

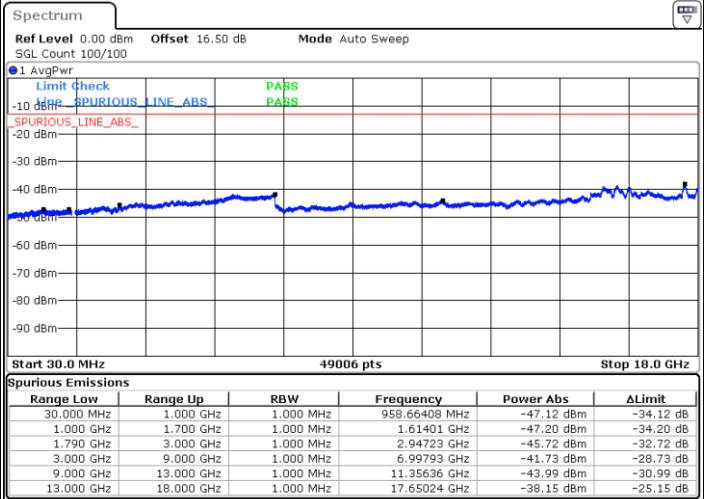
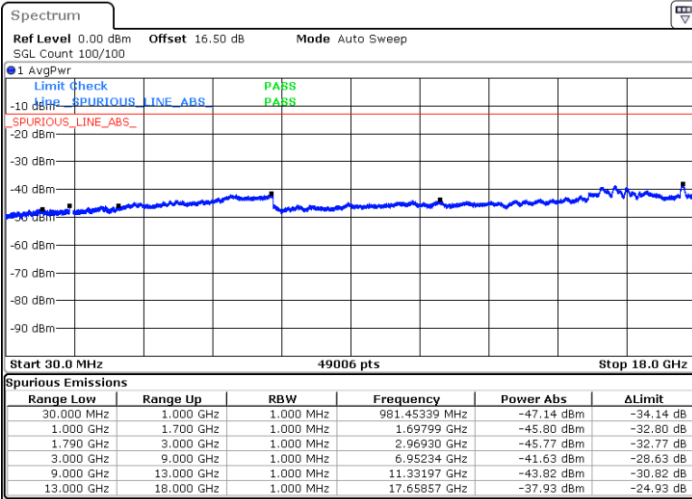


Conducted Spurious Emission

FR1 n66 / 5MHz / DFT-S OFDM / QPSK / 1RB1

Lowest Channel

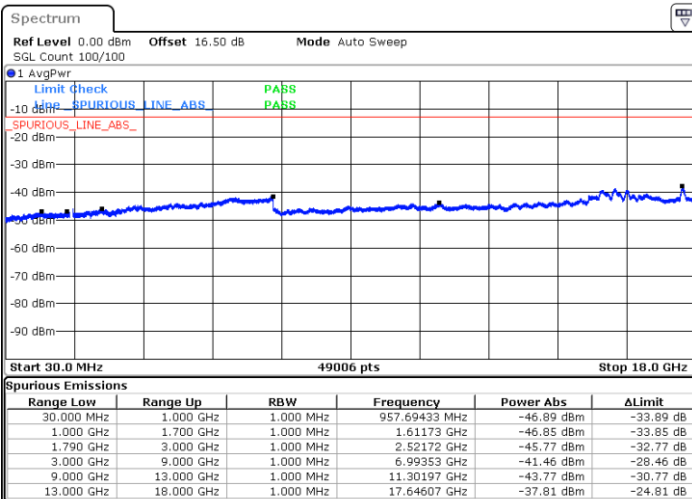
Middle Channel



Date: 12.MAR.2021 21:59:31

Date: 12.MAR.2021 22:00:32

Highest Channel



Date: 12.MAR.2021 22:02:12



Frequency Stability

Test Conditions		FR1 n66 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0008	PASS
40	Normal Voltage	0.0137	
30	Normal Voltage	0.0119	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0104	
0	Normal Voltage	0.0014	
-10	Normal Voltage	0.0101	
-20	Normal Voltage	0.0029	
-30	Normal Voltage	0.0010	
20	Maximum Voltage	0.0002	
20	Normal Voltage	0.0135	
20	Battery End Point	0.0001	

Note:

1. Normal Voltage =12 V. ; Battery End Point (BEP) =11.6 V. ; Maximum Voltage =12.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



FR1 n77

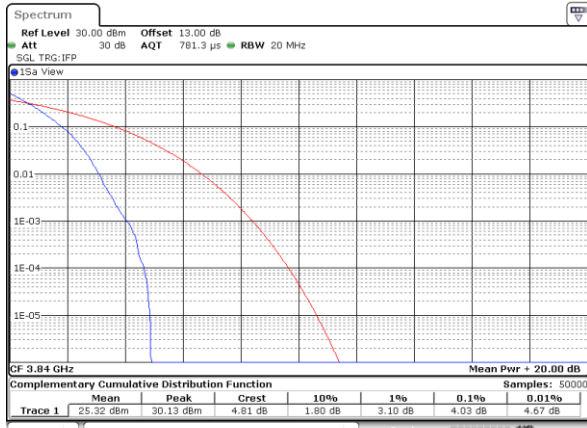
Peak-to-Average Ratio

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	4.03	5.39	6.41	6.43	PASS
Mode	FR1 n77 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Middle CH	6.46				PASS



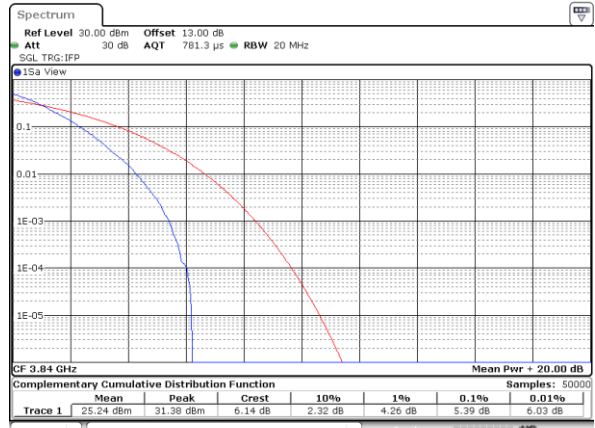
FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK



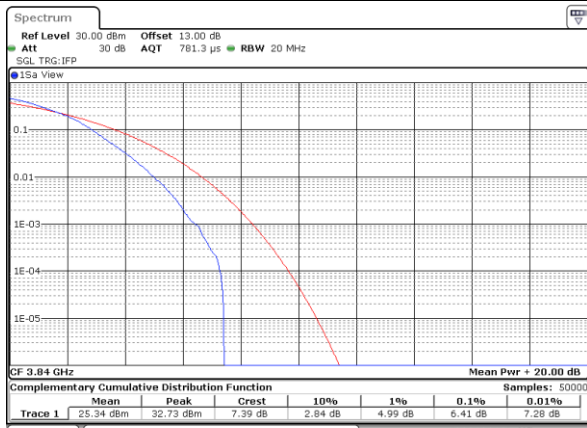
Date: 16.MAR.2021 15:21:51

QPSK



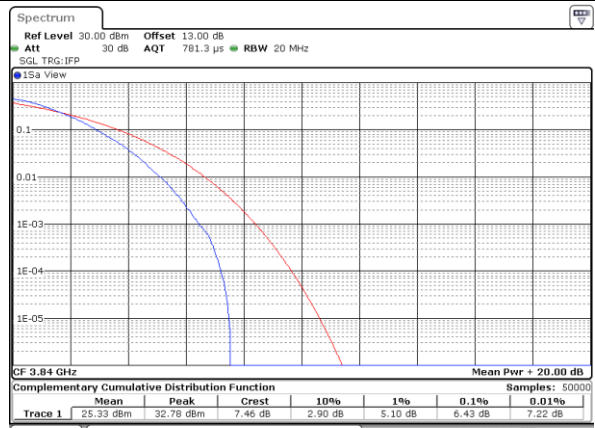
Date: 16.MAR.2021 15:20:15

16QAM



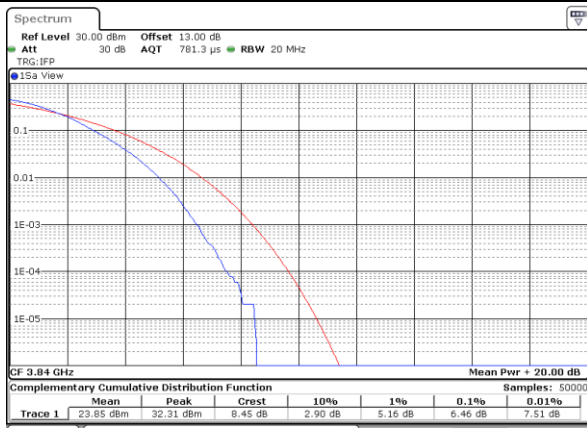
Date: 16.MAR.2021 15:19:49

64QAM



Date: 16.MAR.2021 15:19:18

256QAM



Date: 16.MAR.2021 15:16:17



26dB Bandwidth

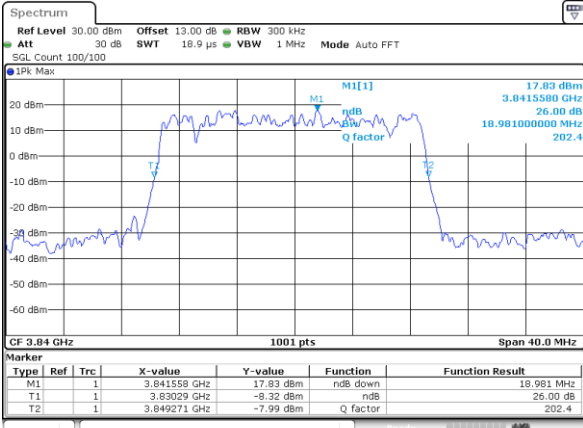
Mode	FR1 n77 : 26dB BW(MHz) / DFT-S OFDM							
BW	20MHz	30MHz	40MHz	50MHz	60MHz	70MHz	80MHz	90MHz
Mod.	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK
Middle CH	18.98	-	38.04	48.05	60.42	-	79.60	88.65
BW	100MHz							
Mod.	PI/2 BPSK							
Middle CH	99.50							

Mode	FR1 n77 : 26dB BW(MHz) / CP OFDM							
BW	20MHz		30MHz		40MHz		50MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	19.10	19.38	-	-	40.20	40.12	49.75	49.65
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	19.02	19.34	-	-	40.28	40.36	49.75	49.65
BW	60MHz		70MHz		80MHz		90MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	60.54	60.30	-	-	80.24	79.92	90.27	90.27
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	60.42	60.54	-	-	79.92	79.92	90.27	90.27
BW	100MHz							
Mod.	QPSK	16QAM						
Middle CH	100.50	100.50						
Mod.	64QAM	256QAM						
Middle CH	100.50	100.50						



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

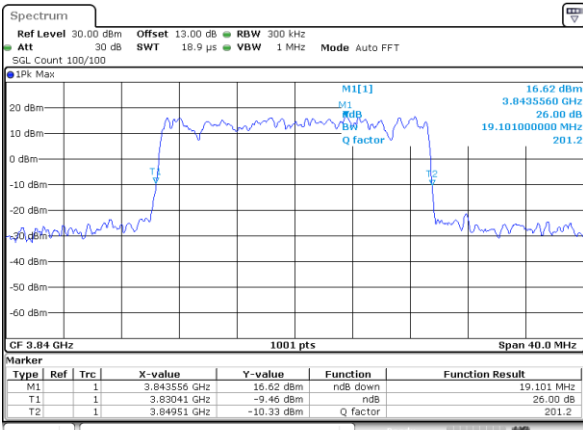
PI/2 BPSK



Date: 16.MAR.2021 15:12:45

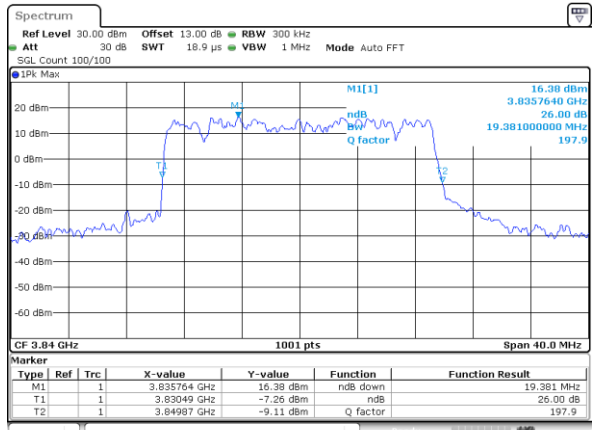
FR1 n77 / 20MHz / CP OFDM / Middle Channel / Full RB

QPSK



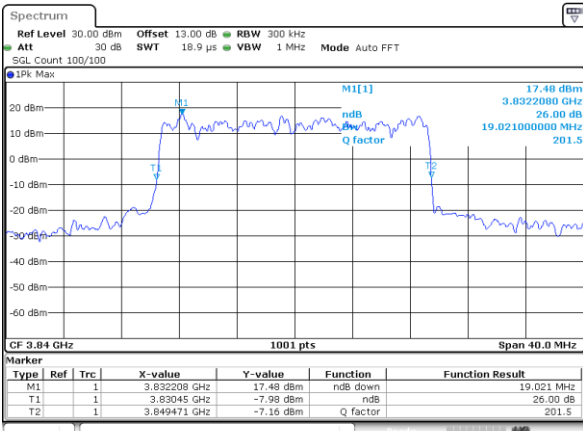
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16QAM



