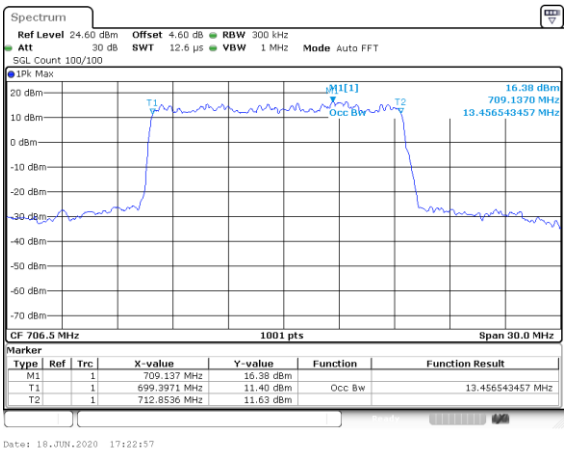
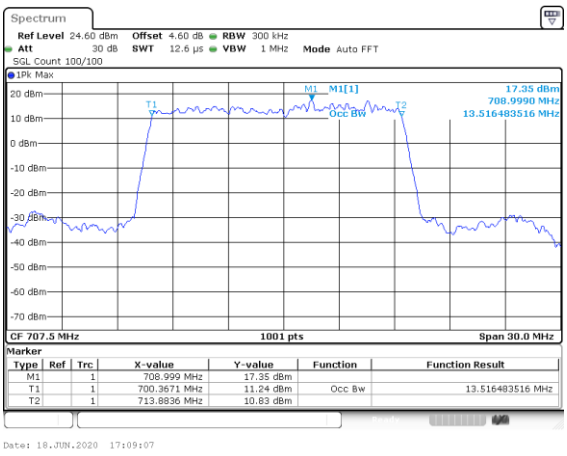
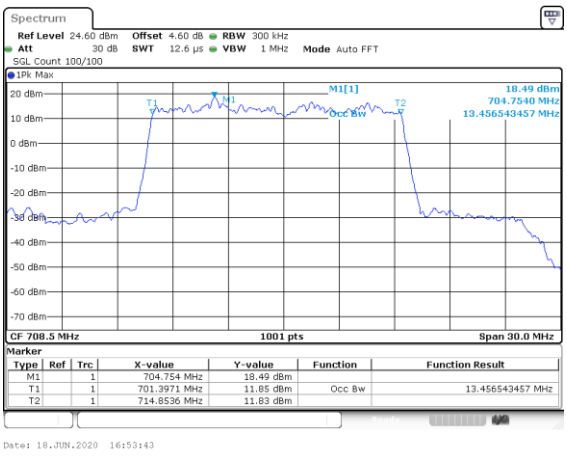
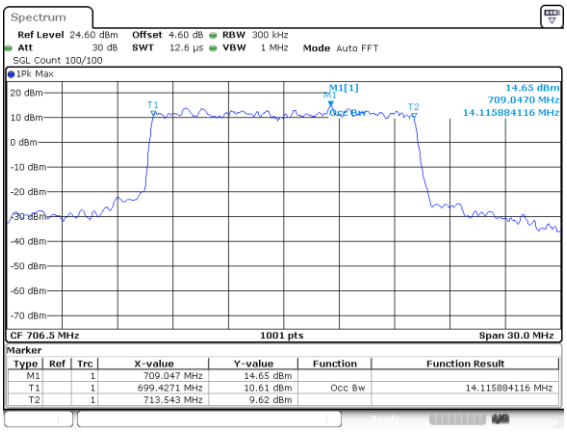
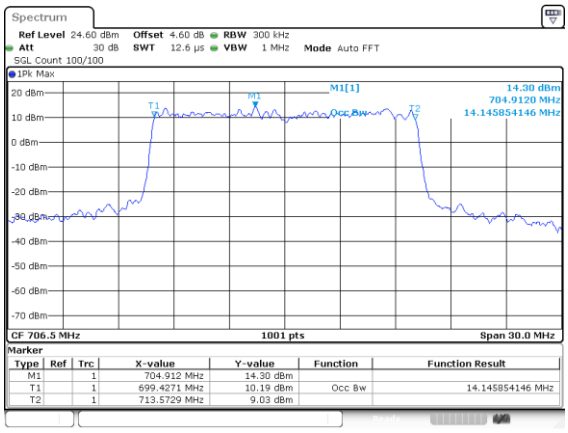
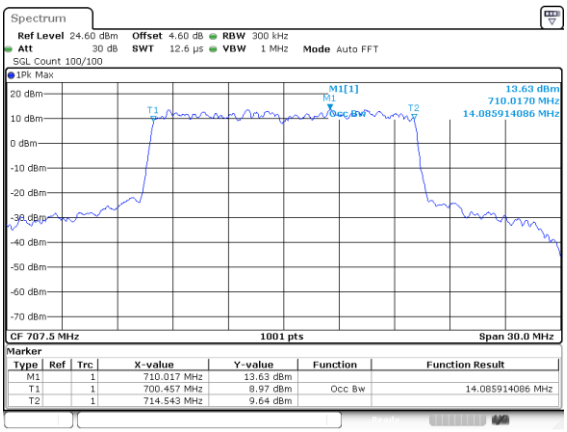
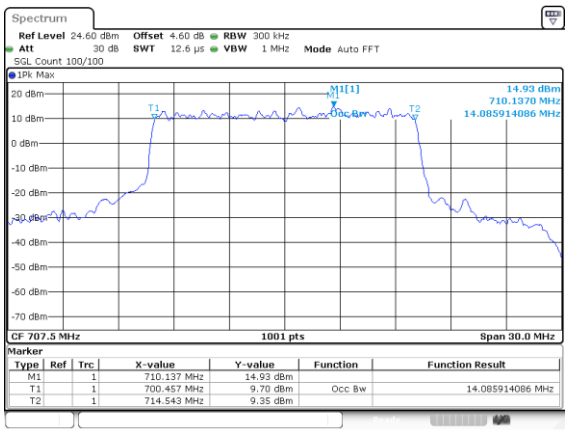
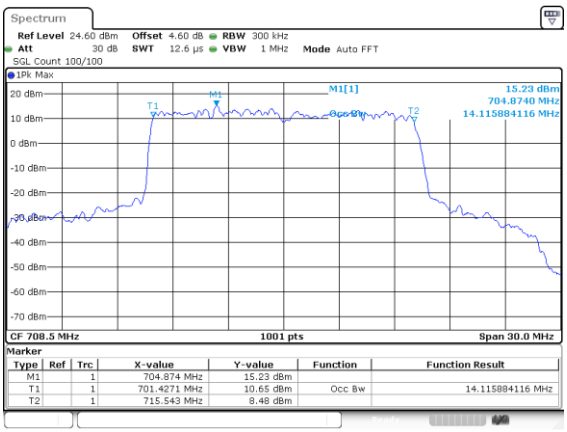
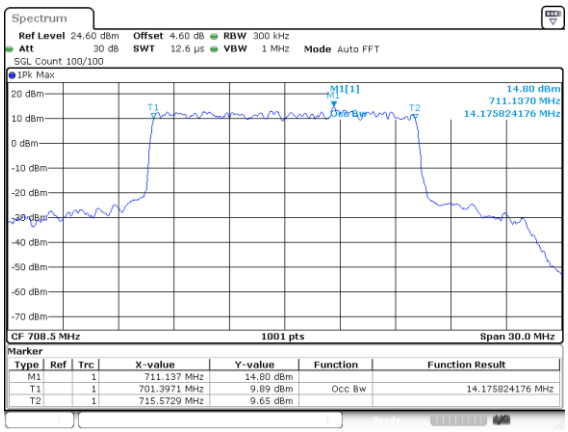
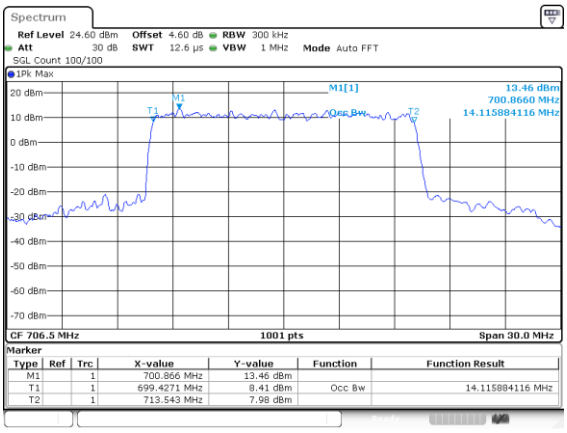
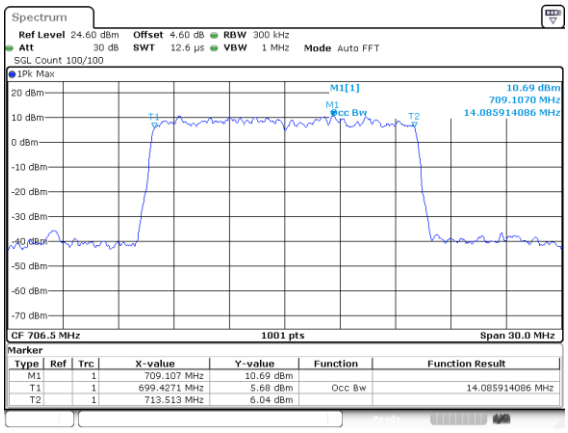
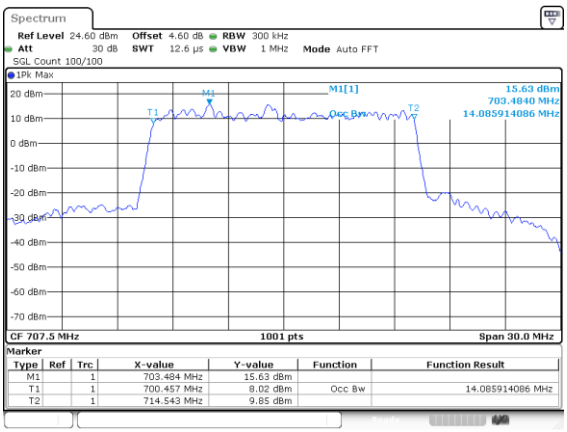
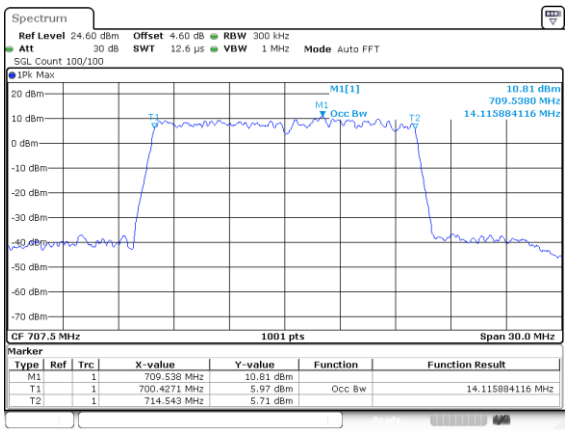
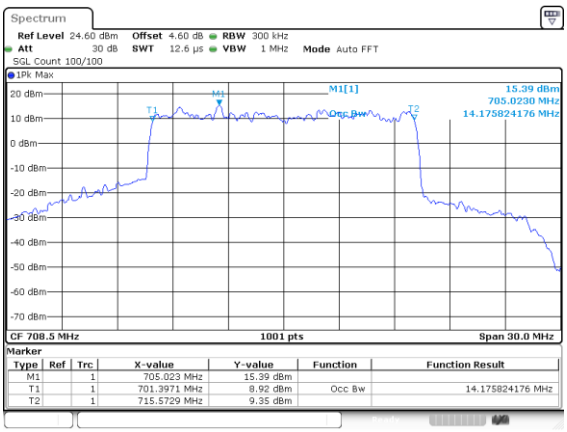
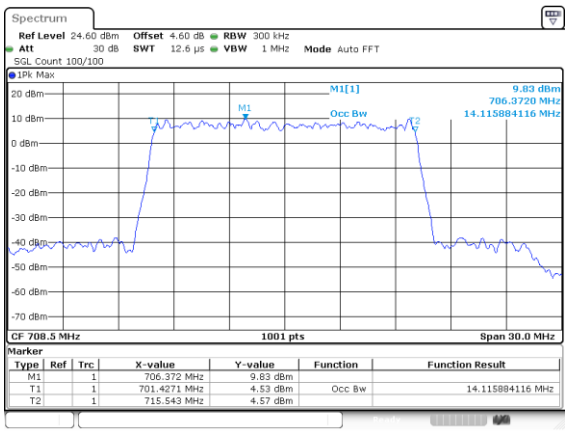
FR1 n12 / 15MHz / DFT-S OFDM	
PI/2 BPSK	
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

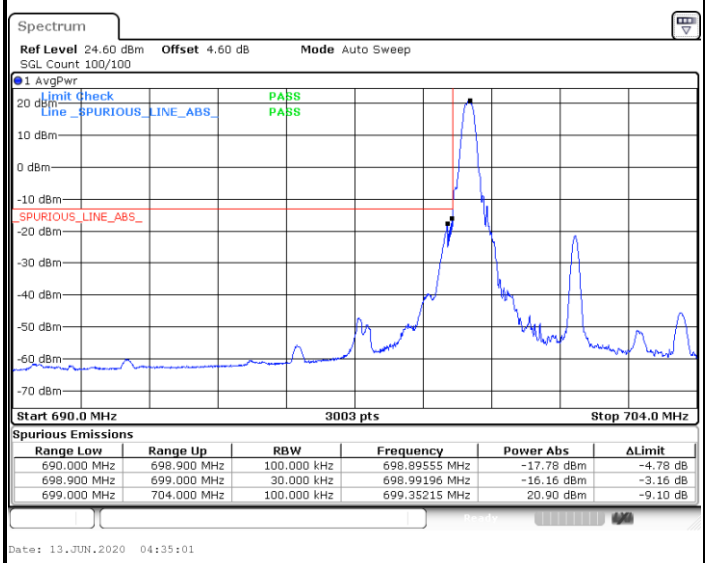
FR1 n12 / 15MHz / CP OFDM	
QPSK	**16QAM**
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

FR1 n12 / 15MHz / CP OFDM	
64QAM	**256QAM**
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

Conducted Band Edge

FR1 n12 / 5MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

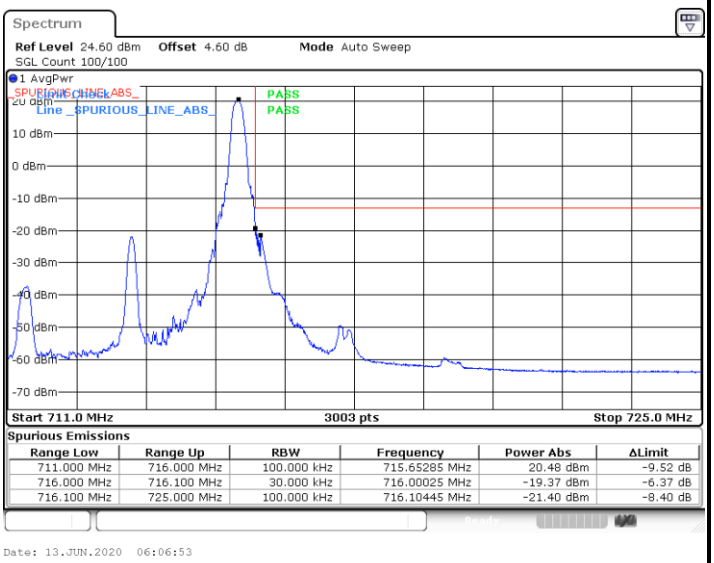


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.89555 MHz	-17.78 dBm	-4.78 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.99196 MHz	-16.16 dBm	-3.16 dB
699.000 MHz	704.000 MHz	100.000 kHz	699.35215 MHz	20.90 dBm	-9.10 dB

