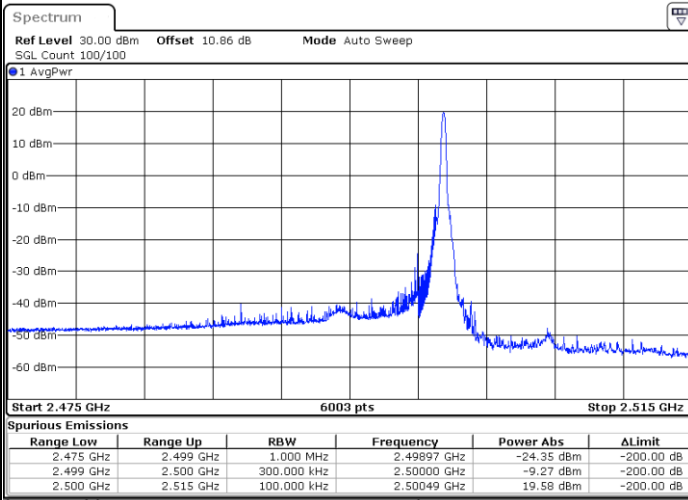




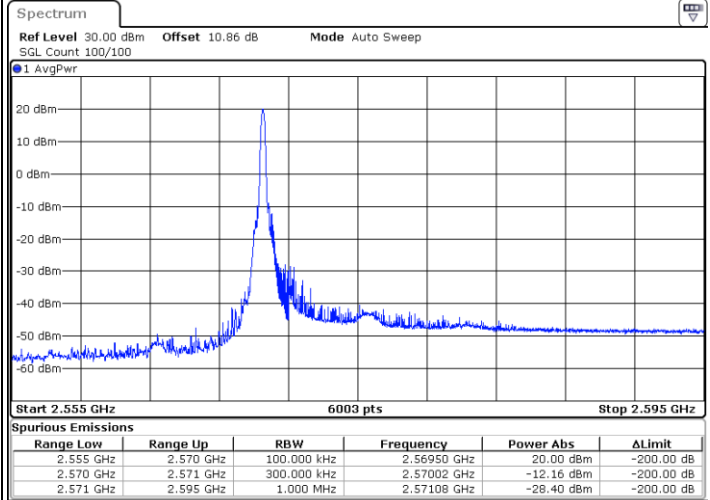
FR1 n7 / 15MHz / DFT-s-OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



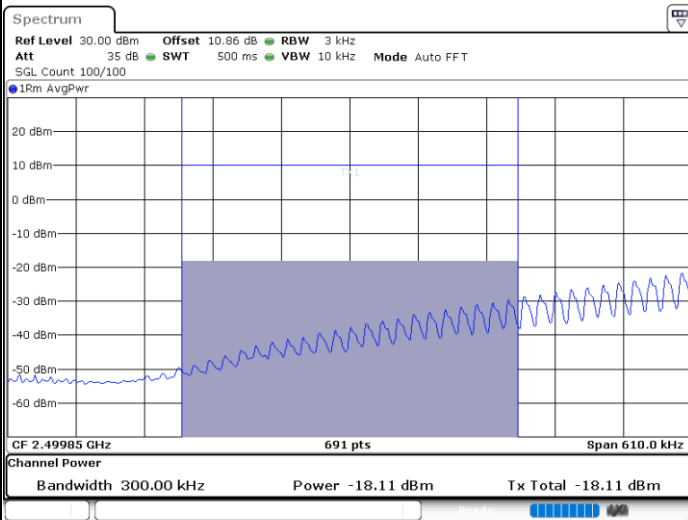
Date: 18.MAR.2021 17:54:02



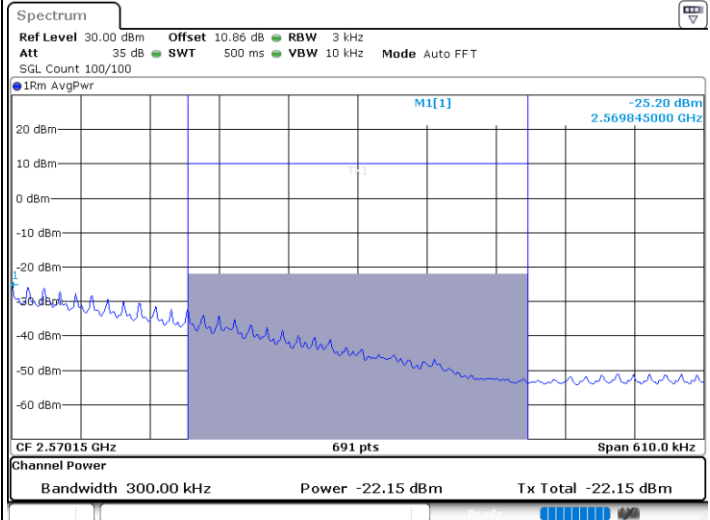
Date: 18.MAR.2021 18:00:04

Channel Power -18.11dBm < -13dBm (Pass)

Channel Power -22.15dBm < -13dBm (Pass)



Date: 18.MAR.2021 15:05:57

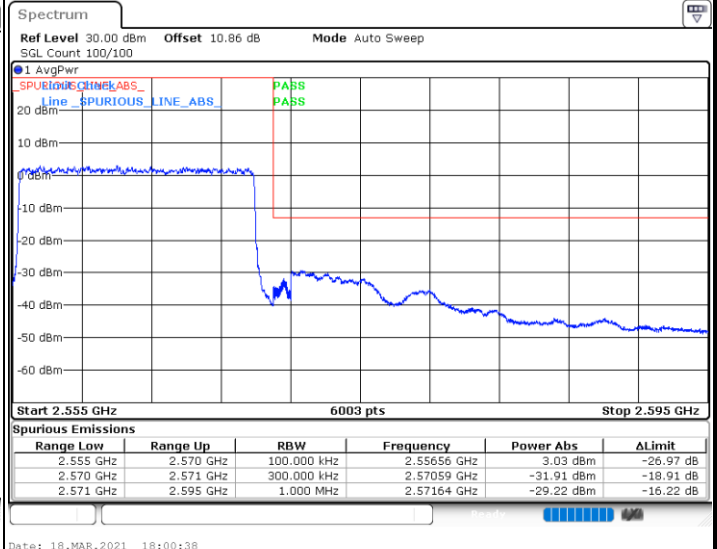
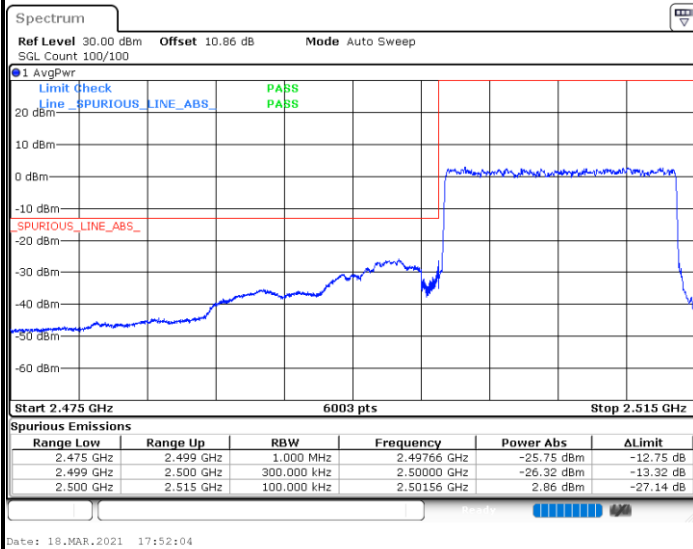


Date: 18.MAR.2021 15:32:49



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

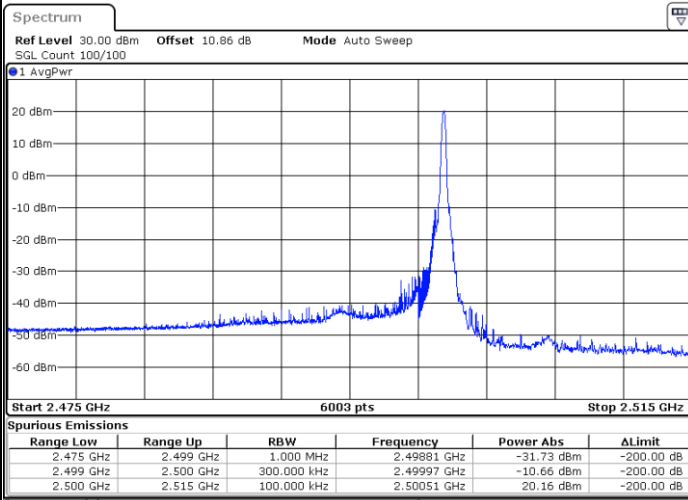




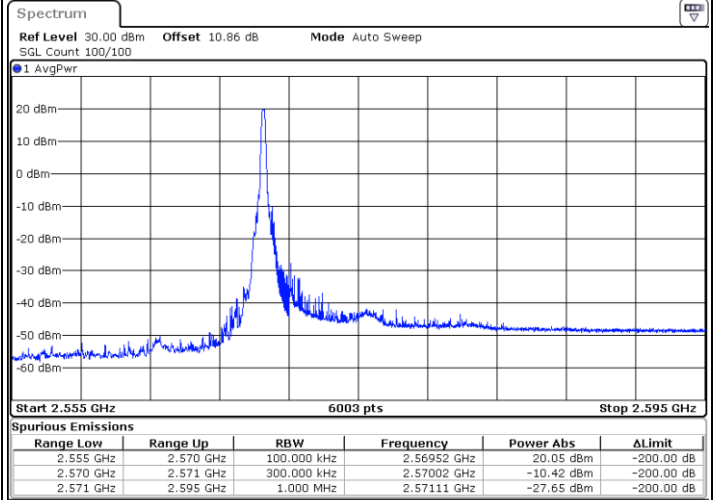
FR1 n7 / 15MHz / DFT-s-OFDM / QPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



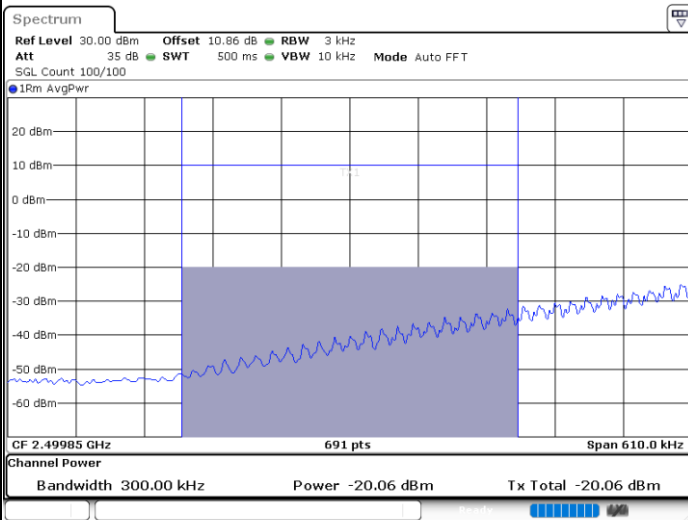
Date: 18.MAR.2021 17:54:54



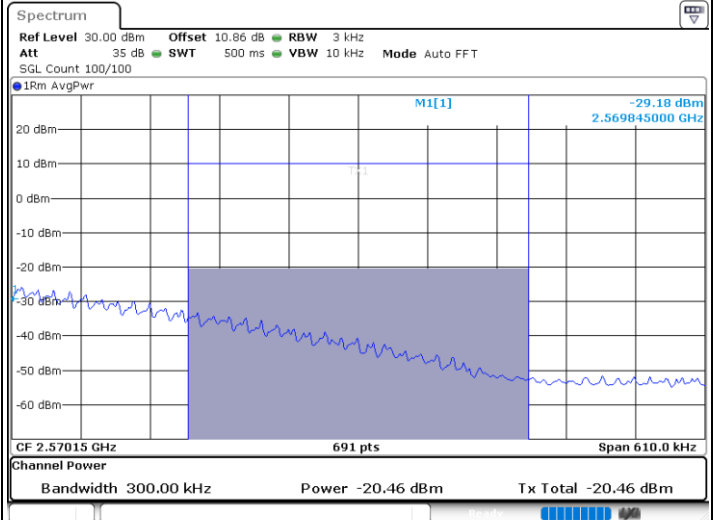
Date: 18.MAR.2021 17:59:42

Channel Power -20.06dBm < -13dBm (Pass)

Channel Power -20.46dBm < -13dBm (Pass)



Date: 18.MAR.2021 15:09:07

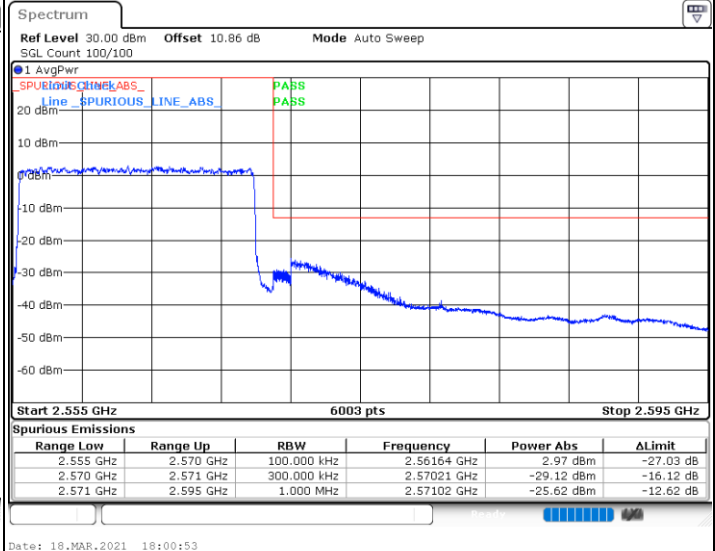
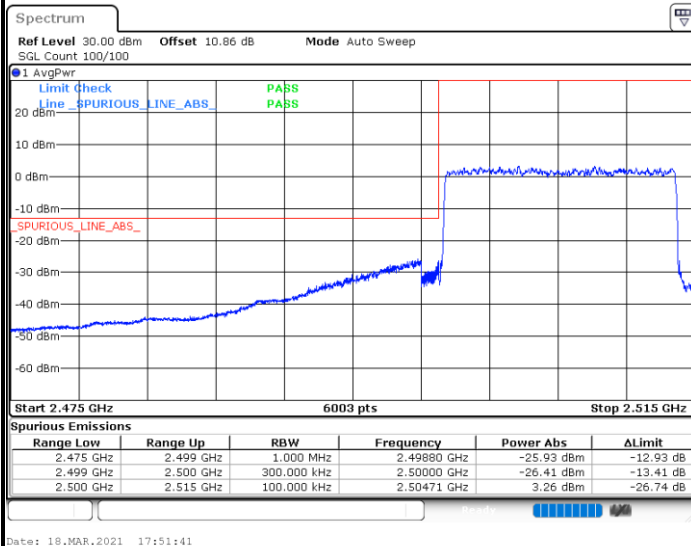


