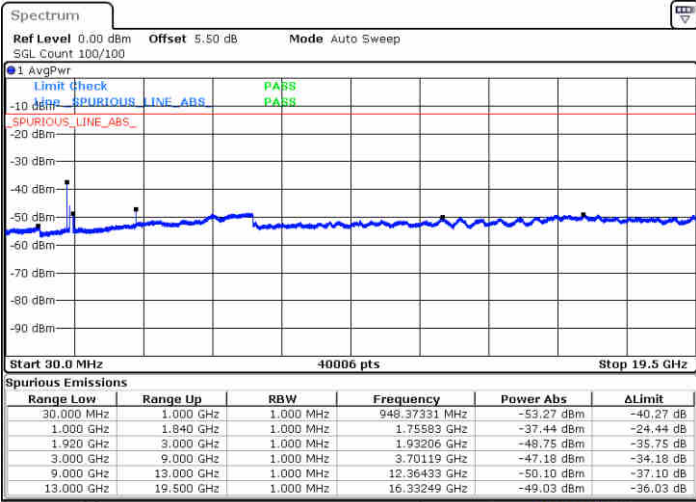




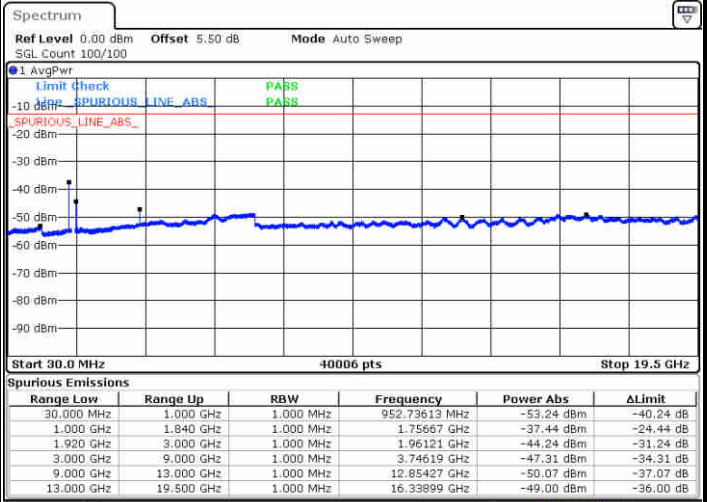
FR1 n2 / 15MHz / DFT-S OFDM / 64QAM

Lowest Channel / 1RB0

Middle Channel / 1RB0

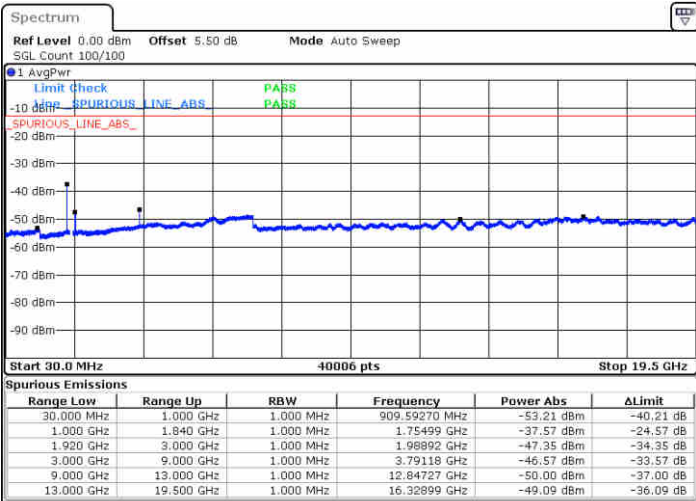


Date: 10 AUG 2020 01:01:32



Date: 10.AUG.2020 01:48:19

Highest Channel / 1RB0



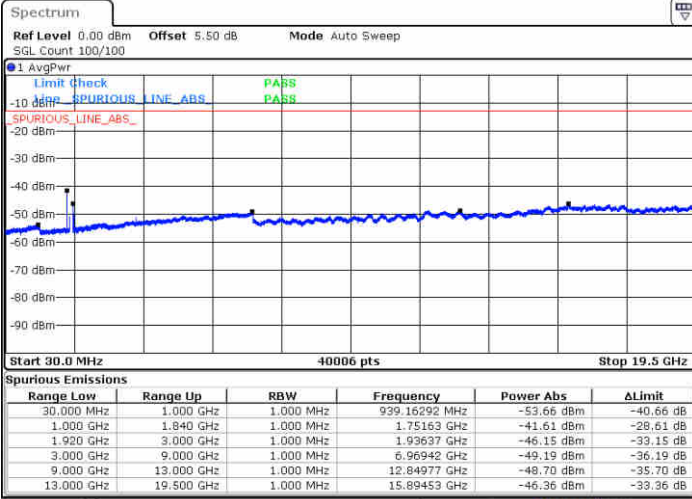
Date: 10 AUG 2020 02:07:08



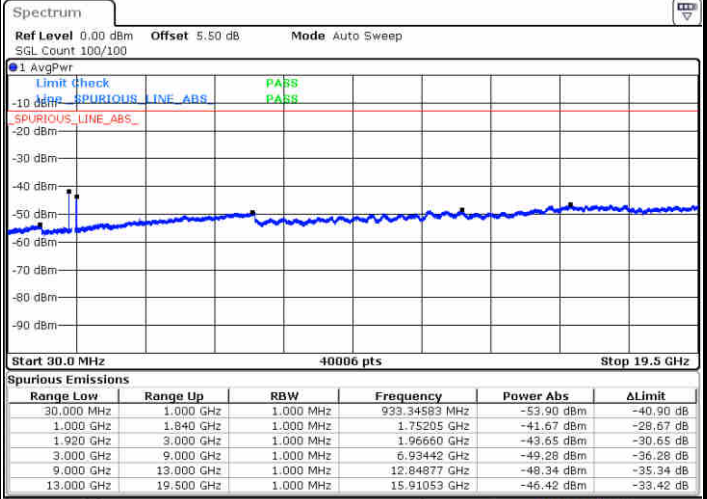
FR1 n2 / 15MHz / DFT-S OFDM / 256QAM

Lowest Channel / 1RB0

Middle Channel / 1RB0

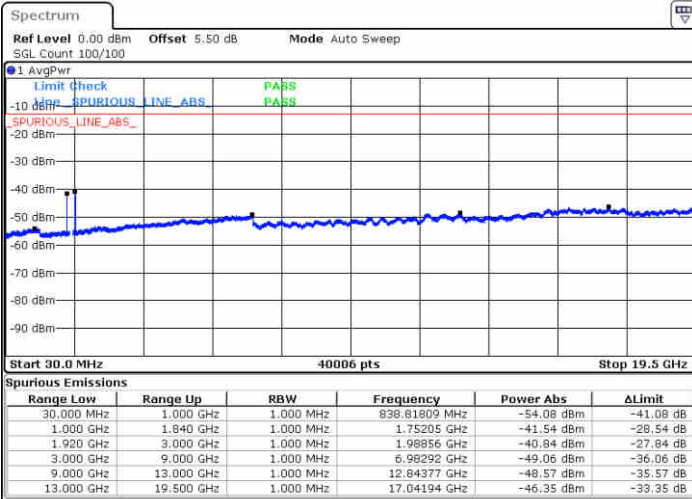


Date: 24 AUG 2020 02:50:18



Date: 24 AUG 2020 03:03:37

Highest Channel / 1RB0



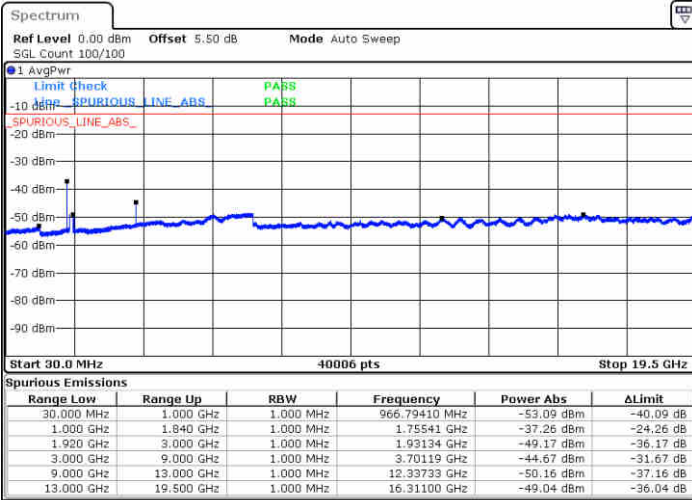
Date: 24 AUG 2020 03:43:54



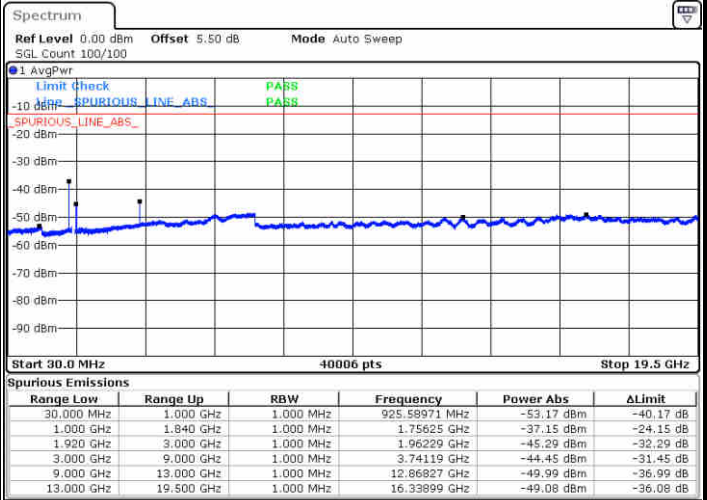
FR1 n2 / 20MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB0

Middle Channel / 1RB0

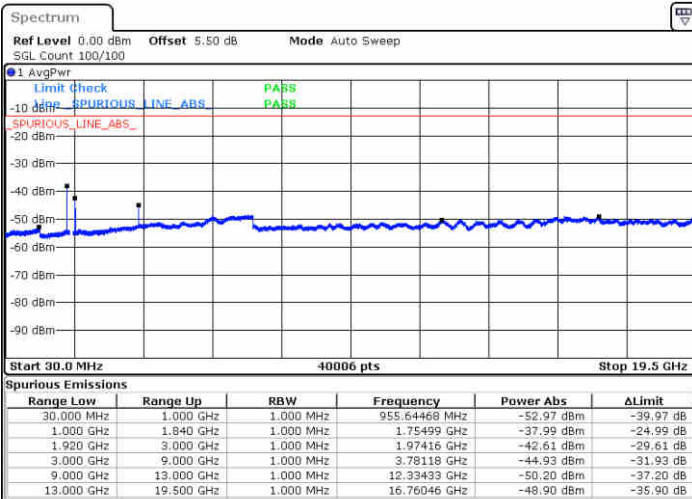


Date: 10 AUG 2020 02:24:05



Date: 10.AUG.2020 02:25:30

Highest Channel / 1RB0



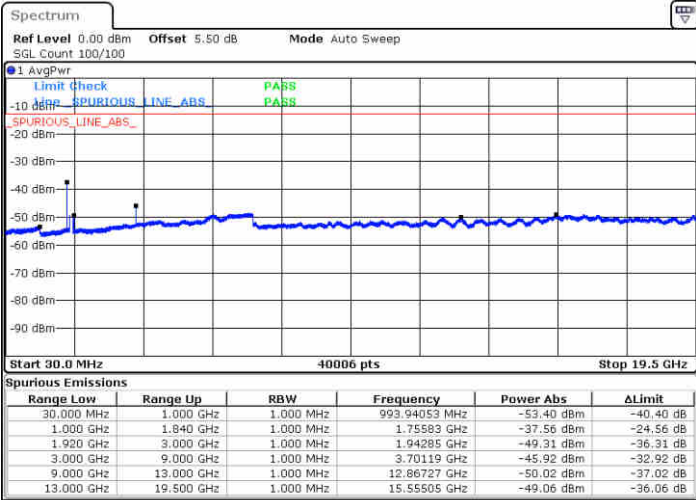
Date: 10 AUG 2020 02:36:12



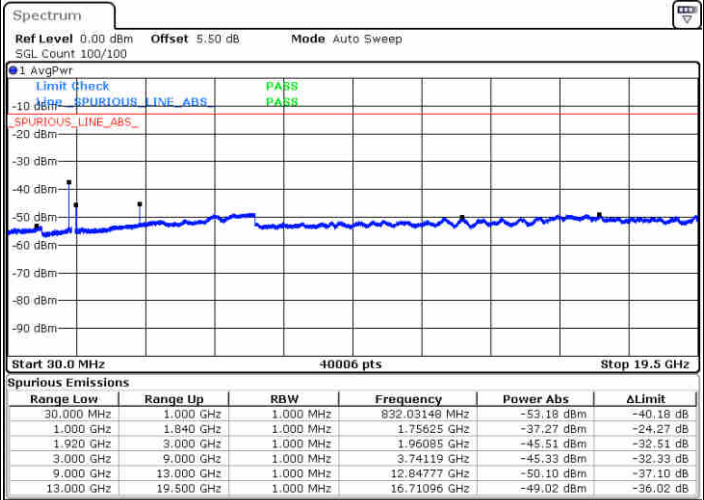
FR1 n2 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB0

Middle Channel / 1RB0

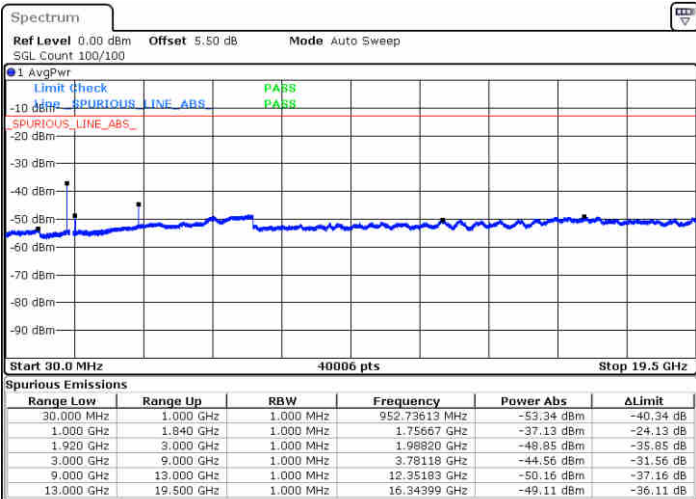


Date: 10 AUG 2020 02:20:27



Date: 10.AUG.2020 02:26:22

Highest Channel / 1RB0



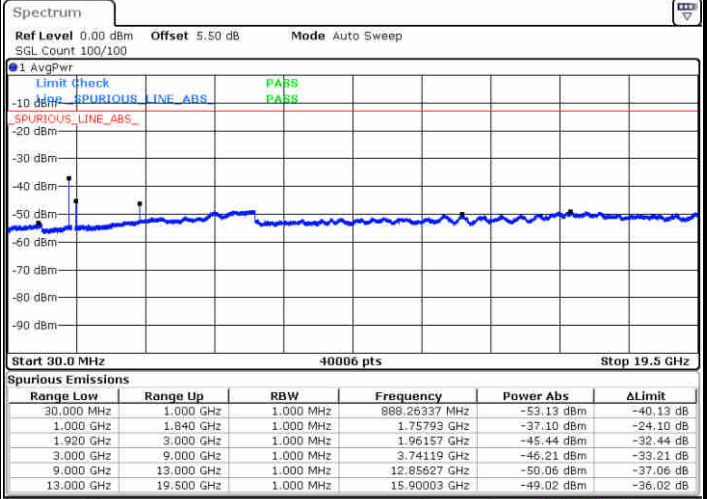
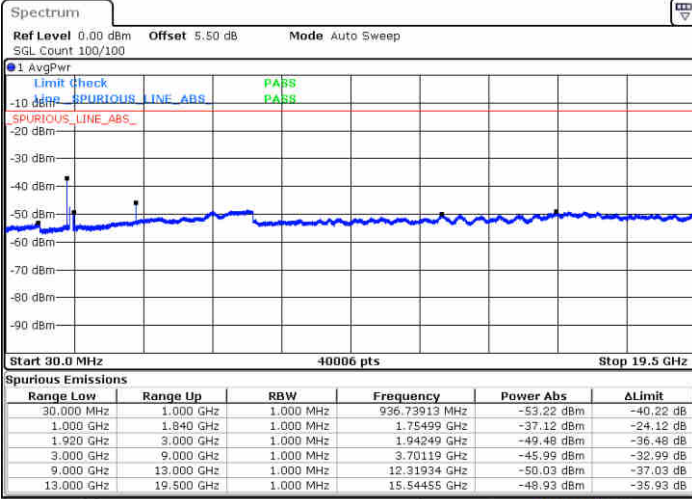
Date: 10 AUG 2020 02:37:06



