

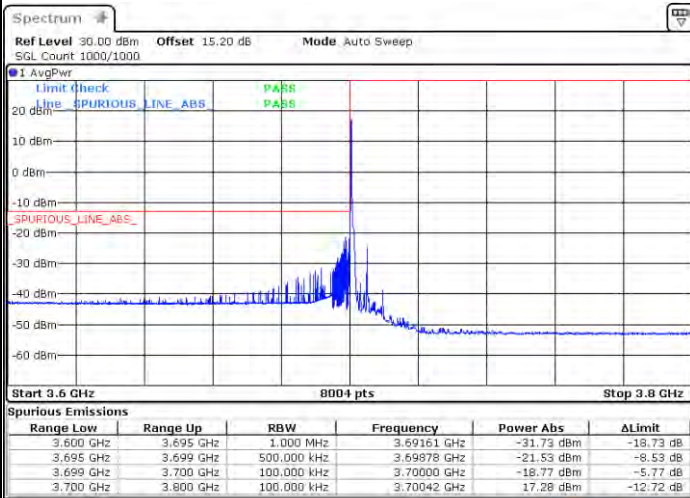


# Conducted Band Edge

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

### Lowest Band Edge / 1 RB

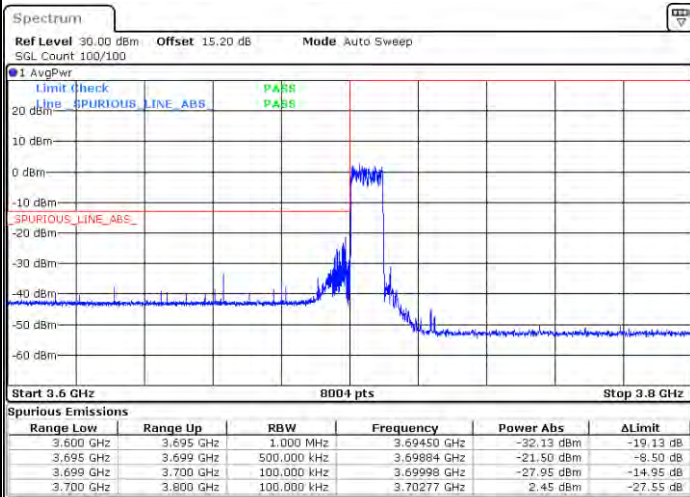
### Channel Power < -13dBm Pass



/

### Lowest Band Edge / Full RB

### Channel Power < -13dBm Pass



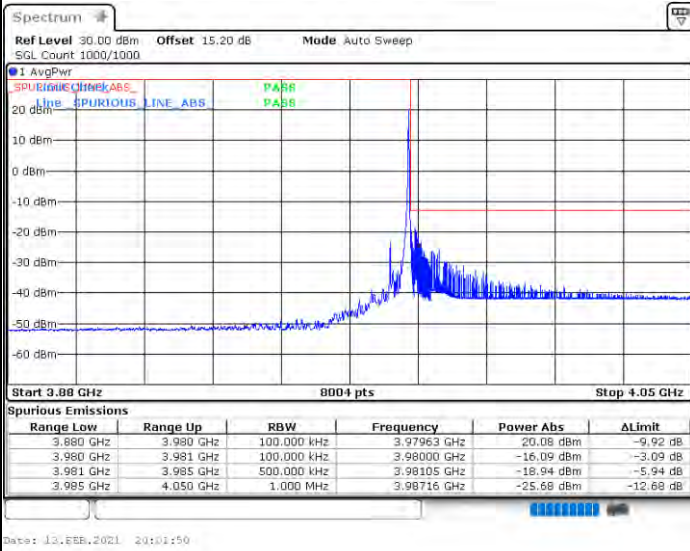
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FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (M2)

Highest Band Edge / 1 RB

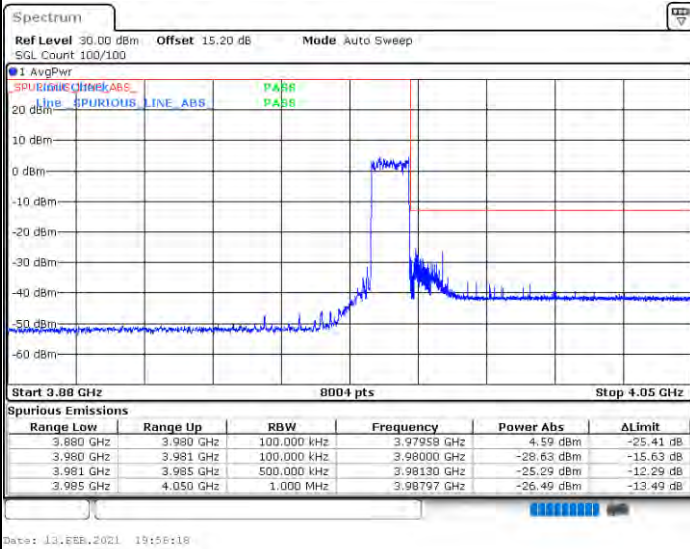
Channel Power < -13dBm Pass



/

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



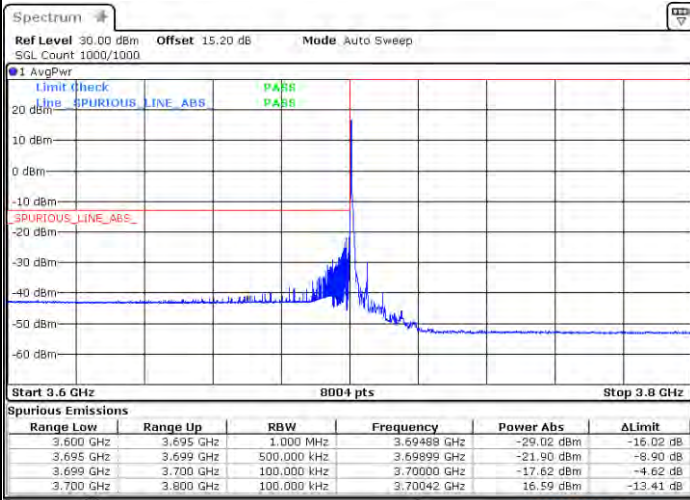
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FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (M)

Lowest Band Edge / 1 RB

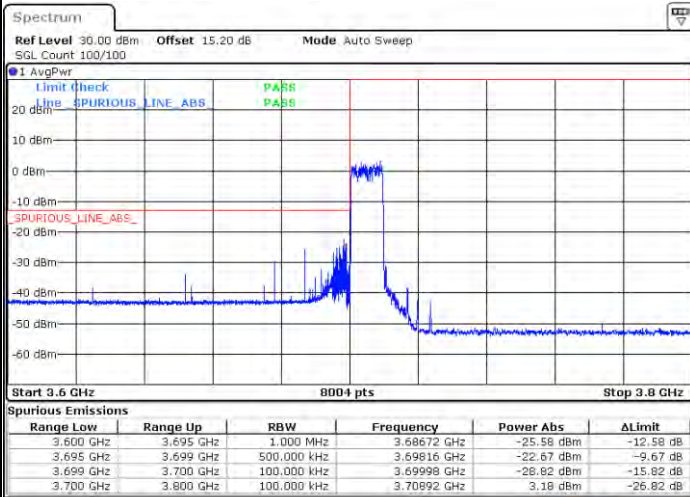
Channel Power < -13dBm Pass



/

Lowest Band Edge / Full RB

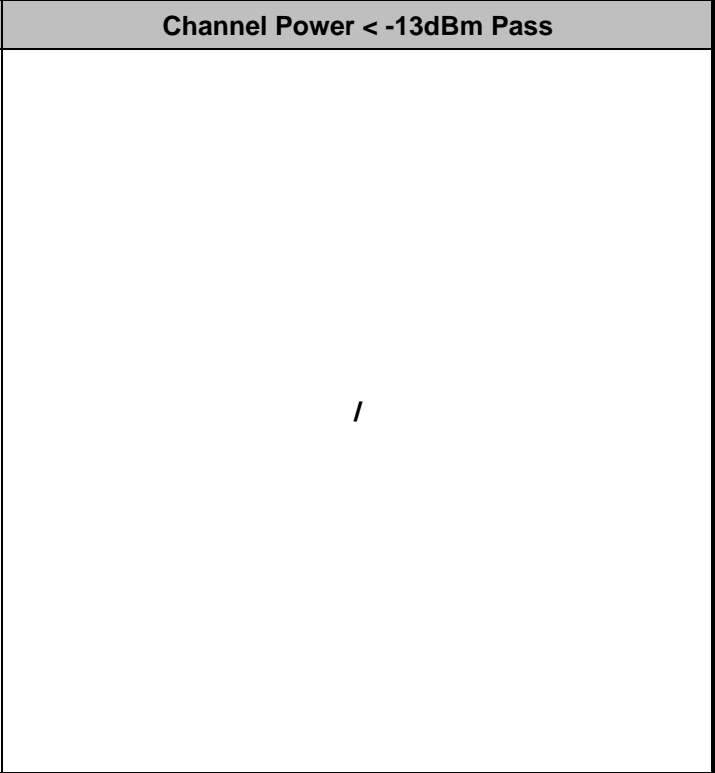
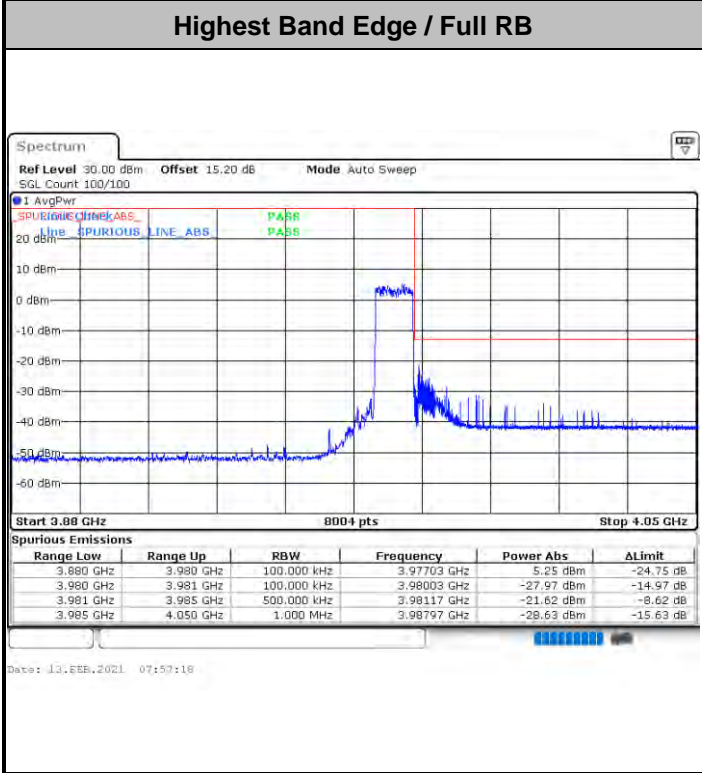
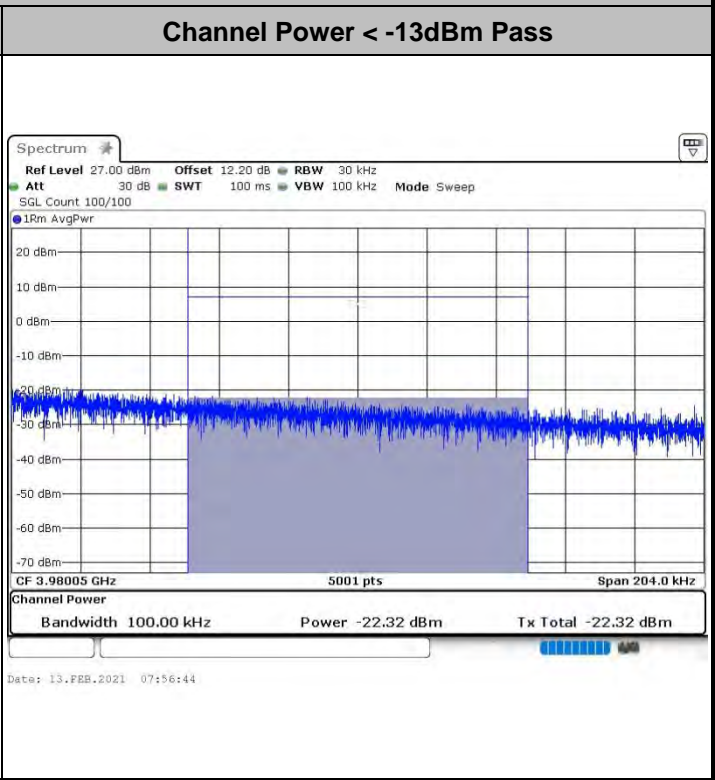
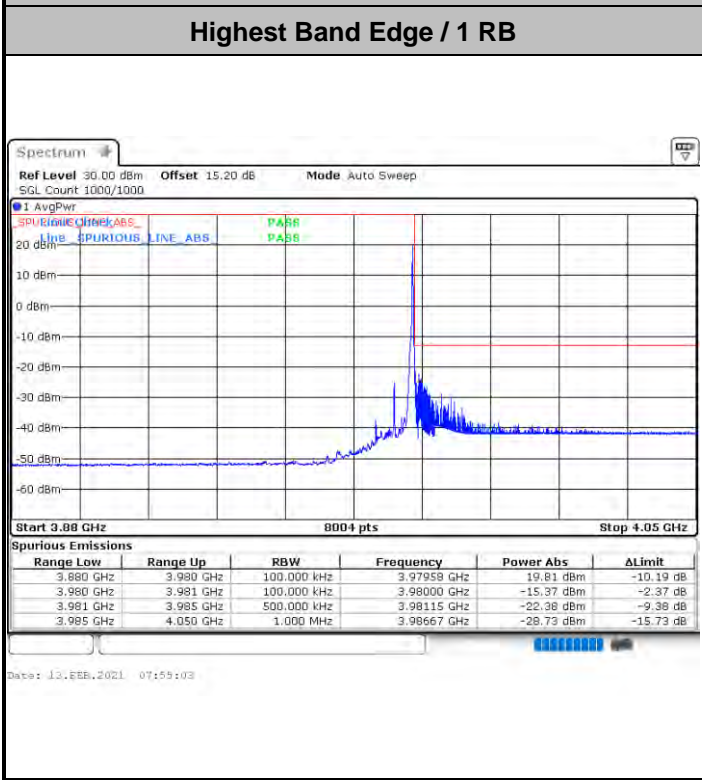
Channel Power < -13dBm Pass



/



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

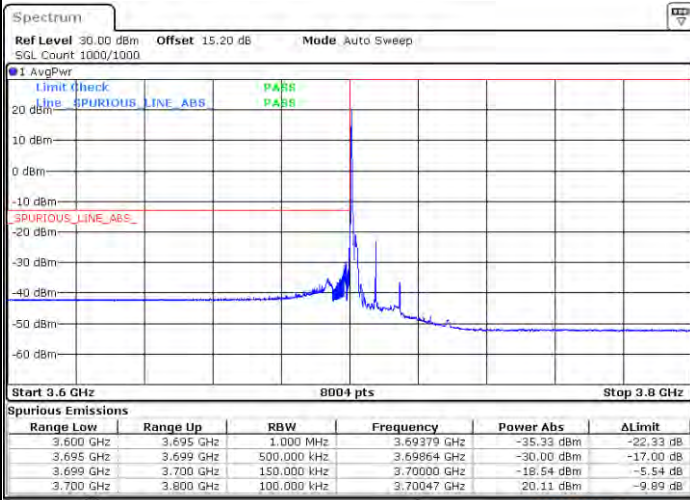




FR1 UL-MIMO n77 / 15MHz / CP-OFDM QPSK (M2)

Lowest Band Edge / 1 RB

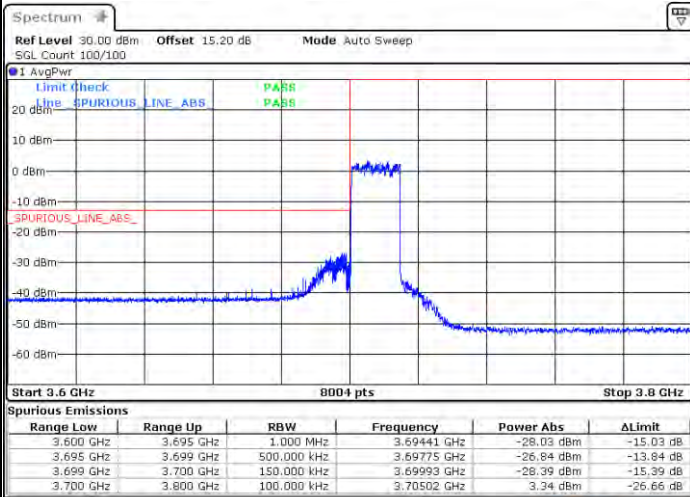
Channel Power < -13dBm Pass



Date: 12\_MAR\_2021 07:42:23

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



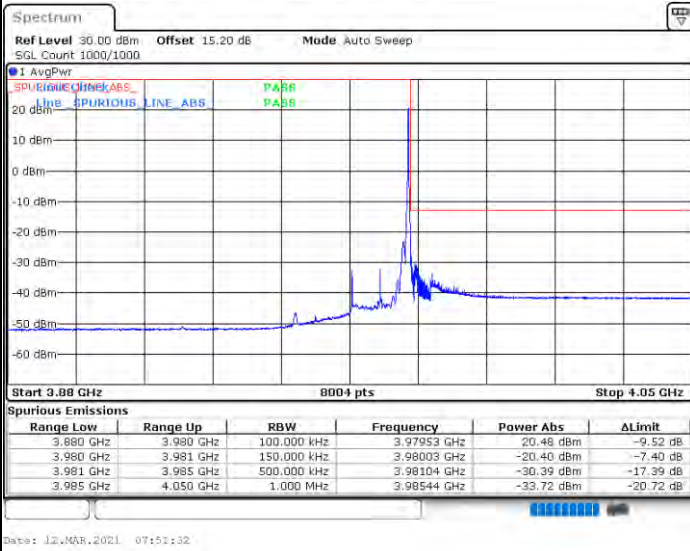
Date: 12\_MAR\_2021 07:48:03



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

Highest Band Edge / 1 RB

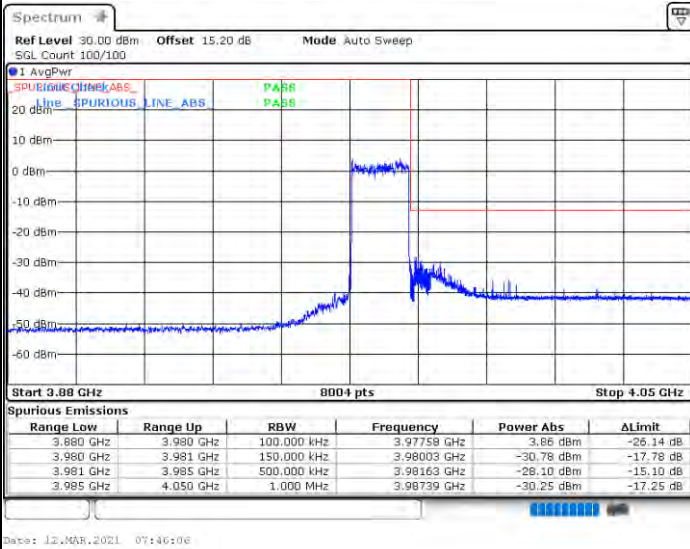
Channel Power < -13dBm Pass



/

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



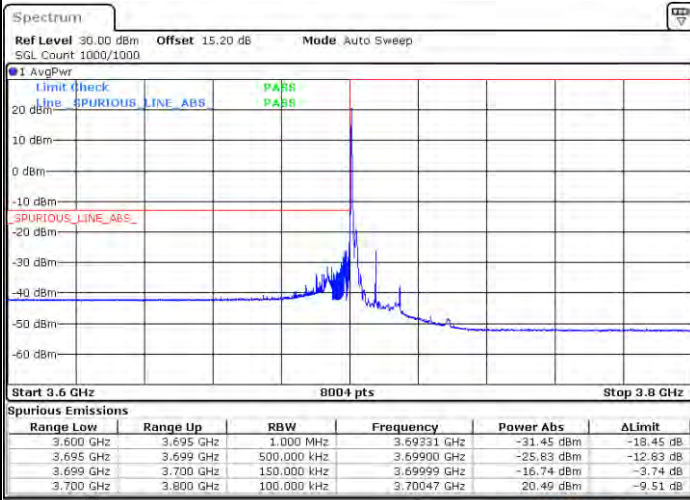
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FR1 UL-MIMO n77 / 15MHz / CP-OFDM QPSK (M)

Lowest Band Edge / 1 RB

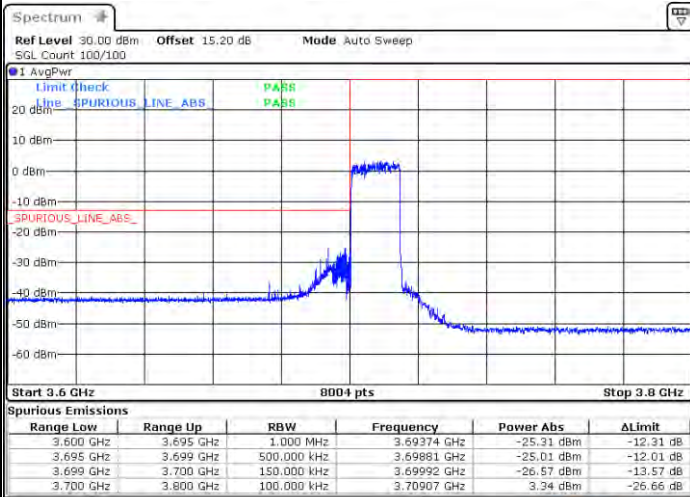
Channel Power < -13dBm Pass



Date: 12\_MAR\_2021 09:20:38

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



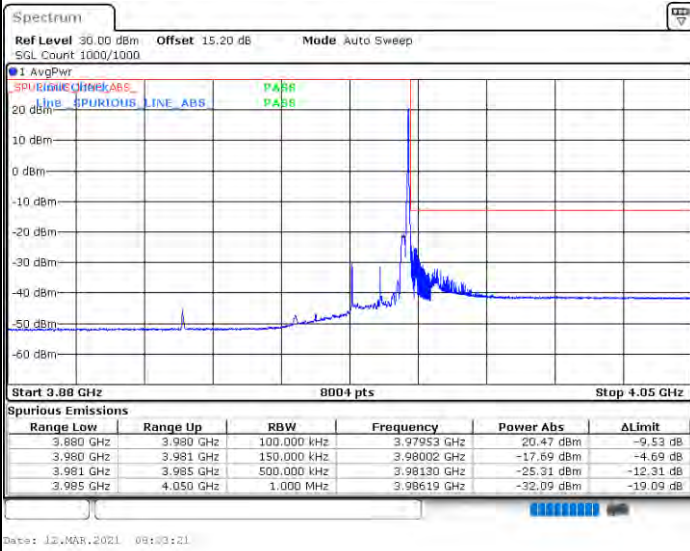
Date: 12\_MAR\_2021 09:13:59



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

Highest Band Edge / 1 RB

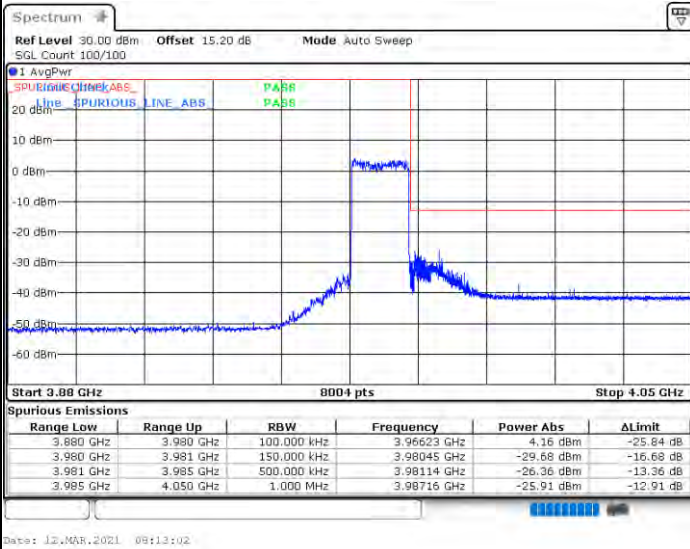
Channel Power < -13dBm Pass



/

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



/

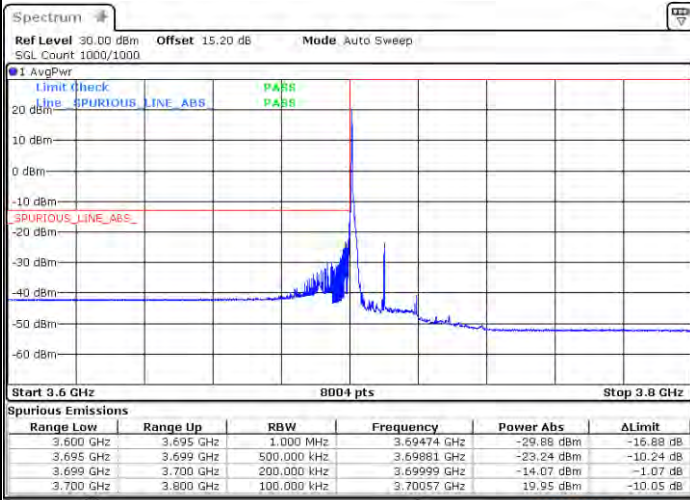




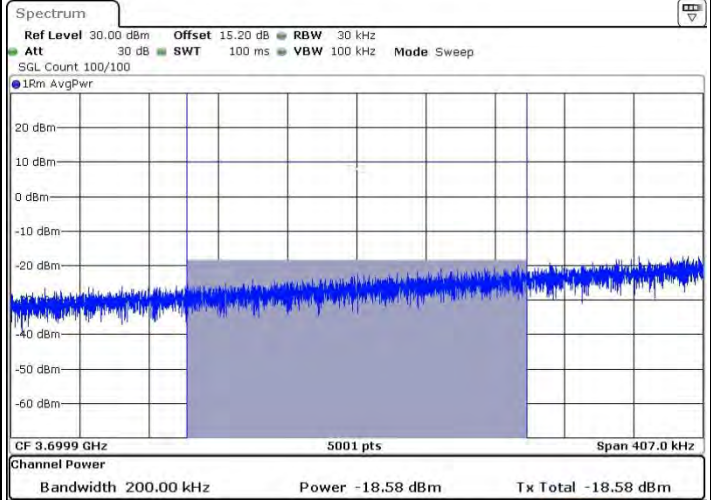
FR1 UL-MIMO n77 / 20MHz / CP-OFDM QPSK (M2)

Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass



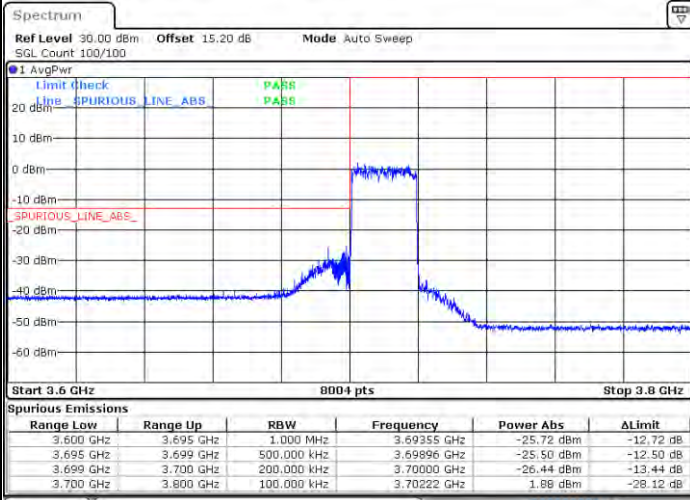
Date: 11.MAR.2021 01:59:44



Date: 14.MAR.2021 02:05:18

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



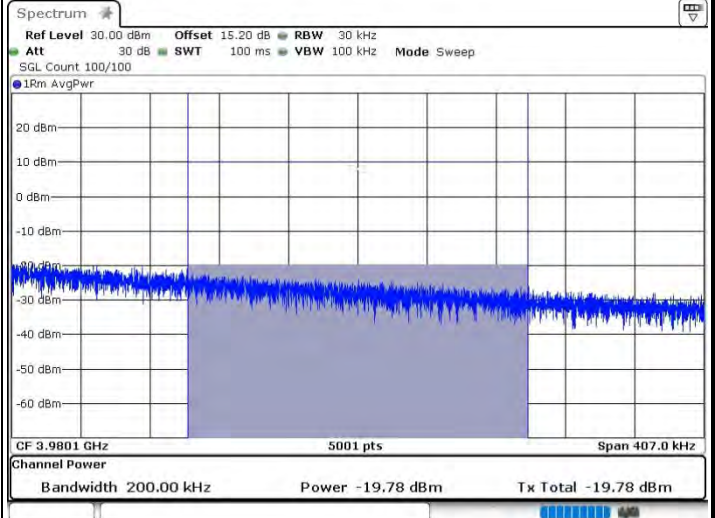
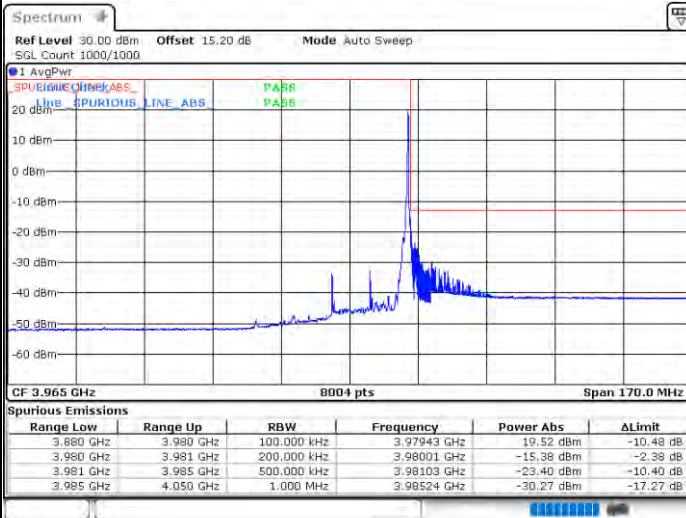
Date: 11.MAR.2021 01:59:46



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

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass

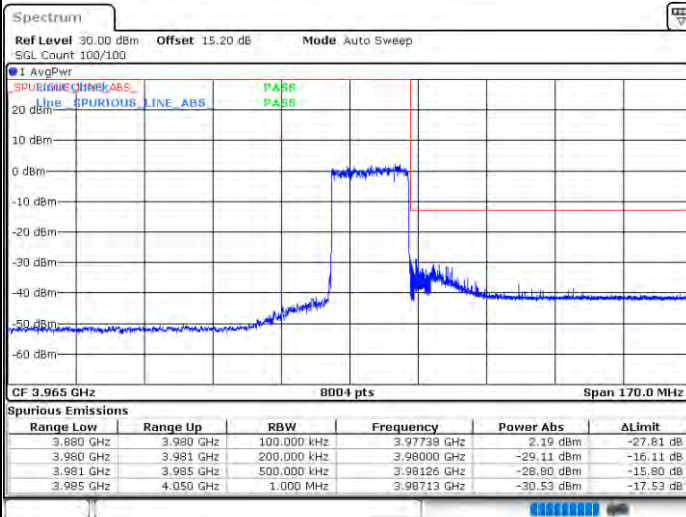


Date: 14.MAR.2021 02:10:29

Date: 14.MAR.2021 02:06:40

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



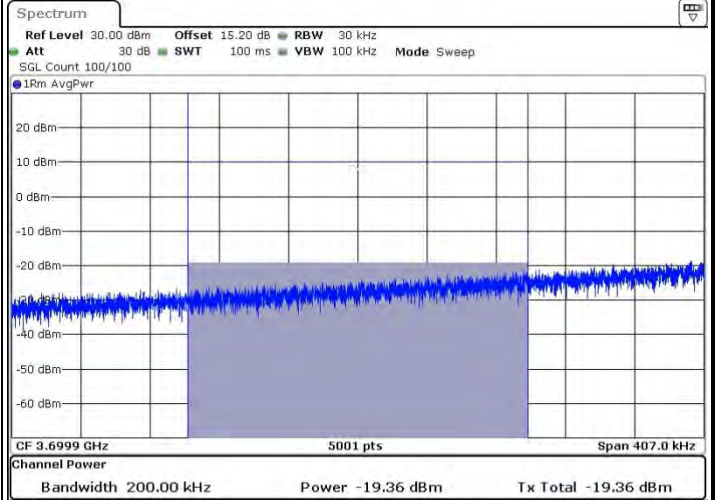
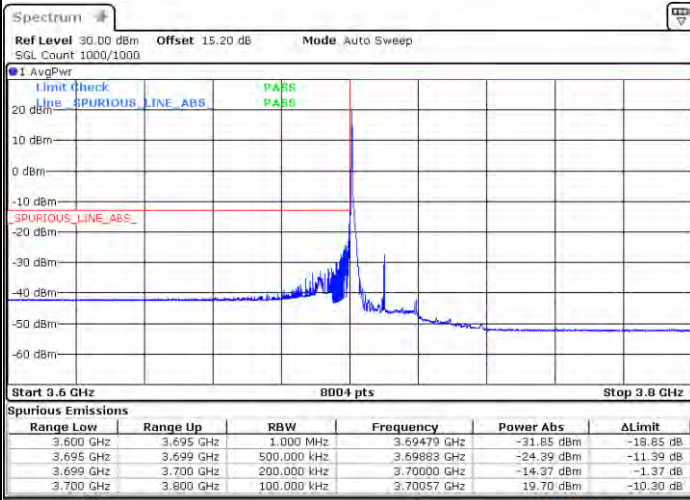
Date: 14.MAR.2021 02:00:29