Date: 18.MAR.2021 15:31:40



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

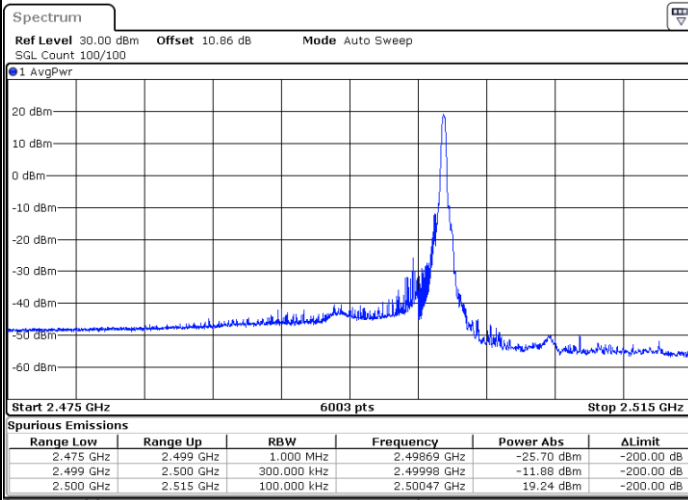




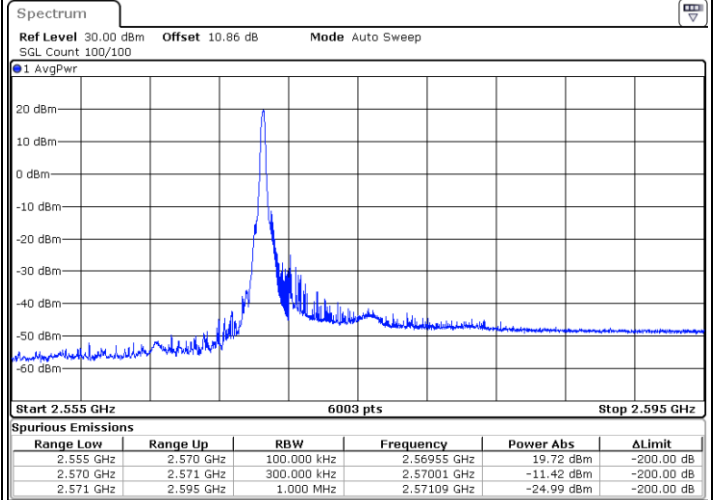
FR1 n7 / 15MHz / DFT-s-OFDM / 16QAM

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



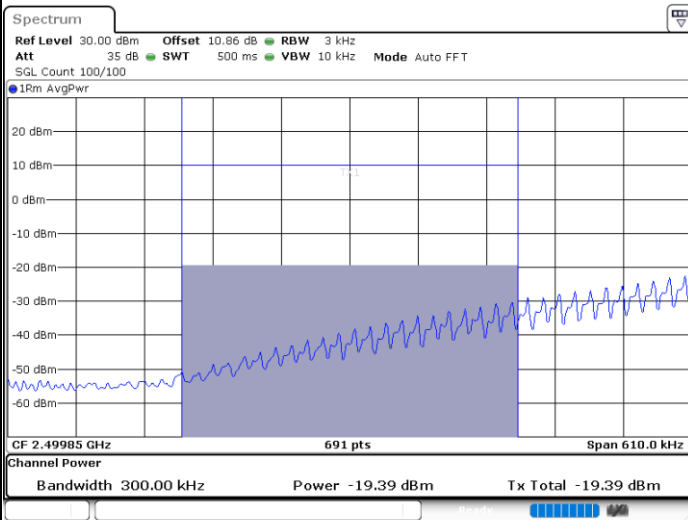
Date: 18.MAR.2021 17:55:15



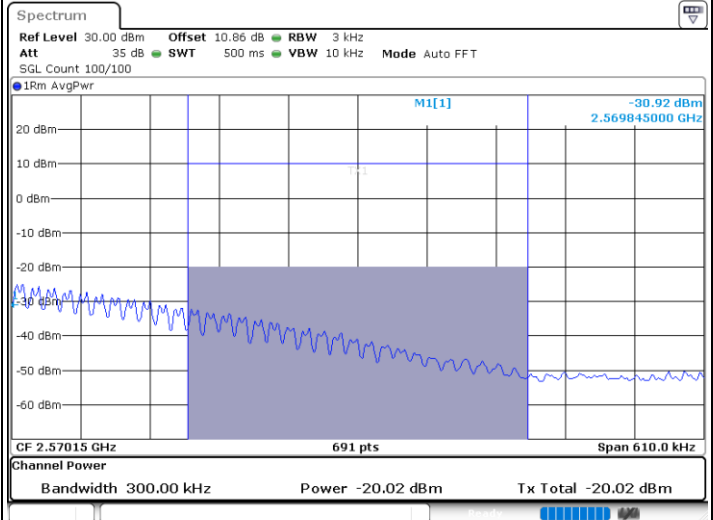
Date: 18.MAR.2021 17:59:18

Channel Power -19.39dBm < -13dBm (Pass)

Channel Power -20.02dBm < -13dBm (Pass)



Date: 18.MAR.2021 15:12:32

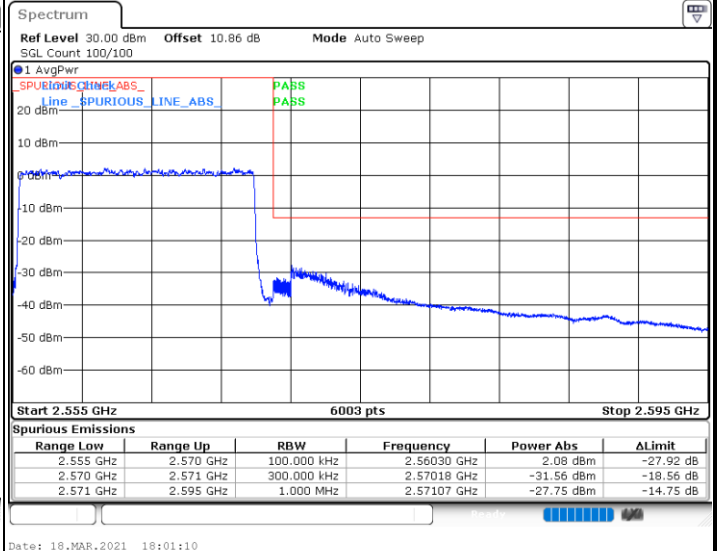
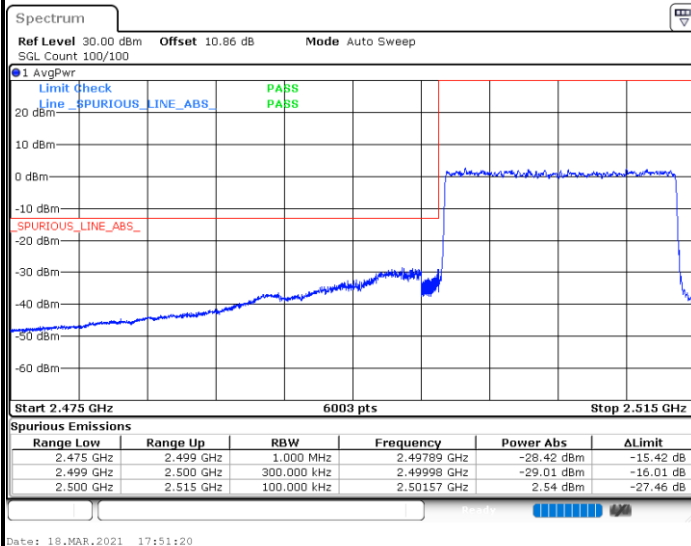


Date: 18.MAR.2021 15:30:26



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

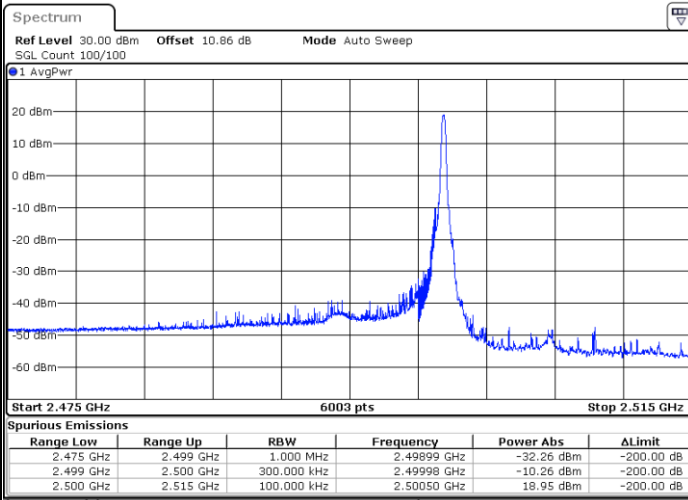




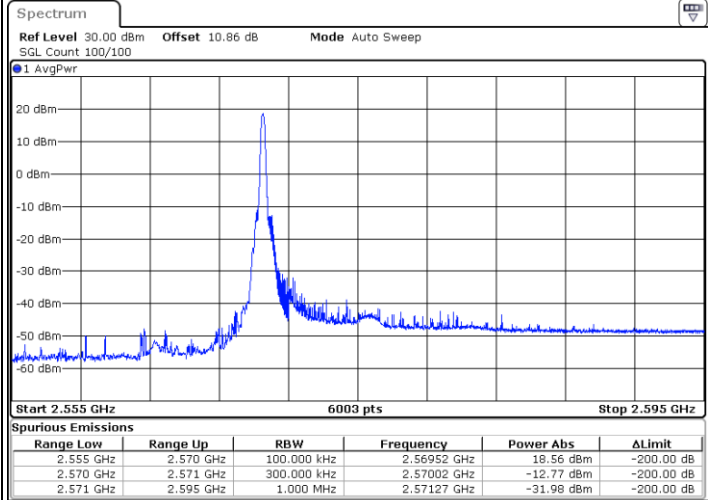
FR1 n7 / 15MHz / DFT-s-OFDM / 64QAM

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



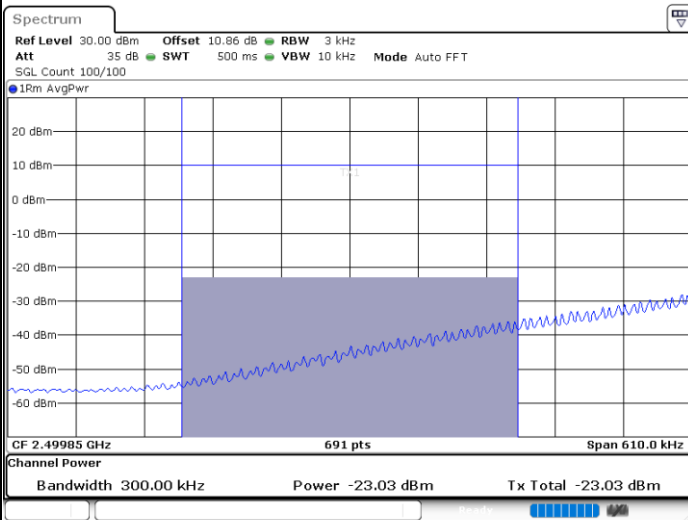
Date: 18.MAR.2021 17:55:41



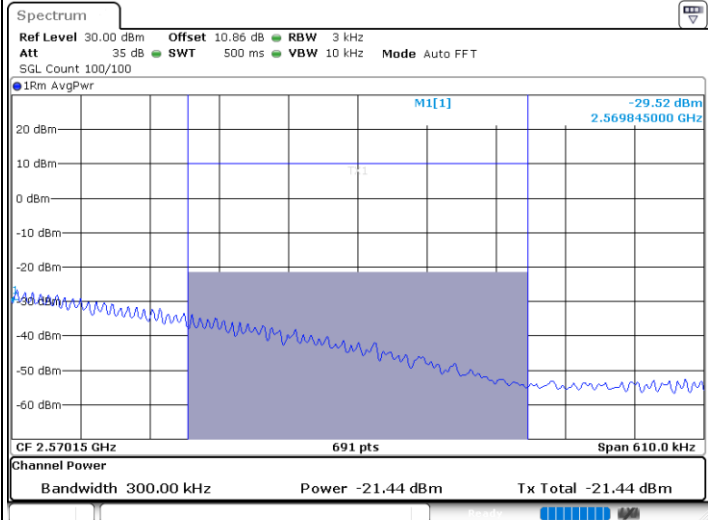
Date: 18.MAR.2021 17:58:55

Channel Power -23.03dBm < -13dBm (Pass)

Channel Power -21.44dBm < -13dBm (Pass)



Date: 18.MAR.2021 15:14:22

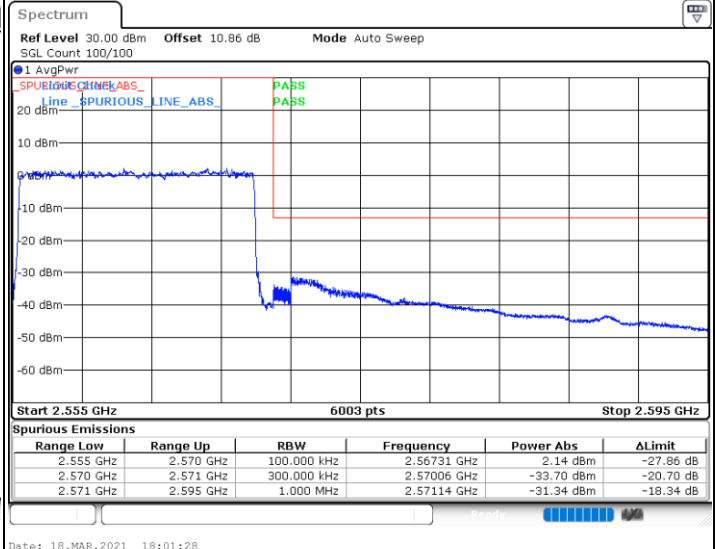
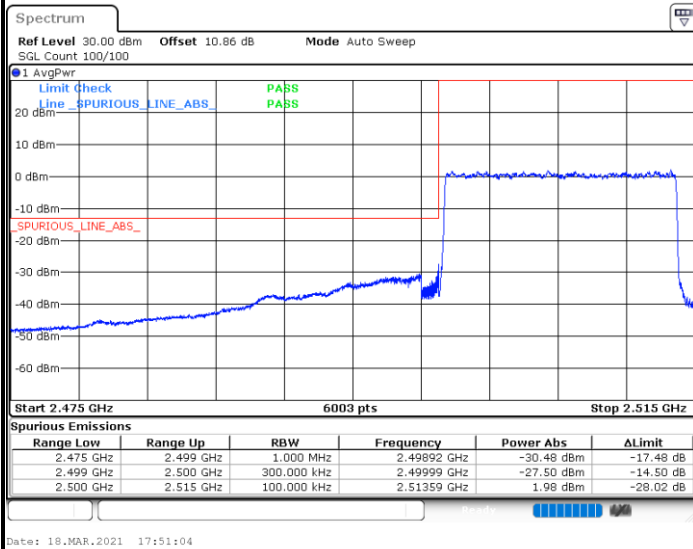


Date: 18.MAR.2021 15:25:04



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

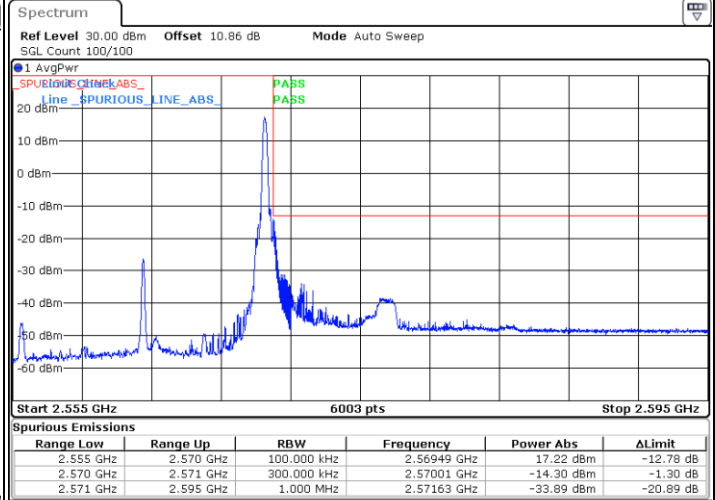
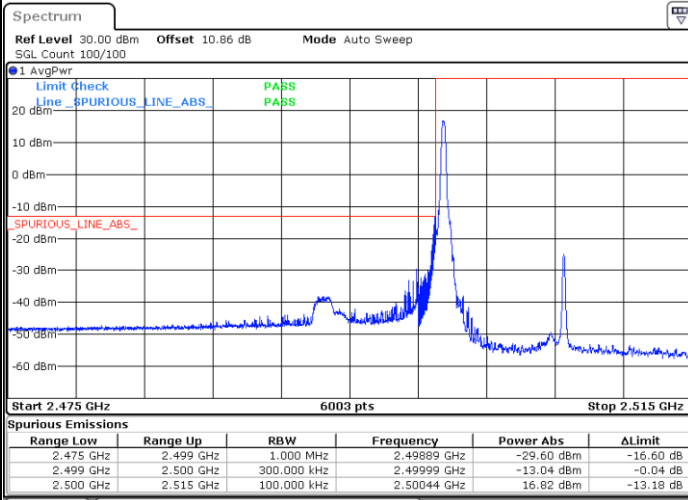




