

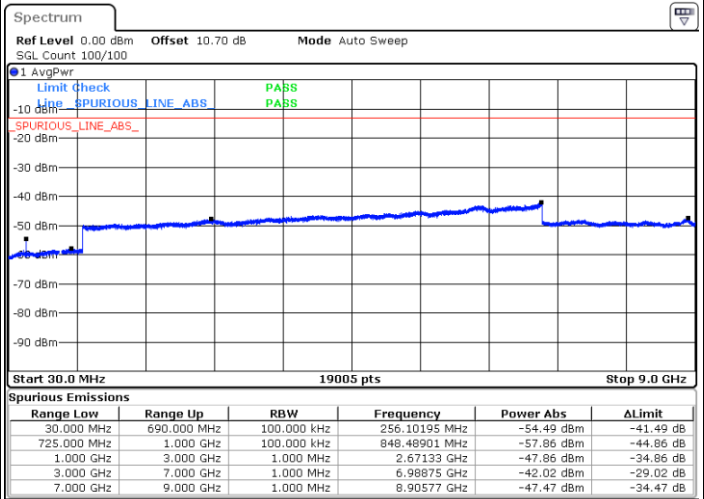
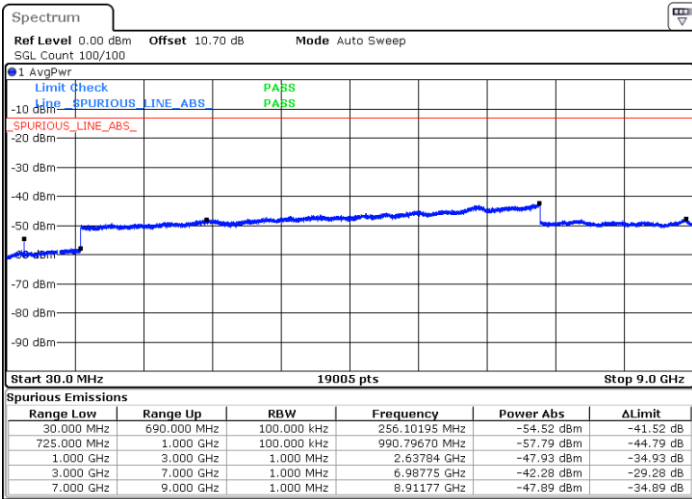


Conducted Spurious Emission

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

Lowest Channel / 1RB1

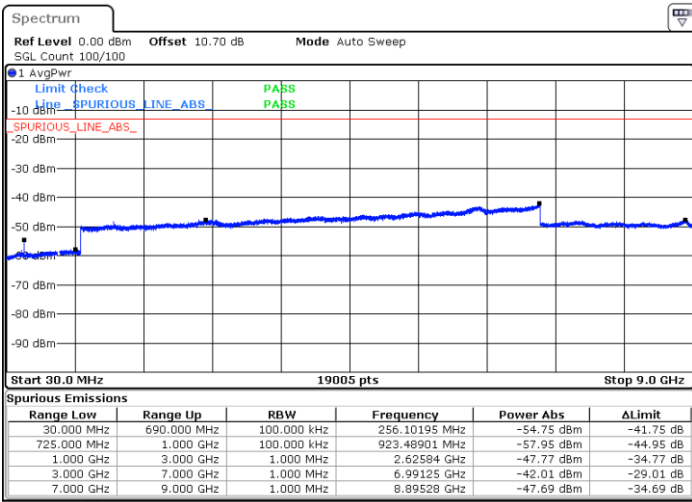
Middle Channel / 1RB1



Date: 12. JUN. 2020 17:08:36

Date: 12. JUN. 2020 17:10:51

Highest Channel / 1RB1



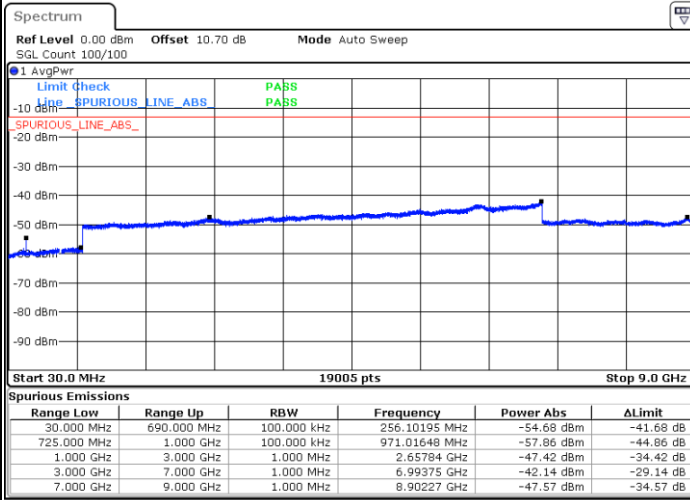
Date: 12. JUN. 2020 17:30:20



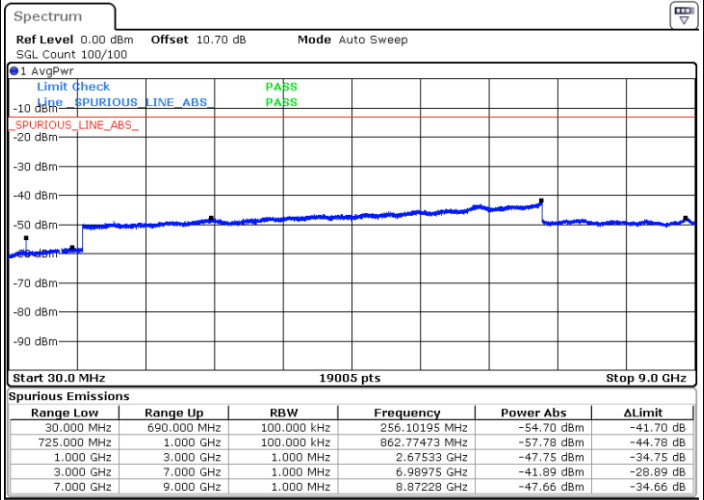
FR1 n12 / 10MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

Middle Channel / 1RB1

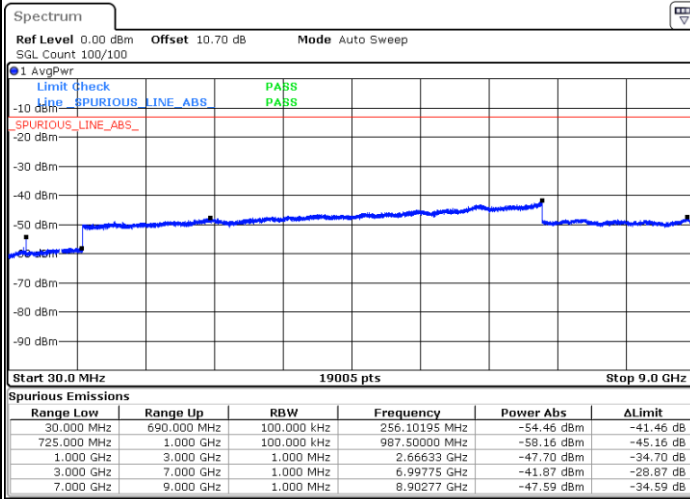


Date: 12. JUN. 2020 15:30:48



Date: 12. JUN. 2020 15:33:33

Highest Channel / 1RB1



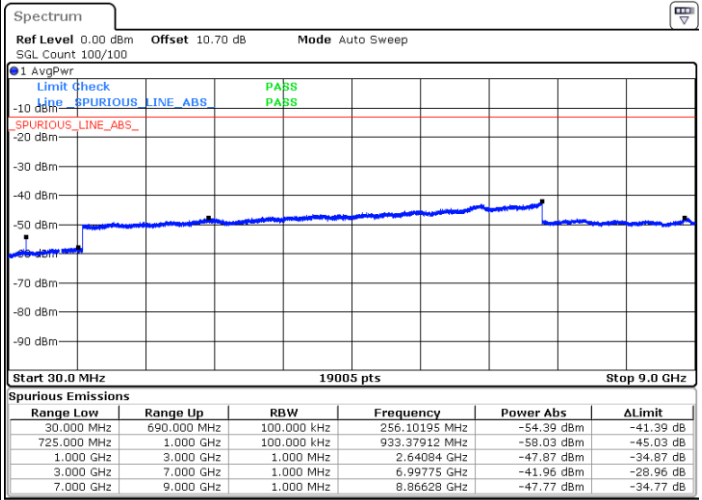
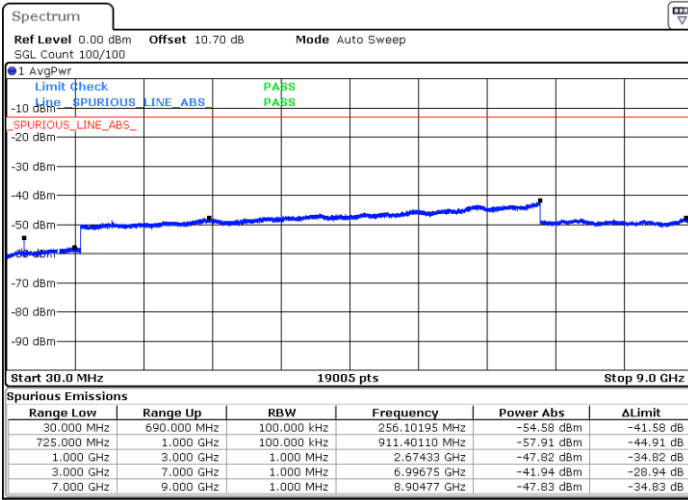
Date: 12. JUN. 2020 15:49:46



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

Lowest Channel / 1RB1

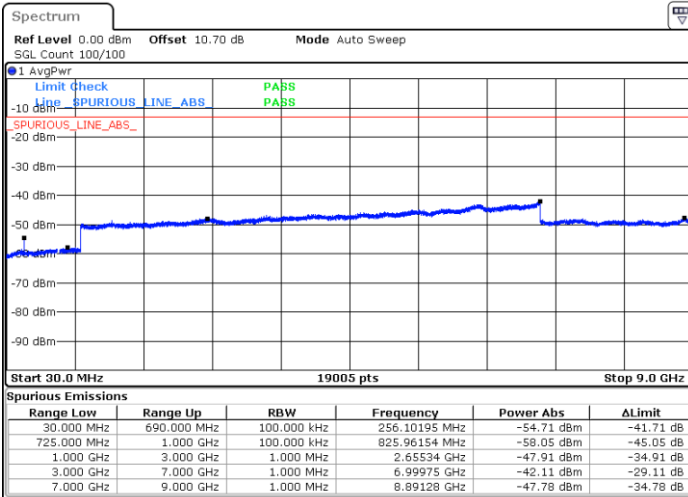
Middle Channel / 1RB1



Date: 12. JUN. 2020 14:04:30

Date: 12. JUN. 2020 14:05:28

Highest Channel / 1RB1



Date: 12. JUN. 2020 14:06:37



Frequency Stability

Test Conditions		FR1 n12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 15MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0198	PASS
40	Normal Voltage	0.0204	
30	Normal Voltage	0.0165	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0165	
0	Normal Voltage	0.0187	
-10	Normal Voltage	0.0130	
-20	Normal Voltage	0.0041	
-30	Normal Voltage	0.0204	
20	Maximum Voltage	0.0195	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0014	

Note:

- 1. Normal Voltage =3.3 V. ; Battery End Point (BEP) =3.1 V. ; Maximum Voltage =3.6 V.
- 2. The frequency fundamental emissions stay within the authorized frequency block.



FR1 n25

Peak-to-Average Ratios

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	3.83	4.23	5.39	5.80	PASS
Middle CH	3.57	4.29	5.30	5.71	
Highest CH	3.57	4.41	5.45	5.91	
Mode	FR1 n25 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Lowest CH	6.06				PASS
Middle CH	6.14				
Highest CH	6.41				



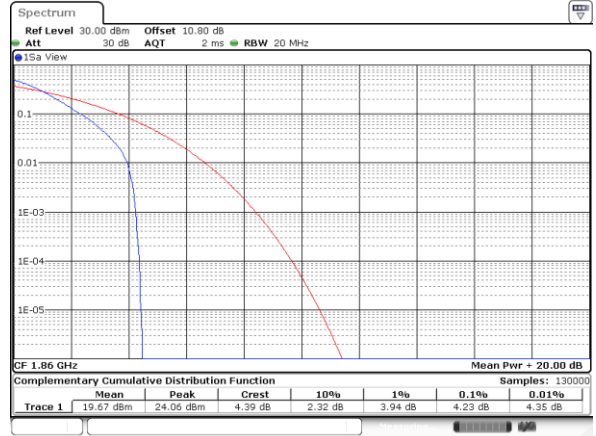
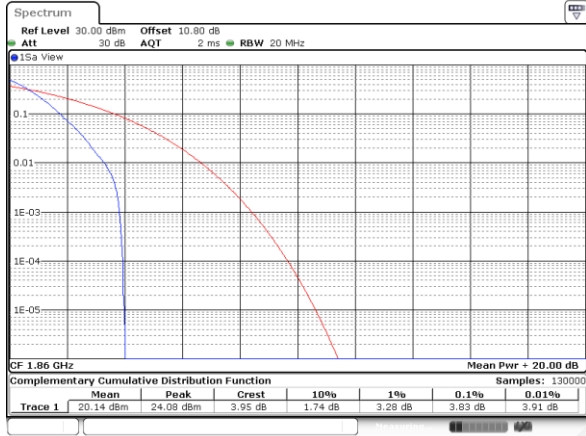
FR1 n25 / 20MHz / DFT-S OFDM

