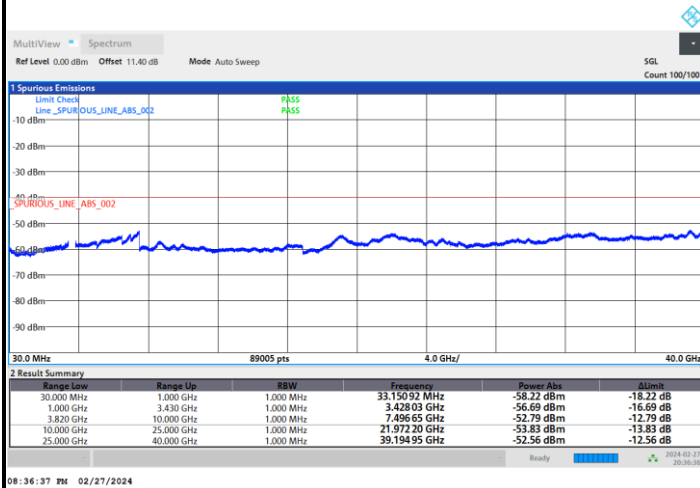




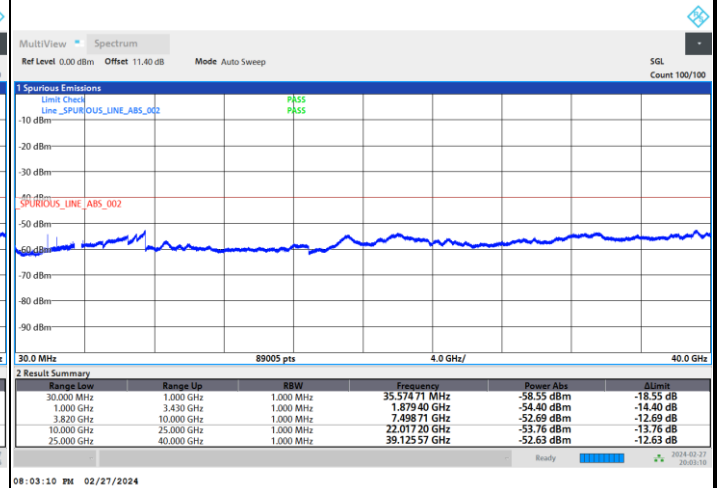
Conducted Spurious Emission

FR1 n48 / 10MHz / DFT-S OFDM / QPSK / 1RB1

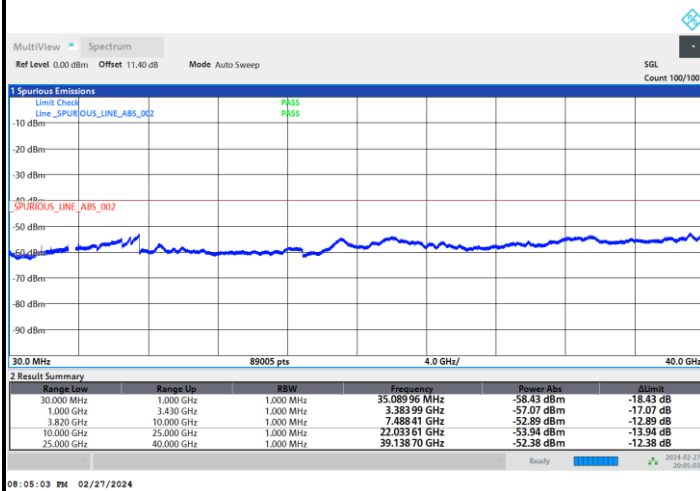
Lowest Channel



Middle Channel



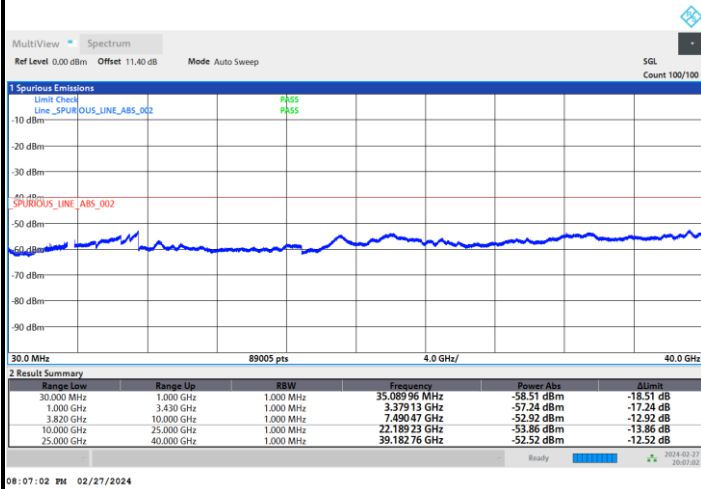
Highest Channel



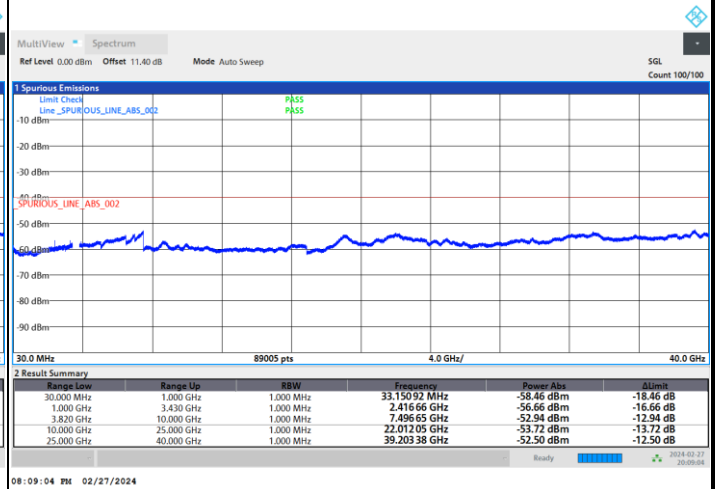


FR1 n48 / 20MHz / DFT-S OFDM / QPSK / 1RB1

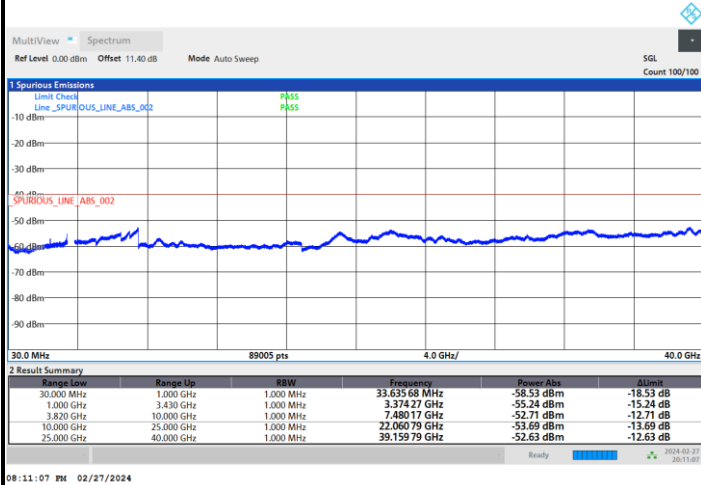
Lowest Channel



Middle Channel



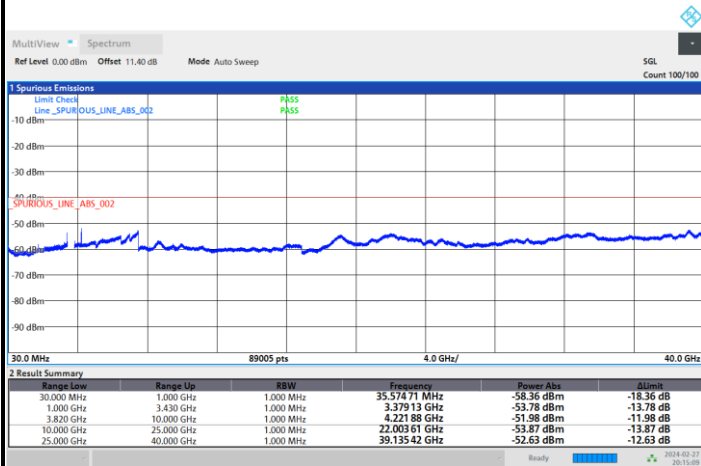
Highest Channel





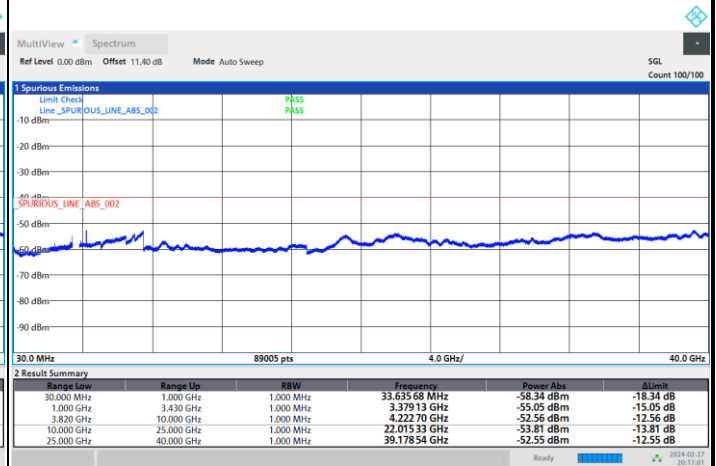
FR1 n48 / 30MHz / DFT-S OFDM / QPSK / 1RB1

