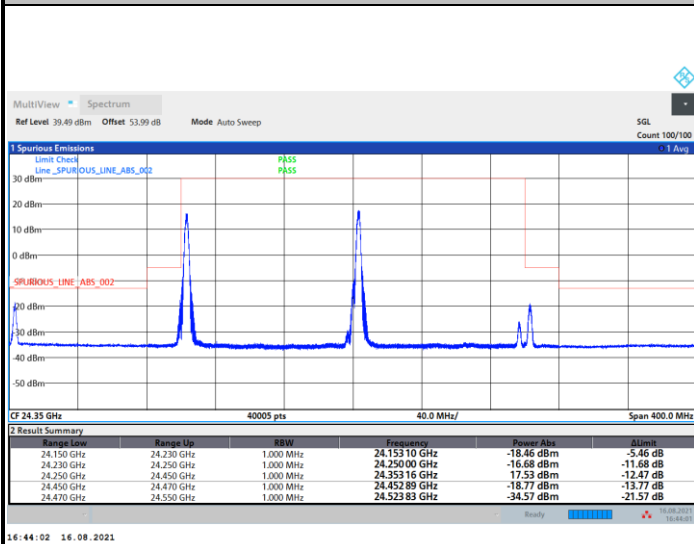




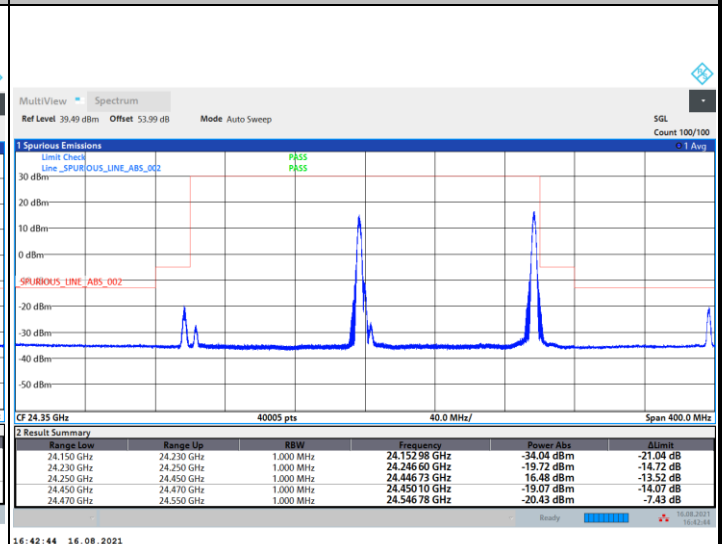
DFT-s-OFDM Module A

NR Band n258A / 200MHz / 64QAM

Lowest Band Edge / 1 RB



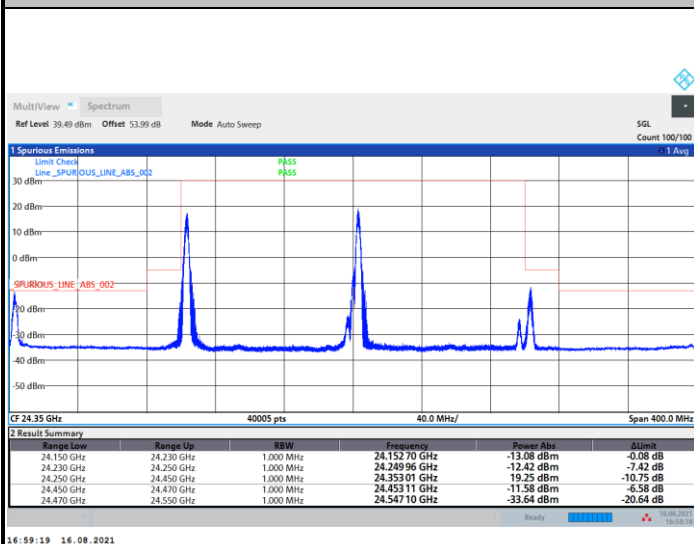
Highest Band Edge / 1 RB



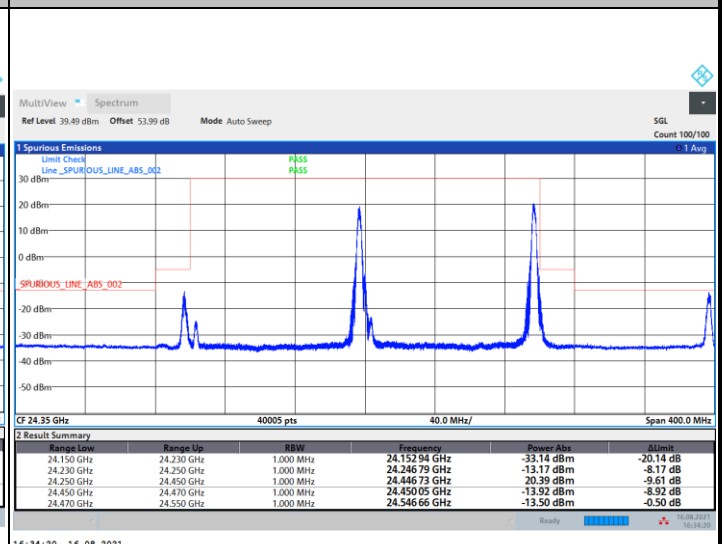
CP-OFDM Module A

NR Band n258A / 200MHz / QPSK

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



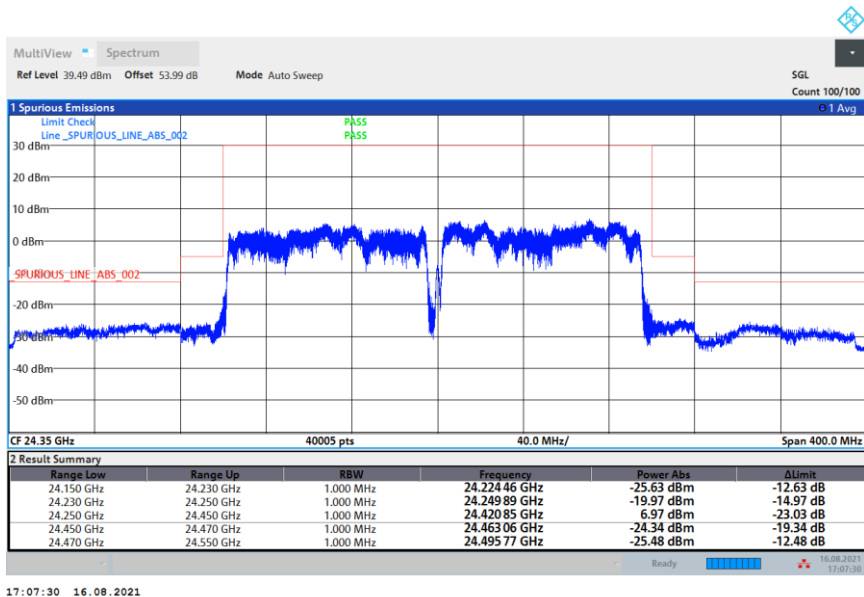


DFT-s-OFDM Module A

NR Band n258A / 200MHz / QPSK

Lowest Band Edge / Full RB

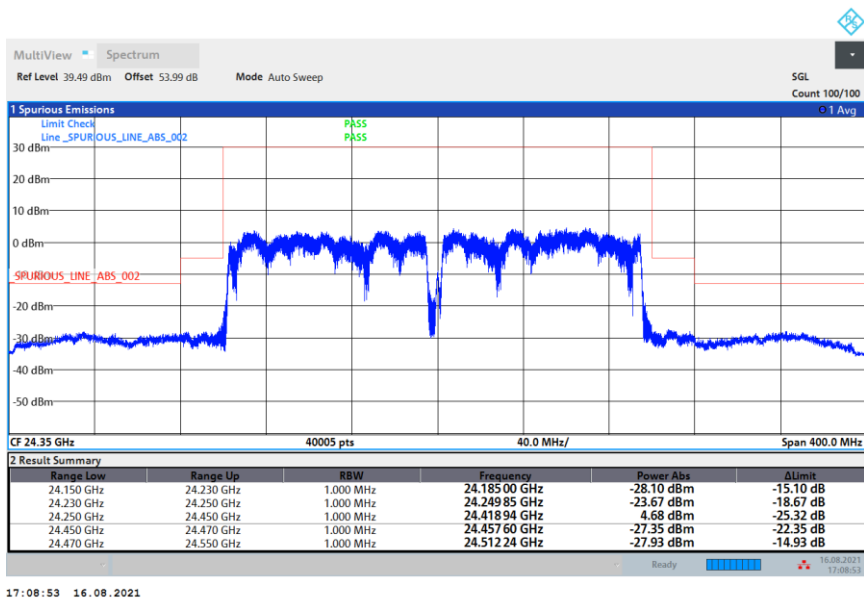
Highest Band Edge / Full RB



NR Band n258A / 200MHz / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

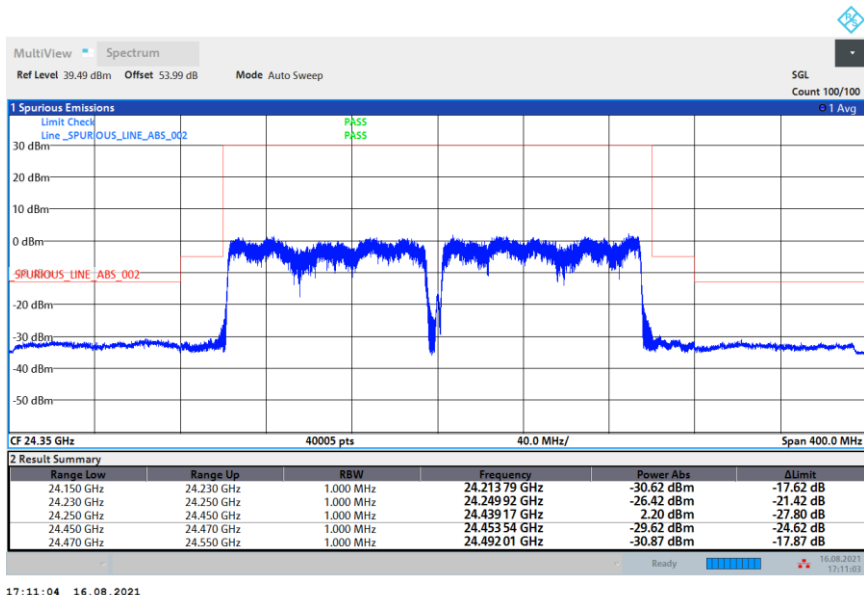


DFT-s-OFDM Module A

NR Band n258A / 200MHz / 64QAM

Lowest Band Edge / Full RB

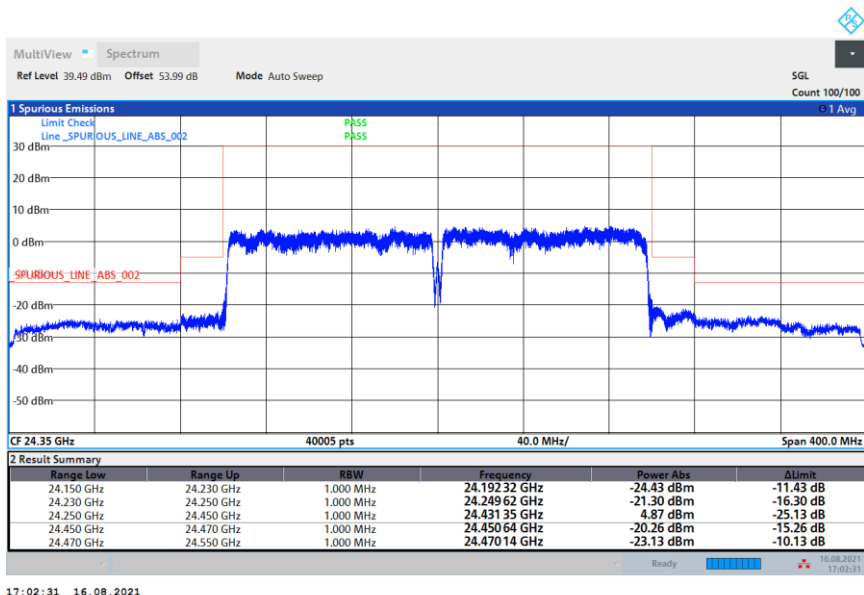
Highest Band Edge / Full RB

CP-OFDM Module A

NR Band n258A / 200MHz / QPSK

Lowest Band Edge / Full RB

Highest Band Edge / Full RB





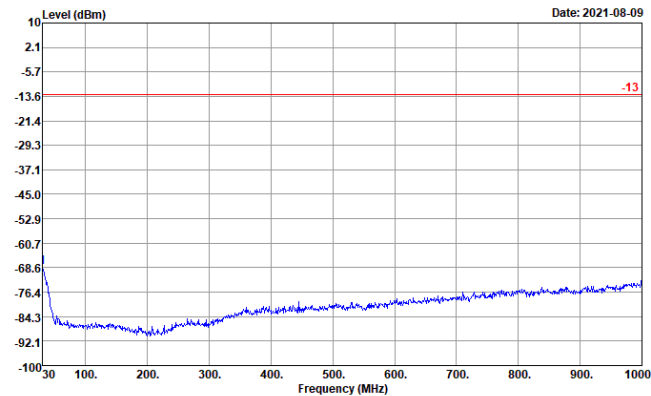
Spurious Emission

There is no significant spurious emission signal found for frequency started from 30MHz up to 18GHz.

Only the noise floor is reported.

