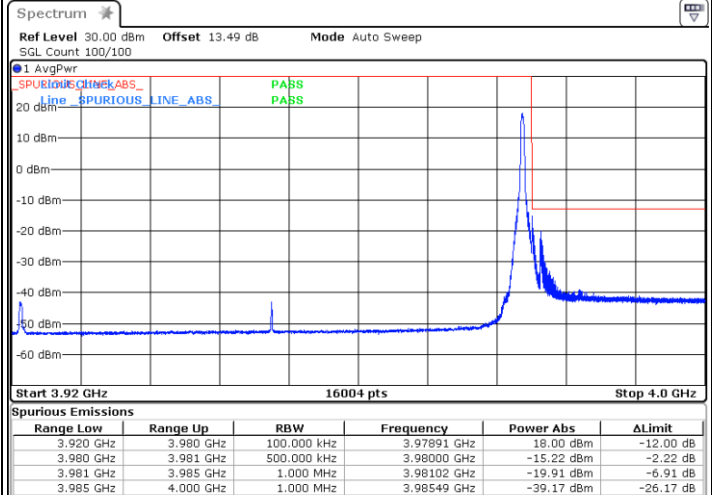
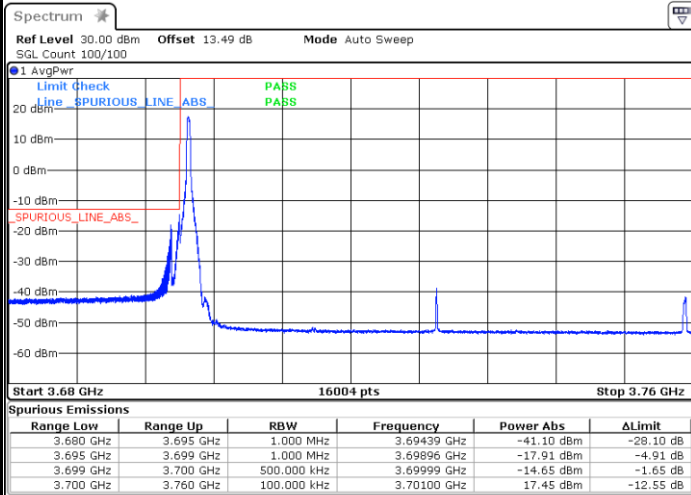




FR1 n77 / 60MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

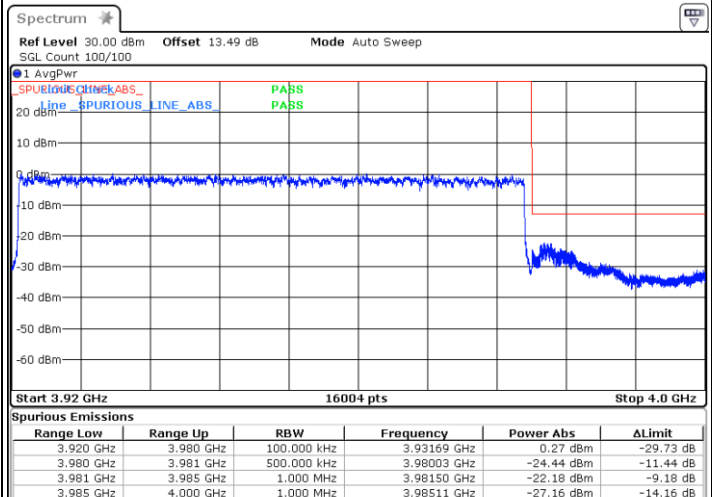
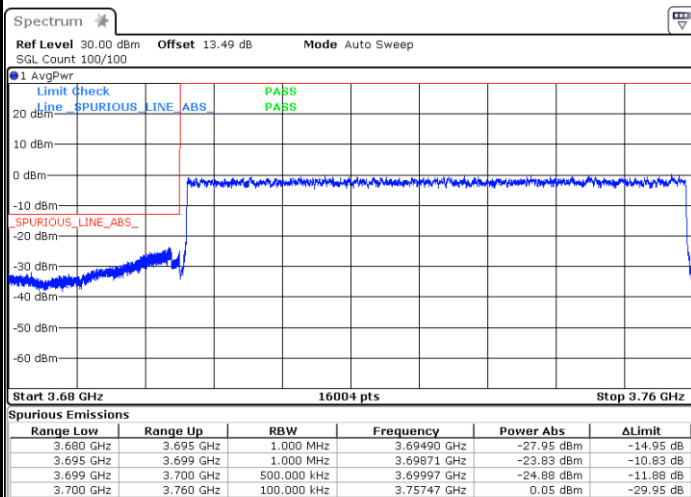


Date: 14.NOV.2022 13:22:21

Date: 14.NOV.2022 13:38:23

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 14.NOV.2022 13:25:08

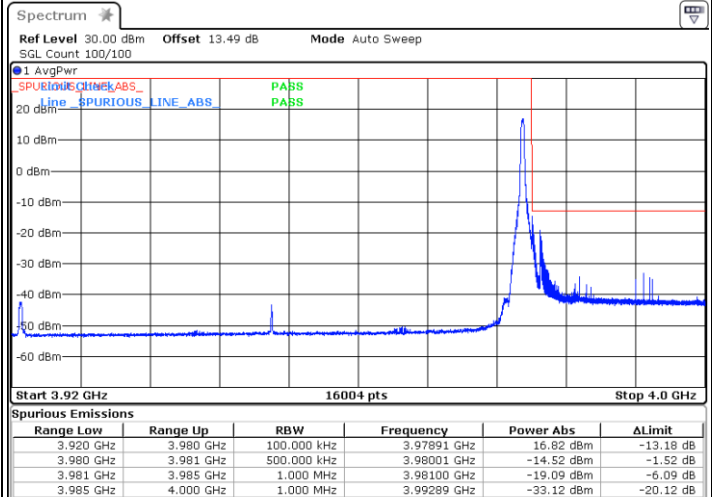
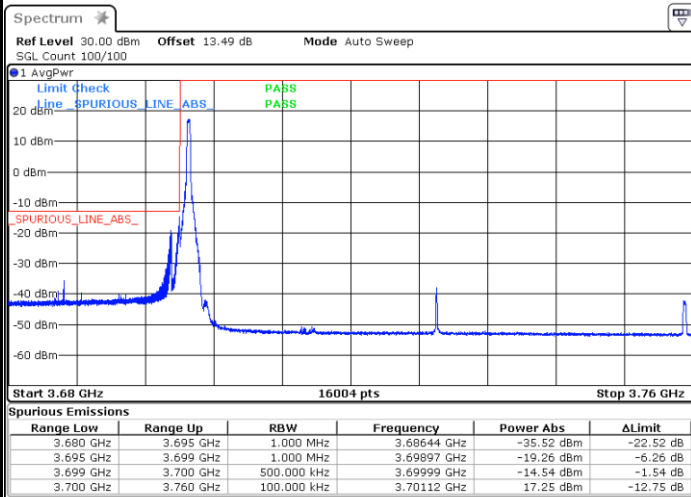
Date: 14.NOV.2022 13:33:58



FR1 n77 / 60MHz / DFT-S OFDM / QPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

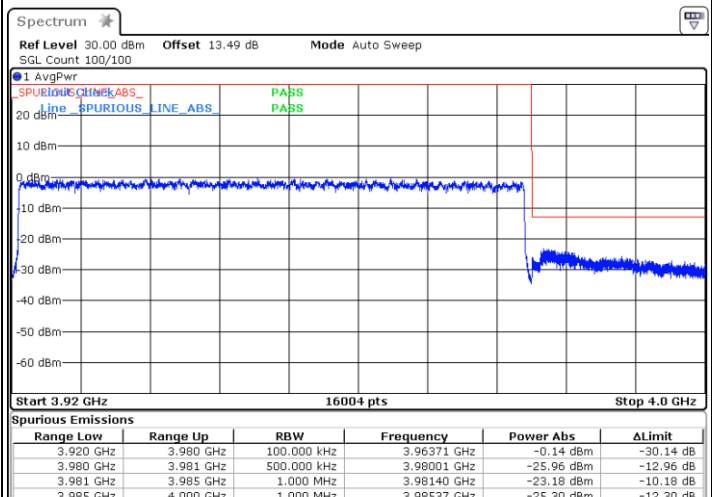
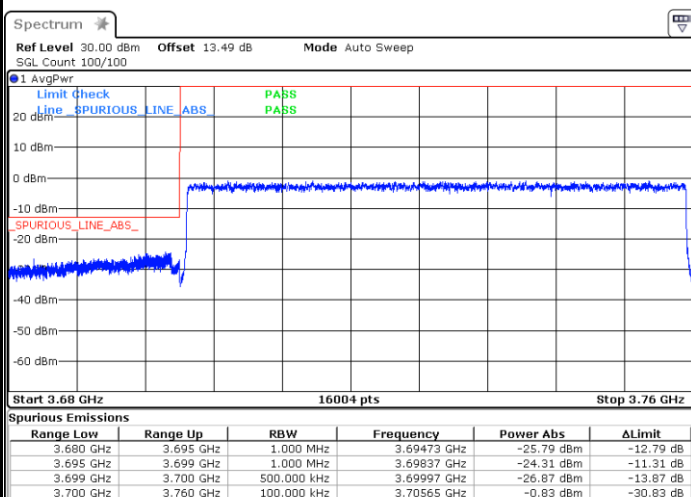


Date: 14.NOV.2022 13:23:20

Date: 14.NOV.2022 13:37:29

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 14.NOV.2022 13:24:16

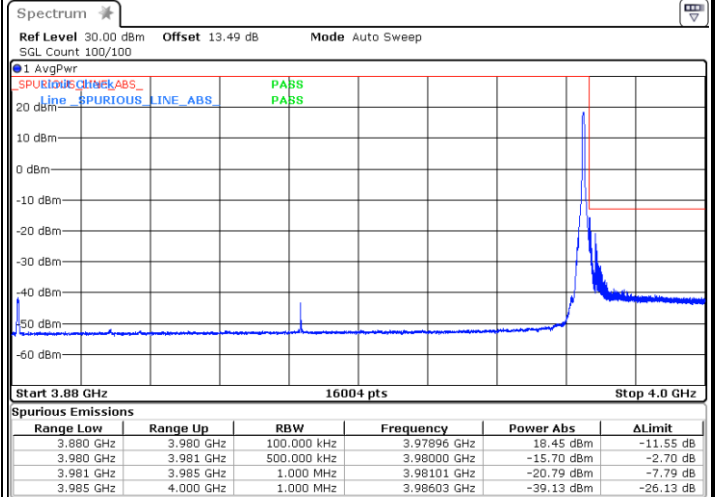
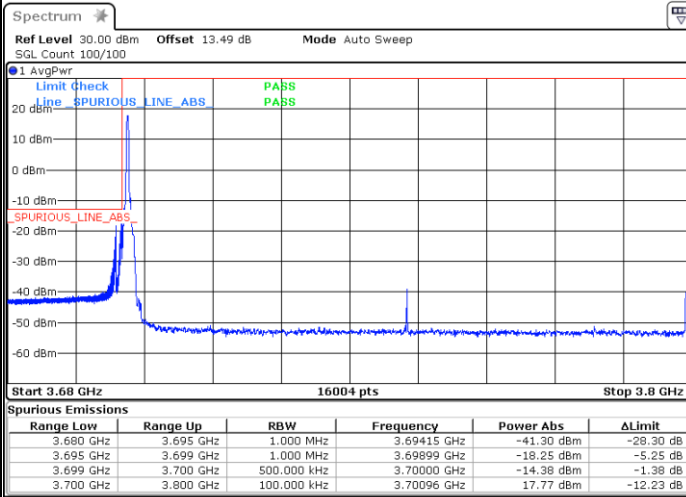
Date: 14.NOV.2022 13:34:54



FR1 n77 / 100MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

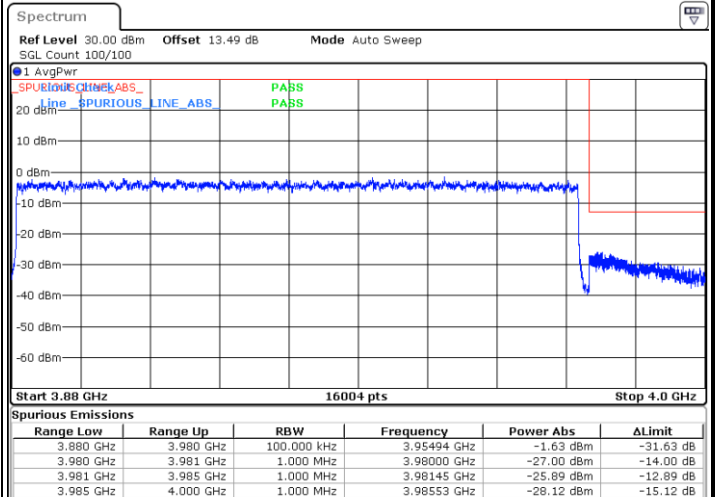
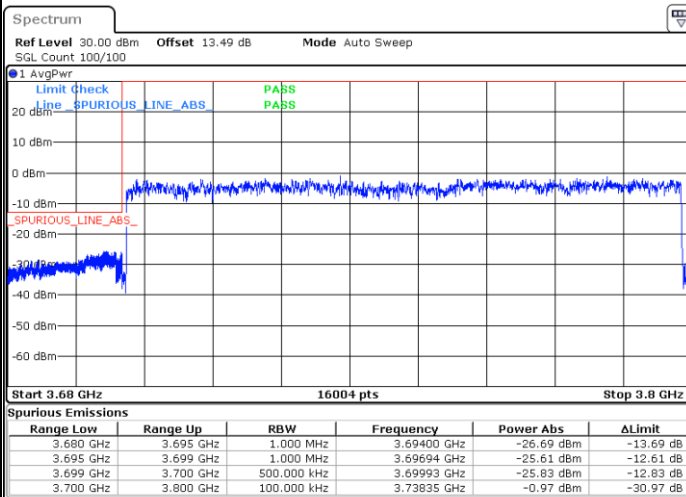