Date: 13.JUN.2020 04:35:01

Highest Band Edge / 1RBMAX

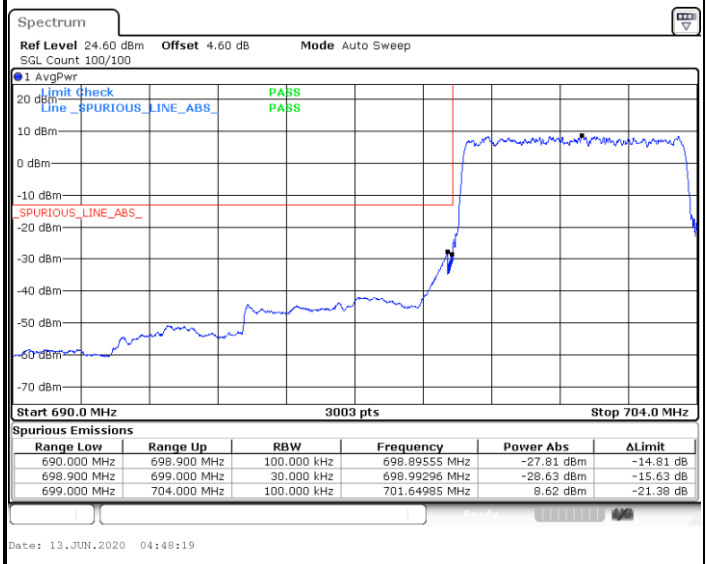


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
711.000 MHz	716.000 MHz	100.000 kHz	715.65285 MHz	20.48 dBm	-9.52 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.00025 MHz	-19.37 dBm	-6.37 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.10445 MHz	-21.40 dBm	-8.40 dB

Date: 13.JUN.2020 06:06:53

Lowest Band Edge / Full RB

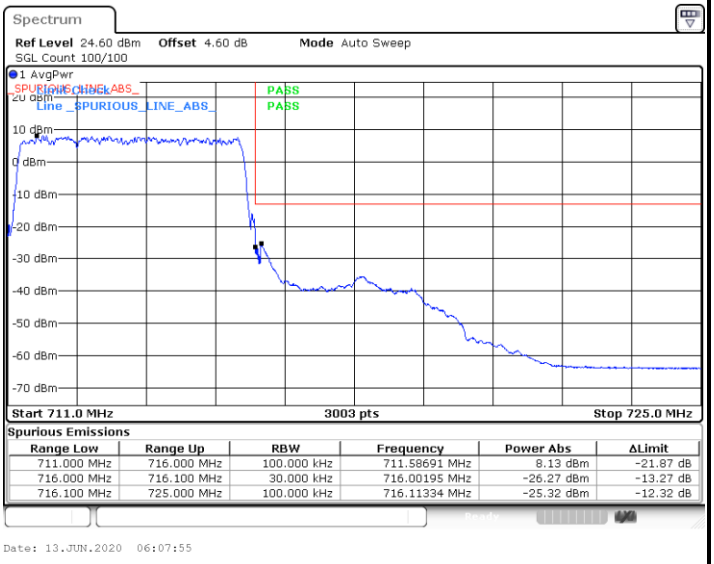


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.89555 MHz	-27.81 dBm	-14.81 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.99296 MHz	-28.63 dBm	-15.63 dB
699.000 MHz	704.000 MHz	100.000 kHz	701.64985 MHz	8.62 dBm	-21.38 dB

Date: 13.JUN.2020 04:48:19

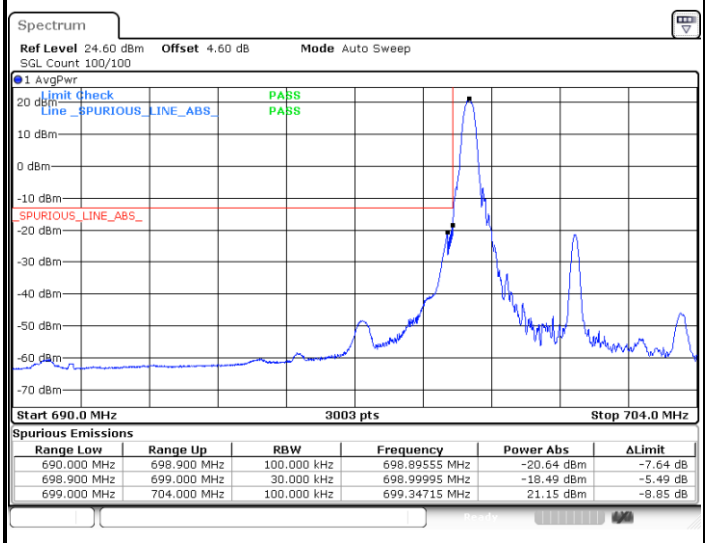
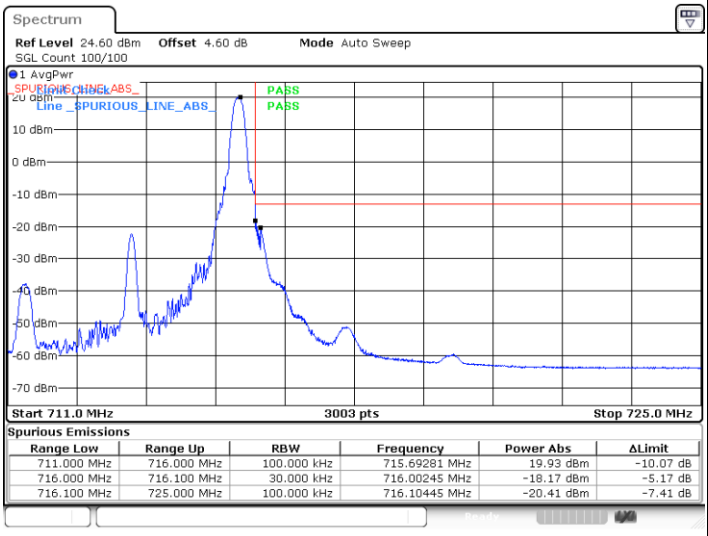
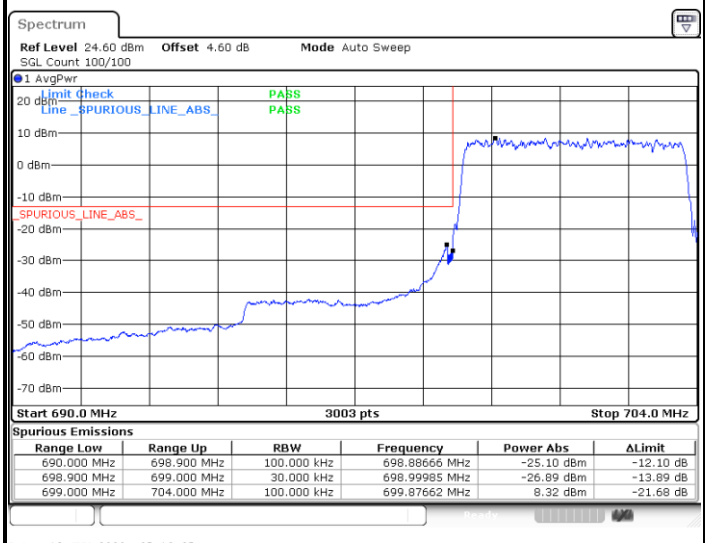
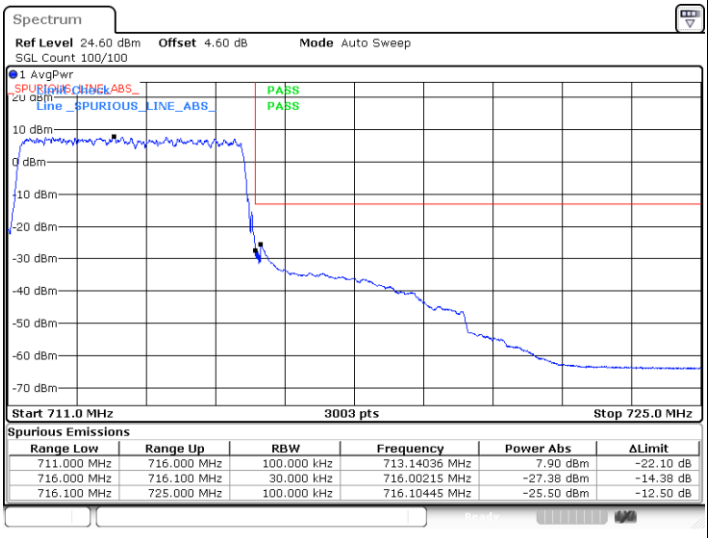
Highest Band Edge / Full RB

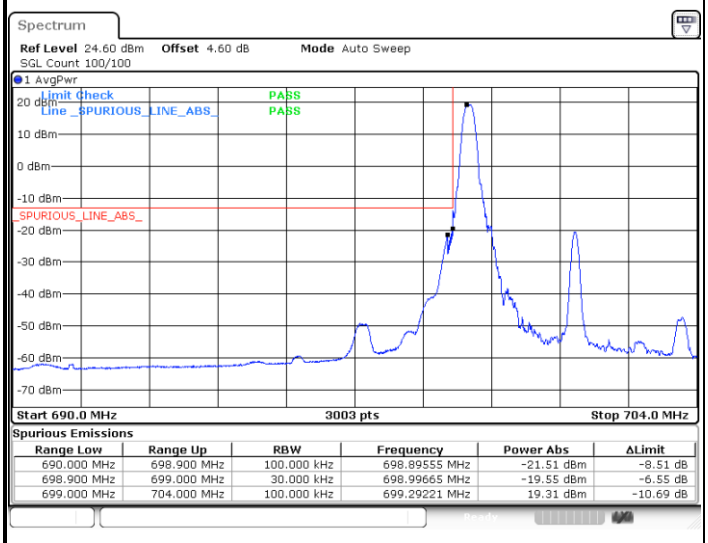
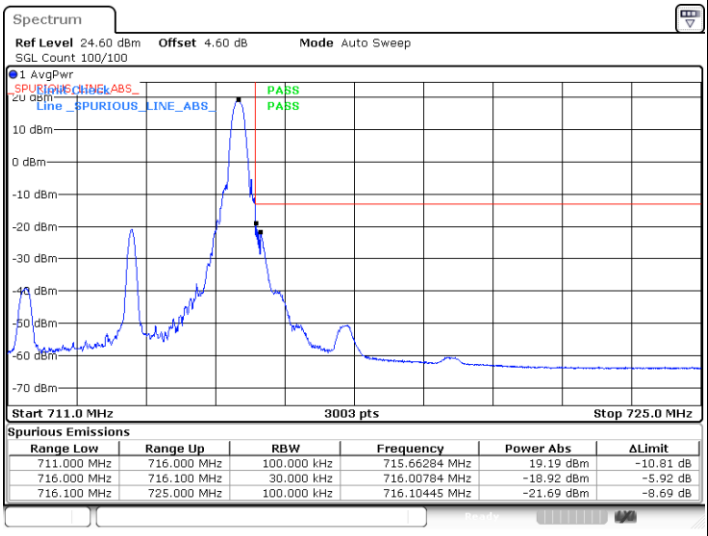
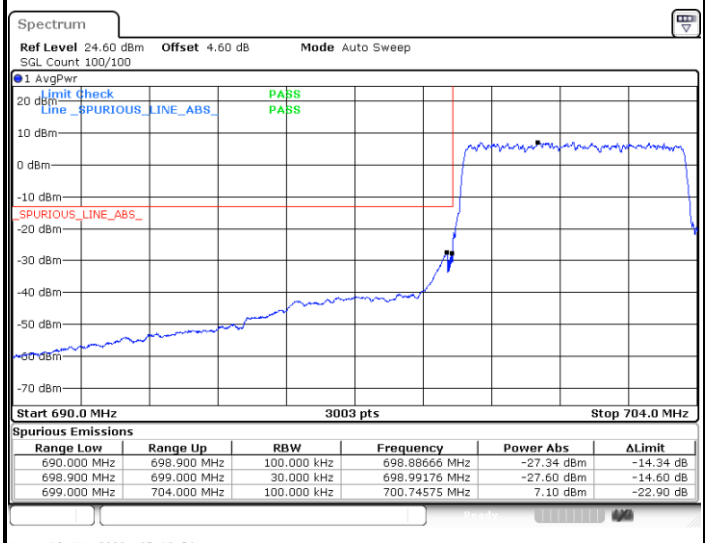
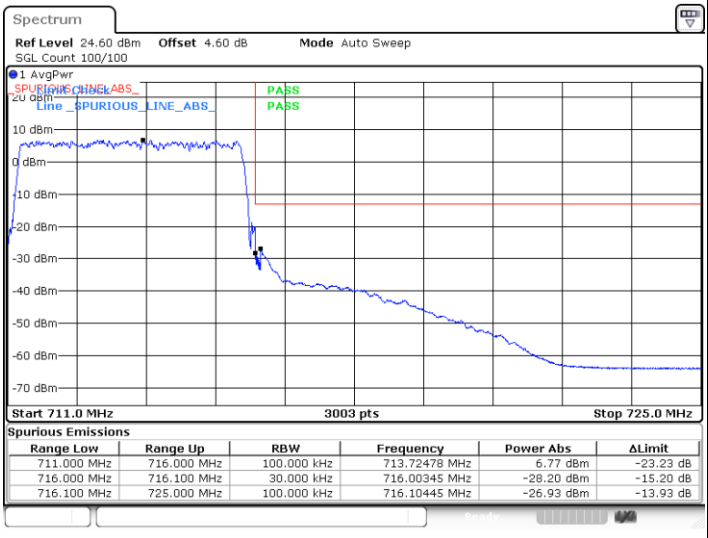


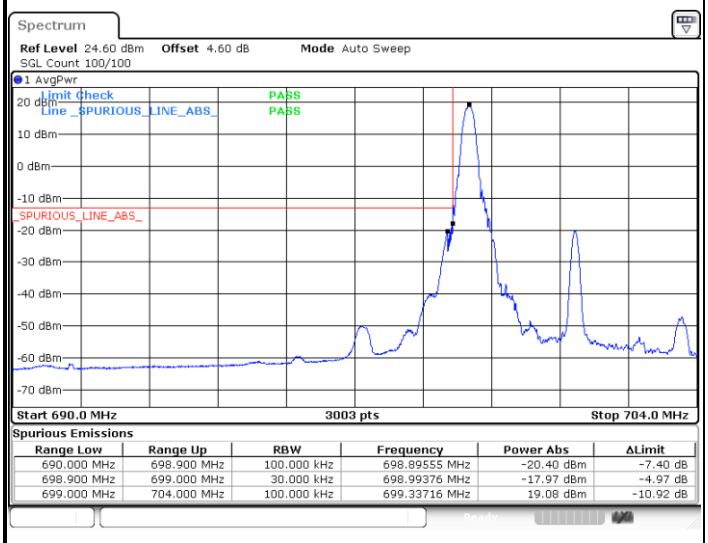
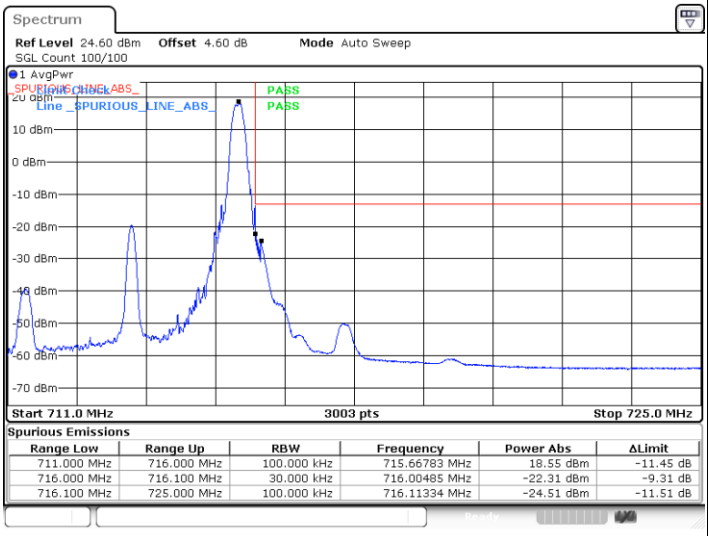
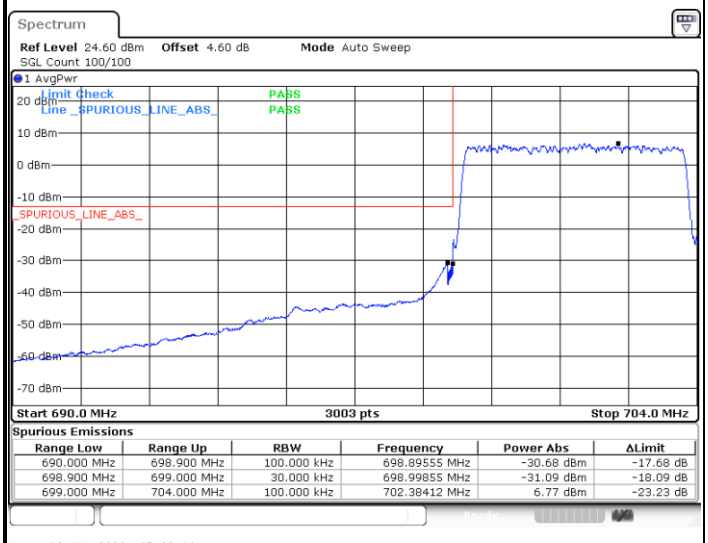
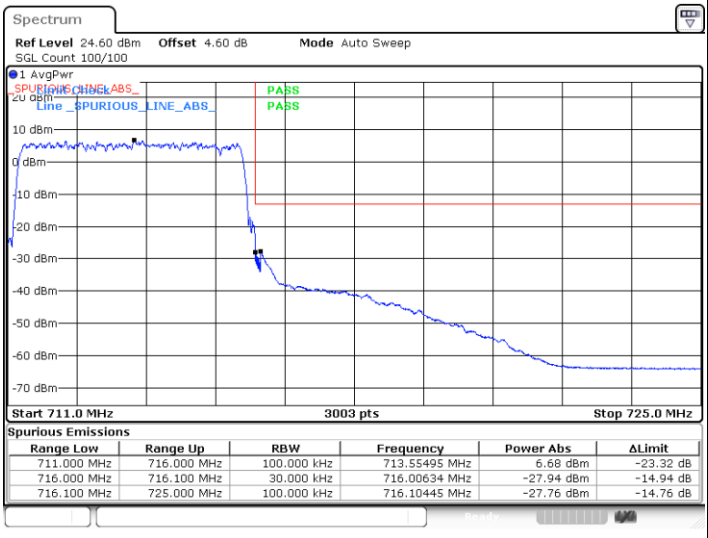
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
711.000 MHz	716.000 MHz	100.000 kHz	711.58691 MHz	8.13 dBm	-21.87 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.00195 MHz	-26.27 dBm	-13.27 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.11334 MHz	-25.32 dBm	-12.32 dB