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

Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass

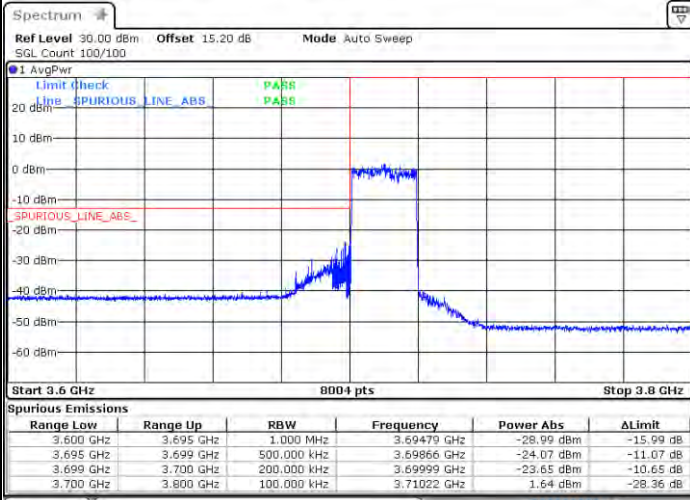


Date: 14.MAR.2021 03:21:21

Date: 14.MAR.2021 04:36:04

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



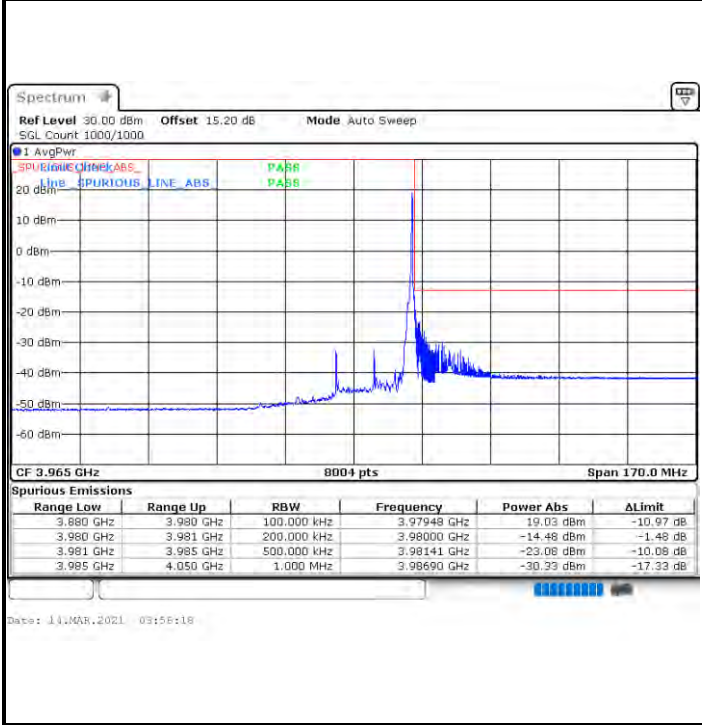
Date: 14.MAR.2021 03:43:13

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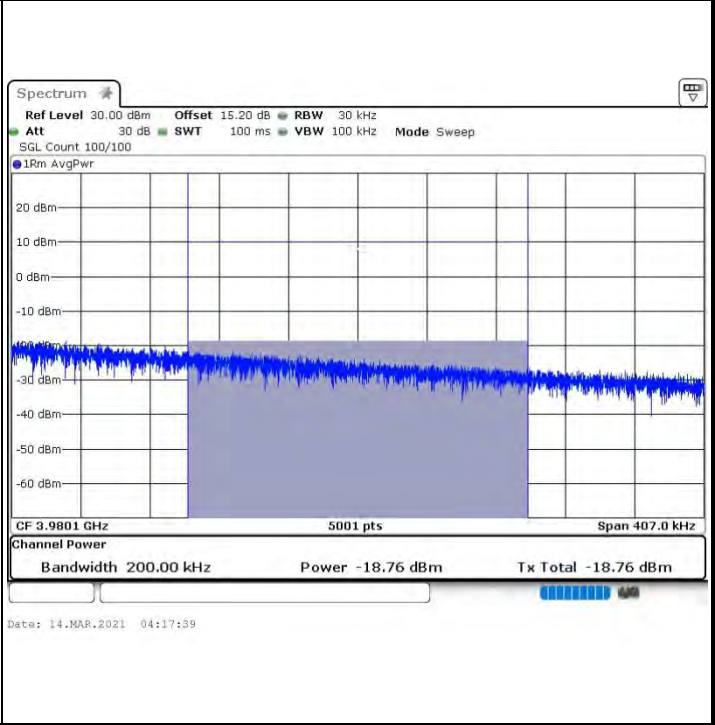


FR1 UL-MIMO n77 / 20MHz / CP-OFDM QPSK (M)

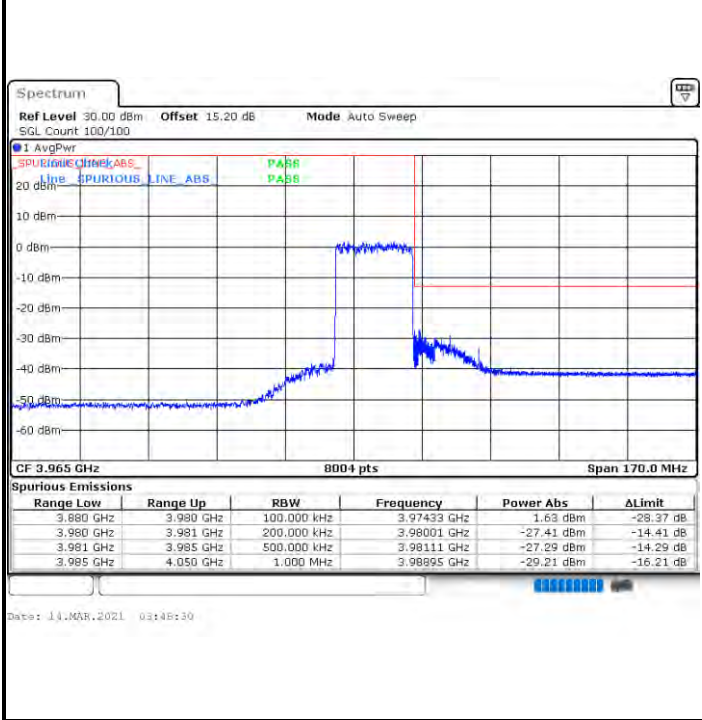
Highest Band Edge / 1 RB



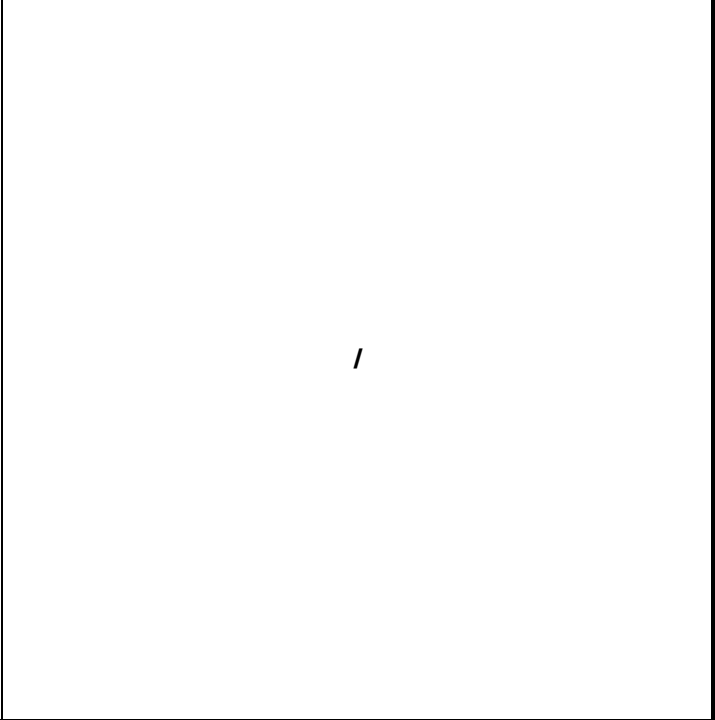
Channel Power < -13dBm Pass



Highest Band Edge / Full RB



Channel Power < -13dBm Pass



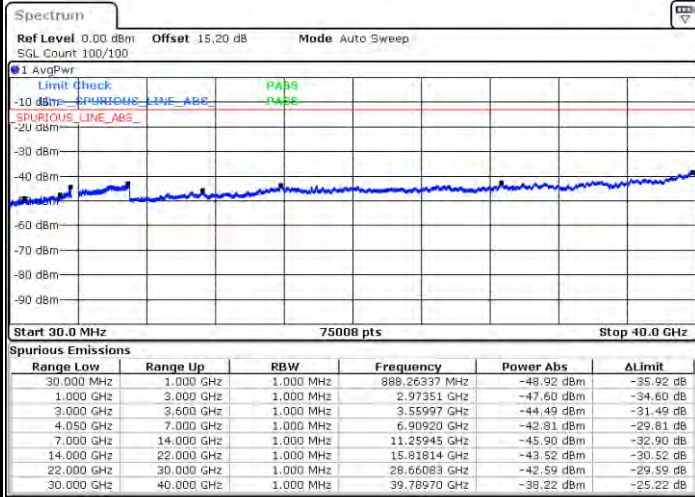


# Conducted Spurious Emission

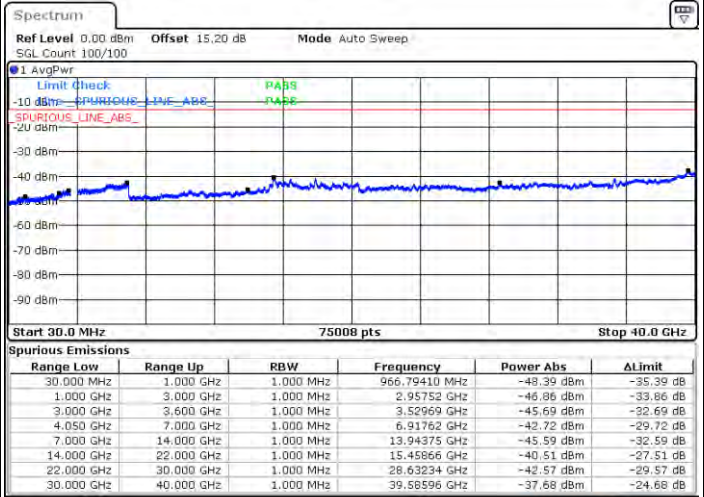
## FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (M2)

### Lowest Channel / 1RB

### Middle Channel / 1RB

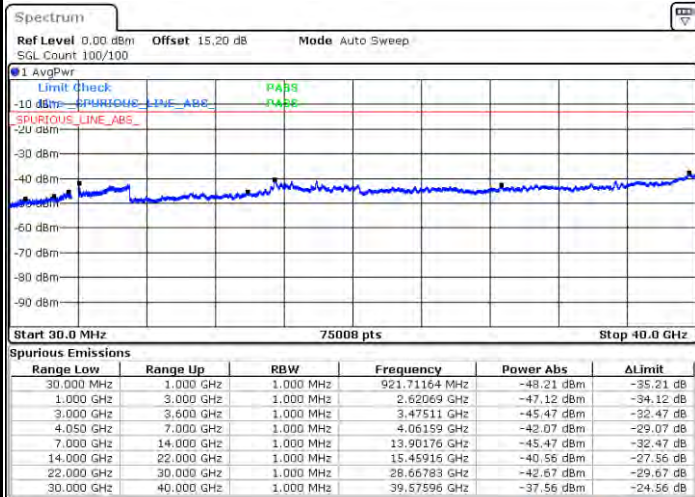


Date: 3.MAR.2021 03:18:09



Date: 13.FEB.2021 19:44:05

### Highest Channel / 1RB



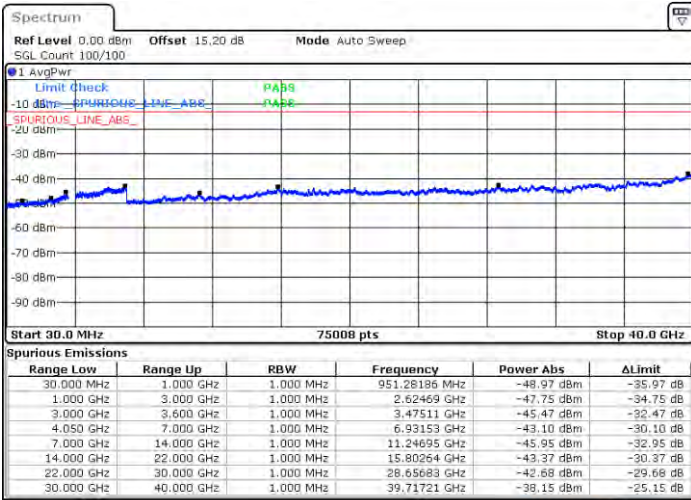
Date: 13.FEB.2021 19:50:50



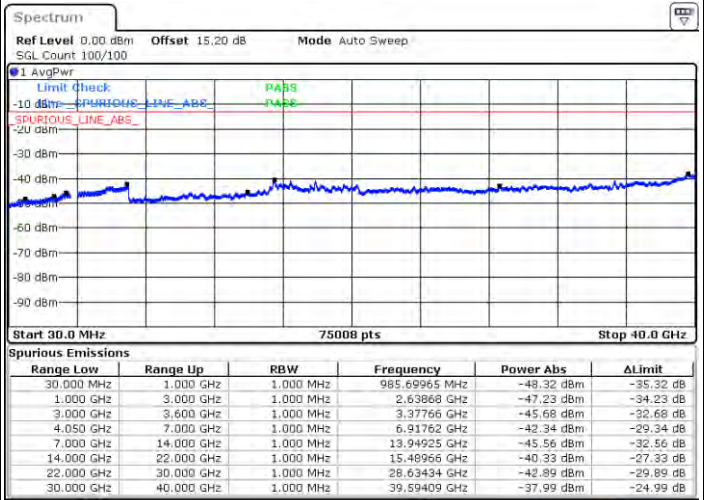
FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (M)

Lowest Channel / 1RB

Middle Channel / 1RB

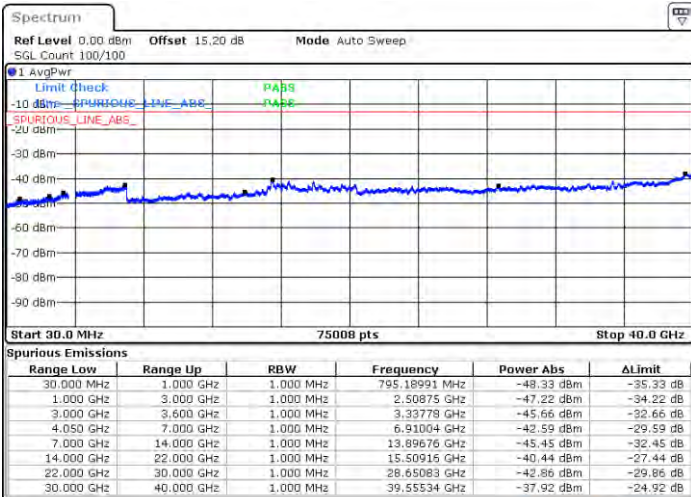


Date: 3.MAR.2021 09:27:22



Date: 13.FEB.2021 07:46:51

Highest Channel / 1RB



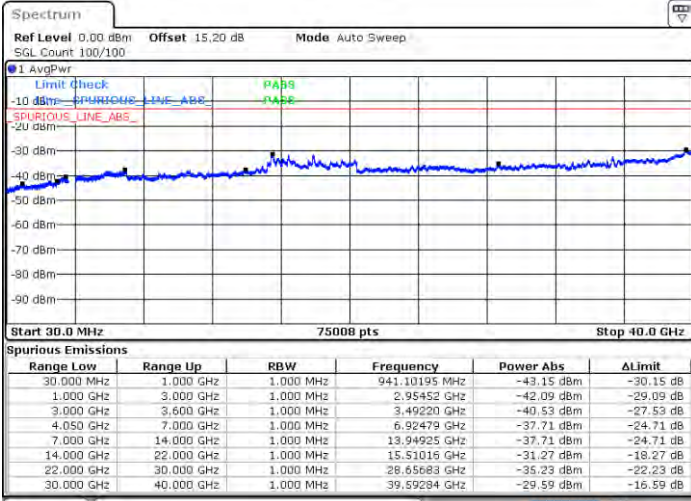
Date: 13.FEB.2021 07:50:22



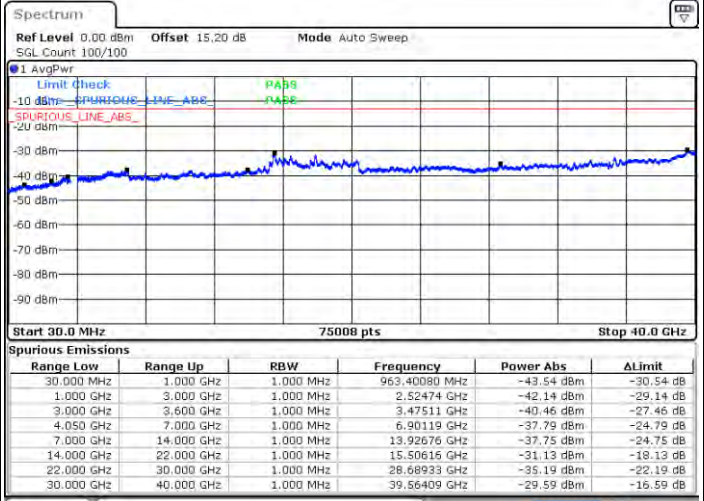
FR1 UL-MIMO n77 / 15MHz / CP-OFDM QPSK (M2)

Lowest Channel / 1RB

Middle Channel / 1RB

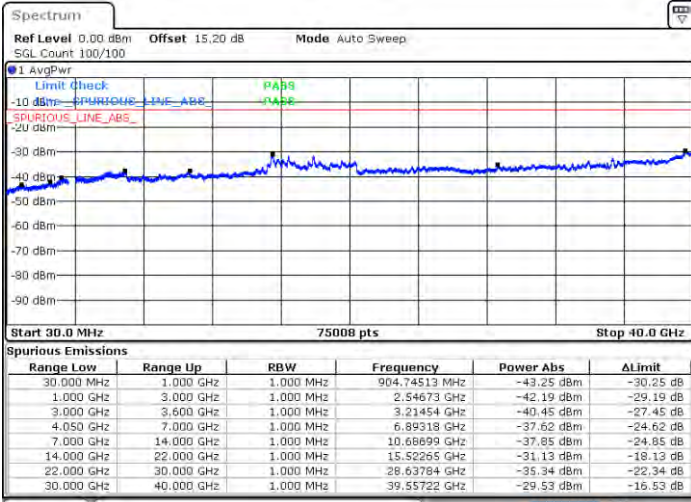


Date: 13.FEB.2021 19:15:28



Date: 13.FEB.2021 19:26:40

Highest Channel / 1RB



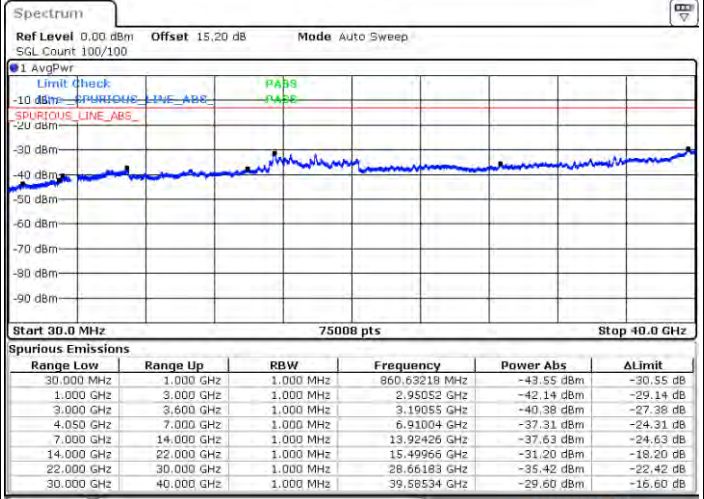
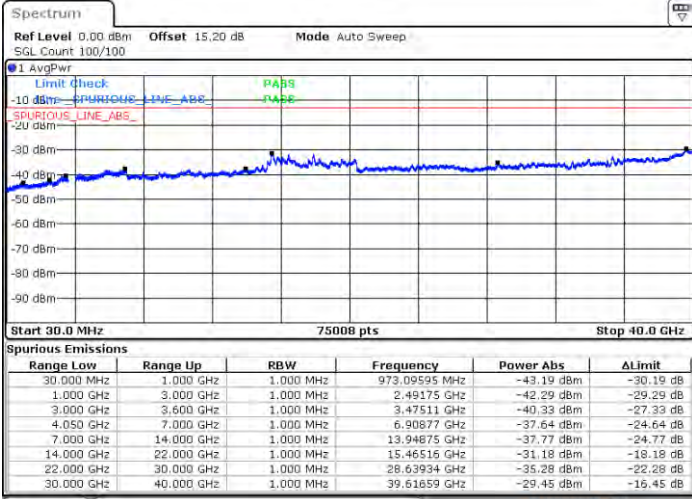
Date: 13.FEB.2021 19:30:45



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

Lowest Channel / 1RB

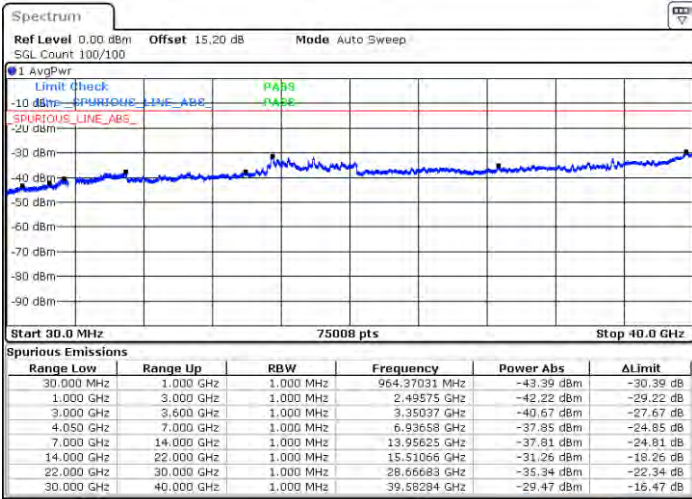
Middle Channel / 1RB



Date: 13.FEB.2021 06:01:19

Date: 13.FEB.2021 06:03:28

Highest Channel / 1RB



Date: 13.FEB.2021 06:15:40

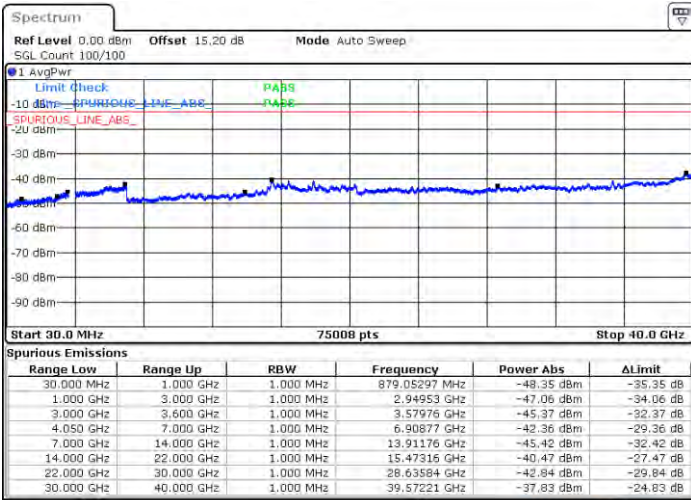




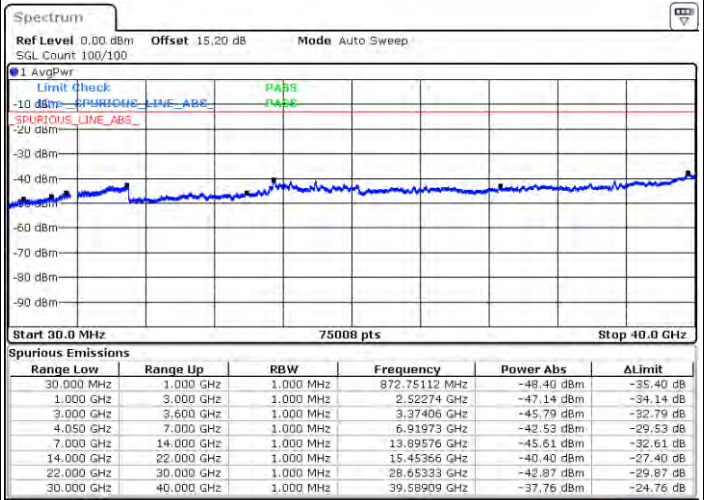
FR1 UL-MIMO n77 / 20MHz / CP-OFDM QPSK (M2)

Lowest Channel / 1RB

Middle Channel / 1RB

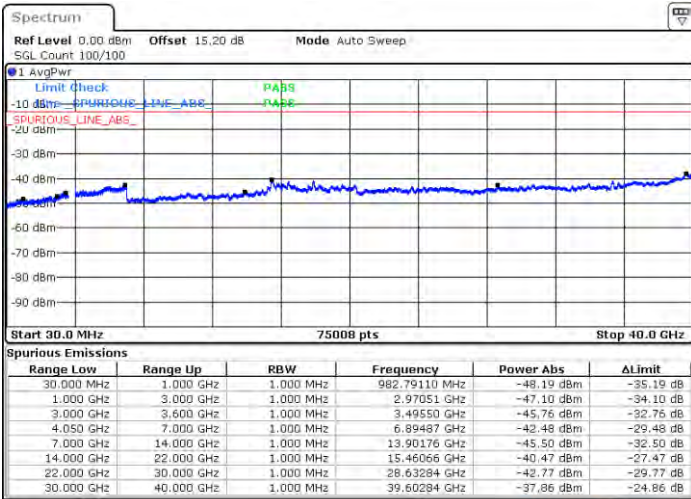


Date: 13.FEB.2021 18:01:51



Date: 13.FEB.2021 17:50:00

Highest Channel / 1RB

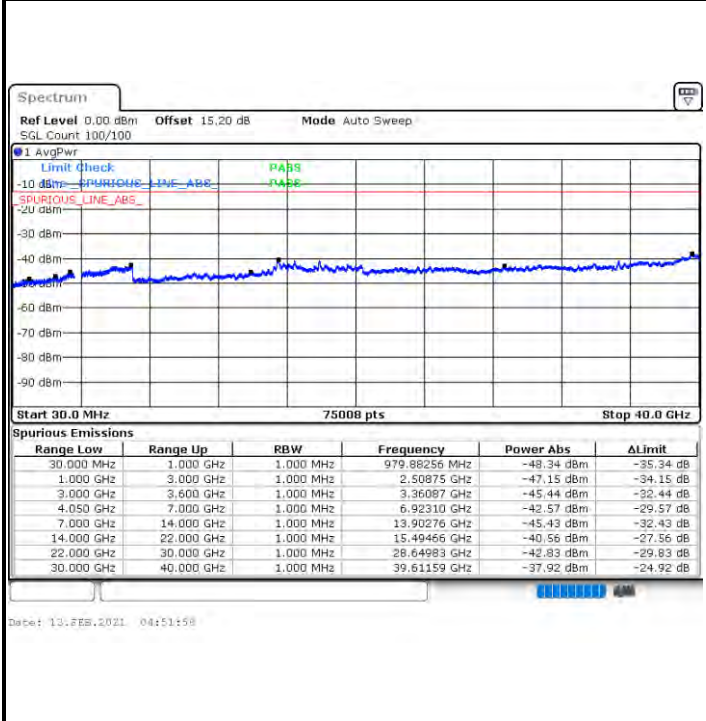


Date: 13.FEB.2021 18:12:32

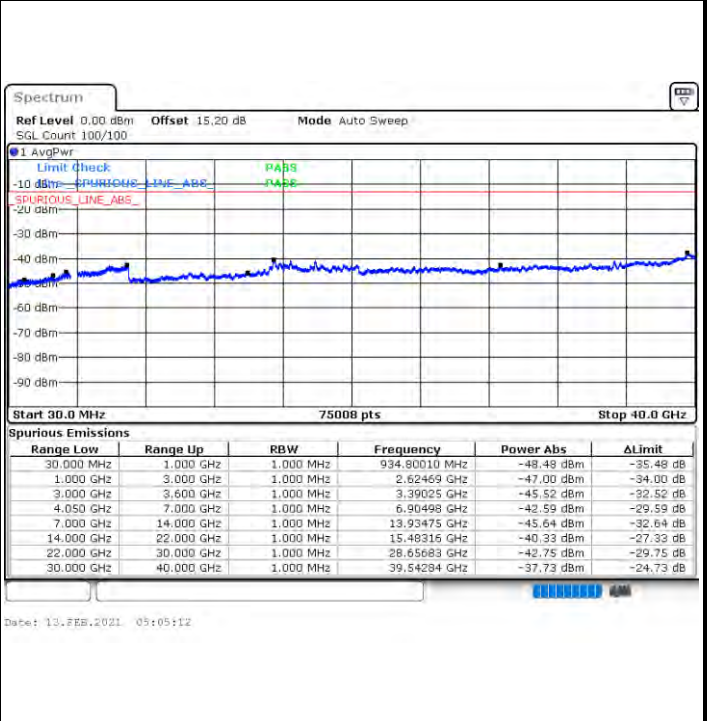


**FR1 UL-MIMO n77 / 20MHz / CP-OFDM QPSK (M)**

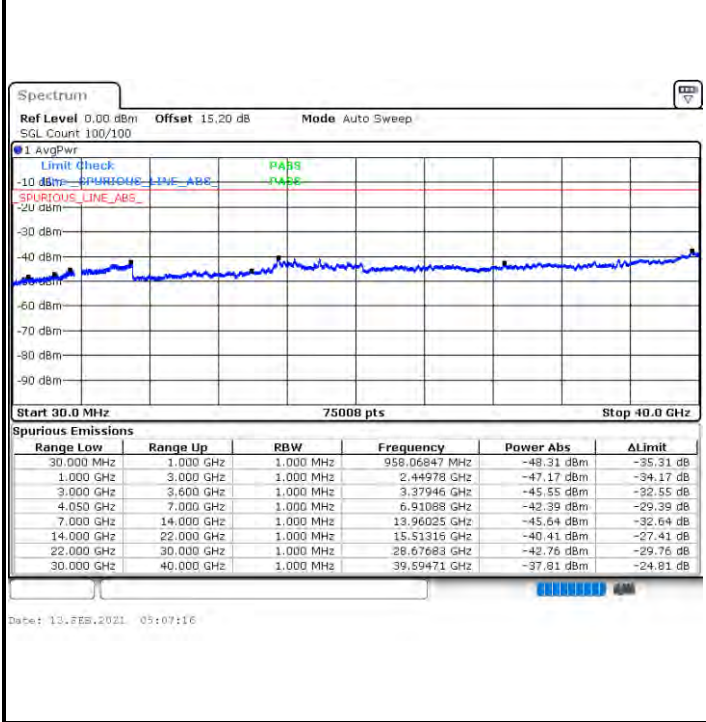
**Lowest Channel / 1RB**



**Middle Channel / 1RB**



**Highest Channel / 1RB**





**Frequency Stability**

Test Conditions		NR UL-MIMO n77 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Within Band
		Deviation (ppm)	Result
50	Normal Voltage	0.0025	PASS
40	Normal Voltage	0.0019	
30	Normal Voltage	0.0024	
20(Ref.)	Normal Voltage	0.0015	
10	Normal Voltage	0.0019	
0	Normal Voltage	0.0023	
-10	Normal Voltage	0.0014	
-20	Normal Voltage	0.0017	
-30	Normal Voltage	0.0012	
20	Maximum Voltage	0.0025	
20	Normal Voltage	0.0026	
20	Battery End Point	0.0013	