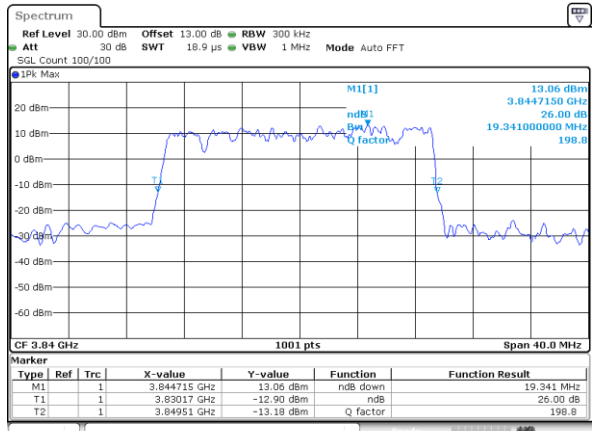
Date: 16.MAR.2021 15:14:17

64QAM



Date: 16.MAR.2021 15:14:41

256QAM

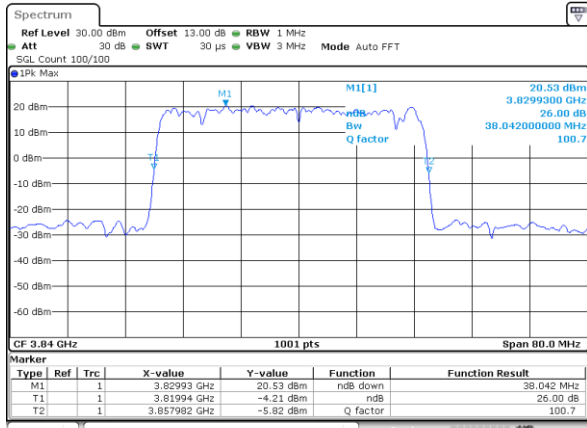


Date: 16.MAR.2021 15:15:15



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

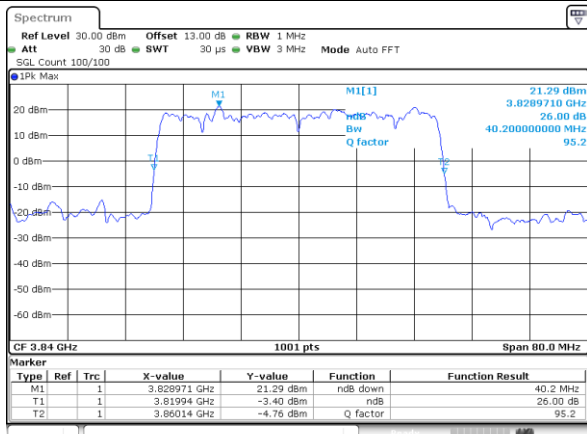
PI/2 BPSK



Date: 16.MAR.2021 15:11:59

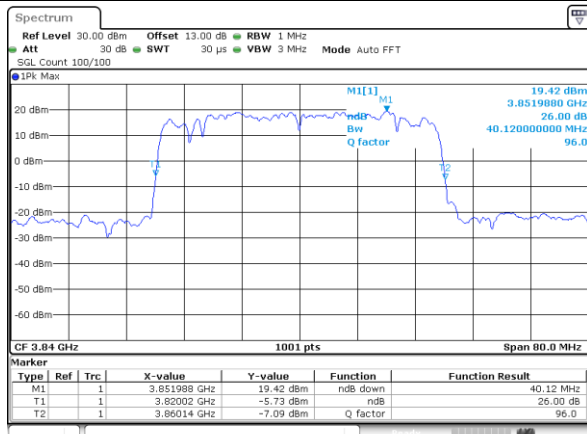
FR1 n77 / 40MHz / CP OFDM / Middle Channel / Full RB

QPSK



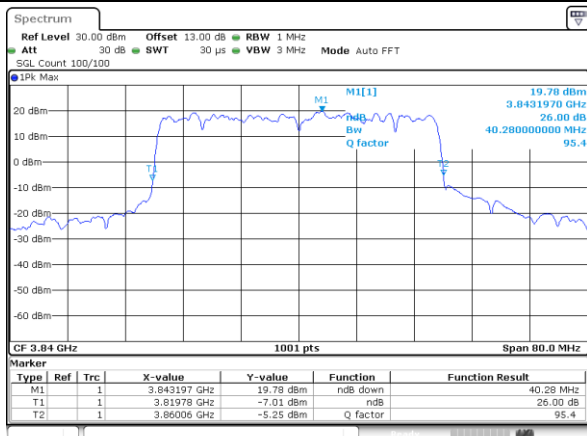
Date: 16.MAR.2021 15:11:07

16QAM



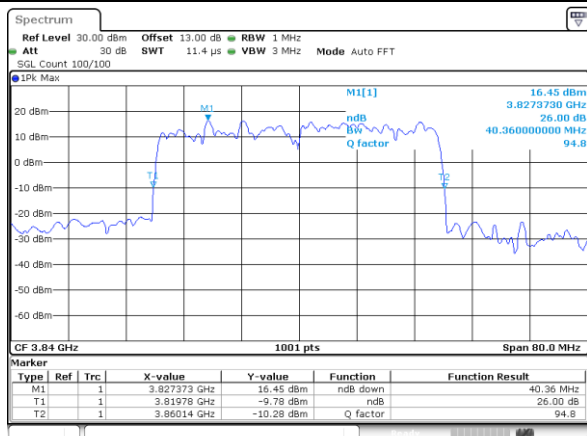
Date: 16.MAR.2021 15:10:31

64QAM



Date: 16.MAR.2021 15:09:55

256QAM

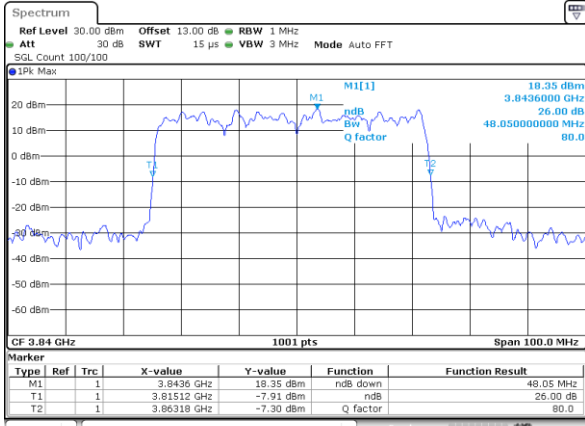


Date: 16.MAR.2021 15:10:34



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

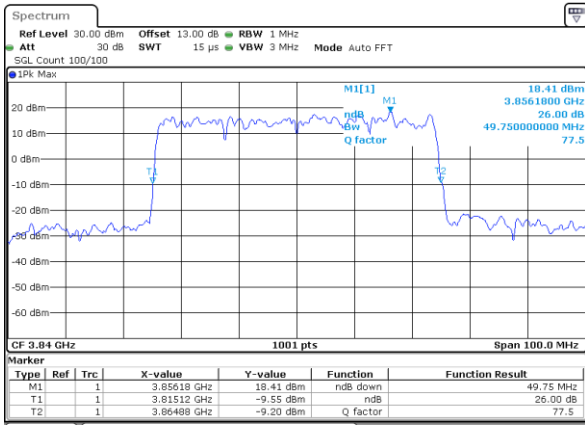
PI/2 BPSK



Date: 16.MAR.2021 15:02:42

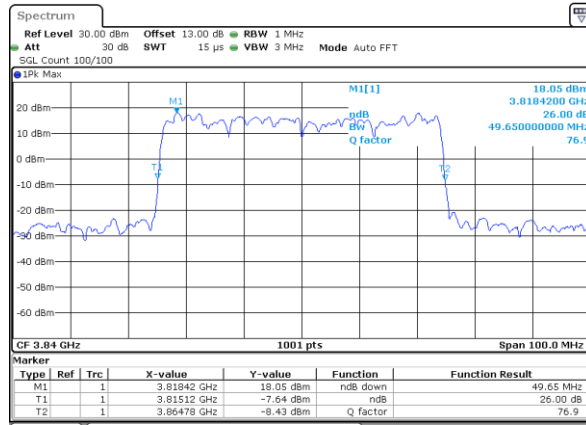
FR1 n77 / 50MHz / CP OFDM / Middle Channel / Full RB

QPSK



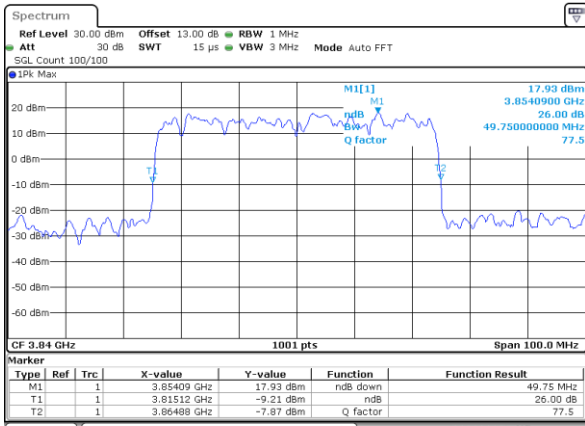
Date: 16.MAR.2021 15:03:16

16QAM



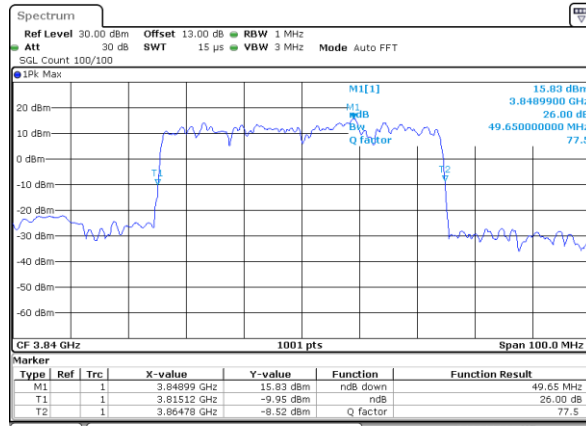
Date: 16.MAR.2021 15:03:47

64QAM



Date: 16.MAR.2021 15:04:22

256QAM

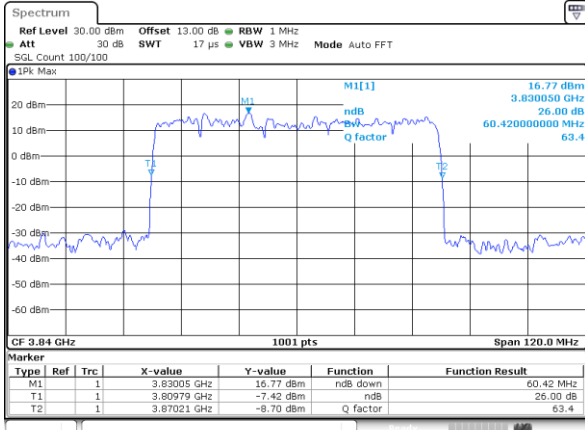


Date: 16.MAR.2021 15:04:47



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

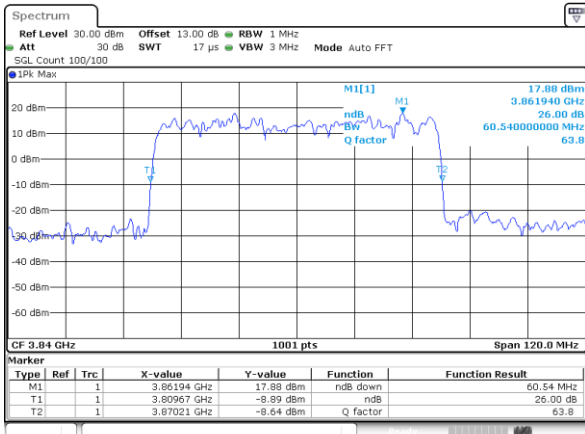
PI/2 BPSK



Date: 16.MAR.2021 15:01:52

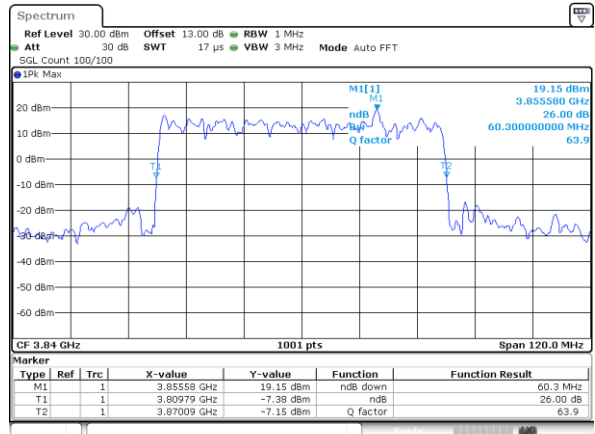
FR1 n77 / 60MHz / CP OFDM / Middle Channel / Full RB

QPSK



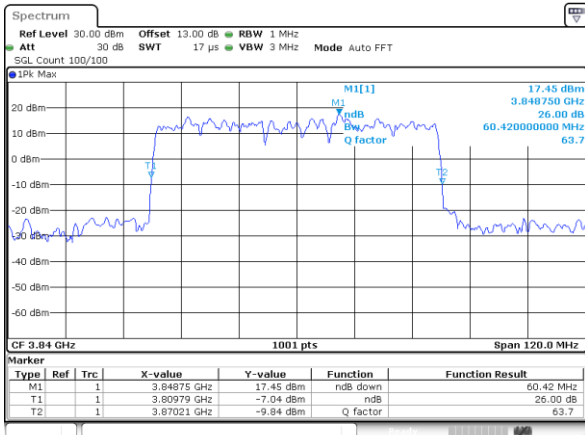
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16QAM



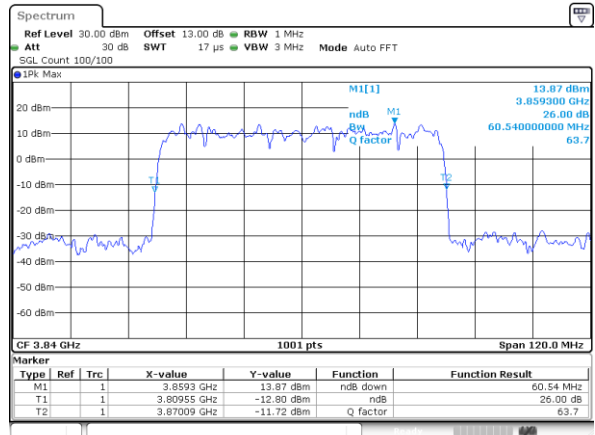
Date: 16.MAR.2021 14:59:51

64QAM



Date: 16.MAR.2021 14:59:08

256QAM

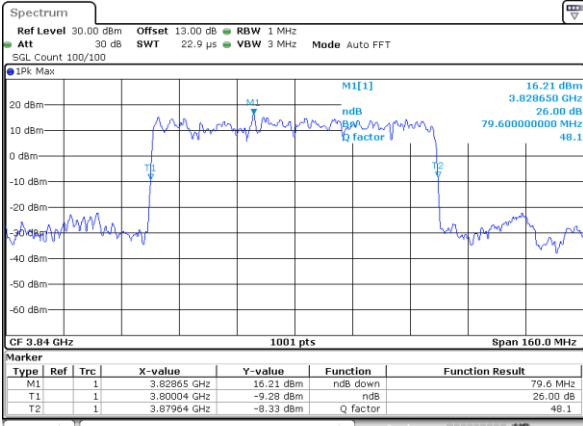


Date: 16.MAR.2021 14:58:45



FR1 n77 / 80MHz / DFT-S OFDM / Middle Channel / Full RB

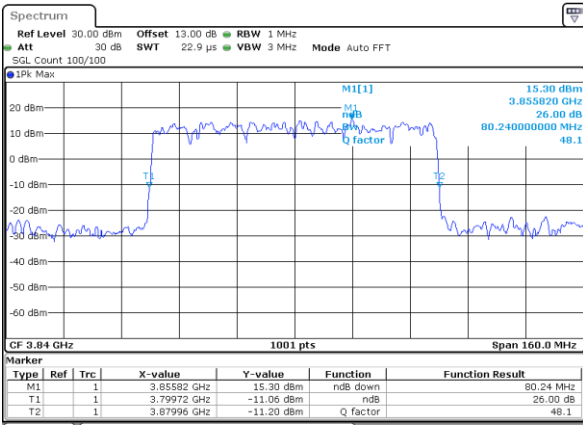
PI/2 BPSK



Date: 16.MAR.2021 14:53:43

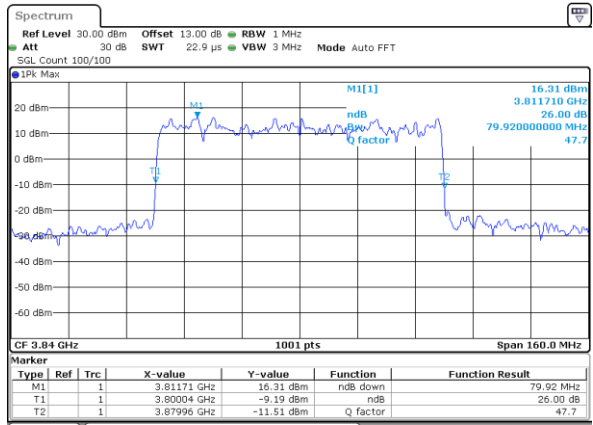
FR1 n77 / 80MHz / CP OFDM / Middle Channel / Full RB

