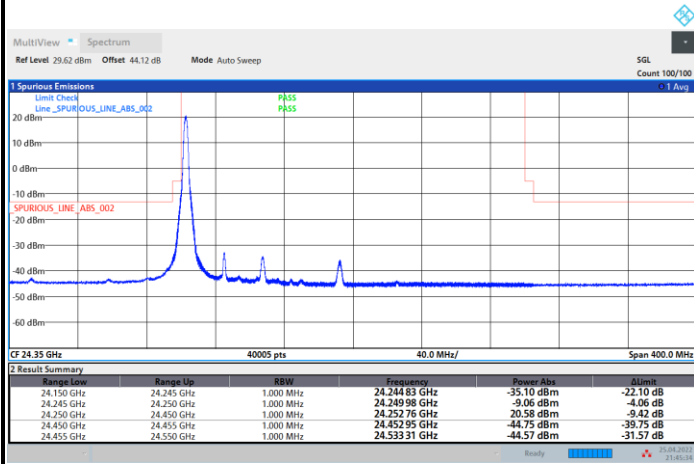




CP-OFDM Module A

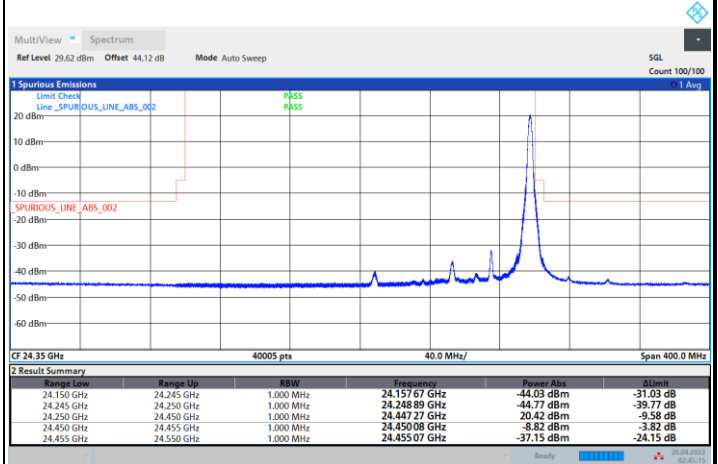
NR Band n258A/ 50MHz / QPSK

Lowest Band Edge / 1 RB



21:45:35 25.04.2022

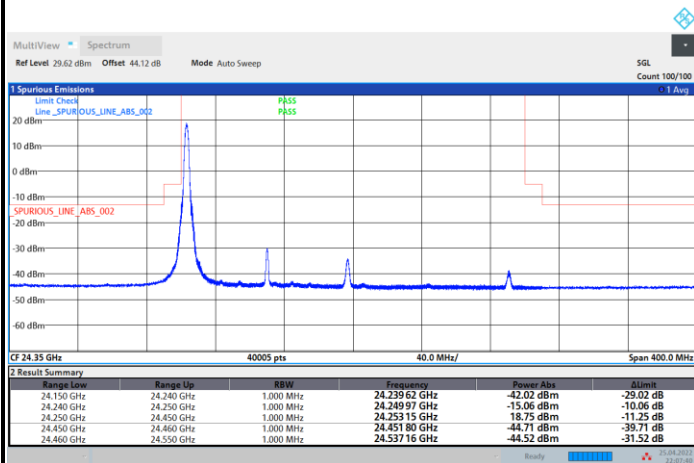
Highest Band Edge / 1 RB



02:45:15 26.04.2022

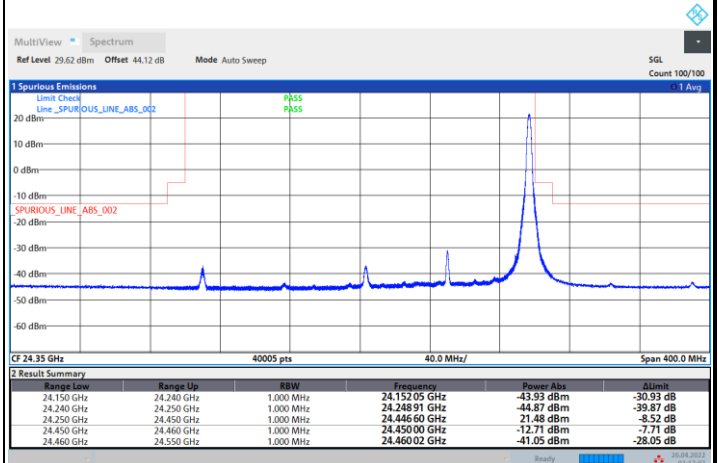
NR Band n258A/ 100MHz / QPSK

Lowest Band Edge / 1 RB



22:07:41 25.04.2022

Highest Band Edge / 1 RB



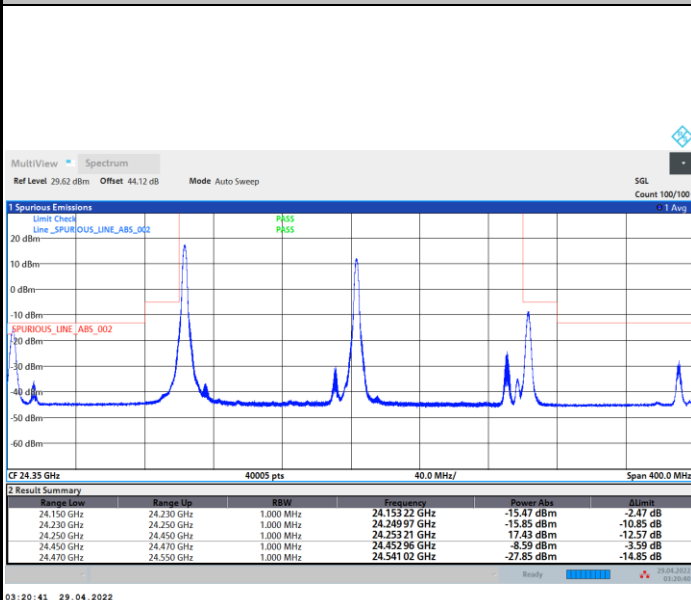
03:17:07 26.04.2022



CP-OFDM Module A

NR Band n258A/ 200MHz / QPSK

Middle Band Edge / 1 RB



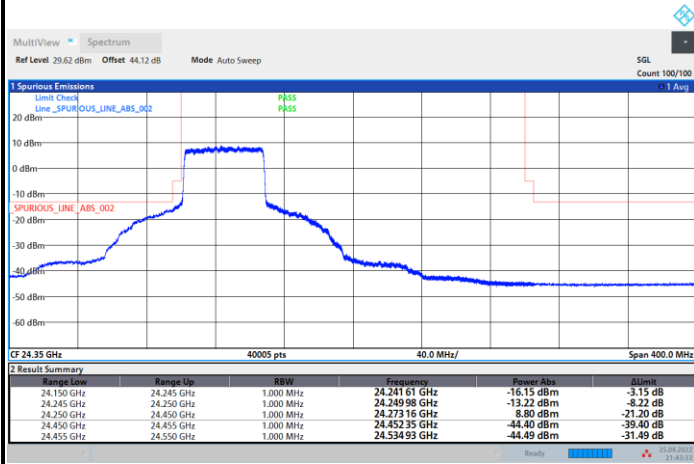
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DFT-s-OFDM Module A

