



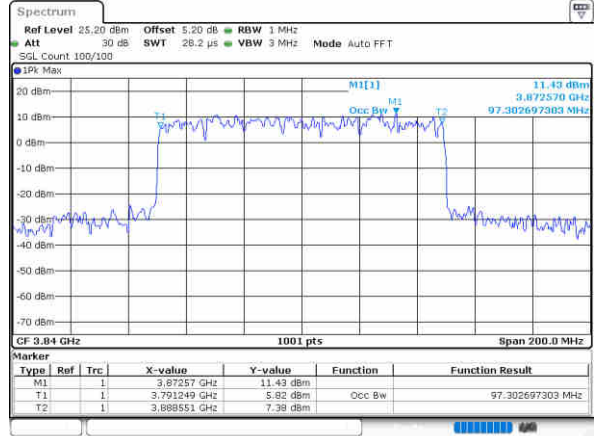
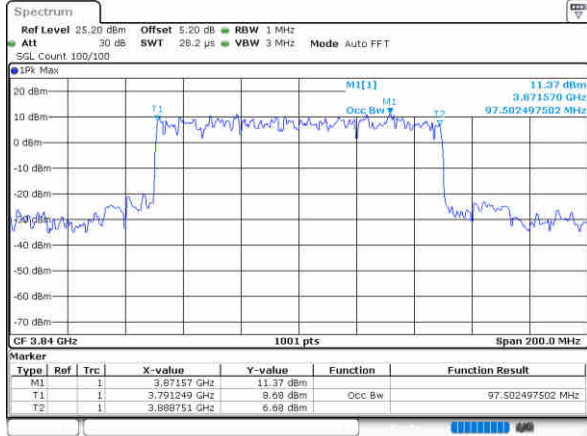
FR1 n77 / 100MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel



Date: 4.MAR.2021 14:33:35

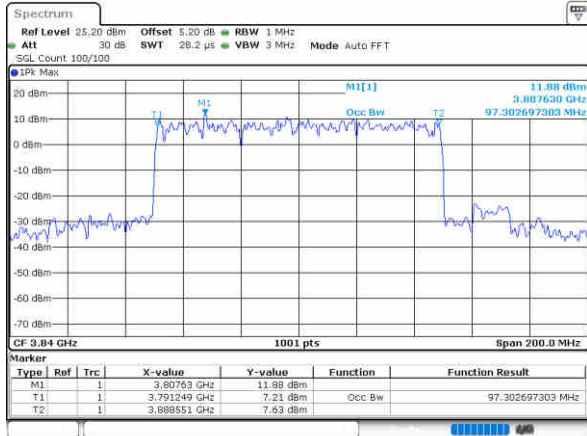
Date: 4.MAR.2021 14:33:55

64QAM

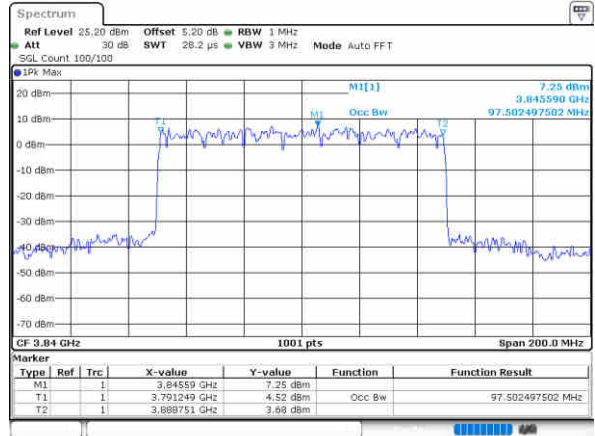
256QAM

Middle Channel

Middle Channel



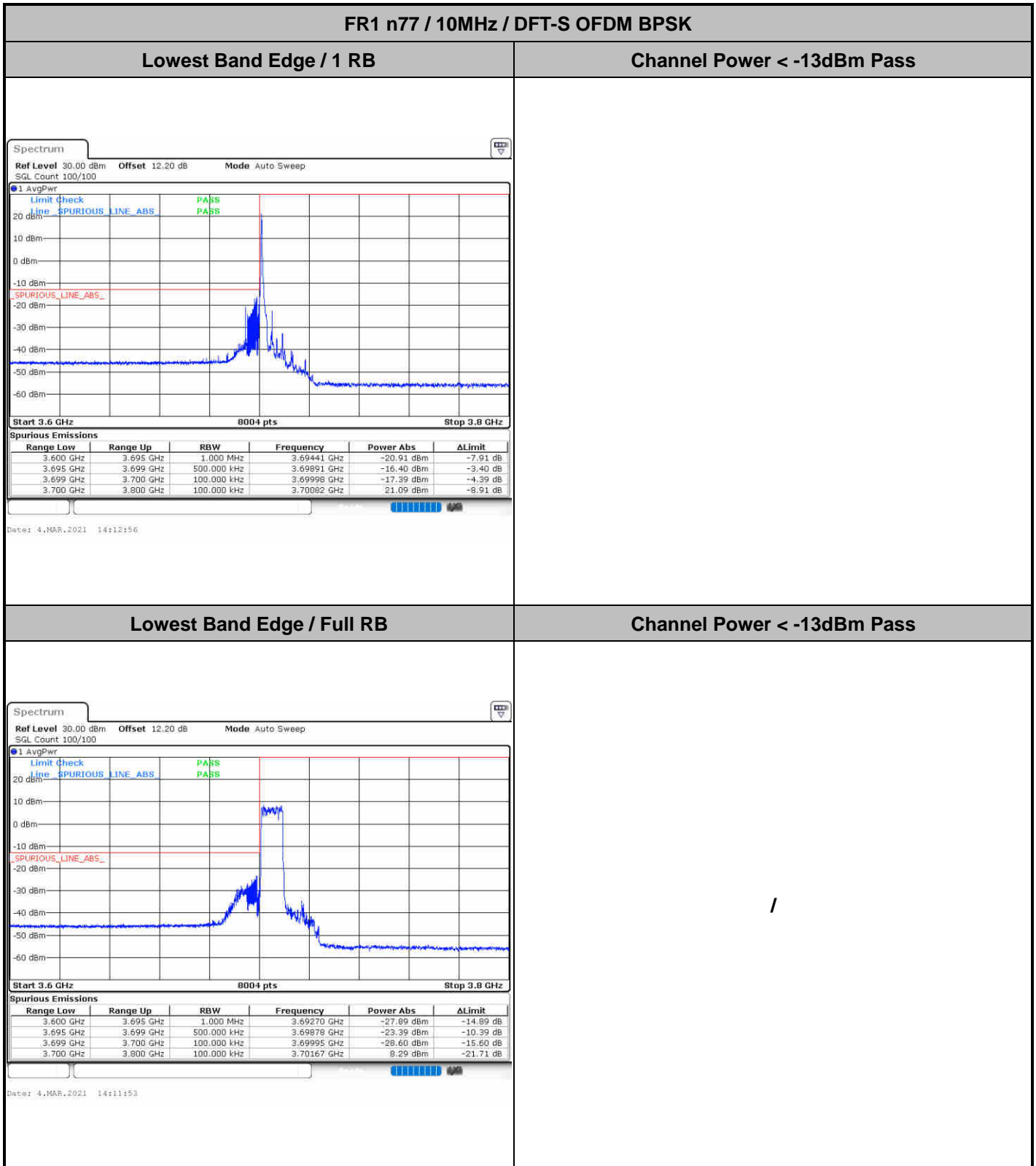
Date: 4.MAR.2021 14:34:17



Date: 4.MAR.2021 14:34:35



Conducted Band Edge

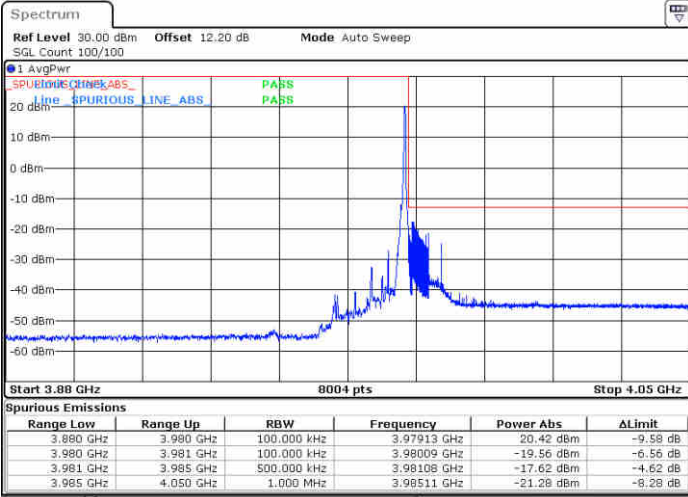




FR1 n77 / 10MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Date: 4.MAR.2021 14:31:15

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



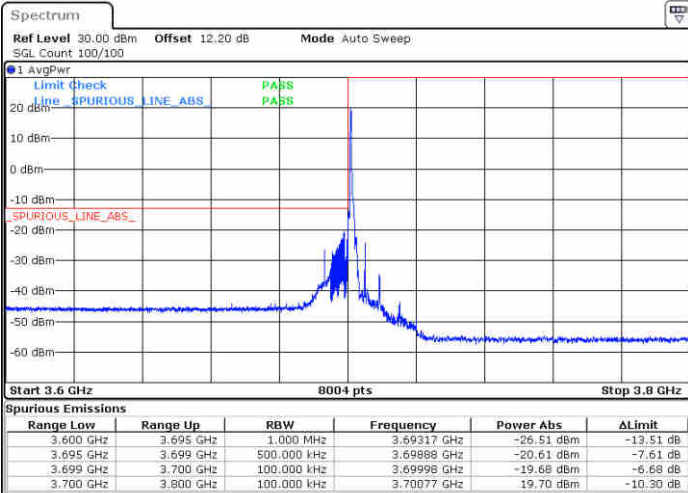
Date: 4.MAR.2021 14:24:56



FR1 n77 / 10MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

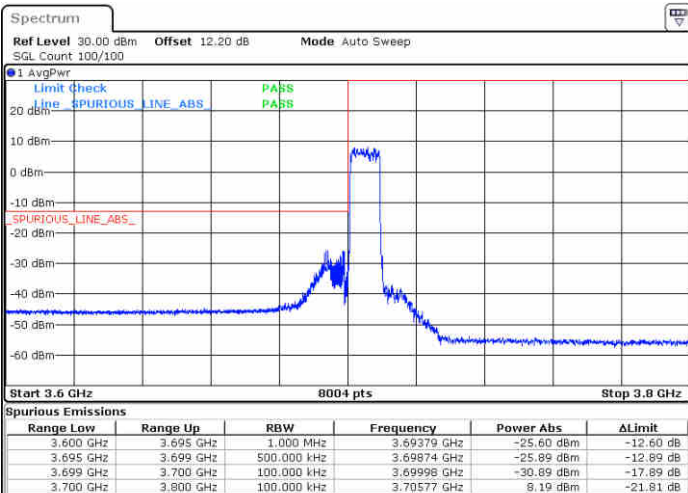
Channel Power < -13dBm Pass



Date: 4.MAR.2021 14:15:44

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



Date: 4.MAR.2021 14:10:17

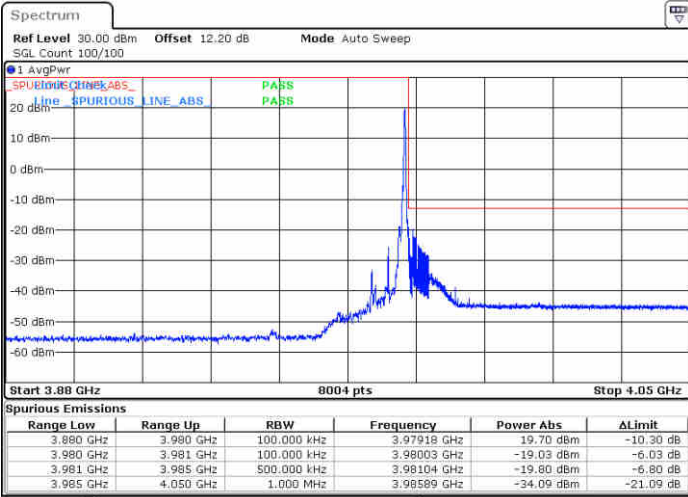
/



FR1 n77 / 10MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

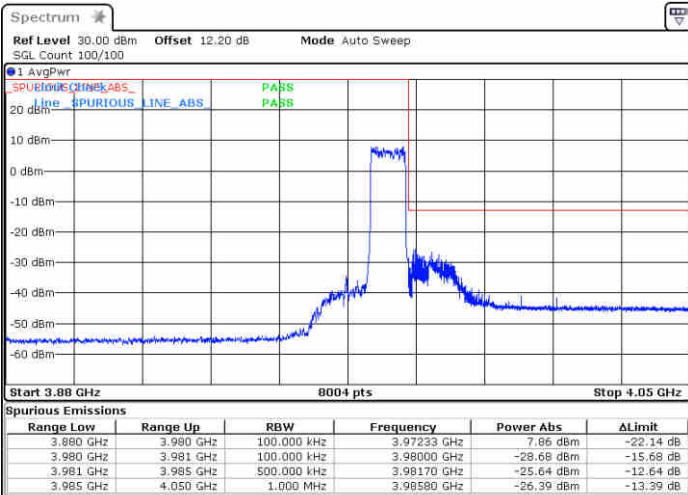
Channel Power < -13dBm Pass



Date: 4.MAR.2021 14:10:56

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



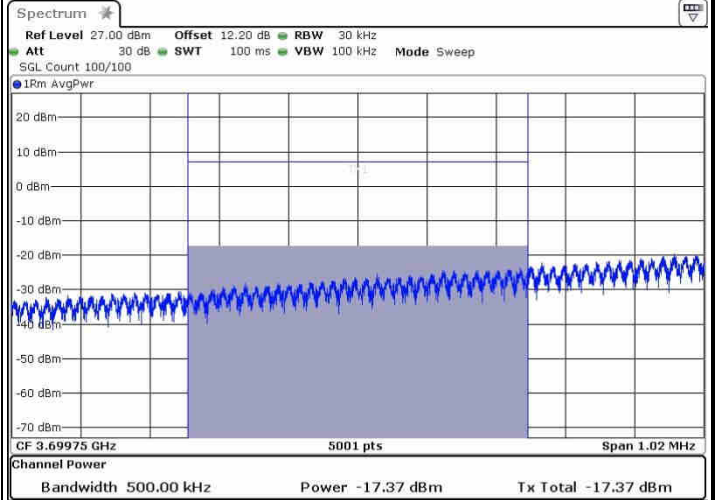
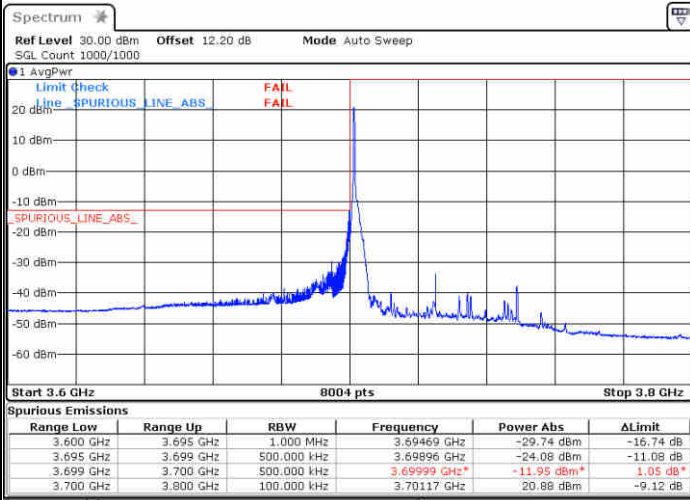
Date: 4.MAR.2021 14:22:28