PI/2 BPSK

QPSK

Lowest Channel / Full RB

Lowest Channel / Full RB

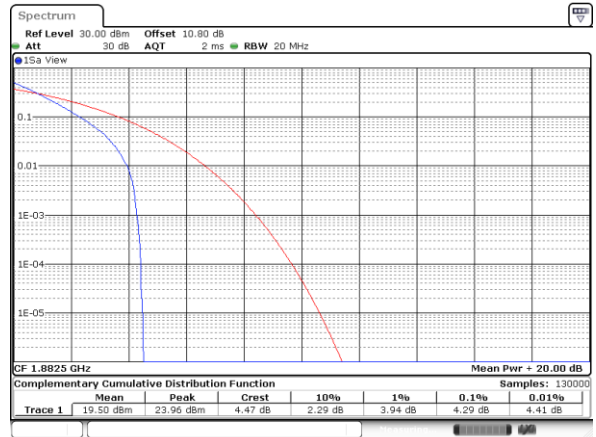
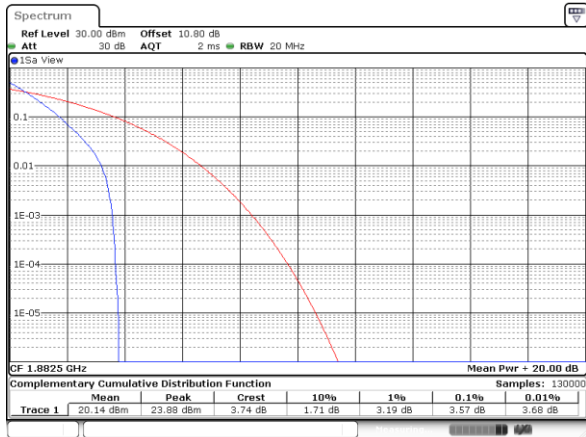


Date: 8 JUN 2020 15:30:56

Date: 8 JUN 2020 15:31:45

Middle Channel / Full RB

Middle Channel / Full RB

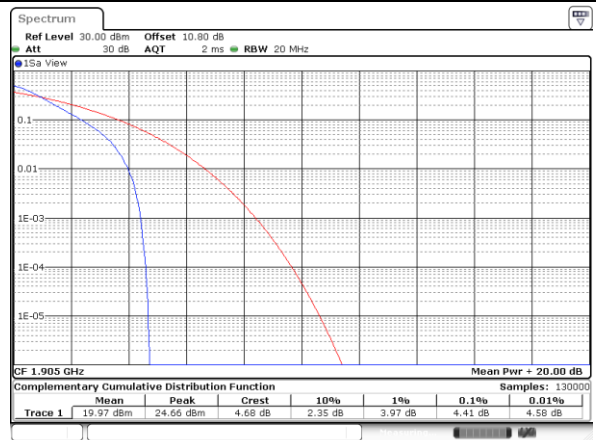
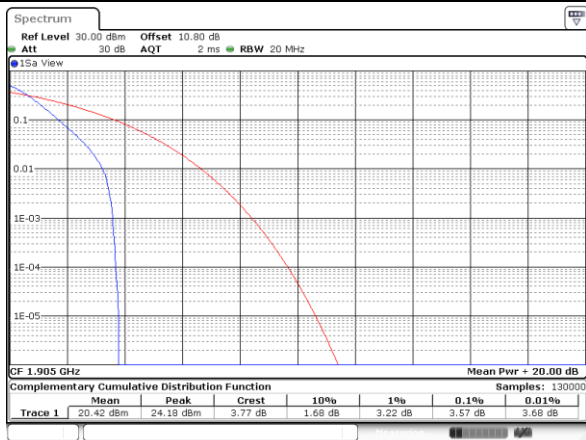


Date: 8 JUN 2020 14:18:25

Date: 8 JUN 2020 14:18:44

Highest Channel / Full RB

Highest Channel / Full RB



Date: 8 JUN 2020 16:03:07

Date: 8 JUN 2020 16:03:54



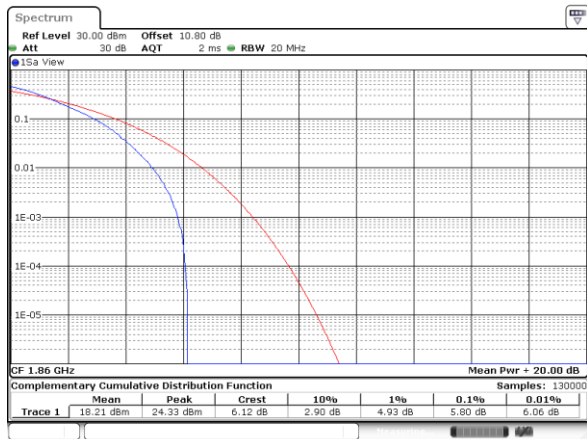
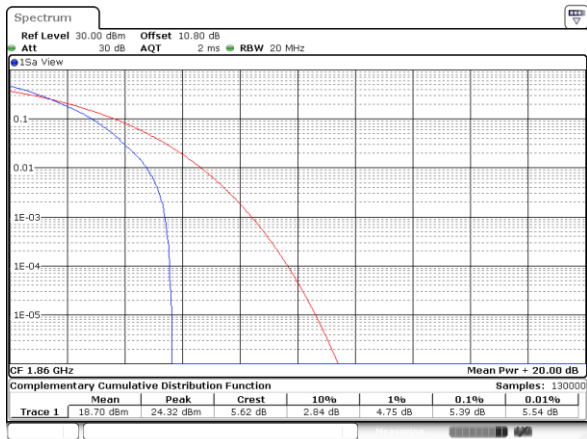
FR1 n25 / 20MHz / DFT-S OFDM

16QAM

64QAM

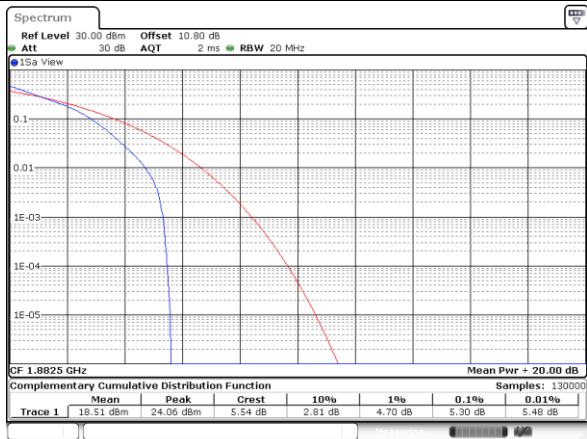
Lowest Channel / Full RB

Lowest Channel / Full RB



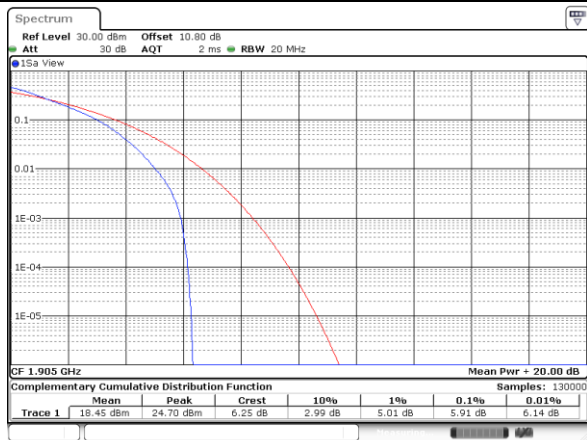
Middle Channel / Full RB

Middle Channel / Full RB



Highest Channel / Full RB

Highest Channel / Full RB

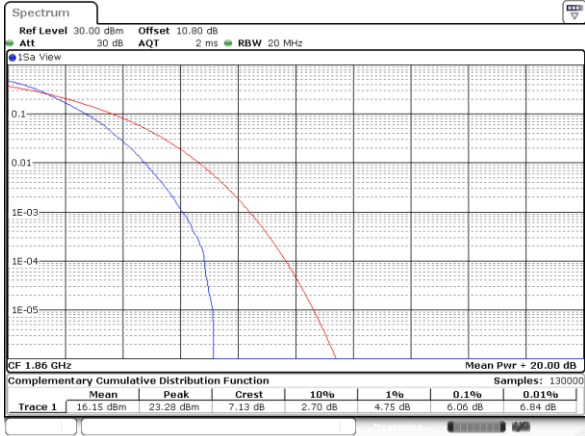




FR1 n25 / 20MHz / DFT-S OFDM

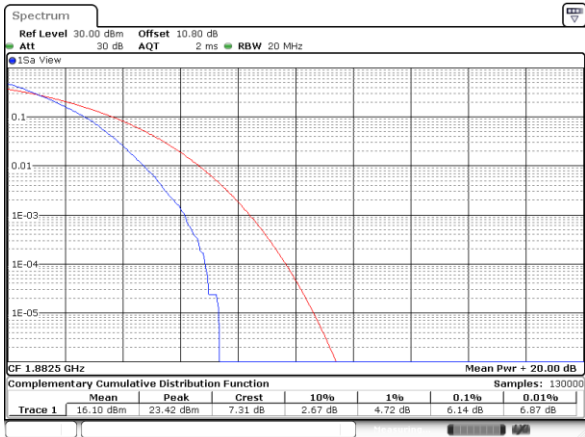
256QAM

Lowest Channel / Full RB



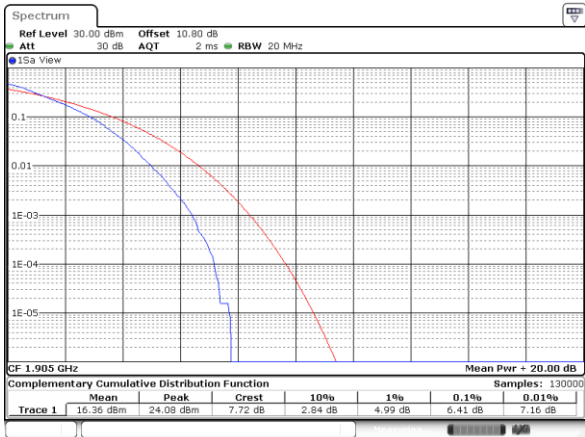
Date: 8 JUN 2020 15:38:13

Middle Channel / Full RB



Date: 8 JUN 2020 14:20:57

Highest Channel / Full RB



Date: 8 JUN 2020 15:49:30



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	5.31		9.77		14.21		18.74	
Middle CH	5.29		9.73		14.30		18.78	
Highest CH	5.26		9.73		14.27		18.70	

Mode	FR1 n25 : 26dB BW(MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	5.14	5.30	10.19	10.99	15.20	14.96	19.86	19.78
Middle CH	5.22	5.19	10.33	10.65	15.02	14.93	19.86	19.90
Highest CH	5.15	5.33	10.15	10.05	15.17	14.87	19.86	19.82

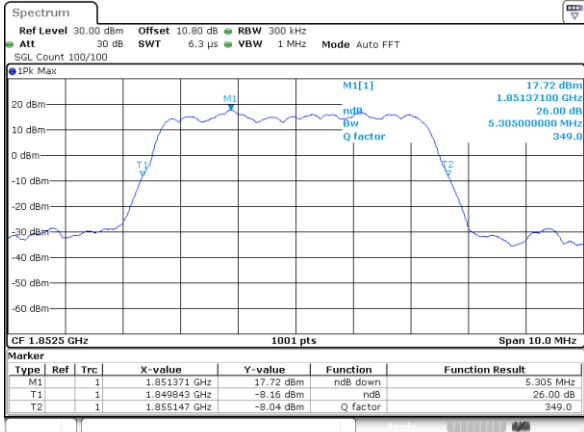
Mode	FR1 n25 : 26dB BW(MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	5.39	5.11	10.11	10.15	15.05	15.11	19.82	19.74
Middle CH	5.28	5.23	10.11	11.25	14.99	15.11	20.06	19.98
Highest CH	5.29	5.22	10.15	10.13	14.96	15.05	19.90	19.74



FR1 n25 / 5MHz / DFT-S OFDM

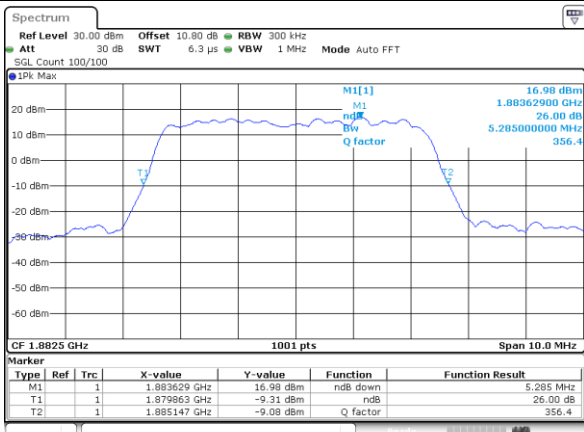
PI/2 BPSK

Lowest Channel



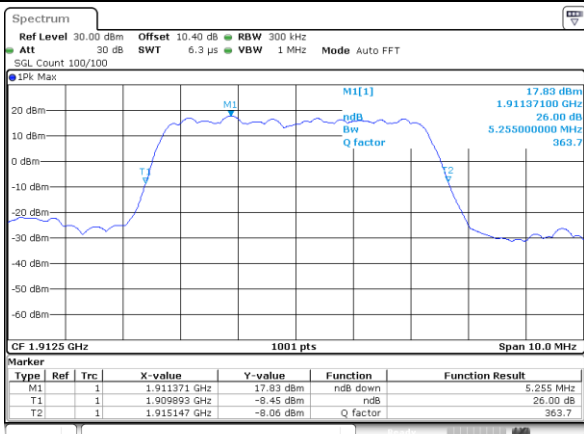
Date: 13 JUN 2020 13:29:04

Middle Channel



Date: 13 JUN 2020 13:55:03

Highest Channel



Date: 15 JUN 2020 11:33:48



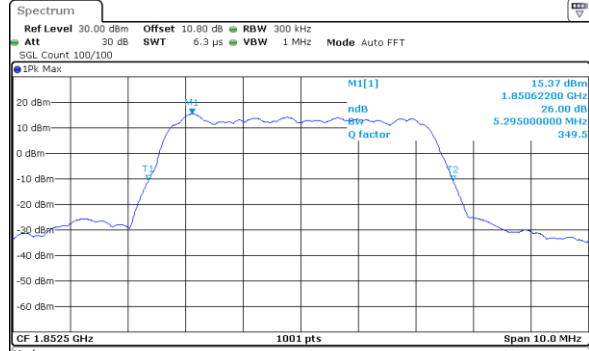
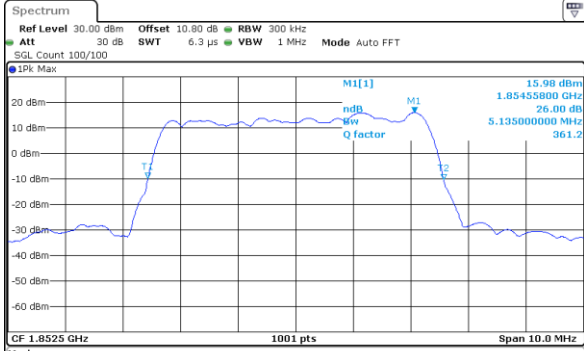
FR1 n25 / 5MHz / CP OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

