



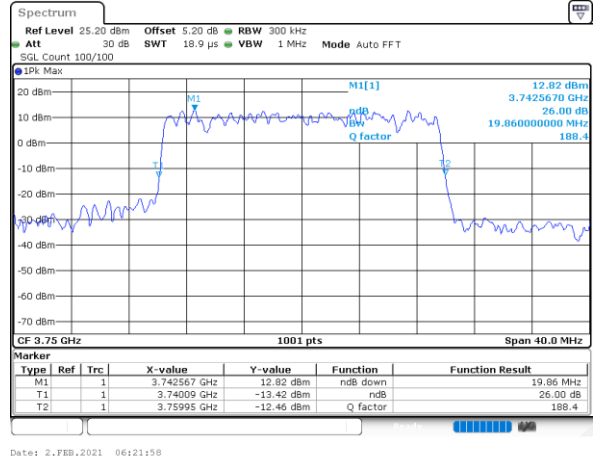
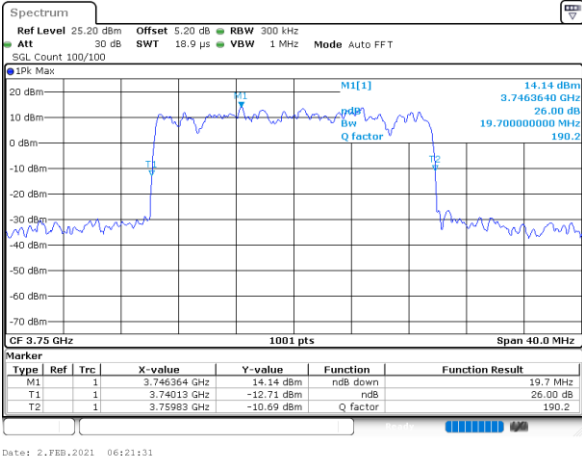
FR1 n78 / 20MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel

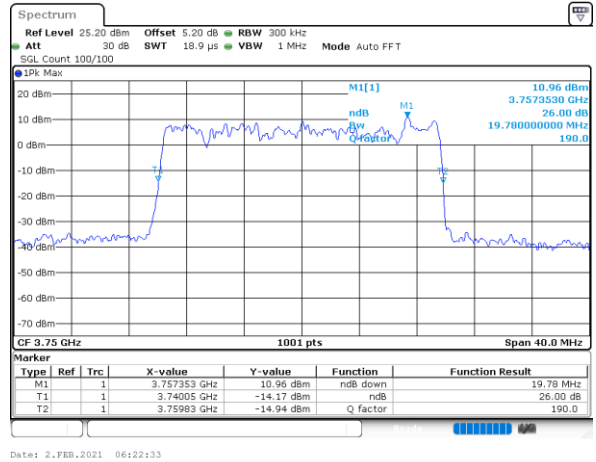
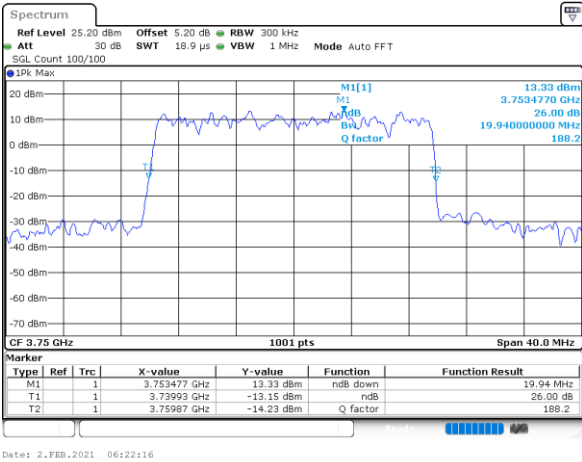


