

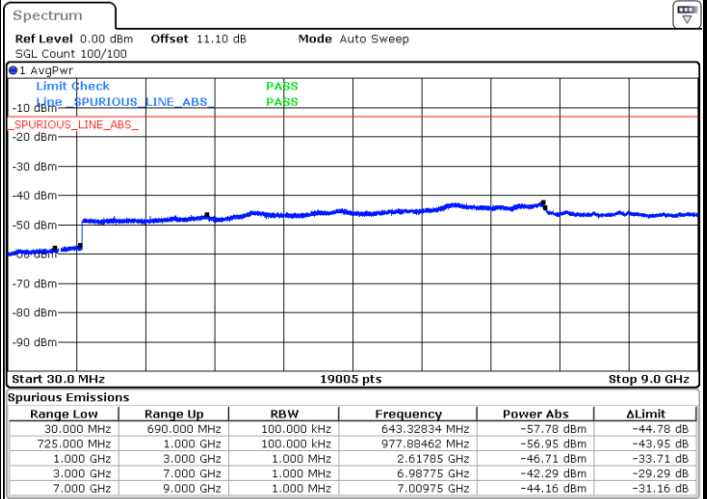
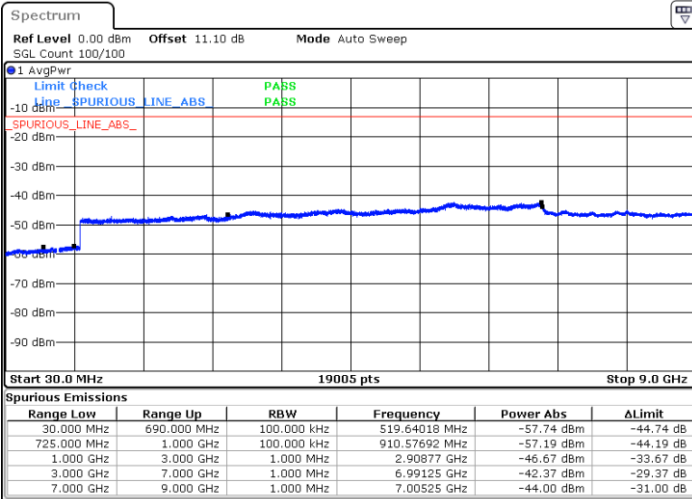


Conducted Spurious Emission

FR1 n12 / 5MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

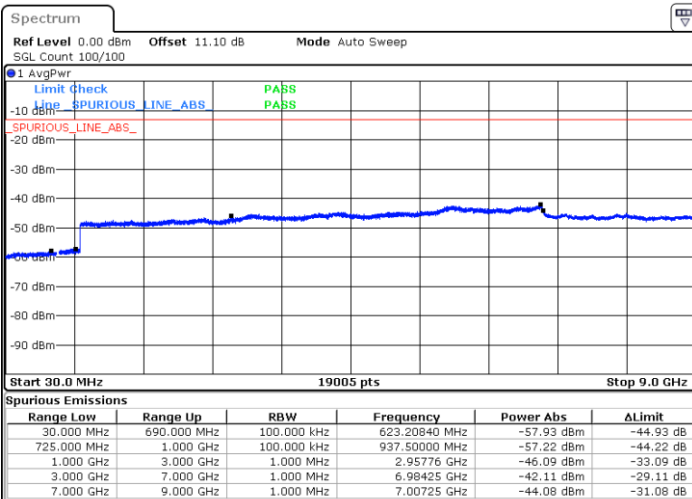
Middle Channel / 1RB1



Date: 29.JUN.2020 11:13:42

Date: 29.JUN.2020 11:08:58

Highest Channel / 1RB1



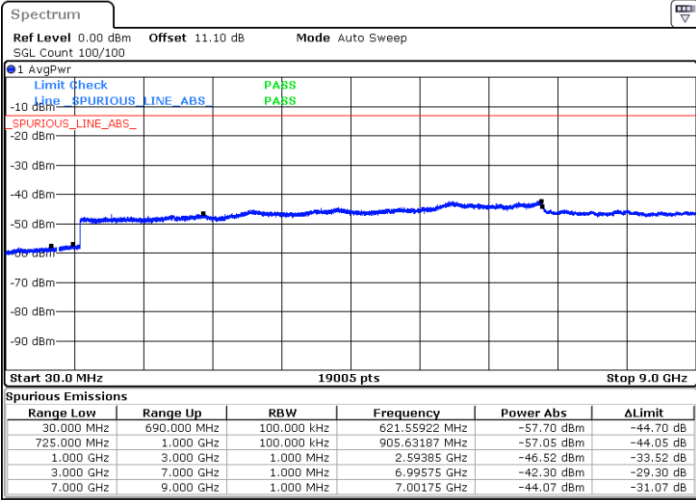
Date: 29.JUN.2020 11:08:21



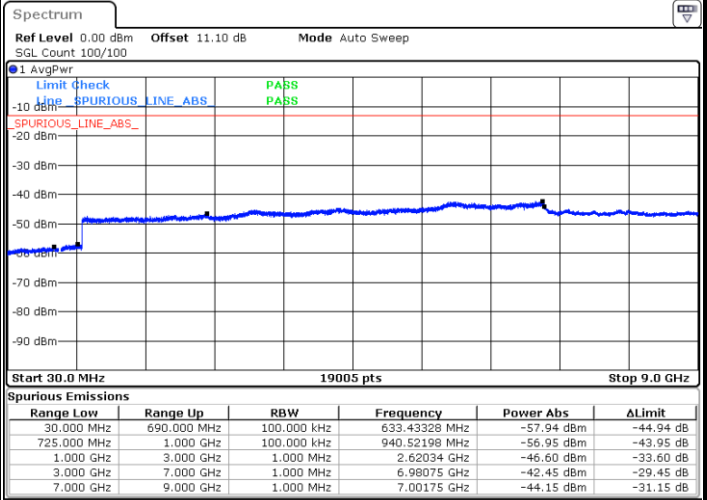
FR1 n12 / 10MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

Middle Channel / 1RB1

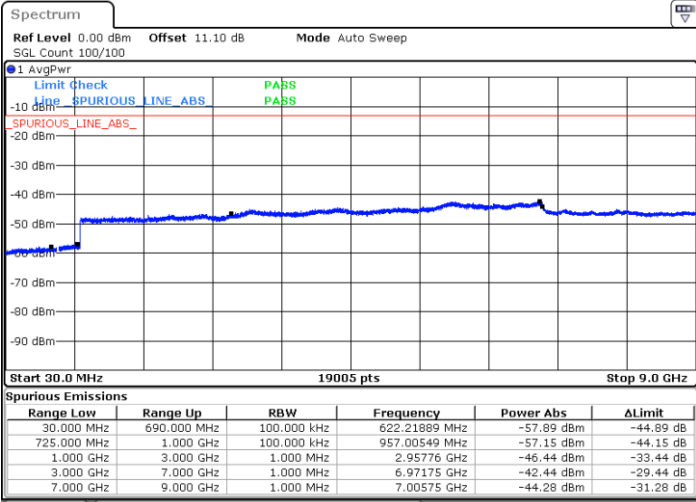


Date: 29.JUN.2020 10:52:29



Date: 29.JUN.2020 10:51:17

Highest Channel / 1RB1



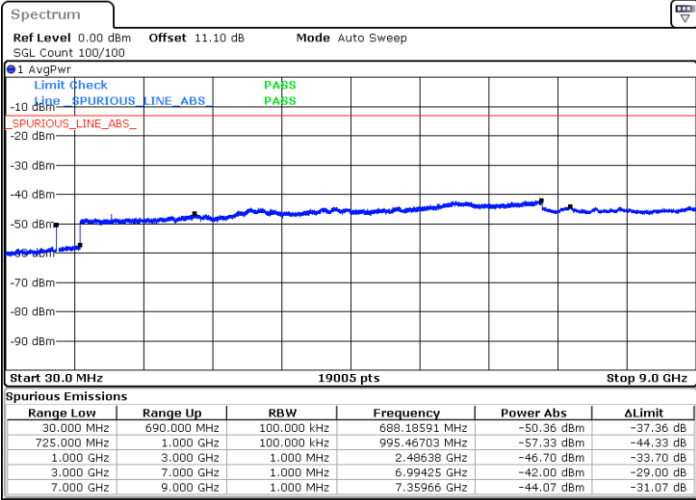
Date: 29.JUN.2020 10:50:25



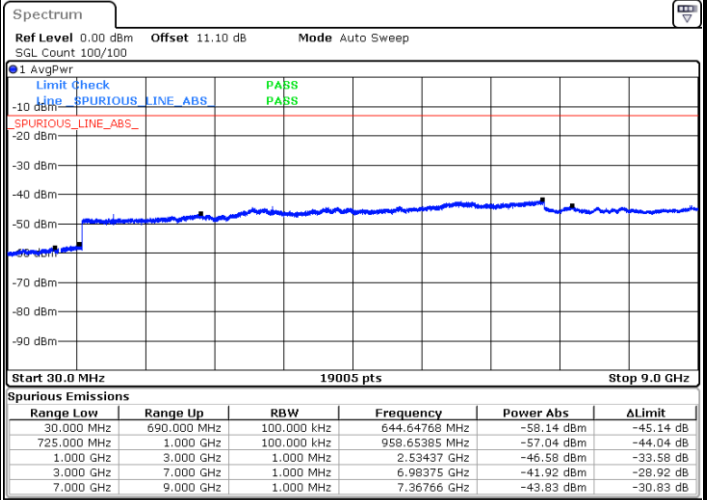
FR1 n12 / 15MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

Middle Channel / 1RB1

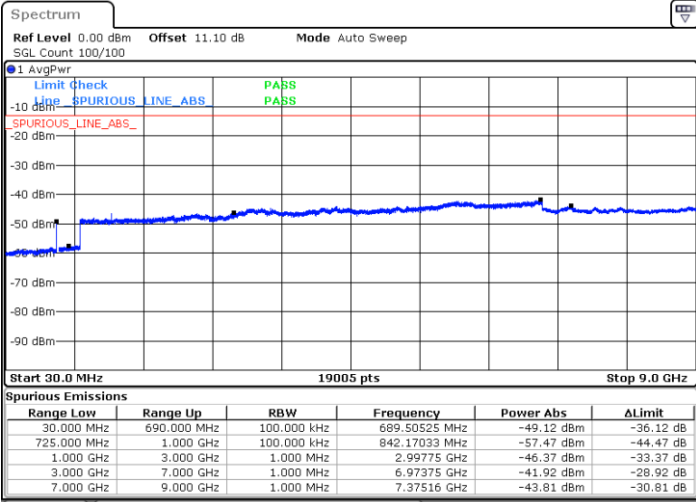


Date: 29.JUN.2020 13:40:34



Date: 29.JUN.2020 11:54:56

Highest Channel / 1RB1



Date: 29.JUN.2020 13:47:40



Frequency Stability

Test Conditions		FR1 n12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 15MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0038	PASS
40	Normal Voltage	0.0068	
30	Normal Voltage	0.0021	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0045	
0	Normal Voltage	0.0021	
-10	Normal Voltage	0.0008	
-20	Normal Voltage	0.0034	
-30	Normal Voltage	0.0027	
20	Maximum Voltage	0.0038	
20	Normal Voltage	0.0047	
20	Battery End Point	0.0011	

Note:

1. Normal Voltage =3.87 V. ; Battery End Point (BEP) =3.49 V. ; Maximum Voltage =4.45 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



FR1 n25

Peak-to-Average Ratio

Mode	FR1 n25 / 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	4.38	5.16	6.41	6.78	PASS
Middle CH	4.87	5.33	6.46	6.84	
Highest CH	4.78	5.39	6.49	6.84	
Mode	FR1 n25 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Lowest CH	7.22				PASS
Middle CH	7.19				
Highest CH	7.19				



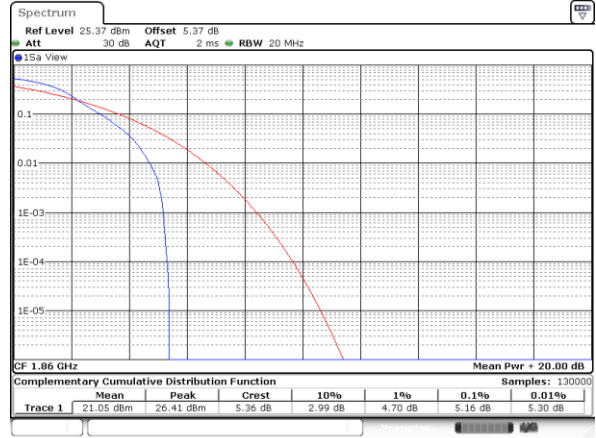
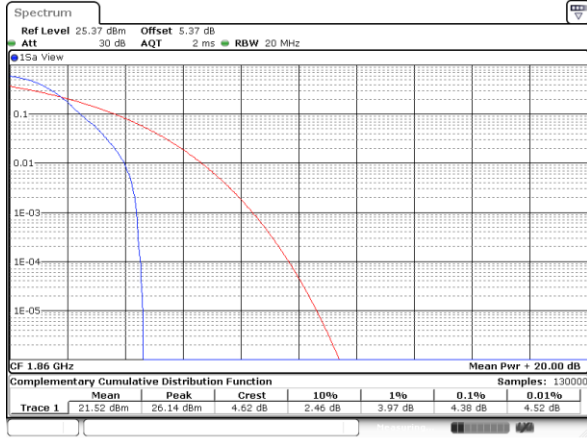
FR1 n25 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / Full RB

Lowest Channel / Full RB

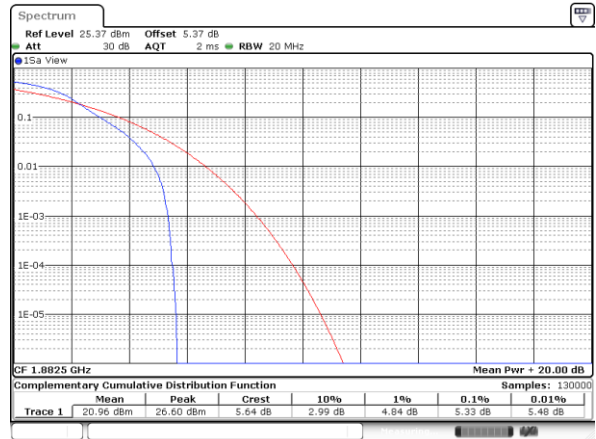
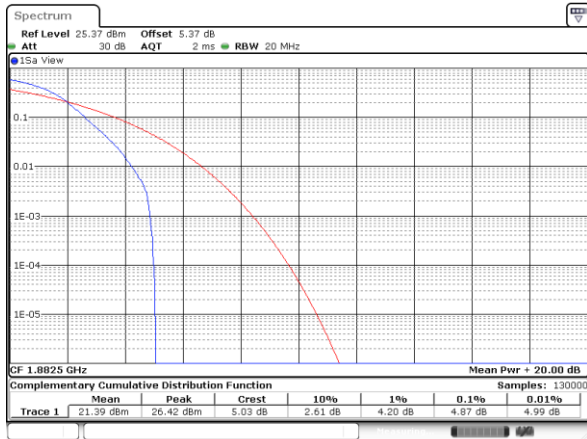


