



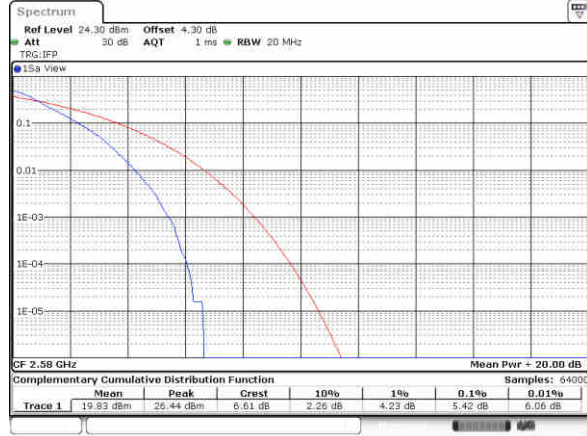
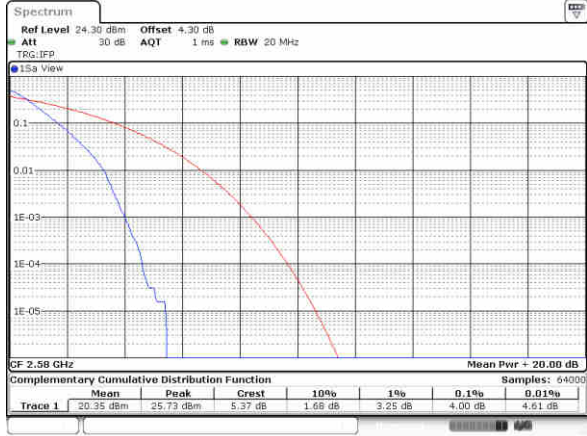
FR1 n38 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

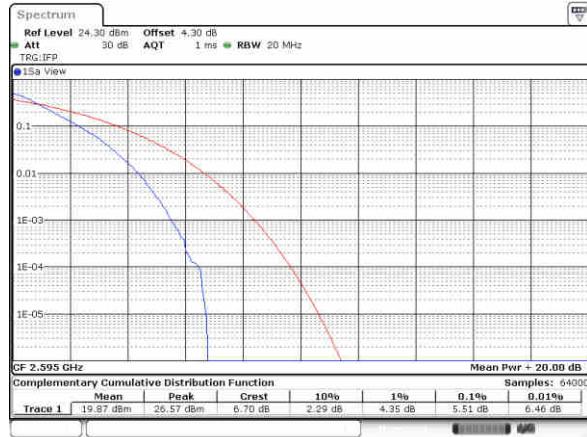
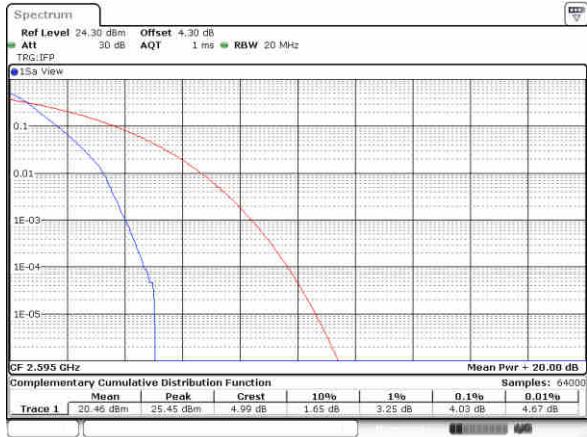
Lowest Channel / Full RB

Lowest Channel / Full RB



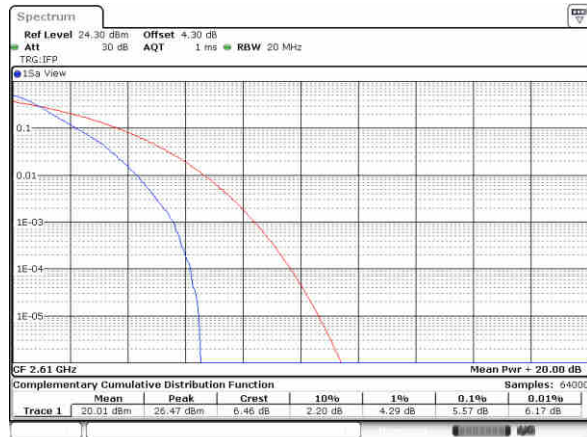
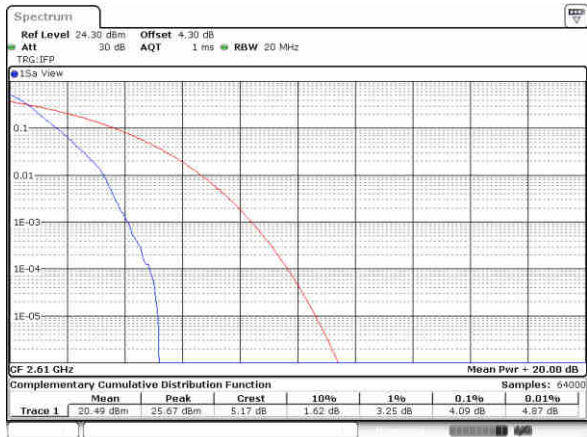
Middle Channel / Full RB

Middle Channel / Full RB



Highest Channel / Full RB

Highest Channel / Full RB





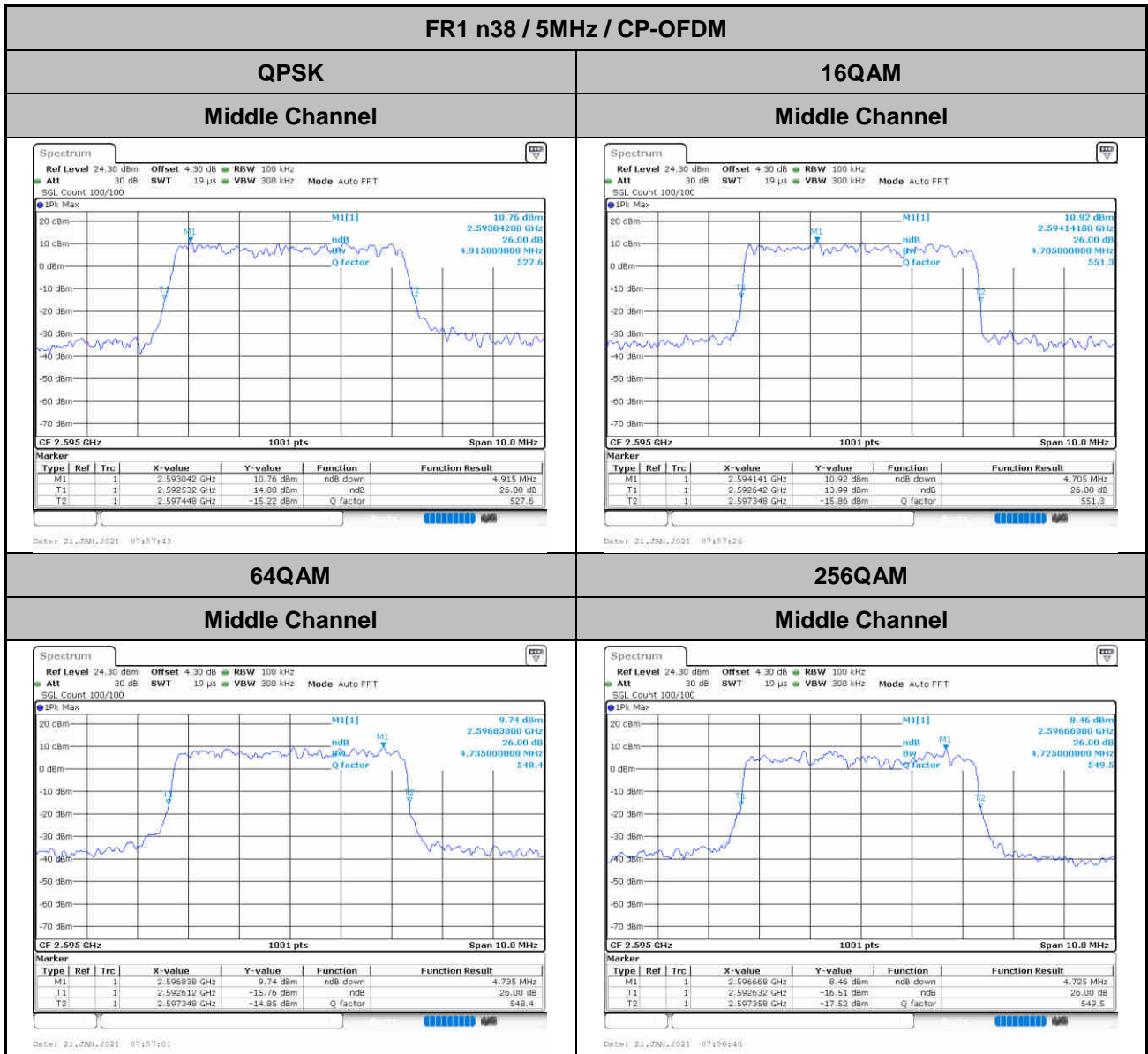
**26dB Bandwidth**

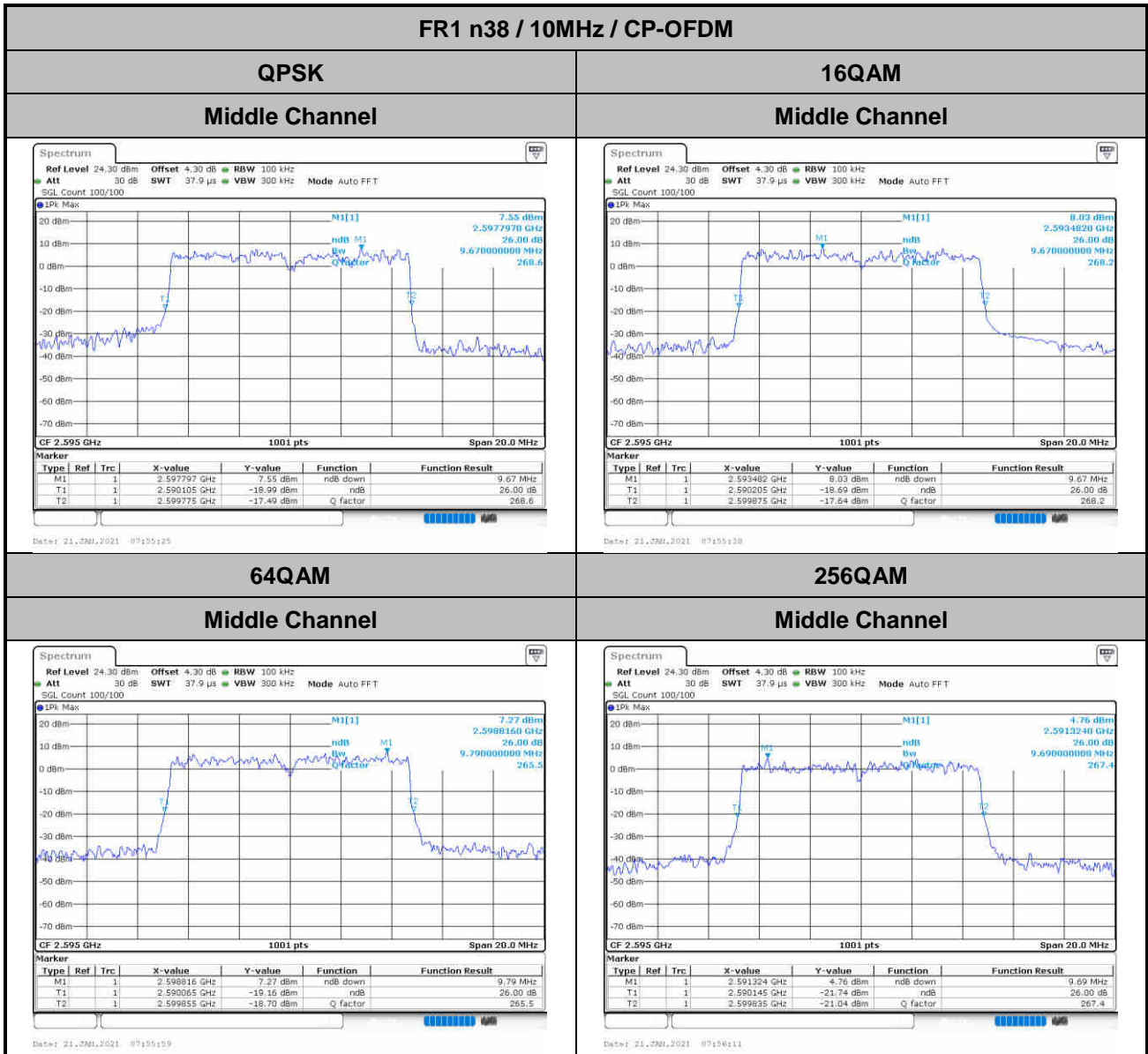
Mode	FR1 n38 : 26dB BW(MHz) / CP-OFDM							
BW	5MHz	5MHz	5MHz	5MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	4.92	4.71	4.74	4.73				

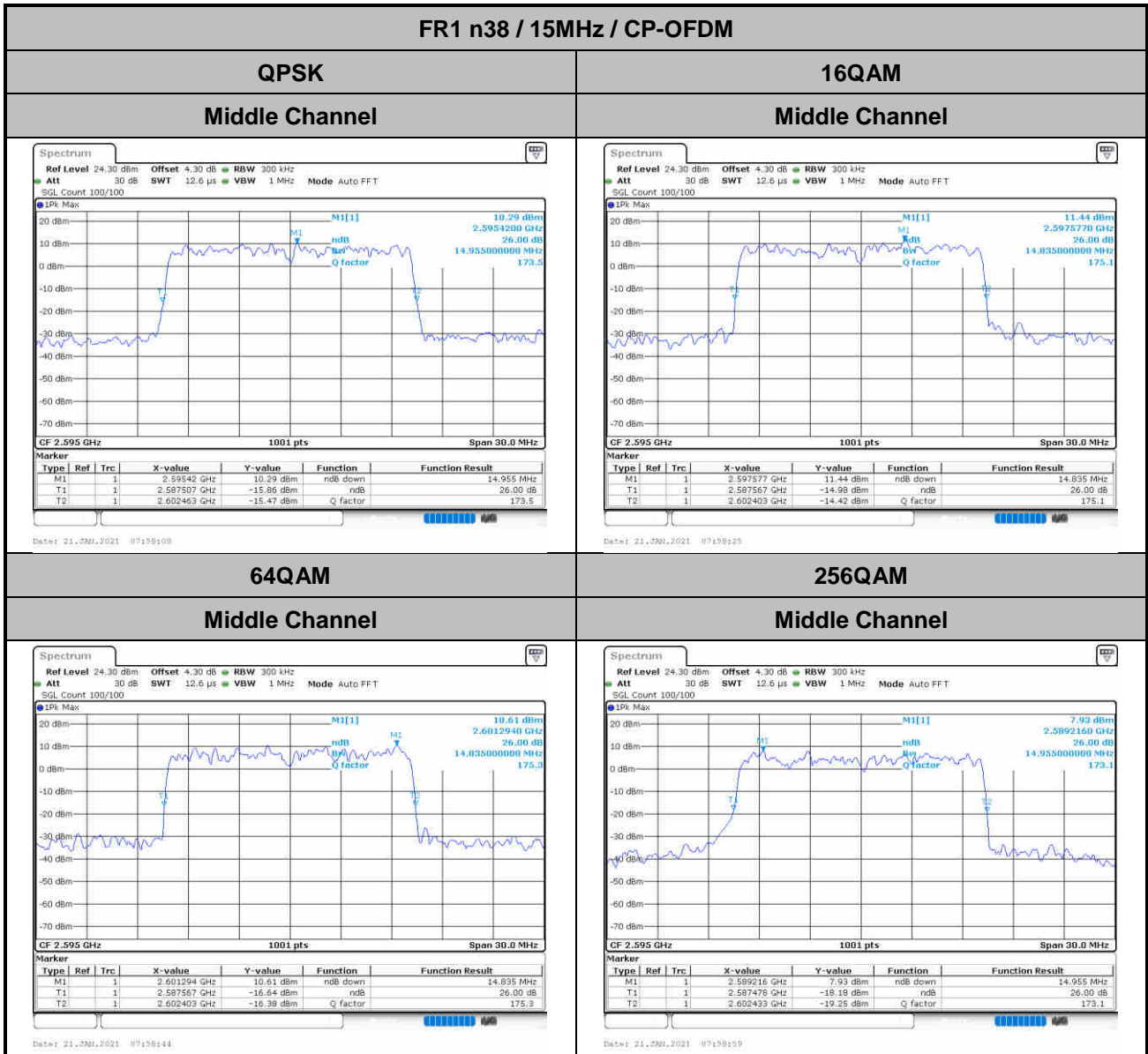
Mode	FR1 n38 : 26dB BW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	9.67	9.67	9.79	9.69				

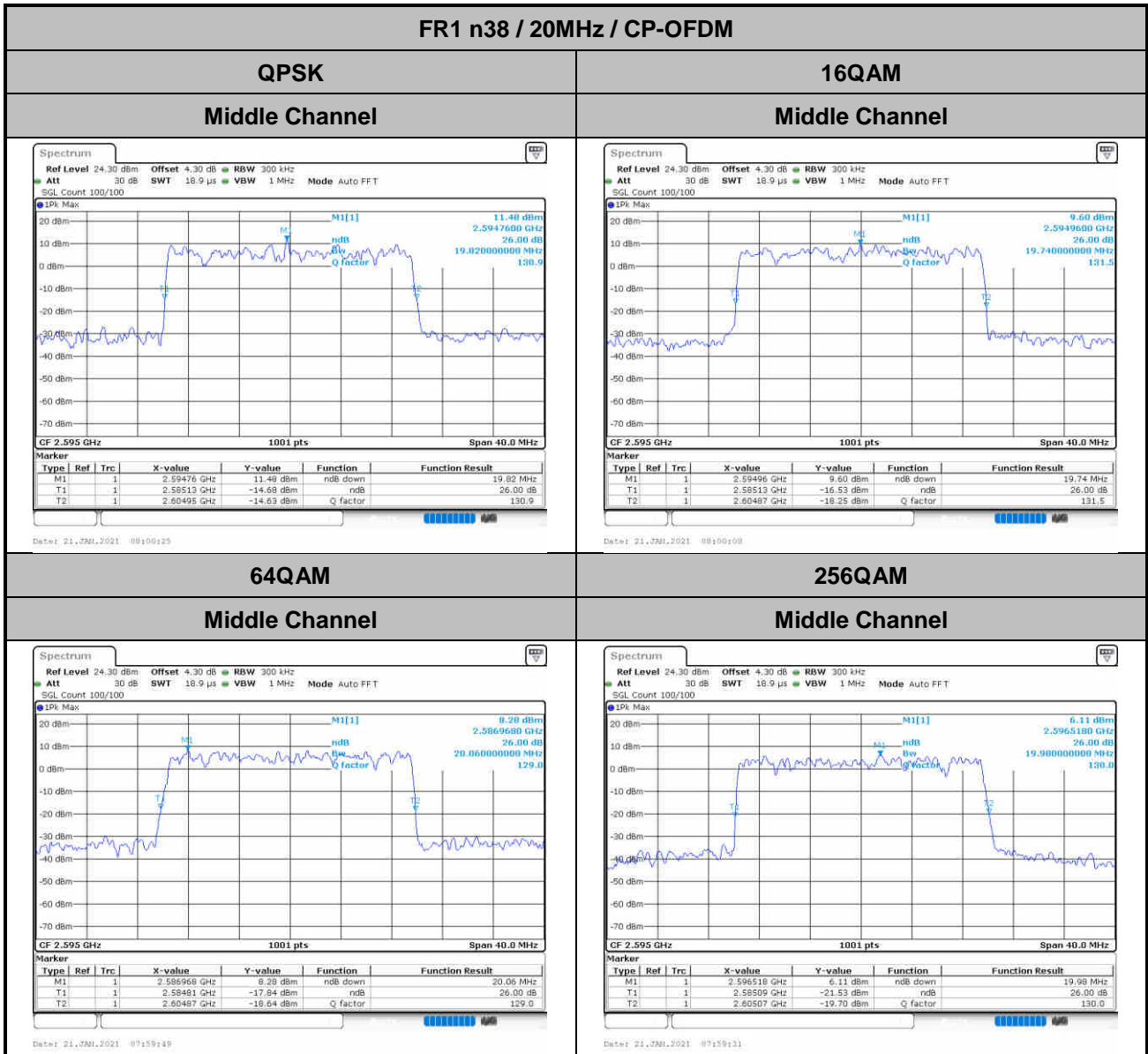
Mode	FR1 n38 : 26dB BW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	14.96	14.84	14.84	14.96				