Date: 14.NOV.2022 13:48:49

Date: 14.NOV.2022 14:02:34

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 14.NOV.2022 13:49:20

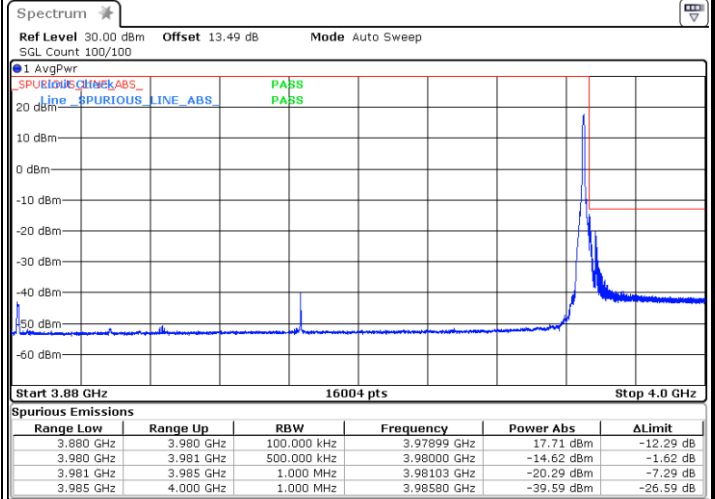
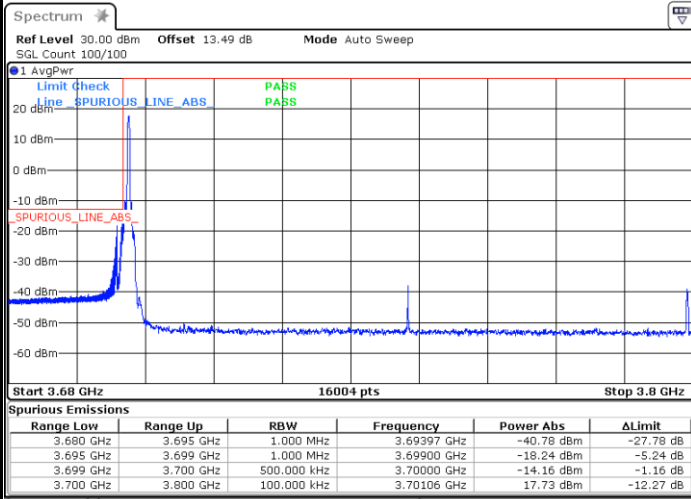
Date: 14.NOV.2022 14:00:34



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

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

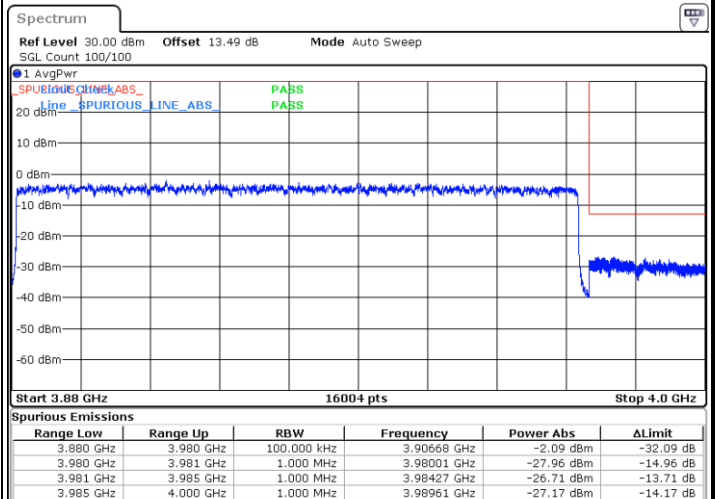
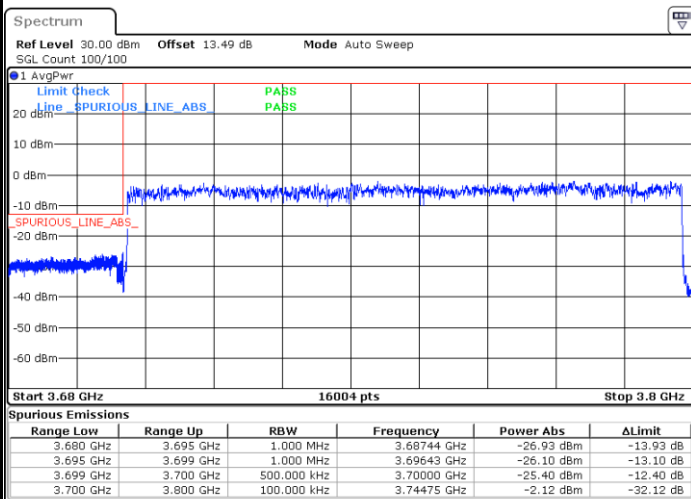


Date: 14.NOV.2022 13:47:38

Date: 14.NOV.2022 14:04:04

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

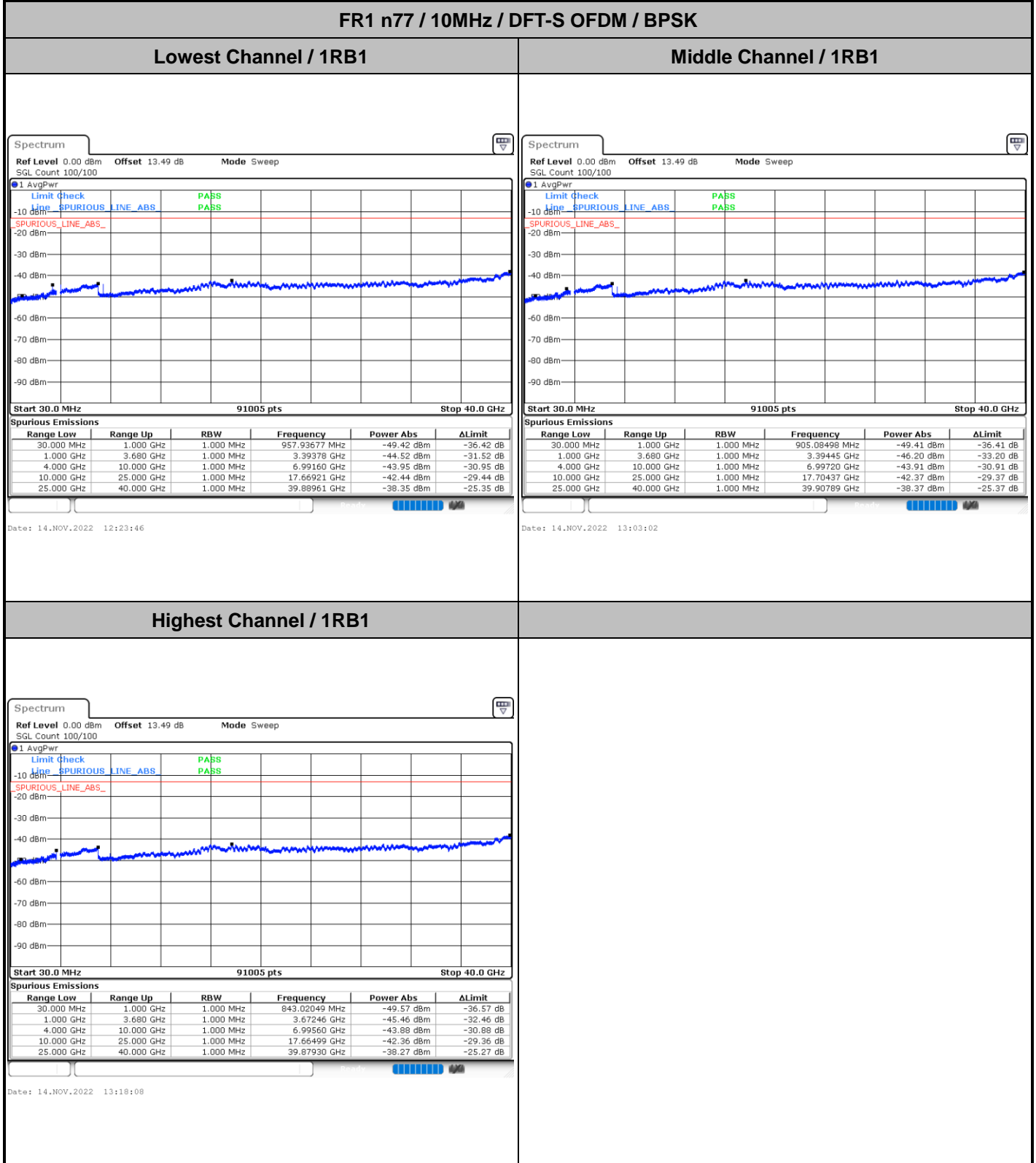


Date: 14.NOV.2022 13:49:40

Date: 14.NOV.2022 13:59:45



# Conducted Spurious Emission

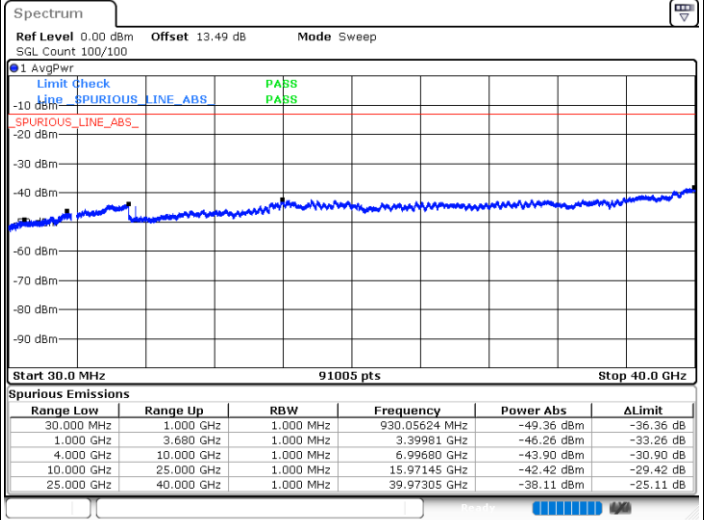
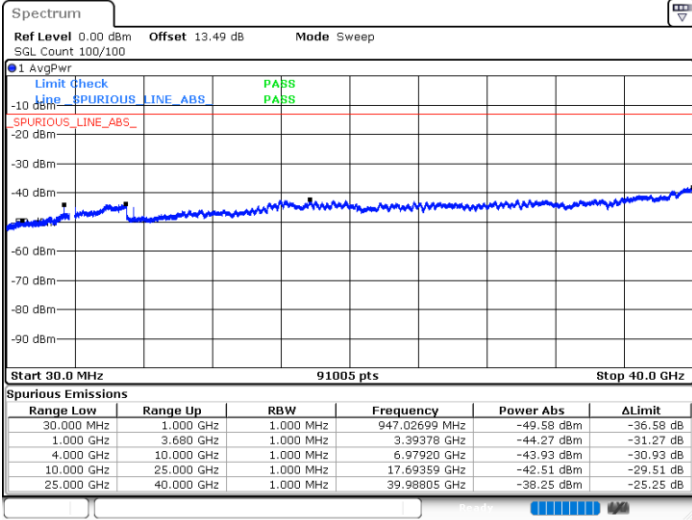




FR1 n77 / 10MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

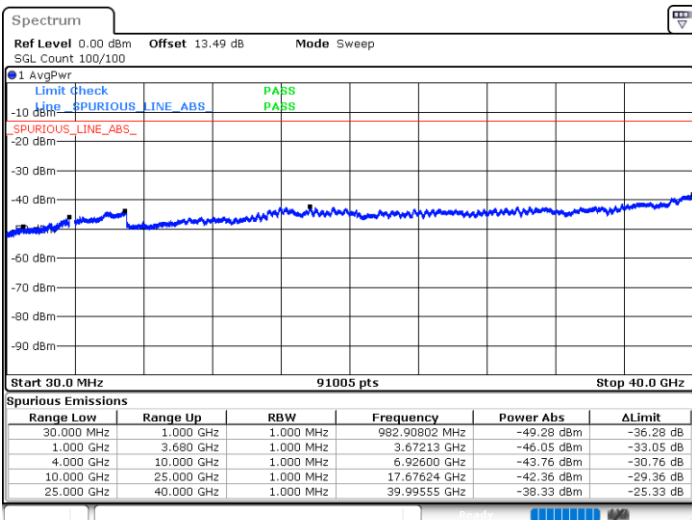
Middle Channel / 1RB1



Date: 14.NOV.2022 12:18:06

Date: 14.NOV.2022 13:04:26

Highest Channel / 1RB1



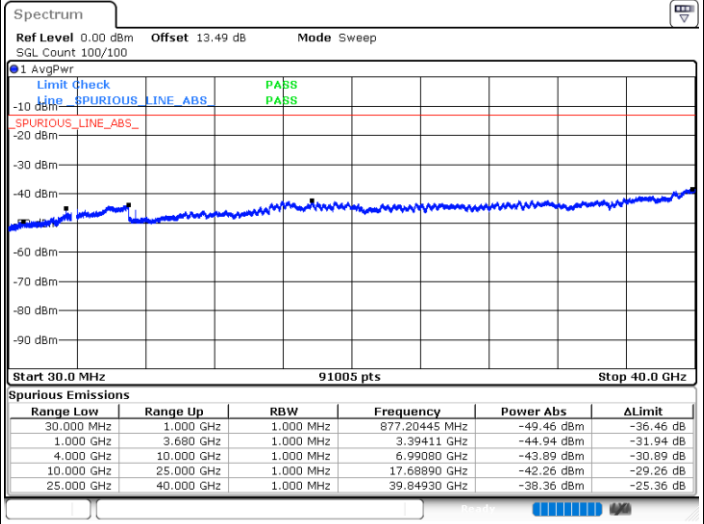
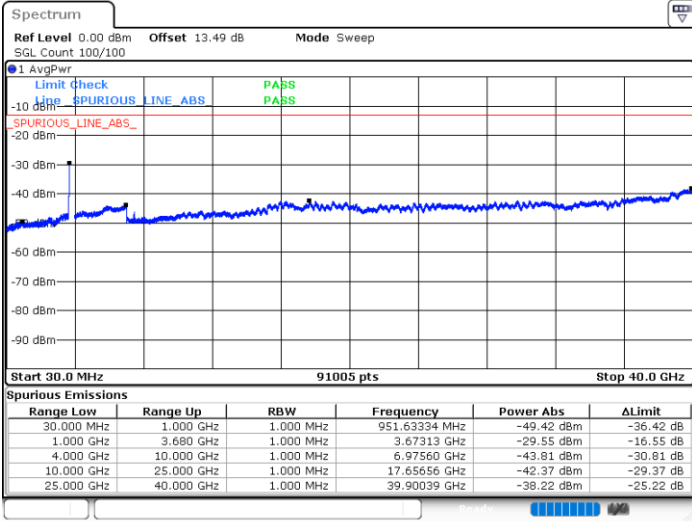
Date: 14.NOV.2022 13:16:50