Date: 26 JUN 2020 15:42:14

Date: 26 JUN 2020 15:42:51

Middle Channel / Full RB

Middle Channel / Full RB

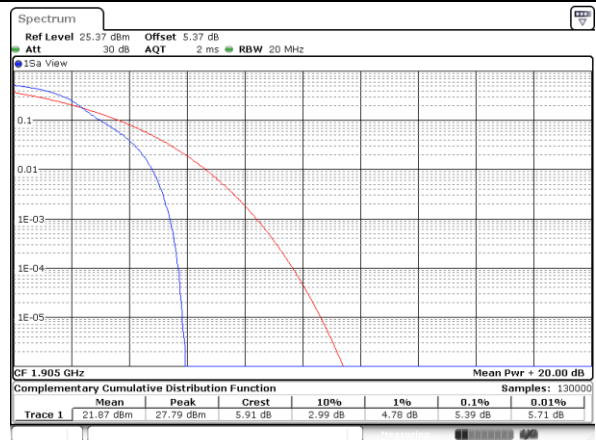
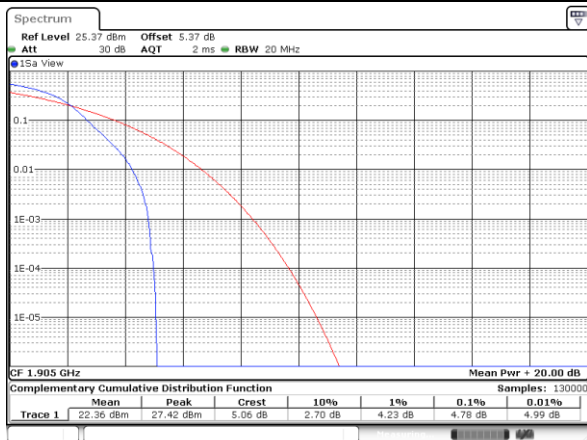


Date: 26 JUN 2020 15:46:07

Date: 26 JUN 2020 15:45:51

Highest Channel / Full RB

Highest Channel / Full RB



Date: 26 JUN 2020 15:58:32

Date: 26 JUN 2020 15:59:14



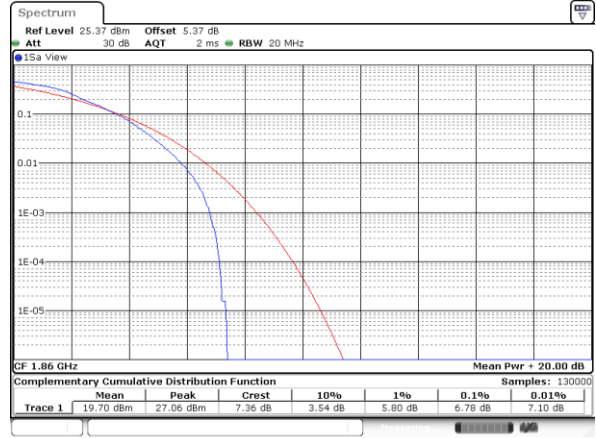
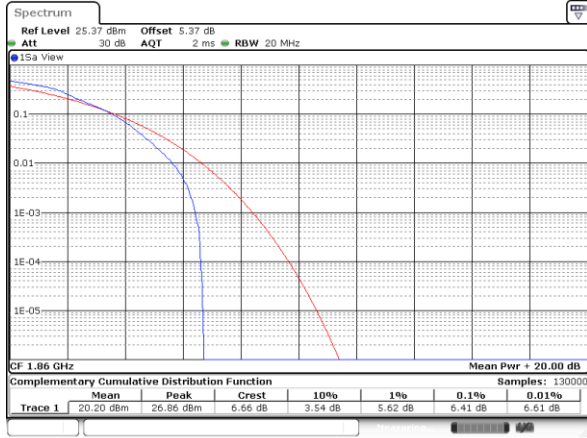
FR1 n25 / 20MHz / DFT-S OFDM

16QAM

64QAM

Lowest Channel / Full RB

Lowest Channel / Full RB

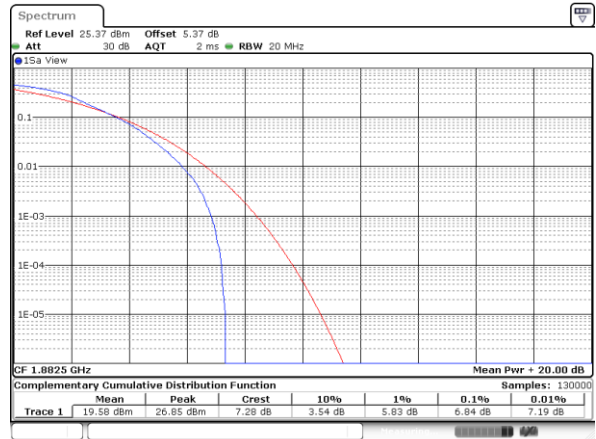
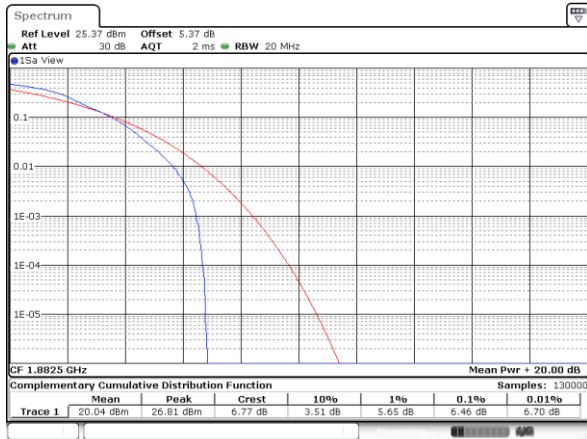


Date: 26 JUN 2020 15:43:08

Date: 26 JUN 2020 15:43:38

Middle Channel / Full RB

Middle Channel / Full RB

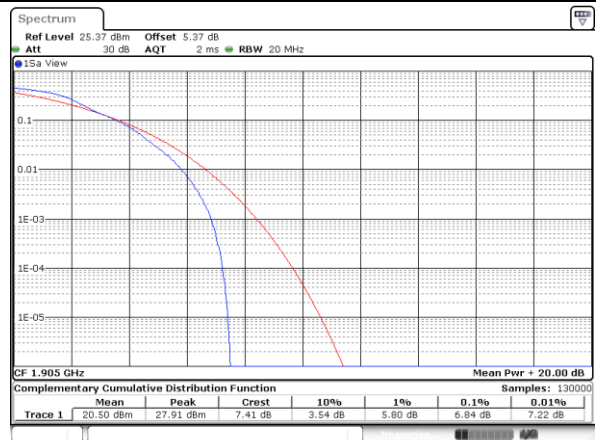


Date: 26 JUN 2020 15:45:24

Date: 26 JUN 2020 15:45:07

Highest Channel / Full RB

Highest Channel / Full RB



Date: 26 JUN 2020 15:59:40

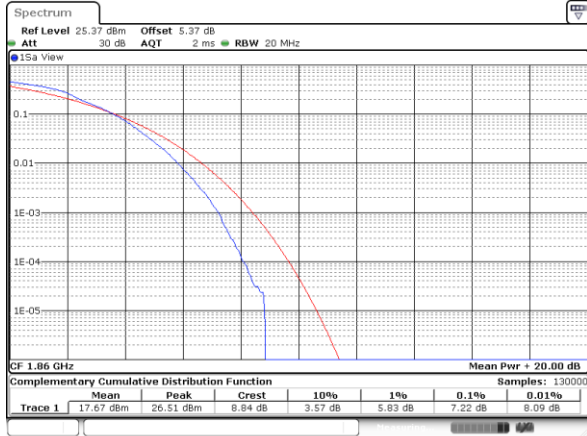
Date: 26 JUN 2020 15:59:56



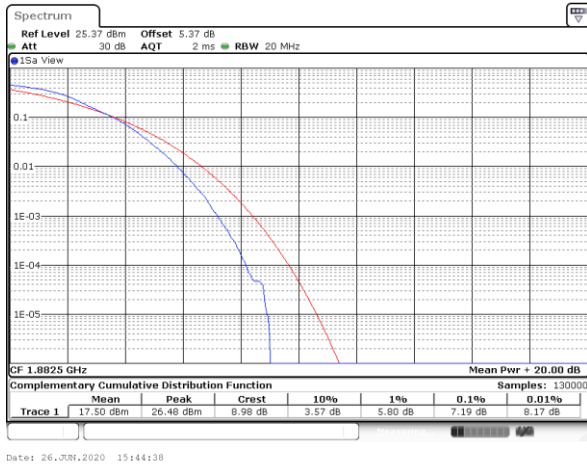
FR1 n25 / 20MHz / DFT-S OFDM

256QAM

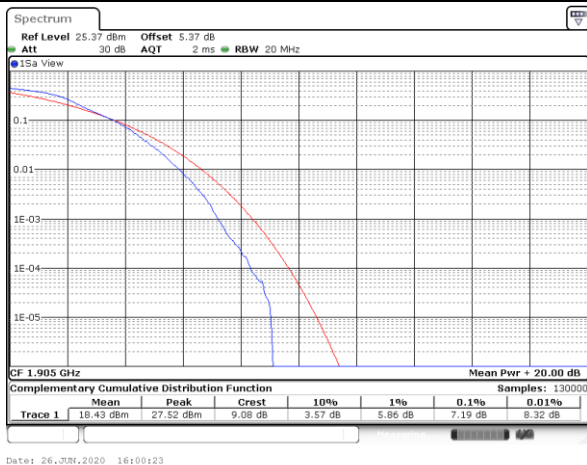
Lowest Channel / Full RB



Middle Channel / Full RB



Highest Channel / Full RB





26dB Bandwidth

Mode	FR1 n25 : 26dB BW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	PI/2 BPSK		PI/2 BPSK		PI/2 BPSK		PI/2 BPSK	
Lowest CH	4.92		9.69		14.24		18.78	
Middle CH	5.28		9.51		14.24		19.02	
Highest CH	5.05		9.57		14.36		18.98	

Mode	FR1 n25 : 26dB BW(MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	5.06	4.94	10.25	10.05	15.05	14.84	20.02	19.86
Middle CH	4.95	5.30	9.91	9.77	14.99	15.11	19.82	19.82
Highest CH	5.14	4.85	10.03	9.85	15.14	14.87	19.90	20.06

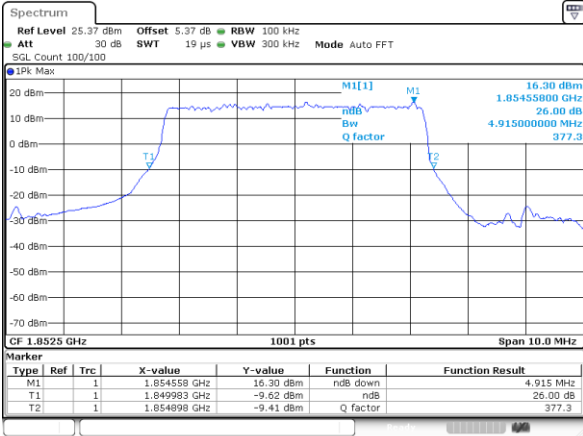
Mode	FR1 n25 : 26dB BW(MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	5.10	5.19	9.83	9.75	14.90	15.14	20.02	20.02
Middle CH	4.90	5.25	9.99	9.93	14.93	15.05	19.94	19.90
Highest CH	5.00	5.15	9.93	10.09	14.96	14.90	20.10	20.10



FR1 n25 / 5MHz / DFT-S OFDM

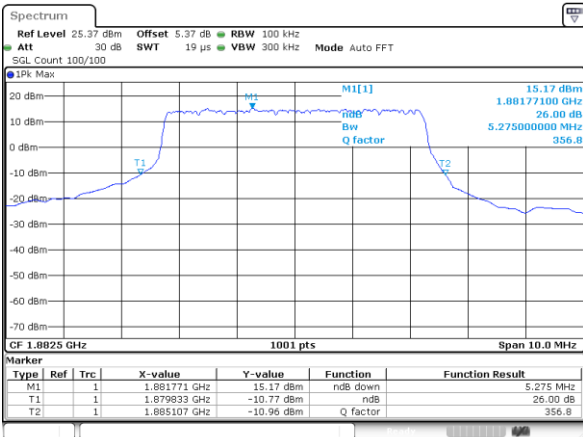
PI/2 BPSK

Lowest Channel



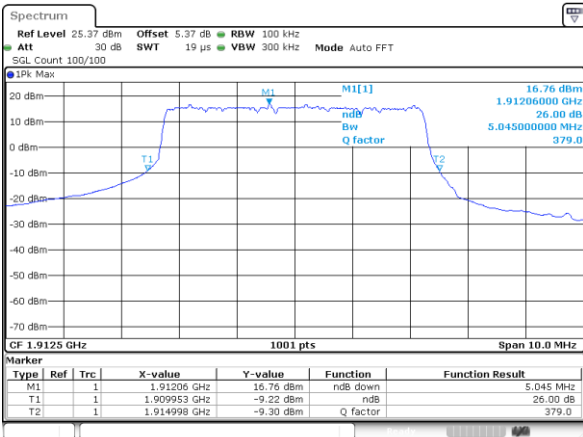
Date: 26 JUN 2020 14:04:52

Middle Channel



Date: 26 JUN 2020 14:06:09

Highest Channel



Date: 26 JUN 2020 14:16:31



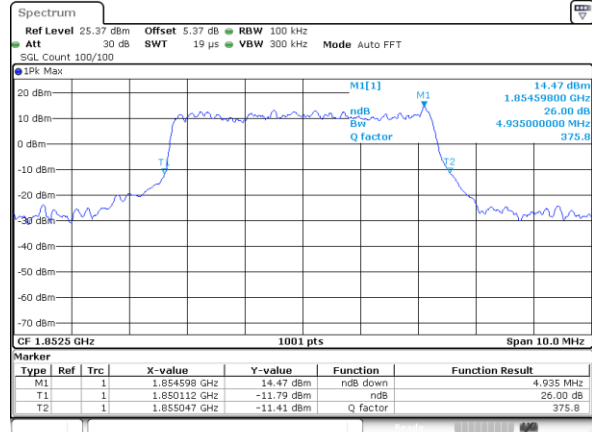
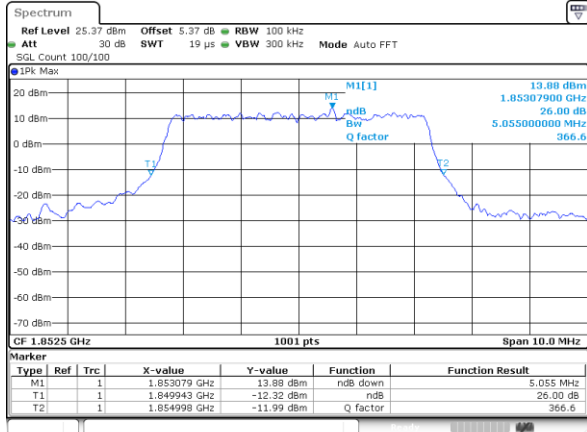
FR1 n25 / 5MHz / CP OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