Date: 13.JUN.2020 06:07:55

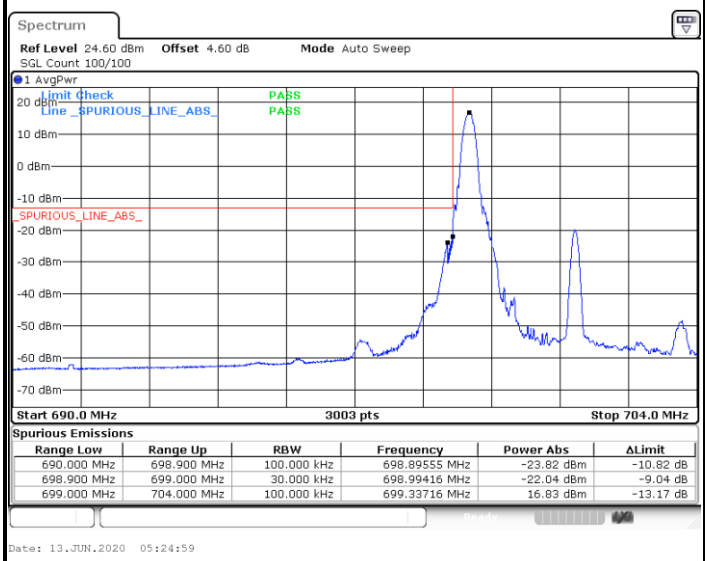
FR1 n12 / 5MHz / DFT-S OFDM / QPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBMAX**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n12 / 5MHz / DFT-S OFDM / 16QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBMAX**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n12 / 5MHz / DFT-S OFDM / 64QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBMAX**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n12 / 5MHz / DFT-S OFDM / 256QAM

Lowest Band Edge / 1RB0

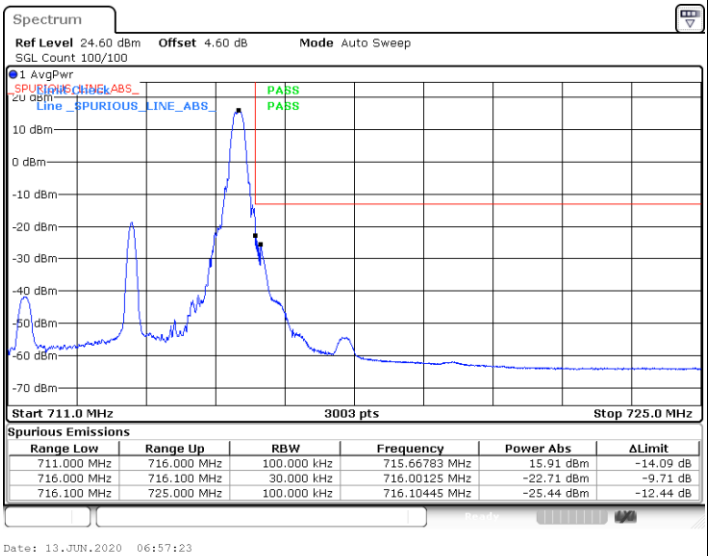


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.89555 MHz	-23.82 dBm	-10.82 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.99416 MHz	-22.04 dBm	-9.04 dB
699.000 MHz	704.000 MHz	100.000 kHz	699.33716 MHz	16.83 dBm	-13.17 dB

Date: 13.JUN.2020 05:24:59

Highest Band Edge / 1RBMAX

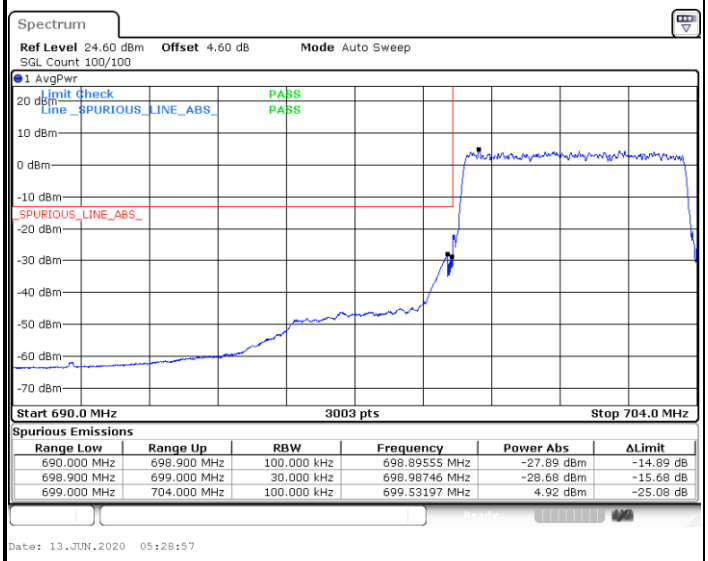


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
711.000 MHz	716.000 MHz	100.000 kHz	715.66783 MHz	15.91 dBm	-14.09 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.00125 MHz	-22.71 dBm	-9.71 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.10445 MHz	-25.44 dBm	-12.44 dB

Date: 13.JUN.2020 06:57:23

Lowest Band Edge / Full RB

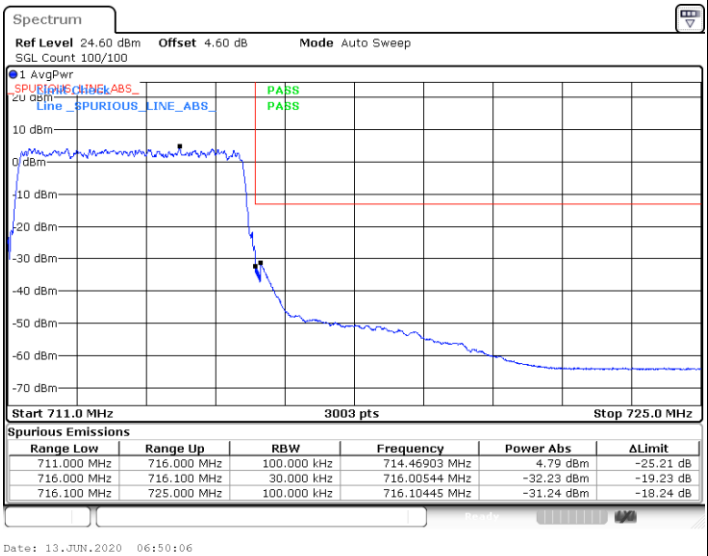


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.89555 MHz	-27.89 dBm	-14.89 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.98746 MHz	-28.68 dBm	-15.68 dB
699.000 MHz	704.000 MHz	100.000 kHz	699.53197 MHz	4.92 dBm	-25.08 dB

Date: 13.JUN.2020 05:28:57

Highest Band Edge / Full RB

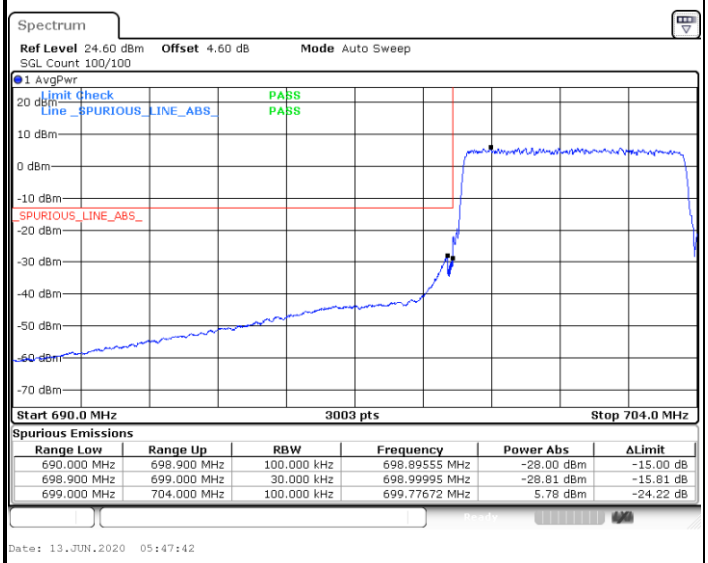


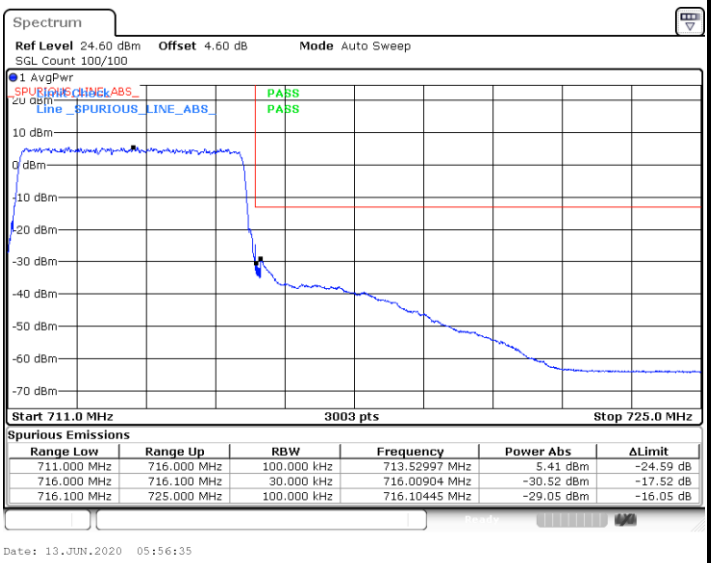
Spurious Emissions

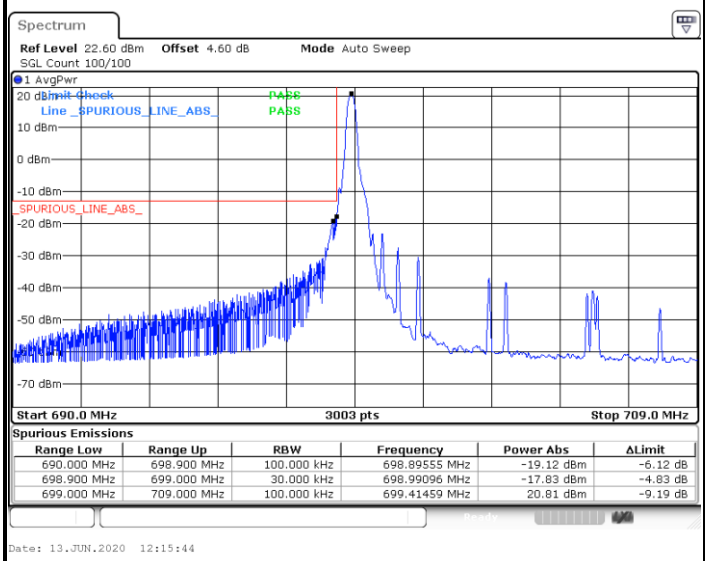
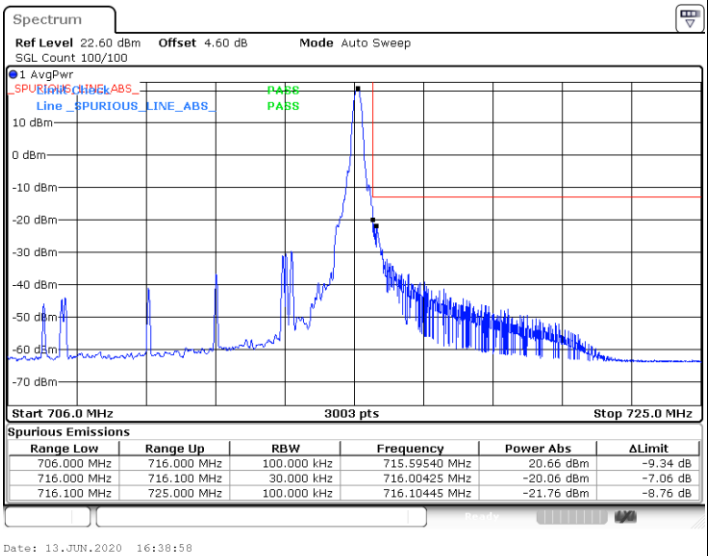
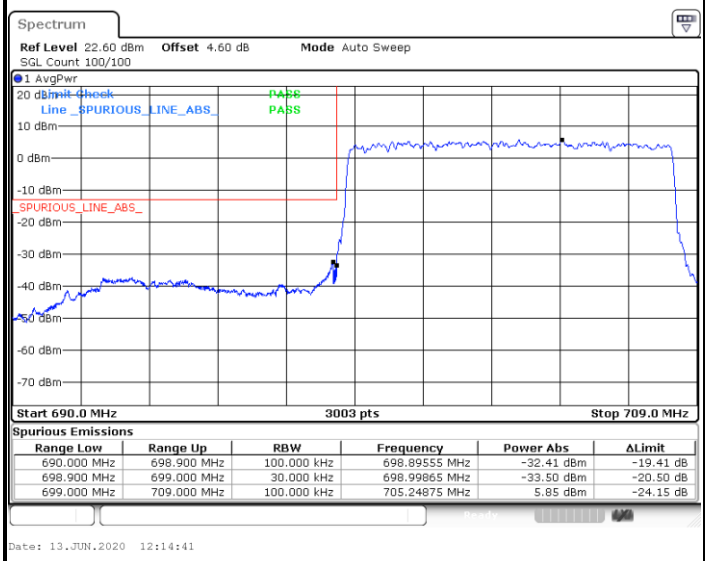
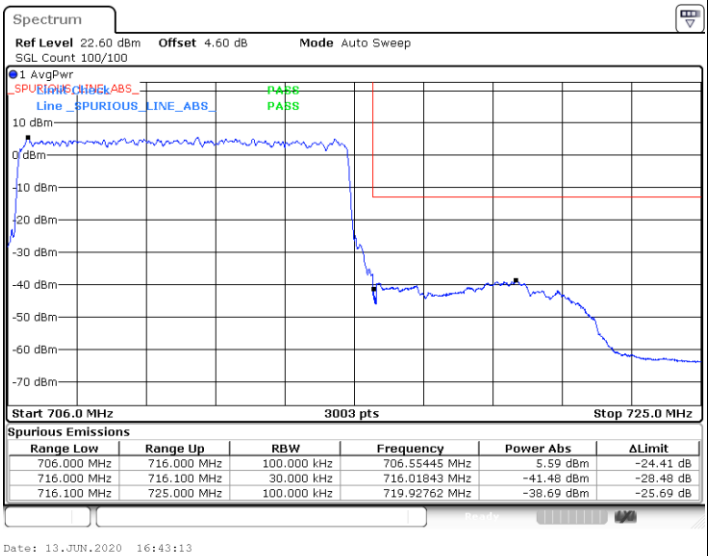
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
711.000 MHz	716.000 MHz	100.000 kHz	714.46903 MHz	4.79 dBm	-25.21 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.00544 MHz	-32.23 dBm	-19.23 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.10445 MHz	-31.24 dBm	-18.24 dB

