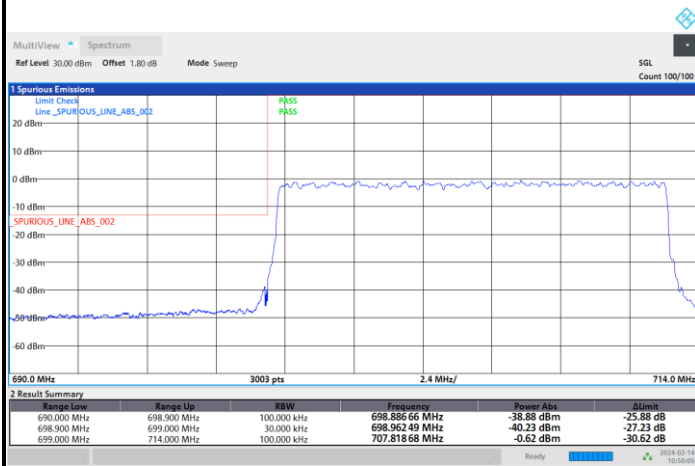


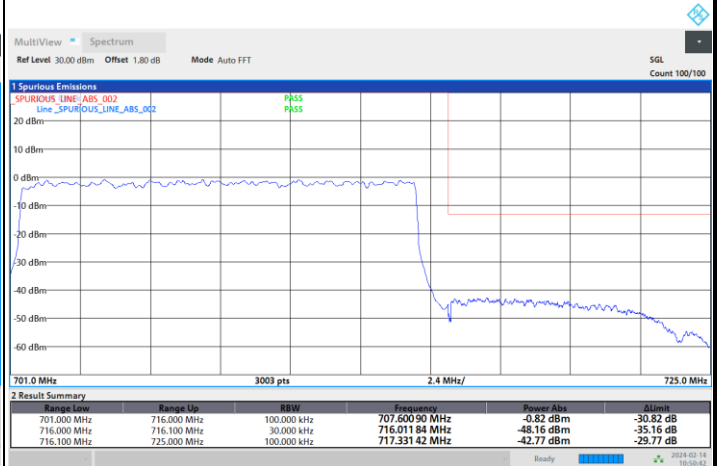


FR1 n12 / 15MHz / DFT-s-OFDM / 256QAM / Full RB

Lowest Band Edge

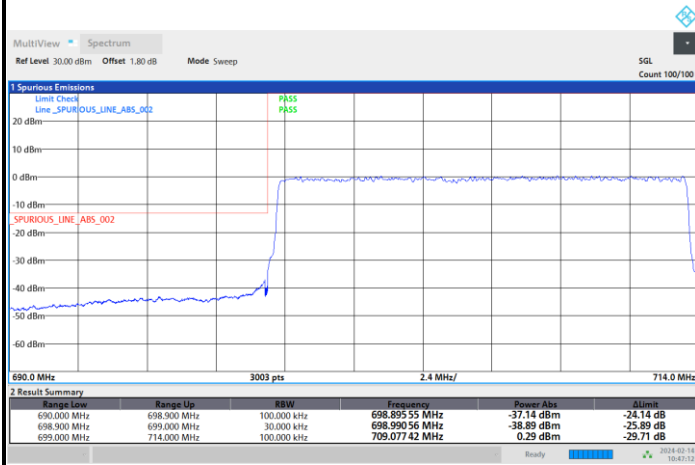


Highest Band Edge

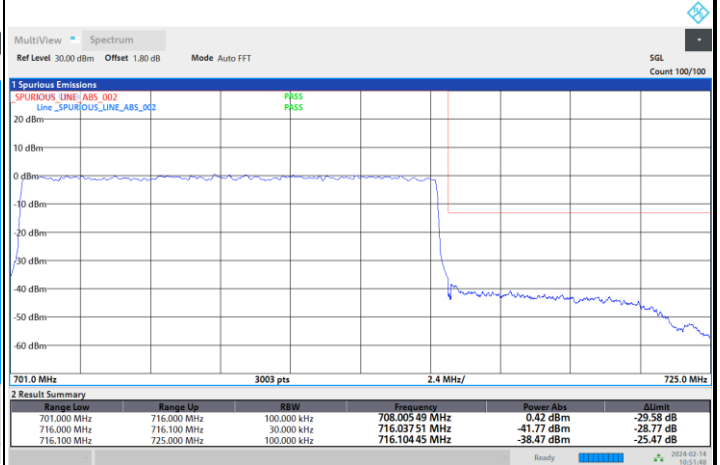


FR1 n12 / 15MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge



Highest Band Edge

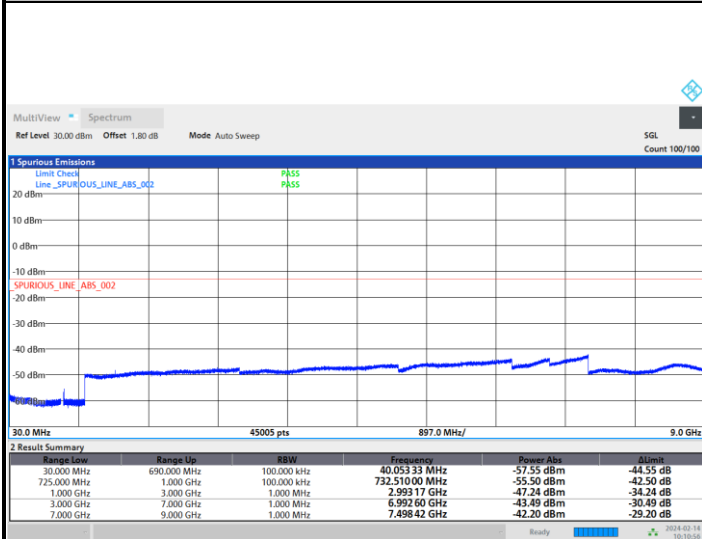




Conducted Spurious Emission

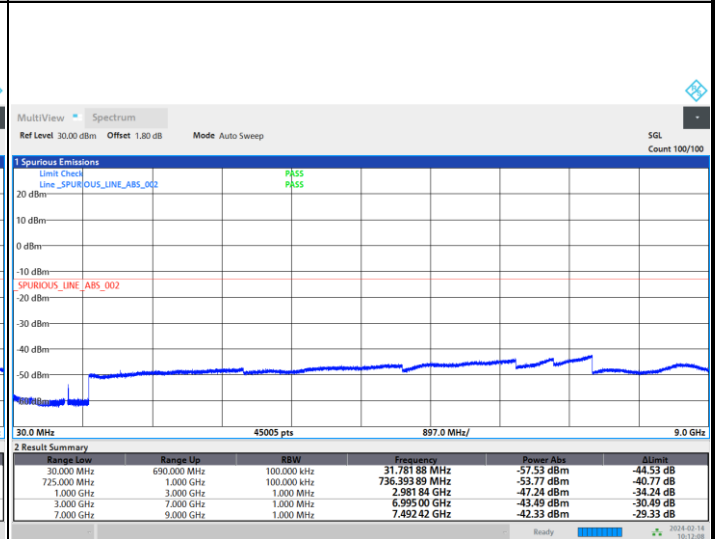
FR1 n12 / 5MHz / DFT-S OFDM / QPSK / 1RB1

Lowest Channel



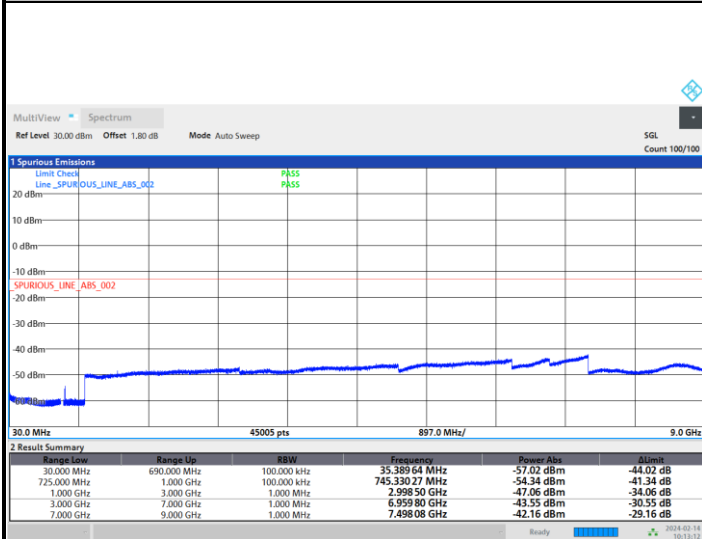
10:10:57 AM 02/14/2024

Middle Channel



10:12:09 AM 02/14/2024

Highest Channel



10:13:13 AM 02/14/2024

Frequency Stability

Test Conditions		FR1 n12 (PI/2 BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 15MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0042	PASS
40	Normal Voltage	0.0136	
30	Normal Voltage	0.0085	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0083	
0	Normal Voltage	0.0105	
-10	Normal Voltage	0.0082	
-20	Normal Voltage	0.0037	
-30	Normal Voltage	0.0065	
20	Maximum Voltage	0.0048	
20	Normal Voltage	0.0114	
20	Battery End Point	0.0018	

Note:

1. Normal Voltage = 3.3 V. ; Battery End Point (BEP) = 3.135 V. ; Maximum Voltage = 4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

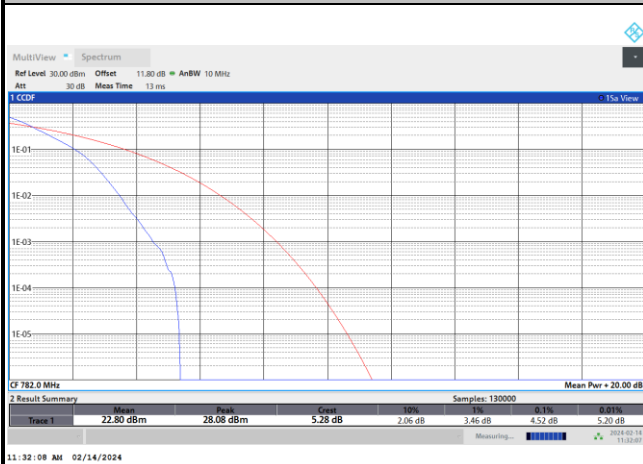
**FR1 n13****Peak-to-Average Ratio**

Mode	FR1 n13 / 10MHz / 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	4.52	5.86	6.20	6.72	PASS
Mode	FR1 n13 / 10MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Middle CH	6.66				PASS

