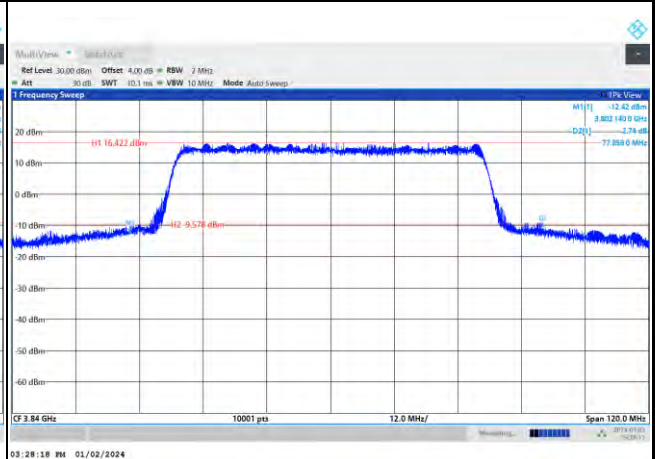
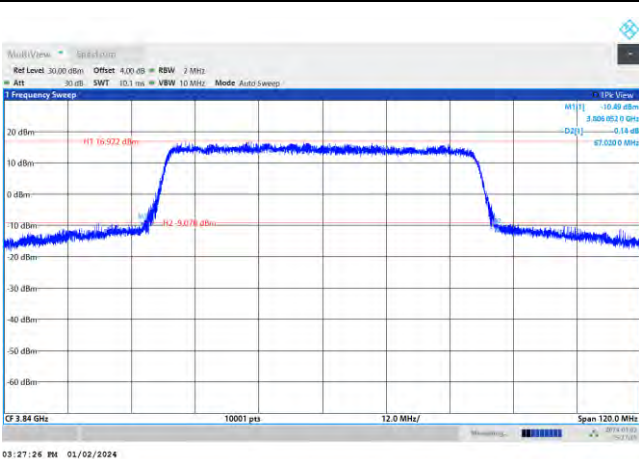




FR1 n77 / 60MHz / CP OFDM / Middle Channel / Full RB

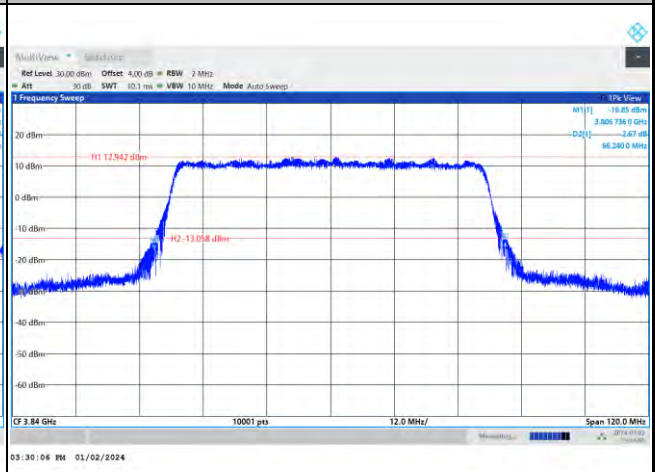
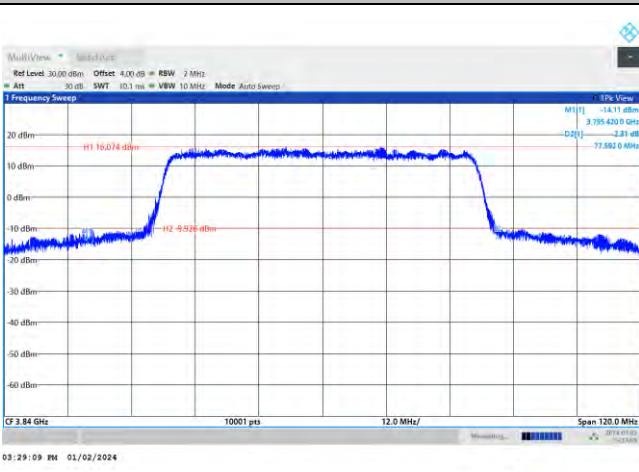
QPSK

16QAM



64QAM

256QAM

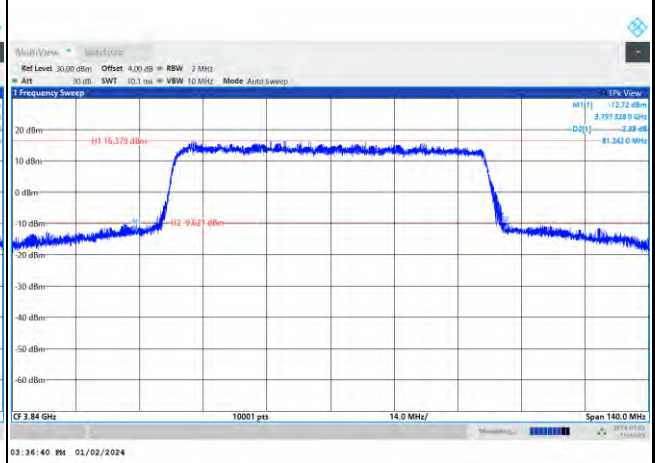
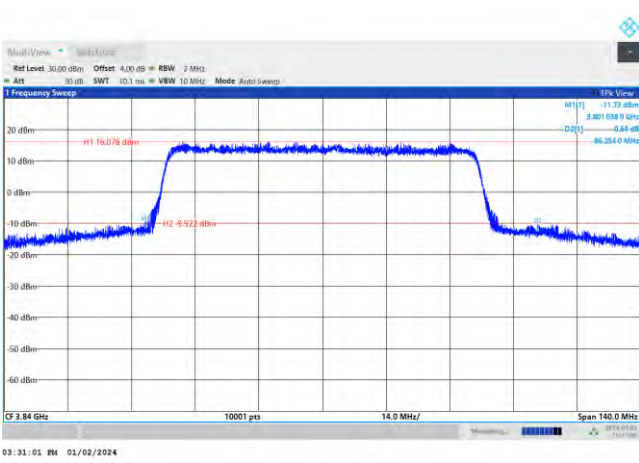




FR1 n77 / 70MHz / CP OFDM / Middle Channel / Full RB

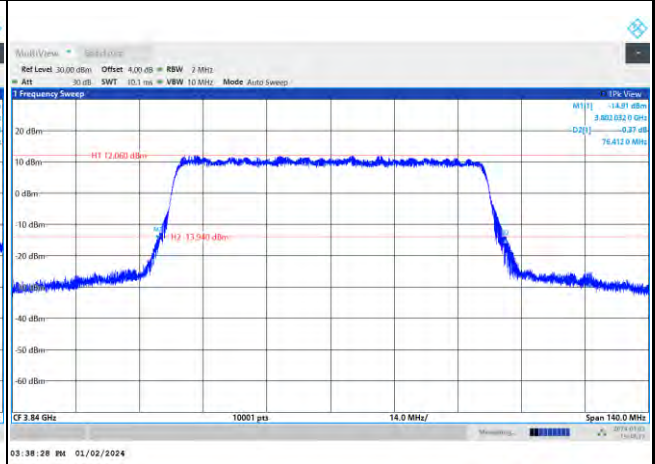
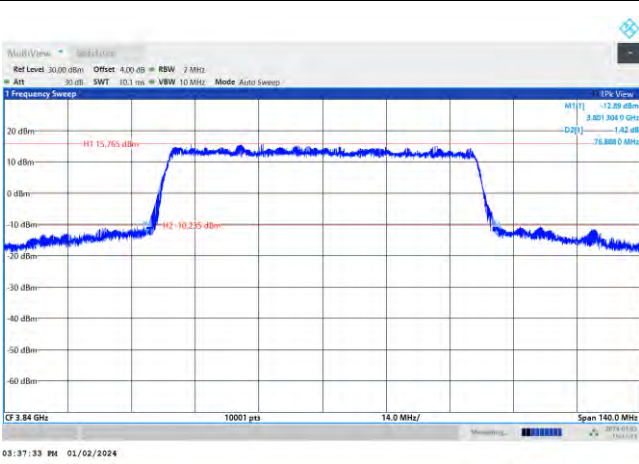
QPSK

16QAM



64QAM

256QAM

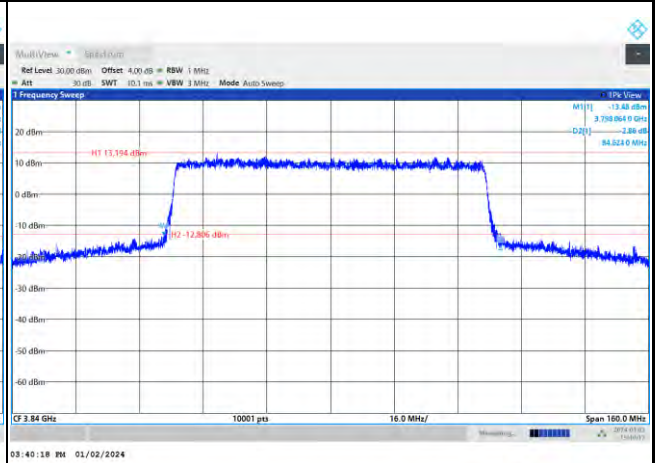
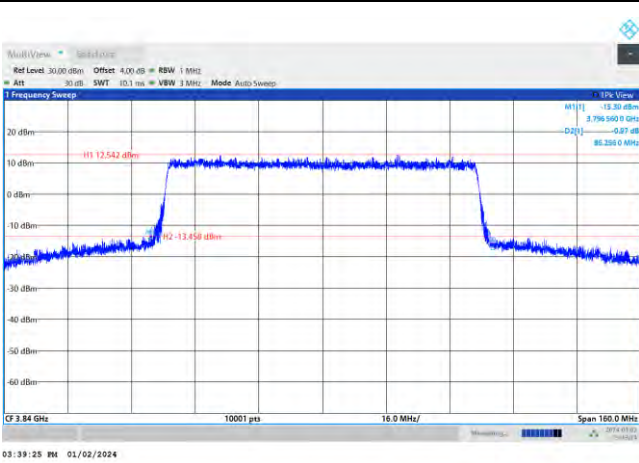




FR1 n77 / 80MHz / CP OFDM / Middle Channel / Full RB

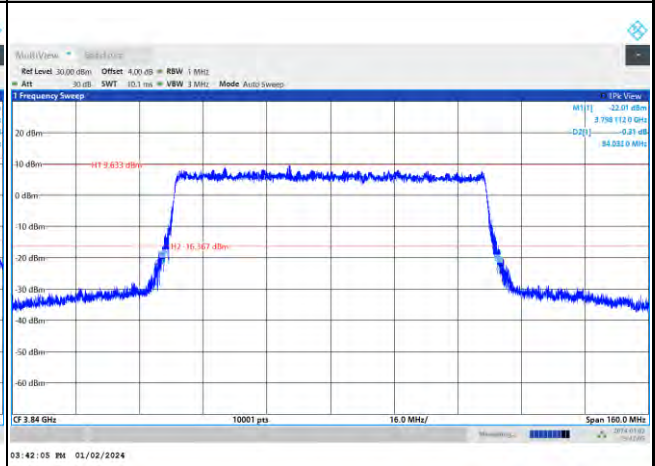
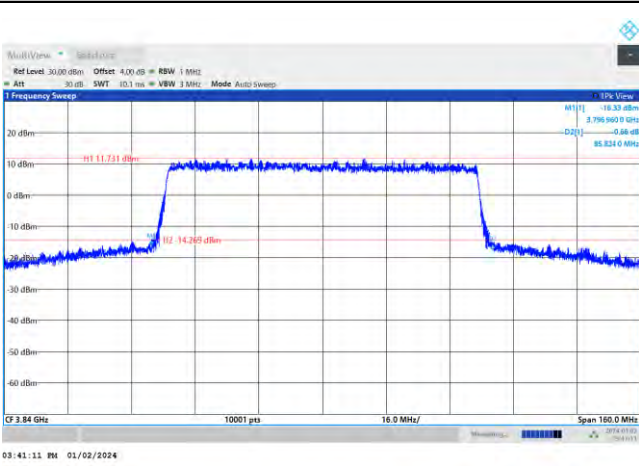
QPSK

16QAM



64QAM

256QAM

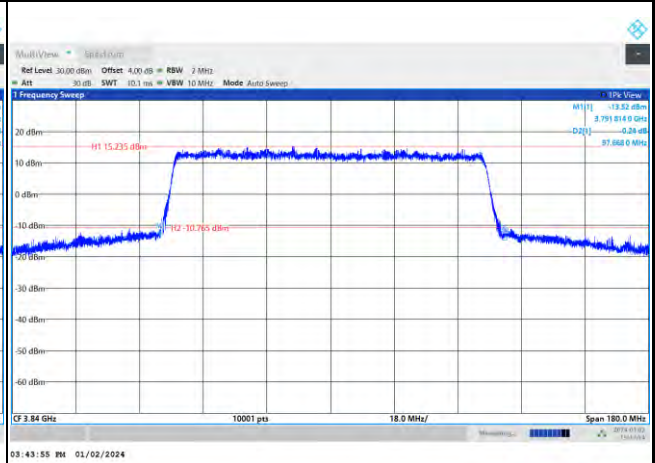
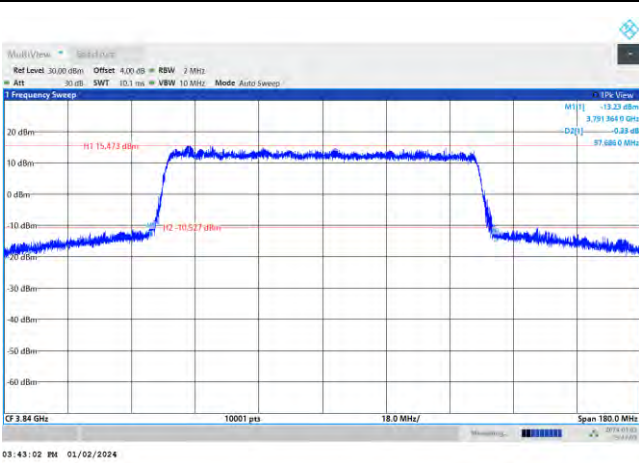




FR1 n77 / 90MHz / CP OFDM / Middle Channel / Full RB

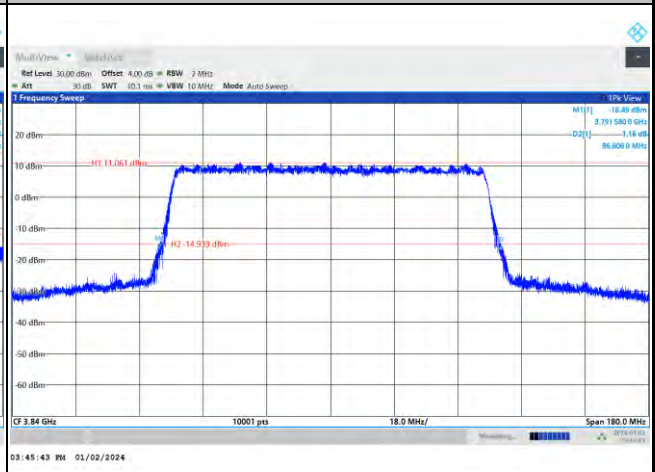
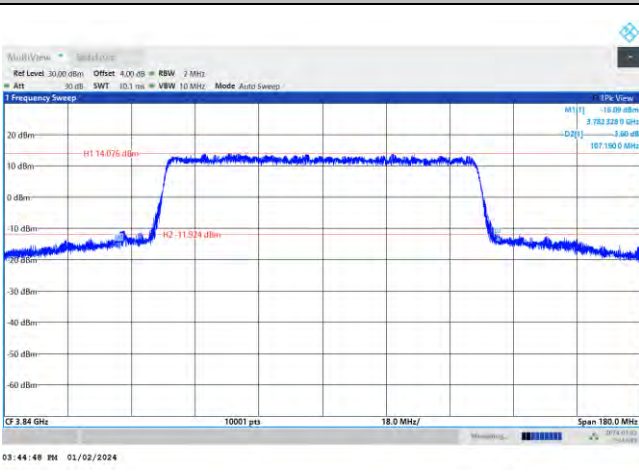
QPSK

16QAM



64QAM

256QAM

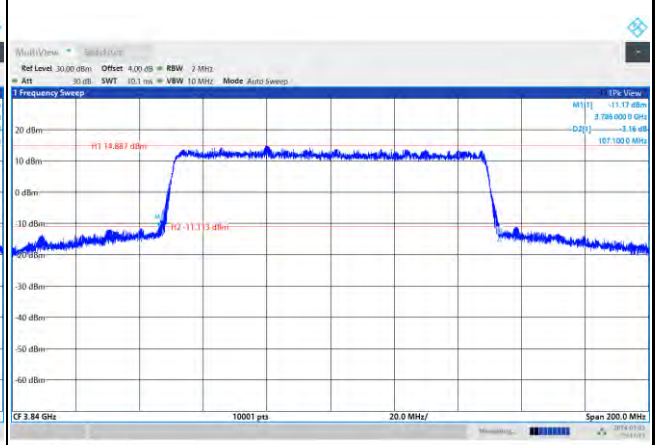
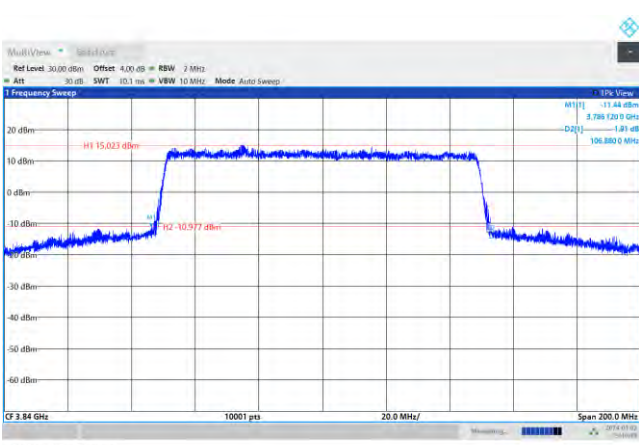




FR1 n77 / 100MHz / CP OFDM / Middle Channel / Full RB

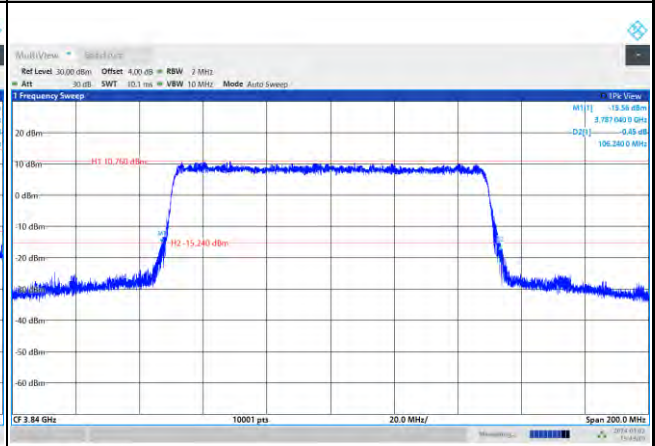
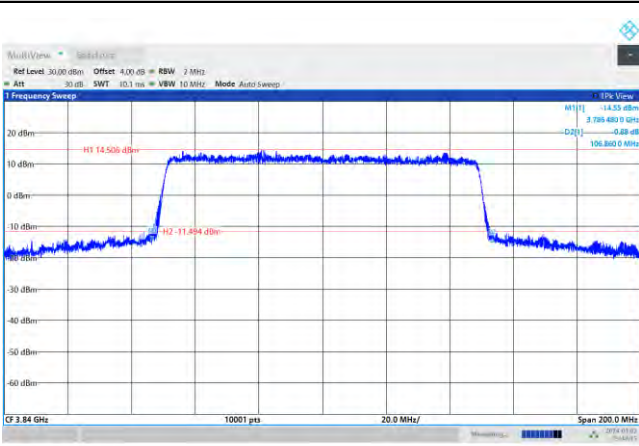
QPSK

16QAM



64QAM

256QAM





### Occupied Bandwidth

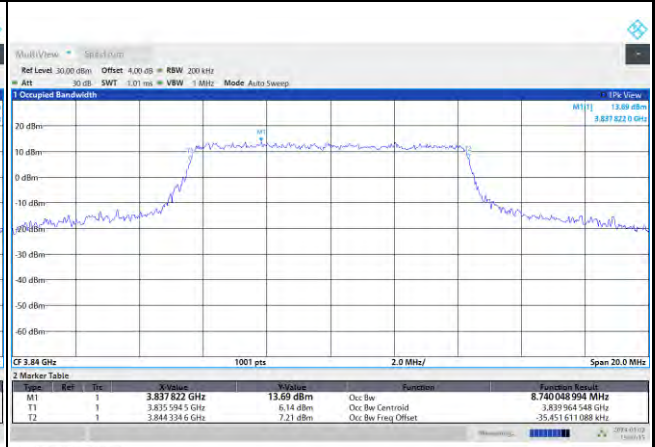
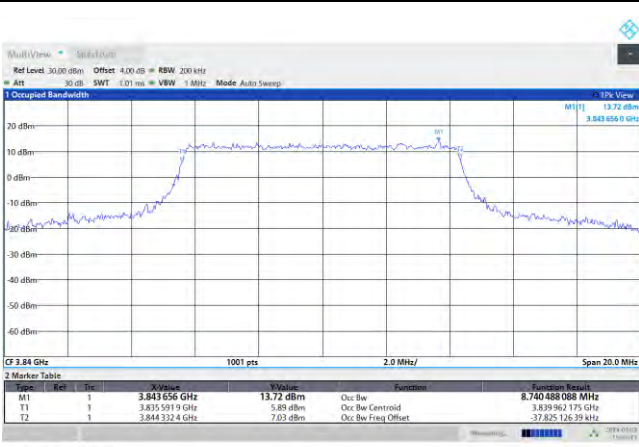
Mode	FR1 n77 : OB BW(MHz) / CP OFDM							
BW	10MHz		15MHz		20MHz		25MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	8.74	8.74	13.70	13.70	18.45	18.42	23.40	23.44
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	8.73	8.68	13.74	13.67	18.40	18.44	23.37	23.26
BW	30MHz		40MHz		50MHz		60MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	28.40	28.24	38.34	38.22	47.80	47.70	58.80	58.68
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	28.32	28.18	38.17	38.02	47.79	47.57	58.76	58.72
BW	70MHz		80MHz		90MHz		100MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	68.44	68.52	78.16	78.13	87.96	88.12	98.04	98.10
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	68.51	67.97	78.27	78.22	88.10	88.14	97.91	97.67



FR1 n77 / 10MHz / CP OFDM / Middle Channel / Full RB

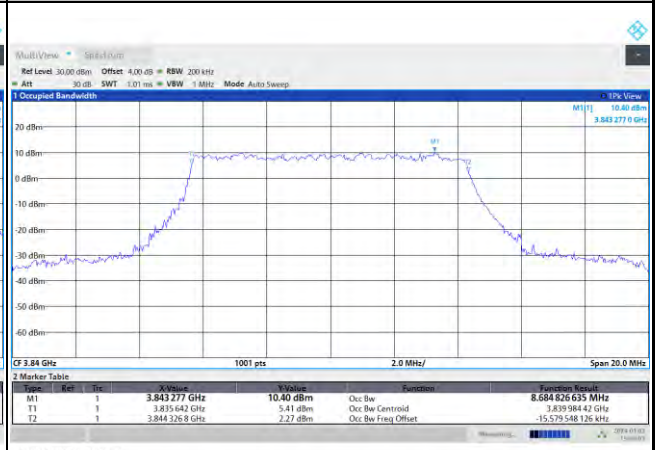
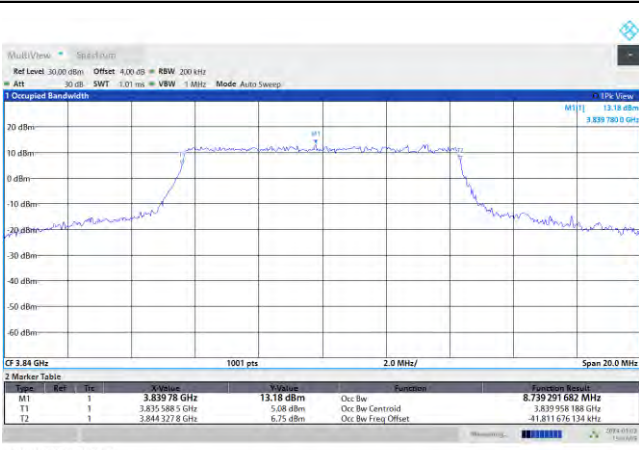
QPSK

16QAM



64QAM

256QAM

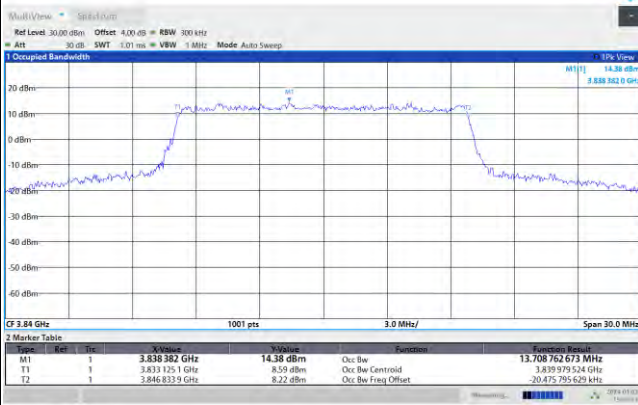
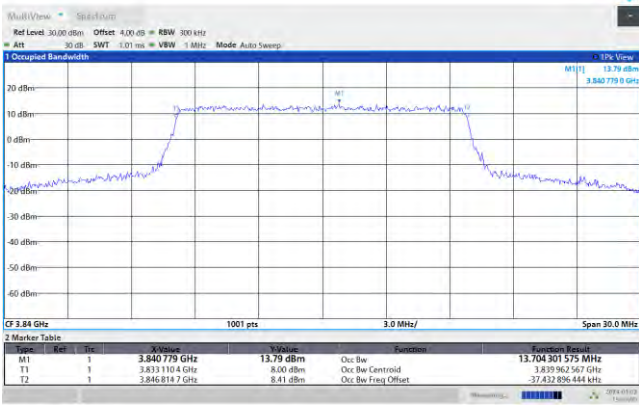




FR1 n77 / 15MHz / CP OFDM / Middle Channel / Full RB

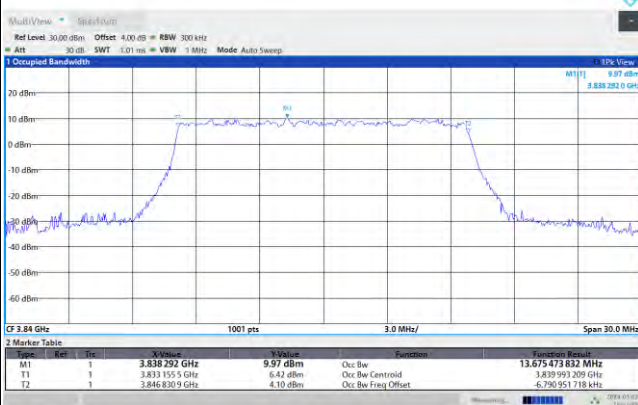
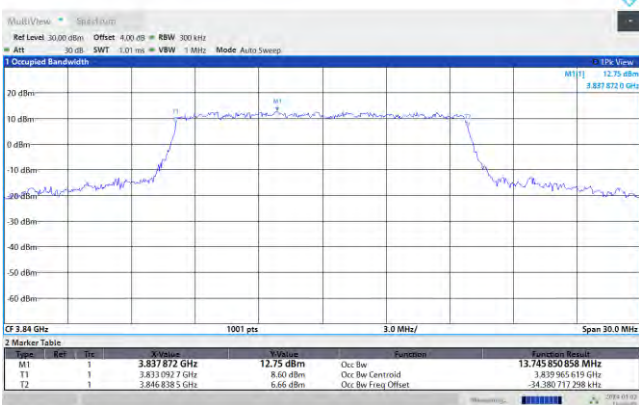
QPSK

16QAM



64QAM

256QAM



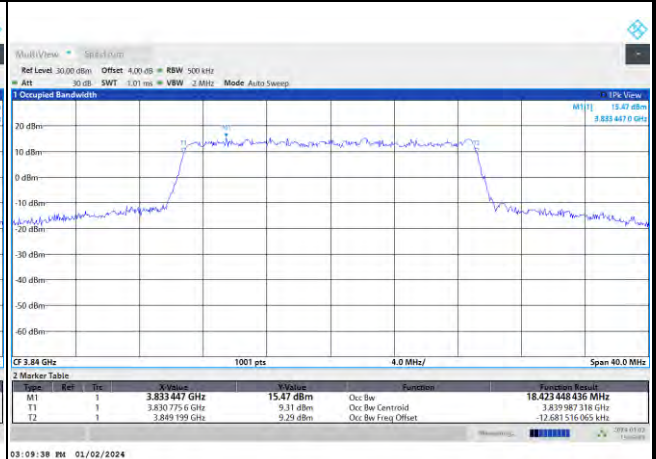
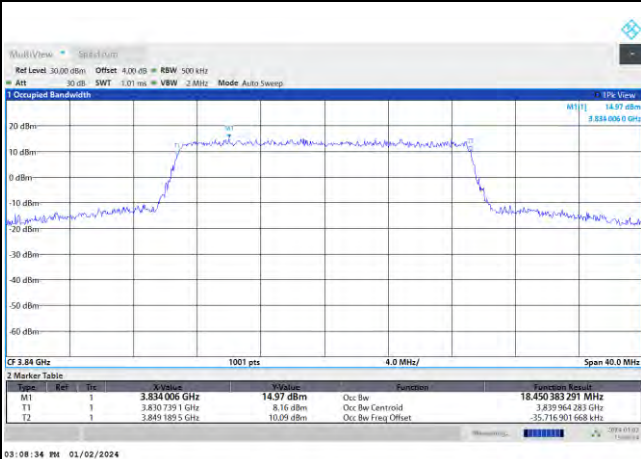