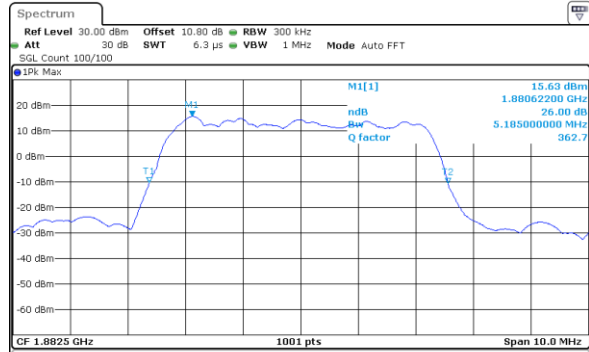
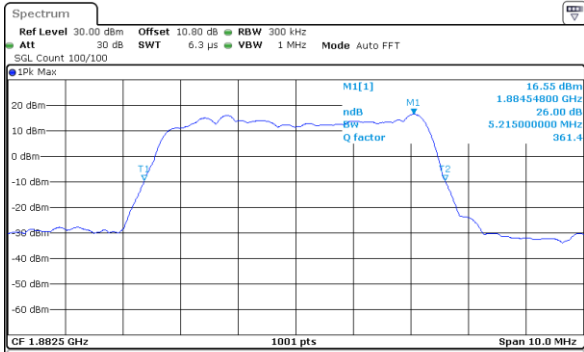


Date: 13 JUN 2020 14:26:13

Date: 13 JUN 2020 14:26:47

Middle Channel

Middle Channel

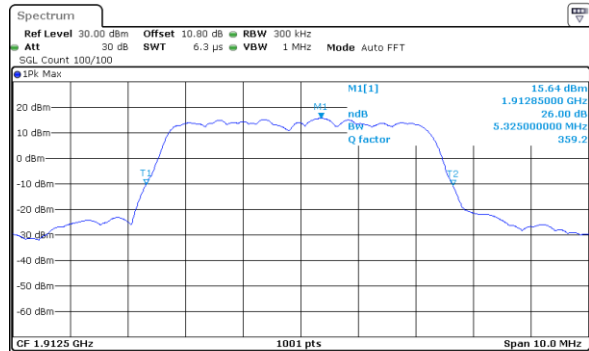
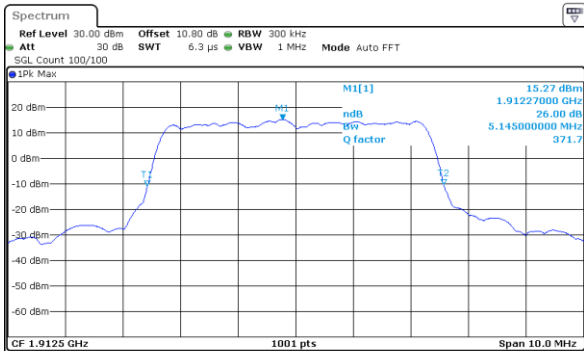


Date: 13 JUN 2020 14:28:58

Date: 13 JUN 2020 14:28:56

Highest Channel

Highest Channel



Date: 13 JUN 2020 14:30:54

Date: 13 JUN 2020 14:30:40



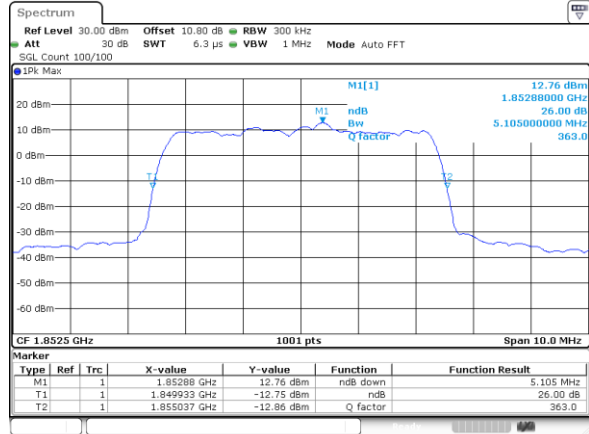
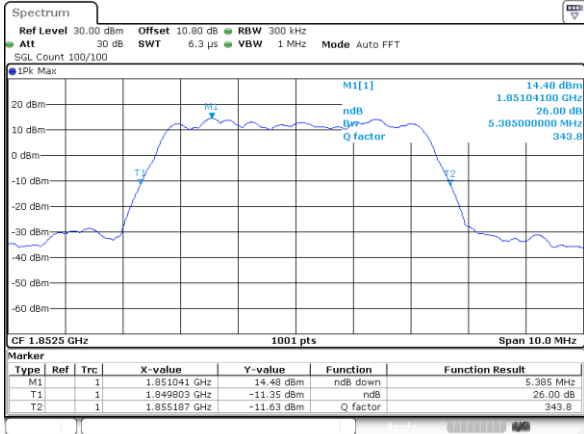
FR1 n25 / 5MHz / CP OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

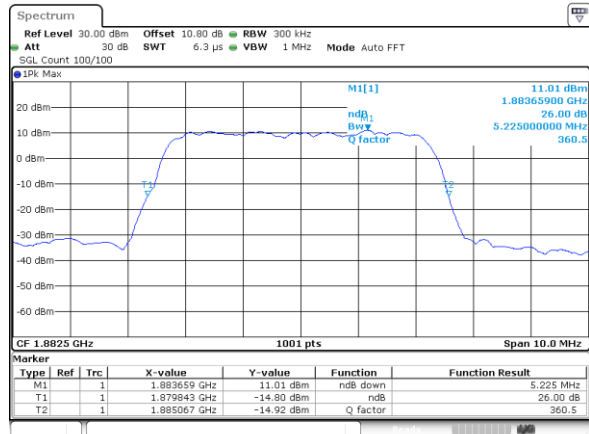
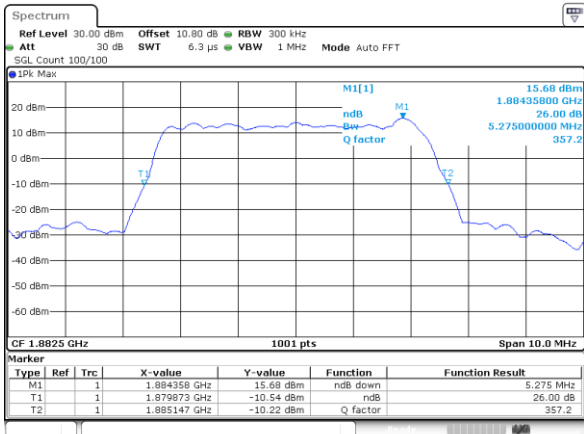


Date: 13 JUN 2020 14:27:04

Date: 13 JUN 2020 14:27:20

Middle Channel

Middle Channel

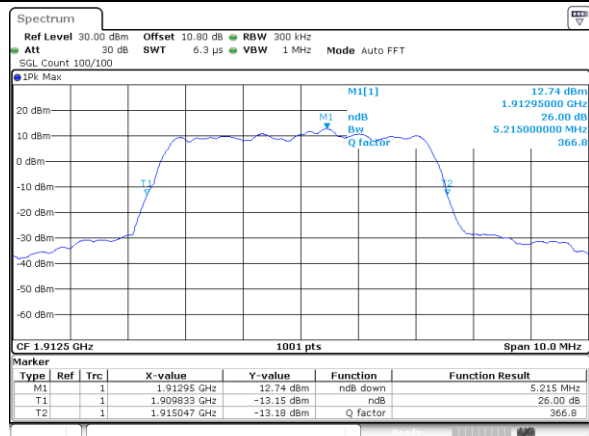
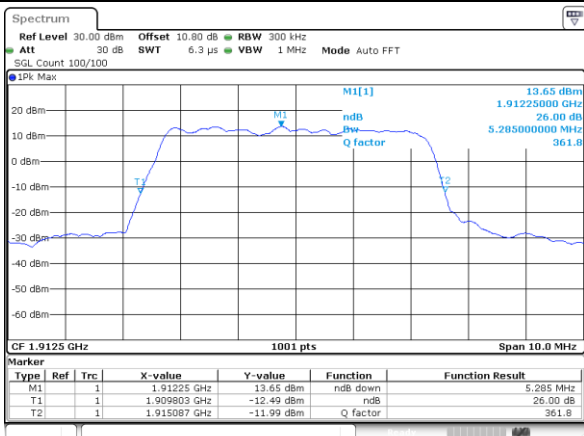


Date: 13 JUN 2020 14:29:11

Date: 13 JUN 2020 14:29:25

Highest Channel

Highest Channel



Date: 13 JUN 2020 14:30:26

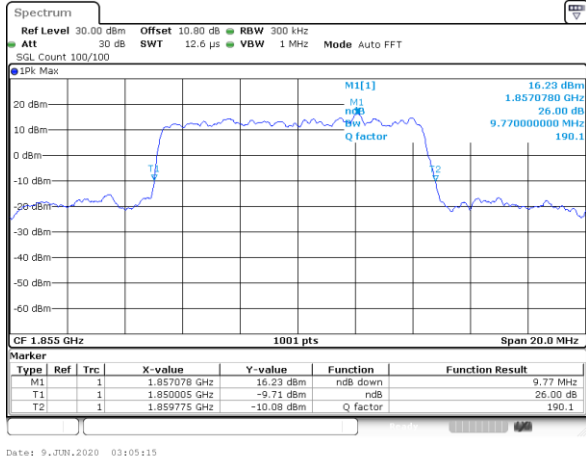
Date: 13 JUN 2020 14:30:11



FR1 n25 / 10MHz / DFT-S OFDM

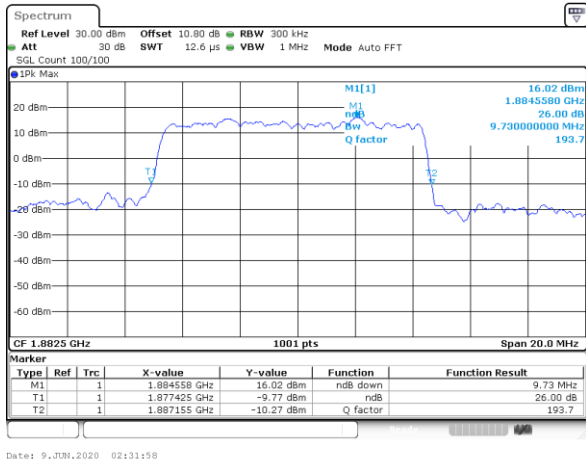
PI/2 BPSK

Lowest Channel



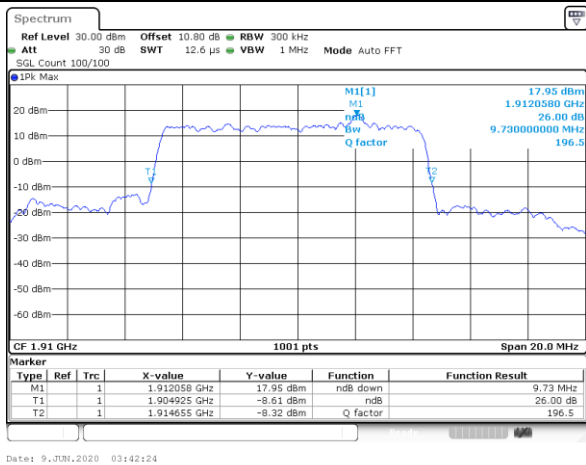
Date: 9 JUN 2020 03:05:15

Middle Channel



Date: 9 JUN 2020 02:31:58

Highest Channel



Date: 9 JUN 2020 03:42:24



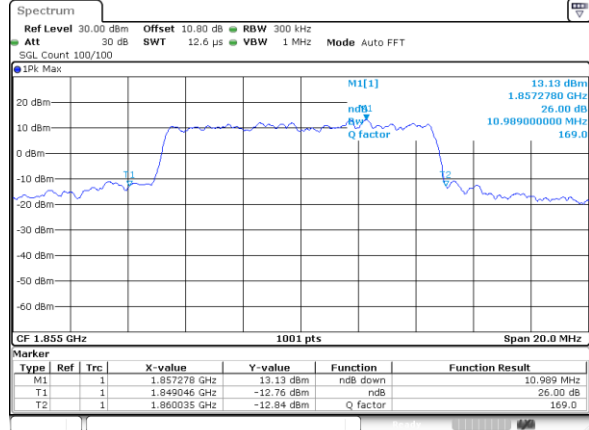
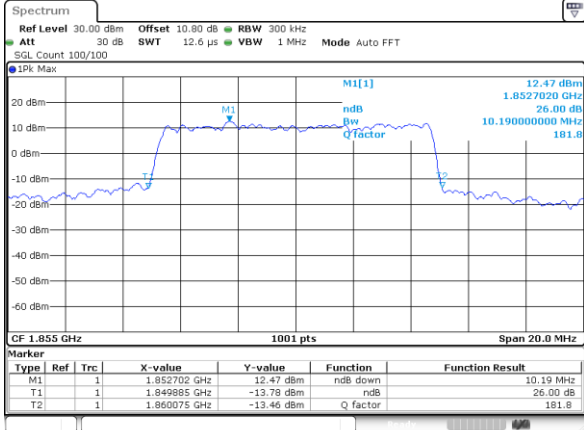
FR1 n25 / 10MHz / CP OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

