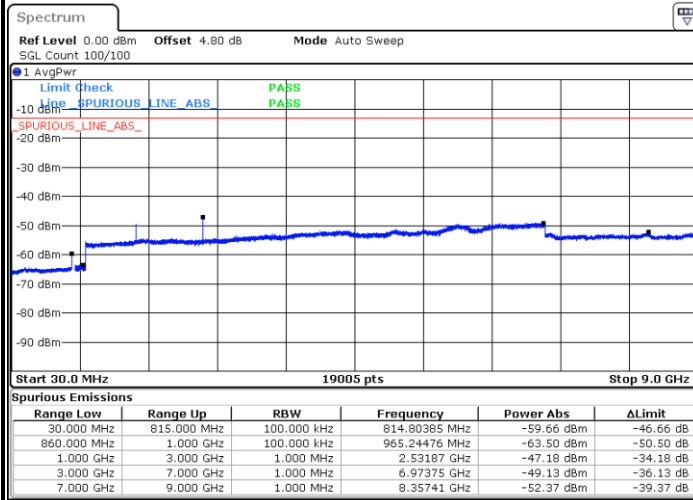




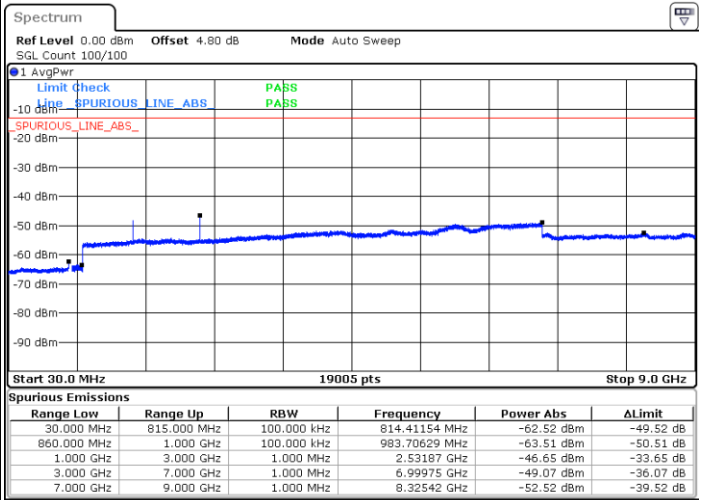
FR1 n5 / 20MHz / DFT-S OFDM / 16QAM

Lowest Channel / 1RB0



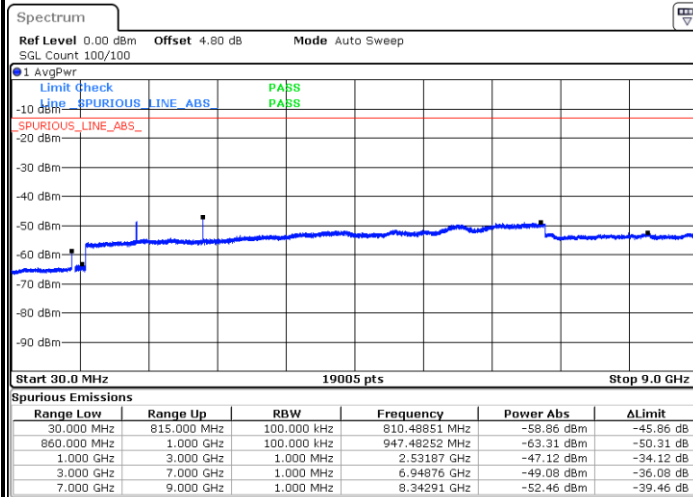
Date: 30 JUN 2020 02:30:22

Middle Channel / 1RB0



Date: 30 JUN 2020 02:32:35

Highest Channel / 1RB0

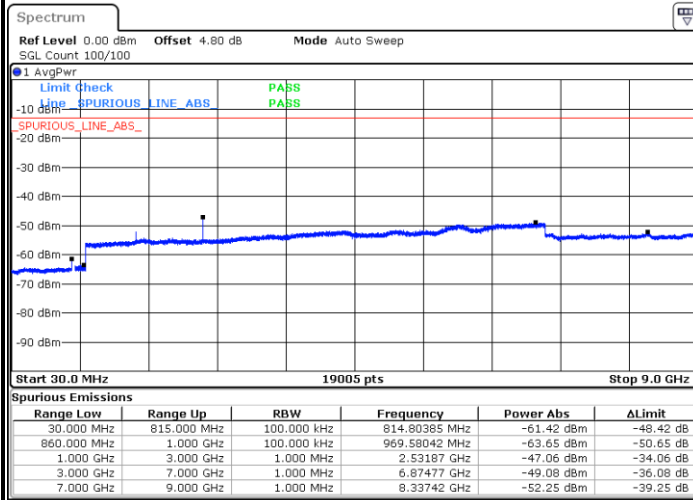


Date: 30 JUN 2020 02:34:38



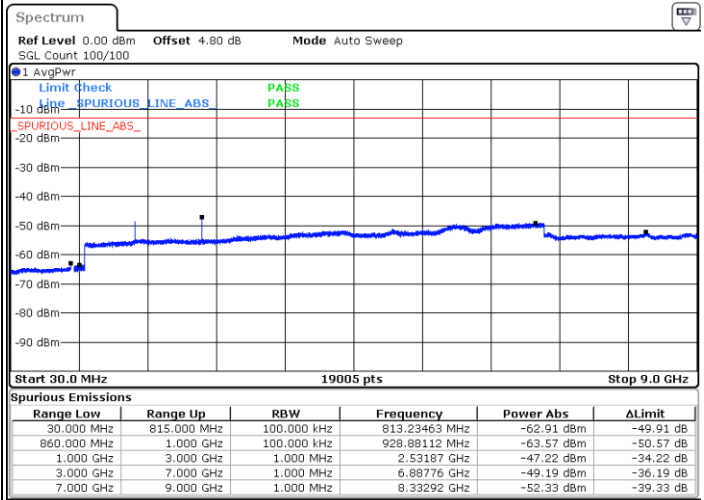
FR1 n5 / 20MHz / DFT-S OFDM / 64QAM

Lowest Channel / 1RB0



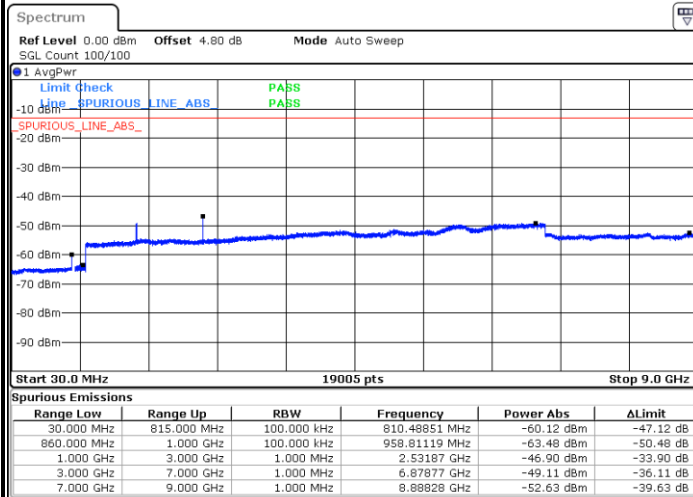
Date: 30 JUN 2020 02:30:44

Middle Channel / 1RB0



Date: 30 JUN 2020 02:32:54

Highest Channel / 1RB0

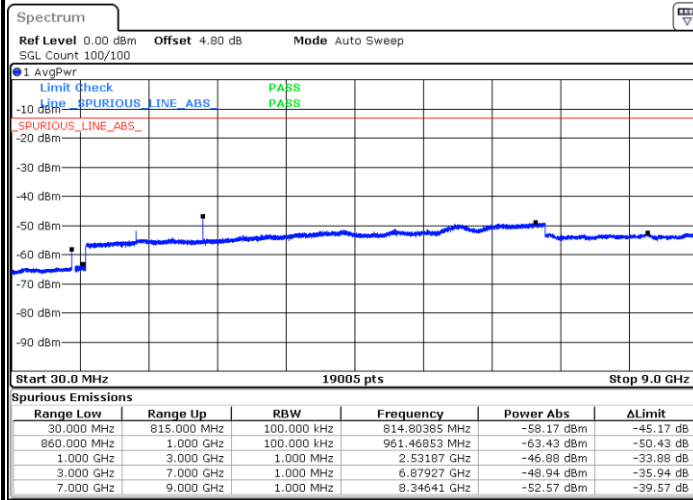


Date: 30 JUN 2020 02:34:58



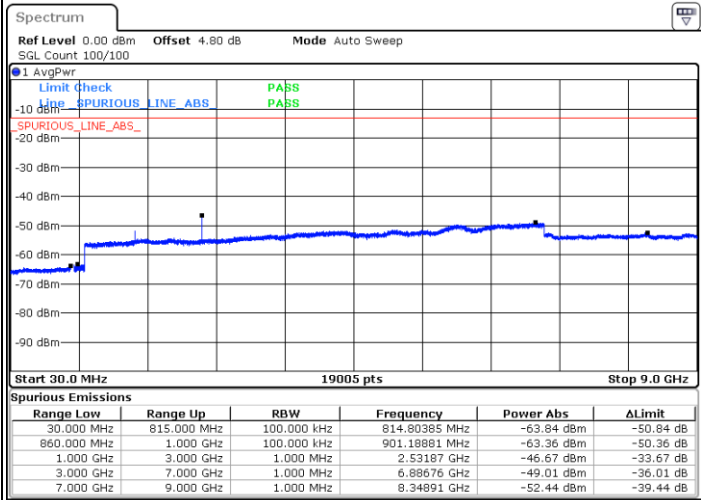
FR1 n5 / 20MHz / DFT-S OFDM / 256QAM

Lowest Channel / 1RB0



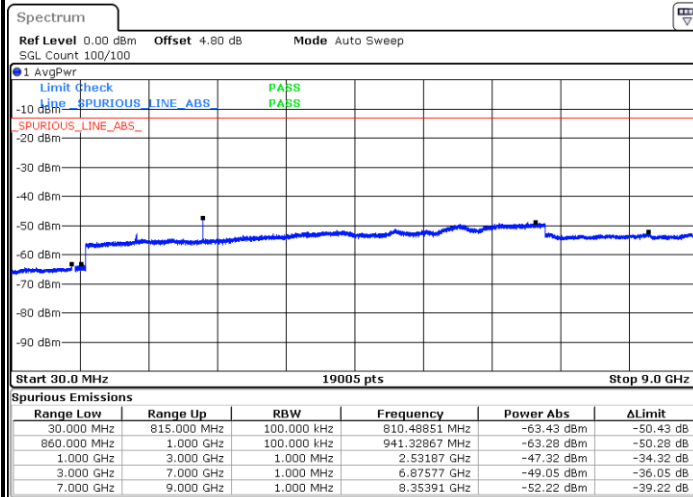
Date: 30 JUN 2020 02:31:09

Middle Channel / 1RB0



Date: 30 JUN 2020 02:33:17

Highest Channel / 1RB0



Date: 30 JUN 2020 02:35:21

Frequency Stability

Test Conditions		FR1 n5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0007	PASS
40	Normal Voltage	0.0013	
30	Normal Voltage	0.0038	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0050	
0	Normal Voltage	0.0044	
-10	Normal Voltage	0.0043	
-20	Normal Voltage	0.0024	
-30	Normal Voltage	0.0014	
20	Maximum Voltage	0.0048	
20	Normal Voltage	0.0044	
20	Battery End Point	0.0012	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



5G NR n38

Peak-to-Average Ratio

Mode	FR1 n38 / 20MHz / DFT-S OFDM				
Mod.	PI/2 BPSK	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Lowest CH	6.58	8.70	8.26	8.75	PASS
Middle CH	6.67	8.49	8.35	8.75	
Highest CH	7.07	7.22	8.32	9.48	
Mode	FR1 n38 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Lowest CH	9.65				PASS
Middle CH	9.01				
Highest CH	9.04				
Mode	FR1 n38 / 20MHz / DFT-S OFDM				
Mod.	PI/2 BPSK	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	1 RB0	1 RB0	1 RB0	1 RB0	Result
Lowest CH	7.51	10.32	10.75	9.54	PASS
Middle CH	8.93	7.19	8.14	9.04	
Highest CH	7.07	7.22	8.32	9.48	
Mode	FR1 n38 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	1 RB0				Result
Lowest CH	9.39				PASS
Middle CH	8.49				
Highest CH	9.04				



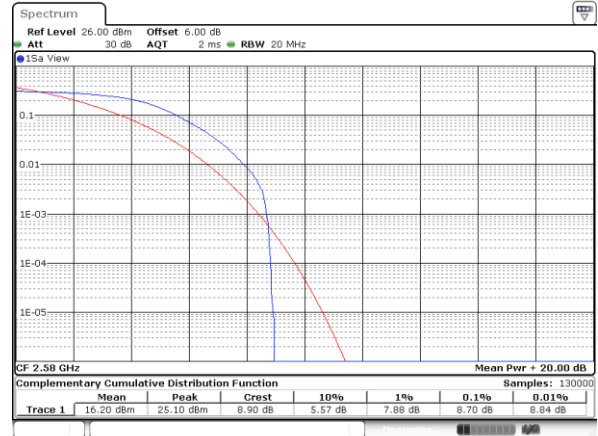
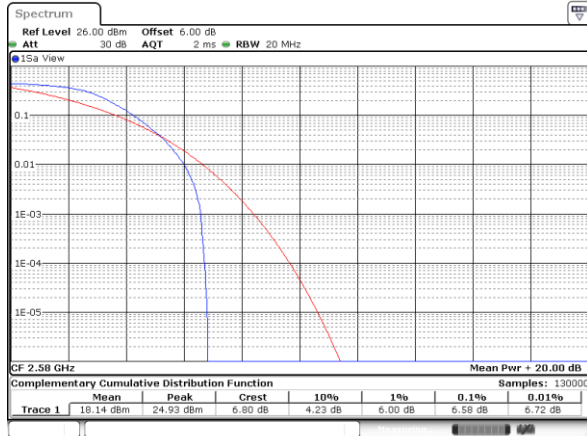
FR1 n38 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

