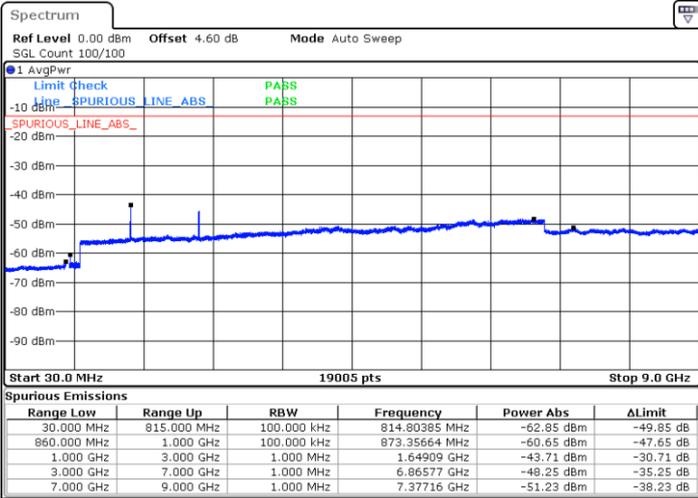




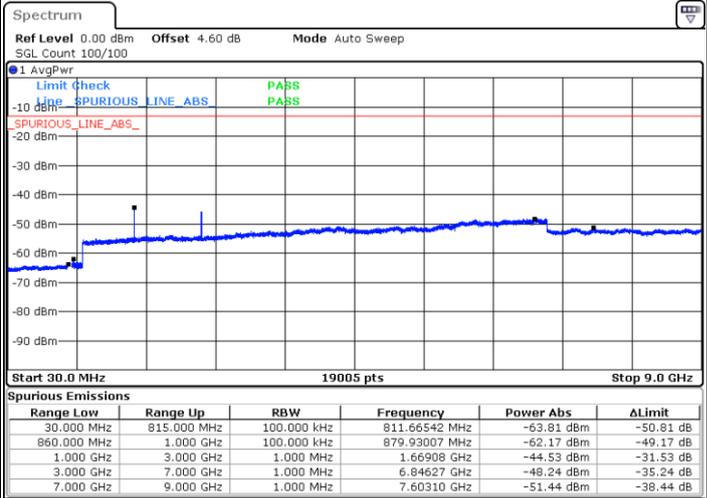
FR1 n5 / 5MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB0

Middle Channel / 1RB0

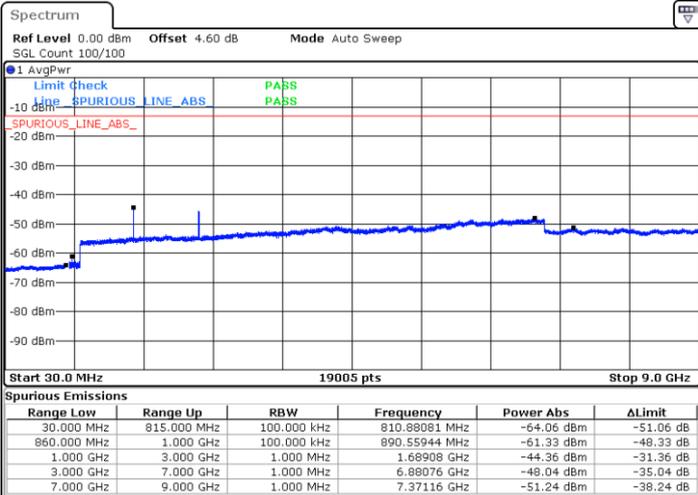


Date: 16.NOV.2020 15:08:05



Date: 16.NOV.2020 15:11:21

Highest Channel / 1RB0



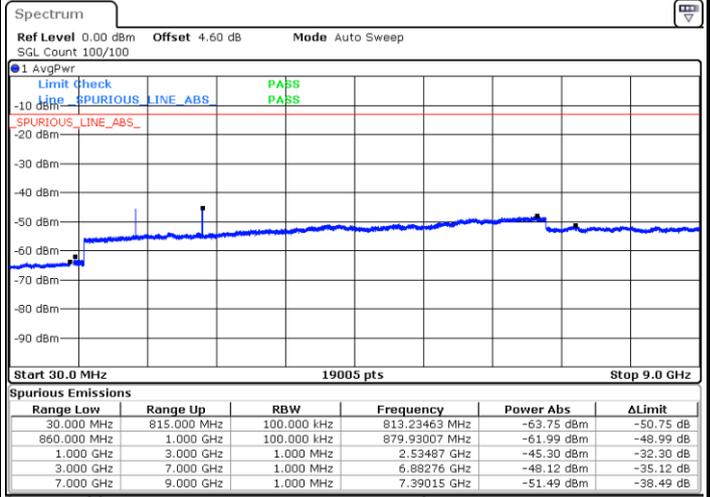
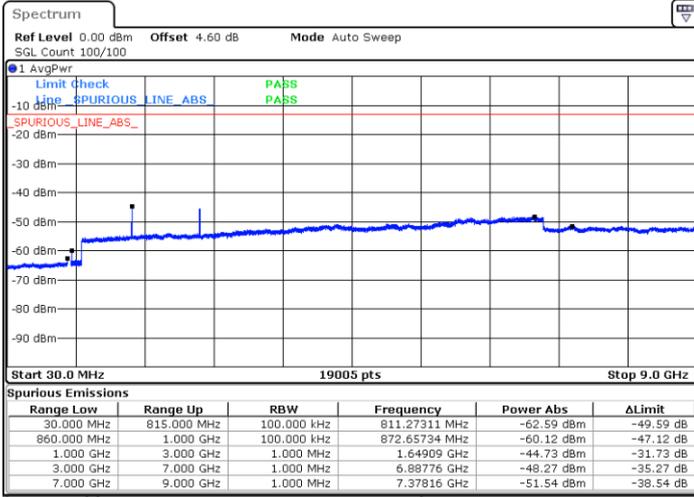
Date: 16.NOV.2020 15:35:07



FR1 n5 / 5MHz / DFT-S OFDM / 16QAM

Lowest Channel / 1RB0

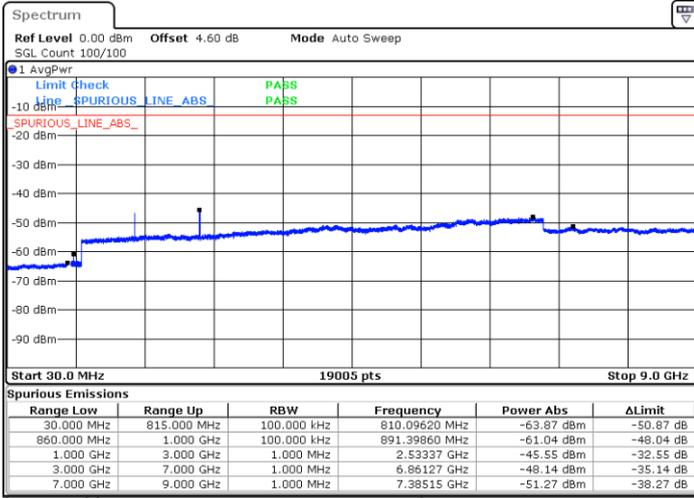
Middle Channel / 1RB0



Date: 16.NOV.2020 15:07:17

Date: 16.NOV.2020 15:12:20

Highest Channel / 1RB0



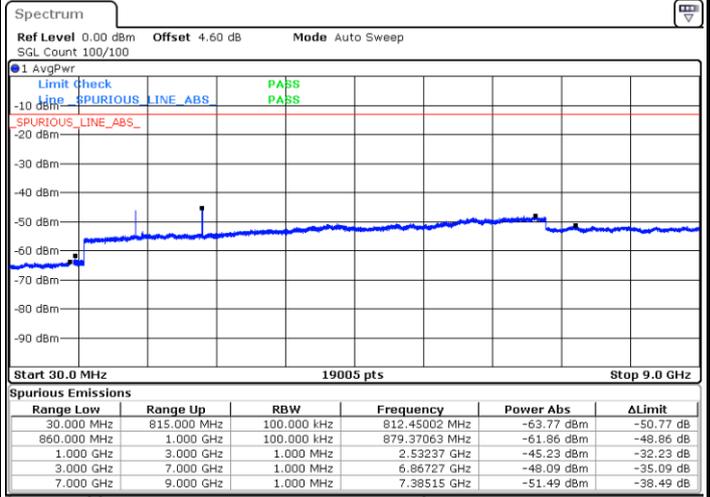
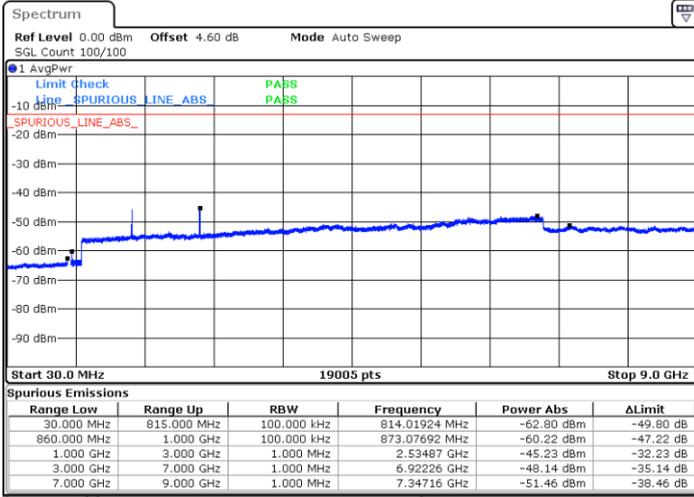
Date: 16.NOV.2020 15:34:13



