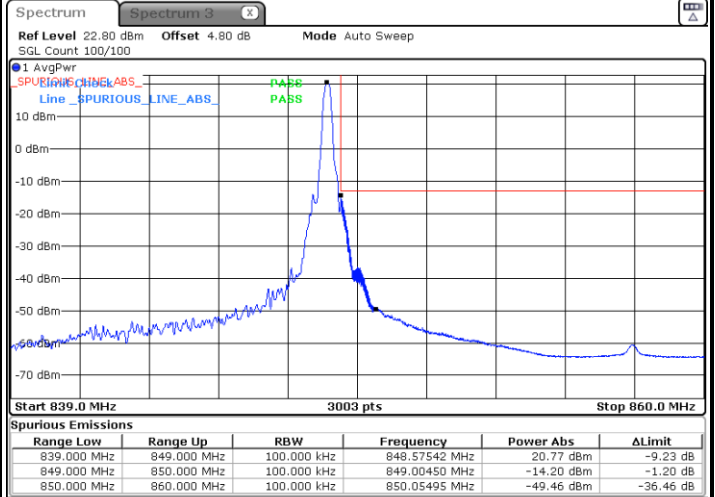
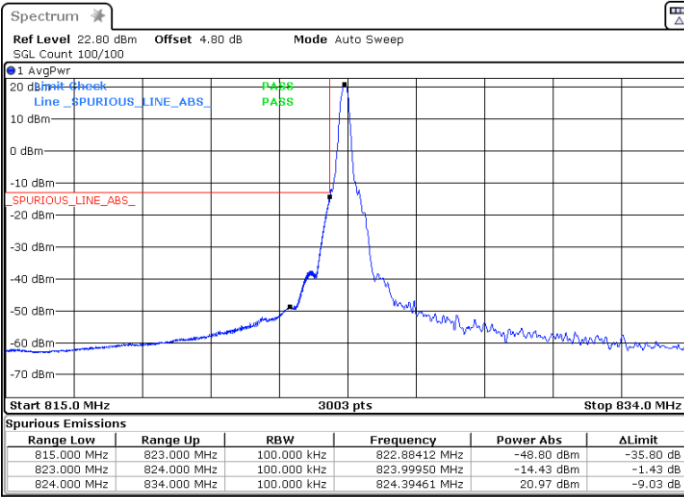




FR1 n5 / 10MHz / DFT-s-OFDM / QPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

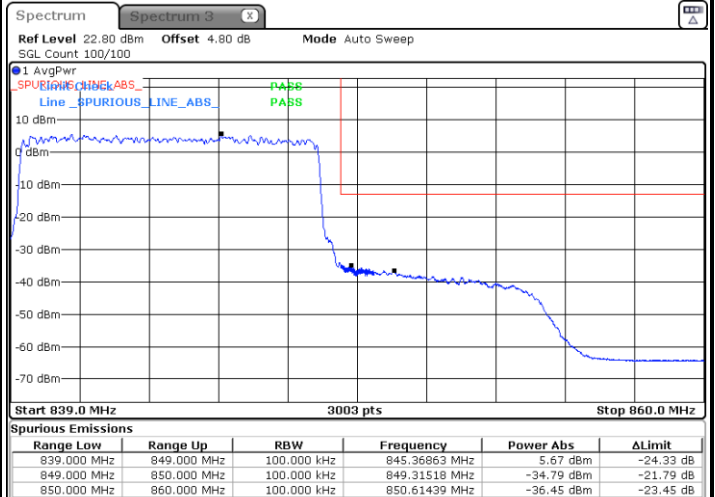
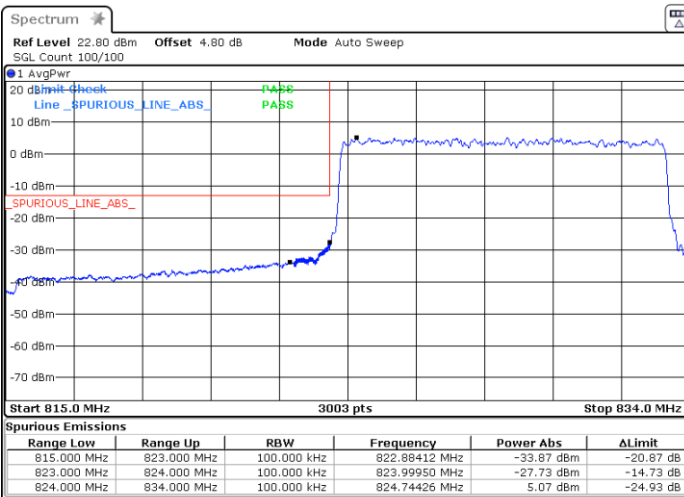


Date: 8 JUN 2022 09:13:14

Date: 8 JUN 2022 22:34:15

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 8 JUN 2022 09:15:34

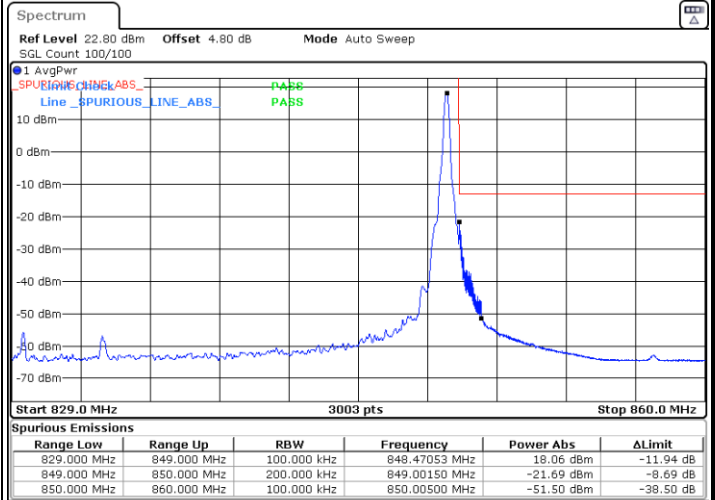
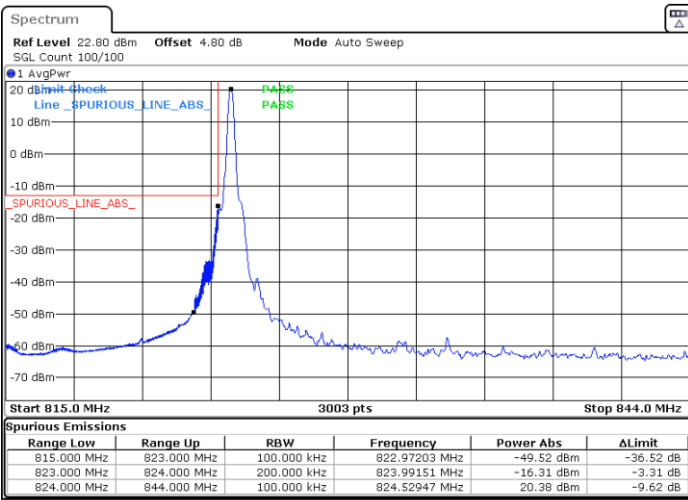
Date: 8 JUN 2022 22:33:28



FR1 n5 / 20MHz / DFT-s-OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

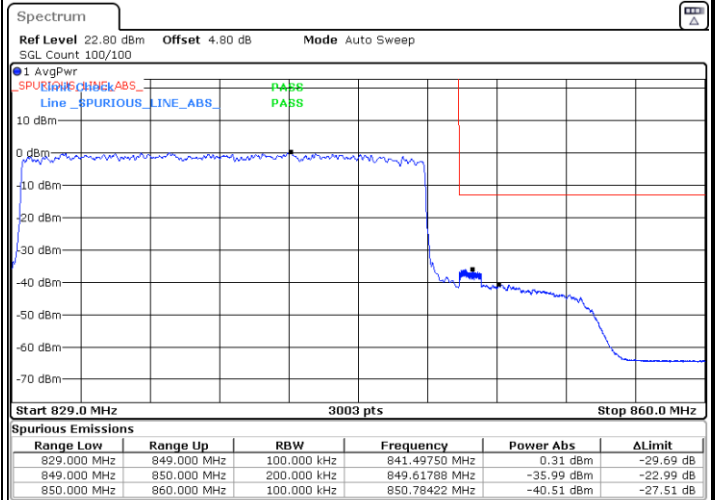
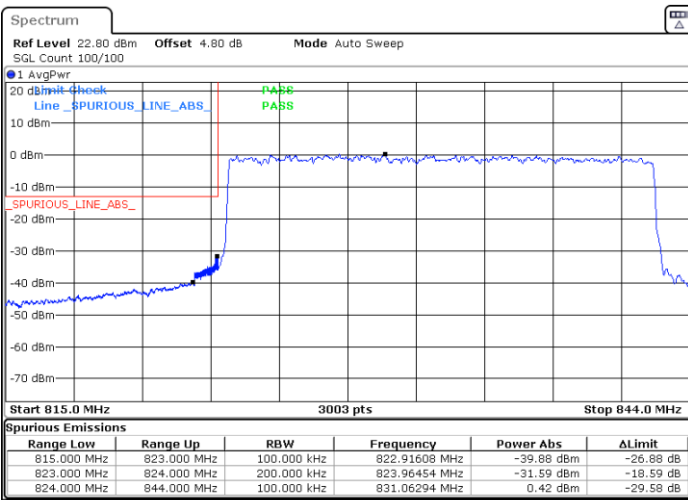


Date: 7 JUN, 2022 15:17:23

Date: 7 JUN, 2022 16:04:21

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 7 JUN, 2022 15:23:45

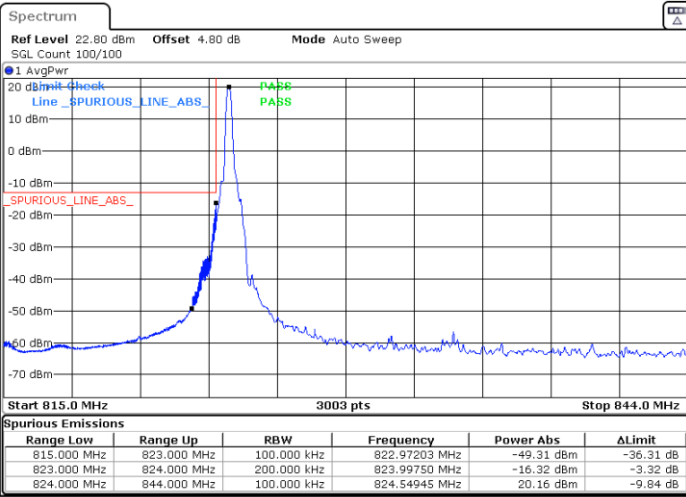
Date: 7 JUN, 2022 16:03:07



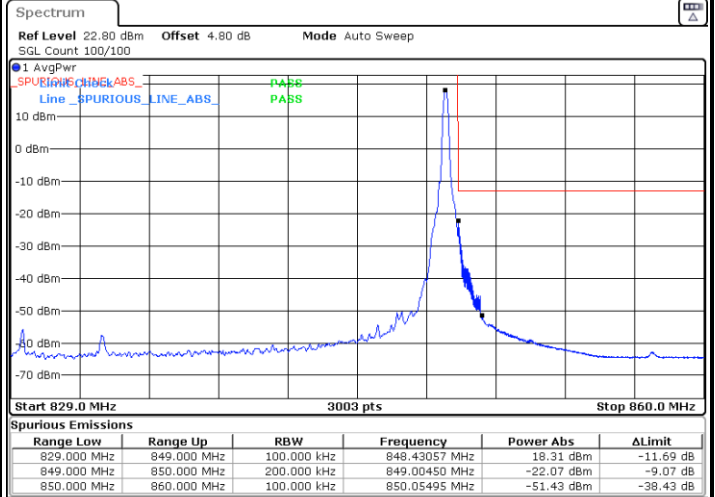
FR1 n5 / 20MHz / DFT-s-OFDM / QPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



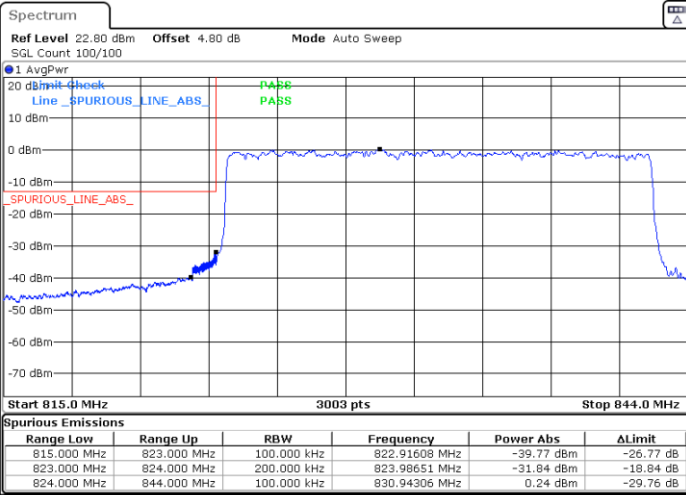
Date: 7 JUN, 2022 15:19:02



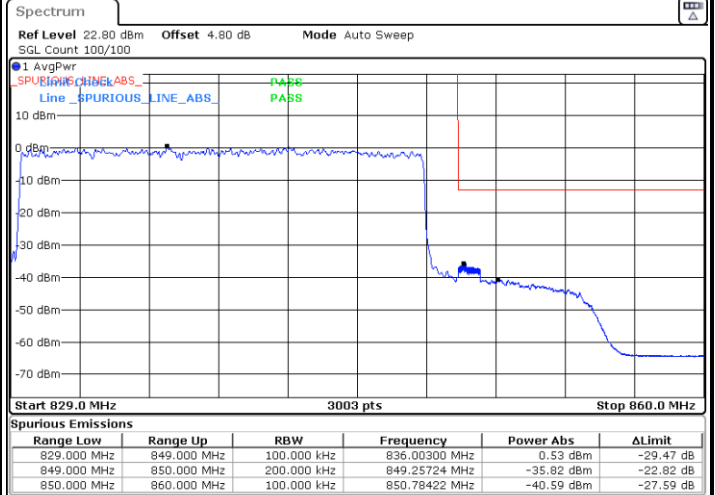
Date: 7 JUN, 2022 16:06:38

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 7 JUN, 2022 15:24:37



Date: 7 JUN, 2022 16:01:30

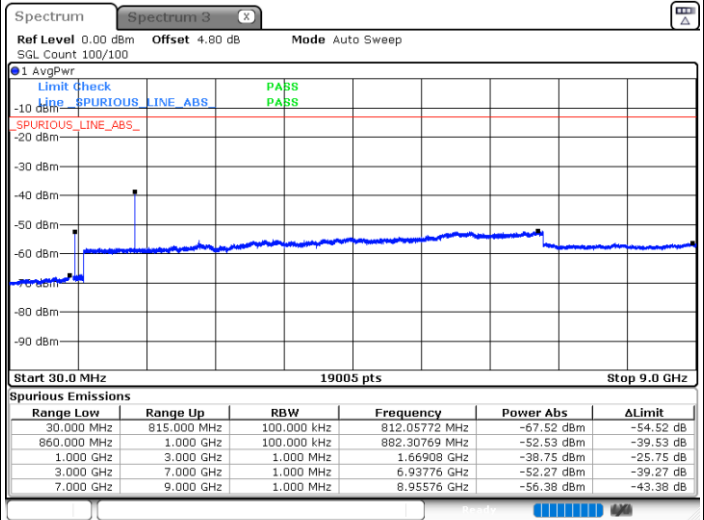
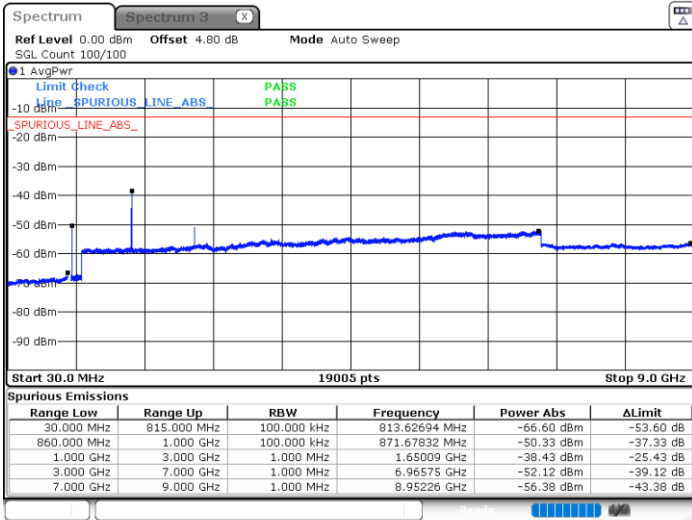