FR1 n2 / 20MHz / DFT-S OFDM / 16QAM

Lowest Channel / 1RB0

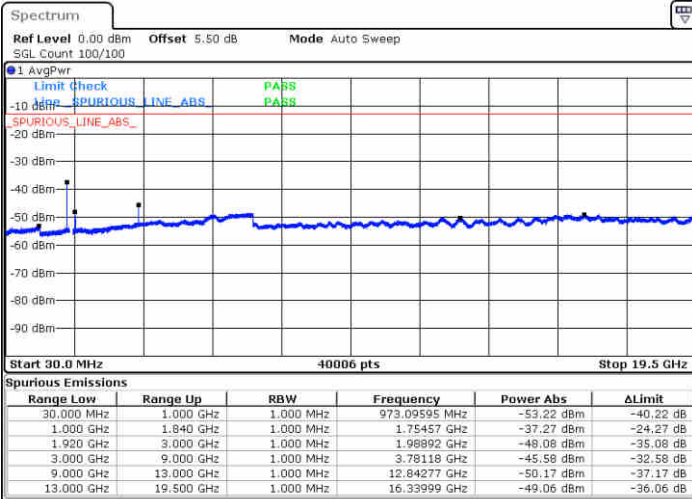
Middle Channel / 1RB0



Date: 10 AUG 2020 02:18:39

Date: 10.AUG.2020 02:27:15

Highest Channel / 1RB0



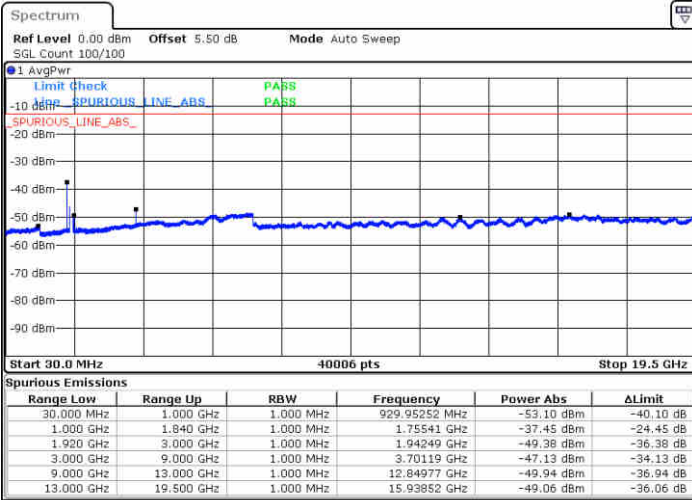
Date: 10 AUG 2020 02:37:54



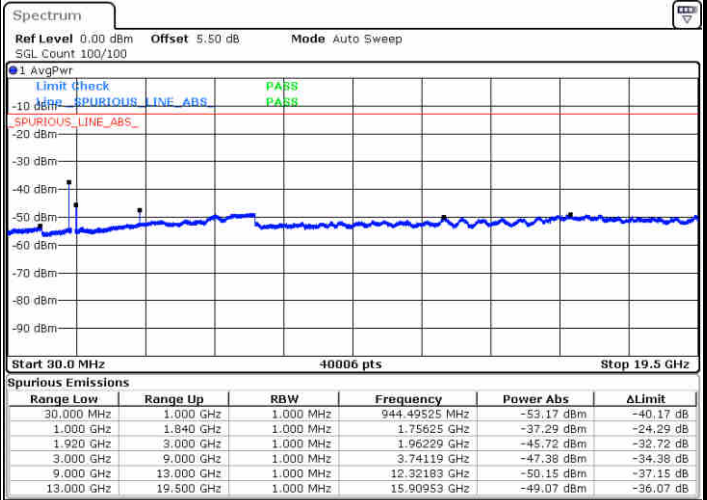
FR1 n2 / 20MHz / DFT-S OFDM / 64QAM

Lowest Channel / 1RB0

Middle Channel / 1RB0

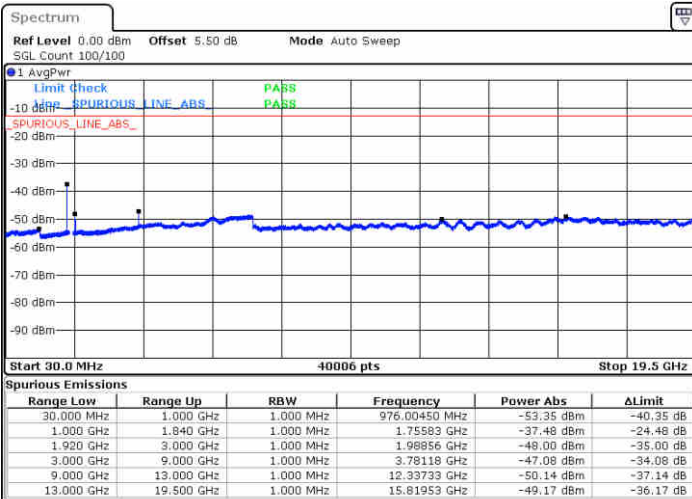


Date: 10 AUG 2020 02:16:50



Date: 10.AUG.2020 02:28:05

Highest Channel / 1RB0



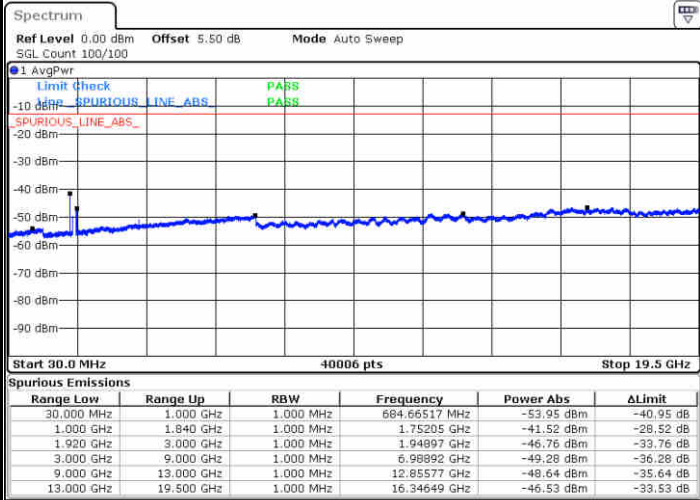
Date: 10 AUG 2020 02:39:01



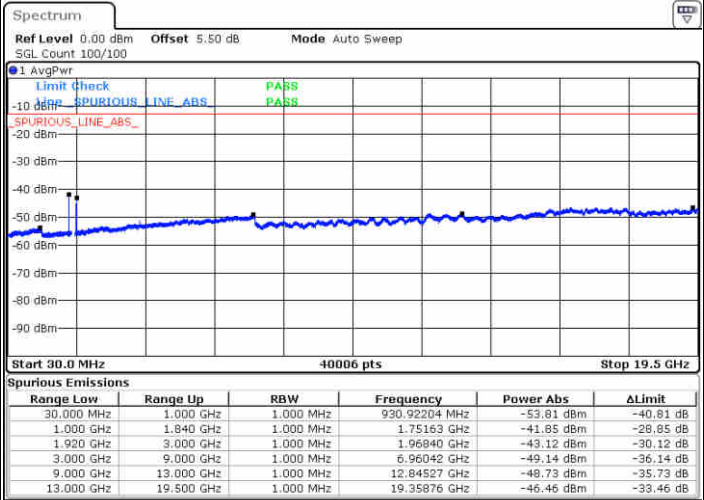
FR1 n2 / 20MHz / DFT-S OFDM / 256QAM

Lowest Channel / 1RB0

Middle Channel / 1RB0

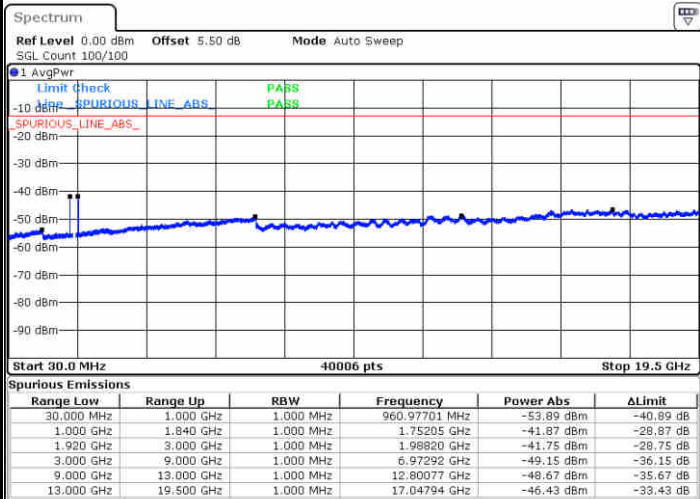


Date: 24 AUG 2020 03:46:57



Date: 24 AUG 2020 03:56:02

Highest Channel / 1RB0



Date: 24 AUG 2020 03:58:46



Frequency Stability

Test Conditions		FR1 n2 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0005	PASS
40	Normal Voltage	0.0003	
30	Normal Voltage	0.0005	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0008	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0022	
-20	Normal Voltage	0.0009	
-30	Normal Voltage	0.0005	
20	Maximum Voltage	0.0015	
20	Normal Voltage	0.0004	
20	Battery End Point	0.0009	

Note:

1. Normal Voltage =3.9 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.





# 5G NR n5

## Peak-to-Average Ratio

Mode	FR1 n5 / 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	3.77	4.26	5.51	5.94	PASS
Middle CH	3.74	4.26	5.51	5.94	
Highest CH	3.54	4.29	5.51	5.91	
Mode	FR1 n5 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Lowest CH	6.46				PASS
Middle CH	6.49				
Highest CH	6.49				
Mode	FR1 n5 / 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	4.52	3.86	4.81	5.51	PASS
Middle CH	5.07	4.61	5.54	6.58	
Highest CH	4.64	3.86	4.70	5.54	
Mode	FR1 n5 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	1 RB0				Result
Lowest CH	5.54				PASS
Middle CH	6.90				
Highest CH	6.93				



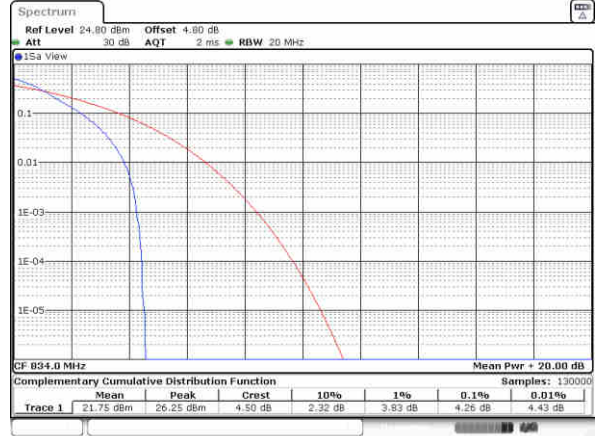
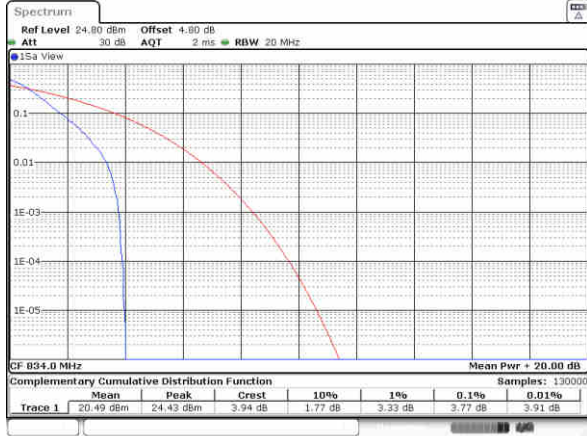
FR1 n5 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / Full RB

Lowest Channel / Full RB

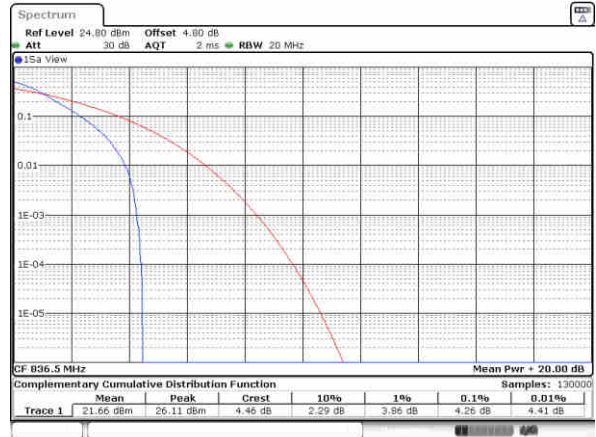
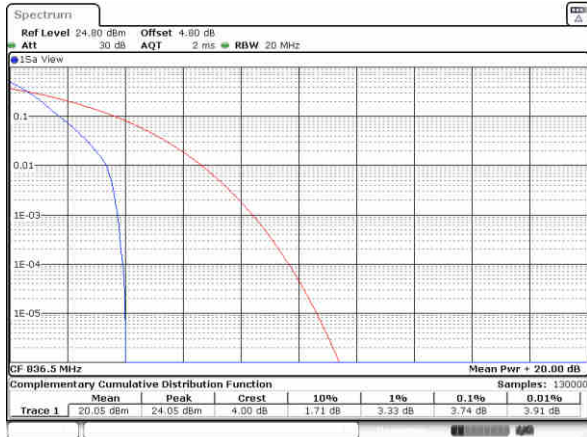


Date: 23 AUG 2020 01:00:59

Date: 23 AUG 2020 01:02:21

Middle Channel / Full RB

Middle Channel / Full RB

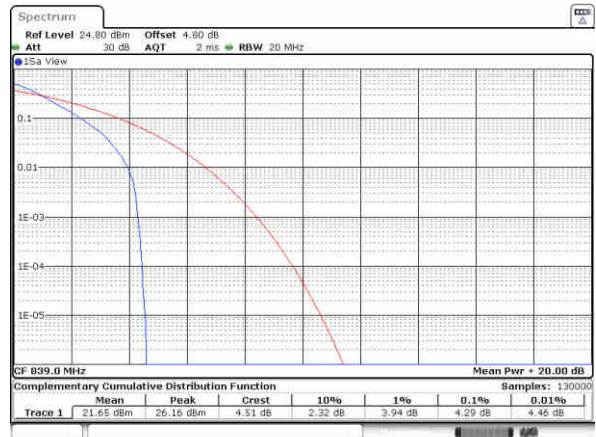
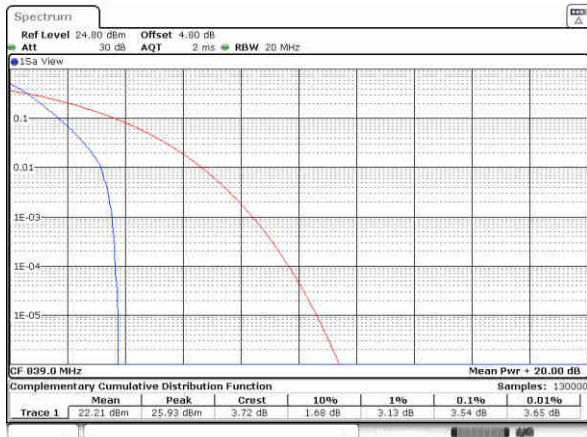


Date: 23 AUG 2020 01:21:13

Date: 23 AUG 2020 01:20:35

Highest Channel / Full RB

Highest Channel / Full RB



Date: 23 AUG 2020 01:38:52

Date: 23 AUG 2020 01:38:07



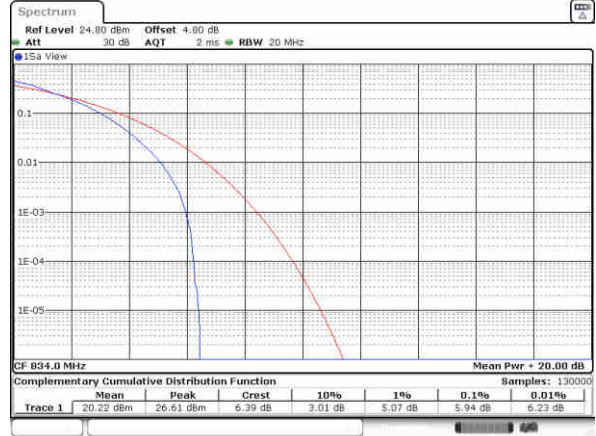
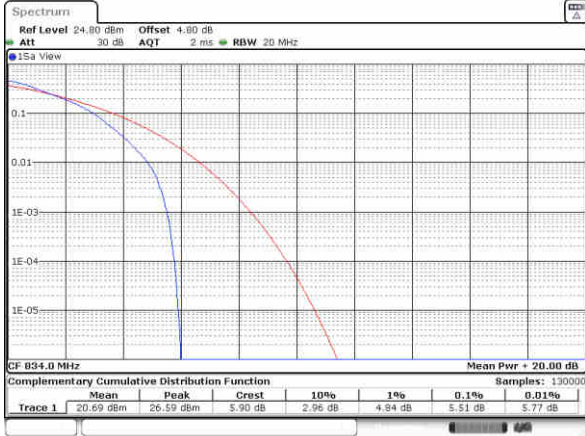
FR1 n5 / 20MHz / DFT-S OFDM

16QAM

64QAM

Lowest Channel / Full RB

Lowest Channel / Full RB

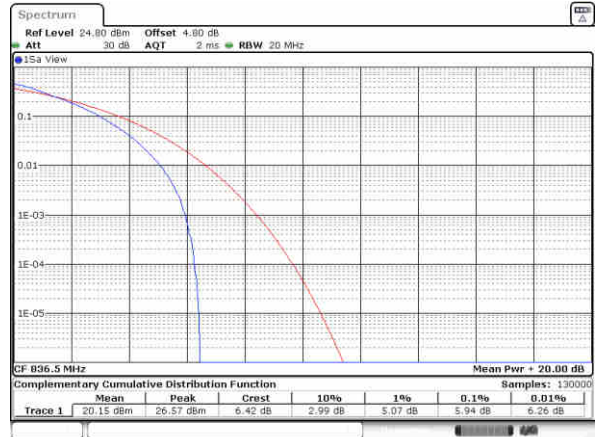
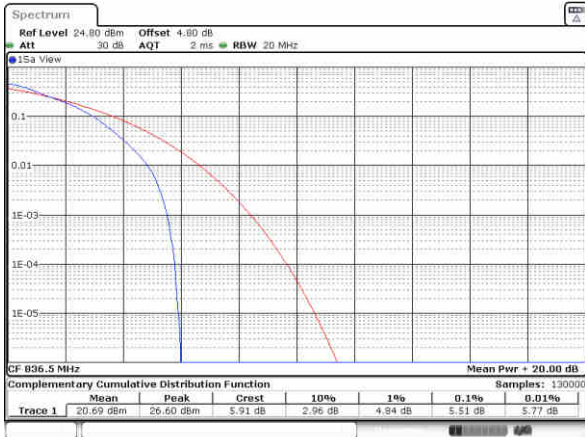


Date: 23 AUG 2020 01:02:59

Date: 23 AUG 2020 01:03:33

Middle Channel / Full RB

Middle Channel / Full RB

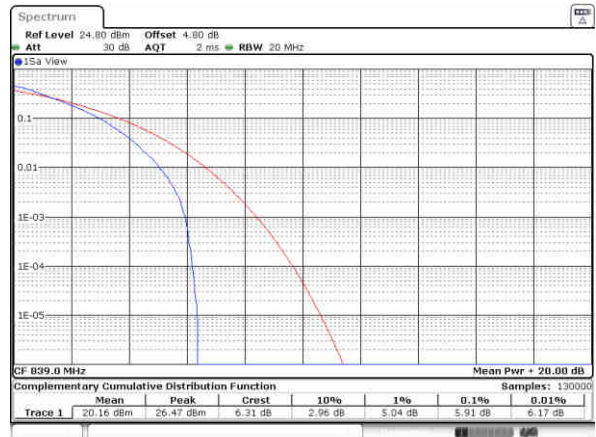
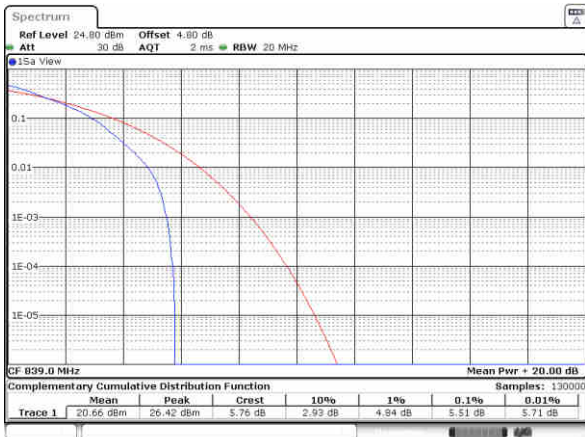


