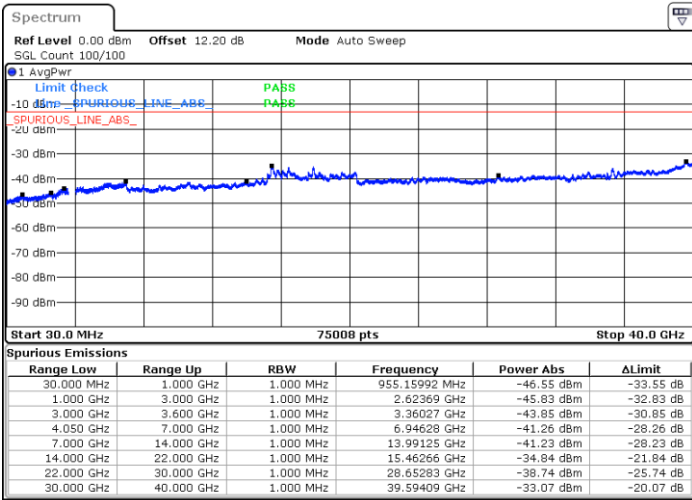




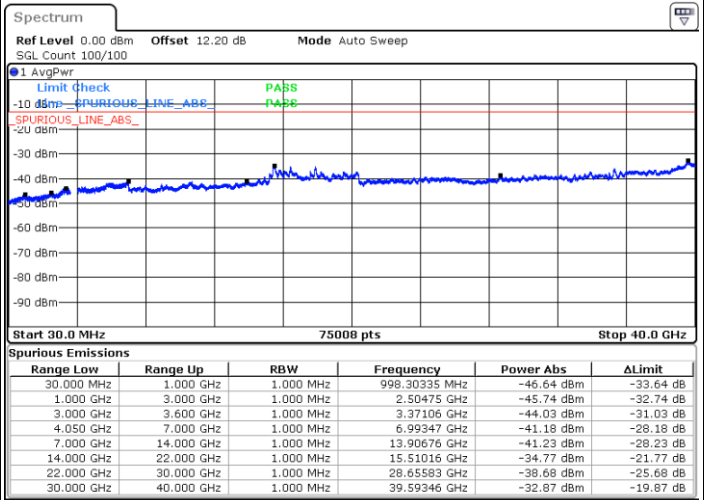
FR1 n77 / 15MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB

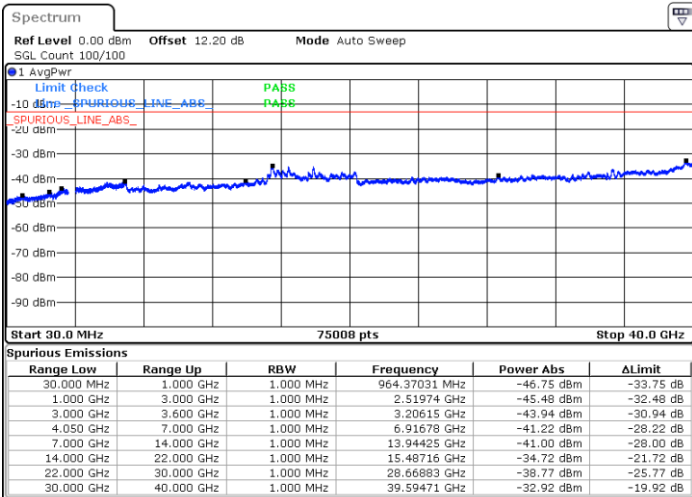


Date: 9.FEB.2021 10:01:16



Date: 9.FEB.2021 10:14:39

Highest Channel / 1RB



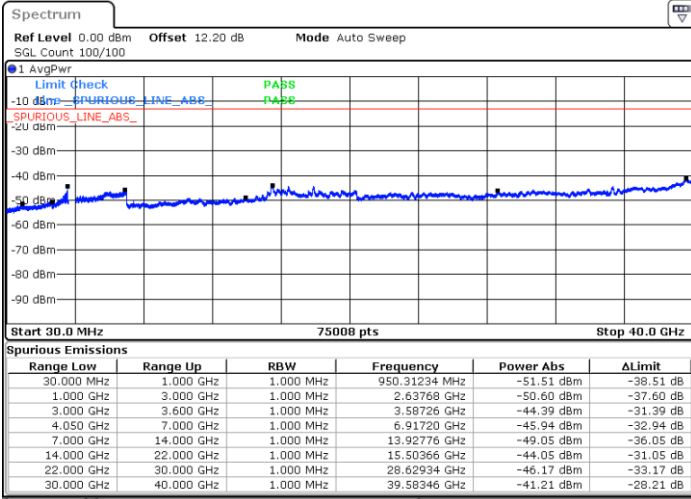
Date: 9.FEB.2021 10:17:13



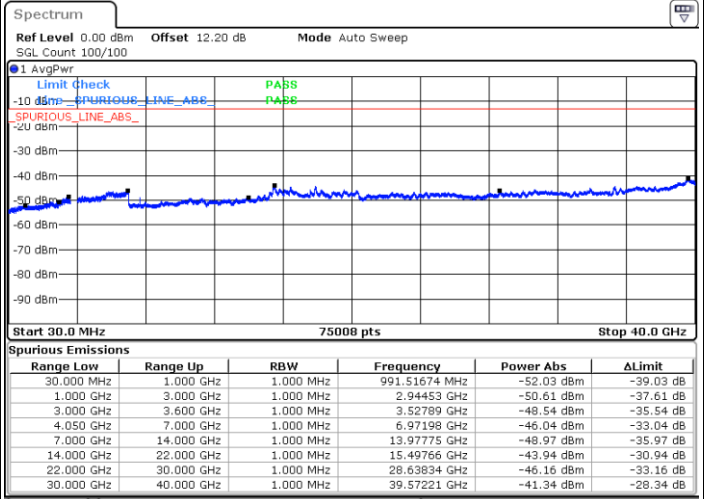
FR1 n77 / 20MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

Middle Channel / 1RB

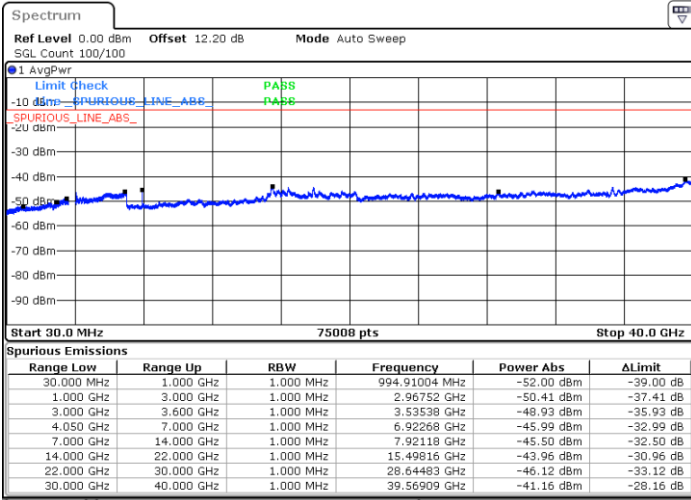


Date: 9.FEB.2021 09:00:41



Date: 9.FEB.2021 09:13:33

Highest Channel / 1RB



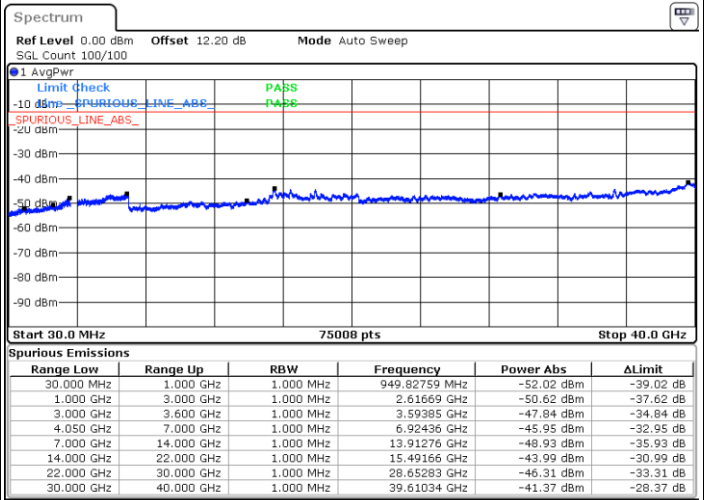
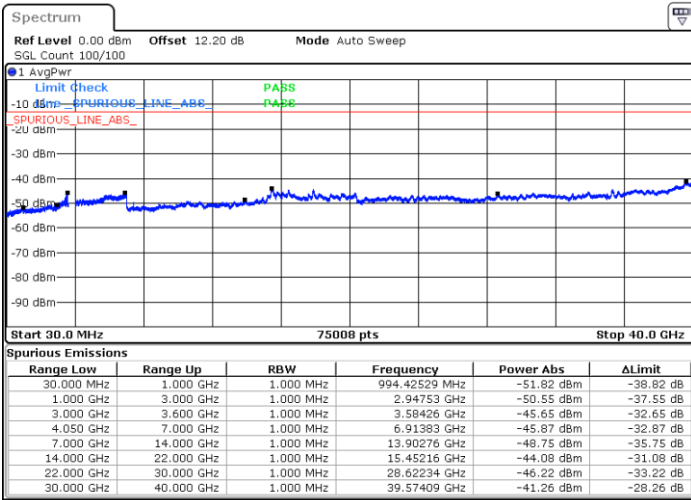
Date: 9.FEB.2021 09:22:15



FR1 n77 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

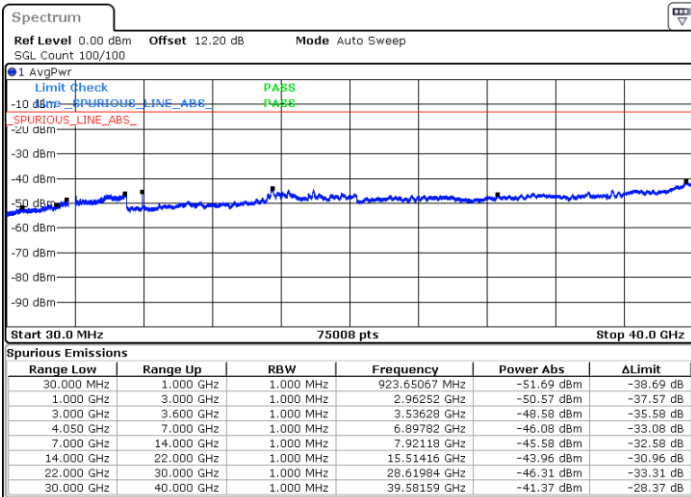
Middle Channel / 1RB



Date: 9.FEB.2021 09:18:04

Date: 9.FEB.2021 09:16:19

Highest Channel / 1RB



Date: 9.FEB.2021 09:20:39



Frequency Stability

Test Conditions		NR n77 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Within Band
		Deviation (ppm)	Result
50	Normal Voltage	0.0015	PASS
40	Normal Voltage	0.0026	
30	Normal Voltage	0.0022	
20(Ref.)	Normal Voltage	0.0015	
10	Normal Voltage	0.0019	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0018	
-20	Normal Voltage	0.0022	
-30	Normal Voltage	0.0018	
20	Maximum Voltage	0.0021	
20	Normal Voltage	0.0014	
20	Battery End Point	0.0013	

Note:

- 1. Normal Voltage =3.3 V. ; Battery End Point (BEP) =3.14 V. ; Maximum Voltage =4.4 V.
- 2. Note: The frequency fundamental emissions stay within the authorized frequency block.



5G NR n77 SA-SCS 30K

Peak-to-Average Ratio

Mode	FR1 n77 / 10MHz / DFT-S OFDM				
Mod.	PI/2 BPSK	PI/2 BPSK	QPSK	QPSK	Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.06	5.04	5.04	5.33	PASS
Middle CH	3.42	4.03	5.04	5.16	
Highest CH	3.97	3.91	5.19	5.25	



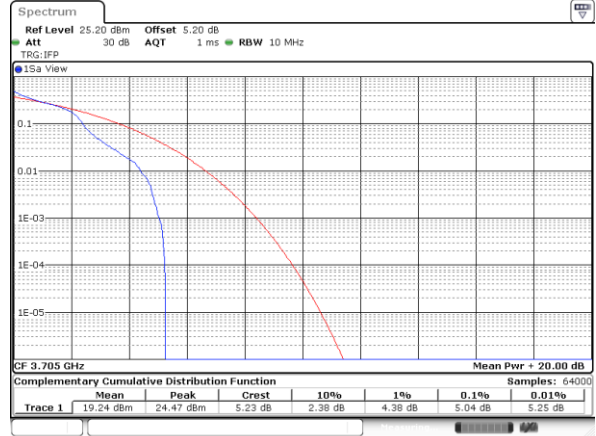
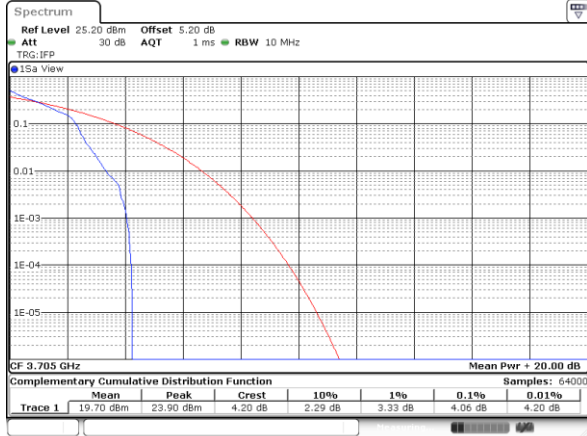
FR1 n77 / 10MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / 1RB

Lowest Channel / 1RB

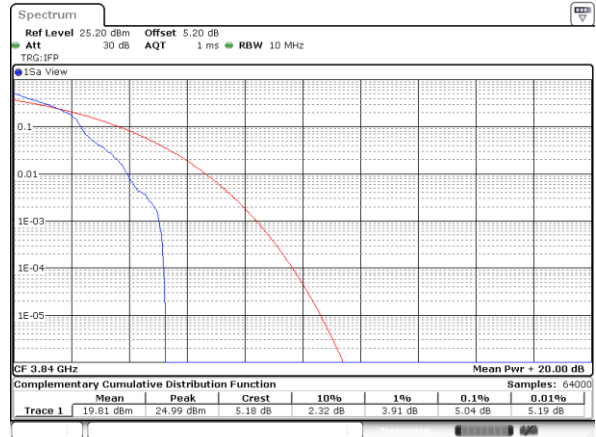
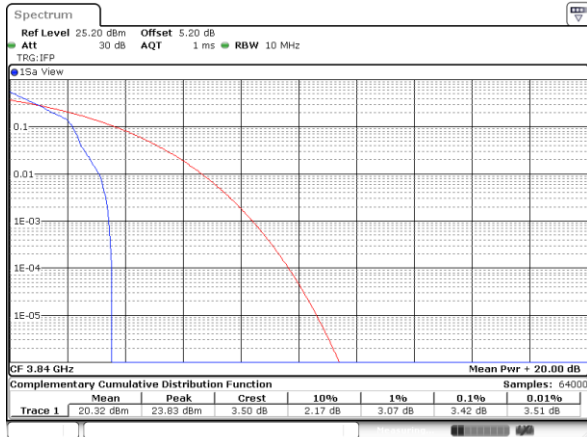