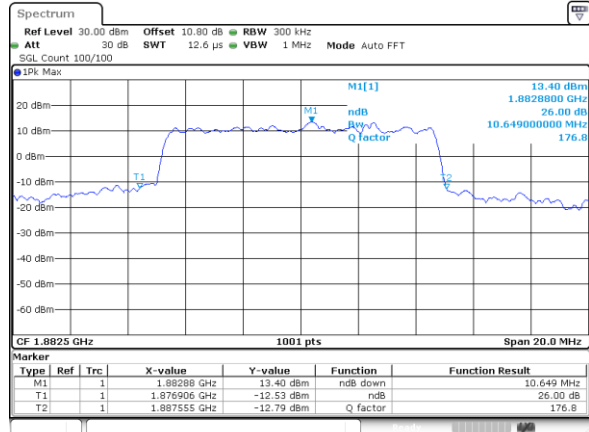
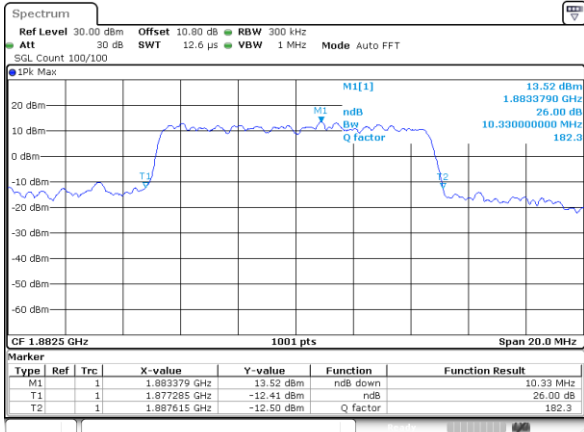


Date: 9 JUN 2020 02:41:19

Date: 9 JUN 2020 03:25:51

Middle Channel

Middle Channel

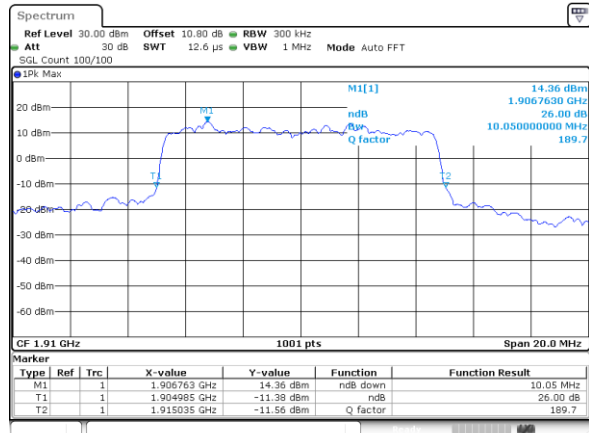
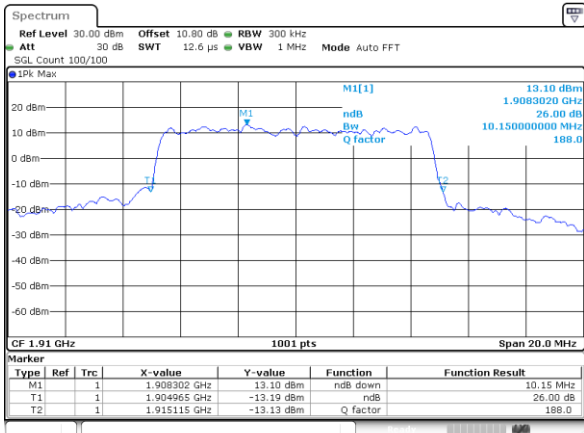


Date: 9 JUN 2020 02:36:44

Date: 9 JUN 2020 02:37:44

Highest Channel

Highest Channel



Date: 9 JUN 2020 04:07:36

Date: 9 JUN 2020 04:17:18



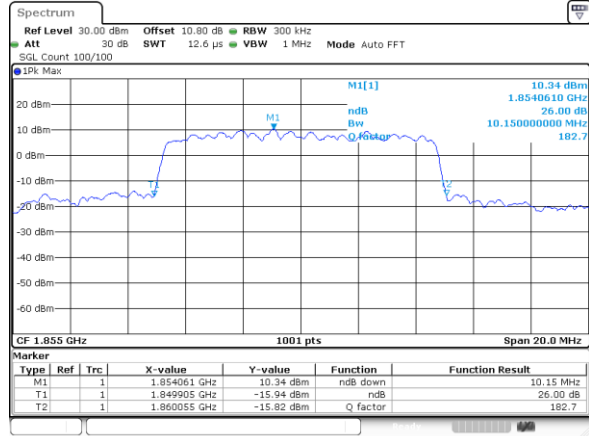
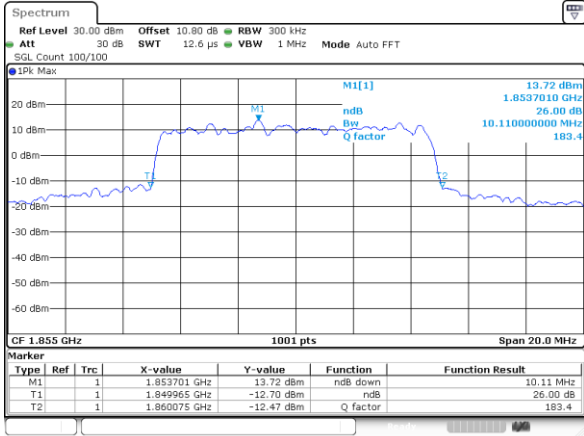
FR1 n25 / 10MHz / CP OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

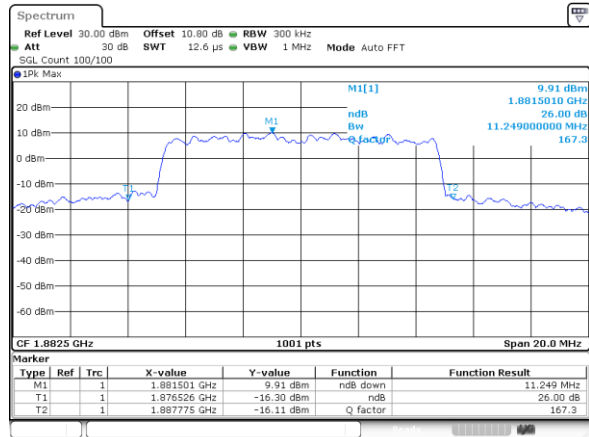
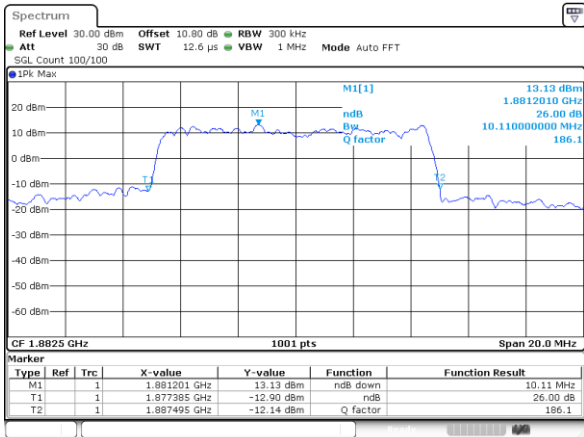


Date: 9 JUN 2020 03:26:21

Date: 9 JUN 2020 03:26:40

Middle Channel

Middle Channel

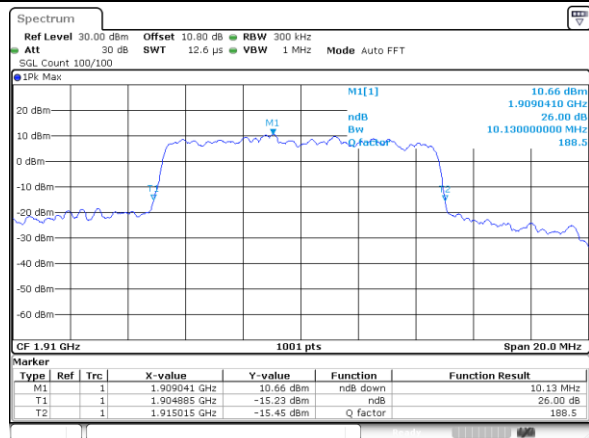
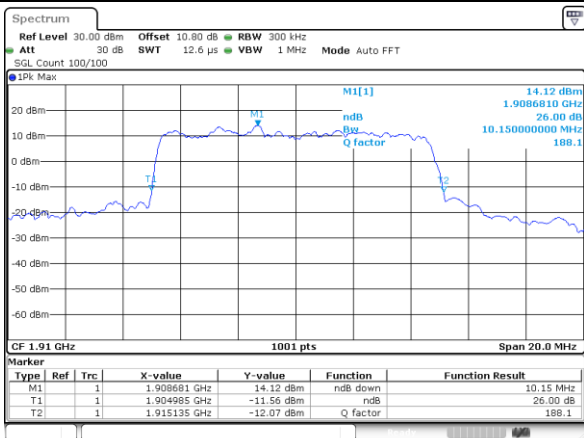


Date: 9 JUN 2020 02:38:11

Date: 9 JUN 2020 02:38:35

Highest Channel

Highest Channel



Date: 9 JUN 2020 04:18:04

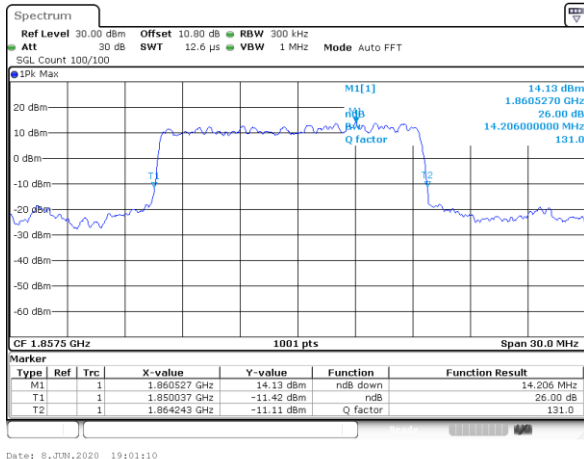
Date: 9 JUN 2020 04:19:07



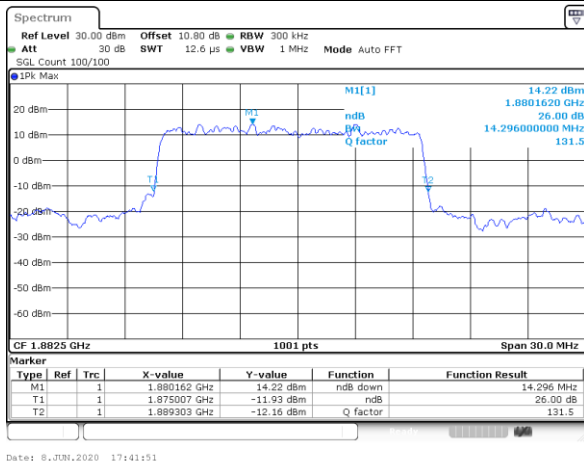
FR1 n25 / 15MHz / DFT-S OFDM

PI/2 BPSK

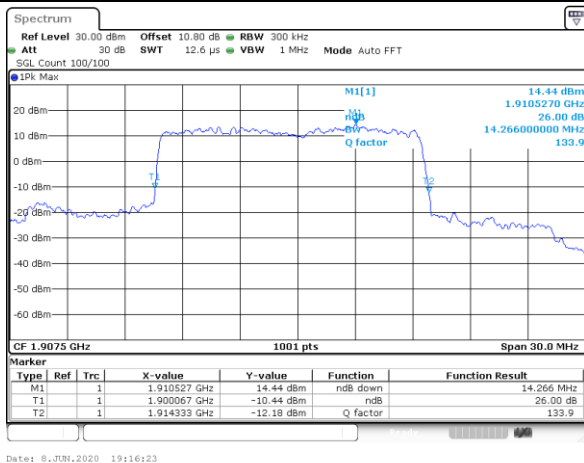
Lowest Channel



Middle Channel



Highest Channel





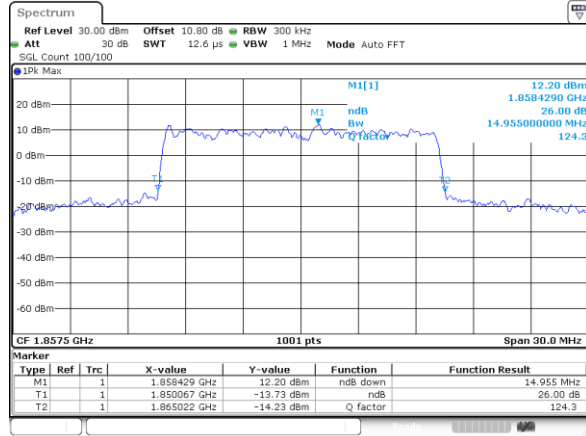
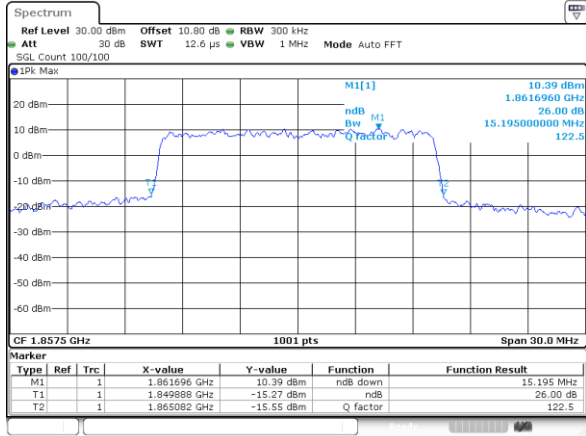
FR1 n25 / 15MHz / CP OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