Date: 23 AUG 2020 01:20:04

Date: 23 AUG 2020 01:19:34

Highest Channel / Full RB

Highest Channel / Full RB



Date: 23 AUG 2020 01:37:29

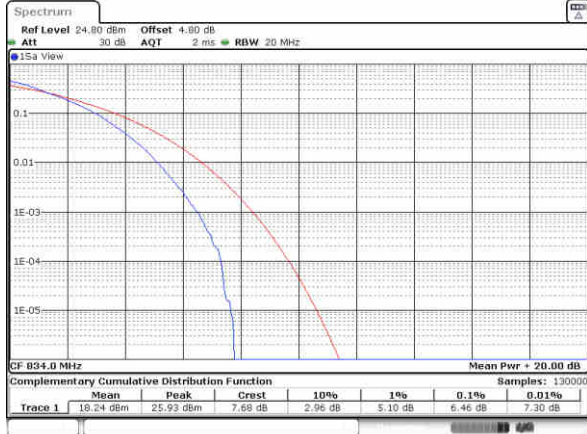
Date: 23 AUG 2020 01:36:59



FR1 n5 / 20MHz / DFT-S OFDM

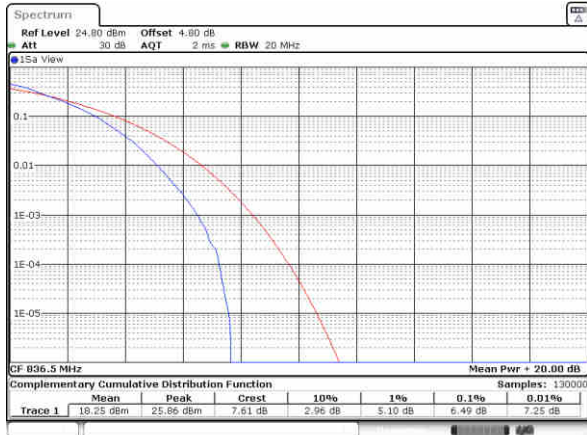
256QAM

Lowest Channel / Full RB



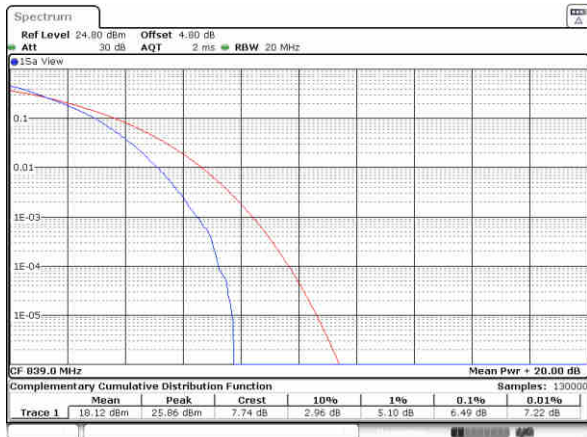
Date: 23 AUG 2020 01:06:53

Middle Channel / Full RB



Date: 23 AUG 2020 01:19:03

Highest Channel / Full RB



Date: 23 AUG 2020 01:36:30



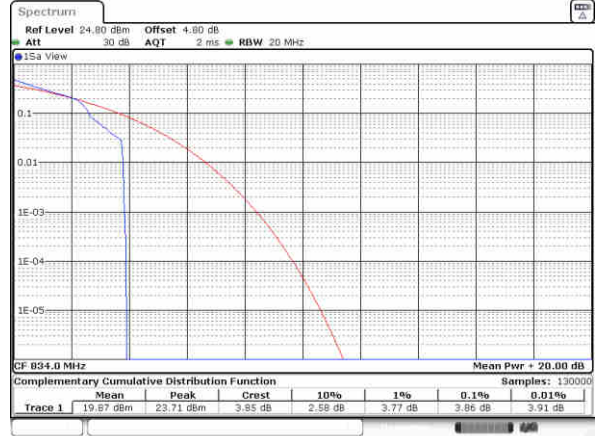
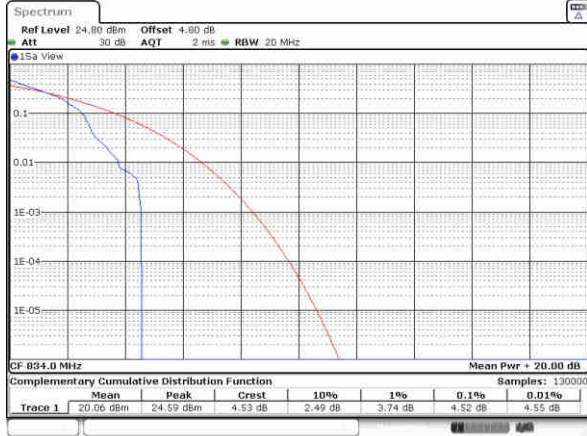
FR1 n5 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / 1RB0

Lowest Channel / 1RB0

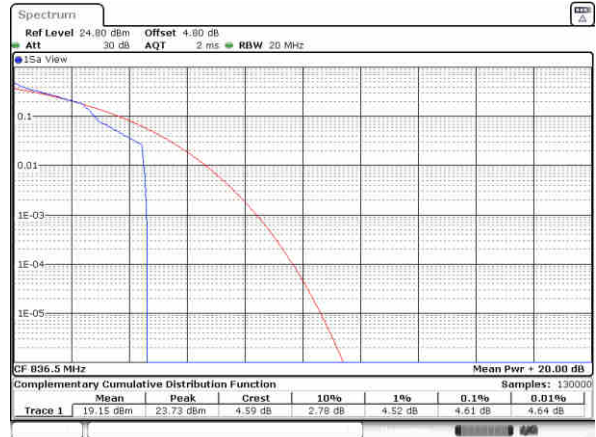
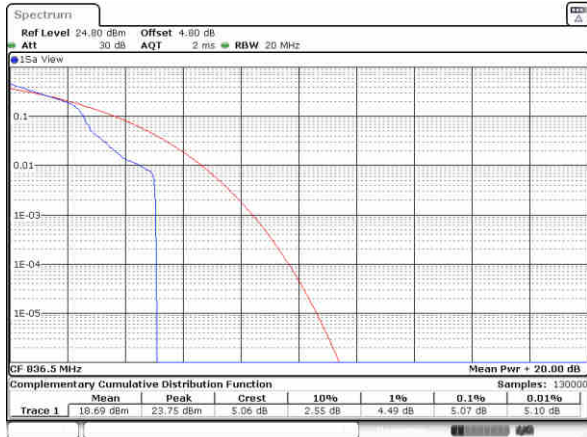


Date: 23 AUG 2020 01:15:39

Date: 23 AUG 2020 01:14:30

Middle Channel / 1RB0

Middle Channel / 1RB0

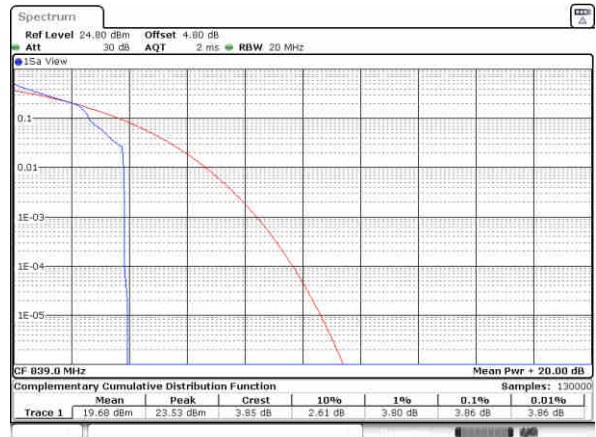
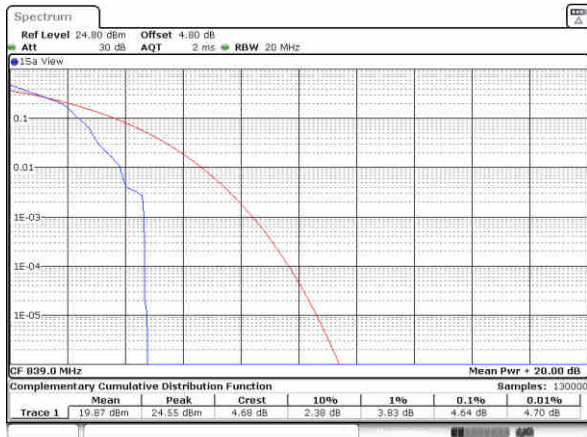


Date: 23 AUG 2020 01:21:48

Date: 23 AUG 2020 01:23:40

Highest Channel / 1RB0

Highest Channel / 1RB0



Date: 23 AUG 2020 01:29:55

Date: 23 AUG 2020 01:29:13



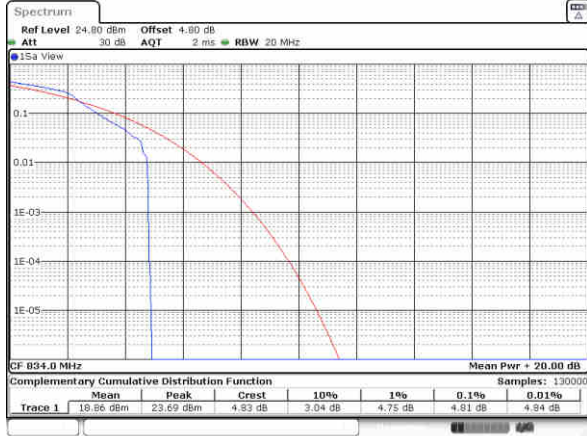
FR1 n5 / 20MHz / DFT-S OFDM

16QAM

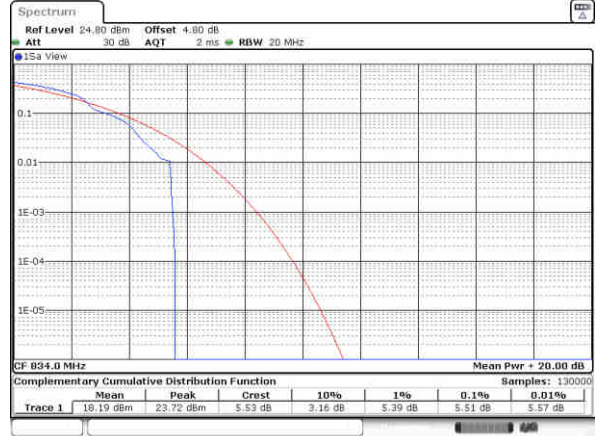
64QAM

Lowest Channel / 1RB0

Lowest Channel / 1RB0



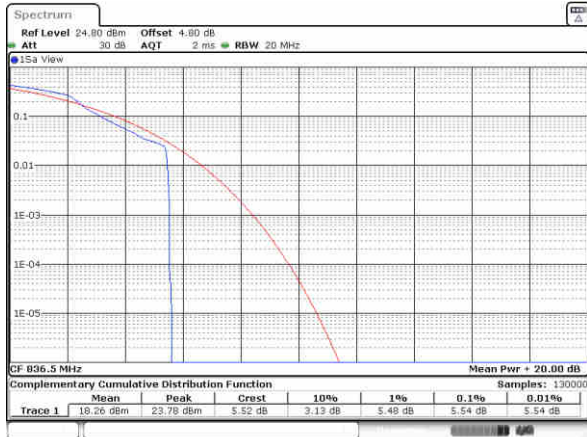
Date: 23 AUG 2020 01:12:38



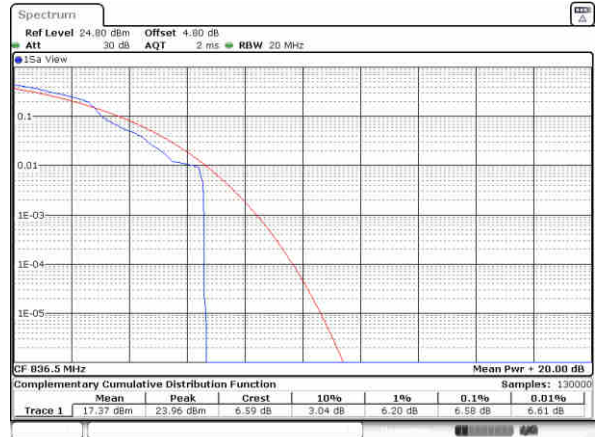
Date: 23 AUG 2020 01:10:30

Middle Channel / 1RB0

Middle Channel / 1RB0



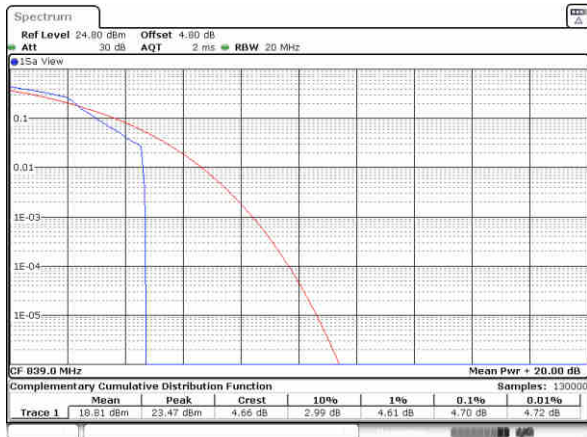
Date: 23 AUG 2020 01:24:35



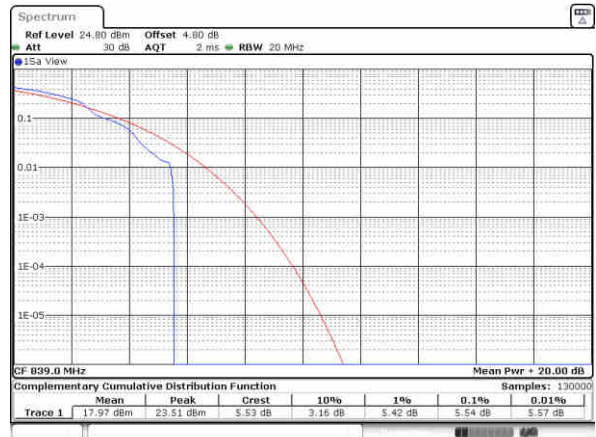
Date: 23 AUG 2020 01:25:13

Highest Channel / 1RB0

Highest Channel / 1RB0



Date: 23 AUG 2020 01:28:34



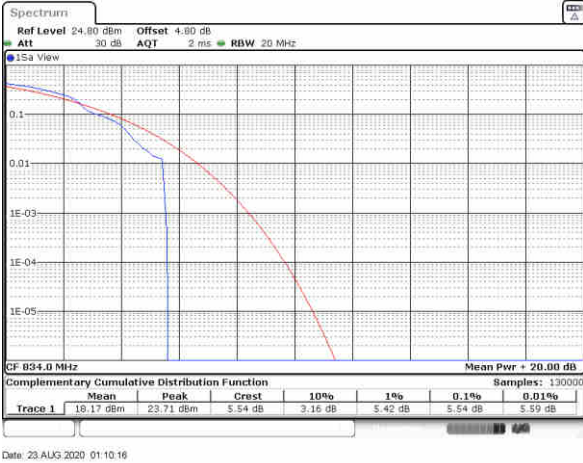
Date: 23 AUG 2020 01:27:57



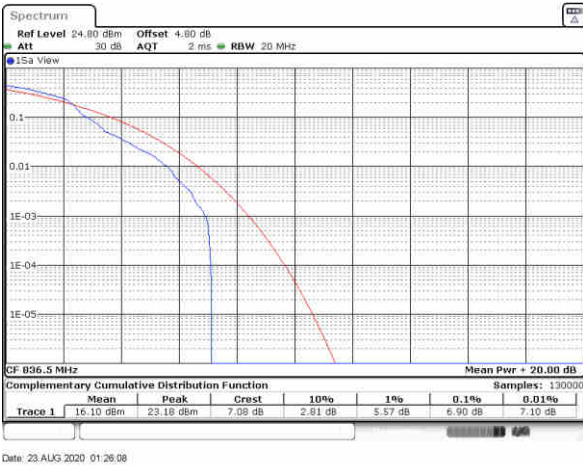
FR1 n5 / 20MHz / DFT-S OFDM

256QAM

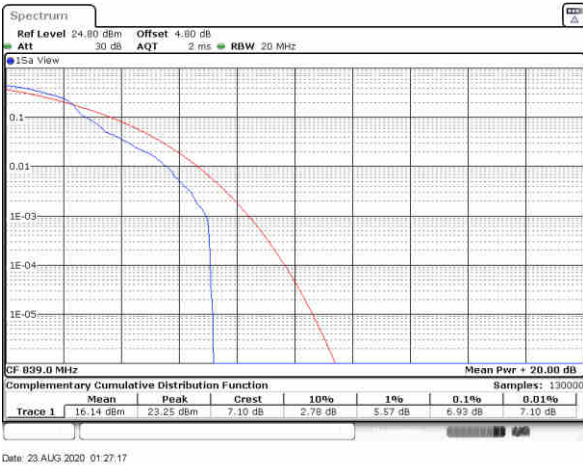
Lowest Channel / 1RB0



Middle Channel / 1RB0



Highest Channel / 1RB0





**26dB Bandwidth**

Mode	FR1 n5 : 26dB BW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	PI / BPSK		PI / BPSK		PI / BPSK		PI / BPSK	
Lowest CH	5.08		9.81		14.24		20.14	
Middle CH	5.04		10.09		14.30		20.30	
Highest CH	5.18		10.07		14.30		20.26	

Mode	FR1 n5 : 26dB BW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	5.08	5.14	9.83	9.73	14.54	14.39	20.14	20.14
Middle CH	5.00	5.11	9.99	9.85	14.36	14.42	20.26	20.18
Highest CH	5.22	5.01	9.77	9.77	14.39	14.24	20.18	20.14

Mode	FR1 n5 : 26dB BW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	4.92	5.03	9.97	9.75	14.36	14.36	20.06	20.10
Middle CH	5.03	5.24	9.83	9.69	14.12	14.18	20.14	20.06
Highest CH	5.01	5.18	9.69	9.83	14.24	14.30	20.18	20.22

