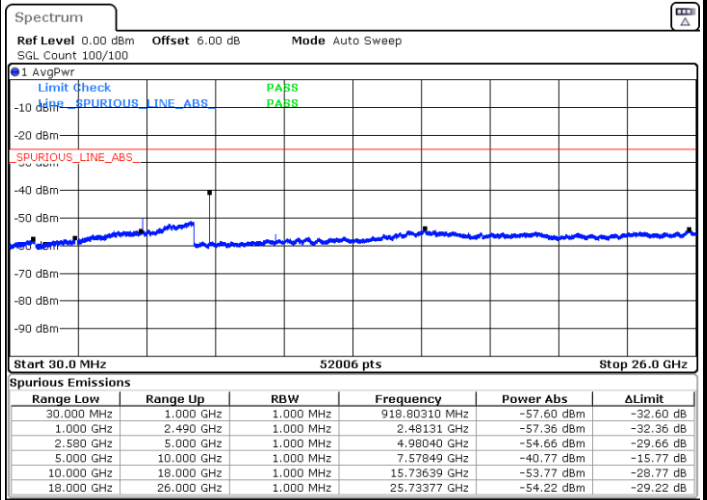
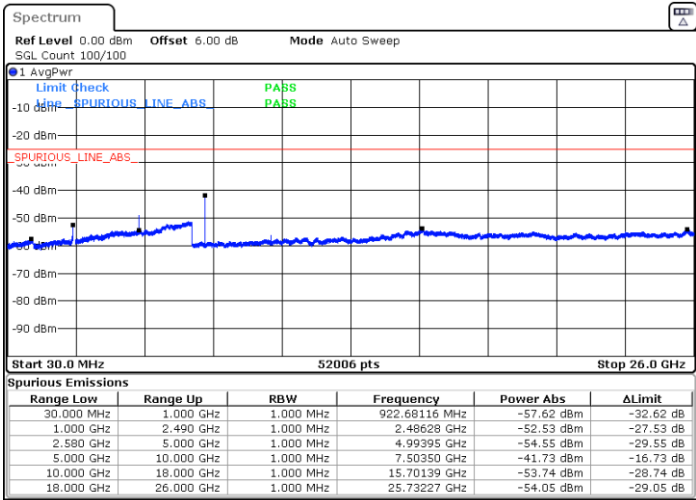




LTE Band 7 / 20MHz

Lowest Channel / QPSK

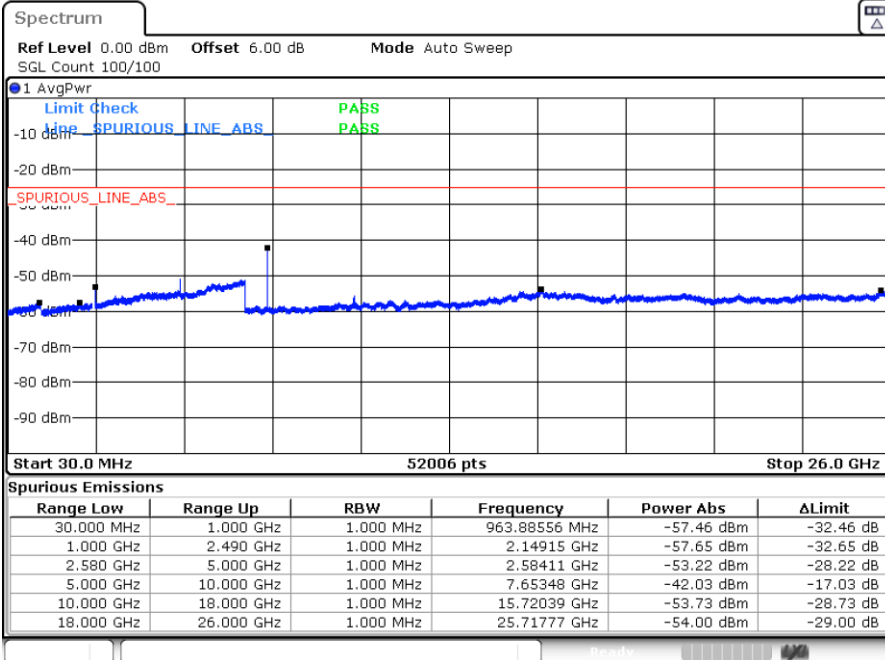
Middle Channel / QPSK



Date: 30.JUN.2023 22:42:54

Date: 30.JUN.2023 22:49:22

Highest Channel / QPSK



Date: 30.JUN.2023 22:50:42



Frequency Stability

Test Conditions		LTE Band 7 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0013	PASS
40	Normal Voltage	0.0011	
30	Normal Voltage	0.0016	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0008	
0	Normal Voltage	0.0017	
-10	Normal Voltage	0.0001	
-20	Normal Voltage	0.0016	
-30	Normal Voltage	0.0003	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0008	
20	Battery End Point	0.0014	

Note:

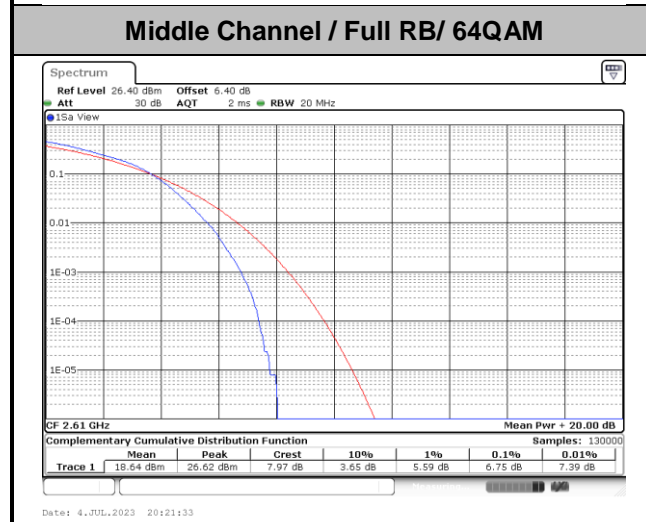
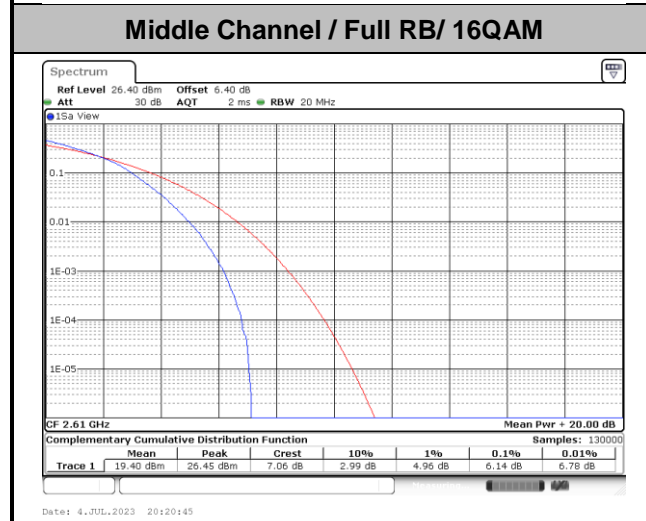
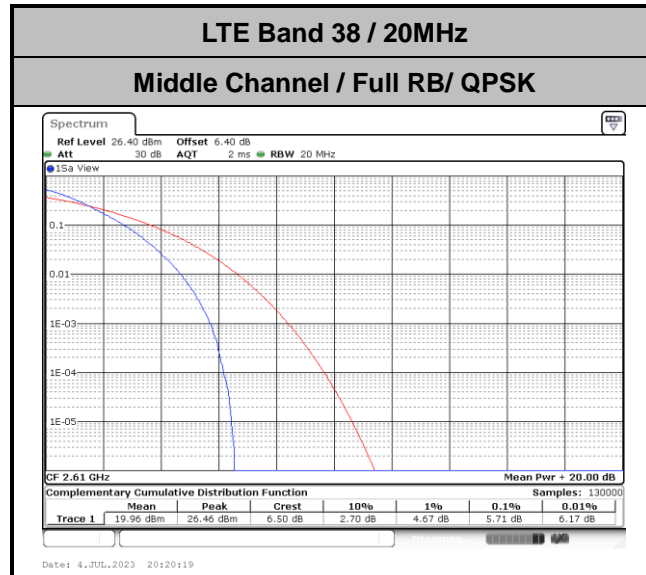
1. Normal Voltage =3.91V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.45 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 38 for Other PA

Peak-to-Average Ratio

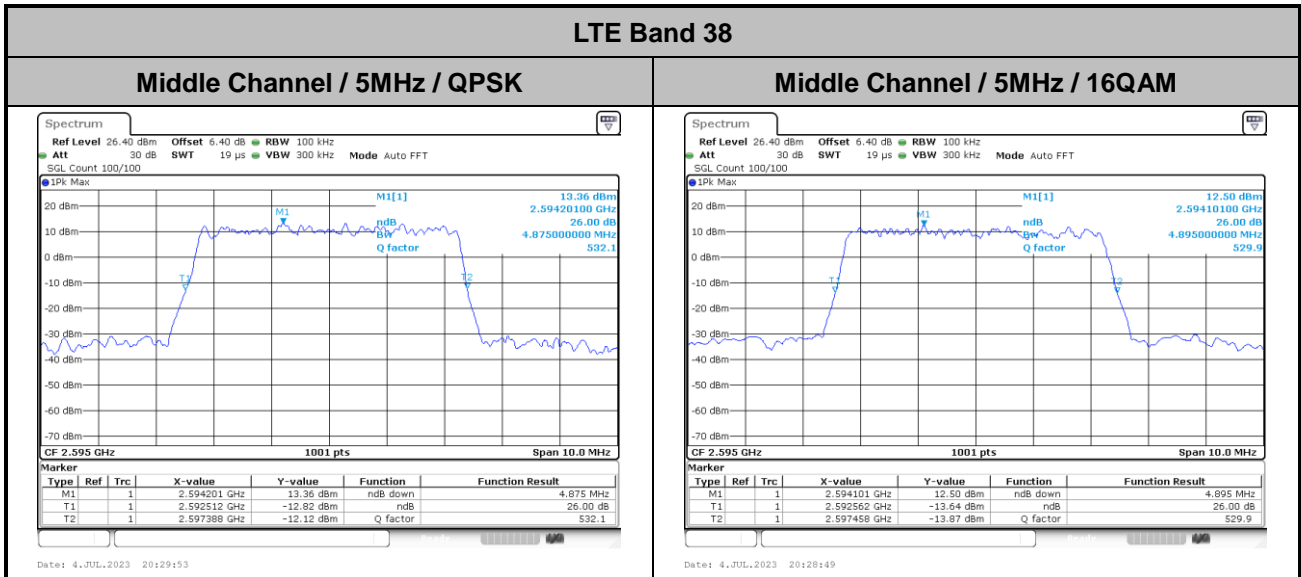
Mode	LTE Band 38 / 20MHz			
Mod.	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Result
Middle CH	5.71	6.14	6.75	PASS





26dB Bandwidth

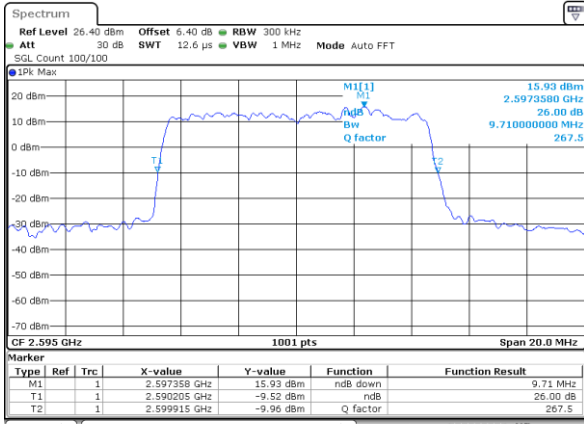
Mode	LTE Band 38 : 26dB BW(MHz)	
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	4.88	4.90
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	9.71	9.67
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	14.48	14.24
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	18.66	18.82