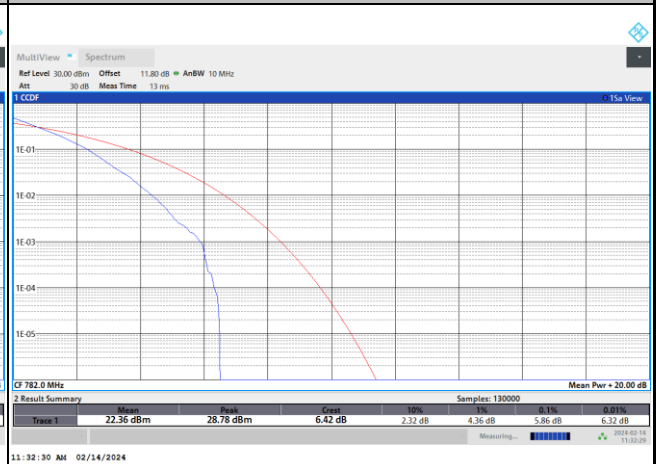


FR1 n13 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

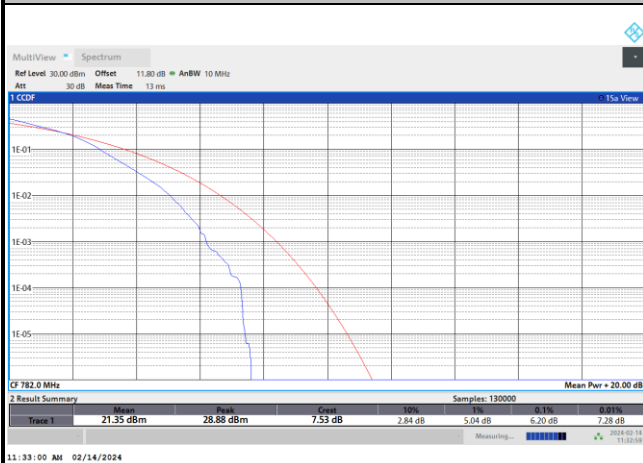
PI/2 BPSK



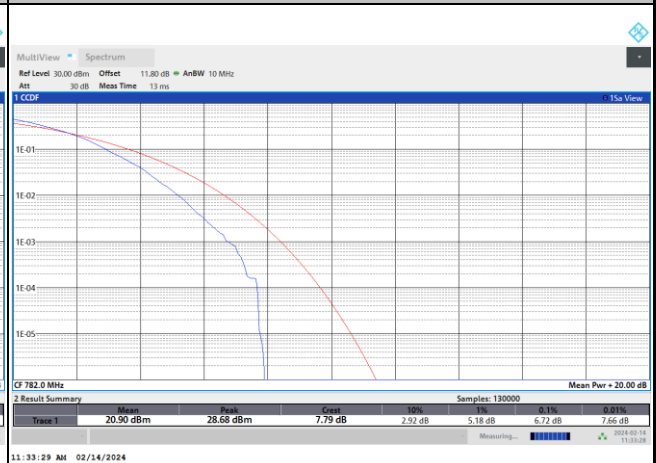
QPSK



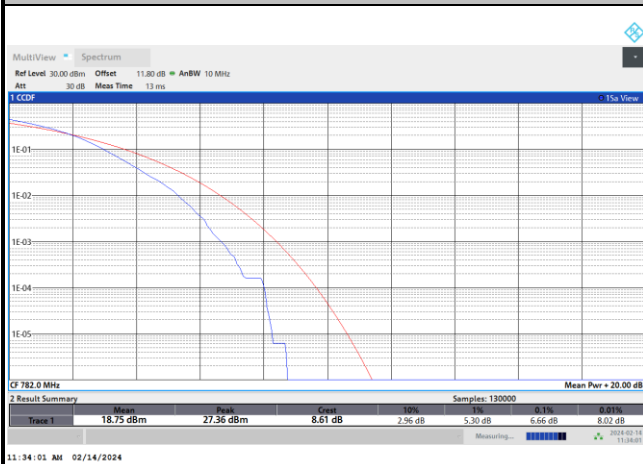
16QAM



64QAM



256QAM



**26dB Bandwidth**

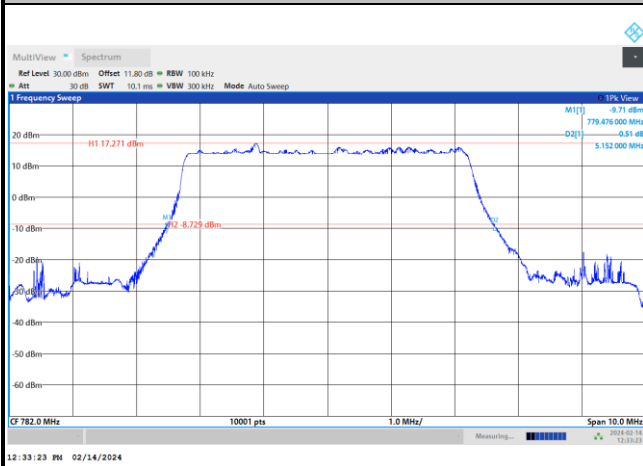
Mode	FR1 n13 : 26dB BW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz					
Mod.	PI/2 BPSK		PI/2 BPSK					
Middle CH	5.15		9.83					

Mode	FR1 n13 : 26dB BW(MHz) / CP OFDM							
BW	5MHz		10MHz					
Mod.	QPSK	16QAM	QPSK	16QAM				
Middle CH	5.29	5.27	10.31	10.28				
Mod.	64QAM	256QAM	64QAM	256QAM				
Middle CH	5.25	5.29	10.13	10.25				



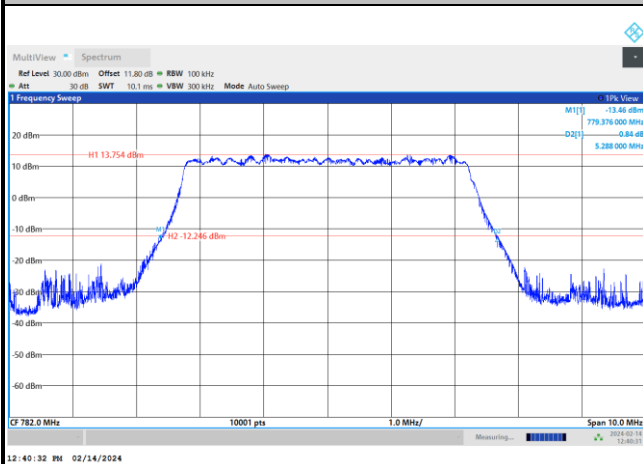
FR1 n13 / 5MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

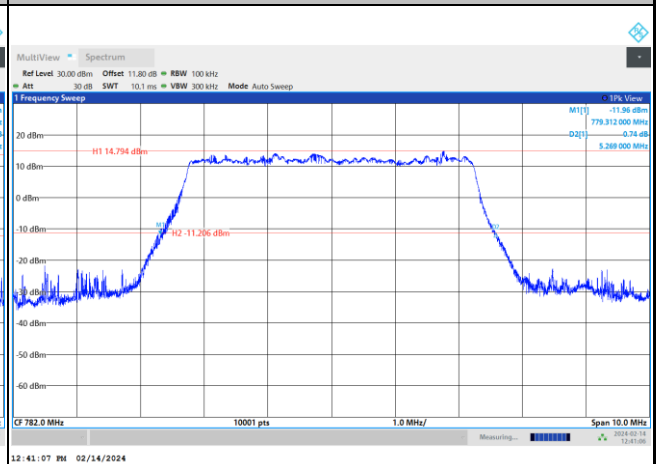


FR1 n13 / 5MHz / CP OFDM / Middle Channel / Full RB

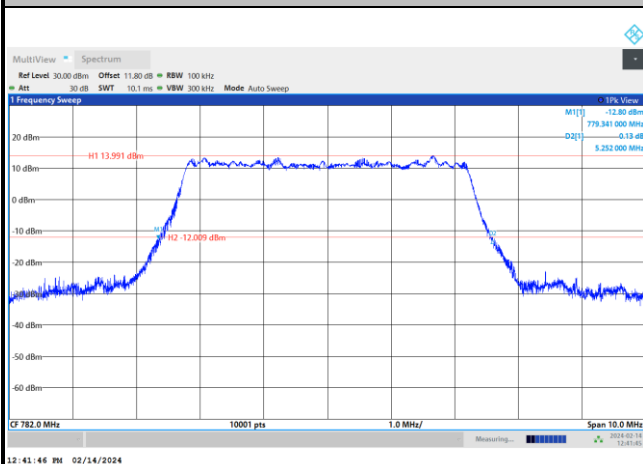
QPSK



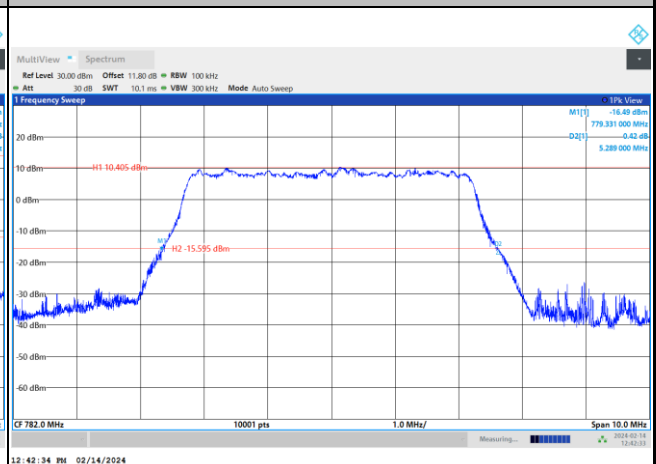
16QAM



64QAM



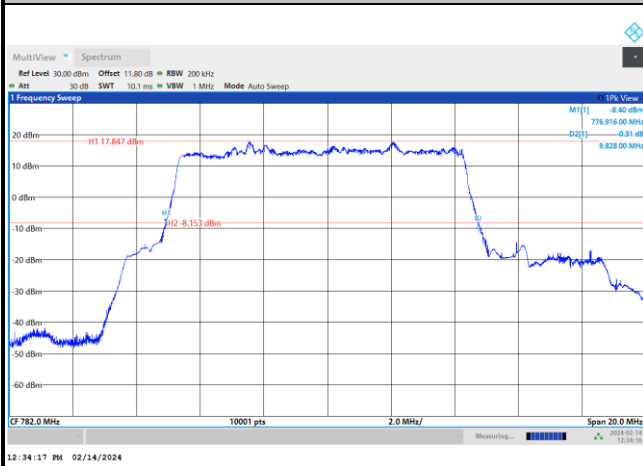
256QAM





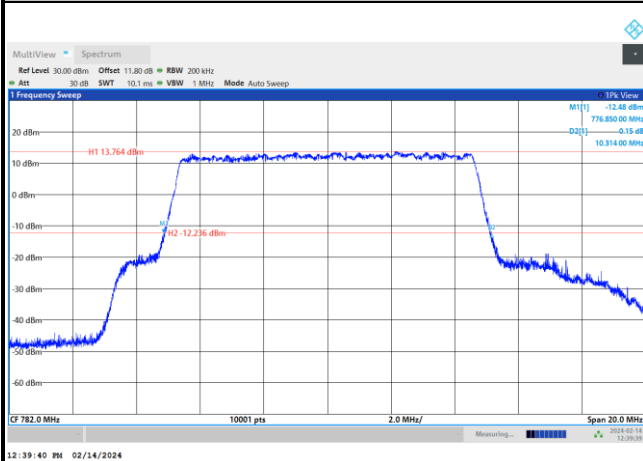
FR1 n13 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