Lowest Channel



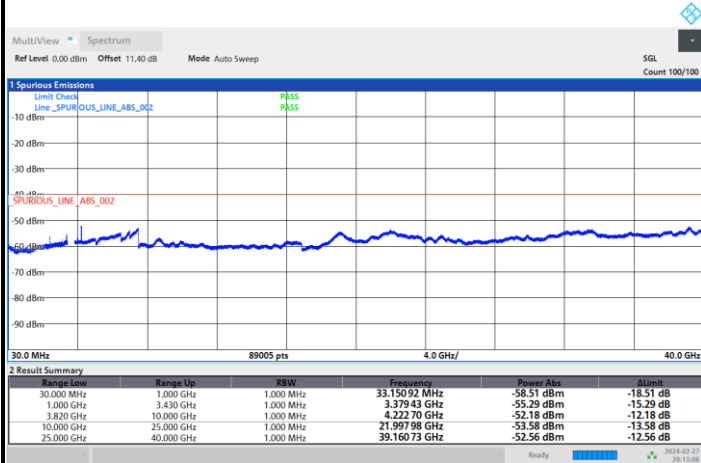
08:15:09 PM 02/27/2024

Middle Channel



08:17:02 PM 02/27/2024

Highest Channel

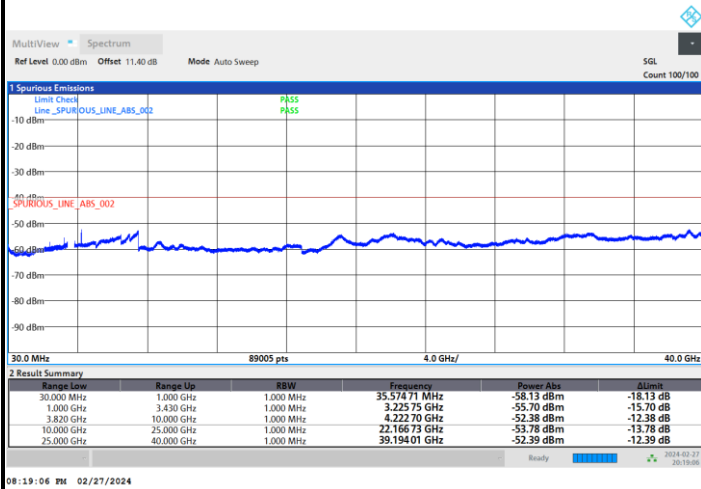


08:13:07 PM 02/27/2024

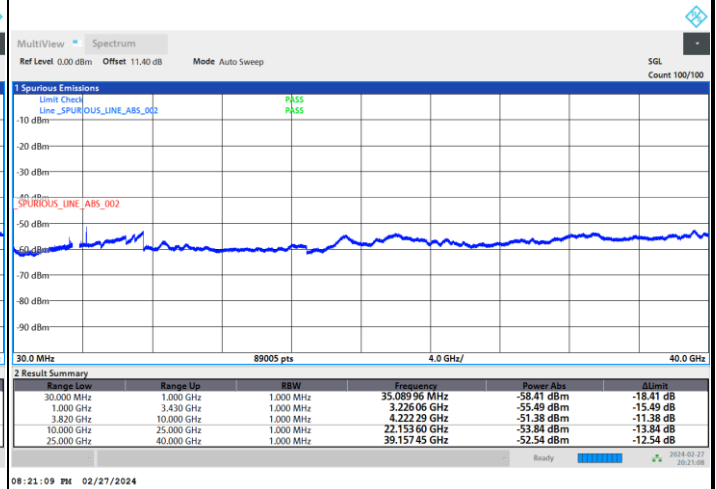


FR1 n48 / 40MHz / DFT-S OFDM / QPSK / 1RB1

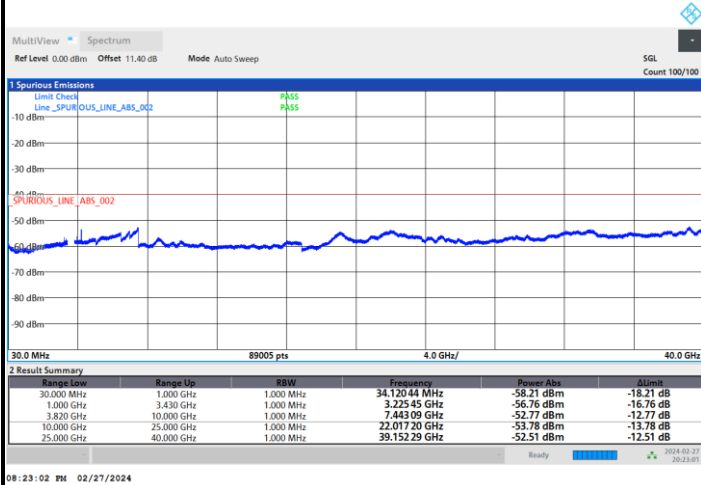
Lowest Channel



Middle Channel



Highest Channel



Frequency Stability

Test Conditions		FR1 n48 (PI/2 BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0002	PASS
40	Normal Voltage	0.0077	
30	Normal Voltage	0.0053	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0082	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0052	
-20	Normal Voltage	0.0058	
20	Maximum Voltage	0.0065	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0066	

Note:

1. Normal Voltage = 3.8 V. ; Battery End Point (BEP) = 3.6 V. ; Maximum Voltage = 4.2 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

**FR1 n77_Part96**

<SISO Mode>

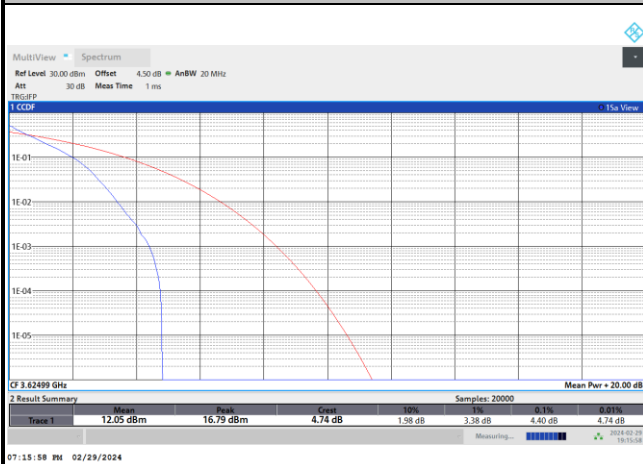
Peak-to-Average Ratio

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	4.40	5.18	6.08	6.22	PASS
Mode	FR1 n77 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Middle CH	6.40				PASS

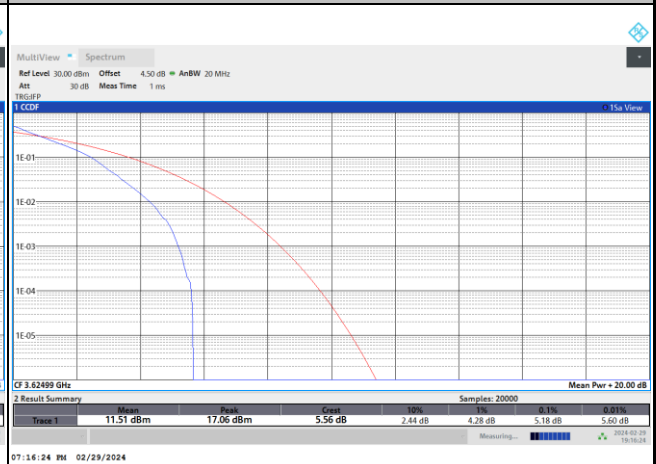


FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

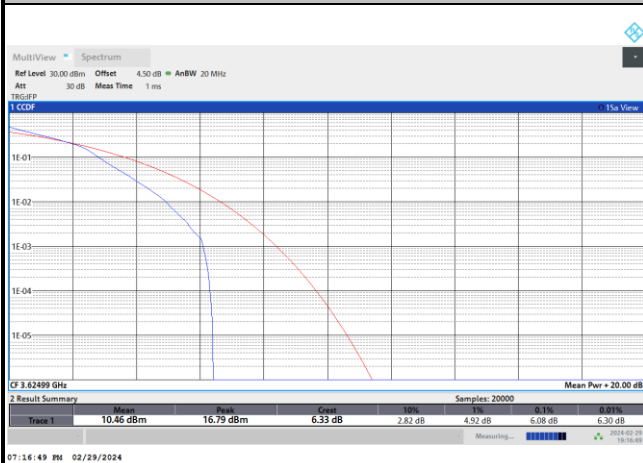
PI/2 BPSK



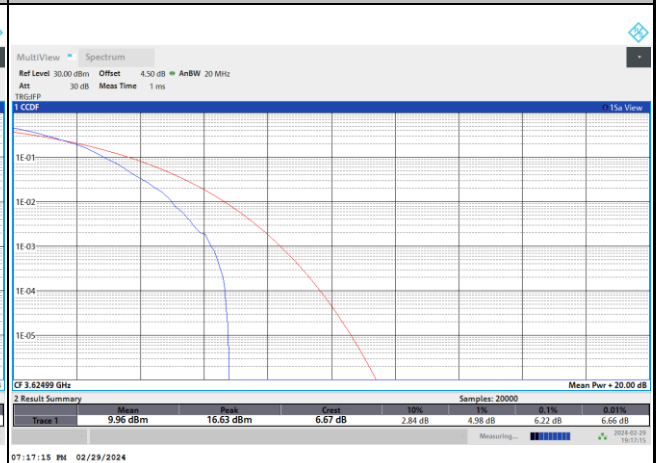
QPSK



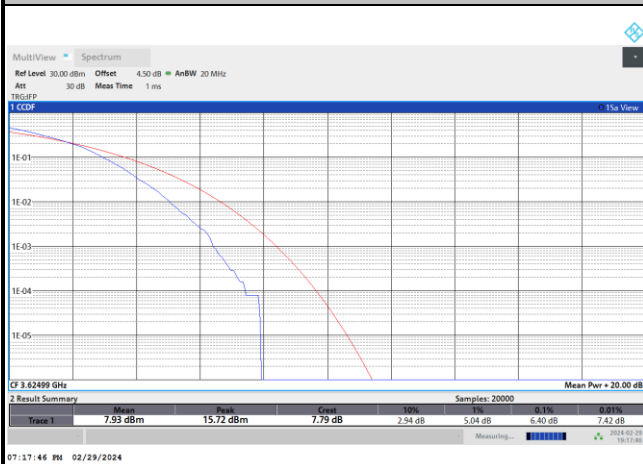
16QAM



64QAM



256QAM



**26dB Bandwidth**

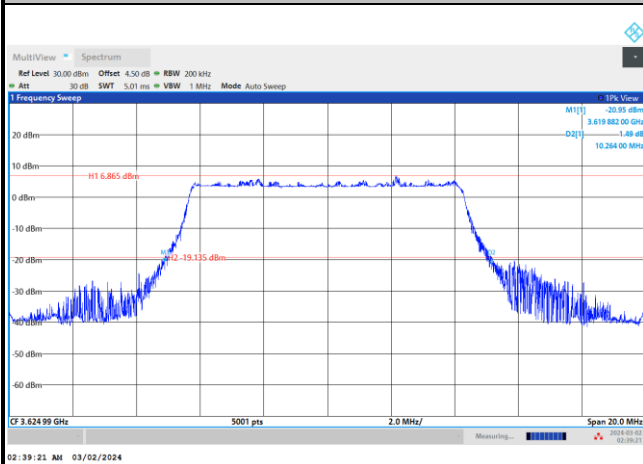
Mode	FR1 n77 : 26dB BW(MHz) / DFT-S OFDM							
BW	10MHz	15MHz	20MHz	25MHz	30MHz	40MHz	50MHz	60MHz
Mod.	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK
Middle CH	10.26	14.77	20.19	-	31.63	39.67	50.37	63.40
BW	70MHz	80MHz	90MHz	100MHz				
Mod.	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK				
Middle CH	70.25	80.28	91.81	102.36				

Mode	FR1 n77 : 26dB BW(MHz) / CP OFDM							
BW	10MHz		15MHz		20MHz		25MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	10.48	10.18	15.59	16.38	23.72	22.38	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	12.36	10.28	16.13	15.64	20.38	20.50	-	-
BW	30MHz		40MHz		50MHz		60MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	31.75	32.74	42.29	43.18	52.49	51.81	63.93	62.96
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	30.93	33.03	40.93	42.92	53.22	50.34	63.52	63.39
BW	70MHz		80MHz		90MHz		100MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	73.71	73.02	80.92	80.88	92.79	92.79	103.36	103.38
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	73.13	73.16	81.18	80.76	93.96	92.82	104.26	103.42



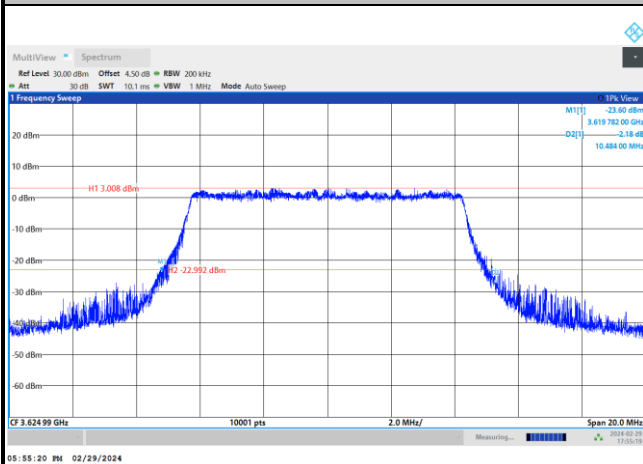
FR1 n77 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