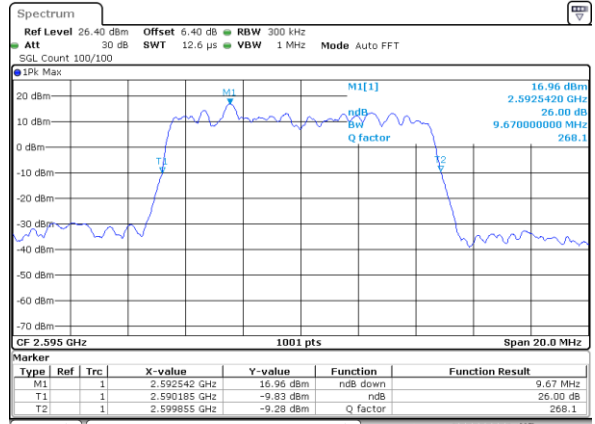
LTE Band 38

Middle Channel / 10MHz / QPSK



Date: 4 JUL 2023 20:27:24

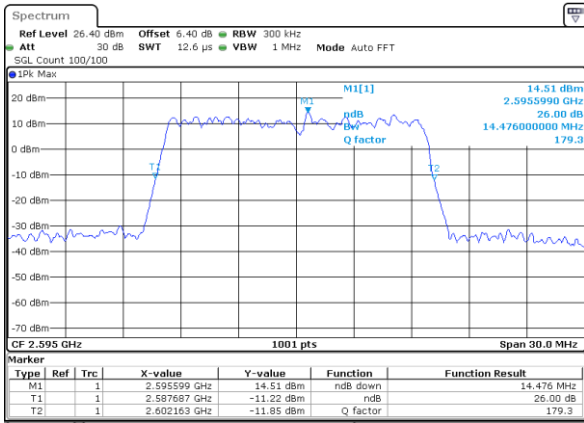
Middle Channel / 10MHz / 16QAM



Date: 4 JUL 2023 20:28:27

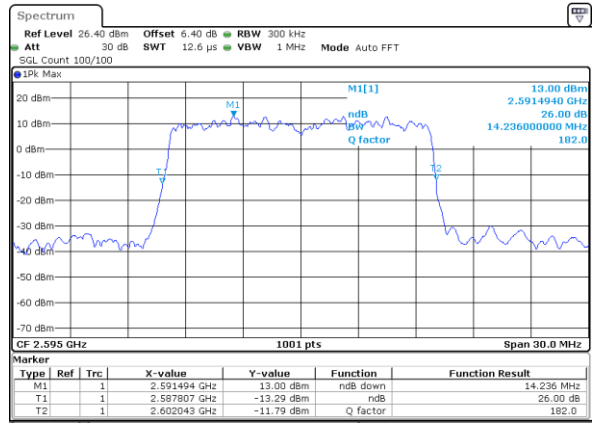
LTE Band 38

Middle Channel / 15MHz / QPSK



Date: 4 JUL 2023 20:27:02

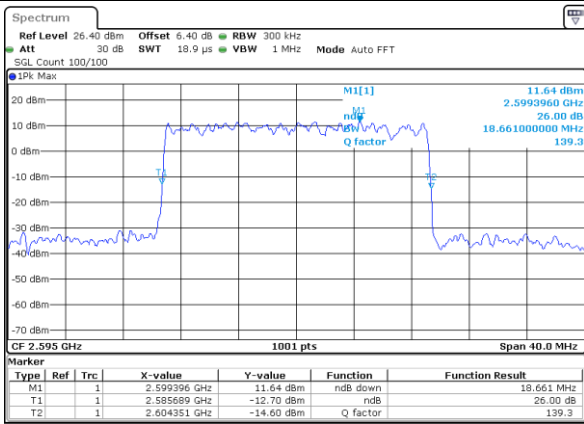
Middle Channel / 15MHz / 16QAM



Date: 4 JUL 2023 20:25:59

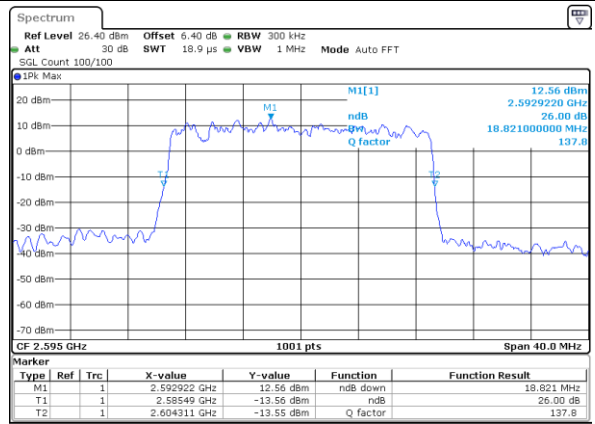
LTE Band 38

Middle Channel / 20MHz / QPSK



Date: 4 JUL 2023 20:24:34

Middle Channel / 20MHz / 16QAM

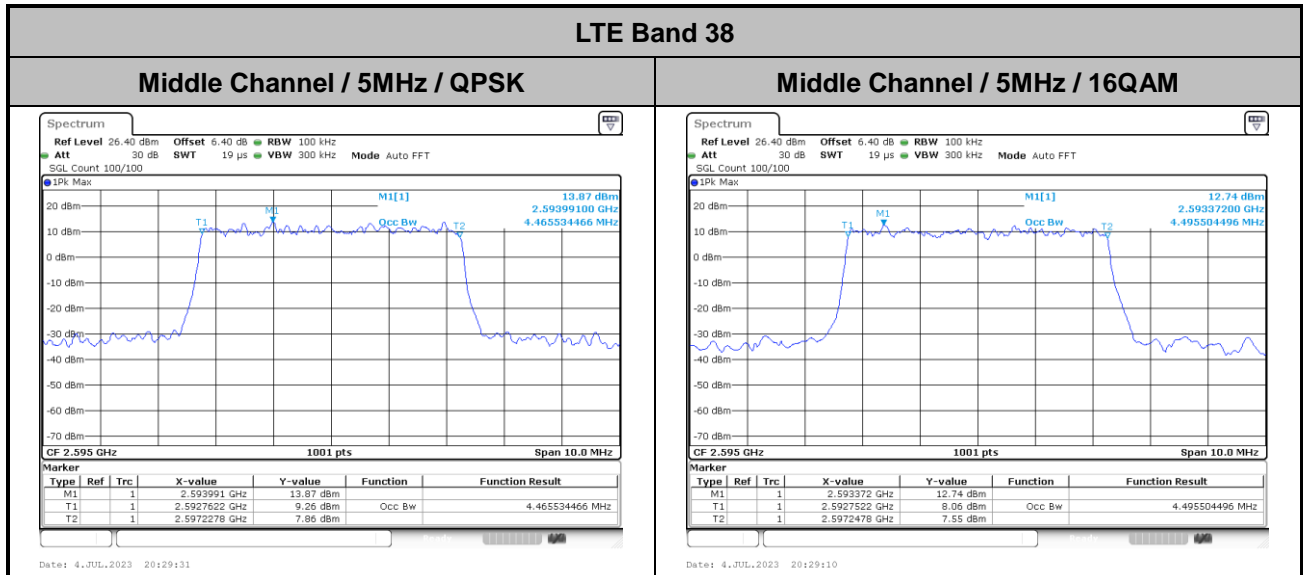


Date: 4 JUL 2023 20:25:37



Occupied Bandwidth

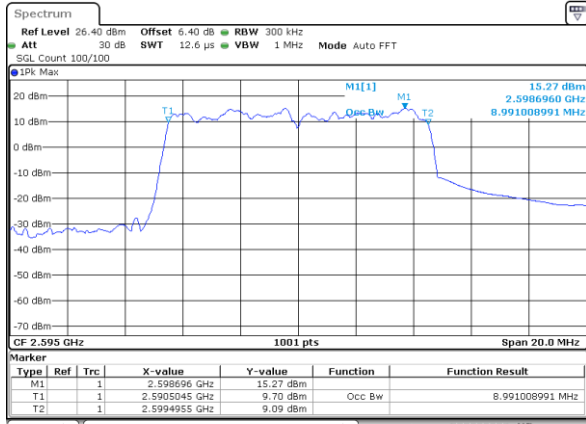
Mode	LTE Band 38 : 99%OBW(MHz)	
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	4.47	4.50
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	8.99	9.01
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	13.52	13.40
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	17.90	17.82





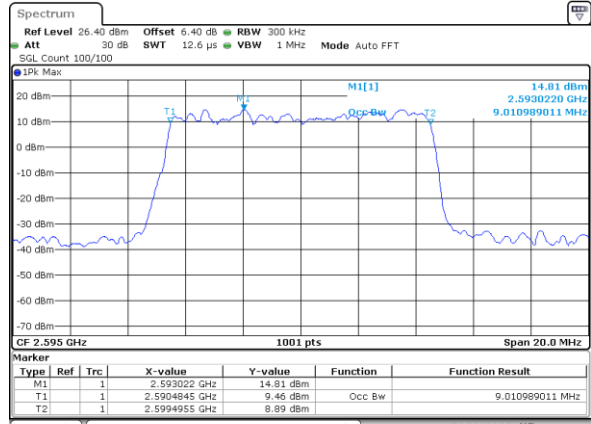
LTE Band 38

Middle Channel / 10MHz / QPSK



Date: 4 JUL 2023 20:27:45

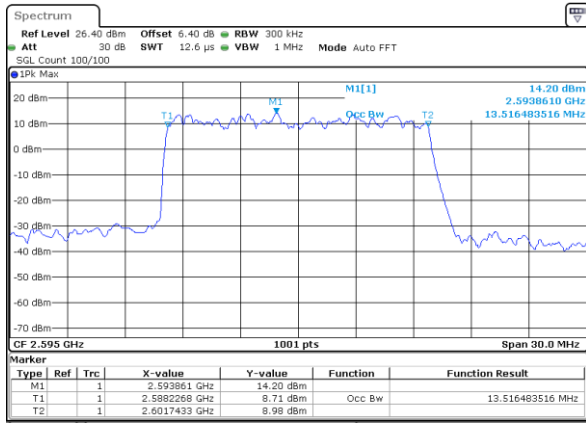
Middle Channel / 10MHz / 16QAM



Date: 4 JUL 2023 20:28:06

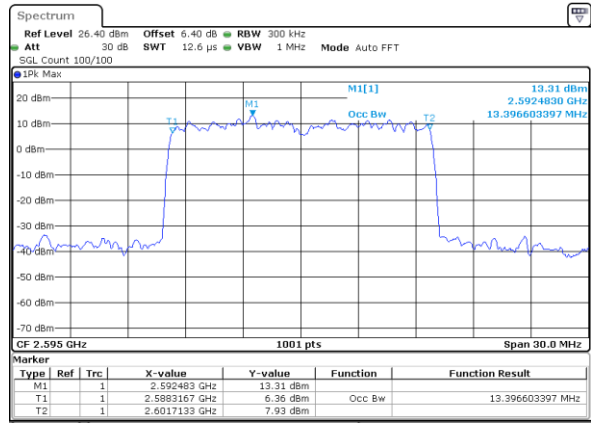
LTE Band 38

Middle Channel / 15MHz / QPSK



Date: 4 JUL 2023 20:26:41

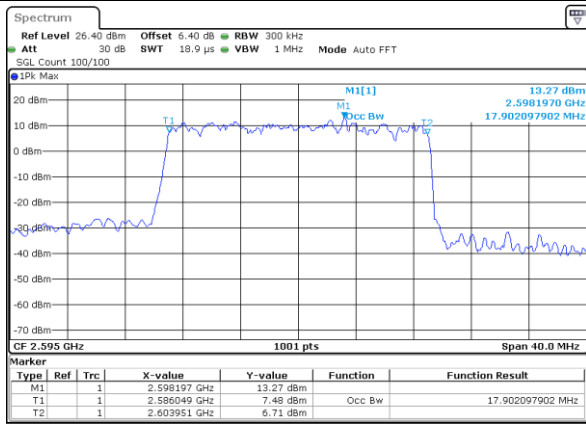
Middle Channel / 15MHz / 16QAM



Date: 4 JUL 2023 20:26:20

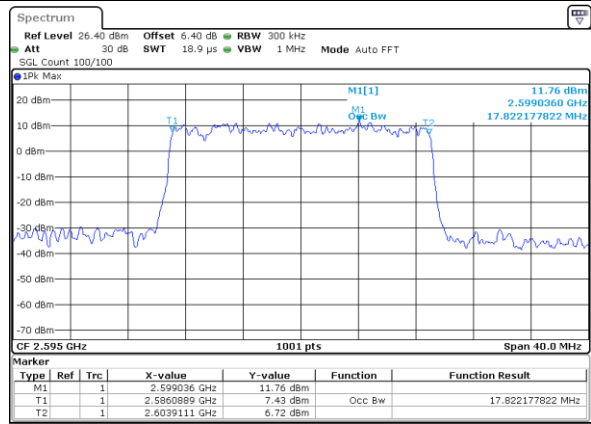
LTE Band 38

Middle Channel / 20MHz / QPSK



Date: 4 JUL 2023 20:24:55

Middle Channel / 20MHz / 16QAM



Date: 4 JUL 2023 20:25:16

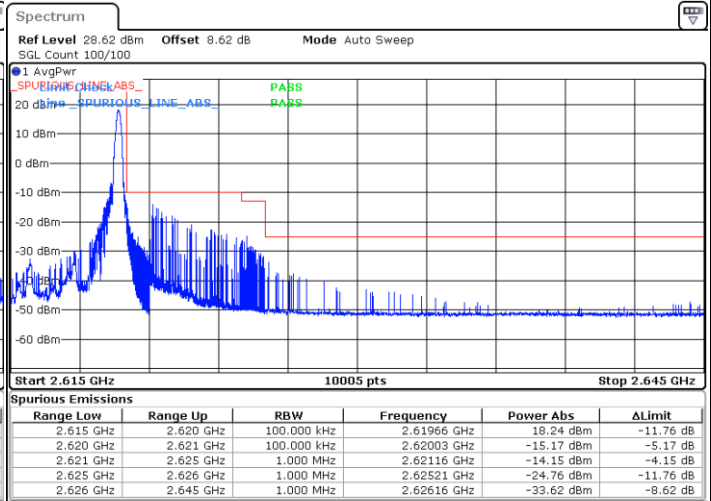
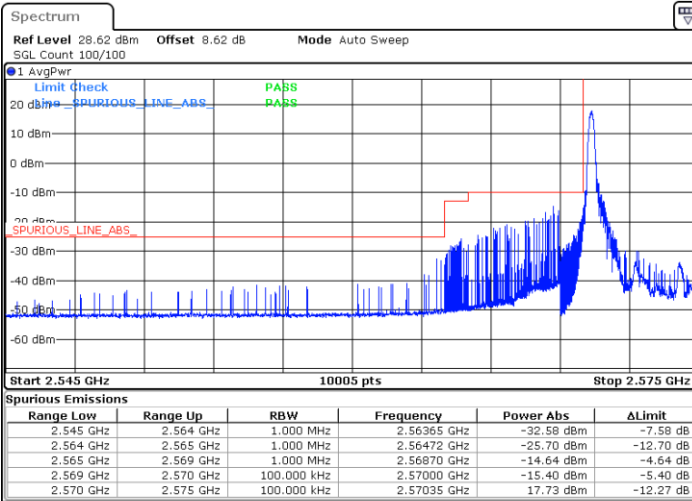


Conducted Band Edge

LTE Band 38 / 5MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

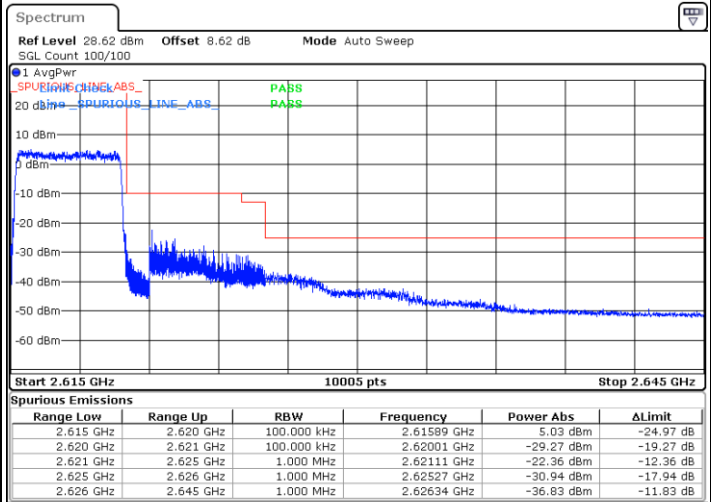
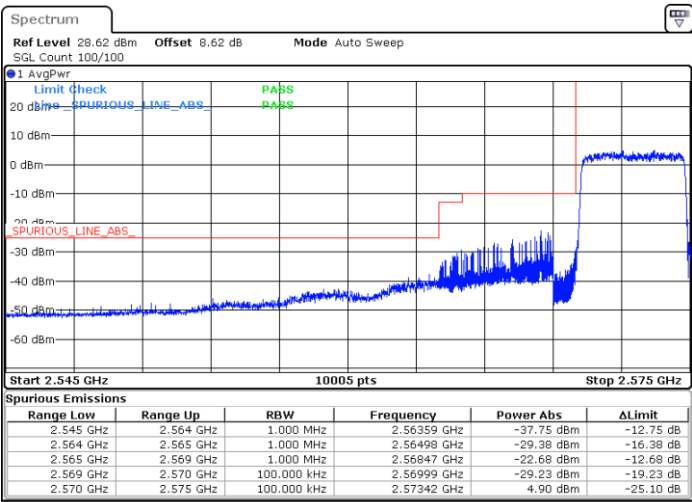