FR1 n7 / 15MHz / DFT-s-OFDM / 256QAM

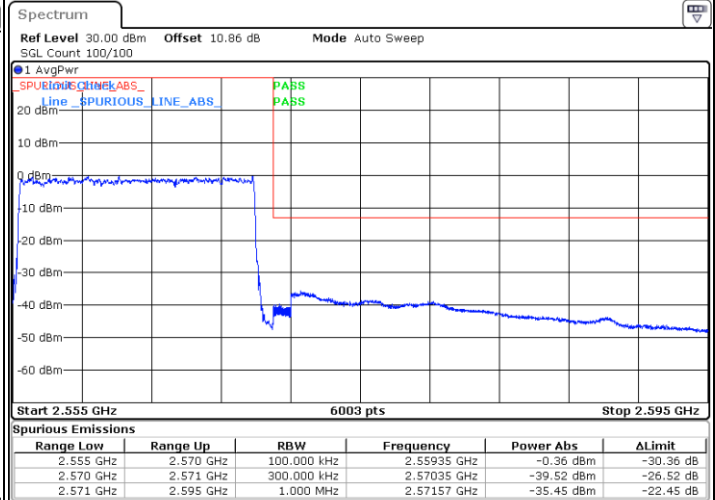
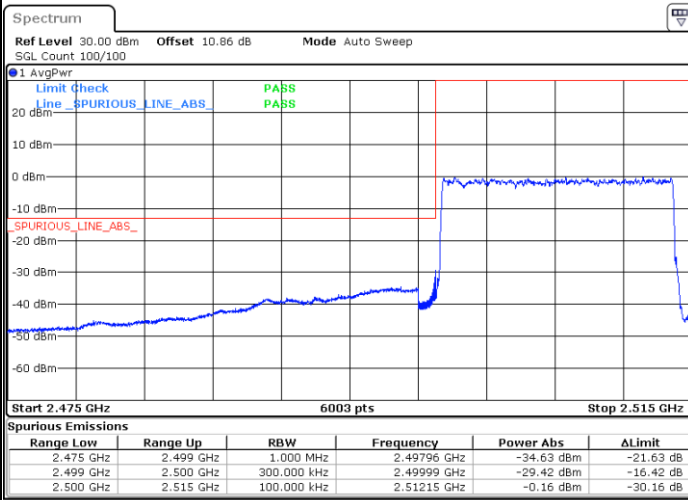
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

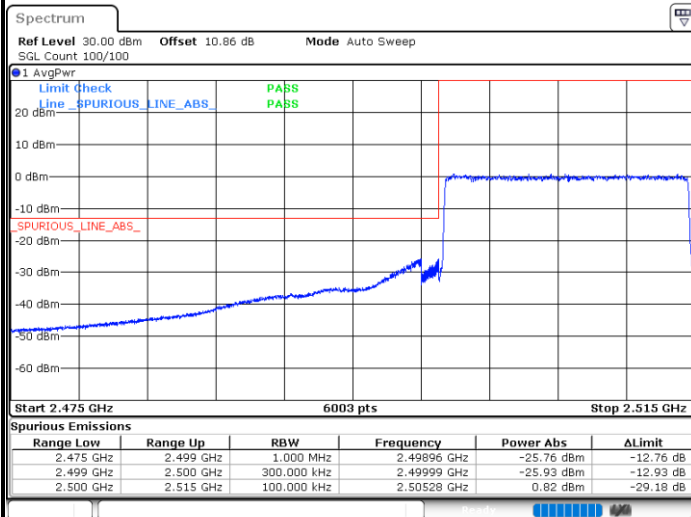
Highest Band Edge / Full RB



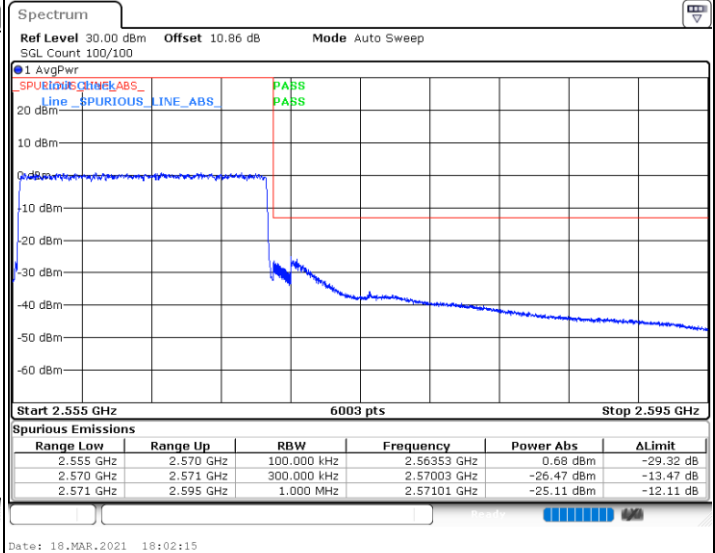


FR1 n7 / 15MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge



Highest Band Edge

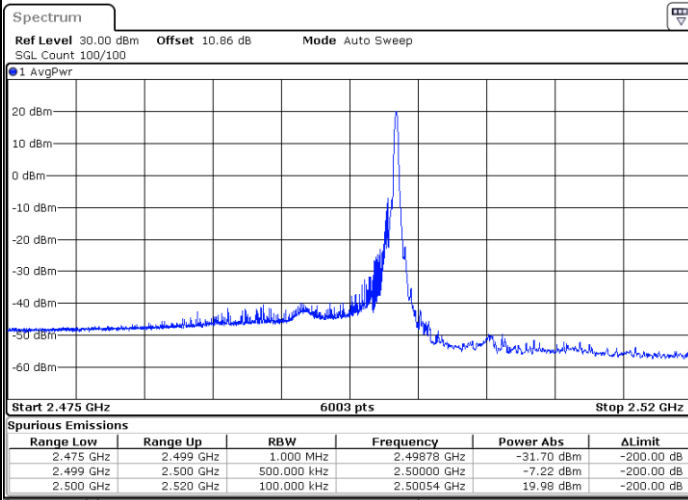




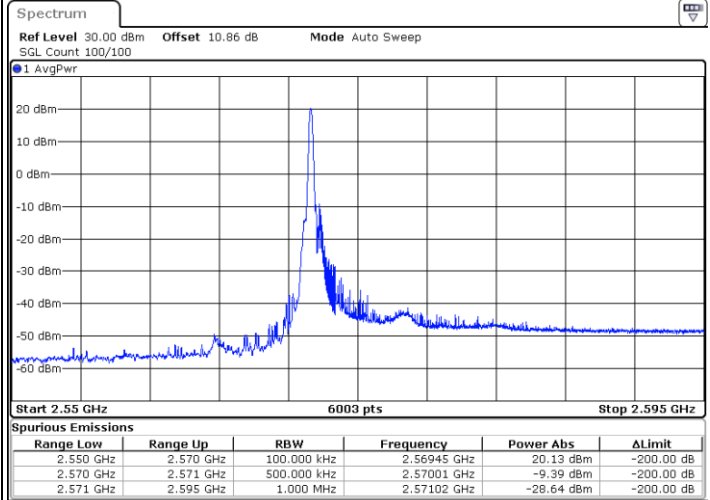
FR1 n7 / 20MHz / DFT-s-OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



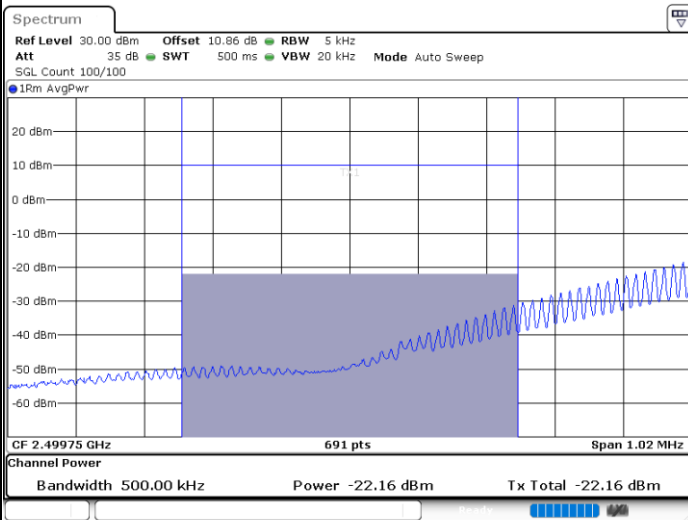
Date: 18.MAR.2021 17:47:57



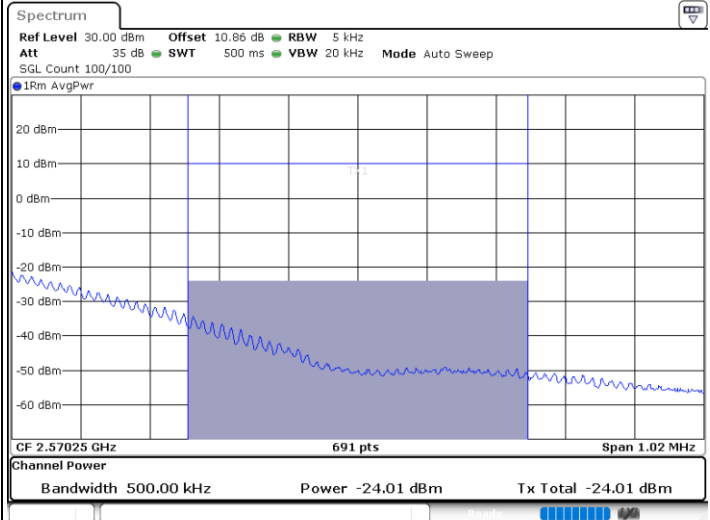
Date: 18.MAR.2021 17:28:07

Channel Power -22.16dBm < -13dBm (Pass)

Channel Power -24.01dBm < -13dBm (Pass)



Date: 18.MAR.2021 16:00:01

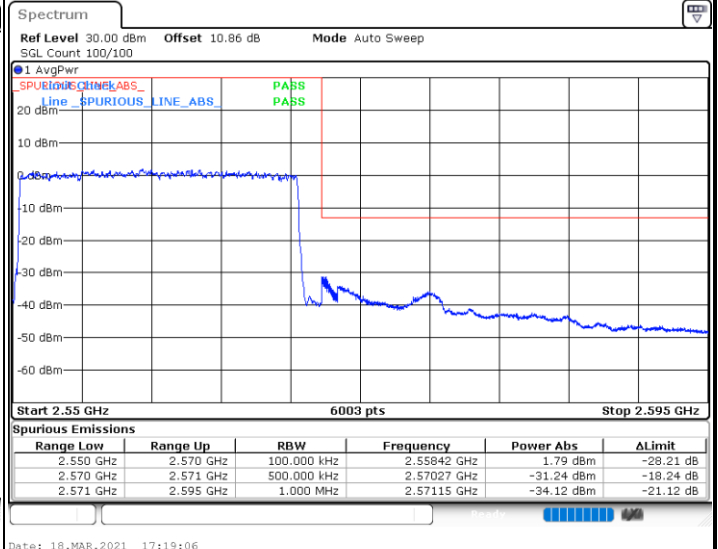
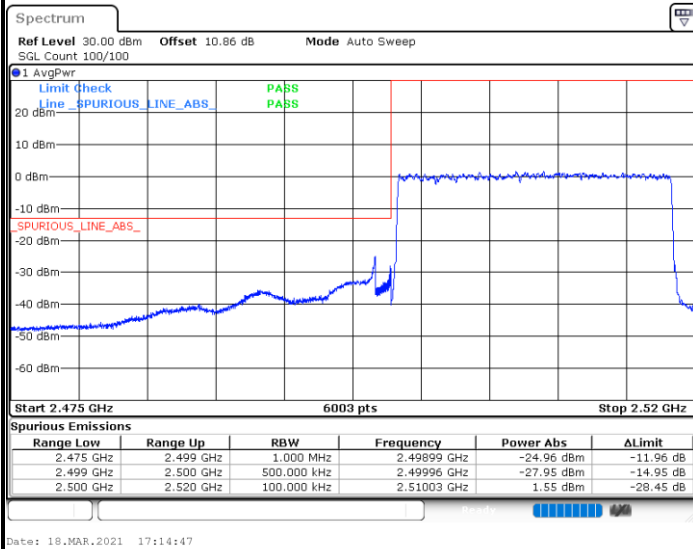


Date: 18.MAR.2021 16:12:56



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

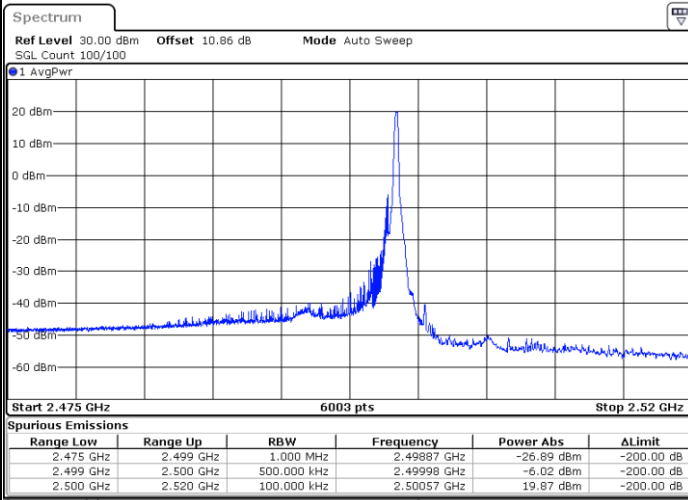




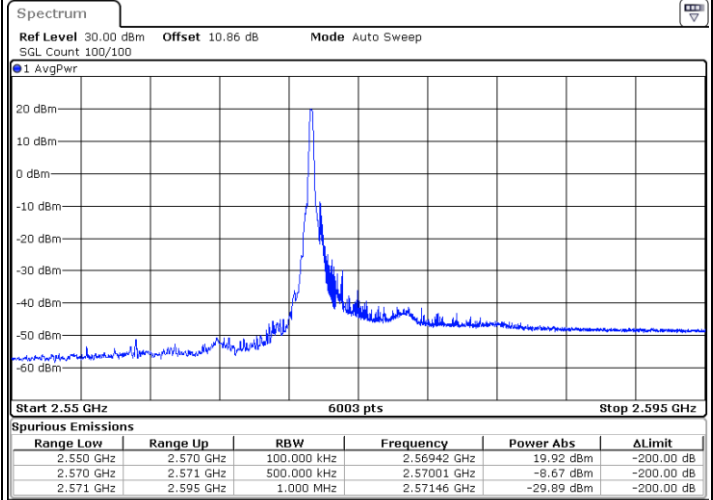
FR1 n7 / 20MHz / DFT-s-OFDM / QPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



