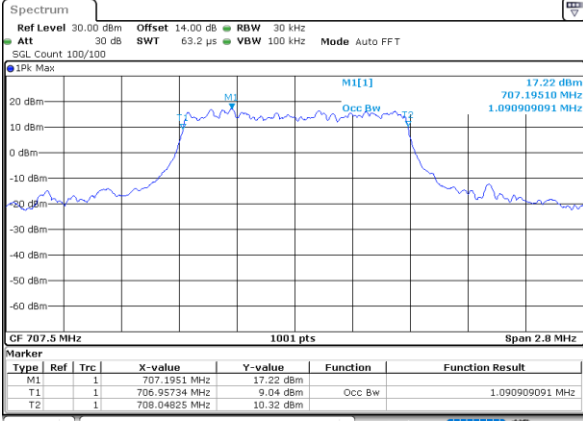




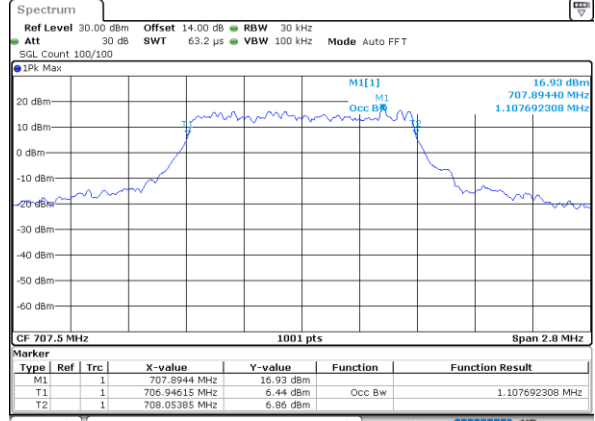
LTE Band 12

Middle Channel / 1.4MHz / QPSK



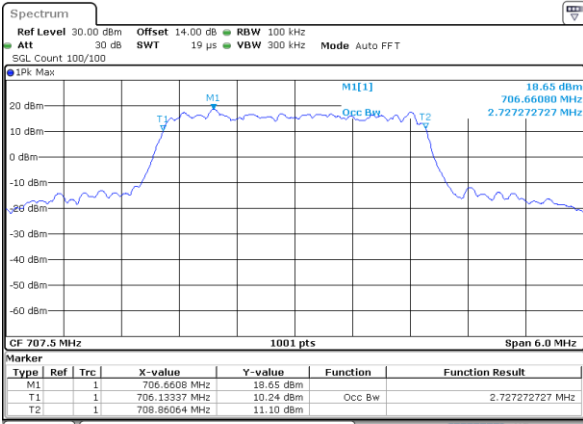
Date: 19, DEC, 2023 17:48:06

Middle Channel / 1.4MHz / 16QAM



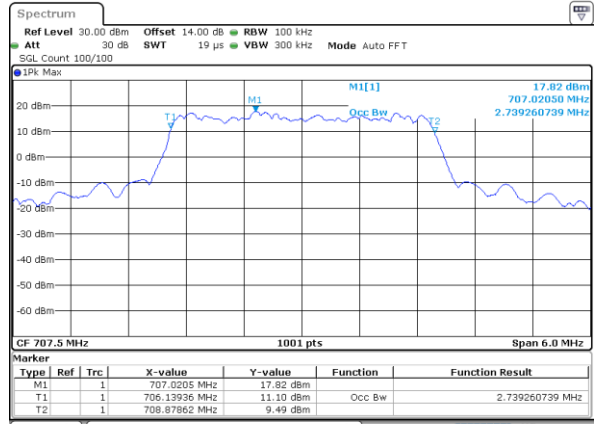
Date: 19, DEC, 2023 17:48:47

Middle Channel / 3MHz / QPSK



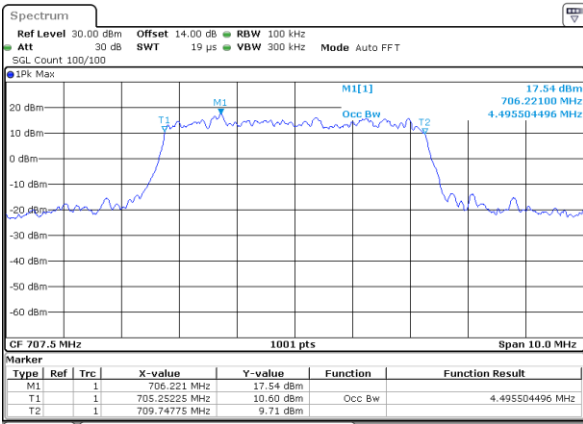
Date: 20, DEC, 2023 16:15:50

Middle Channel / 3MHz / 16QAM



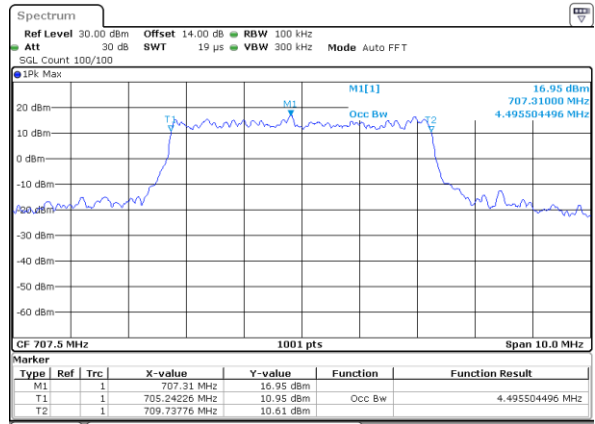
Date: 20, DEC, 2023 16:16:30

Middle Channel / 5MHz / QPSK



Date: 20, DEC, 2023 16:32:17

Middle Channel / 5MHz / 16QAM

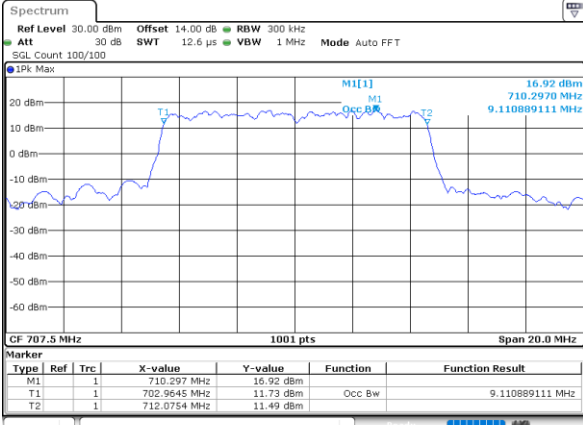


Date: 20, DEC, 2023 16:32:57



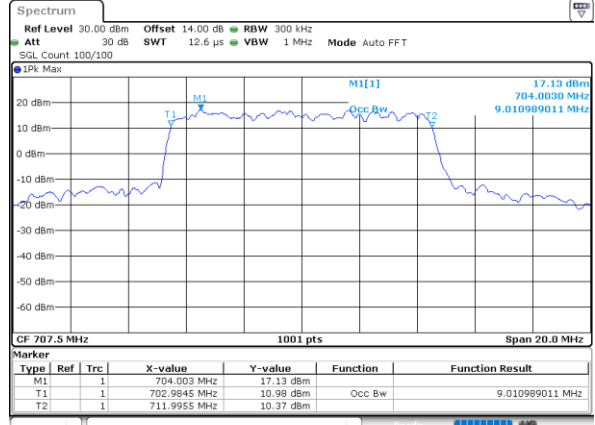
LTE Band 12

Middle Channel / 10MHz / QPSK



Date: 20, DEC, 2023 16:48:35

Middle Channel / 10MHz / 16QAM



Date: 20, DEC, 2023 16:49:16

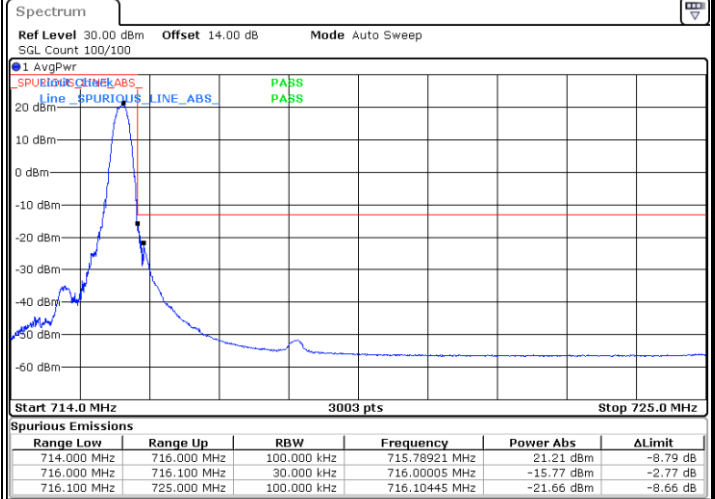
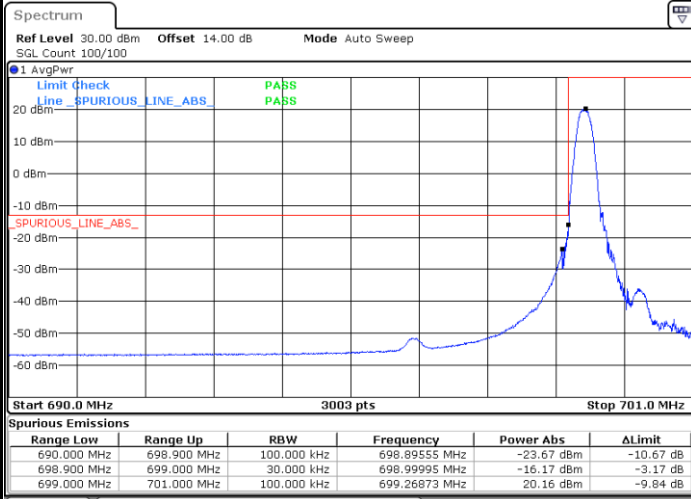


# Conducted Band Edge

## LTE Band 12 / 1.4MHz / QPSK

### Lowest Band Edge / 1RB

### Highest Band Edge / 1RB

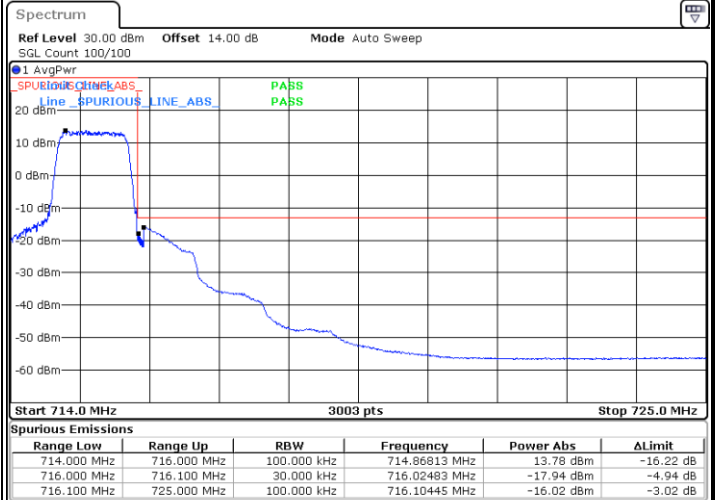
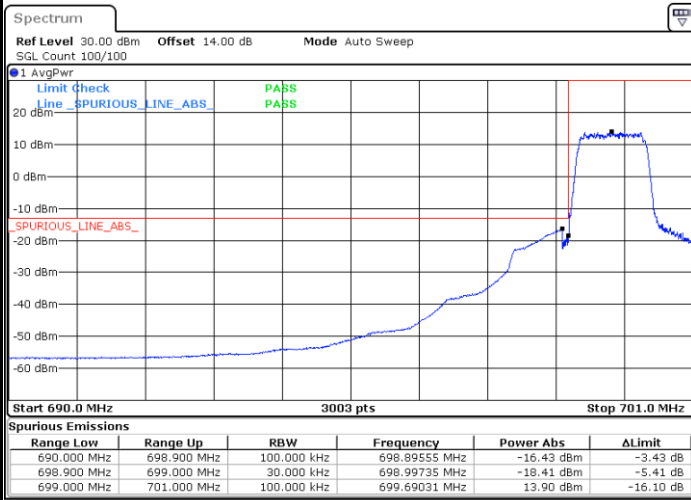