# Conducted Spurious Emission

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

Lowest Channel / 1RB1

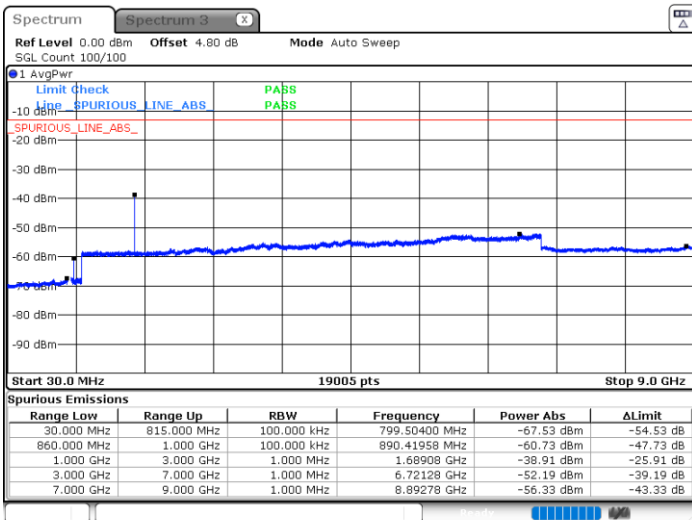
Middle Channel / 1RB1



Date: 8 JUN.2022 22:49:49

Date: 8 JUN.2022 22:46:28

Highest Channel / 1RB1



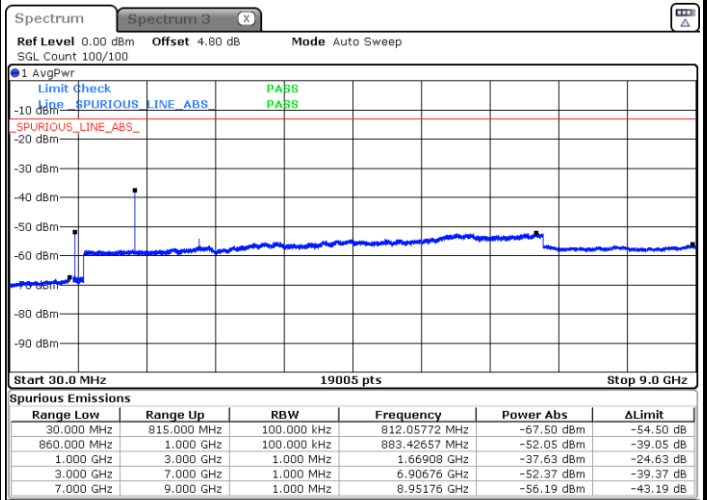
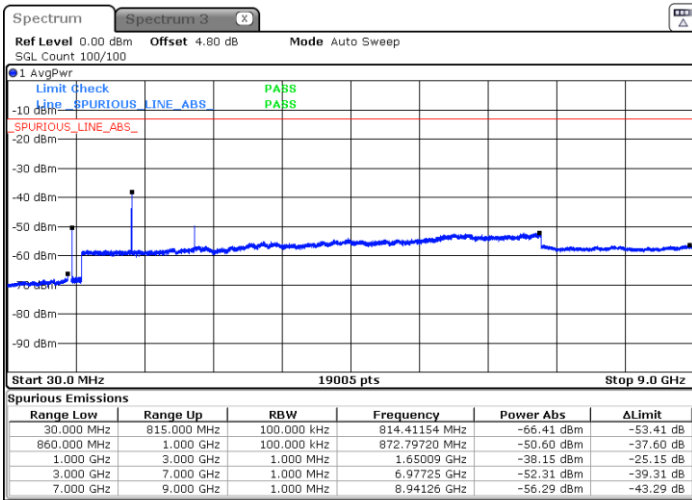
Date: 8 JUN.2022 23:01:08



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

Lowest Channel / 1RB1

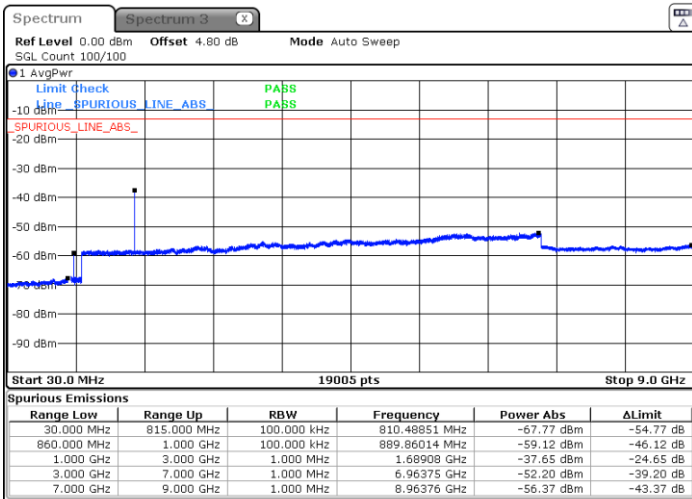
Middle Channel / 1RB1



Date: 8 JUN.2022 22:51:28

Date: 8 JUN.2022 22:47:48

Highest Channel / 1RB1



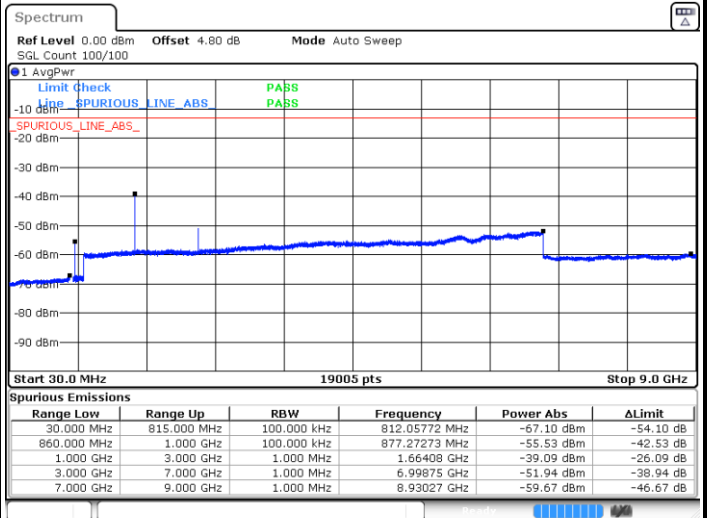
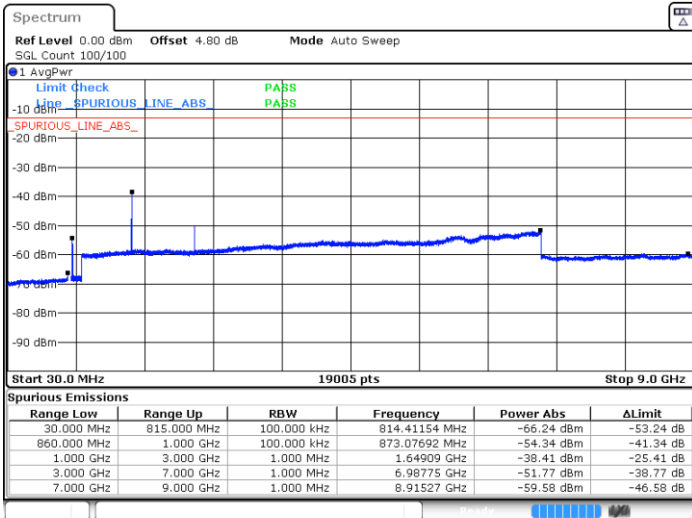
Date: 8 JUN.2022 23:01:51



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

Lowest Channel / 1RB1

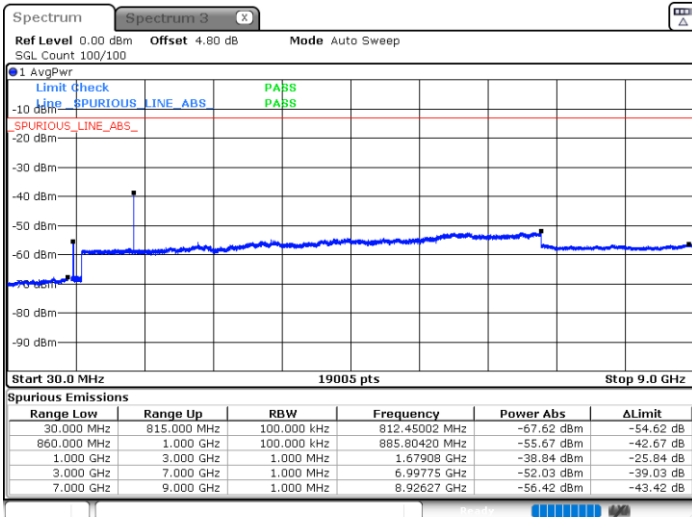
Middle Channel / 1RB1



Date: 8 JUN 2022 09:06:16

Date: 8 JUN 2022 08:59:22

Highest Channel / 1RB1



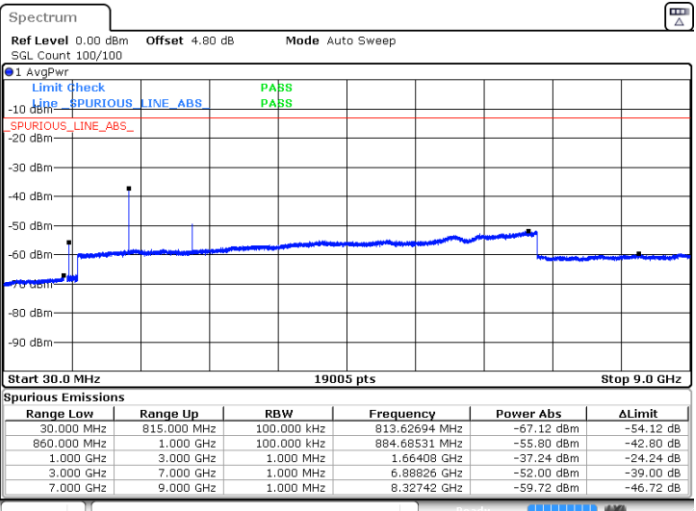
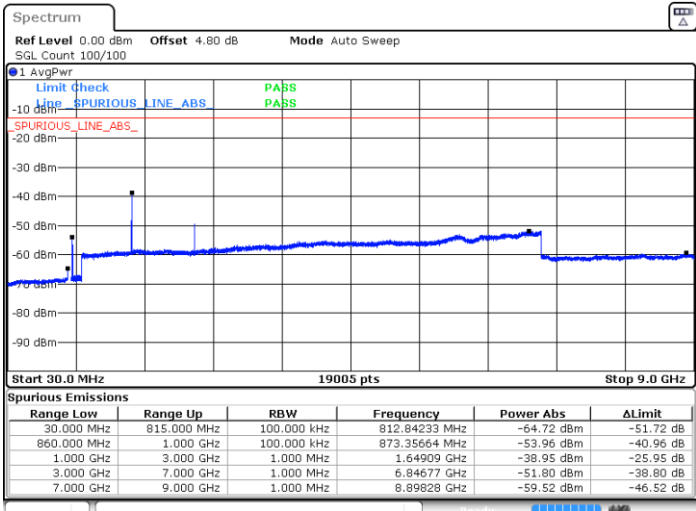
Date: 8 JUN 2022 22:36:16



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

Lowest Channel / 1RB1

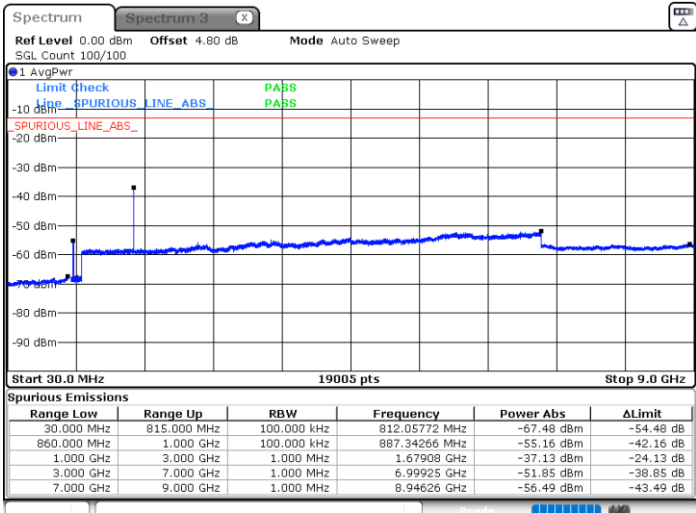
Middle Channel / 1RB1



Date: 8 JUN 2022 09:04:16

Date: 8 JUN 2022 09:03:22

Highest Channel / 1RB1



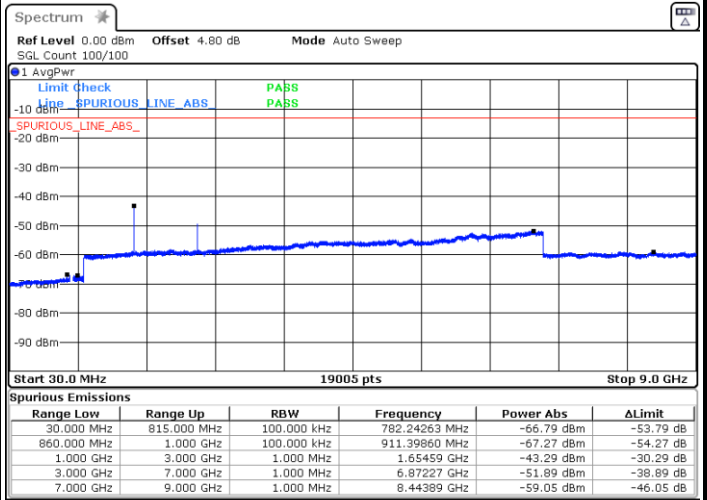
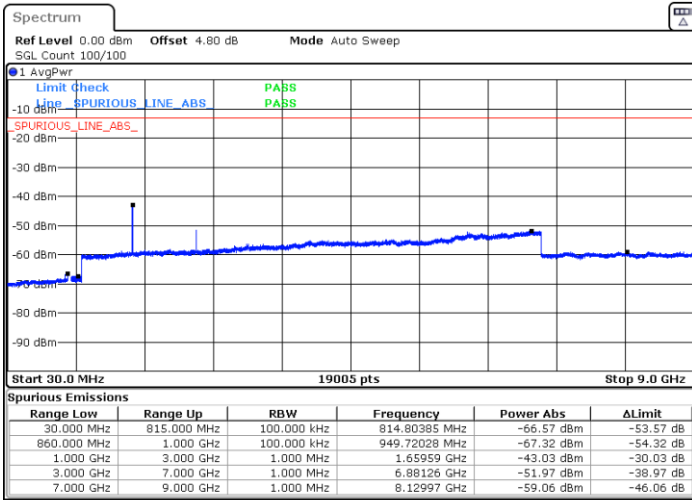
Date: 8 JUN 2022 22:38:30