Date: 2.FEB.2021 07:53:55

Date: 2.FEB.2021 07:53:37

Middle Channel / 1 RB

Middle Channel / 1 RB

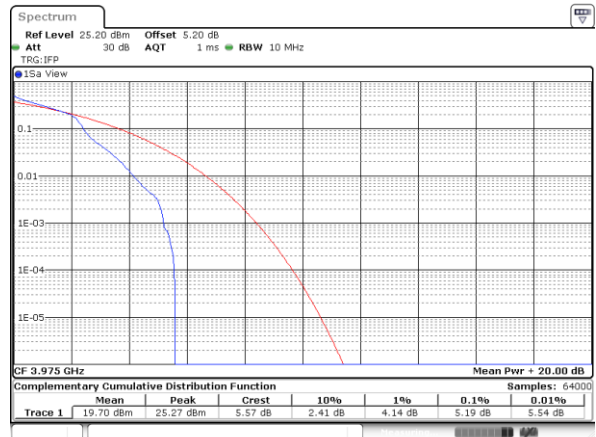
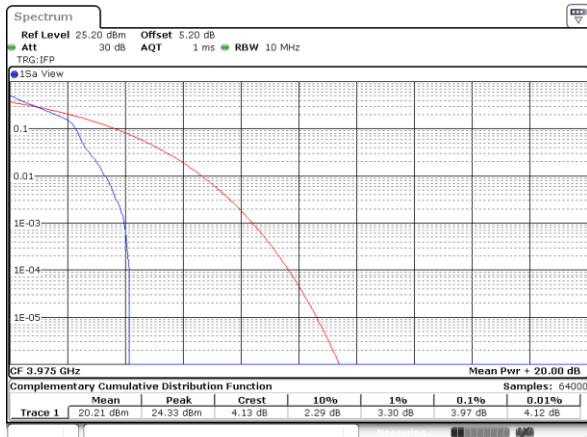


Date: 2.FEB.2021 07:40:56

Date: 2.FEB.2021 07:40:31

Highest Channel / 1 RB

Highest Channel / 1 RB



Date: 2.FEB.2021 08:11:19

Date: 2.FEB.2021 08:10:47



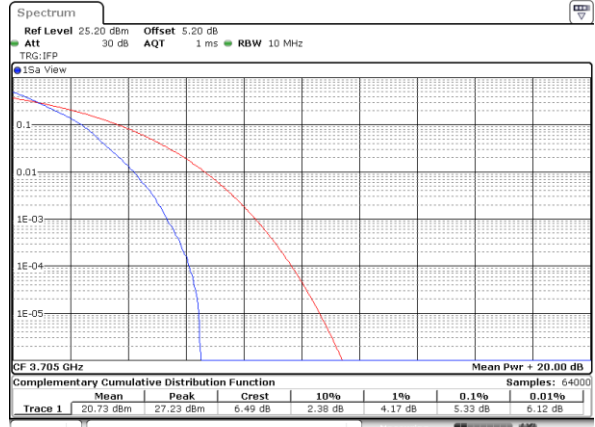
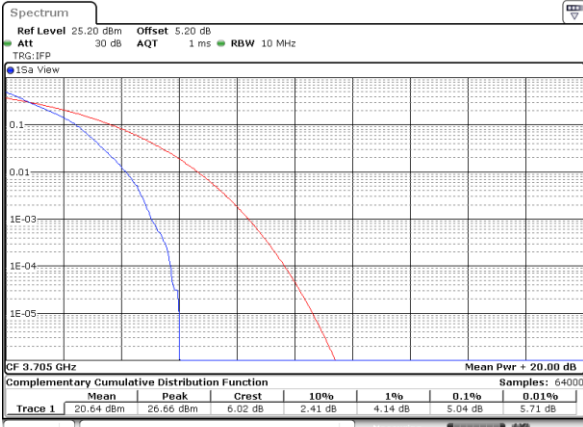
FR1 n77 / 10MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / Full RB

Lowest Channel / Full RB

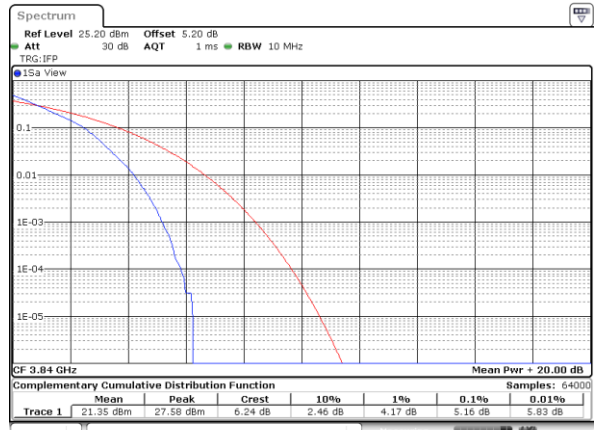
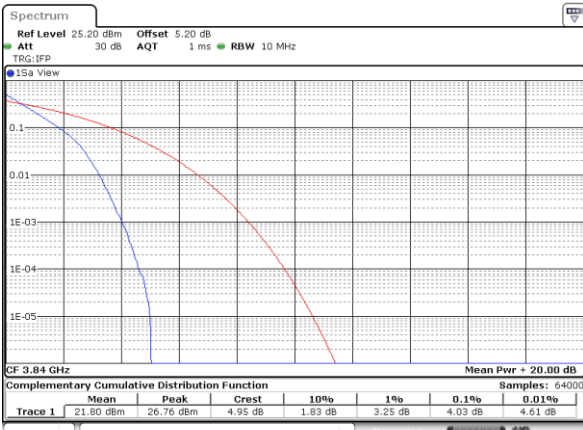


Date: 2.FEB.2021 07:53:09

Date: 2.FEB.2021 07:52:32

Middle Channel / Full RB

Middle Channel / Full RB

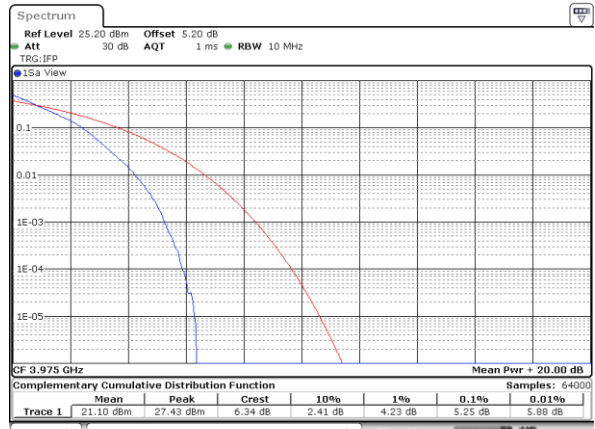
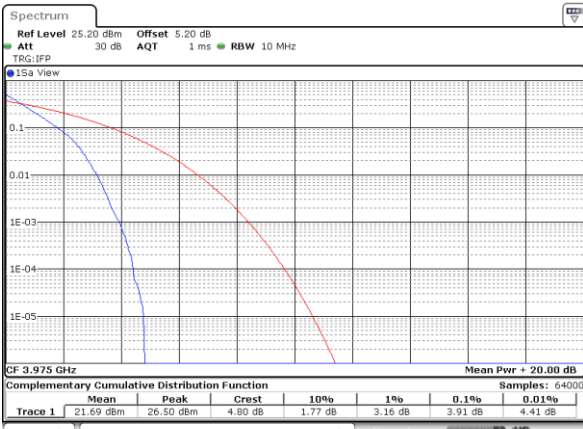


Date: 2.FEB.2021 07:39:03

Date: 2.FEB.2021 07:39:55

Highest Channel / Full RB

Highest Channel / Full RB



Date: 2.FEB.2021 08:09:38

Date: 2.FEB.2021 08:10:17



26dB Bandwidth

Mode	FR1 n77 : 26dB BW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	9.17	9.33	9.21	9.03				

Mode	FR1 n77 : 26dB BW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	14.33	14.42	14.51	14.36				

Mode	FR1 n77 : 26dB BW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	19.62	19.22	19.10	19.22				

Mode	FR1 n77 : 26dB BW(MHz) / CP-OFDM							
BW	40MHz	40MHz	40MHz	40MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	40.28	40.28	40.2	40.2				

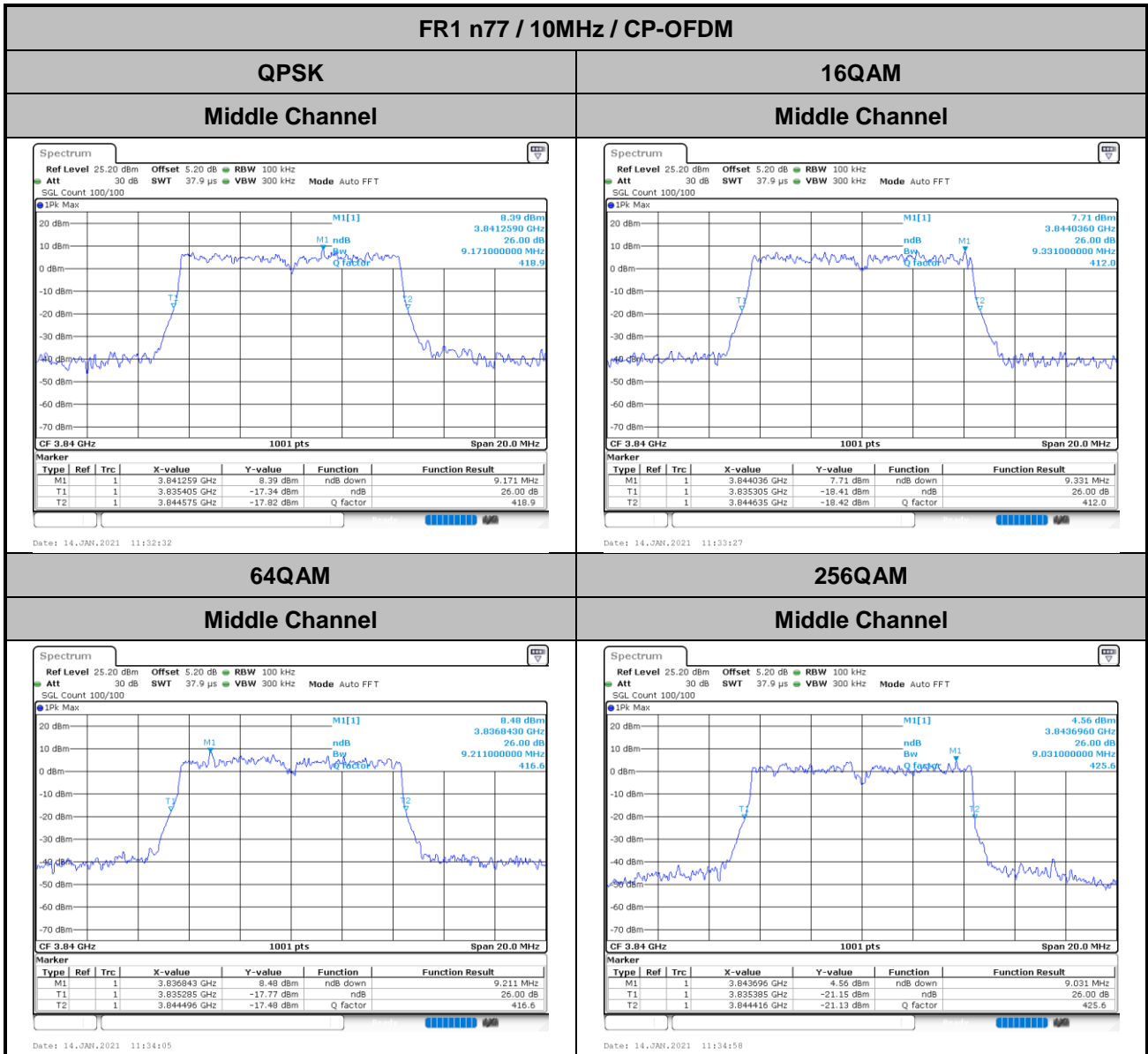
Mode	FR1 n77 : 26dB BW(MHz) / CP-OFDM							
BW	50MHz	50MHz	50MHz	50MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	49.85	49.75	49.65	49.75				

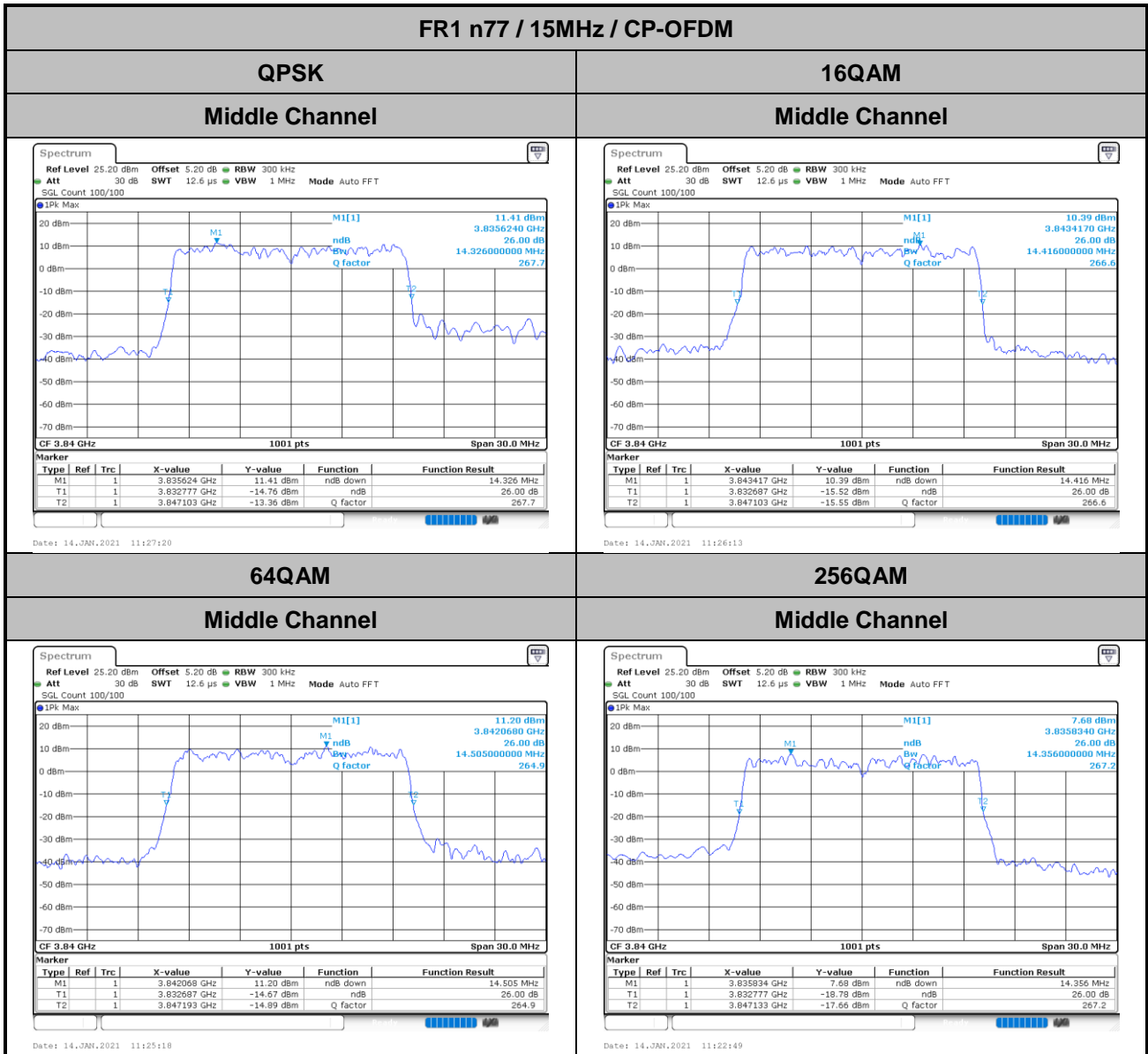
Mode	FR1 n77 : 26dB BW(MHz) / CP-OFDM							
BW	60MHz	60MHz	60MHz	60MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	60.54	60.42	60.42	60.42				

