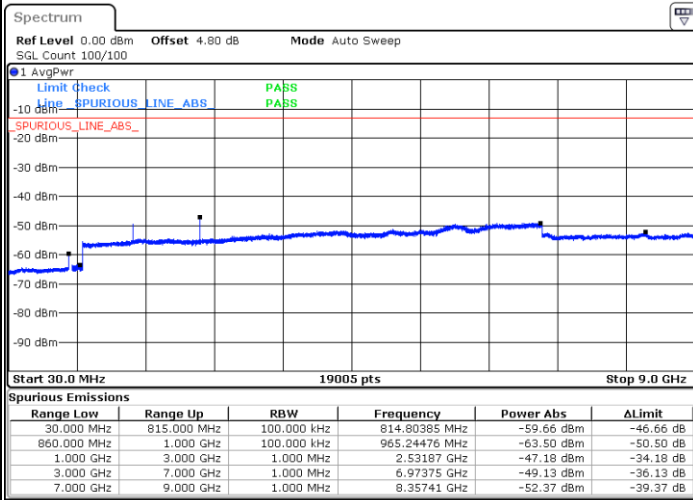




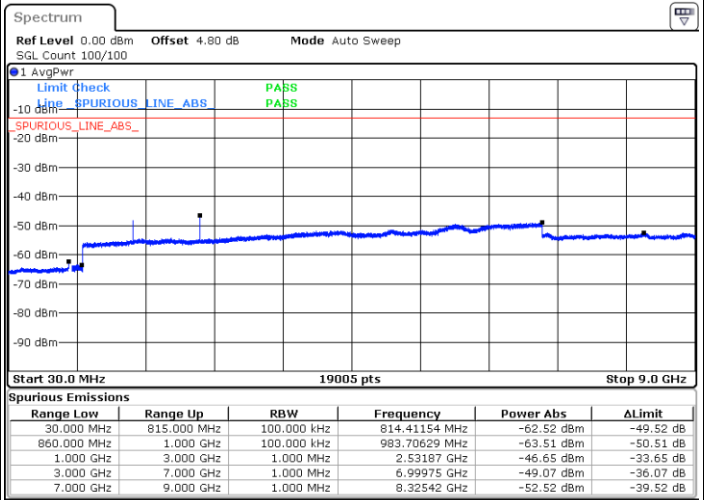
FR1 n5 / 20MHz / DFT-S OFDM / 16QAM

Lowest Channel / 1RB0

Middle Channel / 1RB0

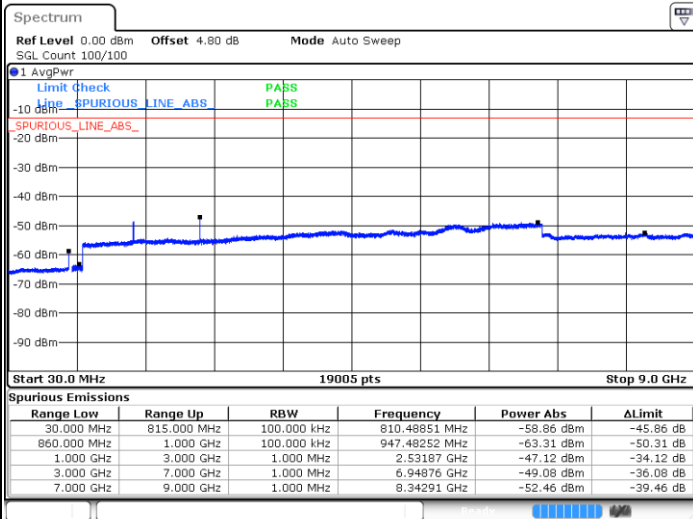


Date: 30 JUN 2020 02:30:22



Date: 30 JUN 2020 02:32:35

Highest Channel / 1RB0



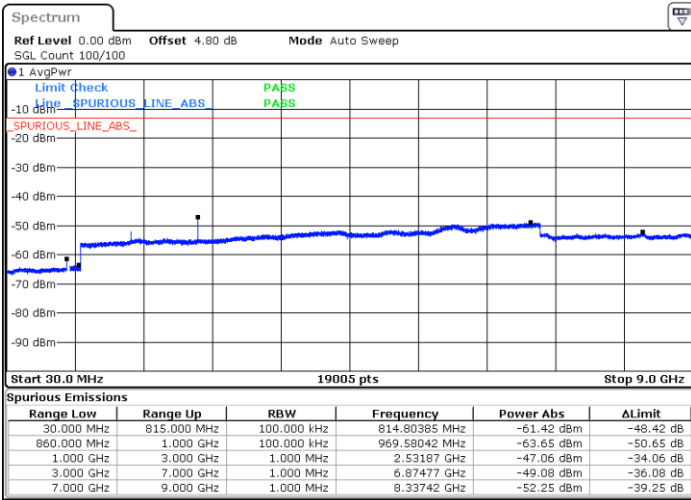
Date: 30 JUN 2020 02:34:38



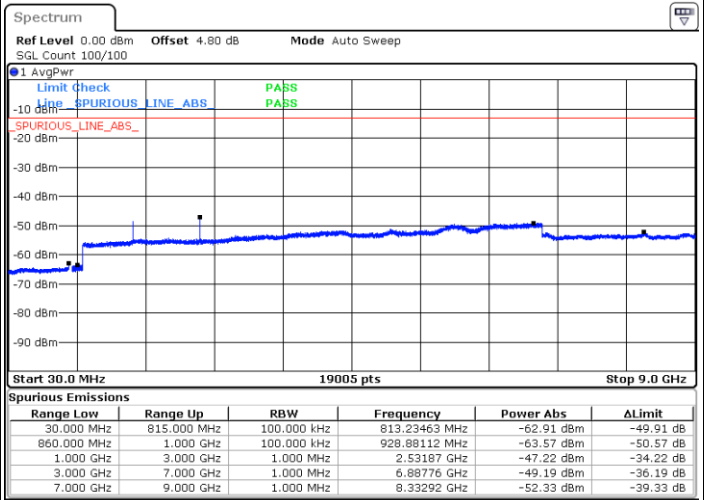
FR1 n5 / 20MHz / DFT-S OFDM / 64QAM

Lowest Channel / 1RB0

Middle Channel / 1RB0

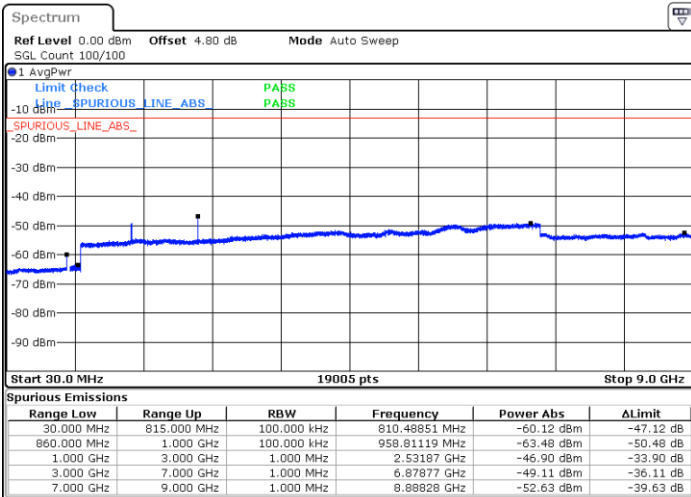


Date: 30 JUN 2020 02:30:44



Date: 30 JUN 2020 02:32:54

Highest Channel / 1RB0



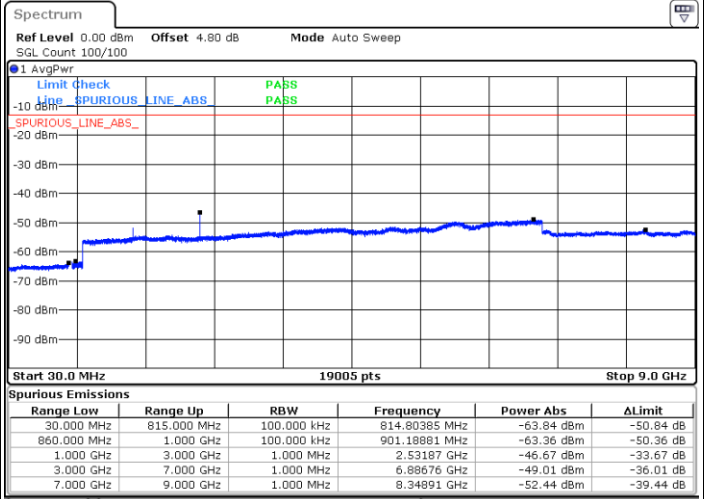
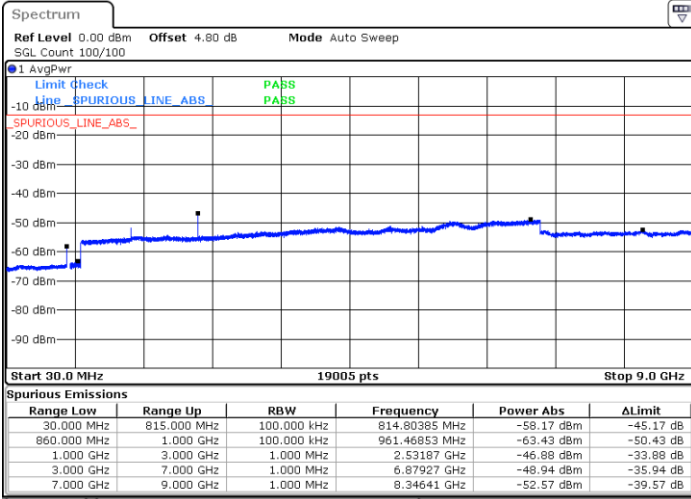
Date: 30 JUN 2020 02:34:58



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

Lowest Channel / 1RB0

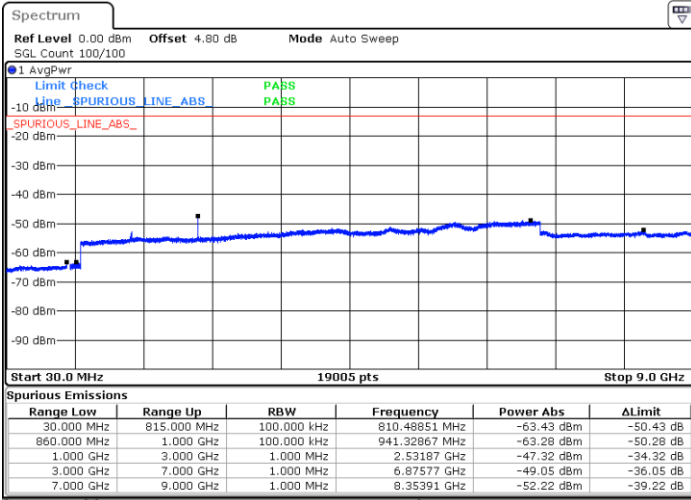
Middle Channel / 1RB0



Date: 30 JUN 2020 02:31:09

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				



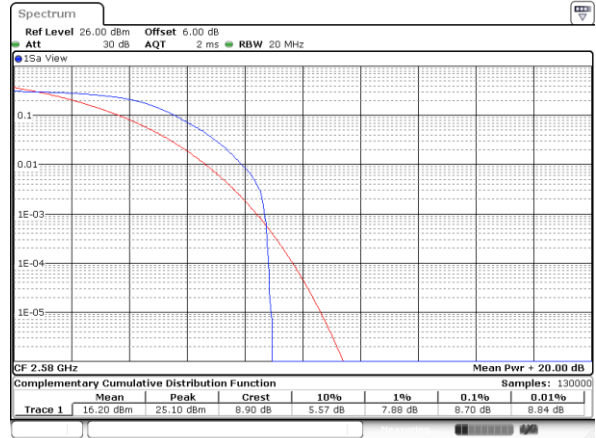
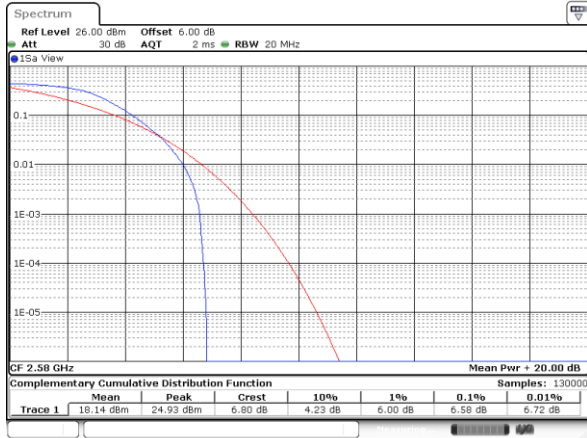
FR1 n38 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / Full RB

Lowest Channel / Full RB

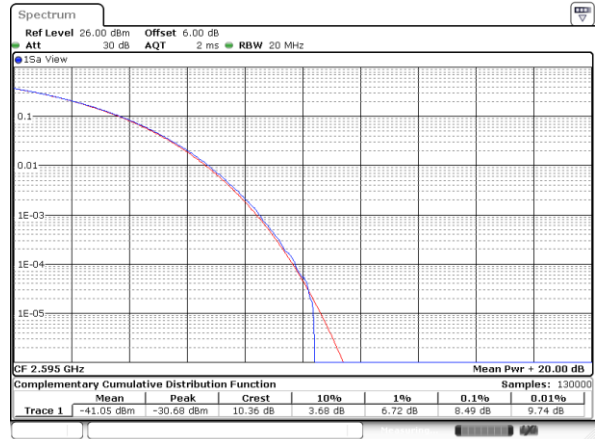
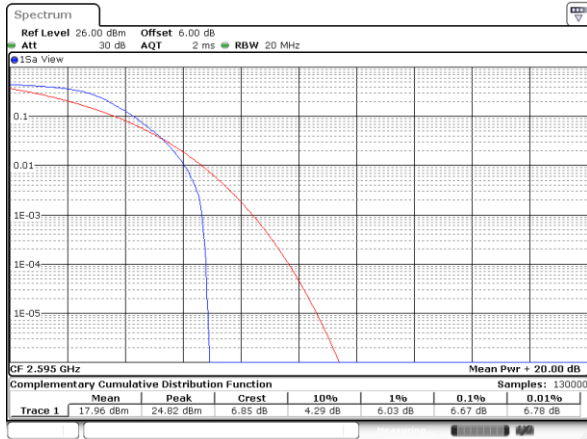