64QAM

256QAM

Middle Channel

Middle Channel



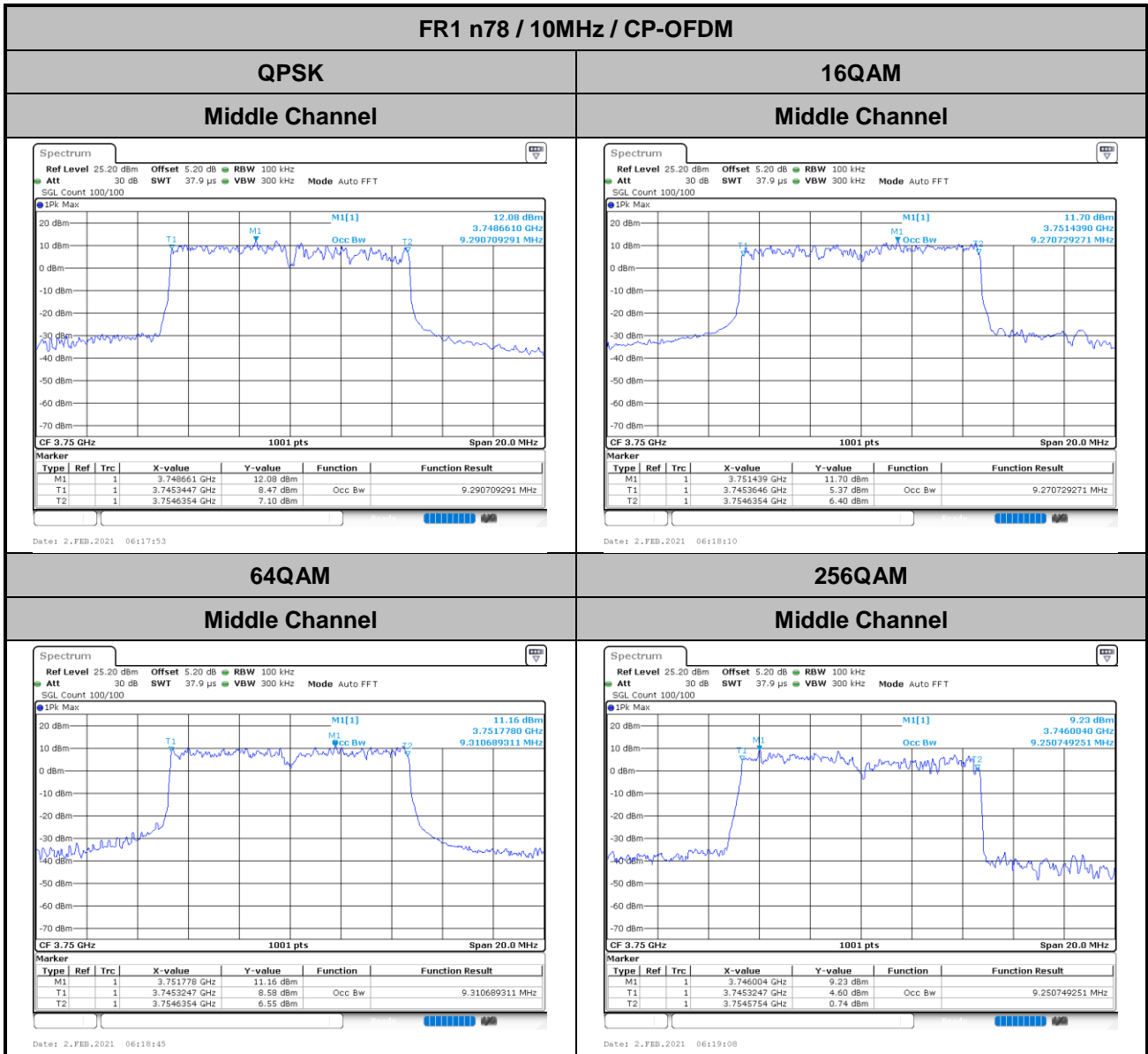


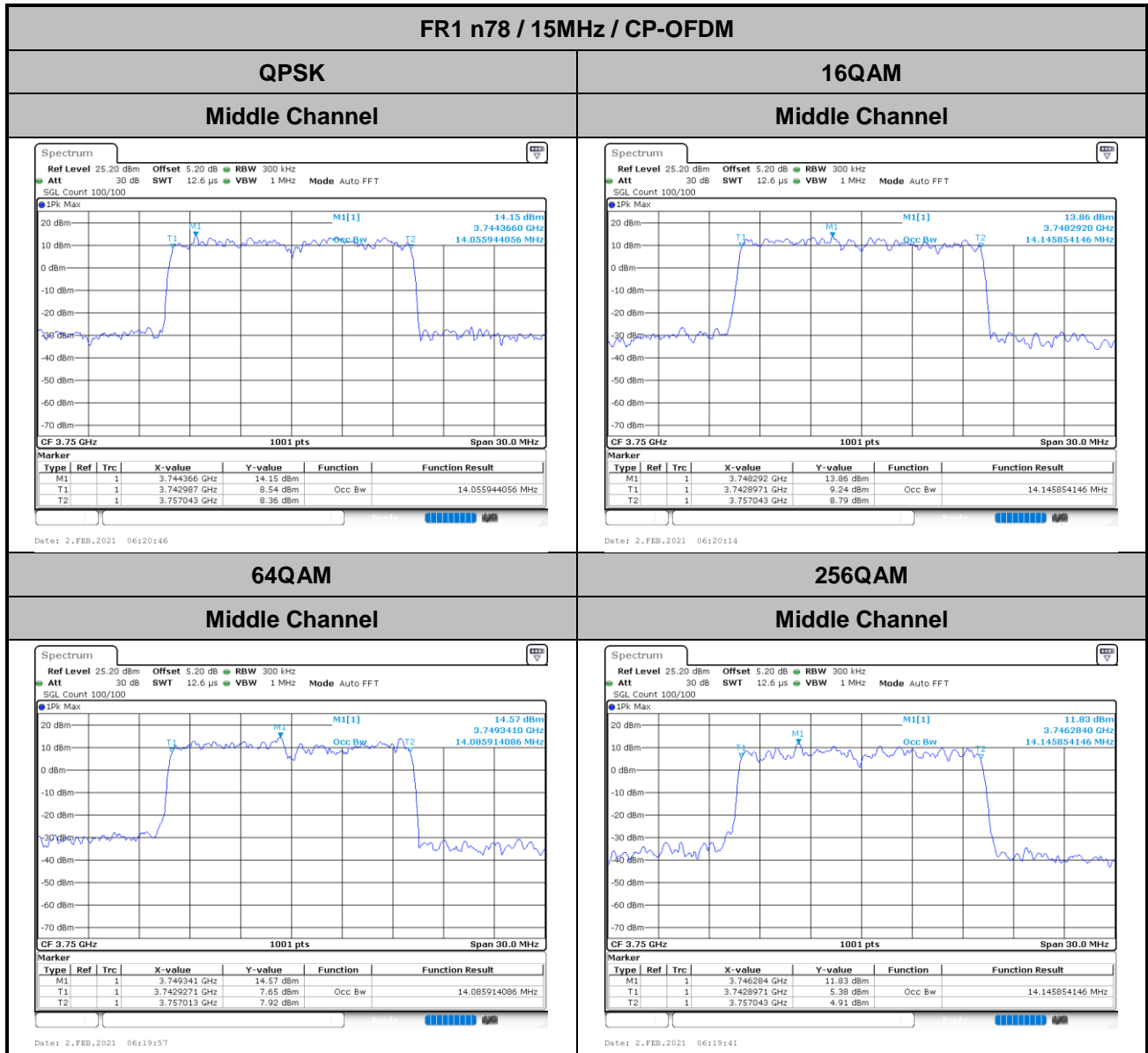
Occupied Bandwidth

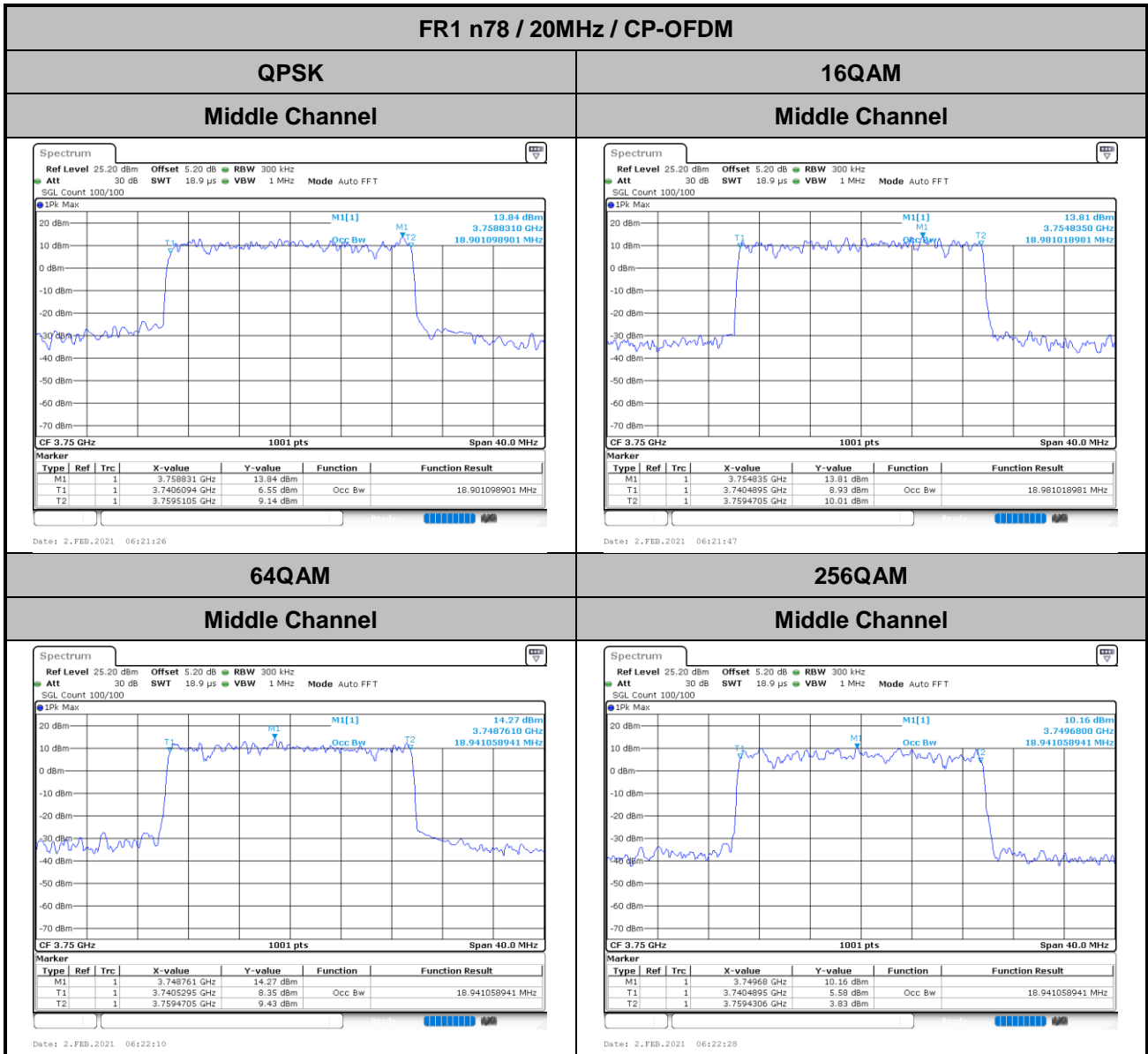
Mode	FR1 n78 : OBW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	9.29	9.30	9.31	9.25				

Mode	FR1 n78 : OBW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	14.06	14.15	14.09	14.15				

Mode	FR1 n78 : OBW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	18.90	18.98	18.94	18.94				







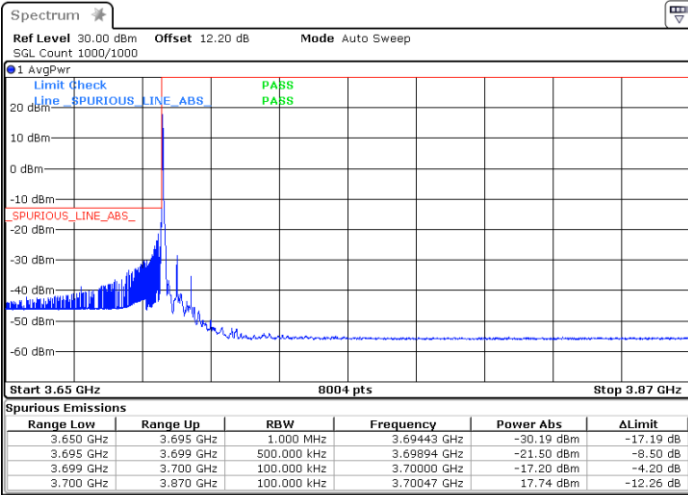


Conducted Band Edge

FR1 n78 / 10MHz / DFT-S OFDM BPSK

Lowest Band Edge / 1 RB

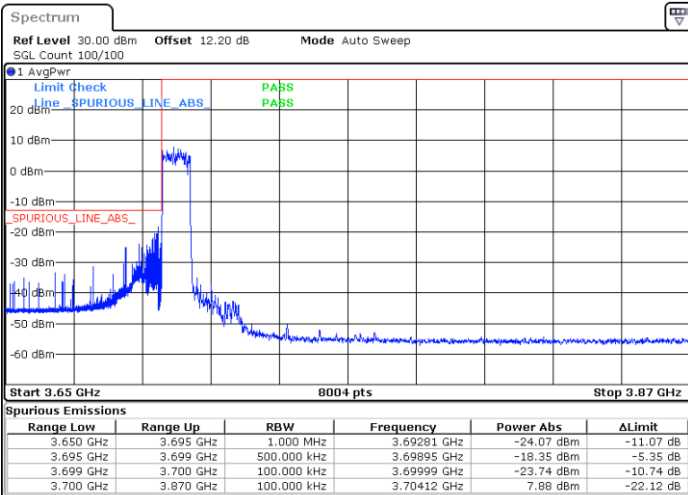
Channel Power < -13dBm Pass



/

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



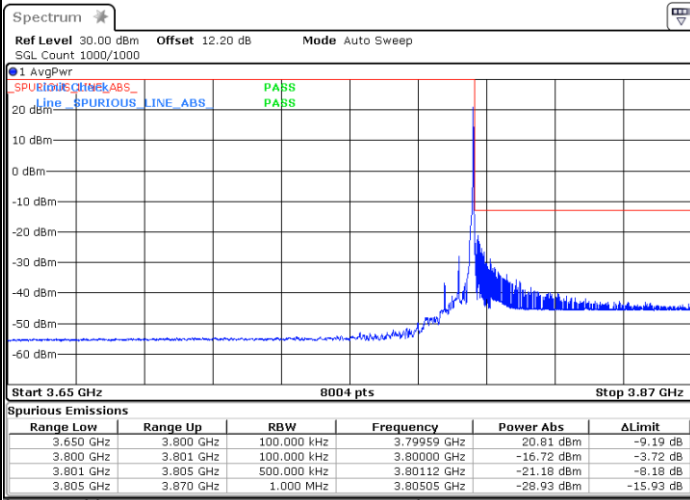
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FR1 n78 / 10MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

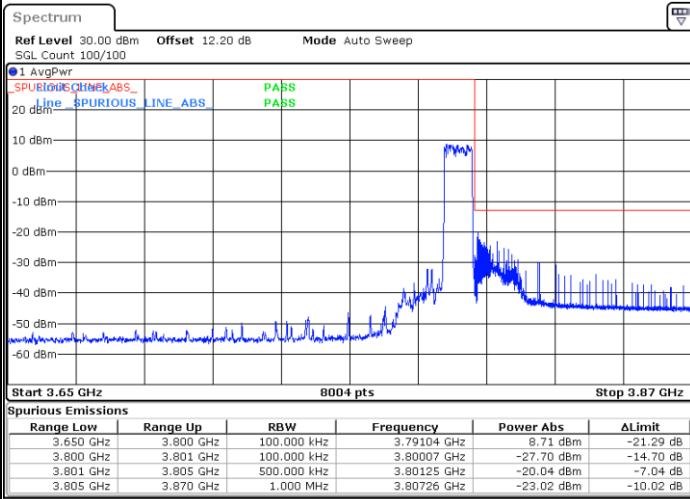
Channel Power < -13dBm Pass



Date: 11.FEB.2021 00:50:44

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



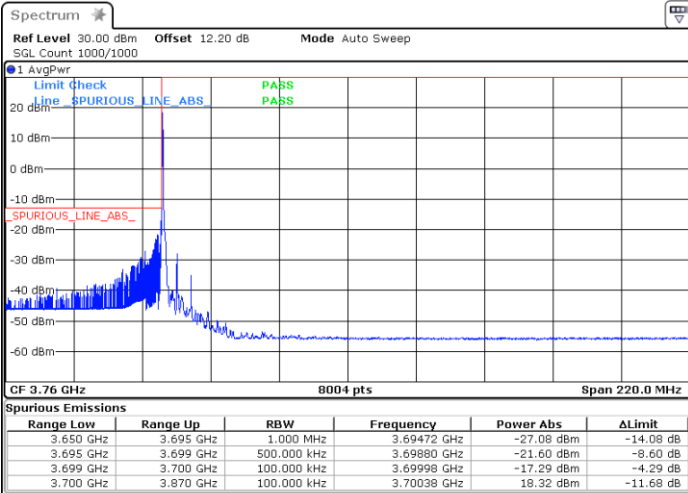
Date: 11.FEB.2021 00:49:24



FR1 n78 / 10MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

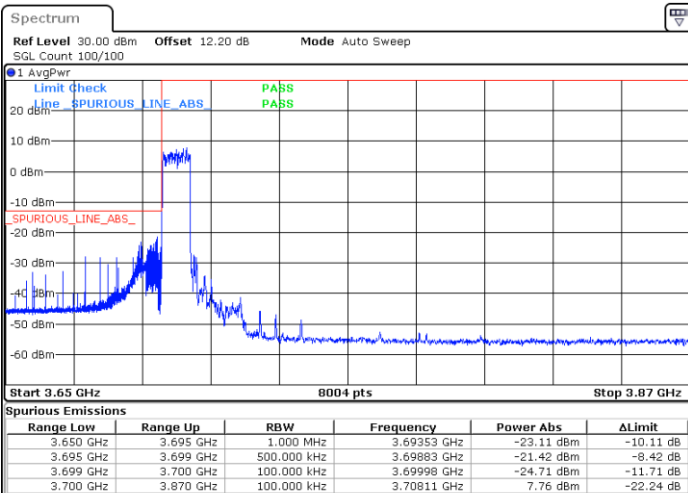
Channel Power < -13dBm Pass



Date: 4.MAR.2021 05:54:01

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



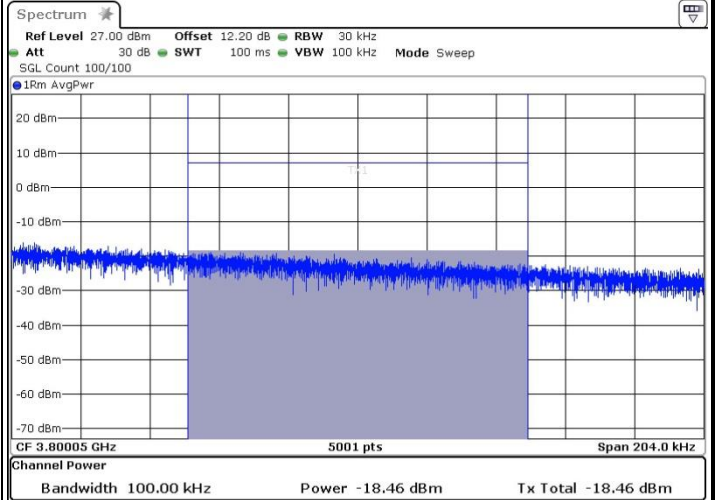
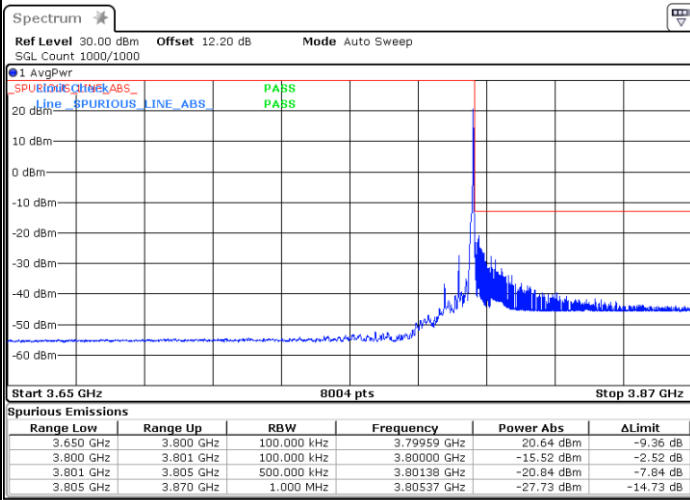
Date: 4.MAR.2021 05:52:38