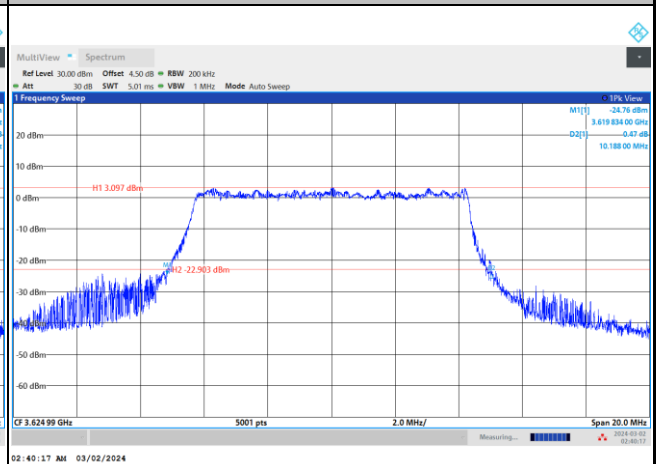


FR1 n77 / 10MHz / CP OFDM / Middle Channel / Full RB

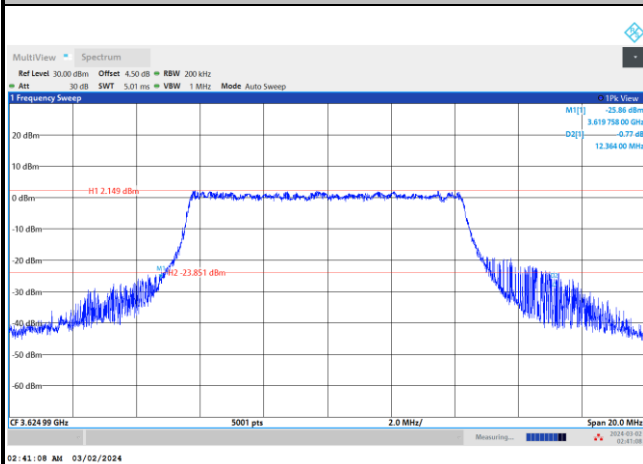
QPSK



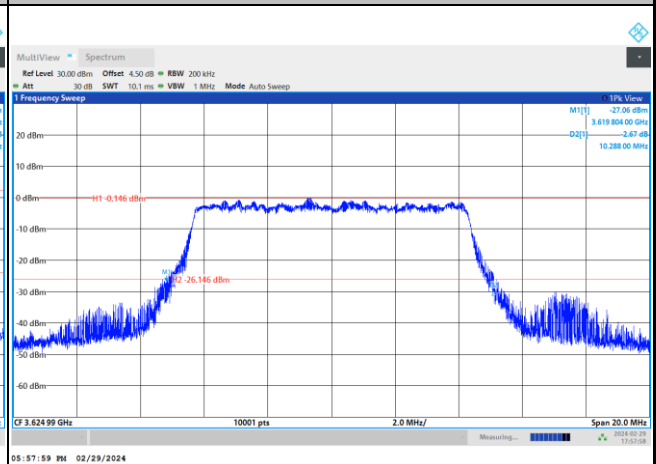
16QAM



64QAM

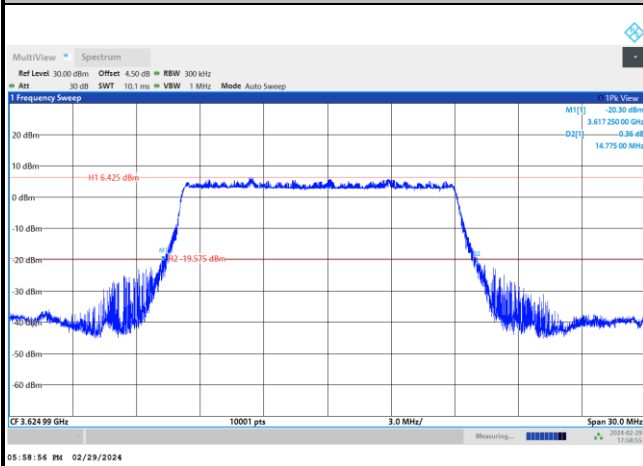


256QAM



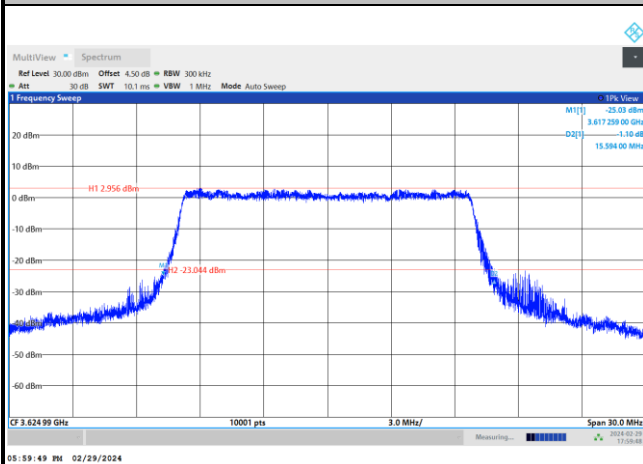
FR1 n77 / 15MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

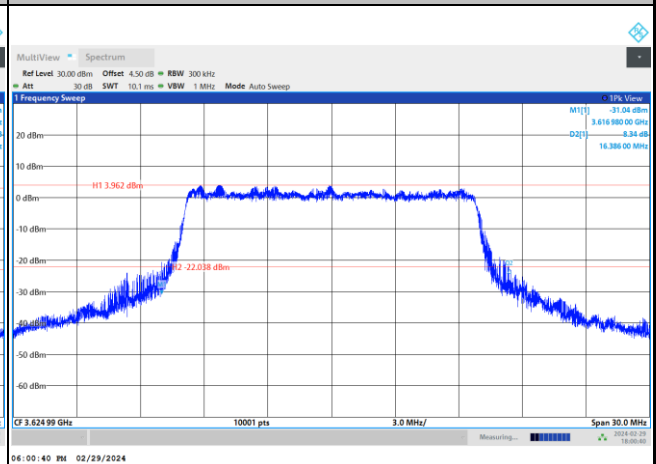


FR1 n77 / 15MHz / CP OFDM / Middle Channel / Full RB

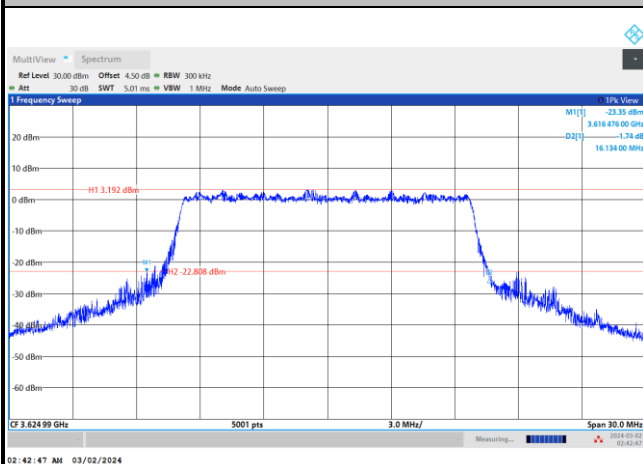
QPSK



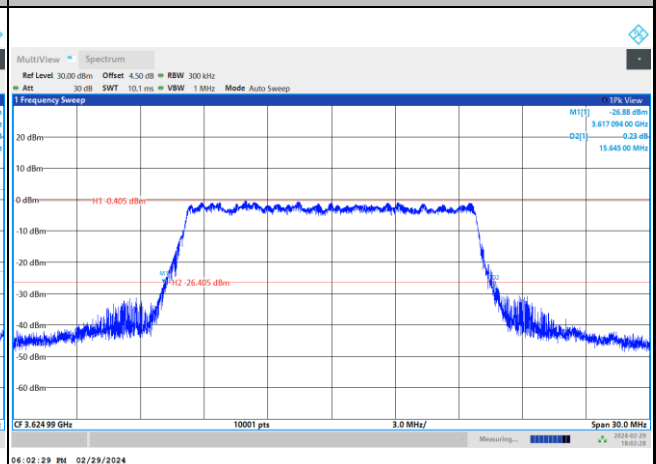
16QAM



64QAM



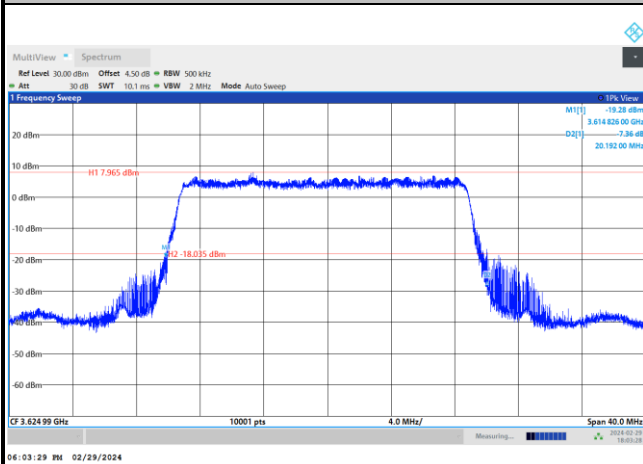
256QAM





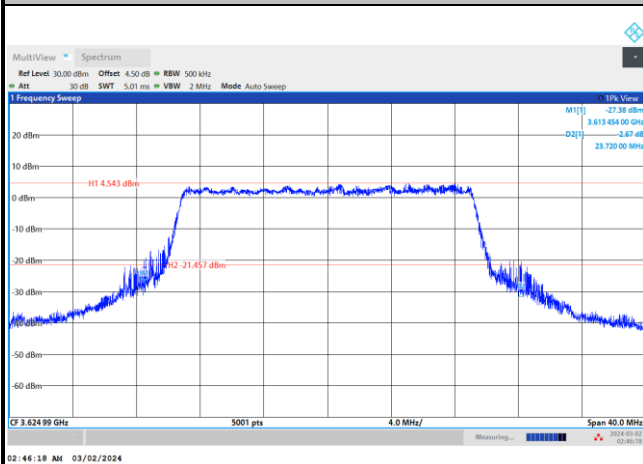
FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

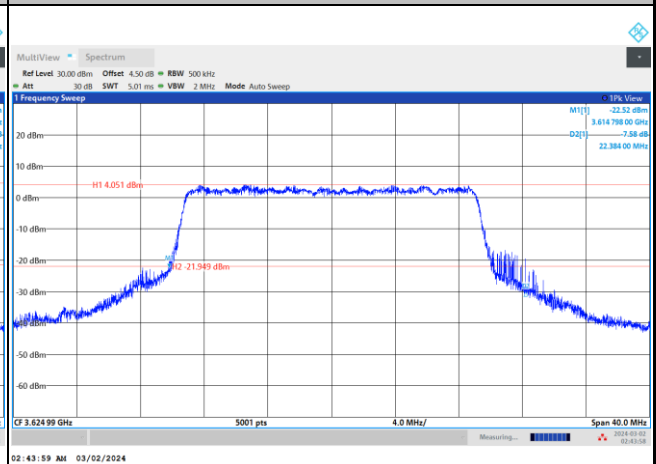


FR1 n77 / 20MHz / CP OFDM / Middle Channel / Full RB

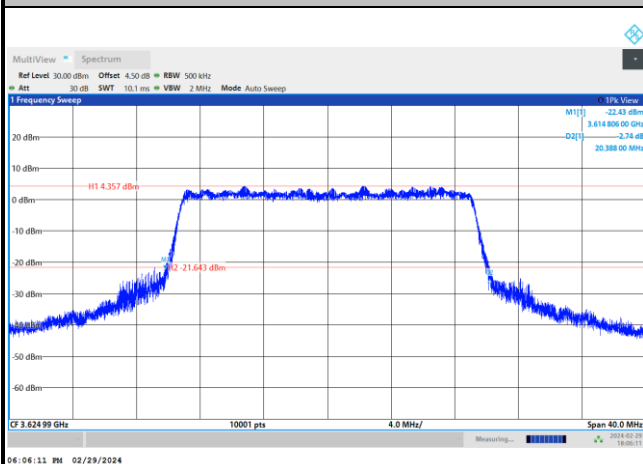
QPSK



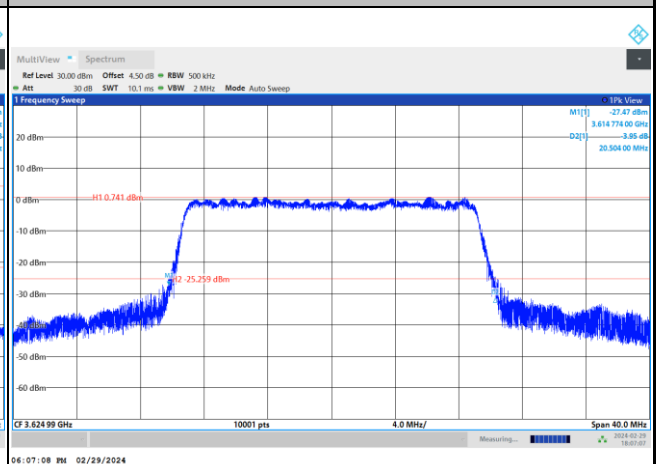
16QAM



64QAM

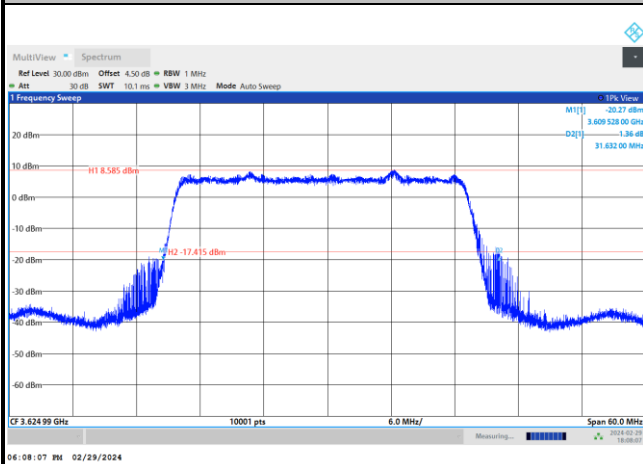


256QAM



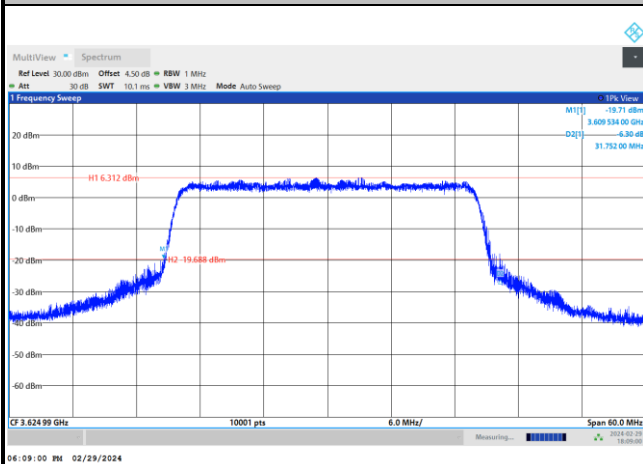
FR1 n77 / 30MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