Date: 4.JUL.2023 19:21:15

Date: 4.JUL.2023 19:27:42

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



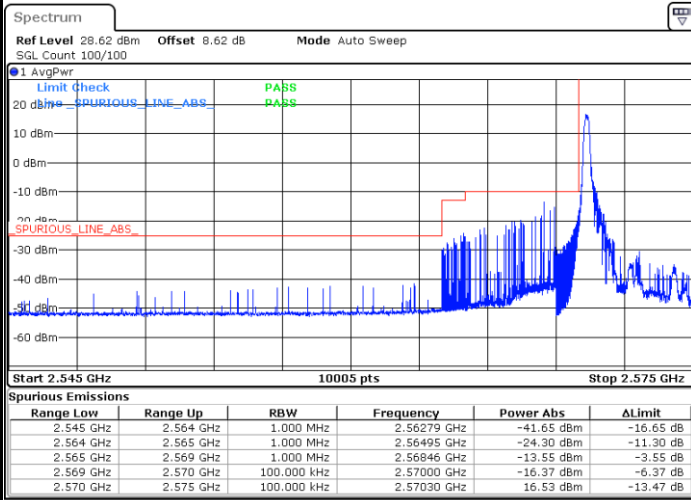
Date: 4.JUL.2023 19:18:55

Date: 4.JUL.2023 19:30:02



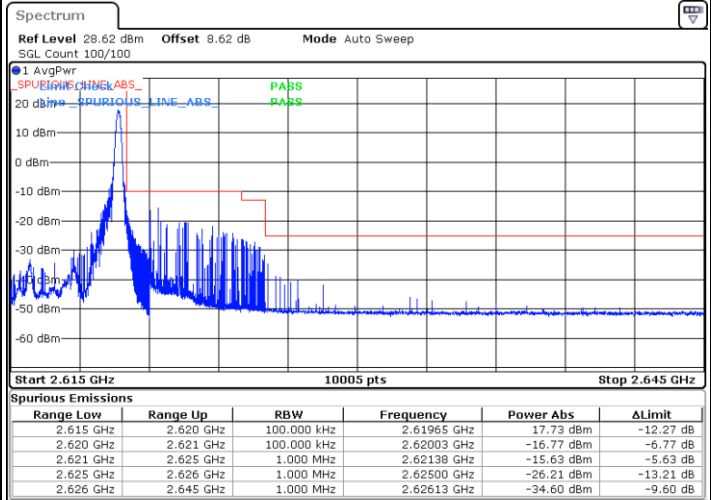
LTE Band 38 / 5MHz / 16QAM

Lowest Band Edge / 1RB



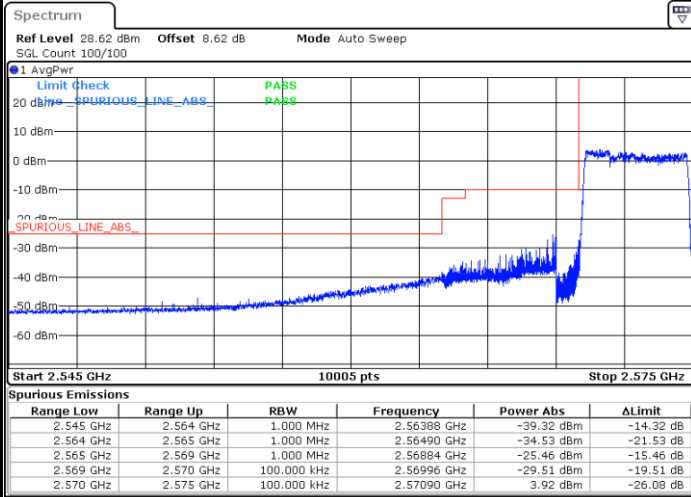
Date: 4.JUL.2023 19:22:02

Highest Band Edge / 1 RB



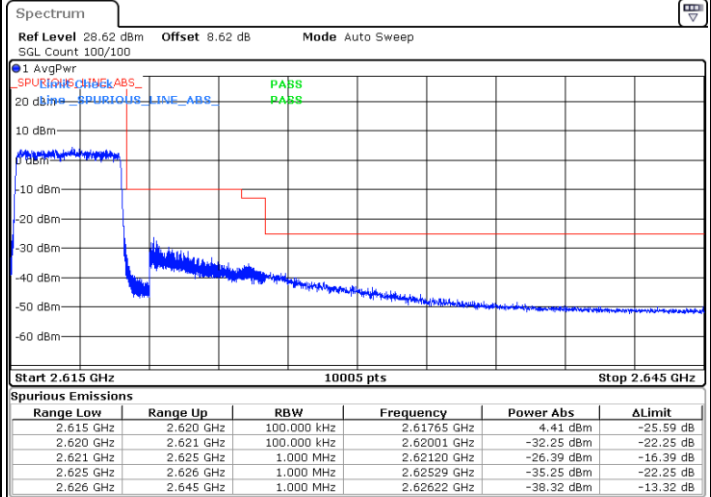
Date: 4.JUL.2023 19:28:29

Lowest Band Edge / Full RB



Date: 4.JUL.2023 19:19:42

Highest Band Edge / Full RB

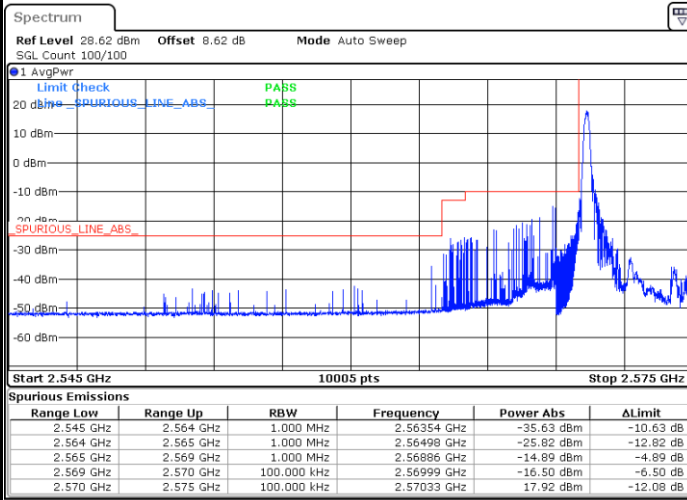


Date: 4.JUL.2023 19:30:48



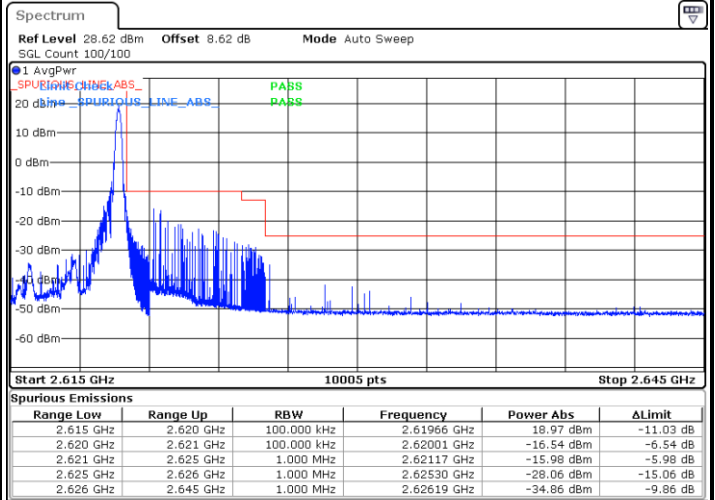
LTE Band 38 / 5MHz / 64QAM

Lowest Band Edge / 1RB



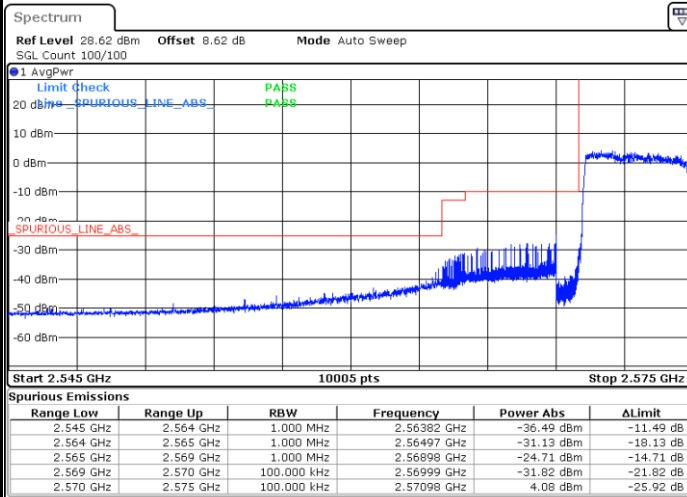
Date: 4.JUL.2023 19:22:49

Highest Band Edge / 1 RB



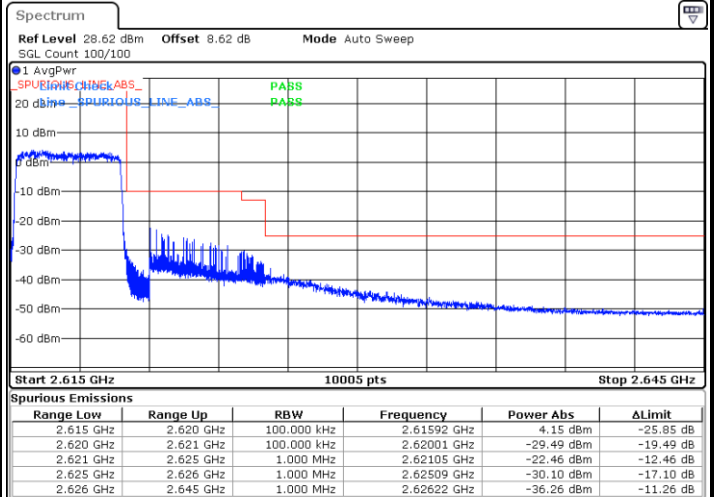
Date: 4.JUL.2023 19:29:15

Lowest Band Edge / Full RB



Date: 4.JUL.2023 19:20:28

Highest Band Edge / Full RB



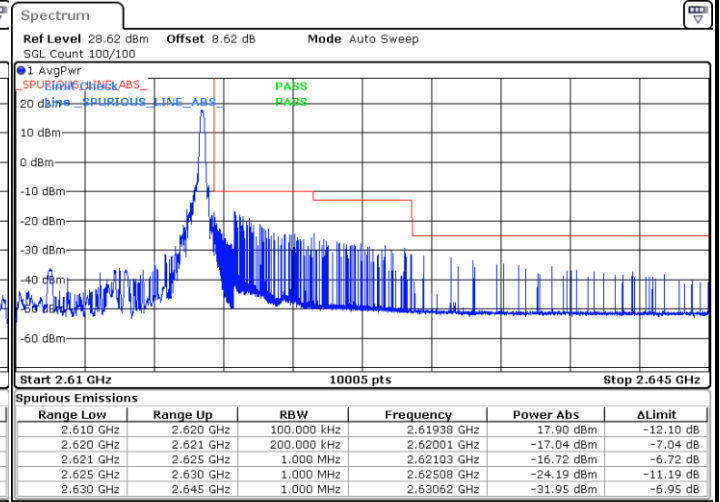
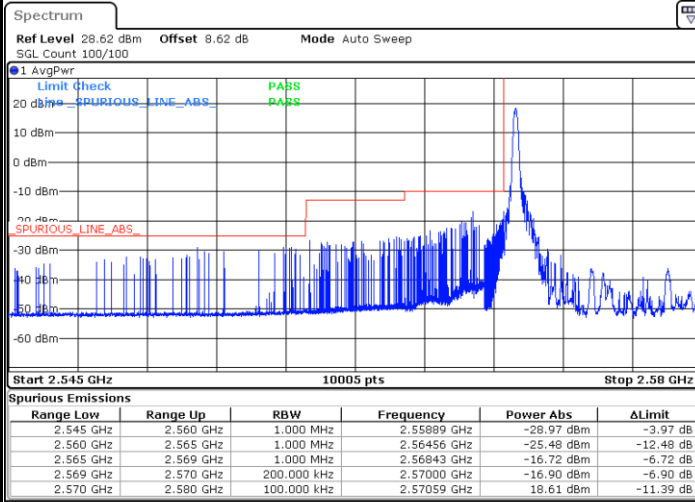
Date: 4.JUL.2023 19:31:34



LTE Band 38 / 10MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

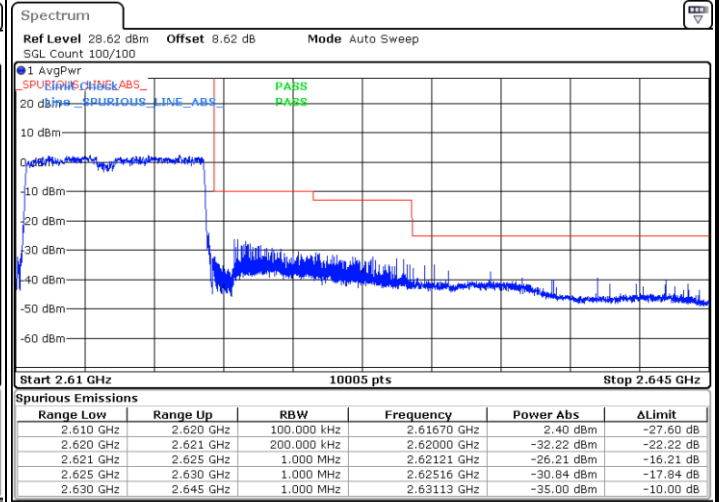
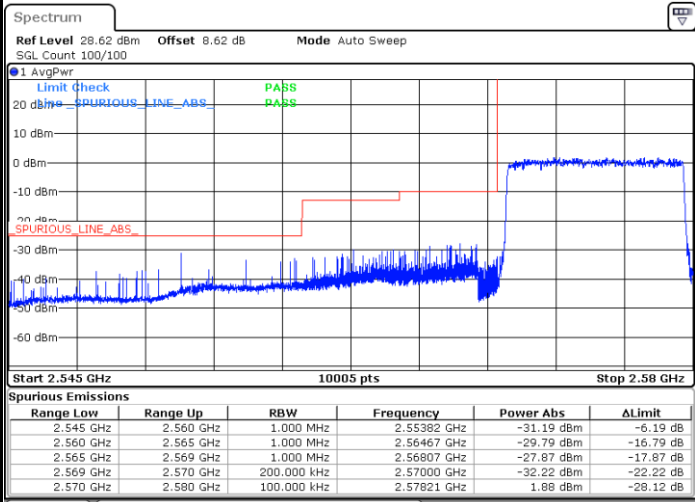


Date: 4.JUL.2023 19:34:39

Date: 4.JUL.2023 19:41:06

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



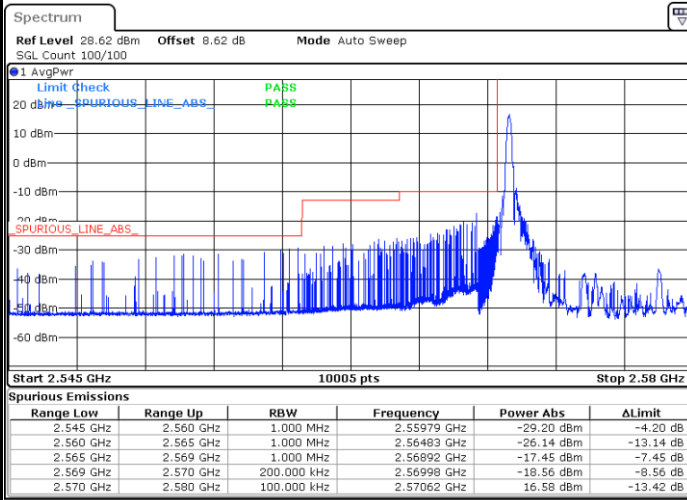
Date: 4.JUL.2023 19:32:21

Date: 4.JUL.2023 19:43:24



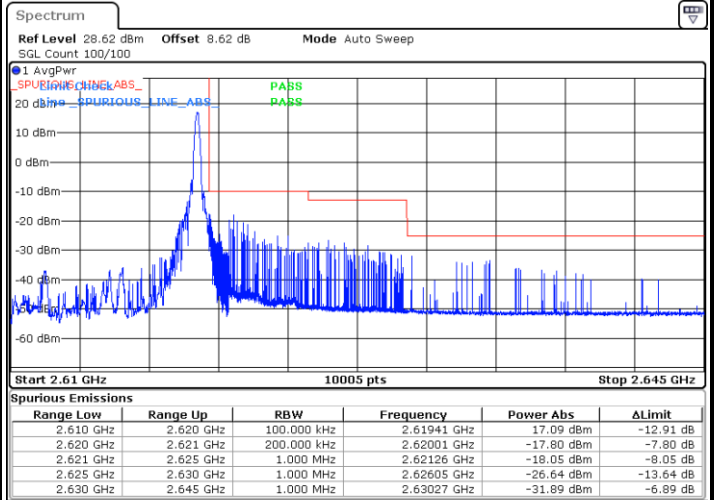
LTE Band 38 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



