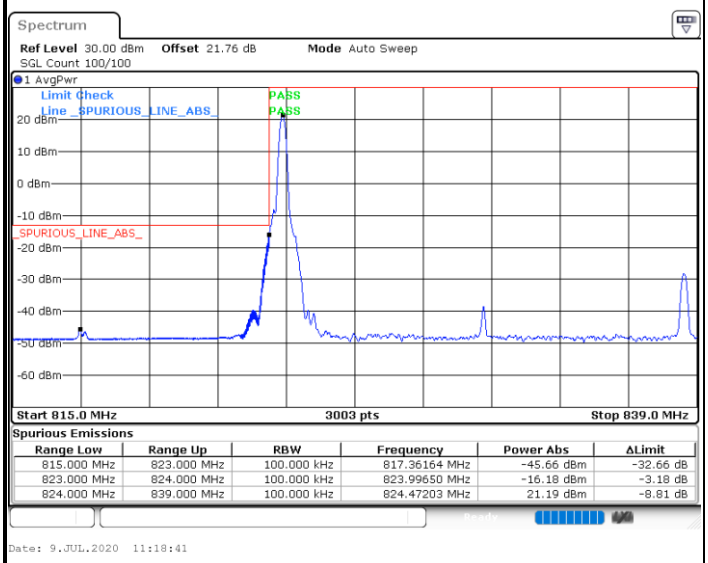
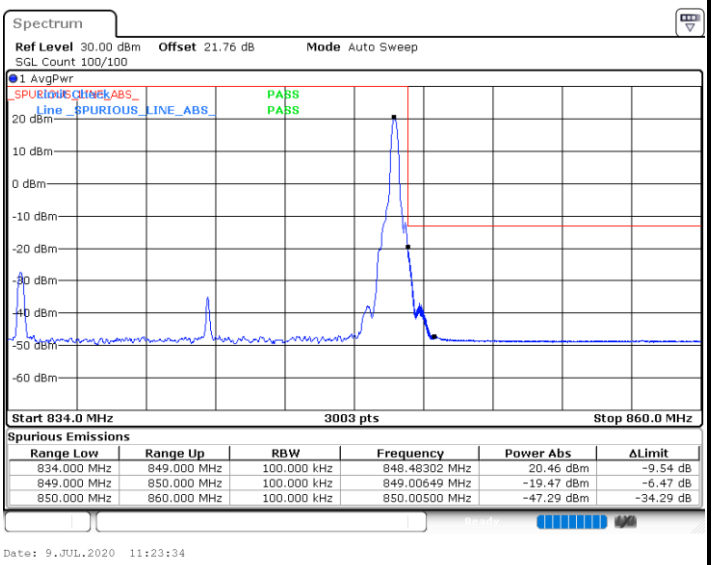
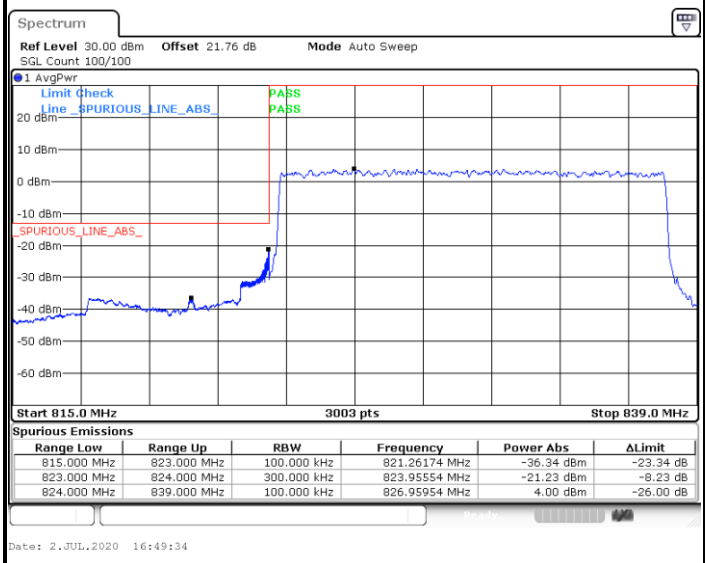
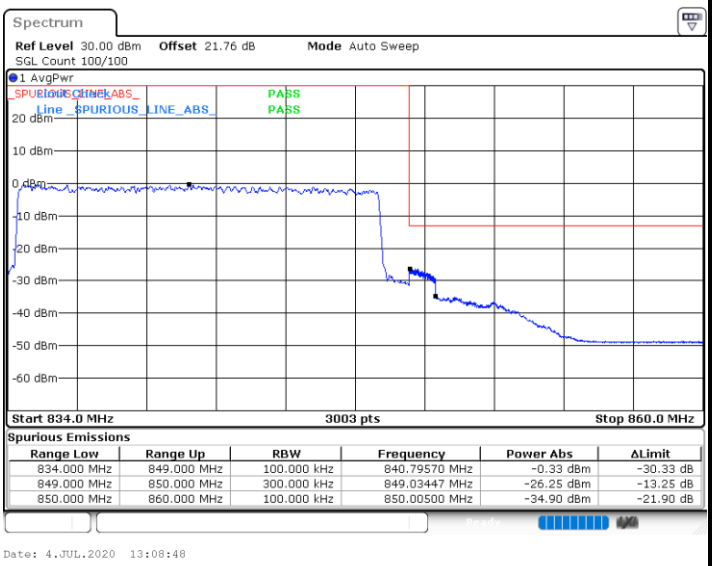
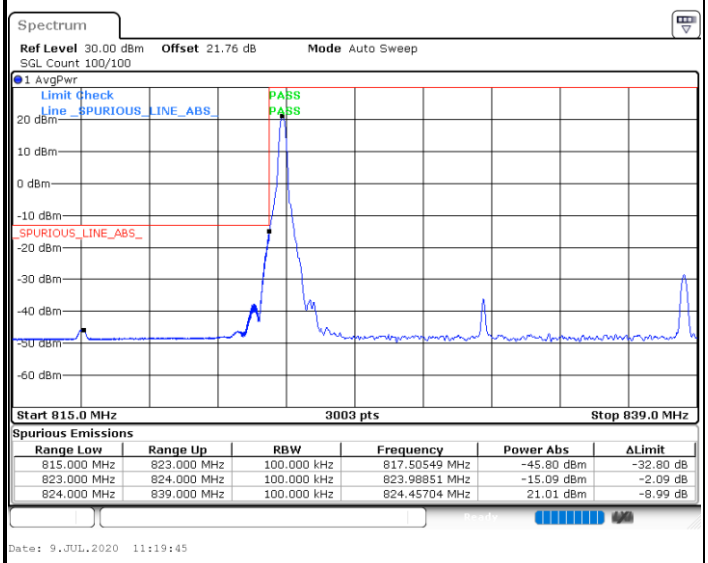
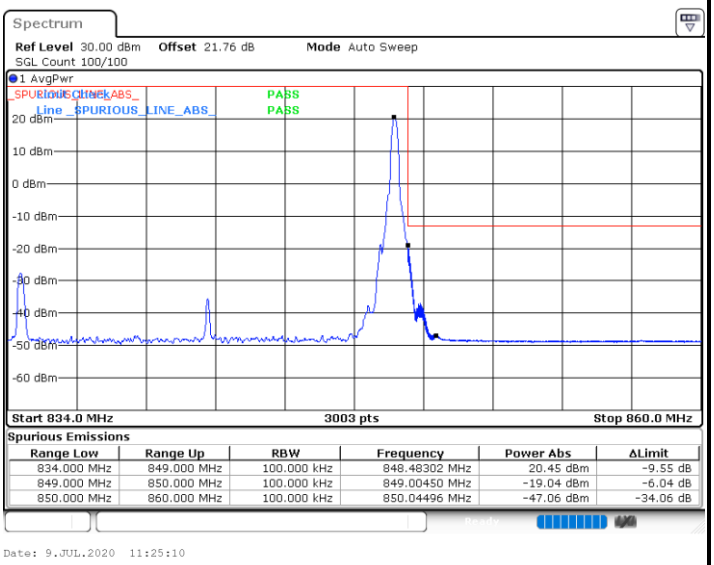
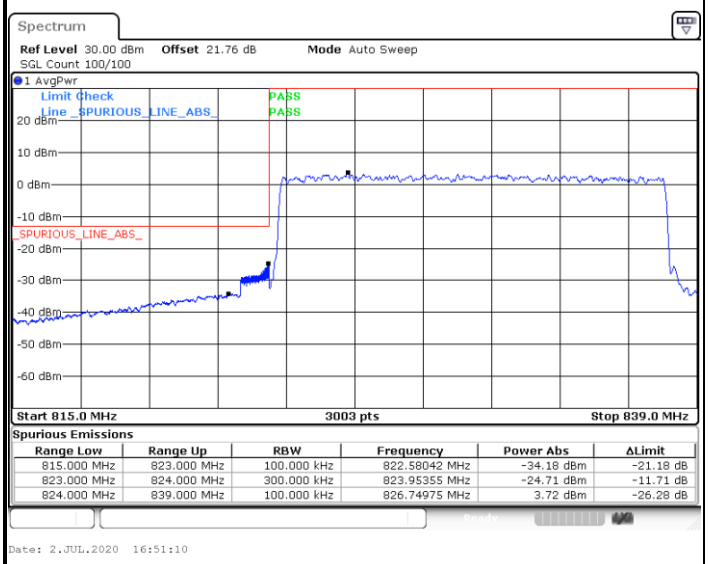
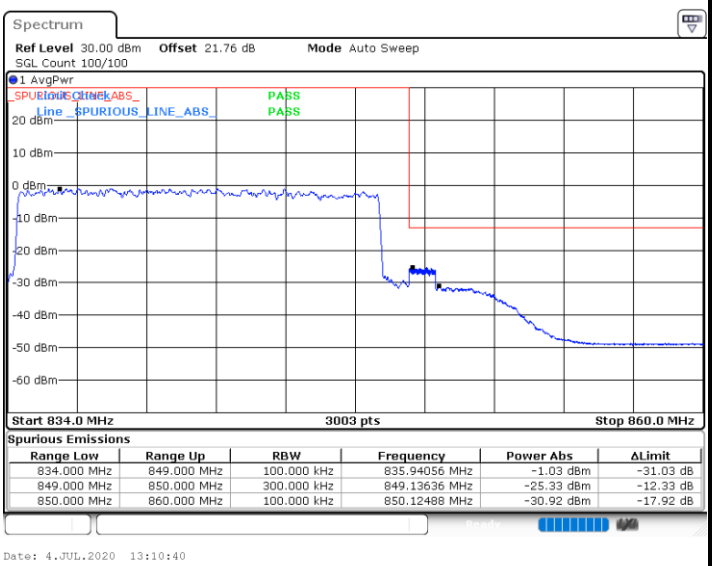
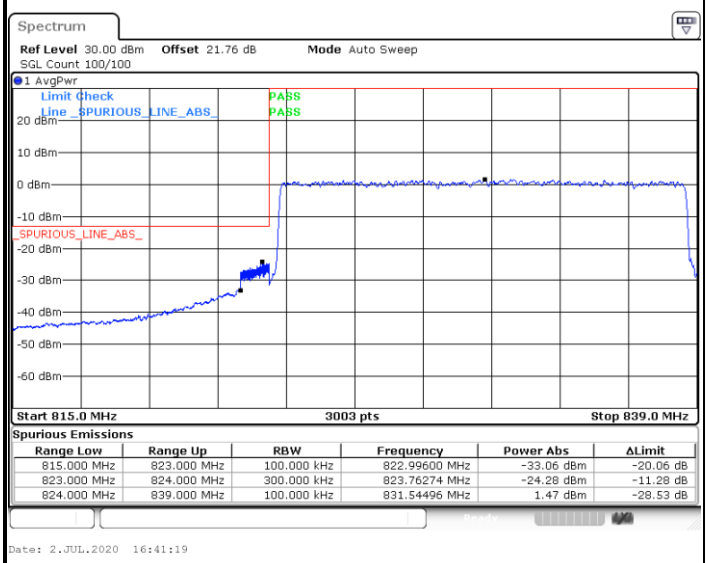
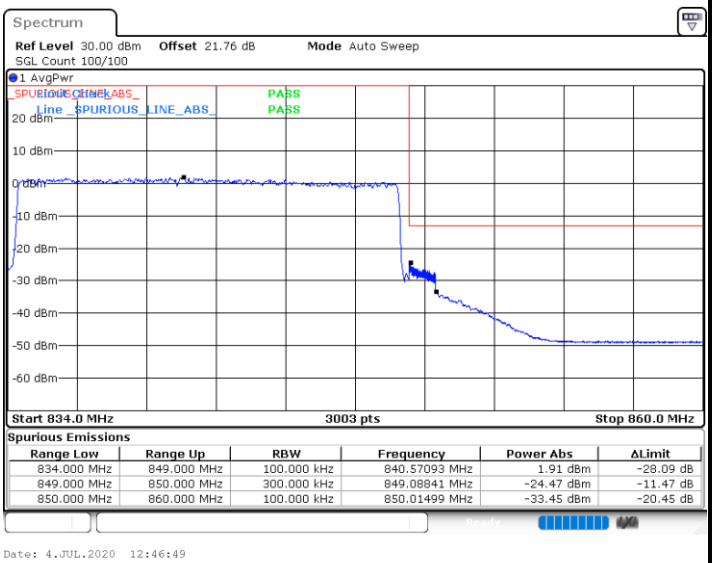
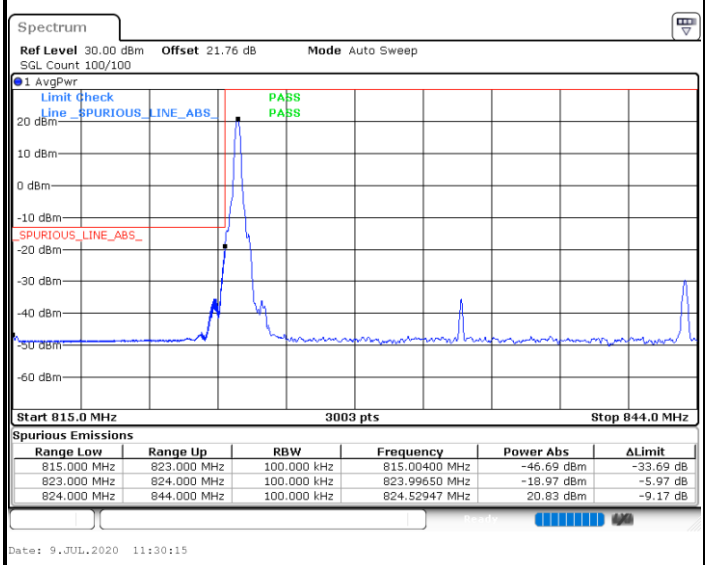
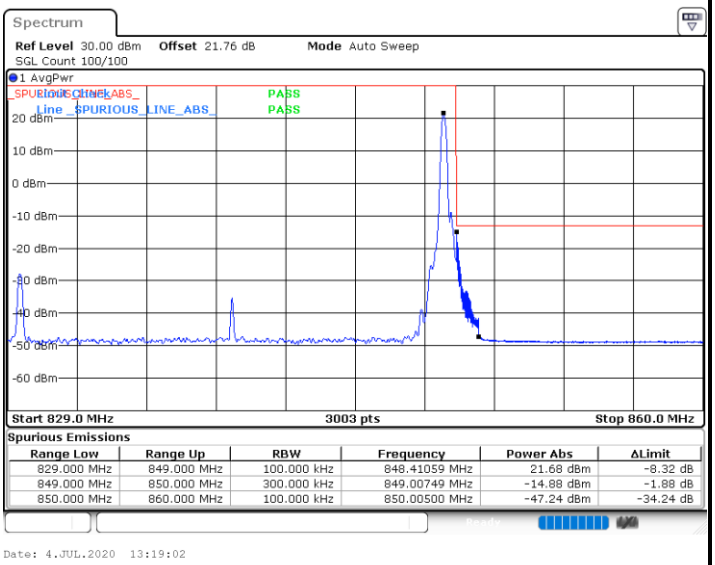
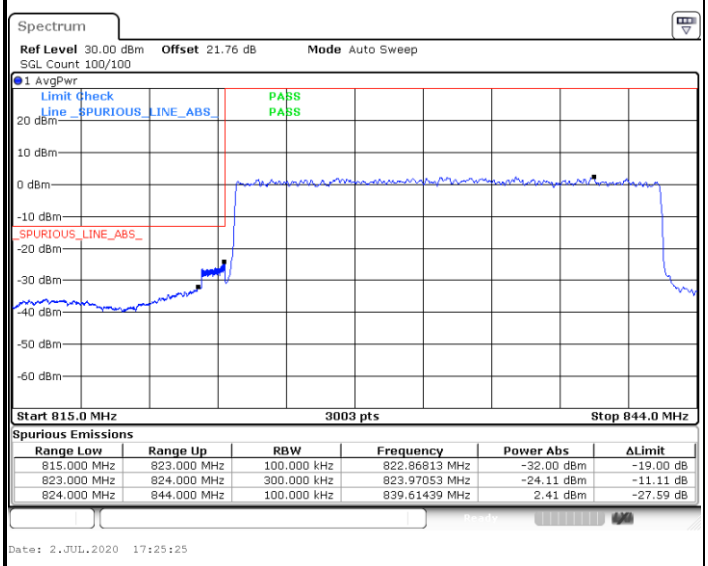
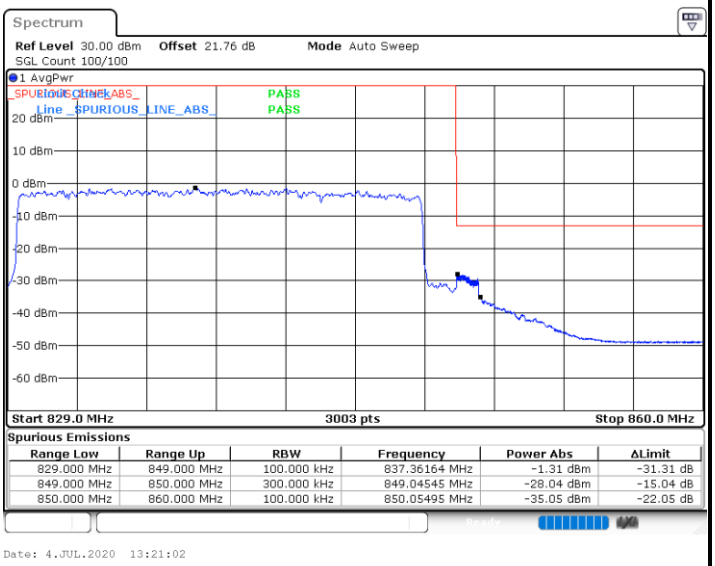
FR1 n5 / 15MHz / DFT-s-OFDM / PI/2 BPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n5 / 15MHz / DFT-s-OFDM / QPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n5 / 15MHz / CP OFDM / QPSK	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**

