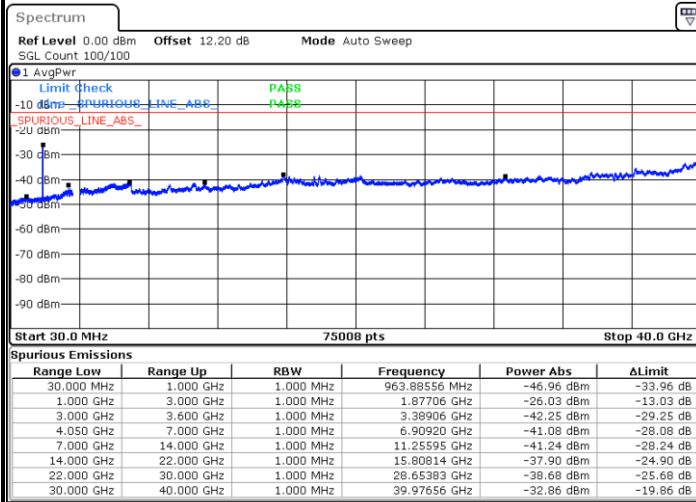




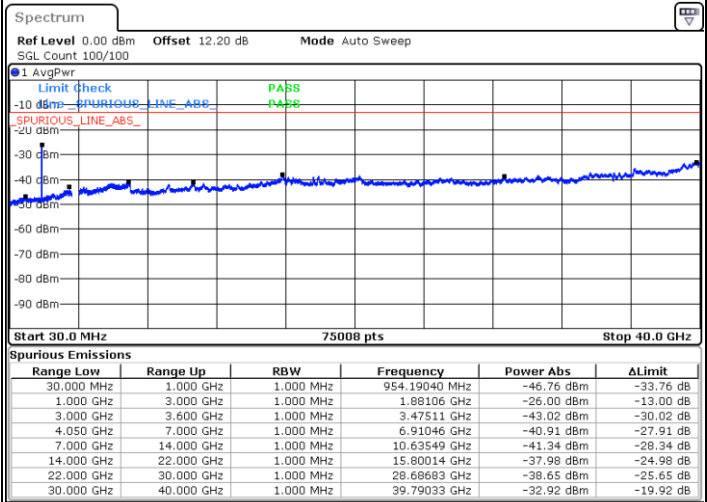
FR1 n77 / 50MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB



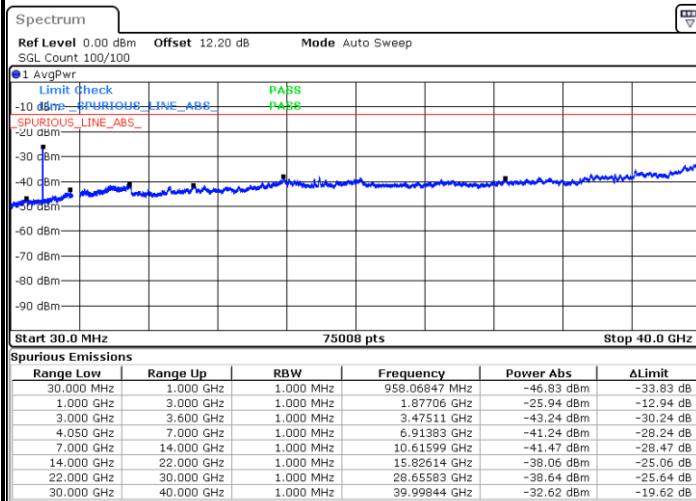
Date: 4.MAR.2021 10:33:01

Middle Channel / 1RB



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

Highest Channel / 1RB

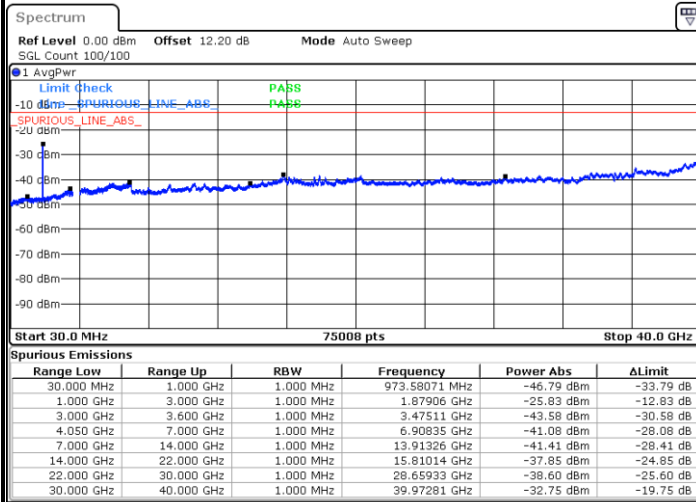


Date: 4.MAR.2021 10:47:09



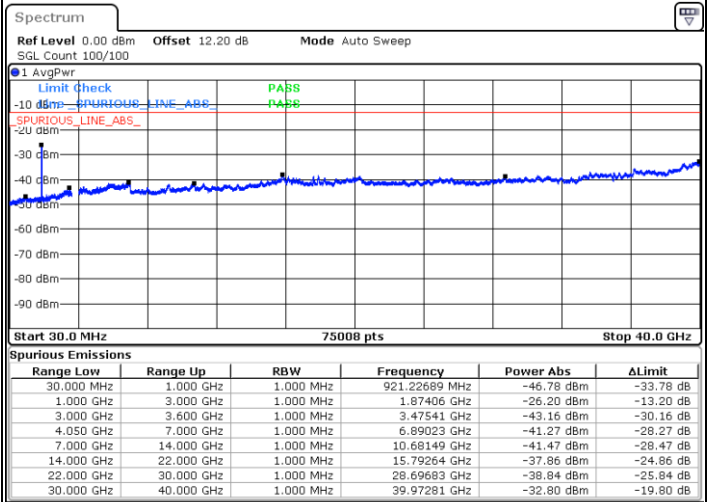
FR1 n77 / 50MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB



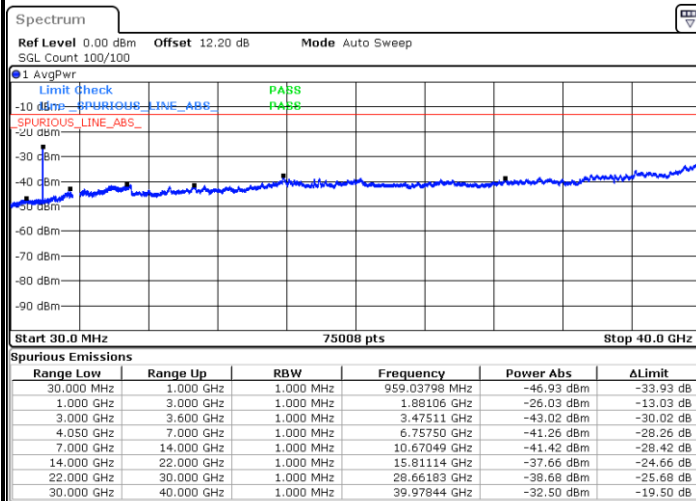
Date: 4.MAR.2021 10:27:02

Middle Channel / 1RB



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

Highest Channel / 1RB

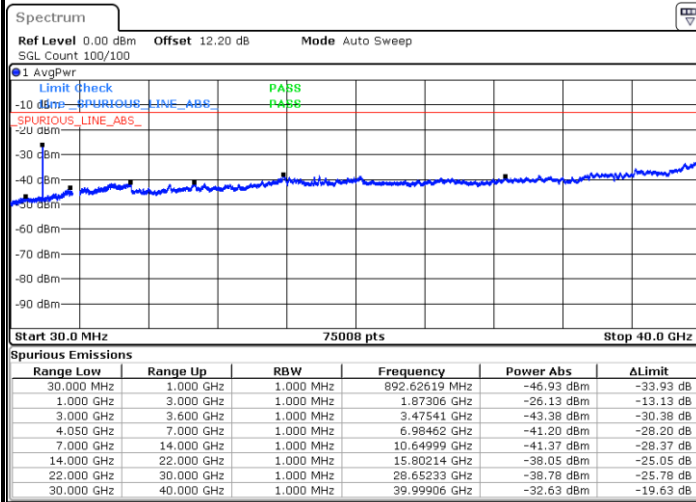


Date: 4.MAR.2021 10:48:24



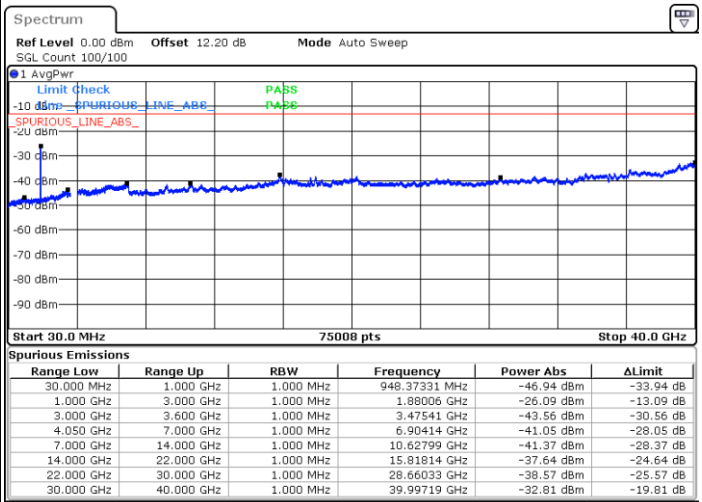
FR1 n77 / 100MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB



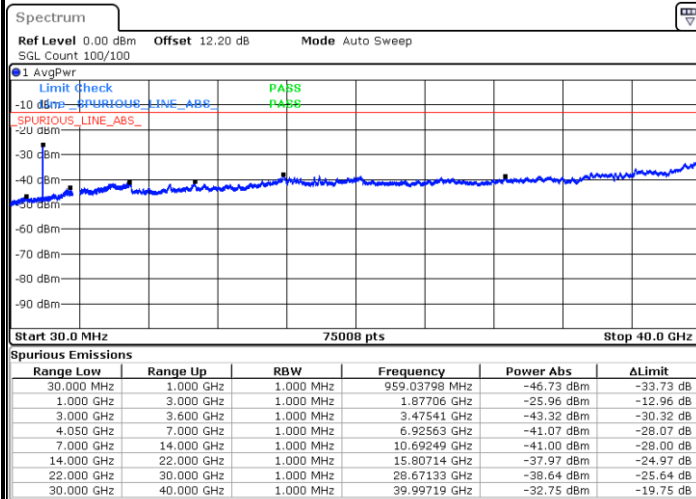
Date: 4.MAR.2021 09:44:00

Middle Channel / 1RB



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

Highest Channel / 1RB

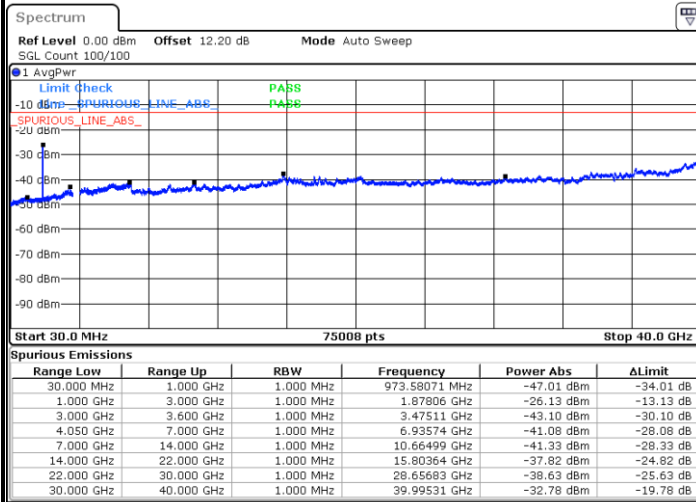


Date: 4.MAR.2021 09:59:16



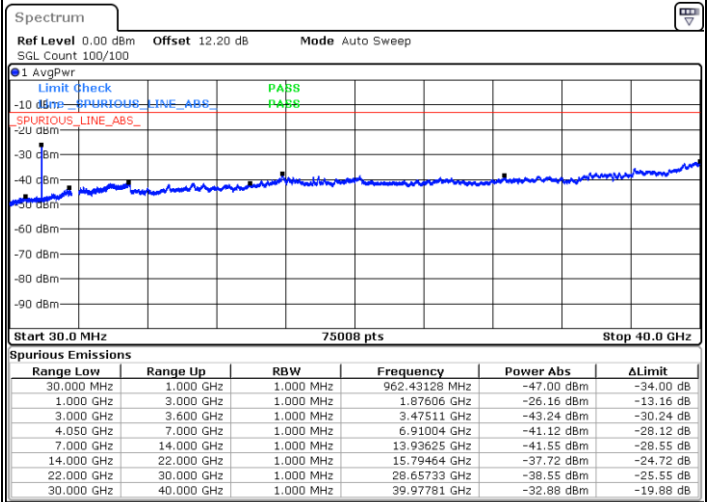
FR1 n77 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB



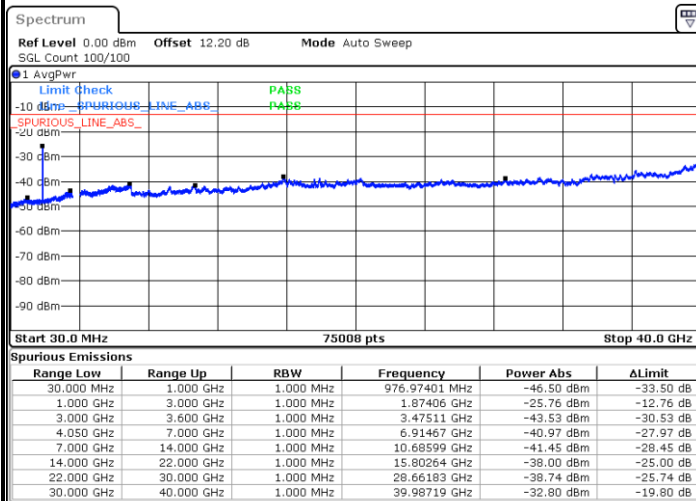
Date: 4.MAR.2021 09:46:30

Middle Channel / 1RB



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	



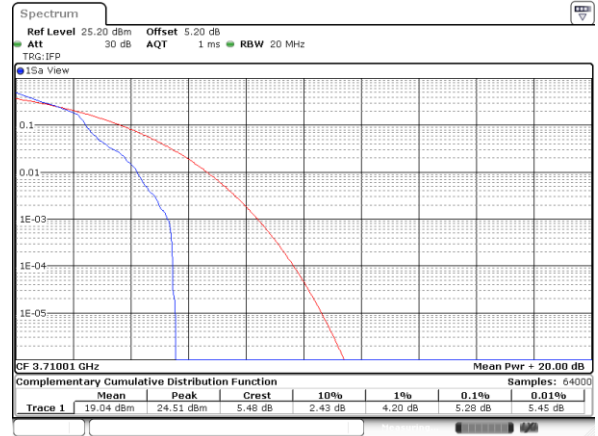
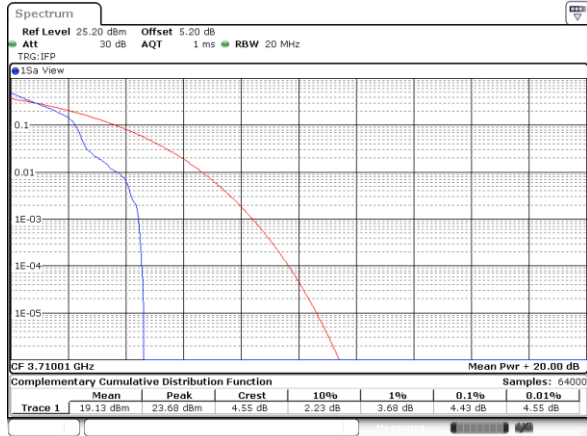
FR1 n78 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

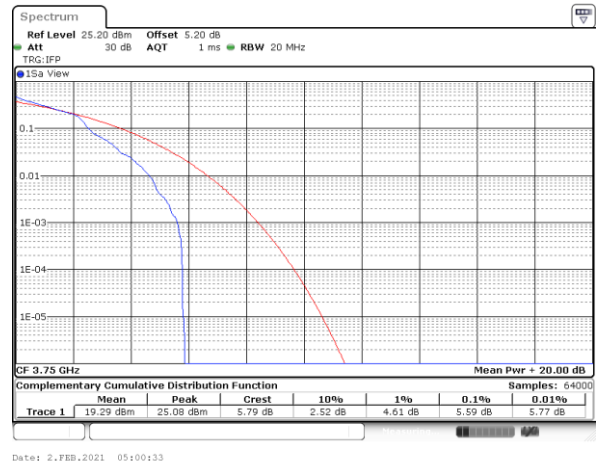
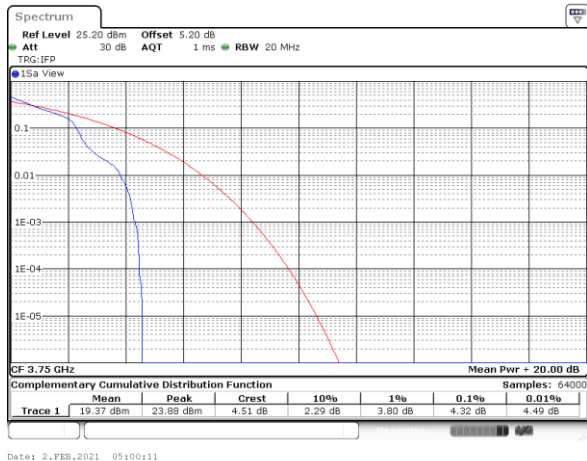
Lowest Channel / 1RB

Lowest Channel / 1RB



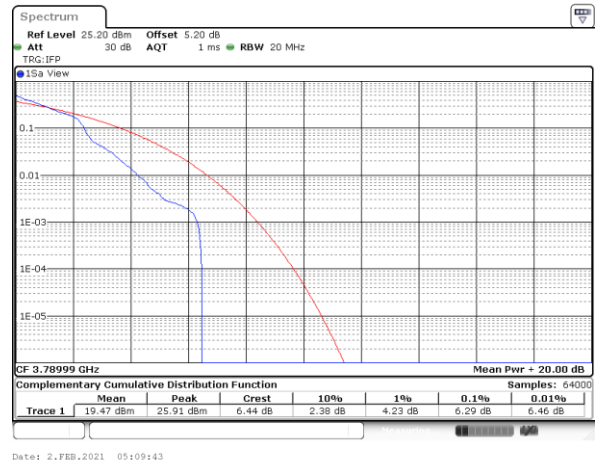
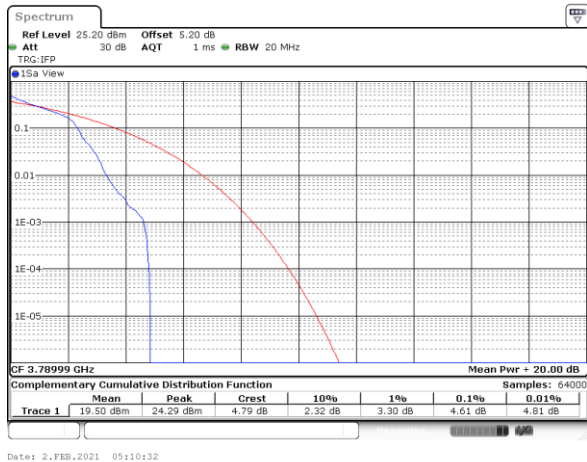
Middle Channel / 1 RB

Middle Channel / 1 RB



Highest Channel / 1 RB

Highest Channel / 1 RB

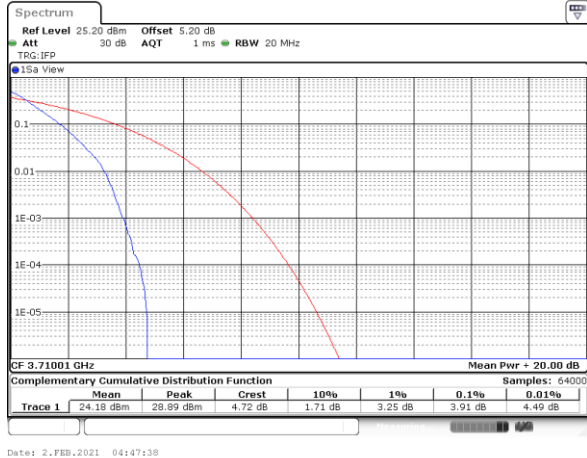




FR1 n78 / 20MHz / DFT-S OFDM

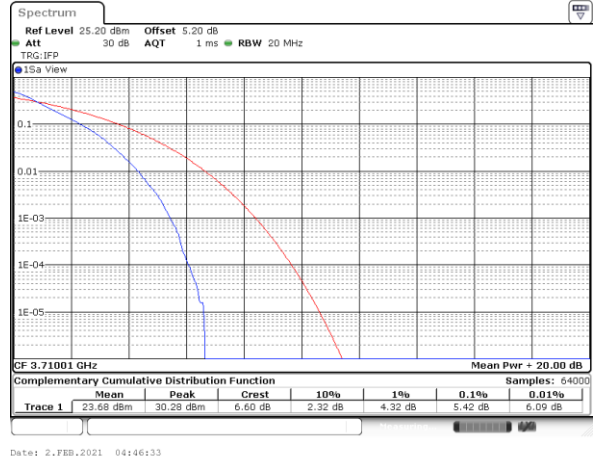
PI/2 BPSK

Lowest Channel / Full RB

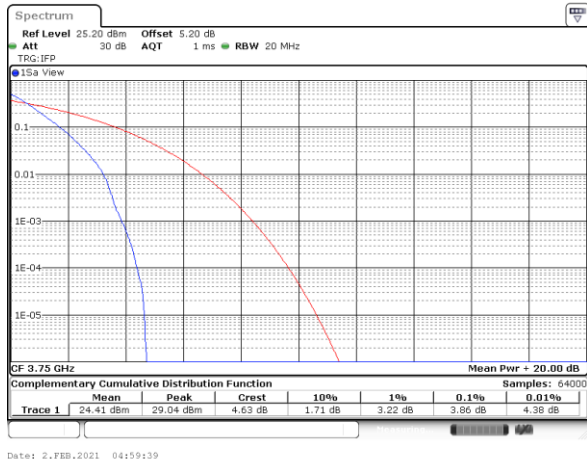


QPSK

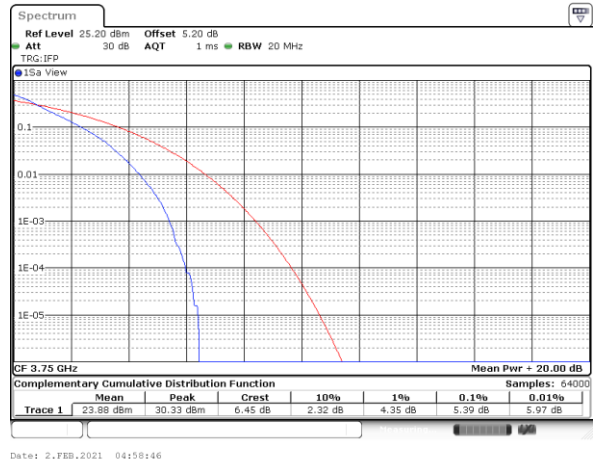
Lowest Channel / Full RB



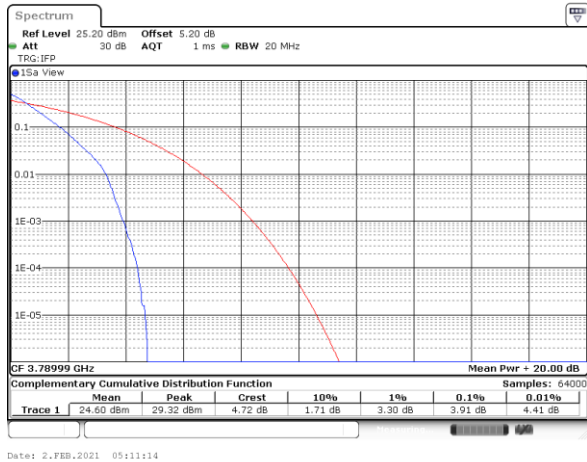
Middle Channel / Full RB



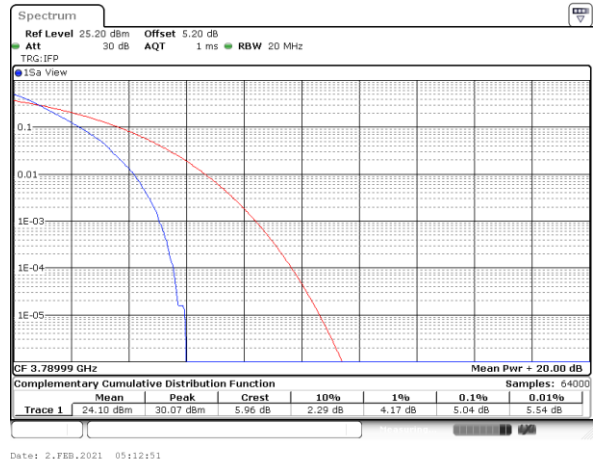
Middle Channel / Full RB



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				

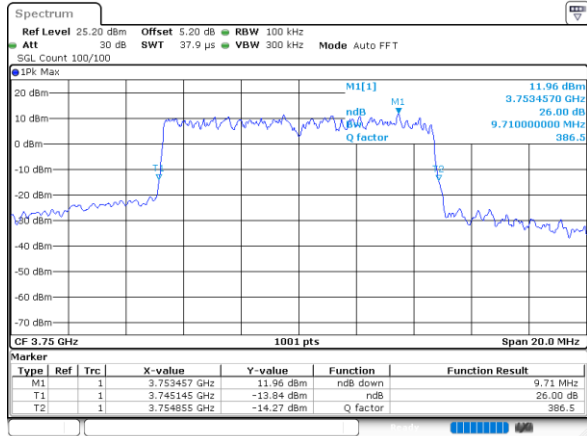
Mode	FR1 n78 : 26dB BW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	19.7	19.86	19.94	19.78				