FR1 n77 / 50MHz / DFT-S OFDM BPSK

Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass

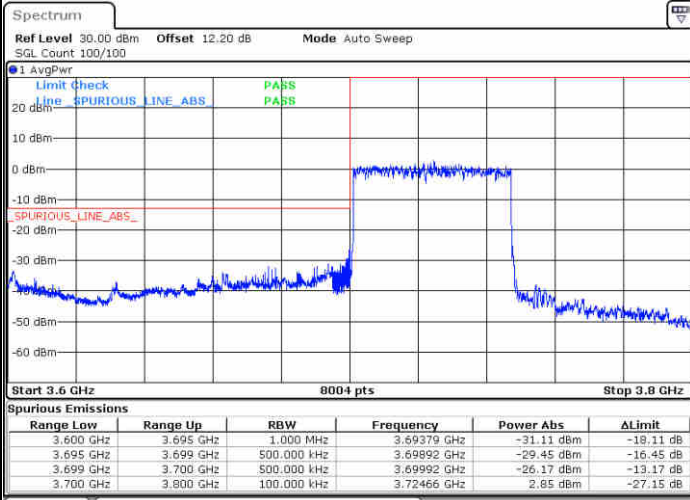


Date: 4.MAR.2021 10:18:06

Date: 4.MAR.2021 10:19:15

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



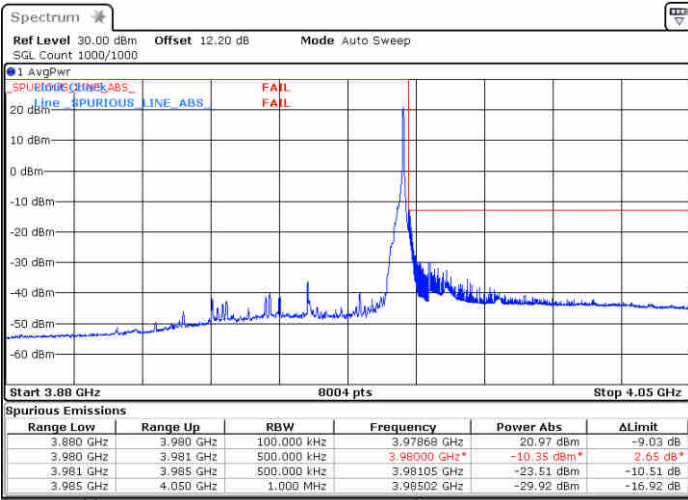
Date: 4.MAR.2021 10:13:57



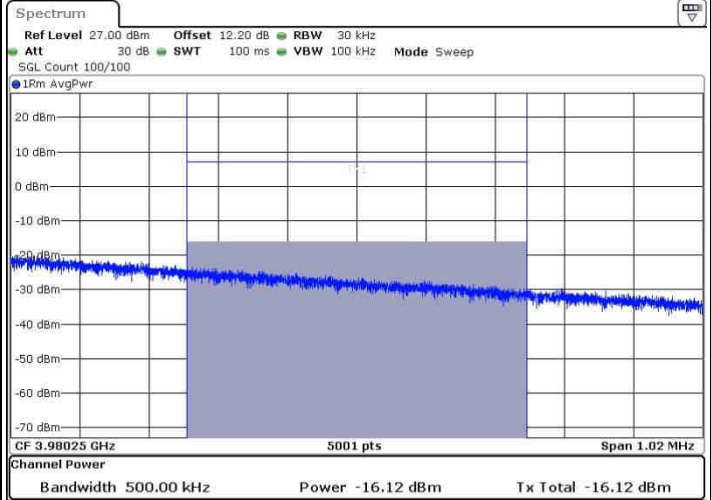
FR1 n77 / 50MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



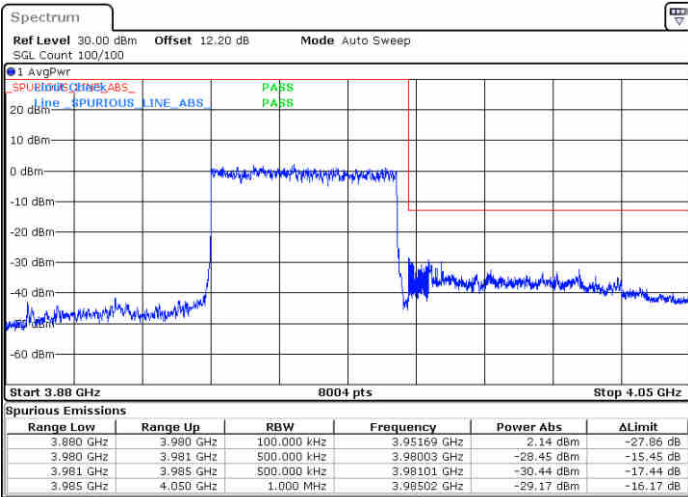
Date: 4.MAR.2021 10:56:09



Date: 4.MAR.2021 10:53:26

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



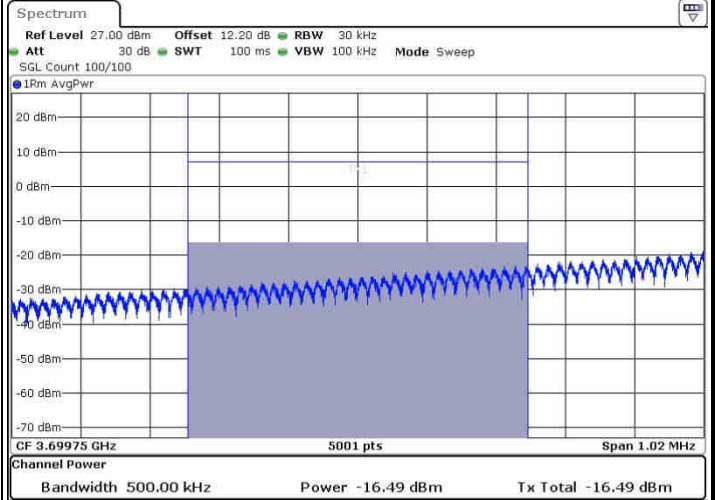
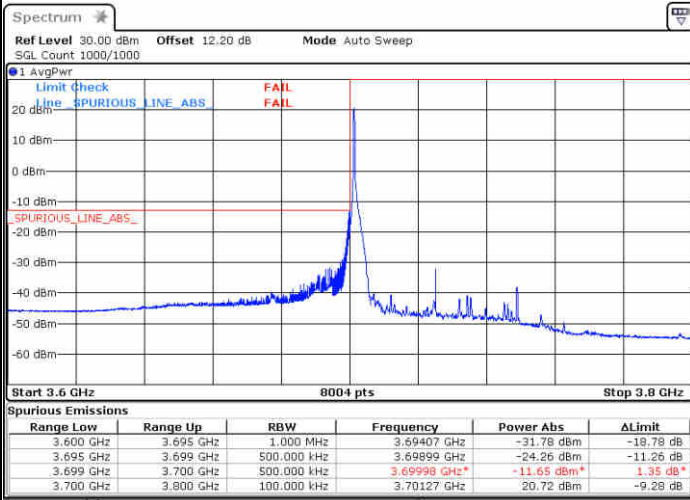
Date: 4.MAR.2021 10:45:33



FR1 n77 / 50MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass

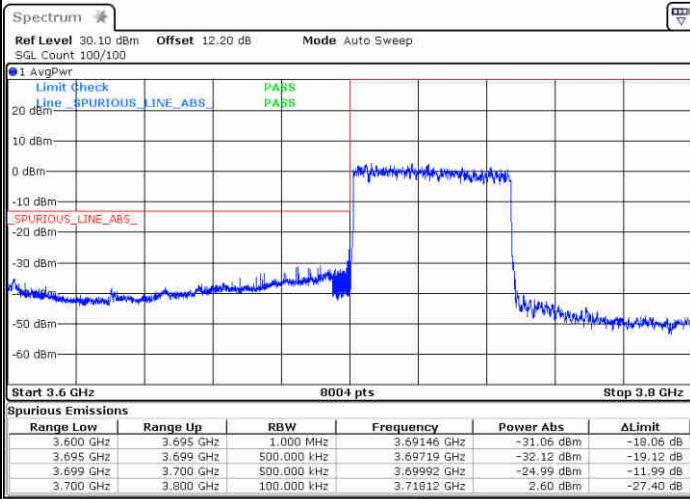


Date: 4.MAR.2021 10:22:59

Date: 4.MAR.2021 10:20:00

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



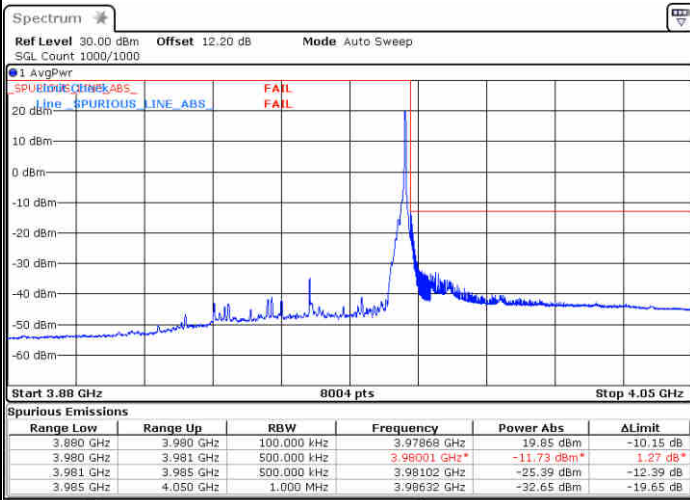
Date: 4.MAR.2021 10:12:44



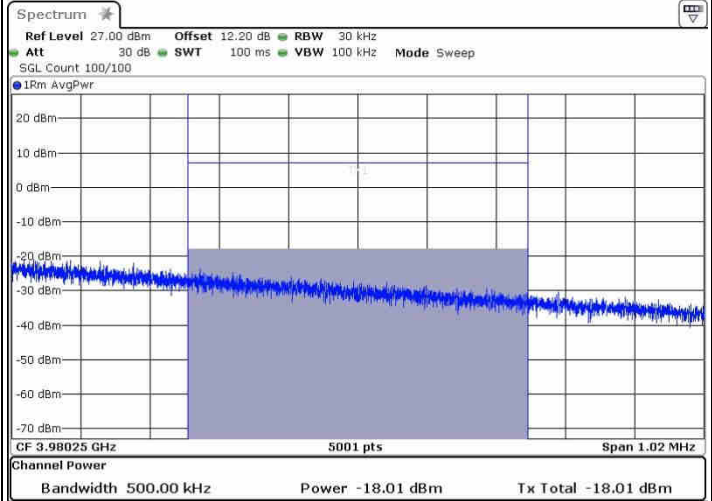
FR1 n77 / 50MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Date: 4.MAR.2021 10:52:10

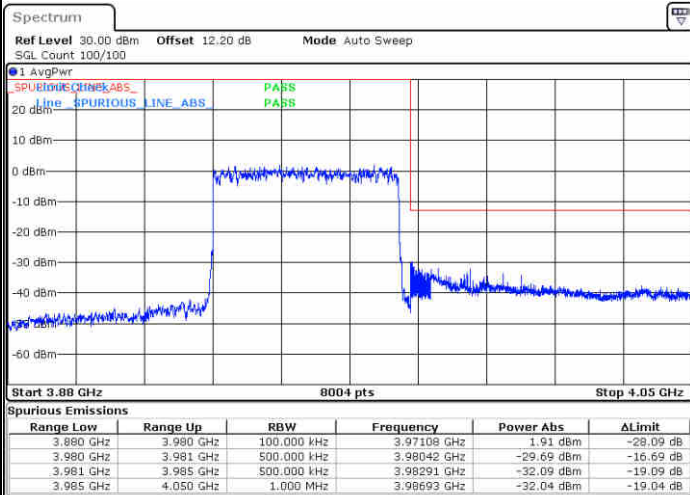


Date: 4.MAR.2021 10:53:05

/

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



Date: 4.MAR.2021 10:44:22

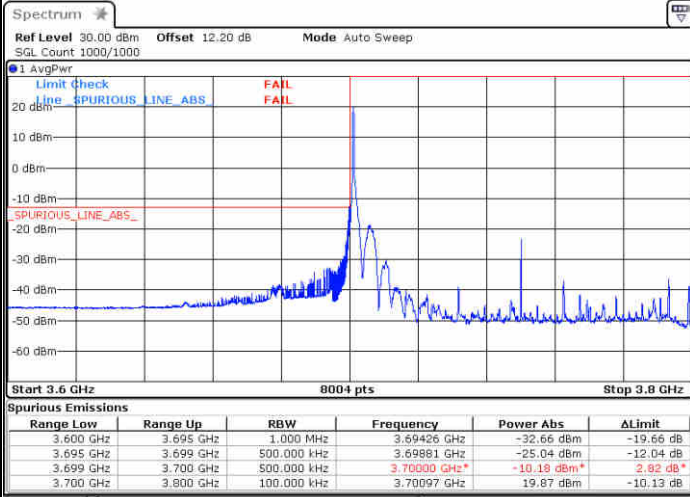
/



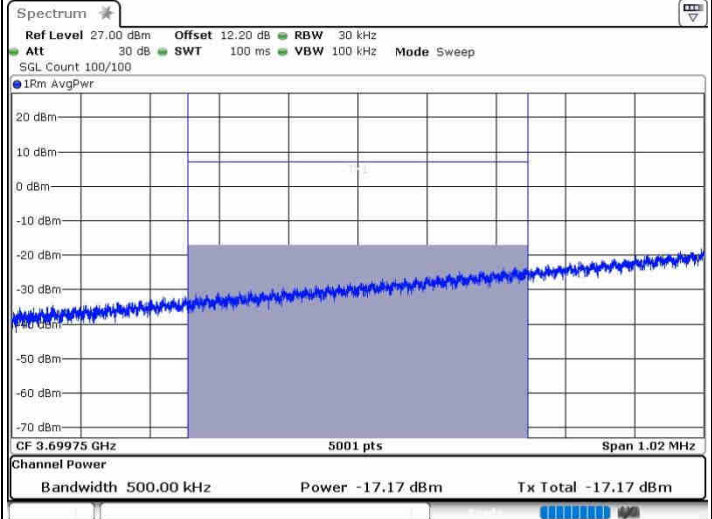
FR1 n77 / 100MHz / DFT-S OFDM BPSK

Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Date: 4.MAR.2021 09:19:36

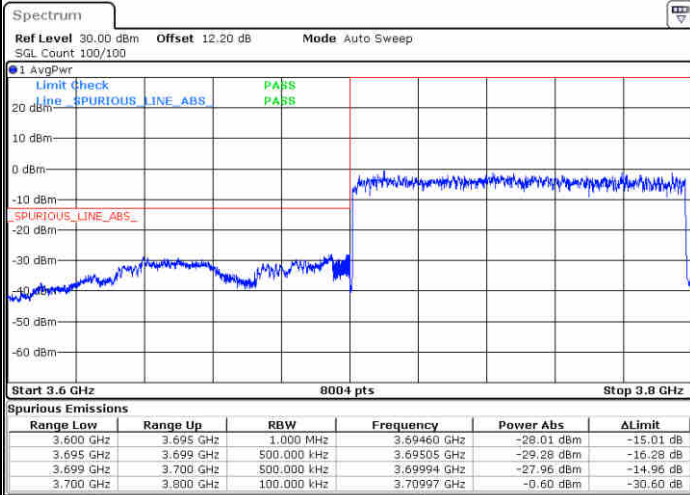


Date: 4.MAR.2021 09:41:06

/

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



Date: 4.MAR.2021 09:52:01

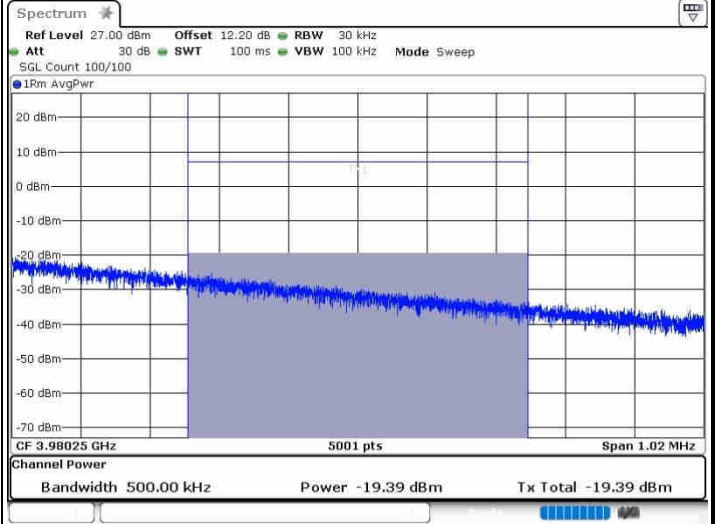
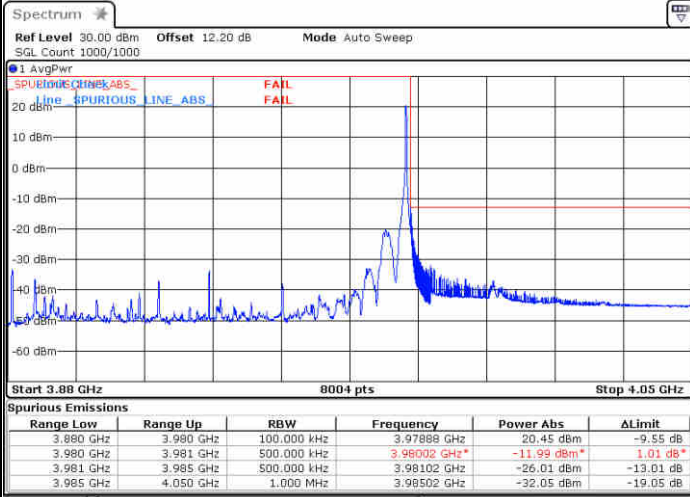
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FR1 n77 / 100MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