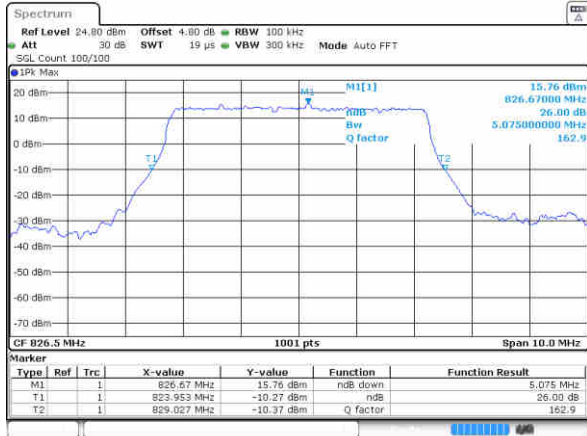




FR1 n5 / 5MHz / DFT-S OFDM

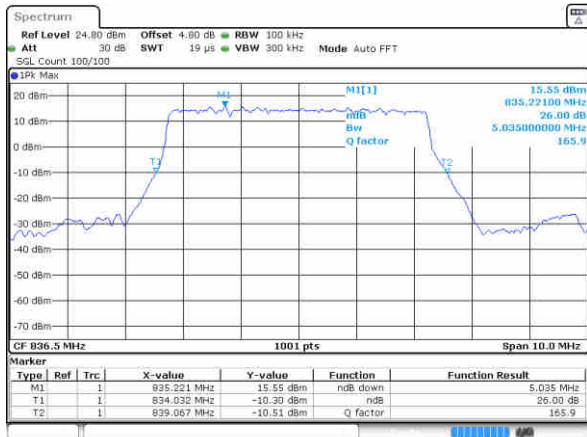
PI / BPSK

Lowest Channel



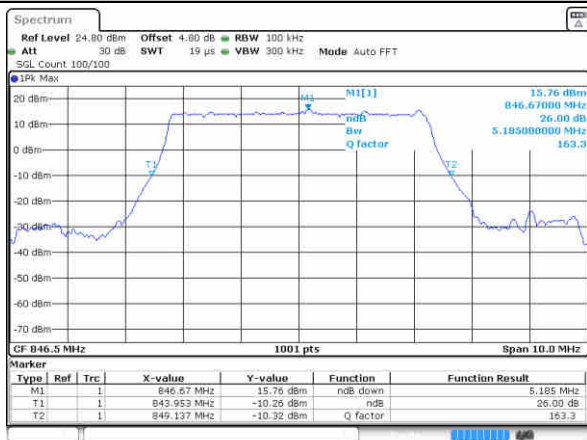
Date: 22 AUG 2020 22:11:07

Middle Channel



Date: 22 AUG 2020 22:45:14

Highest Channel



Date: 22 AUG 2020 22:46:19



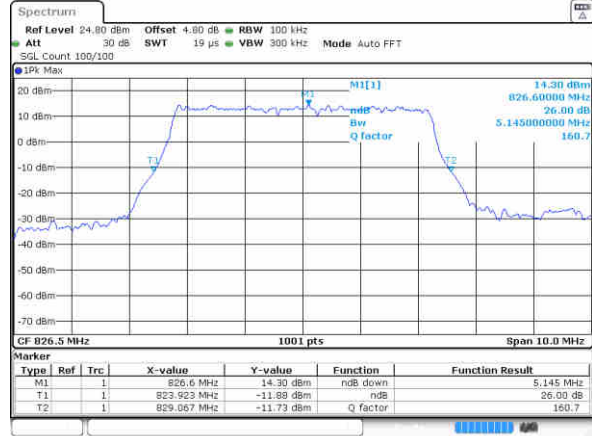
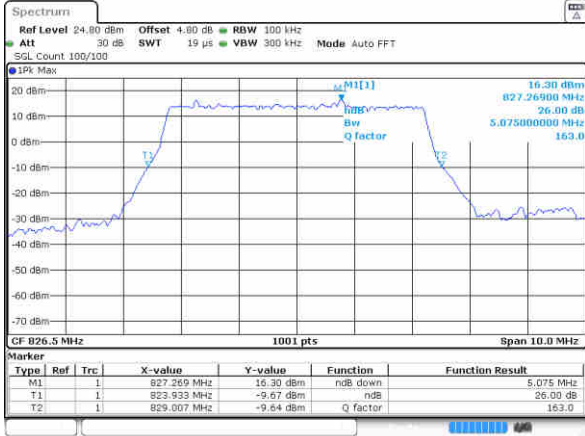
FR1 n5 / 5MHz / DFT-S OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

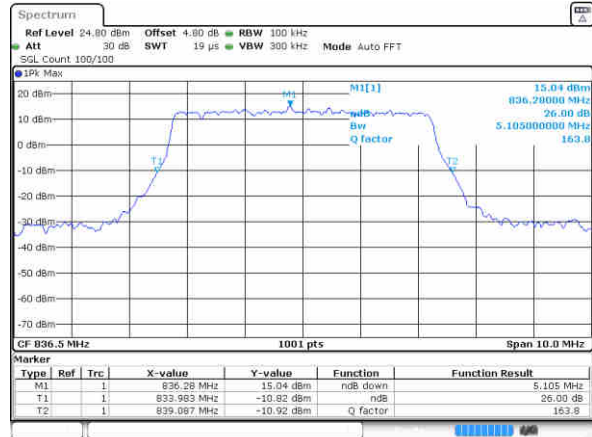
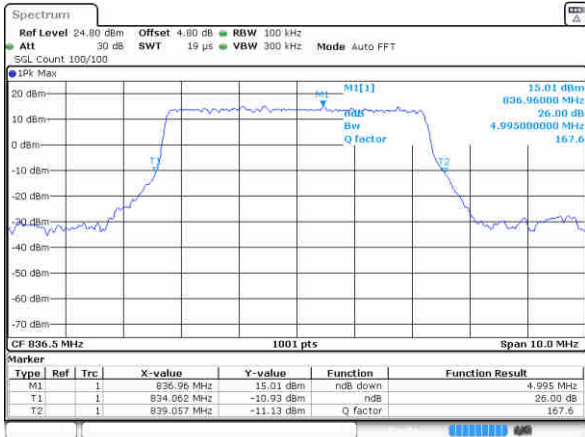


Date: 22 AUG 2020 22:17:02

Date: 22 AUG 2020 22:18:11

Middle Channel

Middle Channel

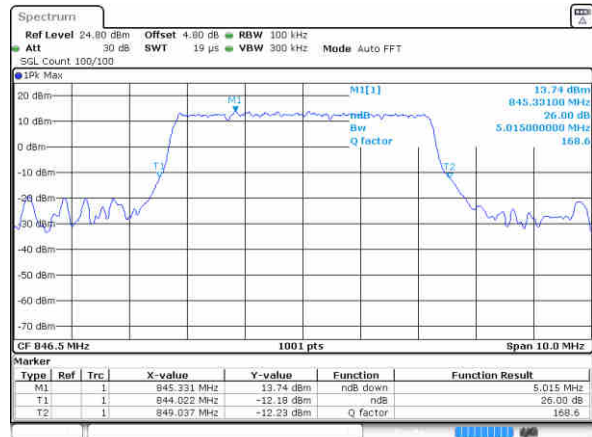
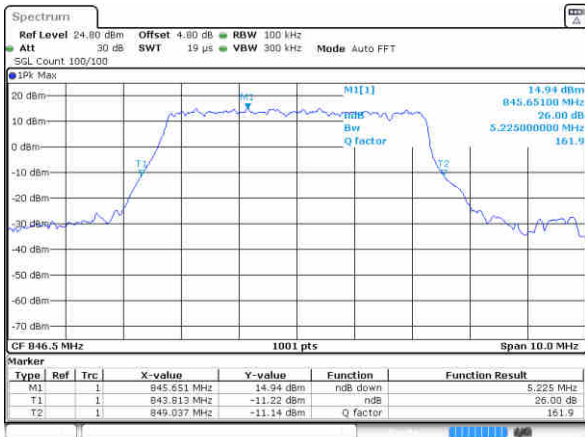


Date: 22 AUG 2020 22:44:45

Date: 22 AUG 2020 22:44:23

Highest Channel

Highest Channel



Date: 22 AUG 2020 22:47:29

Date: 22 AUG 2020 22:48:35



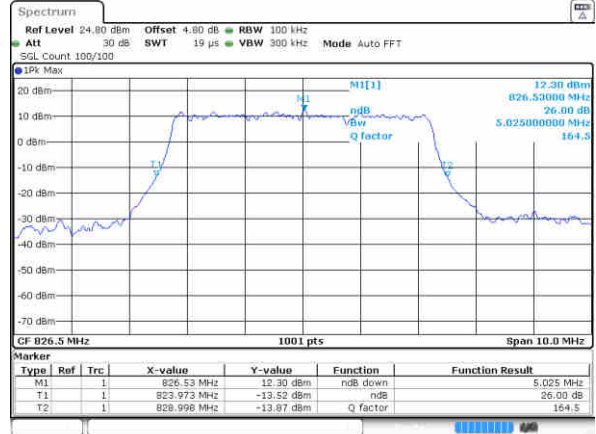
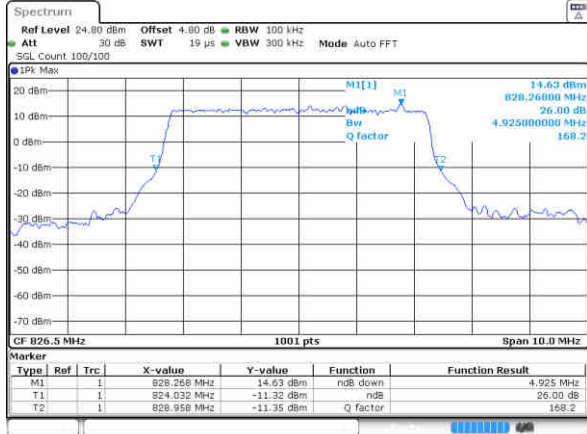
FR1 n5 / 5MHz / DFT-S OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

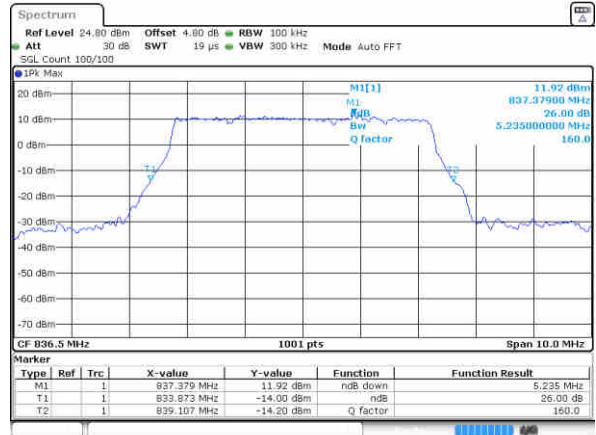
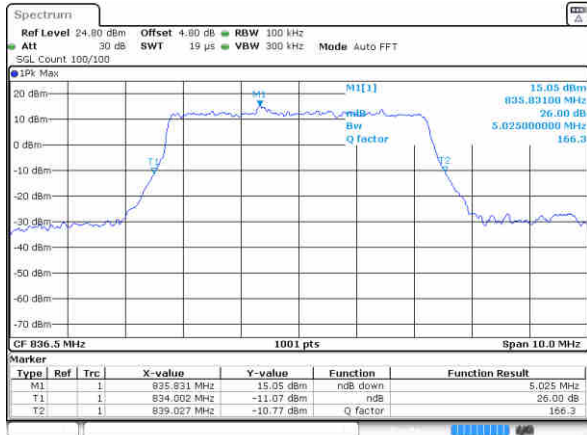


Date: 22 AUG 2020 22:19:30

Date: 22 AUG 2020 22:20:35

Middle Channel

Middle Channel

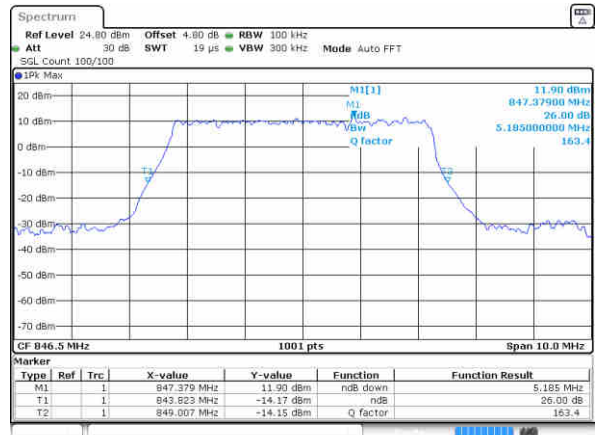
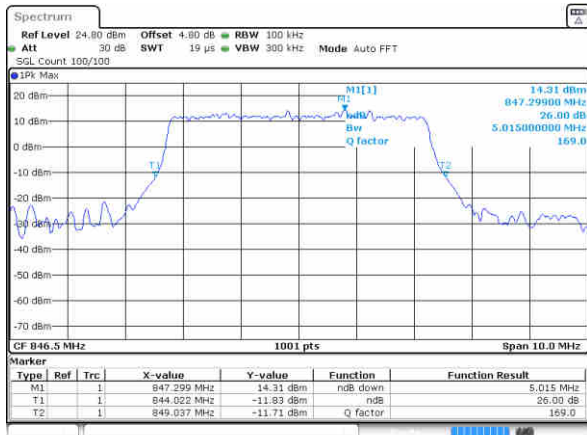


Date: 22 AUG 2020 22:43:57

Date: 22 AUG 2020 22:43:35

Highest Channel

Highest Channel



Date: 22 AUG 2020 22:49:38

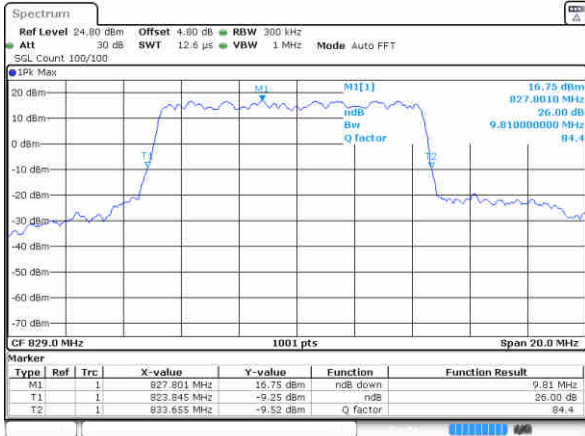
Date: 22 AUG 2020 22:50:44



FR1 n5 / 10MHz / DFT-S OFDM

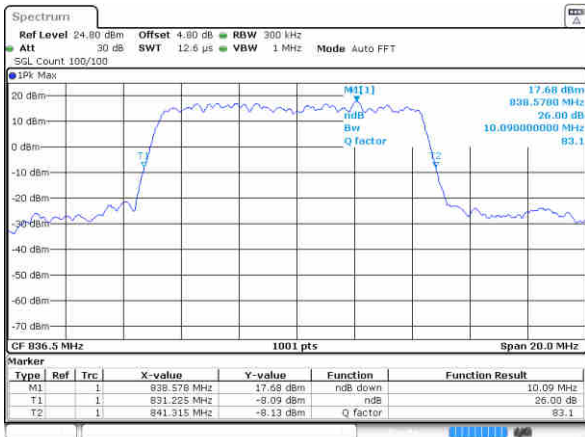
PI / BPSK

Lowest Channel



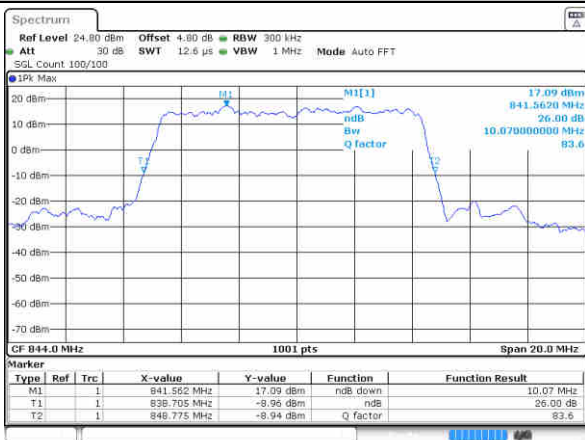
Date: 22 AUG 2020 23:08:17

Middle Channel



Date: 22 AUG 2020 23:27:11

Highest Channel



Date: 22 AUG 2020 23:27:49



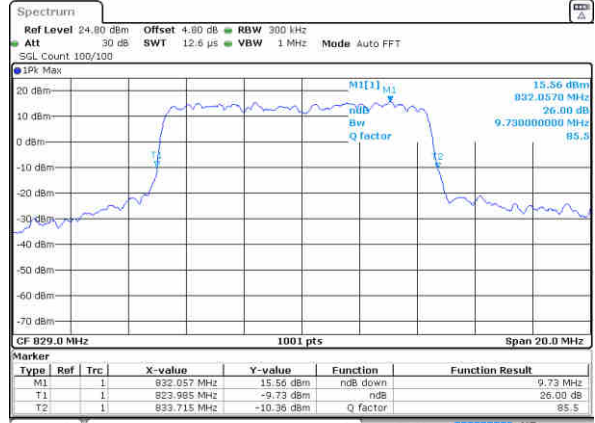
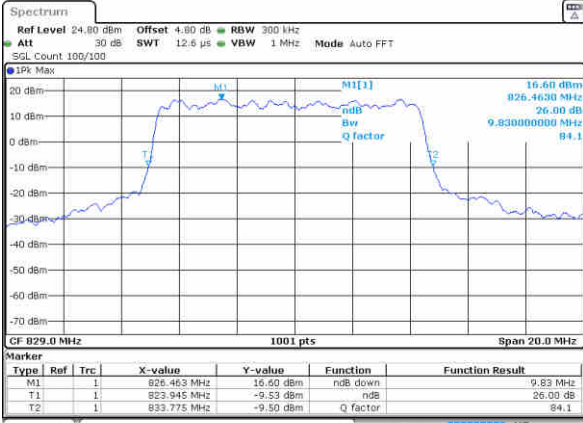
FR1 n5 / 10MHz / DFT-S OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

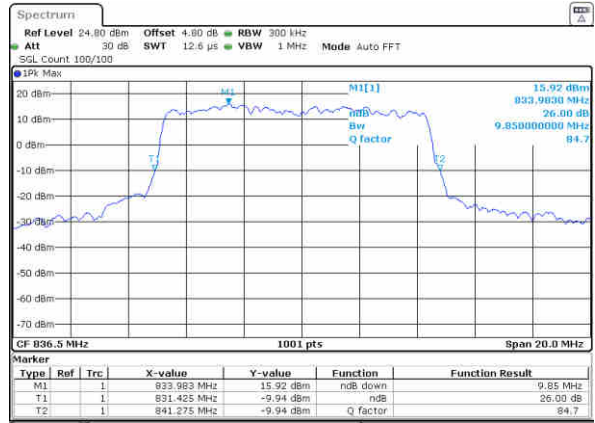
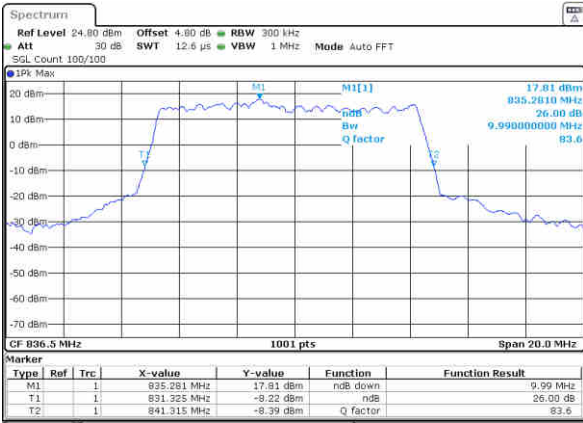


Date: 22 AUG 2020 23:09:14

Date: 22 AUG 2020 23:10:09

Middle Channel

Middle Channel

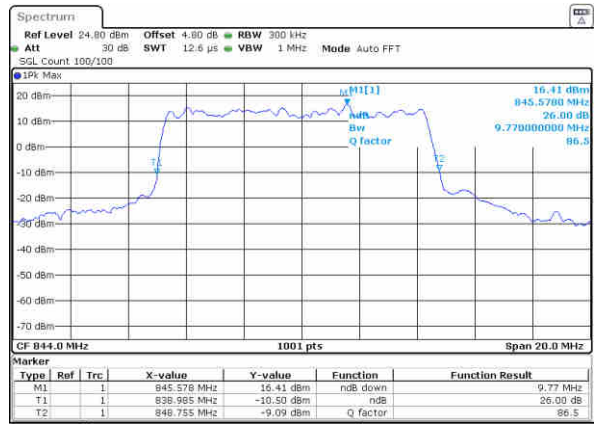
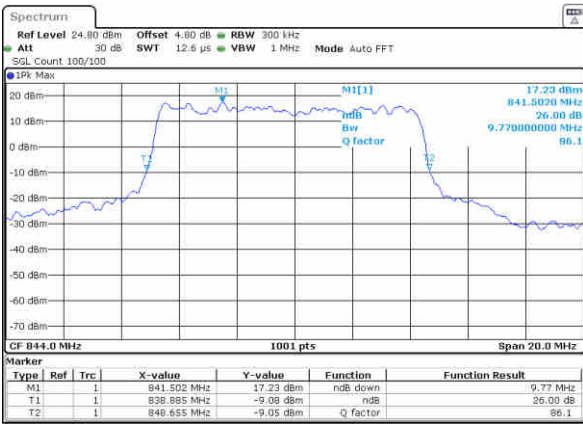