Date: 17 JUL 2020 17:58:11

Date: 17 JUL 2020 17:58:53

Middle Channel / Full RB

Middle Channel / Full RB

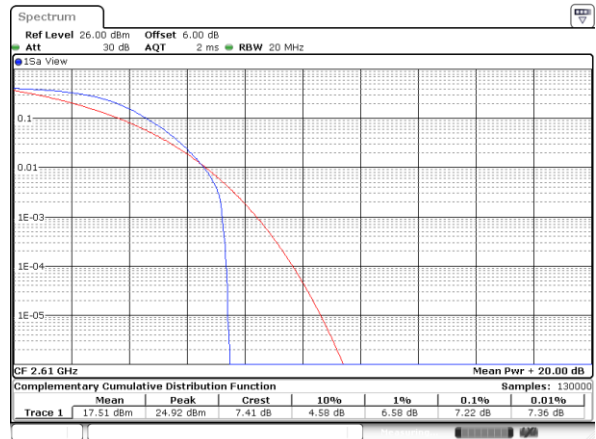
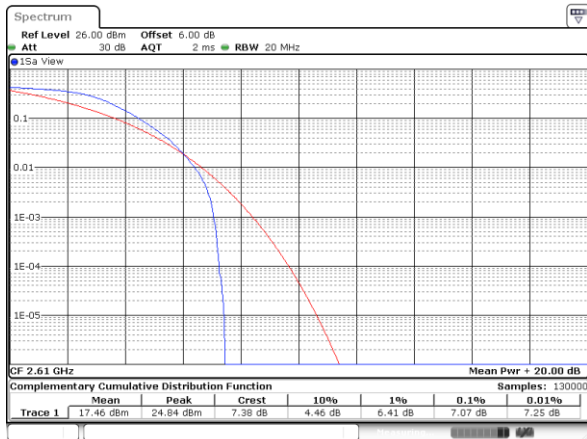


Date: 17 JUL 2020 16:56:19

Date: 17 JUL 2020 16:58:03

Highest Channel / Full RB

Highest Channel / Full RB



Date: 17 JUL 2020 17:03:52

Date: 17 JUL 2020 17:03:16



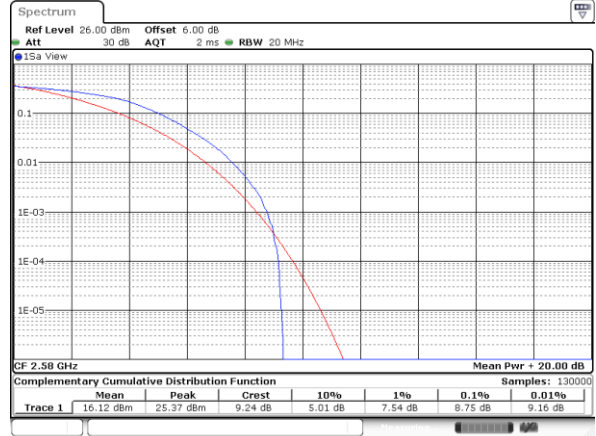
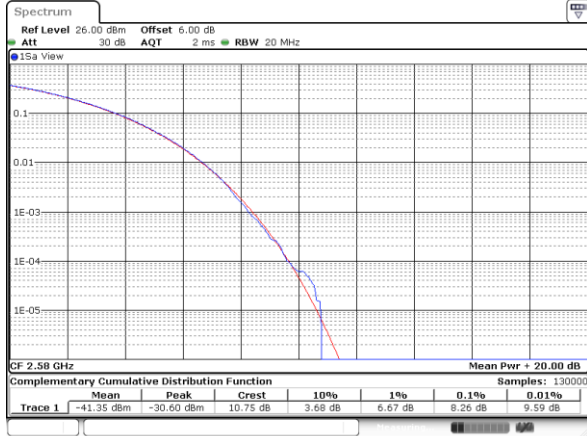
FR1 n38 / 20MHz / DFT-S OFDM

16QAM

64QAM

Lowest Channel / Full RB

Lowest Channel / Full RB

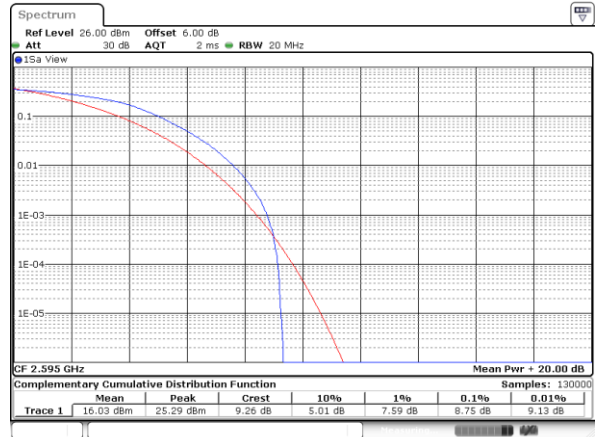
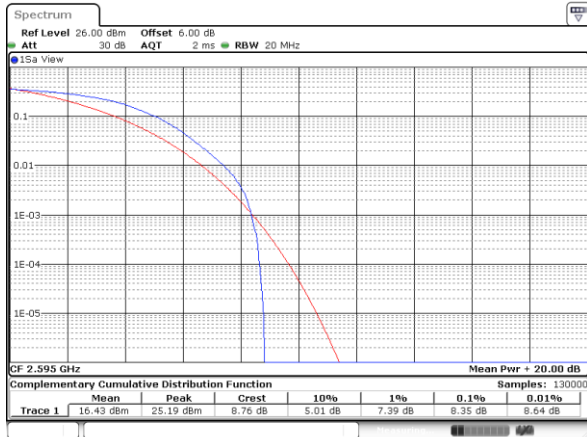


Date: 17 JUL 2020 17:59:57

Date: 17 JUL 2020 18:00:32

Middle Channel / Full RB

Middle Channel / Full RB

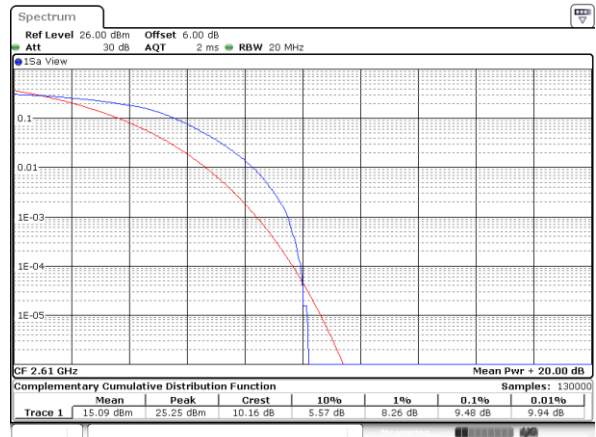
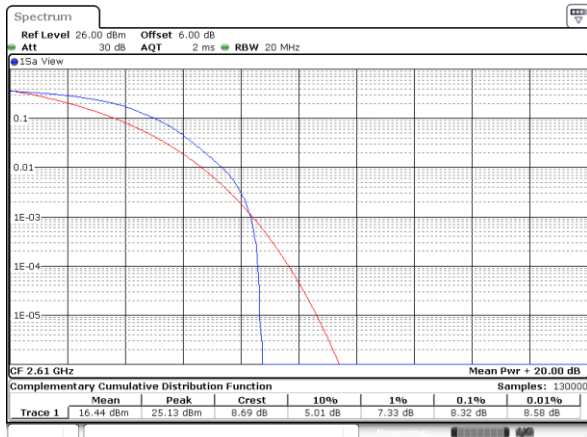


Date: 17 JUL 2020 16:57:29

Date: 17 JUL 2020 16:59:01

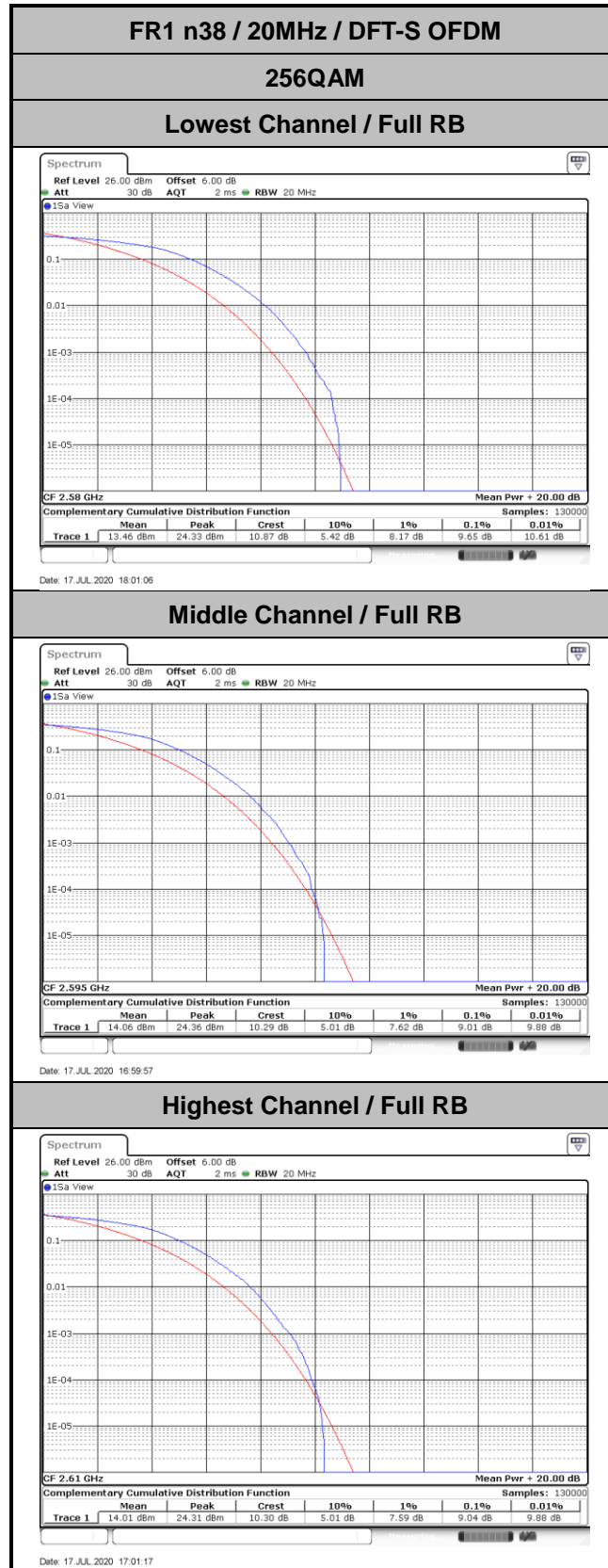
Highest Channel / Full RB

Highest Channel / Full RB



Date: 17 JUL 2020 17:02:44

Date: 17 JUL 2020 17:02:10





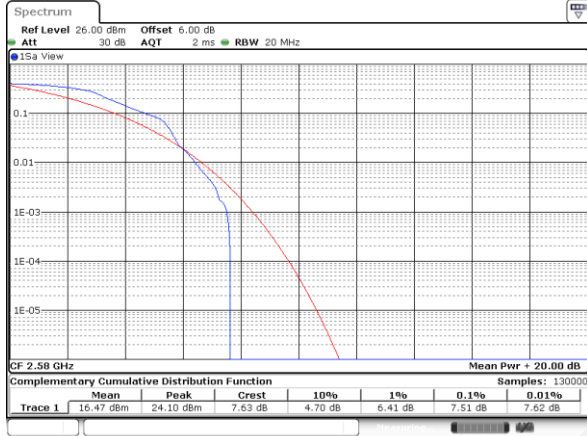
FR1 n38 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / 1RB0

Lowest Channel / 1RB0

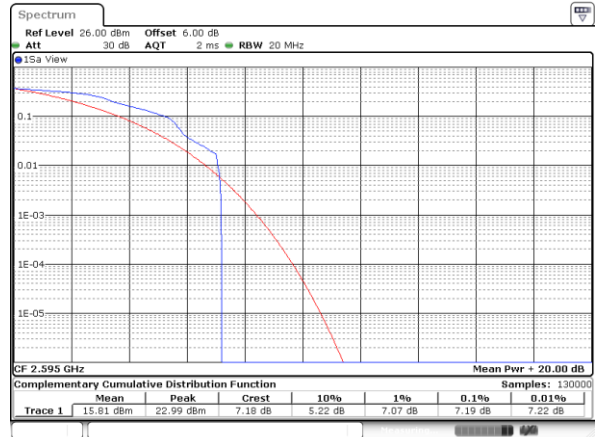
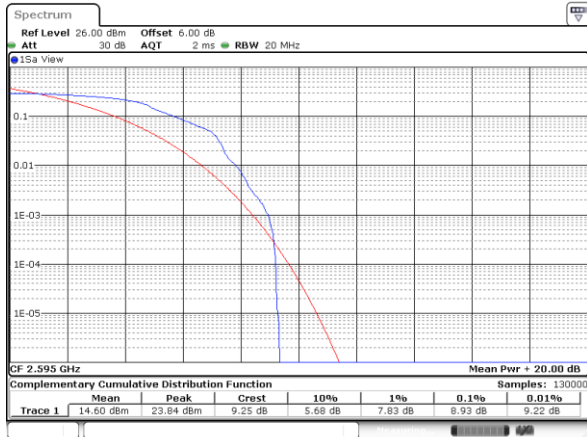