FR1 n77 /60MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB1

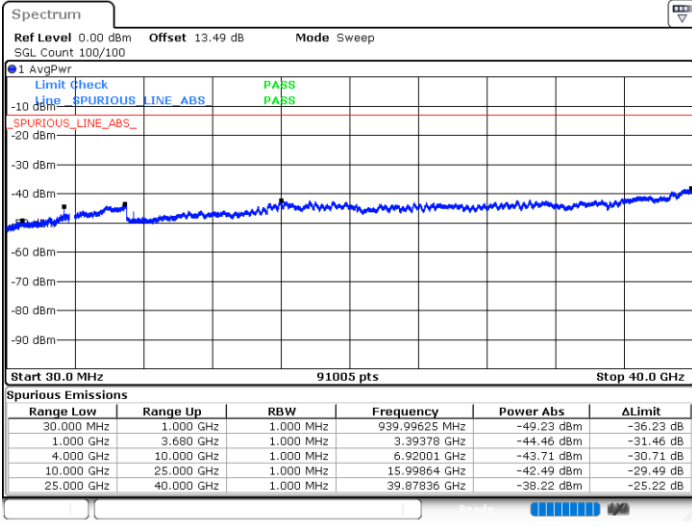
Middle Channel / 1RB1



Date: 14.NOV.2022 13:26:28

Date: 14.NOV.2022 13:30:19

Highest Channel / 1RB1



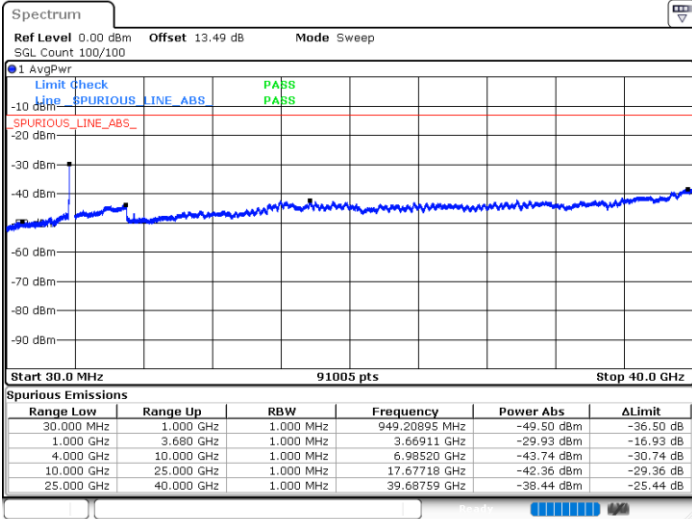
Date: 14.NOV.2022 13:31:41



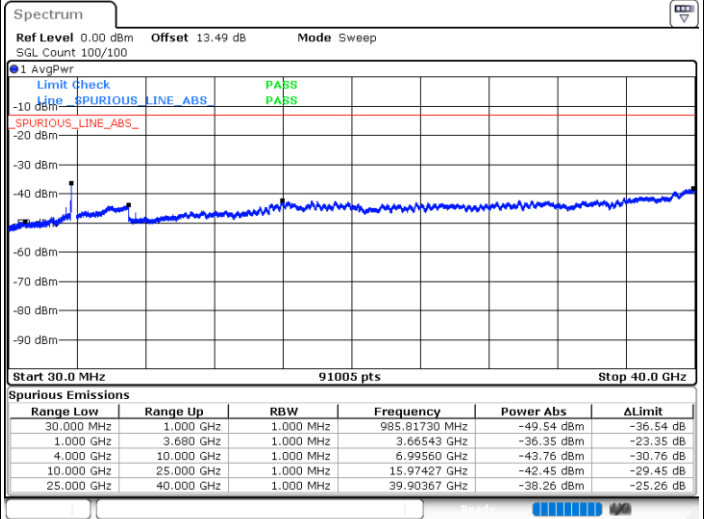
FR1 n77 /60MHz / DFT-S OFDM /QPSK

Lowest Channel / 1RB1

Middle Channel / 1RB1

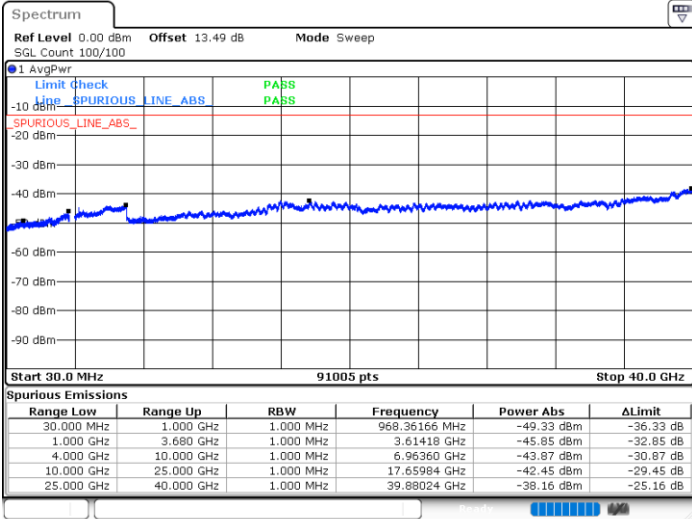


Date: 14.NOV.2022 13:27:42



Date: 14.NOV.2022 13:29:03

Highest Channel / 1RB1



Date: 14.NOV.2022 13:32:56

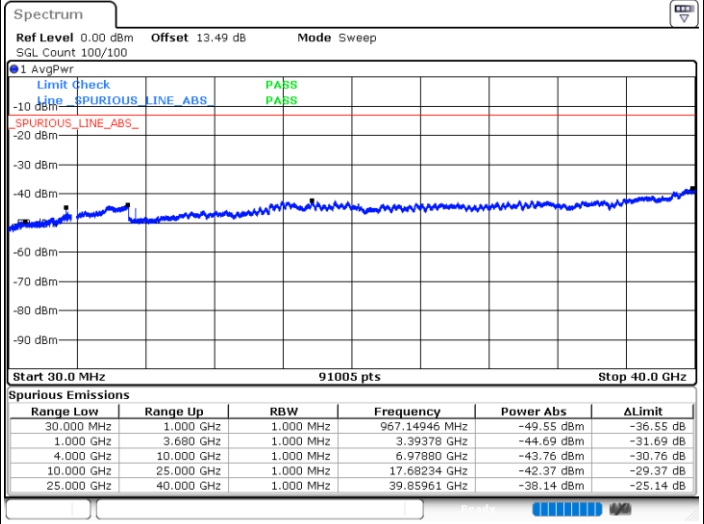
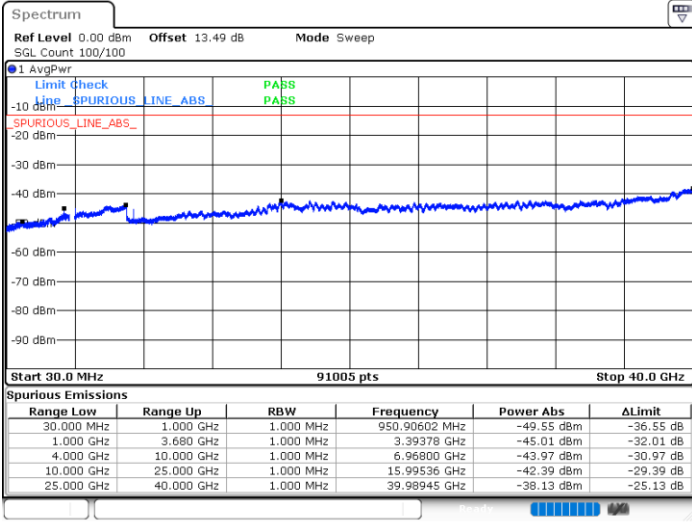




FR1 n77 /100MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB1

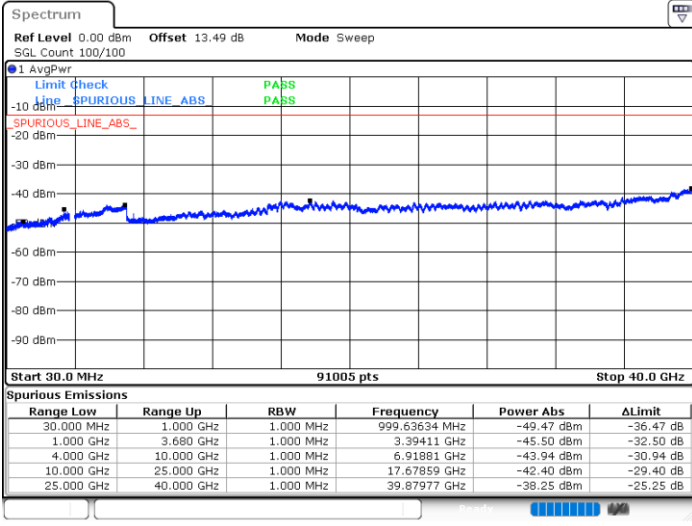
Middle Channel / 1RB1



Date: 14.NOV.2022 13:52:32

Date: 14.NOV.2022 13:54:03

Highest Channel / 1RB1



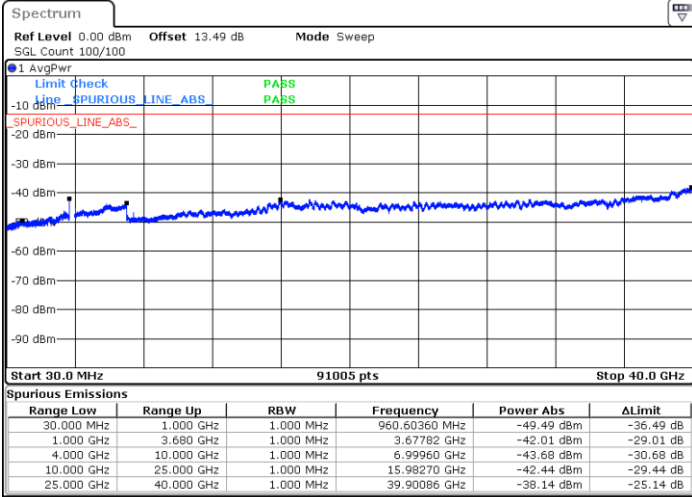
Date: 14.NOV.2022 13:58:12



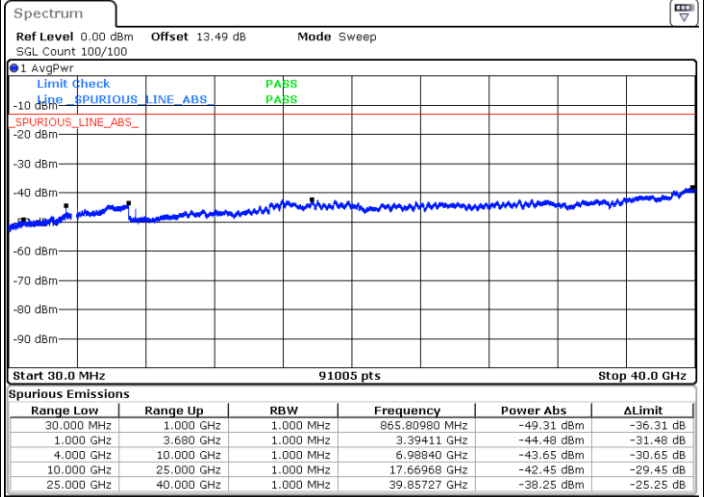
FR1 n77 /100MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

Middle Channel / 1RB1

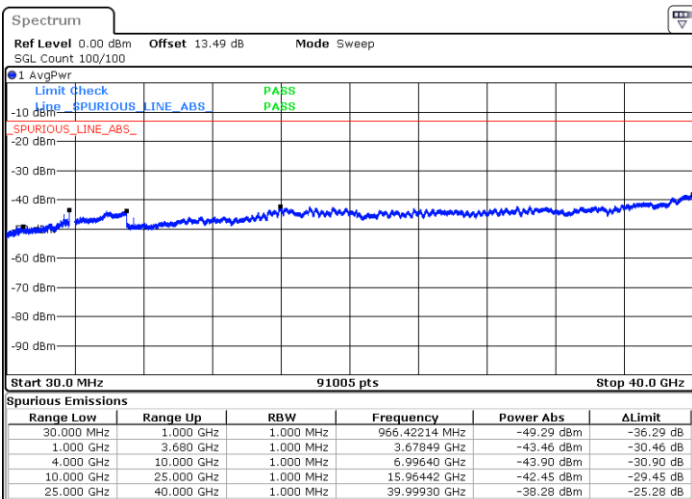


Date: 14.NOV.2022 13:51:08



Date: 14.NOV.2022 13:55:19

Highest Channel / 1RB1



Date: 14.NOV.2022 13:56:37

## Frequency Stability

Test Conditions		FR1 n77 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0012	PASS
40	Normal Voltage	0.0029	
30	Normal Voltage	0.0014	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0010	
0	Normal Voltage	0.0025	
-10	Normal Voltage	0.0021	
-20	Normal Voltage	0.0038	
-30	Normal Voltage	0.0026	
20	Maximum Voltage	0.0019	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0015	