**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 30K

#### Peak-to-Average Ratio

Mode	FR1 UL-MIMO n77 / 10MHz / CP-OFDM (M2)				
Mod.	QPSK	QPSK			Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	7.65	8.35			PASS
Middle CH	7.45	8.38			
Highest CH	7.13	8.32			

Mode	FR1 UL-MIMO n77 / 10MHz / CP-OFDM (M)				
Mod.	QPSK	QPSK			Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	8.29	8.58			PASS
Middle CH	7.39	8.61			
Highest CH	7.86	8.17			



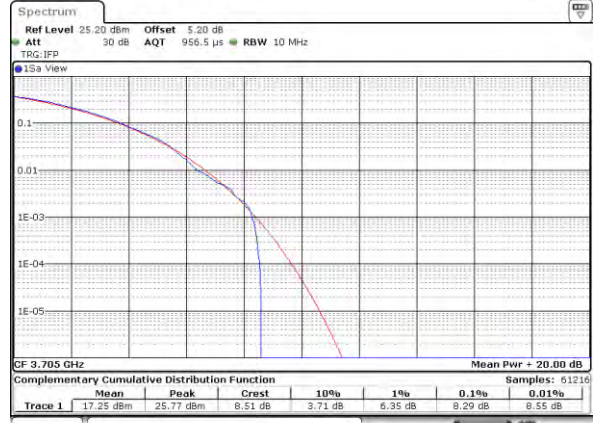
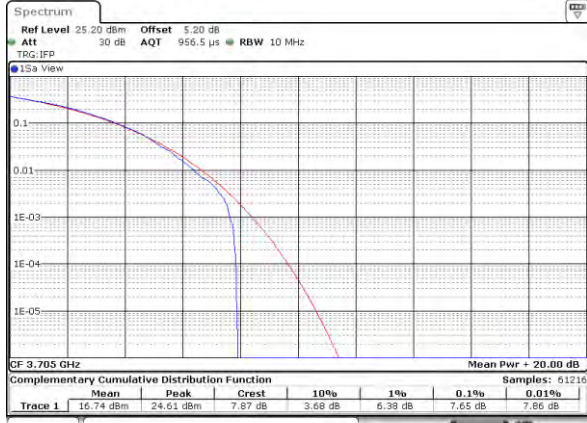
FR1 UL-MIMO n77 / 10MHz / CP-OFDM

QPSK(M2)

QPSK(M)

Lowest Channel / 1RB

Lowest Channel / 1RB

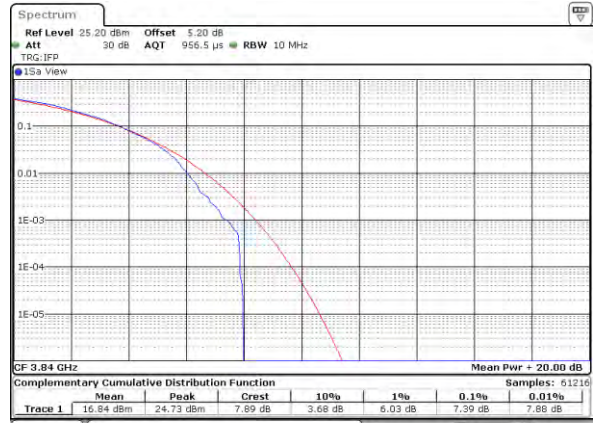
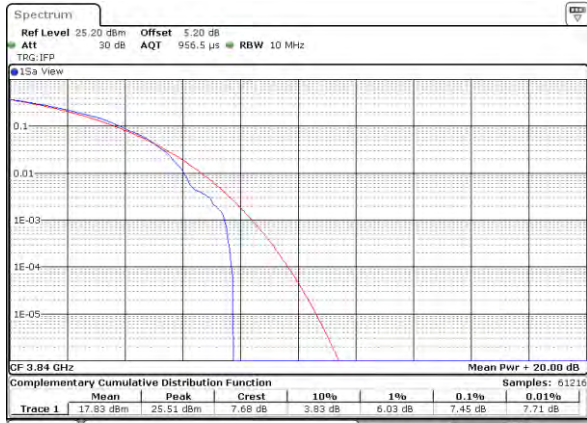


Date: 13.FEB.2021 16:38:56

Date: 13.FEB.2021 12:13:28

Middle Channel / 1 RB

Middle Channel / 1 RB

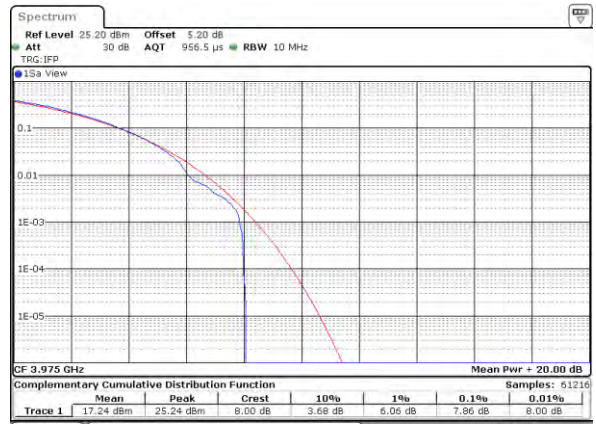
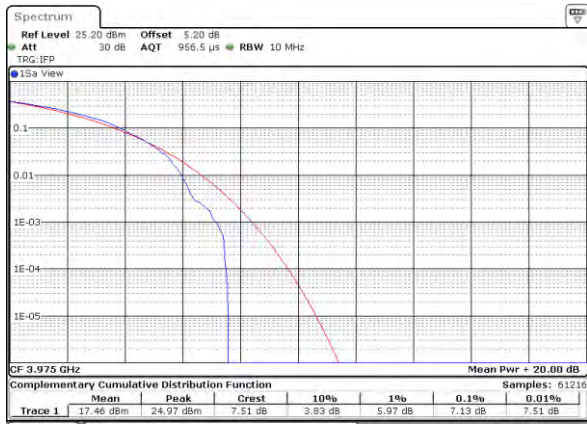


Date: 13.FEB.2021 16:25:58

Date: 13.FEB.2021 12:07:29

Highest Channel / 1 RB

Highest Channel / 1 RB



Date: 13.FEB.2021 17:14:41

Date: 13.FEB.2021 12:18:04



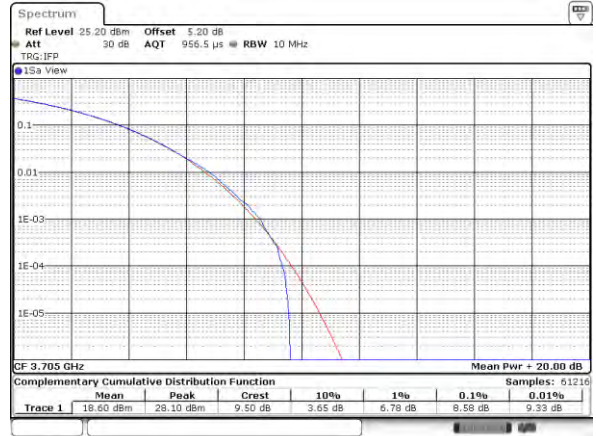
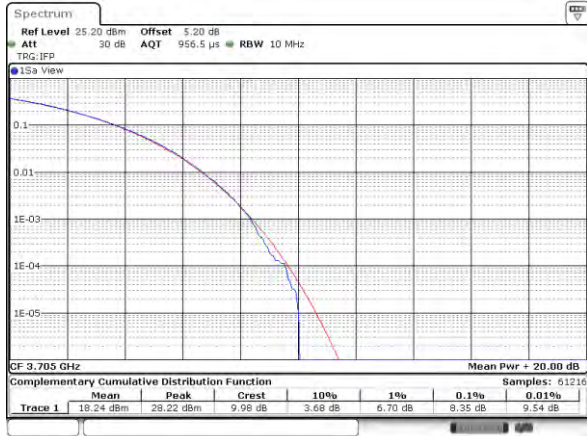
FR1 UL-MIMO n77 / 10MHz / CP-OFDM

QPSK(M2)

QPSK(M)

Lowest Channel / Full RB

Lowest Channel / Full RB

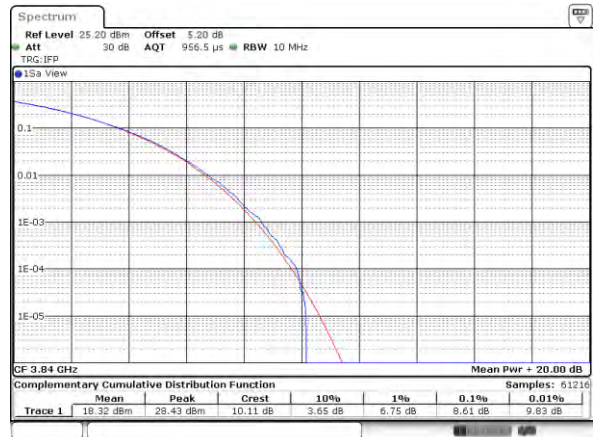
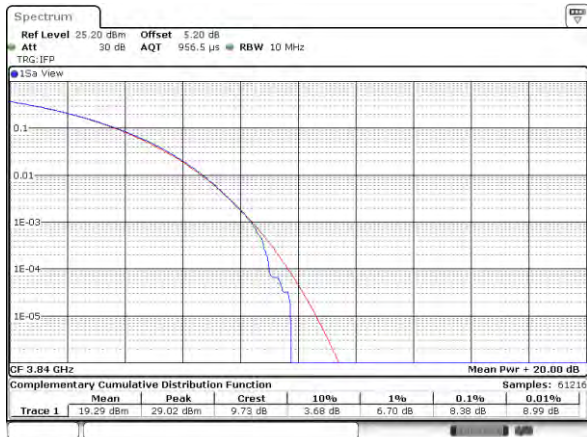


Date: 13.FEB.2021 16:46:17

Date: 13.FEB.2021 12:43:14

Middle Channel / Full RB

Middle Channel / Full RB



Date: 13.FEB.2021 16:23:29

Date: 13.FEB.2021 12:05:28

Highest Channel / Full RB

Highest Channel / Full RB



Date: 13.FEB.2021 17:07:59

Date: 13.FEB.2021 12:46:17



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	9.23	9.11	9.15	9.15	9.33	9.07	9.11	9.29

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	14.33	14.30	14.27	14.39	14.42	14.75	14.57	14.54

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	18.98	18.94	19.26	19.02	19.30	18.98	19.10	19.02

Mode	FR1 UL-MIMO n77 : 26dB BW(MHz) / CP-OFDM							
	M2				M			
BW	40MHz	40MHz	40MHz	40MHz	40MHz	40MHz	40MHz	40MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	40.28	40.28	40.12	40.2	40.2	40.12	40.36	40.36

Mode	FR1 UL-MIMO n77 : 26dB BW(MHz) / CP-OFDM							
	M2				M			
BW	50MHz	50MHz	50MHz	50MHz	50MHz	50MHz	50MHz	50MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	49.65	49.75	50.15	49.75	49.65	49.75	49.65	49.75

Mode	FR1 UL-MIMO n77 : 26dB BW(MHz) / CP-OFDM							
	M2				M			
BW	60MHz	60MHz	60MHz	60MHz	60MHz	60MHz	60MHz	60MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	60.42	60.42	60.3	60.54	60.42	60.54	60.3	60.42



Mode	FR1 UL-MIMO n77 : 26dB BW(MHz) / CP-OFDM							
	M2				M			
BW	80MHz	80MHz	80MHz	80MHz	80MHz	80MHz	80MHz	80MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	79.92	79.92	80.08	79.92	80.08	80.08	79.92	79.76

Mode	FR1 UL-MIMO n77 : 26dB BW(MHz) / CP-OFDM							
	M2				M			
BW	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	100.3	100.5	100.1	100.3	100.3	100.3	100.1	100.3





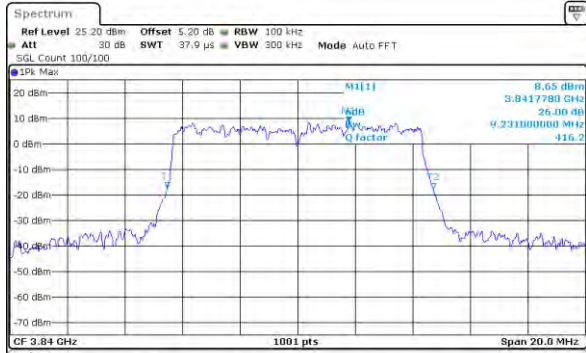
FR1 UL-MIMO n77 / 10MHz / CP-OFDM (M2)

QPSK

16QAM

Middle Channel

Middle Channel



Date: 13.FEB.2021 16:21:57

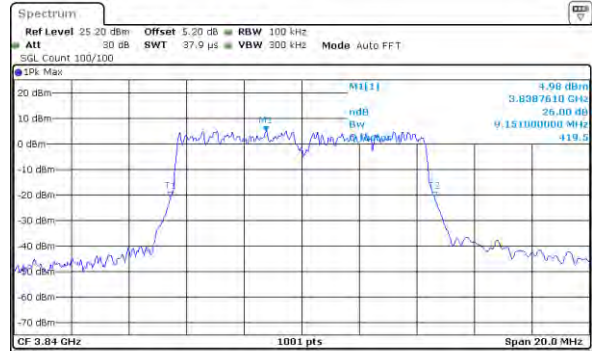
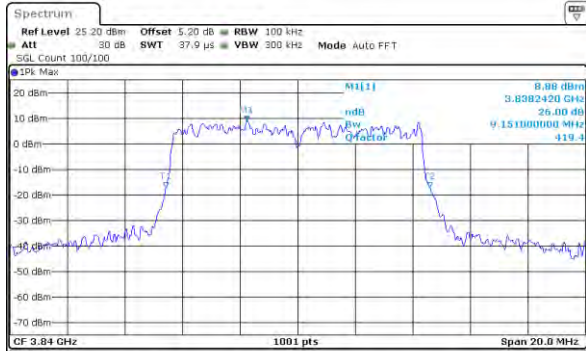
Date: 13.FEB.2021 16:22:17

64QAM

256QAM

Middle Channel

Middle Channel



Date: 13.FEB.2021 16:23:59

Date: 13.FEB.2021 16:25:24



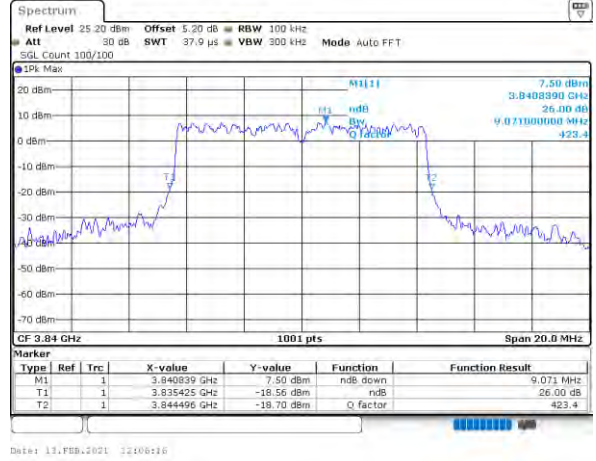
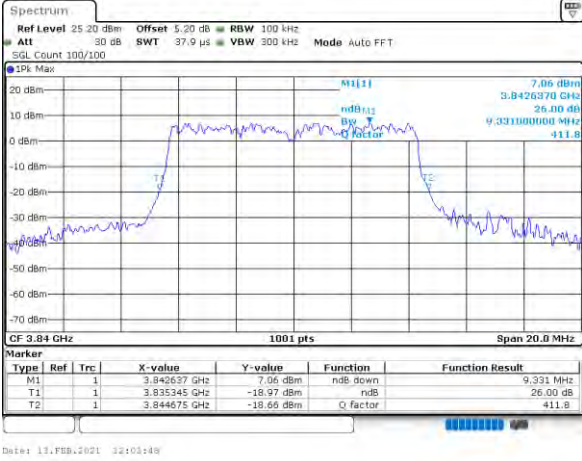
FR1 UL-MIMO n77 / 10MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel

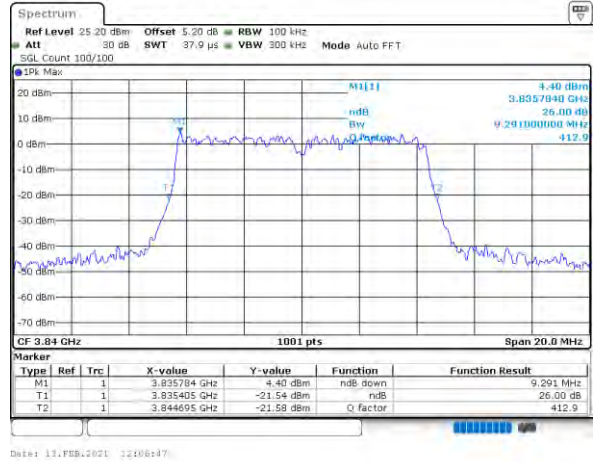
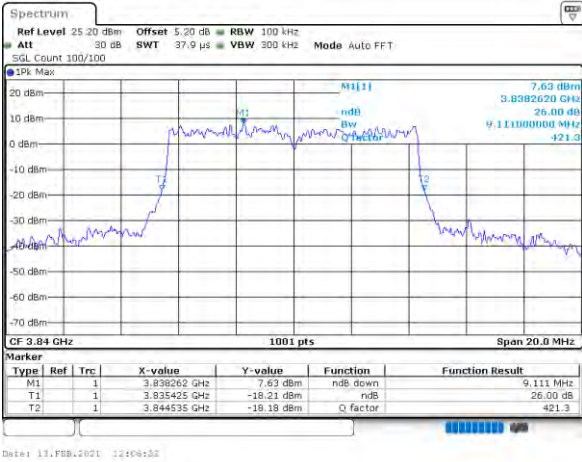


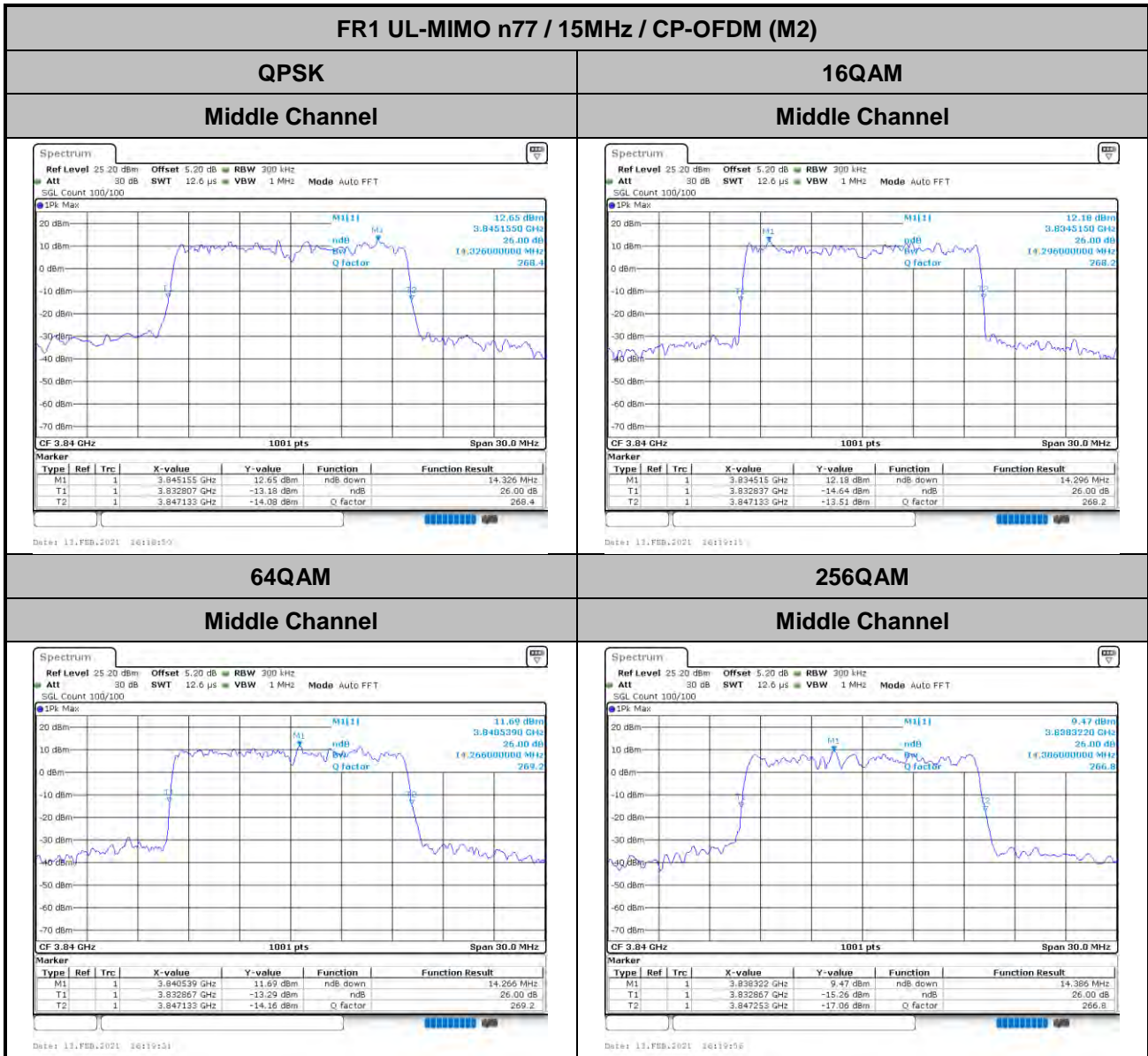
64QAM

256QAM

Middle Channel

Middle Channel







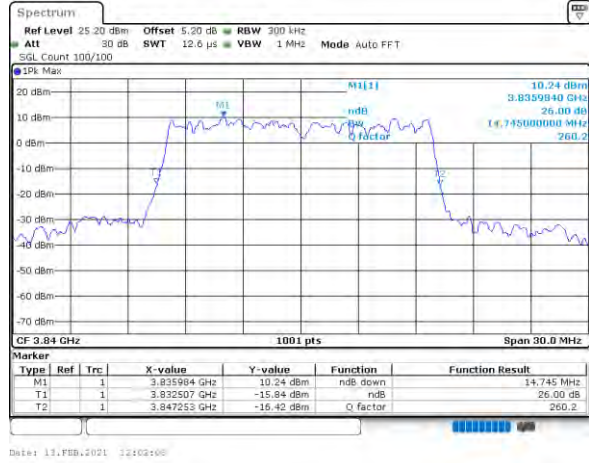
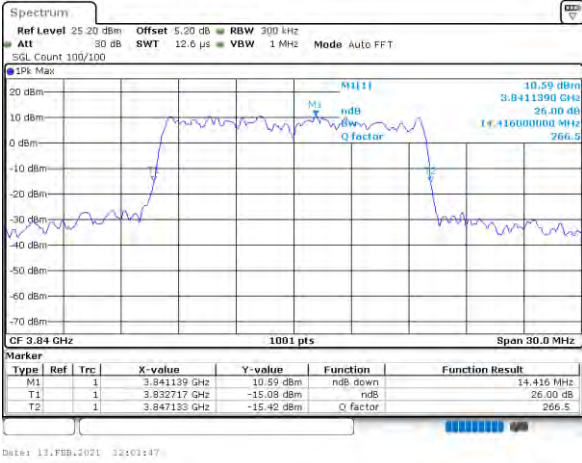
FR1 UL-MIMO n77 / 15MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel

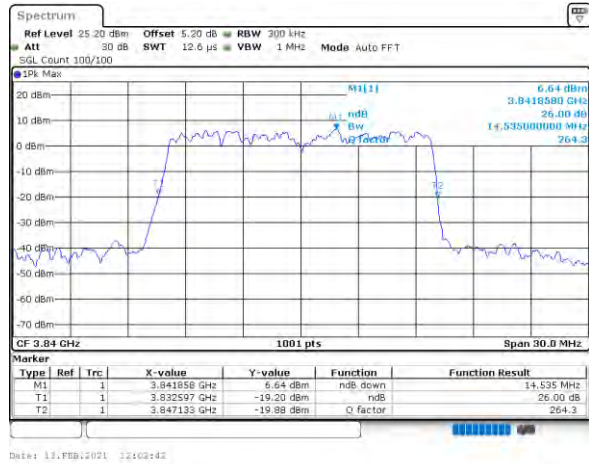
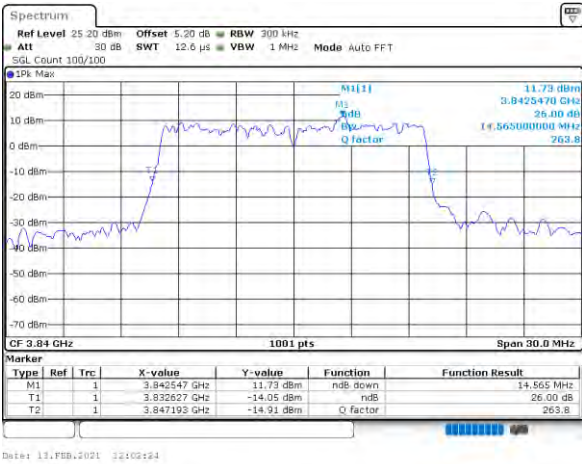


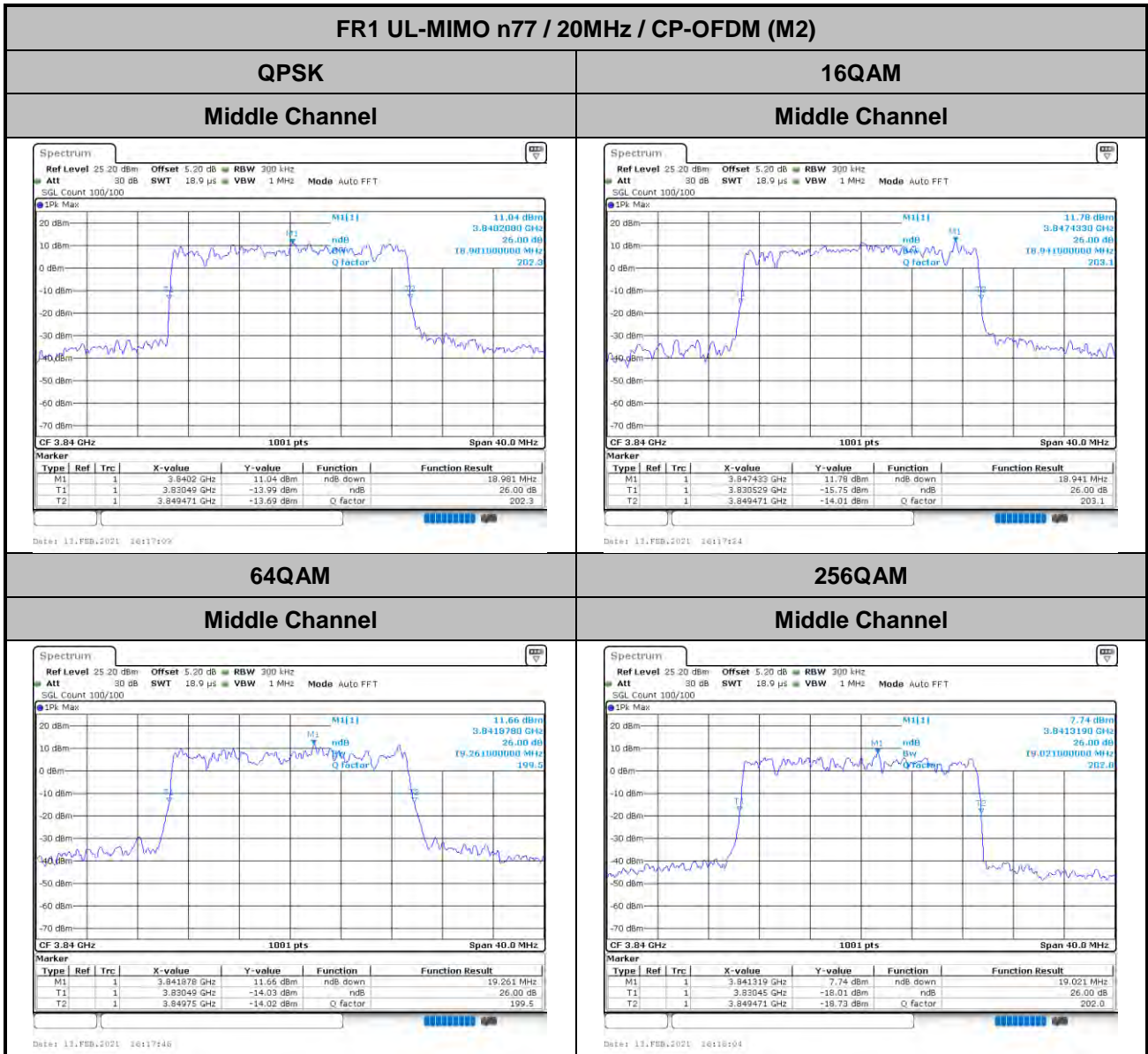
64QAM

256QAM

Middle Channel

Middle Channel







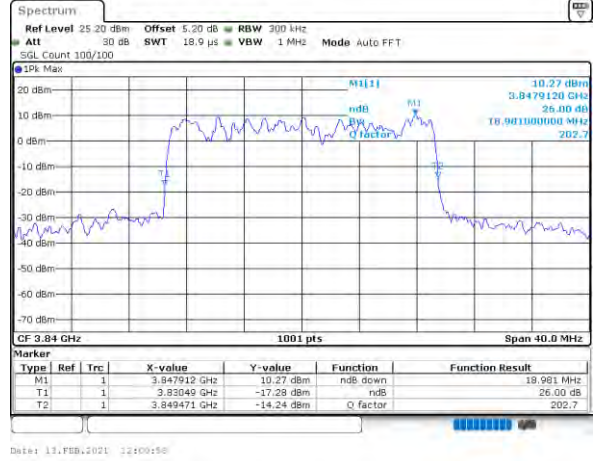
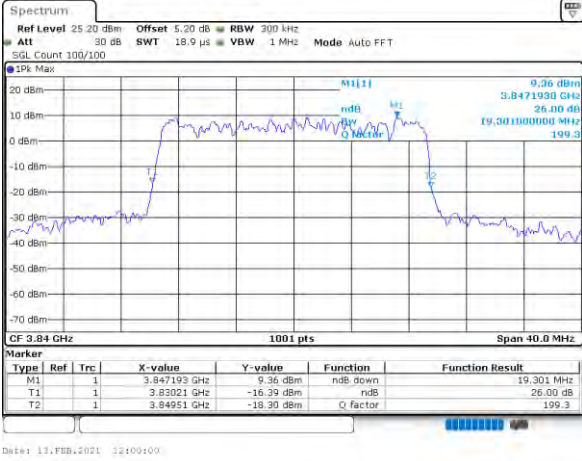
FR1 UL-MIMO n77 / 20MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel

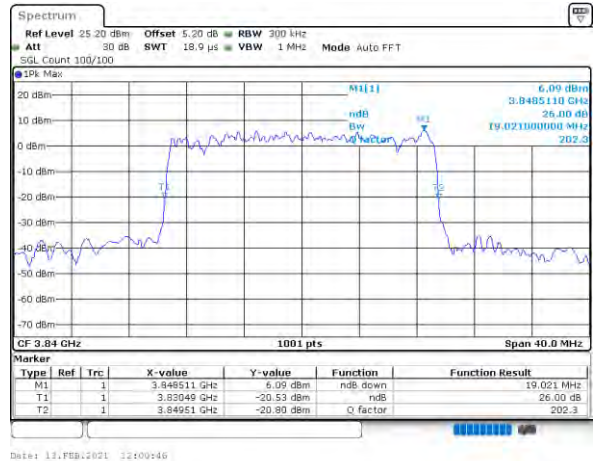
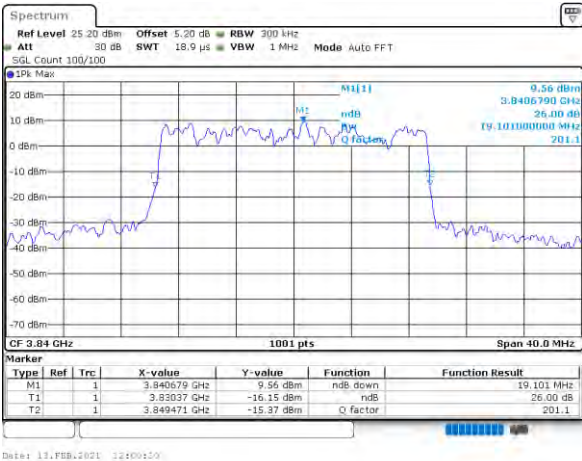


64QAM

256QAM

Middle Channel

Middle Channel





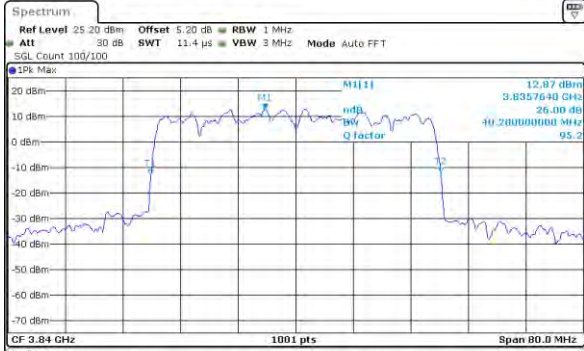
FR1 UL-MIMO n77 / 40MHz / CP-OFDM (M2)

QPSK

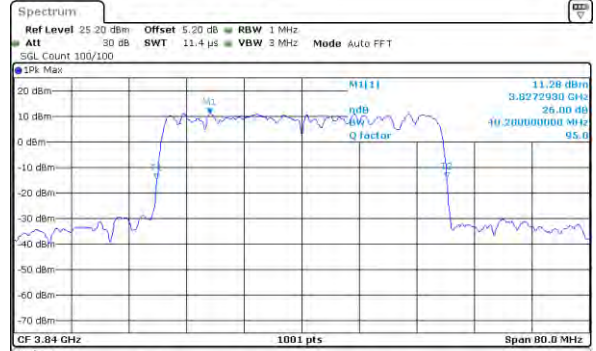
16QAM

Middle Channel

Middle Channel



Date: 13.FEB.2021 20:15:46



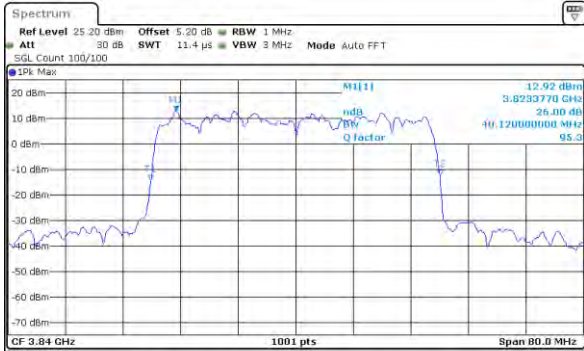
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64QAM

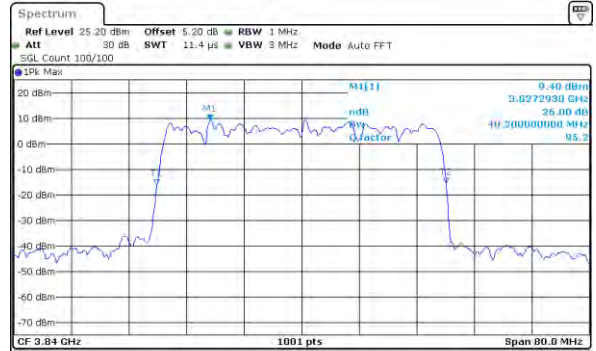
256QAM

Middle Channel

Middle Channel



Date: 13.FEB.2021 20:16:03



Date: 13.FEB.2021 20:16:29



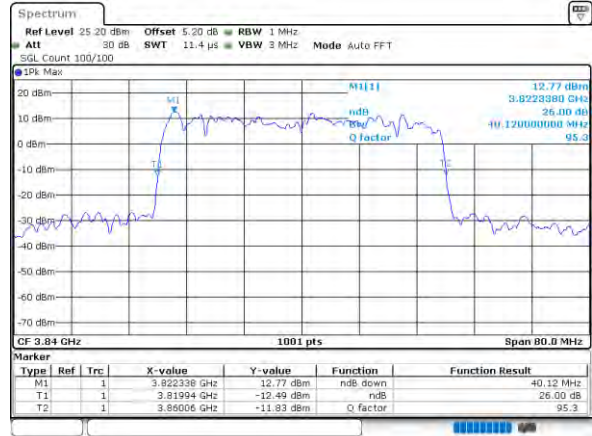
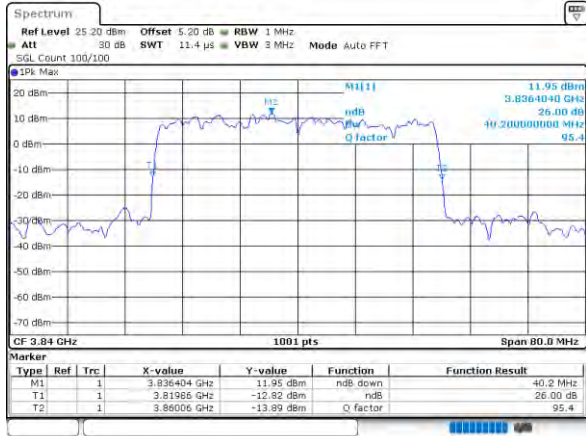
FR1 UL-MIMO n77 / 40MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel

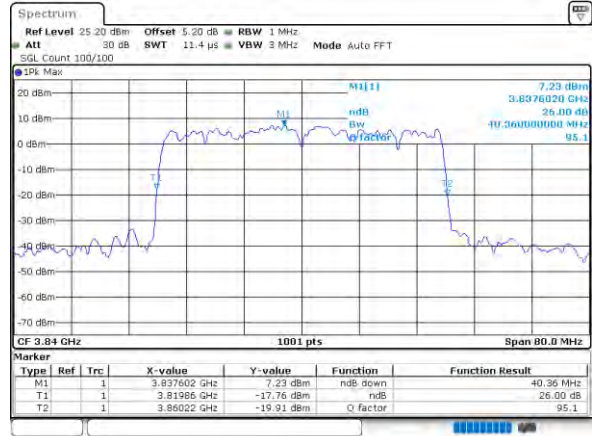
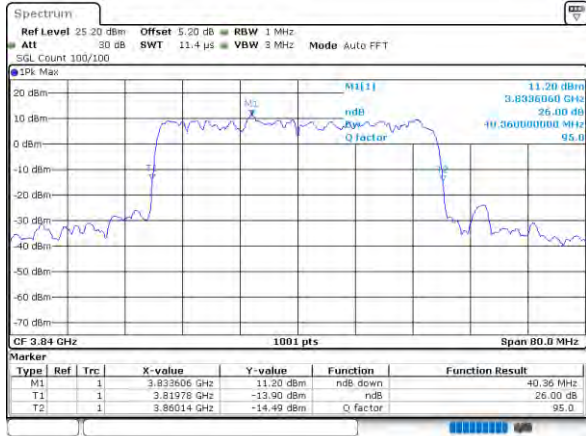


64QAM

256QAM

Middle Channel

Middle Channel







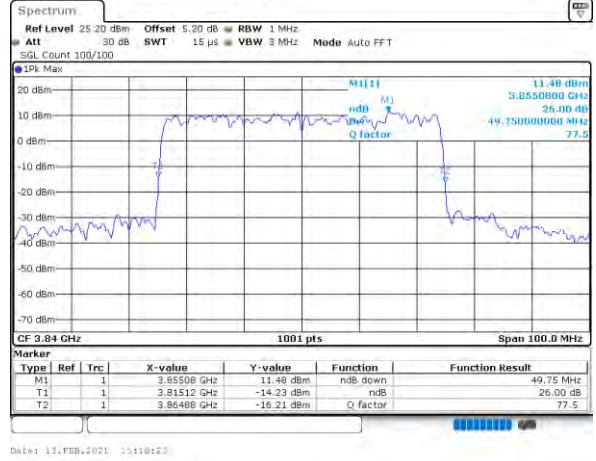
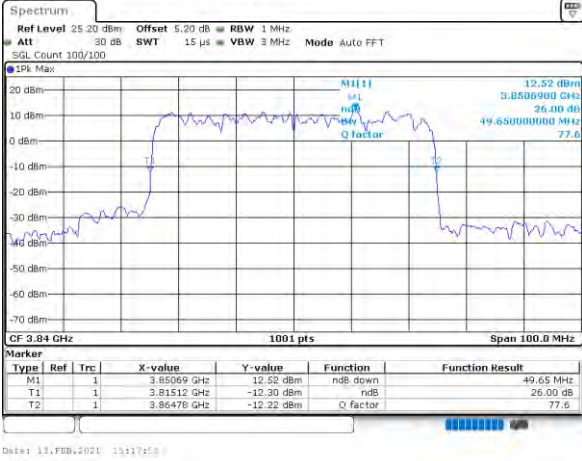
FR1 UL-MIMO n77 / 50MHz / CP-OFDM (M2)

QPSK

16QAM

Middle Channel

Middle Channel

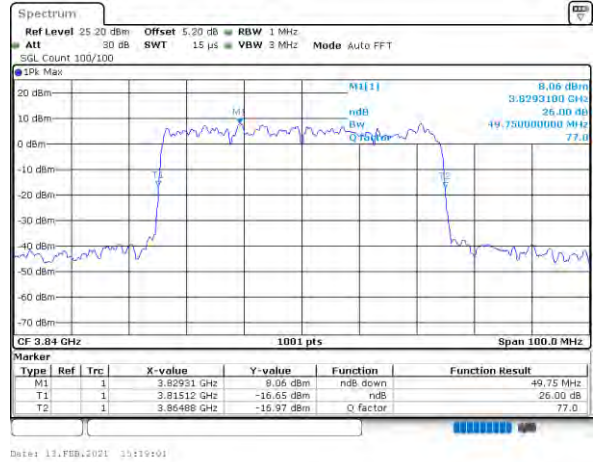
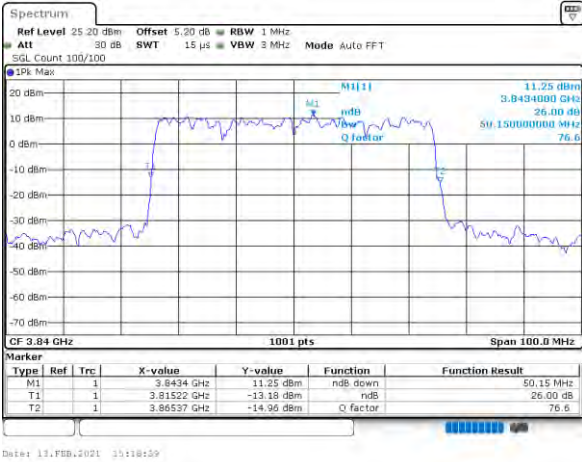


64QAM

256QAM

Middle Channel

Middle Channel





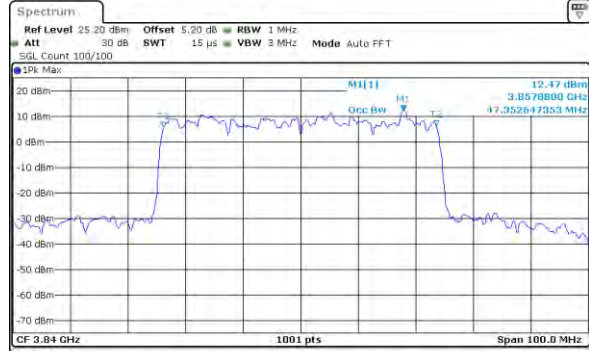
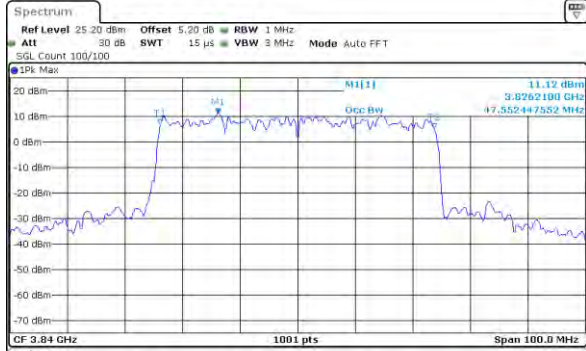
FR1 UL-MIMO n77 / 50MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel



Date: 13.FEB.2021 30:53:46

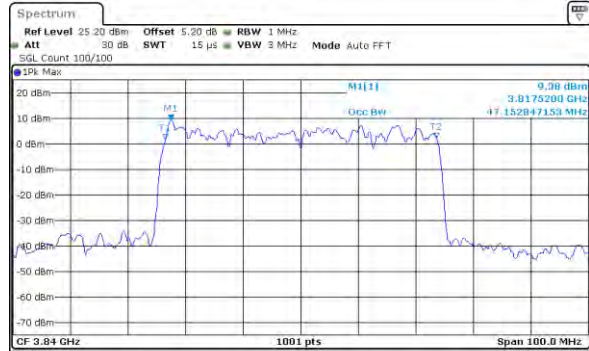
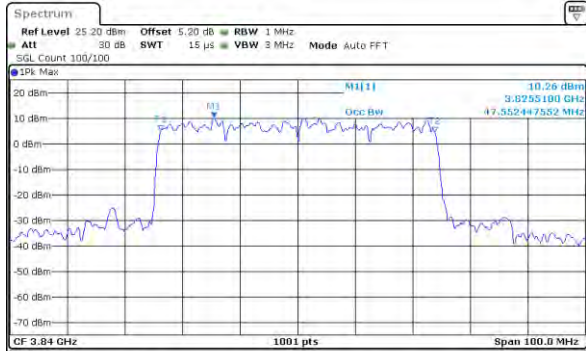
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64QAM

256QAM

Middle Channel

Middle Channel



Date: 13.FEB.2021 30:54:26

Date: 13.FEB.2021 30:54:57



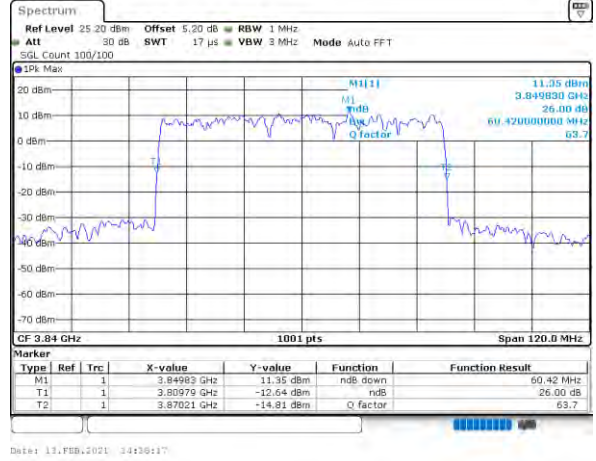
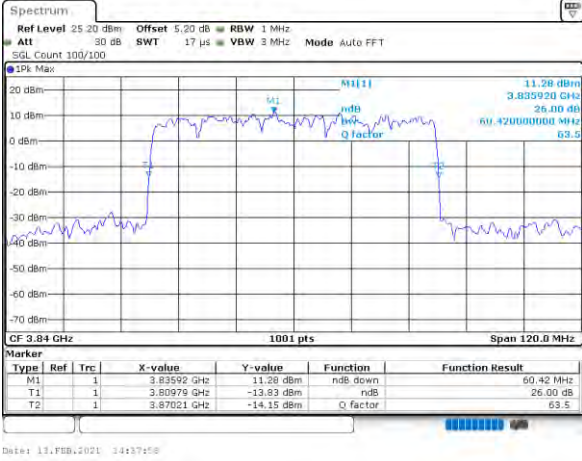
FR1 UL-MIMO n77 / 60MHz / CP-OFDM (M2)

QPSK

16QAM

Middle Channel

Middle Channel

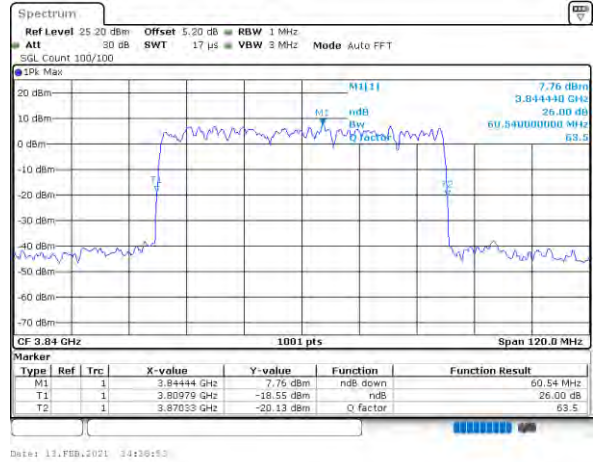
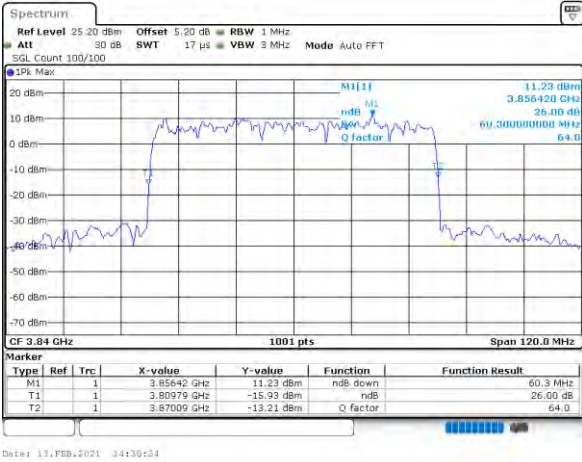


64QAM

256QAM

Middle Channel

Middle Channel





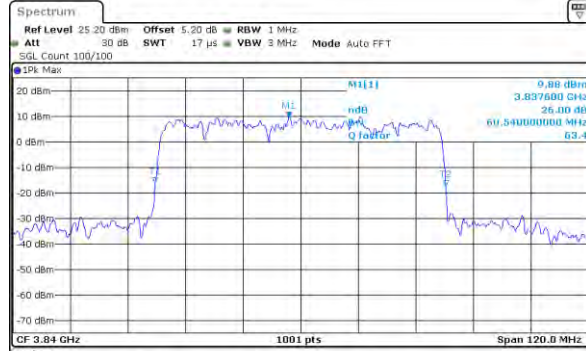
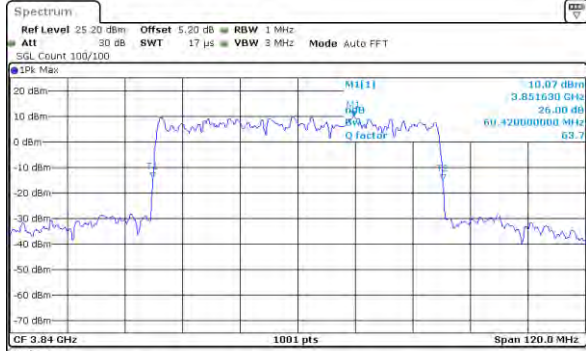
FR1 UL-MIMO n77 / 60MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel



Date: 13.FEB.2021 00:13:45

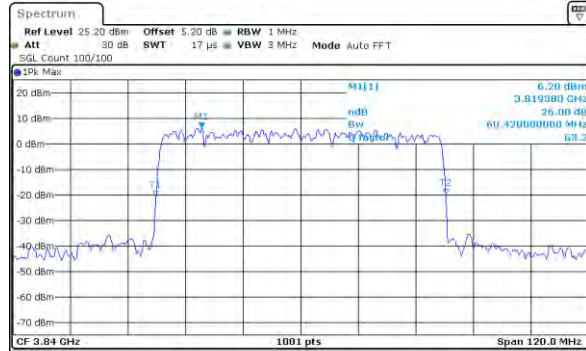
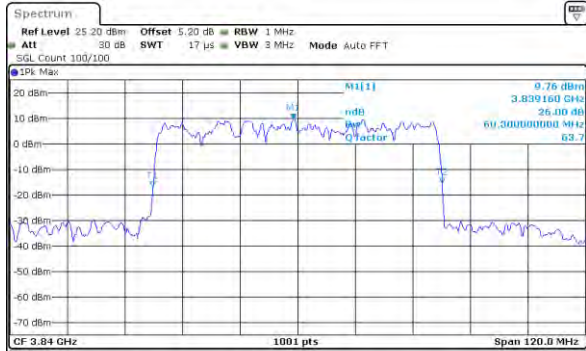
Date: 13.FEB.2021 00:15:04

64QAM

256QAM

Middle Channel

Middle Channel



Date: 13.FEB.2021 00:15:24

Date: 13.FEB.2021 00:15:40



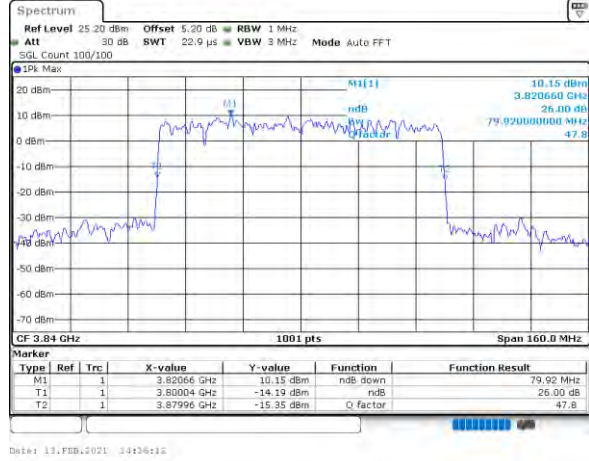
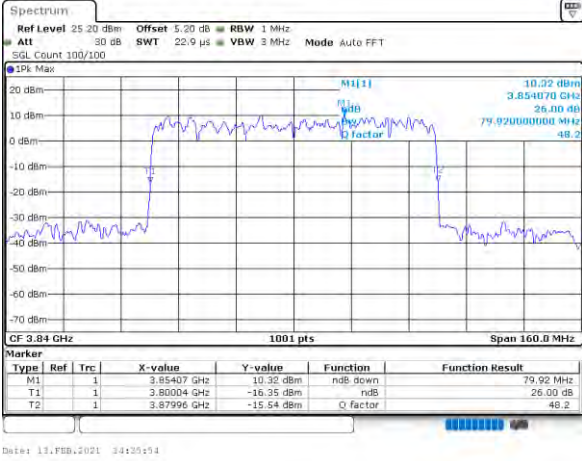
FR1 UL-MIMO n77 / 80MHz / CP-OFDM (M2)

QPSK

16QAM

Middle Channel

Middle Channel

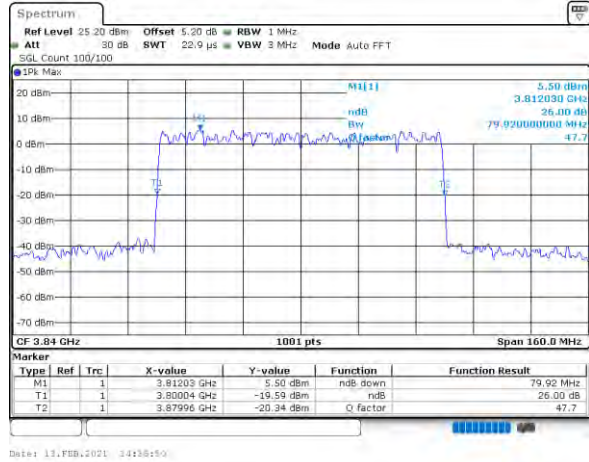
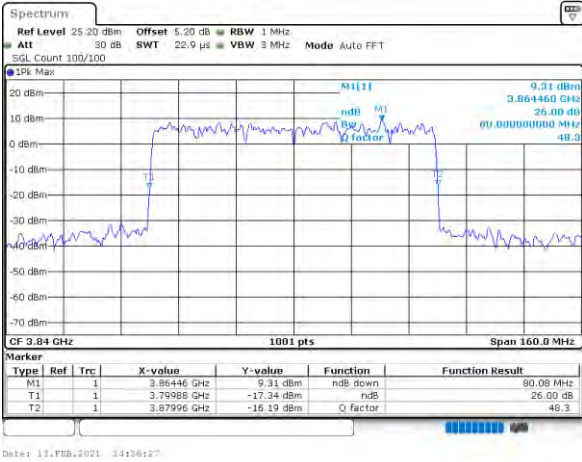


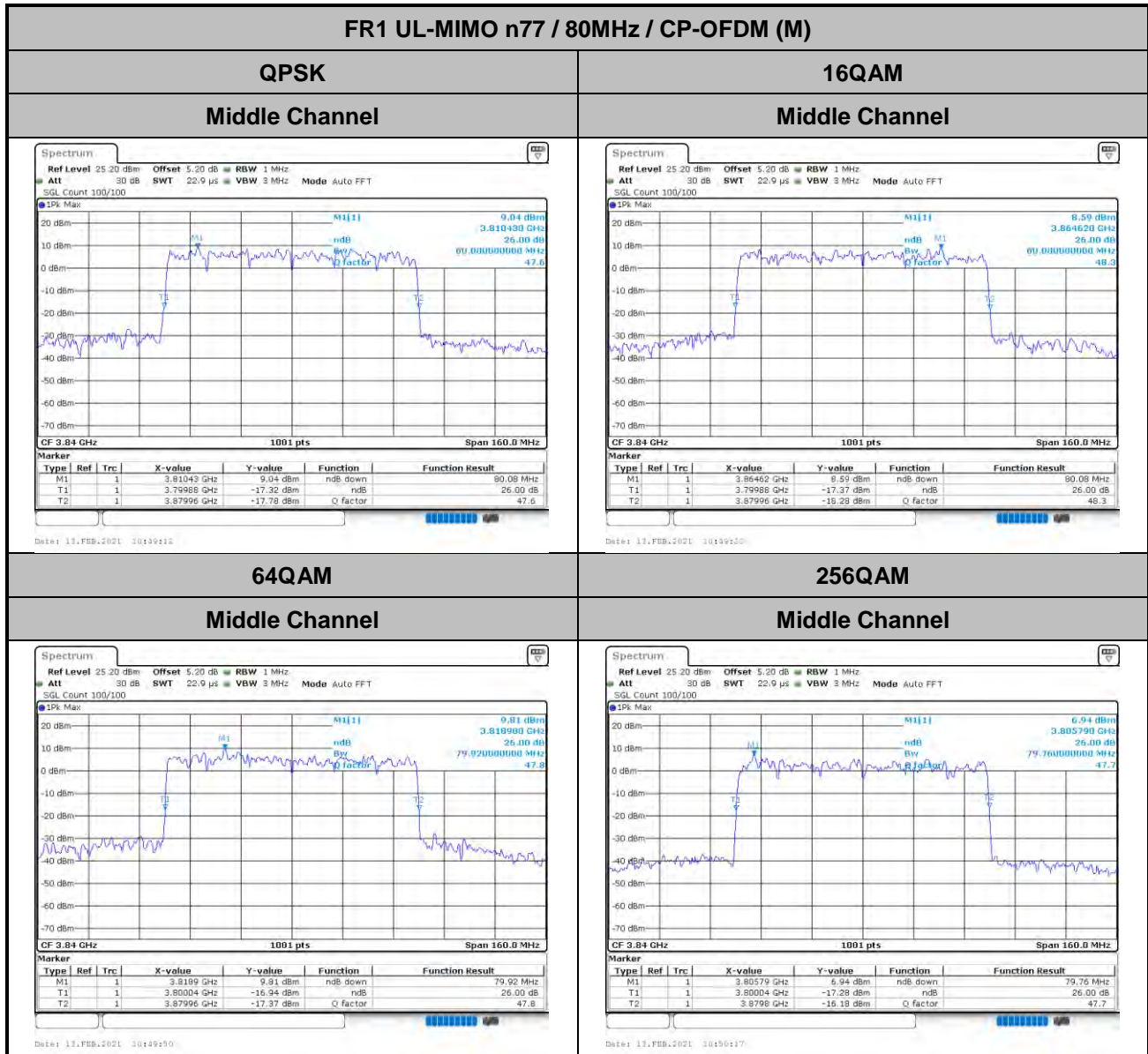
64QAM

256QAM

Middle Channel

Middle Channel







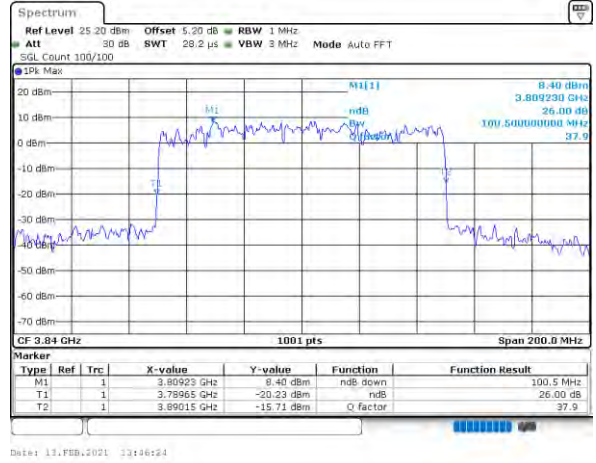
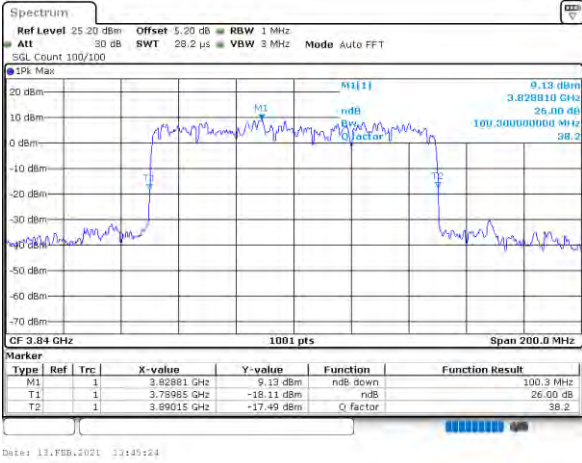
FR1 UL-MIMO n77 / 100MHz / CP-OFDM (M2)

QPSK

16QAM

Middle Channel

Middle Channel

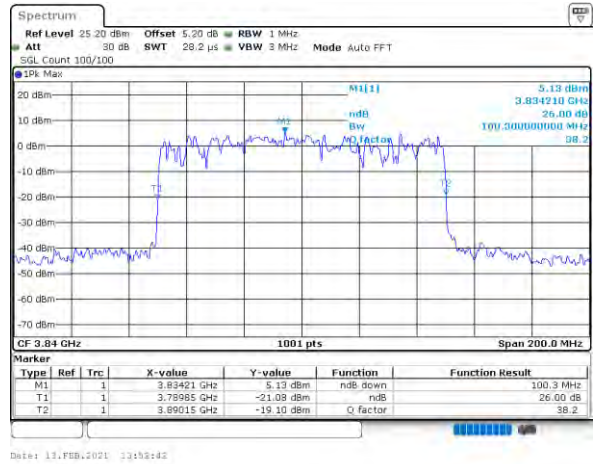
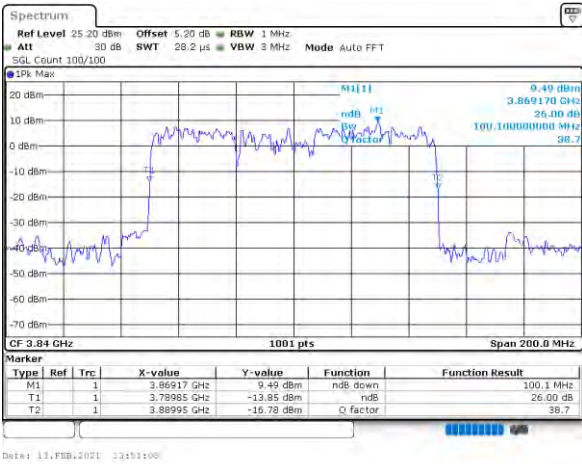