Date: 17 JUL 2020 18:03:48

Date: 17 JUL 2020 18:03:18

Middle Channel / 1RB0

Middle Channel / 1RB0

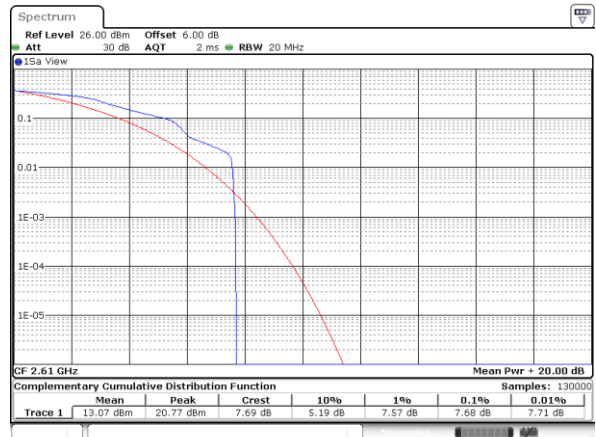
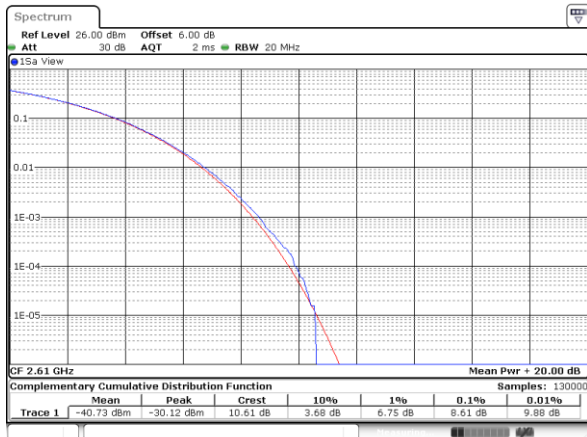


Date: 17 JUL 2020 16:55:20

Date: 17 JUL 2020 16:54:34

Highest Channel / 1RB0

Highest Channel / 1RB0



Date: 17 JUL 2020 17:04:28

Date: 17 JUL 2020 17:04:45



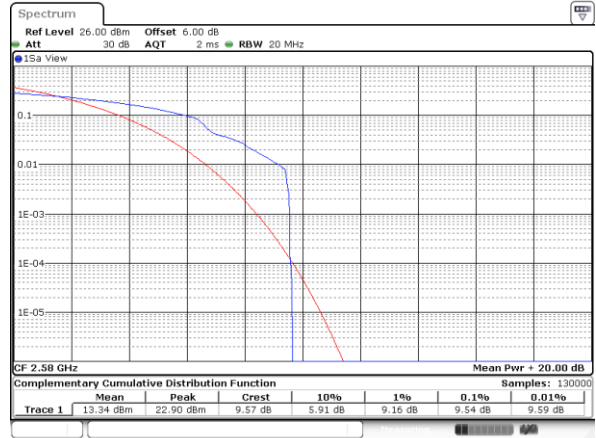
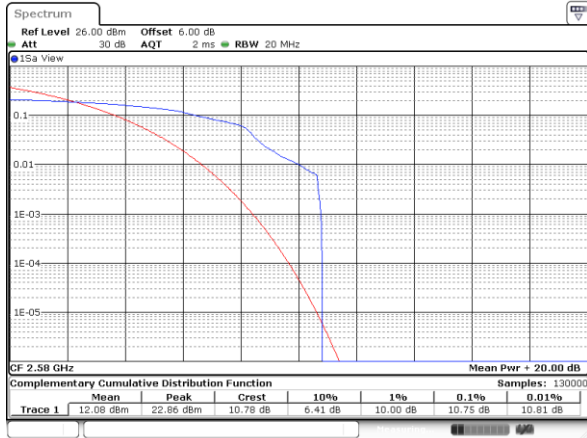
FR1 n38 / 20MHz / DFT-S OFDM

16QAM

64QAM

Lowest Channel / 1RB0

Lowest Channel / 1RB0

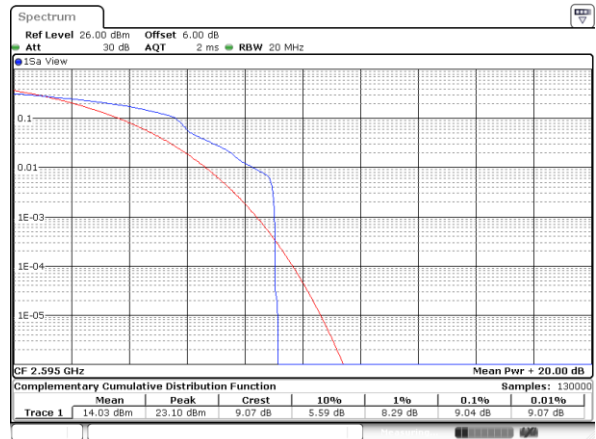
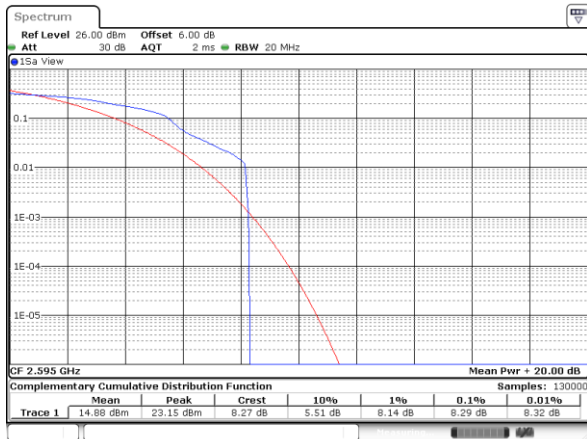


Date: 17 JUL 2020 18:03:02

Date: 17 JUL 2020 18:02:48

Middle Channel / 1RB0

Middle Channel / 1RB0

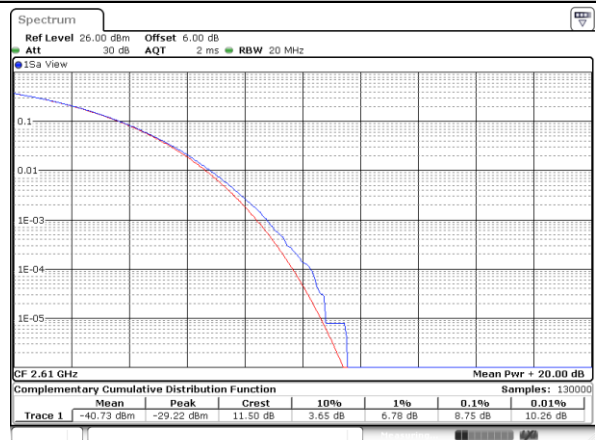


Date: 17 JUL 2020 16:54:16

Date: 17 JUL 2020 16:53:03

Highest Channel / 1RB0

Highest Channel / 1RB0



Date: 17 JUL 2020 17:05:10

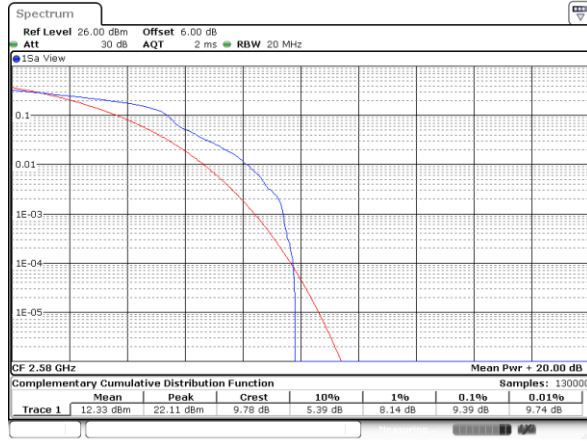
Date: 17 JUL 2020 17:05:45



FR1 n38 / 20MHz / DFT-S OFDM

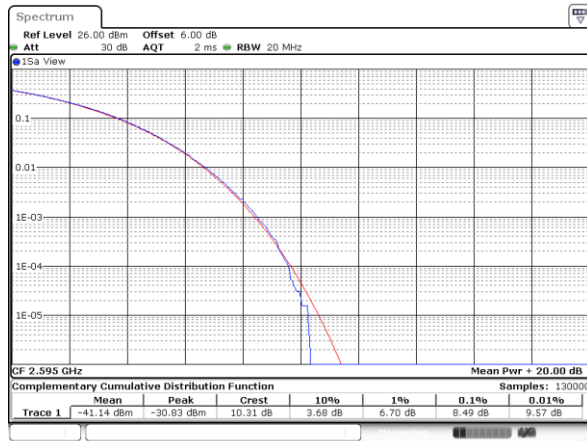
256QAM

Lowest Channel / 1RB0



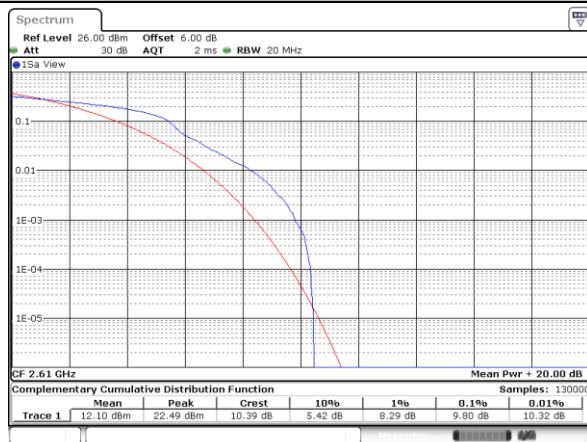
Date: 17 JUL 2020 18:02:16

Middle Channel / 1RB0



Date: 17 JUL 2020 16:52:25

Highest Channel / 1RB0



Date: 17 JUL 2020 17:06:42



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



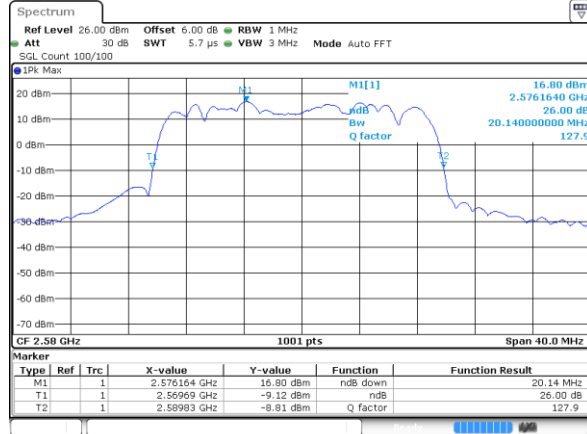
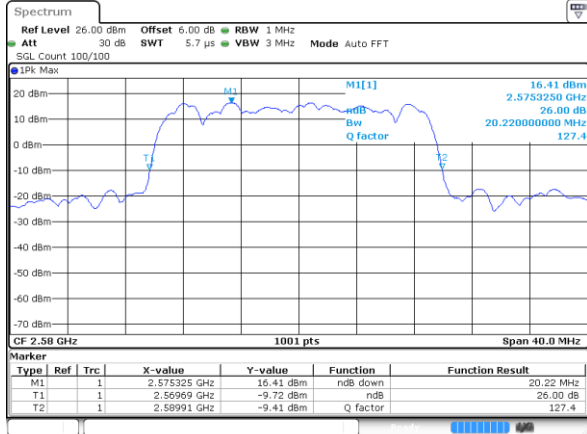
FR1 n38 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel

Lowest Channel

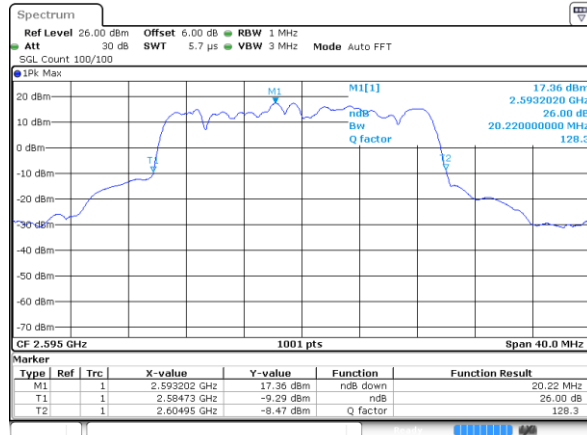
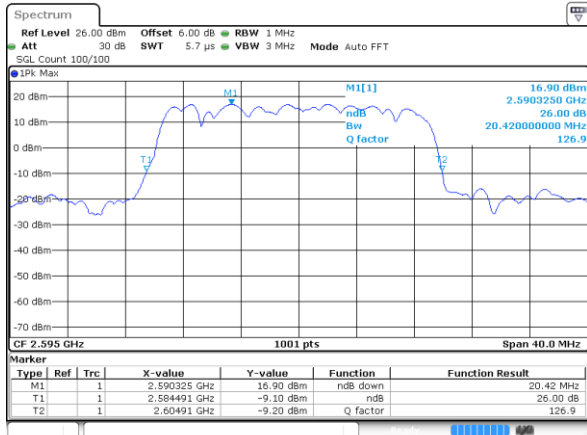


Date: 17 JUL 2020 17:58:26

Date: 17 JUL 2020 17:59:42

Middle Channel

Middle Channel

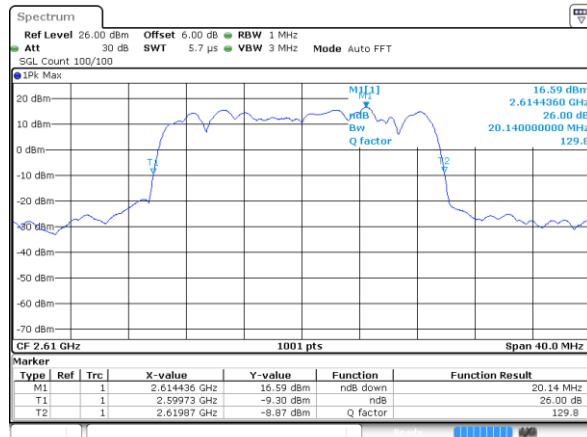
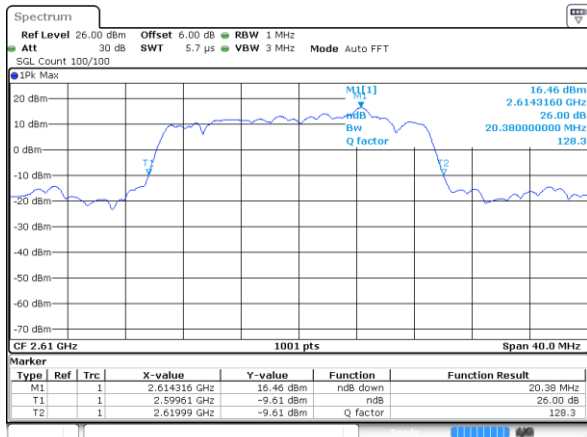