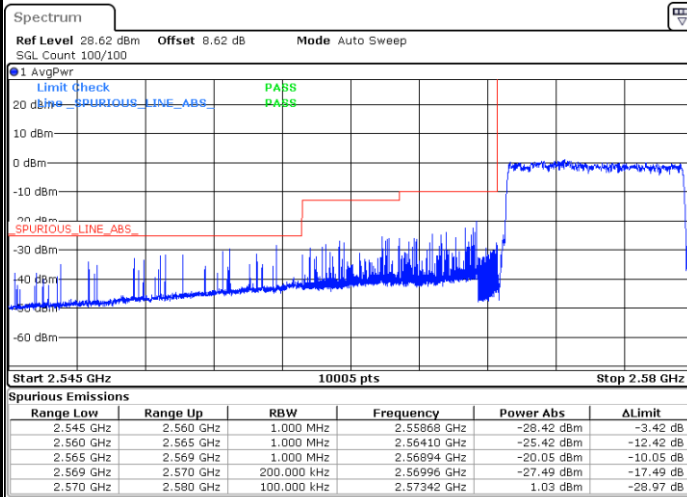
Date: 4.JUL.2023 19:35:25

Highest Band Edge / 1 RB



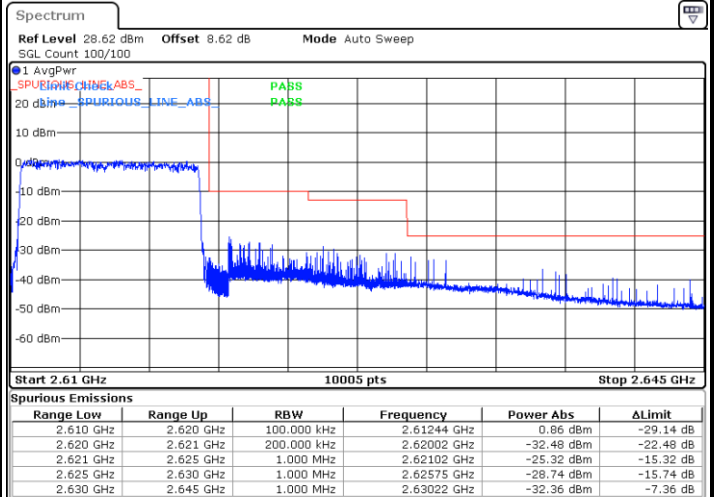
Date: 4.JUL.2023 19:41:52

Lowest Band Edge / Full RB



Date: 4.JUL.2023 19:33:07

Highest Band Edge / Full RB

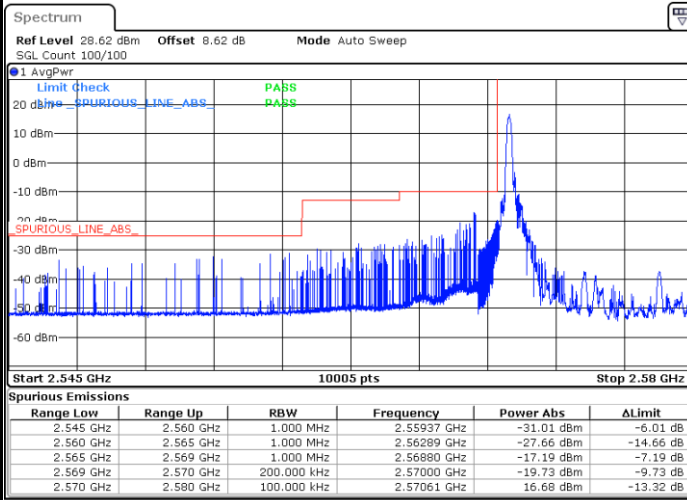


Date: 4.JUL.2023 19:44:10



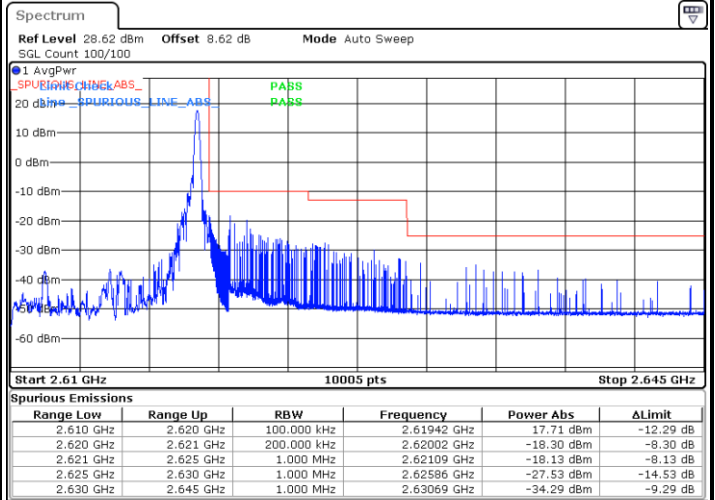
LTE Band 38 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



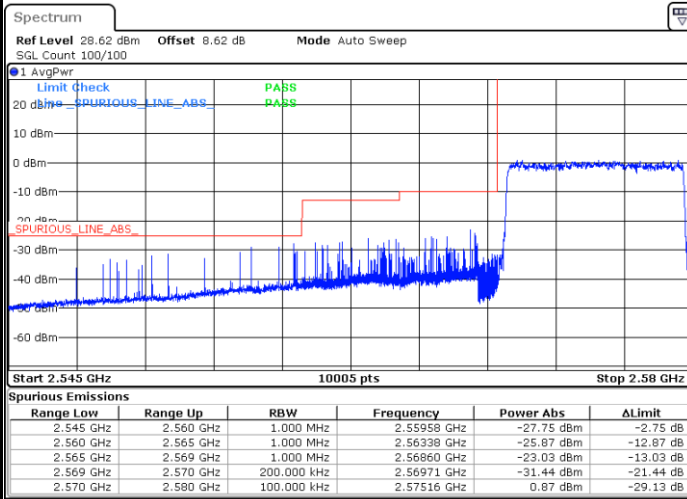
Date: 4.JUL.2023 19:36:11

Highest Band Edge / 1 RB



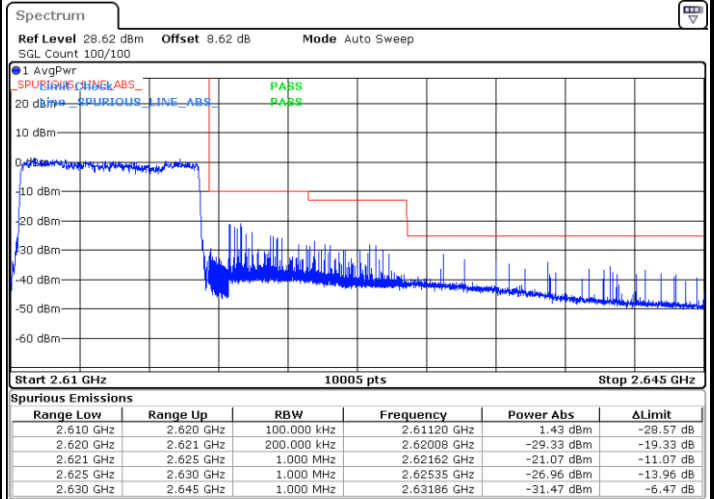
Date: 4.JUL.2023 19:42:38

Lowest Band Edge / Full RB



Date: 4.JUL.2023 19:33:53

Highest Band Edge / Full RB



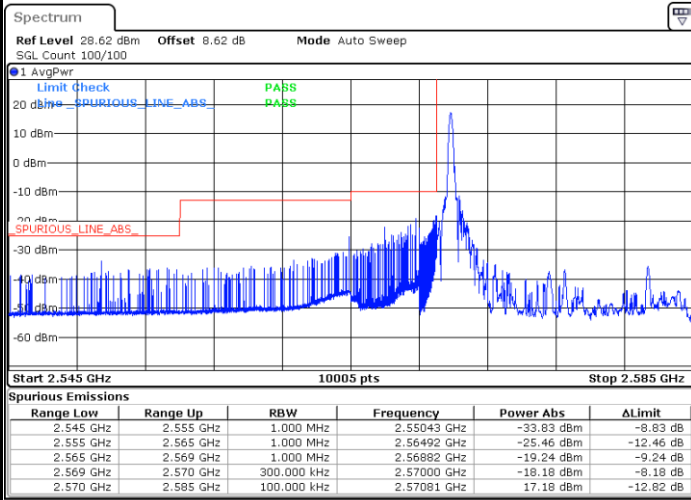
Date: 4.JUL.2023 19:44:56



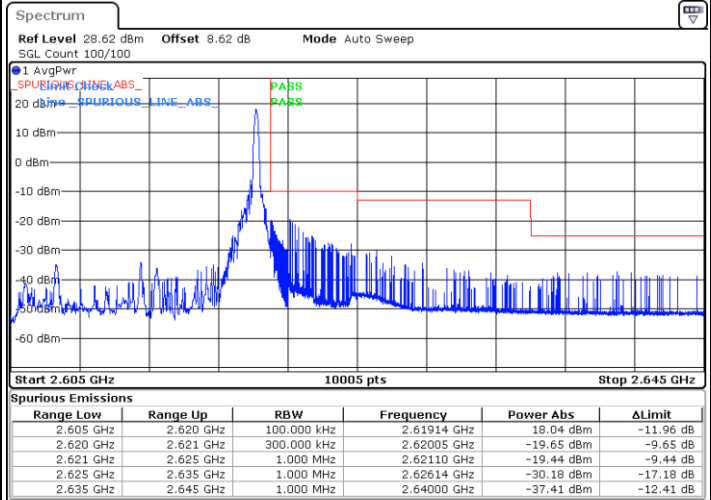
LTE Band 38 / 15MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



