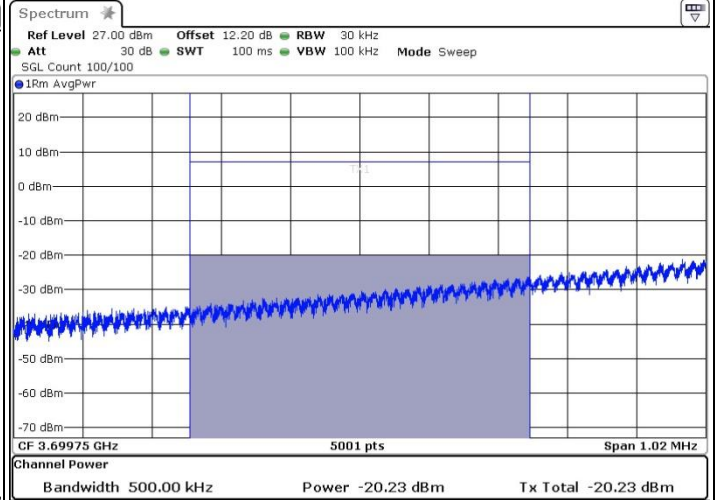
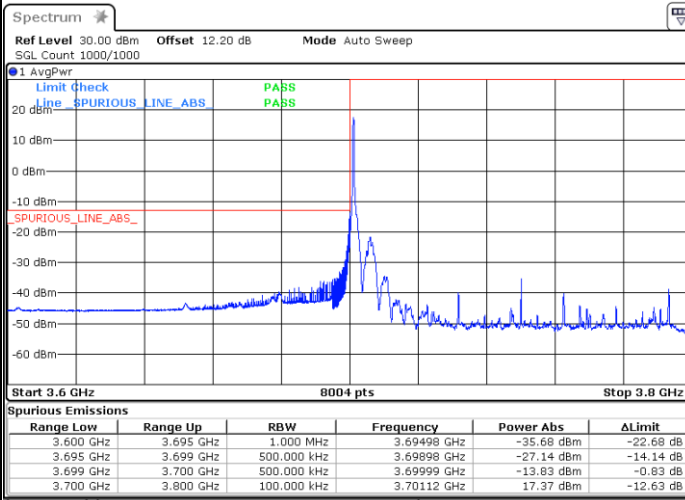




FR1 n77 / 100MHz / DFT-S OFDM QPSK

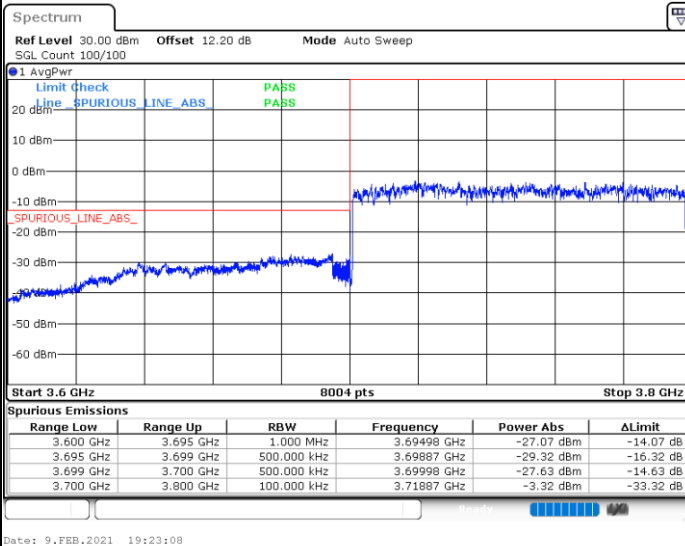
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

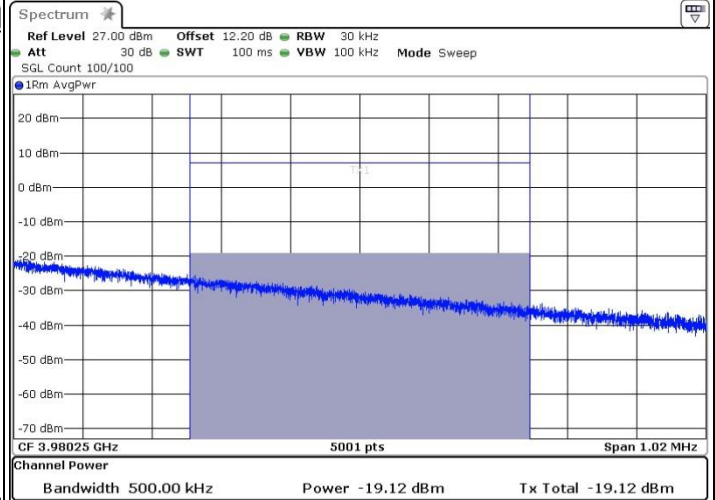
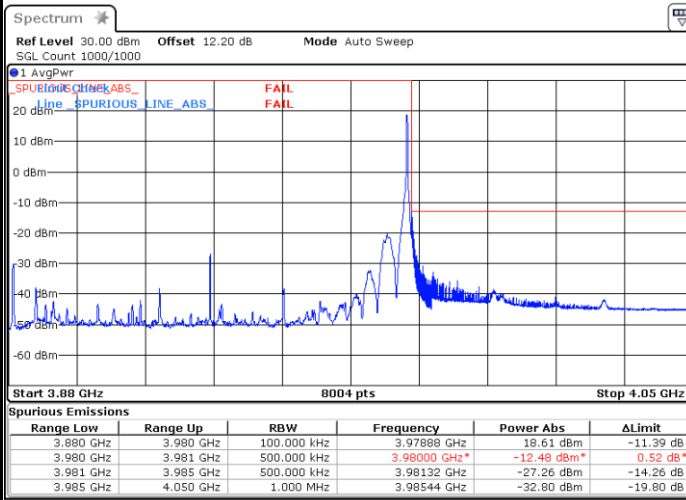




FR1 n77 / 100MHz / DFT-S OFDM QPSK

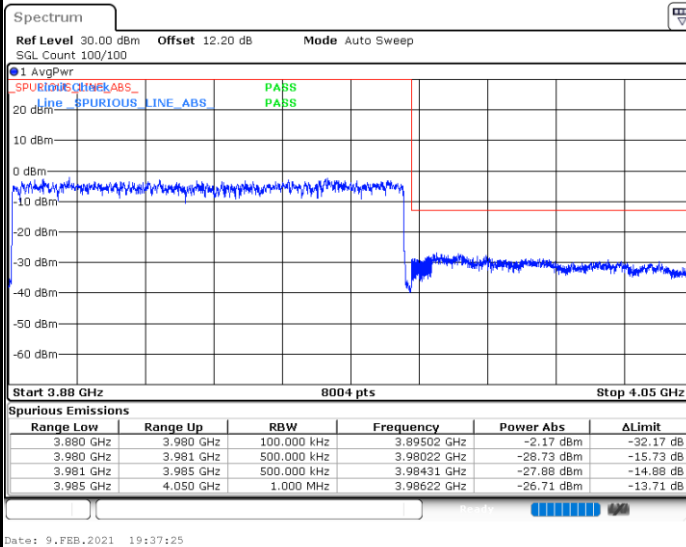
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass



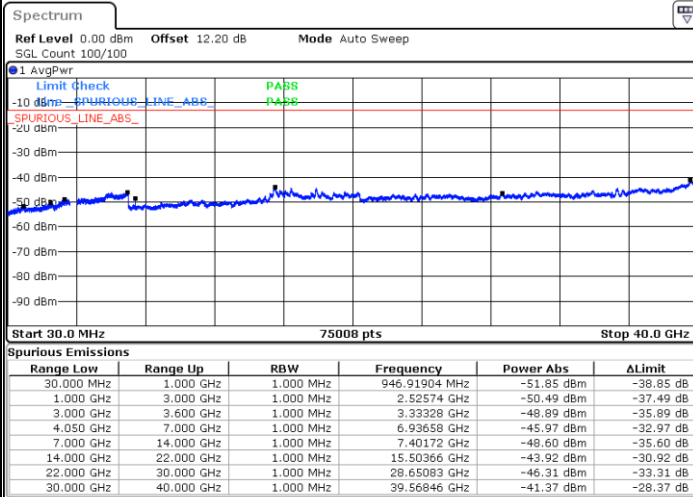


Conducted Spurious Emission

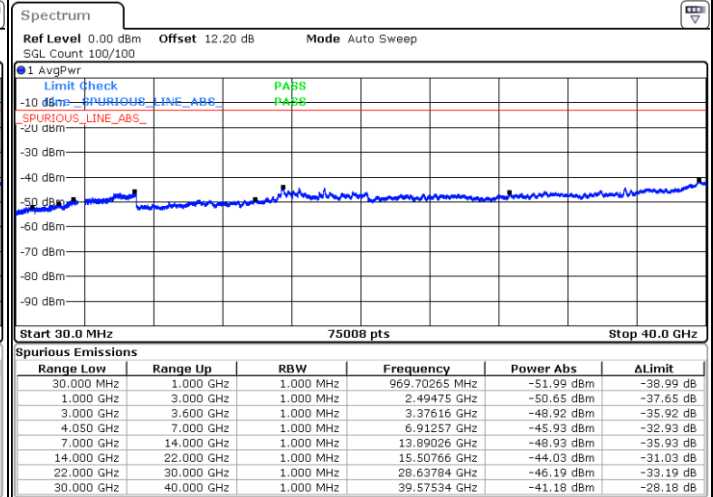
FR1 n77 / 10MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

Middle Channel / 1RB

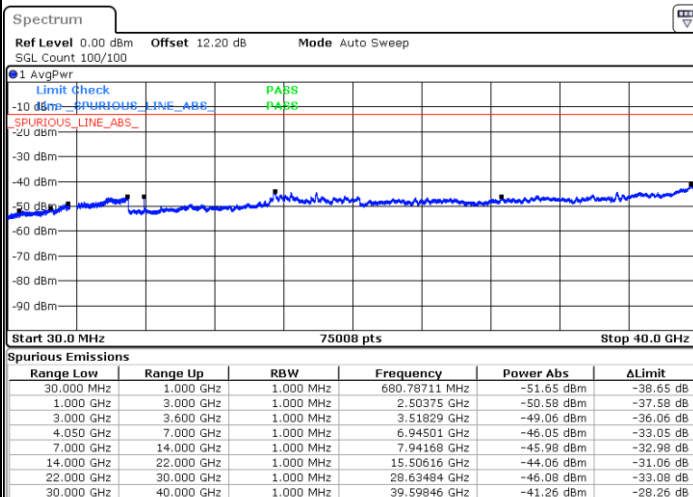


Date: 9.FEB.2021 23:04:35



Date: 9.FEB.2021 22:59:48

Highest Channel / 1RB

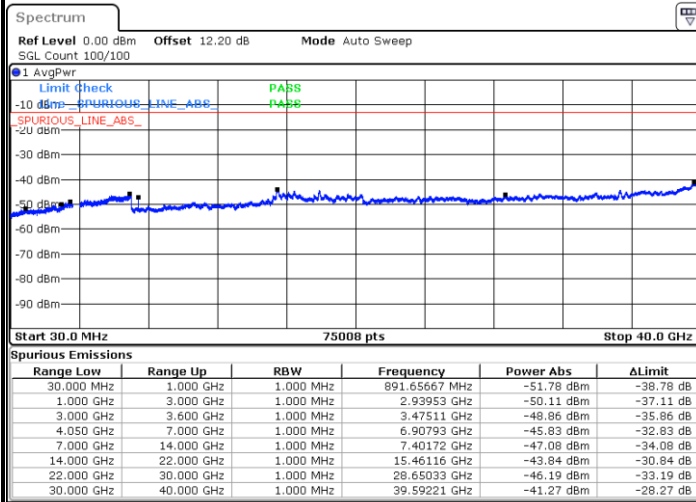


Date: 9.FEB.2021 23:06:01



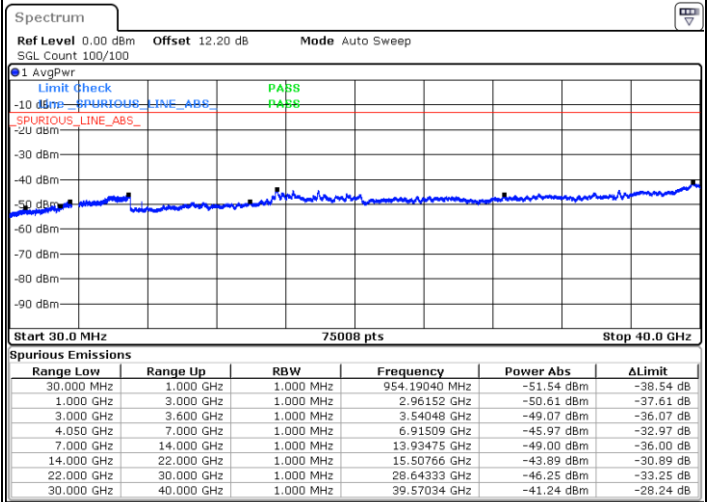
FR1 n77 / 10MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB



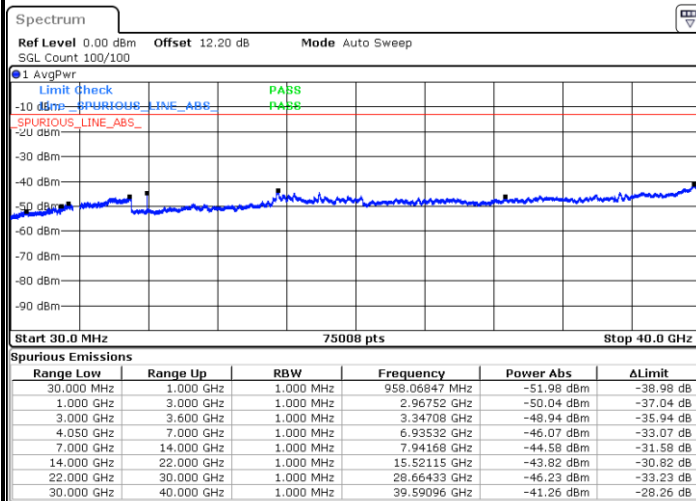
Date: 9.FEB.2021 23:02:51

Middle Channel / 1RB



Date: 9.FEB.2021 23:01:01

Highest Channel / 1RB

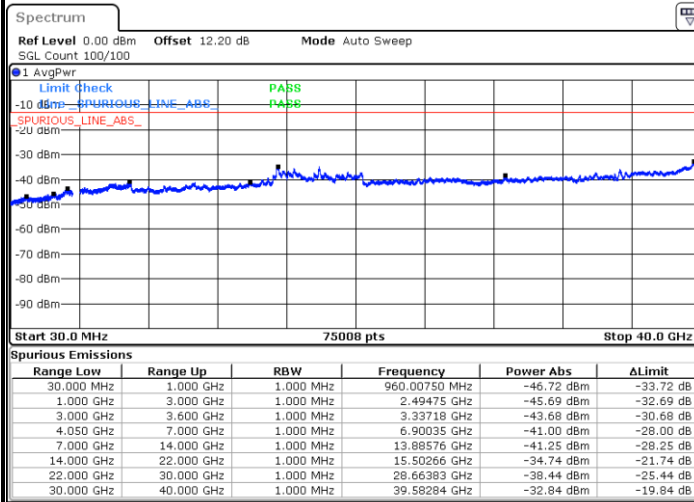


Date: 9.FEB.2021 23:07:22



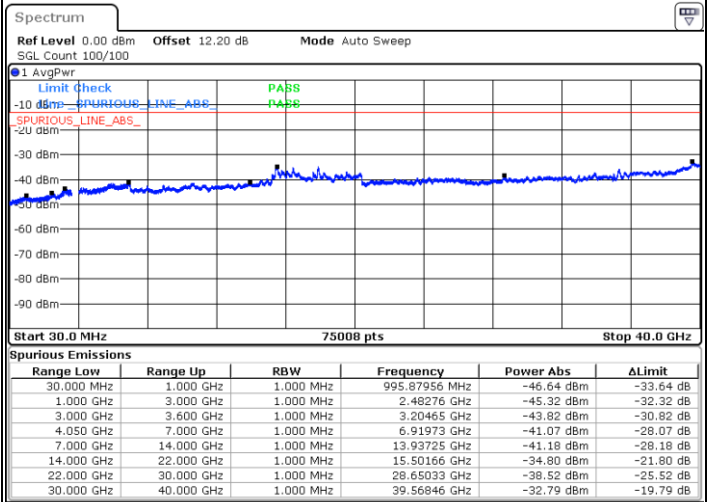
FR1 n77 / 50MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB



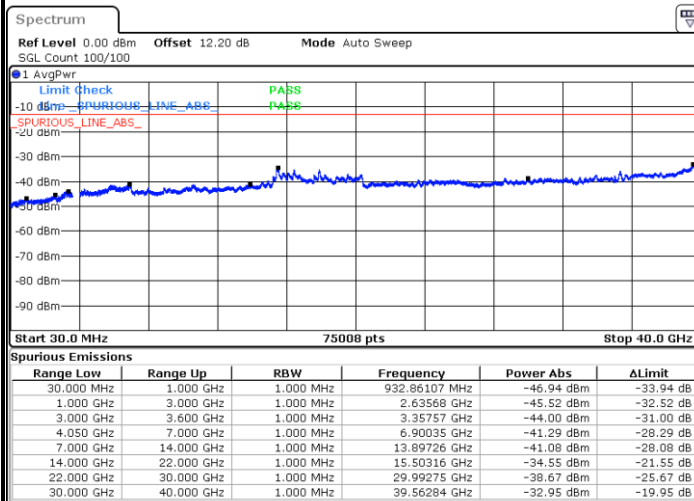
Date: 9.FEB.2021 20:57:13

Middle Channel / 1RB



Date: 9.FEB.2021 20:44:41

Highest Channel / 1RB

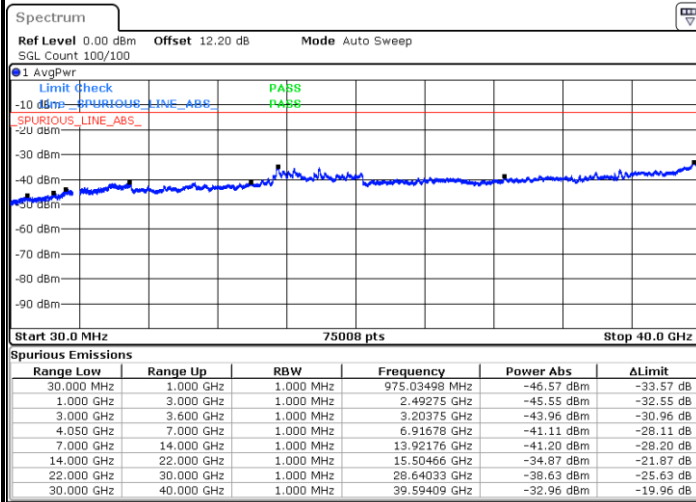


Date: 9.FEB.2021 20:58:46



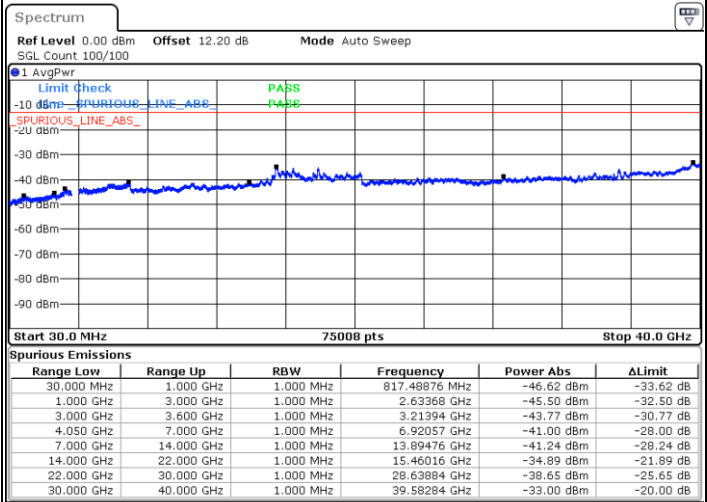
FR1 n77 / 50MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB



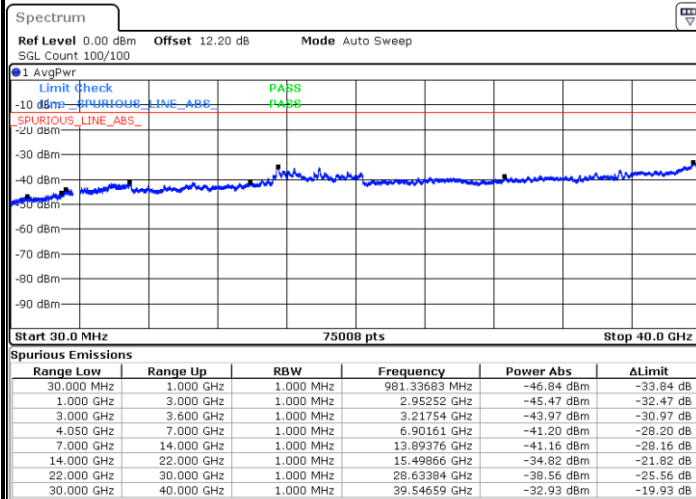
Date: 9.FEB.2021 20:55:33

Middle Channel / 1RB



Date: 9.FEB.2021 20:53:50

Highest Channel / 1RB

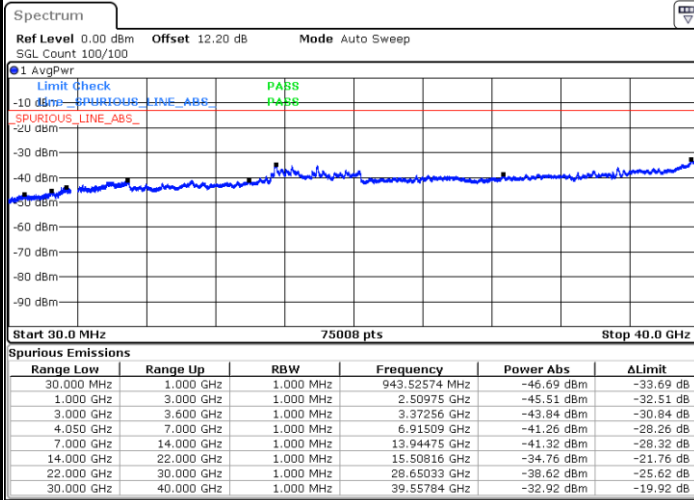


Date: 9.FEB.2021 21:51:47



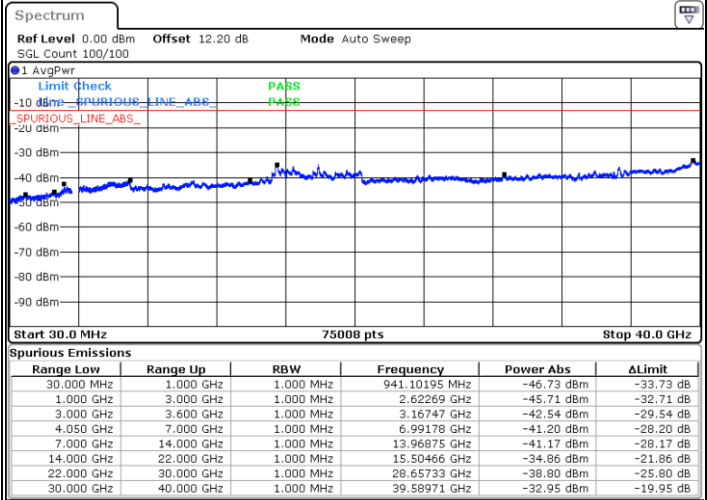
FR1 n77 / 100MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB



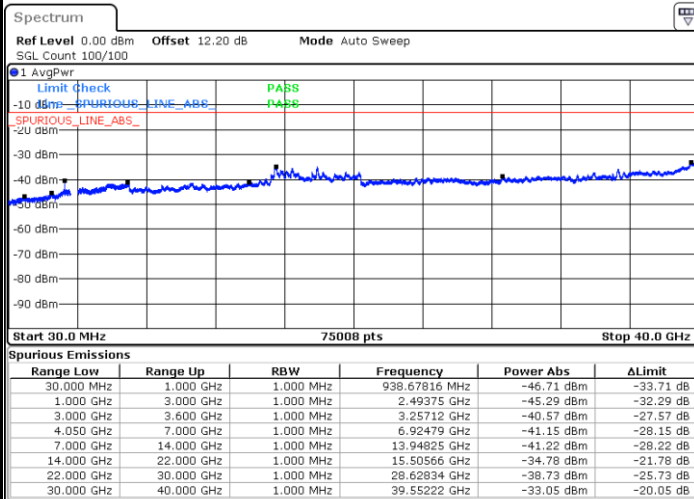
Date: 9.FEB.2021 20:16:48

Middle Channel / 1RB



Date: 9.FEB.2021 20:01:12

Highest Channel / 1RB

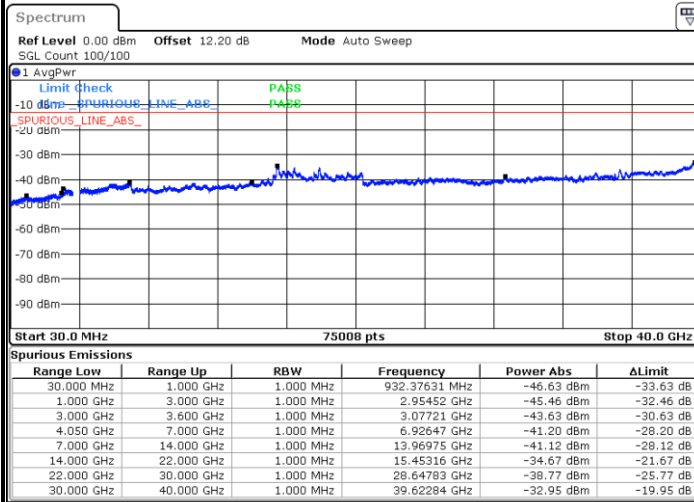


Date: 9.FEB.2021 19:58:56



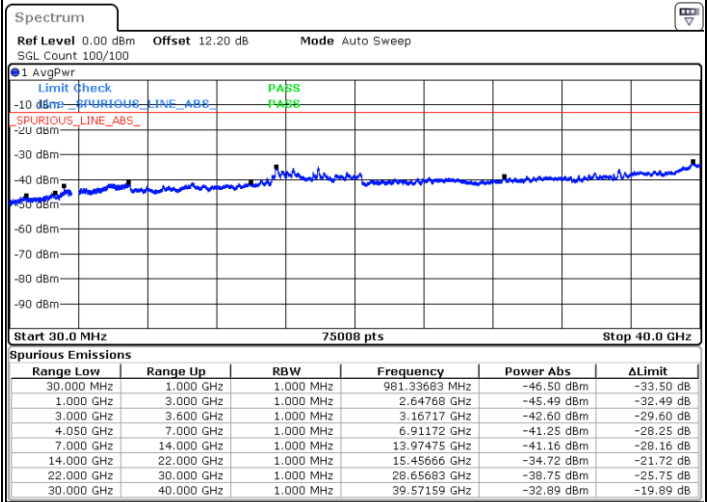
FR1 n77 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB



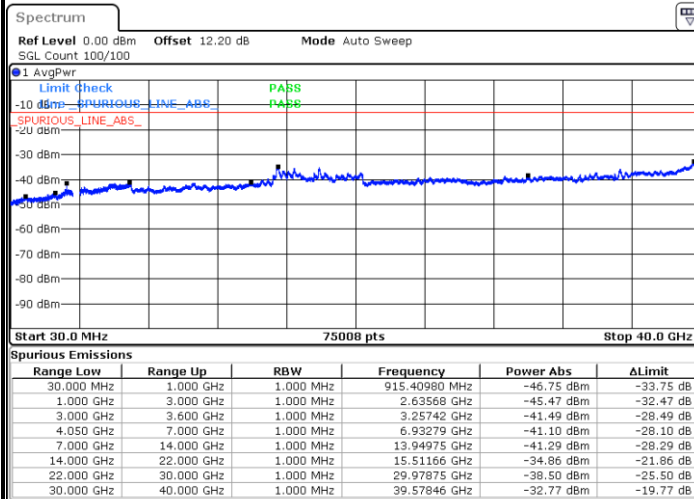
Date: 9.FEB.2021 20:07:36

Middle Channel / 1RB



Date: 9.FEB.2021 20:02:47

Highest Channel / 1RB



Date: 9.FEB.2021 19:47:39

Frequency Stability

Test Conditions		NR n77 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Within Band
		Deviation (ppm)	Result
50	Normal Voltage	0.0029	PASS
40	Normal Voltage	0.0017	
30	Normal Voltage	0.0012	
20(Ref.)	Normal Voltage	0.0031	
10	Normal Voltage	0.0013	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0022	
-20	Normal Voltage	0.0015	
-30	Normal Voltage	0.0029	
20	Maximum Voltage	0.0019	
20	Normal Voltage	0.0025	
20	Battery End Point	0.0015	

Note:

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

5G NR n77 UL_MIMO HPUE -SCS 15K

Peak-to-Average Ratio

Mode	FR1 UL-MIMO n77 / 20MHz / CP-OFDM (M2)				
Mod.	QPSK	QPSK			Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	7.83	8.46			PASS
Middle CH	7.8	8.35			
Highest CH	7.42	8.32			

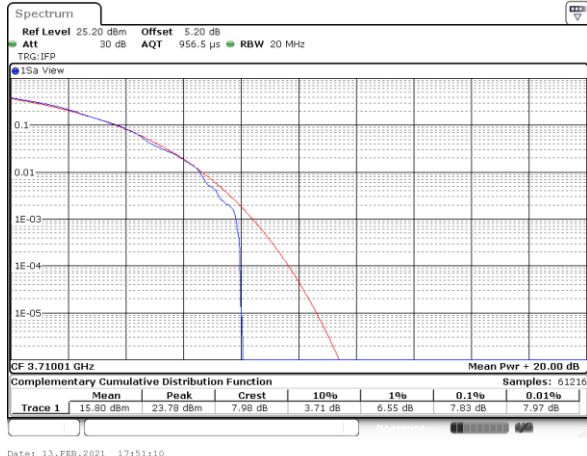
Mode	FR1 UL-MIMO n77 / 20MHz / CP-OFDM (M)				
Mod.	QPSK	QPSK			Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	7.01	8.41			PASS
Middle CH	7.33	8.38			
Highest CH	7.07	8.12			



FR1 UL-MIMO n77 / 20MHz / CP-OFDM

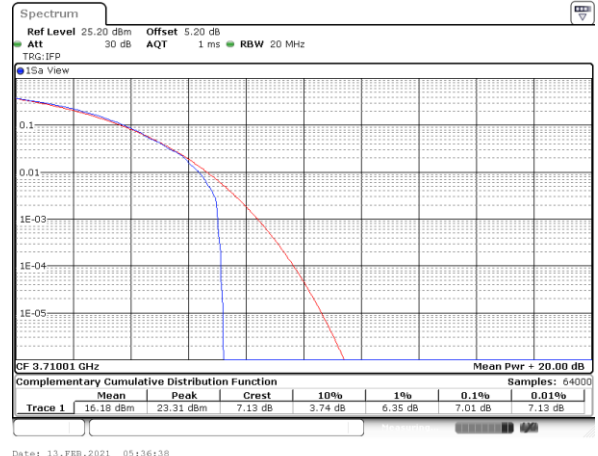
QPSK(M2)

Lowest Channel / 1RB

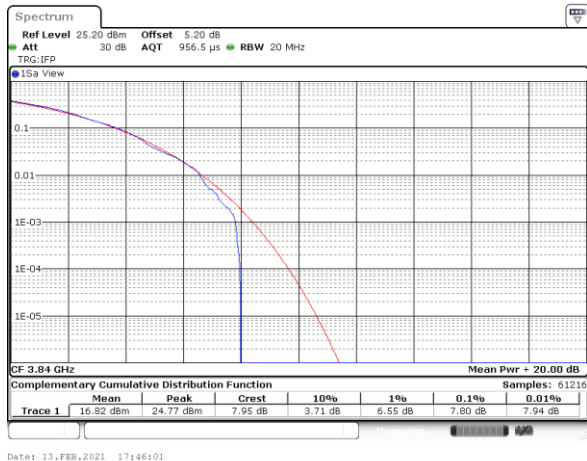


QPSK(M)

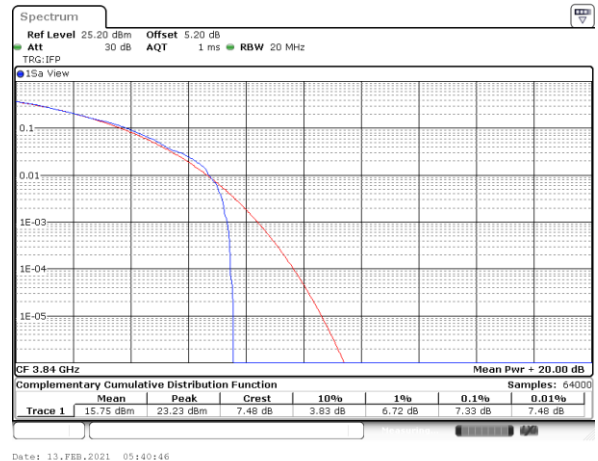
Lowest Channel / 1RB



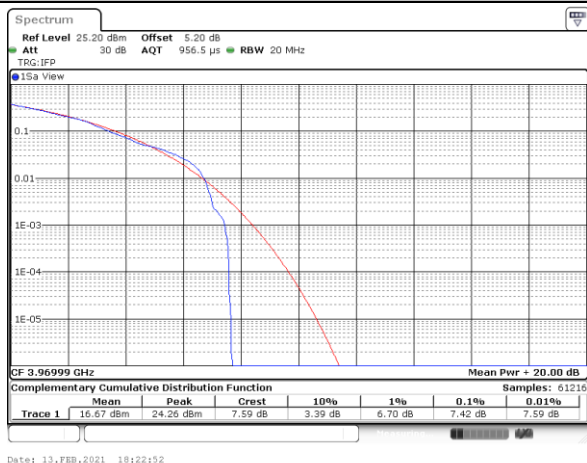
Middle Channel / 1 RB



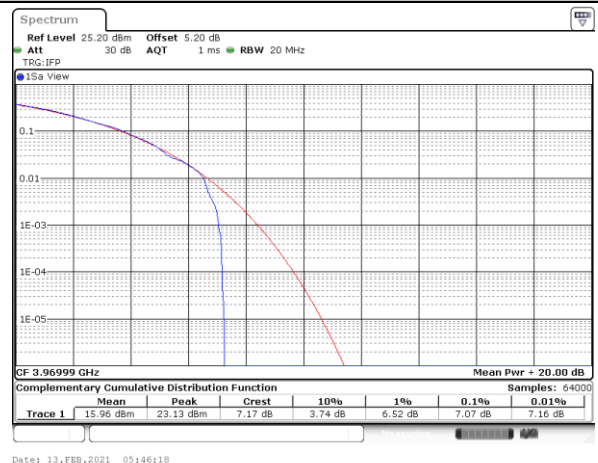
Middle Channel / 1 RB



Highest Channel / 1 RB



Highest Channel / 1 RB

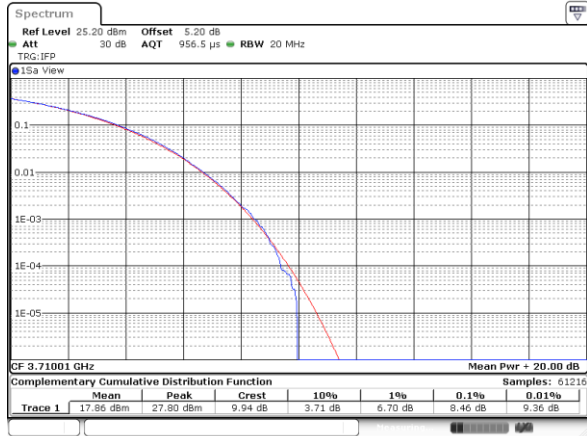




FR1 UL-MIMO n77 / 20MHz / CP-OFDM

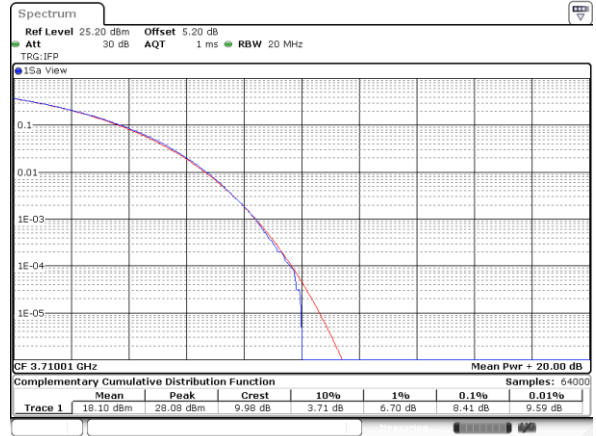
QPSK(M2)

Lowest Channel / Full RB

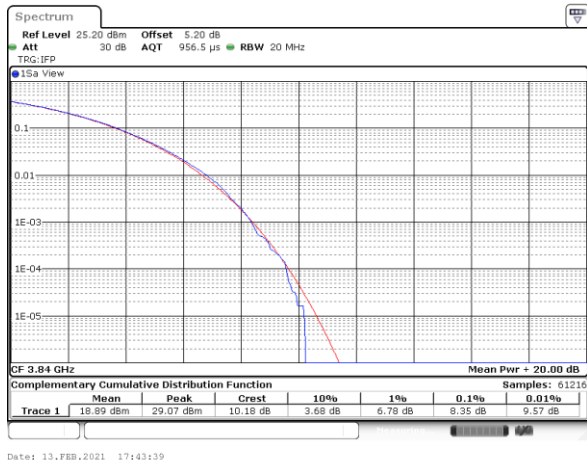


QPSK(M)