FR1 n5 / 5MHz / DFT-S OFDM / 64QAM

Lowest Channel / 1RB0

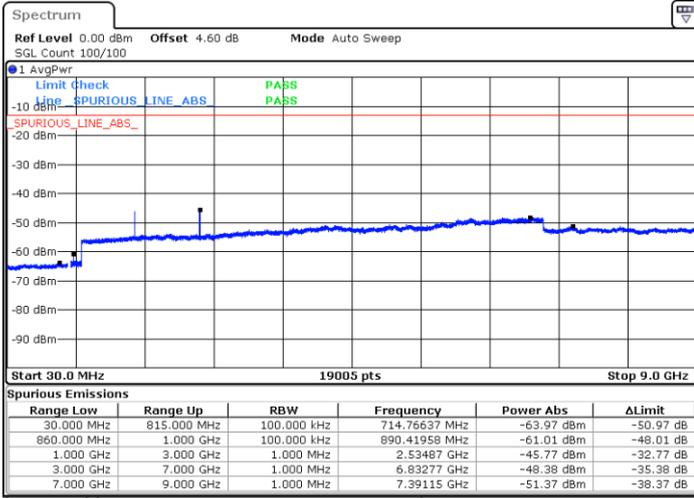
Middle Channel / 1RB0



Date: 16.NOV.2020 15:06:27

Date: 16.NOV.2020 15:13:06

Highest Channel / 1RB0



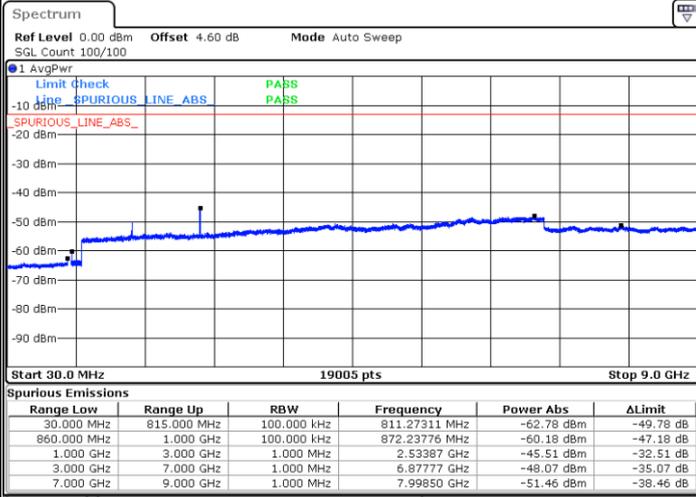
Date: 16.NOV.2020 15:33:20



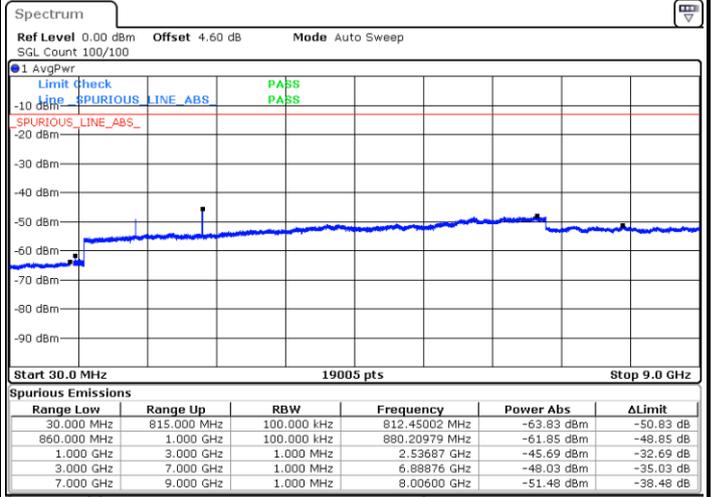
FR1 n5 / 5MHz / DFT-S OFDM / 256QAM

Lowest Channel / 1RB0

Middle Channel / 1RB0

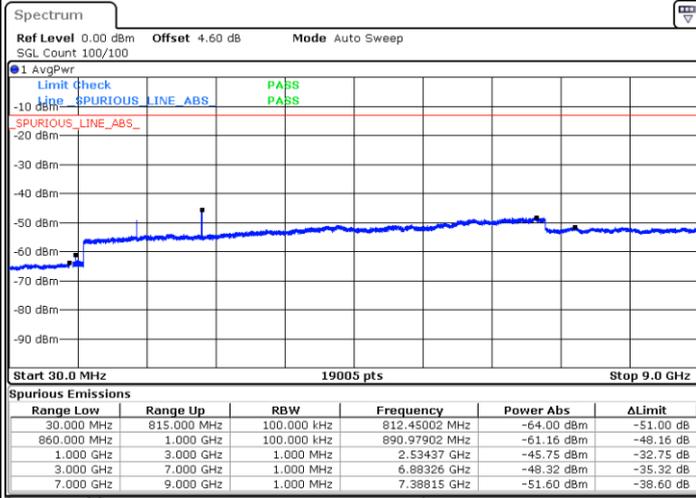


Date: 16.NOV.2020 15:04:50



Date: 16.NOV.2020 15:13:50

Highest Channel / 1RB0



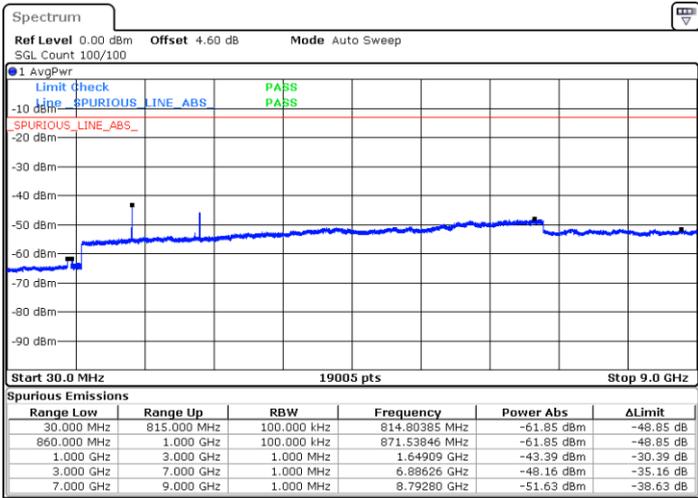
Date: 16.NOV.2020 15:31:55



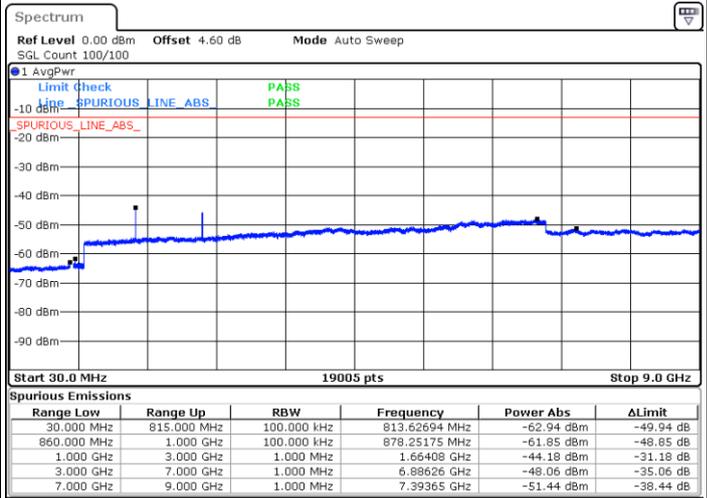
FR1 n5 / 10MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB0

Middle Channel / 1RB0

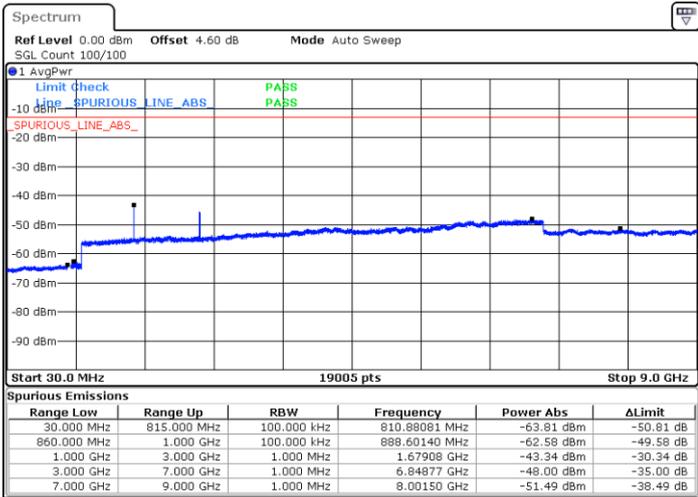


Date: 16.NOV.2020 15:55:17



Date: 16.NOV.2020 16:03:04

Highest Channel / 1RB0

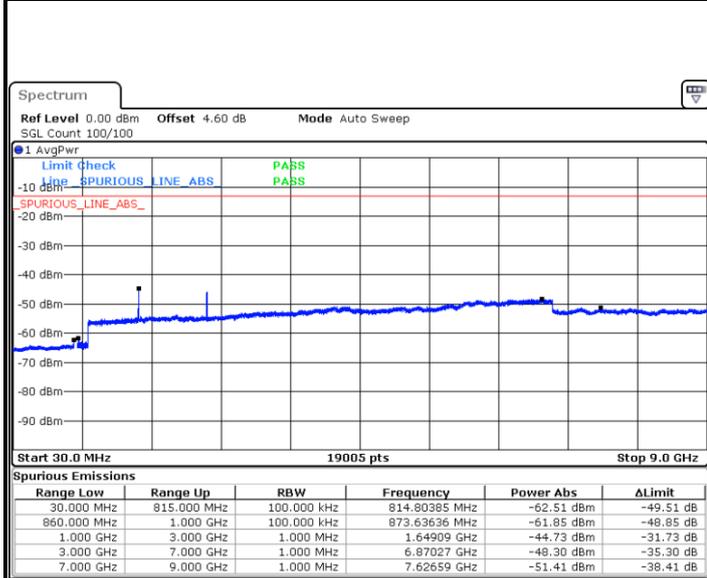


Date: 16.NOV.2020 18:28:21



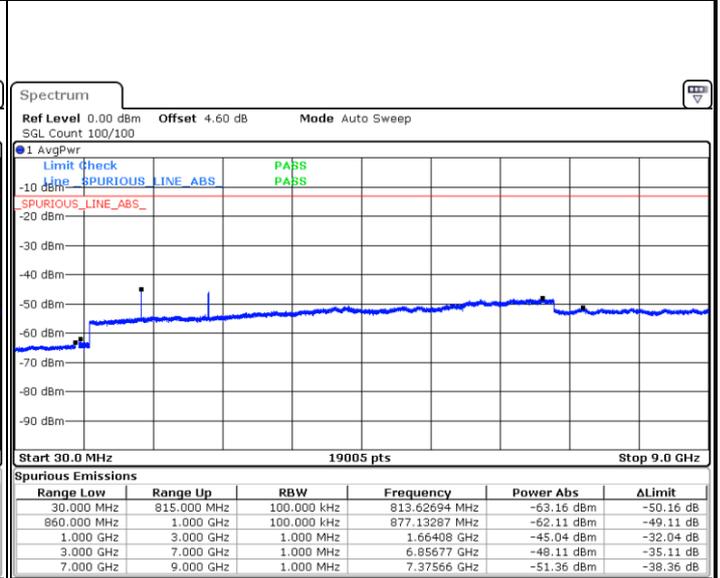
FR1 n5 / 10MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB0



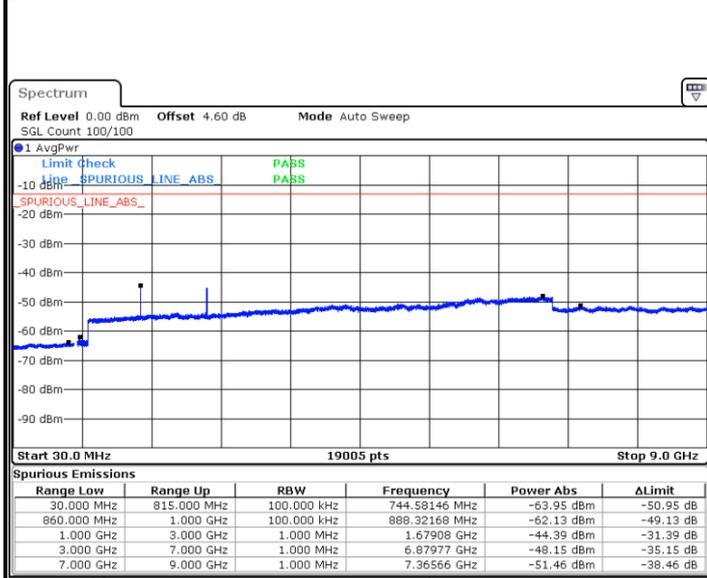
Date: 16.NOV.2020 15:54:05

Middle Channel / 1RB0



Date: 16.NOV.2020 16:04:27

Highest Channel / 1RB0



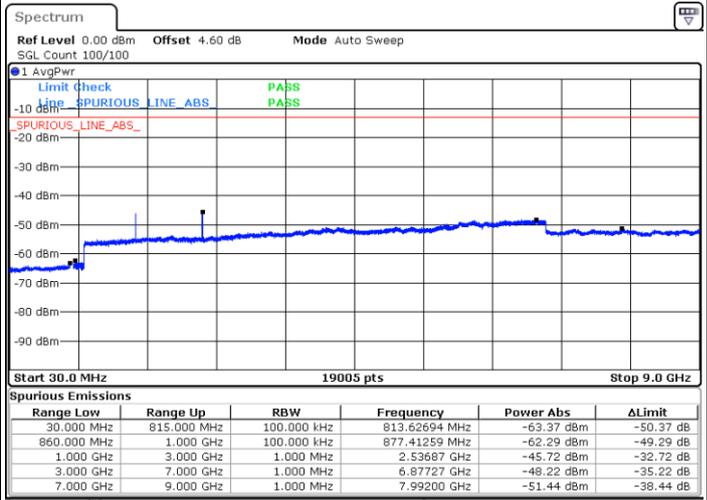
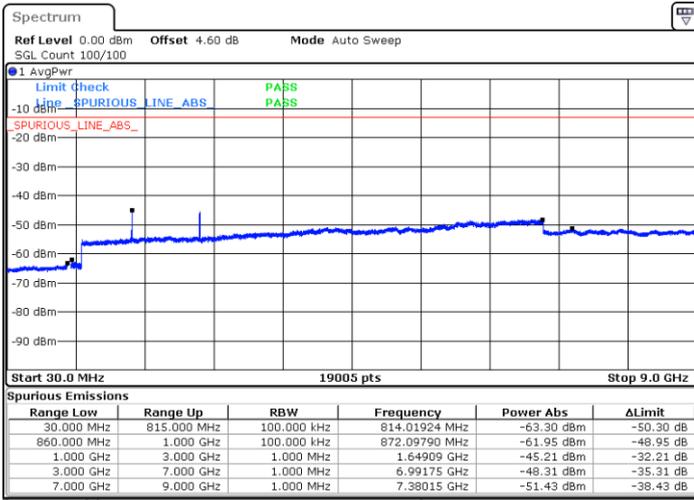
Date: 16.NOV.2020 18:29:55



FR1 n5 / 10MHz / DFT-S OFDM / 16QAM

Lowest Channel / 1RB0

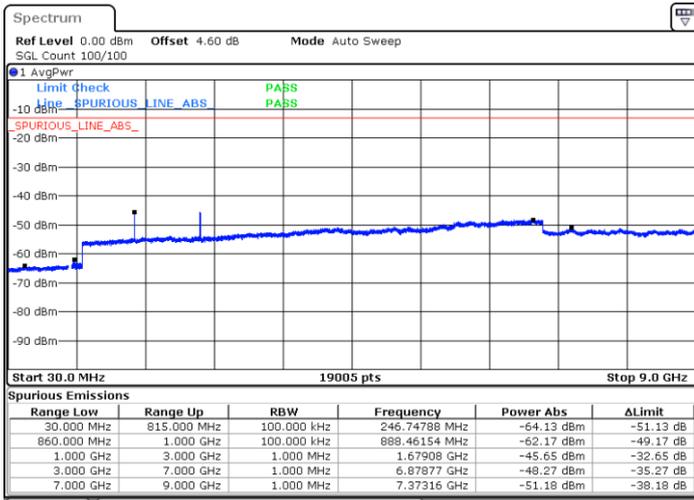
Middle Channel / 1RB0



Date: 16.NOV.2020 15:52:54

Date: 16.NOV.2020 16:05:12

Highest Channel / 1RB0



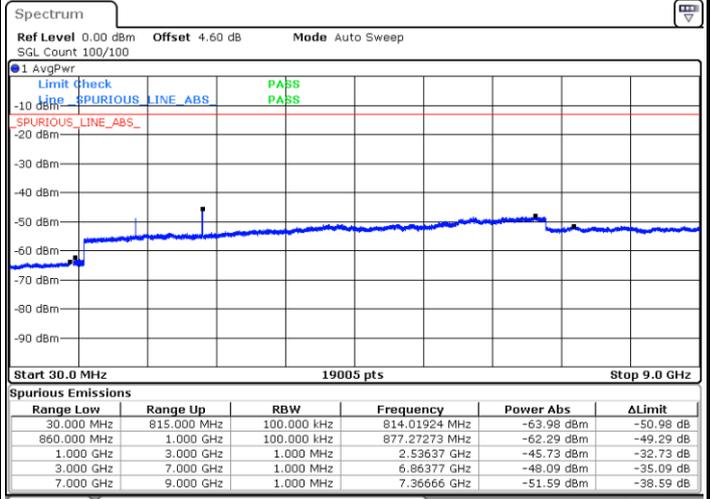
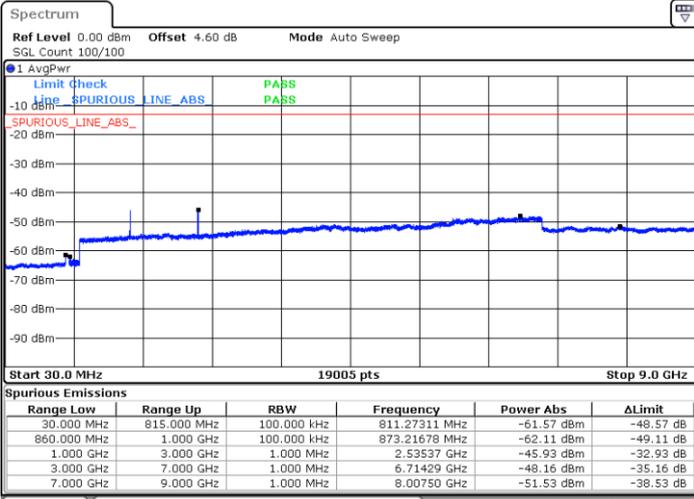
Date: 16.NOV.2020 18:31:10