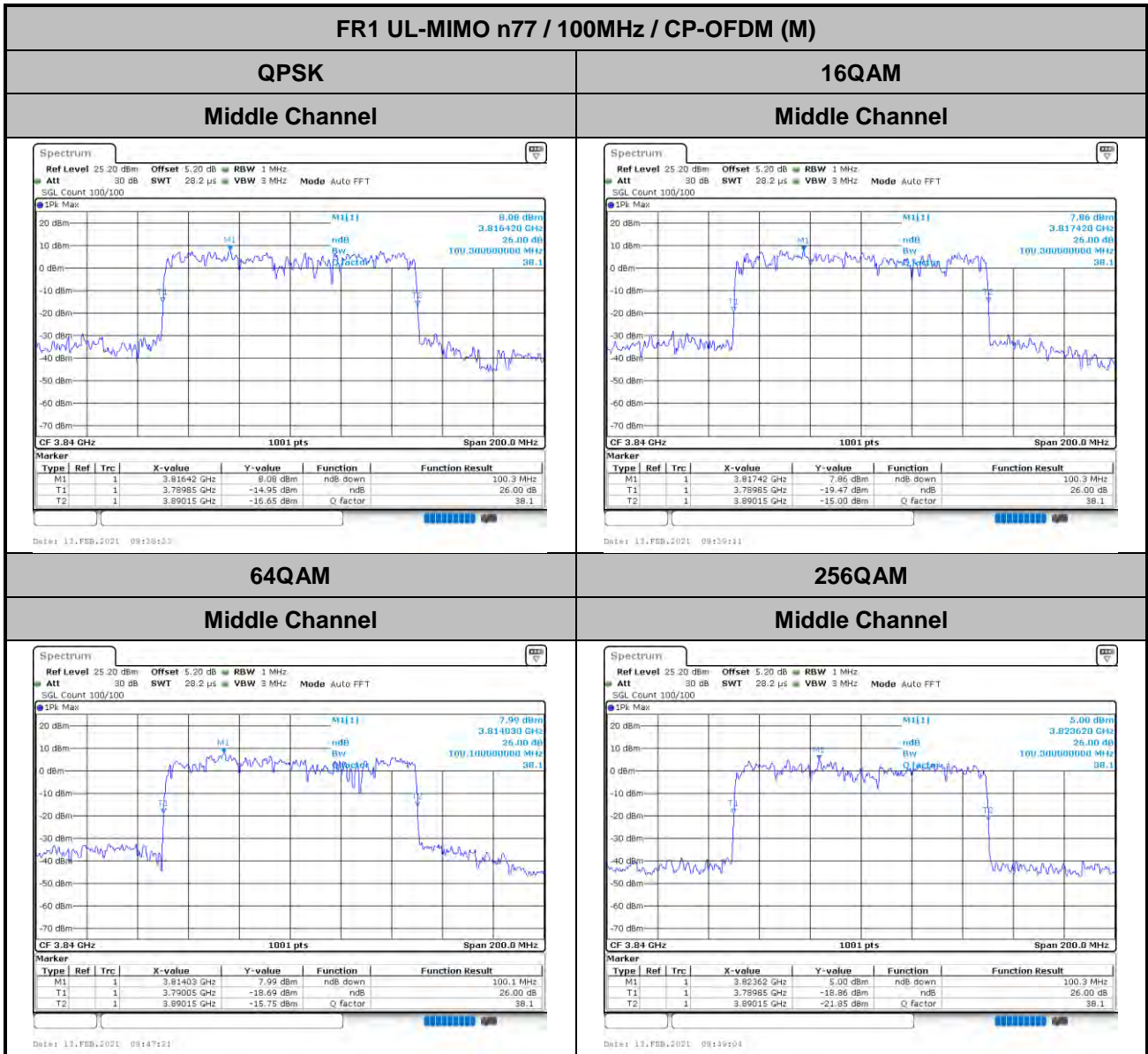
64QAM

256QAM

Middle Channel

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	8.57	8.59	8.57	8.55	8.55	8.57	8.57	8.53

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	13.67	13.55	13.55	13.49	13.61	13.64	13.61	13.61

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	18.26	18.18	18.10	18.26	18.26	18.26	18.26	18.18

Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	40MHz	40MHz	40MHz	40MHz	40MHz	40MHz	40MHz	40MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	38.12	38.12	38.12	38.04	38.20	38.20	37.96	38.12

Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	50MHz	50MHz	50MHz	50MHz	50MHz	50MHz	50MHz	50MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	47.35	47.35	47.75	47.65	47.55	47.35	47.55	47.15

Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	60MHz	60MHz	60MHz	60MHz	60MHz	60MHz	60MHz	60MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	57.54	58.02	57.90	57.66	58.38	57.66	58.14	58.02



Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	80MHz	80MHz	80MHz	80MHz	80MHz	80MHz	80MHz	80MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	76.88	77.52	77.68	77.84	77.36	77.36	77.04	77.20

Mode	FR1 UL-MIMO n77 : OBW(MHz) / CP-OFDM							
	M2				M			
BW	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	96.70	97.10	97.10	97.30	96.50	97.30	97.10	96.70



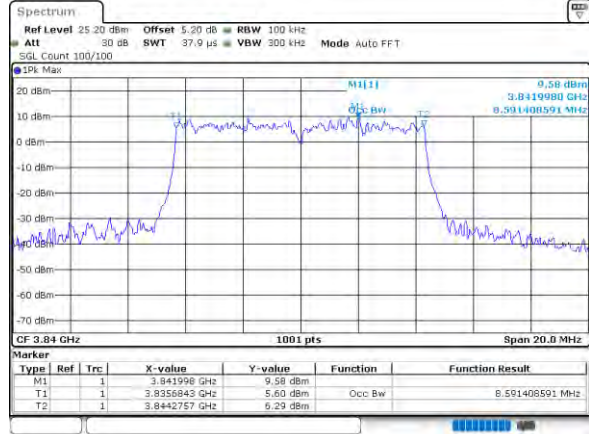
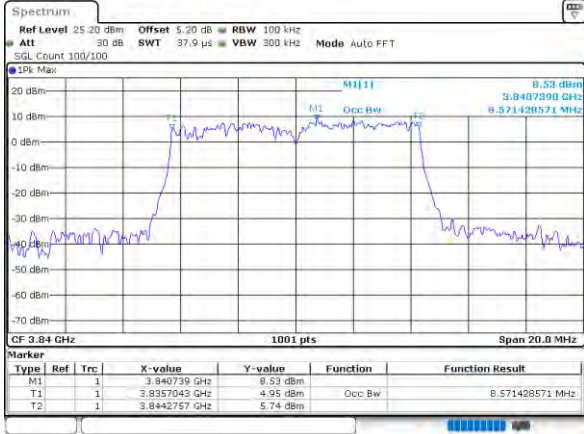
FR1 UL-MIMO n77 / 10MHz / CP-OFDM (M2)

QPSK

16QAM

Middle Channel

Middle Channel



Date: 13.FEB.2021 16:21:52

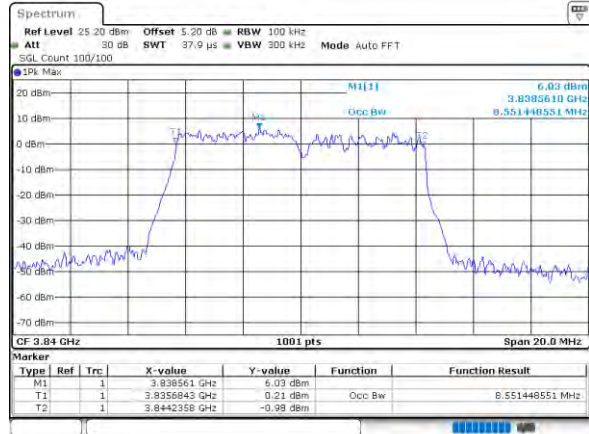
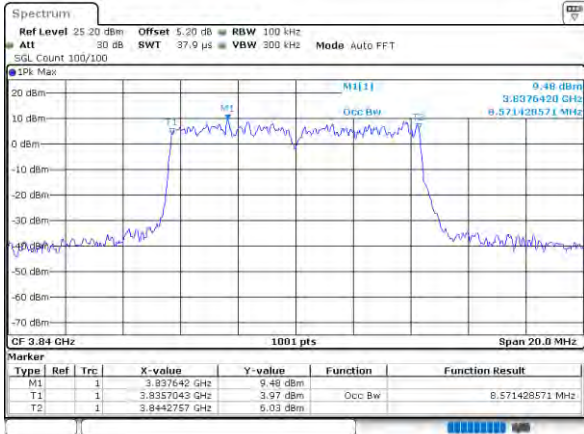
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64QAM