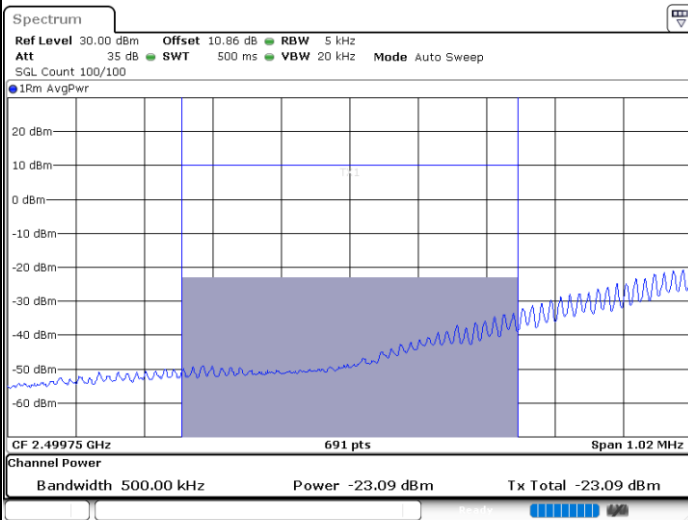
Date: 18.MAR.2021 17:47:28



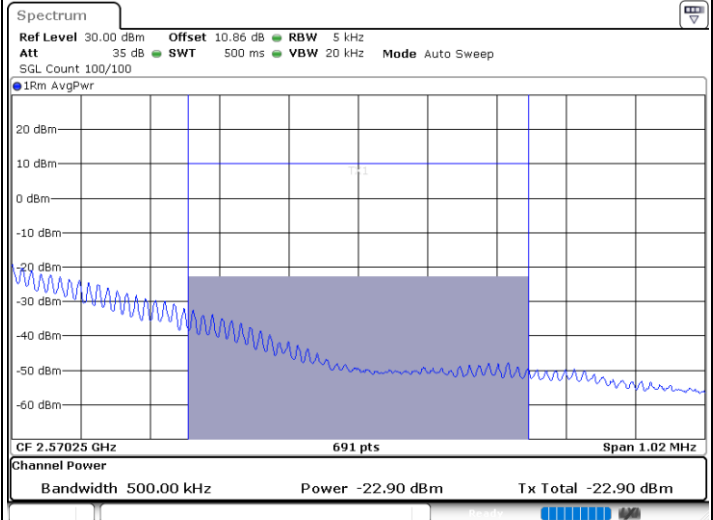
Date: 18.MAR.2021 17:27:42

Channel Power -23.09dBm < -13dBm (Pass)

Channel Power -22.90dBm < -13dBm (Pass)



Date: 18.MAR.2021 16:01:07

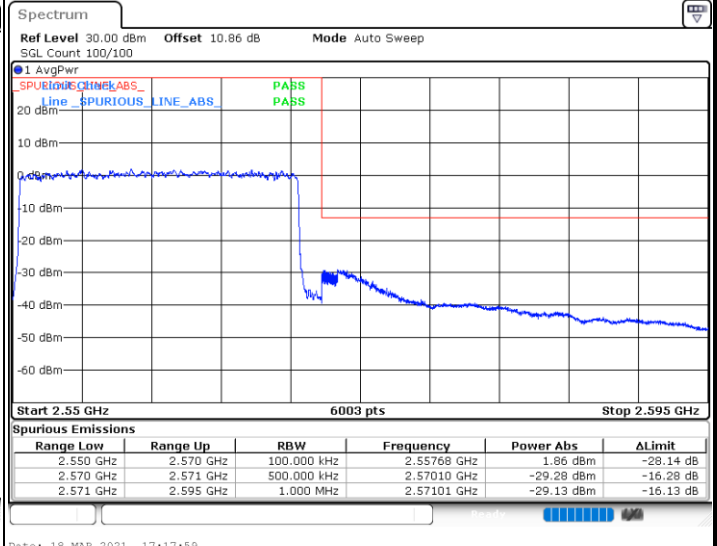
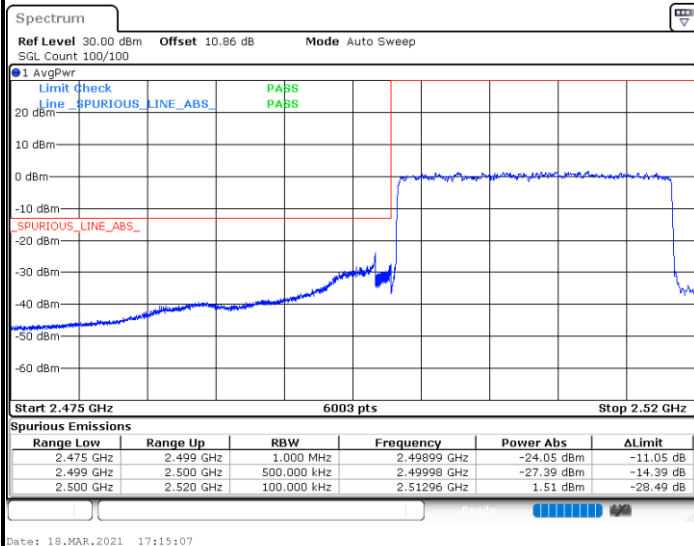


Date: 18.MAR.2021 16:14:05



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

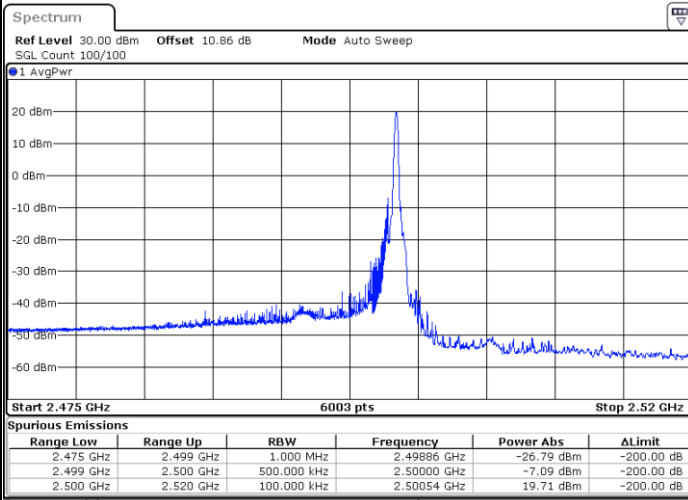




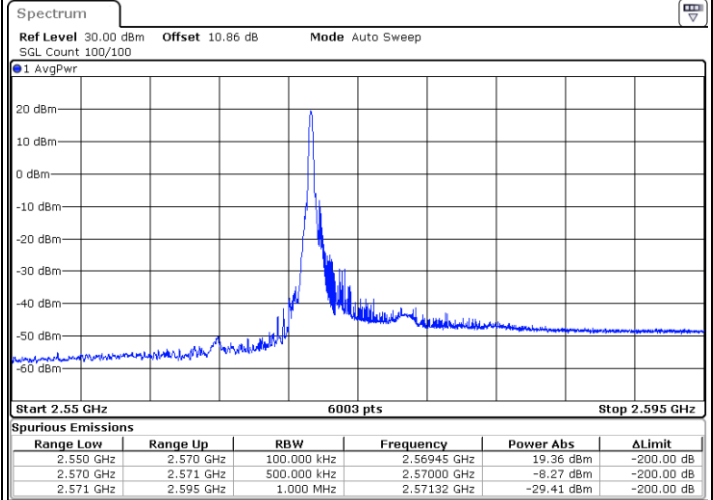
FR1 n7 / 20MHz / DFT-s-OFDM / 16QAM

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



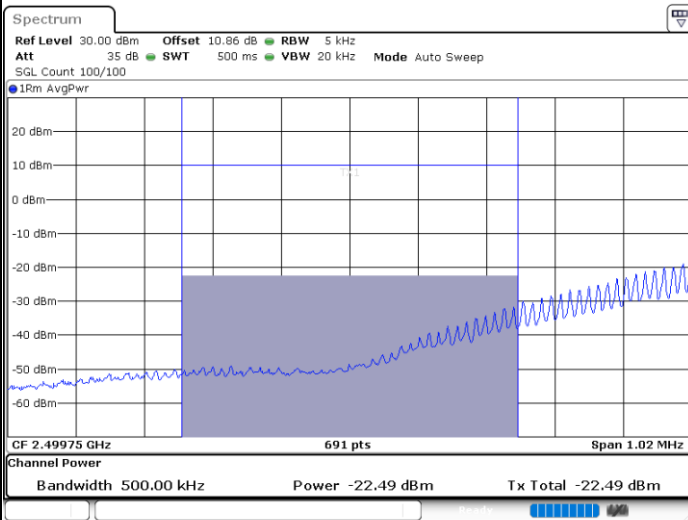
Date: 18.MAR.2021 17:47:01



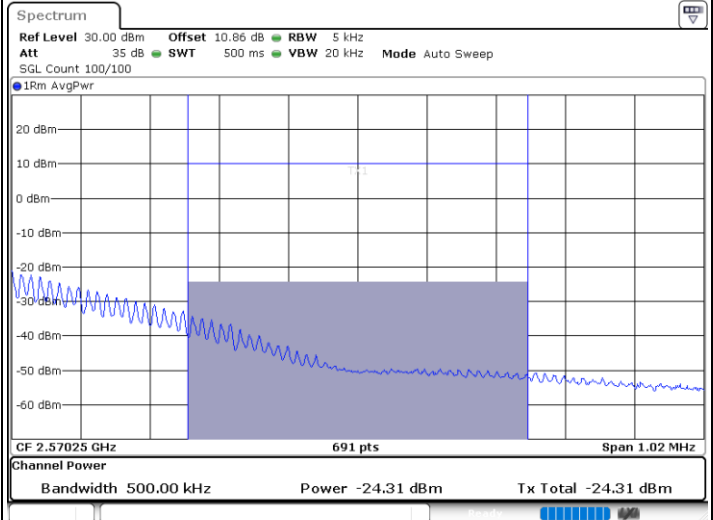
Date: 18.MAR.2021 17:27:21

Channel Power -22.49dBm < -13dBm (Pass)

Channel Power -24.31dBm < -13dBm (Pass)



Date: 18.MAR.2021 16:02:07

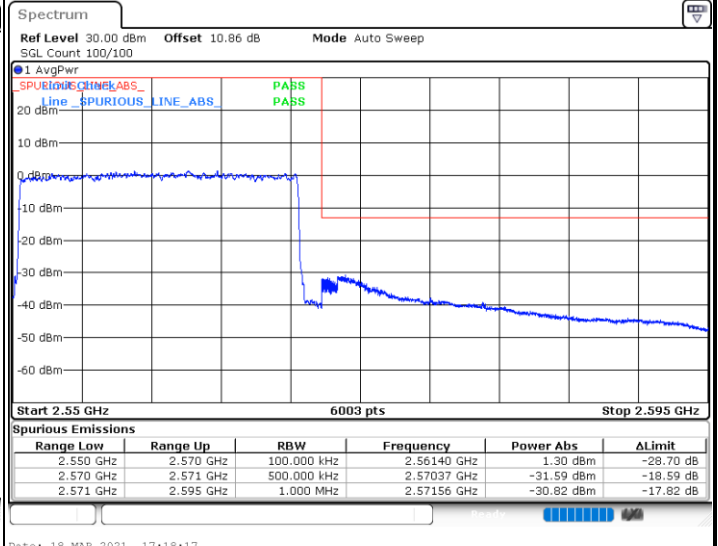
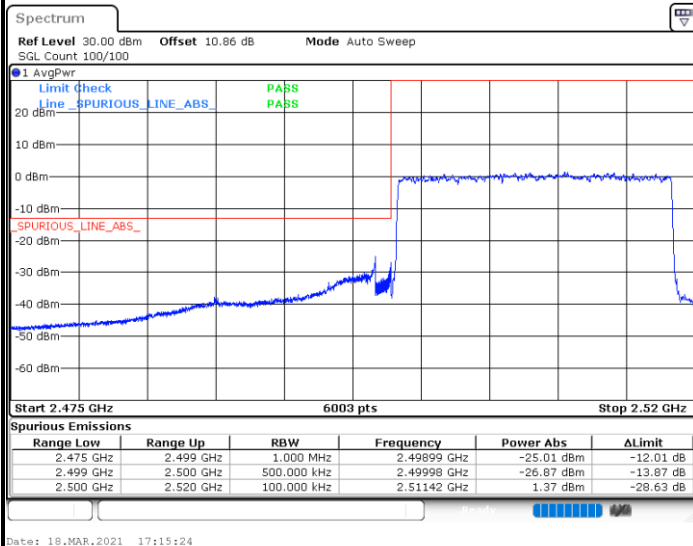


Date: 18.MAR.2021 16:17:19



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

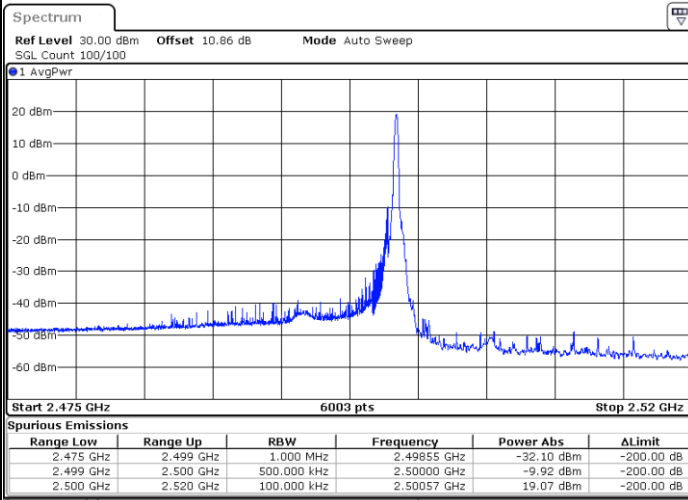




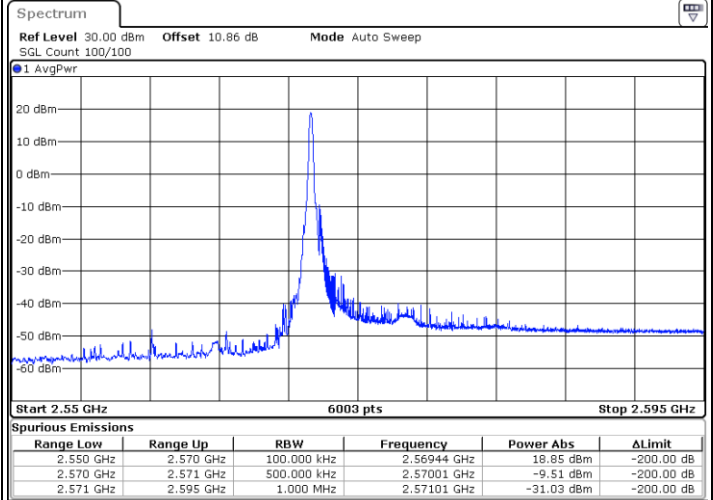
FR1 n7 / 20MHz / DFT-s-OFDM / 64QAM

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



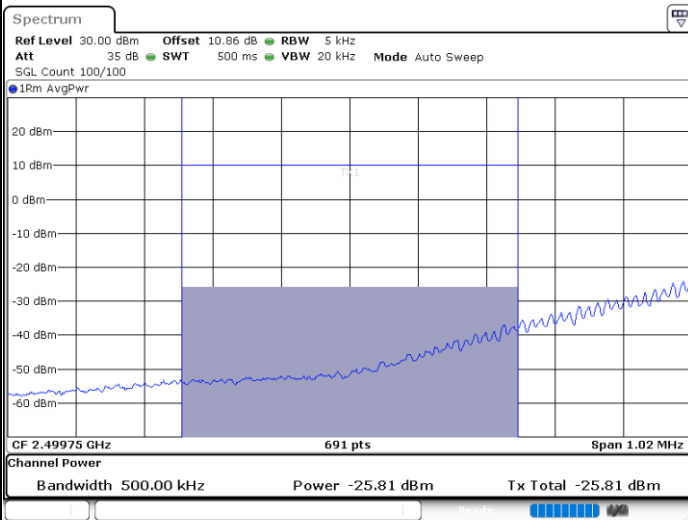
Date: 18.MAR.2021 17:46:39



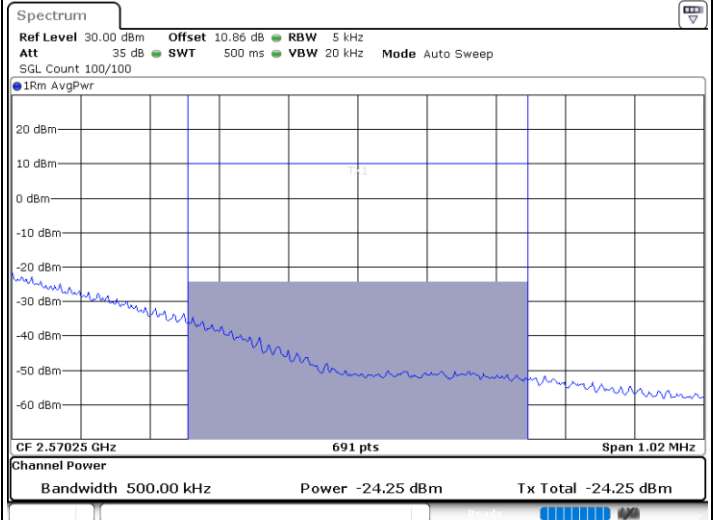
Date: 18.MAR.2021 17:26:58

Channel Power -24.81dBm < -13dBm (Pass)