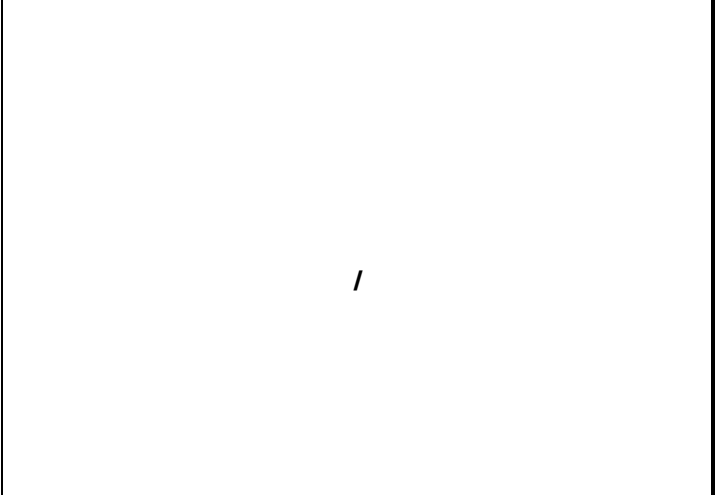
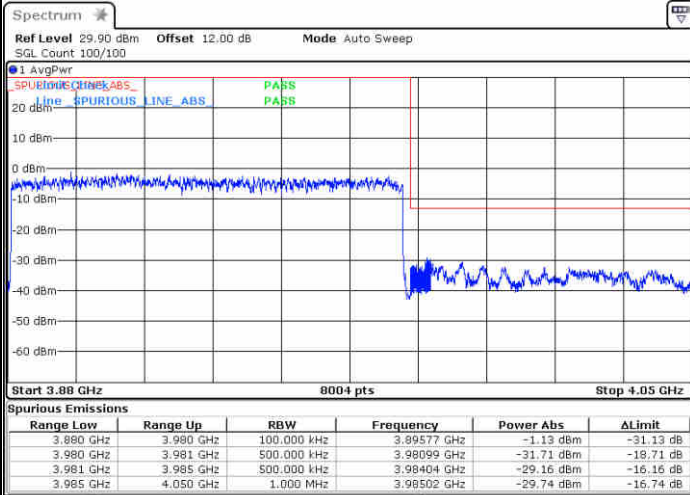
Date: 4.MAR.2021 10:01:33

Date: 4.MAR.2021 10:02:36

/

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



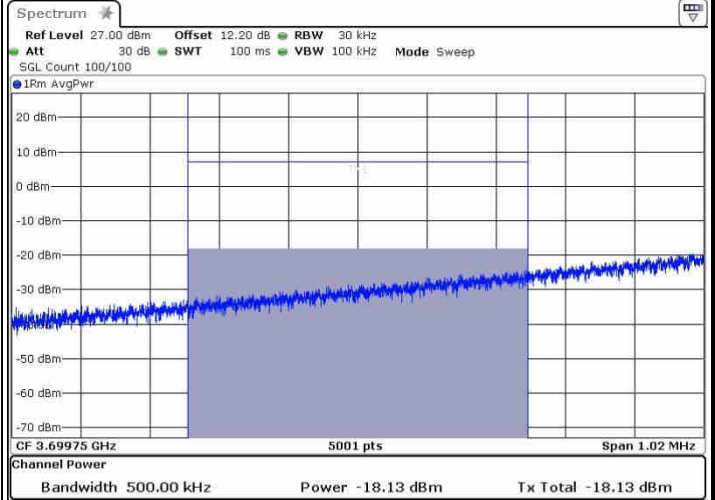
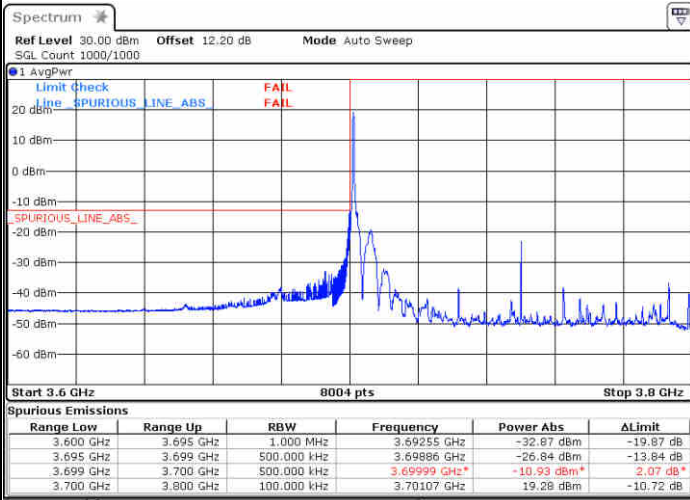
Date: 4.MAR.2021 09:53:47



FR1 n77 / 100MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass

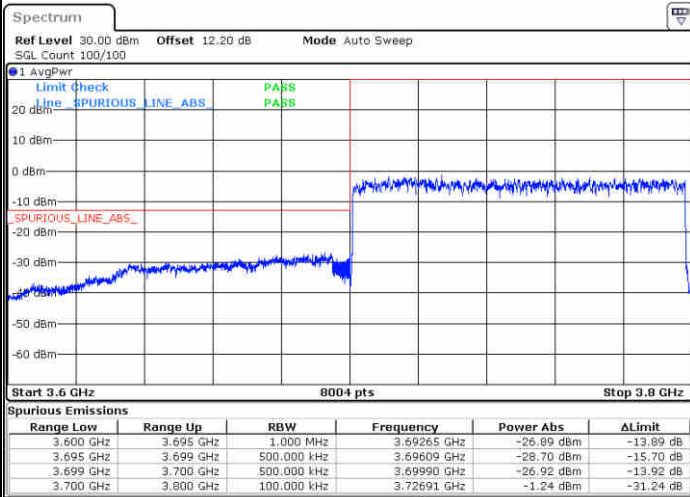


Date: 4.MAR.2021 09:48:37

Date: 4.MAR.2021 09:49:15

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



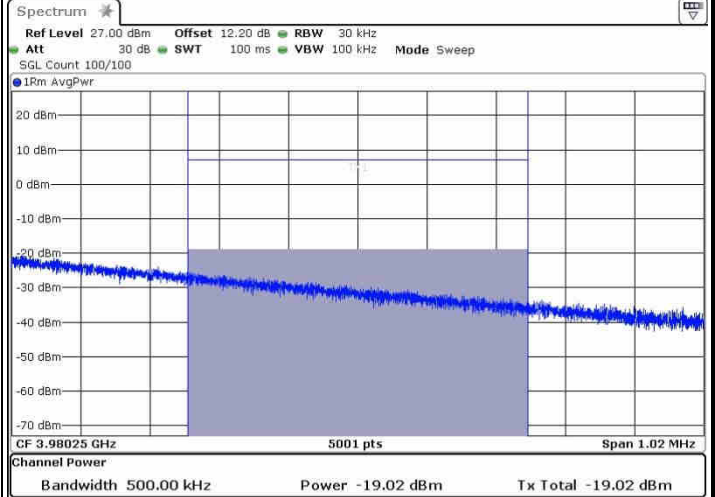
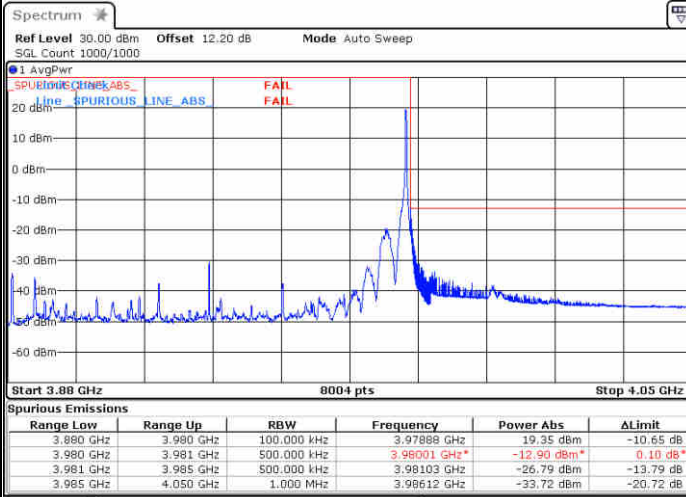
Date: 4.MAR.2021 09:51:03



FR1 n77 / 100MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass

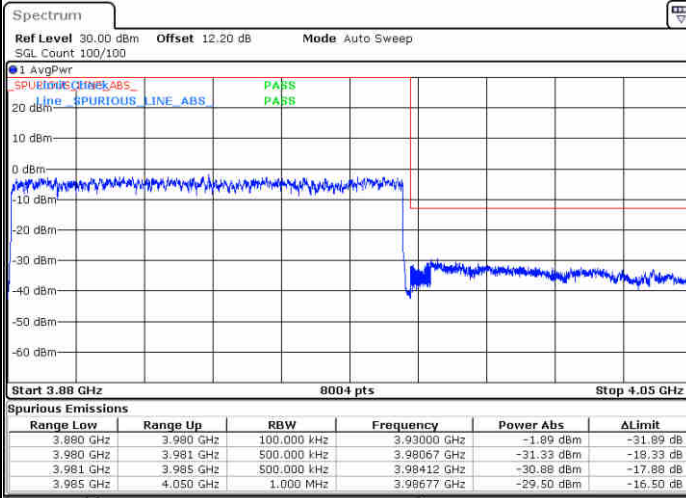


Date: 4.MAR.2021 10:06:57

Date: 4.MAR.2021 10:09:51

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



Date: 4.MAR.2021 09:55:14

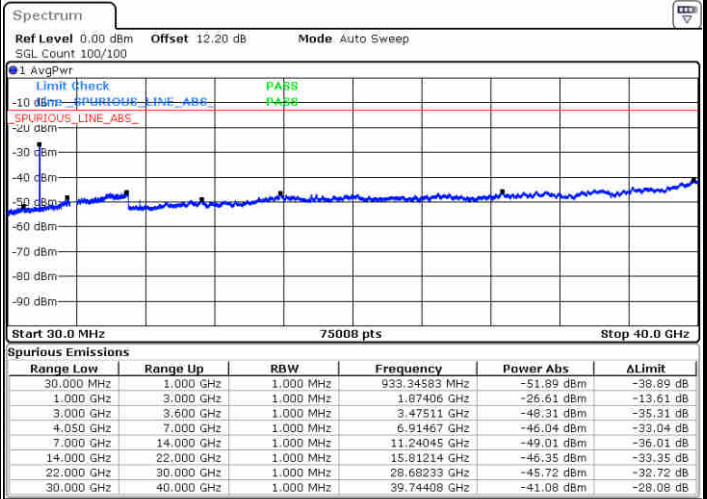
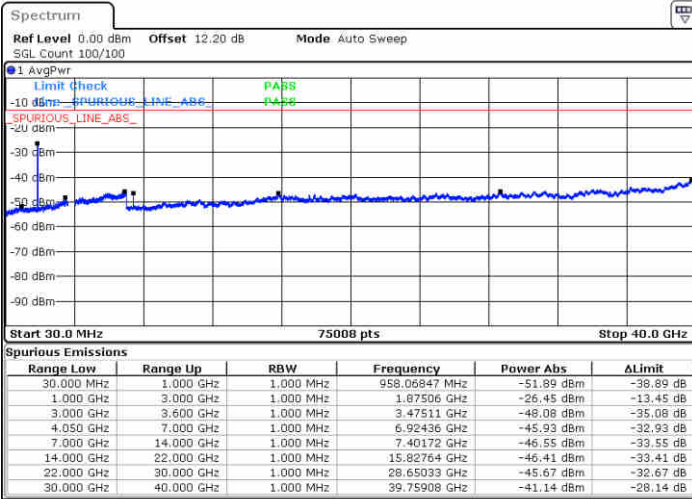


Conducted Spurious Emission

FR1 n77 / 10MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

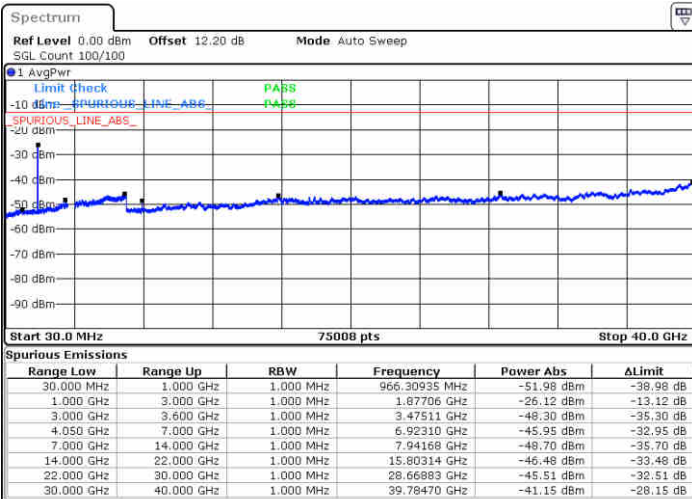
Middle Channel / 1RB



Date: 4.MAR.2021 14:14:07

Date: 4.MAR.2021 14:18:35

Highest Channel / 1RB



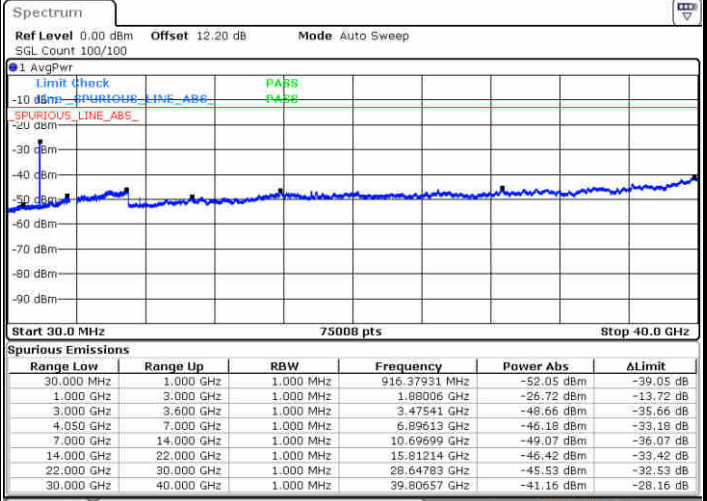
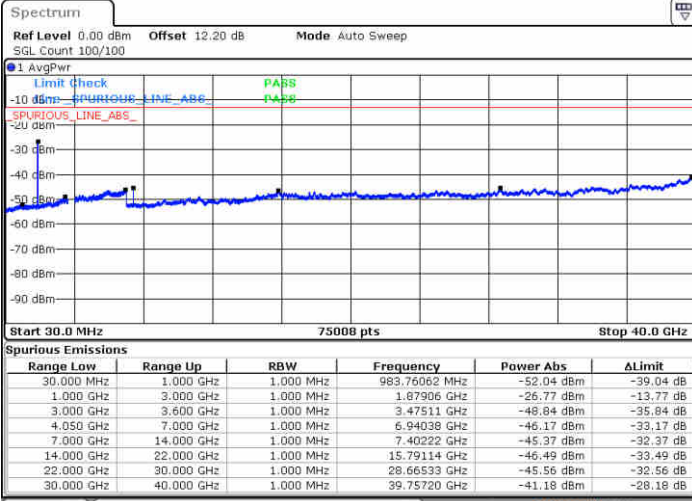
Date: 4.MAR.2021 14:27:43