QPSK



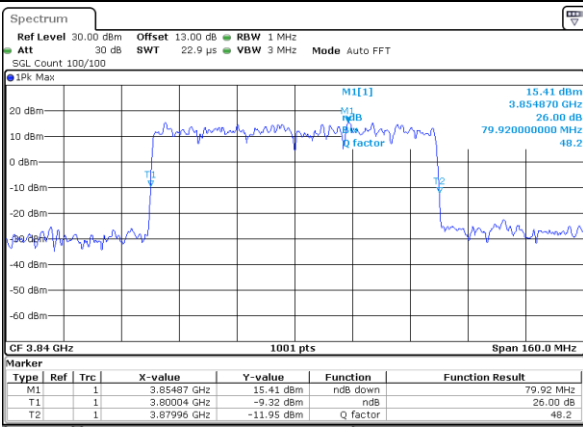
Date: 16.MAR.2021 14:55:06

16QAM



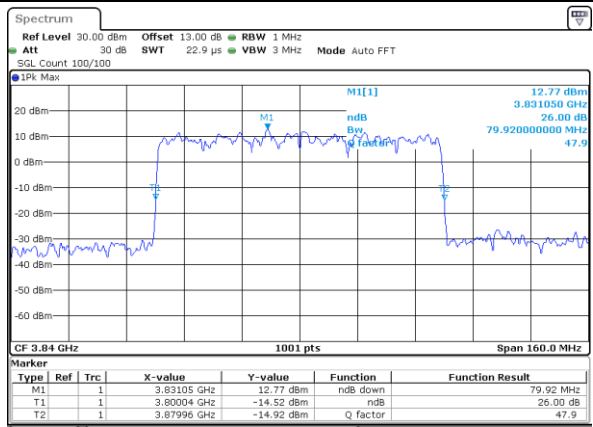
Date: 16.MAR.2021 14:55:13

64QAM



Date: 16.MAR.2021 14:56:00

256QAM

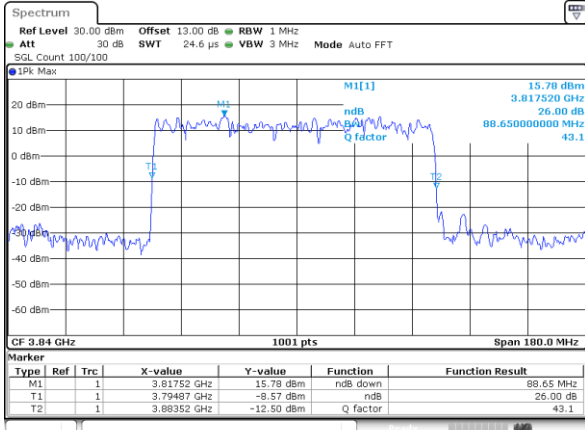


Date: 16.MAR.2021 14:56:33



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

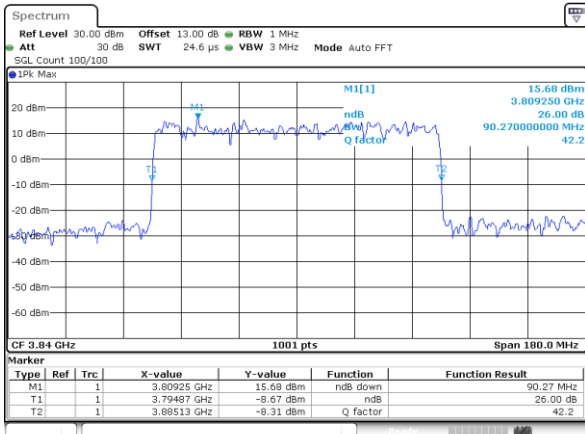
PI/2 BPSK



Date: 16.MAR.2021 14:53:01

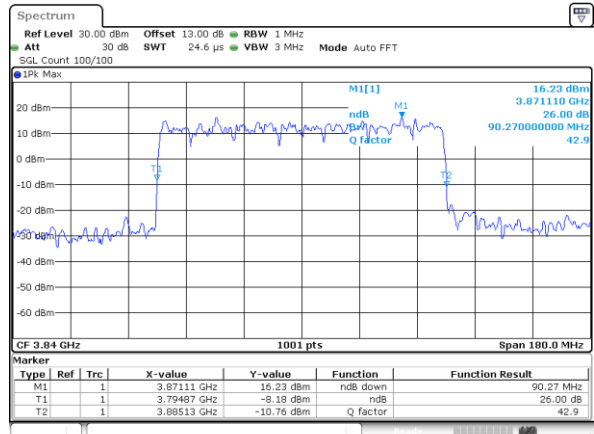
FR1 n77 / 90MHz / CP OFDM / Middle Channel / Full RB

QPSK



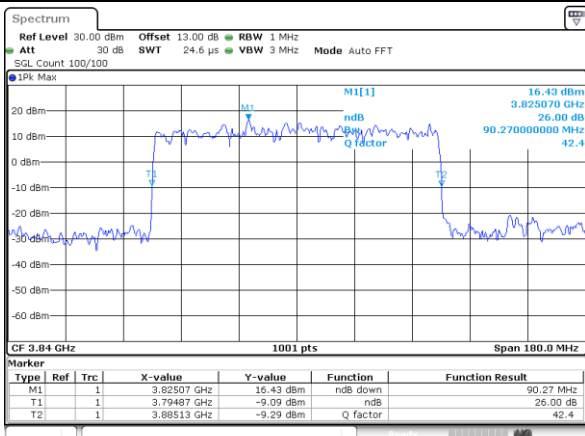
Date: 16.MAR.2021 14:52:20

16QAM



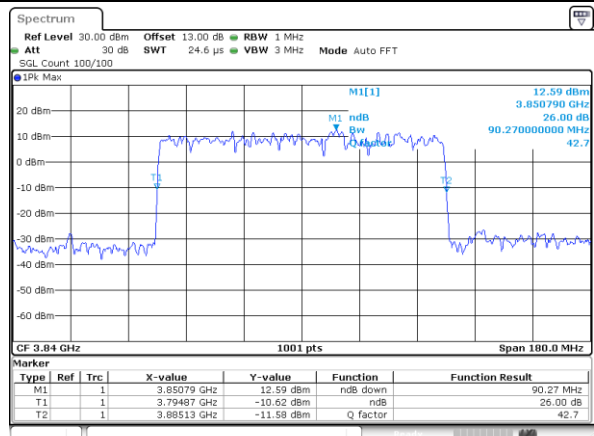
Date: 16.MAR.2021 14:51:46

64QAM



Date: 16.MAR.2021 14:51:15

256QAM

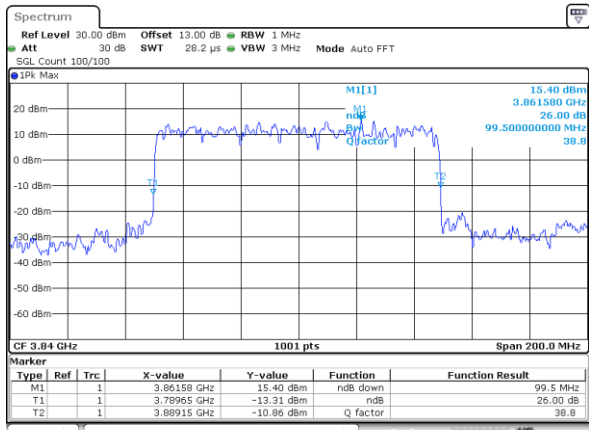


Date: 16.MAR.2021 14:50:50



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

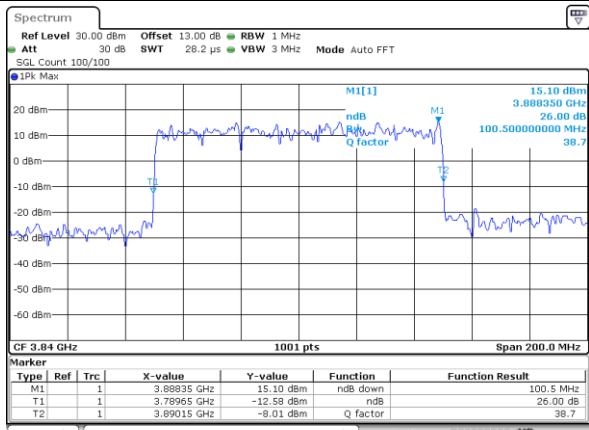
PI/2 BPSK



Date: 16.MAR.2021 14:47:27

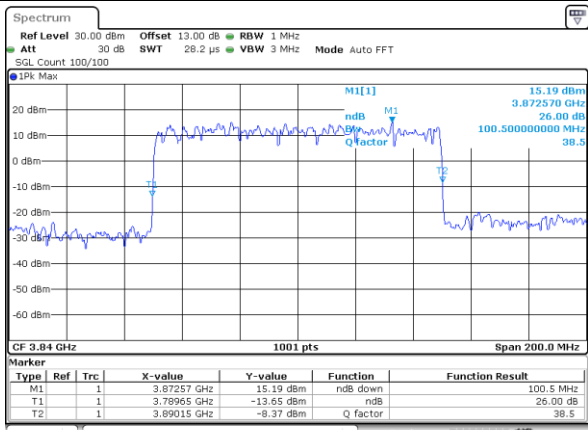
FR1 n77 / 100MHz / CP OFDM / Middle Channel / Full RB

QPSK



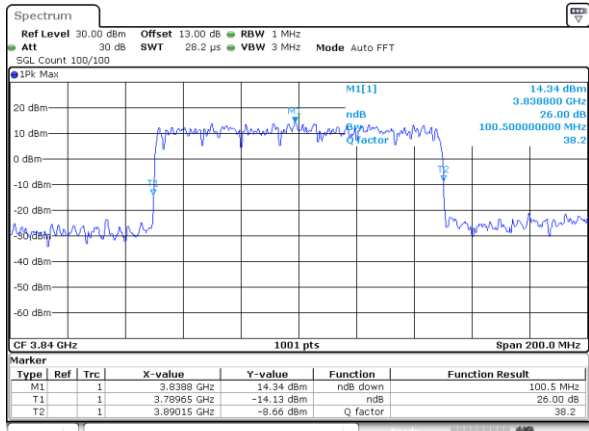
Date: 16.MAR.2021 14:48:13

16QAM



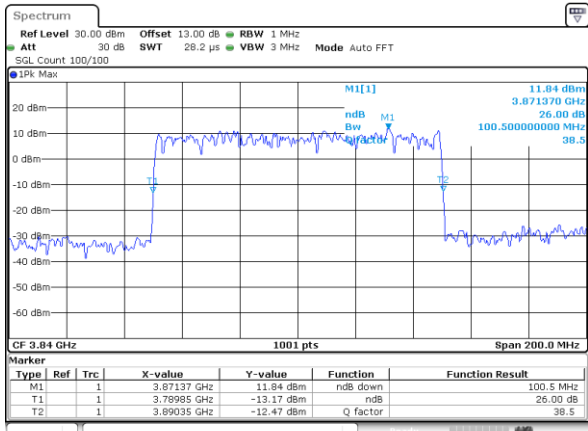
Date: 16.MAR.2021 14:48:39

64QAM



Date: 16.MAR.2021 14:49:20

256QAM



Date: 16.MAR.2021 14:50:00



Occupied Bandwidth

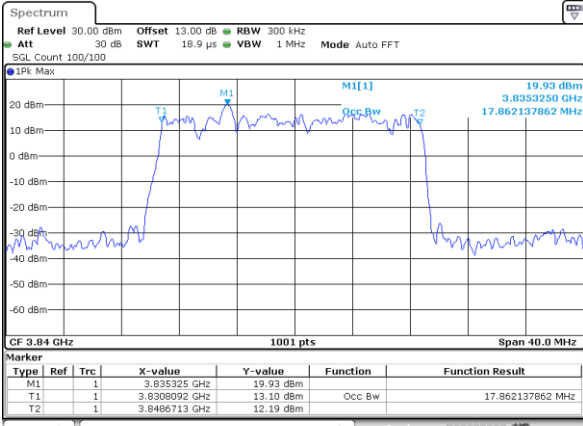
Mode	FR1 n77 : OB BW(MHz) / DFT-S OFDM							
BW	20MHz	30MHz	40MHz	50MHz	60MHz	70MHz	80MHz	90MHz
Mod.	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK
Middle CH	17.86	-	36.20	45.95	57.90	-	77.04	85.41
BW	100MHz							
Mod.	PI/2 BPSK							
Middle CH	96.50							

Mode	FR1 n77 : OB BW(MHz) / CP OFDM							
BW	20MHz		30MHz		40MHz		50MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	18.22	18.22	-	-	37.72	38.04	47.45	47.45
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	18.26	18.22	-	-	37.80	37.88	47.65	47.45
BW	60MHz		70MHz		80MHz		90MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	58.02	57.78	-	-	77.68	77.20	87.57	87.57
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	58.14	57.90	-	-	77.36	77.20	87.57	87.75
BW	100MHz							
Mod.	QPSK	16QAM						
Middle CH	97.50	97.10						
Mod.	64QAM	256QAM						
Middle CH	97.10	97.90						



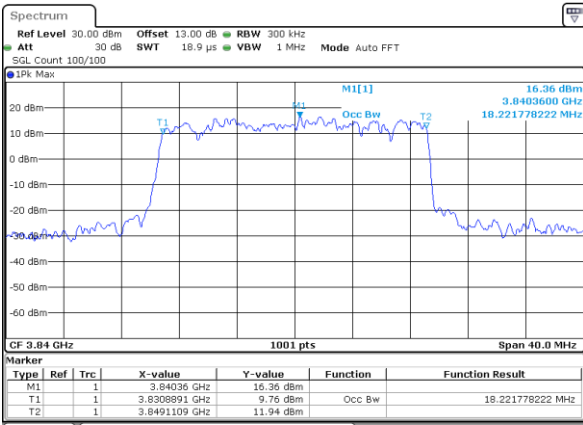
FR1 n77 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