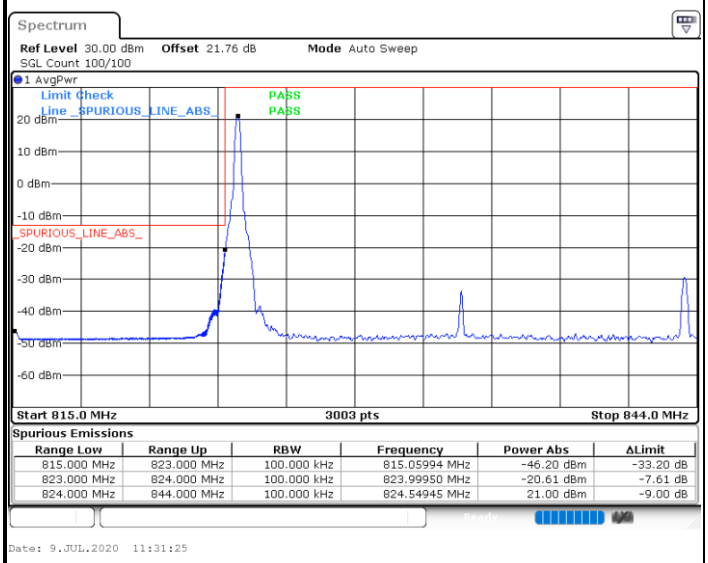




FR1 n5 / 20MHz / DFT-s-OFDM / PI/2 BPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBmax**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

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

Lowest Band Edge / 1RB0

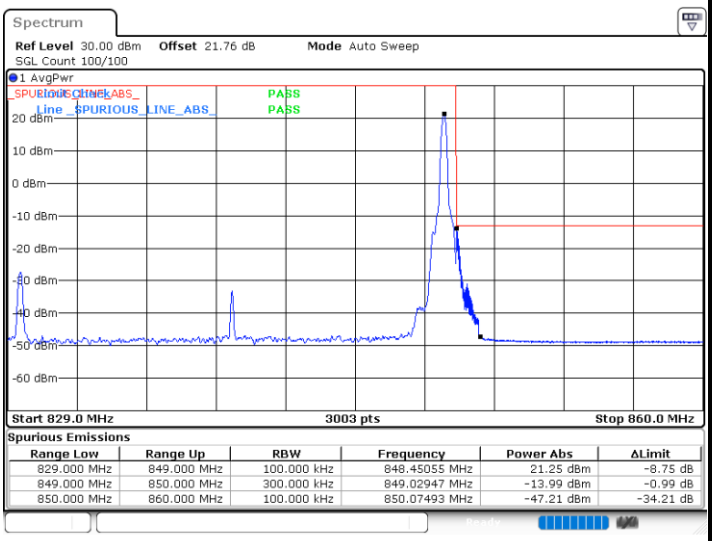


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	815.05994 MHz	-46.20 dBm	-33.20 dB
823.000 MHz	824.000 MHz	100.000 kHz	823.99950 MHz	-20.61 dBm	-7.61 dB
824.000 MHz	844.000 MHz	100.000 kHz	824.54945 MHz	21.00 dBm	-9.00 dB

Date: 9.JUL.2020 11:31:25

Highest Band Edge / 1RBmax

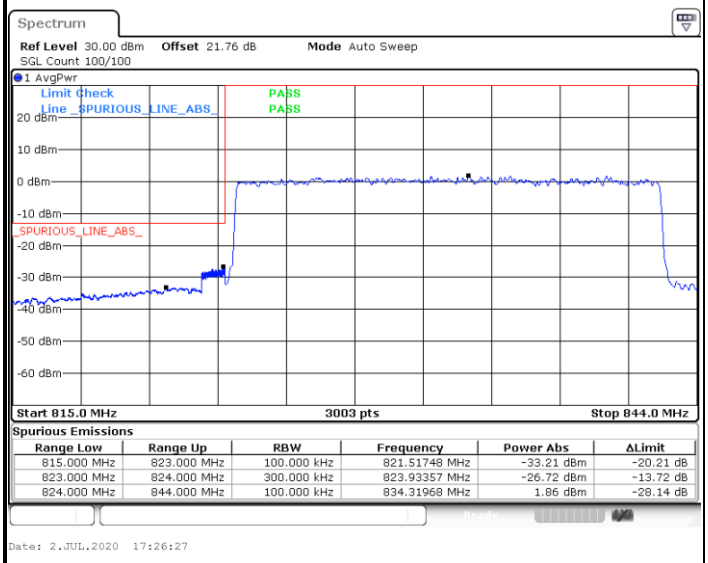


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
829.000 MHz	849.000 MHz	100.000 kHz	848.45055 MHz	21.25 dBm	-8.75 dB
849.000 MHz	850.000 MHz	300.000 kHz	849.02947 MHz	-13.99 dBm	-0.99 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.07493 MHz	-47.21 dBm	-34.21 dB

Date: 4.JUL.2020 13:19:56

Lowest Band Edge / Full RB

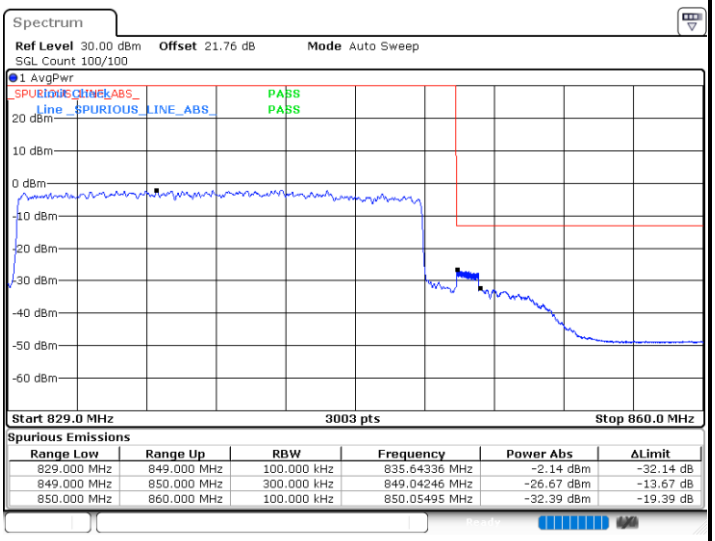


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	821.51748 MHz	-33.21 dBm	-20.21 dB
823.000 MHz	824.000 MHz	300.000 kHz	823.93357 MHz	-26.72 dBm	-13.72 dB
824.000 MHz	844.000 MHz	100.000 kHz	834.31968 MHz	1.86 dBm	-28.14 dB

Date: 2.JUL.2020 17:26:27

Highest Band Edge / Full RB

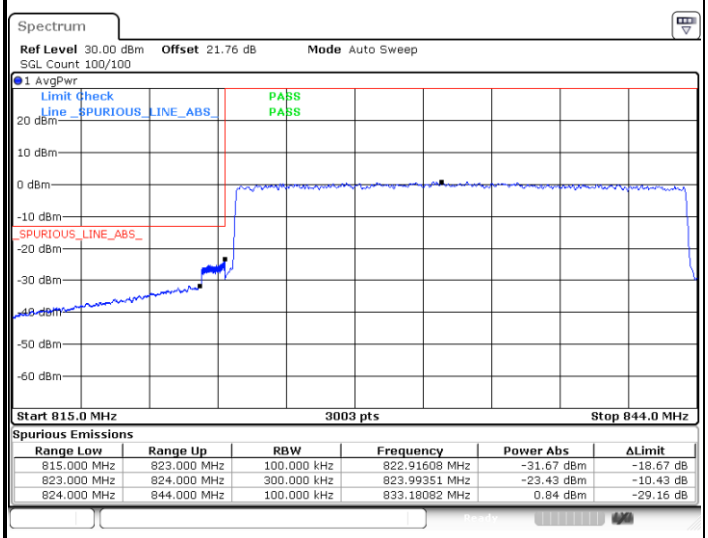


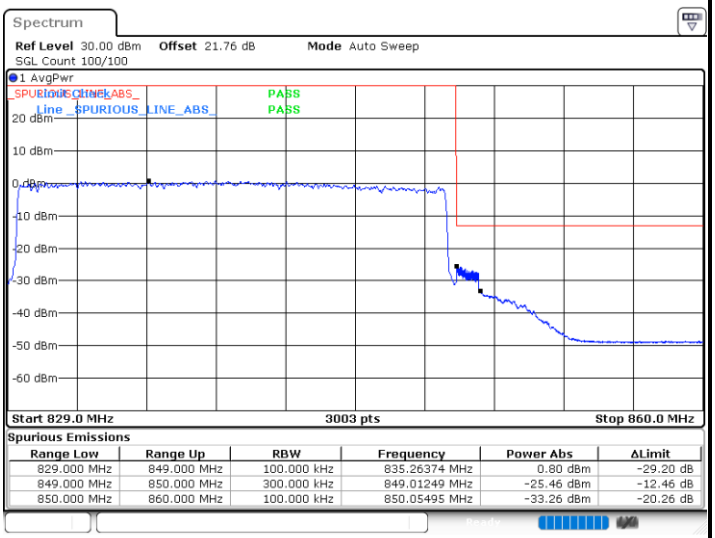
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
829.000 MHz	849.000 MHz	100.000 kHz	835.64336 MHz	-2.14 dBm	-32.14 dB
849.000 MHz	850.000 MHz	300.000 kHz	849.04246 MHz	-26.67 dBm	-13.67 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.05495 MHz	-32.39 dBm	-19.39 dB

Date: 4.JUL.2020 13:21:52

FR1 n5 / 20MHz / CP OFDM / QPSK	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**

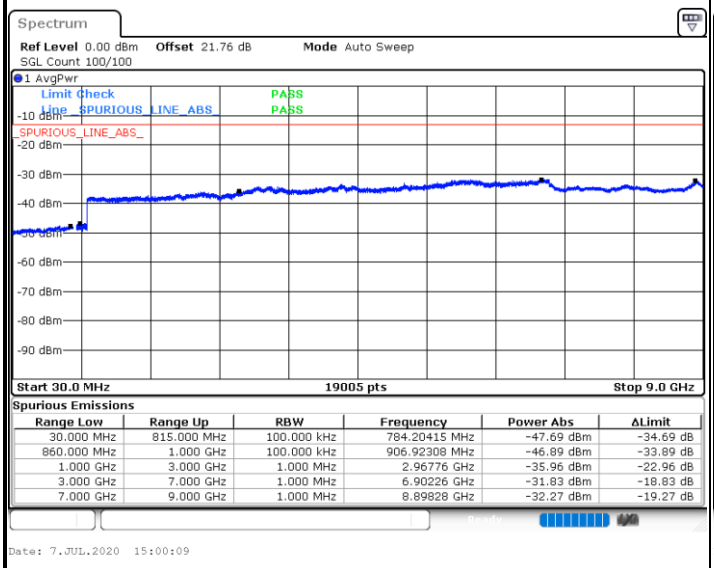




Conducted Spurious Emission

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

Lowest Channel / 1RB1

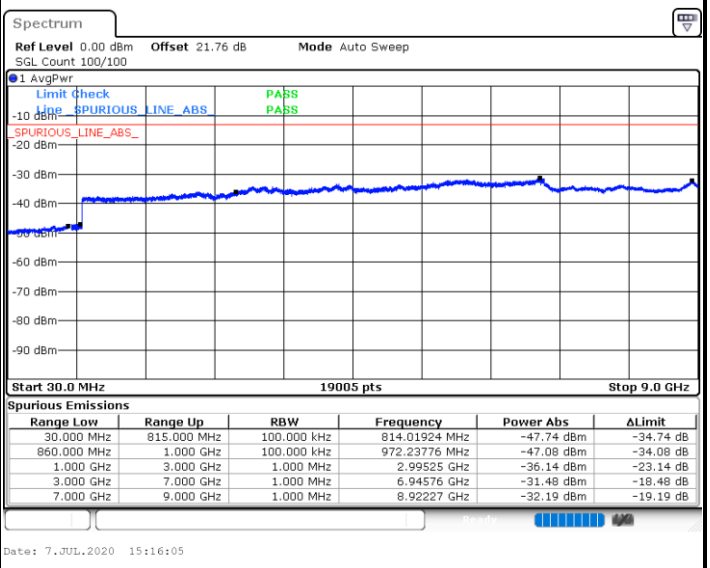


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	784.20415 MHz	-47.69 dBm	-34.69 dB
860.000 MHz	1.000 GHz	100.000 kHz	906.92308 MHz	-46.89 dBm	-33.89 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.96776 GHz	-35.96 dBm	-22.96 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.90226 GHz	-31.83 dBm	-18.83 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.89828 GHz	-32.27 dBm	-19.27 dB

Date: 7.JUL.2020 15:00:09

Middle Channel / 1RB1

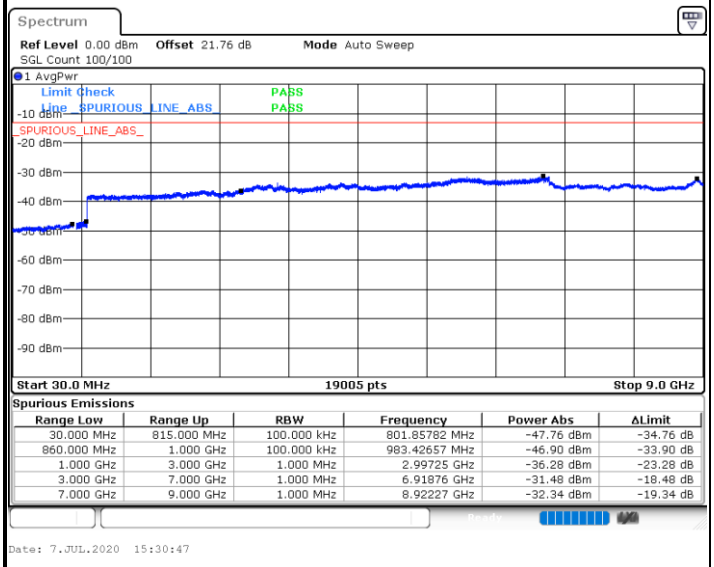


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	814.01924 MHz	-47.74 dBm	-34.74 dB
860.000 MHz	1.000 GHz	100.000 kHz	972.23776 MHz	-47.08 dBm	-34.08 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.99525 GHz	-36.14 dBm	-23.14 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.94576 GHz	-31.48 dBm	-18.48 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.92227 GHz	-32.19 dBm	-19.19 dB

