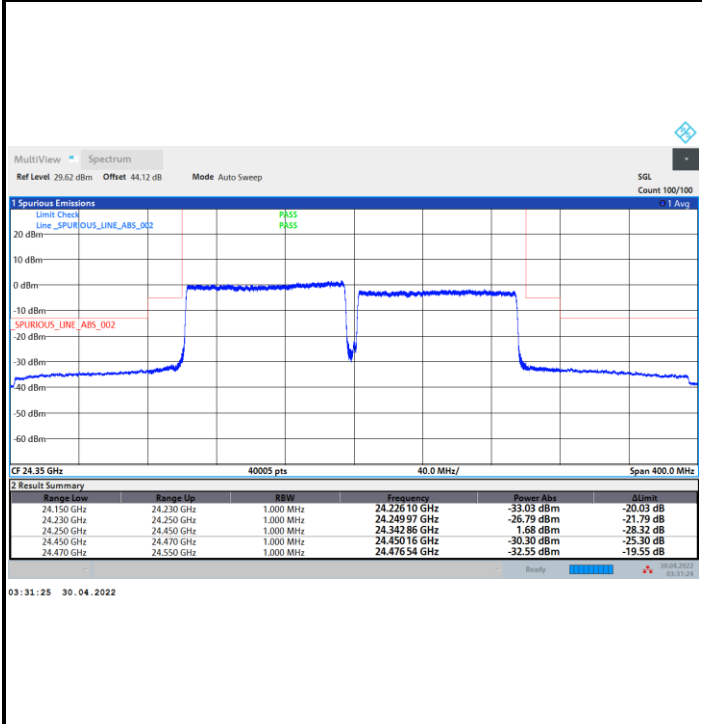
Middle Band Edge / Full RB



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NR Band n258A/ 200MHz / 16QAM

Middle Band Edge / Full RB



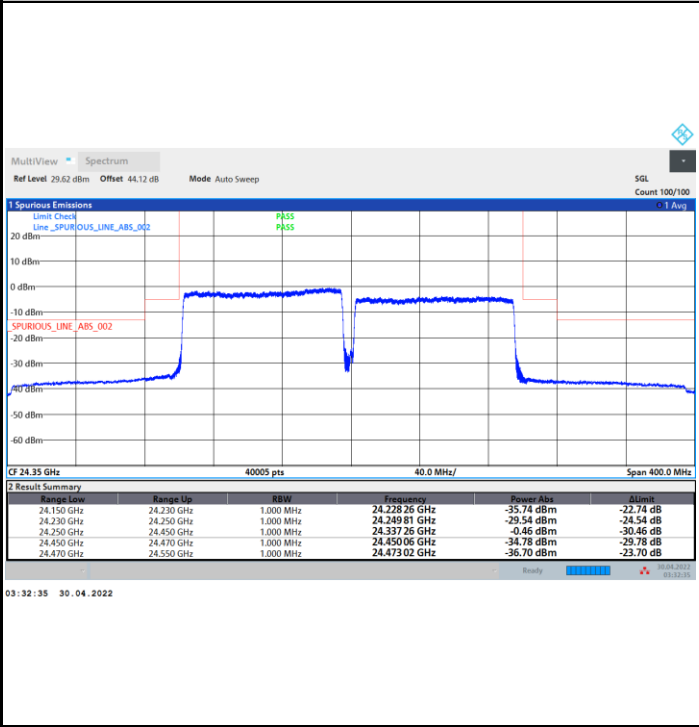
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DFT-s-OFDM Module B

NR Band n258A/ 200MHz / 64QAM

Middle Band Edge / Full RB



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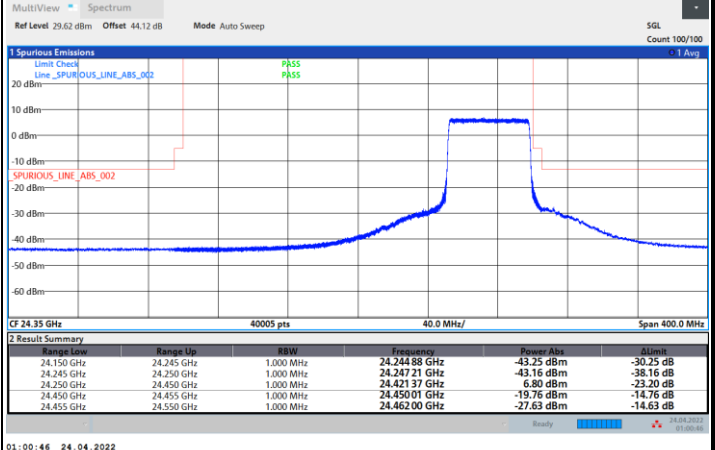
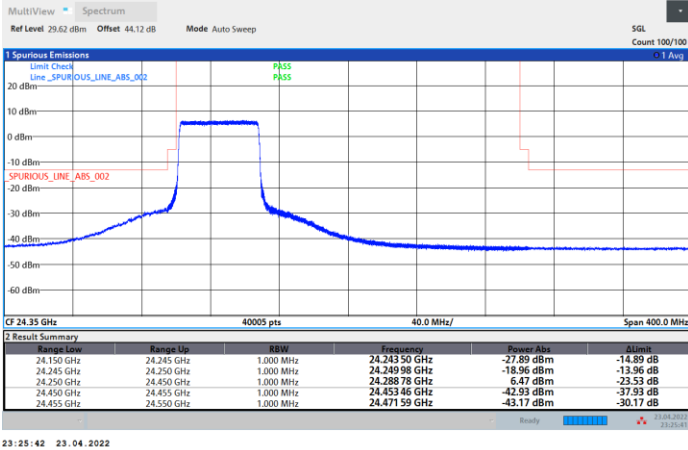


CP-OFDM Module B

NR Band n258A/ 50MHz / QPSK

Lowest Band Edge / Full RB

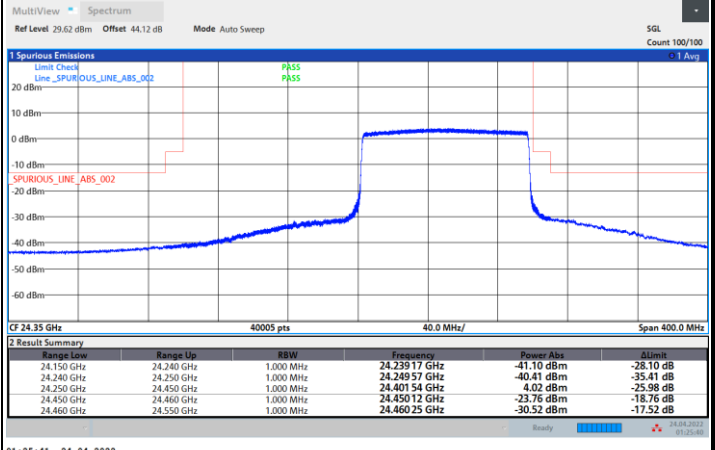
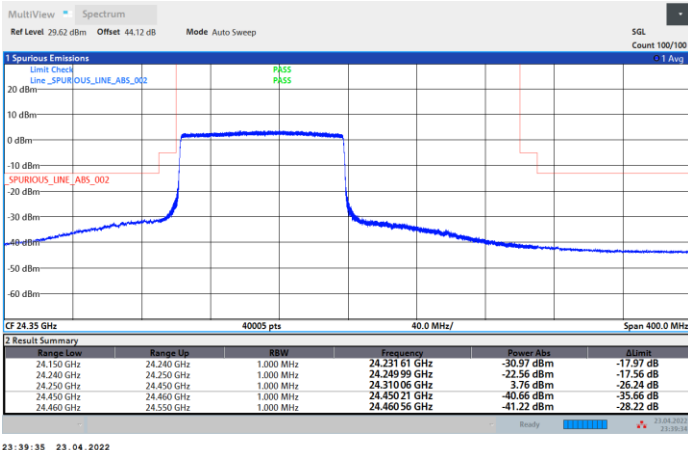
Highest Band Edge / Full RB



NR Band n258A/ 100MHz / QPSK

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

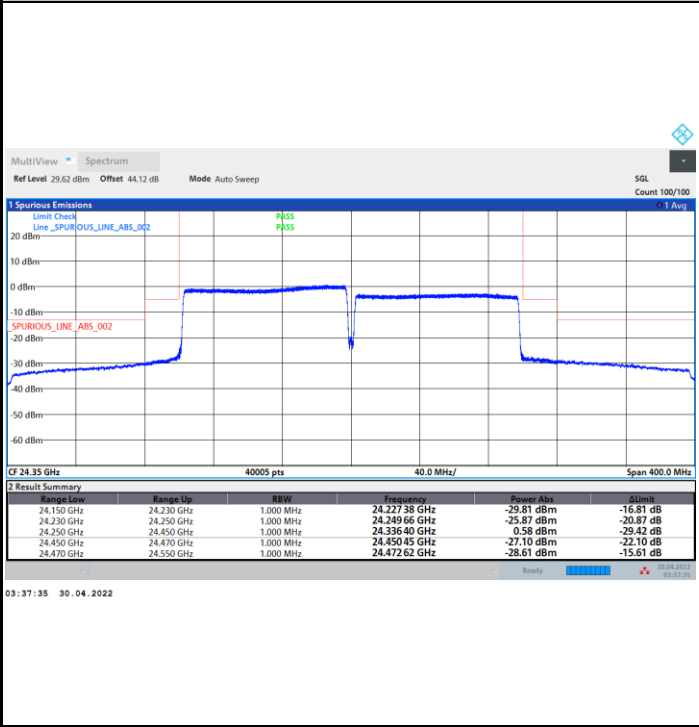




CP-OFDM Module B

NR Band n258A/ 200MHz / QPSK

Middle Band Edge / Full RB



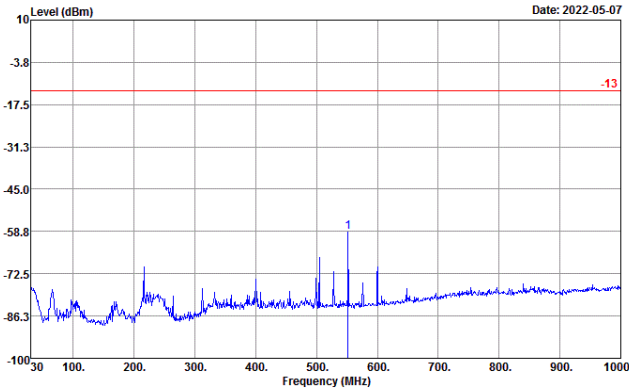
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Spurious Emission

NR Band n258A (30MHz-1GHz)