FR1 n5 / 5MHz / DFT-S OFDM / 64QAM

Lowest Channel / 1RB0

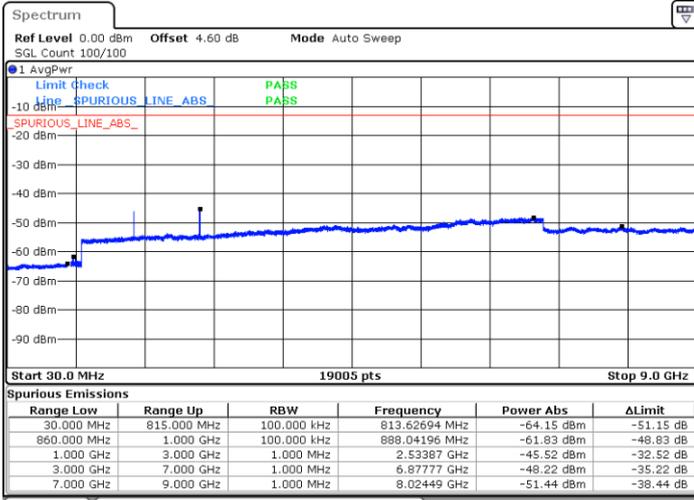
Middle Channel / 1RB0



Date: 16.NOV.2020 15:51:41

Date: 16.NOV.2020 16:06:51

Highest Channel / 1RB0



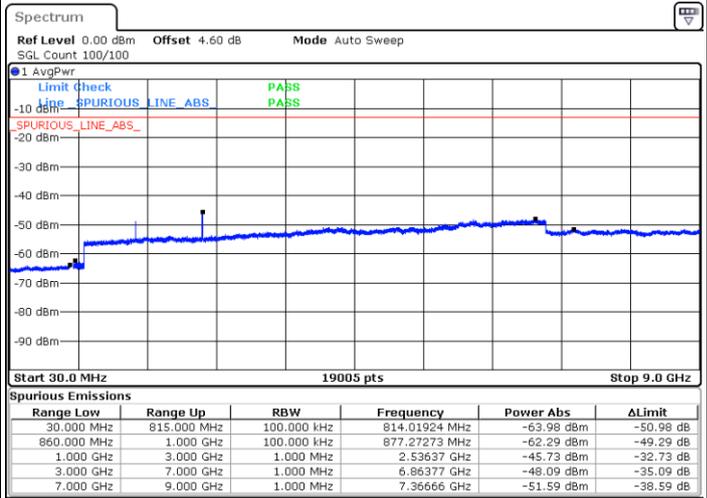
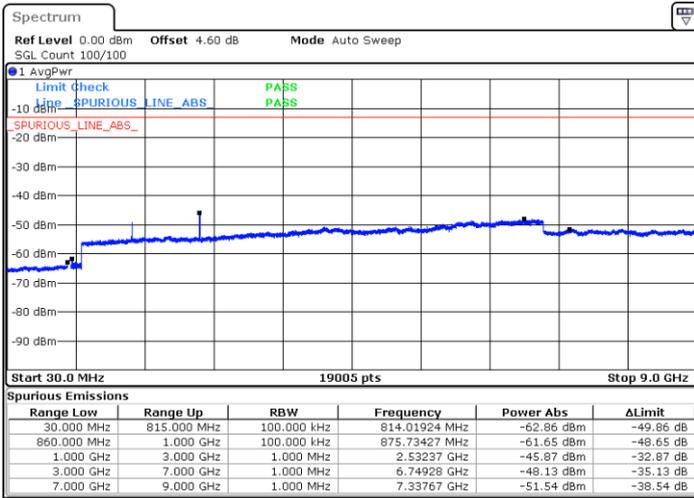
Date: 16.NOV.2020 18:34:17



FR1 n5 / 10MHz / DFT-S OFDM / 256QAM

Lowest Channel / 1RB0

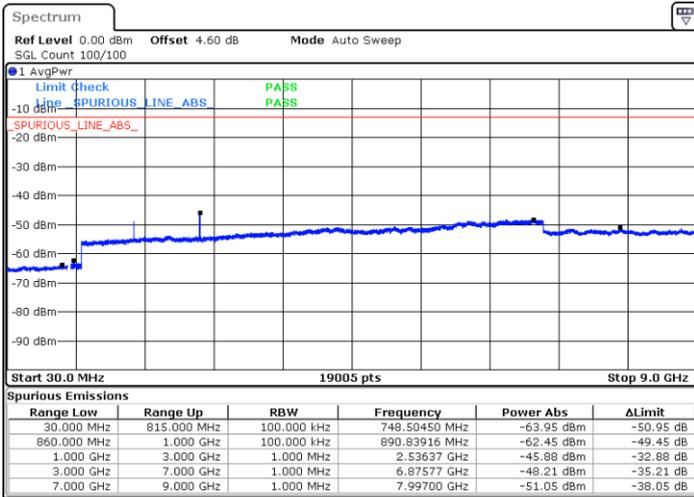
Middle Channel / 1RB0



Date: 16.NOV.2020 15:49:32

Date: 16.NOV.2020 16:06:51

Highest Channel / 1RB0



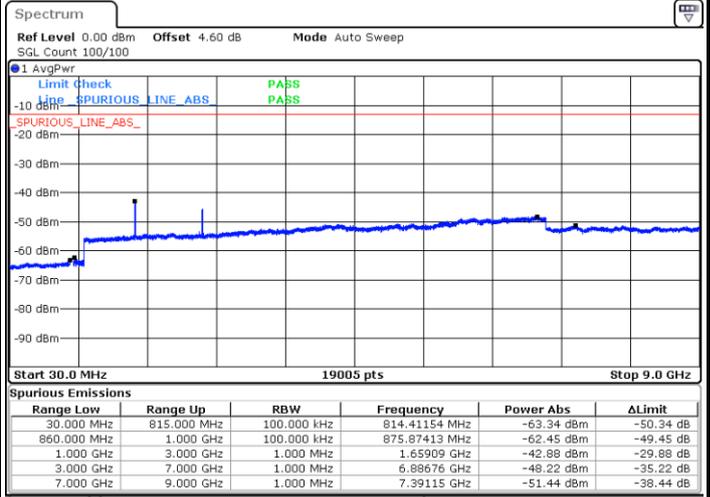
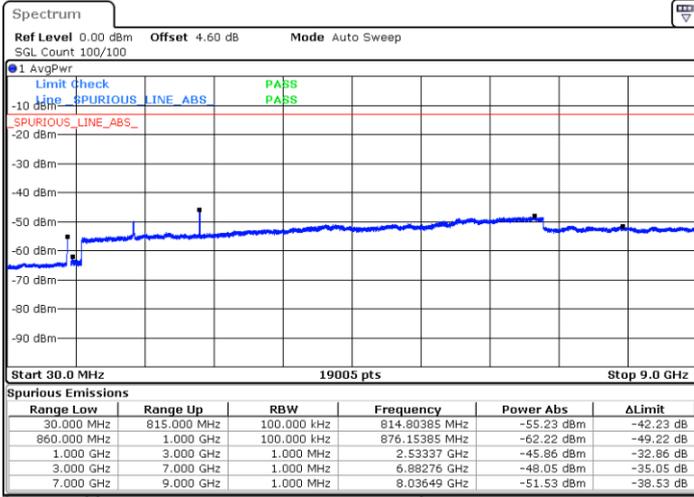
Date: 16.NOV.2020 18:35:16



FR1 n5 / 15MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB0

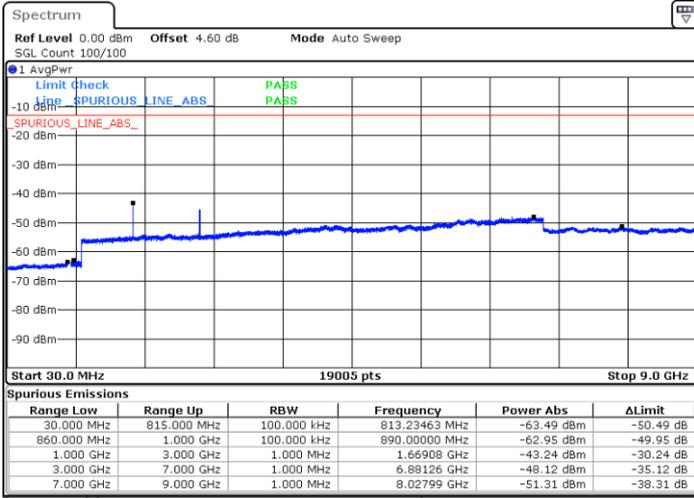
Middle Channel / 1RB0



Date: 16.NOV.2020 19:45:44

Date: 16.NOV.2020 20:43:01

Highest Channel / 1RB0



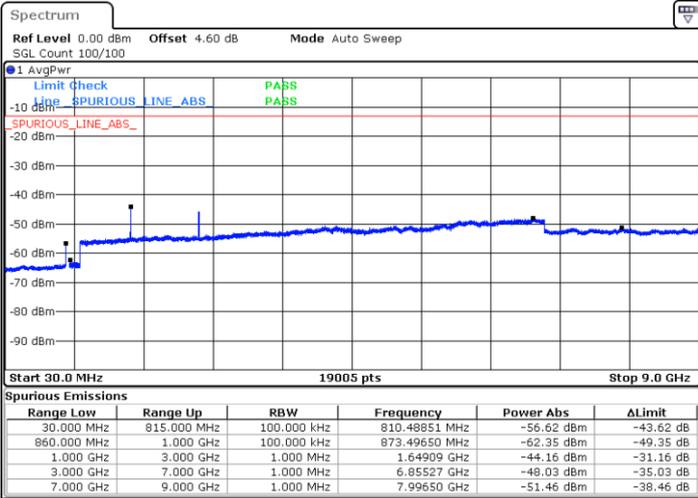
Date: 16.NOV.2020 20:44:21



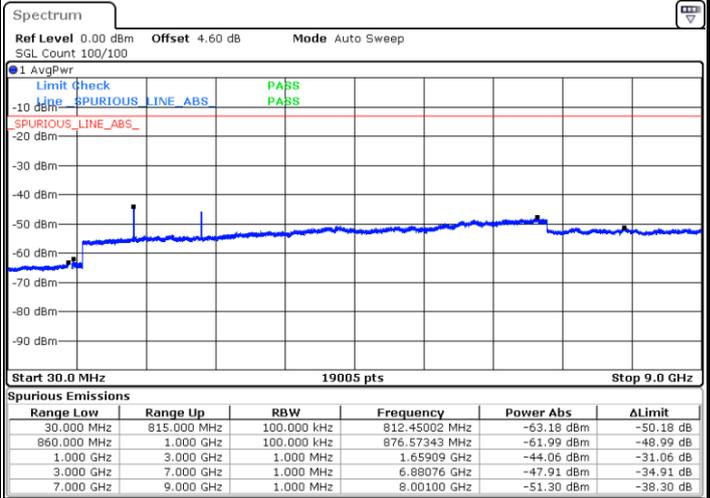
FR1 n5 / 15MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB0

Middle Channel / 1RB0

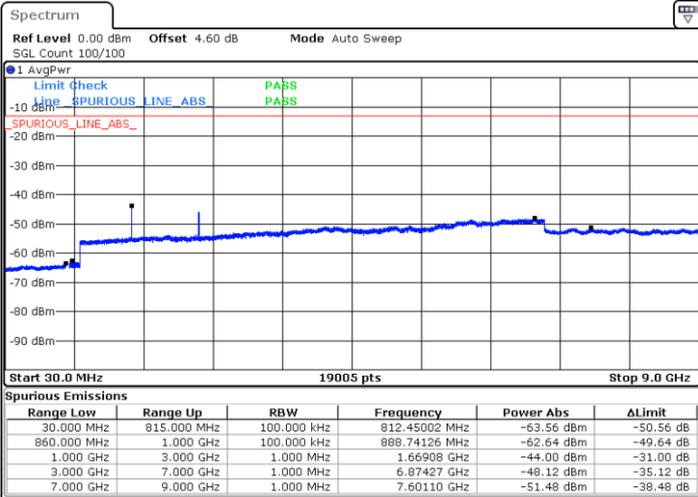


Date: 16.NOV.2020 20:34:24



Date: 16.NOV.2020 20:41:37

Highest Channel / 1RB0



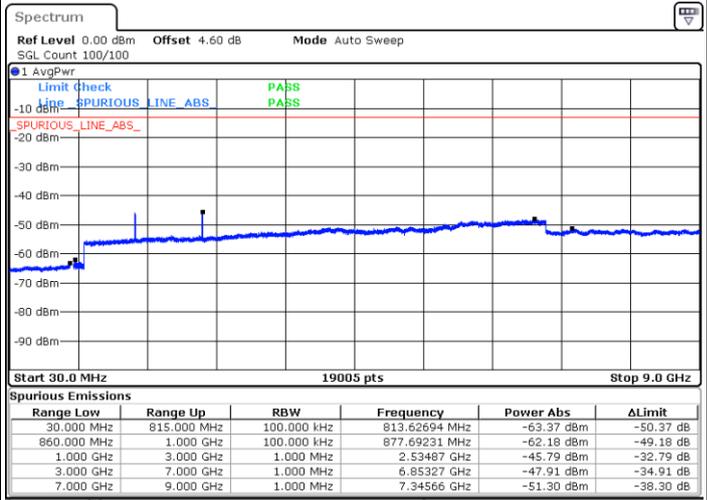
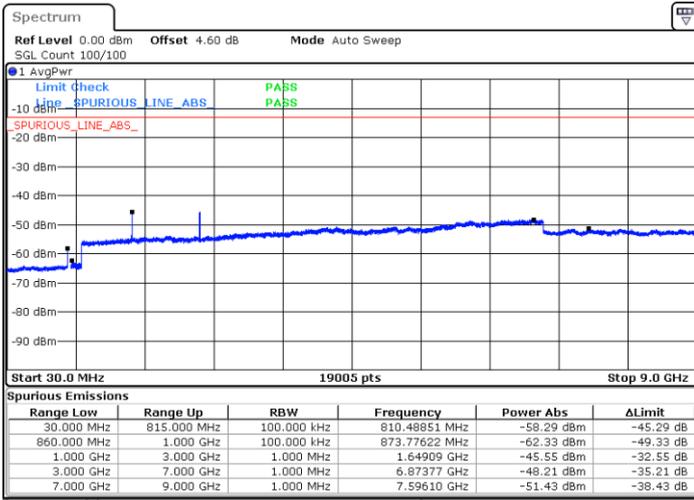
Date: 16.NOV.2020 20:45:34