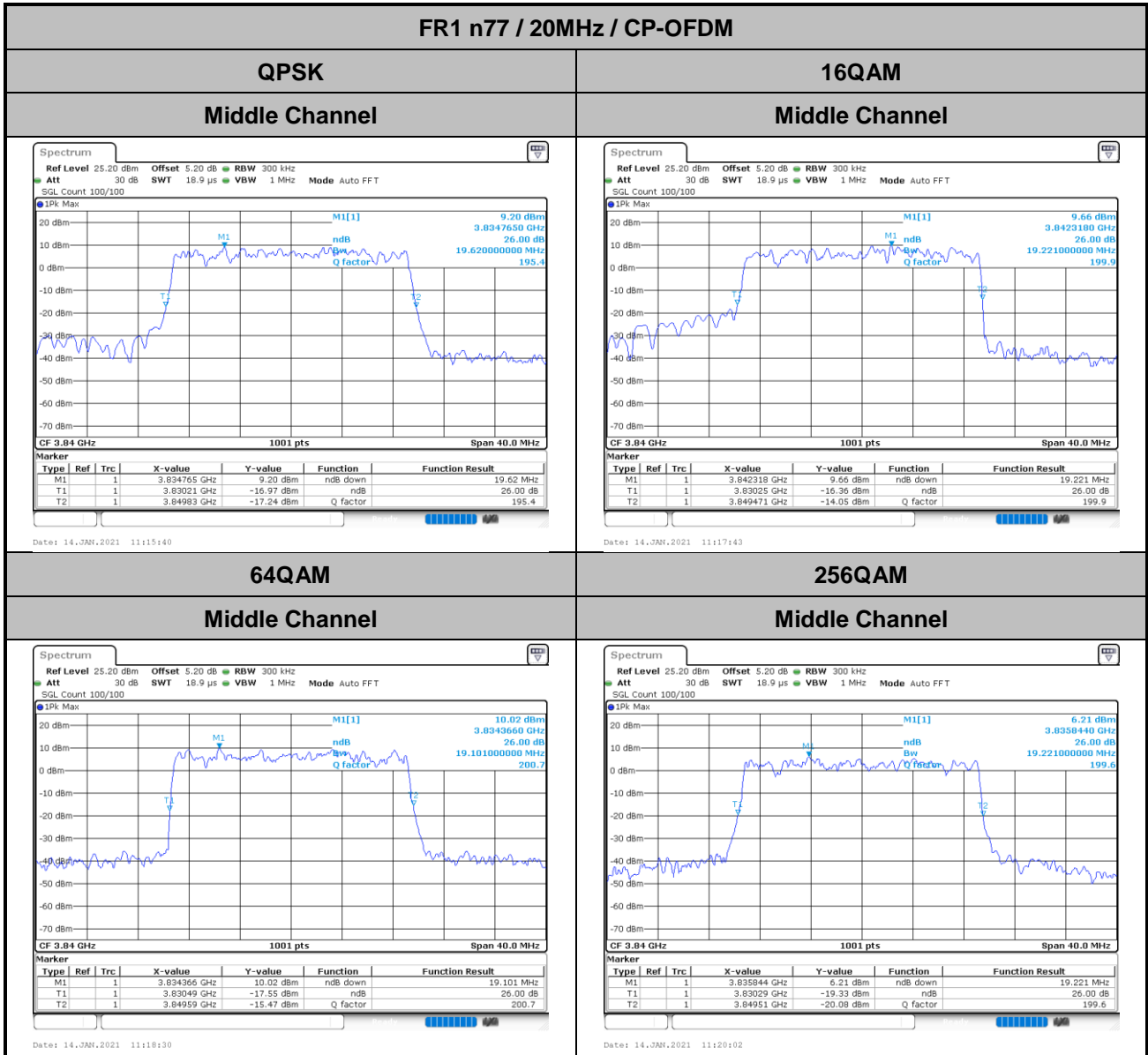


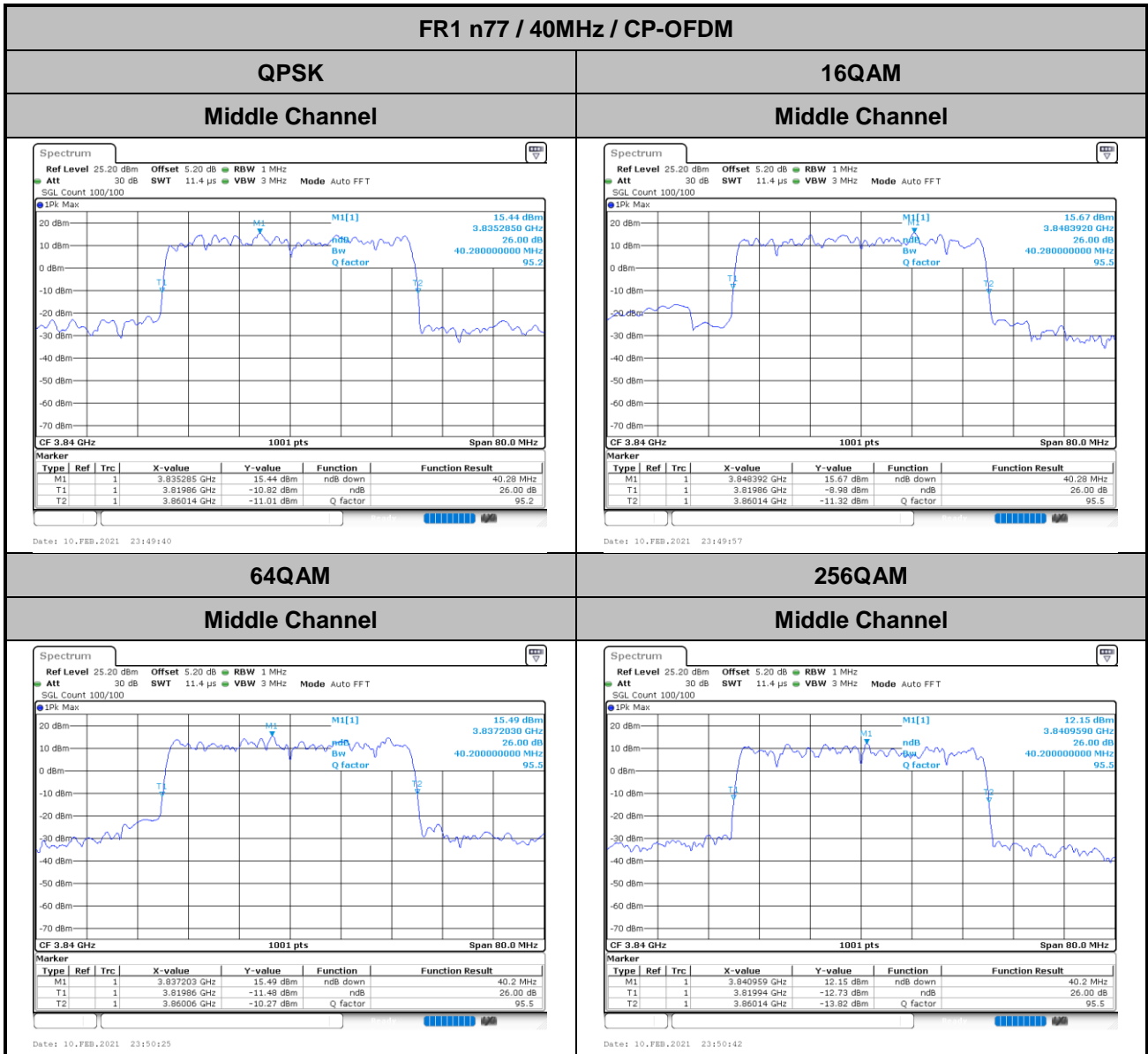
Mode	FR1 n77 : 26dB BW(MHz) / CP-OFDM							
BW	80MHz	80MHz	80MHz	80MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	79.92	79.92	79.92	80.08				

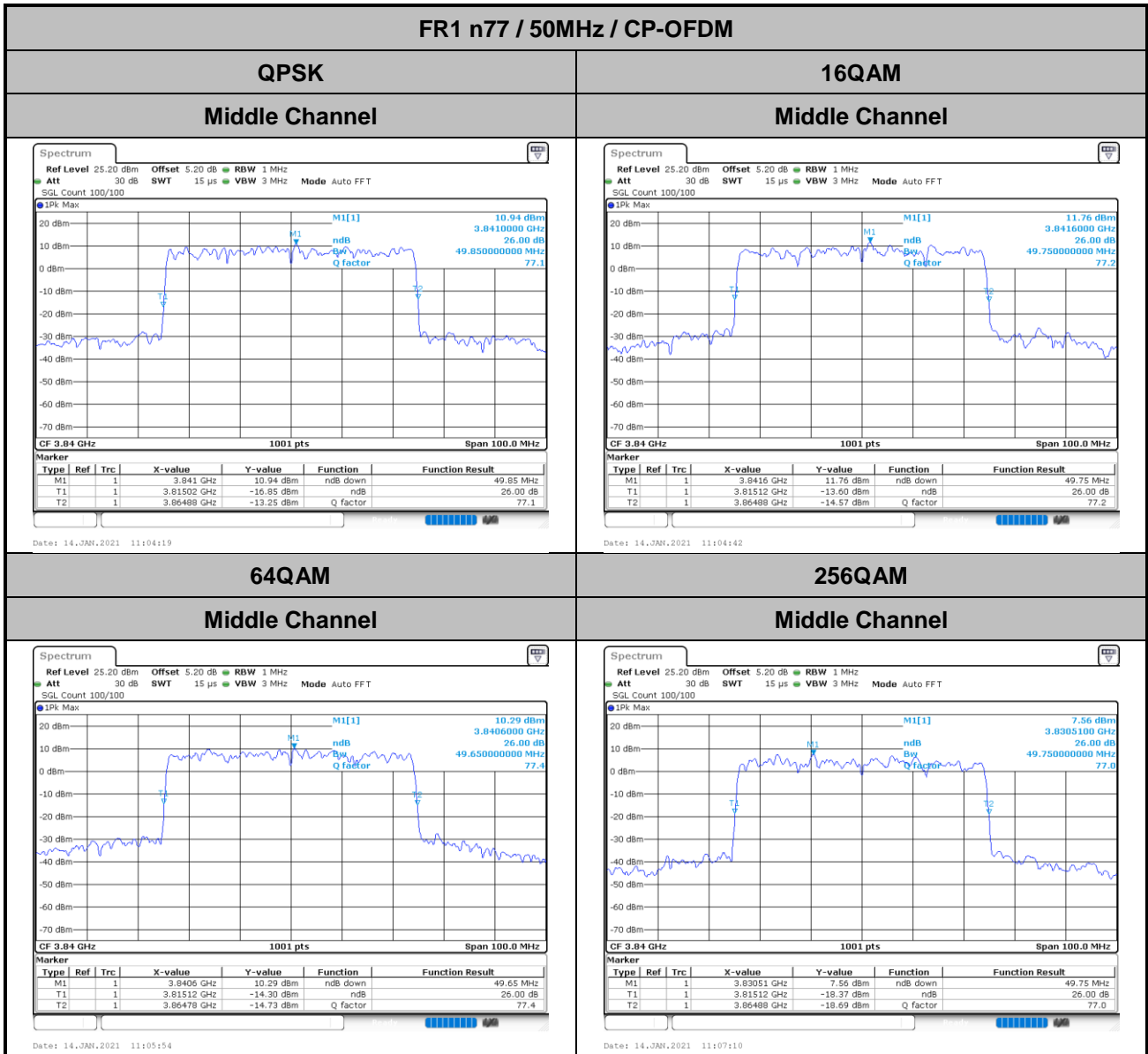
Mode	FR1 n77 : 26dB BW(MHz) / CP-OFDM							
BW	100MHz	100MHz	100MHz	100MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	100.30	100.30	100.30	100.30				