FR1 n77 / 20MHz / CP OFDM / Middle Channel / Full RB

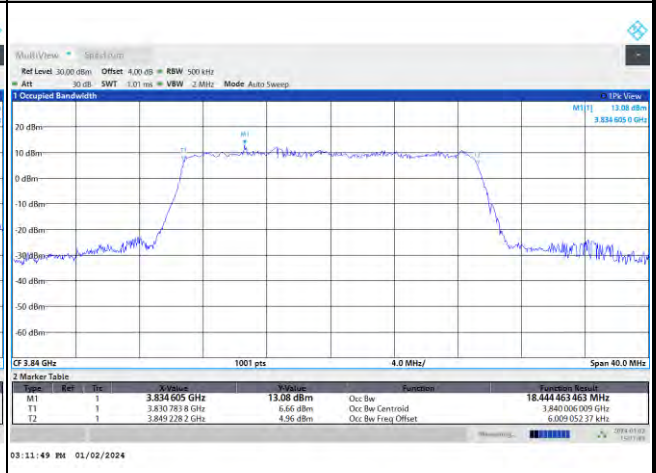
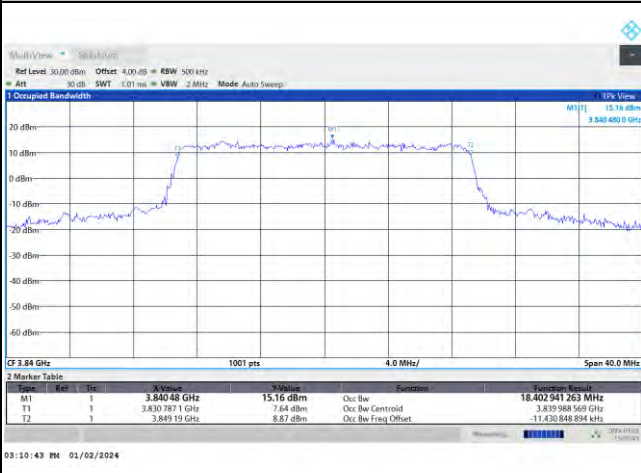
QPSK

16QAM



64QAM

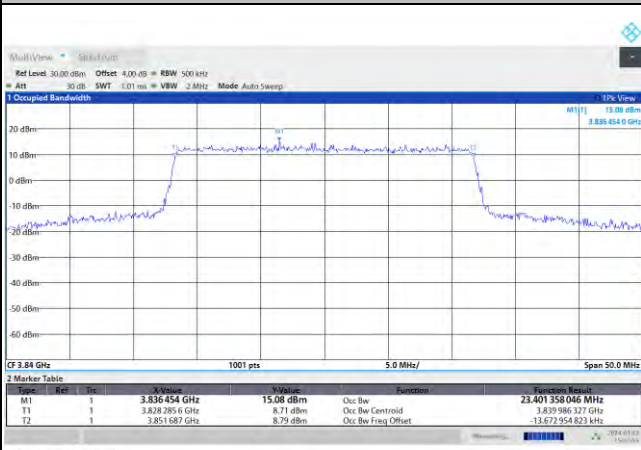
256QAM



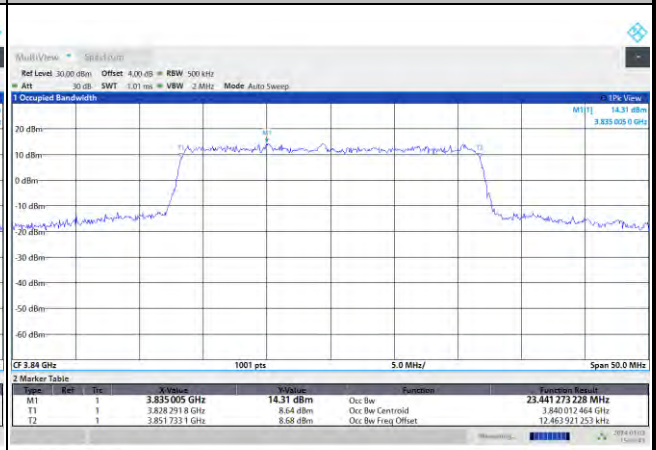


FR1 n77 / 25MHz / CP OFDM / Middle Channel / Full RB

QPSK



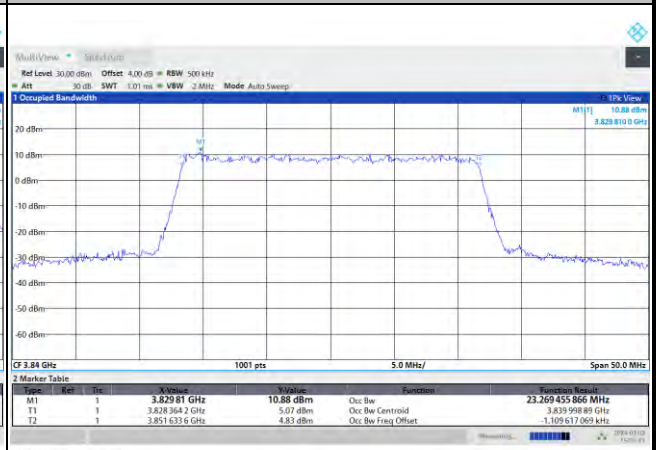
16QAM



64QAM



256QAM





FR1 n77 / 30MHz / CP OFDM / Middle Channel / Full RB

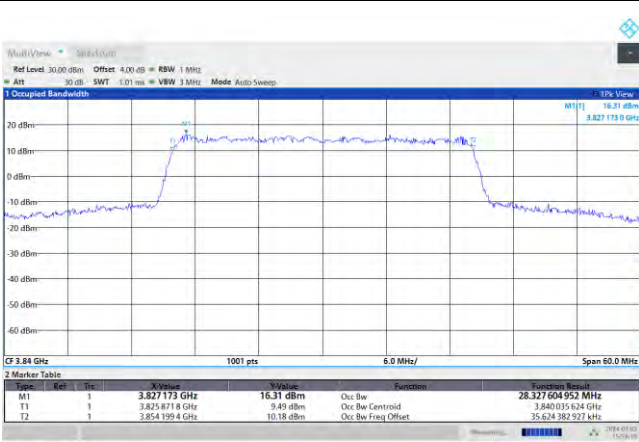
QPSK

16QAM



64QAM

256QAM

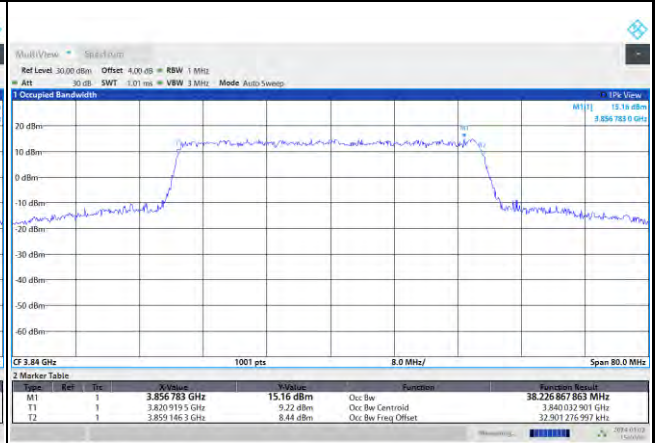
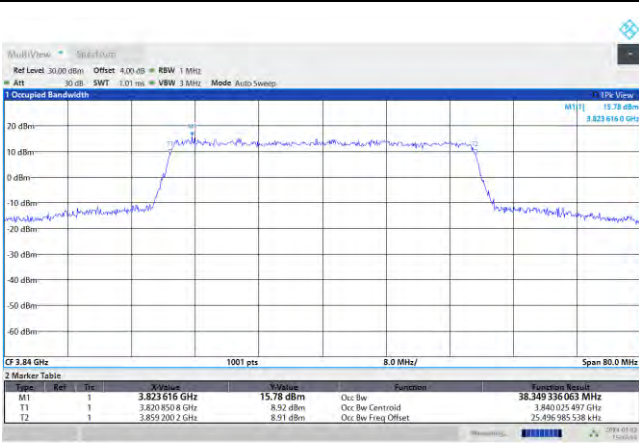




FR1 n77 / 40MHz / CP OFDM / Middle Channel / Full RB

QPSK

16QAM

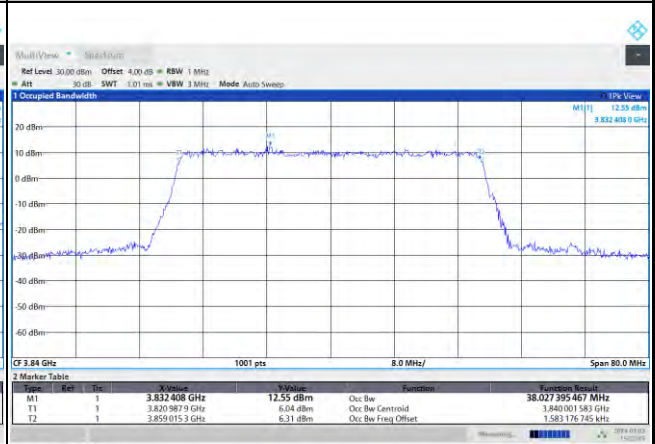
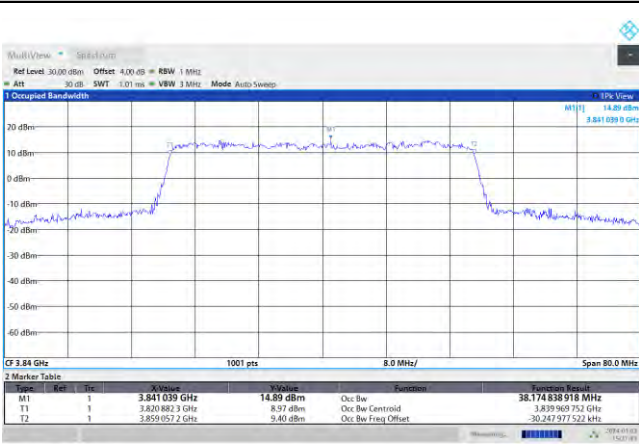


03:20:00 PM 01/02/2024

03:20:51 PM 01/02/2024

64QAM

256QAM



03:21:43 PM 01/02/2024

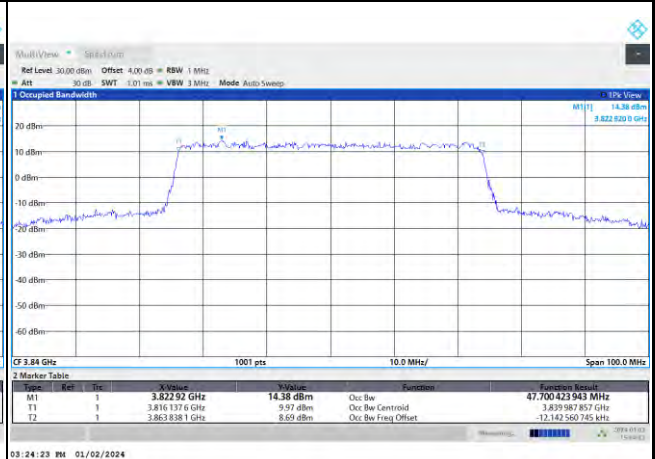
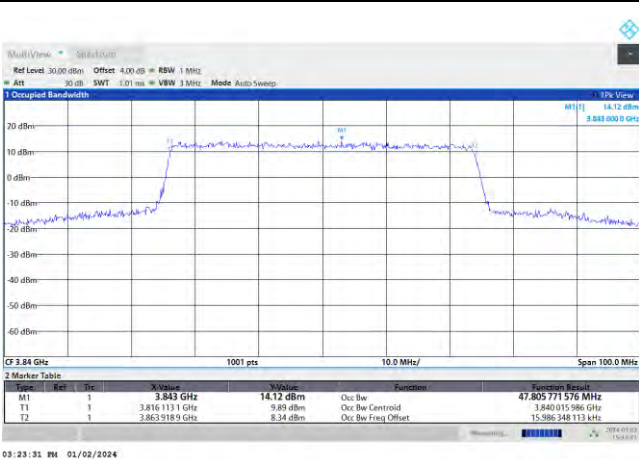
03:22:36 PM 01/02/2024



FR1 n77 / 50MHz / CP OFDM / Middle Channel / Full RB

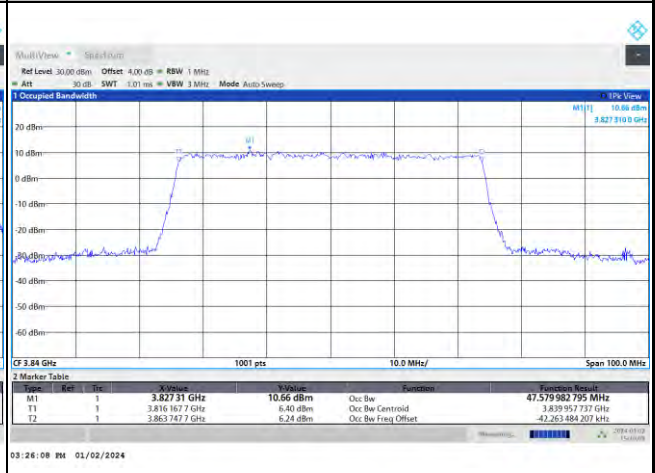
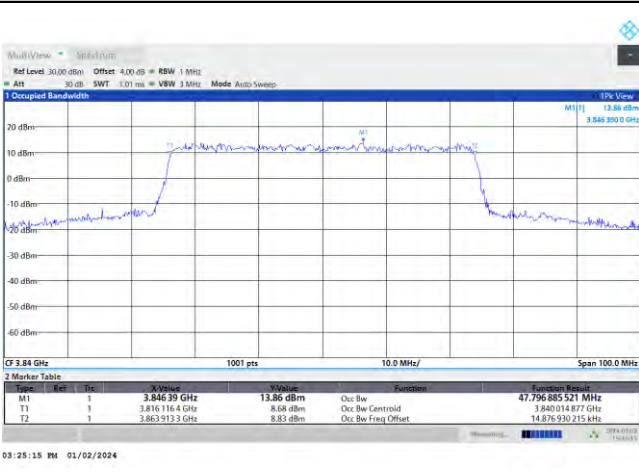
QPSK

16QAM



64QAM

256QAM

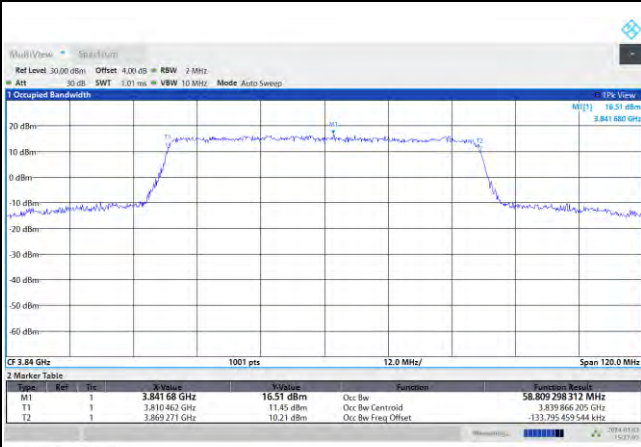




FR1 n77 / 60MHz / CP OFDM / Middle Channel / Full RB

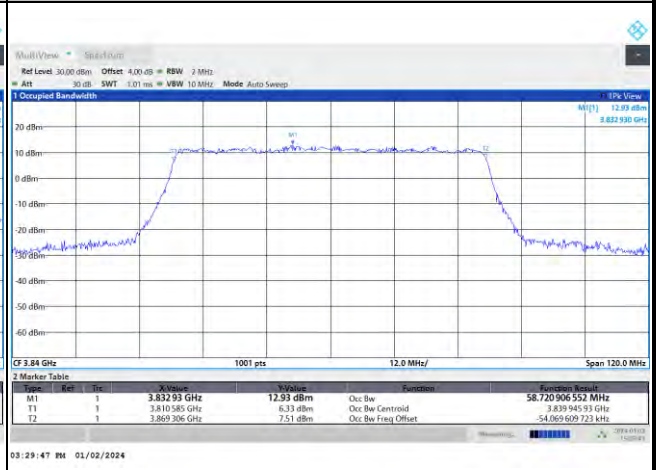
QPSK

16QAM



64QAM

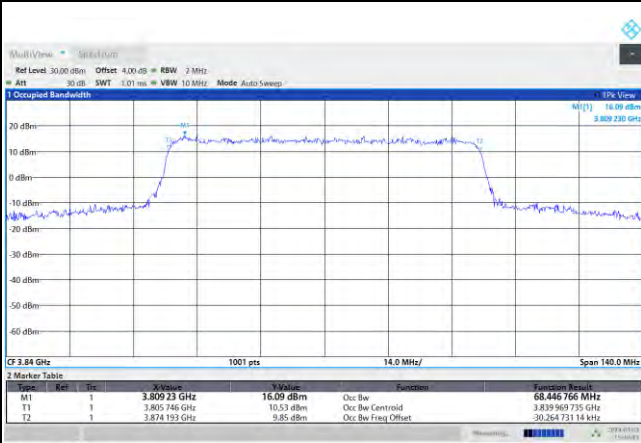
256QAM





FR1 n77 / 70MHz / CP OFDM / Middle Channel / Full RB

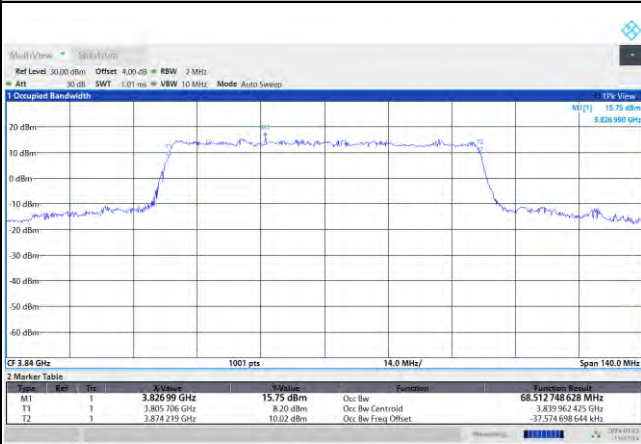
QPSK



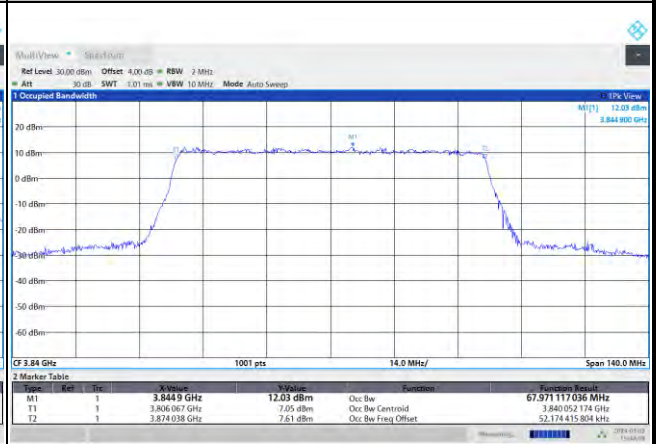
16QAM



64QAM



256QAM





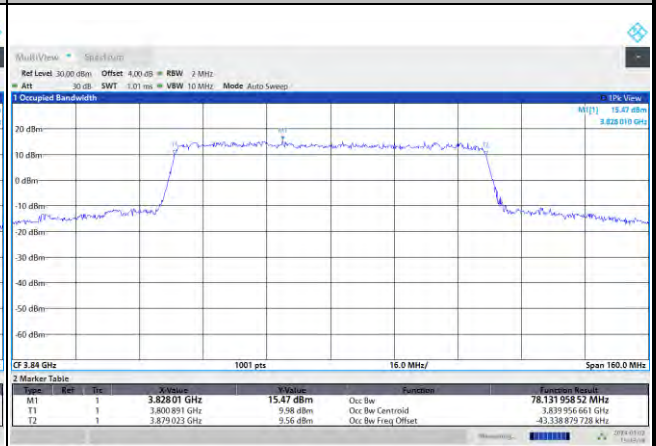
FR1 n77 / 80MHz / CP OFDM / Middle Channel / Full RB

QPSK



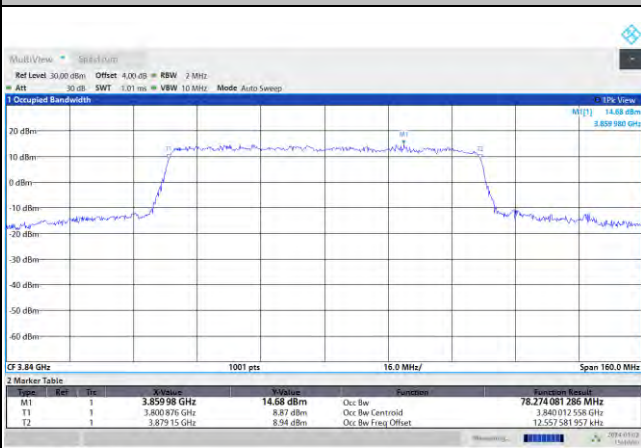
03:51:24 PM 01/02/2024

16QAM



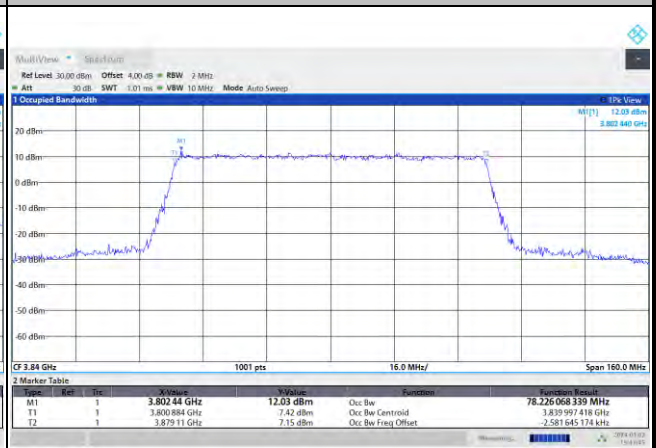
03:39:58 PM 01/02/2024

64QAM



03:40:51 PM 01/02/2024

256QAM



03:41:46 PM 01/02/2024

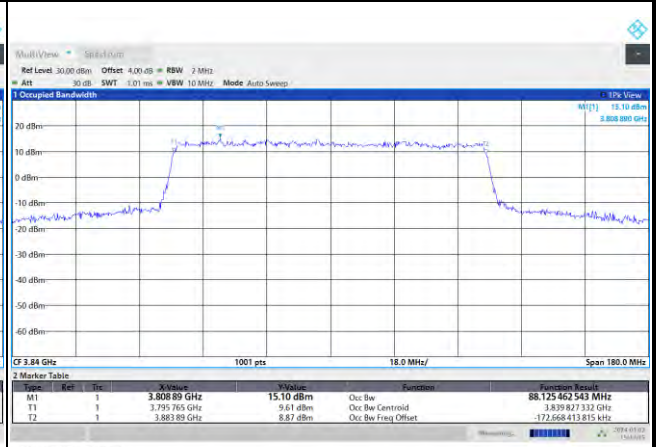




FR1 n77 / 90MHz / CP OFDM / Middle Channel / Full RB

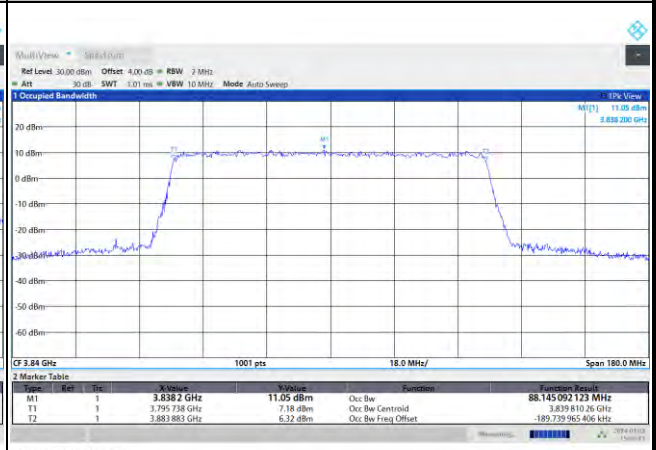
QPSK

16QAM



64QAM

256QAM

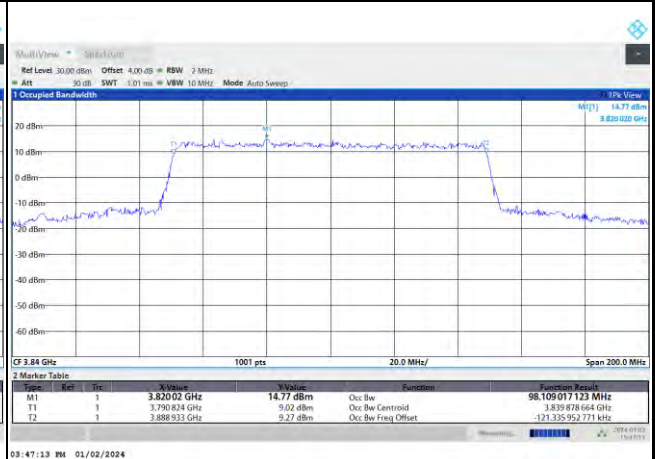
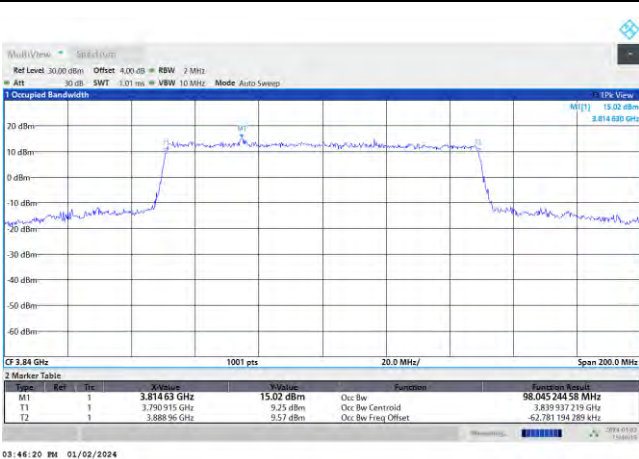




FR1 n77 / 100MHz / CP OFDM / Middle Channel / Full RB

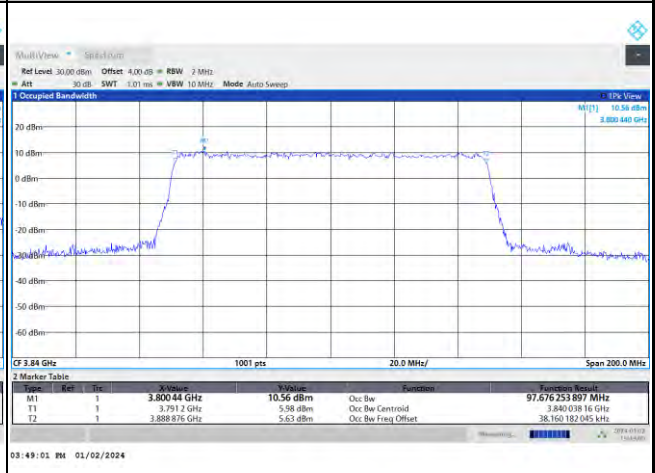
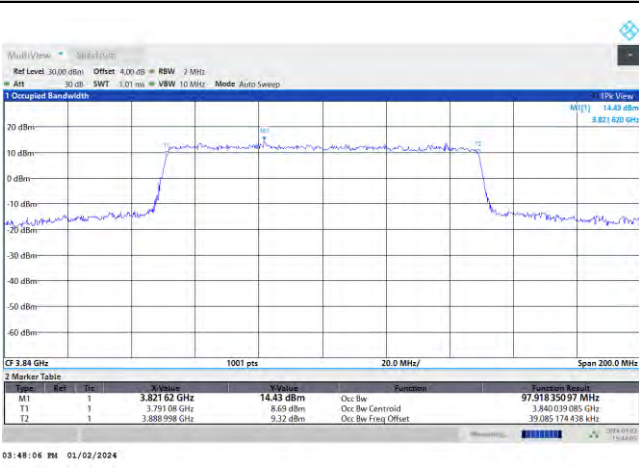
QPSK