256QAM

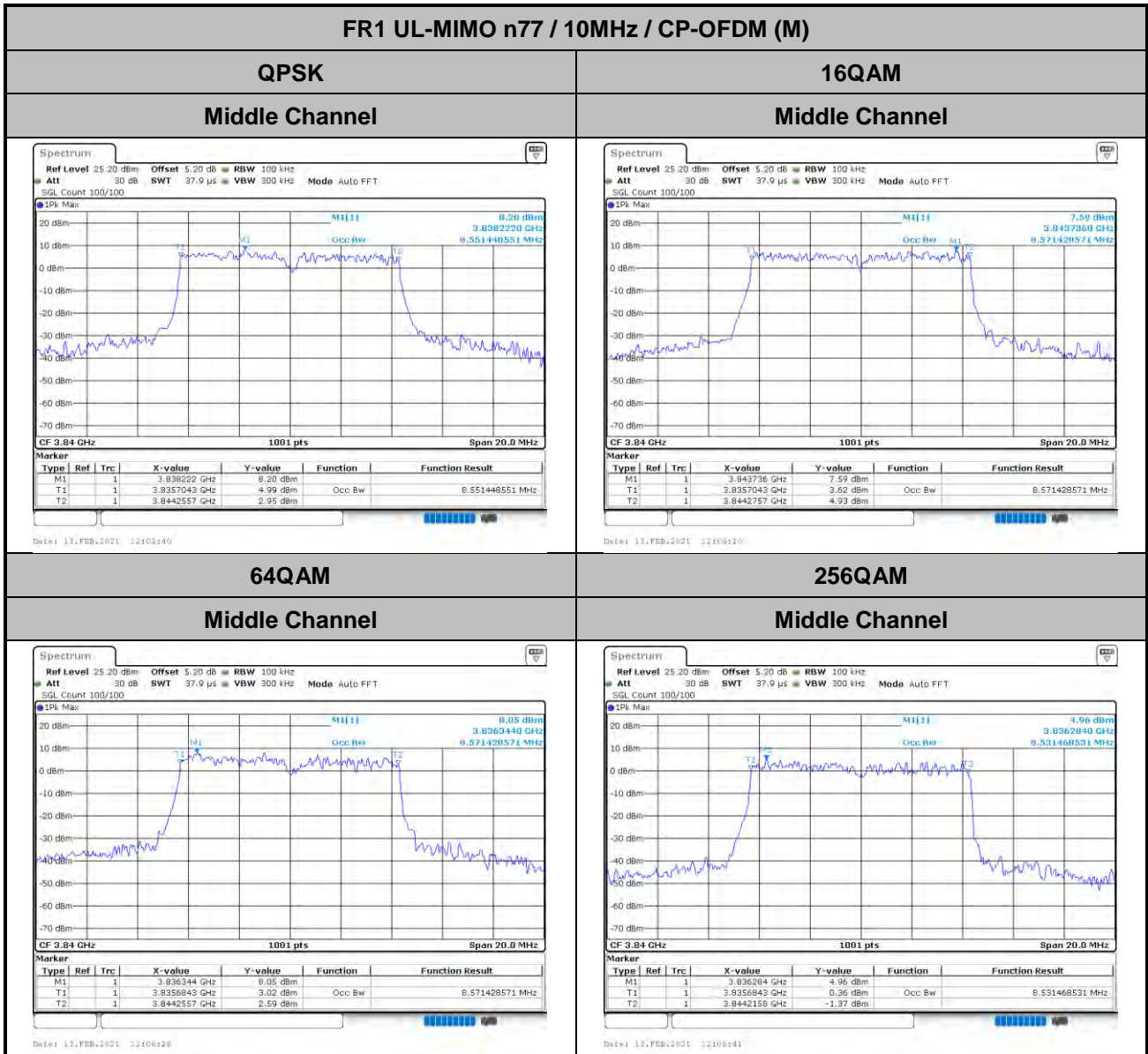
Middle Channel

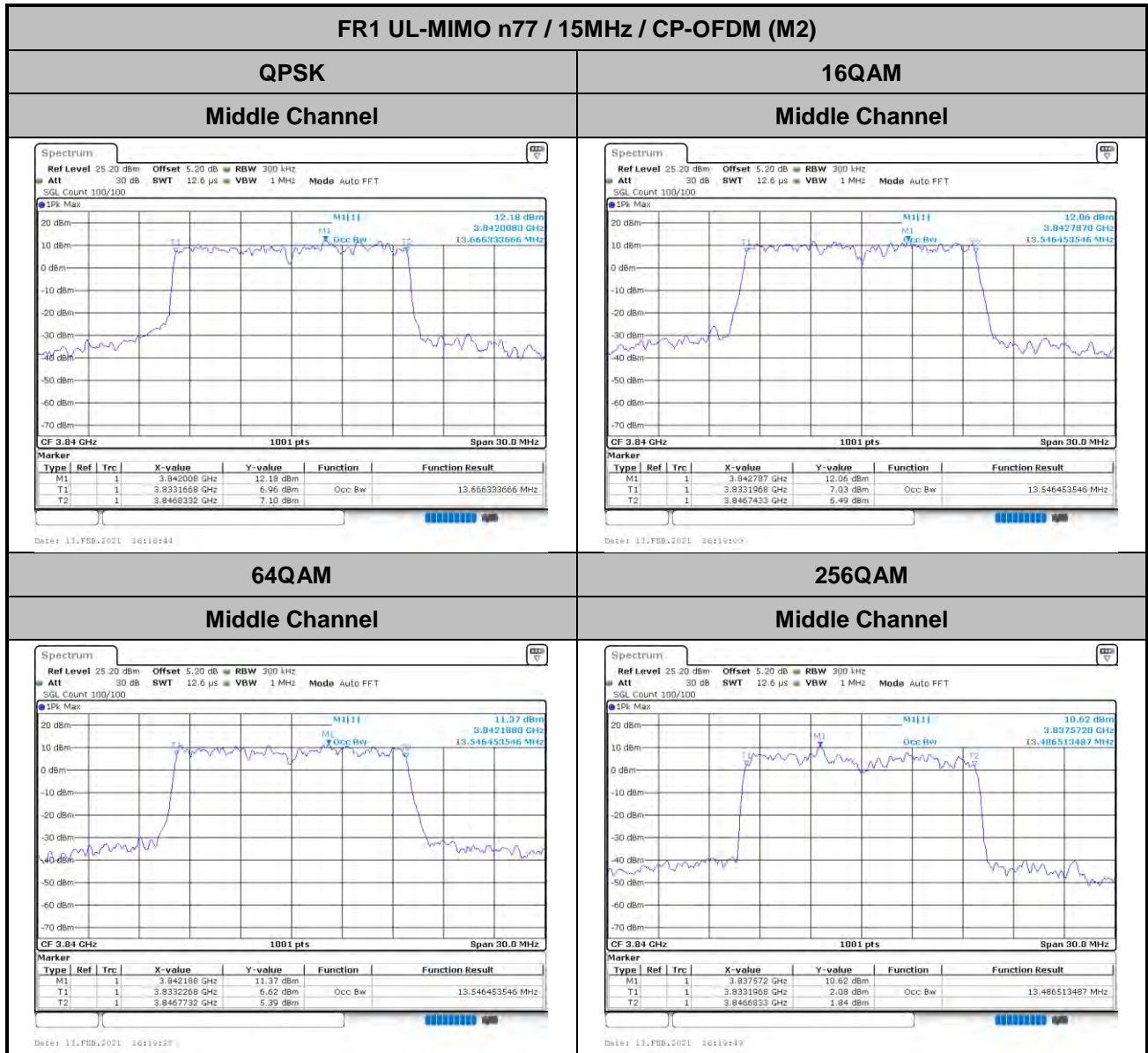
Middle Channel

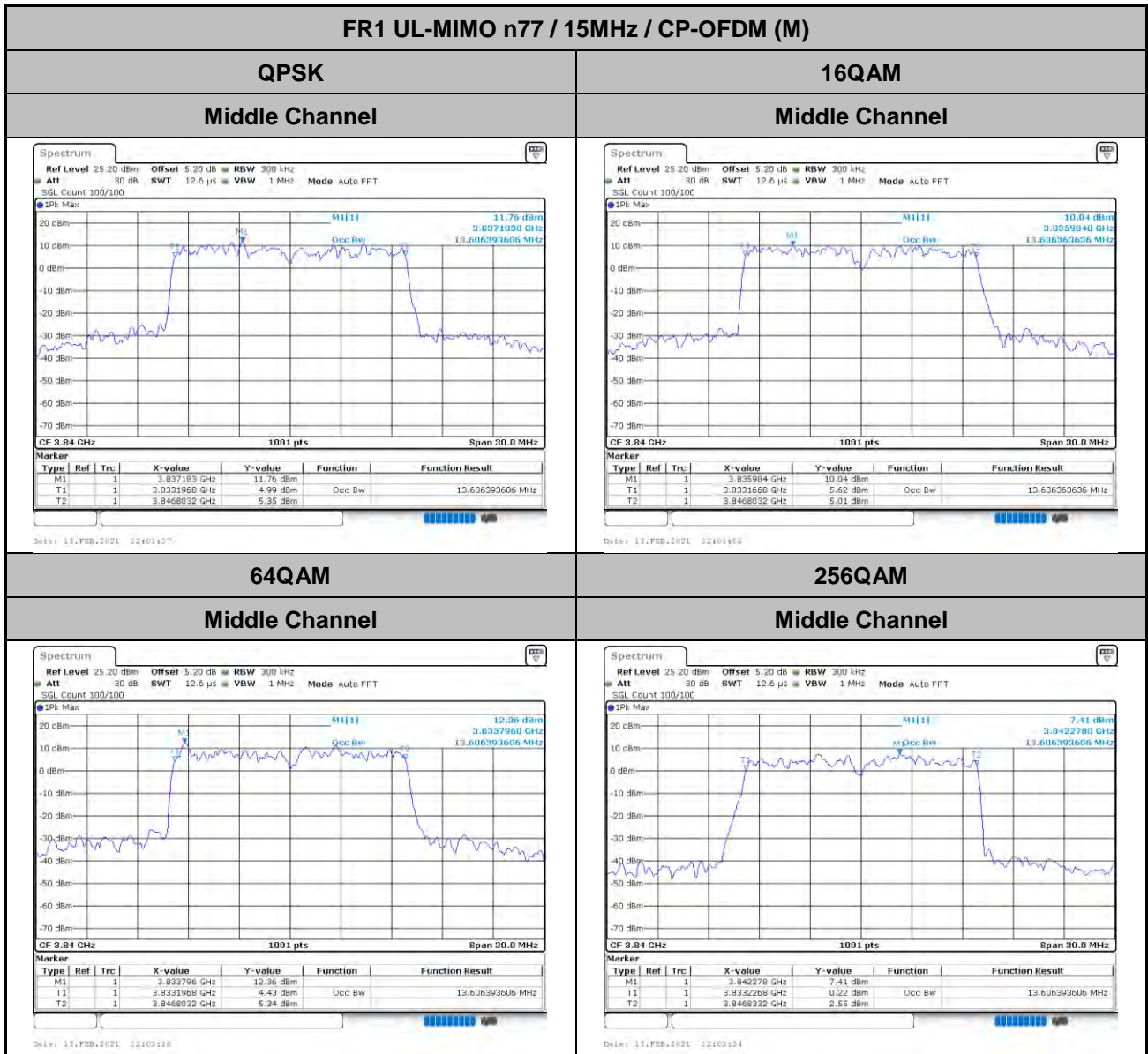


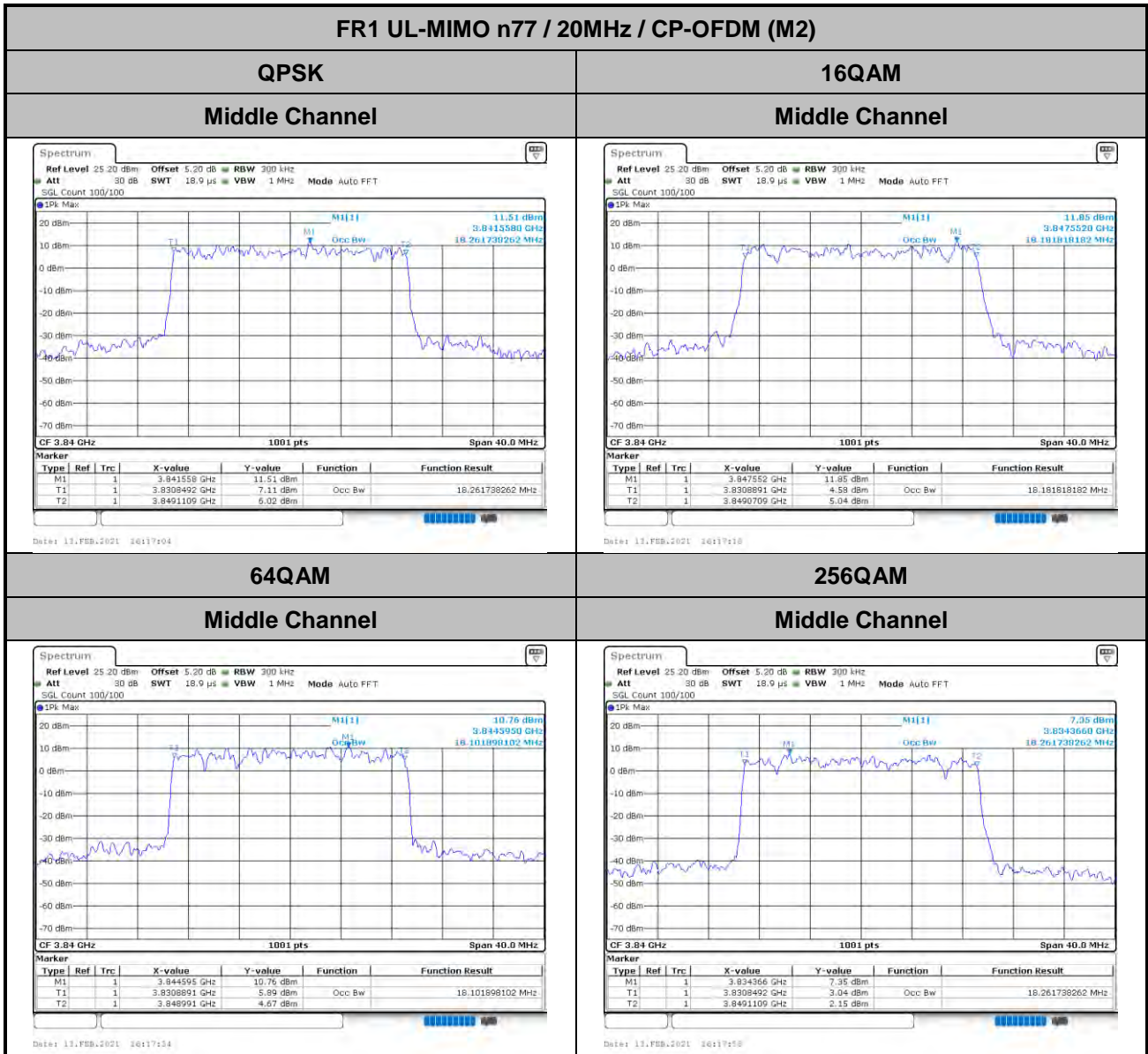
Date: 13.FEB.2021 16:23:52

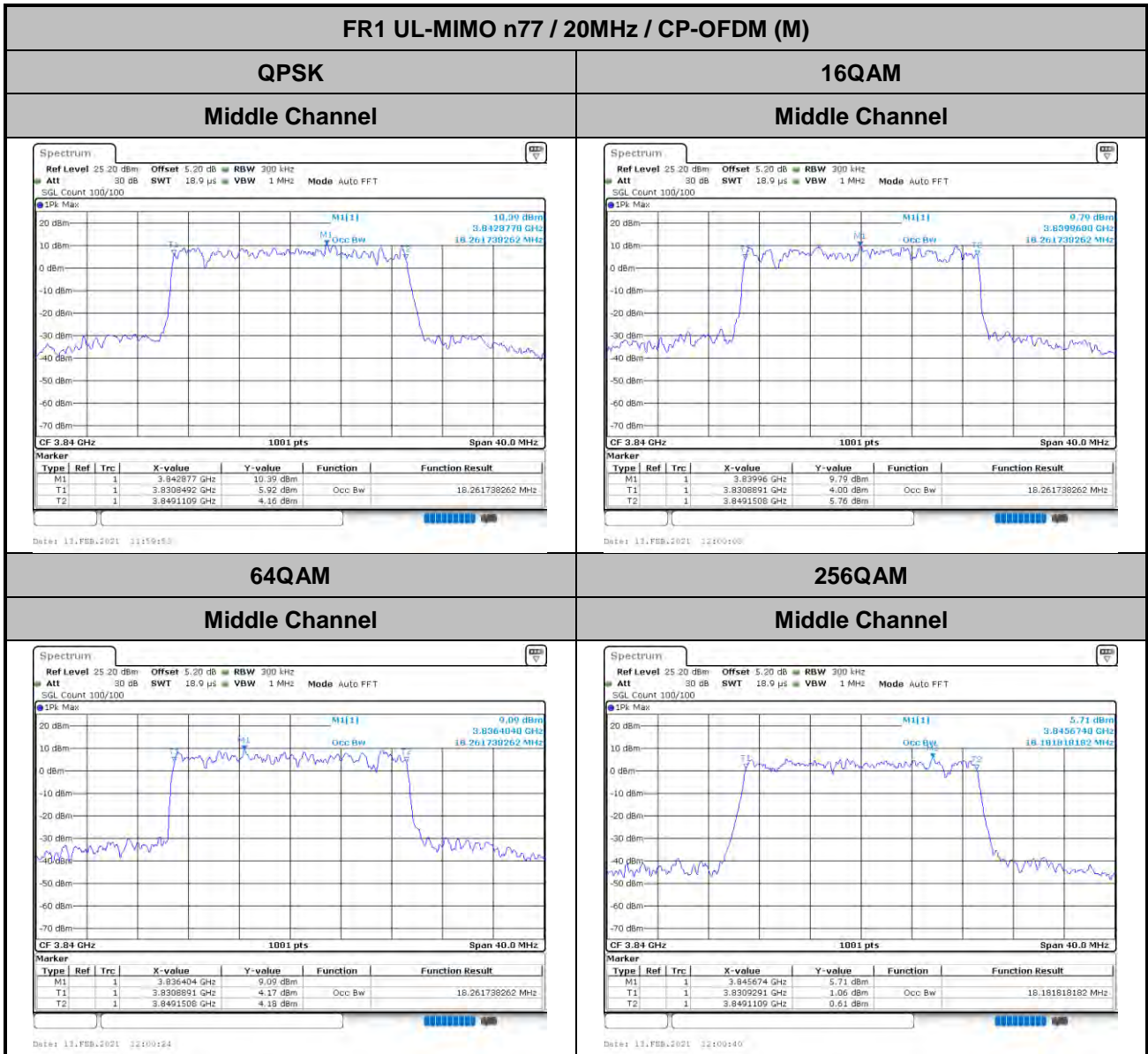
Date: 13.FEB.2021 16:25:18



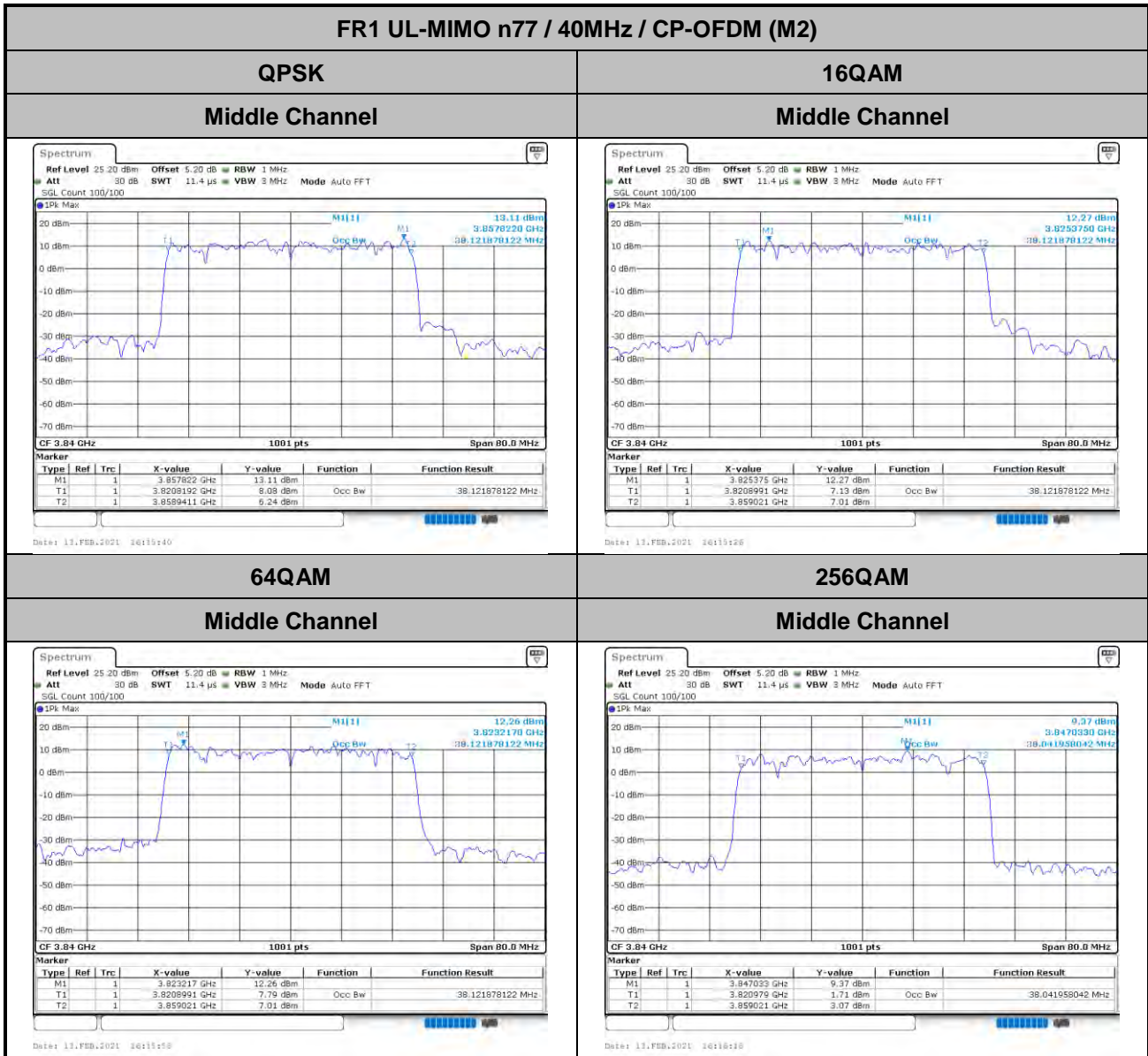


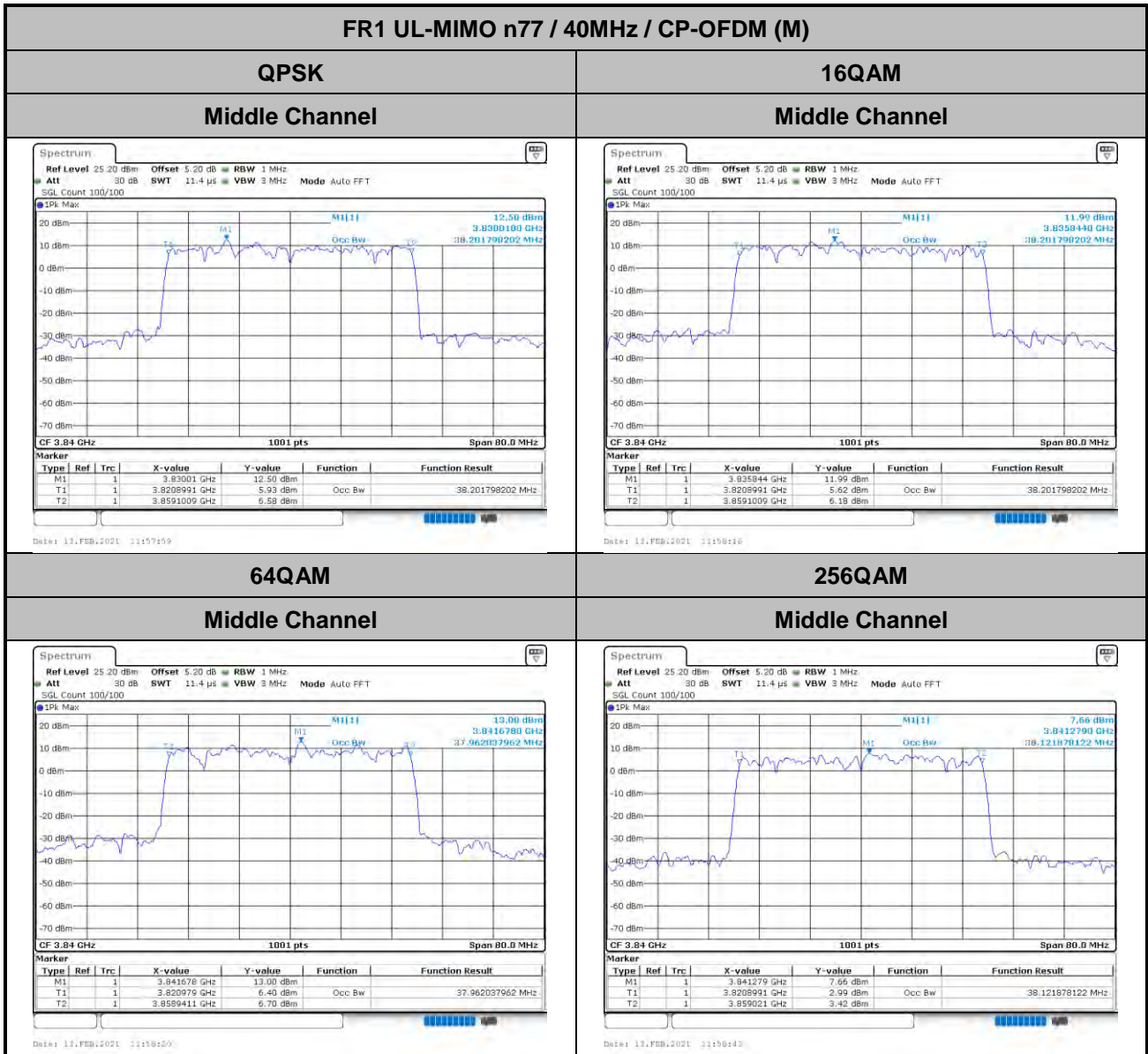














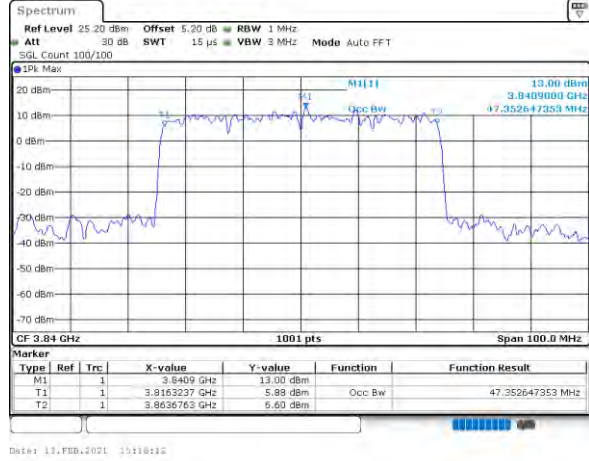
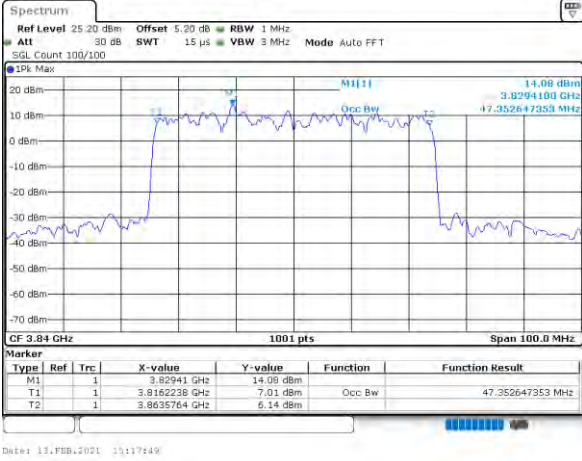
FR1 UL-MIMO n77 / 50MHz / CP-OFDM (M2)

QPSK

16QAM

Middle Channel

Middle Channel

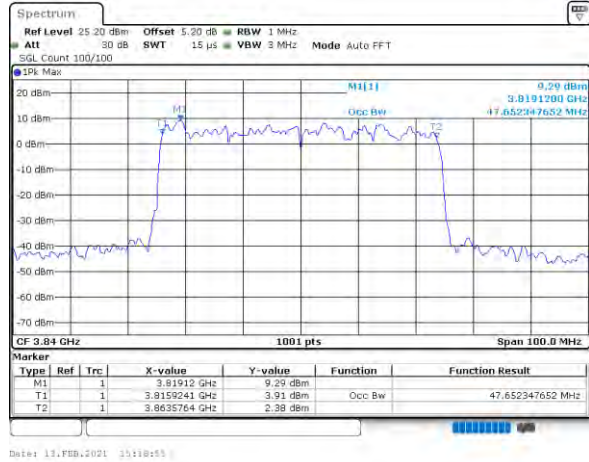
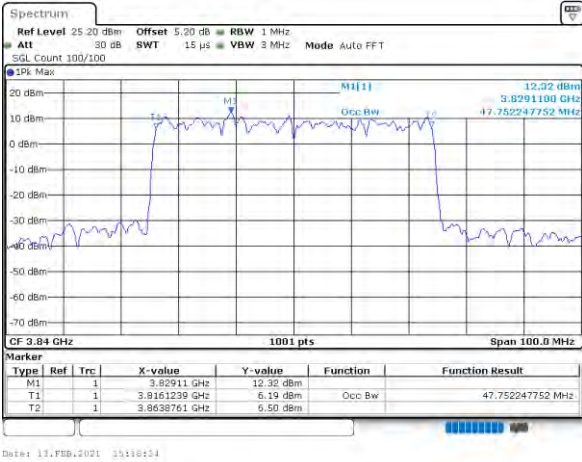


64QAM

256QAM

Middle Channel

Middle Channel





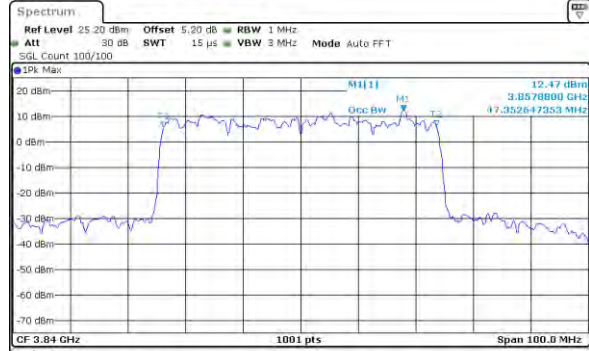
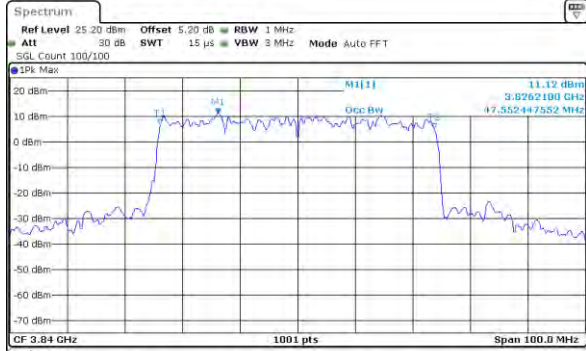
FR1 UL-MIMO n77 / 50MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel



Date: 13.FEB.2021 30:15:46

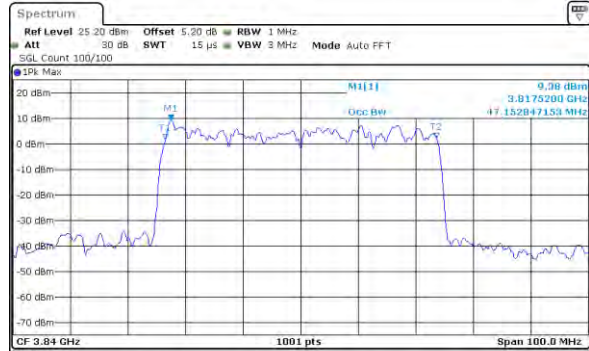
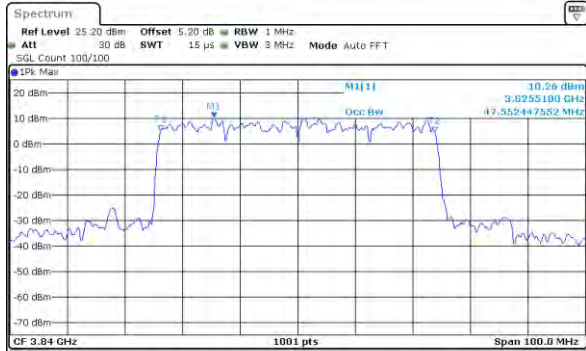
Date: 13.FEB.2021 30:15:10

64QAM

256QAM

Middle Channel

Middle Channel



Date: 13.FEB.2021 30:15:29

Date: 13.FEB.2021 30:15:17



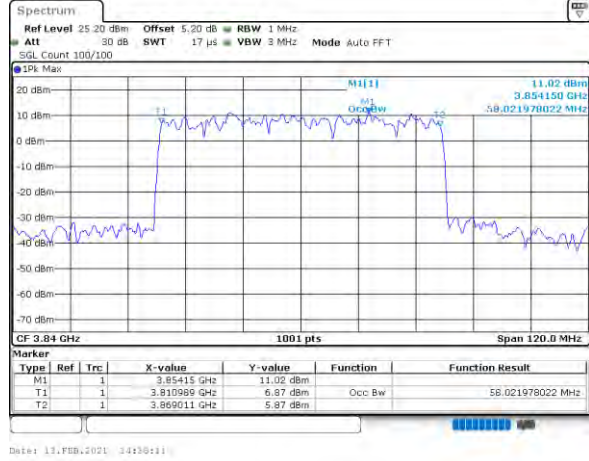
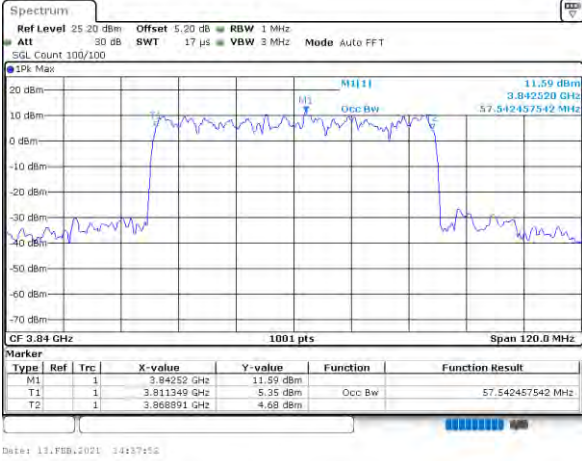
FR1 UL-MIMO n77 / 60MHz / CP-OFDM (M2)

QPSK

16QAM

Middle Channel

Middle Channel

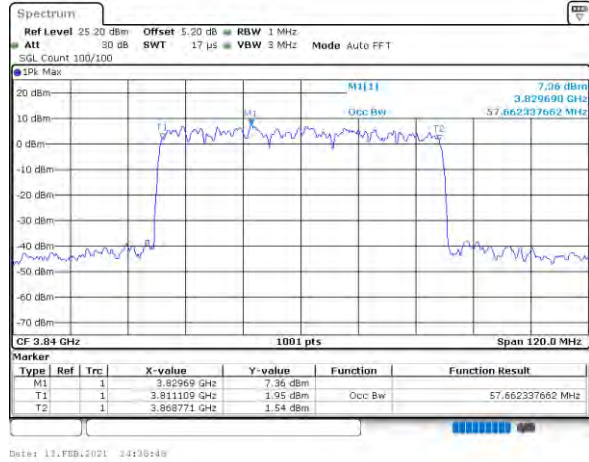
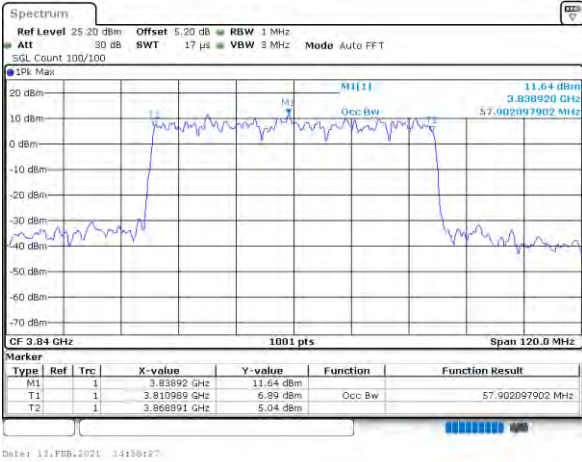


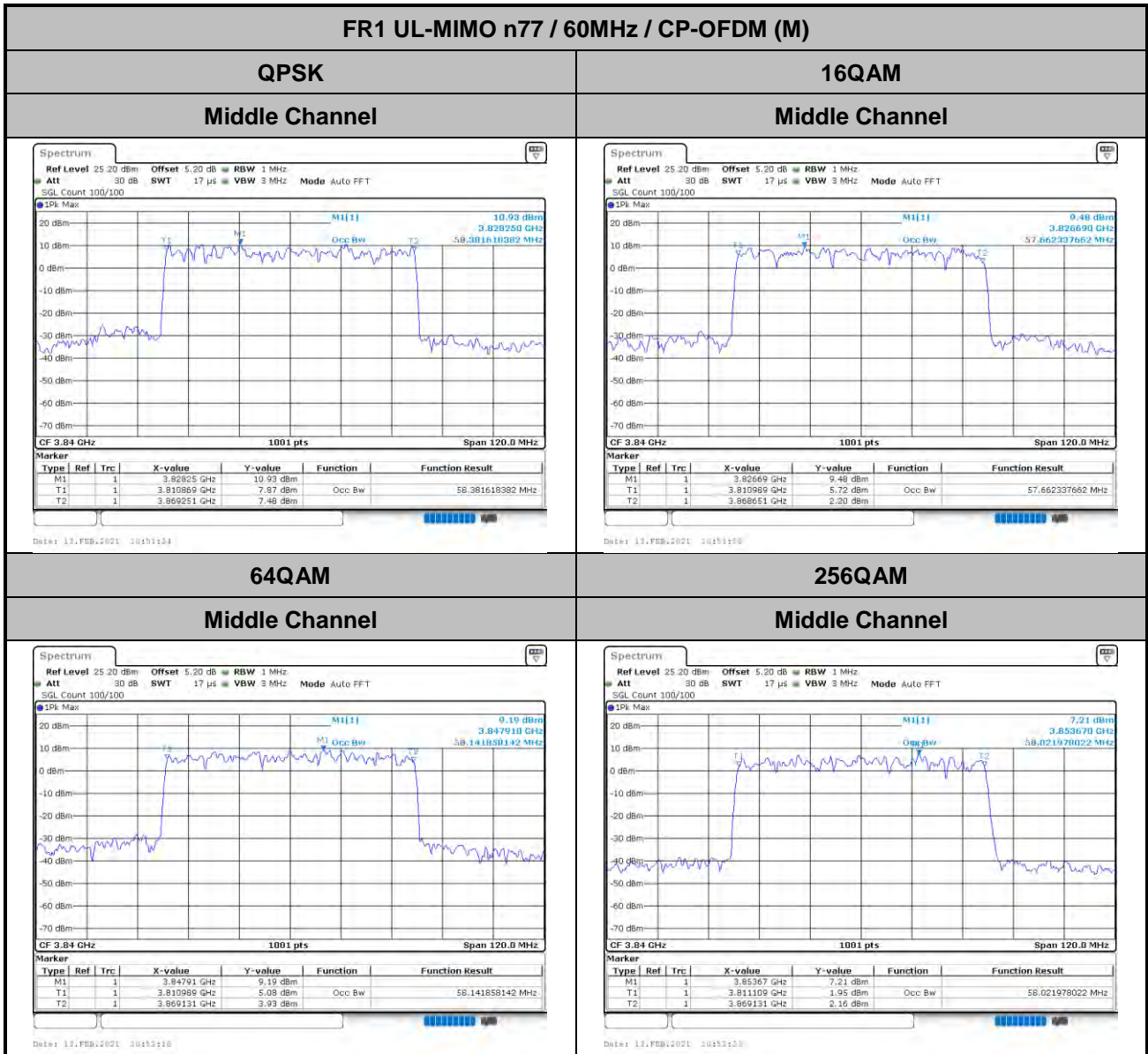
64QAM

256QAM

Middle Channel

Middle Channel







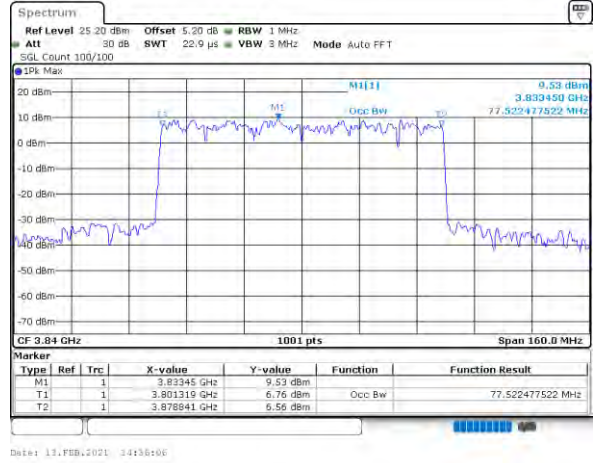
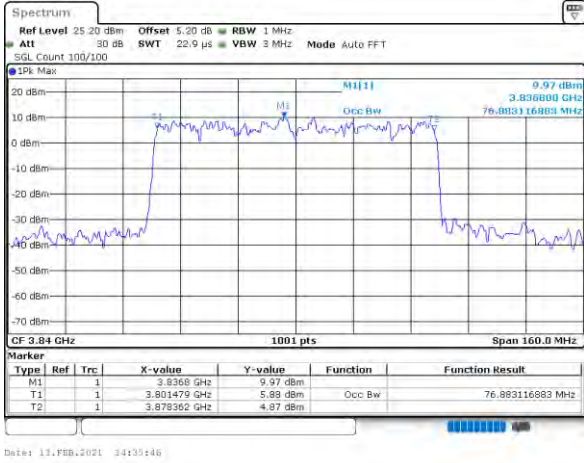
FR1 UL-MIMO n77 / 80MHz / CP-OFDM (M2)

QPSK

16QAM

Middle Channel

Middle Channel

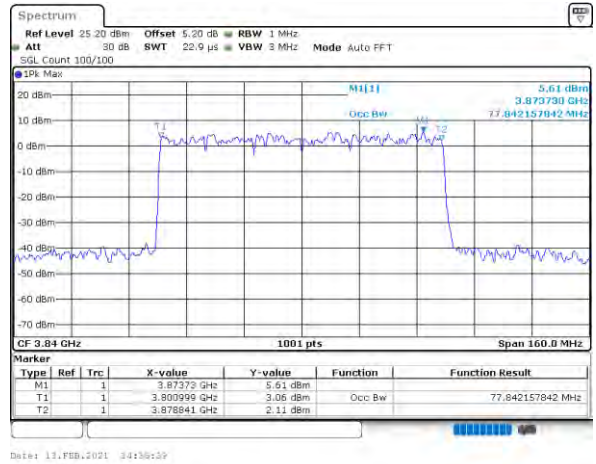
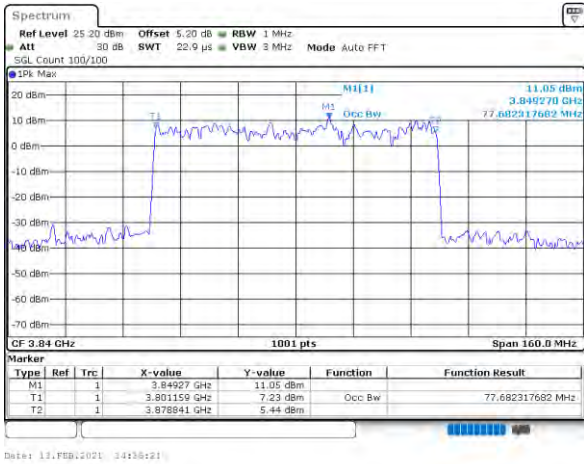


64QAM

256QAM

Middle Channel

Middle Channel





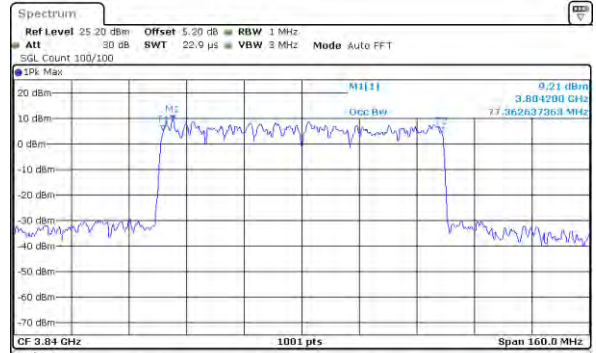
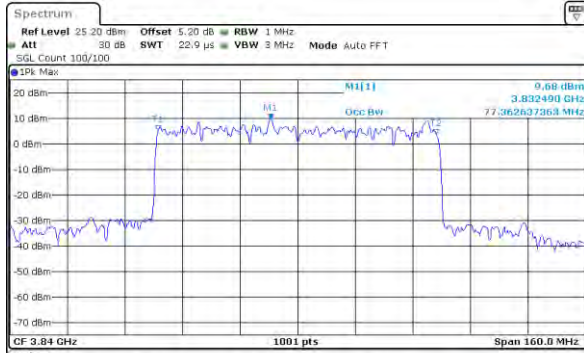
FR1 UL-MIMO n77 / 80MHz / CP-OFDM (M)

QPSK

16QAM

Middle Channel

Middle Channel



Date: 13.FEB.2021 20:15:09

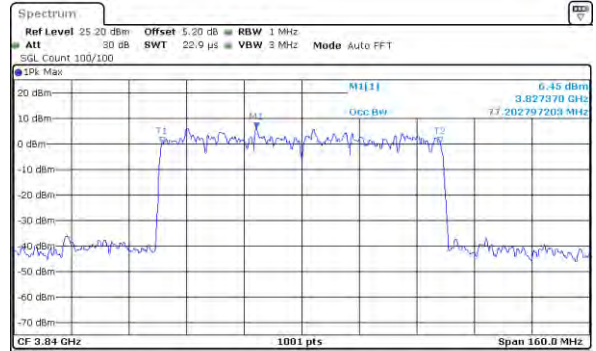
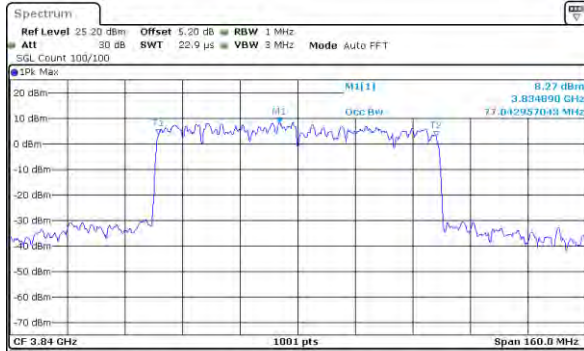
Date: 13.FEB.2021 20:15:27

64QAM

256QAM

Middle Channel

Middle Channel



Date: 13.FEB.2021 20:15:44

Date: 13.FEB.2021 20:16:09





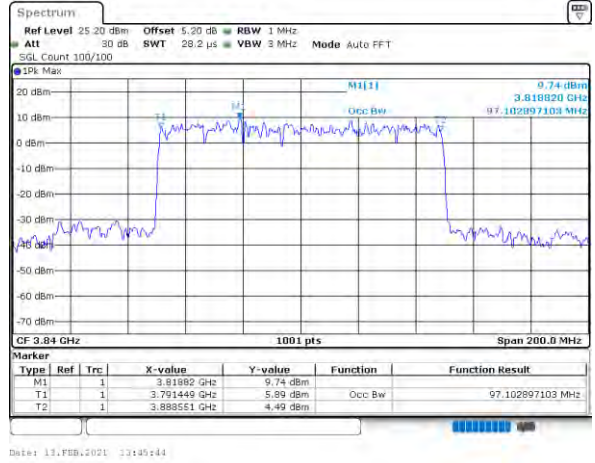
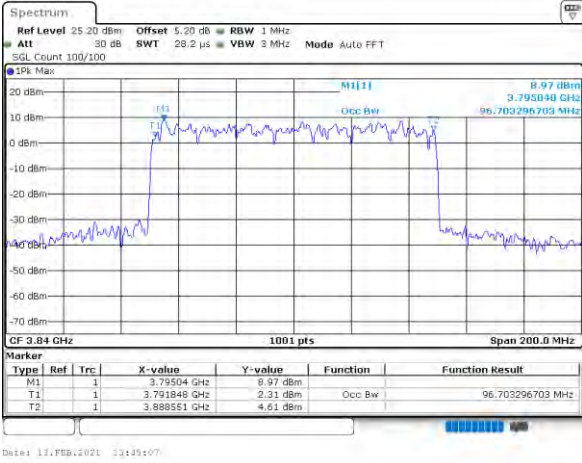
FR1 UL-MIMO n77 / 100MHz / CP-OFDM (M2)

QPSK

16QAM

Middle Channel

Middle Channel

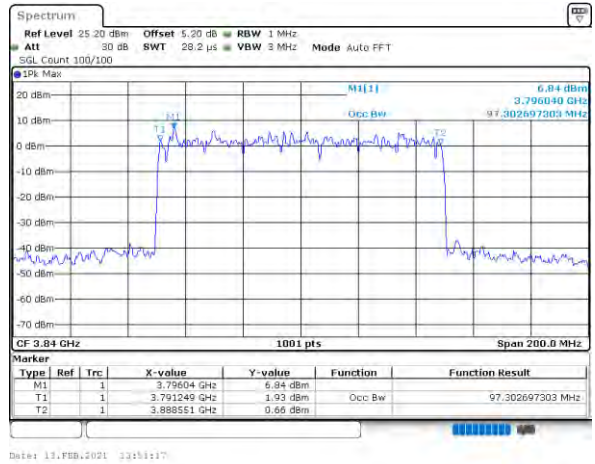
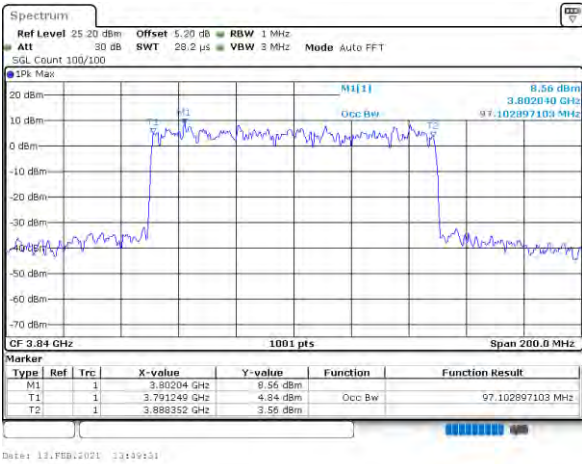