Mode	FR1 n38 : 26dB BW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	19.82	19.74	20.06	19.98				











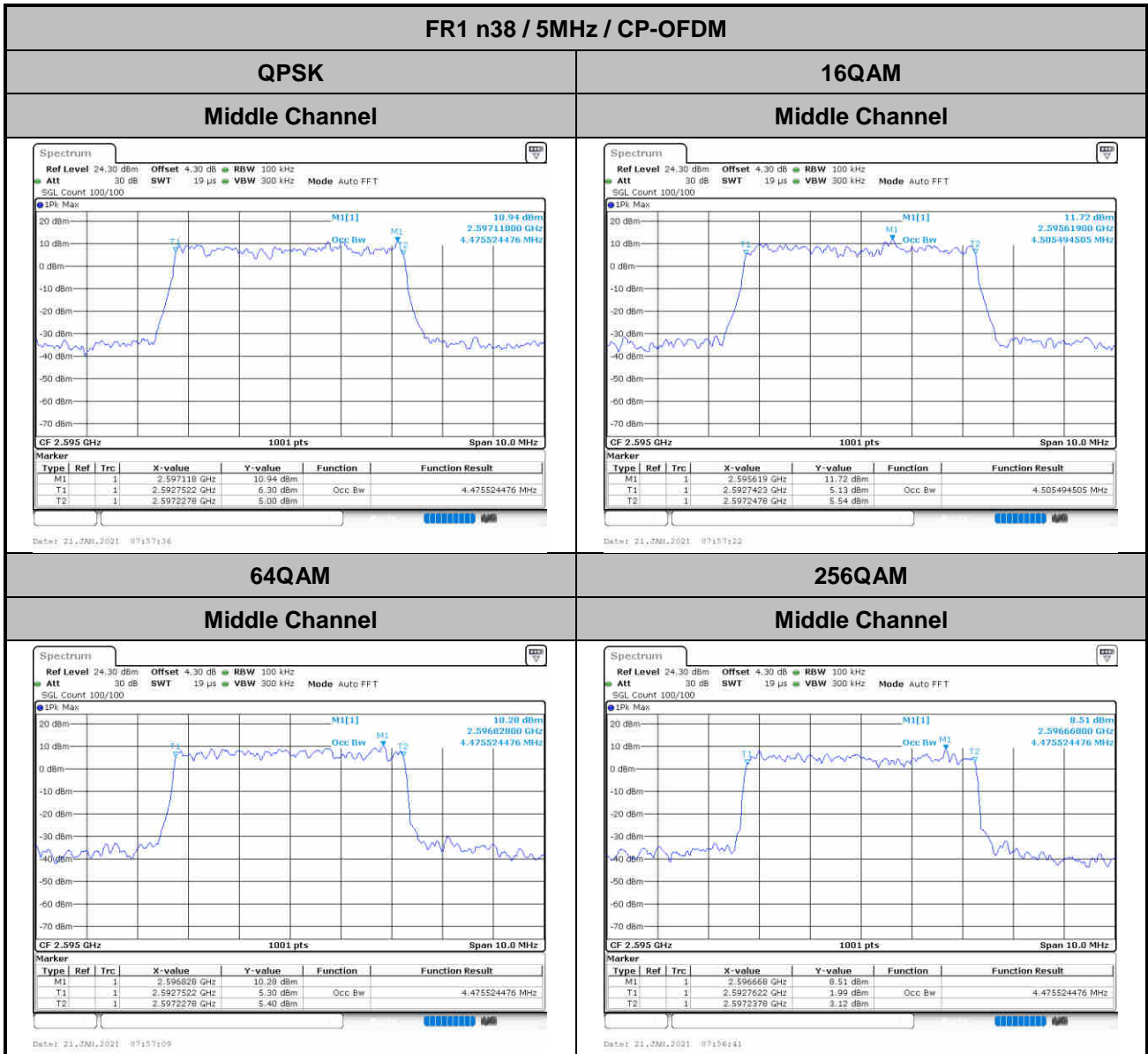
### Occupied Bandwidth

Mode	FR1 n38 : OBW(MHz) / CP-OFDM							
BW	5MHz	5MHz	5MHz	5MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	4.48	4.51	4.48	4.48				

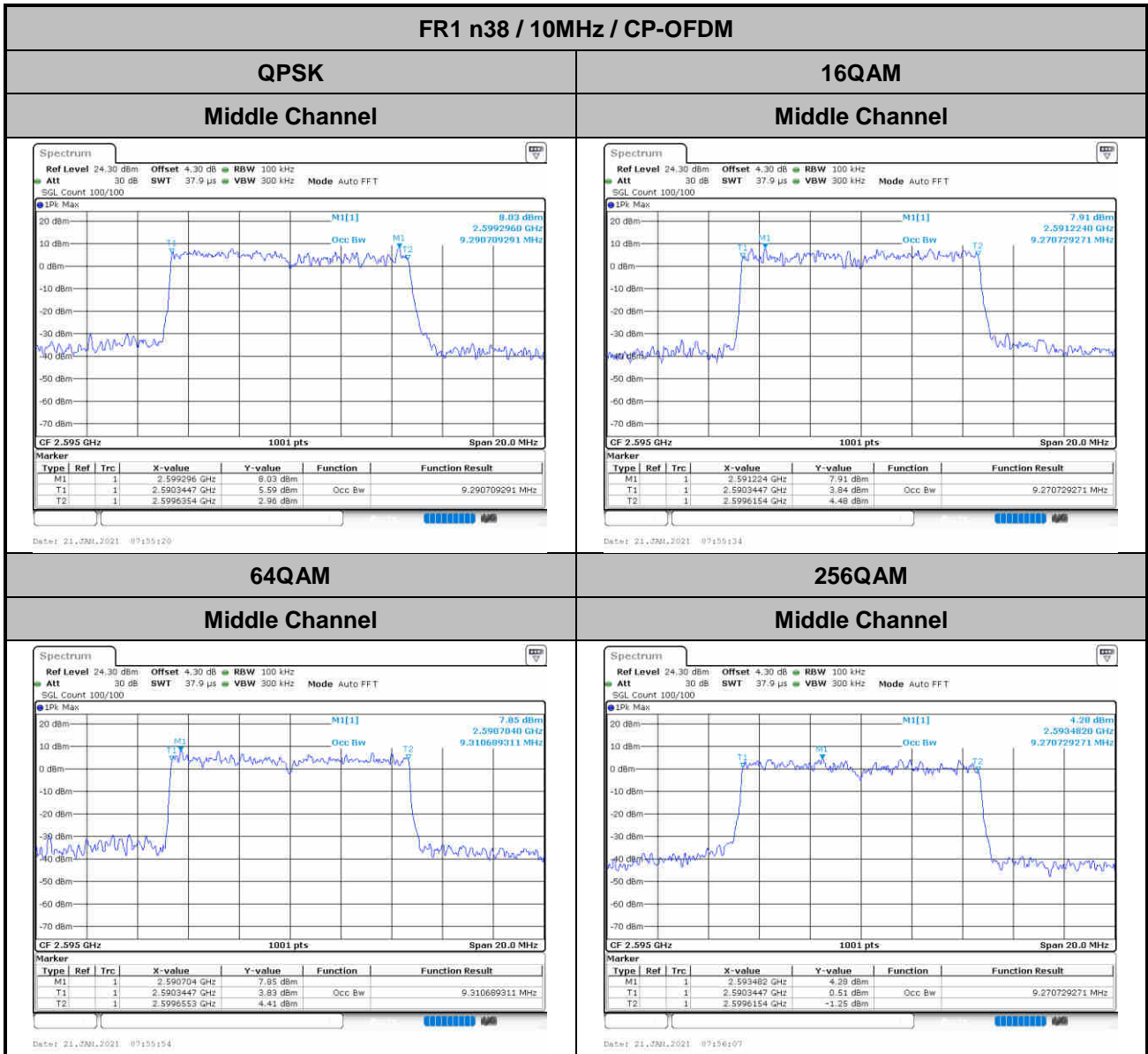
Mode	FR1 n38 : OBW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	9.29	9.27	9.31	9.27				

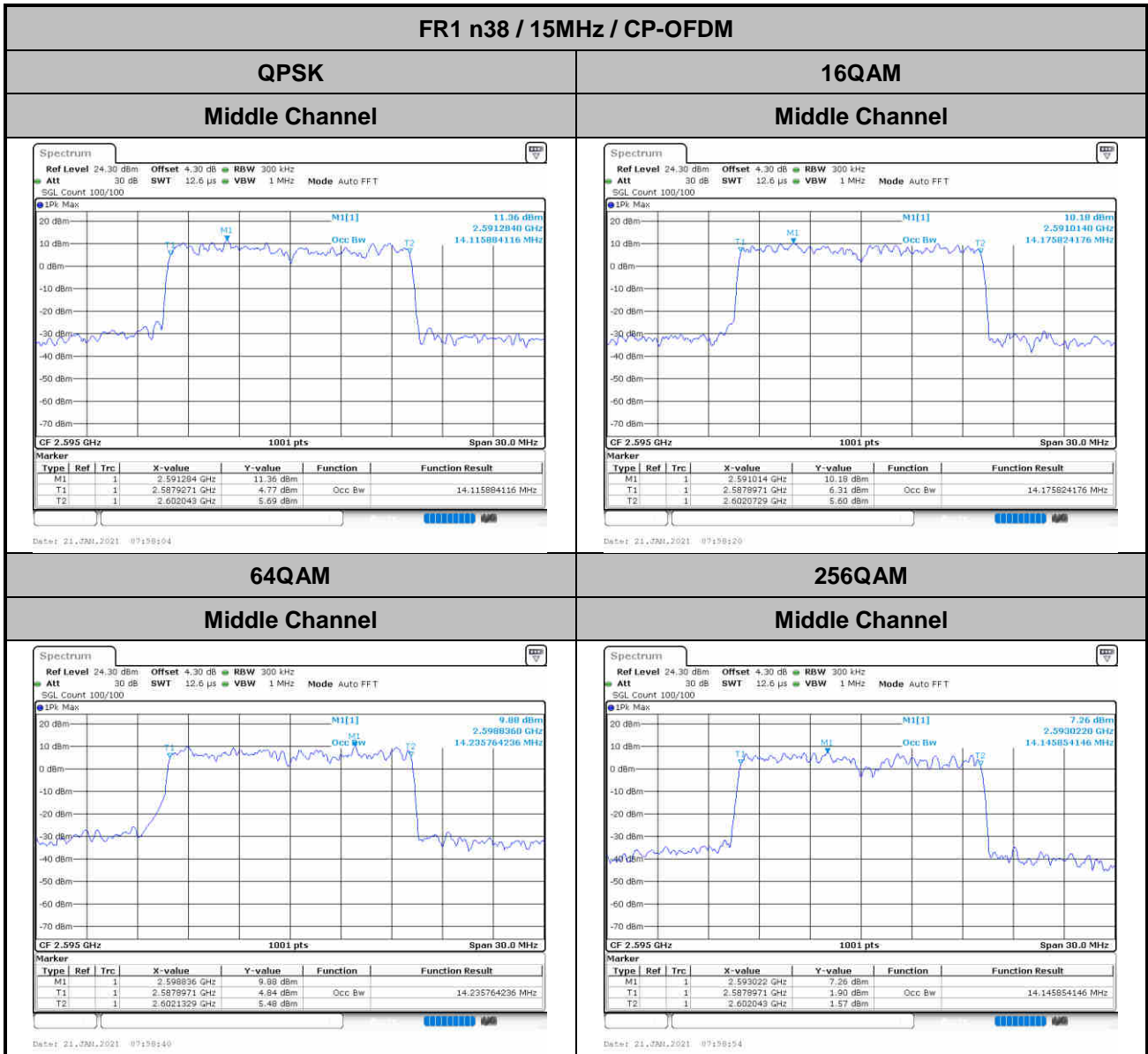
Mode	FR1 n38 : OBW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	14.12	14.18	14.24	14.15				

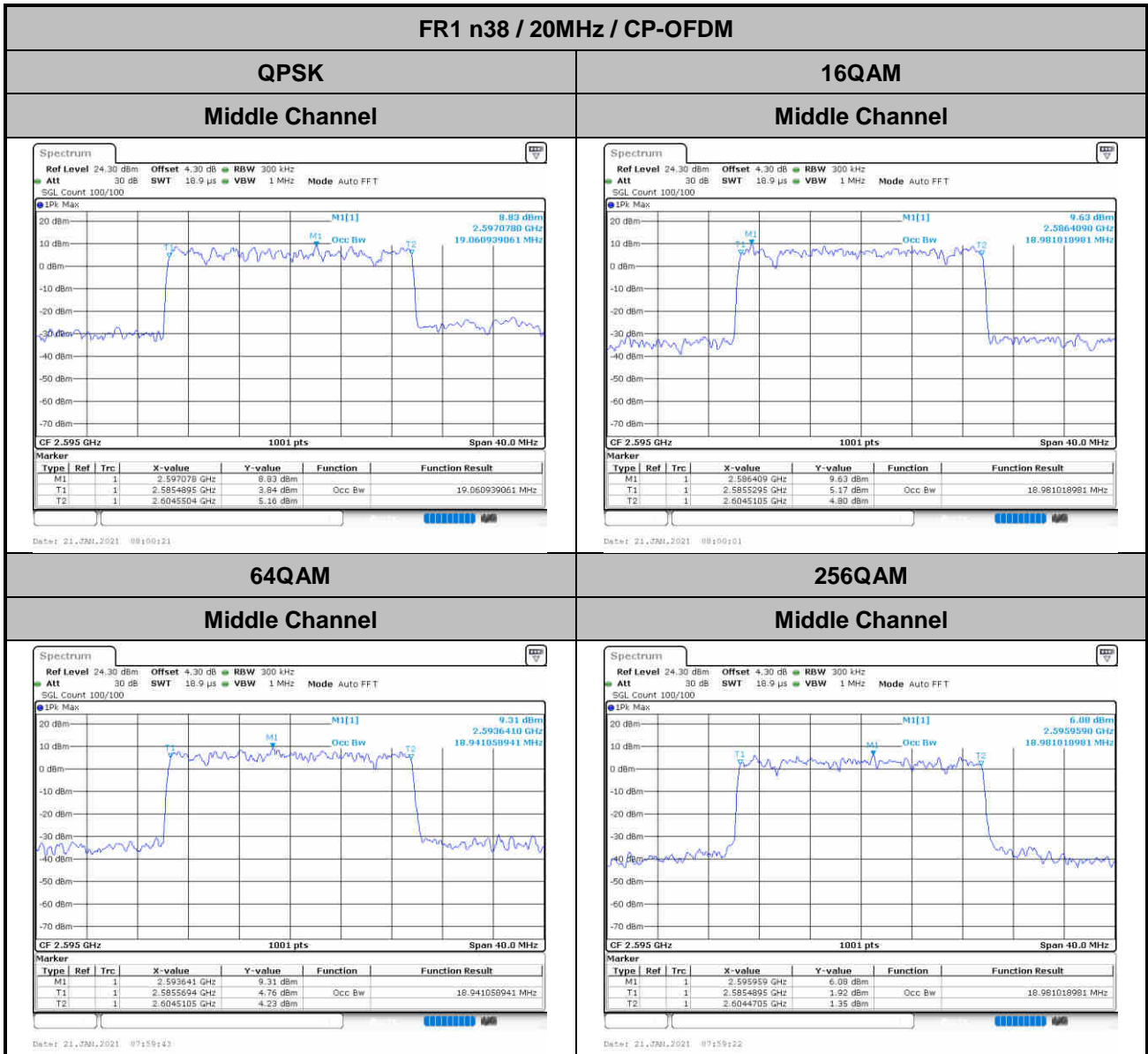
Mode	FR1 n38 : OBW(MHz) / CP-OFDM							
BW	20MHz	20MHz	20MHz	20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	19.06	18.98	18.94	18.98				