FR1 n78 / 10MHz / CP-OFDM

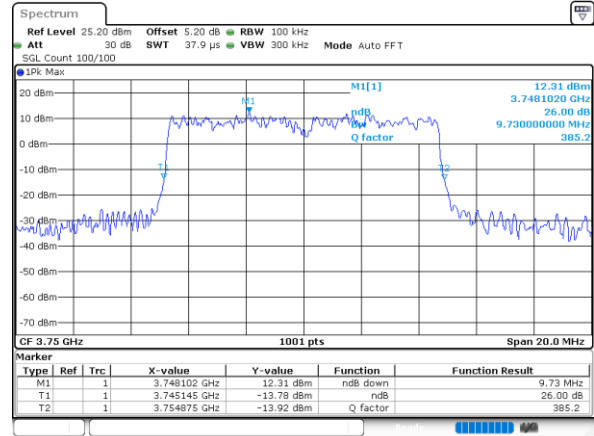
QPSK

Middle Channel



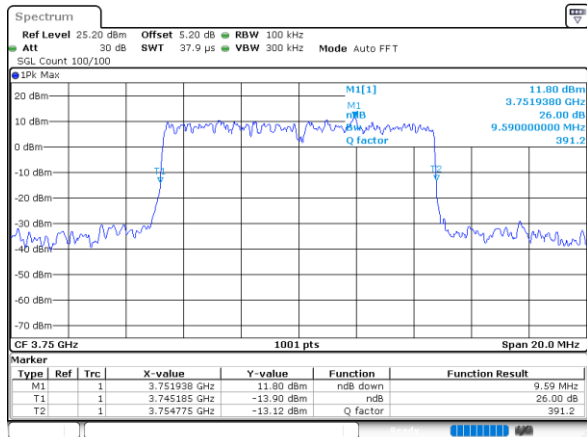
16QAM

Middle Channel



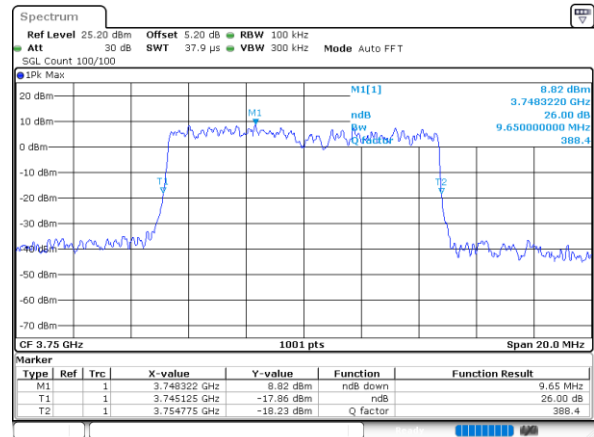
64QAM

Middle Channel



256QAM

Middle Channel





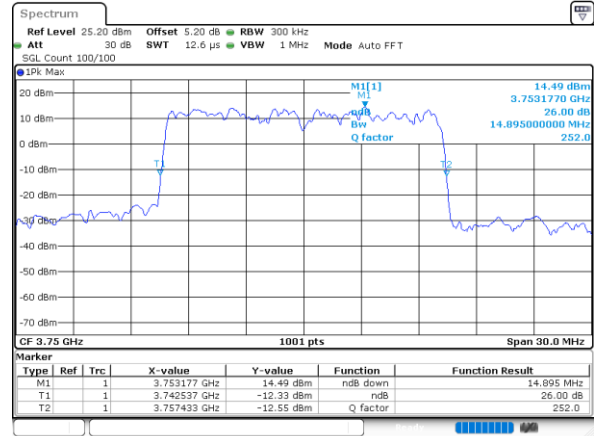
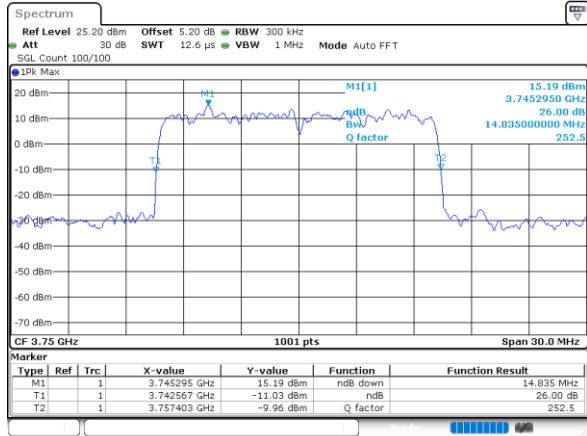
FR1 n78 / 15MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel

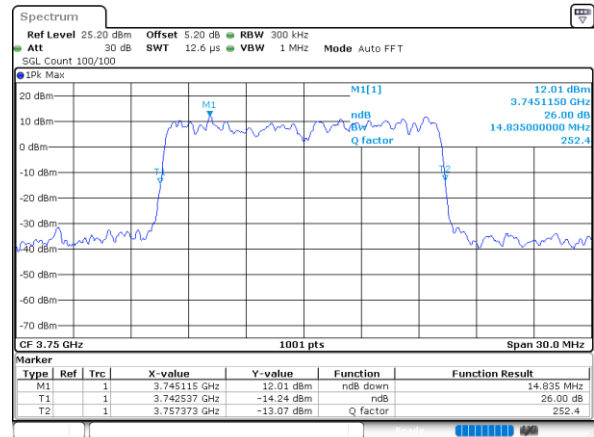
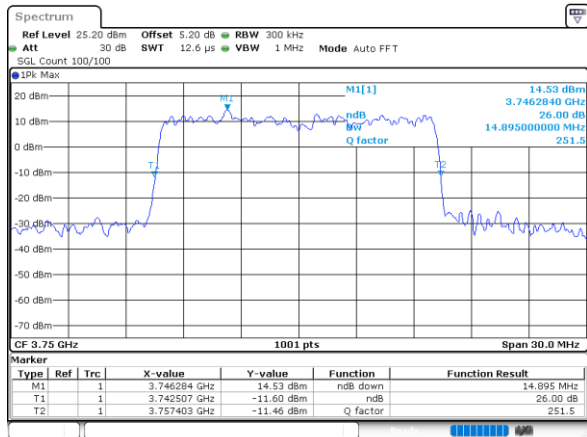


64QAM

256QAM

Middle Channel

Middle Channel

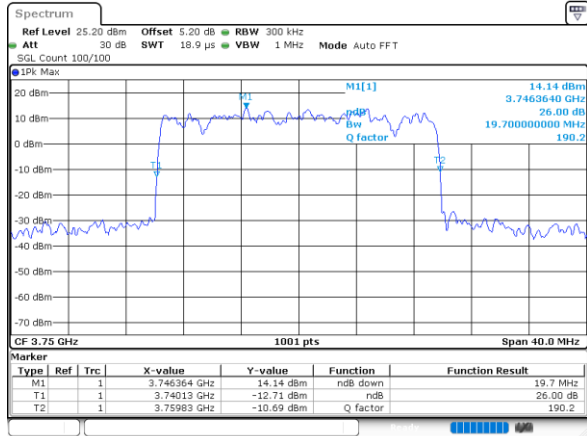




FR1 n78 / 20MHz / CP-OFDM

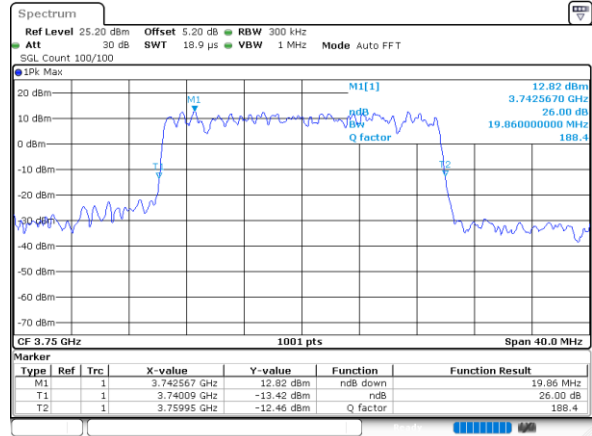
QPSK

Middle Channel



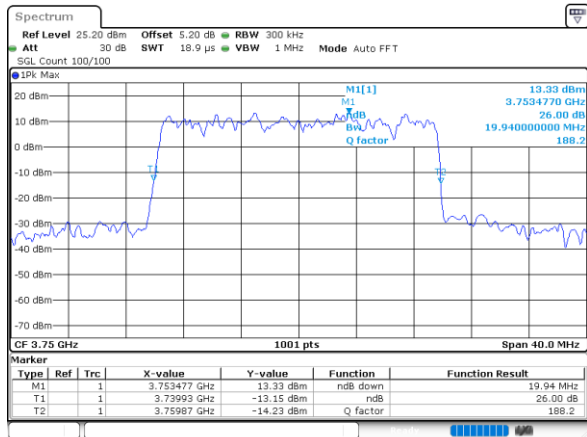
16QAM

Middle Channel



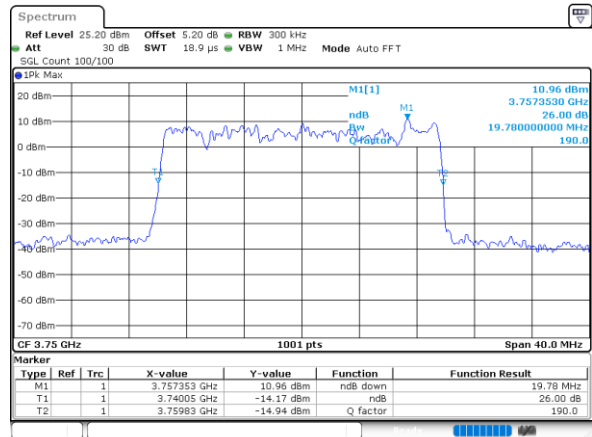
64QAM

Middle Channel



256QAM

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				

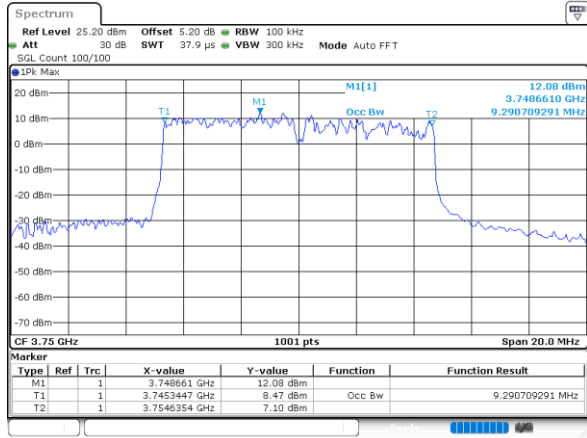
Mode	FR1 n78 : OBW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	18.90	18.98	18.94	18.94				