**Note:**

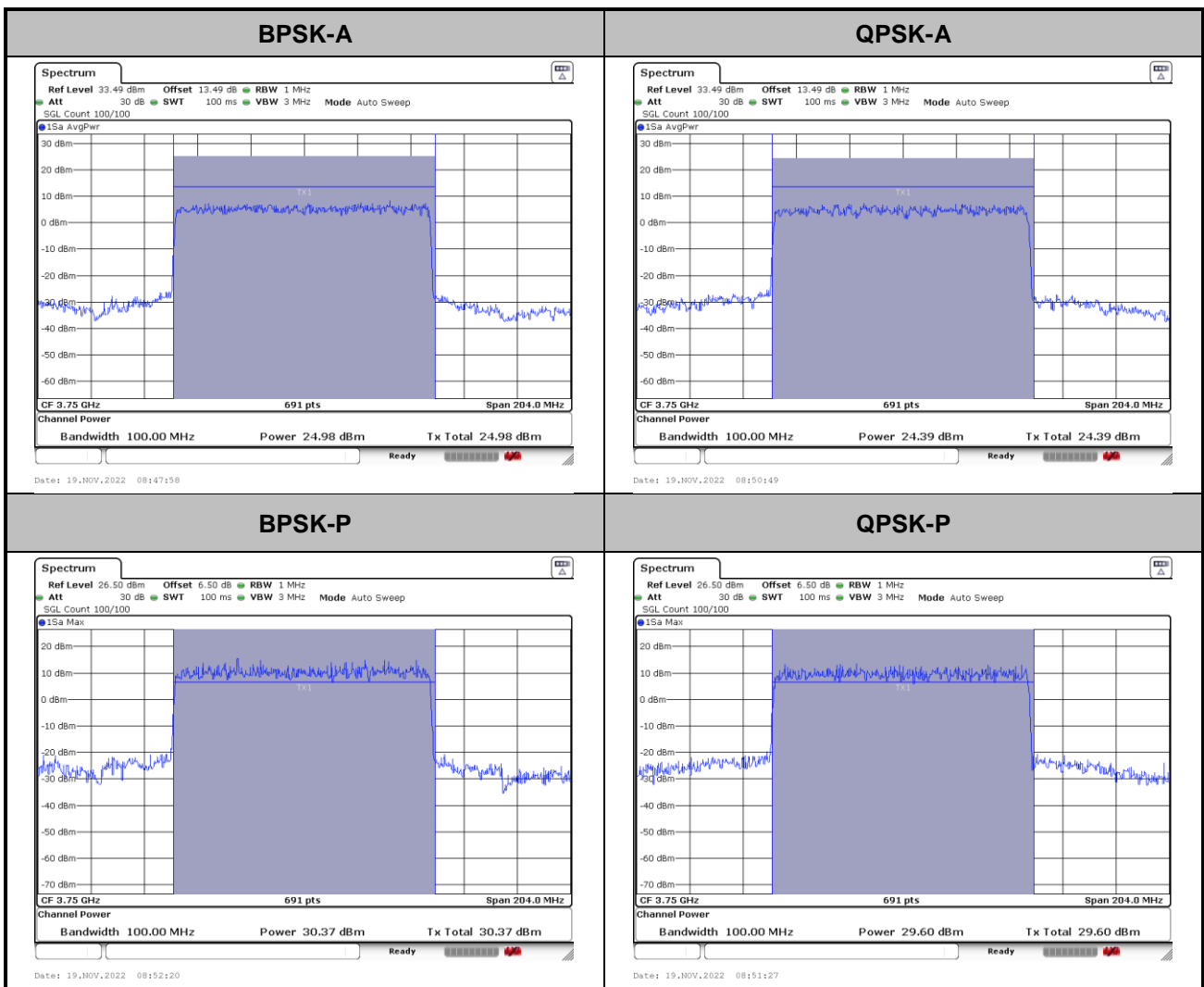
1. Normal Voltage =3.89 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.48 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



# FR1 n78

## Peak-to-Average Ratio

<b>Mode</b>	<b>FR1 n78 / 20MHz / DFT-S OFDM</b>		
<b>Mod.</b>	<b>100M</b>		<b>Limit: 13dB</b>
<b>RB Size</b>	<b>BPSK</b>	<b>QPSK</b>	<b>Result</b>
<b>Middle CH</b>	<b>5.39</b>	<b>5.21</b>	<b>PASS</b>

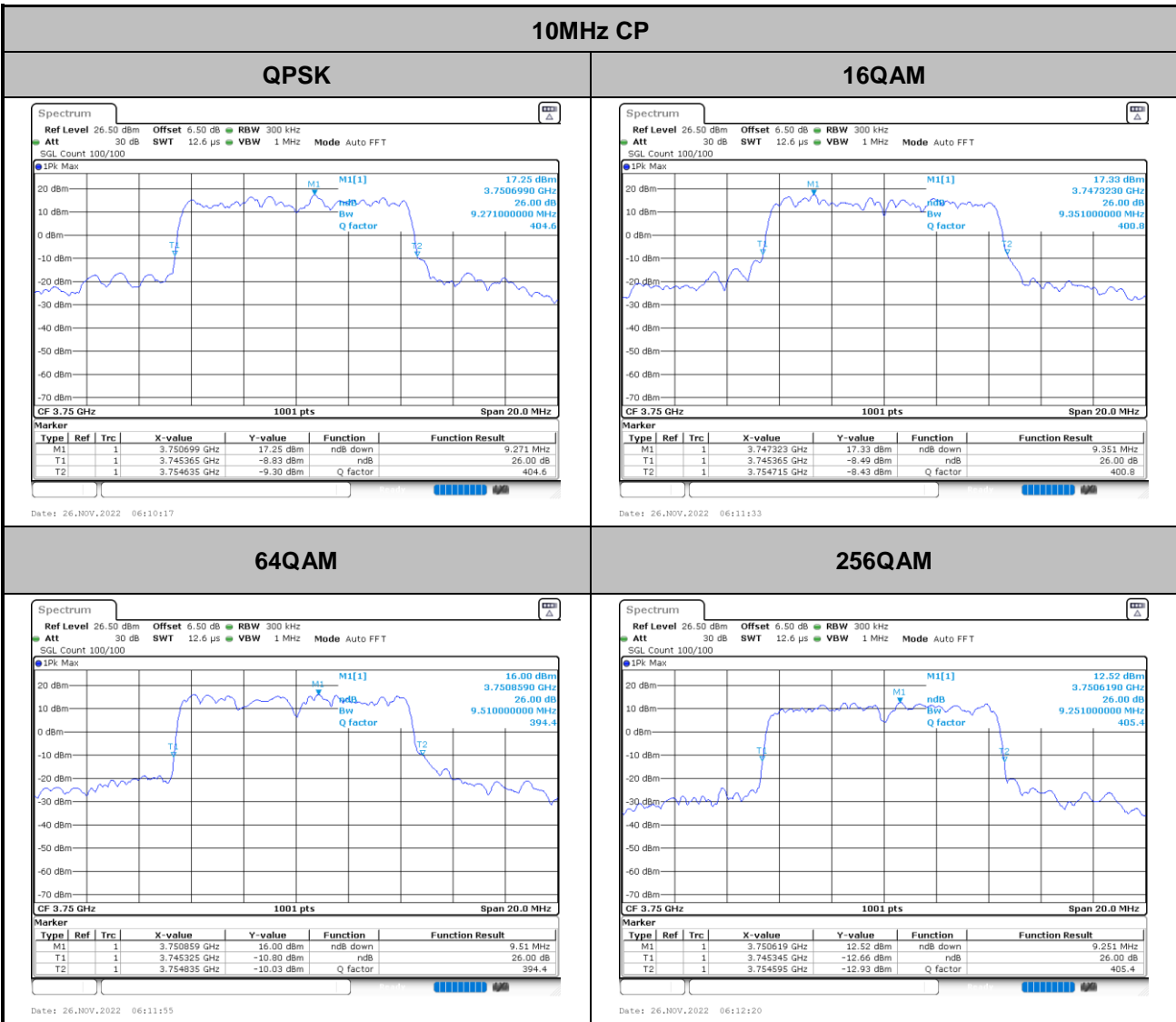


**26dB Bandwidth**

Mode	FR1 n78 : 26dB BW(10 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	9.27	9.35	9.51	9.25	
Mode	FR1 n78 : 26dB BW(15 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	14.42	14.75	14.87	14.75	
Mode	FR1 n78 : 26dB BW(20 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	19.62	19.06	19.30	19.34	
Mode	FR1 n78 : 26dB BW(30 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	29.29	28.81	29.33	28.73	
Mode	FR1 n78 : 26dB BW(40 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	40.28	40.44	40.20	40.60	
Mode	FR1 n78 : 26dB BW(50 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	49.75	49.75	49.65	49.75	
Mode	FR1 n78 : 26dB BW(60 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	60.54	60.30	60.30	60.30	
Mode	FR1 n78 : 26dB BW(70 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	70.13	69.89	70.25	70.01	
Mode	FR1 n78 : 26dB BW(80 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	82.48	82.32	82.32	82.16	



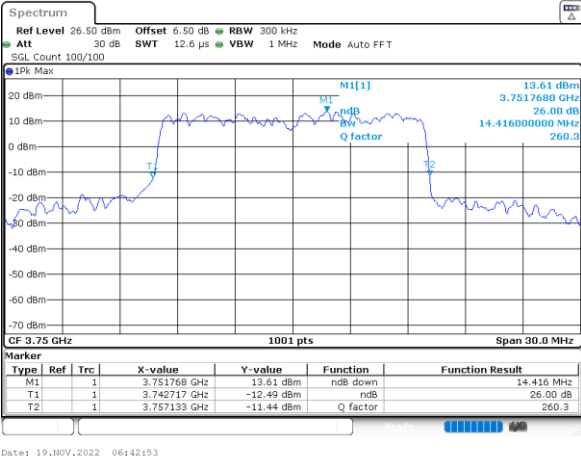
Mode	FR1 n78 : 26dB BW(90 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	92.43	92.43	92.43	92.43	
Mode	FR1 n78 : 26dB BW(100 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	102.9	102.7	102.7	102.7	





