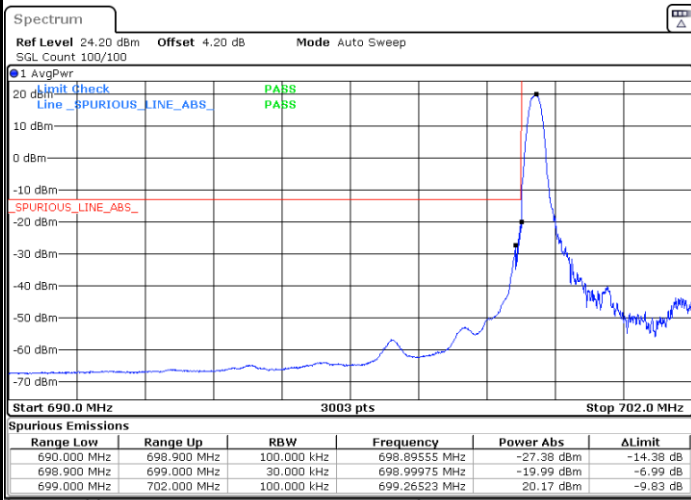




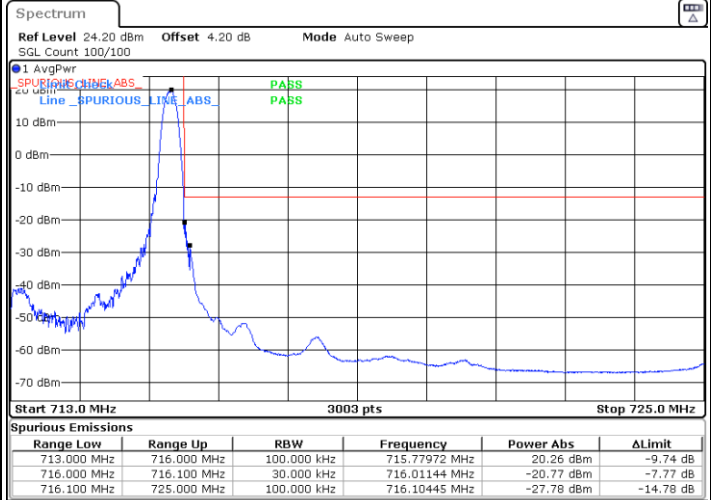
LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / 1RB



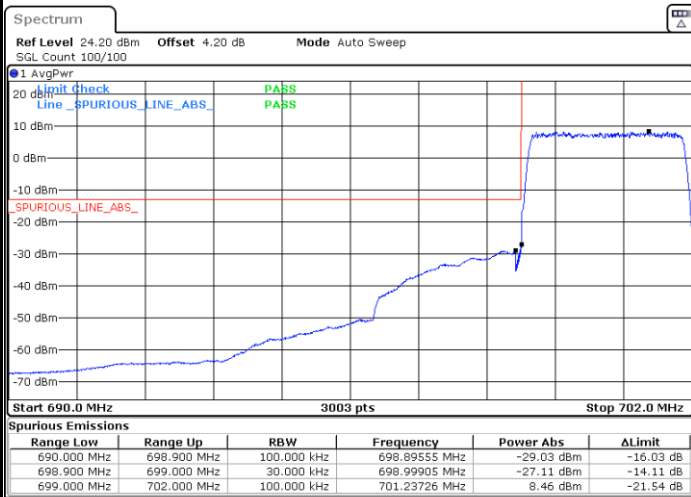
Date: 5.FEB.2023 09:35:12

Highest Band Edge / 1 RB



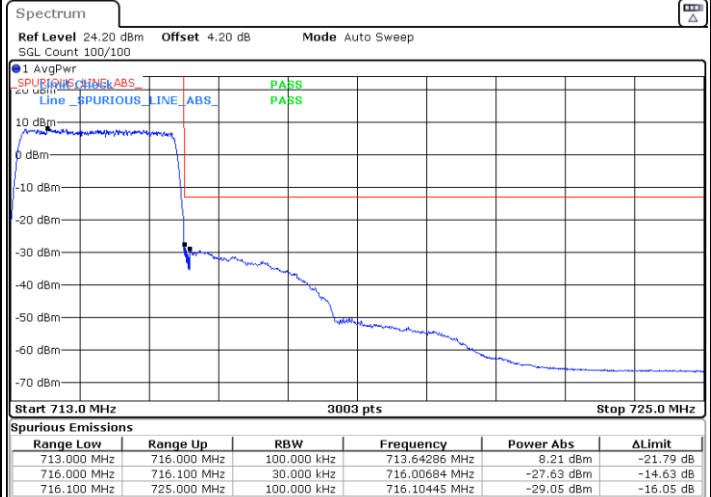
Date: 5.FEB.2023 09:43:55

Lowest Band Edge / Full RB



Date: 5.FEB.2023 09:38:41

Highest Band Edge / Full RB



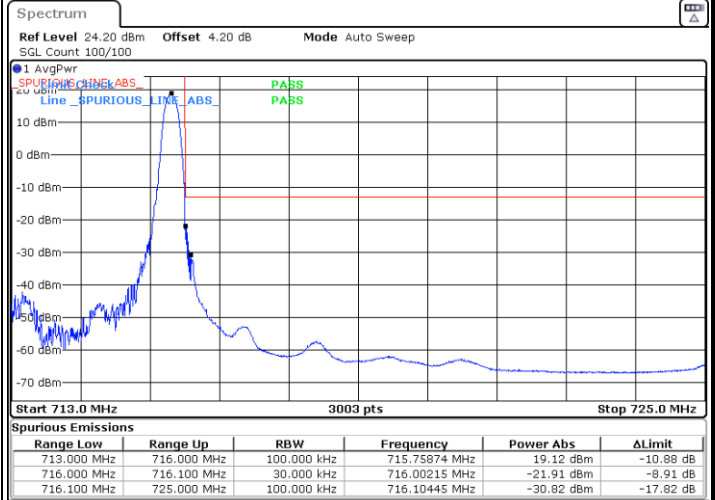
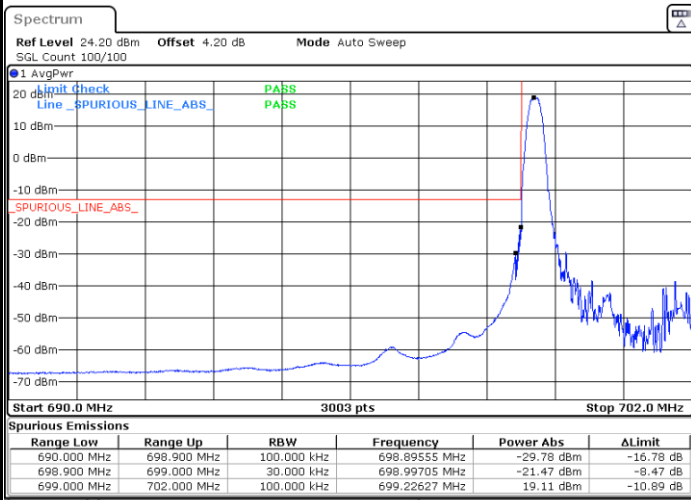
Date: 5.FEB.2023 09:47:25



LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

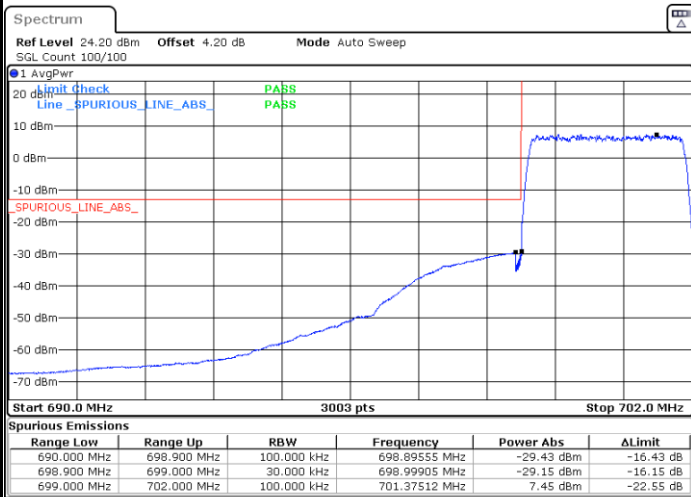


Date: 5.FEB.2023 09:36:21

Date: 5.FEB.2023 09:45:05

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



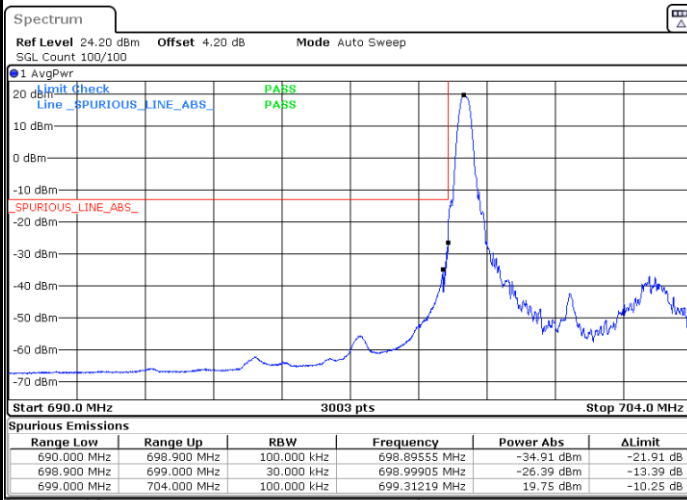
Date: 5.FEB.2023 09:37:32

Date: 5.FEB.2023 09:46:15

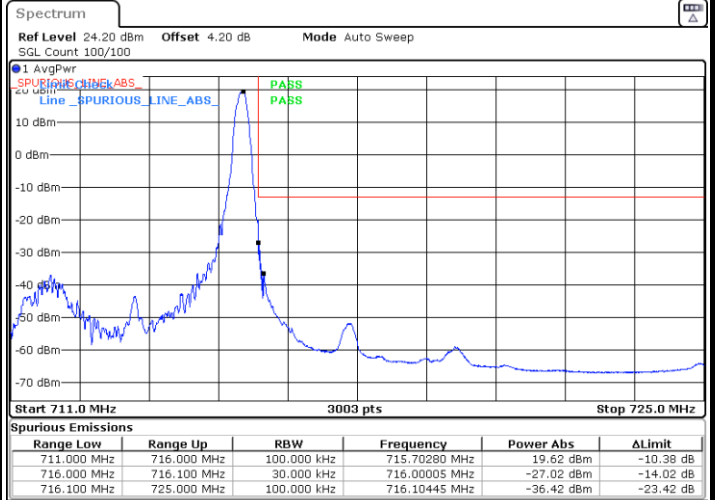


LTE Band 12 / 5MHz / QPSK

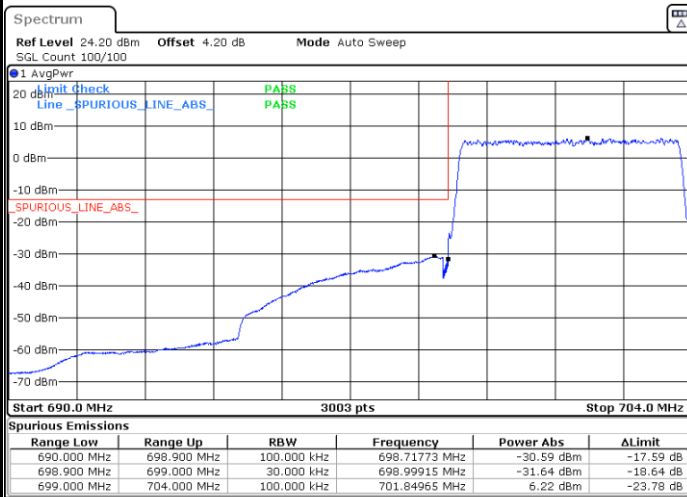
Lowest Band Edge / 1 RB



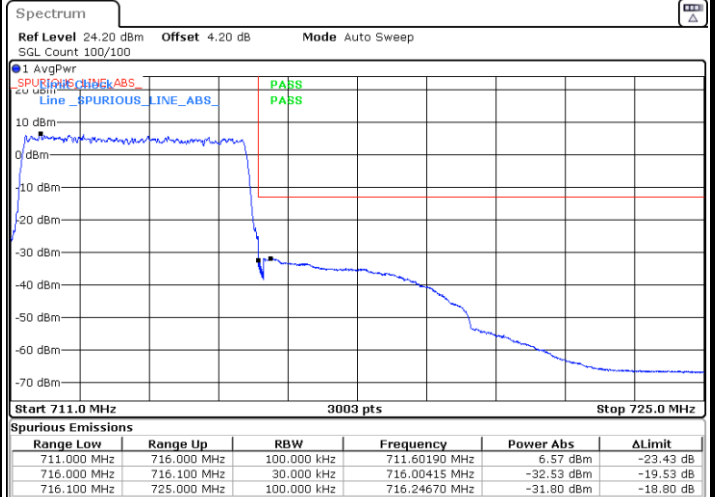
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



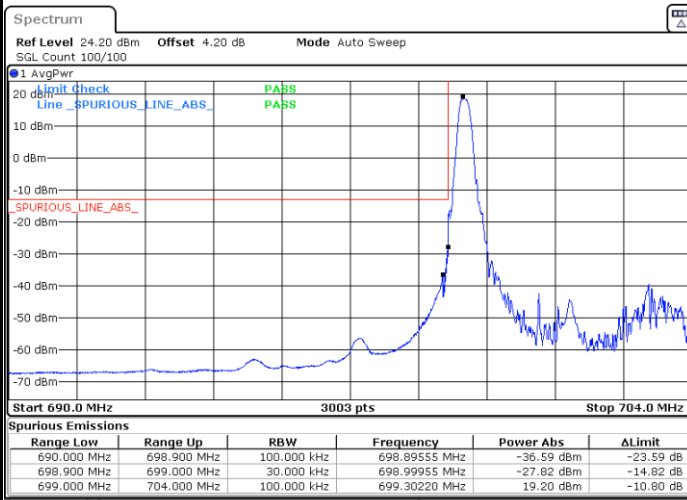
Highest Band Edge / Full RB





LTE Band 12 / 5MHz / 16QAM

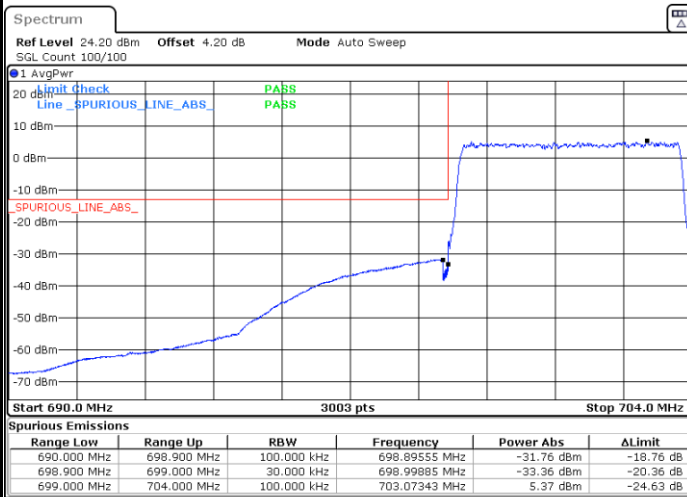
Lowest Band Edge / 1RB



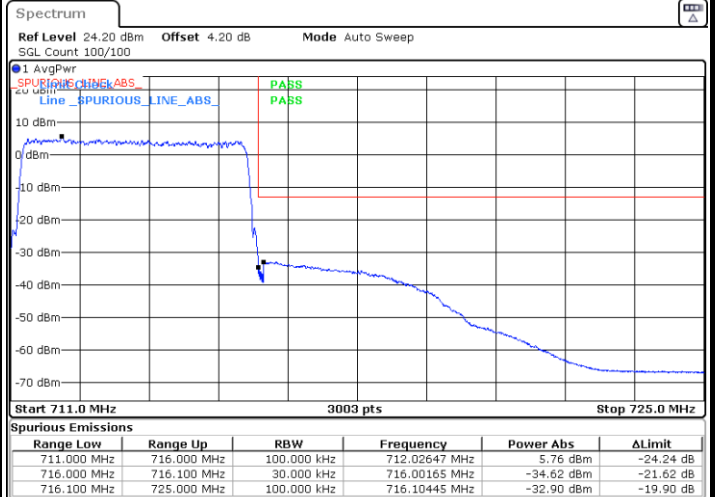
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