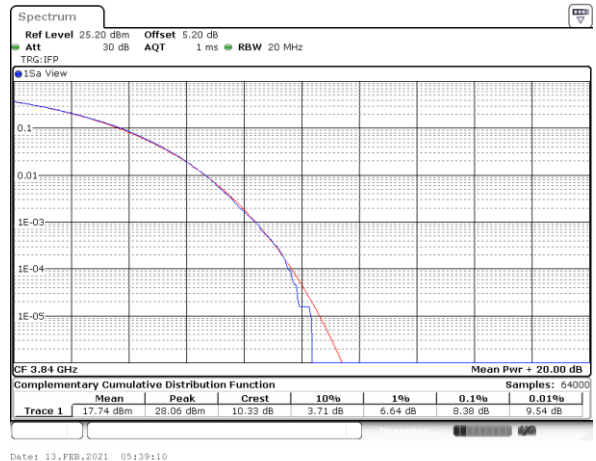
Lowest Channel / Full RB



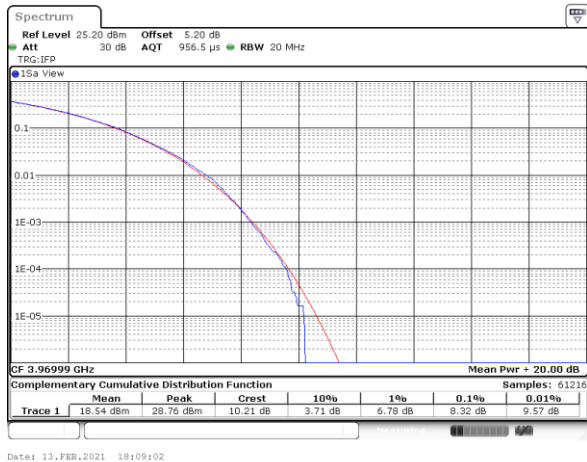
Middle Channel / Full RB



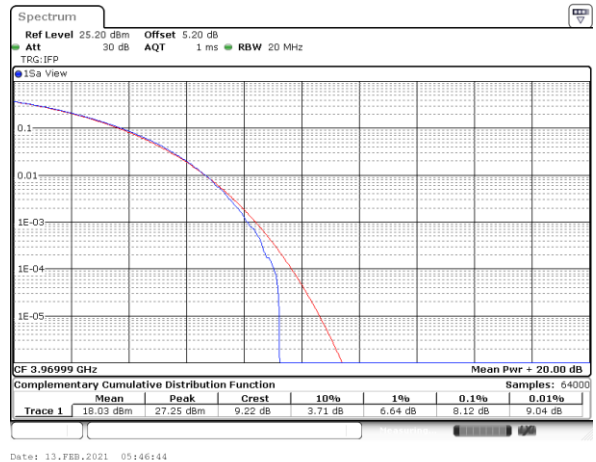
Middle Channel / Full RB



Highest Channel / Full RB



Highest Channel / Full RB



**26dB Bandwidth**

Mode	FR1 UL-MIMO n77 : 26dB BW(MHz) / CP-OFDM							
	M2				M			
BW	10MHz	10MHz	10MHz	10MHz	10MHz	10MHz	10MHz	10MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	9.61	9.65	9.71	9.75	9.73	9.75	9.61	9.73

Mode	FR1 UL-MIMO n77 : 26dB BW(MHz) / CP-OFDM							
	M2				M			
BW	15MHz	15MHz	15MHz	15MHz	15MHz	15MHz	15MHz	15MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	14.93	14.84	14.84	14.87	14.90	14.84	14.84	14.96

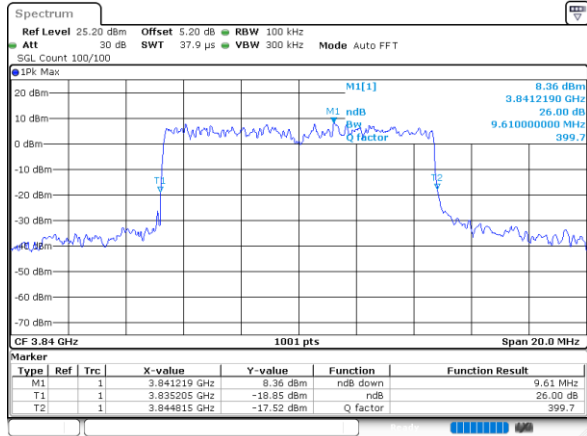
Mode	FR1 UL-MIMO n77 : 26dB BW(MHz) / CP-OFDM							
	M2				M			
BW	20MHz	20MHz	20MHz	20MHz	20MHz	20MHz	20MHz	20MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	19.7	19.66	19.82	19.82	19.78	19.82	19.78	19.66



FR1 UL-MIMO n77 / 10MHz / CP-OFDM (M2)

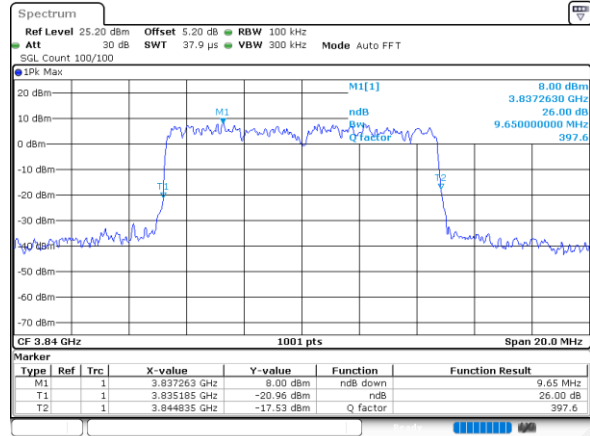
QPSK

Middle Channel



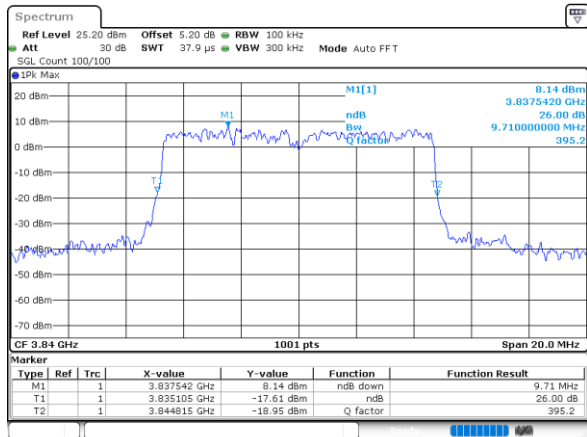
16QAM

Middle Channel



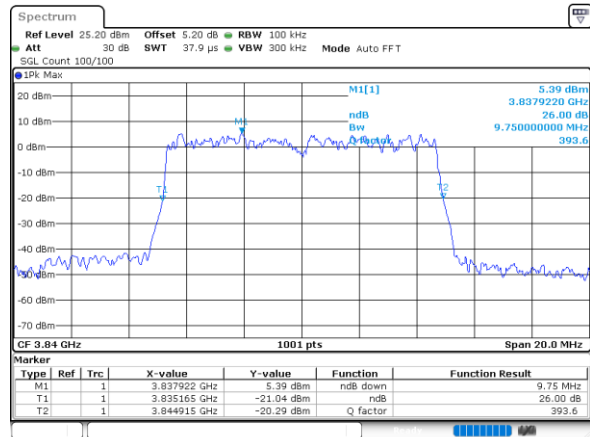
64QAM

Middle Channel



256QAM

Middle Channel

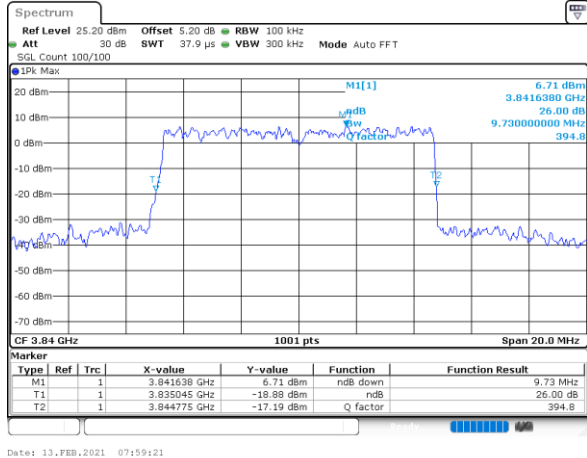




FR1 UL-MIMO n77 / 10MHz / CP-OFDM (M)

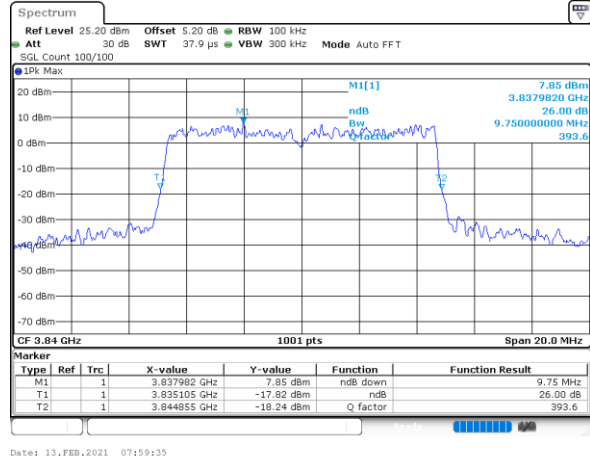
QPSK

Middle Channel



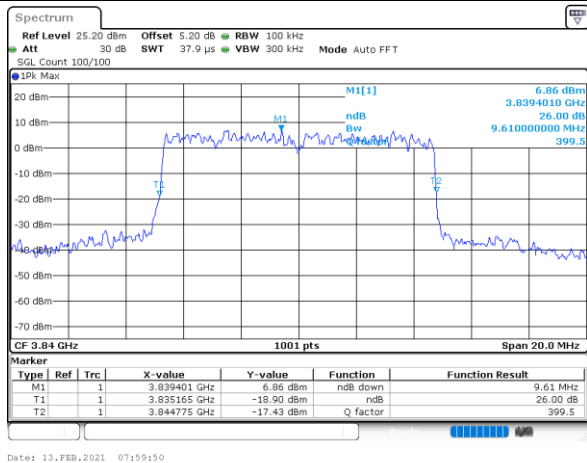
16QAM

Middle Channel



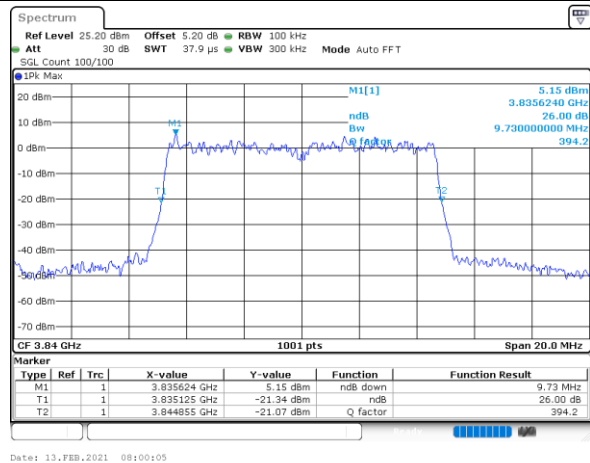
64QAM

Middle Channel



256QAM

Middle Channel

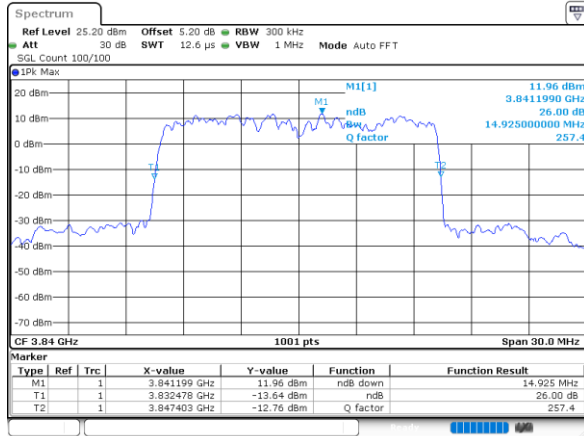




FR1 UL-MIMO n77 / 15MHz / CP-OFDM (M2)

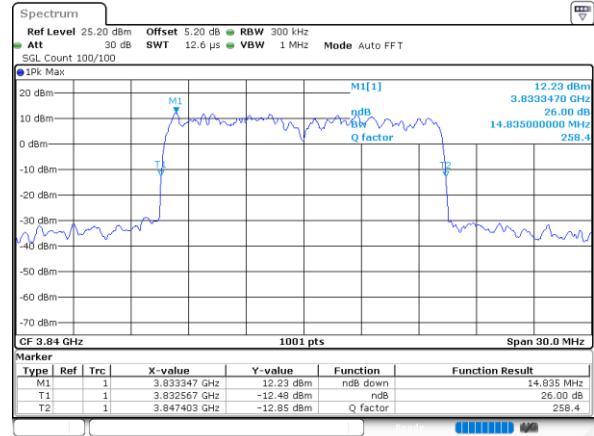
QPSK

Middle Channel



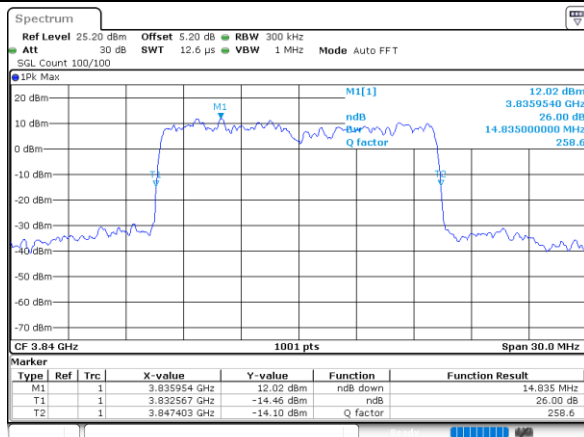
16QAM

Middle Channel



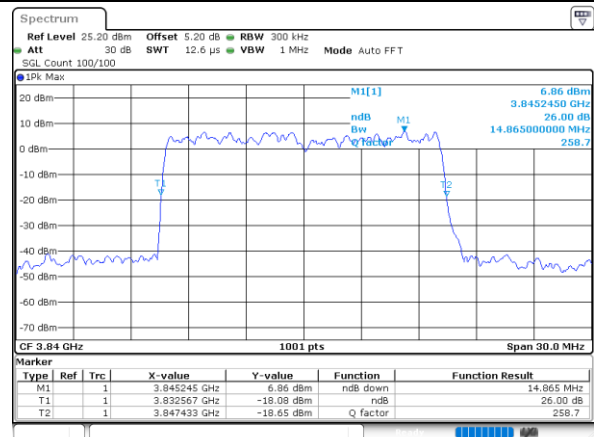
64QAM

Middle Channel



256QAM

Middle Channel

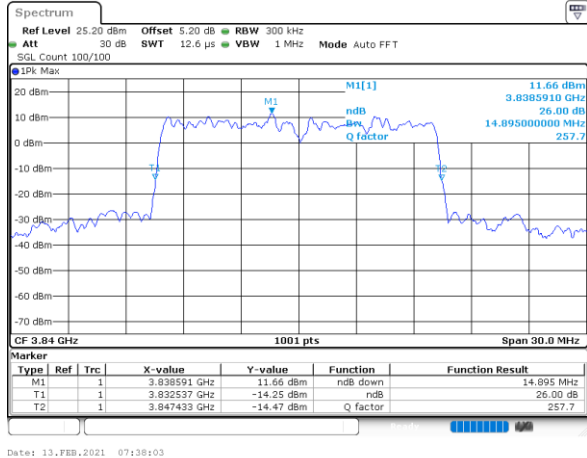




FR1 UL-MIMO n77 / 15MHz / CP-OFDM (M)