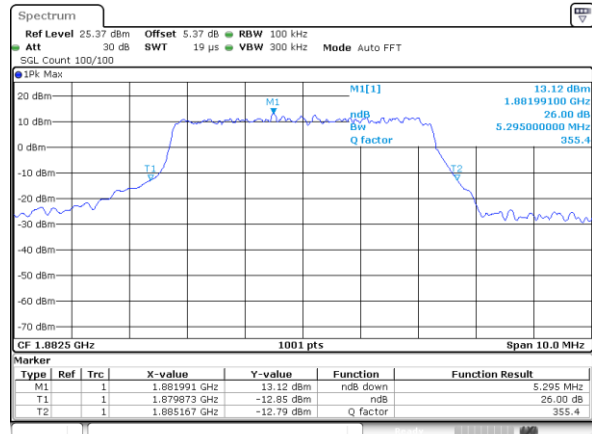
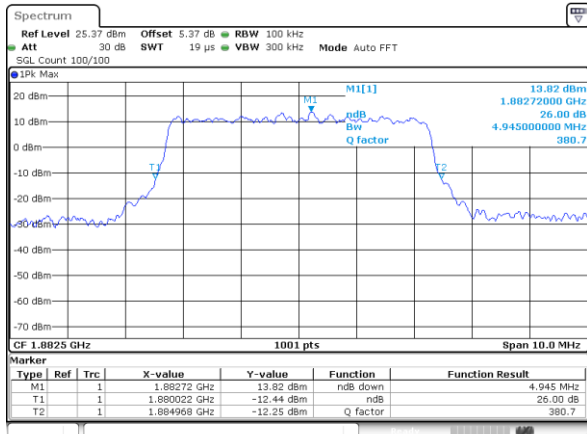


Date: 26 JUN 2020 14:04:19

Date: 26 JUN 2020 14:03:53

Middle Channel

Middle Channel

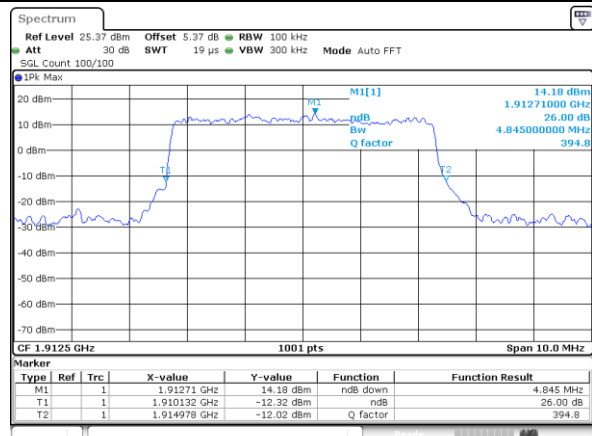
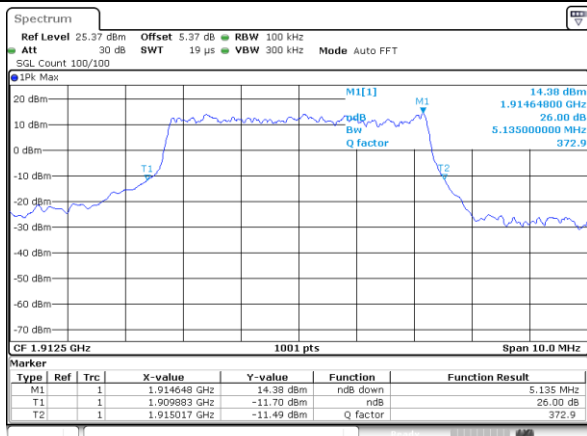


Date: 26 JUN 2020 14:06:49

Date: 26 JUN 2020 14:07:15

Highest Channel

Highest Channel



Date: 26 JUN 2020 14:12:44

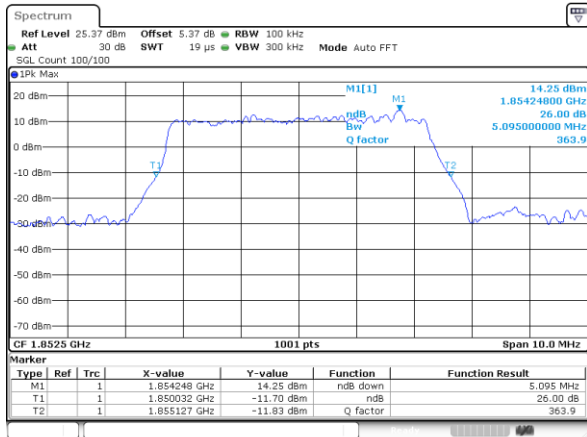
Date: 26 JUN 2020 14:12:22



FR1 n25 / 5MHz / CP OFDM

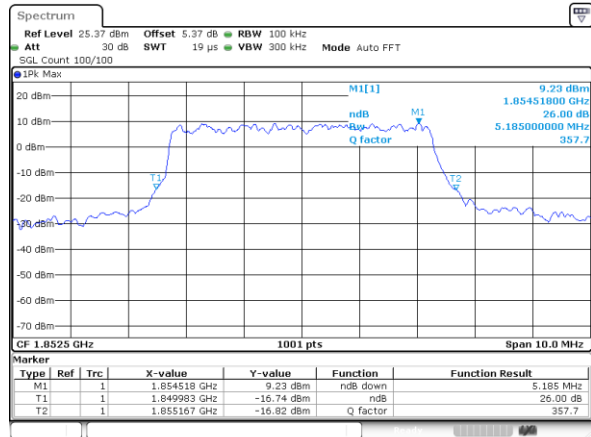
64QAM

Lowest Channel

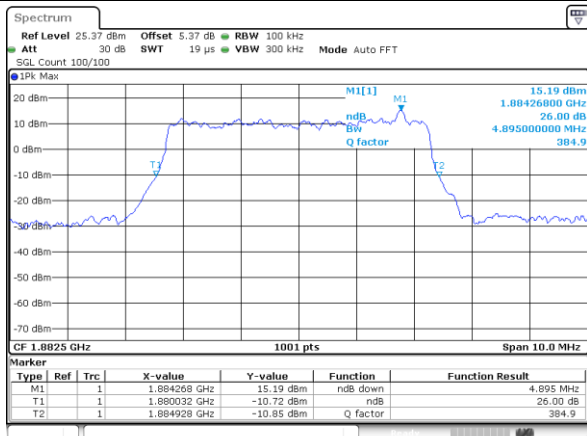


256QAM

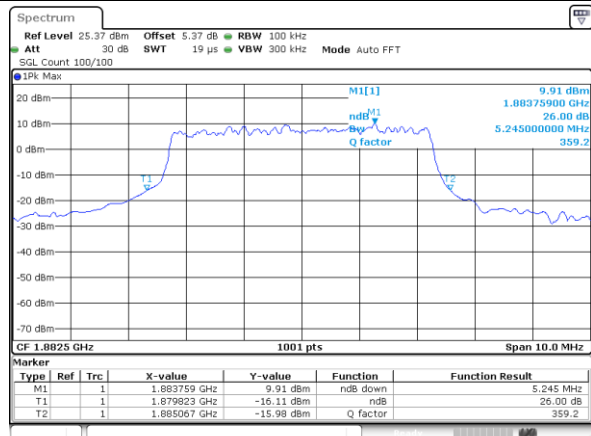
Lowest Channel



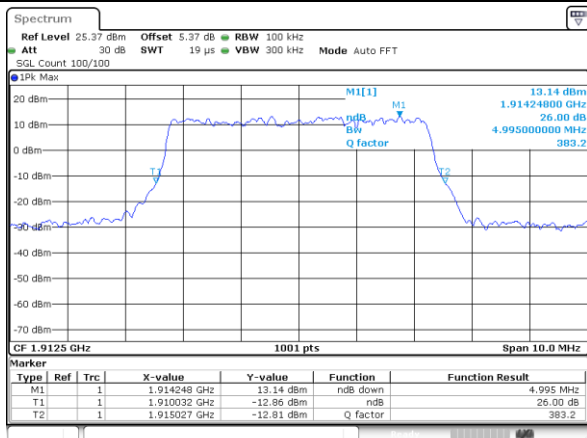
Middle Channel



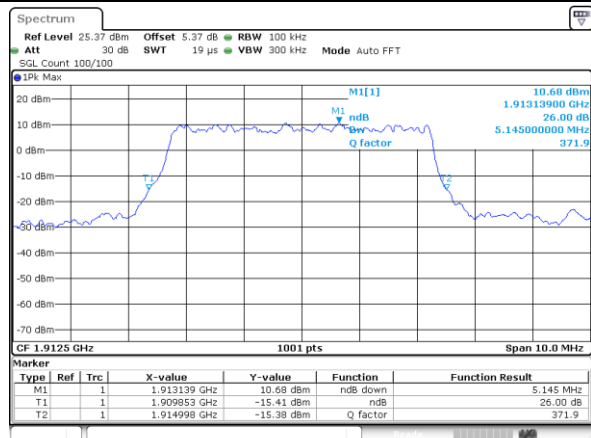
Middle Channel



Highest Channel



Highest Channel

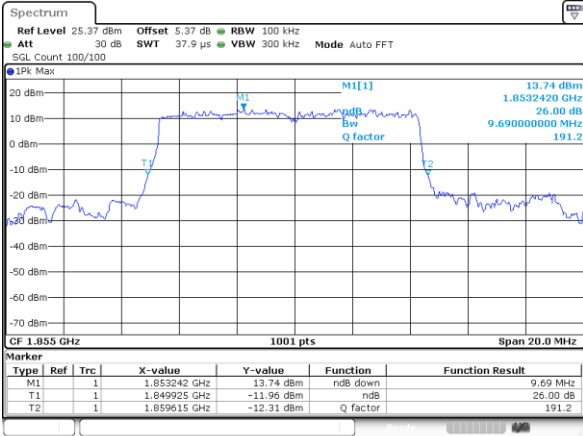




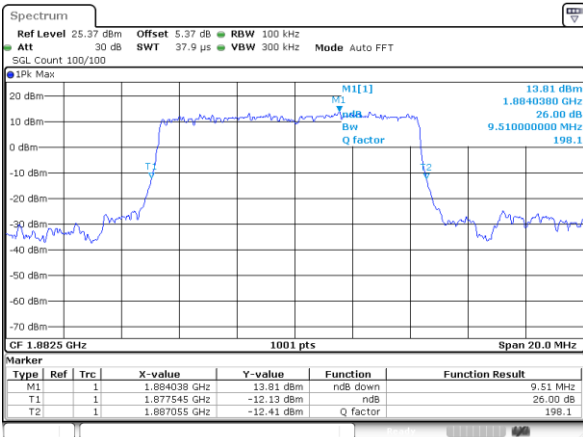
FR1 n25 / 10MHz / DFT-S OFDM

PI/2 BPSK

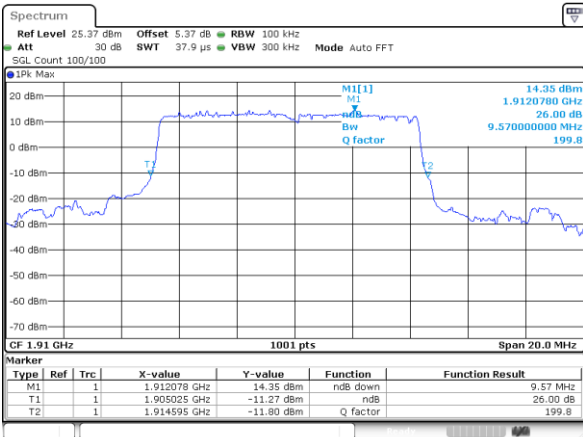
Lowest Channel



Middle Channel



Highest Channel





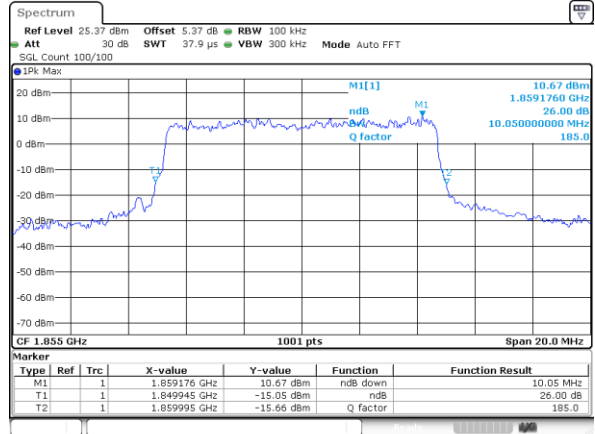
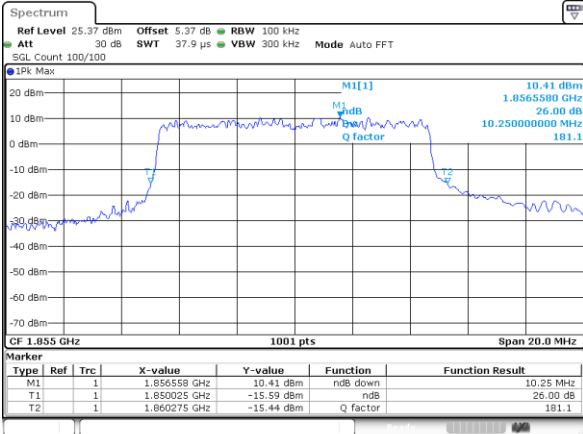
FR1 n25 / 10MHz / CP OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