FR1 n77 / 10MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

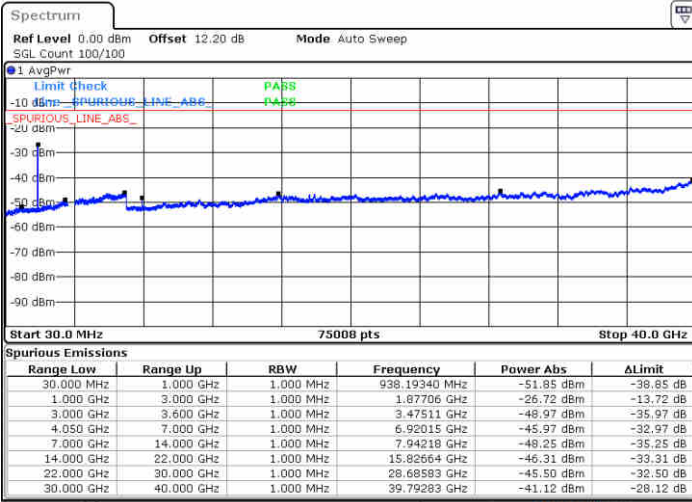
Middle Channel / 1RB



Date: 4.MAR.2021 14:15:29

Date: 4.MAR.2021 14:17:21

Highest Channel / 1RB



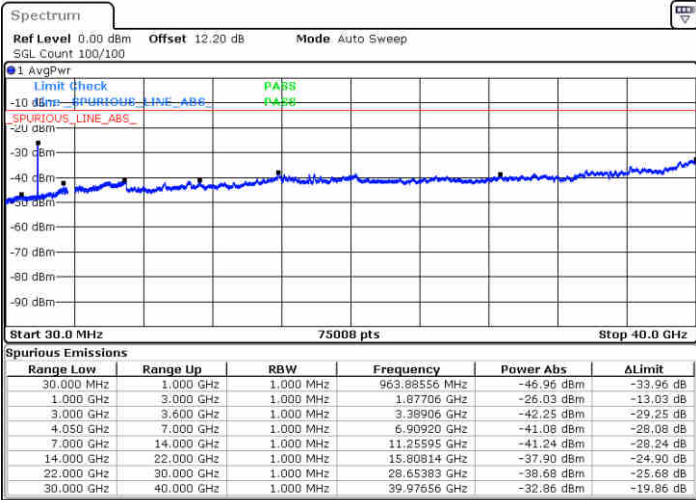
Date: 4.MAR.2021 14:29:44



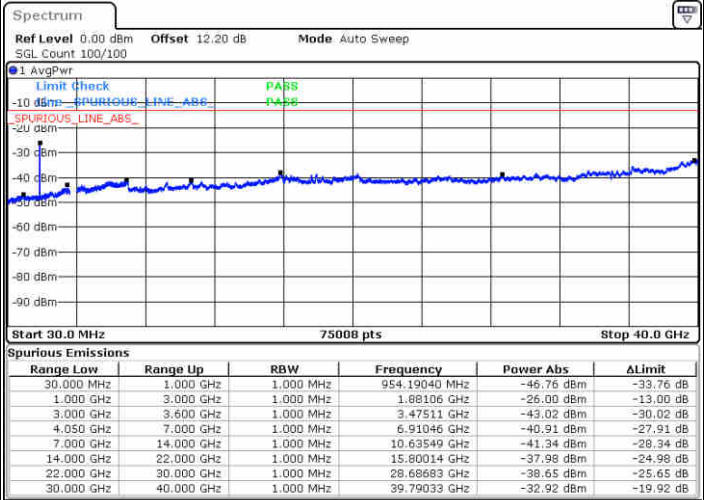
FR1 n77 / 50MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

Middle Channel / 1RB

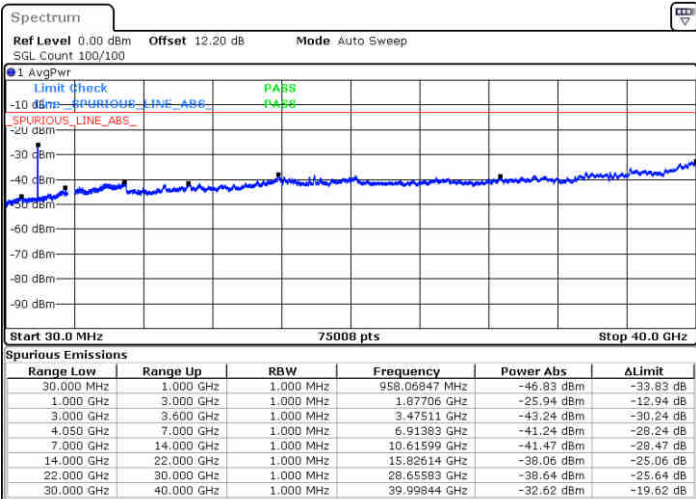


Date: 4.MAR.2021 10:33:01



Date: 4.MAR.2021 10:39:32

Highest Channel / 1RB



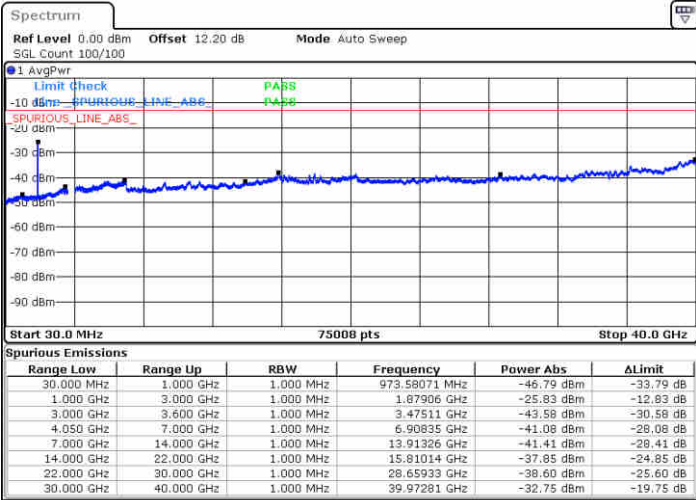
Date: 4.MAR.2021 10:47:09



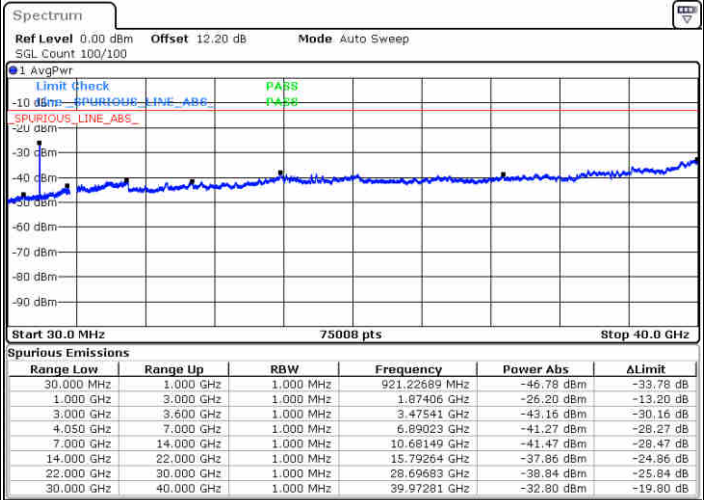
FR1 n77 / 50MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB

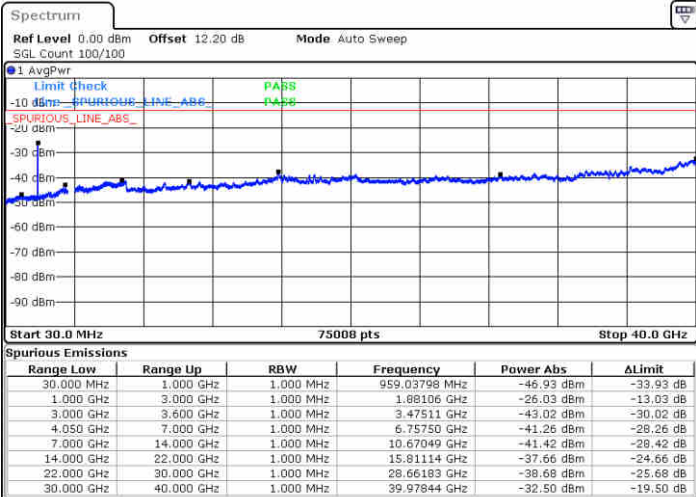


Date: 4.MAR.2021 10:27:02



Date: 4.MAR.2021 10:41:52

Highest Channel / 1RB



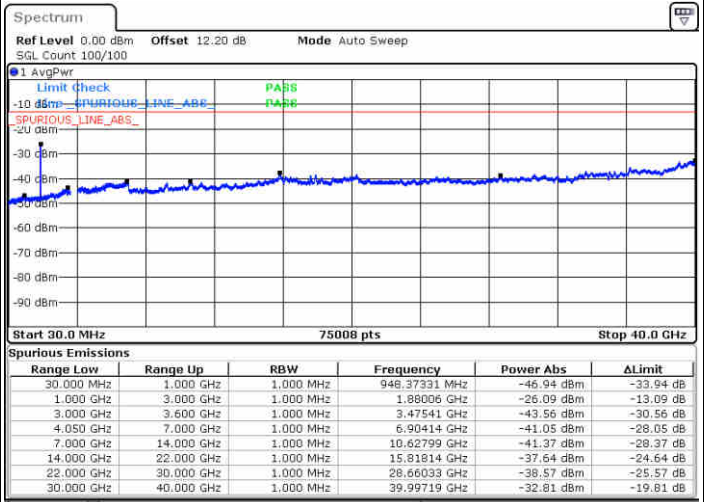
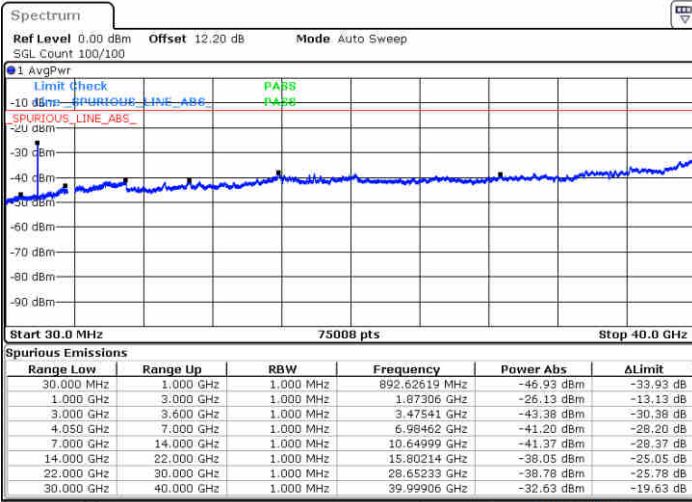
Date: 4.MAR.2021 10:48:24



FR1 n77 / 100MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

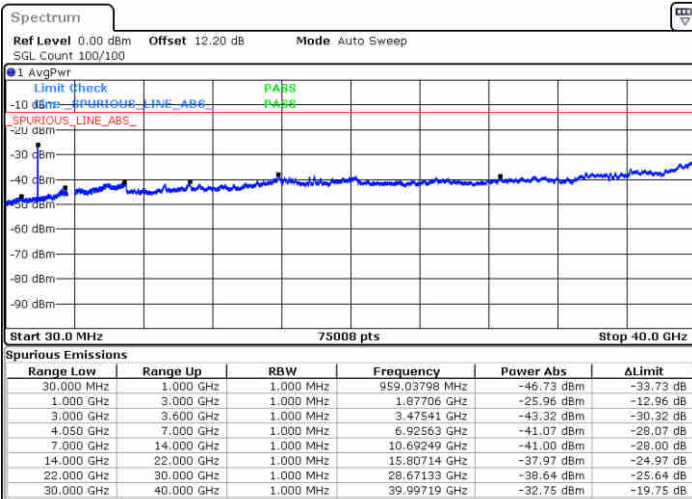
Middle Channel / 1RB



Date: 4.MAR.2021 09:44:00

Date: 4.MAR.2021 09:36:26

Highest Channel / 1RB



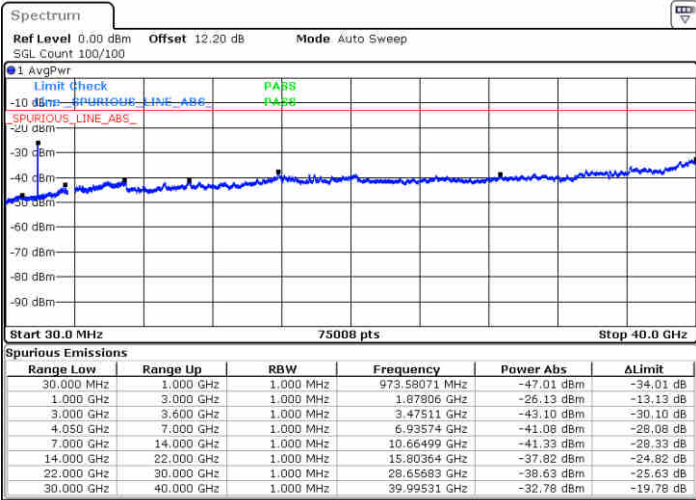
Date: 4.MAR.2021 09:59:16



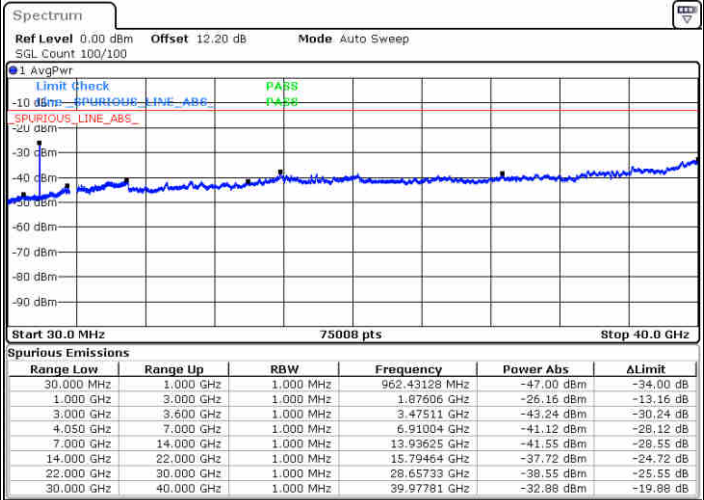
FR1 n77 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB

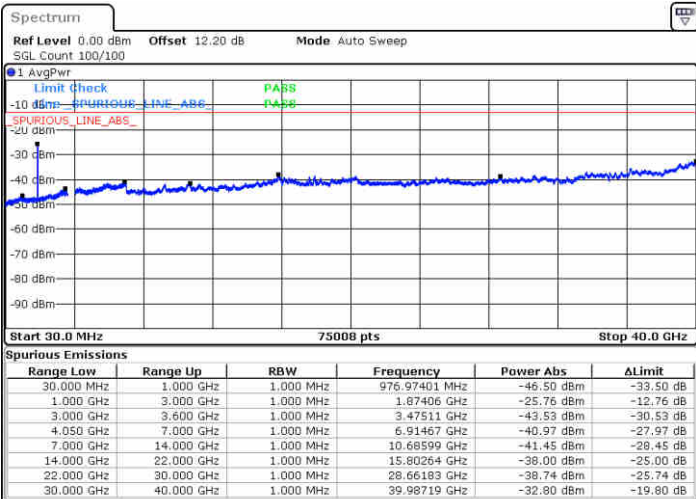


Date: 4.MAR.2021 09:46:30



Date: 4.MAR.2021 09:31:10

Highest Channel / 1RB



Date: 4.MAR.2021 09:57:52



Frequency Stability

Test Conditions		NR n77 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Within Band
		Deviation (ppm)	Result
50	Normal Voltage	0.0011	PASS
40	Normal Voltage	0.0003	
30	Normal Voltage	0.0014	
20(Ref.)	Normal Voltage	0.0013	
10	Normal Voltage	0.0013	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0015	
-20	Normal Voltage	0.0015	
-30	Normal Voltage	0.0017	
20	Maximum Voltage	0.0019	
20	Normal Voltage	0.0013	
20	Battery End Point	0.0022	

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 SA-SCS 15K

Peak-to-Average Ratio

Mode	FR1 n78 / 20MHz / 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	4.43	3.91	5.28	5.42	PASS
Middle CH	4.32	3.86	5.59	5.39	
Highest CH	4.61	3.91	6.29	5.04	



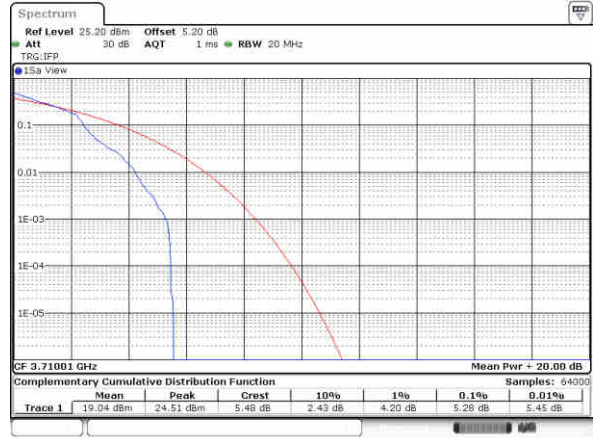
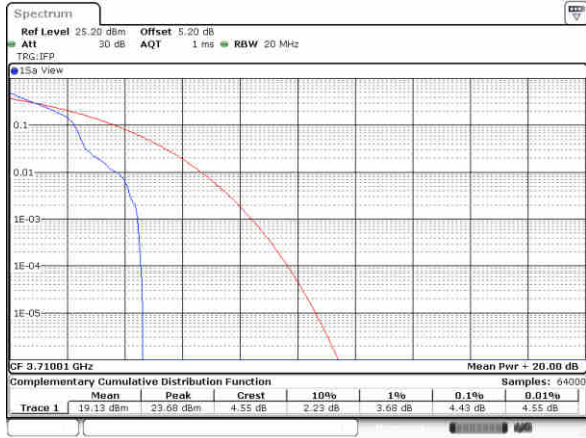
FR1 n78 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