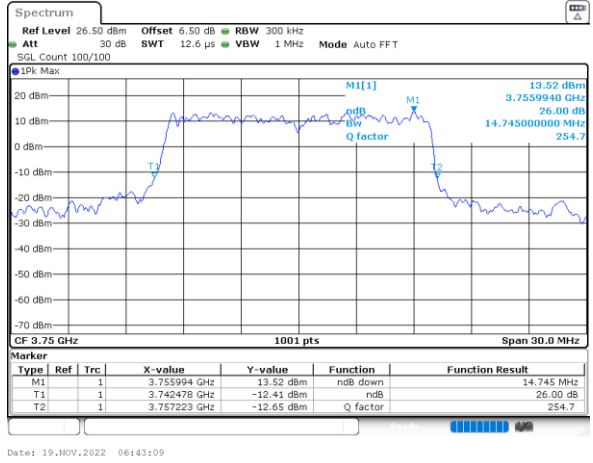
15MHz CP

QPSK



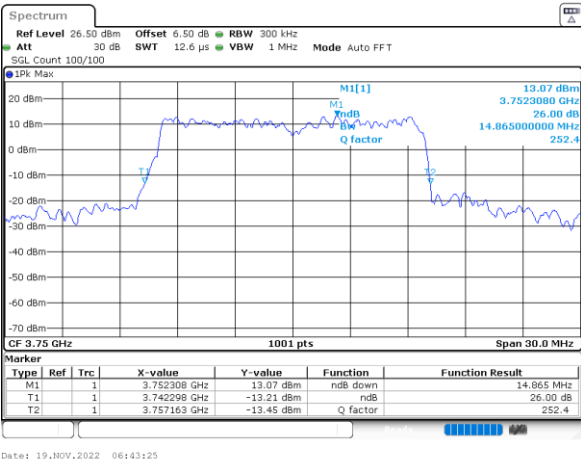
Date: 19.NOV.2022 06:42:53

16QAM



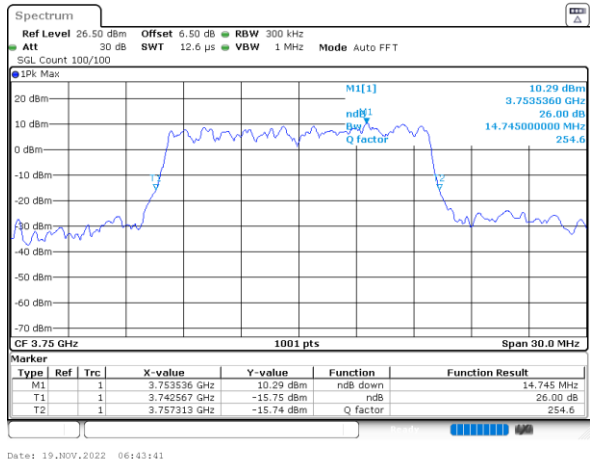
Date: 19.NOV.2022 06:43:09

64QAM



Date: 19.NOV.2022 06:43:25

256QAM

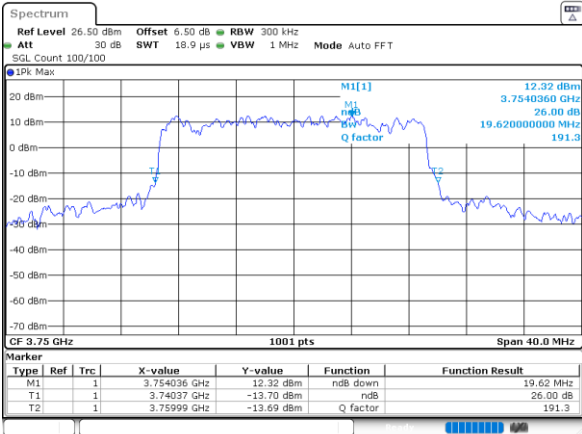


Date: 19.NOV.2022 06:43:41



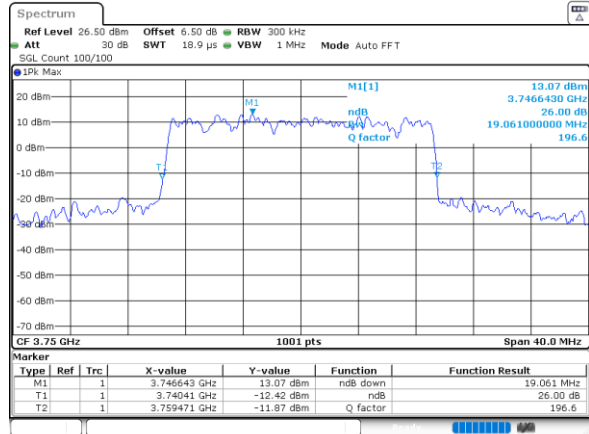
20MHz CP

QPSK



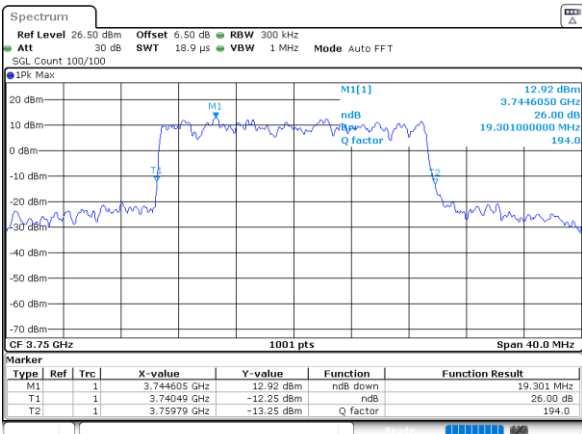
Date: 19.NOV.2022 06:46:26

16QAM



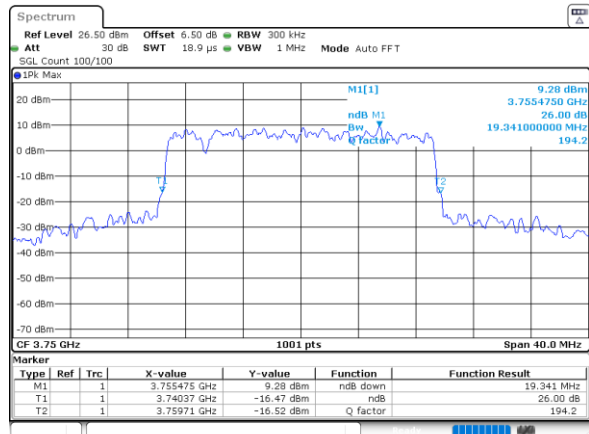
Date: 19.NOV.2022 06:46:10

64QAM



Date: 19.NOV.2022 06:45:54

256QAM



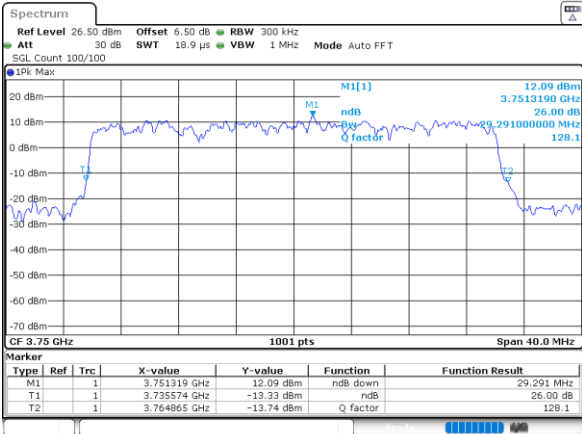
Date: 19.NOV.2022 06:45:37





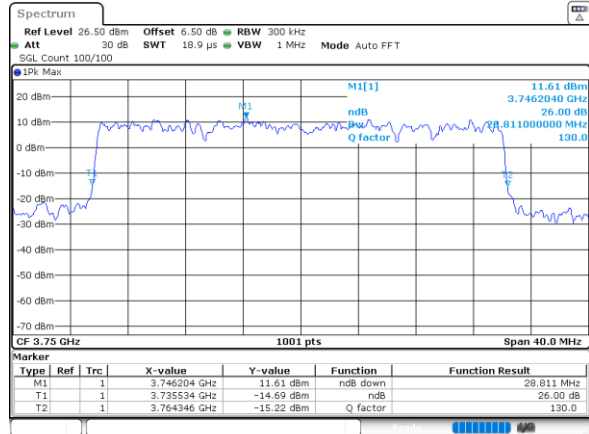
30MHz CP

QPSK



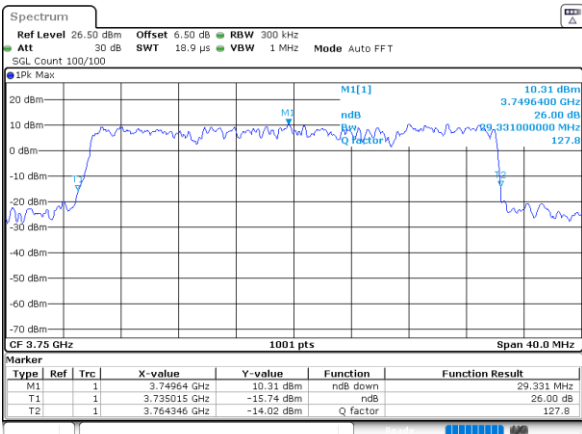
Date: 19.NOV.2022 06:47:00

16QAM



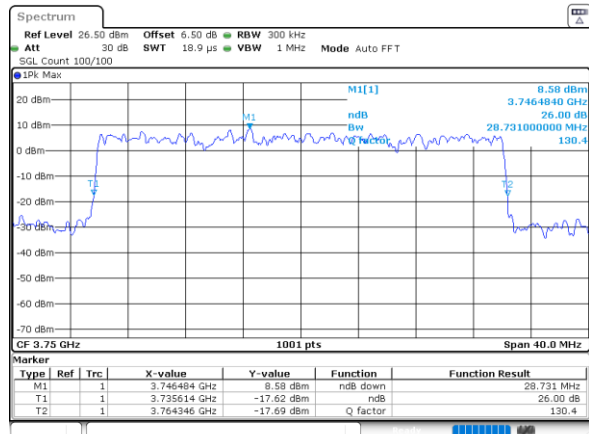
Date: 19.NOV.2022 06:47:15

64QAM



Date: 19.NOV.2022 06:47:33

256QAM

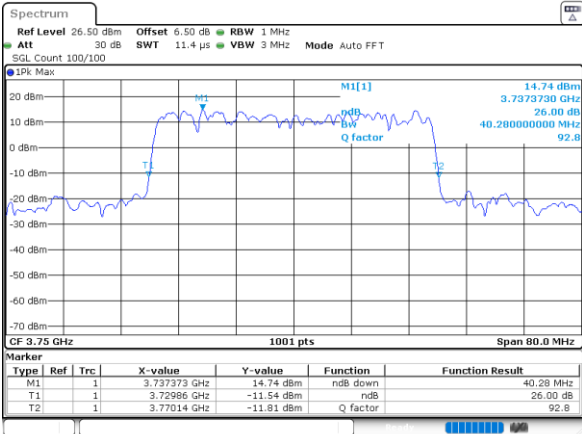


Date: 19.NOV.2022 06:47:48



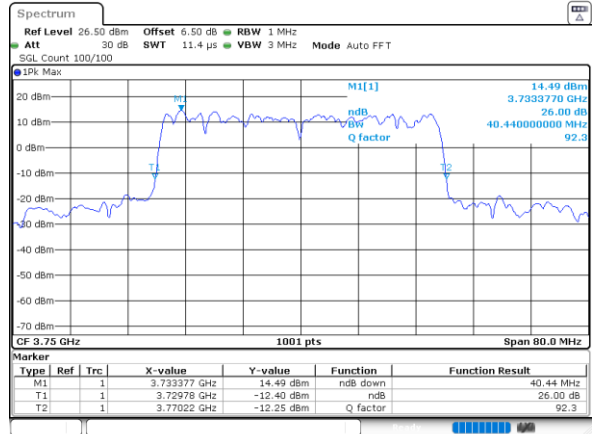
40MHz CP

QPSK



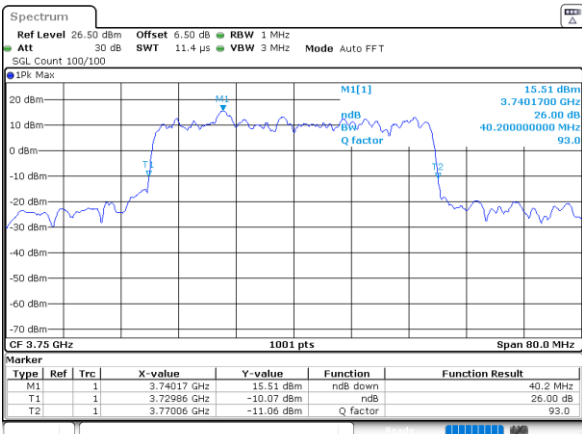
Date: 19.NOV.2022 06:49:13

16QAM



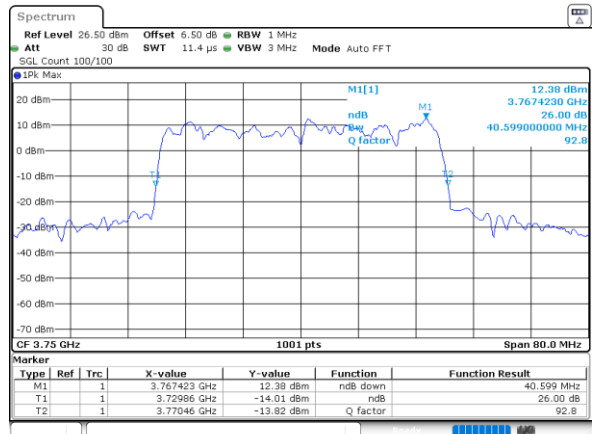
Date: 19.NOV.2022 06:48:58

64QAM



Date: 19.NOV.2022 06:48:41

256QAM

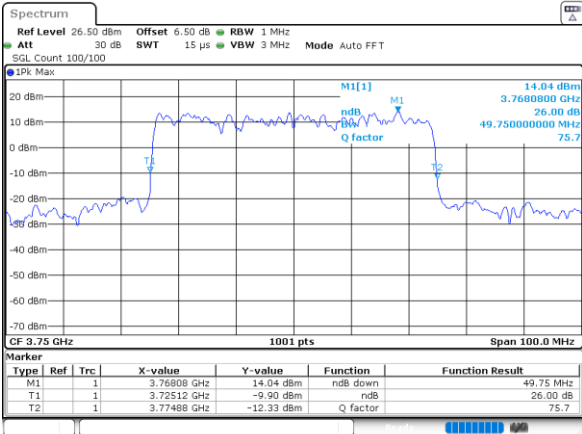


Date: 19.NOV.2022 06:48:25



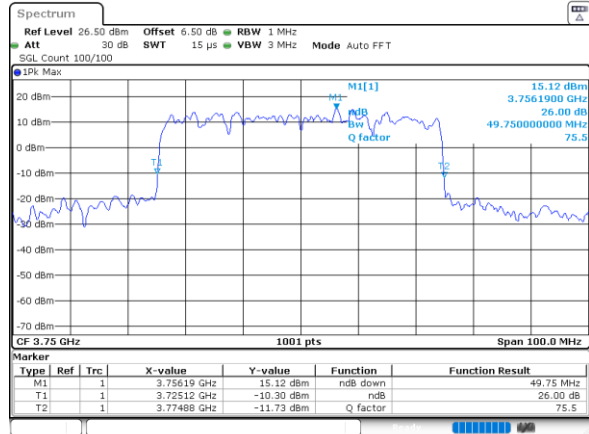
50MHz CP

QPSK



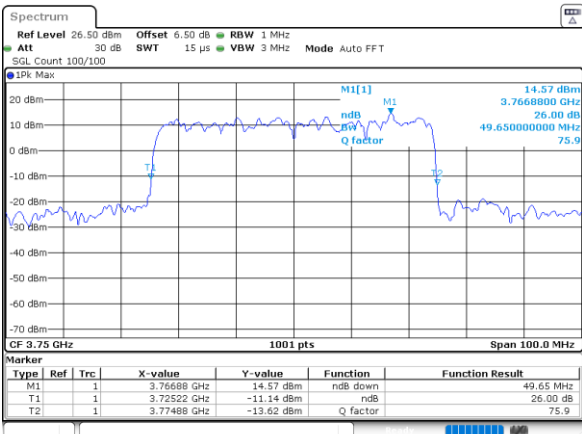
Date: 19.NOV.2022 06:49:39

16QAM



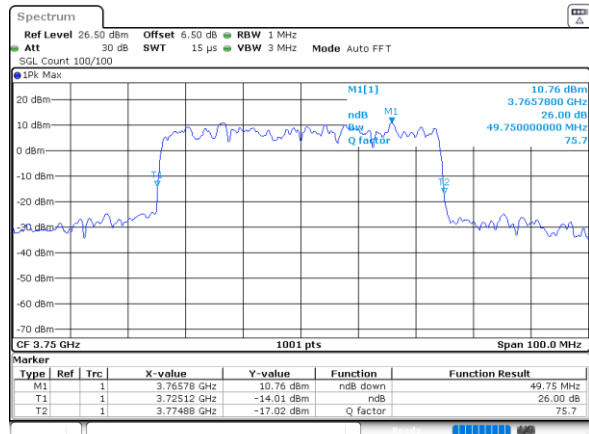
Date: 19.NOV.2022 06:50:00

64QAM



Date: 19.NOV.2022 06:50:17

256QAM

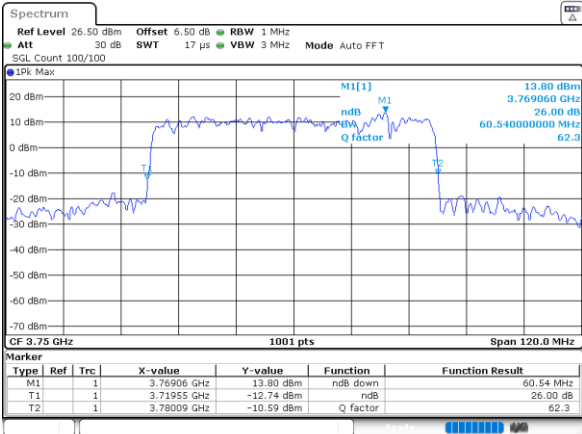


Date: 19.NOV.2022 06:50:34



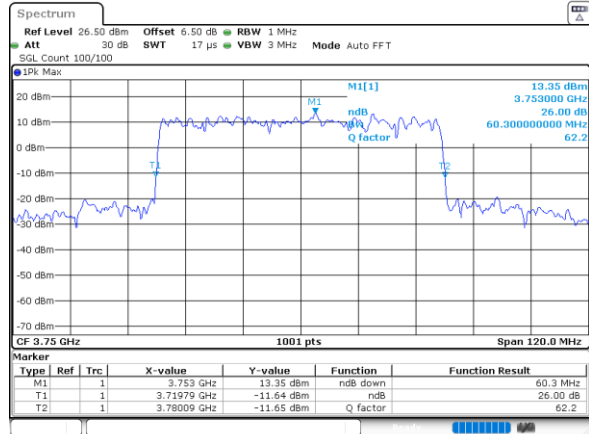
60MHz CP

QPSK