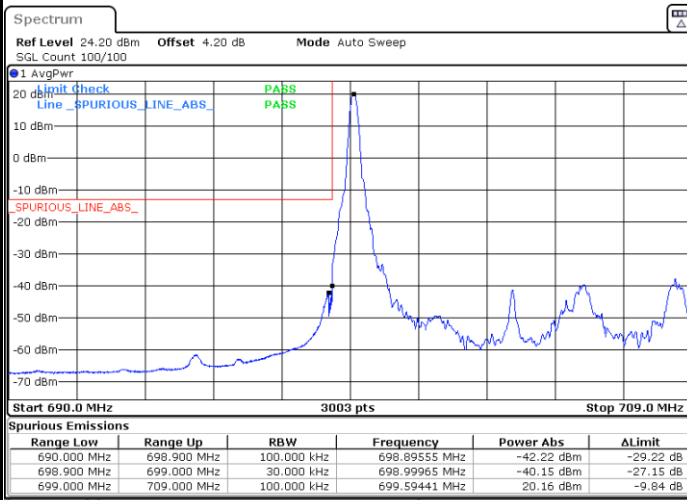
Highest Band Edge / Full RB





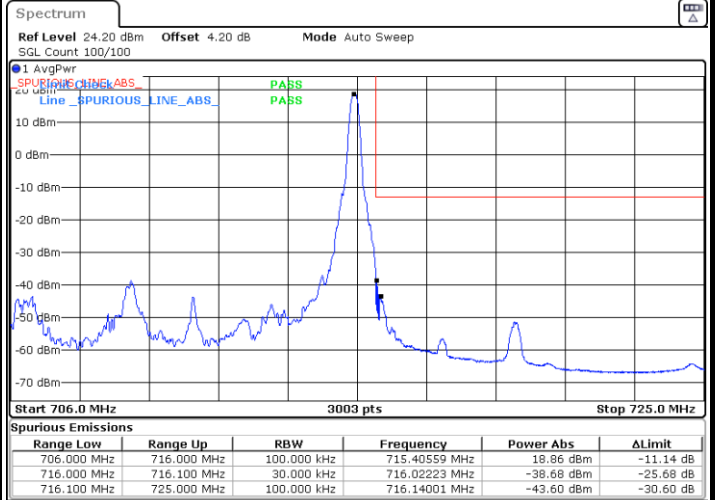
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1 RB



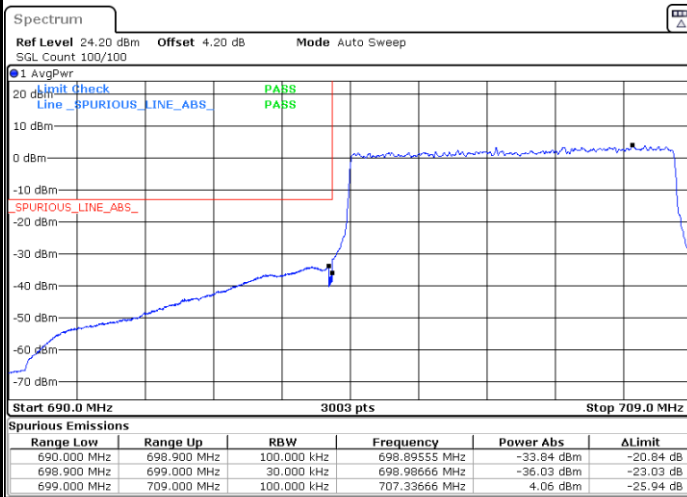
Date: 5.FEB.2023 10:04:38

Highest Band Edge / 1 RB



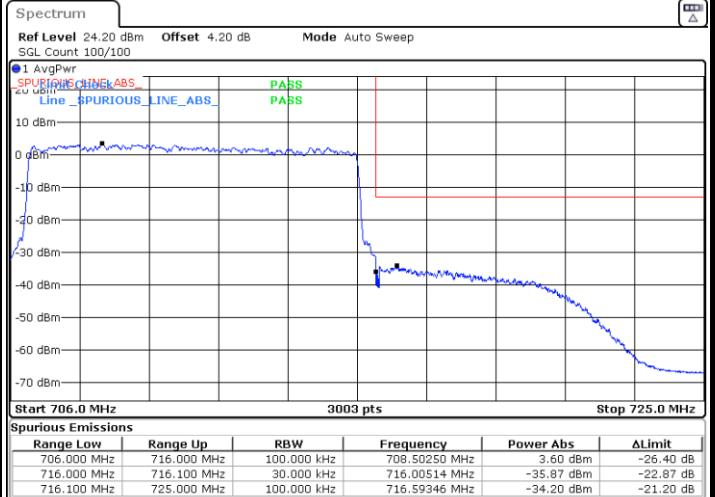
Date: 5.FEB.2023 10:11:57

Lowest Band Edge / Full RB



Date: 5.FEB.2023 10:08:08

Highest Band Edge / Full RB

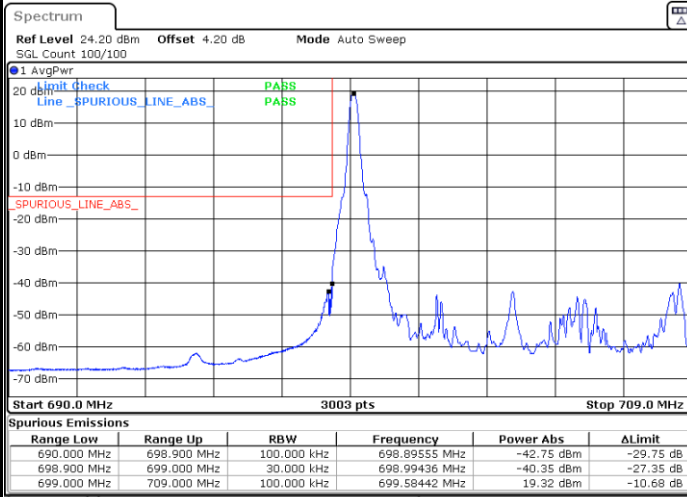


Date: 5.FEB.2023 10:15:27

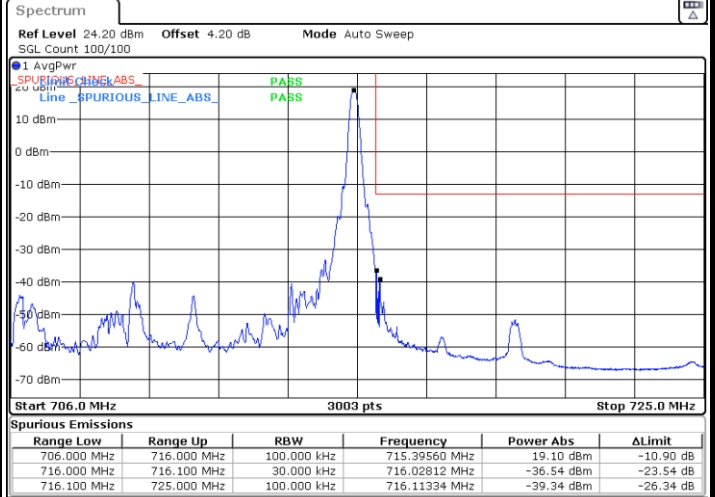


LTE Band 12 / 10MHz / 16QAM

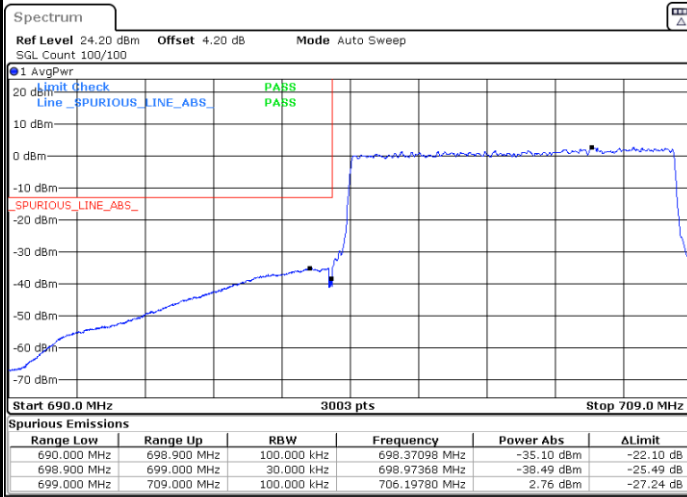
Lowest Band Edge / 1 RB



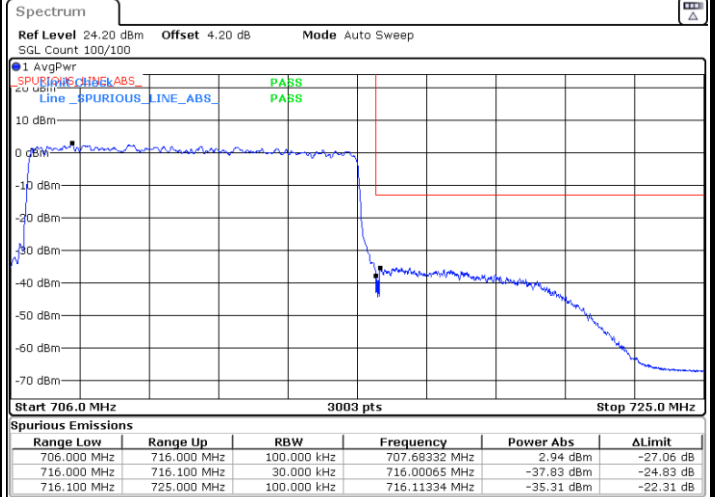
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB

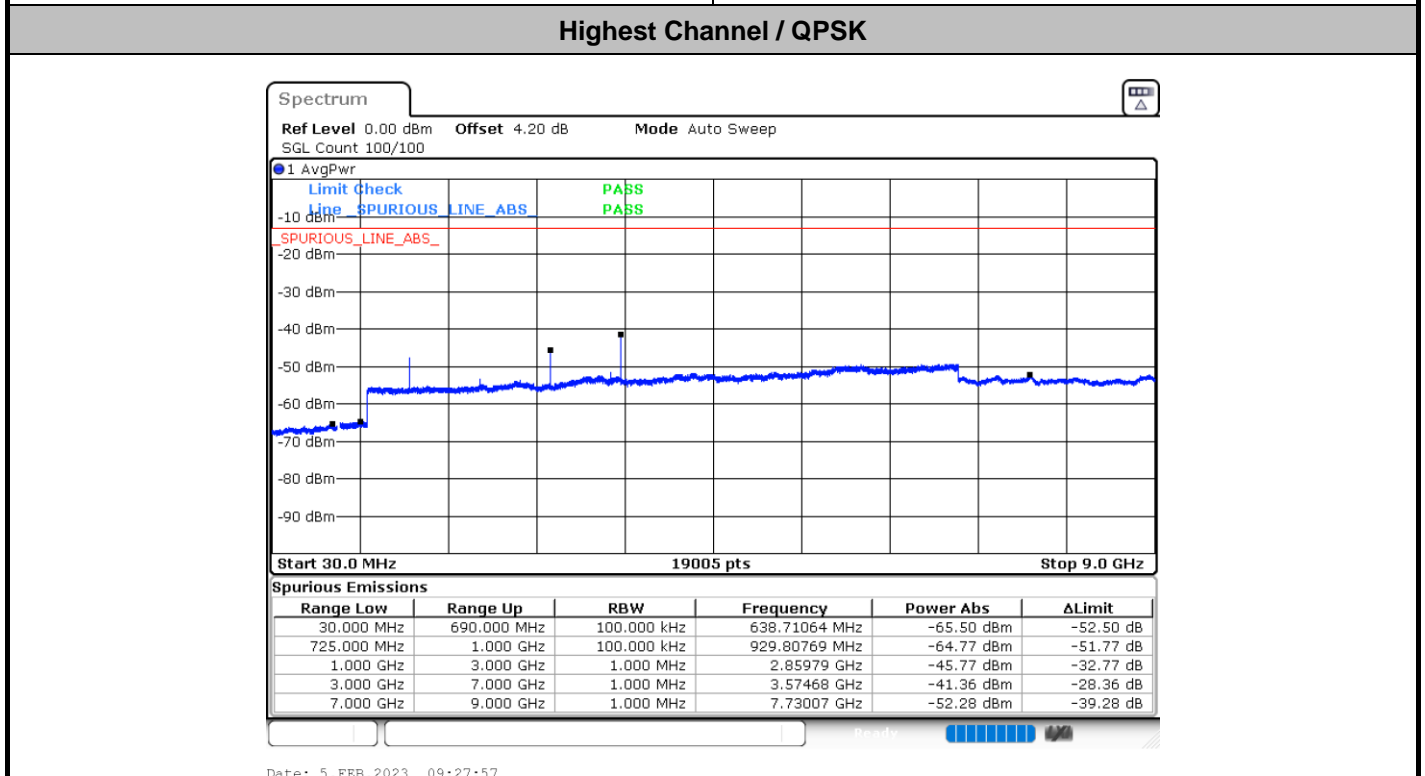
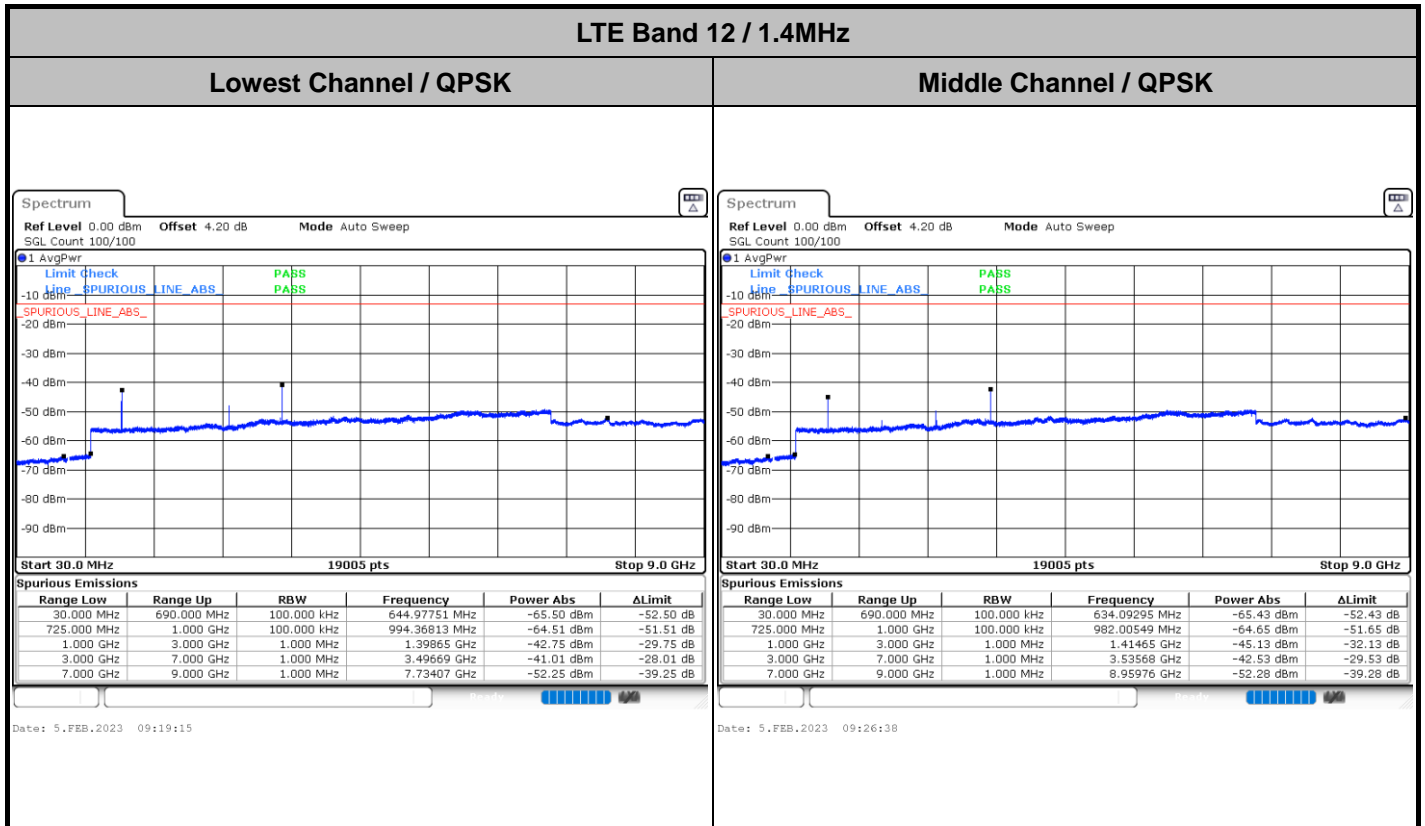