FR1 n78 / 10MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass

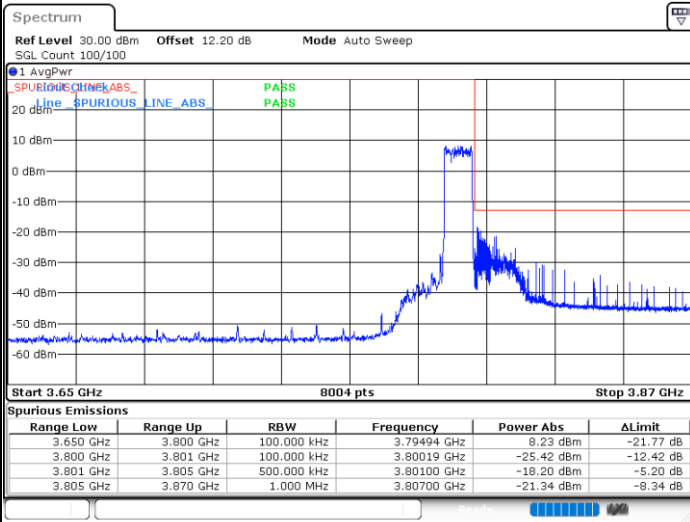


Date: 11.FEB.2021 00:51:50

Date: 11.FEB.2021 00:53:08

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



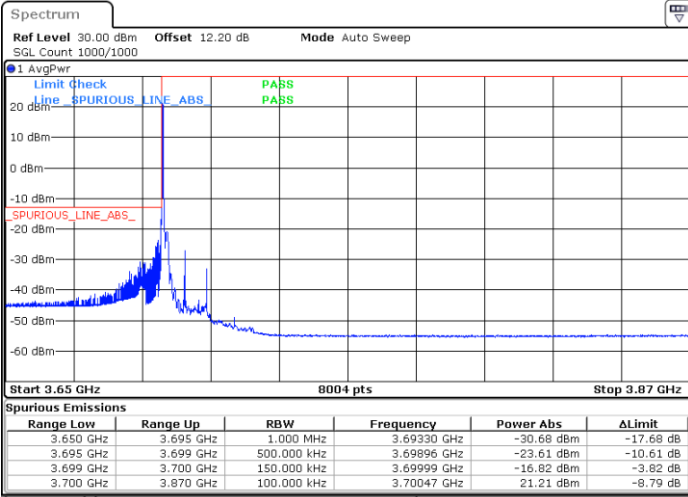
Date: 11.FEB.2021 00:48:11



FR1 n78 / 15MHz / DFT-S OFDM BPSK

Lowest Band Edge / 1 RB

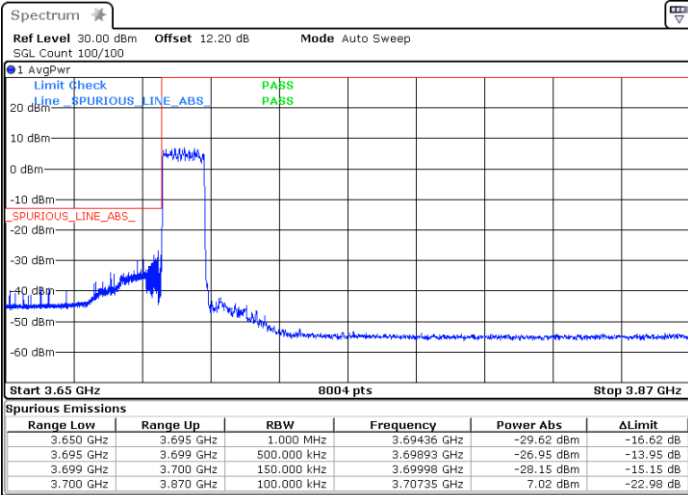
Channel Power < -13dBm Pass



Date: 12.MAR.2021 04:52:19

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



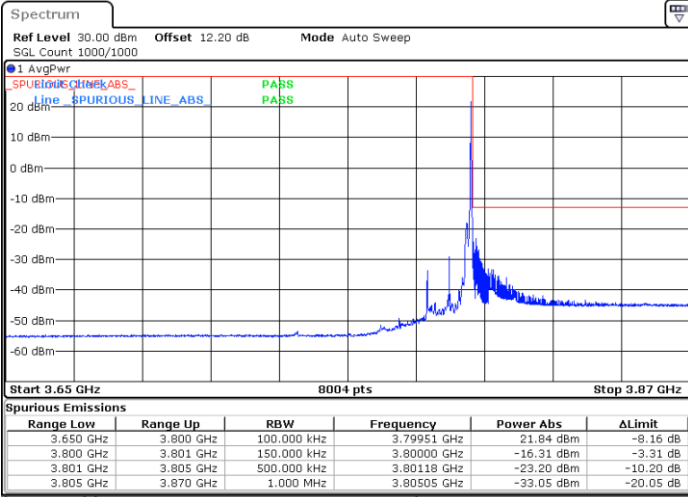
Date: 12.MAR.2021 04:52:53



FR1 n78 / 15MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

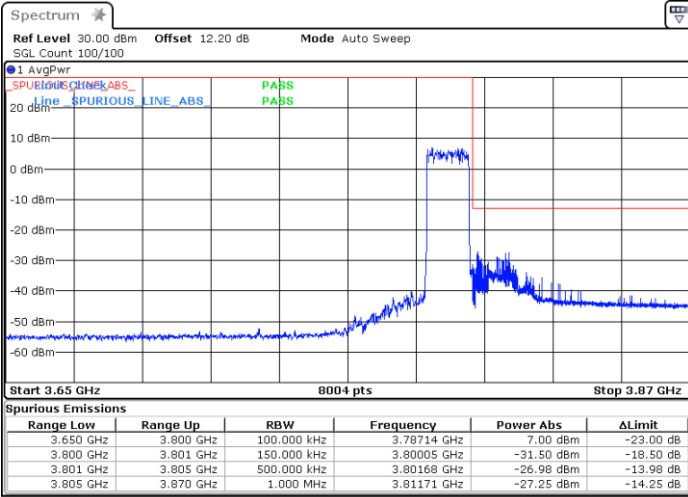
Channel Power < -13dBm Pass



Date: 12.MAR.2021 04:55:08

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



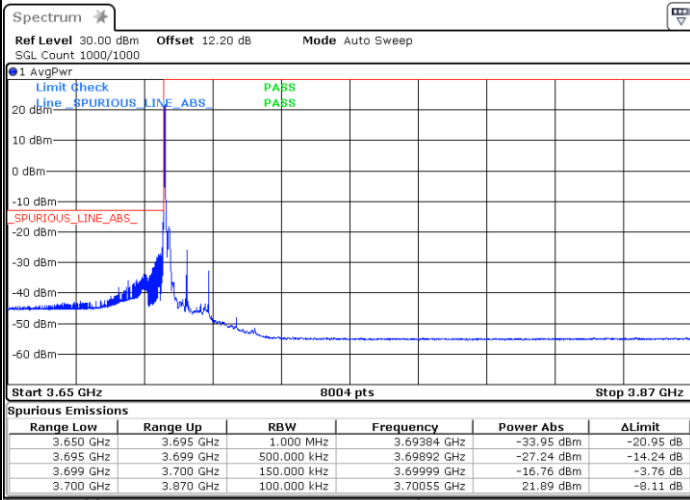
Date: 12.MAR.2021 04:54:11



FR1 n78 / 15MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

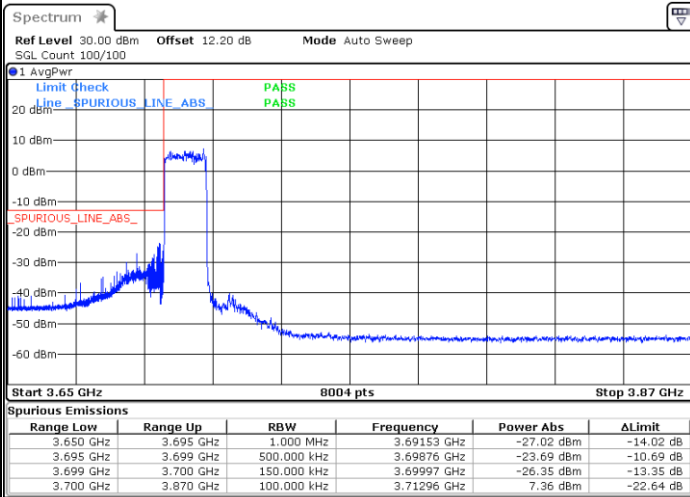
Channel Power < -13dBm Pass



Date: 12.MAR.2021 03:27:14

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



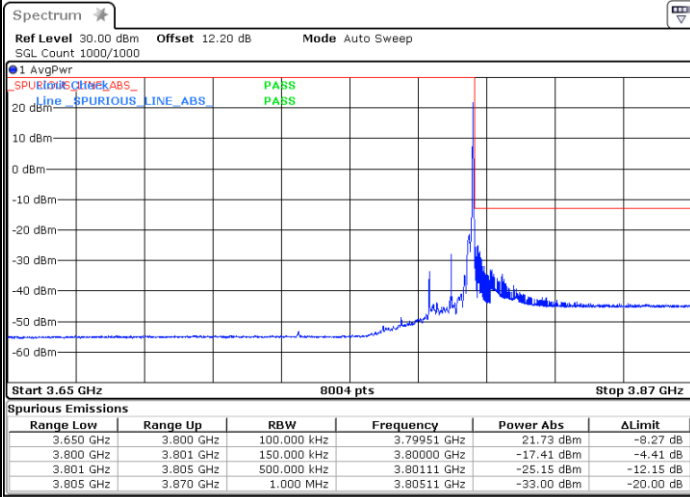
Date: 12.MAR.2021 04:53:16



FR1 n78 / 15MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Date: 12.MAR.2021 03:20:52