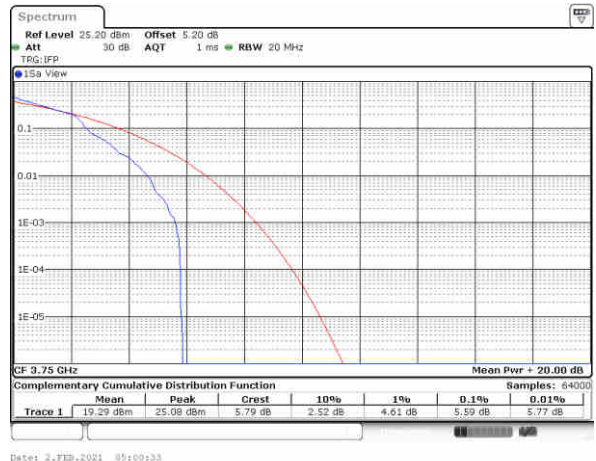
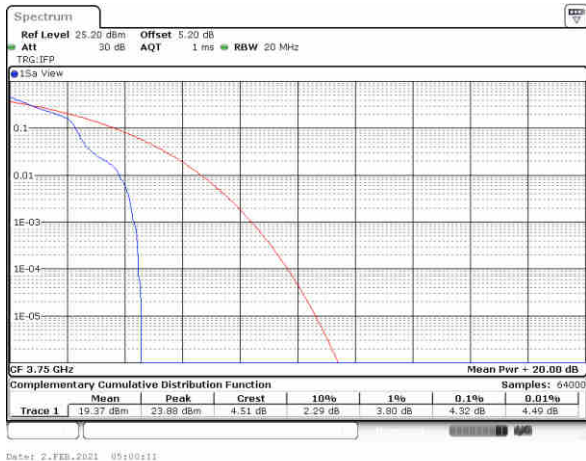
Lowest Channel / 1RB

Lowest Channel / 1RB



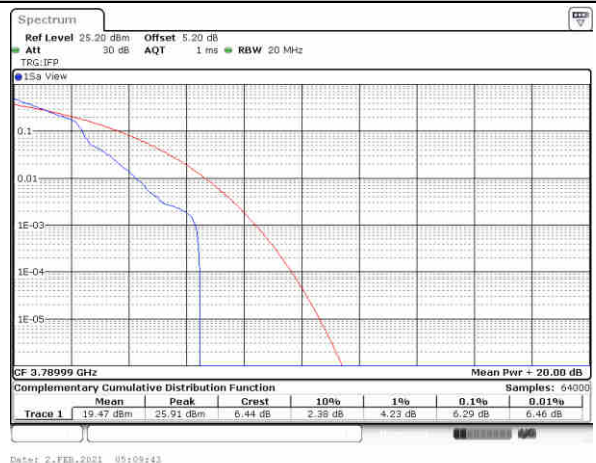
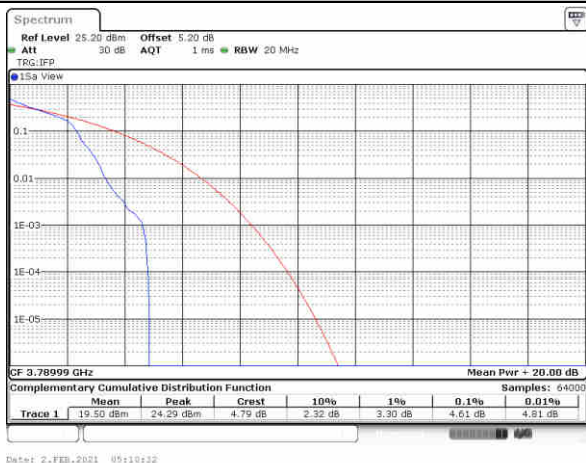
Middle Channel / 1 RB

Middle Channel / 1 RB



Highest Channel / 1 RB

Highest Channel / 1 RB





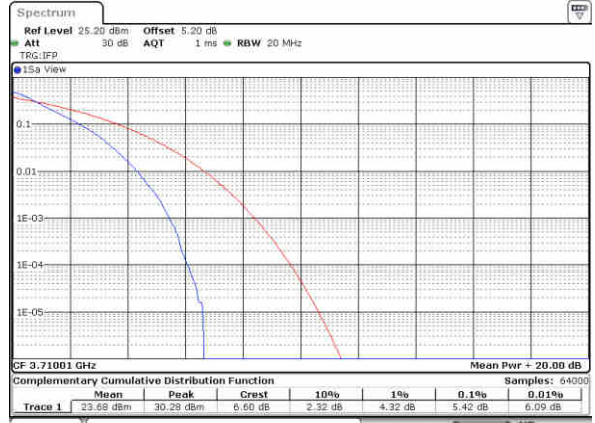
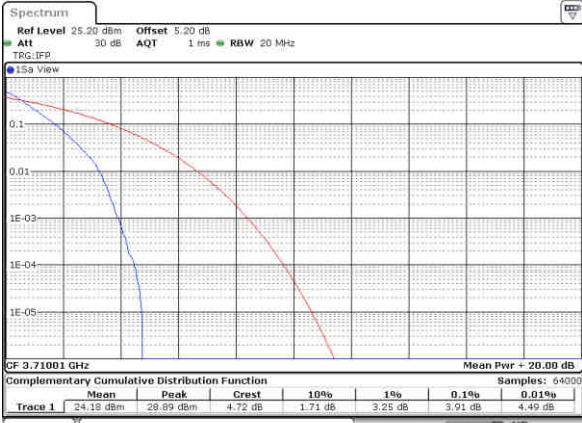
FR1 n78 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

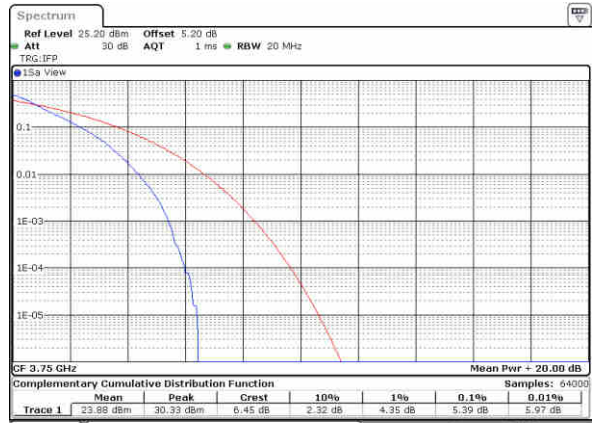
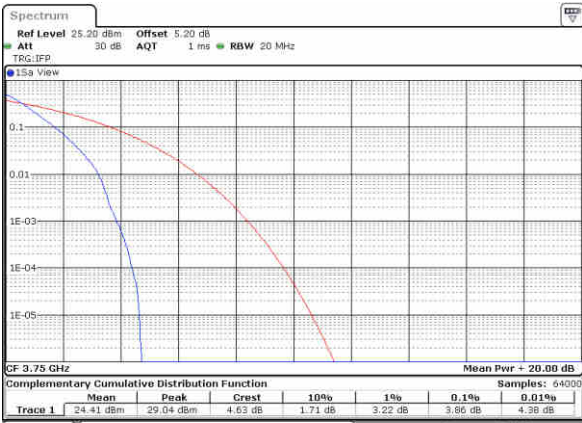
Lowest Channel / Full RB

Lowest Channel / Full RB



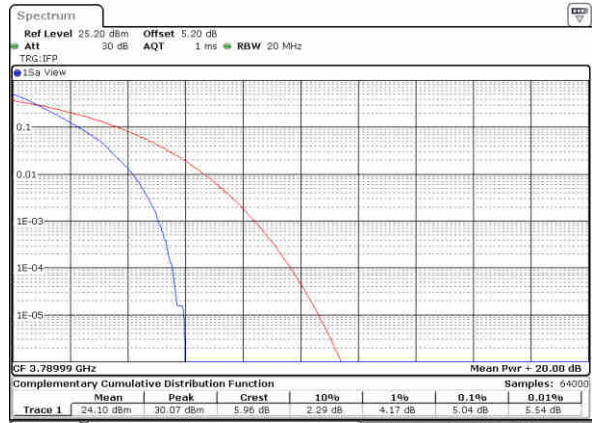
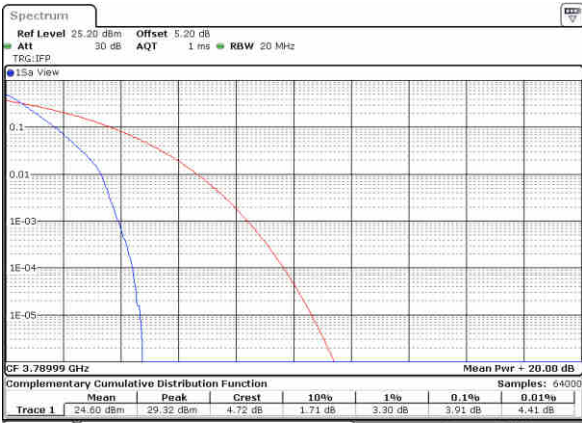
Middle Channel / Full RB