Highest Band Edge / Full RB





# Conducted Spurious Emission

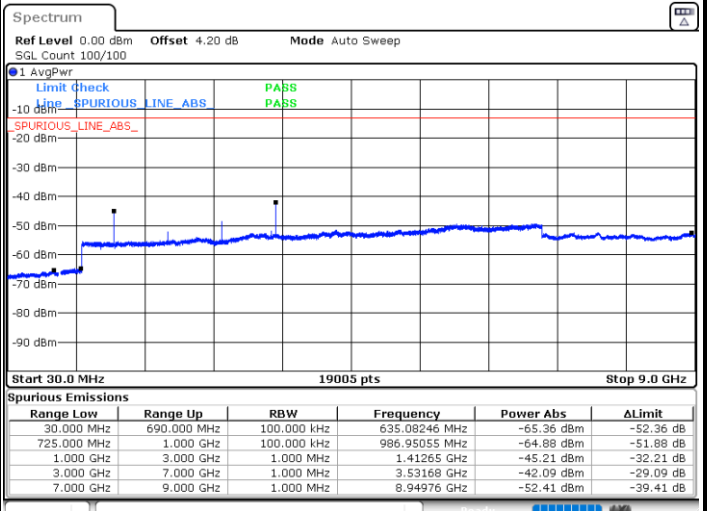
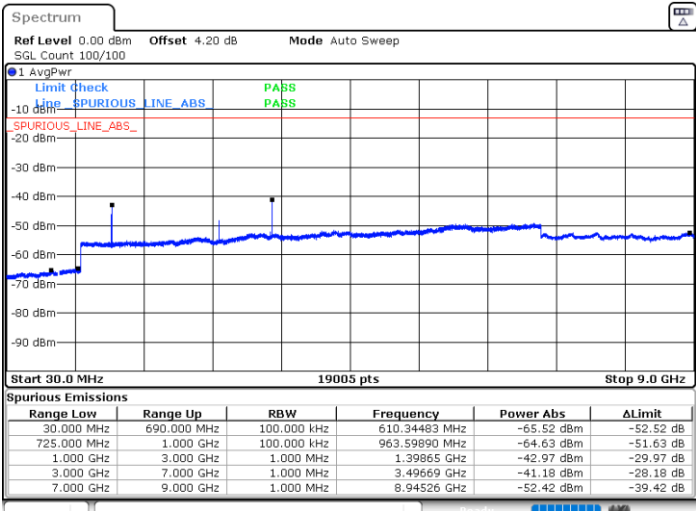




LTE Band 12 / 3MHz

Lowest Channel / QPSK

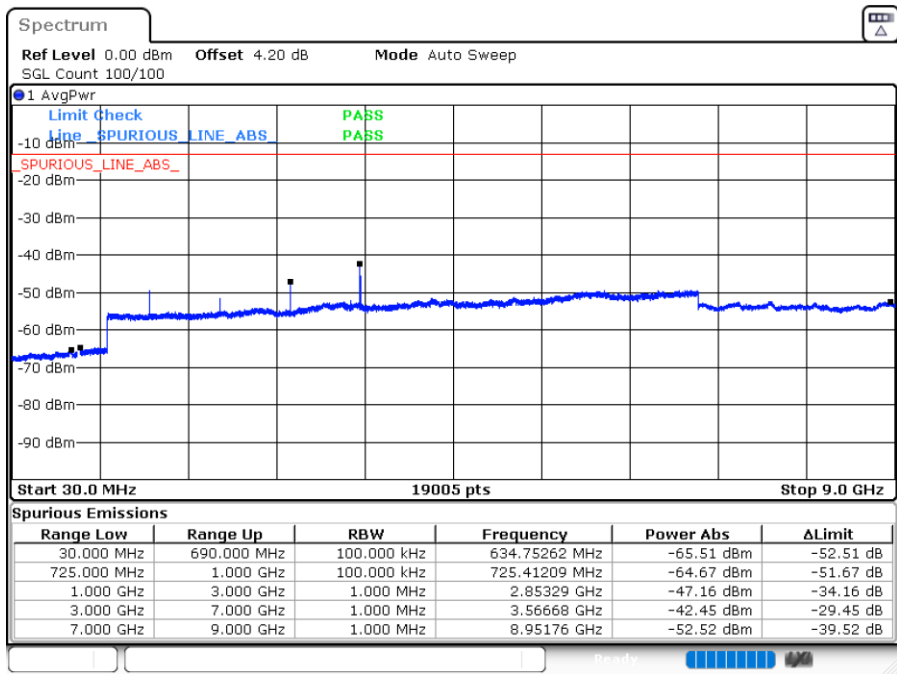
Middle Channel / QPSK



Date: 5.FEB.2023 09:33:57

Date: 5.FEB.2023 09:41:25

Highest Channel / QPSK



Date: 5.FEB.2023 09:42:45

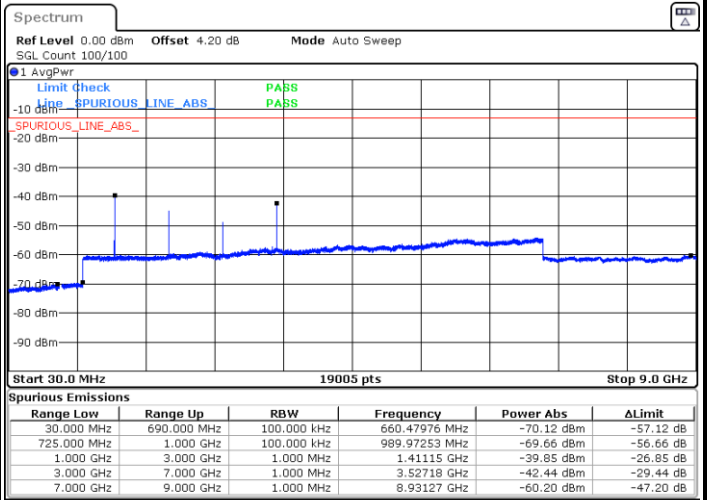
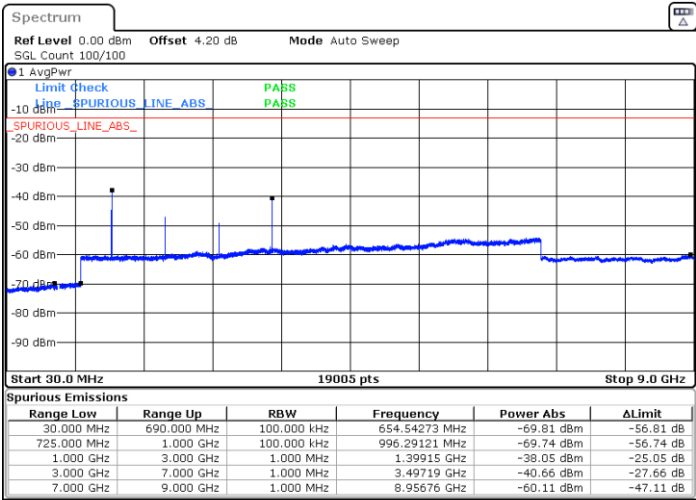




LTE Band 12 / 5MHz

Lowest Channel / QPSK

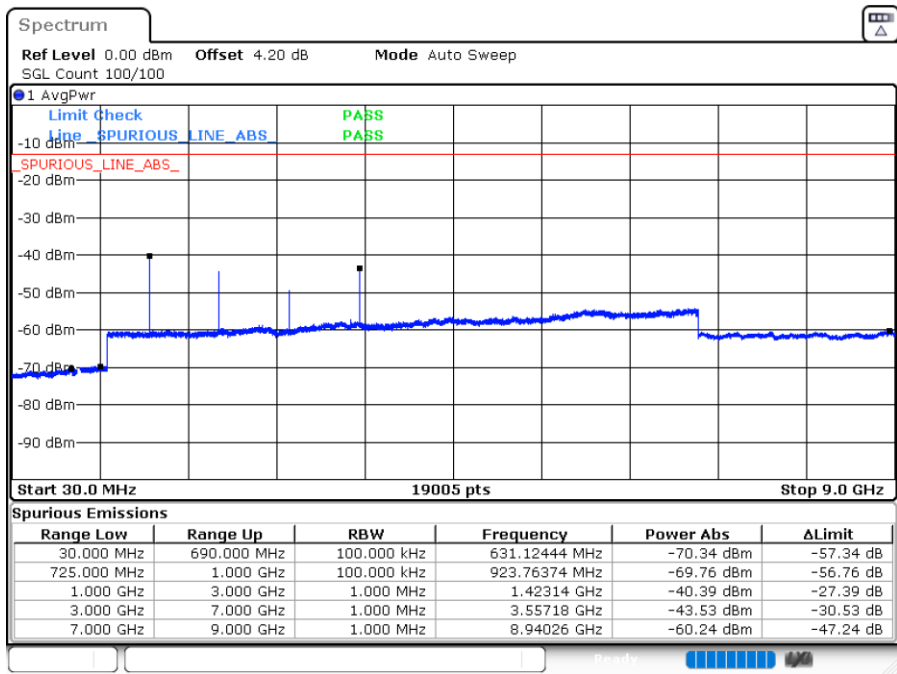
Middle Channel / QPSK



Date: 5.FEB.2023 09:48:45

Date: 5.FEB.2023 09:56:09

Highest Channel / QPSK



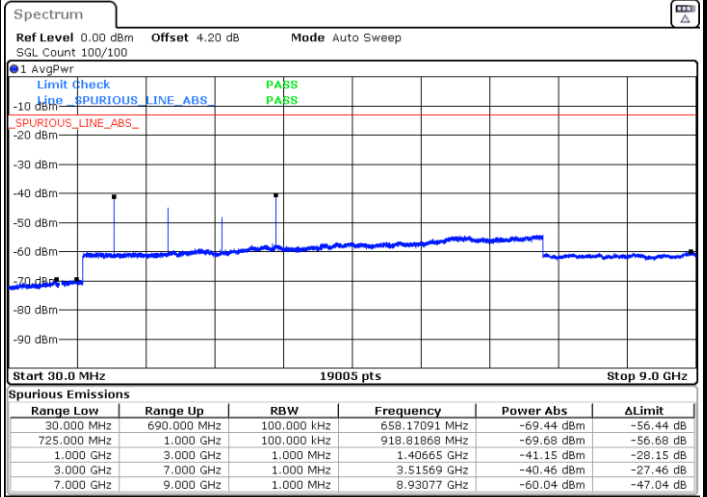
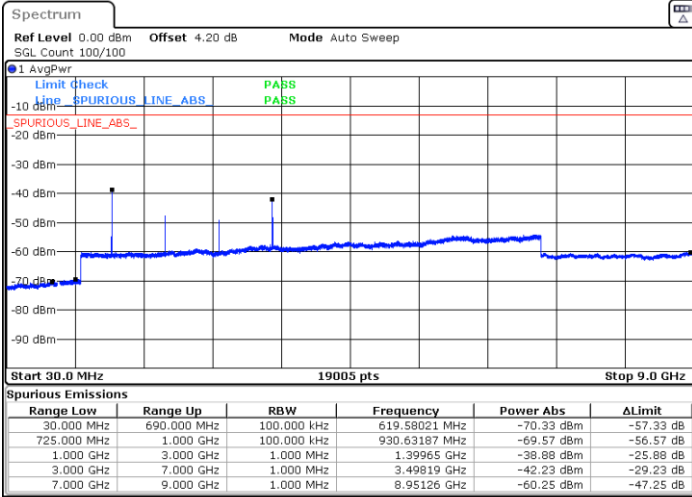
Date: 5.FEB.2023 09:57:28