Highest Band Edge / Full RB

Channel Power < -13dBm Pass

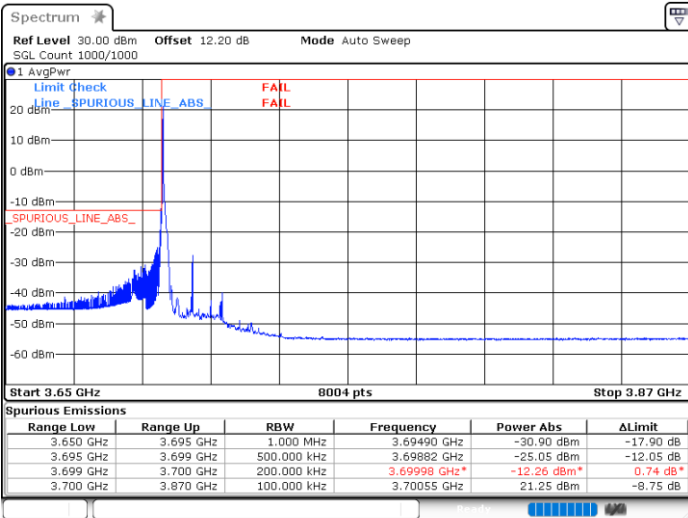


Date: 12.MAR.2021 04:53:48

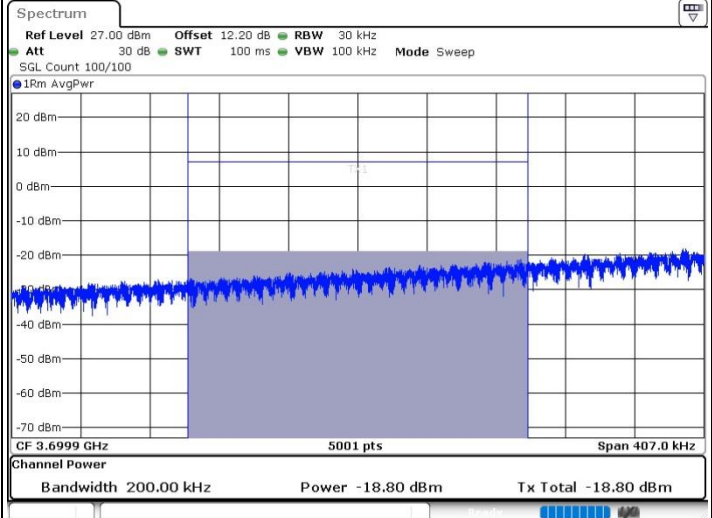


FR1 n78 / 20MHz / DFT-S OFDM BPSK

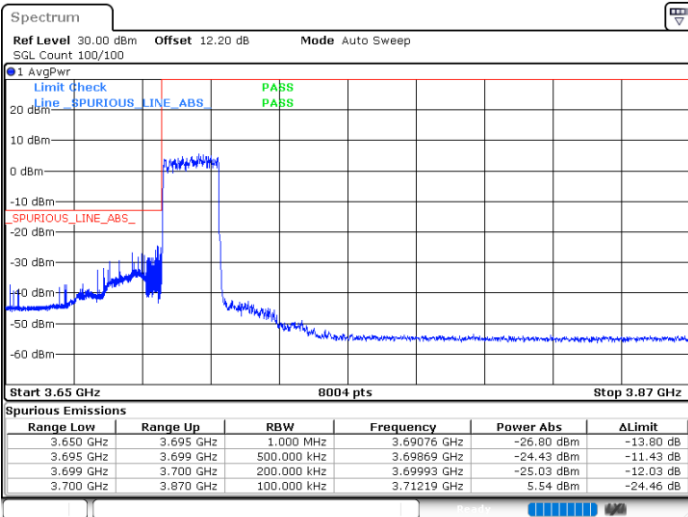
Lowest Band Edge / 1 RB



Channel Power < -13dBm Pass



Lowest Band Edge / Full RB



Channel Power < -13dBm Pass

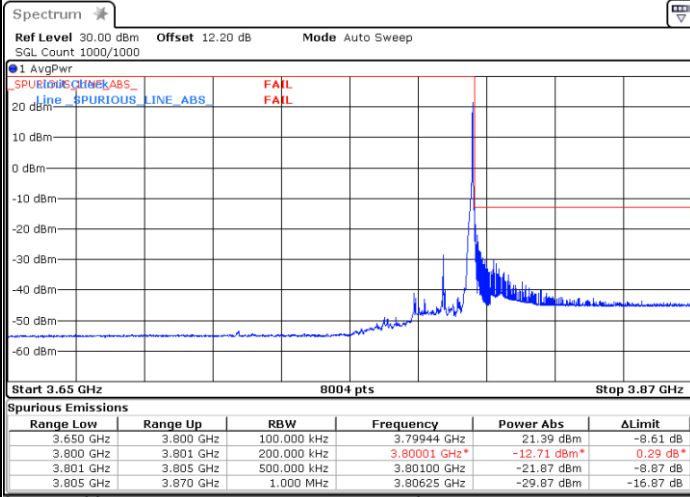




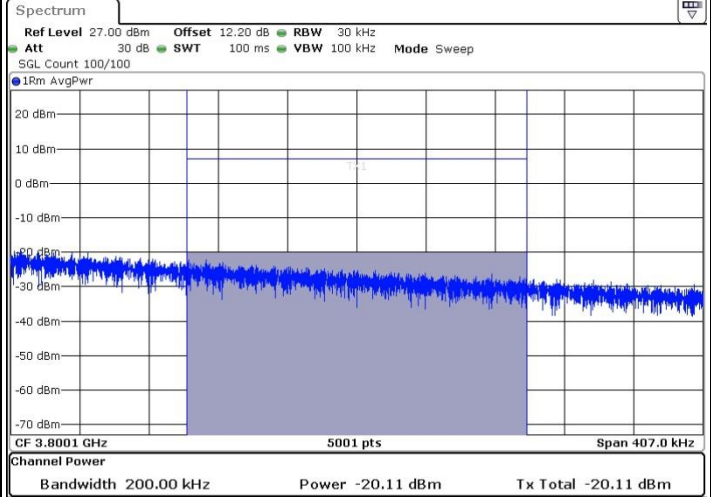
FR1 n78 / 20MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



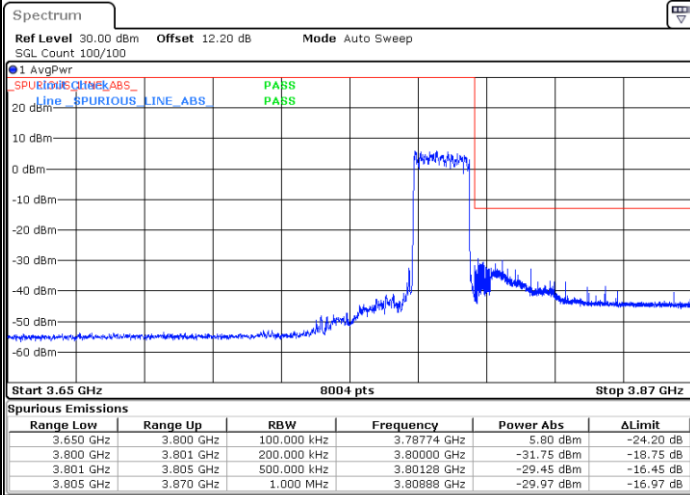
Date: 13.MAR.2021 07:33:21



Date: 13.MAR.2021 08:37:15

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



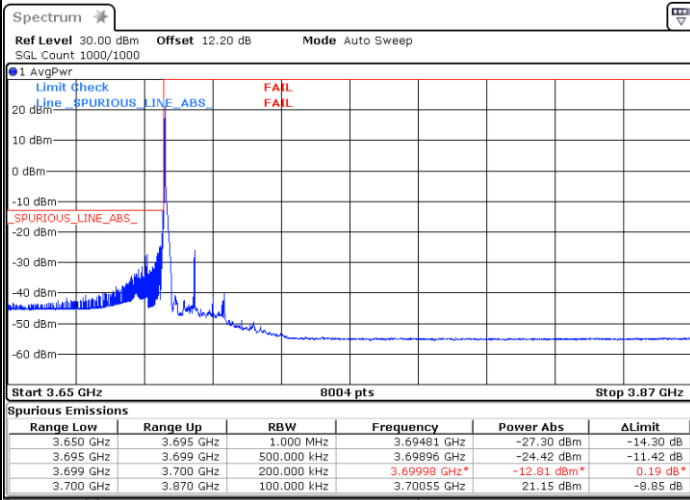
Date: 13.MAR.2021 07:40:21



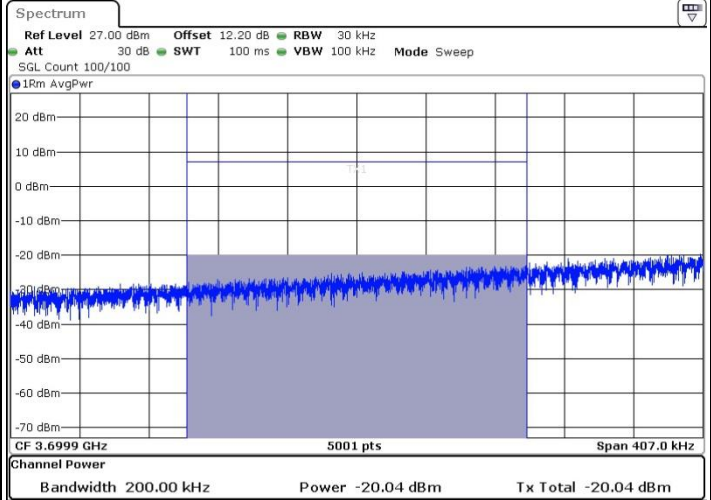
FR1 n78 / 20MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



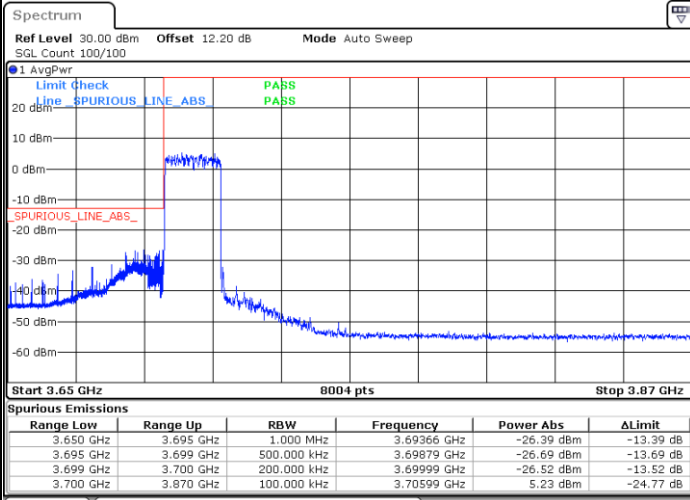
Date: 13.MAR.2021 07:23:07



Date: 13.MAR.2021 08:35:52

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



Date: 13.MAR.2021 07:25:06

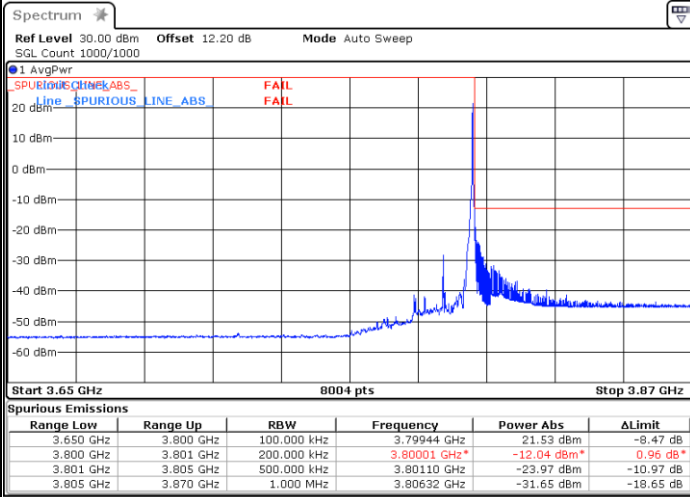
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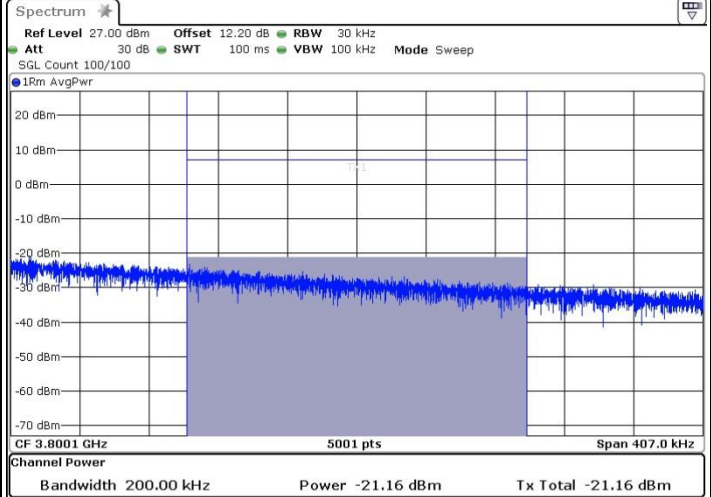
FR1 n78 / 20MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