Date: 7.JUL.2020 15:16:05

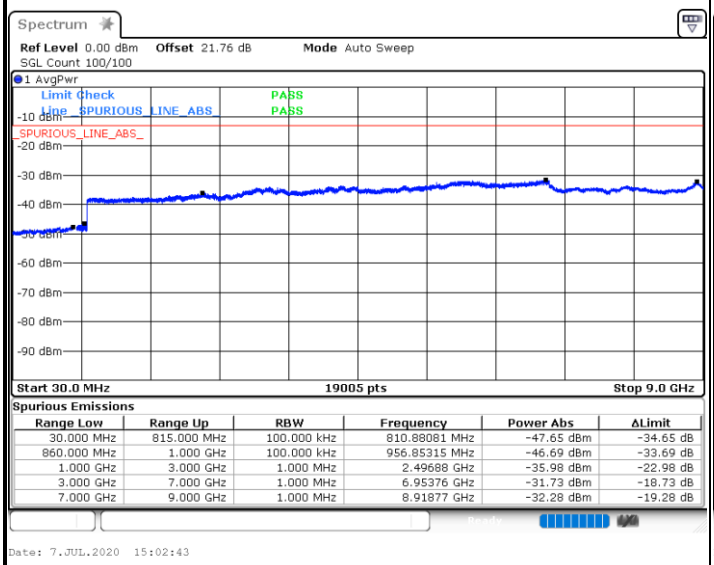
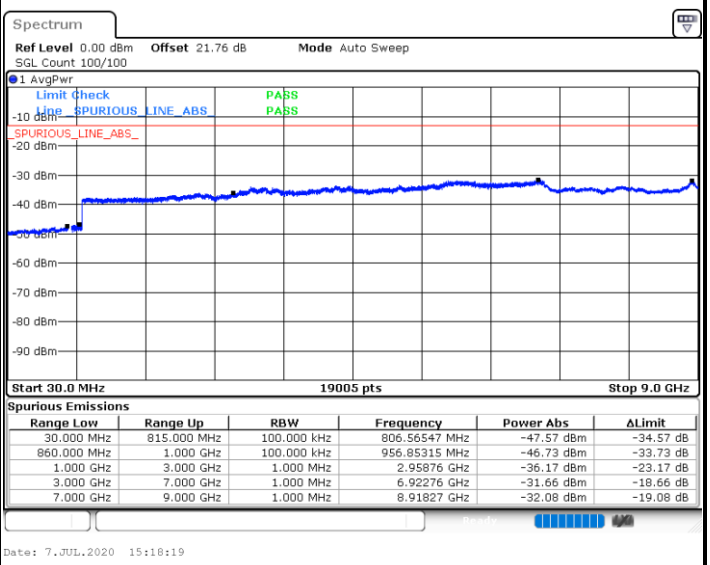
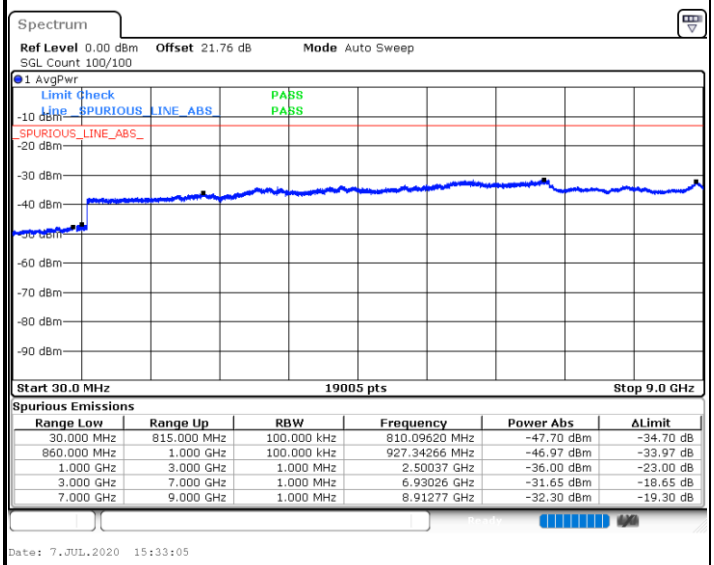
Highest Channel / 1RB1

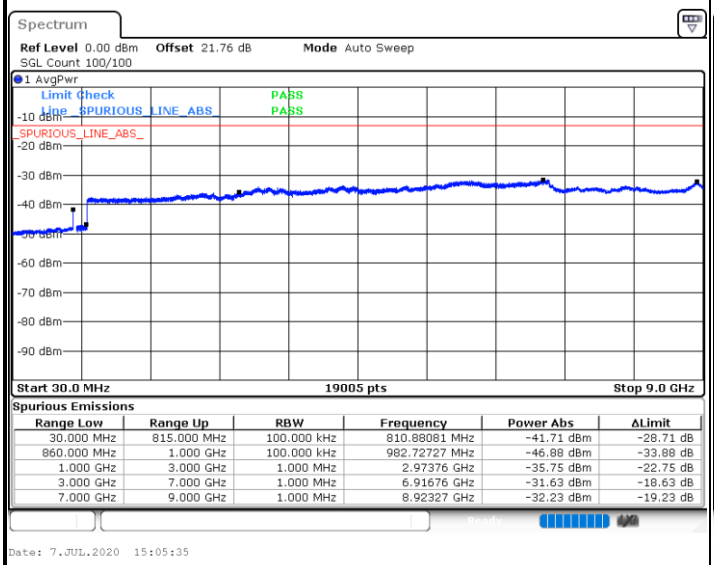
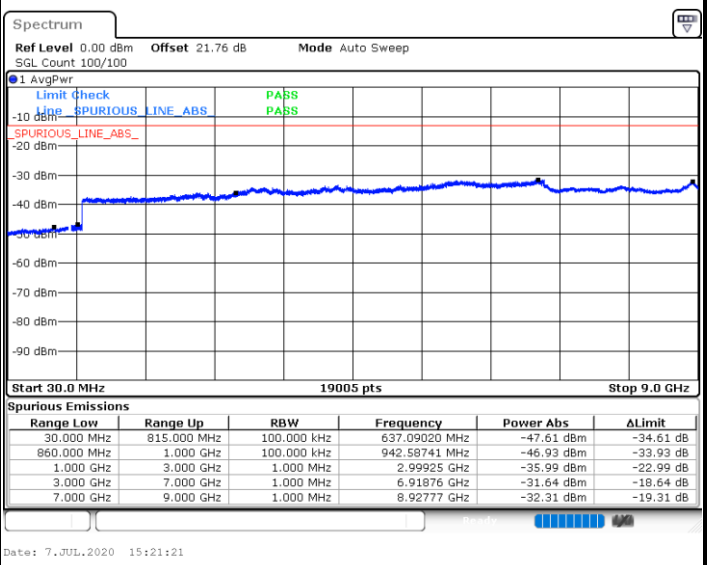
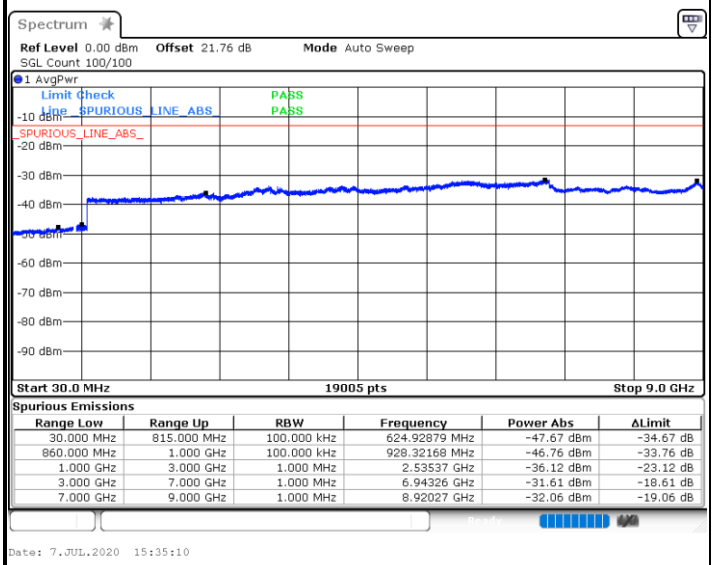


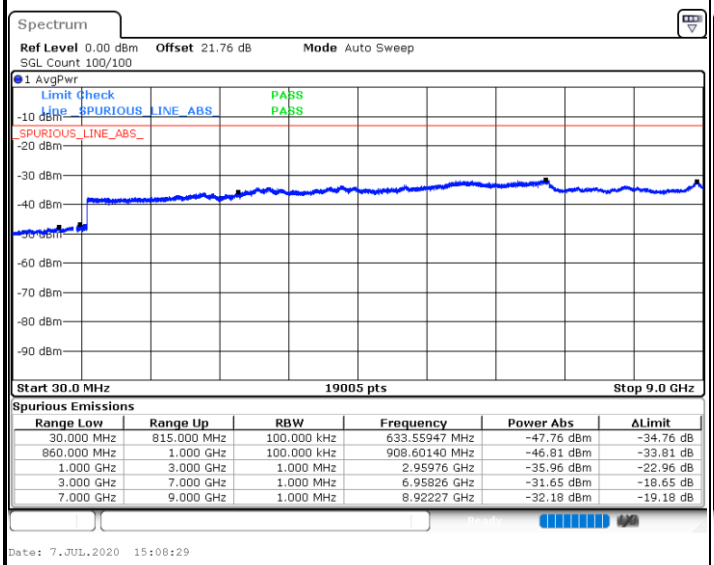
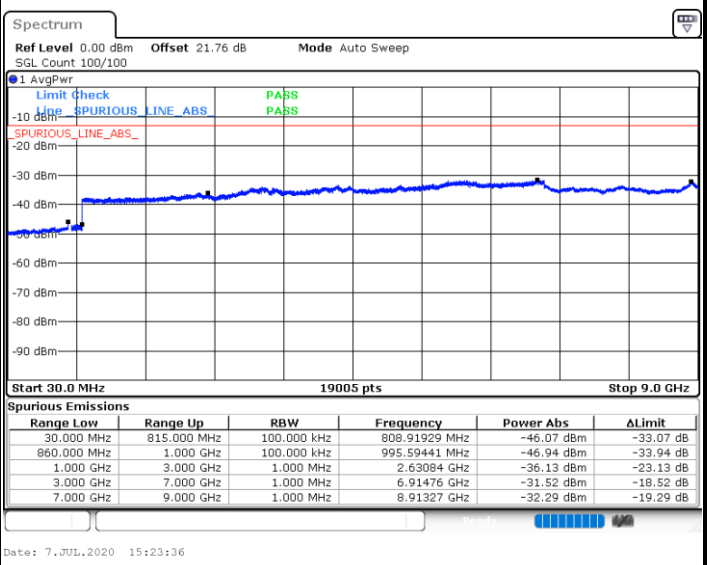
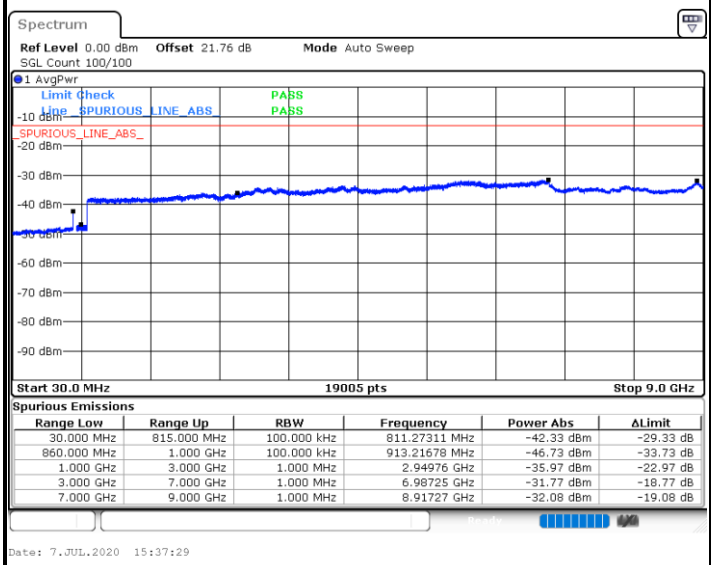
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	801.85782 MHz	-47.76 dBm	-34.76 dB
860.000 MHz	1.000 GHz	100.000 kHz	983.42657 MHz	-46.90 dBm	-33.90 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.99725 GHz	-36.28 dBm	-23.28 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.91876 GHz	-31.48 dBm	-18.48 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.92227 GHz	-32.34 dBm	-19.34 dB

Date: 7.JUL.2020 15:30:47

FR1 n5 / 10MHz / DFT-S OFDM / QPSK	
Lowest Channel / 1RB1	**Middle Channel / 1RB1**
	
Highest Channel / 1RB1	
	

FR1 n5 / 15MHz / DFT-S OFDM / QPSK	
Lowest Channel / 1RB1	**Middle Channel / 1RB1**
	
Highest Channel / 1RB1	
	

FR1 n5 / 20MHz / DFT-S OFDM / QPSK	
Lowest Channel / 1RB1	**Middle Channel / 1RB1**
	
Highest Channel / 1RB1	
	

Frequency Stability

Test Conditions		FR1 n5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0011	PASS
40	Normal Voltage	0.0000	
30	Normal Voltage	0.0000	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0011	
0	Normal Voltage	0.0023	
-10	Normal Voltage	0.0000	
-20	Normal Voltage	0.0023	
-30	Normal Voltage	0.0023	
20	Maximum Voltage	0.0011	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0011	