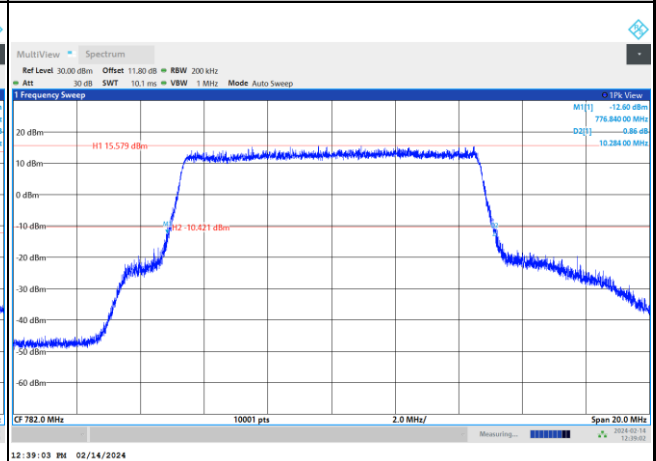


FR1 n13 / 10MHz / CP OFDM / Middle Channel / Full RB

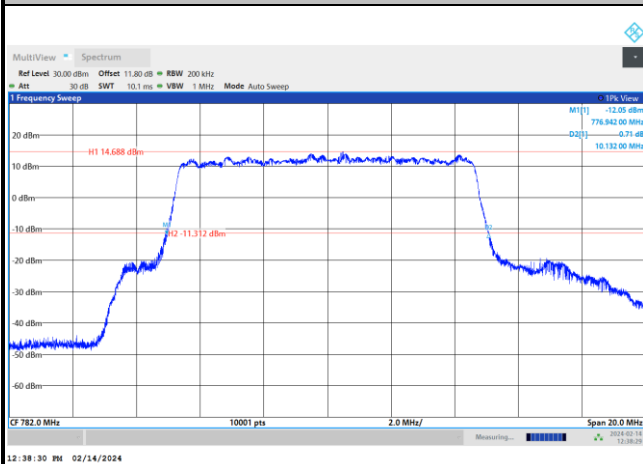
QPSK



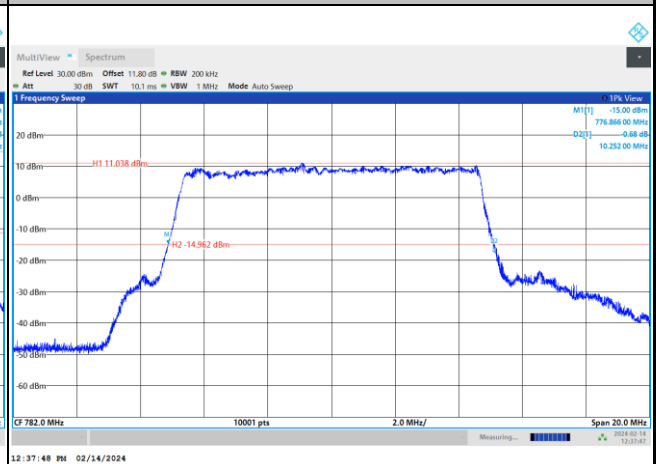
16QAM



64QAM



256QAM



**Occupied Bandwidth**

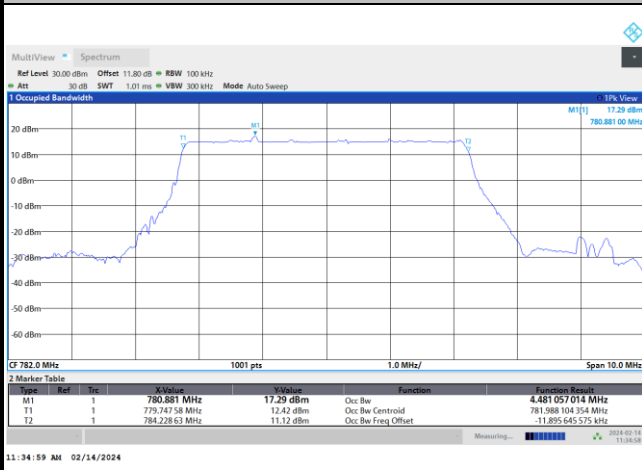
Mode	FR1 n13 : 99%OBW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz					
Mod.	PI/2 BPSK		PI/2 BPSK					
Middle CH	4.48		8.98					

Mode	FR1 n13 : 99%OBW (MHz) / CP OFDM							
BW	5MHz		10MHz					
Mod.	QPSK	16QAM	QPSK	16QAM				
Middle CH	4.51	4.53	9.31	9.31				
Mod.	64QAM	256QAM	64QAM	256QAM				
Middle CH	4.51	4.53	9.29	9.34				



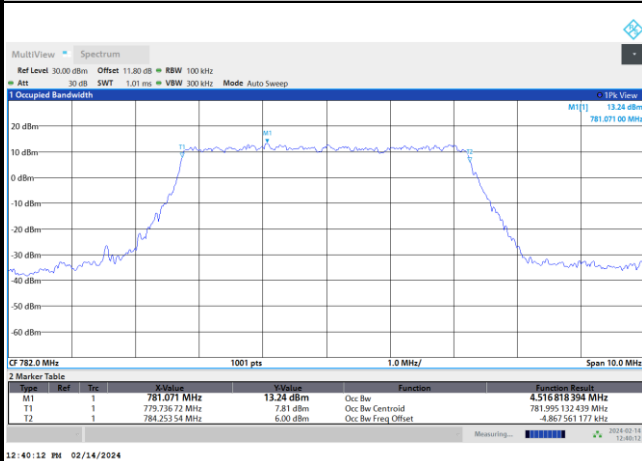
FR1 n13 / 5MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

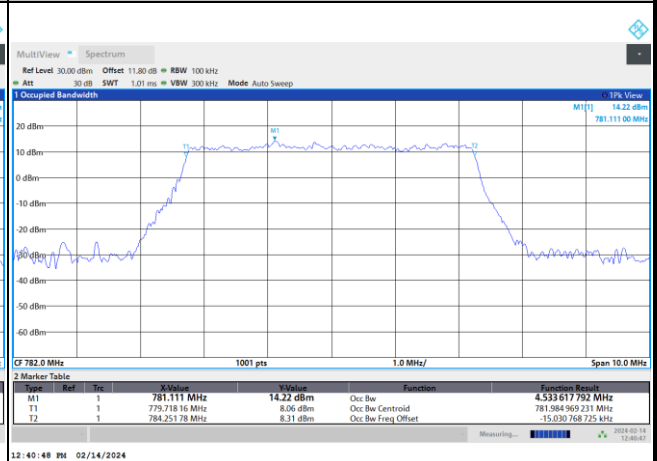


FR1 n13 / 5MHz / CP OFDM / Middle Channel / Full RB

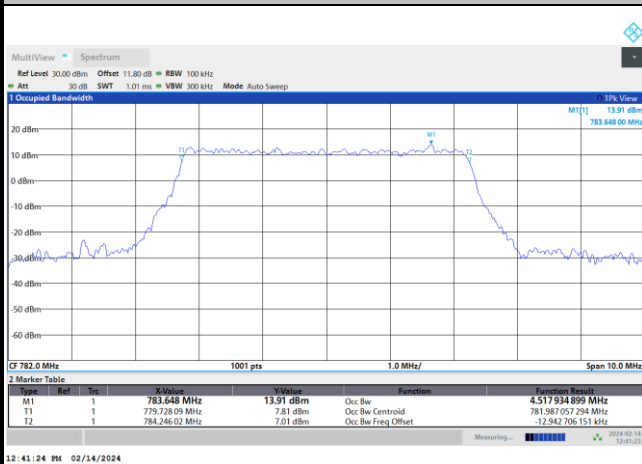
QPSK



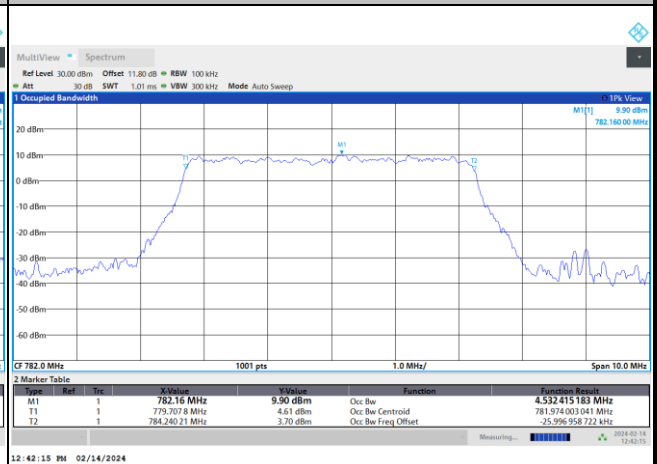
16QAM



64QAM



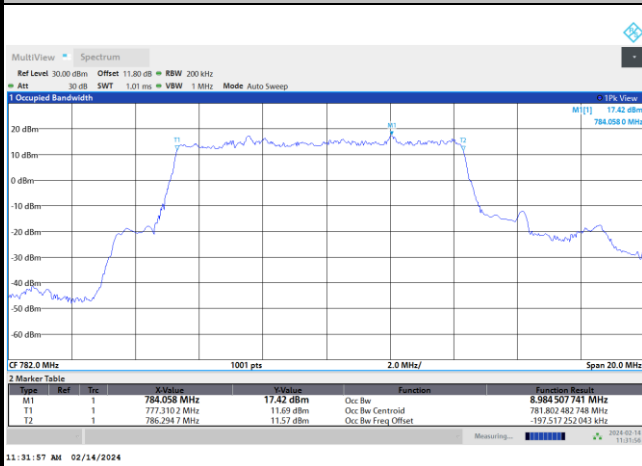
256QAM





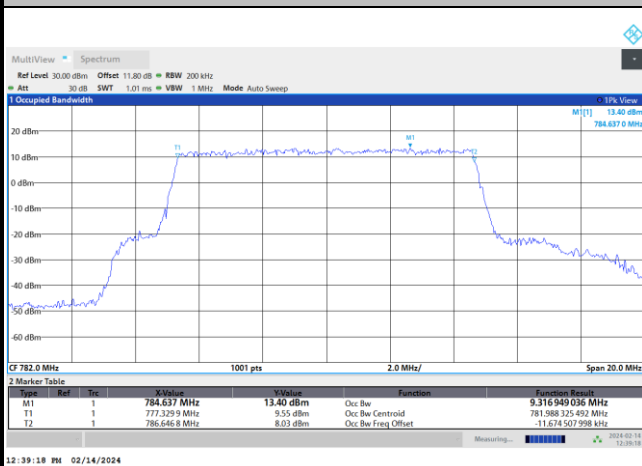
FR1 n13 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