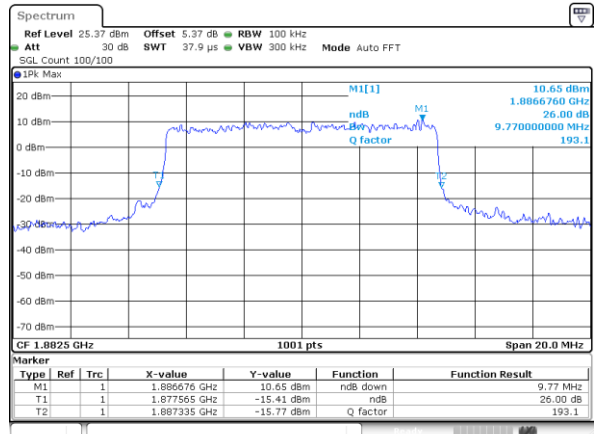
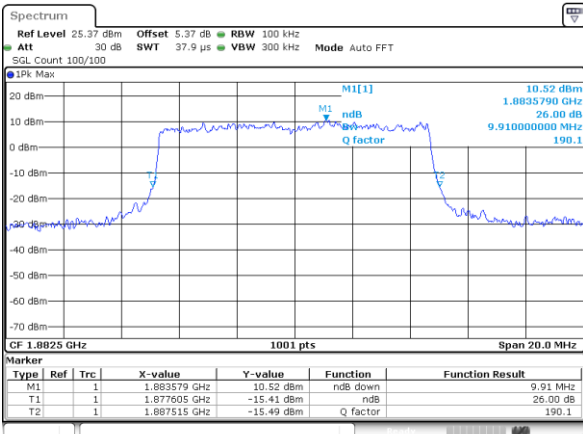


Date: 26 JUN 2020 13:54:52

Date: 26 JUN 2020 13:55:17

Middle Channel

Middle Channel

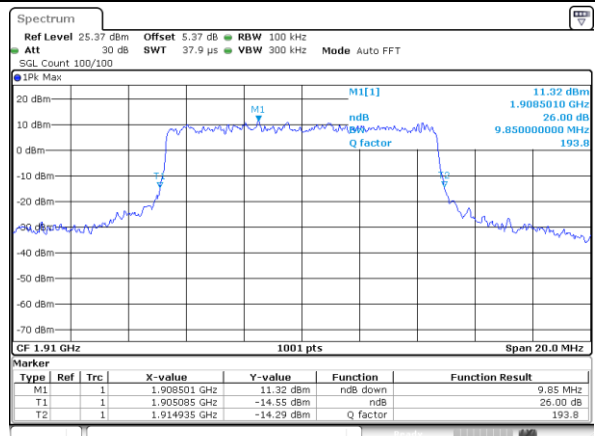
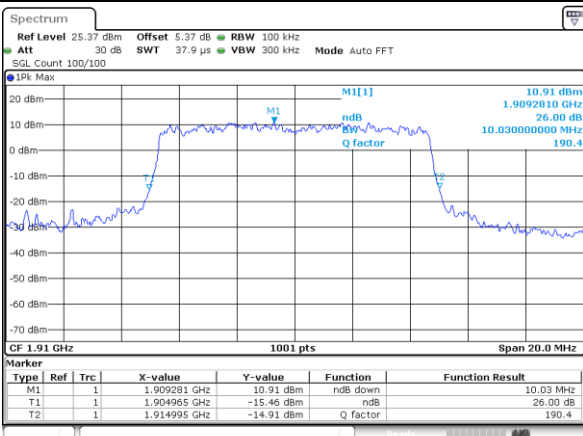


Date: 26 JUN 2020 13:58:25

Date: 26 JUN 2020 13:57:59

Highest Channel

Highest Channel



Date: 26 JUN 2020 14:00:30

Date: 26 JUN 2020 14:00:53



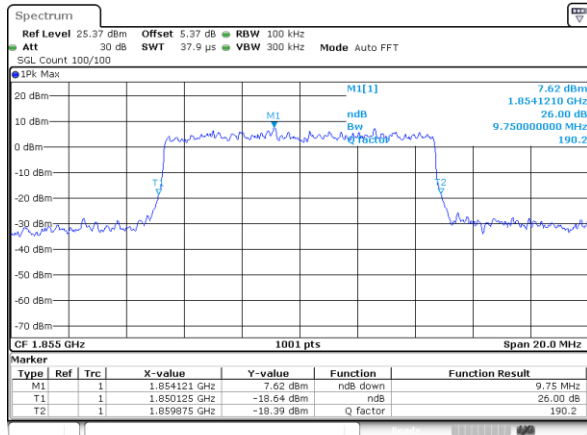
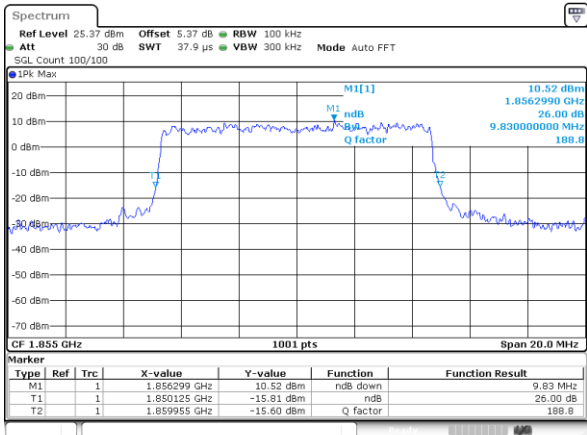
FR1 n25 / 10MHz / CP OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

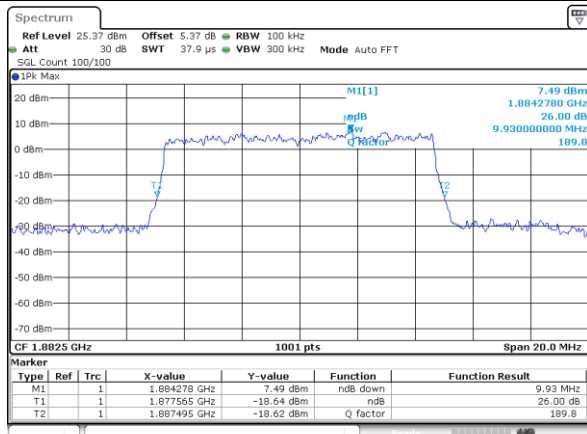
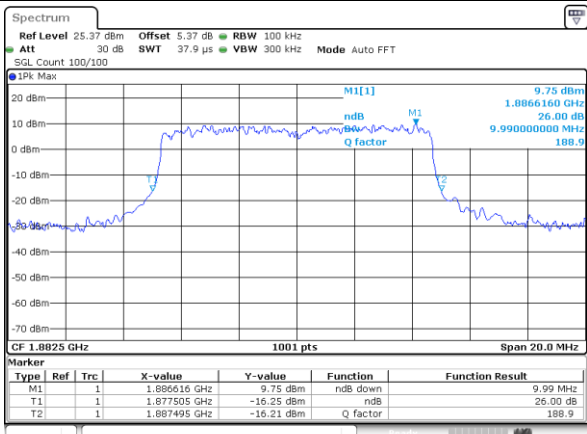


Date: 26 JUN 2020 13:55:47

Date: 26 JUN 2020 13:56:24

Middle Channel

Middle Channel

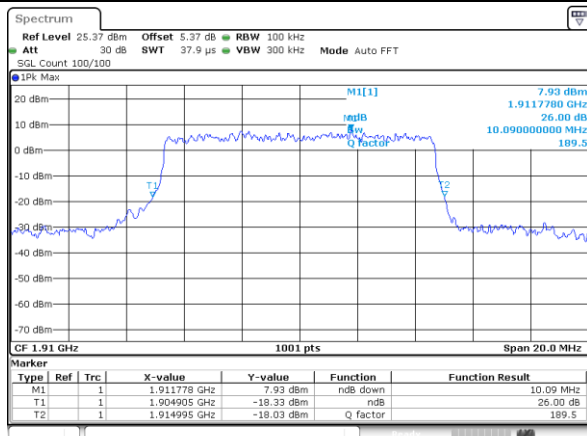
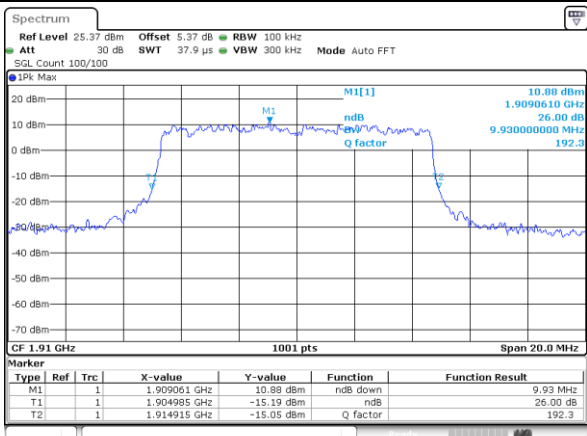


Date: 26 JUN 2020 13:57:32

Date: 26 JUN 2020 13:56:58

Highest Channel

Highest Channel



Date: 26 JUN 2020 14:01:18

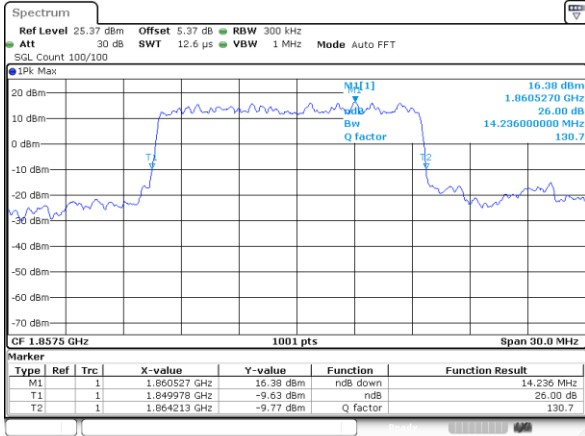
Date: 26 JUN 2020 14:01:50



FR1 n25 / 15MHz / DFT-S OFDM

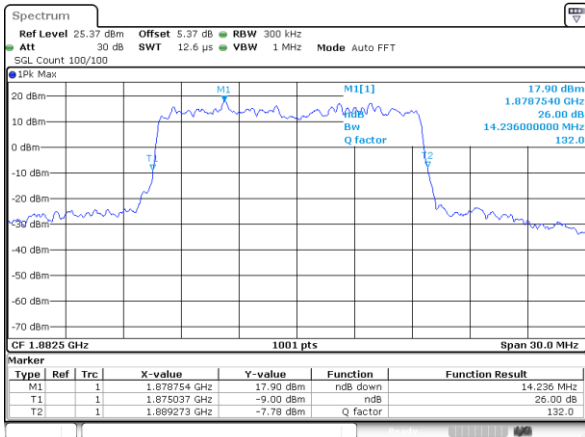
PI/2 BPSK

Lowest Channel



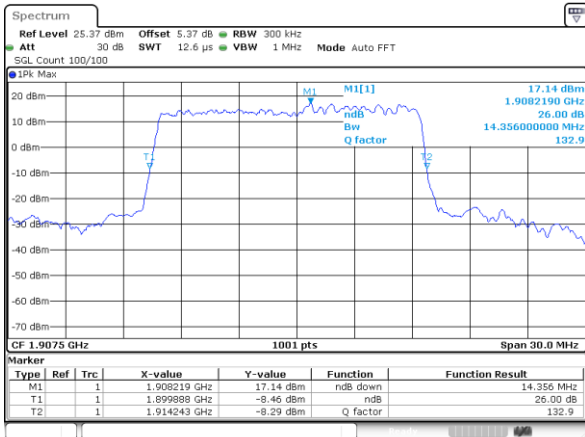
Date: 26 JUN 2020 13:43:42

Middle Channel



Date: 26 JUN 2020 13:44:28

Highest Channel



Date: 26 JUN 2020 13:52:15



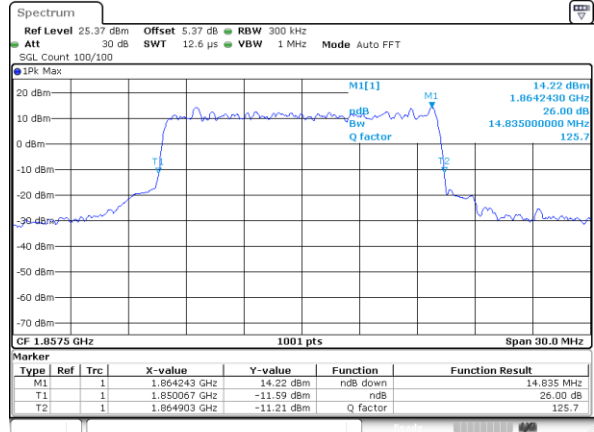
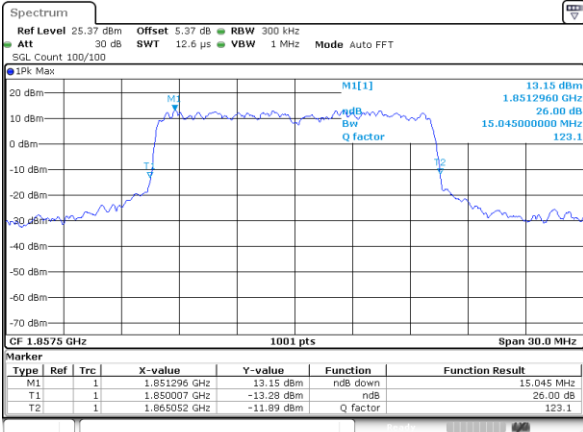
FR1 n25 / 15MHz / CP OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

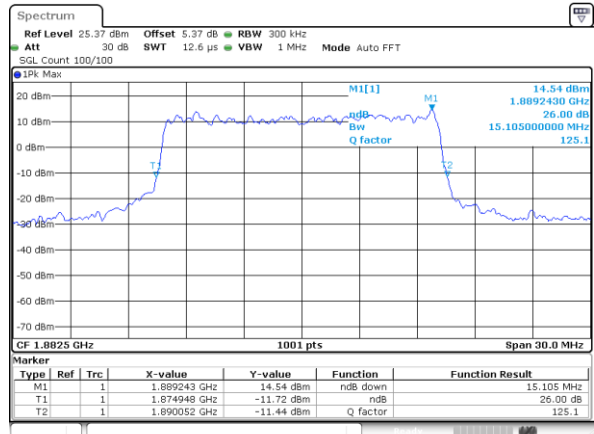
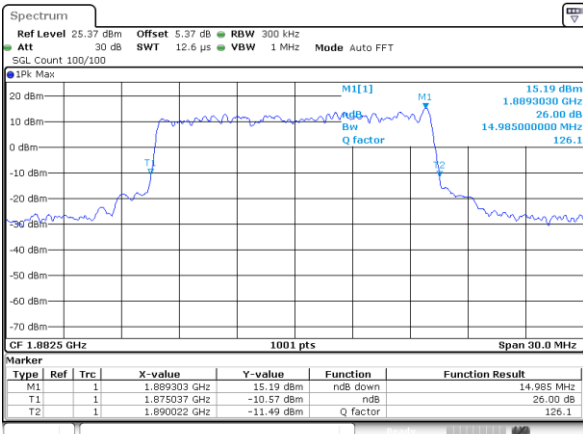