16QAM



64QAM

256QAM



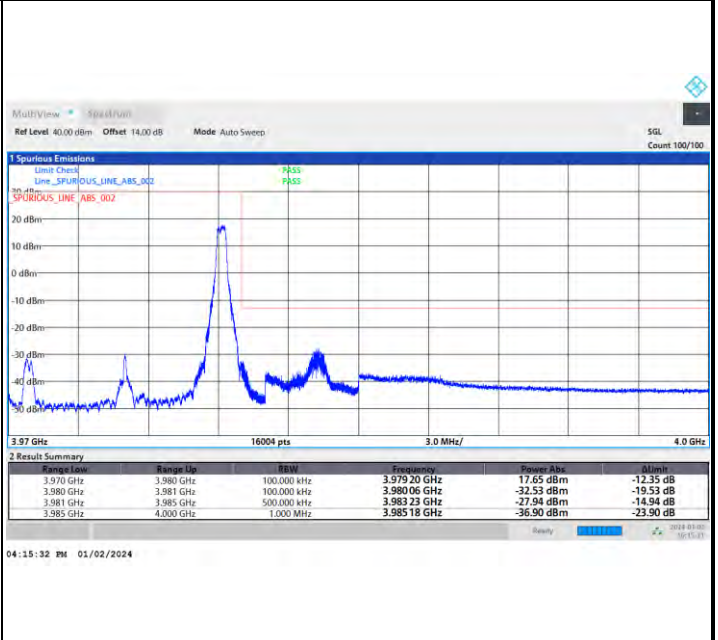
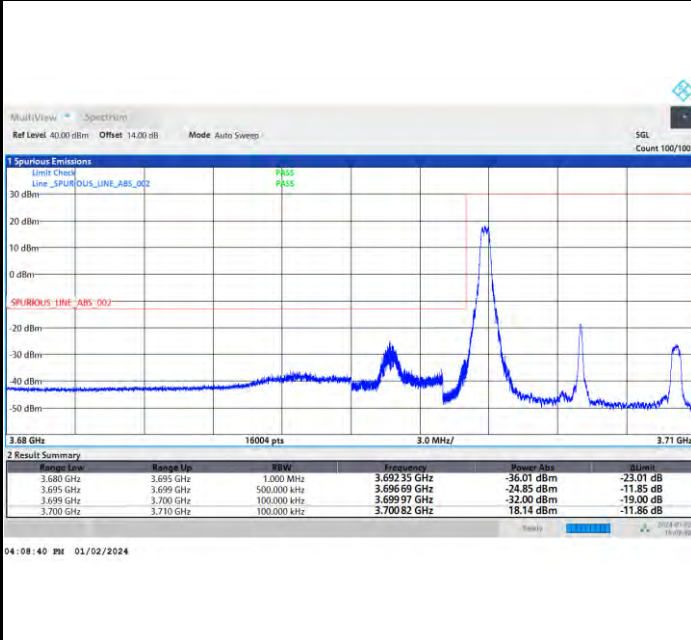


# Conducted Band Edge

FR1 n77 / 10MHz / CP OFDM / QPSK

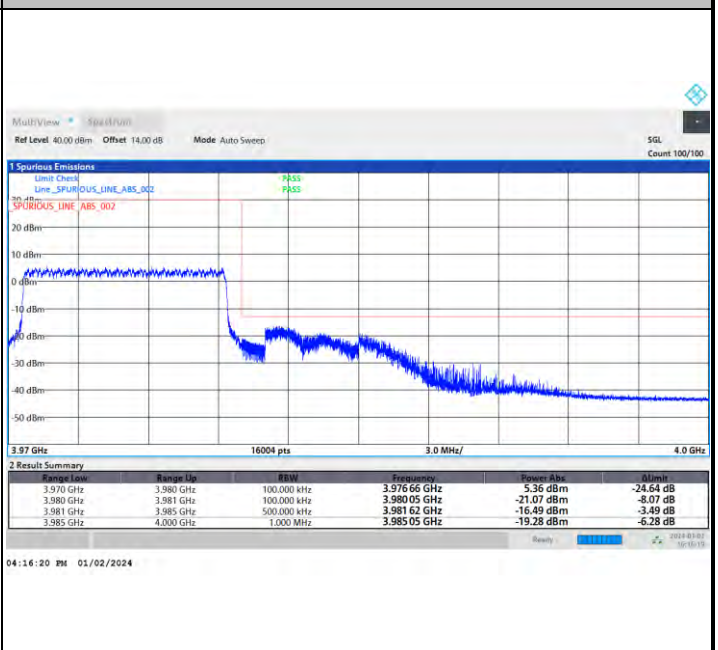
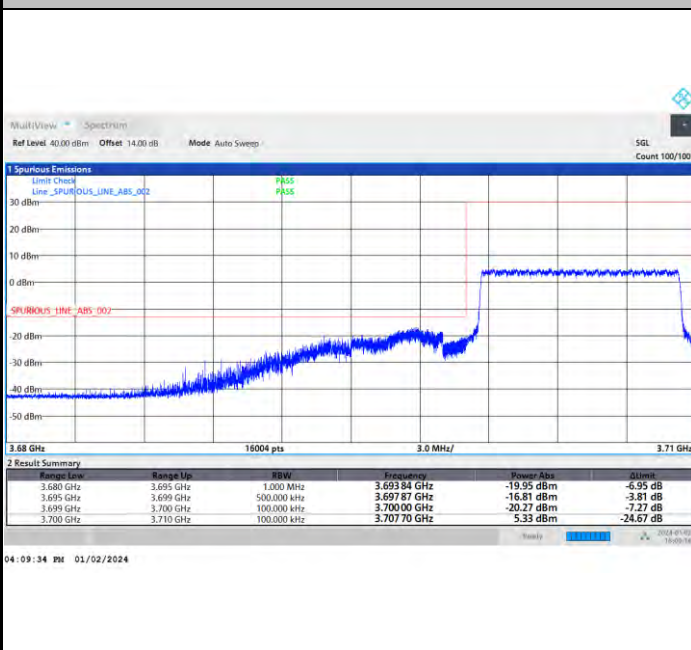
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

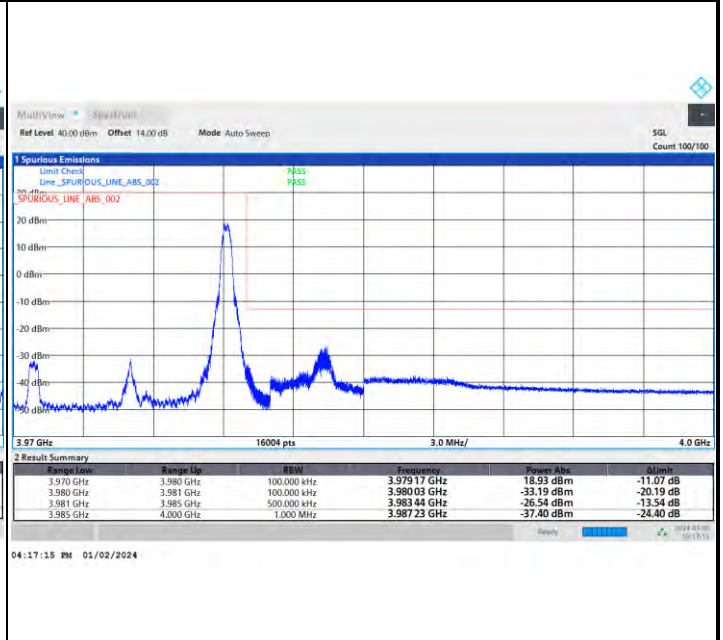
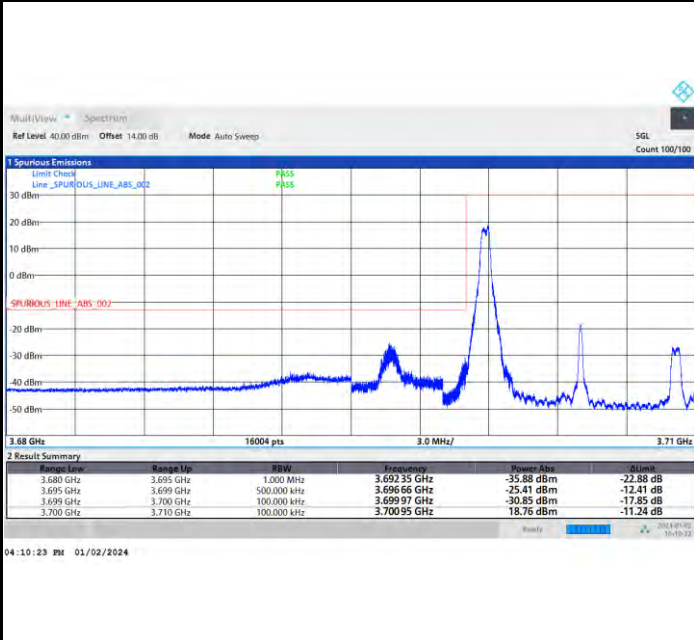




FR1 n77 / 10MHz / CP OFDM / 16QAM

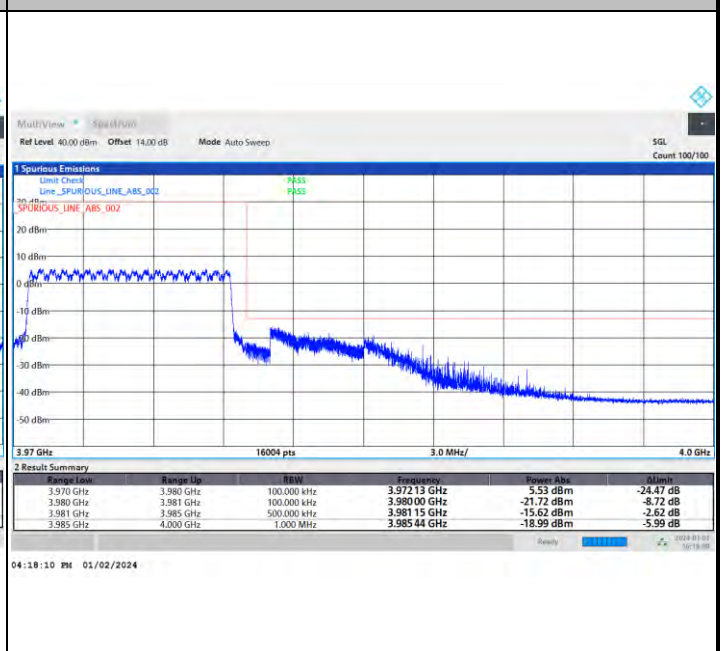
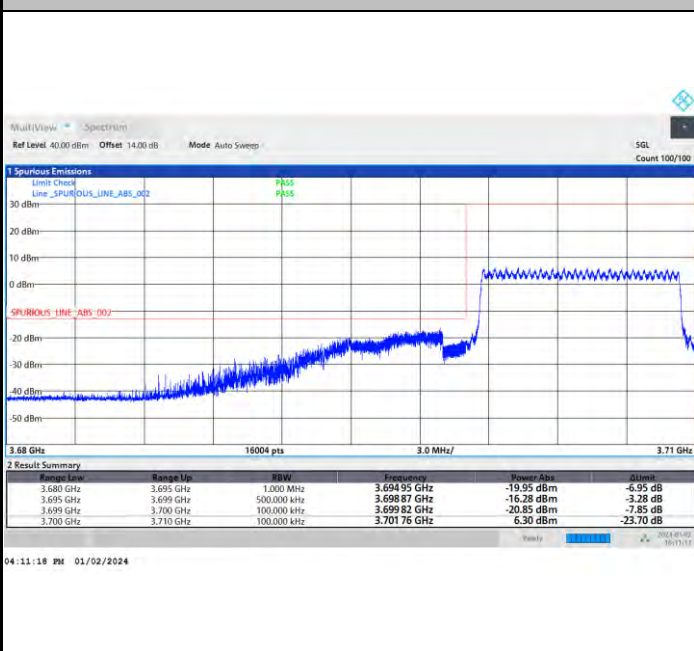
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

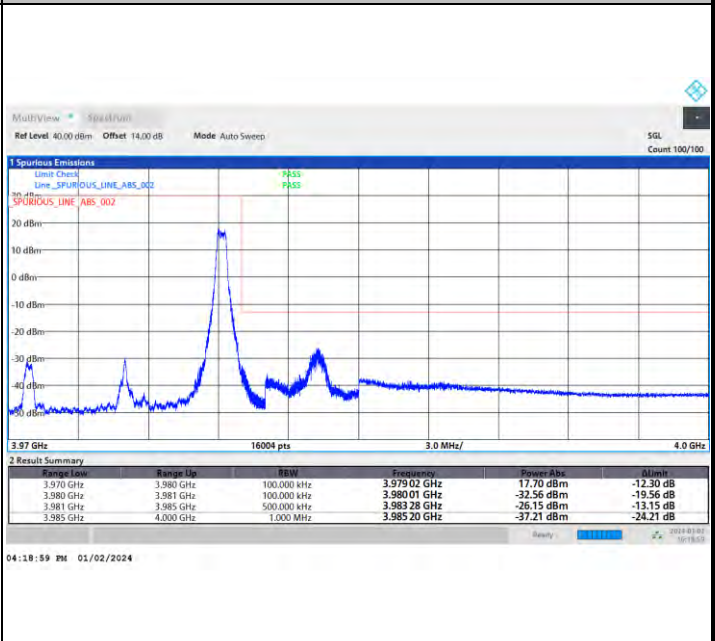
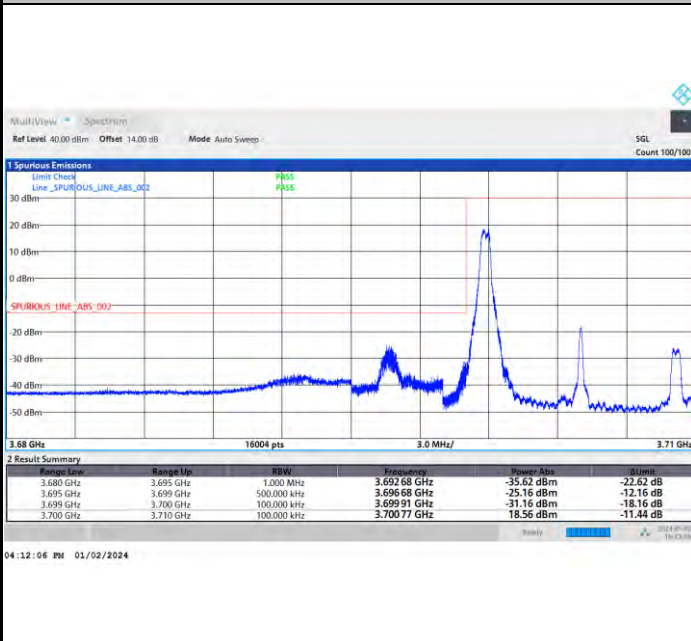




FR1 n77 / 10MHz / CP OFDM / 64QAM

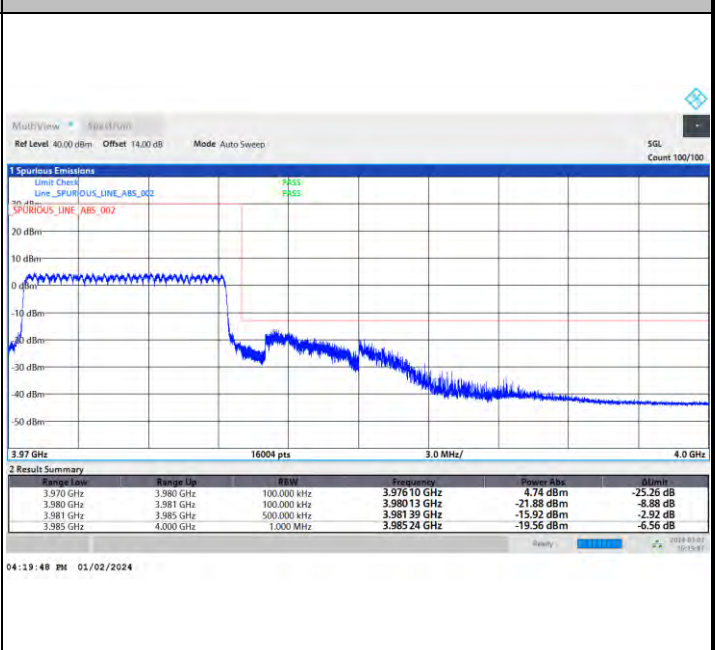
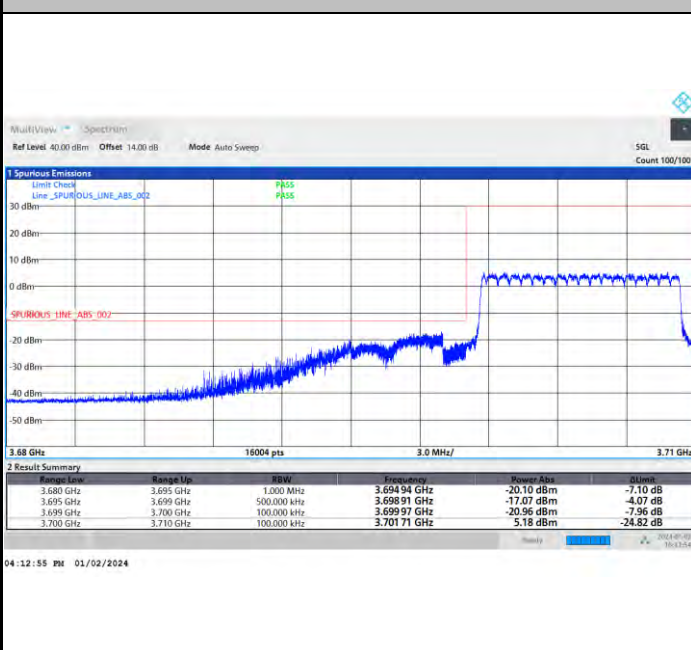
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

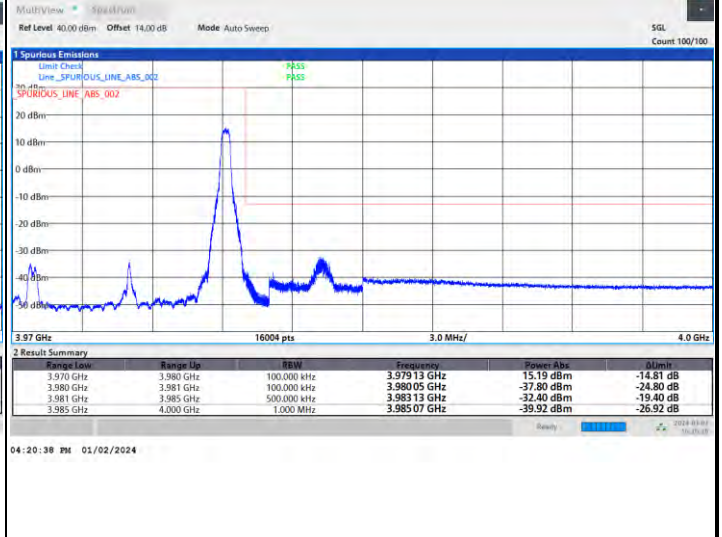
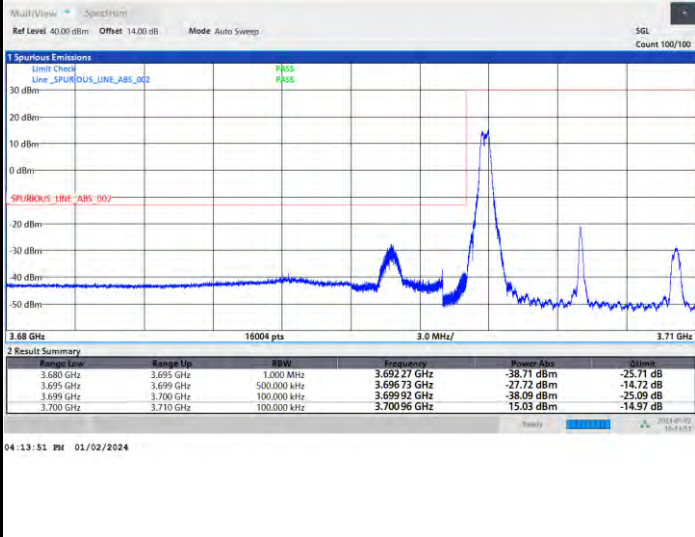




FR1 n77 / 10MHz / CP OFDM / 256QAM

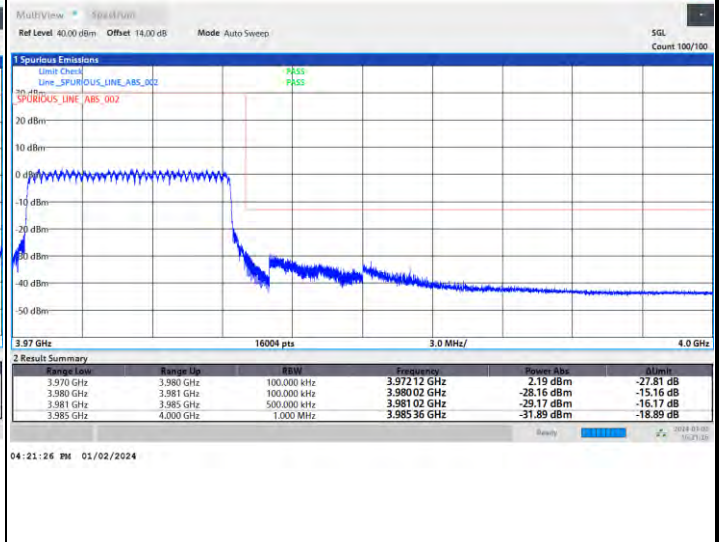
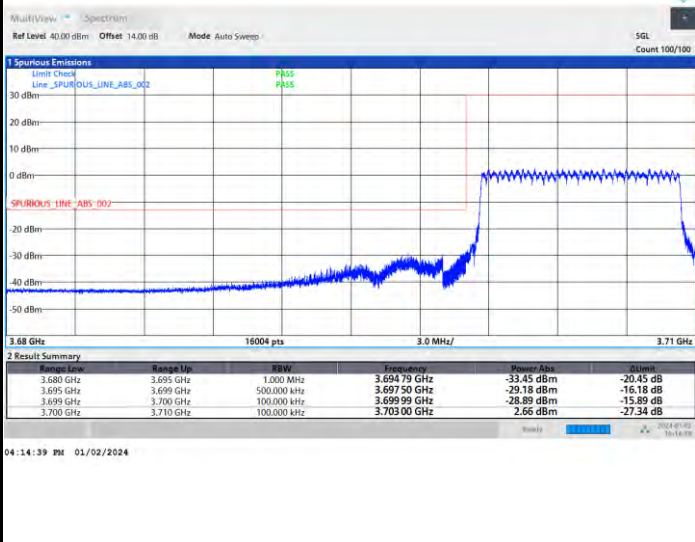
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

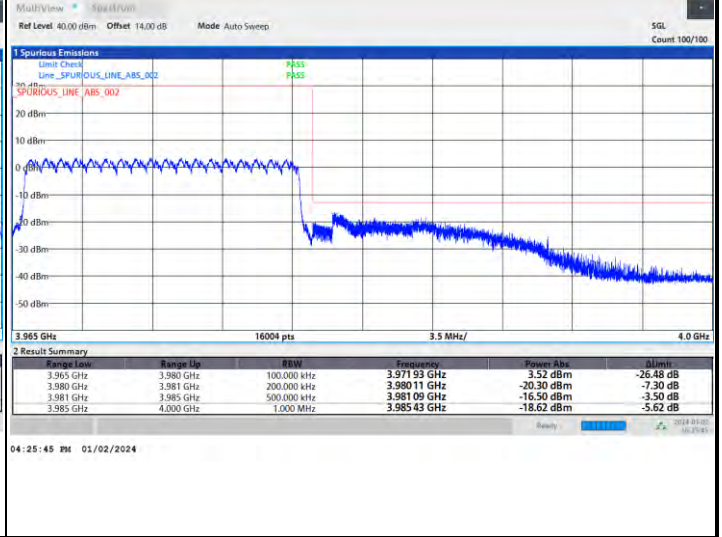
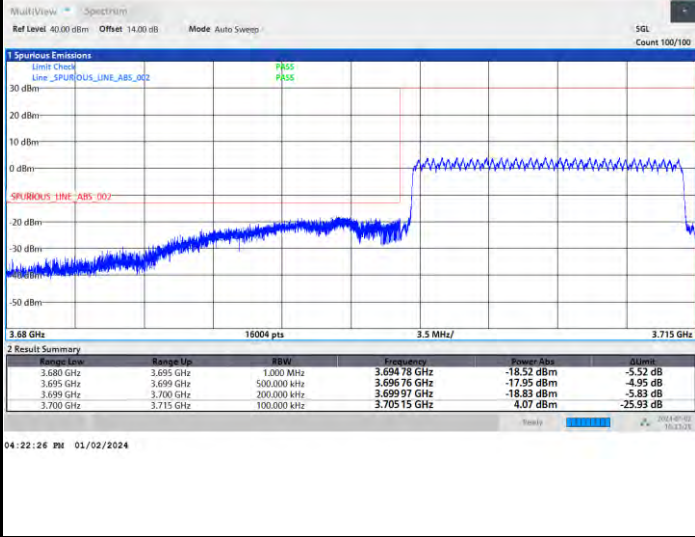




FR1 n77 / 15MHz / CP OFDM / QPSK

Lowest Band Edge / Full RB

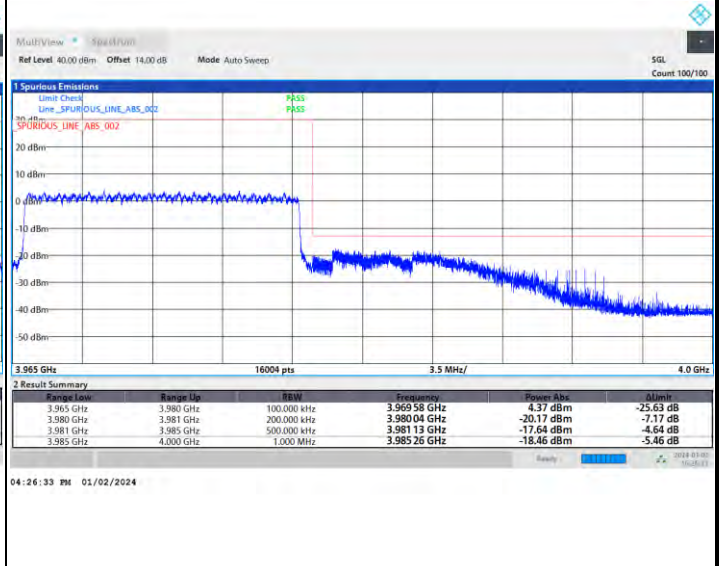
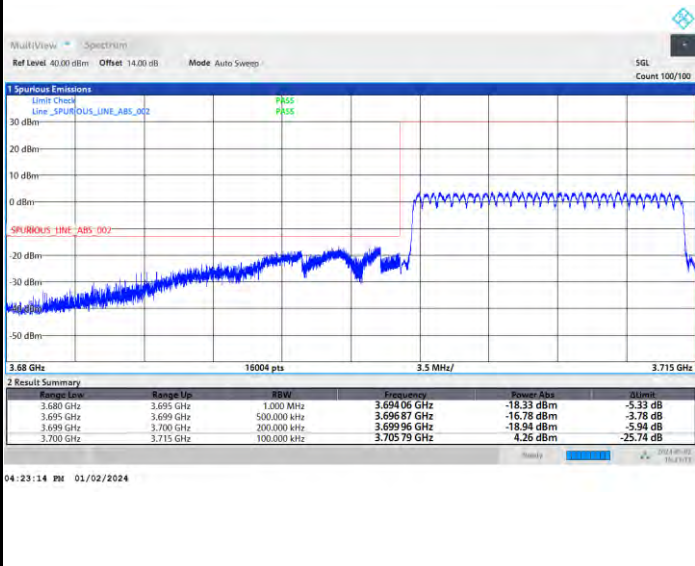
Highest Band Edge / Full RB



FR1 n77 / 15MHz / CP OFDM / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

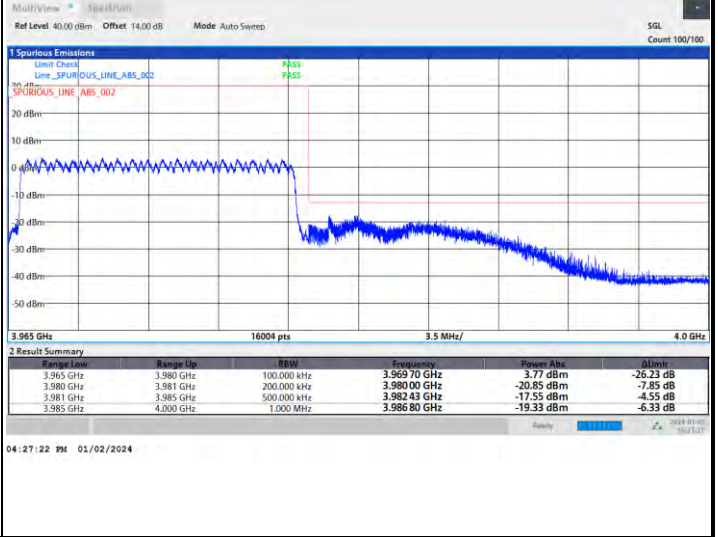
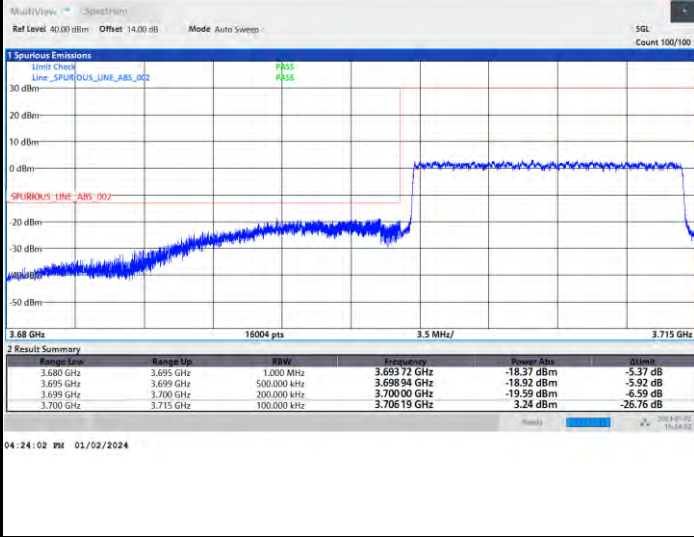