LTE Band 12 / 10MHz

Lowest Channel / QPSK

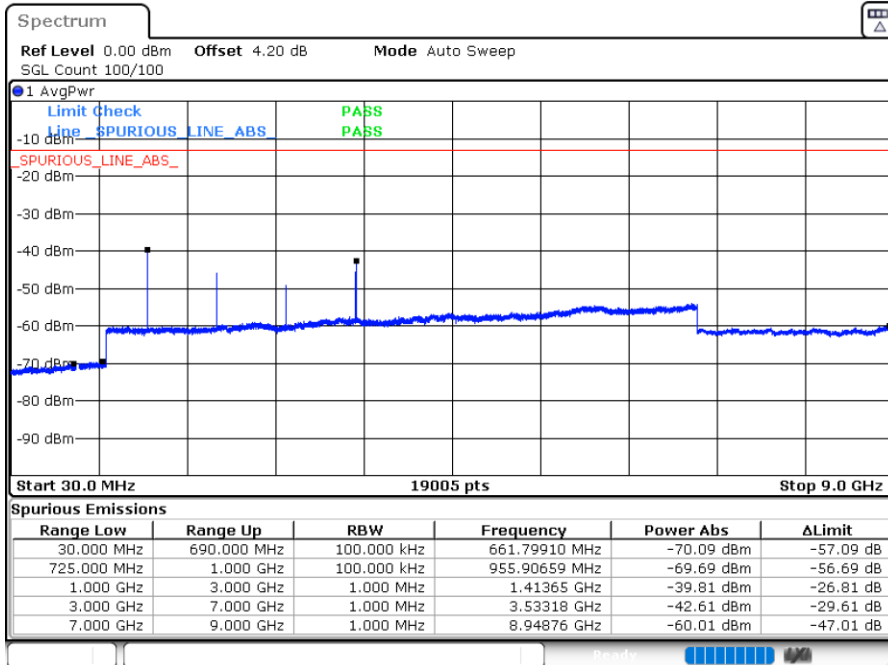
Middle Channel / QPSK



Date: 5.FEB.2023 10:03:28

Date: 5.FEB.2023 10:09:28

Highest Channel / QPSK



Date: 5.FEB.2023 10:10:47



### Frequency Stability

Test Conditions		LTE Band 12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0019	PASS
40	Normal Voltage	0.0002	
30	Normal Voltage	0.0039	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0036	
0	Normal Voltage	0.0025	
-10	Normal Voltage	0.0016	
-20	Normal Voltage	0.0047	
-30	Normal Voltage	0.0038	
20	Maximum Voltage	0.0014	
20	Normal Voltage	0.0013	
20	Minimum Voltage	0.0007	

**Note:**

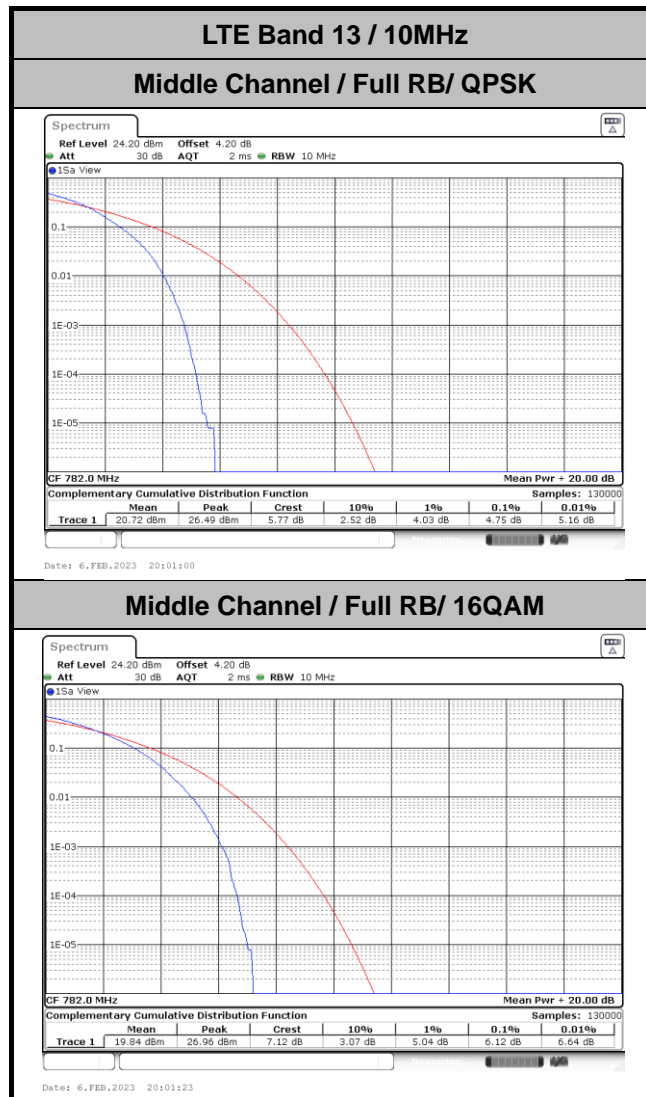
1. Normal Voltage =3.8 V. ; Minimum Voltage =3.55 V. ; Maximum Voltage =4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



# LTE Band 13

## Peak-to-Average Ratio

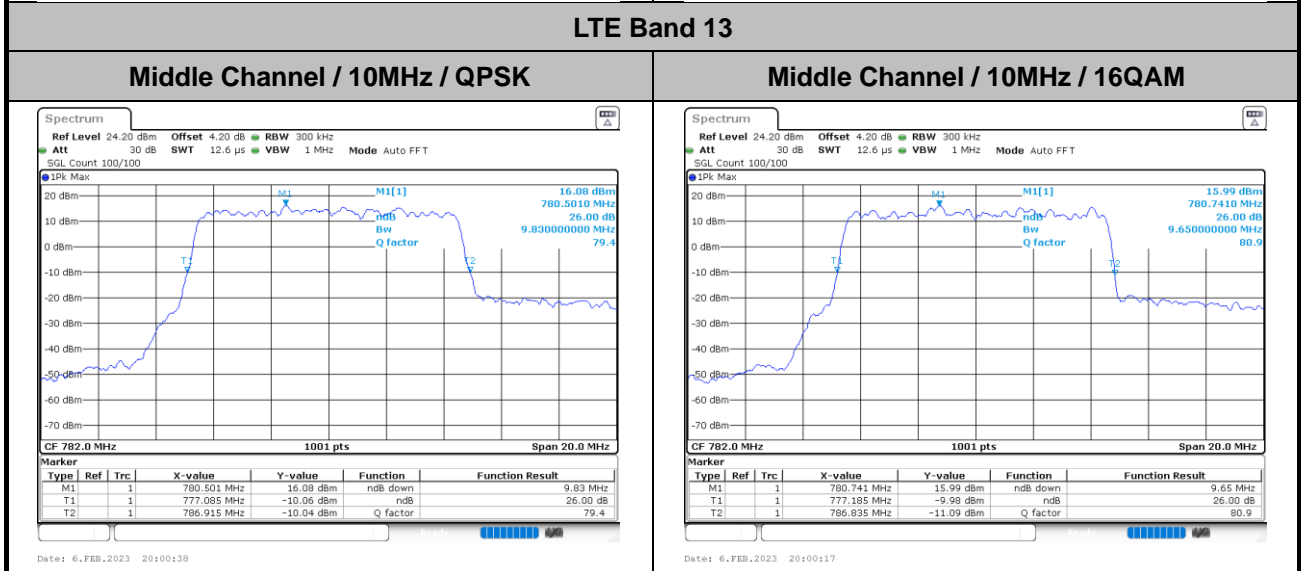
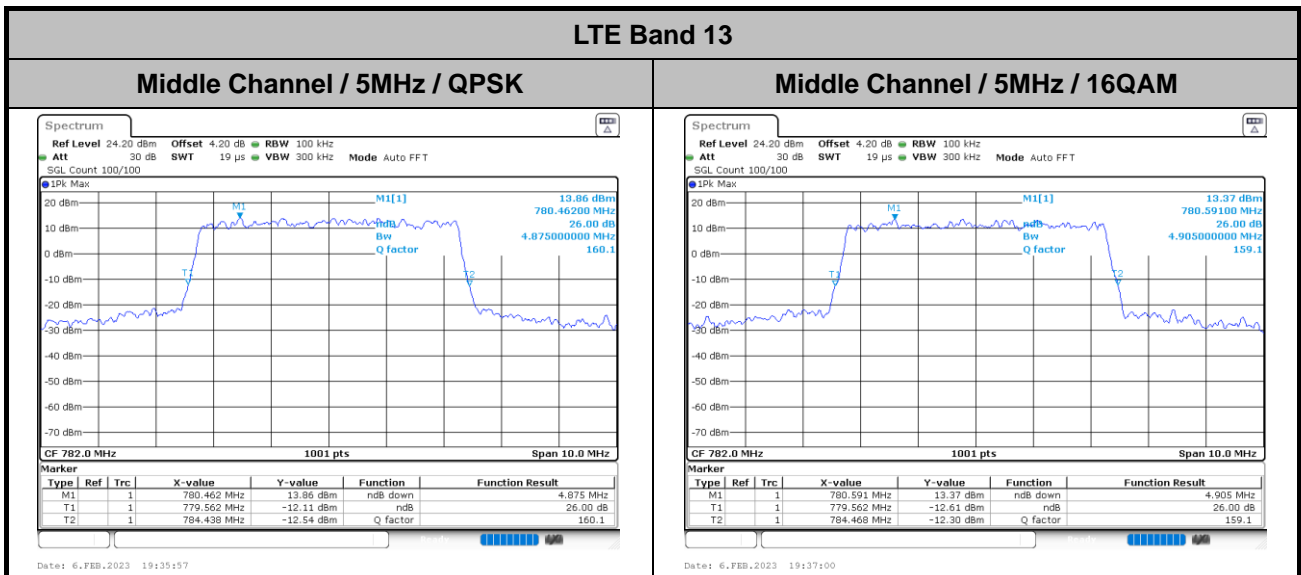
Mode	LTE Band 13 / 10MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	4.75	6.12	PASS





**26dB Bandwidth**

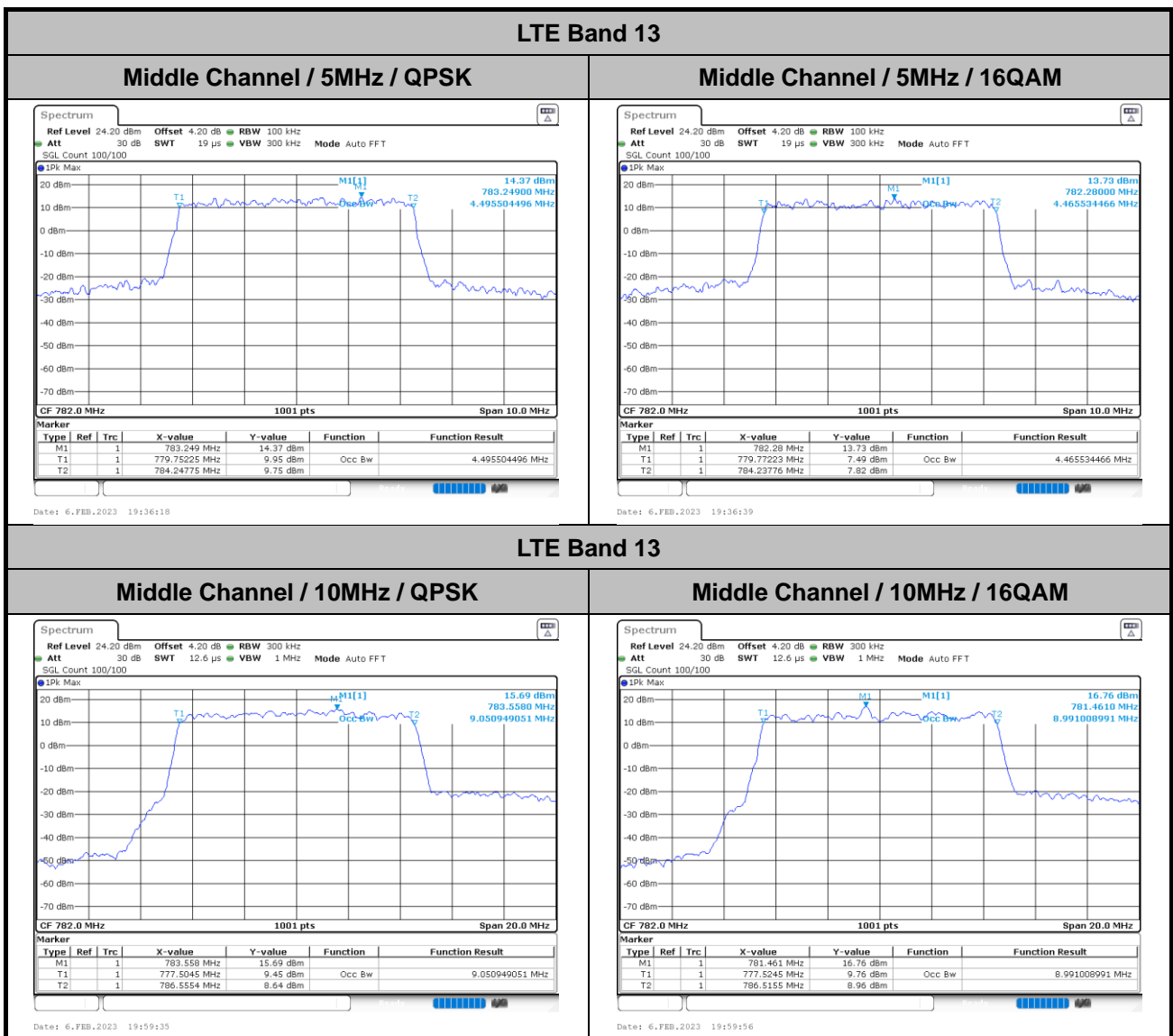
Mode	LTE Band 13 : 26dB BW(MHz)	
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	4.88	4.91
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	9.83	9.65





# Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(MHz)	
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	4.50	4.47
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	9.05	8.99