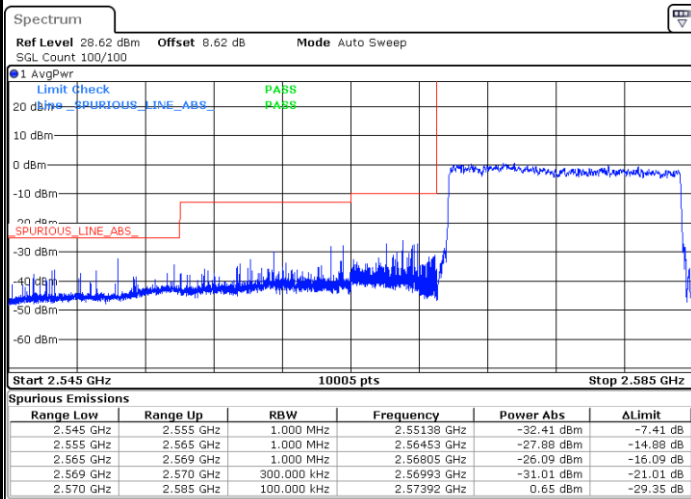
Date: 4.JUL.2023 19:48:01



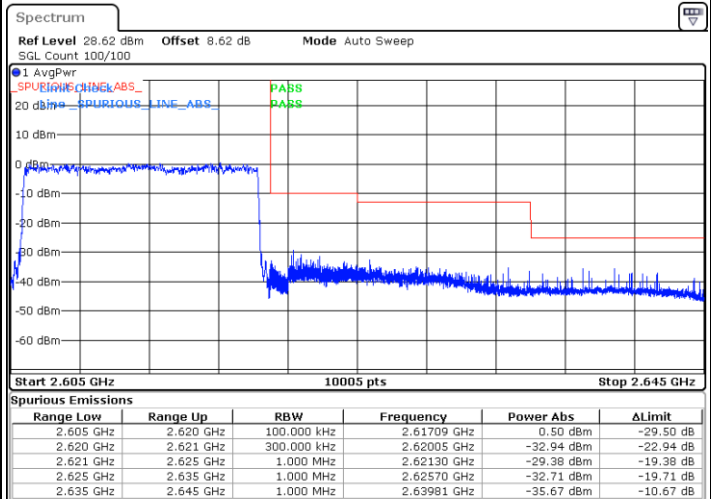
Date: 4.JUL.2023 19:54:27

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 4.JUL.2023 19:45:43

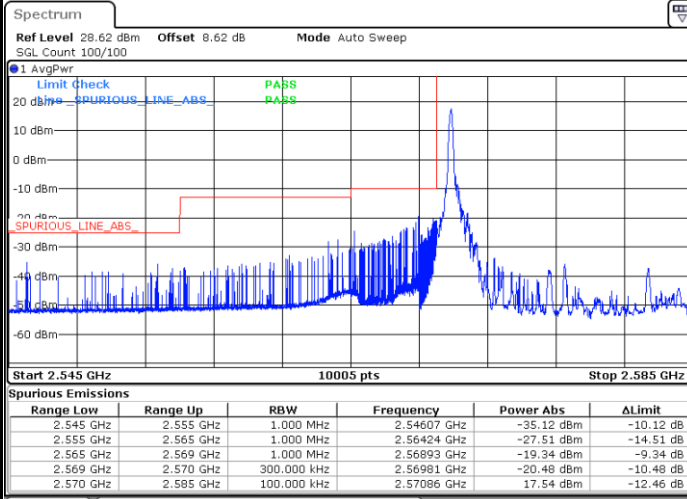


Date: 4.JUL.2023 19:56:44



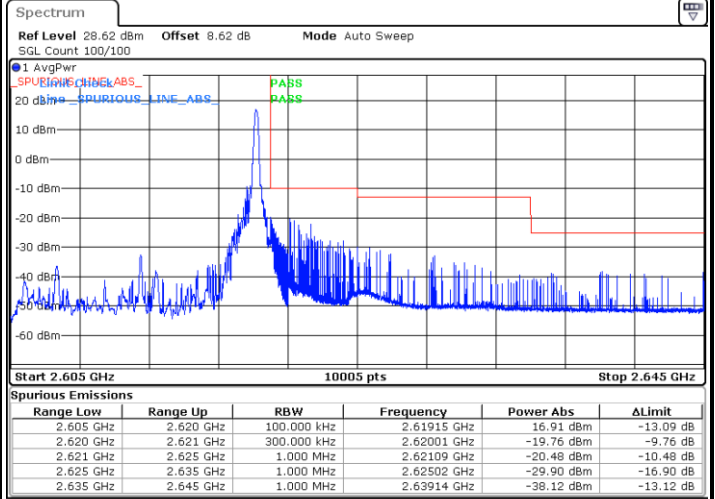
LTE Band 38 / 15MHz / 16QAM

Lowest Band Edge / 1 RB



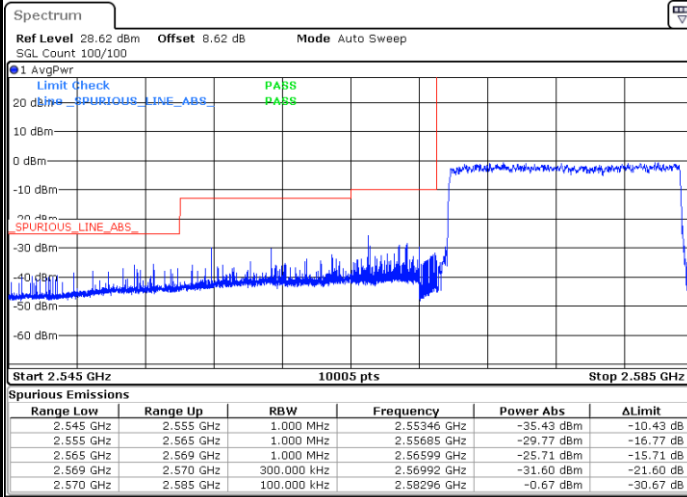
Date: 4.JUL.2023 19:48:46

Highest Band Edge / 1 RB



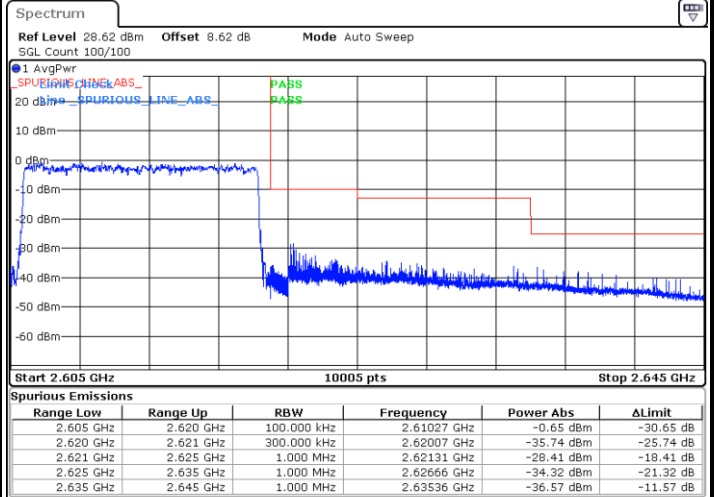
Date: 4.JUL.2023 19:55:13

Lowest Band Edge / Full RB



Date: 4.JUL.2023 19:46:29

Highest Band Edge / Full RB

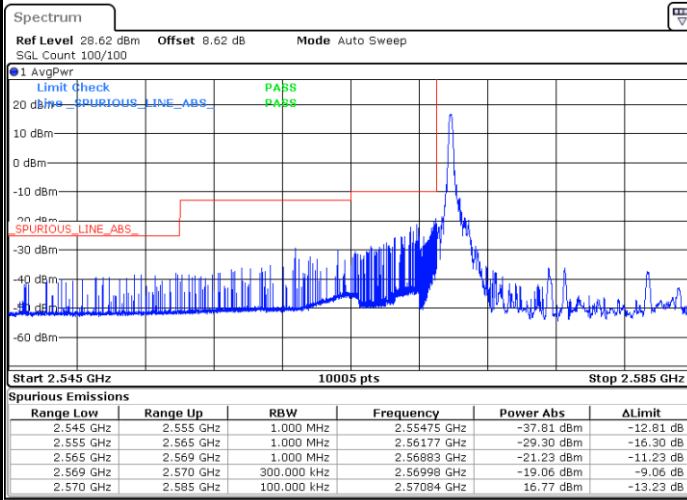


Date: 4.JUL.2023 19:57:30



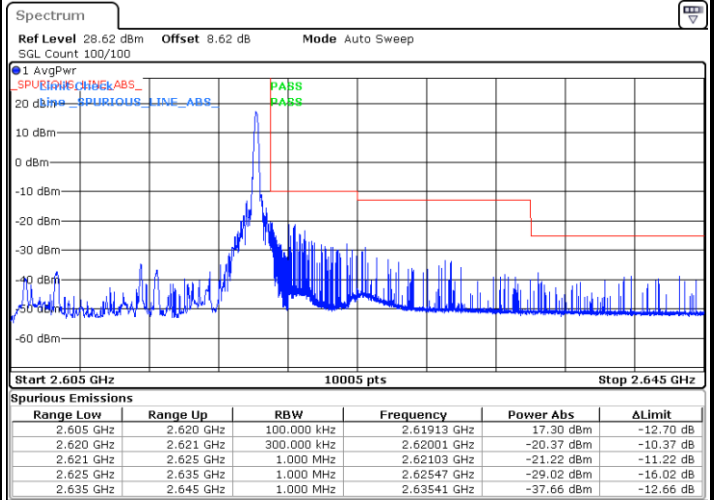
LTE Band 38 / 15MHz / 64QAM

Lowest Band Edge / 1 RB



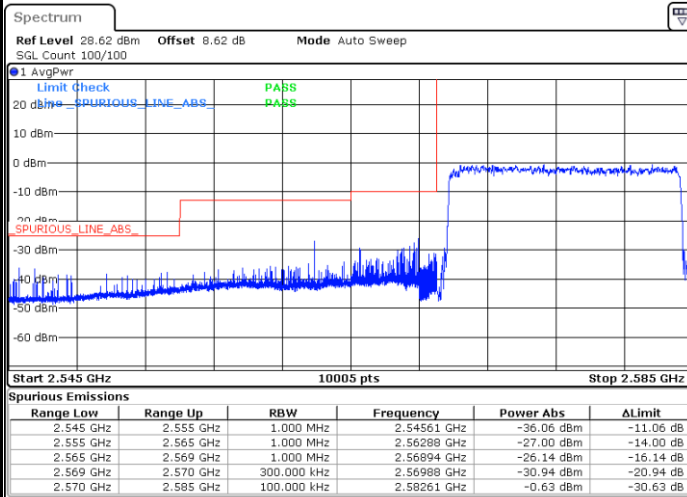
Date: 4.JUL.2023 19:49:33

Highest Band Edge / 1 RB



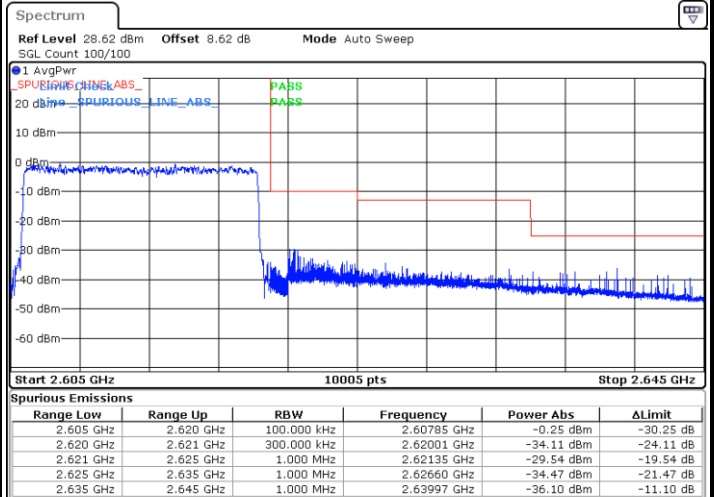
Date: 4.JUL.2023 19:55:58

Lowest Band Edge / Full RB



Date: 4.JUL.2023 19:47:15

Highest Band Edge / Full RB

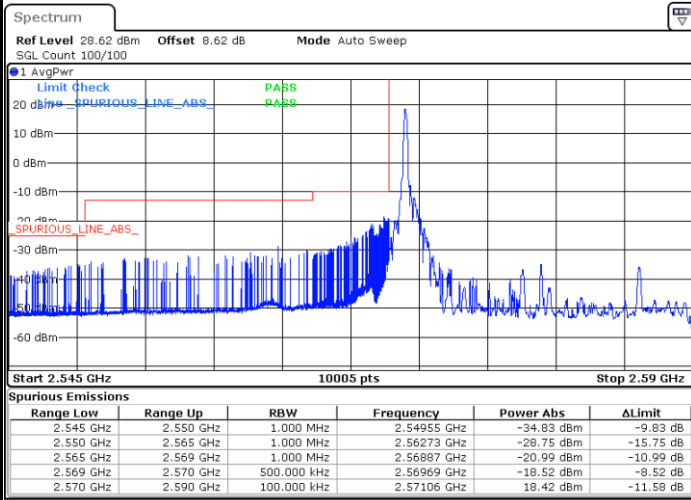


Date: 4.JUL.2023 19:58:16



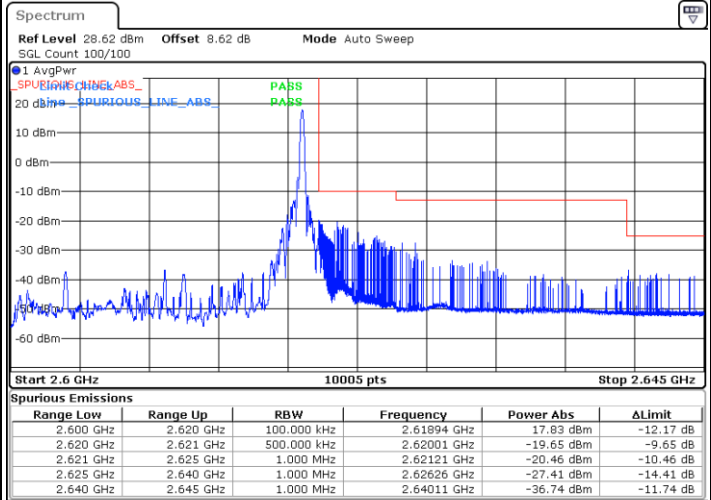
LTE Band 38 / 20MHz / QPSK

Lowest Band Edge / 1 RB



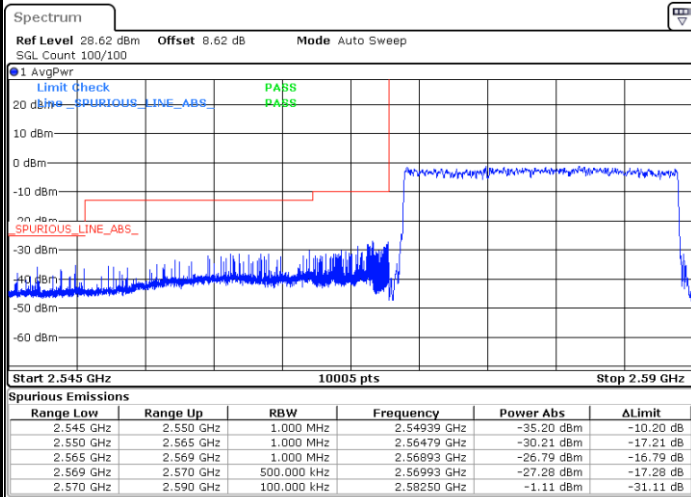
Date: 4.JUL.2023 20:01:21

Highest Band Edge / 1 RB



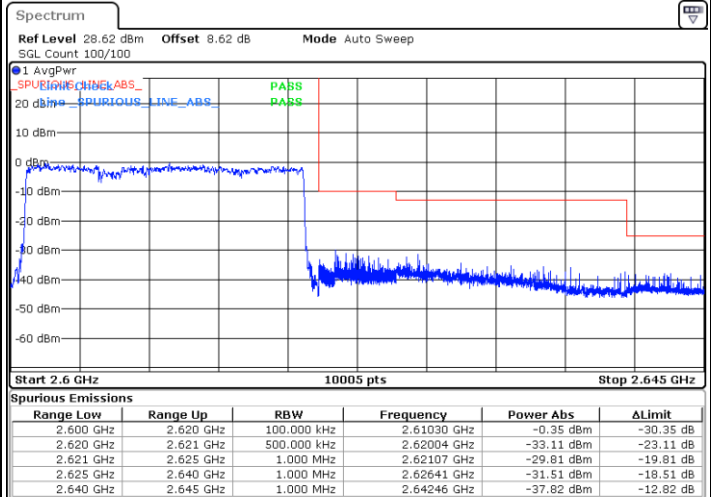
Date: 4.JUL.2023 20:07:48