Date: 17 JUL 2020 16:56:00

Date: 17 JUL 2020 16:58:18

Highest Channel

Highest Channel



Date: 17 JUL 2020 17:04:08

Date: 17 JUL 2020 17:03:33



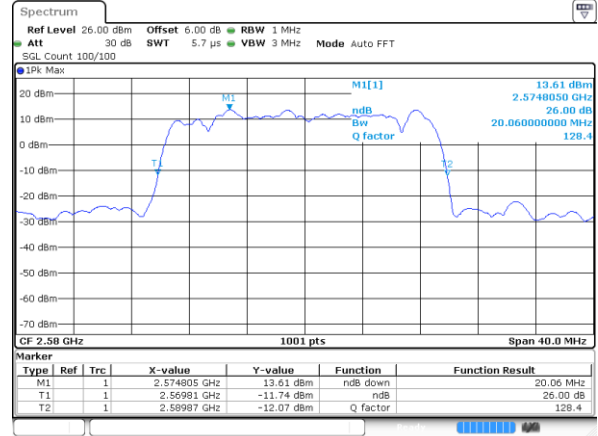
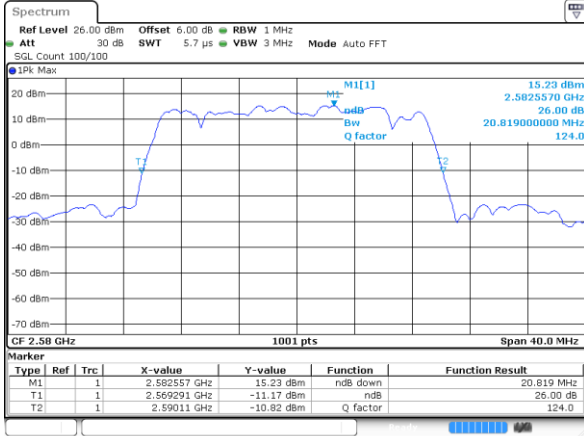
FR1 n38 / 20MHz / DFT-S OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

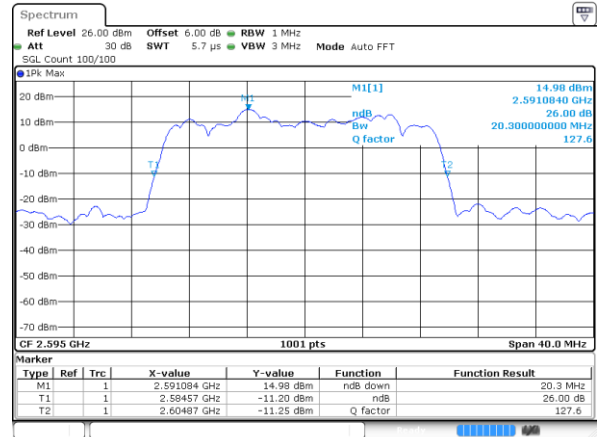
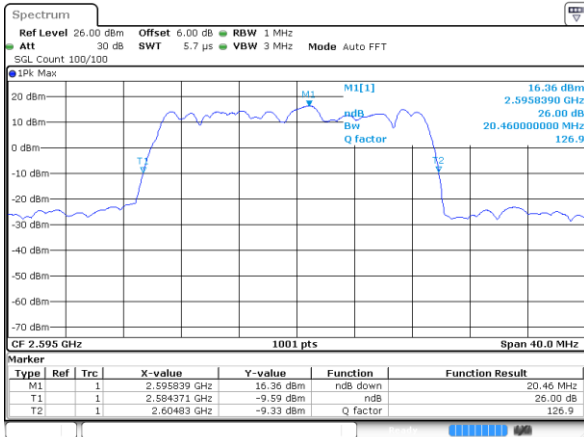


Date: 17 JUL 2020 18:00:47

Date: 17 JUL 2020 18:01:21

Middle Channel

Middle Channel

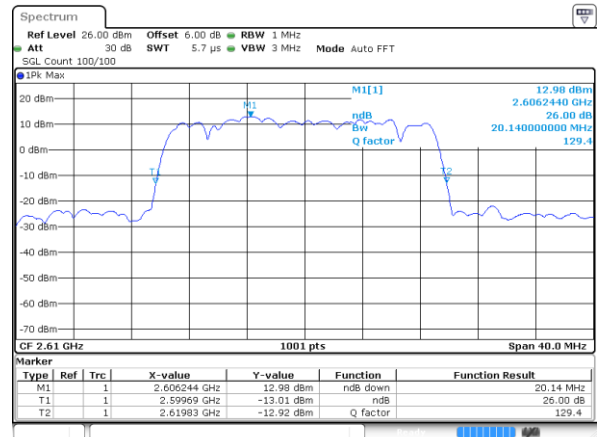
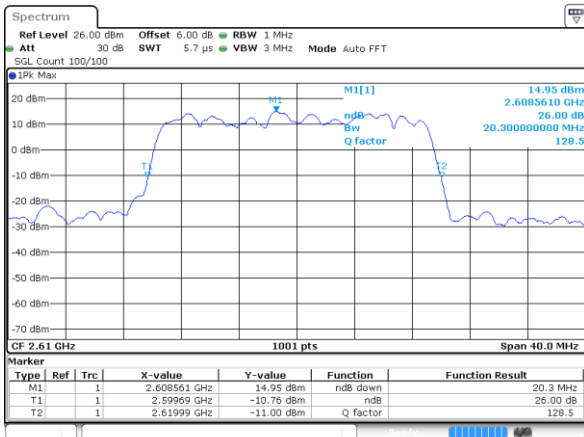


Date: 17 JUL 2020 16:59:19

Date: 17 JUL 2020 17:00:20

Highest Channel

Highest Channel



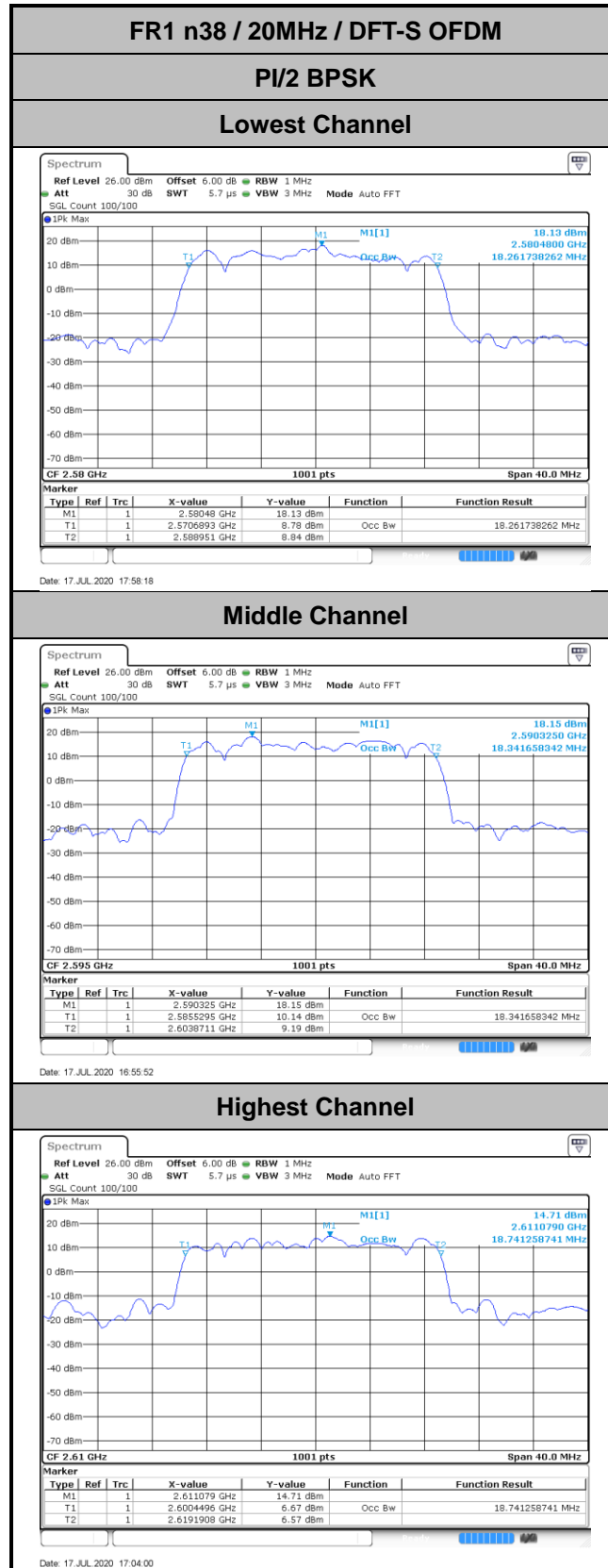
Date: 17 JUL 2020 17:02:27

Date: 17 JUL 2020 17:01:34



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





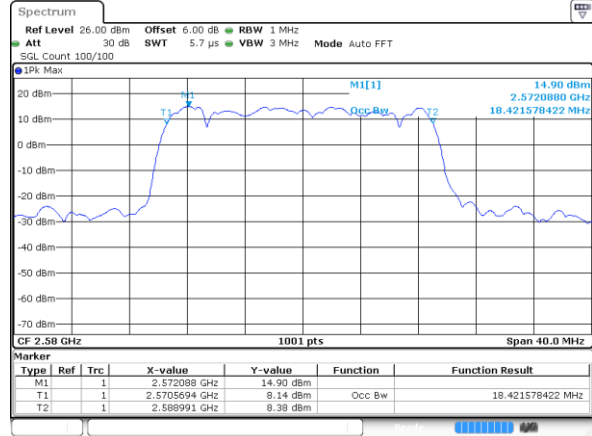
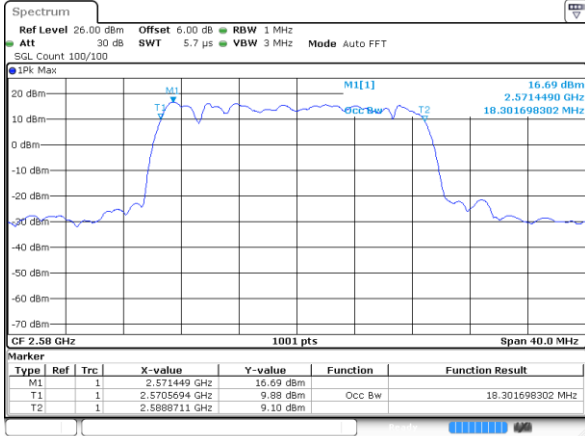
FR1 n38 / 20MHz / DFT-S OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

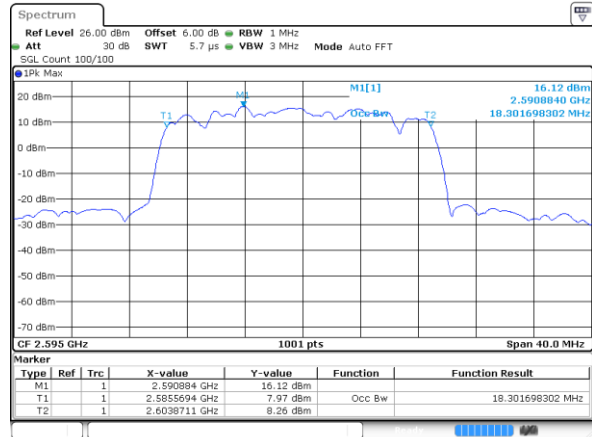
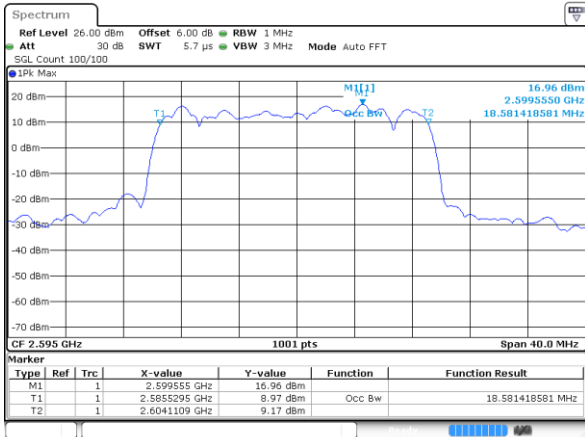


Date: 17 JUL 2020 17:58:17

Date: 17 JUL 2020 18:00:06

Middle Channel

Middle Channel

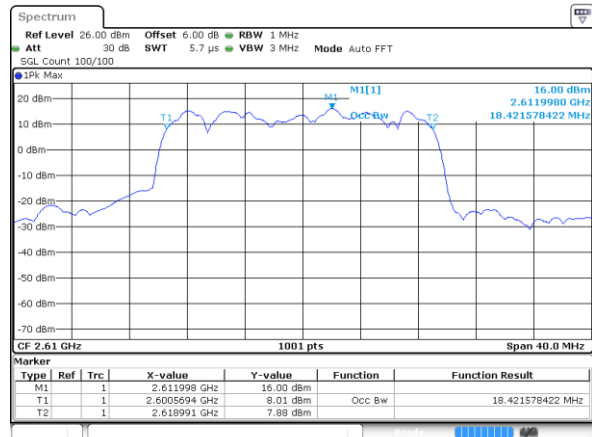
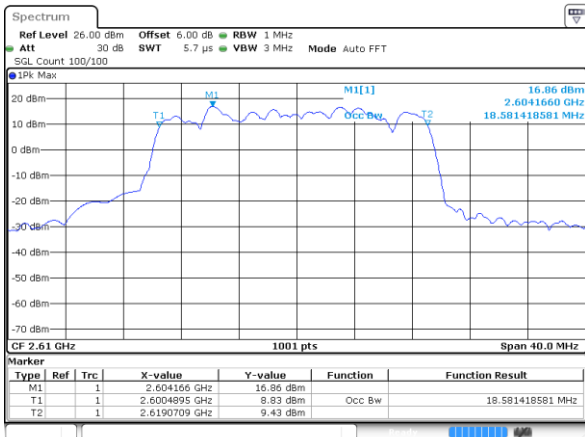