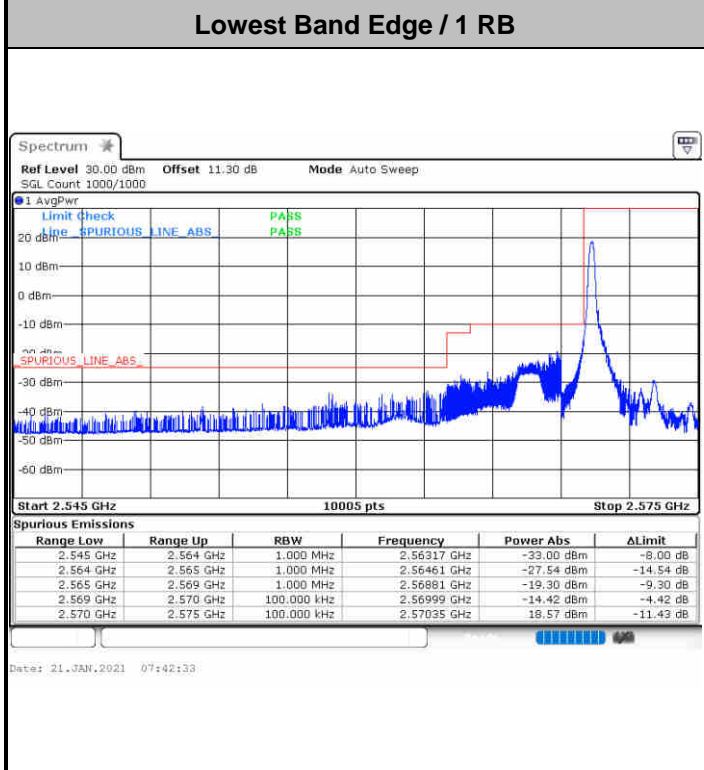




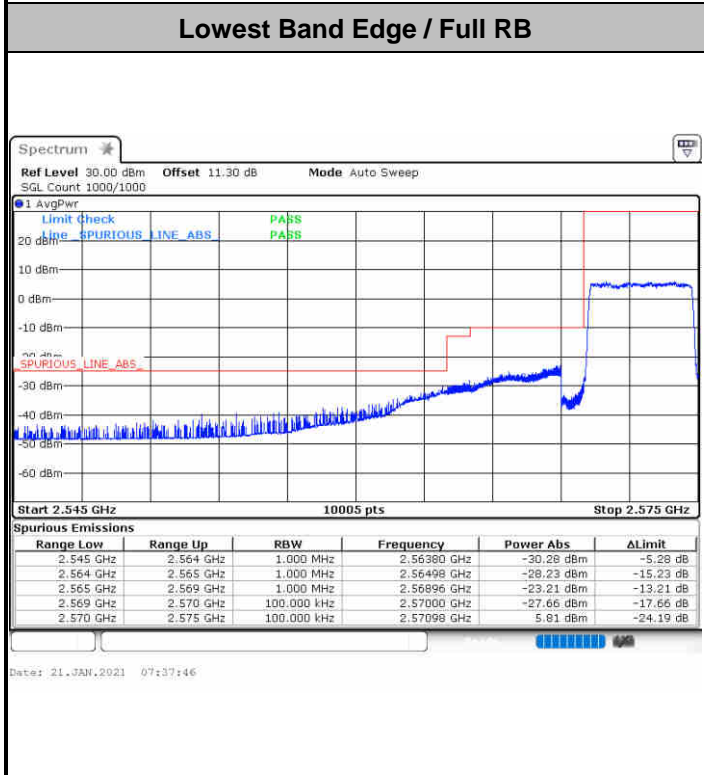


# Conducted Band Edge

## FR1 n38 / 5MHz / DFT-S OFDM BPSK



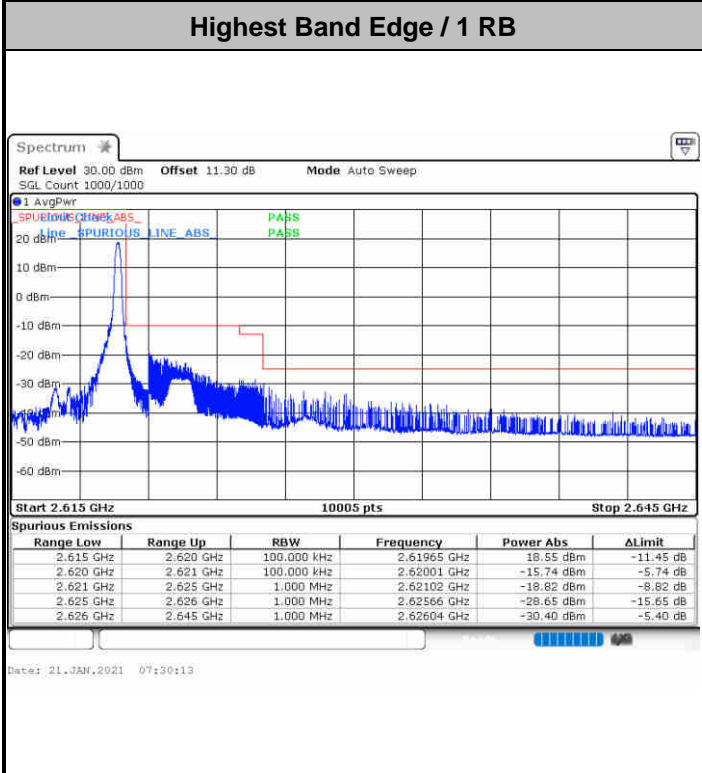
Channel Power < -13dBm Pass



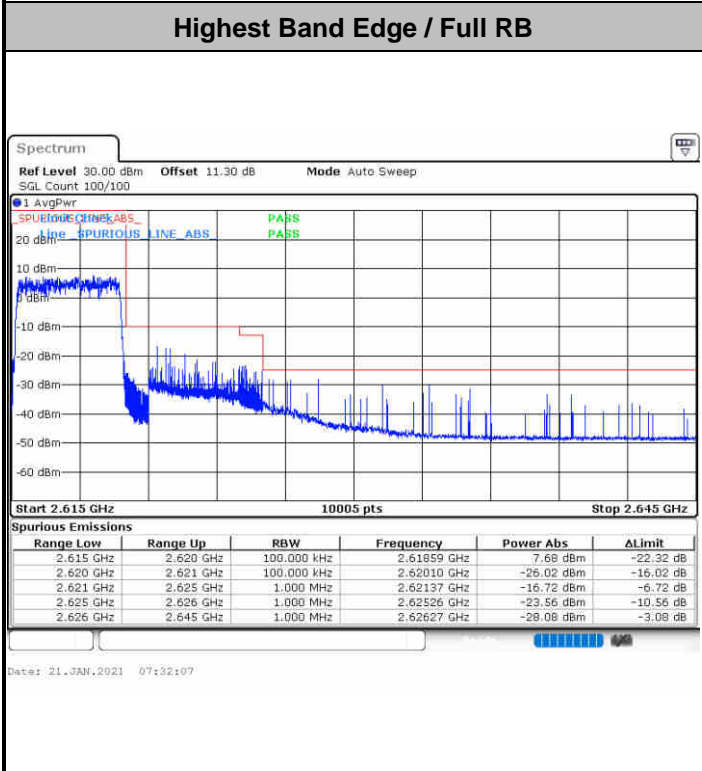
Channel Power < -13dBm Pass



**FR1 n38 / 5MHz / DFT-S OFDM BPSK**



**Channel Power < -13dBm Pass**



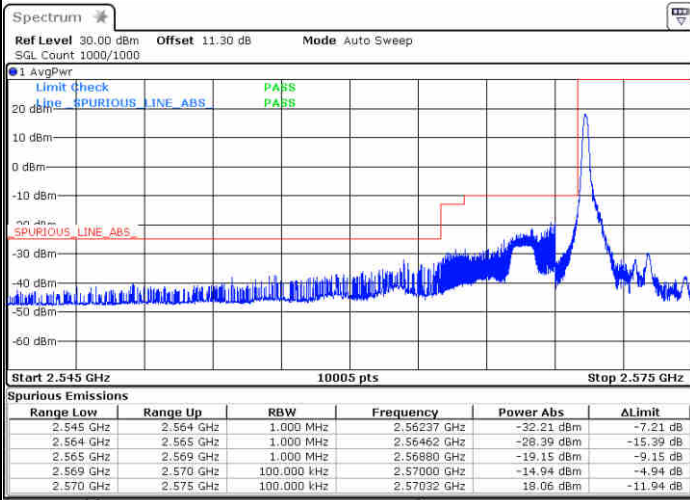
**Channel Power < -13dBm Pass**



FR1 n38 / 5MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

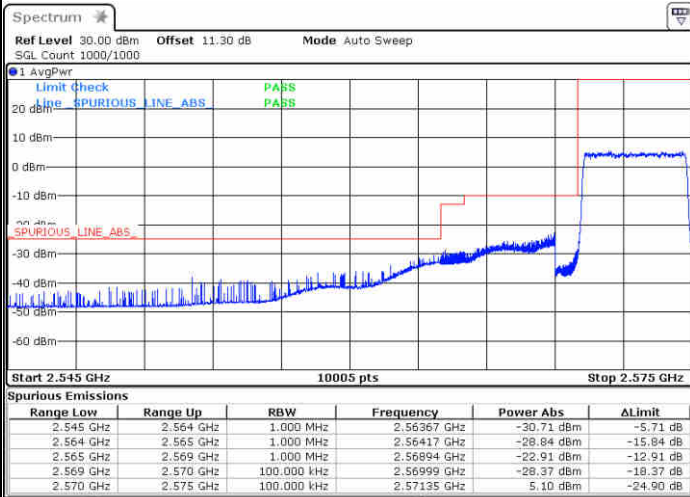
Channel Power < -13dBm Pass



Date: 21.JAN.2021 07:40:55

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



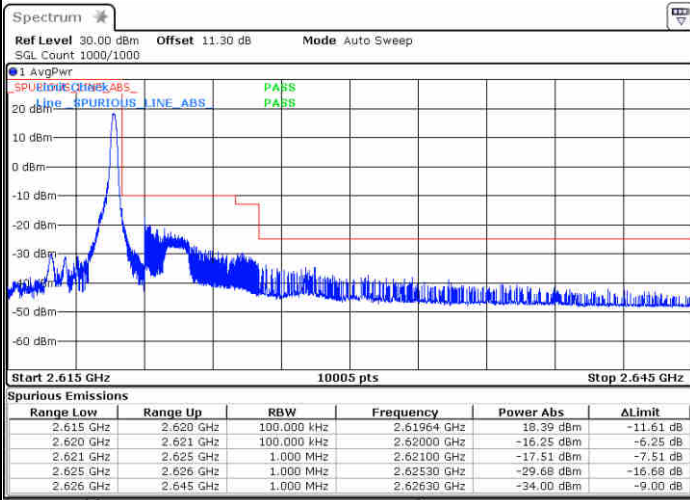
Date: 21.JAN.2021 07:39:37



FR1 n38 / 5MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

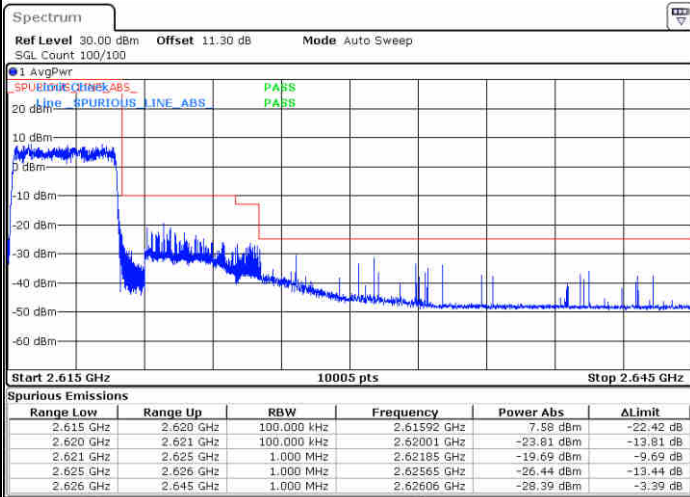
Channel Power < -13dBm Pass



Date: 21.JAN.2021 07:31:20

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



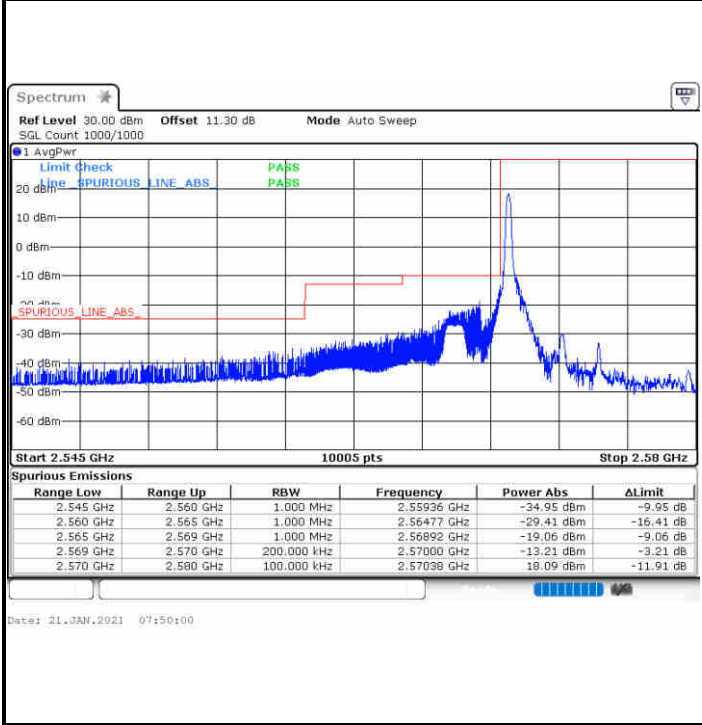
Date: 21.JAN.2021 07:31:44



**FR1 n38 / 10MHz / DFT-S OFDM BPSK**

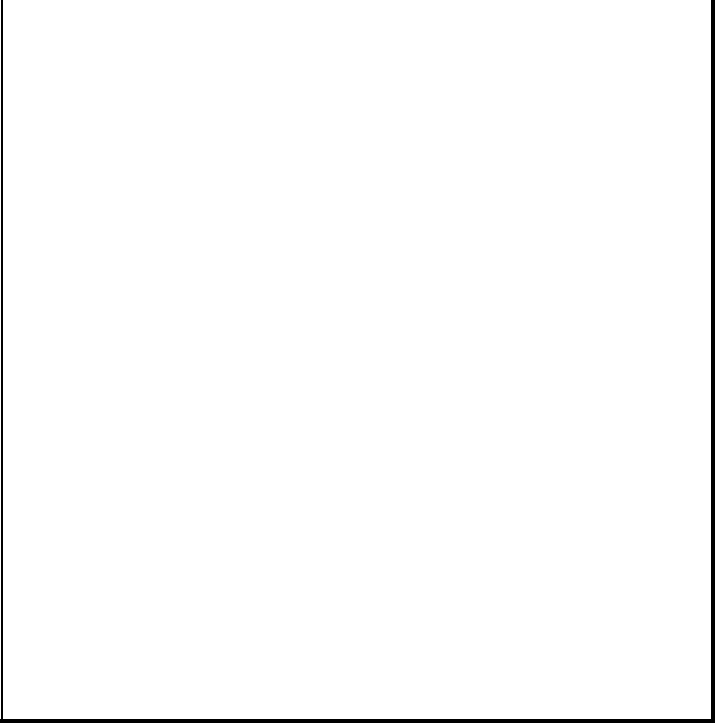
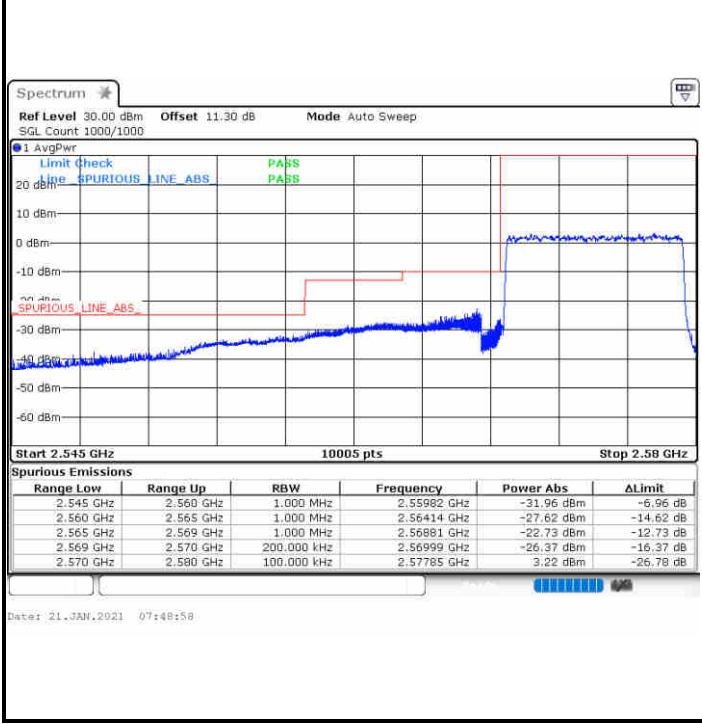
**Lowest Band Edge / 1 RB**