Date: 22 AUG 2020 23:26:48

Date: 22 AUG 2020 23:26:28

Highest Channel

Highest Channel



Date: 22 AUG 2020 23:29:52

Date: 22 AUG 2020 23:30:51



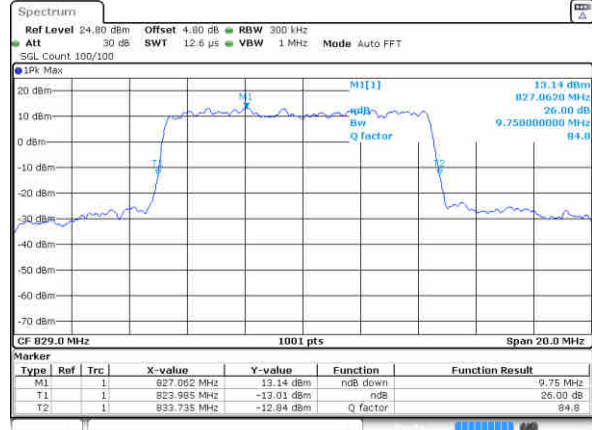
FR1 n5 / 10MHz / DFT-S OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

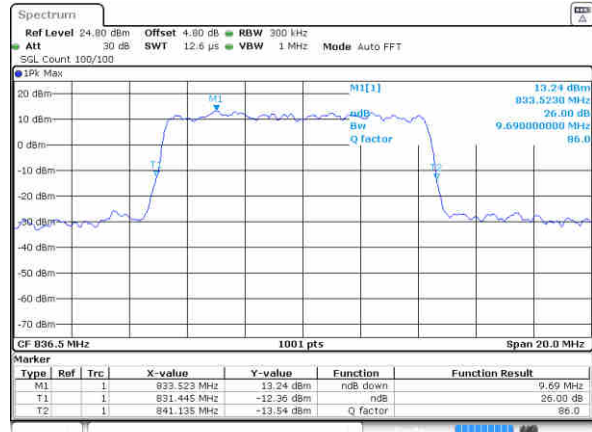


Date: 22 AUG 2020 23:11:02

Date: 22 AUG 2020 23:11:58

Middle Channel

Middle Channel

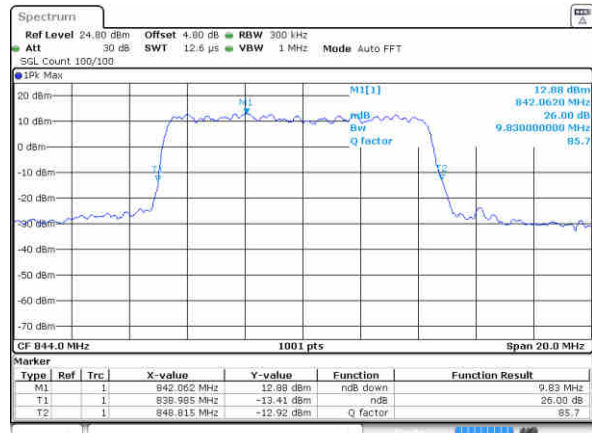
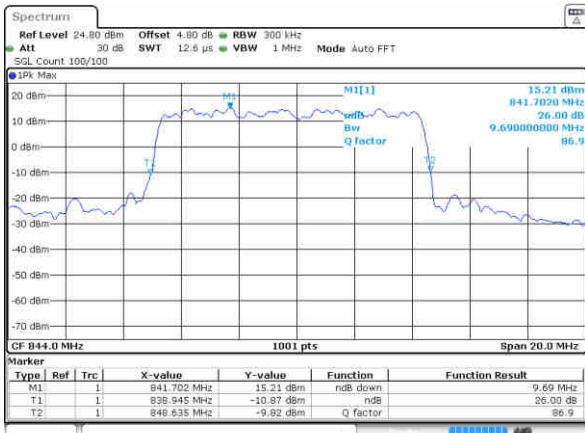


Date: 22 AUG 2020 23:26:05

Date: 22 AUG 2020 23:25:40

Highest Channel

Highest Channel



Date: 22 AUG 2020 23:31:54

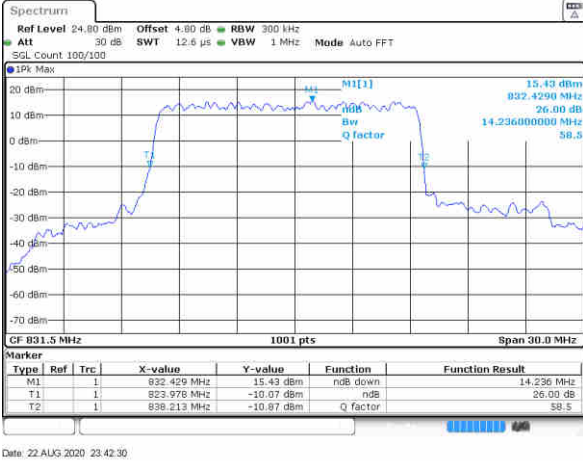
Date: 22 AUG 2020 23:32:59



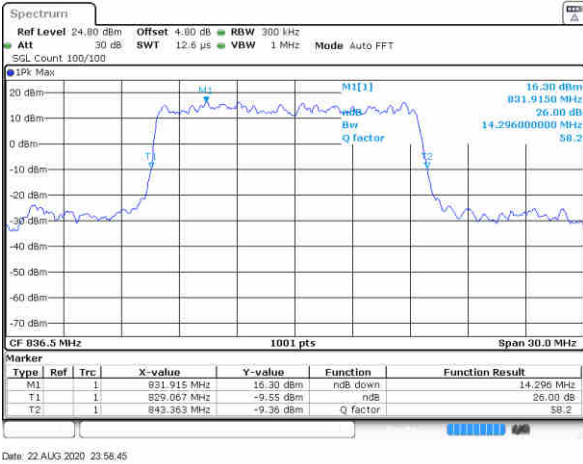
FR1 n5 / 15MHz / DFT-S OFDM

PI / BPSK

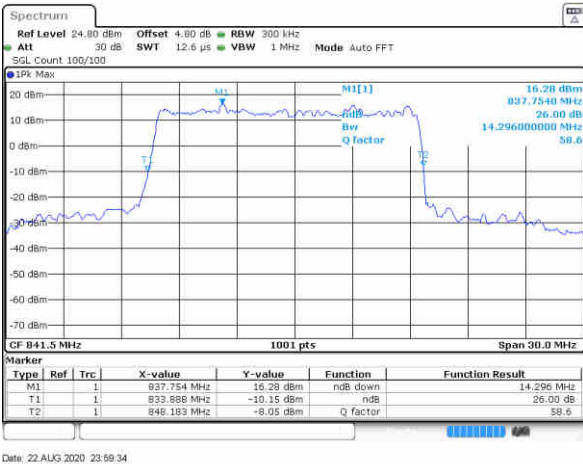
Lowest Channel



Middle Channel



Highest Channel





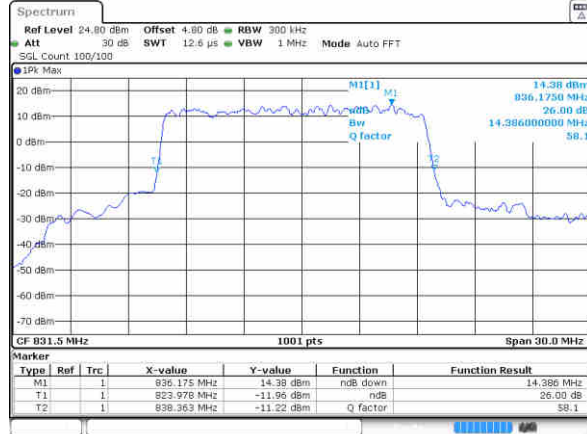
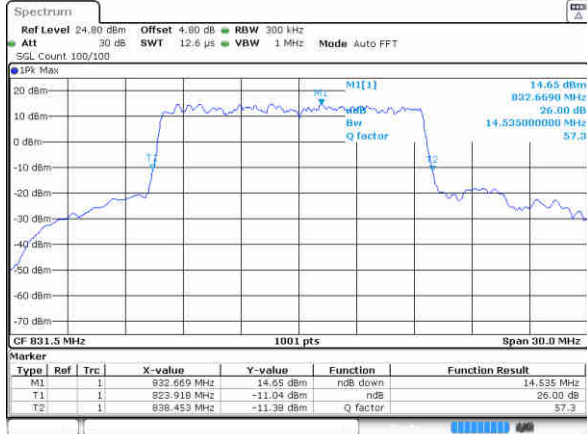
FR1 n5 / 15MHz / DFT-S OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

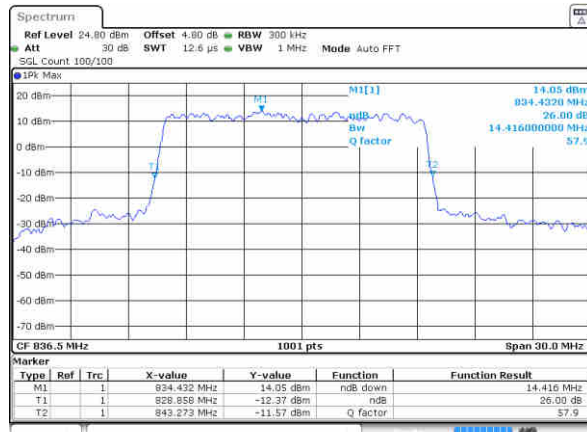
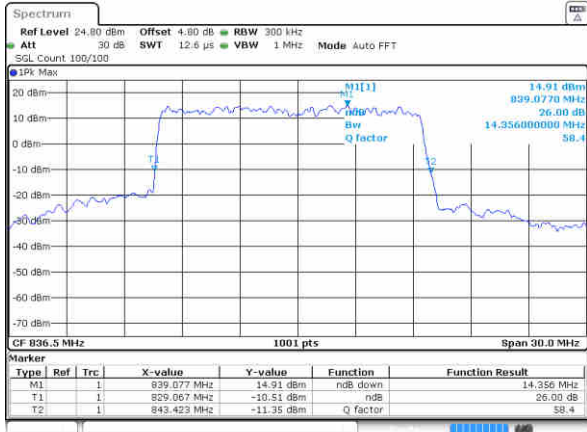


Date: 22 AUG 2020 23:43:19

Date: 22 AUG 2020 23:44:20

Middle Channel

Middle Channel

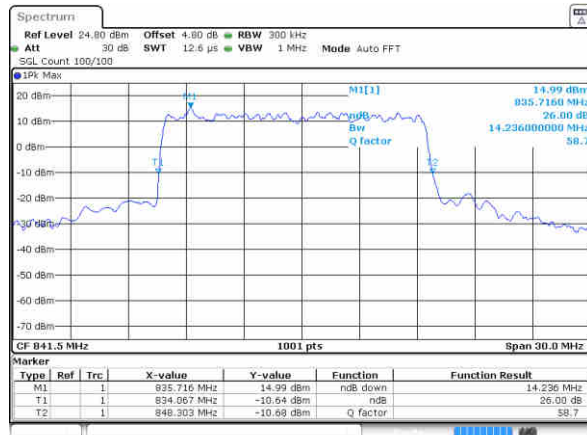
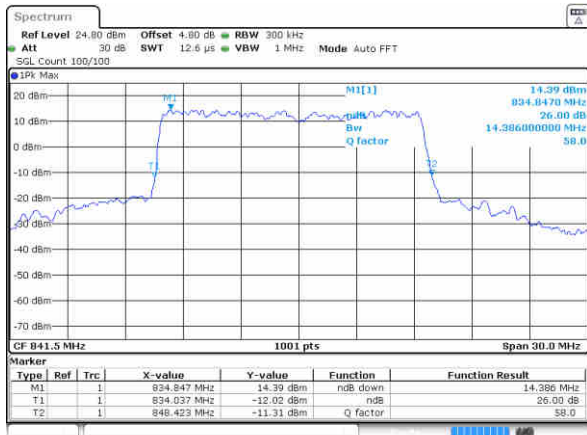


Date: 22 AUG 2020 23:58:13

Date: 22 AUG 2020 23:57:48

Highest Channel

Highest Channel



Date: 23 AUG 2020 00:00:31

Date: 23 AUG 2020 00:01:29





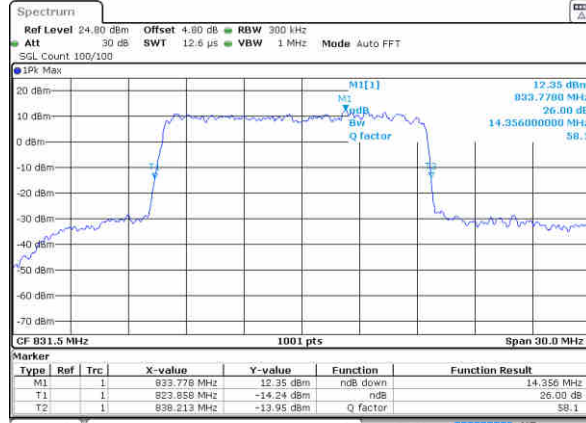
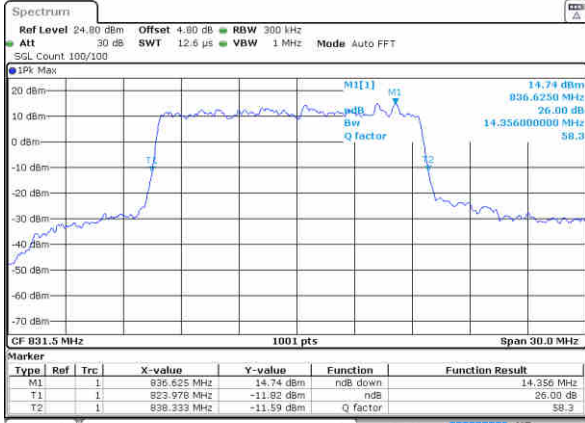
FR1 n5 / 15MHz / DFT-S OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

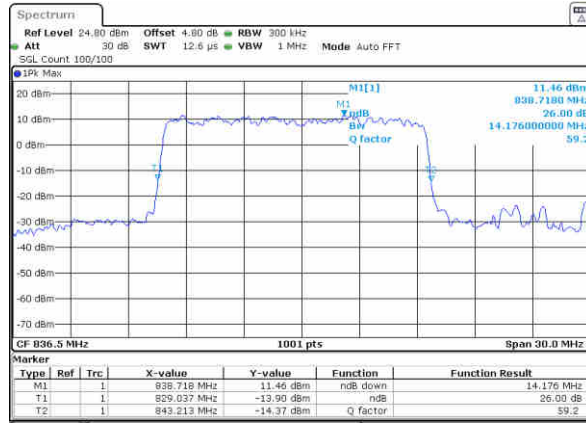
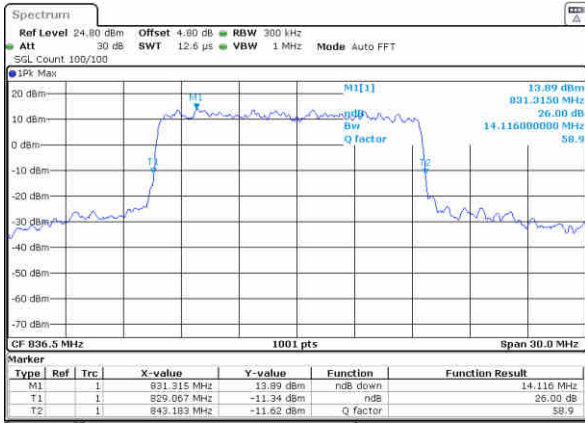


Date: 22 AUG 2020 23:45:10

Date: 22 AUG 2020 23:46:04

Middle Channel

Middle Channel

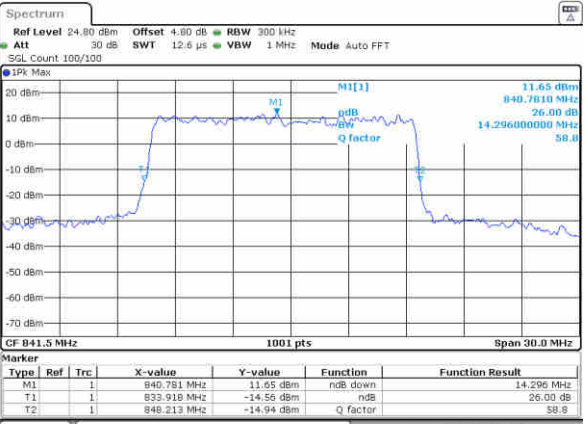
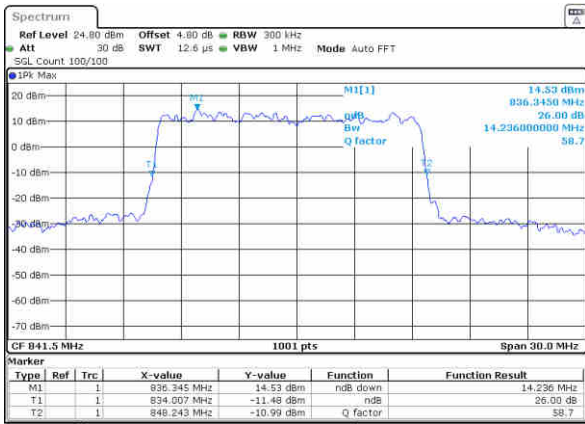