Date: 17 JUL 2020 16:58:10

Date: 17 JUL 2020 16:57:37

Highest Channel

Highest Channel



Date: 17 JUL 2020 17:03:24

Date: 17 JUL 2020 17:02:52



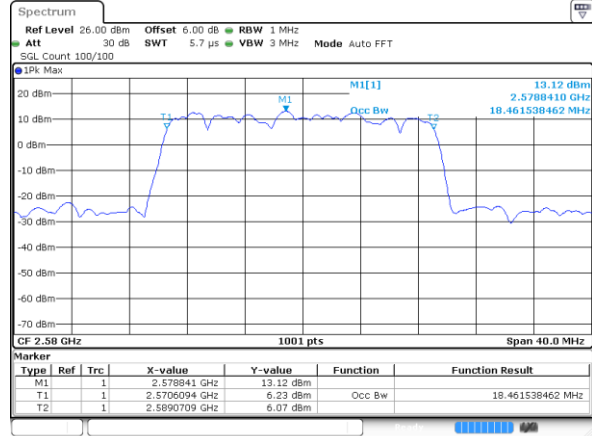
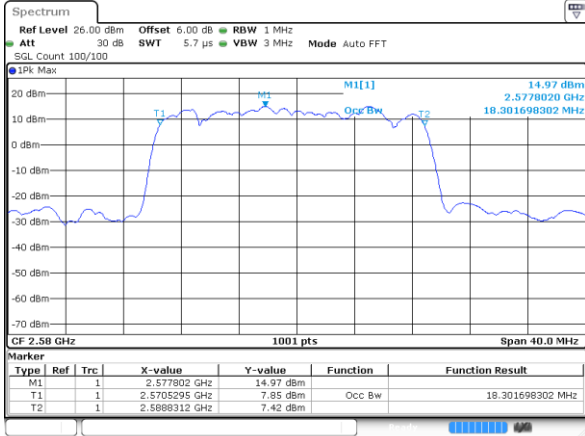
FR1 n38 / 20MHz / DFT-S OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

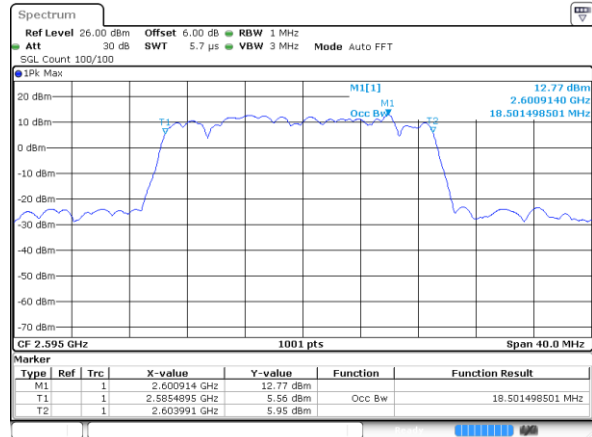
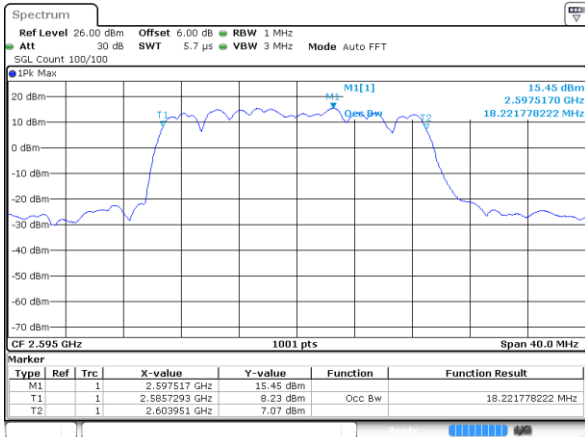


Date: 17 JUL 2020 18:00:40

Date: 17 JUL 2020 18:01:14

Middle Channel

Middle Channel

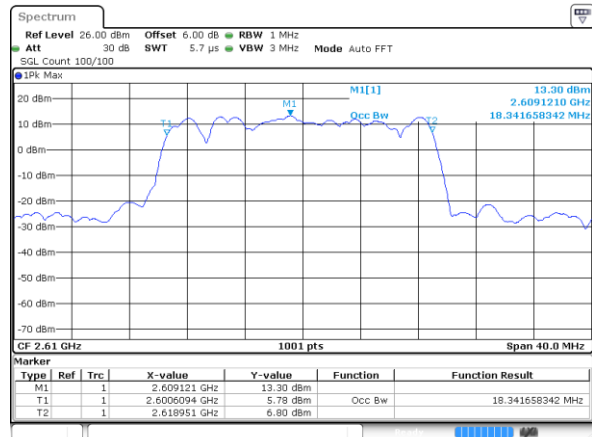
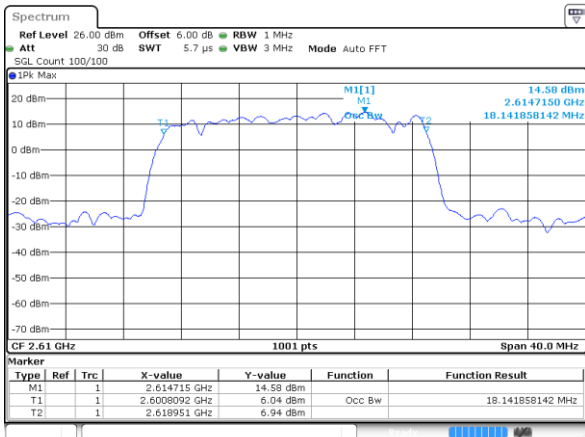


Date: 17 JUL 2020 16:59:11

Date: 17 JUL 2020 17:00:05

Highest Channel

Highest Channel



Date: 17 JUL 2020 17:02:18

Date: 17 JUL 2020 17:01:25

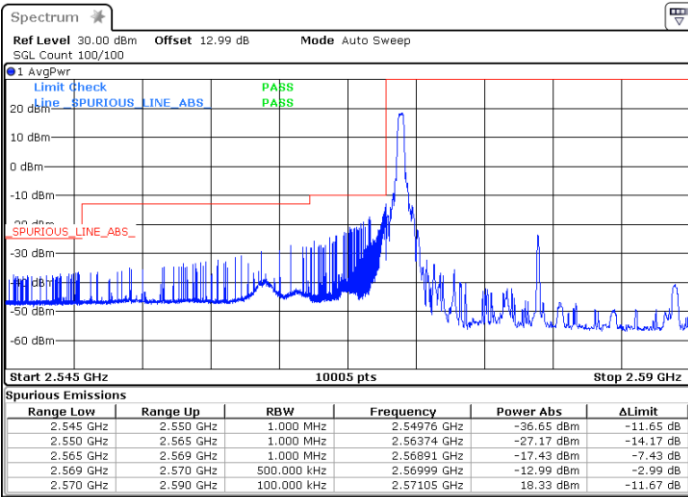


Conducted Band Edge

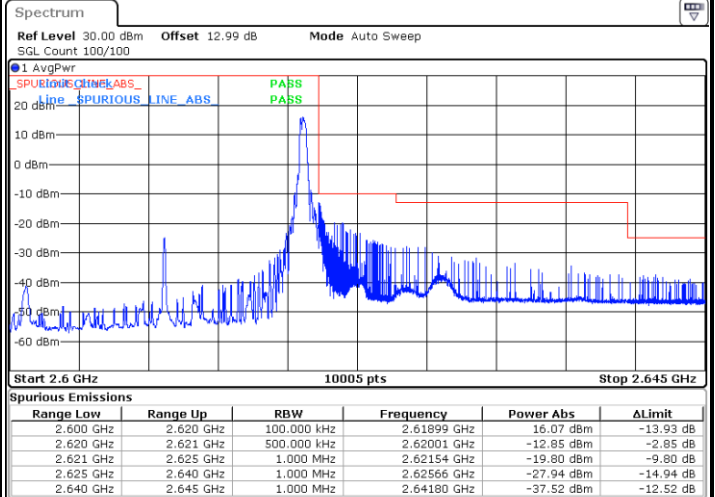
FR1 n38 / 20MHz / DFT-s-OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBMAX



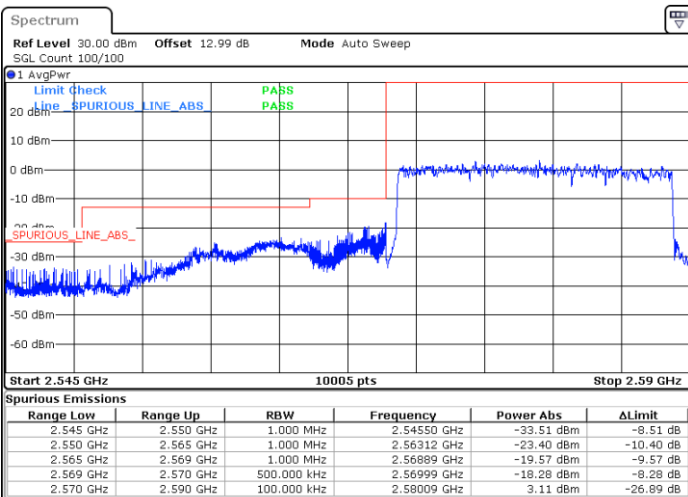
Date: 17 JUL 2020 16:16:36



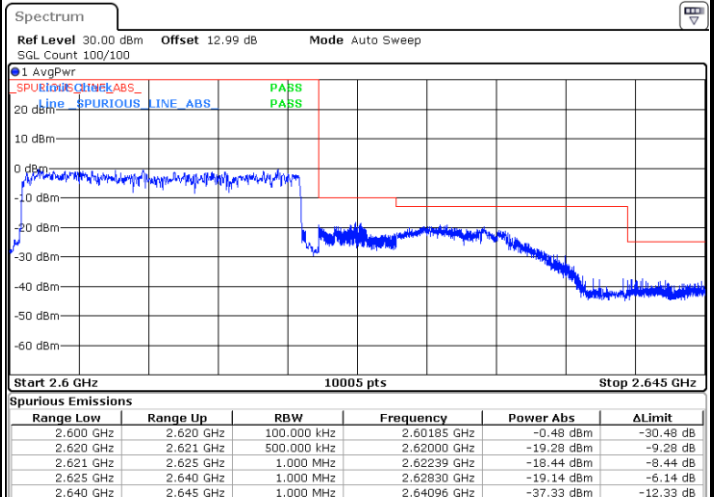
Date: 17 JUL 2020 17:56:35

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 17 JUL 2020 16:45:19



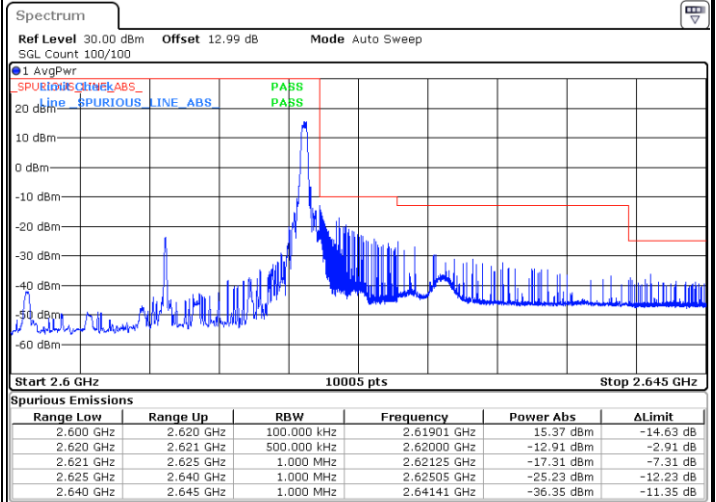
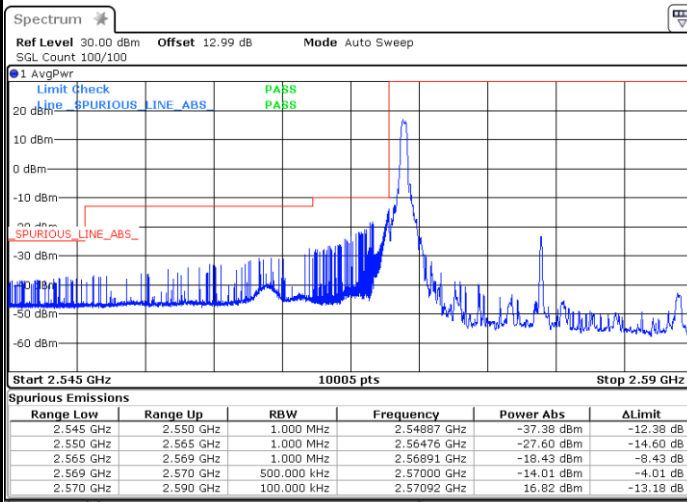
Date: 17 JUL 2020 17:51:56



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

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBMAX

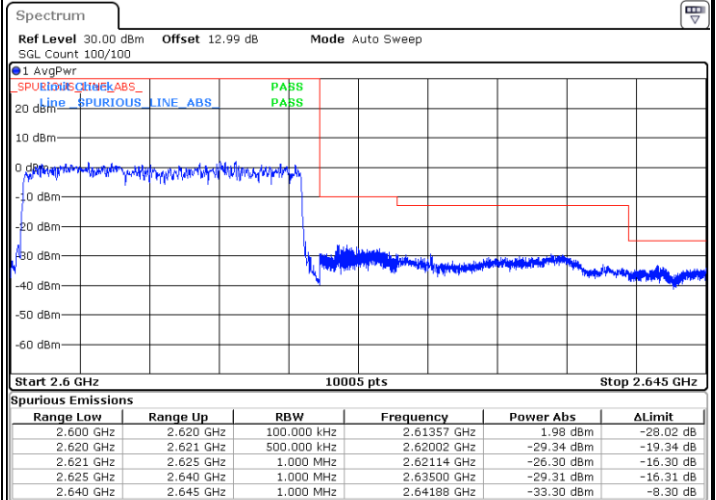
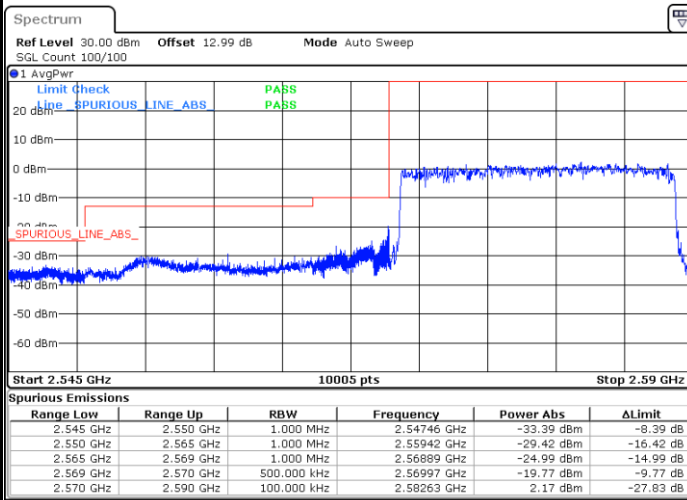