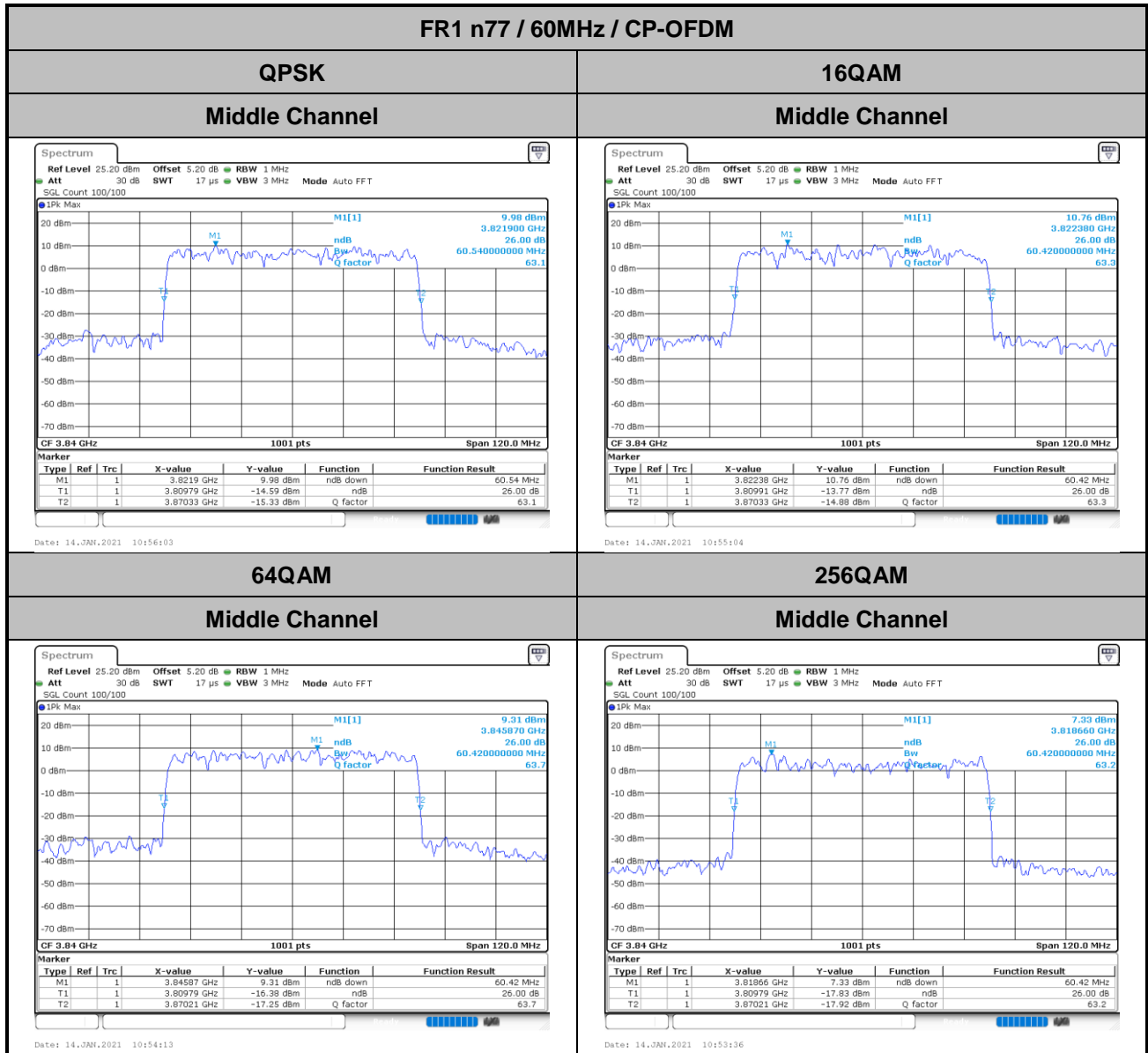


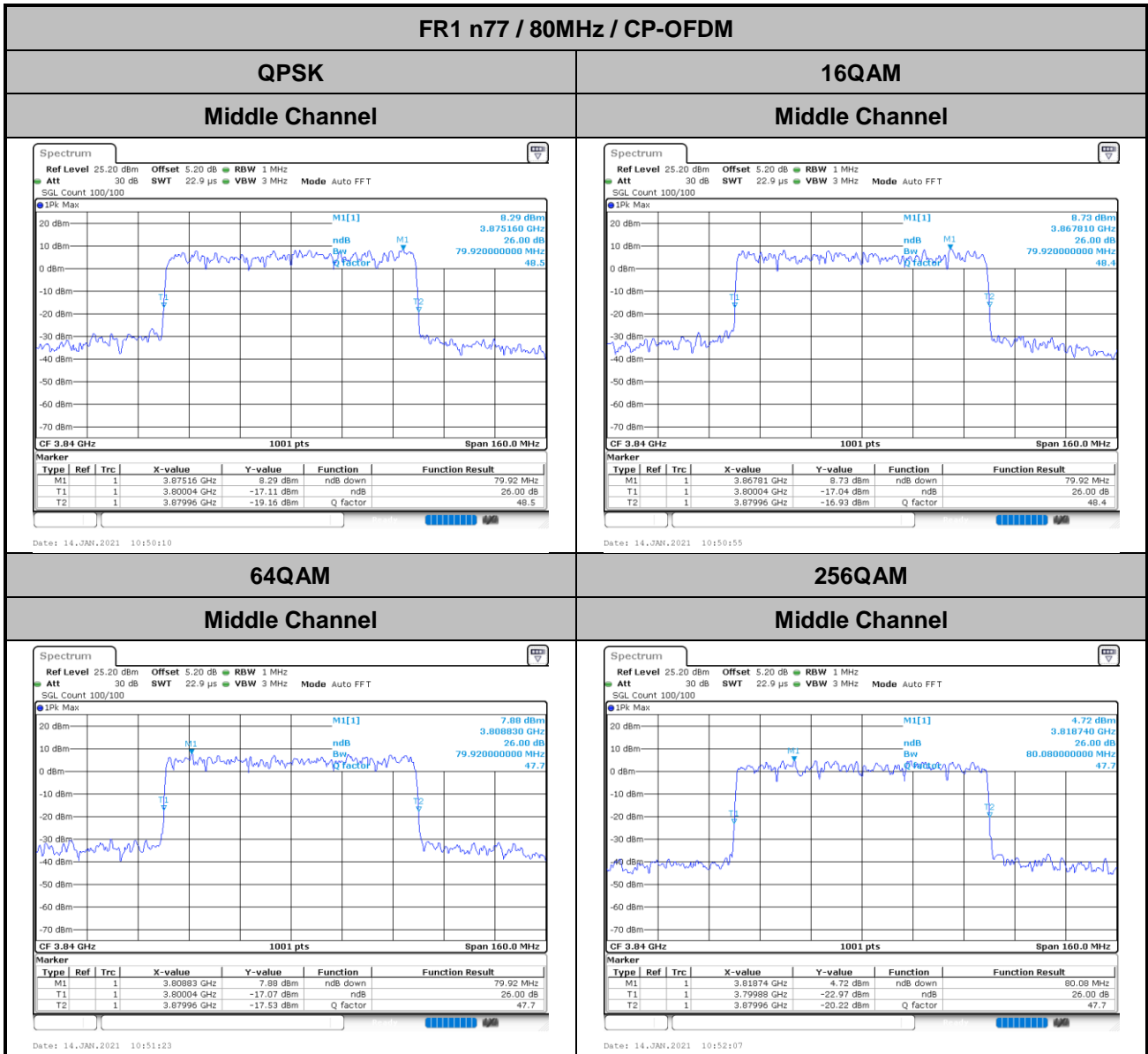














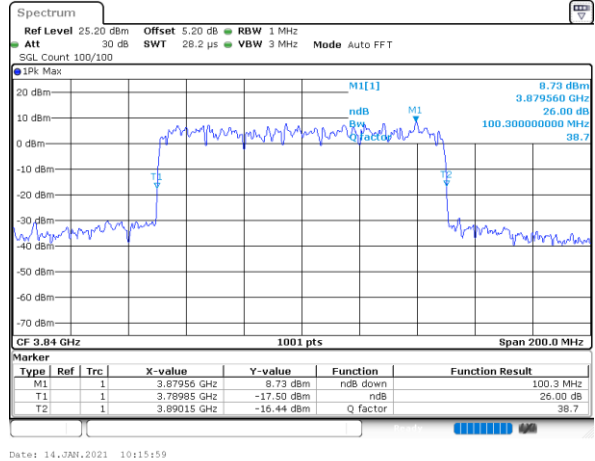
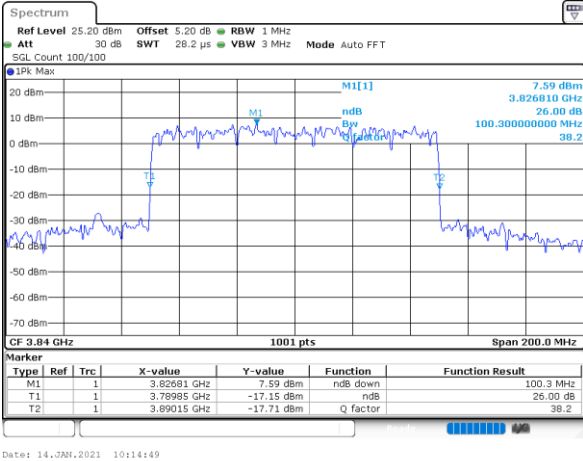
FR1 n77 / 100MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel



Date: 14.JAN.2021 10:14:49

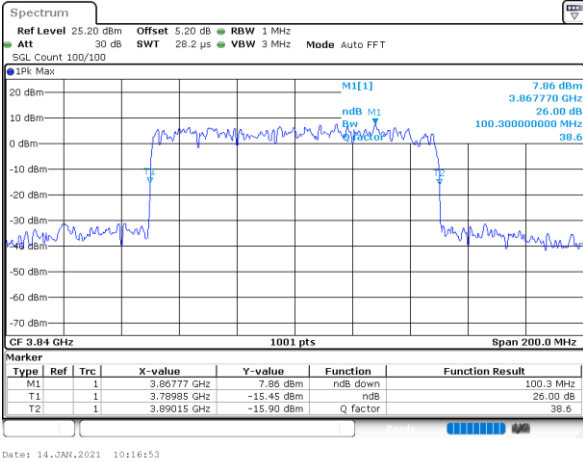
Date: 14.JAN.2021 10:15:59

64QAM

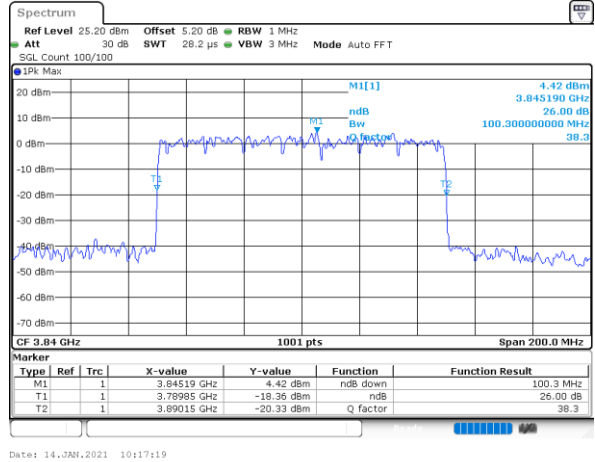
256QAM

Middle Channel

Middle Channel



Date: 14.JAN.2021 10:16:53



Date: 14.JAN.2021 10:17:19



Occupied Bandwidth

Mode	FR1 n77 : OBW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	8.59	8.59	8.57	8.59				

Mode	FR1 n77 : OBW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	13.64	13.55	13.55	13.64				

Mode	FR1 n77 : OBW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	18.22	18.26	18.26	18.30				

Mode	FR1 n77 : OBW(MHz) / CP-OFDM							
BW	40MHz	40MHz	40MHz	40MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	38.04	38.12	37.88	37.96				

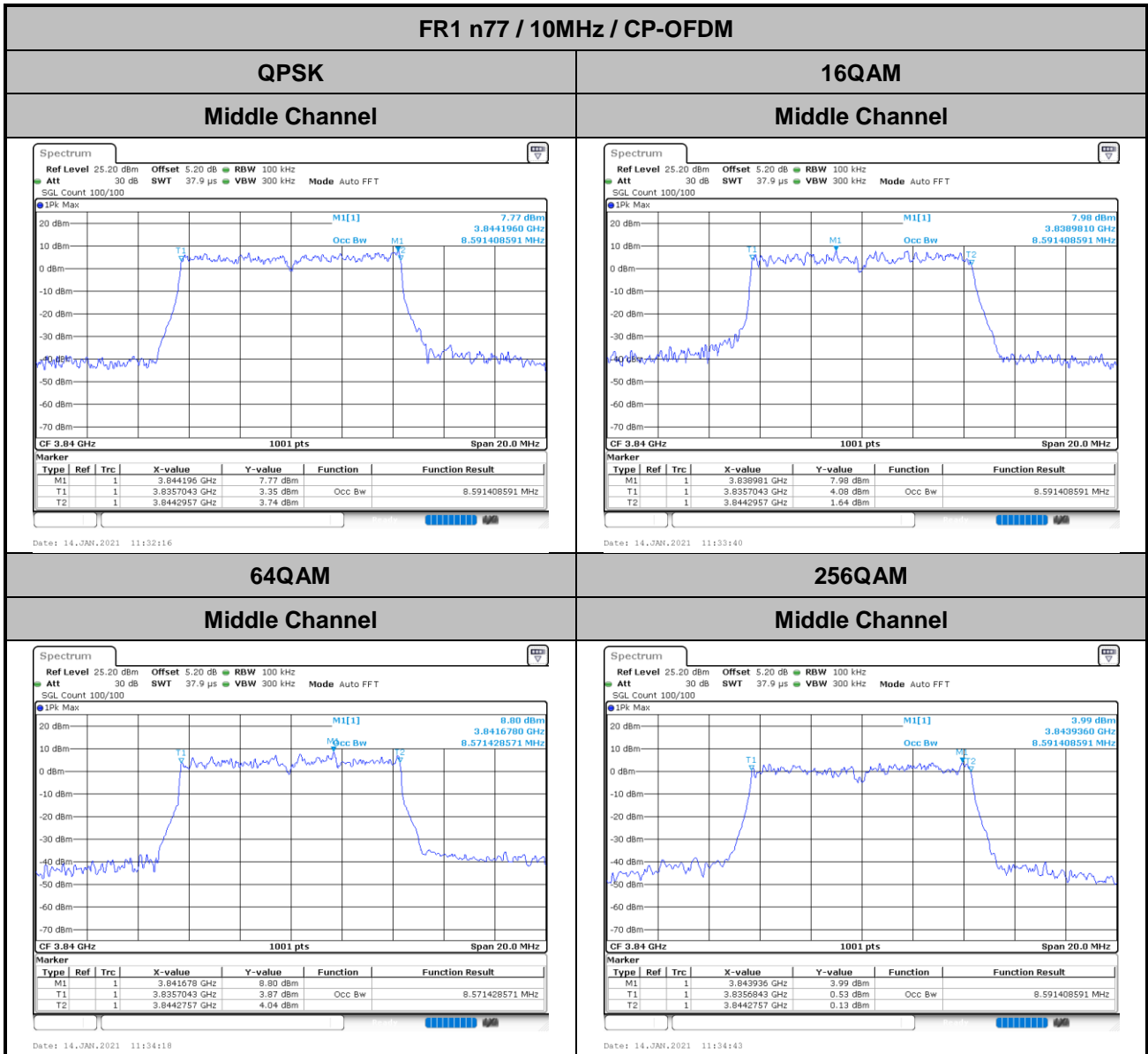
Mode	FR1 n77 : OBW(MHz) / CP-OFDM							
BW	50MHz	50MHz	50MHz	50MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	47.55	47.95	47.55	47.55				