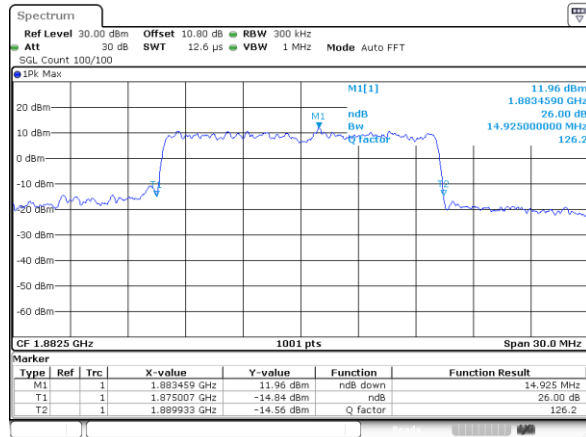
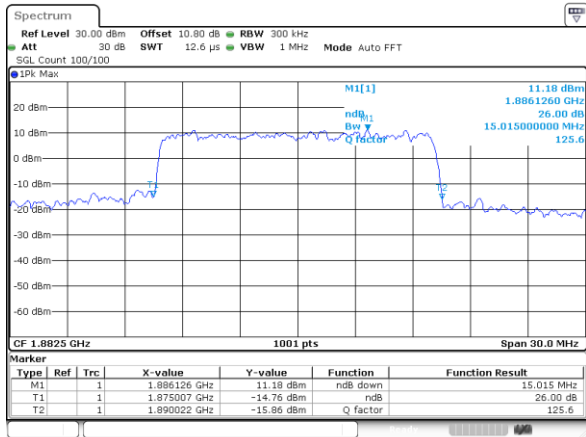


Date: 8 JUN 2020 20:17:03

Date: 8 JUN 2020 20:16:38

Middle Channel

Middle Channel

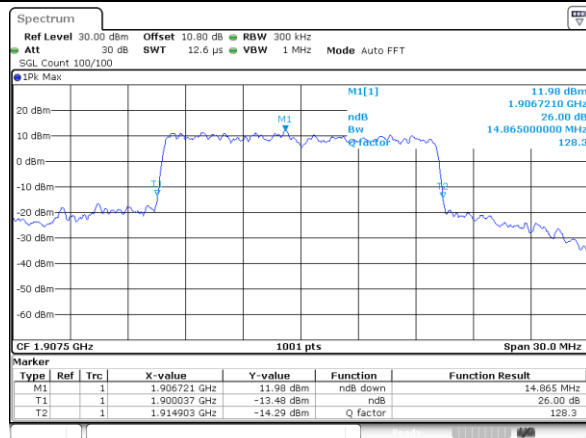
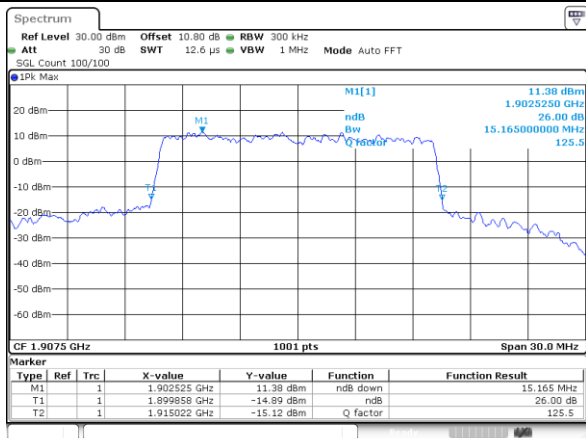


Date: 8 JUN 2020 19:54:17

Date: 8 JUN 2020 19:53:15

Highest Channel

Highest Channel



Date: 8 JUN 2020 19:50:16

Date: 8 JUN 2020 19:49:53



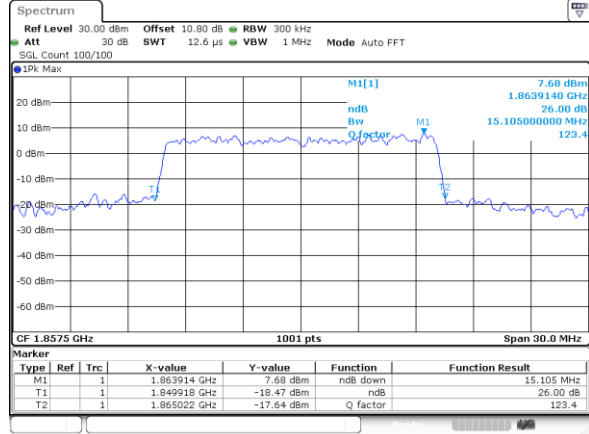
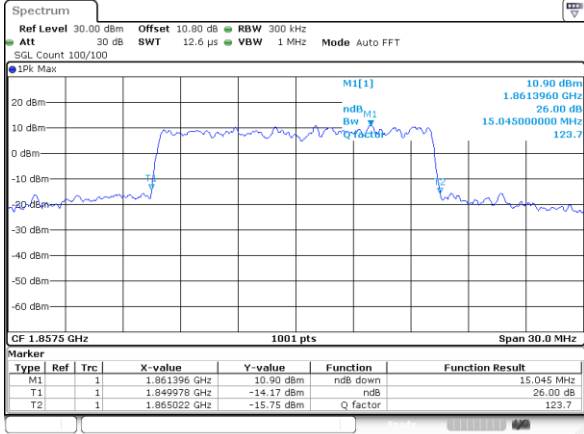
FR1 n25 / 15MHz / CP OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

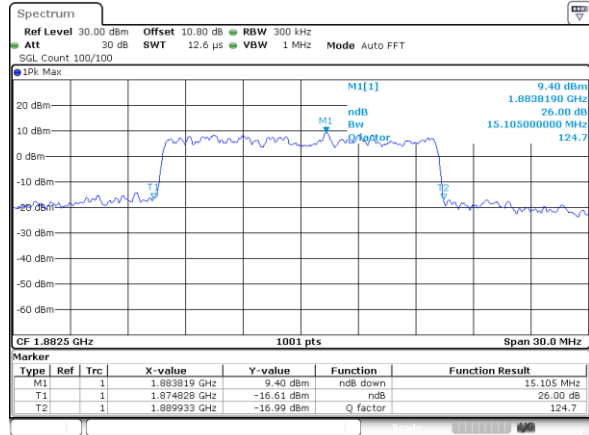
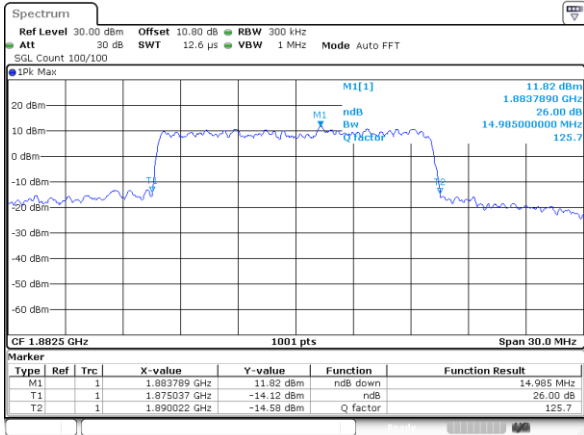


Date: 8 JUN 2020 20:36:21

Date: 8 JUN 2020 20:35:56

Middle Channel

Middle Channel

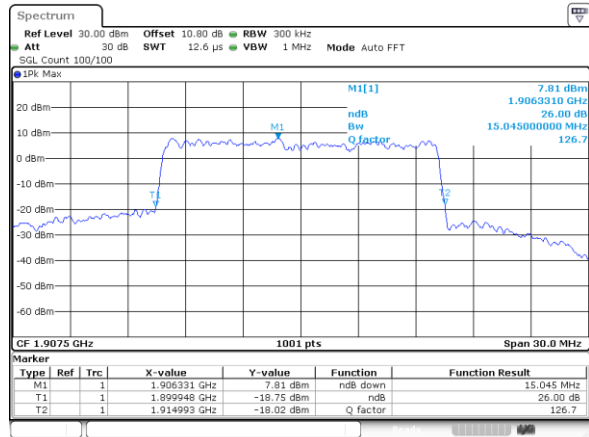
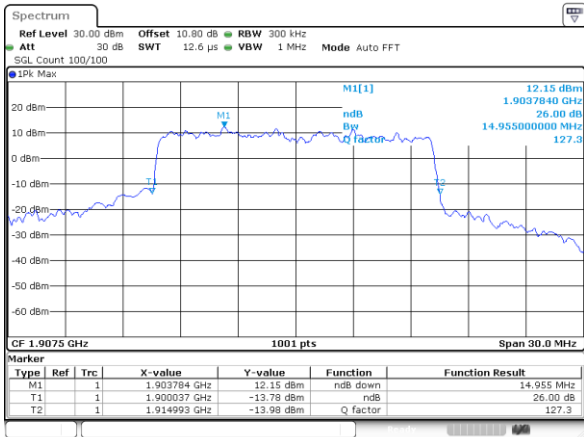


Date: 8 JUN 2020 19:59:38

Date: 8 JUN 2020 19:59:57

Highest Channel

Highest Channel



Date: 8 JUN 2020 19:49:13

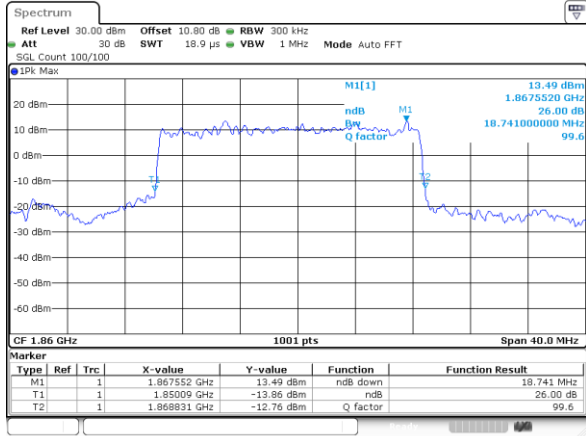
Date: 8 JUN 2020 19:48:45



FR1 n25 / 20MHz / DFT-S OFDM

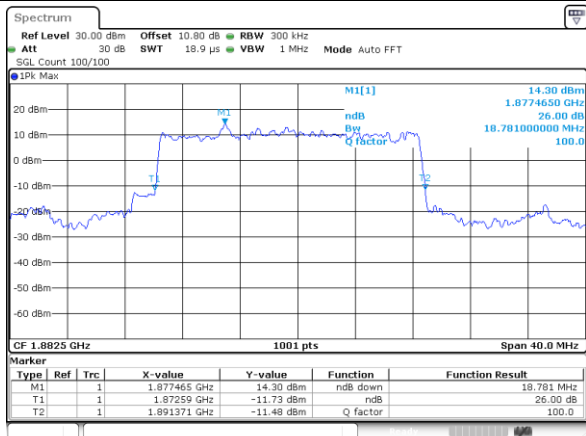
PI/2 BPSK

Lowest Channel



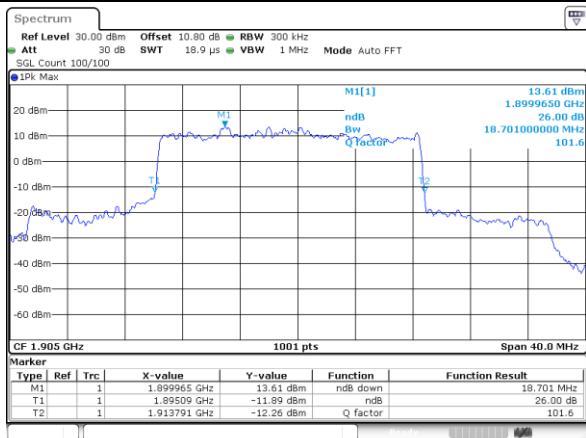
Date: 8 JUN 2020 15:13:113

Middle Channel



Date: 8 JUN 2020 14:18:03

Highest Channel



Date: 8 JUN 2020 16:03:116



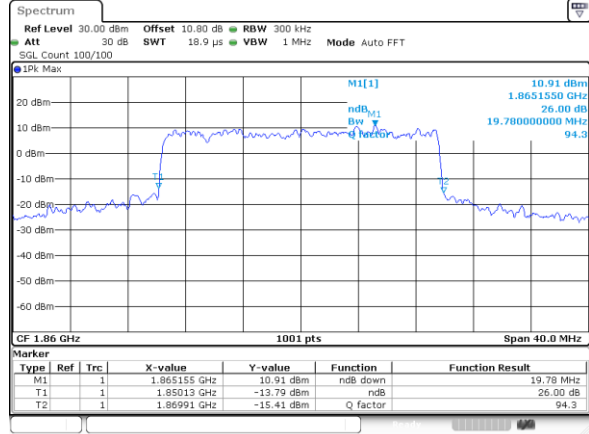
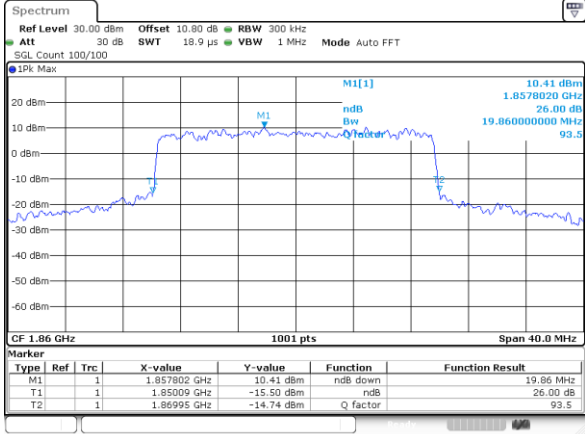
FR1 n25 / 20MHz / CP OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