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

Lowest Channel / 1RB1

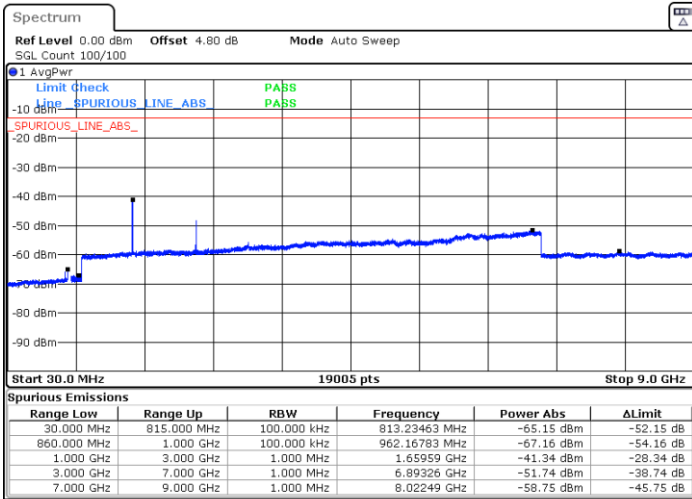
Middle Channel / 1RB1



Date: 7. JUN. 2022 16:10:09

Date: 7. JUN. 2022 16:54:45

Highest Channel / 1RB1



Date: 7. JUN. 2022 17:04:18

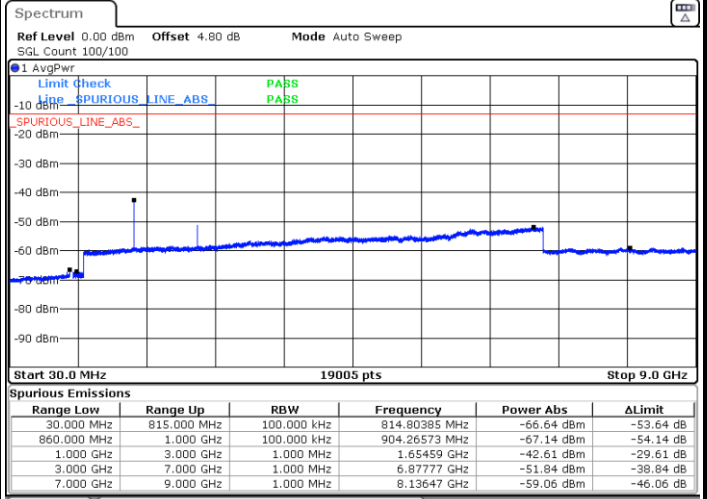
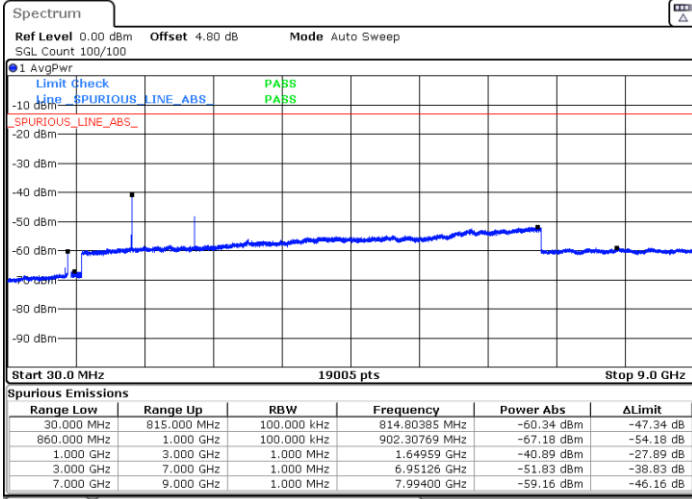




FR1 n5 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

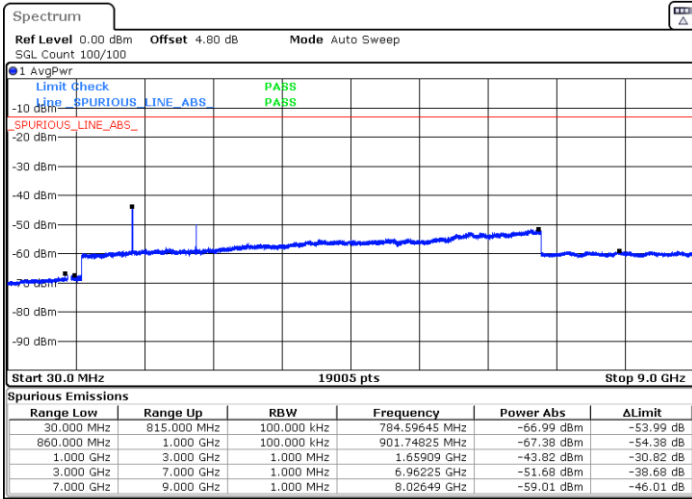
Middle Channel / 1RB1



Date: 7 JUN.2022 17:06:15

Date: 7 JUN.2022 16:56:05

Highest Channel / 1RB1



Date: 7 JUN.2022 17:03:16



Frequency Stability

Test Conditions		FR1 n5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0010	PASS
40	Normal Voltage	0.0033	
30	Normal Voltage	0.0023	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0032	
0	Normal Voltage	0.0011	
-10	Normal Voltage	0.0008	
-20	Normal Voltage	0.0061	
-30	Normal Voltage	0.0025	
20	Maximum Voltage	0.0014	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0015	

Note:

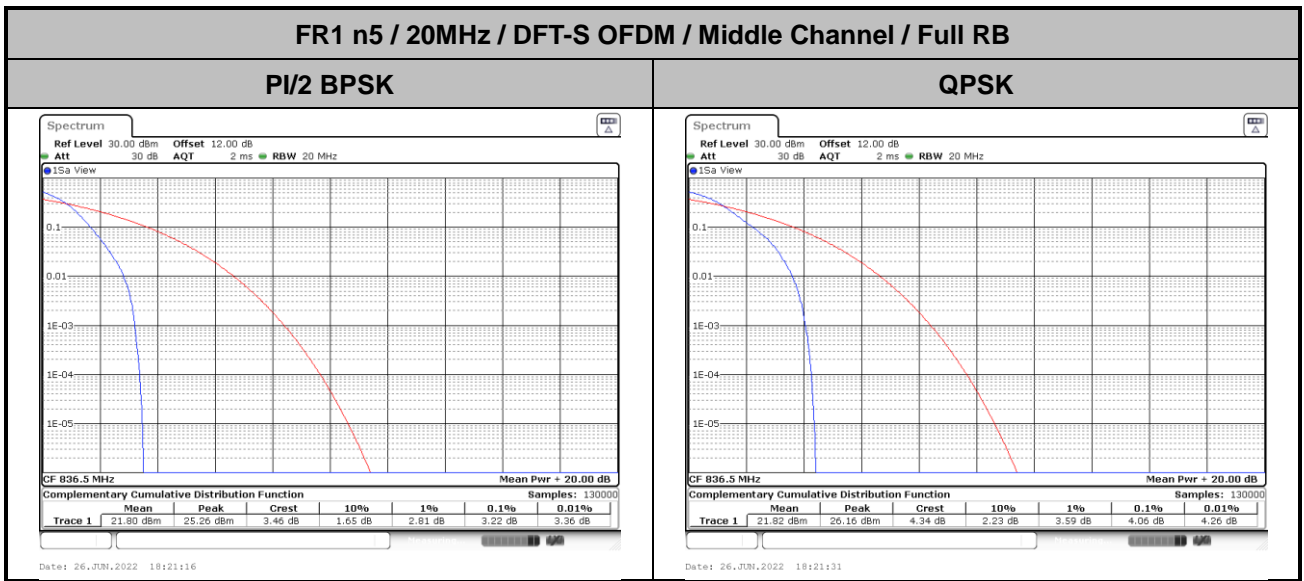
1. Normal Voltage =3.89V. ; Battery End Point (BEP) =3. 4V. ; Maximum Voltage =4.48 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



# FR1 n5(Other PA)

## Peak-to-Average Ratio

Mode	FR1 n5 / 20MHz / DFT-S OFDM				
Mod.	PI/2 BPSK	QPSK			Limit: 13dB
RB Size	Full RB	Full RB			Result
Middle CH	3.22	4.06			PASS





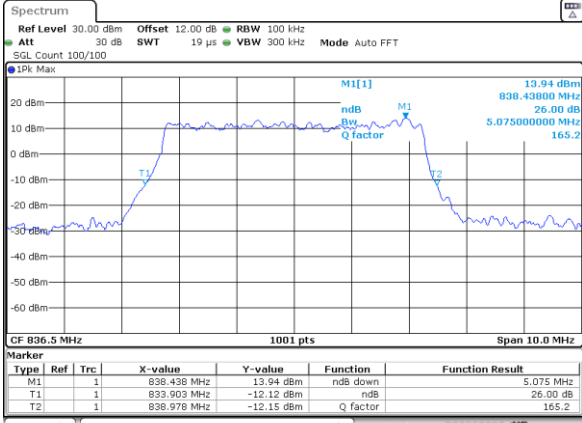
26dB Bandwidth

Mode	FR1 n5 : 26dBW (MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK		QPSK		QPSK		QPSK	
Middle CH	5.08		10.25		14.96		21.34	
Mod.	16QAM	64QAM	16QAM	64QAM	16QAM	64QAM	16QAM	64QAM
Middle CH	5.29	5.15	10.11	10.35	14.93	14.84	21.70	21.18
Mod.	256QAM		256QAM		256QAM		256QAM	
Middle CH	5.17		10.17		15.20		21.10	



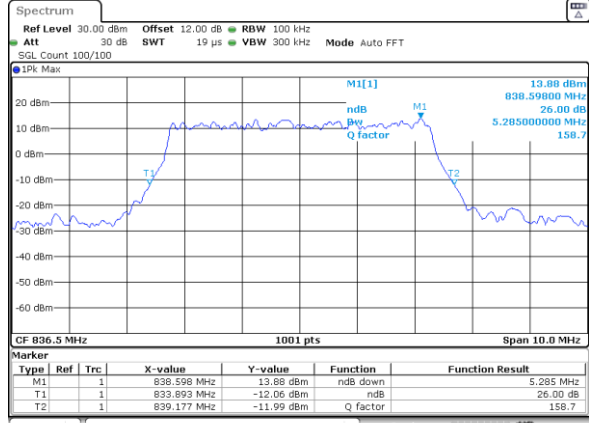
FR1 n5 / 5MHz / CP OFDM / Middle Channel / Full RB

QPSK



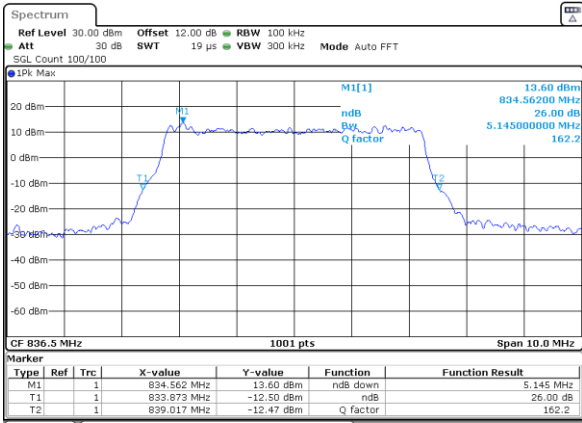
Date: 26 JUN 2022 17:55:23

16QAM



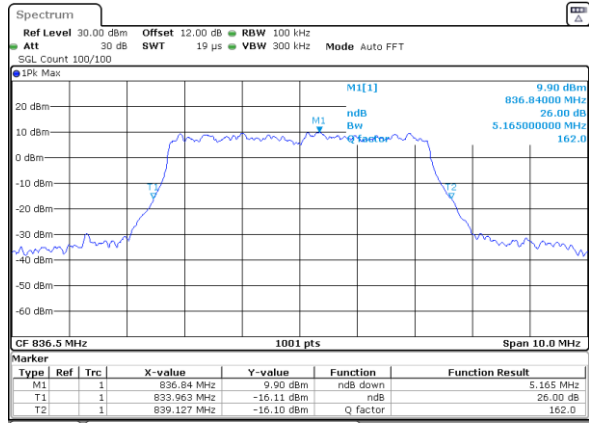
Date: 26 JUN 2022 17:55:42

64QAM



Date: 26 JUN 2022 17:56:00

256QAM

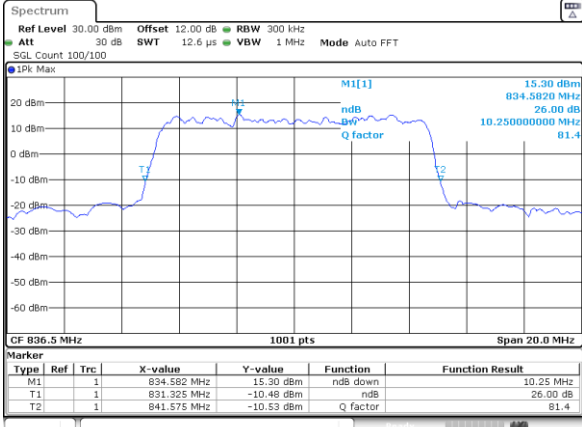


Date: 26 JUN 2022 17:56:24



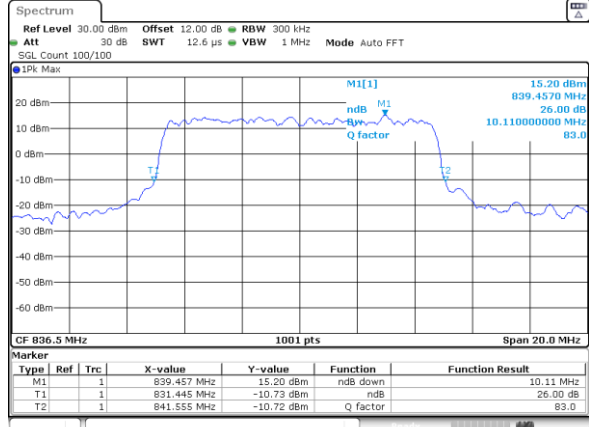
FR1 n5 / 10MHz / CP OFDM / Middle Channel / Full RB