**Channel Power < -13dBm Pass**



**Lowest Band Edge / Full RB**

**Channel Power < -13dBm Pass**



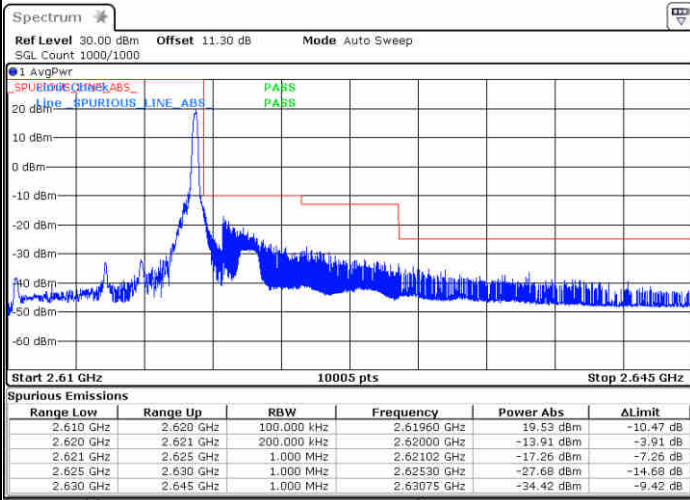




FR1 n38 / 10MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

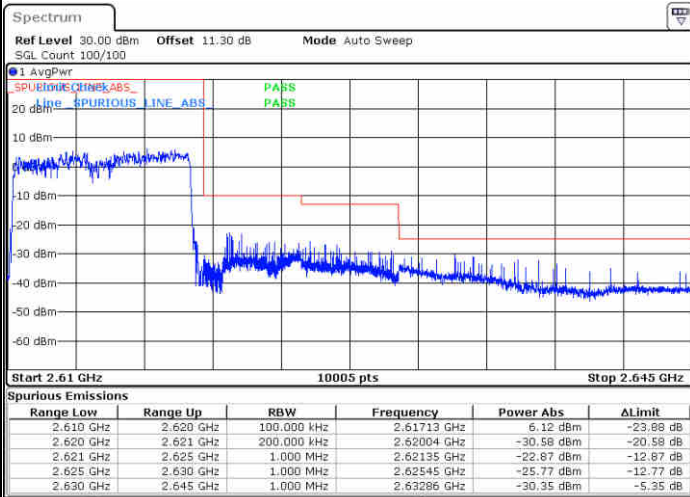
Channel Power < -13dBm Pass



Date: 21.JAN.2021 06:34:55

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



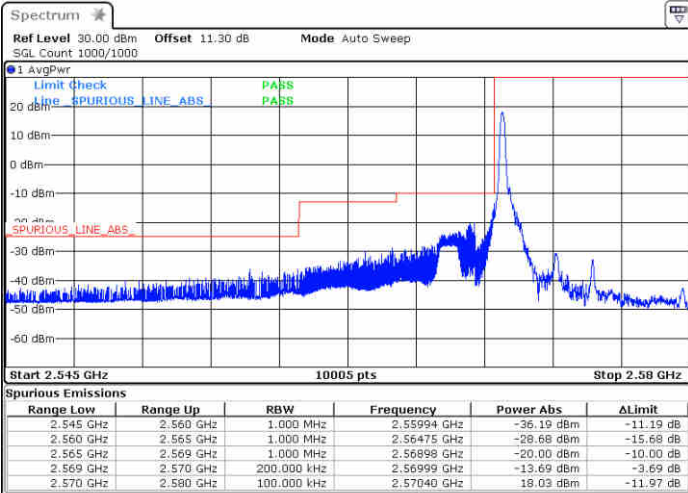
Date: 21.JAN.2021 06:35:30



FR1 n38 / 10MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

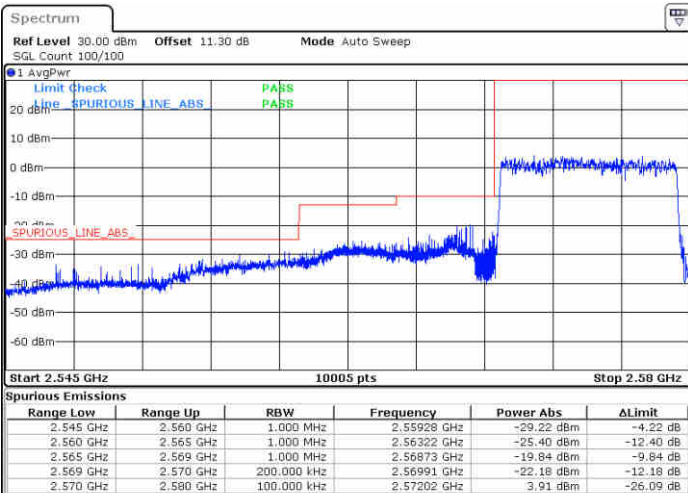
Channel Power < -13dBm Pass



Date: 21.JAN.2021 07:50:45

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



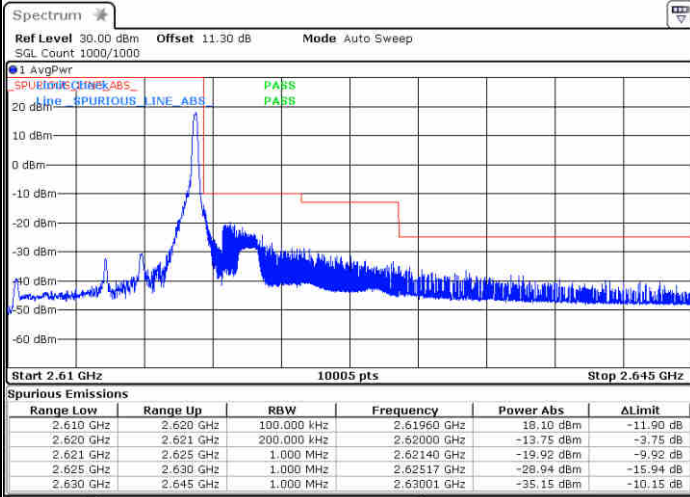
Date: 21.JAN.2021 07:47:30



FR1 n38 / 10MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

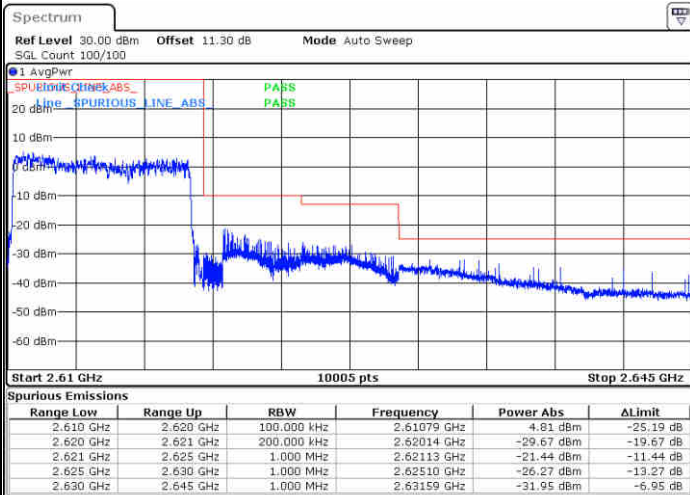
Channel Power < -13dBm Pass



Date: 21.JAN.2021 06:32:52

Highest Band Edge / Full RB

Channel Power < -13dBm Pass



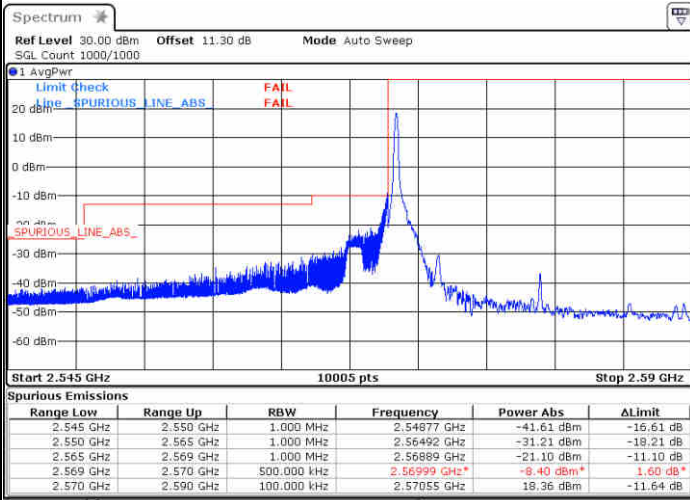
Date: 21.JAN.2021 06:35:49



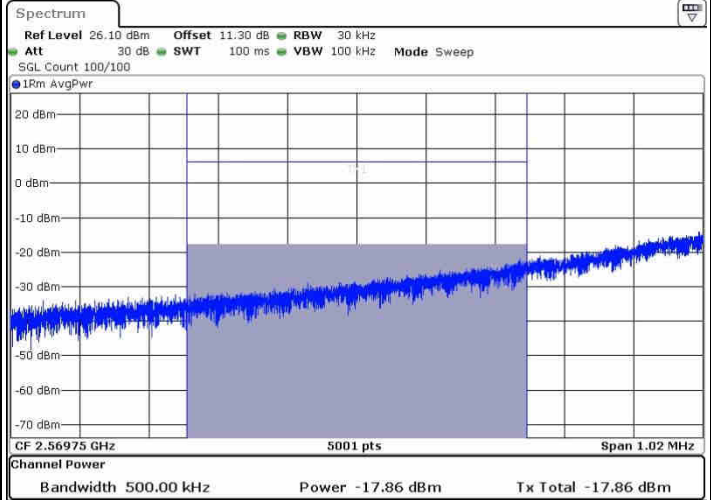
FR1 n38 / 20MHz / DFT-S OFDM BPSK

Lowest Band Edge / 1 RB

Channel Power < -10dBm Pass



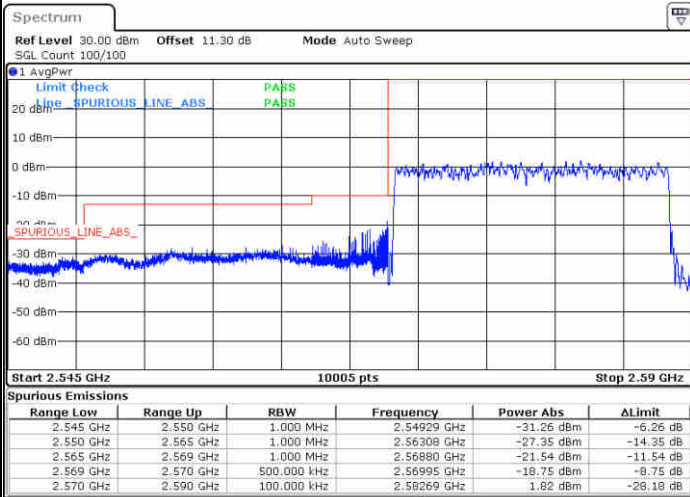
Date: 21.JAN.2021 05:55:57



Date: 21.JAN.2021 05:58:11

Lowest Band Edge / Full RB

Channel Power < -10dBm Pass



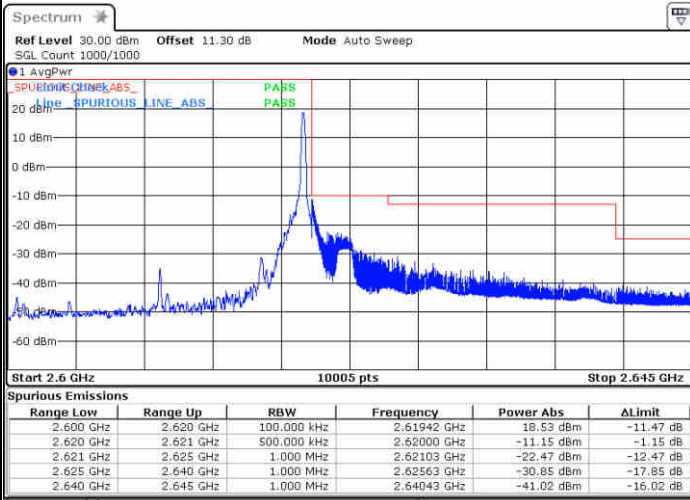
Date: 21.JAN.2021 05:56:18



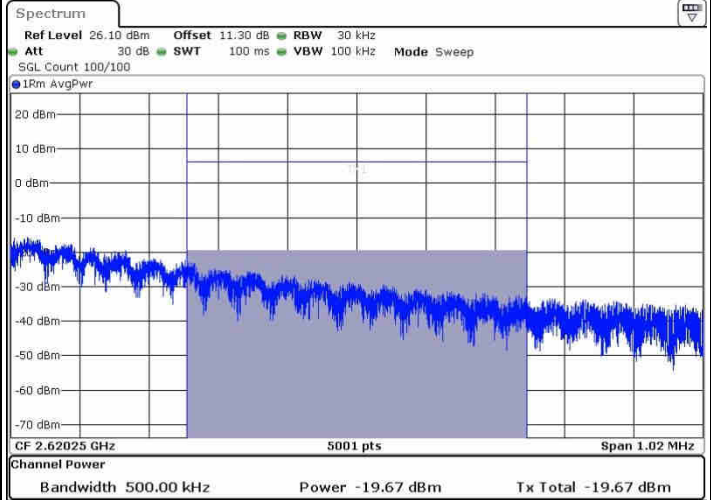
FR1 n38 / 20MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

Channel Power < -10dBm Pass



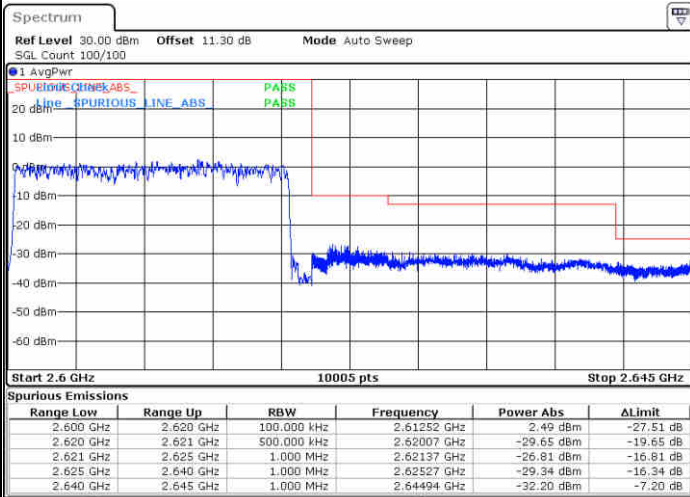
Date: 21.JAN.2021 06:12:35



Date: 21.JAN.2021 06:15:32

Highest Band Edge / Full RB

Channel Power < -10dBm Pass



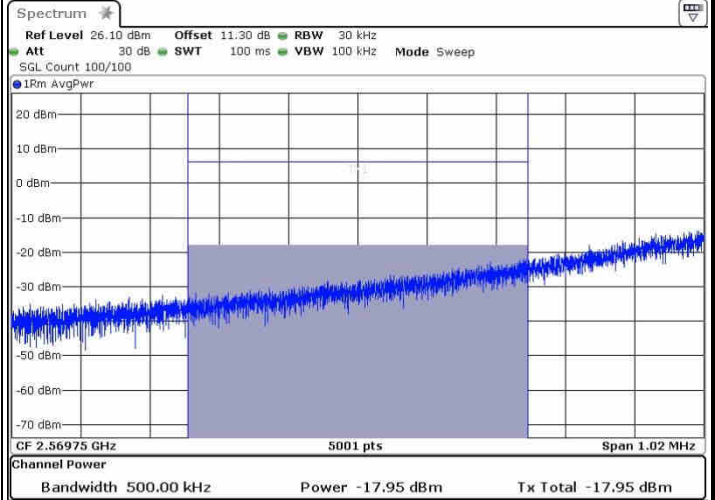
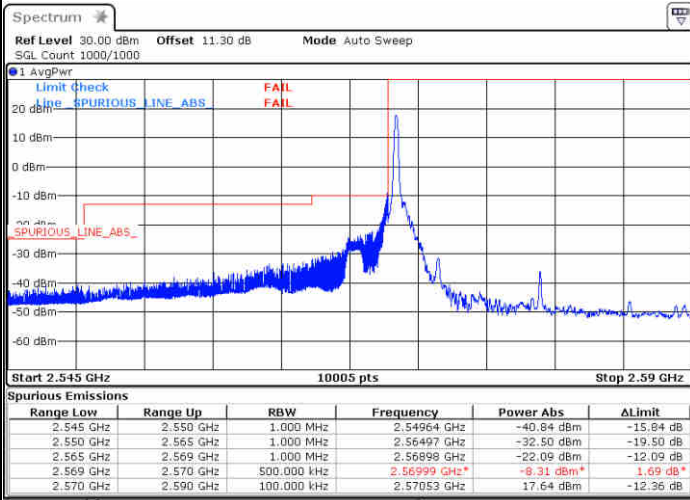
Date: 21.JAN.2021 06:12:57



FR1 n38 / 20MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

Channel Power < -10dBm Pass

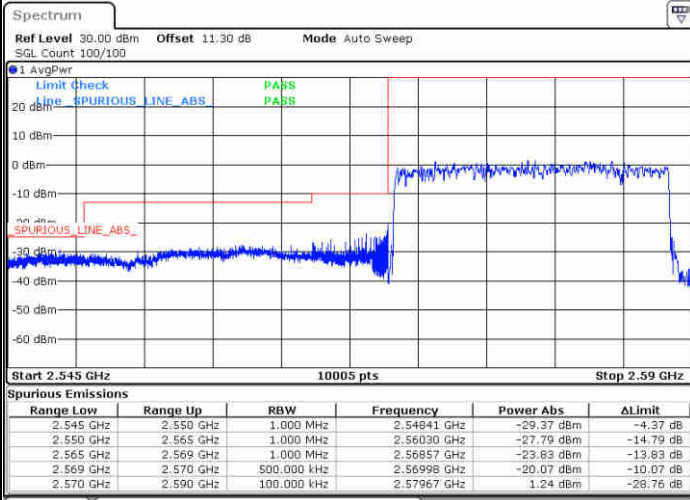


Date: 21.JAN.2021 05:55:00

Date: 21.JAN.2021 05:57:43

Lowest Band Edge / Full RB

Channel Power < -10dBm Pass



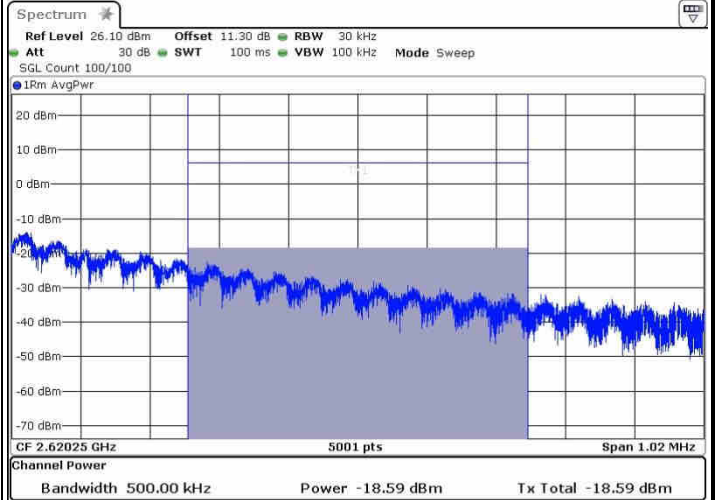
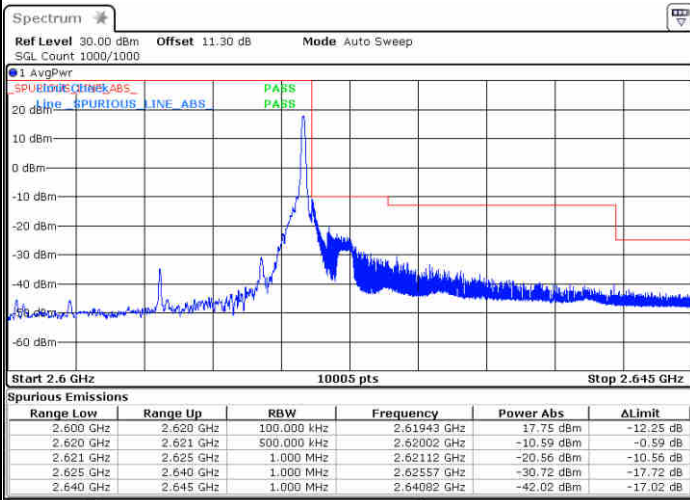
Date: 21.JAN.2021 05:56:32



FR1 n38 / 20MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

Channel Power < -10dBm Pass

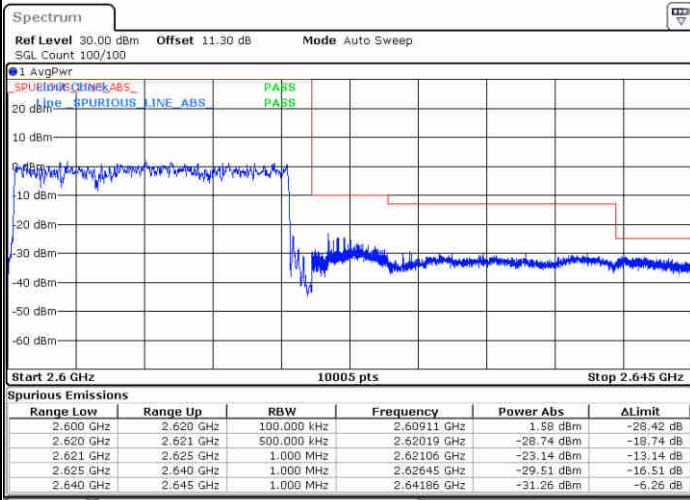


Date: 21.JAN.2021 06:11:22

Date: 21.JAN.2021 06:15:10

Highest Band Edge / Full RB

Channel Power < -10dBm Pass



Date: 21.JAN.2021 06:13:18

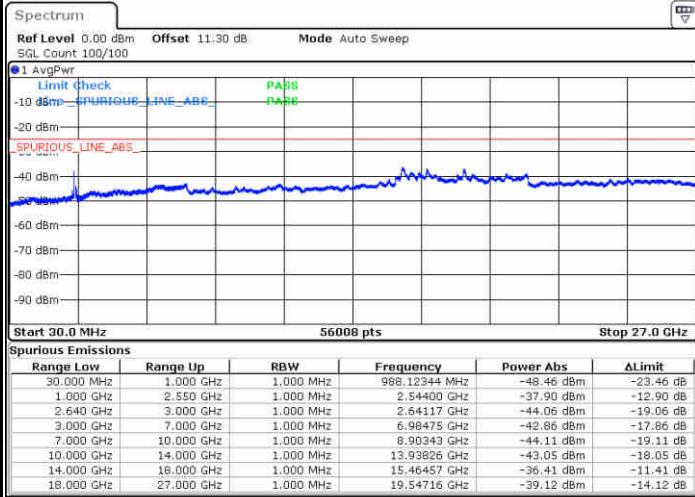


# Conducted Spurious Emission

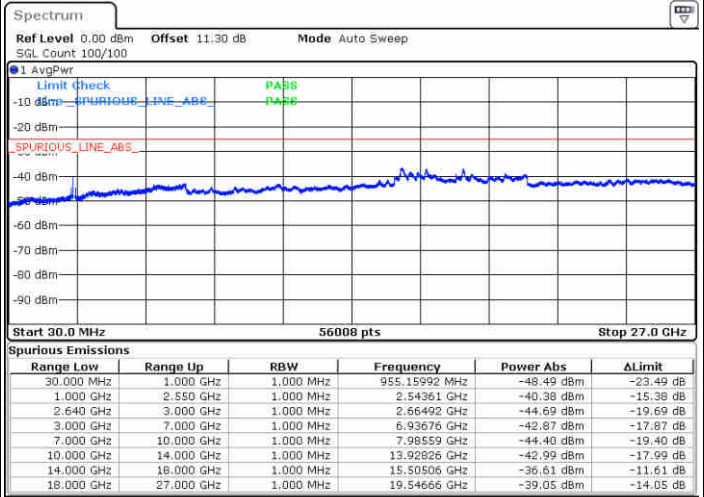
FR1 n38 / 5MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