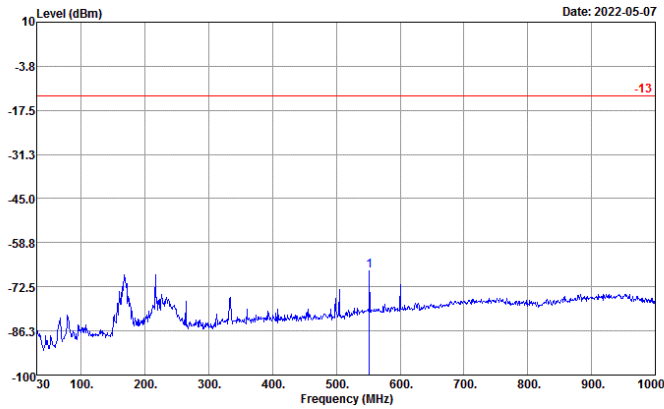
Horizontal



Site : 03CH10-HY
 Condition : -13 EIRP_WO HORIZONTAL
 Project : 102919-05
 : n258a MB

Freq	Level	Over	Limit
MHz	dBm	dB	dBm
1	551.86	-59.05	-46.05 -13.00

Vertical



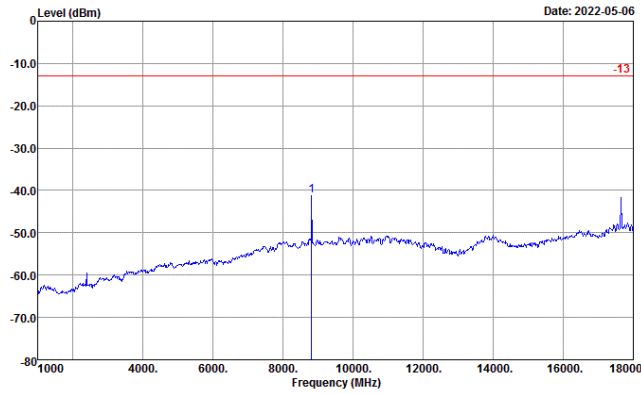
Site : 03CH10-HY
 Condition : -13 EIRP_WO VERTICAL
 Project : 102919-05
 : n258a MB

Freq	Level	Over	Limit
MHz	dBm	dB	dBm
1	551.86	-67.60	-54.60 -13.00



NR Band n258A (1GHz-18GHz)

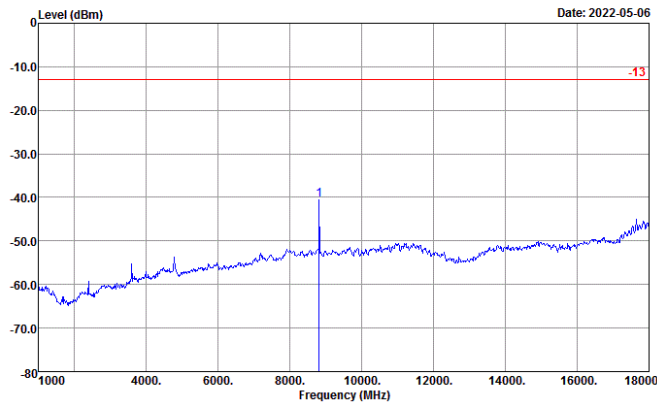
Horizontal



Site : 03CH10-HY
 Condition : -13 EIRP_WO HORIZONTAL
 Project : IO2919-05
 : n258A MB

Over	Limit	Limit	Line
Level	Level	Line	Line
dBm	dBm	dB	dBm
1	8820.00	-41.23	-28.23 -13.00

Vertical



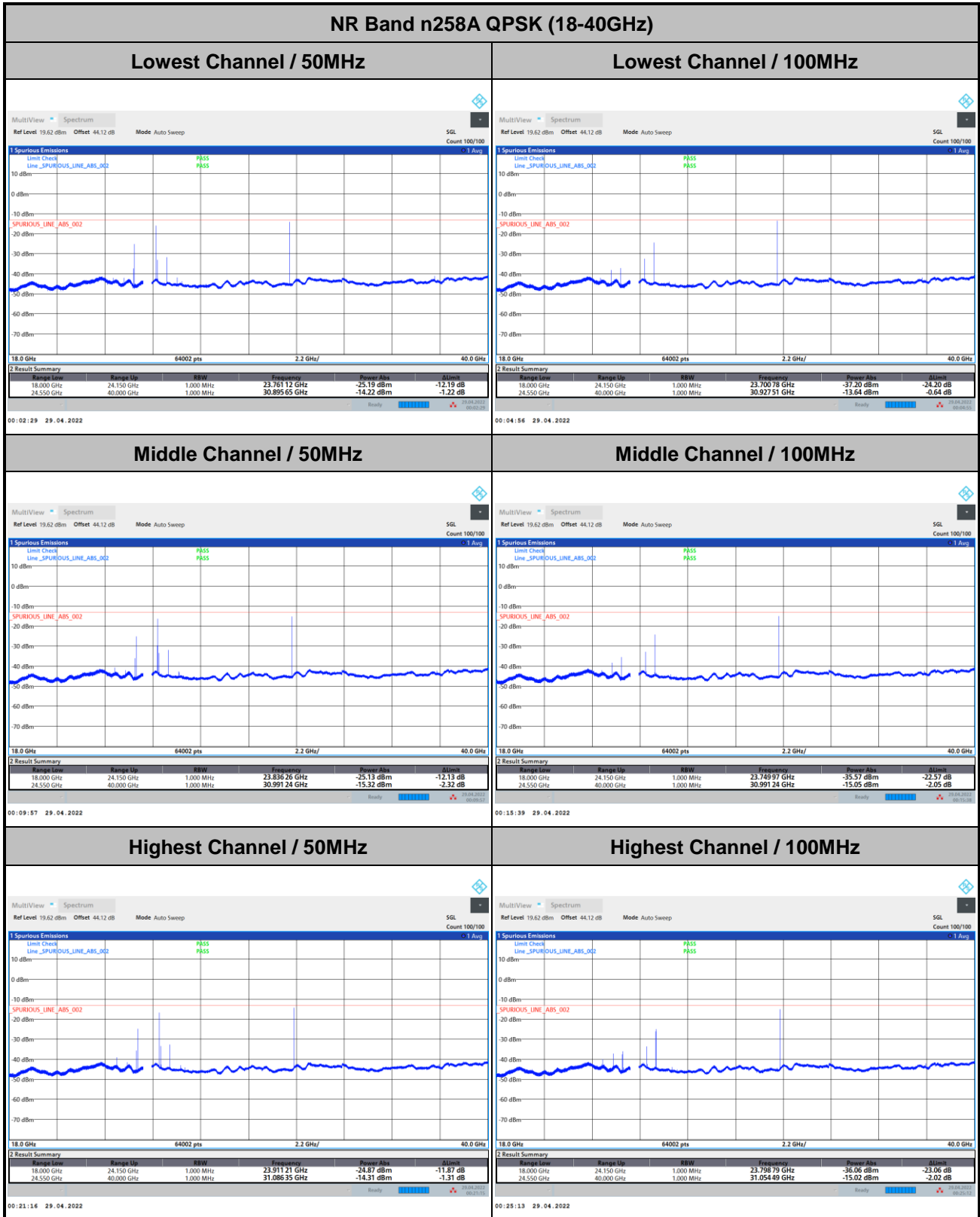
Site : 03CH10-HY
 Condition : -13 EIRP_WO VERTICAL
 Project : IO2919-05
 : n258A MB

Over	Limit	Limit	Line
Level	Level	Line	Line
dBm	dBm	dB	dBm
1	8820.00	-40.45	-27.45 -13.00



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

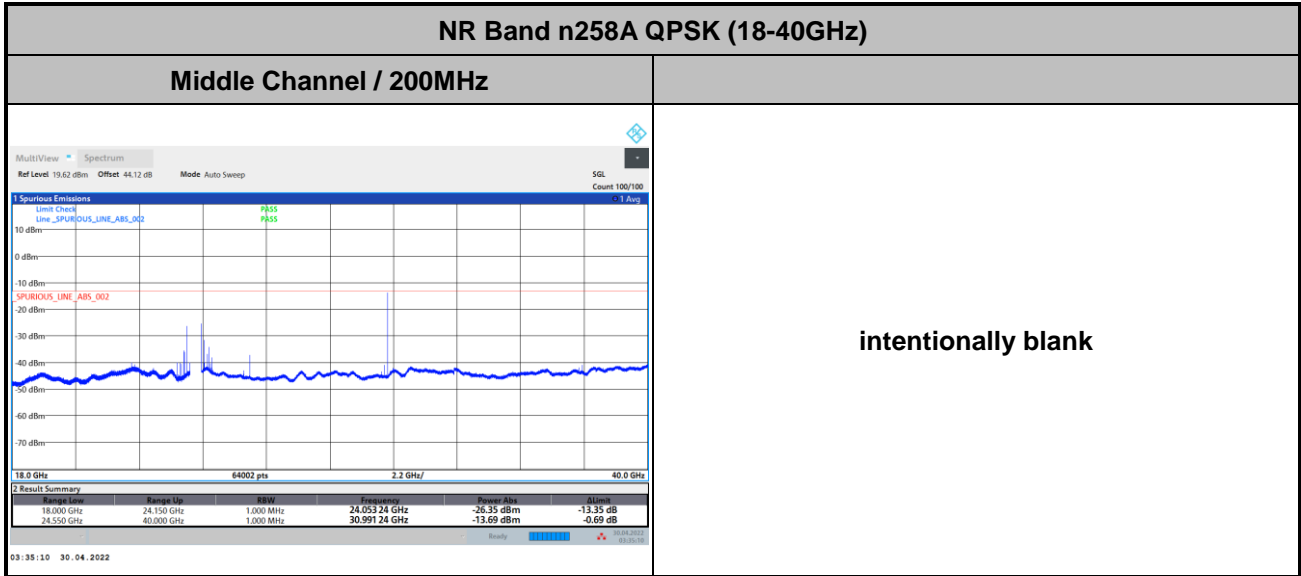
DFT-s-OFDM Module B



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



DFT-s-OFDM Module B



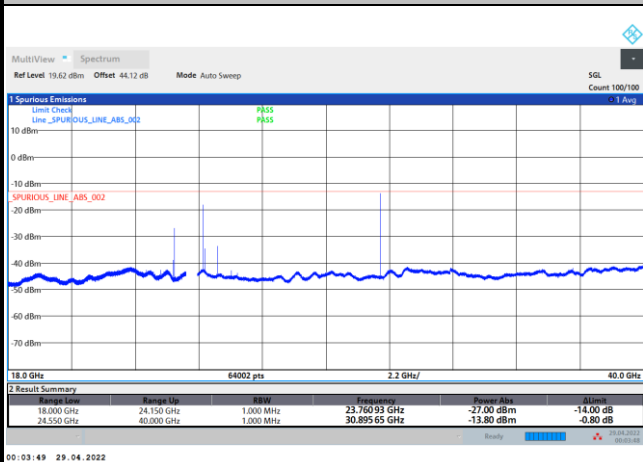
Remark: In band and out of band frequencies are omitted.