Date: 22 AUG 2020 23:57:22

Date: 22 AUG 2020 23:56:56

Highest Channel

Highest Channel



Date: 23 AUG 2020 00:02:36

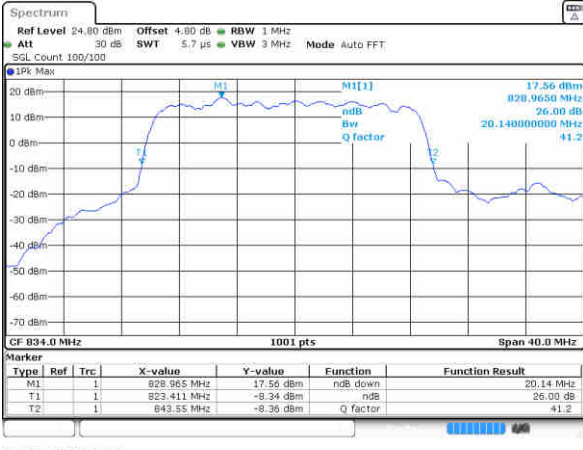
Date: 23 AUG 2020 00:03:34



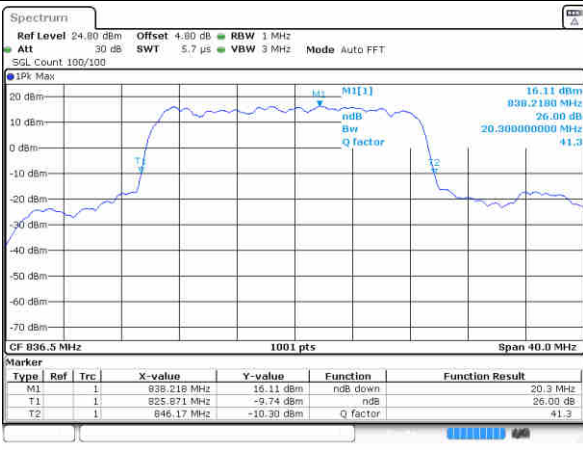
FR1 n5 / 20MHz / DFT-S OFDM

PI / BPSK

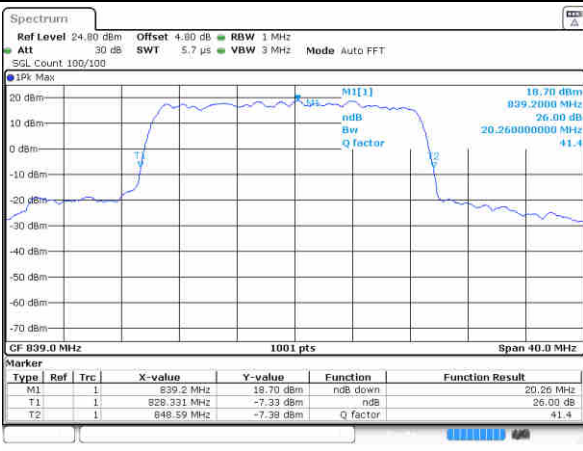
Lowest Channel



Middle Channel



Highest Channel





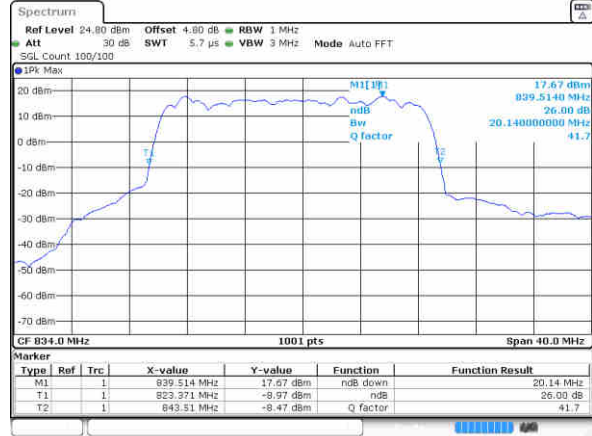
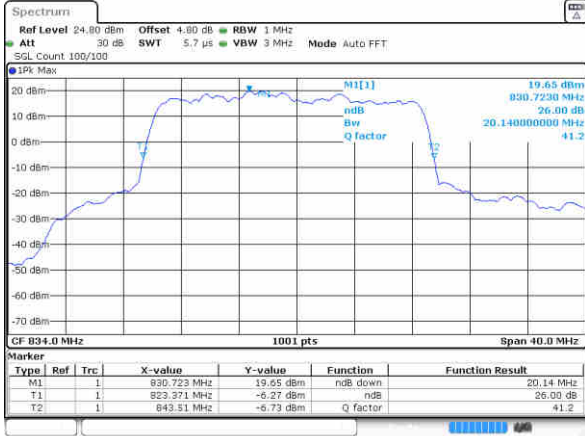
FR1 n5 / 20MHz / DFT-S OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

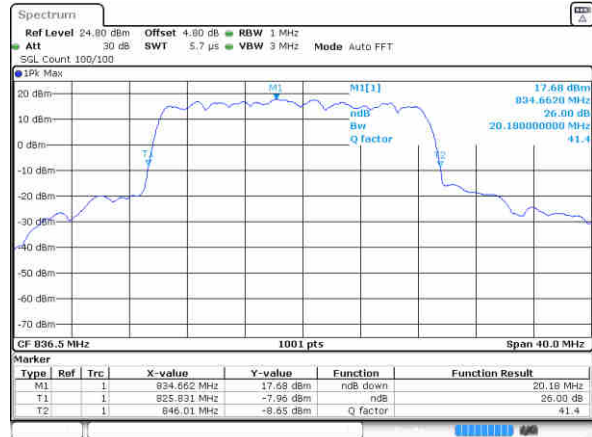
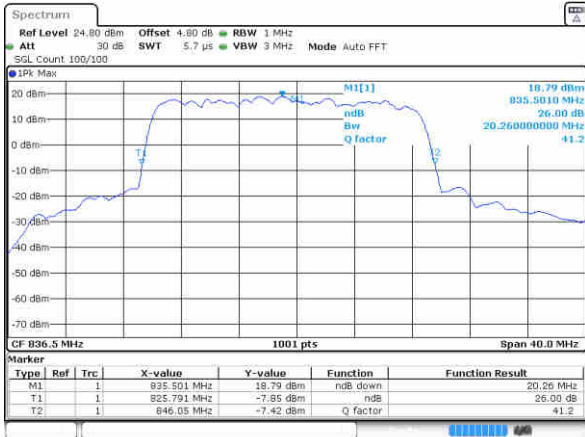


Date: 23 AUG 2020 01:02:44

Date: 23 AUG 2020 01:03:15

Middle Channel

Middle Channel

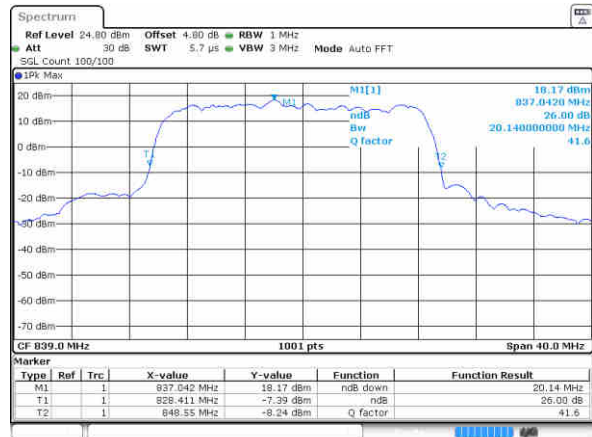
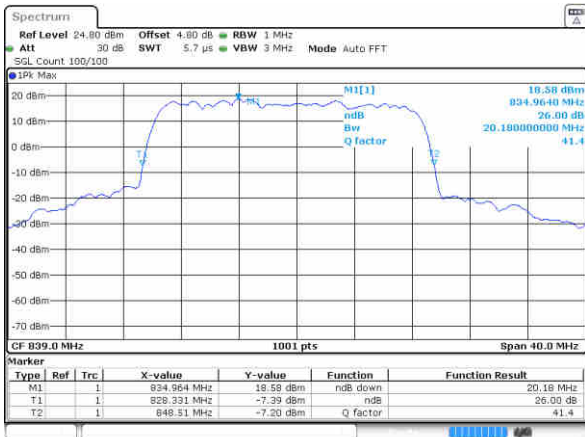


Date: 23 AUG 2020 01:20:51

Date: 23 AUG 2020 01:20:20

Highest Channel

Highest Channel



Date: 23 AUG 2020 01:38:21

Date: 23 AUG 2020 01:37:44



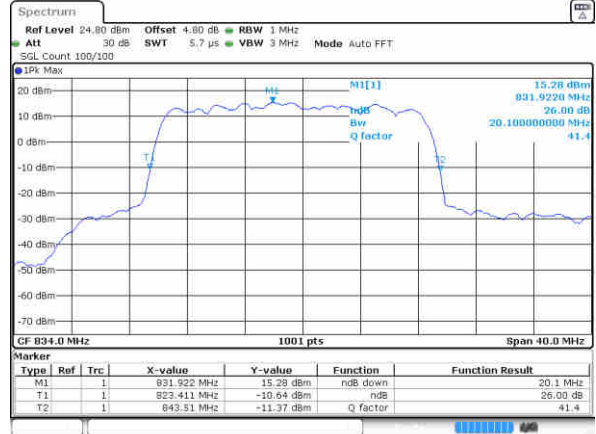
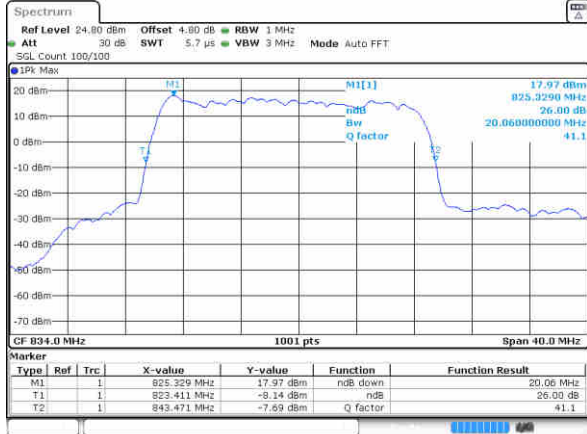
FR1 n5 / 20MHz / DFT-S OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

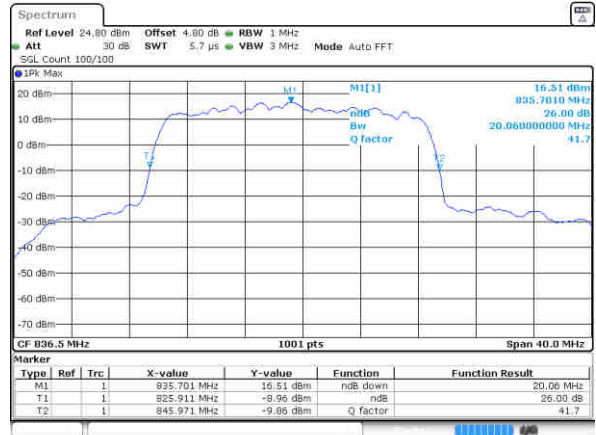
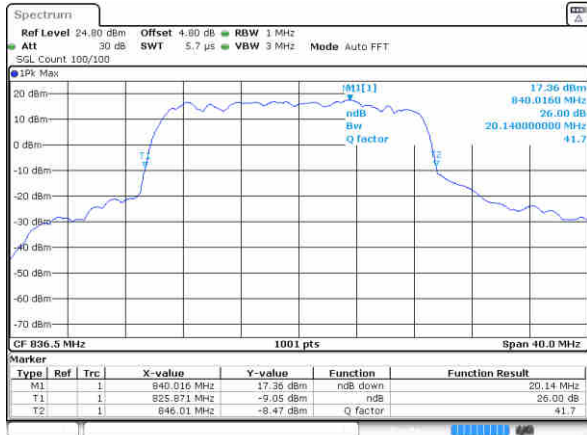


Date: 23 AUG 2020 01:03:48

Date: 23 AUG 2020 01:07:09

Middle Channel

Middle Channel

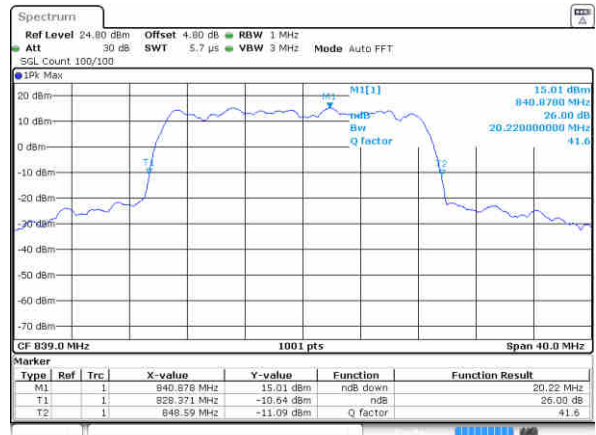
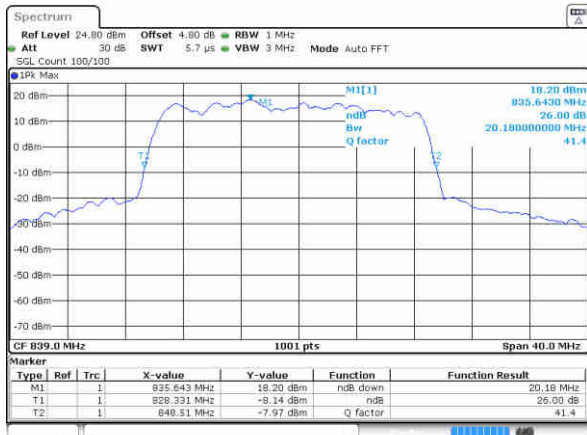


Date: 23 AUG 2020 01:19:48

Date: 23 AUG 2020 01:19:18

Highest Channel

Highest Channel



Date: 23 AUG 2020 01:37:14

Date: 23 AUG 2020 01:36:45



Occupied Bandwidth

Mode	FR1 n5 : 99%OBW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	PI / BPSK		PI / BPSK		PI / BPSK		PI / BPSK	
Lowest CH	4.48		9.11		13.46		18.54	
Middle CH	4.47		9.03		13.46		18.58	
Highest CH	4.47		9.05		13.49		18.46	

Mode	FR1 n5 : 99%OBW (MHz) / DFT-S OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	4.48	4.47	9.09	9.05	13.52	13.46	18.26	18.18
Middle CH	4.48	4.50	9.05	9.03	13.46	13.49	18.34	18.30
Highest CH	4.49	4.47	9.03	9.03	13.52	13.49	18.18	18.50

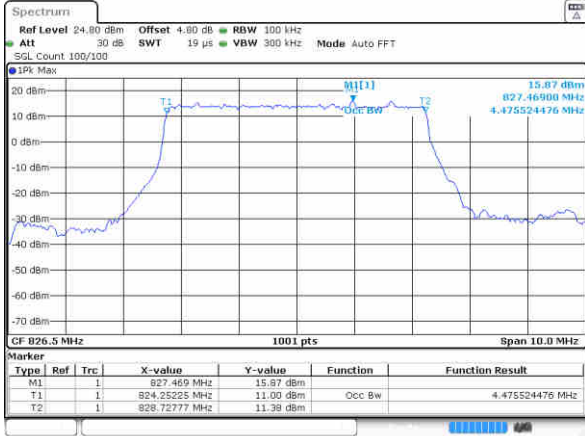
Mode	FR1 n5 : 99%OBW (MHz) / DFT-S OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	4.48	4.48	9.01	9.03	13.46	13.49	18.42	18.14
Middle CH	4.48	4.48	9.03	9.03	13.43	13.46	18.26	18.34
Highest CH	4.47	4.52	9.05	9.07	13.49	13.49	18.34	18.34



FR1 n5 / 5MHz / DFT-S OFDM

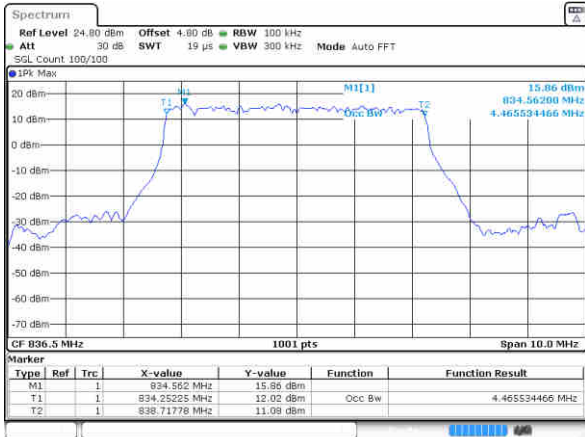
PI / BPSK

Lowest Channel



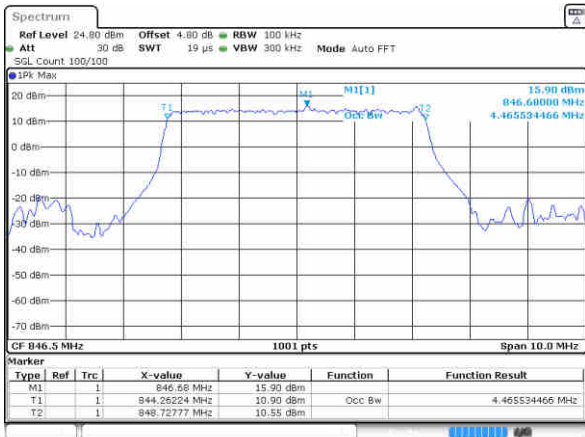
Date: 22 AUG 2020 22:10:56

Middle Channel



Date: 22 AUG 2020 22:45:05

Highest Channel



Date: 22 AUG 2020 22:46:12



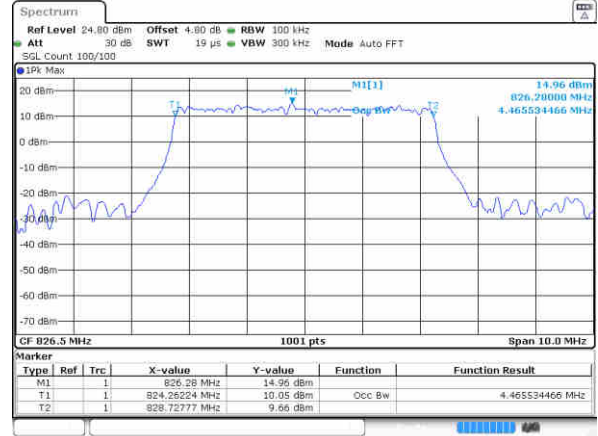
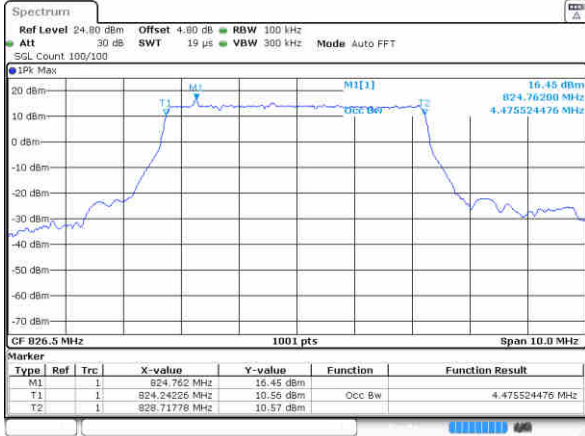
FR1 n5 / 5MHz / DFT-S OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

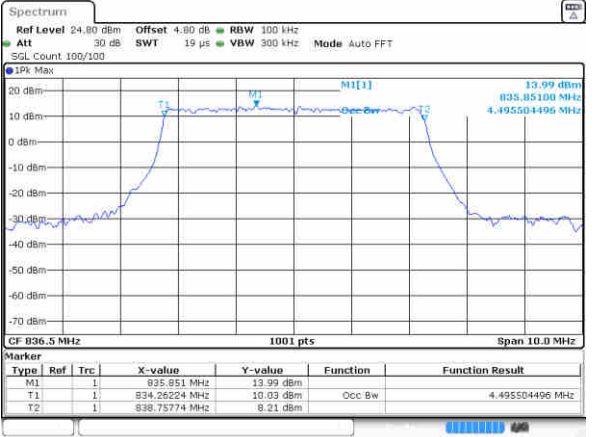
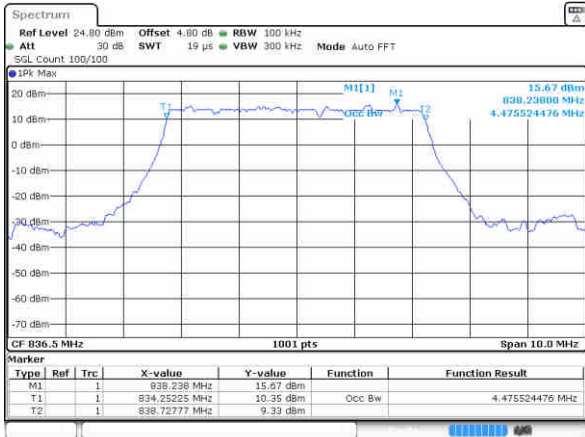