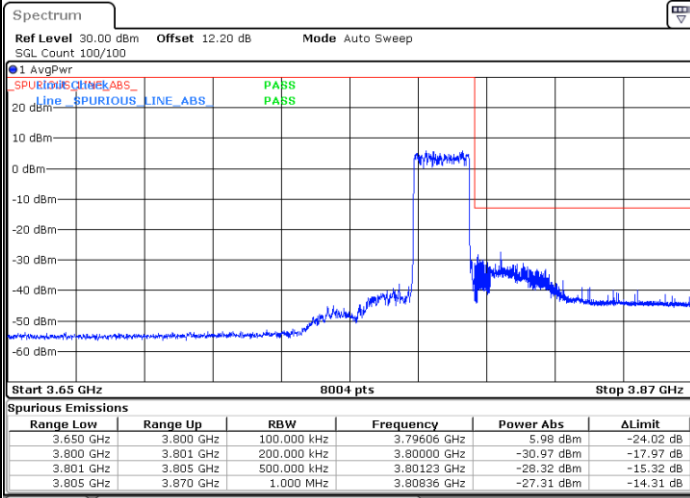
Date: 13.MAR.2021 07:38:23



Date: 13.MAR.2021 08:36:51

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



Date: 13.MAR.2021 07:38:55

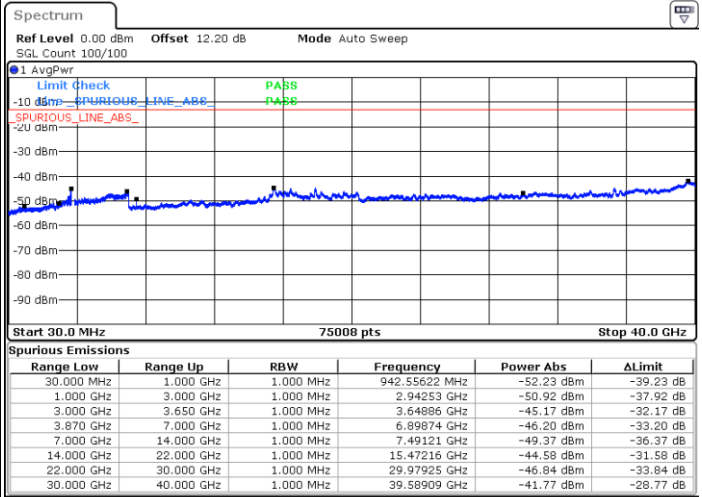
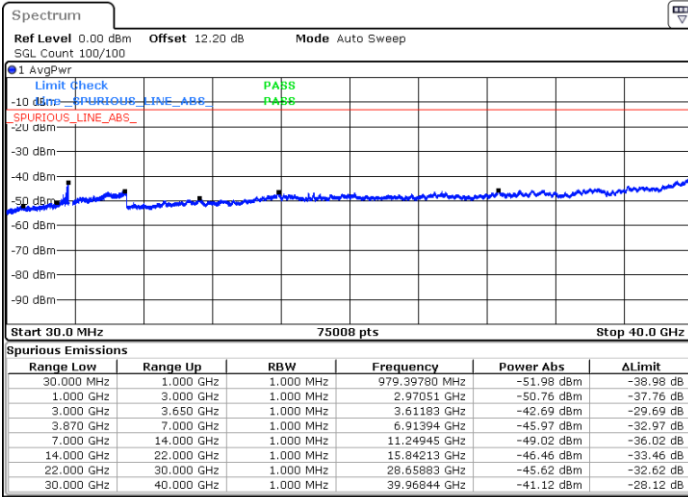


Conducted Spurious Emission

FR1 n78 / 10MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

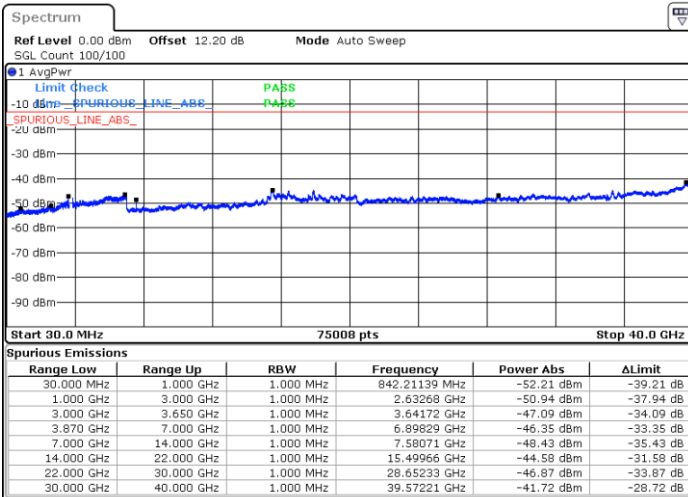
Middle Channel / 1RB



Date: 4.MAR.2021 05:56:26

Date: 2.FEB.2021 06:06:40

Highest Channel / 1RB



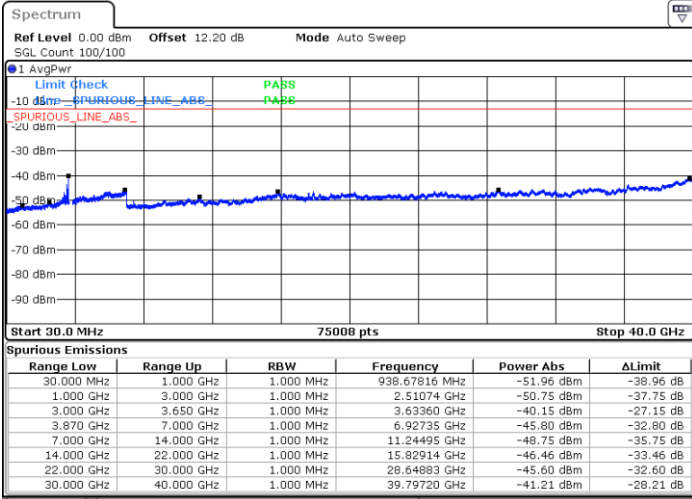
Date: 2.FEB.2021 06:15:34



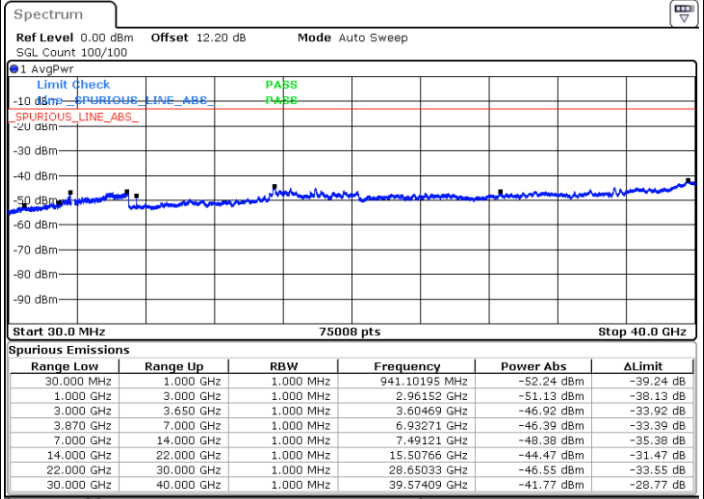
FR1 n78 / 10MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB

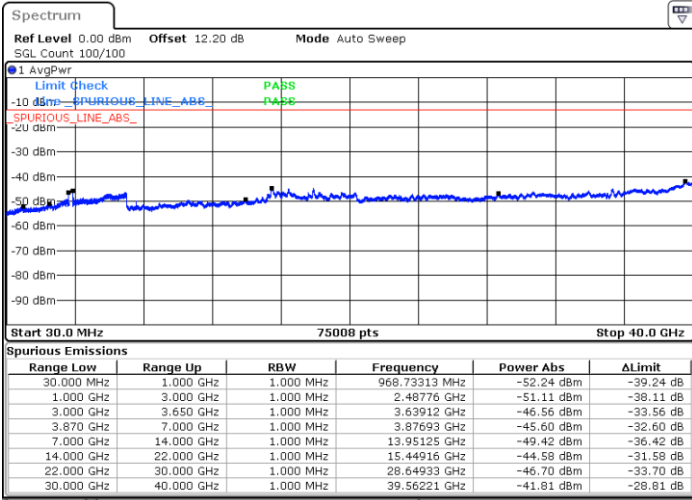


Date: 4.MAR.2021 05:57:44



Date: 2.FEB.2021 06:05:06

Highest Channel / 1RB



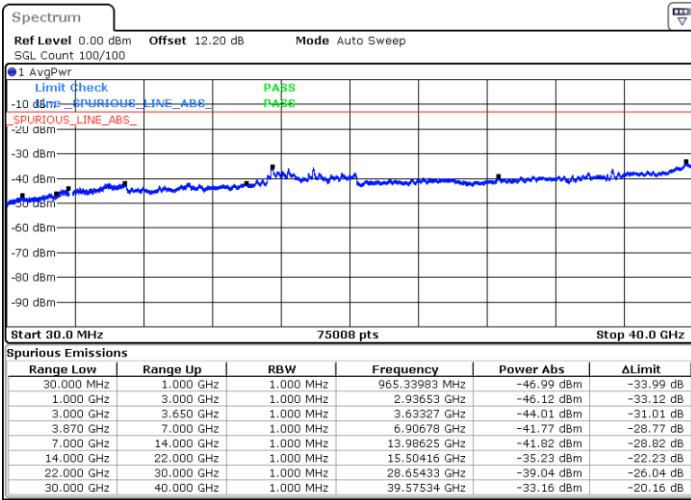
Date: 2.FEB.2021 06:14:25



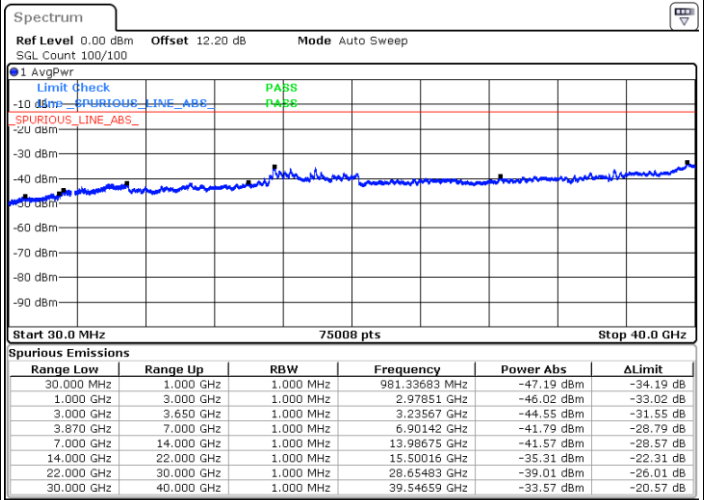
FR1 n78 / 15MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

Middle Channel / 1RB

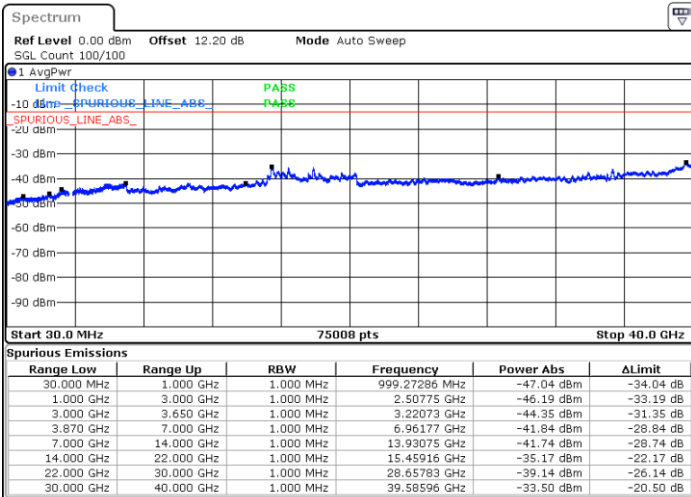


Date: 2.FEB.2021 05:25:10



Date: 2.FEB.2021 05:29:05

Highest Channel / 1RB



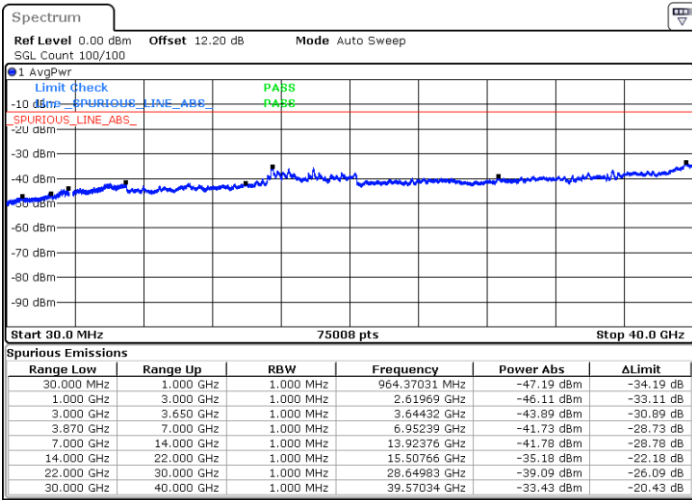
Date: 2.FEB.2021 05:48:13



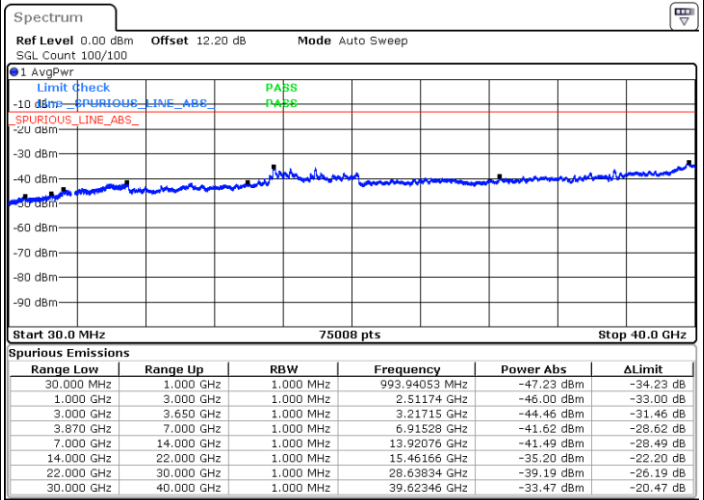
FR1 n78 / 15MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB

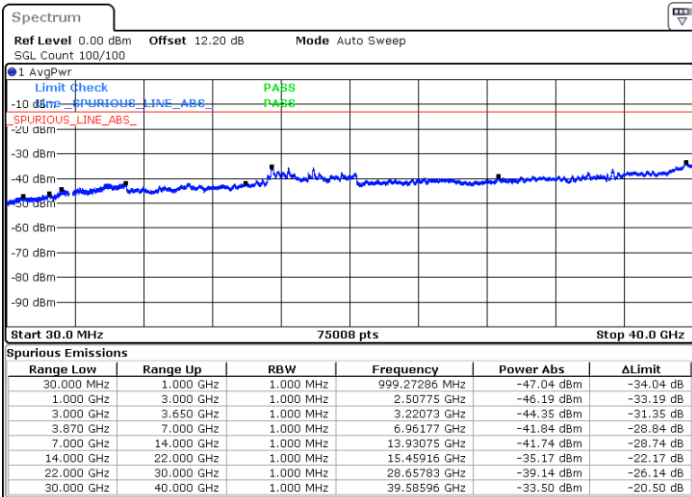


Date: 2.FEB.2021 05:26:21



Date: 2.FEB.2021 05:27:50

Highest Channel / 1RB



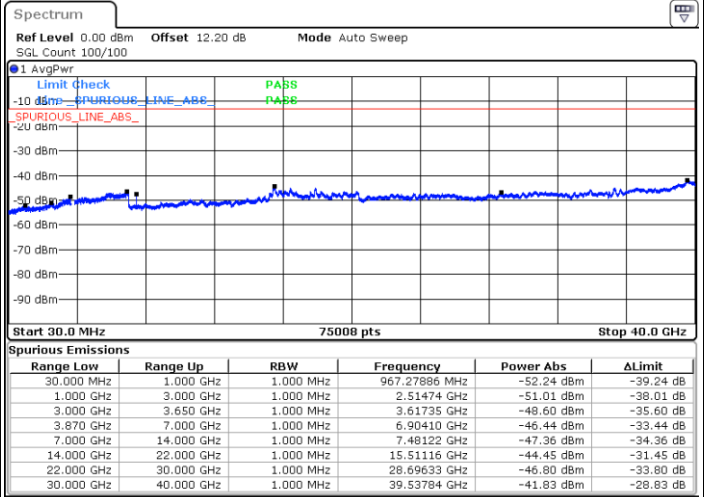
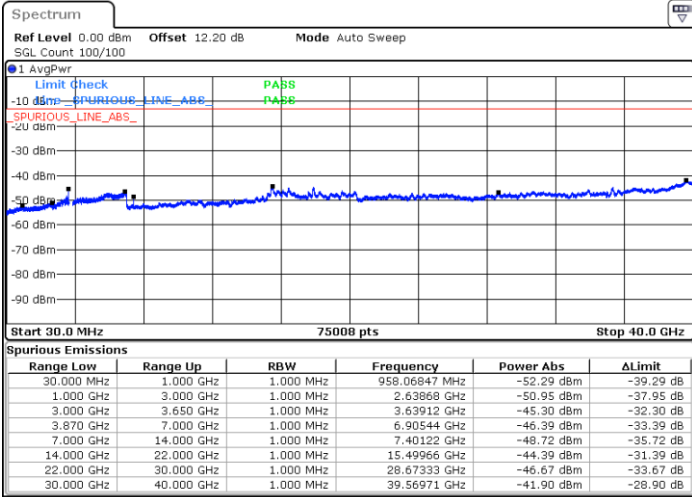
Date: 2.FEB.2021 05:48:13



FR1 n78 / 20MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

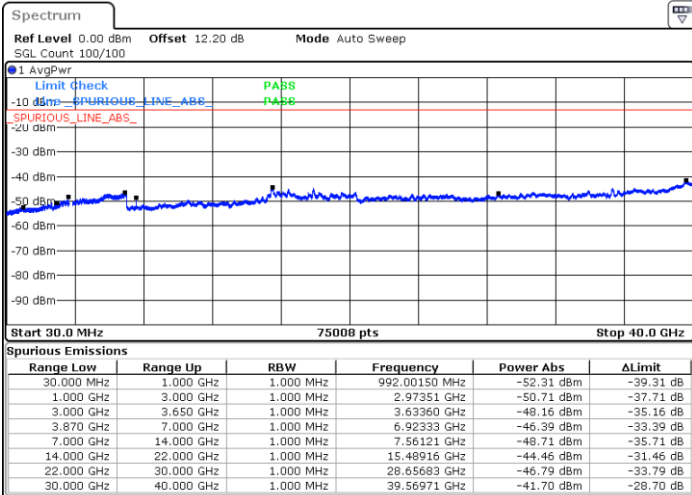
Middle Channel / 1RB



Date: 2.FEB.2021 04:52:52

Date: 2.FEB.2021 05:03:59

Highest Channel / 1RB



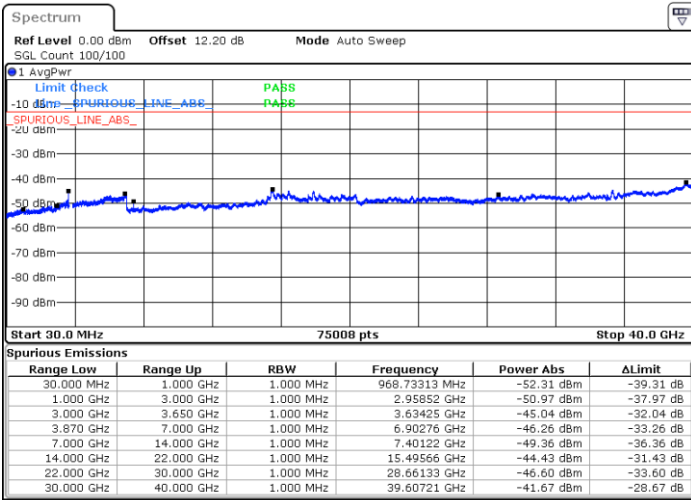
Date: 2.FEB.2021 05:07:42



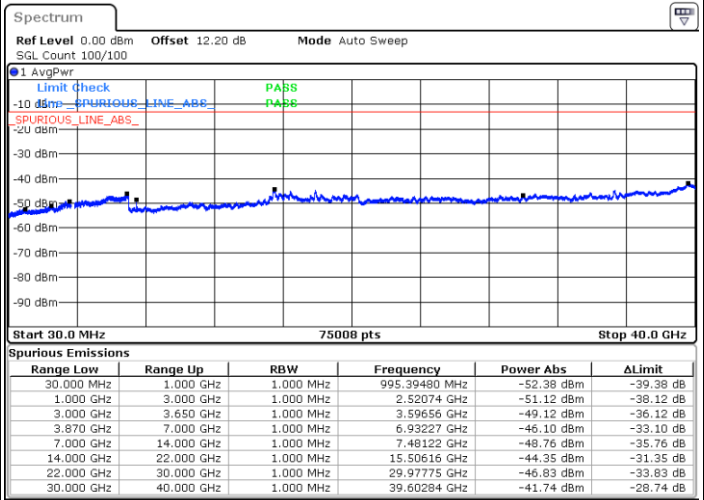
FR1 n78 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB

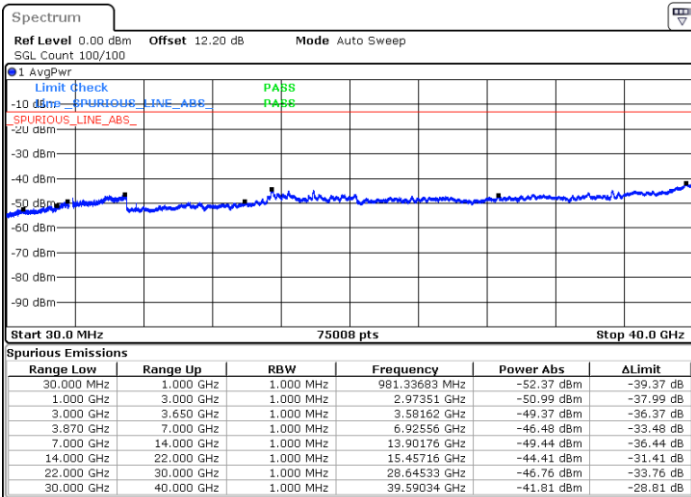


Date: 2.FEB.2021 04:50:25



Date: 2.FEB.2021 05:01:48

Highest Channel / 1RB



Date: 2.FEB.2021 05:09:09



Frequency Stability

Test Conditions		NR n78 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Within Band
		Deviation (ppm)	Result
50	Normal Voltage	0.0025	PASS
40	Normal Voltage	0.0007	
30	Normal Voltage	0.0019	
20(Ref.)	Normal Voltage	0.0013	
10	Normal Voltage	0.0019	
0	Normal Voltage	0.0015	
-10	Normal Voltage	0.0012	
-20	Normal Voltage	0.0021	
-30	Normal Voltage	0.0010	
20	Maximum Voltage	0.0014	
20	Normal Voltage	0.0016	
20	Battery End Point	0.0029	

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 n78 NSA-SCS 30K

Peak-to-Average Ratio

Mode	FR1 n78 / 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	4.09	3.88	4.96	5.48	PASS
Middle CH	4.43	4.09	5.39	4.99	
Highest CH	4.00	3.83	5.07	4.99	



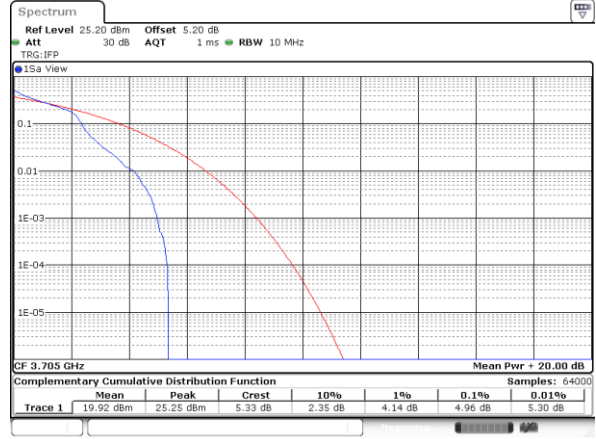
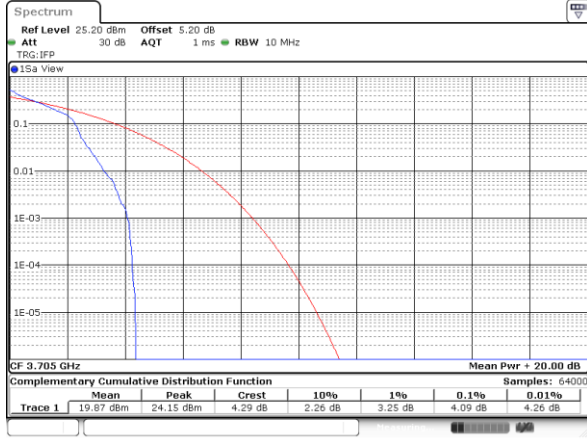
FR1 n78 / 10MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / 1RB