Lowest Band Edge / Full RB



Date: 4.JUL.2023 19:59:03

Highest Band Edge / Full RB

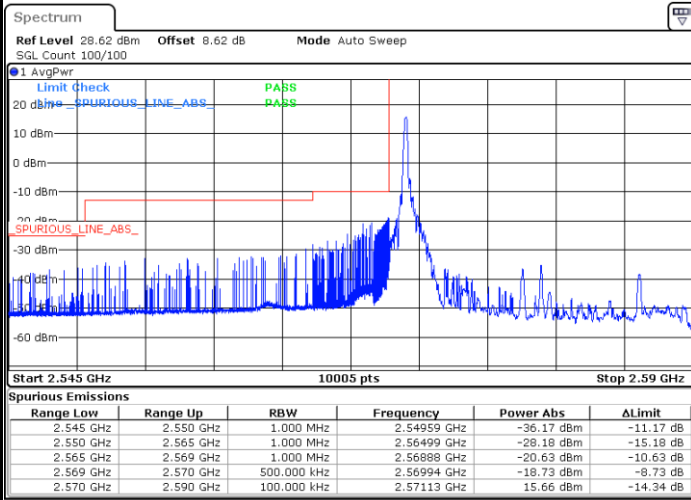


Date: 4.JUL.2023 20:10:06



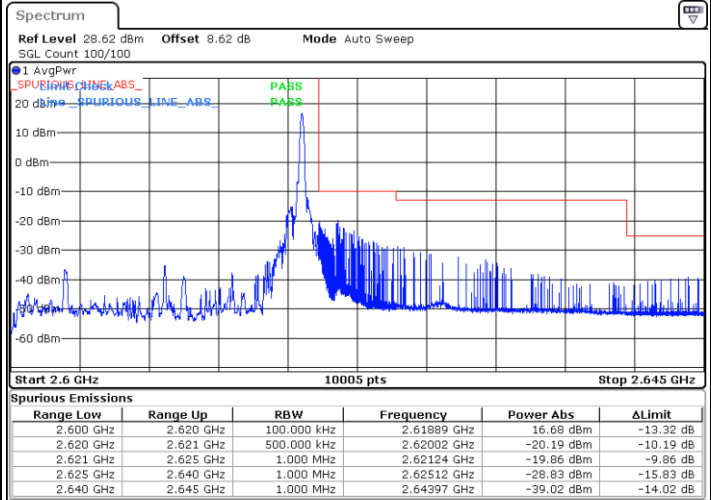
LTE Band 38 / 20MHz / 16QAM

Lowest Band Edge / 1 RB



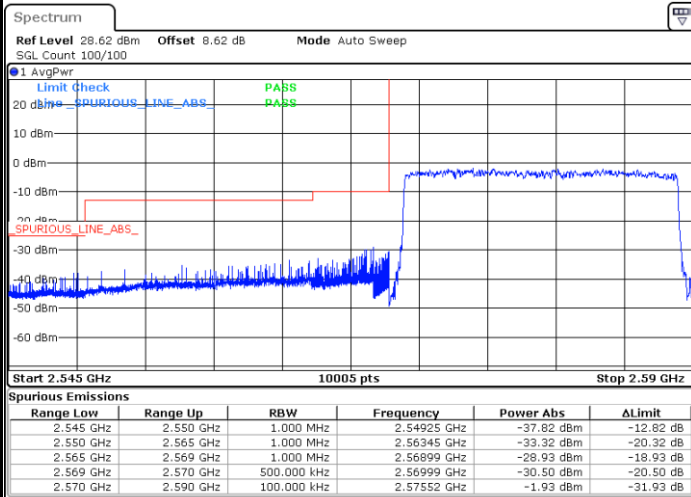
Date: 4.JUL.2023 20:02:07

Highest Band Edge / 1 RB



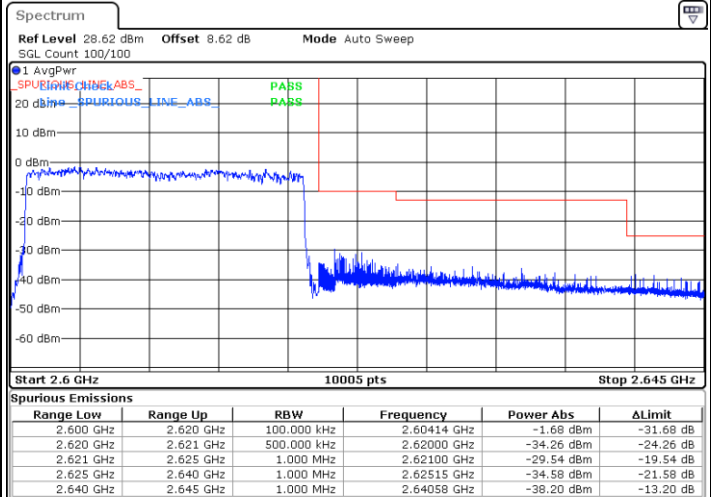
Date: 4.JUL.2023 20:08:34

Lowest Band Edge / Full RB



Date: 4.JUL.2023 19:59:48

Highest Band Edge / Full RB

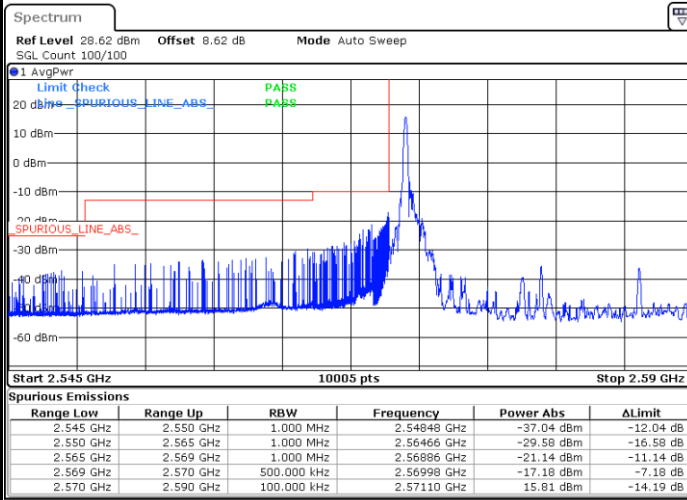


Date: 4.JUL.2023 20:10:52



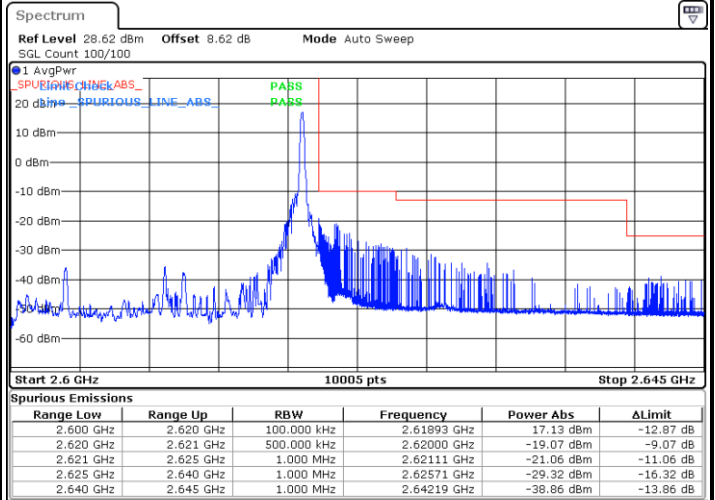
LTE Band 38 / 20MHz / 64QAM

Lowest Band Edge / 1 RB



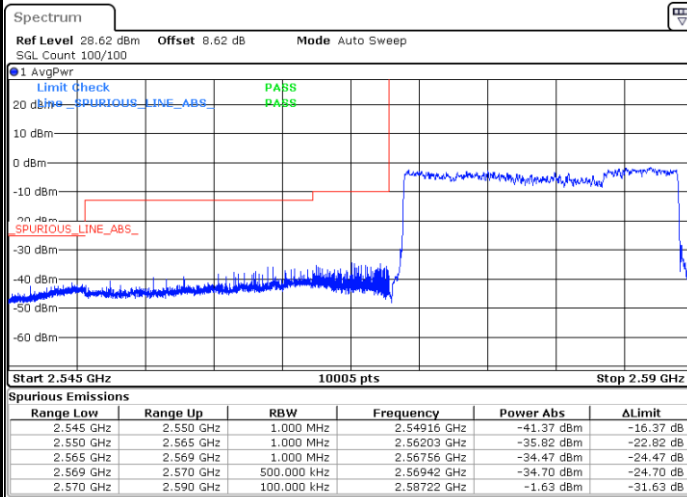
Date: 4.JUL.2023 20:02:52

Highest Band Edge / 1 RB



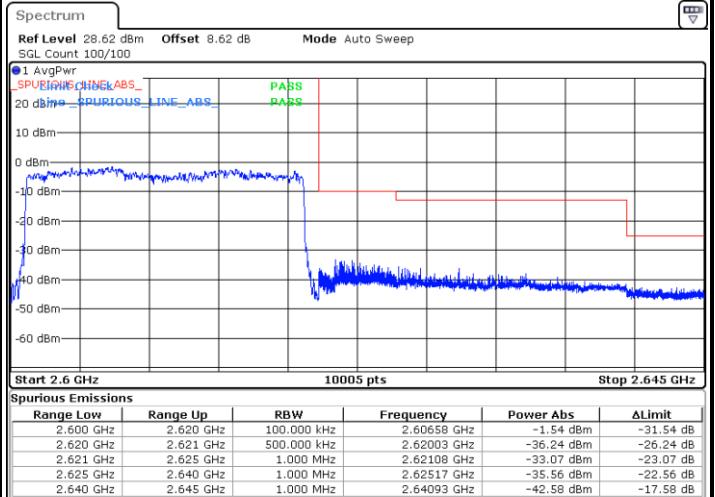
Date: 4.JUL.2023 20:09:20

Lowest Band Edge / Full RB



Date: 4.JUL.2023 20:00:35

Highest Band Edge / Full RB



Date: 4.JUL.2023 20:11:38

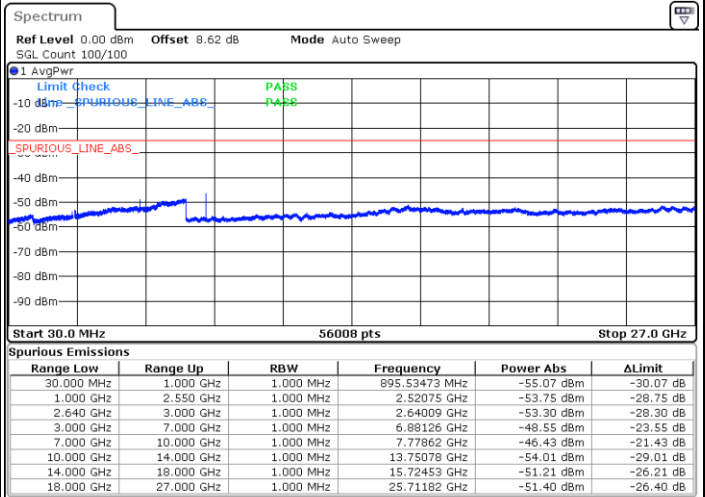
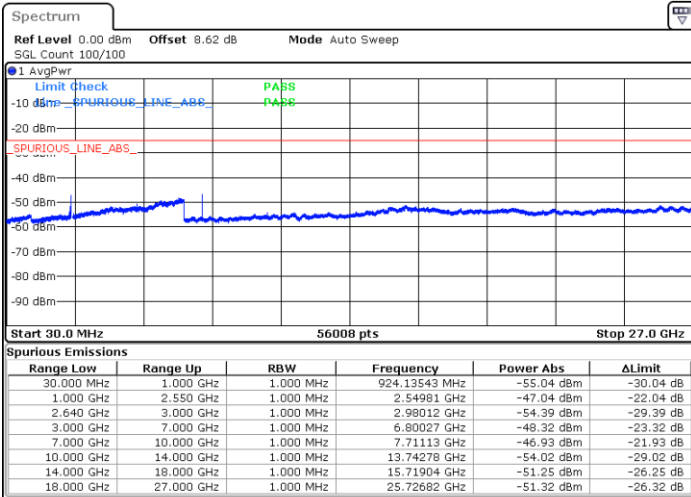


Conducted Spurious Emission

LTE Band 38 / 5MHz

Lowest Channel / QPSK

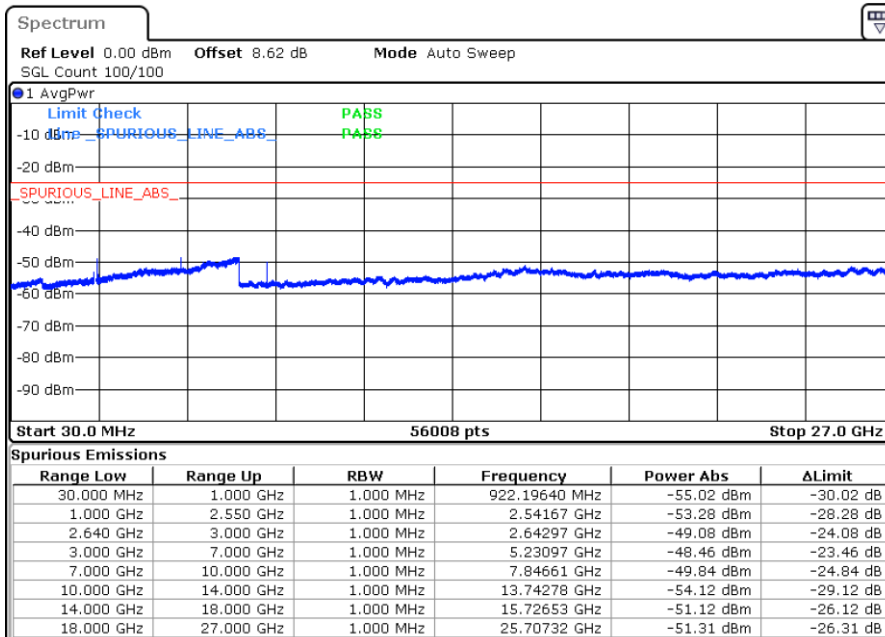
Middle Channel / QPSK



Date: 4.JUL.2023 19:24:10

Date: 4.JUL.2023 19:25:33

Highest Channel / QPSK



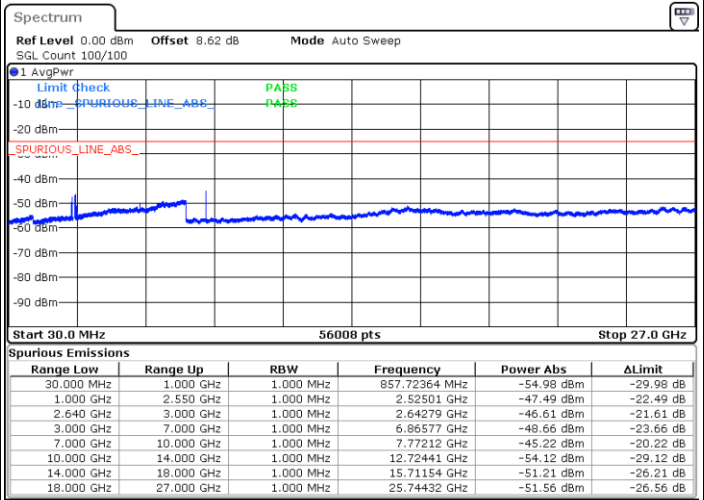
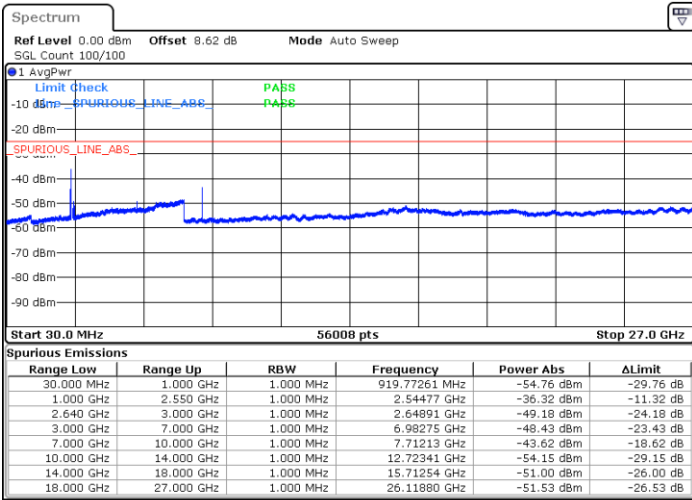
Date: 4.JUL.2023 19:26:55