FR1 n5 / 15MHz / DFT-S OFDM / 16QAM

Lowest Channel / 1RB0

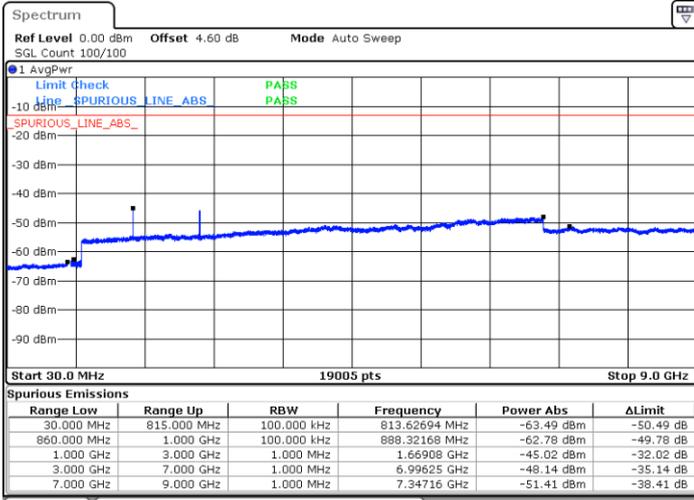
Middle Channel / 1RB0



Date: 16.NOV.2020 20:35:08

Date: 16.NOV.2020 20:40:16

Highest Channel / 1RB0



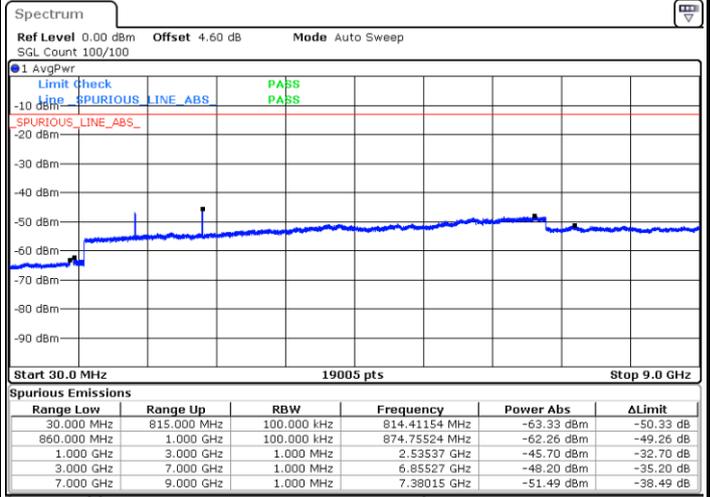
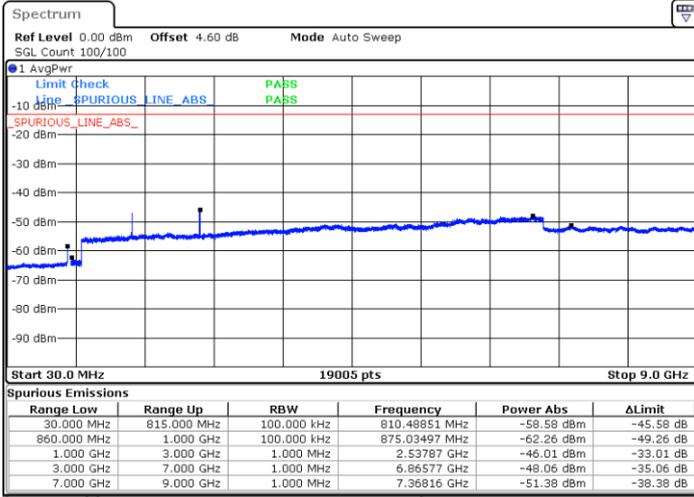
Date: 16.NOV.2020 20:46:53



FR1 n5 / 5MHz / DFT-S OFDM / 64QAM

Lowest Channel / 1RB0

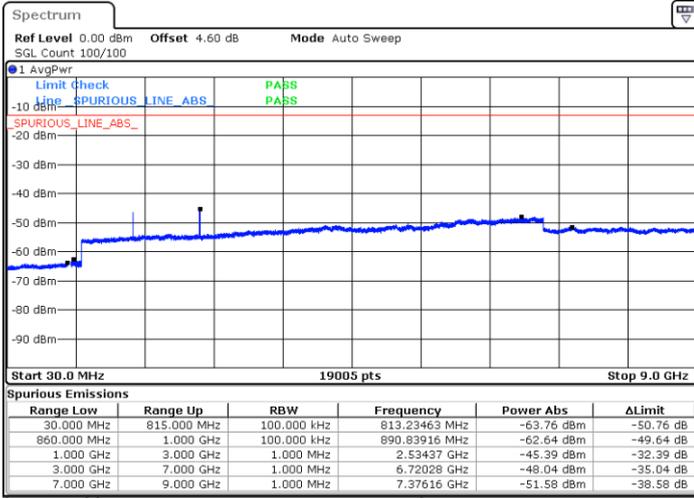
Middle Channel / 1RB0



Date: 16.NOV.2020 20:36:03

Date: 16.NOV.2020 20:38:32

Highest Channel / 1RB0



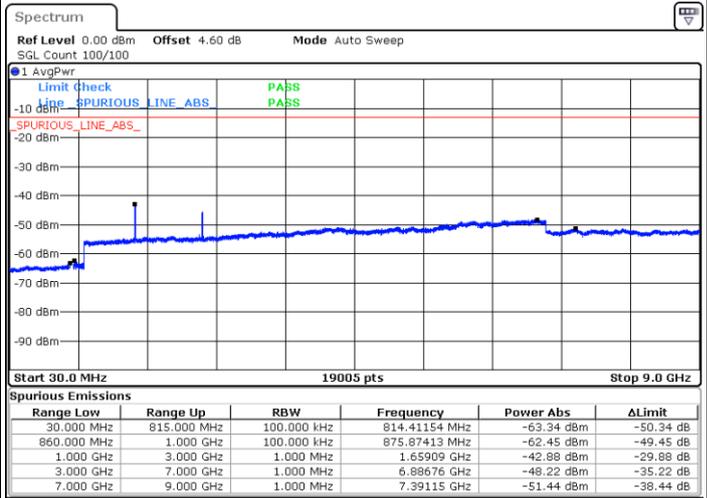
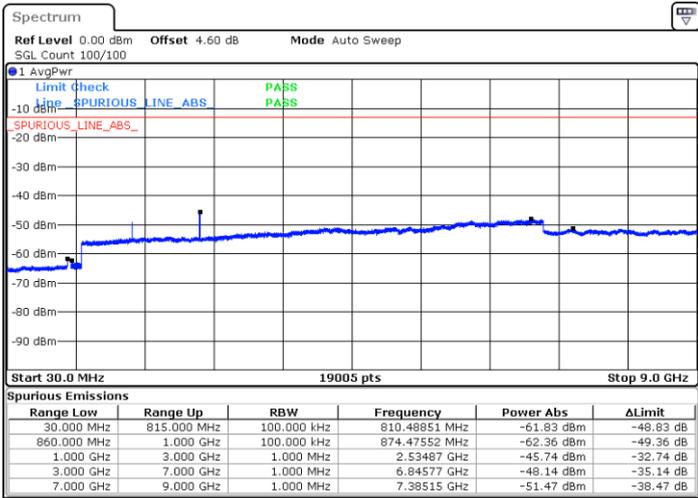
Date: 16.NOV.2020 20:47:46



FR1 n5 / 15MHz / DFT-S OFDM / 256QAM

Lowest Channel / 1RB0

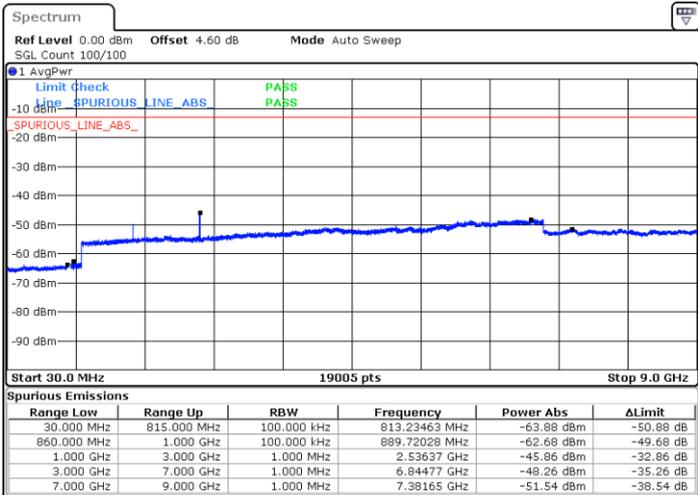
Middle Channel / 1RB0



Date: 16.NOV.2020 20:36:50

Date: 16.NOV.2020 20:43:01

Highest Channel / 1RB0



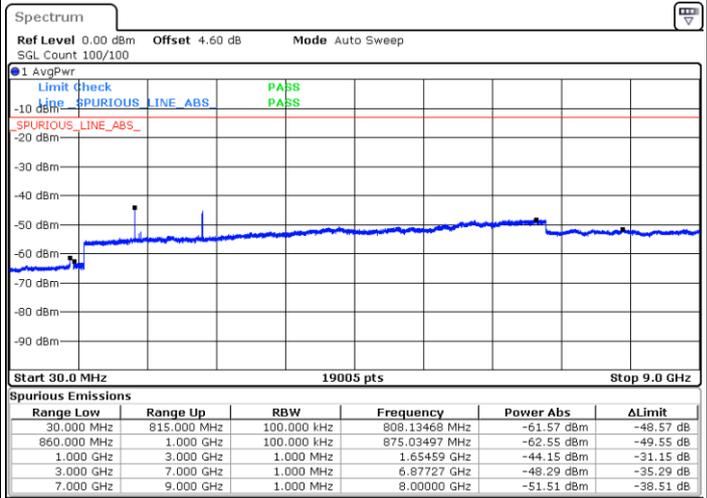
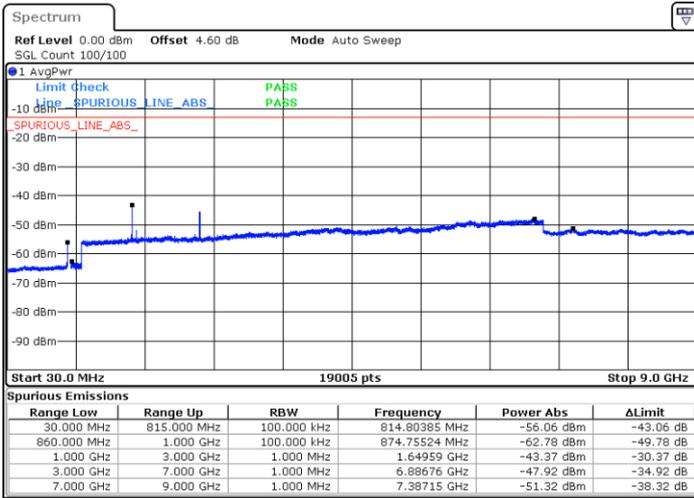
Date: 16.NOV.2020 20:49:04



FR1 n5 / 20MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB0

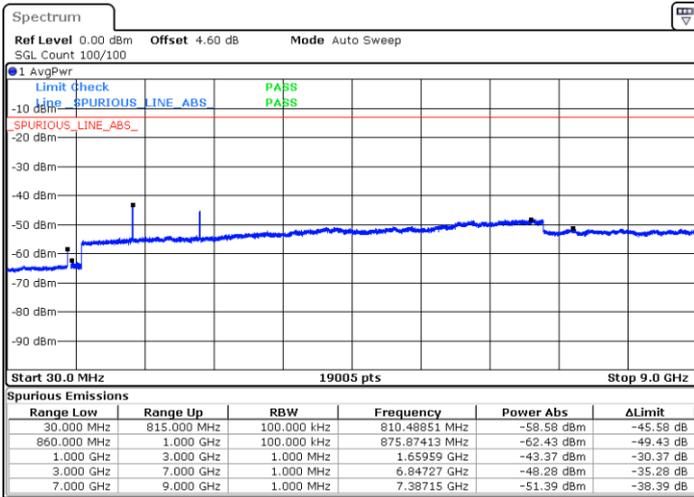
Middle Channel / 1RB0



Date: 16.NOV.2020 20:55:09

Date: 16.NOV.2020 20:54:10

Highest Channel / 1RB0



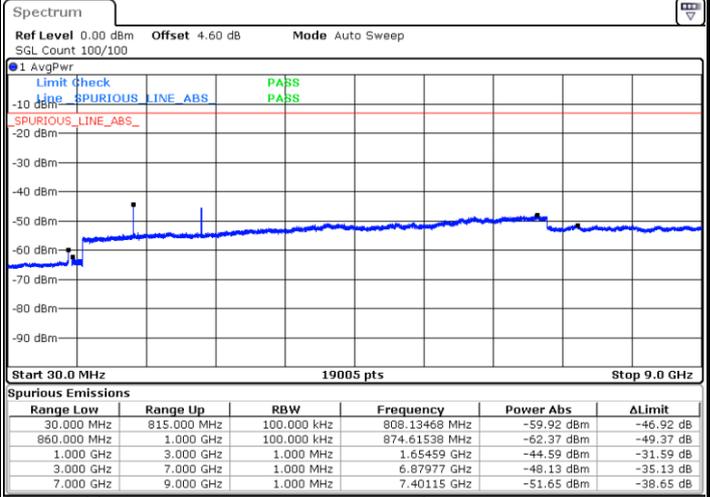
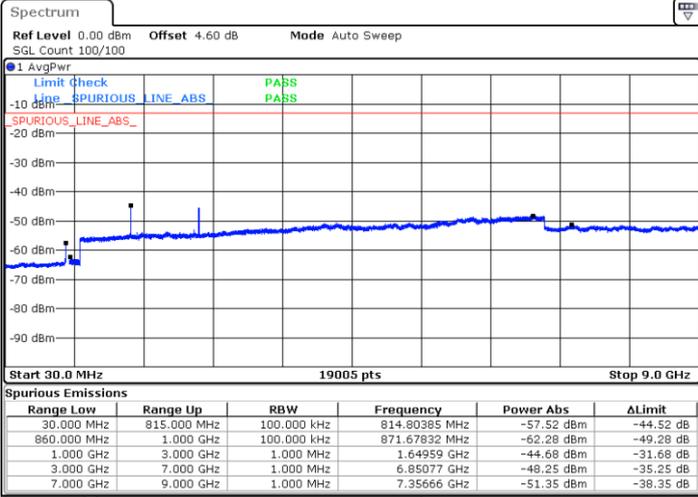
Date: 16.NOV.2020 21:02:38