Lowest Channel / 1RB

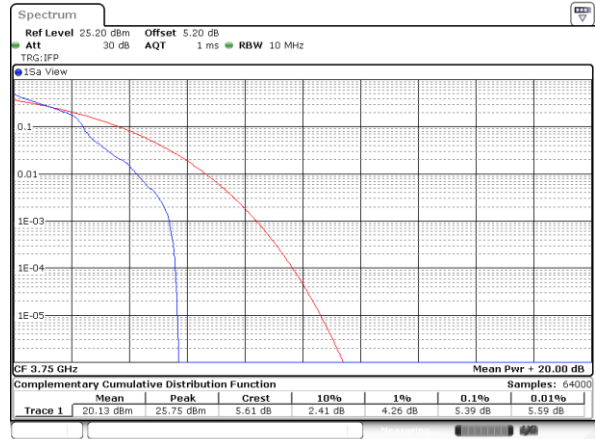
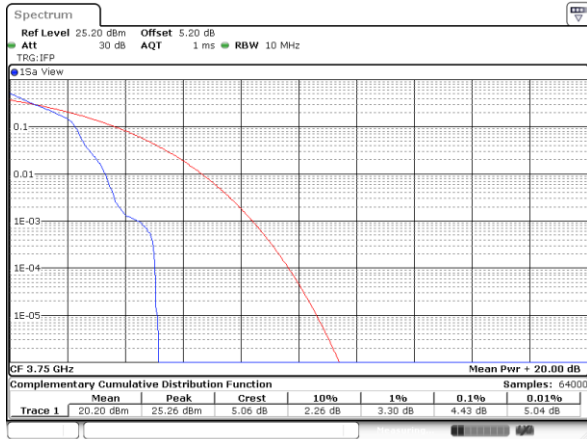


Date: 2.FEB.2021 07:28:36

Date: 2.FEB.2021 07:28:13

Middle Channel / 1 RB

Middle Channel / 1 RB

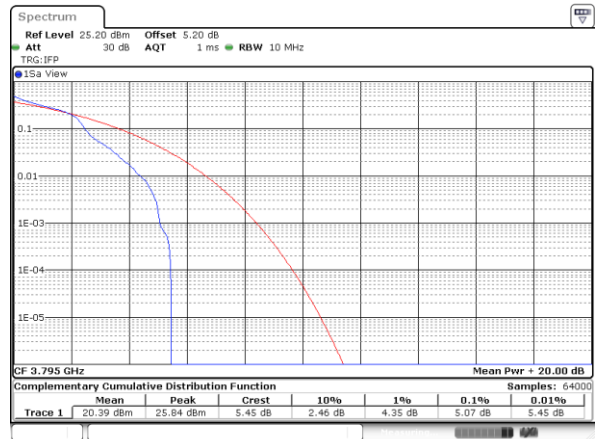
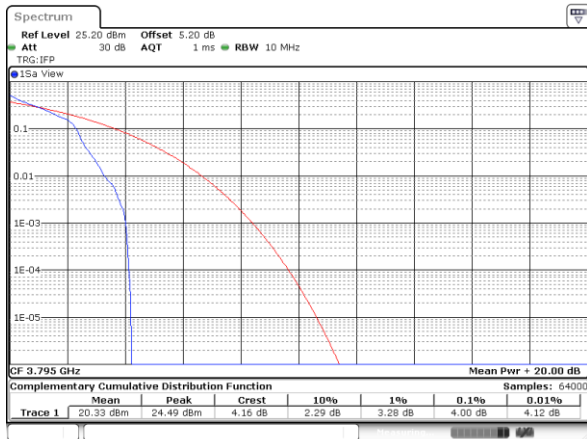


Date: 2.FEB.2021 06:46:01

Date: 2.FEB.2021 06:45:35

Highest Channel / 1 RB

Highest Channel / 1 RB



Date: 2.FEB.2021 07:32:11

Date: 2.FEB.2021 07:32:40



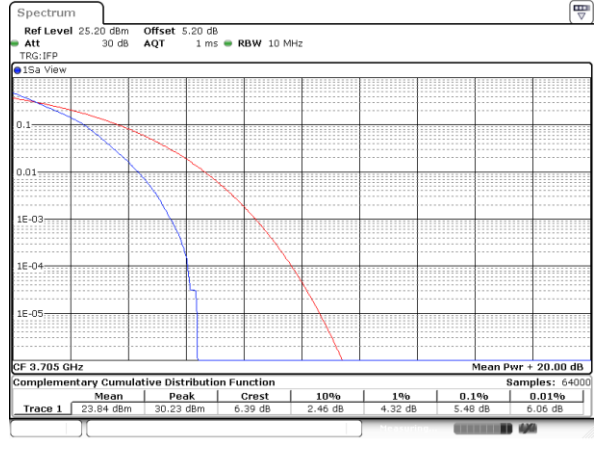
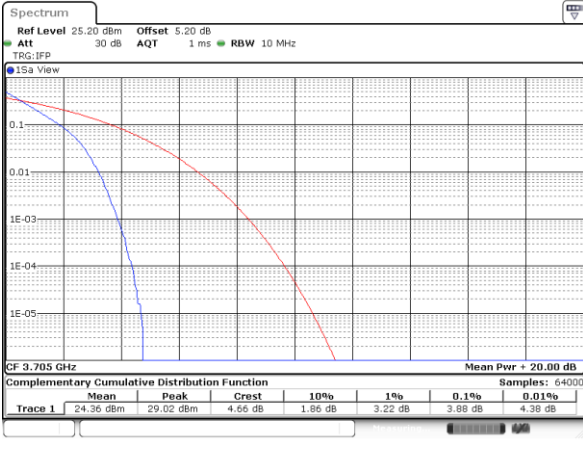
FR1 n78 / 10MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / Full RB

Lowest Channel / Full RB

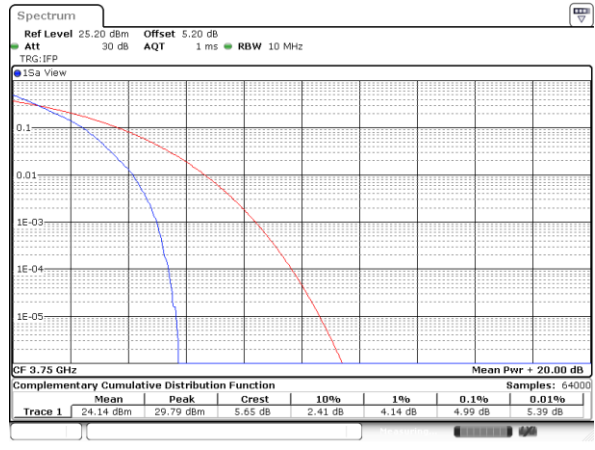
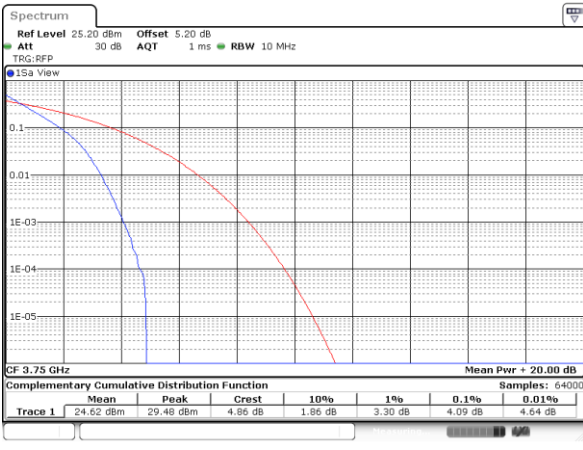


Date: 2.FEB.2021 07:26:51

Date: 2.FEB.2021 07:27:31

Middle Channel / Full RB

Middle Channel / Full RB

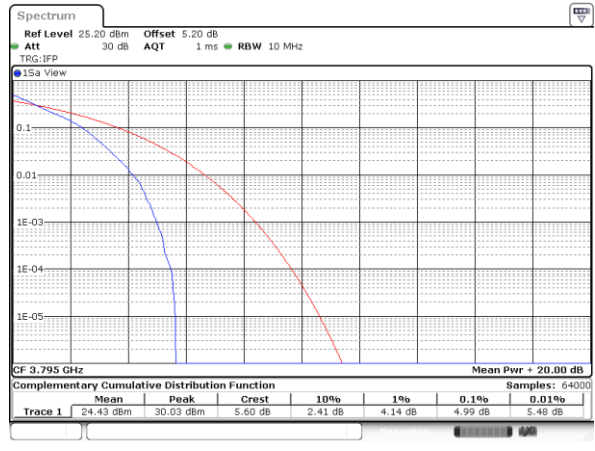
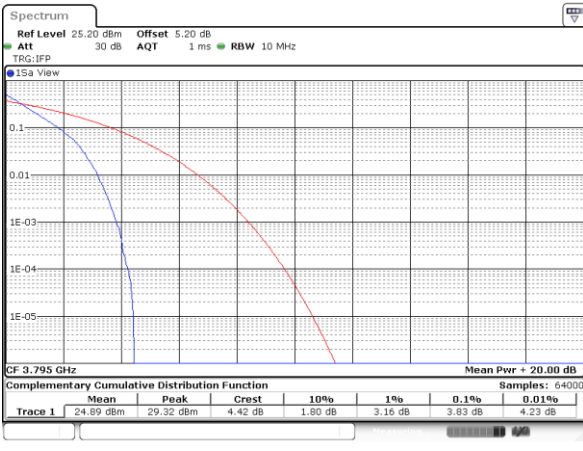


Date: 2.FEB.2021 06:42:46

Date: 2.FEB.2021 06:44:59

Highest Channel / Full RB

Highest Channel / Full RB



Date: 2.FEB.2021 07:33:38

Date: 2.FEB.2021 07:33:04



26dB Bandwidth

Mode	FR1 n78 : 26dB BW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	9.37	9.13	9.27	8.99				

Mode	FR1 n78 : 26dB BW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	14.42	14.54	14.42	14.45				

Mode	FR1 n78 : 26dB BW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	18.98	18.94	19.58	19.18				

Mode	FR1 n78 : 26dB BW(MHz) / CP-OFDM							
BW	40MHz	40MHz	40MHz	40MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	40.28	40.36	40.12	40.20				