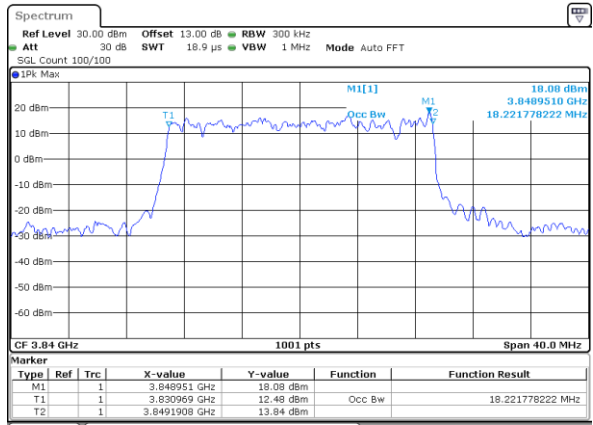


FR1 n77 / 20MHz / CP OFDM / Middle Channel / Full RB

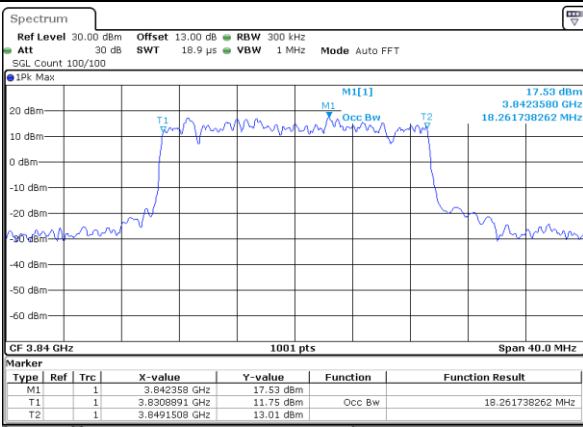
QPSK



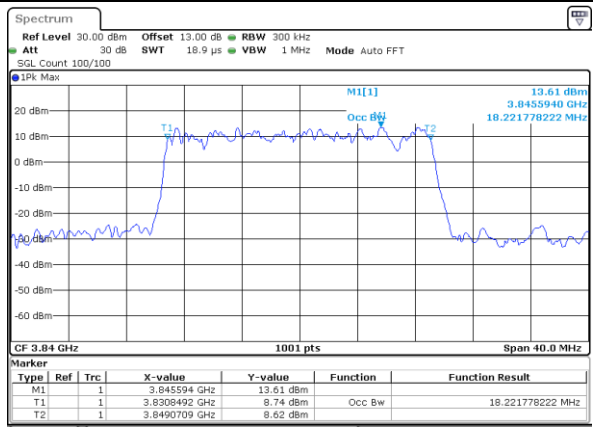
16QAM



64QAM



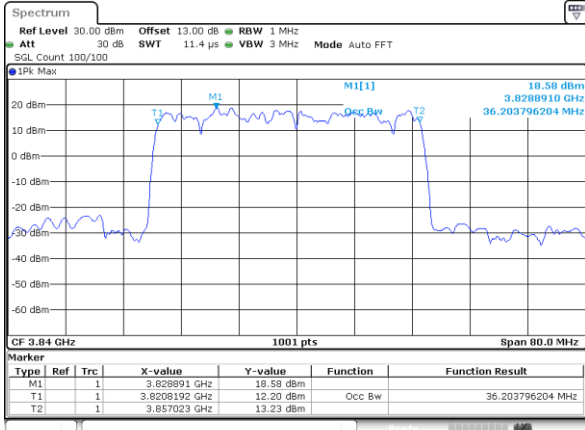
256QAM





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

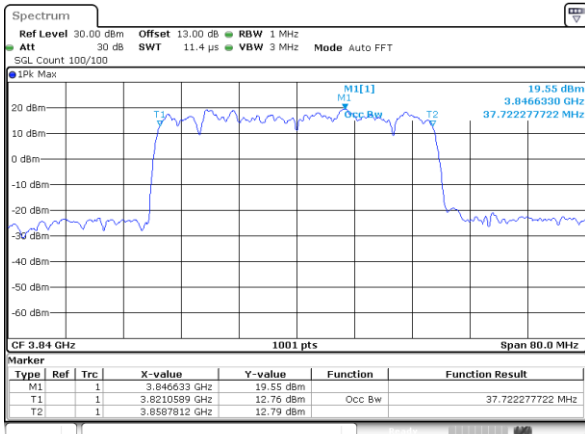
PI/2 BPSK



Date: 16.MAR.2021 15:11:35

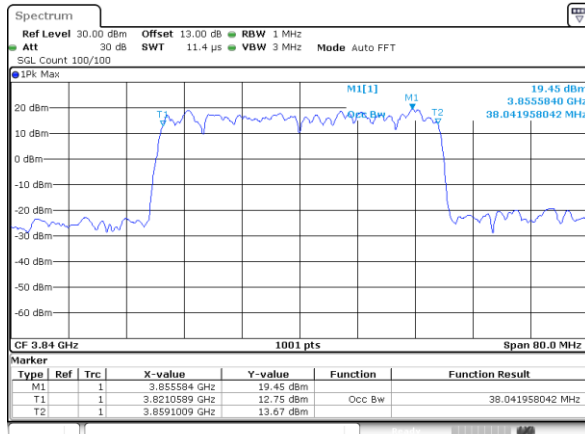
FR1 n77 / 40MHz / CP OFDM / Middle Channel / Full RB

QPSK



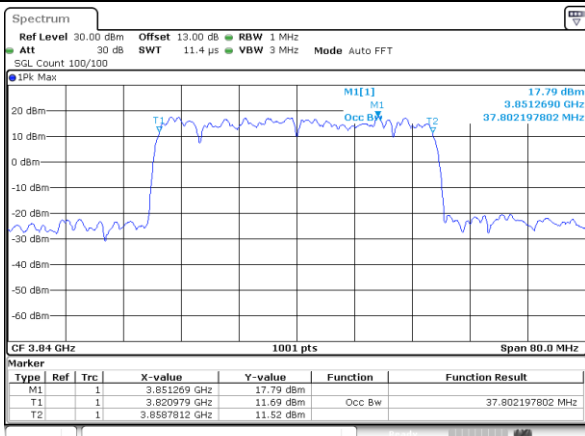
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16QAM



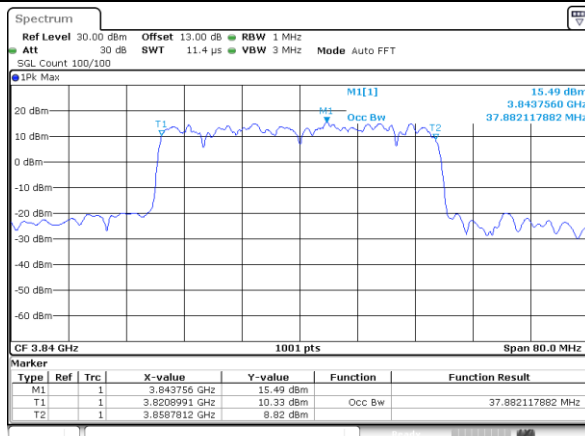
Date: 16.MAR.2021 15:10:12

64QAM



Date: 16.MAR.2021 15:09:17

256QAM

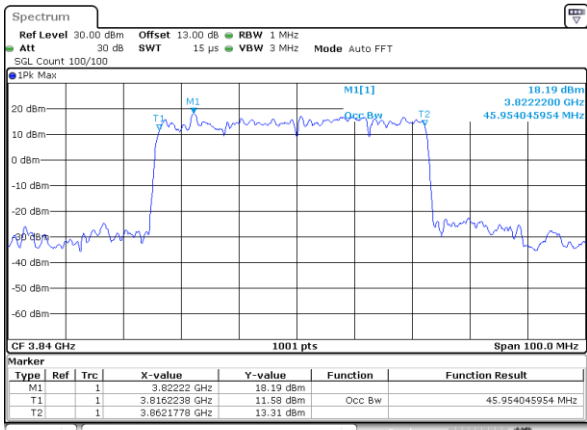


Date: 16.MAR.2021 15:06:54



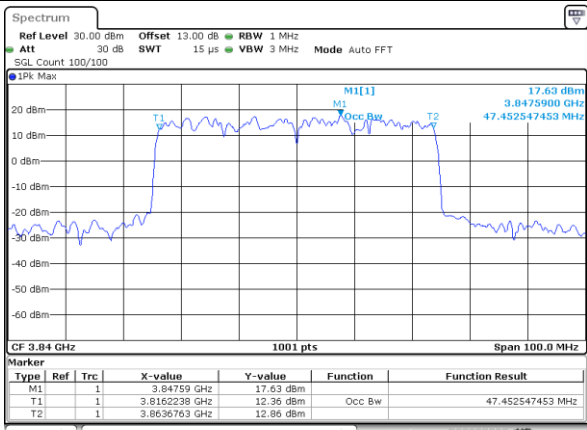
FR1 n77 / 50MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

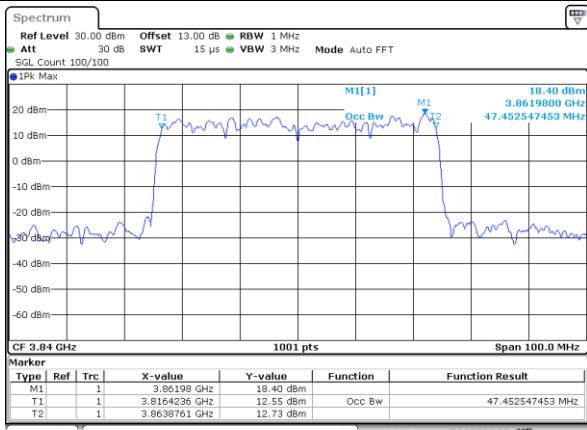


FR1 n77 / 50MHz / CP OFDM / Middle Channel / Full RB

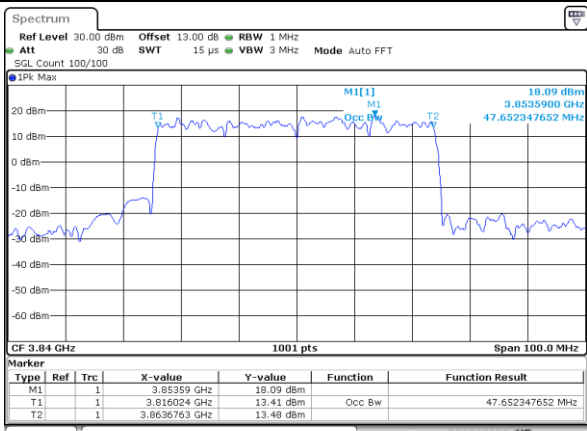
QPSK



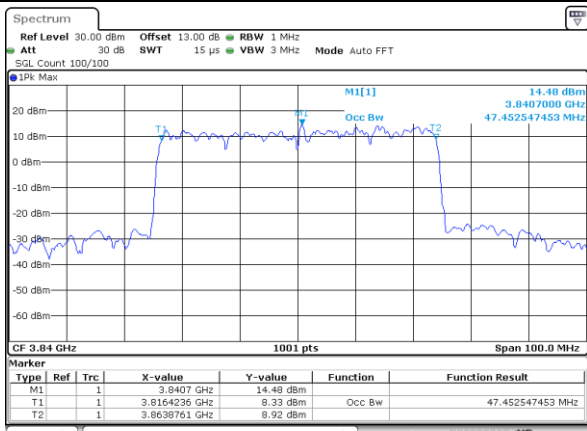
16QAM



64QAM



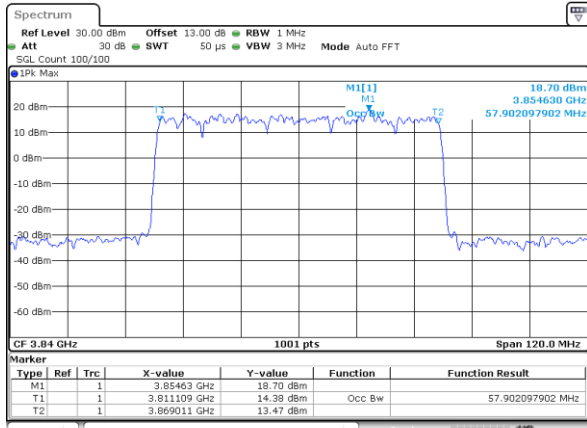
256QAM





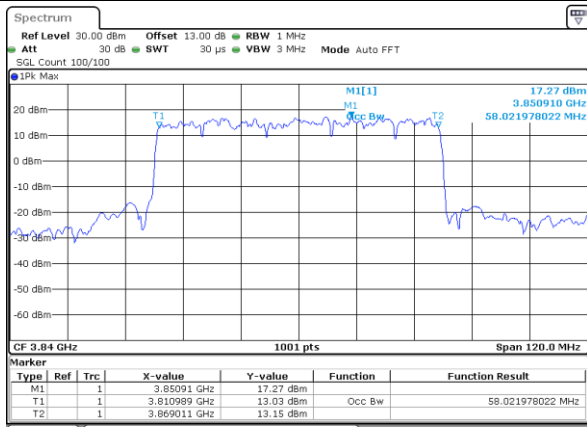
FR1 n77 / 60MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