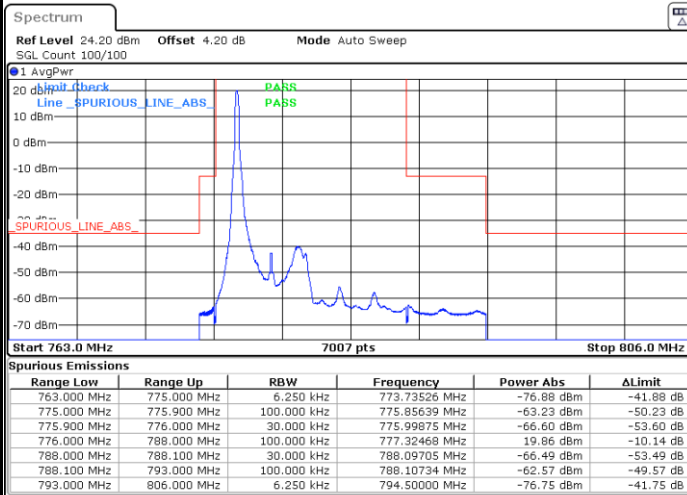




# Conducted Band Edge

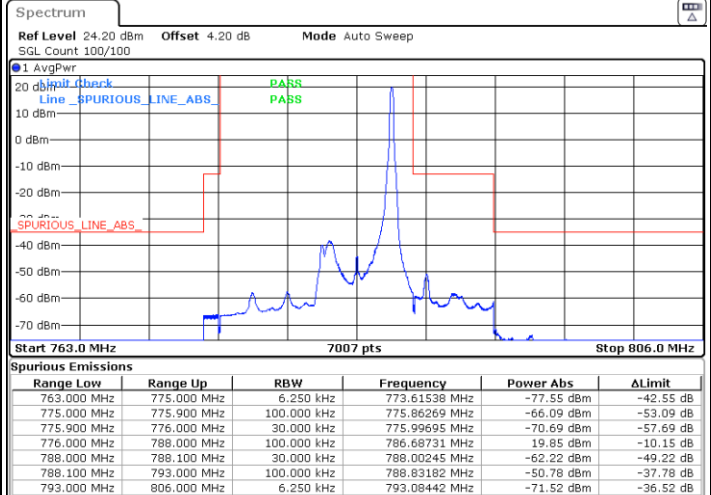
## LTE Band 13 / 5MHz / QPSK

### Lowest Band Edge / 1 RB



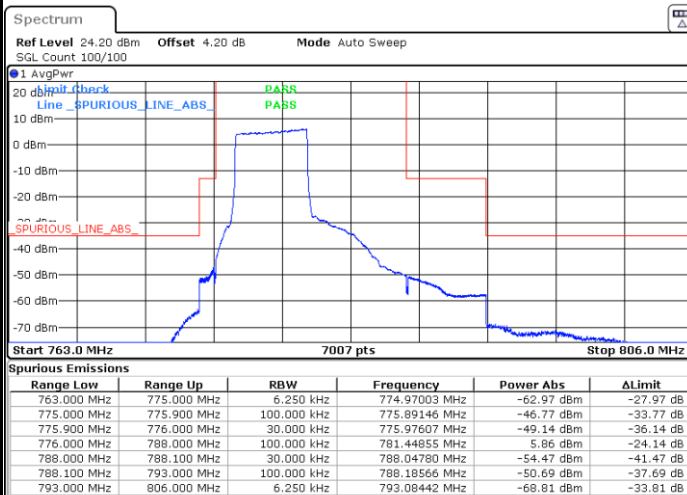
Date: 6.FEB.2023 19:30:06

### Highest Band Edge / 1 RB



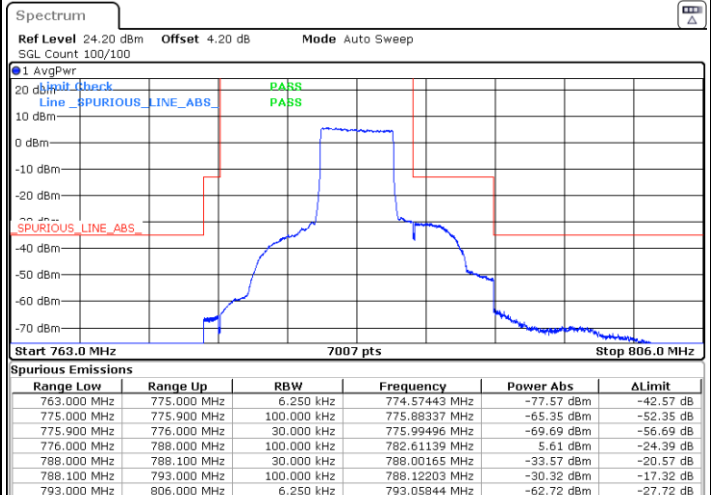
Date: 6.FEB.2023 19:41:28

### Lowest Band Edge / Full RB



Date: 6.FEB.2023 19:35:36

### Highest Band Edge / Full RB



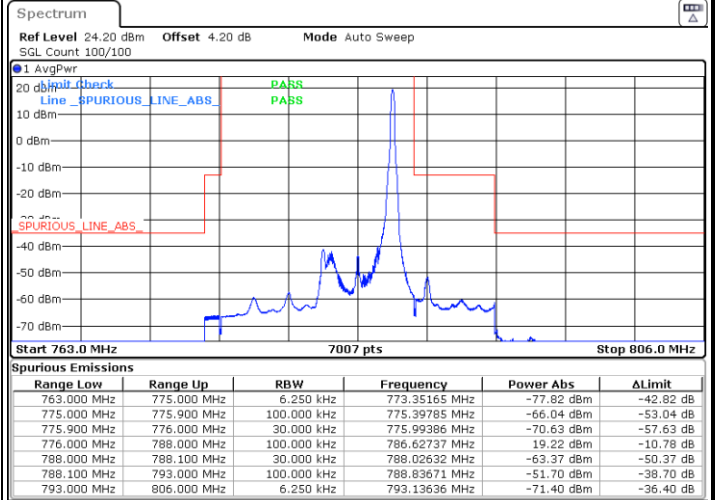
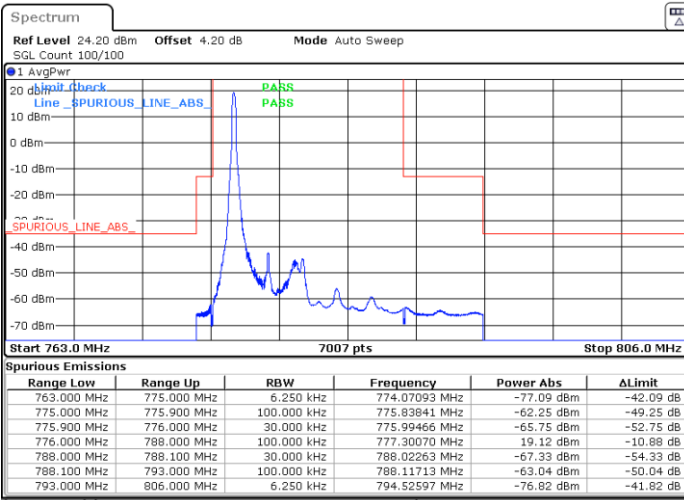
Date: 6.FEB.2023 19:46:58



LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1RB

Highest Band Edge / 1 RB

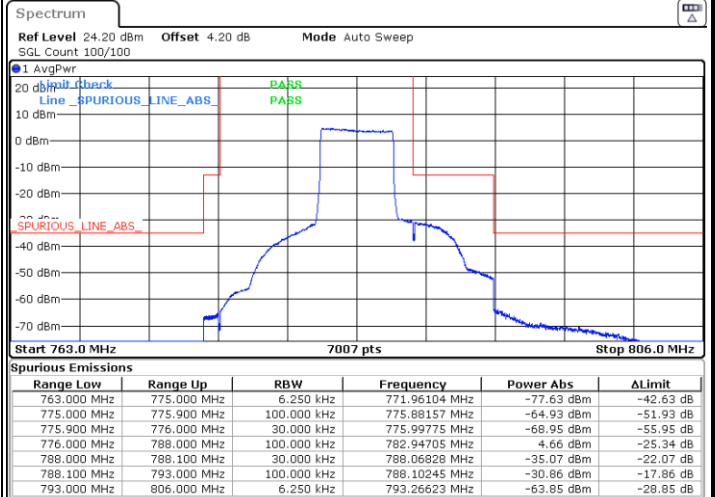
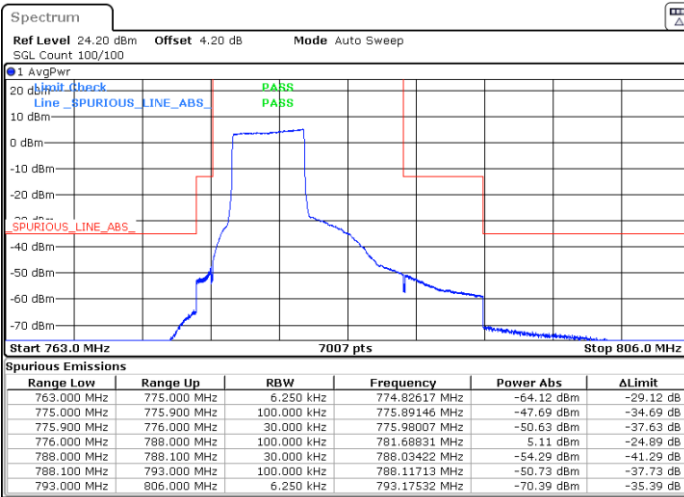