FR1 n5 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB0

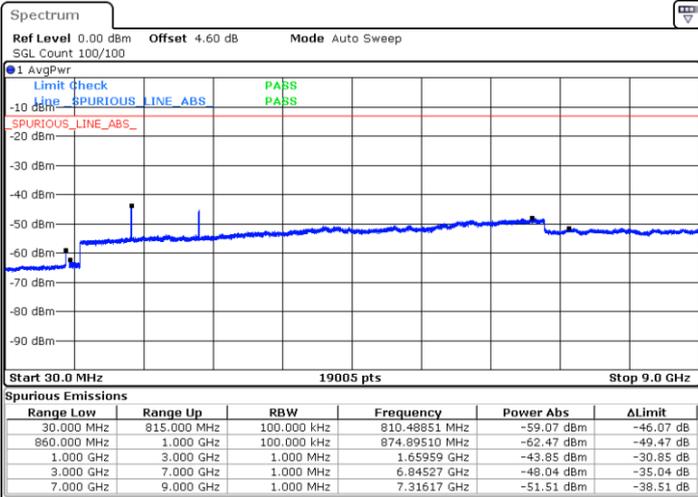
Middle Channel / 1RB0



Date: 16.NOV.2020 20:55:51

Date: 16.NOV.2020 20:53:32

Highest Channel / 1RB0



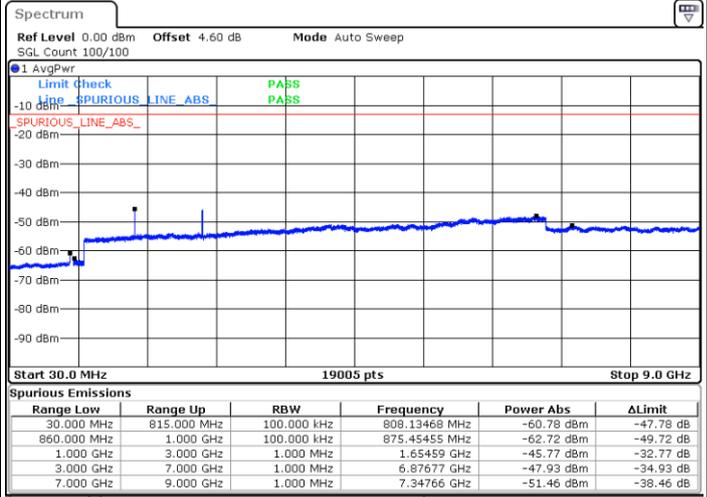
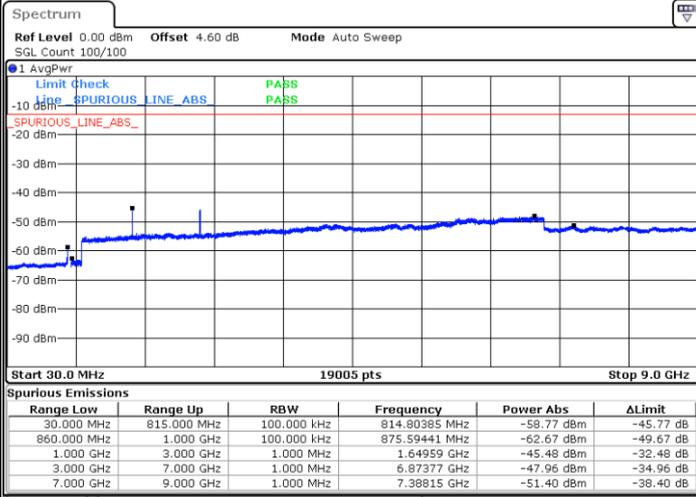
Date: 16.NOV.2020 21:01:55



FR1 n5 / 5MHz / DFT-S OFDM / 16QAM

Lowest Channel / 1RB0

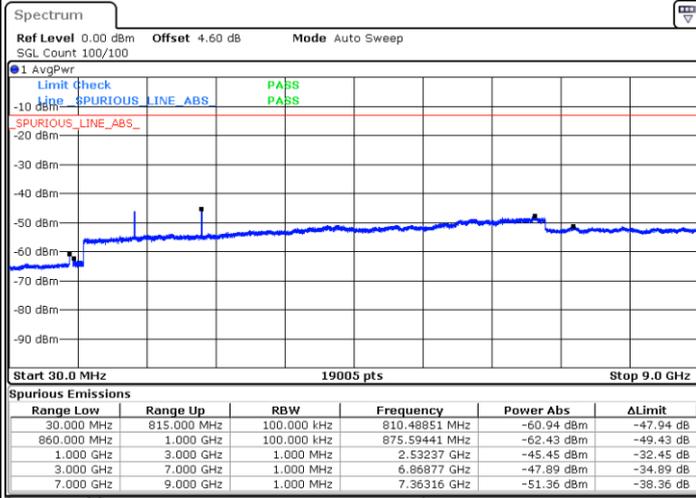
Middle Channel / 1RB0



Date: 16.NOV.2020 20:56:35

Date: 16.NOV.2020 20:52:48

Highest Channel / 1RB0



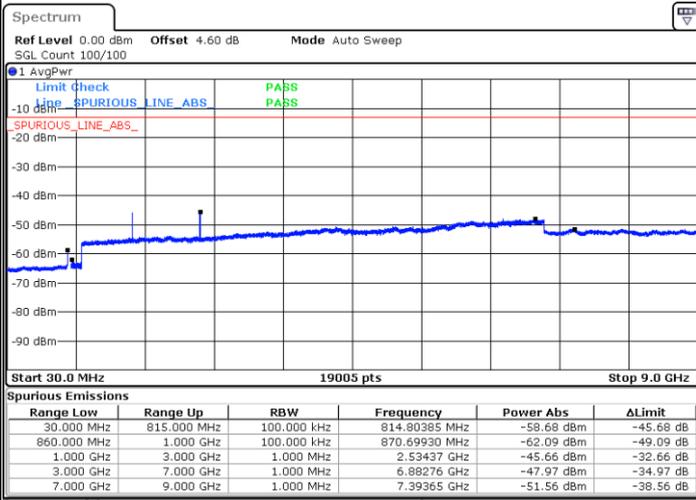
Date: 16.NOV.2020 21:01:11



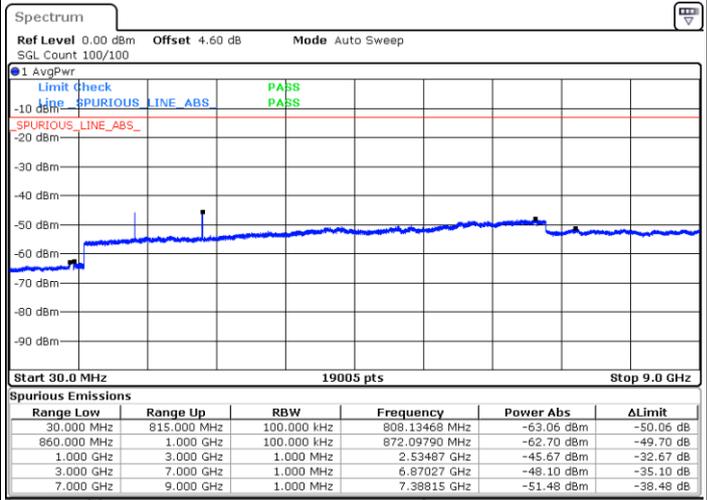
FR1 n5 / 5MHz / DFT-S OFDM / 64QAM

Lowest Channel / 1RB0

Middle Channel / 1RB0

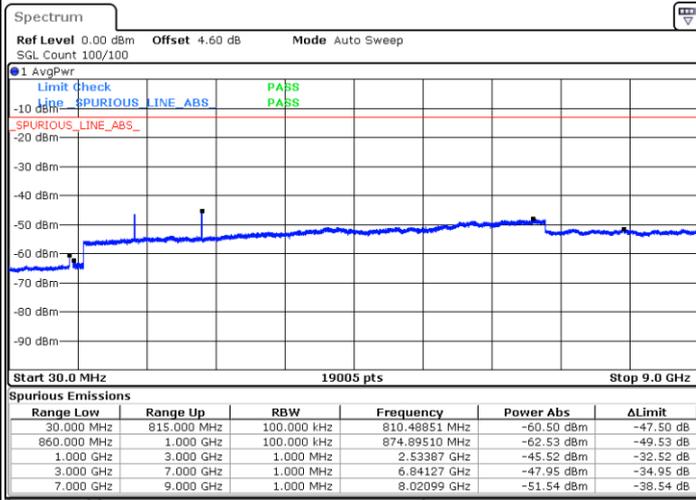


Date: 16.NOV.2020 20:57:49



Date: 16.NOV.2020 20:52:04

Highest Channel / 1RB0



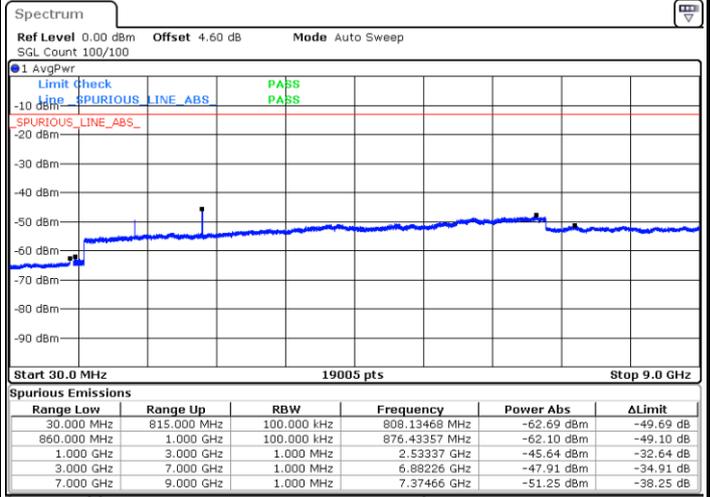
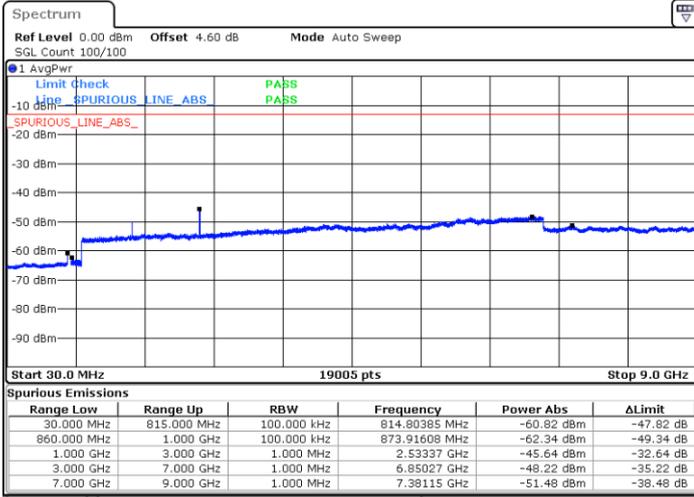
Date: 16.NOV.2020 21:00:16



FR1 n5 / 5MHz / DFT-S OFDM / 256QAM

Lowest Channel / 1RB0

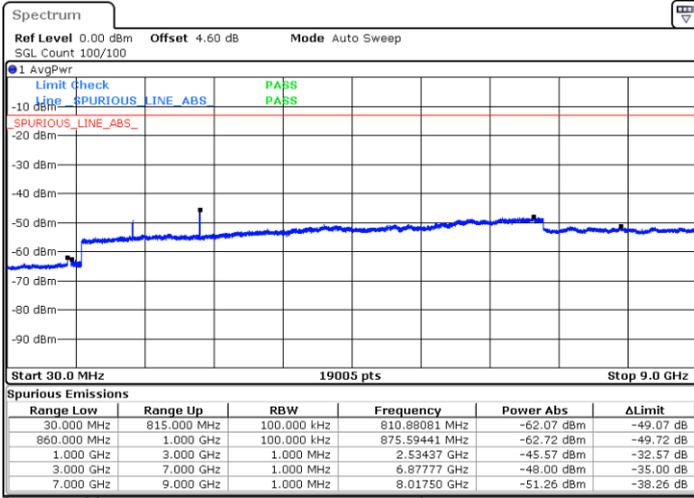
Middle Channel / 1RB0



Date: 16.NOV.2020 20:58:28

Date: 16.NOV.2020 20:51:21

Highest Channel / 1RB0



Date: 16.NOV.2020 20:59:28



Frequency Stability

Test Conditions		FR1 n5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0018	PASS
40	Normal Voltage	0.0011	
30	Normal Voltage	0.0003	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0015	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0011	
-20	Normal Voltage	0.0015	
-30	Normal Voltage	0.0002	
20	Maximum Voltage	0.0005	
20	Normal Voltage	0.0014	
20	Battery End Point	0.0006	

Note:

1. Normal Voltage =3.87 V. ; Battery End Point (BEP) =3.60 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



5G NR n7

Peak-to-Average Ratio

Mode	FR1 n7 / 20MHz / DFT-S OFDM					
Mod.	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	Limit: 13dB
RB Size	1RB0	1RB0	1RB0	1RB0	1RB0	Result
Lowest CH	3.59	4.03	5.33	5.57	7.07	PASS
Middle CH	4.17	3.74	4.96	5.30	7.04	
Highest CH	4.20	5.36	5.97	6.52	6.81	
Mode	FR1 n7 / 20MHz / DFT-S OFDM					
Mod.	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Full RB	Result
Lowest CH	3.45	4.43	5.68	6.09	6.41	PASS
Middle CH	3.59	4.58	5.80	6.09	6.38	
Highest CH	3.71	5.13	5.97	6.29	6.49	



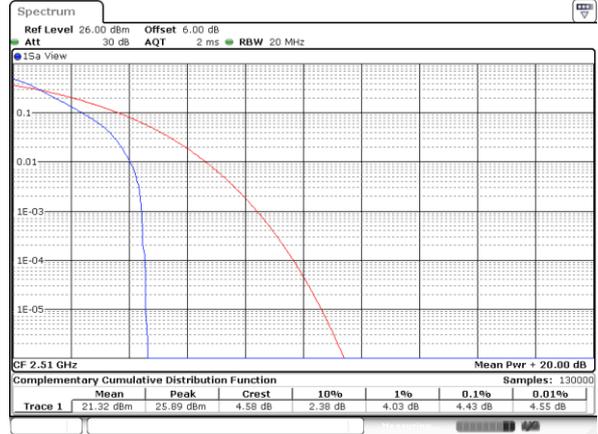
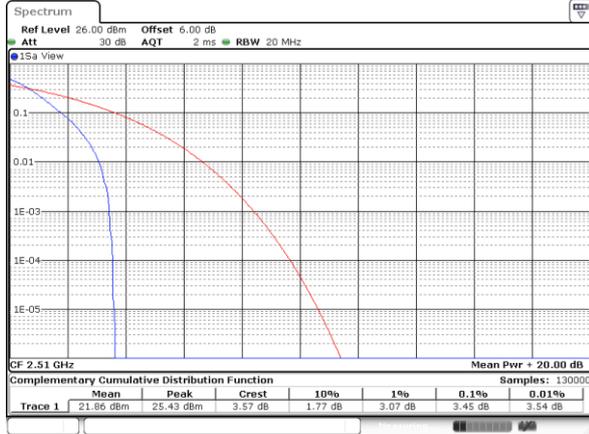
FR1 n7 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / Full RB