NR Band n258A (30MHz-1GHz)

Horizontal

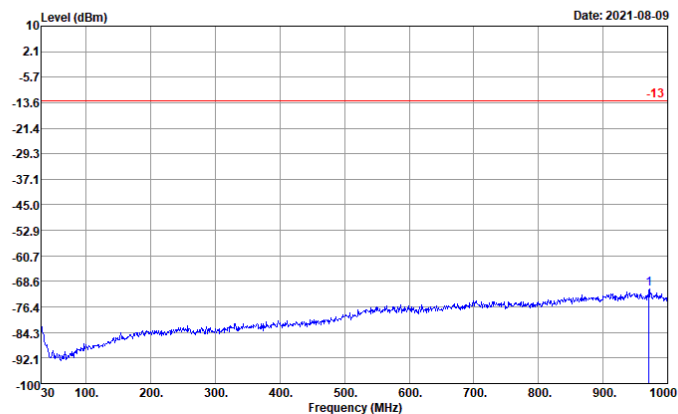


Site : 03CH19-HY
Condition : -13 ERP EIRP_20210305 HORIZONTAL

: n258a MA

Freq	Level	Over	Limit	Read	LISN	Cable	Preamp	A/Pos	T/Pos	Remark
MHz	dBm	Limit	Line	Level	Factor	Loss	Factor	cm	deg	
1	30.02	-68.55	-55.55	-13.00	-80.25	47.43	0.00	35.73	---	--- Peak

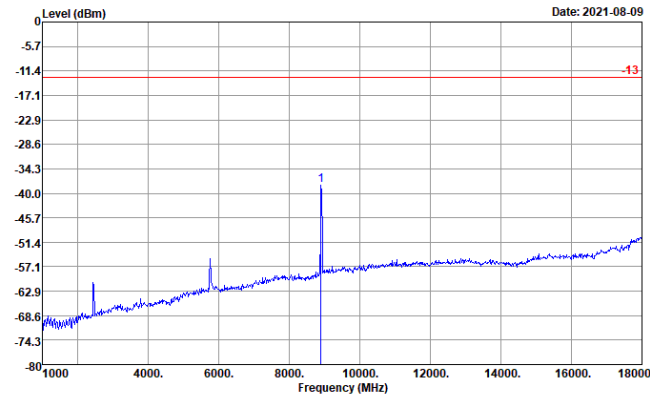
Vertical



Site : 03CH19-HY
Condition : -13 ERP EIRP_20210305 VERTICAL

: n258a MA

Freq	Level	Over	Limit	Read	LISN	Cable	Preamp	A/Pos	T/Pos	Remark
MHz	dBm	Limit	Line	Level	Factor	Loss	Factor	cm	deg	
1	970.90	-70.80	-57.80	-13.00	-80.34	42.62	0.00	33.08	---	--- Peak

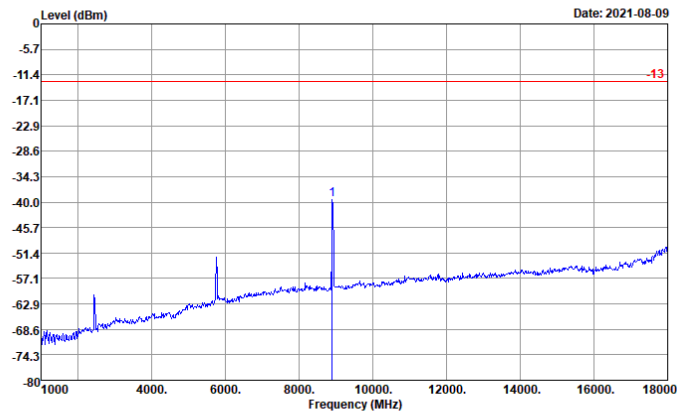
**NR Band n258A (1GHz-18GHz)****Horizontal**

Site : 03CH19-HY
Condition : -13 ERP EIRP_20210305 HORIZONTAL

: n258a MA

Freq	Level	Over	Limit	Read	LISN	Cable	Preamp	A/Pos	T/Pos	Remark
MHz	dBm	Limit	Line	Level	Factor	Loss	Factor	dB	cm	deg
1	8904.00	-38.21	-25.21	-13.00	-63.85	66.46	0.00	40.82	---	---

Peak

Vertical

Site : 03CH19-HY
Condition : -13 ERP EIRP_20210305 VERTICAL

: n258a MA

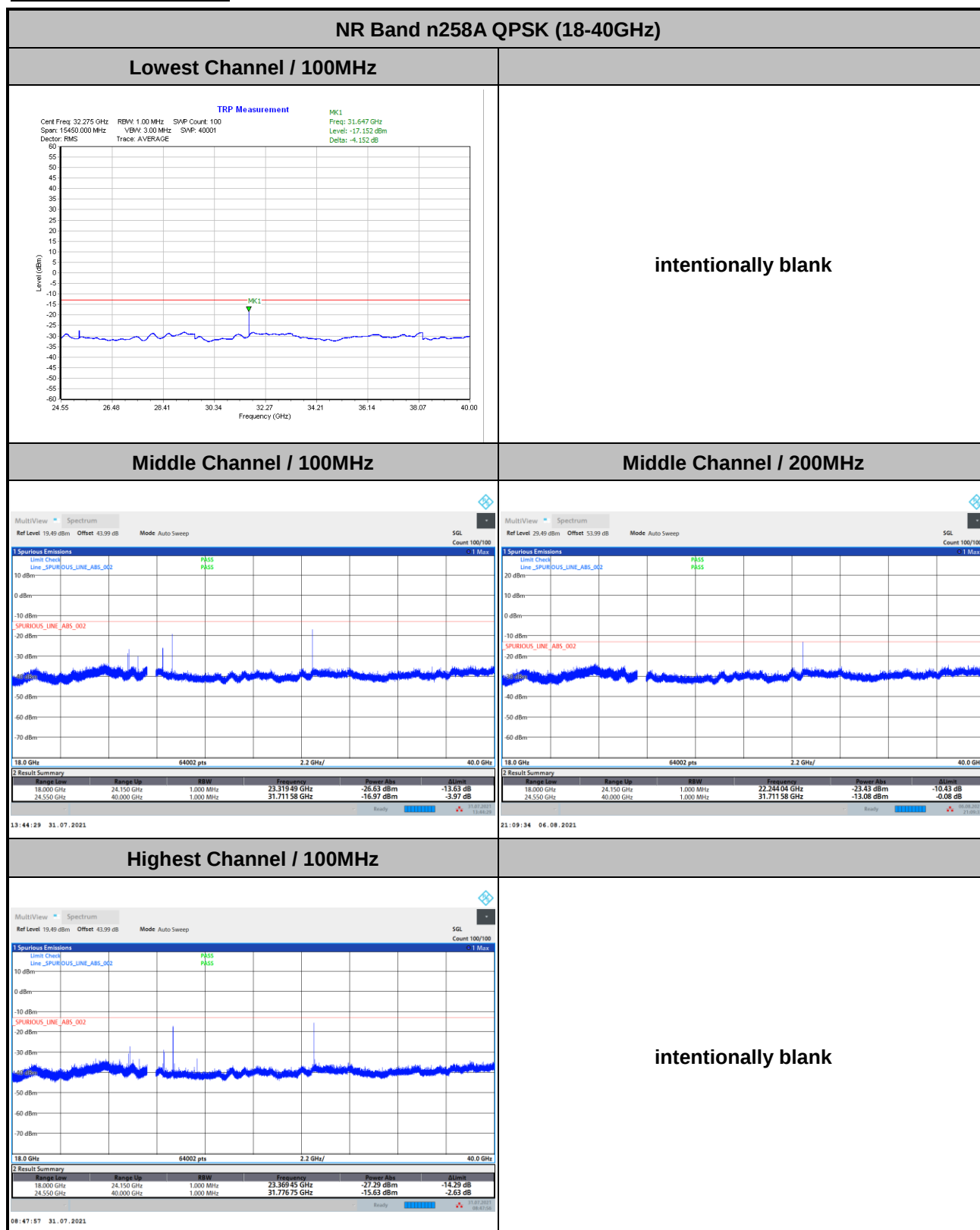
Freq	Level	Over	Limit	Read	LISN	Cable	Preamp	A/Pos	T/Pos	Remark
MHz	dBm	Limit	Line	Level	Factor	Loss	Factor	dB	cm	deg
1	8902.00	-39.42	-26.42	-13.00	-64.51	65.91	0.00	40.82	---	---

Peak



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

DFT-s-OFDM Module A



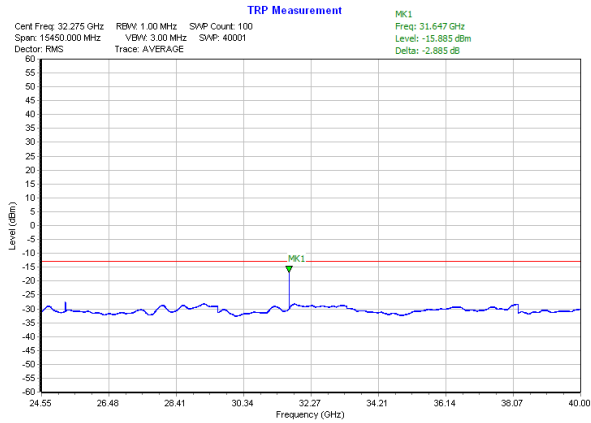
Remark: In band and out of band frequencies that has reported in previous results are omitted.



CP-OFDM Module A

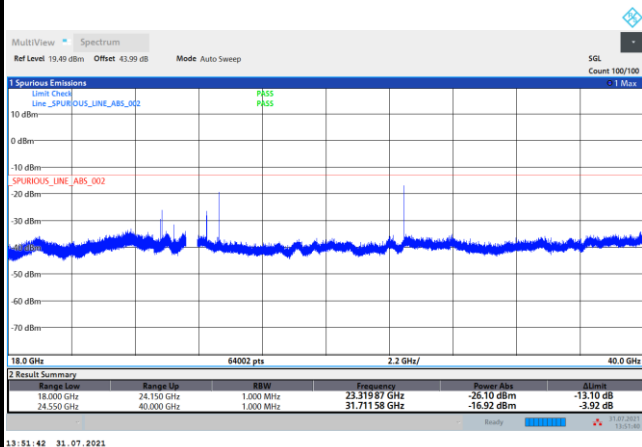
NR Band n258A QPSK (18-40GHz)

Lowest Channel / 100MHz

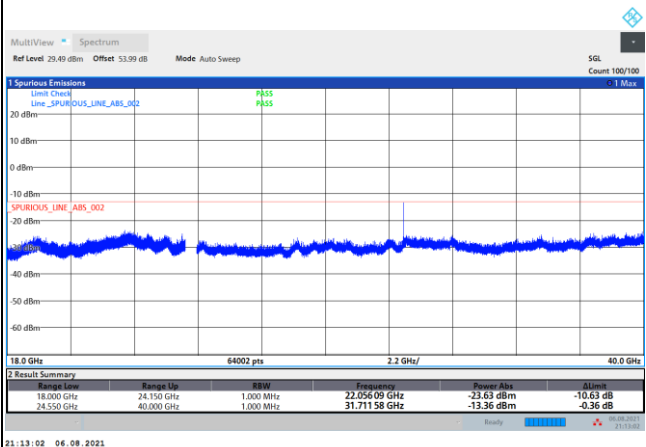


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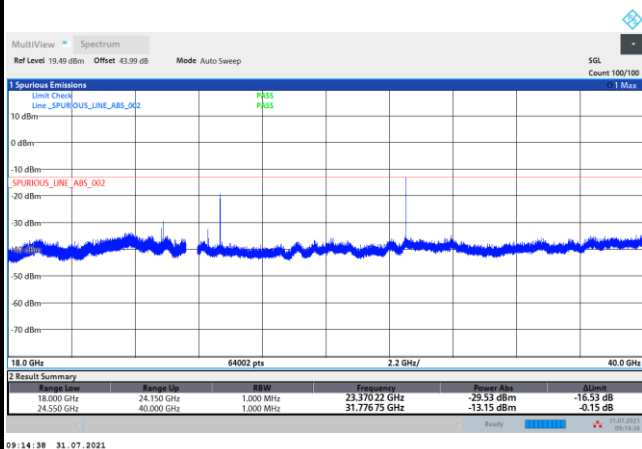
Middle Channel / 100MHz