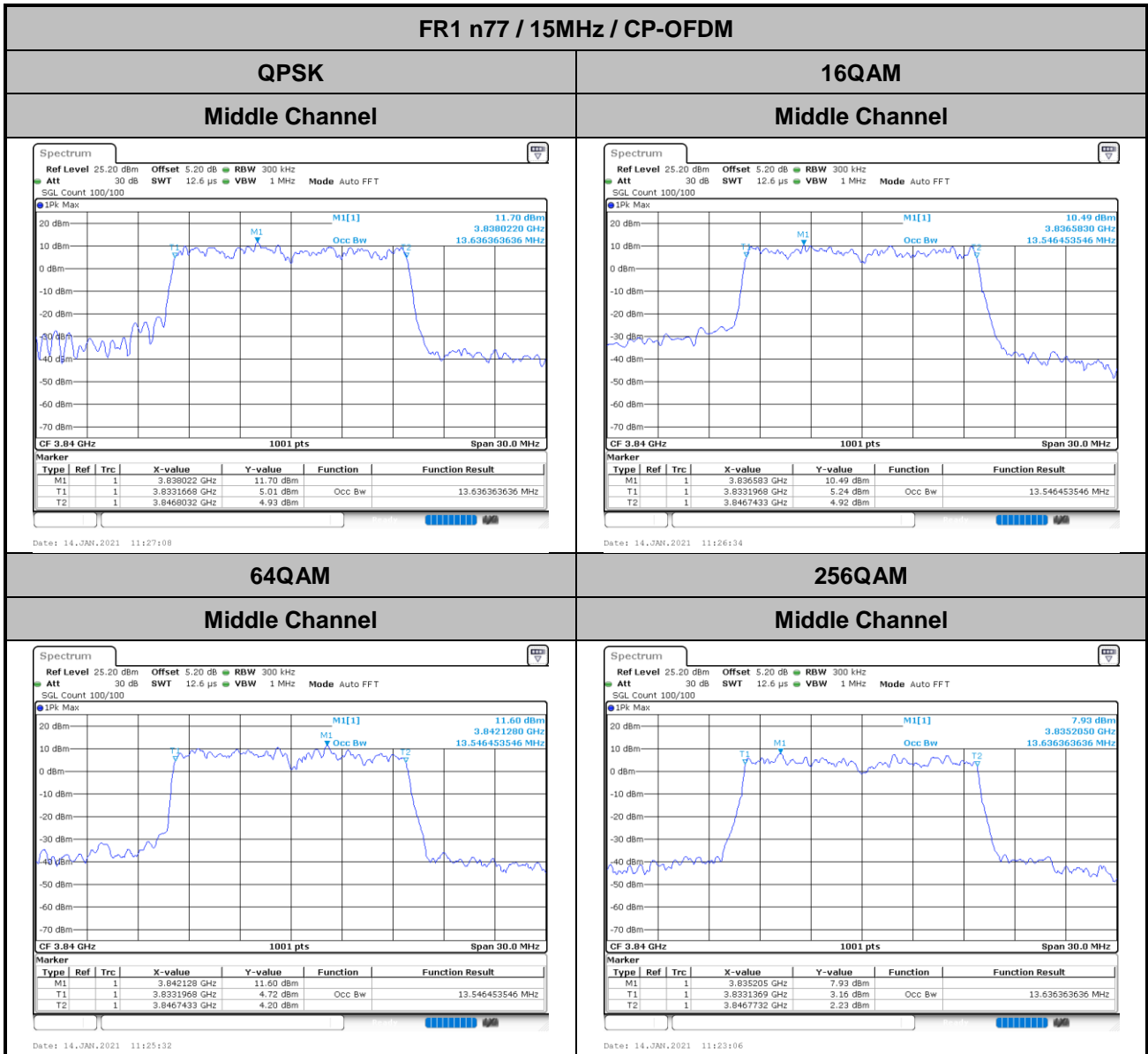
Mode	FR1 n77 : OBW(MHz) / CP-OFDM							
BW	60MHz	60MHz	60MHz	60MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	58.02	58.02	58.02	57.42				

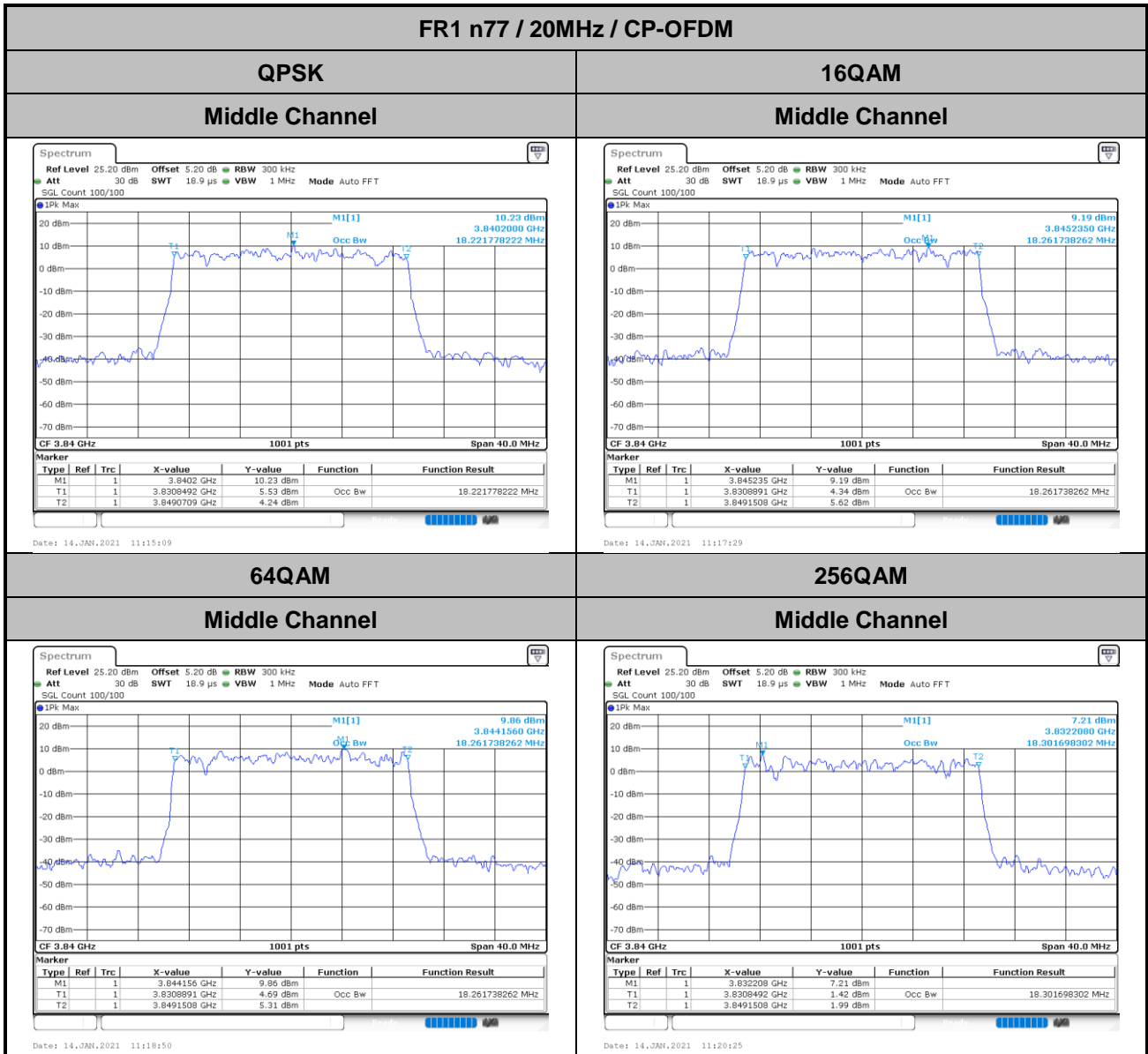


Mode	FR1 n77 : OBW(MHz) / CP-OFDM							
BW	80MHz	80MHz	80MHz	80MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	77.36	77.52	77.20	77.52				

Mode	FR1 n77 : OBW(MHz) / CP-OFDM							
BW	100MHz	100MHz	100MHz	100MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	97.50	97.10	97.30	97.50				









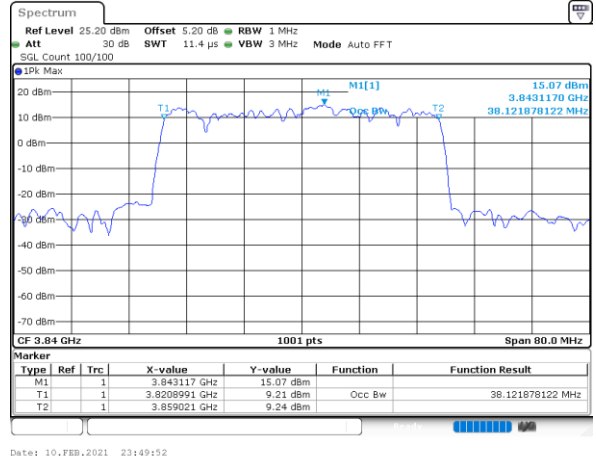
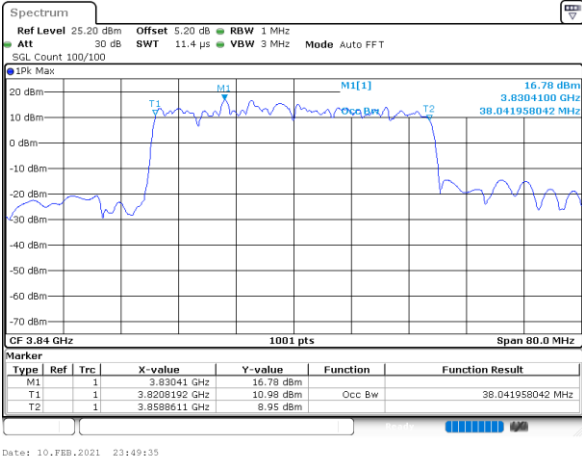
FR1 n77 / 40MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel



Date: 10.FEB.2021 23:49:35

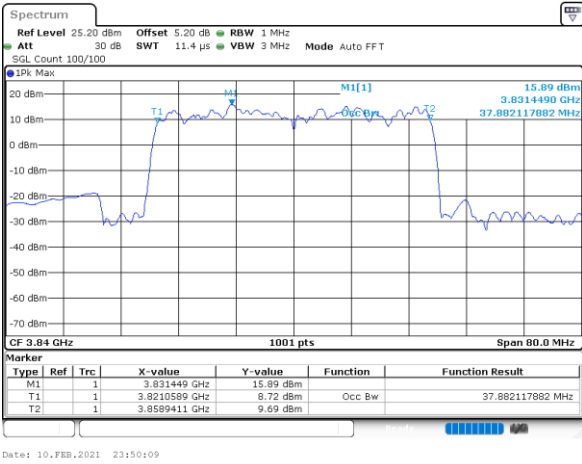
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64QAM