Lowest Channel / Full RB

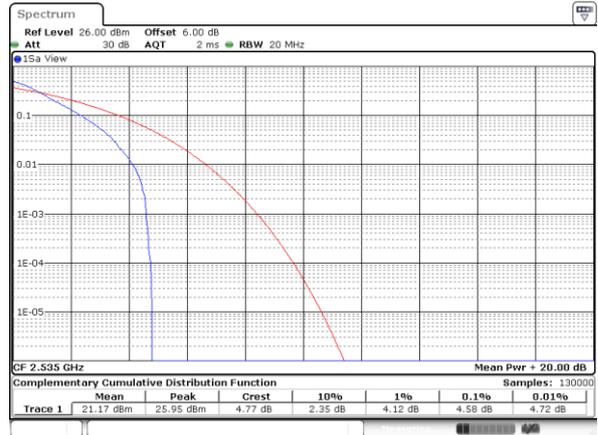


Date: 15.NOV.2020 09:39:15

Date: 15.NOV.2020 09:38:58

Middle Channel / Full RB

Middle Channel / Full RB

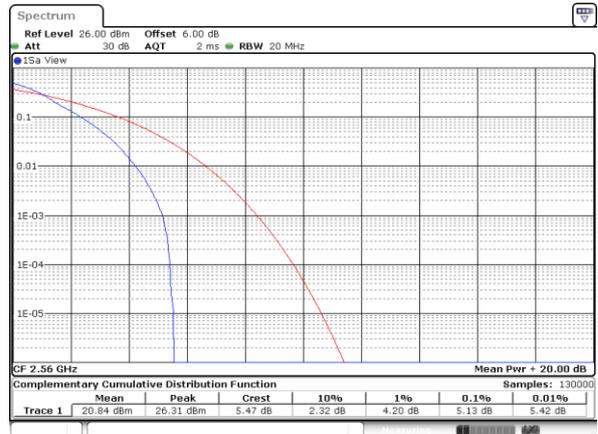
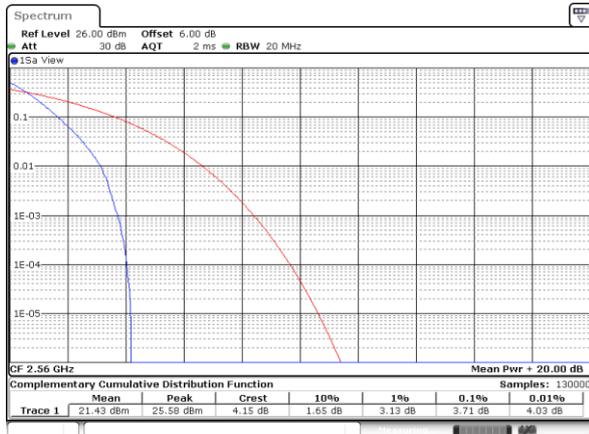


Date: 15.NOV.2020 09:42:24

Date: 15.NOV.2020 09:42:38

Highest Channel / Full RB

Highest Channel / Full RB



Date: 15.NOV.2020 09:02:13

Date: 15.NOV.2020 09:01:58



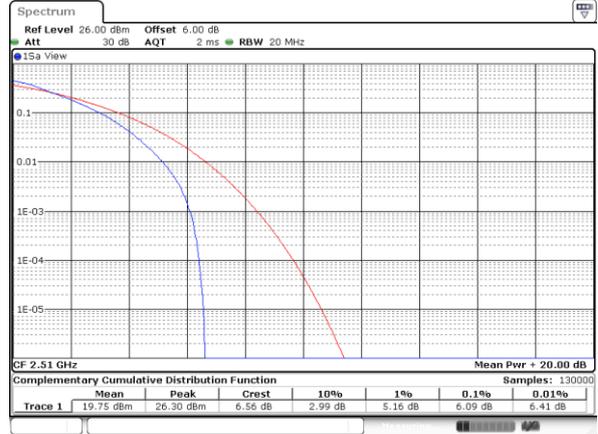
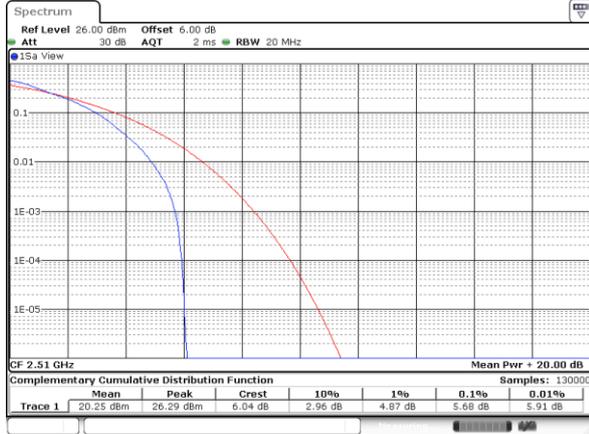
FR1 n7 / 20MHz / DFT-S OFDM

16QAM

64QAM

Lowest Channel / Full RB

Lowest Channel / Full RB

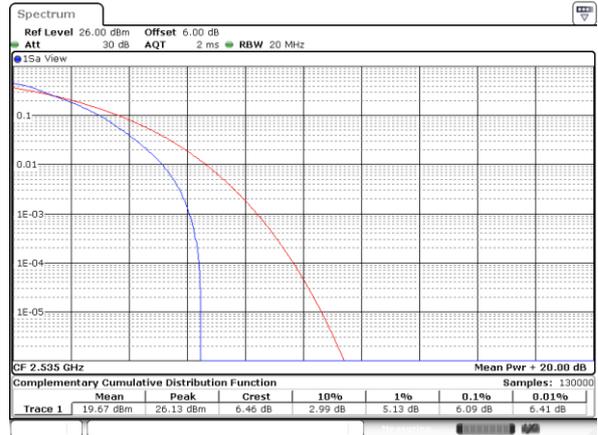
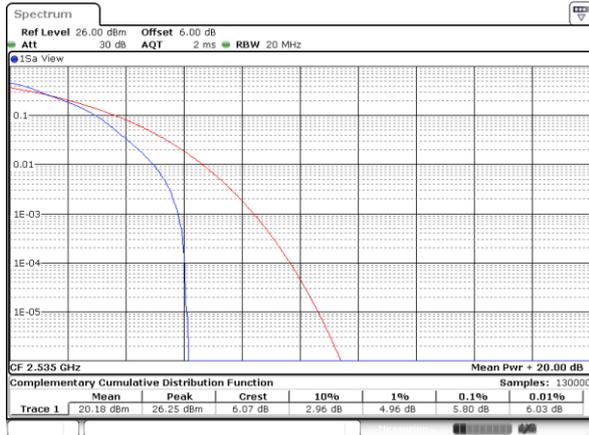


Date: 15.NOV.2020 09:38:42

Date: 15.NOV.2020 09:38:27

Middle Channel / Full RB

Middle Channel / Full RB

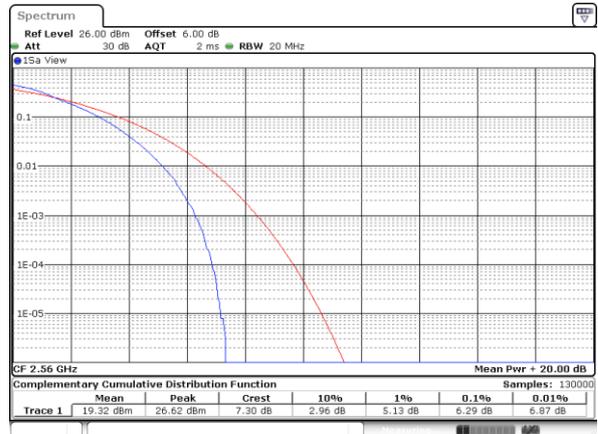
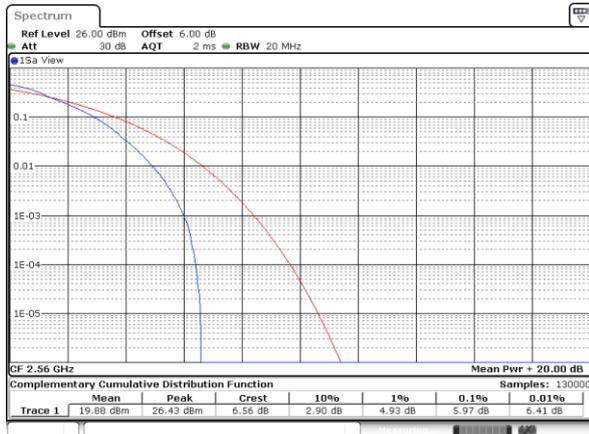


Date: 15.NOV.2020 09:42:53

Date: 15.NOV.2020 09:43:07

Highest Channel / Full RB

Highest Channel / Full RB



Date: 15.NOV.2020 09:01:44

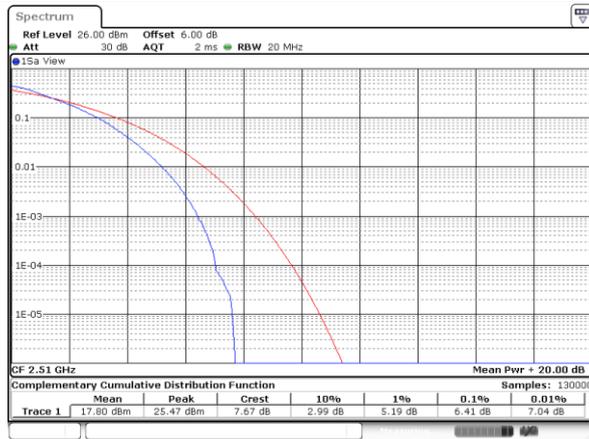
Date: 15.NOV.2020 09:01:29



FR1 n7 / 20MHz / DFT-S OFDM

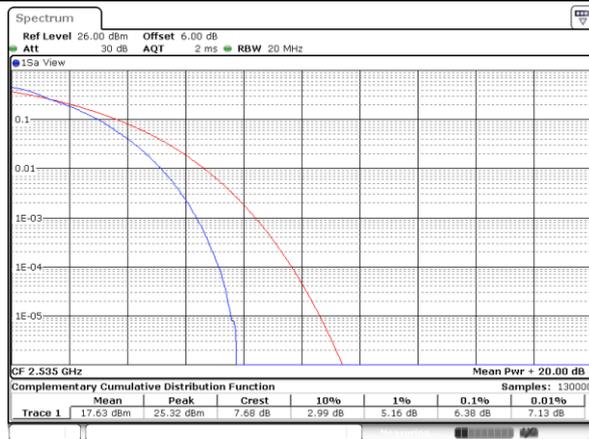
256QAM

Lowest Channel / Full RB



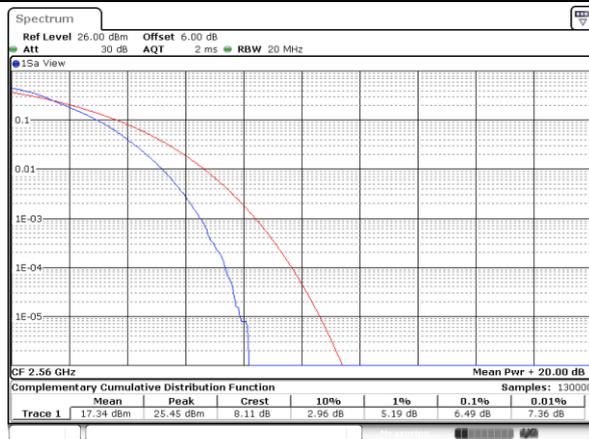
Date: 15.NOV.2020 09:38:13

Middle Channel / Full RB



Date: 15.NOV.2020 09:43:23

Highest Channel / Full RB



Date: 15.NOV.2020 09:01:14



FR1 n7 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / 1RB0

Lowest Channel / 1RB0

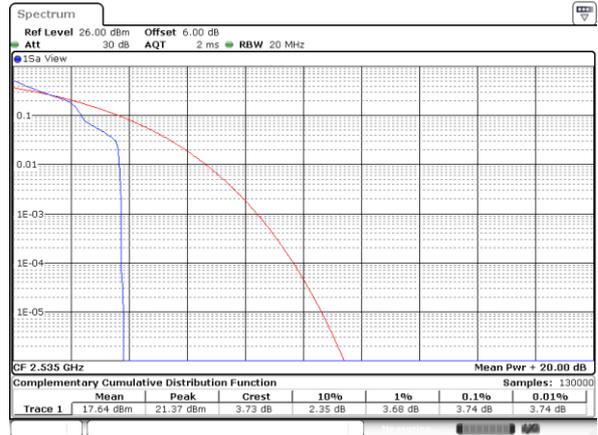
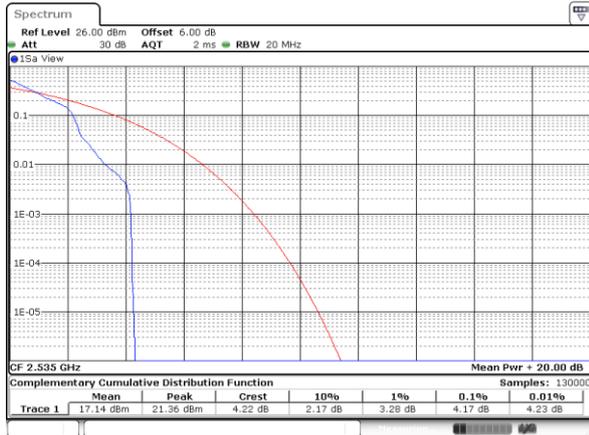