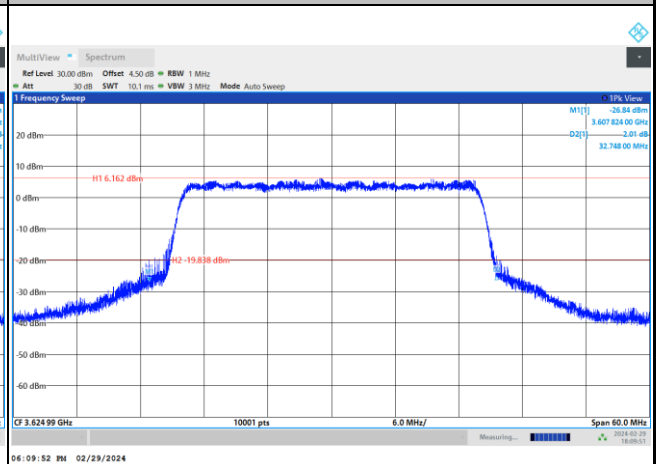


FR1 n77 / 30MHz / CP OFDM / Middle Channel / Full RB

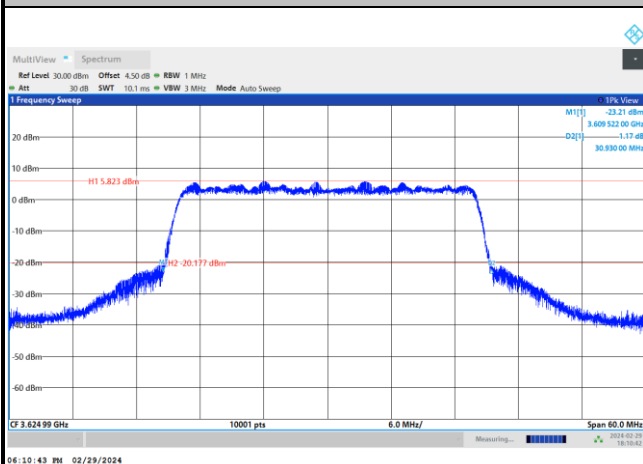
QPSK



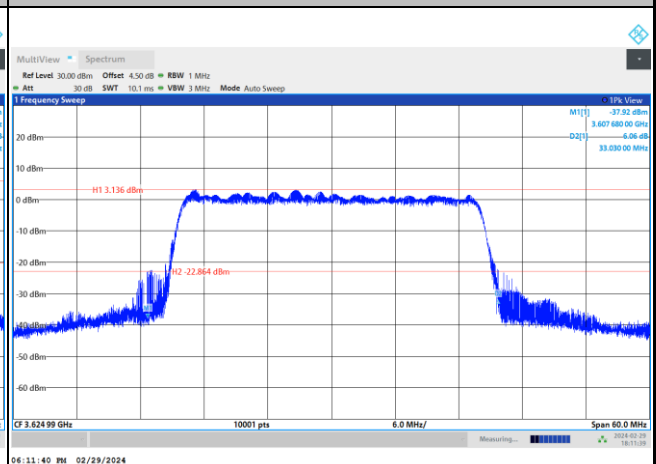
16QAM



64QAM



256QAM





MultiView Spectrum

Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz

Att 30 dB SWT 10.1 ms VBW 3 kHz Mode Auto Sweep

1 Frequency Sweep

20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm

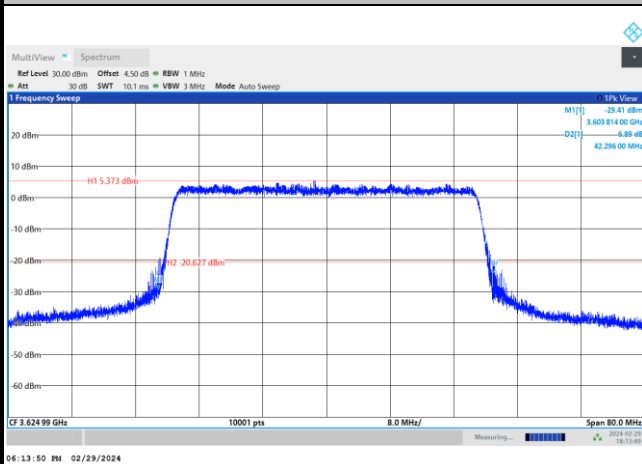
H1 8.763 dBm
H2 -17.217 dBm

CF 3.62499 GHz 10001 pts 6.0 MHz/ Span 6.0 MHz

Measuring...

06:12:57 PM 02/29/2024

QPSK



MultiView Spectrum

Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz

Att 30 dB SWT 10.1 ms VBW 3 MHz Mode Auto Sweep

Frequency Sweep

20 dBm

10 dBm

0 dBm

-10 dBm

-20 dBm

-30 dBm

-40 dBm

-50 dBm

-60 dBm

H1 5.094 dBm

H2 -20.906 dBm

M1(1) -29.81 dBm
3.603758 00 GHz
1.00 dB

D2(1) 43.184 00 MHz

CF 3.624 99 GHz 10001 pts 8.0 MHz/ Span 80.0 MHz

06:14:41 PM 02/29/2024

Measuring...

2024-02-29 18:14:41

MultiView Spectrum

Ref Level 30.00 dBm Offset 4.50 dB RBW 1 MHz

Att 30 dB SWF 10.1 ms VBW 3 kHz Mode Auto Sweep

Frequency Sweep

20 dBm

10 dBm

0 dBm

-10 dBm

-20 dBm

-30 dBm

-40 dBm

-50 dBm

-60 dBm

H1 4.532 dBm

H2 -21.668 dBm

M1[1] -32.86 dBm

3.604134 00 GHz

D2[1] -1.03 dBm

40.936 00 MHz

CF 3.62499 GHz

10001 pts

8.0 MHz/

Span 80.0 MHz

Measuring...

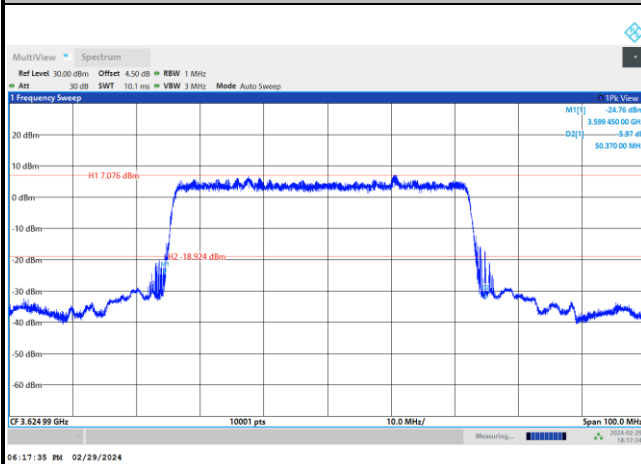
06:15:32 PM 02/29/2024

The screenshot shows a Spectrum Analyzer interface. The top bar indicates 'MultView' and 'Spectrum' modes. The main display area shows a frequency spectrum plot with a blue trace. The y-axis is labeled 'dBm' and ranges from -60 to 20. The x-axis is labeled 'Frequency' and ranges from 3.62499 GHz to 3.62501 GHz. Two points are marked on the trace: H1 at 1.241 dBm and H2 at -24.759 dBm. The plot shows a signal with a flat top and steep edges, characteristic of a modulated signal. The bottom status bar shows 'CF 3.62499 GHz', '10001 pts', '8.0 MHz/pt', 'Span 80.0 MHz', and a measurement bar.



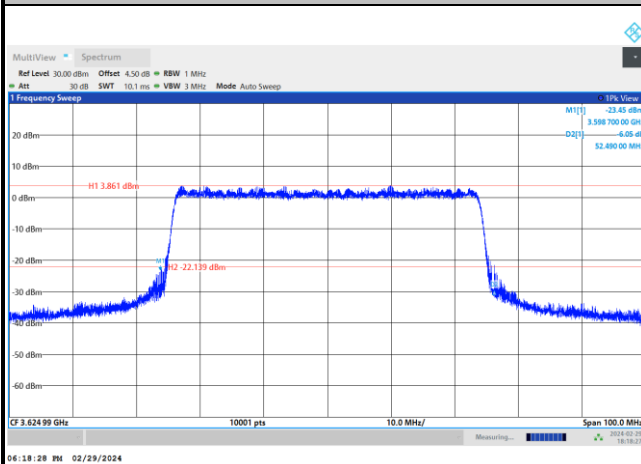
FR1 n77 / 50MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

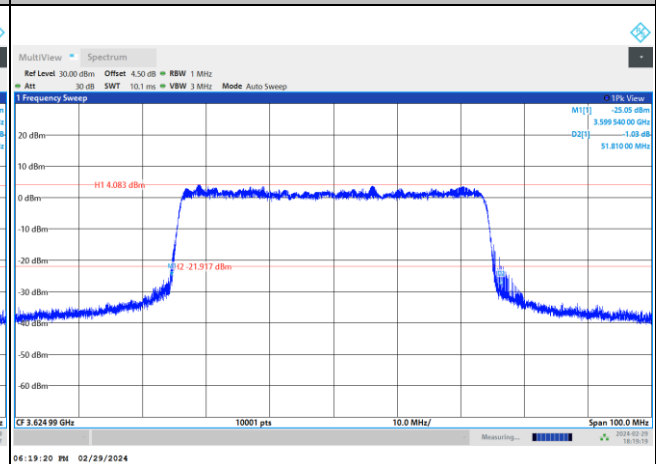


FR1 n77 / 50MHz / CP OFDM / Middle Channel / Full RB

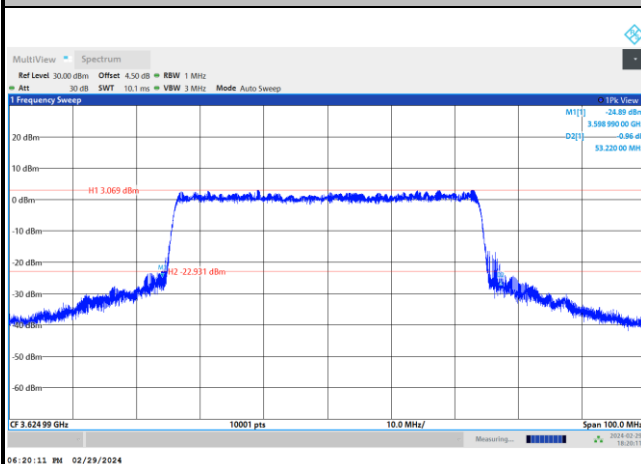
QPSK



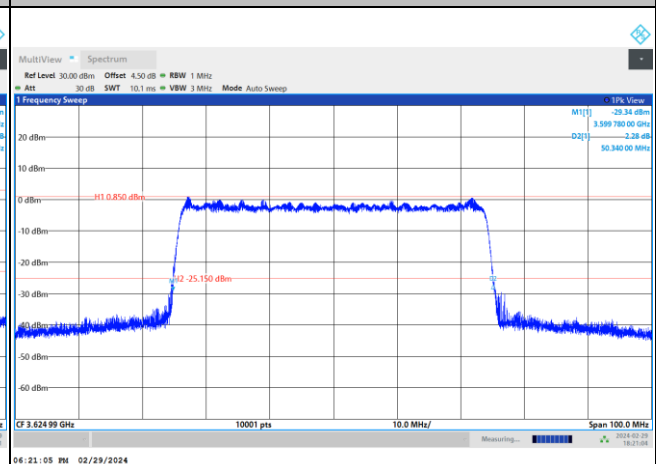
16QAM



64QAM



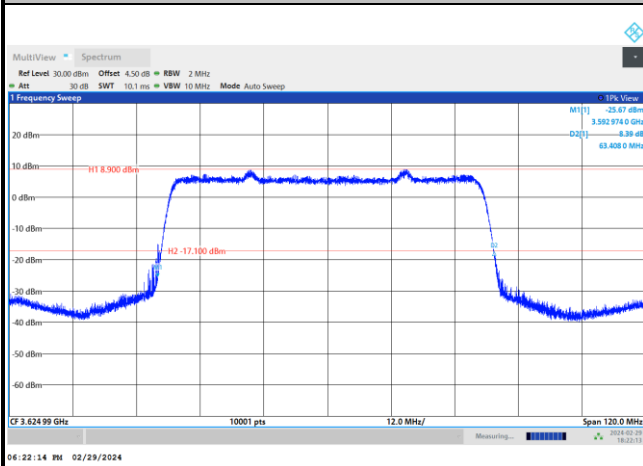
256QAM





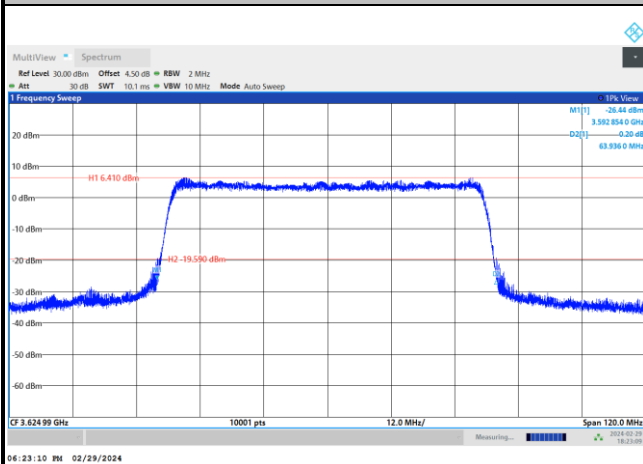
FR1 n77 / 60MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