LTE Band 38 / 10MHz

Lowest Channel / QPSK

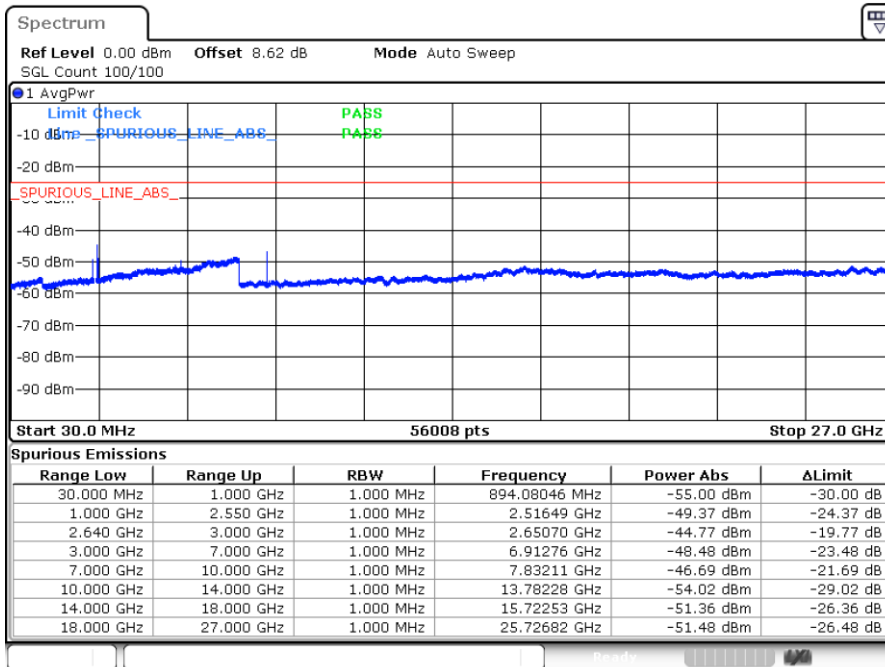
Middle Channel / QPSK



Date: 4.JUL.2023 19:37:34

Date: 4.JUL.2023 19:38:57

Highest Channel / QPSK

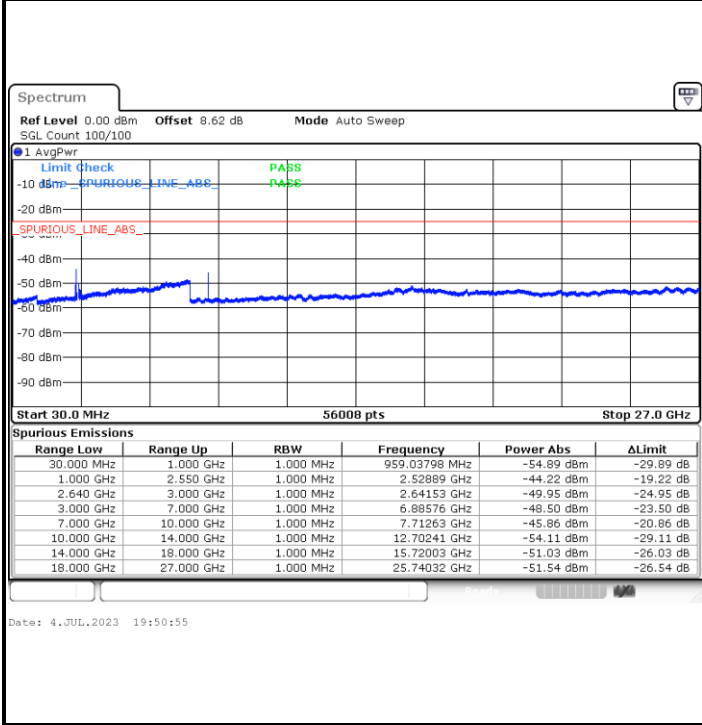


Date: 4.JUL.2023 19:40:19

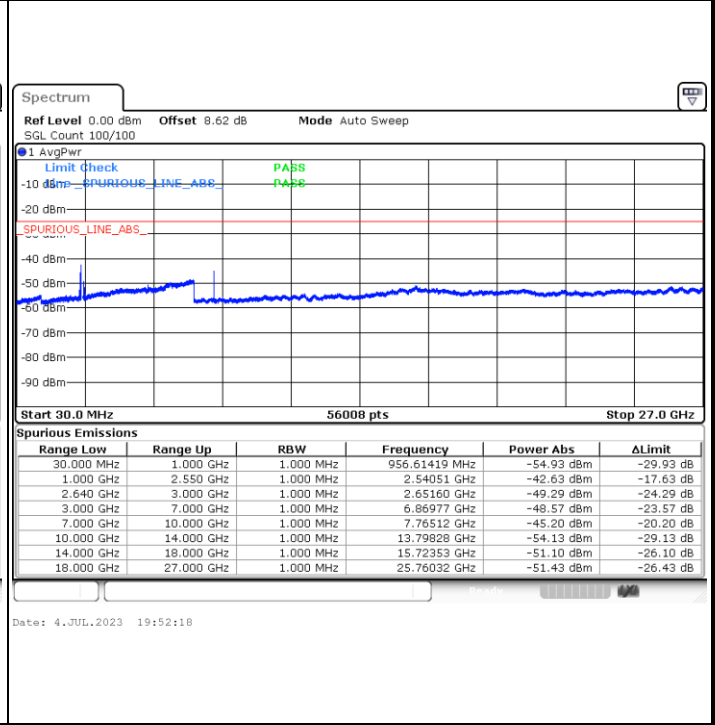


LTE Band 38 / 15MHz

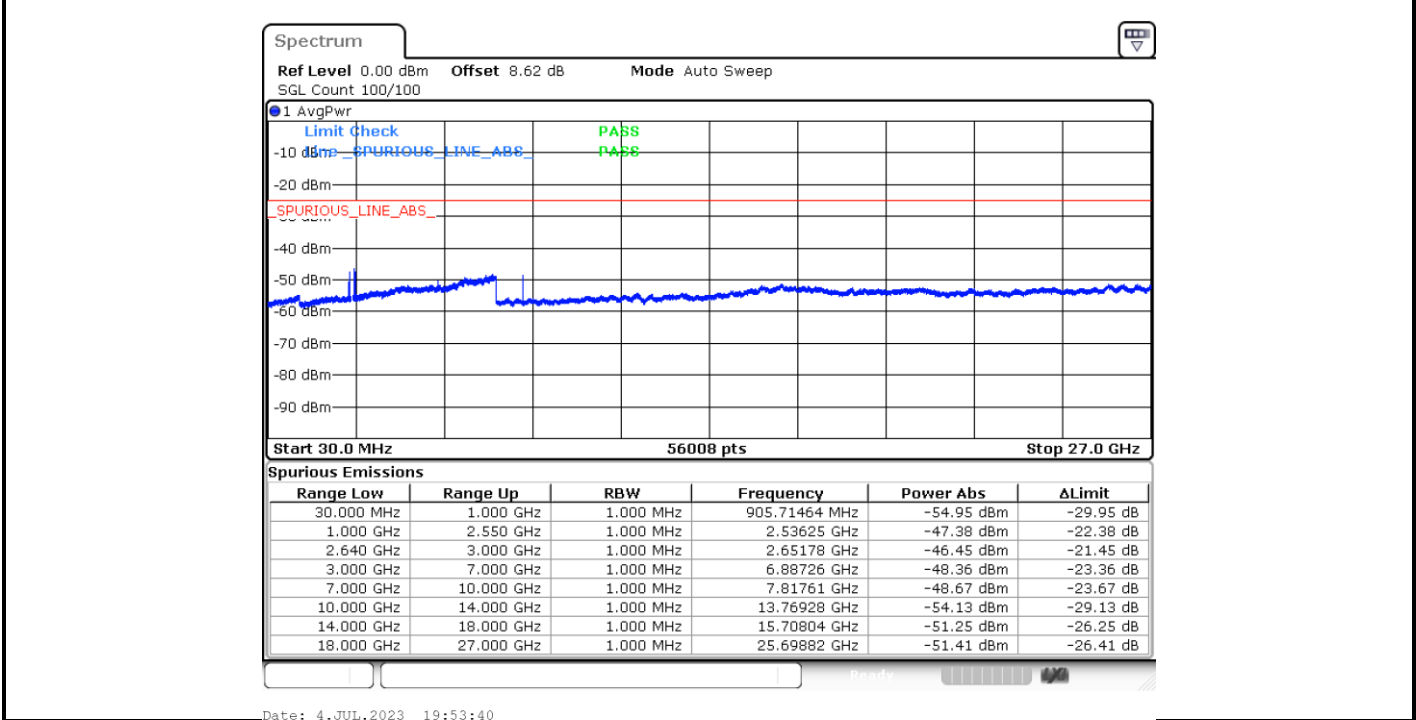
Lowest Channel / QPSK



Middle Channel / QPSK



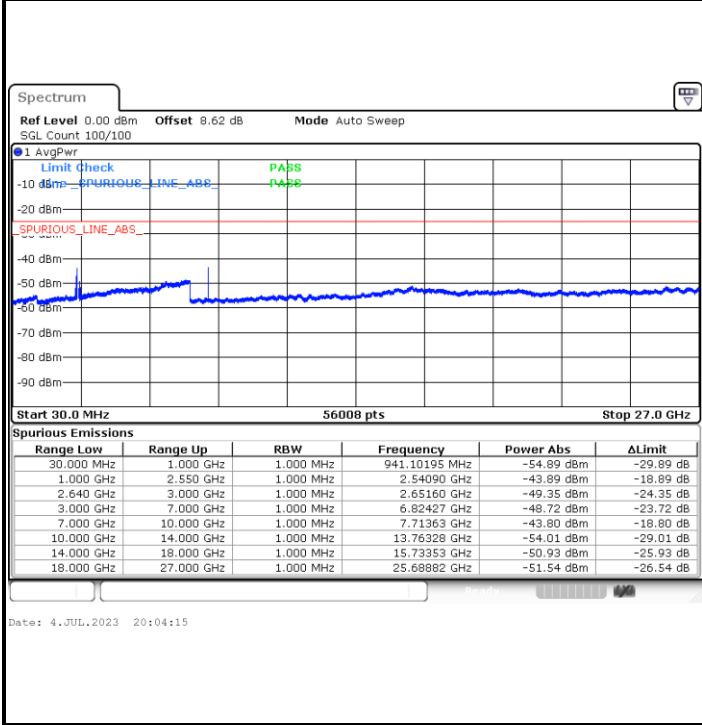
Highest Channel / QPSK



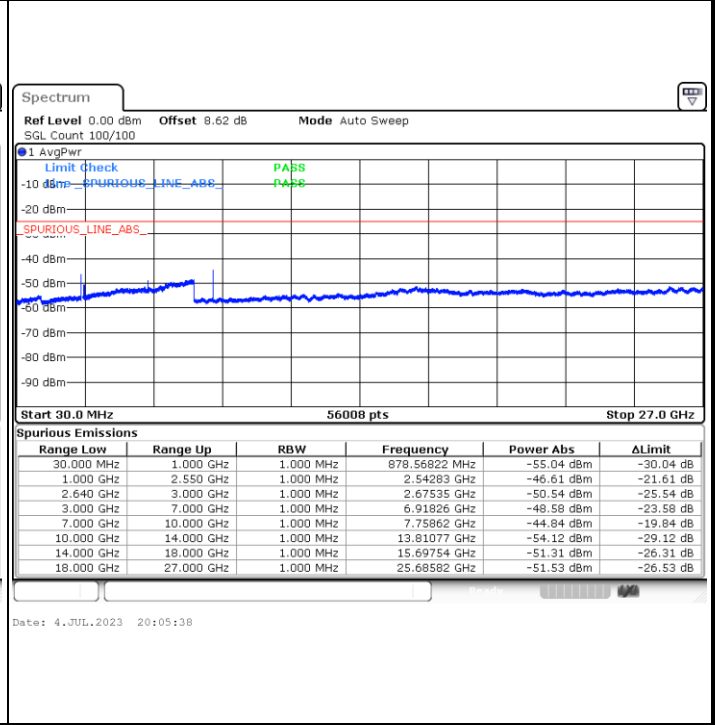


LTE Band 38 / 20MHz

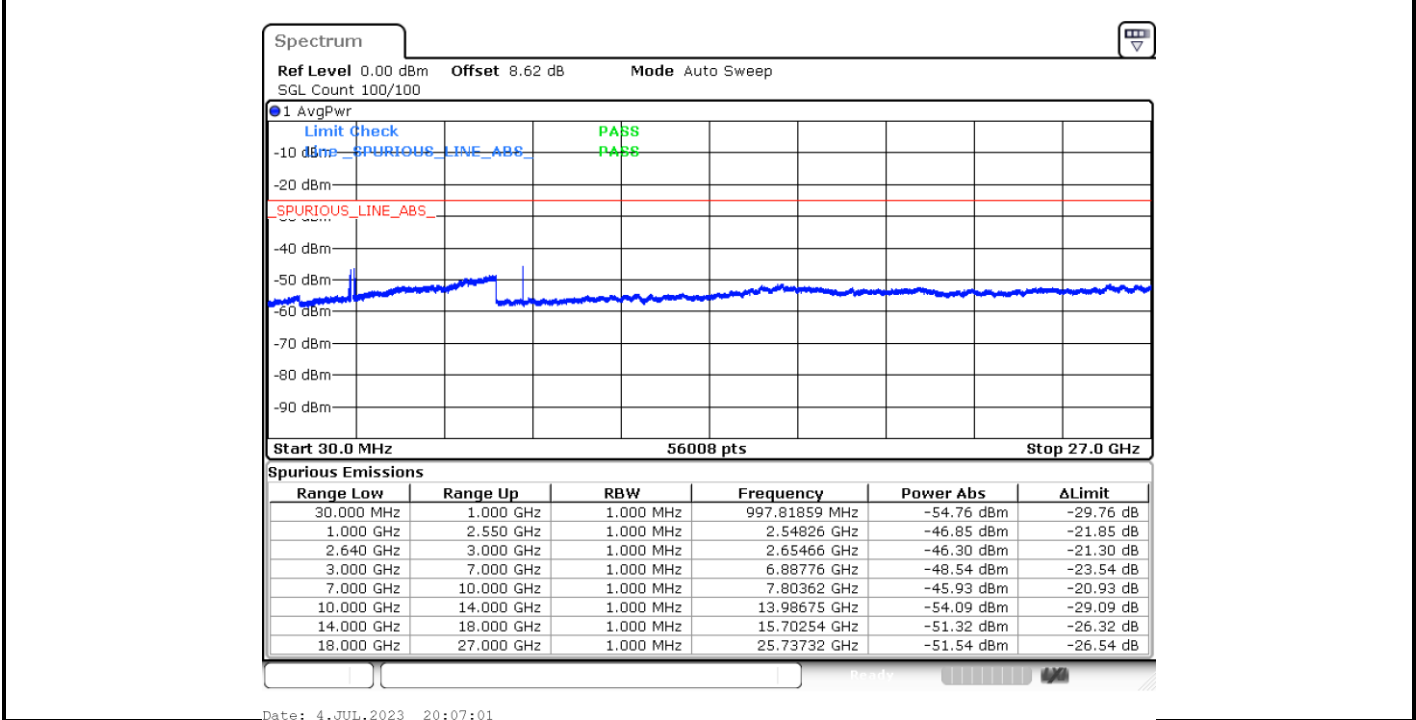
Lowest Channel / QPSK



Middle Channel / QPSK



Highest Channel / QPSK





Frequency Stability

Test Conditions		LTE Band 38 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0013	PASS
40	Normal Voltage	0.0011	
30	Normal Voltage	0.0016	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0008	
0	Normal Voltage	0.0017	
-10	Normal Voltage	0.0001	
-20	Normal Voltage	0.0016	
-30	Normal Voltage	0.0003	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0008	
20	Battery End Point	0.0014	

Note:

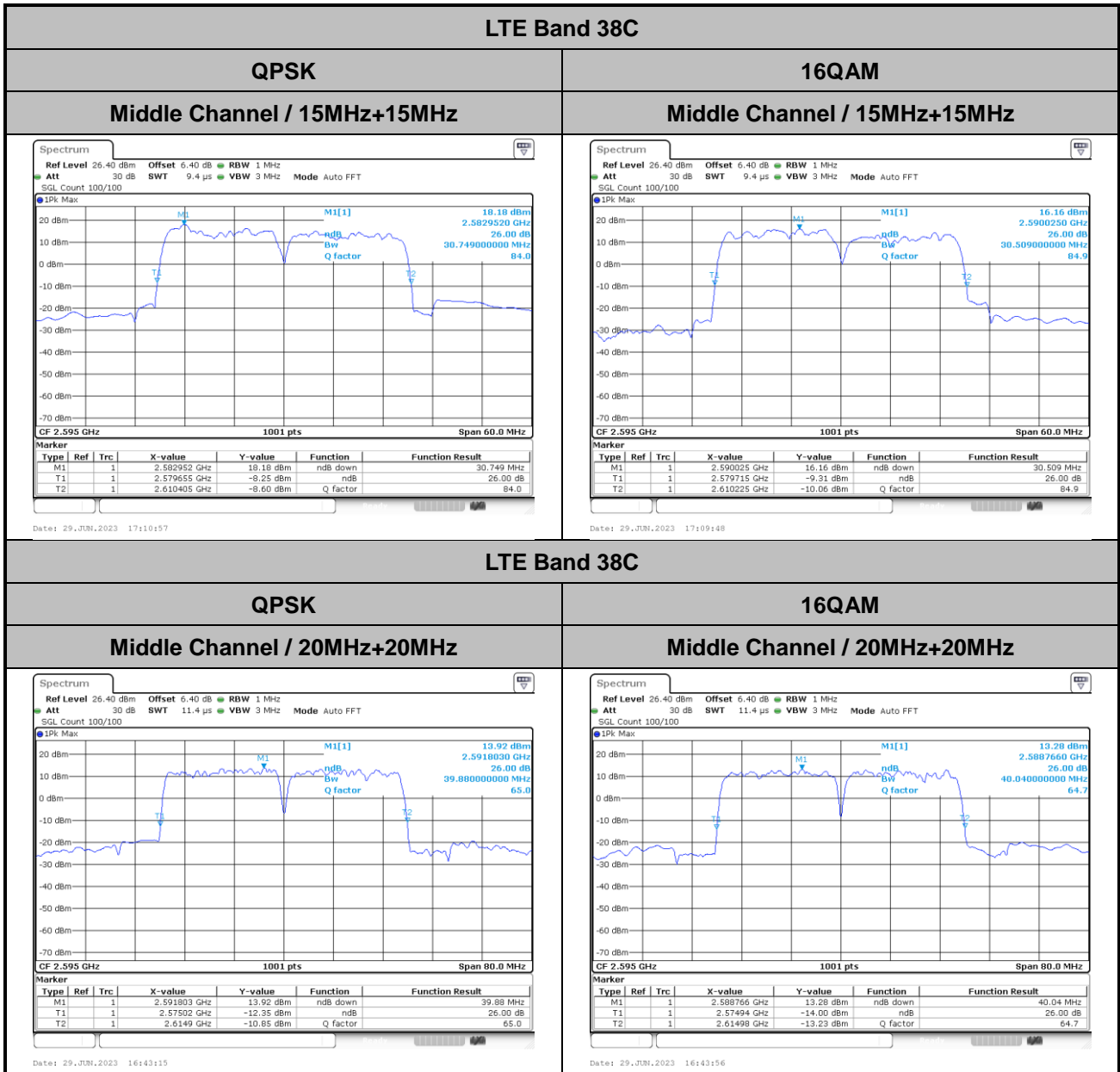
1. Normal Voltage =3.91V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.45 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 38C

26dB Bandwidth

Mode	LTE Band 38C : 26dB BW(MHz)	
Mod.	QPSK	16QAM
BW	15MHz+15MHz	15MHz+15MHz
Middle CH	30.75	30.51
Mode	LTE Band 38C : 26dB BW(MHz)	
Mod.	QPSK	16QAM
BW	20MHz+20MHz	20MHz+20MHz
Middle CH	39.88	40.04





Occupied Bandwidth

Mode	LTE Band 38C : 99%OBW(MHz)	
Mod.	QPSK	16QAM
BW	15MHz+15MHz	15MHz+15MHz
Middle CH	28.53	28.41
Mode	LTE Band 38C : 99%OBW(MHz)	
Mod.	QPSK	16QAM
BW	20MHz+20MHz	20MHz+20MHz
Middle CH	37.72	37.72



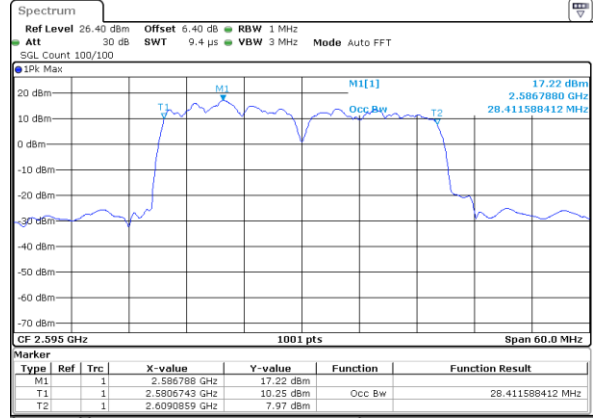
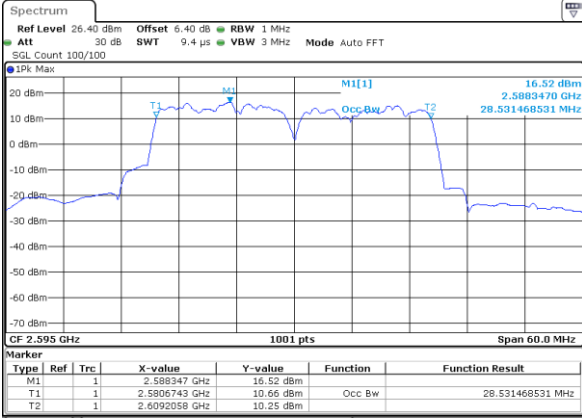
LTE Band 38C

QPSK

16QAM

Middle Channel / 15MHz+15MHz

Middle Channel / 15MHz+15MHz



Date: 29_JUN_2023 17:10:25

Date: 29_JUN_2023 17:08:28

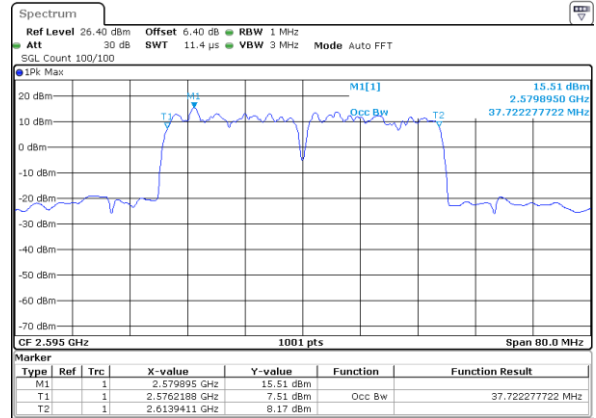
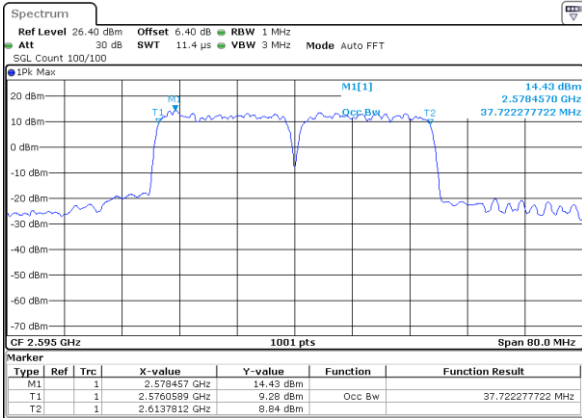
LTE Band 38C

QPSK

16QAM

Middle Channel / 20MHz+20MHz

Middle Channel / 20MHz+20MHz



Date: 29_JUN_2023 16:38:26

Date: 29_JUN_2023 16:47:54

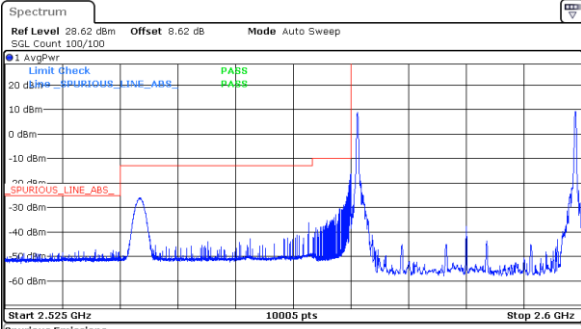


Conducted Band Edge

LTE Band 38C / 15MHz+15MHz

QPSK

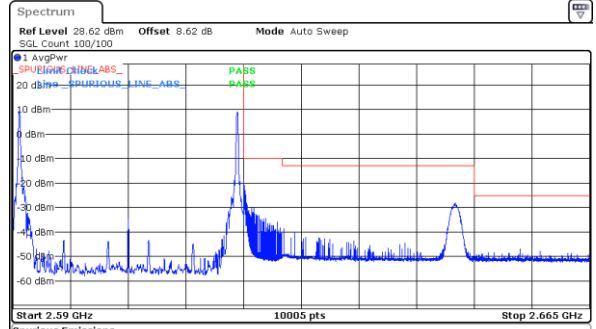
Lowest Band Edge / 1RB0 and 1RB74



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.525 GHz	2.540 GHz	1.000 MHz	2.53679 GHz	-47.14 dBm	-22.14 dB
2.540 GHz	2.565 GHz	1.000 MHz	2.54255 GHz	-29.91 dBm	-12.91 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56896 GHz	-30.37 dBm	-20.37 dB
2.569 GHz	2.570 GHz	1.000 MHz	2.56998 GHz	-16.05 dBm	-6.05 dB
2.570 GHz	2.600 GHz	100.000 kHz	2.59918 GHz	9.35 dBm	-20.65 dB

Date: 29 JUN 2023 14:55:59

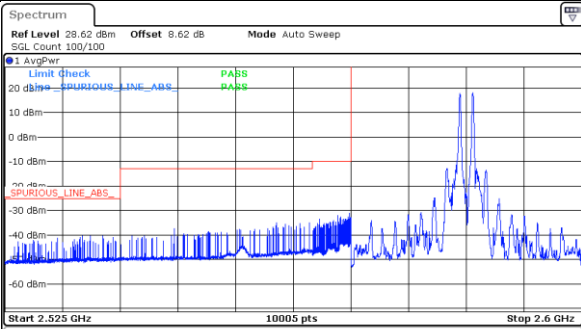
Highest Band Edge / 1RB0 and 1RB74



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.620 GHz	100.000 kHz	2.59082 GHz	9.11 dBm	-20.89 dB
2.620 GHz	2.621 GHz	1.000 MHz	2.62001 GHz	-18.55 dBm	-8.55 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62104 GHz	-30.04 dBm	-20.04 dB
2.625 GHz	2.650 GHz	1.000 MHz	2.64748 GHz	-28.18 dBm	-15.18 dB
2.650 GHz	2.665 GHz	1.000 MHz	2.65593 GHz	-46.88 dBm	-21.88 dB

Date: 29 JUN 2023 15:16:00

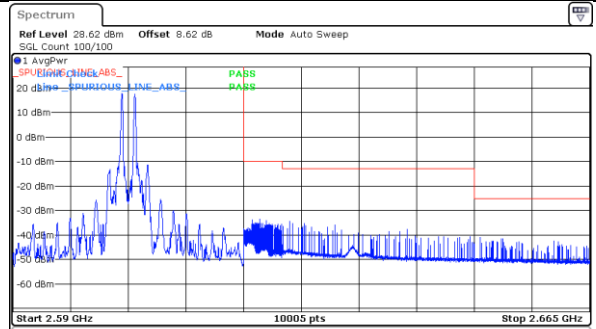
Lowest Band Edge / 1RB74 and 1RB0



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.525 GHz	2.540 GHz	1.000 MHz	2.53772 GHz	-40.30 dBm	-15.30 dB
2.540 GHz	2.565 GHz	1.000 MHz	2.54554 GHz	-34.83 dBm	-21.83 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56830 GHz	-31.85 dBm	-21.85 dB
2.569 GHz	2.570 GHz	1.000 MHz	2.56981 GHz	-31.16 dBm	-21.16 dB
2.570 GHz	2.600 GHz	100.000 kHz	2.58582 GHz	18.08 dBm	-11.92 dB

Date: 29 JUN 2023 15:00:41

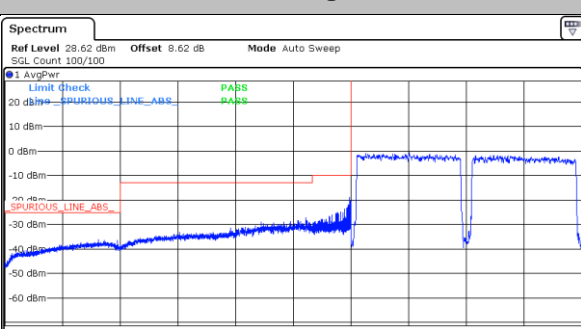
Highest Band Edge / 1RB74 and 1RB0



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.620 GHz	100.000 kHz	2.60418 GHz	17.91 dBm	-12.09 dB
2.620 GHz	2.621 GHz	1.000 MHz	2.62062 GHz	-37.04 dBm	-27.04 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62210 GHz	-33.43 dBm	-23.43 dB
2.625 GHz	2.650 GHz	1.000 MHz	2.63597 GHz	-34.30 dBm	-21.30 dB
2.650 GHz	2.665 GHz	1.000 MHz	2.65078 GHz	-40.88 dBm	-15.88 dB

Date: 29 JUN 2023 15:31:25

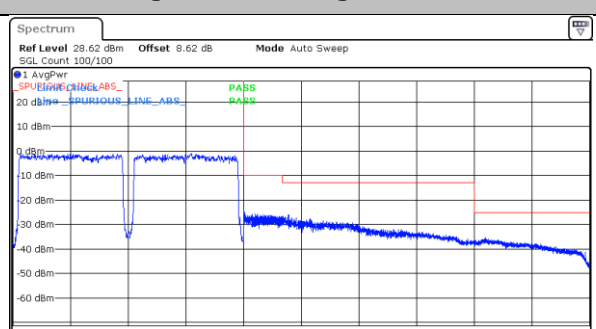
Lowest Band Edge / Full RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.525 GHz	2.540 GHz	1.000 MHz	2.53715 GHz	-36.08 dBm	-11.08 dB
2.540 GHz	2.565 GHz	1.000 MHz	2.56416 GHz	-27.24 dBm	-14.24 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56868 GHz	-24.90 dBm	-14.90 dB
2.569 GHz	2.570 GHz	1.000 MHz	2.56982 GHz	-18.72 dBm	-8.72 dB
2.570 GHz	2.600 GHz	100.000 kHz	2.57756 GHz	-0.76 dBm	-30.76 dB

Date: 29 JUN 2023 14:51:19

Highest Band Edge / Full RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.590 GHz	2.620 GHz	100.000 kHz	2.61328 GHz	-1.04 dBm	-31.04 dB
2.620 GHz	2.621 GHz	1.000 MHz	2.62000 GHz	-24.35 dBm	-14.35 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62117 GHz	-25.60 dBm	-15.60 dB
2.625 GHz	2.650 GHz	1.000 MHz	2.62887 GHz	-25.86 dBm	-12.86 dB
2.650 GHz	2.665 GHz	1.000 MHz	2.65146 GHz	-35.31 dBm	-10.31 dB

Date: 29 JUN 2023 15:40:34