Date: 6.FEB.2023 19:31:56

Date: 6.FEB.2023 19:43:18

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 6.FEB.2023 19:33:46

Date: 6.FEB.2023 19:45:08

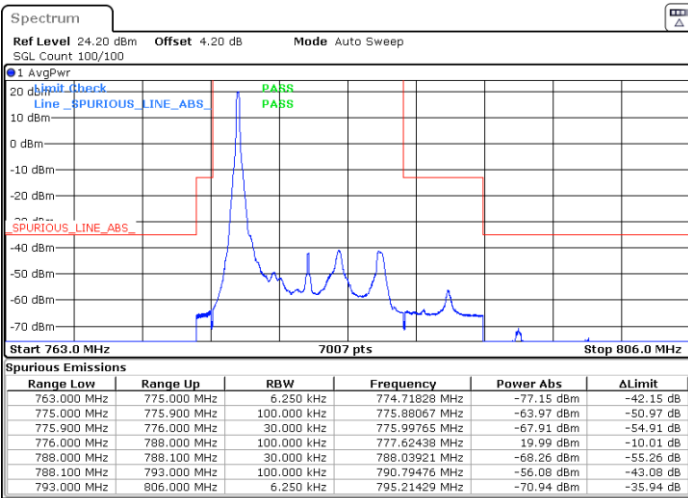




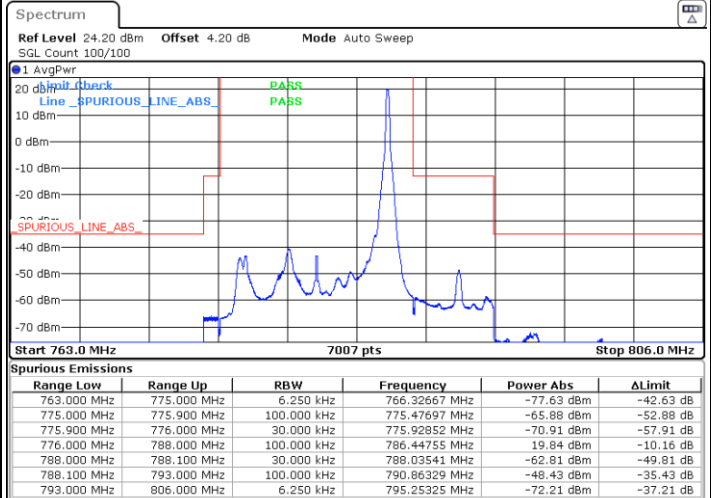
LTE Band 13 / 10MHz / QPSK

middle Band Edge / 1 RB

middle Band Edge / 1 RB

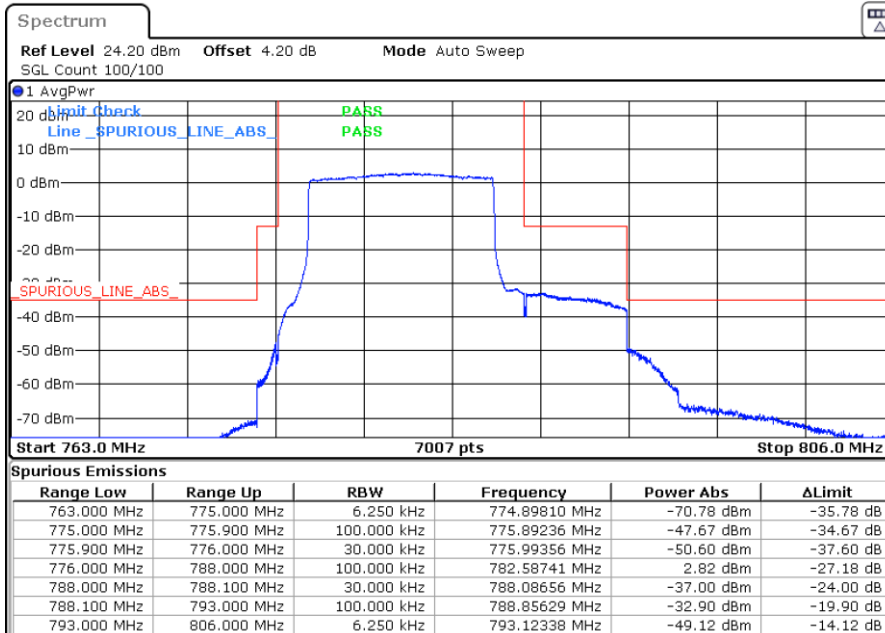


Date: 6.FEB.2023 19:50:07



Date: 6.FEB.2023 19:55:35

Middle Band Edge / Full RB

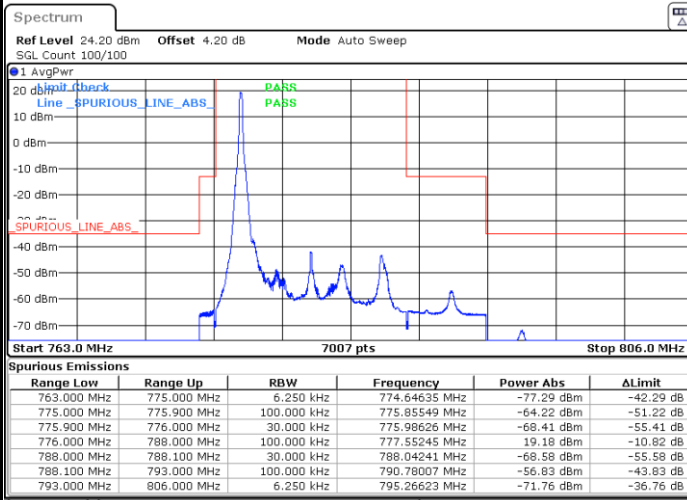


Date: 6.FEB.2023 19:57:25



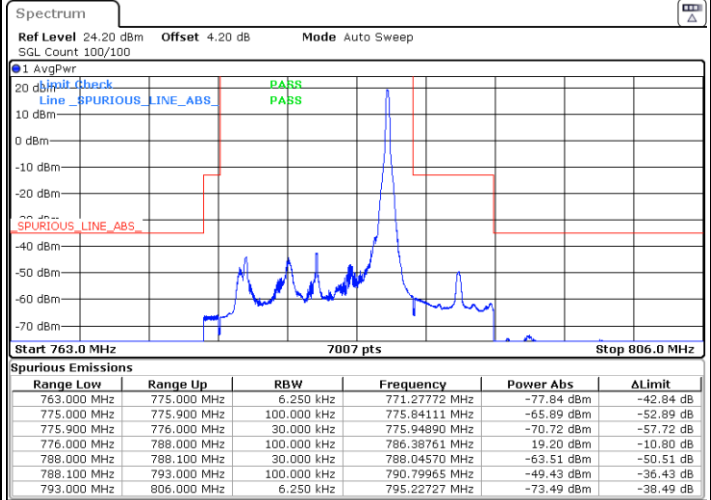
LTE Band 13 / 10MHz / 16QAM

middle Band Edge / 1 RB



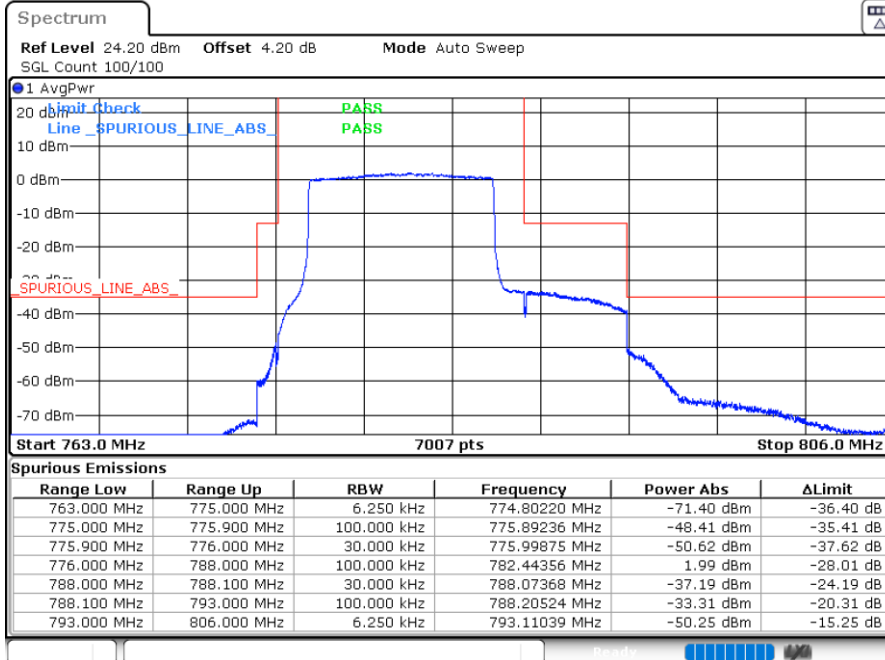
Date: 6.FEB.2023 19:51:57

middle Band Edge / 1 RB



Date: 6.FEB.2023 19:53:46

middle Band Edge / Full RB



Date: 6.FEB.2023 19:59:14

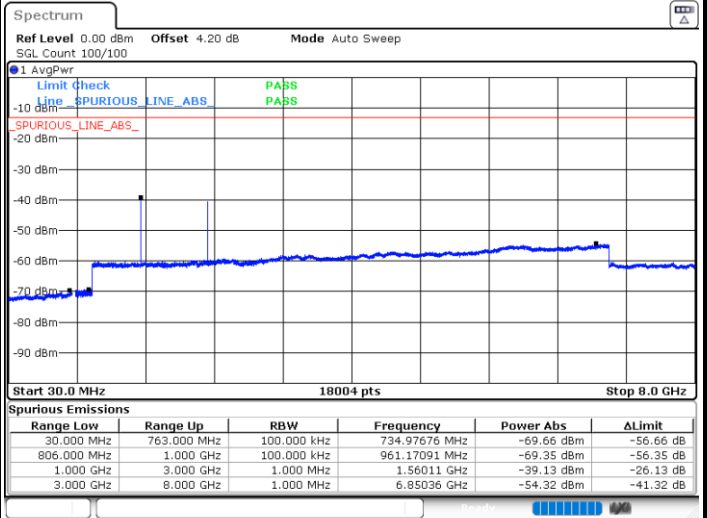
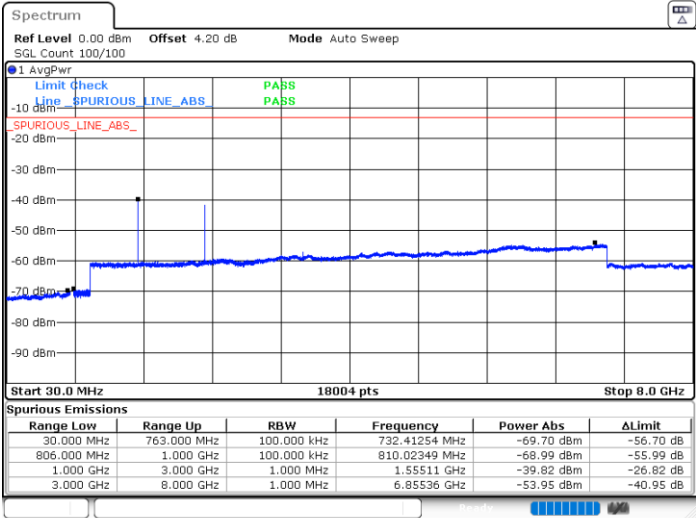


# Conducted Spurious Emission

## LTE Band 13 / 5MHz

### Lowest Channel / QPSK

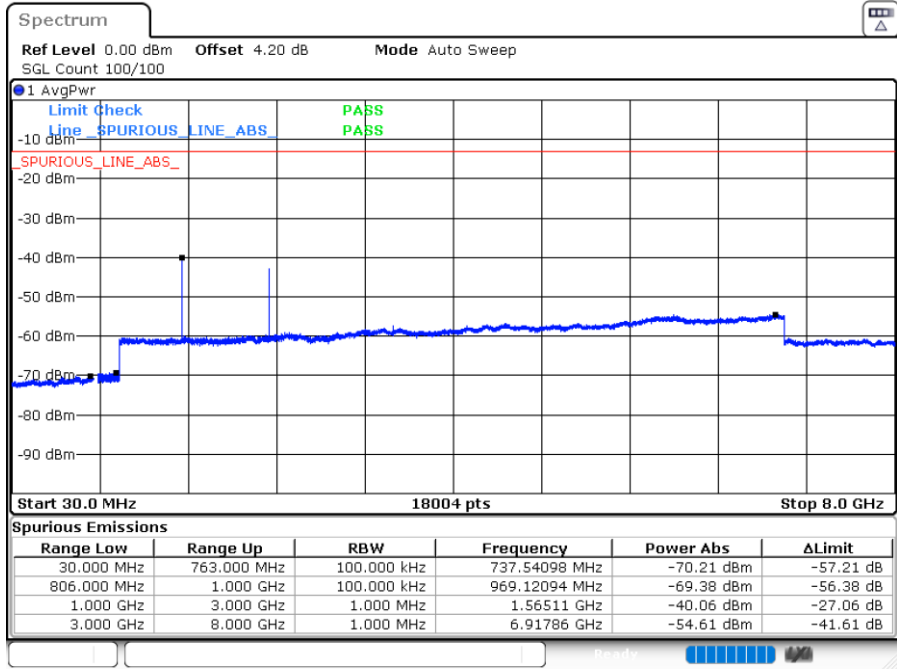
### Middle Channel / QPSK



Date: 6.FEB.2023 19:28:16

Date: 6.FEB.2023 19:38:19

### Highest Channel / QPSK

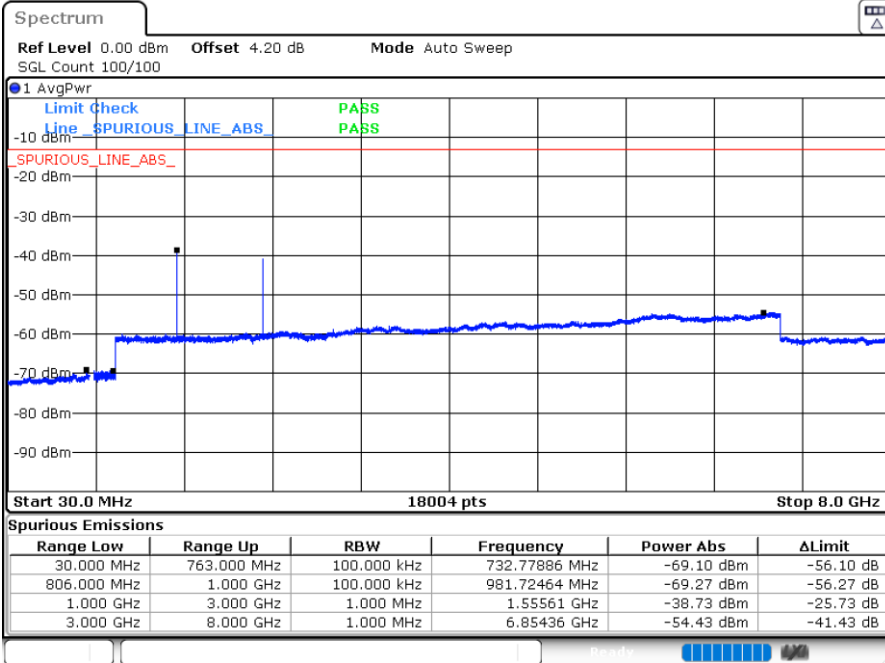


Date: 6.FEB.2023 19:39:38



LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 6.FEB.2023 19:48:18



Frequency Stability

Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0041	PASS
40	Normal Voltage	0.0032	
30	Normal Voltage	0.0049	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0008	
0	Normal Voltage	0.0021	
-10	Normal Voltage	0.0017	
-20	Normal Voltage	0.0013	
-30	Normal Voltage	0.0051	
20	Maximum Voltage	0.0062	
20	Normal Voltage	0.0002	
20	Minimum Voltage	0.0024	

Note:

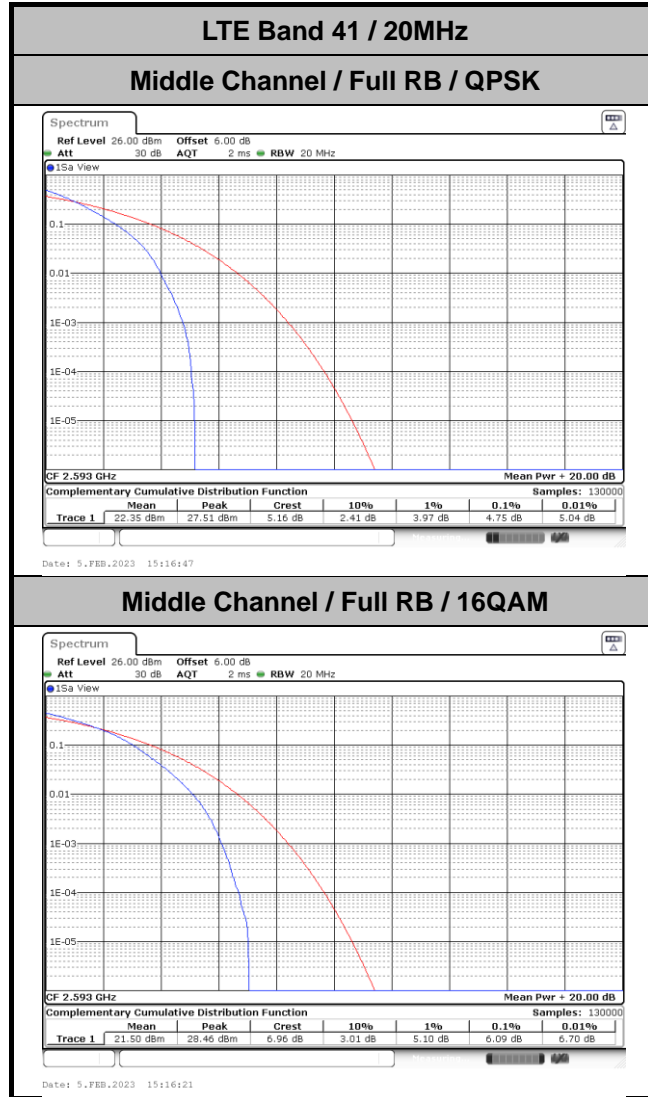
1. Normal Voltage =3.8 V. ; Minimum Voltage =3.55V. ; Maximum Voltage =4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



# LTE Band 41

## Peak-to-Average Ratio

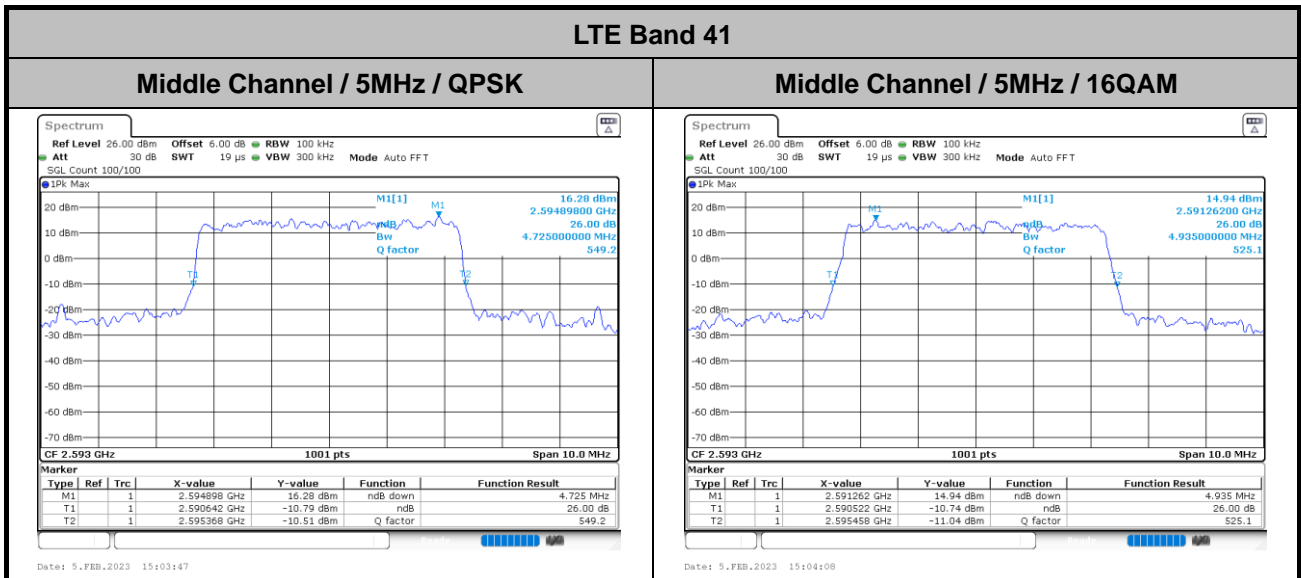
Mode	LTE Band 41 / 20MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	4.75	6.09	PASS





**26dB Bandwidth**

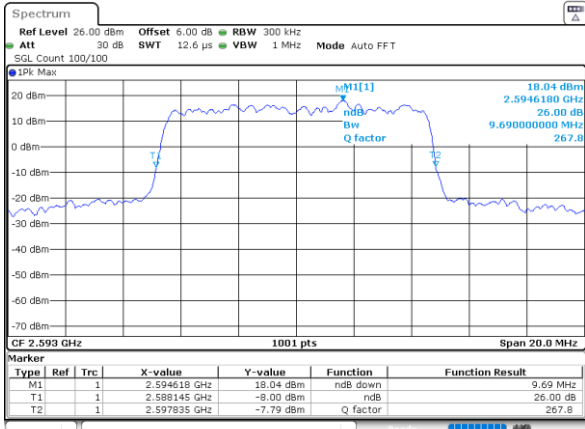
Mode	LTE Band 41 : 26dB BW(MHz)	
<b>BW</b>	<b>5MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	4.73	4.94
<b>BW</b>	<b>10MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	9.69	9.71
<b>BW</b>	<b>15MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	14.54	14.33
<b>BW</b>	<b>20MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	18.82	18.86