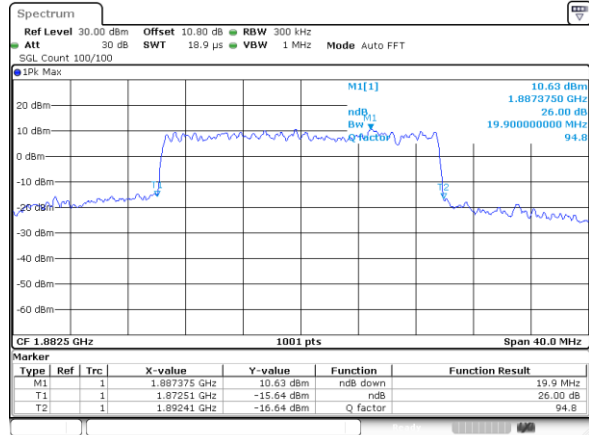
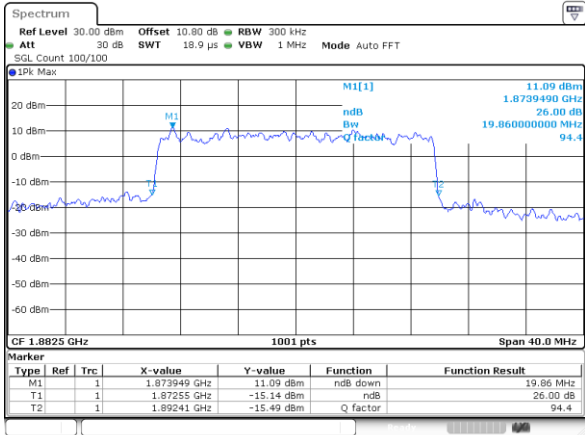


Date: 8 JUN 2020 17:28:58

Date: 8 JUN 2020 17:29:18

Middle Channel

Middle Channel

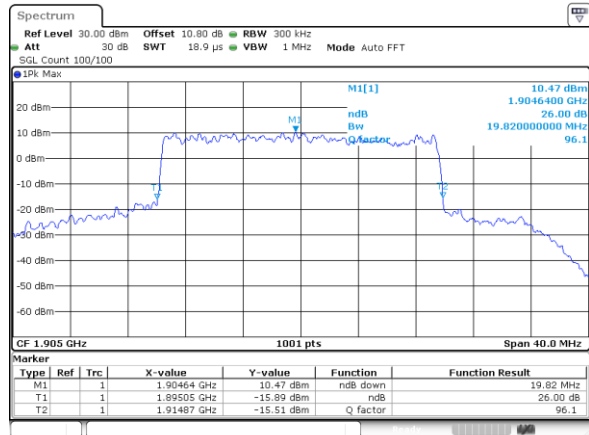
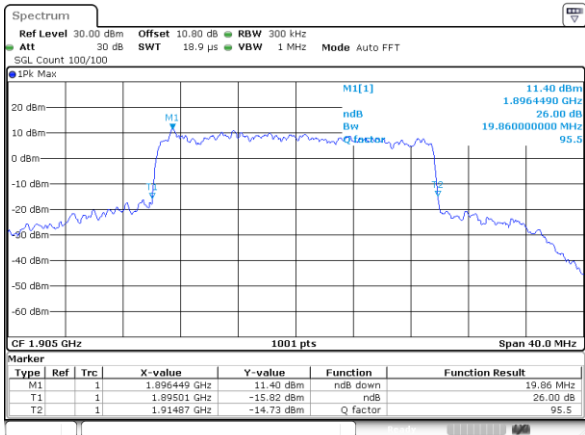


Date: 8 JUN 2020 17:23:40

Date: 8 JUN 2020 17:26:31

Highest Channel

Highest Channel



Date: 8 JUN 2020 17:20:42

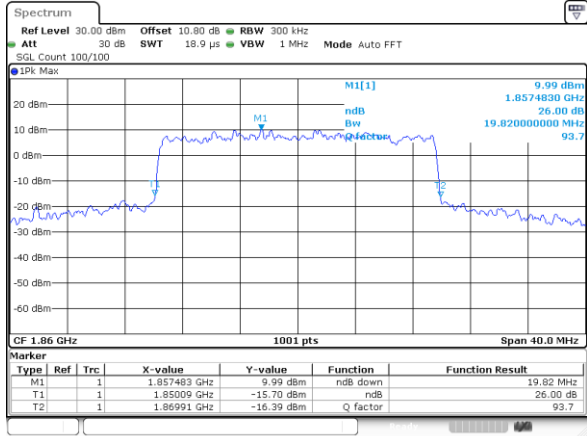
Date: 8 JUN 2020 17:22:52



FR1 n25 / 20MHz / CP OFDM

64QAM

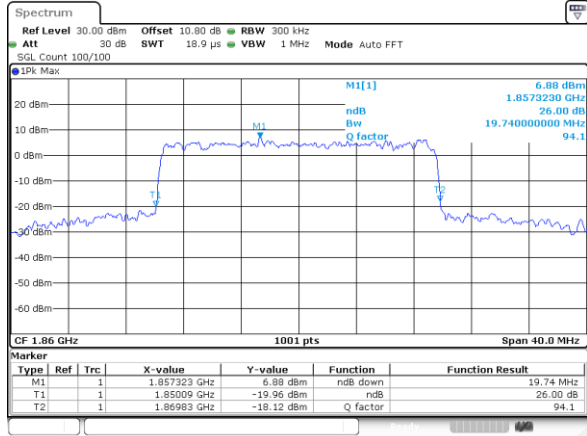
Lowest Channel



Date: 8 JUN 2020 17:29:38

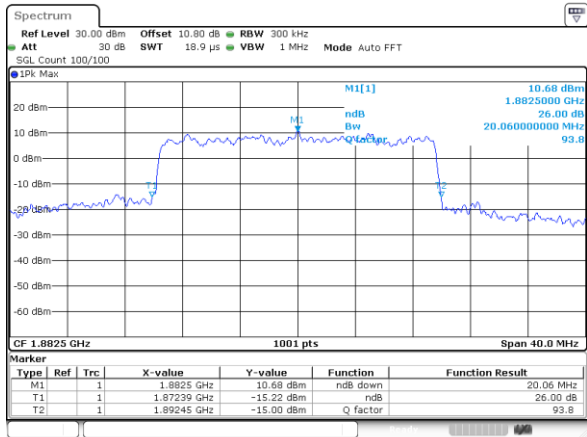
256QAM

Lowest Channel



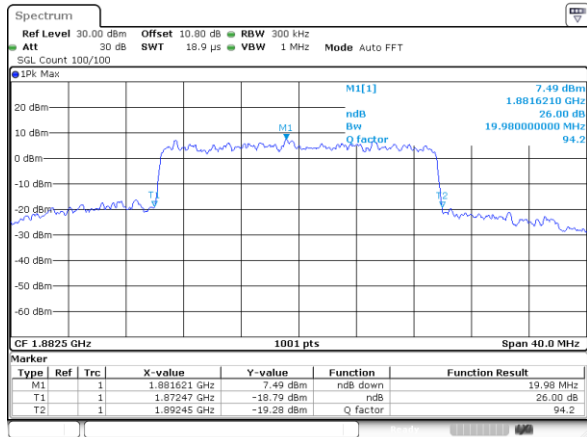
Date: 8 JUN 2020 17:29:59

Middle Channel



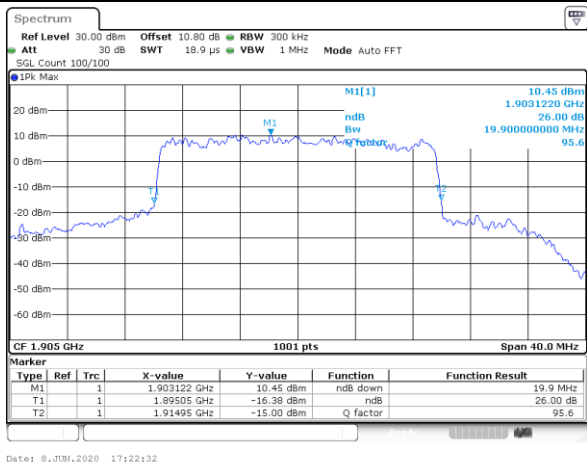
Date: 8 JUN 2020 17:25:18

Middle Channel



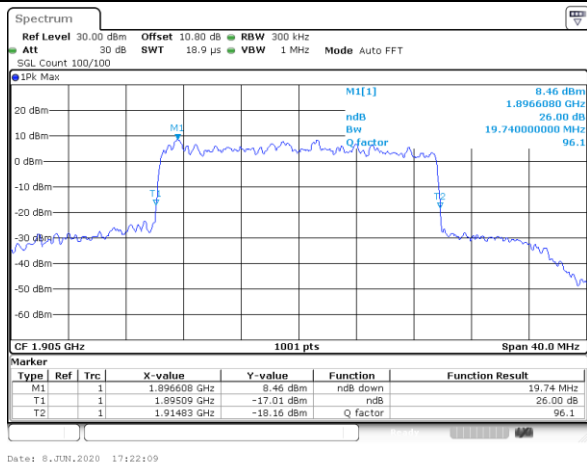
Date: 8 JUN 2020 17:25:38

Highest Channel



Date: 8 JUN 2020 17:22:32

Highest Channel



Date: 8 JUN 2020 17:22:09



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	4.69		9.03		13.49		17.90	
Middle CH	4.66		9.05		13.49		17.98	
Highest CH	4.66		9.07		13.46		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	4.62	4.60	9.43	9.41	14.15	14.24	18.90	18.98
Middle CH	4.67	4.64	9.39	9.37	14.24	14.18	18.94	18.98
Highest CH	4.65	4.63	9.35	9.37	14.15	14.12	18.90	18.94

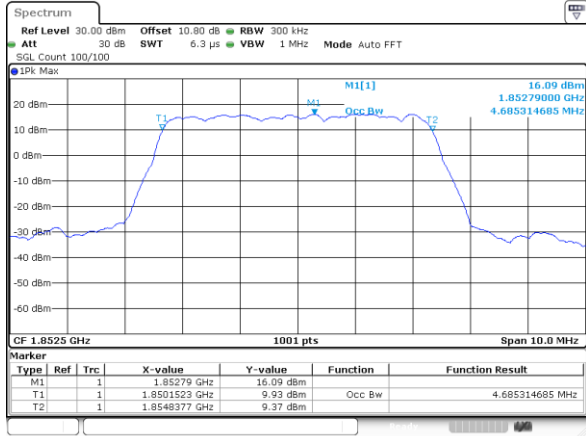
Mode	FR1 n25 : 99%OBW (MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	4.65	4.67	9.45	9.47	14.21	14.24	18.98	18.94
Middle CH	4.65	4.70	9.37	9.47	14.21	14.30	19.02	19.02
Highest CH	4.66	4.62	9.39	9.41	14.15	14.15	18.94	18.94



FR1 n25 / 5MHz / DFT-S OFDM

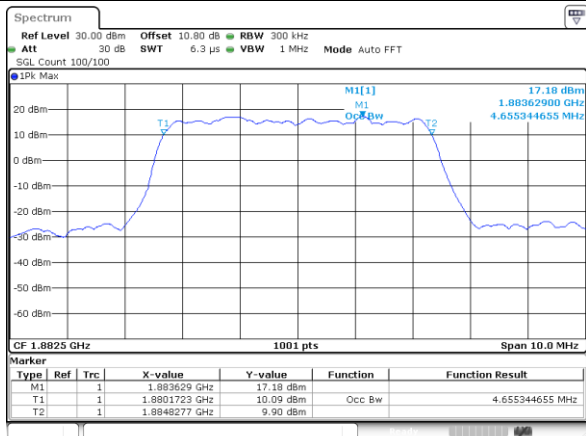
PI/2 BPSK

Lowest Channel



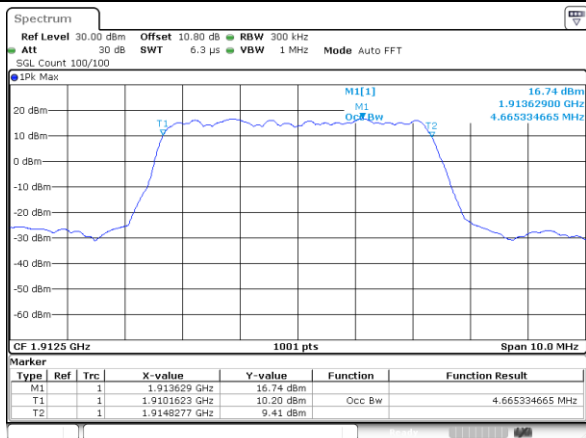
Date: 13 JUN 2020 13:28:55

Middle Channel



Date: 13 JUN 2020 13:54:54

Highest Channel



Date: 13 JUN 2020 13:58:13



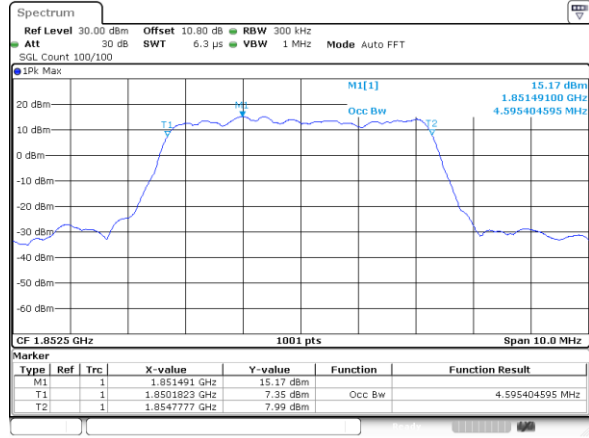
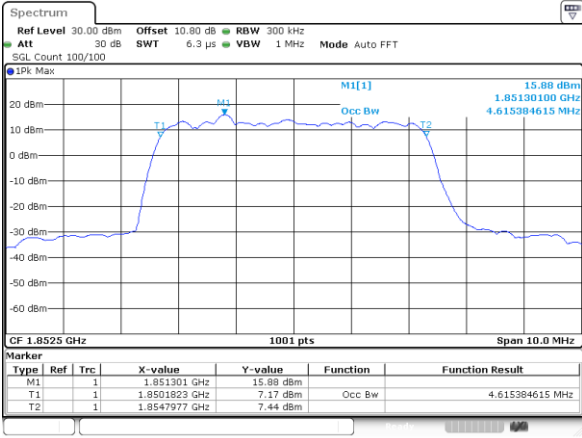
FR1 n25 / 5MHz / CP OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