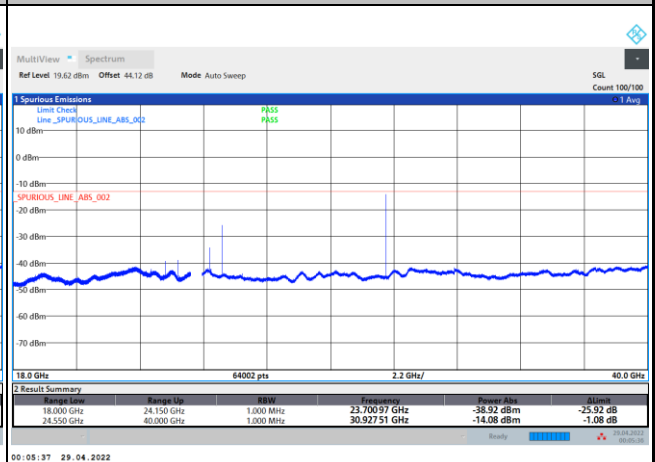
CP-OFDM Module B

NR Band n258A QPSK (18-40GHz)

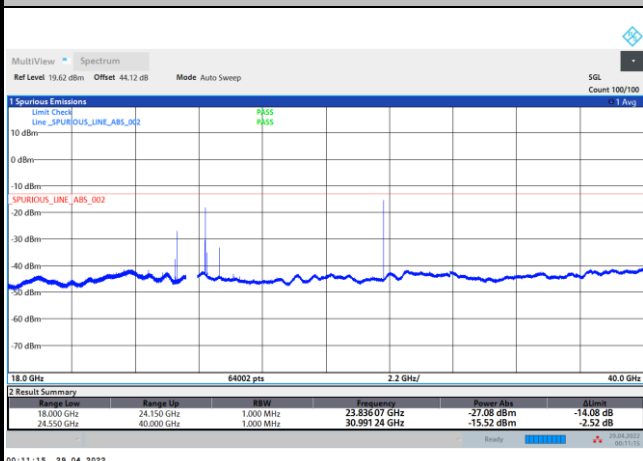
Lowest Channel / 50MHz



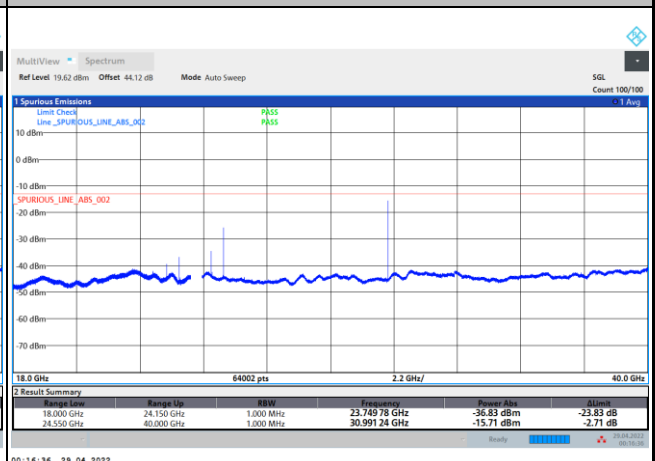
Lowest Channel / 100MHz



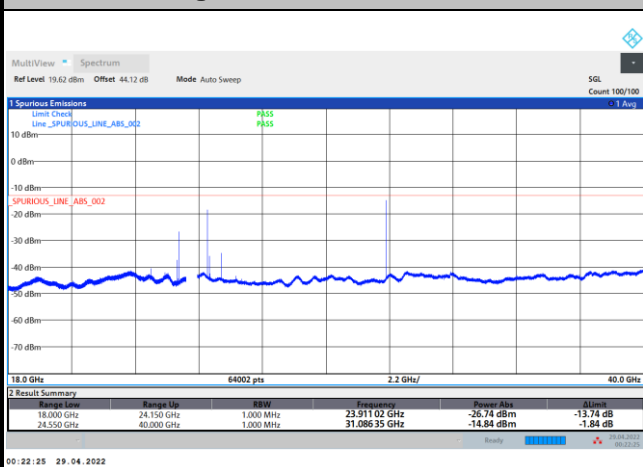
Middle Channel / 50MHz



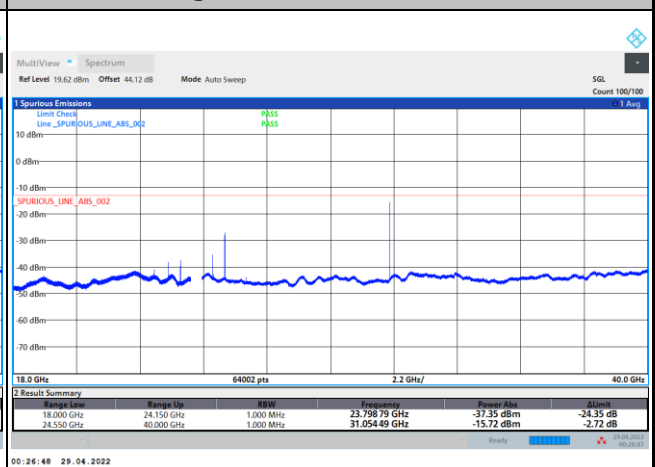
Middle Channel / 100MHz



Highest Channel / 50MHz



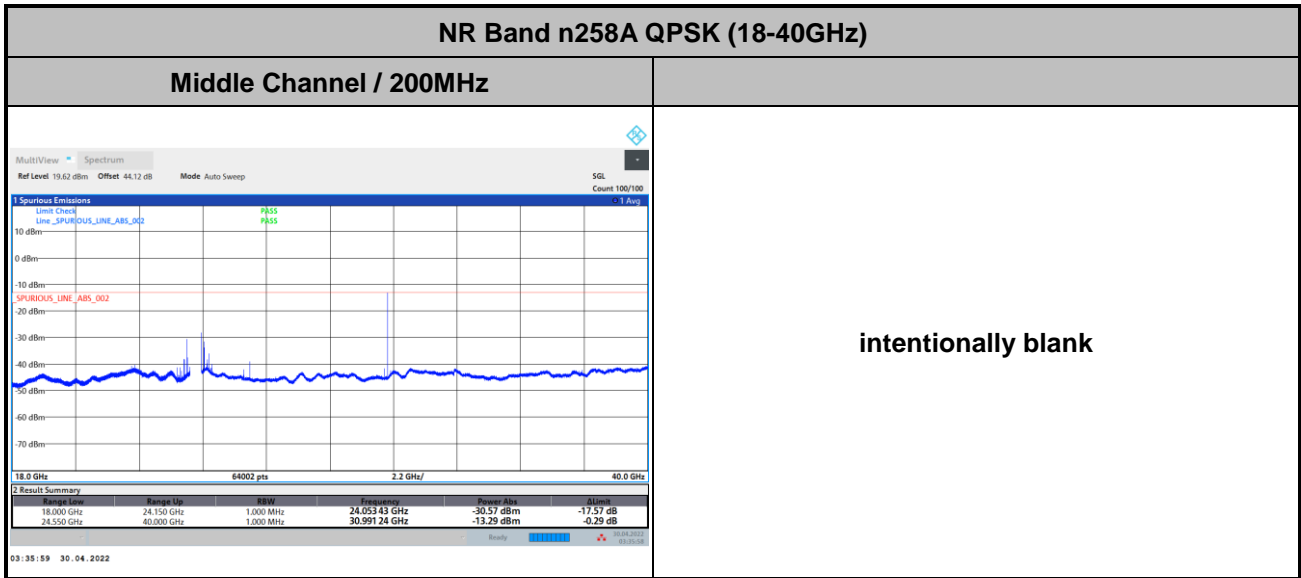
Highest Channel / 100MHz



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



CP-OFDM Module B

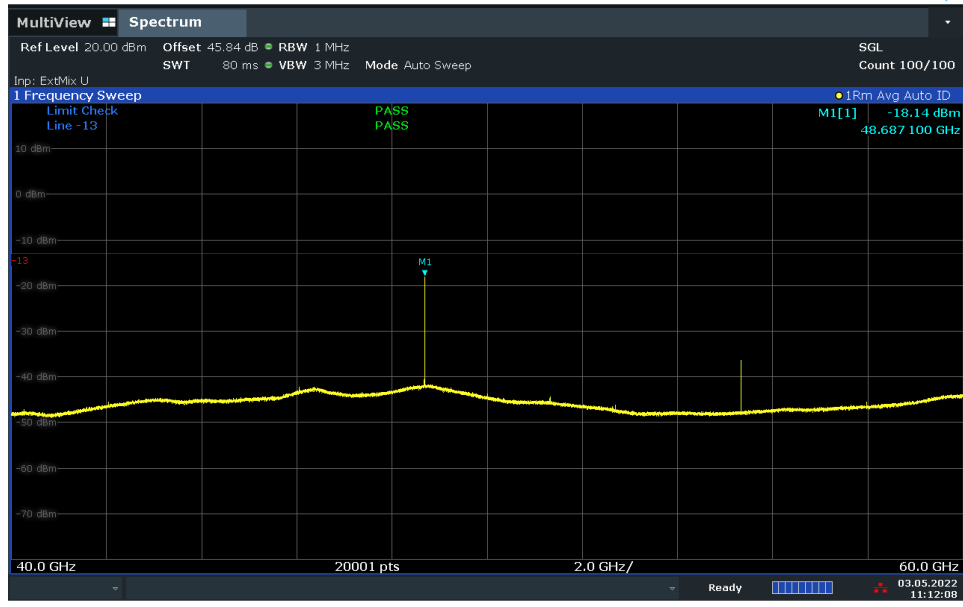


Remark: In band and out of band frequencies are omitted.