Date: 17 JUL 2020 16:18:14

Date: 17 JUL 2020 17:56:05

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 17 JUL 2020 16:44:55

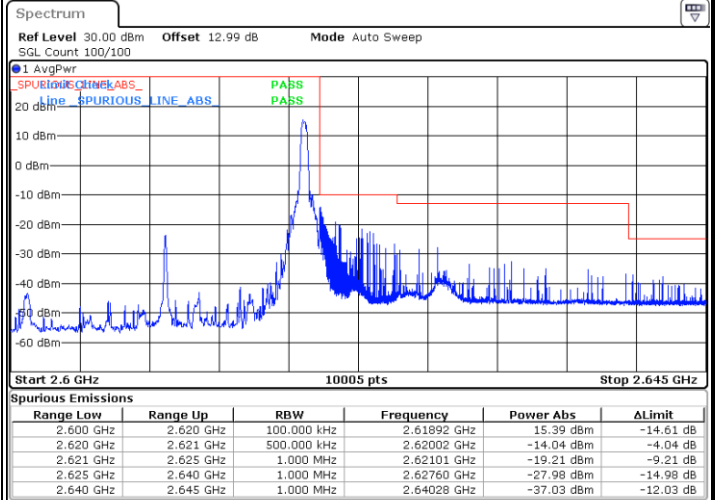
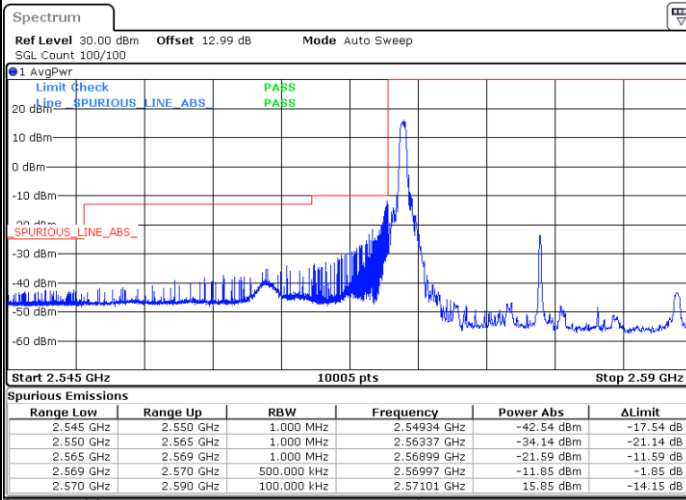
Date: 17 JUL 2020 17:52:18



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

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBMAX

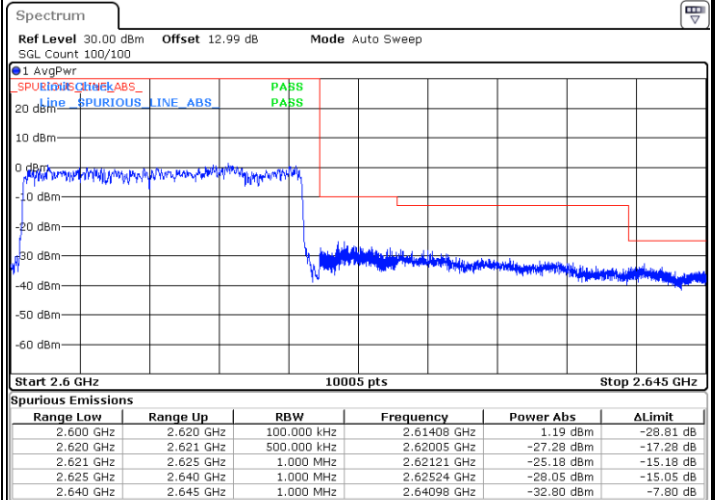
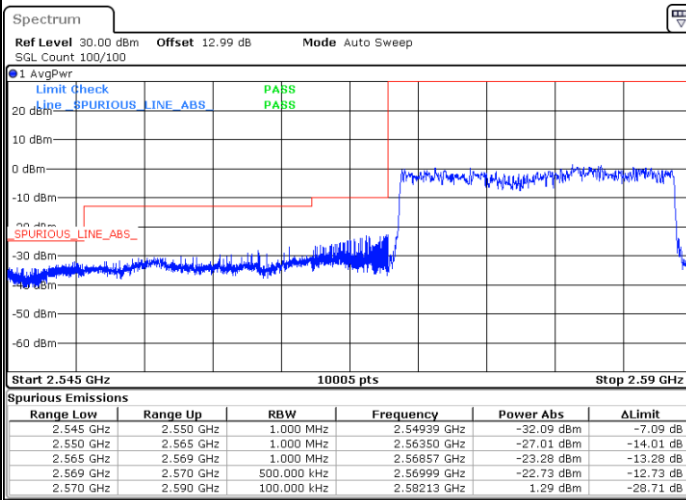


Date: 17 JUL 2020 16:19:25

Date: 17 JUL 2020 17:55:40

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 17 JUL 2020 16:44:33

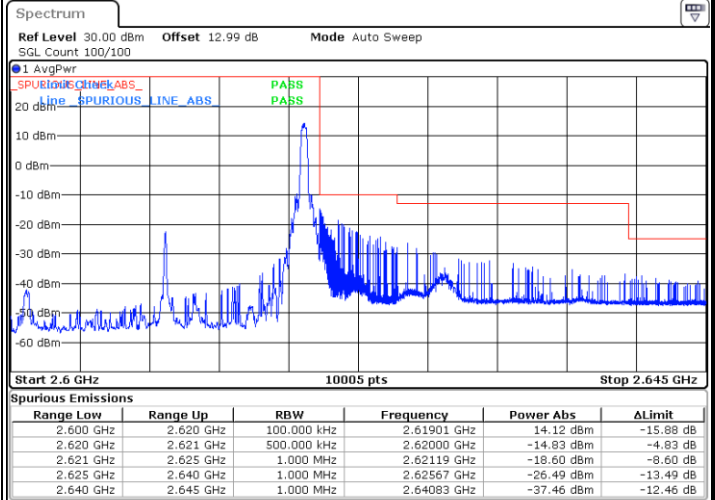
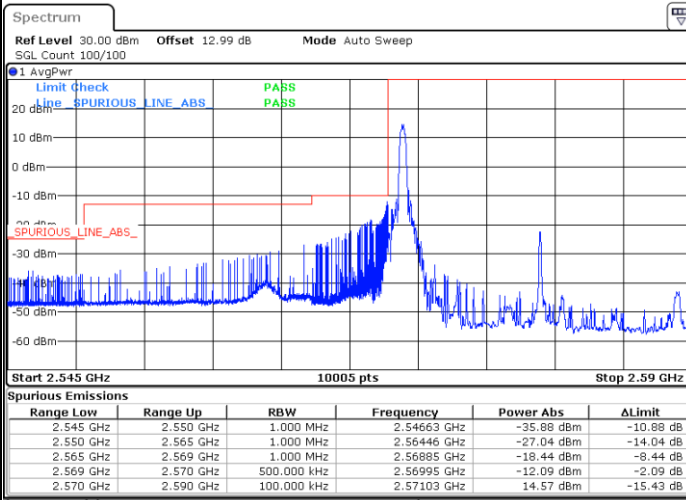
Date: 17 JUL 2020 17:52:46



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

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBMAX

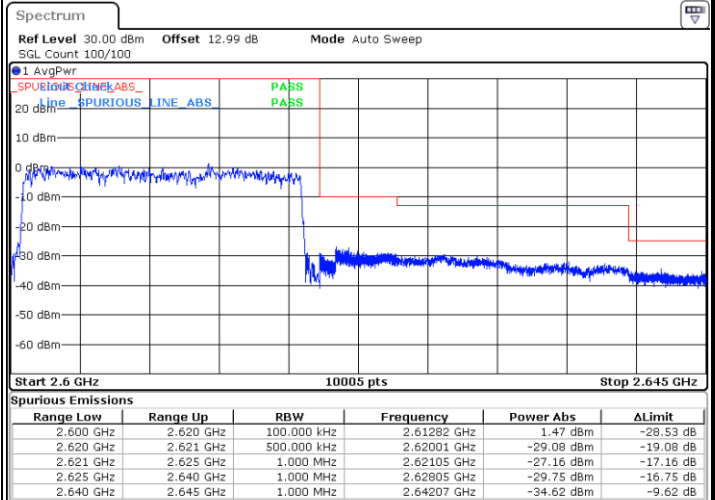
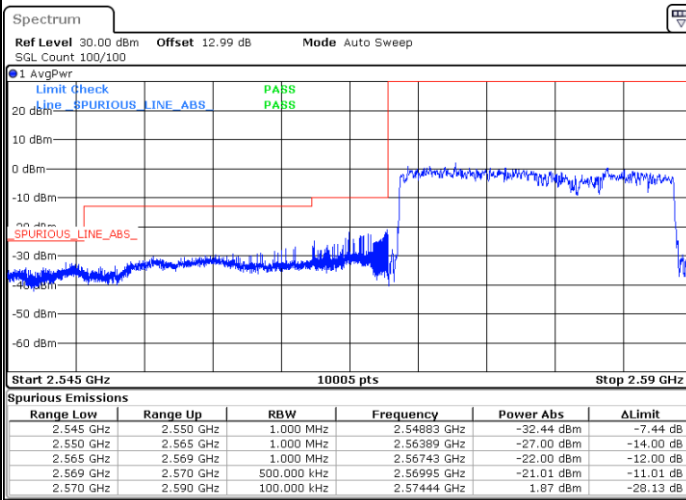