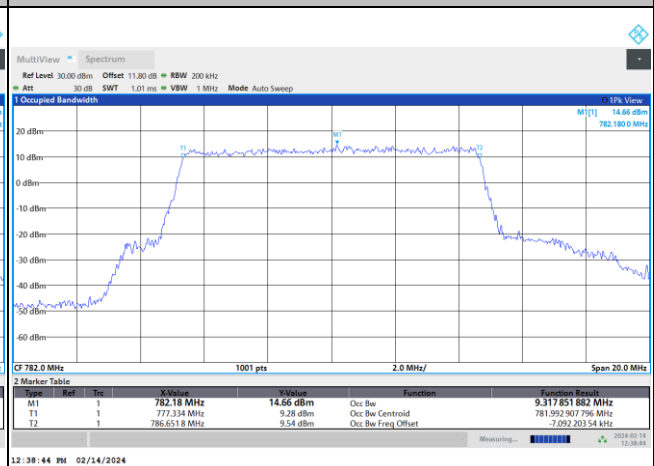


FR1 n13 / 10MHz / CP OFDM / Middle Channel / Full RB

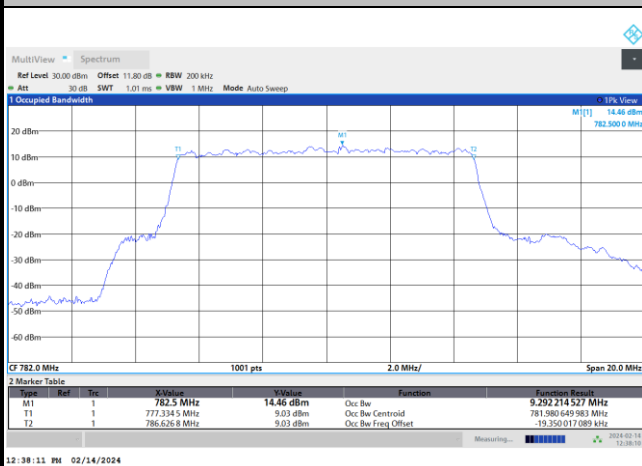
QPSK



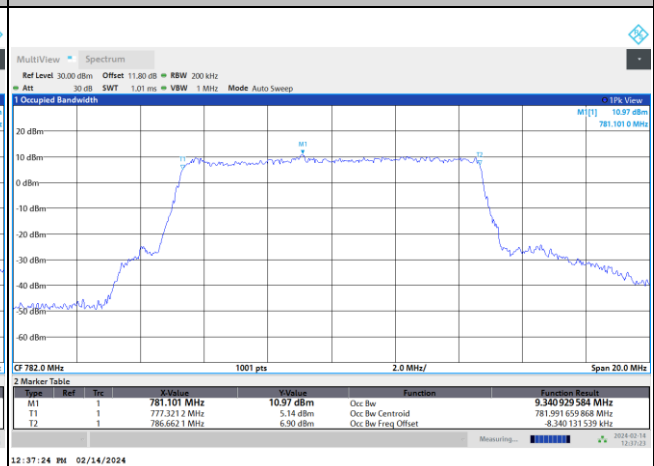
16QAM



64QAM



256QAM



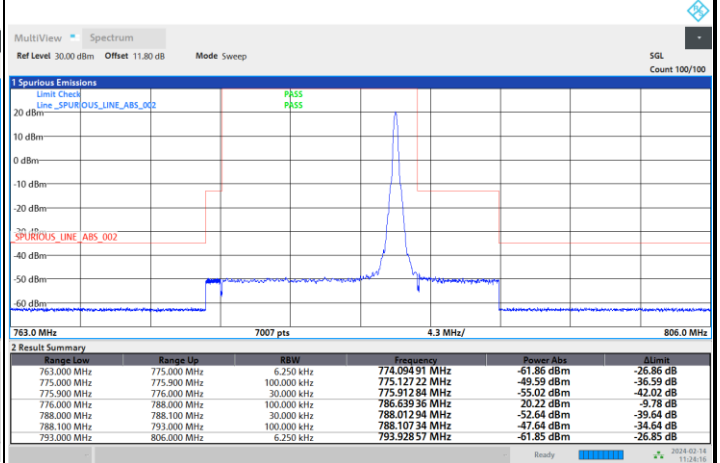
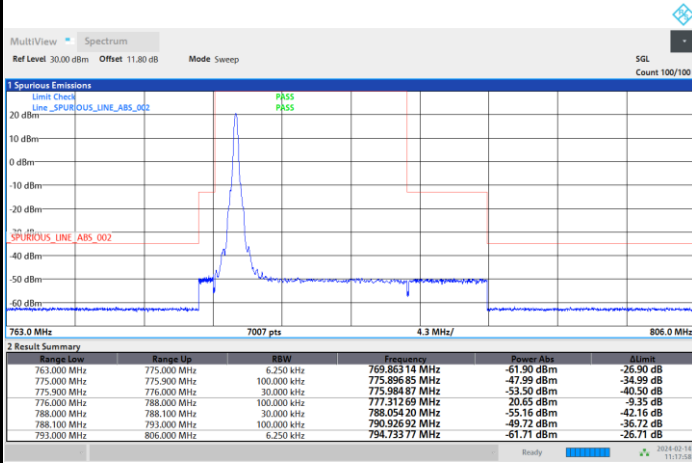


Conducted Band Edge

FR1 n13 / 5MHz / DFT-S OFDM / PI/2 BPSK

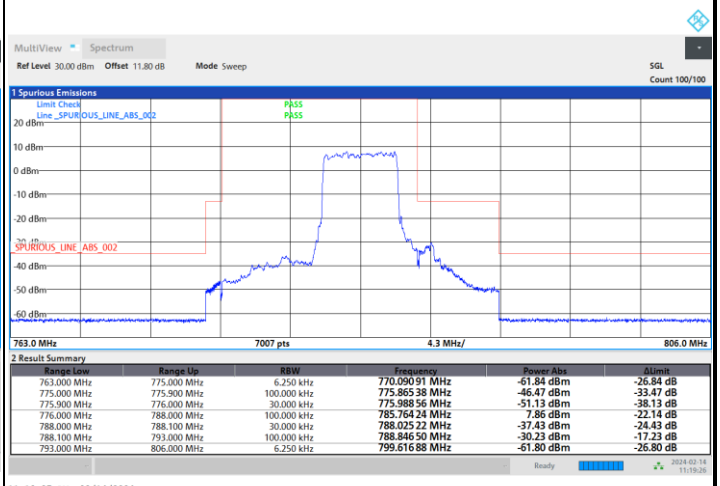
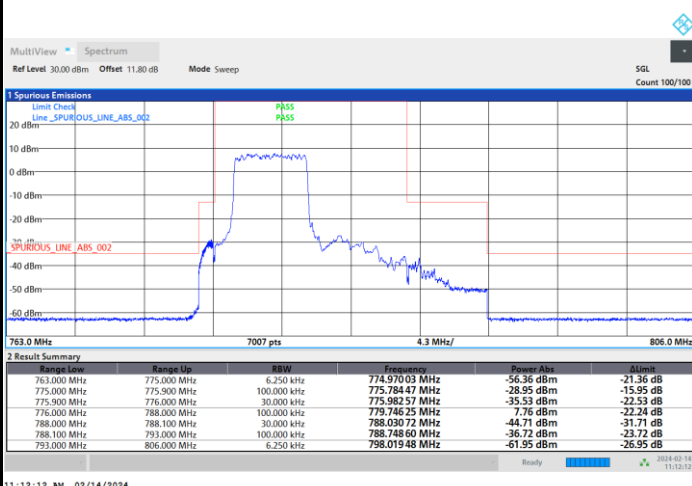
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

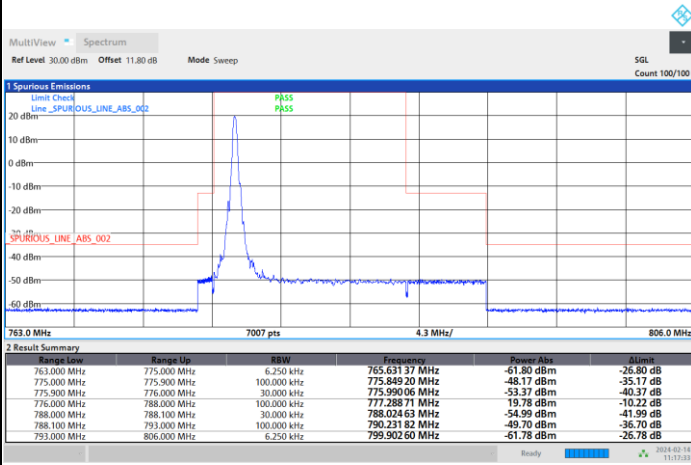




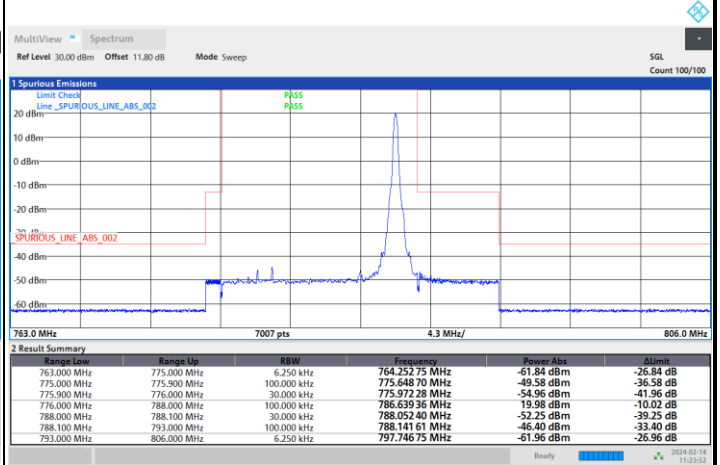
FR1 n13 / 5MHz / DFT-S OFDM / QPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