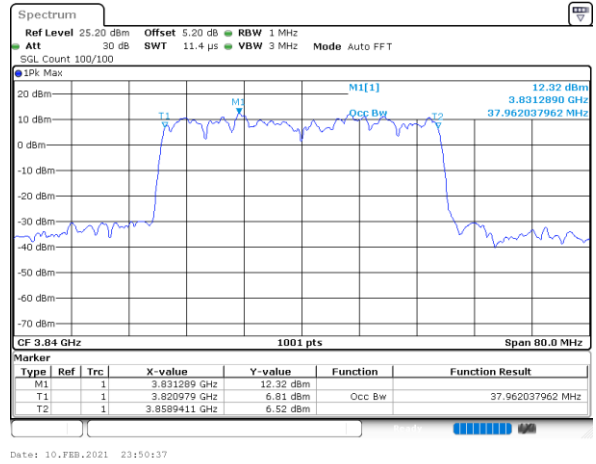
256QAM

Middle Channel

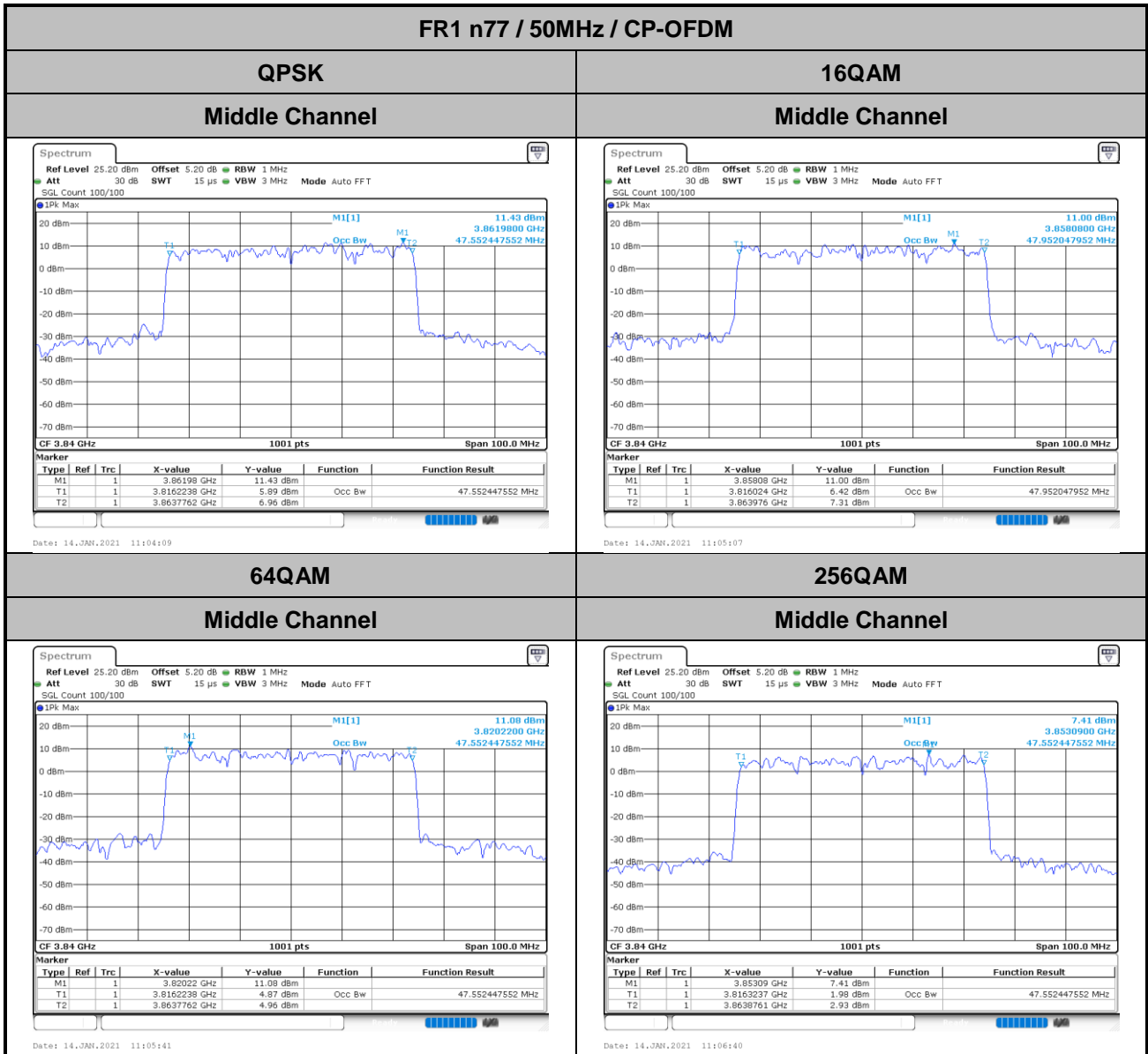
Middle Channel

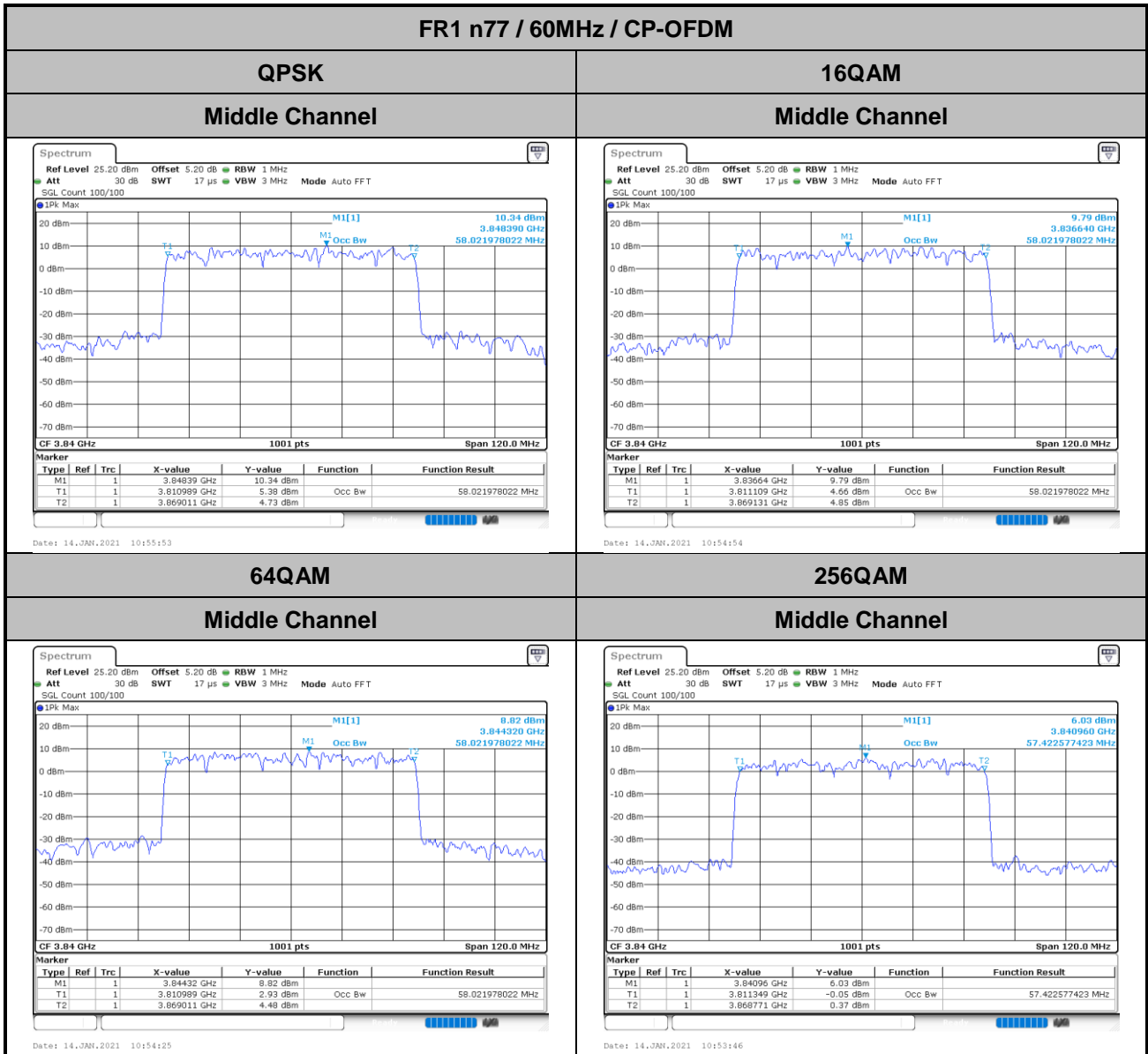


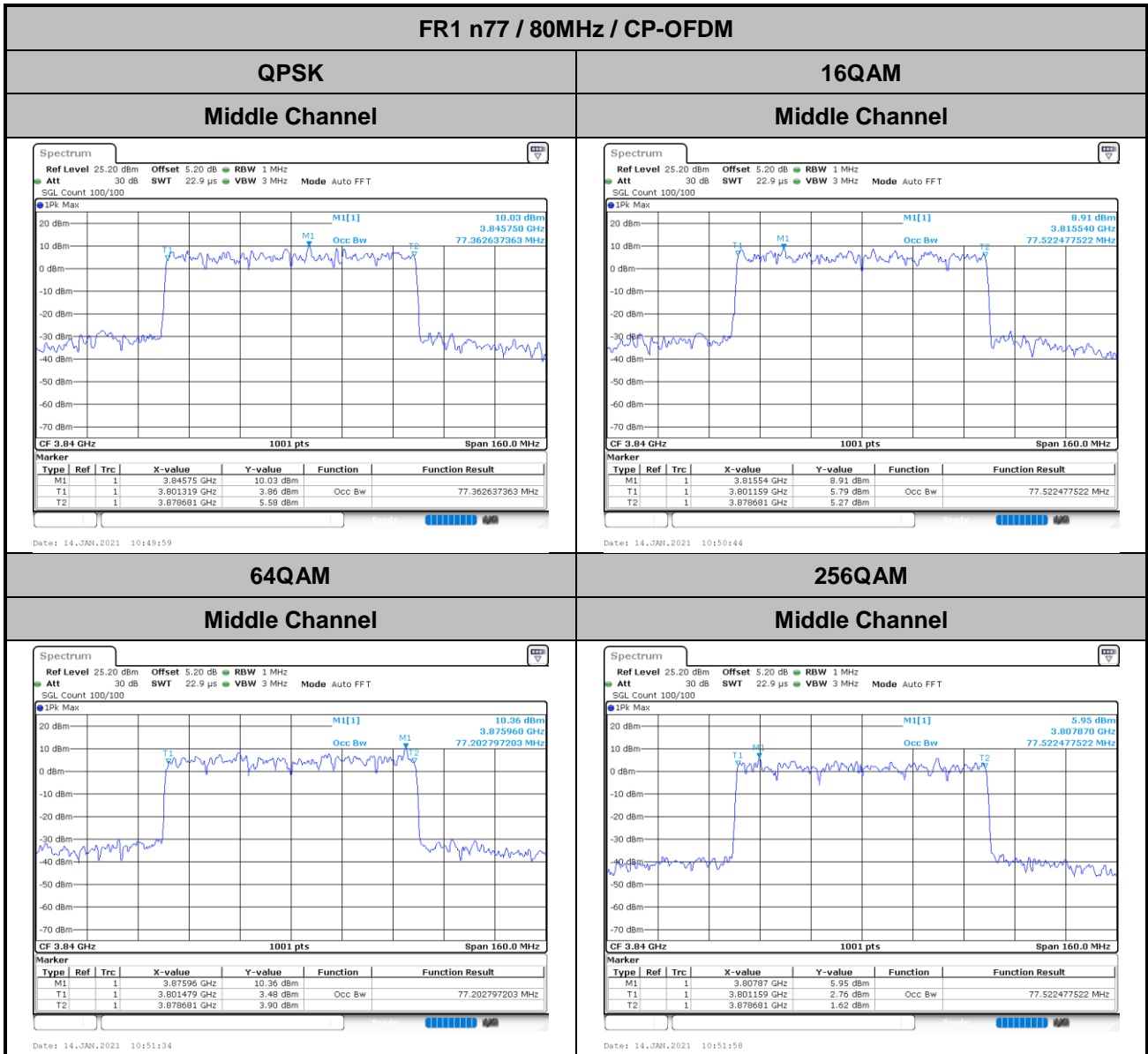
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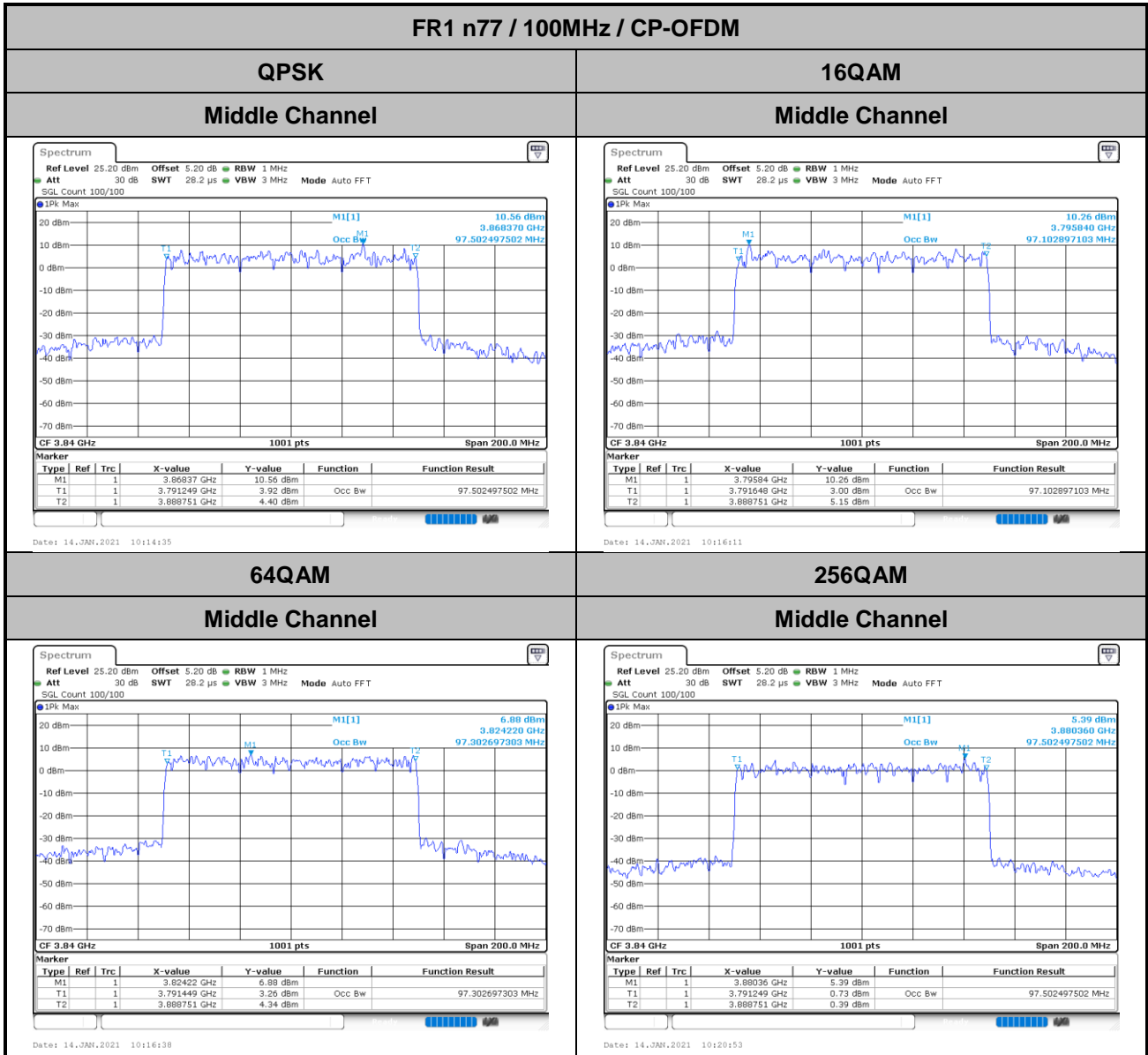


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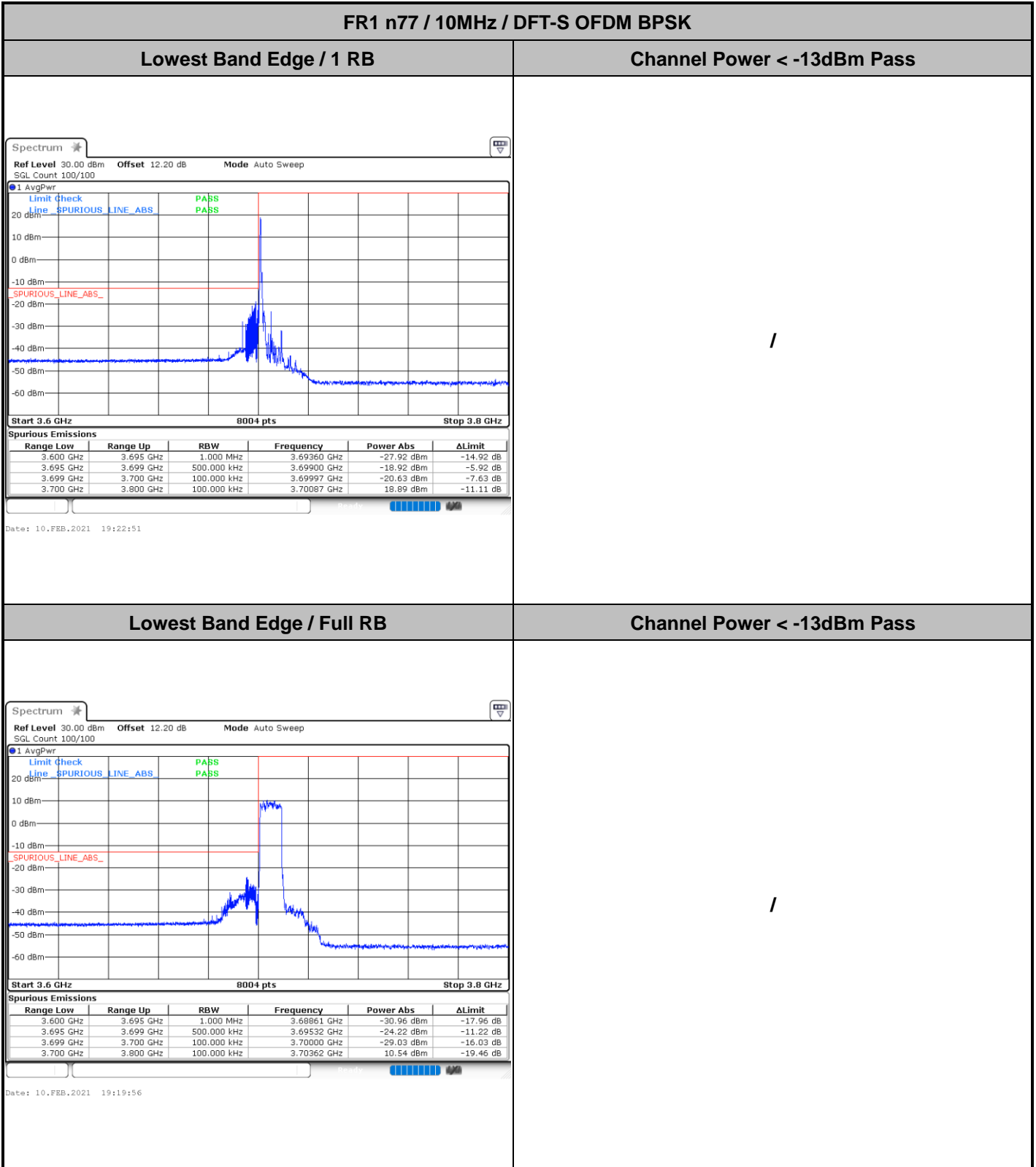