Middle Channel / Full RB



Highest Channel / Full RB

Highest Channel / Full RB



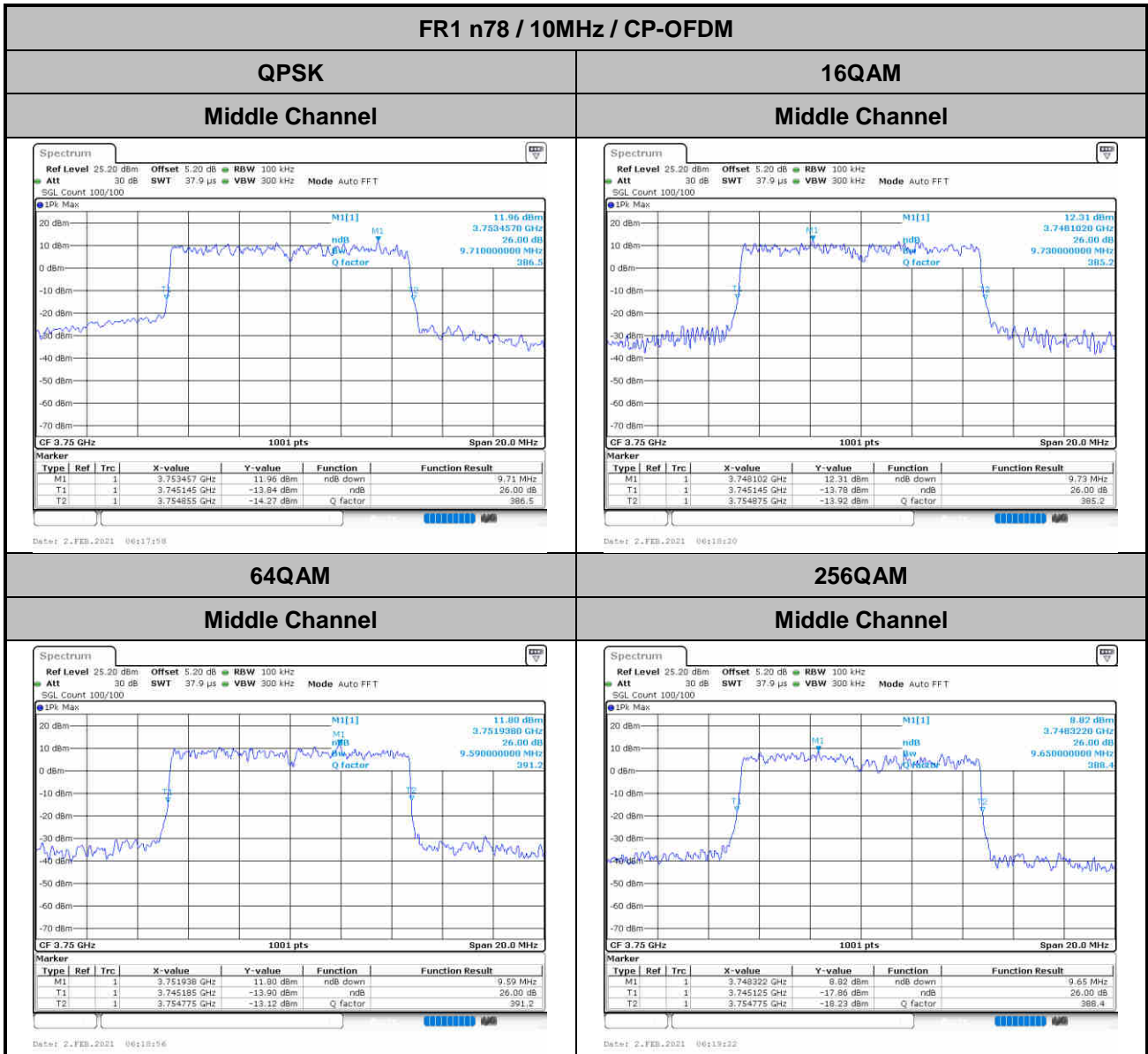


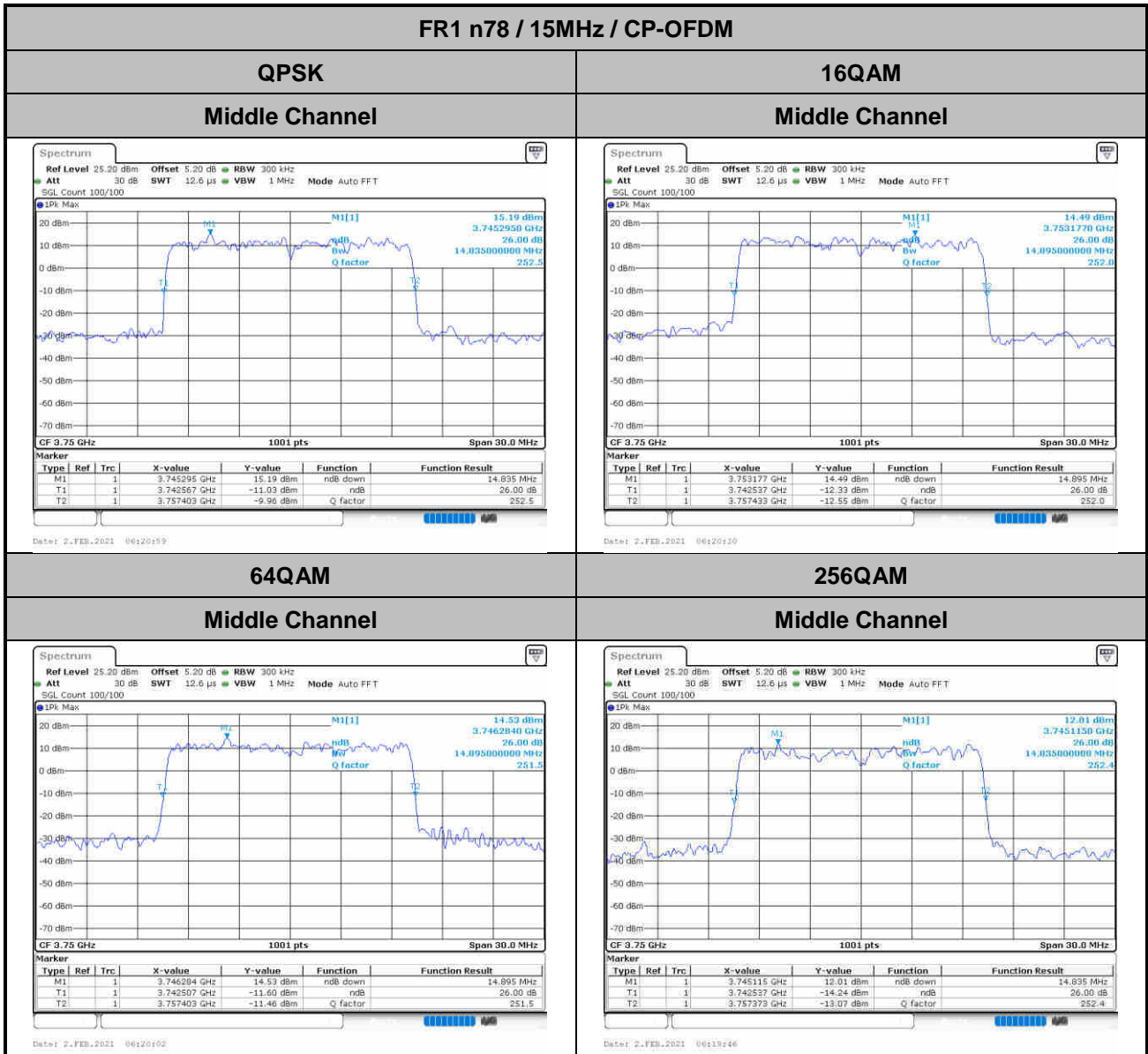
26dB Bandwidth

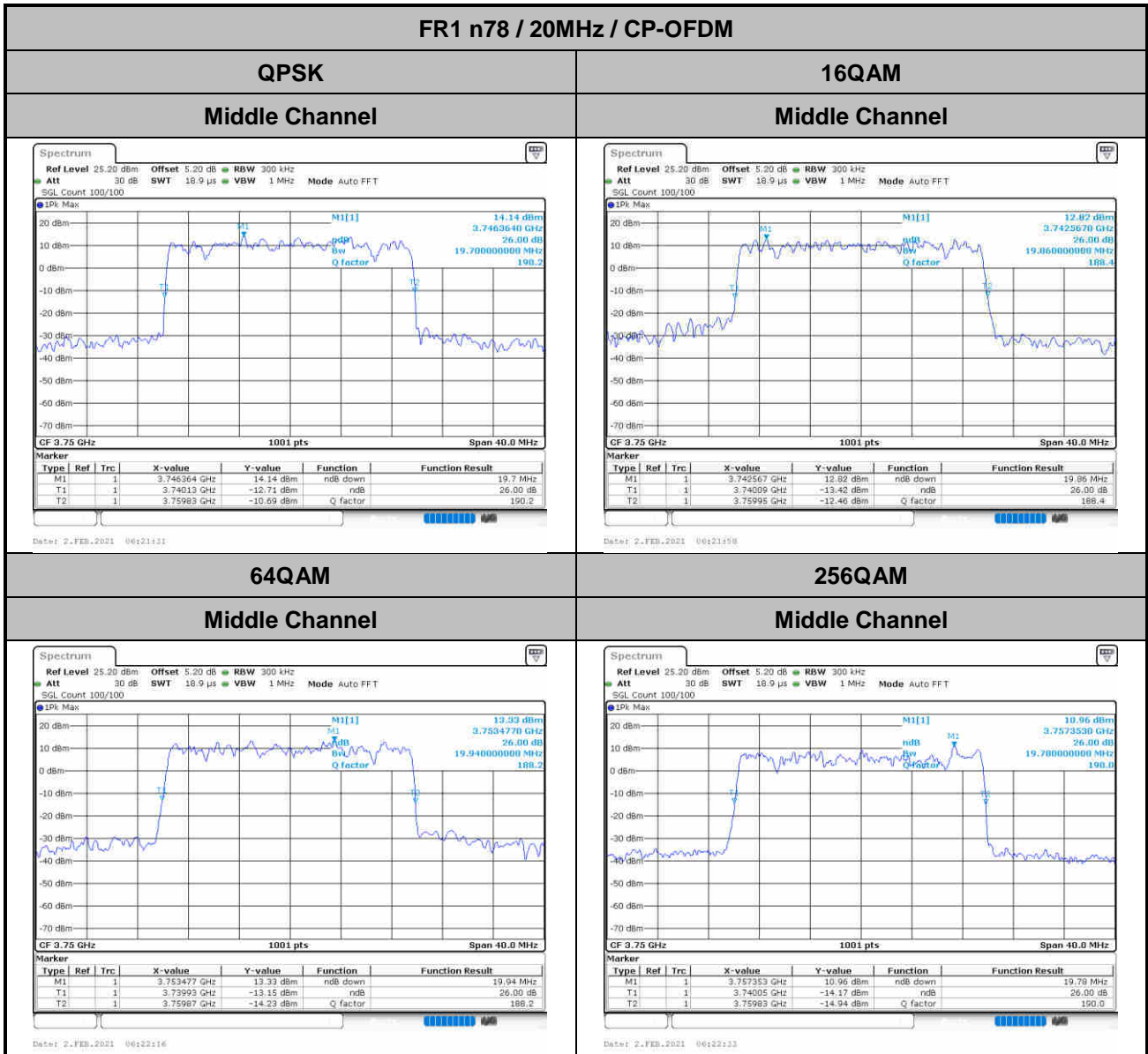
Mode	FR1 n78 : 26dB BW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	9.71	9.73	9.59	9.65				

Mode	FR1 n78 : 26dB BW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	14.84	14.90	14.90	14.84				

Mode	FR1 n78 : 26dB BW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	19.7	19.86	19.94	19.78				







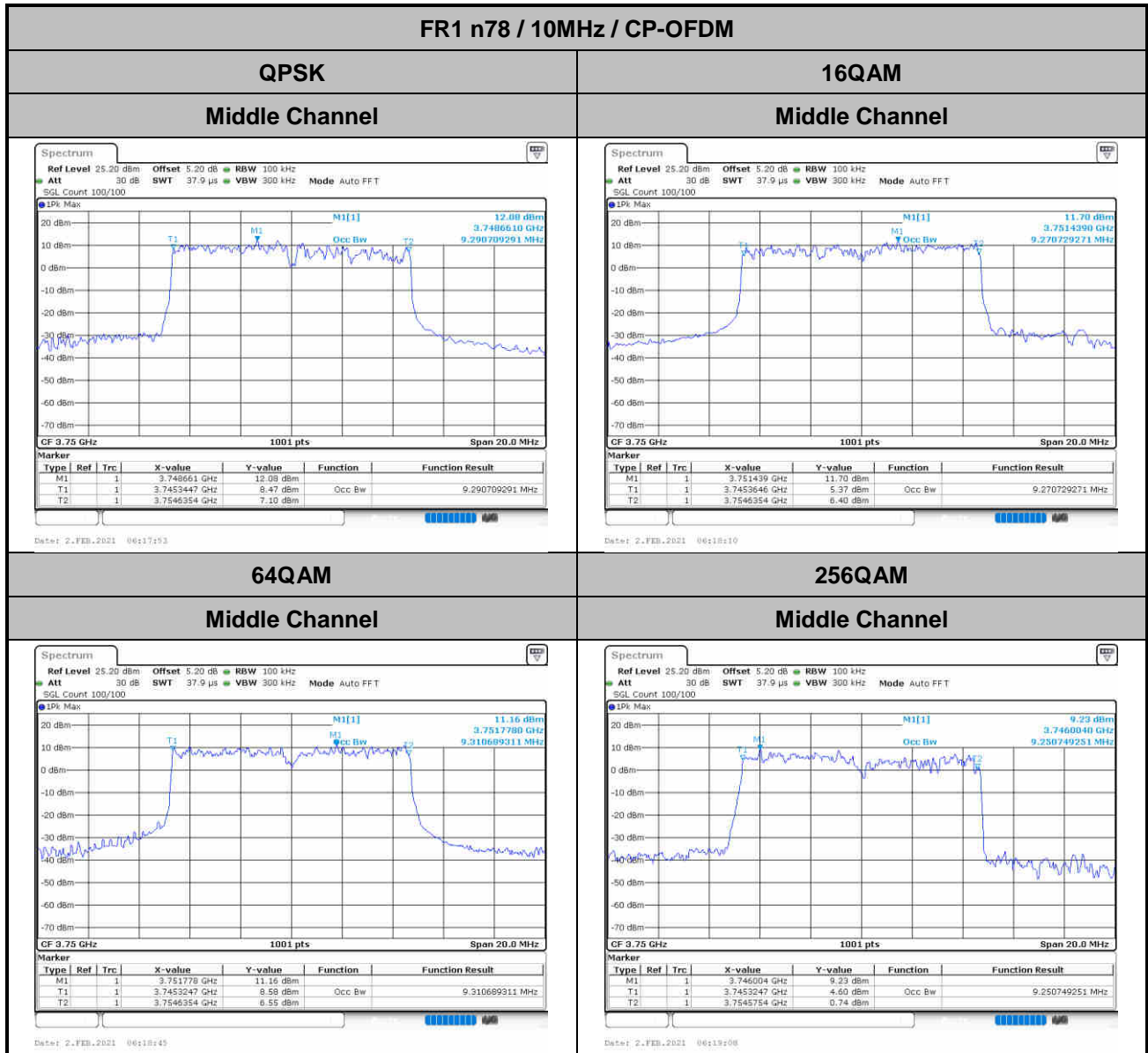


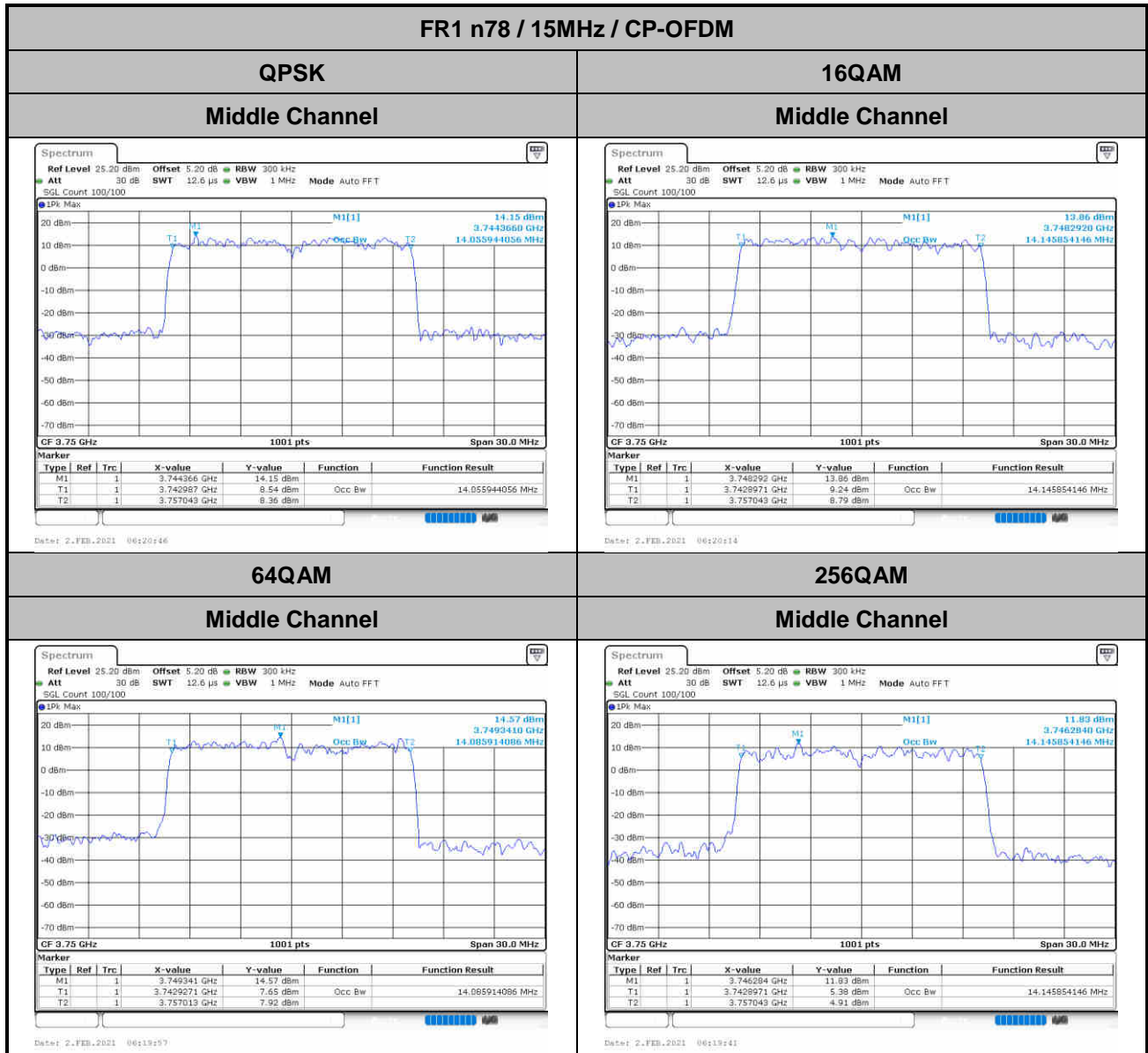
Occupied Bandwidth

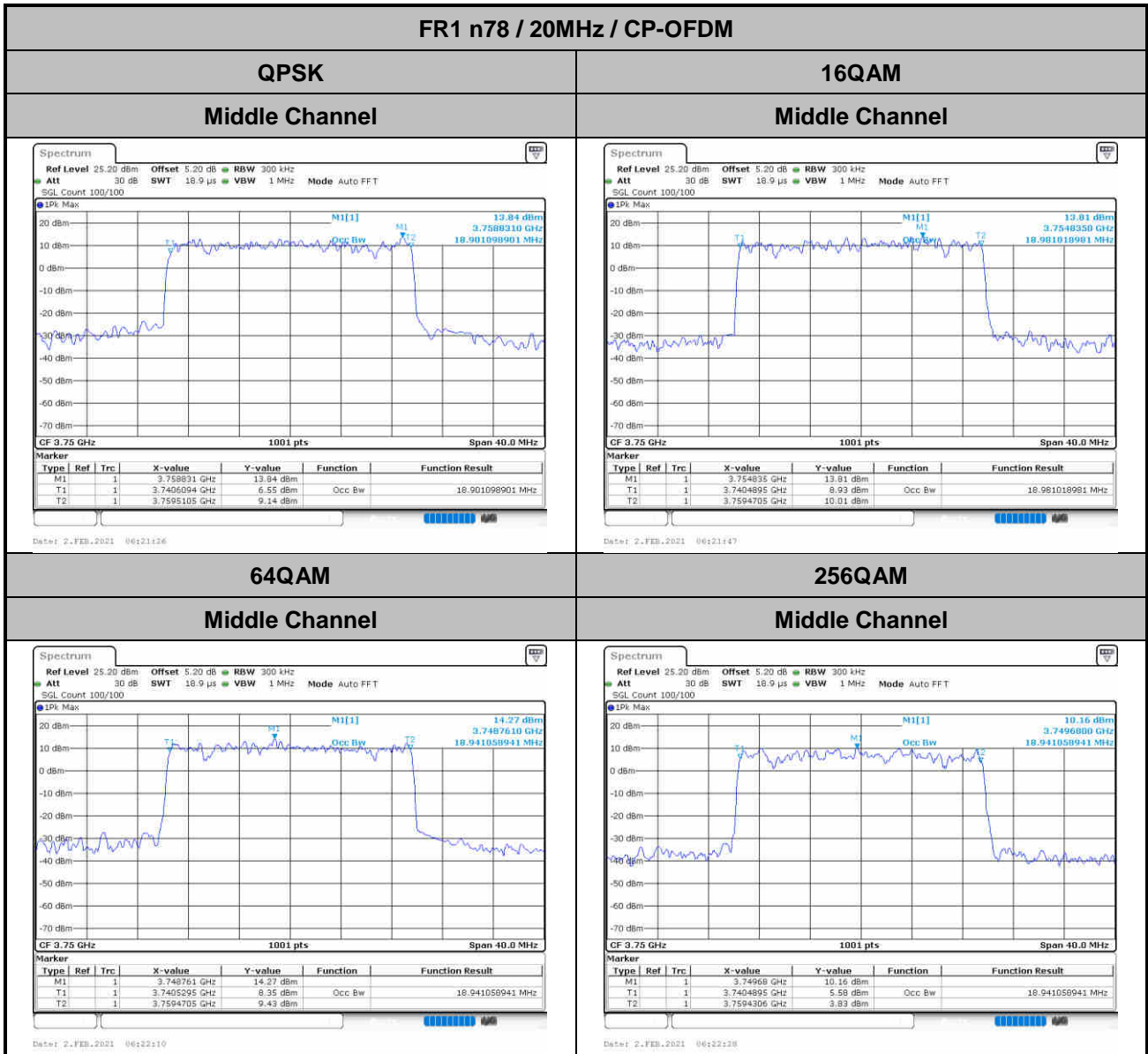
Mode	FR1 n78 : OBW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	9.29	9.30	9.31	9.25				