FR1 n78 / 10MHz / CP-OFDM

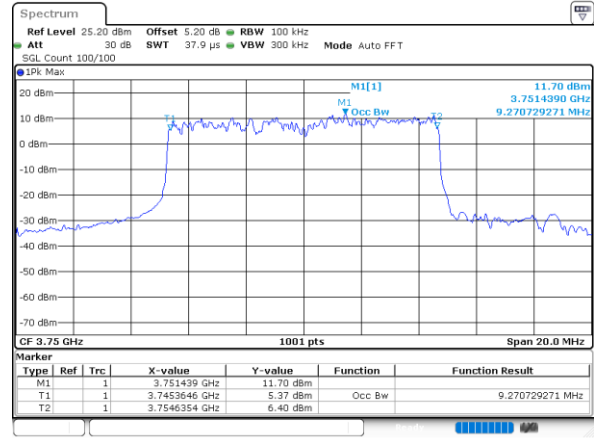
QPSK

Middle Channel



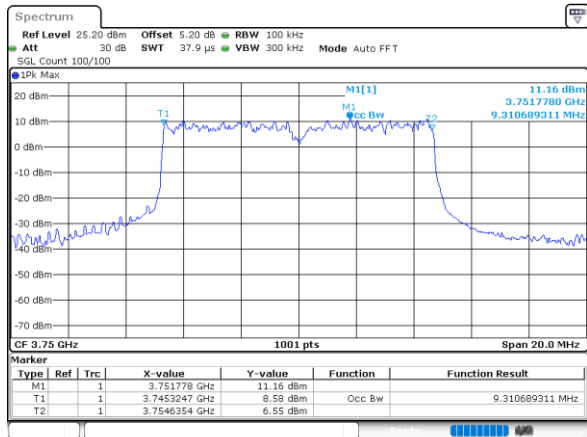
16QAM

Middle Channel



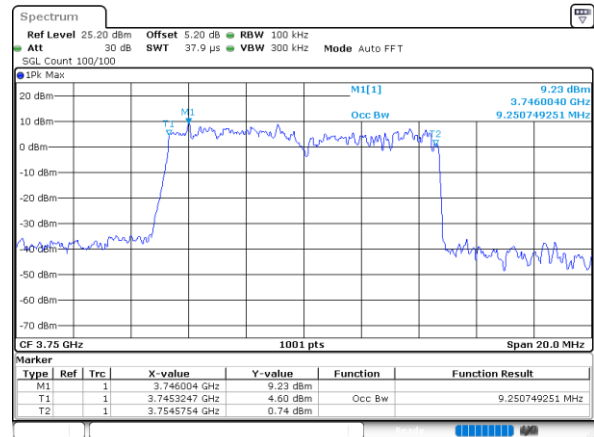
64QAM

Middle Channel



256QAM

Middle Channel

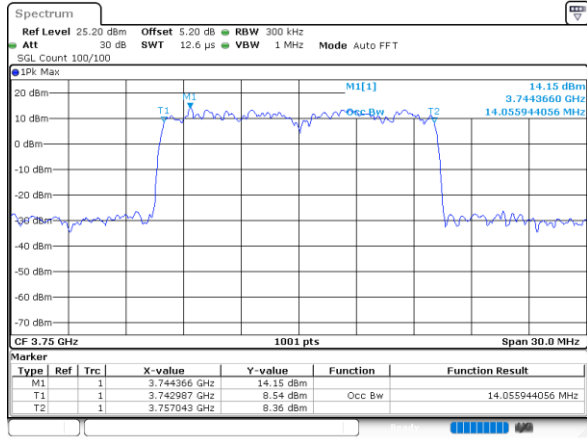




FR1 n78 / 15MHz / CP-OFDM

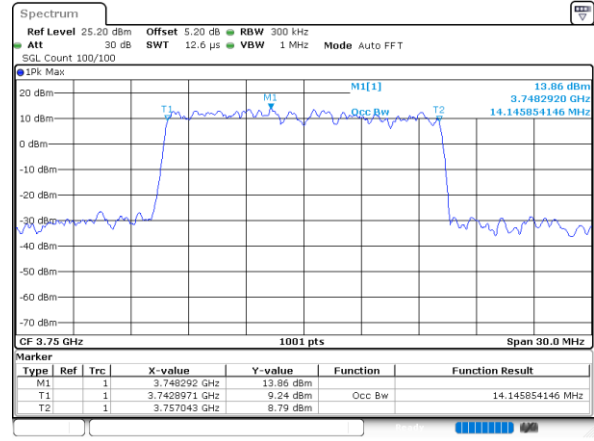
QPSK

Middle Channel



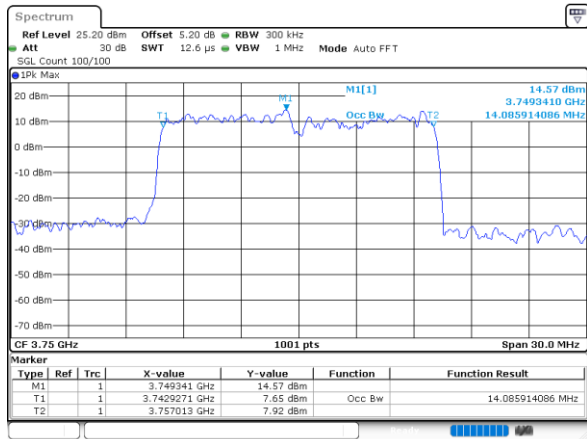
16QAM

Middle Channel



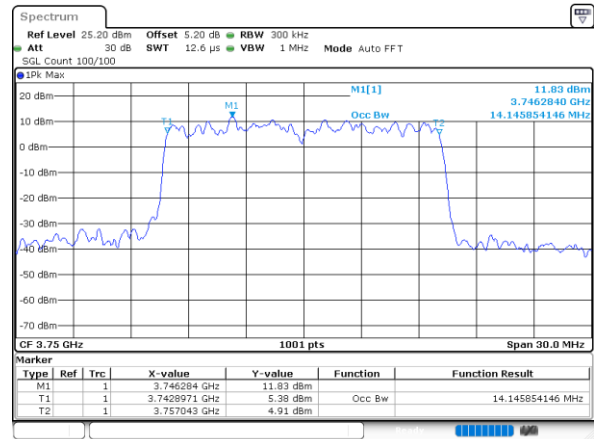
64QAM

Middle Channel



256QAM

Middle Channel





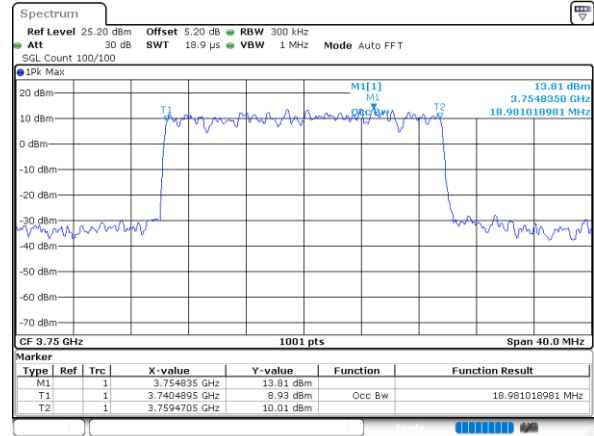
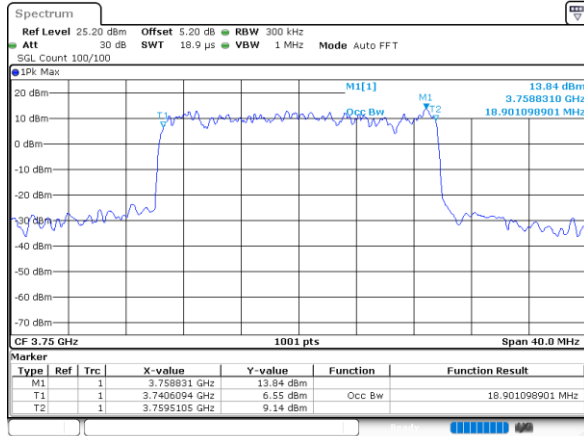
FR1 n78 / 20MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel

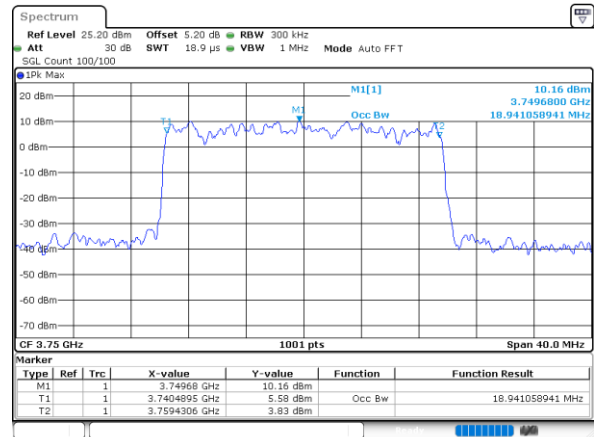
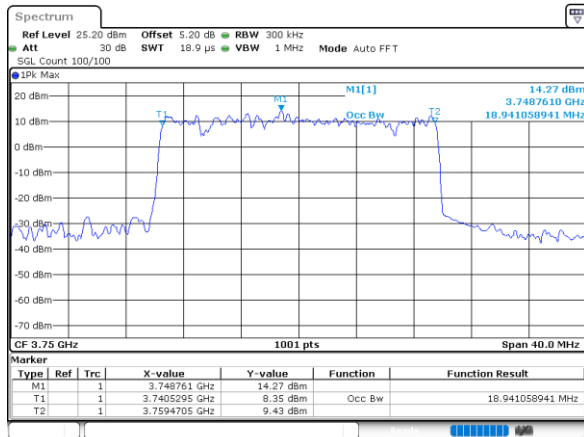


64QAM

256QAM

Middle Channel

Middle Channel



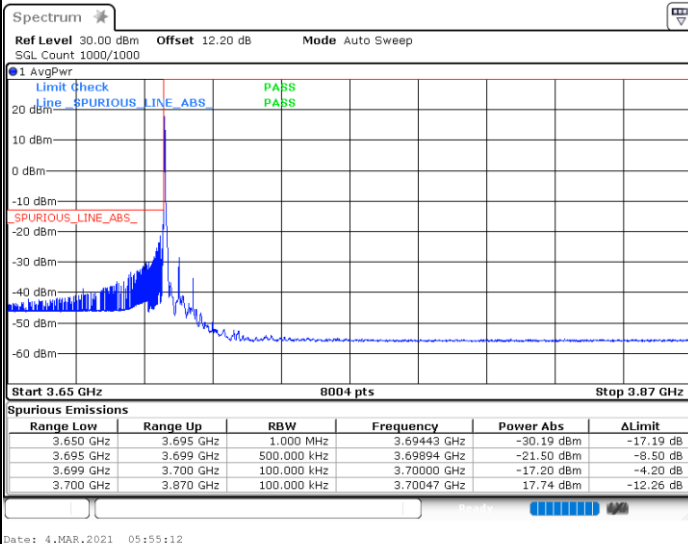


Conducted Band Edge

FR1 n78 / 10MHz / DFT-S OFDM BPSK

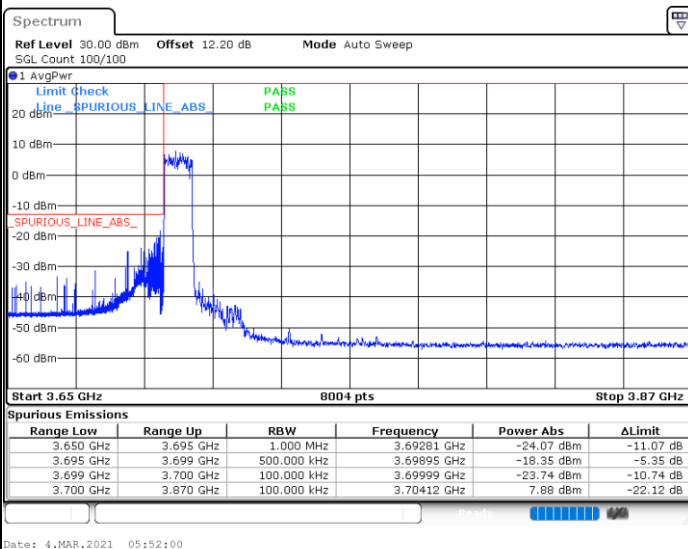
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

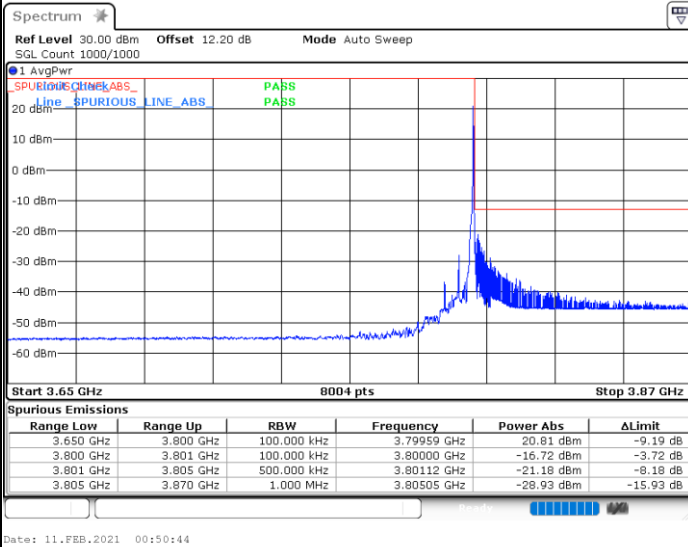




FR1 n78 / 10MHz / DFT-S OFDM BPSK

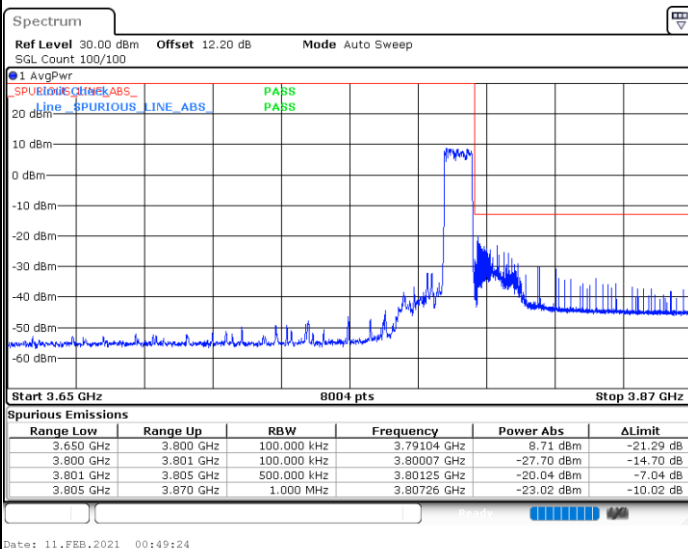
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass

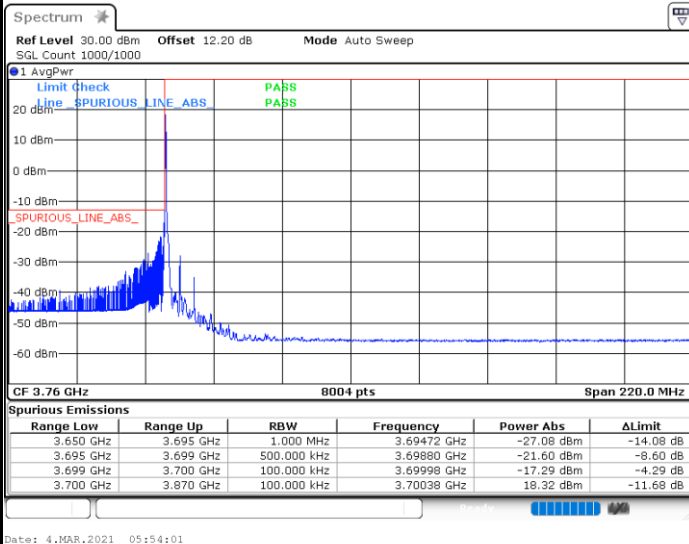




FR1 n78 / 10MHz / DFT-S OFDM QPSK

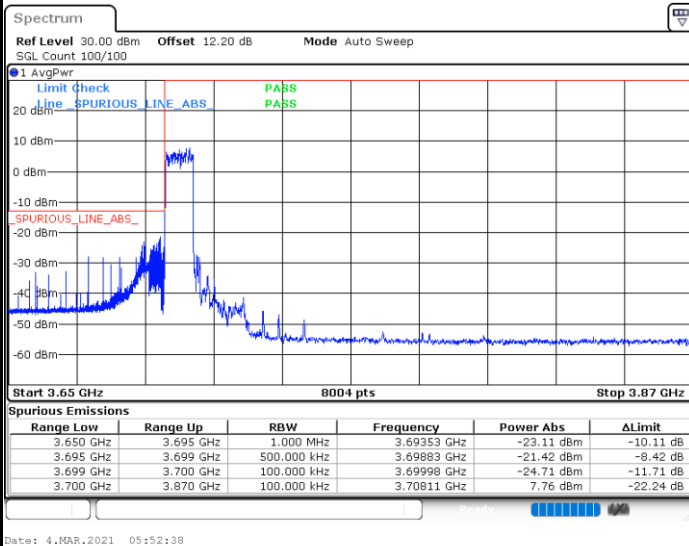
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

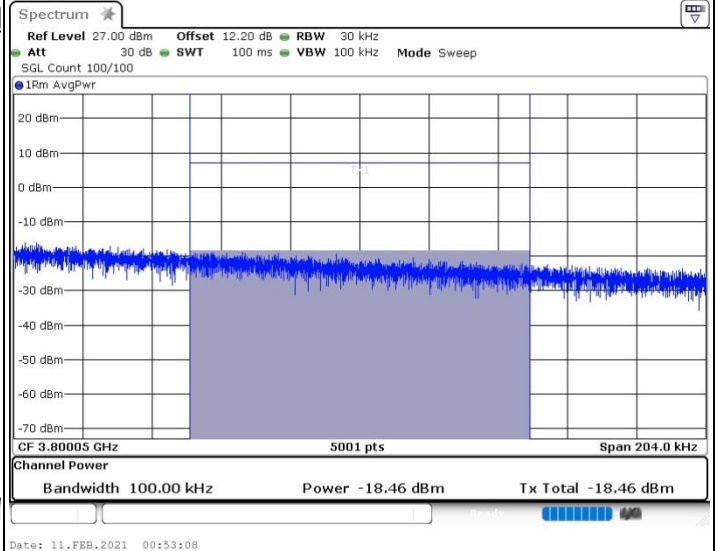
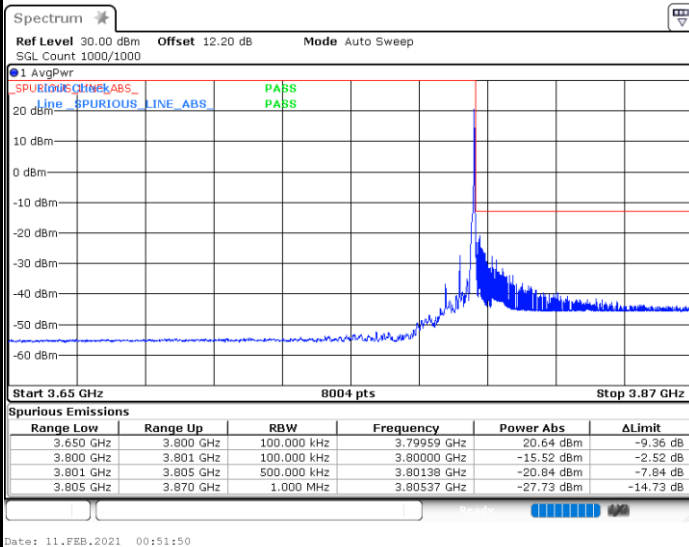




FR1 n78 / 10MHz / DFT-S OFDM QPSK

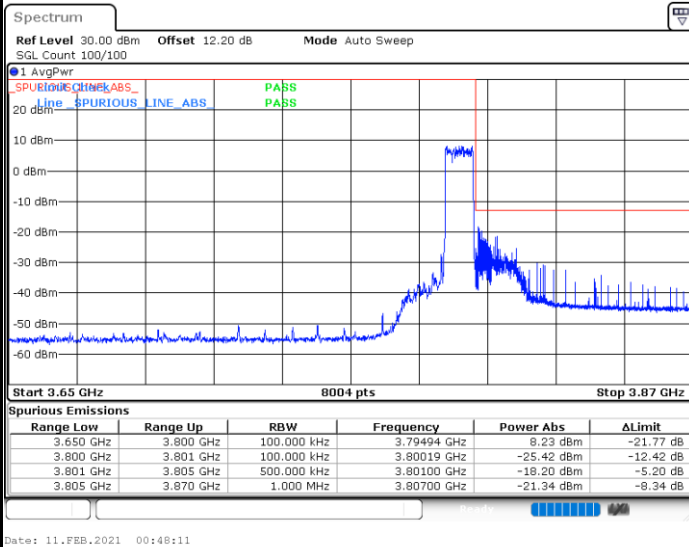
Highest Band Edge / 1 RB

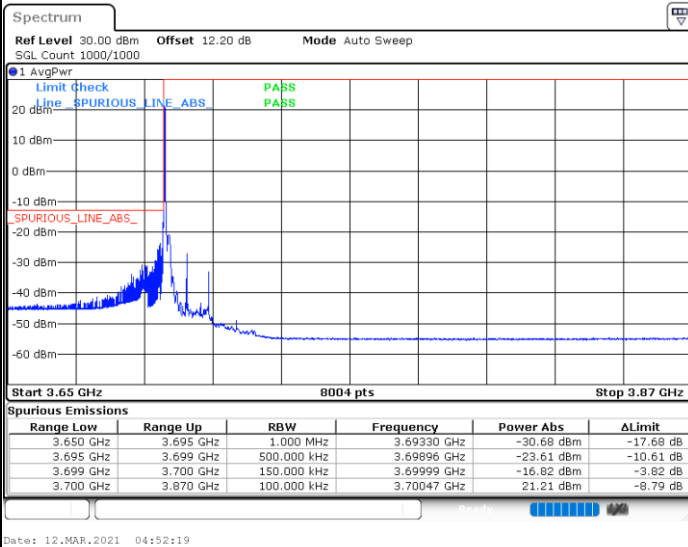
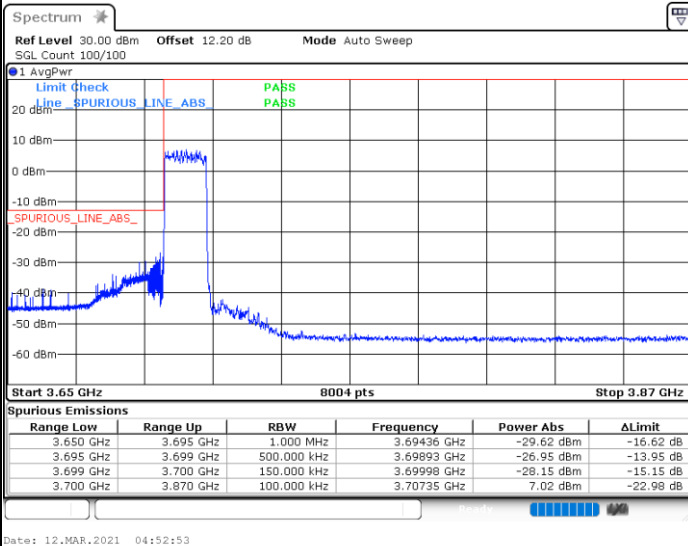
Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass



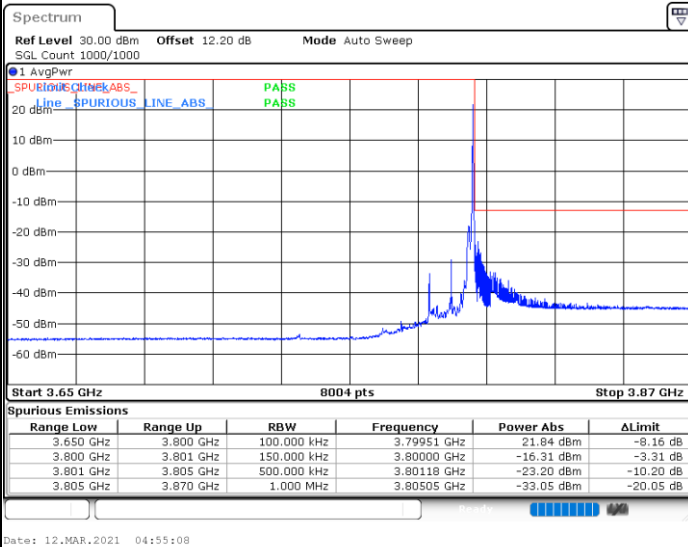
**FR1 n78 / 15MHz / DFT-S OFDM BPSK****Lowest Band Edge / 1 RB****Channel Power < -13dBm Pass****Lowest Band Edge / Full RB****Channel Power < -13dBm Pass**



FR1 n78 / 15MHz / DFT-S OFDM BPSK

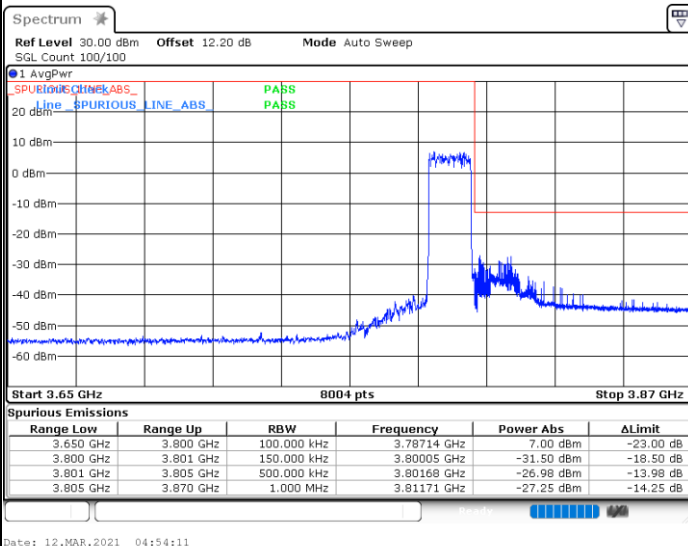
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass

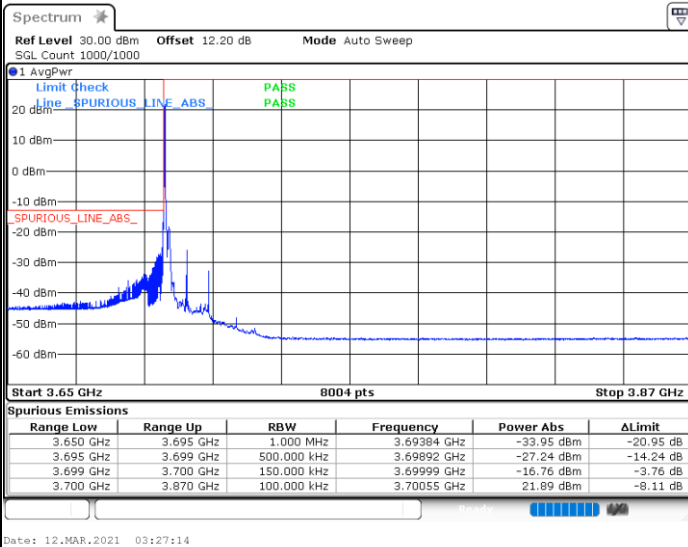




FR1 n78 / 15MHz / DFT-S OFDM QPSK

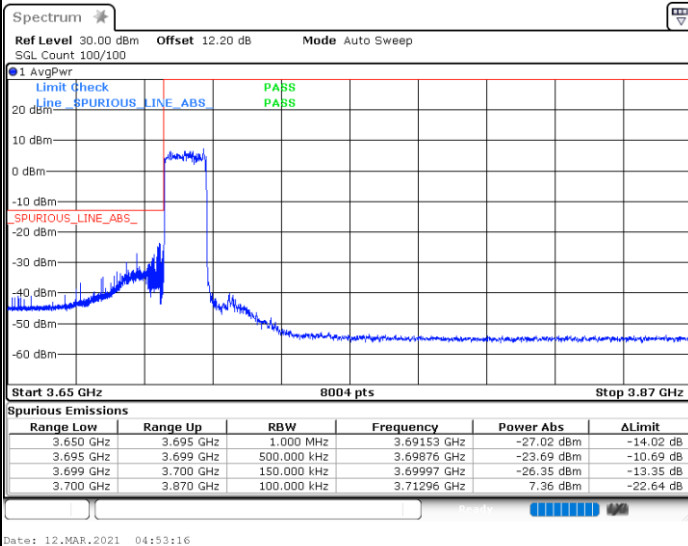
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