Middle Channel / 1RB

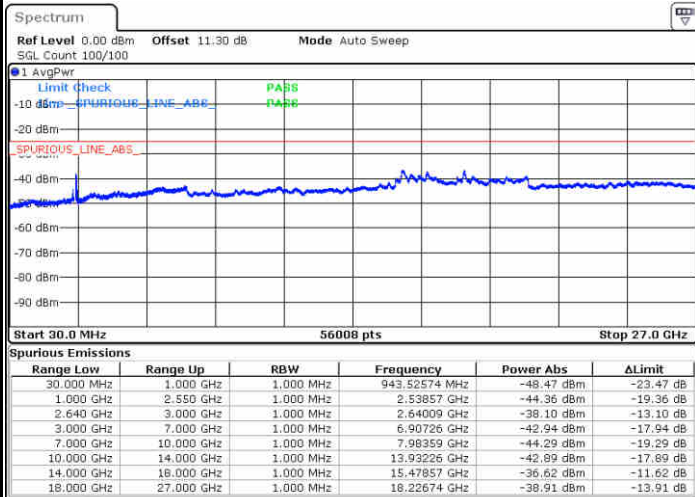


Date: 21.JAN.2021 07:43:56



Date: 21.JAN.2021 06:57:56

Highest Channel / 1RB



Date: 21.JAN.2021 07:28:59

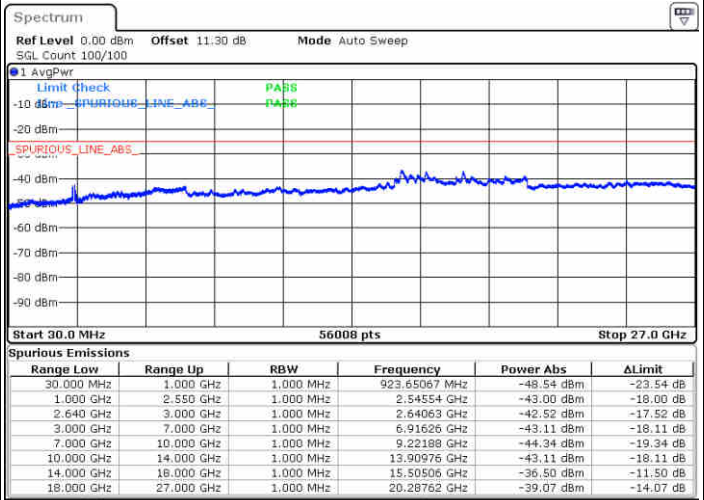
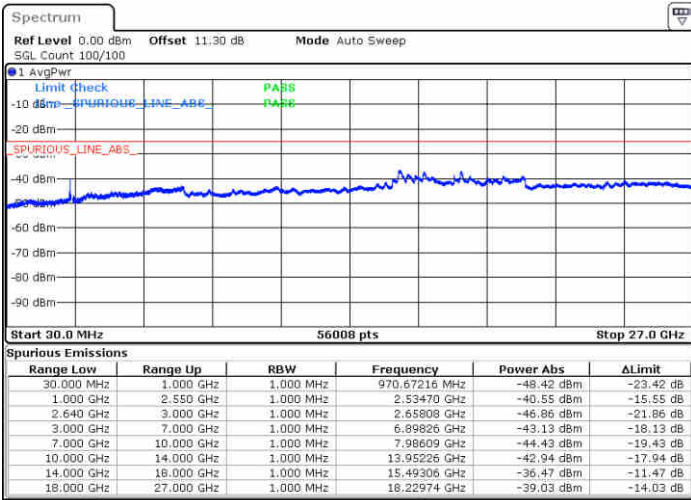




FR1 n38 / 5MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

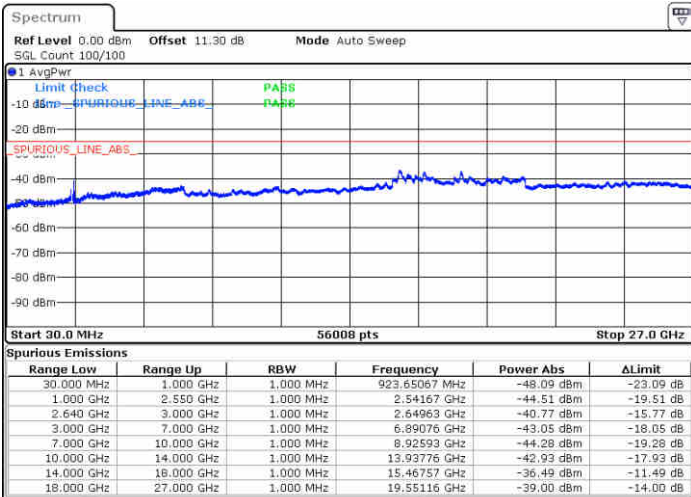
Middle Channel / 1RB



Date: 21.JAN.2021 07:44:53

Date: 21.JAN.2021 07:26:12

Highest Channel / 1RB



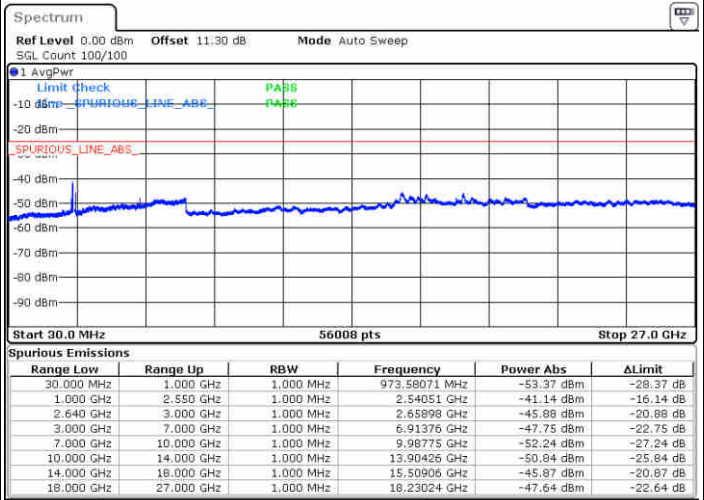
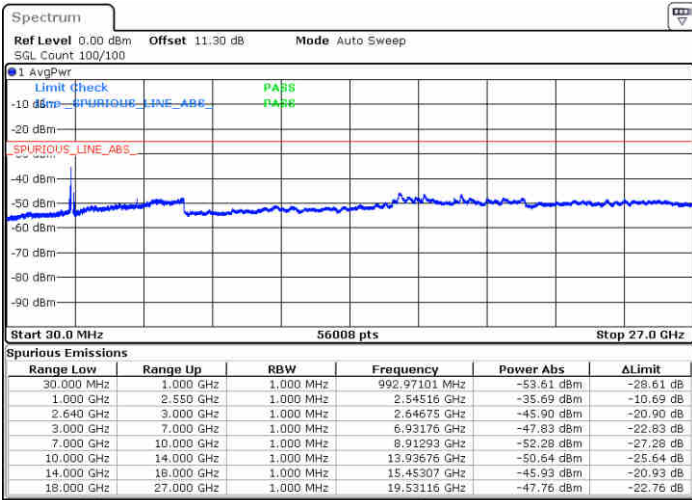
Date: 21.JAN.2021 07:27:56



FR1 n38 / 10MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

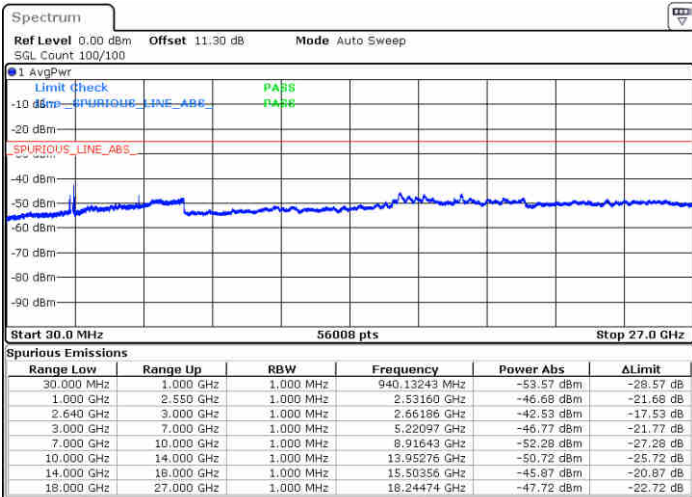
Middle Channel / 1RB



Date: 21.JAN.2021 07:52:36

Date: 21.JAN.2021 06:19:41

Highest Channel / 1RB



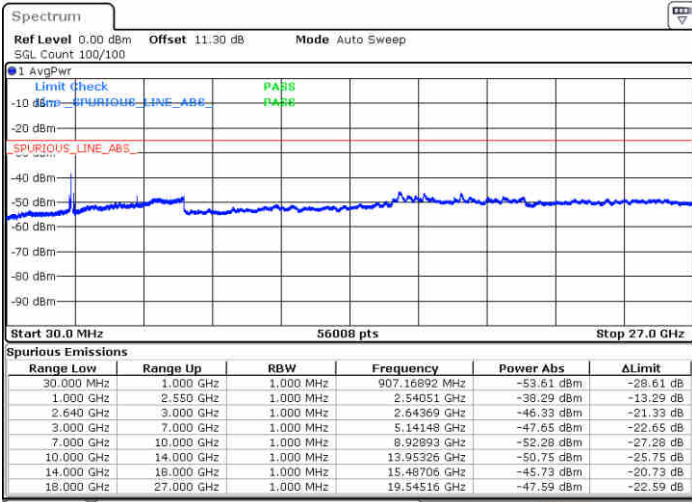
Date: 21.JAN.2021 06:30:04



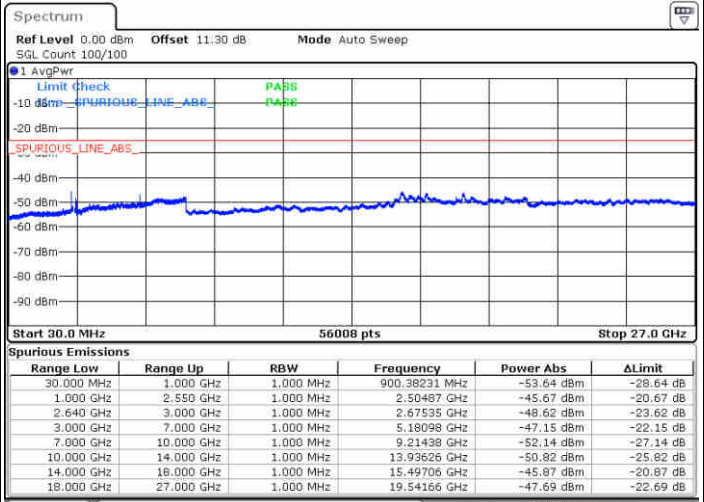
FR1 n38 / 10MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

Middle Channel / 1RB

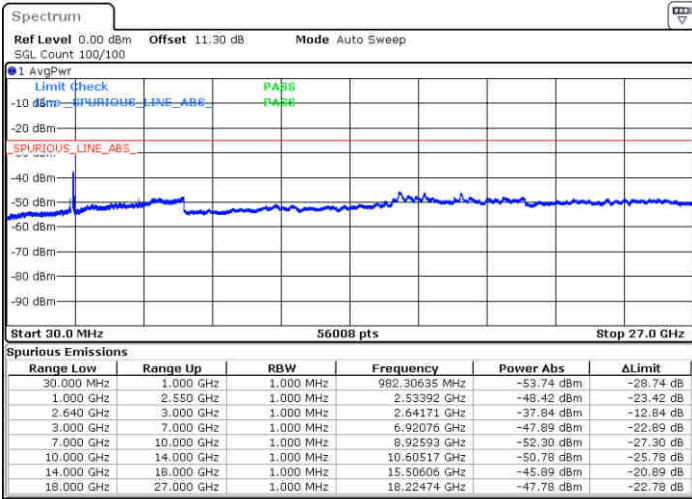


Date: 21.JAN.2021 07:51:38



Date: 21.JAN.2021 06:18:06

Highest Channel / 1RB



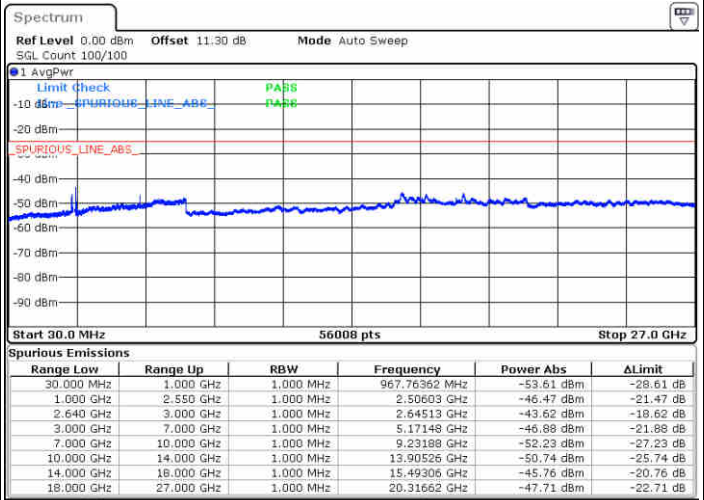
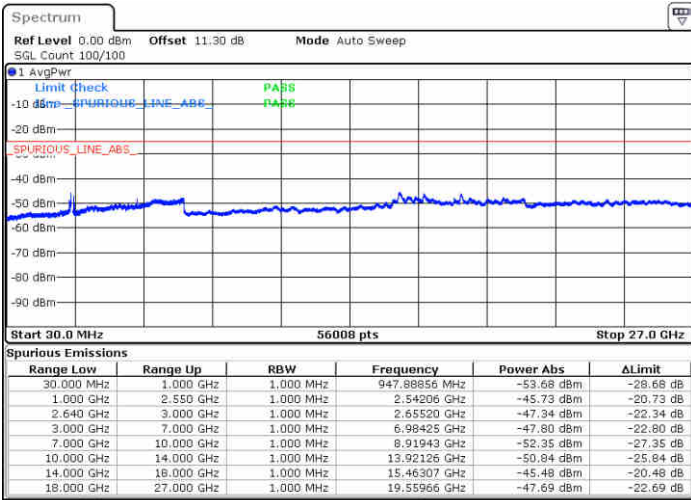
Date: 21.JAN.2021 06:31:01



FR1 n38 / 20MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

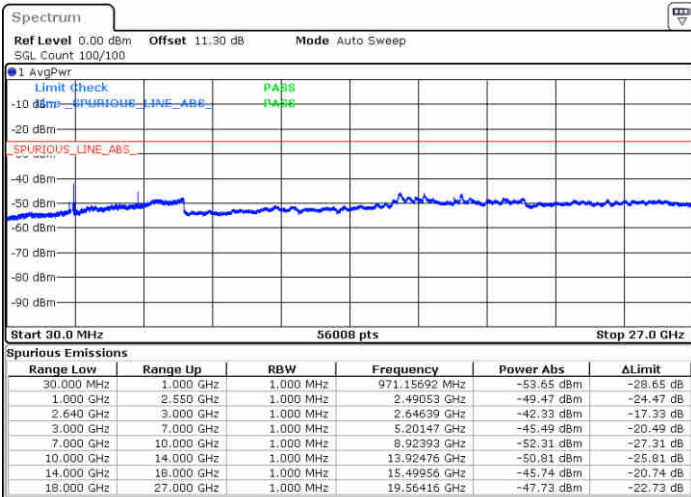
Middle Channel / 1RB



Date: 21.JAN.2021 05:53:13

Date: 21.JAN.2021 05:50:17

Highest Channel / 1RB



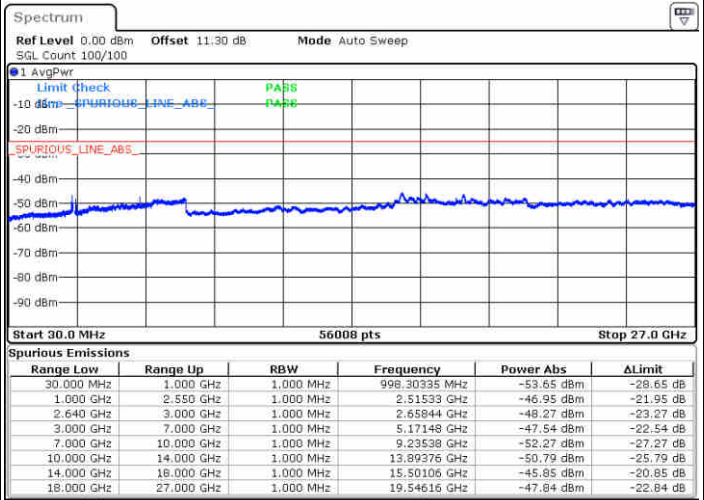
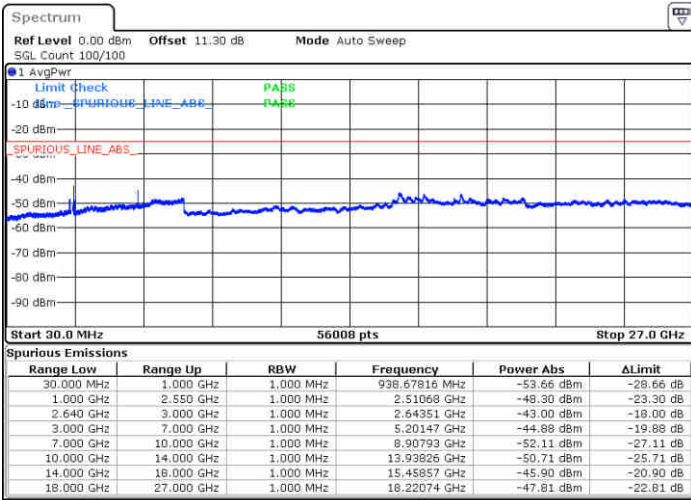
Date: 21.JAN.2021 06:04:54



FR1 n38 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

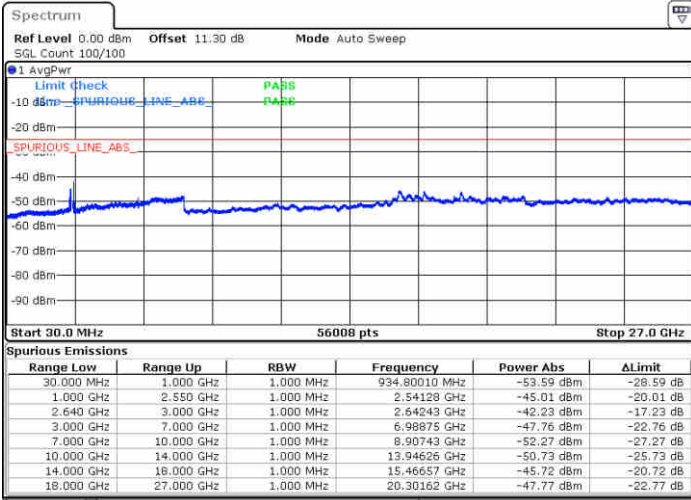
Middle Channel / 1RB



Date: 21.JAN.2021 06:08:31

Date: 21.JAN.2021 05:40:47

Highest Channel / 1RB



Date: 21.JAN.2021 06:09:47



### Frequency Stability

Test Conditions		NR n38 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Within Band
		Deviation (ppm)	Result
50	Normal Voltage	0.0001	PASS
40	Normal Voltage	0.0010	
30	Normal Voltage	0.0002	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0010	
0	Normal Voltage	0.0007	
-10	Normal Voltage	0.0012	
-20	Normal Voltage	0.0006	
-30	Normal Voltage	0.0002	
20	Maximum Voltage	0.0007	
20	Normal Voltage	0.0001	
20	Battery End Point	0.0004	

**Note:**

1. Normal Voltage =3.3 V. ; Battery End Point (BEP) =3.14 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



# 5G NR n41 SA-SCS 15K

## Peak-to-Average Ratio

Mode	FR1 n41 / 10MHz / DFT-S OFDM				
Mod.	PI/2 BPSK	PI/2 BPSK	QPSK	QPSK	Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.52	3.8	4.84	5.04	<b>PASS</b>
Middle CH	3.07	3.68	4.78	4.96	
Highest CH	4.67	3.74	4.41	5.22	