NR Band n258A

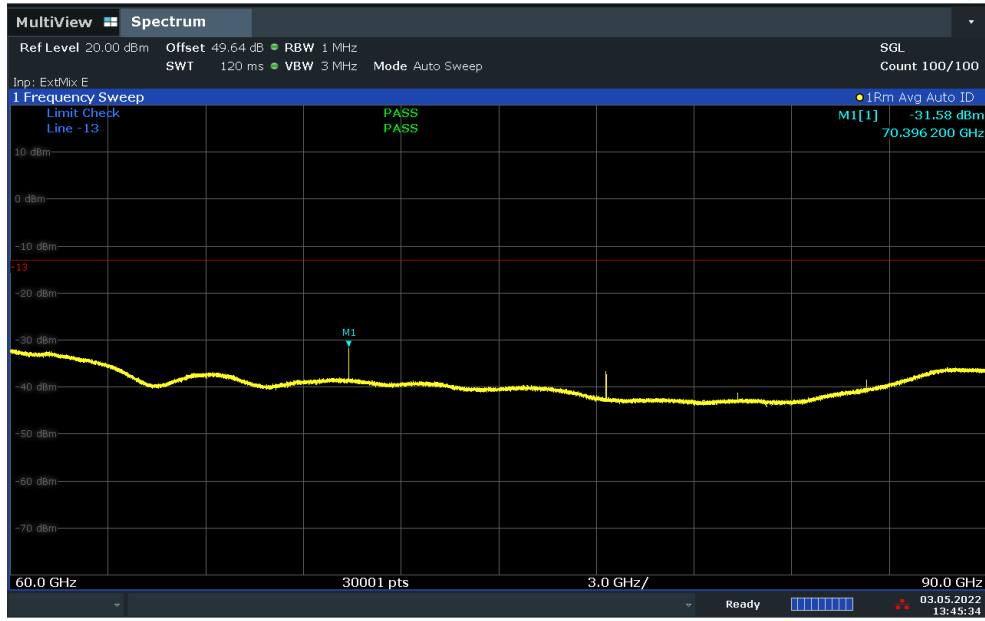
(40GHz-60GHz)



$$\begin{aligned} \text{Offset} &= \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} + 107 + 20\log(D) - 104.8 \\ &= 43.1 + 0.54 + 107 + 20\log(1) - 104.8 = 45.84 \text{ (dB)} \end{aligned}$$

NR Band n258A

(60GHz-90GHz)

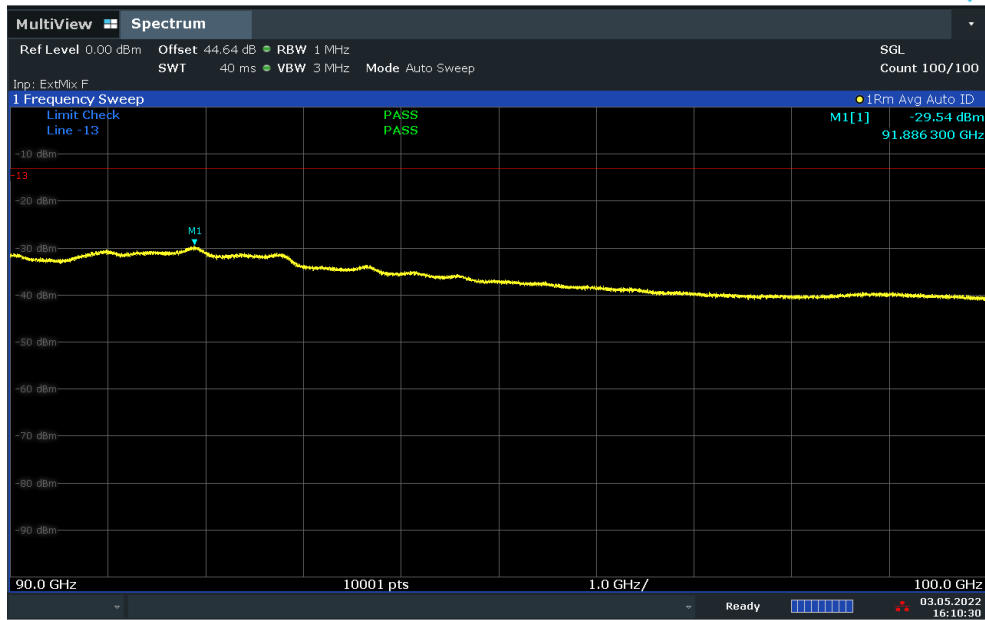


$$\text{Offset} = \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} + 107 + 20\log(D) - 104.8$$

$$= 46.9 + 0.54 + 107 + 20\log(1) - 104.8 = 49.64 \text{ (dB)}$$

NR Band n258A

(90GHz-100GHz)



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

$$= 47.92 + 0.54 + 107 + 20\log(0.5) - 104.8 = 44.64 \text{ (dB)}$$



Frequency Stability

Test Conditions		NR Band n258A / Middle Channel			Limit
Temperature (°C)	Voltage (Volt)	CW tone			Note 2.
		Frequency (GHz)	Deviation (kHz)	Deviation (ppm)	Result
50	Normal Voltage	24.351035	55.900	2.002	Pass
40	Normal Voltage	24.3510559	35.000	1.253	
30	Normal Voltage	24.3510759	15.000	0.537	
20(Ref.)	Normal Voltage	24.3510909	0.000	0.000	
10	Normal Voltage	24.3511149	-24.000	0.859	
0	Normal Voltage	24.3511788	-87.900	3.148	
-10	Normal Voltage	24.3512028	-111.900	4.007	
-20	Normal Voltage	24.3512138	-122.900	4.401	
-30	Normal Voltage	24.3511988	-107.900	3.864	
20	Maximum Voltage	24.3510859	5.000	0.179	
20	Normal Voltage	24.3510899	1.000	0.036	
20	Battery End Point	24.3510869	4.000	0.143	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.40 V. ; Maximum Voltage =4.30 V.
2. The frequency fundamental emissions stay within the operation band.



NR Band n258B Module A A AGH+V

Occupied Bandwidth

Mode	DFT-s-OFDM Module A NR Band n258B : 99%OBW(MHz)								
BW	50MHz			100MHz			200MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	46.32	46.09	46.15	91.83	91.60	91.39	190.67	191.05	190.58
Middle CH	46.24	46.40	46.24	91.89	91.68	91.34	190.46	190.78	190.13
Highest CH	46.47	46.36	46.57	92.15	91.82	91.30	190.01	190.35	190.11

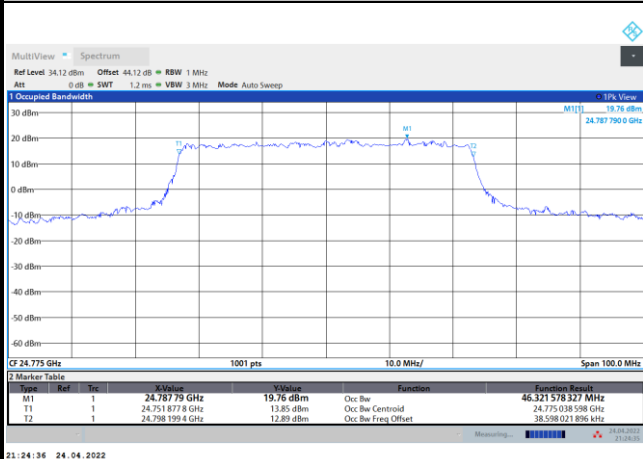
Mode	CP-OFDM Module A NR Band n258B : 99%OBW(MHz)		
BW	50MHz	100MHz	200MHz
Mod.	QPSK	QPSK	QPSK
Lowest CH	46.58	94.66	195.59
Middle CH	47.21	94.79	194.77
Highest CH	47.09	95.20	194.24