Middle Channel / 200MHz



Highest Channel / 100MHz

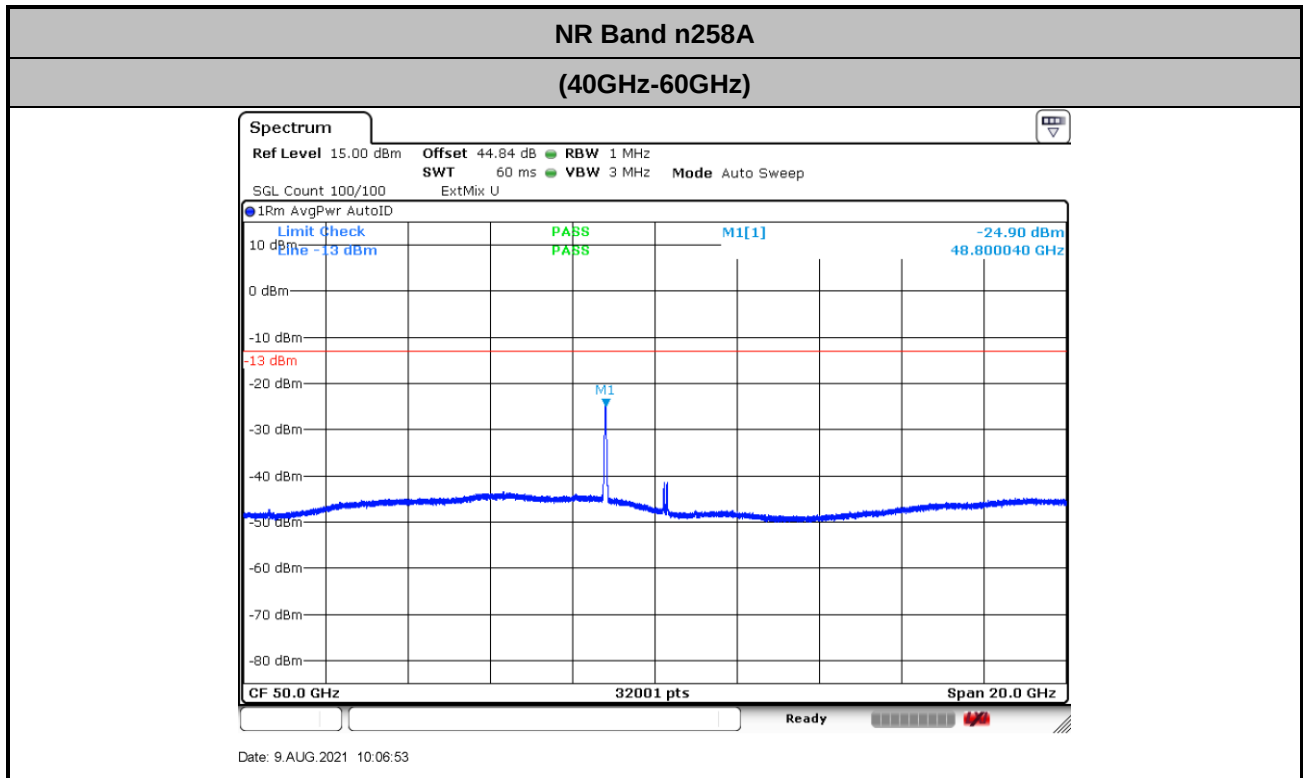


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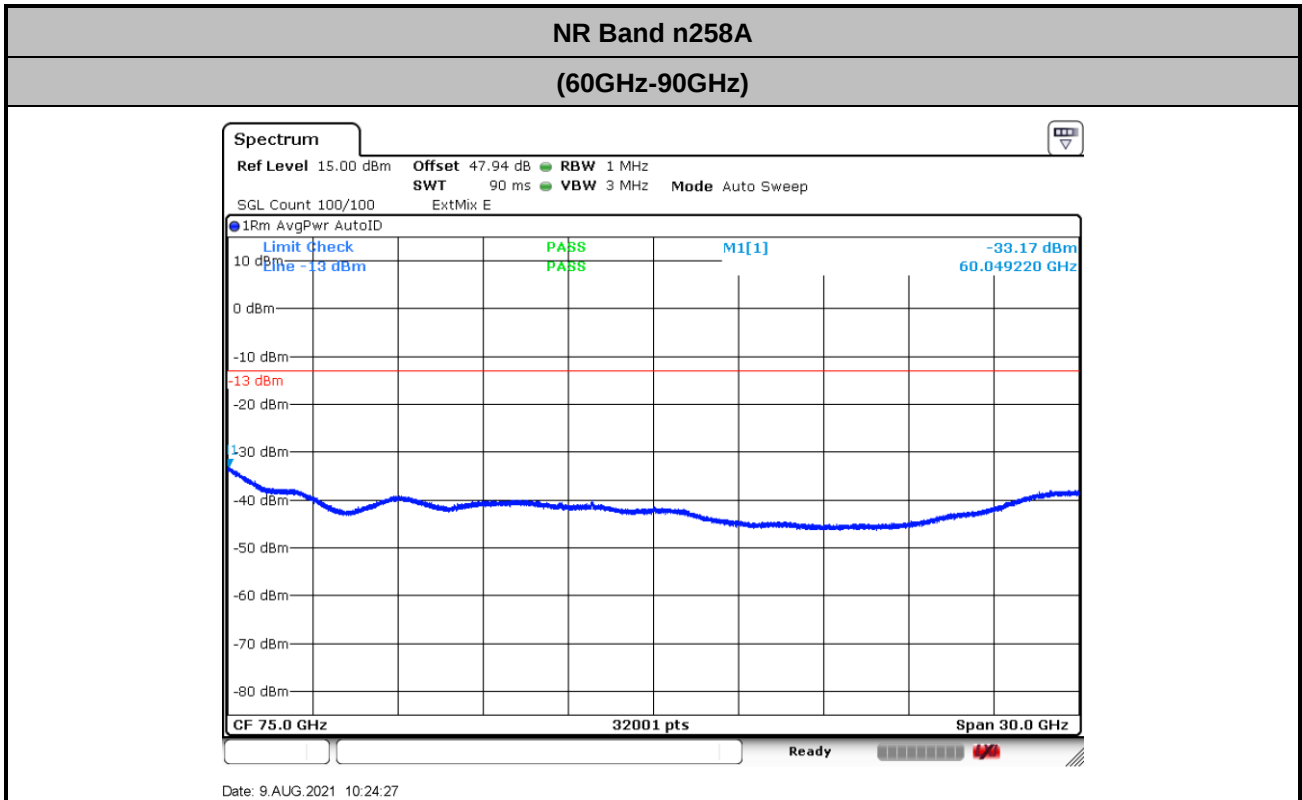
Remark: In band and out of band frequencies that has reported in previous results are omitted.



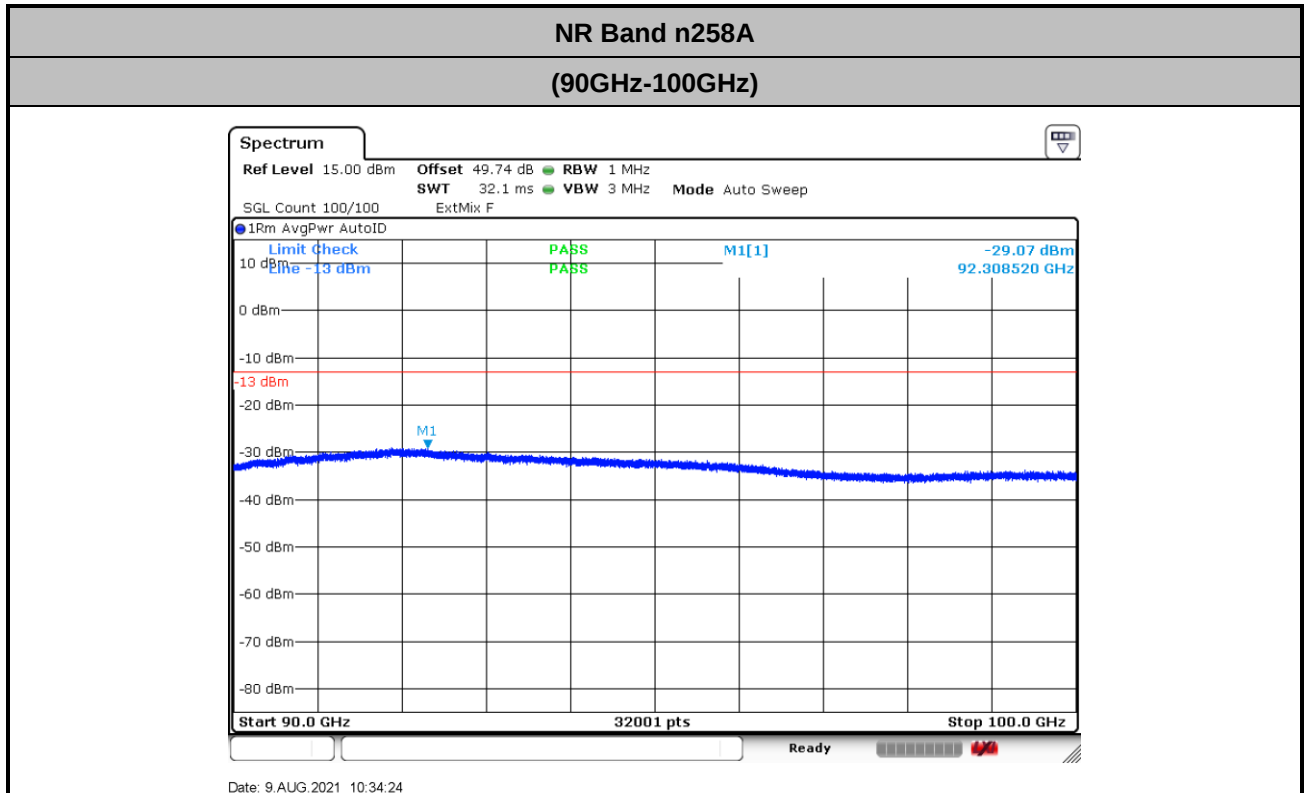
There is no significant spurious emission signal found for frequency started from 40GHz up to 100GHz.
Only the noise floor is reported.



$$\begin{aligned} \text{Offset} &= \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} + 107 + 20\log(D) - 104.8 \\ &= 42.3 + 0.34 + 107 + 20\log(1) - 104.8 = 44.84 \text{ (dB)} \end{aligned}$$



$$\begin{aligned} \text{Offset} &= \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} + 107 + 20\log(D) - 104.8 \\ &= 45.4 + 0.34 + 107 + 20\log(1) - 104.8 = 47.94 \text{ (dB)} \end{aligned}$$



$$\begin{aligned}\text{Offset} &= \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} + 107 + 20\log(D) - 104.8 \\ &= 47.2 + 0.34 + 107 + 20\log(1) - 104.8 = 49.74 \text{ (dB)}\end{aligned}$$

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	24.35103295	0.250	0.010	Pass
40	Normal Voltage	24.3510332	0.000	0.000	
30	Normal Voltage	24.3510332	0.000	0.000	
20(Ref.)	Normal Voltage	24.3510332	0.000	0.000	
10	Normal Voltage	24.35103295	0.250	0.010	
0	Normal Voltage	24.35103295	0.250	0.010	
-10	Normal Voltage	24.35103295	0.250	0.010	
-20	Normal Voltage	24.35103295	0.250	0.010	
-30	Normal Voltage	24.35103295	0.250	0.010	
20	Maximum Voltage	24.3510332	0.000	0.000	
20	Normal Voltage	24.3510332	0.000	0.000	
20	Battery End Point	24.3510332	0.000	0.000	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.60 V. ; Maximum Voltage =4.45 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

NR Band n258A Module B Beam H

Occupied Bandwidth

Mode	DFT-s-OFDM Module B NR Band n258A : 99%OBW(MHz)					
BW	100MHz			200MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	91.61	91.61	91.32	-	-	-
Middle CH	91.72	91.83	91.41	190.60	190.32	190.49
Highest CH	91.44	91.69	91.43	-	-	-

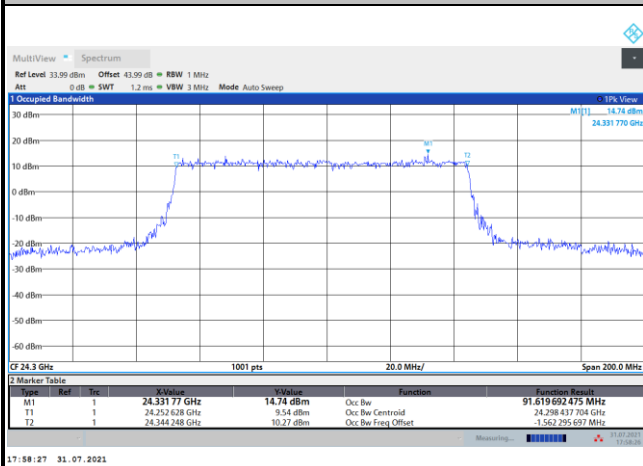
Mode	CP-OFDM Module B NR Band n258A : 99%OBW(MHz)	
BW	100MHz	200MHz
Mod.	QPSK	QPSK
Lowest CH	94.36	-
Middle CH	94.37	193.57
Highest CH	94.44	-