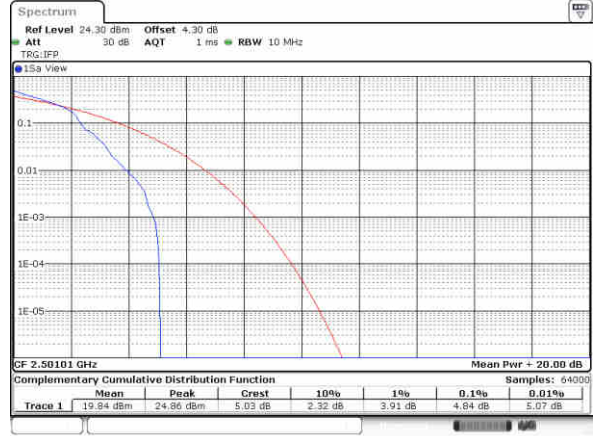
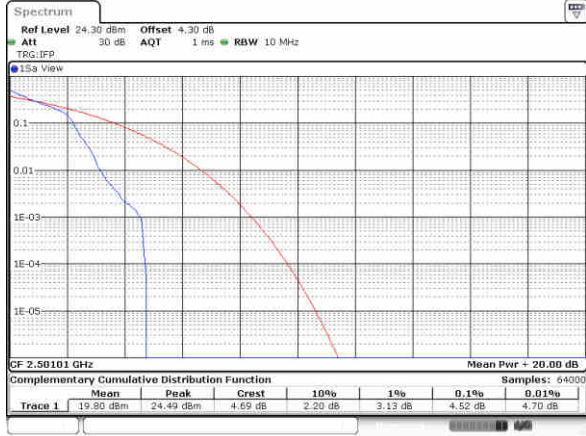
FR1 n41 / 10MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / 1RB

Lowest Channel / 1RB

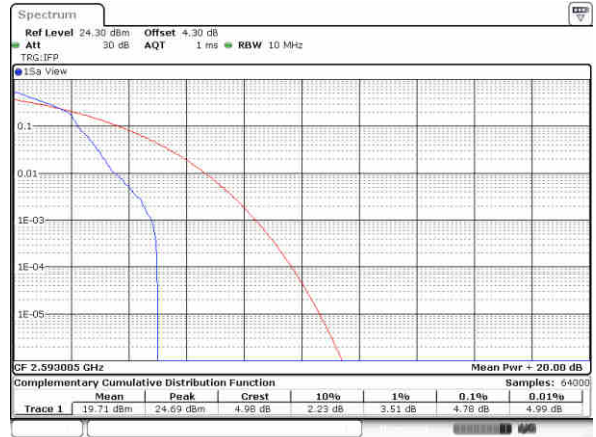
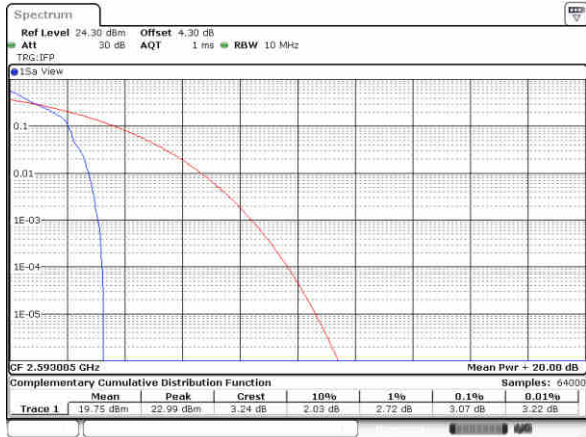


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Middle Channel / 1 RB

Middle Channel / 1 RB

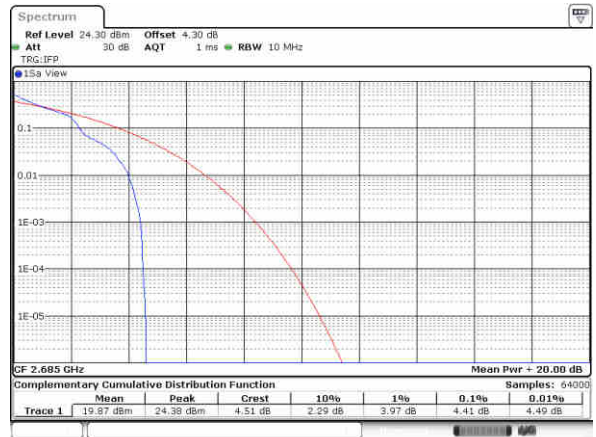
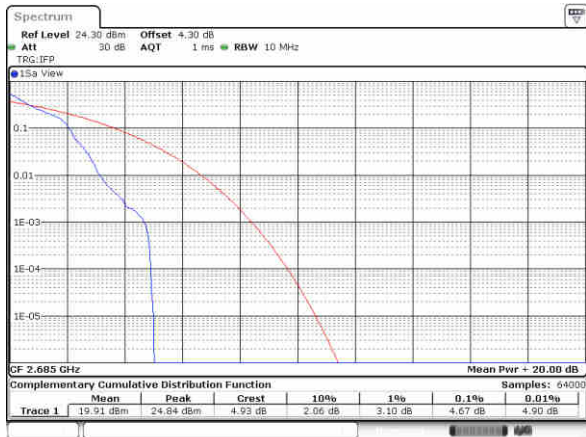


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Date: 20\_JAN\_2021 09:13:14

Highest Channel / 1 RB

Highest Channel / 1 RB



Date: 20\_JAN\_2021 09:13:14

Date: 20\_JAN\_2021 09:13:14





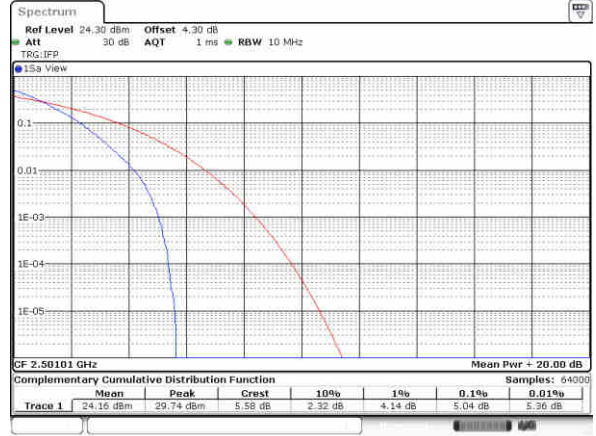
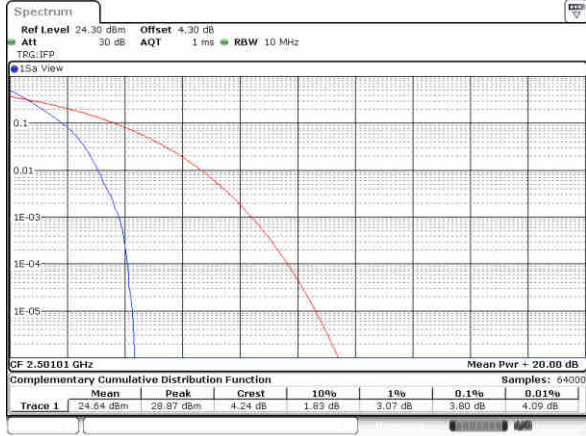
FR1 n41 / 10MHz / DFT-S OFDM

PI/2 BPSK

QPSK

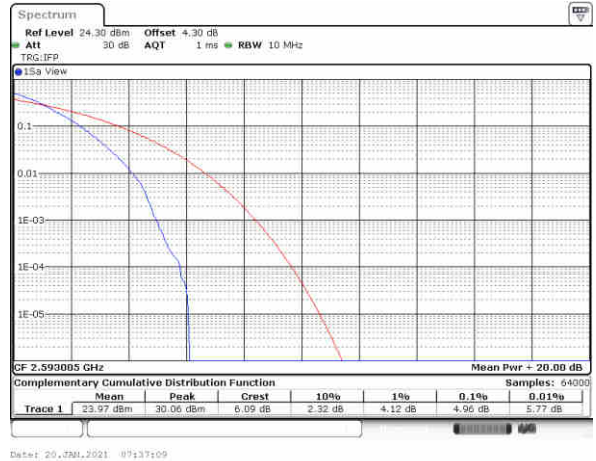
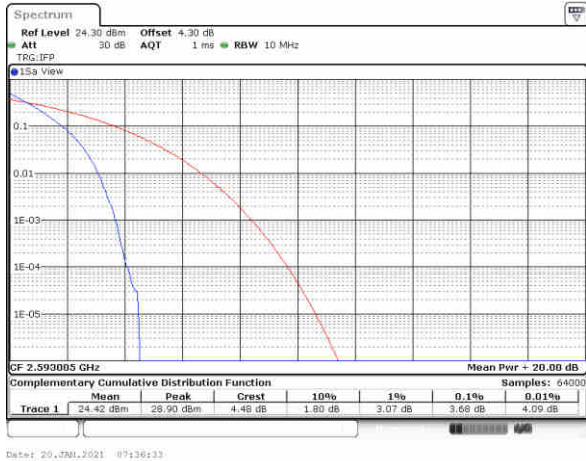
Lowest Channel / Full RB

Lowest Channel / Full RB



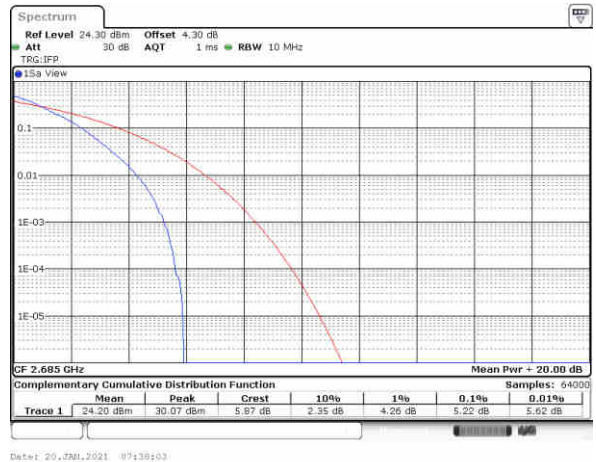
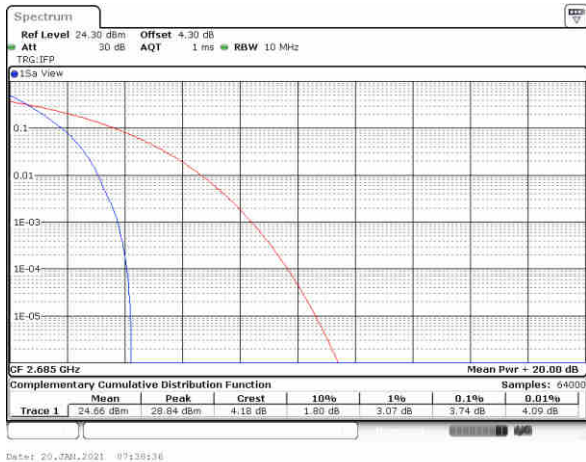
Middle Channel / Full RB

Middle Channel / Full RB



Highest Channel / Full RB

Highest Channel / Full RB





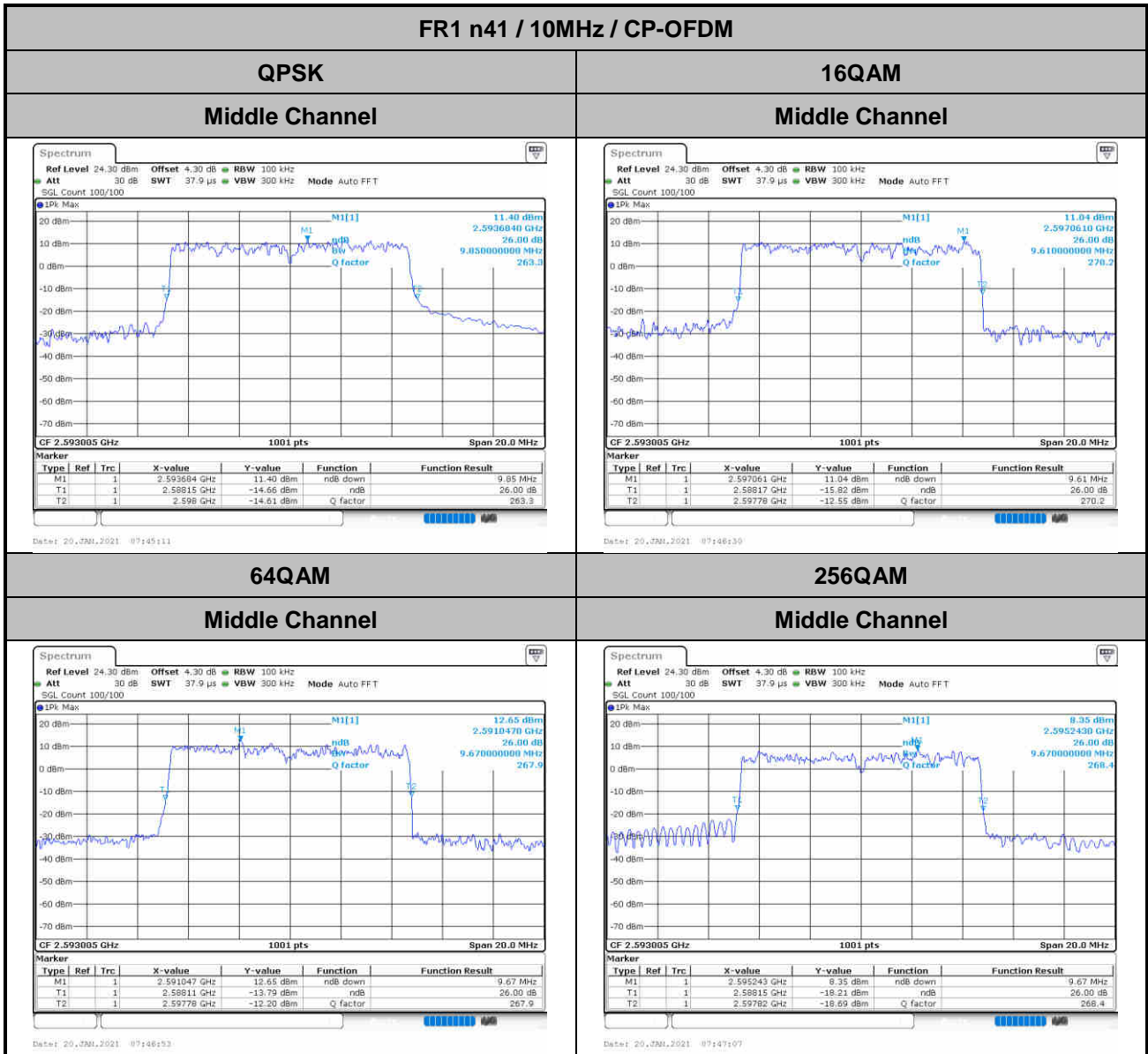
**26dB Bandwidth**

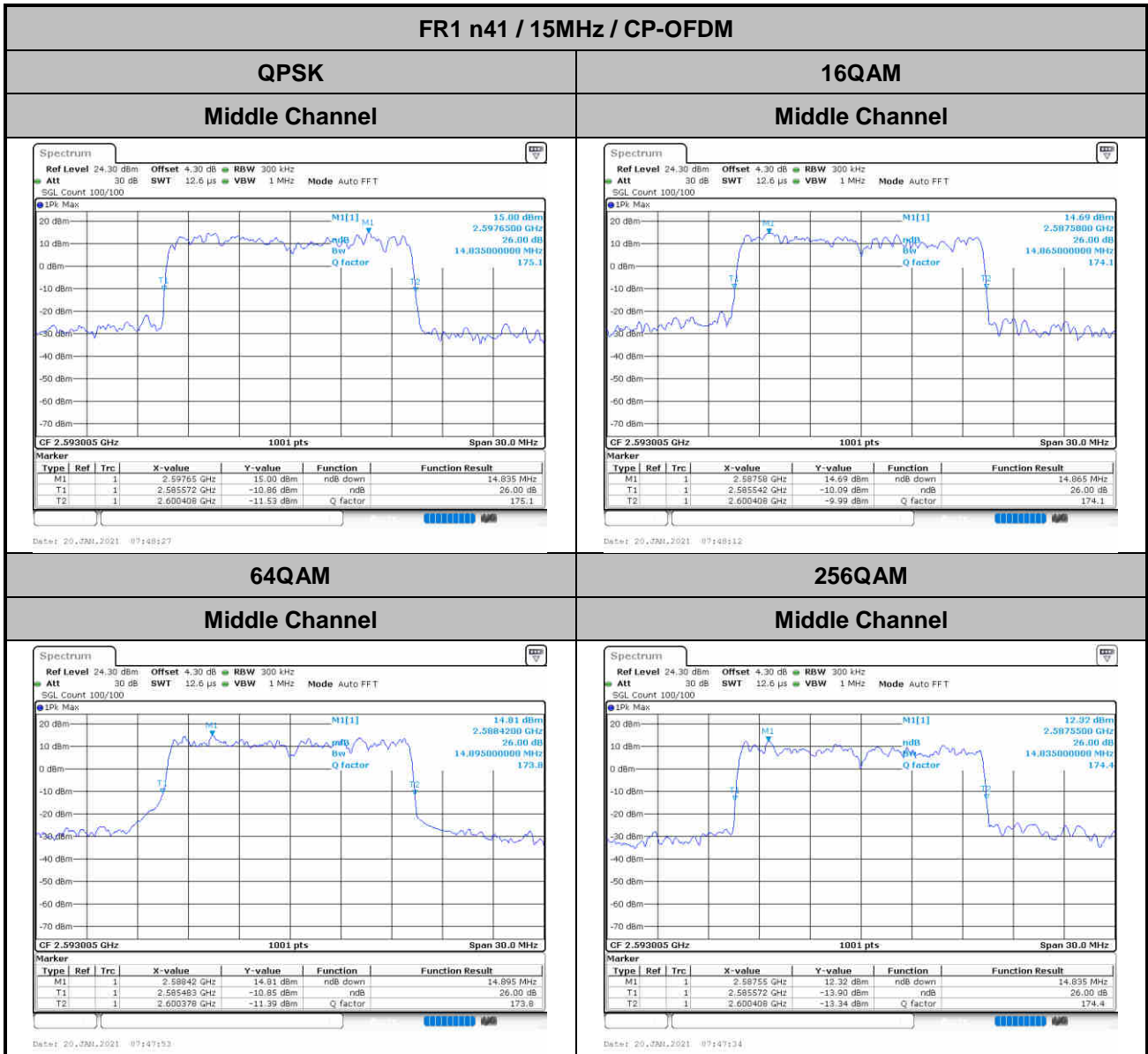
Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	9.85	9.61	9.67	9.67				