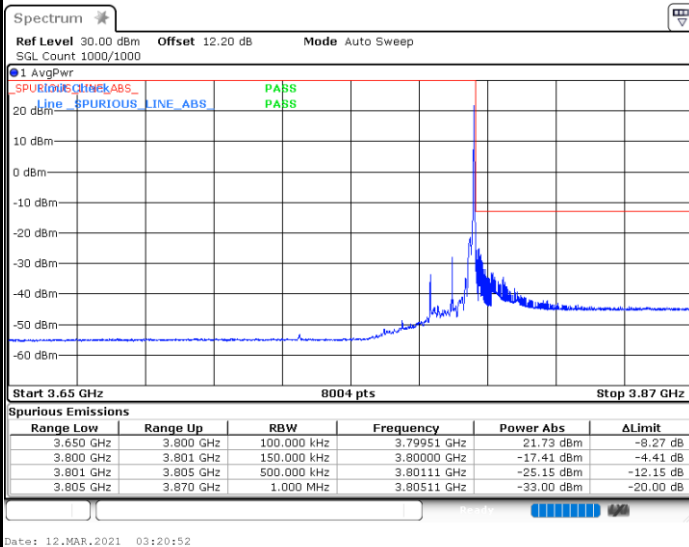




FR1 n78 / 15MHz / DFT-S OFDM QPSK

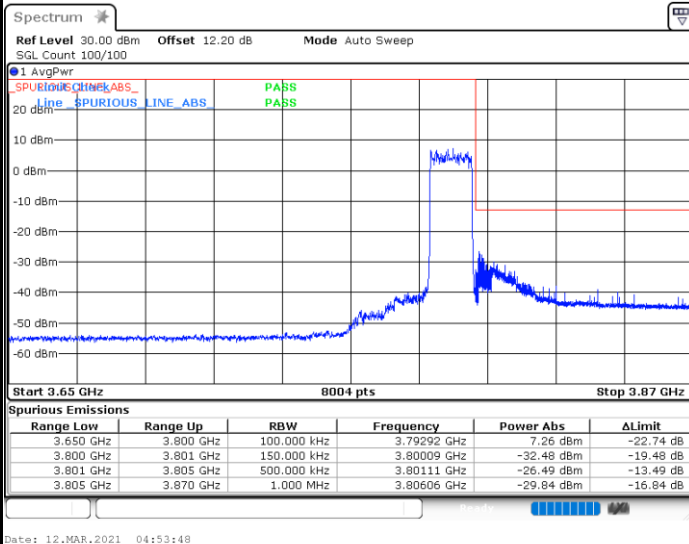
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