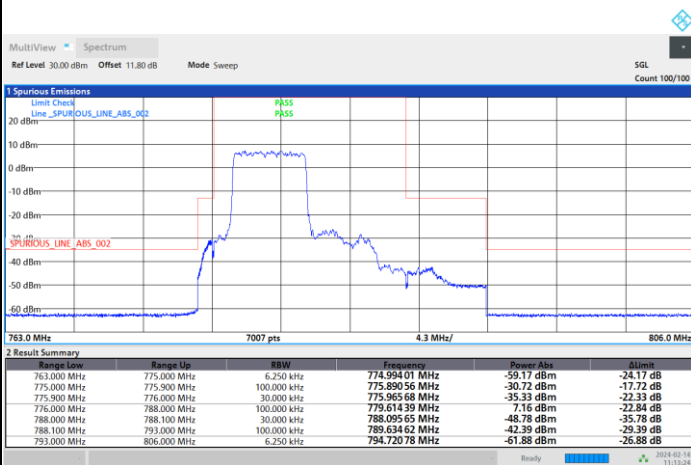
11:17:34 AM 02/14/2024



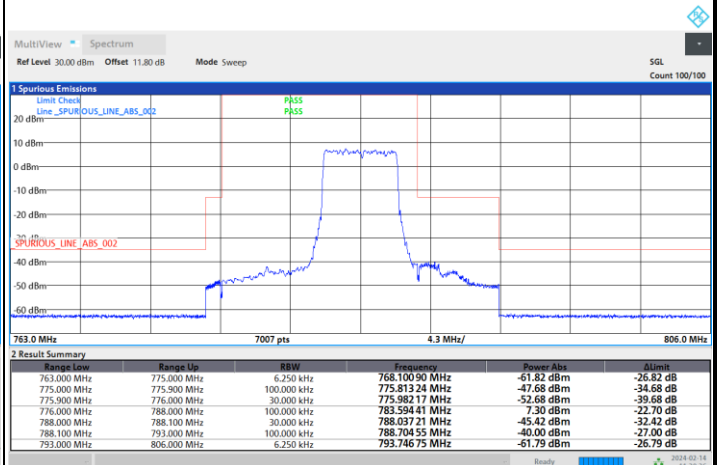
11:23:52 AM 02/14/2024

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



11:13:25 AM 02/14/2024



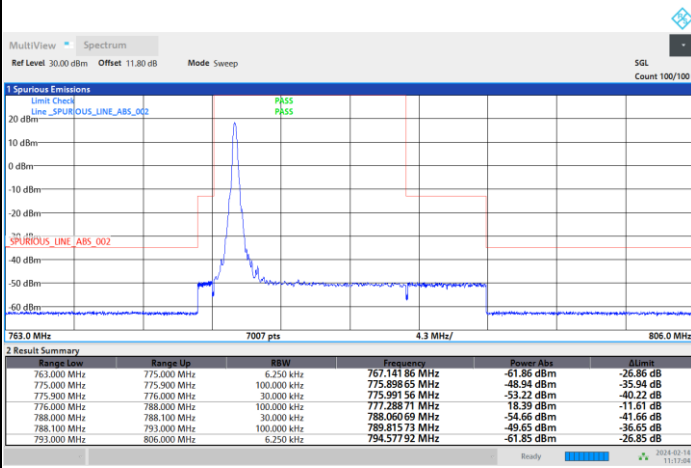
11:20:27 AM 02/14/2024



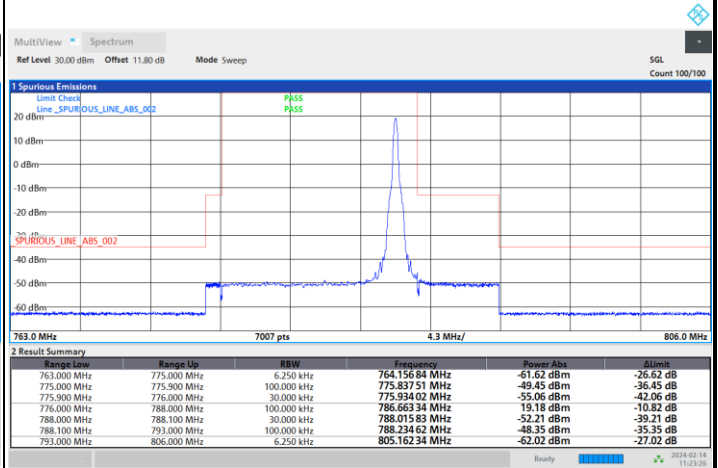
FR1 n13 / 5MHz / DFT-S OFDM / 16QAM

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



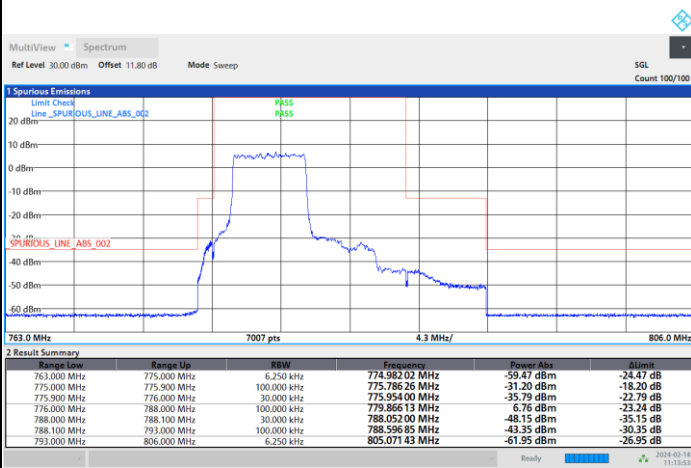
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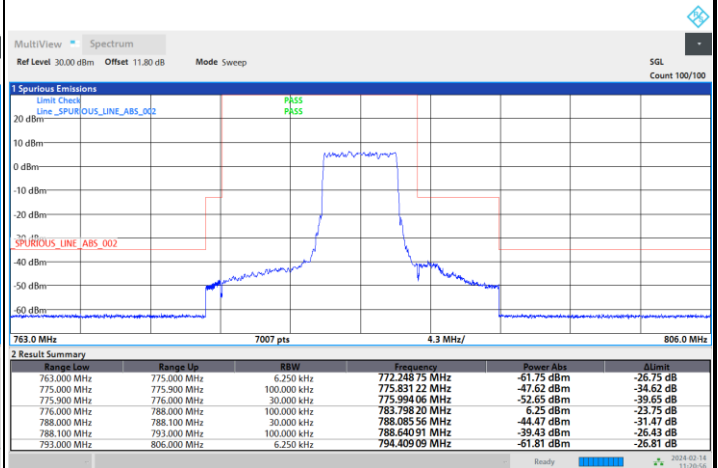
11:23:27 AM 02/14/2024

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



11:13:54 AM 02/14/2024



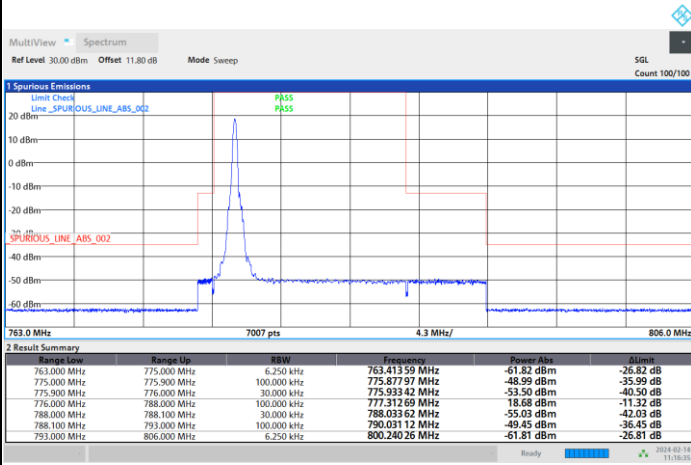
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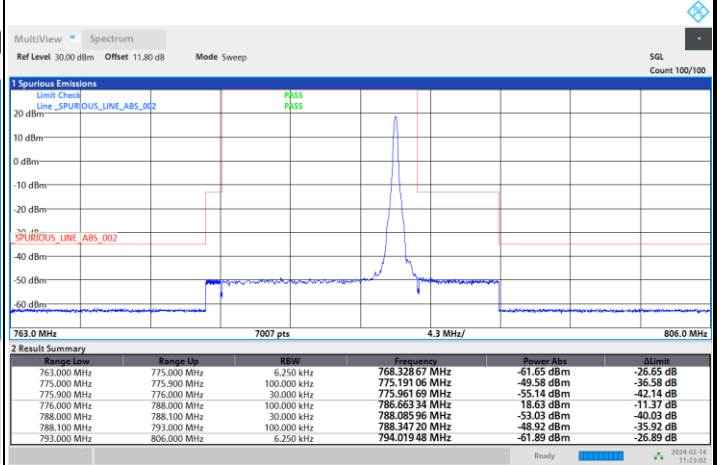
FR1 n13 / 5MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



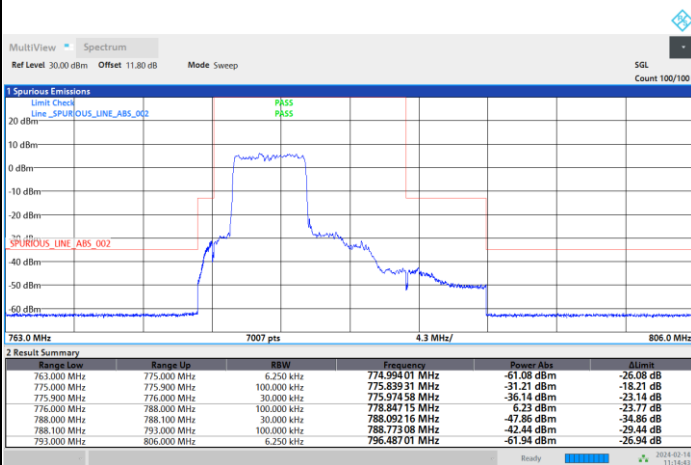
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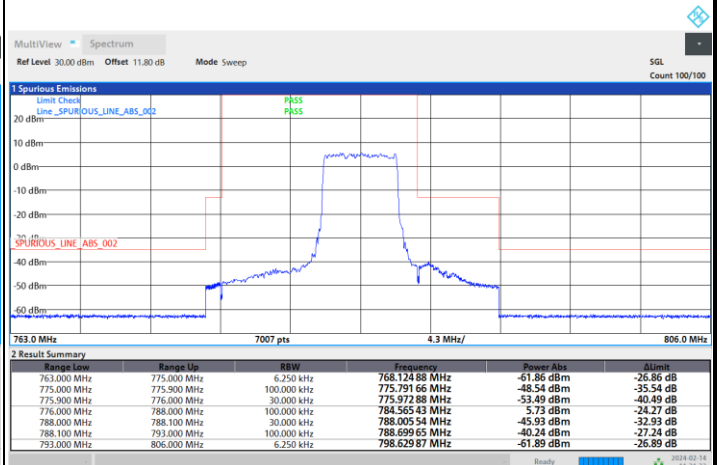
11:23:02 AM 02/14/2024

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



11:16:43 AM 02/14/2024



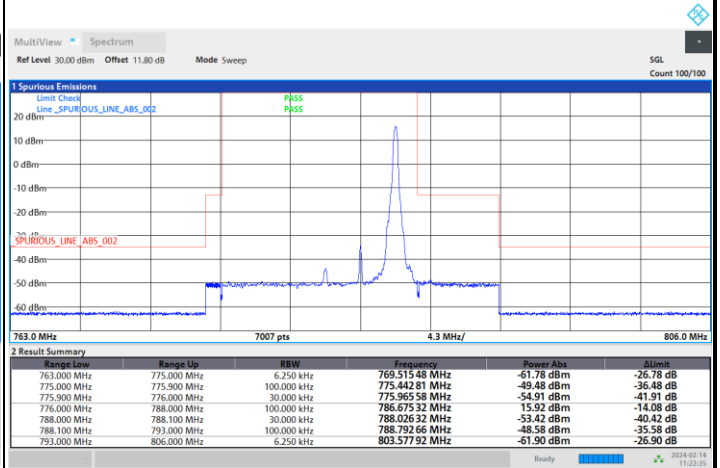
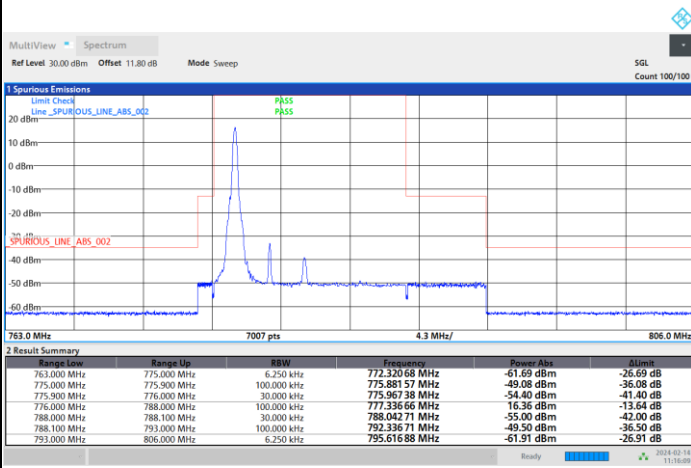
11:21:24 AM 02/14/2024



FR1 n13 / 5MHz / DFT-S OFDM / 256QAM

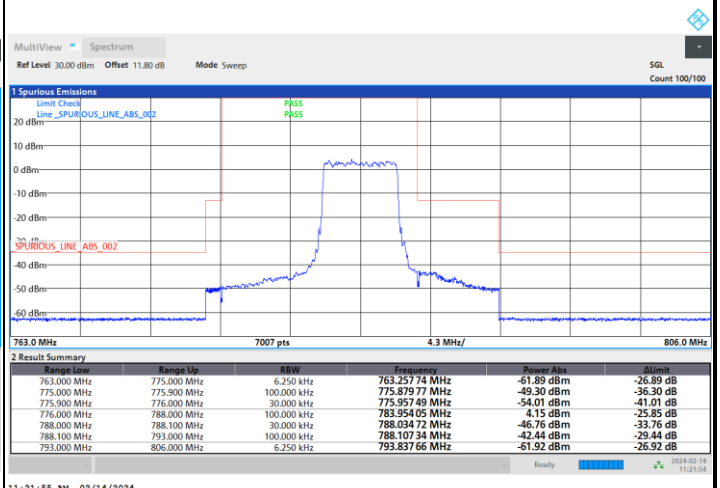
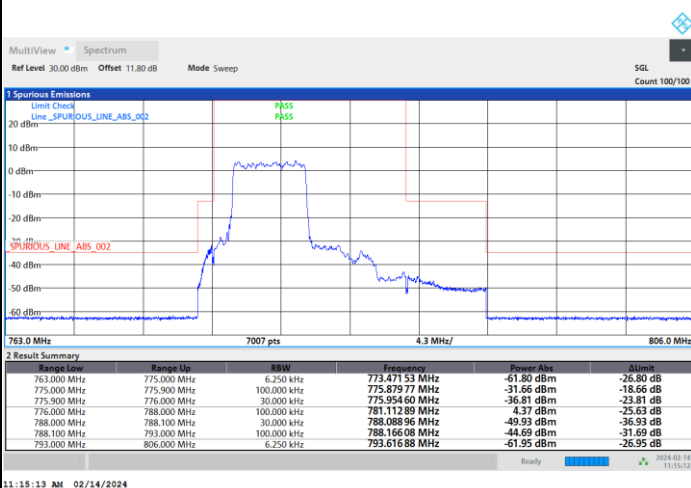
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