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				

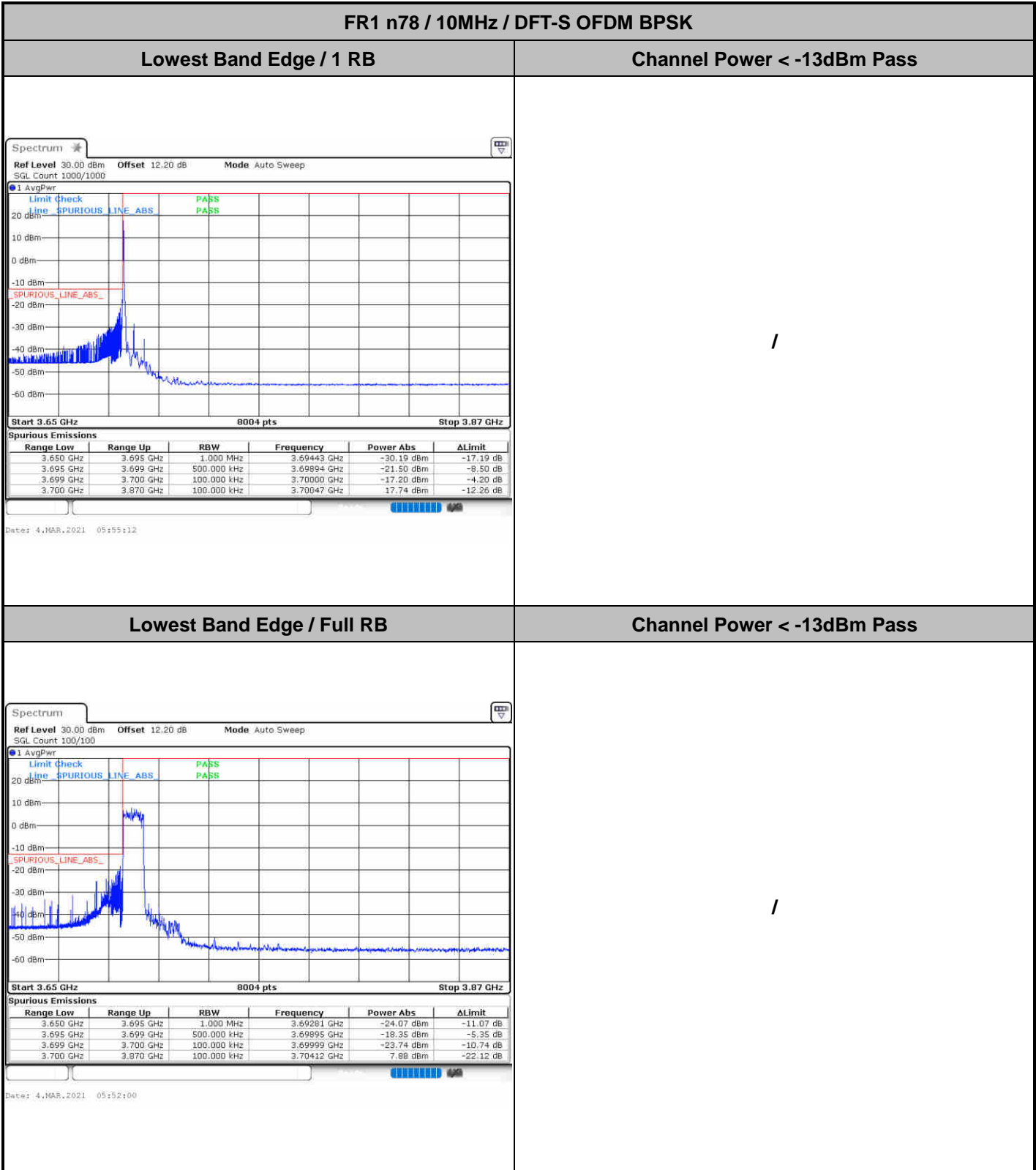








Conducted Band Edge

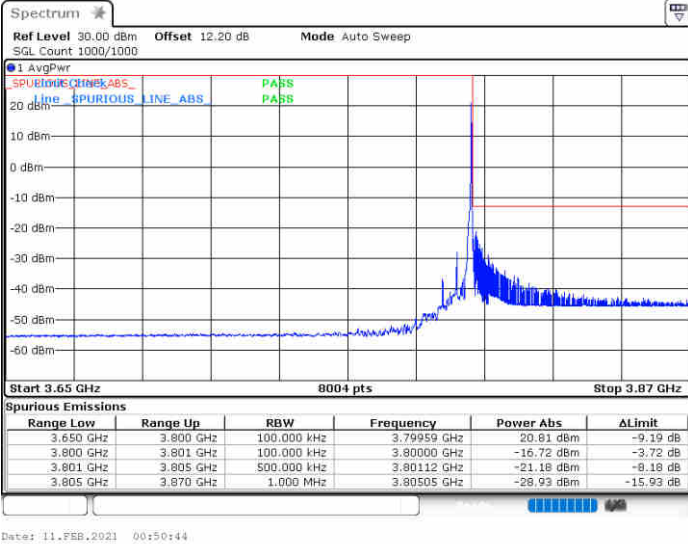




FR1 n78 / 10MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

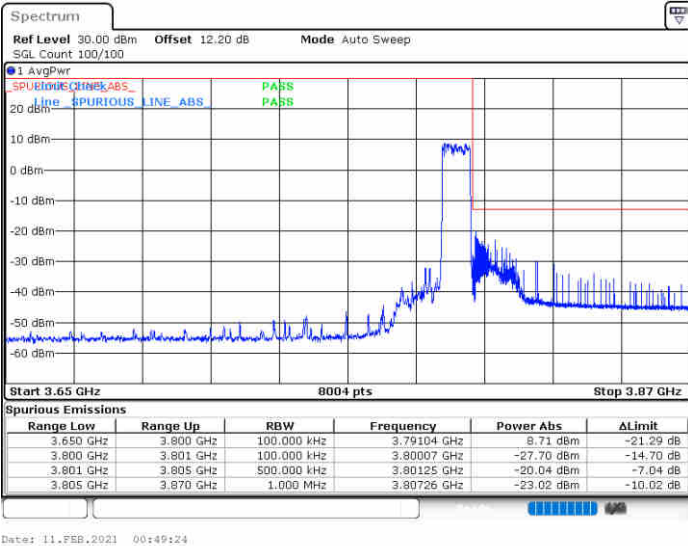
Channel Power < -13dBm Pass



/

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



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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