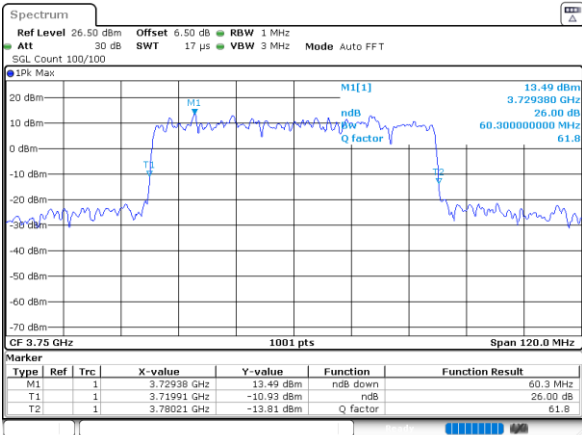
Date: 19.NOV.2022 06:51:46

16QAM



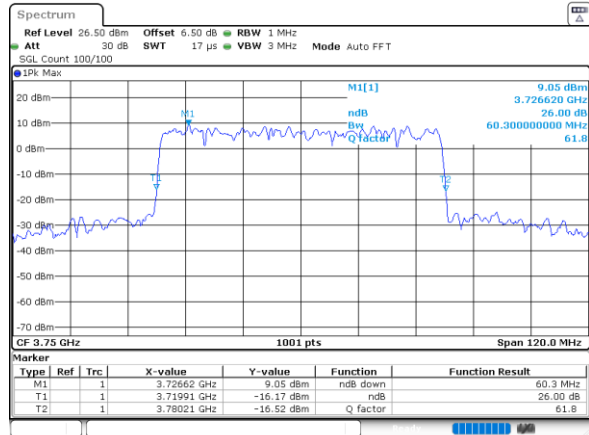
Date: 19.NOV.2022 06:51:30

64QAM



Date: 19.NOV.2022 06:51:14

256QAM

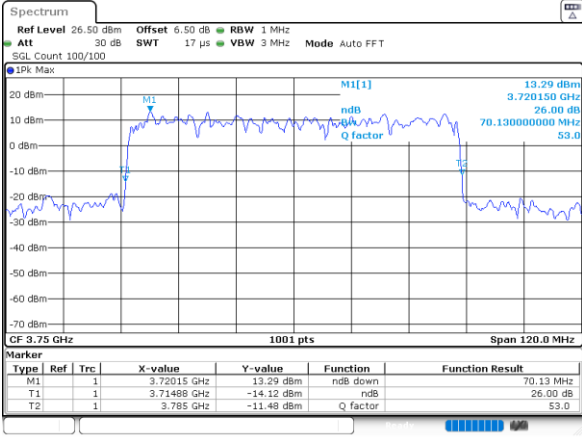


Date: 19.NOV.2022 06:51:00



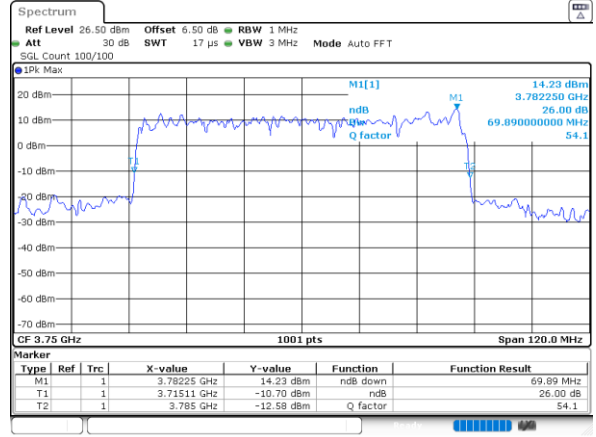
70MHz CP

QPSK



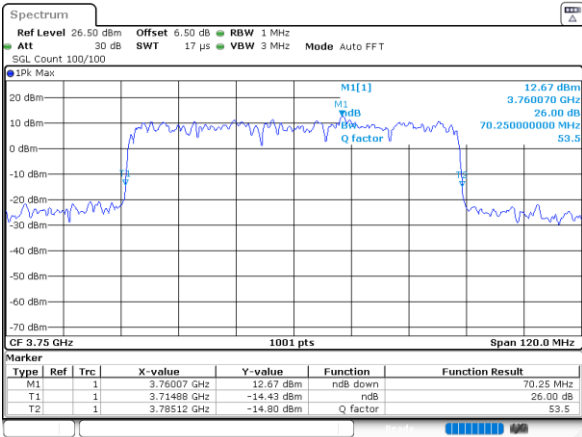
Date: 19.NOV.2022 08:01:23

16QAM



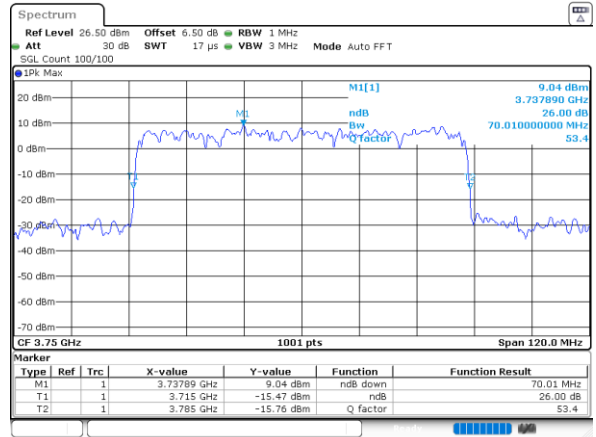
Date: 19.NOV.2022 08:02:18

64QAM



Date: 19.NOV.2022 08:05:39

256QAM

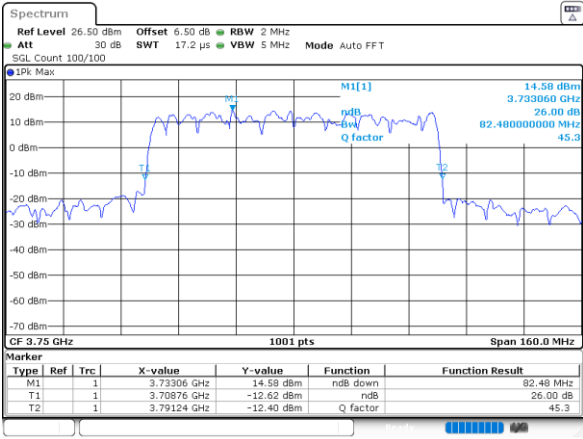


Date: 19.NOV.2022 08:07:01



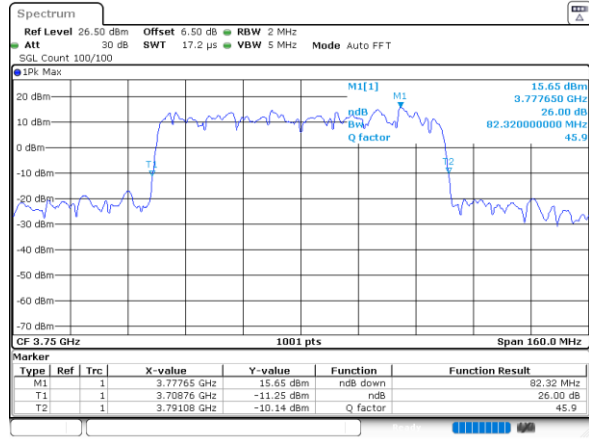
80MHz CP

QPSK



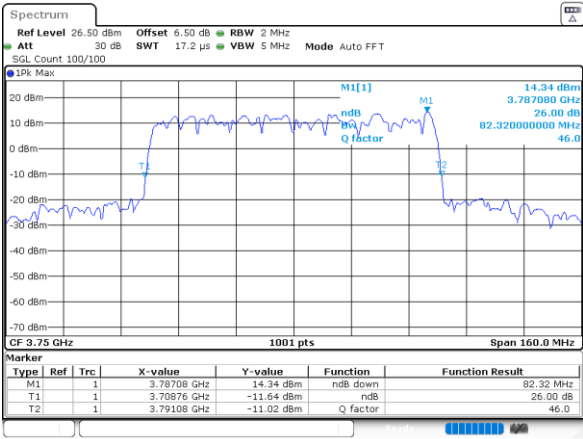
Date: 19.NOV.2022 08:14:01

16QAM



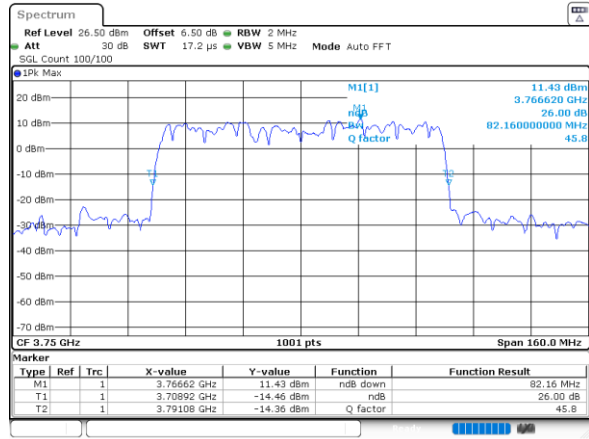
Date: 19.NOV.2022 08:13:34

64QAM



Date: 19.NOV.2022 08:13:15

256QAM

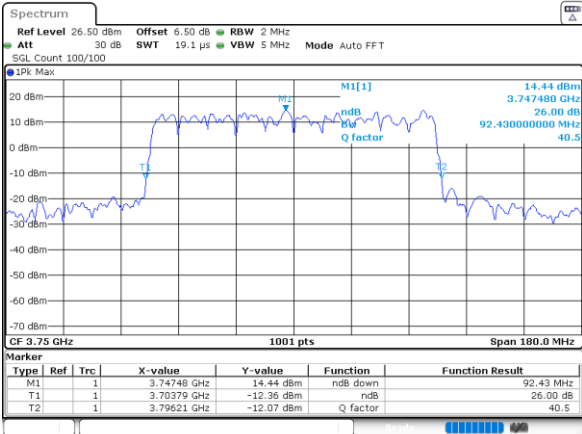


Date: 19.NOV.2022 08:12:42



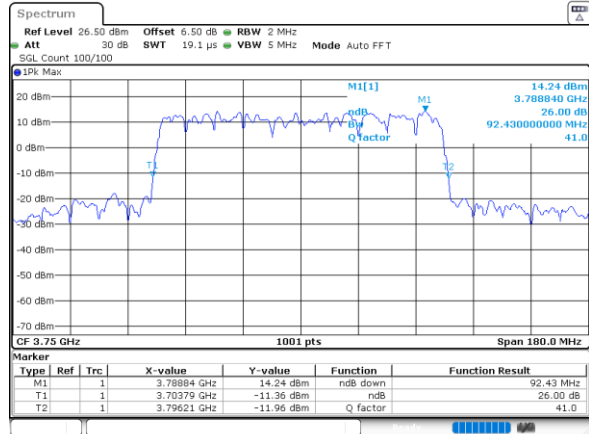
90MHz CP

QPSK



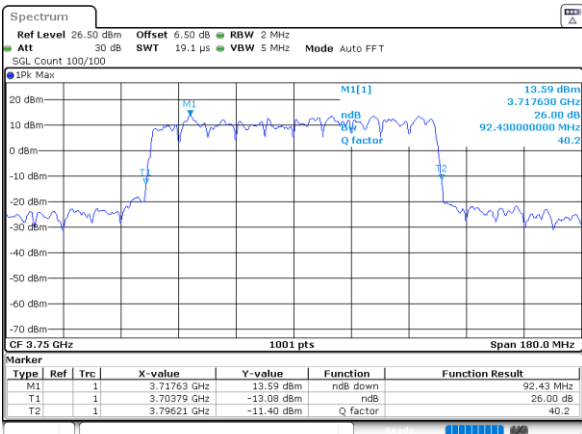
Date: 19\_NOV\_2022 08:19:28

16QAM



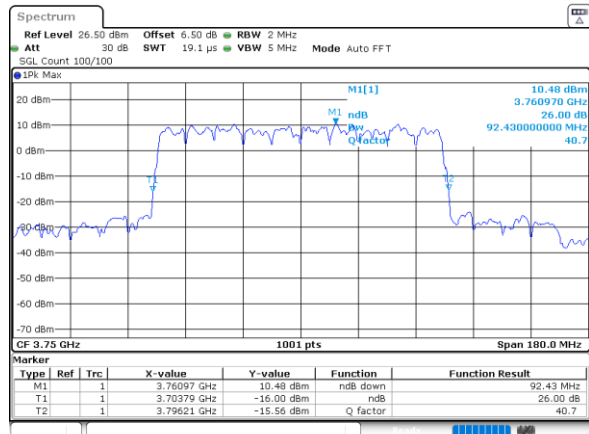
Date: 19\_NOV\_2022 08:19:49

64QAM

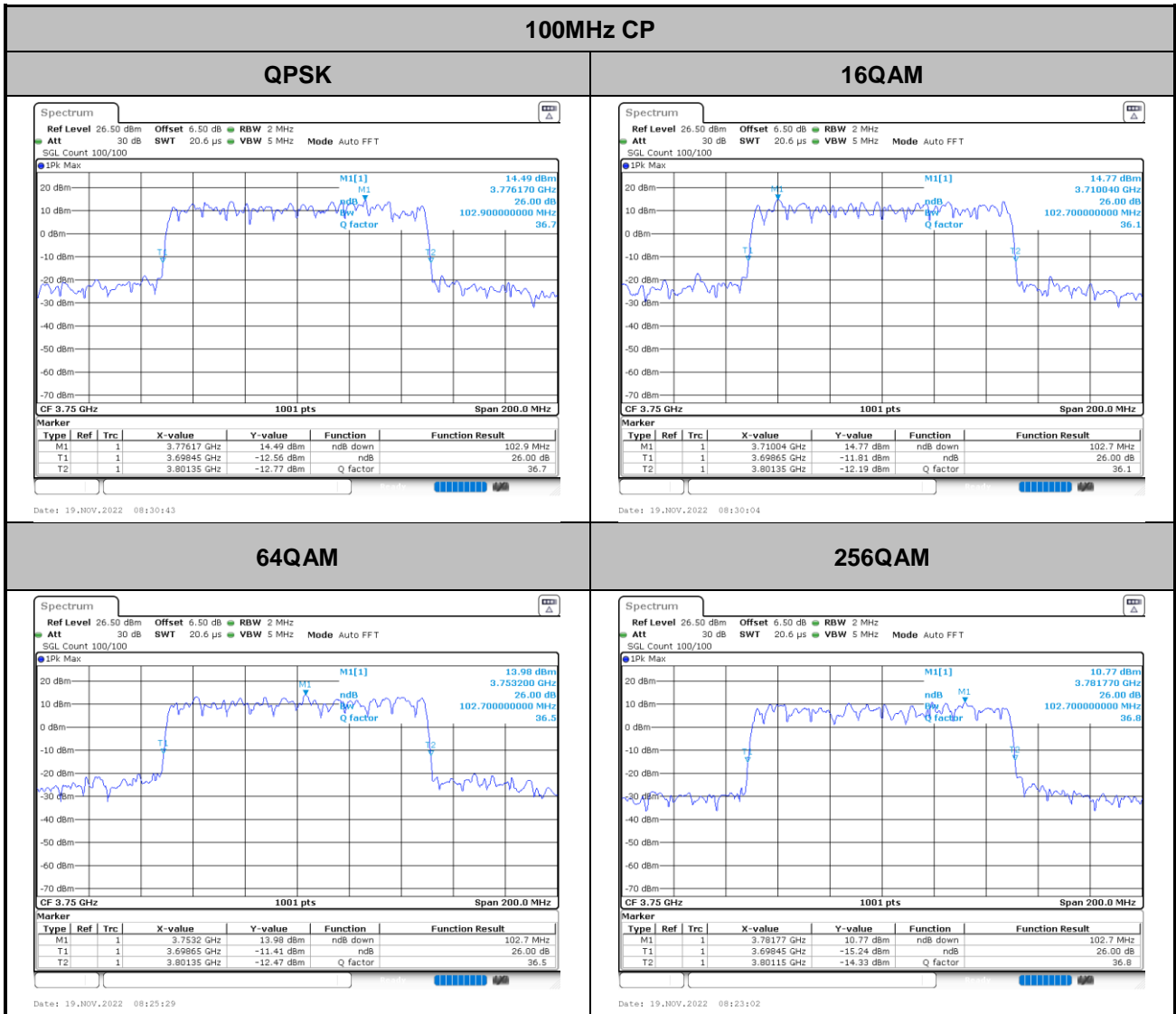


Date: 19\_NOV\_2022 08:20:09

256QAM



Date: 19\_NOV\_2022 08:20:29





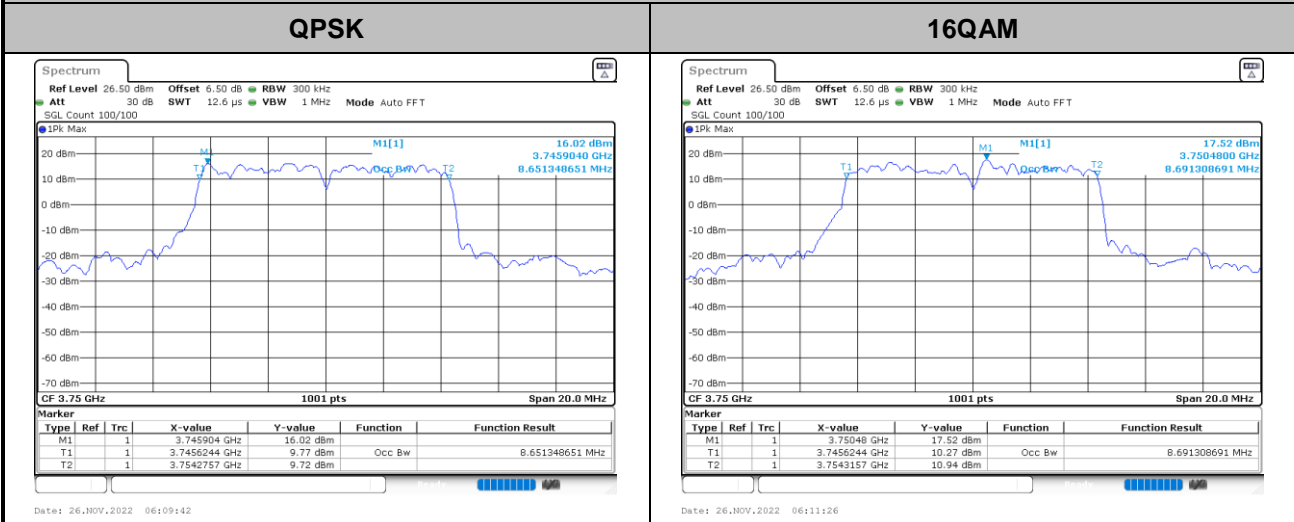
**Occupied Bandwidth**

Mode	FR1 n78 : OB BW(10 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	8.65	8.69	8.63	8.65	
Mode	FR1 n78 : OB BW(15 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	13.64	13.55	13.58	13.64	
Mode	FR1 n78 : OB BW(20 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	18.30	18.22	18.22	18.10	
Mode	FR1 n78 : OB BW(30 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	27.73	27.81	27.69	27.81	