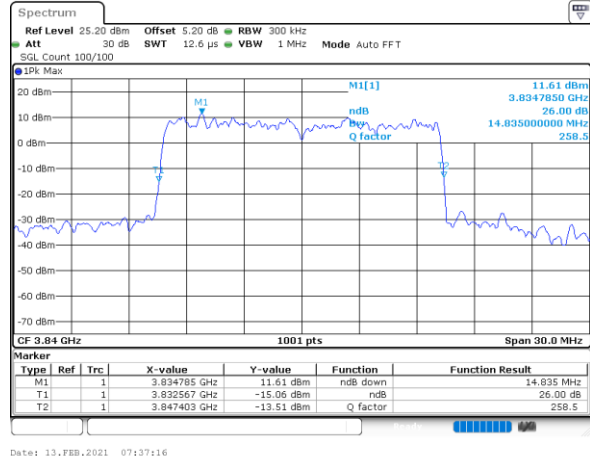
QPSK

Middle Channel



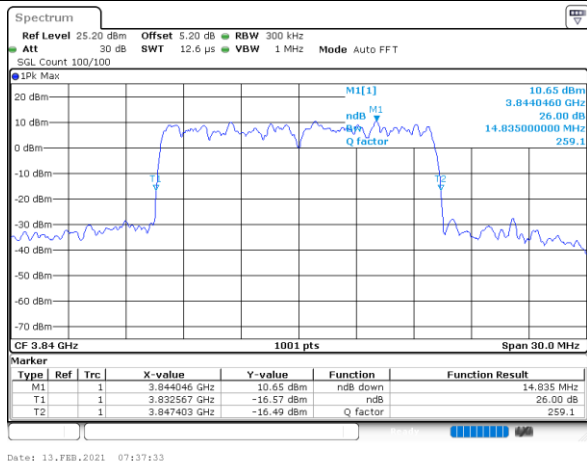
16QAM

Middle Channel



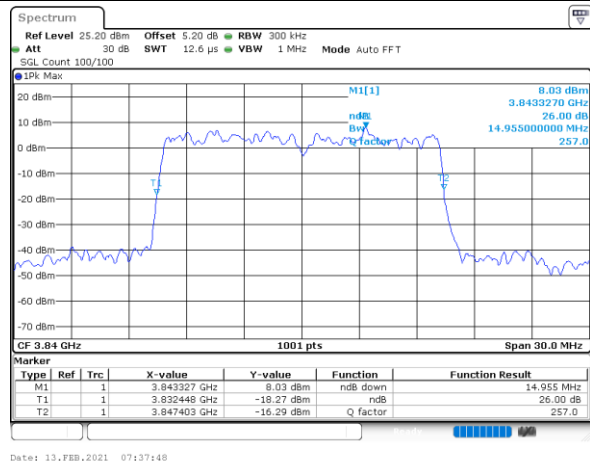
64QAM

Middle Channel



256QAM

Middle Channel

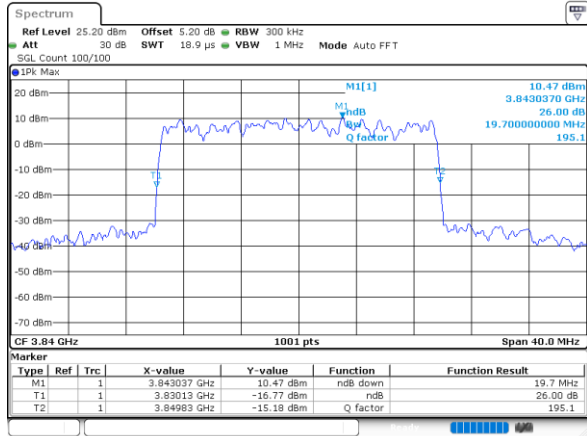




FR1 UL-MIMO n77 / 20MHz / CP-OFDM (M2)

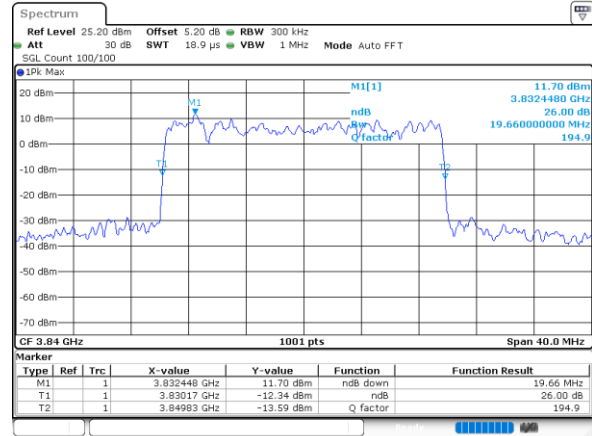
QPSK

Middle Channel



16QAM

Middle Channel



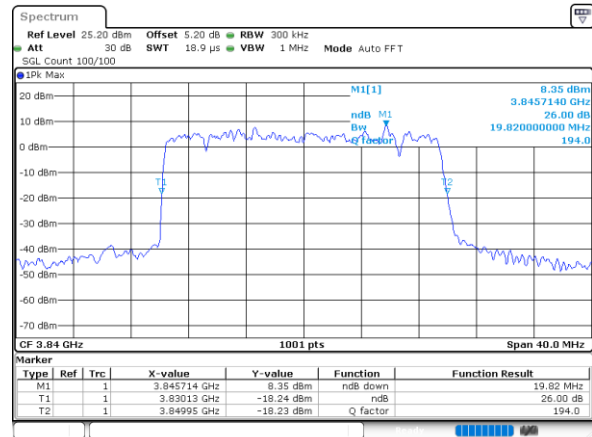
64QAM

Middle Channel



256QAM

Middle Channel

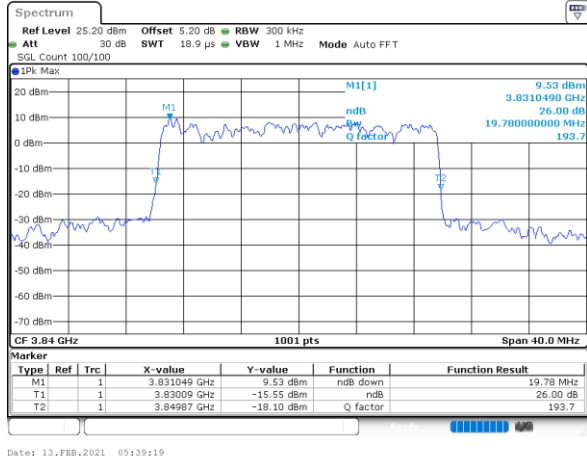




FR1 UL-MIMO n77 / 20MHz / CP-OFDM (M)

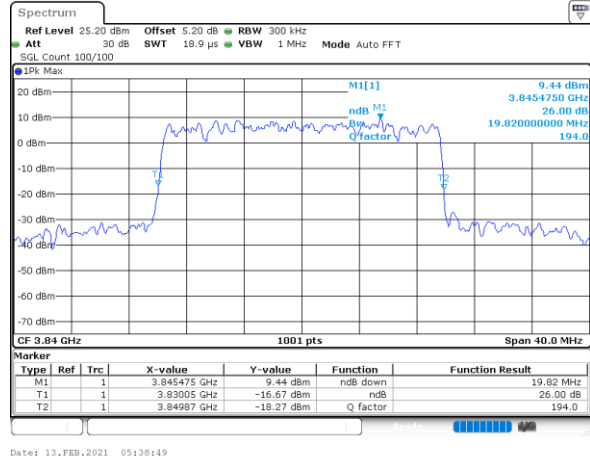
QPSK

Middle Channel



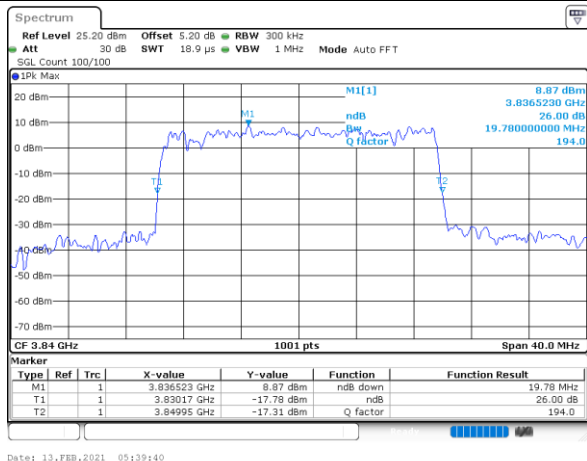
16QAM

Middle Channel



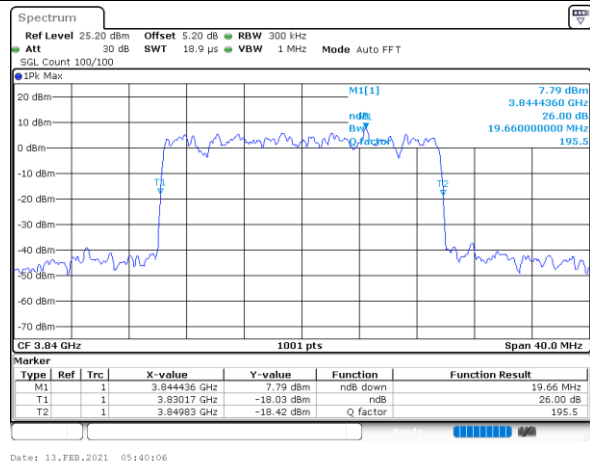
64QAM

Middle Channel



256QAM

Middle Channel



**Occupied Bandwidth**

Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	10MHz	10MHz	10MHz	10MHz	10MHz	10MHz	10MHz	10MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	9.21	9.29	9.25	9.29	9.25	9.29	9.29	9.31

Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	15MHz	15MHz	15MHz	15MHz	15MHz	15MHz	15MHz	15MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	14.18	14.12	14.15	14.18	14.03	14.12	14.15	14.09

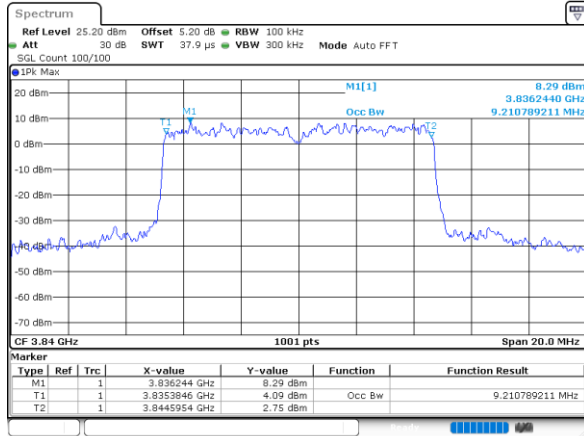
Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	20MHz	20MHz	20MHz	20MHz	20MHz	20MHz	20MHz	20MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	18.98	18.94	18.86	18.90	18.86	18.98	18.98	18.86



FR1 UL-MIMO n77 / 10MHz / CP-OFDM (M2)