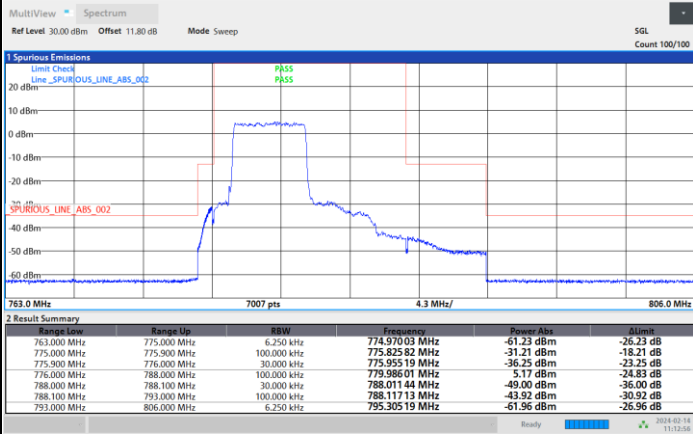




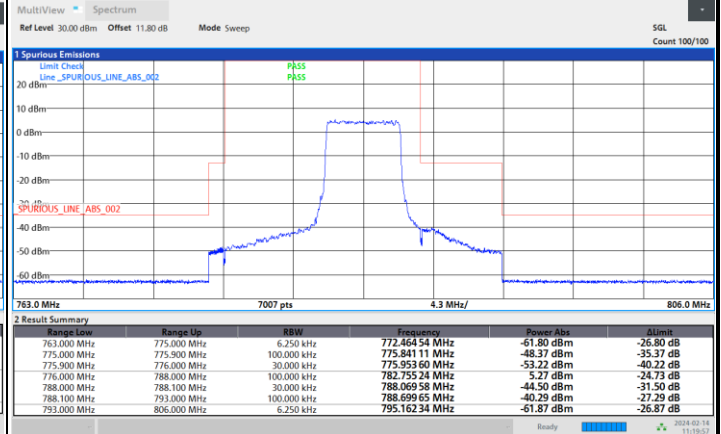
FR1 n13 / 5MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge



11:12:56 AM 02/14/2024

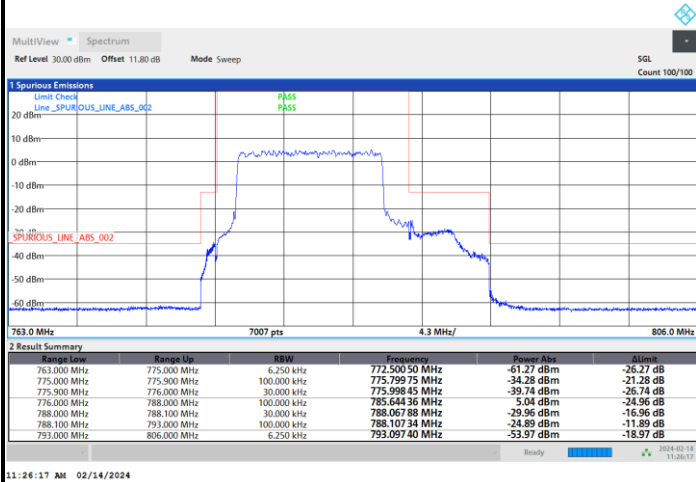


11:19:58 AM 02/14/2024



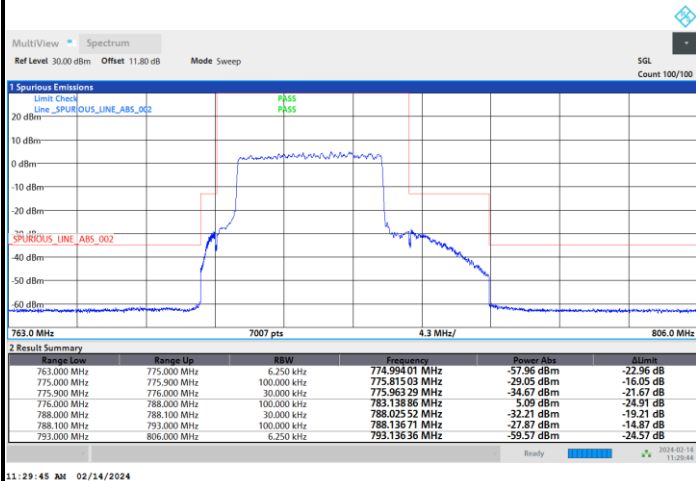
FR1 n13 / 10MHz / DFT-s-OFDM / PI/2 BPSK