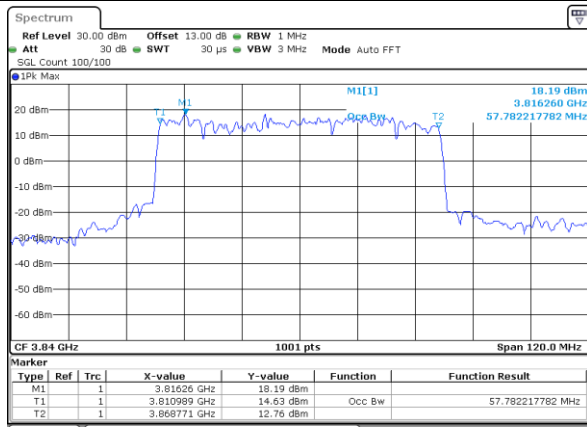


FR1 n77 / 60MHz / CP OFDM / Middle Channel / Full RB

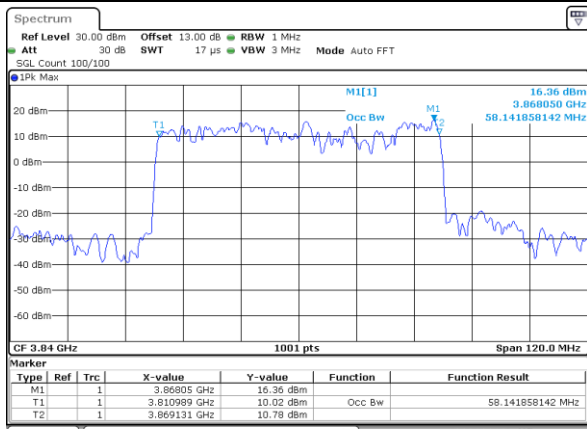
QPSK



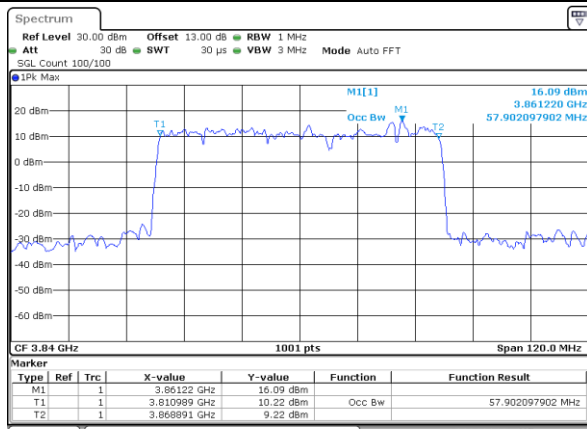
16QAM



64QAM



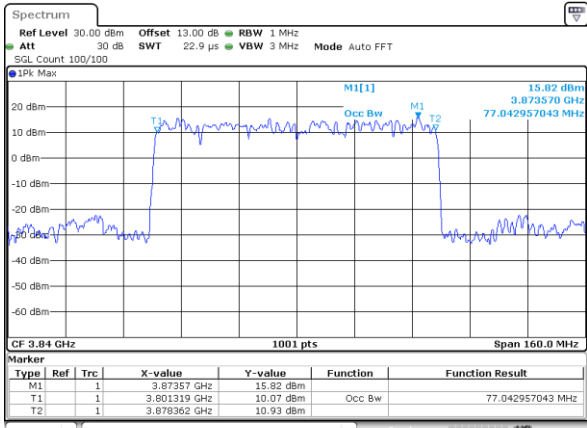
256QAM





FR1 n77 / 80MHz / DFT-S OFDM / Middle Channel / Full RB

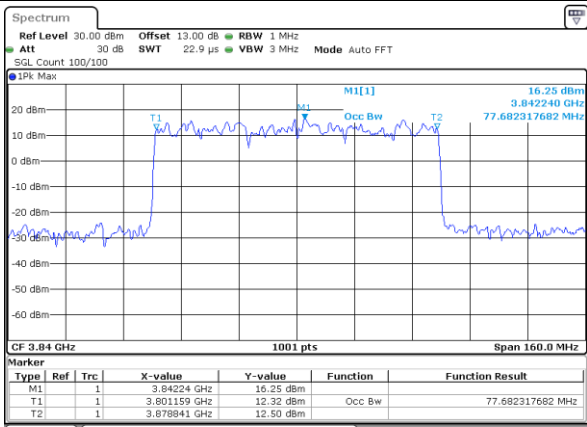
PI/2 BPSK



Date: 16.MAR.2021 14:53:54

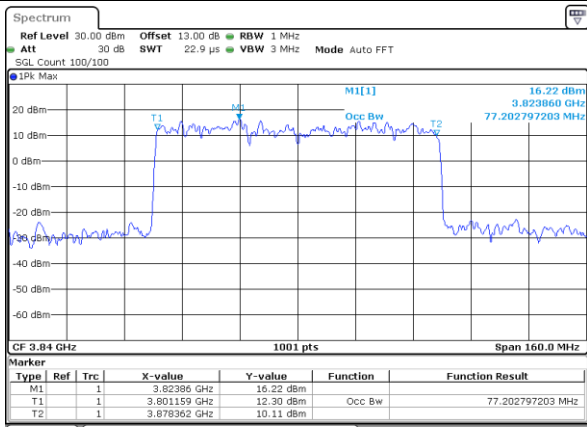
FR1 n77 / 80MHz / CP OFDM / Middle Channel / Full RB

QPSK



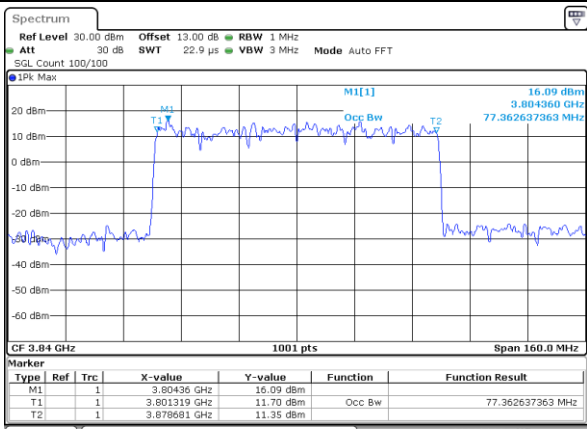
Date: 16.MAR.2021 14:54:56

16QAM



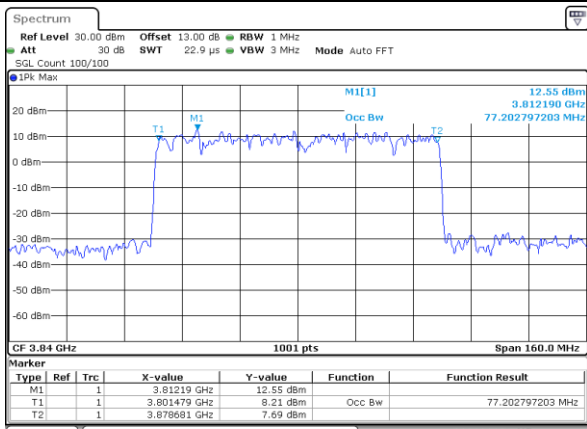
Date: 16.MAR.2021 14:55:21

64QAM



Date: 16.MAR.2021 14:55:50

256QAM

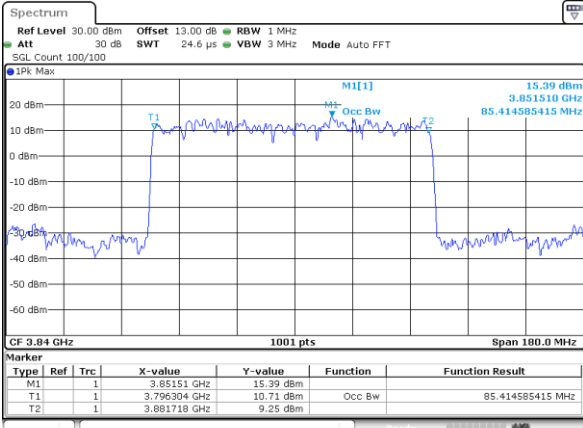


Date: 16.MAR.2021 14:56:19



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

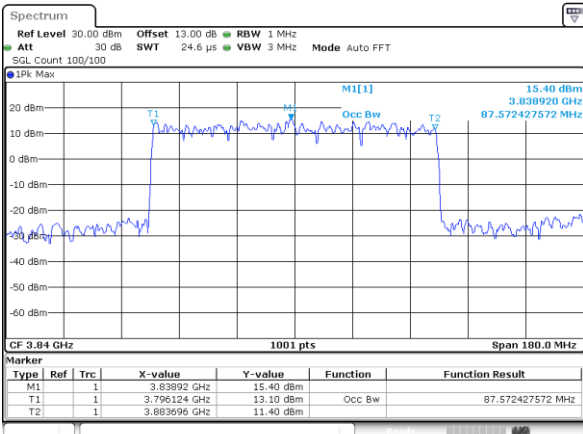
PI/2 BPSK



Date: 16.MAR.2021 14:52:51

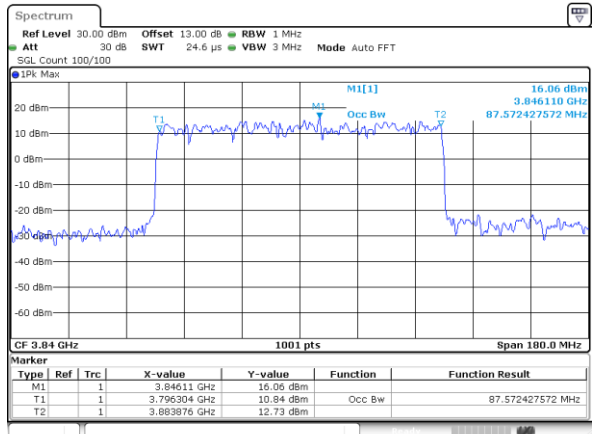
FR1 n77 / 90MHz / CP OFDM / Middle Channel / Full RB

QPSK



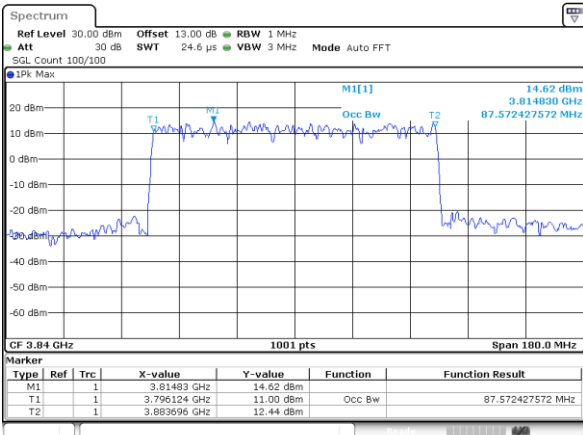
Date: 16.MAR.2021 14:52:02

16QAM



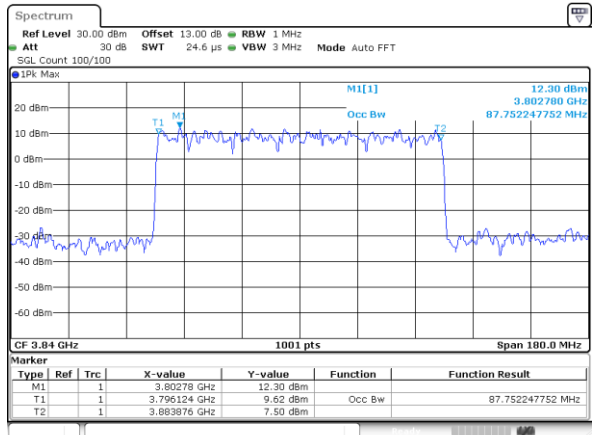
Date: 16.MAR.2021 14:51:37

64QAM



Date: 16.MAR.2021 14:51:06

256QAM

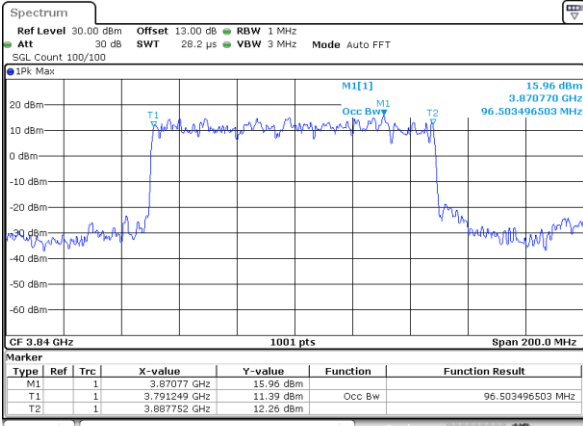


Date: 16.MAR.2021 14:51:40



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

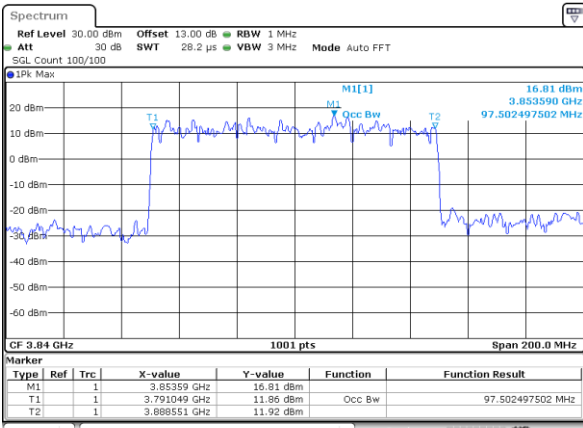
PI/2 BPSK



Date: 16.MAR.2021 14:46:45

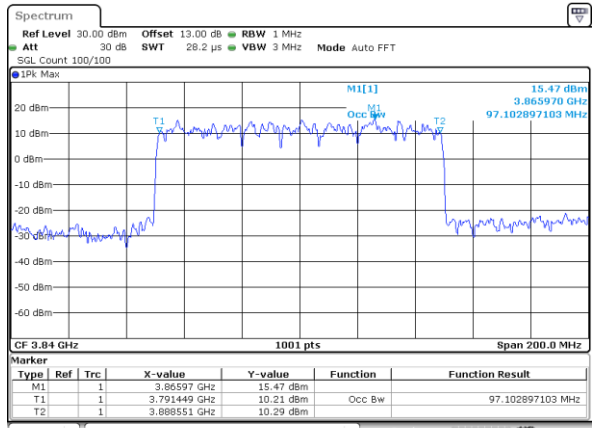
FR1 n77 / 100MHz / CP OFDM / Middle Channel / Full RB