QPSK



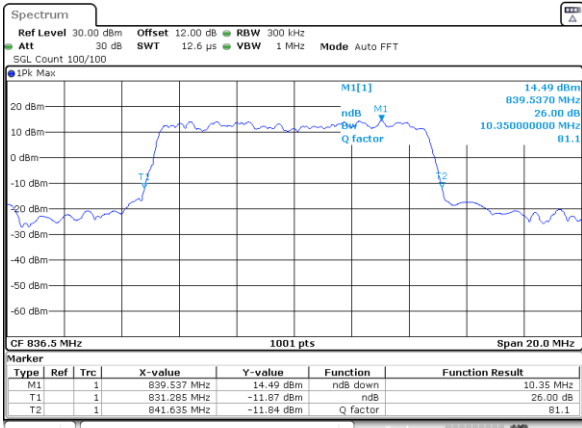
Date: 26 JUN 2022 17:57:59

16QAM



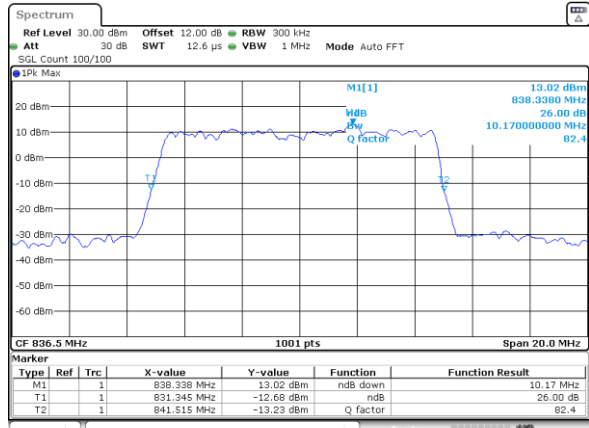
Date: 26 JUN 2022 17:57:37

64QAM



Date: 26 JUN 2022 17:57:16

256QAM

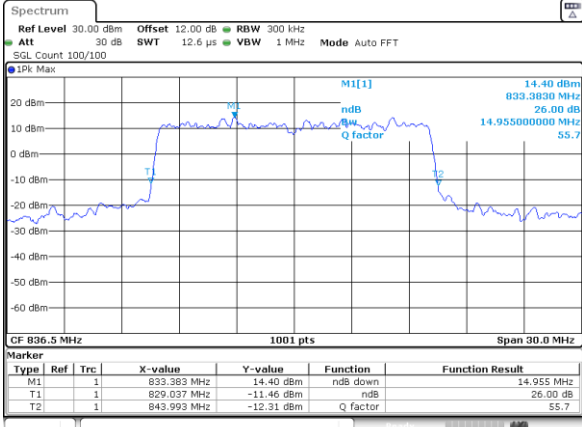


Date: 26 JUN 2022 17:56:56



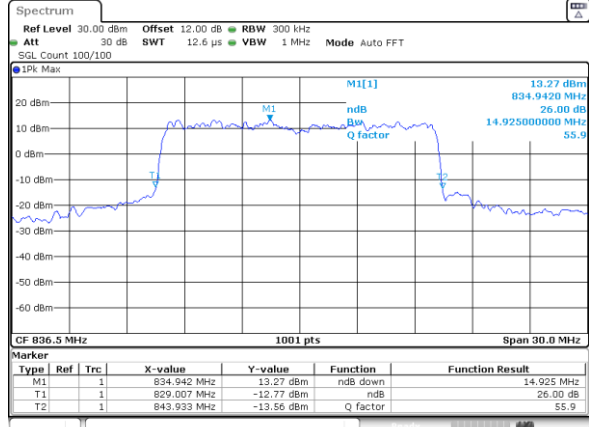
FR1 n5 / 15MHz / CP OFDM / Middle Channel / Full RB

QPSK



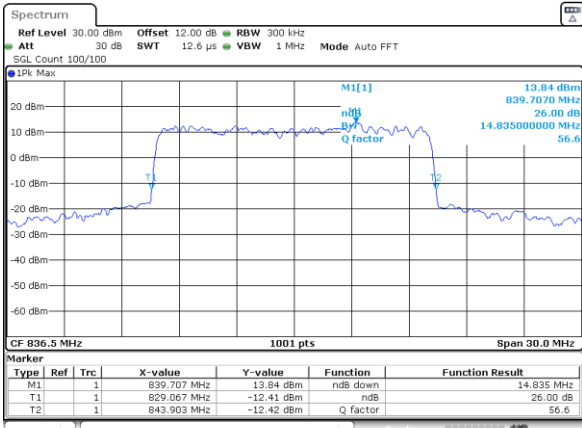
Date: 26 JUN 2022 17:58:28

16QAM



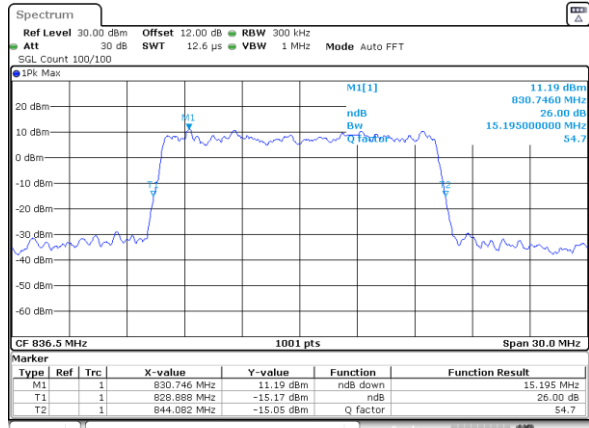
Date: 26 JUN 2022 17:58:49

64QAM



Date: 26 JUN 2022 17:59:07

256QAM

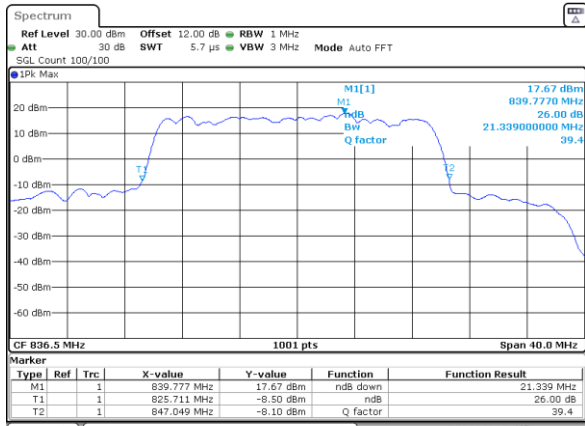


Date: 26 JUN 2022 17:59:29



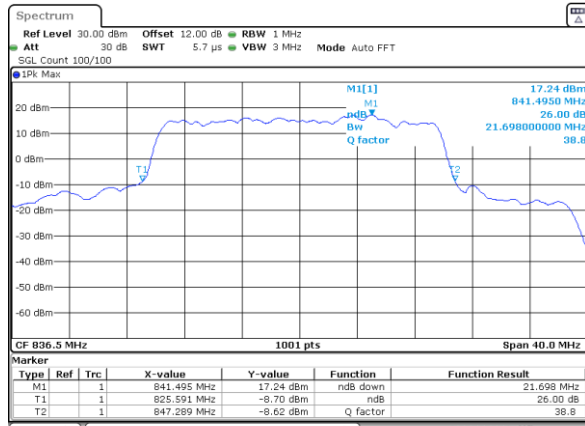
FR1 n5 / 20MHz / CP OFDM / Middle Channel / Full RB

QPSK



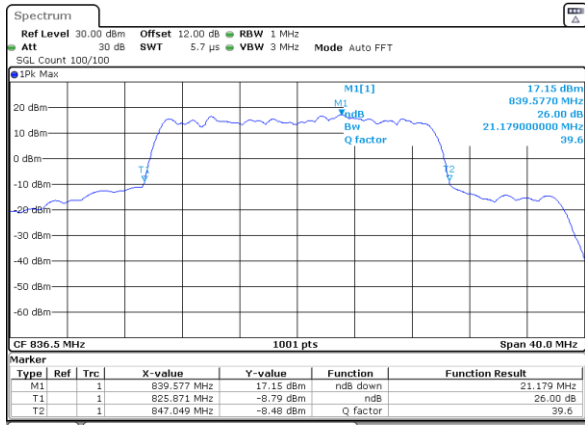
Date: 26 JUN 2022 18:01:00

16QAM



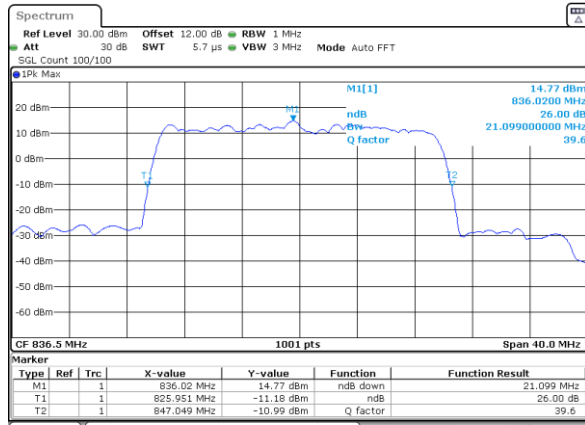
Date: 26 JUN 2022 18:00:40

64QAM



Date: 26 JUN 2022 18:00:19

256QAM



Date: 26 JUN 2022 17:59:59





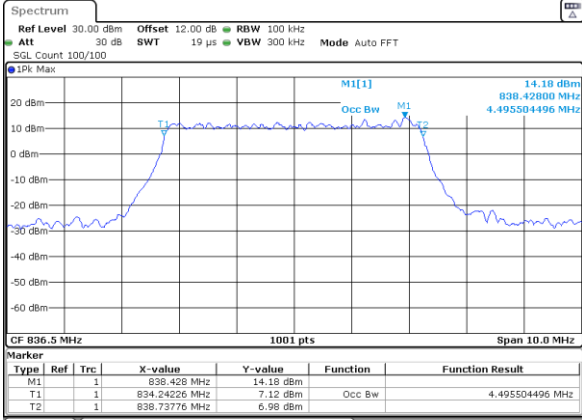
### Occupied Bandwidth

Mode	FR1 n5 : 99%OBW (MHz) / CP OFDM							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK		QPSK		QPSK		QPSK	
Middle CH	4.50		9.37		14.12		19.46	
Mod.	16QAM	64QAM	16QAM	64QAM	16QAM	64QAM	16QAM	64QAM
Middle CH	4.54	4.48	9.37	9.33	14.15	14.15	19.42	19.30
Mod.	256QAM		256QAM		256QAM		256QAM	
Middle CH	4.49		9.39		14.12		19.34	



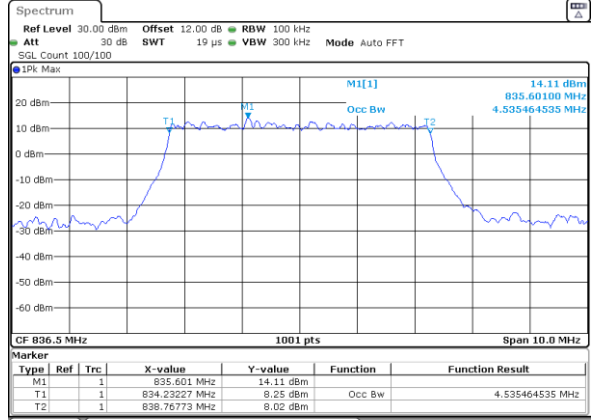
FR1 n5 / 5MHz / CP OFDM / Middle Channel / Full RB

QPSK



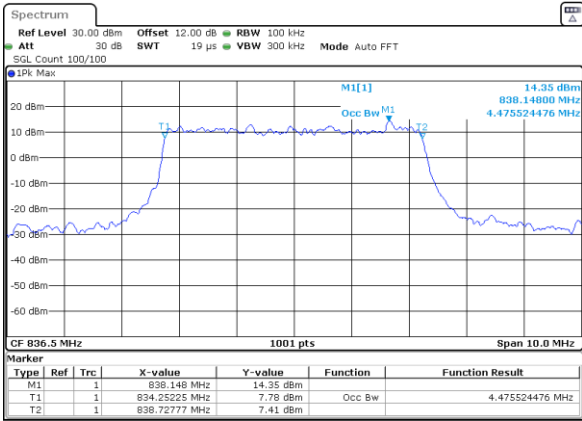
Date: 26 JUN 2022 17:55:30

16QAM



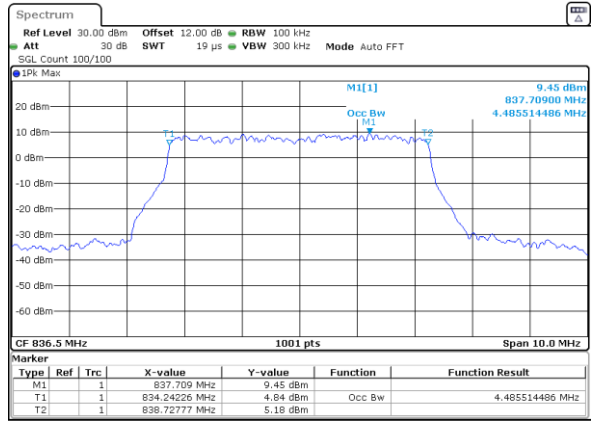
Date: 26 JUN 2022 17:55:47

64QAM



Date: 26 JUN 2022 17:56:06

256QAM

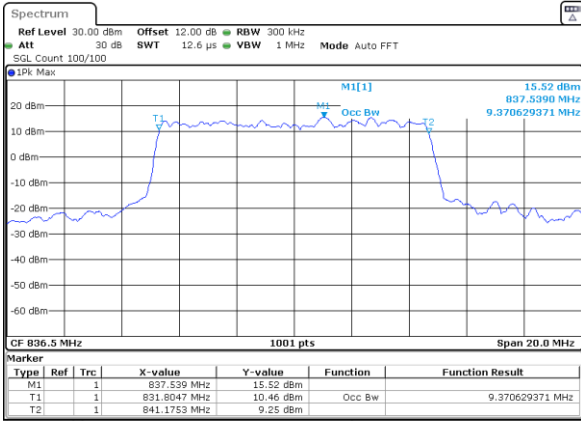


Date: 26 JUN 2022 17:56:30



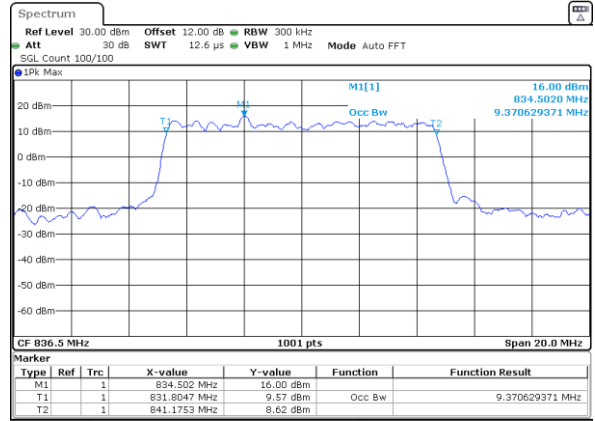
FR1 n5 / 10MHz / CP OFDM / Middle Channel / Full RB