Date: 22 AUG 2020 22:16:53

Date: 22 AUG 2020 22:18:02

Middle Channel

Middle Channel

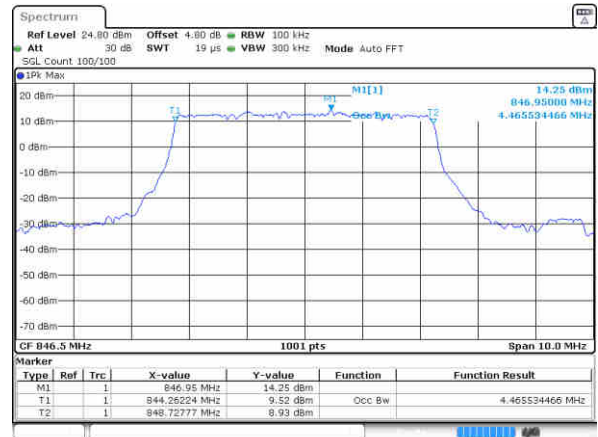
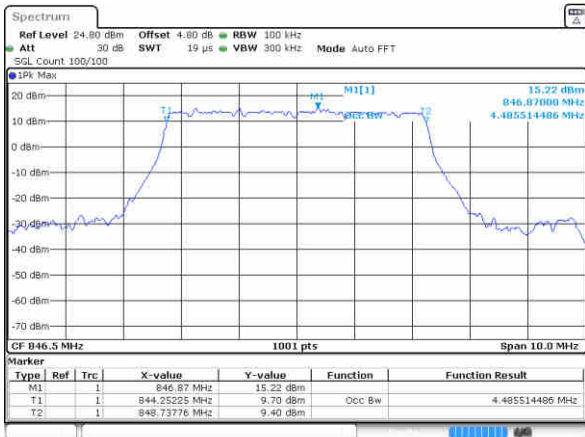


Date: 22 AUG 2020 22:44:38

Date: 22 AUG 2020 22:44:15

Highest Channel

Highest Channel



Date: 22 AUG 2020 22:47:21

Date: 22 AUG 2020 22:48:27



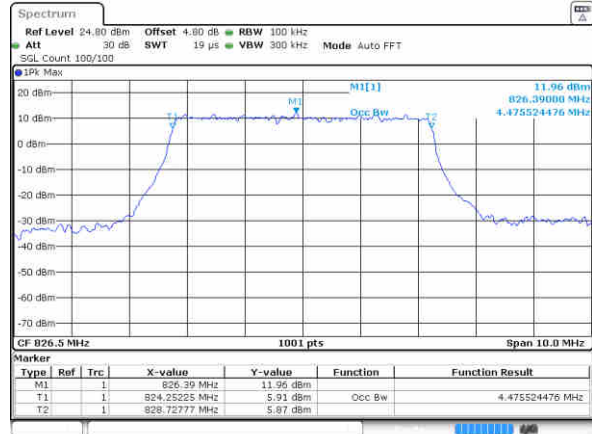
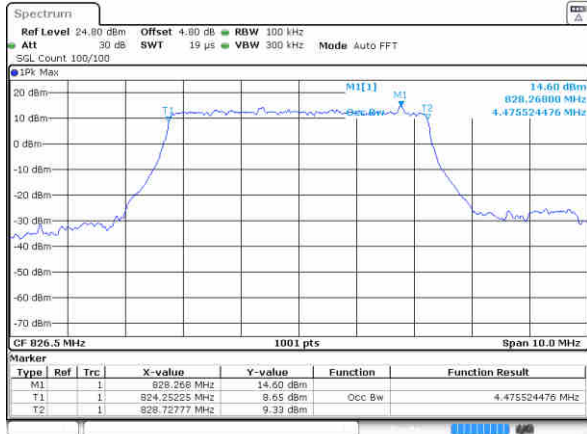
FR1 n5 / 5MHz / DFT-S OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

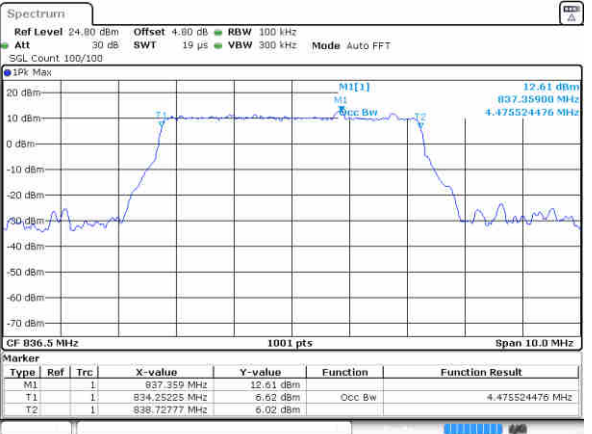
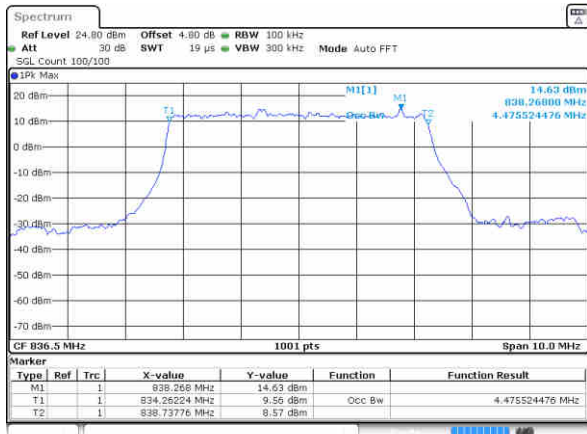


Date: 22 AUG 2020 22:19:19

Date: 22 AUG 2020 22:20:27

Middle Channel

Middle Channel

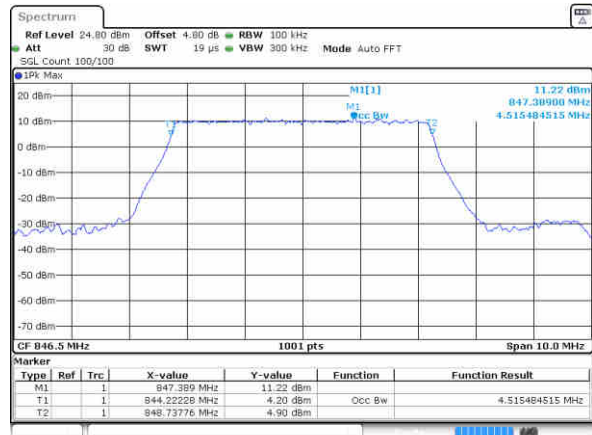
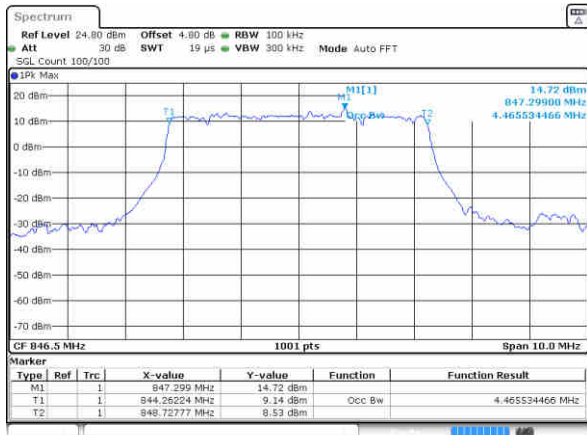


Date: 22 AUG 2020 22:43:50

Date: 22 AUG 2020 22:43:27

Highest Channel

Highest Channel



Date: 22 AUG 2020 22:49:31

Date: 22 AUG 2020 22:50:36

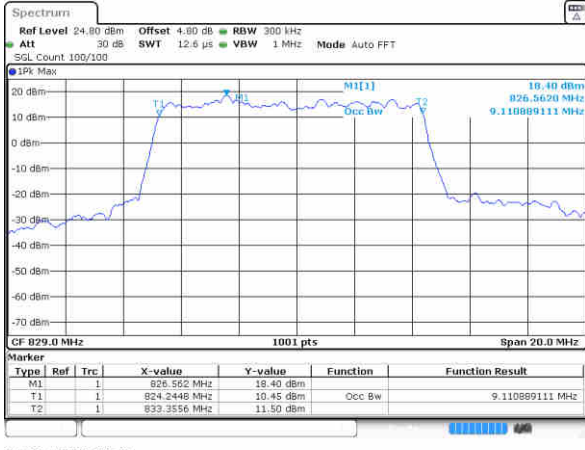




FR1 n5 / 10MHz / DFT-S OFDM

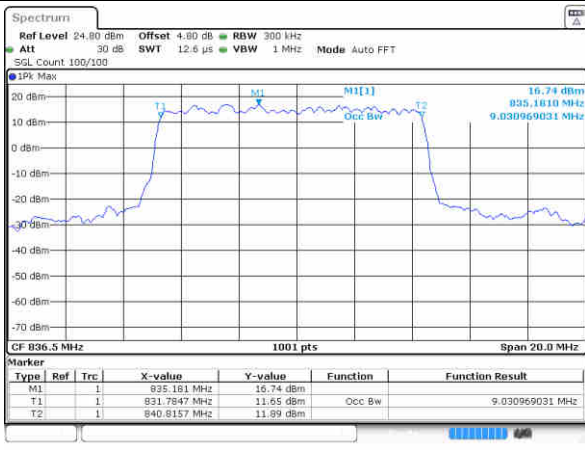
PI / BPSK

Lowest Channel



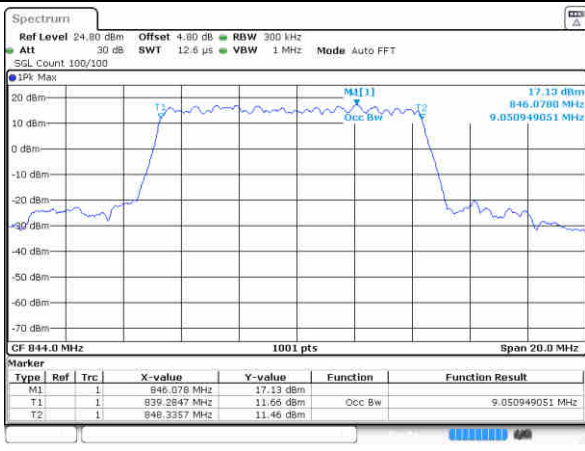
Date: 22 AUG 2020 23:08:07

Middle Channel



Date: 22 AUG 2020 23:27:03

Highest Channel



Date: 22 AUG 2020 23:27:41



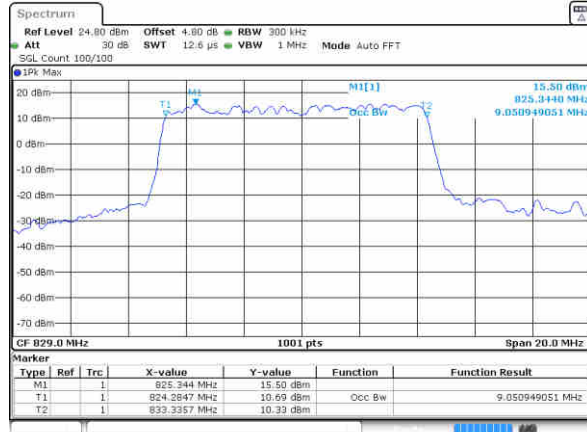
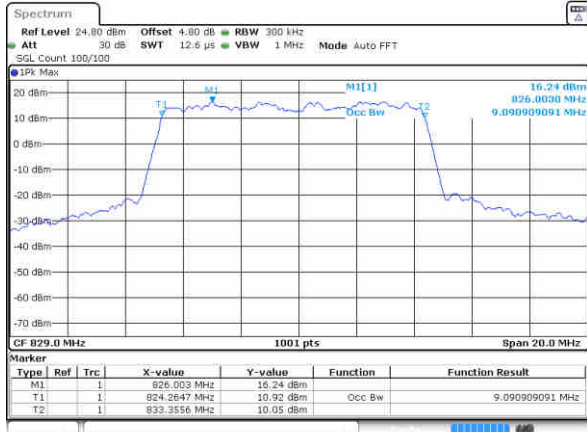
FR1 n5 / 10MHz / DFT-S OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

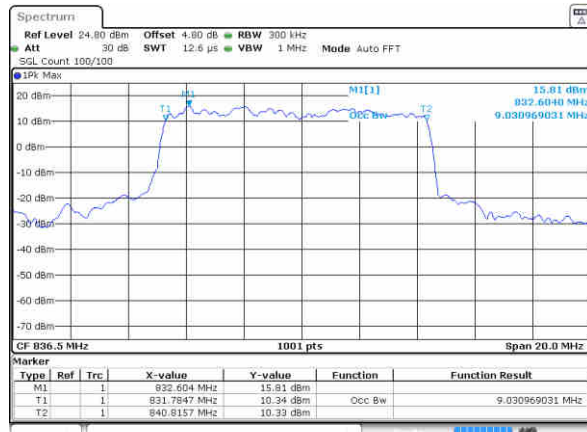
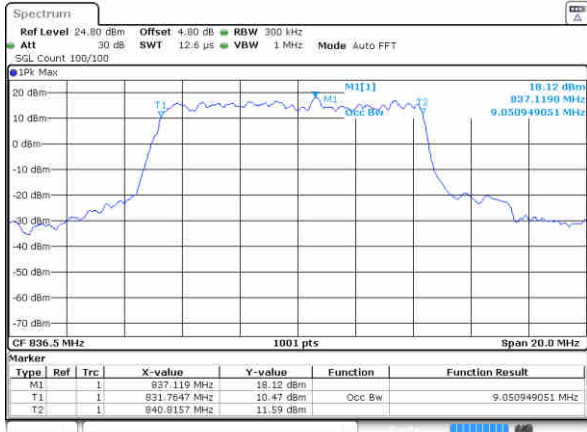


Date: 22 AUG 2020 23:09:05

Date: 22 AUG 2020 23:10:01

Middle Channel

Middle Channel

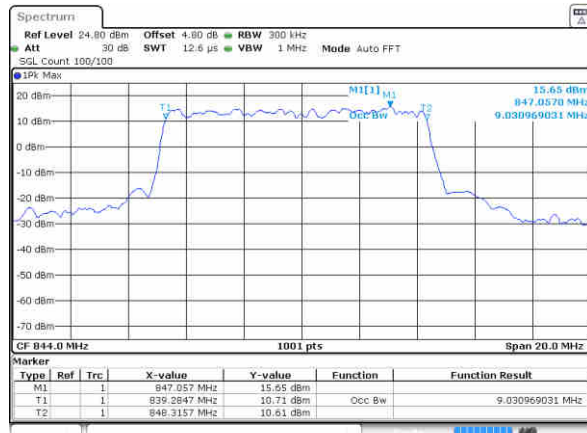
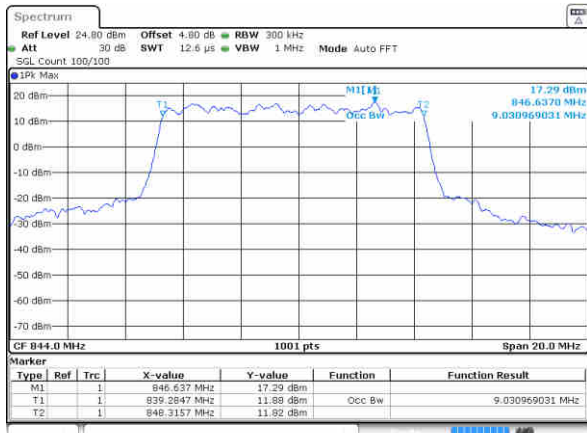


Date: 22 AUG 2020 23:26:41

Date: 22 AUG 2020 23:26:18

Highest Channel

Highest Channel



Date: 22 AUG 2020 23:29:45

Date: 22 AUG 2020 23:30:43



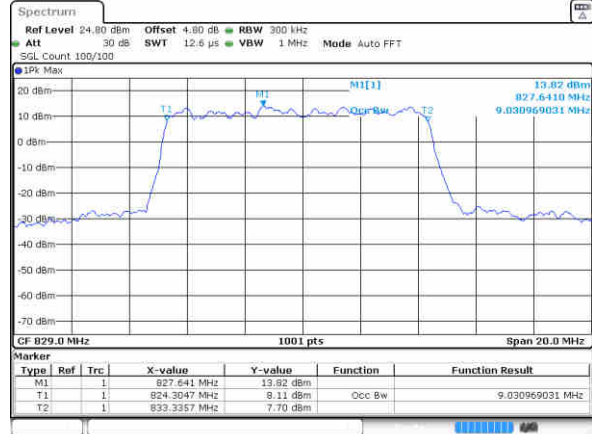
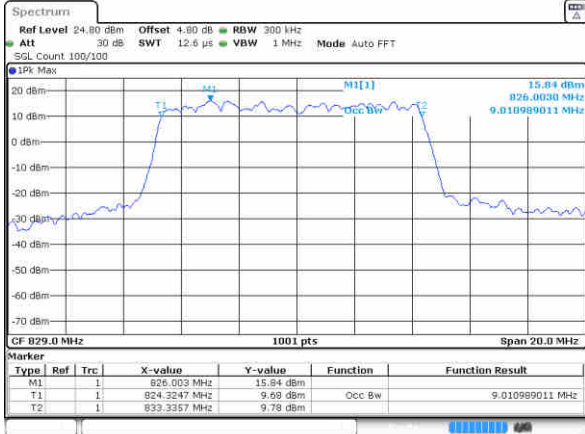
FR1 n5 / 10MHz / DFT-S OFDM