Date: 26 JUN 2020 13:40:50

Date: 26 JUN 2020 13:41:32

Middle Channel

Middle Channel

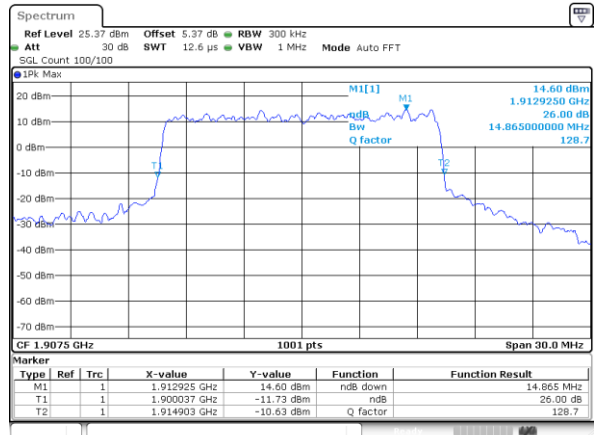
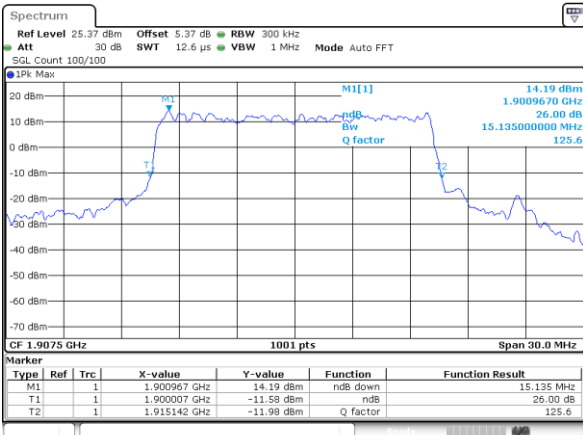


Date: 26 JUN 2020 13:45:09

Date: 26 JUN 2020 13:45:18

Highest Channel

Highest Channel



Date: 26 JUN 2020 13:51:27

Date: 26 JUN 2020 13:51:04



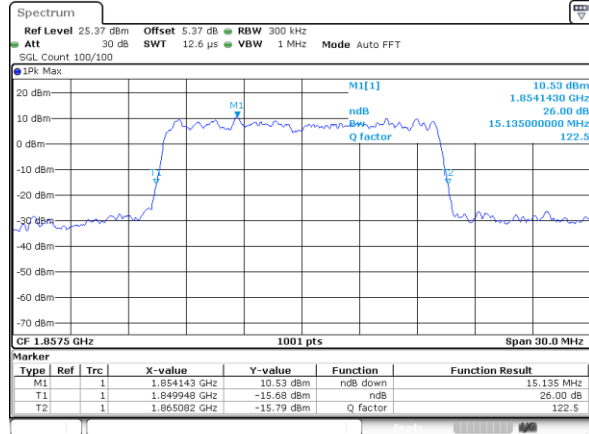
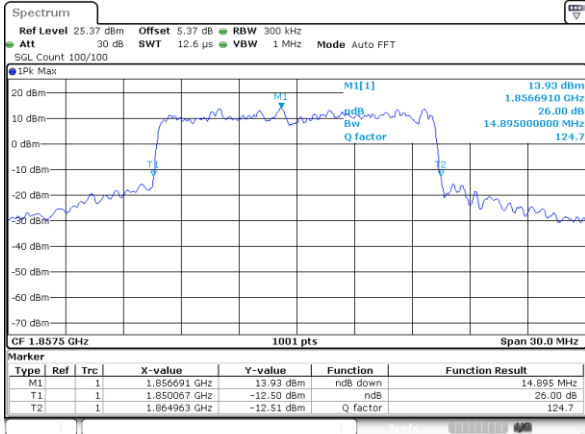
FR1 n25 / 15MHz / CP OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

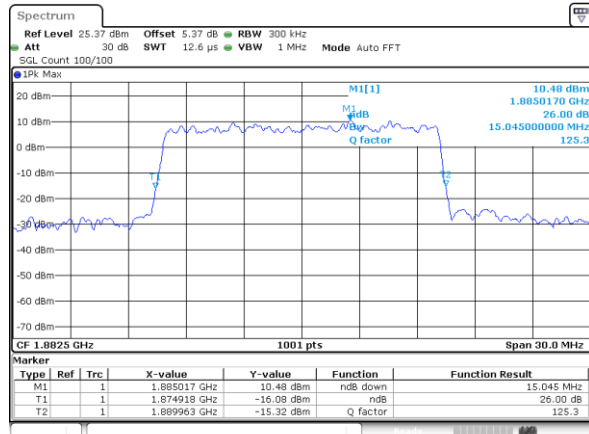
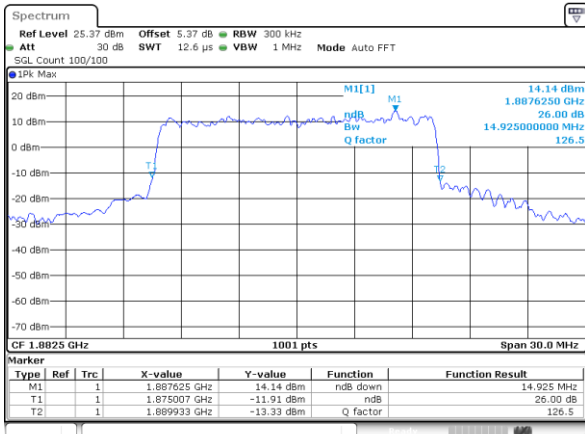


Date: 26 JUN 2020 13:42:12

Date: 26 JUN 2020 13:42:44

Middle Channel

Middle Channel

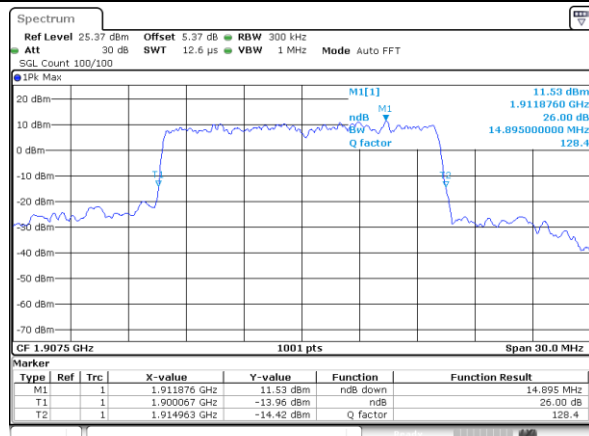
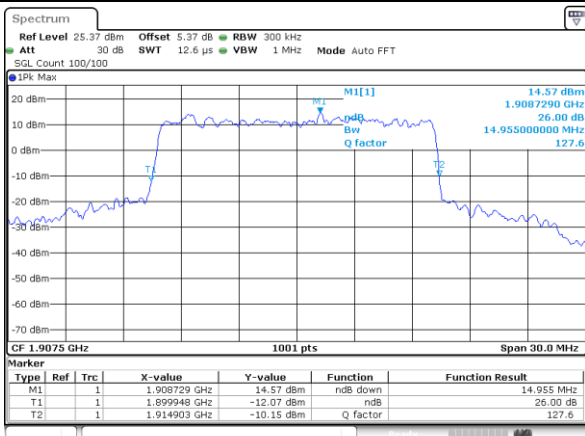


Date: 26 JUN 2020 13:46:08

Date: 26 JUN 2020 13:46:17

Highest Channel

Highest Channel



Date: 26 JUN 2020 13:50:38

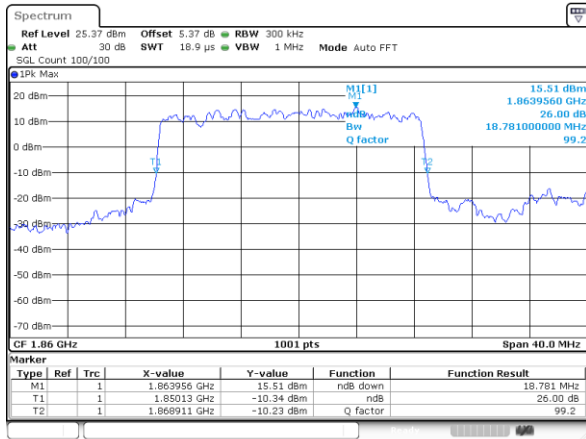
Date: 26 JUN 2020 13:50:09



FR1 n25 / 20MHz / DFT-S OFDM

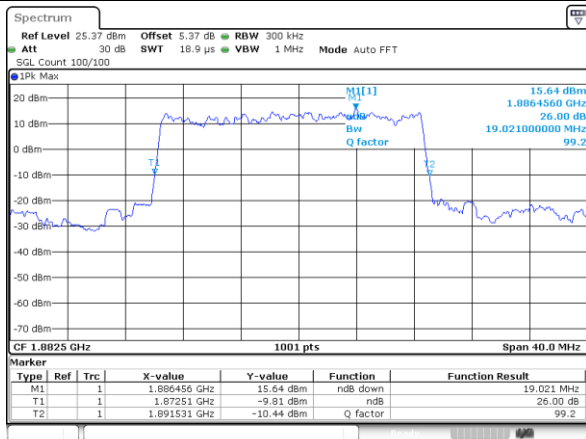
PI/2 BPSK

Lowest Channel



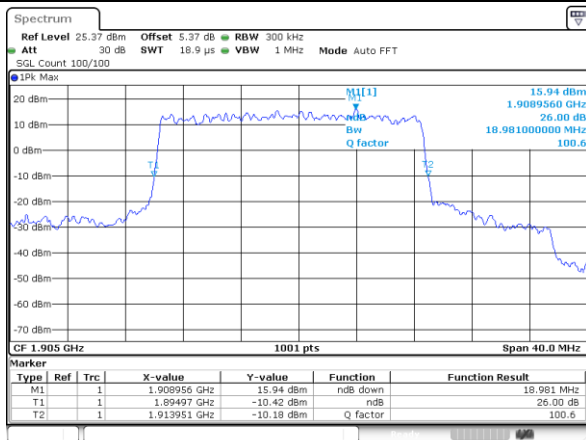
Date: 26 JUN 2020 11:39:41

Middle Channel



Date: 26 JUN 2020 11:48:00

Highest Channel



Date: 26 JUN 2020 11:49:00



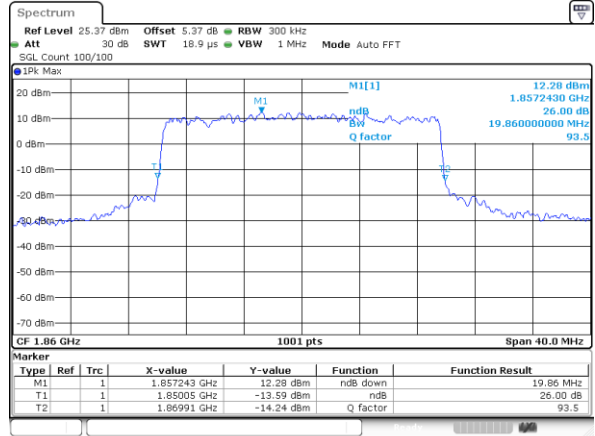
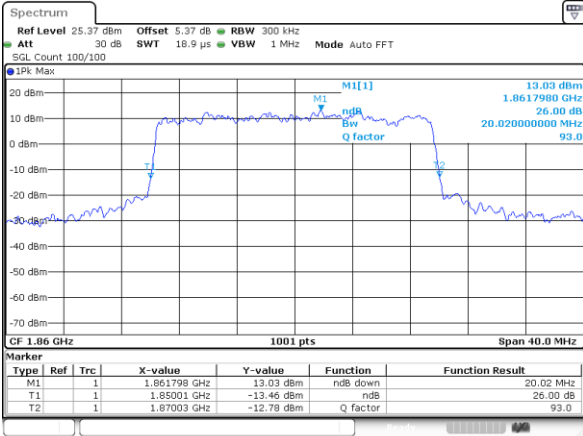
FR1 n25 / 20MHz / CP OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

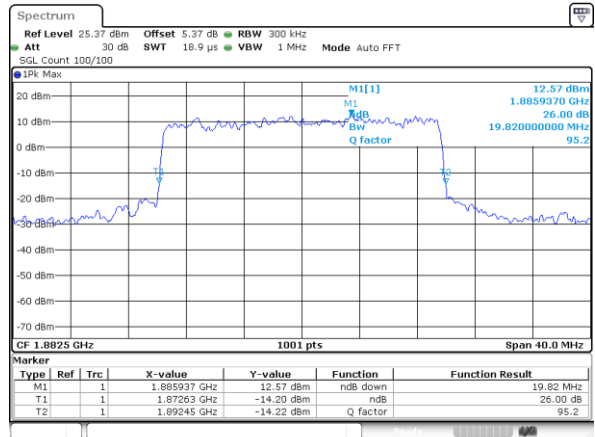
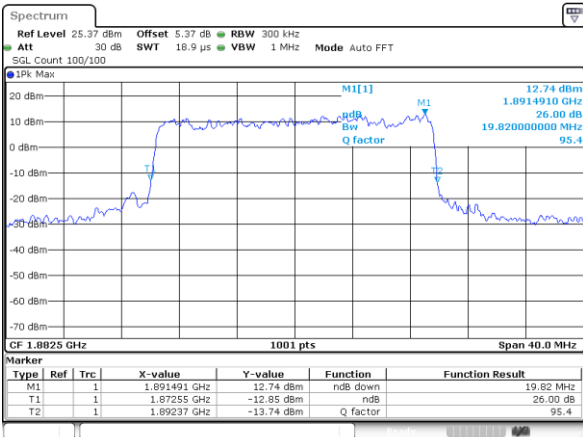