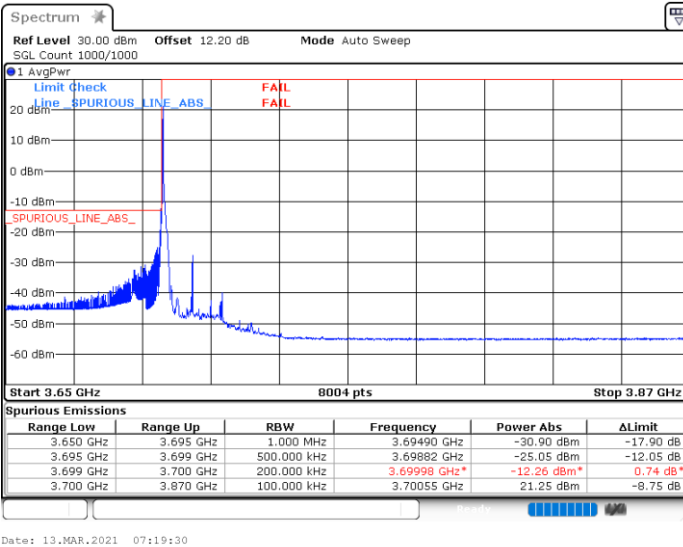
Channel Power < -13dBm Pass



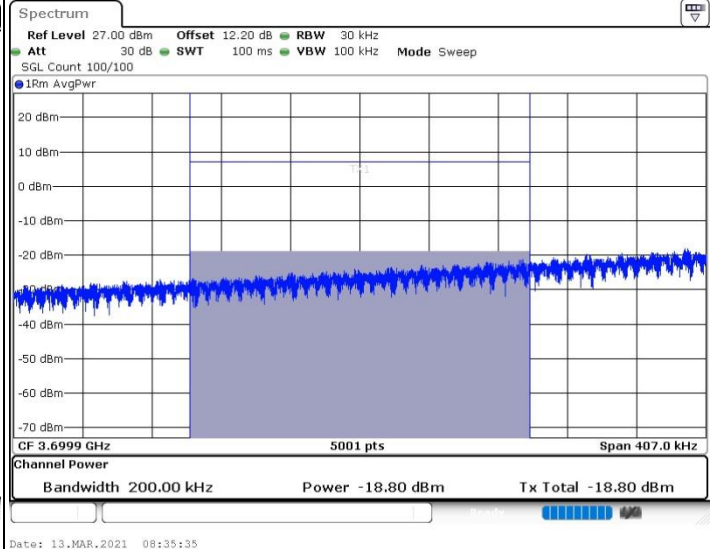


FR1 n78 / 20MHz / DFT-S OFDM BPSK

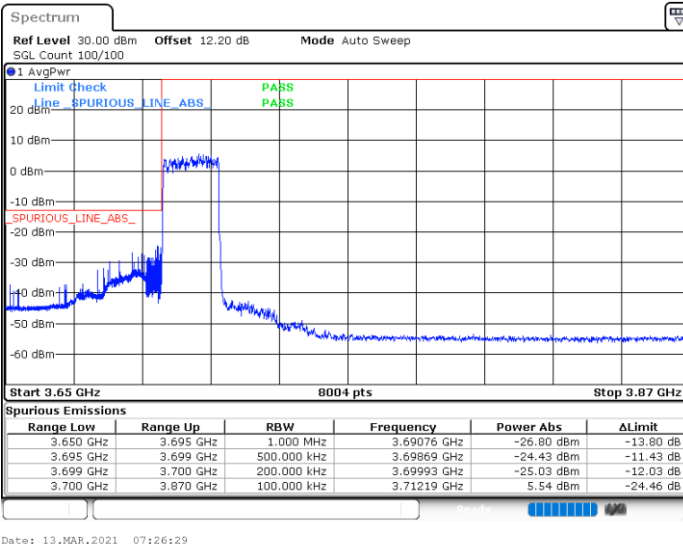
Lowest Band Edge / 1 RB



Channel Power < -13dBm Pass



Lowest Band Edge / Full RB



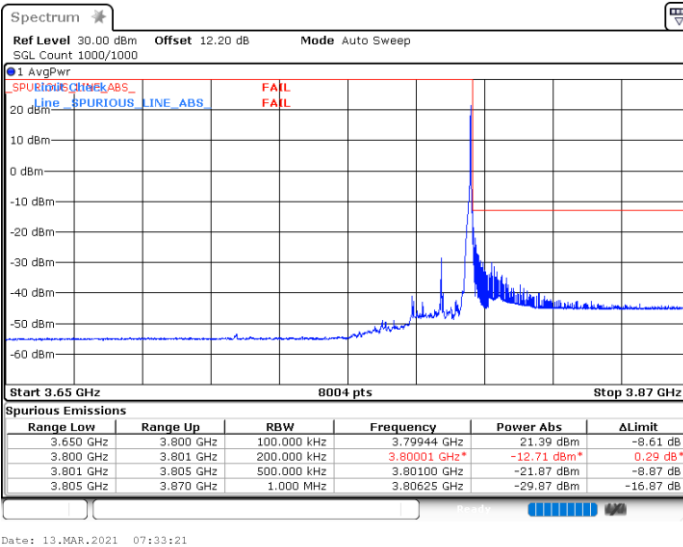
Channel Power < -13dBm Pass

/

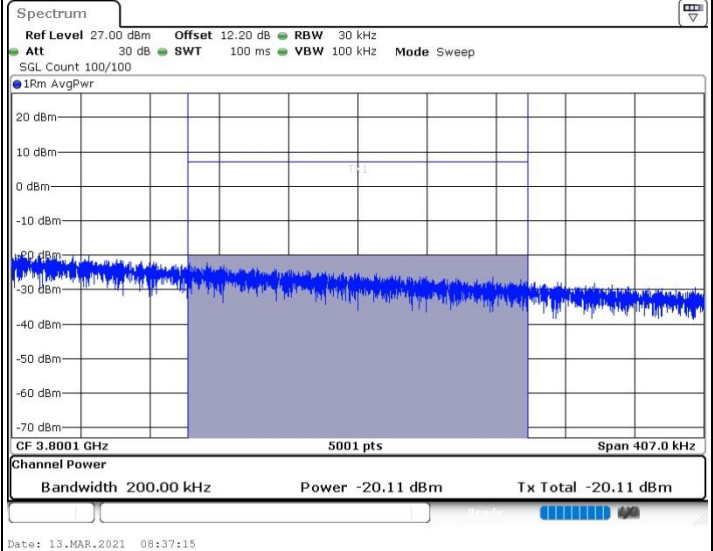


FR1 n78 / 20MHz / DFT-S OFDM BPSK

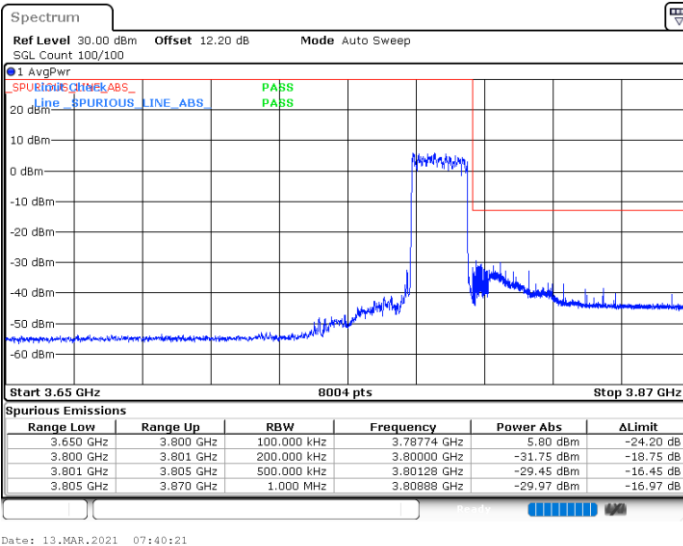
Highest Band Edge / 1 RB



Channel Power < -13dBm Pass



Highest Band Edge / Full RB



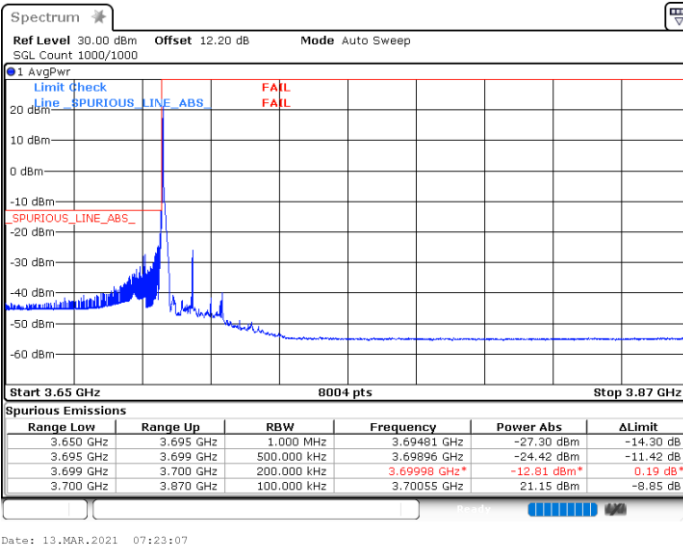
Channel Power < -13dBm Pass

/

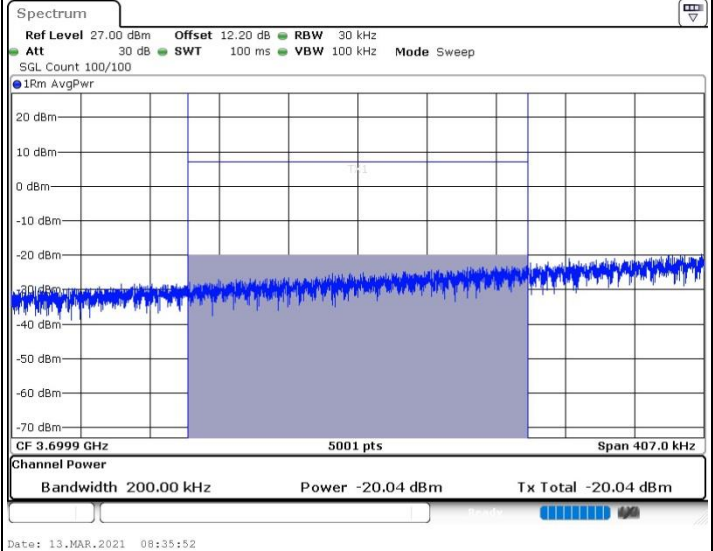


FR1 n78 / 20MHz / DFT-S OFDM QPSK

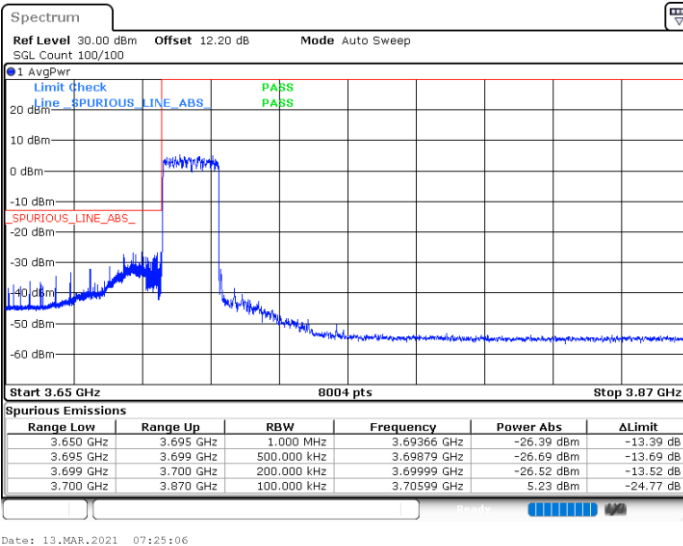
Lowest Band Edge / 1 RB



Channel Power < -13dBm Pass



Lowest Band Edge / Full RB



Channel Power < -13dBm Pass

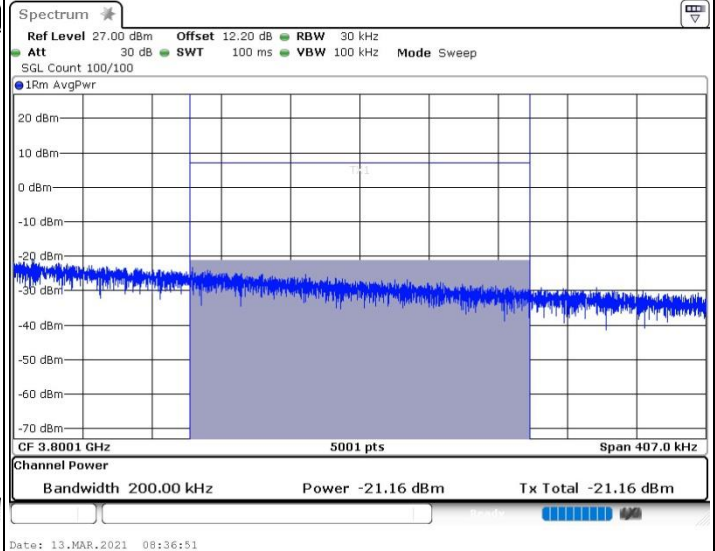
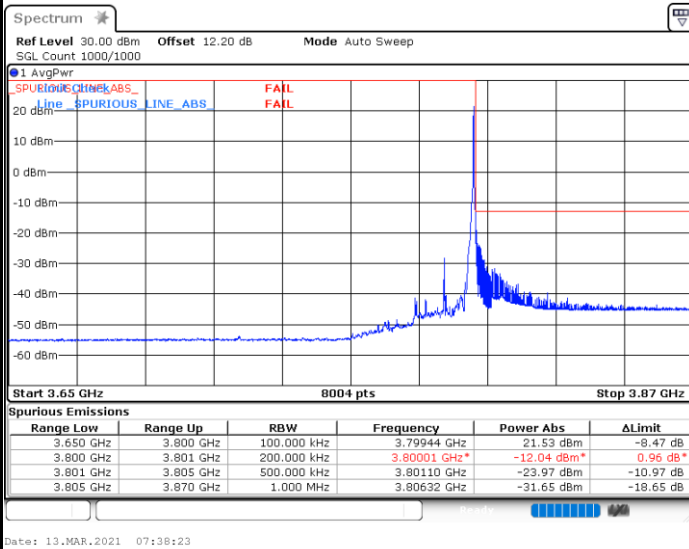
/



FR1 n78 / 20MHz / DFT-S OFDM QPSK

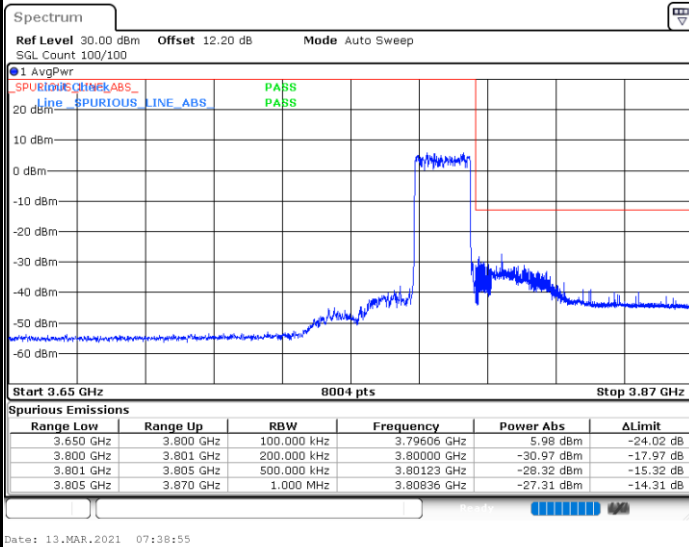
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass



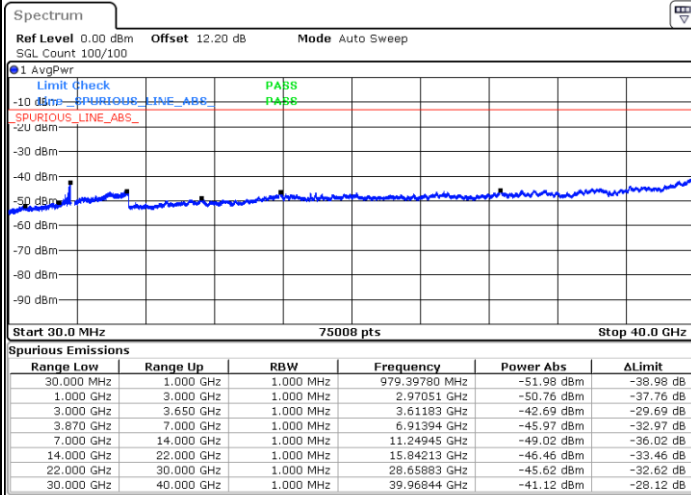


Conducted Spurious Emission

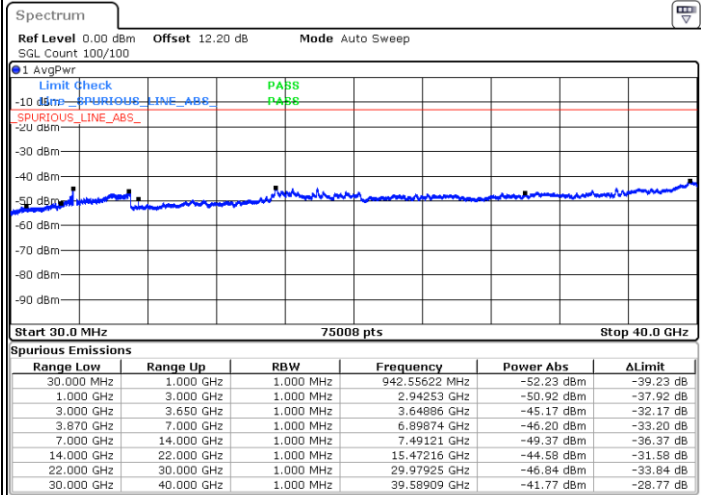
FR1 n78 / 10MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

Middle Channel / 1RB

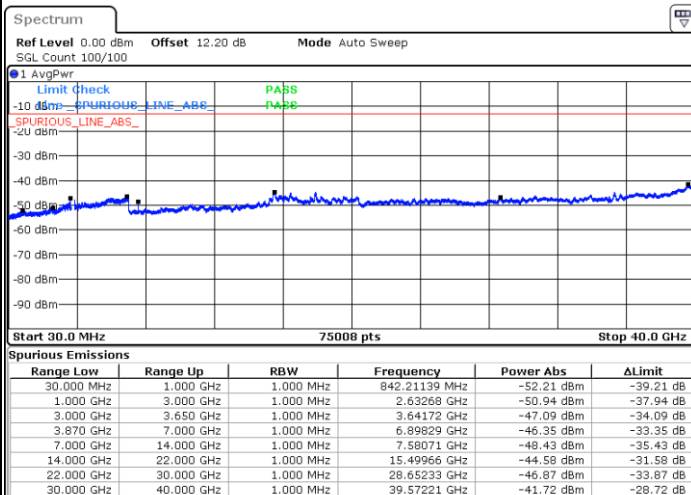


Date: 4.MAR.2021 05:56:26



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

Highest Channel / 1RB

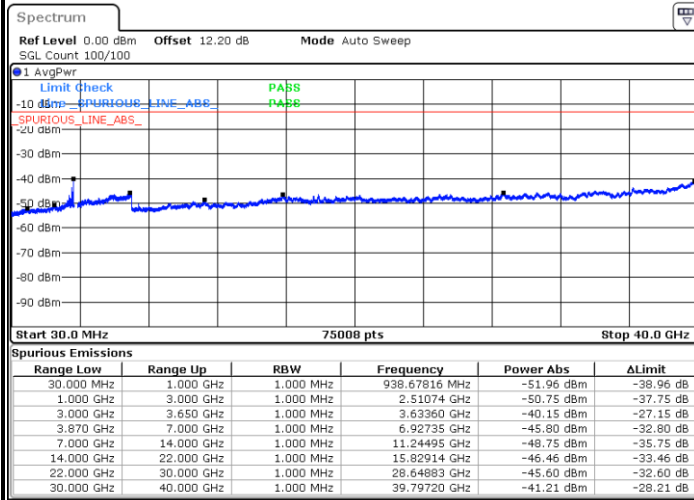


Date: 2.FEB.2021 06:15:34



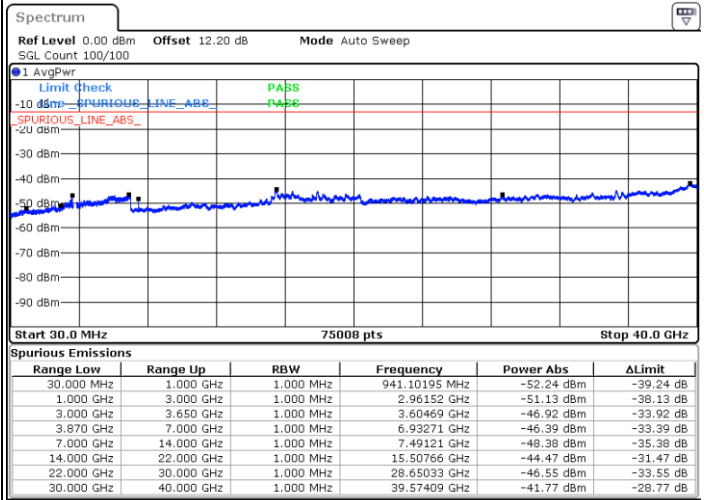
FR1 n78 / 10MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB



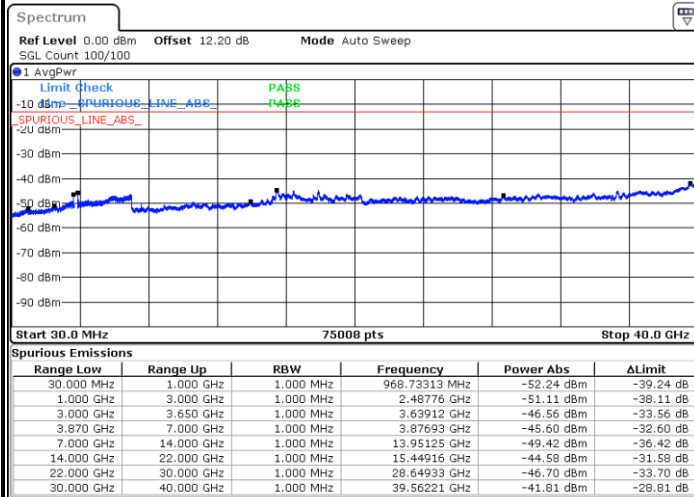
Date: 4.MAR.2021 05:57:44

Middle Channel / 1RB



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

Highest Channel / 1RB

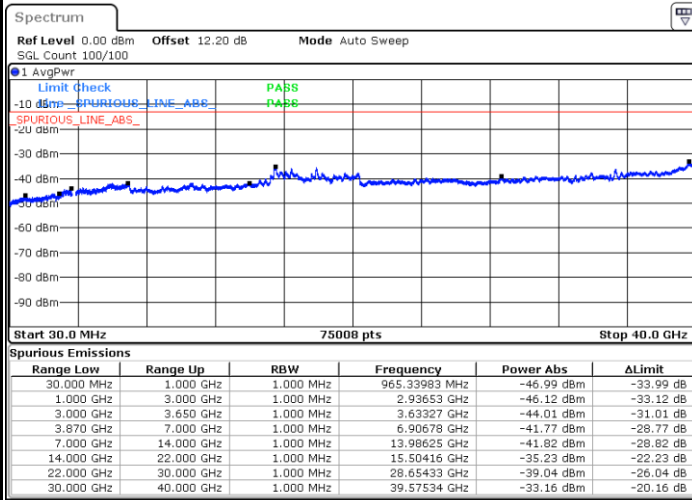


Date: 2.FEB.2021 06:14:25



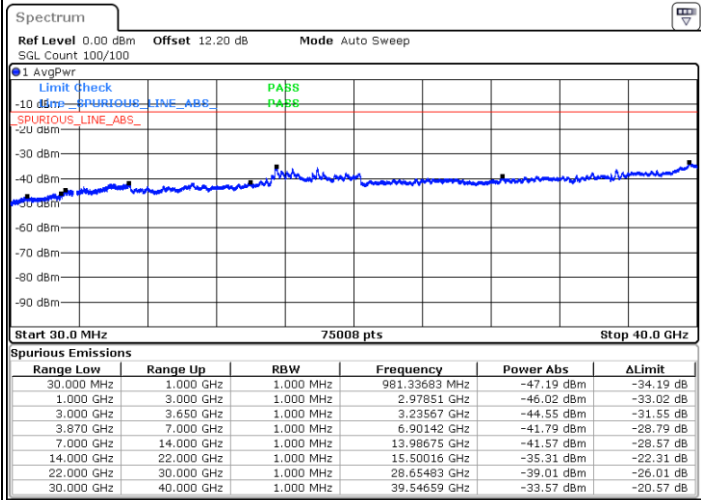
FR1 n78 / 15MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB



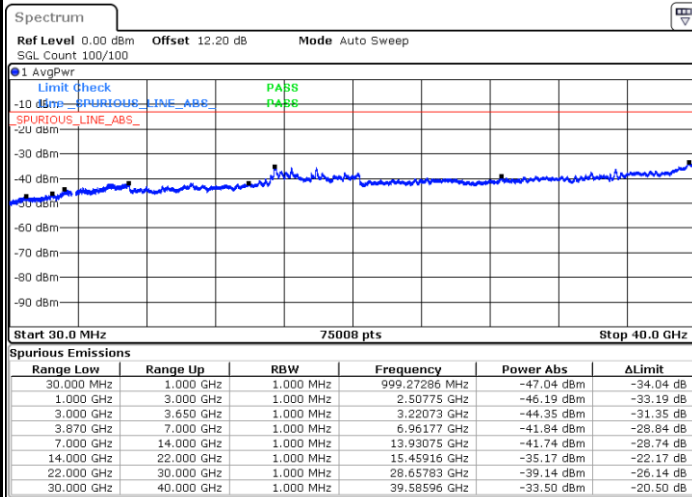
Date: 2.FEB.2021 05:25:10

Middle Channel / 1RB



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

Highest Channel / 1RB

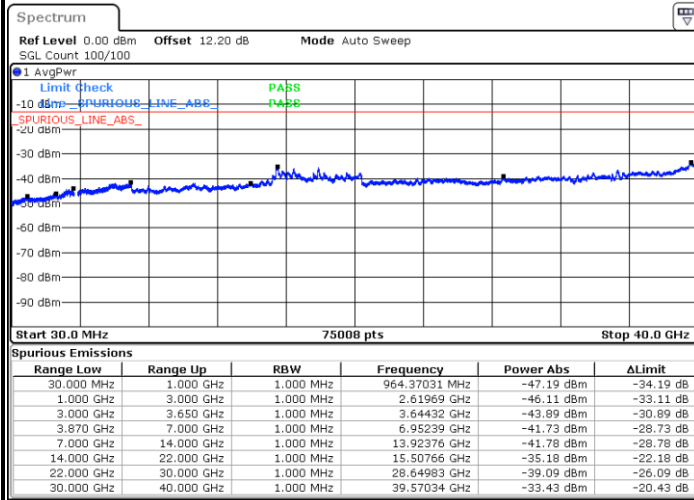


Date: 2.FEB.2021 05:48:13



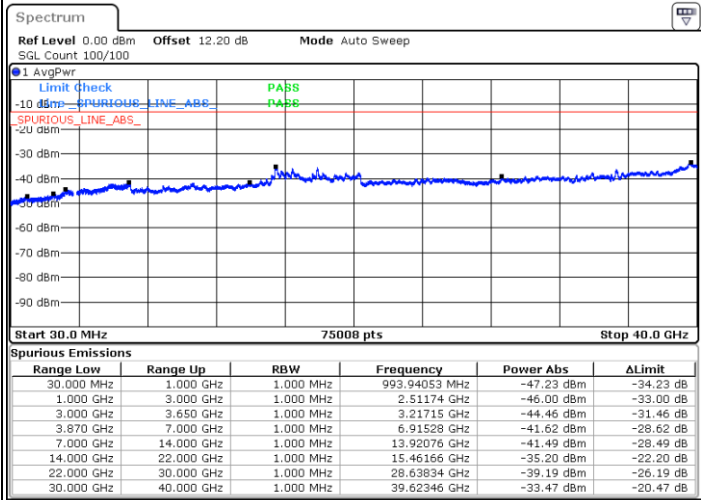
FR1 n78 / 15MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB



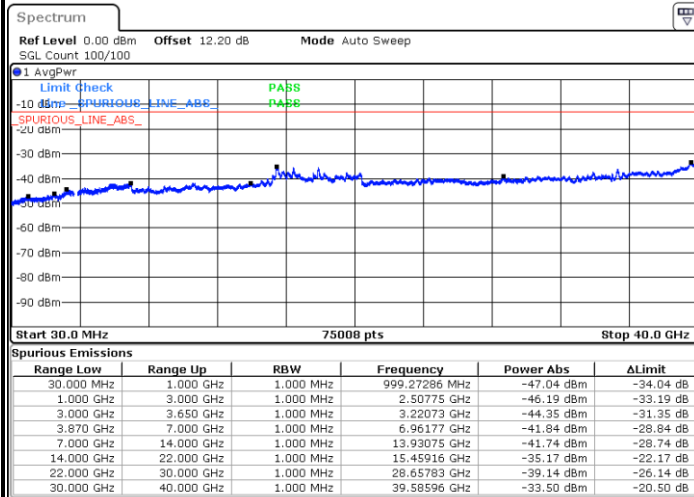
Date: 2.FEB.2021 05:26:21

Middle Channel / 1RB



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

Highest Channel / 1RB

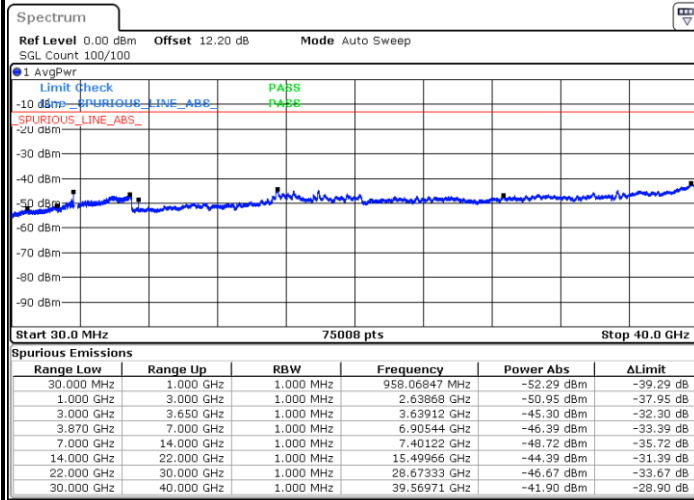


Date: 2.FEB.2021 05:48:13



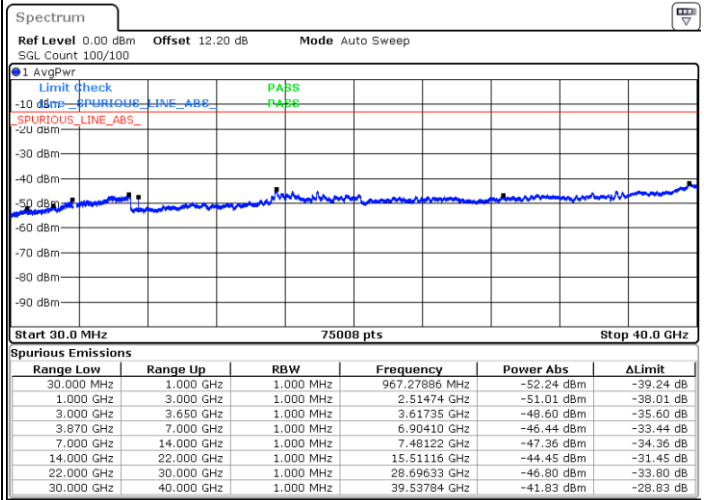
FR1 n78 / 20MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB



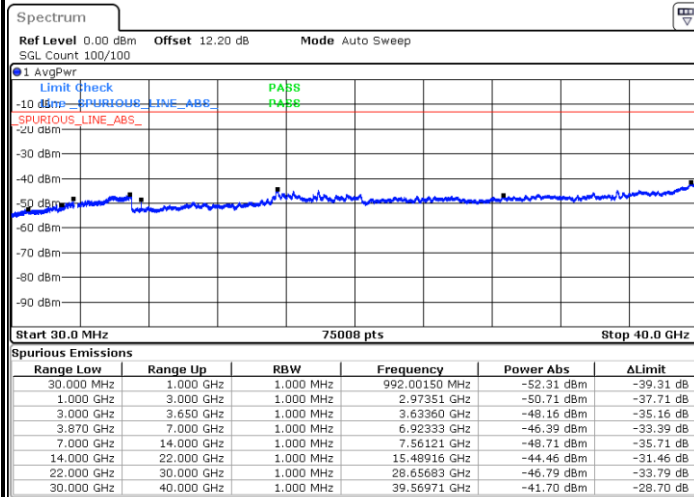
Date: 2.FEB.2021 04:52:52

Middle Channel / 1RB



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

Highest Channel / 1RB

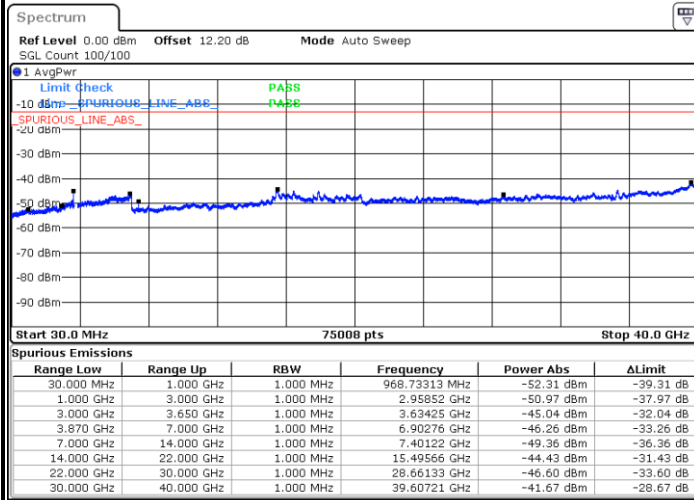


Date: 2.FEB.2021 05:07:42



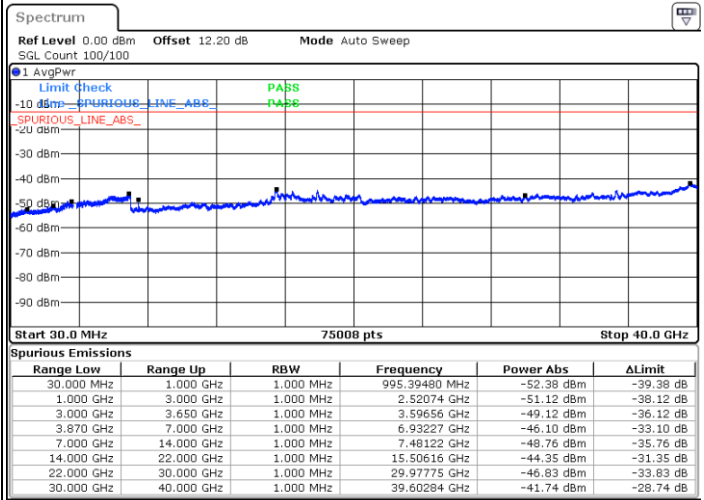
FR1 n78 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB



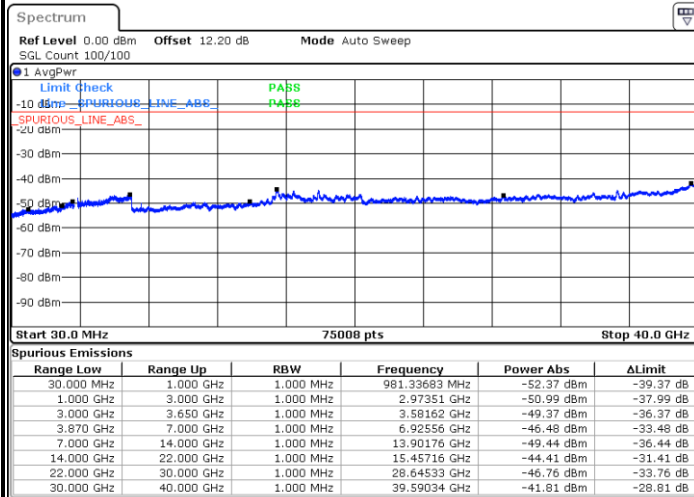
Date: 2.FEB.2021 04:50:25

Middle Channel / 1RB



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 SA-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	