Mode	FR1 n78 : OB BW(40 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	38.12	38.04	37.88	37.80	
Mode	FR1 n78 : OB BW(50 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	47.55	47.55	47.45	47.75	
Mode	FR1 n78 : OB BW(60 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	57.66	58.02	58.02	57.66	
Mode	FR1 n78 : OB BW(70 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	67.01	67.37	67.61	67.37	
Mode	FR1 n78 : OB BW(80 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	78.00	77.68	78.48	77.68	



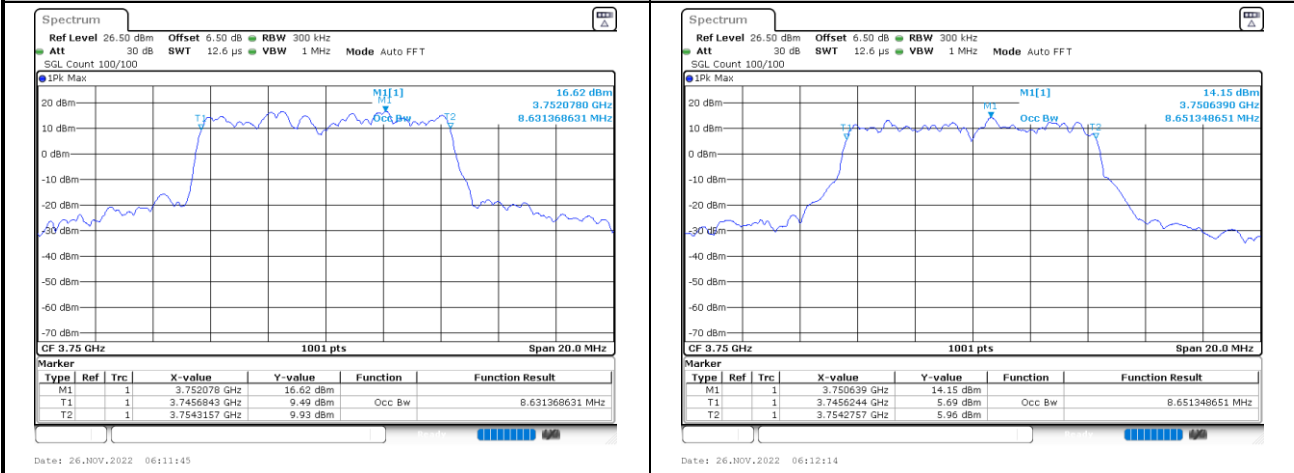
Mode	FR1 n78 : OB BW(90 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	87.21	87.57	87.57	87.75	
Mode	FR1 n78 : OB BW(100 MHz) / CP OFDM				
BW	CP				
Mod.	QPSK	16QAM	64QAM	256QAM	
Middle CH	97.70	97.50	97.90	97.10	

10MHz CP



**64QAM**

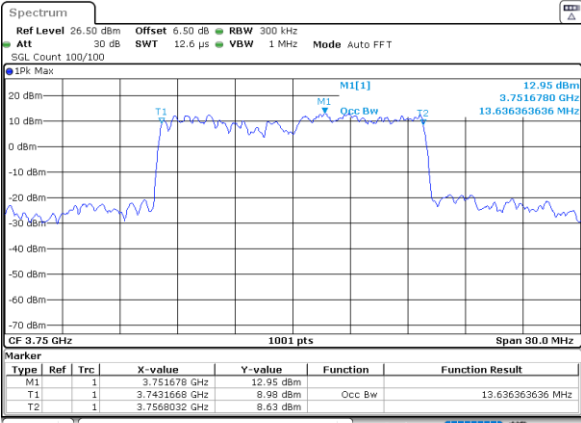
**256QAM**





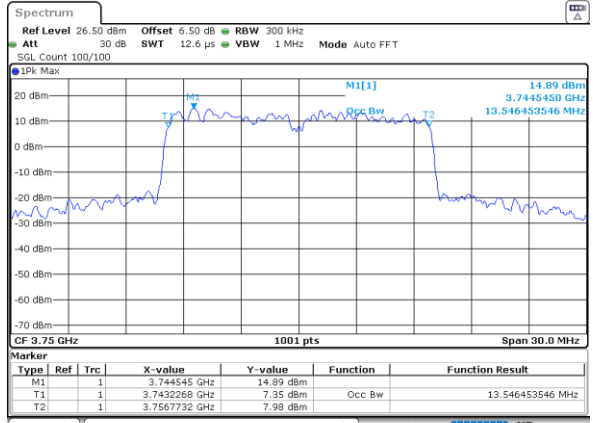
15MHz CP

QPSK



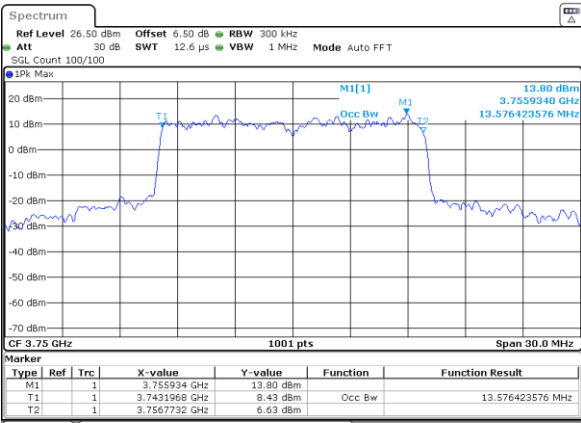
Date: 19.NOV.2022 06:42:47

16QAM



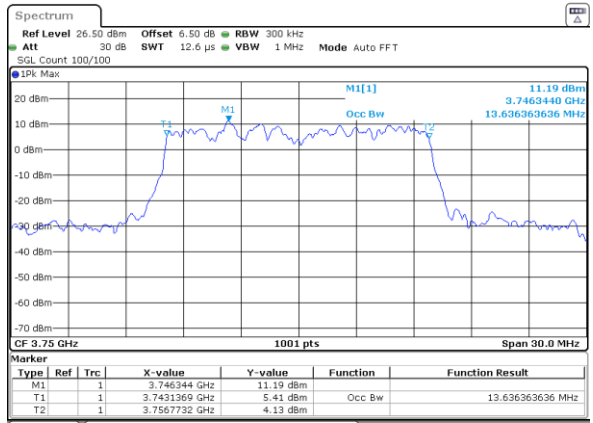
Date: 19.NOV.2022 06:43:03

64QAM



Date: 19.NOV.2022 06:43:18

256QAM

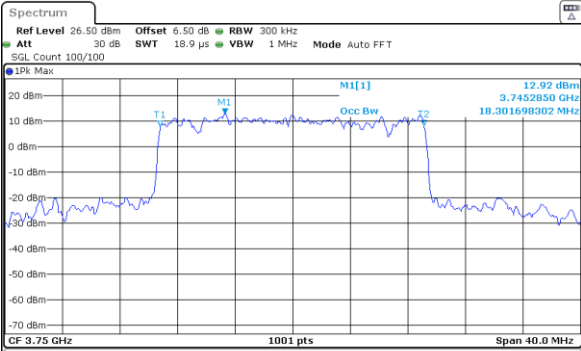


Date: 19.NOV.2022 06:43:35



20MHz CP

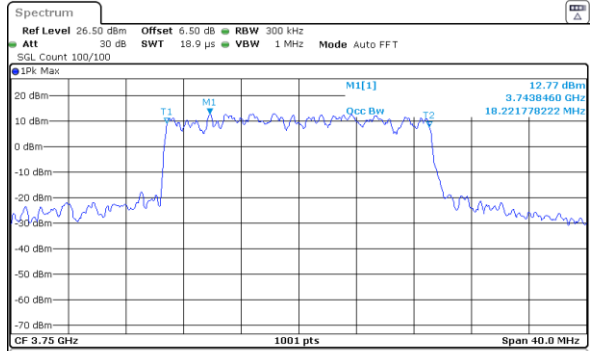
QPSK



Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		3.745285 GHz	12.92 dBm		
T1	1		3.7408992 GHz	8.02 dBm	Occ Bw	18.301698302 MHz
T2	1		3.7591109 GHz	8.29 dBm		

Date: 19.NOV.2022 06:46:20

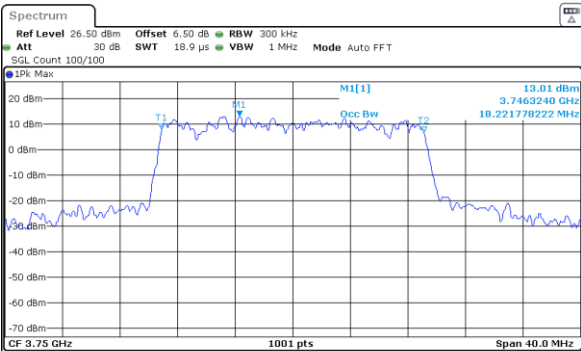
16QAM



Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		3.743846 GHz	12.77 dBm		
T1	1		3.7408492 GHz	9.01 dBm	Occ Bw	18.221778222 MHz
T2	1		3.7590709 GHz	7.63 dBm		