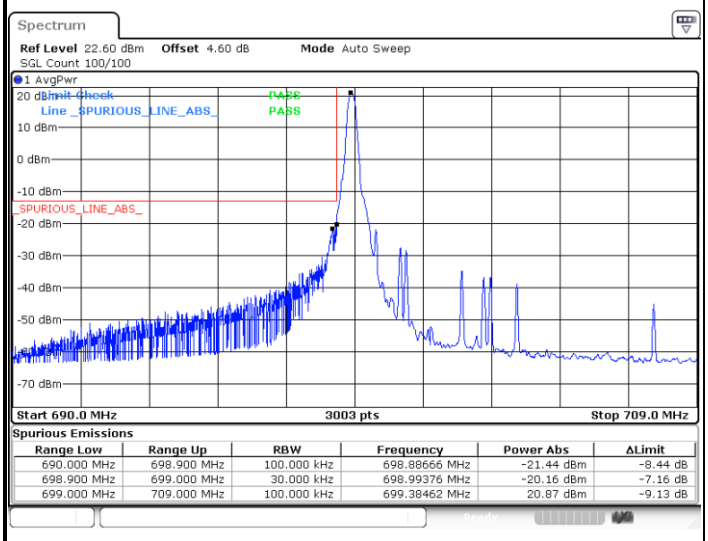
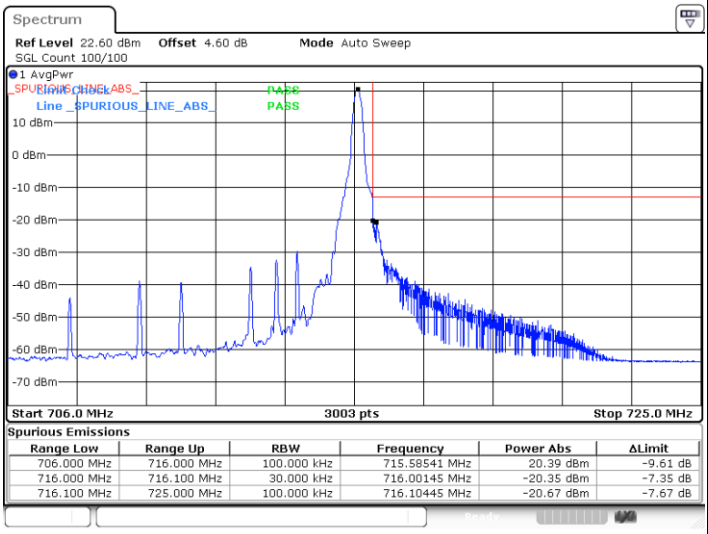
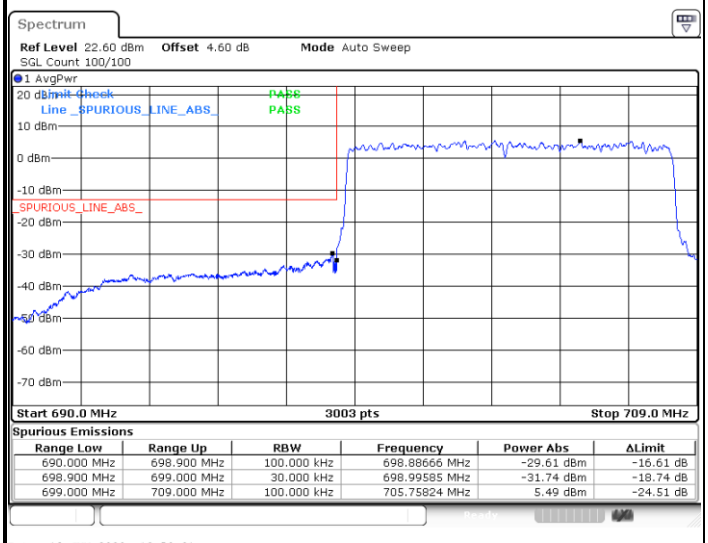
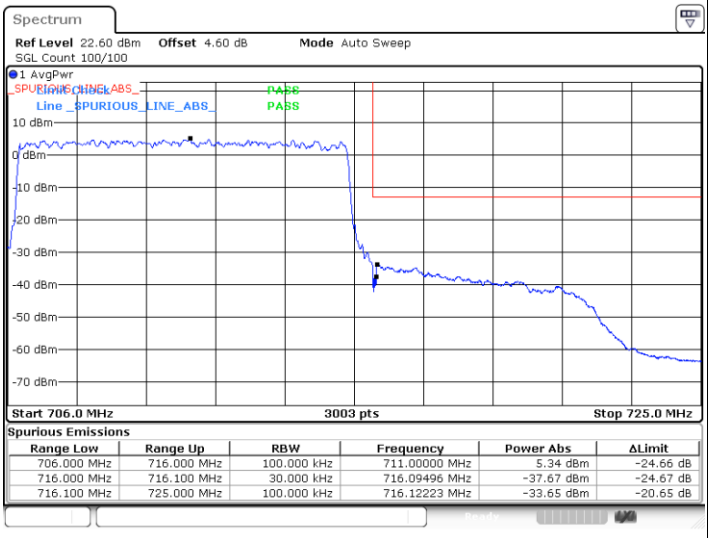
Date: 13.JUN.2020 06:50:06

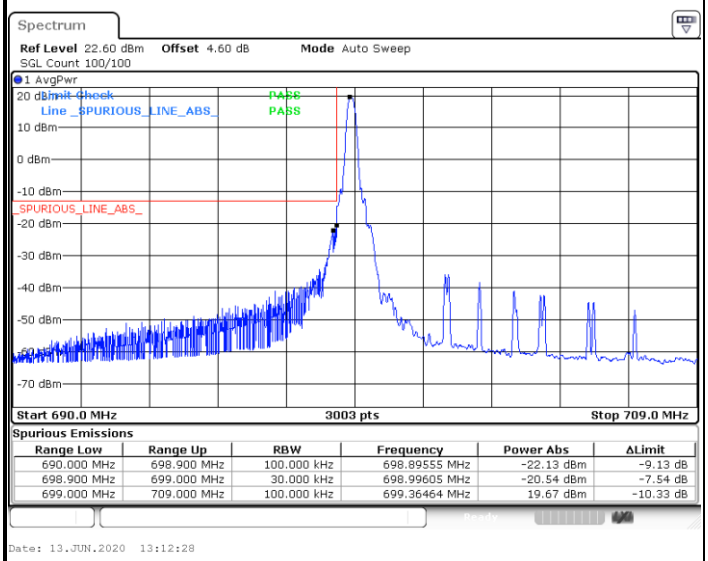
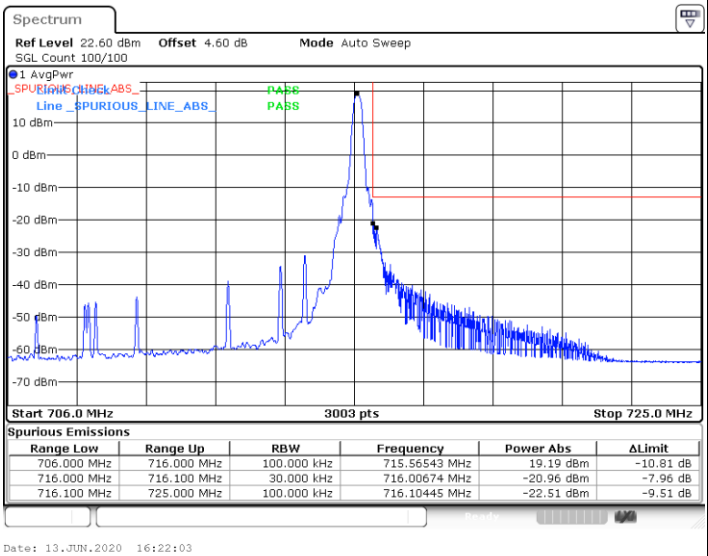
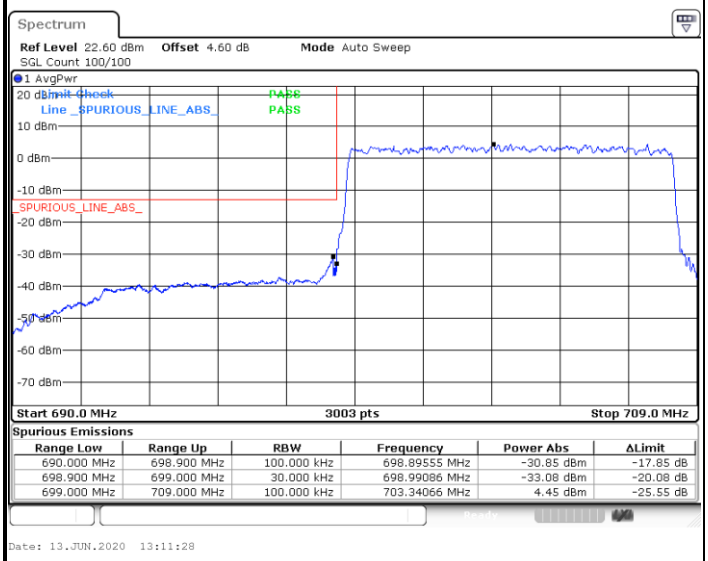
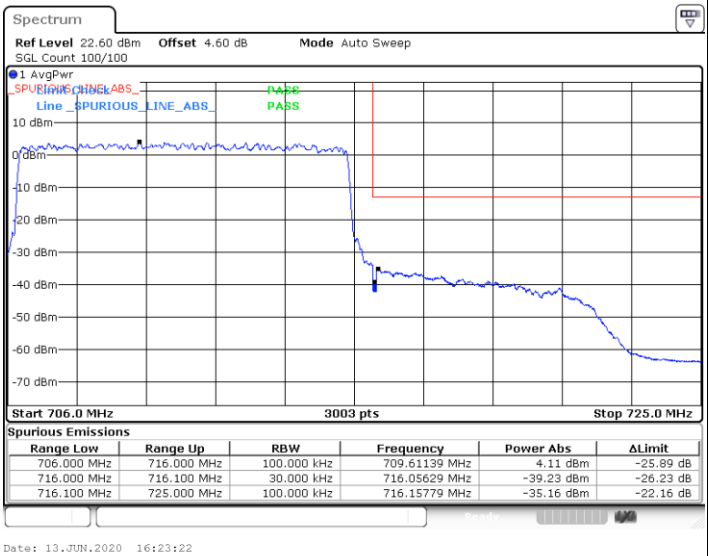
FR1 n12 / 5MHz / CP OFDM / QPSK	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**

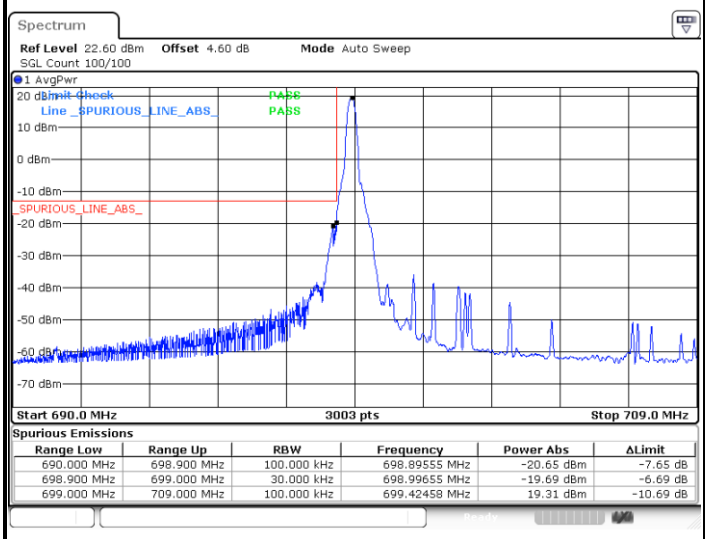
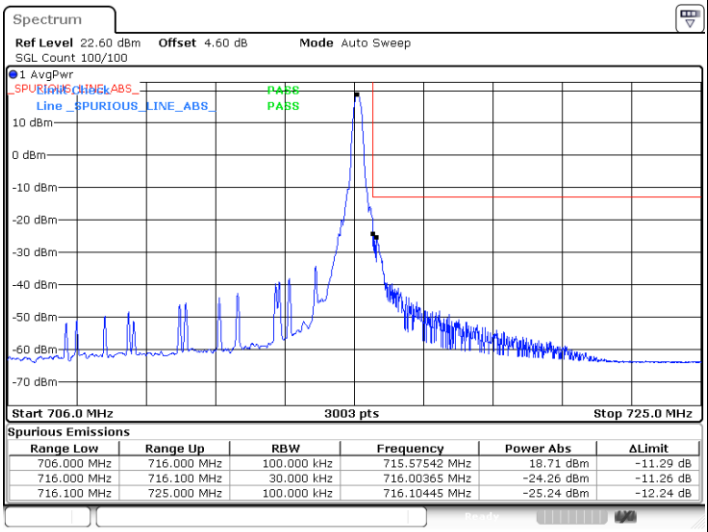
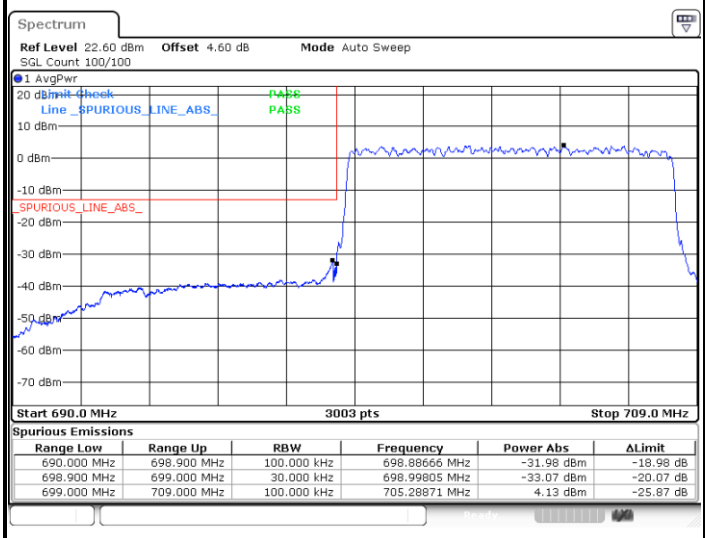
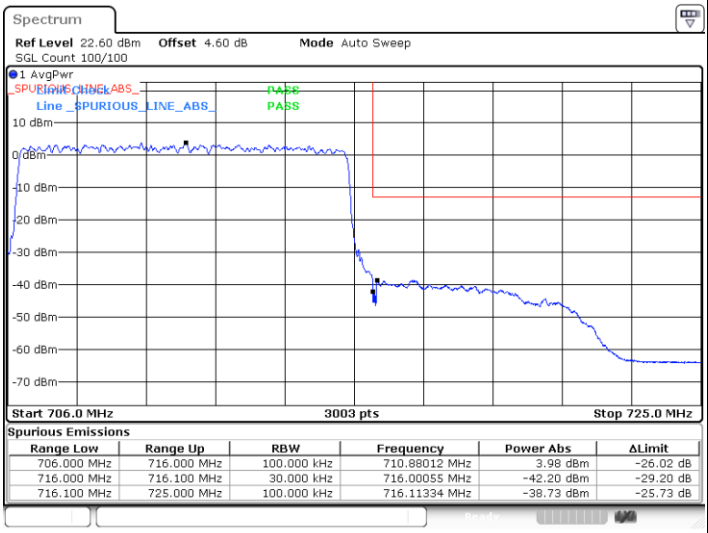