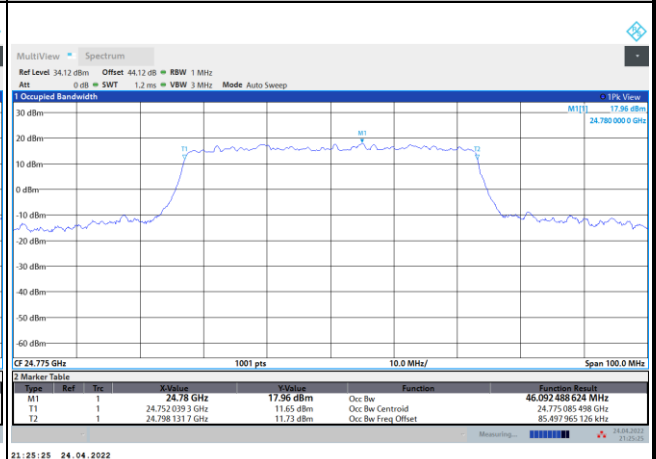
DFT-s-OFDM Module A

NR Band n258B

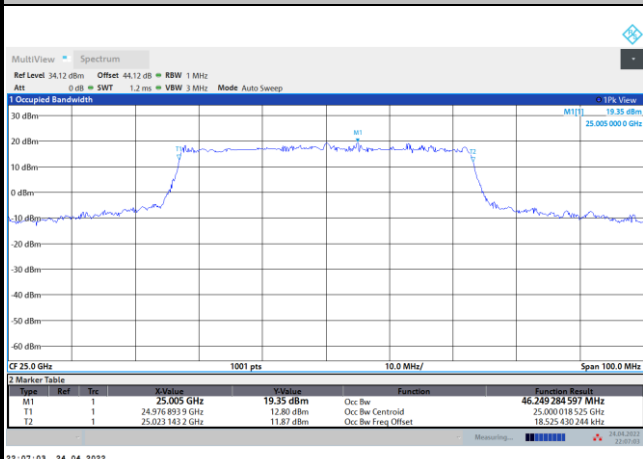
Lowest Channel / 50MHz / QPSK



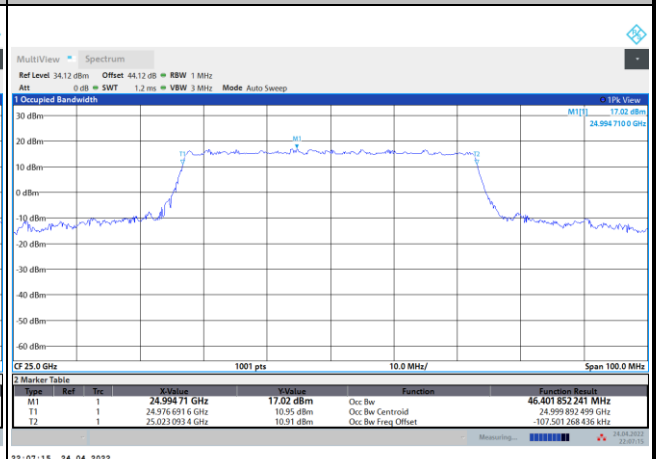
Lowest Channel / 50MHz / 16QAM



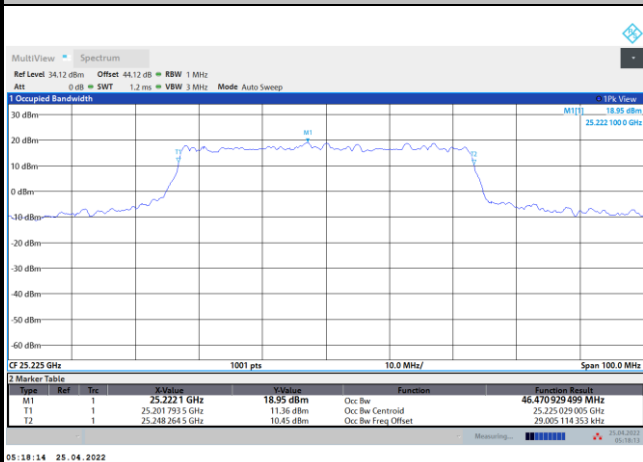
Middle Channel / 50MHz / QPSK



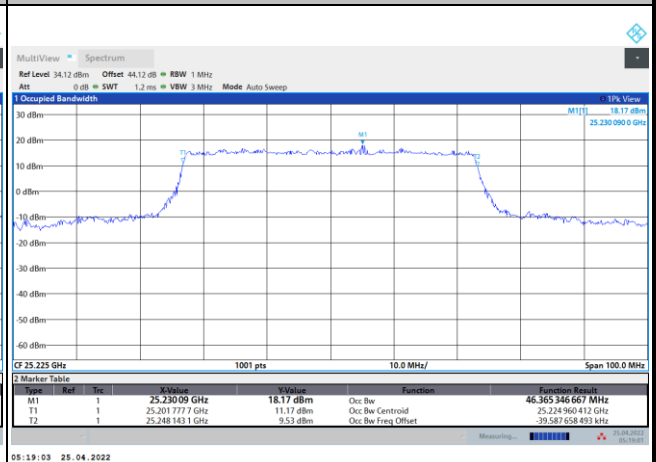
Middle Channel / 50MHz / 16QAM



Highest Channel / 50MHz / QPSK



Highest Channel / 50MHz / 16QAM

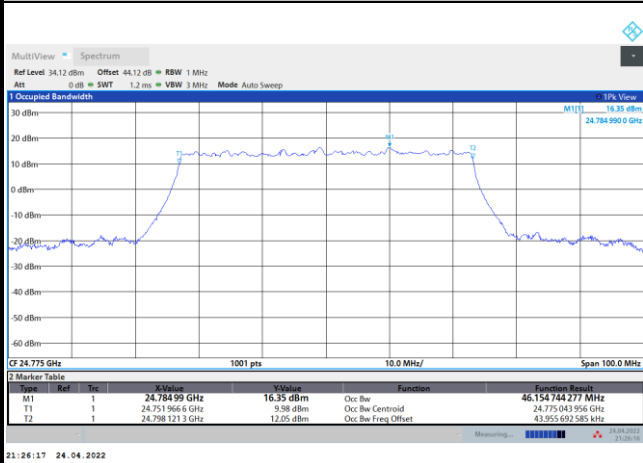




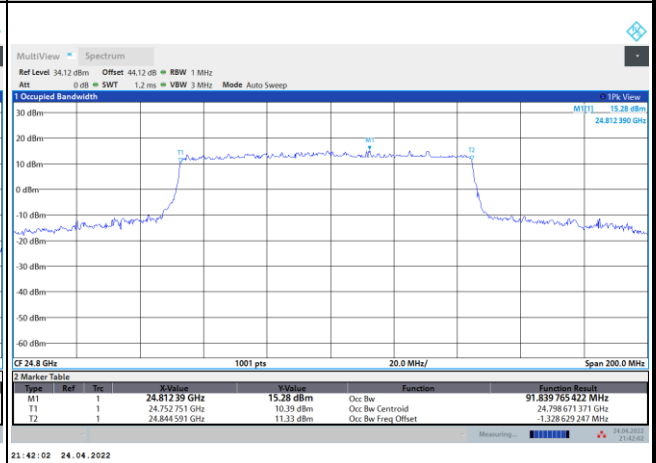
DFT-s-OFDM Module A

NR Band n258B

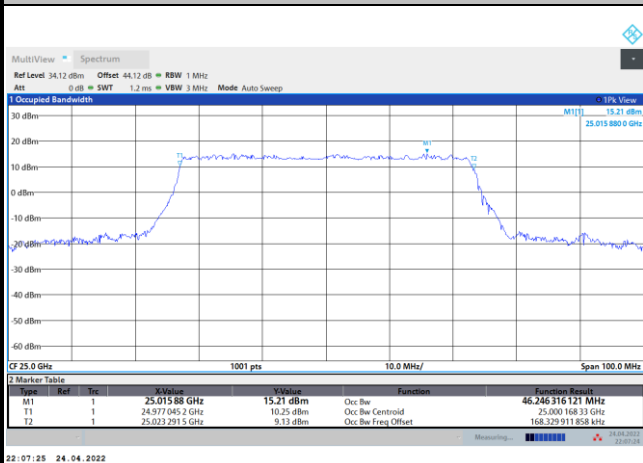
Lowest Channel / 50MHz / 64QAM



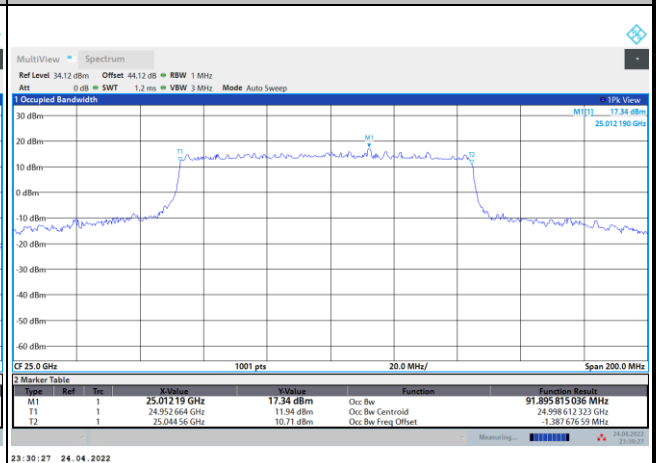
Lowest Channel / 100MHz / QPSK



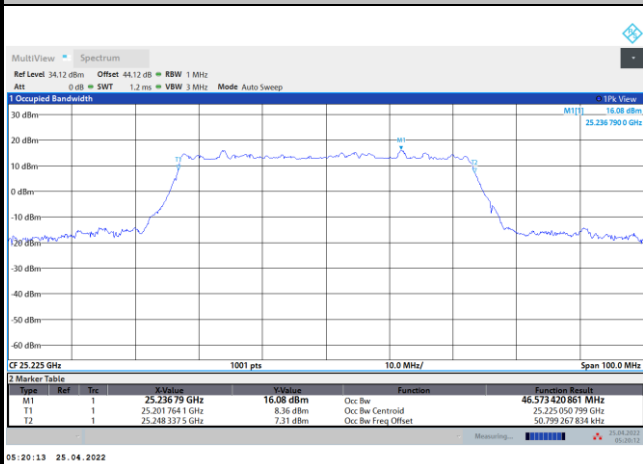
Middle Channel / 50MHz / 64QAM



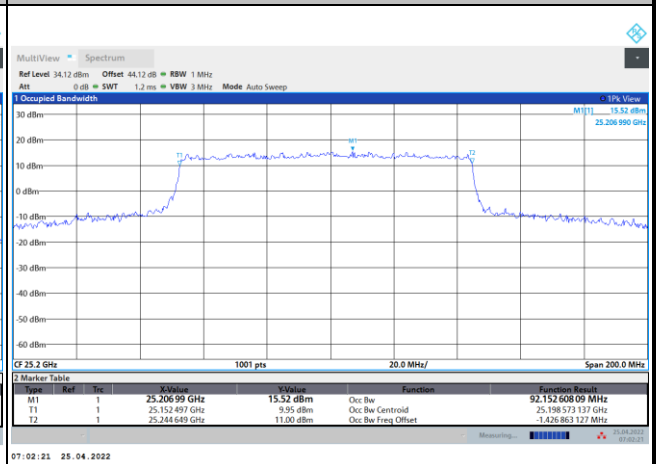
Middle Channel / 100MHz / QPSK



Highest Channel / 50MHz / 64QAM



Highest Channel / 100MHz / QPSK

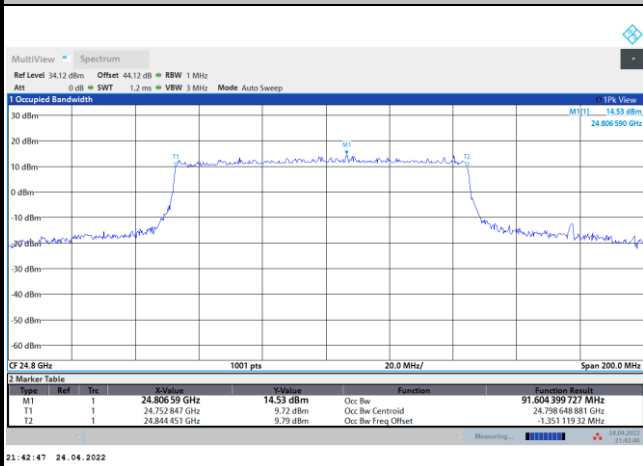




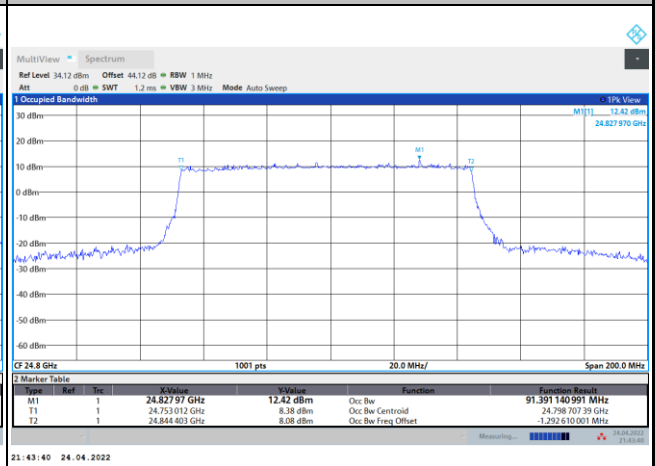
DFT-s-OFDM Module A

NR Band n258B

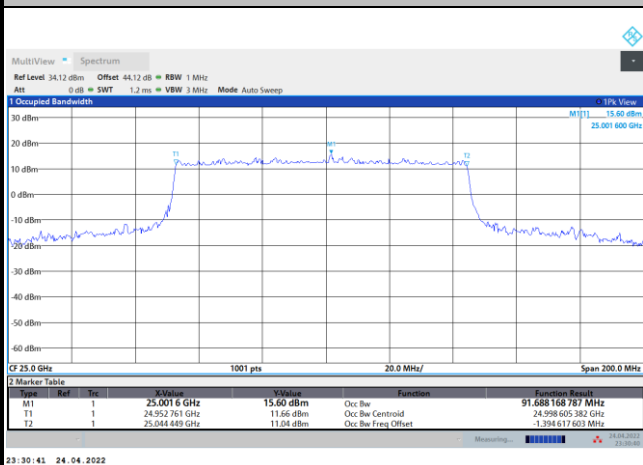