Channel Power -24.25dBm < -13dBm (Pass)



Date: 18.MAR.2021 16:03:14

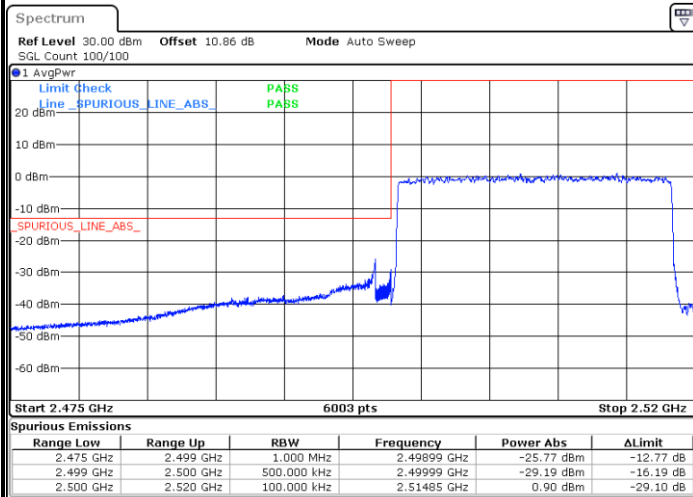


Date: 18.MAR.2021 16:18:26

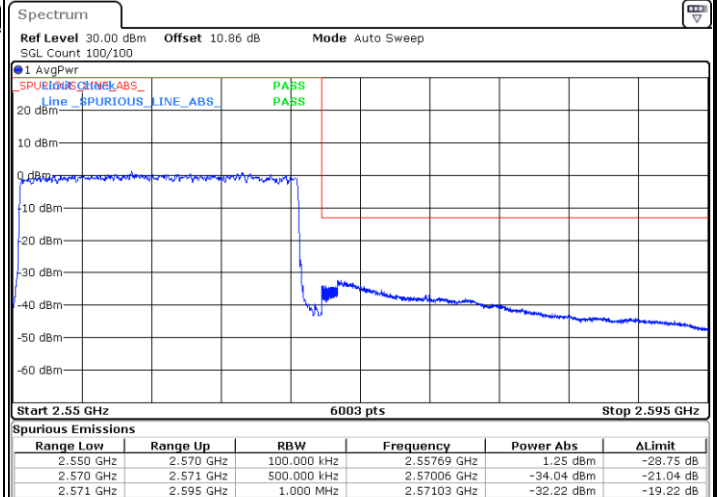


Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 18.MAR.2021 17:15:39



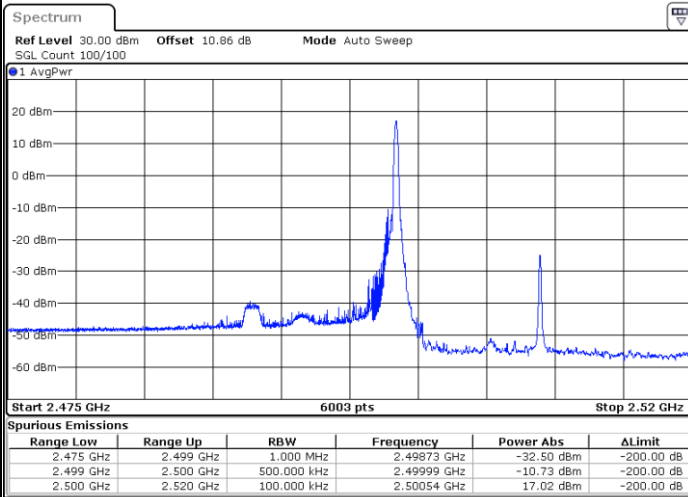
Date: 18.MAR.2021 17:18:33



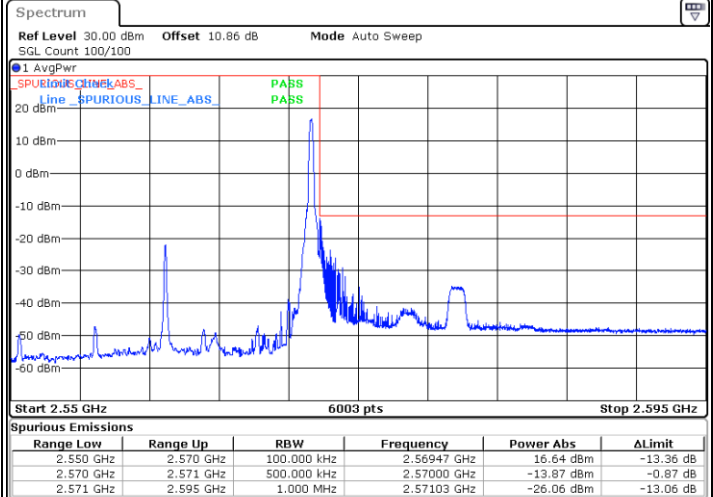
FR1 n7 / 20MHz / DFT-s-OFDM / 256QAM

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

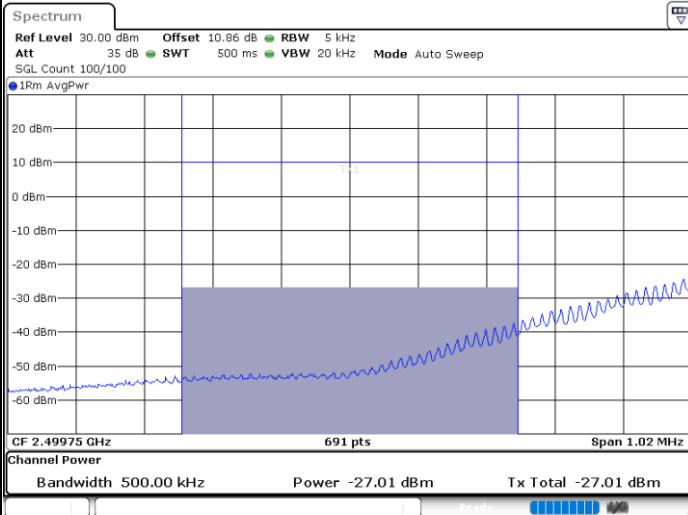


Date: 18.MAR.2021 17:46:14



Date: 18.MAR.2021 17:21:59

Channel Power -27.01dBm < -13dBm (Pass)

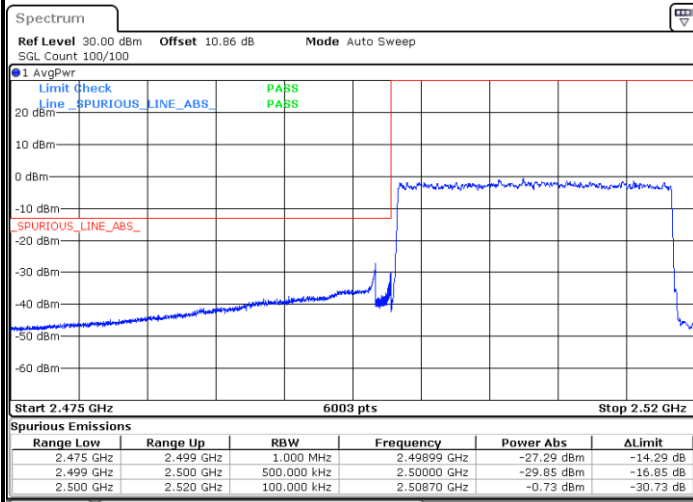


Date: 18.MAR.2021 16:04:16

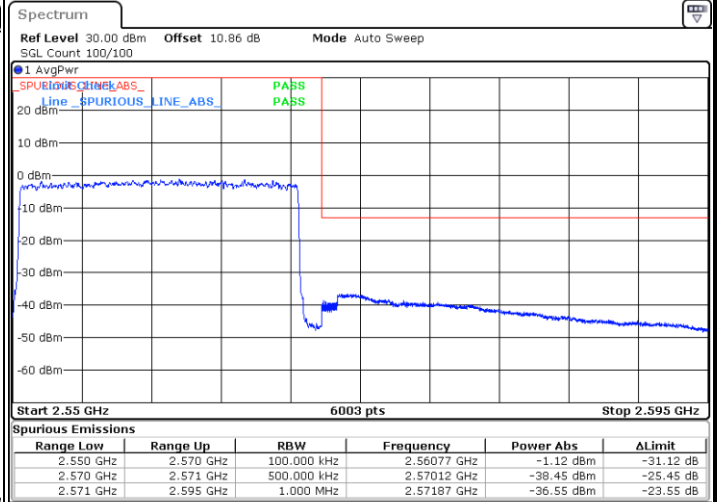


Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 18.MAR.2021 17:15:56

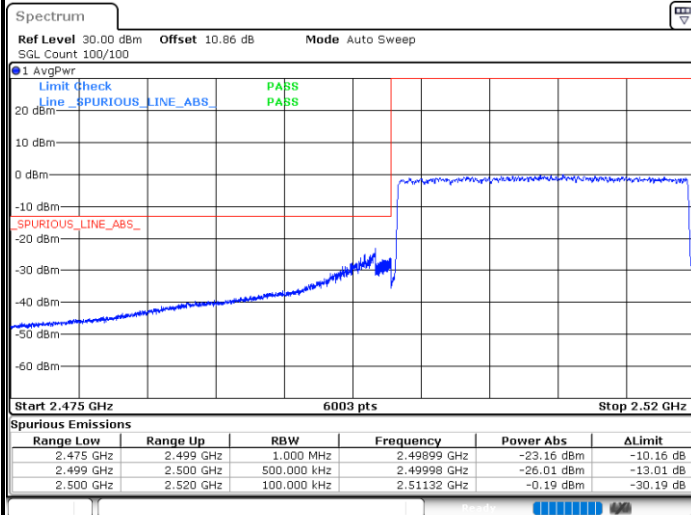


Date: 18.MAR.2021 17:18:49

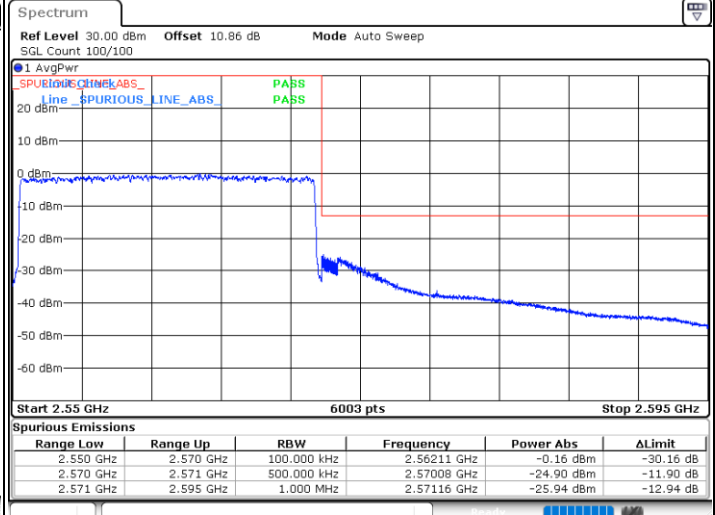


FR1 n7 / 20MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge



Highest Band Edge

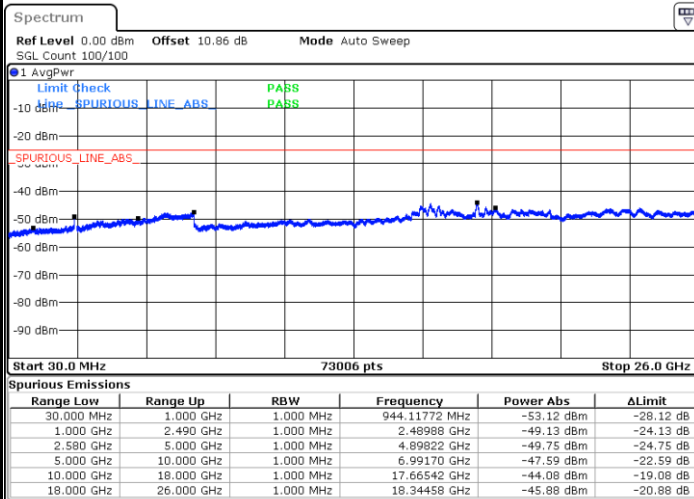




Conducted Spurious Emission

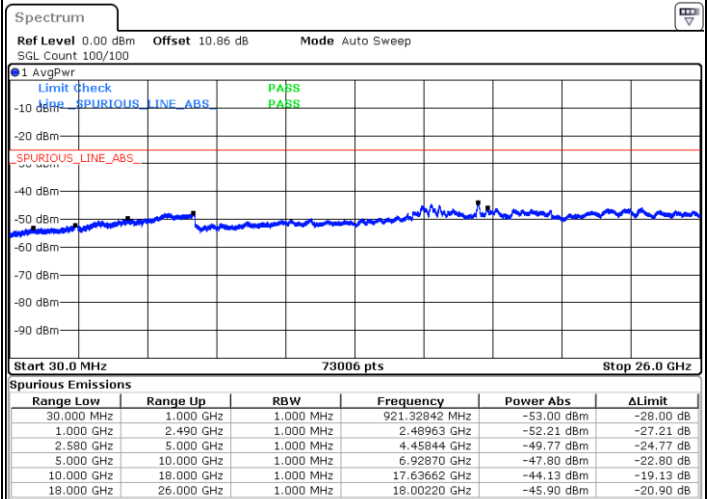
FR1 n7 / 5MHz / DFT-S OFDM / QPSK / 1RB1