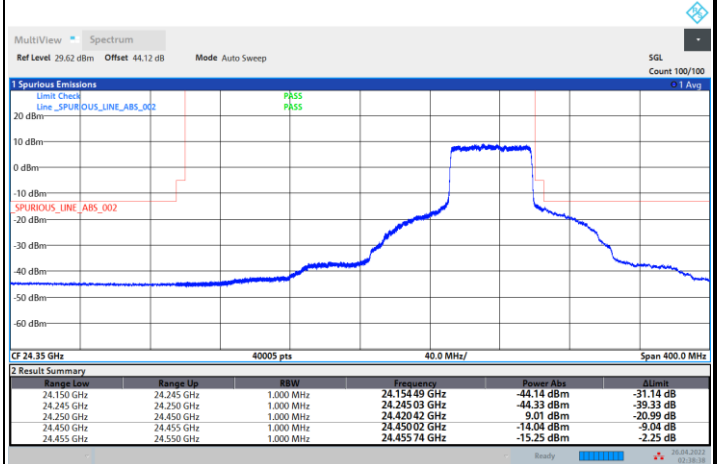
NR Band n258A/ 50MHz / QPSK

Lowest Band Edge / Full RB



21:43:34 25.04.2022

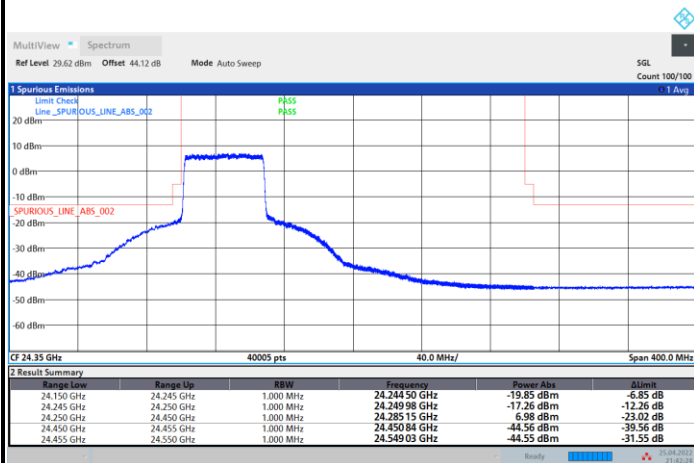
Highest Band Edge / Full RB



02:38:38 26.04.2022

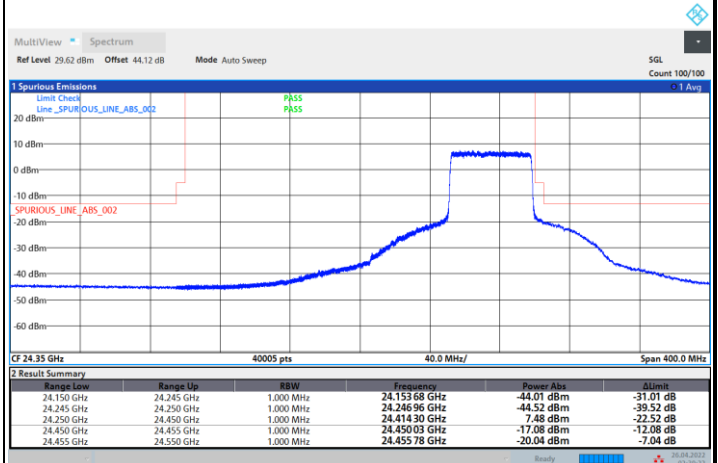
NR Band n258A/ 50MHz / 16QAM

Lowest Band Edge / Full RB



21:42:25 25.04.2022

Highest Band Edge / Full RB



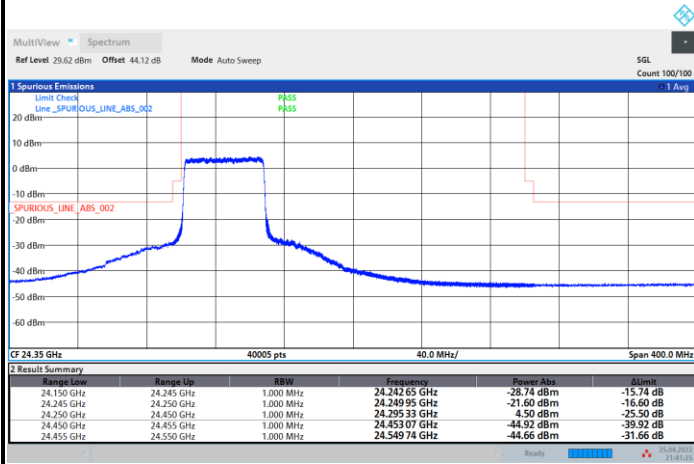
02:39:22 26.04.2022



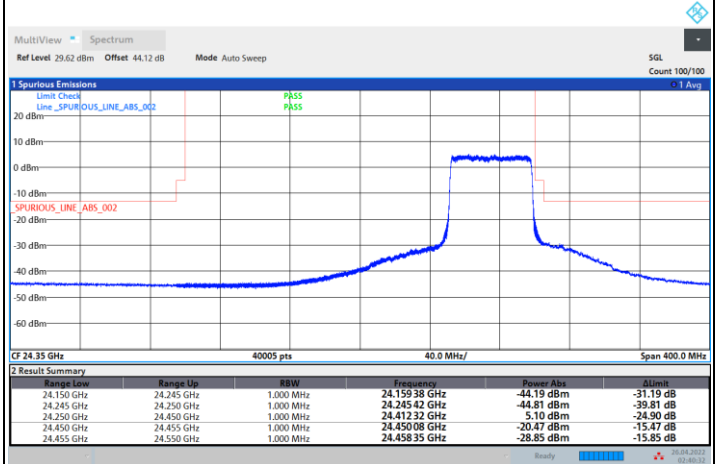
DFT-s-OFDM Module A

NR Band n258A/ 50MHz / 64QAM

Lowest Band Edge / Full RB

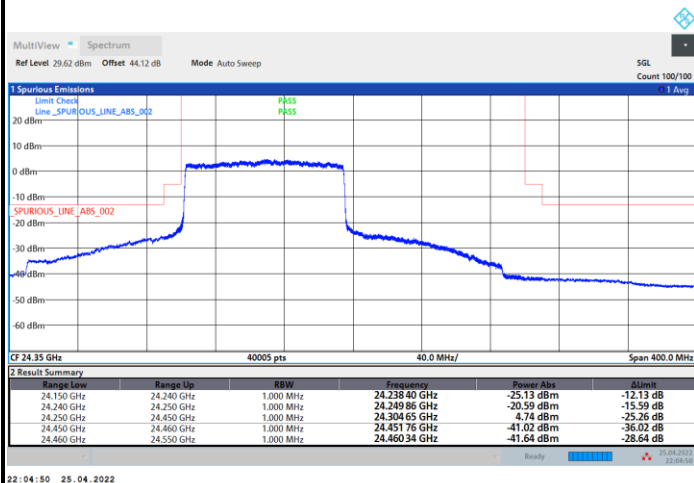


Highest Band Edge / Full RB

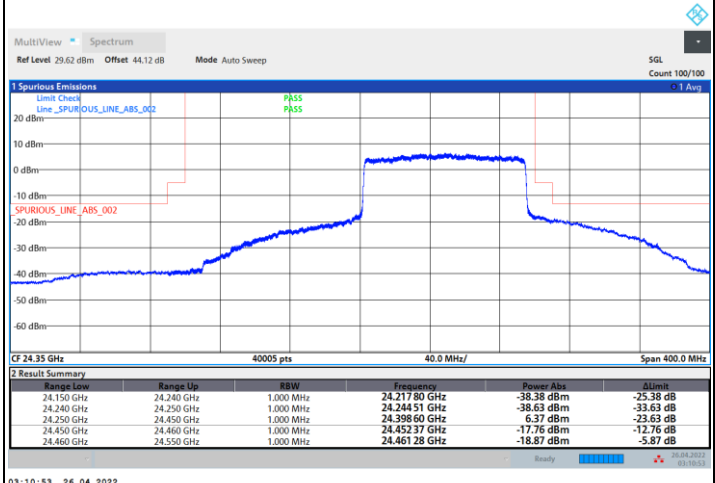


NR Band n258A/ 100MHz / QPSK

Lowest Band Edge / Full RB



Highest Band Edge / Full RB

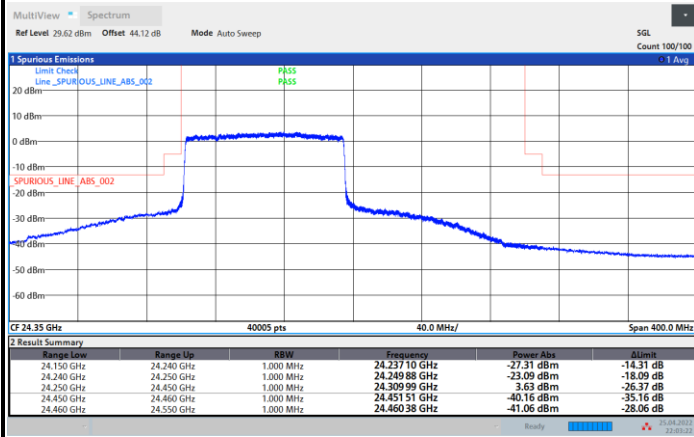




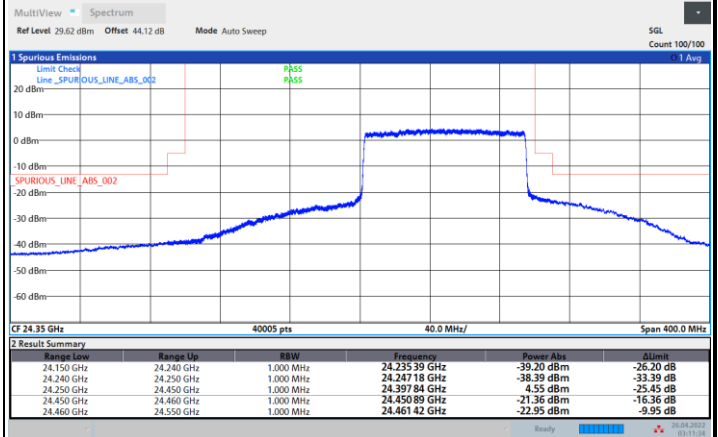
DFT-s-OFDM Module A

NR Band n258A/ 100MHz / 16QAM

Lowest Band Edge / Full RB

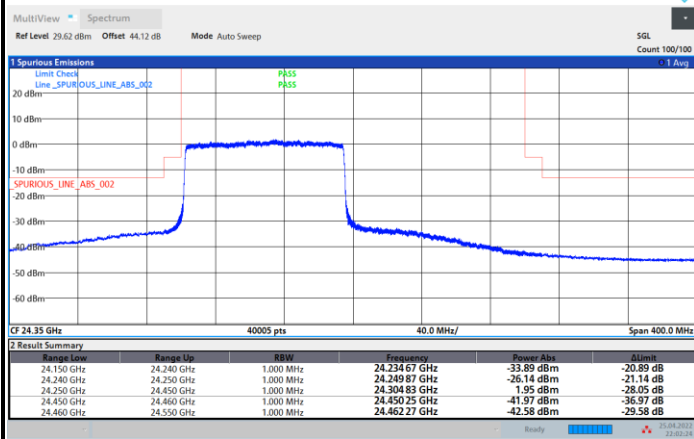


Highest Band Edge / Full RB

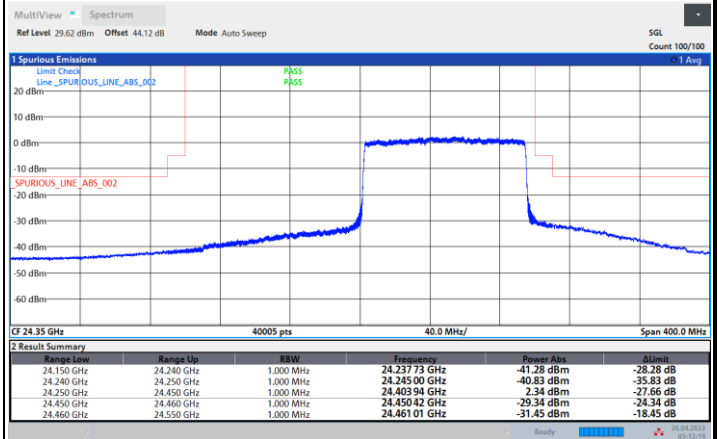


NR Band n258A/ 100MHz / 64QAM

Lowest Band Edge / Full RB



Highest Band Edge / Full RB

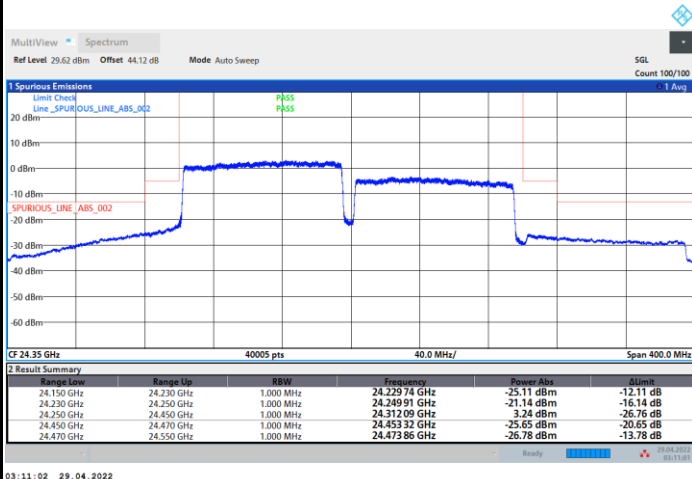




DFT-s-OFDM Module A

NR Band n258A/ 200MHz / QPSK

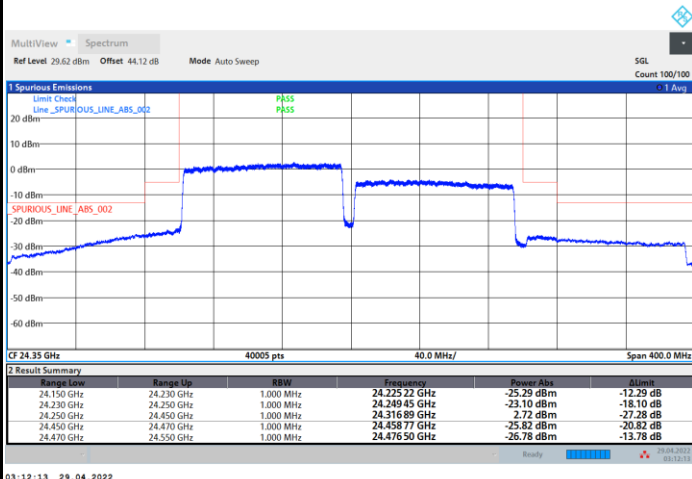
Middle Band Edge / Full RB



intentionally blank

NR Band n258A/ 200MHz / 16QAM

Middle Band Edge / Full RB



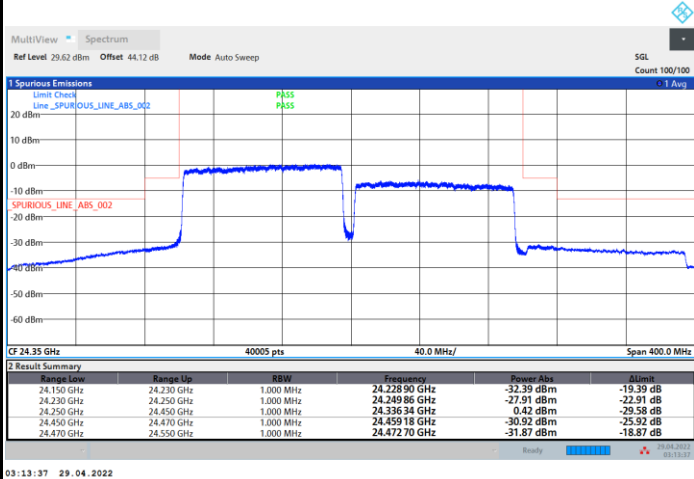
intentionally blank