Date: 19.DEC.2023 17:39:16

Date: 19.DEC.2023 17:50:12

### Lowest Band Edge / Full RB

### Highest Band Edge / Full RB



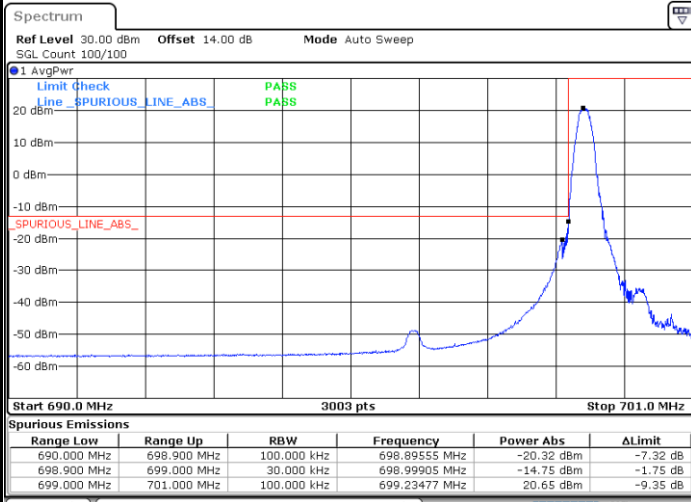
Date: 19.DEC.2023 17:42:52

Date: 19.DEC.2023 17:53:48



LTE Band 12 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB



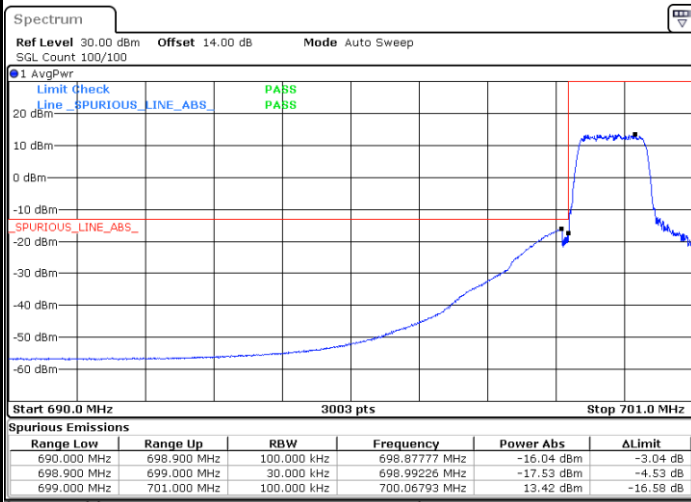
Date: 19.DEC.2023 17:40:28

Highest Band Edge / 1 RB



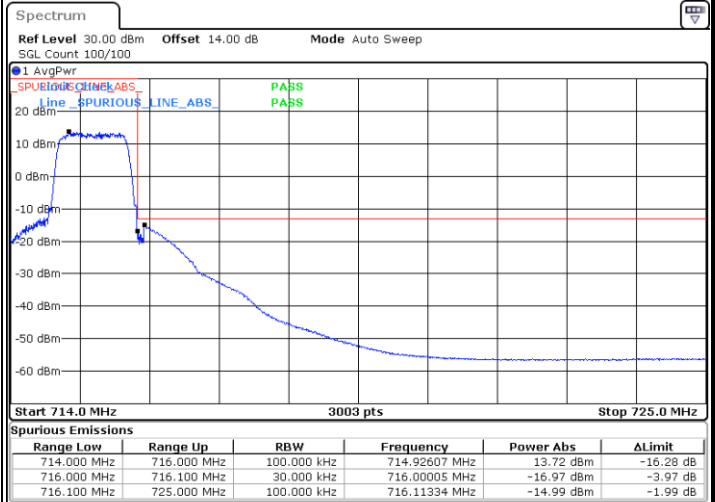
Date: 19.DEC.2023 17:51:24

Lowest Band Edge / Full RB



Date: 19.DEC.2023 17:44:04

Highest Band Edge / Full RB

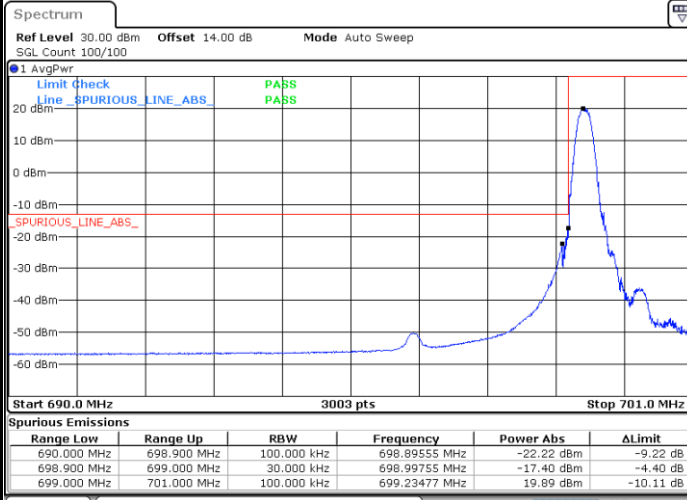


Date: 19.DEC.2023 17:55:00



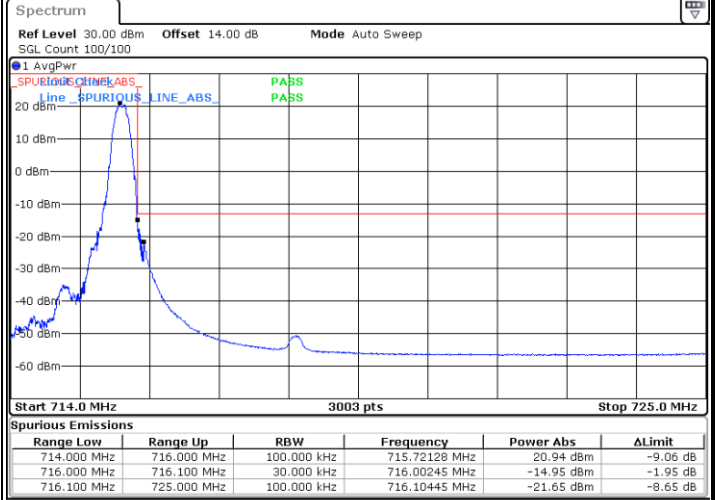
LTE Band 12 / 1.4MHz / 64QAM

Lowest Band Edge / 1 RB



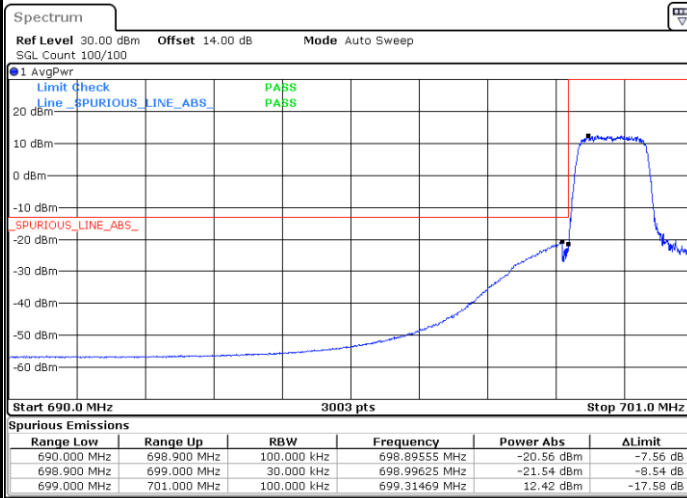
Date: 19.DEC.2023 17:41:40

Highest Band Edge / 1 RB



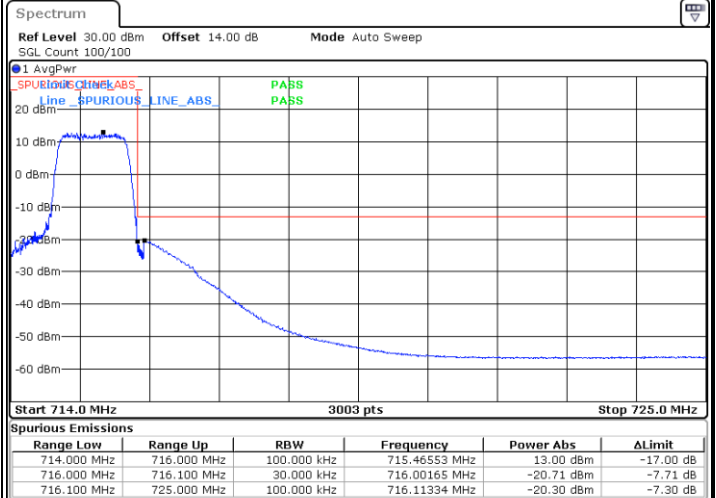
Date: 19.DEC.2023 17:52:36

Lowest Band Edge / Full RB



Date: 19.DEC.2023 17:45:17

Highest Band Edge / Full RB

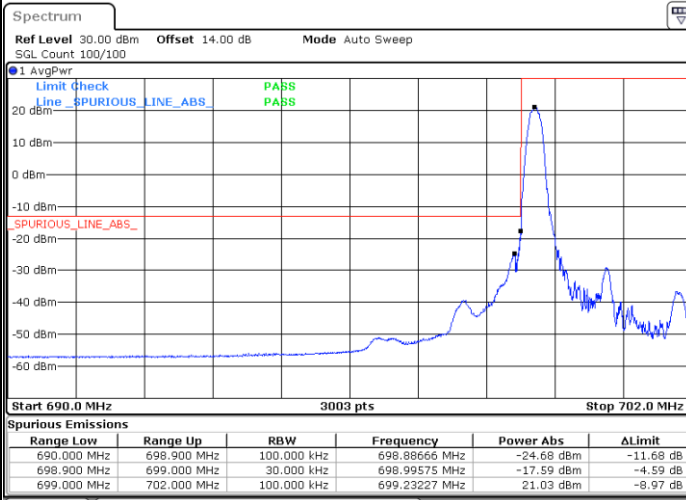


Date: 19.DEC.2023 17:56:13



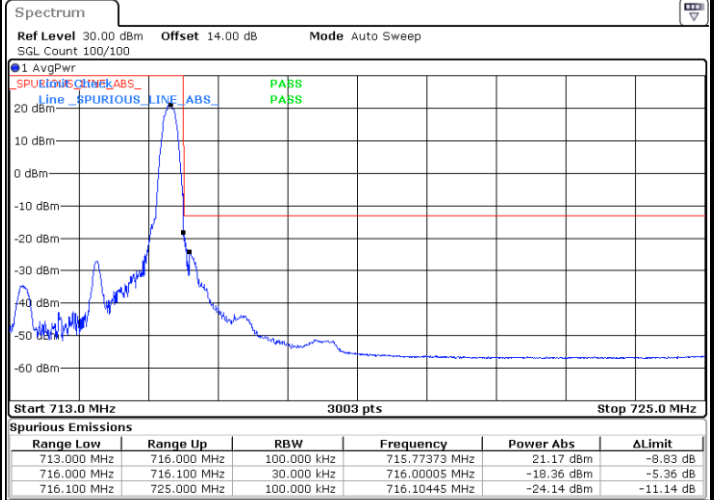
LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / 1RB



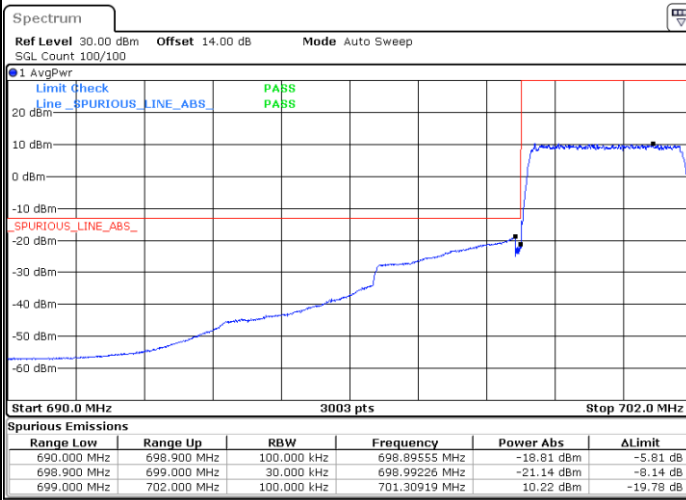
Date: 20.DEC.2023 16:08:16

Highest Band Edge / 1RB



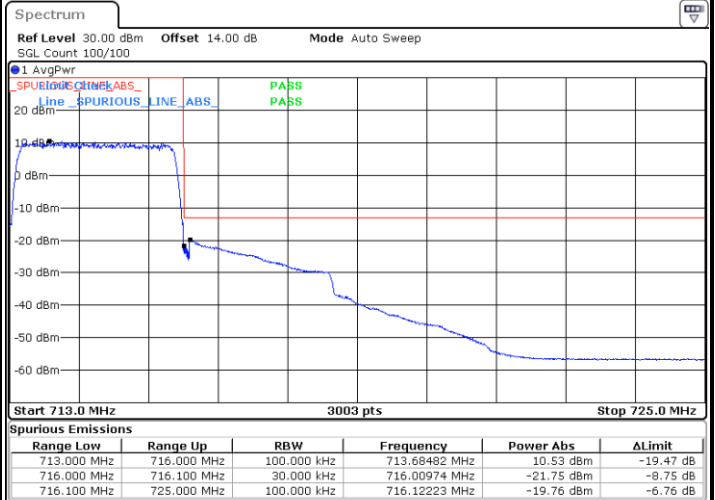
Date: 20.DEC.2023 16:17:40

Lowest Band Edge / Full RB



Date: 20.DEC.2023 16:11:07

Highest Band Edge / Full RB

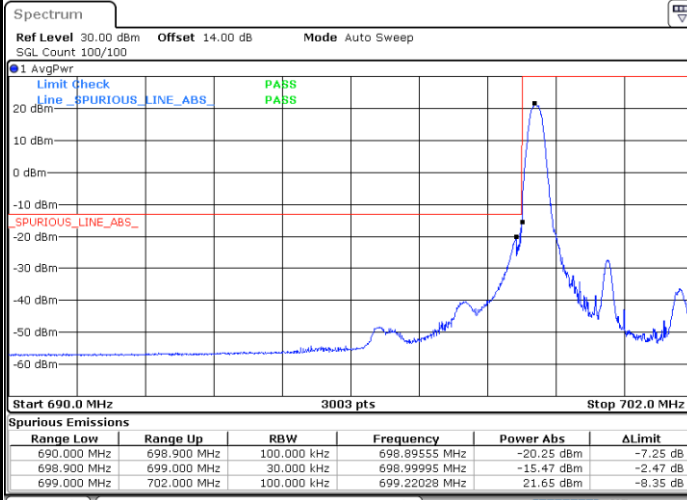


Date: 20.DEC.2023 16:20:31



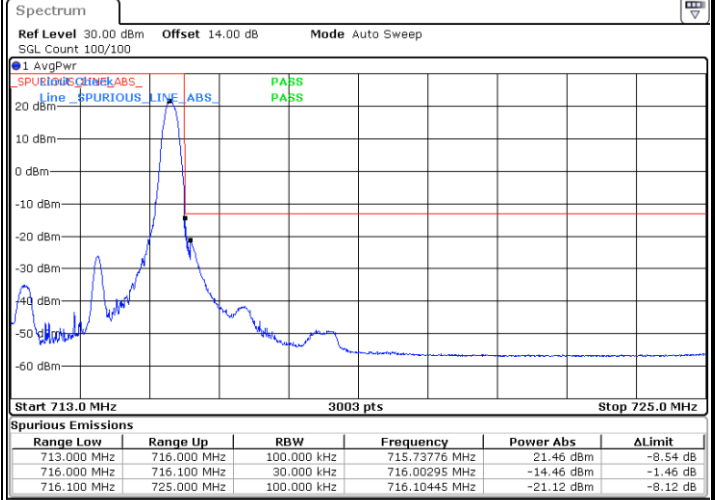
LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



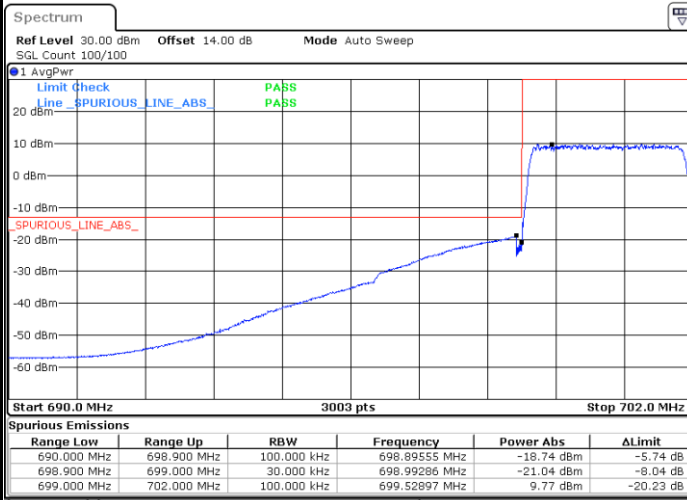
Date: 20.DEC.2023 16:09:13

Highest Band Edge / 1 RB



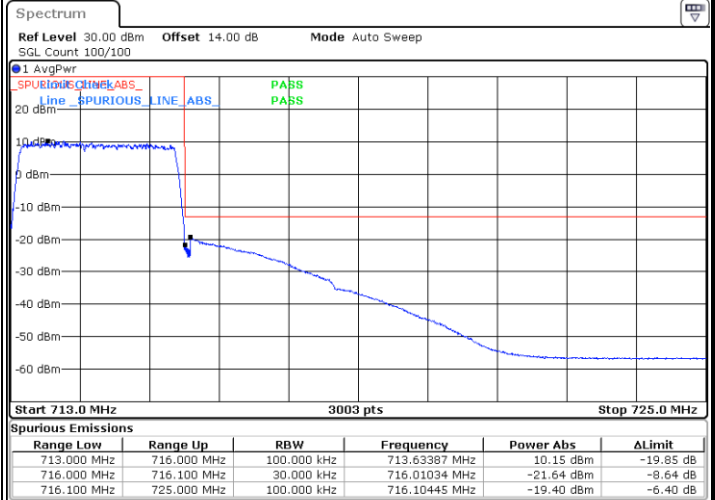
Date: 20.DEC.2023 16:18:37

Lowest Band Edge / Full RB



Date: 20.DEC.2023 16:12:04

Highest Band Edge / Full RB



Date: 20.DEC.2023 16:21:28

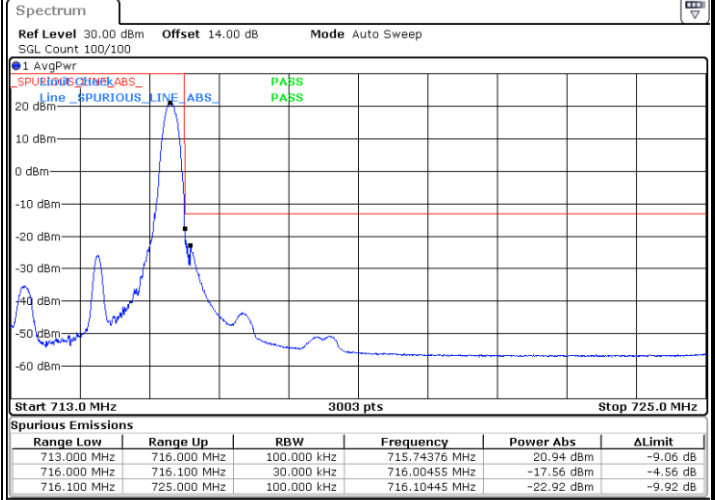


LTE Band 12 / 3MHz / 64QAM

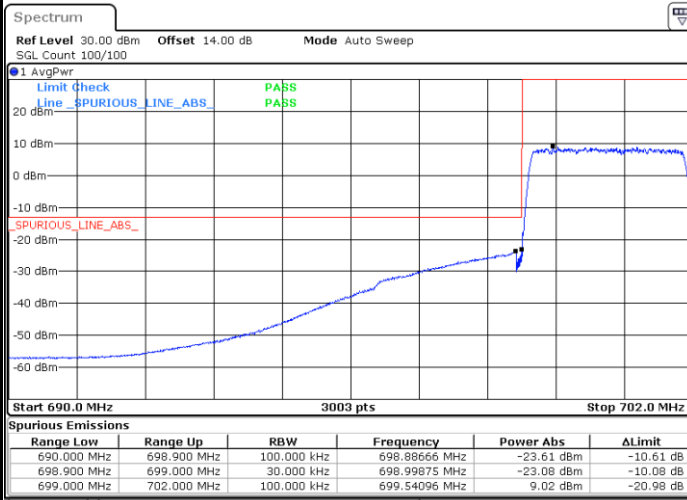
Lowest Band Edge / 1 RB



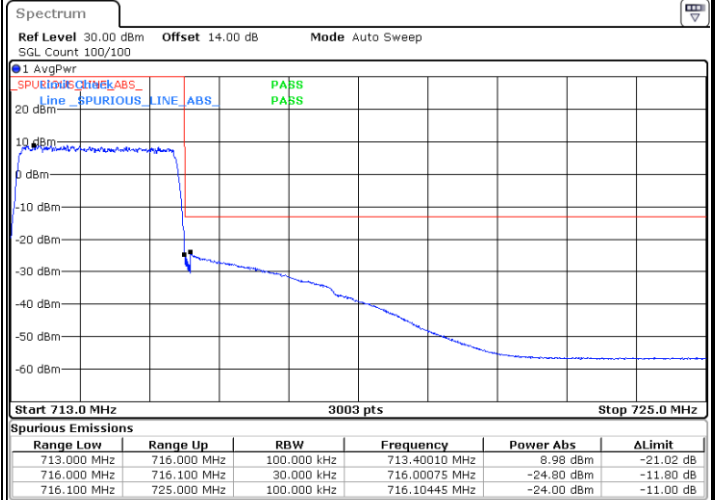
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