Conducted Band Edge

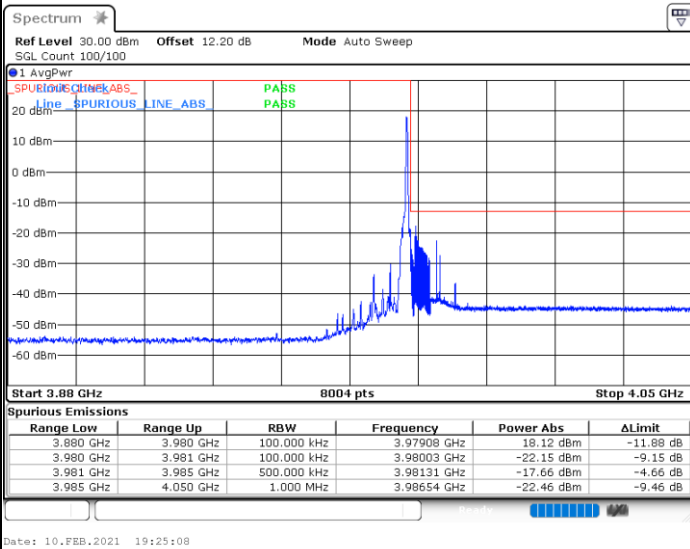




FR1 n77 / 10MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

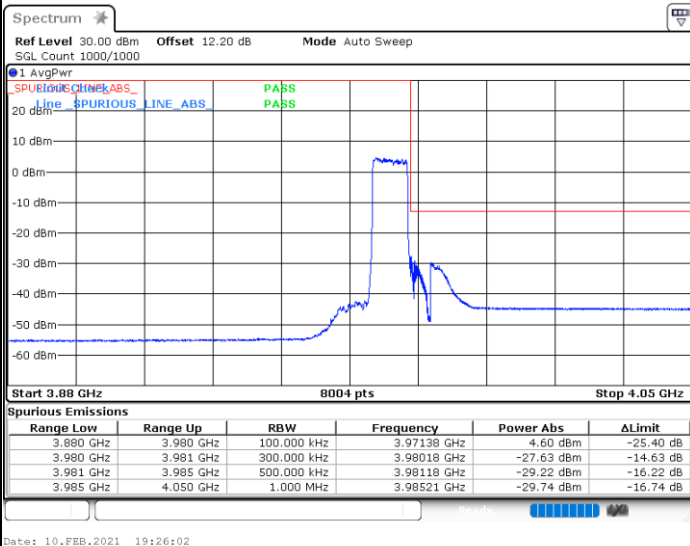
Channel Power < -13dBm Pass



/

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



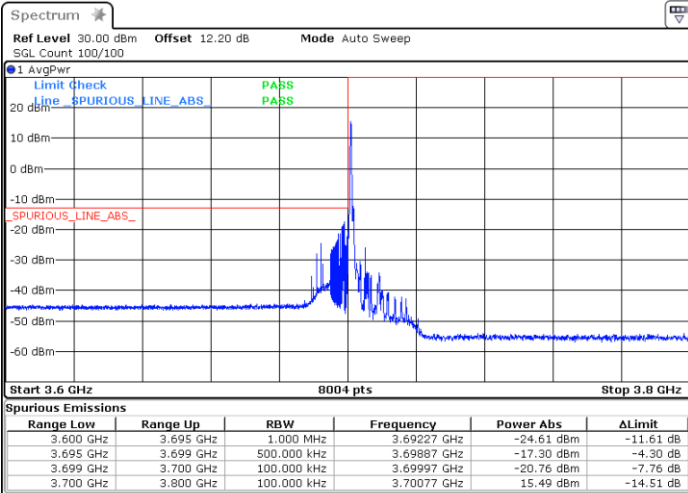
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FR1 n77 / 10MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

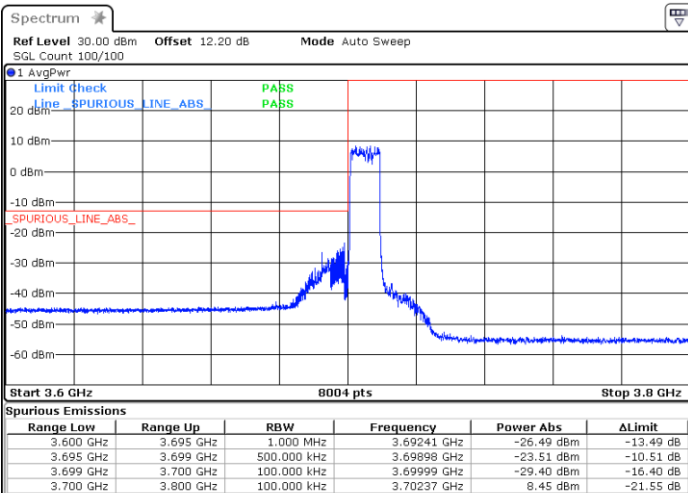
Channel Power < -13dBm Pass



Date: 10.FEB.2021 19:23:37

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



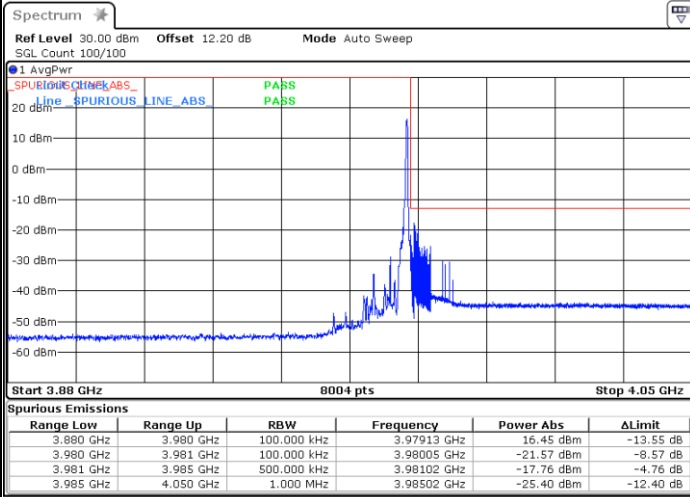
Date: 10.FEB.2021 19:14:08



FR1 n77 / 10MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

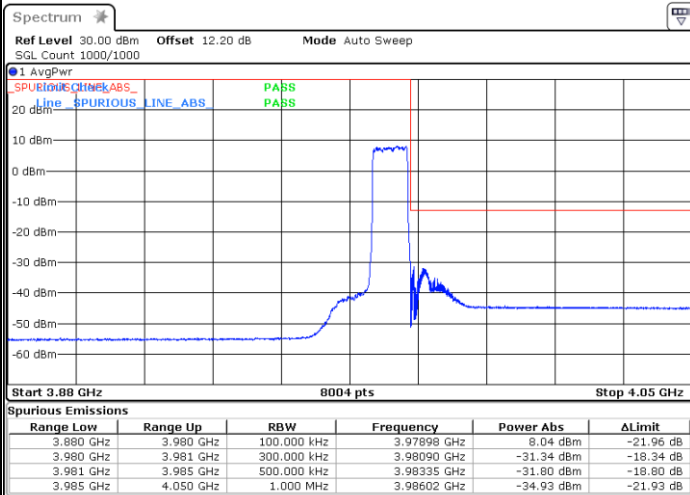
Channel Power < -13dBm Pass



Date: 10.FEB.2021 19:24:35

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



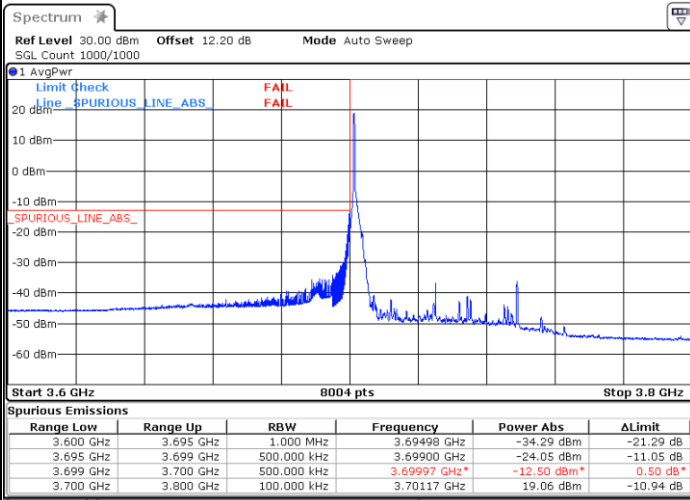
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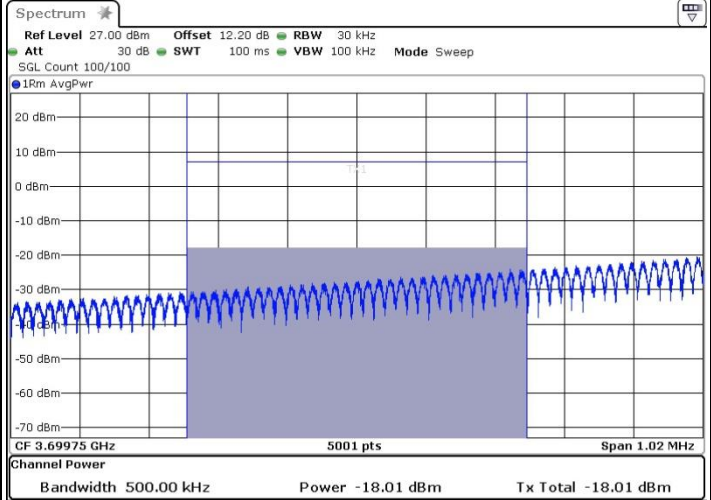
FR1 n77 / 50MHz / DFT-S OFDM BPSK

Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



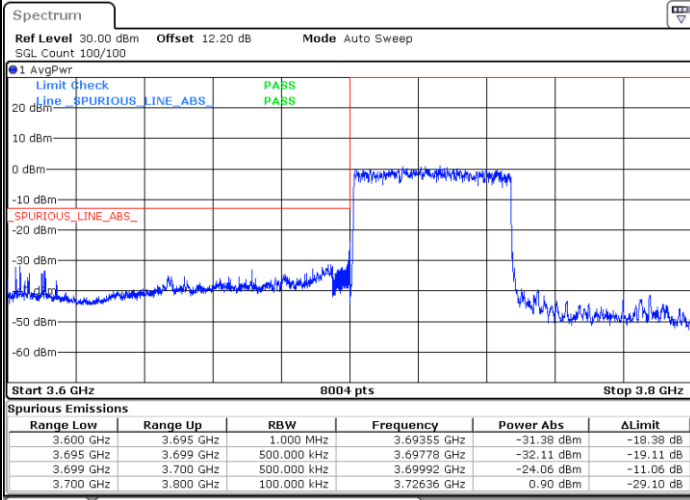
Date: 9.FEB.2021 22:06:46



Date: 9.FEB.2021 22:07:39

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



Date: 9.FEB.2021 22:04:04

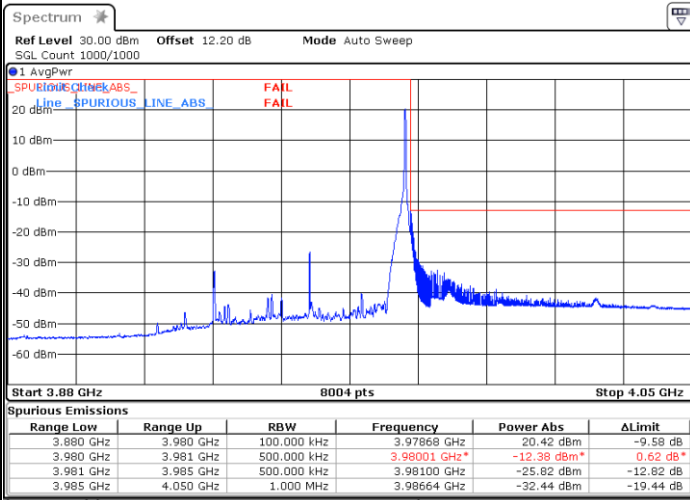
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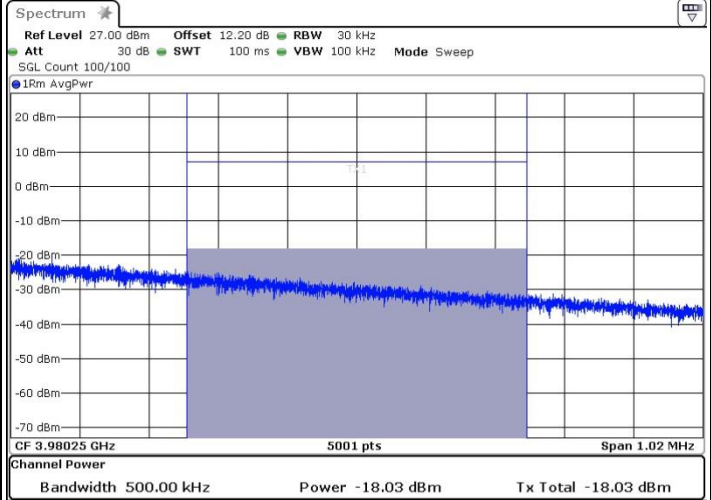
FR1 n77 / 50MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