Middle Band Edge / Full RB



FR1 n13 / 10MHz / DFT-s-OFDM / QPSK

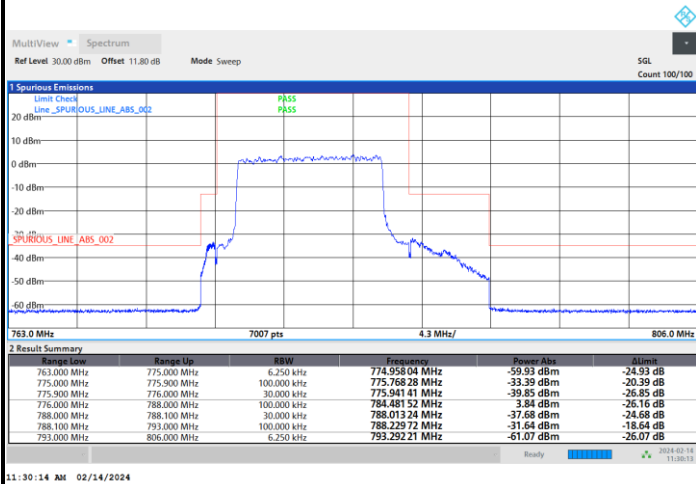
Middle Band Edge / Full RB





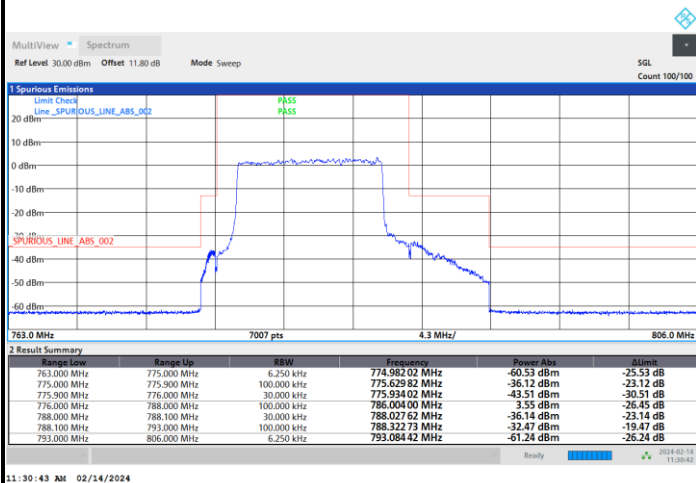
FR1 n13 / 10MHz / DFT-s-OFDM / 16QAM

Middle Band Edge / Full RB



FR1 n13 / 10MHz / DFT-s-OFDM / 64QAM

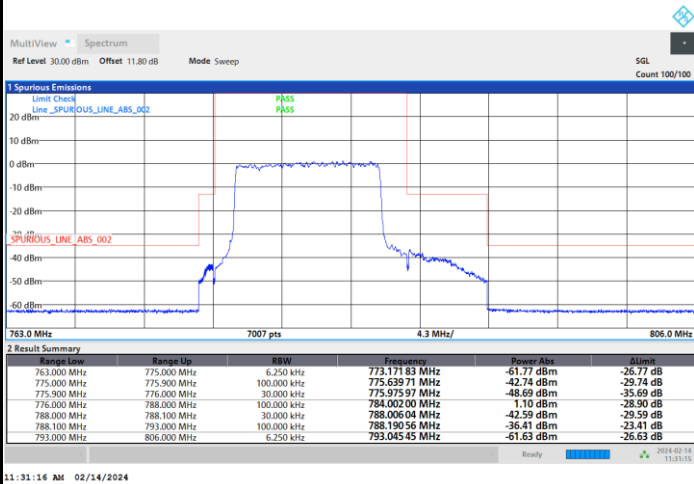
Middle Band Edge / Full RB





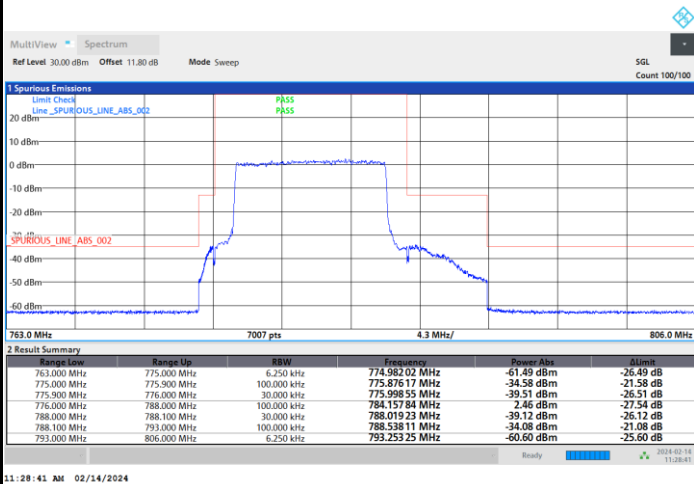
FR1 n13 / 10MHz / DFT-s-OFDM / 256QAM

Middle Band Edge / Full RB



FR1 n13 / 10MHz / CP OFDM / QPSK / Full RB

Middle Band Edge / Full RB

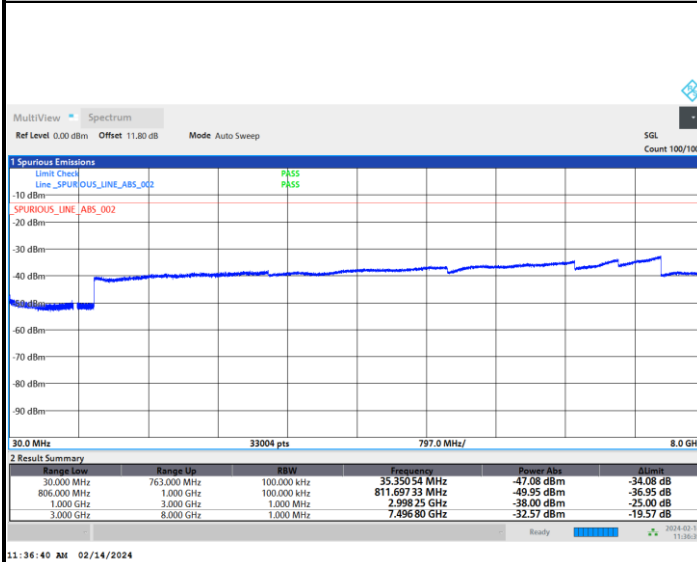




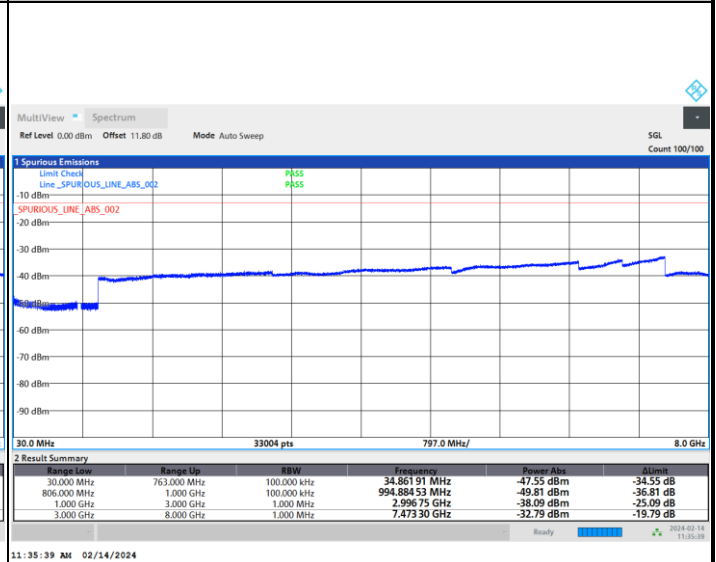
Conducted Spurious Emission

FR1 n13 / 5MHz / DFT-S OFDM / QPSK / 1RB1

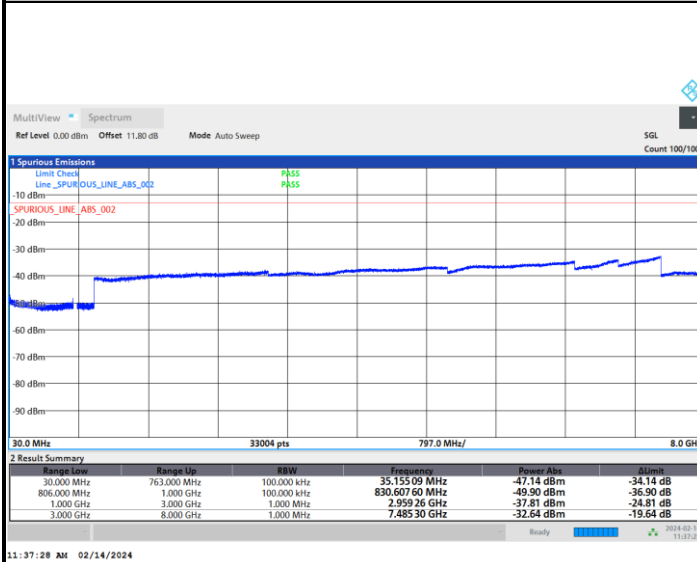
Lowest Channel



Middle Channel



Highest Channel



Frequency Stability

Test Conditions		FR1 n13 (PI/2 BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0017	PASS
40	Normal Voltage	0.0020	
30	Normal Voltage	0.0155	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0120	
0	Normal Voltage	0.0016	
-10	Normal Voltage	0.0089	
-20	Normal Voltage	0.0041	
-30	Normal Voltage	0.0001	
20	Maximum Voltage	0.0000	
20	Normal Voltage	0.0068	
20	Battery End Point	0.0058	

Note:

1. Normal Voltage = 3.3 V. ; Battery End Point (BEP) = 3.135 V. ; Maximum Voltage = 4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

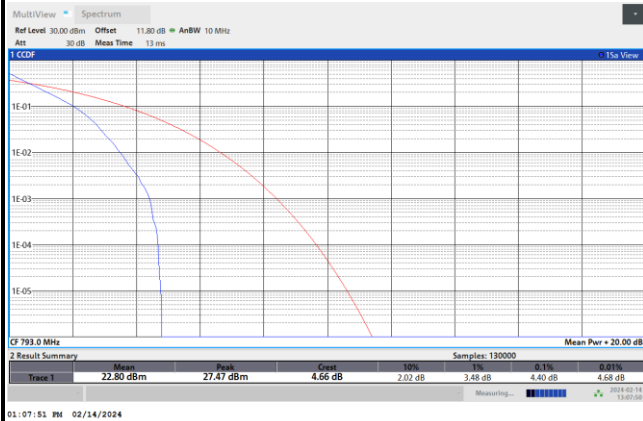
**FR1 n14****Peak-to-Average Ratio**

Mode	FR1 n14 / 10MHz / 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	6.42	6.34	PASS
Mode	FR1 n14 / 10MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Middle CH	6.68				PASS

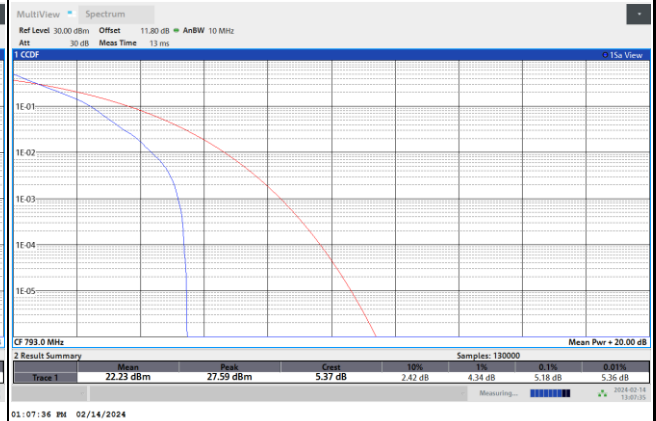


FR1 n14 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

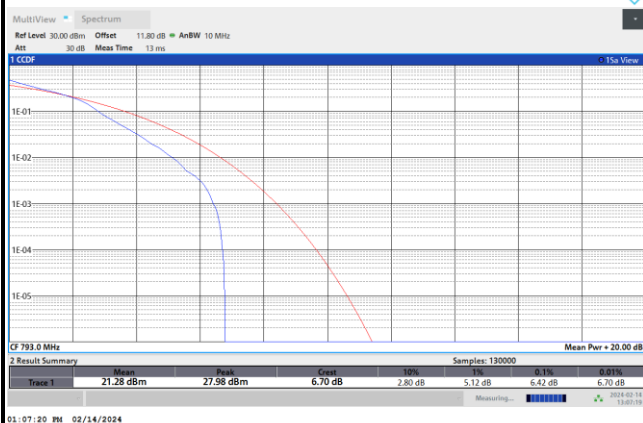
PI/2 BPSK



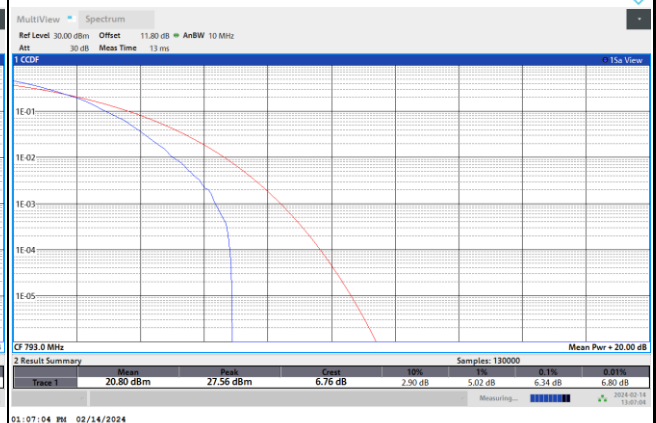
QPSK



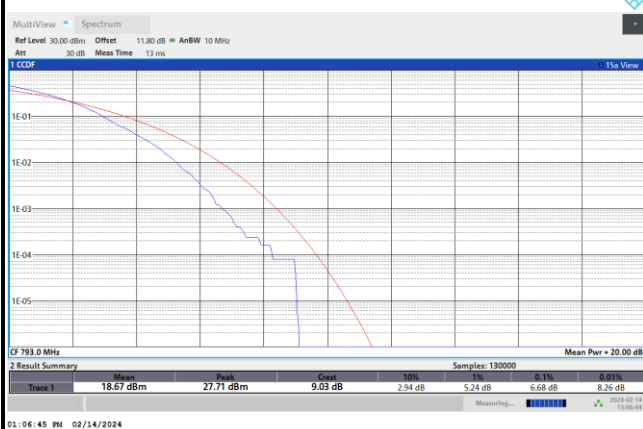
16QAM



64QAM



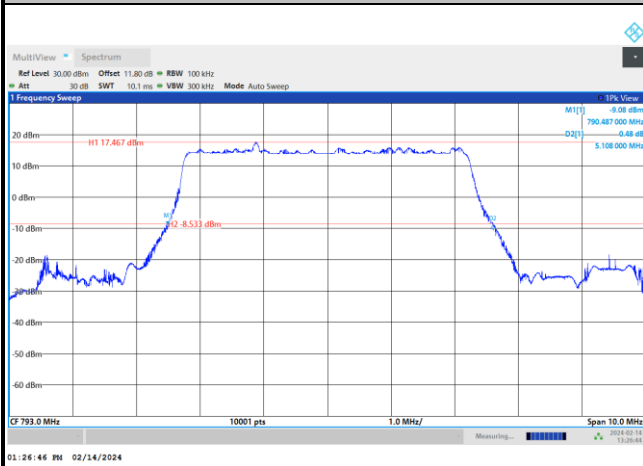
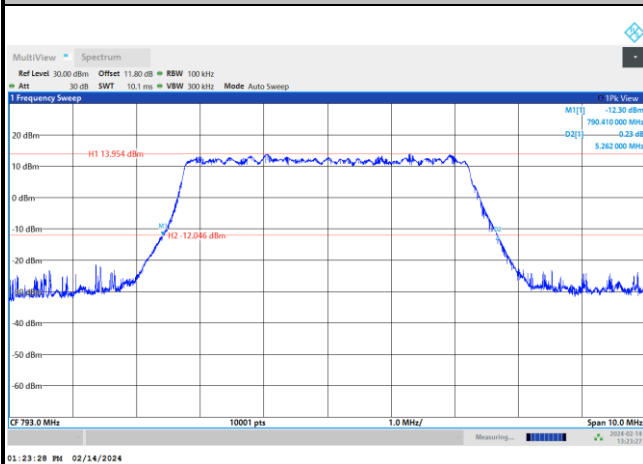
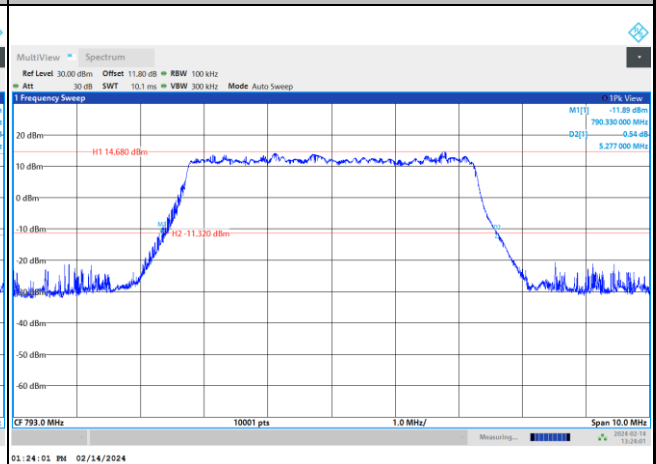
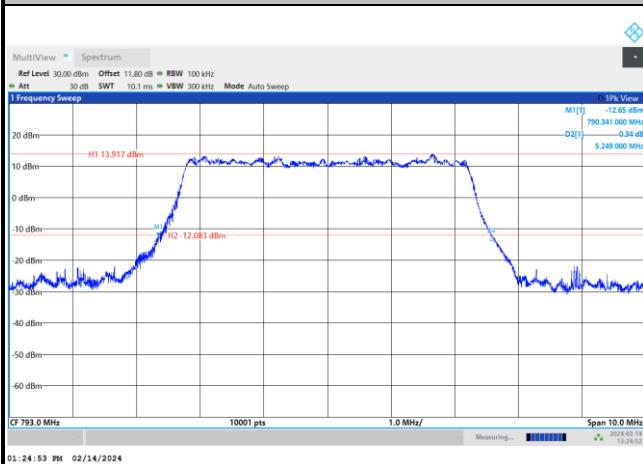
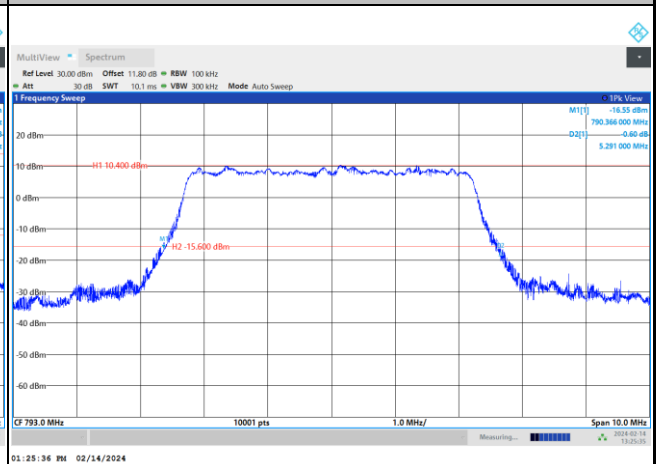
256QAM