Date: 26 JUN 2020 11:32:08

Date: 26 JUN 2020 11:32:55

Middle Channel

Middle Channel

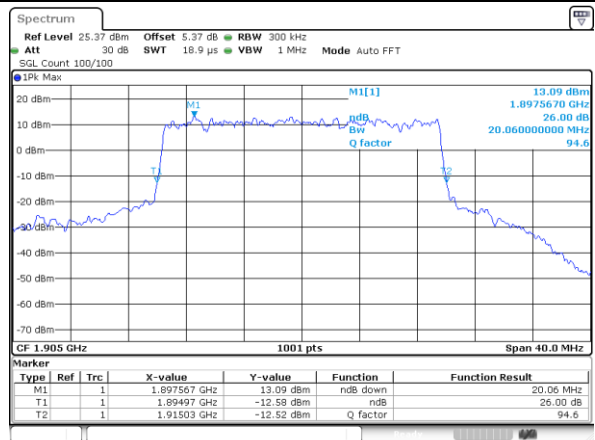
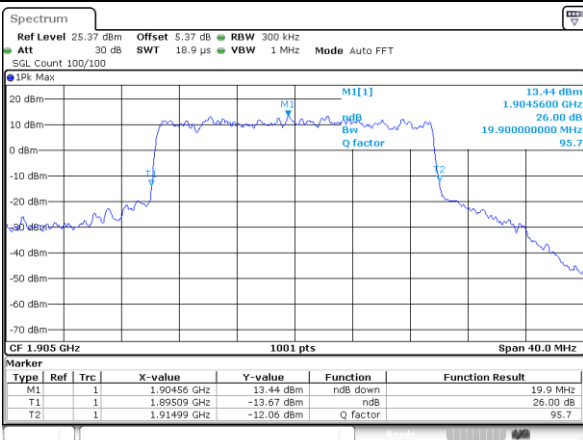


Date: 26 JUN 2020 11:42:13

Date: 26 JUN 2020 11:42:52

Highest Channel

Highest Channel



Date: 26 JUN 2020 11:49:52

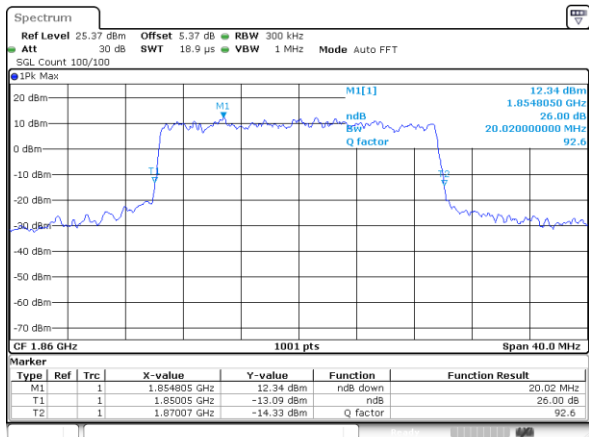
Date: 26 JUN 2020 11:50:33



FR1 n25 / 20MHz / CP OFDM

64QAM

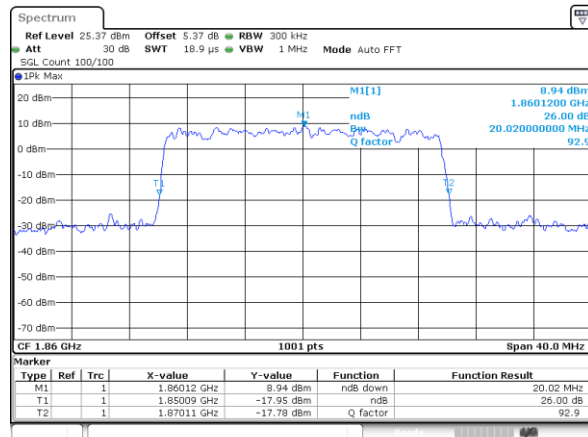
Lowest Channel



Date: 26 JUN 2020 11:33:52

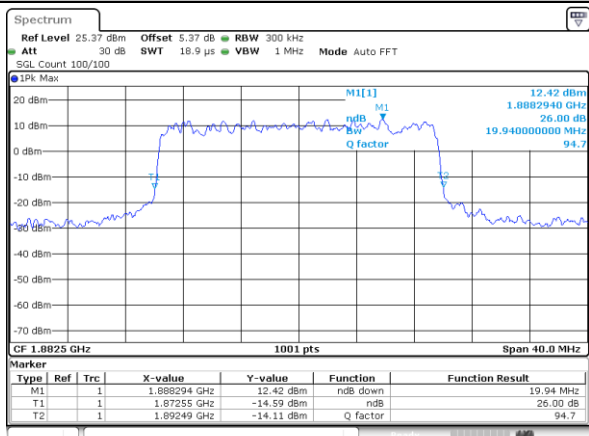
256QAM

Lowest Channel



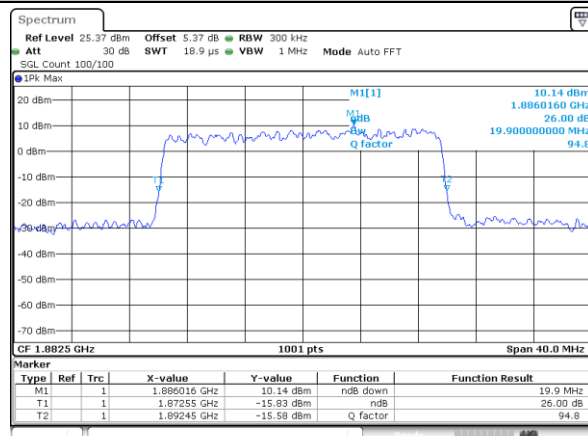
Date: 26 JUN 2020 11:37:42

Middle Channel



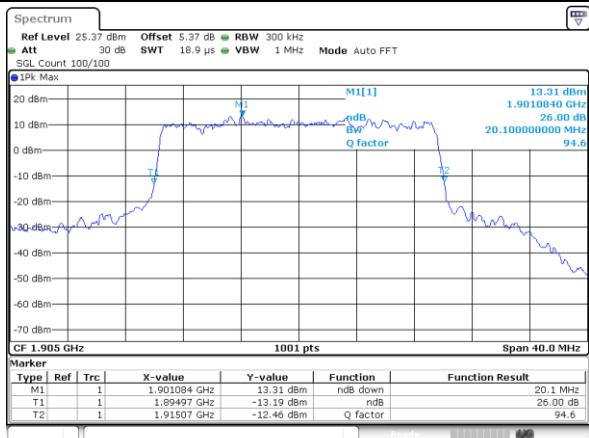
Date: 26 JUN 2020 11:54:15

Middle Channel



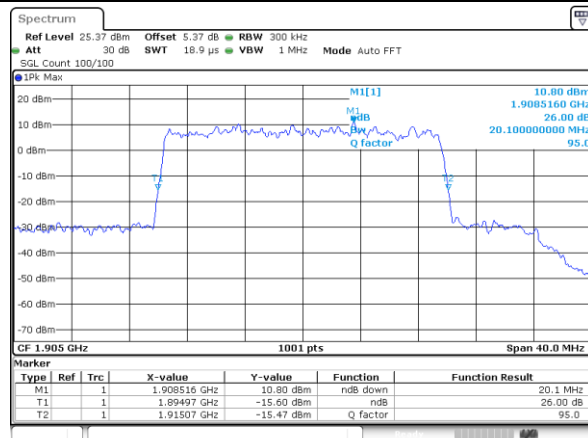
Date: 26 JUN 2020 11:53:11

Highest Channel



Date: 26 JUN 2020 11:51:06

Highest Channel



Date: 26 JUN 2020 11:51:50



Occupied Bandwidth

Mode	FR1 n25 : 99%OBW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	PI/2 BPSK		PI/2 BPSK		PI/2 BPSK		PI/2 BPSK	
Lowest CH	4.47		8.89		13.49		17.94	
Middle CH	4.47		8.91		13.49		17.94	
Highest CH	4.47		8.91		13.49		17.94	

Mode	FR1 n25 : 99%OBW (MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	4.47	4.48	9.29	9.25	14.12	14.12	18.94	18.98
Middle CH	4.48	4.52	9.33	9.27	14.15	14.21	18.94	18.94
Highest CH	4.48	4.48	9.29	9.25	14.12	14.12	18.94	19.02

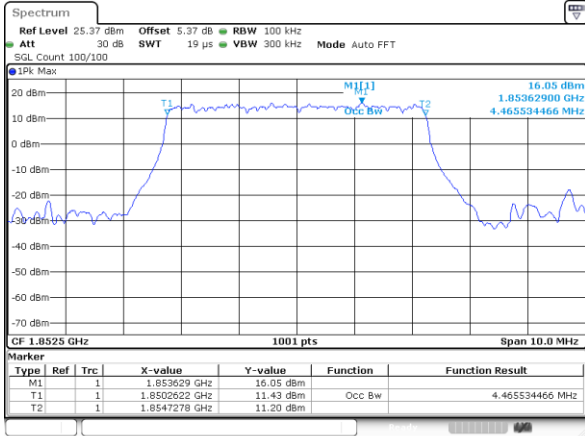
Mode	FR1 n25 : 99%OBW (MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	4.49	4.49	9.27	9.25	14.12	14.09	18.90	18.86
Middle CH	4.50	4.52	9.25	9.27	14.21	14.15	18.90	18.98
Highest CH	4.51	4.49	9.23	9.25	14.12	14.12	18.94	18.98



FR1 n25 / 5MHz / DFT-S OFDM

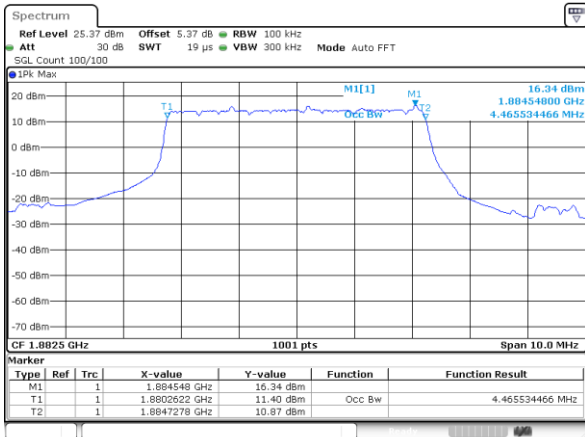
PI/2 BPSK

Lowest Channel



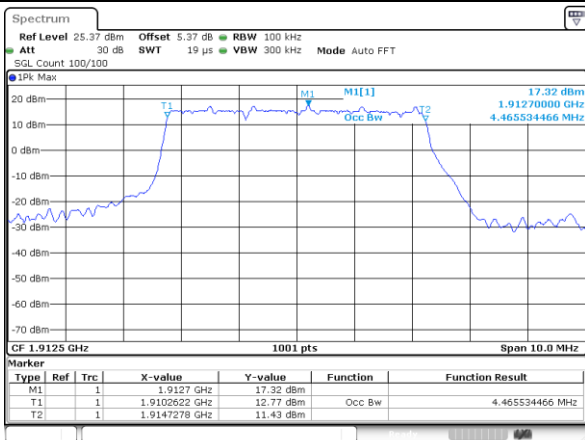
Date: 26 JUN 2020 14:04:44

Middle Channel



Date: 26 JUN 2020 14:05:26

Highest Channel



Date: 26 JUN 2020 14:16:23



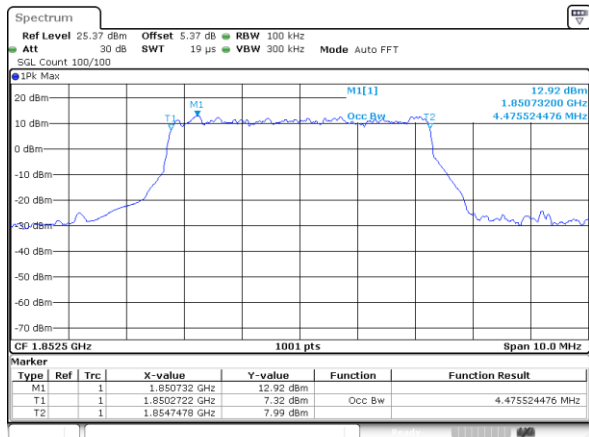
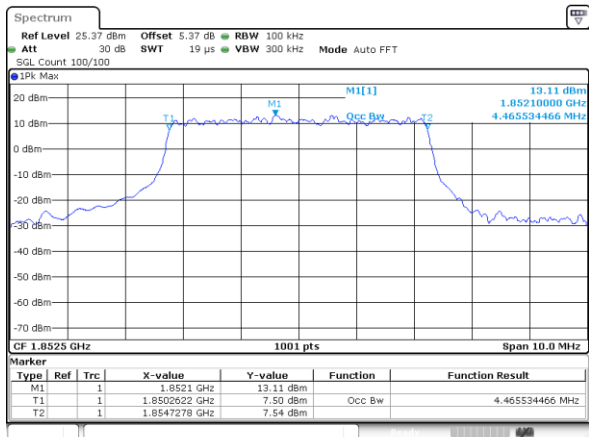
FR1 n25 / 5MHz / CP OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

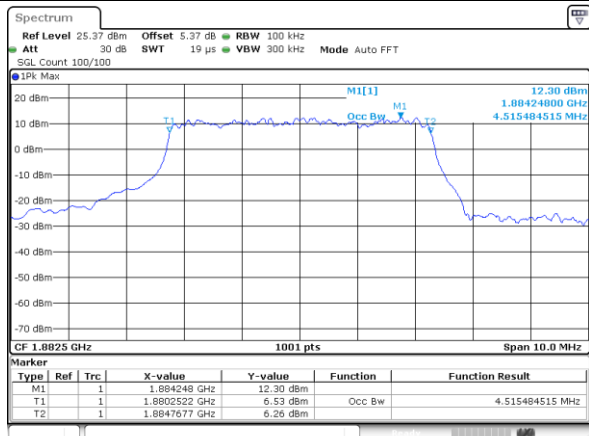
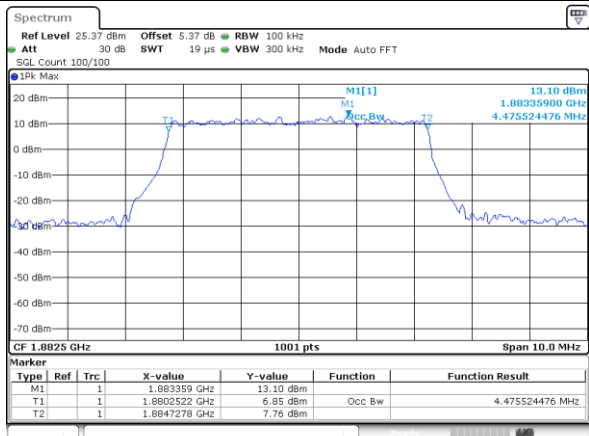