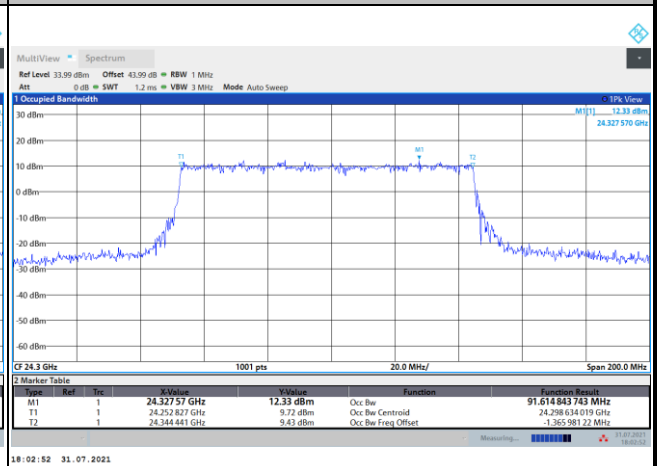
DFT-s-OFDM Module B

NR Band n258A

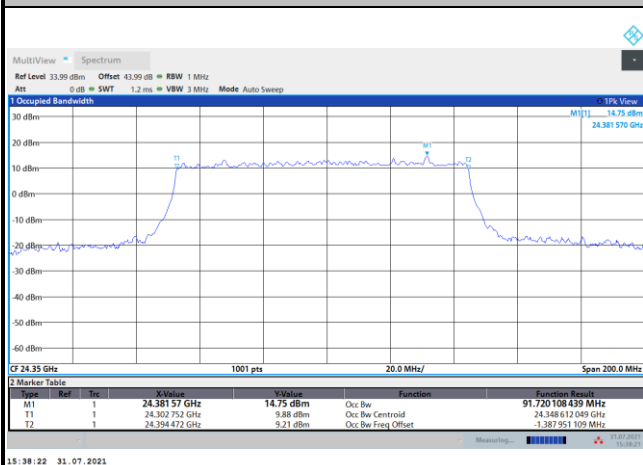
Lowest Channel / 100MHz / QPSK



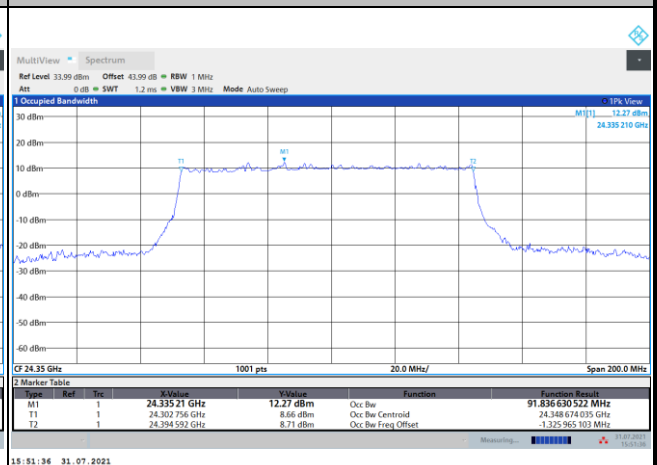
Lowest Channel / 100MHz / 16QAM



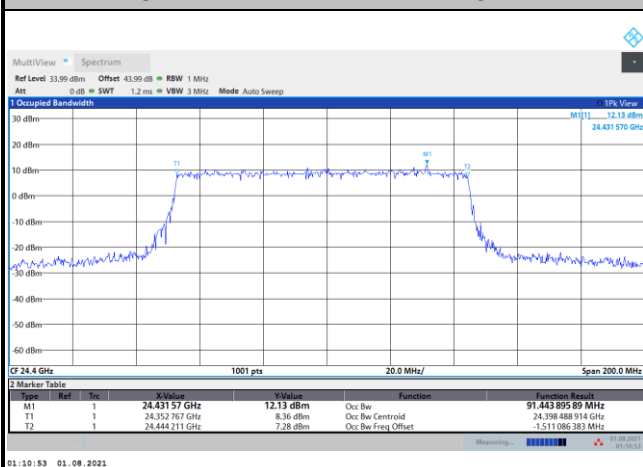
Middle Channel / 100MHz / QPSK



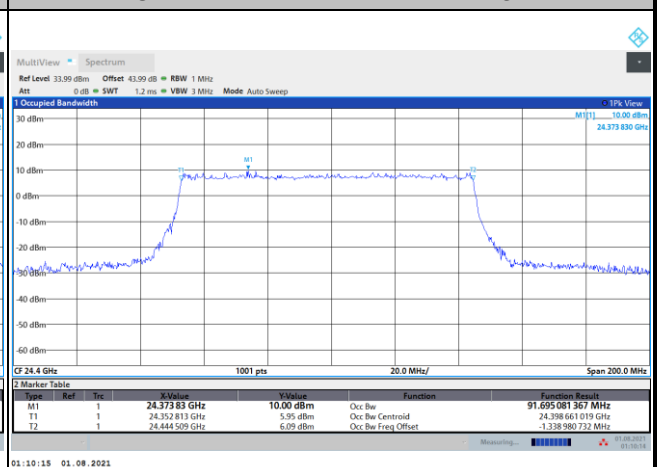
Middle Channel / 100MHz / 16QAM



Highest Channel / 100MHz / QPSK



Highest Channel / 100MHz / 16QAM

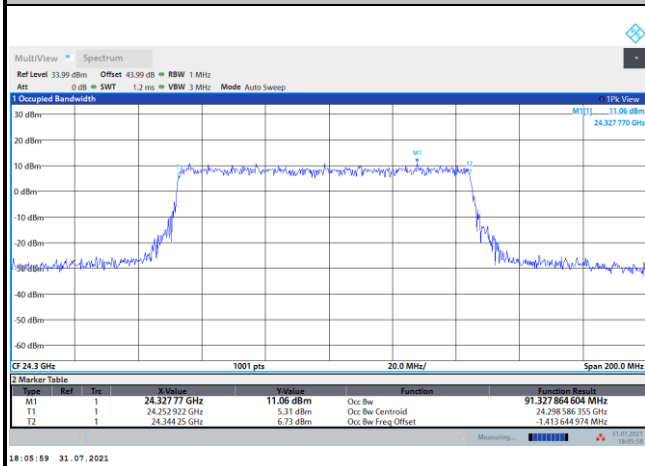




DFT-s-OFDM Module B

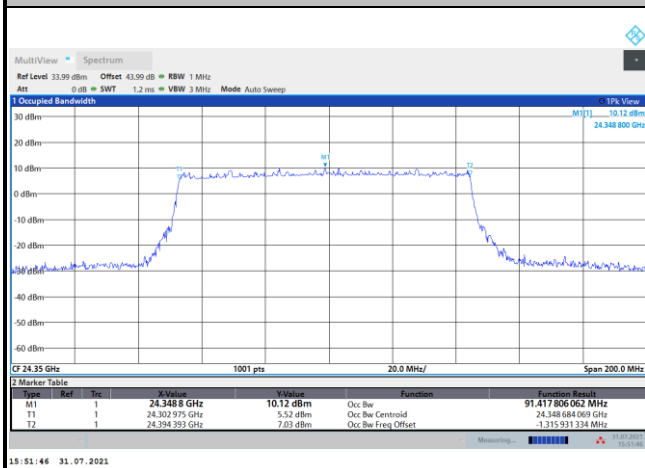
NR Band n258A

Lowest Channel / 100MHz / 64QAM

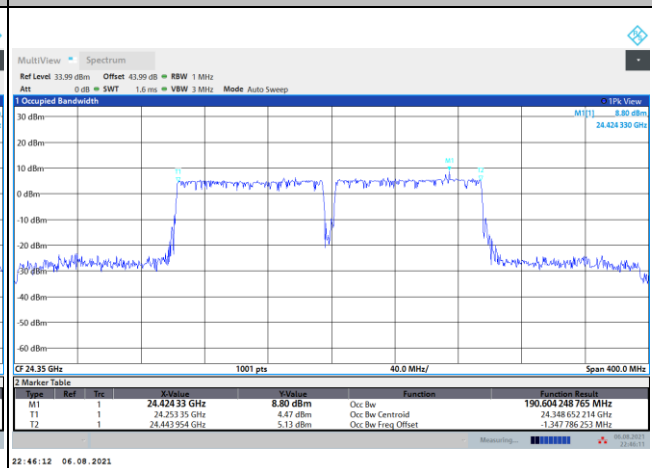


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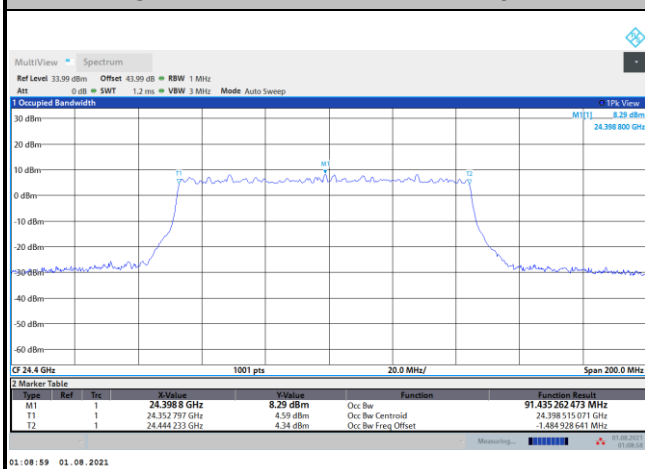
Middle Channel / 100MHz / 64QAM



Middle Channel / 200MHz / QPSK



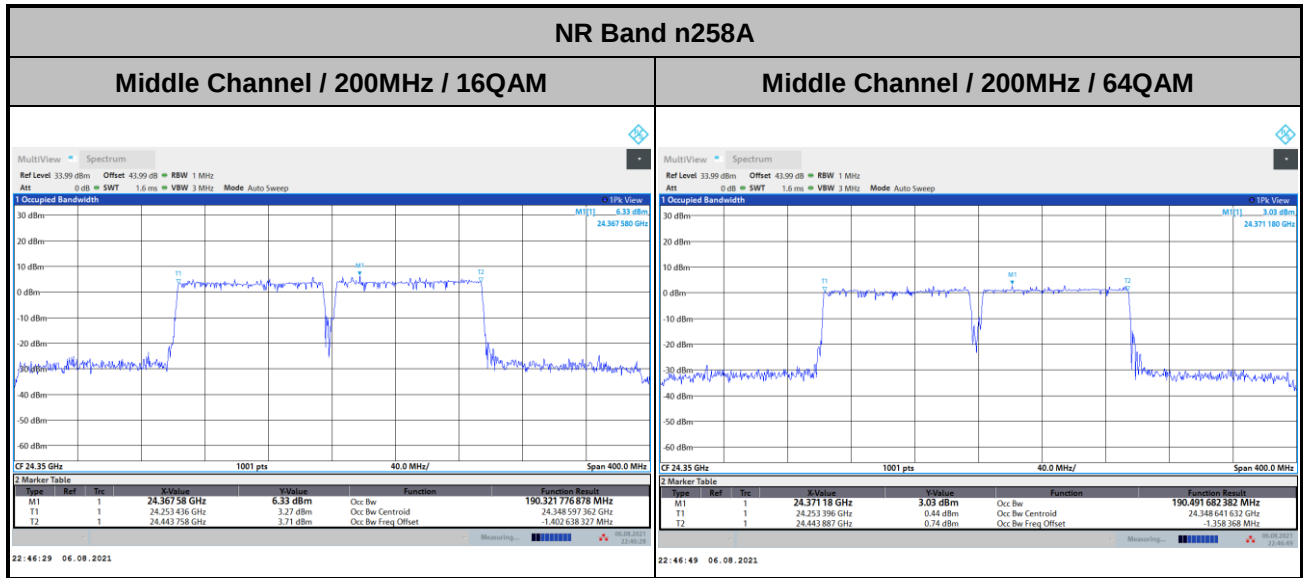
Highest Channel / 100MHz / 64QAM



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DFT-s-OFDM Module B

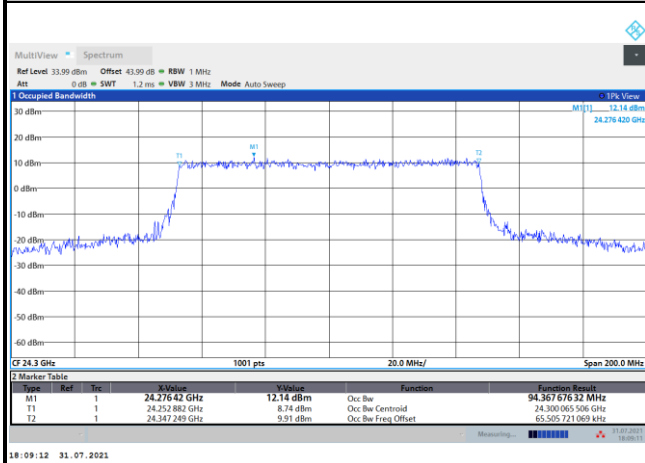




CP-OFDM Module B

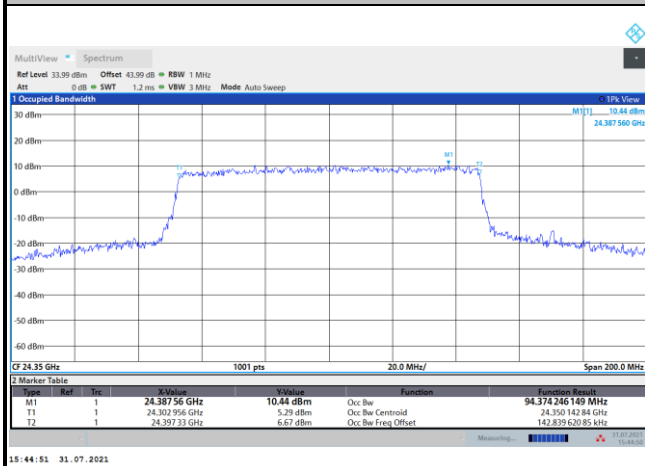
NR Band n258A

Lowest Channel / 100MHz / QPSK

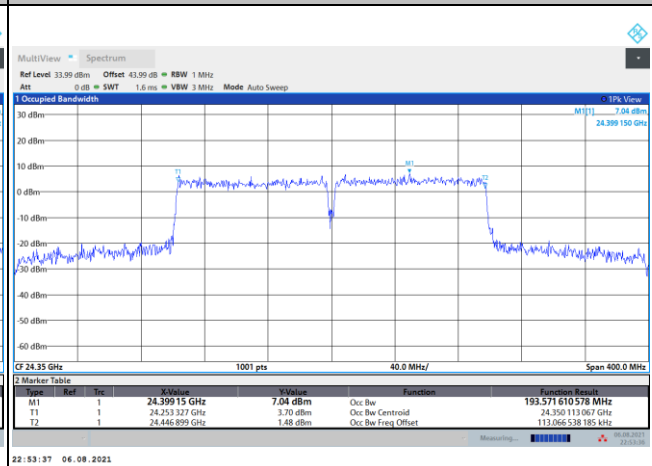


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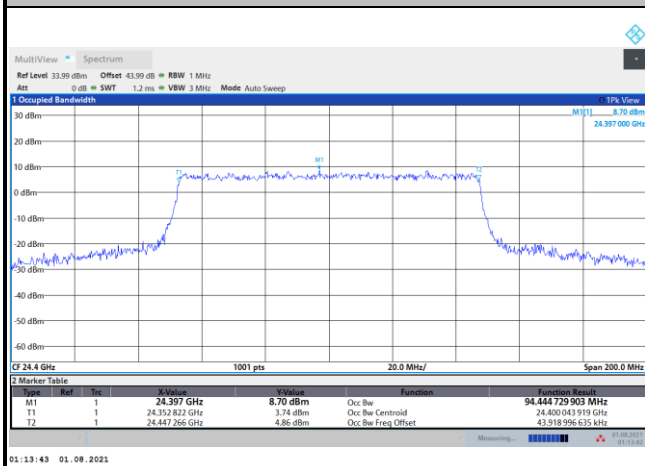
Middle Channel / 100MHz / QPSK



Middle Channel / 200MHz / QPSK



Highest Channel / 100MHz / QPSK



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Radiated Out of Band Emissions

Mode			DFT-s-OFDM Module B NR Band n258A : BE (dBm) 1 RB		
BW			100MHz		
Limit (dBm)			QPSK	16QAM	64QAM
Low CH	0~10%OB	≤-5	-12.89	-11.87	-16.96
	>10%OB	≤-13	-38.69	-39.18	-39.13
High CH	0~10%OB	≤-5	-14.79	-17.44	-19.92
	>10%OB	≤-13	-41.93	-42.28	-42.01
Result			Compliance		

Mode			CP-OFDM Module B NR Band n258A : BE (dBm) 1 RB		
BW			100MHz		
Limit (dBm)			QPSK		
Low CH	0~10%OB	≤-5	-12.33		
	>10%OB	≤-13	-37.87		
High CH	0~10%OB	≤-5	-18.68		
	>10%OB	≤-13	-42.36		
Result			Compliance		

Mode			DFT-s-OFDM Module B NR Band n258A : BE (dBm) Full RB		
BW			100MHz		
Limit (dBm)			QPSK	16QAM	64QAM
Low CH	0~10%OB	≤-5	-19.81	-22.41	-25.63
	>10%OB	≤-13	-27.78	-30.89	-34.18
High CH	0~10%OB	≤-5	-27.86	-29.91	-32.89
	>10%OB	≤-13	-31.11	-33.75	-37.69
Result			Compliance		

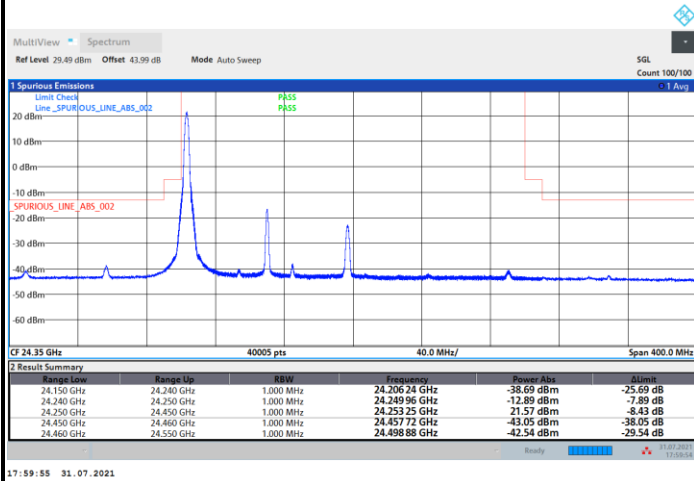
Mode			CP-OFDM Module B NR Band n258A : BE (dBm) Full RB		
BW			100MHz		
Limit (dBm)			QPSK		
Low CH	0~10%OB	≤-5	-21.78		
	>10%OB	≤-13	-26.67		
High CH	0~10%OB	≤-5	-25.80		
	>10%OB	≤-13	-30.90		
Result			Compliance		



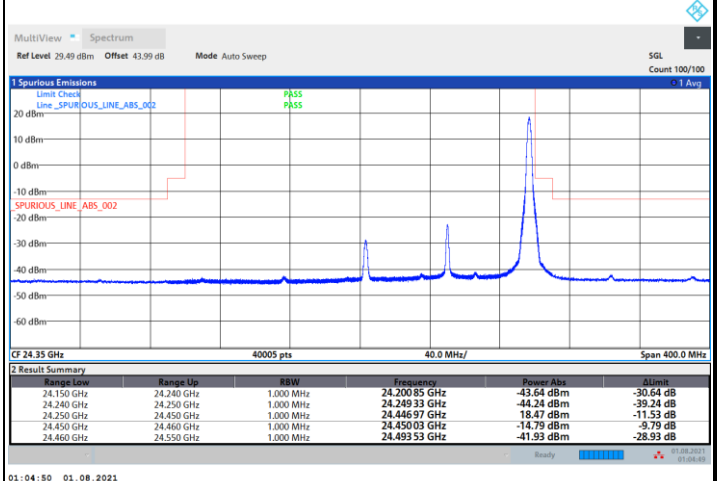
DFT-s-OFDM Module B

NR Band n258A / 100MHz / QPSK

Lowest Band Edge / 1 RB

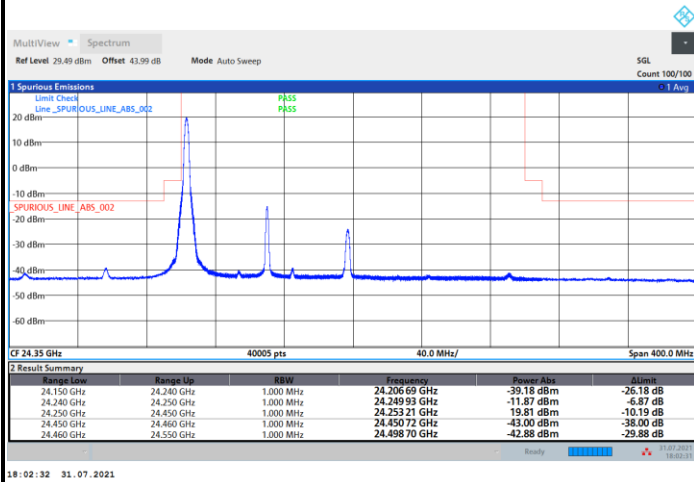


Highest Band Edge / 1 RB

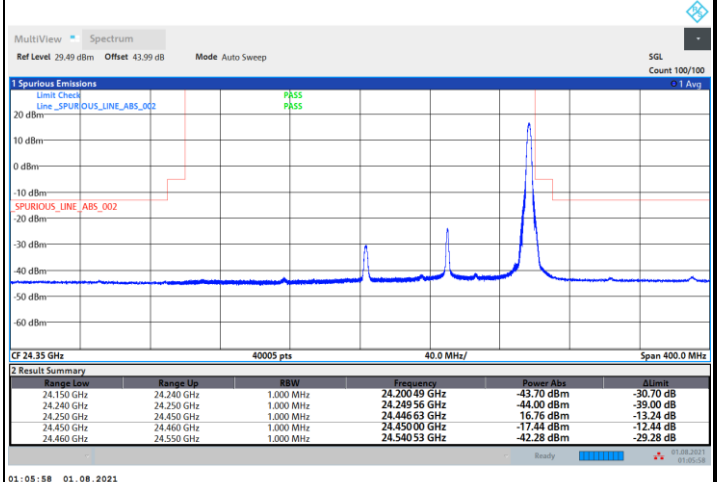


NR Band n258A / 100MHz / 16QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB

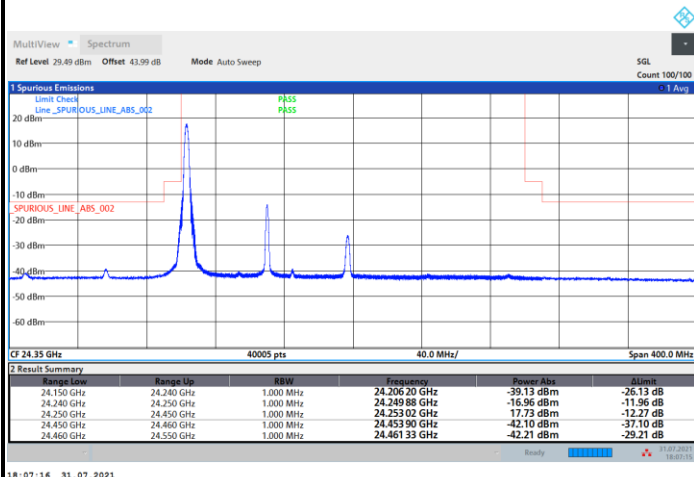




DFT-s-OFDM Module B

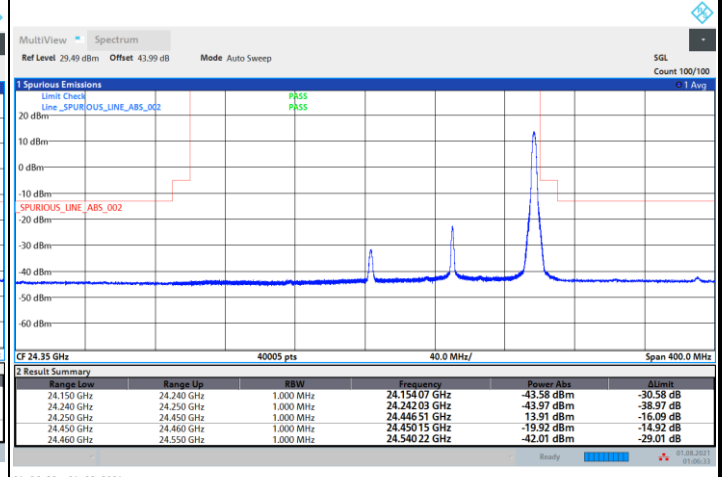
NR Band n258A / 100MHz / 64QAM

Lowest Band Edge / 1 RB



18:07:16 31.07.2021

Highest Band Edge / 1 RB

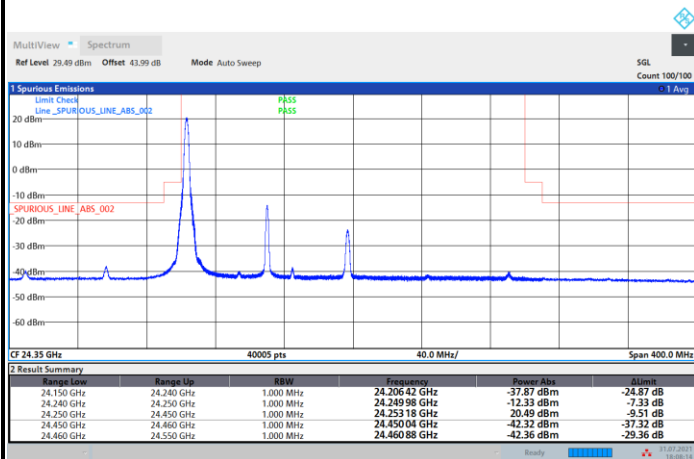


01:06:33 01.08.2021

CP-OFDM Module B

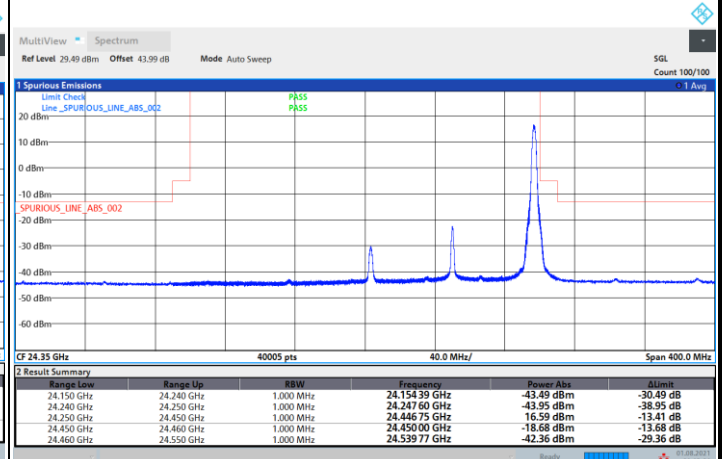
NR Band n258A / 100MHz / QPSK

Lowest Band Edge / 1 RB



18:08:15 31.07.2021

Highest Band Edge / 1 RB



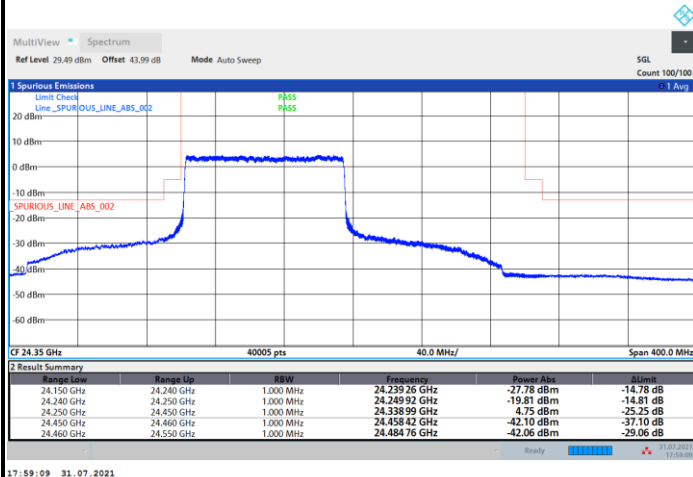
01:13:04 01.08.2021



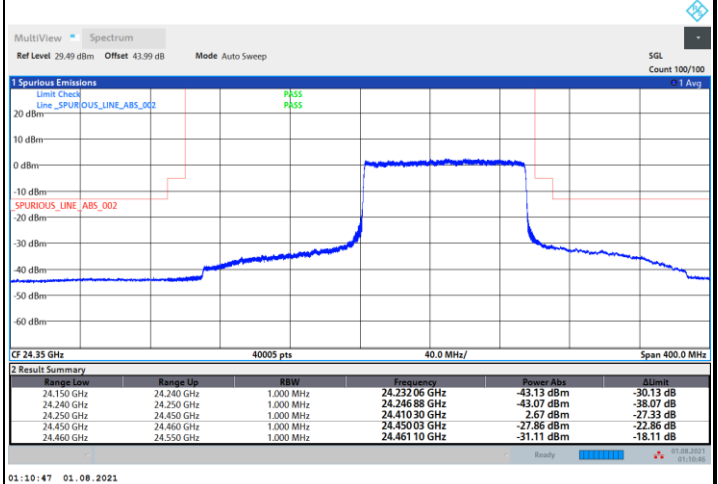
DFT-s-OFDM Module B

NR Band n258A / 100MHz / QPSK

Lowest Band Edge / Full RB

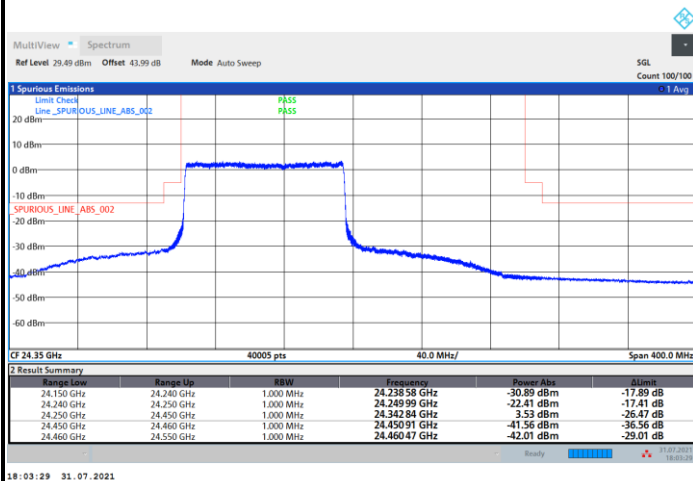


Highest Band Edge / Full RB

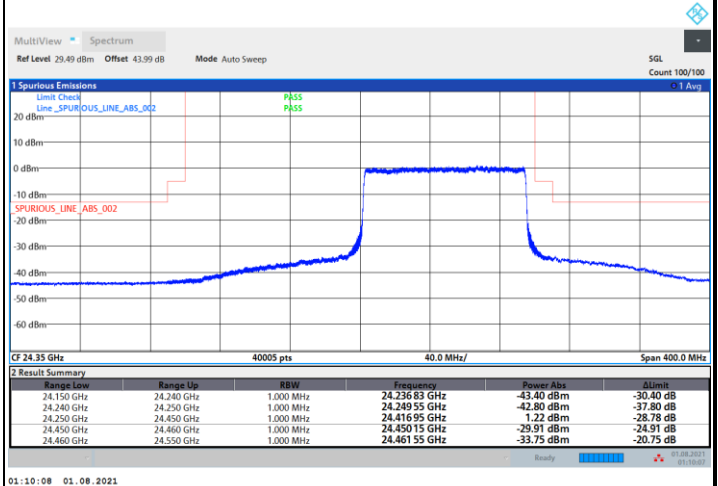


NR Band n258A / 100MHz / 16QAM

Lowest Band Edge / Full RB



Highest Band Edge / Full RB

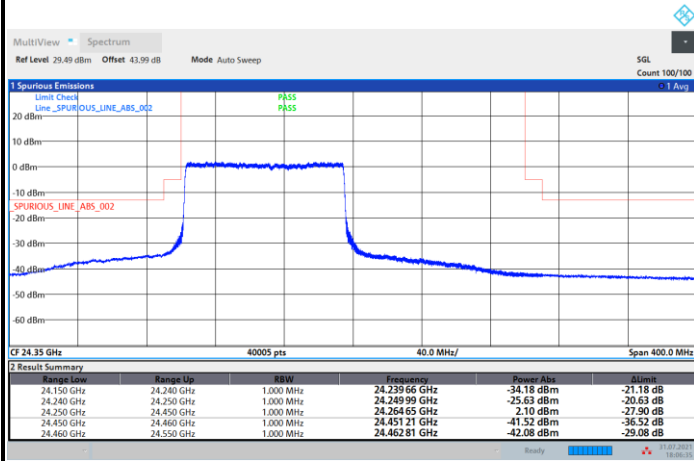




DFT-s-OFDM Module B

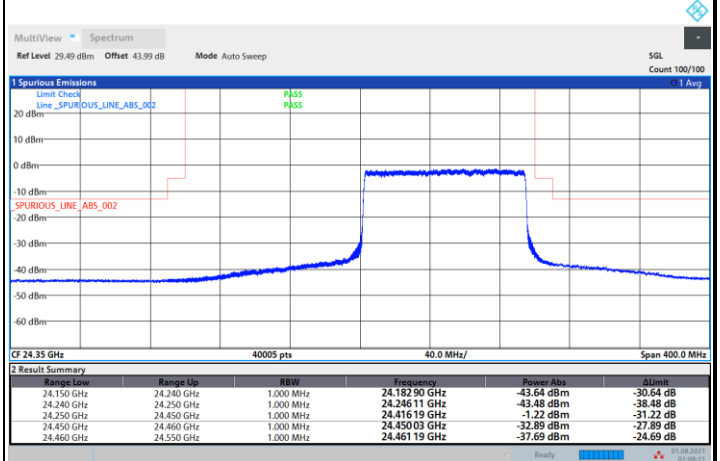
NR Band n258A / 100MHz / 64QAM

Lowest Band Edge / Full RB



18:06:35 31.07.2021

Highest Band Edge / Full RB

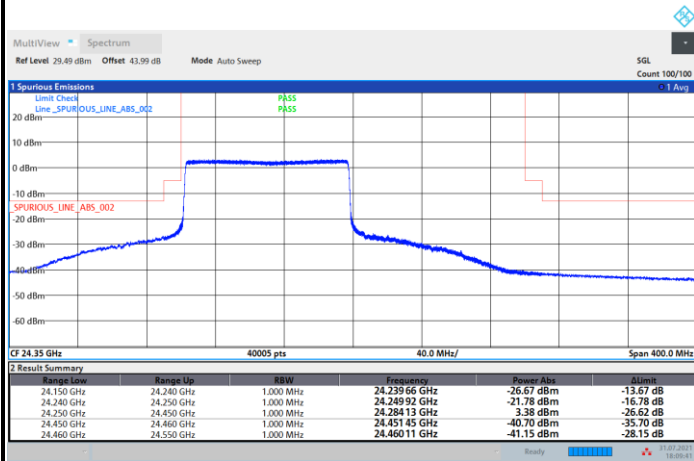


01:08:12 01.08.2021

CP-OFDM Module B

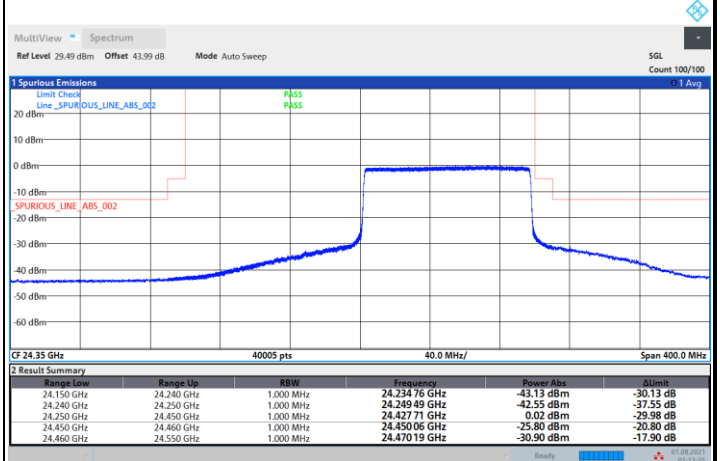
NR Band n258A / 100MHz / QPSK

Lowest Band Edge / Full RB



18:09:41 31.07.2021

Highest Band Edge / Full RB



01:13:36 01.08.2021

Mode			DFT-s-OFDM Module B NR Band n258A : BE (dBm) 1 RB		
BW			200MHz		
Limit (dBm)			QPSK	16QAM	64QAM
Low Edge	0~10%OB	≤-5	-12.95	-15.73	-16.97
	>10%OB	≤-13	-16.59	-17.41	-21.16
High Edge	0~10%OB	≤-5	-16.08	-14.42	-19.46
	>10%OB	≤-13	-17.73	-18.28	-22.79
Result			Compliance		