QPSK



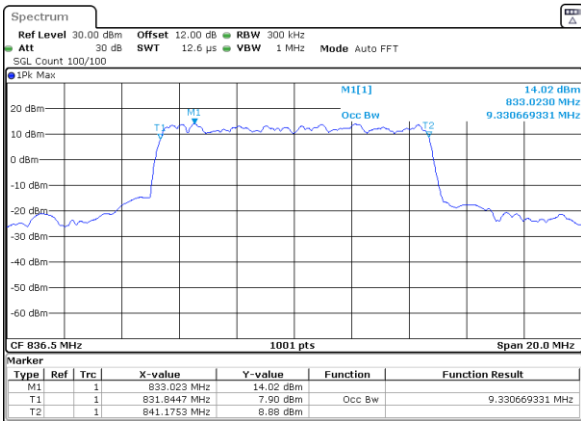
Date: 26 JUN 2022 17:58:07

16QAM



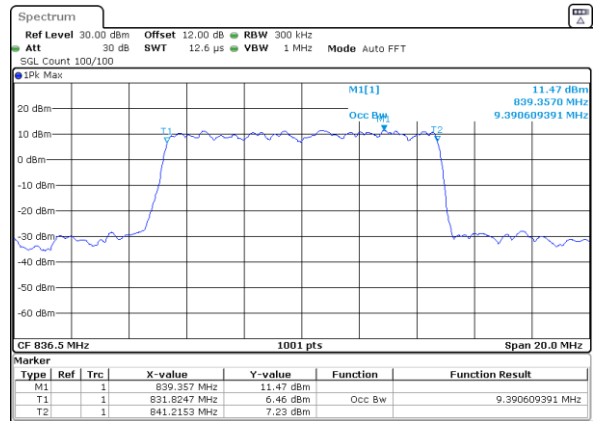
Date: 26 JUN 2022 17:57:43

64QAM



Date: 26 JUN 2022 17:57:22

256QAM

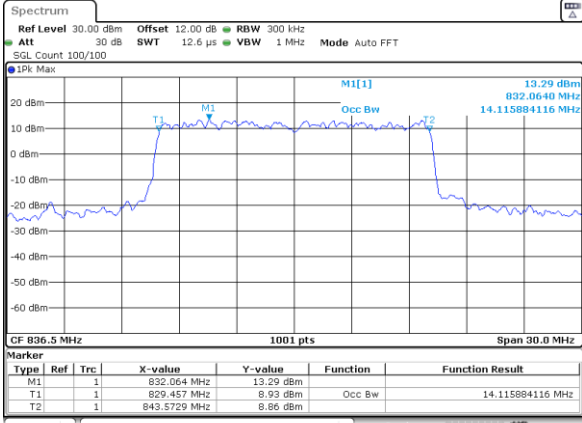


Date: 26 JUN 2022 17:57:02



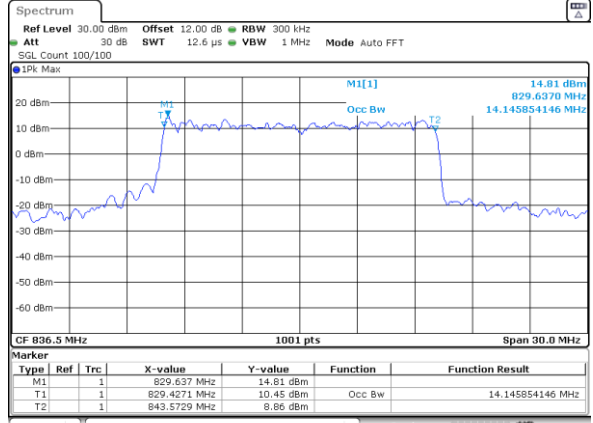
FR1 n5 / 15MHz / CP OFDM / Middle Channel / Full RB

QPSK



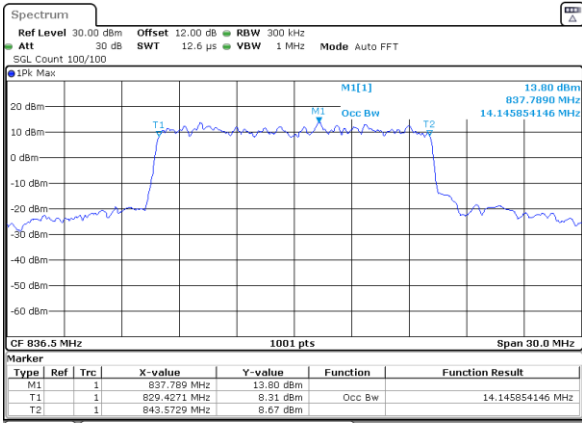
Date: 26 JUN 2022 17:58:35

16QAM



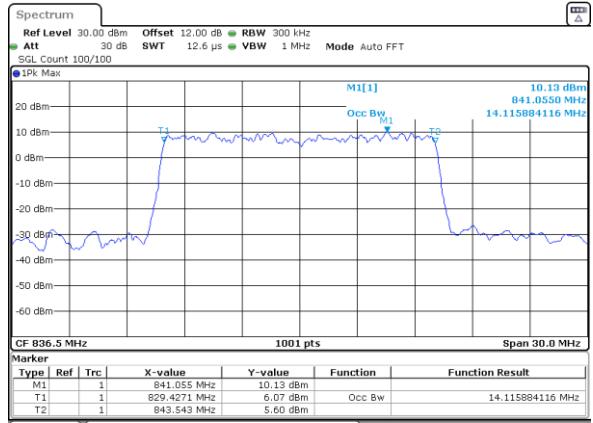
Date: 26 JUN 2022 17:58:55

64QAM



Date: 26 JUN 2022 17:59:15

256QAM

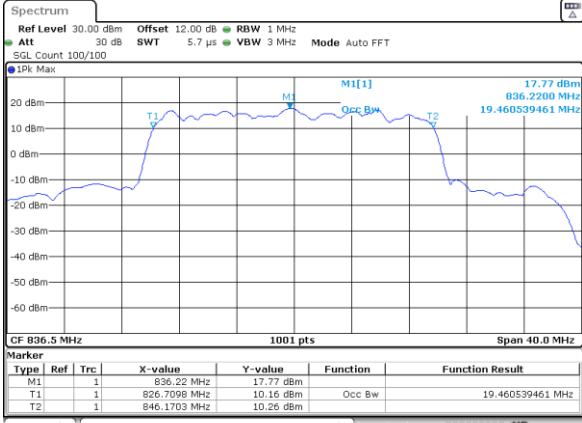


Date: 26 JUN 2022 17:59:35



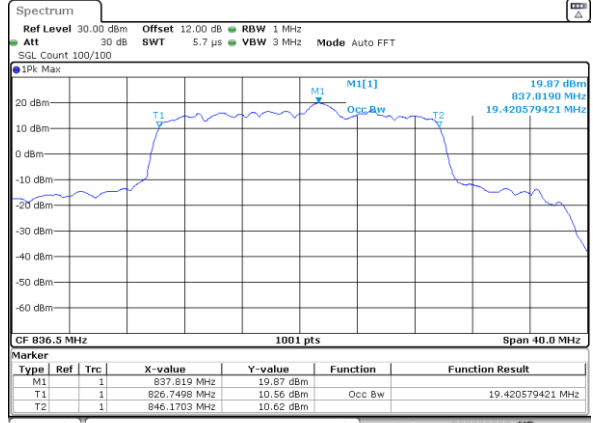
FR1 n5 / 20MHz / CP OFDM / Middle Channel / Full RB

QPSK



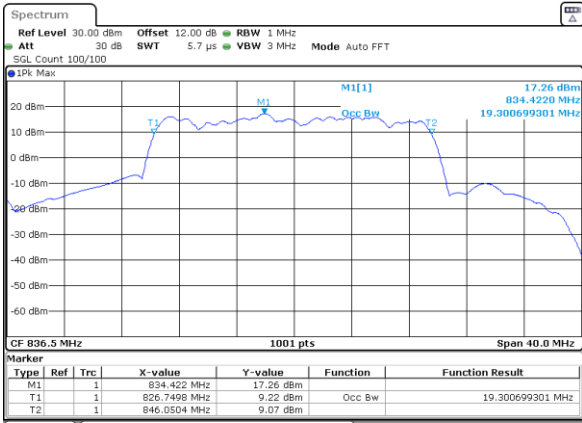
Date: 26 JUN 2022 18:01:07

16QAM



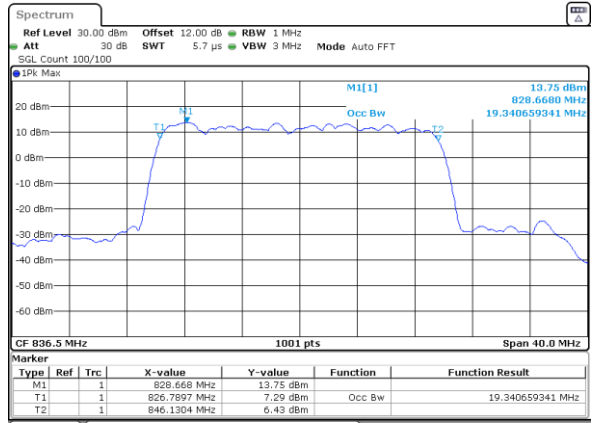
Date: 26 JUN 2022 18:00:47

64QAM



Date: 26 JUN 2022 18:00:26

256QAM



Date: 26 JUN 2022 18:00:07

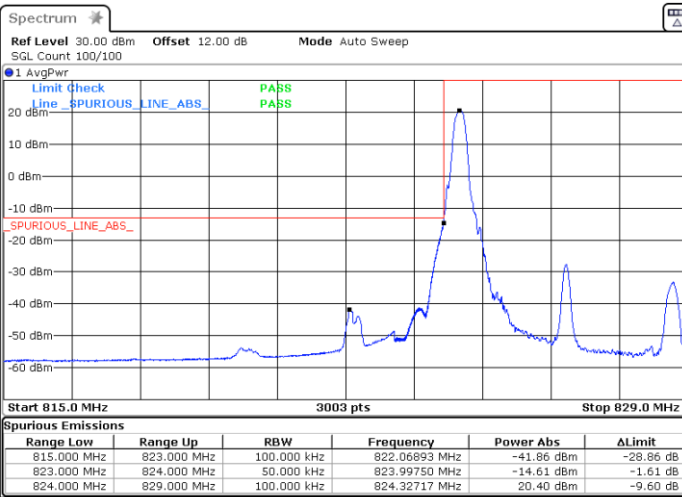


# Conducted Band Edge

FR1 n5 / 5MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

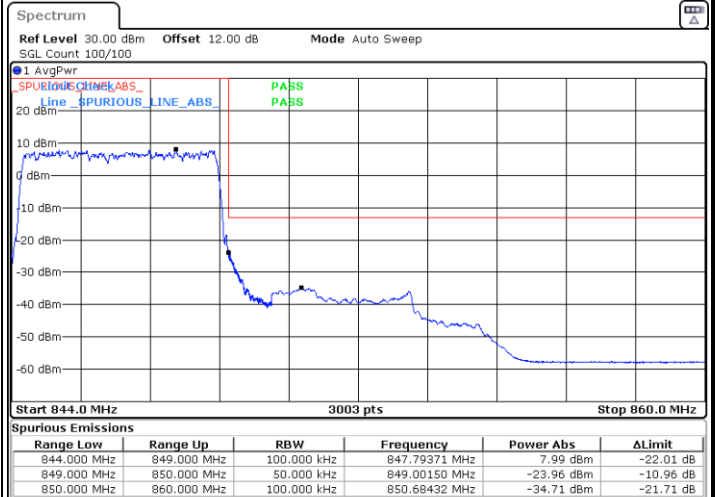
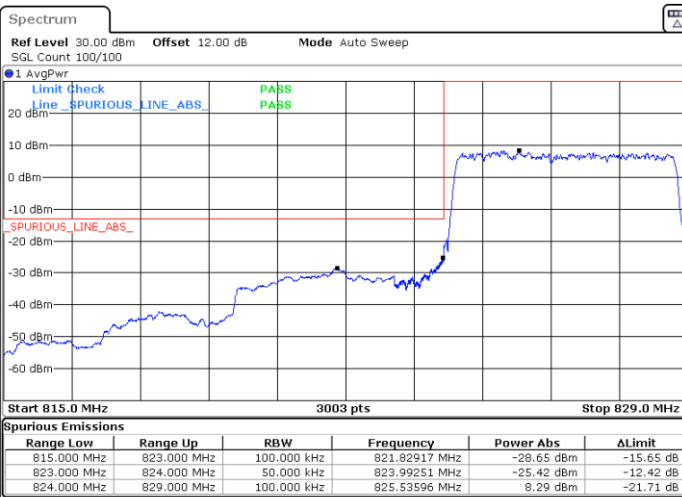


Date: 26 JUN 2022 17:46:34

Date: 26 JUN 2022 17:54:06

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 26 JUN 2022 17:49:14

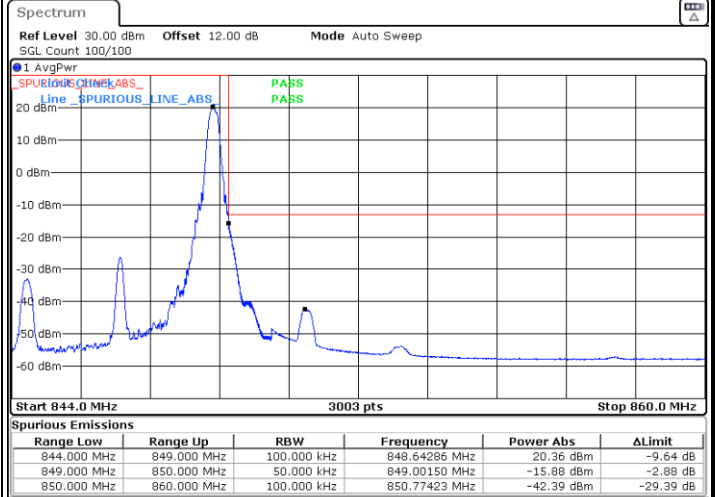
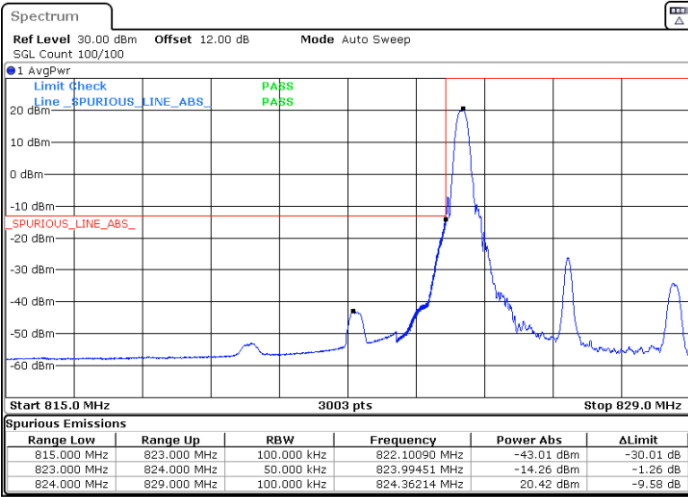
Date: 26 JUN 2022 17:50:37