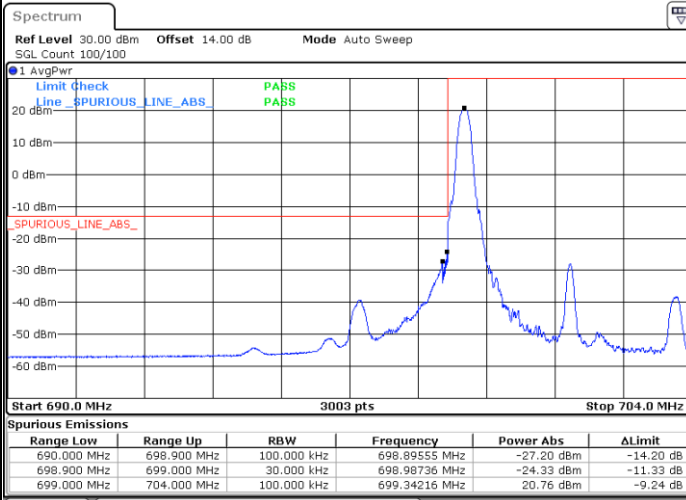






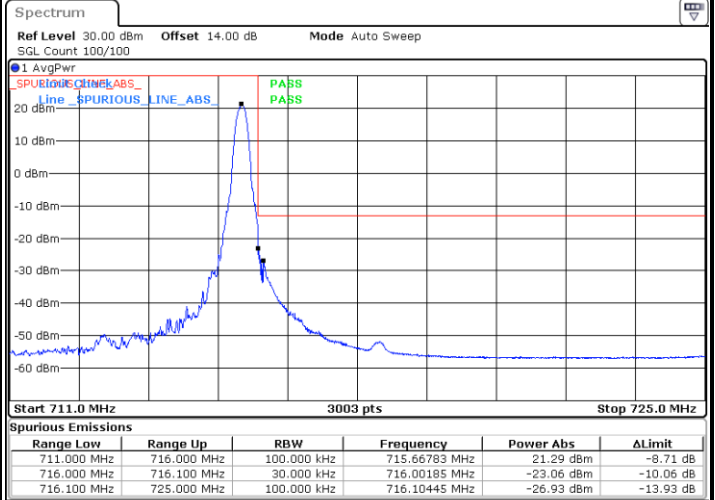
LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / 1RB



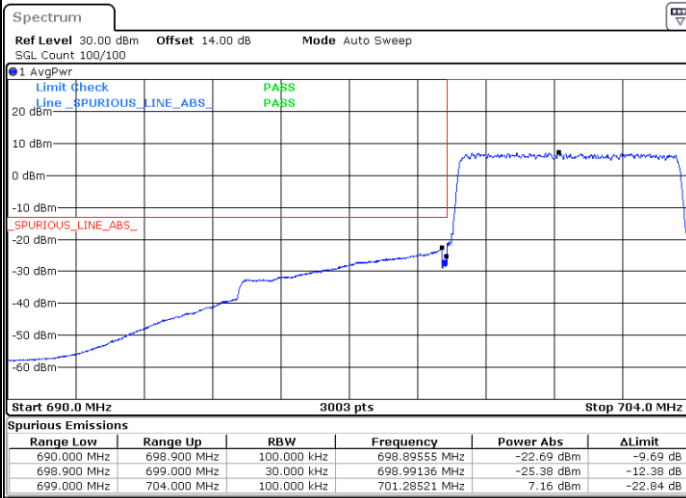
Date: 20.DEC.2023 16:24:35

Highest Band Edge / 1RB



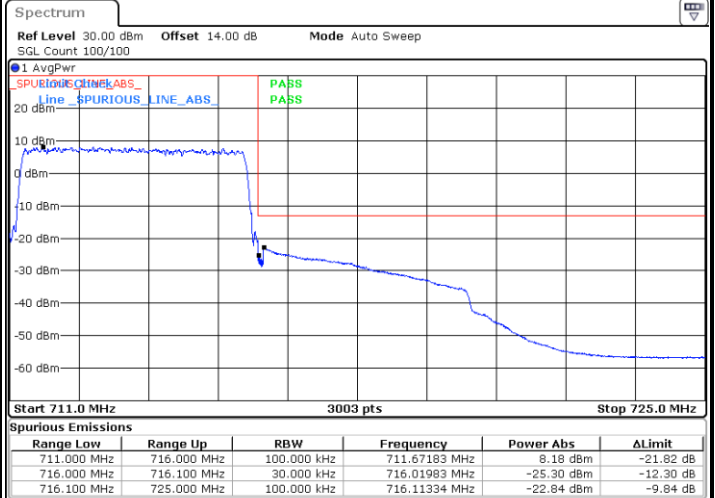
Date: 20.DEC.2023 16:34:07

Lowest Band Edge / Full RB



Date: 26.DEC.2023 22:30:32

Highest Band Edge / Full RB

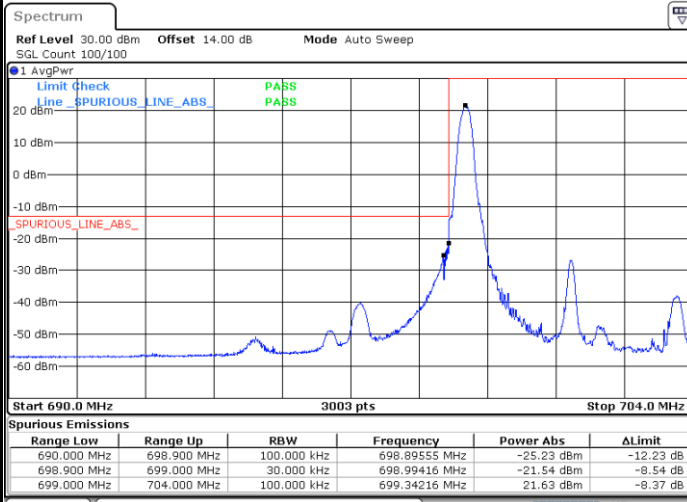


Date: 20.DEC.2023 16:36:58



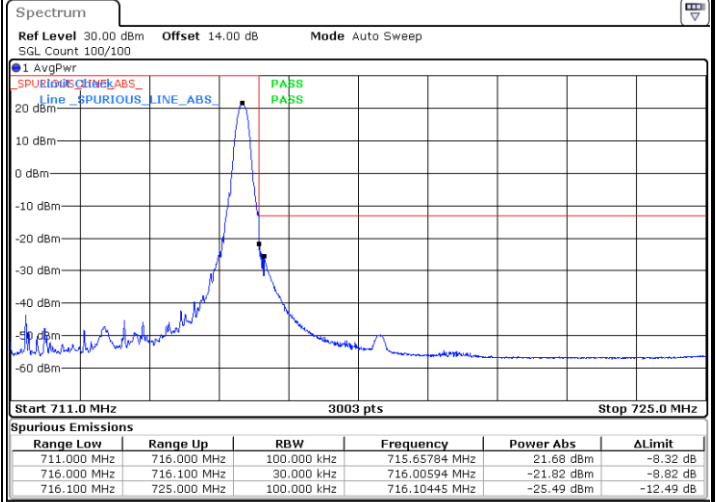
LTE Band 12 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



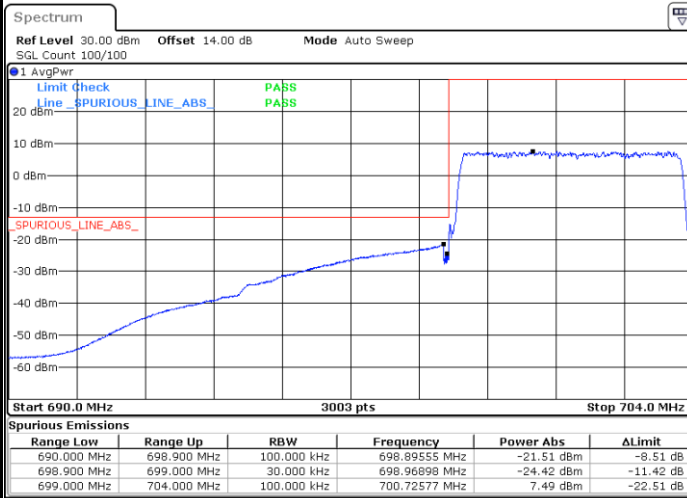
Date: 20.DEC.2023 16:25:32

Highest Band Edge / 1 RB



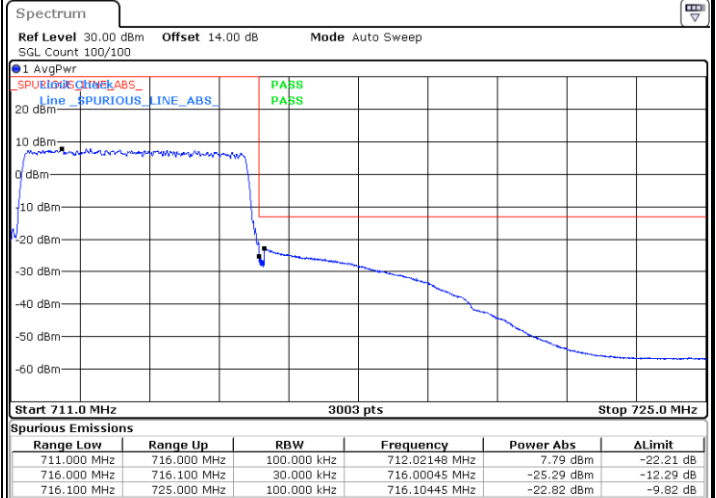
Date: 20.DEC.2023 16:35:04

Lowest Band Edge / Full RB



Date: 20.DEC.2023 16:28:31

Highest Band Edge / Full RB

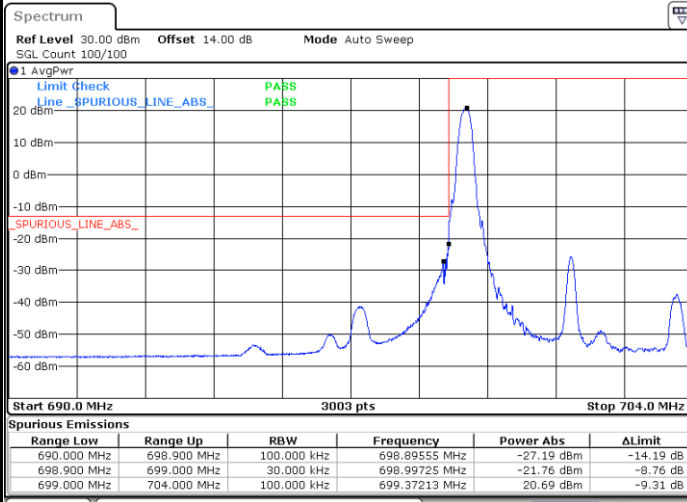


Date: 20.DEC.2023 16:37:55



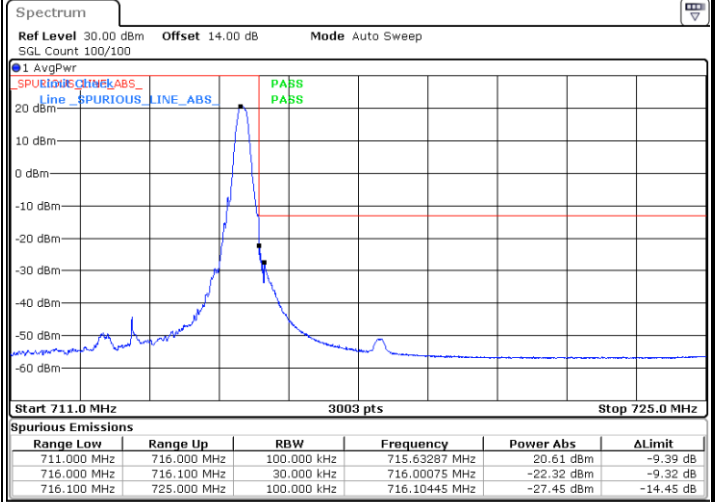
LTE Band 12 / 5MHz / 64QAM

Lowest Band Edge / 1 RB



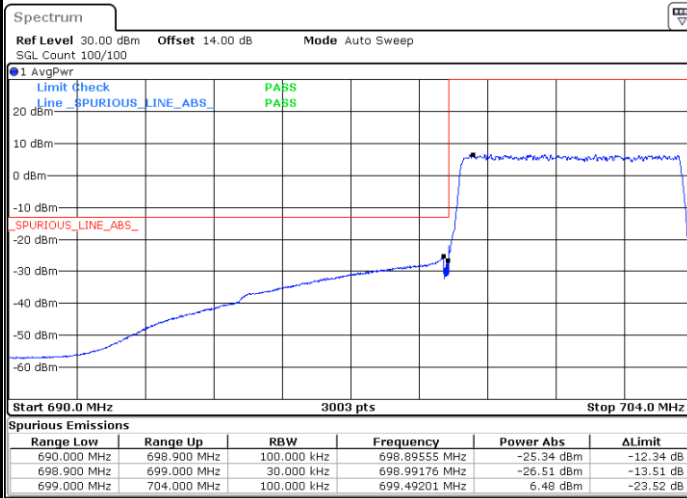
Date: 20.DEC.2023 16:26:29

Highest Band Edge / 1 RB



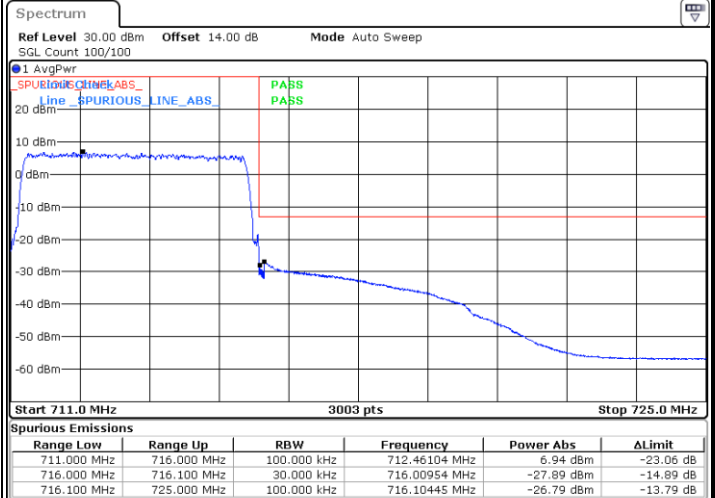
Date: 20.DEC.2023 16:36:01

Lowest Band Edge / Full RB



Date: 20.DEC.2023 16:29:28

Highest Band Edge / Full RB

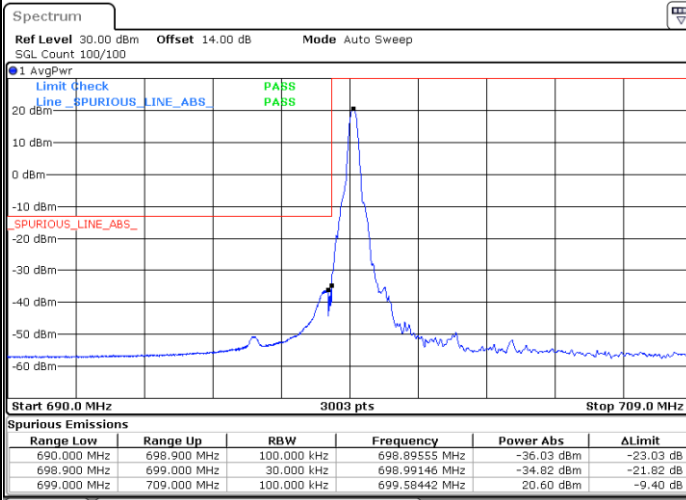


Date: 20.DEC.2023 16:38:51



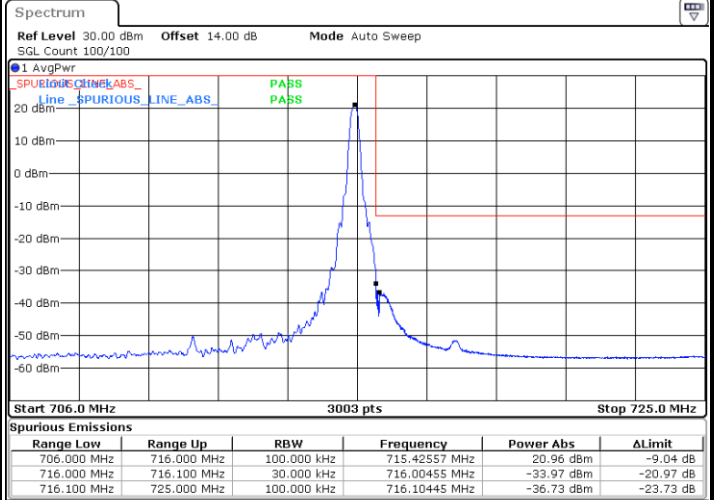
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1RB