FR1 n77 / 15MHz / CP OFDM / 64QAM

Lowest Band Edge / Full RB

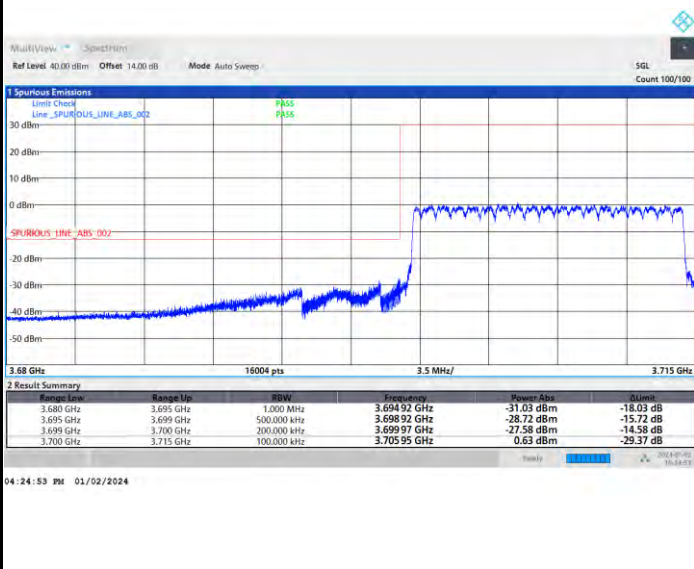
Highest Band Edge / Full RB



FR1 n77 / 15MHz / CP OFDM / 256QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



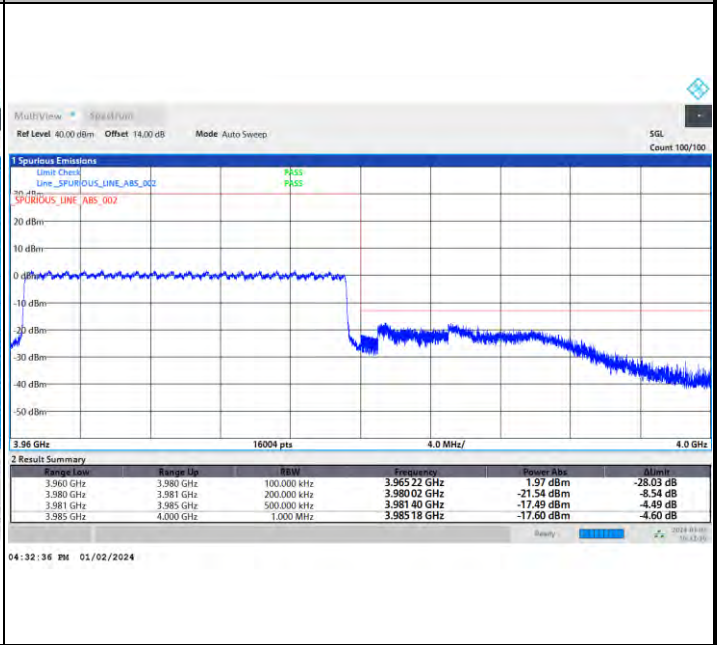
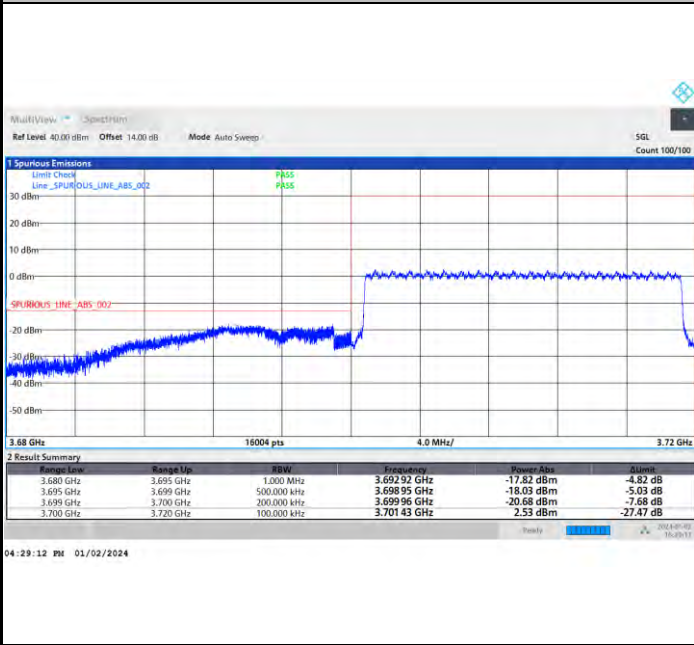




FR1 n77 / 20MHz / CP OFDM / QPSK

Lowest Band Edge / Full RB

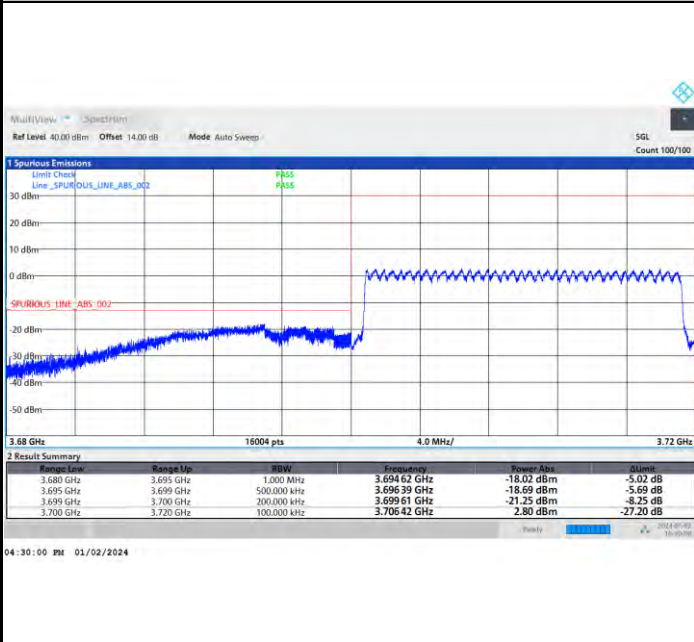
Highest Band Edge / Full RB



FR1 n77 / 20MHz / CP OFDM / 16QAM

Lowest Band Edge / Full RB

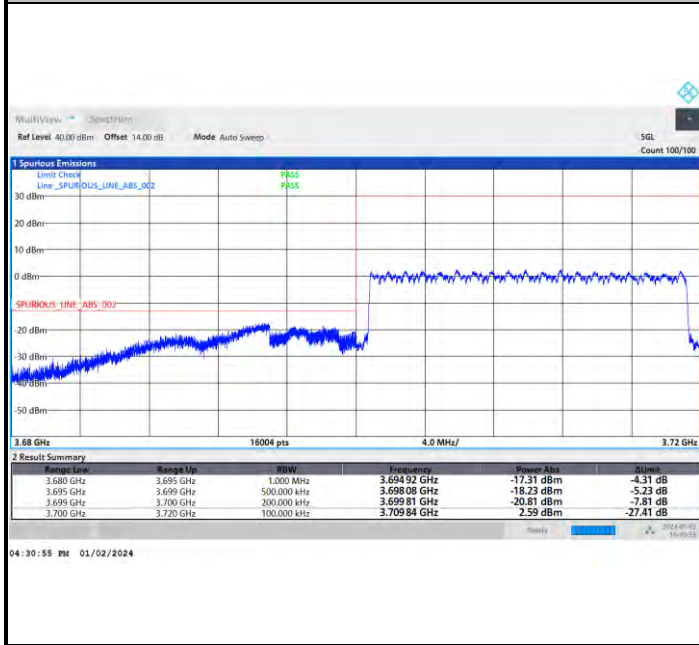
Highest Band Edge / Full RB



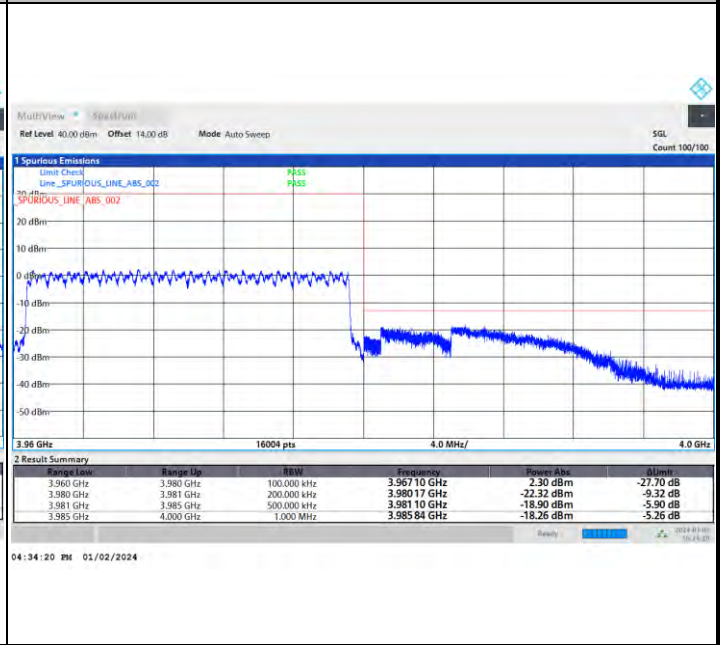


FR1 n77 / 20MHz / CP OFDM / 64QAM

Lowest Band Edge / Full RB

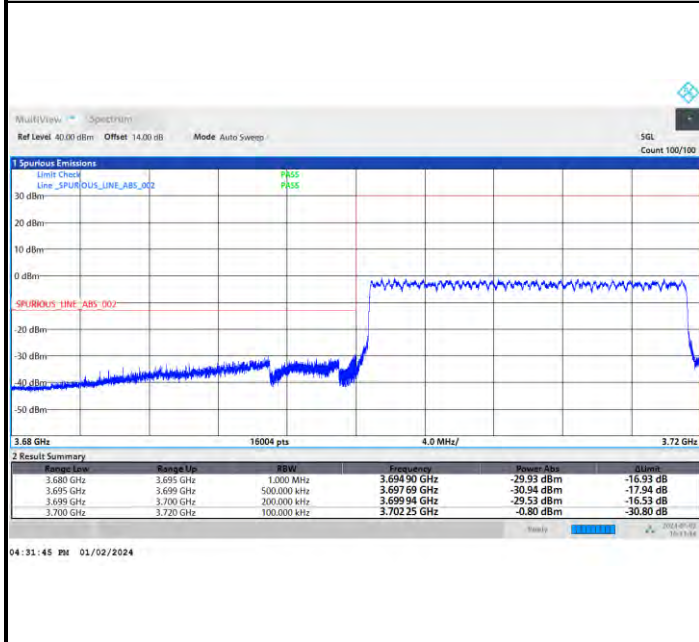


Highest Band Edge / Full RB

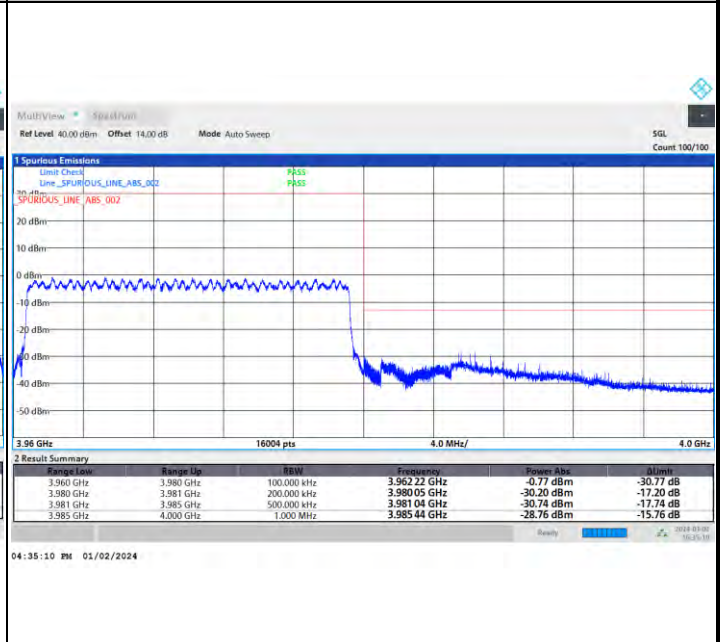


FR1 n77 / 20MHz / CP OFDM / 256QAM

Lowest Band Edge / Full RB



Highest Band Edge / Full RB

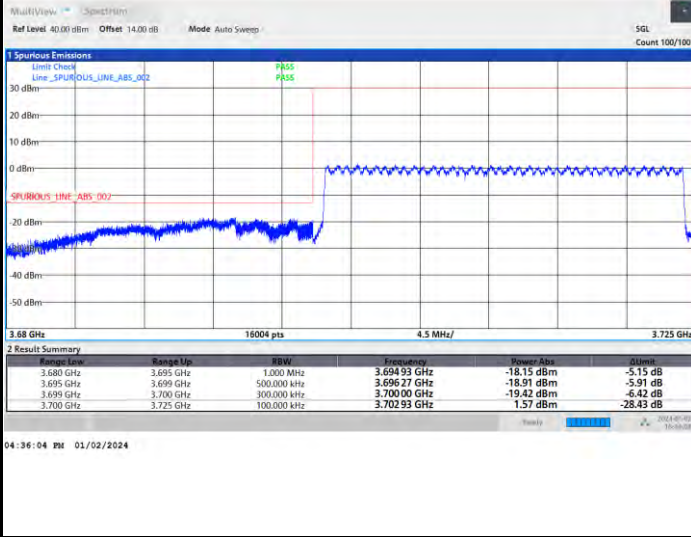




FR1 n77 / 25MHz / CP OFDM / QPSK

Lowest Band Edge / Full RB

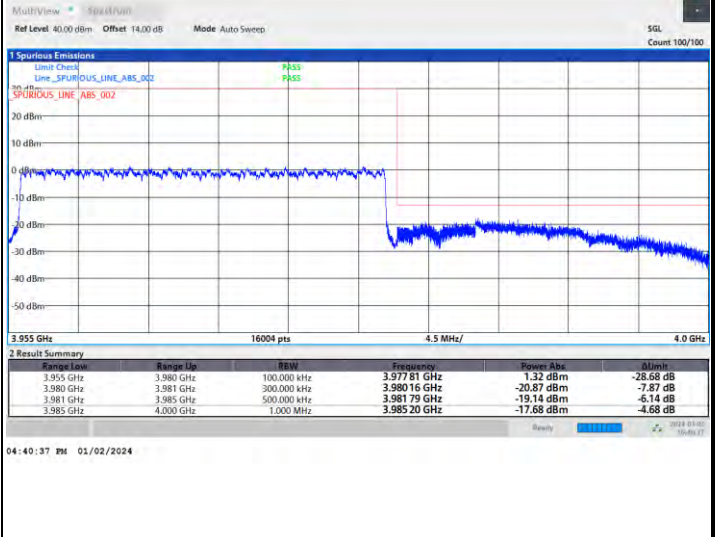
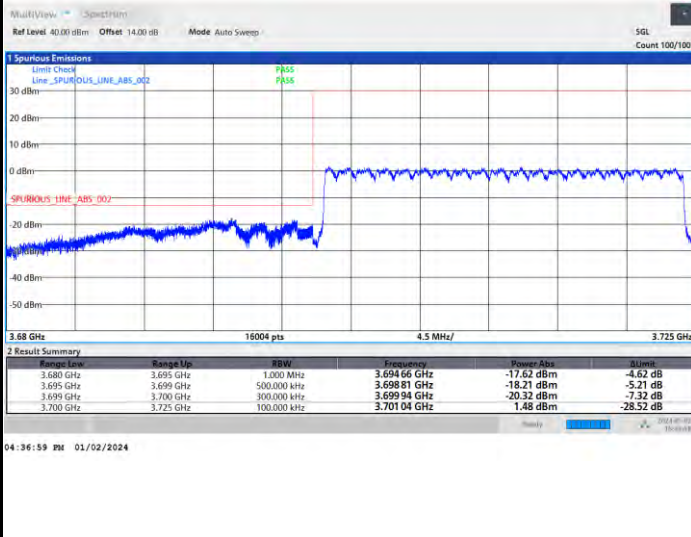
Highest Band Edge / Full RB



FR1 n77 / 25MHz / CP OFDM / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

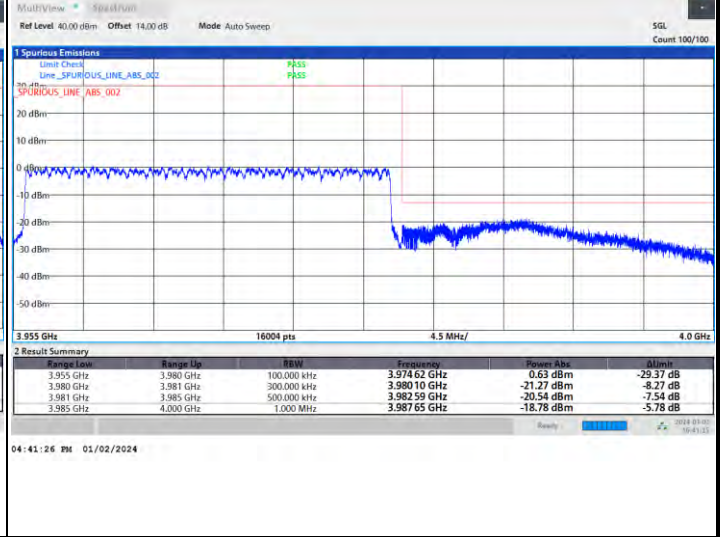
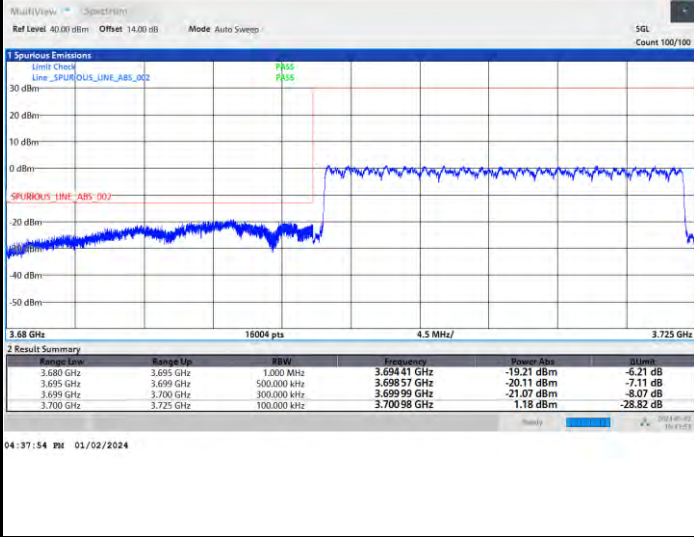




FR1 n77 / 25MHz / CP OFDM / 64QAM

Lowest Band Edge / Full RB

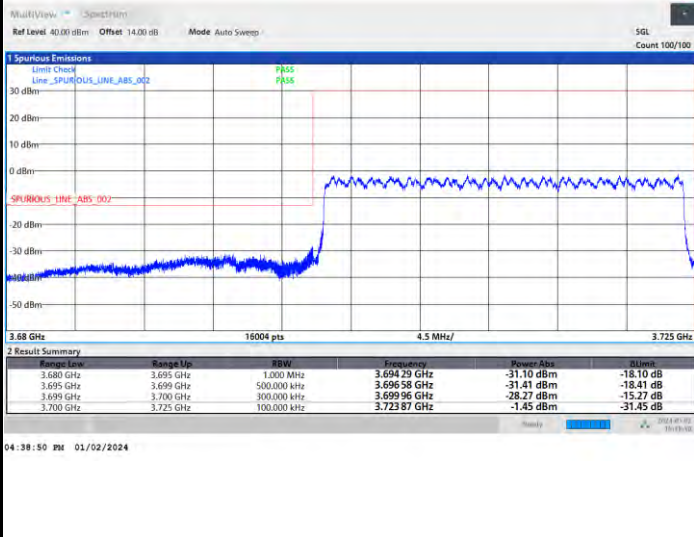
Highest Band Edge / Full RB



FR1 n77 / 25MHz / CP OFDM / 256QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

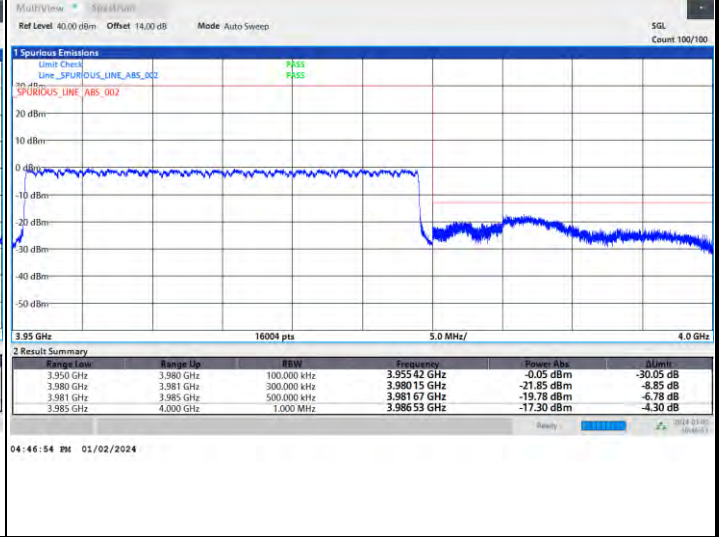
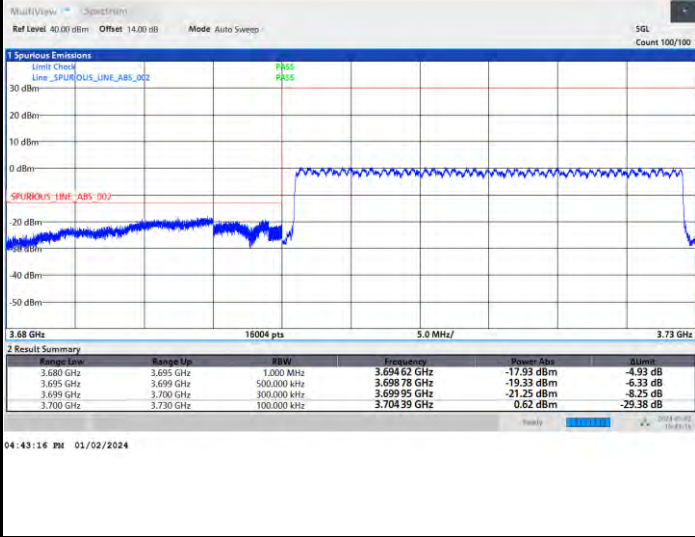




FR1 n77 / 30MHz / CP OFDM / QPSK

Lowest Band Edge / Full RB

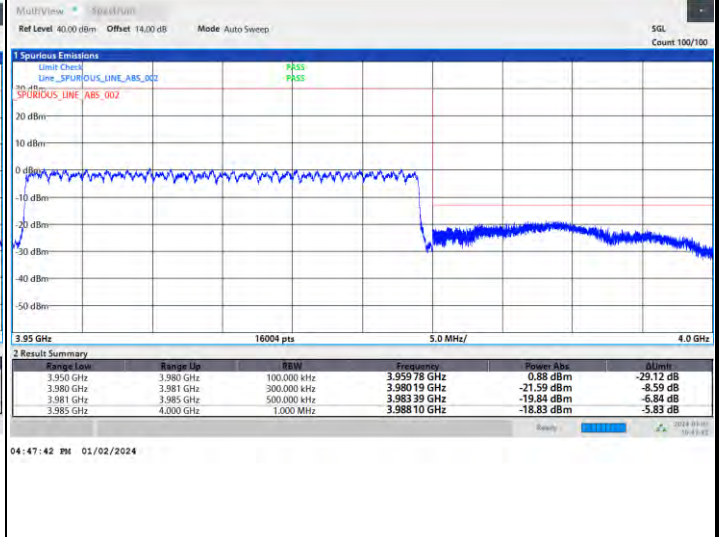
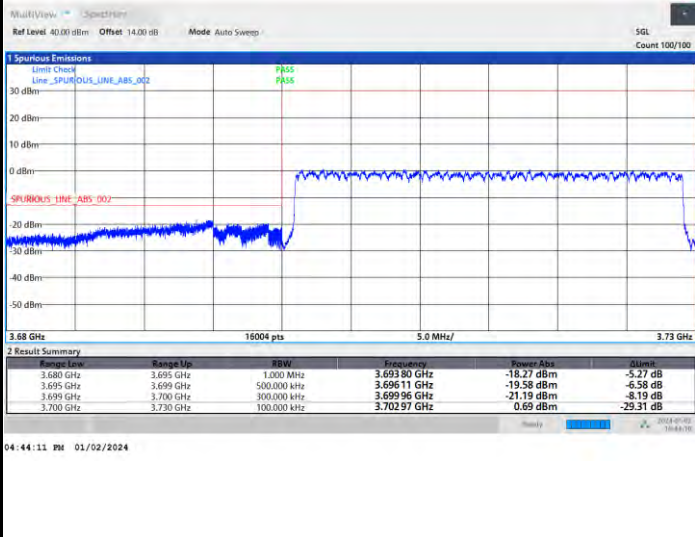
Highest Band Edge / Full RB



FR1 n77 / 30MHz / CP OFDM / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

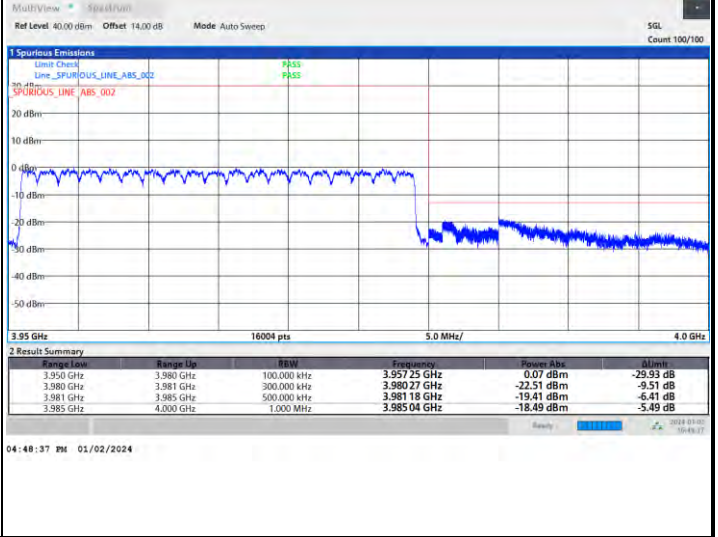
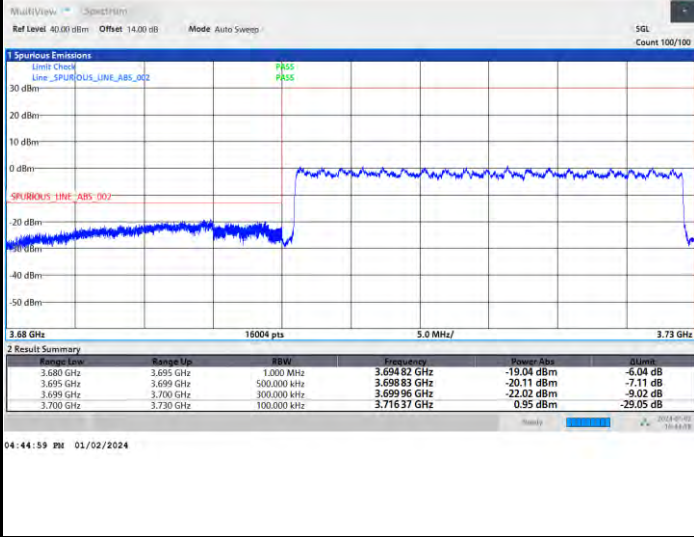




FR1 n77 / 30MHz / CP OFDM / 64QAM

Lowest Band Edge / Full RB

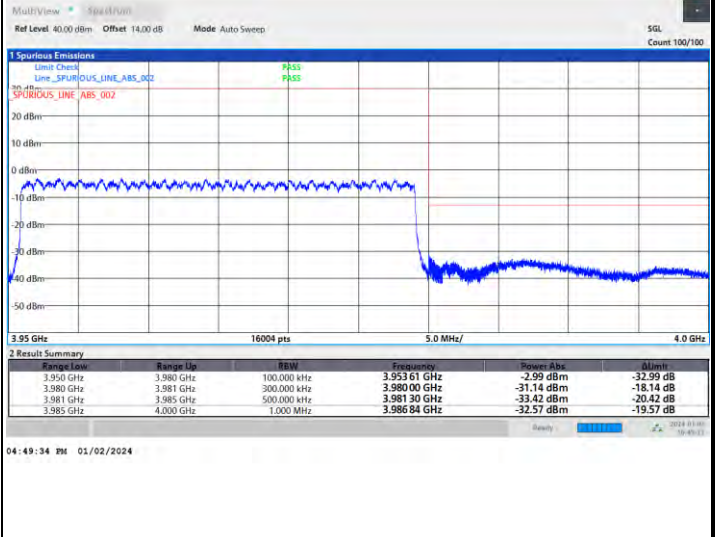
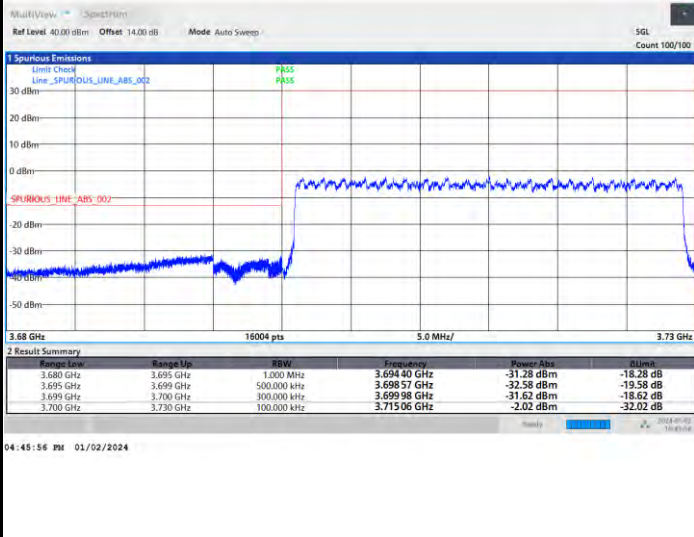
Highest Band Edge / Full RB