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

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

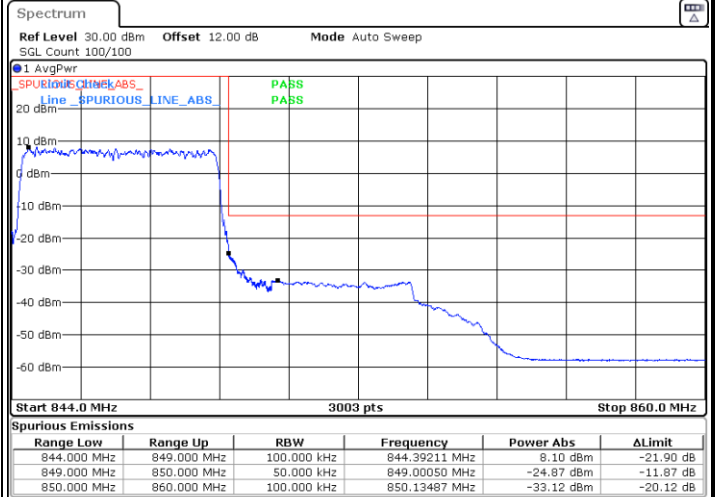
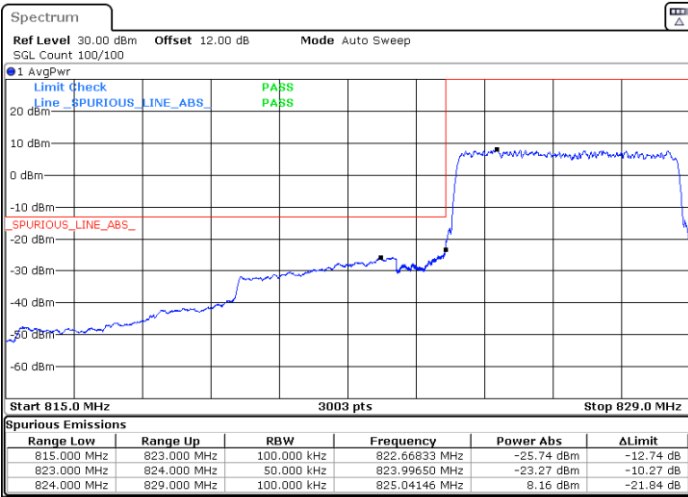


Date: 26. JUN. 2022 17:47:29

Date: 26. JUN. 2022 17:53:16

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 26. JUN. 2022 17:48:17

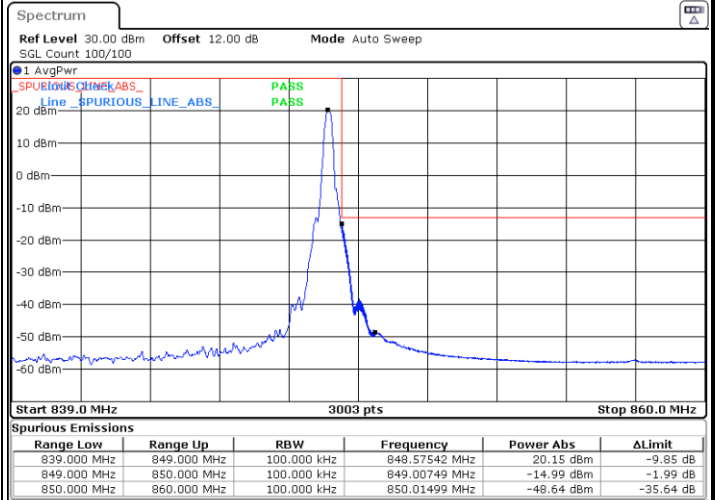
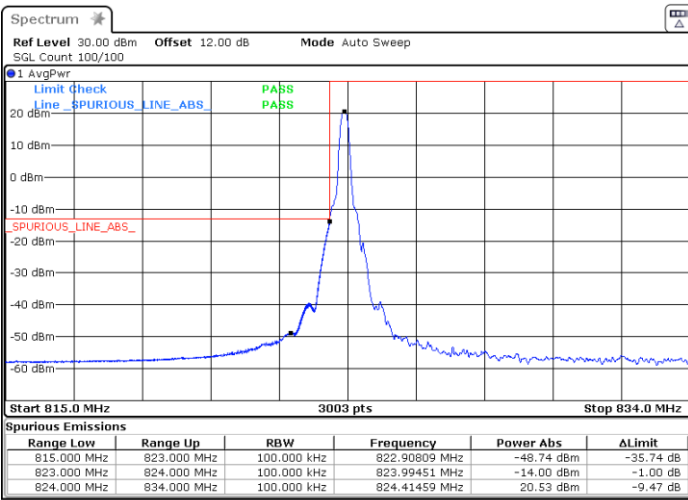
Date: 26. JUN. 2022 17:52:17



FR1 n5 / 10MHz / DFT-s-OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

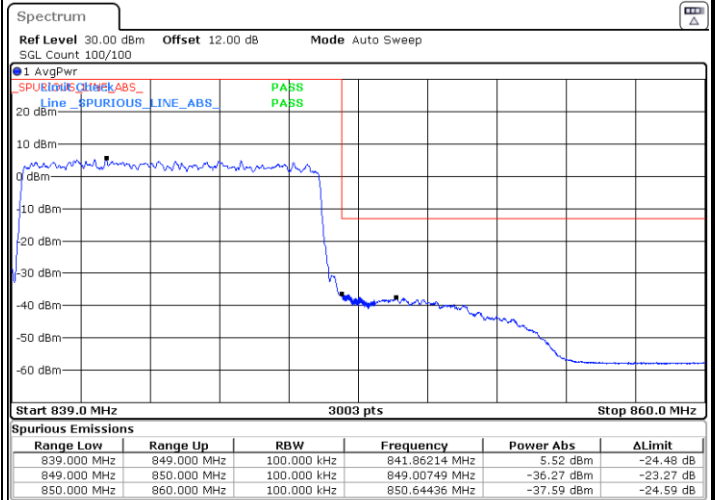
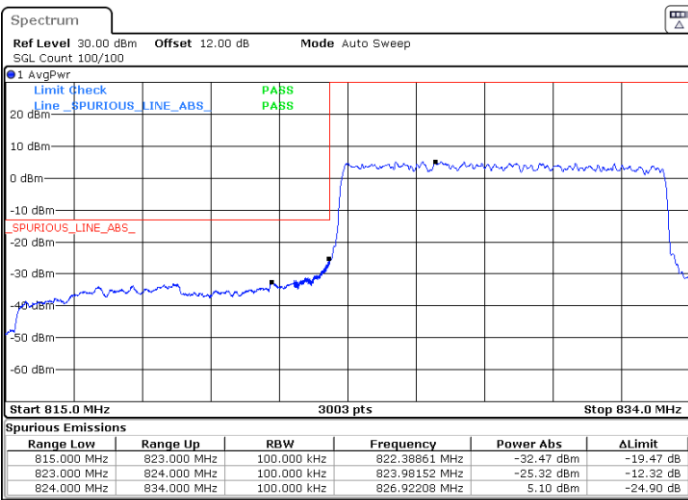


Date: 26 JUN 2022 18:05:39

Date: 26 JUN 2022 18:14:01

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 26 JUN 2022 18:09:33

Date: 26 JUN 2022 18:11:39

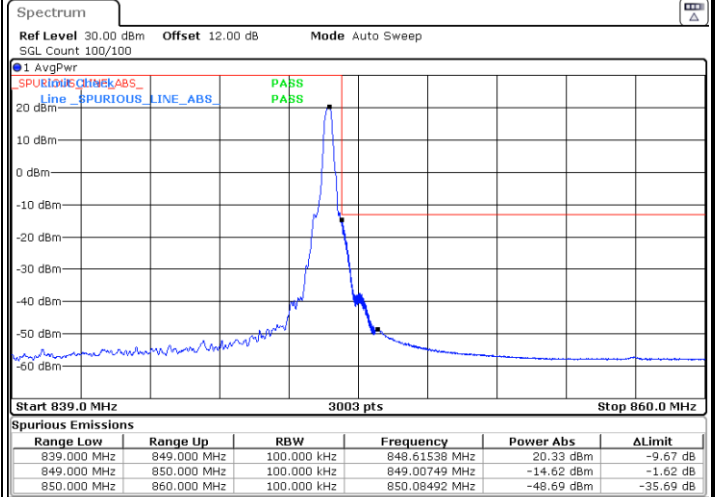
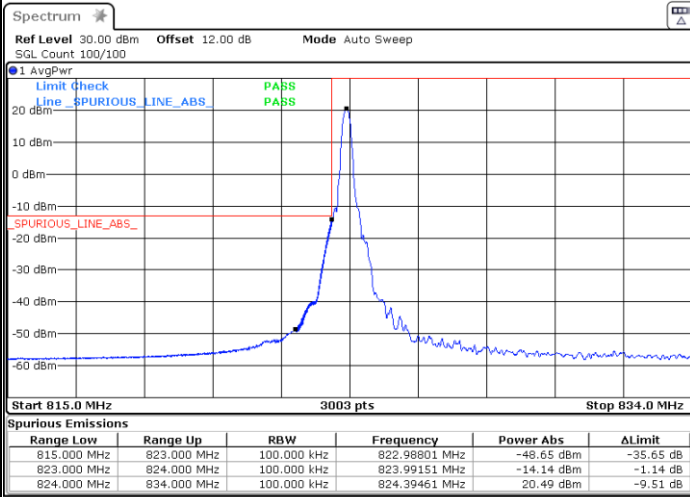




FR1 n5 / 10MHz / DFT-s-OFDM / QPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

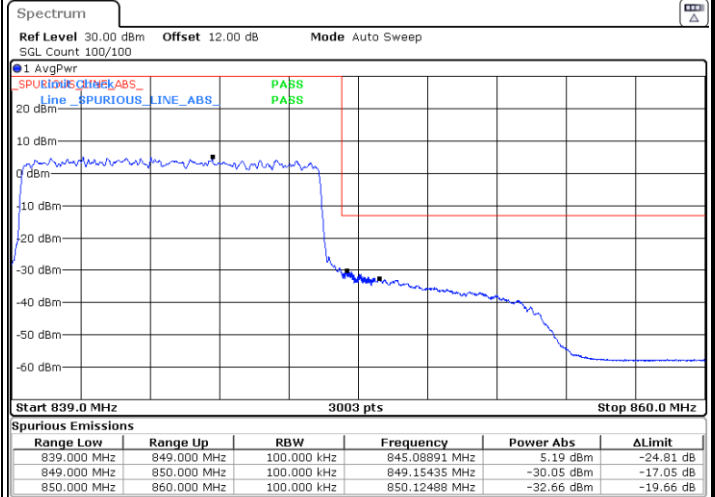
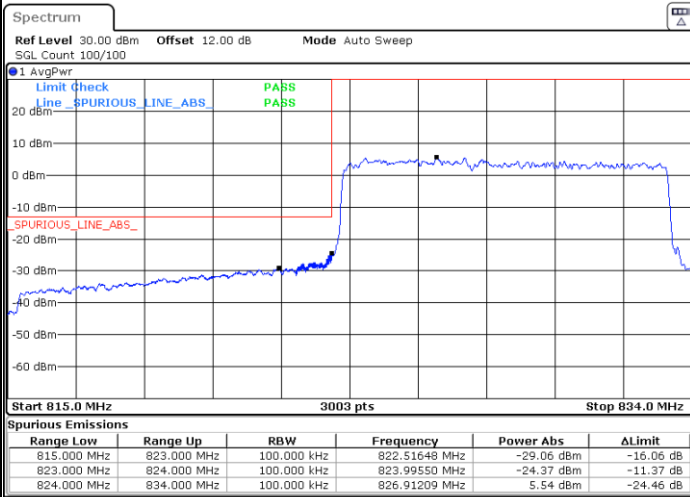


Date: 26 JUN 2022 18:07:25

Date: 26 JUN 2022 18:13:08

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 26 JUN 2022 18:08:50

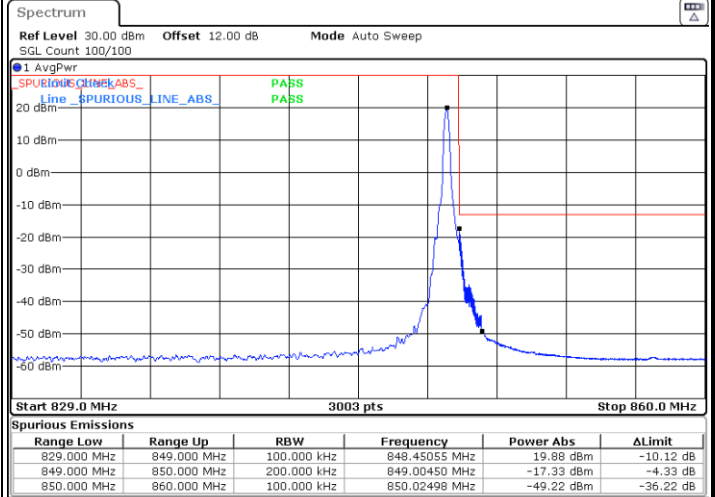
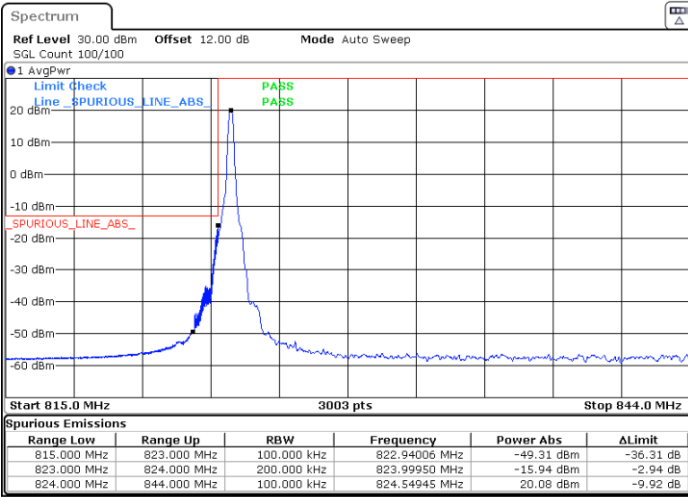
Date: 26 JUN 2022 18:12:20