QPSK



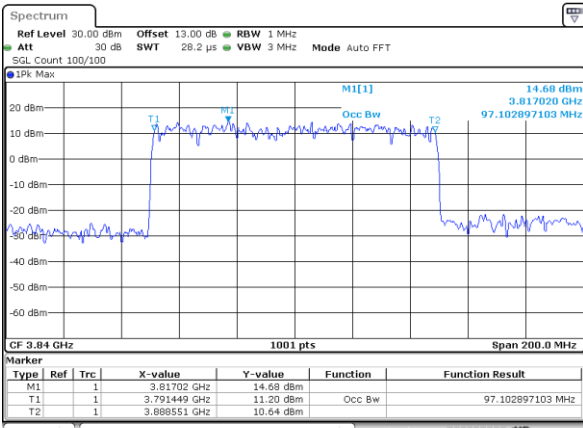
Date: 16.MAR.2021 14:47:55

16QAM



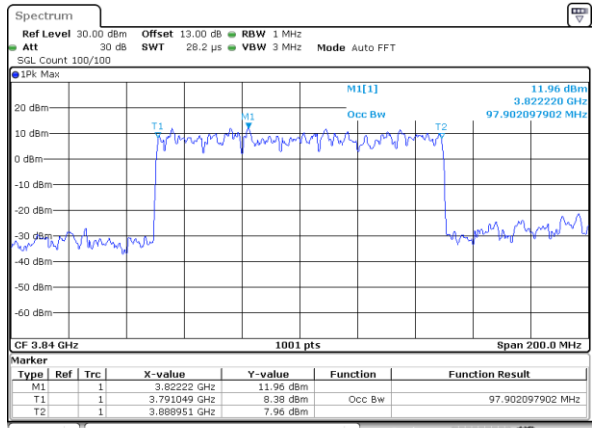
Date: 16.MAR.2021 14:48:28

64QAM



Date: 16.MAR.2021 14:49:10

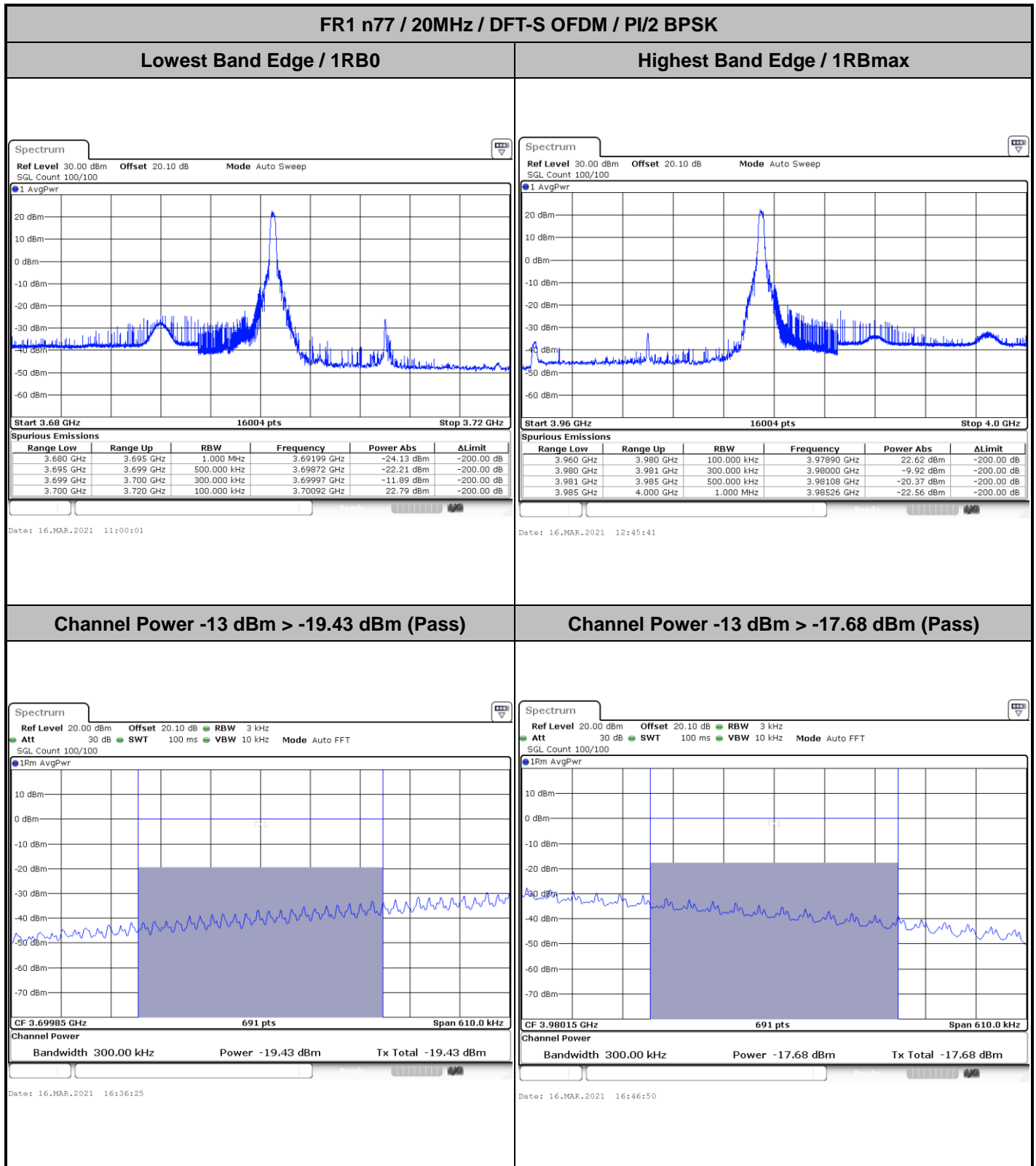
256QAM



Date: 16.MAR.2021 14:49:37



Conducted Band Edge

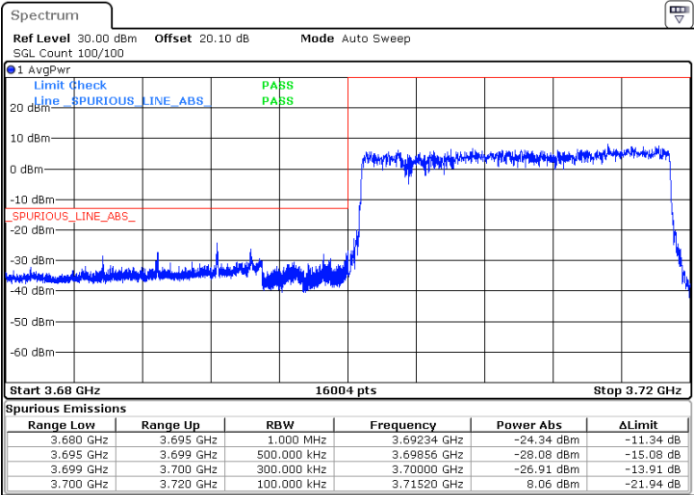




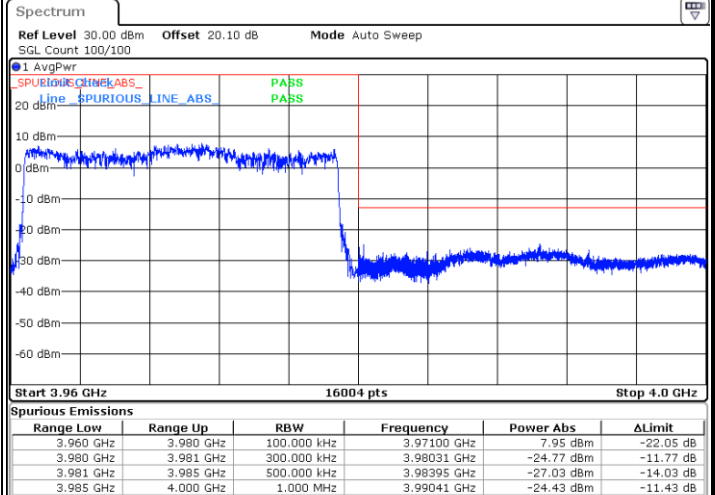
FR1 n77 / 20MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 16.MAR.2021 11:00:34



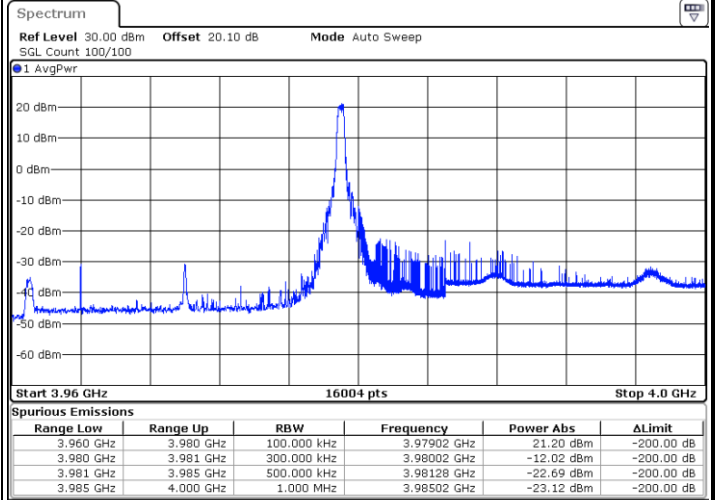
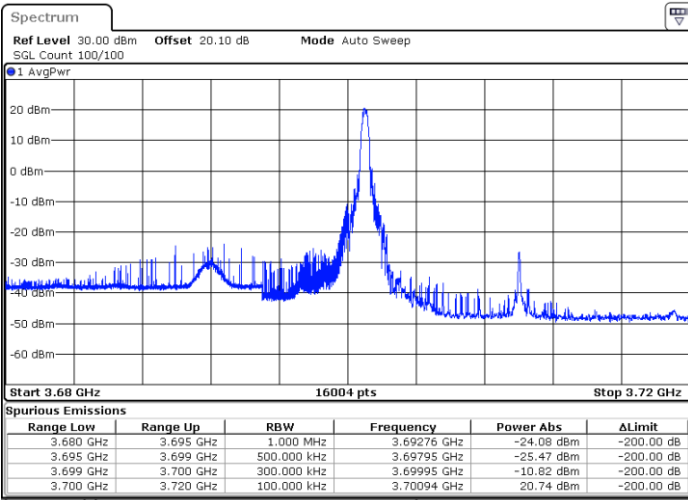
Date: 16.MAR.2021 12:47:47



FR1 n77 / 20MHz / DFT-S OFDM / QPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

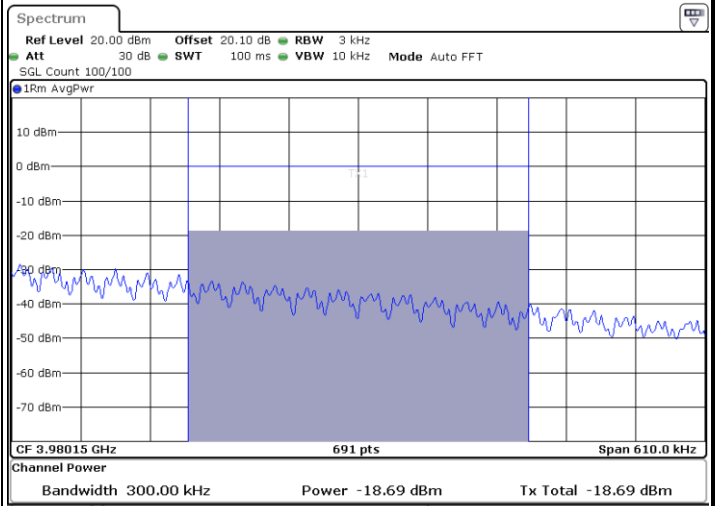
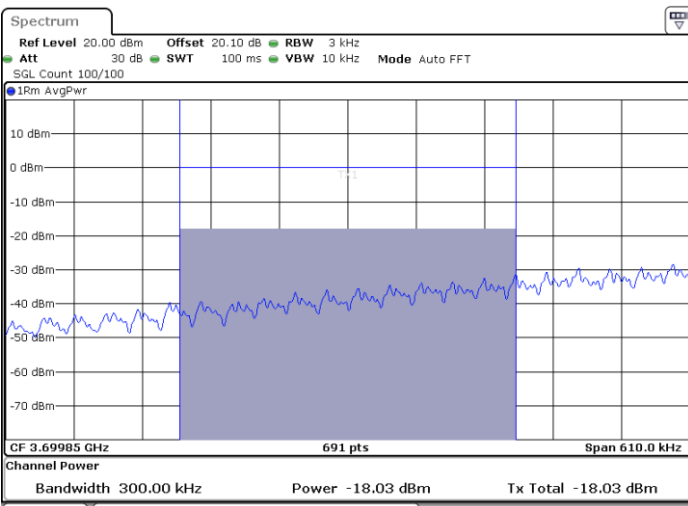


Date: 16.MAR.2021 10:54:50

Date: 16.MAR.2021 12:47:01

Channel Power -13 dBm > -18.03 dBm (Pass)

Channel Power -13 dBm > -18.69 dBm (Pass)



Date: 16.MAR.2021 16:37:57

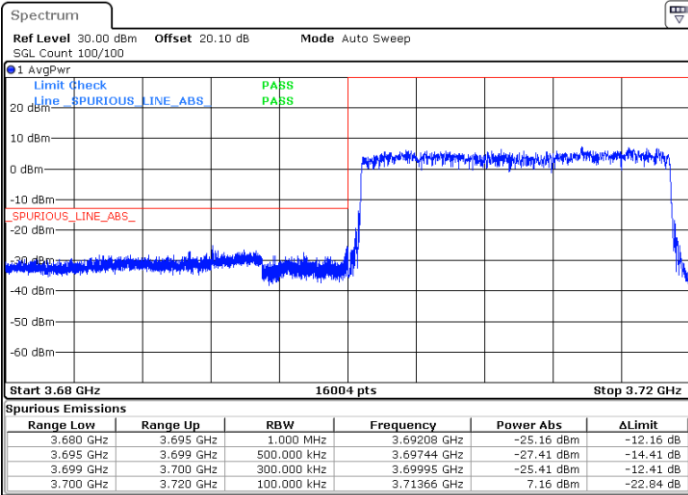
Date: 16.MAR.2021 16:46:00



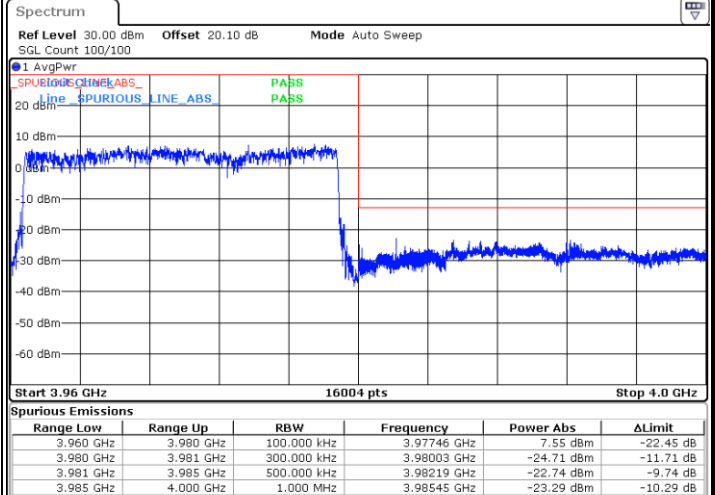
FR1 n77 / 20MHz / DFT-S OFDM / QPSK

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 16.MAR.2021 10:55:33



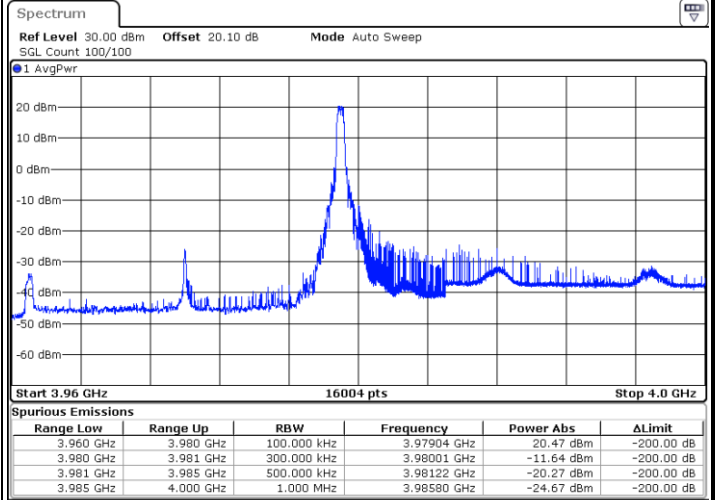
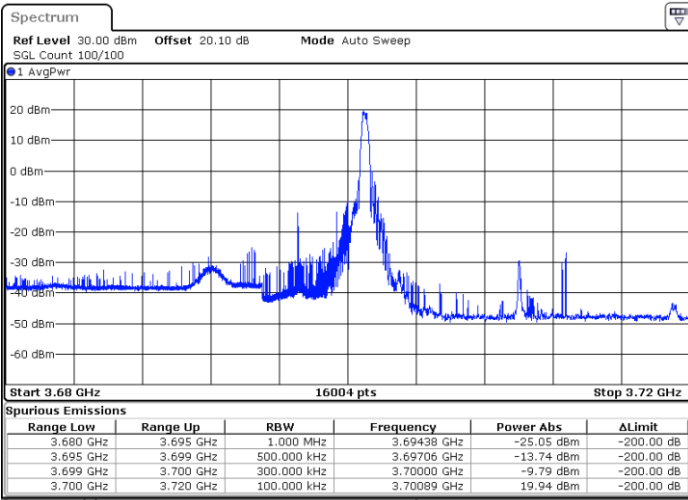
Date: 16.MAR.2021 12:48:36