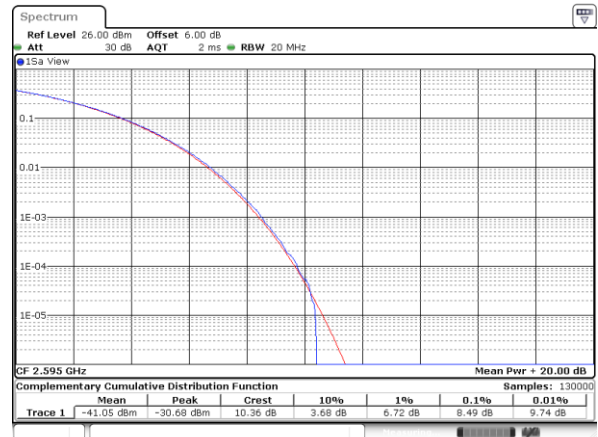
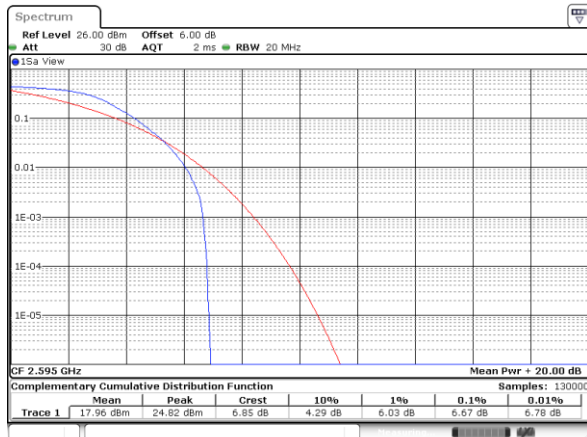
Lowest Channel / Full RB

Lowest Channel / Full RB



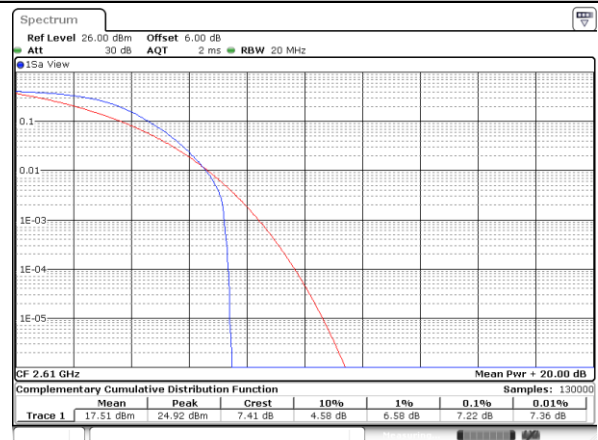
Middle Channel / Full RB

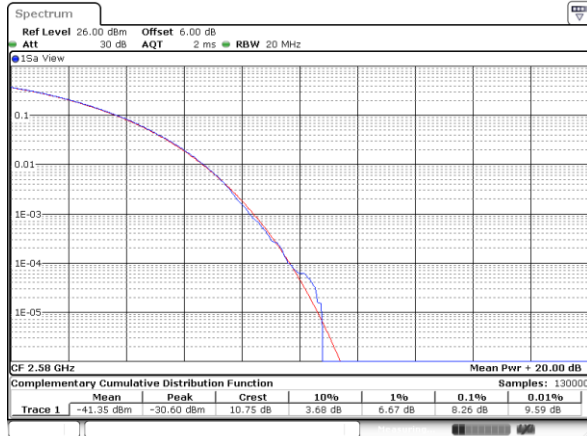
Middle Channel / Full RB



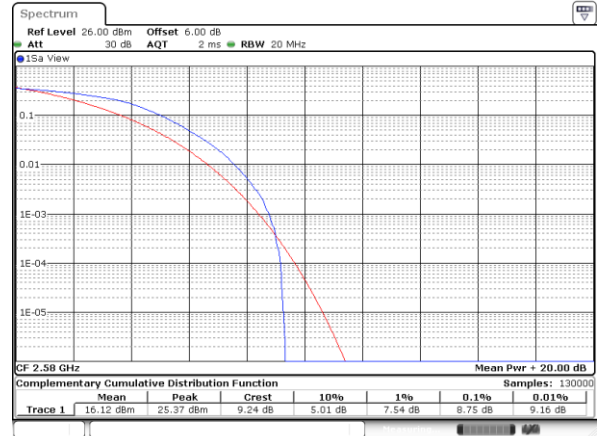
Highest Channel / Full RB

Highest Channel / Full RB

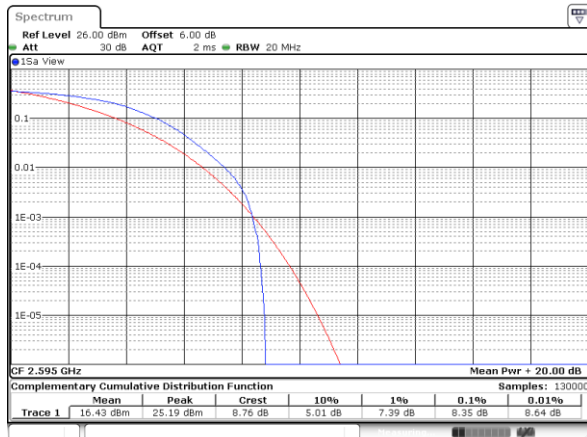


FR1 n38 / 20MHz / DFT-S OFDM
16QAM
64QAM
Lowest Channel / Full RB
Lowest Channel / Full RB


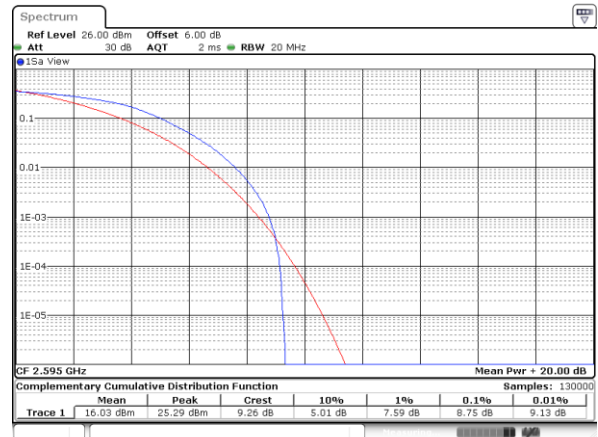
Date: 17 JUL 2020 17:59:57



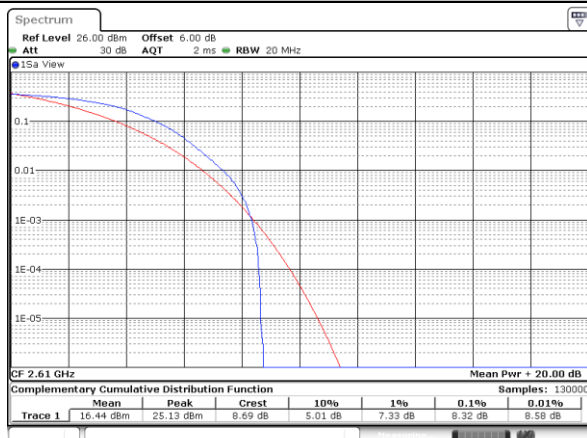
Date: 17 JUL 2020 18:00:32

Middle Channel / Full RB
Middle Channel / Full RB


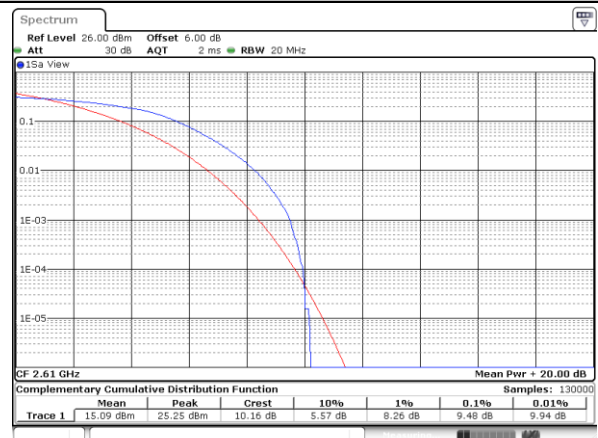
Date: 17 JUL 2020 16:57:29



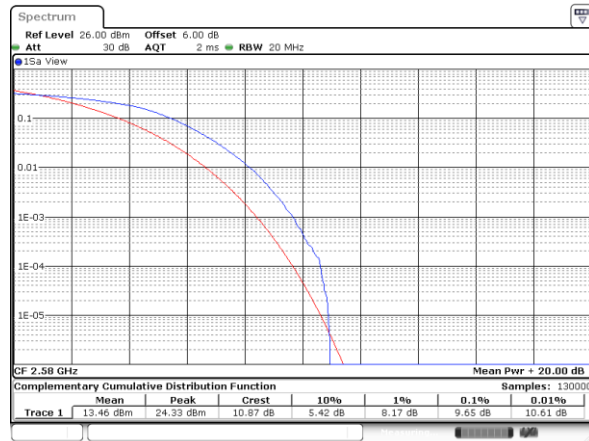
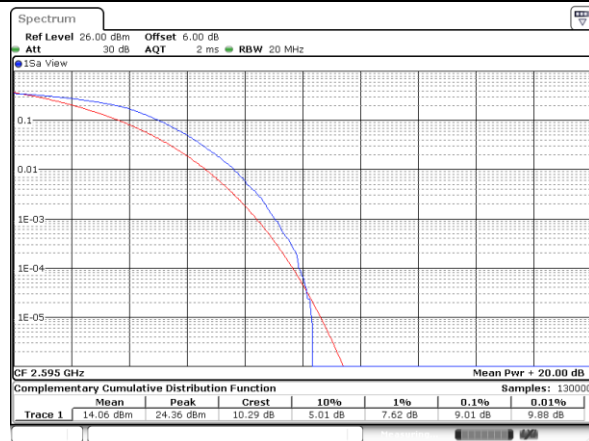
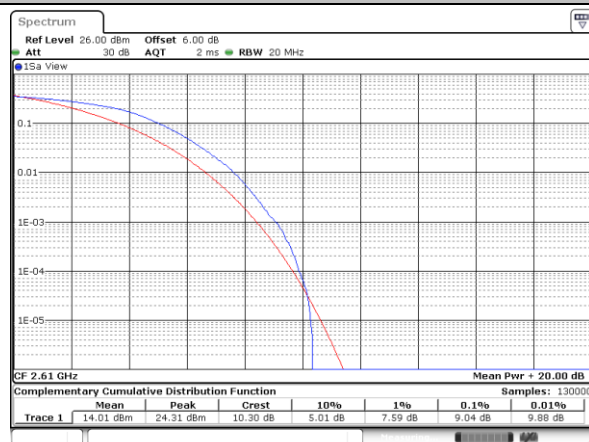
Date: 17 JUL 2020 16:59:01

Highest Channel / Full RB
Highest Channel / Full RB


Date: 17 JUL 2020 17:02:44



Date: 17 JUL 2020 17:02:10

FR1 n38 / 20MHz / DFT-S OFDM
256QAM
Lowest Channel / Full RB

Middle Channel / Full RB

Highest Channel / Full RB




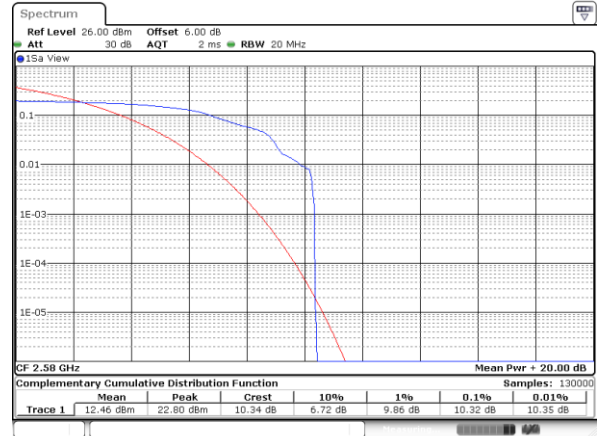
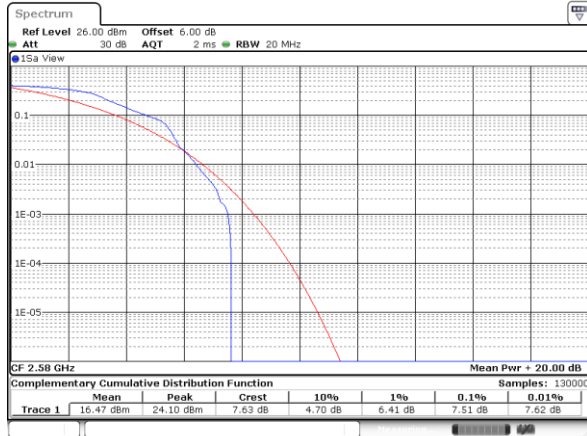
FR1 n38 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

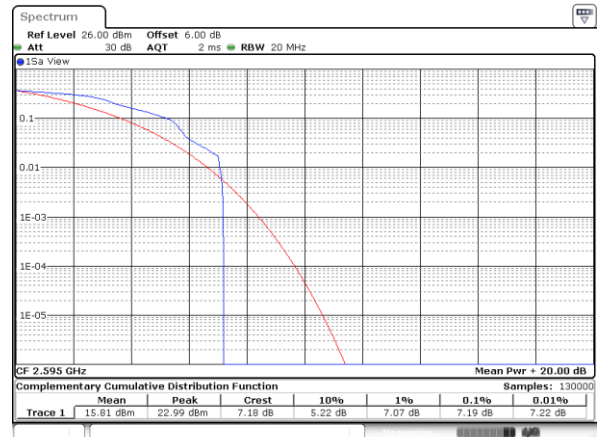
Lowest Channel / 1RB0

Lowest Channel / 1RB0



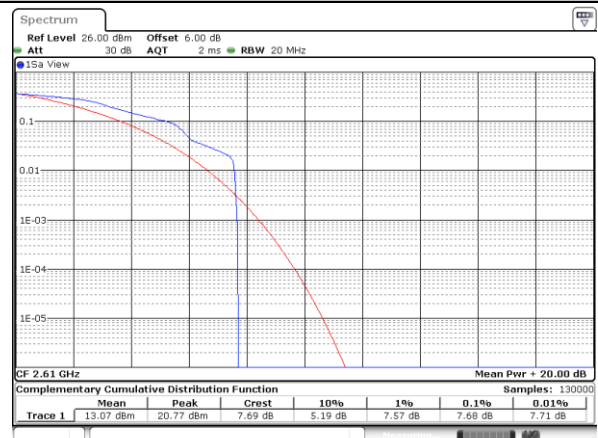
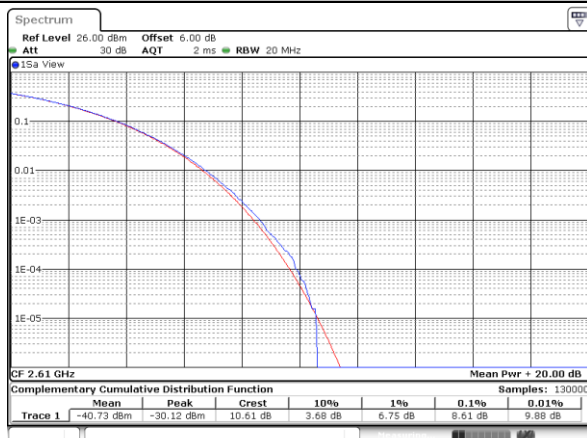
Middle Channel / 1RB0