Lowest Channel / 100MHz / 16QAM



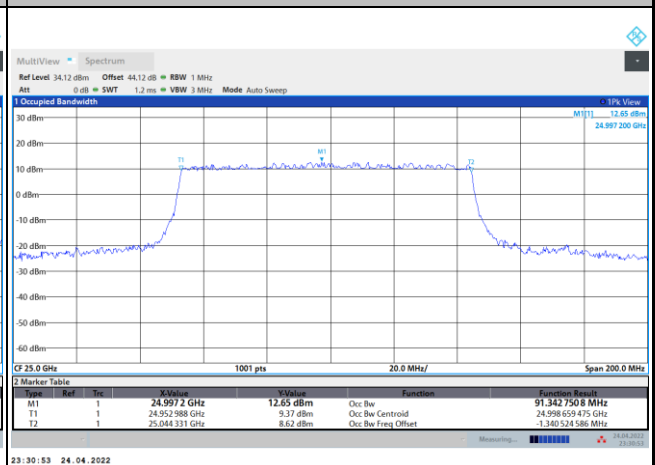
Lowest Channel / 100MHz / 64QAM



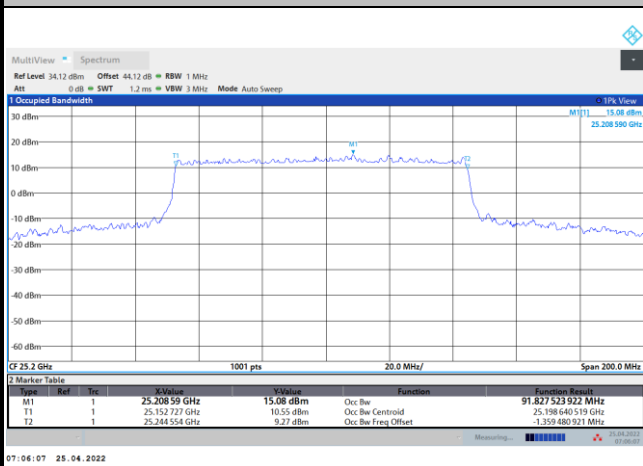
Middle Channel / 100MHz / 16QAM



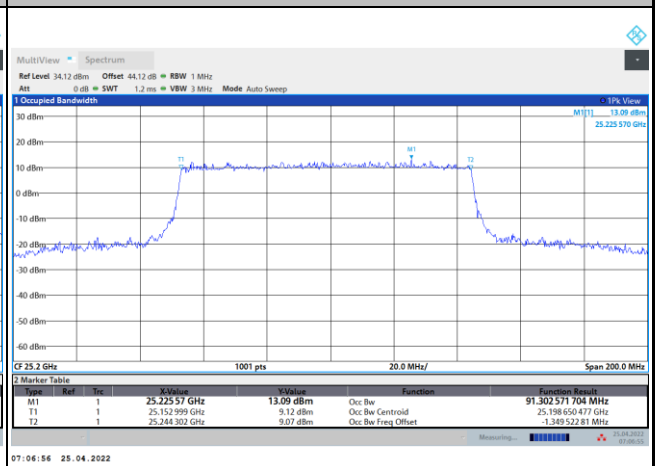
Middle Channel / 100MHz / 64QAM



Highest Channel / 100MHz / 16QAM



Highest Channel / 100MHz / 64QAM

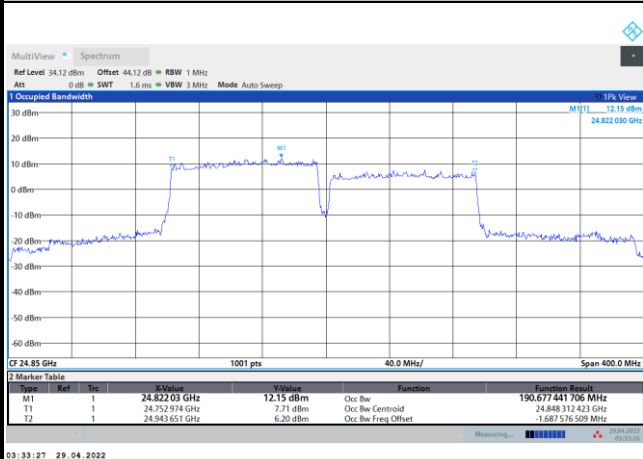




DFT-s-OFDM Module A

NR Band n258B

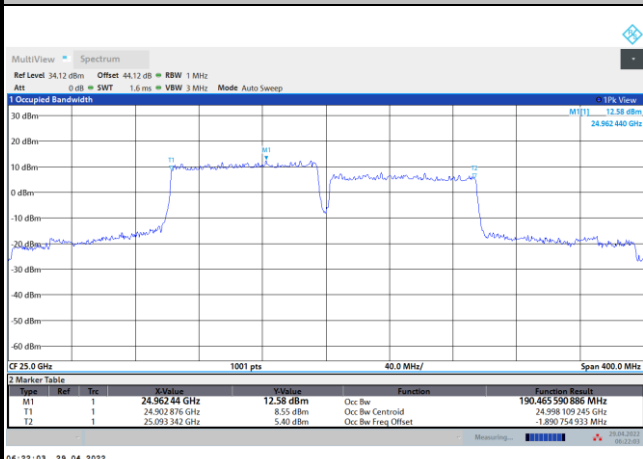
Lowest Channel / 200MHz / QPSK



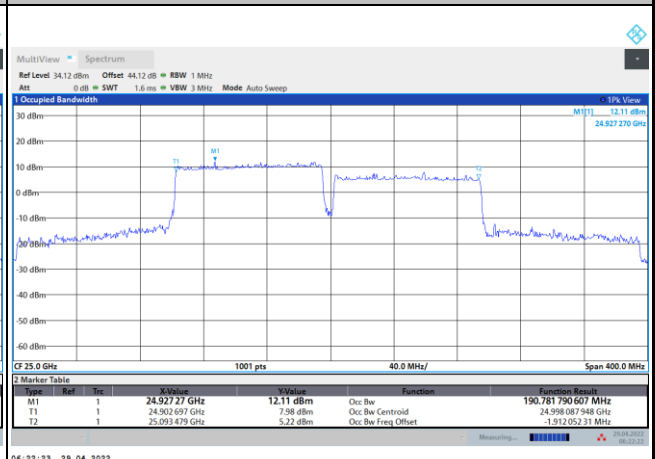
Lowest Channel / 200MHz / 16QAM



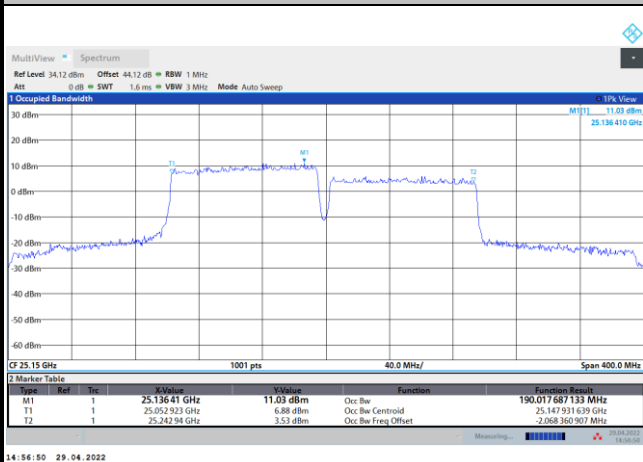
Middle Channel / 200MHz / QPSK



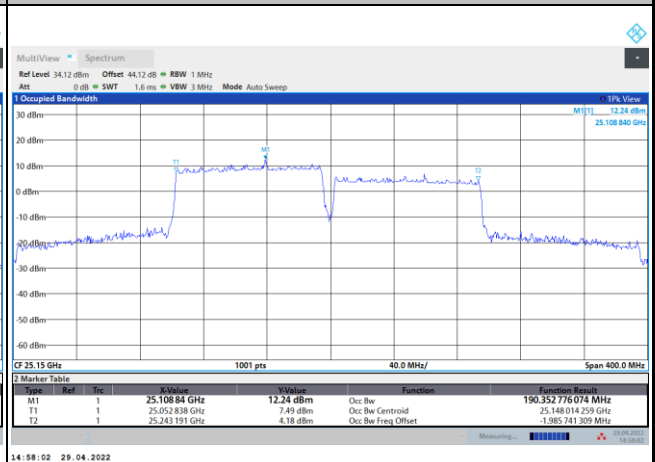
Middle Channel / 200MHz / 16QAM



Highest Channel / 200MHz / QPSK



Highest Channel / 200MHz / 16QAM

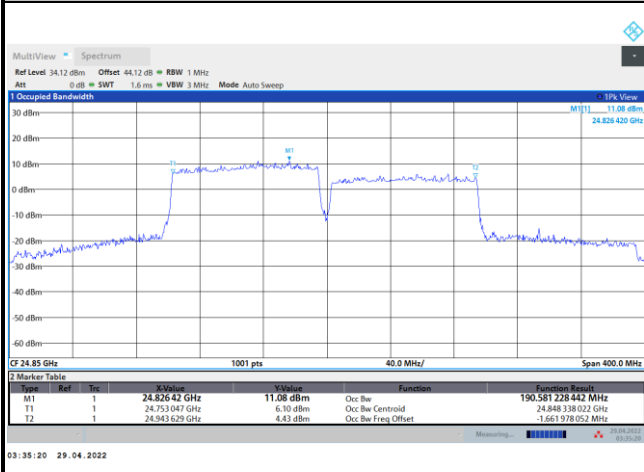




DFT-s-OFDM Module A

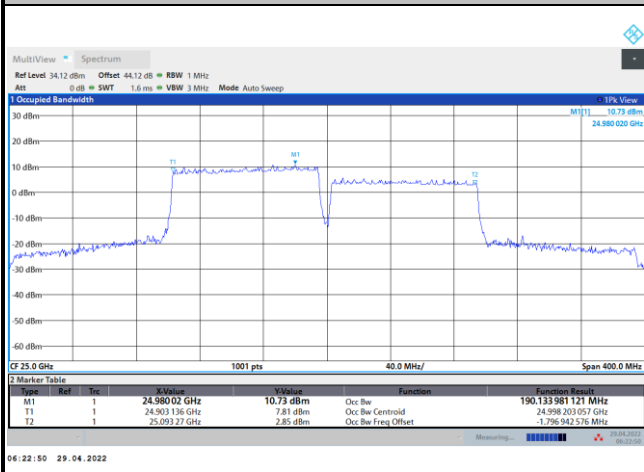
NR Band n258B

Lowest Channel / 200MHz / 64QAM



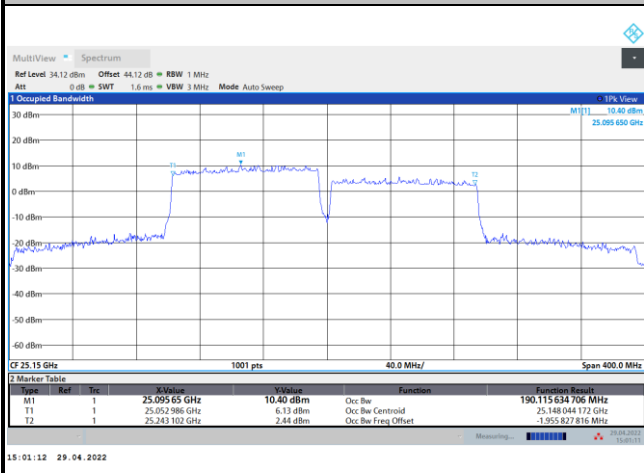
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Middle Channel / 200MHz / 64QAM