Date: 26 JUN 2020 14:04:09

Date: 26 JUN 2020 14:03:45

Middle Channel

Middle Channel

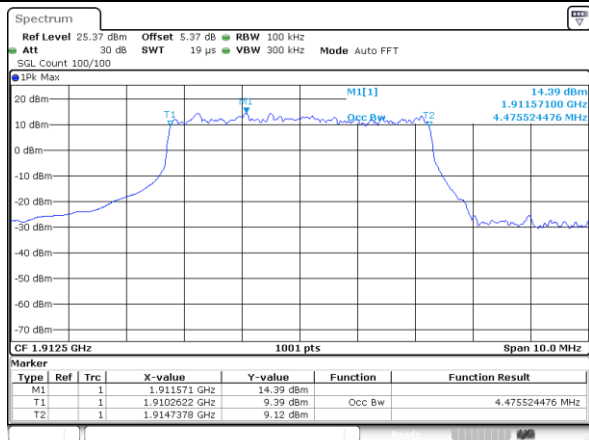
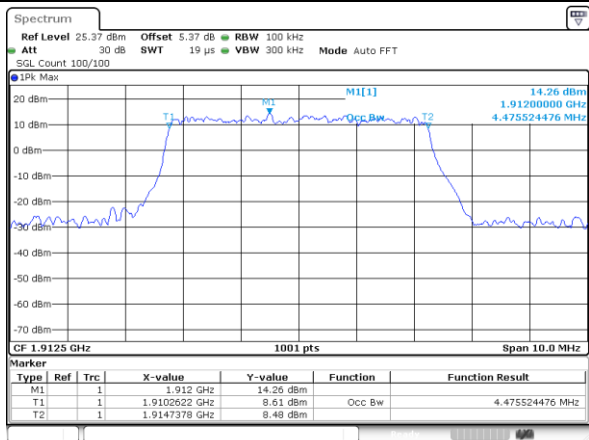


Date: 26 JUN 2020 14:06:41

Date: 26 JUN 2020 14:07:08

Highest Channel

Highest Channel



Date: 26 JUN 2020 14:12:36

Date: 26 JUN 2020 14:12:14



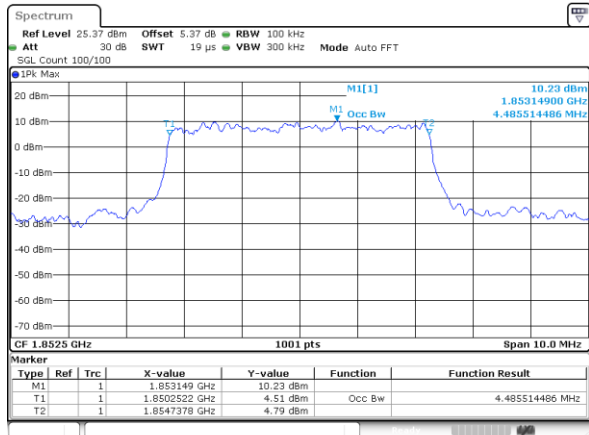
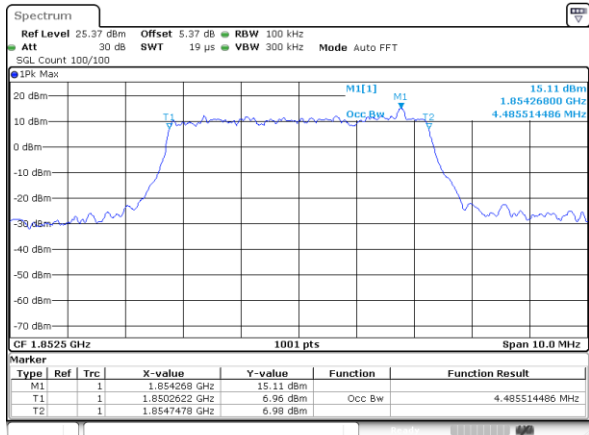
FR1 n25 / 5MHz / CP OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

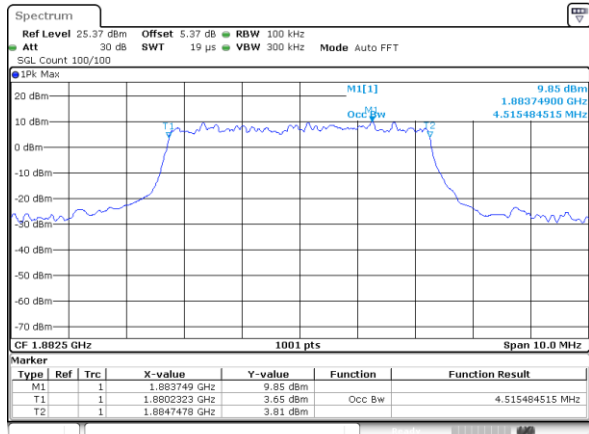
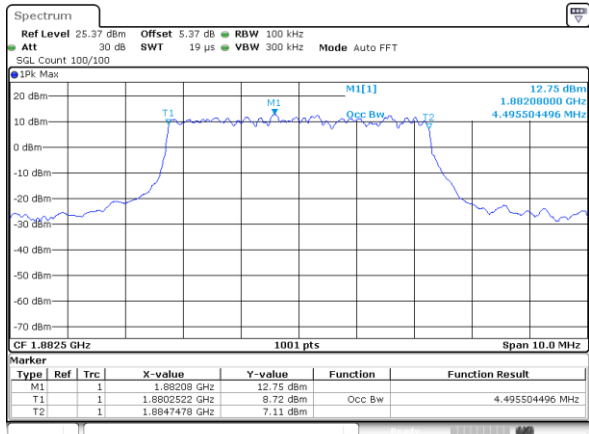


Date: 26 JUN 2020 14:03:16

Date: 26 JUN 2020 14:02:41

Middle Channel

Middle Channel

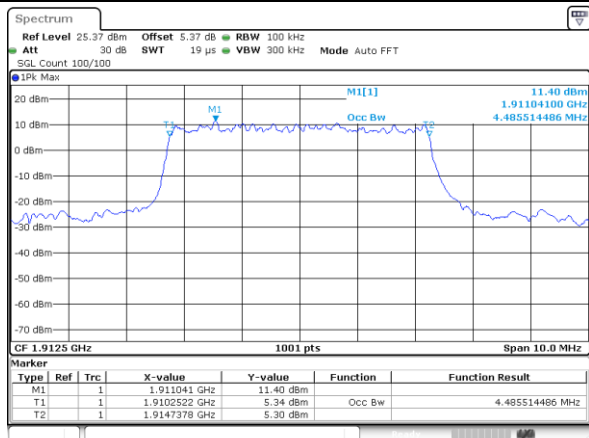
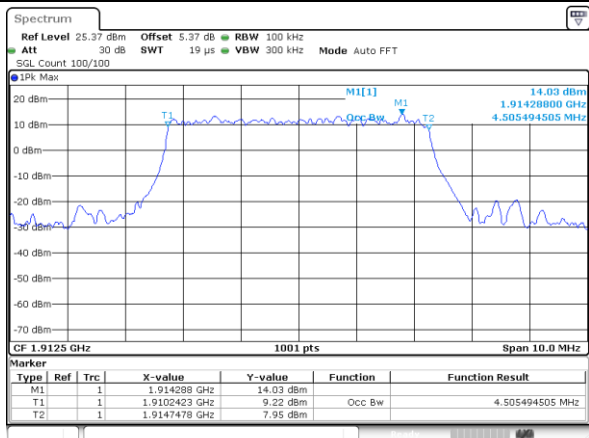


Date: 26 JUN 2020 14:07:37

Date: 26 JUN 2020 14:08:18

Highest Channel

Highest Channel



Date: 26 JUN 2020 14:11:27

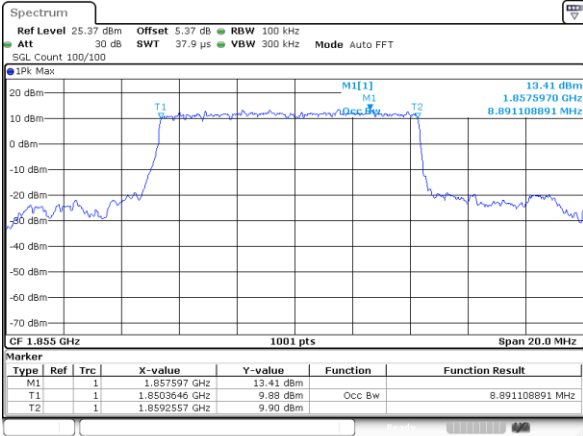
Date: 26 JUN 2020 14:10:48



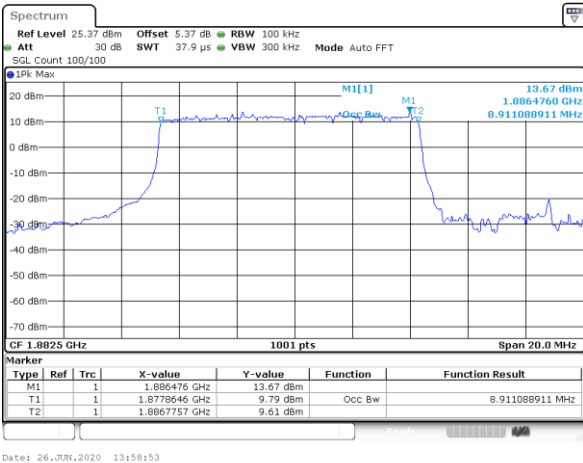
FR1 n25 / 10MHz / DFT-S OFDM

PI/2 BPSK

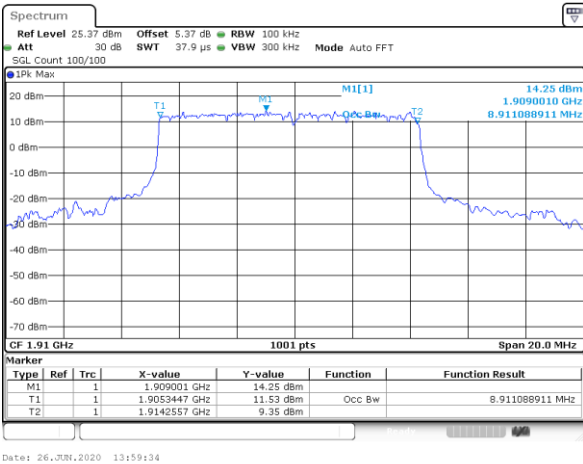
Lowest Channel



Middle Channel



Highest Channel





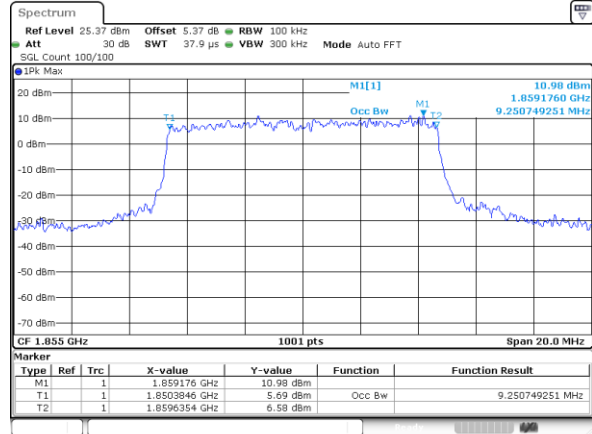
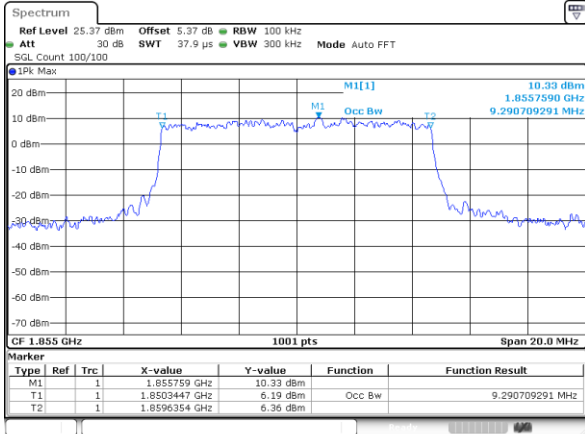
FR1 n25 / 10MHz / CP OFDM

QPSK

16QAM

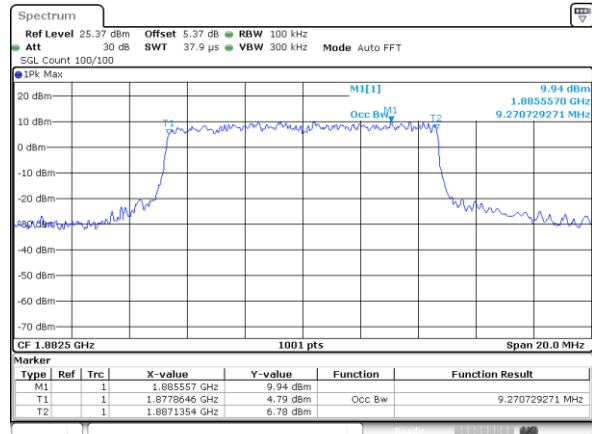
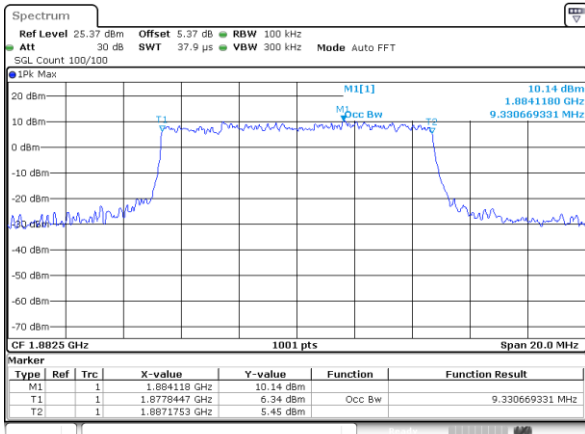
Lowest Channel