FR1 n77 / 30MHz / CP OFDM / 256QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

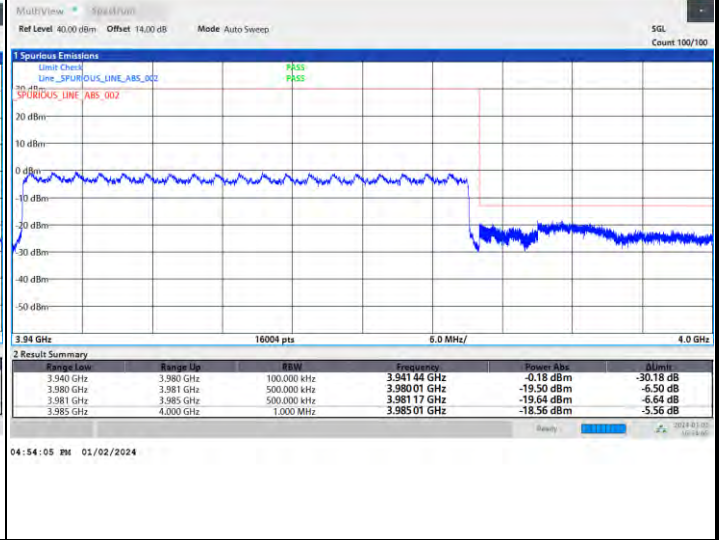
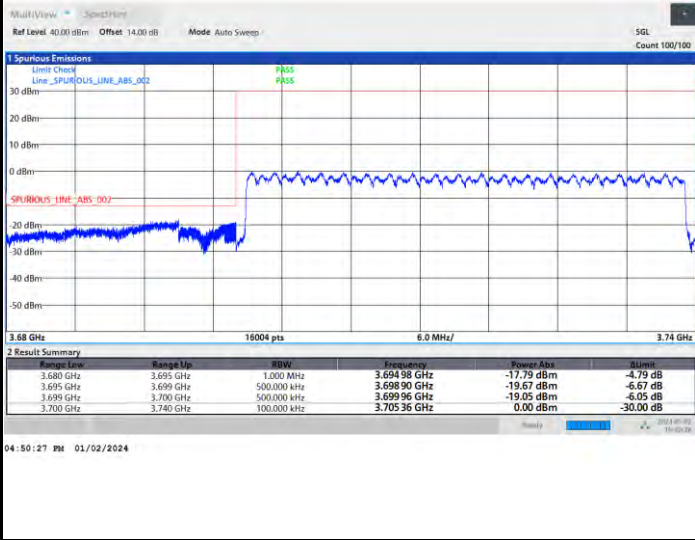




FR1 n77 / 40MHz / CP OFDM / QPSK

Lowest Band Edge / Full RB

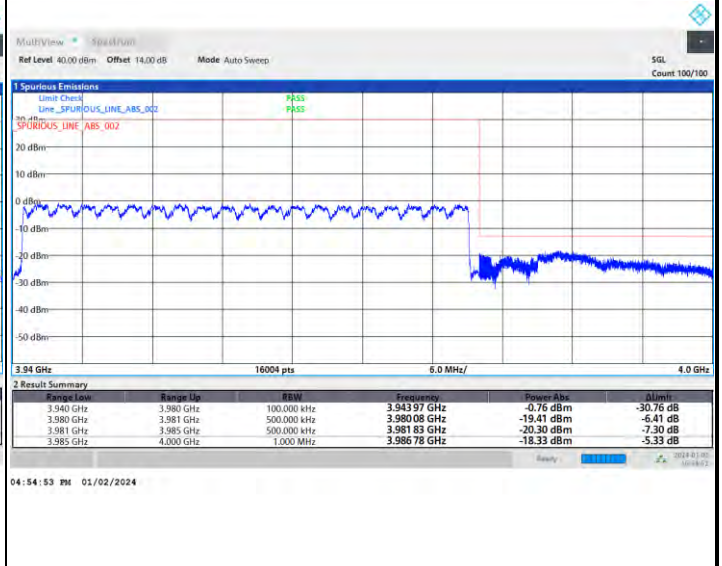
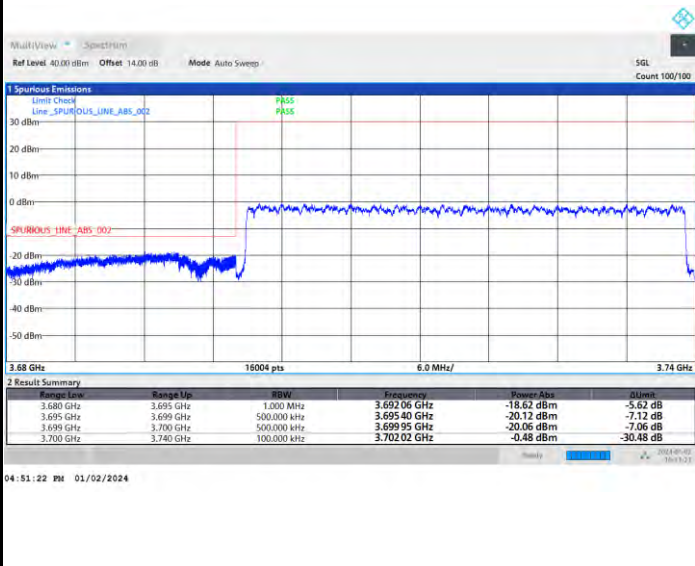
Highest Band Edge / Full RB



FR1 n77 / 40MHz / CP OFDM / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

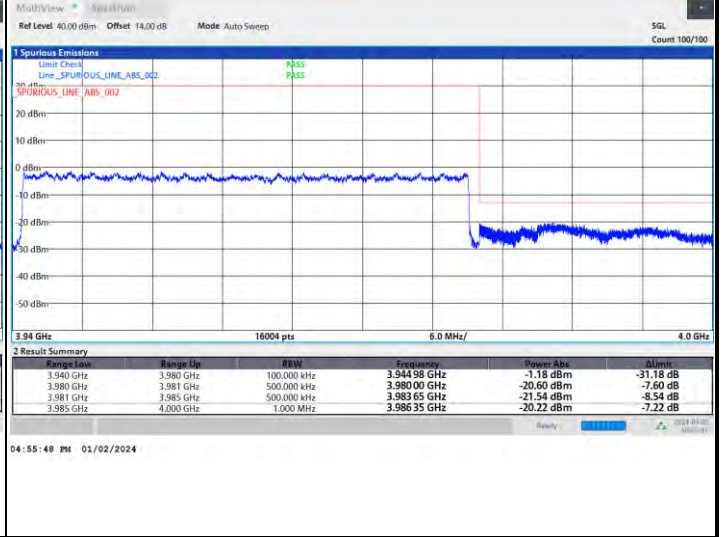
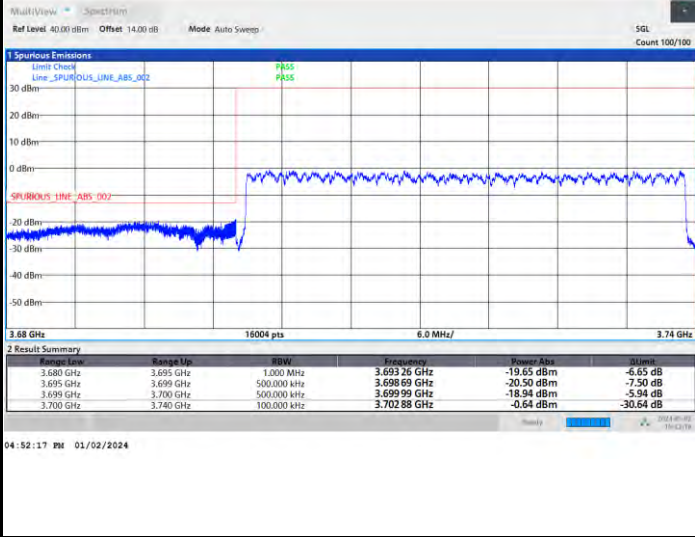




FR1 n77 / 40MHz / CP OFDM / 64QAM

Lowest Band Edge / Full RB

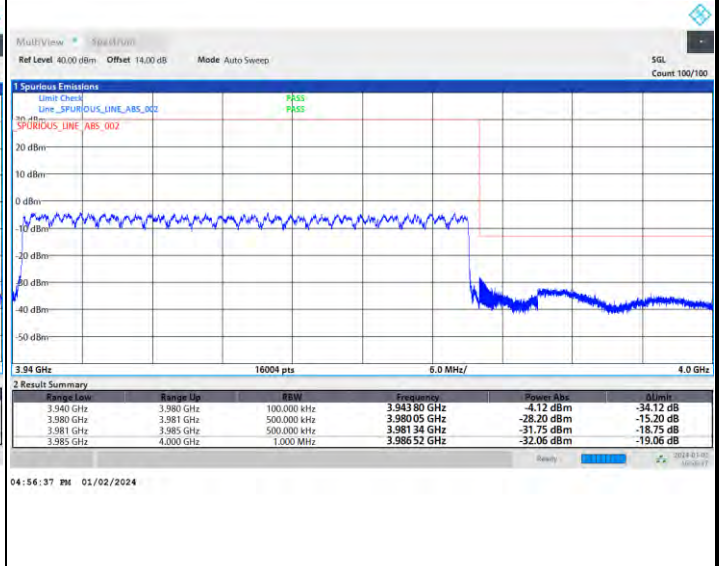
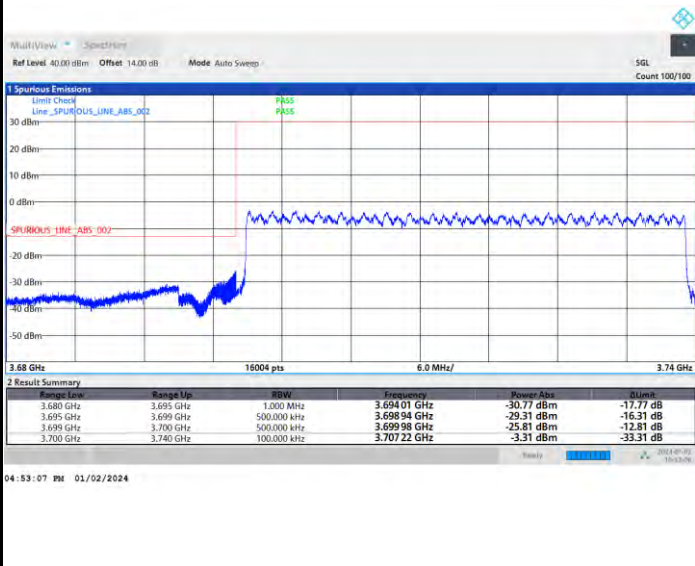
Highest Band Edge / Full RB



FR1 n77 / 40MHz / CP OFDM / 256QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



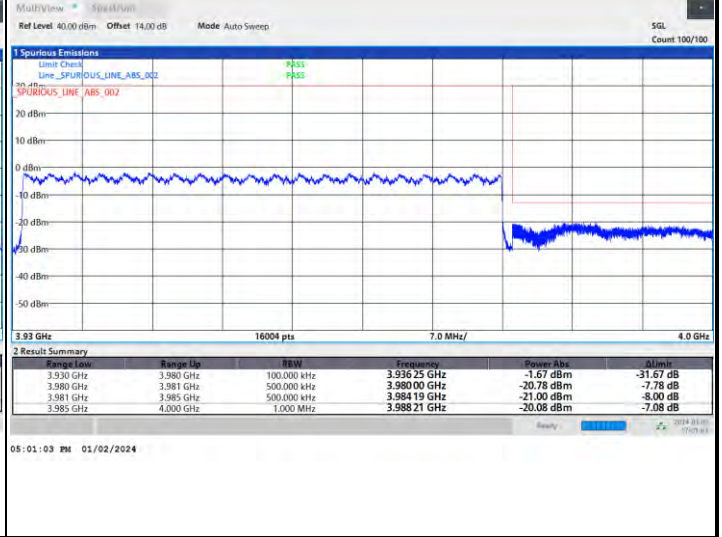
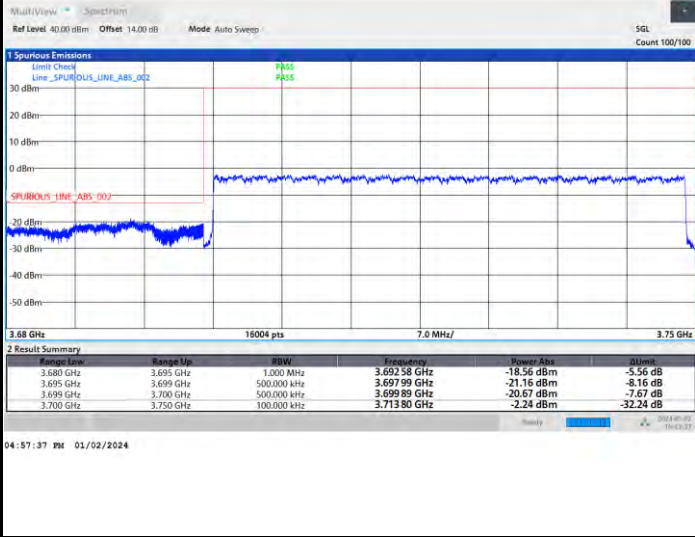




FR1 n77 / 50MHz / CP OFDM / QPSK

Lowest Band Edge / Full RB

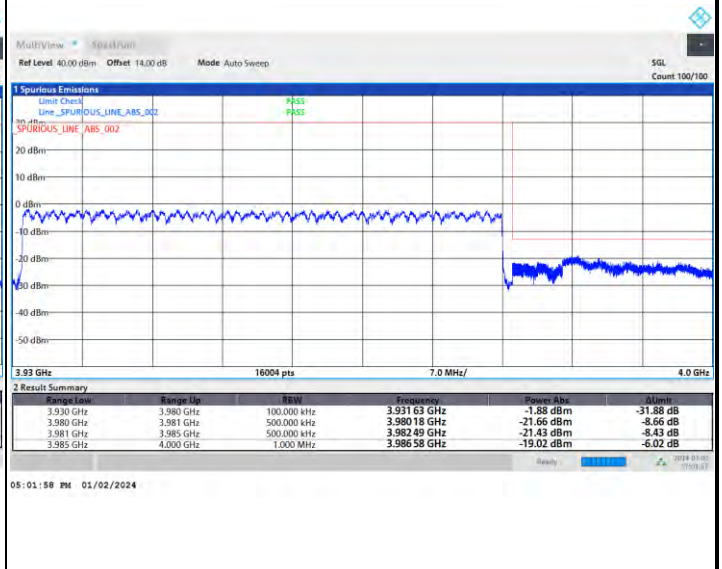
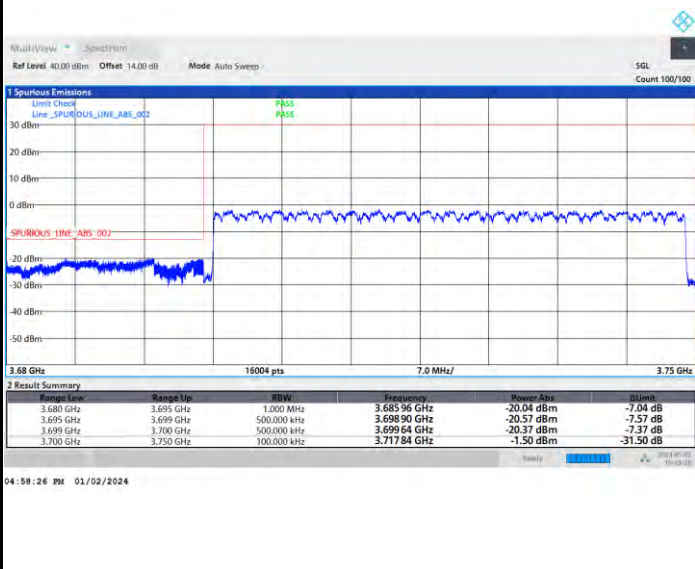
Highest Band Edge / Full RB



FR1 n77 / 50MHz / CP OFDM / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

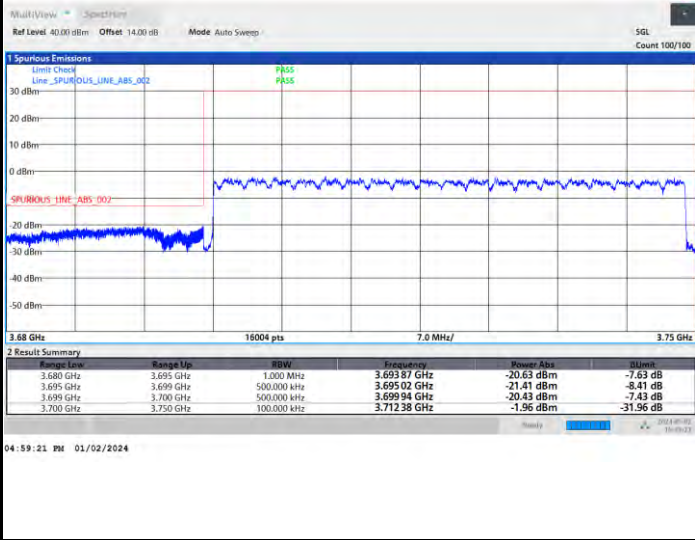




FR1 n77 / 50MHz / CP OFDM / 64QAM

Lowest Band Edge / Full RB

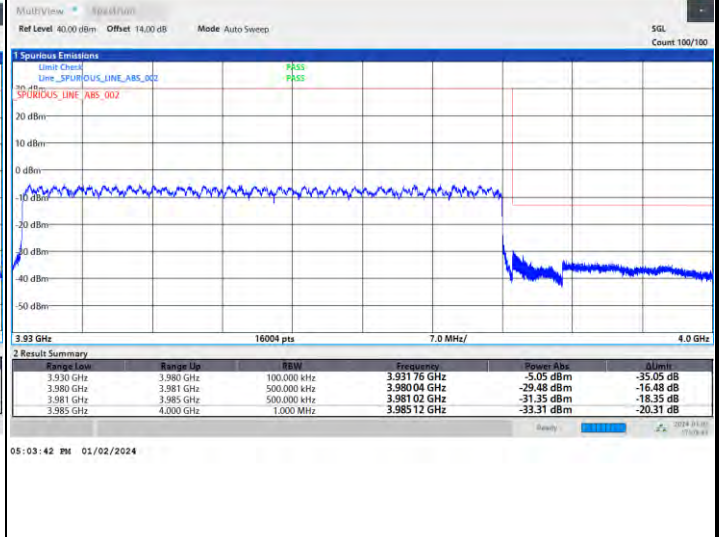
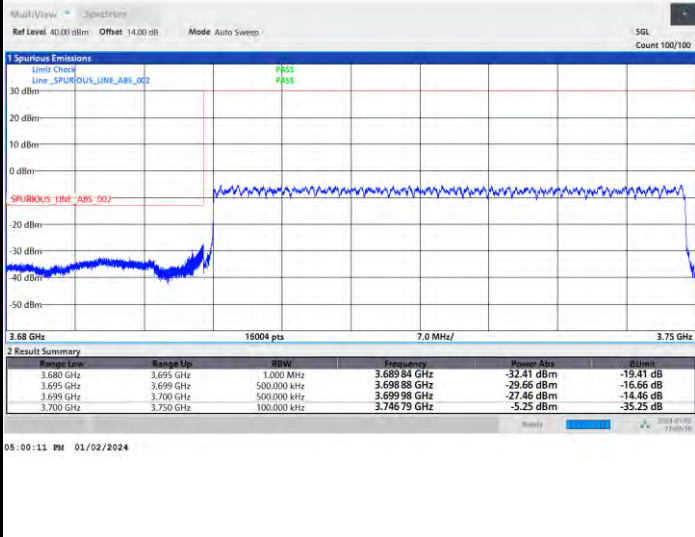
Highest Band Edge / Full RB



FR1 n77 / 50MHz / CP OFDM / 256QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

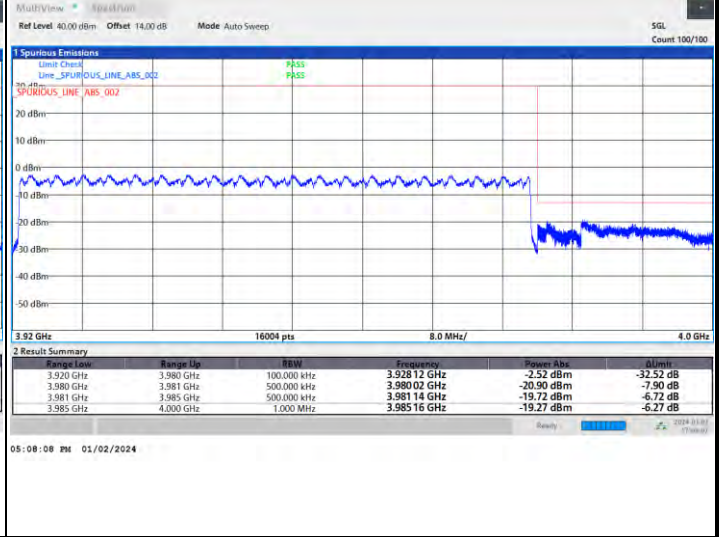
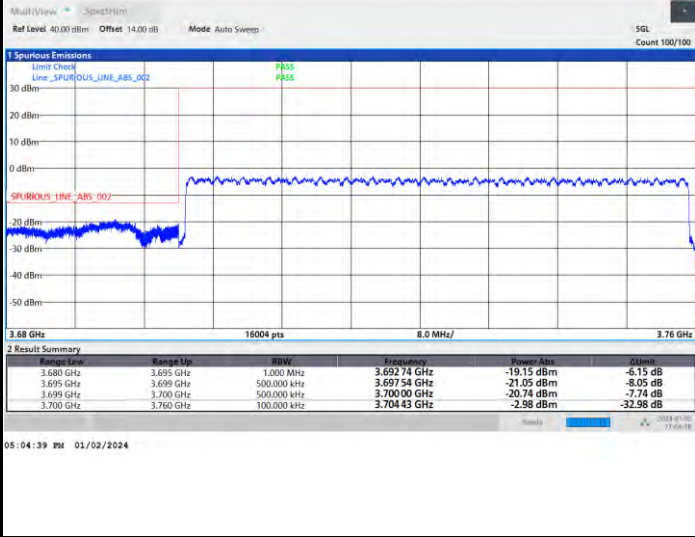




FR1 n77 / 60MHz / CP OFDM / QPSK

Lowest Band Edge / Full RB

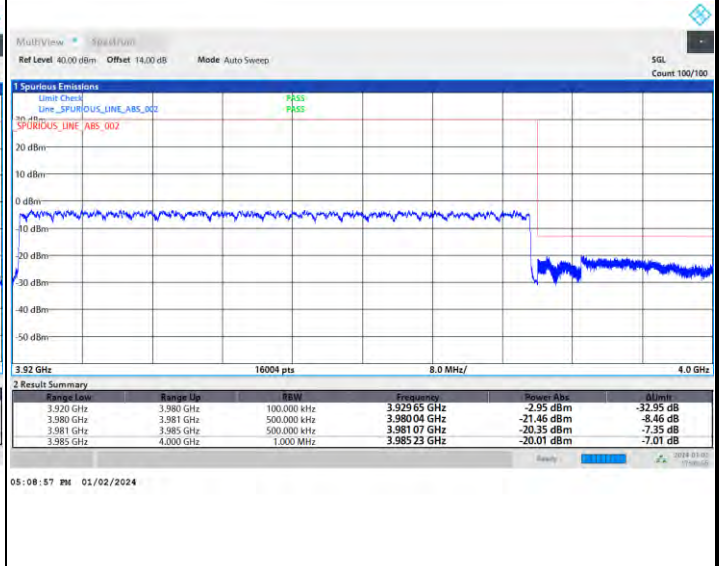
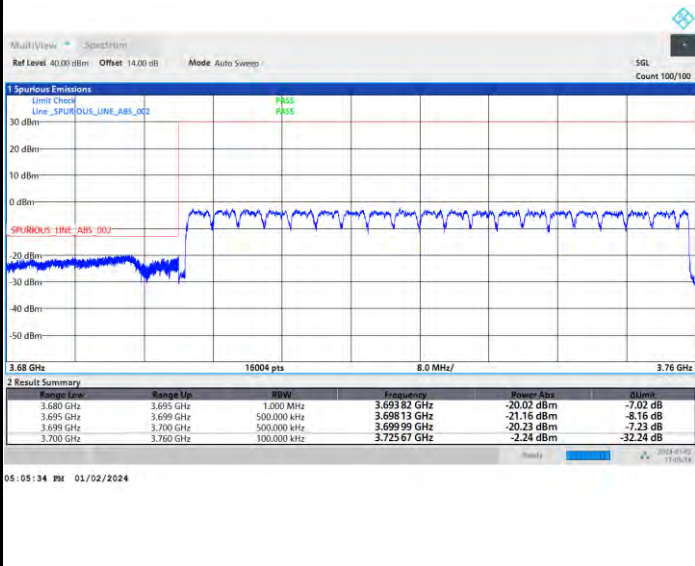
Highest Band Edge / Full RB



FR1 n77 / 60MHz / CP OFDM / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

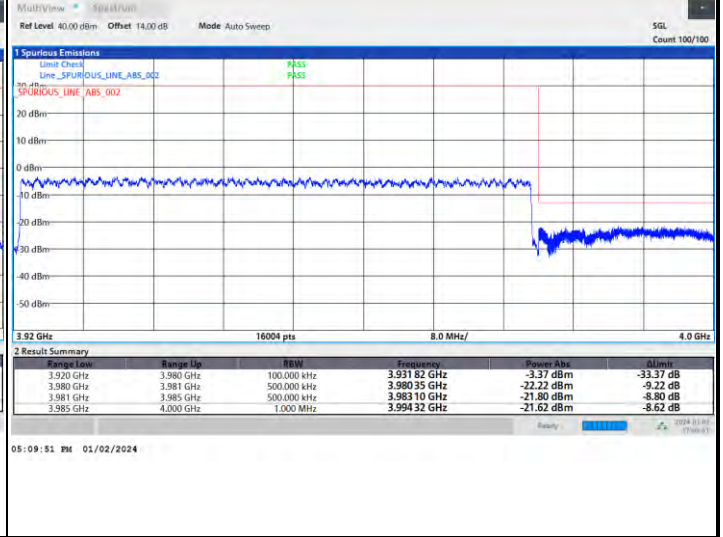
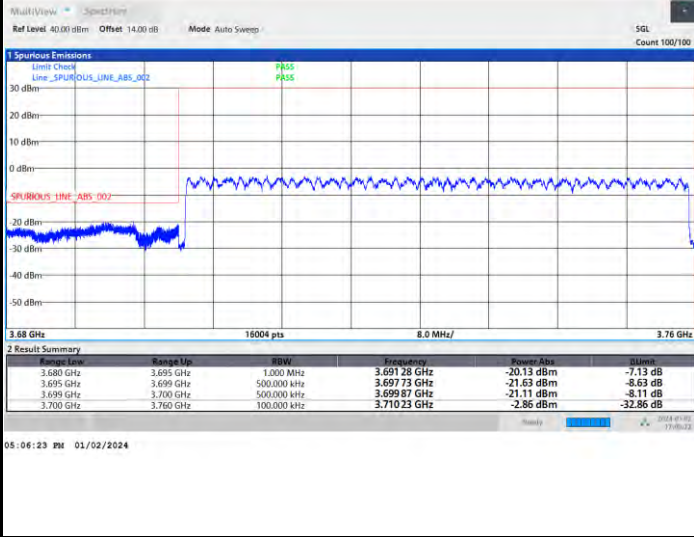