Middle Channel / 1RB0



Highest Channel / 1RB0

Highest Channel / 1RB0





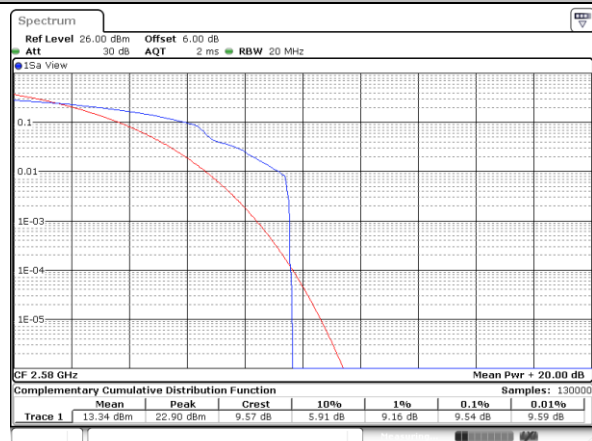
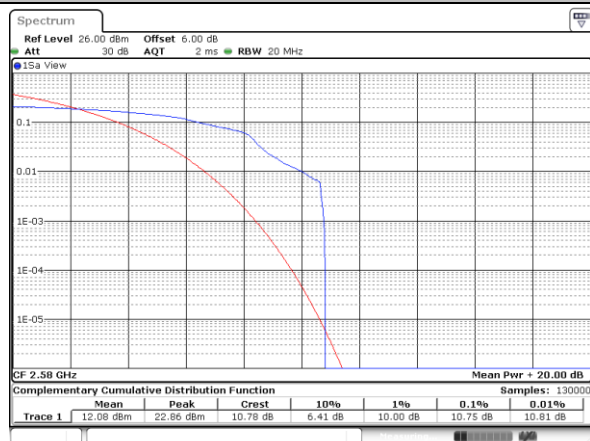
FR1 n38 / 20MHz / DFT-S OFDM

16QAM

64QAM

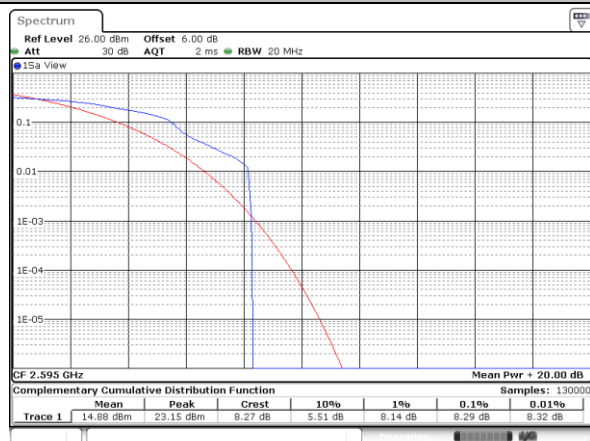
Lowest Channel / 1RB0

Lowest Channel / 1RB0



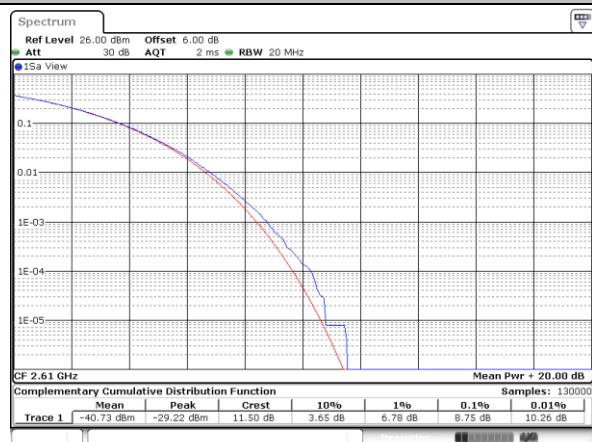
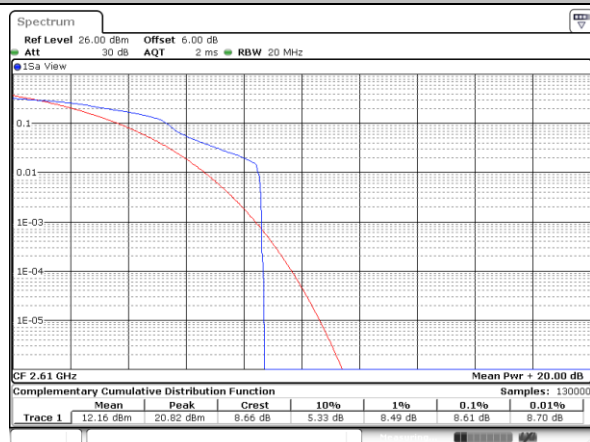
Middle Channel / 1RB0

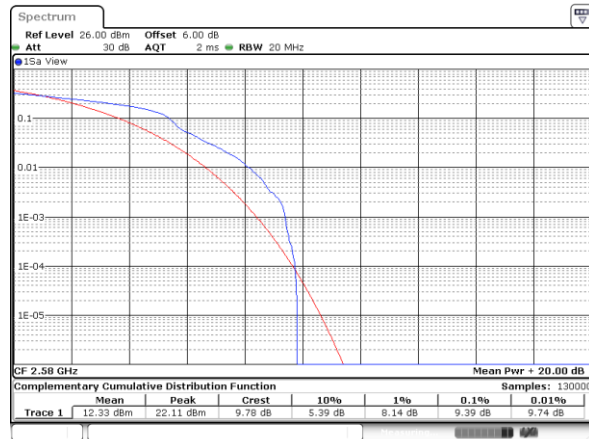
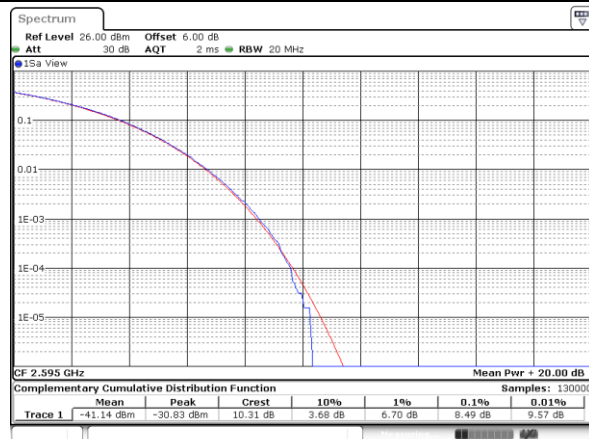
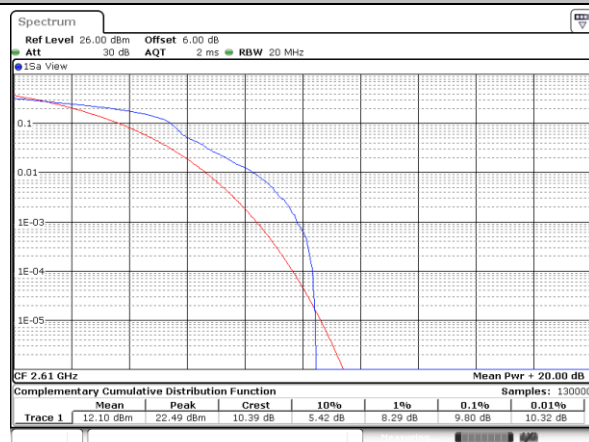
Middle Channel / 1RB0



Highest Channel / 1RB0

Highest Channel / 1RB0



FR1 n38 / 20MHz / DFT-S OFDM
256QAM
Lowest Channel / 1RB0

Middle Channel / 1RB0

Highest Channel / 1RB0




26dB Bandwidth

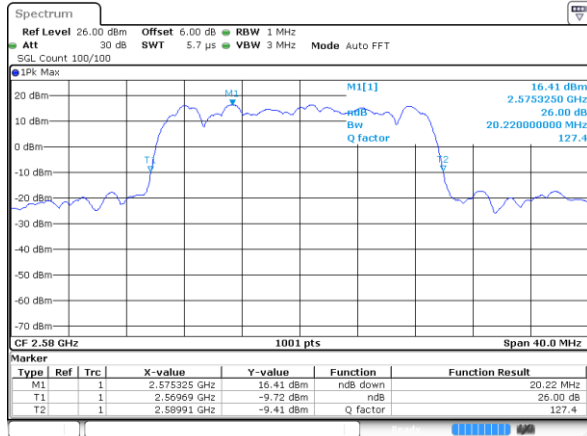
Mode	FR1 n38 : 26dB BW(MHz) / DFT-S OFDM				
BW	20MHz				
Mod.	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM
Lowest CH	20.22	20.14	20.02	20.82	20.06
Middle CH	20.42	20.22	20.18	20.46	20.30
Highest CH	20.38	20.14	20.10	20.30	20.14