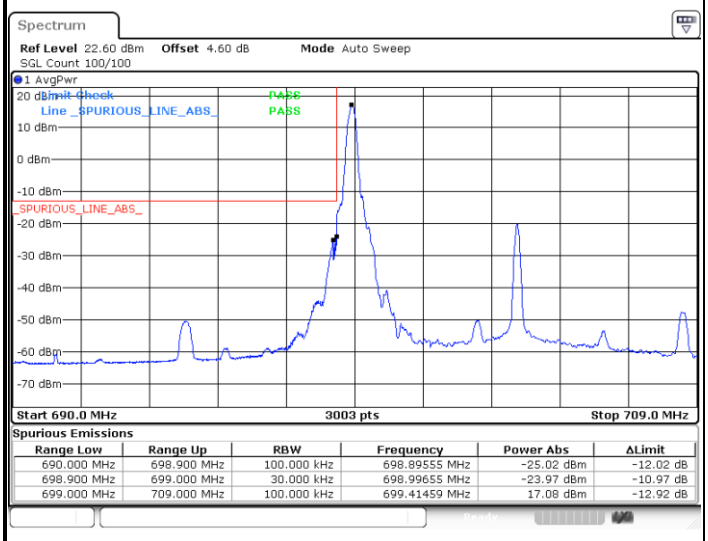
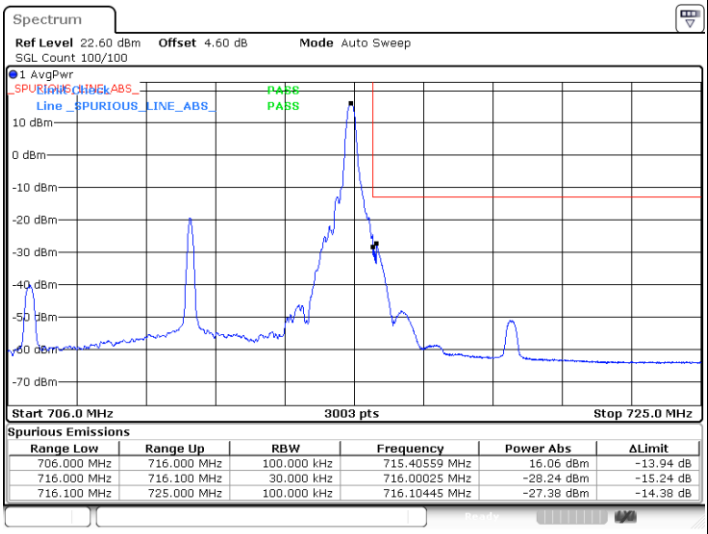
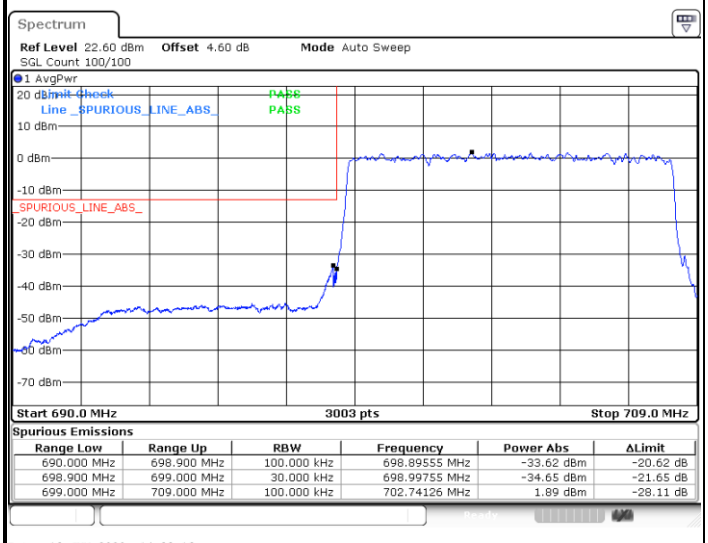
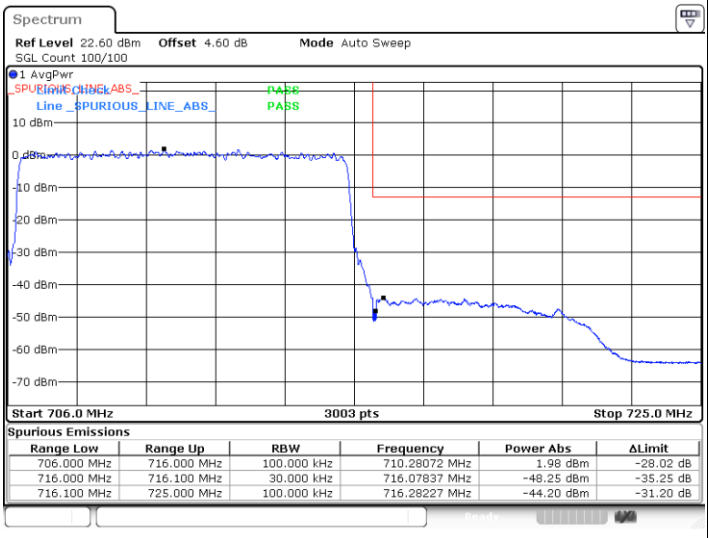


FR1 n12 / 10MHz / DFT-s-OFDM / PI/2 BPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBMAX**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

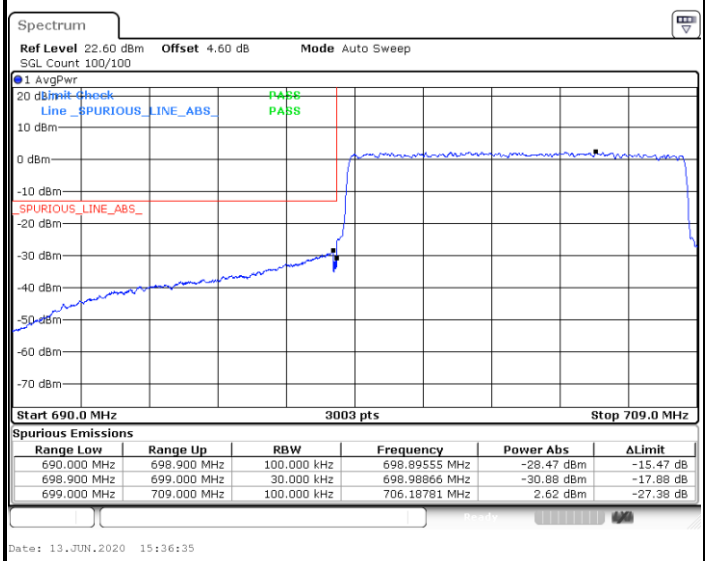
FR1 n12 / 10MHz / DFT-s-OFDM / QPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBMAX**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

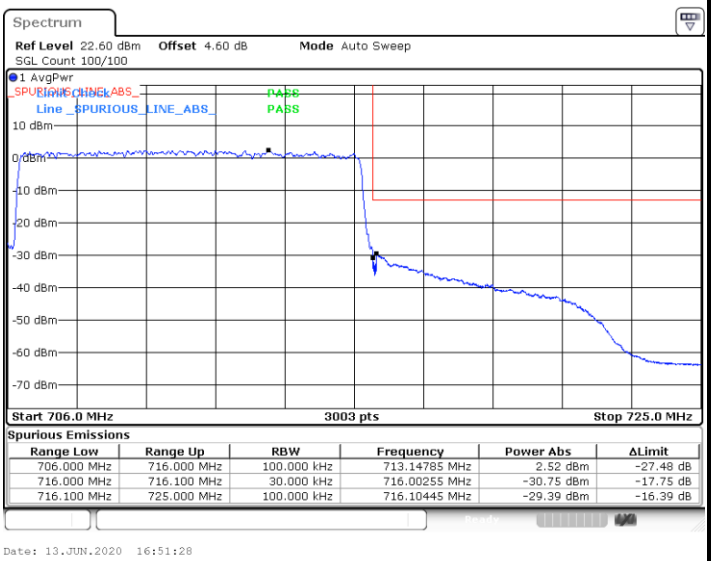
FR1 n12 / 10MHz / DFT-s-OFDM / 16QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBMAX**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

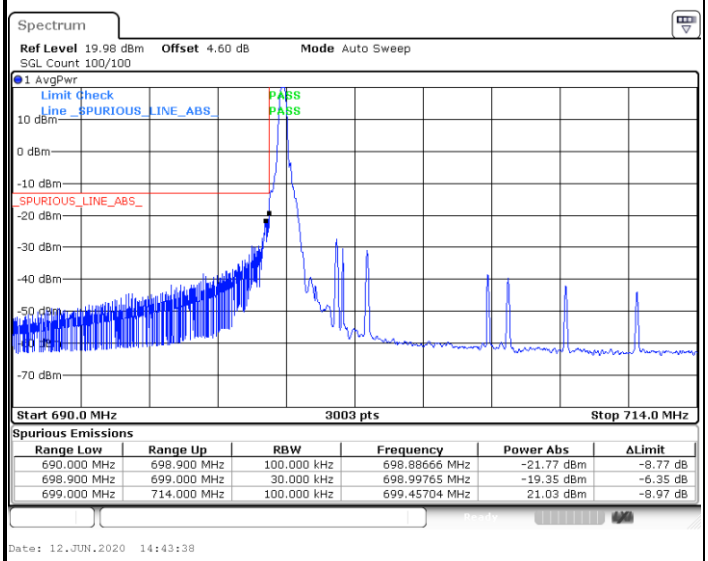
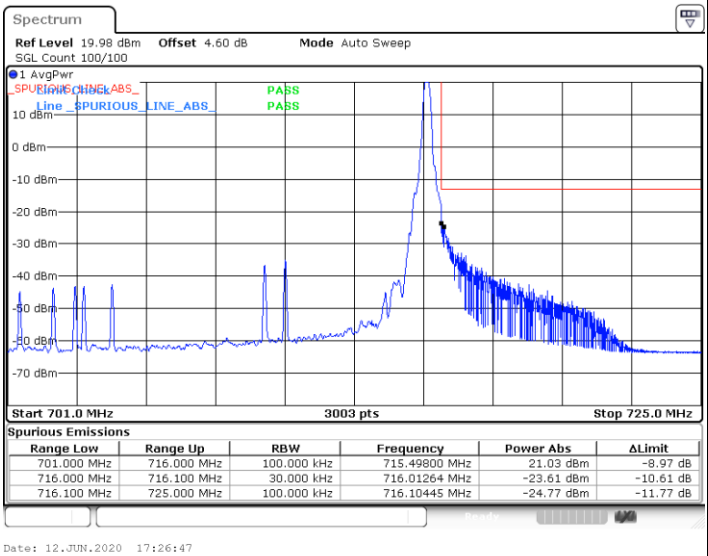
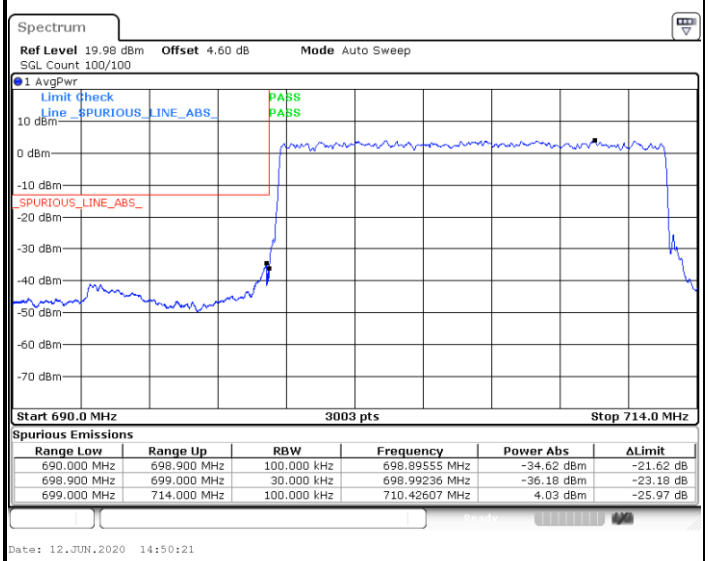
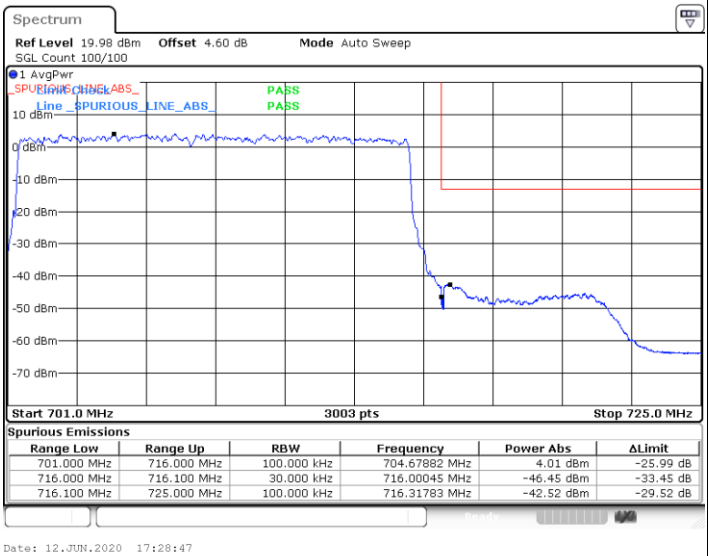
FR1 n12 / 10MHz / DFT-s-OFDM / 64QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBMAX**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

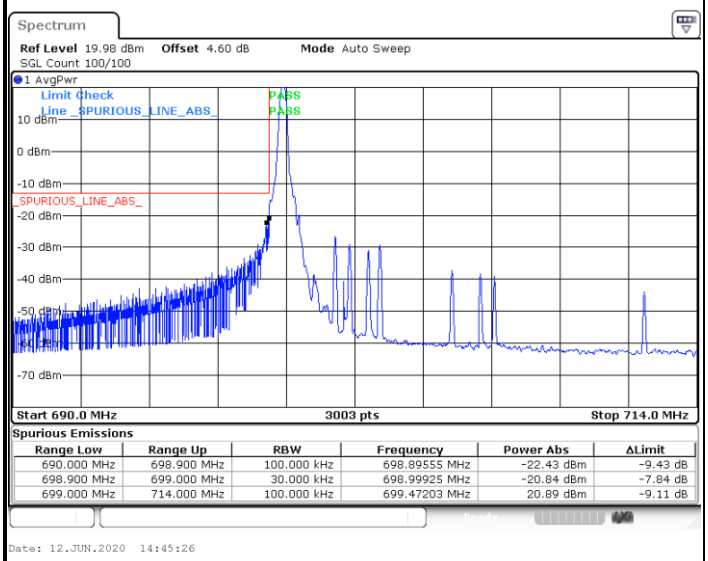
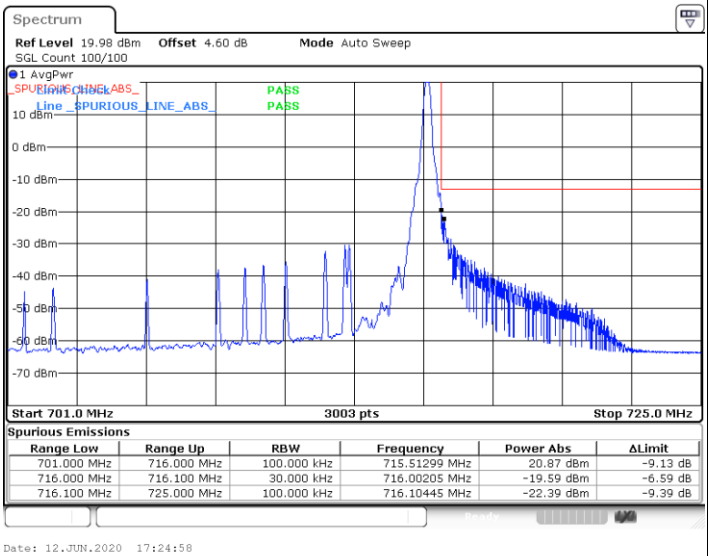
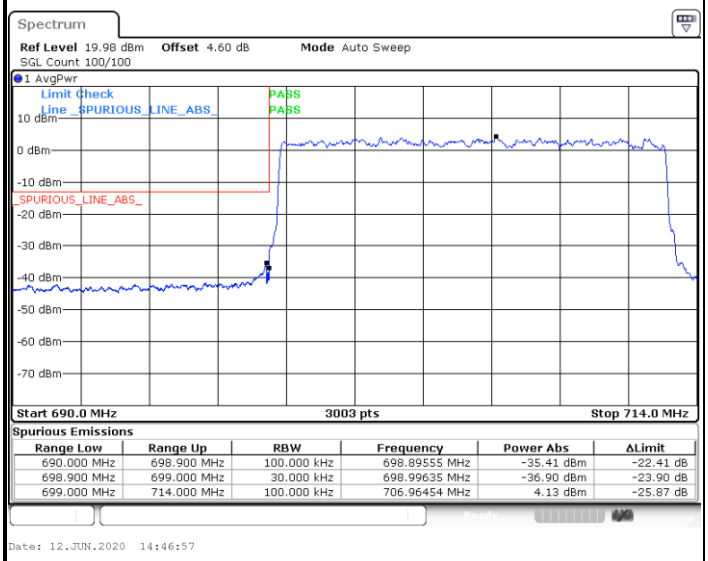
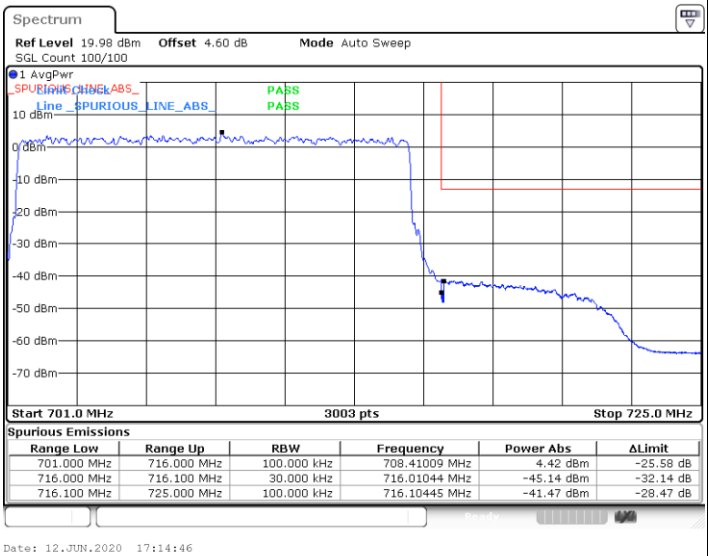
FR1 n12 / 10MHz / DFT-s-OFDM / 256QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBMAX**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