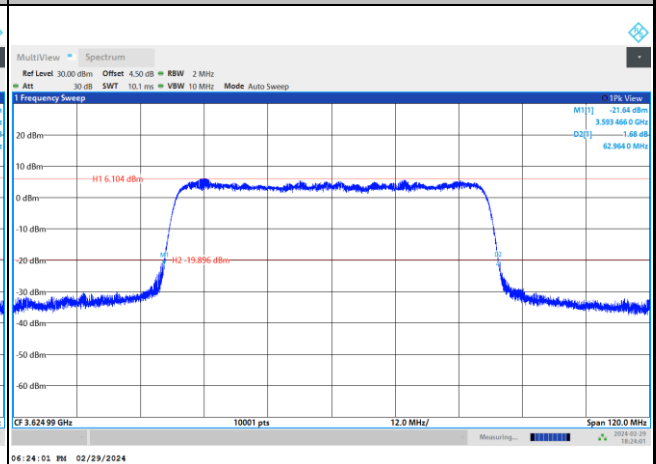


FR1 n77 / 60MHz / CP OFDM / Middle Channel / Full RB

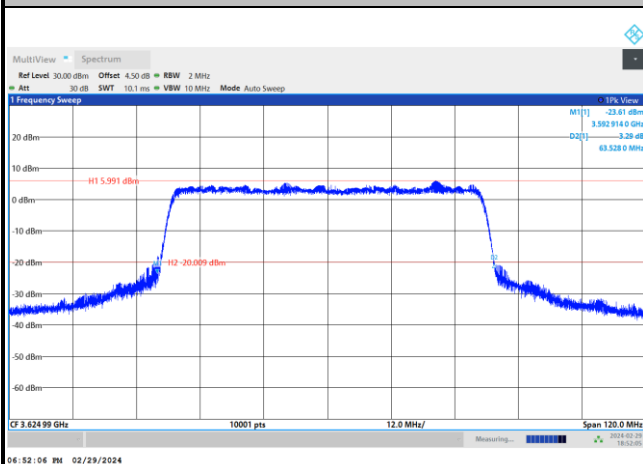
QPSK



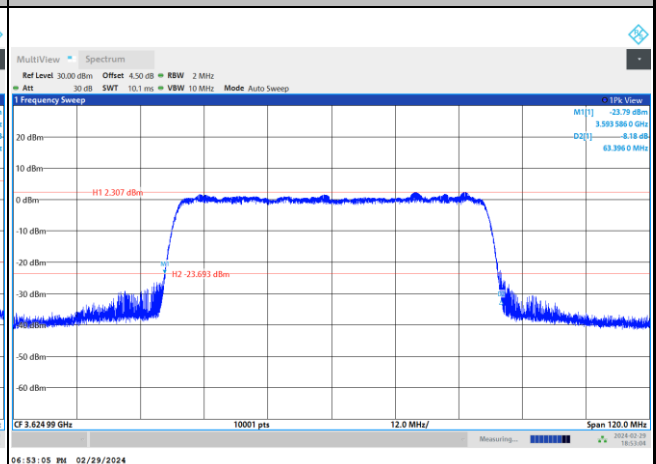
16QAM



64QAM



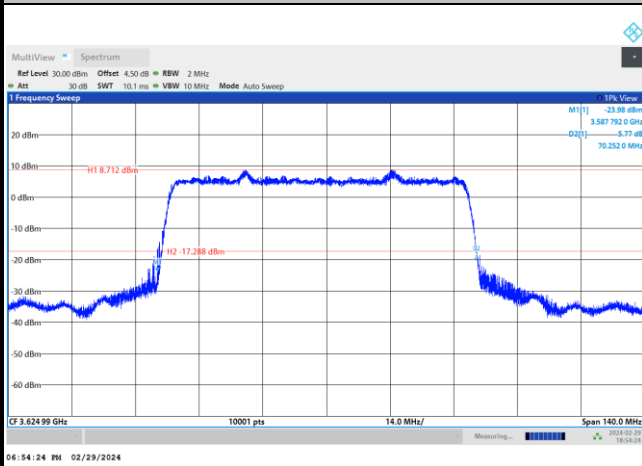
256QAM





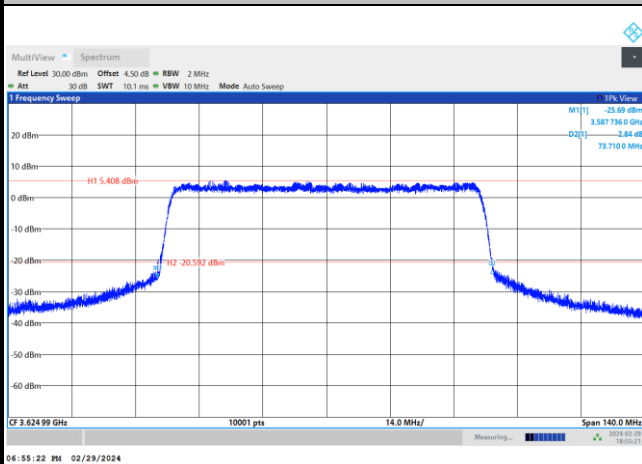
FR1 n77 / 70MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

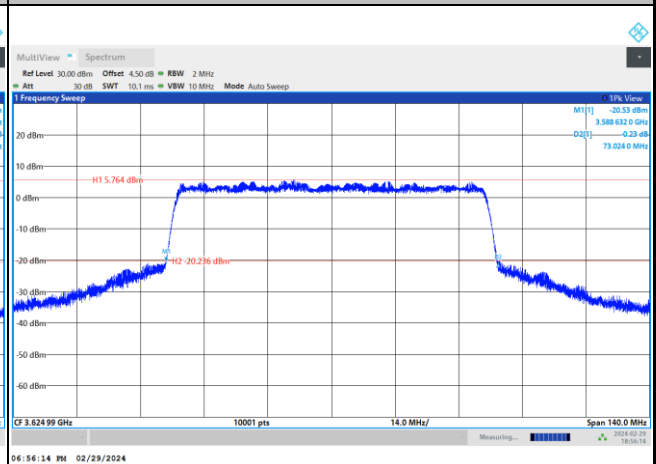


FR1 n77 / 70MHz / CP OFDM / Middle Channel / Full RB

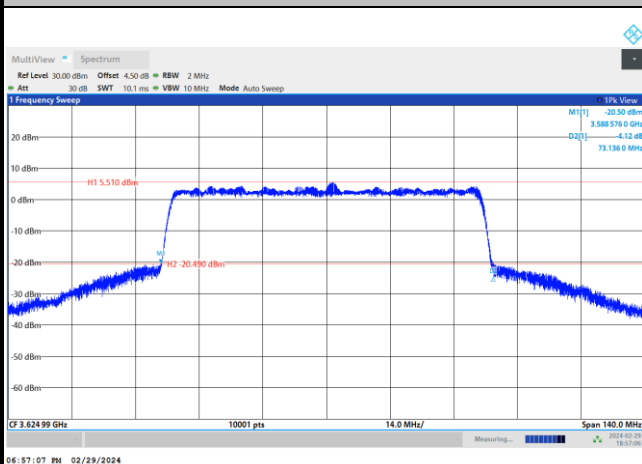
QPSK



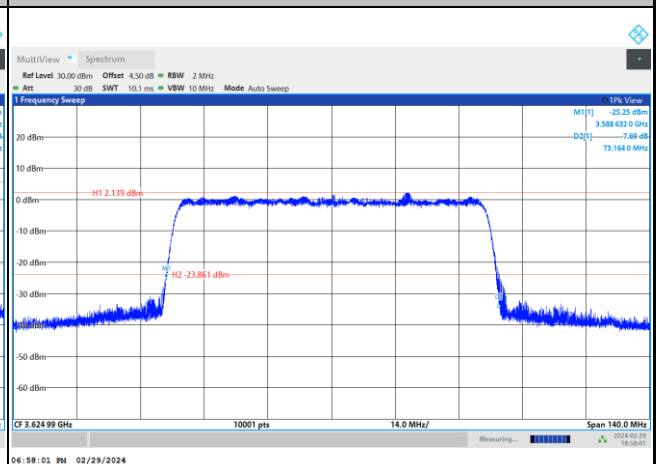
16QAM



64QAM



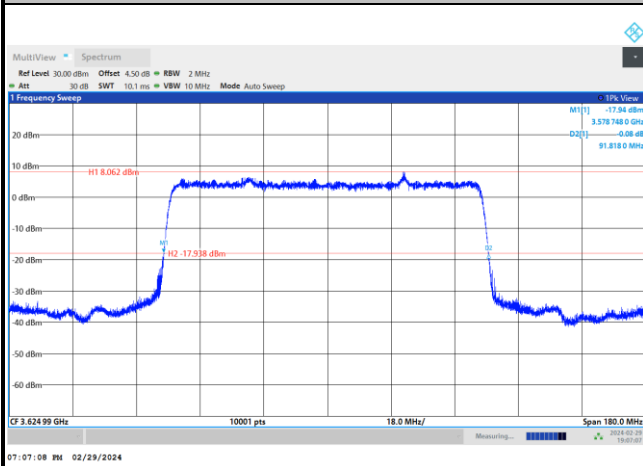
256QAM





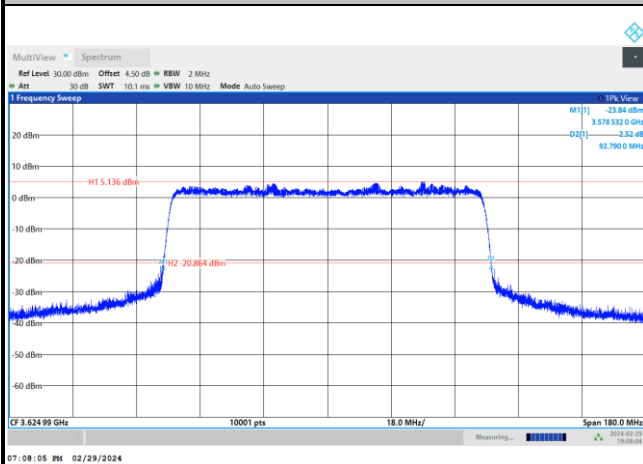
FR1 n77 / 90MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