FR1 n77 / 60MHz / CP OFDM / 64QAM

Lowest Band Edge / Full RB

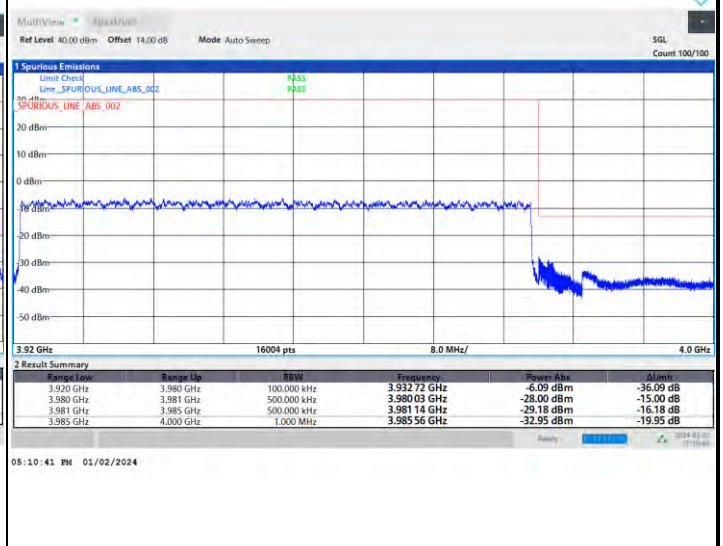
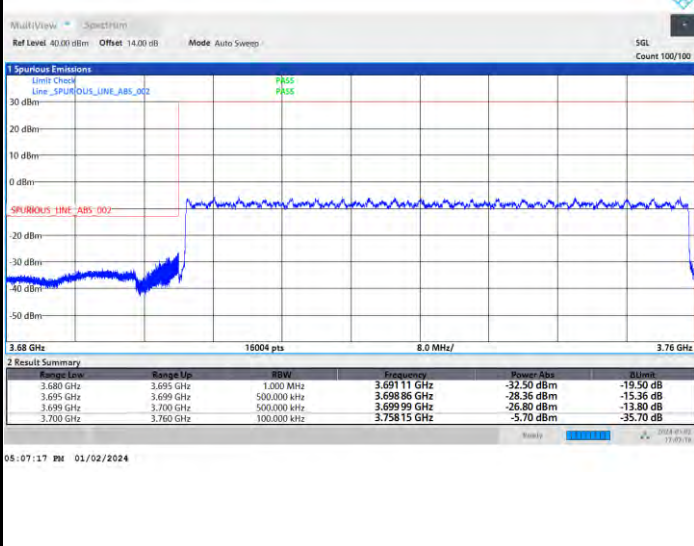
Highest Band Edge / Full RB



FR1 n77 / 60MHz / CP OFDM / 256QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

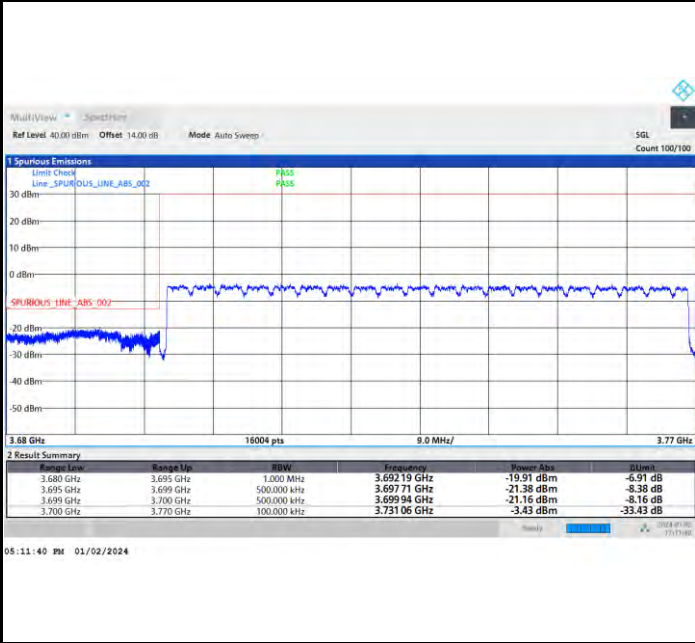




FR1 n77 / 70MHz / CP OFDM / QPSK

Lowest Band Edge / Full RB

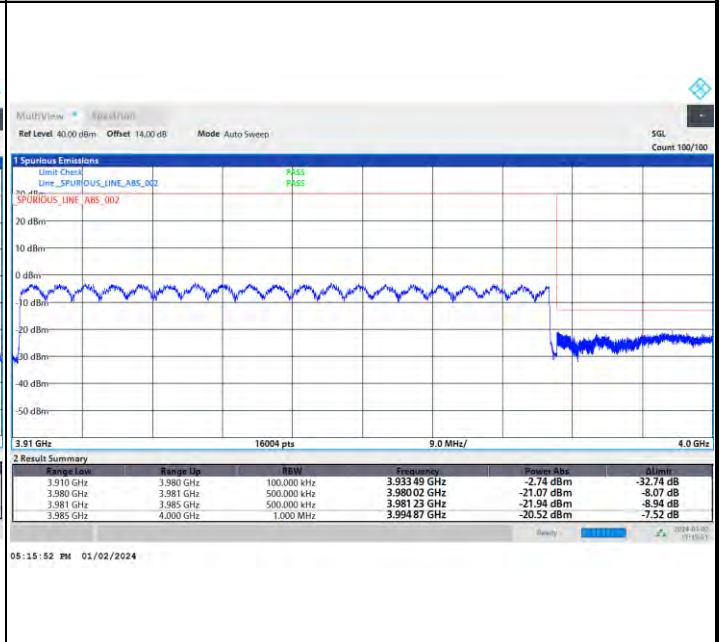
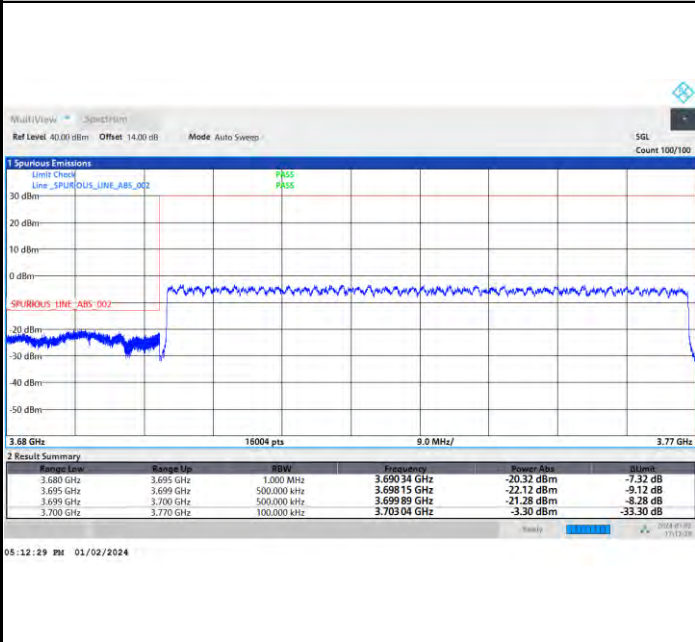
Highest Band Edge / Full RB



FR1 n77 / 70MHz / CP OFDM / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

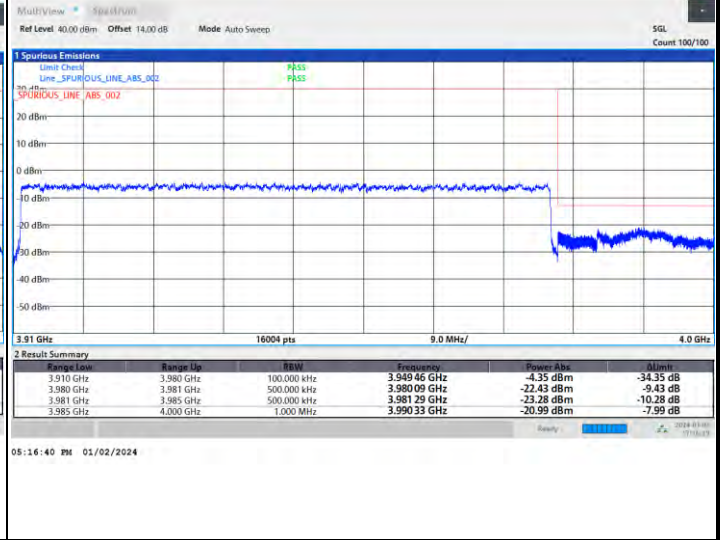
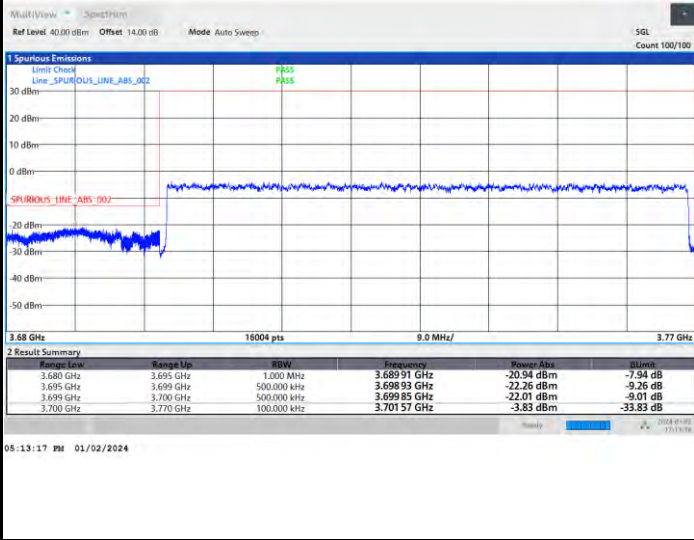




FR1 n77 / 70MHz / CP OFDM / 64QAM

Lowest Band Edge / Full RB

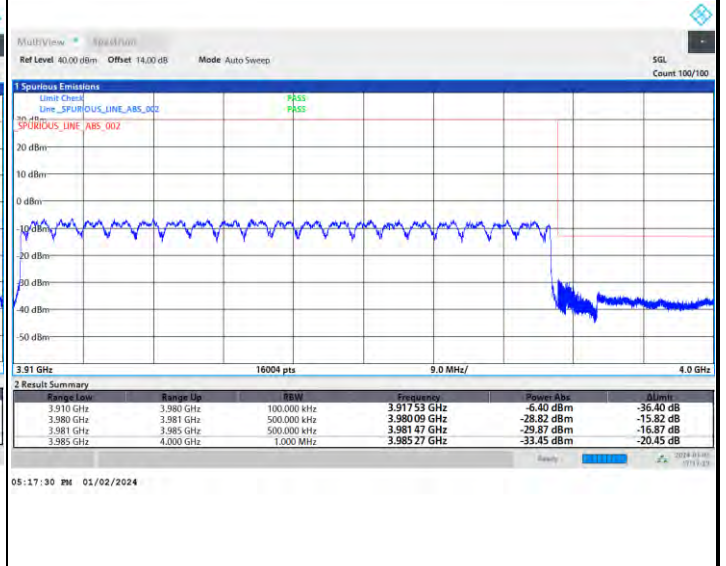
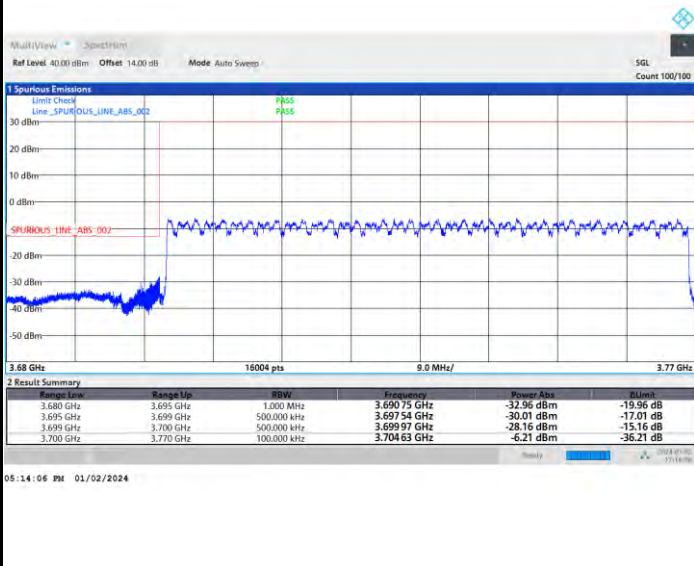
Highest Band Edge / Full RB



FR1 n77 / 70MHz / CP OFDM / 256QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

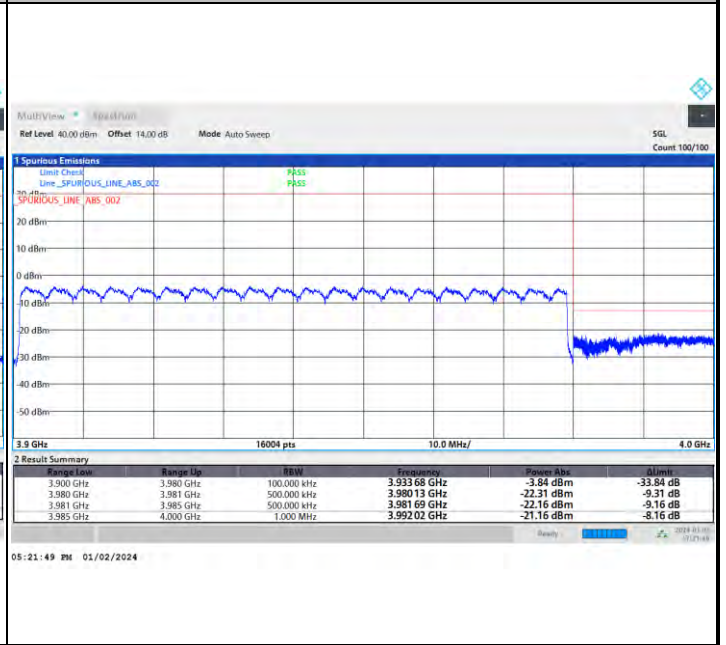
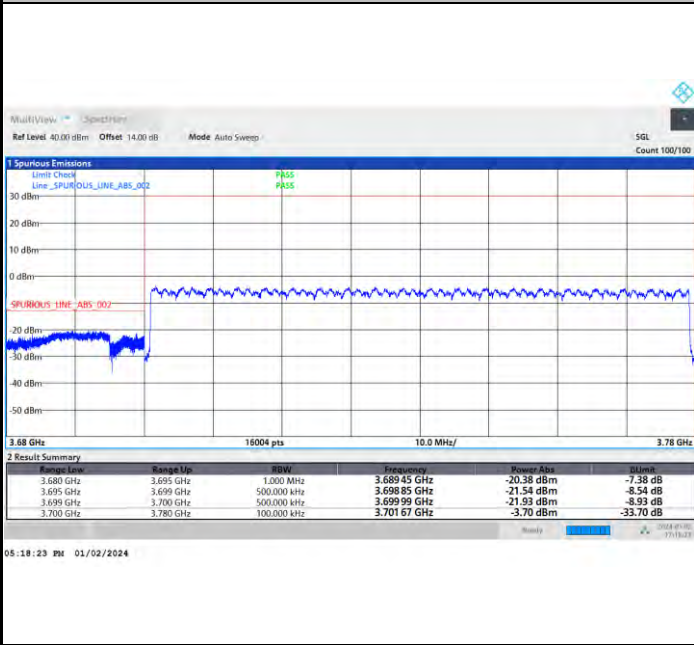




FR1 n77 / 80MHz / CP OFDM / QPSK

Lowest Band Edge / Full RB

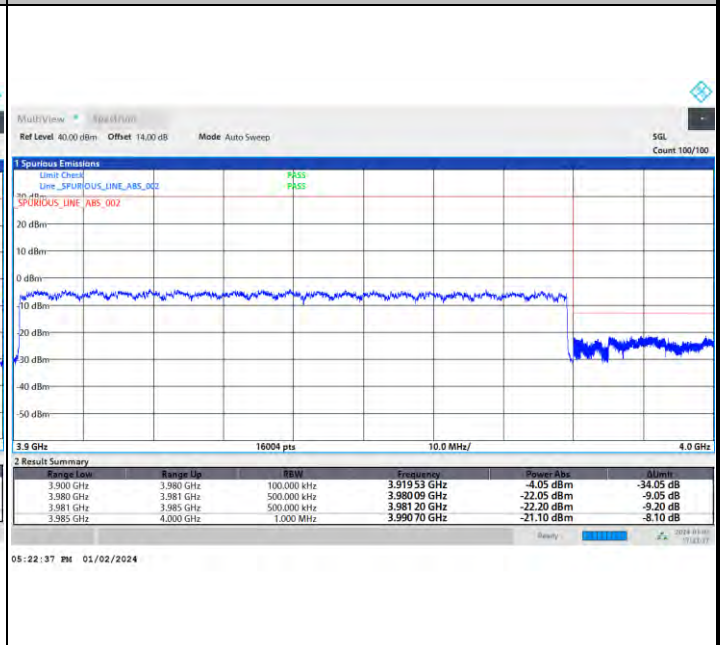
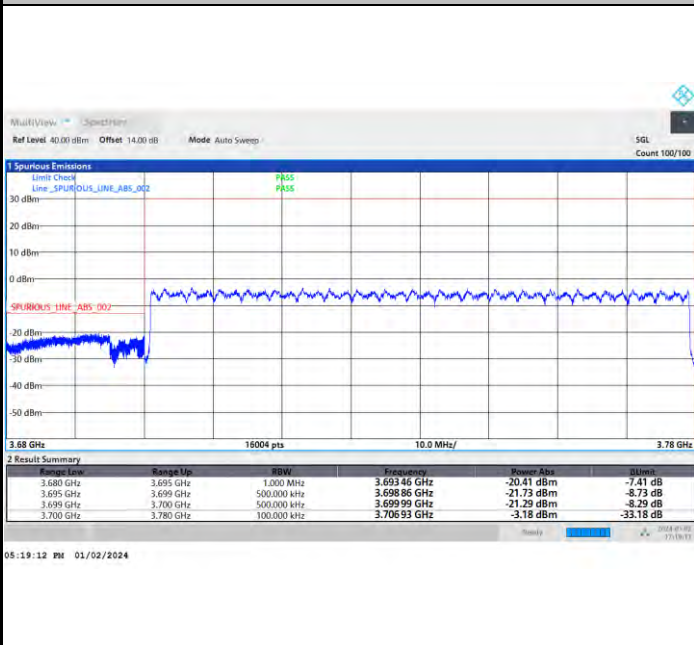
Highest Band Edge / Full RB



FR1 n77 / 80MHz / CP OFDM / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

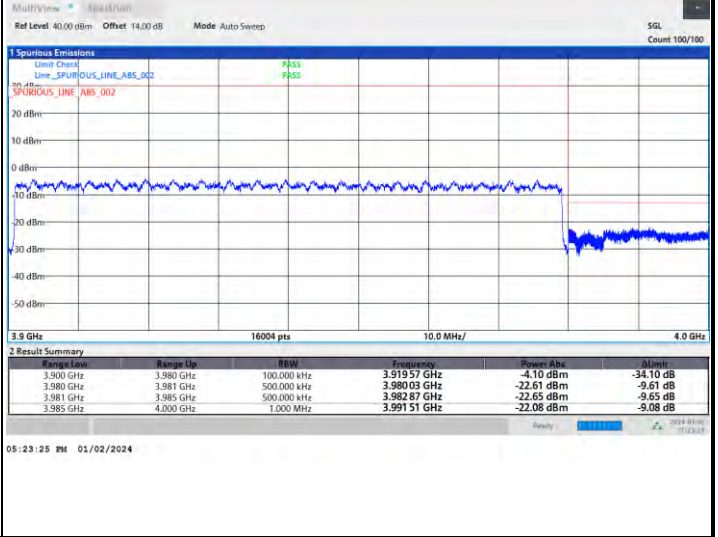
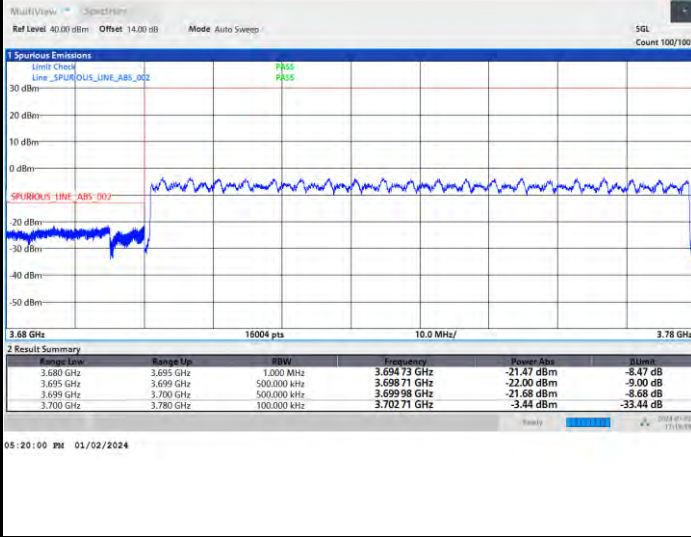




FR1 n77 / 80MHz / CP OFDM / 64QAM

Lowest Band Edge / Full RB

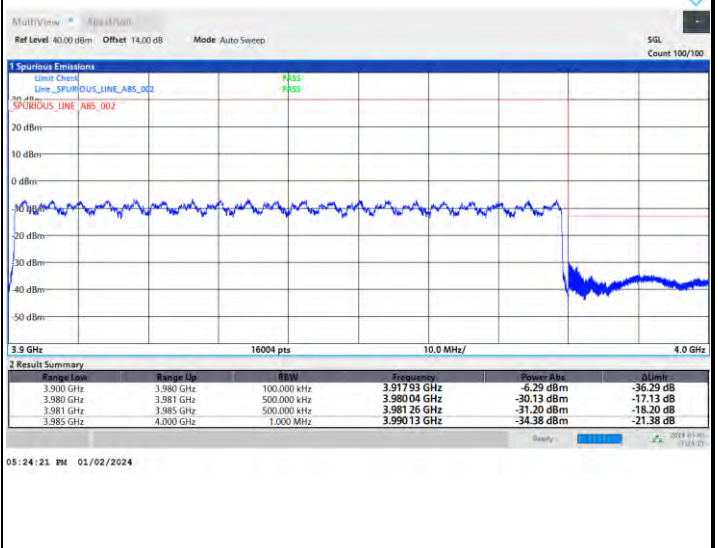
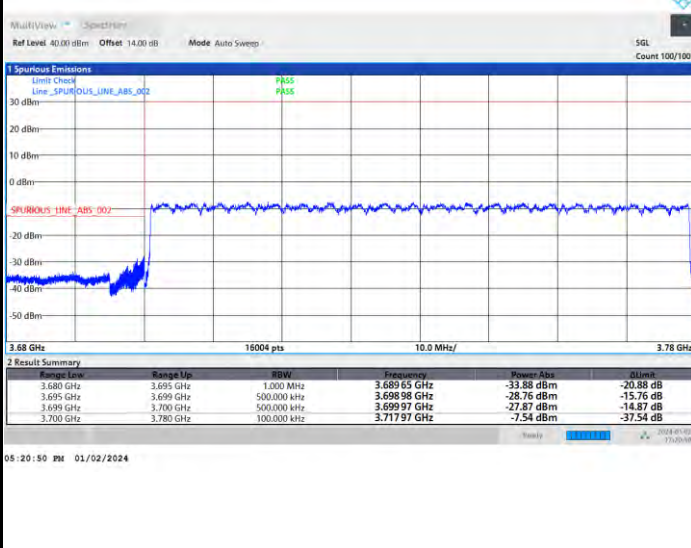
Highest Band Edge / Full RB



FR1 n77 / 80MHz / CP OFDM / 256QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



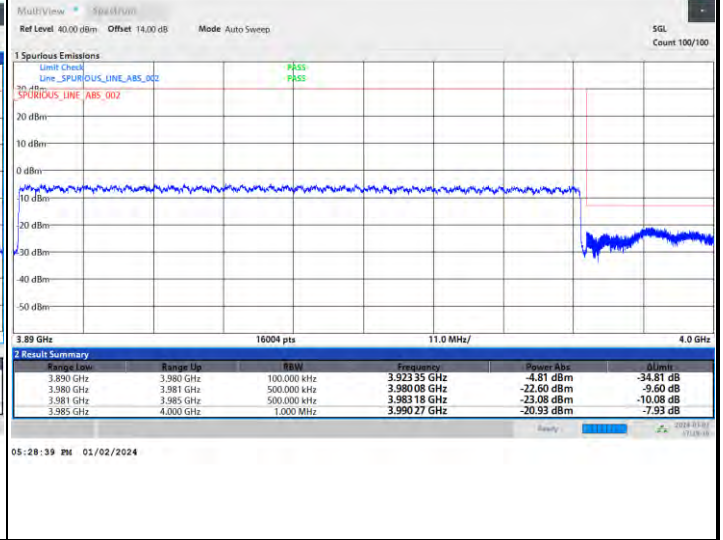
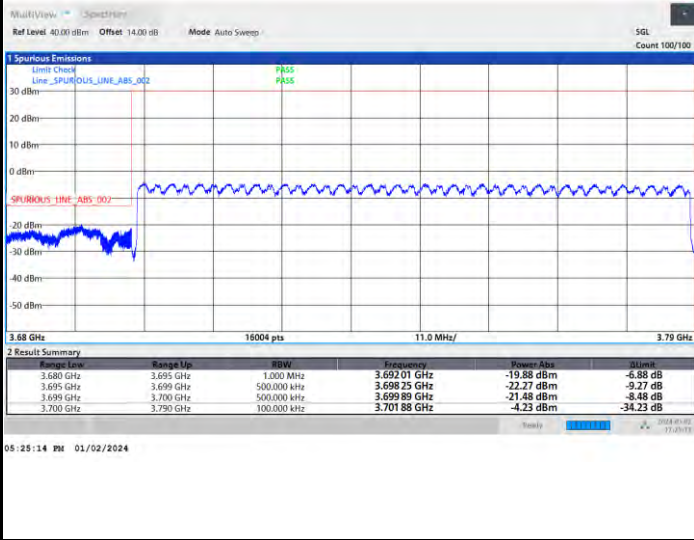




FR1 n77 / 90MHz / CP OFDM / QPSK

Lowest Band Edge / Full RB

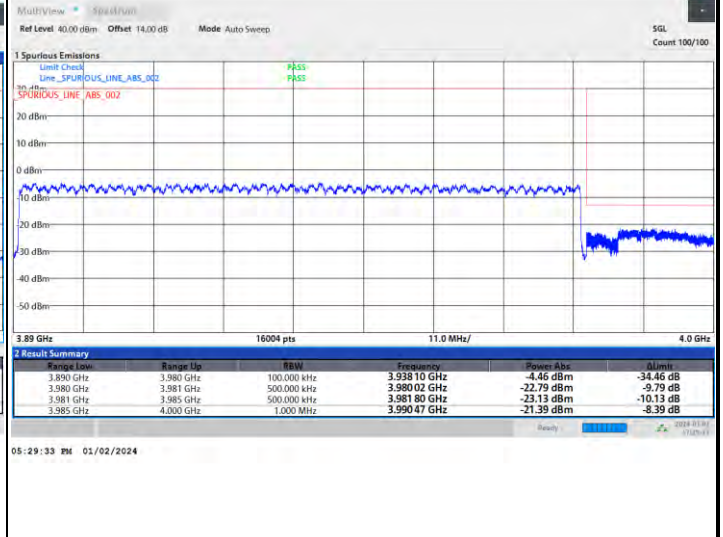
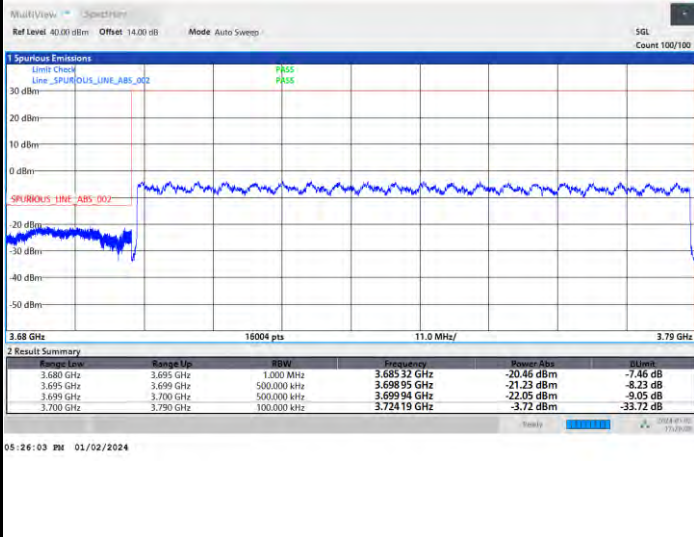
Highest Band Edge / Full RB



FR1 n77 / 90MHz / CP OFDM / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

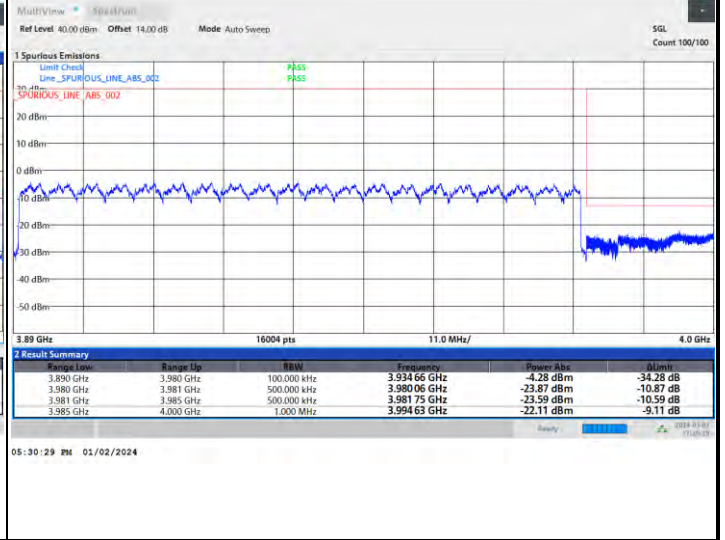
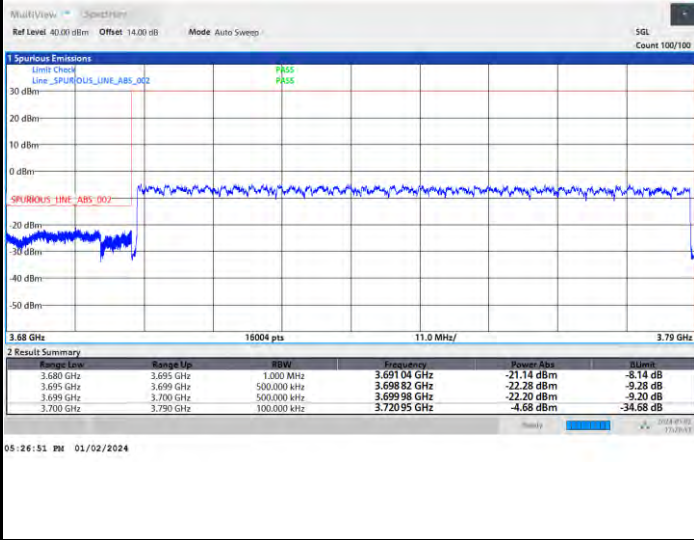