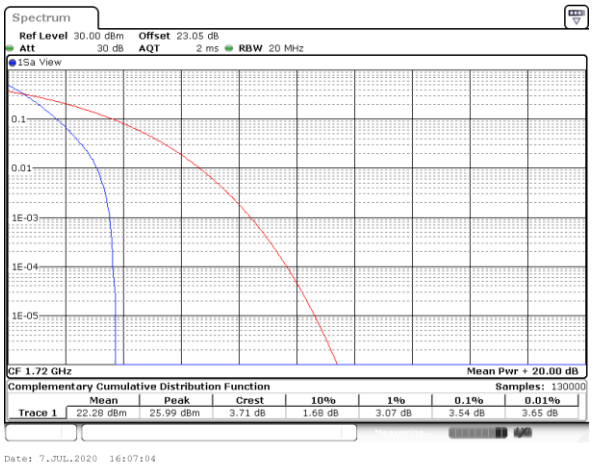
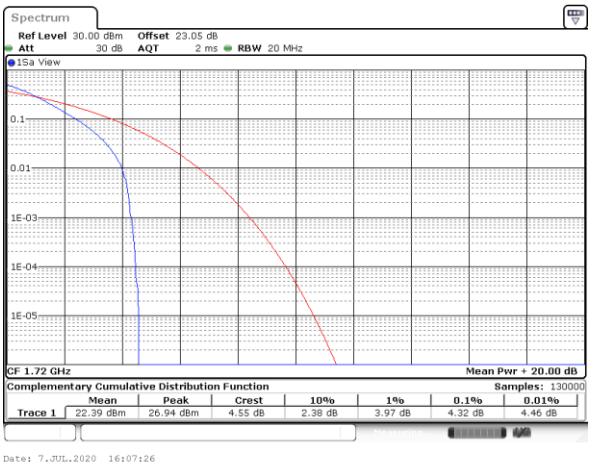
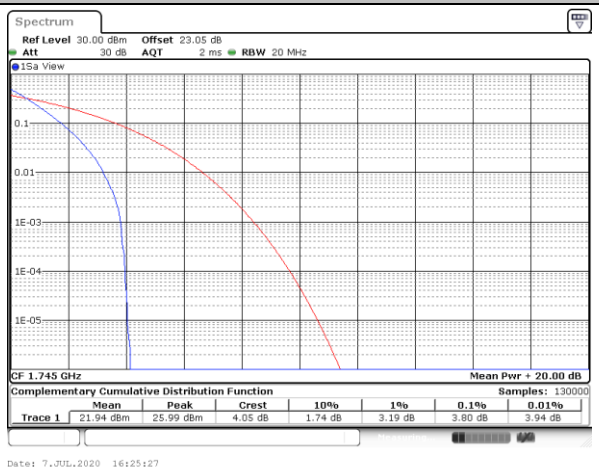
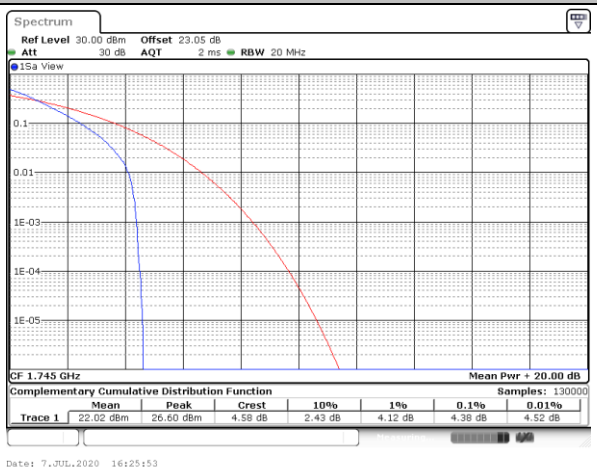
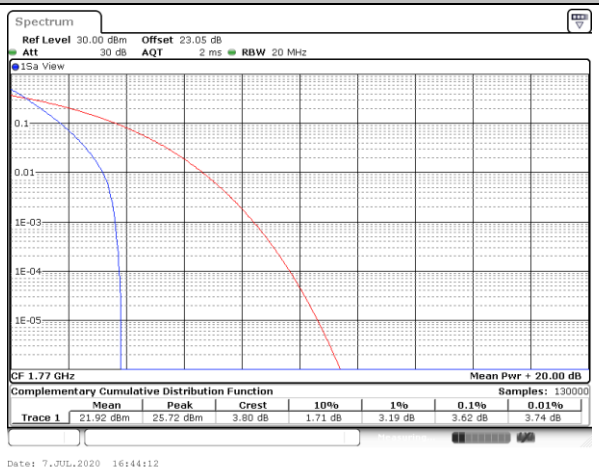
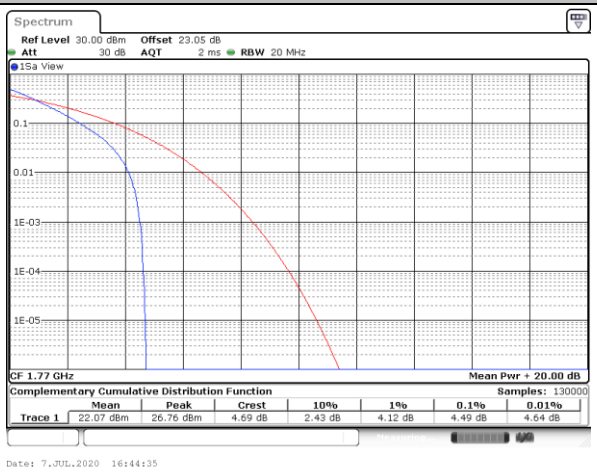
Note:

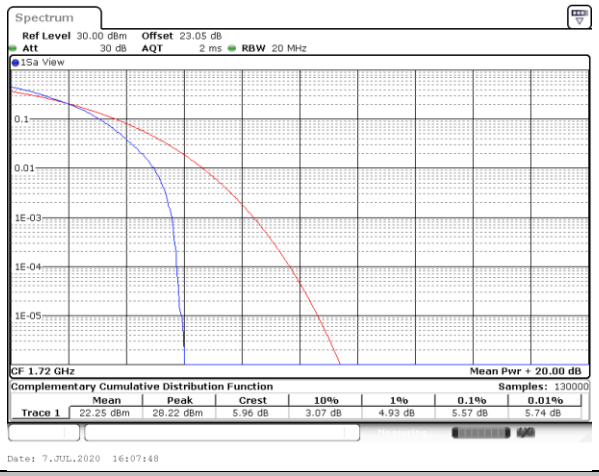
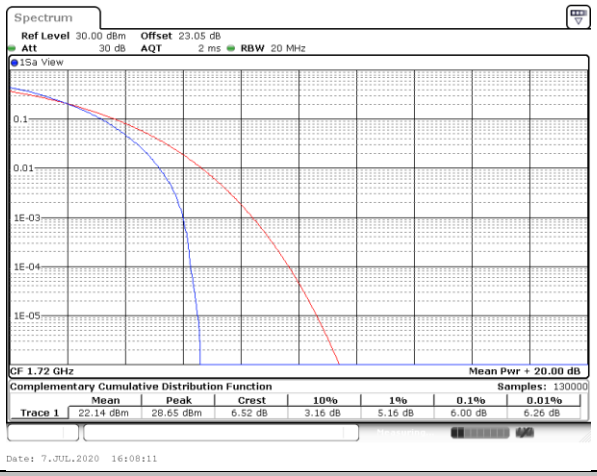
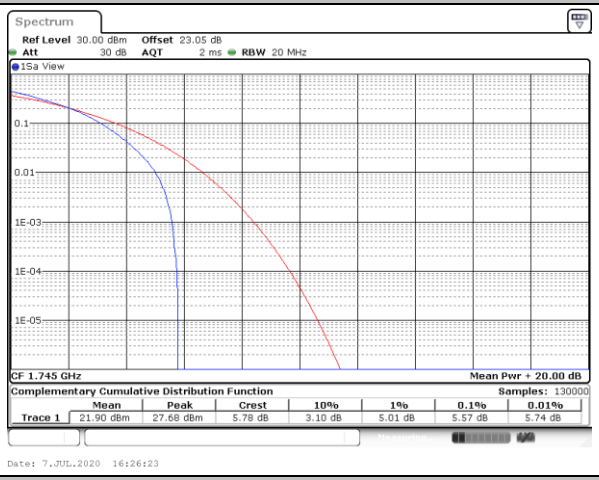
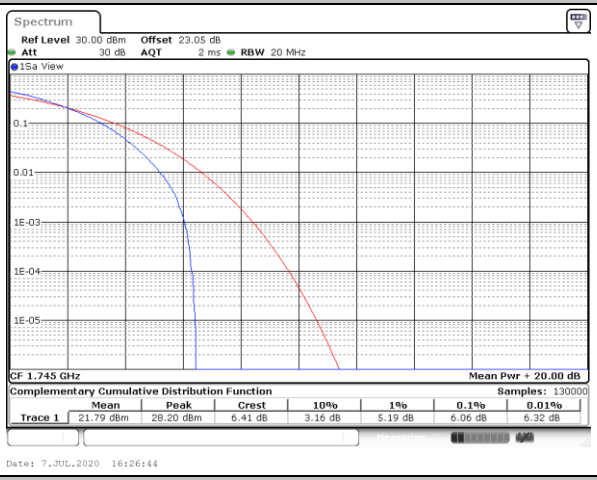
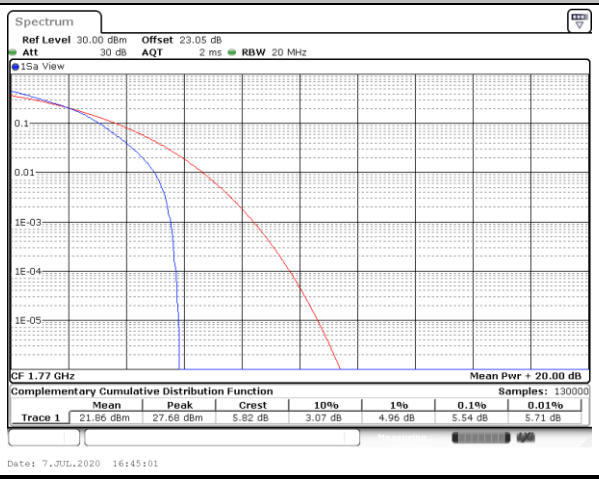
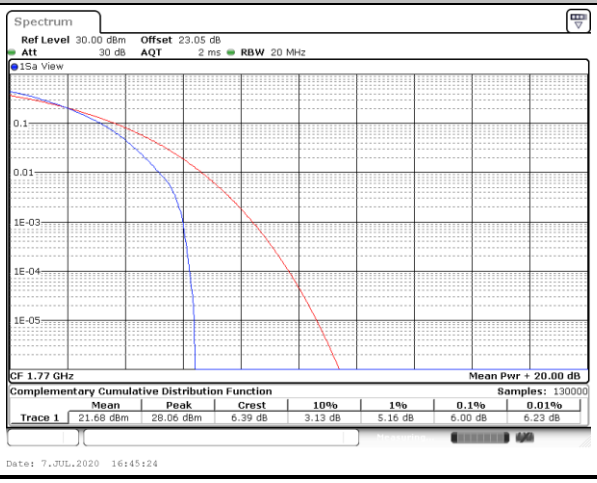
1. Normal Voltage =3.85 V.；Battery End Point (BEP) =3.30 V.；Maximum Voltage =4.25 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

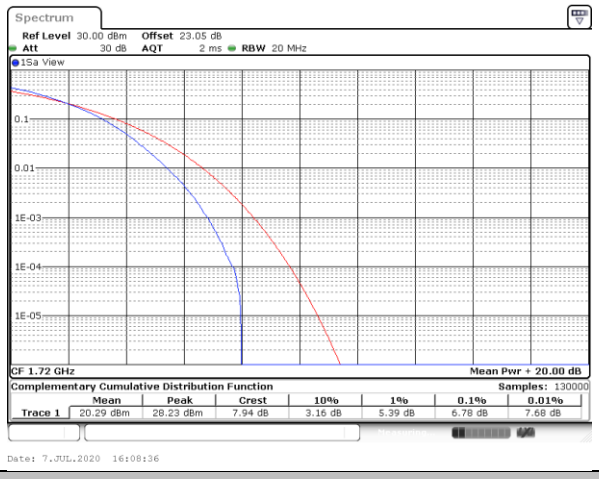
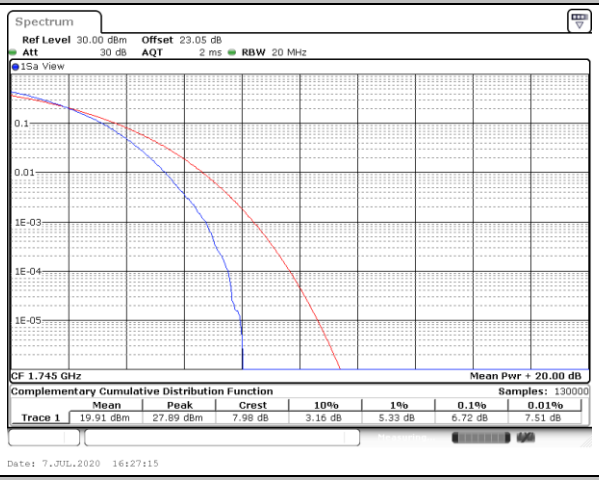
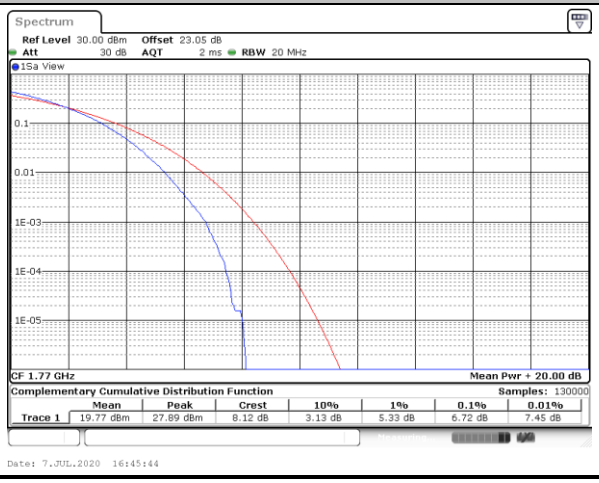
FR1 n66

Peak-to-Average Ratio

Mode	FR1 n66 / 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	3.54	4.32	5.57	6.00	PASS
Middle CH	3.80	4.38	5.57	6.06	
Highest CH	3.62	4.49	5.54	6.00	
Mode	FR1 n66 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Lowest CH	6.78				PASS
Middle CH	6.72				
Highest CH	6.72				

FR1 n66 / 20MHz / DFT-S OFDM	
PI/2 BPSK	**QPSK**
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 n66 / 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**
	

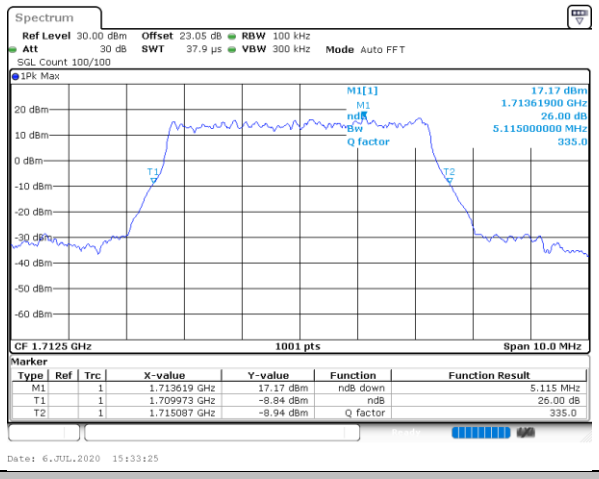
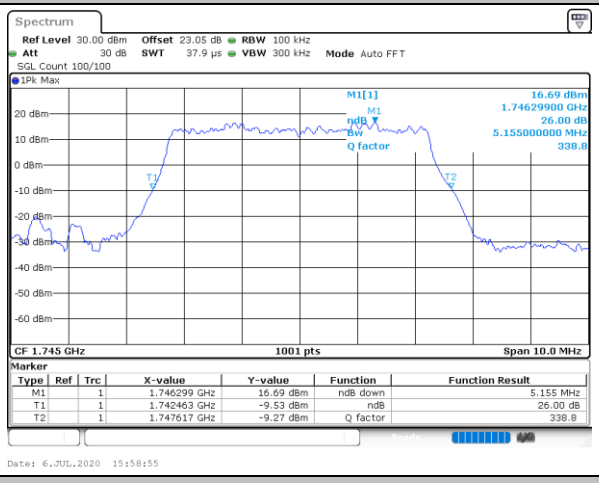
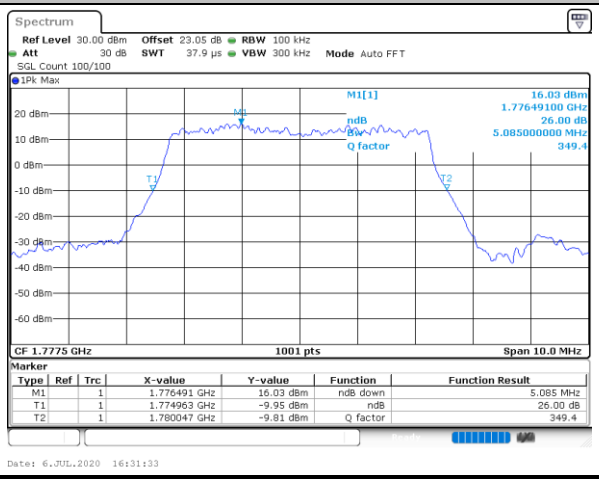
FR1 n66 / 20MHz / DFT-S OFDM	
256QAM	
Lowest Channel / Full RB	
	