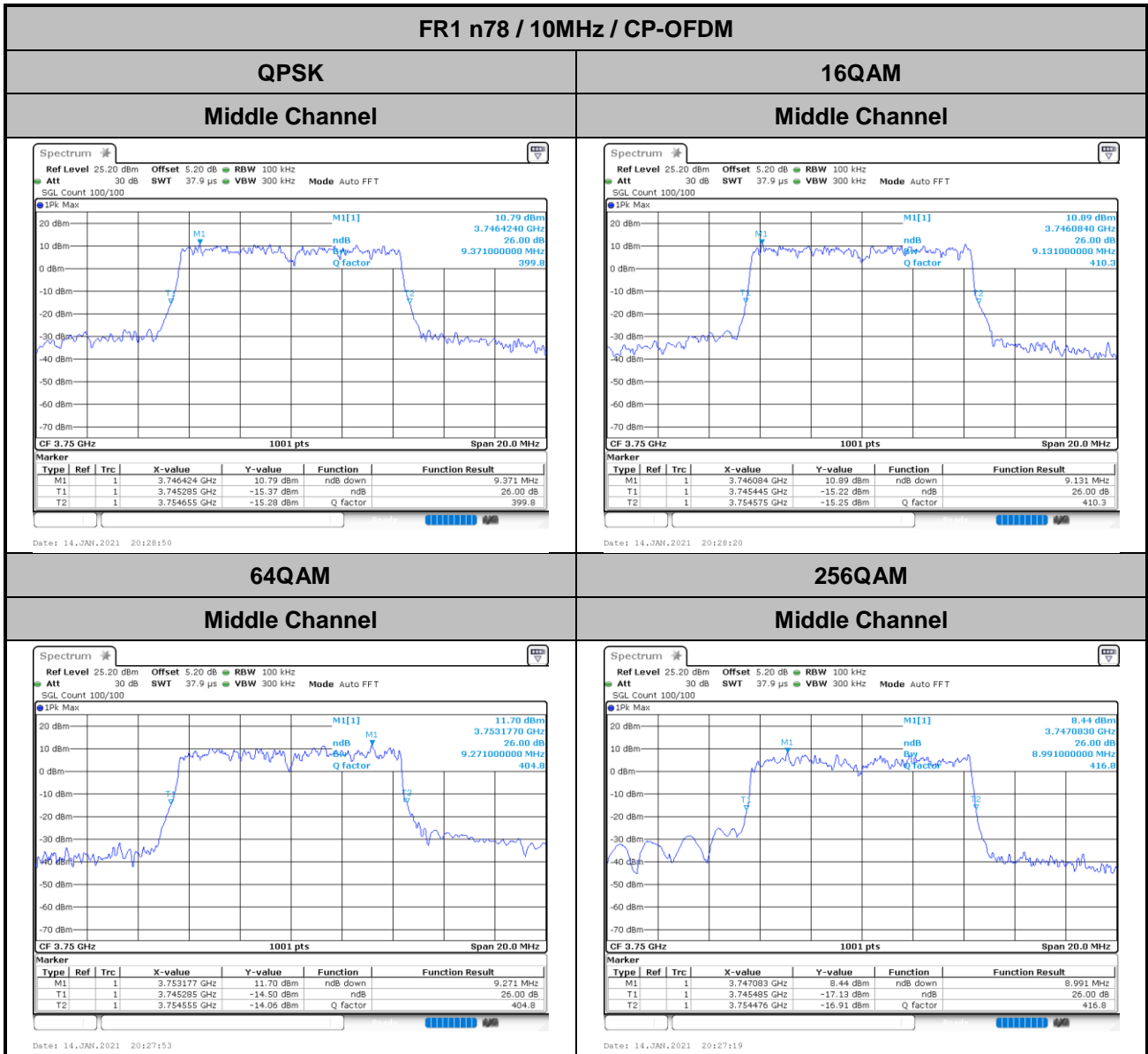
Mode	FR1 n78 : 26dB BW(MHz) / CP-OFDM							
BW	50MHz	50MHz	50MHz	50MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	49.75	49.65	49.75	49.75				

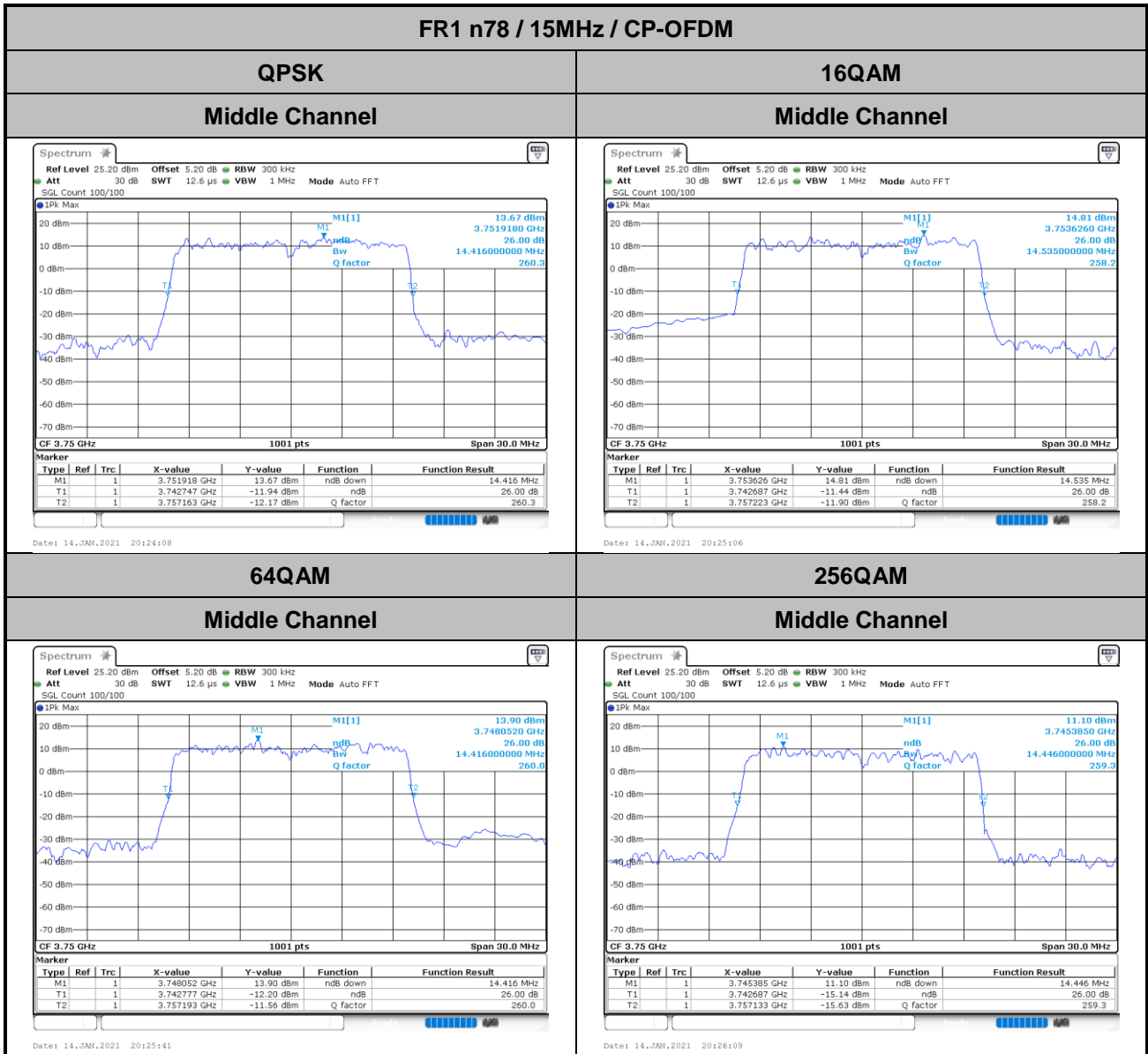
Mode	FR1 n78 : 26dB BW(MHz) / CP-OFDM							
BW	60MHz	60MHz	60MHz	60MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	60.42	60.42	60.42	60.42				

Mode	FR1 n78 : 26dB BW(MHz) / CP-OFDM							
BW	80MHz	80MHz	80MHz	80MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	79.92	79.92	79.92	79.92				



Mode	FR1 n78 : 26dB BW(MHz) / CP-OFDM							
BW	100MHz	100MHz	100MHz	100MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	100.30	100.30	100.50	100.70				







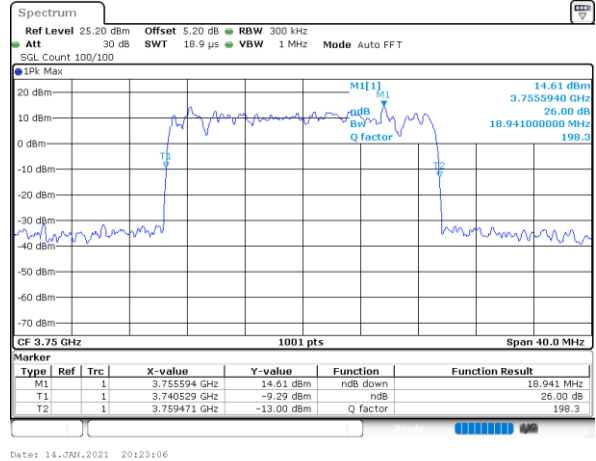
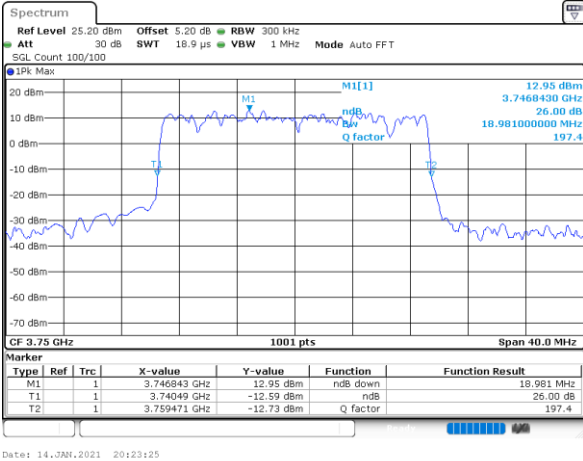
FR1 n78 / 20MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel

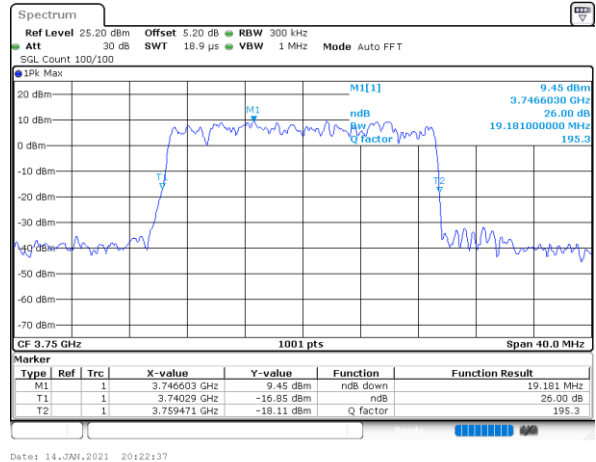
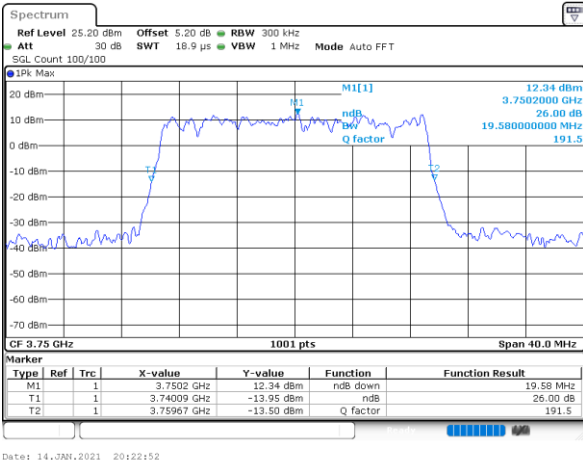


64QAM

256QAM

Middle Channel

Middle Channel





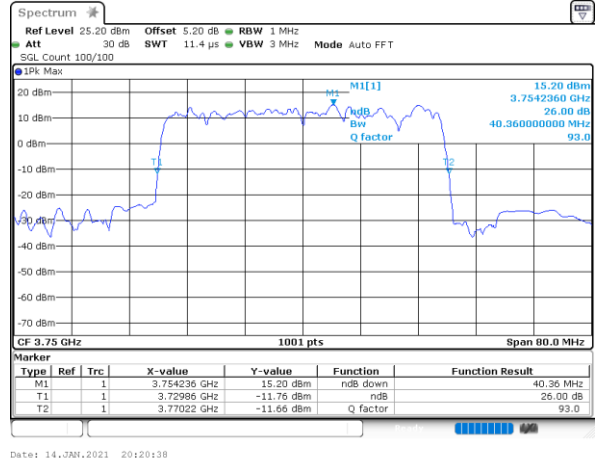
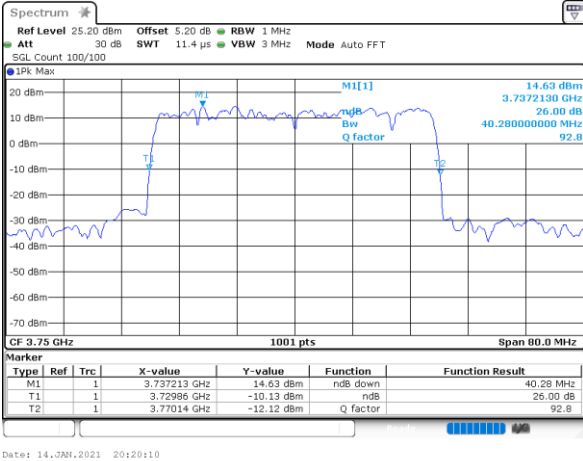
FR1 n78 / 40MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel



64QAM

256QAM

Middle Channel

Middle Channel