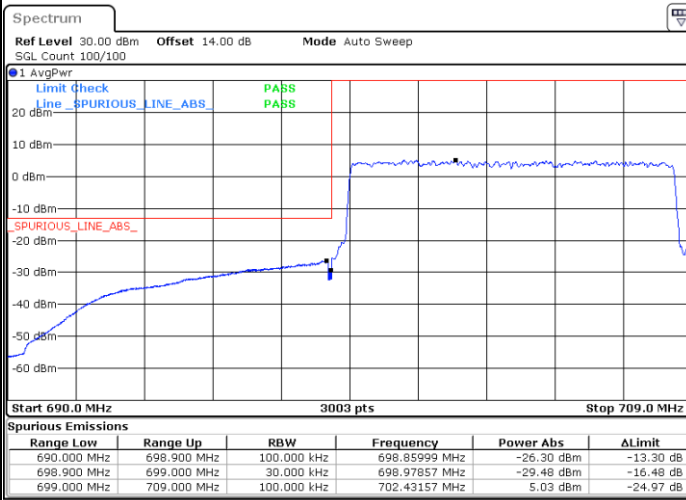
Date: 20.DEC.2023 16:41:02

Highest Band Edge / 1RB



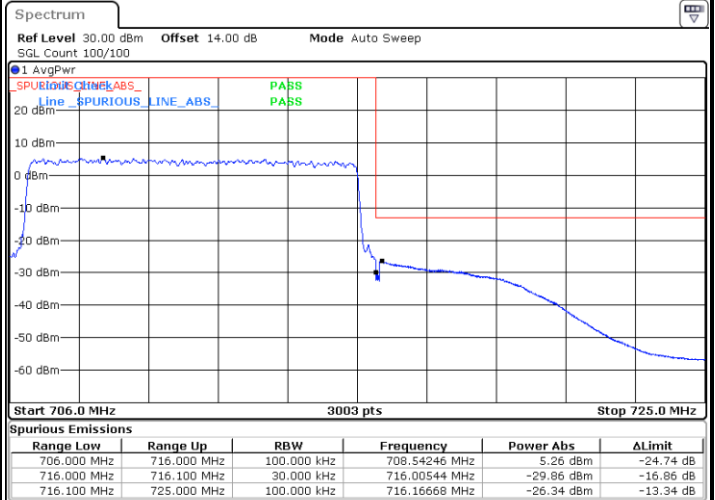
Date: 20.DEC.2023 16:50:26

Lowest Band Edge / Full RB



Date: 20.DEC.2023 16:43:52

Highest Band Edge / Full RB

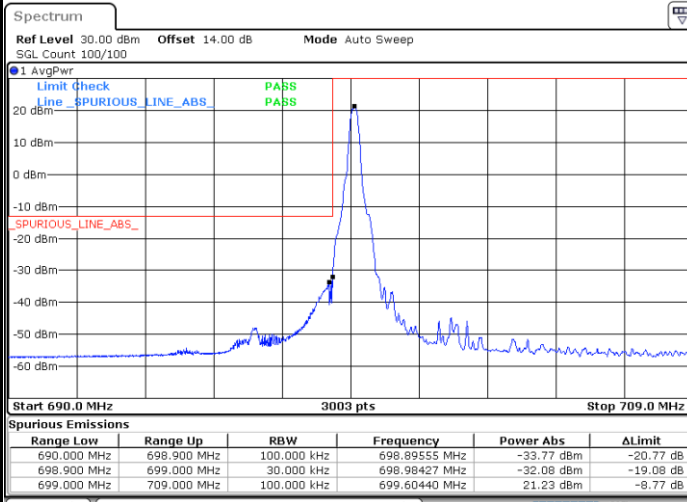


Date: 20.DEC.2023 16:53:17



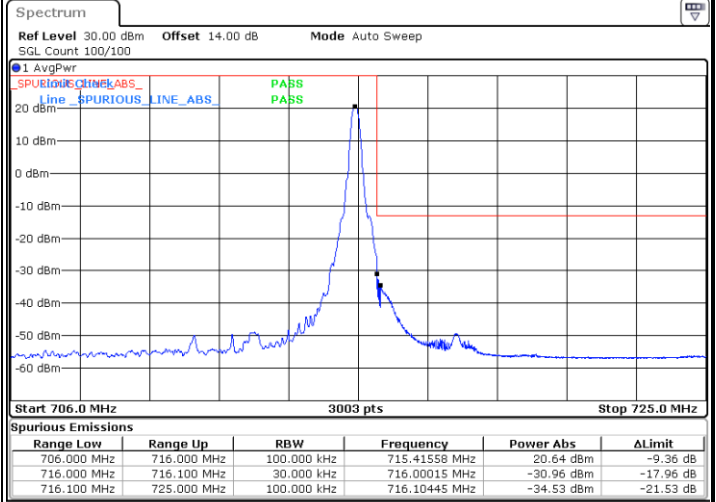
LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



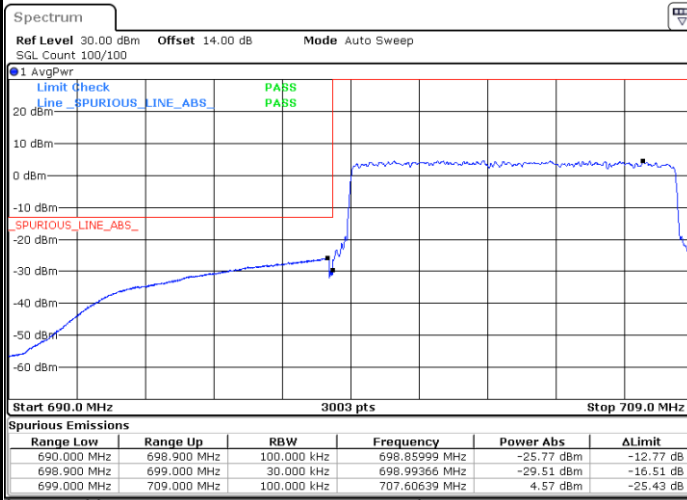
Date: 20.DEC.2023 16:41:58

Highest Band Edge / 1 RB



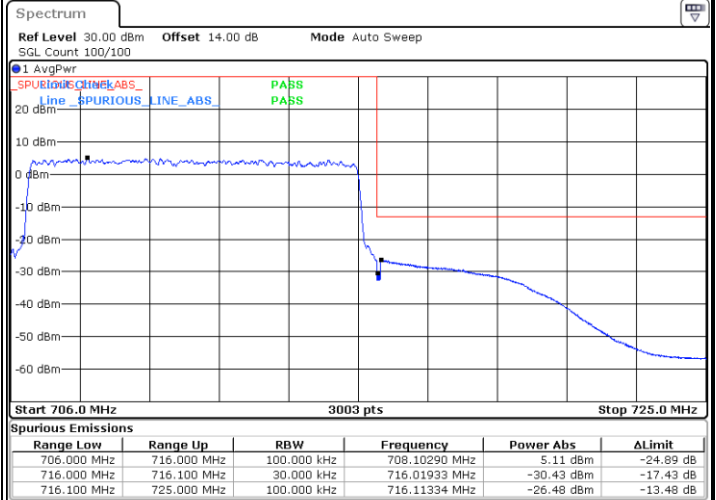
Date: 20.DEC.2023 16:51:23

Lowest Band Edge / Full RB



Date: 20.DEC.2023 16:44:49

Highest Band Edge / Full RB

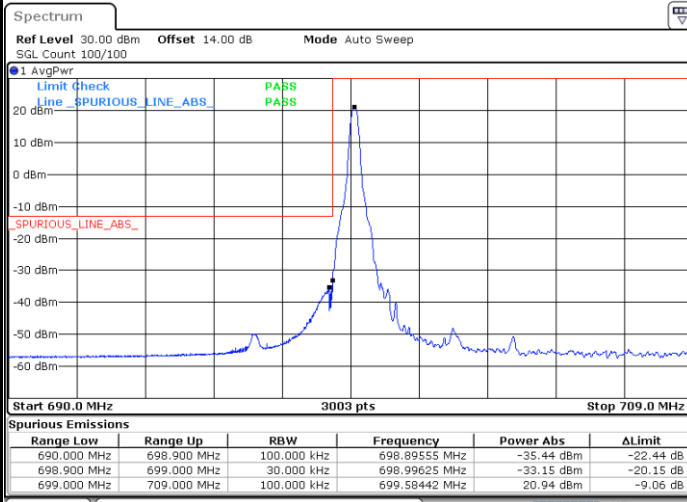


Date: 20.DEC.2023 16:54:13



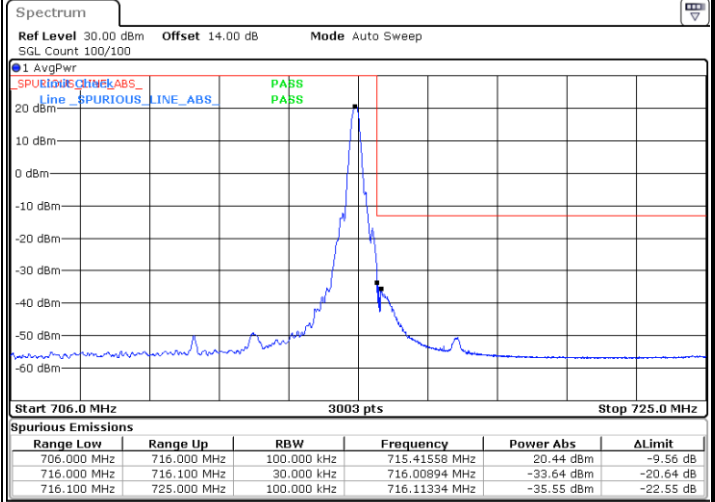
LTE Band 12 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