DFT-s-OFDM Module A

NR Band n258A/ 200MHz / 64QAM

Middle Band Edge / Full RB



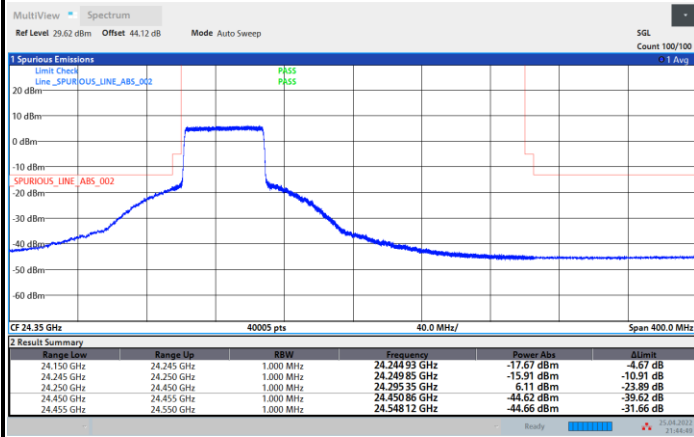
intentionally blank



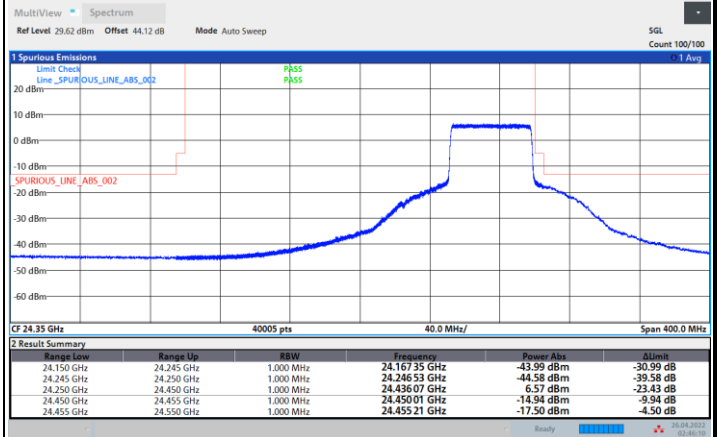
CP-OFDM Module A

NR Band n258A/ 50MHz / QPSK

Lowest Band Edge / Full RB

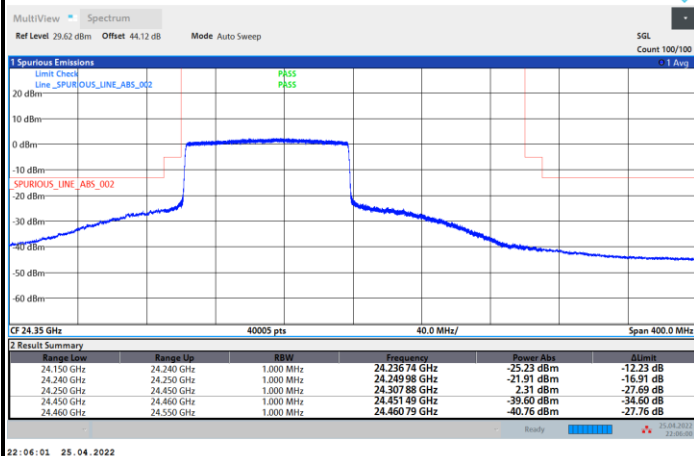


Highest Band Edge / Full RB

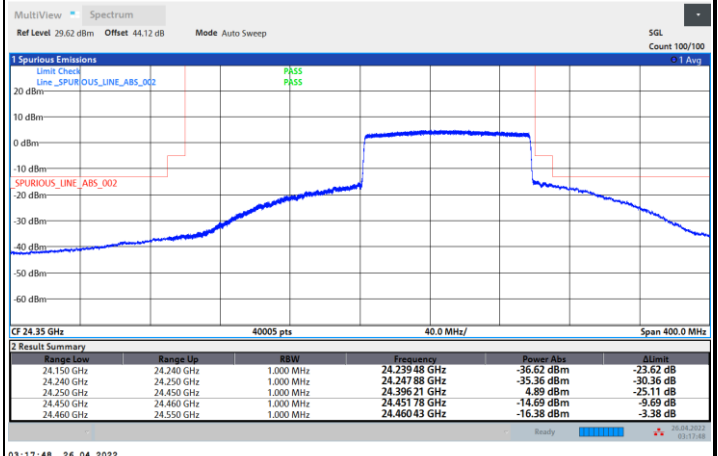


NR Band n258A/ 100MHz / QPSK

Lowest Band Edge / Full RB



Highest Band Edge / Full RB

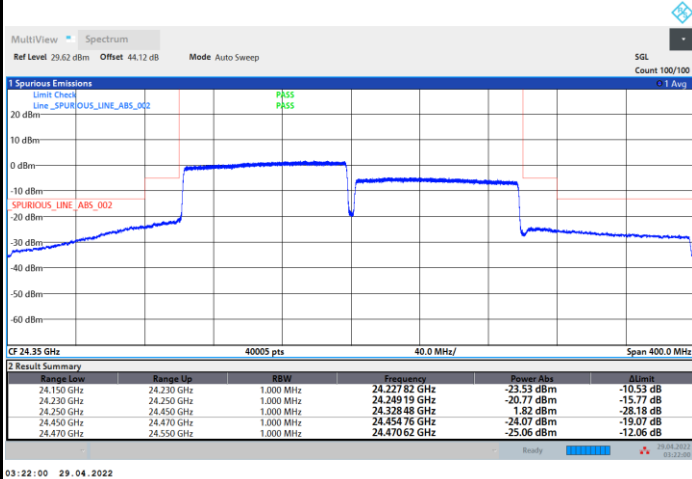




CP-OFDM Module A

NR Band n258A/ 200MHz / QPSK

Middle Band Edge / Full RB



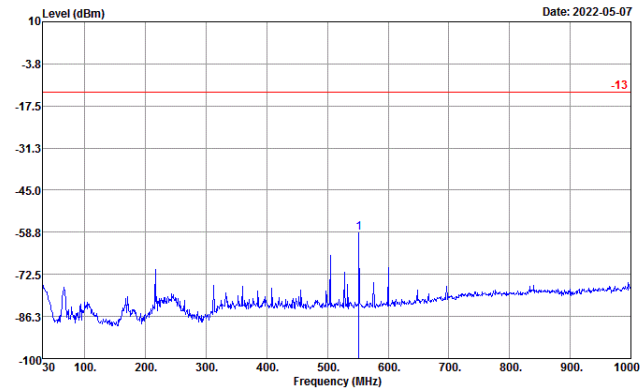
intentionally blank



Spurious Emission

NR Band n258A (30MHz-1GHz)

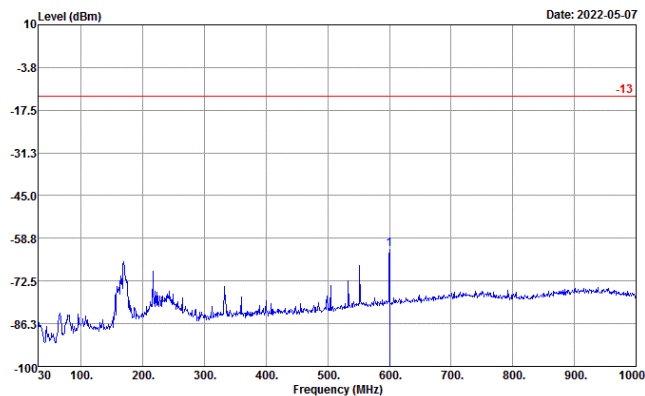
Horizontal



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

Freq	Level	Over	Limit
MHz	dBm	Limit	Line
1	551.86 -59.03	-46.03	-13.00

Vertical



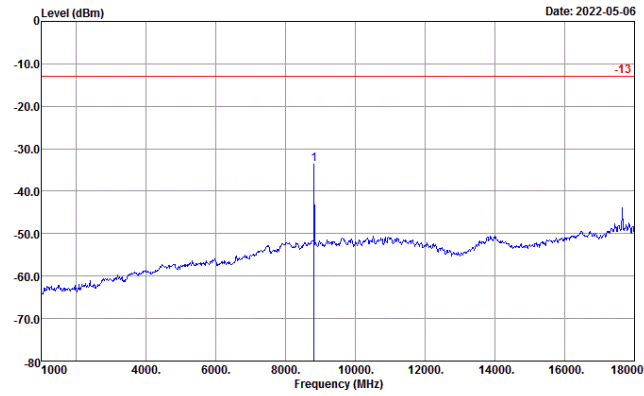
Site : 03CH10-HY
Condition : -13 EIRP_WO VERTICAL
Project : 102919-05
 : n258a MA

Freq	Level	Over	Limit
MHz	dBm	Limit	Line
1	600.36 -62.21	-49.21	-13.00



NR Band n258A (1GHz-18GHz)

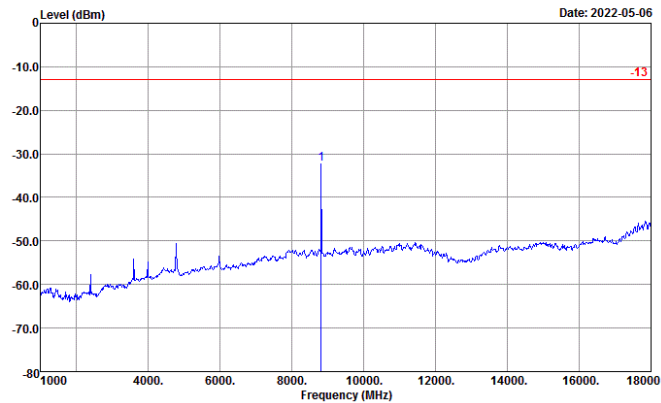
Horizontal



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

Freq	Level	Over	Limit
MHz	dBm	dB	dBm
1	8820.00	-33.54	-20.54 -13.00

Vertical



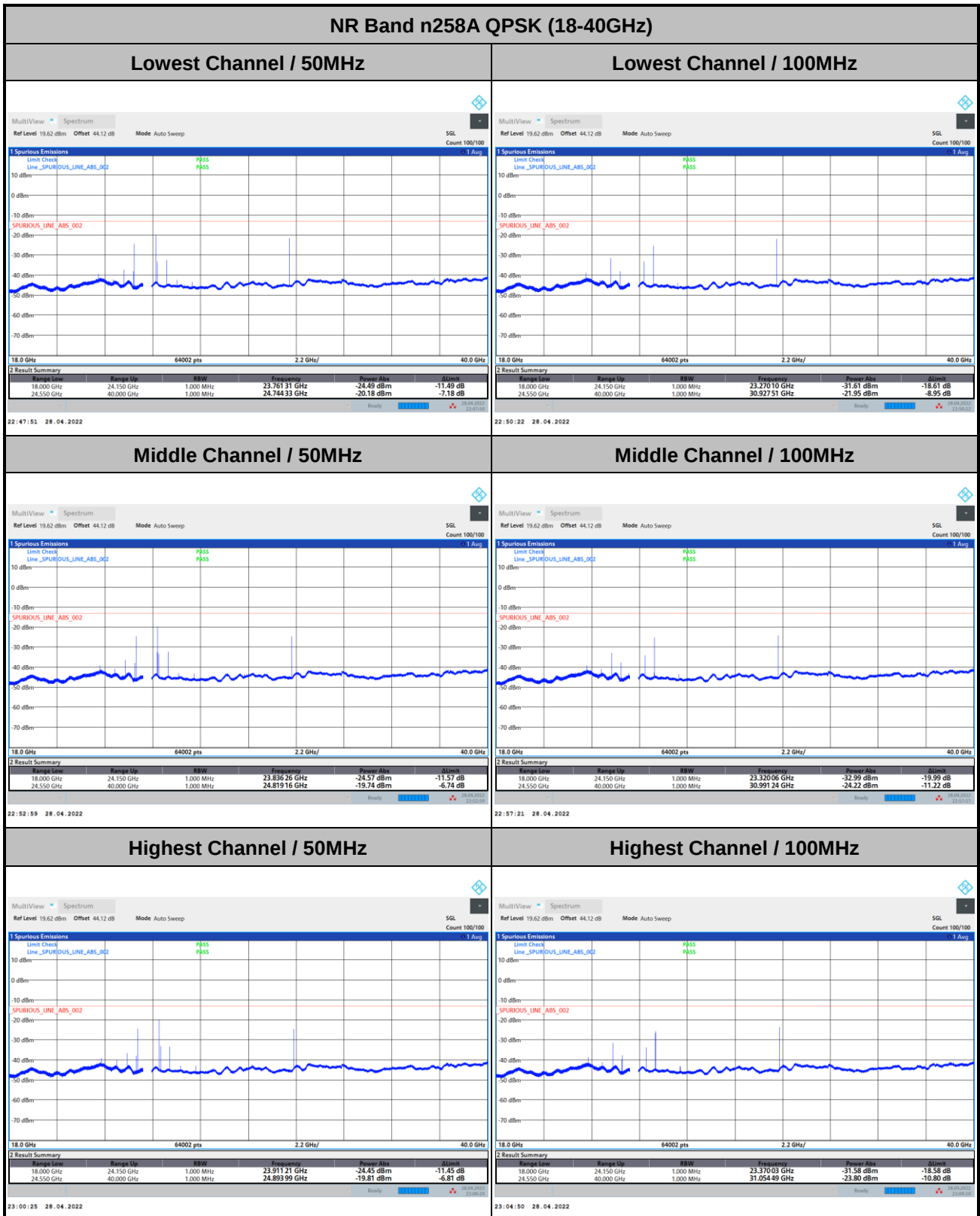
Site : 03CH10-HY
Condition : -13 EIRP_WO VERTICAL
Project : IO2919-05
: n258A MA