Middle Channel / Full RB	
	
Highest Channel / Full RB	
	

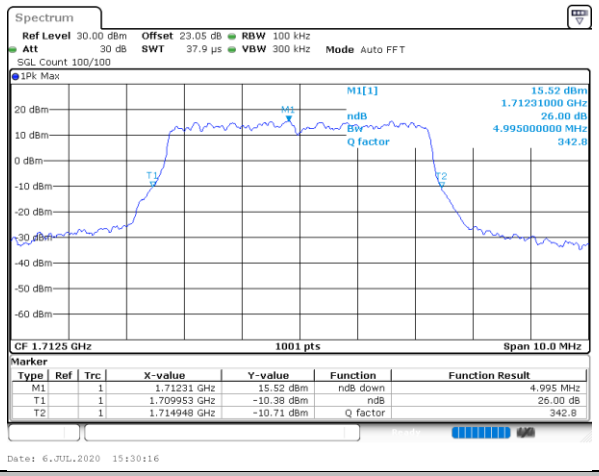
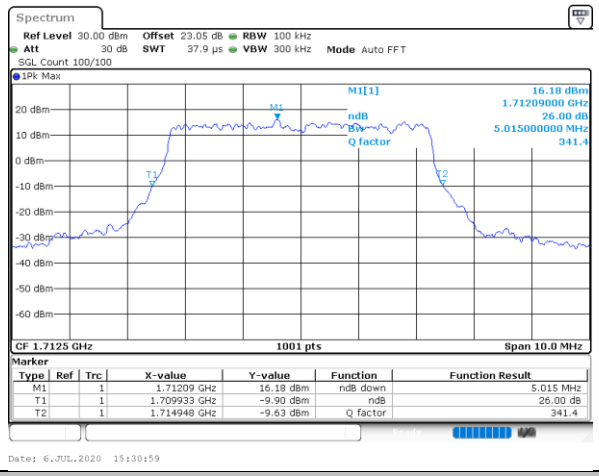
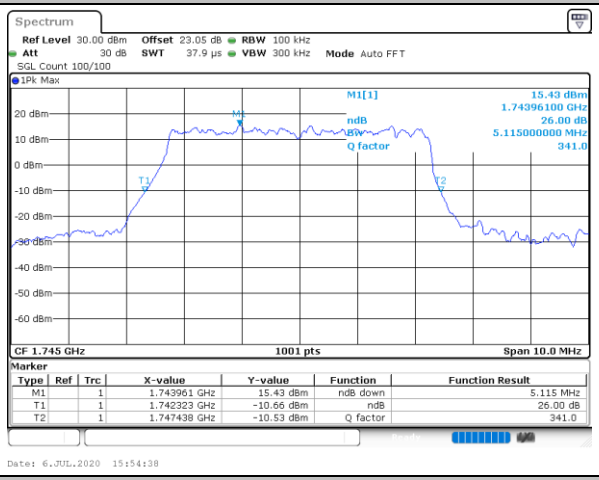
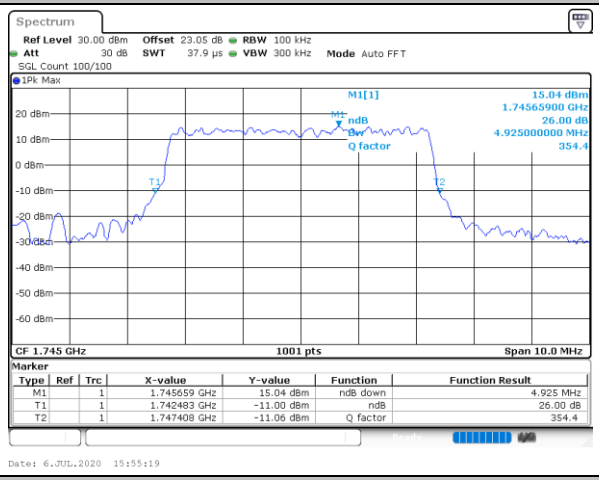
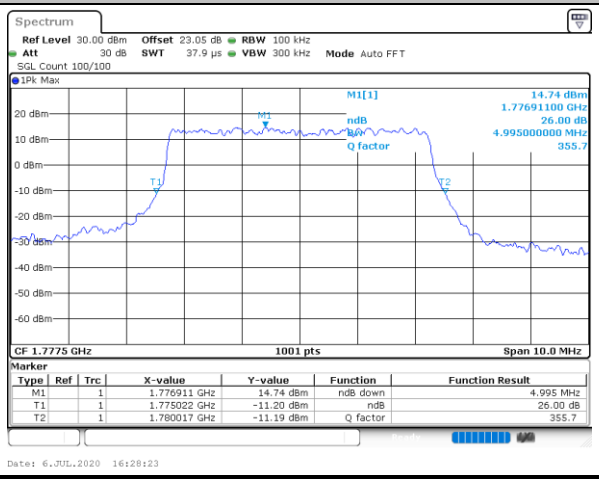
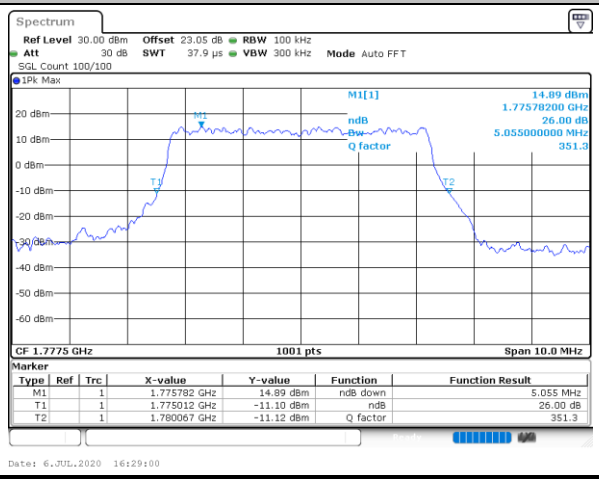
26dB Bandwidth

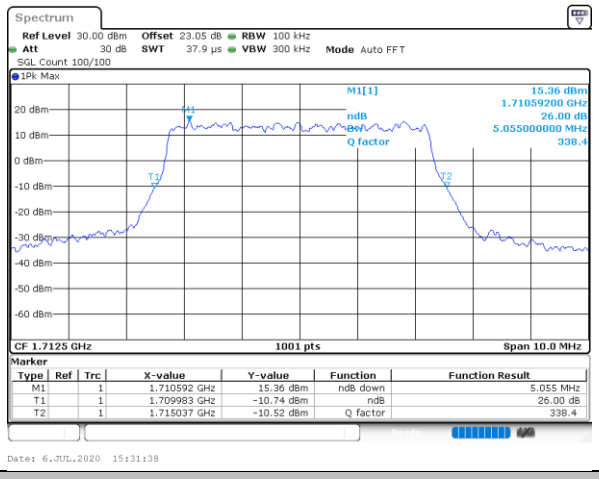
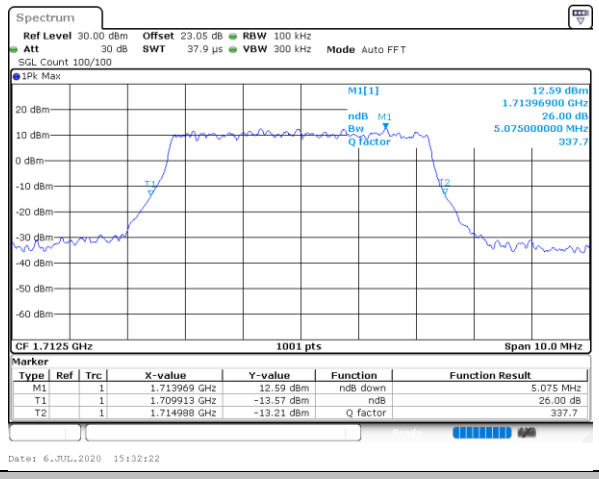
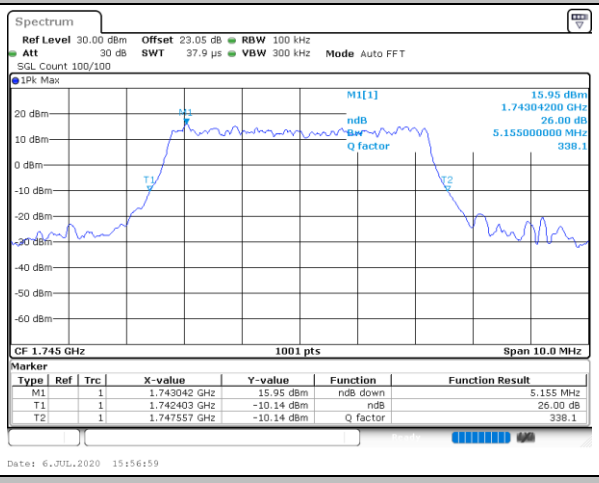
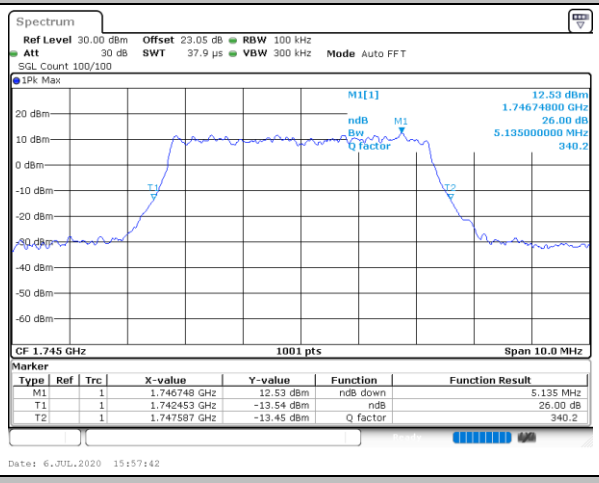
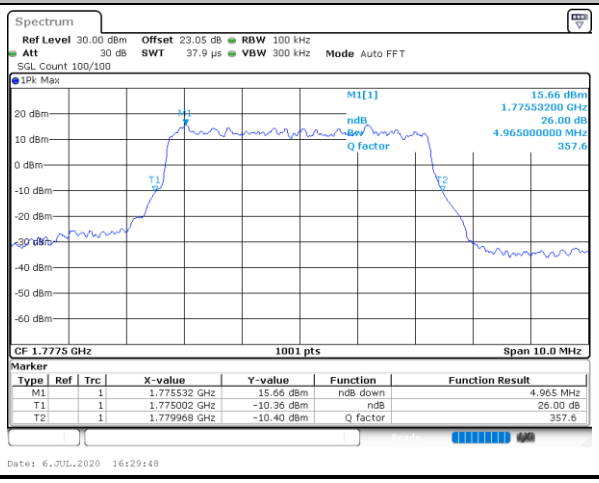
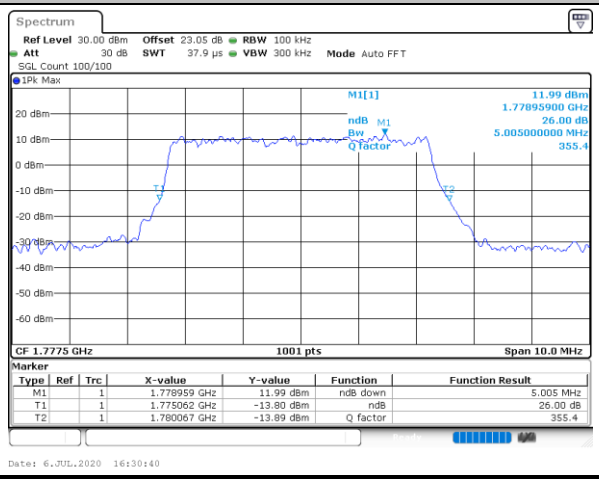
Mode	FR1 n66 : 26dB BW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	PI/2 BPSK		PI/2 BPSK		PI/2 BPSK		PI/2 BPSK	
Lowest CH	5.12		9.55		14.24		18.98	
Middle CH	5.16		9.67		14.21		18.98	
Highest CH	5.08		9.55		14.45		18.82	

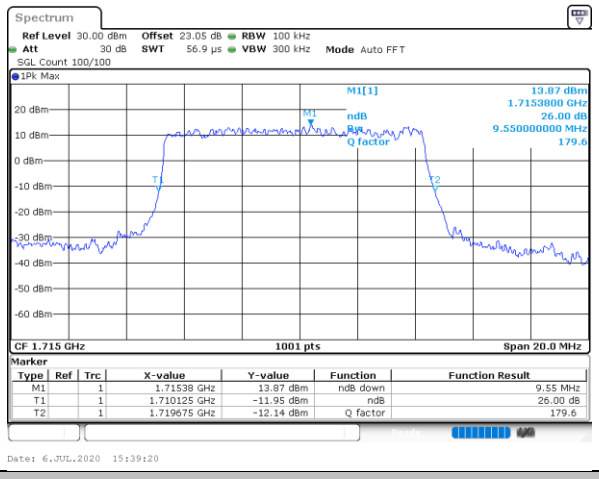
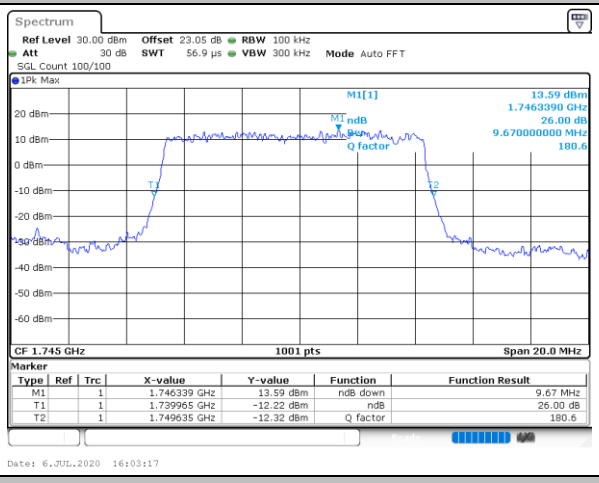
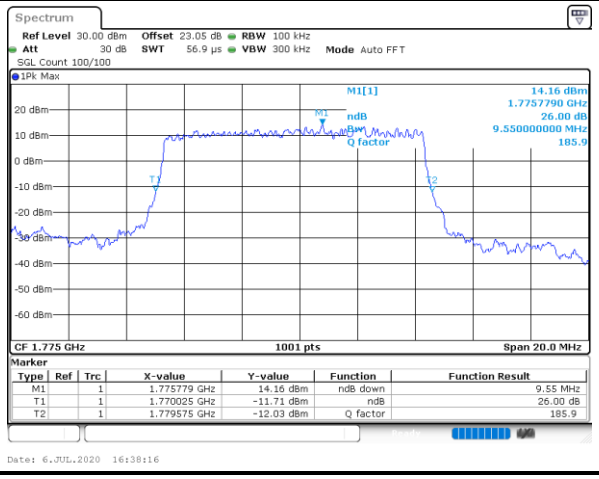
Mode	FR1 n66 : 26dB BW(MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	5.00	5.01	9.95	9.95	15.02	14.87	19.94	19.82
Middle CH	5.12	4.92	9.83	9.79	14.98	14.89	19.94	19.98
Highest CH	5.00	5.05	9.93	10.05	14.93	14.93	19.78	19.90
Mode	FR1 n66 : 26dB BW(MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	5.05	5.08	10.01	9.67	14.96	14.87	19.74	19.82
Middle CH	5.16	5.13	10.13	9.91	14.93	14.93	19.98	19.94
Highest CH	4.96	5.00	9.97	10.11	14.84	14.93	20.02	19.98