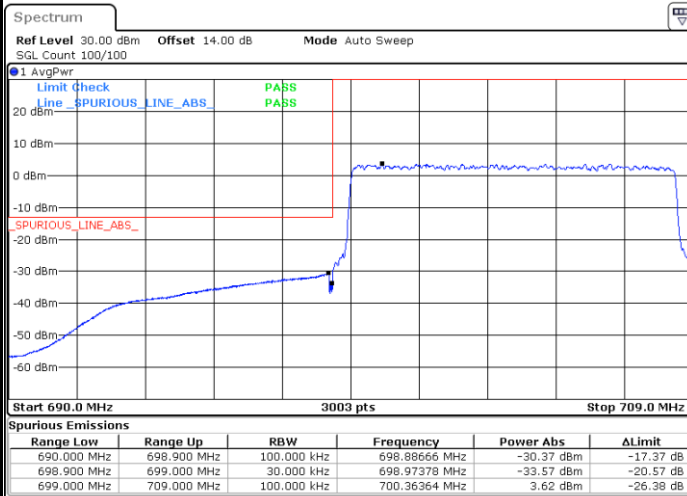
Date: 20.DEC.2023 16:42:55

Highest Band Edge / 1 RB



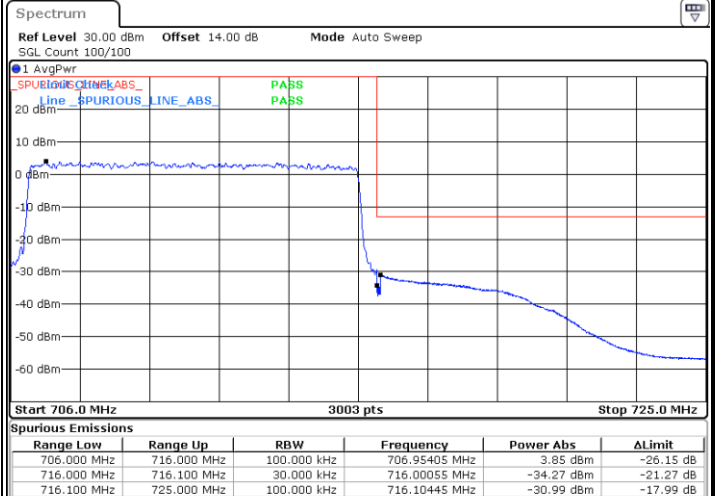
Date: 20.DEC.2023 16:52:20

Lowest Band Edge / Full RB



Date: 20.DEC.2023 16:45:46

Highest Band Edge / Full RB



Date: 20.DEC.2023 16:55:10



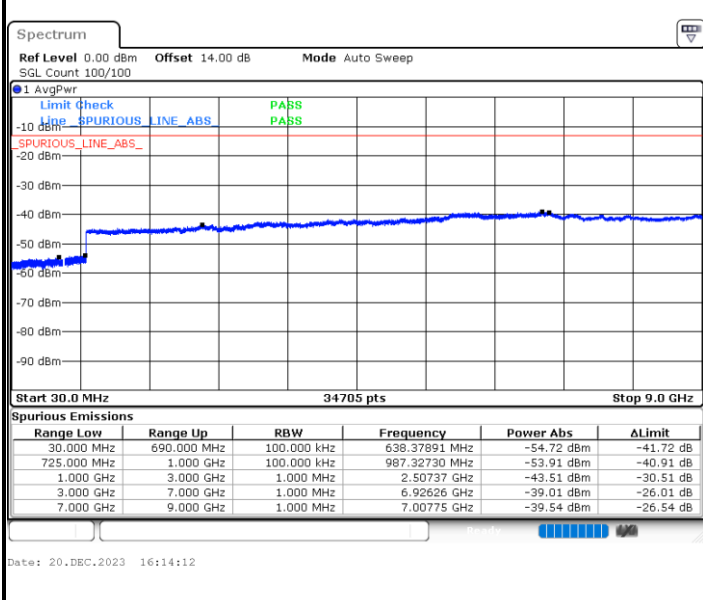
# Conducted Spurious Emission



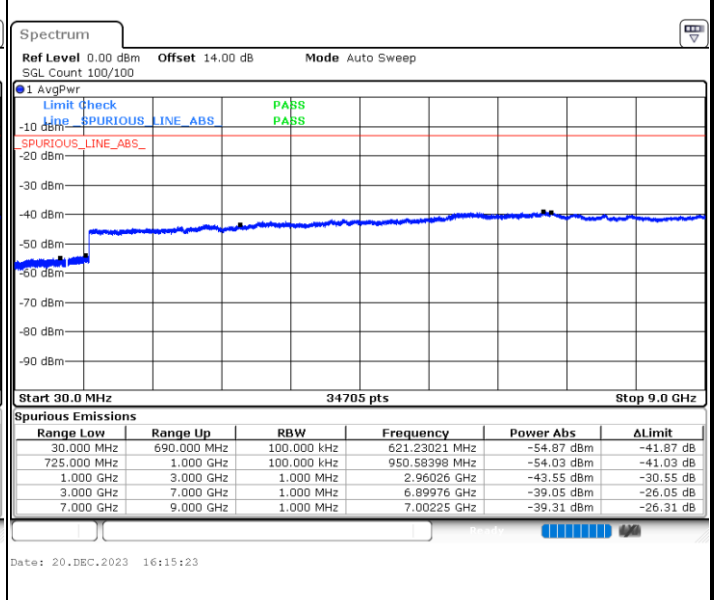


**LTE Band 12 / 3MHz**

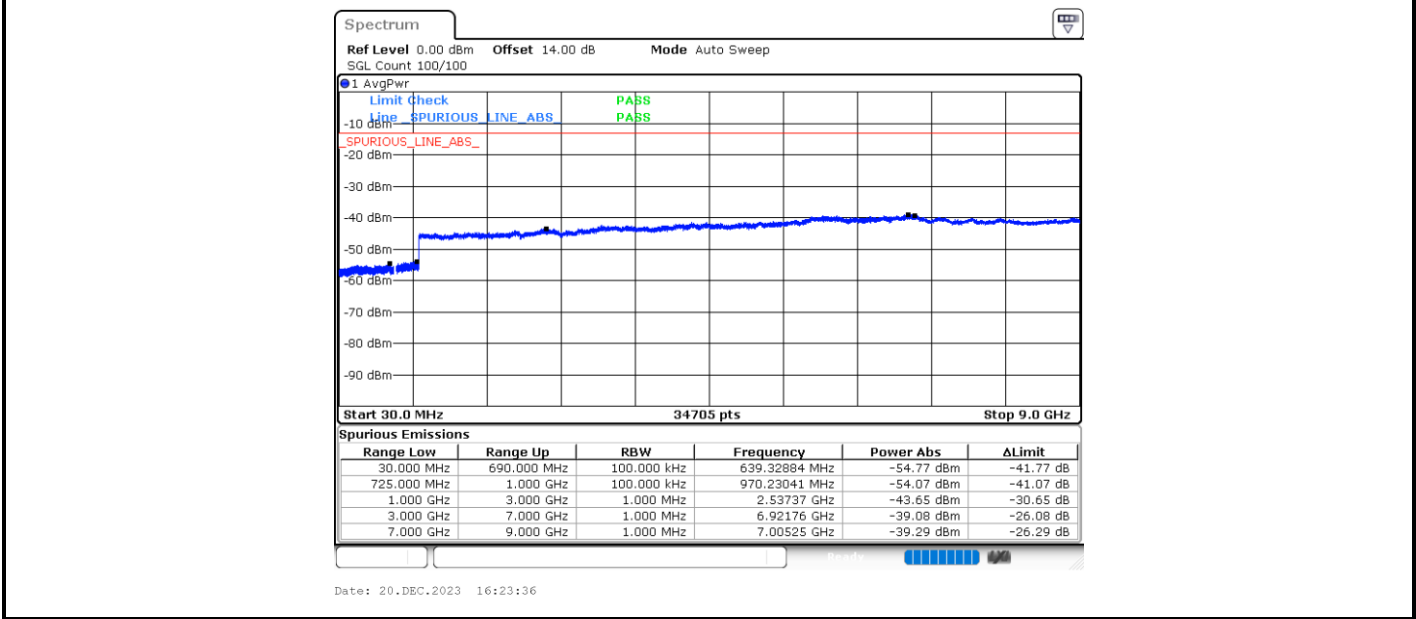
**Lowest Channel / QPSK**



**Middle Channel / QPSK**



**Highest Channel / QPSK**



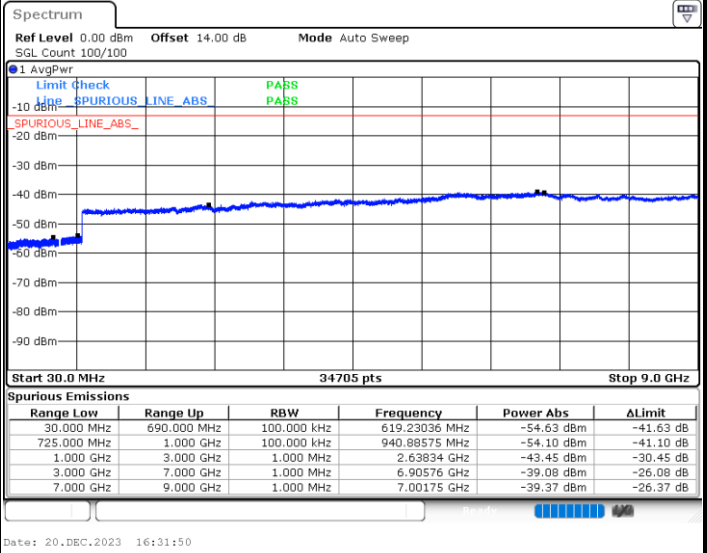
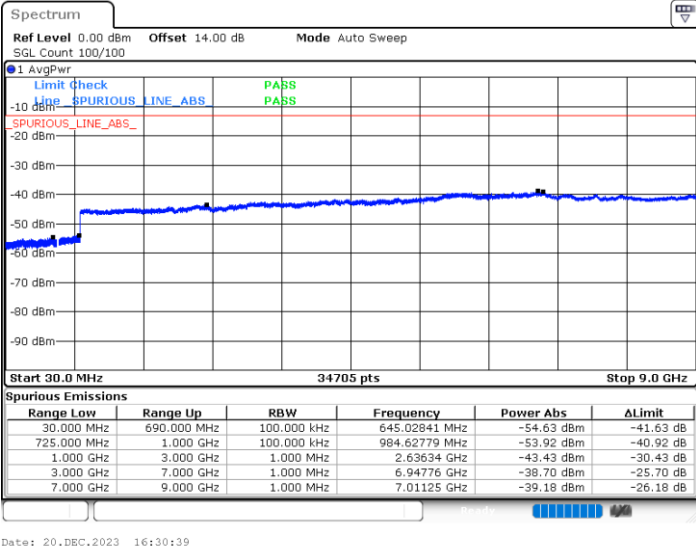




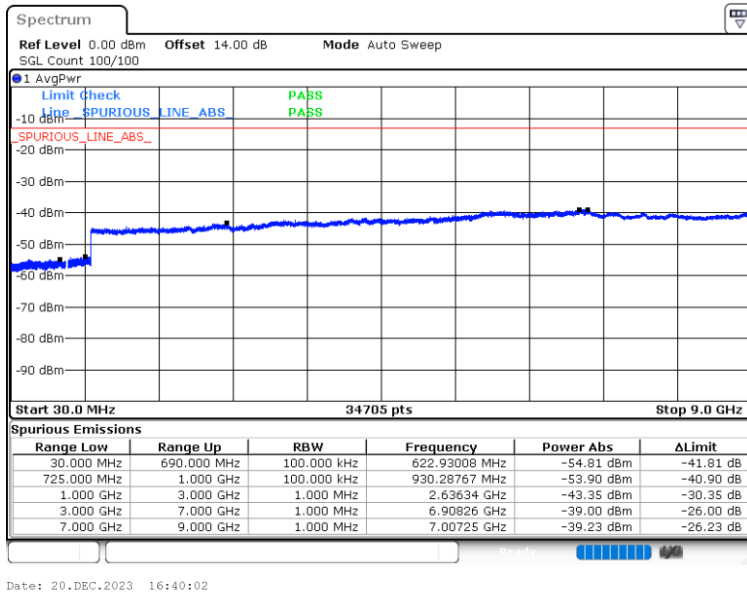
LTE Band 12 / 5MHz

Lowest Channel / QPSK

Middle Channel / QPSK



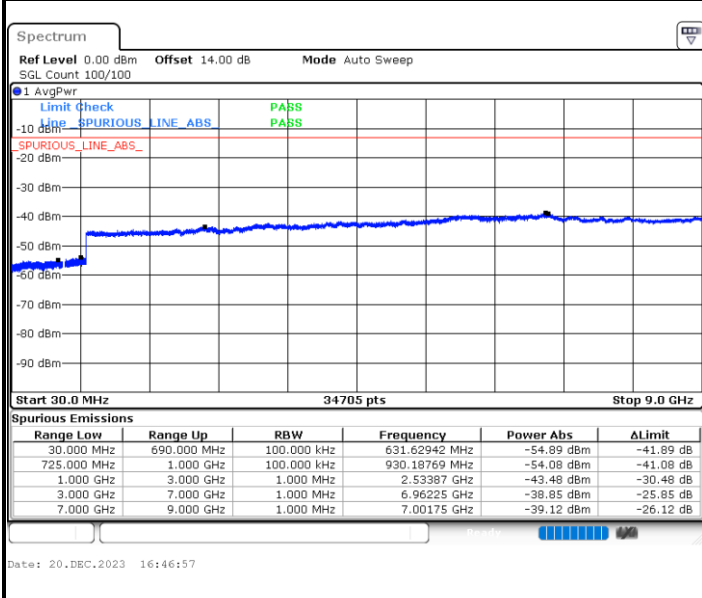
Highest Channel / QPSK



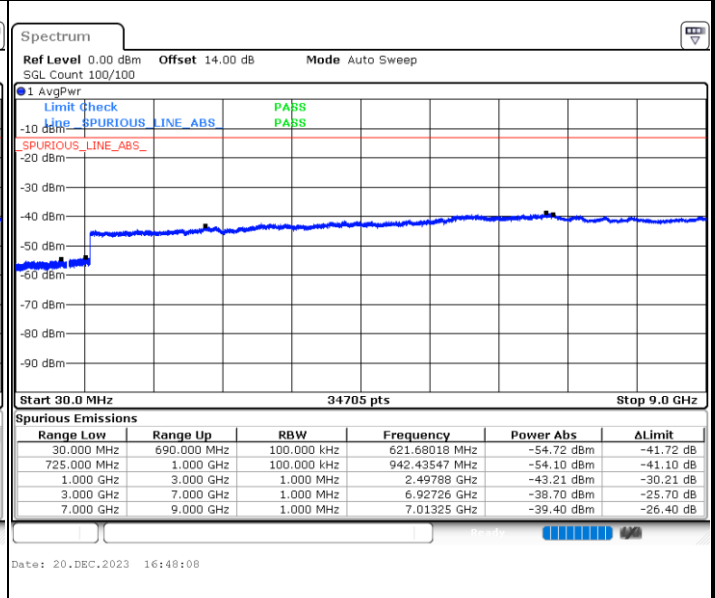


**LTE Band 12 / 10MHz**

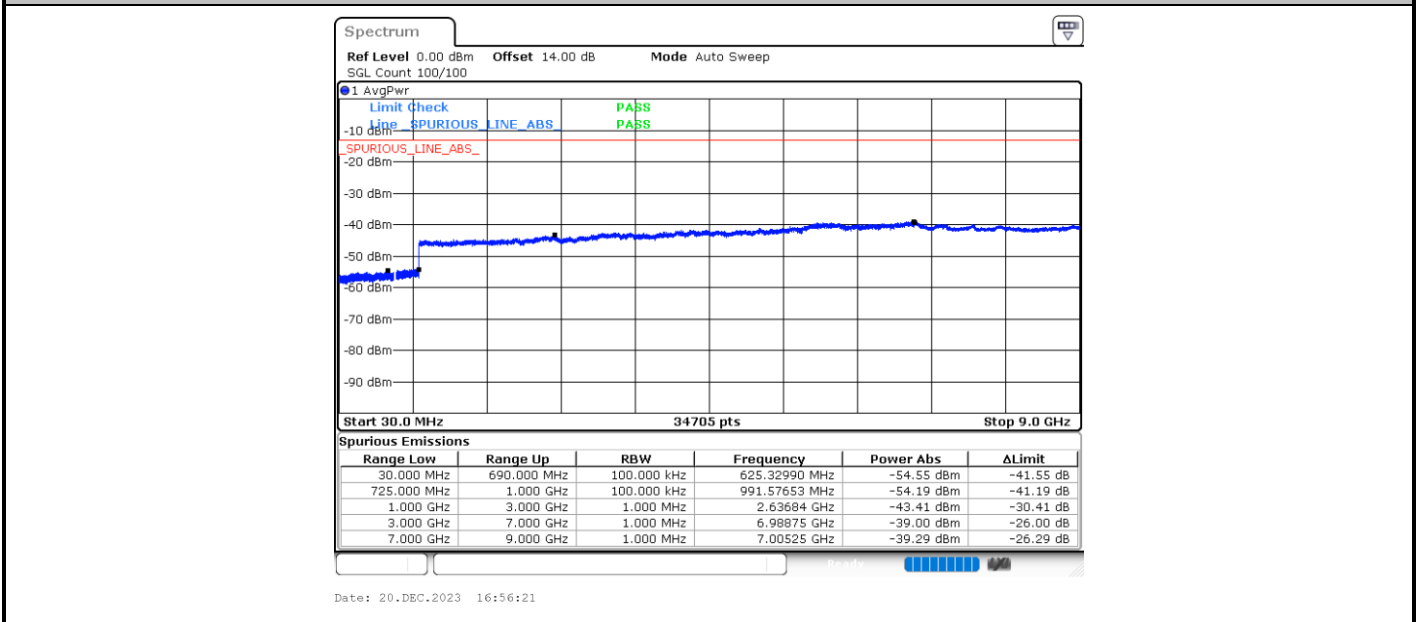
**Lowest Channel / QPSK**



**Middle Channel / QPSK**



**Highest Channel / QPSK**





### 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	0.0004	PASS
40	Normal Voltage	0.0003	
30	Normal Voltage	0.0001	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0001	
0	Normal Voltage	0.0018	
-10	Normal Voltage	0.0017	
-20	Normal Voltage	0.0016	
-30	Normal Voltage	0.0014	
20	Maximum Voltage	0.0013	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0003	

**Note:**

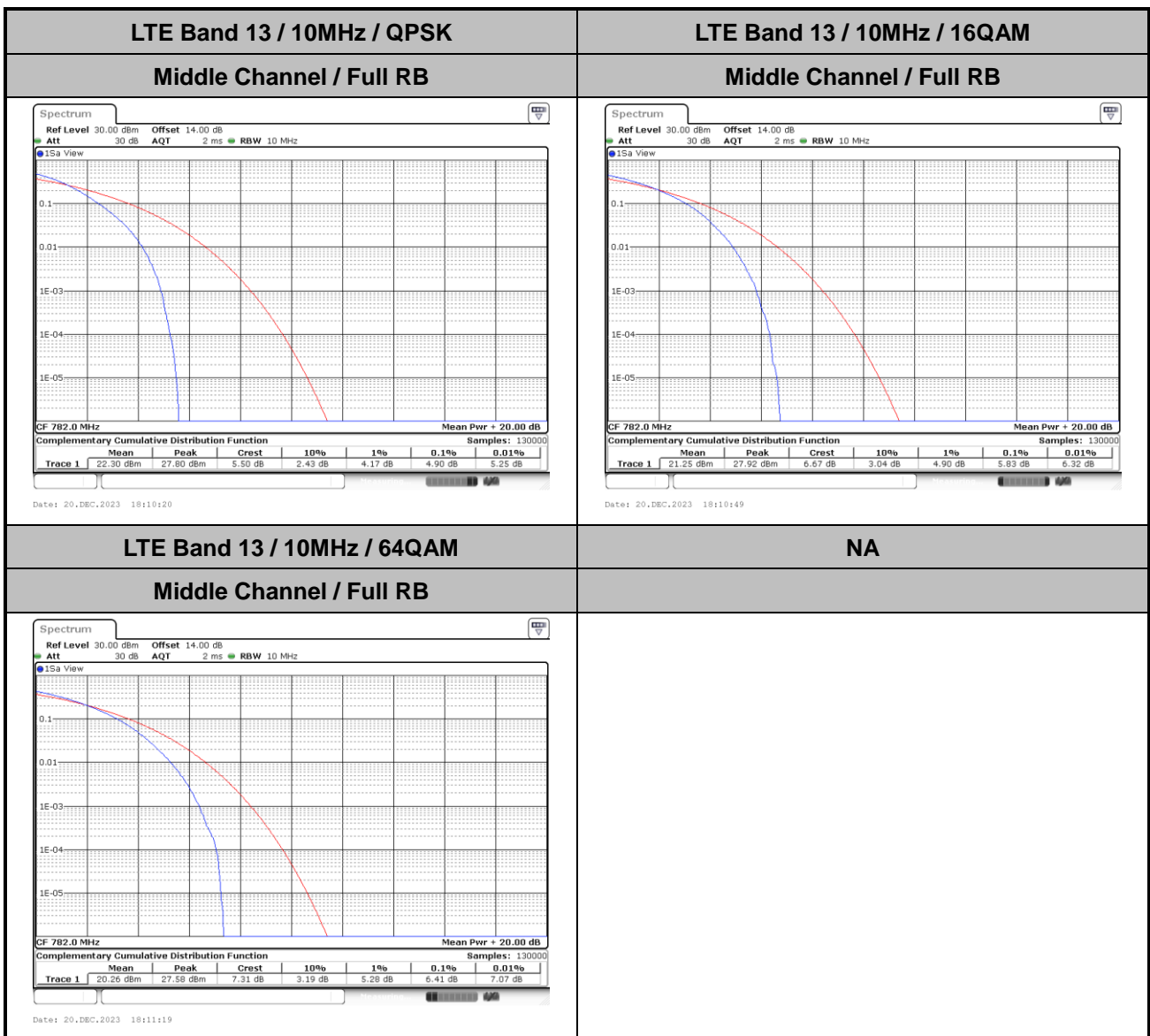
1. Normal Voltage = 3.91 V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage = 4.5 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