Date: 15.NOV.2020 09:13:14

Date: 15.NOV.2020 09:13:48

Middle Channel / 1RB0

Middle Channel / 1RB0

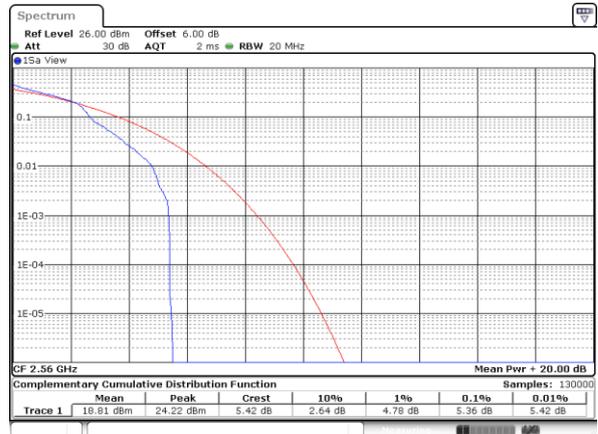
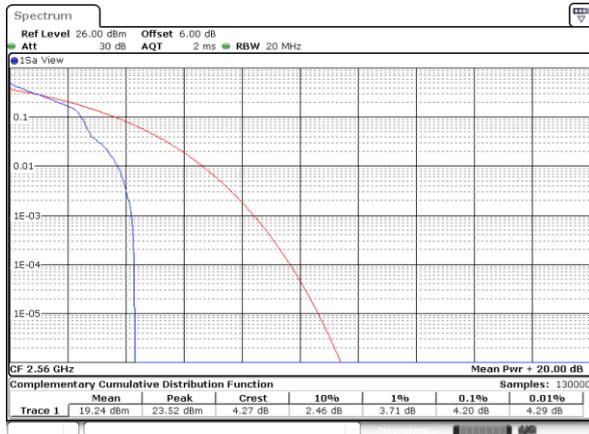


Date: 15.NOV.2020 09:42:06

Date: 15.NOV.2020 09:41:50

Highest Channel / 1RB0

Highest Channel / 1RB0



Date: 15.NOV.2020 09:02:28

Date: 15.NOV.2020 09:02:42



FR1 n7 / 20MHz / DFT-S OFDM

16QAM

64QAM

Lowest Channel / 1RB0

Lowest Channel / 1RB0

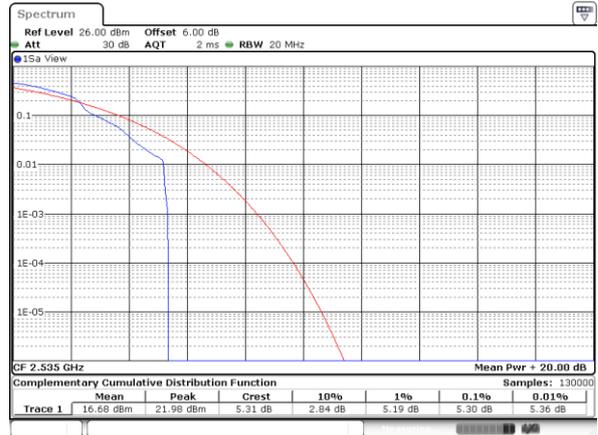


Date: 15.NOV.2020 09:40:02

Date: 15.NOV.2020 09:40:16

Middle Channel / 1RB0

Middle Channel / 1RB0

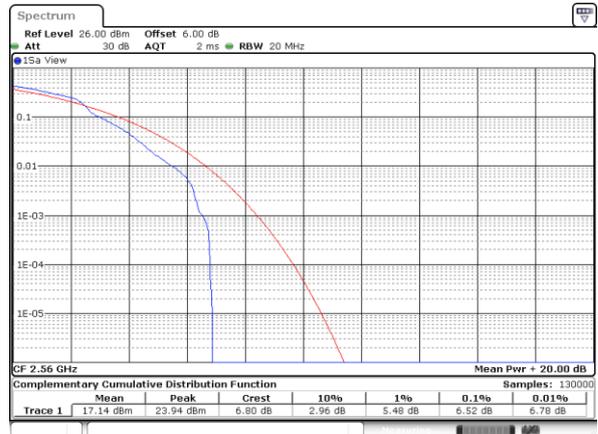
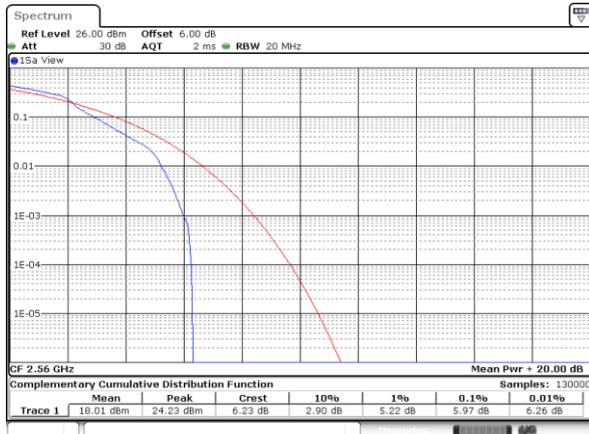


Date: 15.NOV.2020 09:41:34

Date: 15.NOV.2020 09:41:19

Highest Channel / 1RB0

Highest Channel / 1RB0



Date: 15.NOV.2020 09:02:57

Date: 15.NOV.2020 09:03:10



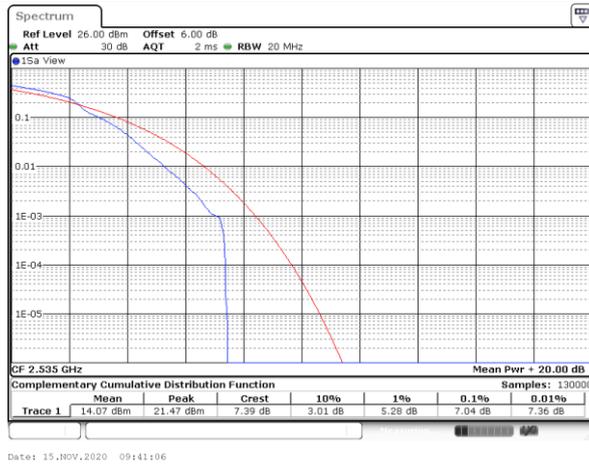
FR1 n7 / 20MHz / DFT-S OFDM

256QAM

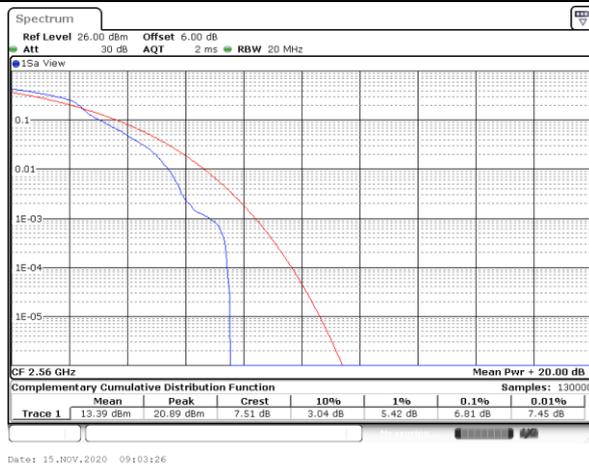
Lowest Channel / 1RB0



Middle Channel / 1RB0



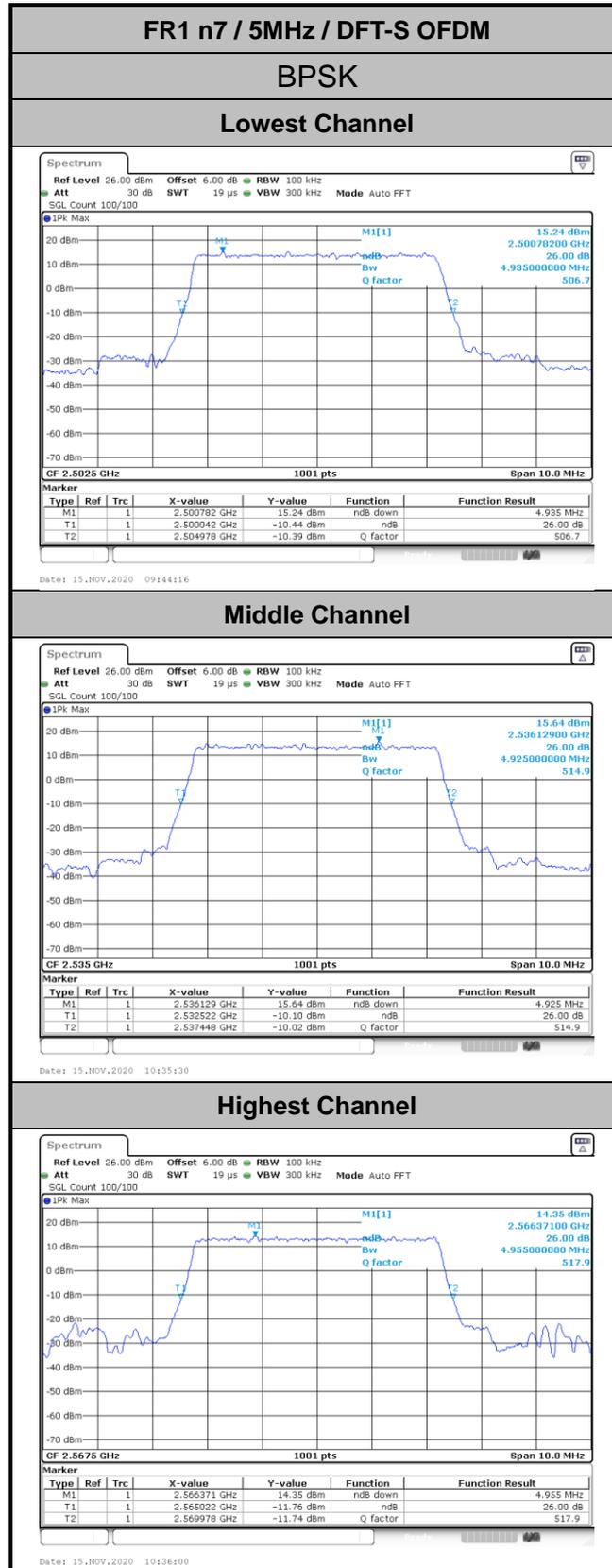
Highest Channel / 1RB0





26dB Bandwidth

Mode	FR1 n7 : 26dB BW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	BPSK		BPSK		BPSK		BPSK	
Lowest CH	4.94		9.79		14.36		19.94	
Middle CH	4.93		9.65		14.18		20.30	
Highest CH	4.96		9.81		14.24		20.26	
Mode	FR1 n7 : 26dB BW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	4.96	4.95	9.63	9.65	14.33	14.27	20.10	20.14
Middle CH	4.95	5.02	9.69	9.71	14.18	14.30	20.22	20.14
Highest CH	5.07	4.95	9.75	9.65	14.30	14.18	20.18	20.22
Mode	FR1 n7 : 26dB BW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	4.94	4.90	9.71	9.73	14.30	14.21	20.14	20.06
Middle CH	4.93	4.91	9.75	9.87	14.18	14.36	20.10	20.14
Highest CH	4.98	4.95	9.77	9.77	14.27	14.24	20.18	20.26





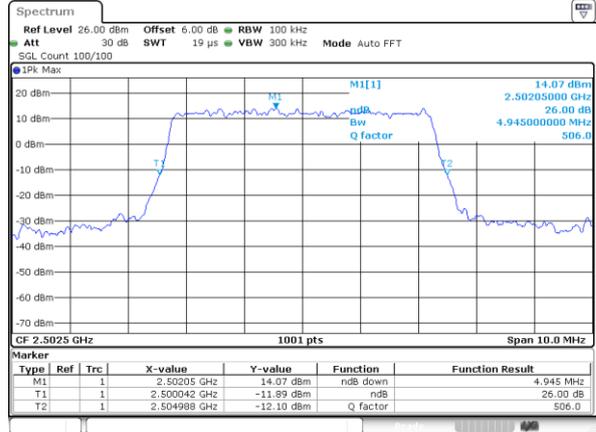
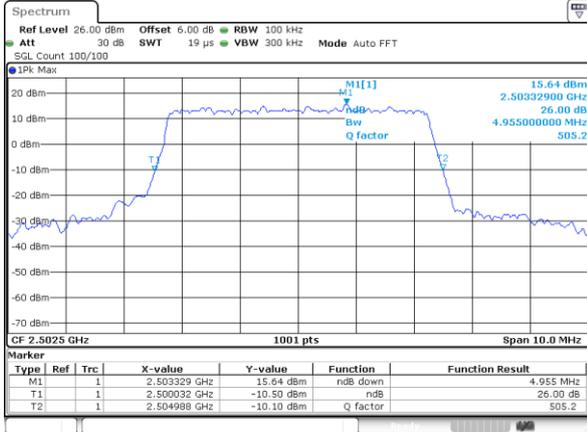
FR1 n7 / 5MHz / DFT-S OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

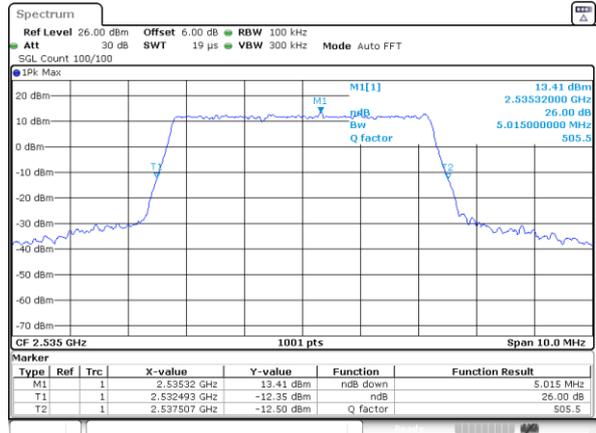
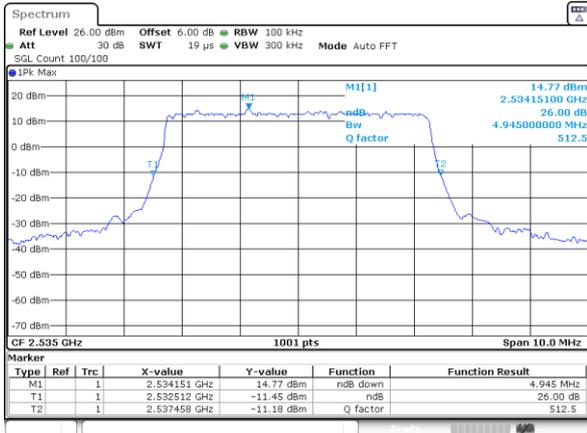