Lowest Channel



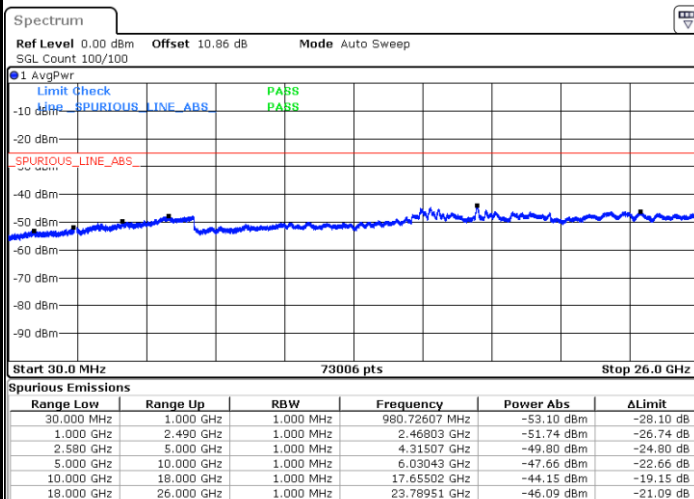
Date: 13.MAR.2021 10:34:15

Middle Channel



Date: 13.MAR.2021 10:32:58

Highest Channel



Date: 13.MAR.2021 10:31:47

Frequency Stability

Test Conditions		FR1 n7 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0001	PASS
40	Normal Voltage	0.0002	
30	Normal Voltage	0.0007	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0001	
0	Normal Voltage	0.0002	
-10	Normal Voltage	0.0007	
-20	Normal Voltage	0.0009	
-30	Normal Voltage	0.0009	
20	Maximum Voltage	0.0045	
20	Normal Voltage	0.0018	
20	Battery End Point	0.0057	

Note:

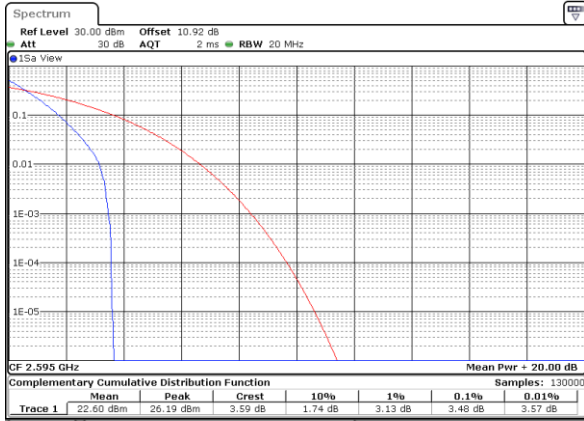
1. Normal Voltage =48 V. ; Battery End Point (BEP) =43 V. ; Maximum Voltage =58 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

**FR1 n38****Peak-to-Average Ratio**

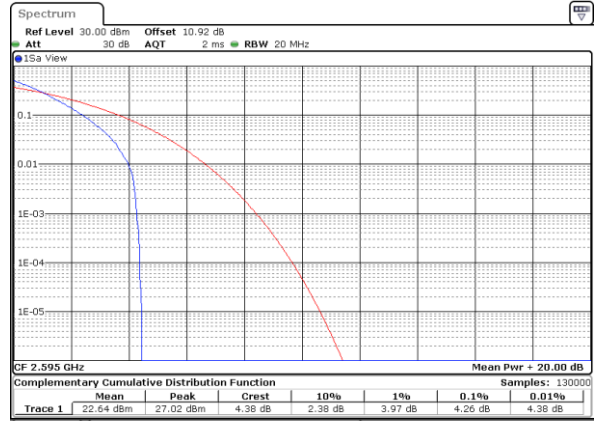
Mode	FR1 n38 / 20MHz / DFT-S OFDM				
Mod.	PI/2 BPSK	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	3.48	4.26	5.48	5.97	PASS
Mode	FR1 n38 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Middle CH	6.52				PASS

FR1 n38 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

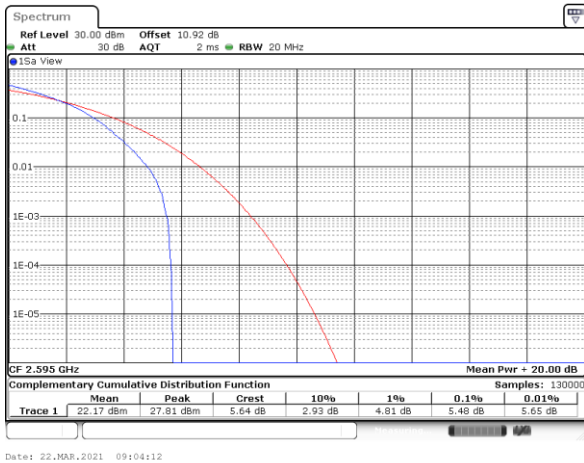
PI/2 BPSK



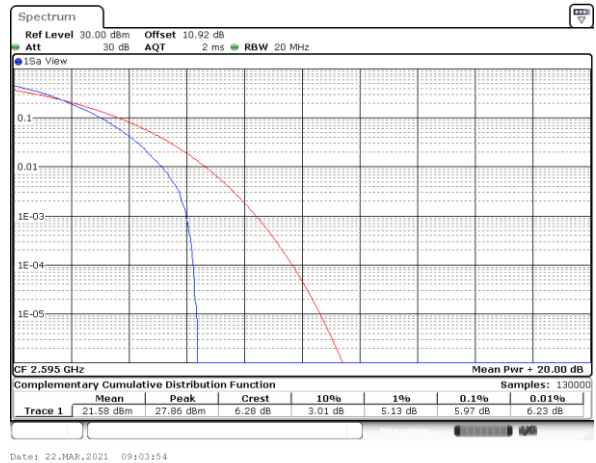
QPSK



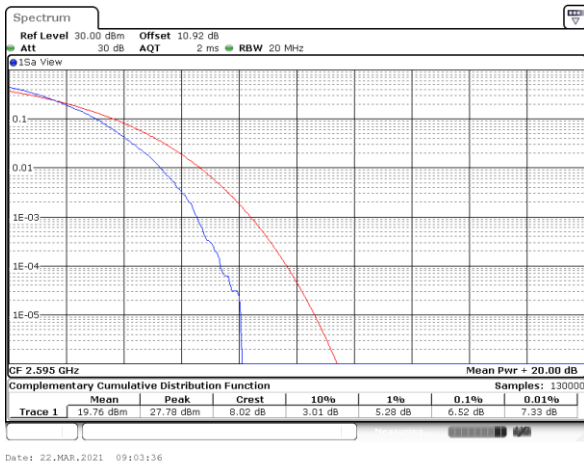
16QAM



64QAM



256QAM



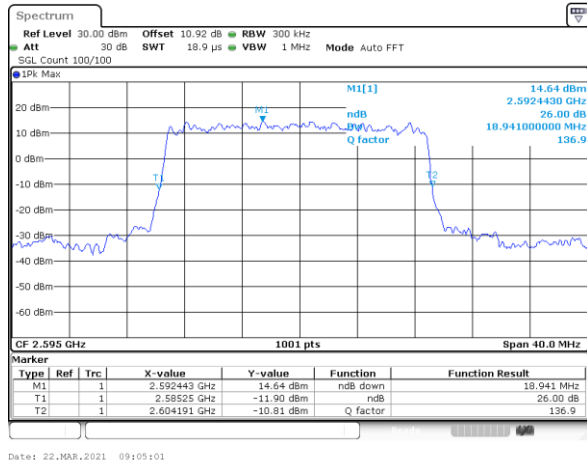
**26dB Bandwidth**

Mode	FR1 n38 : 26dB BW(MHz) / DFT-S OFDM							
BW	20MHz							
Mod.	PI/2 BPSK							
Middle CH	18.94							

Mode	FR1 n38 : 26dB BW(MHz) / CP OFDM							
BW	20MHz							
Mod.	QPSK	16QAM						
Middle CH	19.62	19.38						
Mod.	64QAM	256QAM						
Middle CH	19.46	19.54						

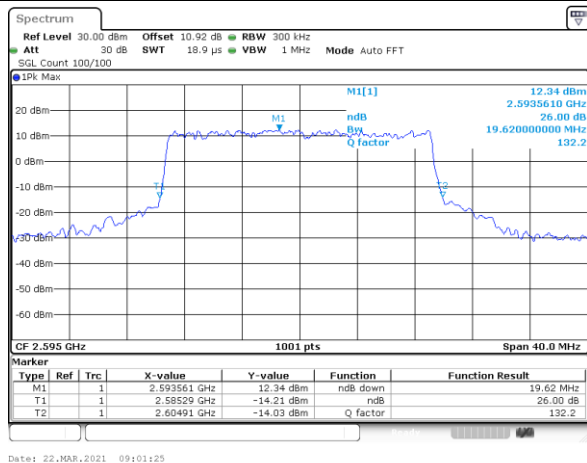
FR1 n38 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

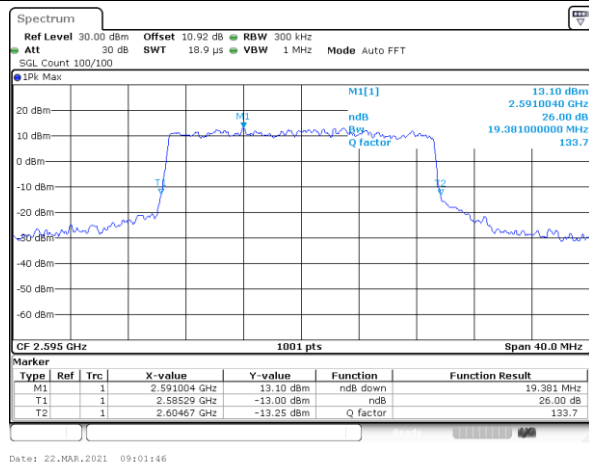


FR1 n38 / 20MHz / CP OFDM / Middle Channel / Full RB

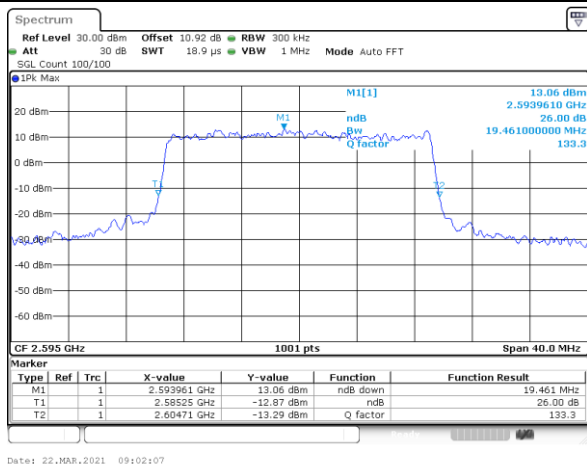
QPSK



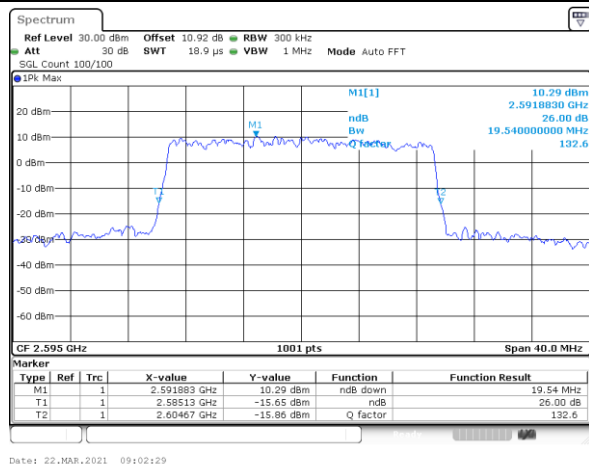
16QAM



64QAM



256QAM



**Occupied Bandwidth**

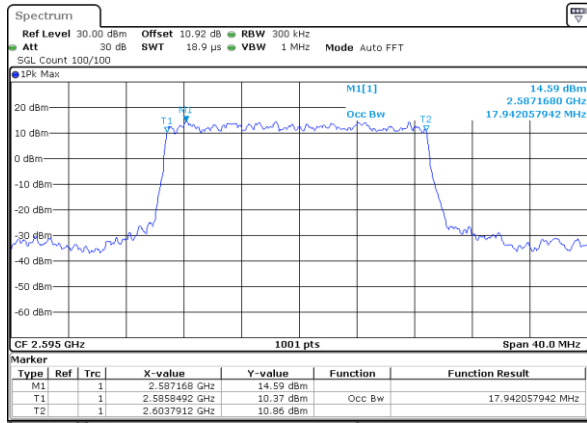
Mode	FR1 n38 : OB BW(MHz) / DFT-S OFDM							
BW	20MHz							
Mod.	PI/2 BPSK							
Middle CH	17.94							

Mode	FR1 n38 : OB BW(MHz) / CP OFDM							
BW	20MHz							
Mod.	QPSK	16QAM						
Middle CH	18.26	18.26						
Mod.	64QAM	256QAM						
Middle CH	18.22	18.22						



FR1 n38 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

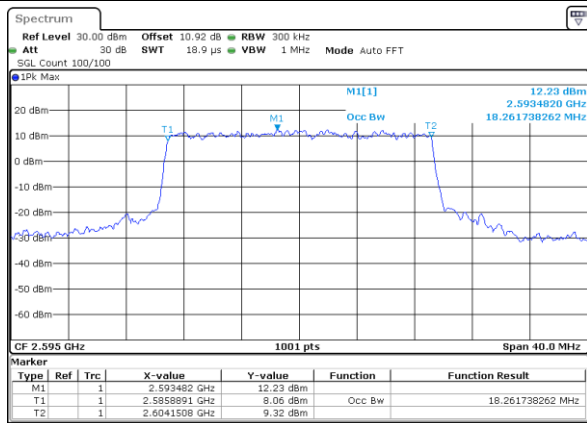
PI/2 BPSK



Date: 22.MAR.2021 09:04:53

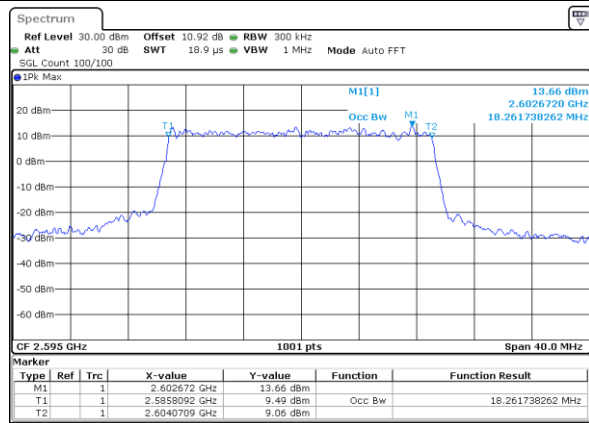
FR1 n38 / 20MHz / CP OFDM / Middle Channel / Full RB