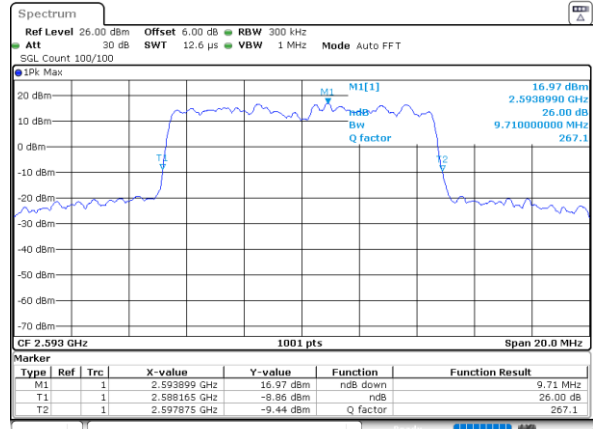
LTE Band 41

Middle Channel / 10MHz / QPSK



Date: 5.FEB.2023 15:05:11

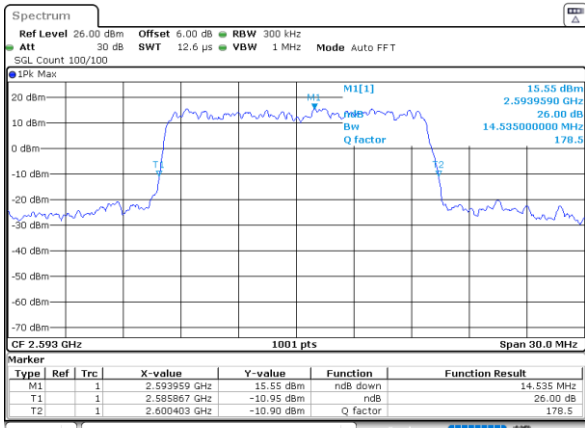
Middle Channel / 10MHz / 16QAM



Date: 5.FEB.2023 15:05:32

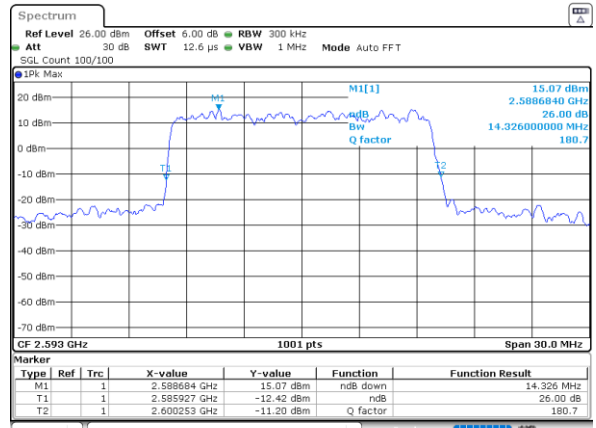
LTE Band 41

Middle Channel / 15MHz / QPSK



Date: 5.FEB.2023 15:06:16

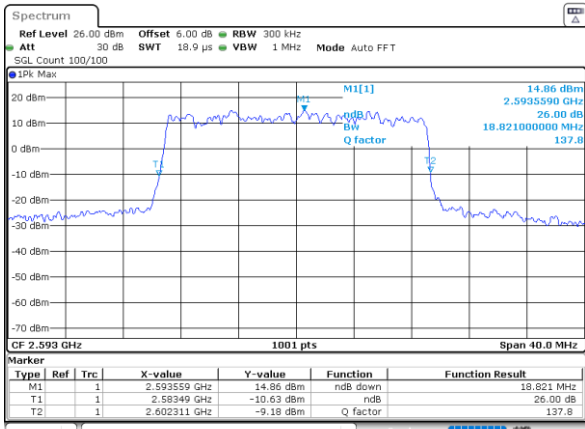
Middle Channel / 15MHz / 16QAM



Date: 5.FEB.2023 15:06:57

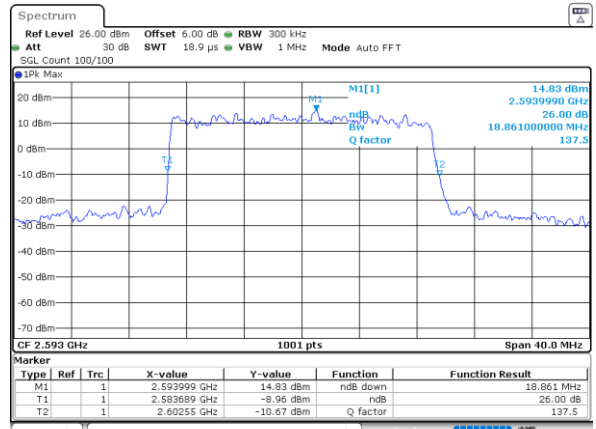
LTE Band 41

Middle Channel / 20MHz / QPSK



Date: 5.FEB.2023 15:08:01

Middle Channel / 20MHz / 16QAM



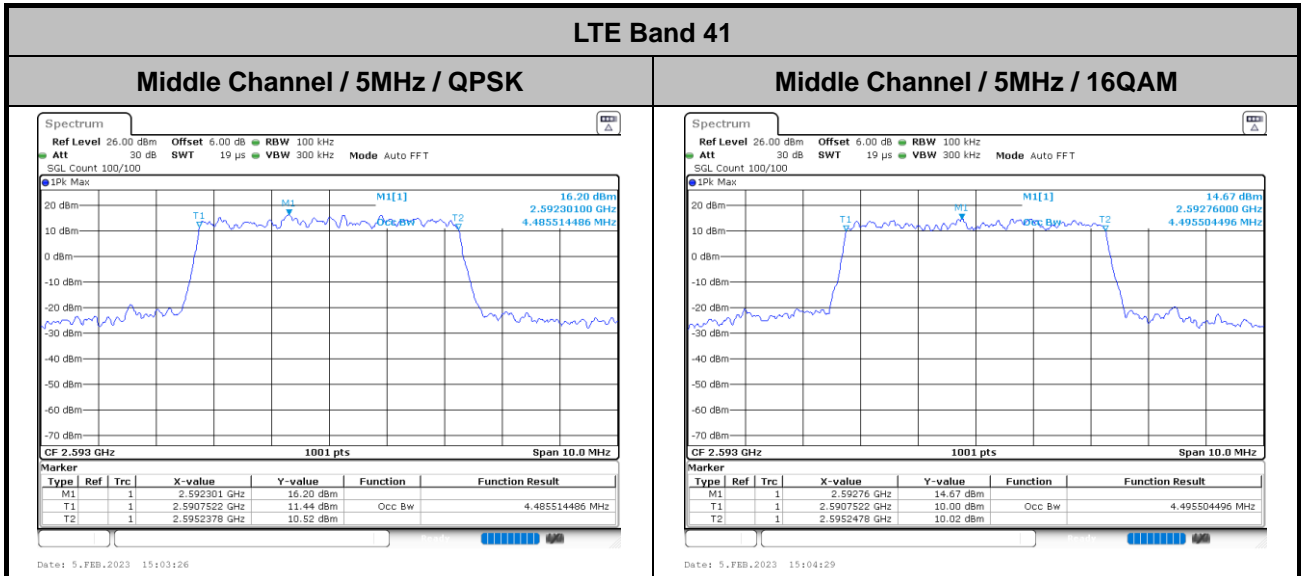
Date: 5.FEB.2023 15:08:22





## Occupied Bandwidth

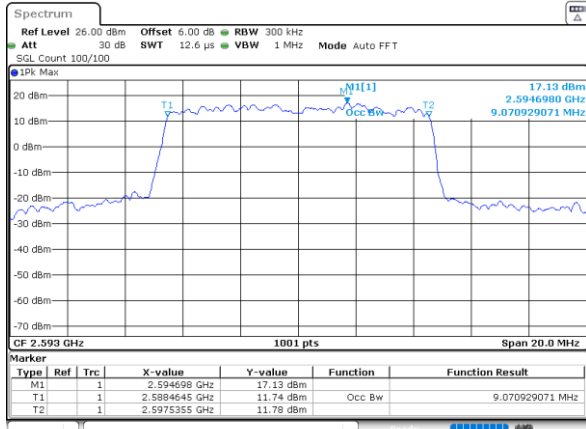
Mode	LTE Band 41 : 99%OBW(MHz)	
<b>BW</b>	<b>5MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	4.49	4.50
<b>BW</b>	<b>10MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	9.07	9.03
<b>BW</b>	<b>15MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	13.40	13.43
<b>BW</b>	<b>20MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	17.94	17.86