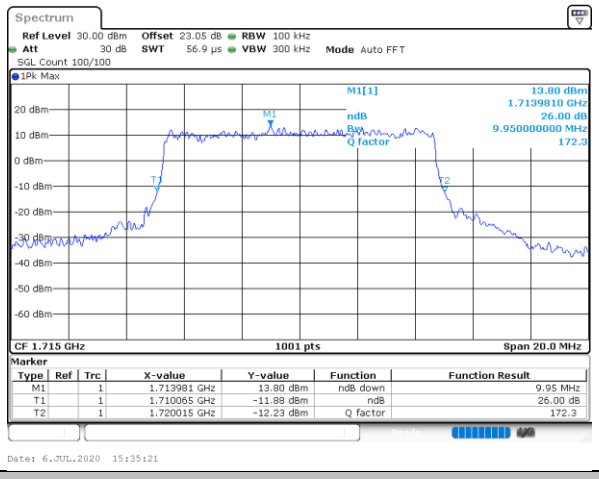
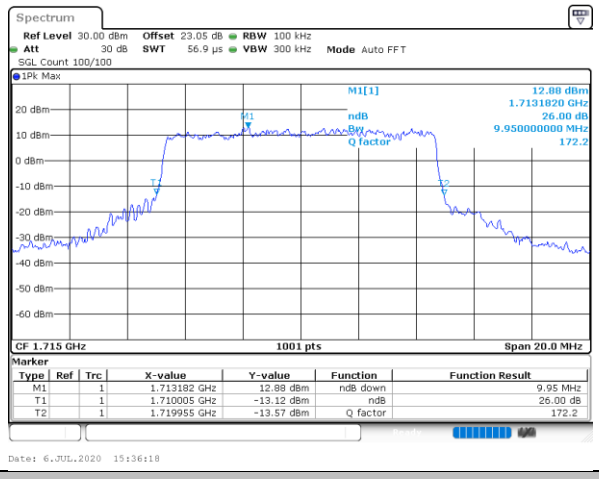
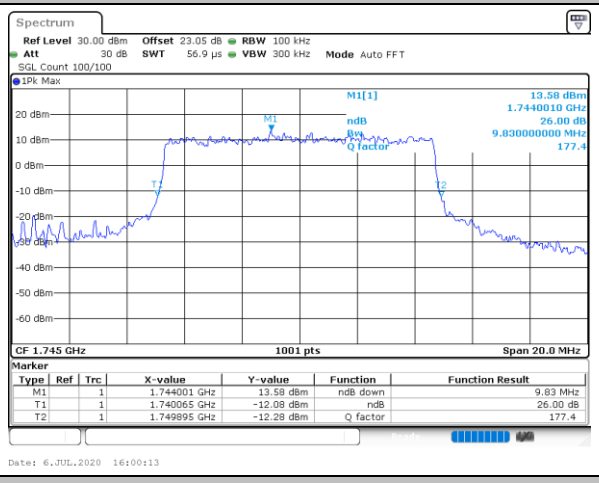
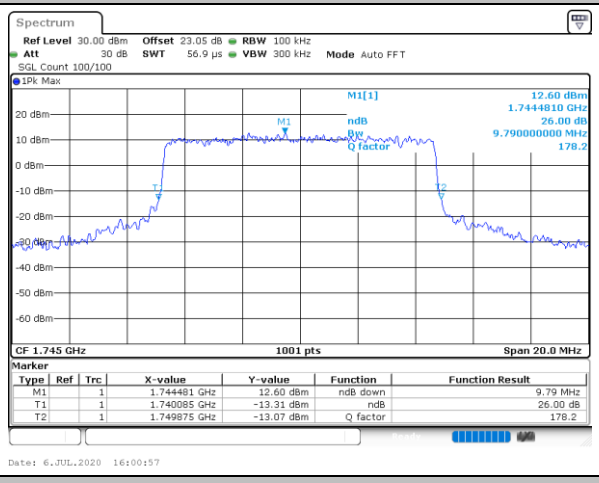
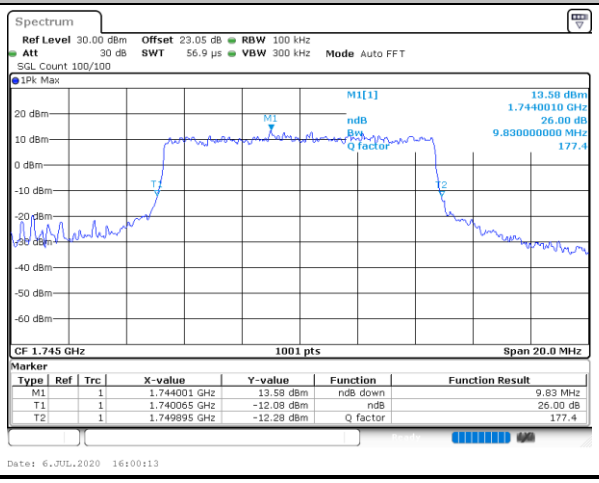
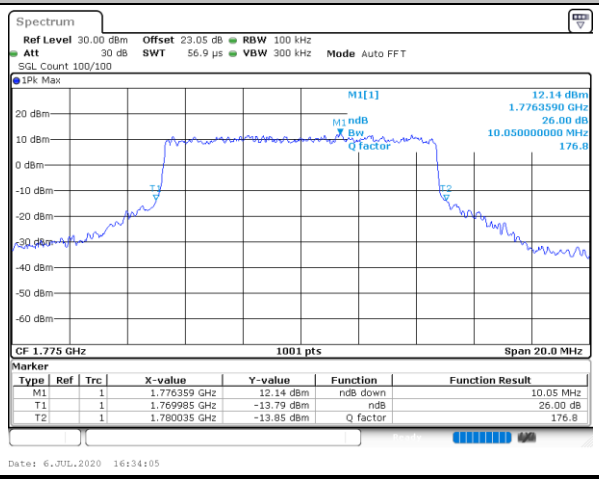
Note: The CP-OFDM (worst case) is more wider bandwidth than the DFT-S OFDM's.

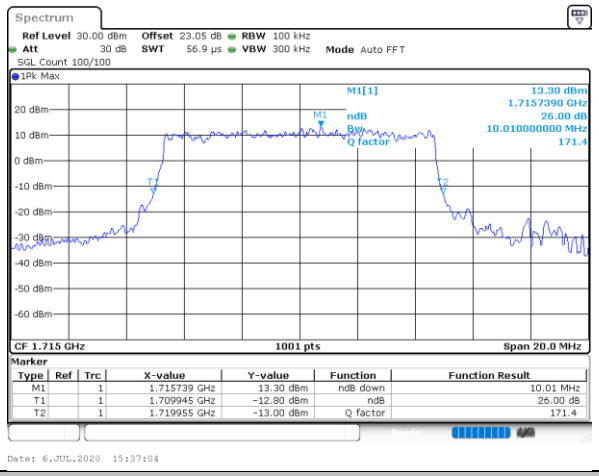
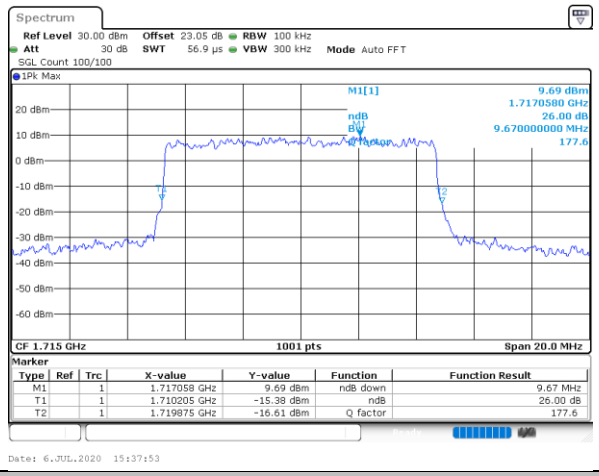
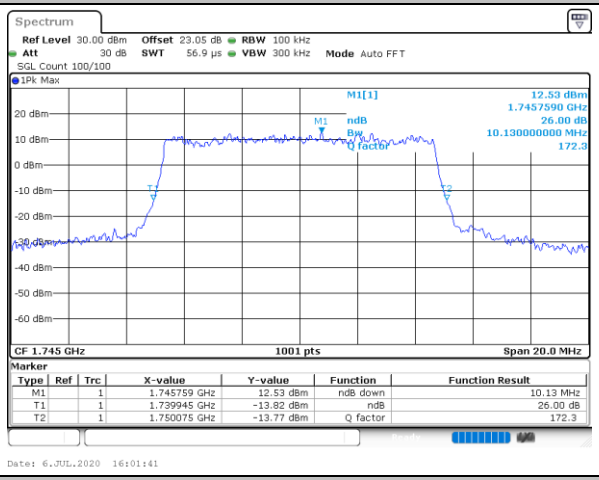
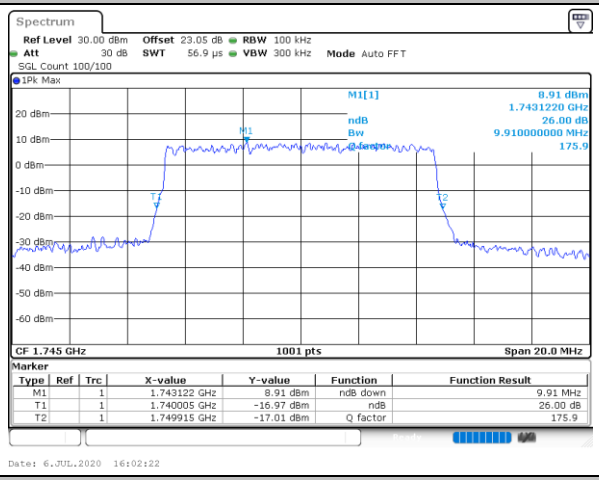
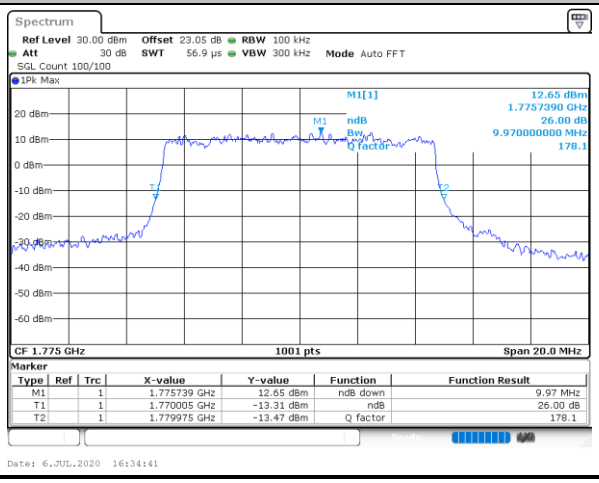
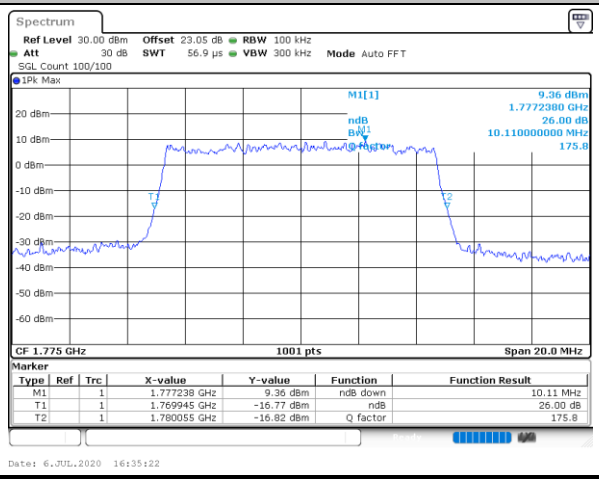
FR1 n66 / 5MHz / DFT-S OFDM	
PI/2 BPSK	
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

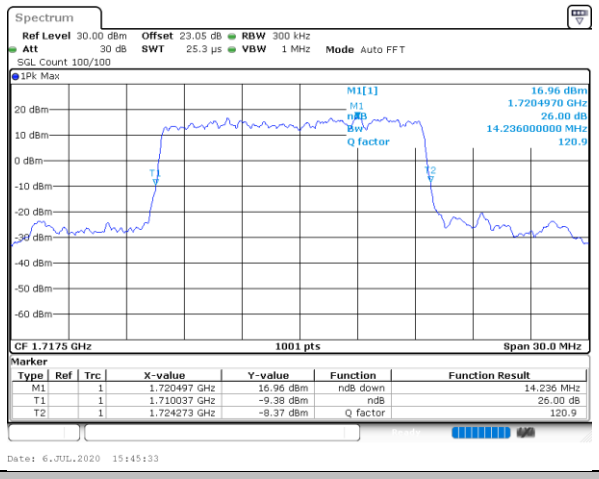
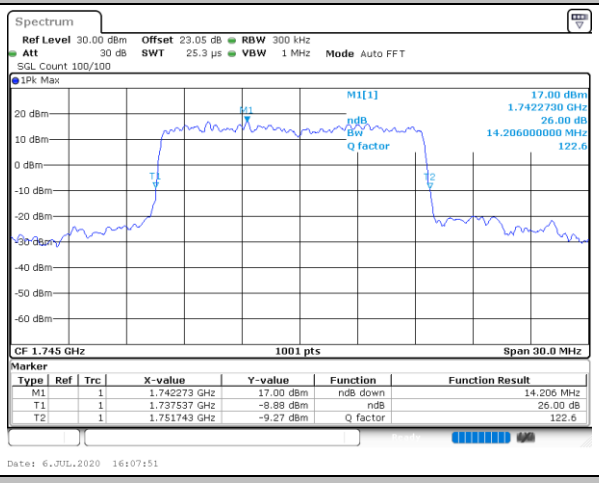
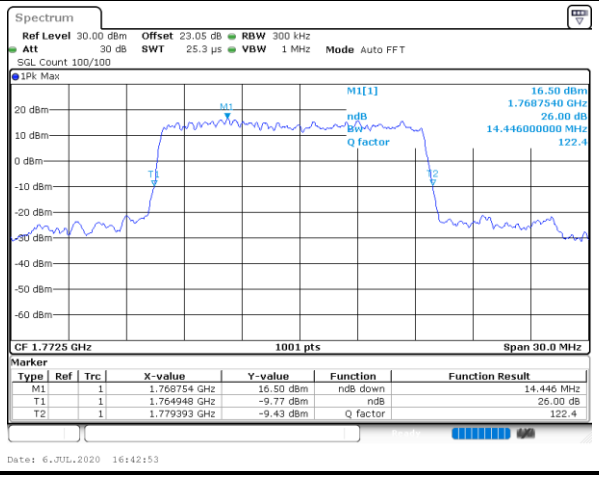
FR1 n66 / 5MHz / CP OFDM	
QPSK	**16QAM**
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