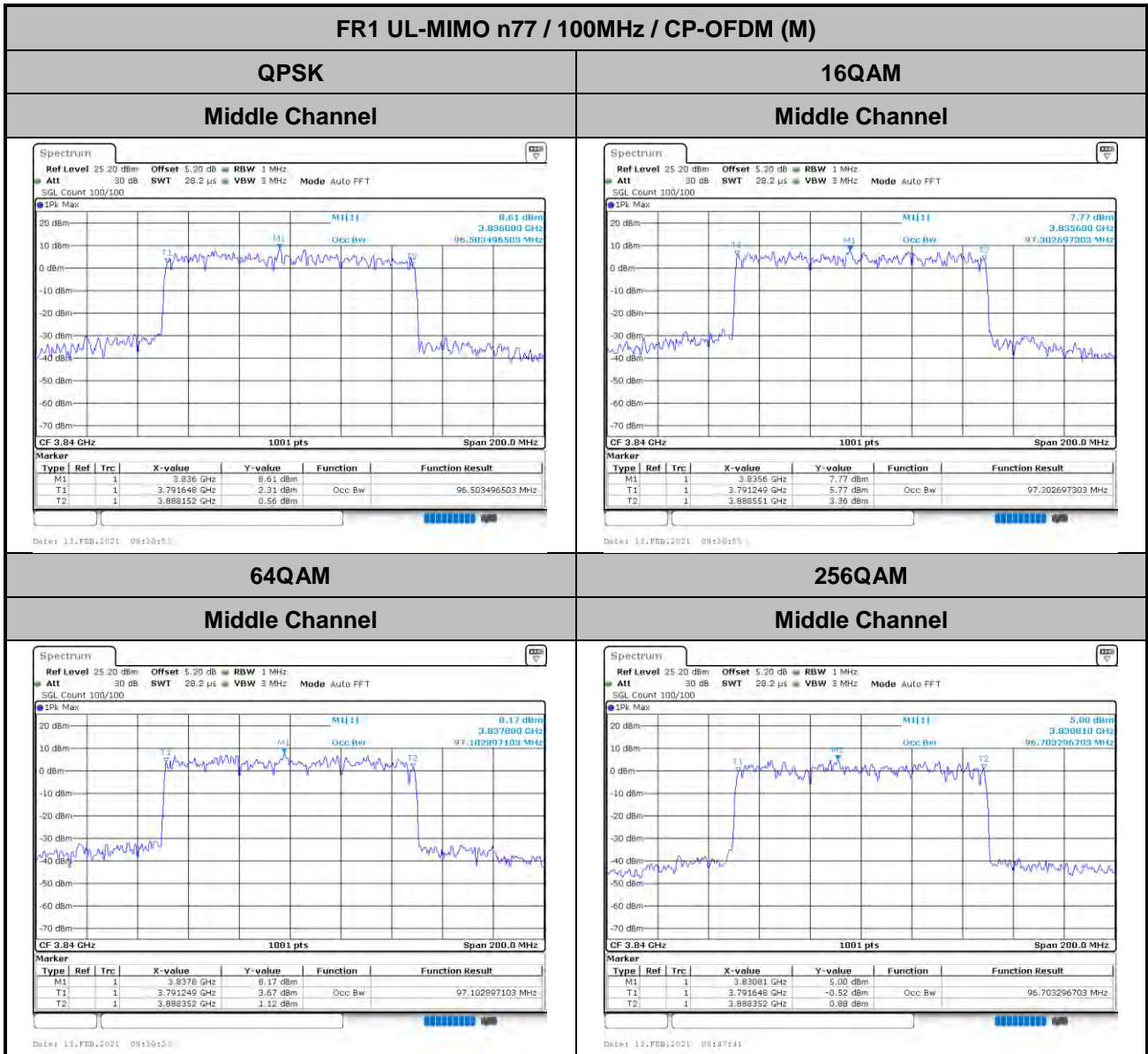
64QAM

256QAM

Middle Channel

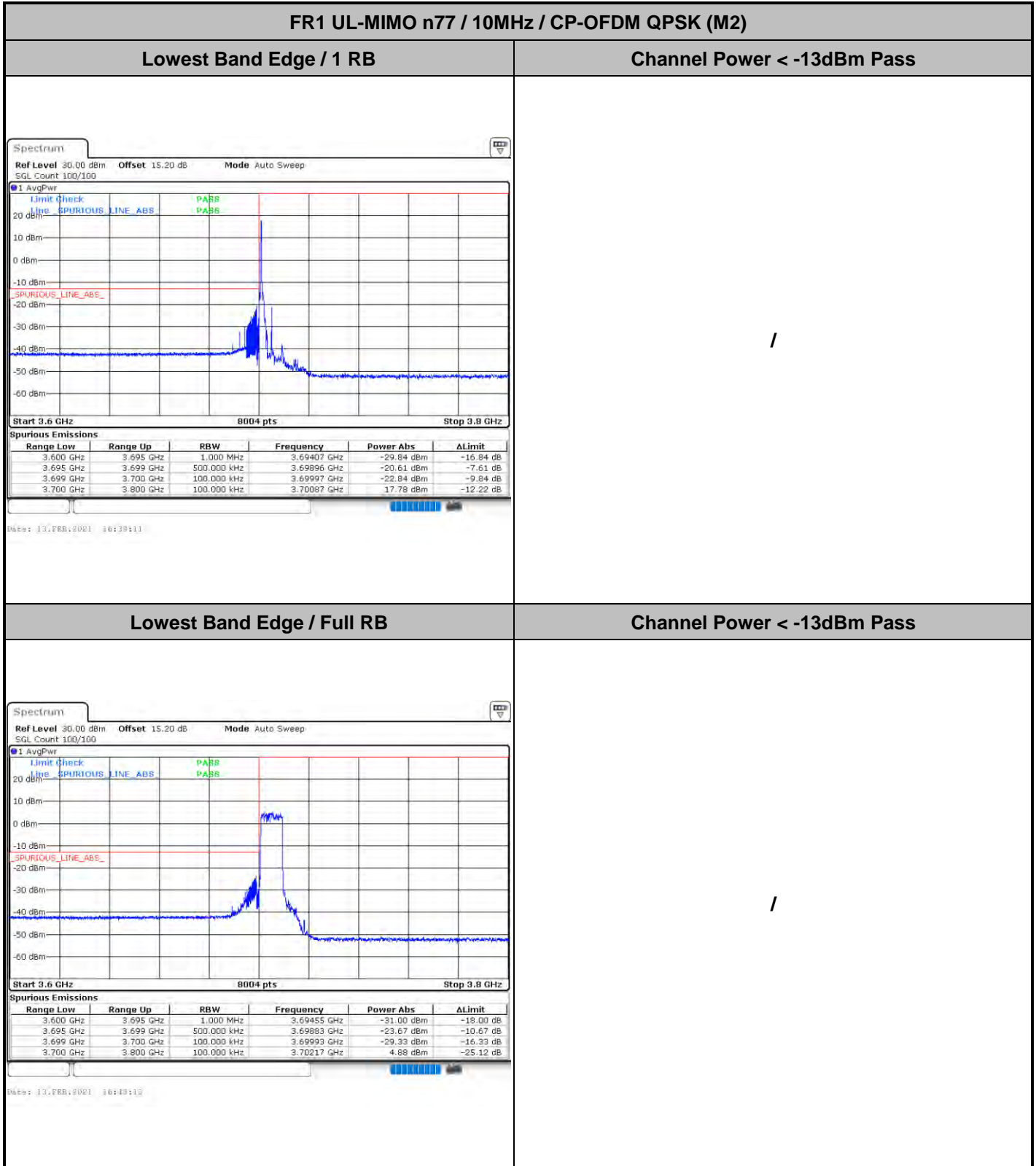
Middle Channel







# Conducted Band Edge

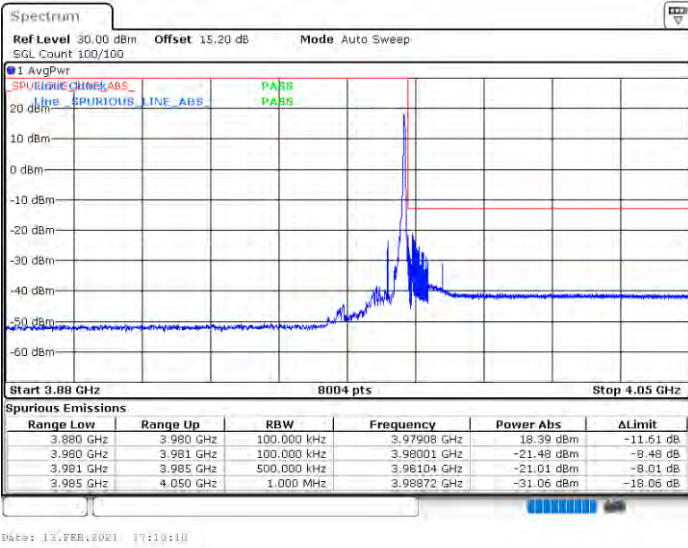




FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (M2)

Highest Band Edge / 1 RB

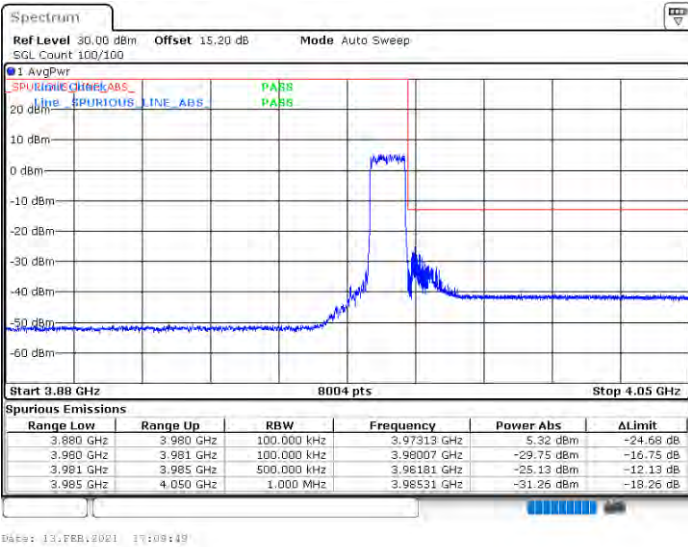
Channel Power < -13dBm Pass



/

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



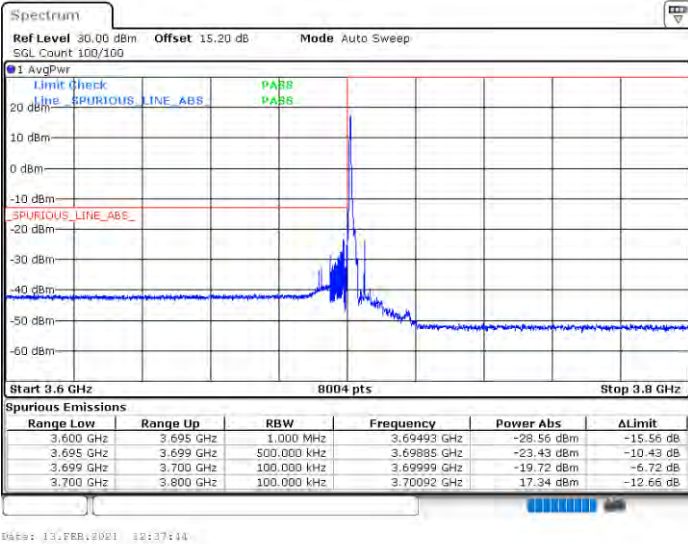
/



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

Lowest Band Edge / 1 RB

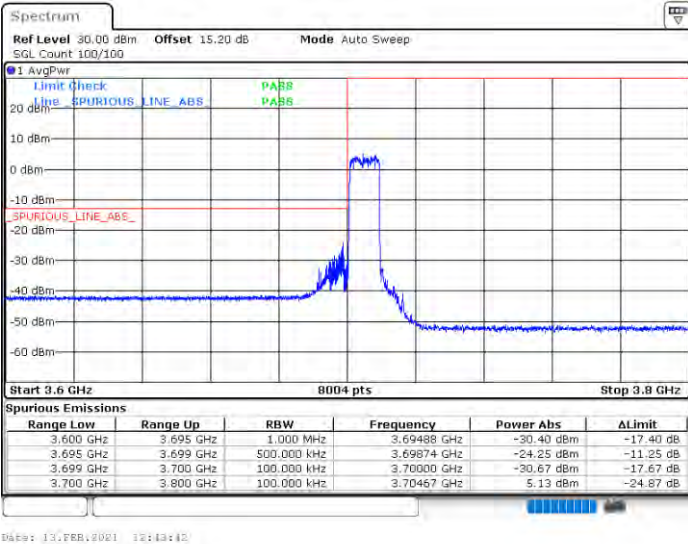
Channel Power < -13dBm Pass



/

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



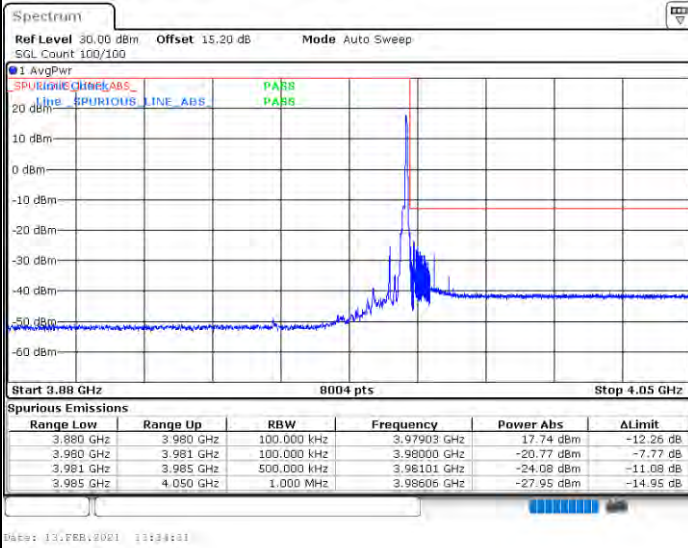
/



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

Highest Band Edge / 1 RB

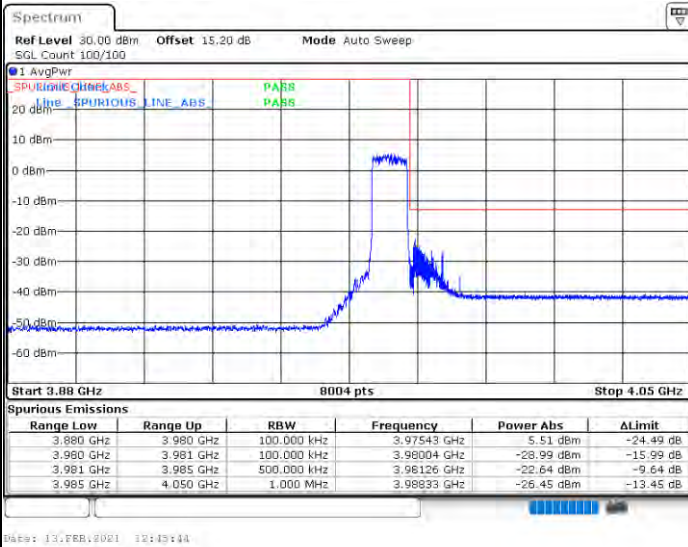
Channel Power < -13dBm Pass



/

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



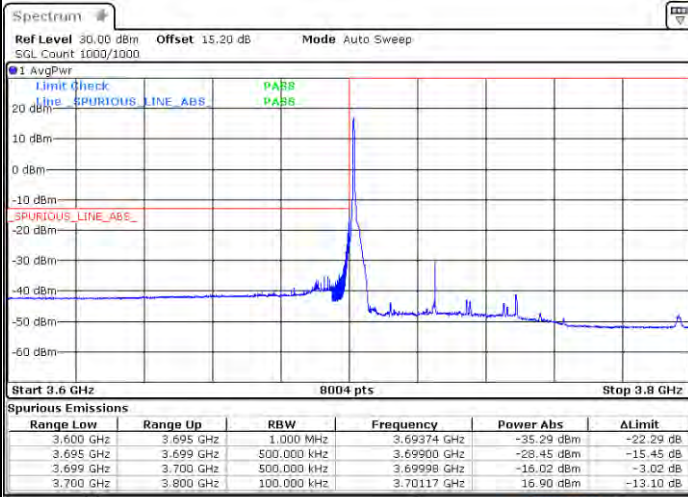
/



FR1 UL-MIMO n77 / 50MHz / CP-OFDM QPSK (M2)

Lowest Band Edge / 1 RB

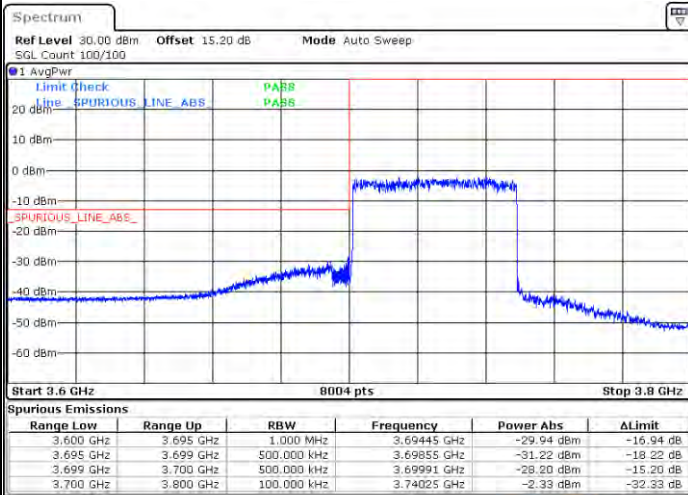
Channel Power < -13dBm Pass



Date: 13.FEB.2021 15:38:28

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



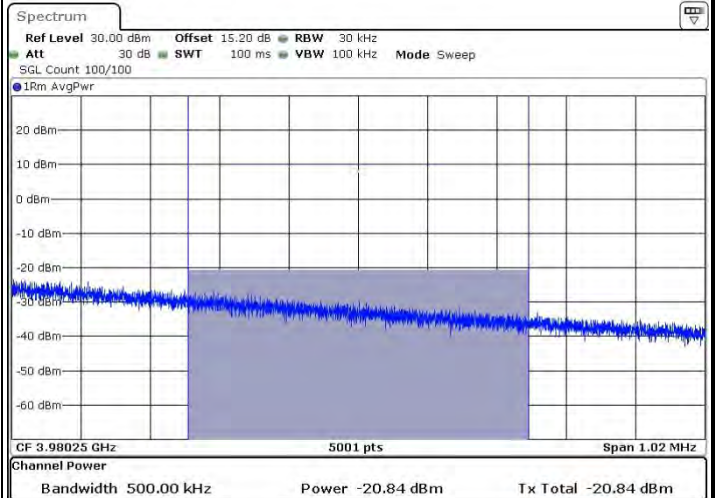
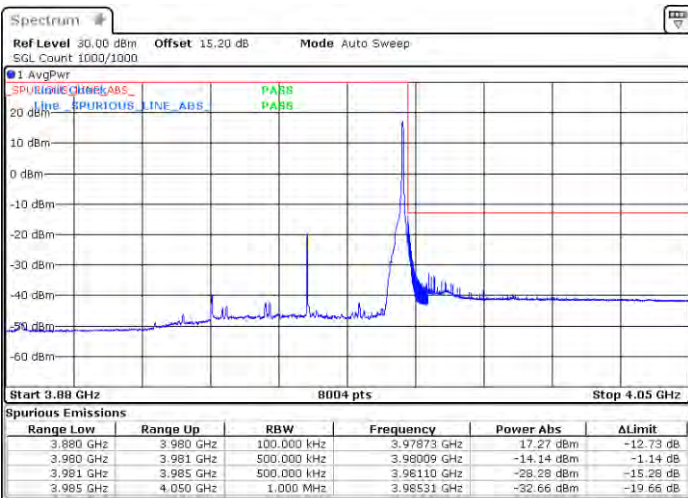
Date: 13.FEB.2021 15:38:58



FR1 UL-MIMO n77 / 40MHz / CP-OFDM QPSK (M2)

Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Date: 13.FEB.2021 16:14:02

Date: 13.FEB.2021 15:55:25

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



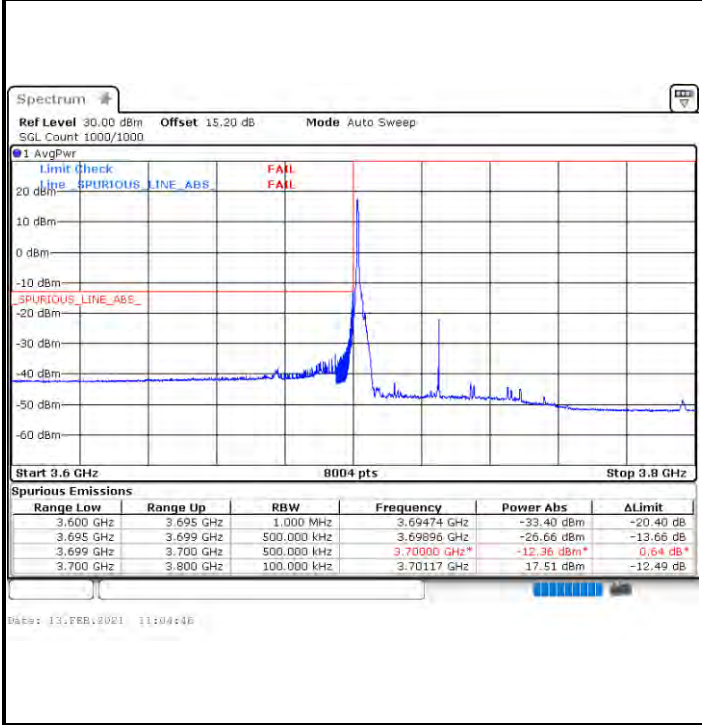
Date: 13.FEB.2021 16:11:15



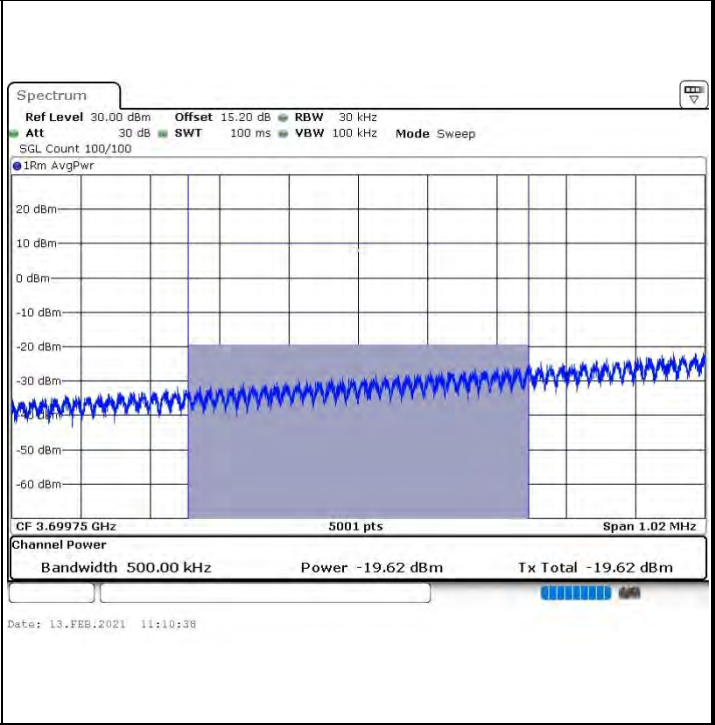


**FR1 UL-MIMO n77 / 50MHz / CP-OFDM QPSK (M)**

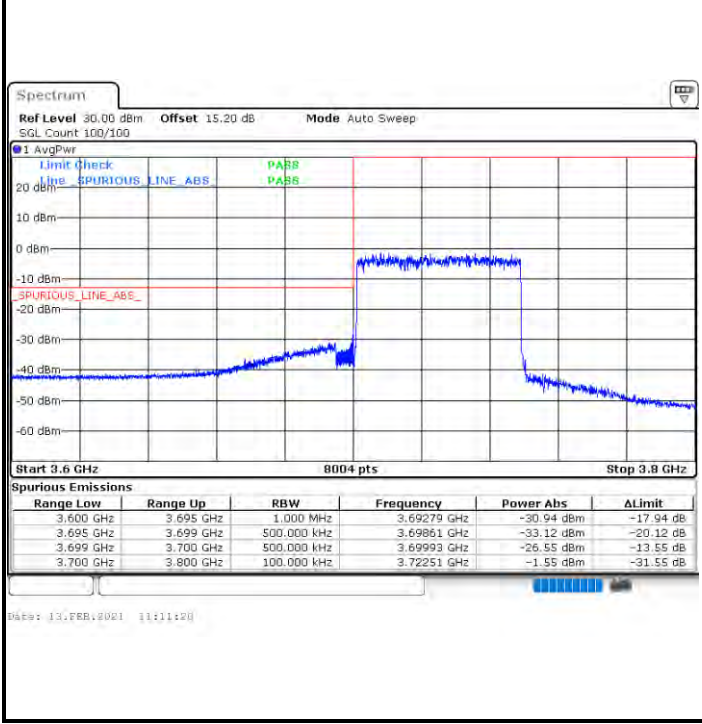
**Lowest Band Edge / 1 RB**



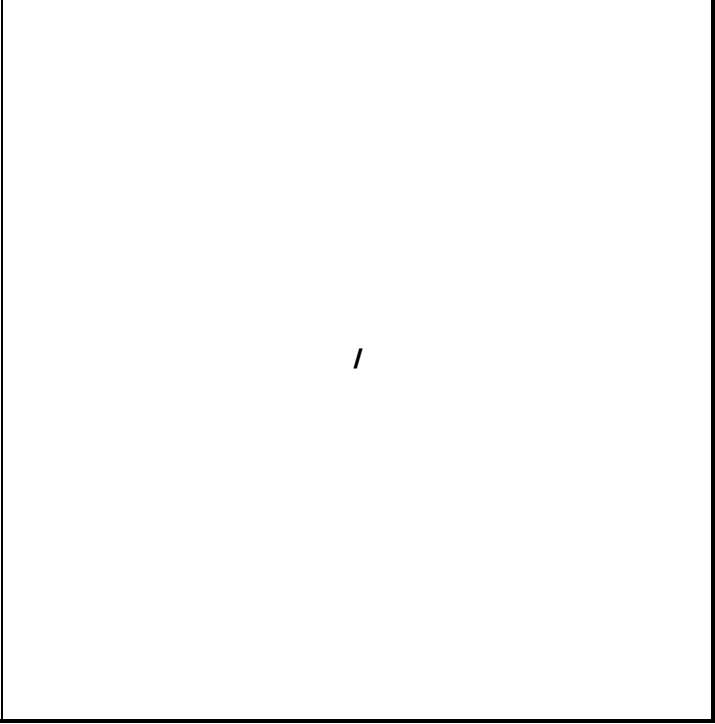
**Channel Power < -13dBm Pass**



**Lowest Band Edge / Full RB**



**Channel Power < -13dBm Pass**





FR1 UL-MIMO n77 / 40MHz / CP-OFDM QPSK (M)

Highest Band Edge / 1 RB

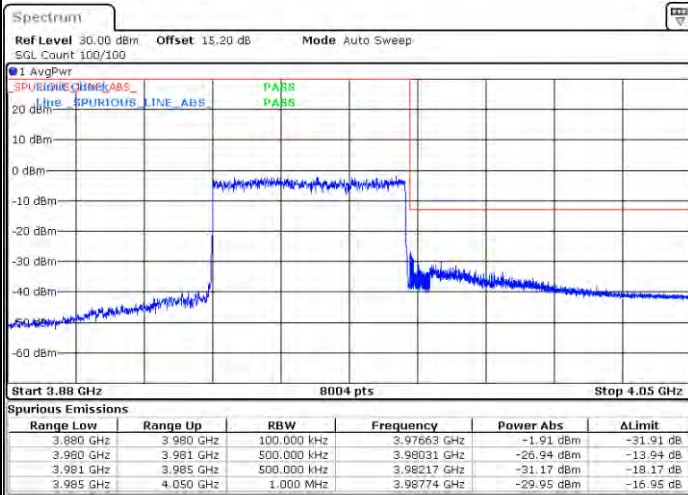
Channel Power < -13dBm Pass



/

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



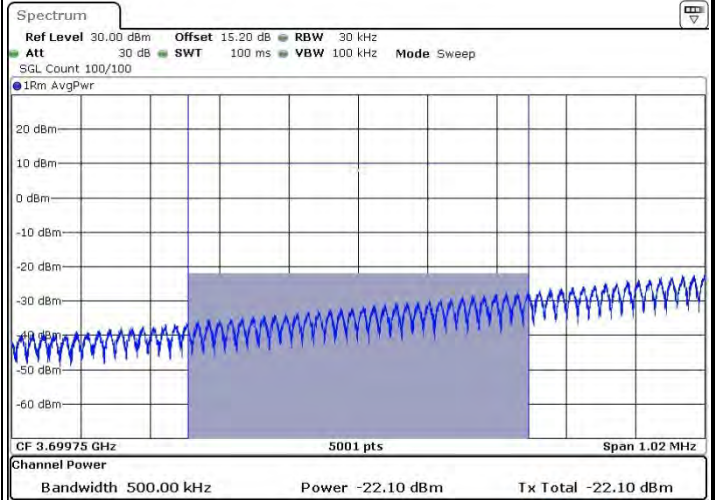
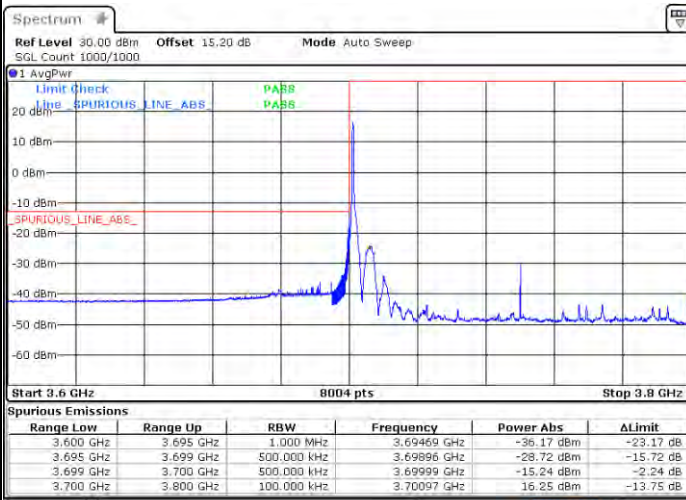
/



FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (M2)

Lowest Band Edge / 1 RB

Channel Power < -13dBm Pass

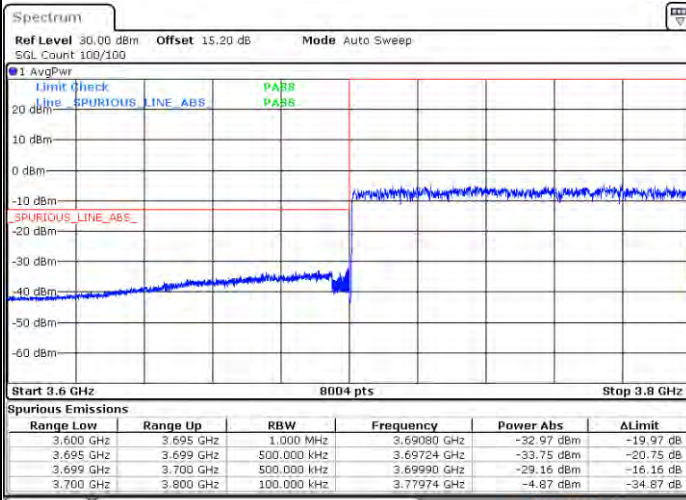


Date: 13.FEB.2021 14:11:52

Date: 13.FEB.2021 14:01:34

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



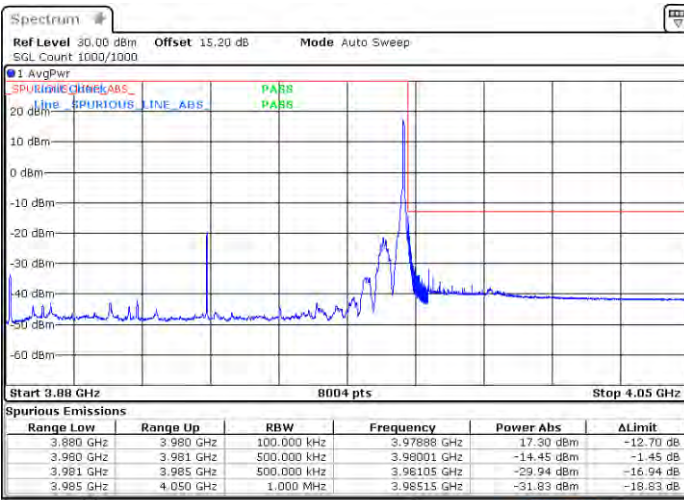
Date: 13.FEB.2021 14:12:17

/



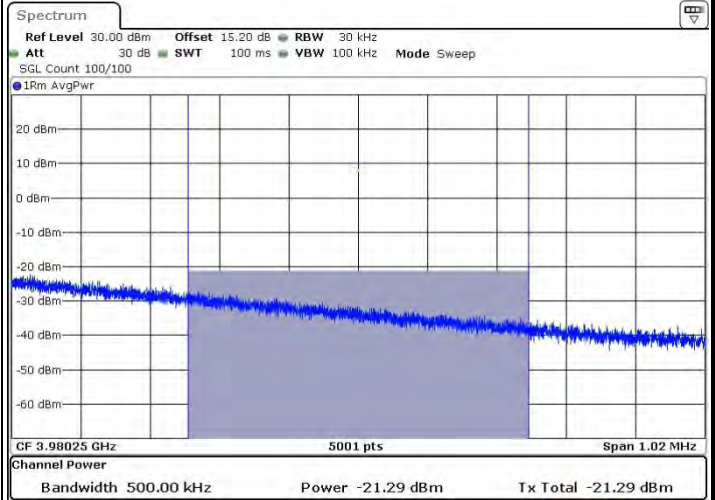
FR1 UL-MIMO n77 / 80MHz / CP-OFDM QPSK (M2)