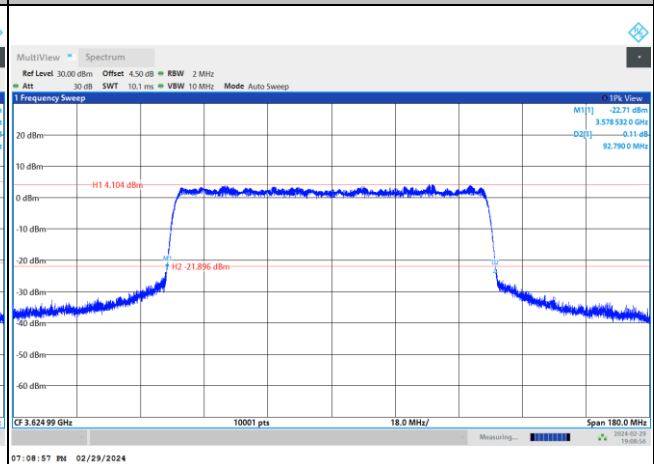


FR1 n77 / 90MHz / CP OFDM / Middle Channel / Full RB

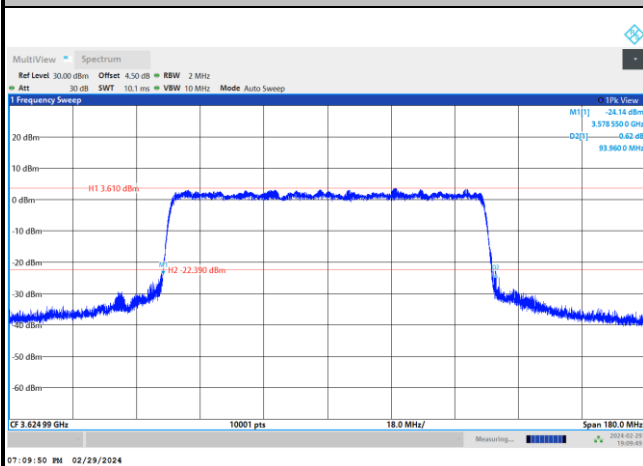
QPSK



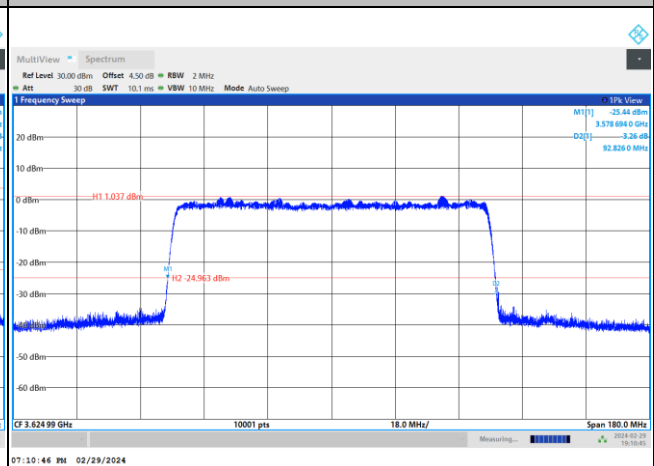
16QAM



64QAM



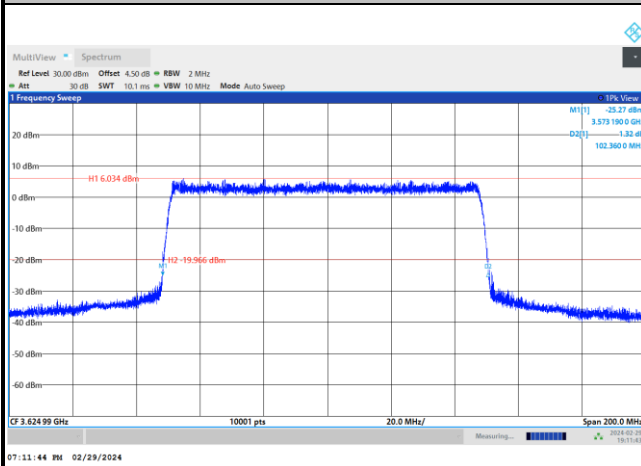
256QAM





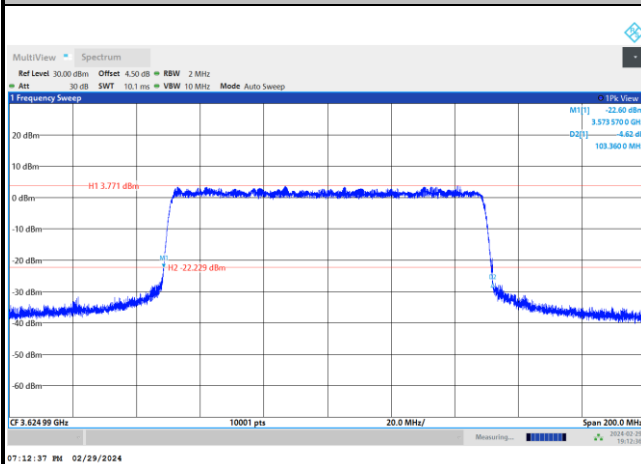
FR1 n77 / 100MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

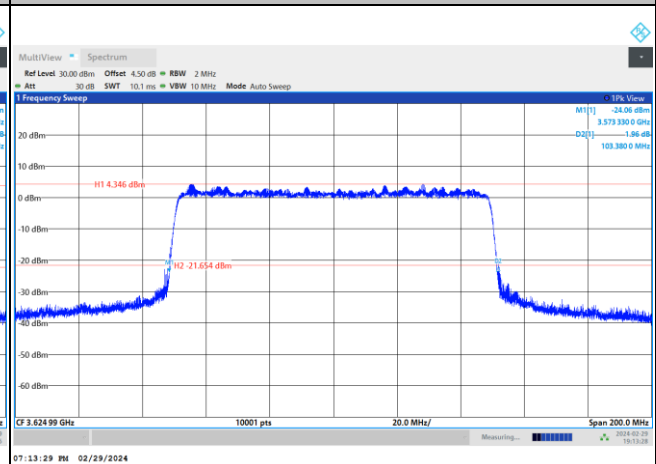


FR1 n77 / 100MHz / CP OFDM / Middle Channel / Full RB

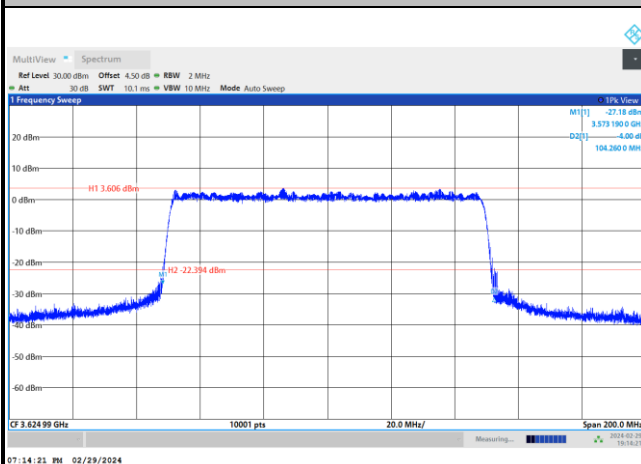
QPSK



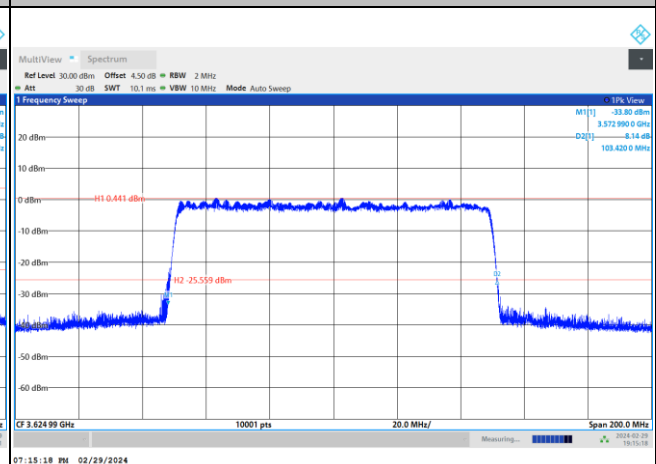
16QAM



64QAM



256QAM



Occupied Bandwidth

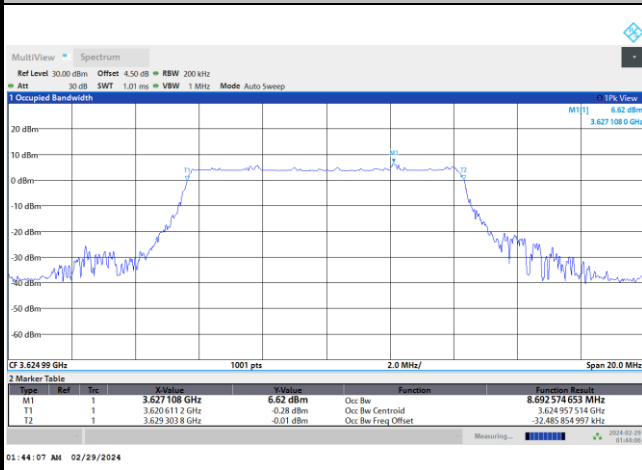
Mode	FR1 n77 : OB BW(MHz) / DFT-S OFDM							
BW	10MHz	15MHz	20MHz	25MHz	30MHz	40MHz	50MHz	60MHz
Mod.	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK
Middle CH	8.69	12.99	18.03	-	27.32	36.03	45.95	58.49
BW	70MHz	80MHz	90MHz	100MHz				
Mod.	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK				
Middle CH	64.97	77.52	87.26	96.76				

Mode	FR1 n77 : OB BW(MHz) / CP OFDM							
BW	10MHz		15MHz		20MHz		25MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	8.68	8.68	13.70	13.70	18.47	18.42	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	8.72	8.70	13.70	13.69	18.37	18.42	-	-
BW	30MHz		40MHz		50MHz		60MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	28.20	28.19	38.05	38.07	47.69	47.70	58.52	58.45
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	28.19	28.24	38.19	38.27	47.63	47.65	58.67	58.38
BW	70MHz		80MHz		90MHz		100MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	68.12	68.03	77.88	77.86	87.65	87.80	97.82	97.66
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	68.30	67.96	77.99	77.74	88.11	87.99	97.67	97.80



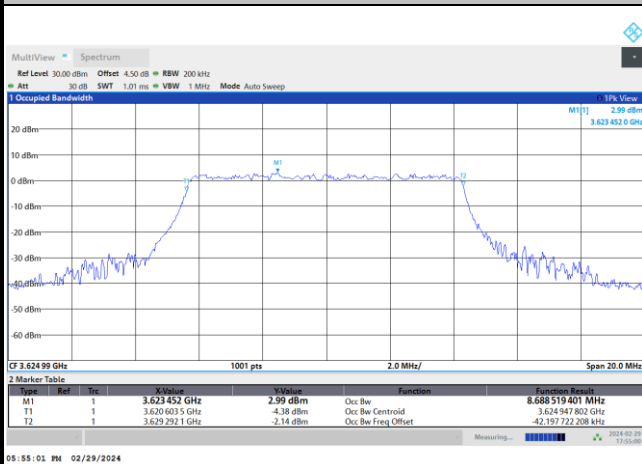
FR1 n77 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