FR1 n38 / 20MHz / DFT-S OFDM

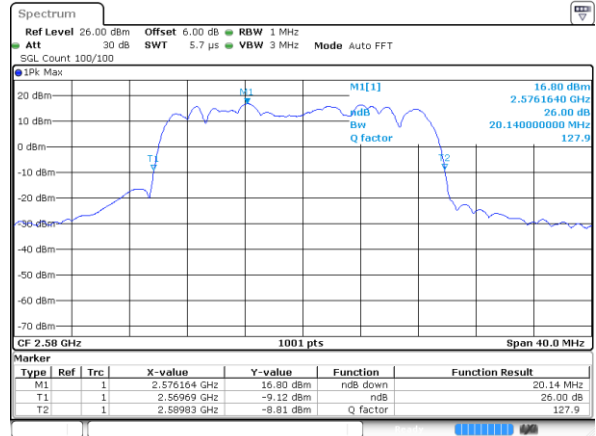
PI/2 BPSK

Lowest Channel

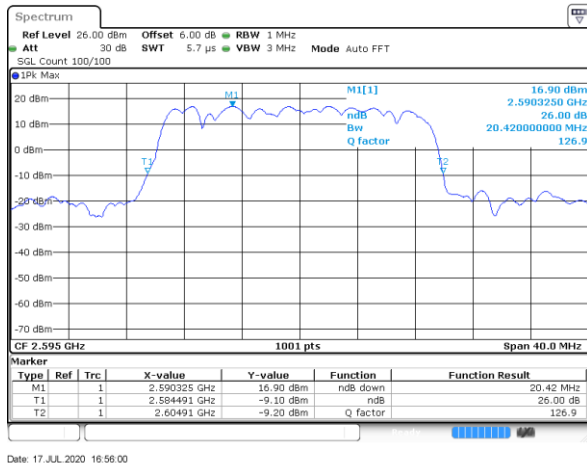


QPSK

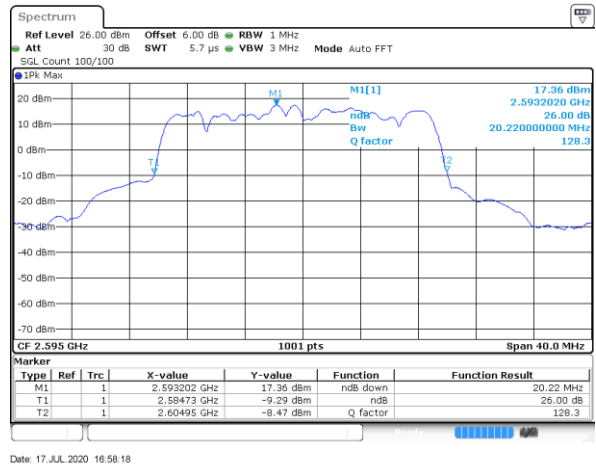
Lowest Channel



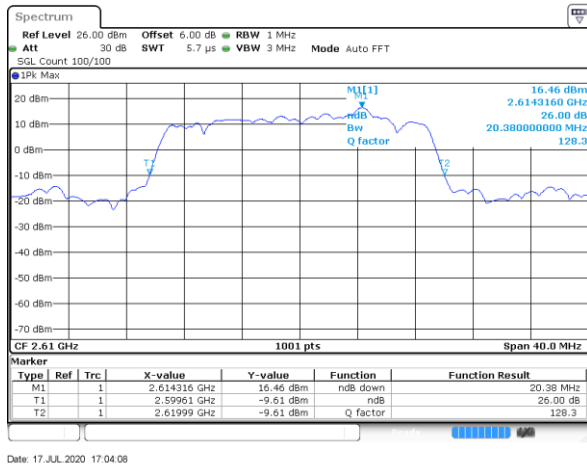
Middle Channel



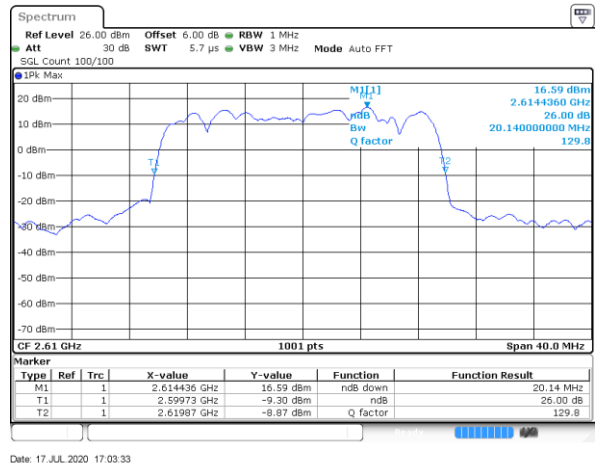
Middle Channel



Highest Channel



Highest Channel

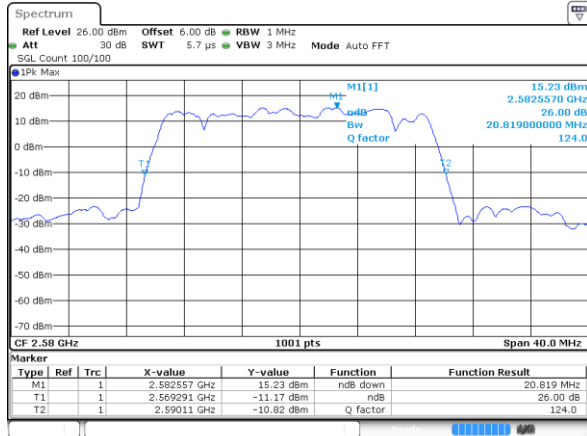




FR1 n38 / 20MHz / DFT-S OFDM

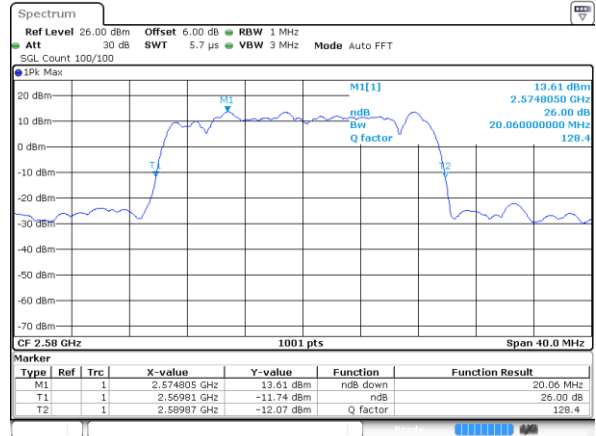
64QAM

Lowest Channel

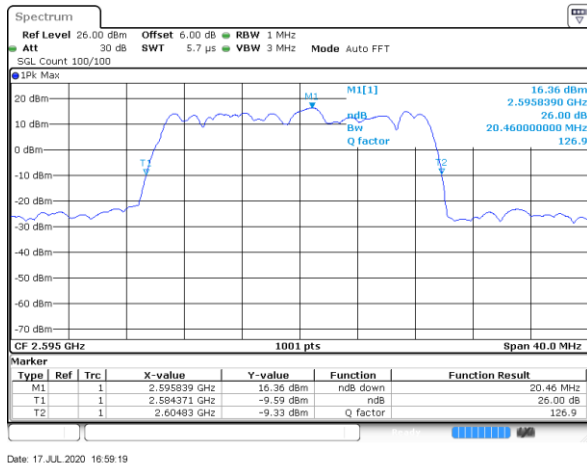


256QAM

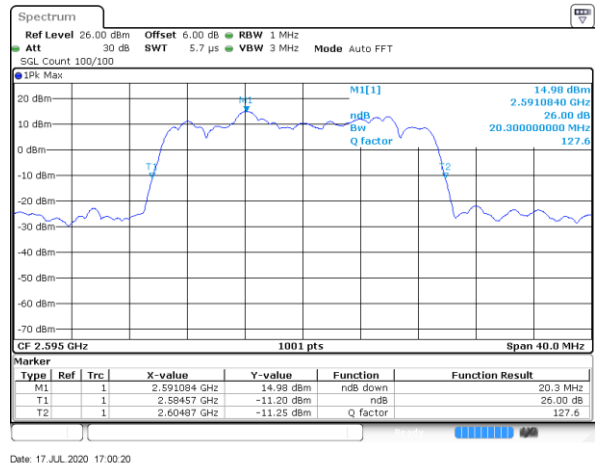
Lowest Channel



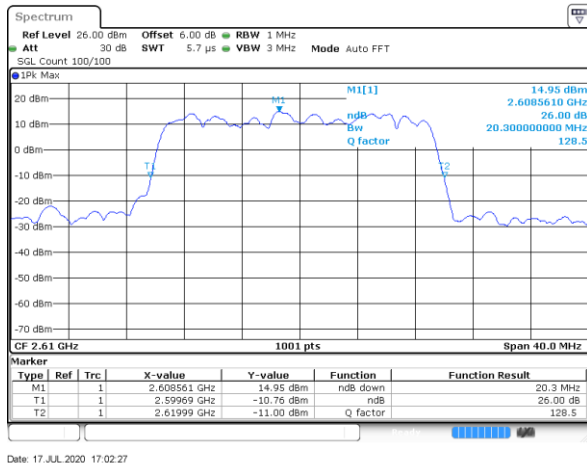
Middle Channel



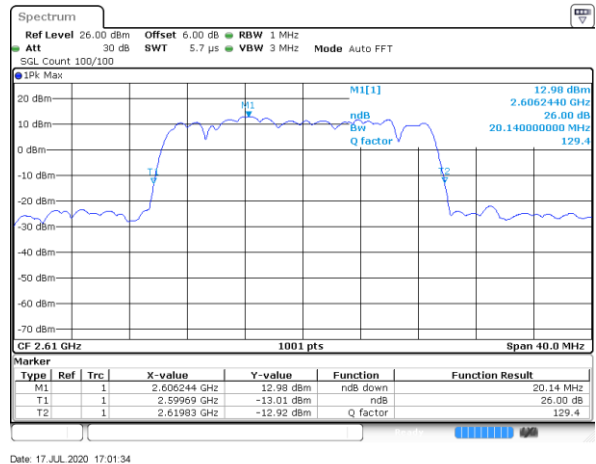
Middle Channel



Highest Channel



Highest Channel





Occupied Bandwidth

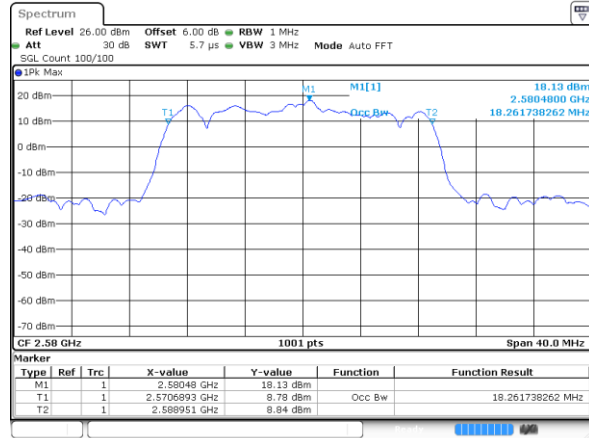
Mode	FR1 n38 : 99%OBW(MHz) / DFT-S OFDM				
BW	20MHz				
Mod.	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM
Lowest CH	18.26	18.30	18.42	18.30	18.46
Middle CH	18.34	18.58	18.30	18.22	18.50
Highest CH	18.74	18.58	18.42	18.14	18.34