Date: 15.NOV.2020 09:44:38

Date: 15.NOV.2020 09:44:59

Middle Channel

Middle Channel

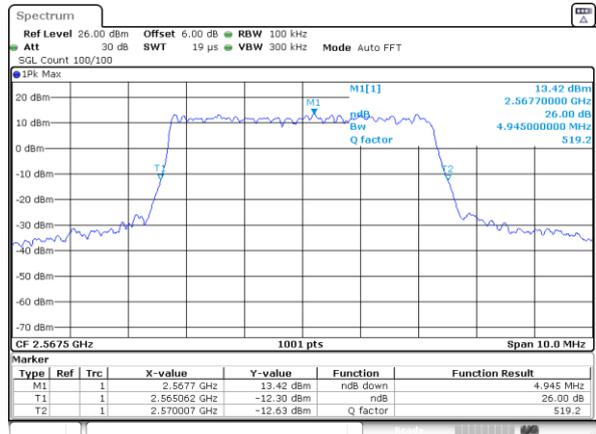
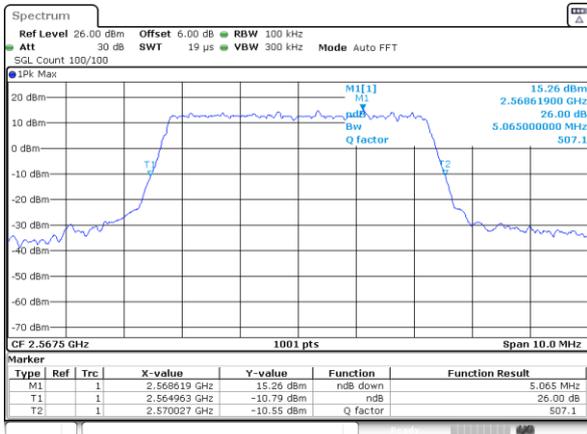


Date: 15.NOV.2020 10:35:05

Date: 15.NOV.2020 10:34:43

Highest Channel

Highest Channel



Date: 15.NOV.2020 10:36:20

Date: 15.NOV.2020 10:36:41



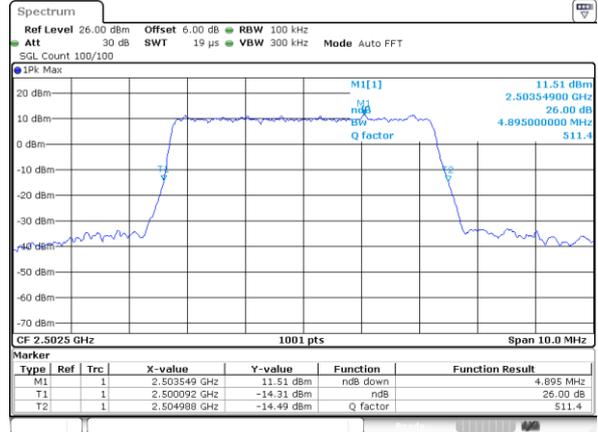
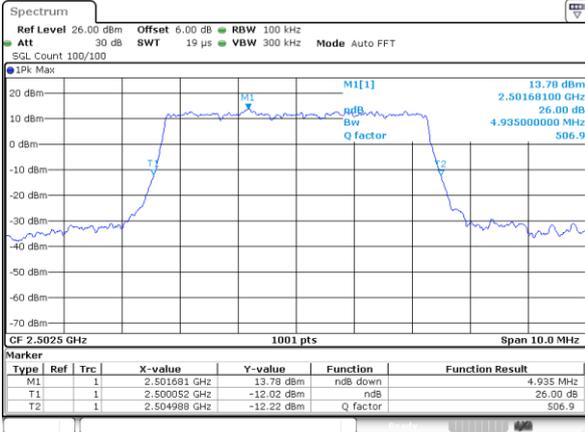
FR1 n7 / 5MHz / DFT-S OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

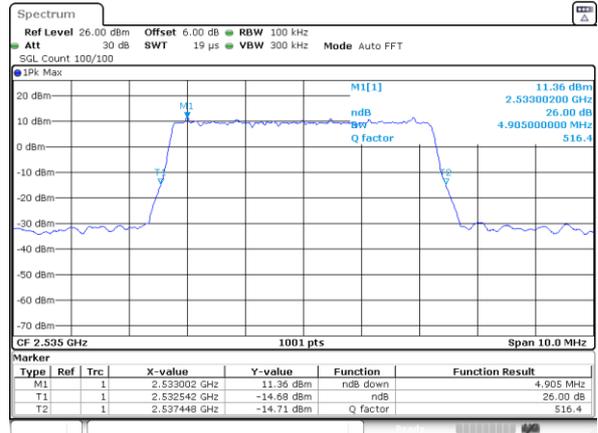
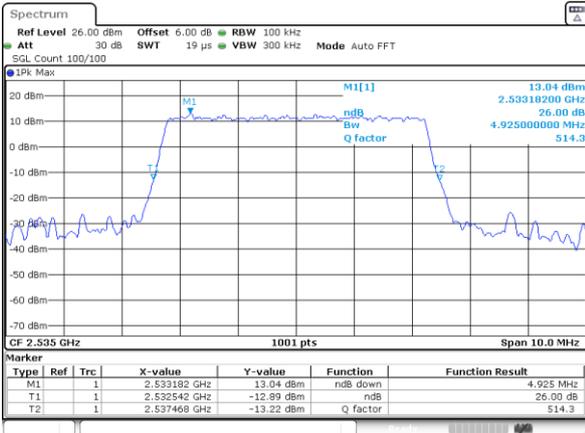


Date: 15.NOV.2020 09:45:19

Date: 15.NOV.2020 09:45:41

Middle Channel

Middle Channel

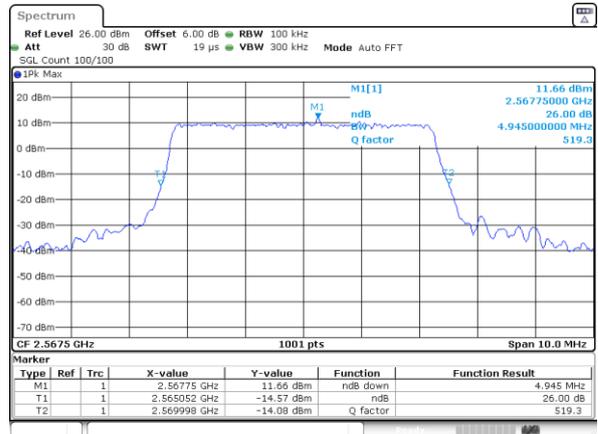
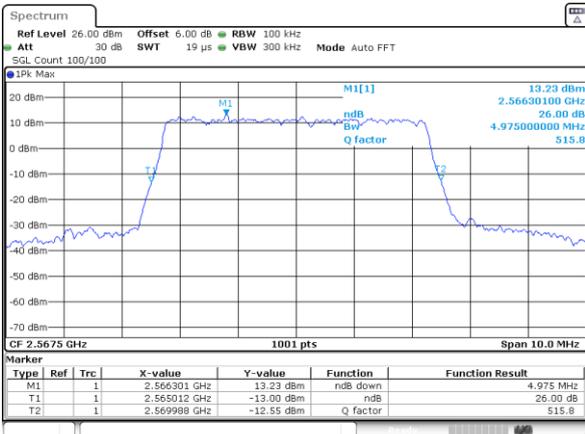


Date: 15.NOV.2020 10:34:20

Date: 15.NOV.2020 10:33:55

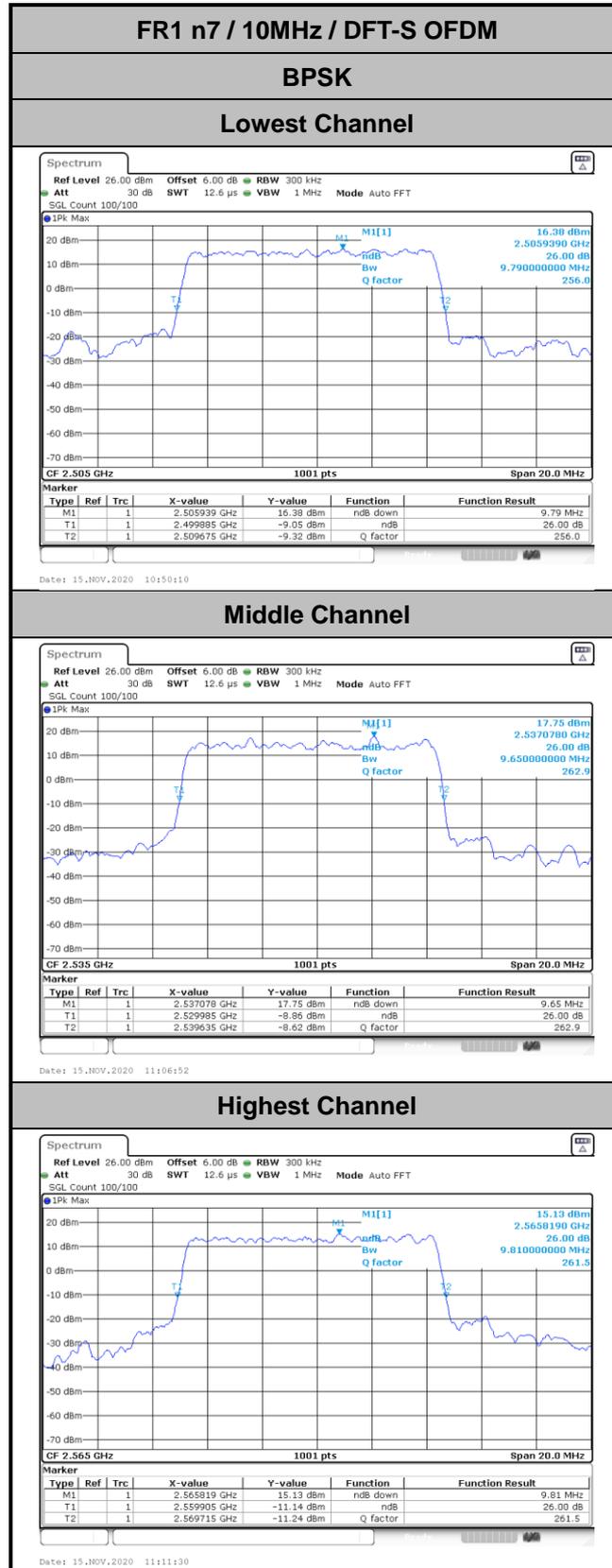
Highest Channel

Highest Channel



Date: 15.NOV.2020 10:37:01

Date: 15.NOV.2020 10:37:24





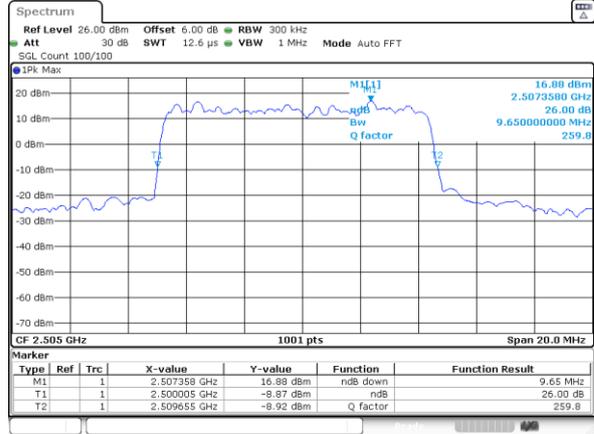
FR1 n7 / 10MHz / DFT-S OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

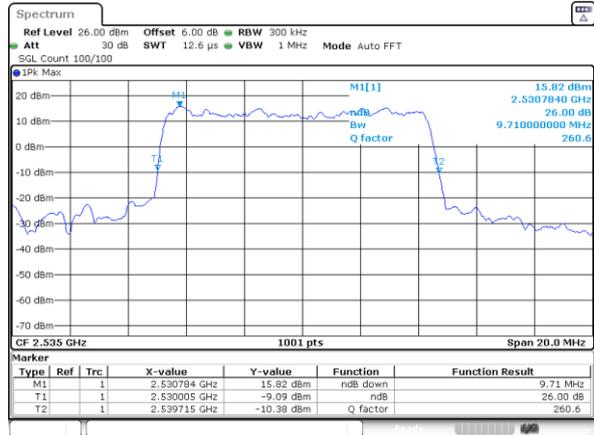
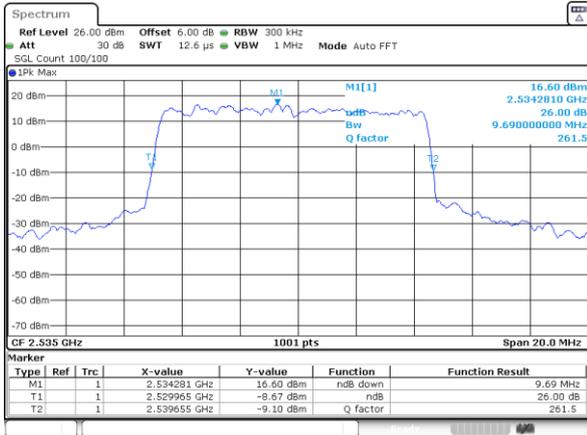


Date: 15.NOV.2020 10:50:33

Date: 15.NOV.2020 10:50:51

Middle Channel

Middle Channel

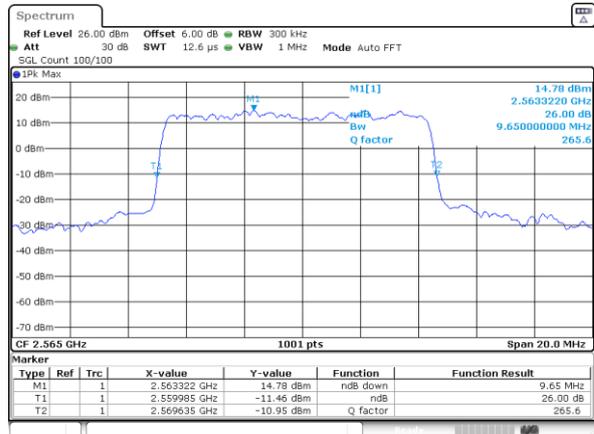
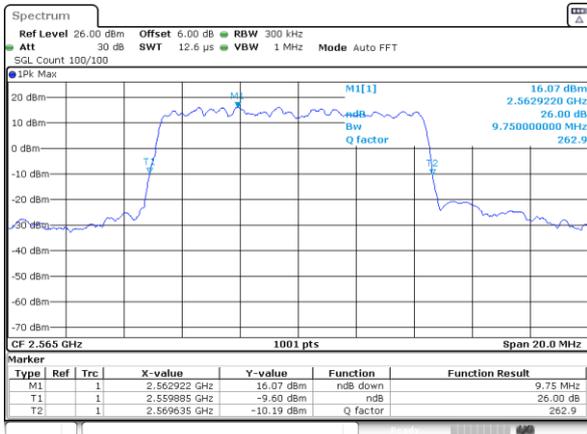


Date: 15.NOV.2020 11:07:15

Date: 15.NOV.2020 11:07:39

Highest Channel

Highest Channel



Date: 15.NOV.2020 11:11:59

Date: 15.NOV.2020 11:12:23