# LTE Band 13

## Peak-to-Average Ratio

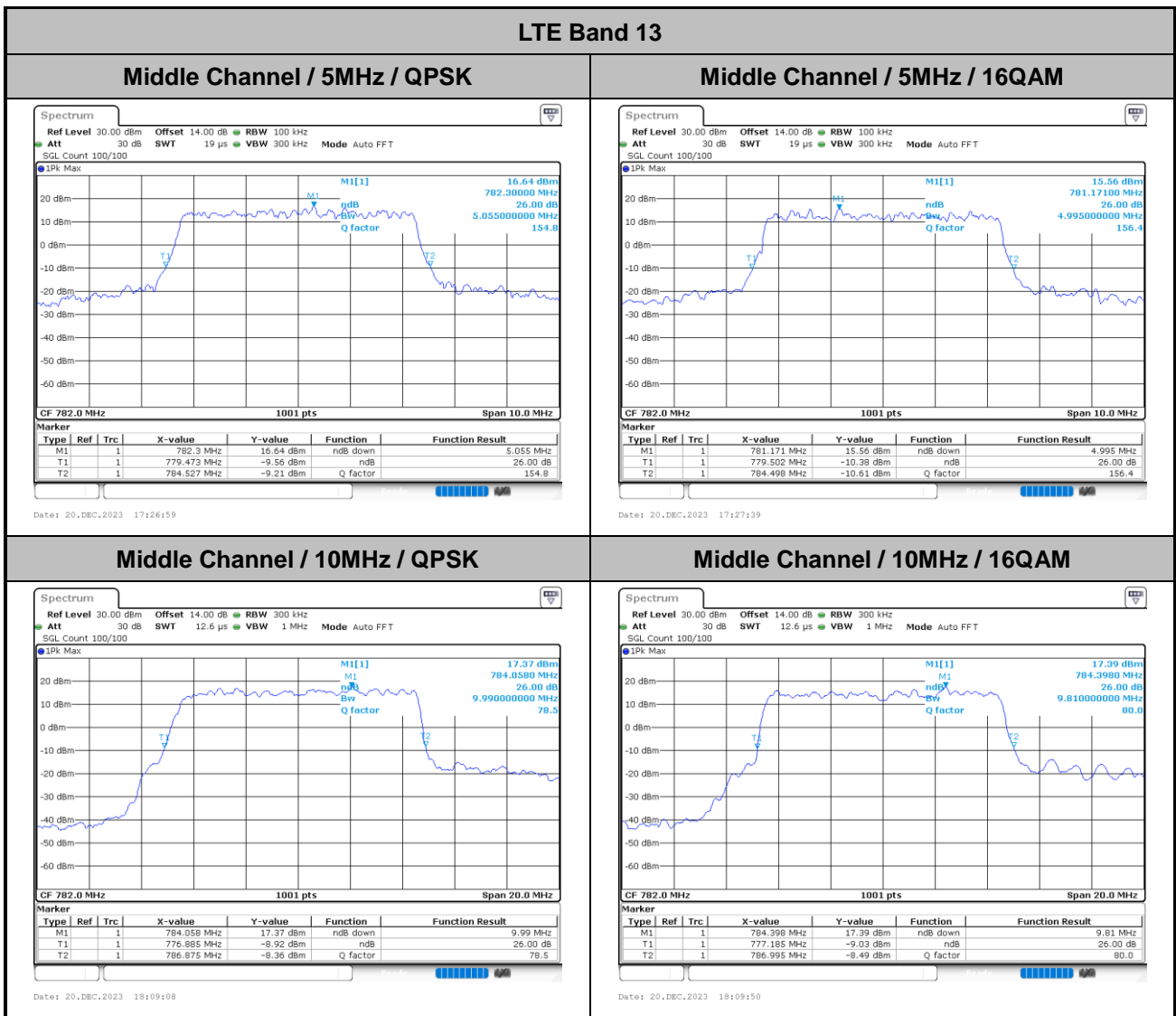
Mode	LTE Band 13 / 10MHz			
Mod.	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Result
Middle CH	4.90	5.83	6.41	PASS





## 26dB Bandwidth

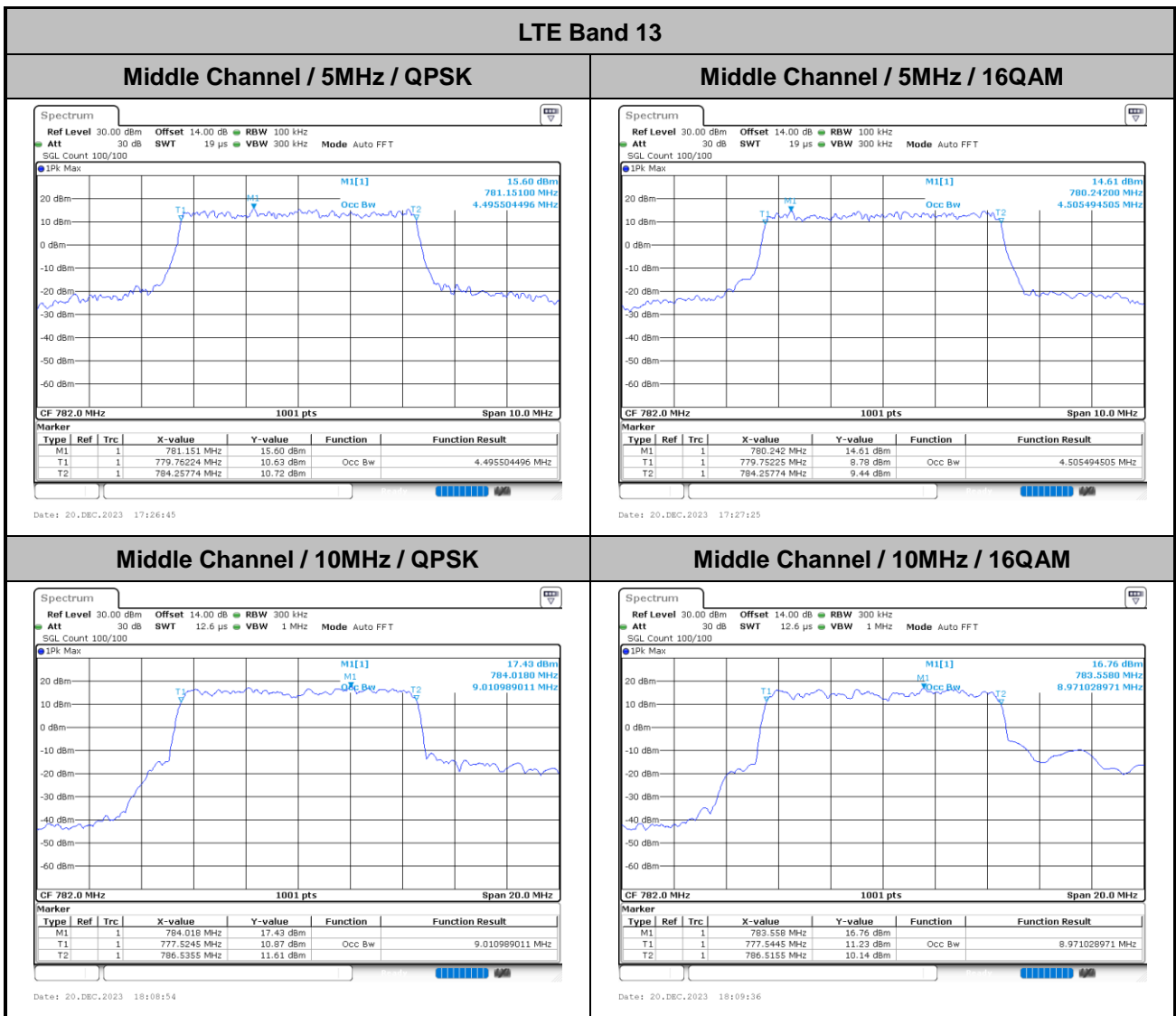
Mode	LTE Band 13 : 26dB BW(MHz)			
BW	5MHz		10MHz	
Mod.	QPSK	16QAM	QPSK	16QAM
Middle CH	5.06	5.00	9.99	9.81





# Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(MHz)			
BW	5MHz		10MHz	
Mod.	QPSK	16QAM	QPSK	16QAM
Middle CH	4.50	4.51	9.01	8.97



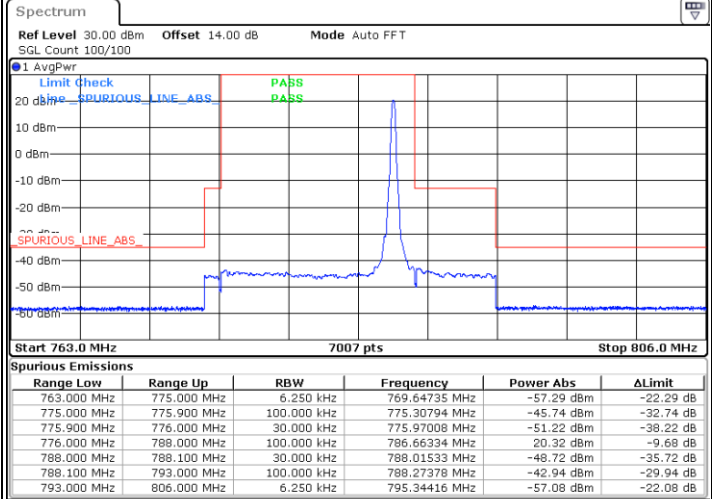
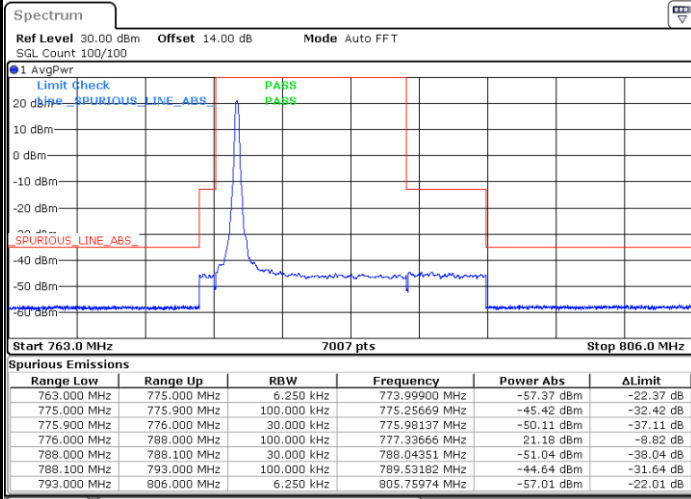


# Conducted Band Edge

## LTE Band 13 / 5MHz / QPSK

### Lowest Band Edge / 1 RB

### Highest Band Edge / 1 RB

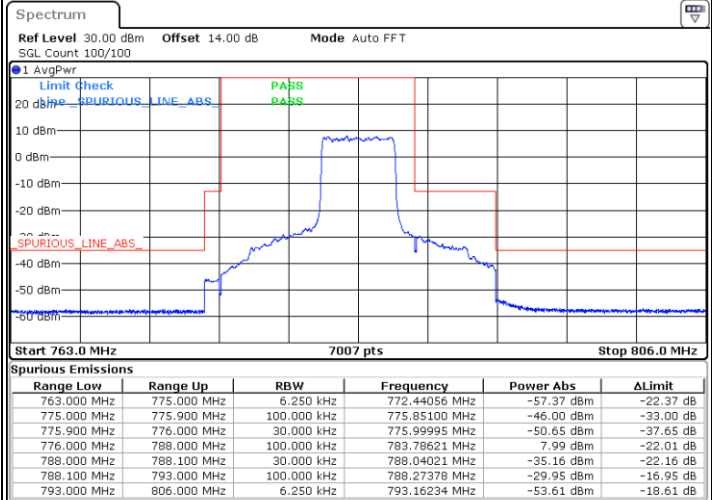
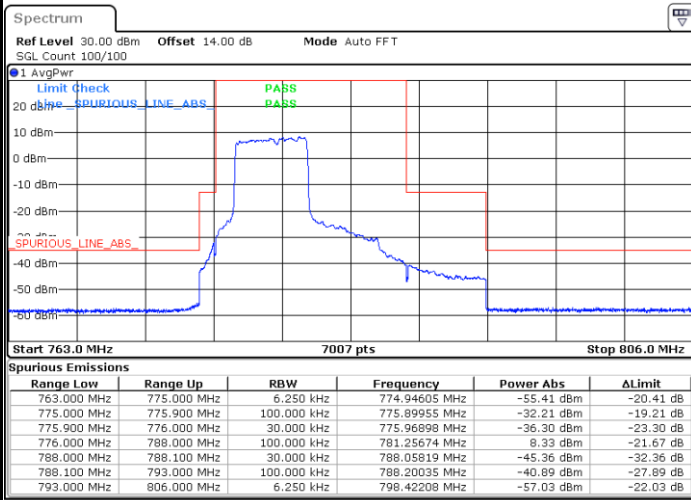


Date: 20.DEC.2023 17:19:11

Date: 20.DEC.2023 17:28:35

### Lowest Band Edge / Full RB

### Highest Band Edge / Full RB



Date: 20.DEC.2023 17:22:02

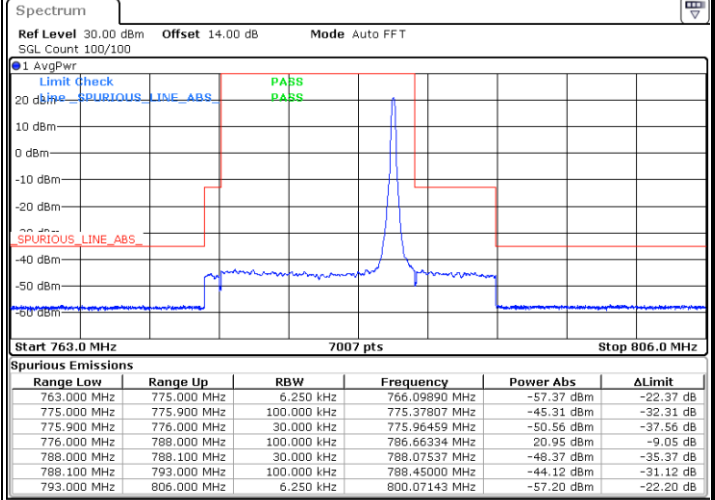
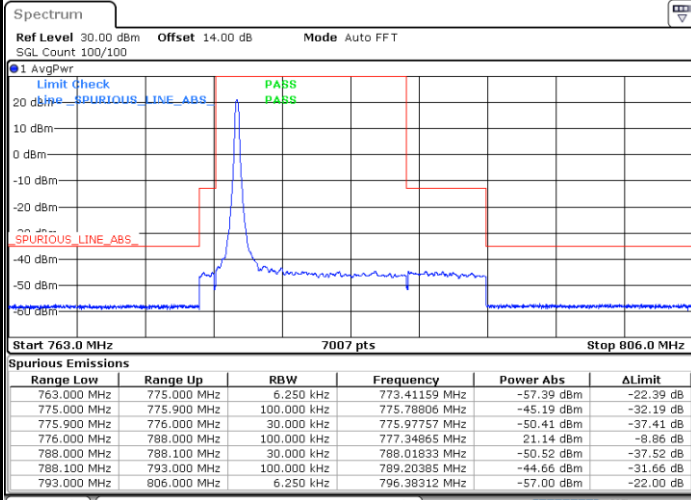
Date: 20.DEC.2023 17:31:26



LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

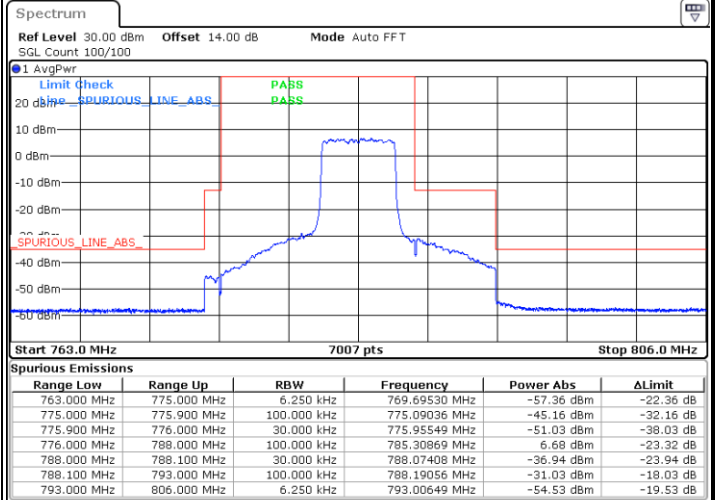
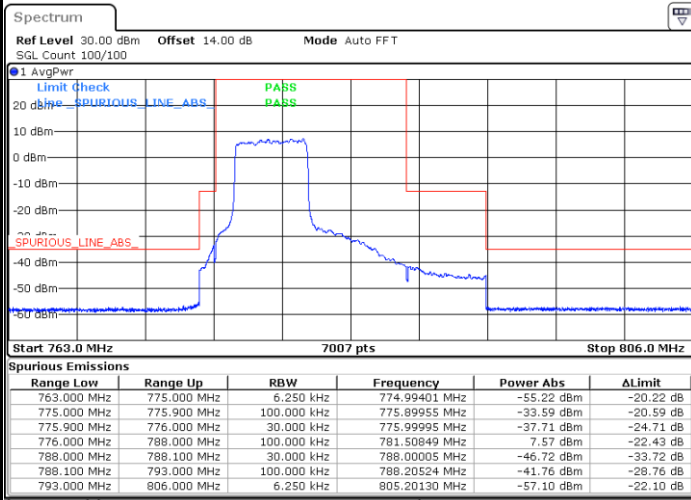


Date: 20.DEC.2023 17:20:08

Date: 20.DEC.2023 17:29:32

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 20.DEC.2023 17:22:59

Date: 20.DEC.2023 17:32:23

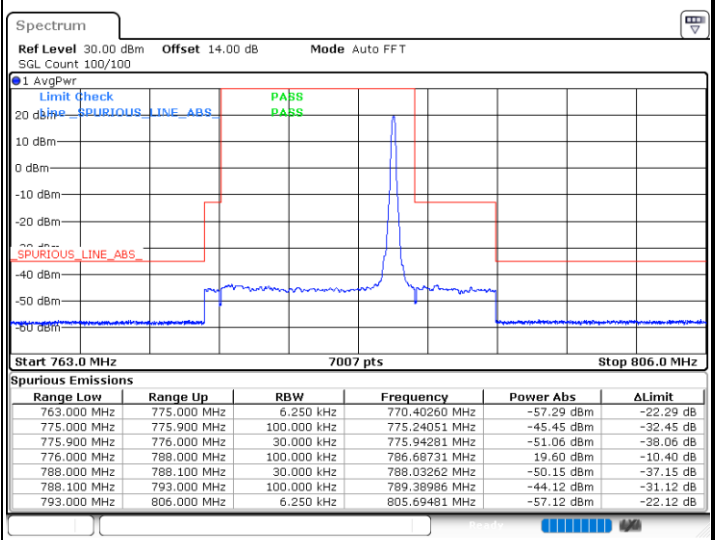
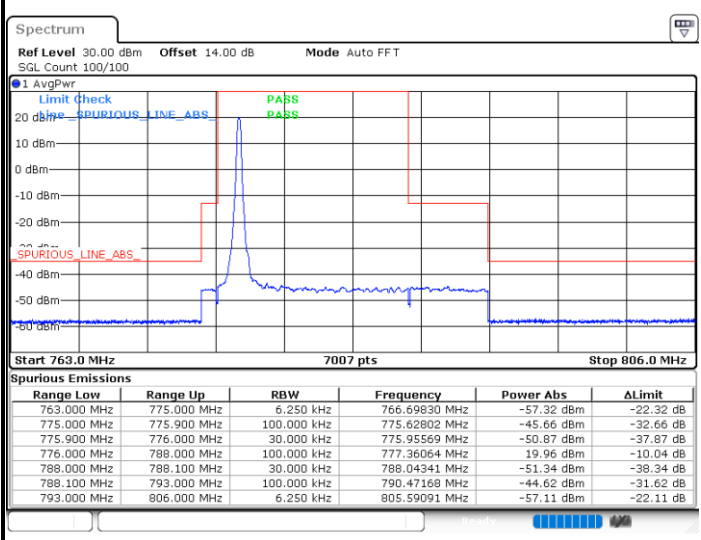




LTE Band 13 / 5MHz / 64QAM

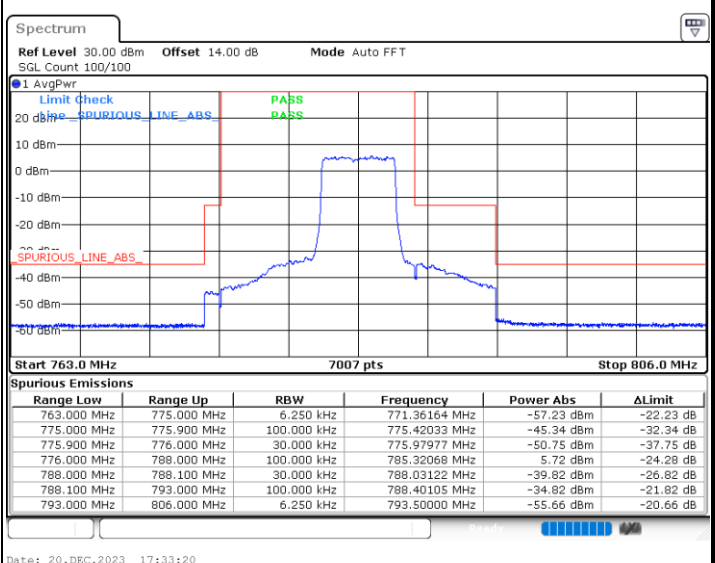
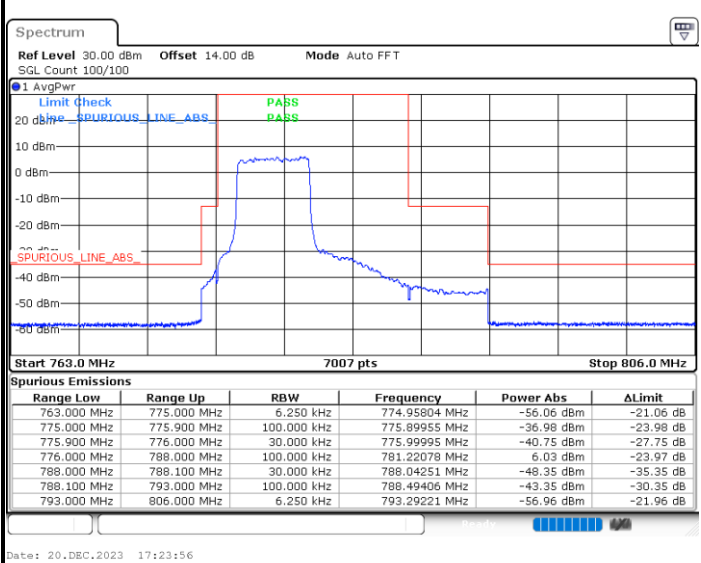
Lowest Band Edge / 1 RB

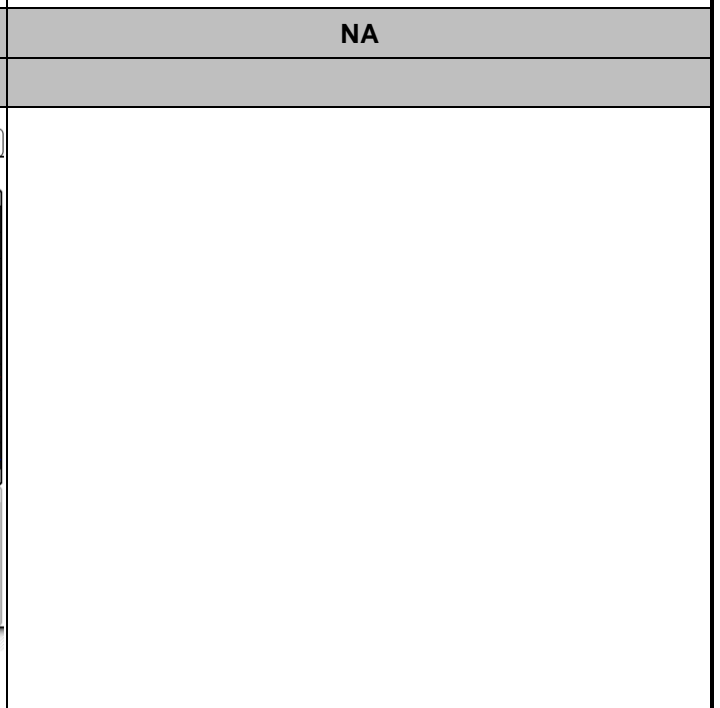
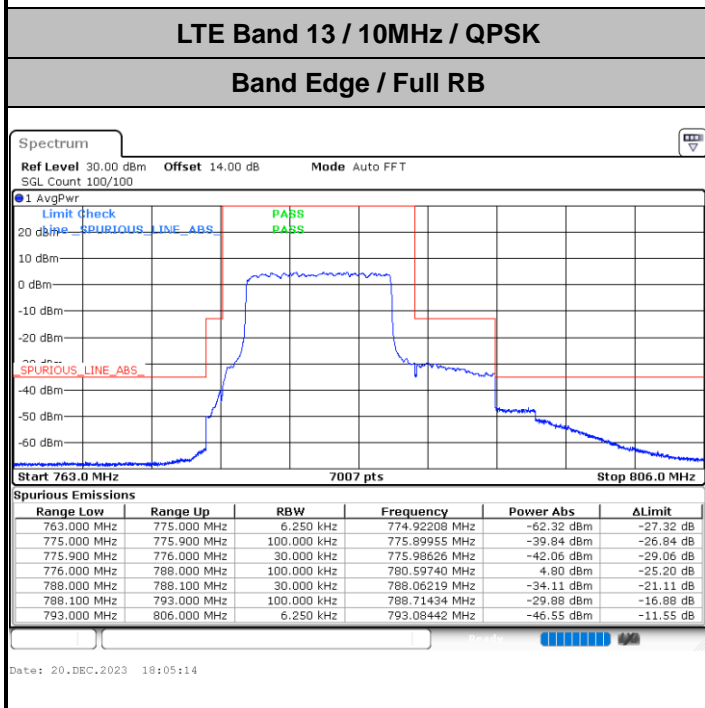
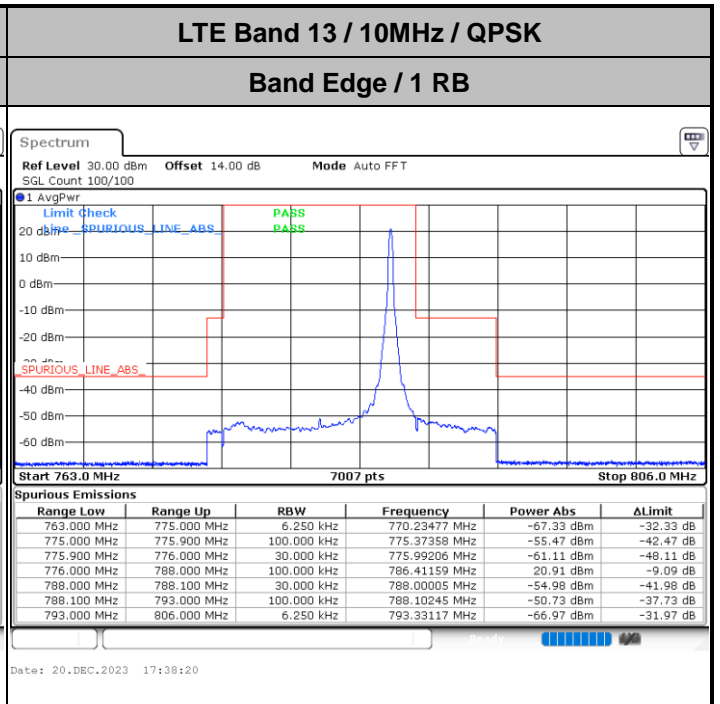
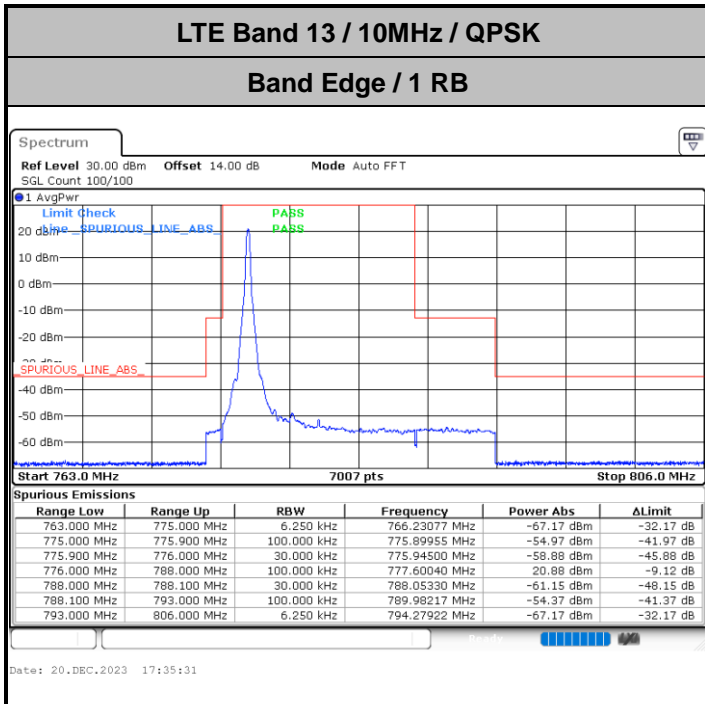
Highest Band Edge / 1 RB