QPSK



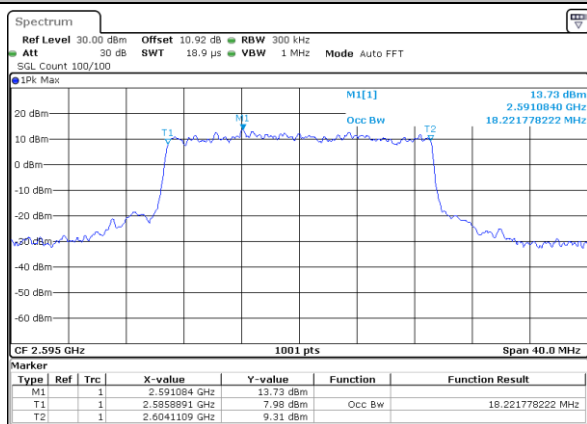
Date: 22.MAR.2021 09:01:09

16QAM



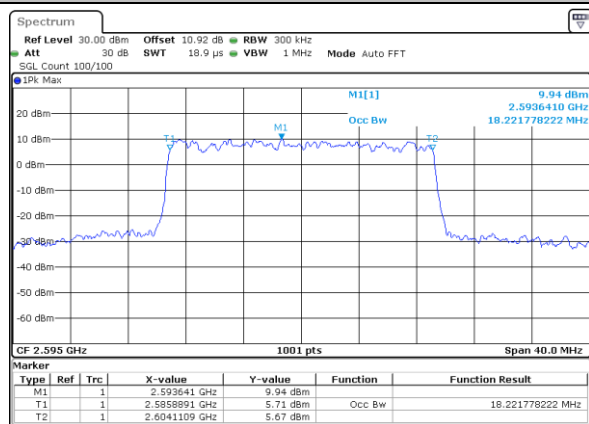
Date: 22.MAR.2021 09:01:37

64QAM



Date: 22.MAR.2021 09:01:58

256QAM



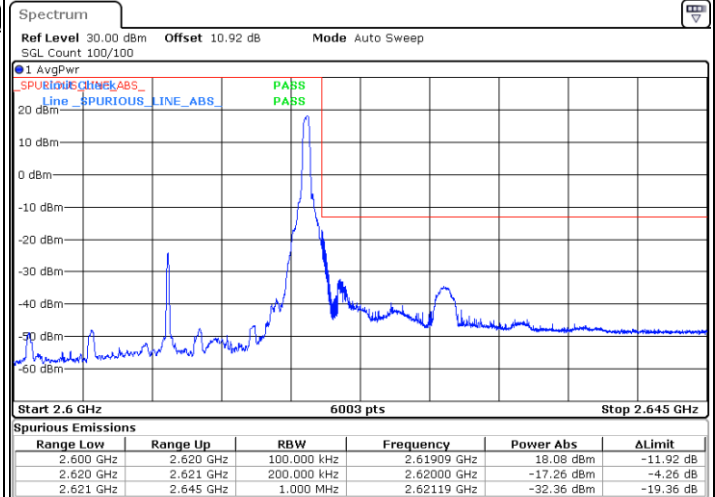
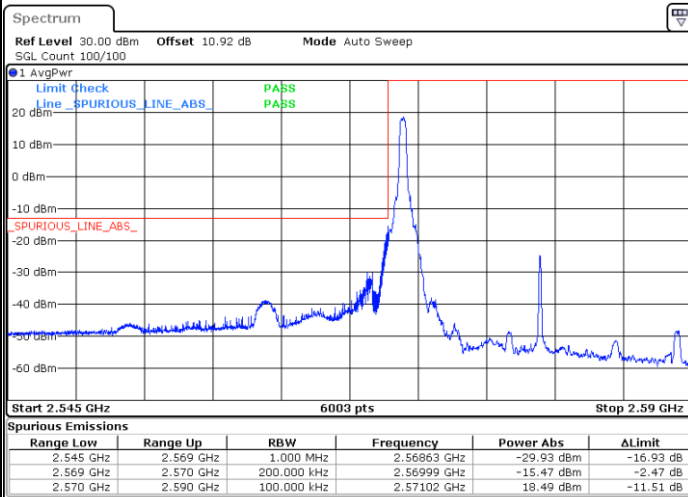
Date: 22.MAR.2021 09:02:20

**Conducted Band Edge**

FR1 n38 / 20MHz / DFT-S OFDM / PI/2 BPSK

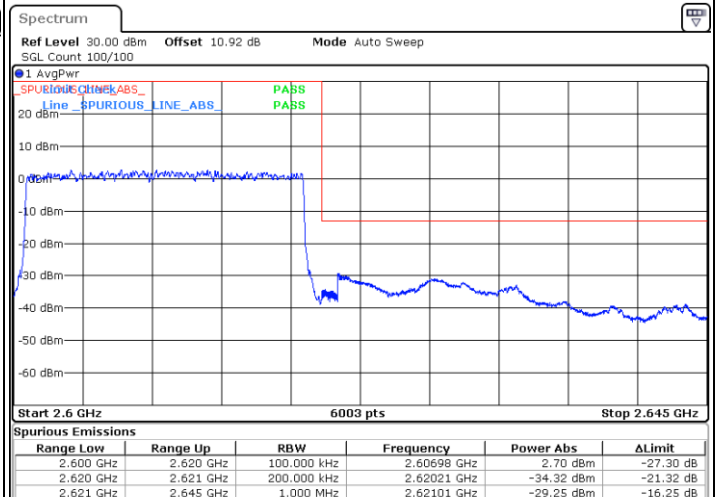
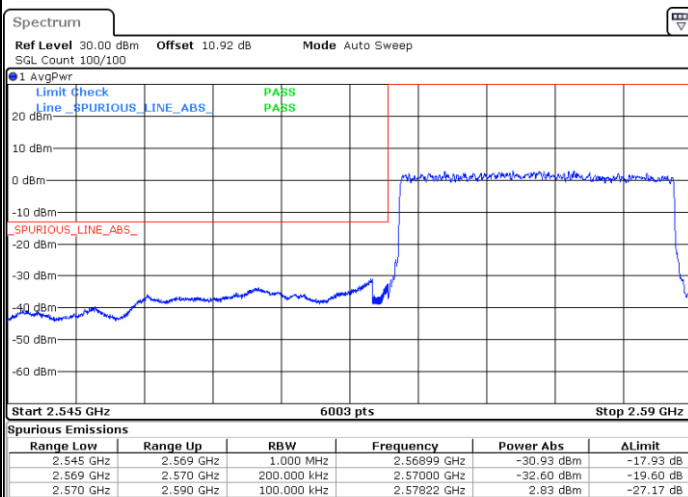
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

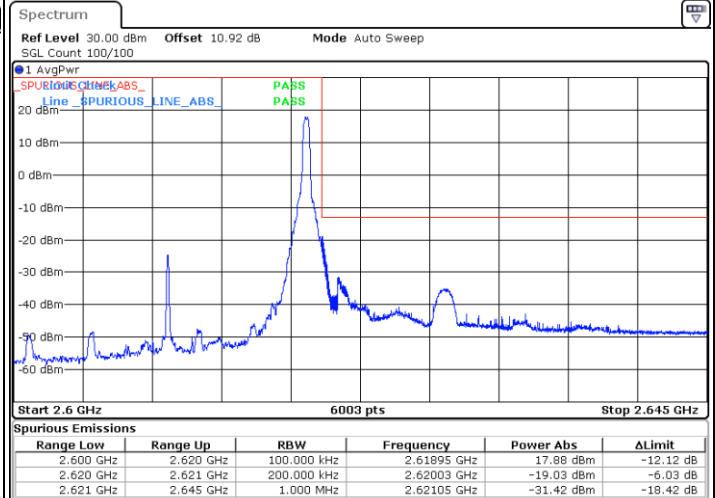
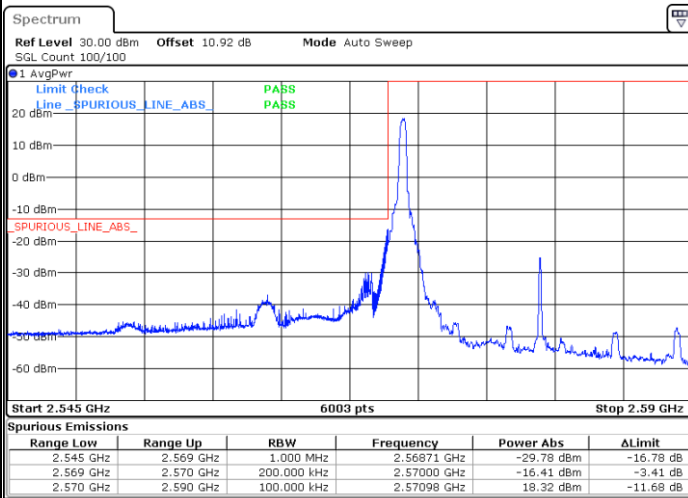




FR1 n38 / 20MHz / DFT-S OFDM / QPSK

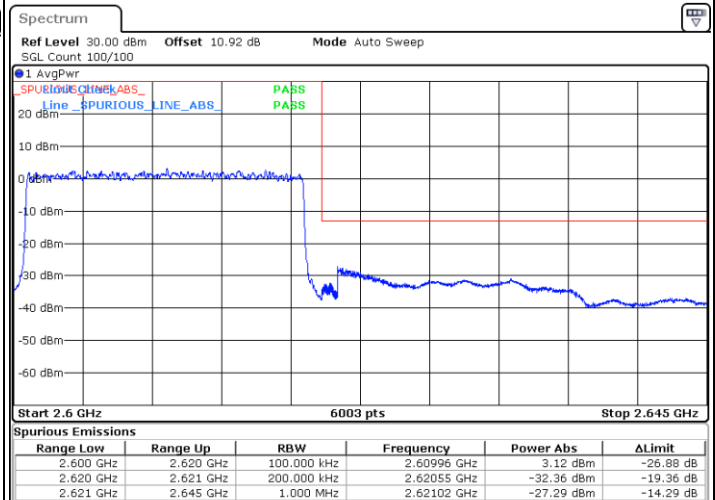
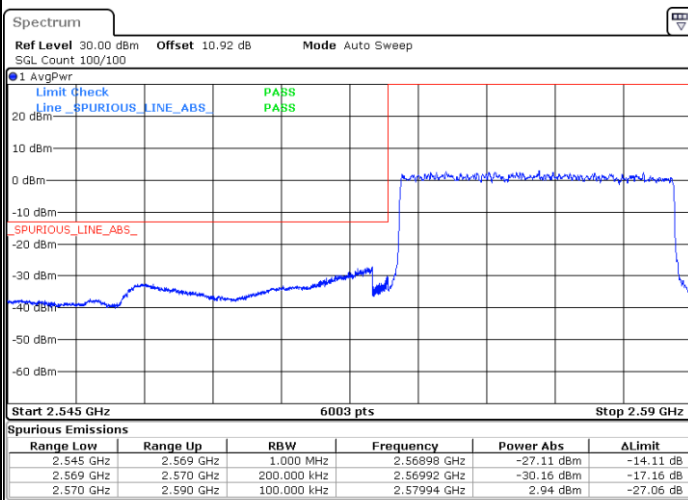
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

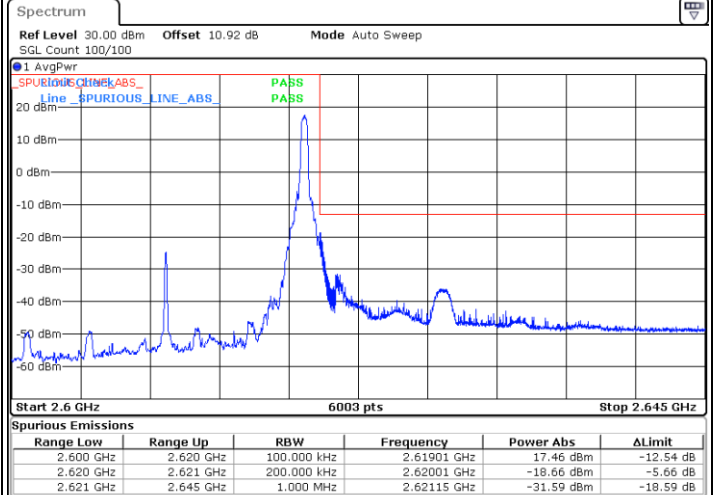
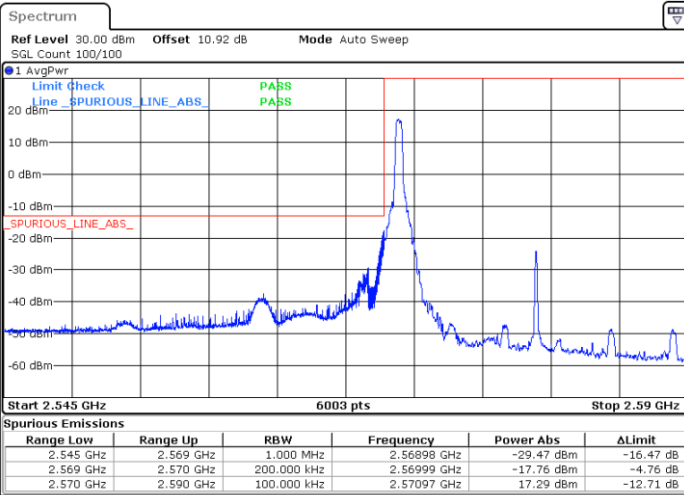




FR1 n38 / 20MHz / DFT-S OFDM / 16QAM

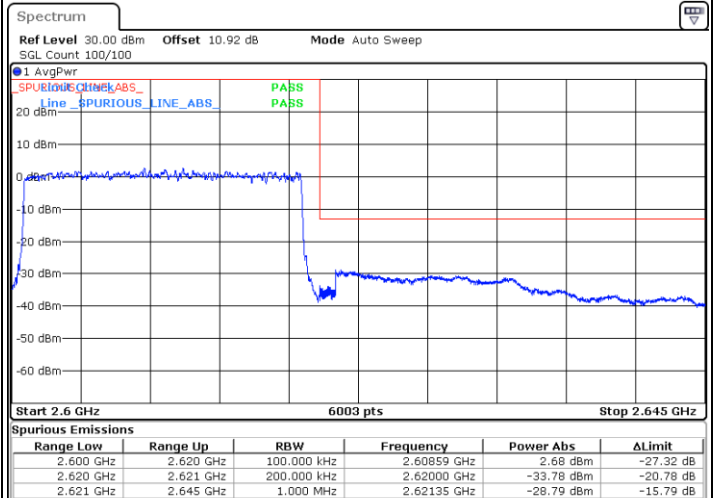
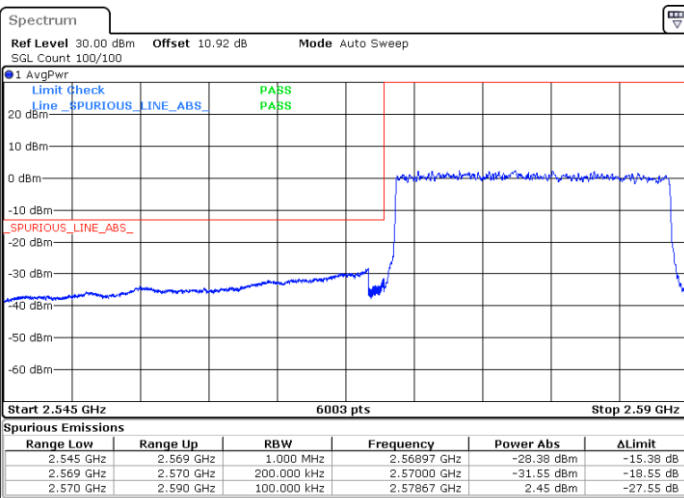
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

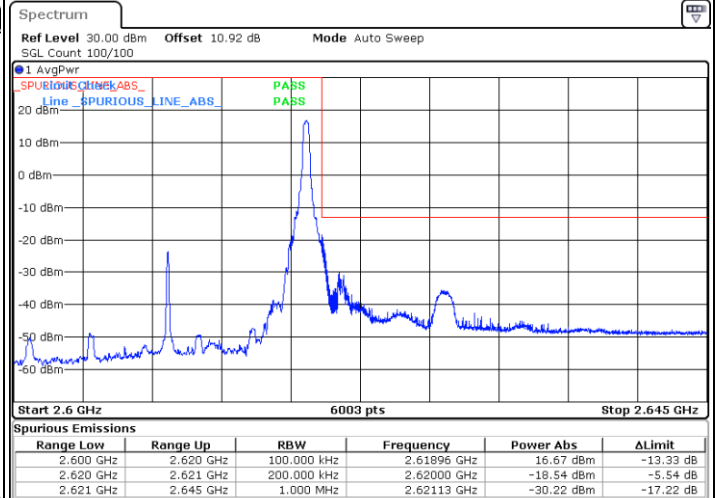
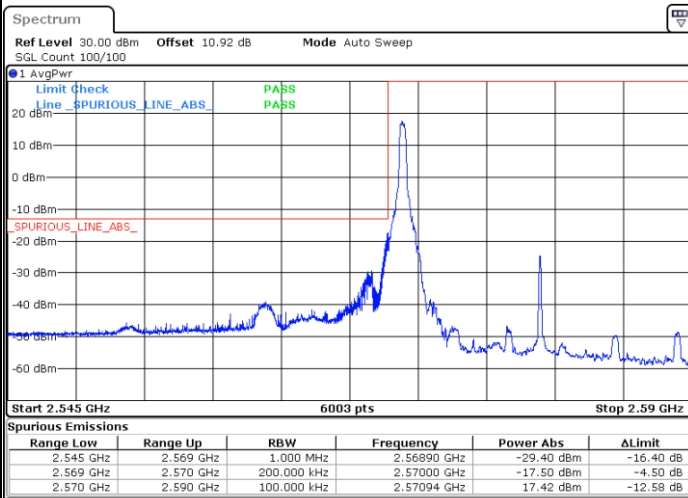