Freq	Level	Over	Limit
MHz	dBm	dB	dBm
1	8820.00	-32.42	-19.42 -13.00



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

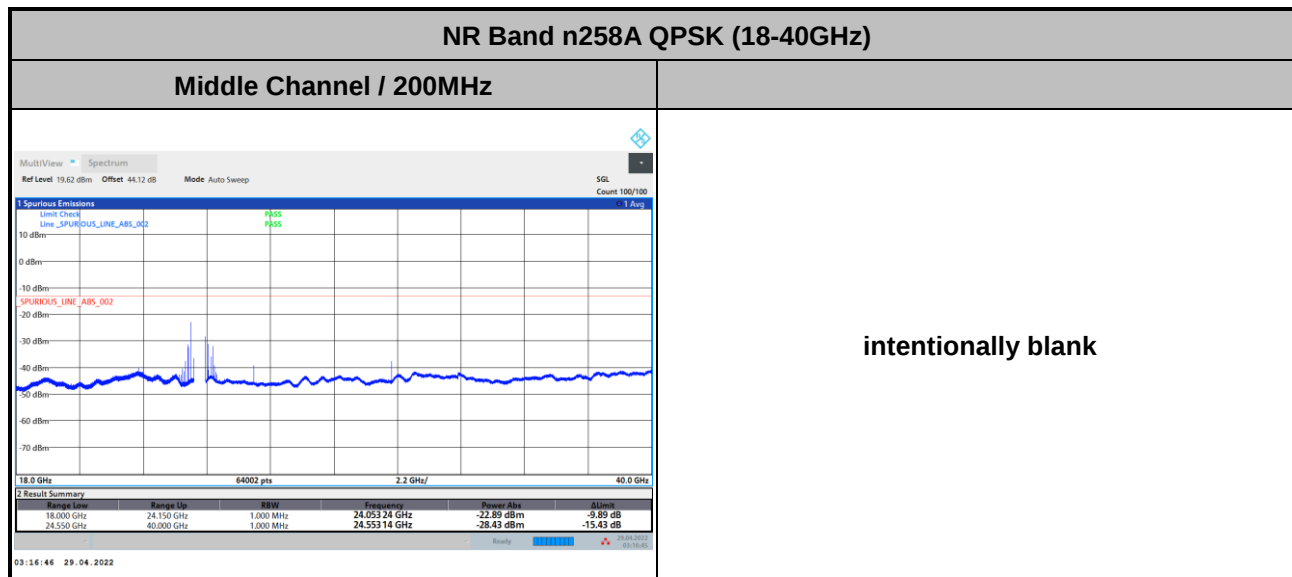
DFT-s-OFDM Module A



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



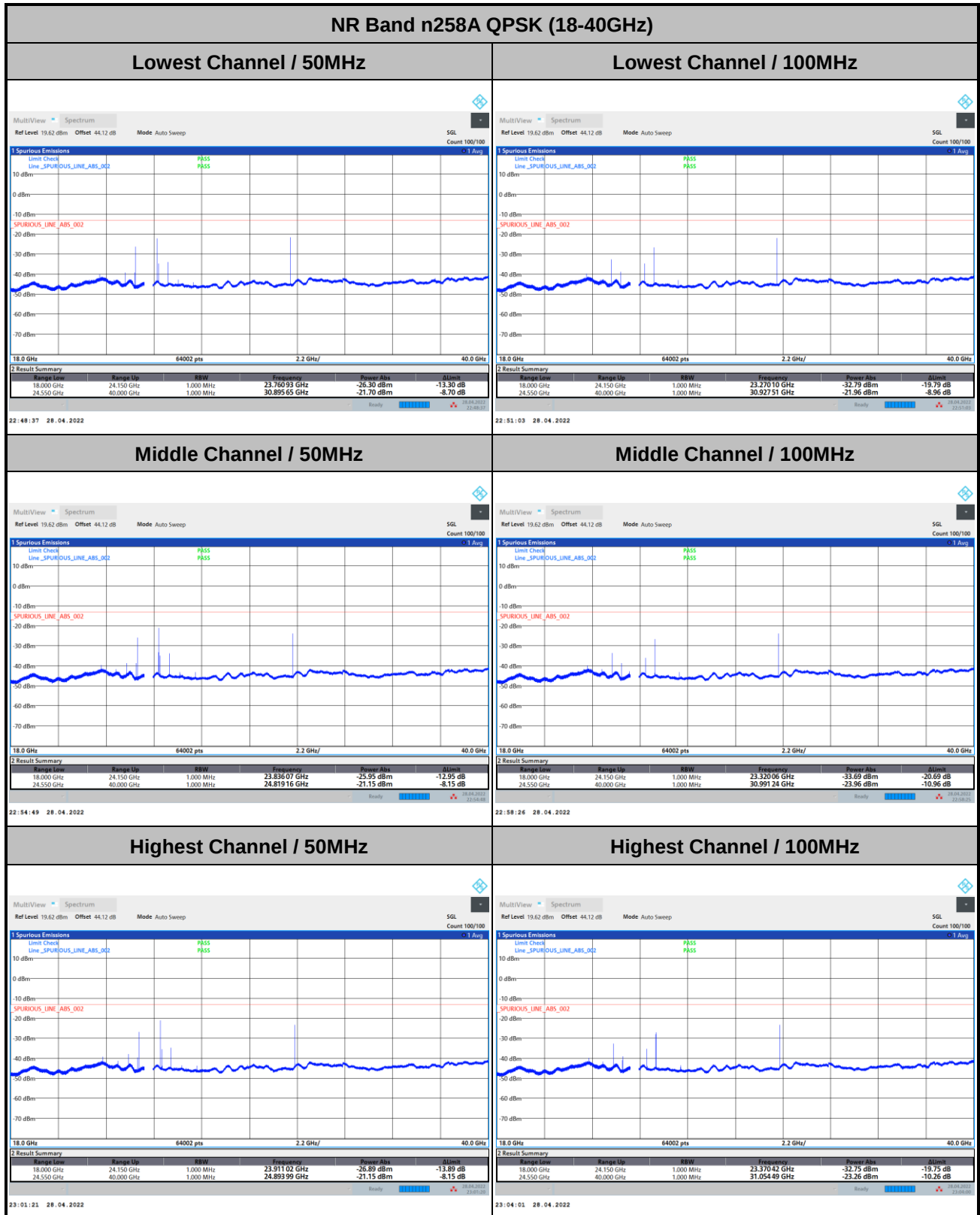
DFT-s-OFDM Module A



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



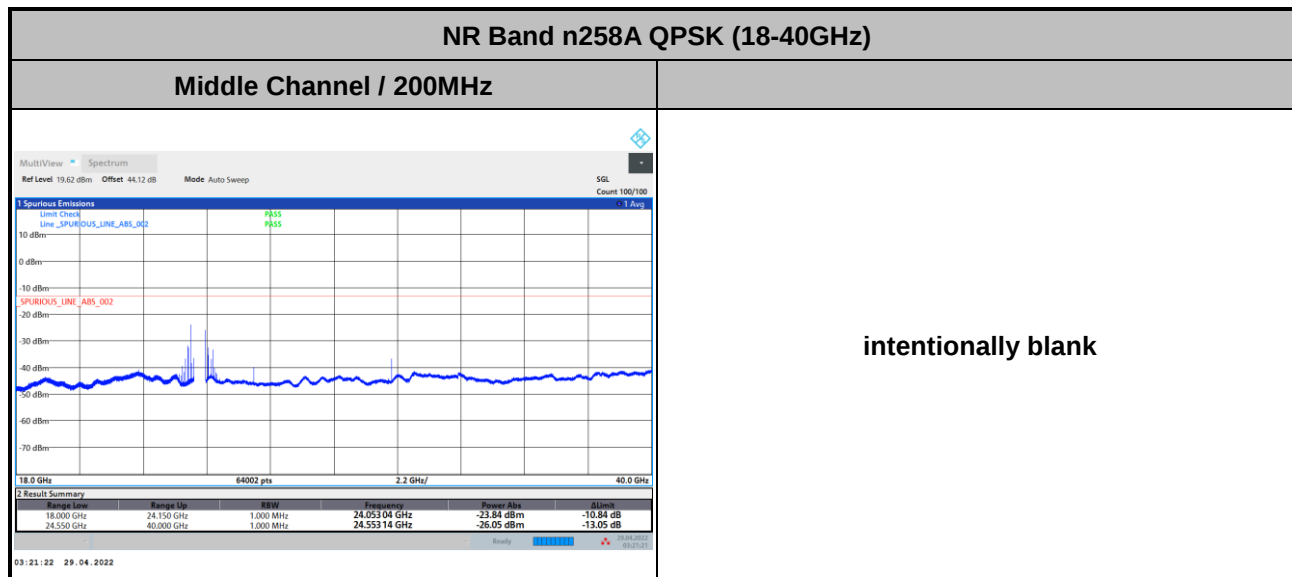
CP-OFDM Module A



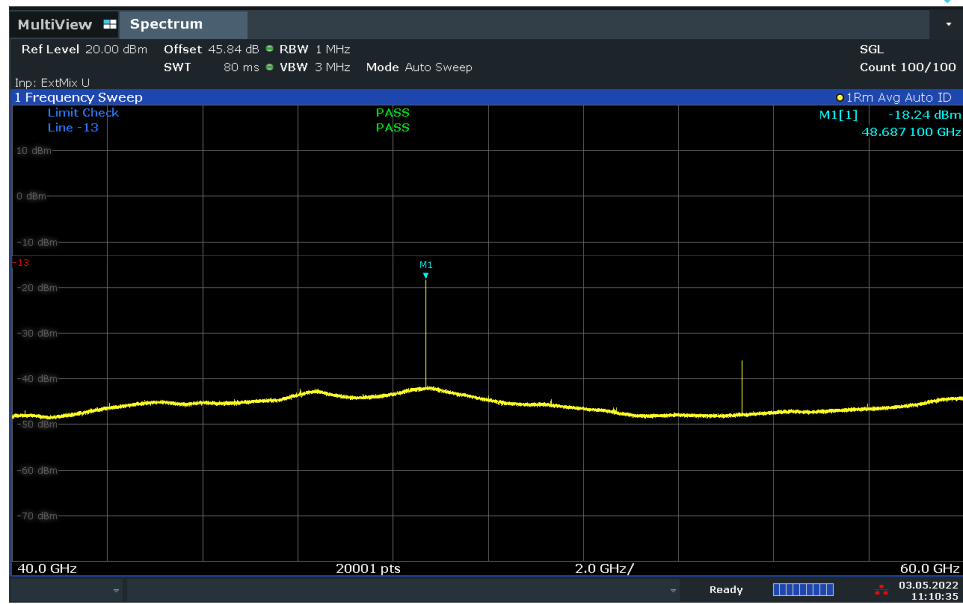
Remark: In band and out of band frequencies are omitted.



CP-OFDM Module A



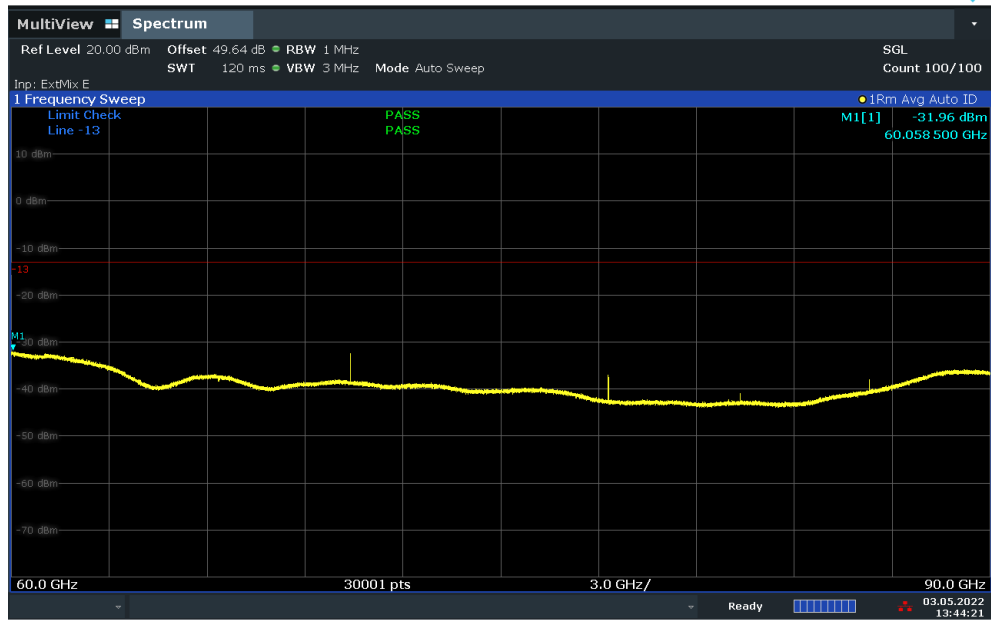
Remark: In band and out of band frequencies are omitted.