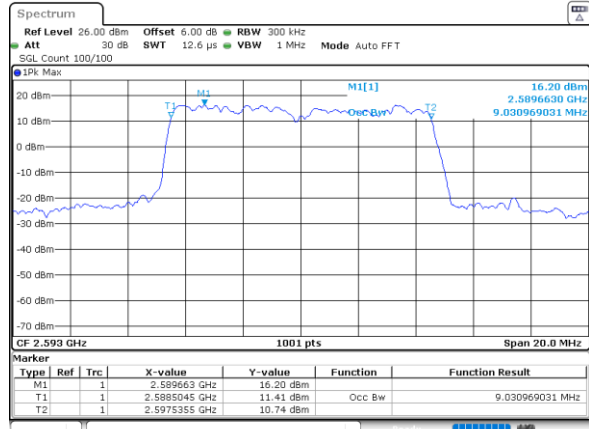
LTE Band 41

Middle Channel / 10MHz / QPSK



Date: 5.FEB.2023 15:04:50

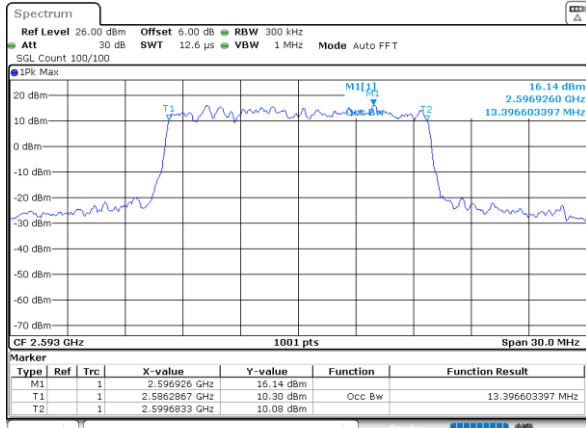
Middle Channel / 10MHz / 16QAM



Date: 5.FEB.2023 15:05:53

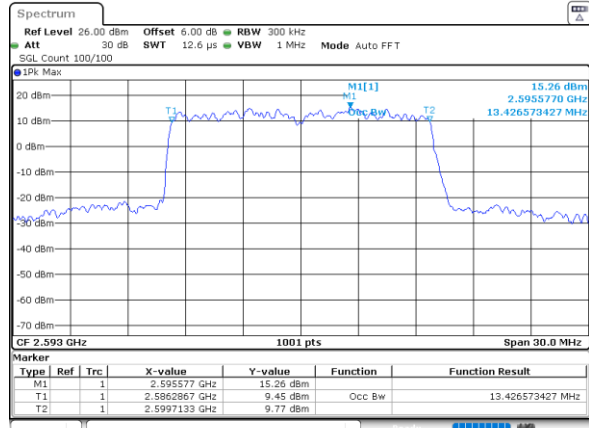
LTE Band 41

Middle Channel / 15MHz / QPSK



Date: 5.FEB.2023 15:06:15

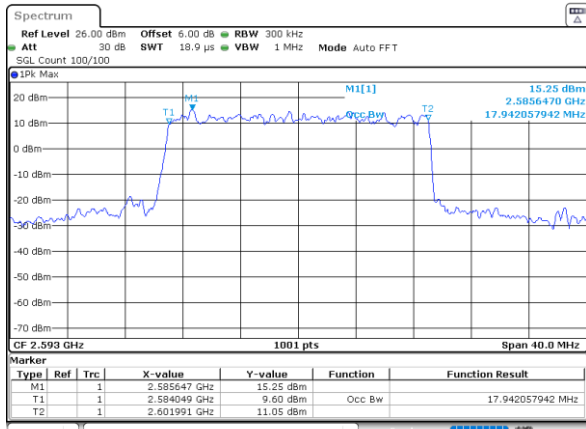
Middle Channel / 15MHz / 16QAM



Date: 5.FEB.2023 15:07:18

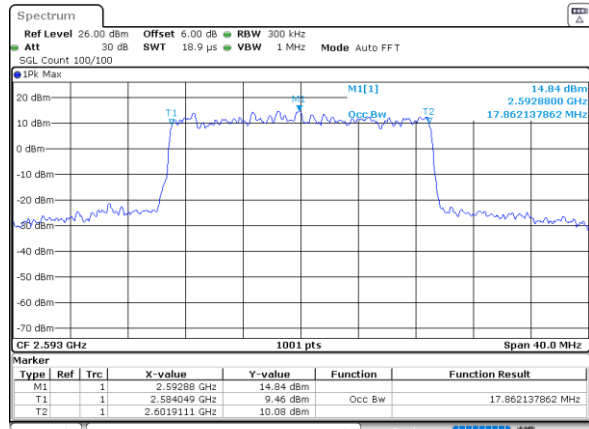
LTE Band 41

Middle Channel / 20MHz / QPSK



Date: 5.FEB.2023 15:07:40

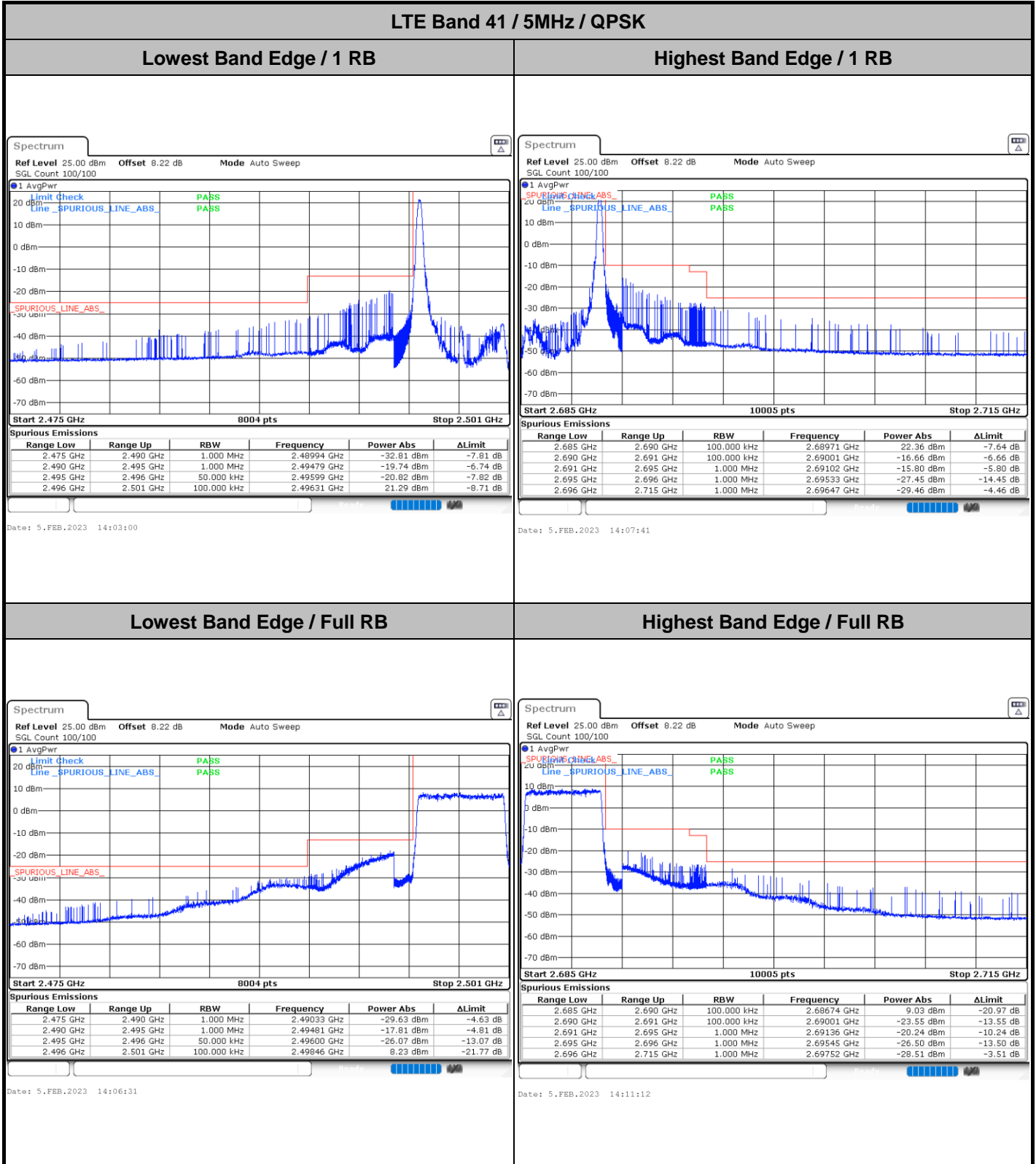
Middle Channel / 20MHz / 16QAM



Date: 5.FEB.2023 15:08:43



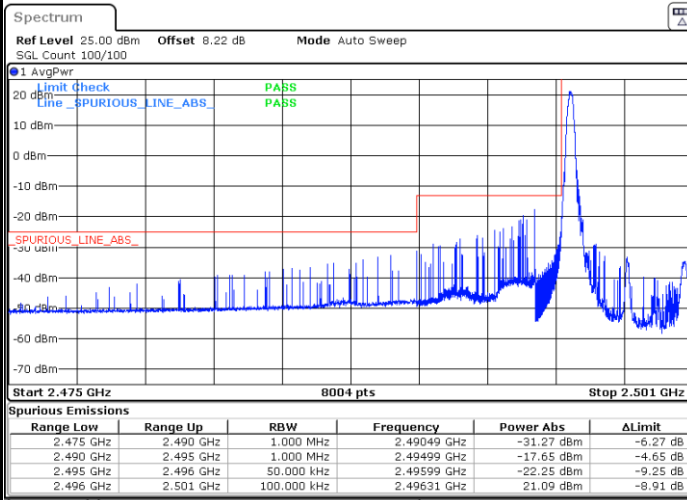
# Conducted Band Edge





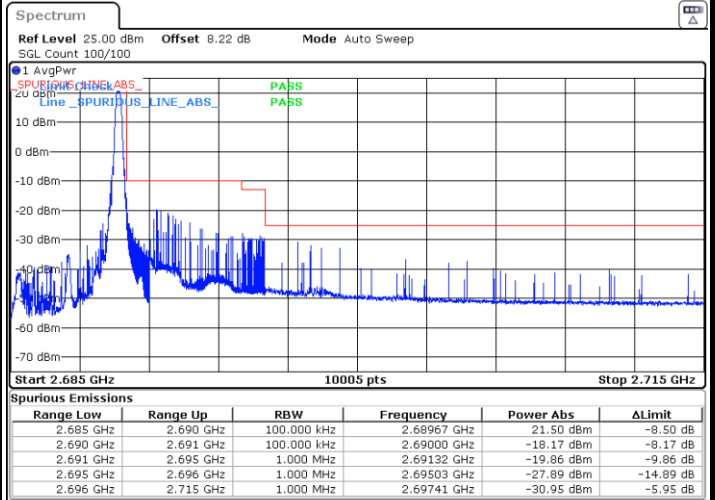
LTE Band 41 / 5MHz / 16QAM

Lowest Band Edge / 1RB



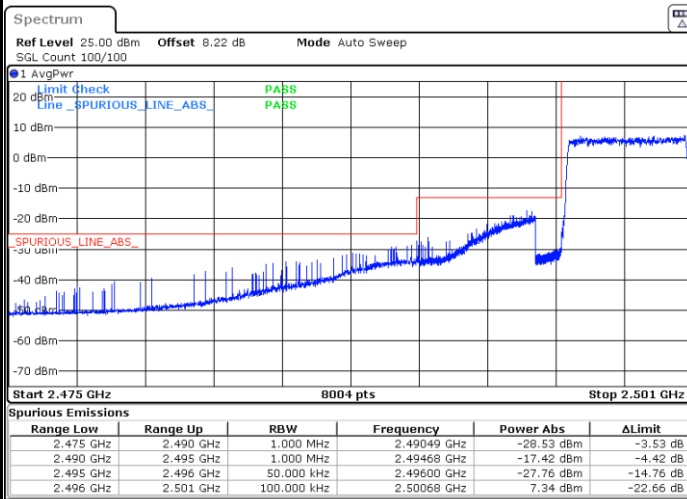
Date: 5.FEB.2023 14:04:10

Highest Band Edge / 1 RB



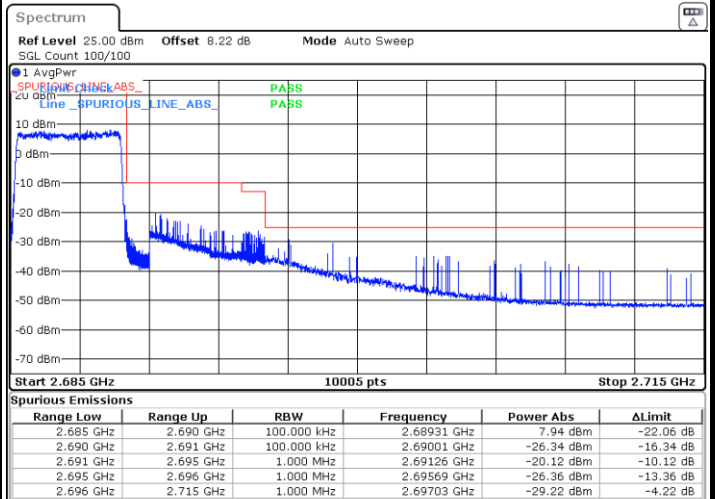
Date: 5.FEB.2023 14:08:51

Lowest Band Edge / Full RB



Date: 5.FEB.2023 14:05:21

Highest Band Edge / Full RB

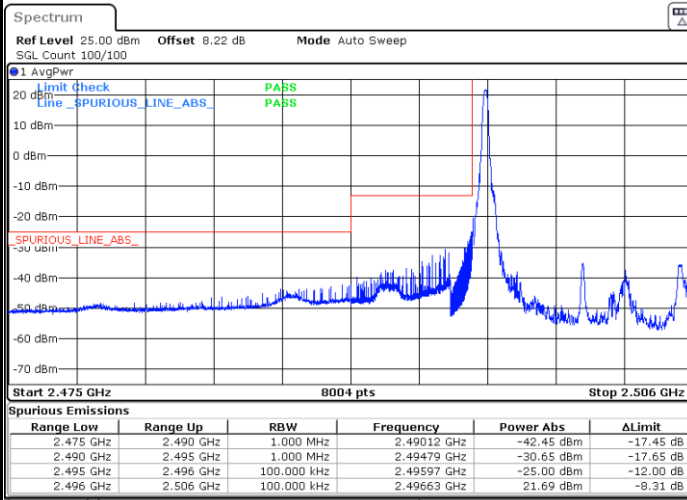


Date: 5.FEB.2023 14:10:01



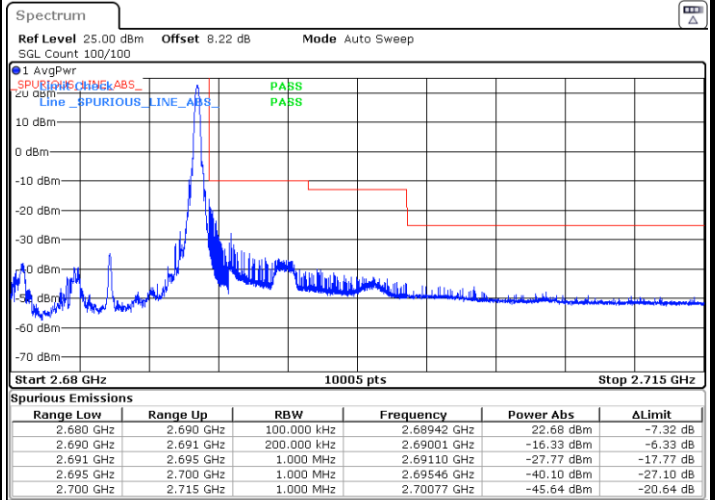
LTE Band 41 / 10MHz / QPSK

Lowest Band Edge / 1 RB



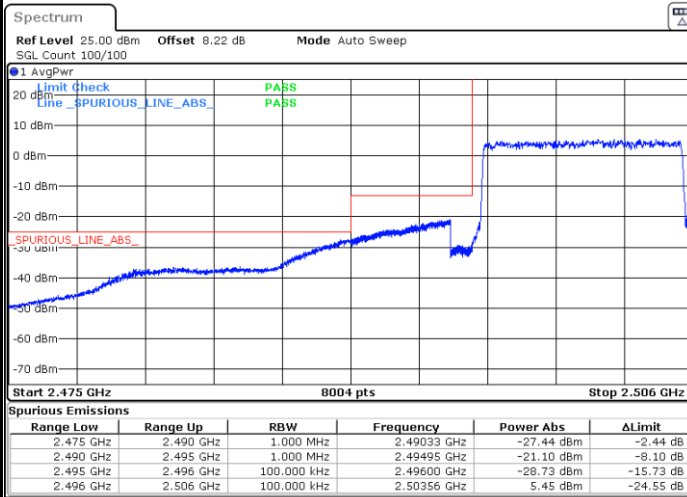
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Highest Band Edge / 1 RB



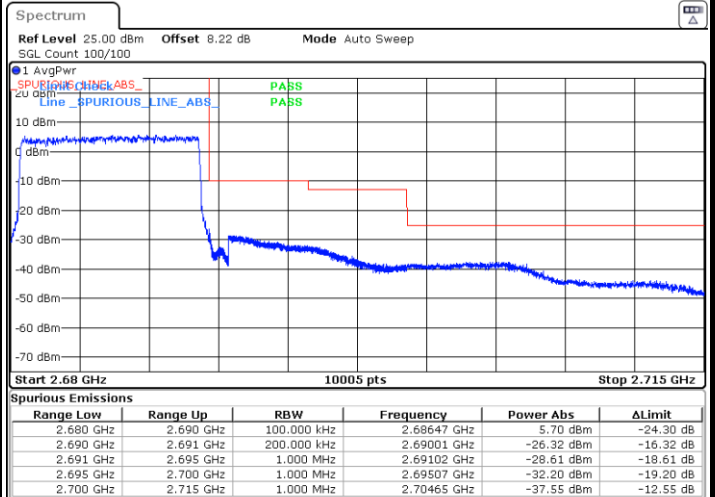
Date: 5.FEB.2023 14:21:04

Lowest Band Edge / Full RB



Date: 5.FEB.2023 14:19:54

Highest Band Edge / Full RB

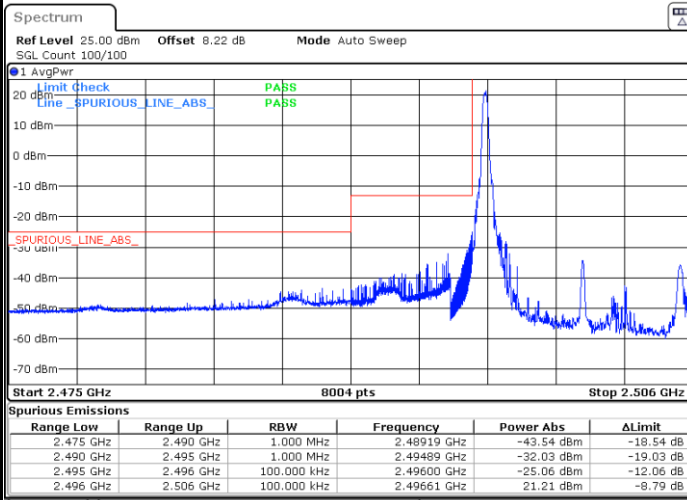


Date: 5.FEB.2023 14:24:34



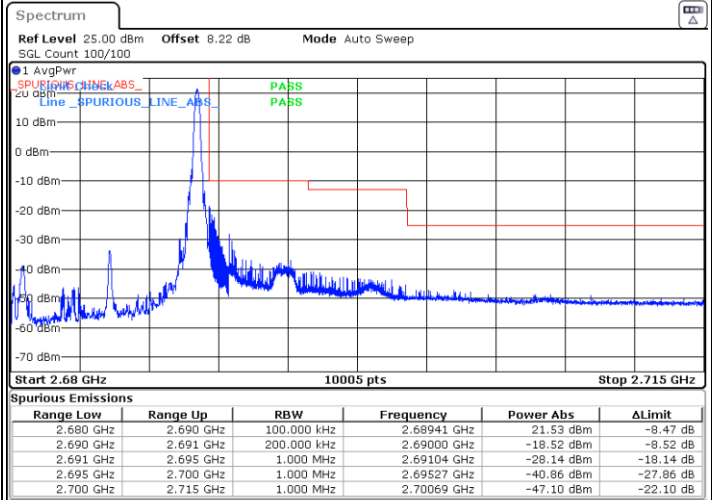
LTE Band 41 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



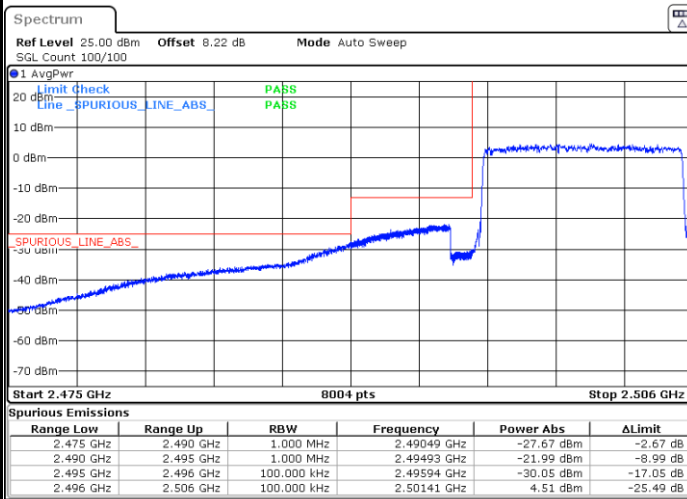
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Highest Band Edge / 1 RB



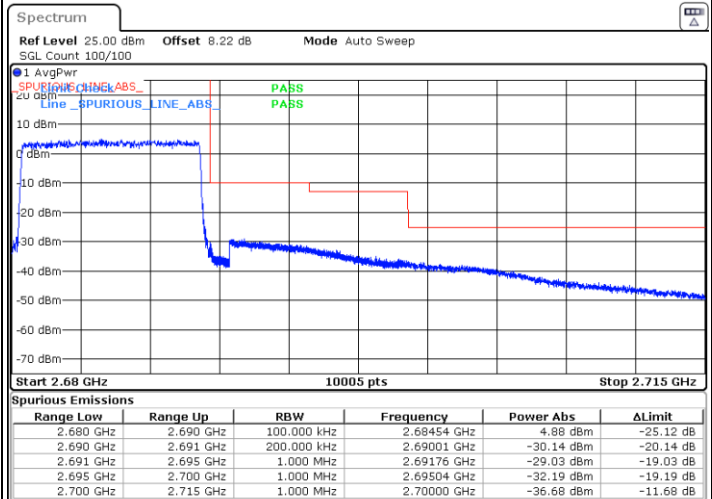
Date: 5.FEB.2023 14:22:14

Lowest Band Edge / Full RB



Date: 5.FEB.2023 14:18:43

Highest Band Edge / Full RB



Date: 5.FEB.2023 14:23:24