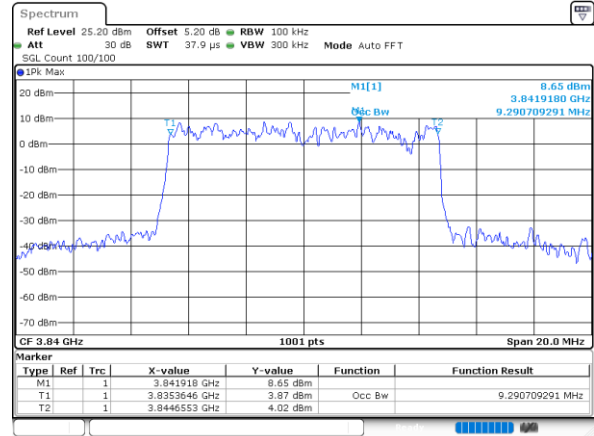
QPSK

Middle Channel



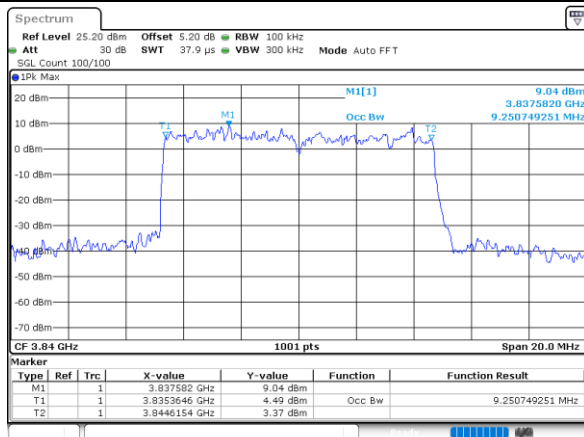
16QAM

Middle Channel



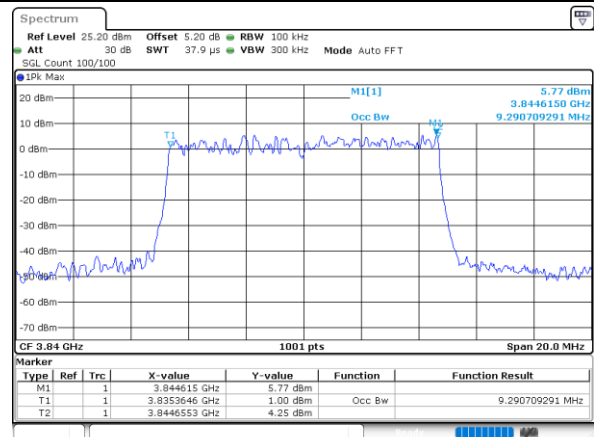
64QAM

Middle Channel



256QAM

Middle Channel

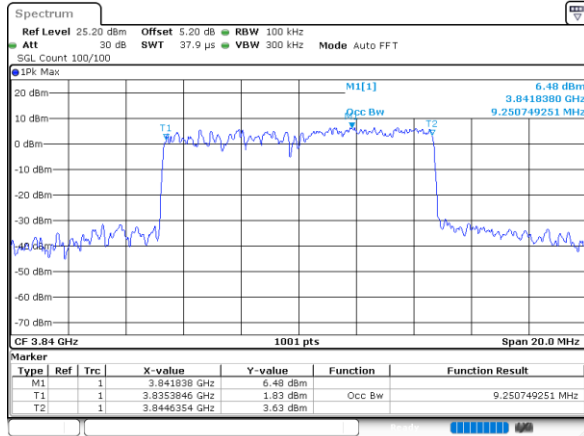




FR1 UL-MIMO n77 / 10MHz / CP-OFDM (M)

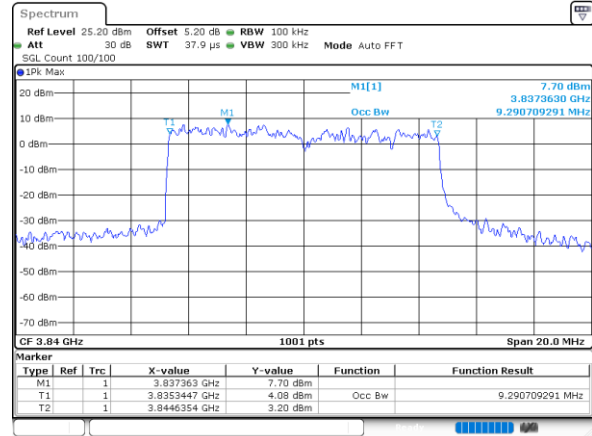
QPSK

Middle Channel



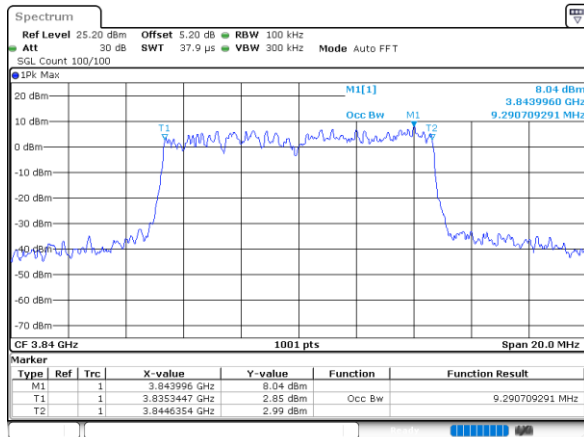
16QAM

Middle Channel



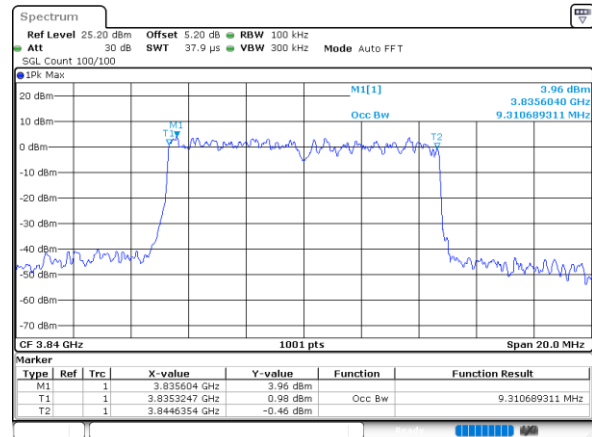
64QAM

Middle Channel



256QAM

Middle Channel





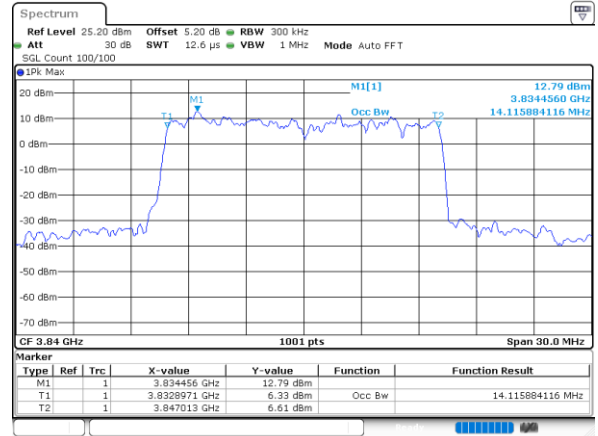
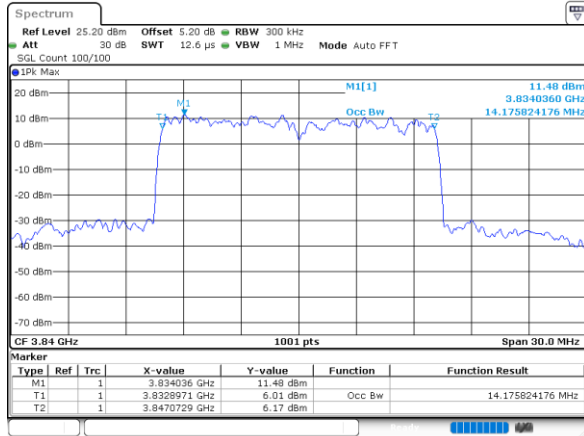
FR1 UL-MIMO n77 / 15MHz / CP-OFDM (M2)

QPSK

16QAM

Middle Channel

Middle Channel

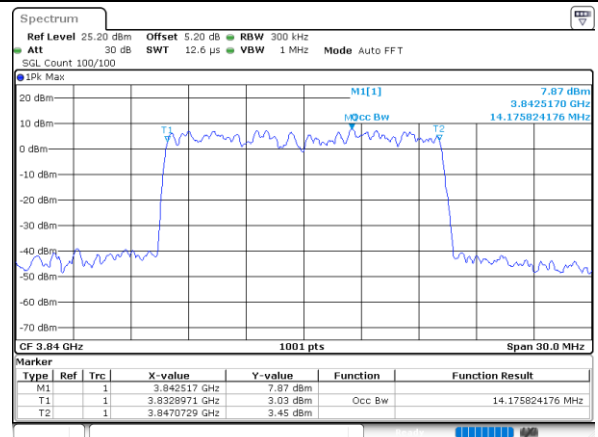
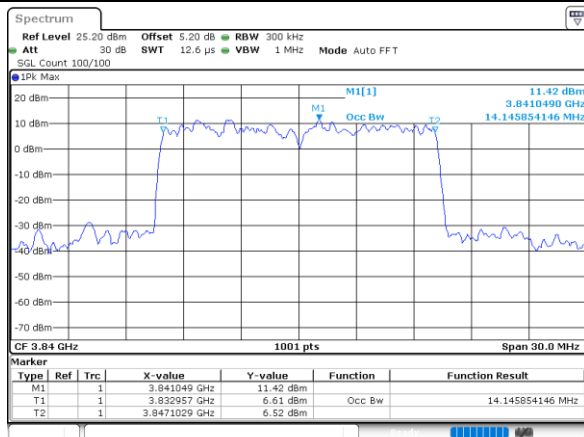


64QAM

256QAM

Middle Channel

Middle Channel

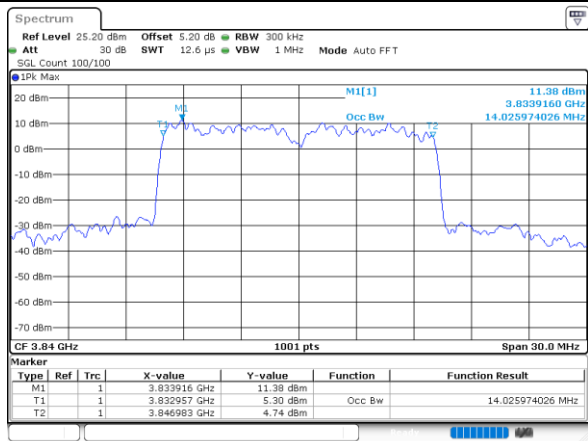




FR1 UL-MIMO n77 / 15MHz / CP-OFDM (M)

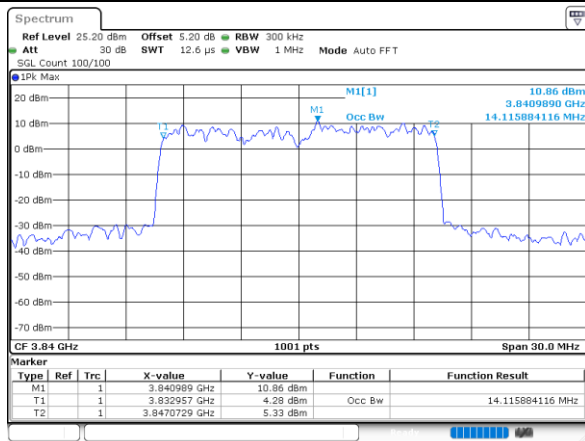
QPSK

Middle Channel



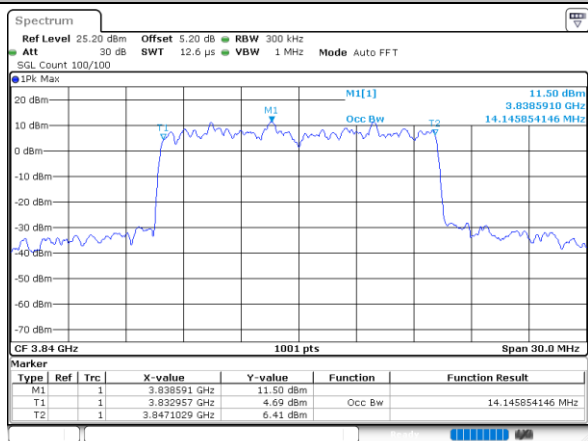
16QAM

Middle Channel



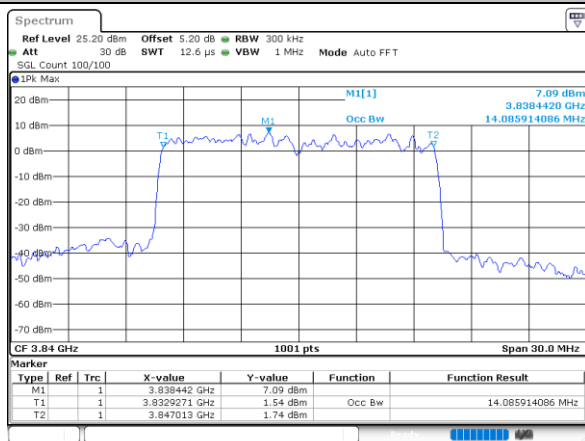
64QAM

Middle Channel



256QAM

Middle Channel

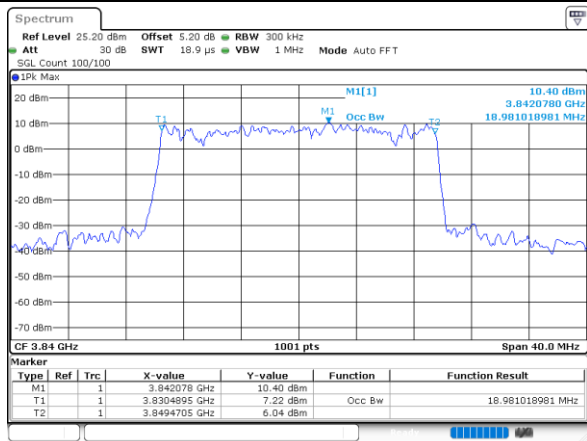




FR1 UL-MIMO n77 / 20MHz / CP-OFDM (M2)