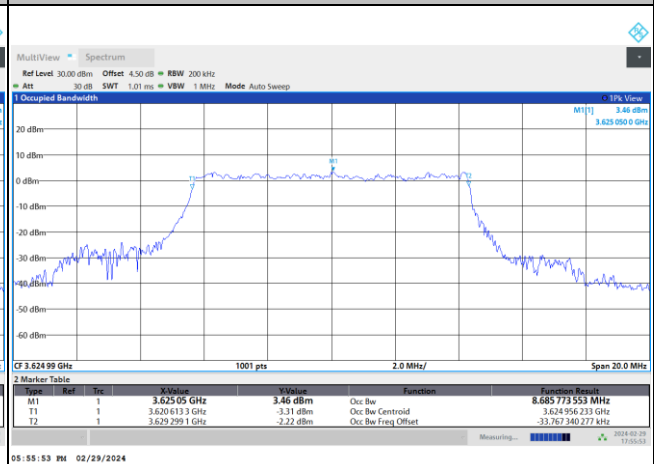


FR1 n77 / 10MHz / CP OFDM / Middle Channel / Full RB

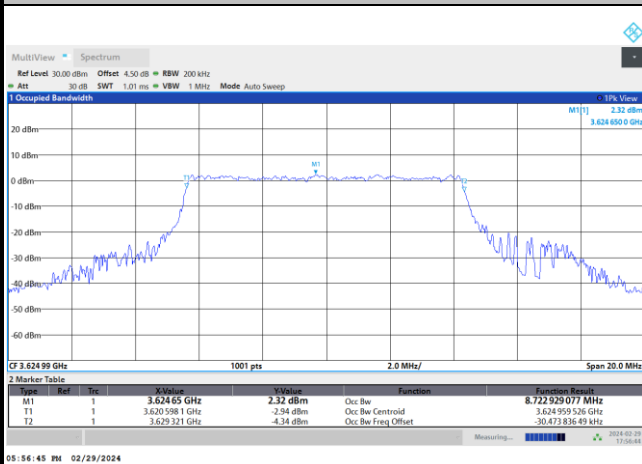
QPSK



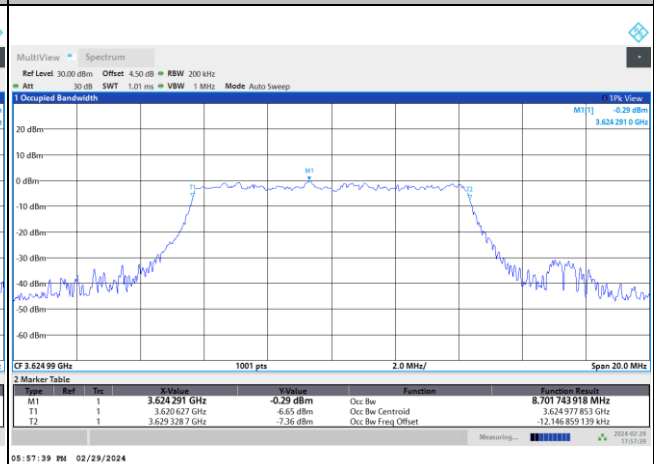
16QAM



64QAM

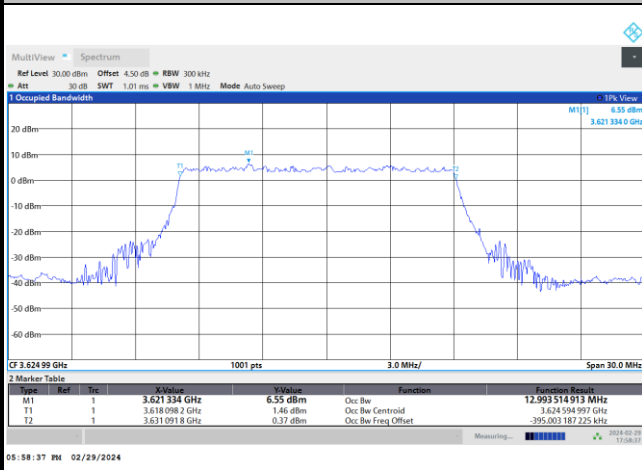


256QAM



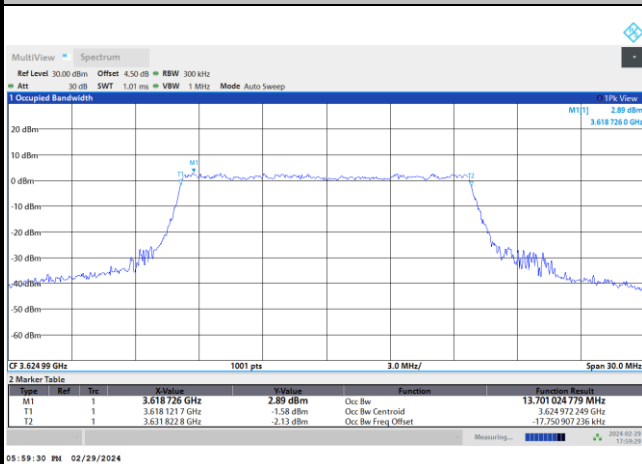
FR1 n77 / 15MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

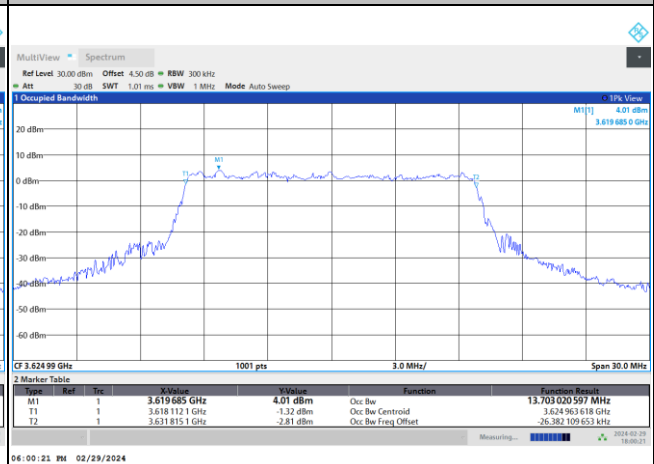


FR1 n77 / 15MHz / CP OFDM / Middle Channel / Full RB

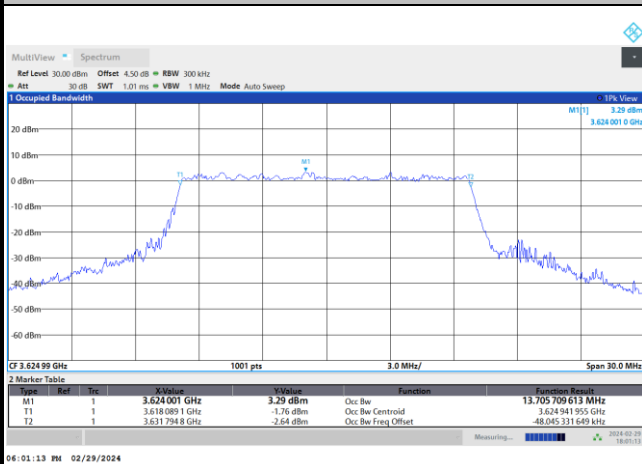
QPSK



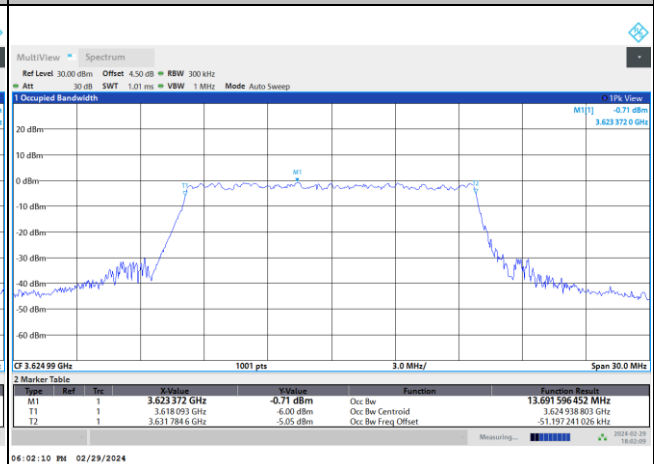
16QAM

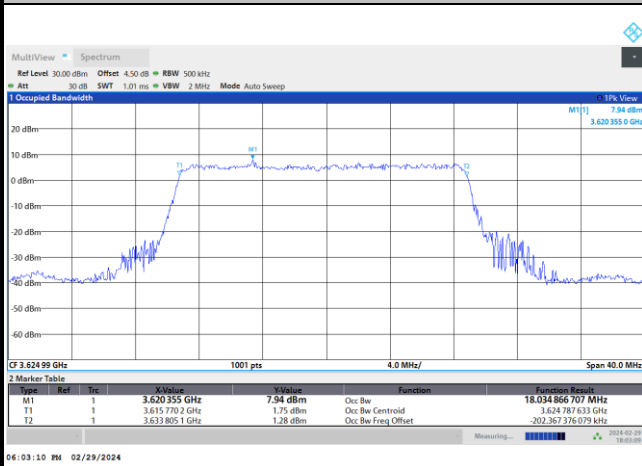
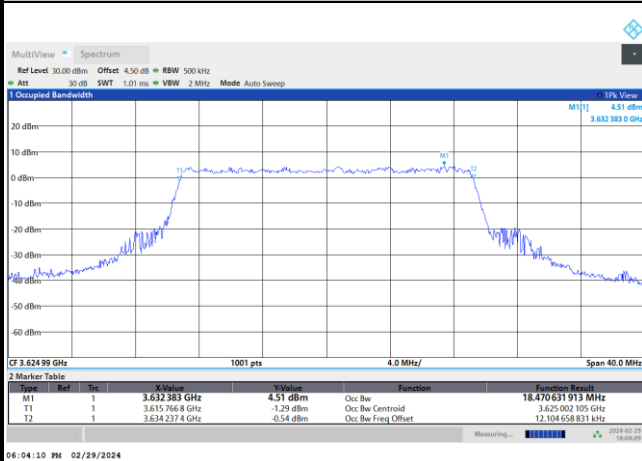
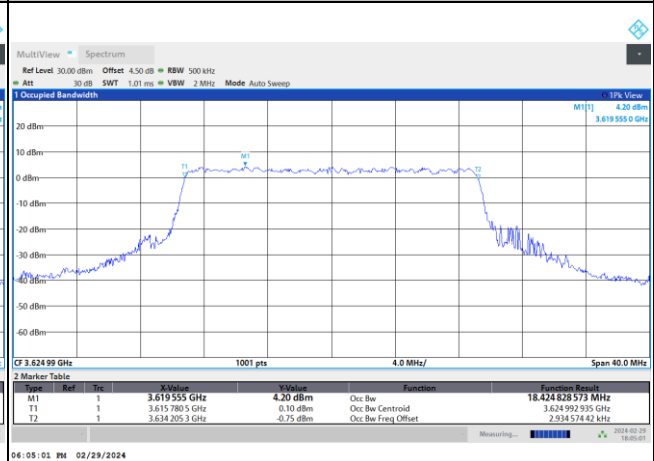
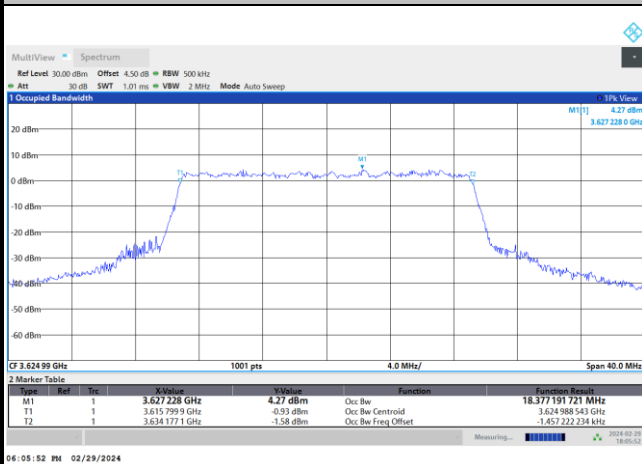
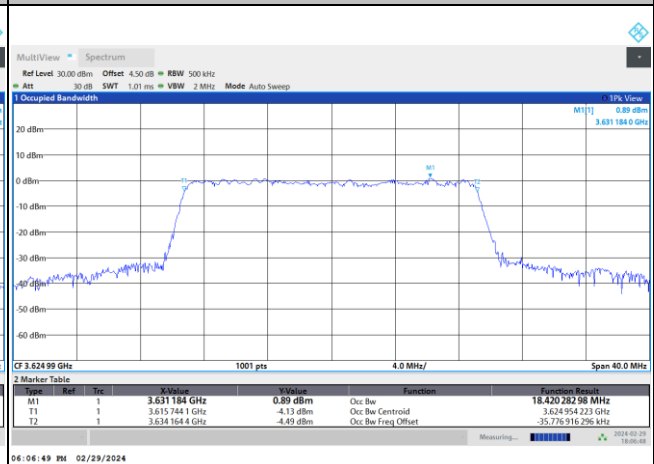


64QAM



256QAM

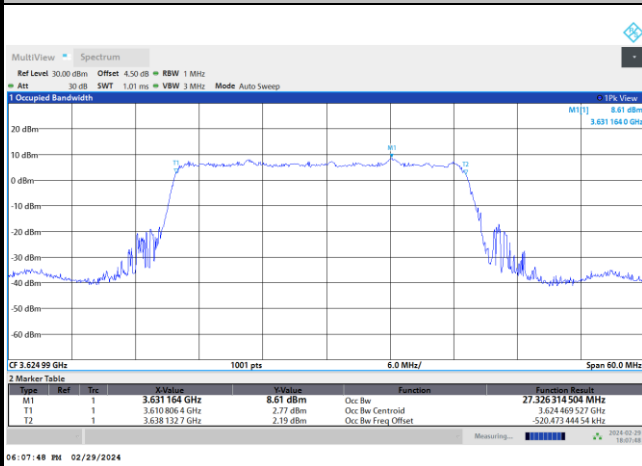


FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB
PI/2 BPSK

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

16QAM

64QAM

256QAM




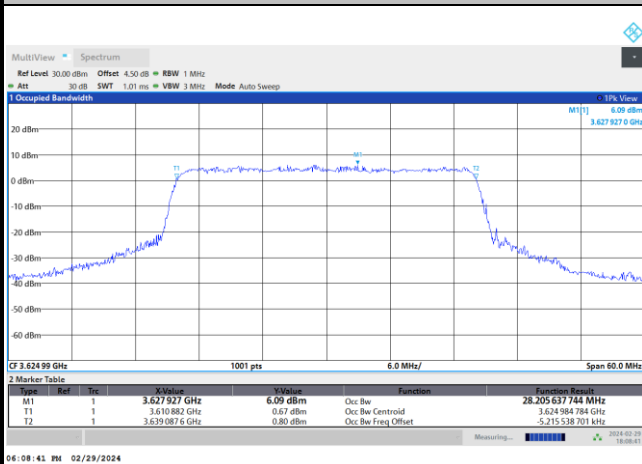
FR1 n77 / 30MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