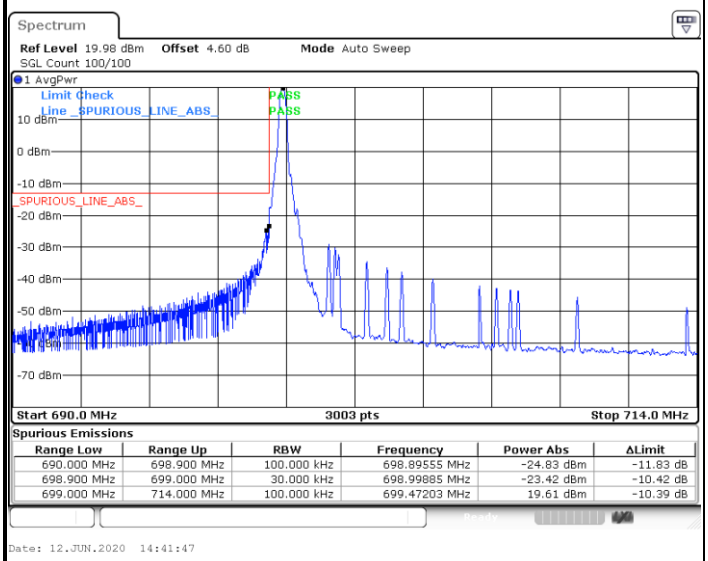
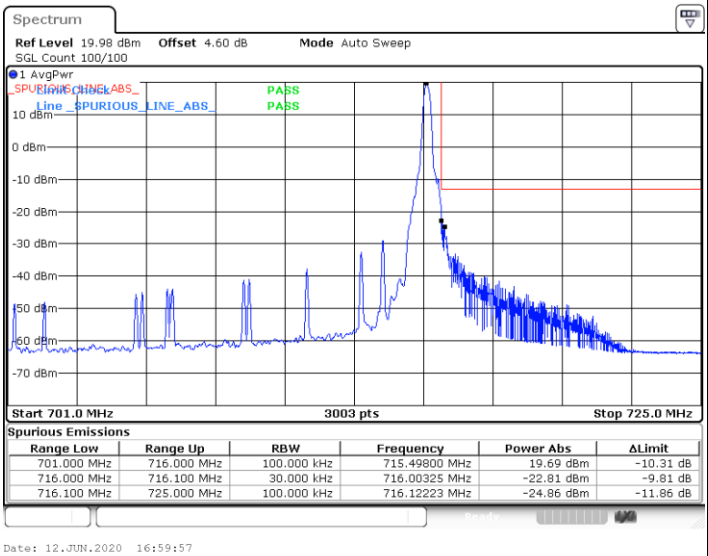
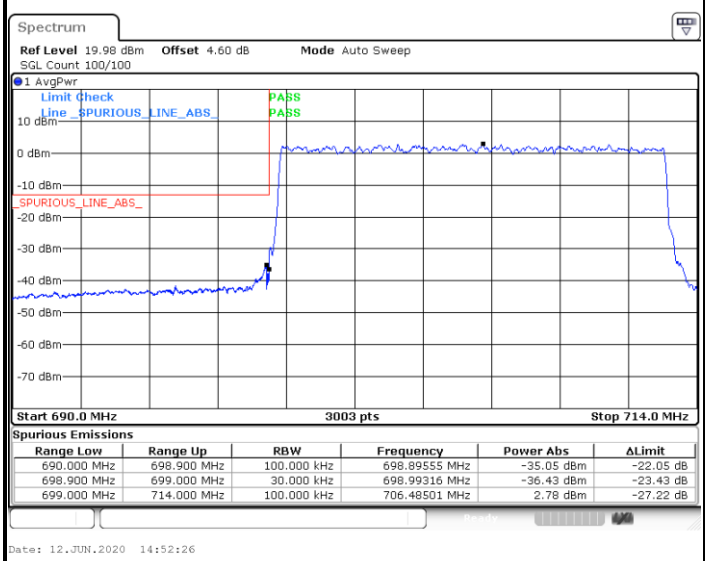
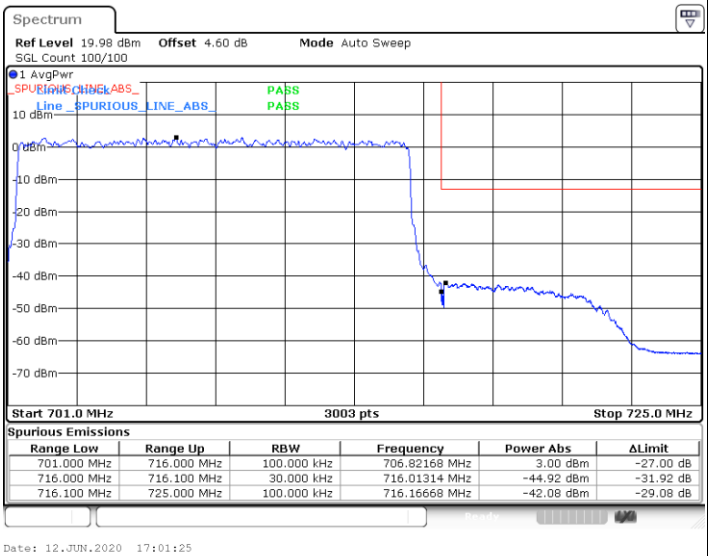
FR1 n12 / 10MHz / CP OFDM / QPSK	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**





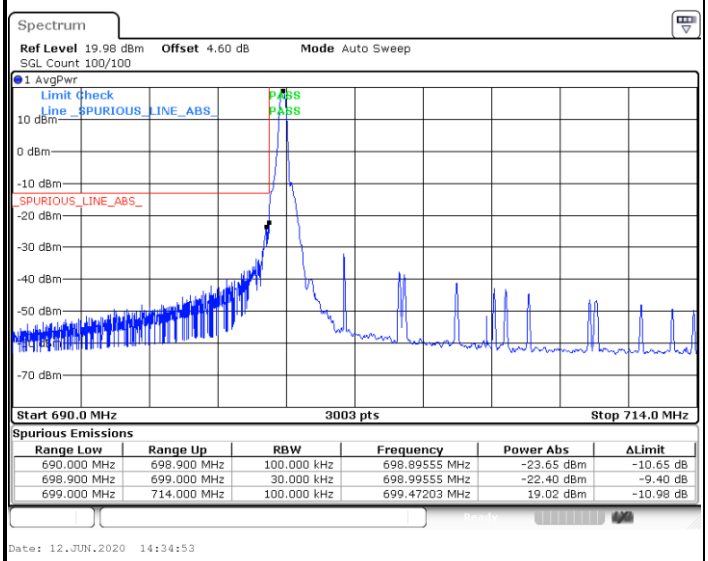
FR1 n12 / 15MHz / DFT-s-OFDM / PI/2 BPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBMAX**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n12 / 15MHz / DFT-s-OFDM / QPSK	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBMAX**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n12 / 15MHz / DFT-s-OFDM / 16QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBMAX**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n12 / 15MHz / DFT-s-OFDM / 64QAM

Lowest Band Edge / 1RB0

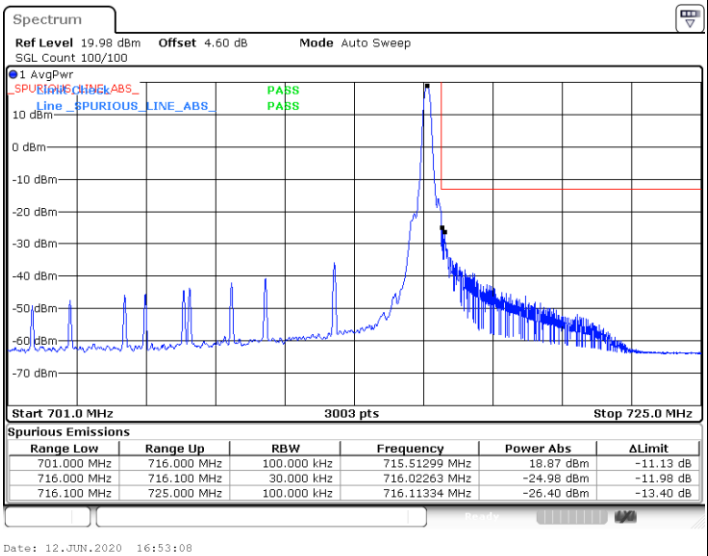


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.89555 MHz	-23.65 dBm	-10.65 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.99555 MHz	-22.40 dBm	-9.40 dB
699.000 MHz	714.000 MHz	100.000 kHz	699.47203 MHz	19.02 dBm	-10.98 dB

Date: 12.JUN.2020 14:34:53

Highest Band Edge / 1RBMAX

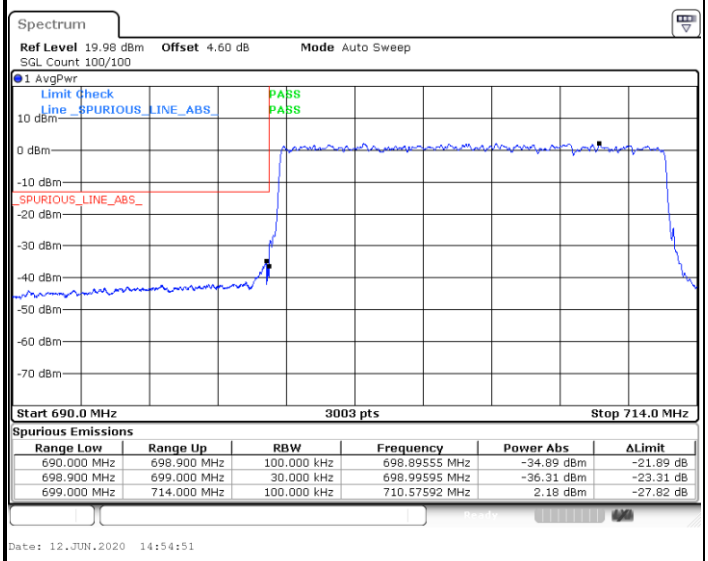


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
701.000 MHz	716.000 MHz	100.000 kHz	715.51299 MHz	18.87 dBm	-11.13 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.02263 MHz	-24.98 dBm	-11.98 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.11334 MHz	-26.40 dBm	-13.40 dB

Date: 12.JUN.2020 16:53:08

Lowest Band Edge / Full RB

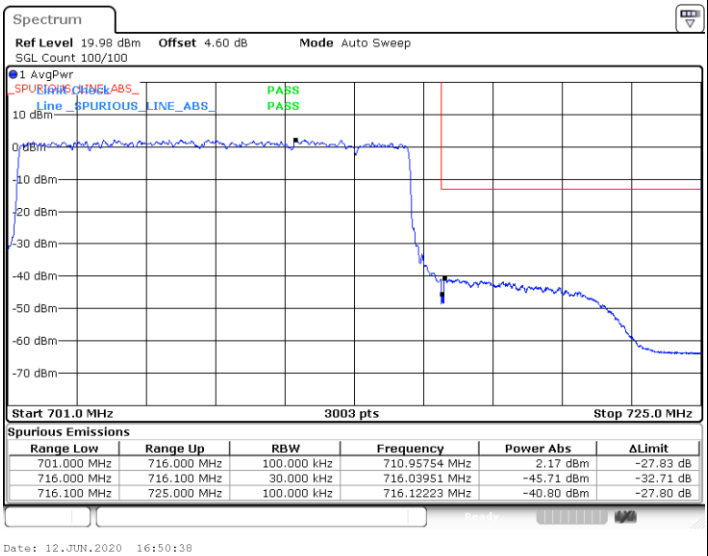


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.89555 MHz	-34.89 dBm	-21.89 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.99595 MHz	-36.31 dBm	-23.31 dB
699.000 MHz	714.000 MHz	100.000 kHz	710.57592 MHz	2.18 dBm	-27.82 dB

Date: 12.JUN.2020 14:54:51

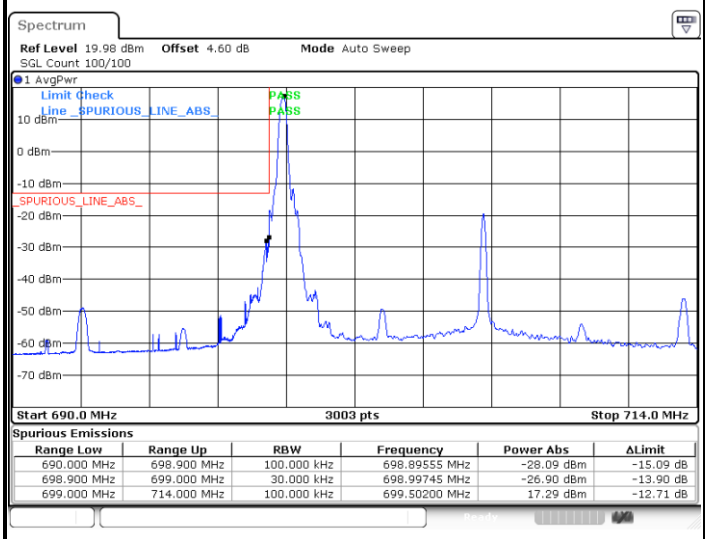
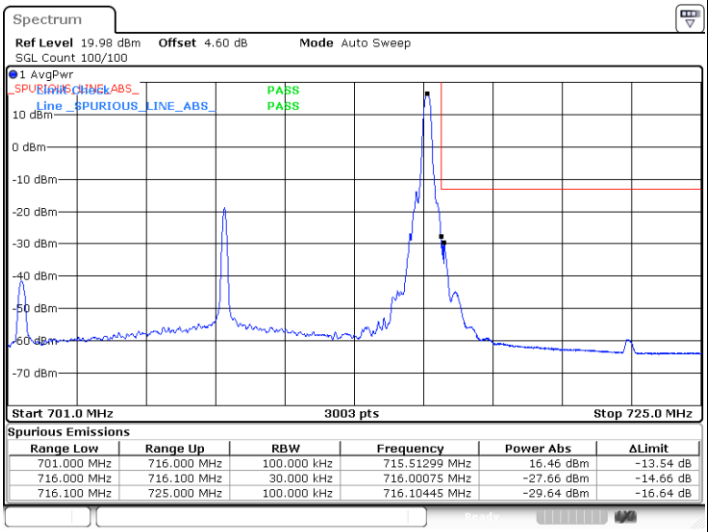
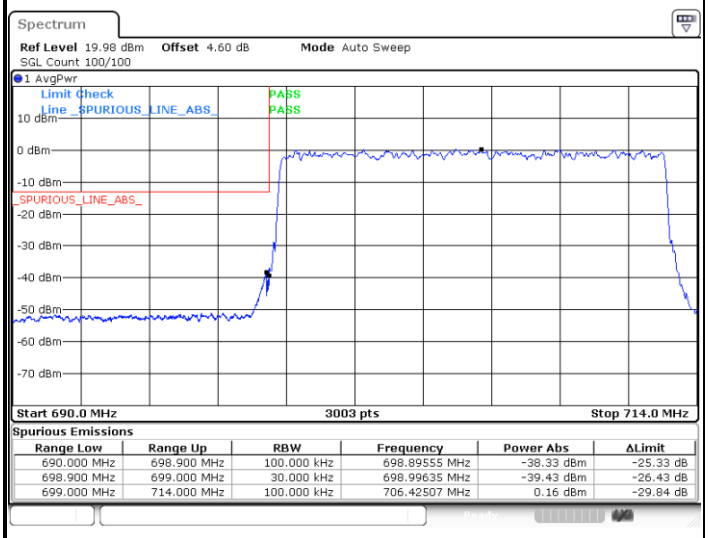
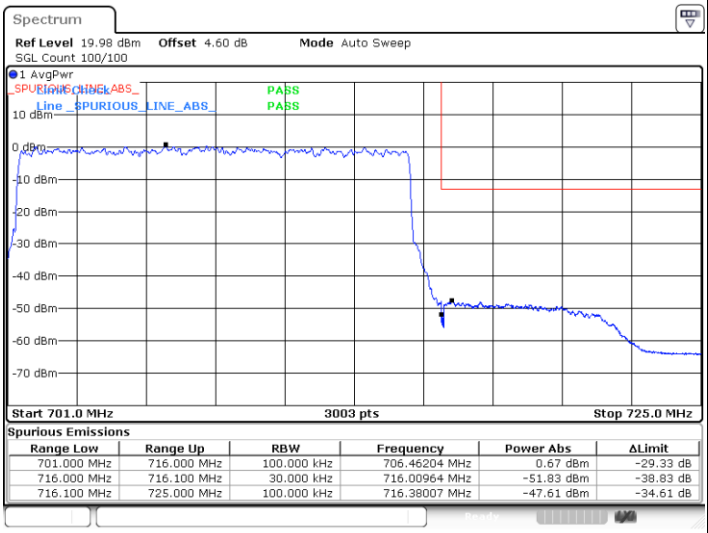
Highest Band Edge / Full RB