FR1 n5 / 20MHz / DFT-s-OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

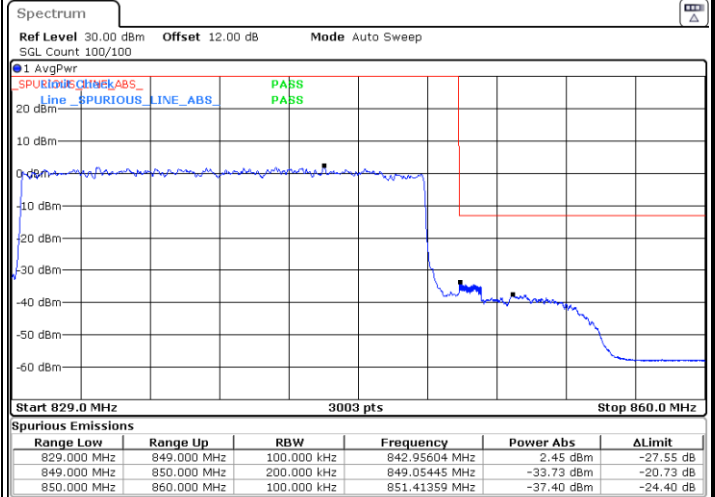
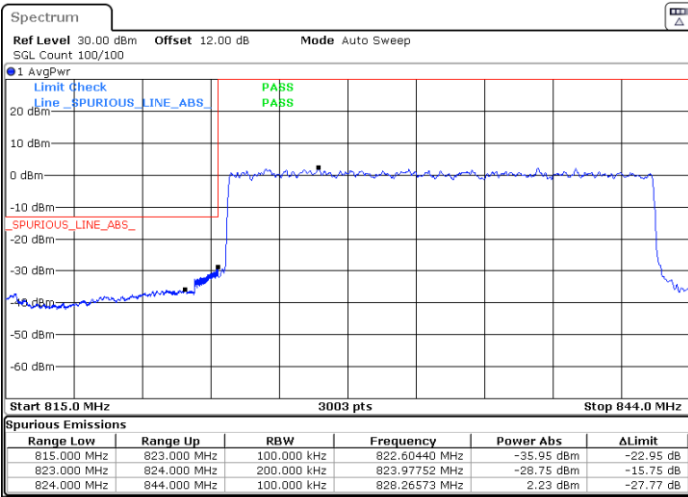


Date: 26. JUN. 2022 18:15:05

Date: 26. JUN. 2022 18:20:24

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 26. JUN. 2022 18:17:00

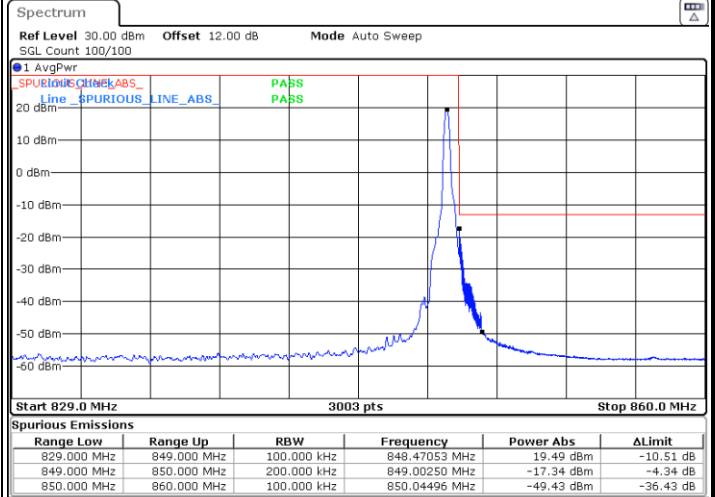
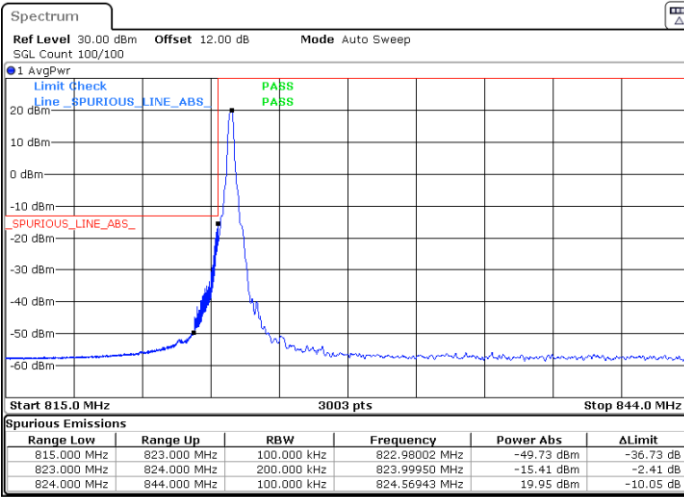
Date: 26. JUN. 2022 18:17:47



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

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

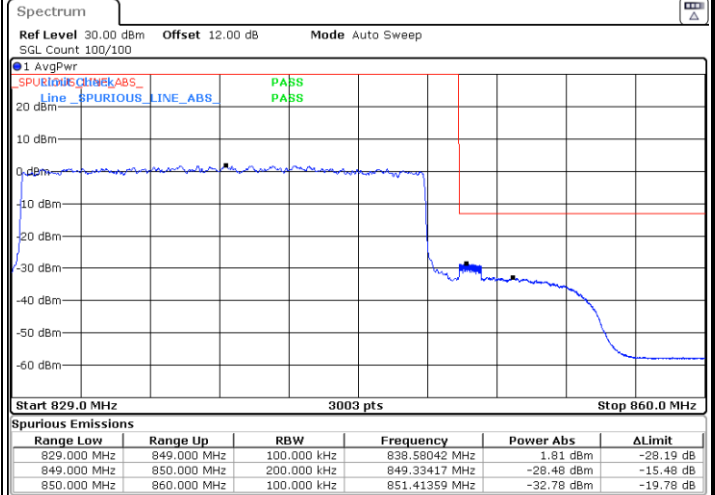
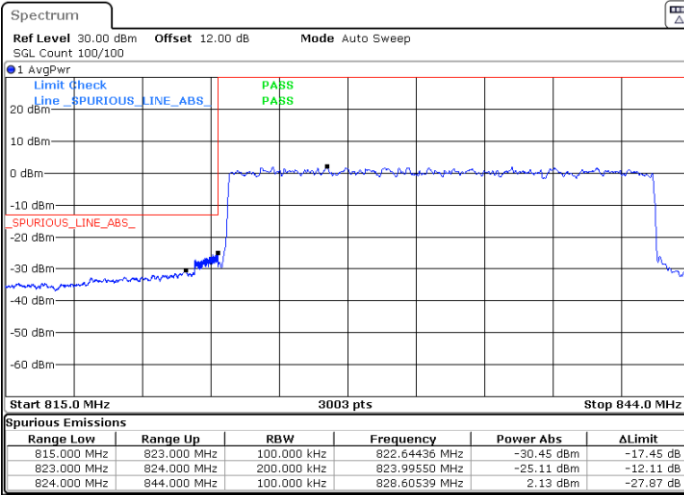


Date: 26 JUN 2022 18:15:40

Date: 26 JUN 2022 18:19:44

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 26 JUN 2022 18:16:25

Date: 26 JUN 2022 18:18:50

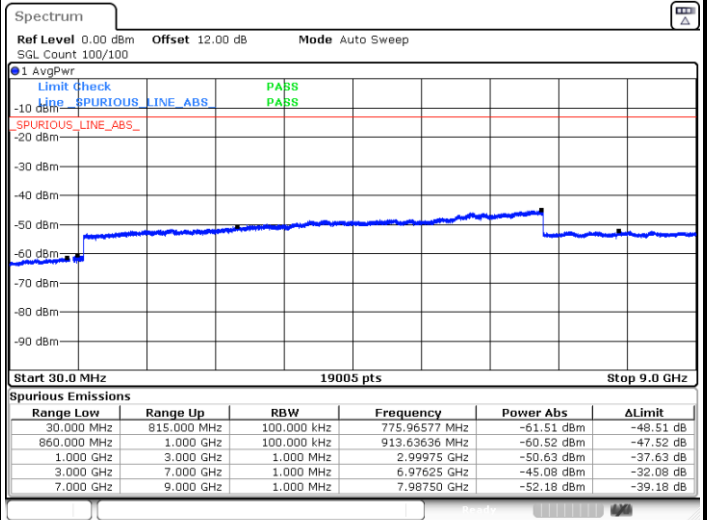
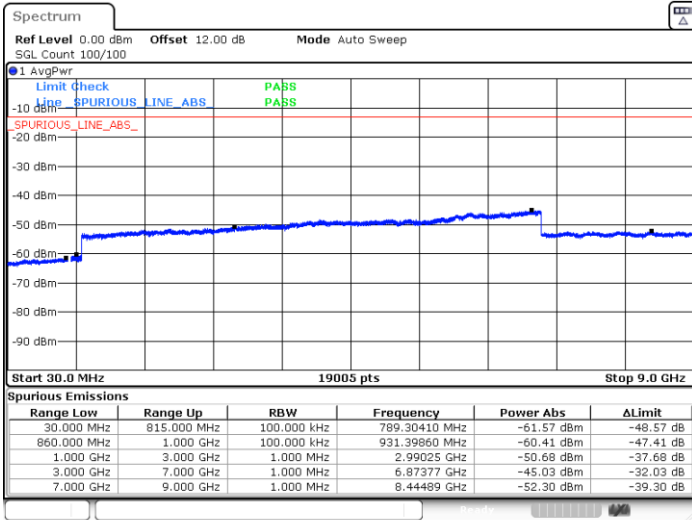


# Conducted Spurious Emission

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

Lowest Channel / 1RB1

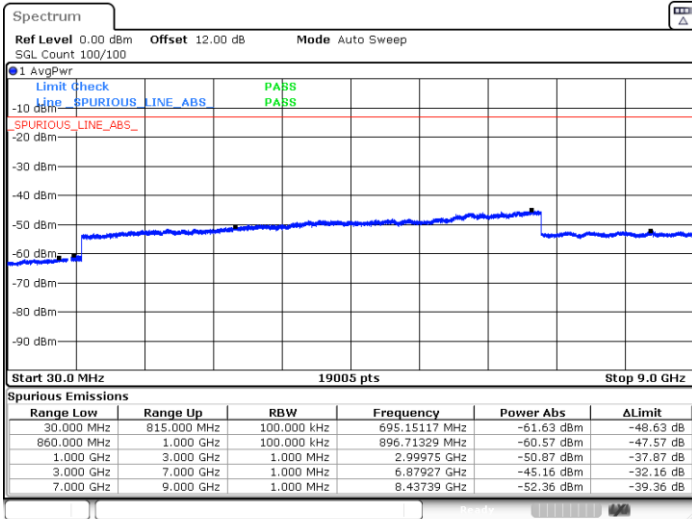
Middle Channel / 1RB1



Date: 26 JUN.2022 18:25:13

Date: 26 JUN.2022 18:25:47

Highest Channel / 1RB1



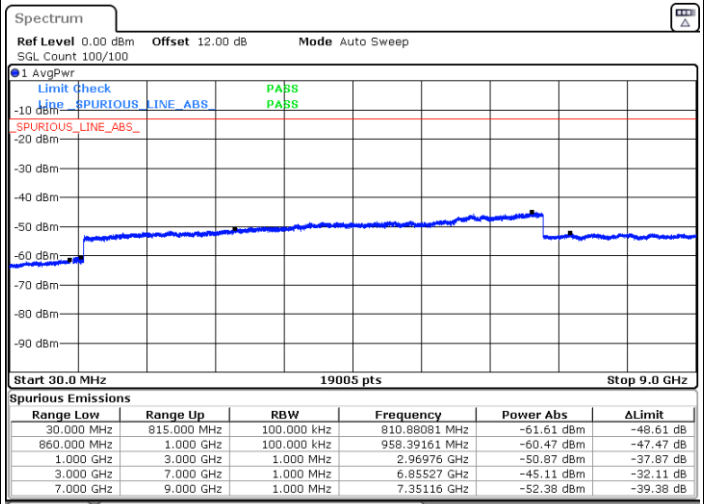
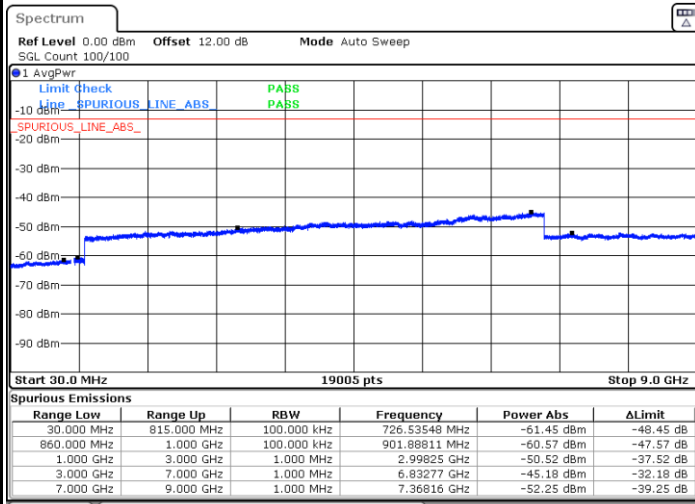
Date: 26 JUN.2022 18:26:18