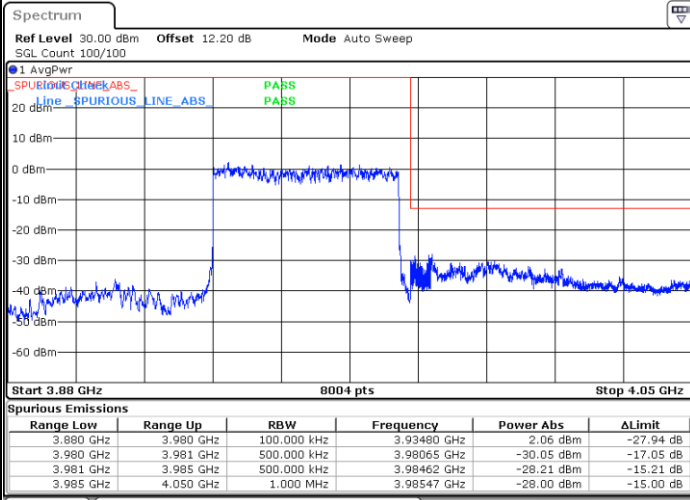
Date: 9.FEB.2021 21:55:27



Date: 9.FEB.2021 22:01:46

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



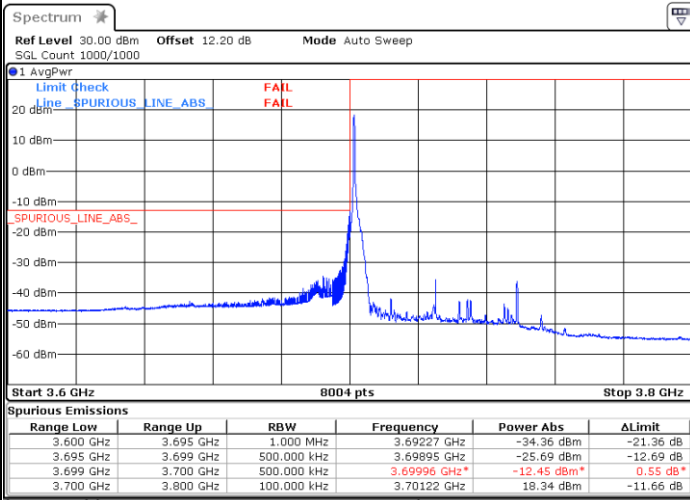
Date: 9.FEB.2021 22:03:07



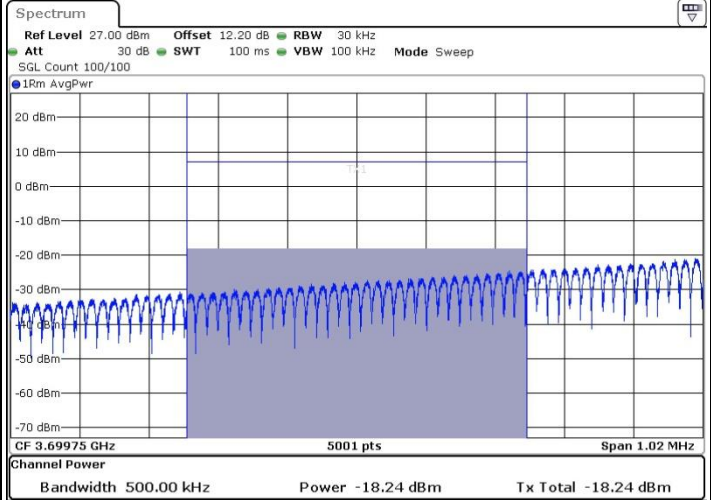
FR1 n77 / 50MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



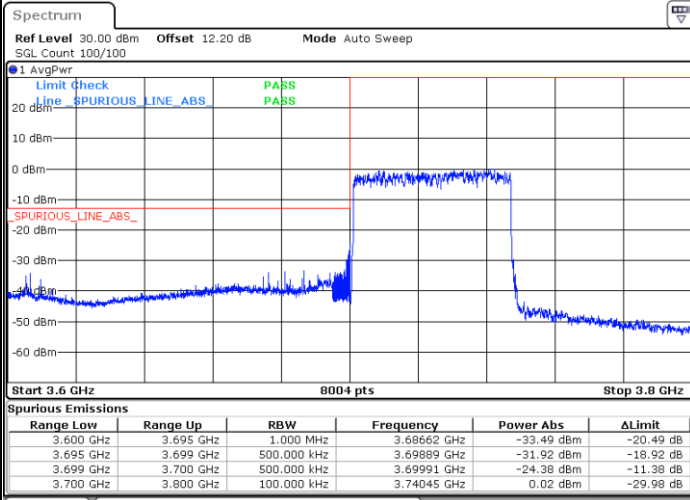
Date: 9.FEB.2021 22:05:34



Date: 9.FEB.2021 22:08:06

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



Date: 9.FEB.2021 22:04:19

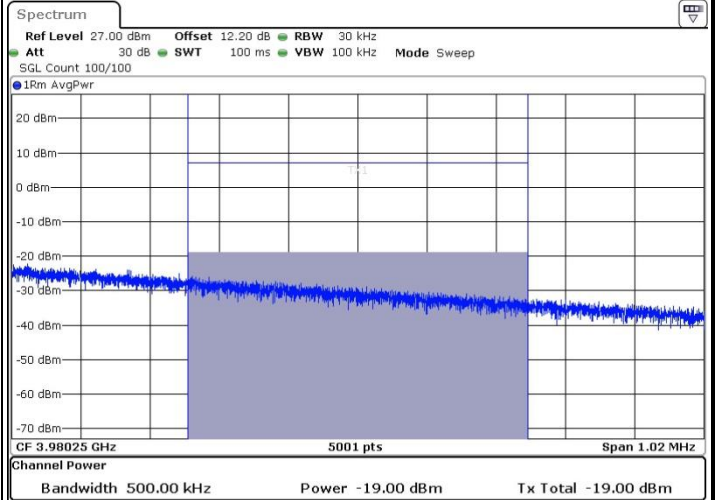
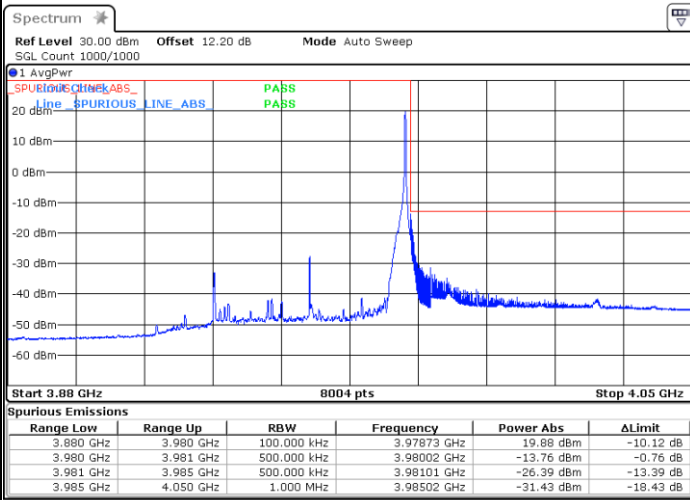
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FR1 n77 / 50MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass

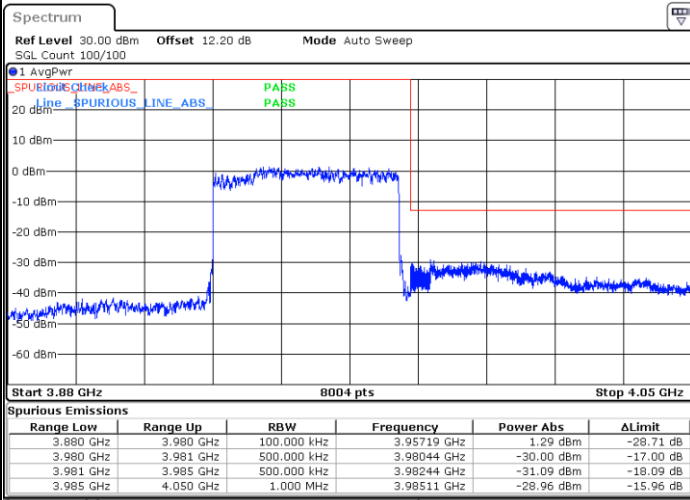


Date: 9.FEB.2021 21:53:28

Date: 9.FEB.2021 22:02:07

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



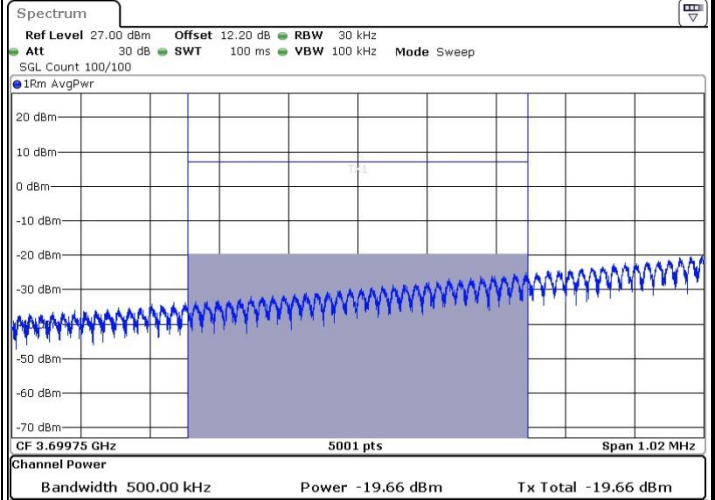
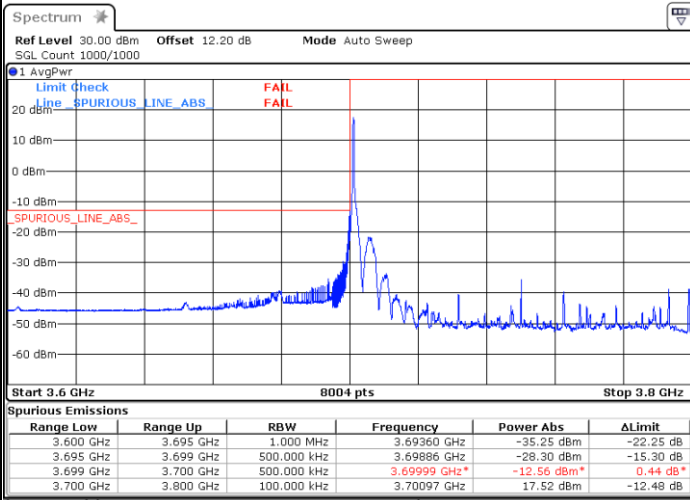
Date: 9.FEB.2021 22:02:44



FR1 n77 / 100MHz / DFT-S OFDM BPSK

Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass

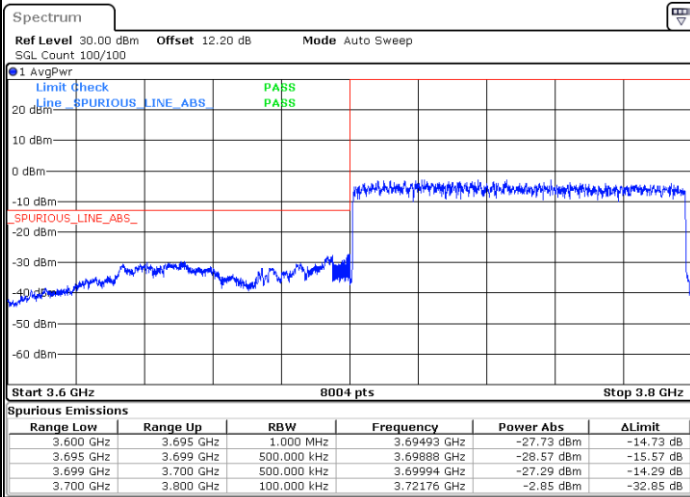


Date: 9.FEB.2021 19:24:25

Date: 9.FEB.2021 19:29:00

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



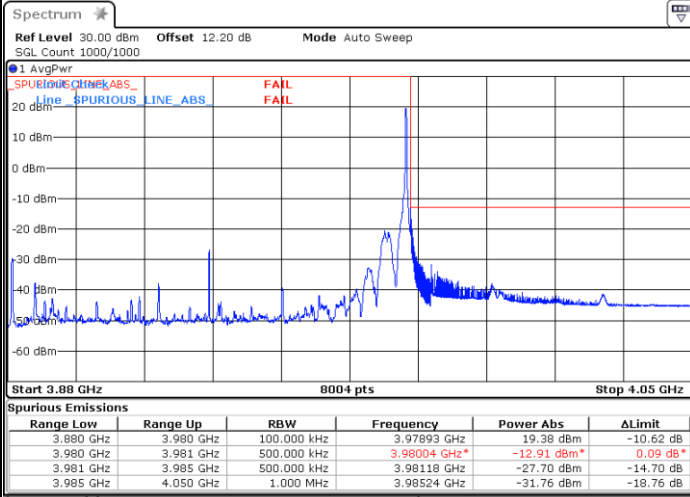
Date: 9.FEB.2021 19:23:30



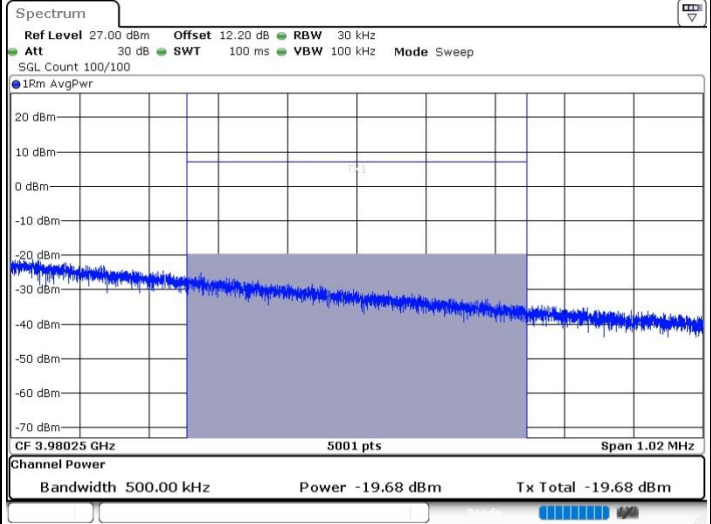
FR1 n77 / 100MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Date: 9.FEB.2021 19:31:49

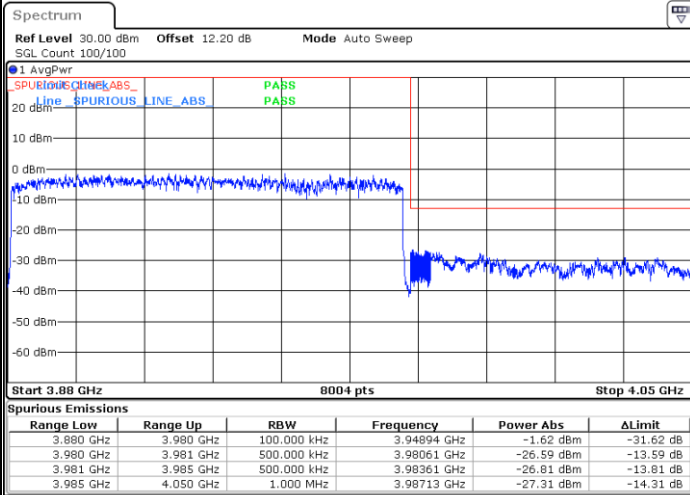


Date: 9.FEB.2021 19:36:32

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Highest Band Edge / Full RB

Channel Power < -13dBm Pass



Date: 9.FEB.2021 19:37:09

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