Date: 17 JUL 2020 16:20:43

Date: 17 JUL 2020 17:55:01

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 17 JUL 2020 16:44:13

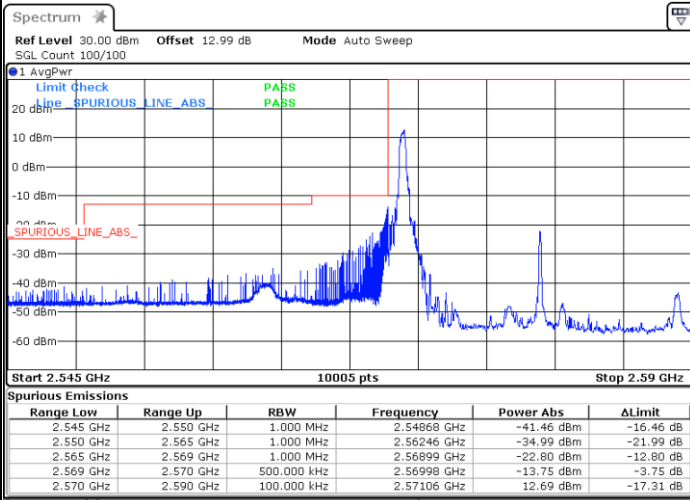
Date: 17 JUL 2020 17:53:08



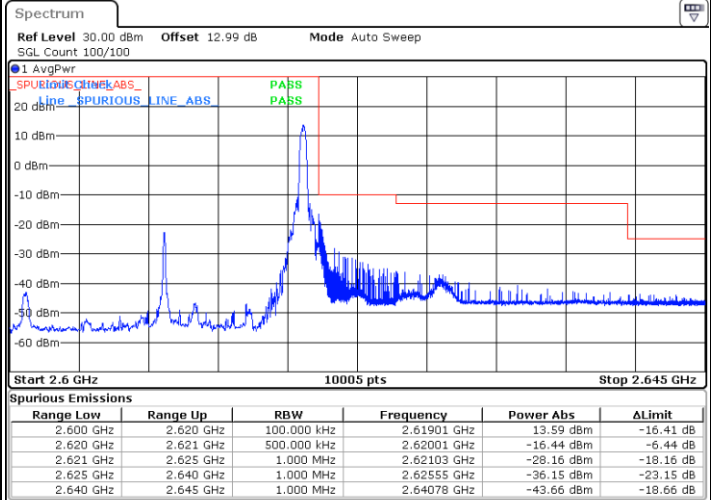
FR1 n38 / 20MHz / DFT-s-OFDM / 256QAM

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBMAX



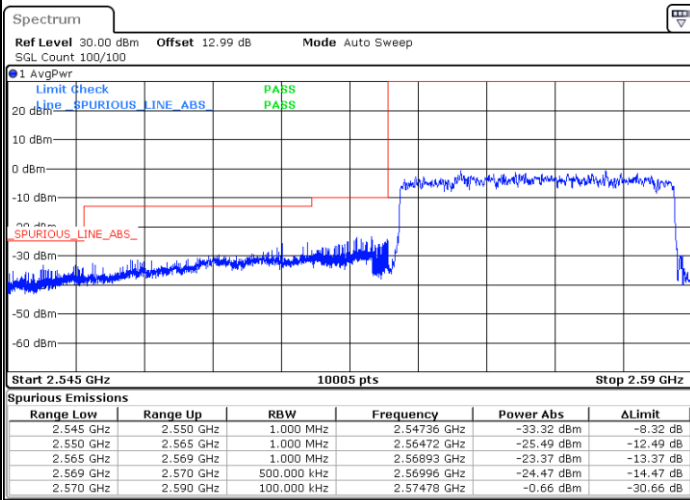
Date: 17 JUL 2020 16:37:00



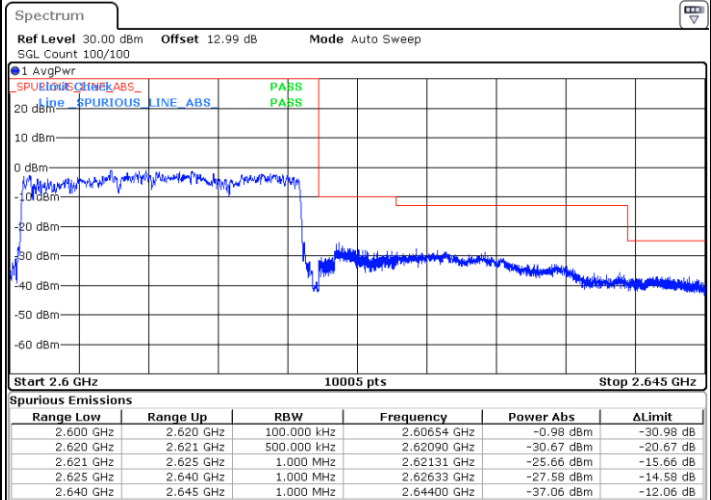
Date: 17 JUL 2020 17:54:38

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 17 JUL 2020 16:43:53



Date: 17 JUL 2020 17:53:53

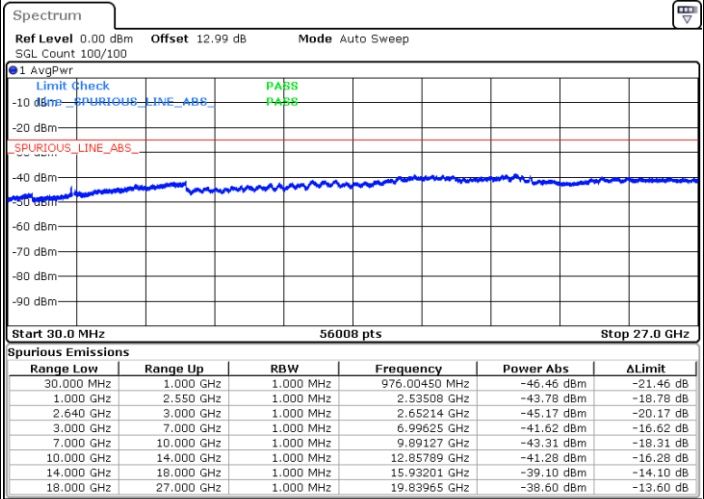
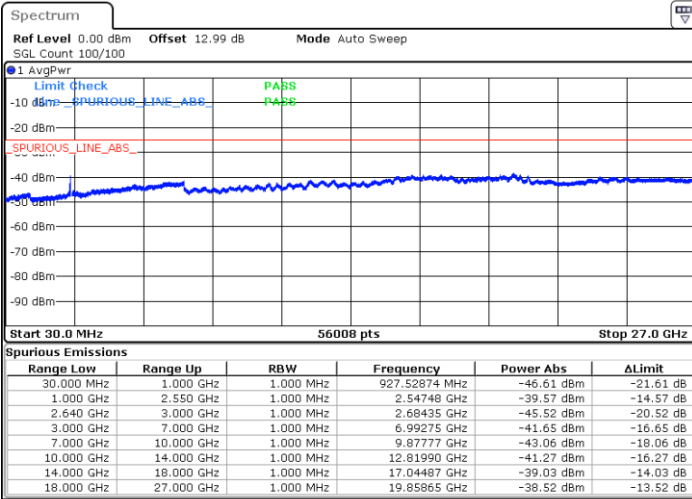


Conducted Spurious Emission

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

Lowest Channel / 1RB1

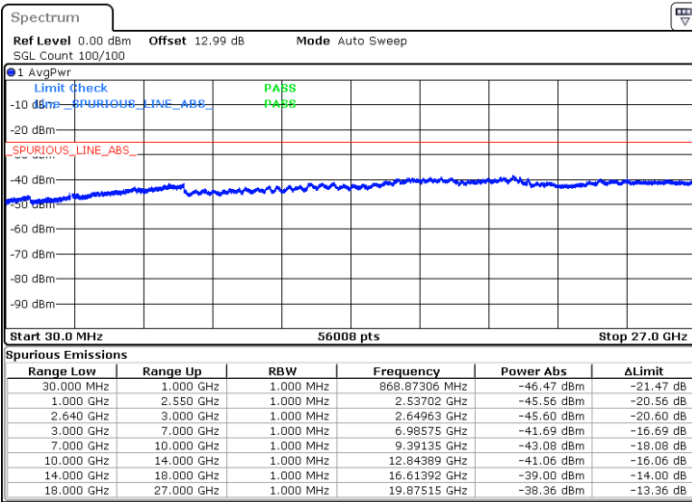
Middle Channel / 1RB1



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

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

Highest Channel / 1RB1



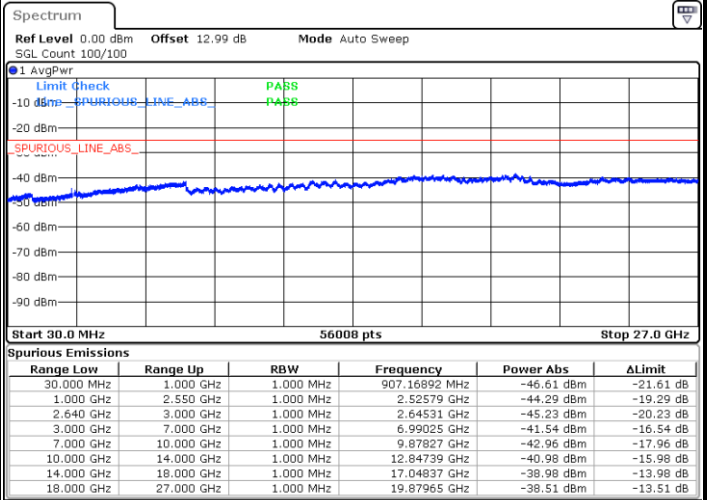
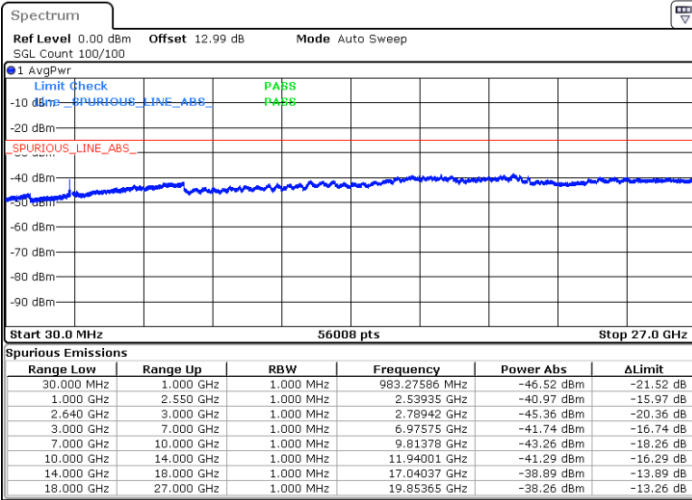
Date: 17.JUL.2020 17:45:45