Mode			CP-OFDM Module B NR Band n258A : BE (dBm) 1 RB		
BW			200MHz		
Limit (dBm)			QPSK		
Low Edge	0~10%OB	≤-5	-15.05		
	>10%OB	≤-13	-15.71		
High Edge	0~10%OB	≤-5	-14.07		
	>10%OB	≤-13	-16.31		
Result			Compliance		

Mode			DFT-s-OFDM Module B NR Band n258A : BE (dBm) Full RB		
BW			200MHz		
Limit (dBm)			QPSK	16QAM	64QAM
Low Edge	0~10%OB	≤-5	-21.96	-26.37	-26.67
	>10%OB	≤-13	-26.65	-29.18	-32.18
High Edge	0~10%OB	≤-5	-25.16	-29.33	-29.76
	>10%OB	≤-13	-29.48	-30.43	-31.92
Result			Compliance		

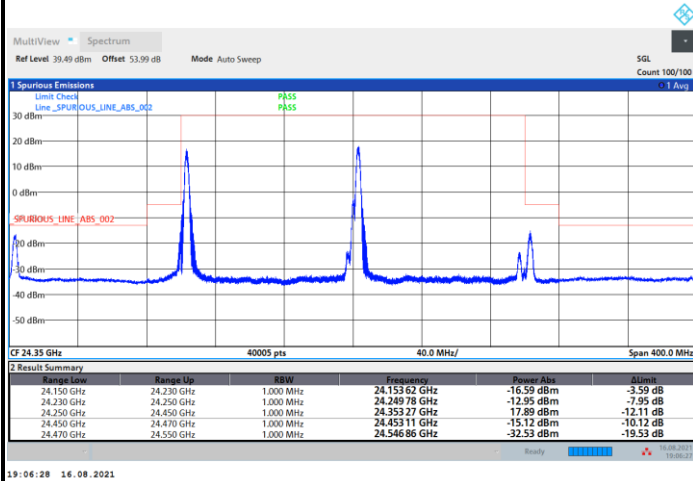
Mode			CP-OFDM Module B NR Band n258A : BE (dBm) Full RB		
BW			200MHz		
Limit (dBm)			QPSK		
Low Edge	0~10%OB	≤-5	-21.93		
	>10%OB	≤-13	-24.99		
High Edge	0~10%OB	≤-5	-21.42		
	>10%OB	≤-13	-24.80		
Result			Compliance		



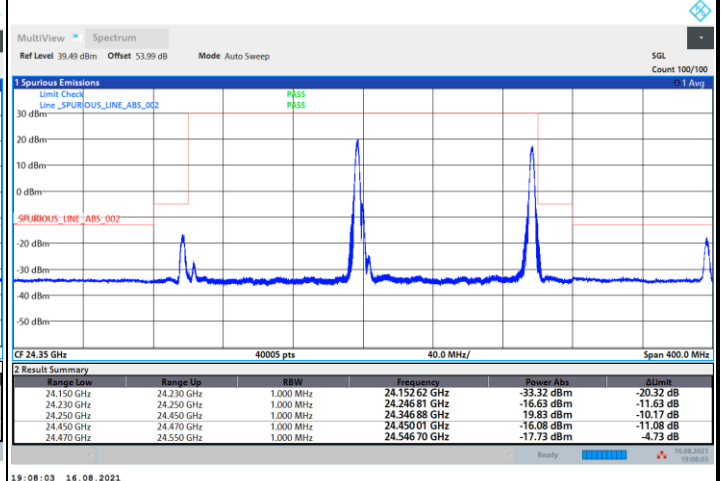
DFT-s-OFDM Module B

NR Band n258A / 200MHz / QPSK

Lowest Band Edge / 1 RB

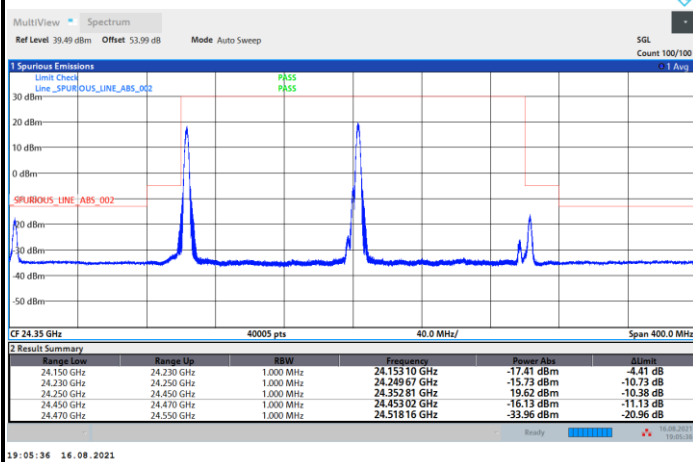


Highest Band Edge / 1 RB

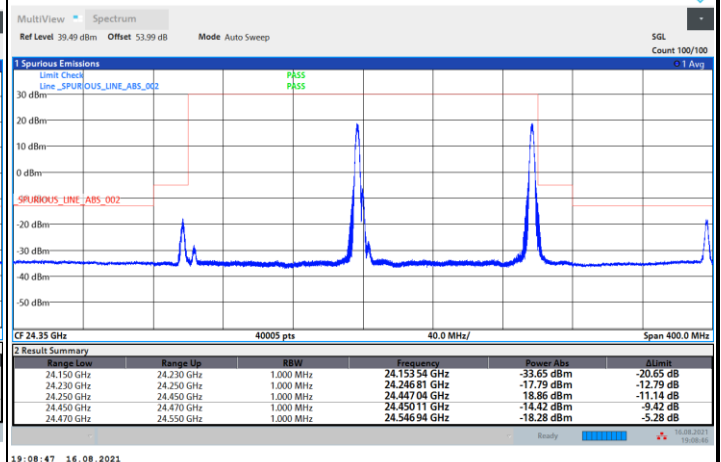


NR Band n258A / 200MHz / 16QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB

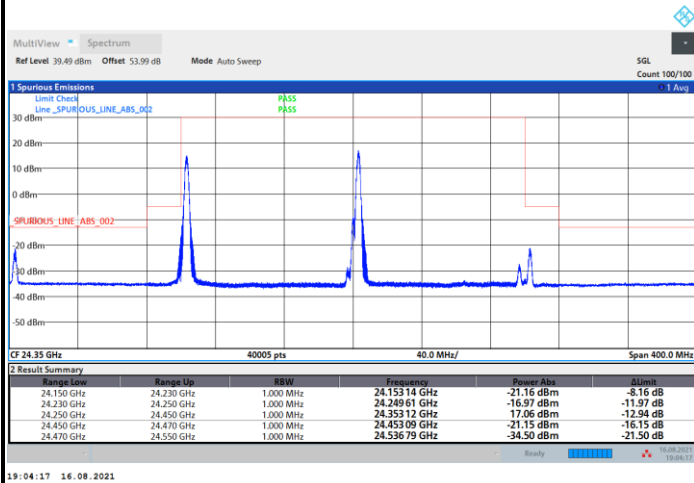




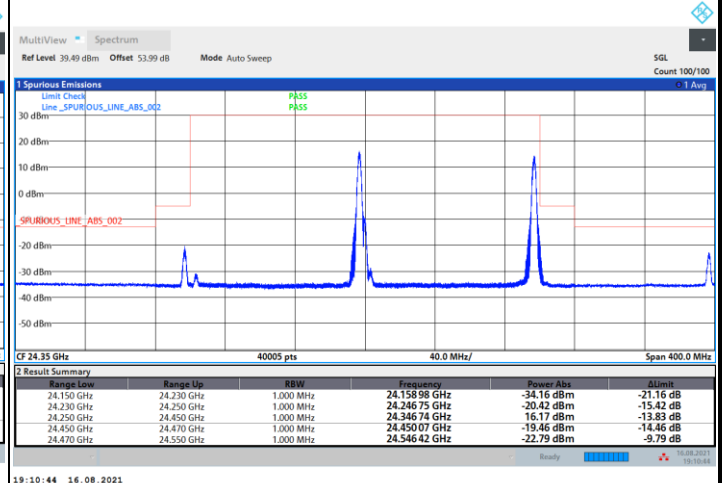
DFT-s-OFDM Module B

NR Band n258A / 200MHz / 64QAM

Lowest Band Edge / 1 RB



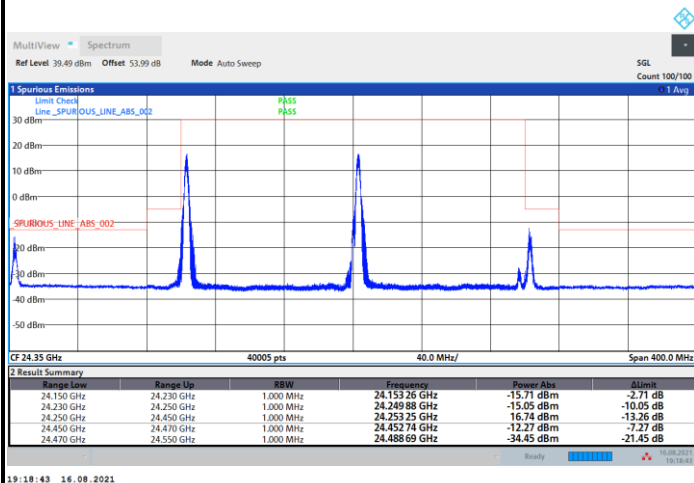
Highest Band Edge / 1 RB



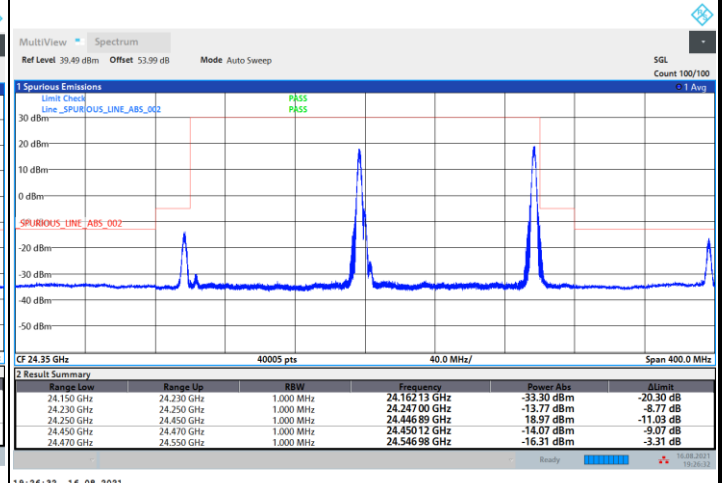
CP-OFDM Module B

NR Band n258A / 200MHz / QPSK

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



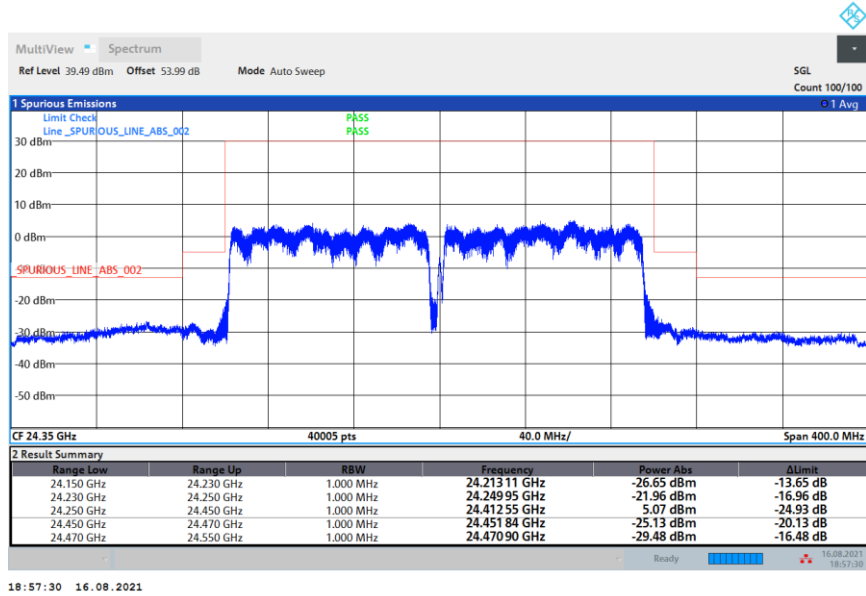


DFT-s-OFDM Module B

NR Band n258A / 200MHz / QPSK

Lowest Band Edge / Full RB

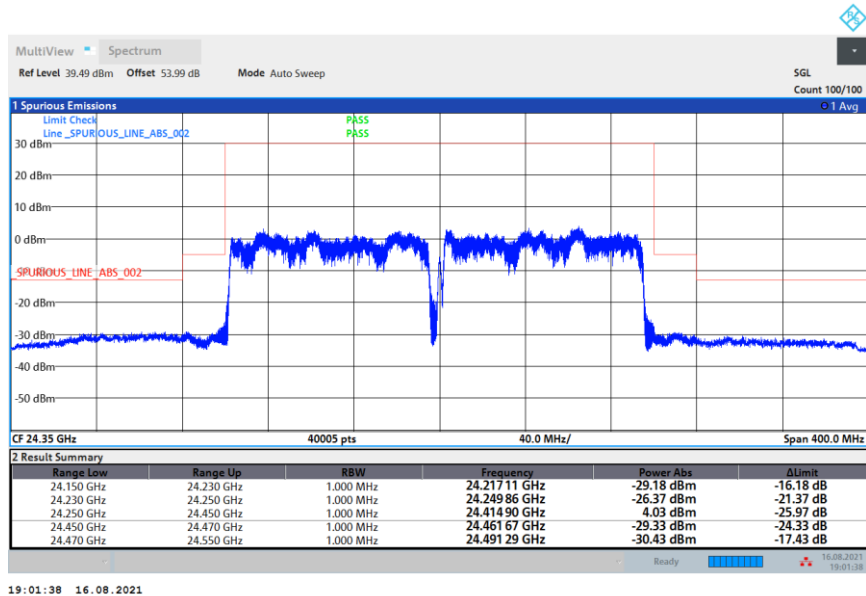
Highest Band Edge / Full RB

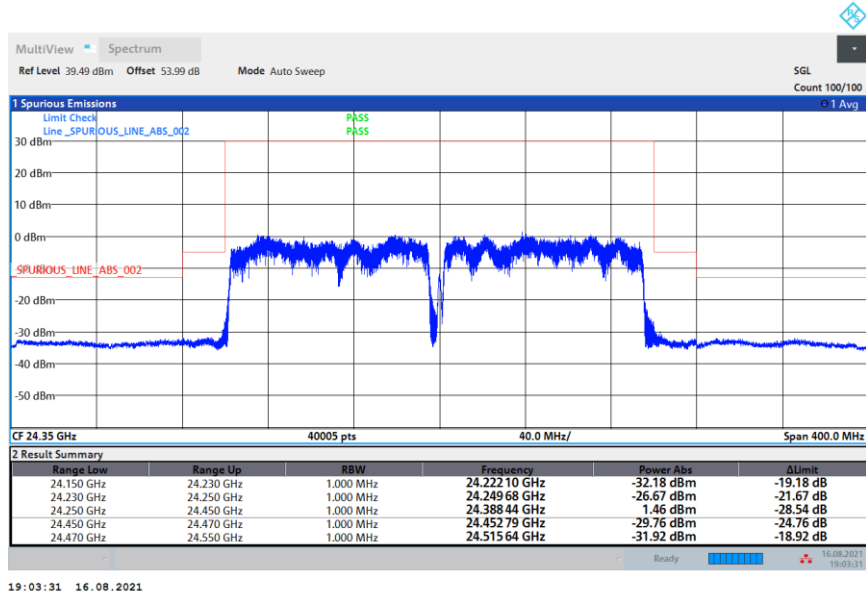
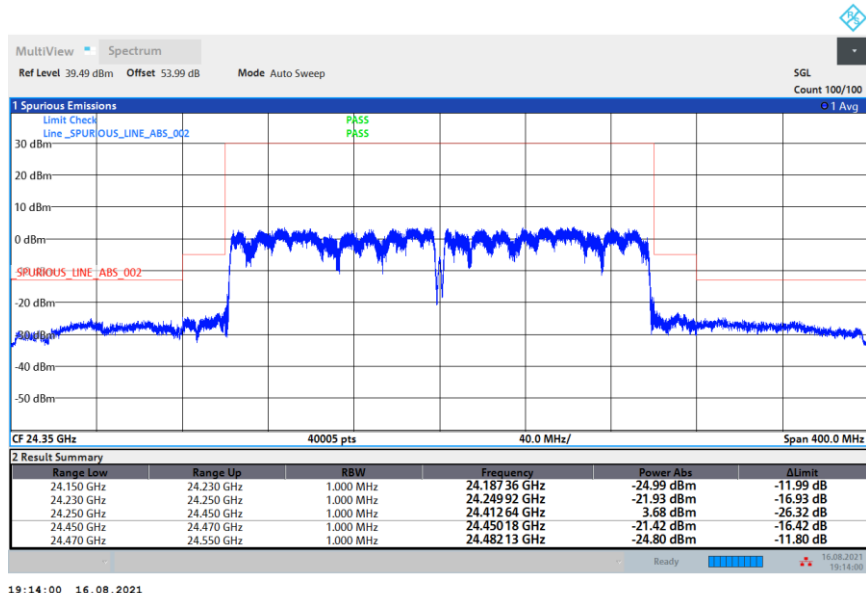


NR Band n258A / 200MHz / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



**DFT-s-OFDM Module B****NR Band n258A / 200MHz / 64QAM****Lowest Band Edge / Full RB****Highest Band Edge / Full RB****CP-OFDM Module B****NR Band n258A / 200MHz / QPSK****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**

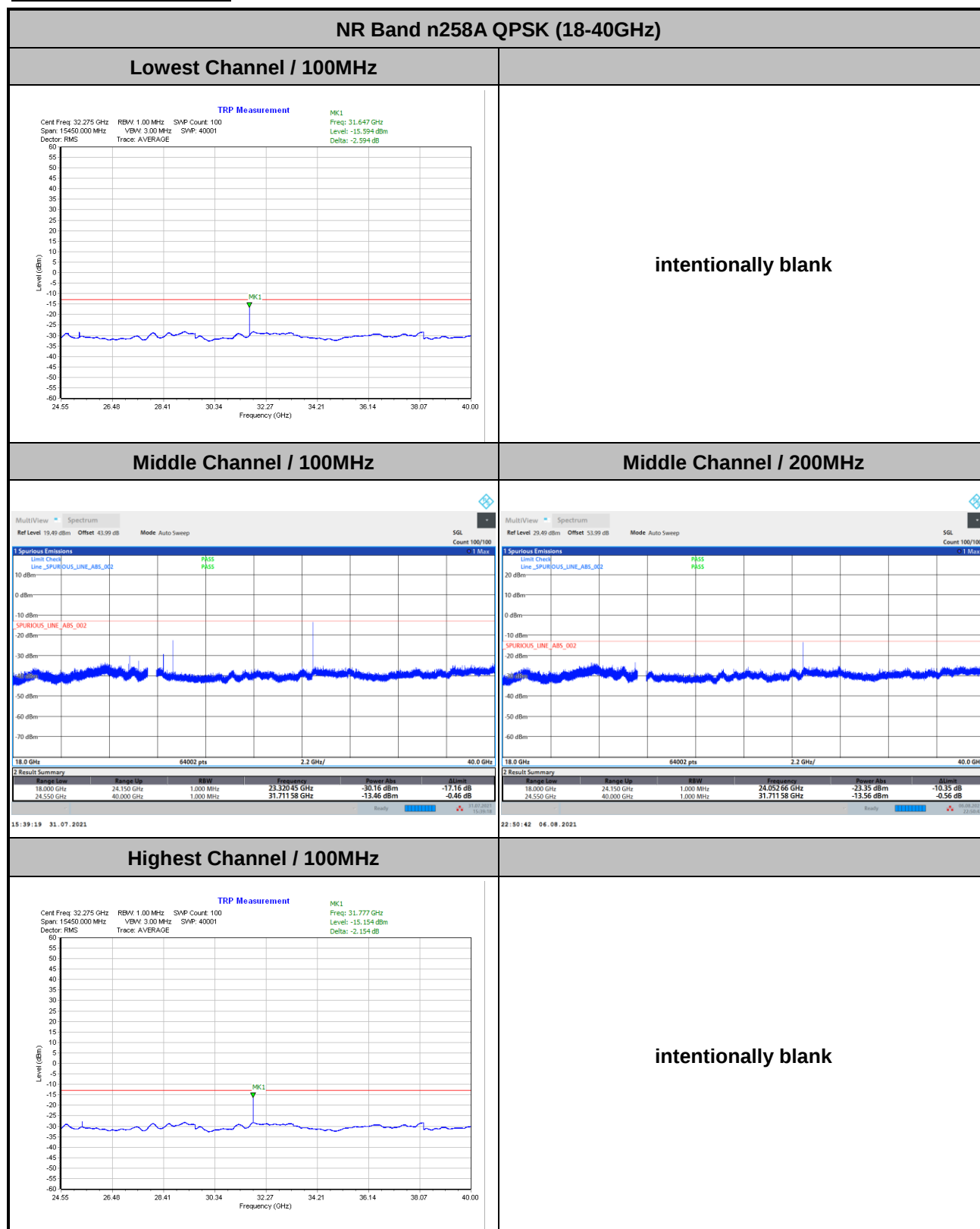


Spurious Emission



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

DFT-s-OFDM Module B



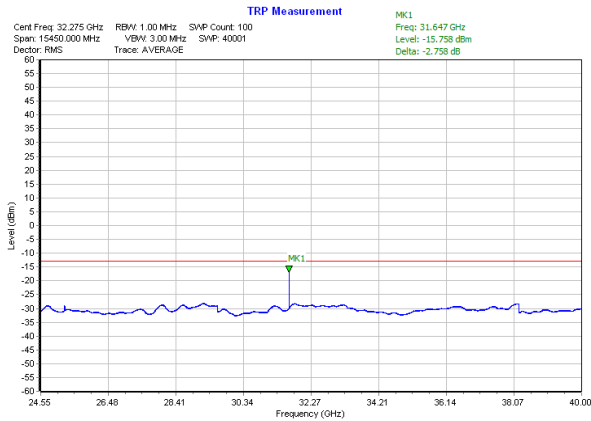
Remark: In band and out of band frequencies that has reported in previous results are omitted.



CP-OFDM Module B

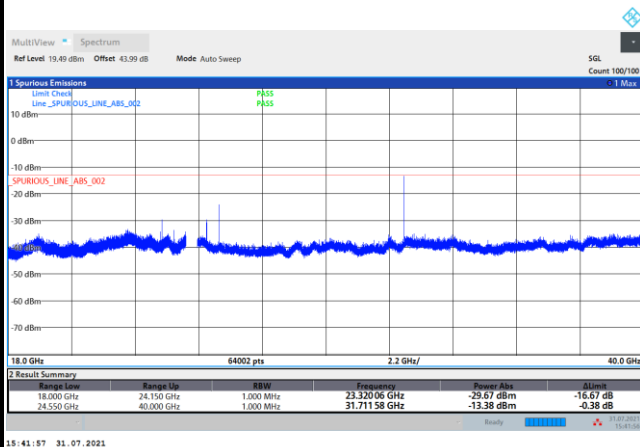
NR Band n258A QPSK (18-40GHz)

Lowest Channel / 100MHz

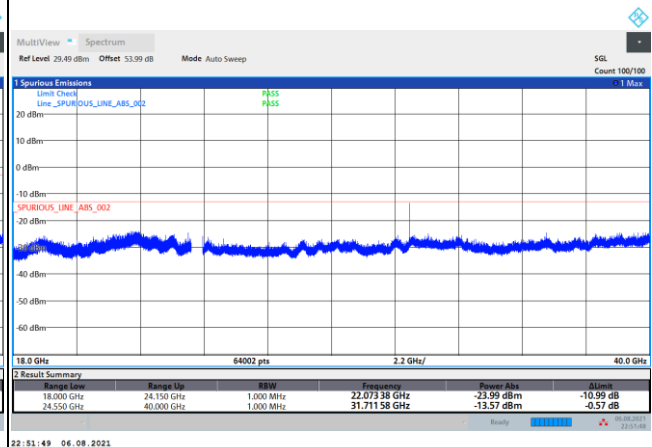


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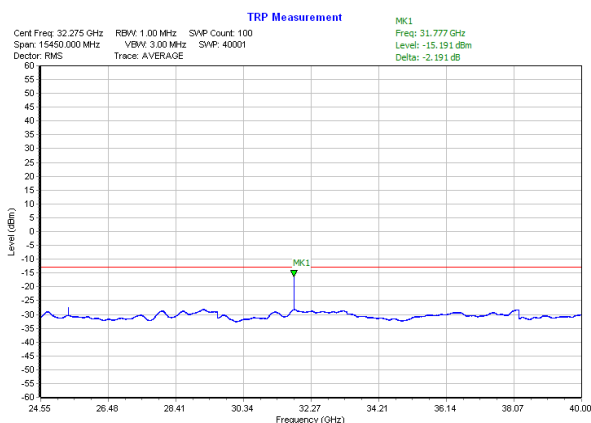
Middle Channel / 100MHz



Middle Channel / 200MHz



Highest Channel / 100MHz



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Remark: In band and out of band frequencies that has reported in previous results are omitted.

NR Band n258A Module B Beam V

Occupied Bandwidth

Mode	DFT-s-OFDM Module B NR Band n258A : 99%OBW(MHz)					
BW	100MHz			200MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	91.78	91.71	91.43	-	-	-
Middle CH	91.62	91.65	91.53	190.48	190.53	190.55
Highest CH	91.63	91.86	91.43	-	-	-

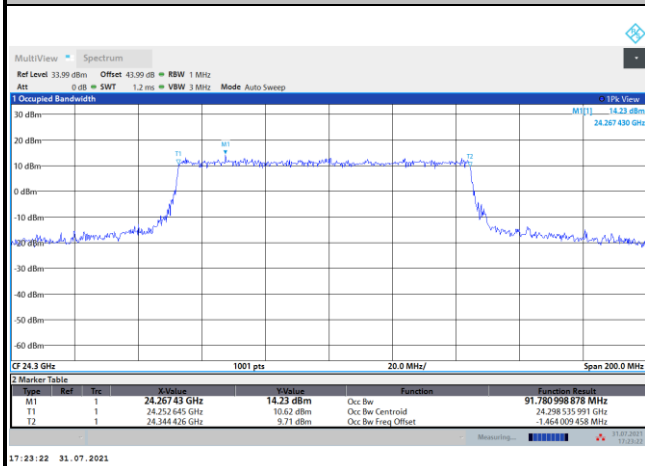
Mode	CP-OFDM Module B NR Band n258A : 99%OBW(MHz)	
BW	100MHz	200MHz
Mod.	QPSK	QPSK
Lowest CH	94.44	-
Middle CH	94.42	193.65
Highest CH	94.56	-