FR1 n77 / 90MHz / CP OFDM / 64QAM

Lowest Band Edge / Full RB

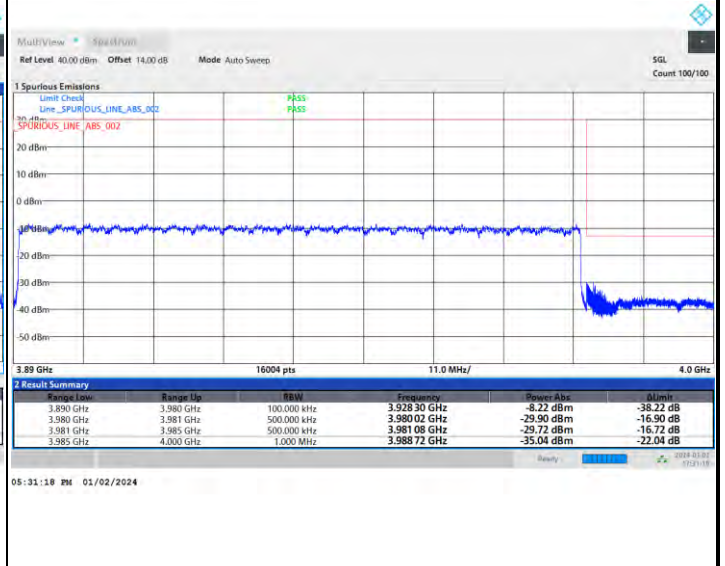
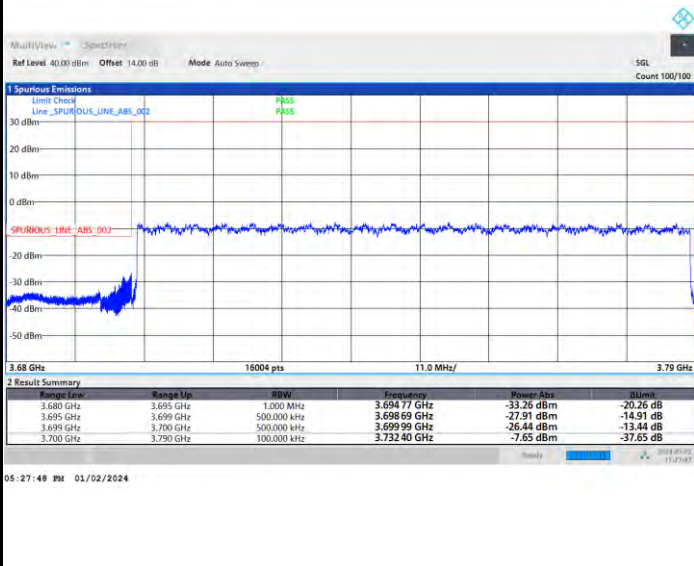
Highest Band Edge / Full RB



FR1 n77 / 90MHz / CP OFDM / 256QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

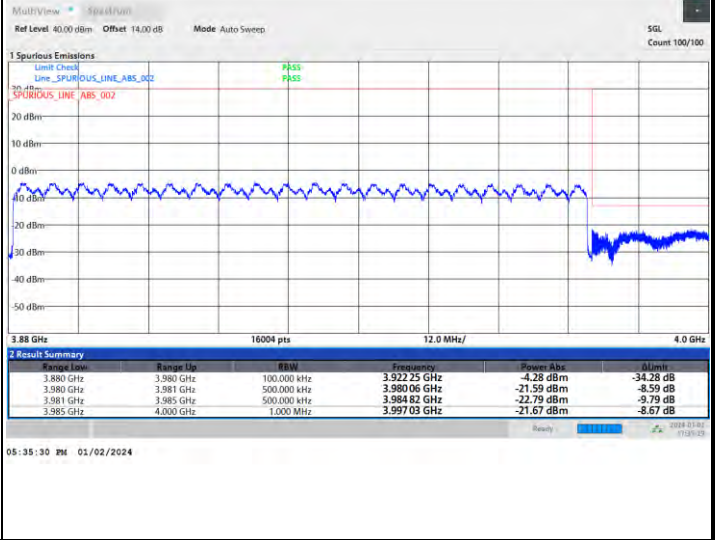
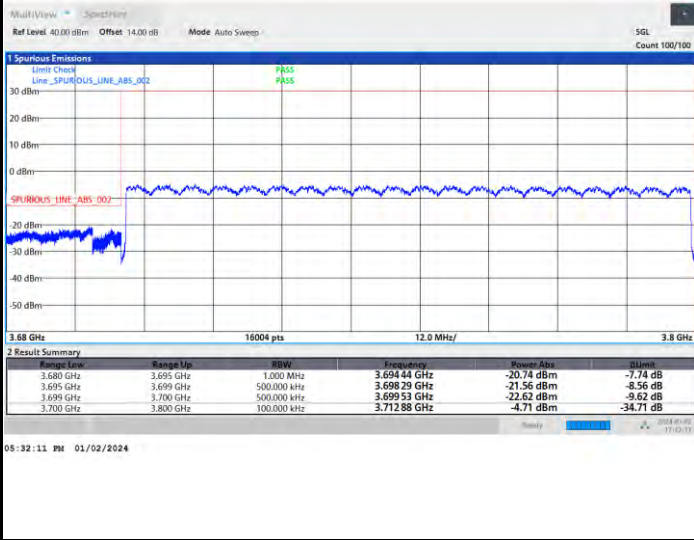




FR1 n77 / 100MHz / CP OFDM / QPSK

Lowest Band Edge / Full RB

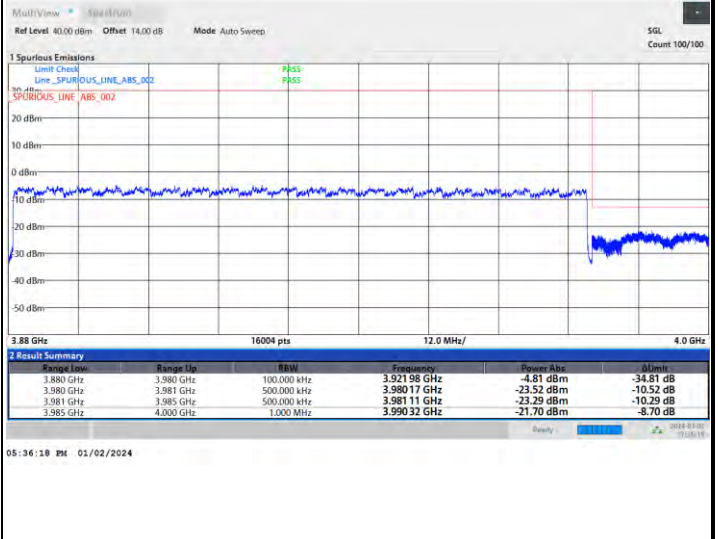
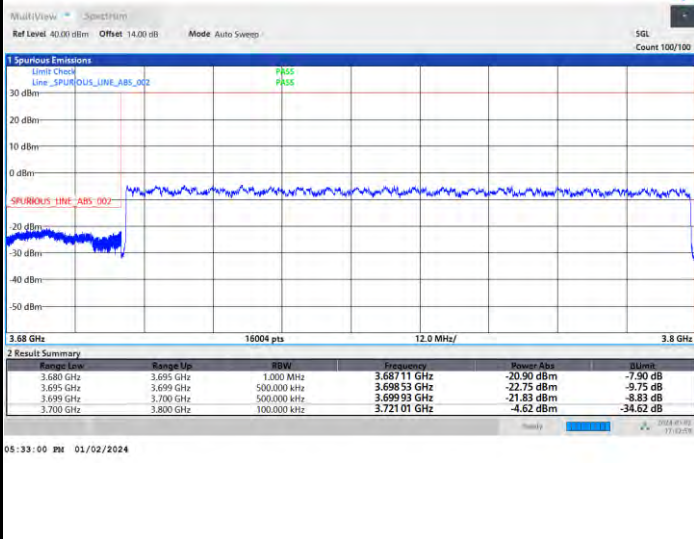
Highest Band Edge / Full RB



FR1 n77 / 100MHz / CP OFDM / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

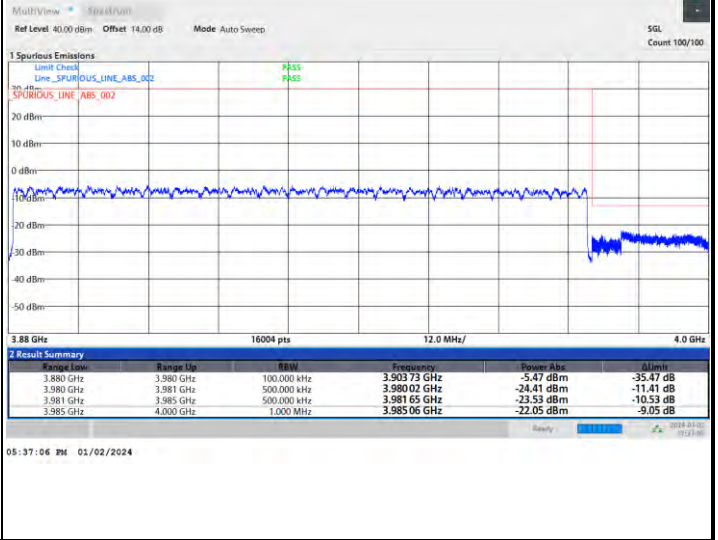
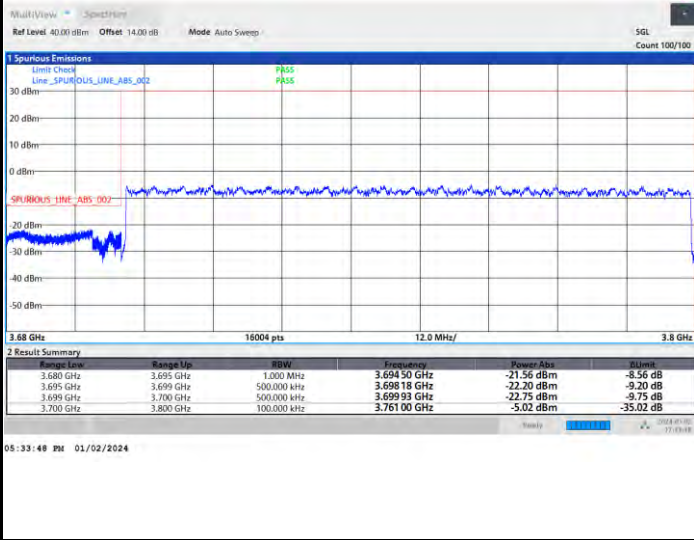




FR1 n77 / 100MHz / CP OFDM / 64QAM

Lowest Band Edge / Full RB

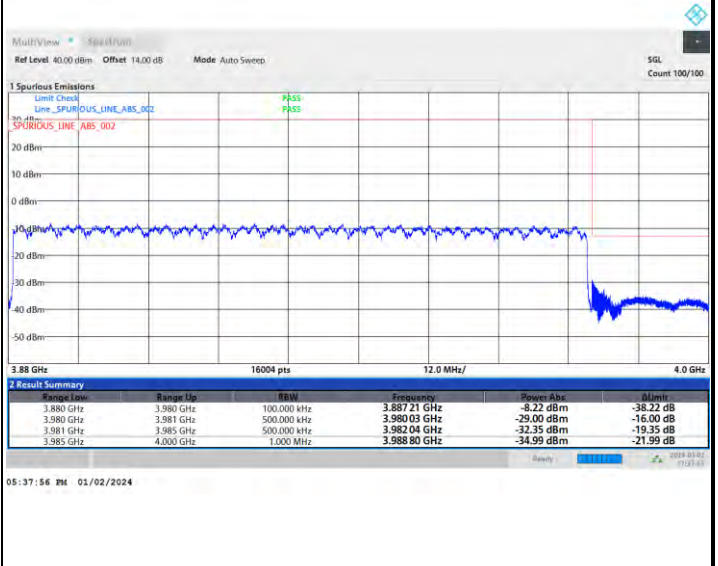
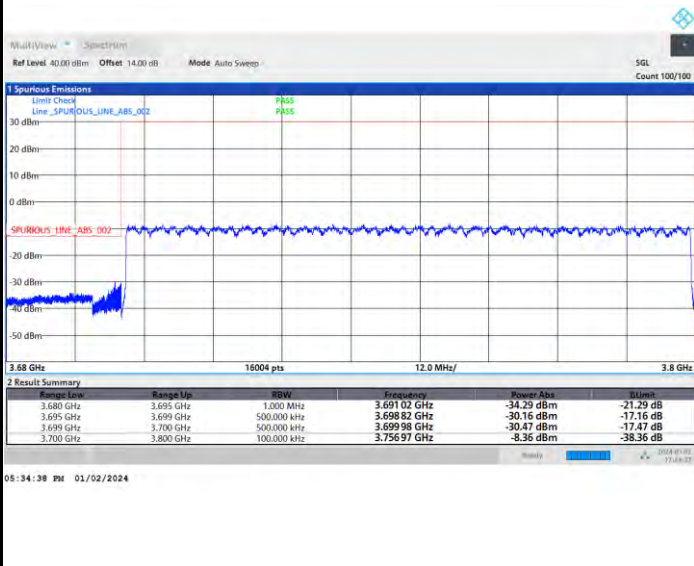
Highest Band Edge / Full RB



FR1 n77 / 100MHz / CP OFDM / 256QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



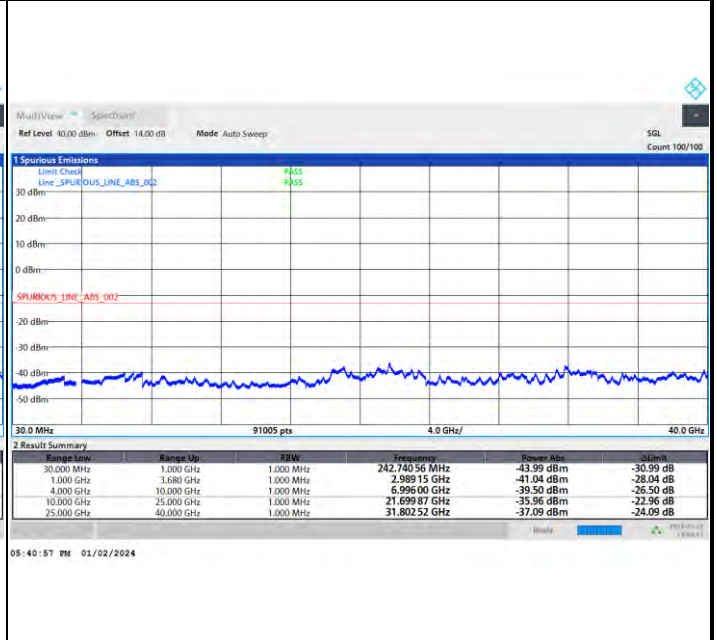
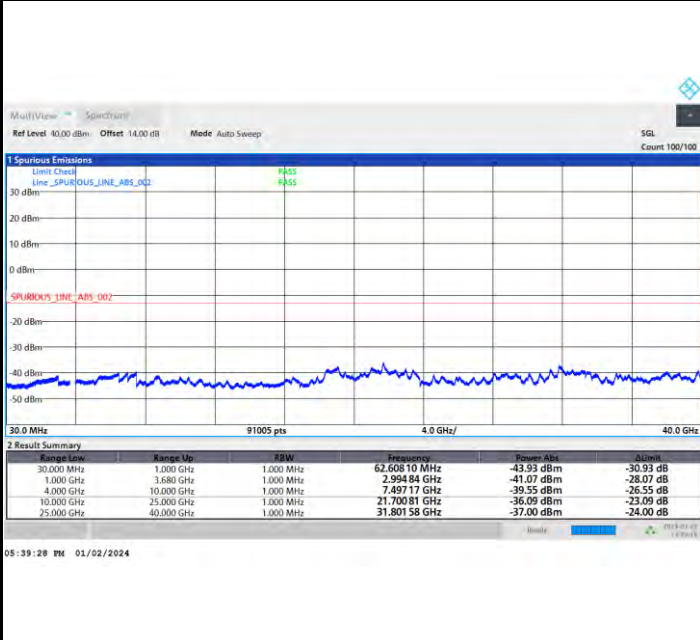


# Conducted Spurious Emission

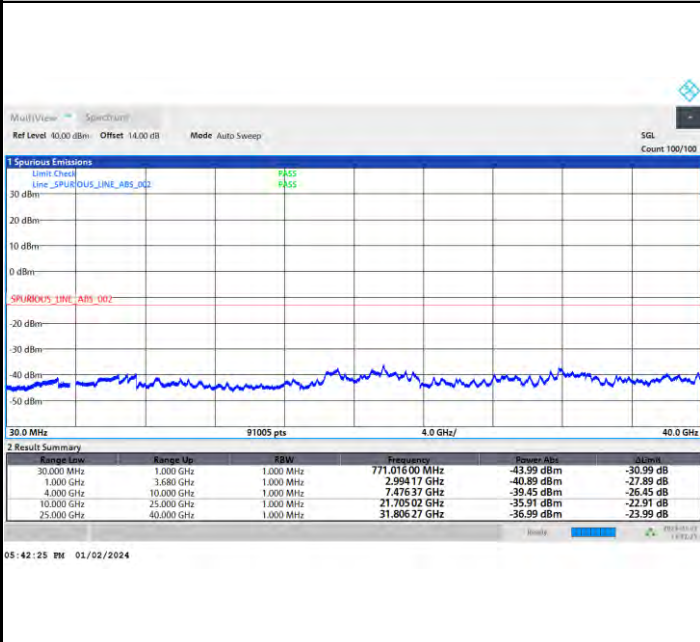
FR1 n77 / 10MHz / CP OFDM / QPSK / 1RB1

Lowest Channel

Middle Channel



Highest Channel





### Frequency Stability

Test Conditions		FR1 n77 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0036	PASS
40	Normal Voltage	0.0032	
30	Normal Voltage	0.0032	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0028	
0	Normal Voltage	0.0018	
-10	Normal Voltage	0.0012	
-20	Normal Voltage	0.0000	
-30	Normal Voltage	0.0011	
20	Maximum Voltage	0.0047	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0003	

**Note:**

- 1. Normal Voltage = 3.89 V. ; Battery End Point (BEP) = 3.6 V. ; Maximum Voltage = 4.4 V.
- 2. The frequency fundamental emissions stay within the authorized frequency block.



# FR1 n77\_Part27Q

<SISO Mode>

## Peak-to-Average Ratio

Mode	FR1 n77 / 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	4.18	5.70	6.44	6.44	PASS
Mode	FR1 n77 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Middle CH	6.50				PASS



FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK



QPSK



16QAM



64QAM



256QAM







**26dB Bandwidth**

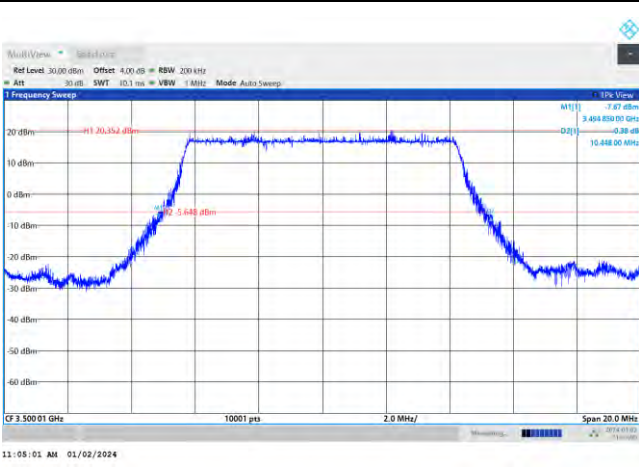
Mode	FR1 n77 : 26dB BW(MHz) / DFT-S OFDM							
BW	10MHz	15MHz	20MHz	25MHz	30MHz	40MHz	50MHz	60MHz
Mod.	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK
Middle CH	10.45	14.85	19.95	25.36	30.32	39.13	50.13	66.98
BW	70MHz	80MHz	90MHz	100MHz				
Mod.	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK				
Middle CH	73.72	83.82	95.02	105.40				

Mode	FR1 n77 : 26dB BW(MHz) / CP OFDM							
BW	10MHz		15MHz		20MHz		25MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	10.63	10.51	15.50	15.64	20.72	20.61	25.54	25.57
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	10.32	10.29	15.75	15.88	20.60	20.54	25.45	25.49
BW	30MHz		40MHz		50MHz		60MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	31.06	31.03	42.93	42.46	51.86	52.15	67.24	67.14
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	31.17	31.06	42.61	43.08	52.67	52.38	67.69	67.62
BW	70MHz		80MHz		90MHz		100MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	77.64	76.15	84.94	84.78	96.73	97.16	106.58	106.58
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	77.11	77.29	85.78	84.98	96.10	96.86	106.98	106.66



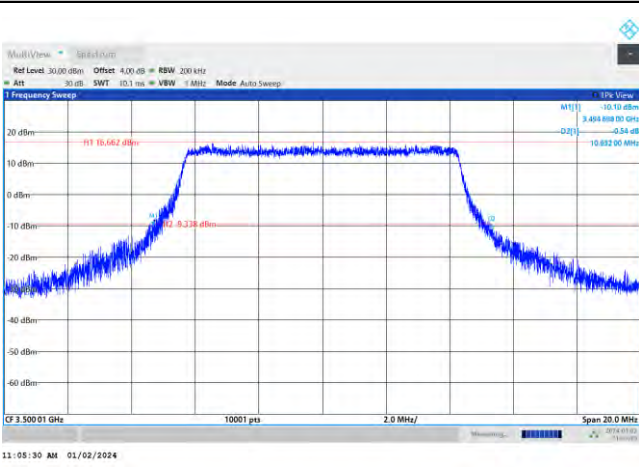
FR1 n77 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

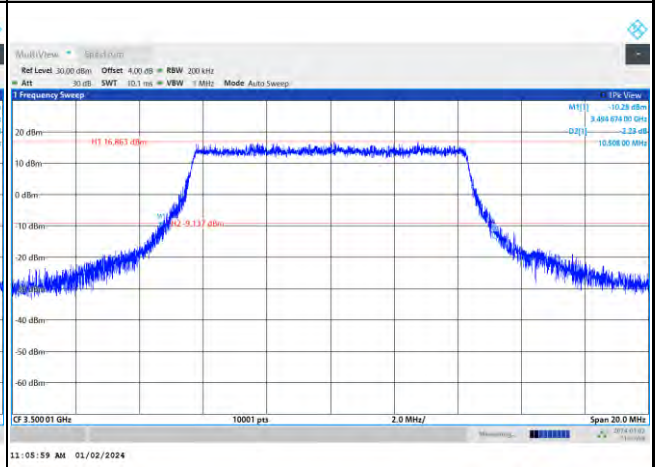


FR1 n77 / 10MHz / CP OFDM / Middle Channel / Full RB

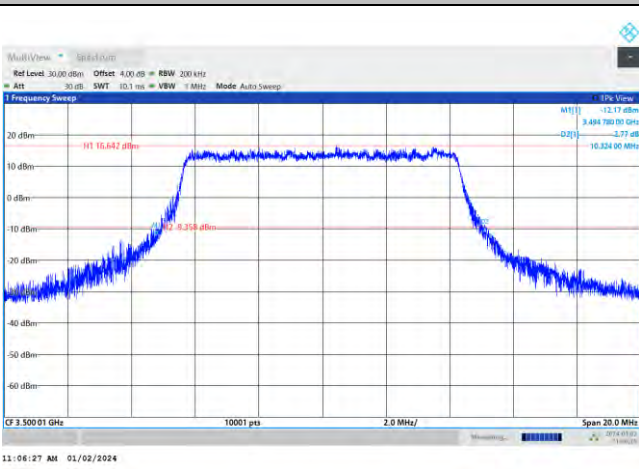
QPSK



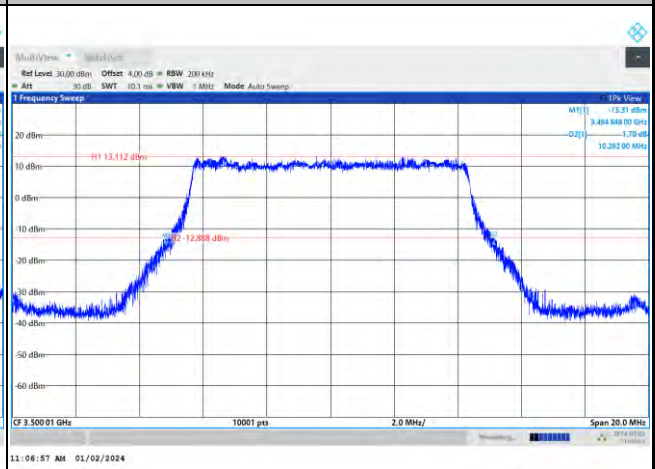
16QAM



64QAM



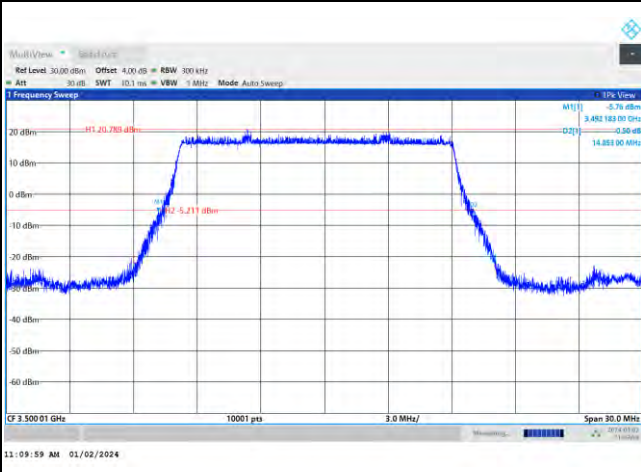
256QAM





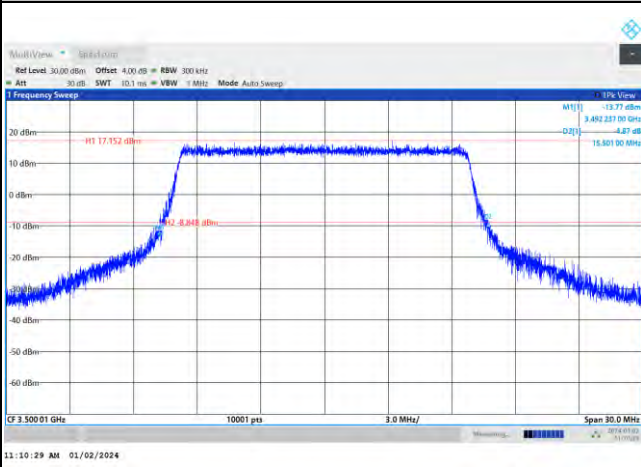
FR1 n77 / 15MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