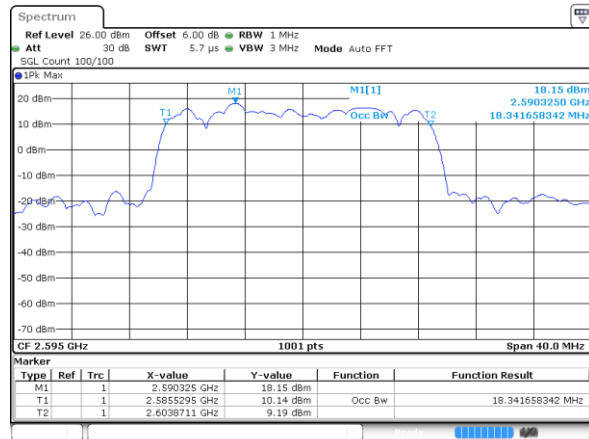
FR1 n38 / 20MHz / DFT-S OFDM

PI/2 BPSK

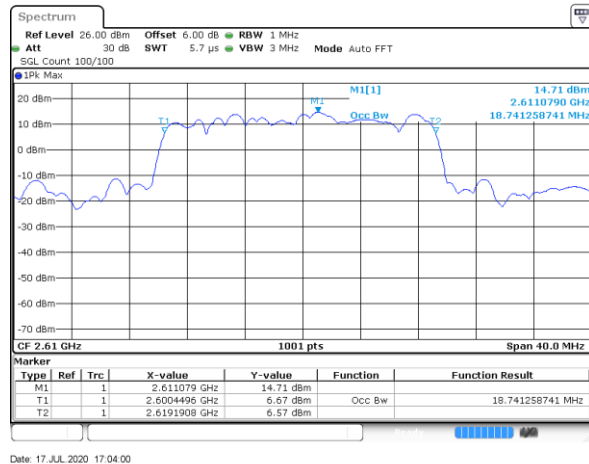
Lowest Channel



Middle Channel



Highest Channel

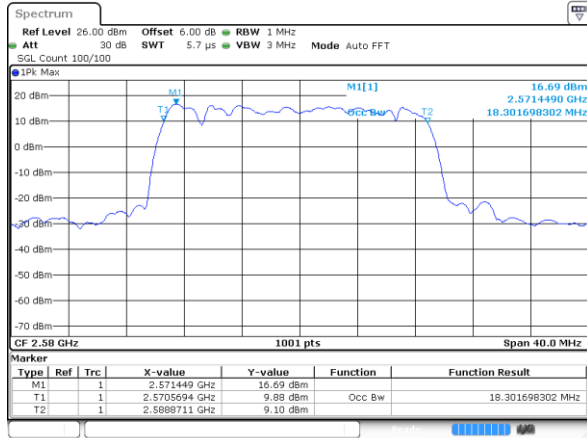




FR1 n38 / 20MHz / DFT-S OFDM

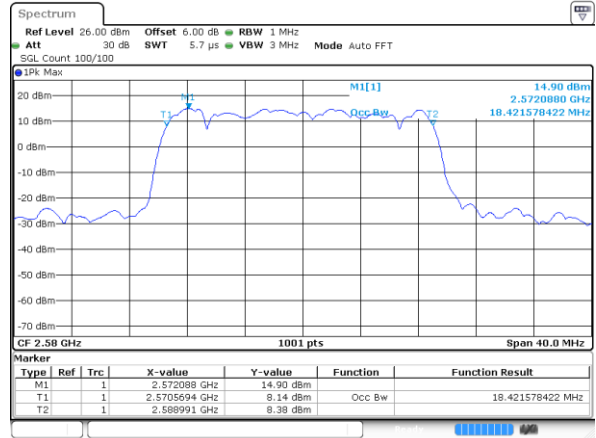
QPSK

Lowest Channel

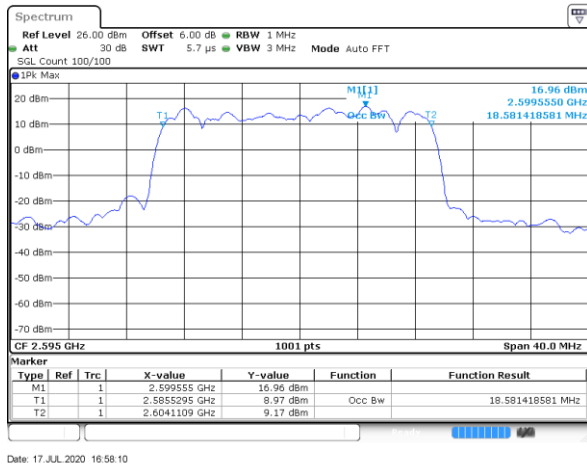


16QAM

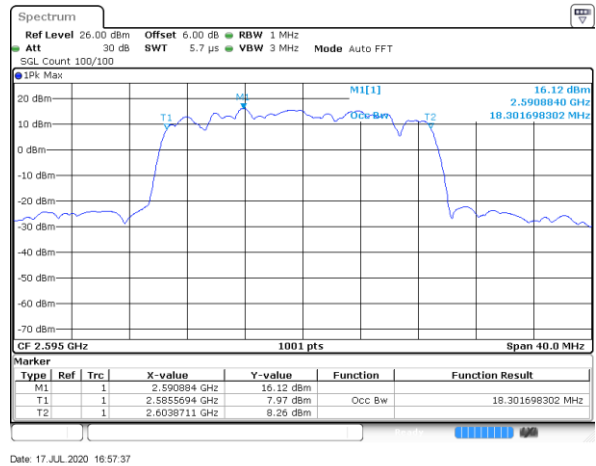
Lowest Channel



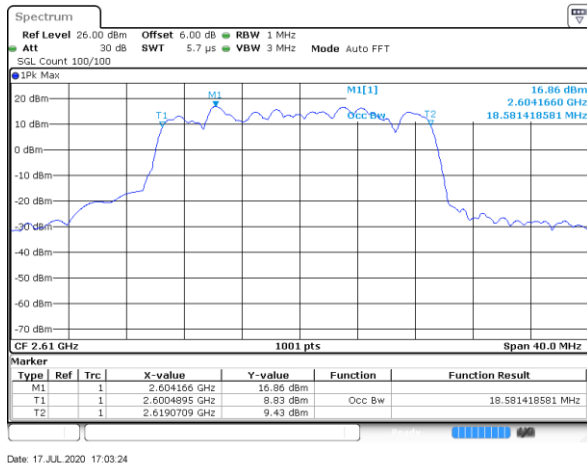
Middle Channel



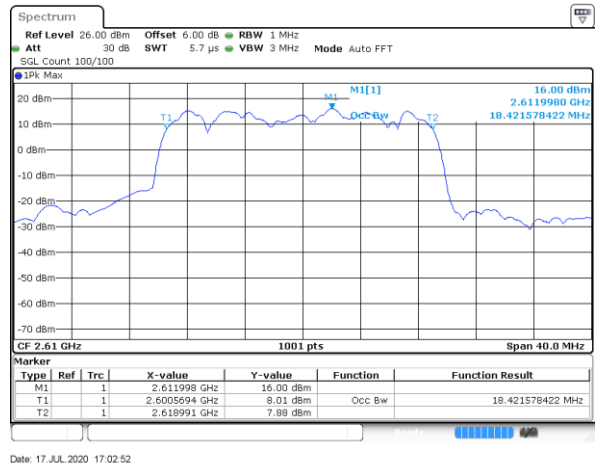
Middle Channel



Highest Channel



Highest Channel

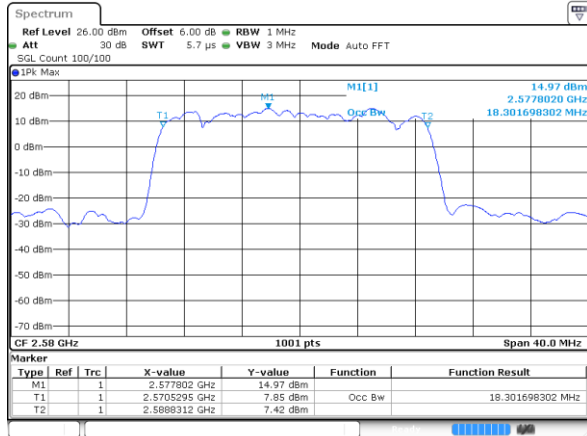




FR1 n38 / 20MHz / DFT-S OFDM

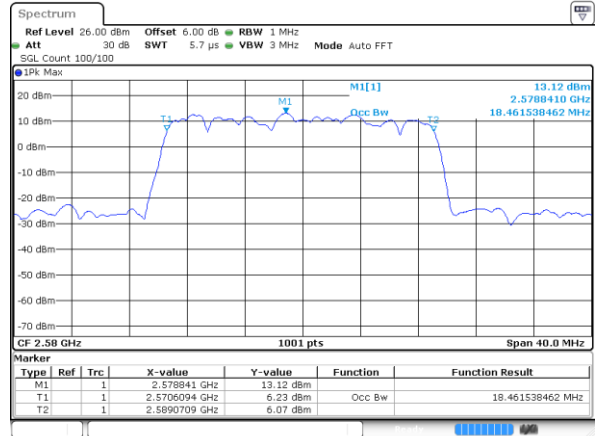
64QAM

Lowest Channel

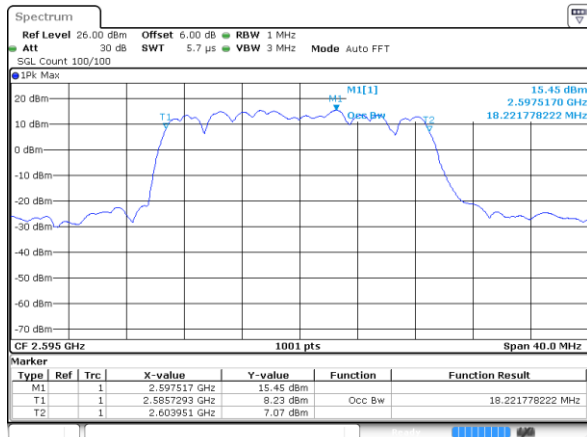


256QAM

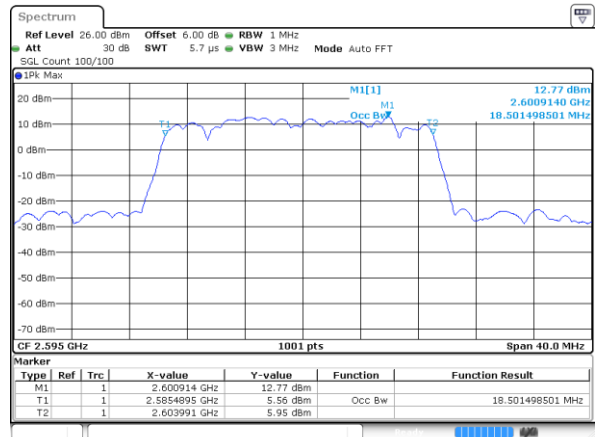
Lowest Channel



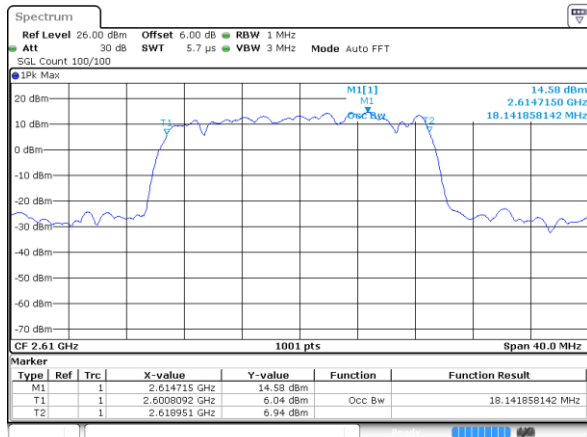
Middle Channel



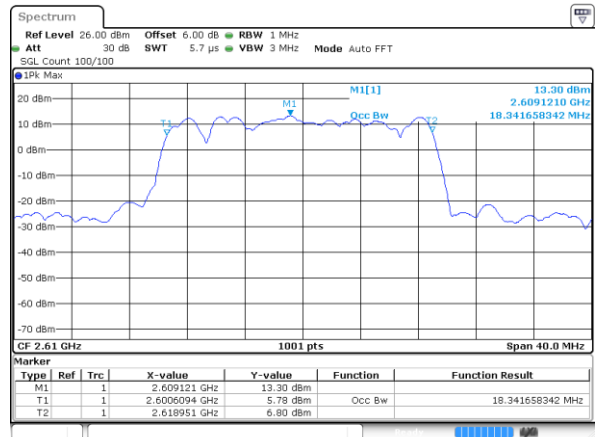
Middle Channel



Highest Channel



Highest Channel



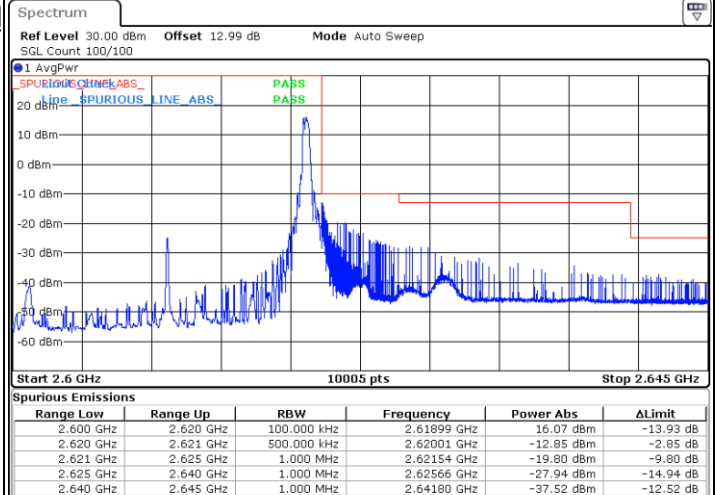
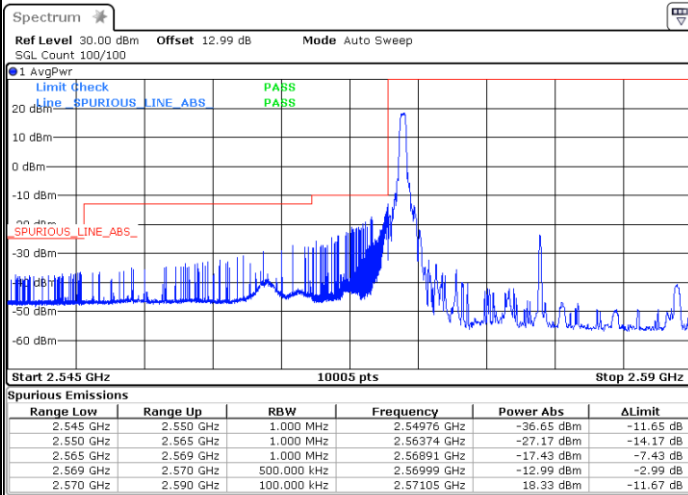


Conducted Band Edge

FR1 n38 / 20MHz / DFT-s-OFDM / PI/2 BPSK

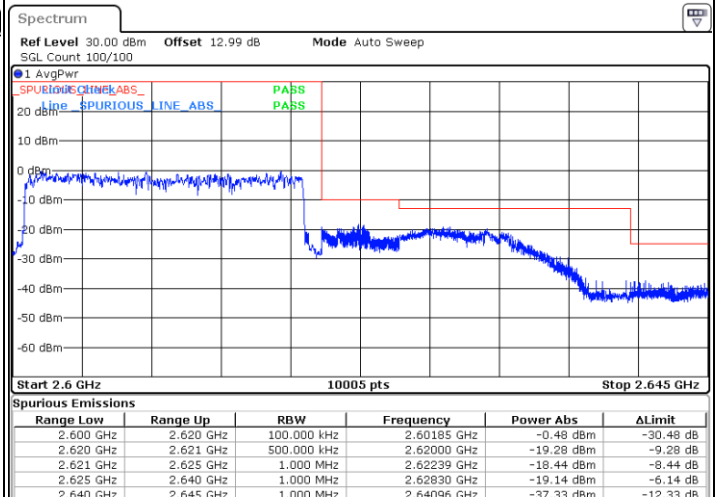
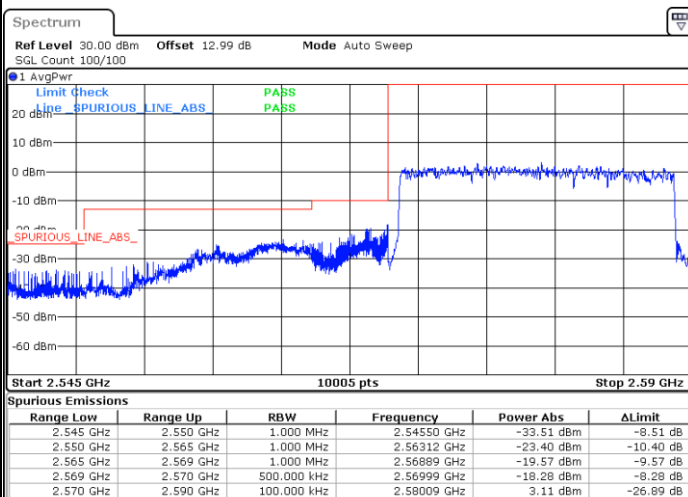
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBMAX



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

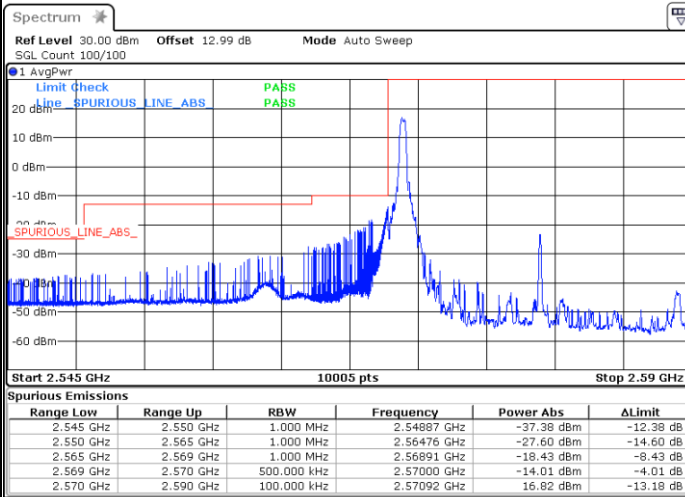




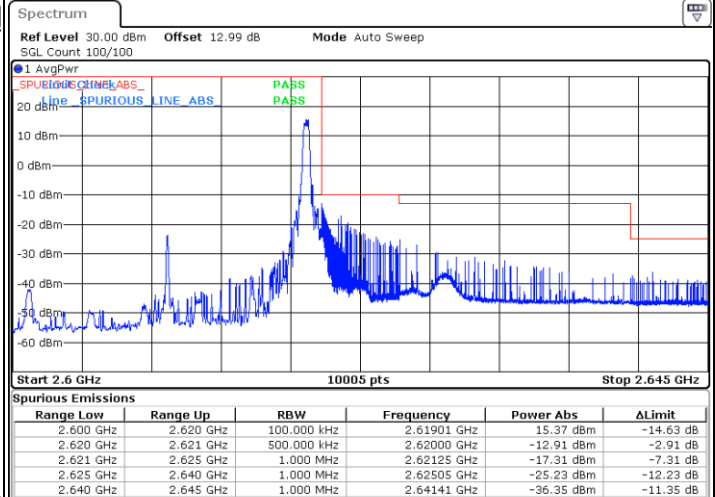
FR1 n38 / 20MHz / DFT-s-OFDM / QPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBMAX



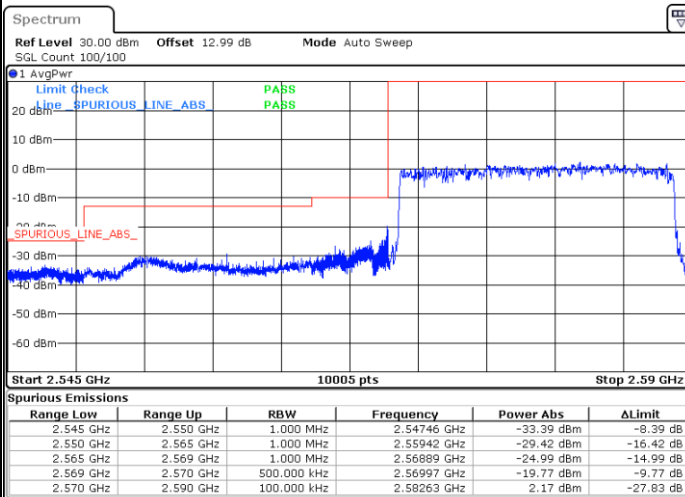
Date: 17 JUL 2020 16:18:14



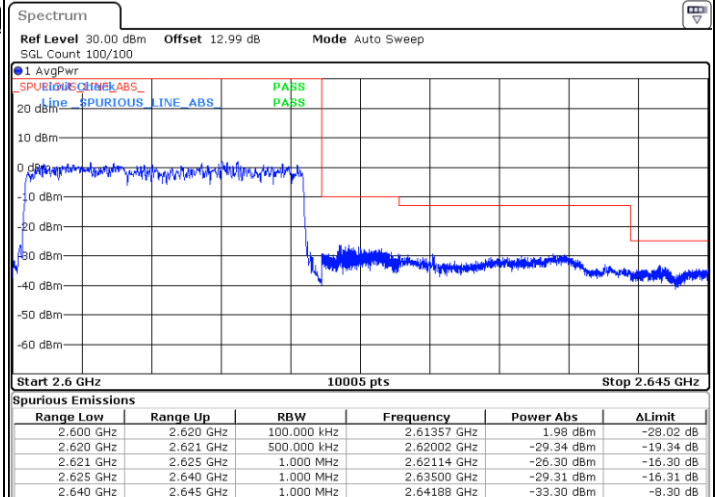
Date: 17 JUL 2020 17:56:05

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 17 JUL 2020 16:44:55



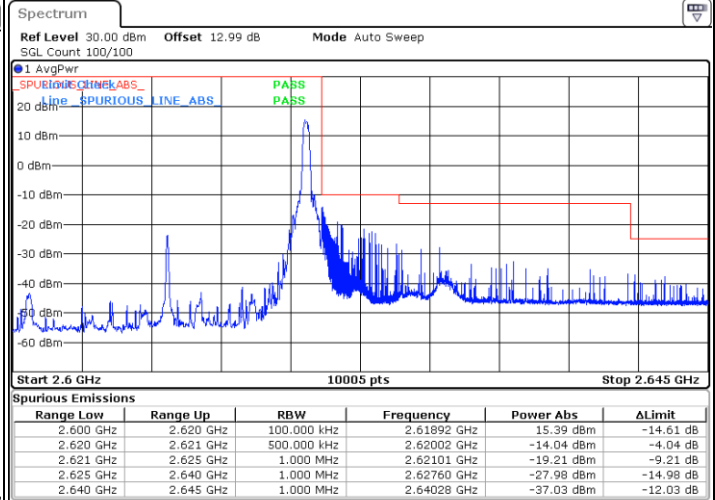
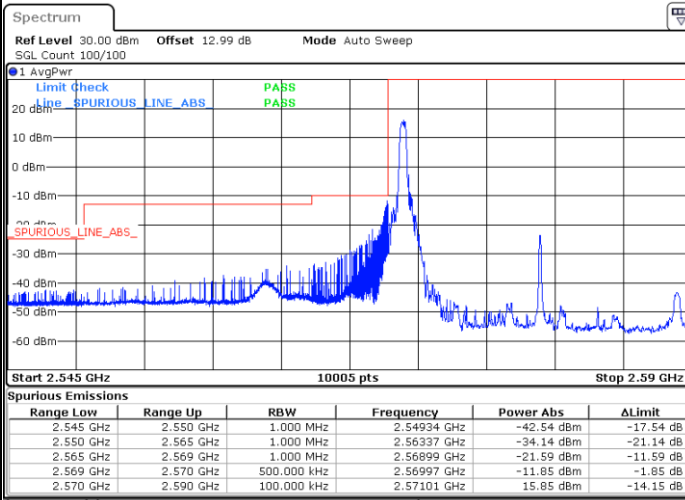
Date: 17 JUL 2020 17:52:18



FR1 n38 / 20MHz / DFT-s-OFDM / 16QAM

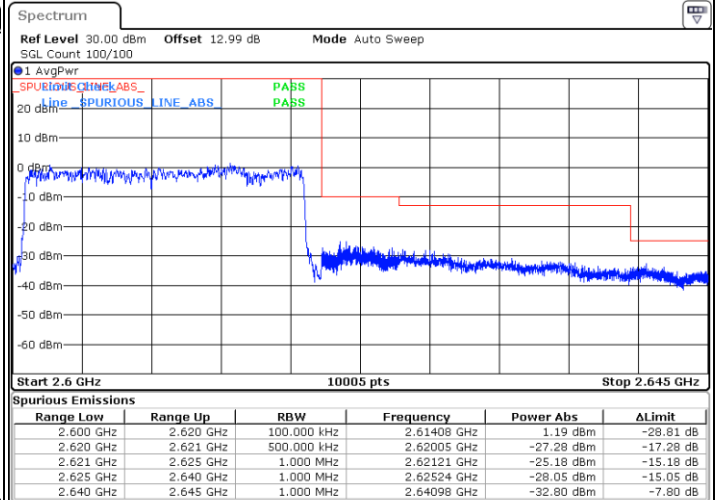
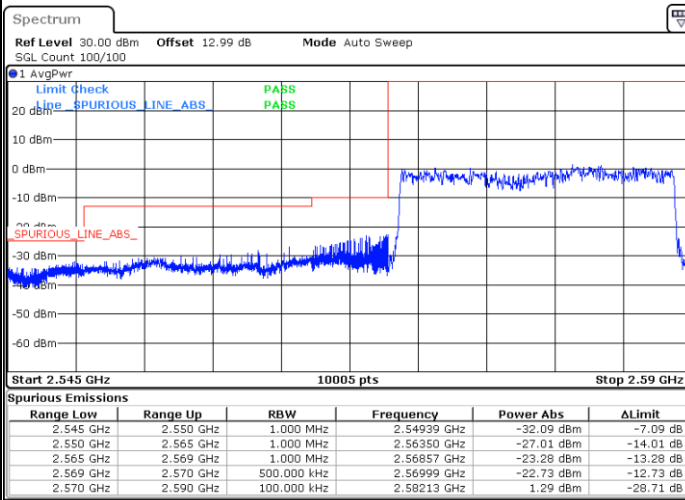
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBMAX



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

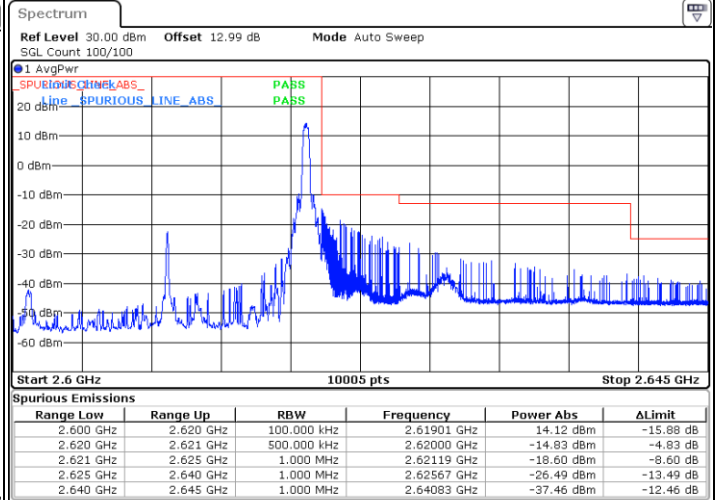
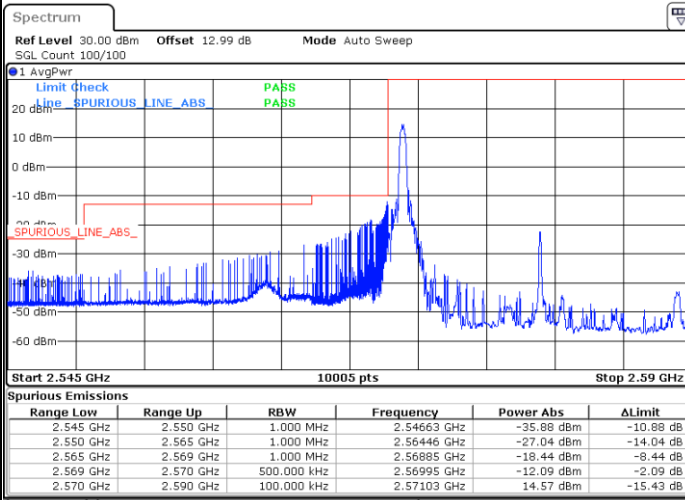




FR1 n38 / 20MHz / DFT-s-OFDM / 64QAM

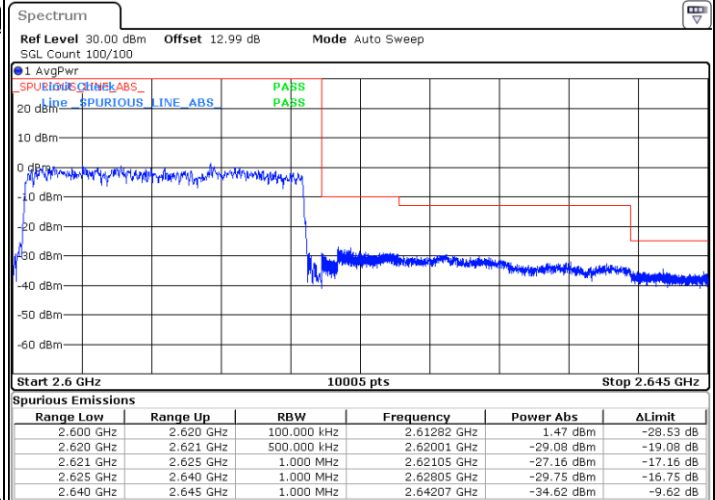
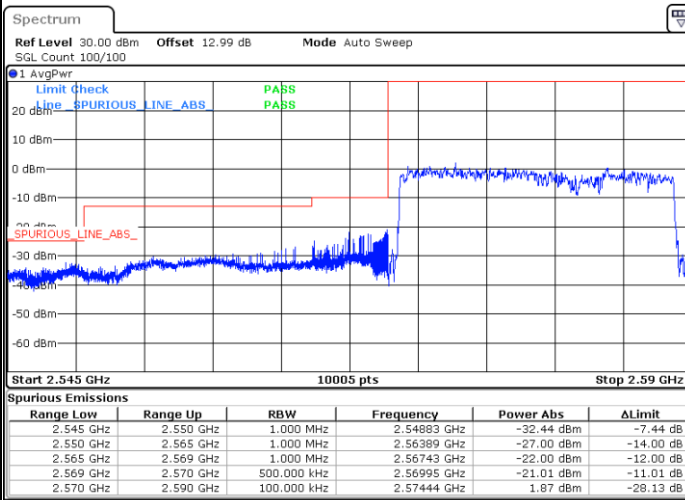
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBMAX



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

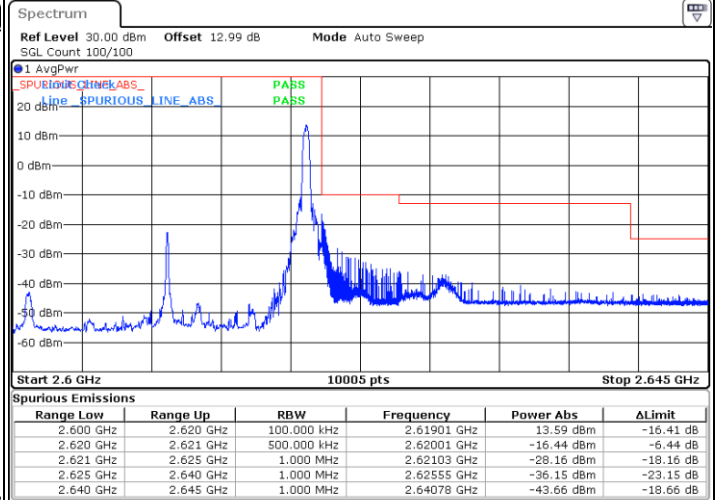
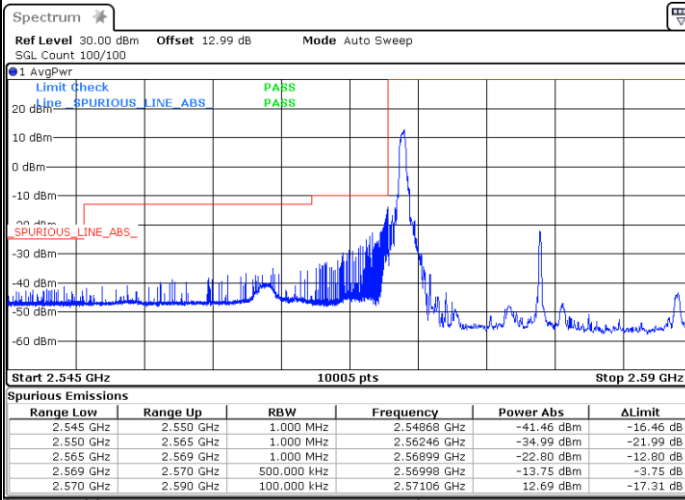




FR1 n38 / 20MHz / DFT-s-OFDM / 256QAM

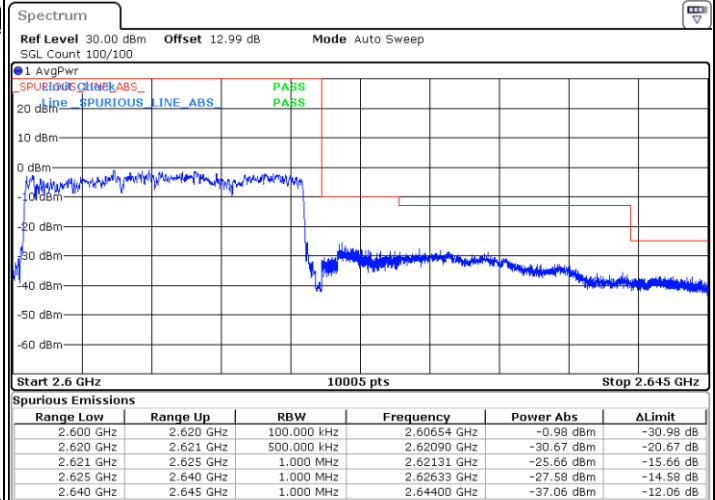
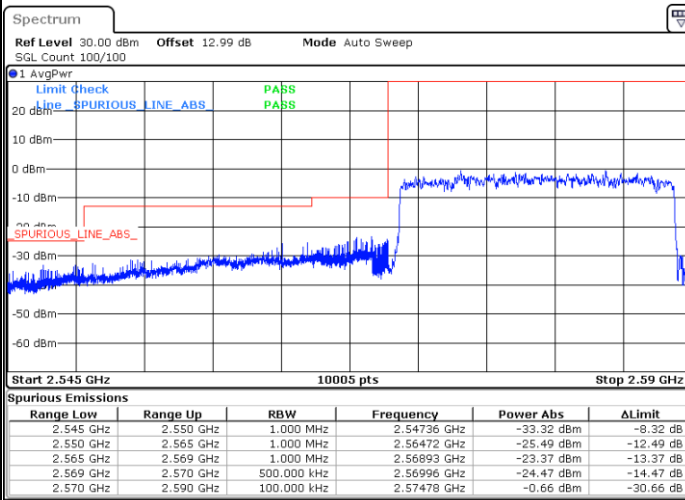
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBMAX



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

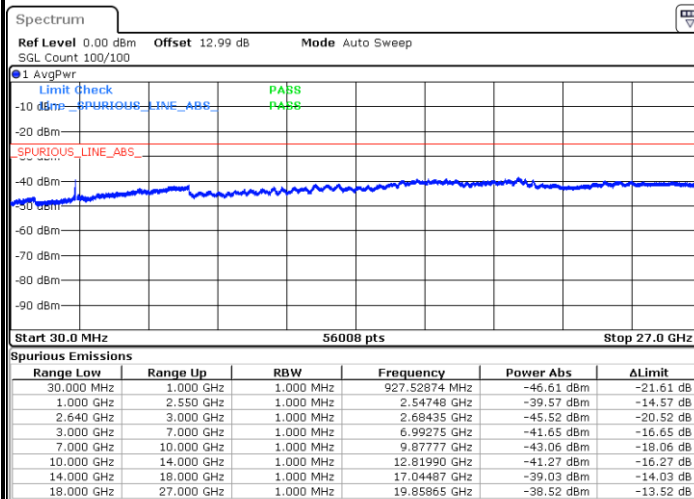




Conducted Spurious Emission

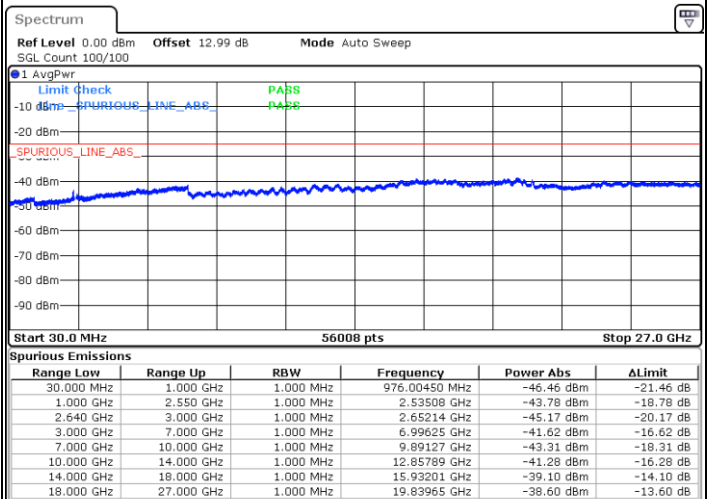
FR1 n38 / 20MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB1



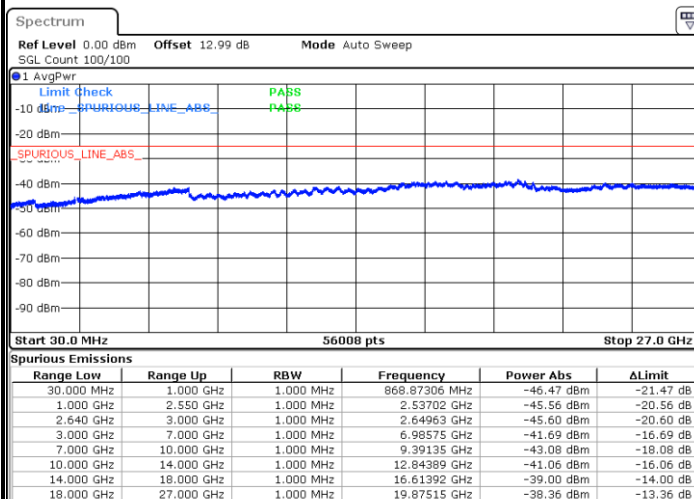
Date: 17.JUL.2020 16:17:24

Middle Channel / 1RB1



Date: 17.JUL.2020 16:47:10

Highest Channel / 1RB1

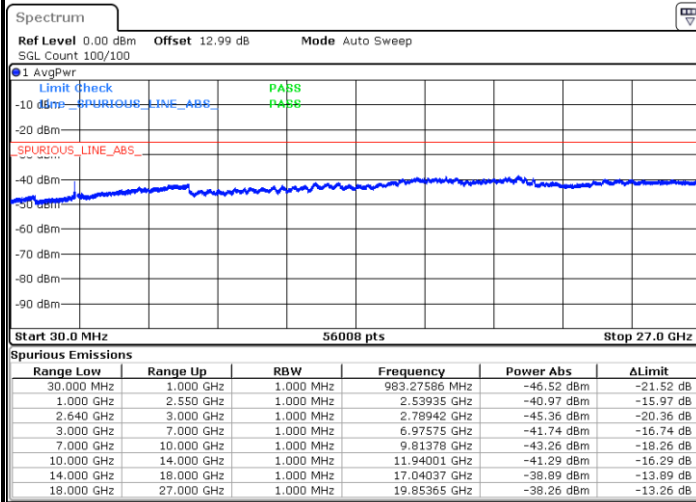


Date: 17.JUL.2020 17:45:45



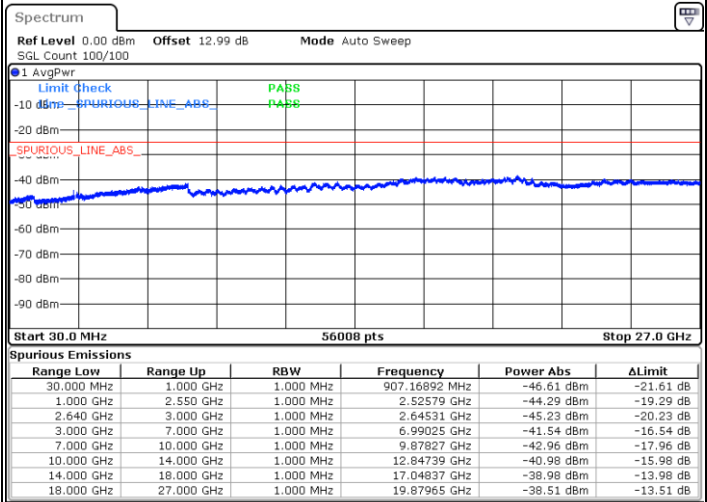
FR1 n38 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1