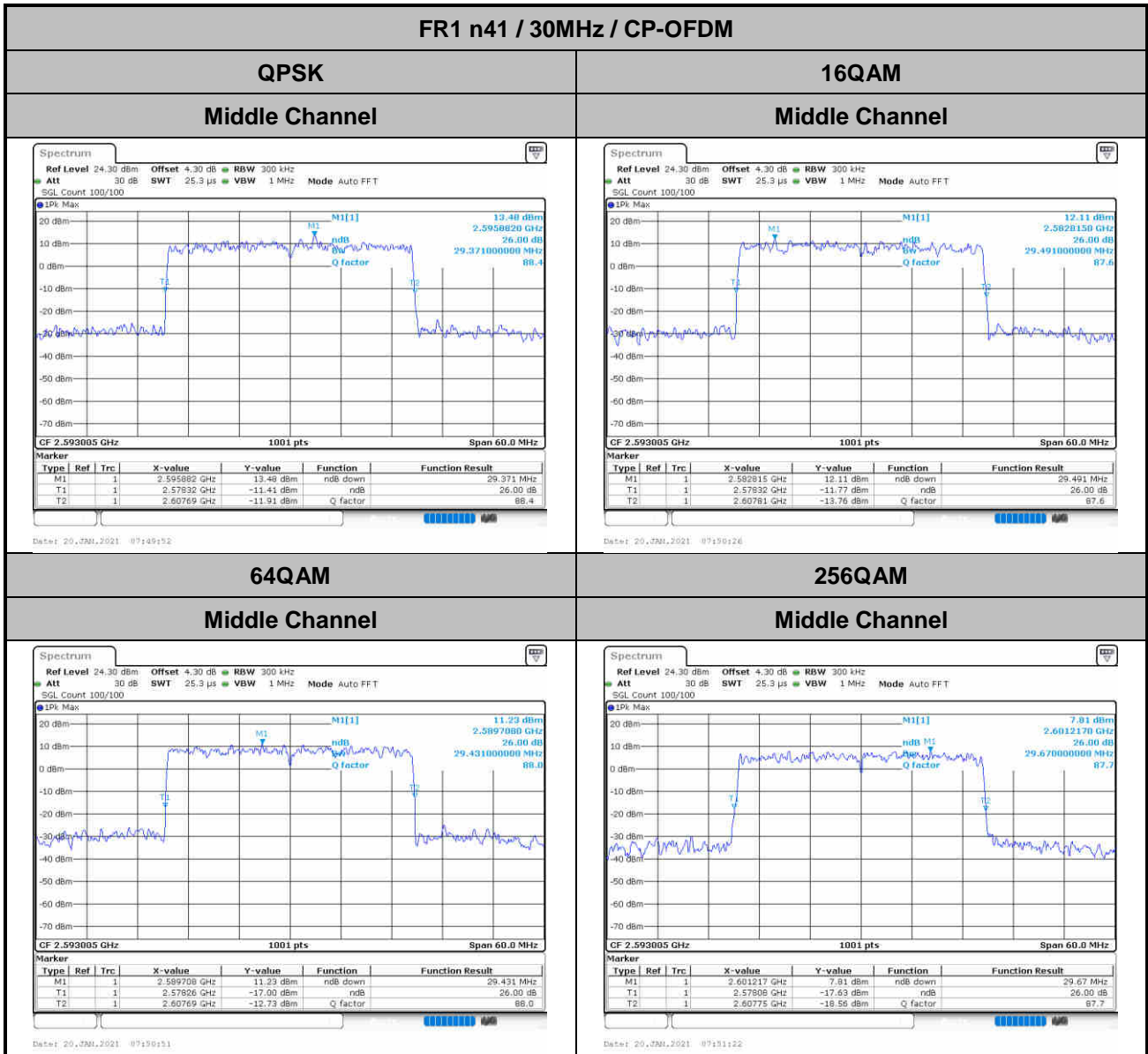
Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	14.83	14.86	14.89	14.83				

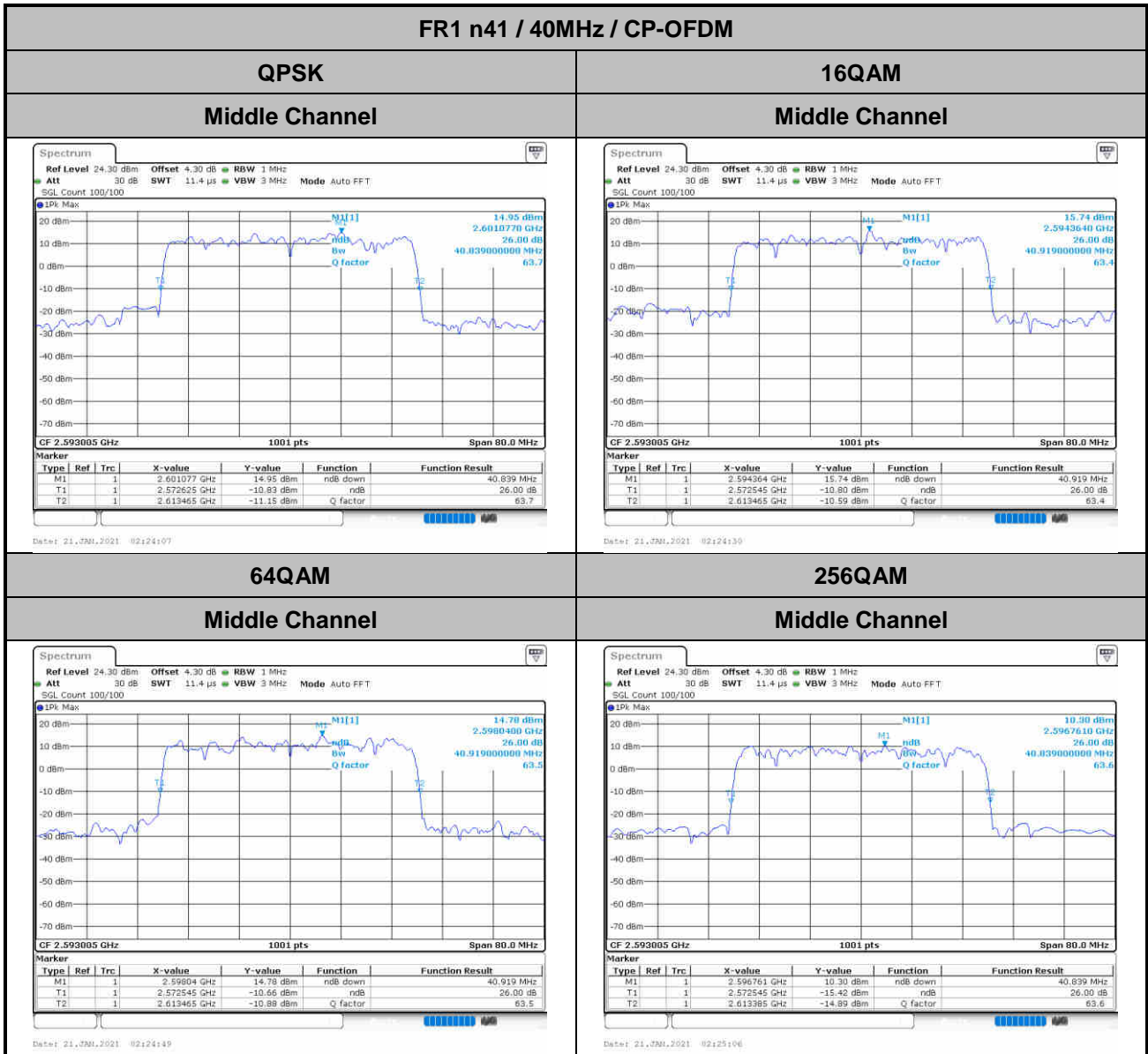
Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	30MHz	30MHz	30MHz	30MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	29.37	29.49	29.43	29.67				

Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	40MHz	40MHz	40MHz	40MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	40.83	40.91	40.91	40.83				











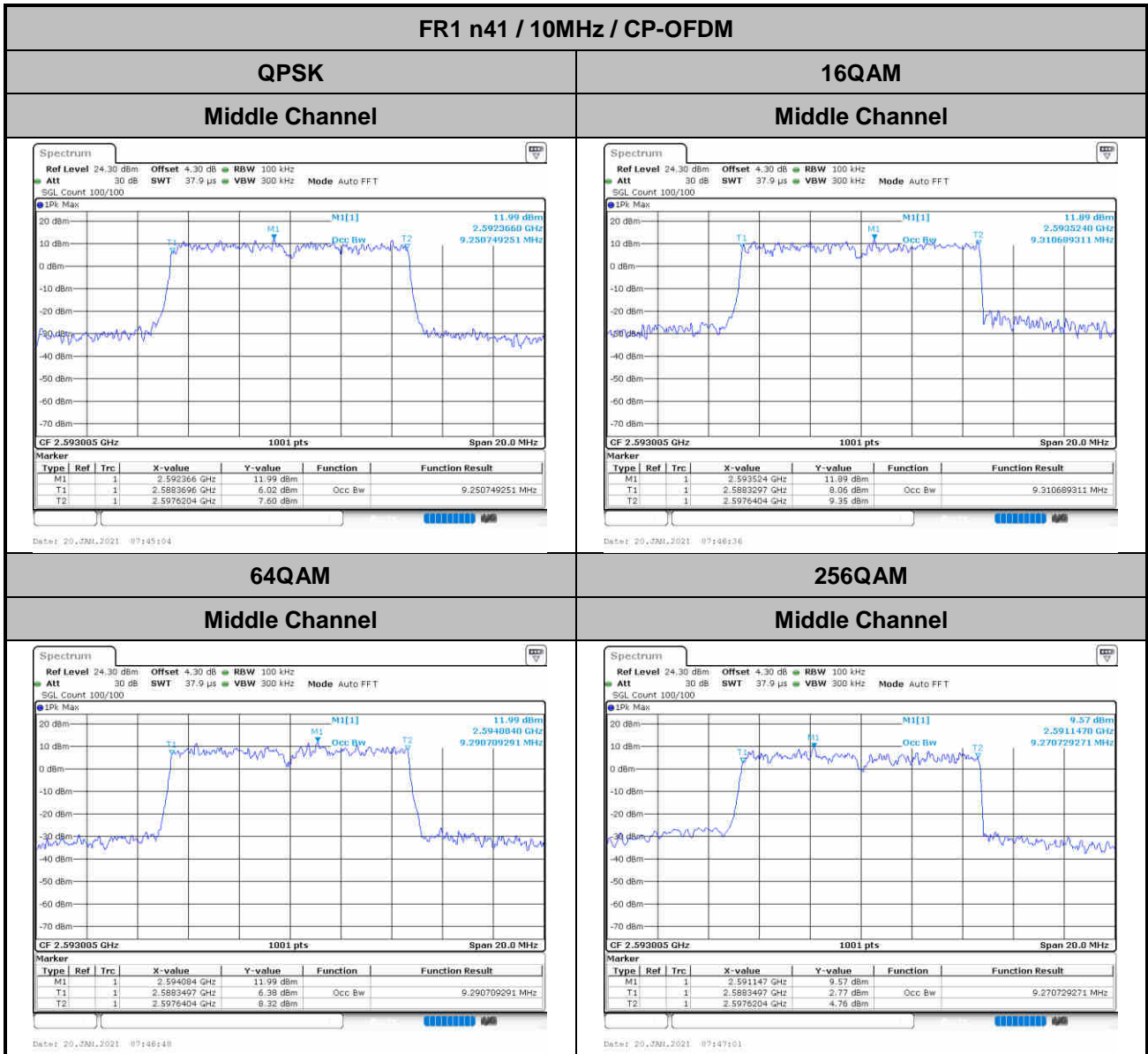
### Occupied Bandwidth

Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	10MHz	10MHz	10MHz	10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	9.25	9.31	9.29	9.27				

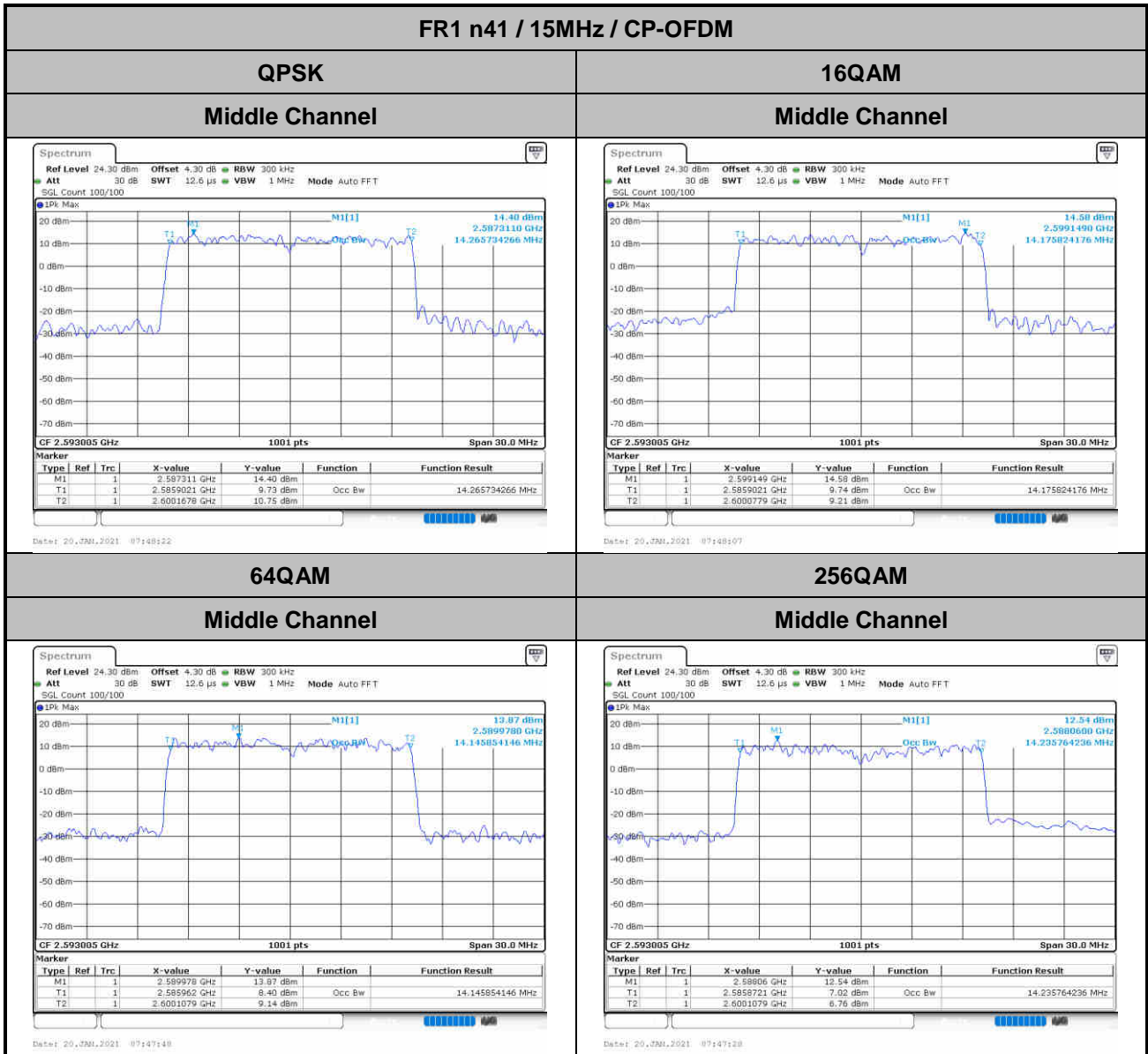
Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	15MHz	15MHz	15MHz	15MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	14.26	14.17	14.14	14.23				

Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	30MHz	30MHz	30MHz	30MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	28.59	28.47	28.53	28.47				

Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	40MHz	40MHz	40MHz	40MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	38.6	38.84	38.44	38.76				









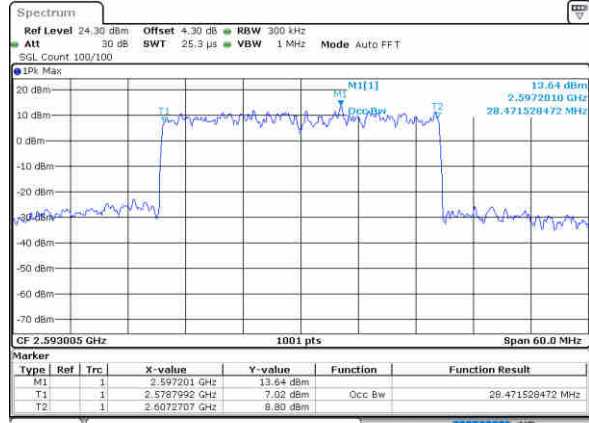
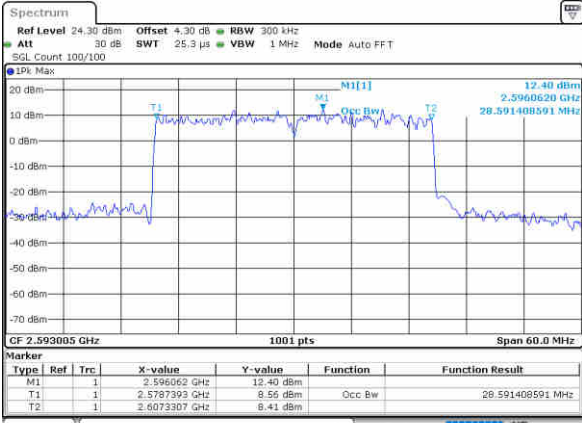
FR1 n41 / 30MHz / CP-OFDM

QPSK

16QAM

Middle Channel

Middle Channel



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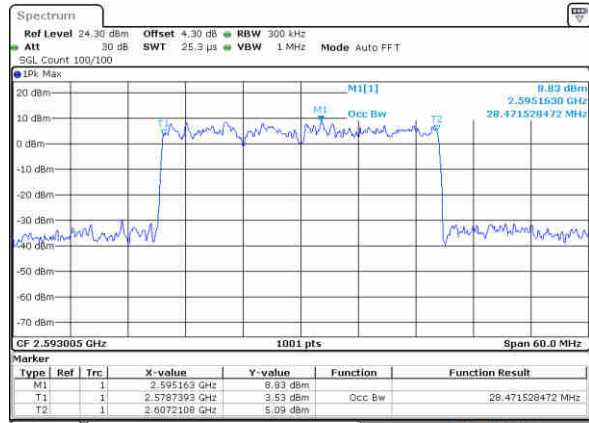
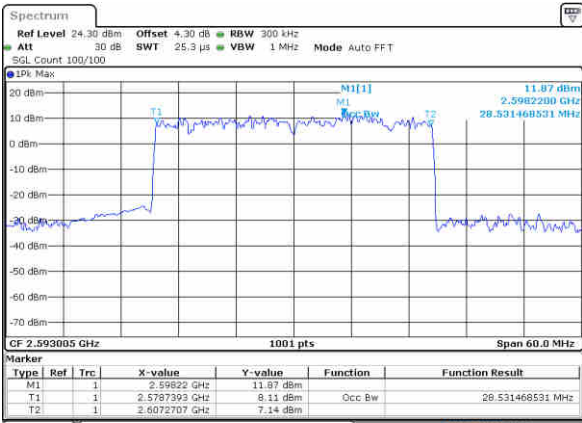
Date: 20\_JAN\_2021 09:50:16