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

Lowest Channel / 1RB1

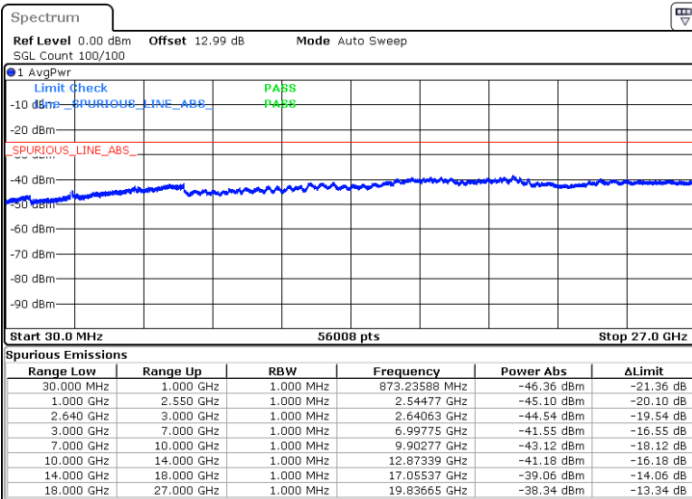
Middle Channel / 1RB1



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

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

Highest Channel / 1RB1



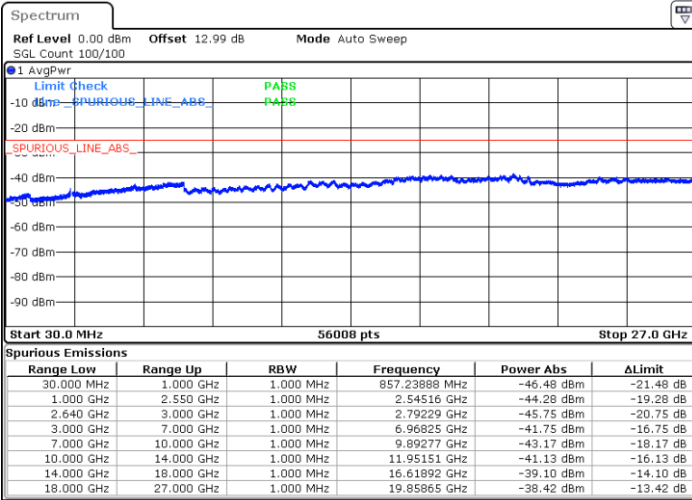
Date: 17.JUL.2020 17:46:44



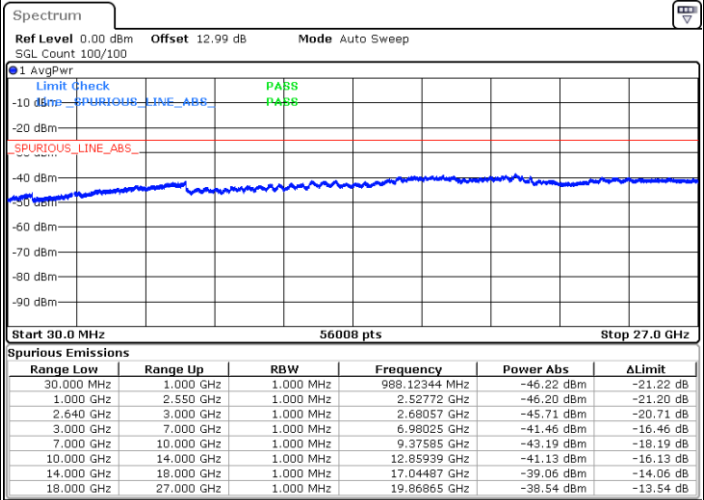
FR1 n38 / 20MHz / DFT-S OFDM / 16QAM

Lowest Channel / 1RB1

Middle Channel / 1RB1

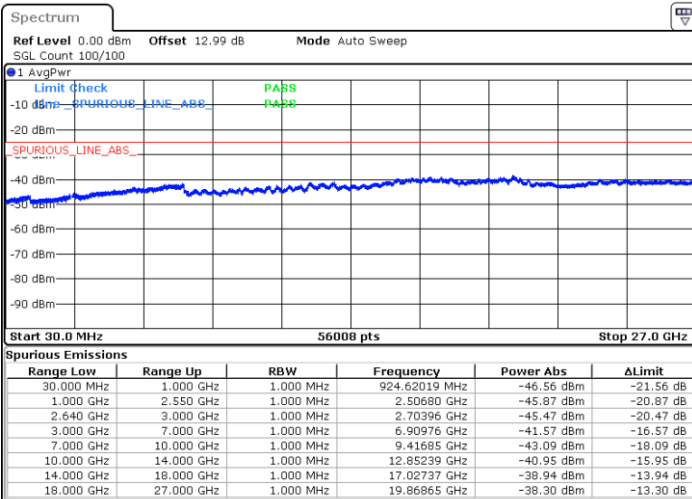


Date: 17.JUL.2020 16:20:15



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

Highest Channel / 1RB1



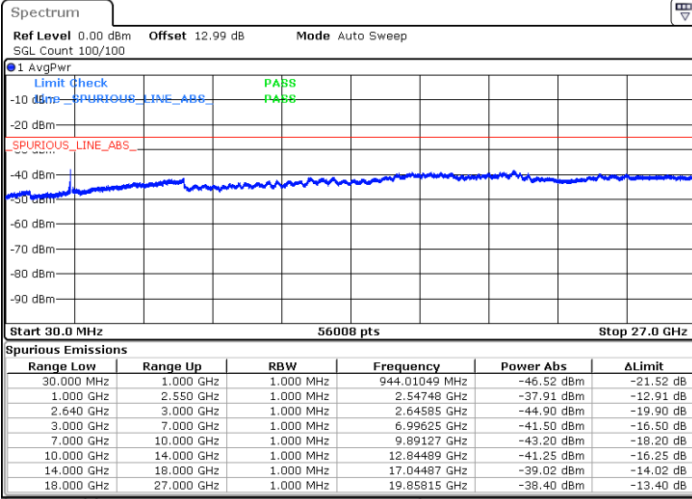
Date: 17.JUL.2020 17:47:45



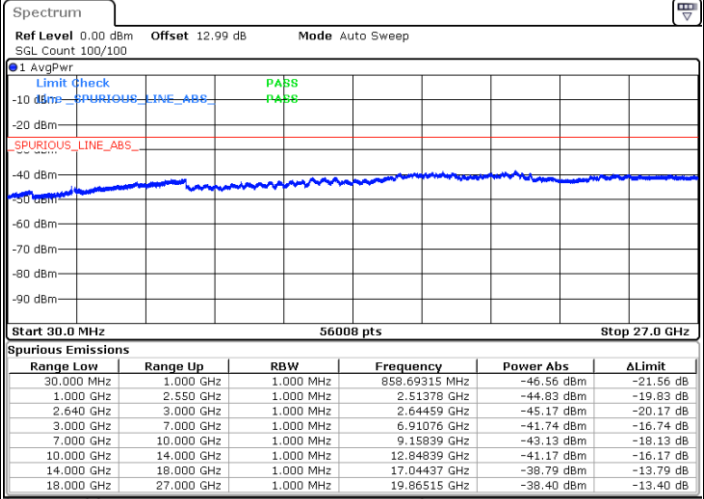
FR1 n38 / 20MHz / DFT-S OFDM / 64QAM

Lowest Channel / 1RB1

Middle Channel / 1RB1

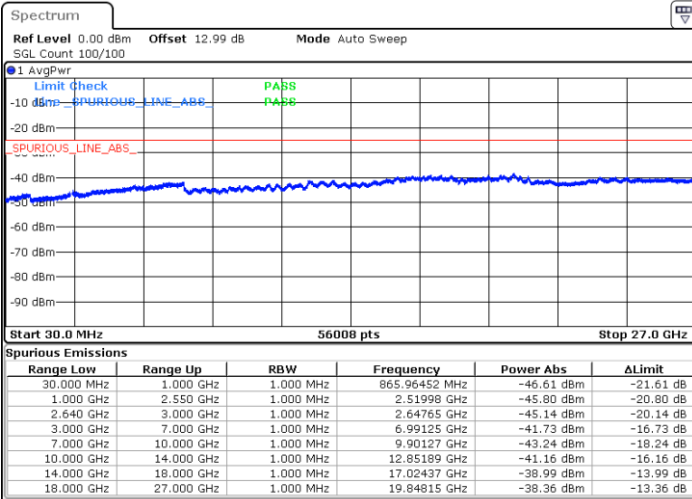


Date: 17.JUL.2020 16:21:34



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

Highest Channel / 1RB1



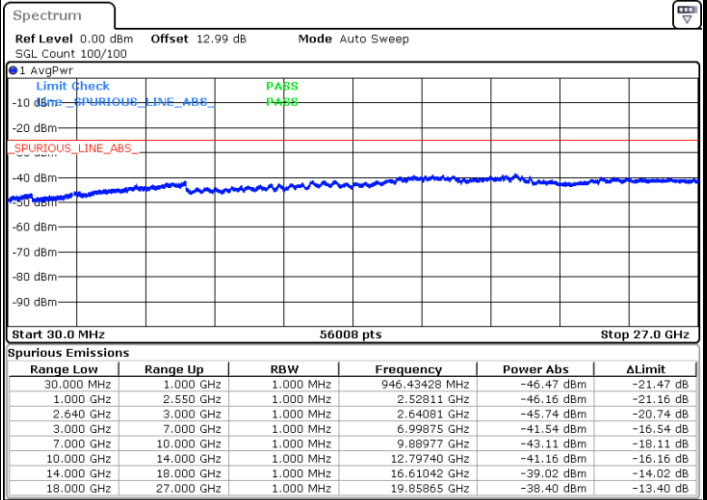
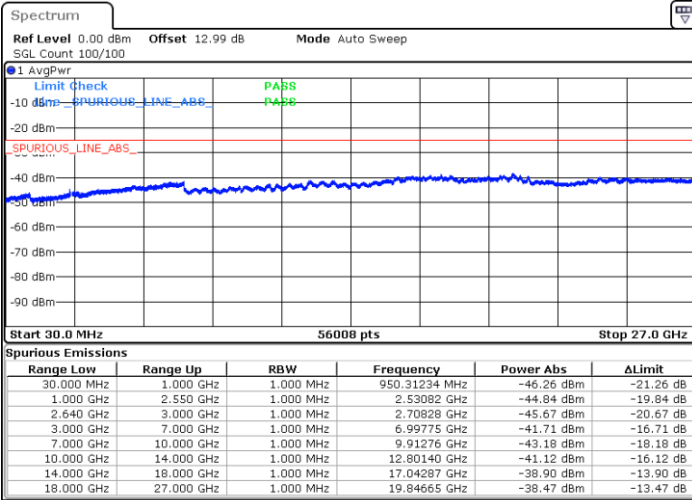
Date: 17.JUL.2020 17:49:32



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

Lowest Channel / 1RB1

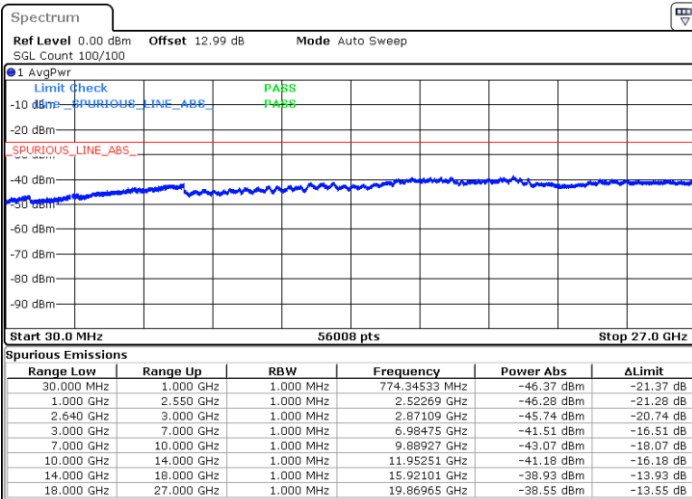
Middle Channel / 1RB1



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

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

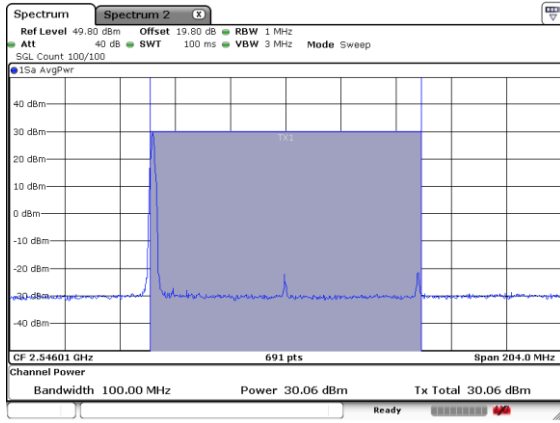
Mode	N 41 / 100MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	2.53	5.24	4.86	5.37	PASS
Middle CH	3.33	5.4	3.6	5.18	
Highest CH	2.9	5.14	4.23	5.24	
Mode	N41 / 100MHz				
Mod.	64QAM		256QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	6.47	5.41	5.44	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	-	-	



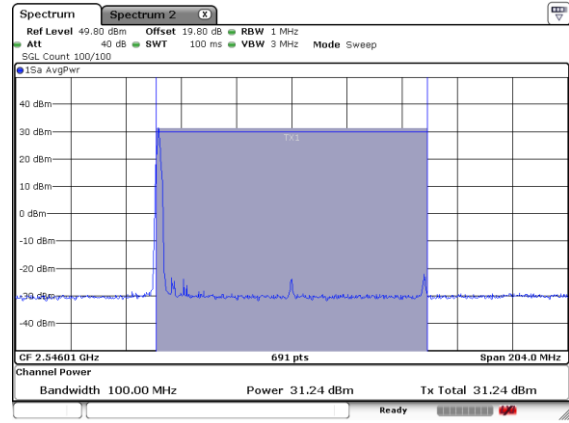
N 41

1RB0-A

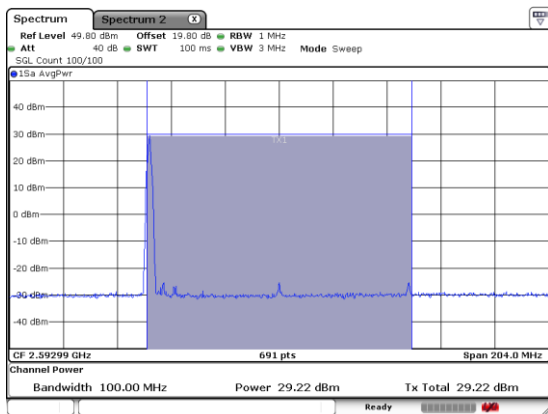
Lowest Channel / BPSK



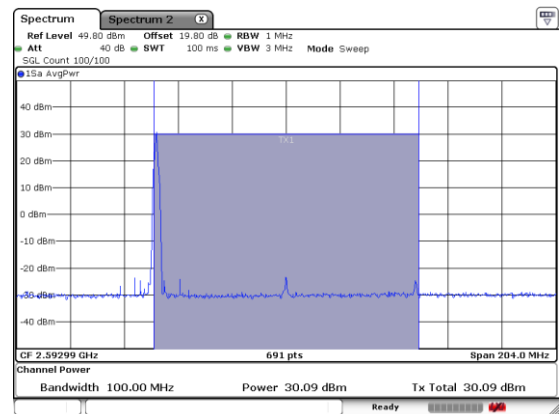
Lowest Channel / QPSK



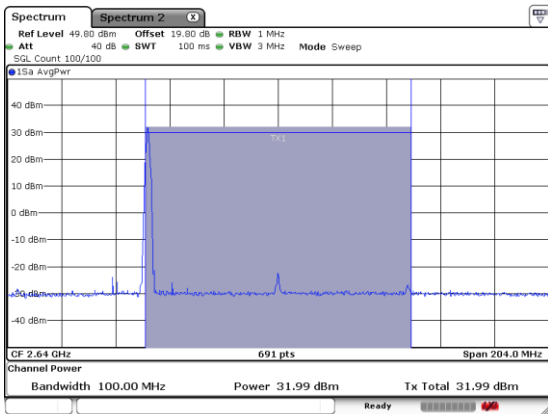
Middle Channel / BPSK



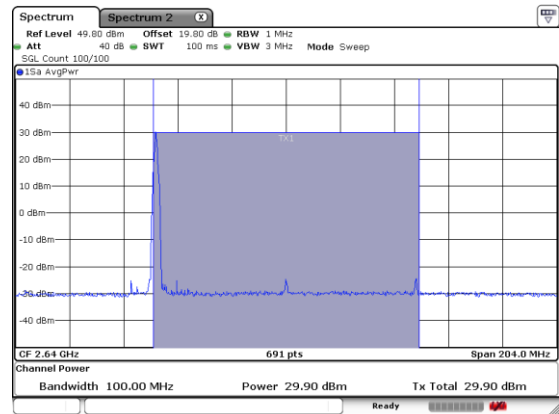
Middle Channel / QPSK



Highest Channel / BPSK



Highest Channel / QPSK

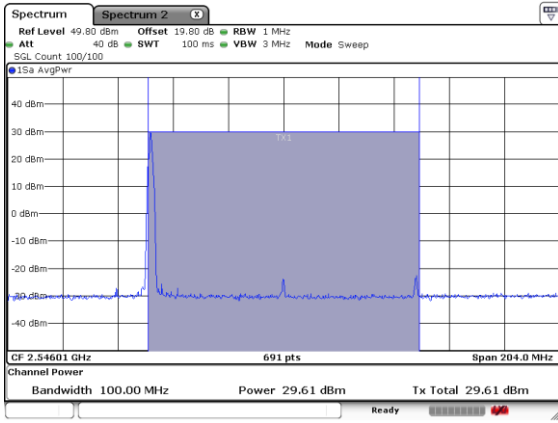




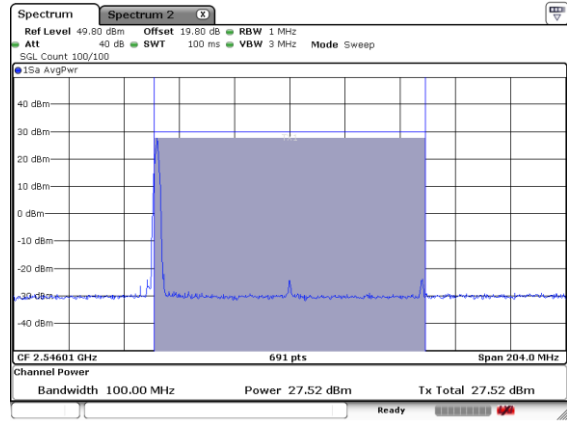
N 41

1RB0-A

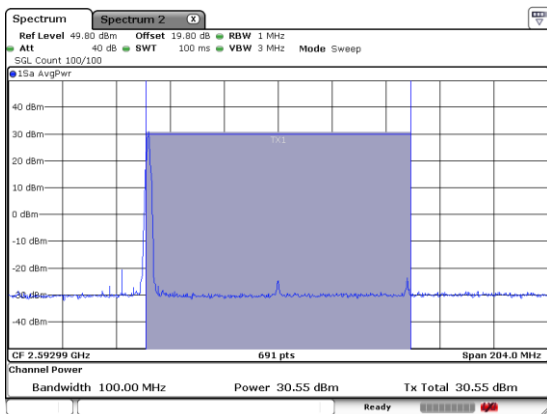
Lowest Channel / 16QAM



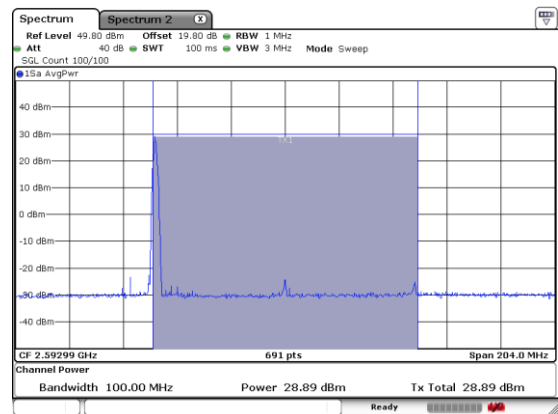
Lowest Channel / 64QAM



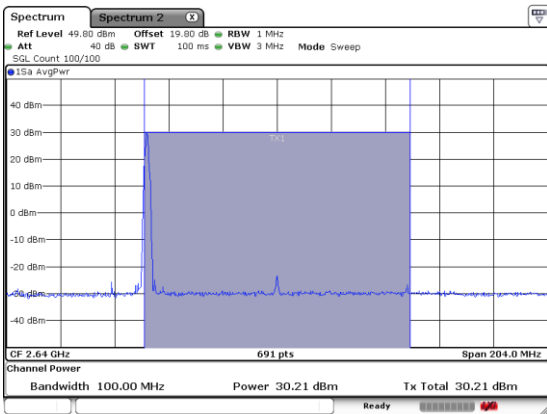
Middle Channel / 16QAM



Middle Channel / 64QAM



Highest Channel / 16QAM



Highest Channel / 64QAM