Highest Band Edge / 1 RB



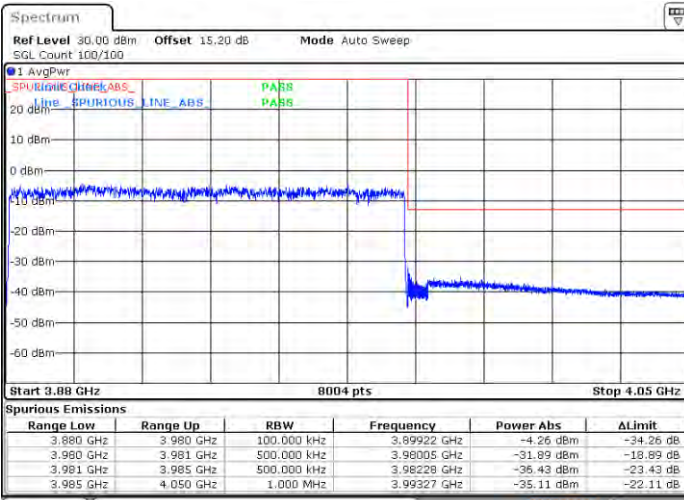
Date: 13.FEB.2021 14:34:43

Channel Power < -13dBm Pass



Date: 13.FEB.2021 14:34:02

Highest Band Edge / Full RB



Date: 13.FEB.2021 14:19:17

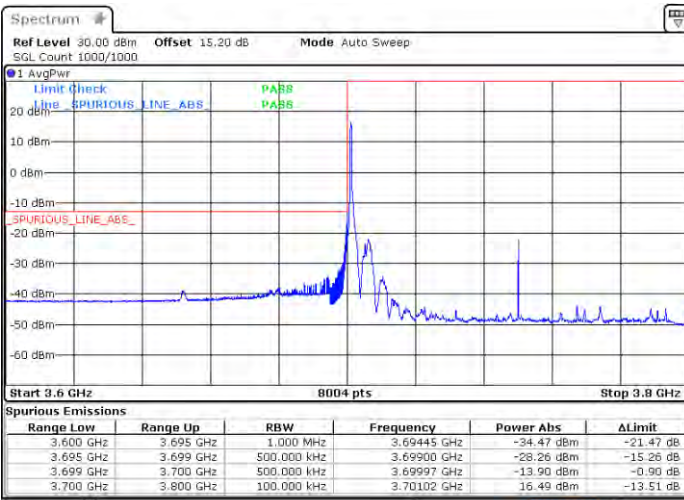
Channel Power < -13dBm Pass

/

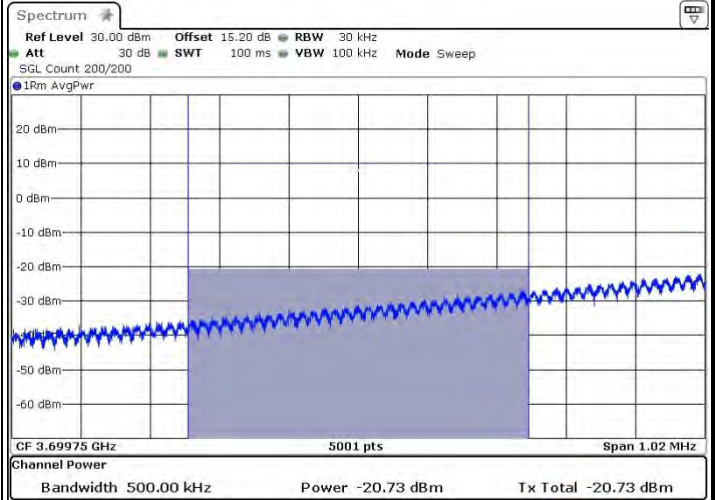


FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (M)

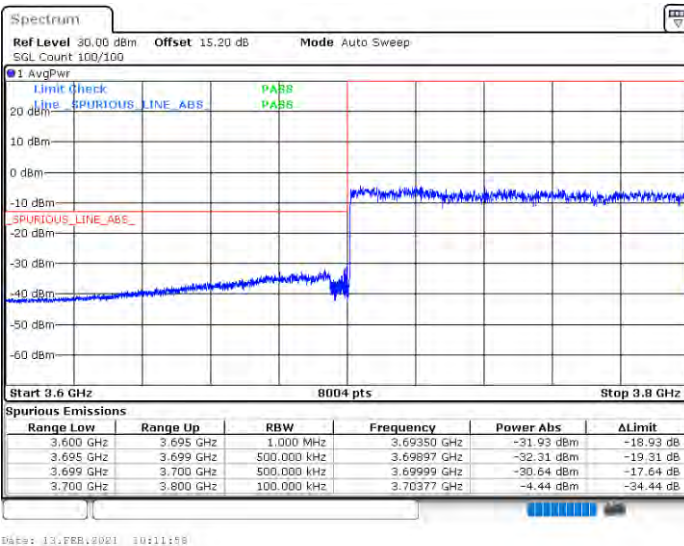
Lowest Band Edge / 1 RB



Channel Power < -13dBm Pass



Lowest Band Edge / Full RB



Channel Power < -13dBm Pass

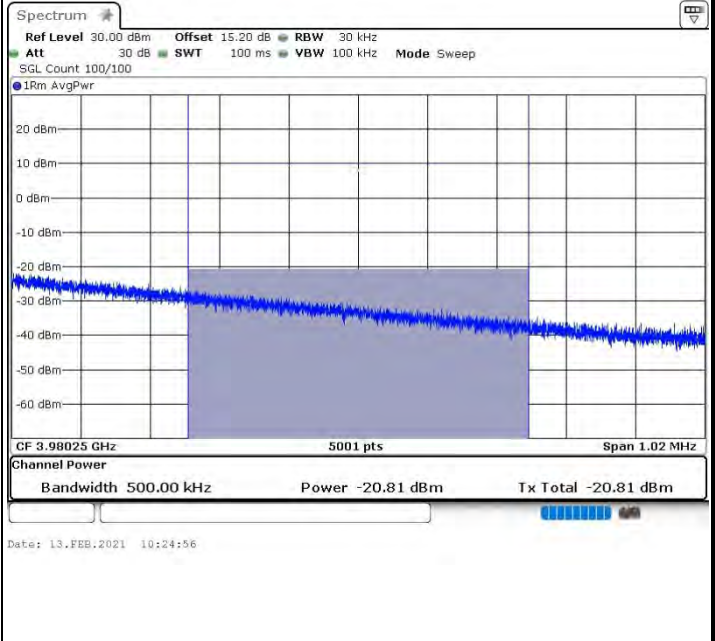
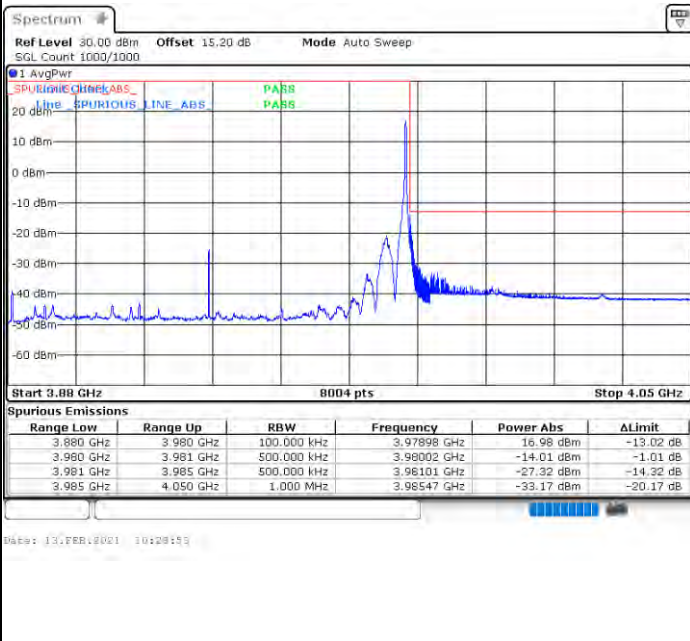
/



FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (M)

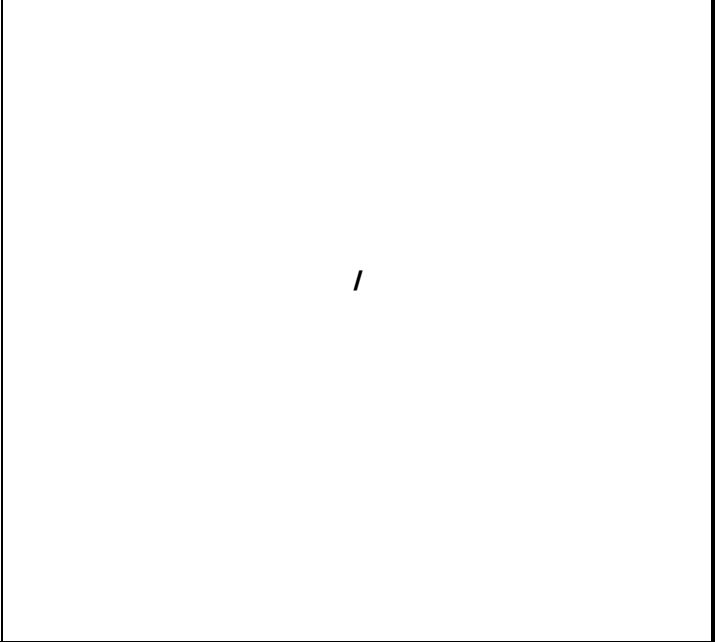
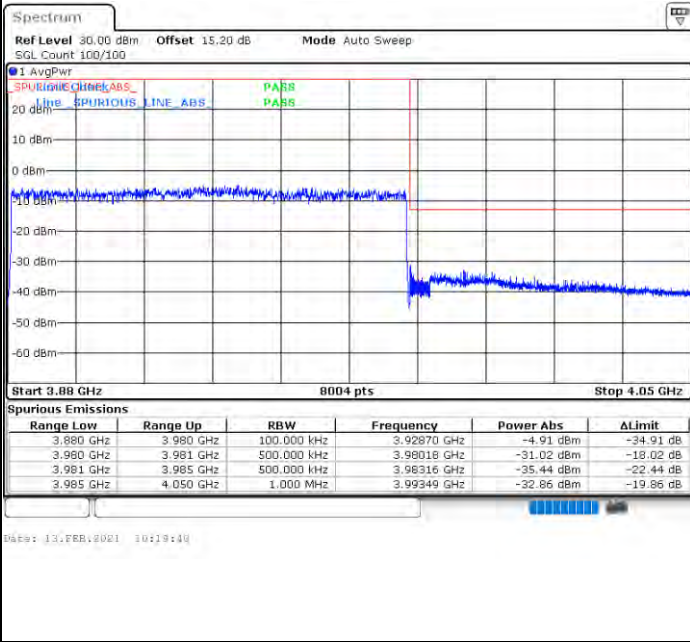
Highest Band Edge / 1 RB

Channel Power < -13dBm Pass



Highest Band Edge / Full RB

Channel Power < -13dBm Pass



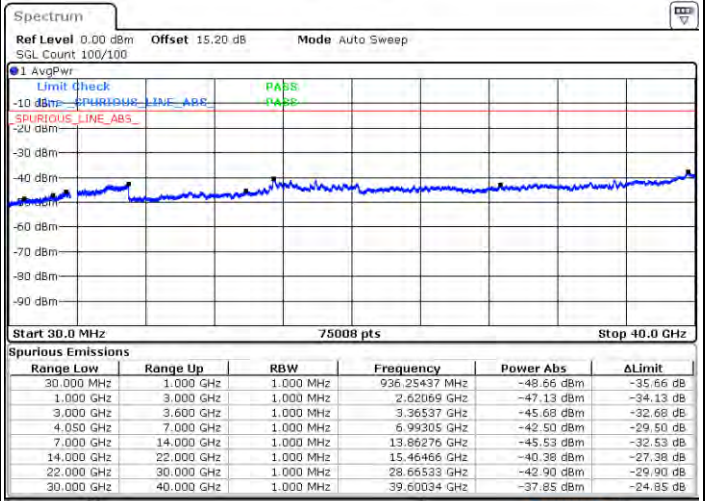
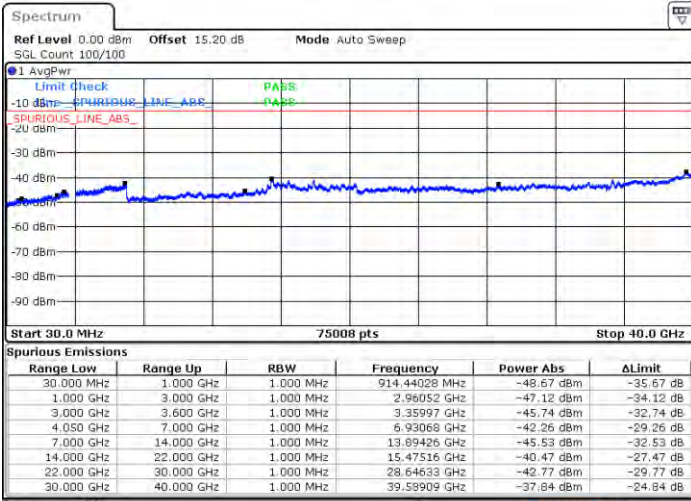


# Conducted Spurious Emission

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

### Lowest Channel / 1RB

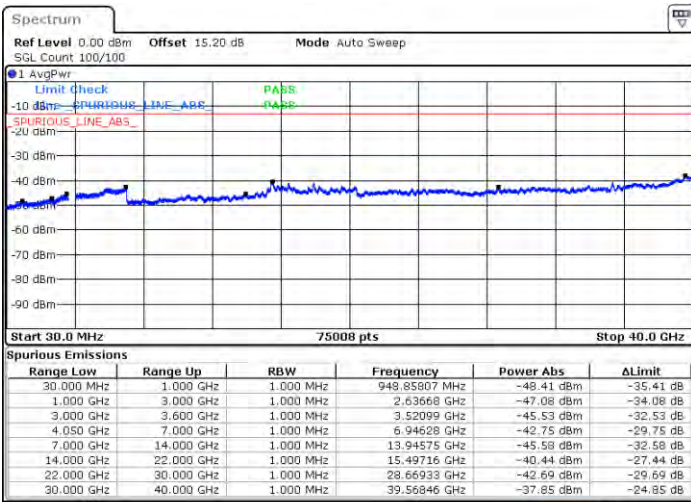
### Middle Channel / 1RB



Date: 13.FEB.2021 16:41:38

Date: 13.FEB.2021 16:31:37

### Highest Channel / 1RB



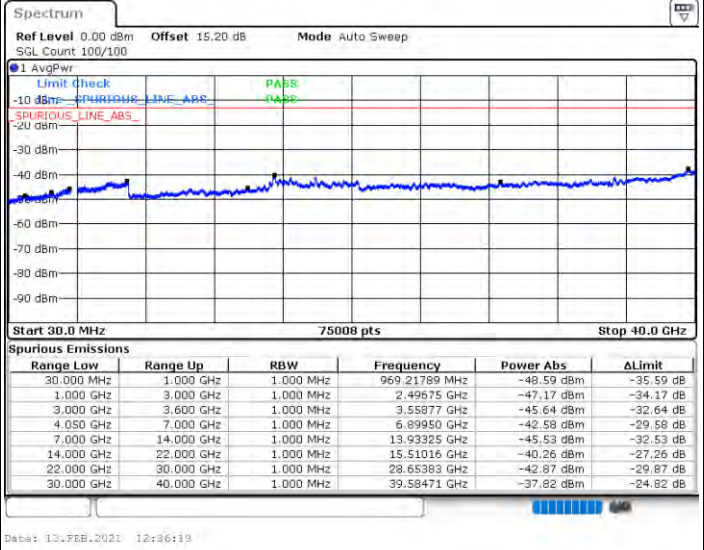
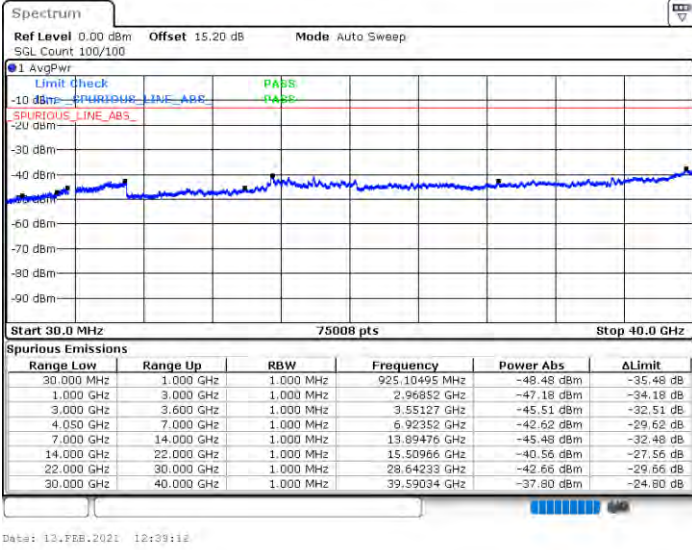
Date: 13.FEB.2021 17:16:21



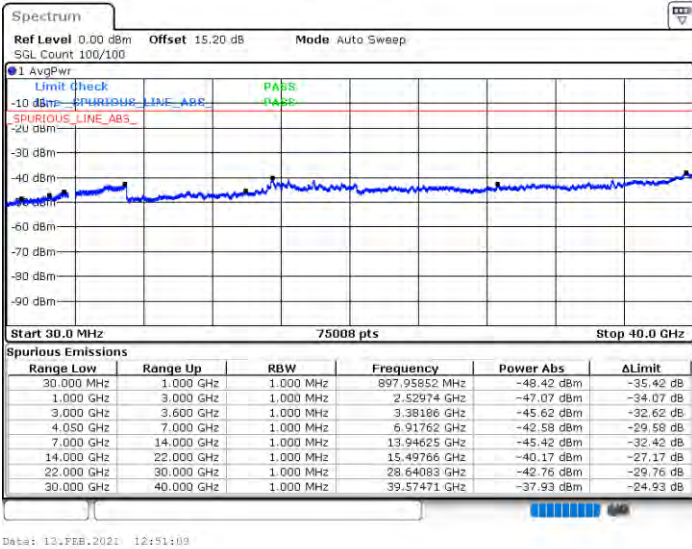
FR1 UL-MIMO n77 / 10MHz / CP-OFDM QPSK (M)

Lowest Channel / 1RB

Middle Channel / 1RB



Highest Channel / 1RB



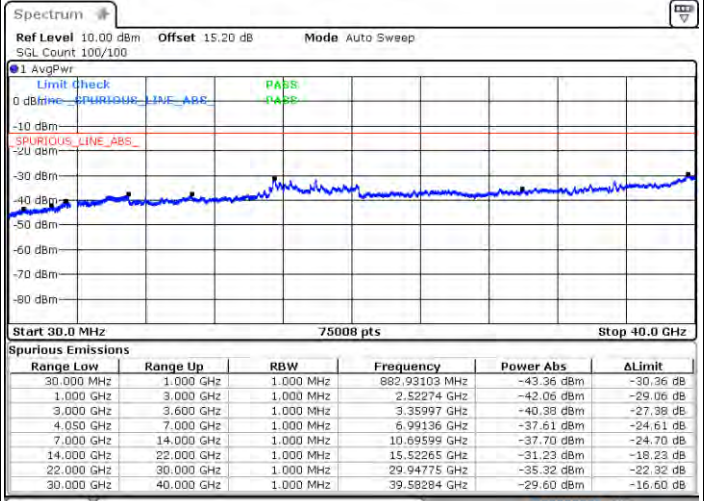
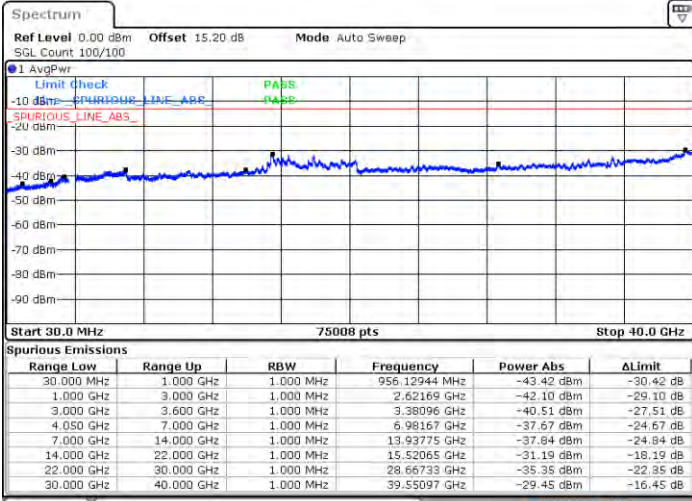




FR1 UL-MIMO n77 / 50MHz / CP-OFDM QPSK (M2)

Lowest Channel / 1RB

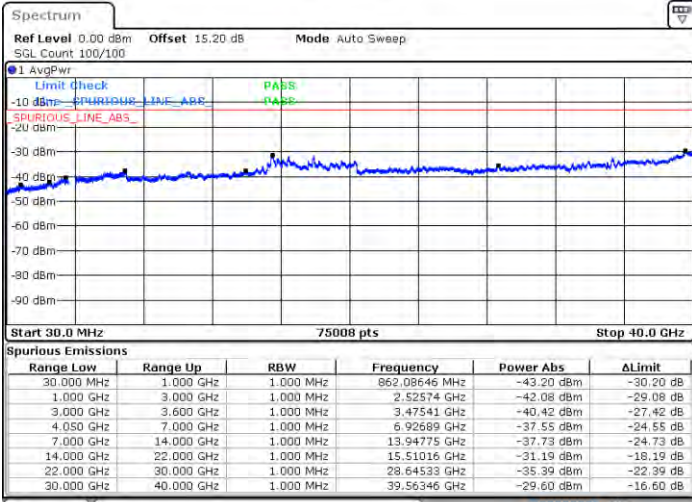
Middle Channel / 1RB



Date: 13.FEB.2021 15:46:29

Date: 13.FEB.2021 15:22:19

Highest Channel / 1RB



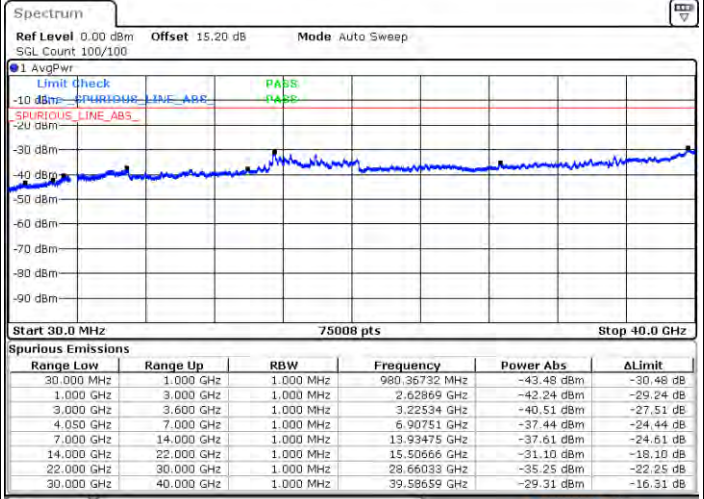
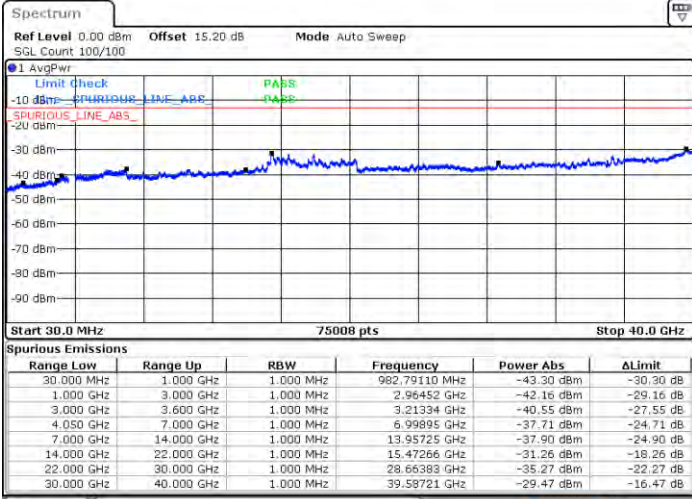
Date: 13.FEB.2021 15:49:00



FR1 UL-MIMO n77 / 50MHz / CP-OFDM QPSK (M)

Lowest Channel / 1RB

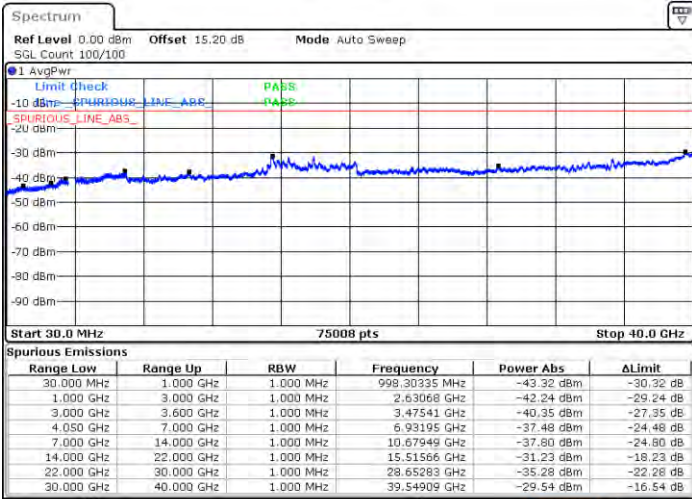
Middle Channel / 1RB



Data: 13.FEB.2021 11:06:08

Data: 13.FEB.2021 11:02:08

Highest Channel / 1RB



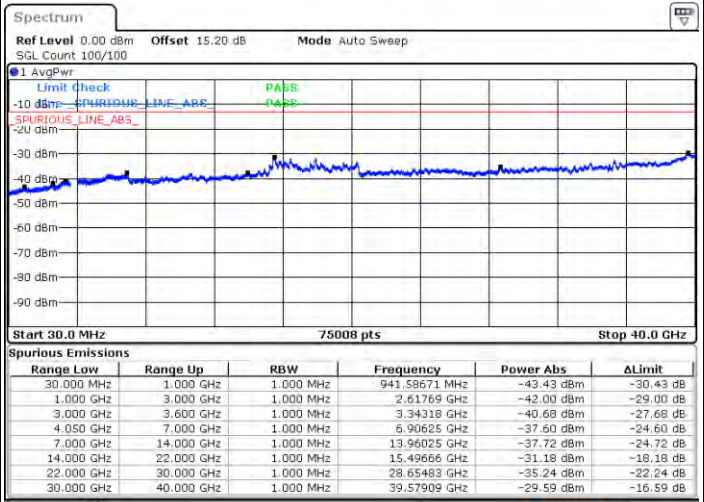
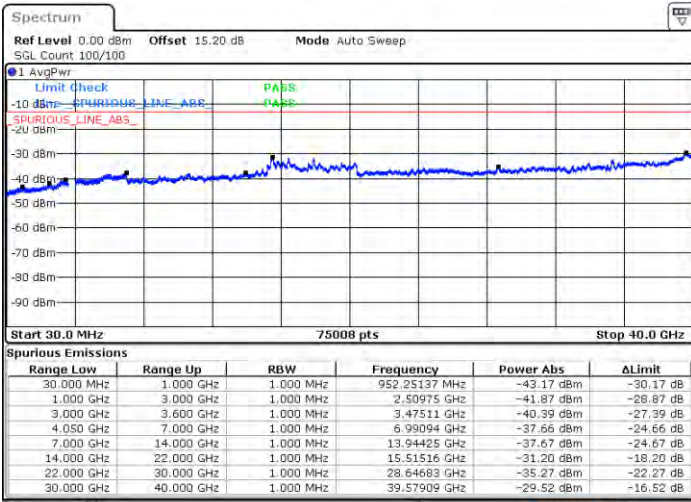
Data: 13.FEB.2021 11:43:00



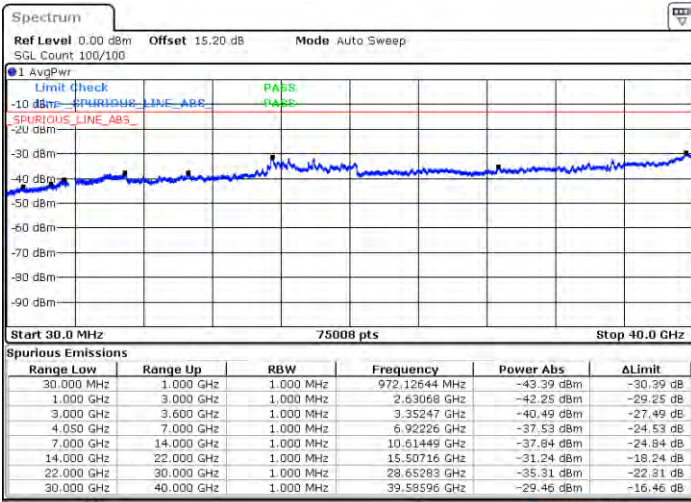
FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (M2)

Lowest Channel / 1RB

Middle Channel / 1RB



Highest Channel / 1RB

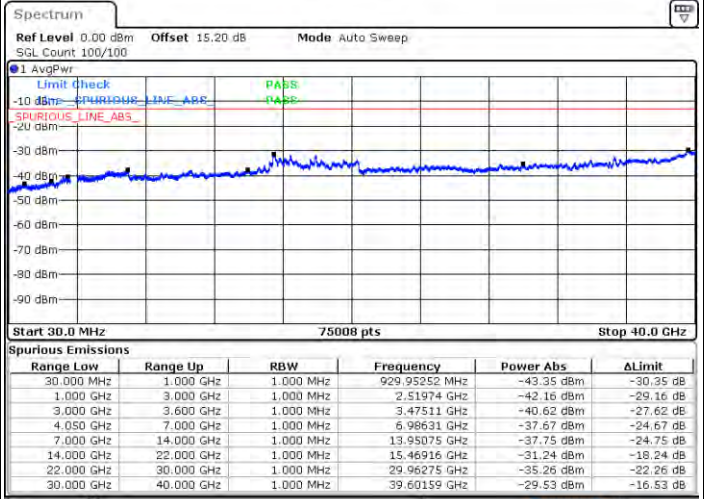
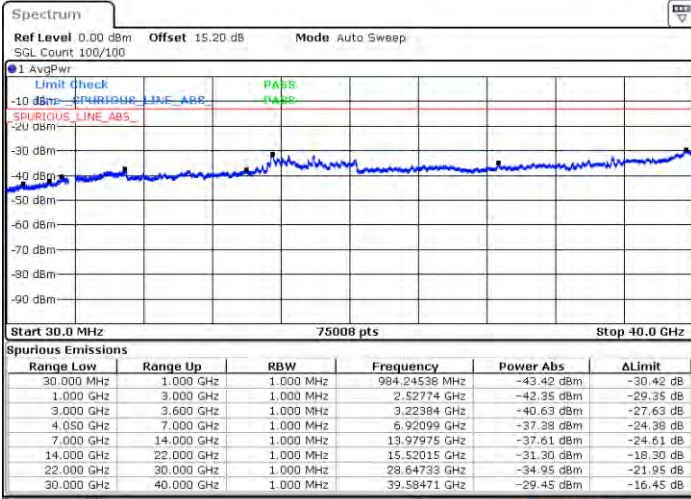




FR1 UL-MIMO n77 / 100MHz / CP-OFDM QPSK (M)

Lowest Channel / 1RB

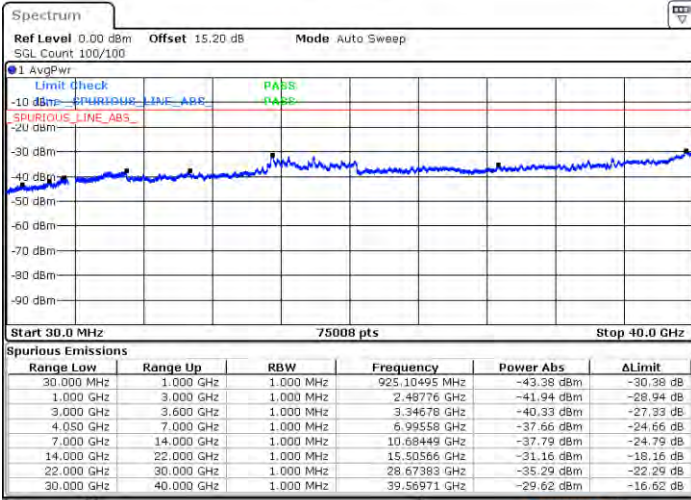
Middle Channel / 1RB



Date: 13.FEB.2021 10:09:02

Date: 13.FEB.2021 09:56:48

Highest Channel / 1RB



Date: 13.FEB.2021 10:23:06



### Frequency Stability

Test Conditions		NR UL-MIMO n77 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Within Band
		Deviation (ppm)	Result
50	Normal Voltage	0.0025	PASS
40	Normal Voltage	0.0015	
30	Normal Voltage	0.0016	
20(Ref.)	Normal Voltage	0.0023	
10	Normal Voltage	0.0017	
0	Normal Voltage	0.0024	
-10	Normal Voltage	0.0025	
-20	Normal Voltage	0.0018	
-30	Normal Voltage	0.0015	
20	Maximum Voltage	0.0025	
20	Normal Voltage	0.0011	
20	Battery End Point	0.0025	

**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 NSA-SCS 15K

## Peak-to-Average Ratio

Mode	FR1 N77 / 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	3.54	4.12	5.54	5.45	<b>PASS</b>
Middle CH	3.36	3.97	4.38	5.19	
Highest CH	3.25	3.88	4.26	5.25	