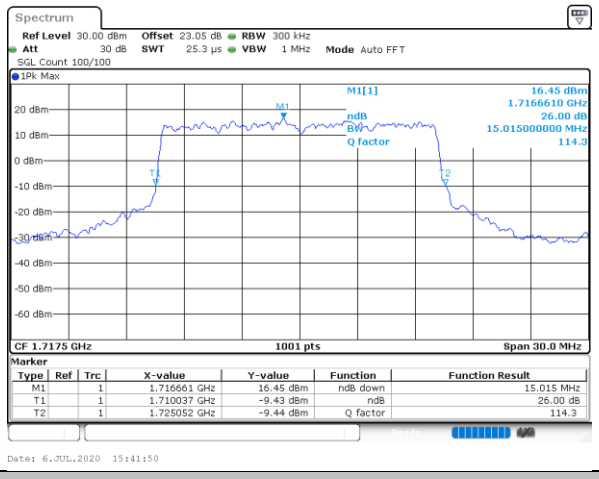
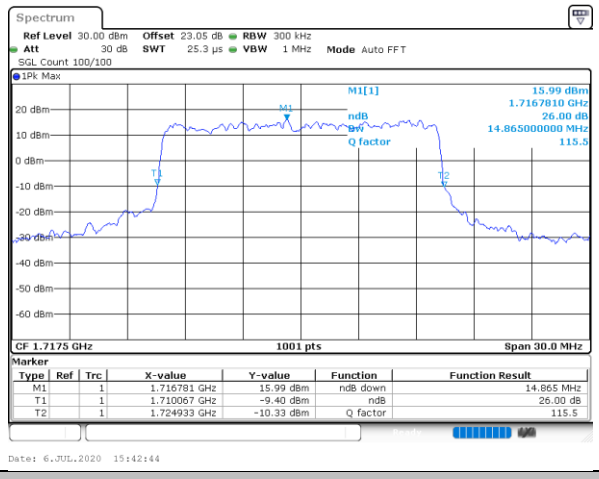
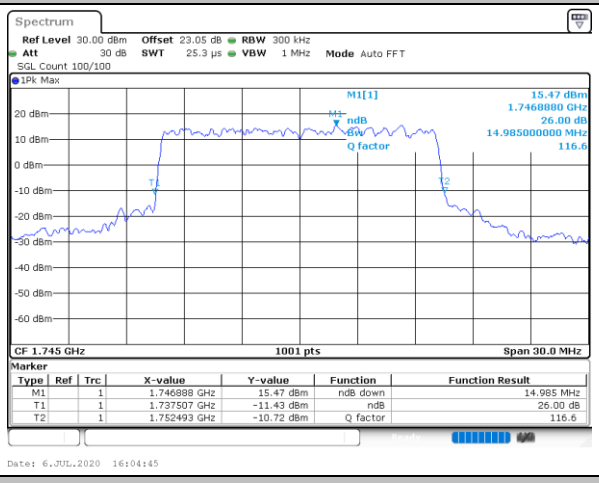
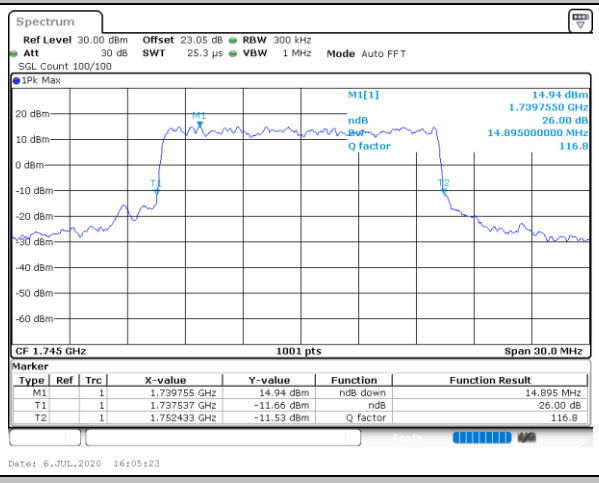
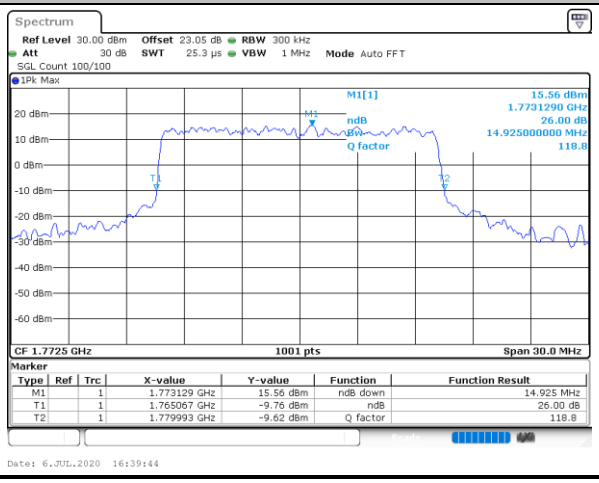
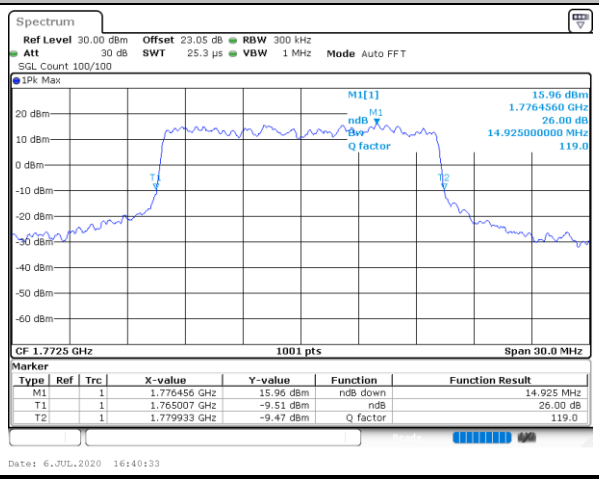
FR1 n66 / 5MHz / CP OFDM	
64QAM	**256QAM**
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

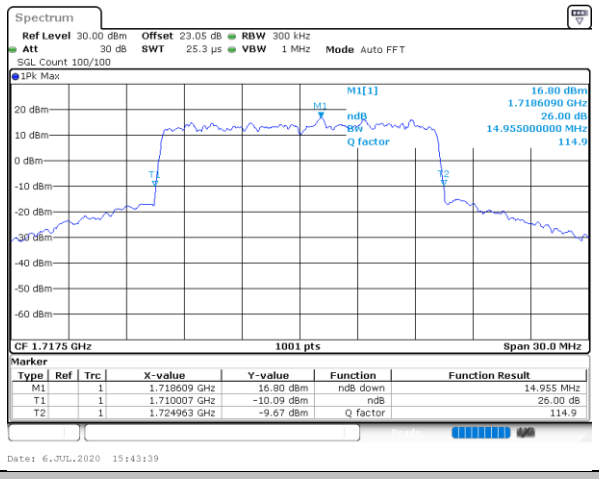
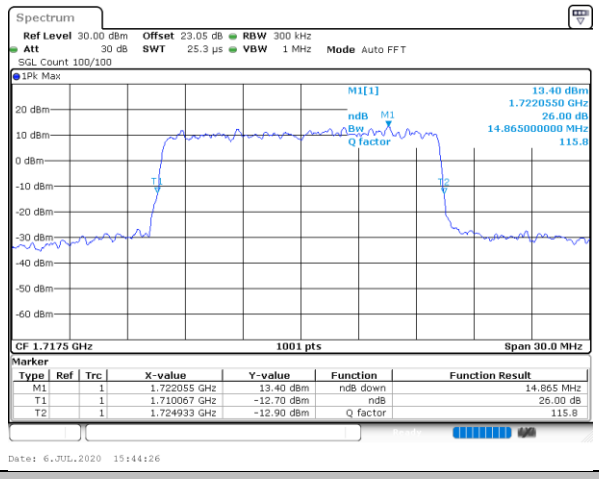
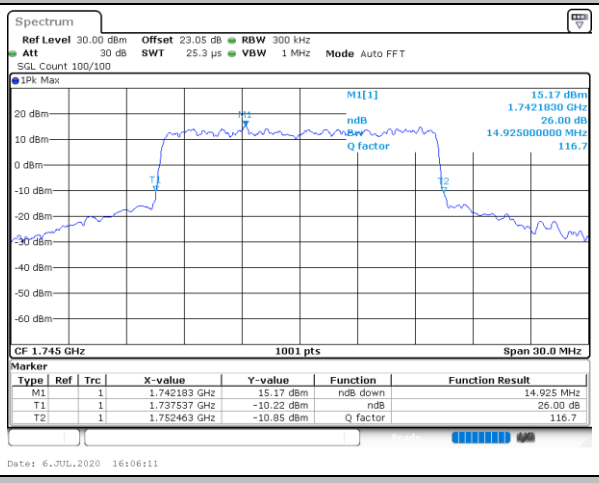
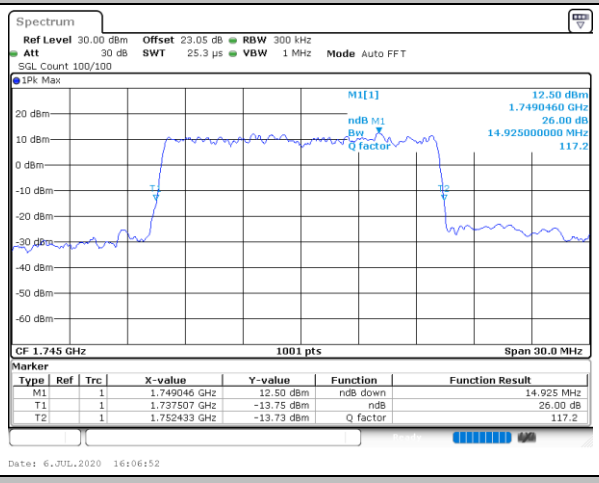
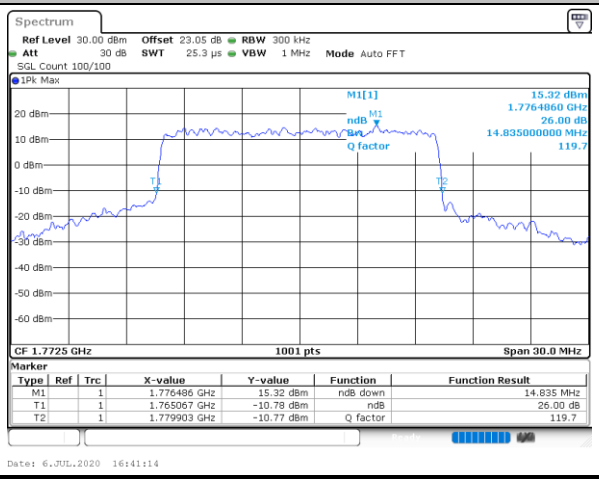
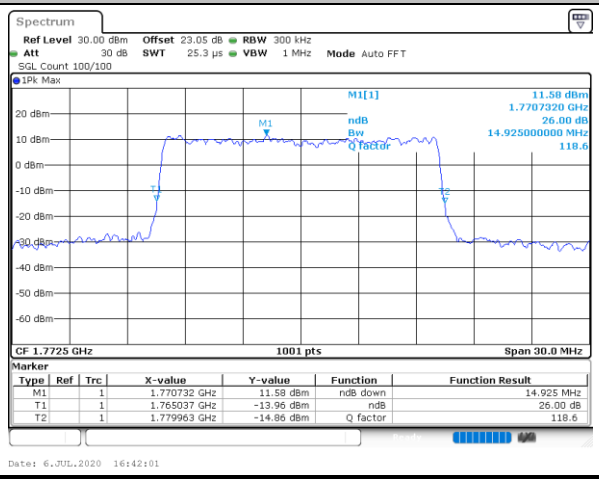
FR1 n66 / 10MHz / DFT-S OFDM	
PI/2 BPSK	
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

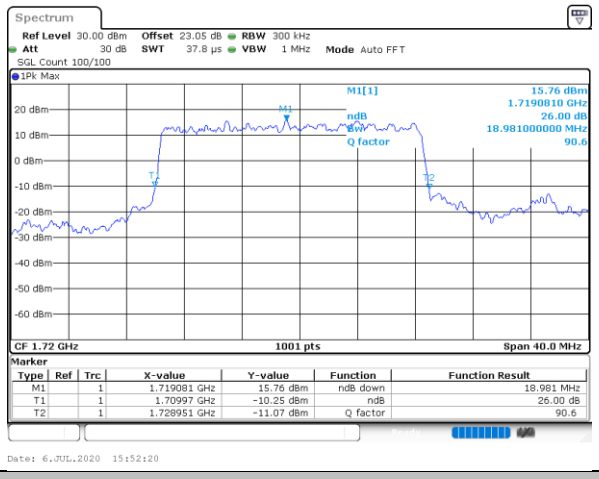
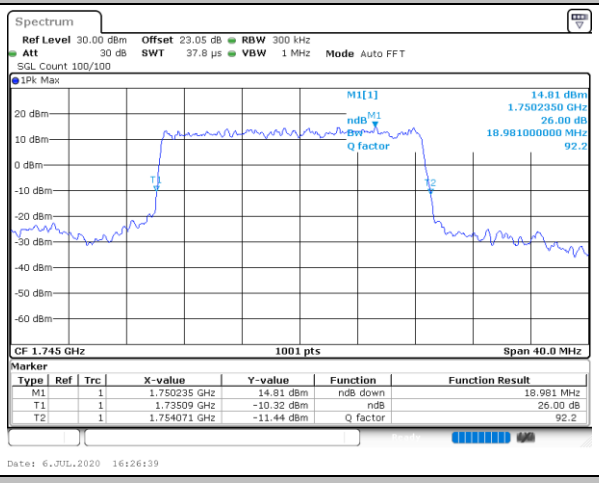
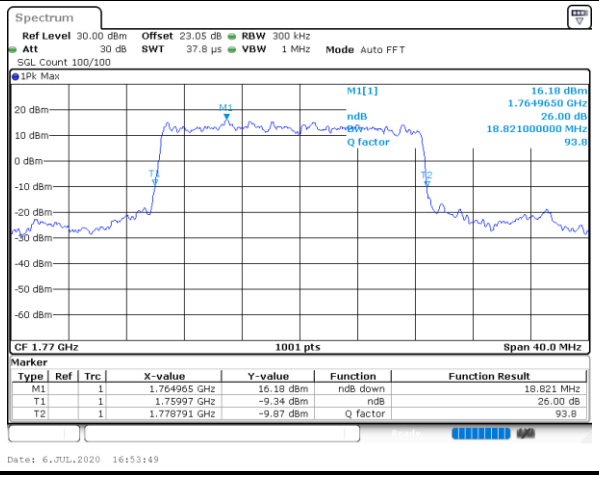
FR1 n66 / 10MHz / CP OFDM	
QPSK	**16QAM**
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

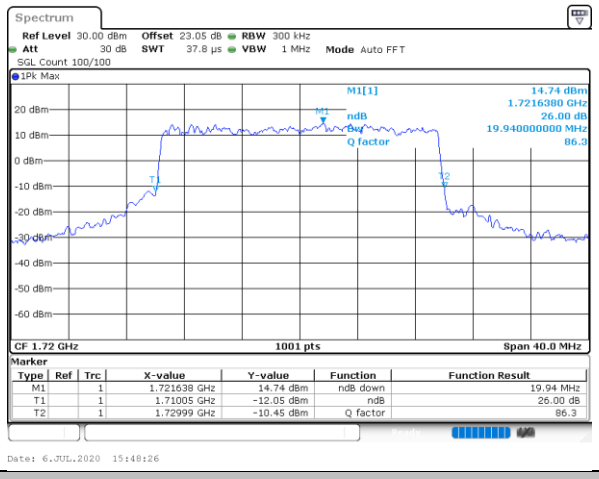
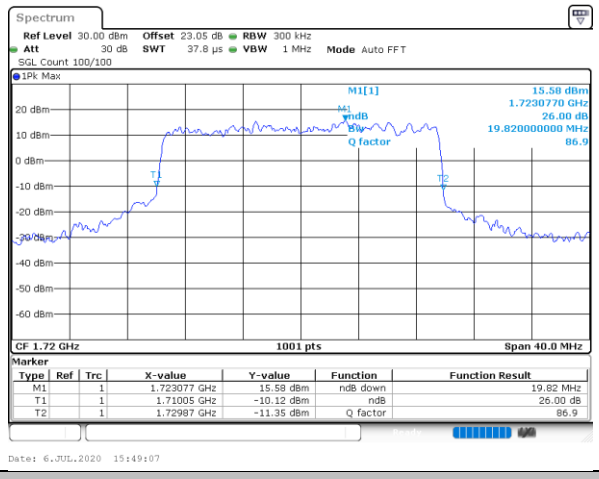
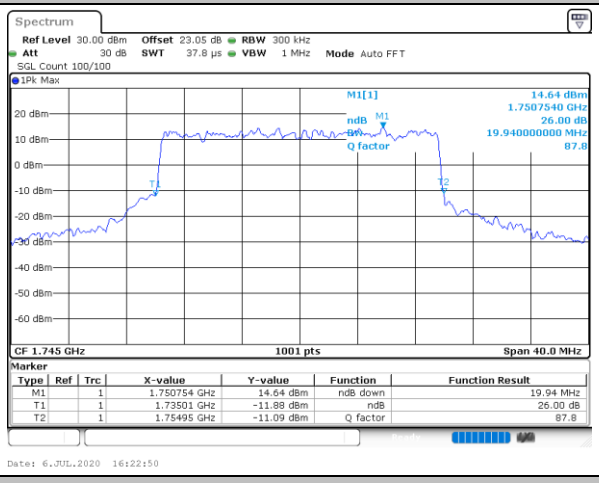
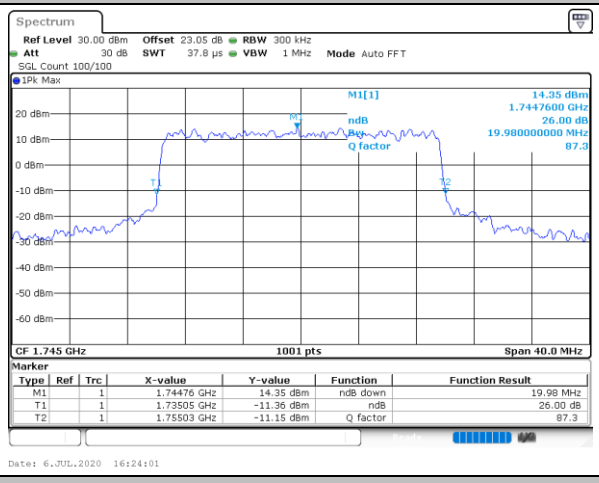
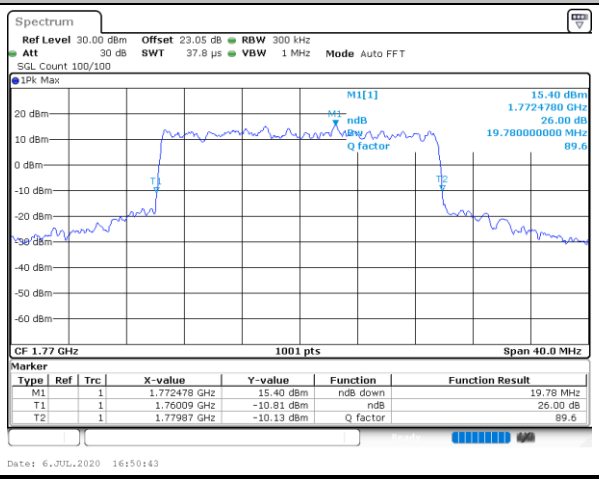
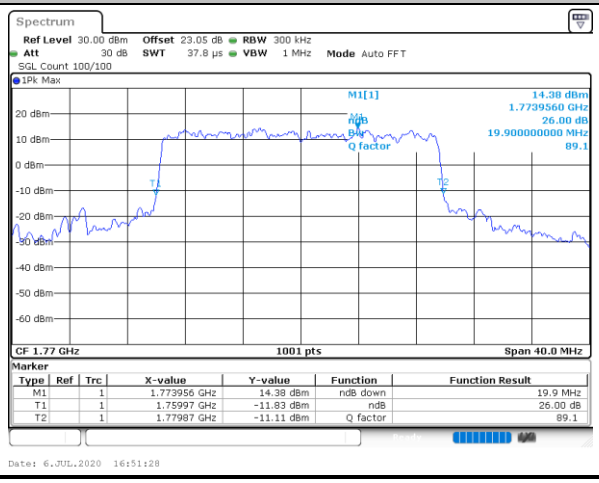
FR1 n66 / 10MHz / CP OFDM	
64QAM	**256QAM**
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