NR Band n258A
(40GHz-60GHz)


11:10:36 03.05.2022

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

$$= 43.1 + 0.54 + 107 + 20\log(1) - 104.8 = 45.84 \text{ (dB)}$$

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)


16:09:05 03.05.2022

Offset = Antenna Factor (dB/m) + Cable Loss (dB) + 107 + 20log (D) – 104.8

= 47.92 + 0.54 + 107 + 20log(0.5) – 104.8 = 44.64 (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 n258A Module B A AGH+V

Occupied Bandwidth

Mode	DFT-s-OFDM Module B NR Band n258A : 99%OBW(MHz)								
BW	50MHz			100MHz			200MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	46.03	46.20	46.01	91.52	91.34	91.27	-	-	-
Middle CH	45.92	46.15	46.28	91.41	91.52	91.43	190.52	190.52	190.58
Highest CH	45.97	46.09	46.05	91.29	91.39	91.28	-	-	-

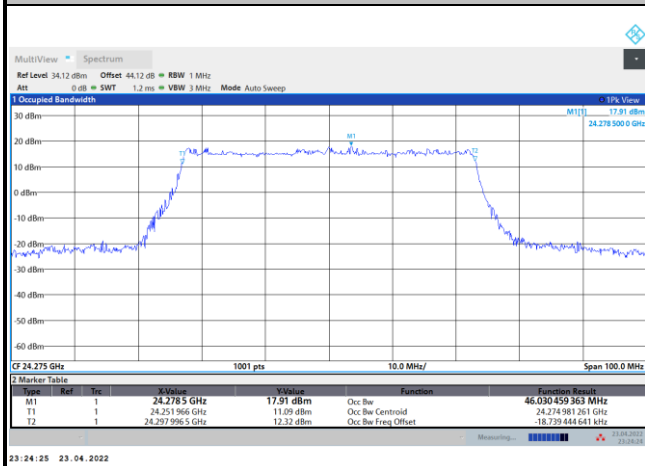
Mode	CP-OFDM Module B NR Band n258A : 99%OBW(MHz)		
BW	50MHz	100MHz	200MHz
Mod.	QPSK	QPSK	QPSK
Lowest CH	46.28	94.21	-
Middle CH	46.19	94.30	193.59
Highest CH	45.94	94.23	-