Date: 19.NOV.2022 06:46:04

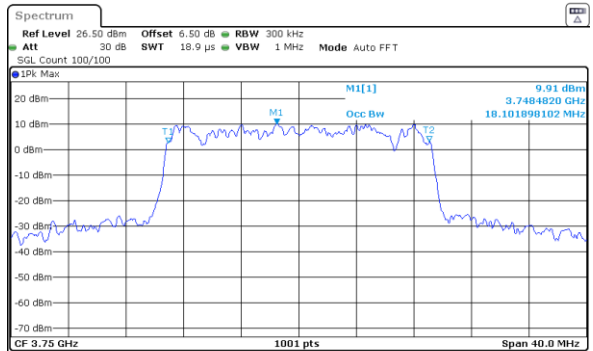
64QAM



Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		3.746324 GHz	13.01 dBm		
T1	1		3.7408991 GHz	7.94 dBm	Occ Bw	18.221778222 MHz
T2	1		3.7591109 GHz	6.90 dBm		

Date: 19.NOV.2022 06:45:49

256QAM



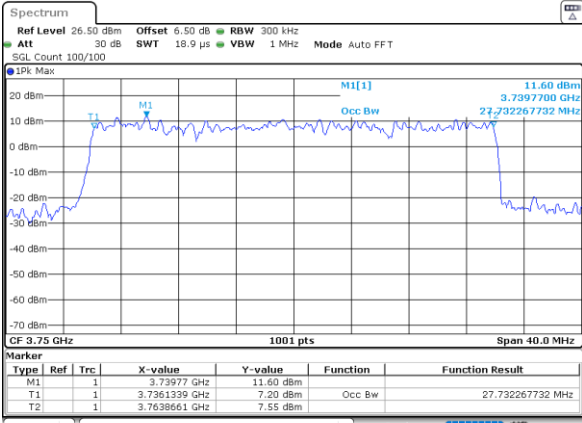
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		3.748482 GHz	9.91 dBm		
T1	1		3.740969 GHz	2.61 dBm	Occ Bw	18.101898102 MHz
T2	1		3.7590709 GHz	3.10 dBm		

Date: 19.NOV.2022 06:45:10



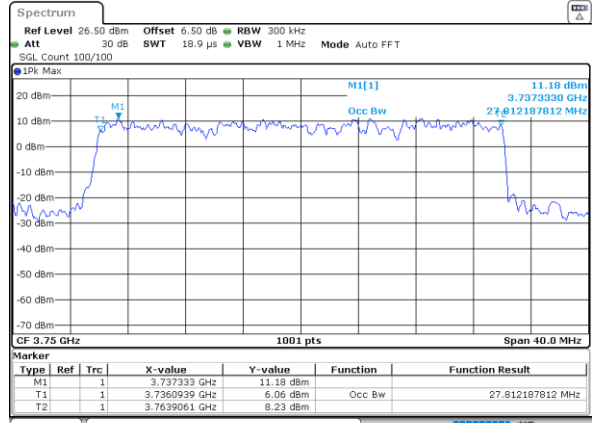
30MHz CP

QPSK



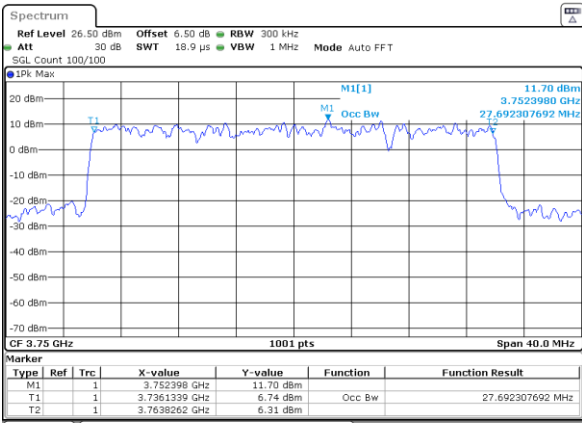
Date: 19.NOV.2022 06:46:53

16QAM



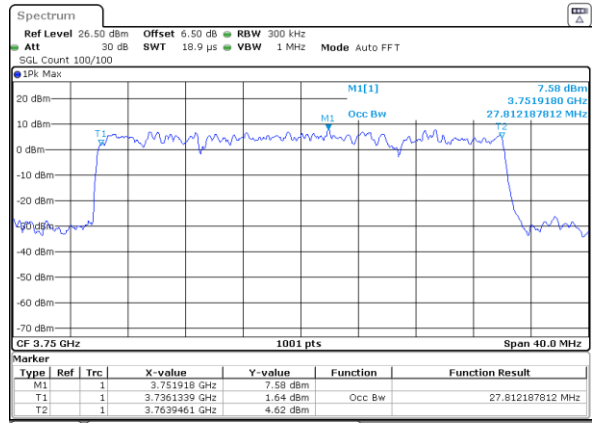
Date: 19.NOV.2022 06:47:09

64QAM



Date: 19.NOV.2022 06:47:26

256QAM

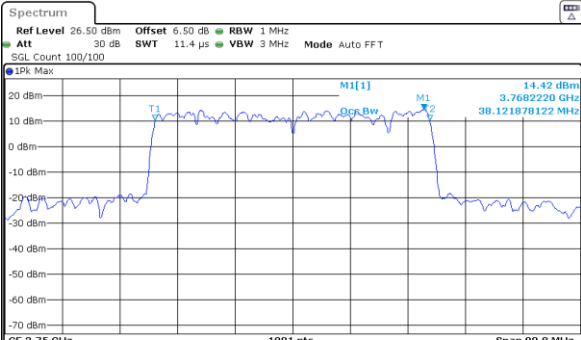


Date: 19.NOV.2022 06:47:42



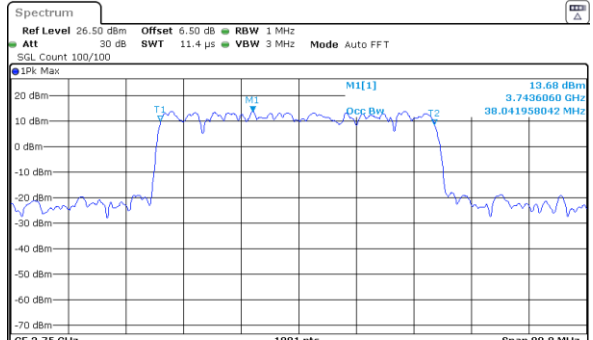
40MHz CP

QPSK



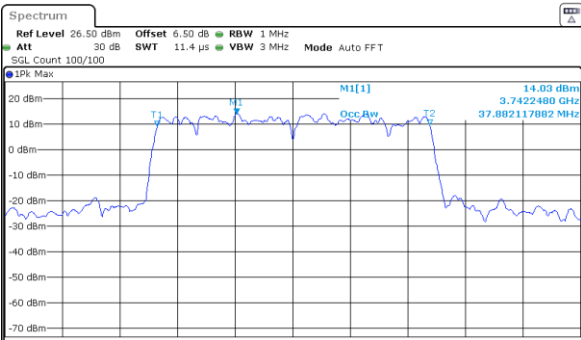
Date: 19.NOV.2022 06:49:07

16QAM



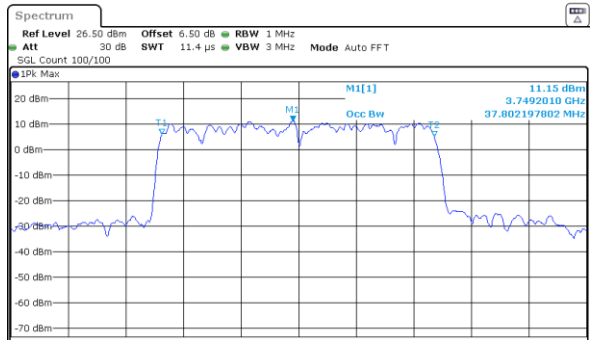
Date: 19.NOV.2022 06:48:51

64QAM



Date: 19.NOV.2022 06:48:34

256QAM

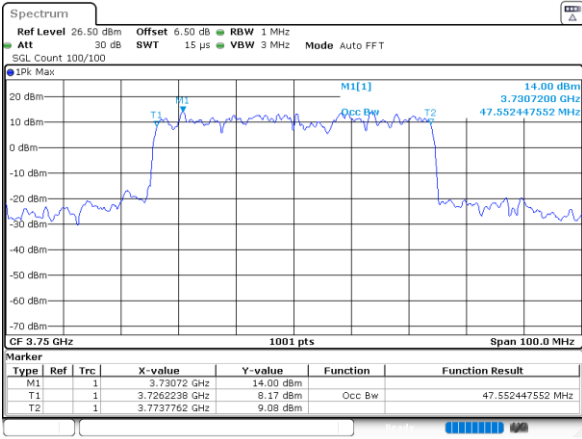


Date: 19.NOV.2022 06:48:19



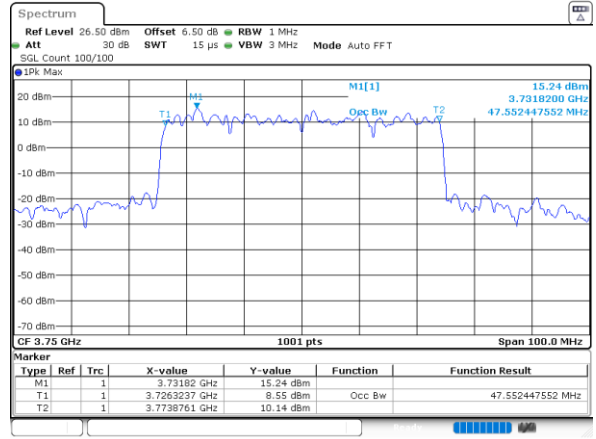
50MHz CP

QPSK



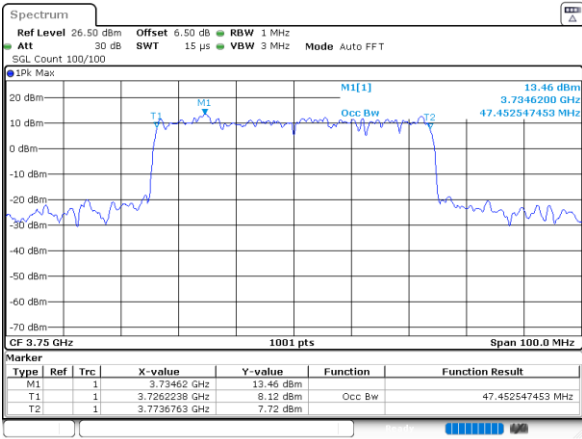
Date: 19.NOV.2022 06:49:33

16QAM



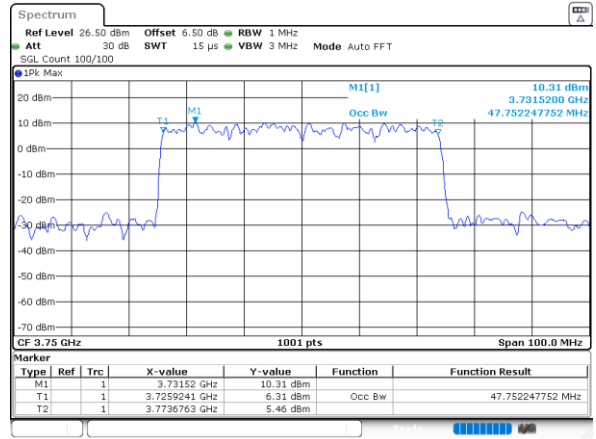
Date: 19.NOV.2022 06:49:53

64QAM



Date: 19.NOV.2022 06:50:10

256QAM

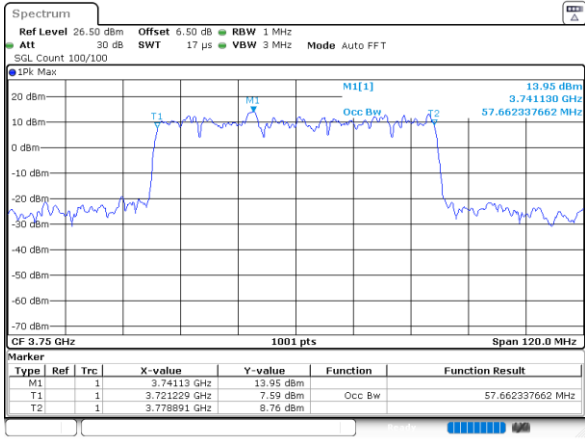


Date: 19.NOV.2022 06:50:27

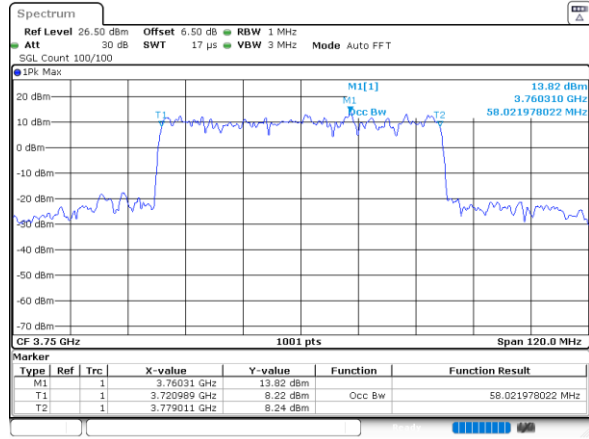


60MHz CP

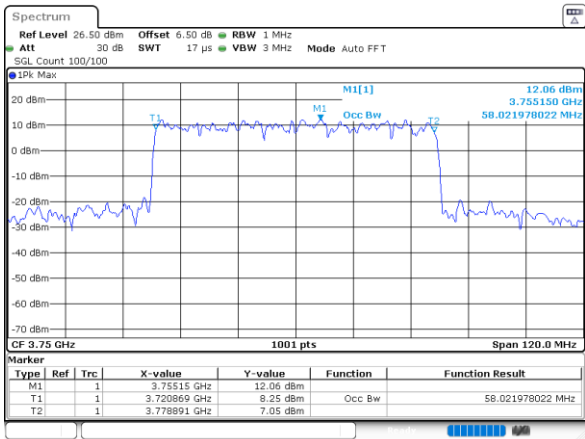
QPSK



16QAM



64QAM



256QAM