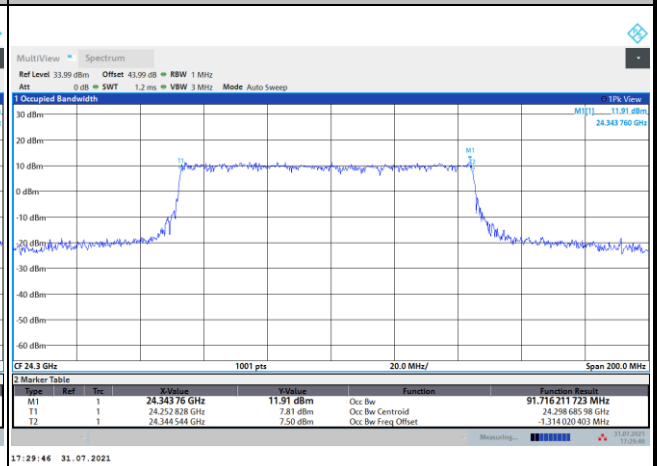
DFT-s-OFDM Module B

NR Band n258A

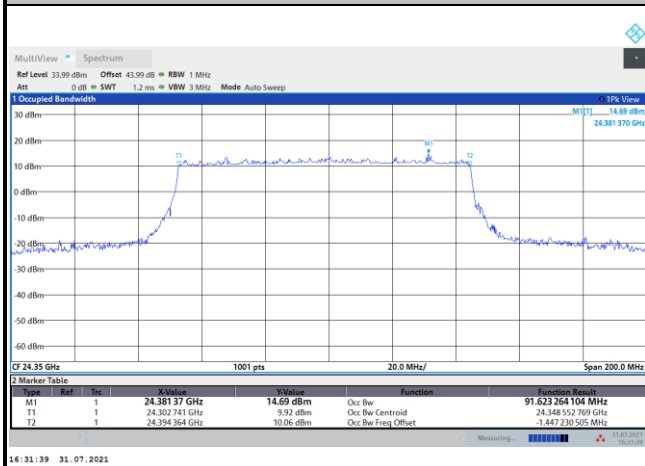
Lowest Channel / 100MHz / QPSK



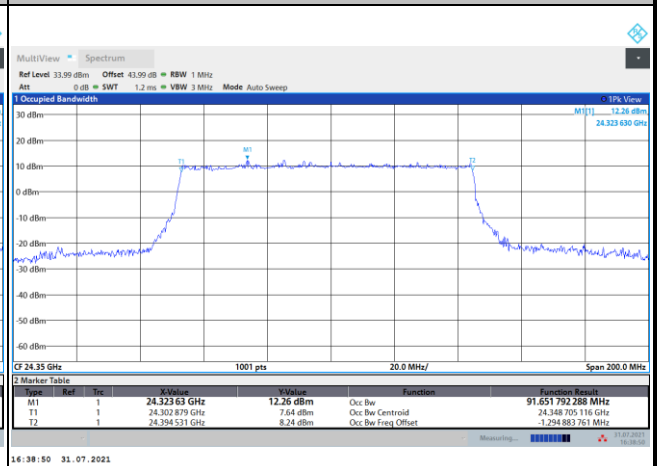
Lowest Channel / 100MHz / 16QAM



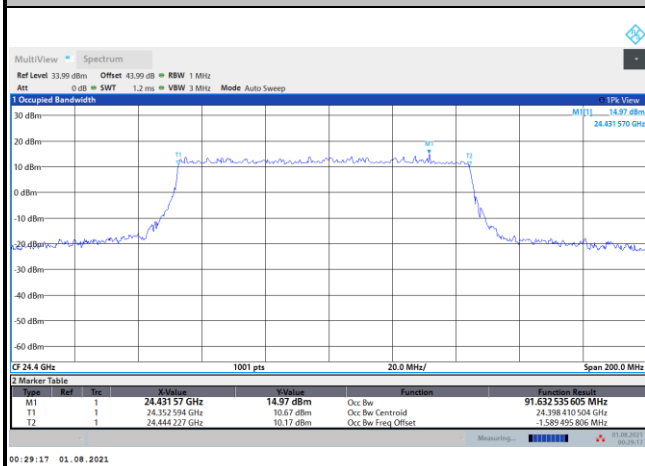
Middle Channel / 100MHz / QPSK



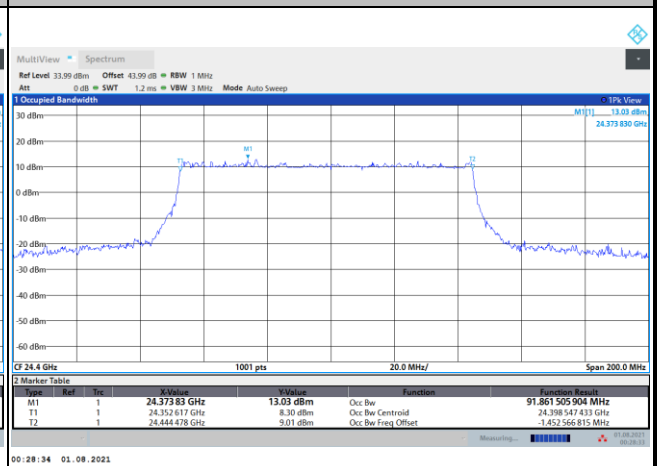
Middle Channel / 100MHz / 16QAM



Highest Channel / 100MHz / QPSK



Highest Channel / 100MHz / 16QAM

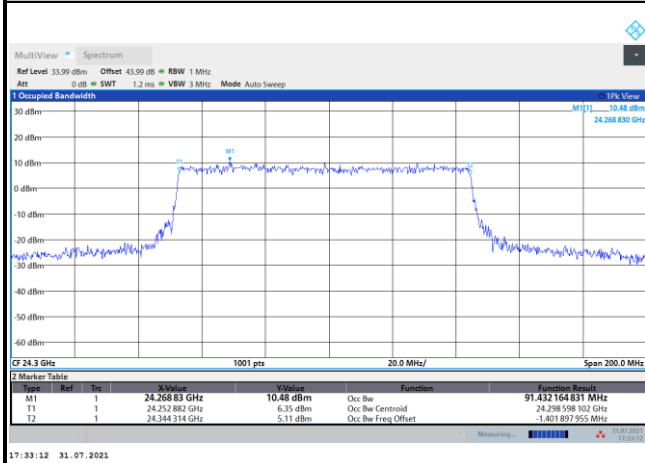




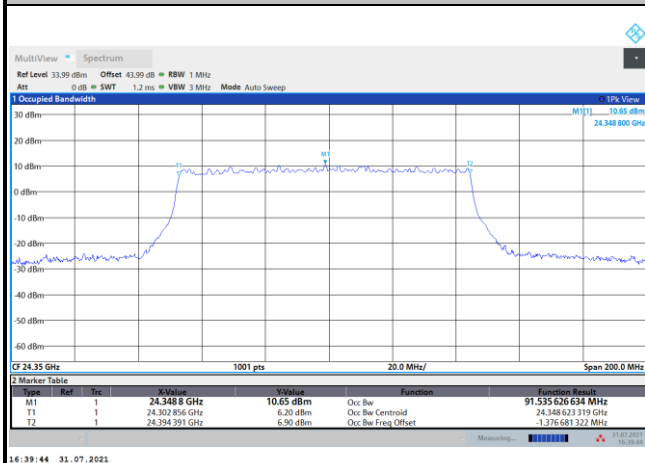
DFT-s-OFDM Module B

NR Band n258A

Lowest Channel / 100MHz / 64QAM



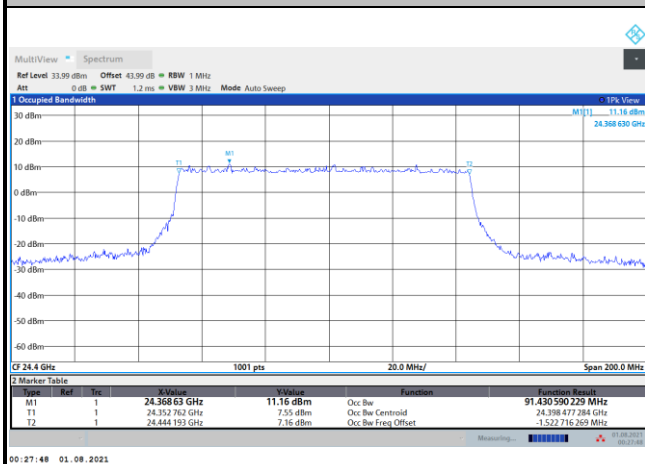
Middle Channel / 100MHz / 64QAM



Middle Channel / 200MHz / QPSK

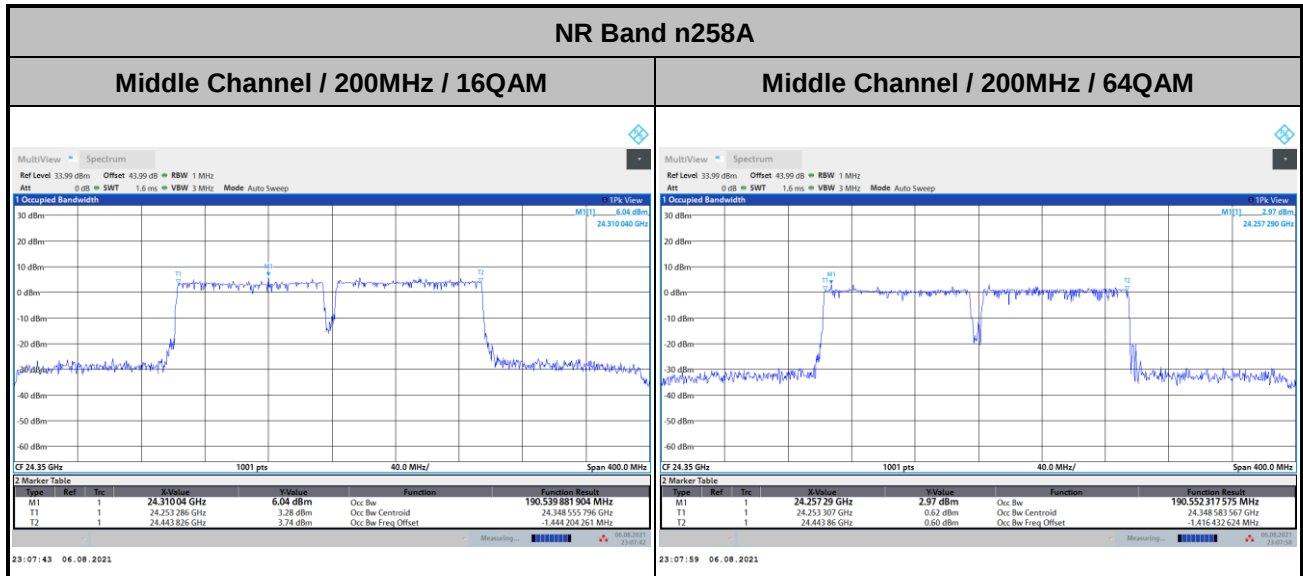


Highest Channel / 100MHz / 64QAM





DFT-s-OFDM Module B

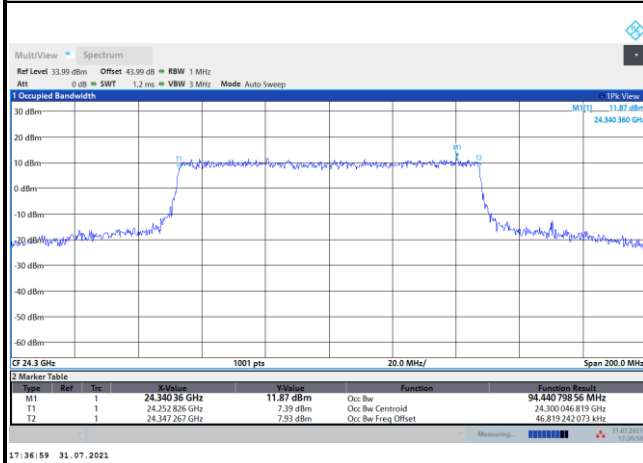




CP-OFDM Module B

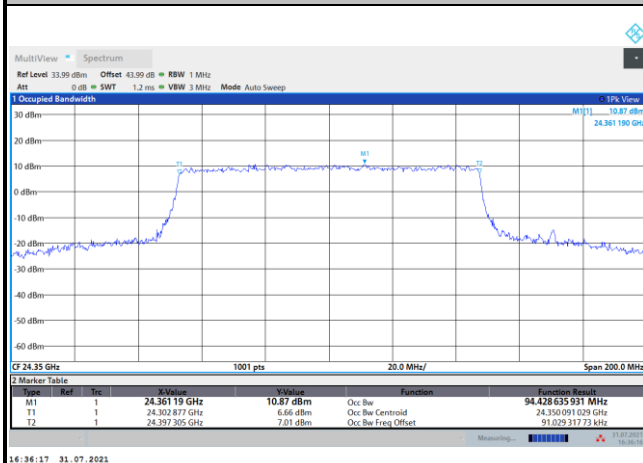
NR Band n258A

Lowest Channel / 100MHz / QPSK

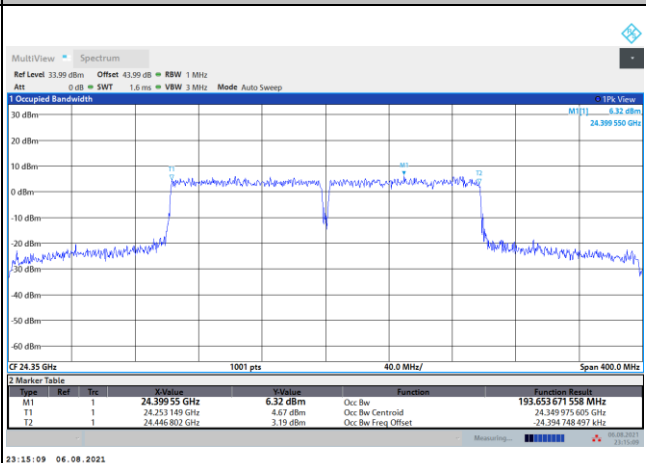


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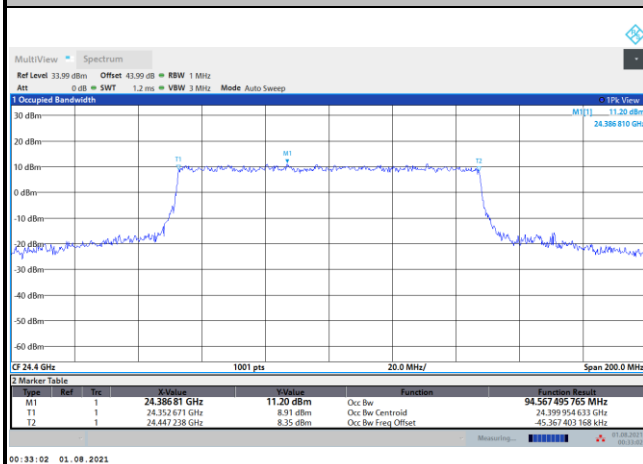
Middle Channel / 100MHz / QPSK



Middle Channel / 200MHz / QPSK



Highest Channel / 100MHz / QPSK



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Radiated Out of Band Emissions

Mode			DFT-s-OFDM Module B NR Band n258A : BE (dBm) 1 RB		
BW			100MHz		
Limit (dBm)			QPSK	16QAM	64QAM
Low CH	0~10%OB	≤ -5	-12.33	-12.76	-14.51
	>10%OB	≤ -13	-35.55	-37.85	-36.64
High CH	0~10%OB	≤ -5	-11.23	-14.85	-15.28
	>10%OB	≤ -13	-38.38	-37.95	-37.26
Result			Compliance		

Mode			CP-OFDM Module B NR Band n258A : BE (dBm) 1 RB		
BW			100MHz		
Limit (dBm)			QPSK		
Low CH	0~10%OB	≤ -5	-12.44		
	>10%OB	≤ -13	-35.09		
High CH	0~10%OB	≤ -5	-15.11		
	>10%OB	≤ -13	-37.38		
Result			Compliance		

Mode			DFT-s-OFDM Module B NR Band n258A : BE (dBm) Full RB		
BW			100MHz		
Limit (dBm)			QPSK	16QAM	64QAM
Low CH	0~10%OB	≤ -5	-18.28	-20.96	-25.28
	>10%OB	≤ -13	-23.01	-25.63	-30.87
High CH	0~10%OB	≤ -5	-24.13	-26.29	-28.93
	>10%OB	≤ -13	-26.48	-28.96	-32.70
Result			Compliance		

Mode			CP-OFDM Module B NR Band n258A : BE (dBm) Full RB		
BW			100MHz		
Limit (dBm)			QPSK		
Low CH	0~10%OB	≤ -5	-20.03		
	>10%OB	≤ -13	-24.20		
High CH	0~10%OB	≤ -5	-22.89		
	>10%OB	≤ -13	-26.94		
Result			Compliance		