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

Lowest Channel / 1RB1

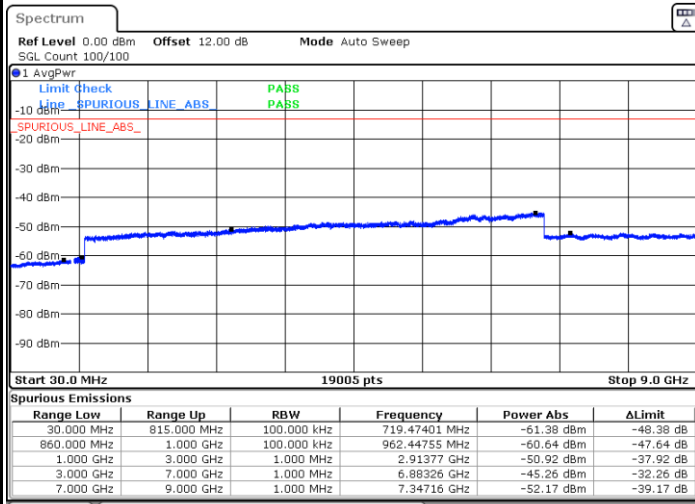
Middle Channel / 1RB1



Date: 26.JUN.2022 18:28:08

Date: 26.JUN.2022 18:27:27

Highest Channel / 1RB1



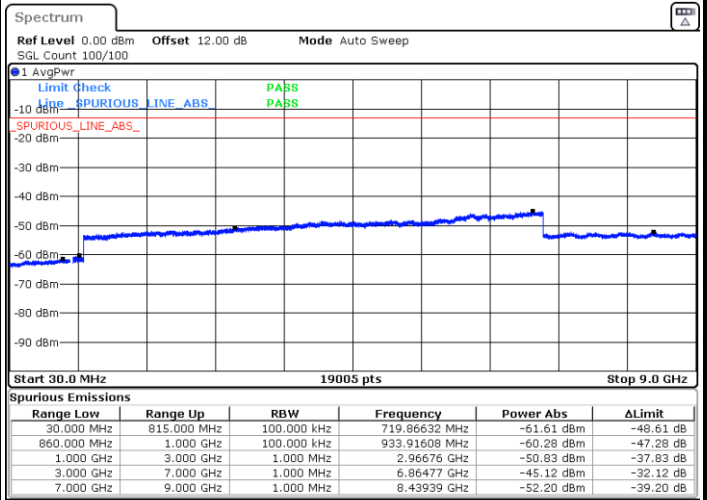
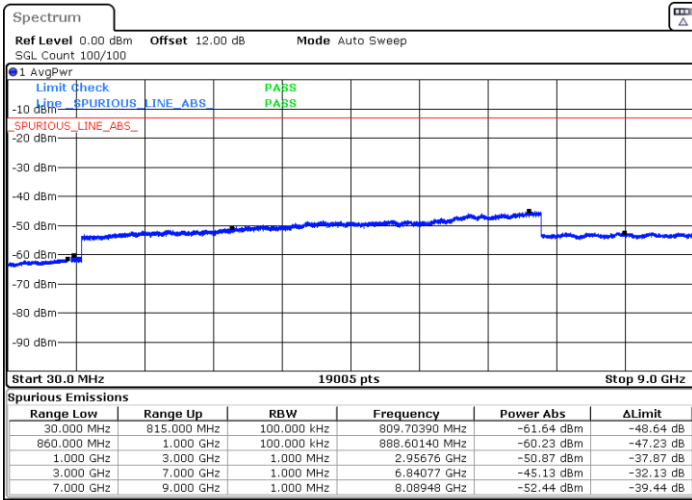
Date: 26.JUN.2022 18:27:00



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

Lowest Channel / 1RB1

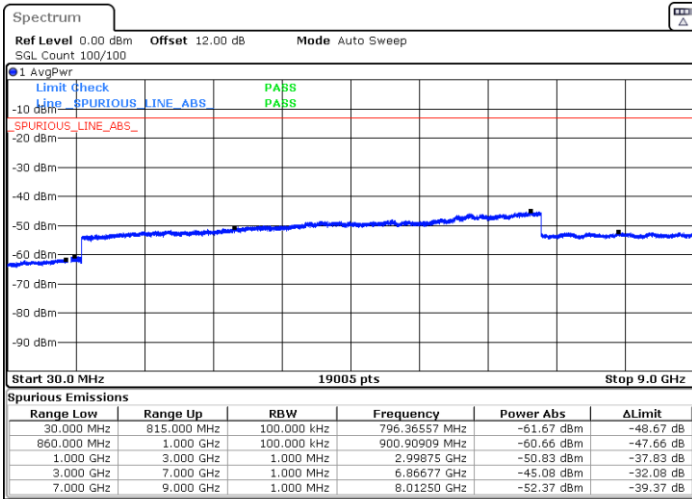
Middle Channel / 1RB1



Date: 26. JUN. 2022 18:29:11

Date: 26. JUN. 2022 18:29:43

Highest Channel / 1RB1



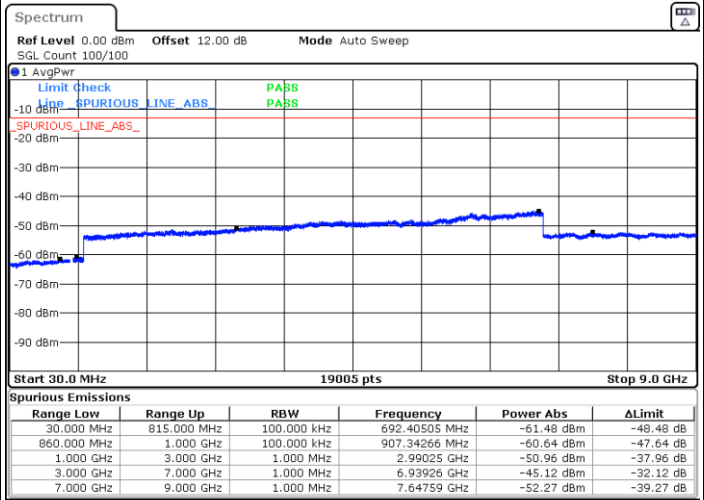
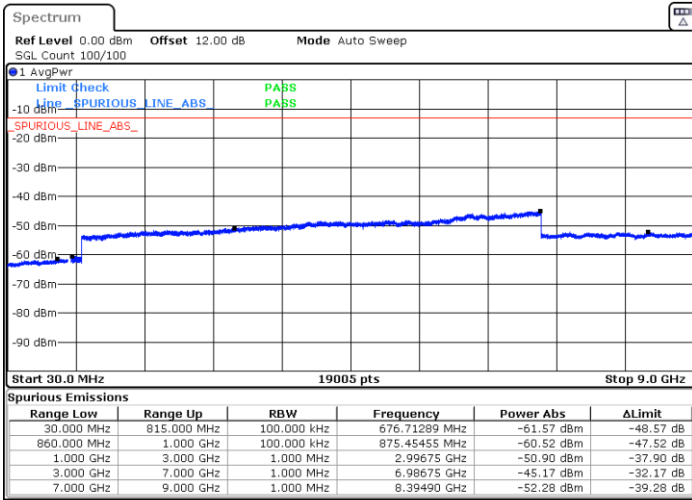
Date: 26. JUN. 2022 18:30:59



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

Lowest Channel / 1RB1

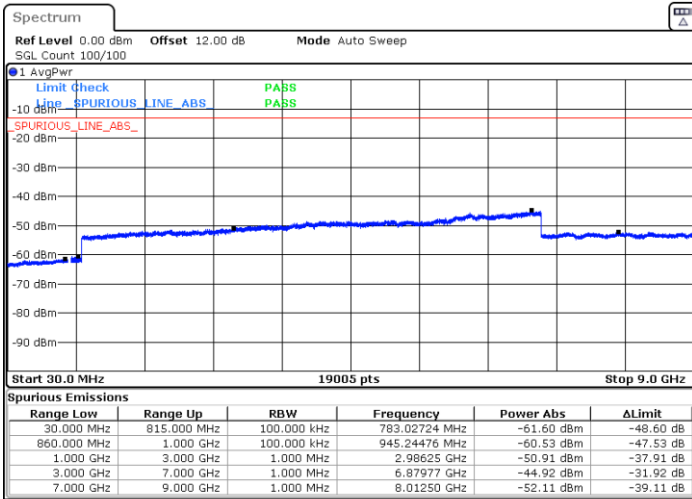
Middle Channel / 1RB1



Date: 26 JUN. 2022 18:28:46

Date: 26 JUN. 2022 18:30:06

Highest Channel / 1RB1



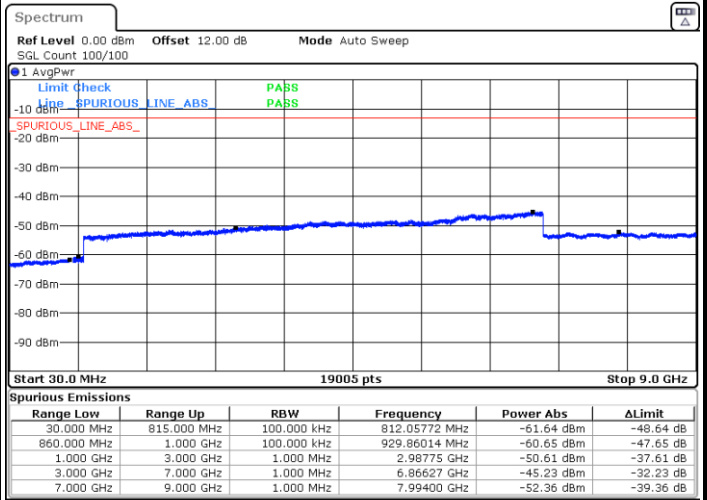
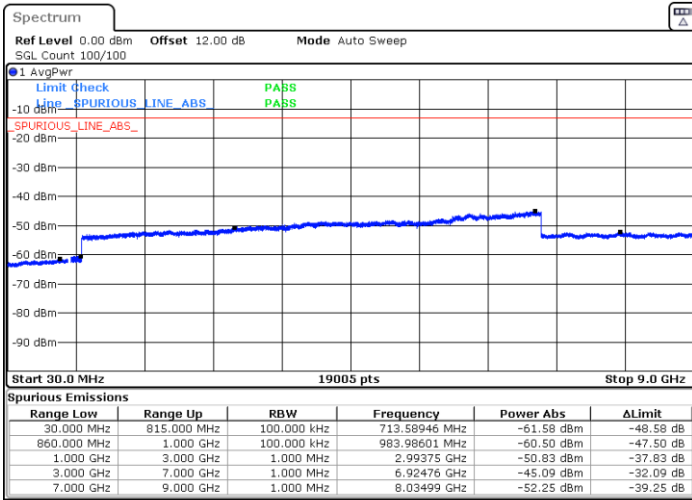
Date: 26 JUN. 2022 18:30:33



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

Lowest Channel / 1RB1

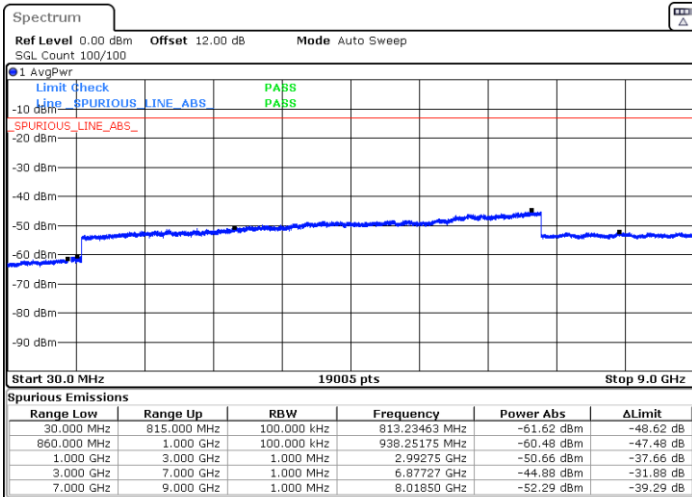
Middle Channel / 1RB1



Date: 26 JUN.2022 18:32:45

Date: 26 JUN.2022 18:31:48

Highest Channel / 1RB1



Date: 26 JUN.2022 18:33:40

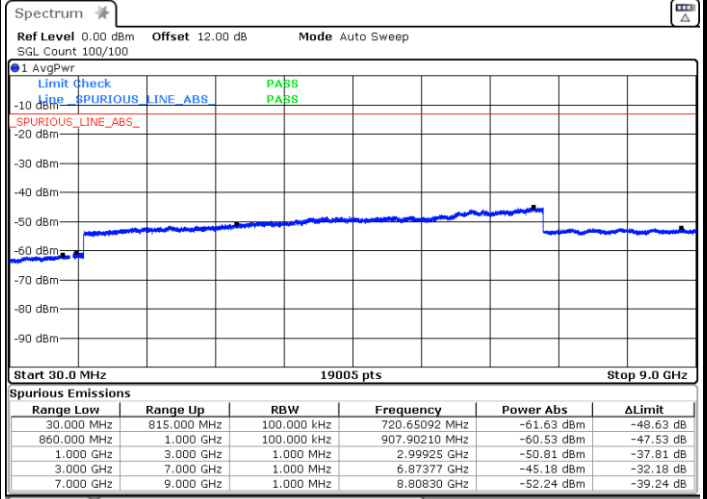
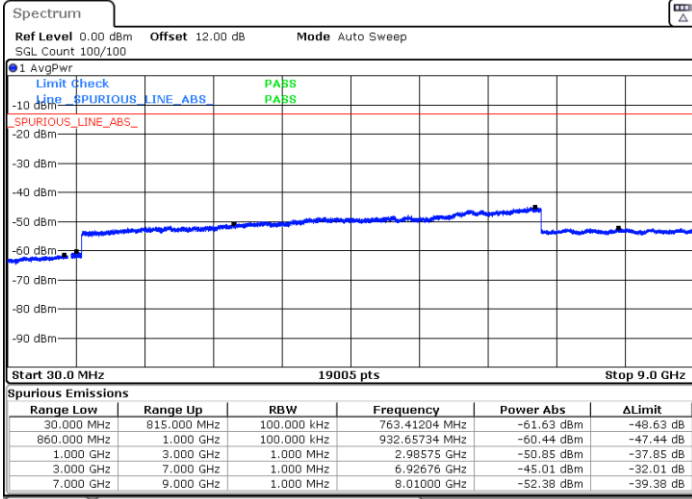




FR1 n5 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB1

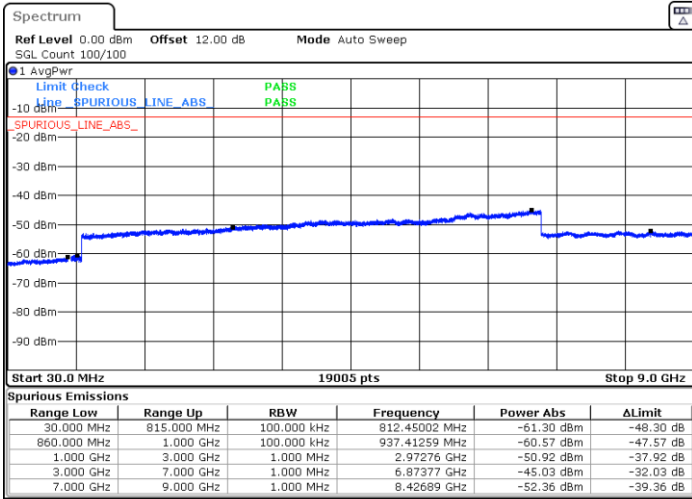
Middle Channel / 1RB1



Date: 26.JUN.2022 18:32:19

Date: 26.JUN.2022 18:23:57

Highest Channel / 1RB1



Date: 26.JUN.2022 18:34:05



Frequency Stability

Test Conditions		FR1 n5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0016	PASS
40	Normal Voltage	0.0031	
30	Normal Voltage	0.0025	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0030	
0	Normal Voltage	0.0015	
-10	Normal Voltage	0.0008	
-20	Normal Voltage	0.0038	
-30	Normal Voltage	0.0024	
20	Maximum Voltage	0.0019	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0005	

Note:

1. Normal Voltage =3.89V. ; Battery End Point (BEP) =3. 4V. ; Maximum Voltage =4.48 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.