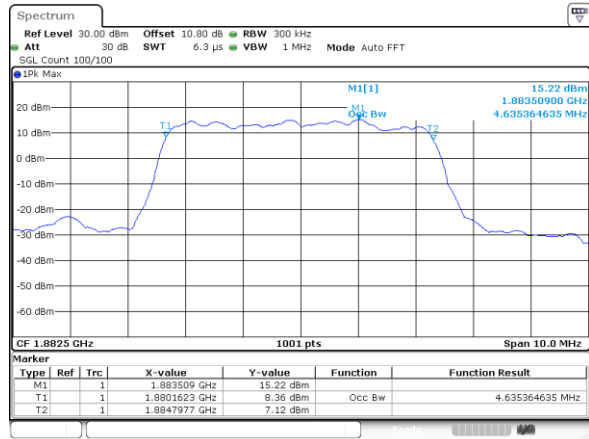
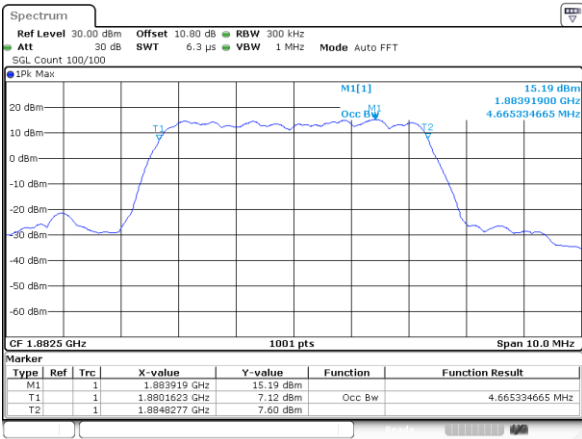


Date: 13 JUN 2020 14:26:00

Date: 13 JUN 2020 14:26:40

Middle Channel

Middle Channel

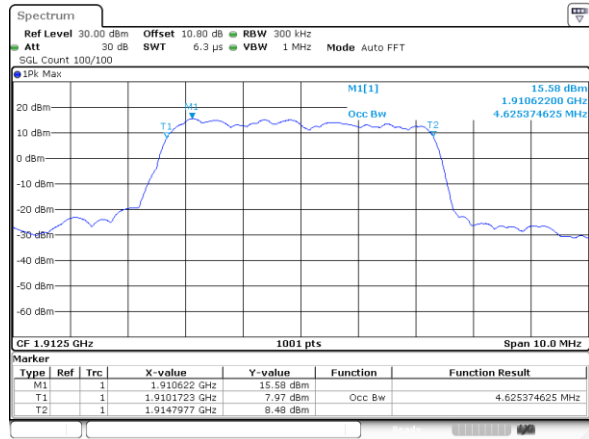
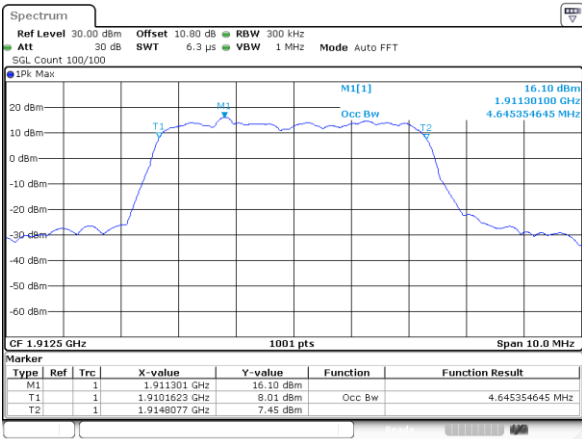


Date: 13 JUN 2020 14:28:31

Date: 13 JUN 2020 14:28:49

Highest Channel

Highest Channel



Date: 13 JUN 2020 14:30:48

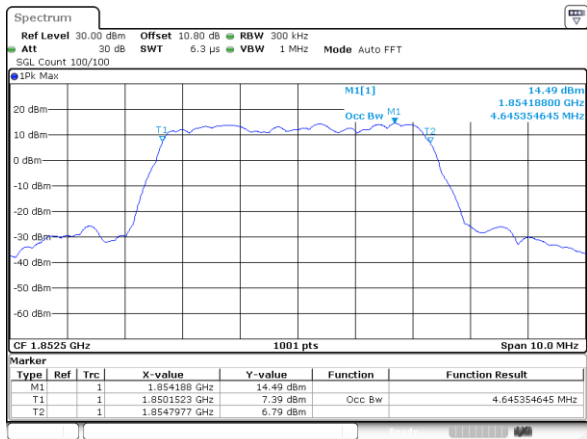
Date: 13 JUN 2020 14:30:34



FR1 n25 / 5MHz / CP OFDM

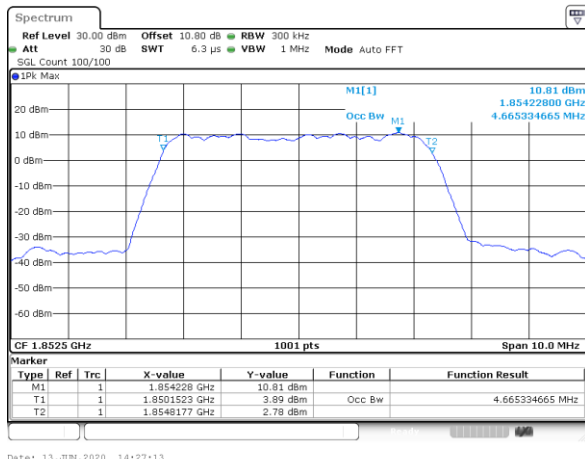
64QAM

Lowest Channel

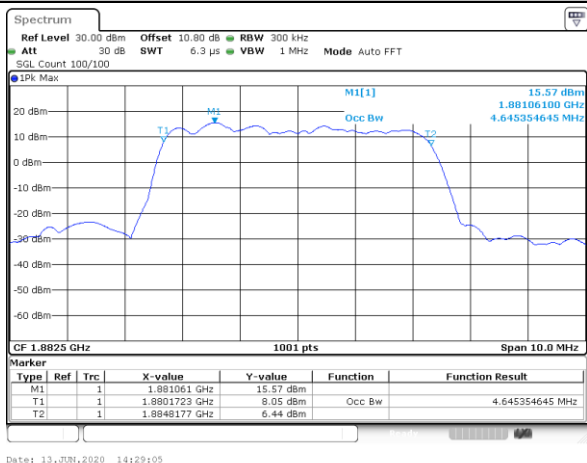


256QAM

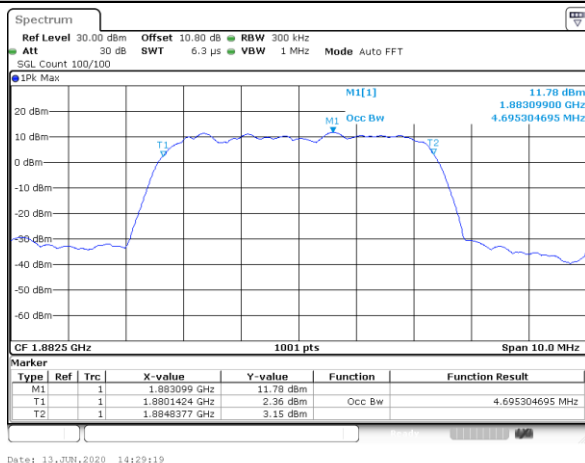
Lowest Channel



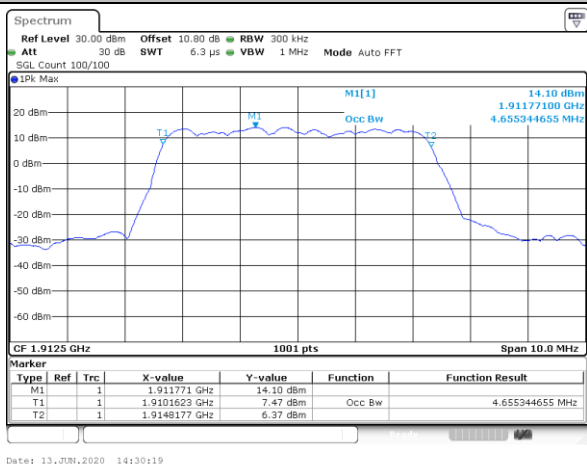
Middle Channel



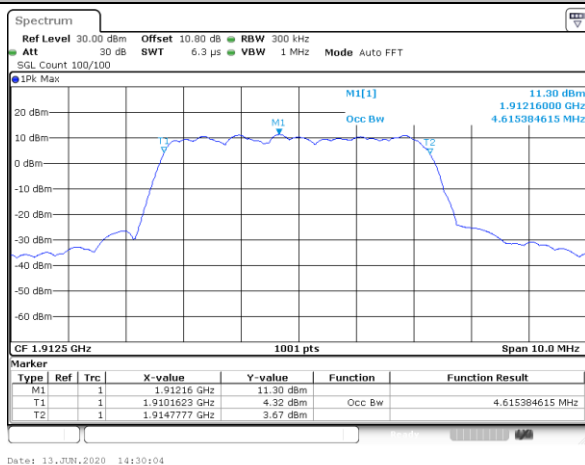
Middle Channel



Highest Channel



Highest Channel

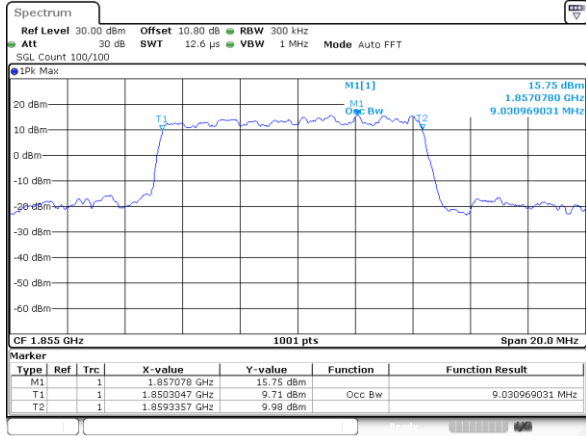




FR1 n25 / 10MHz / DFT-S OFDM

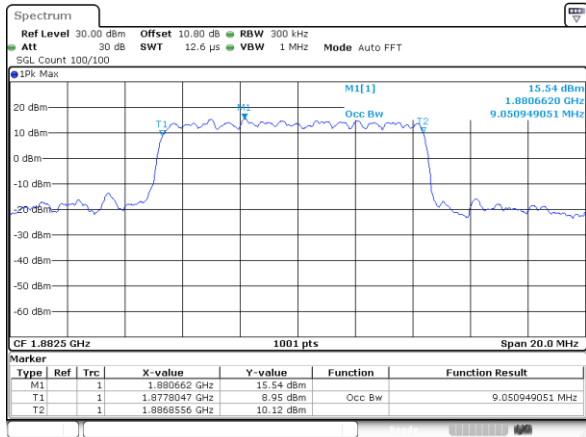
PI/2 BPSK

Lowest Channel



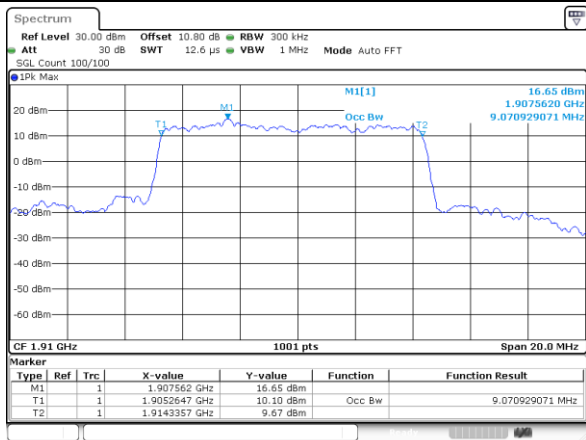
Date: 9 JUN 2020 03:05:07

Middle Channel



Date: 9 JUN 2020 02:29:49

Highest Channel



Date: 9 JUN 2020 03:42:04



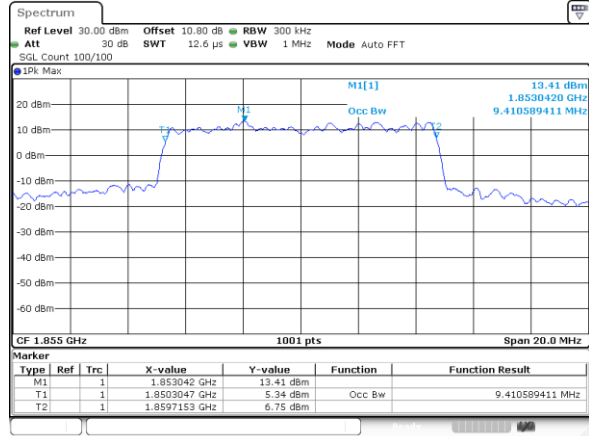
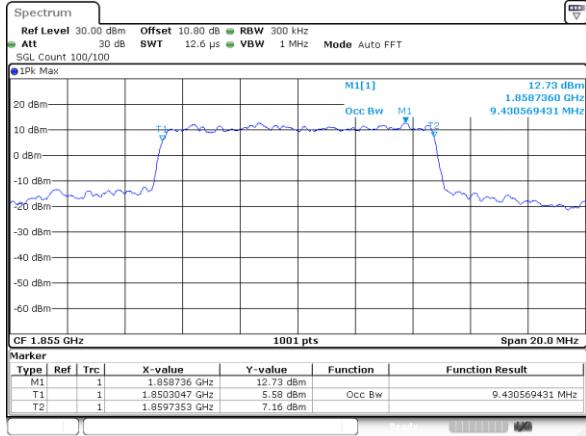
FR1 n25 / 10MHz / CP OFDM