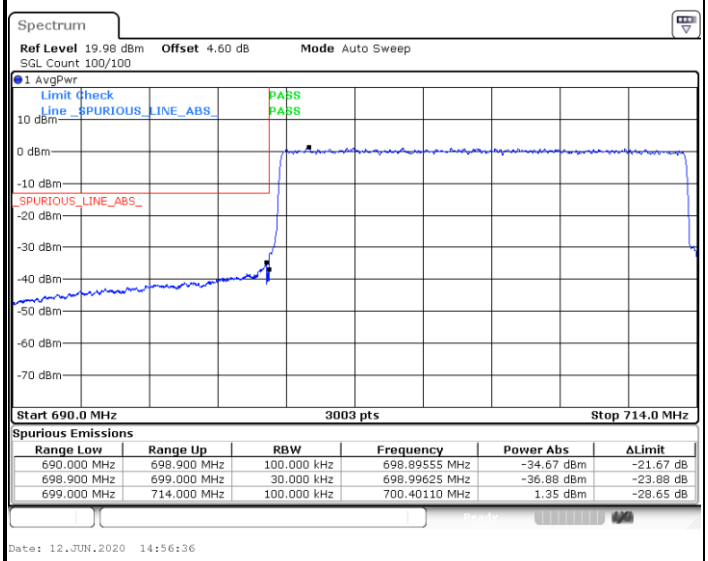
Spurious Emissions

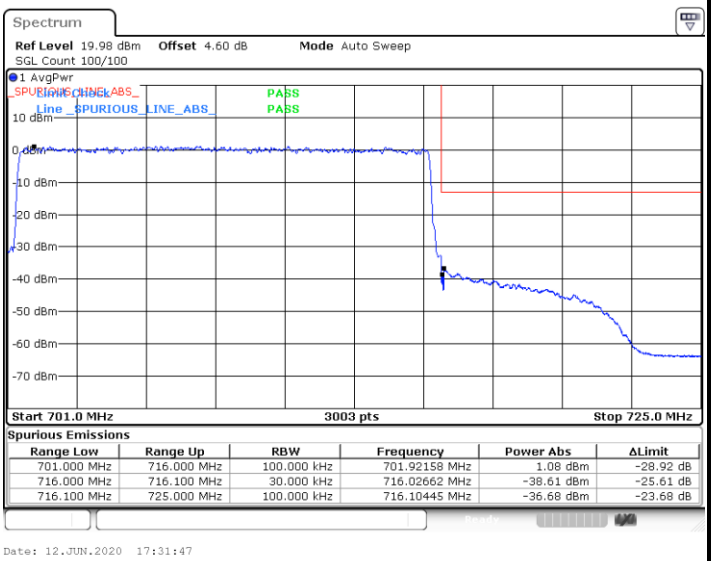
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
701.000 MHz	716.000 MHz	100.000 kHz	710.95754 MHz	2.17 dBm	-27.83 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.03951 MHz	-45.71 dBm	-32.71 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.12223 MHz	-40.80 dBm	-27.80 dB

Date: 12.JUN.2020 16:50:38

FR1 n12 / 15MHz / DFT-s-OFDM / 256QAM	
Lowest Band Edge / 1RB0	**Highest Band Edge / 1RBMAX**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

FR1 n12 / 15MHz / CP OFDM / QPSK	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**

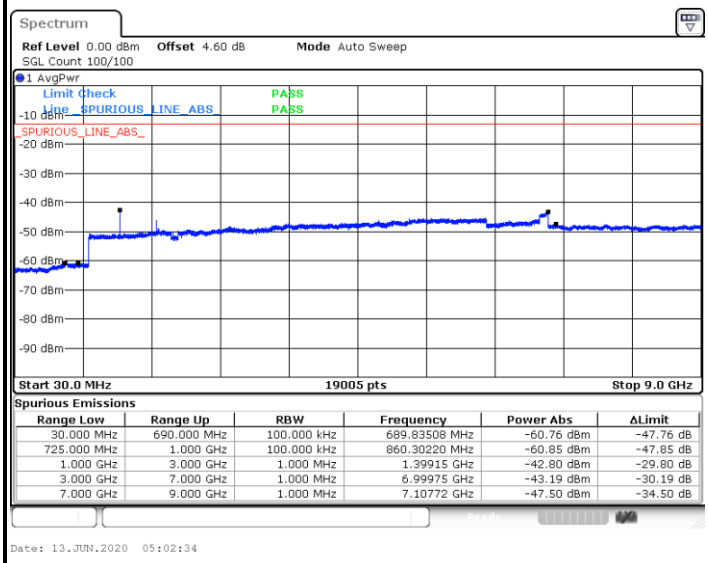




Conducted Spurious Emission

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

Lowest Channel / 1RB1

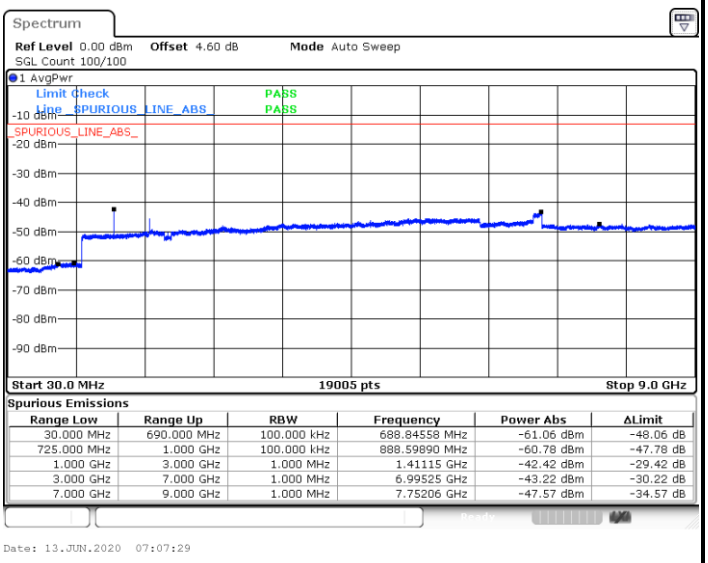


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	689.83508 MHz	-60.76 dBm	-47.76 dB
725.000 MHz	1.000 GHz	100.000 kHz	860.30220 MHz	-60.85 dBm	-47.85 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.39915 GHz	-42.80 dBm	-29.80 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99975 GHz	-43.19 dBm	-30.19 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.10772 GHz	-47.50 dBm	-34.50 dB

Date: 13.JUN.2020 05:02:34

Middle Channel / 1RB1

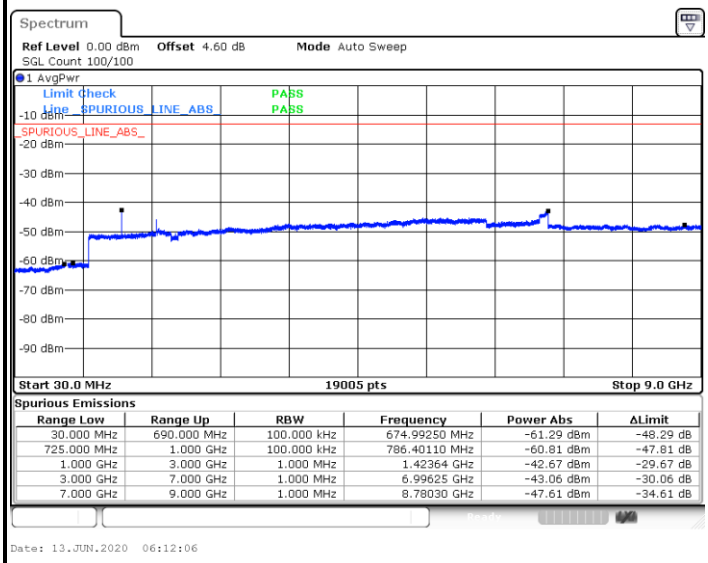


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	688.84558 MHz	-61.06 dBm	-48.06 dB
725.000 MHz	1.000 GHz	100.000 kHz	888.59890 MHz	-60.78 dBm	-47.78 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.41115 GHz	-42.42 dBm	-29.42 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99525 GHz	-43.22 dBm	-30.22 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.75206 GHz	-47.57 dBm	-34.57 dB

Date: 13.JUN.2020 07:07:29

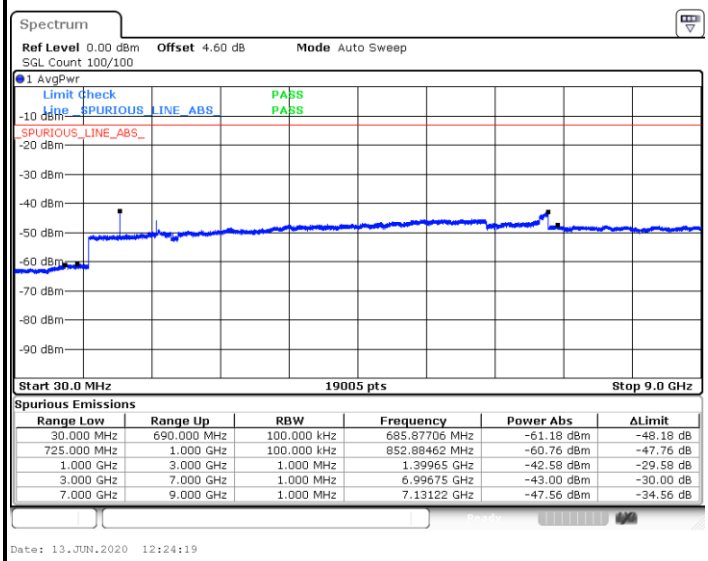
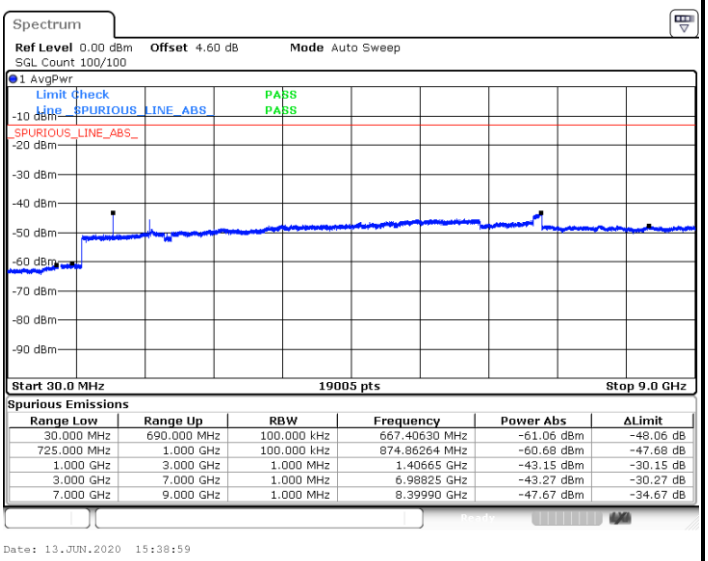
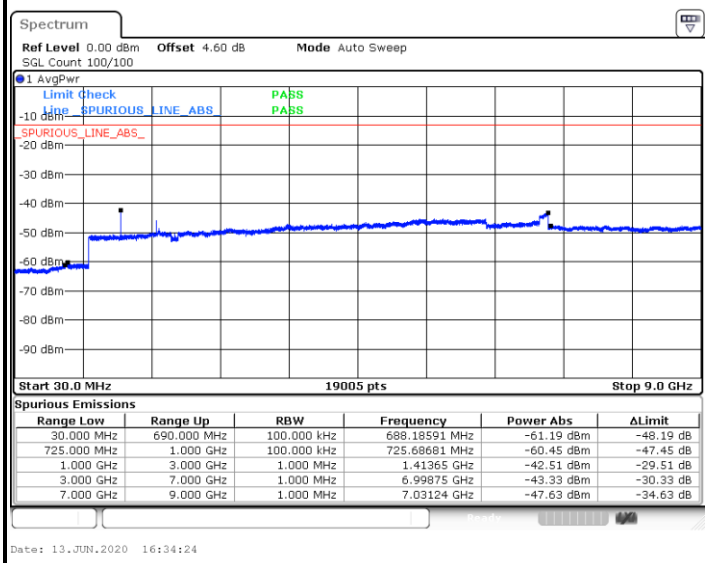
Highest Channel / 1RB1

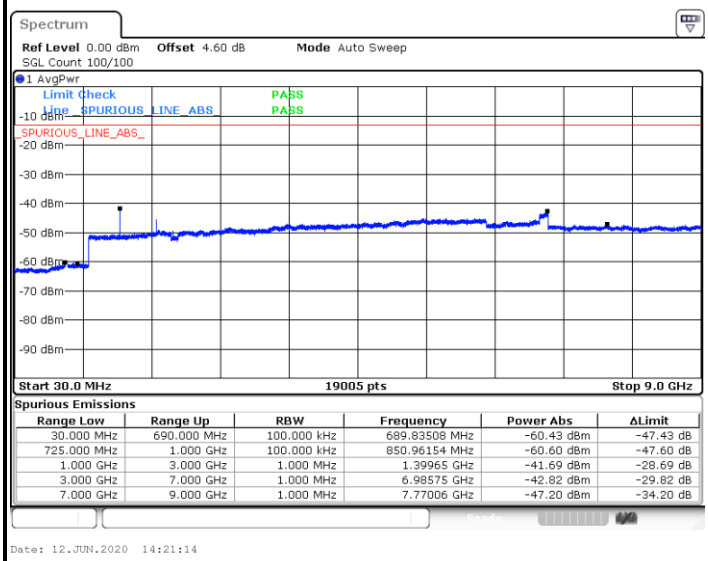
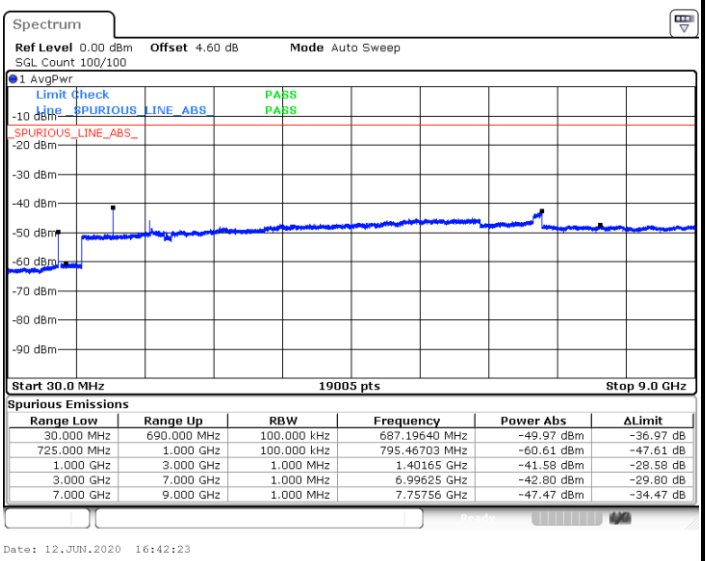
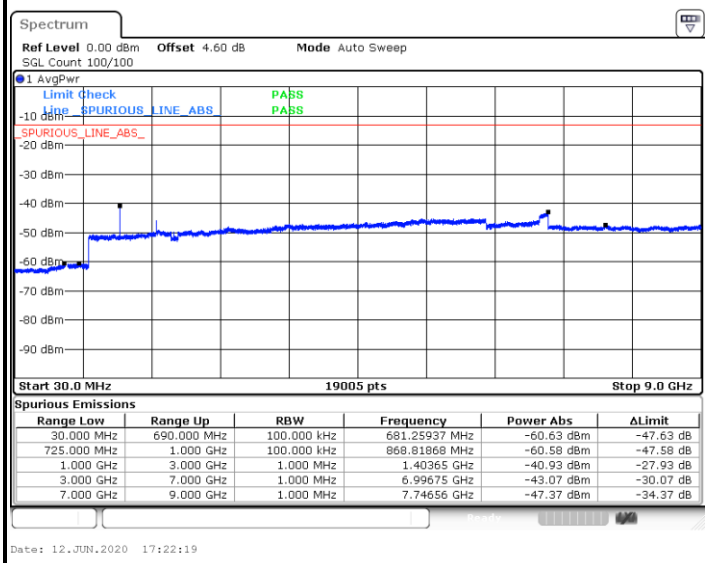