FR1 n38 / 20MHz / DFT-S OFDM / 64QAM

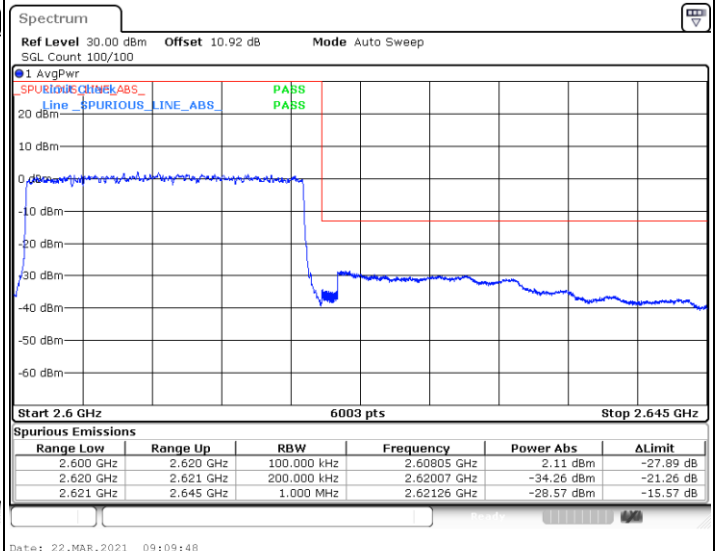
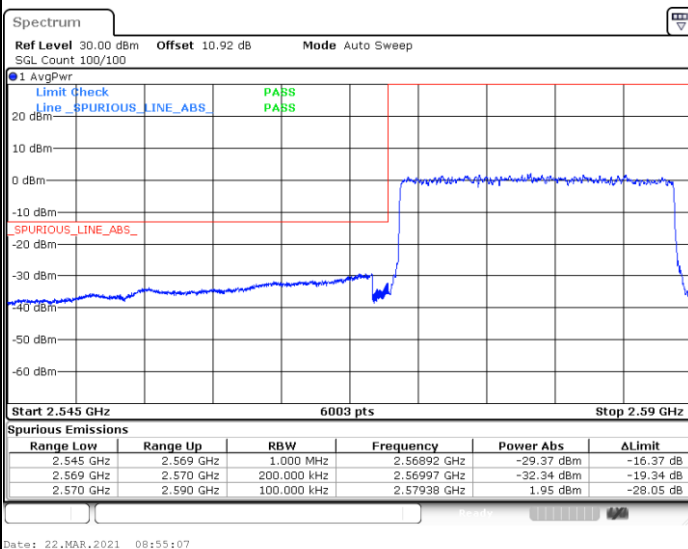
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

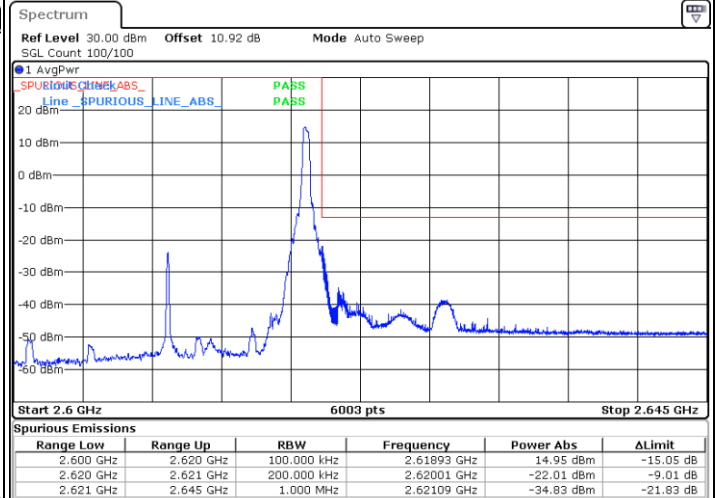
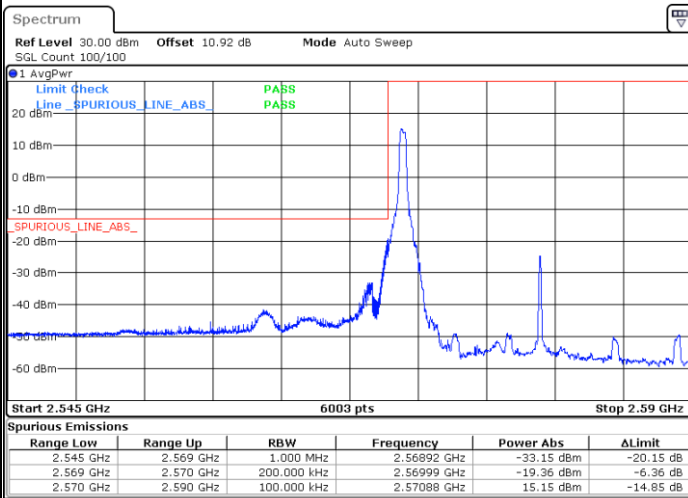




FR1 n38 / 20MHz / DFT-S OFDM / 256QAM

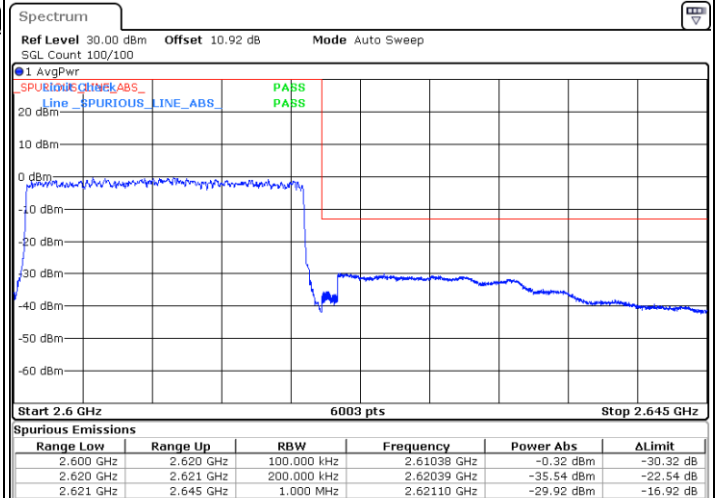
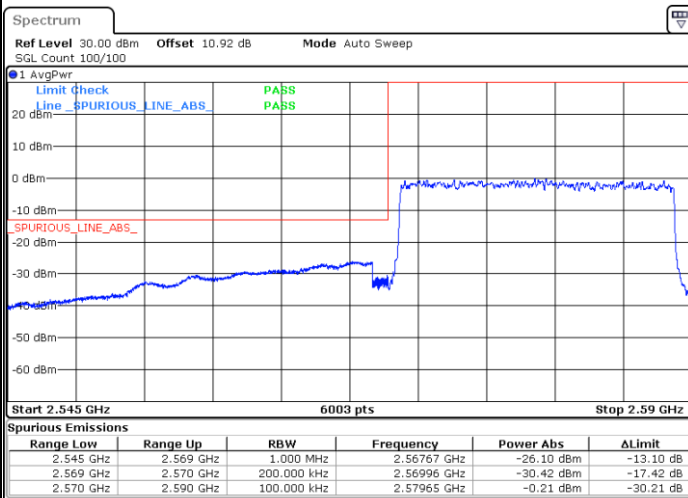
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

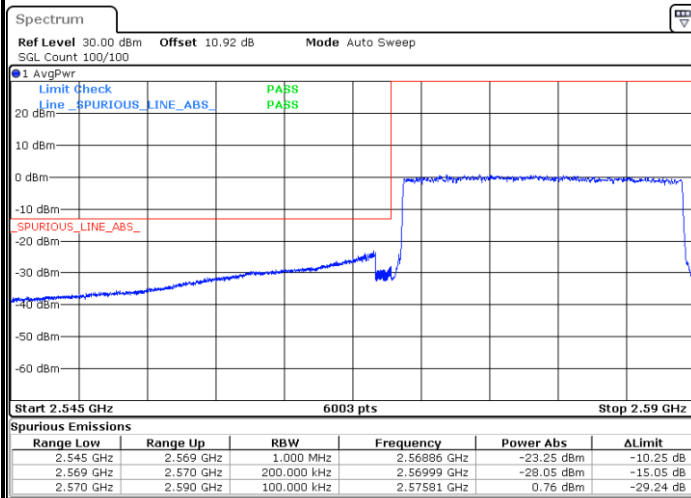
Highest Band Edge / Full RB





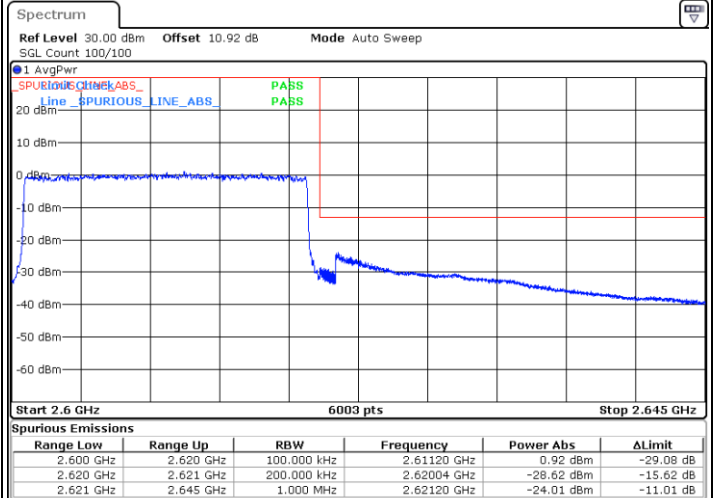
FR1 n38 / 20MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge



Date: 22.MAR.2021 09:00:31

Highest Band Edge



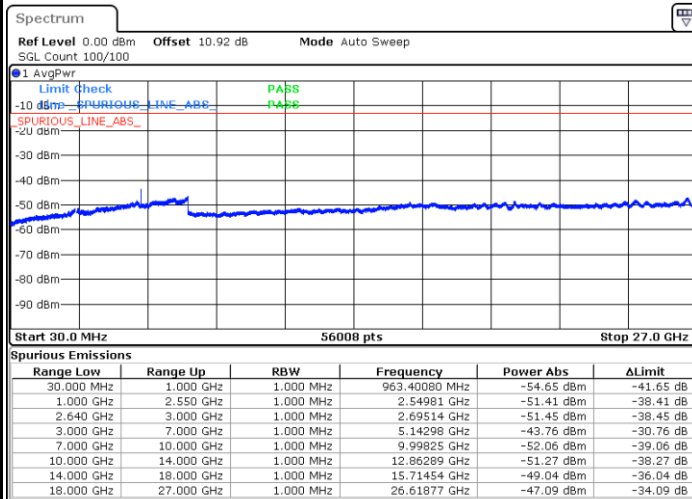
Date: 22.MAR.2021 09:14:01



Conducted Spurious Emission

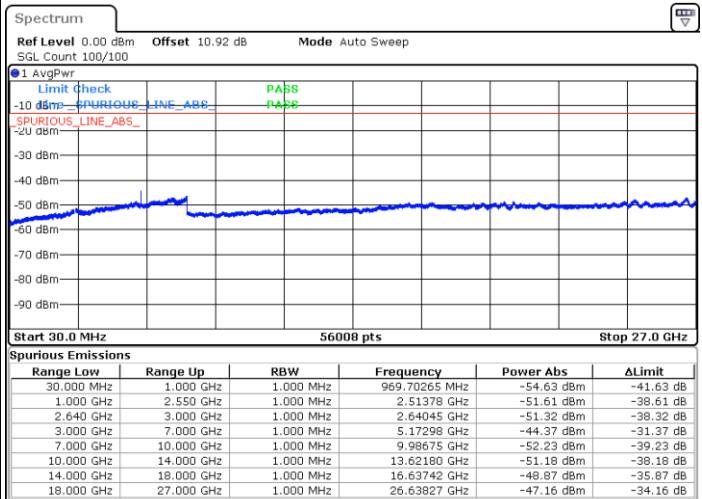
FR1 n38 / 20MHz / DFT-S OFDM / QPSK / 1RB1

Lowest Channel



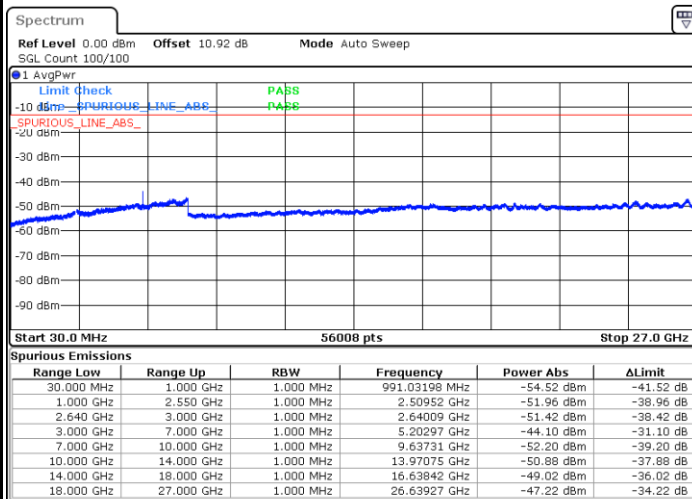
Date: 22.MAR.2021 09:30:32

Middle Channel



Date: 22.MAR.2021 09:29:06

Highest Channel



Date: 22.MAR.2021 09:23:45

Frequency Stability

Test Conditions		FR1 n38 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0022	PASS
40	Normal Voltage	0.0039	
30	Normal Voltage	0.0031	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0022	
0	Normal Voltage	0.0047	
-10	Normal Voltage	0.0016	
-20	Normal Voltage	0.0039	
-30	Normal Voltage	0.0030	
20	Maximum Voltage	0.0013	
20	Normal Voltage	0.0022	
20	Battery End Point	0.0039	

Note:

1. Normal Voltage =48 V. ; Battery End Point (BEP) =43 V. ; Maximum Voltage =58 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

**FR1 n77****Peak-to-Average Ratio**

Mode	FR1 n77 / 40MHz / DFT-S OFDM (dBm/MHz)				
Mod.	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM
RB Size	Full RB	Full RB	Full RB	Full RB	Full RB
Channel	Middle				
Peak Power	27.65	28.83	29.60	29.57	29.13
Average Poer	23.00	22.90	22.80	22.7	22
Peak-to-Averavg Ratio	4.65	5.93	6.8	6.87	7.13
Limit	13dB				
Result	PASS				

**26dB Bandwidth**

Mode	FR1 n77 : 26dB BW(MHz) / DFT-S OFDM							
BW	40MHz	50MHz	60MHz	80MHz	90MHz	100MHz		
Mod.	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK		
Middle CH	38.04	48.15	60.42	79.92	88.47	99.50		

Mode	FR1 n77 : 26dB BW(MHz) / CP OFDM							
BW	40MHz		50MHz		60MHz		80MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	40.20	40.28	49.75	49.85	60.42	60.54	80.24	80.08
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	40.20	40.20	49.95	49.95	60.42	60.42	80.40	80.24
BW	90MHz		100MHz					
Mod.	QPSK	16QAM	QPSK	16QAM				
Middle CH	90.45	90.45	100.50	100.50				
Mod.	64QAM	256QAM	64QAM	256QAM				
Middle CH	90.81	90.63	100.50	100.50				