Lowest Channel



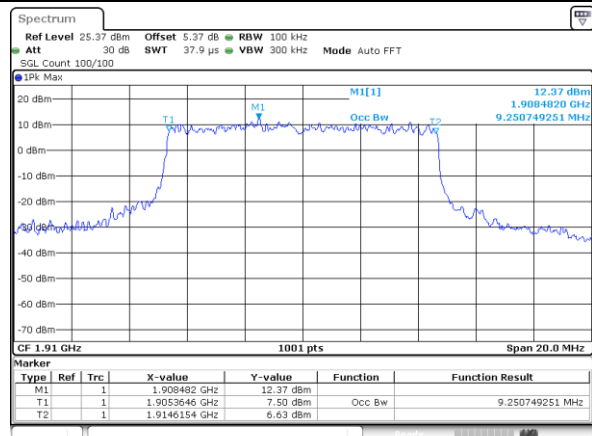
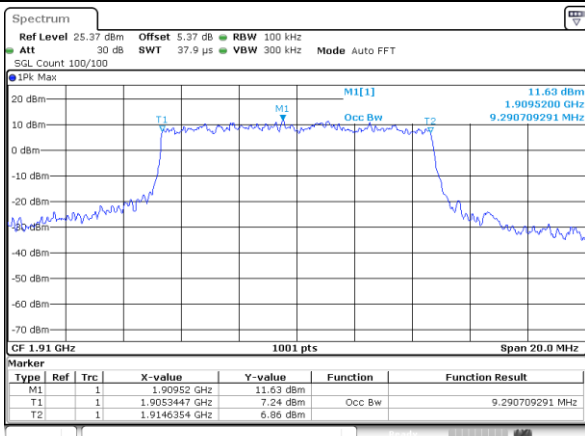
Middle Channel

Middle Channel



Highest Channel

Highest Channel





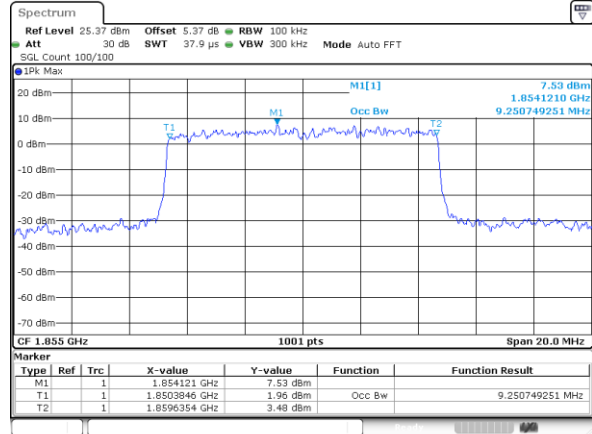
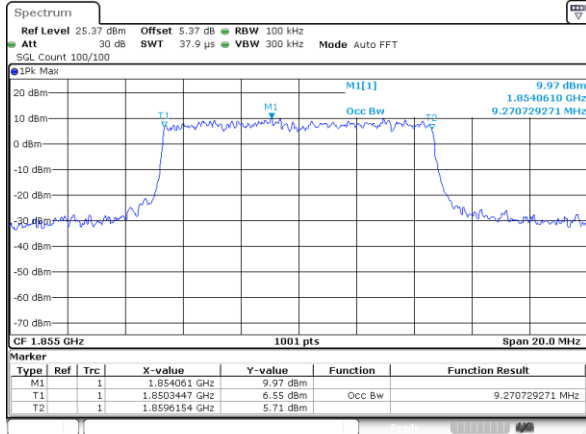
FR1 n25 / 10MHz / CP OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

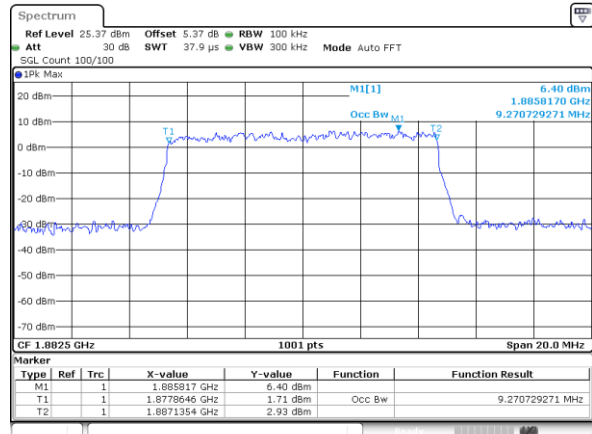
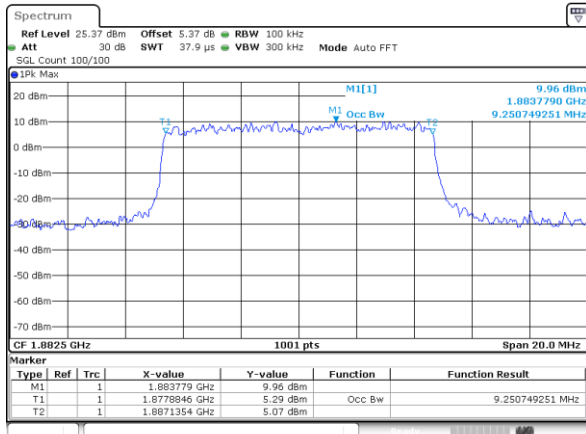


Date: 26 JUN 2020 13:55:39

Date: 26 JUN 2020 13:56:16

Middle Channel

Middle Channel

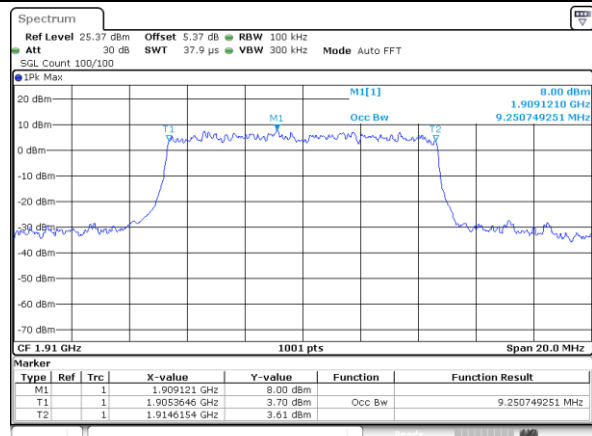
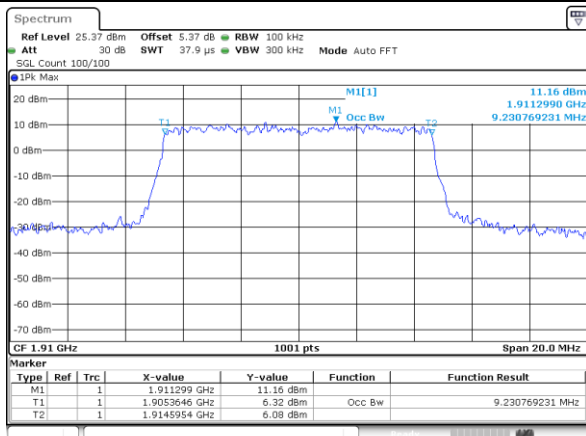


Date: 26 JUN 2020 13:57:25

Date: 26 JUN 2020 13:56:50

Highest Channel

Highest Channel



Date: 26 JUN 2020 14:01:10

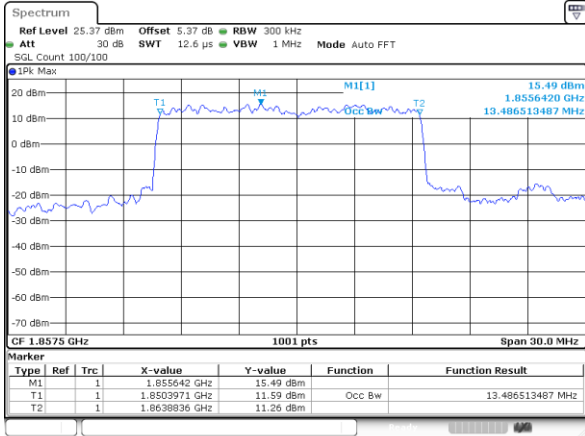
Date: 26 JUN 2020 14:01:41



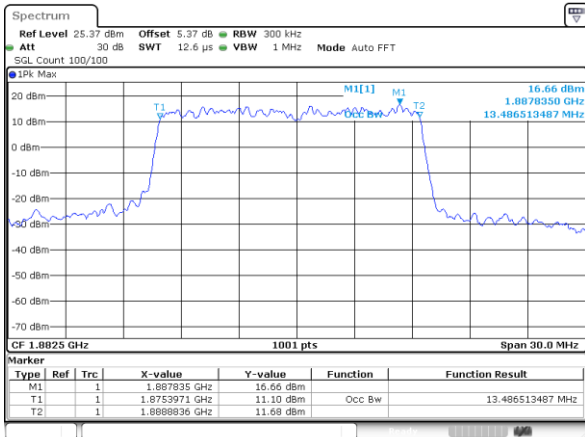
FR1 n25 / 15MHz / DFT-S OFDM

PI/2 BPSK

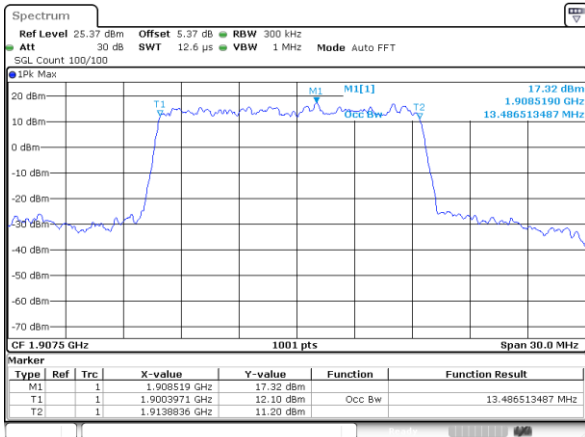
Lowest Channel



Middle Channel



Highest Channel





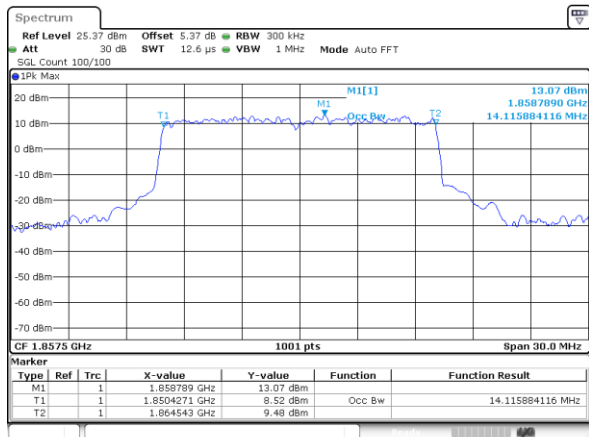
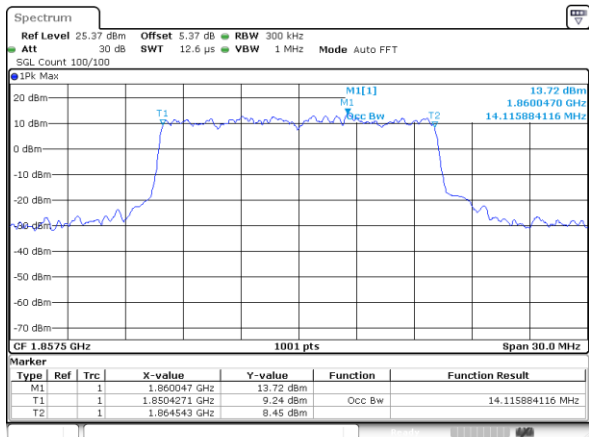
FR1 n25 / 15MHz / CP OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

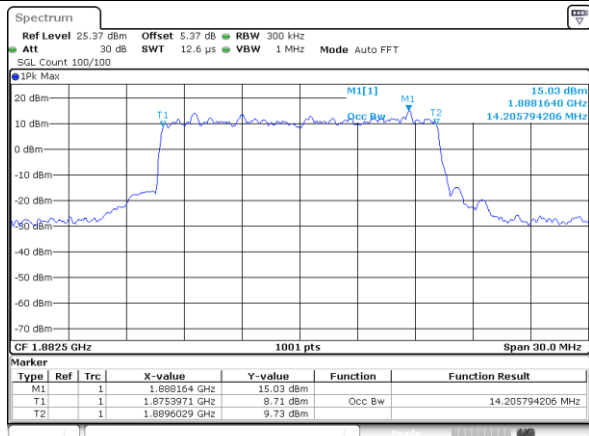
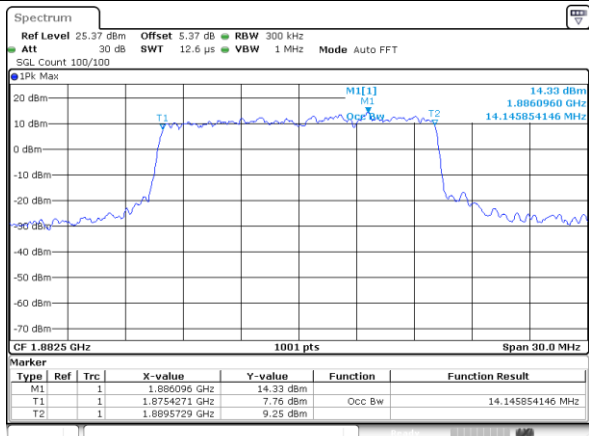


Date: 26 JUN 2020 13:40:34

Date: 26 JUN 2020 13:41:24

Middle Channel

Middle Channel

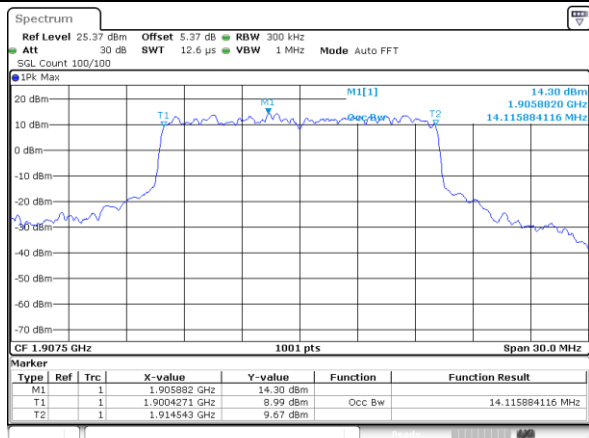
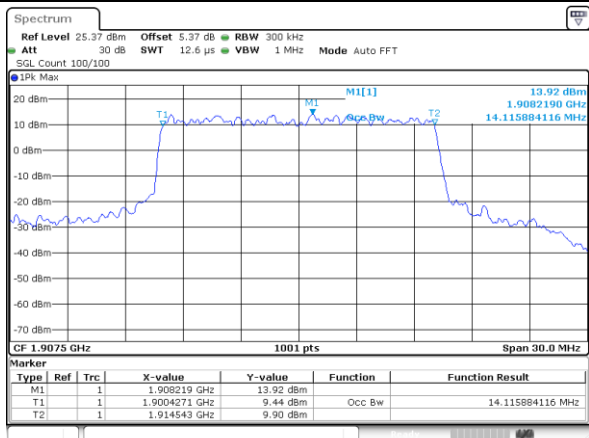


Date: 26 JUN 2020 13:45:00

Date: 26 JUN 2020 13:45:10

Highest Channel

Highest Channel



Date: 26 JUN 2020 13:51:18

Date: 26 JUN 2020 13:50:57