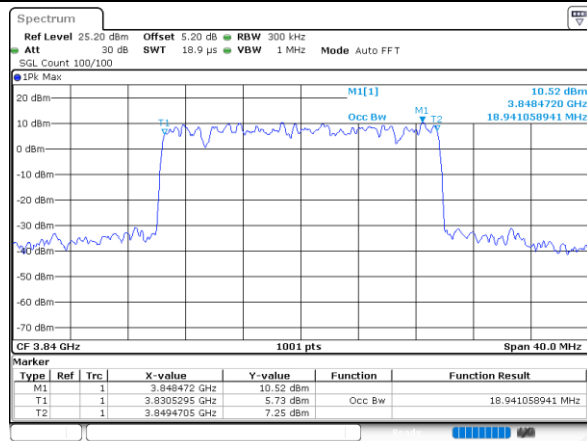
QPSK

Middle Channel



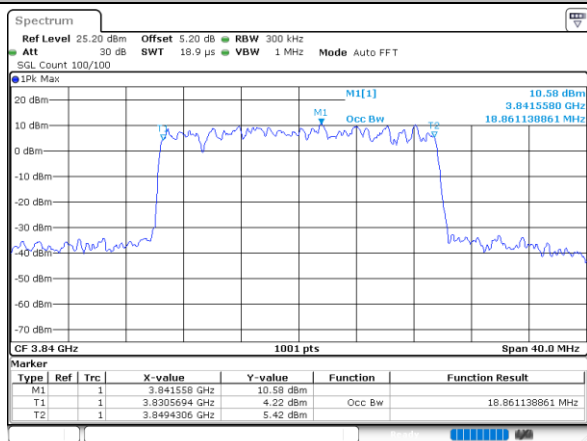
16QAM

Middle Channel



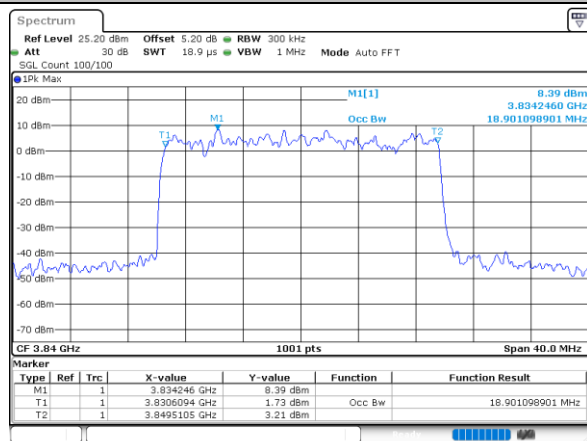
64QAM

Middle Channel



256QAM

Middle Channel

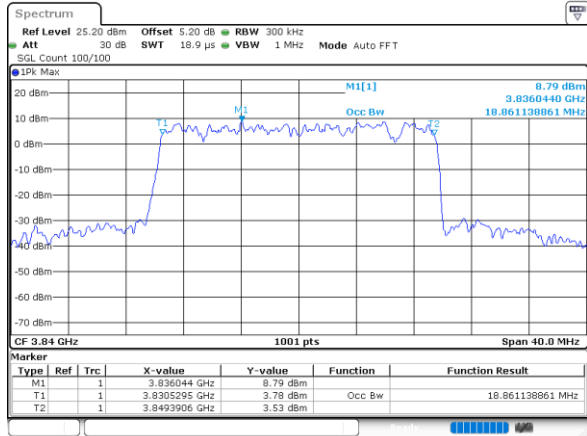




FR1 UL-MIMO n77 / 20MHz / CP-OFDM (M)

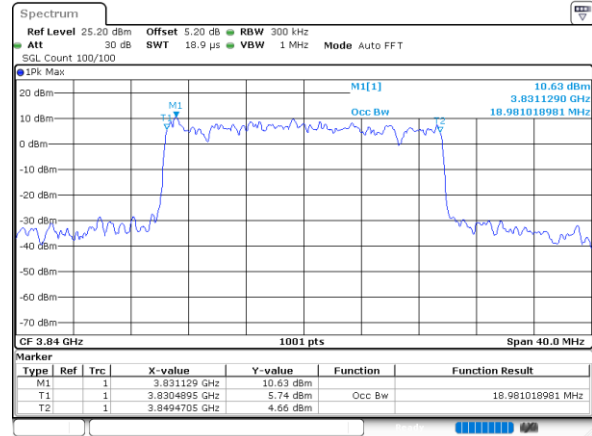
QPSK

Middle Channel



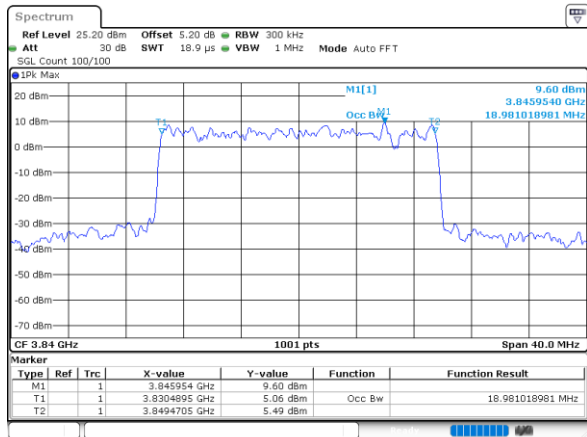
16QAM

Middle Channel



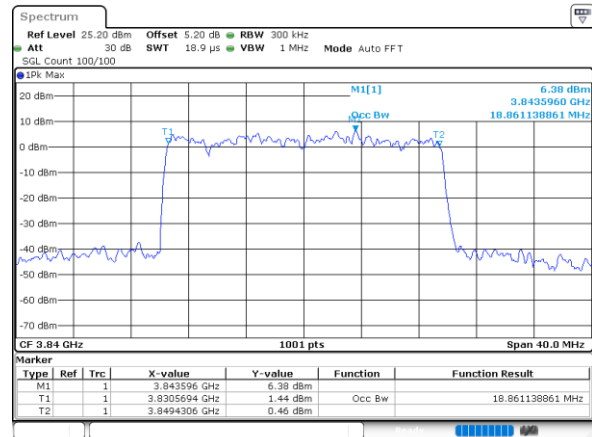
64QAM

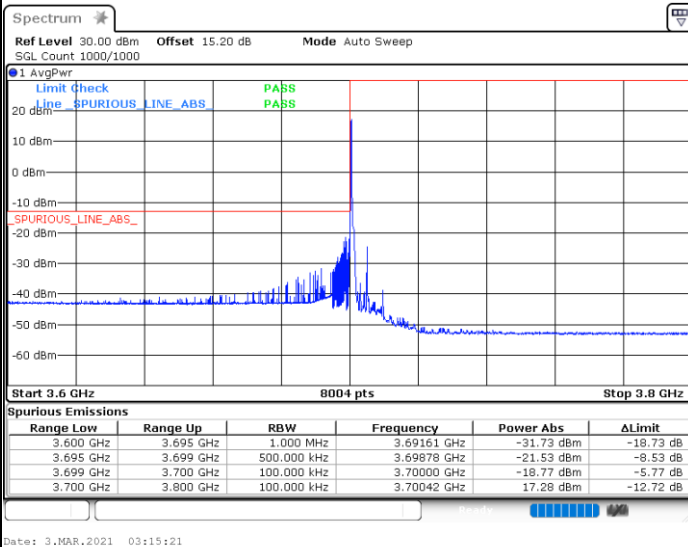
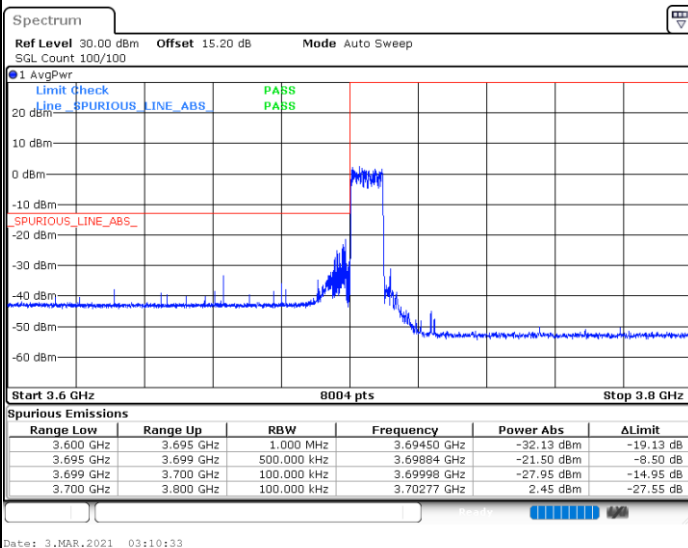
Middle Channel

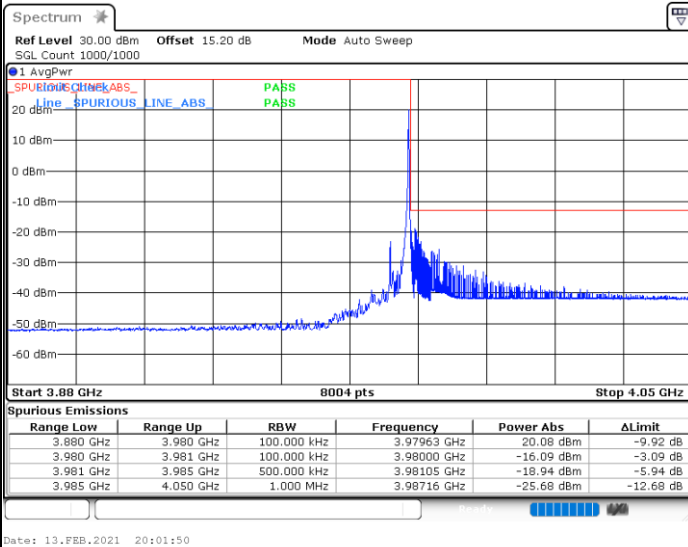
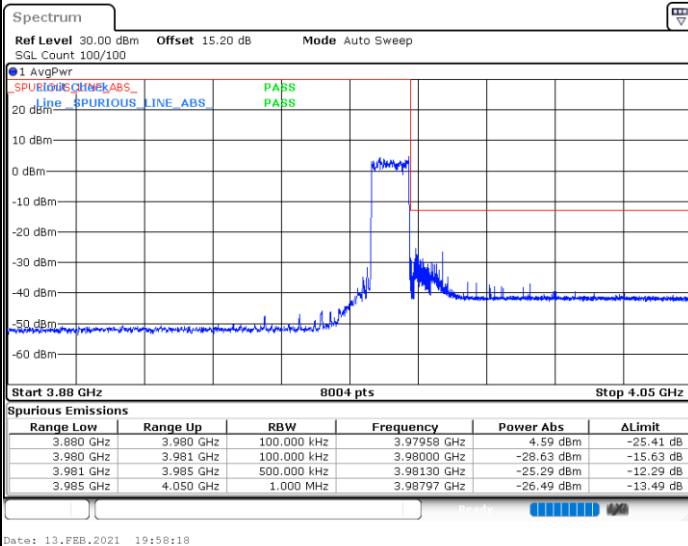


256QAM

Middle Channel



**Conducted Band Edge****FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (M2)****Lowest Band Edge / 1 RB****Channel Power < -13dBm Pass****Lowest Band Edge / Full RB****Channel Power < -13dBm Pass**

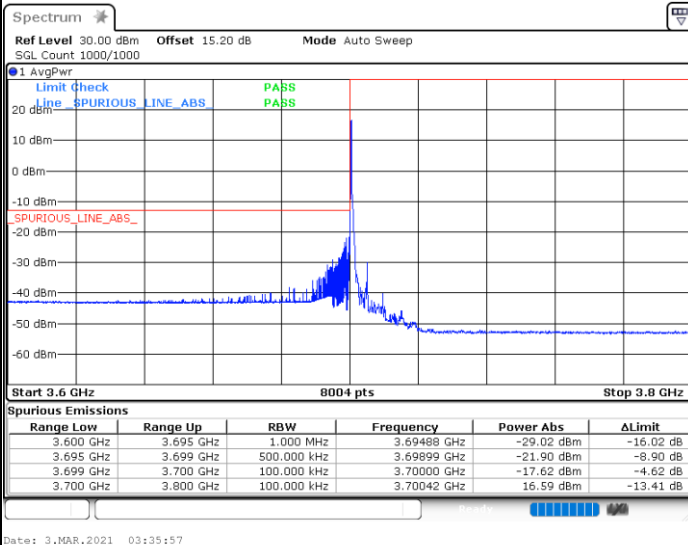
**FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (M2)****Highest Band Edge / 1 RB****Channel Power < -13dBm Pass****Highest Band Edge / Full RB****Channel Power < -13dBm Pass**



FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (M)

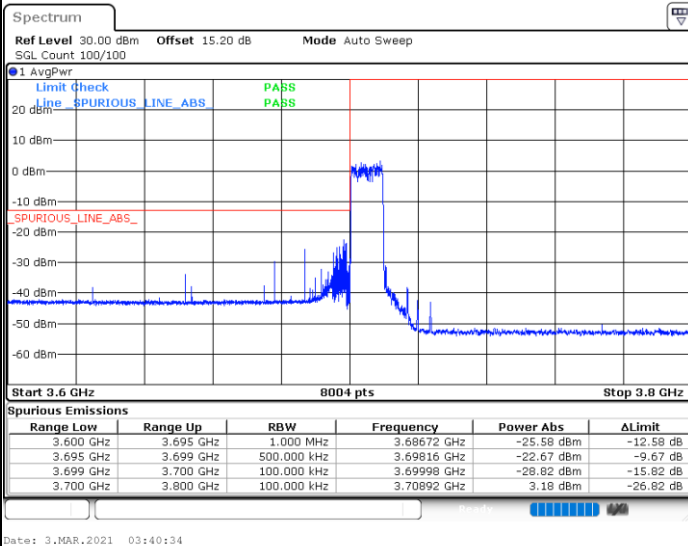
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