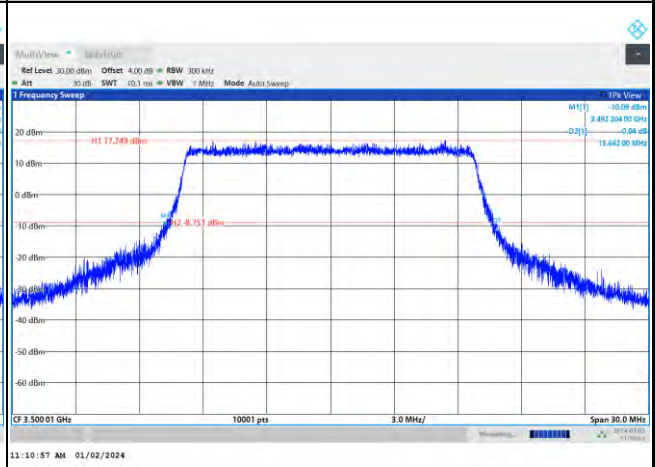


FR1 n77 / 15MHz / CP OFDM / Middle Channel / Full RB

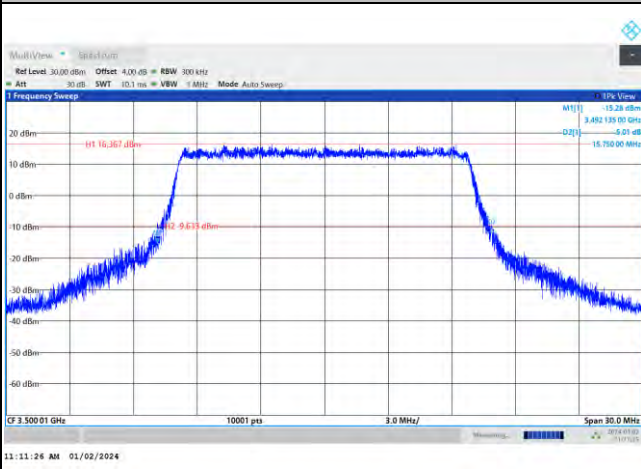
QPSK



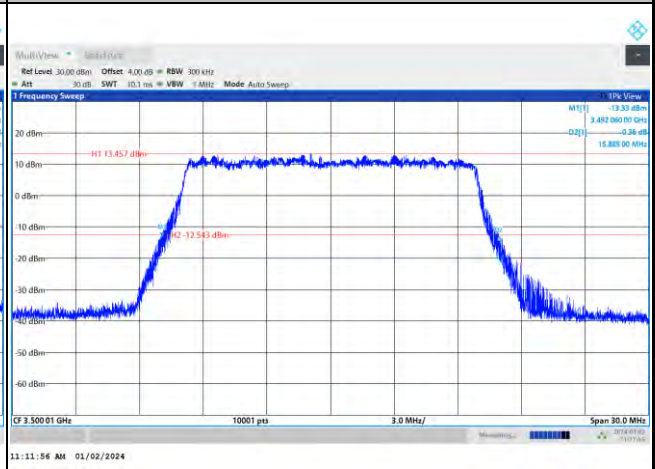
16QAM



64QAM



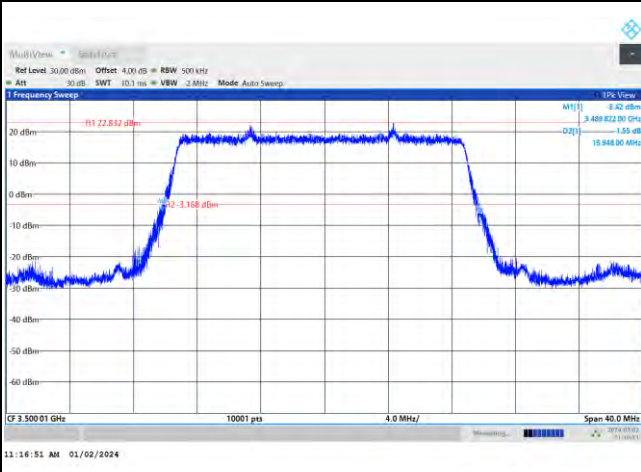
256QAM





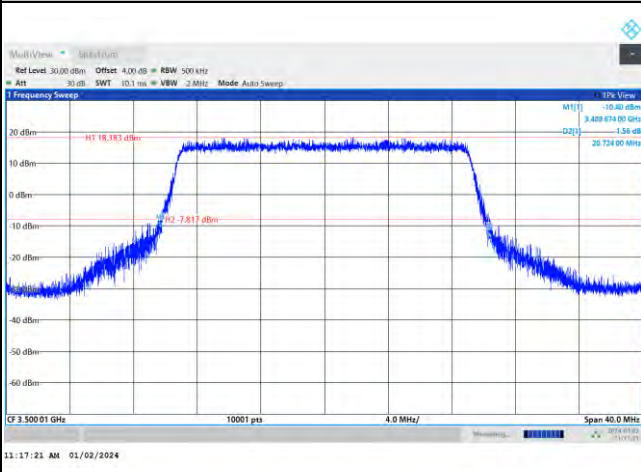
FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

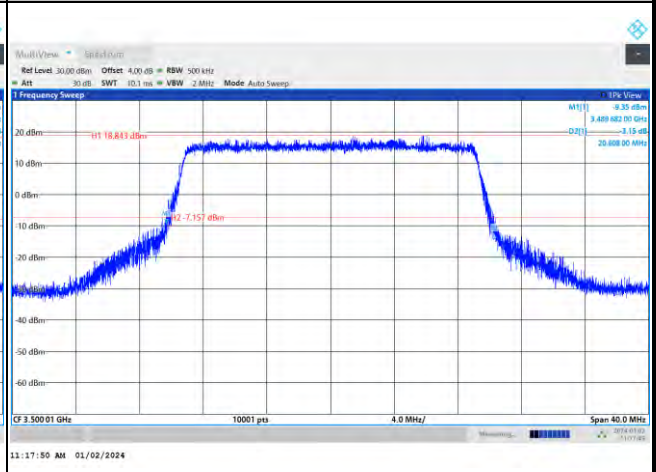


FR1 n77 / 20MHz / CP OFDM / Middle Channel / Full RB

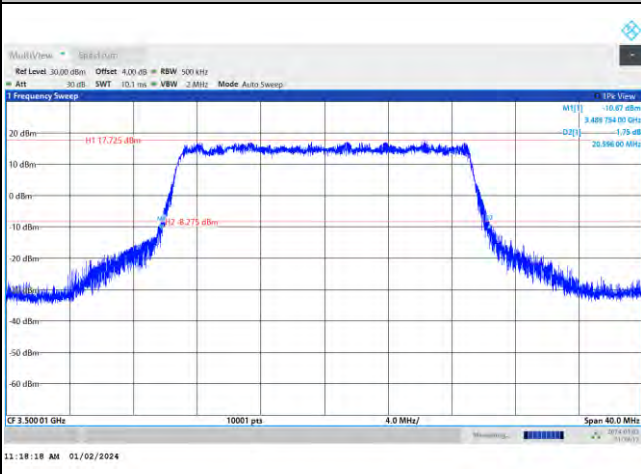
QPSK



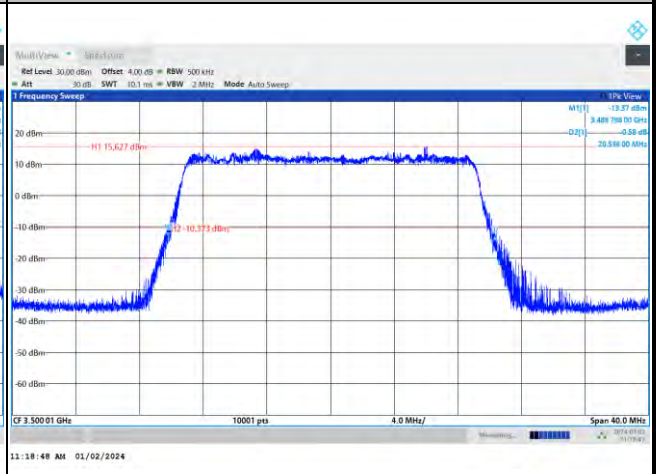
16QAM



64QAM



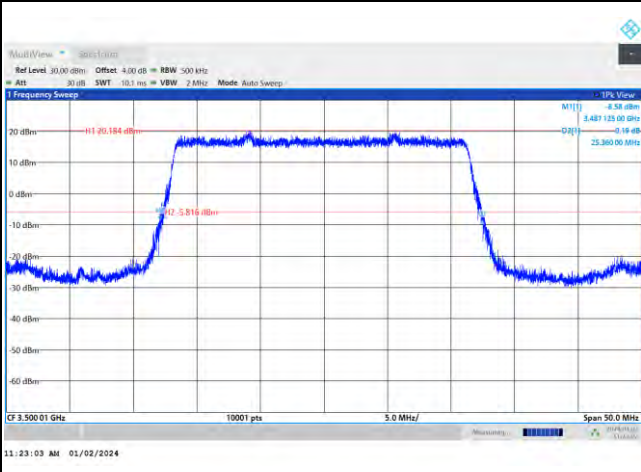
256QAM





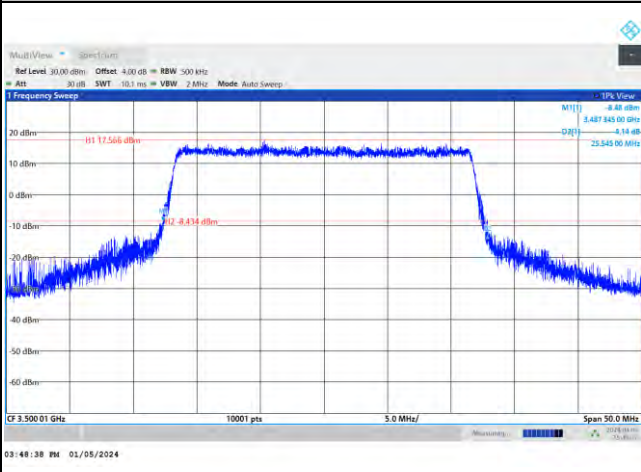
FR1 n77 / 25MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

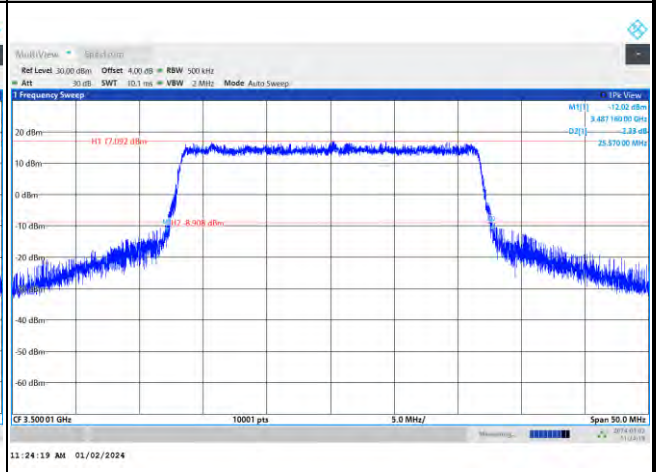


FR1 n77 / 25MHz / CP OFDM / Middle Channel / Full RB

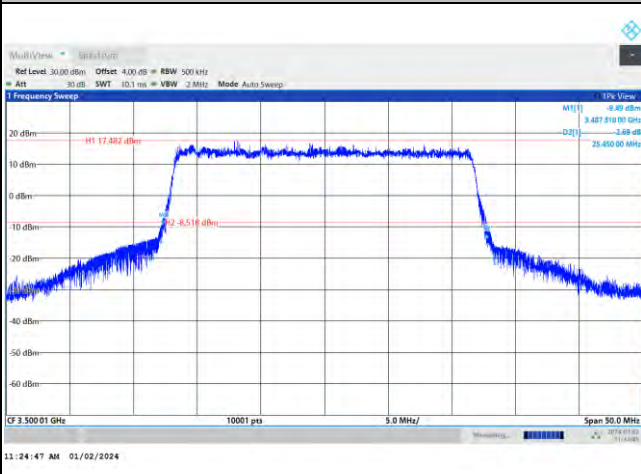
QPSK



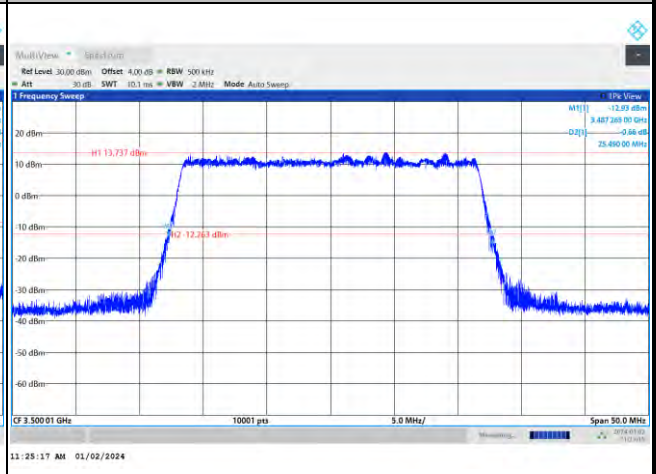
16QAM



64QAM



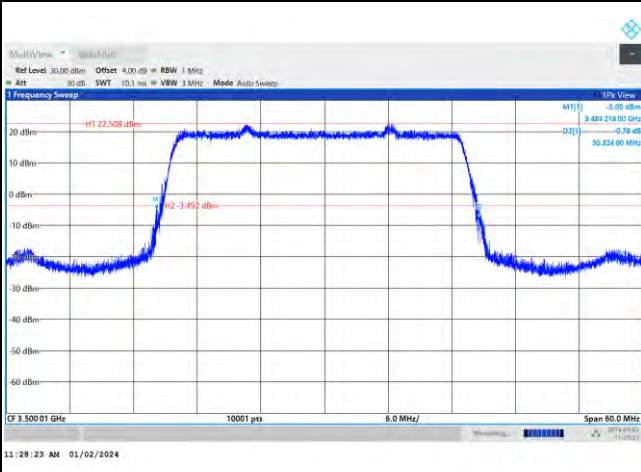
256QAM





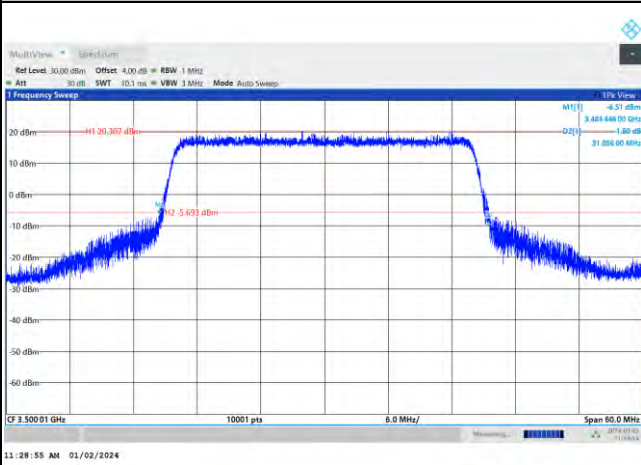
FR1 n77 / 30MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

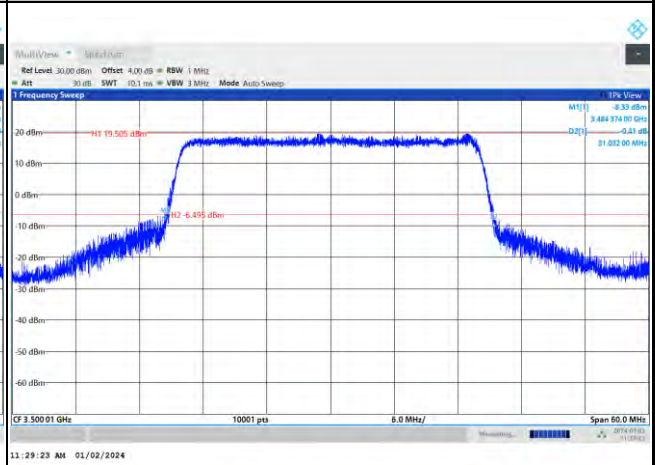


FR1 n77 / 30MHz / CP OFDM / Middle Channel / Full RB

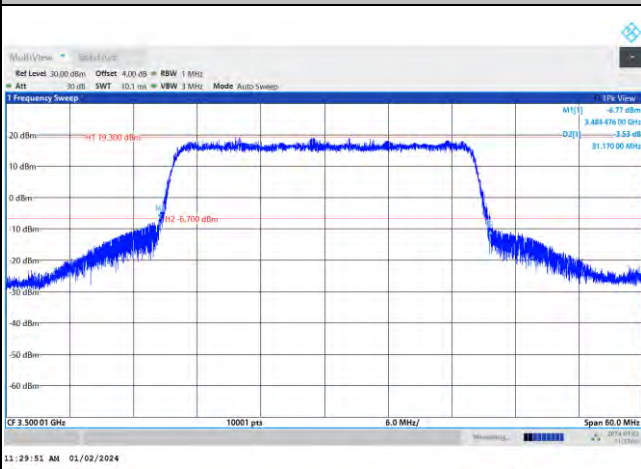
QPSK



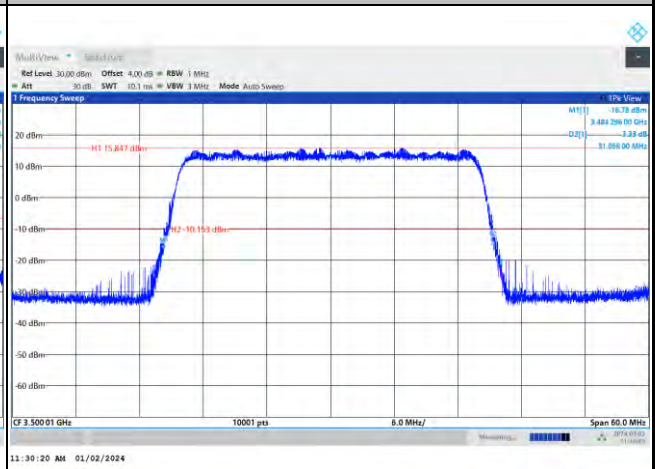
16QAM



64QAM



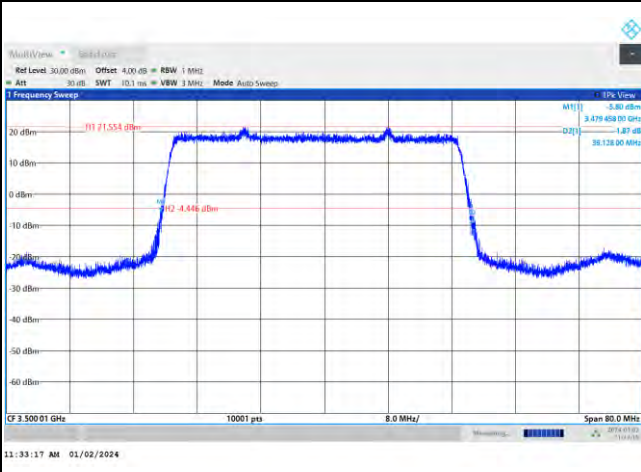
256QAM





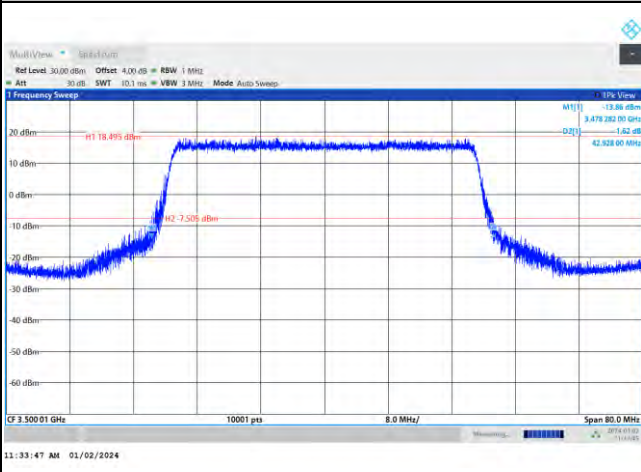
FR1 n77 / 40MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

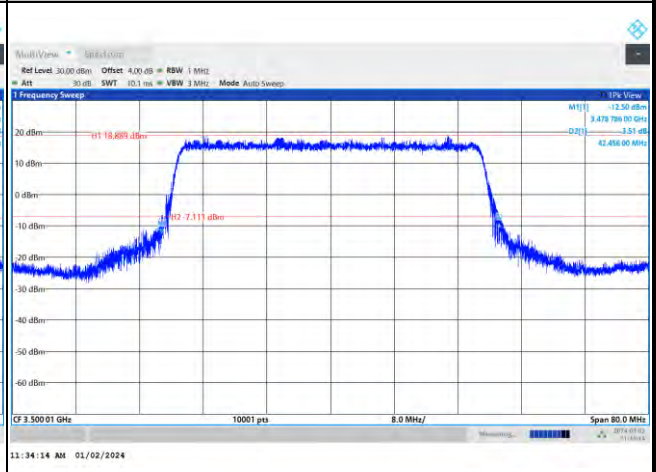


FR1 n77 / 40MHz / CP OFDM / Middle Channel / Full RB

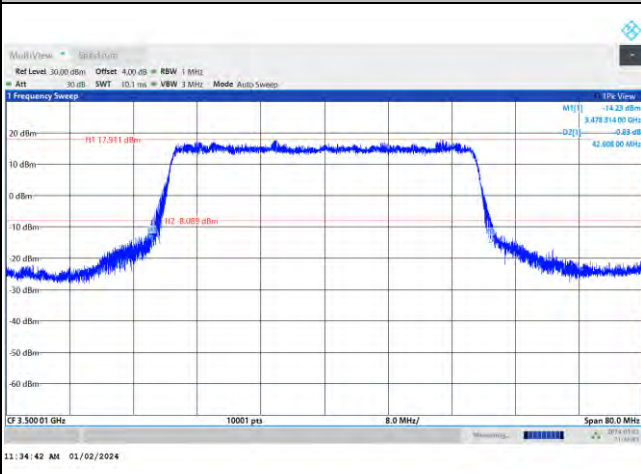
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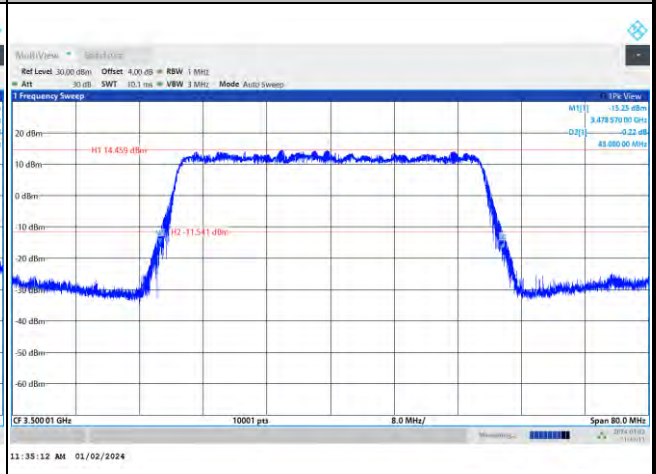
16QAM



64QAM



256QAM





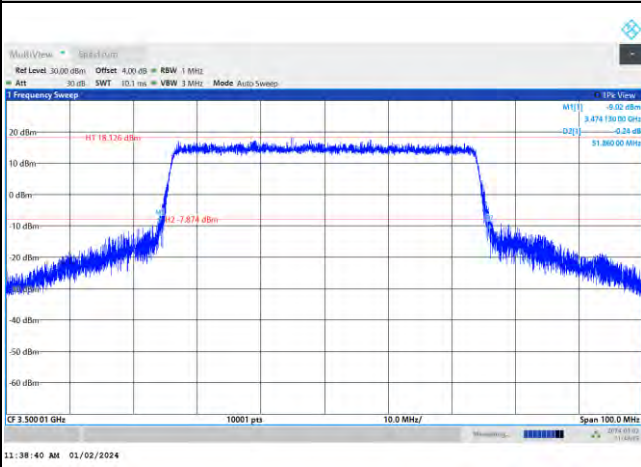
FR1 n77 / 50MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

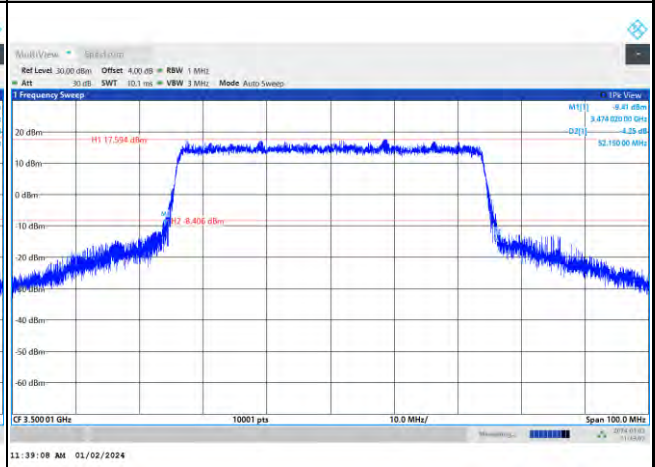


FR1 n77 / 50MHz / CP OFDM / Middle Channel / Full RB

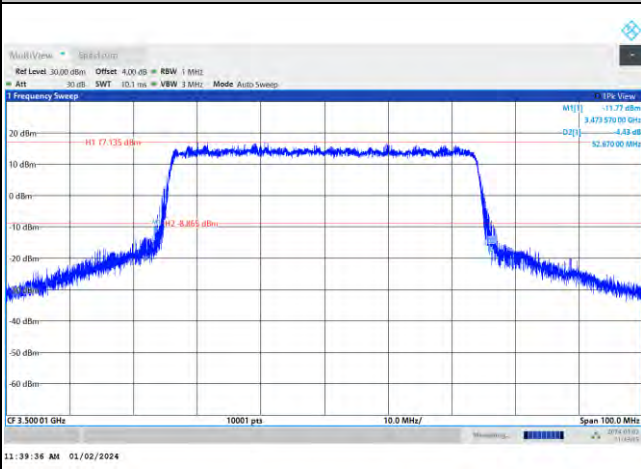
QPSK



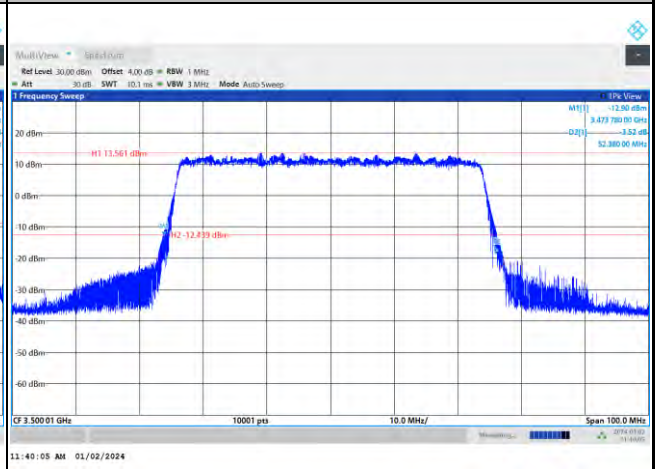
16QAM



64QAM



256QAM

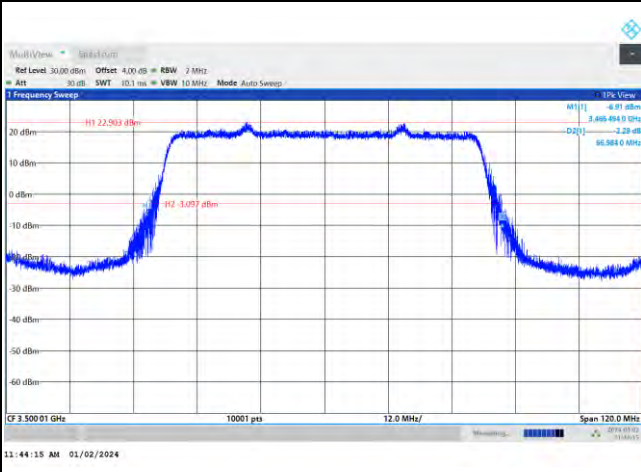






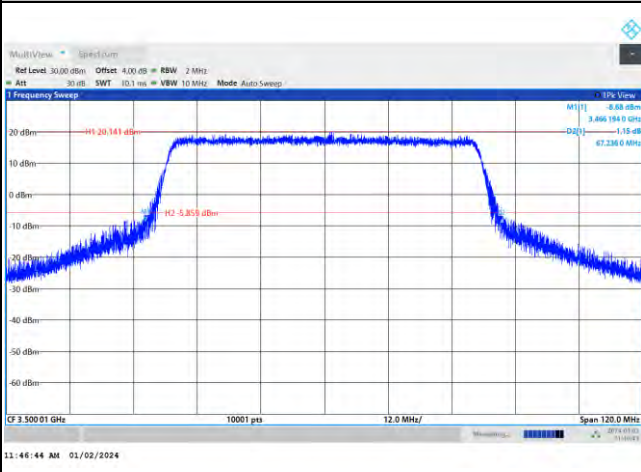
FR1 n77 / 60MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

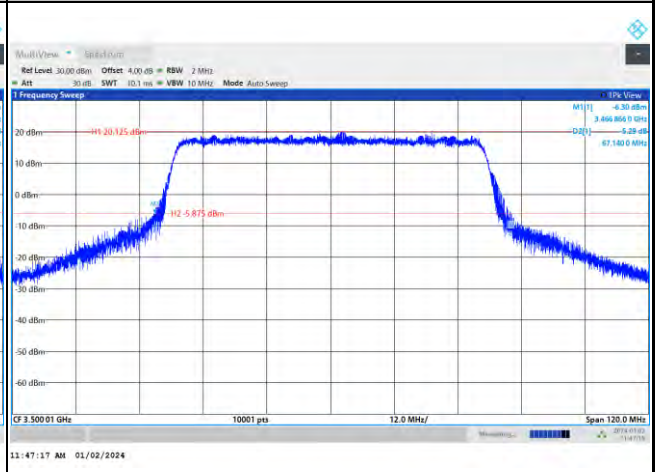


FR1 n77 / 60MHz / CP OFDM / Middle Channel / Full RB

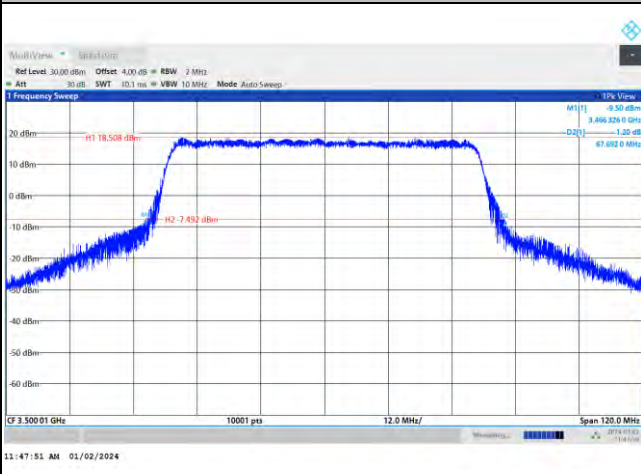
QPSK



16QAM



64QAM



256QAM