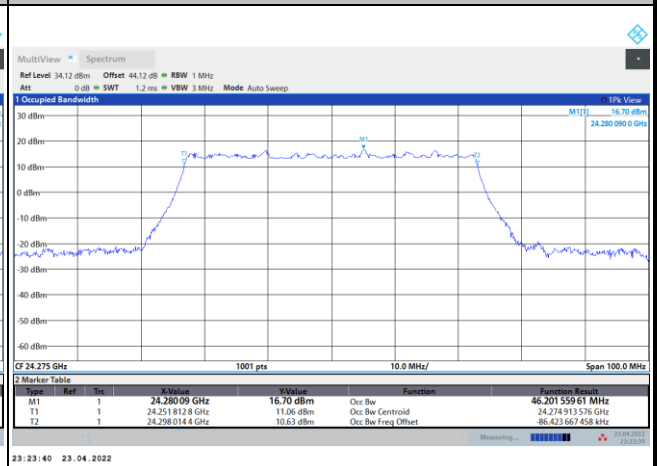
DFT-s-OFDM Module B

NR Band n258A

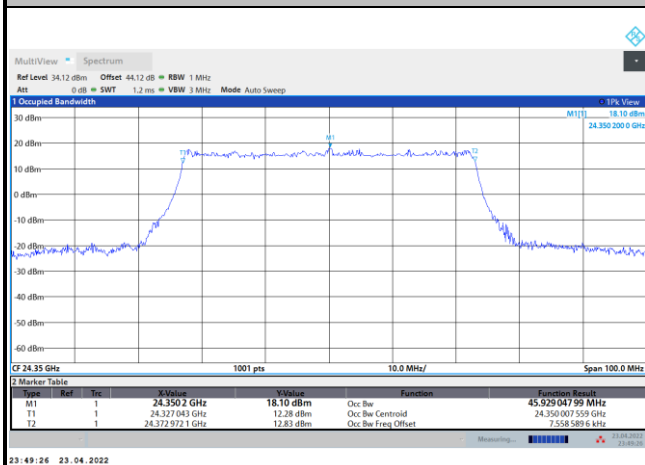
Lowest Channel / 50MHz / QPSK



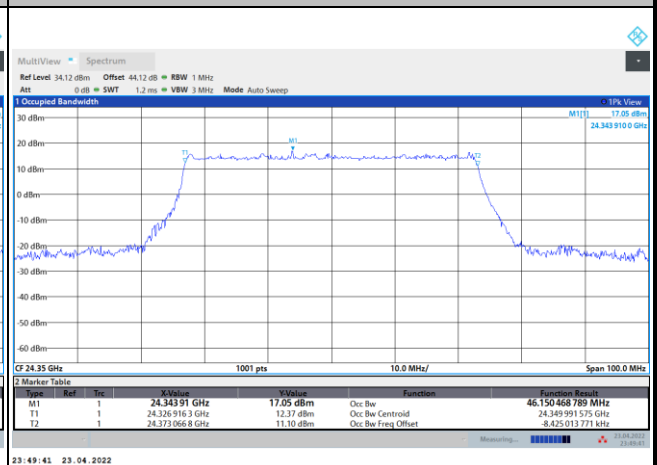
Lowest Channel / 50MHz / 16QAM



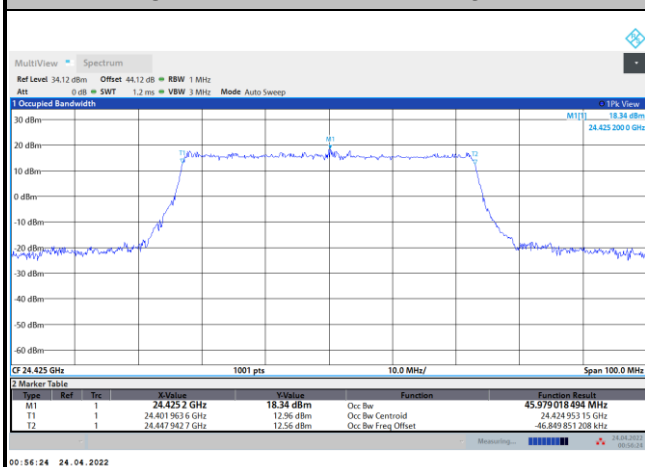
Middle Channel / 50MHz / QPSK



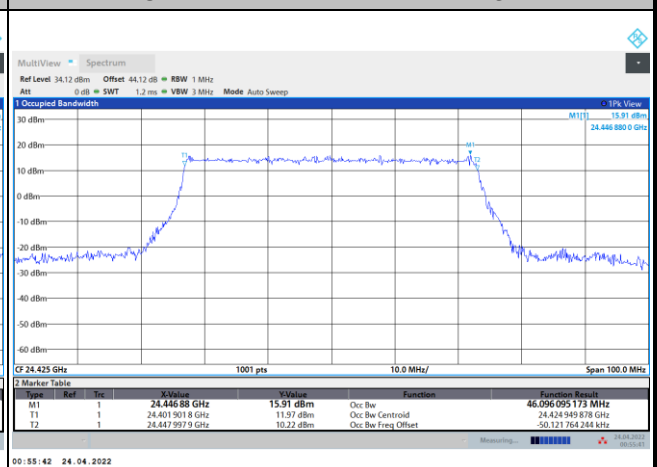
Middle Channel / 50MHz / 16QAM



Highest Channel / 50MHz / QPSK



Highest Channel / 50MHz / 16QAM

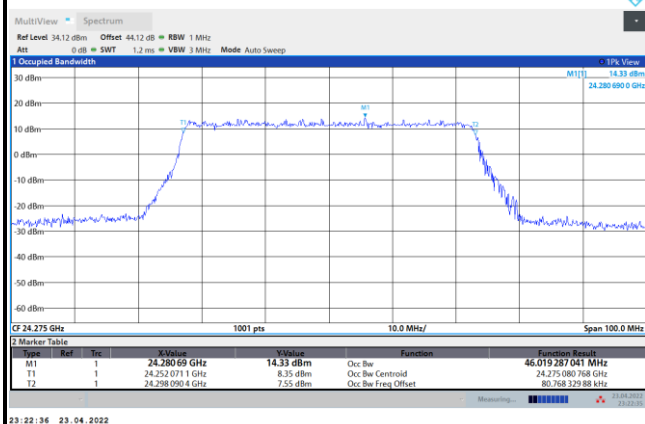




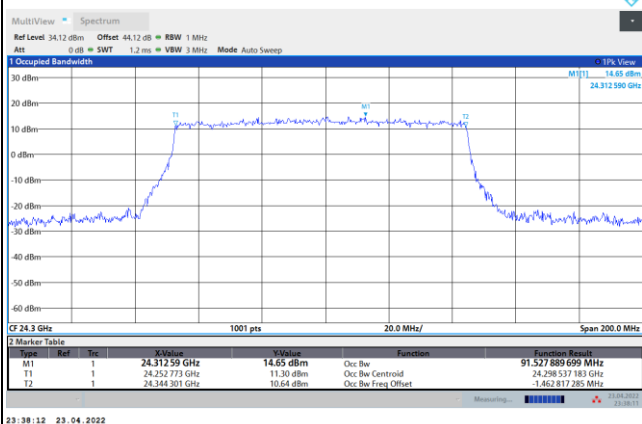
DFT-s-OFDM Module B

NR Band n258A

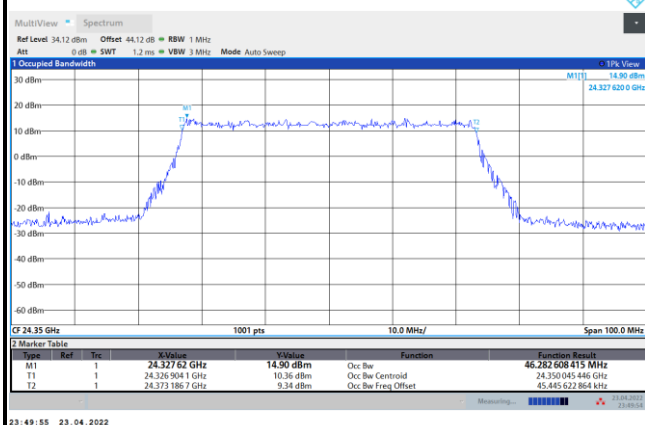
Lowest Channel / 50MHz / 64QAM



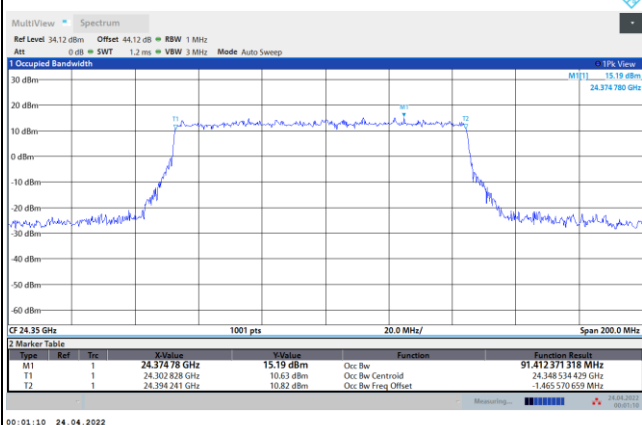
Lowest Channel / 100MHz / QPSK



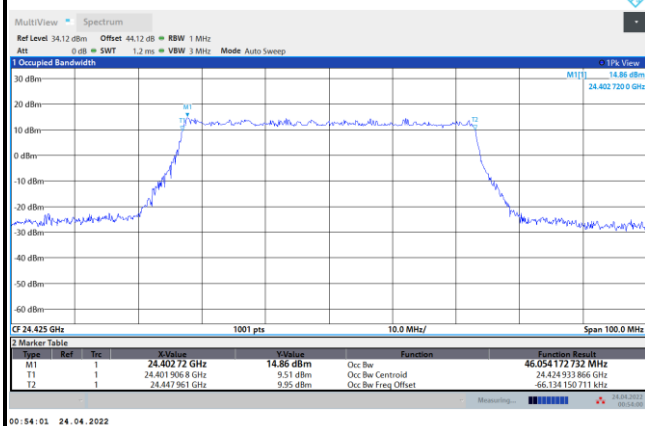
Middle Channel / 50MHz / 64QAM



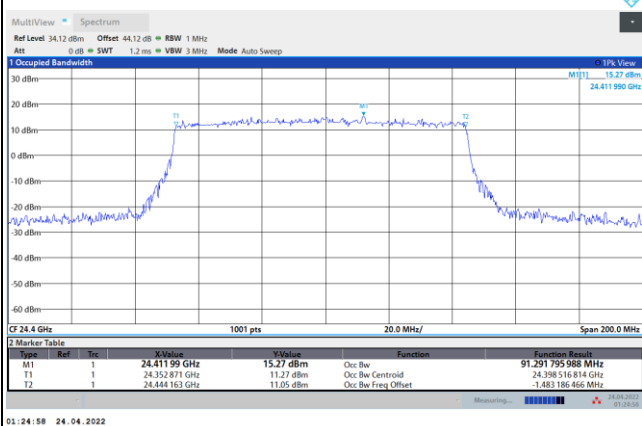
Middle Channel / 100MHz / QPSK



Highest Channel / 50MHz / 64QAM



Highest Channel / 100MHz / QPSK

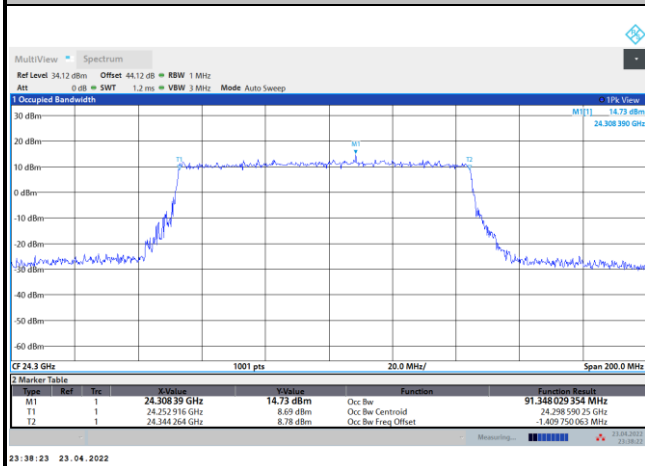




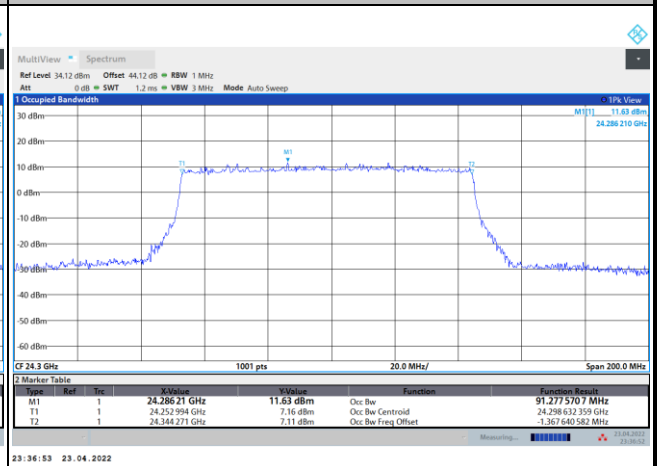
DFT-s-OFDM Module B

NR Band n258A

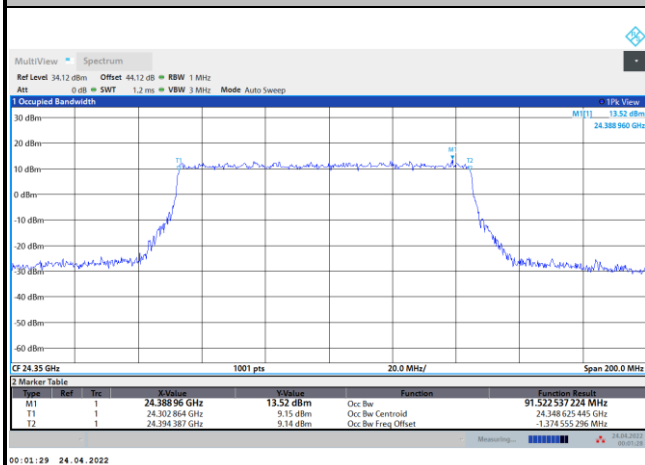
Lowest Channel / 100MHz / 16QAM



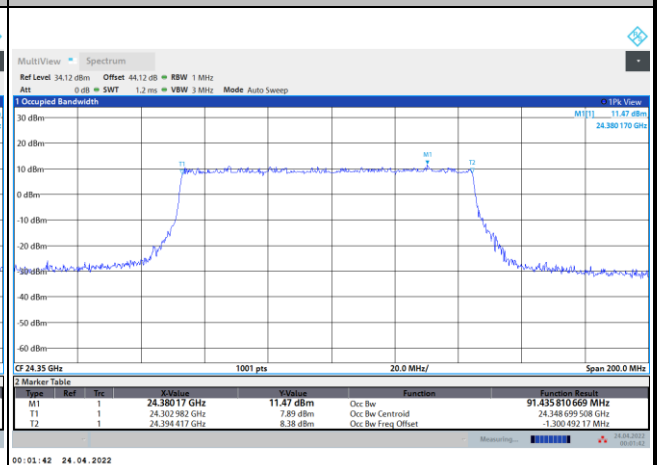
Lowest Channel / 100MHz / 64QAM



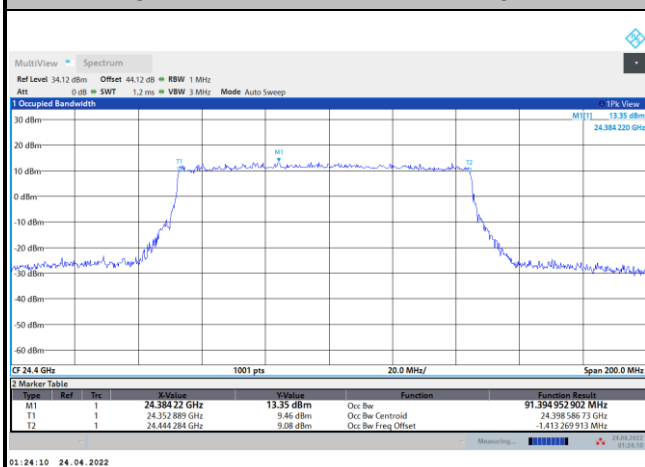
Middle Channel / 100MHz / 16QAM



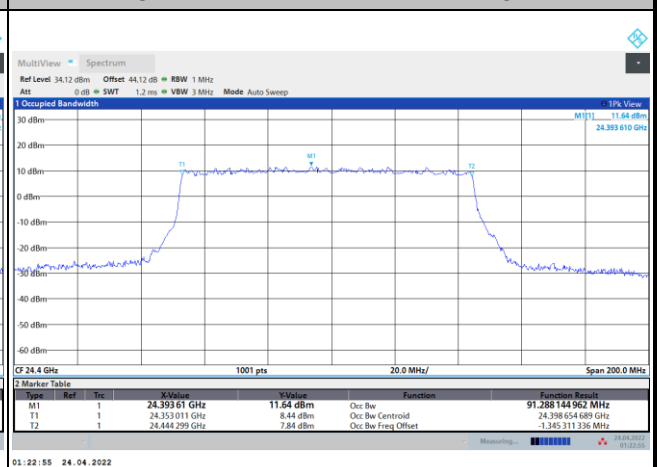
Middle Channel / 100MHz / 64QAM



Highest Channel / 100MHz / 16QAM



Highest Channel / 100MHz / 64QAM

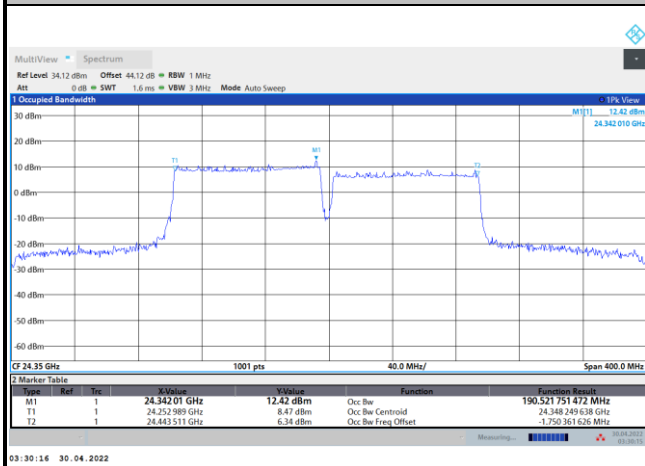




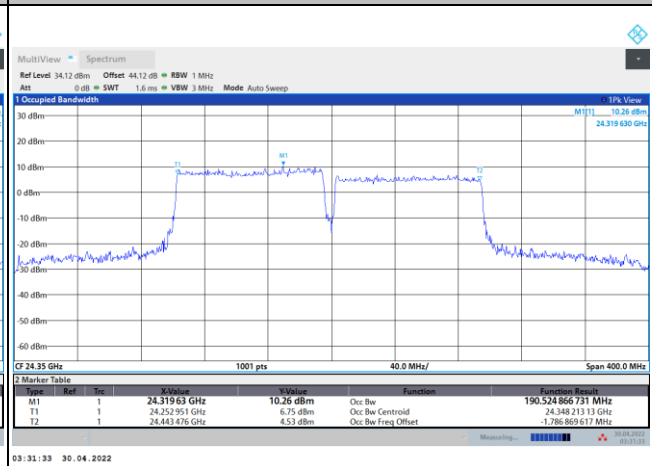
DFT-s-OFDM Module B

NR Band n258A

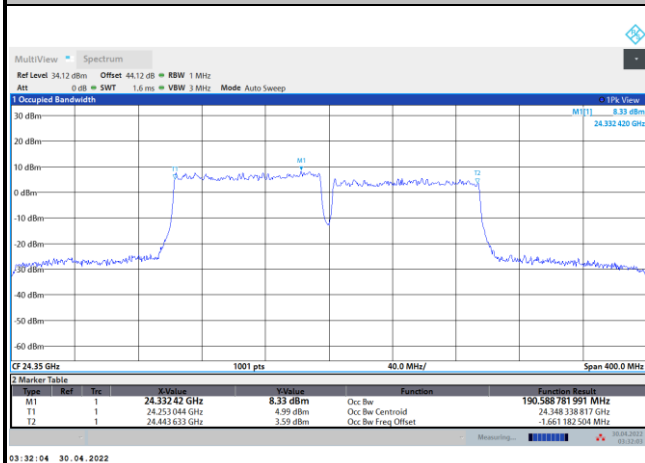
Middle Channel / 200MHz / QPSK



Middle Channel / 200MHz / 16QAM



Middle Channel / 200MHz / 64QAM



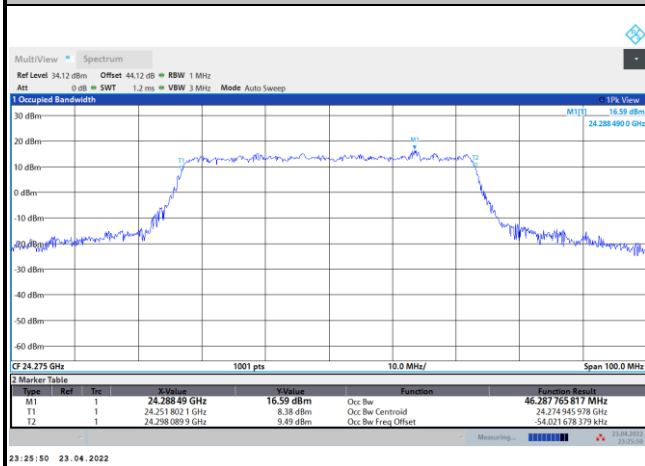
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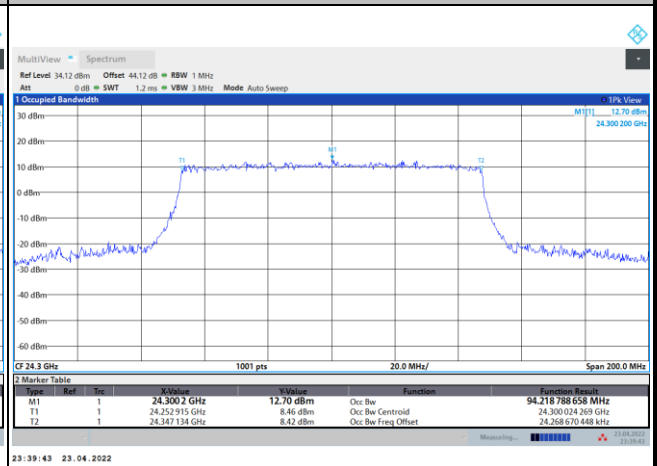
CP-OFDM Module B