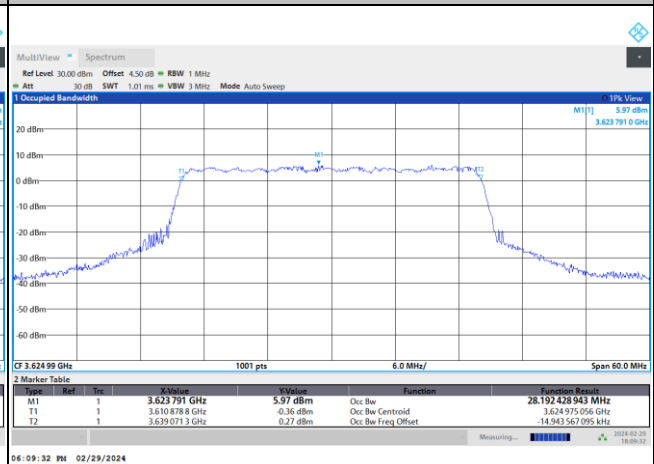


FR1 n77 / 30MHz / CP OFDM / Middle Channel / Full RB

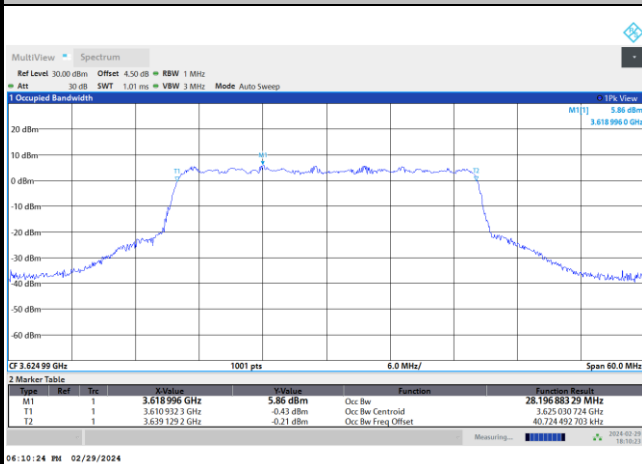
QPSK



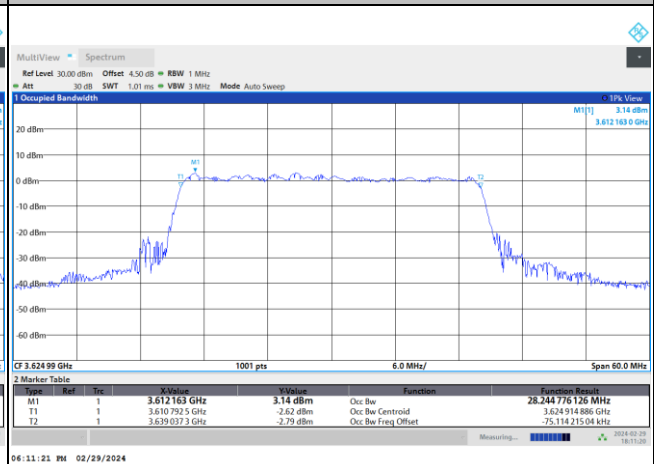
16QAM



64QAM

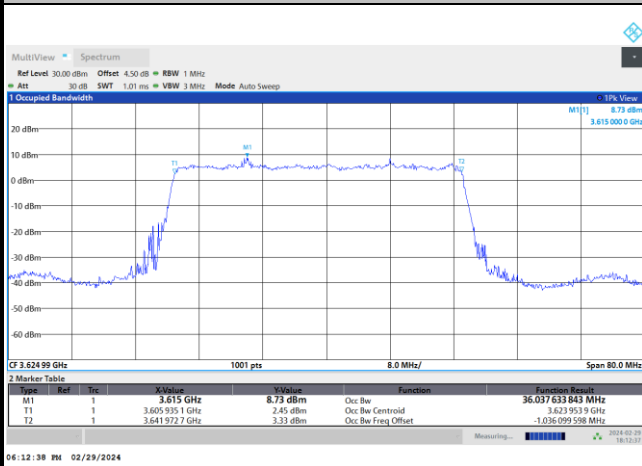


256QAM



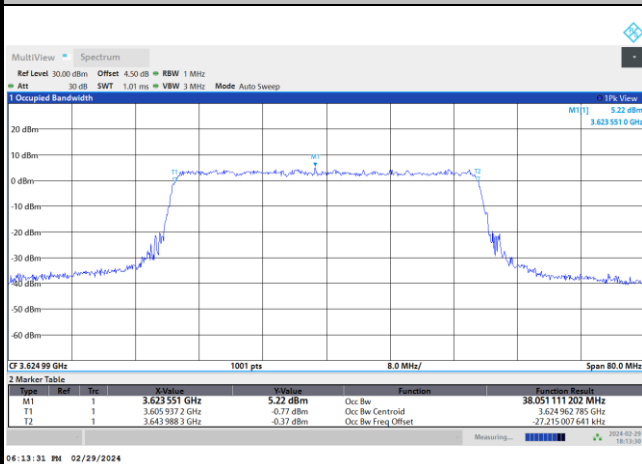
FR1 n77 / 40MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

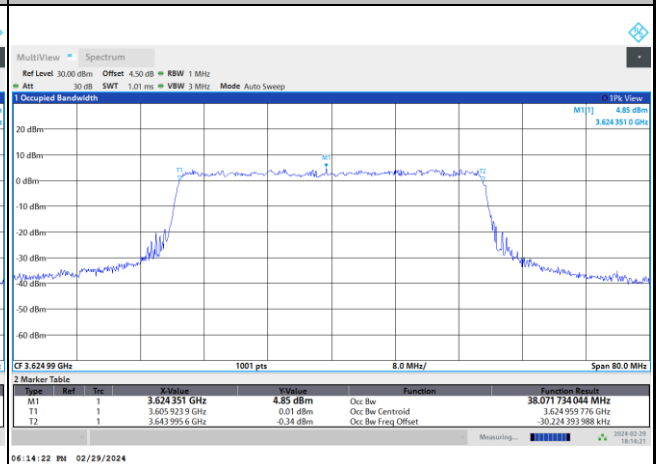


FR1 n77 / 40MHz / CP OFDM / Middle Channel / Full RB

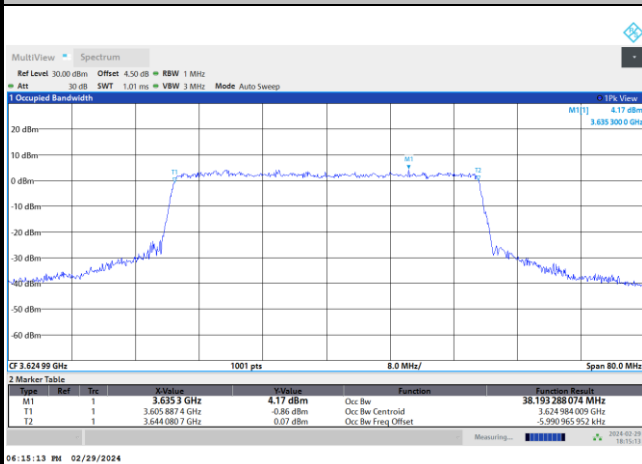
QPSK



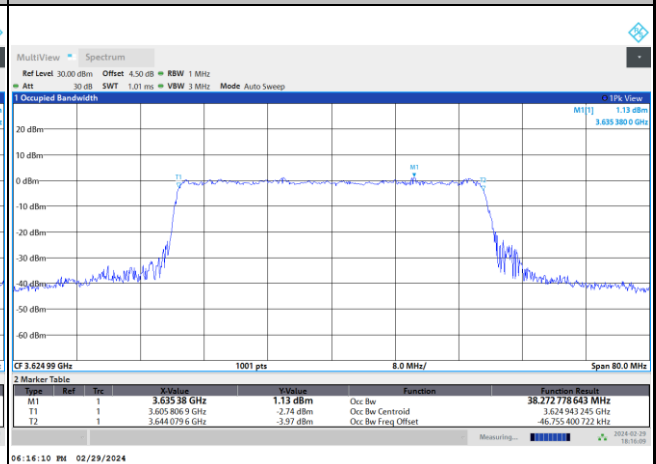
16QAM



64QAM

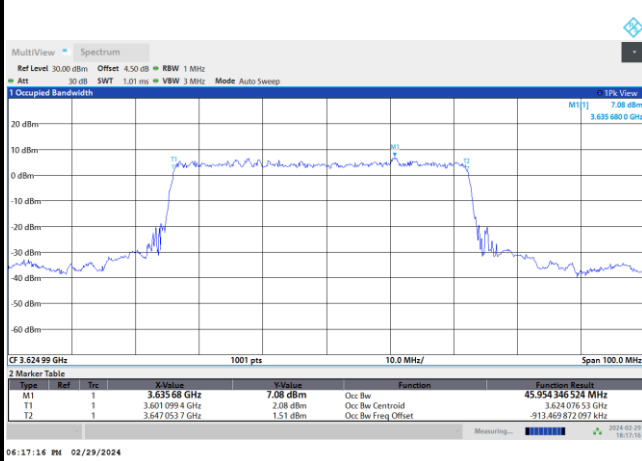


256QAM



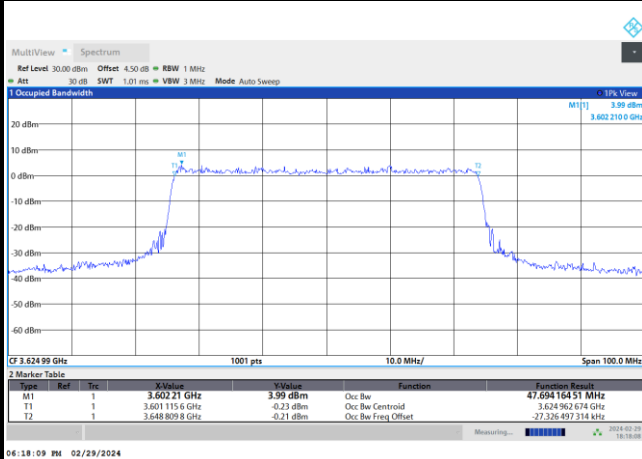
FR1 n77 / 50MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

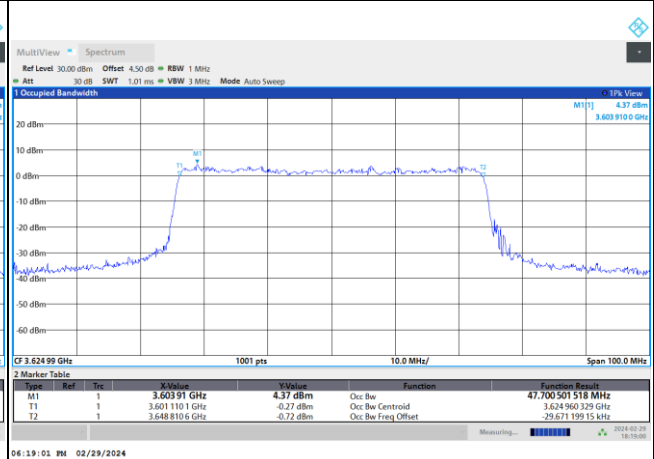


FR1 n77 / 50MHz / CP OFDM / Middle Channel / Full RB

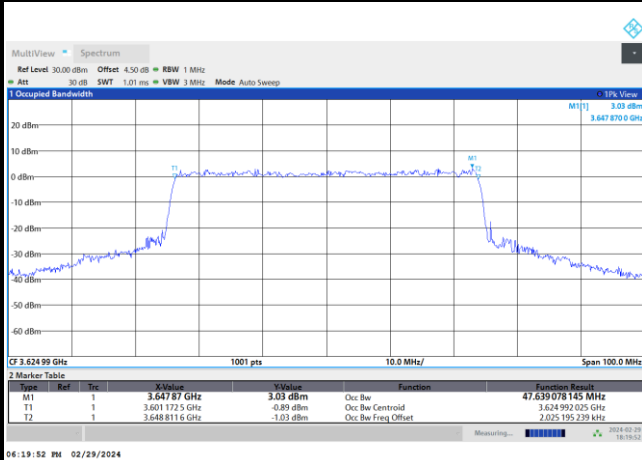
QPSK



16QAM



64QAM



256QAM