FR1 n77 / 20MHz / DFT-S OFDM / 16QAM

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

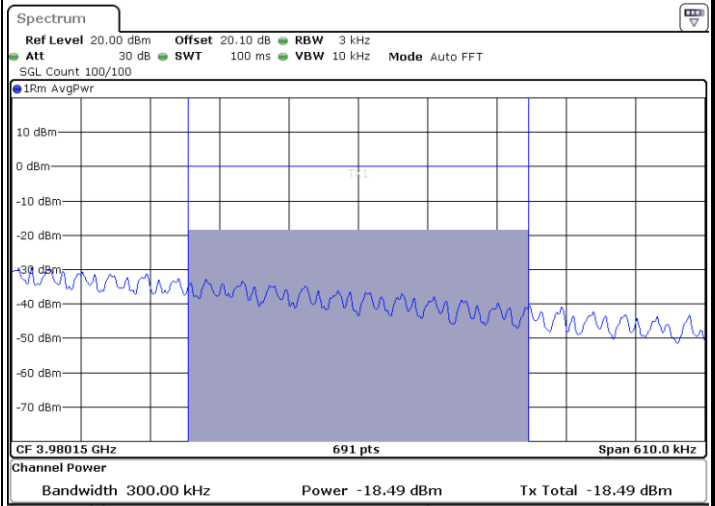
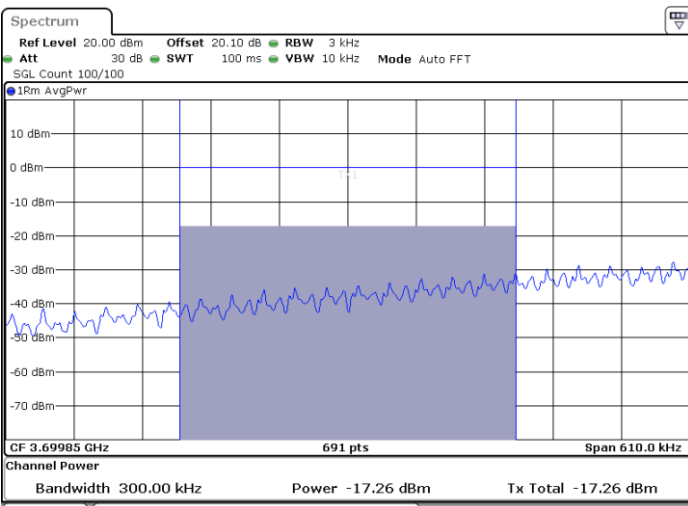


Date: 16.MAR.2021 11:02:28

Date: 16.MAR.2021 12:44:32

Channel Power -13 dBm > -17.26 dBm (Pass)

Channel Power -13 dBm > -18.49 dBm (Pass)



Date: 16.MAR.2021 16:39:13

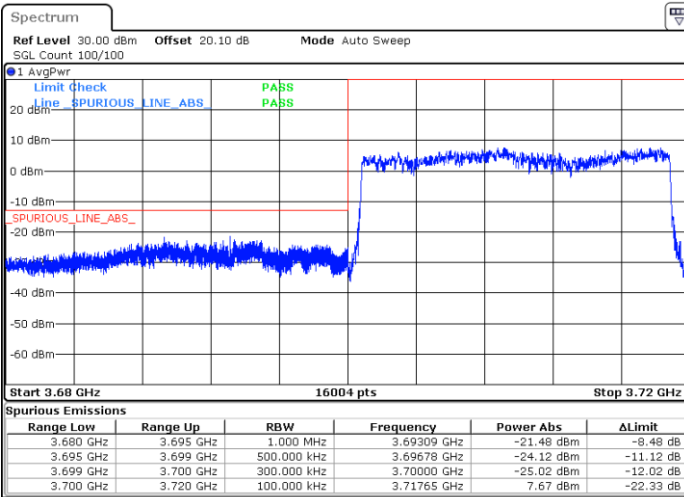
Date: 16.MAR.2021 16:44:54



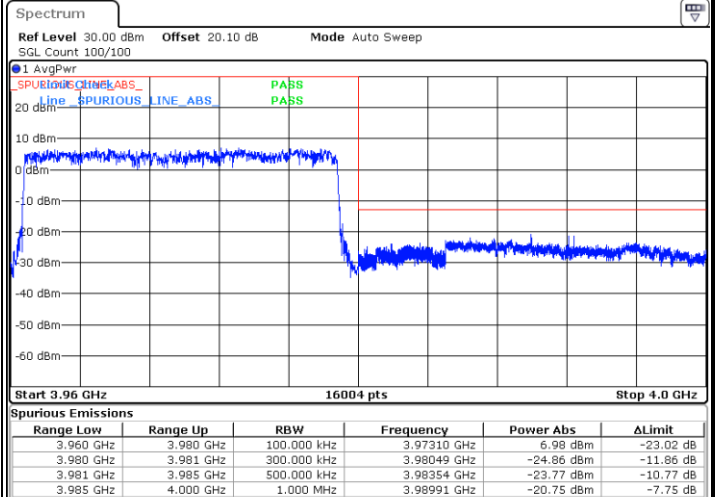
FR1 n77 / 20MHz / DFT-S OFDM / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 16.MAR.2021 11:01:28



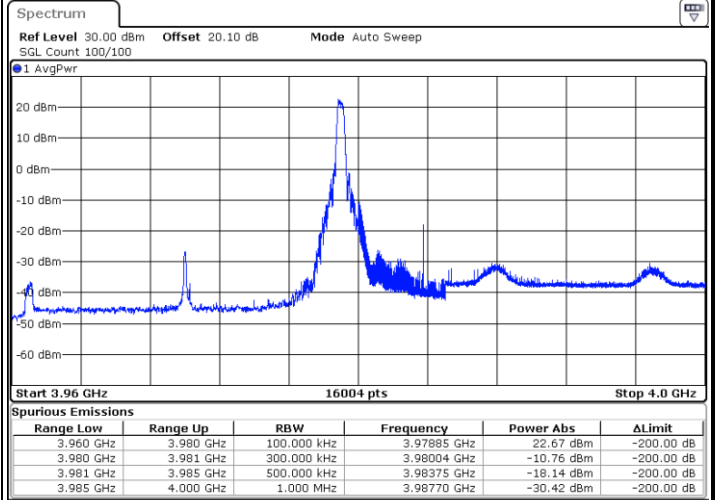
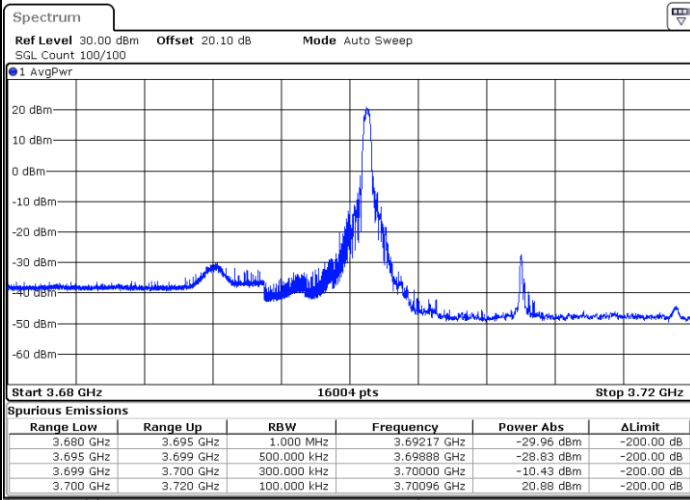
Date: 16.MAR.2021 12:43:53



FR1 n77 / 20MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

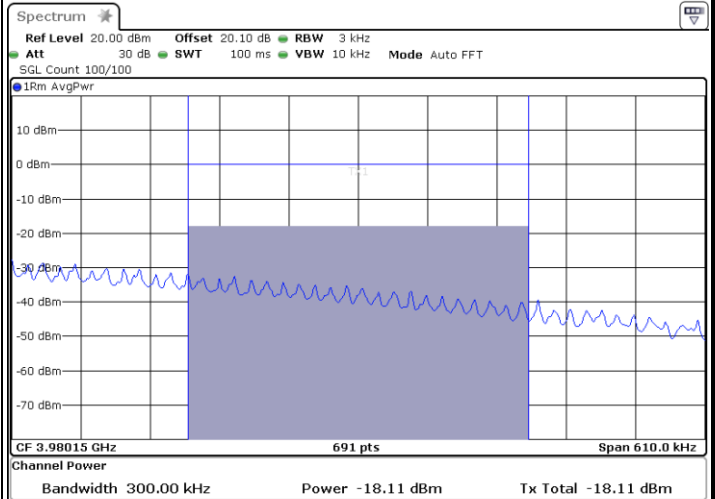
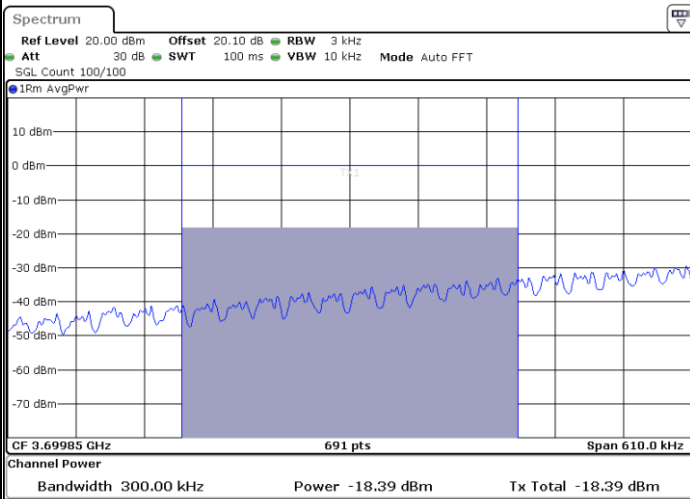


Date: 16.MAR.2021 11:04:26

Date: 16.MAR.2021 12:42:16

Channel Power -13 dBm > -18.39 dBm (Pass)

Channel Power -13 dBm > -18.11 dBm (Pass)



Date: 16.MAR.2021 16:40:15

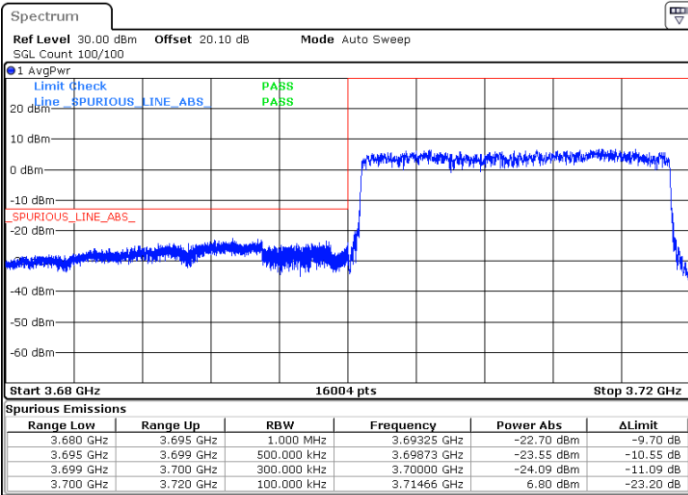
Date: 16.MAR.2021 16:43:18



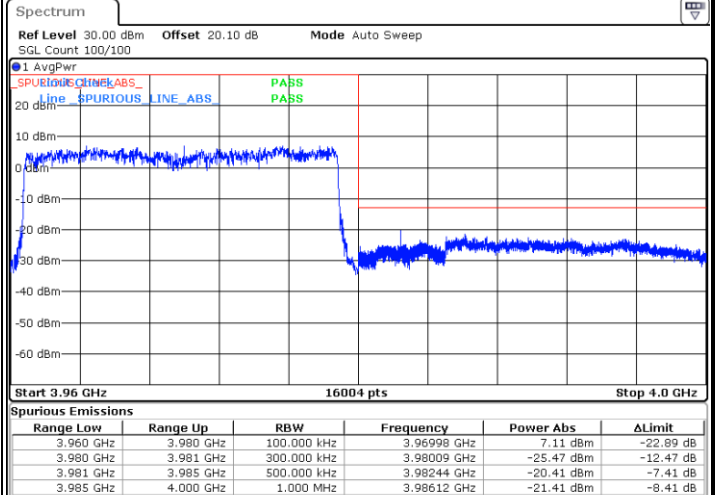
FR1 n77 / 20MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 16.MAR.2021 11:06:14



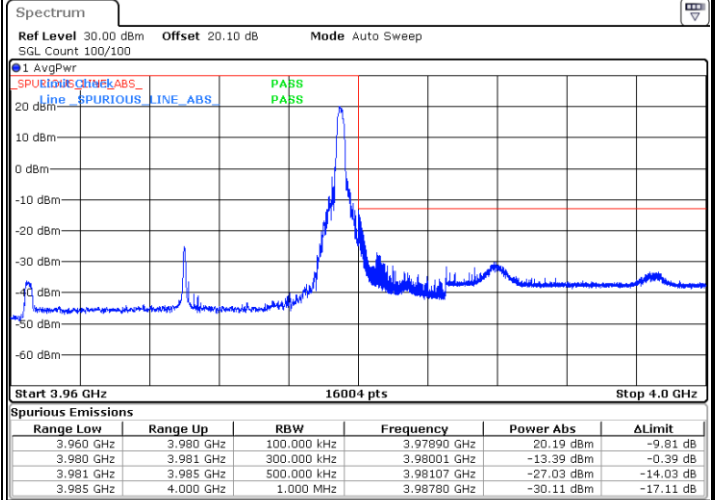
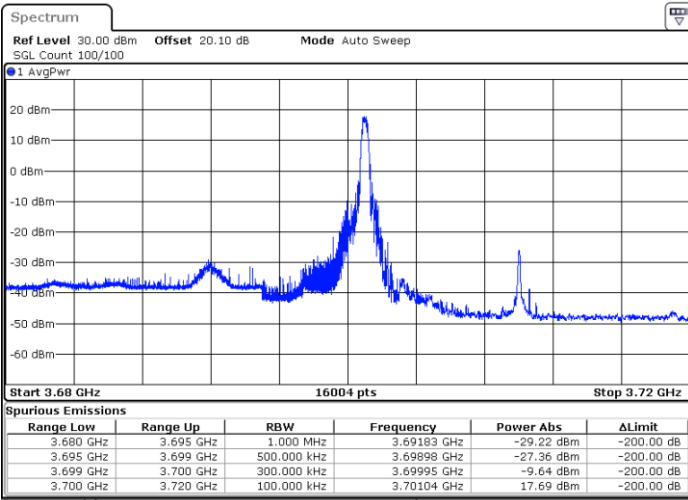
Date: 16.MAR.2021 12:41:01