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	674.99250 MHz	-61.29 dBm	-48.29 dB
725.000 MHz	1.000 GHz	100.000 kHz	786.40110 MHz	-60.81 dBm	-47.81 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.42364 GHz	-42.67 dBm	-29.67 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99625 GHz	-43.06 dBm	-30.06 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.78030 GHz	-47.61 dBm	-34.61 dB

Date: 13.JUN.2020 06:12:06

FR1 n12 / 10MHz / DFT-S OFDM / QPSK	
Lowest Channel / 1RB1	**Middle Channel / 1RB1**
	
Highest Channel / 1RB1	
	

FR1 n12 / 15MHz / DFT-S OFDM / QPSK	
Lowest Channel / 1RB1	**Middle Channel / 1RB1**
	
Highest Channel / 1RB1	
	

Frequency Stability

Test Conditions		FR1 n12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 15MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0011	PASS
40	Normal Voltage	0.0004	
30	Normal Voltage	0.0030	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0045	
0	Normal Voltage	0.0025	
-10	Normal Voltage	0.0024	
-20	Normal Voltage	0.0008	
-30	Normal Voltage	0.0058	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0033	

Note:

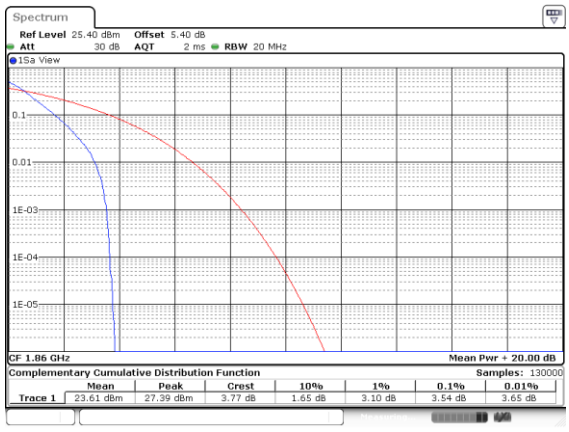
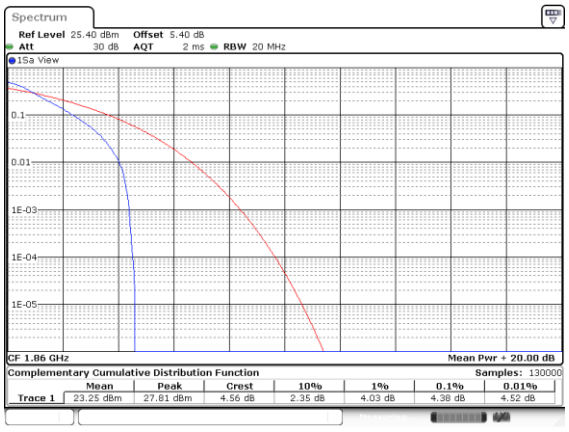
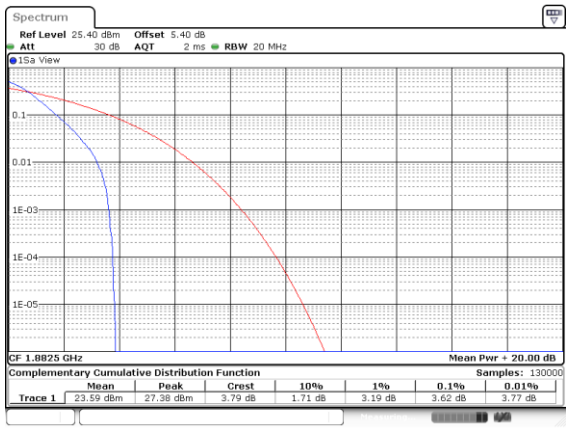
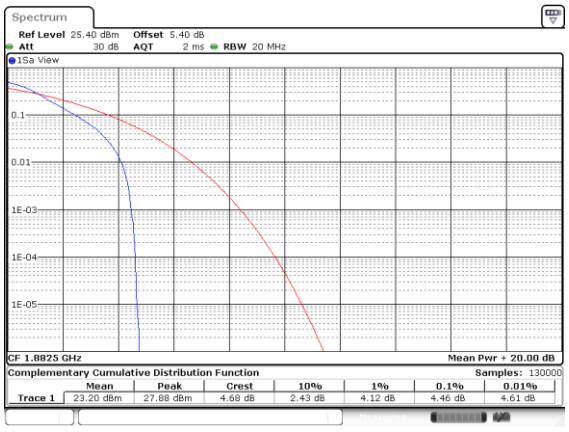
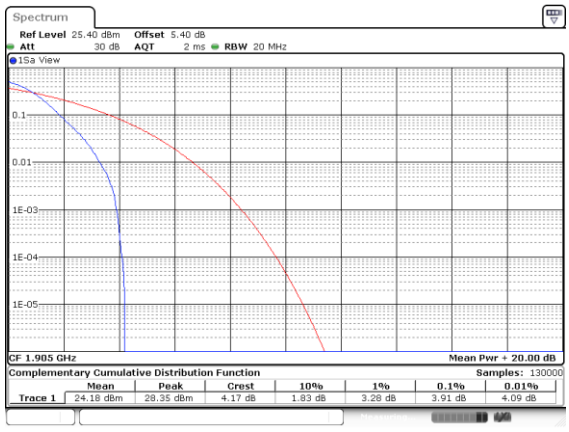
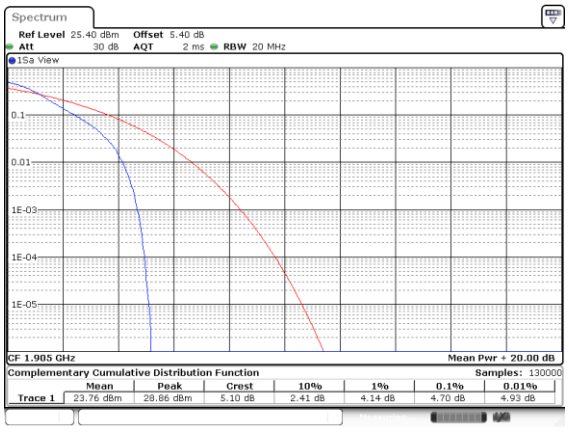
1. Normal Voltage =3.87 V.；Battery End Point (BEP) =3.60 V.；Maximum Voltage =4.45 V.

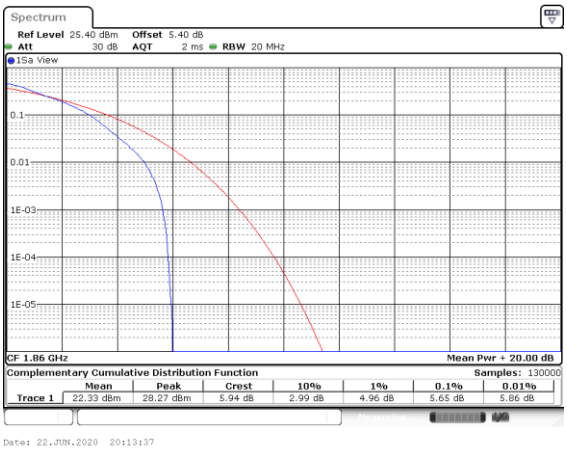
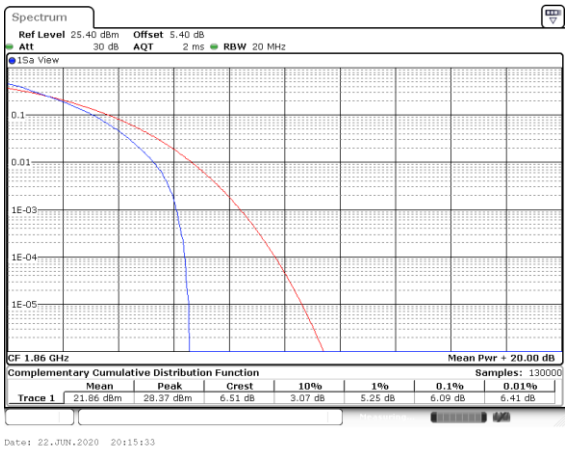
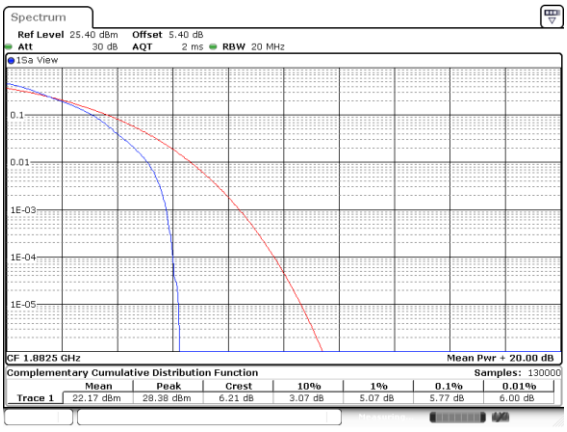
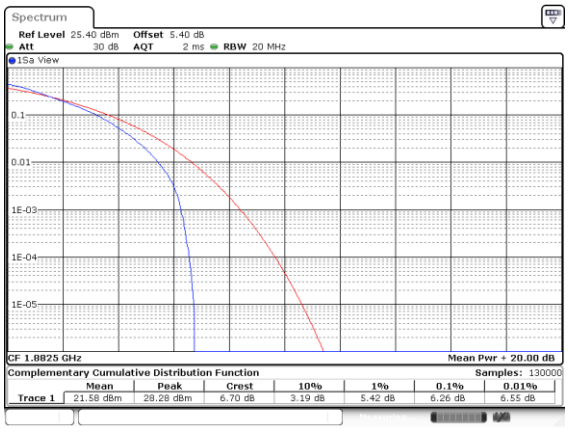
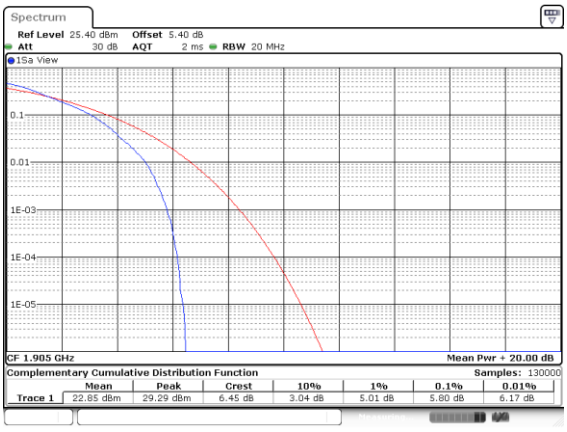
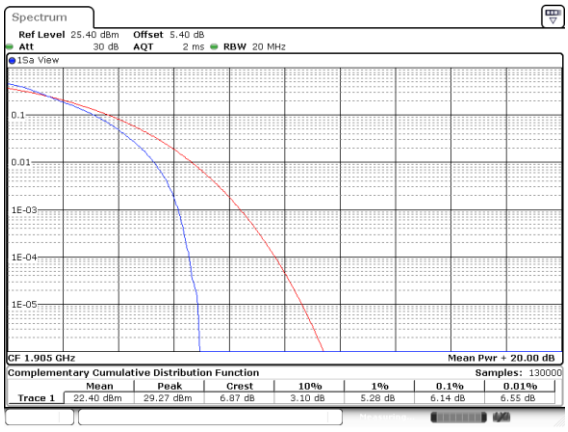
2. The frequency fundamental emissions stay within the authorized frequency block.

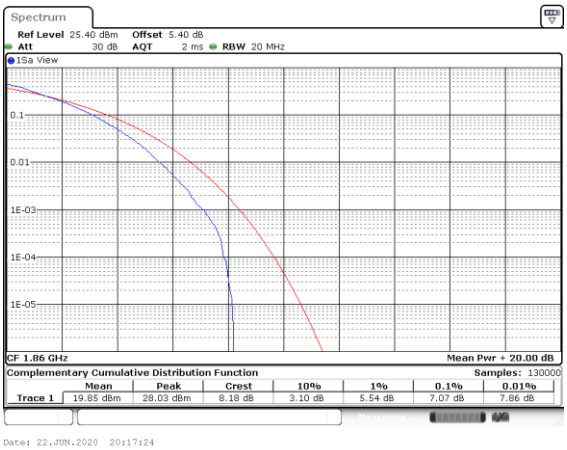
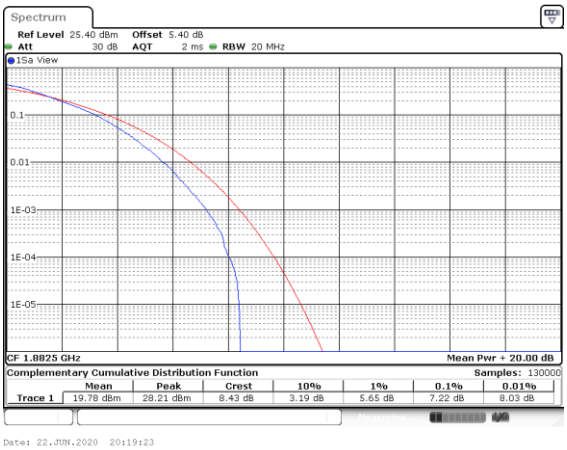
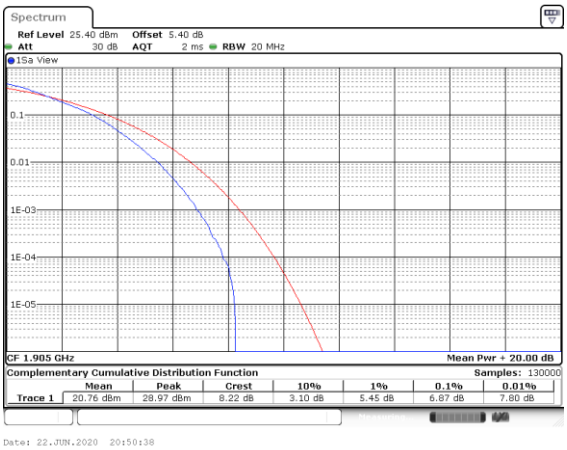
FR1 n25

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	3.54	4.38	5.65	6.09	PASS
Middle CH	3.62	4.46	5.77	6.26	
Highest CH	3.91	4.70	5.80	6.14	
Mode	FR1 n25 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Lowest CH	7.07				PASS
Middle CH	7.22				
Highest CH	6.87				

FR1 n25 / 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 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	
	
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	5.38		9.67		14.15		18.78	
Middle CH	5.28		9.85		14.36		18.62	
Highest CH	5.34		9.73		14.21		18.78	

Mode	FR1 n25 : 26dB BW(MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	5.55	5.22	10.11	10.19	14.90	15.17	19.78	19.98
Middle CH	5.20	5.26	10.35	10.05	15.05	14.96	19.94	20.1
Highest CH	5.48	5.38	10.19	10.09	15.02	14.99	19.82	19.98
Mode	FR1 n25 : 26dB BW(MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	5.36	5.51	10.05	10.03	14.96	15.05	19.78	20.02
Middle CH	5.46	5.57	10.23	10.25	15.14	14.96	19.82	19.94
Highest CH	5.26	5.46	10.07	10.19	15.05	15.08	19.94	19.78