NR Band n258A

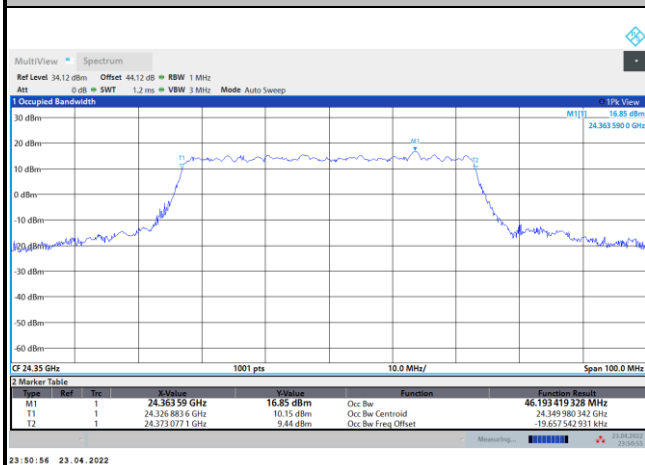
Lowest Channel / 50MHz / QPSK



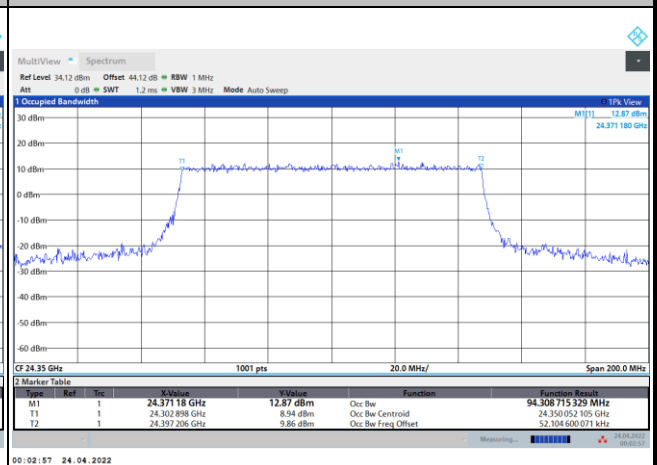
Lowest Channel / 100MHz / QPSK



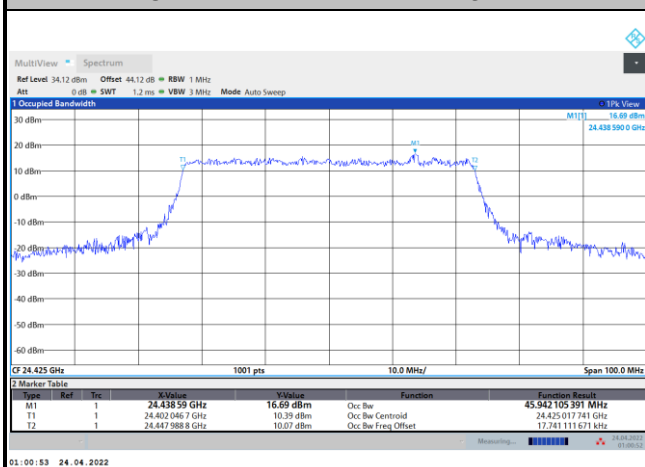
Middle Channel / 50MHz / QPSK



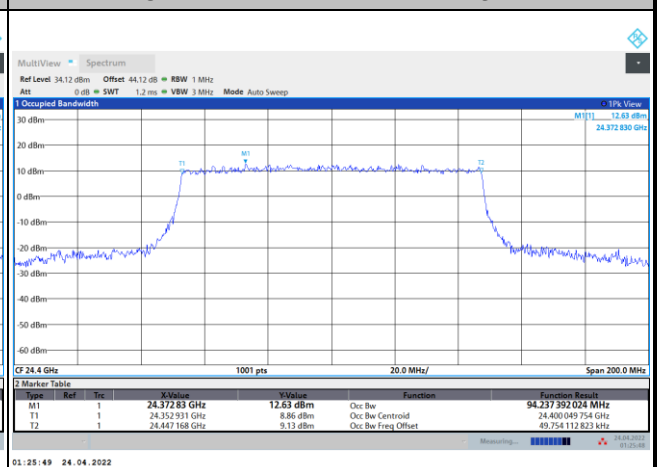
Middle Channel / 100MHz / QPSK



Highest Channel / 50MHz / QPSK

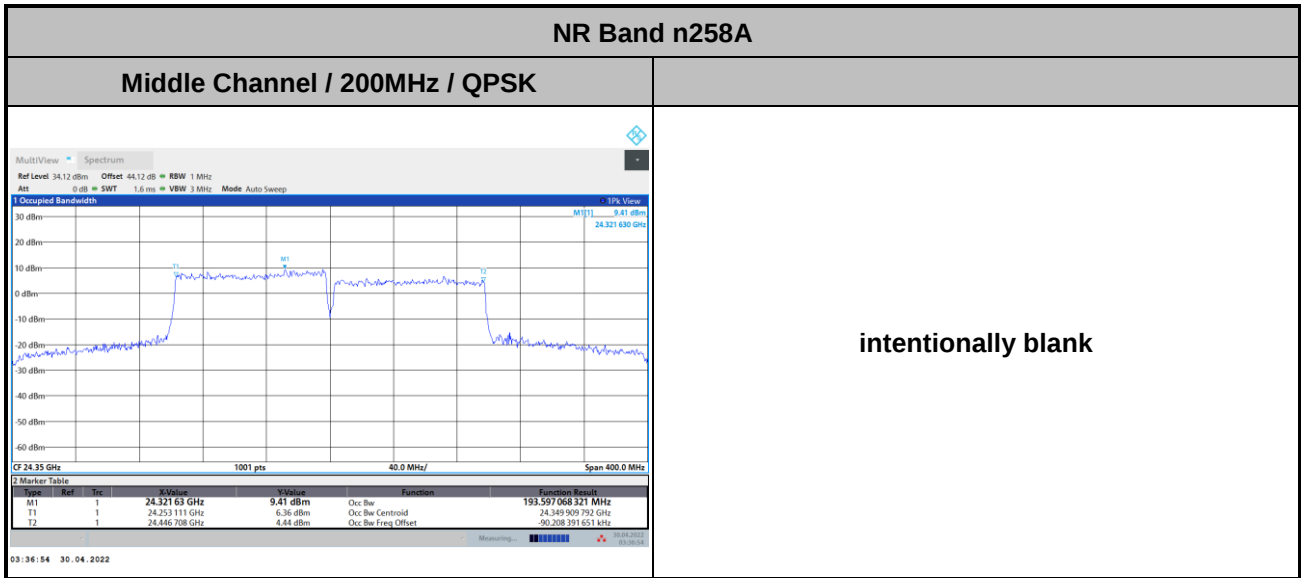


Highest Channel / 100MHz / QPSK





CP-OFDM Module B



Radiated Out of Band Emissions

Mode			DFT-s-OFDM Module B NR Band n258A : 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	-7.78	-8.26	-11.34	-12.51	-10.75	-16.24	-	-	-
	>10%OB	≤-13	-34.92	-36.21	-37.52	-39.56	-39.81	-40.98	-	-	-
Mid CH	0~10%OB	≤-5	-	-	-	-	-	-	-15.88	-13.65	-19.71
	>10%OB	≤-13	-	-	-	-	-	-	-16.07	-17.46	-23.09
High CH	0~10%OB	≤-5	-7.90	-9.47	-11.02	-11.22	-12.00	-14.57	-	-	-
	>10%OB	≤-13	-35.47	-36.54	-37.58	-39.67	-39.98	-40.81	-	-	-
Result			Compliance								

Mode			CP-OFDM Module B NR Band n258A : BE (dBm) 1 RB		
BW			50MHz	100MHz	200MHz
Limit (dBm)			QPSK	QPSK	QPSK
Low CH	0~10%OB	≤-5	-8.36	-13.01	-
	>10%OB	≤-13	-36.28	-40.02	-
Mid CH	0~10%OB	≤-5	-	-	-17.70
	>10%OB	≤-13	-	-	-16.67
High CH	0~10%OB	≤-5	-8.69	-15.10	-
	>10%OB	≤-13	-36.22	-40.57	-
Result			Compliance		

Mode			DFT-s-OFDM Module B NR Band n258A : 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	-16.95	-18.97	-21.66	-20.02	-23.62	-26.33	-	-	-
	>10%OB	≤ -13	-30.02	-30.87	-31.86	-32.02	-32.95	-34.12	-	-	-
Mid CH	0~10%OB	≤ -5	-	-	-	-	-	-	-23.22	-26.79	-29.54
	>10%OB	≤ -13	-	-	-	-	-	-	-30.34	-33.03	-35.74
High CH	0~10%OB	≤ -5	-19.57	-19.43	-22.78	-26.60	-27.63	-30.36	-	-	-
	>10%OB	≤ -13	-28.31	-31.55	-33.08	-31.73	-34.53	-36.21	-	-	-
Result			Compliance								

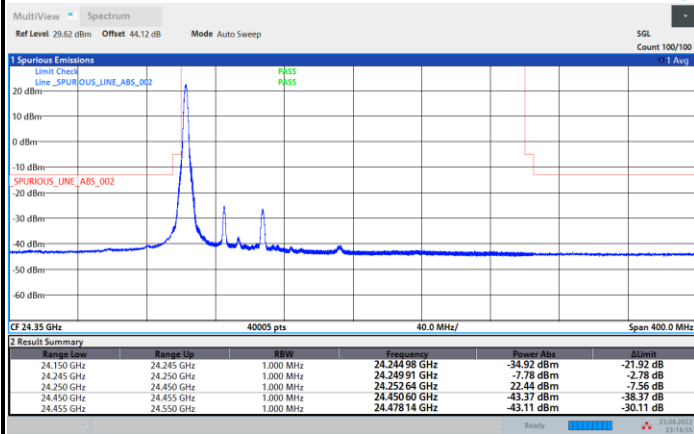
Mode			CP-OFDM Module B NR Band n258A : BE (dBm) Full RB		
BW			50MHz	100MHz	200MHz
Limit (dBm)			QPSK	QPSK	QPSK
Low CH	0~10%OB	≤ -5	-18.96	-22.56	-
	>10%OB	≤ -13	-27.89	-30.97	-
Mid CH	0~10%OB	≤ -5	-	-	-25.87
	>10%OB	≤ -13	-	-	-29.81
High CH	0~10%OB	≤ -5	-19.76	-23.76	-
	>10%OB	≤ -13	-27.63	-30.52	-
Result			Compliance		