64QAM

256QAM

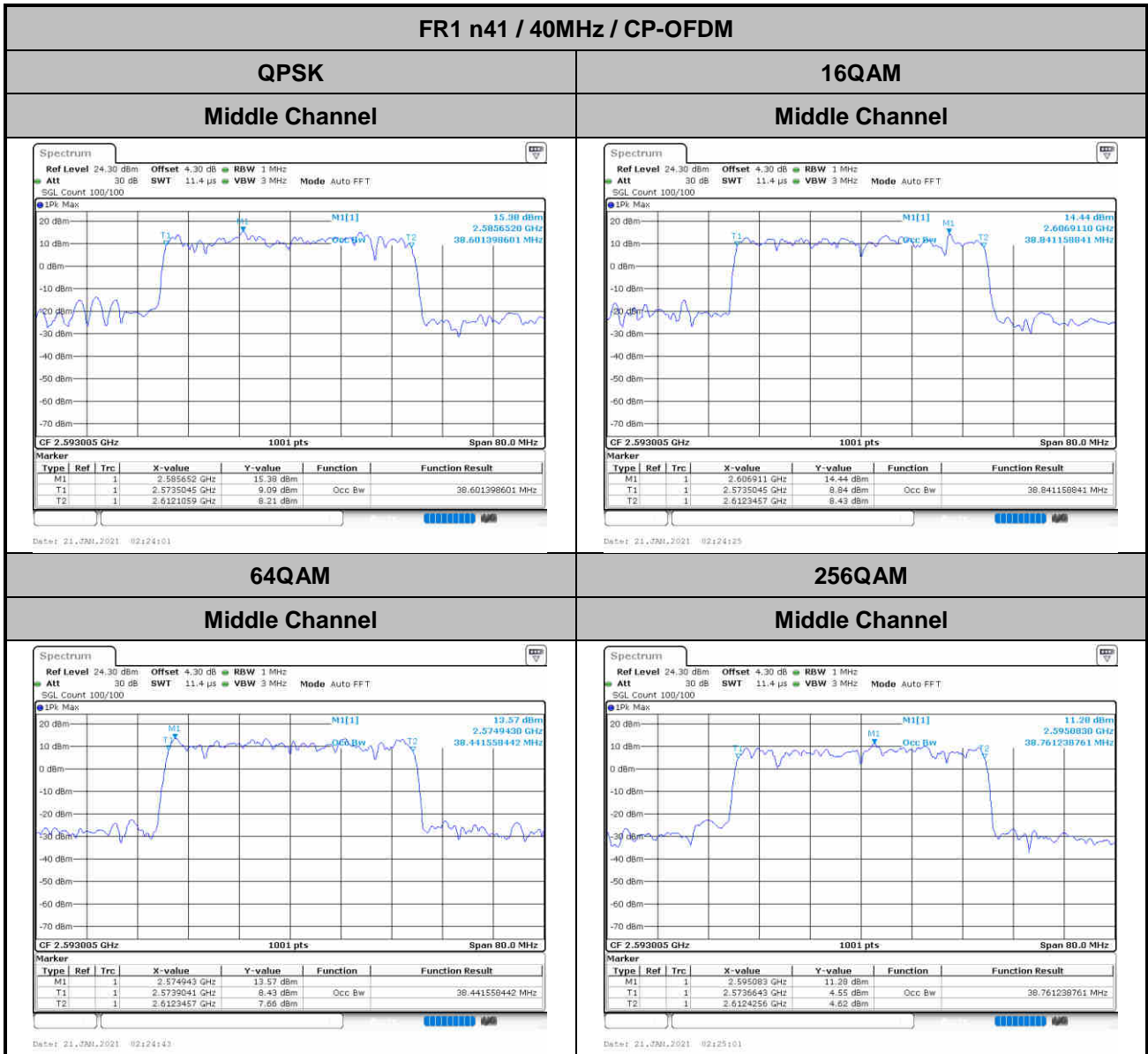
Middle Channel

Middle Channel



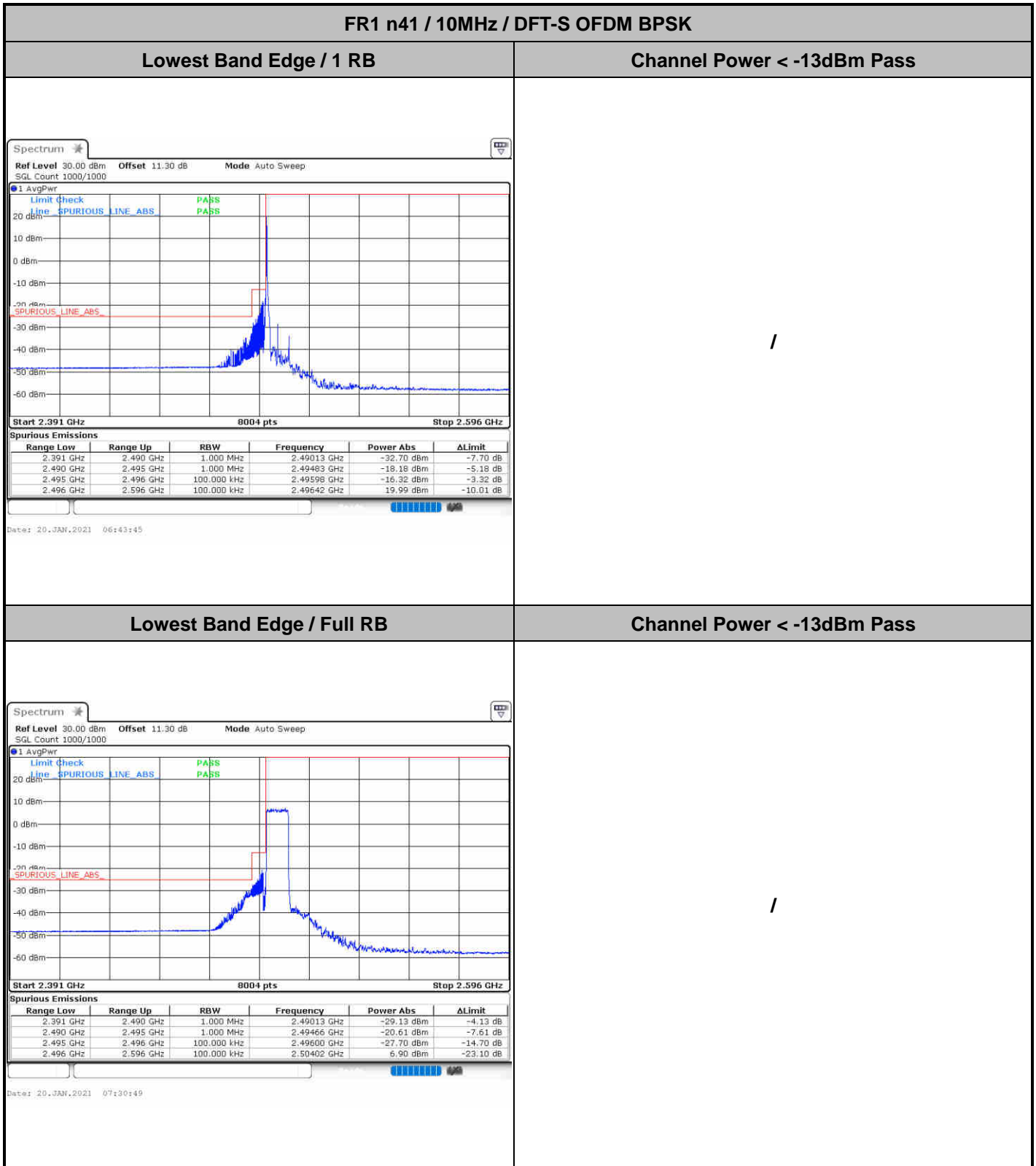
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# Conducted Band Edge

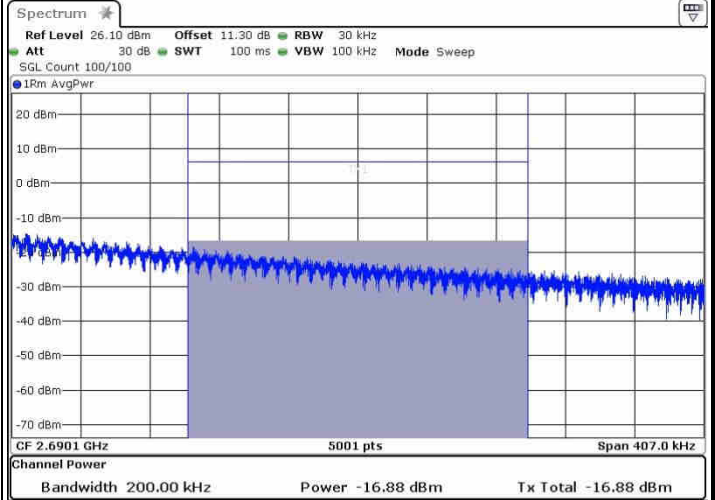
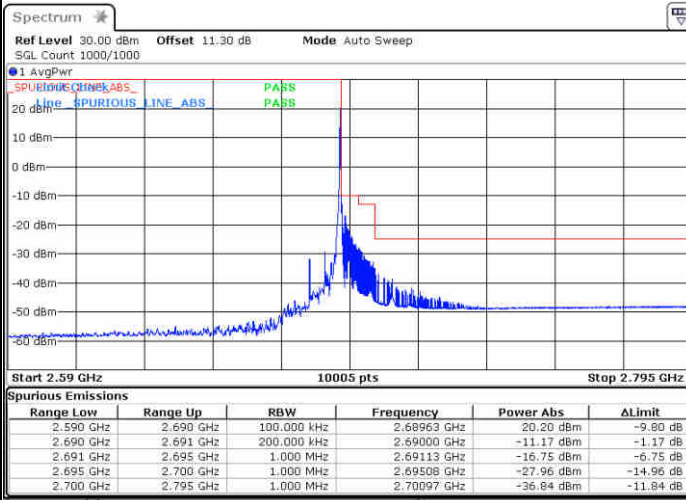




FR1 n41 / 10MHz / DFT-S OFDM BPSK

Highest Band Edge / 1 RB

Channel Power < -10dBm Pass

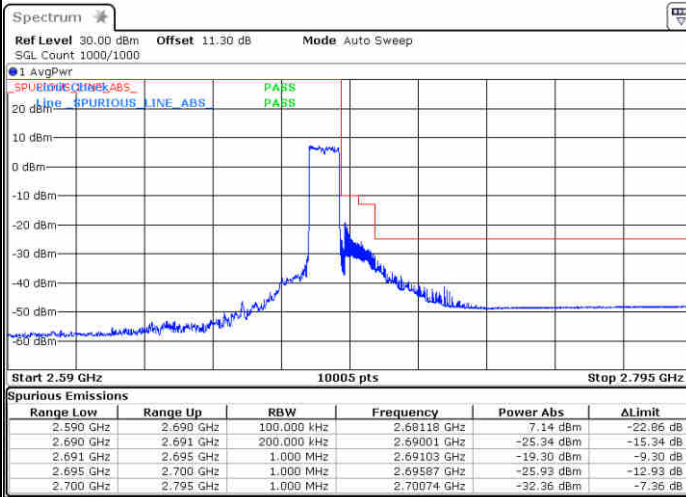


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Highest Band Edge / Full RB

Channel Power < -10dBm Pass



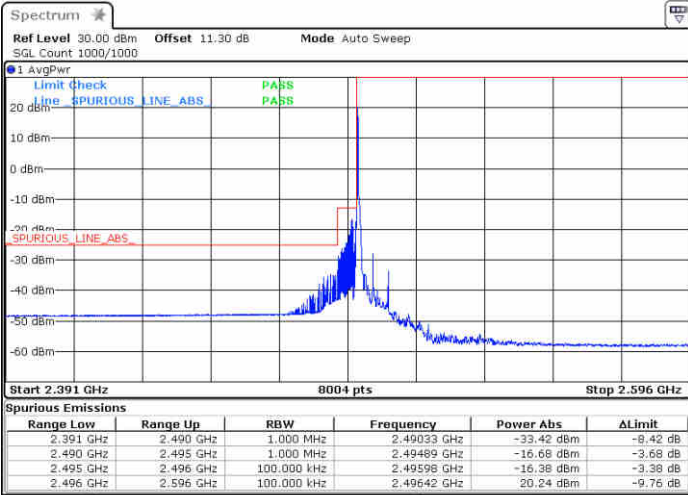
Date: 20.JAN.2021 05:49:54



FR1 n41 / 10MHz / DFT-S OFDM QPSK

Lowest Band Edge / 1 RB

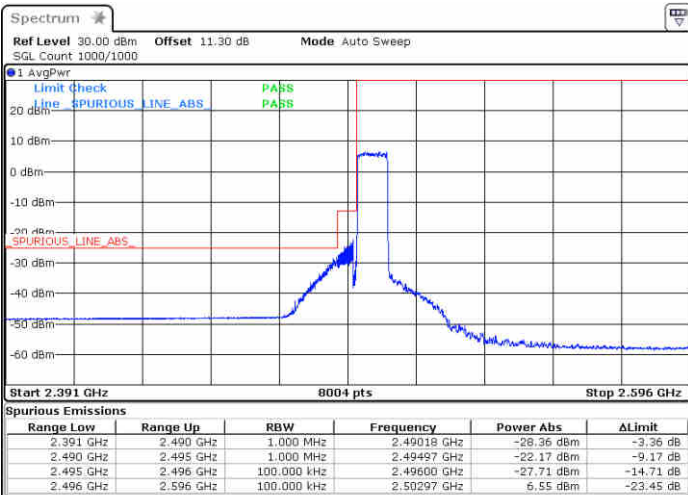
Channel Power < -13dBm Pass



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.49033 GHz	-33.42 dBm	-8.42 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49489 GHz	-16.68 dBm	-3.68 dB
2.495 GHz	2.496 GHz	100.000 kHz	2.49598 GHz	-16.38 dBm	-3.38 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.49642 GHz	20.24 dBm	-9.76 dB

Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



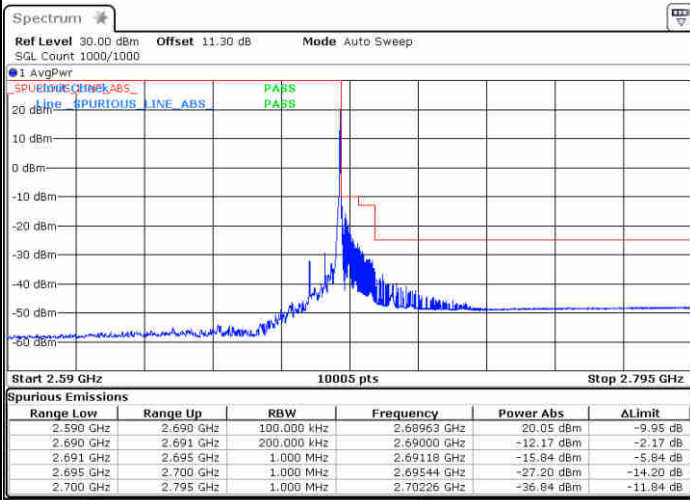
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.391 GHz	2.490 GHz	1.000 MHz	2.49018 GHz	-28.36 dBm	-3.36 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49497 GHz	-22.17 dBm	-9.17 dB
2.495 GHz	2.496 GHz	100.000 kHz	2.49600 GHz	-27.71 dBm	-14.71 dB
2.496 GHz	2.596 GHz	100.000 kHz	2.50297 GHz	6.55 dBm	-23.45 dB



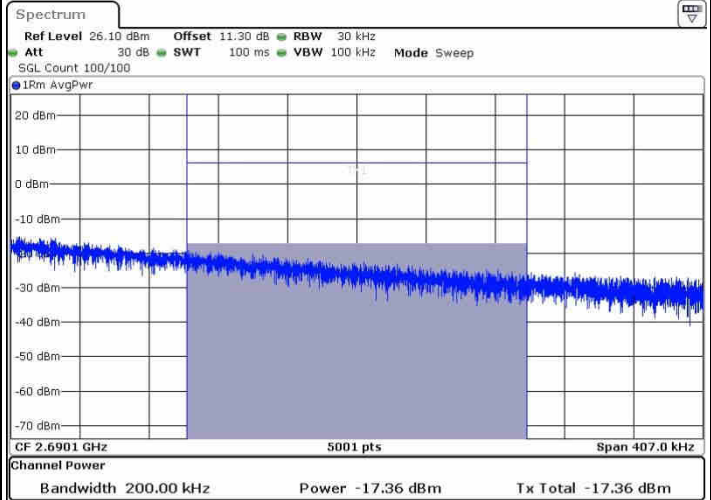
FR1 n41 / 10MHz / DFT-S OFDM QPSK

Highest Band Edge / 1 RB

Channel Power < -10dBm Pass



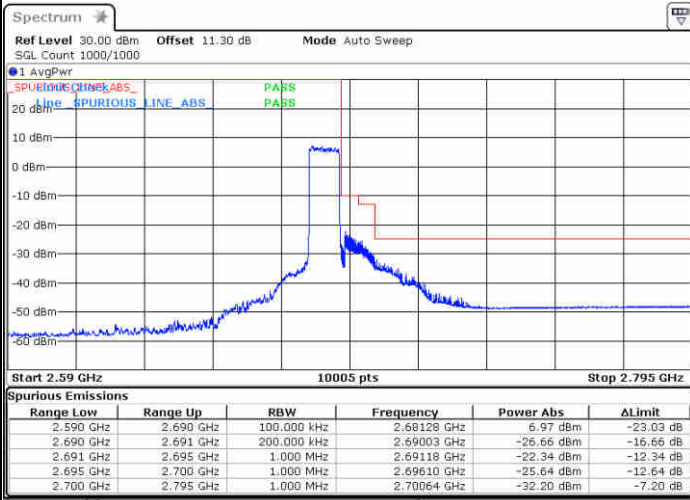
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Date: 20.JAN.2021 06:10:40

Highest Band Edge / Full RB

Channel Power < -10dBm Pass



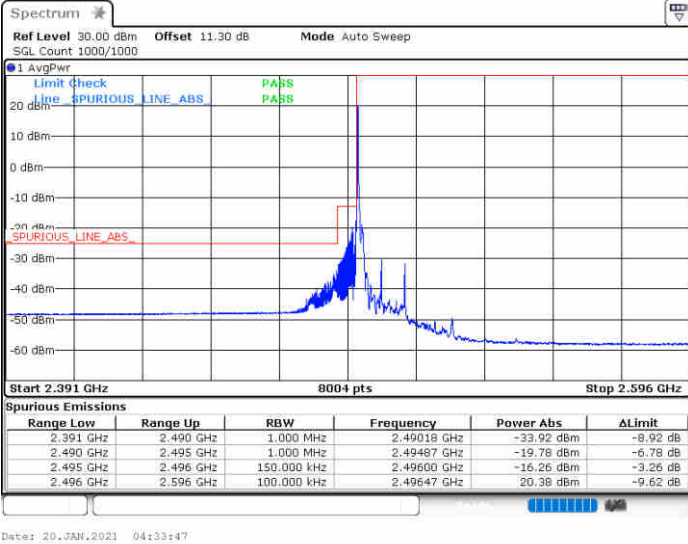
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FR1 n41 / 15MHz / DFT-S OFDM BPSK

Lowest Band Edge / 1 RB

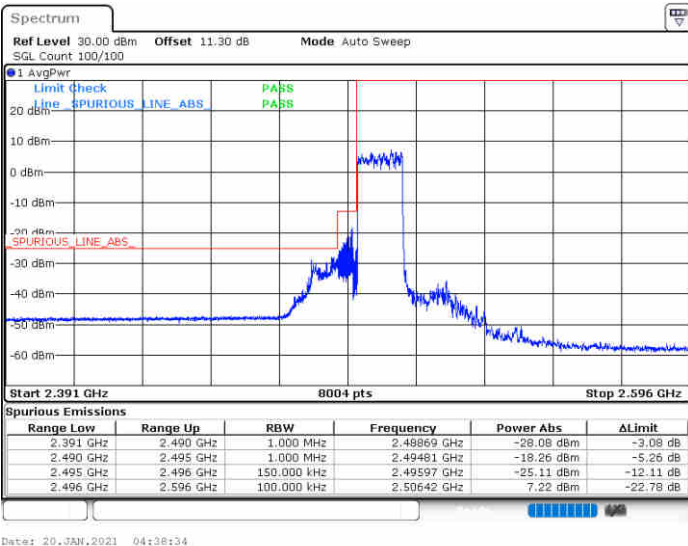
Channel Power < -13dBm Pass



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Lowest Band Edge / Full RB

Channel Power < -13dBm Pass



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