intentionally blank

Highest Channel / 200MHz / 64QAM



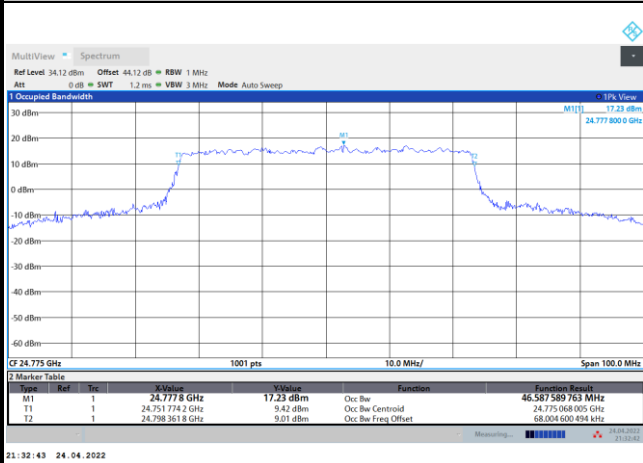
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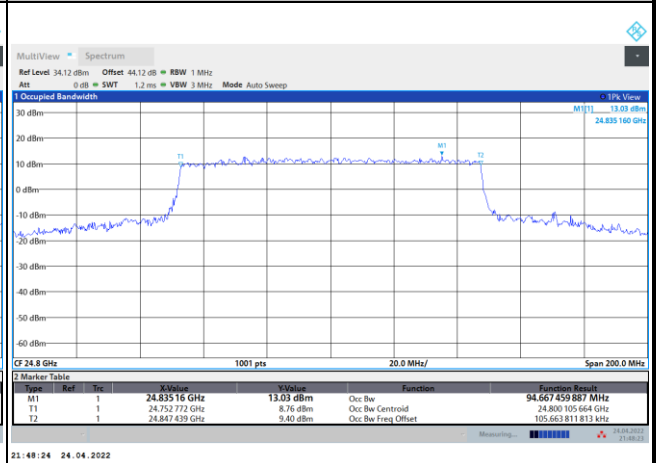
CP-OFDM Module A

NR Band n258B

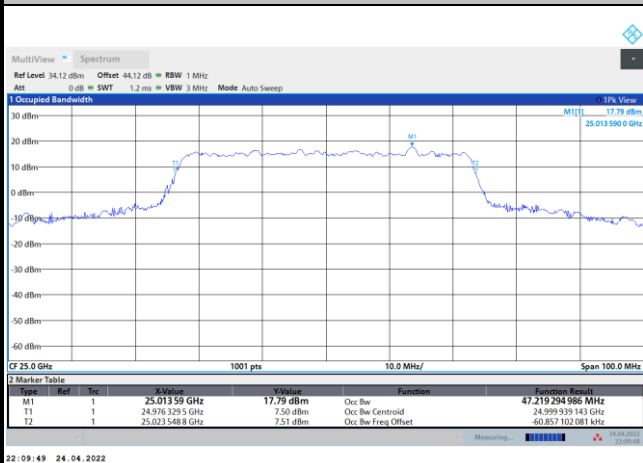
Lowest Channel / 50MHz / QPSK



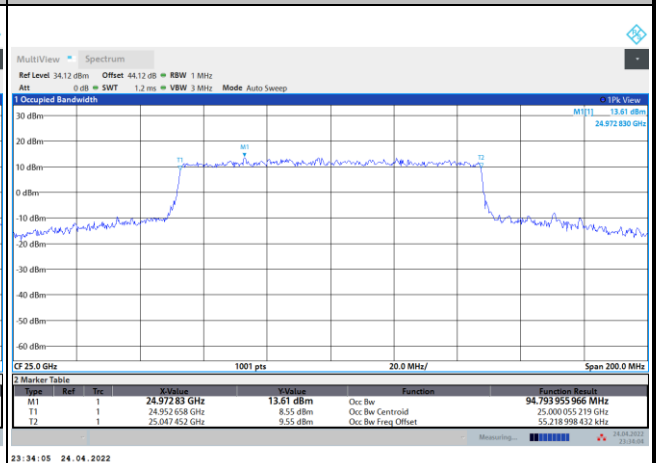
Lowest Channel / 100MHz / QPSK



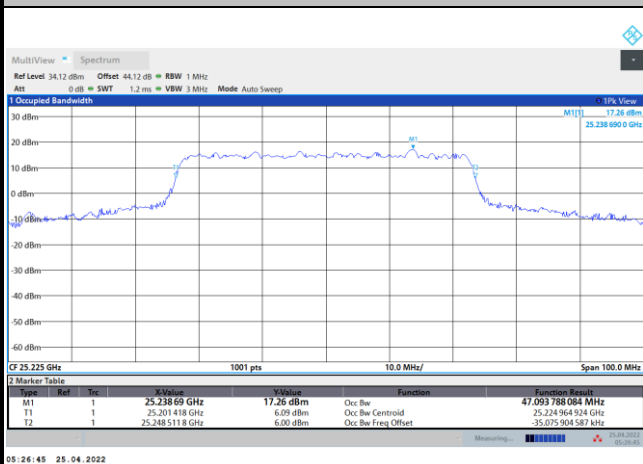
Middle Channel / 50MHz / QPSK



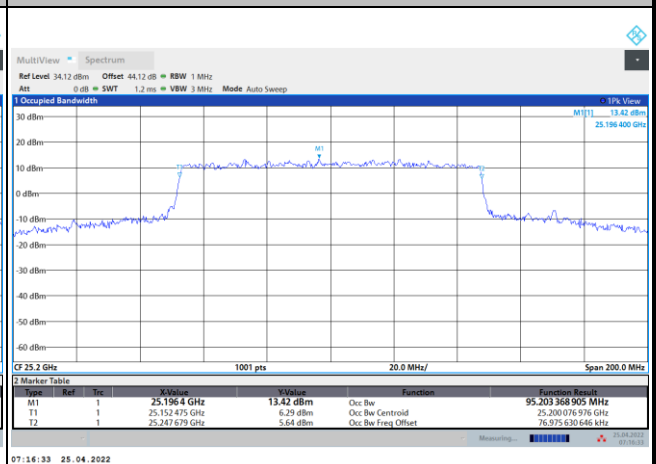
Middle Channel / 100MHz / QPSK



Highest Channel / 50MHz / QPSK



Highest Channel / 100MHz / QPSK

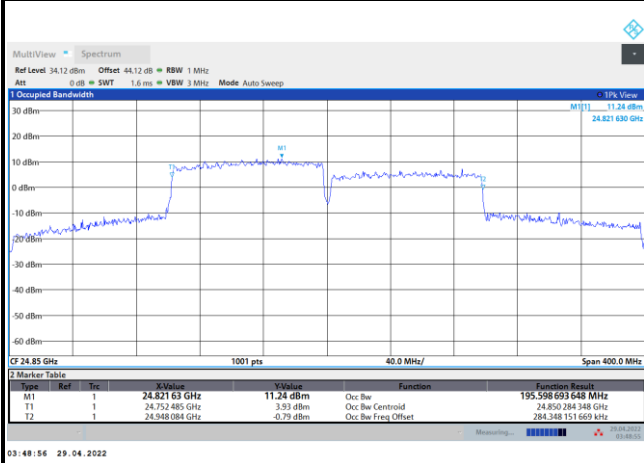




CP-OFDM Module A

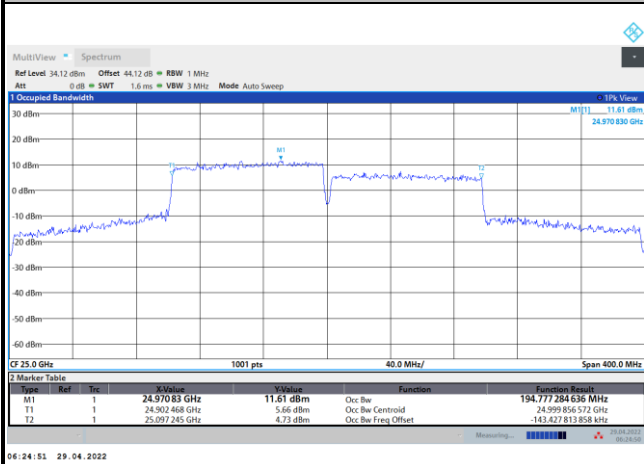
NR Band n258B

Lowest Channel / 200MHz / QPSK



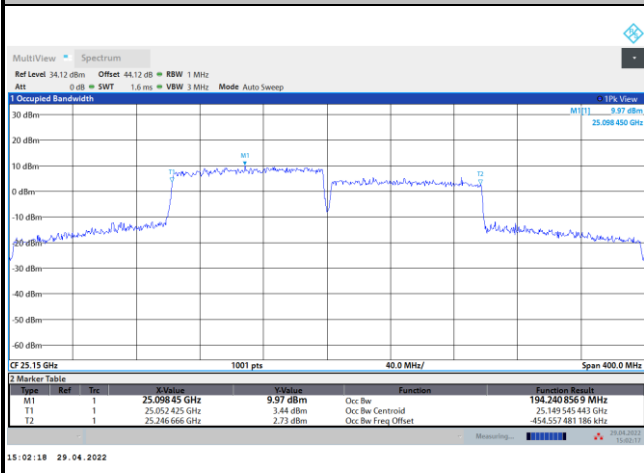
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Middle Channel / 200MHz / QPSK



intentionally blank

Highest Channel / 200MHz / QPSK



intentionally blank



Radiated Out of Band Emissions

Mode			DFT-s-OFDM Module A 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	-5.59	-7.42	-10.28	-11.42	-10.00	-15.37	-16.67	-16.73	-17.59
	>10%OB	≤-13	-34.58	-36.02	-37.37	-39.79	-40.29	-41.53	-13.84	-13.57	-19.48
High CH	0~10%OB	≤-5	-6.00	-7.37	-8.65	-8.37	-10.63	-14.83	-20.49	-21.89	-22.89
	>10%OB	≤-13	-34.19	-35.79	-37.33	-38.80	-39.89	-41.28	-16.48	-15.82	-18.65
Result			Compliance								

Mode			CP-OFDM Module A NR Band n258B : BE (dBm) 1 RB		
BW			50MHz	100MHz	200MHz
Limit (dBm)			QPSK	QPSK	QPSK
Low CH	0~10%OB	≤-5	-7.90	-12.99	-16.34
	>10%OB	≤-13	-36.21	-40.56	-13.34
High CH	0~10%OB	≤-5	-8.35	-13.51	-24.65
	>10%OB	≤-13	-35.80	-40.09	-16.80
Result			Compliance		