64QAM

256QAM

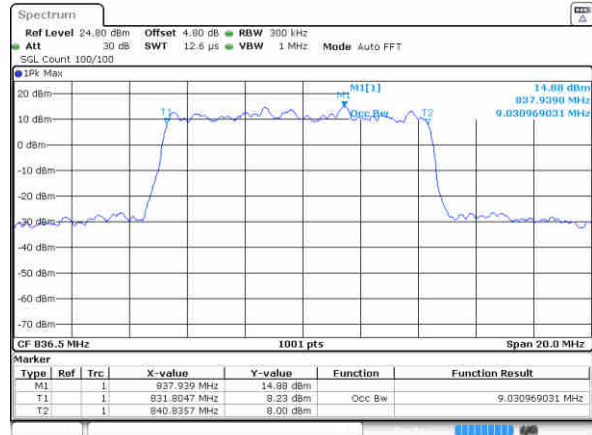
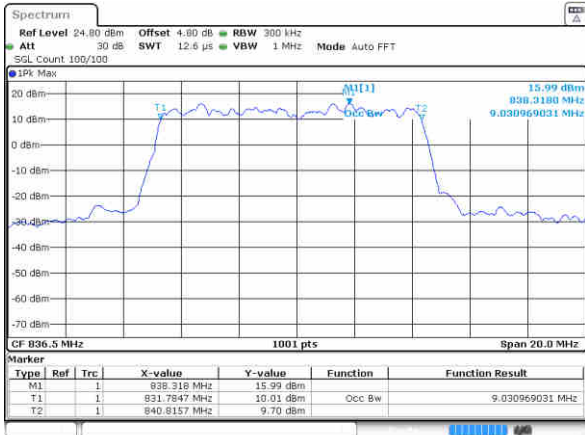
Lowest Channel

Lowest Channel



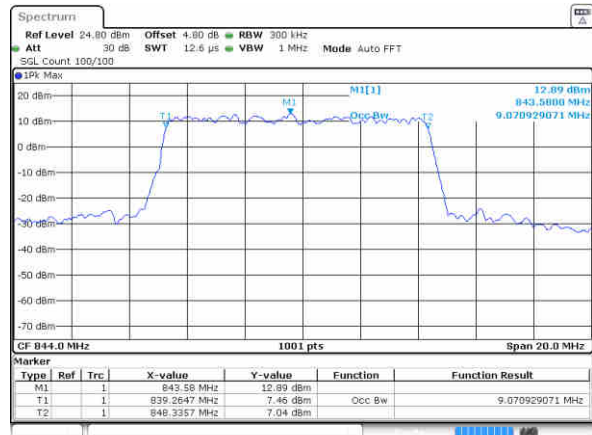
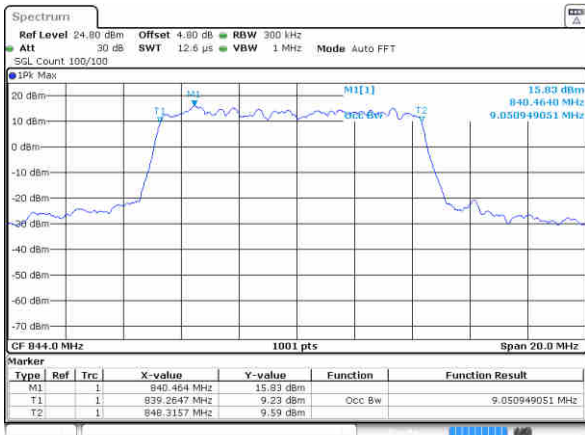
Middle Channel

Middle Channel



Highest Channel

Highest Channel

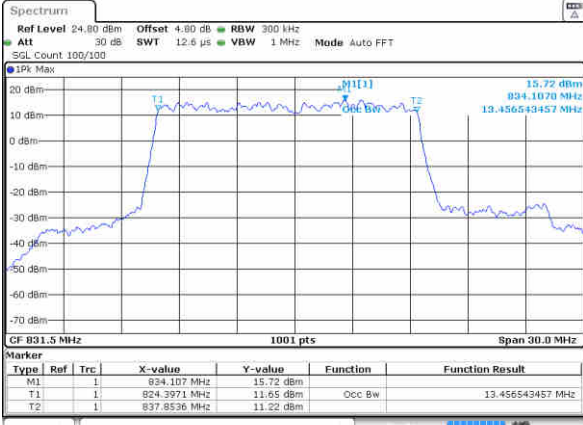




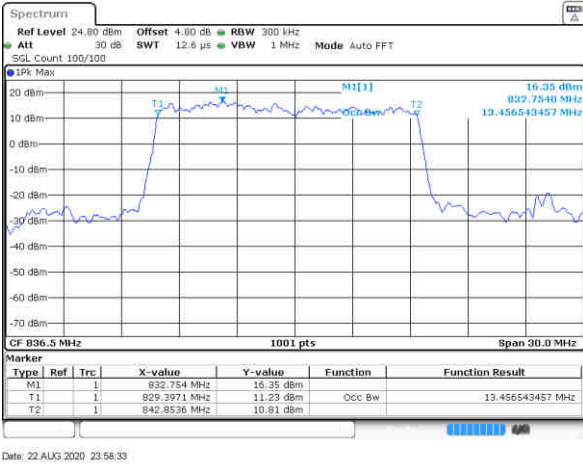
FR1 n5 / 15MHz / DFT-S OFDM

PI / BPSK

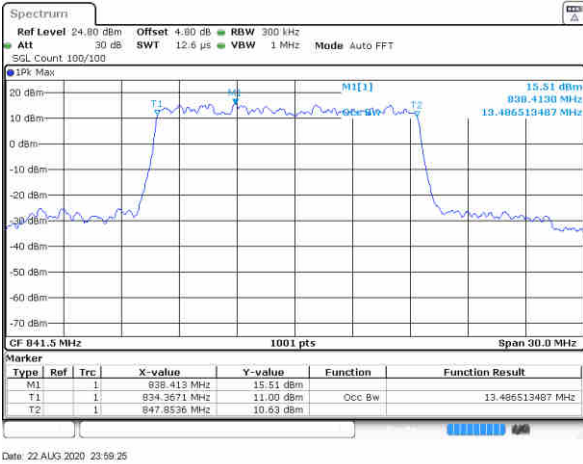
Lowest Channel



Middle Channel



Highest Channel





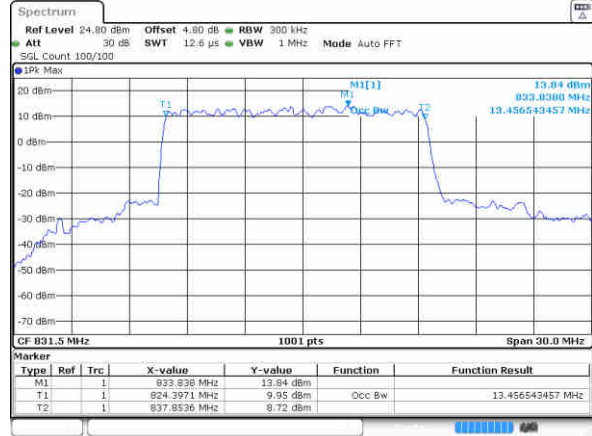
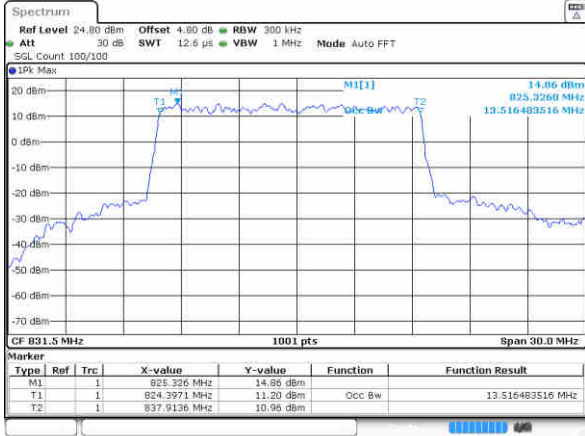
FR1 n5 / 15MHz / DFT-S OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

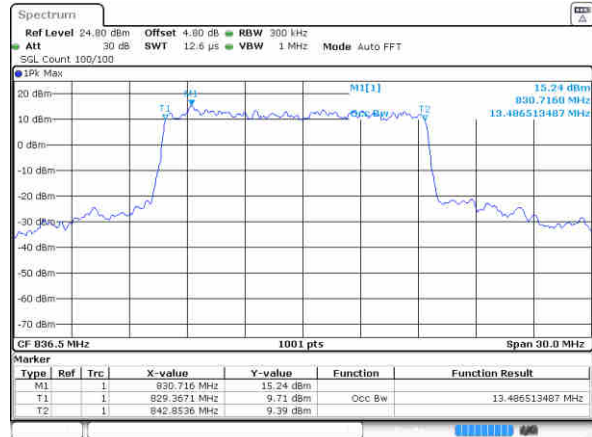
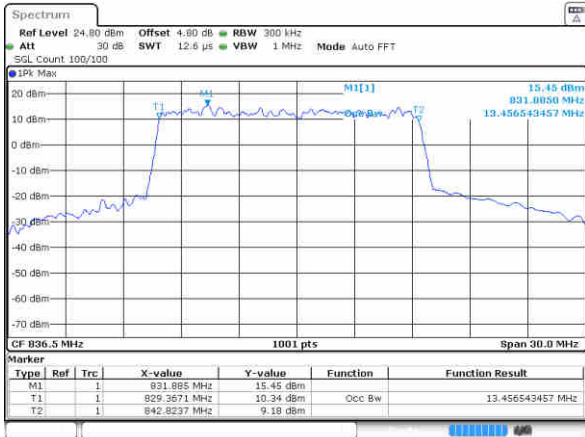


Date: 22 AUG 2020 23:43:12

Date: 22 AUG 2020 23:44:13

Middle Channel

Middle Channel

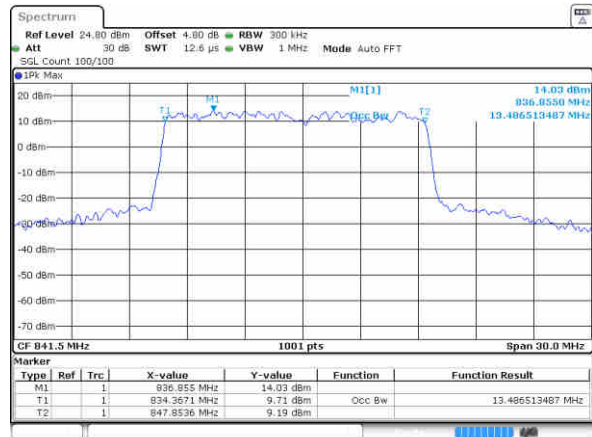
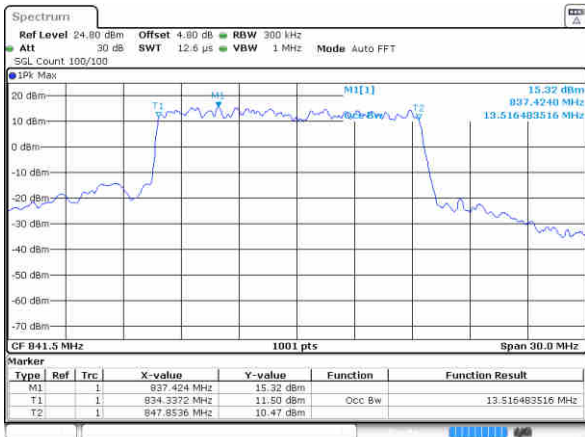


Date: 22 AUG 2020 23:58:03

Date: 22 AUG 2020 23:57:38

Highest Channel

Highest Channel



Date: 23 AUG 2020 00:00:23

Date: 23 AUG 2020 00:01:21



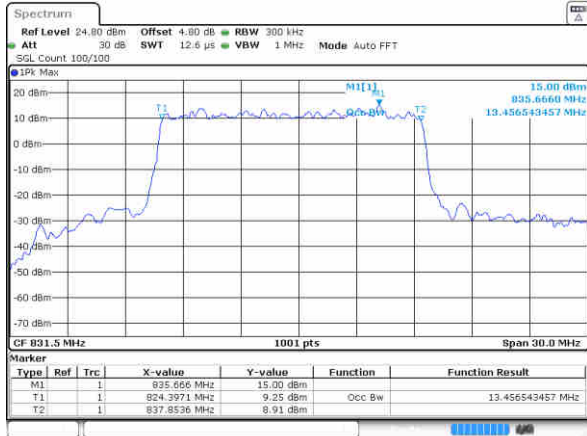
FR1 n5 / 15MHz / DFT-S OFDM

64QAM

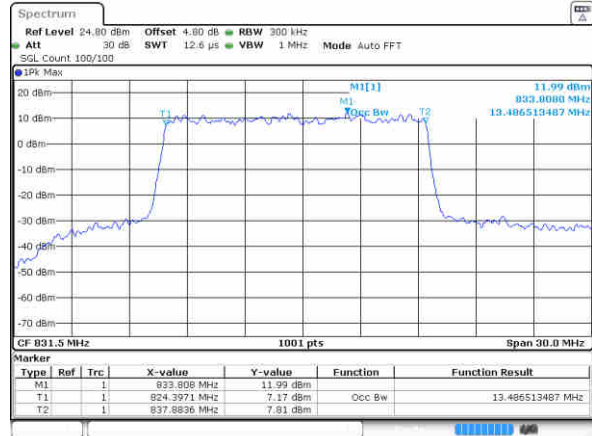
256QAM

Lowest Channel

Lowest Channel



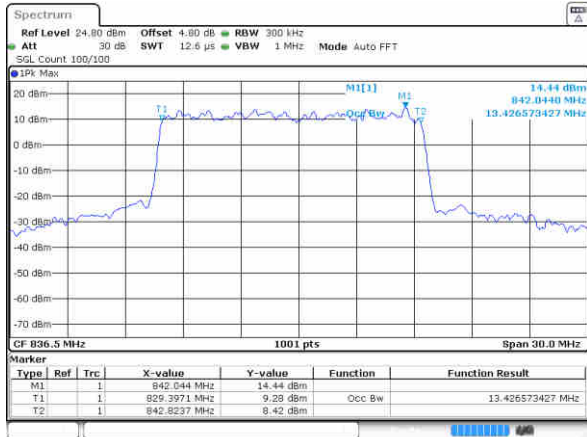
Date: 22 AUG 2020 23:45:03



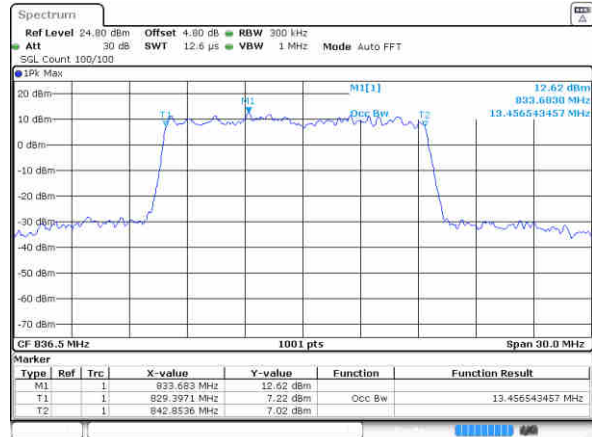
Date: 22 AUG 2020 23:45:57

Middle Channel

Middle Channel



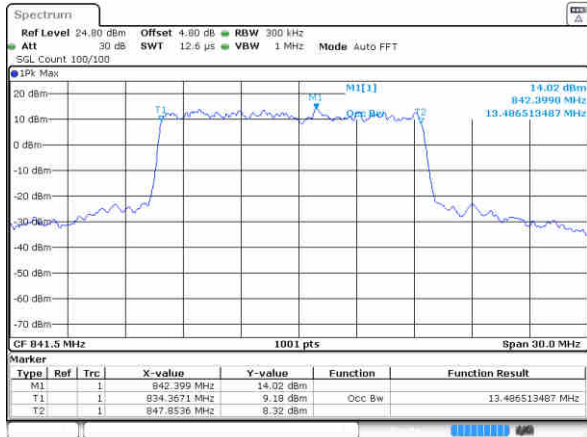
Date: 22 AUG 2020 23:57:13



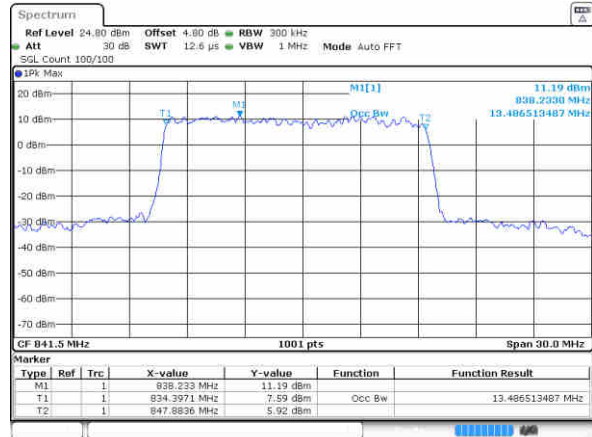
Date: 22 AUG 2020 23:56:47

Highest Channel

Highest Channel



Date: 23 AUG 2020 00:02:29



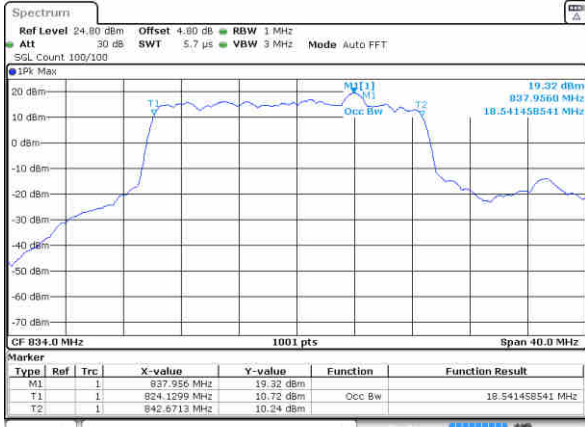
Date: 23 AUG 2020 00:03:28



FR1 n5 / 20MHz / DFT-S OFDM

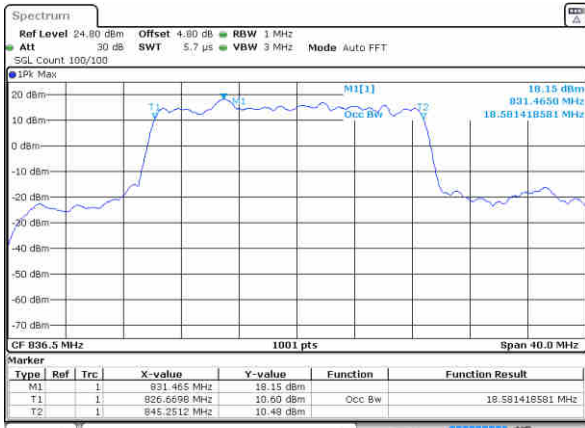
PI / BPSK

Lowest Channel



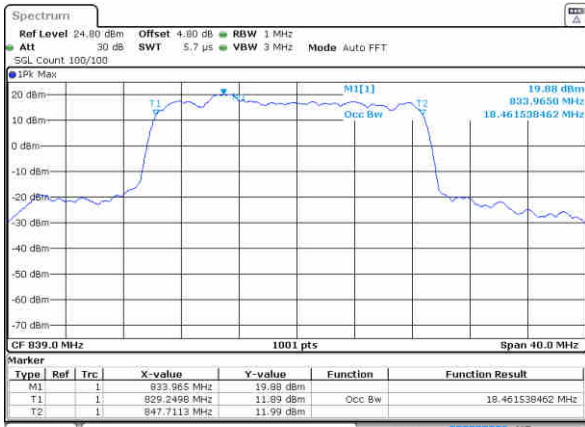
Date: 23 AUG 2020 01:01:14

Middle Channel



Date: 23 AUG 2020 01:21:20

Highest Channel



Date: 23 AUG 2020 01:38:58