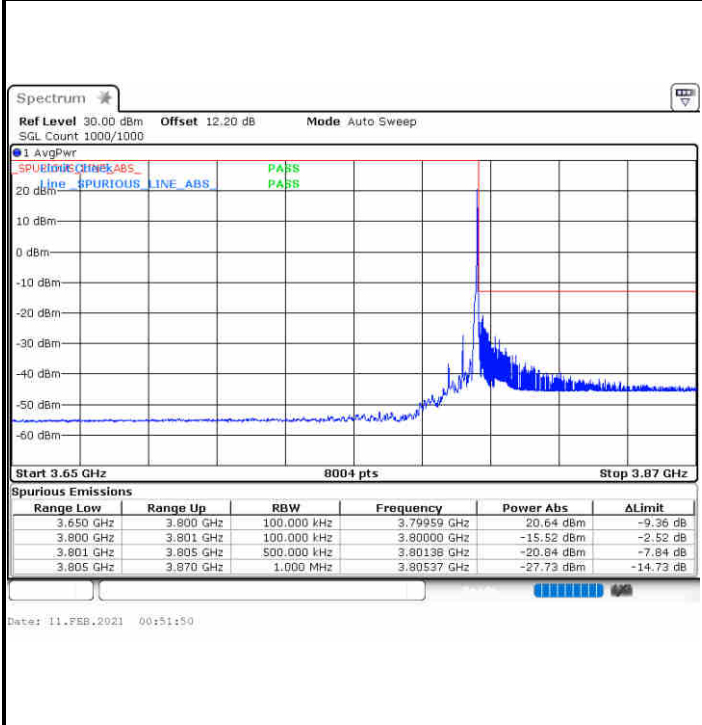


Date: 4.MAR.2021 05:52:38

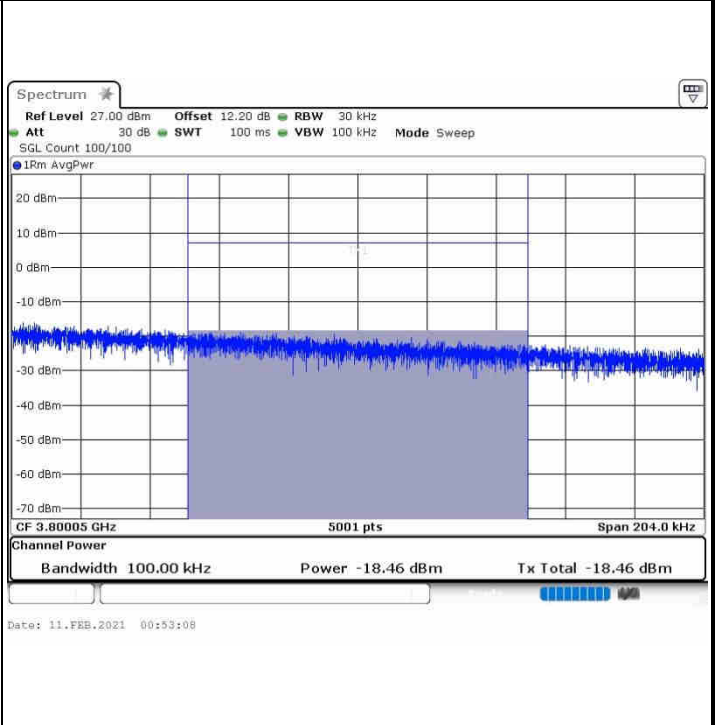


FR1 n78 / 10MHz / DFT-S OFDM QPSK

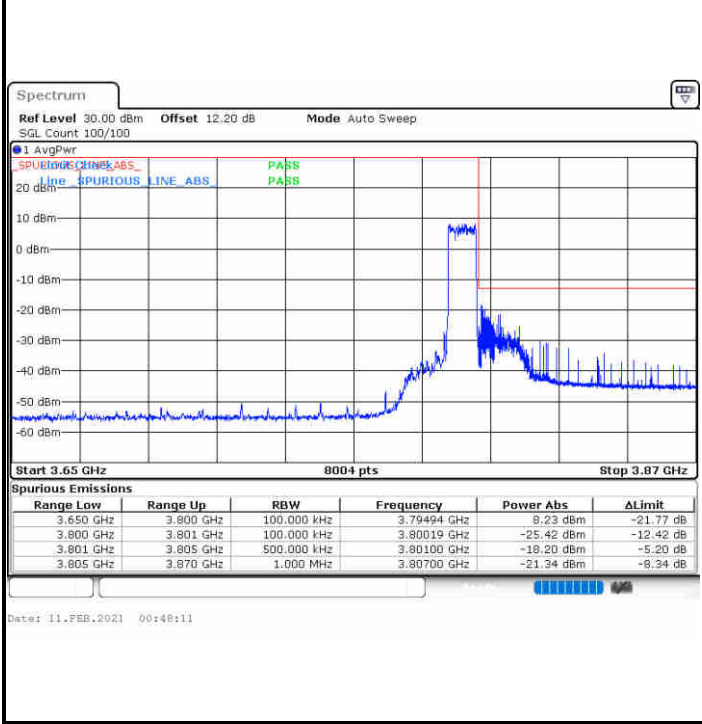
Highest Band Edge / 1 RB



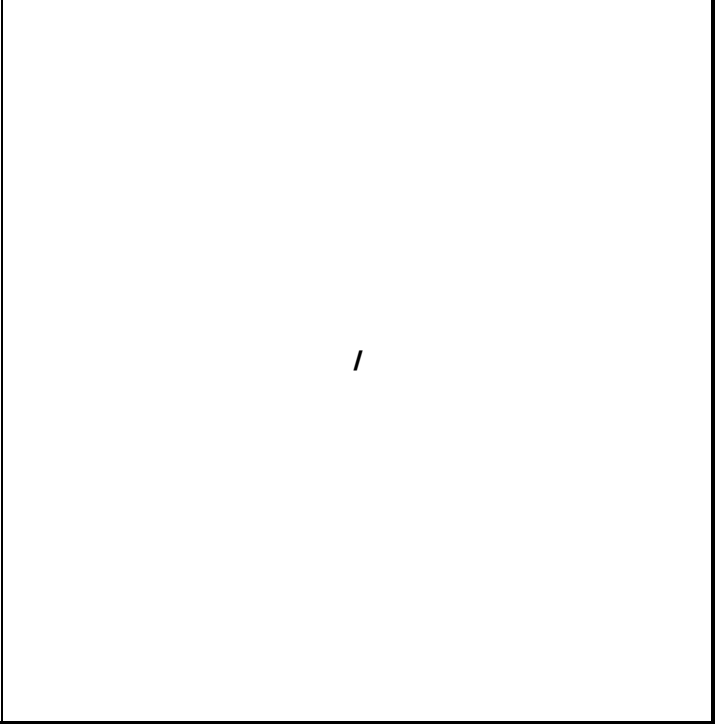
Channel Power < -13dBm Pass



Highest Band Edge / Full RB



Channel Power < -13dBm Pass

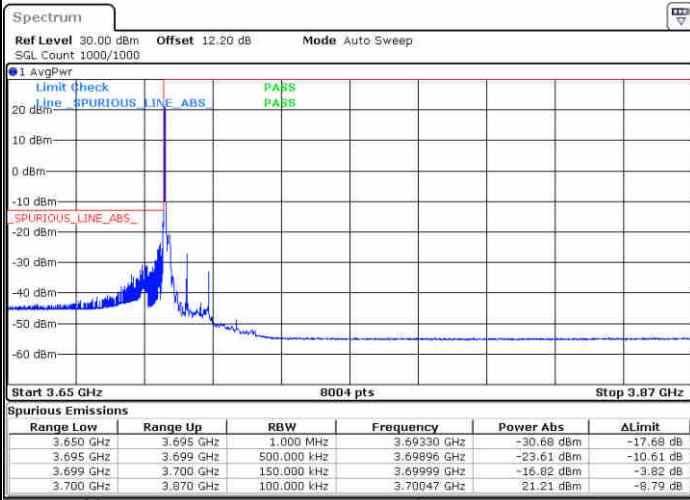




FR1 n78 / 15MHz / DFT-S OFDM BPSK

Lowest Band Edge / 1 RB

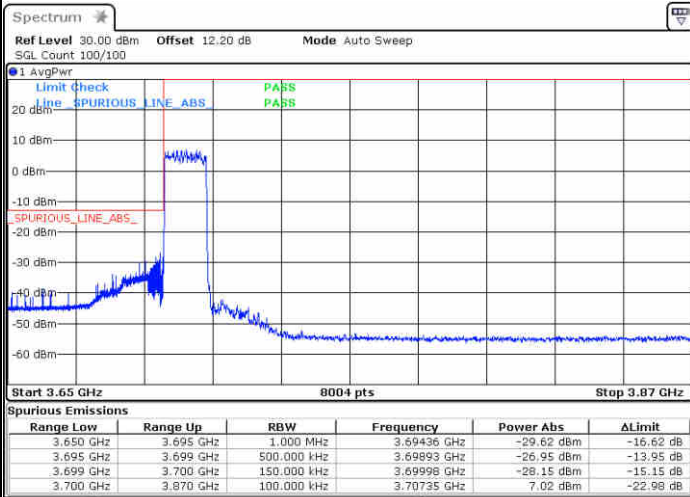
Channel Power < -13dBm Pass



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

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



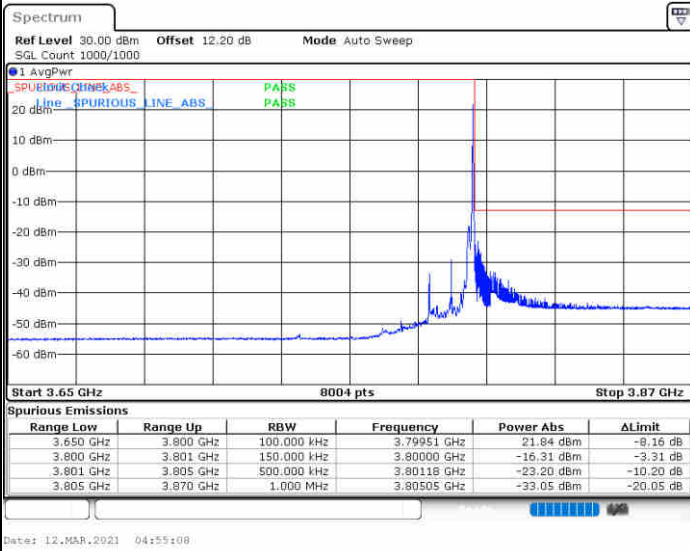
Date: 12.MAR.2021 04:52:53



FR1 n78 / 15MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

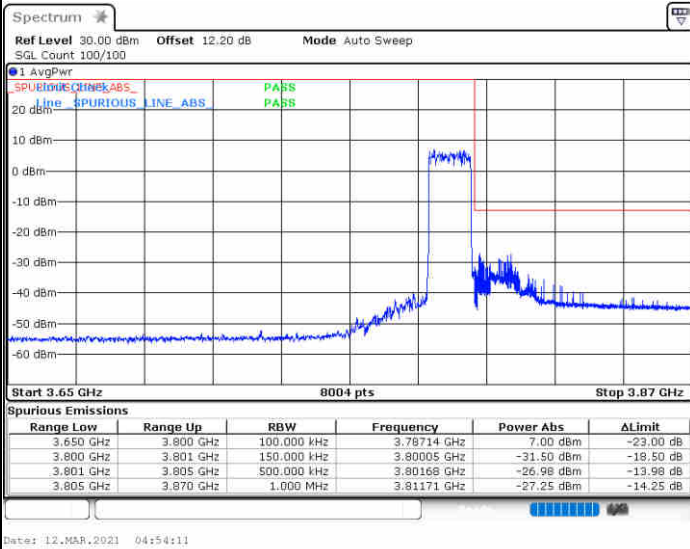
Channel Power < -13dBm Pass



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Highest Band Edge / Full RB

Channel Power < -13dBm Pass



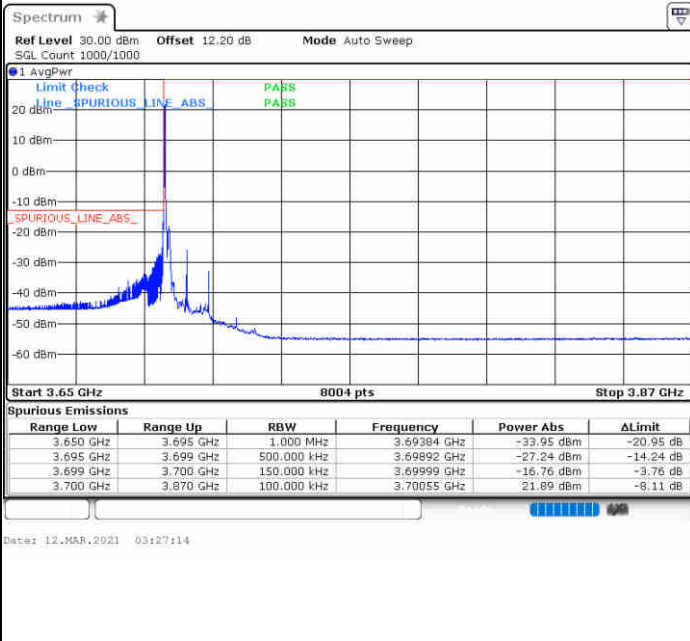
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FR1 n78 / 15MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

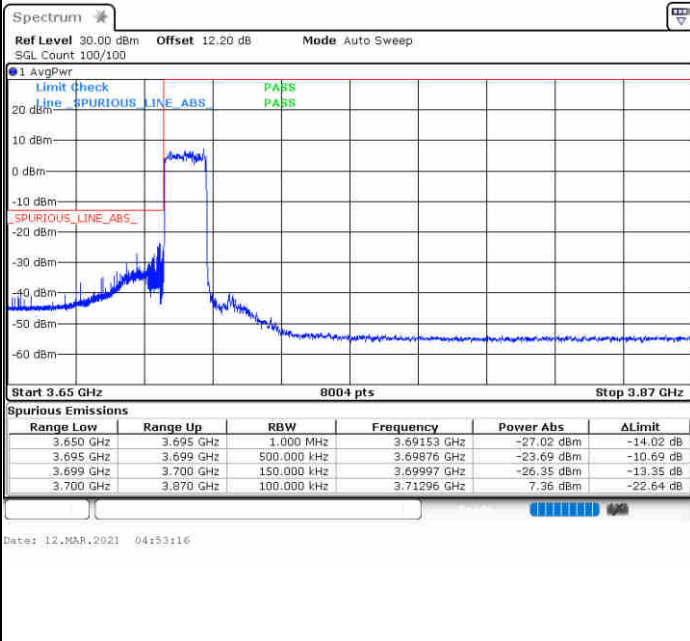
Channel Power < -13dBm Pass



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Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



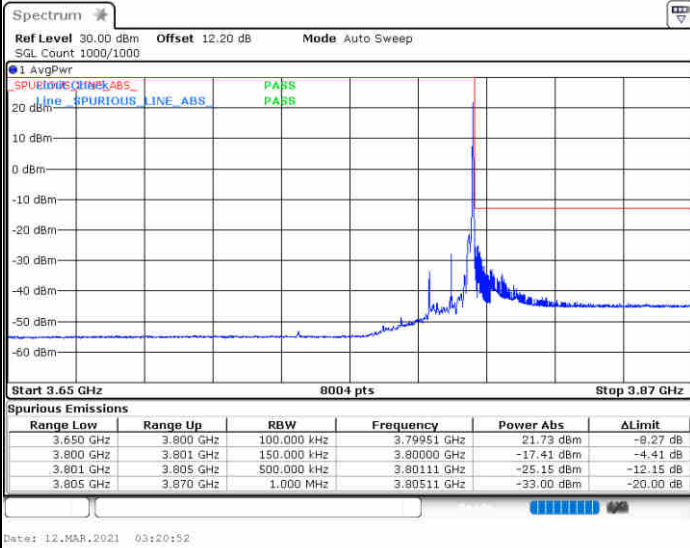
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FR1 n78 / 15MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

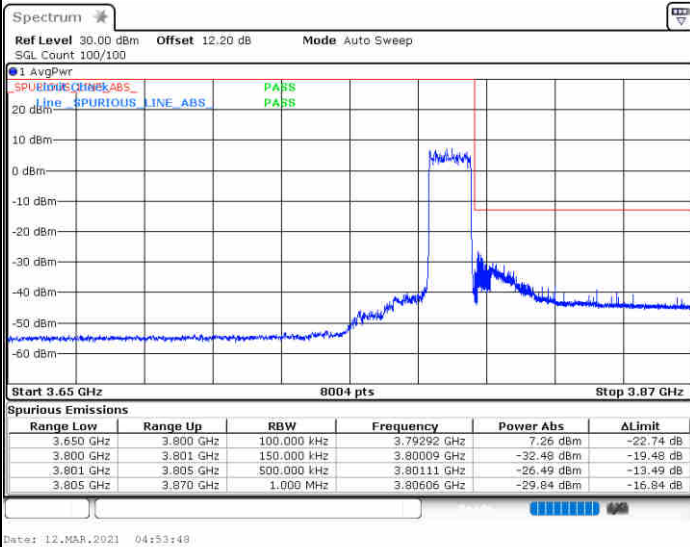
Channel Power < -13dBm Pass



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Highest Band Edge / Full RB

Channel Power < -13dBm Pass

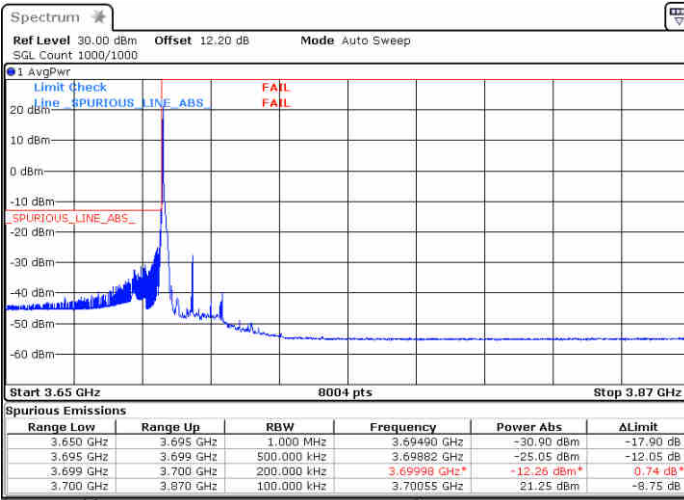


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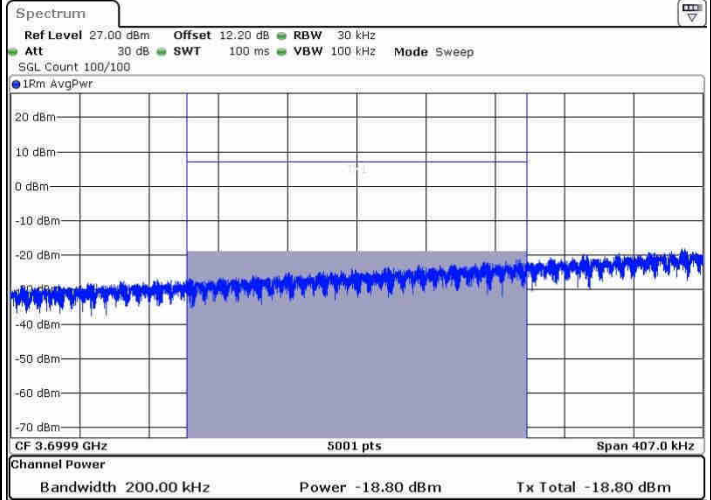
FR1 n78 / 20MHz / DFT-S OFDM BPSK

Lowest Band Edge / 1 RB



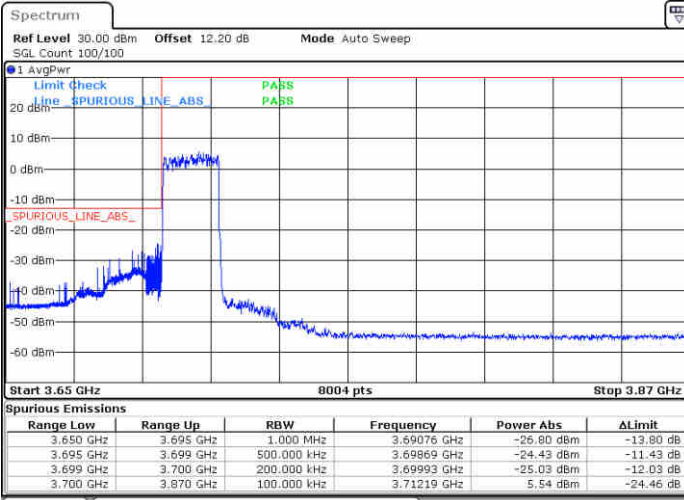
Date: 13.MAR.2021 07:19:30

Channel Power < -13dBm Pass



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

Lowest Band Edge / Full RB



Date: 13.MAR.2021 07:26:29

Channel Power < -13dBm Pass

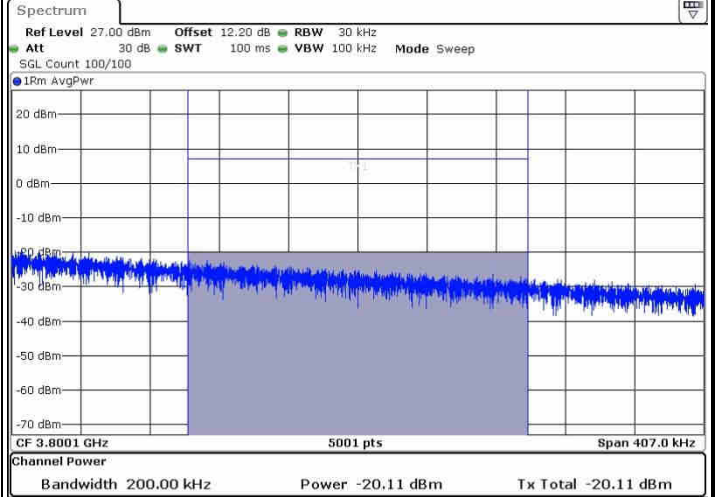
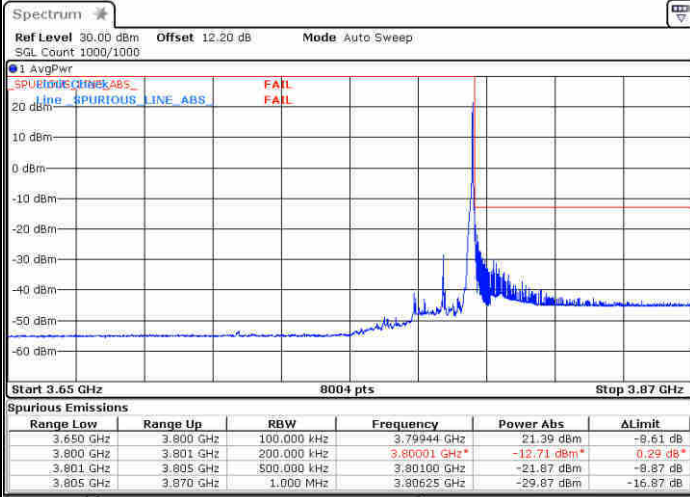
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FR1 n78 / 20MHz / DFT-S OFDM BPSK

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



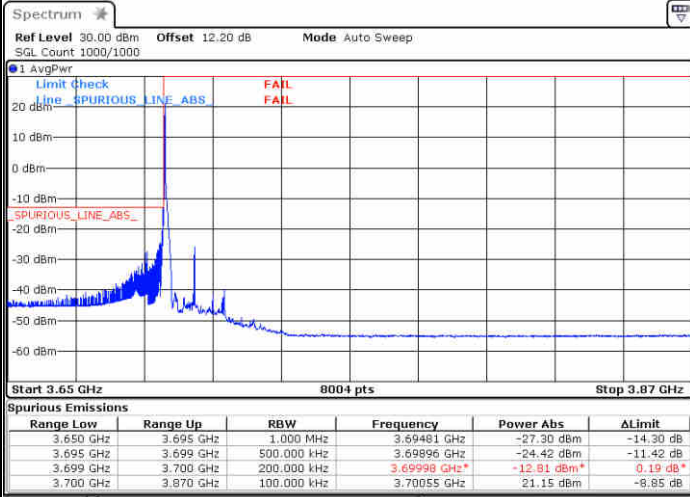
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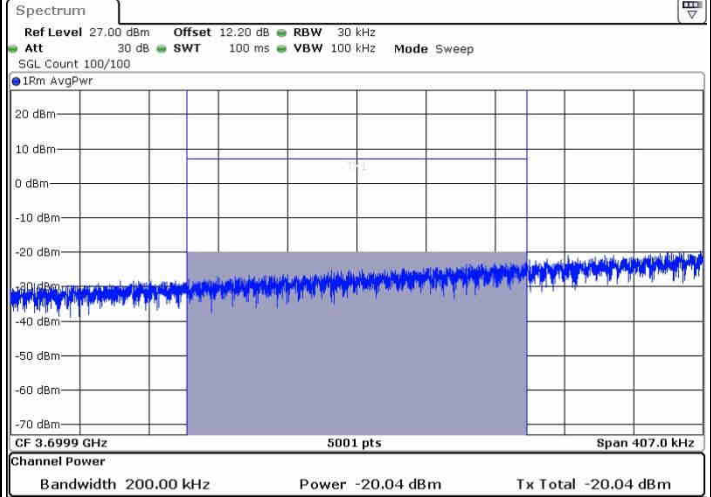
FR1 n78 / 20MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



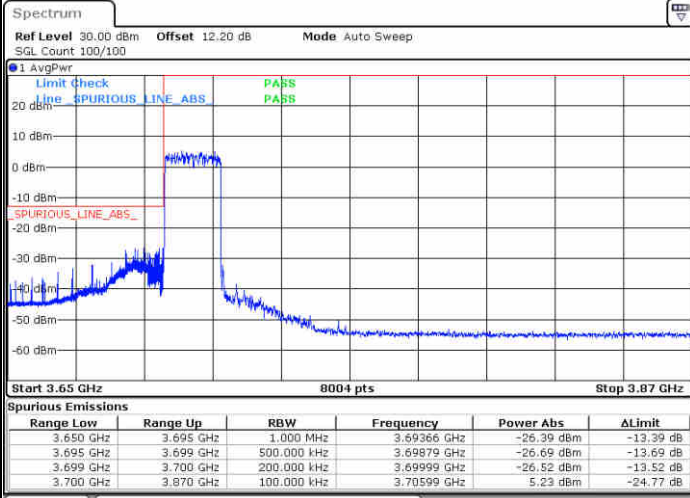
Date: 13.MAR.2021 07:23:07



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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