Mode			DFT-s-OFDM Module A 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	-12.98	-16.92	-19.90	-17.13	-20.94	-24.91	-22.68	-22.58	-26.33
	>10%OB	≤-13	-16.36	-20.90	-30.54	-19.84	-24.46	-31.22	-26.07	-23.86	-28.53
High CH	0~10%OB	≤-5	-12.09	-14.39	-18.15	-15.31	-18.70	-25.52	-28.26	-25.95	-27.68
	>10%OB	≤-13	-14.18	-17.77	-24.49	-17.53	-20.54	-27.60	-29.37	-26.57	-28.24
Result			Compliance								

Mode			CP-OFDM Module A NR Band n258B : BE (dBm) Full RB		
BW			50MHz	100MHz	200MHz
Limit (dBm)			QPSK	QPSK	QPSK
Low CH	0~10%OB	≤-5	-15.40	-19.48	-19.63
	>10%OB	≤-13	-18.27	-21.94	-20.72
High CH	0~10%OB	≤-5	-13.10	-16.50	-22.97
	>10%OB	≤-13	-15.14	-18.68	-23.97
Result			Compliance		

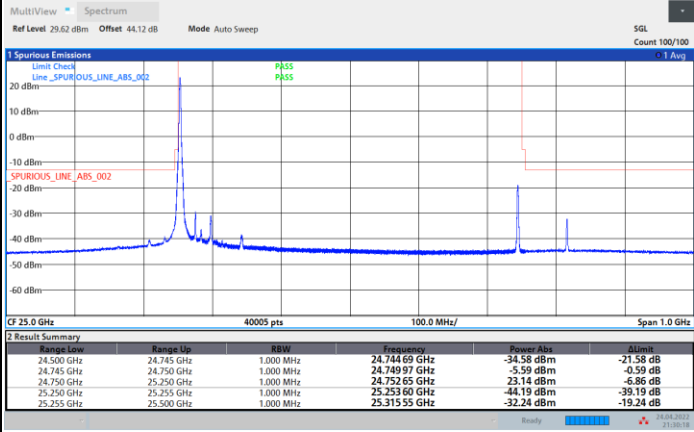


DFT-s-OFDM Module A

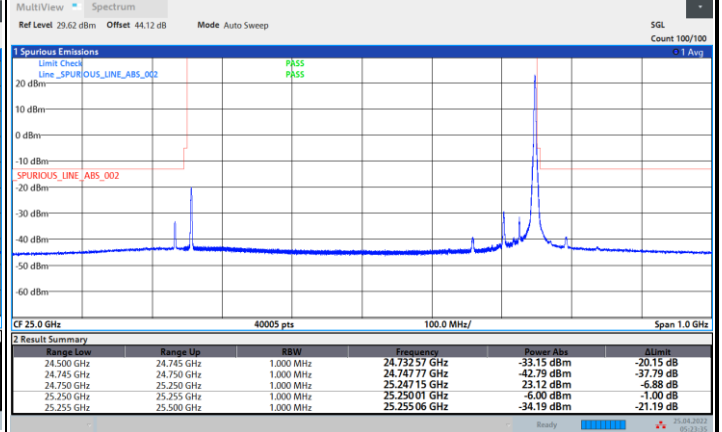
NR Band n258B / 50MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



21:30:19 24.04.2022

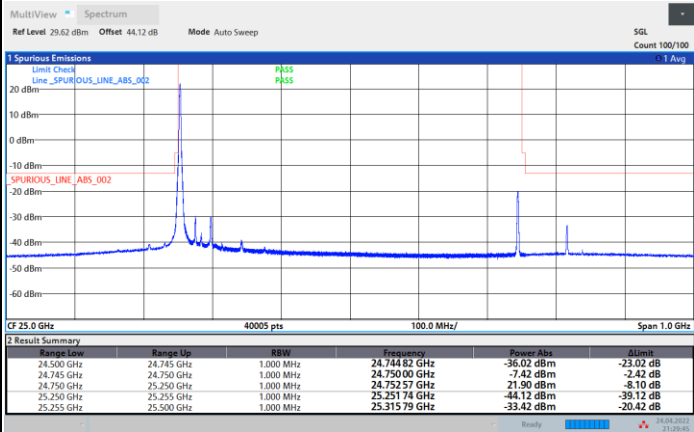


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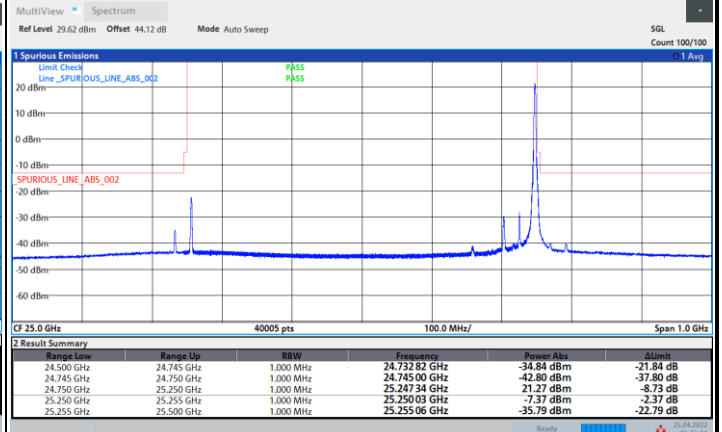
NR Band n258B / 50MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



21:29:46 24.04.2022



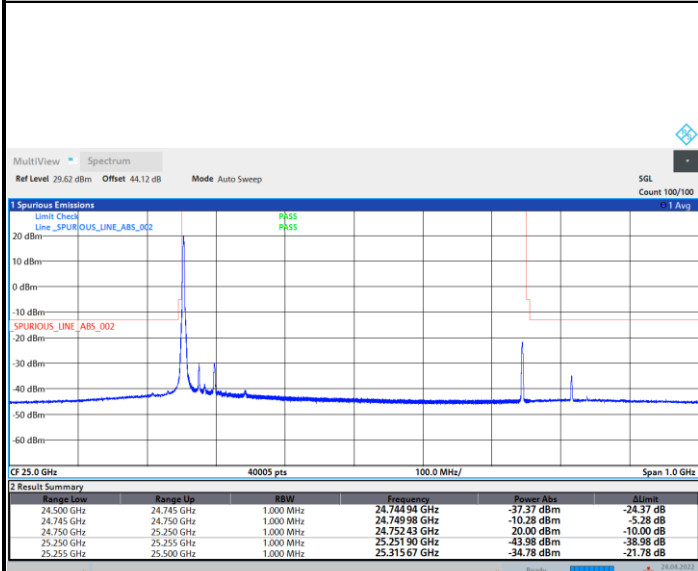
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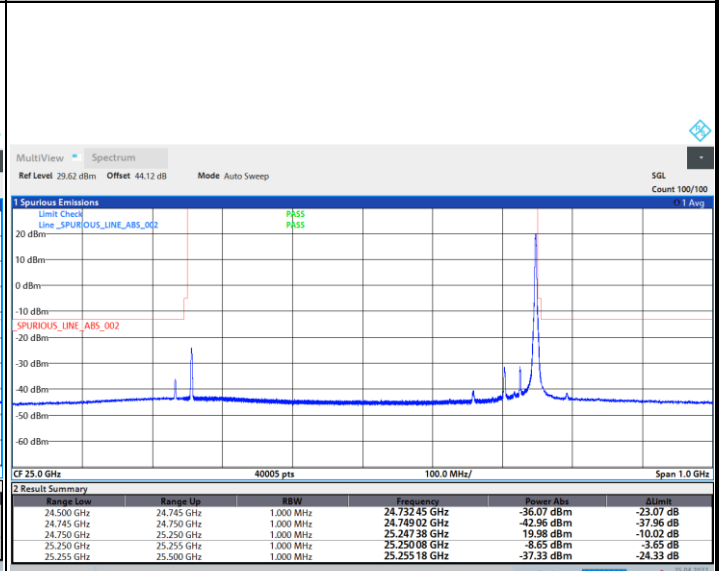
DFT-s-OFDM Module A

NR Band n258B / 50MHz / 64QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB

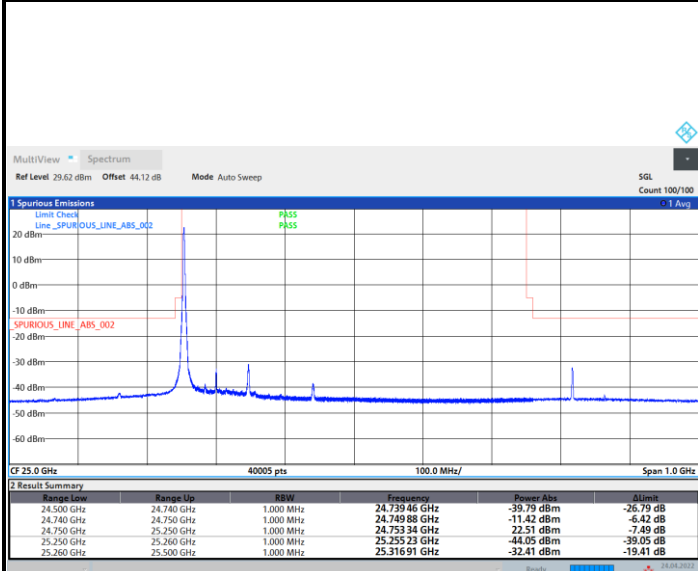


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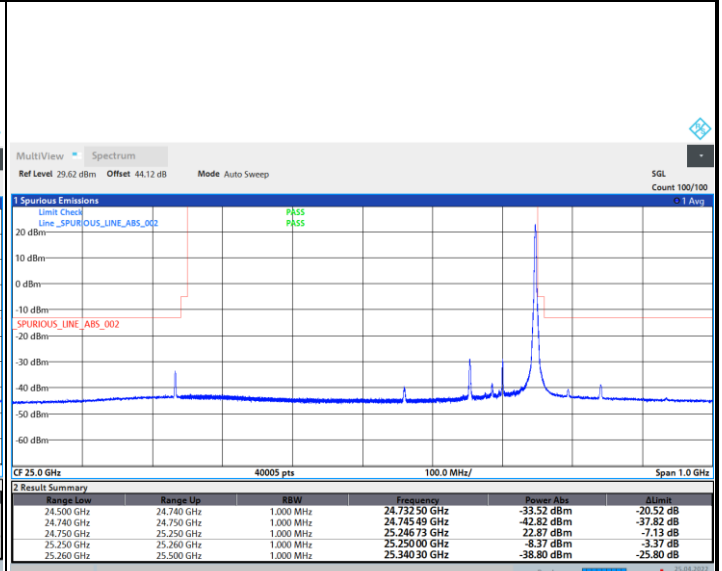
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NR Band n258B / 100MHz / QPSK

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



21:46:13 24.04.2022

07:10:06 25.04.2022