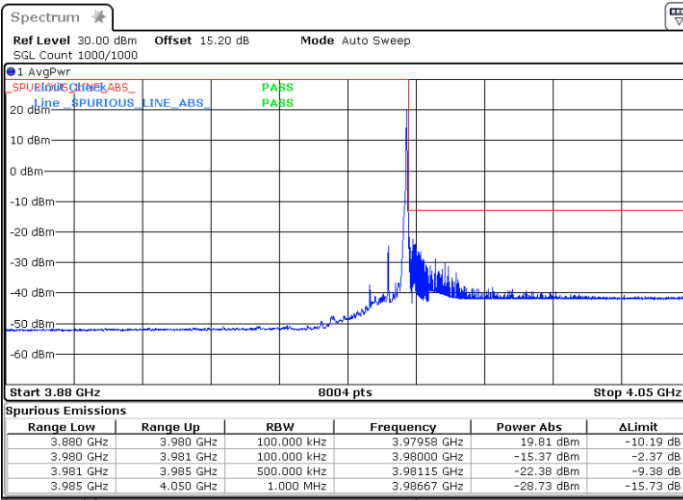
Channel Power < -13dBm Pass



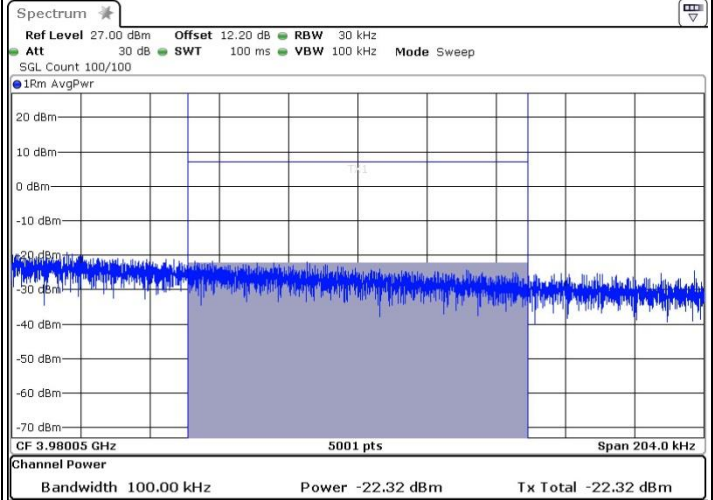


FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (M)

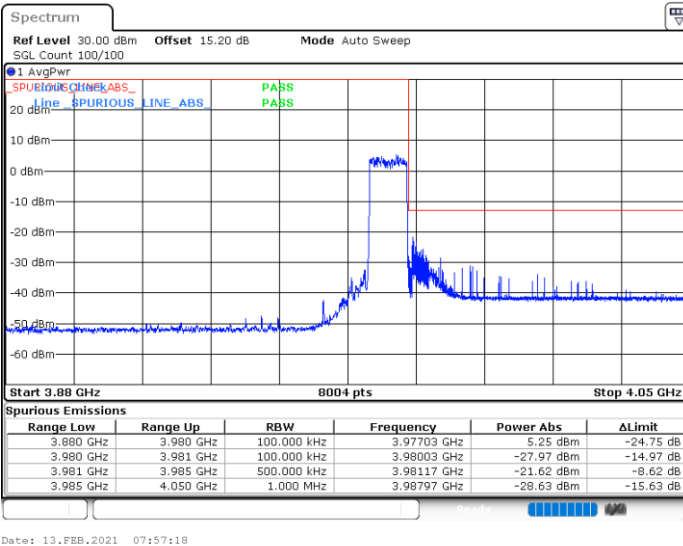
Highest Band Edge / 1 RB



Channel Power < -13dBm Pass



Highest Band Edge / Full RB



Channel Power < -13dBm Pass

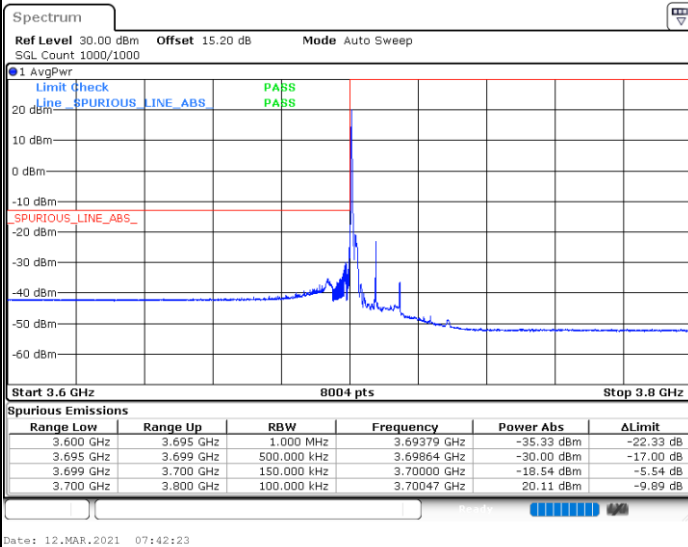
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FR1 UL-MIMO n77 / 15MHz / CP-OFDM QPSK (M2)

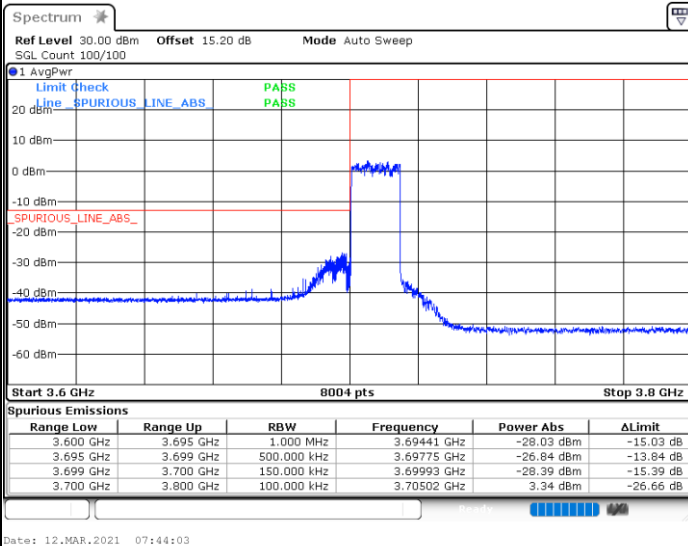
Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass

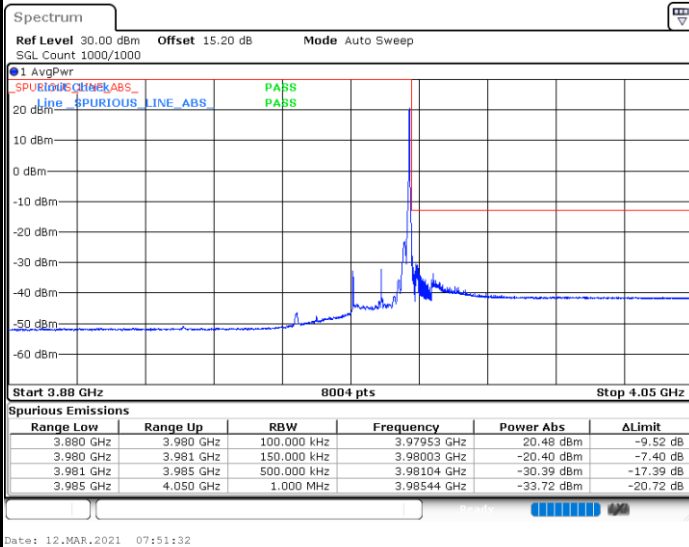




FR1 UL-MIMO n77 / 15MHz / CP-OFDM QPSK (M2)

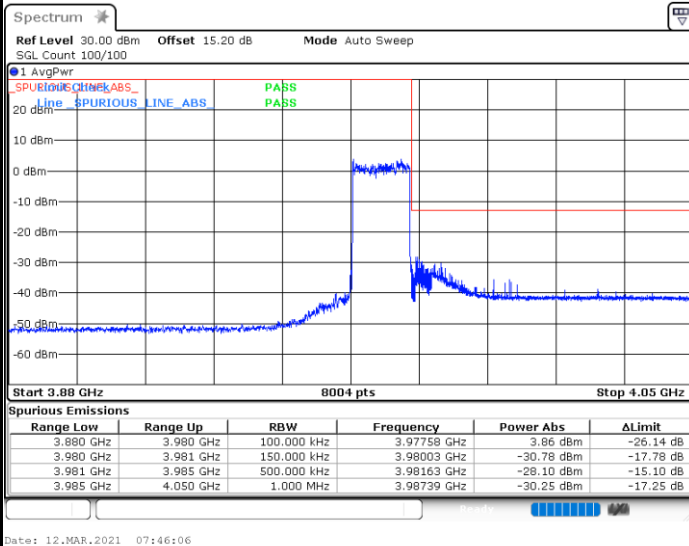
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass

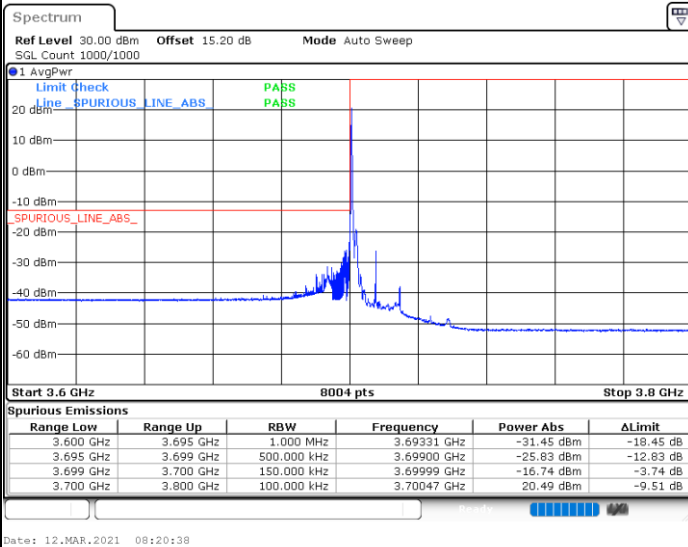




FR1 UL-MIMO n77 / 15MHz / CP-OFDM QPSK (M)

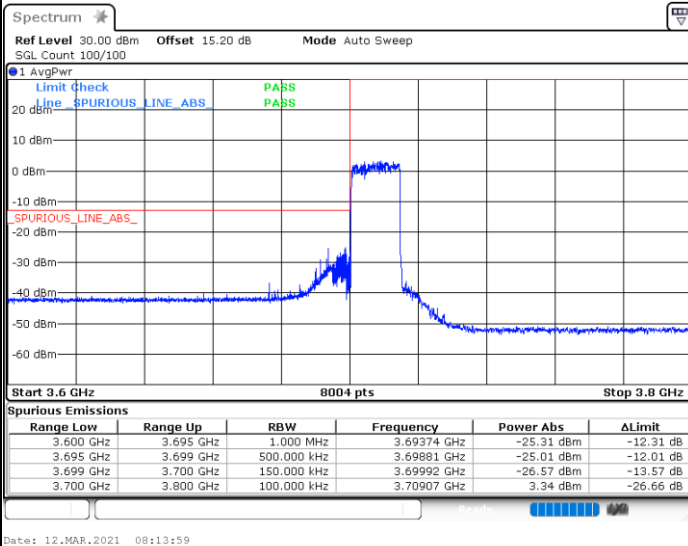
Lowest Band Edge / 1 RB

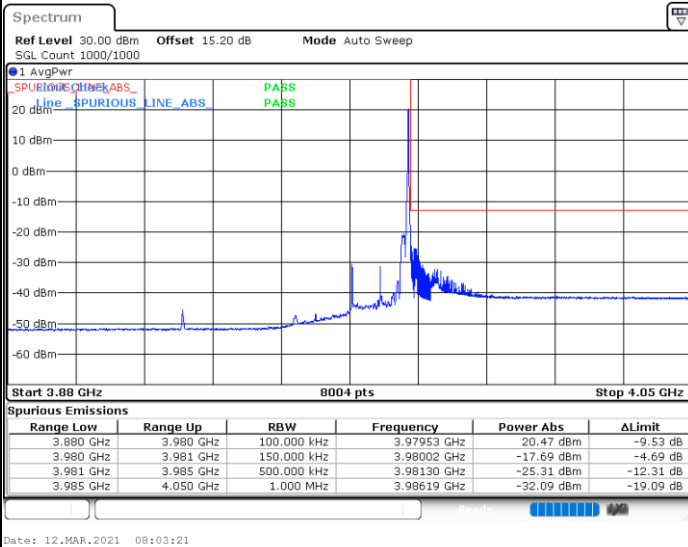
Channel Power < -13dBm Pass



Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



**FR1 UL-MIMO n77 / 15MHz / CP-OFDM QPSK (M)****Highest Band Edge / 1 RB****Channel Power < -13dBm Pass****Highest Band Edge / Full RB****Channel Power < -13dBm Pass**