QPSK

16QAM

Lowest Channel

Lowest Channel

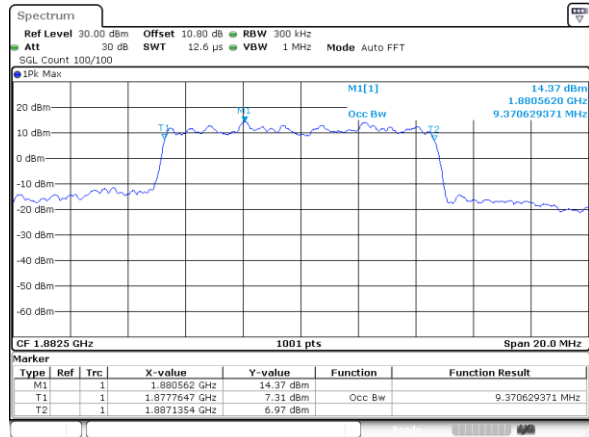
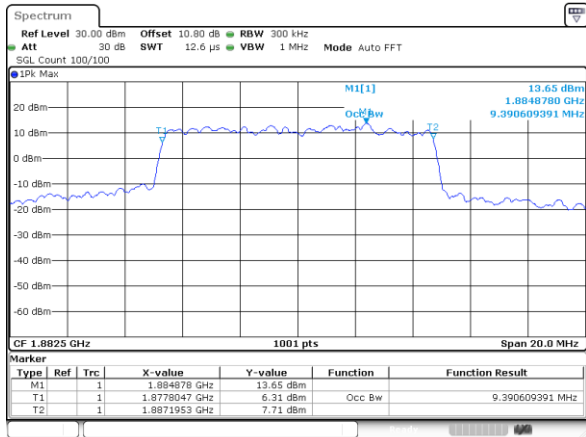


Date: 9 JUN 2020 02:40:57

Date: 9 JUN 2020 03:25:42

Middle Channel

Middle Channel

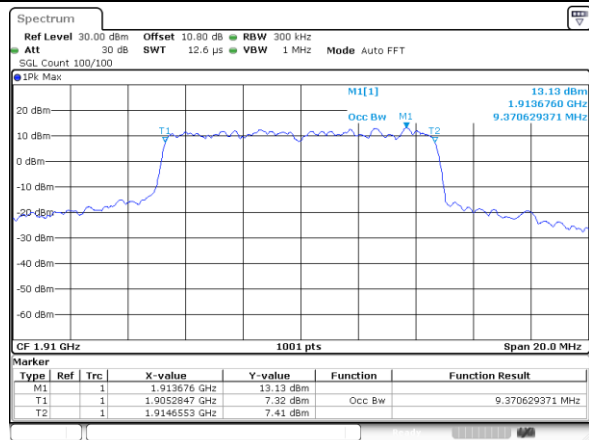
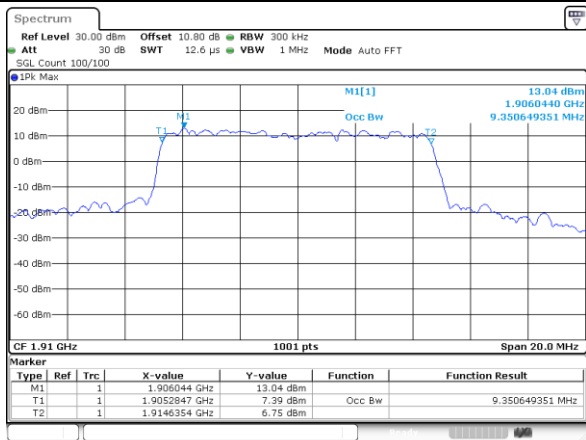


Date: 9 JUN 2020 02:36:37

Date: 9 JUN 2020 02:37:37

Highest Channel

Highest Channel



Date: 9 JUN 2020 04:07:30

Date: 9 JUN 2020 04:17:10



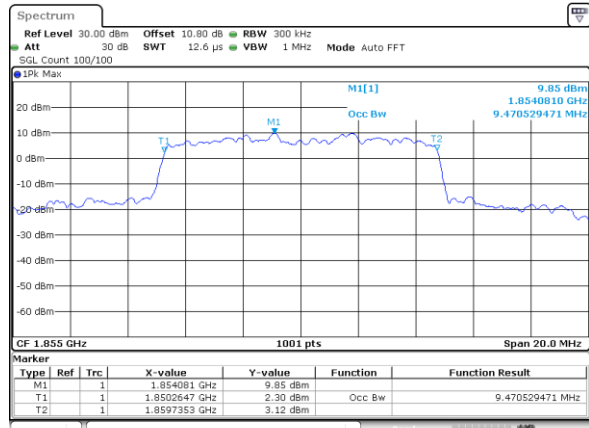
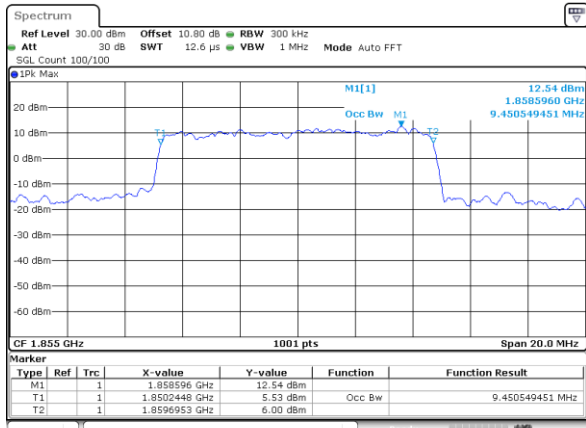
FR1 n25 / 10MHz / CP OFDM

64QAM

256QAM

Lowest Channel

Lowest Channel

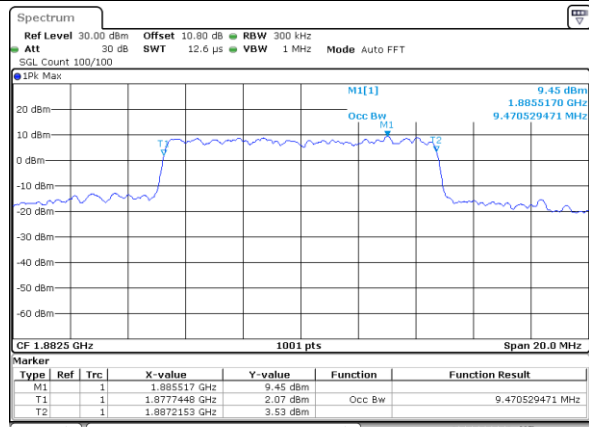
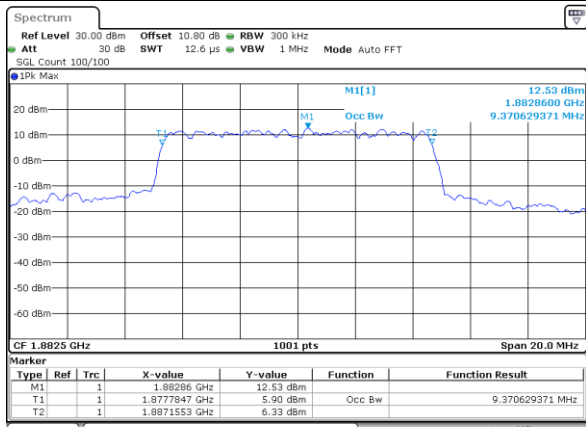


Date: 9 JUN 2020 03:26:15

Date: 9 JUN 2020 03:26:34

Middle Channel

Middle Channel

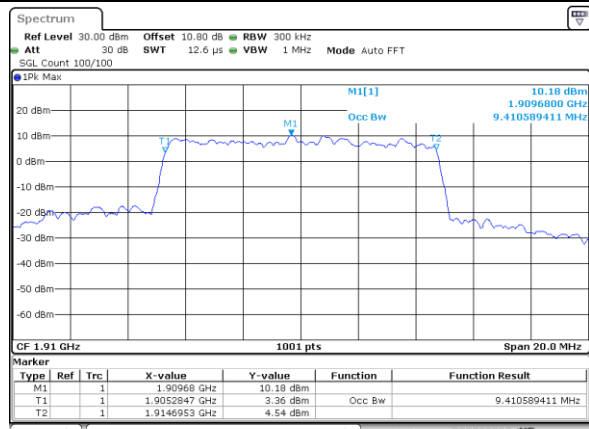
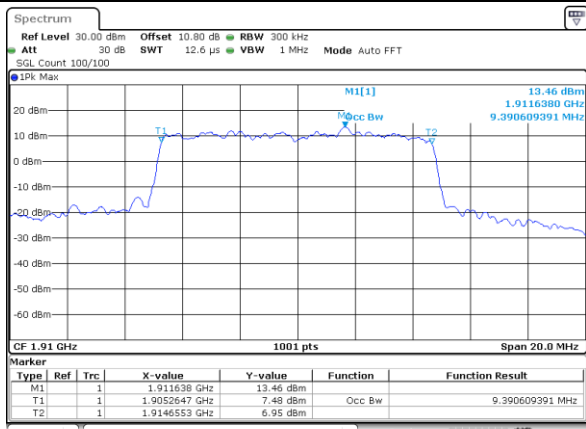


Date: 9 JUN 2020 02:38:03

Date: 9 JUN 2020 02:38:27

Highest Channel

Highest Channel



Date: 9 JUN 2020 04:17:58

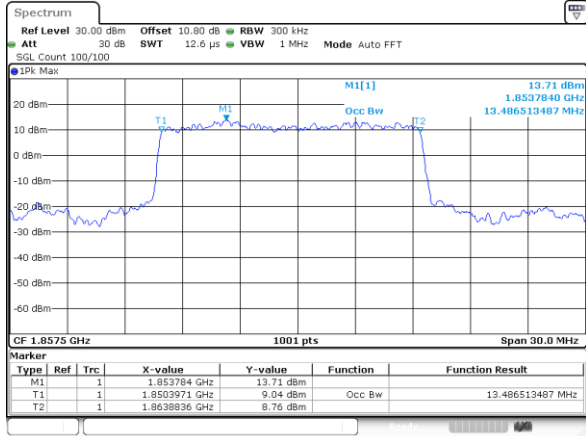
Date: 9 JUN 2020 04:19:01



FR1 n25 / 15MHz / DFT-S OFDM

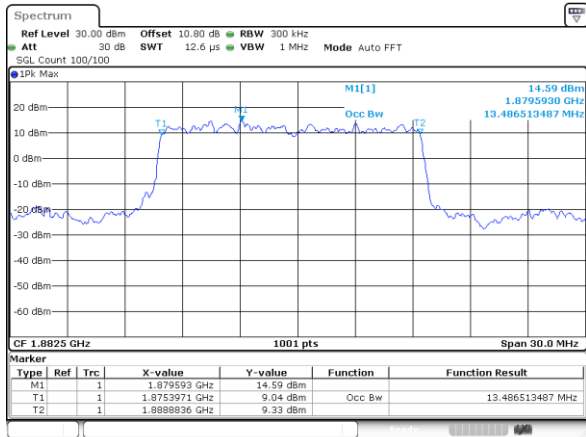
PI/2 BPSK

Lowest Channel



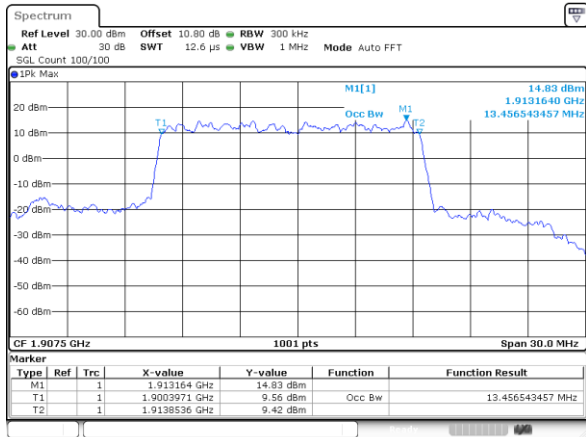
Date: 8 JUN 2020 19:01:02

Middle Channel



Date: 8 JUN 2020 17:42:04

Highest Channel



Date: 8 JUN 2020 19:16:13