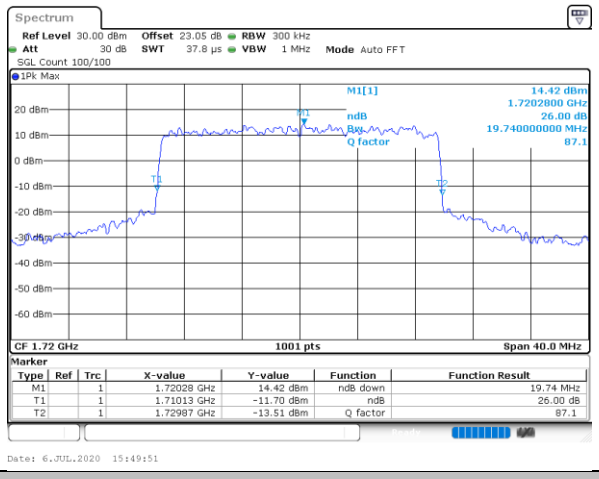
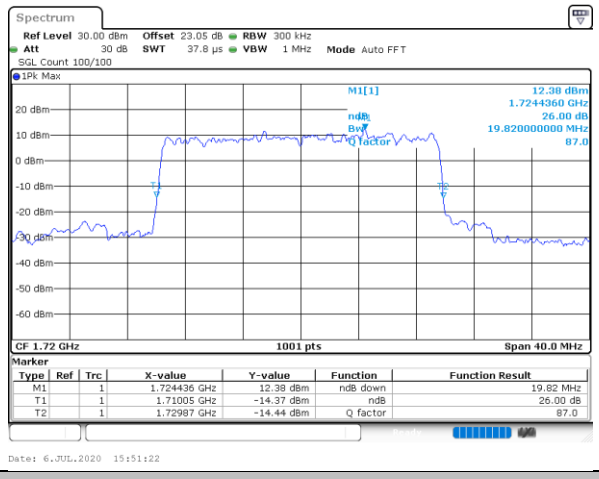
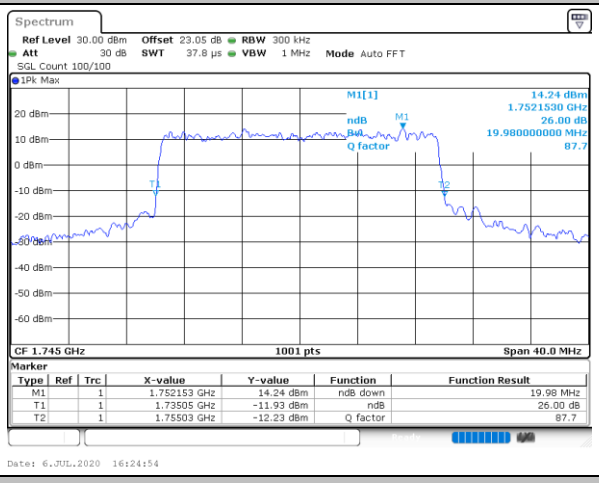
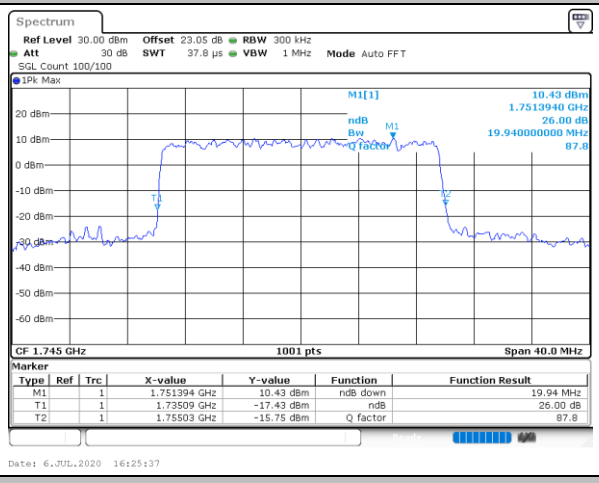
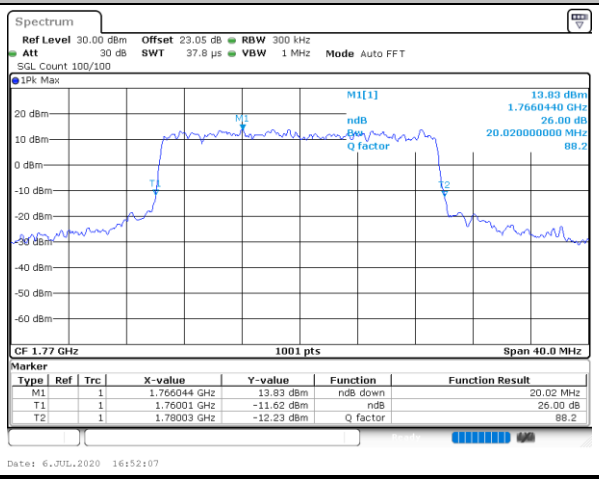
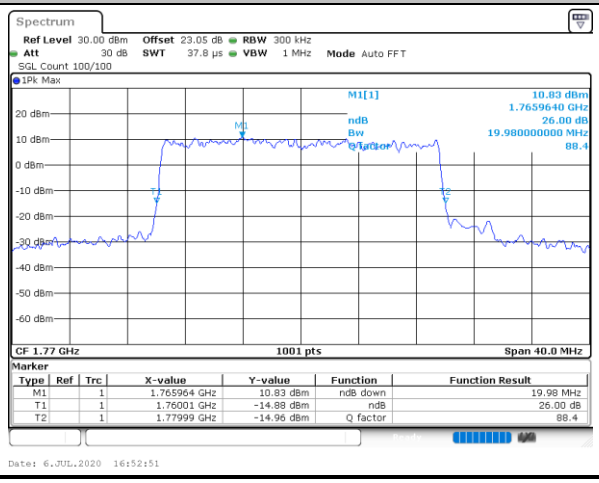
FR1 n66 / 15MHz / DFT-S OFDM	
PI/2 BPSK	
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

FR1 n66 / 15MHz / CP OFDM	
QPSK	**16QAM**
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

FR1 n66 / 15MHz / CP OFDM	
64QAM	**256QAM**
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

FR1 n66 / 20MHz / DFT-S OFDM	
PI/2 BPSK	
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

FR1 n66 / 20MHz / CP OFDM	
QPSK	**16QAM**
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

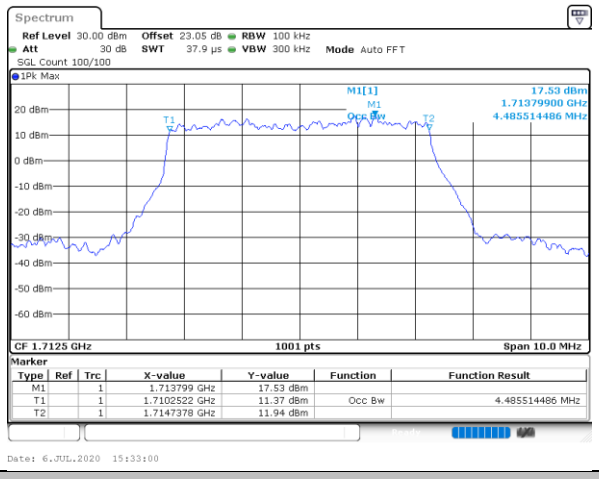
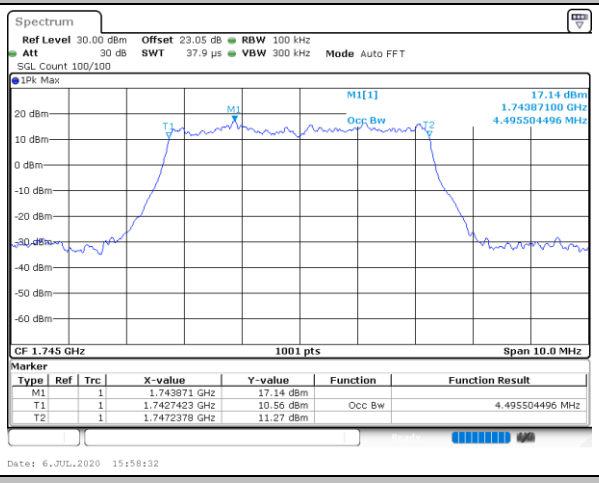
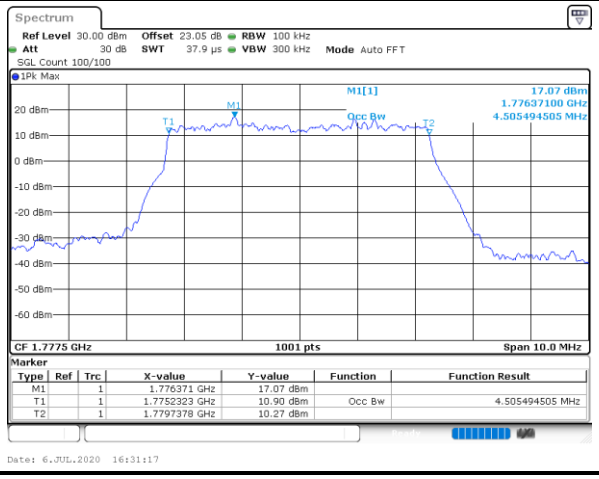
FR1 n66 / 20MHz / CP OFDM	
64QAM	**256QAM**
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

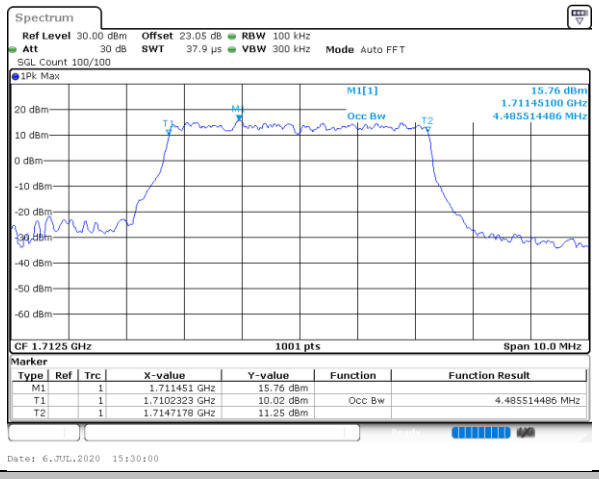
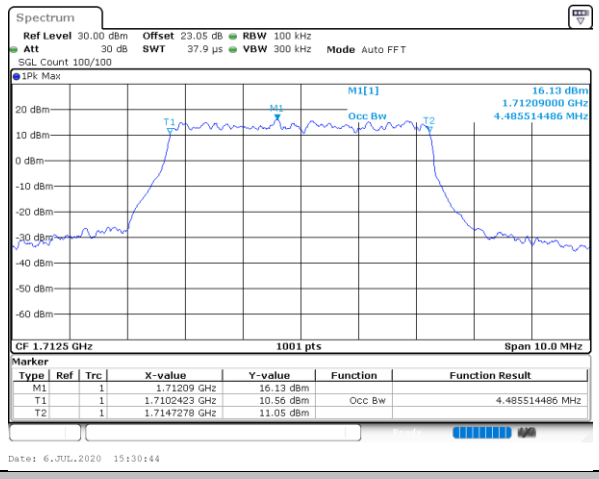
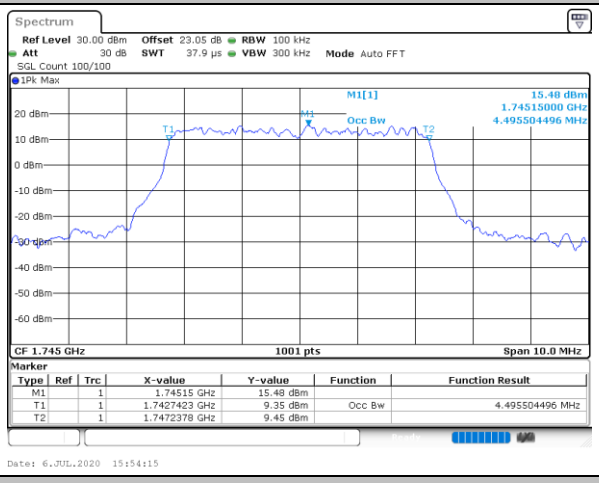
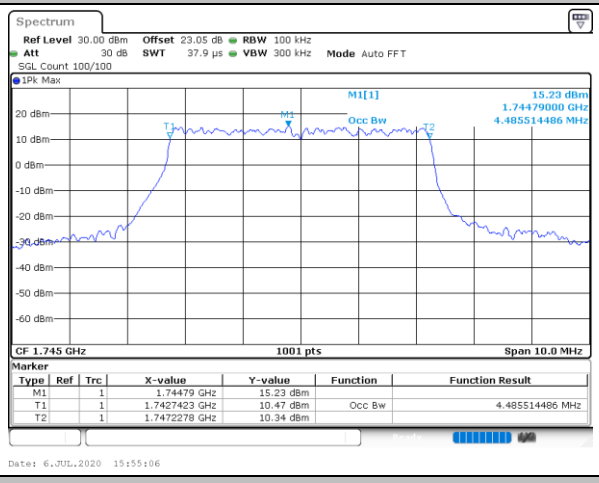
Occupied Bandwidth

Mode	FR1 n66 : 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	4.49		8.91		13.46		17.86	
Middle CH	4.50		8.91		13.49		17.90	
Highest CH	4.51		8.93		13.52		17.82	

Mode	FR1 n66 : 99%OBW (MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	4.49	4.49	9.29	9.29	14.12	14.12	18.94	18.94
Middle CH	4.50	4.49	9.27	9.29	14.06	14.18	18.98	18.94
Highest CH	4.49	4.48	9.33	9.27	14.18	14.09	18.94	18.94
Mode	FR1 n66 : 99%OBW (MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	4.50	4.49	9.29	9.31	14.12	14.06	18.94	18.86
Middle CH	4.50	4.47	9.31	9.27	14.15	14.15	18.90	18.94
Highest CH	4.49	4.49	9.33	9.27	14.12	14.12	19.02	18.86

Note: The CP-OFDM (worst case) is more wider bandwidth than the DFT-S OFDM's.

FR1 n66 / 5MHz / DFT-S OFDM	
PI/2 BPSK	
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

FR1 n66 / 5MHz / CP OFDM	
QPSK	**16QAM**
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**