**26dB Bandwidth**

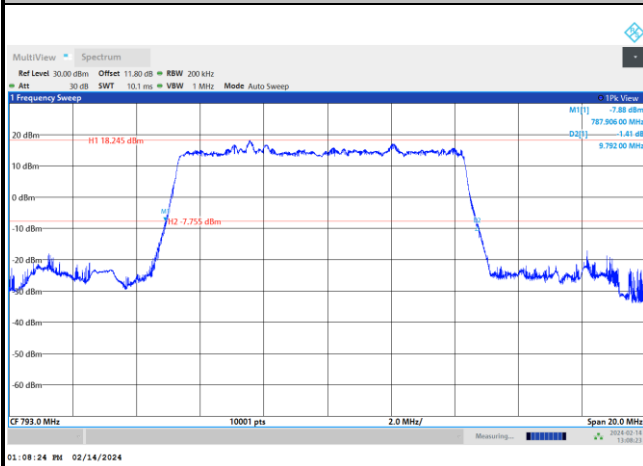
Mode	FR1 n14 : 26dB BW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz					
Mod.	PI/2 BPSK		PI/2 BPSK					
Middle CH	5.11		9.79					

Mode	FR1 n14 : 26dB BW(MHz) / CP OFDM							
BW	5MHz		10MHz					
Mod.	QPSK	16QAM	QPSK	16QAM				
Middle CH	5.26	5.28	10.36	10.34				
Mod.	64QAM	256QAM	64QAM	256QAM				
Middle CH	5.25	5.29	10.19	10.33				

FR1 n14 / 5MHz / DFT-S OFDM / Middle Channel / Full RB
PI/2 BPSK

FR1 n14 / 5MHz / CP OFDM / Middle Channel / Full RB
QPSK

16QAM

64QAM

256QAM


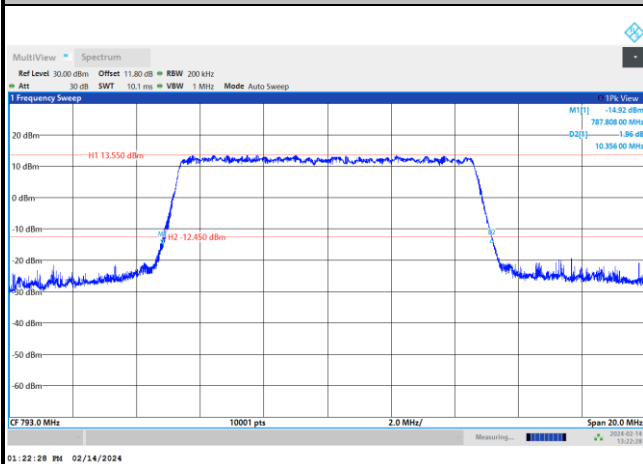
FR1 n14 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

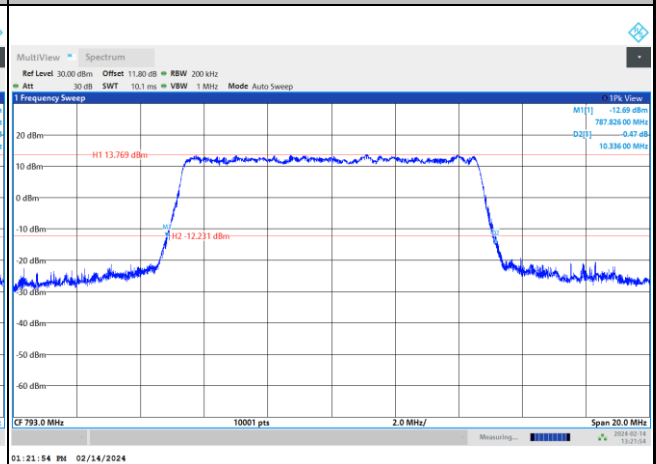


FR1 n14 / 10MHz / CP OFDM / Middle Channel / Full RB

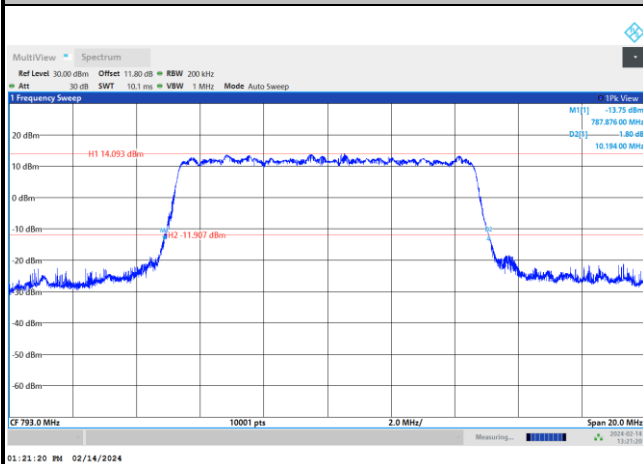
QPSK



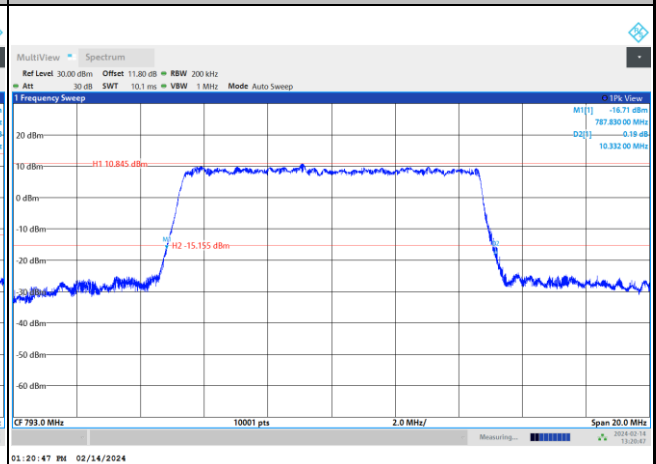
16QAM



64QAM



256QAM



**Occupied Bandwidth**

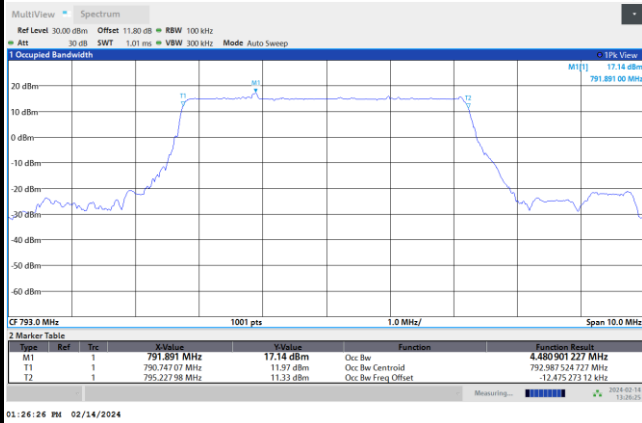
Mode	FR1 n14 : 99%OBW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz					
Mod.	PI/2 BPSK		PI/2 BPSK					
Middle CH	4.48		8.97					

Mode	FR1 n14 : 99%OBW (MHz) / CP OFDM							
BW	5MHz		10MHz					
Mod.	QPSK	16QAM	QPSK	16QAM				
Middle CH	4.53	4.53	9.32	9.32				
Mod.	64QAM	256QAM	64QAM	256QAM				
Middle CH	4.51	4.52	9.30	9.35				



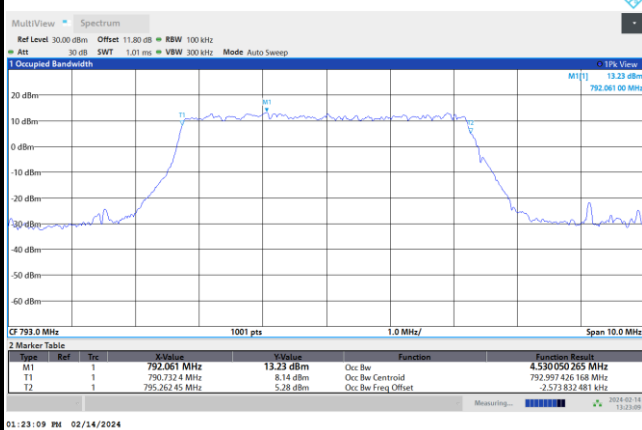
FR1 n14 / 5MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

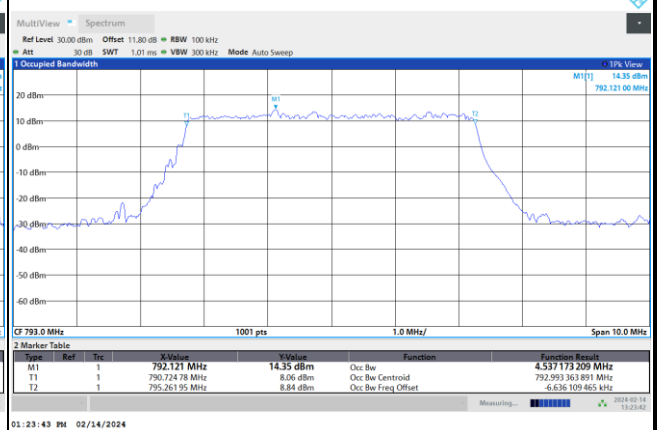


FR1 n14 / 5MHz / CP OFDM / Middle Channel / Full RB

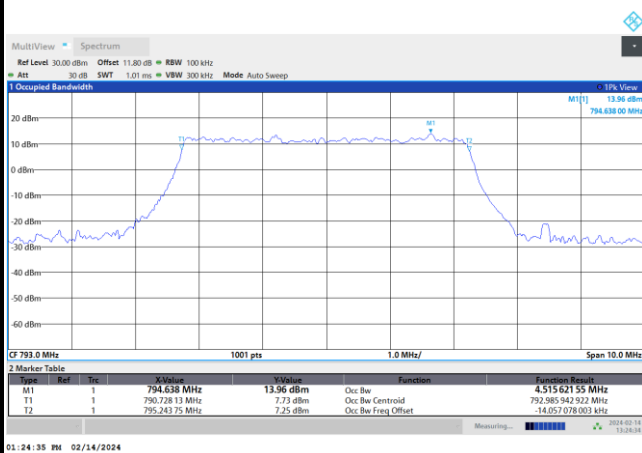
QPSK



16QAM



64QAM



256QAM