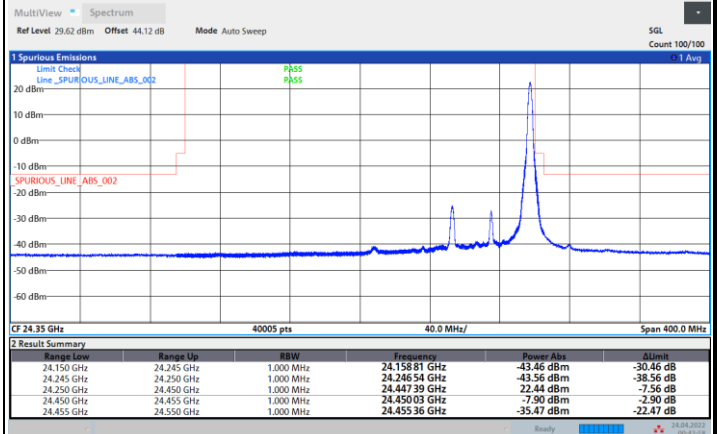
DFT-s-OFDM Module B

NR Band n258A/ 50MHz / QPSK

Lowest Band Edge / 1 RB

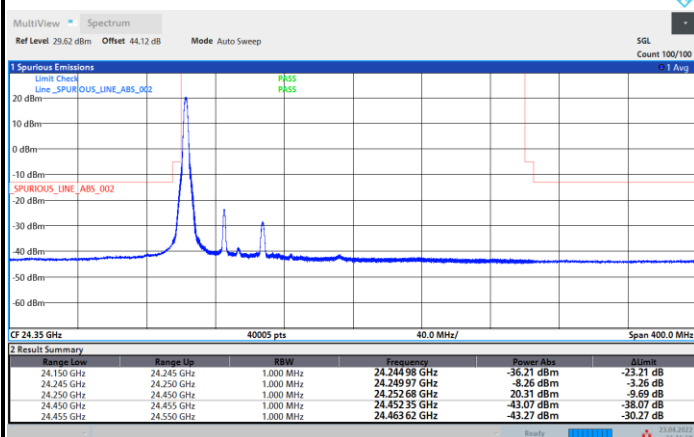


Highest Band Edge / 1 RB

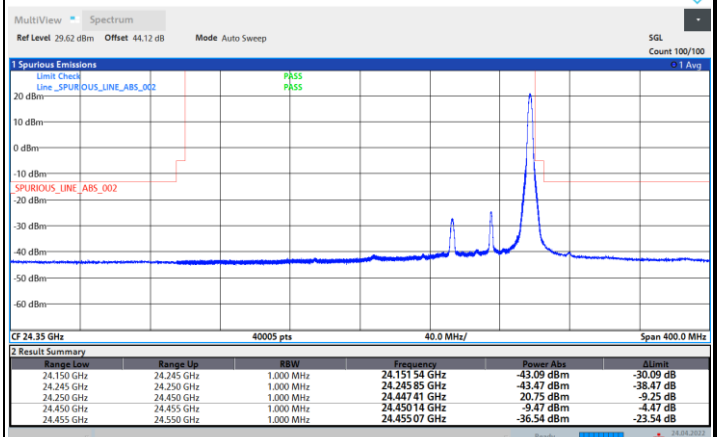


NR Band n258A/ 50MHz / 16QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB

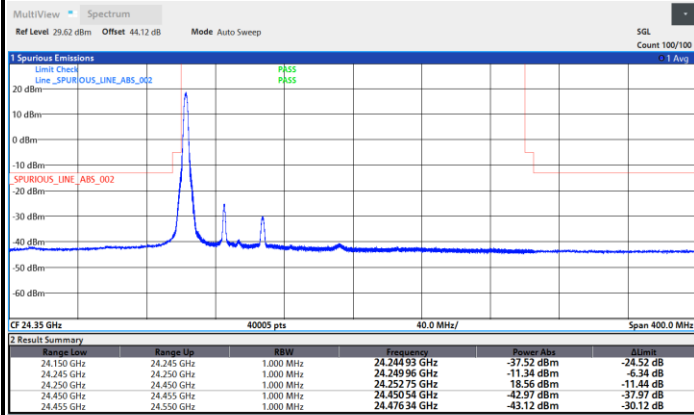




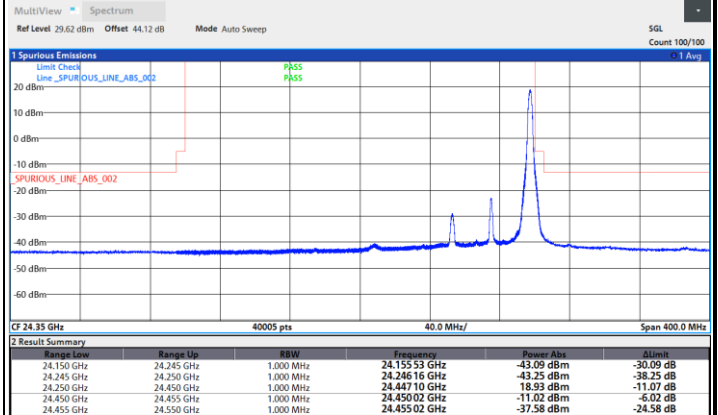
DFT-s-OFDM Module B

NR Band n258A/ 50MHz / 64QAM

Lowest Band Edge / 1 RB

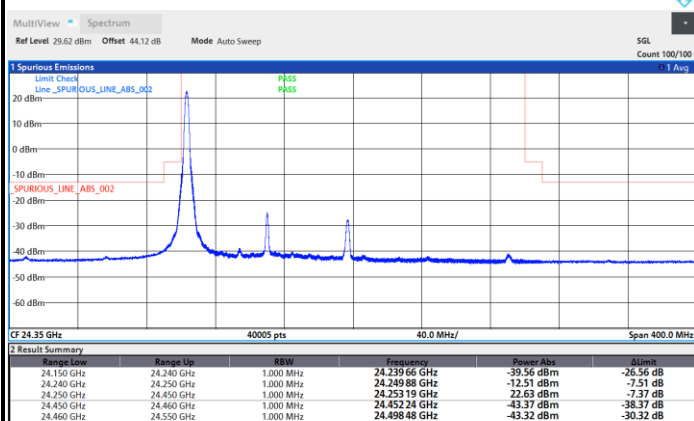


Highest Band Edge / 1 RB

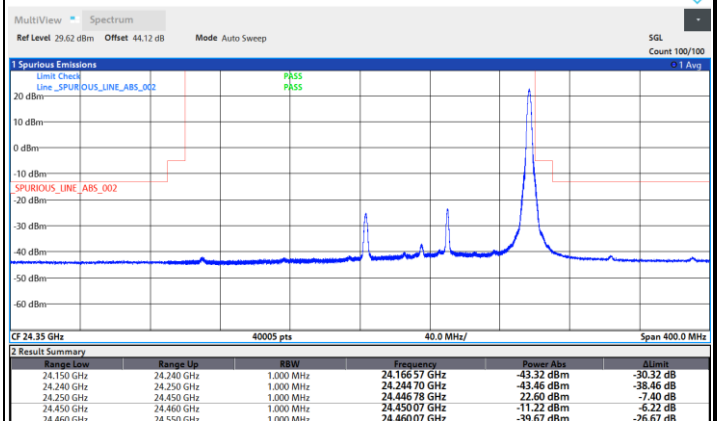


NR Band n258A/ 100MHz / QPSK

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB

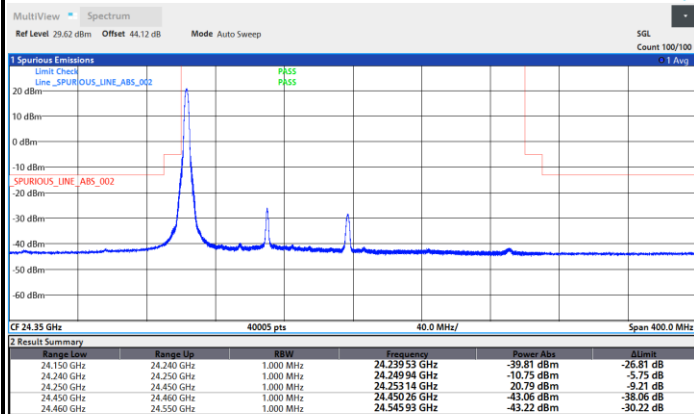




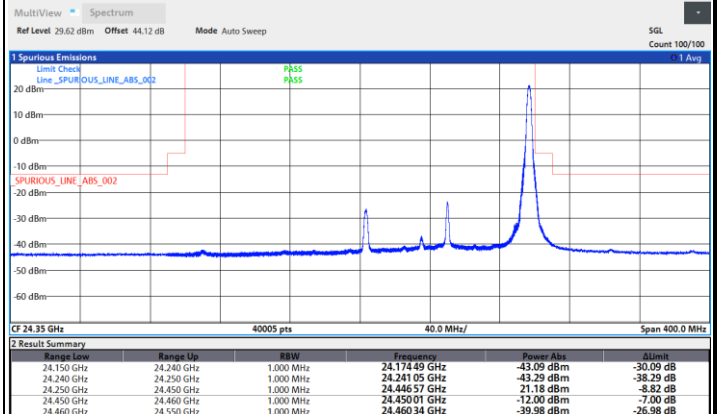
DFT-s-OFDM Module B

NR Band n258A/ 100MHz / 16QAM

Lowest Band Edge / 1 RB

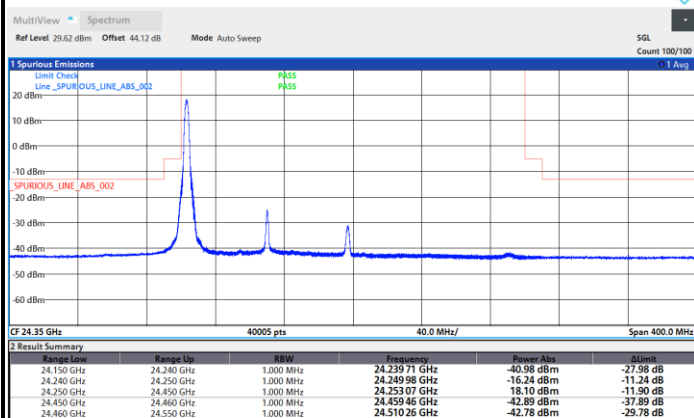


Highest Band Edge / 1 RB

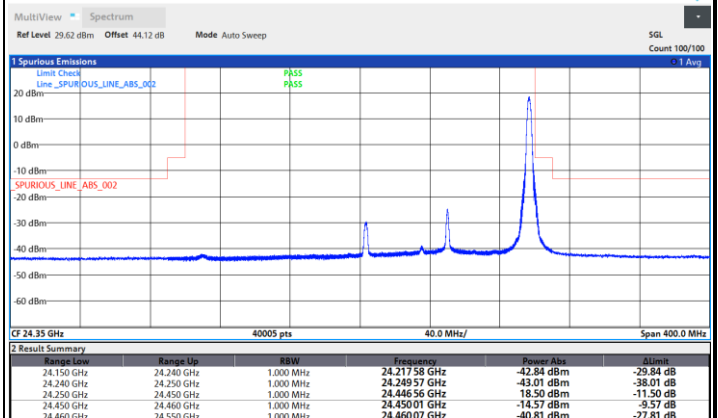


NR Band n258A/ 100MHz / 64QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB

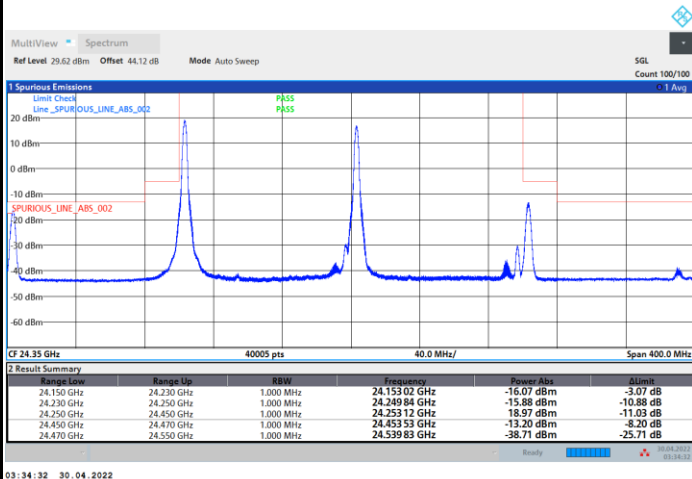




DFT-s-OFDM Module B

NR Band n258A/ 200MHz / QPSK

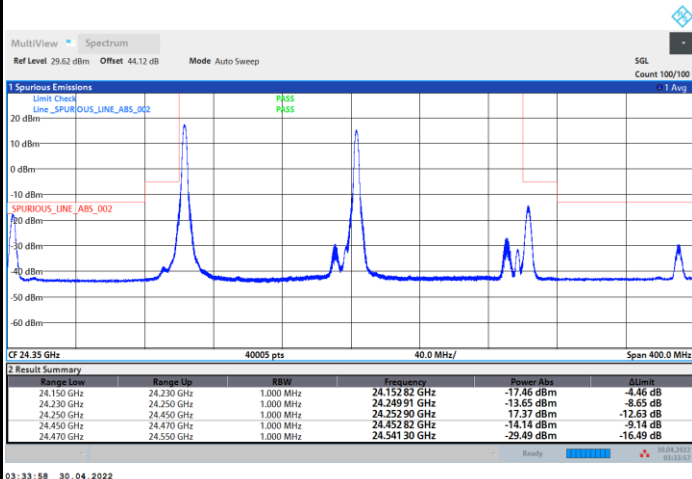
Middle Band Edge / 1 RB



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NR Band n258A/ 200MHz / 16QAM

Middle Band Edge / 1 RB



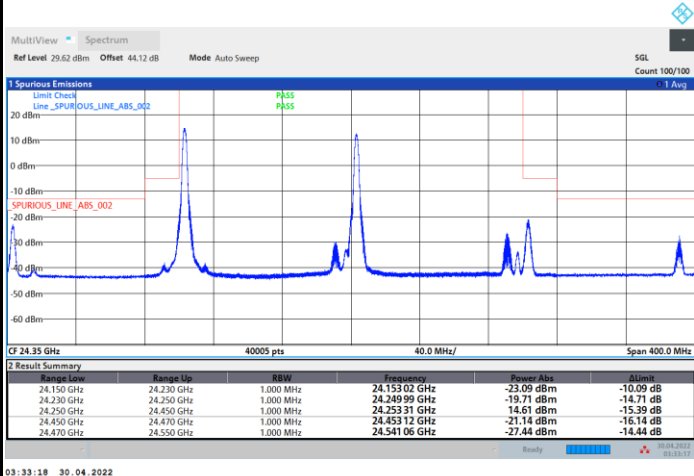
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DFT-s-OFDM Module B

NR Band n258A/ 200MHz / 64QAM

Middle Band Edge / 1 RB



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