FR1 n77 / 20MHz / DFT-S OFDM / 256QAM

Lowest Band Edge / 1RB0

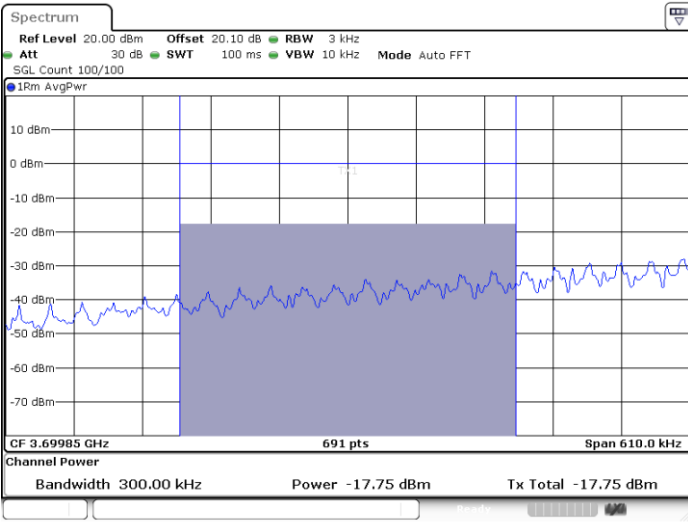
Highest Band Edge / 1RBmax



Date: 16.MAR.2021 12:51:05

Date: 16.MAR.2021 12:38:26

Channel Power -13 dBm > -17.75 dBm



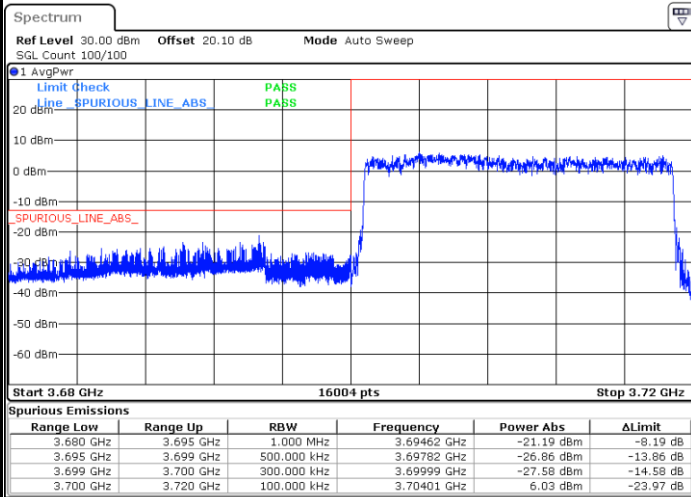
Date: 16.MAR.2021 16:40:50



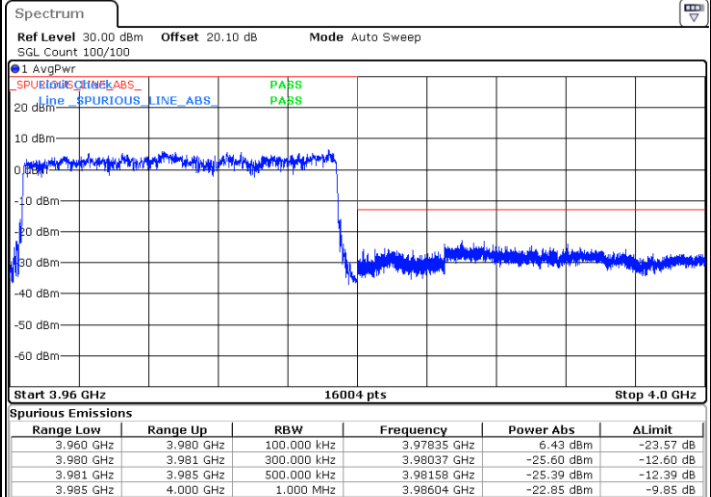
FR1 n77 / 20MHz / DFT-S OFDM / 256QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 16.MAR.2021 11:07:51



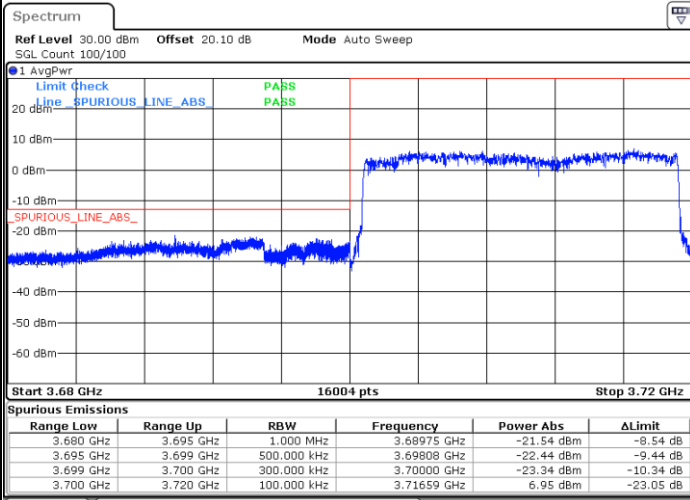
Date: 16.MAR.2021 12:39:21



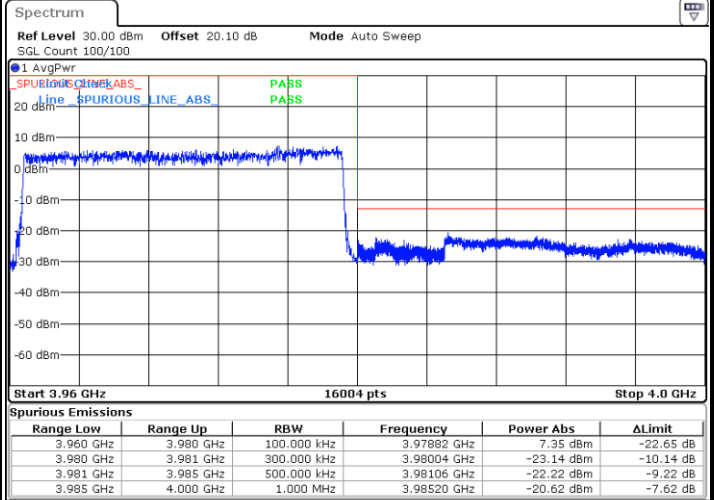
FR1 n77 / 20MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge



Date: 16.MAR.2021 10:56:20



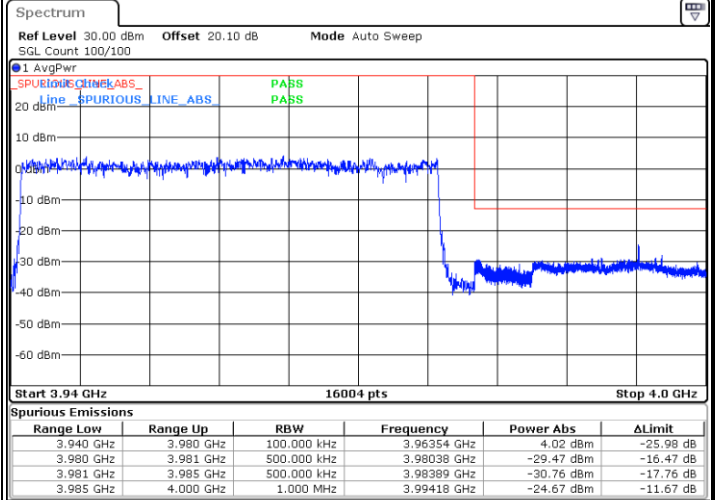
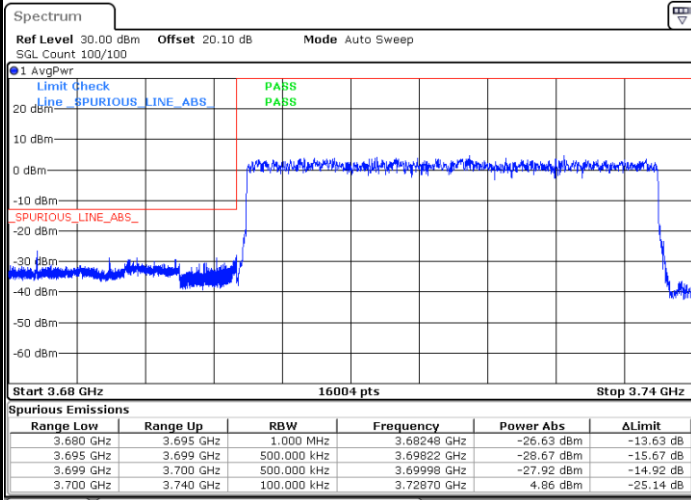
Date: 16.MAR.2021 12:49:34



FR1 n77 / 40MHz / DFT-S OFDM / PI/2 BPSK / Full RB

Lowest Band Edge

Highest Band Edge



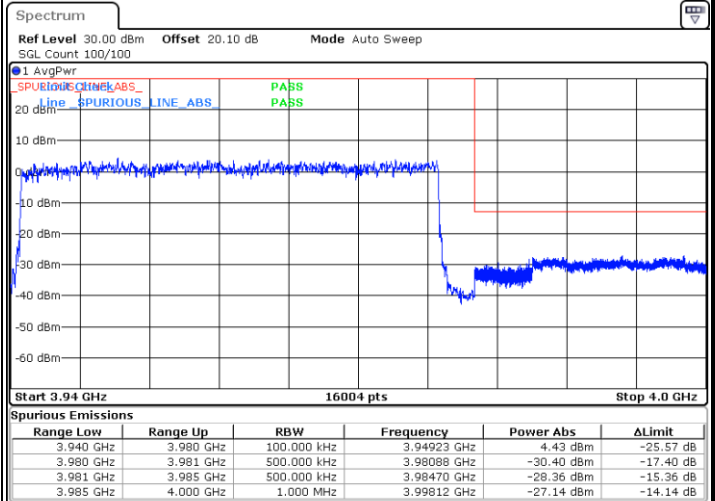
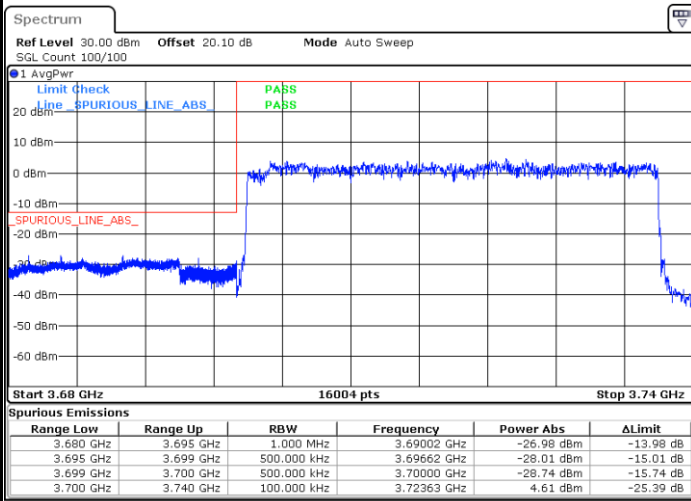
Date: 16.MAR.2021 13:40:21

Date: 16.MAR.2021 13:41:10

FR1 n77 / 40MHz / DFT-S OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge



Date: 16.MAR.2021 13:37:54

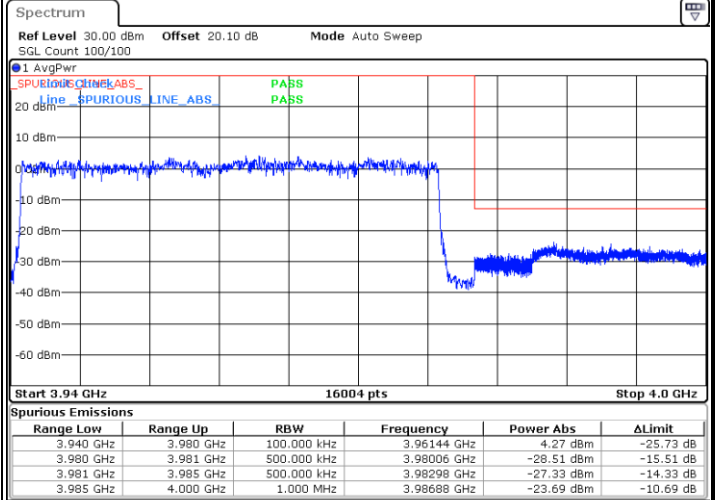
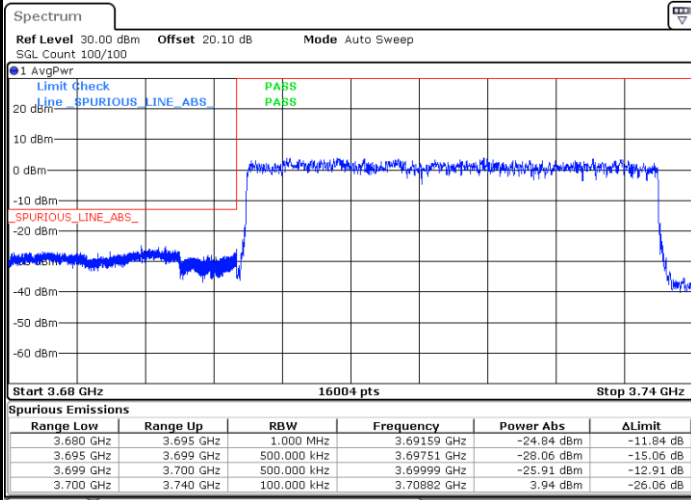
Date: 16.MAR.2021 13:41:48



FR1 n77 / 40MHz / DFT-S OFDM / 16QAM / Full RB

Lowest Band Edge

Highest Band Edge



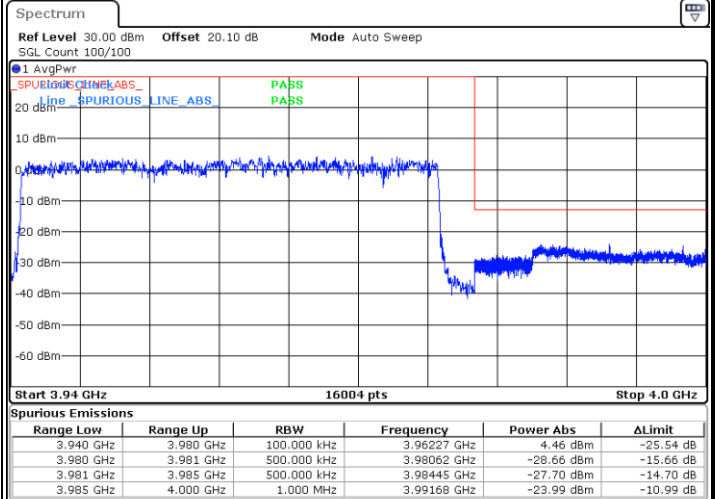
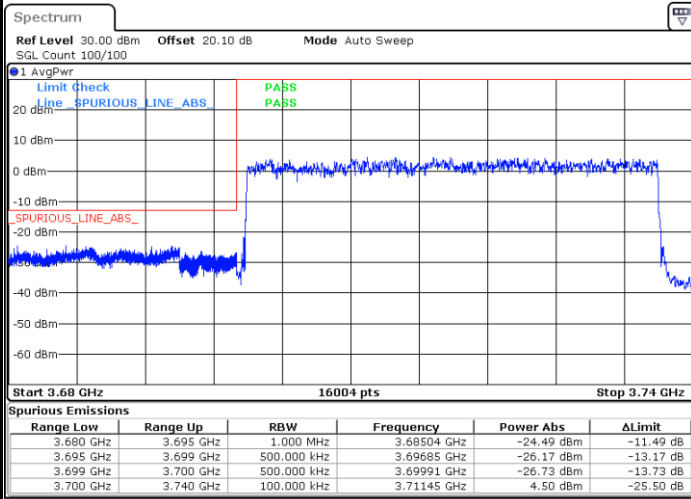
Date: 16.MAR.2021 13:38:26

Date: 16.MAR.2021 13:42:15

FR1 n77 / 40MHz / DFT-S OFDM / 64QAM / Full RB

Lowest Band Edge

Highest Band Edge



Date: 16.MAR.2021 13:39:16

Date: 16.MAR.2021 13:42:51