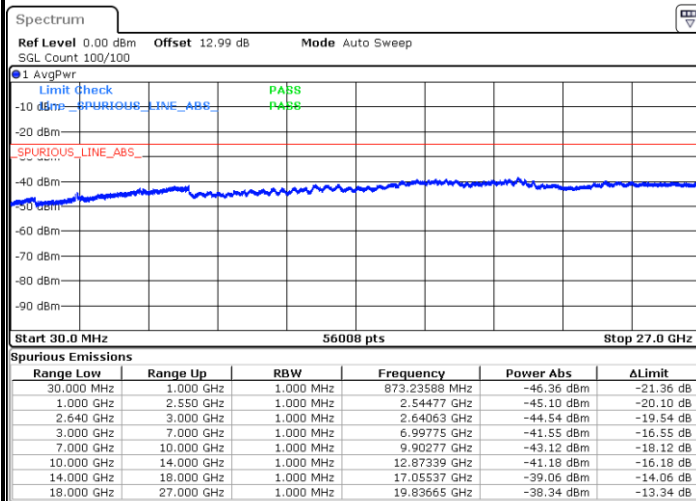
Date: 17.JUL.2020 16:19:03

Middle Channel / 1RB1



Date: 17.JUL.2020 16:48:15

Highest Channel / 1RB1

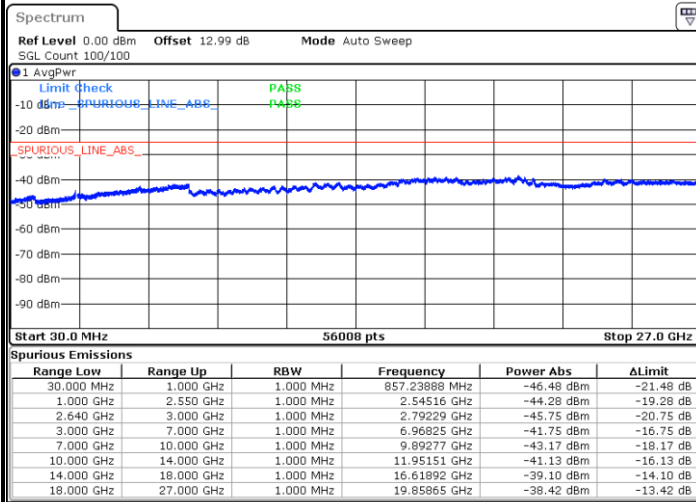


Date: 17.JUL.2020 17:46:44



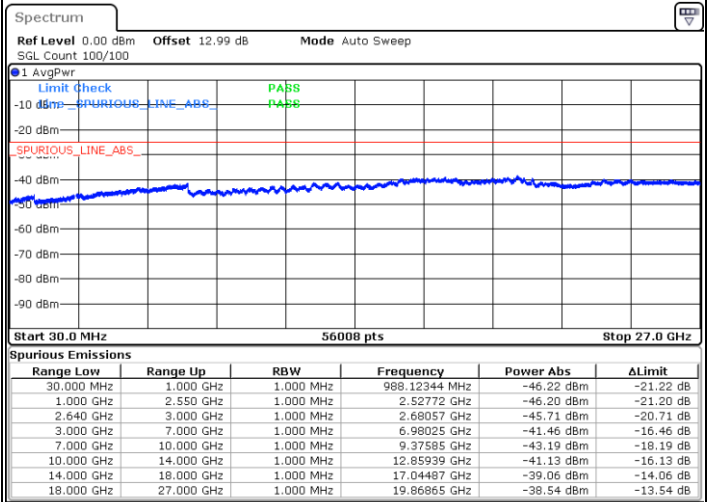
FR1 n38 / 20MHz / DFT-S OFDM / 16QAM

Lowest Channel / 1RB1



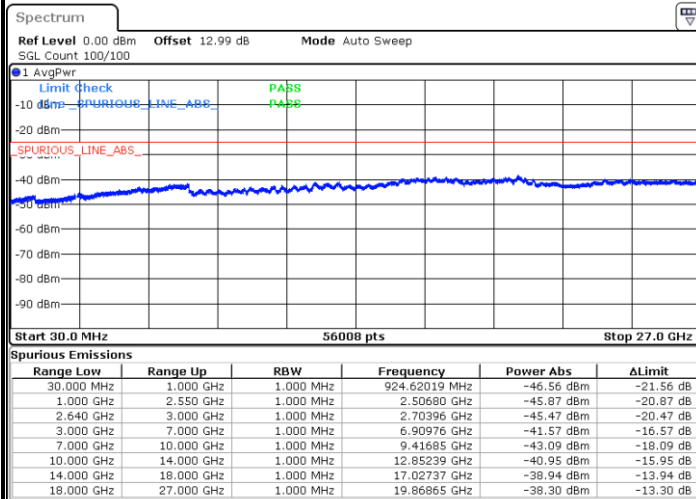
Date: 17.JUL.2020 16:20:15

Middle Channel / 1RB1



Date: 17.JUL.2020 16:49:14

Highest Channel / 1RB1

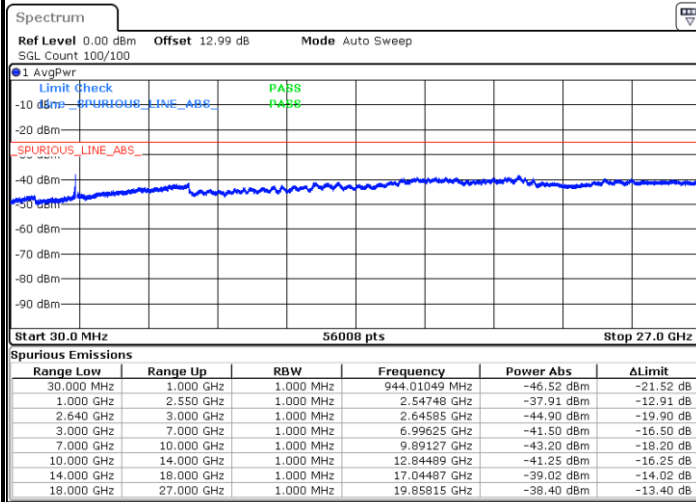


Date: 17.JUL.2020 17:47:45



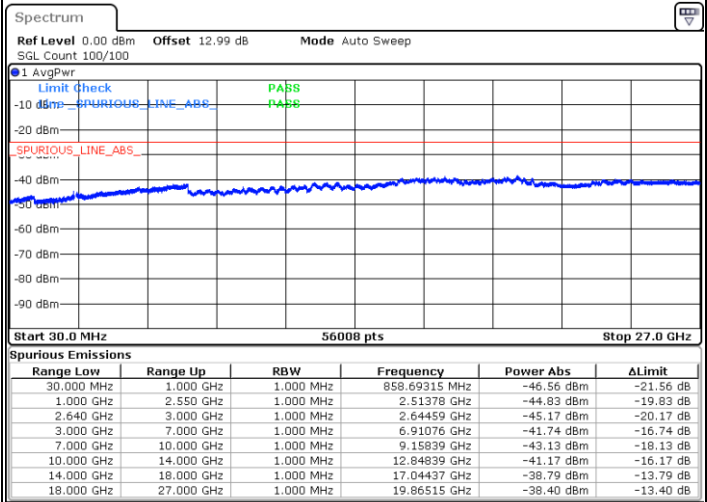
FR1 n38 / 20MHz / DFT-S OFDM / 64QAM

Lowest Channel / 1RB1



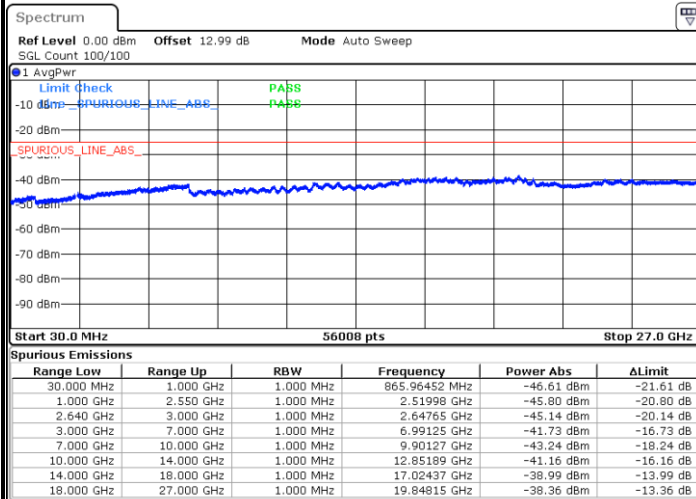
Date: 17.JUL.2020 16:21:34

Middle Channel / 1RB1



Date: 17.JUL.2020 16:50:34

Highest Channel / 1RB1

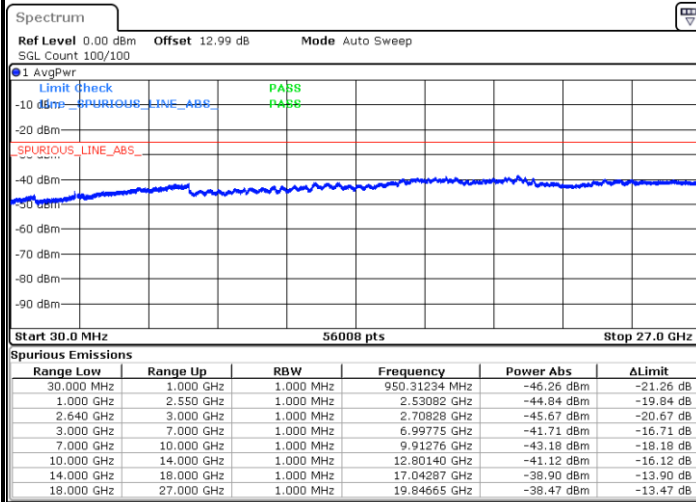


Date: 17.JUL.2020 17:49:32



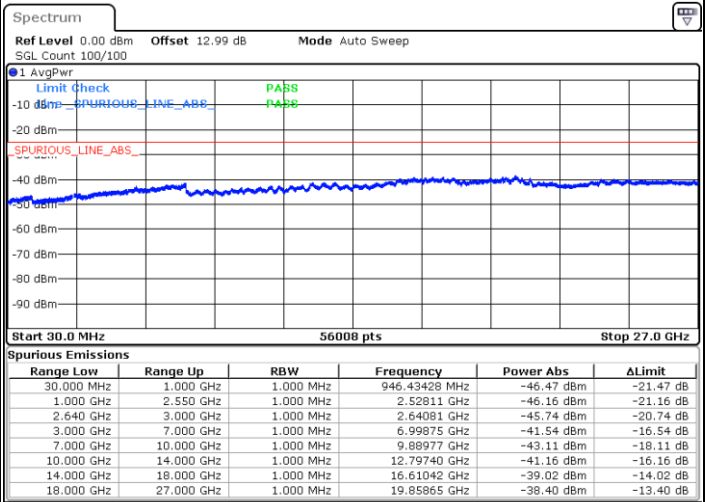
FR1 n38 / 20MHz / DFT-S OFDM / 256QAM

Lowest Channel / 1RB1



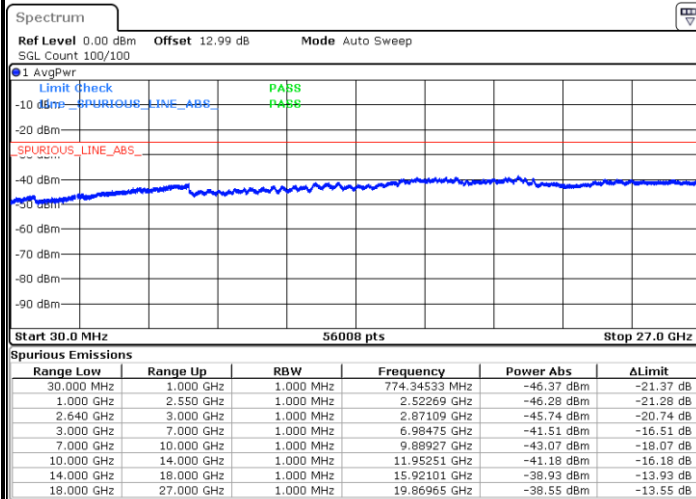
Date: 17.JUL.2020 16:41:58

Middle Channel / 1RB1



Date: 17.JUL.2020 16:51:40

Highest Channel / 1RB1



Date: 17.JUL.2020 17:07:42

Frequency Stability

Test Conditions		FR1 n38 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0026	PASS
40	Normal Voltage	0.0005	
30	Normal Voltage	0.0025	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0012	
0	Normal Voltage	0.0009	
-10	Normal Voltage	0.0032	
-20	Normal Voltage	0.0015	
-30	Normal Voltage	0.0004	
20	Maximum Voltage	0.0032	
20	Normal Voltage	0.0026	
20	Battery End Point	0.0001	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



5G NR n41

Peak-to-Average Ratio

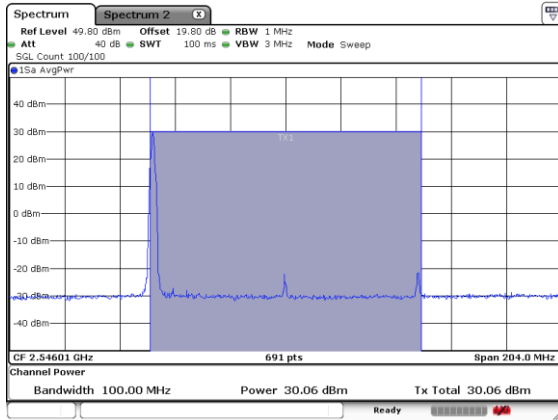
Mode	N 41 / 100MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	2.53	5.24	4.86	5.37	PASS
Middle CH	3.33	5.4	3.6	5.18	
Highest CH	2.9	5.14	4.23	5.24	
Mode	N41 / 100MHz				
Mod.	64QAM		256QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	6.47	5.41	5.44	5.25	PASS
Middle CH	4.47	5.45	4.5	5.29	
Highest CH	4.19	5.24	3.73	5.14	
Mode	N41 / 100MHz				
Mod.	BPSK		-		Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	2.69	3.51	-	-	PASS
Middle CH	3.92	6.3	-	-	
Highest CH	1.04	5.39	-	-	



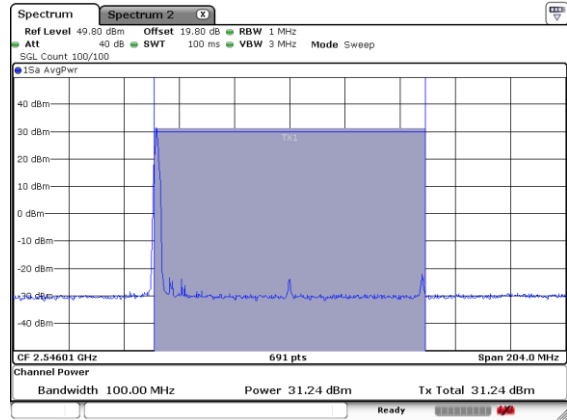
N 41

1RB0-A

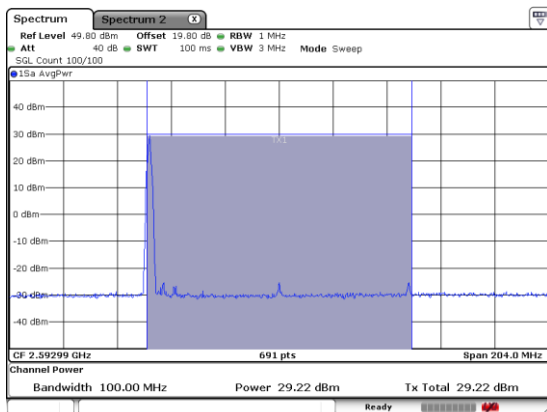
Lowest Channel / BPSK



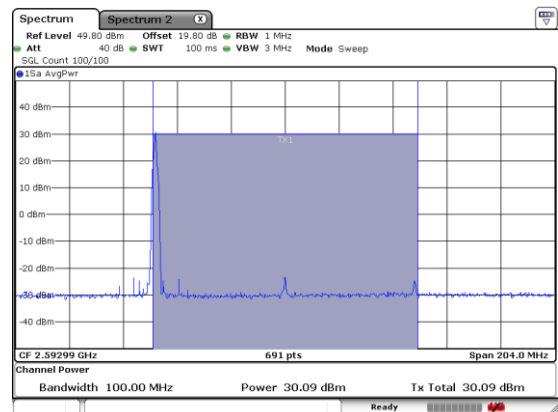
Lowest Channel / QPSK



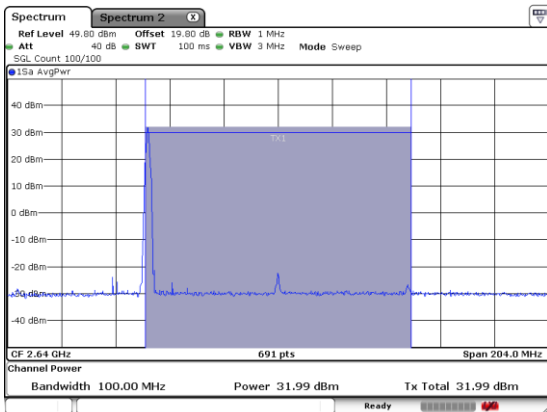
Middle Channel / BPSK



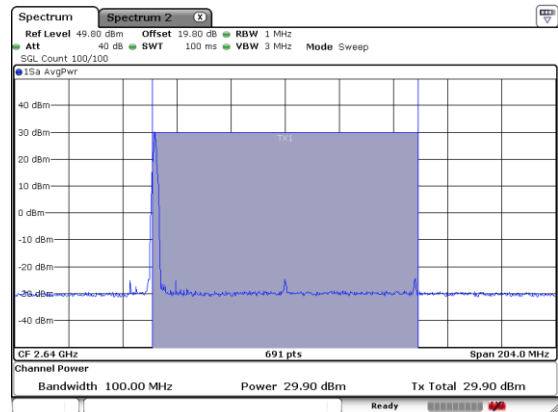
Middle Channel / QPSK



Highest Channel / BPSK



Highest Channel / QPSK

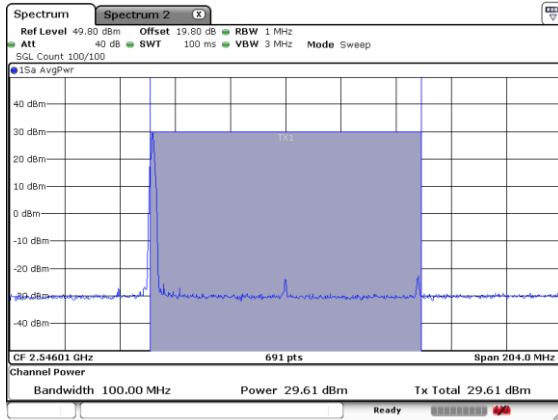




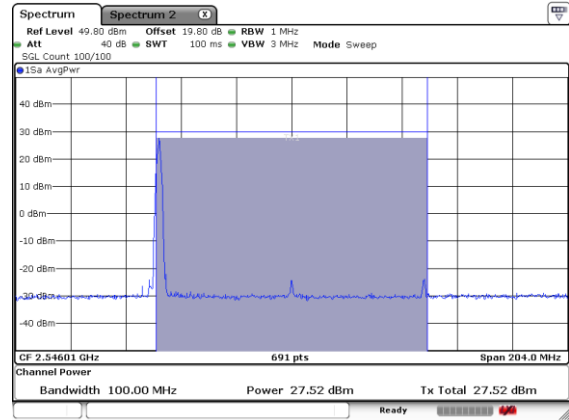
N 41

1RB0-A

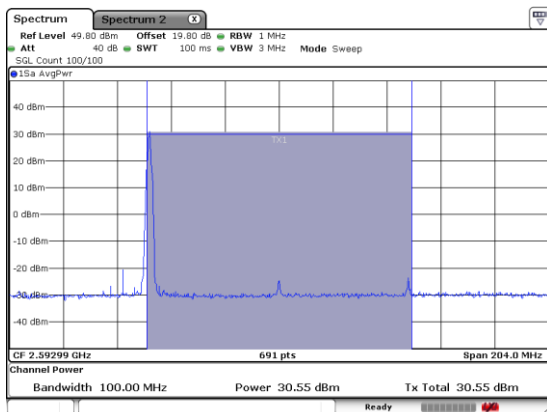
Lowest Channel / 16QAM



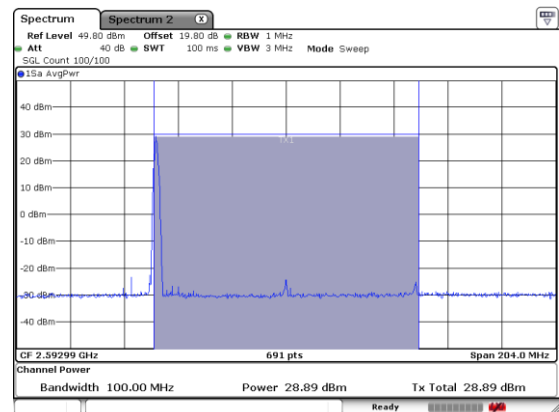
Lowest Channel / 64QAM



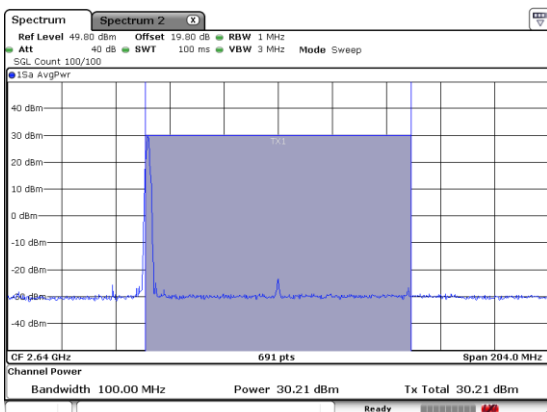
Middle Channel / 16QAM



Middle Channel / 64QAM



Highest Channel / 16QAM



Highest Channel / 64QAM