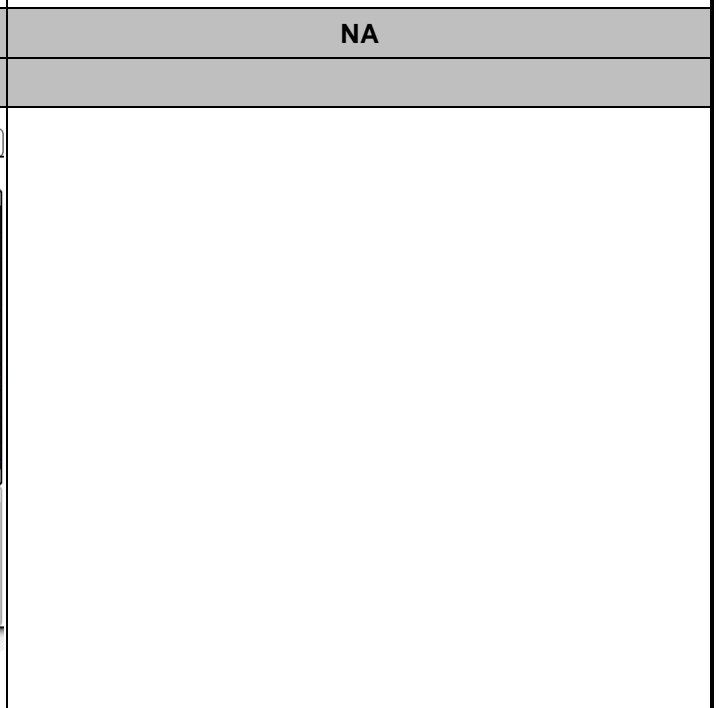
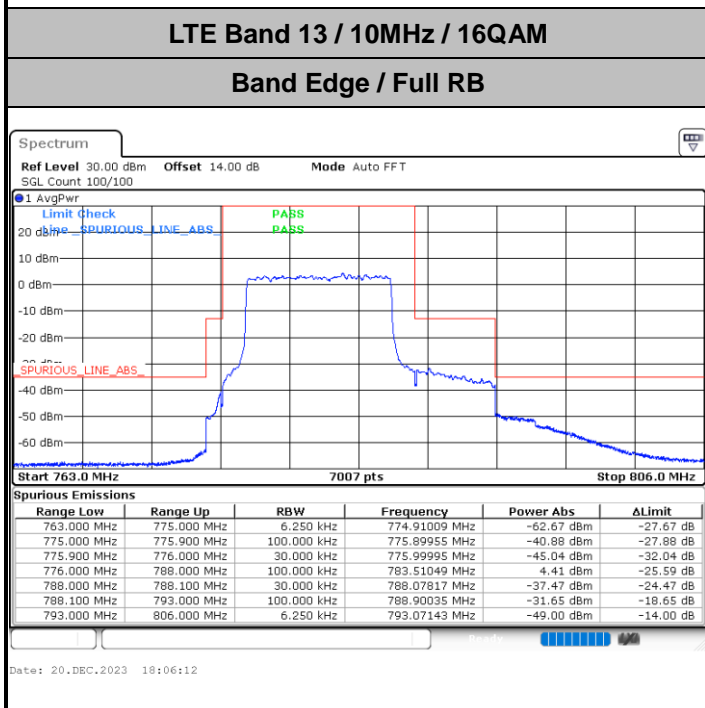
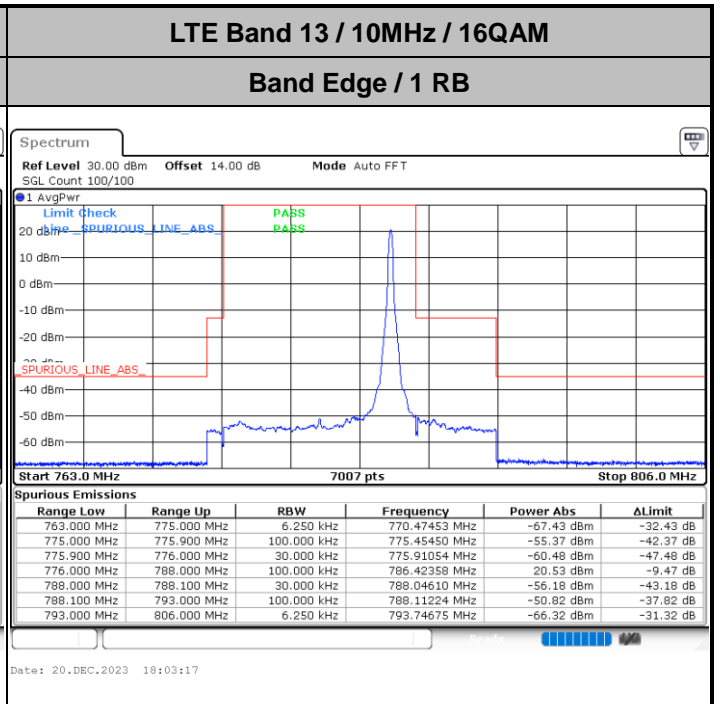
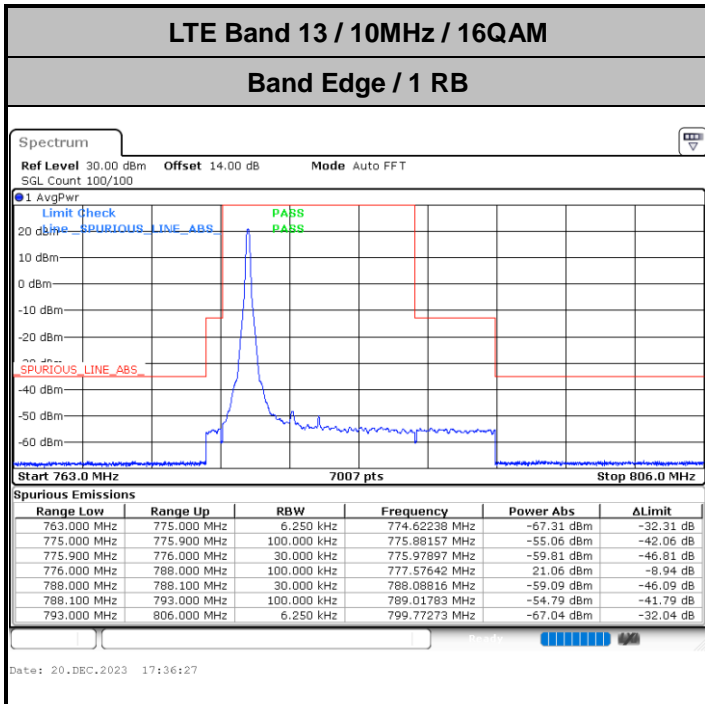


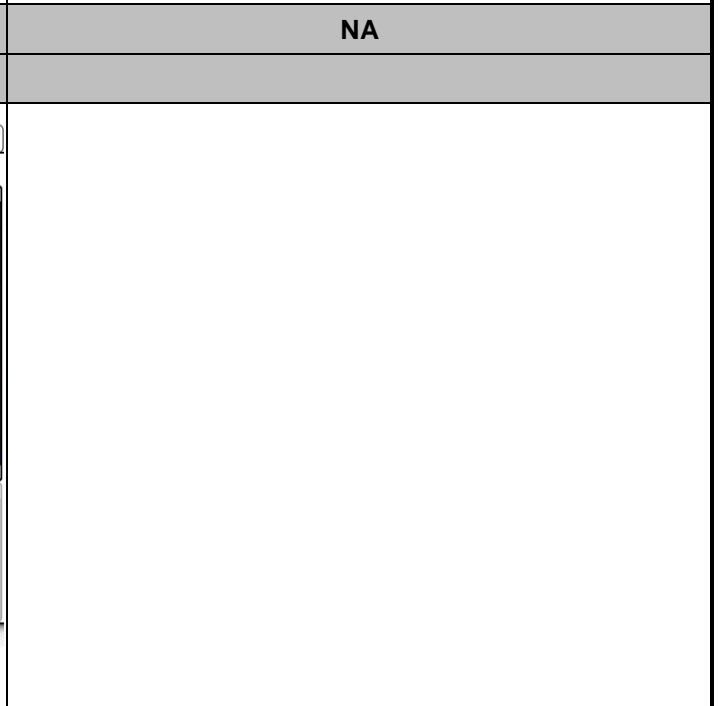
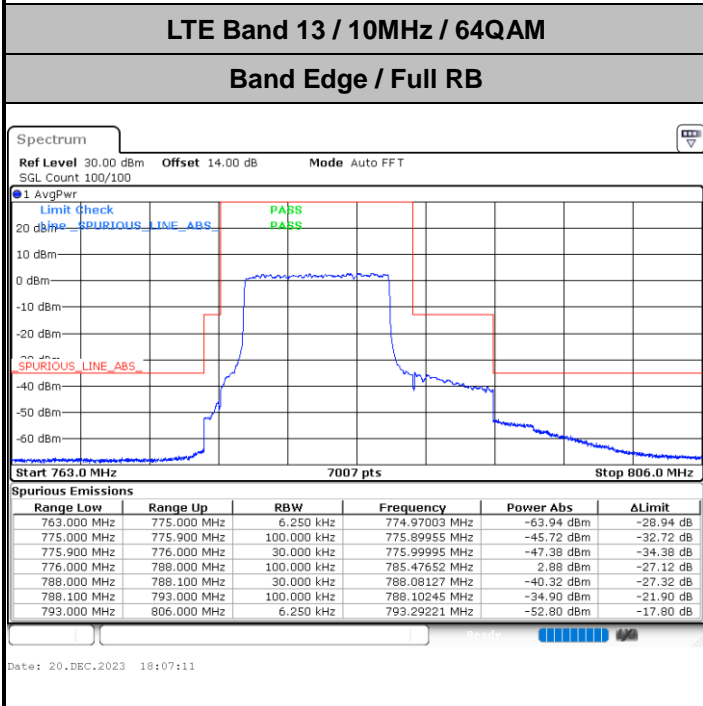
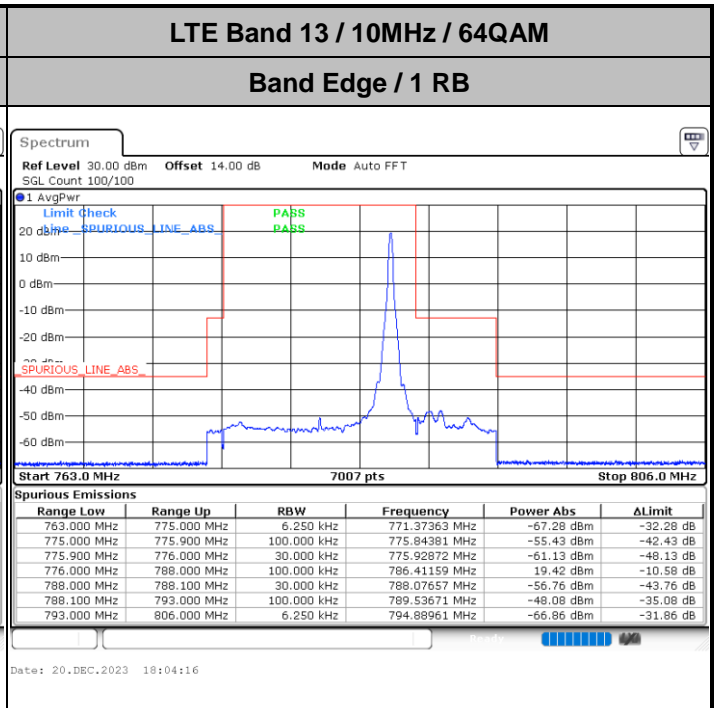
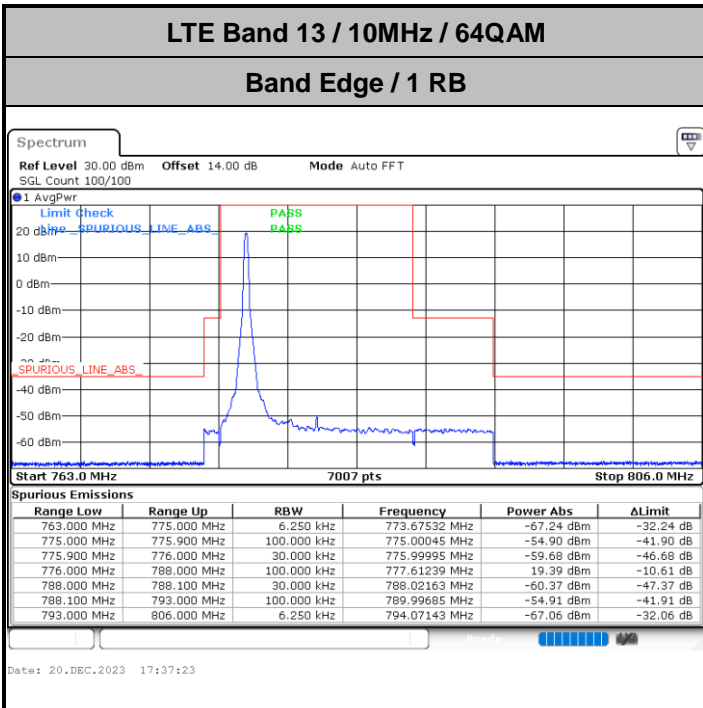
Lowest Band Edge / Full RB

Highest Band Edge / Full RB



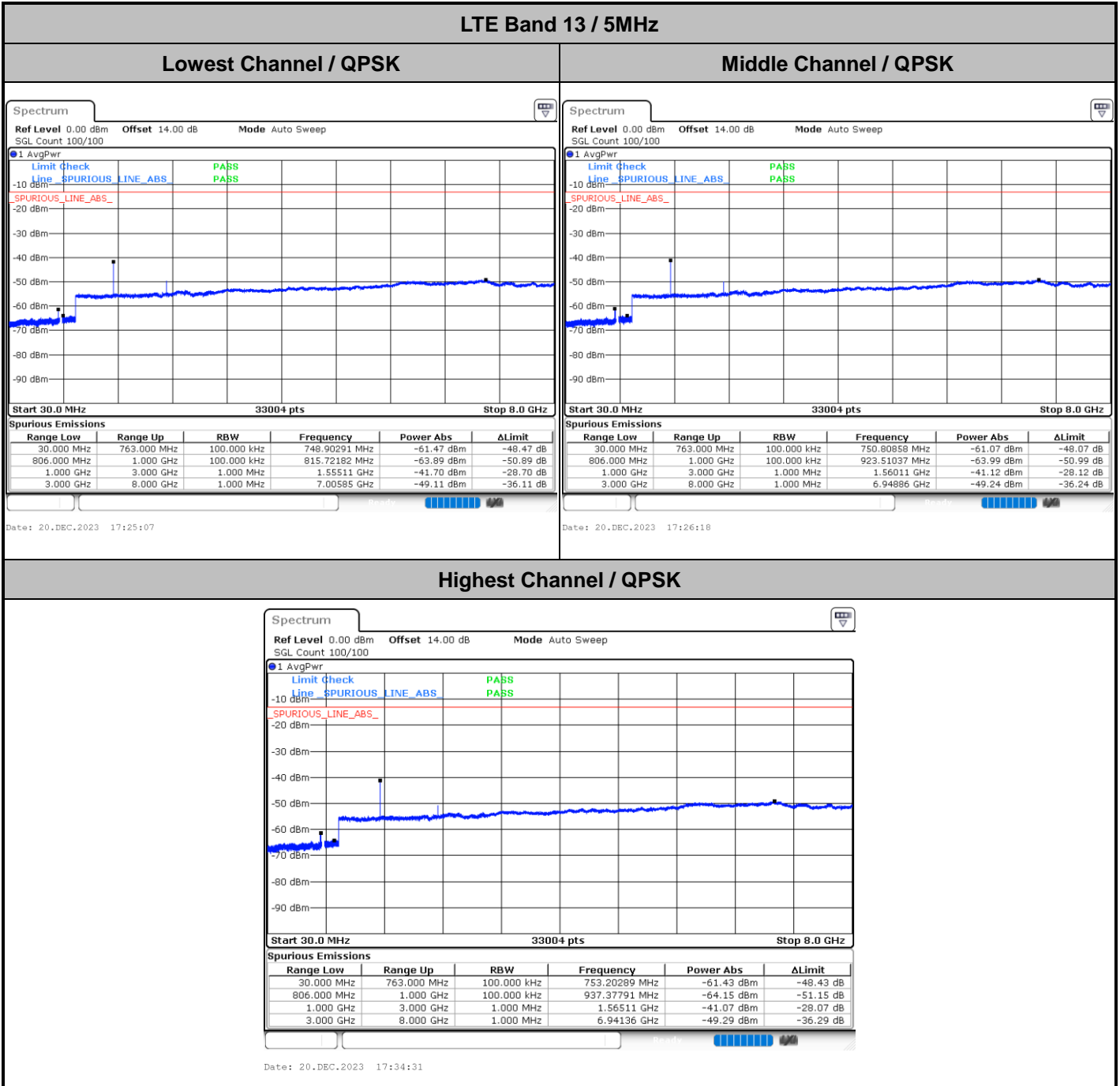








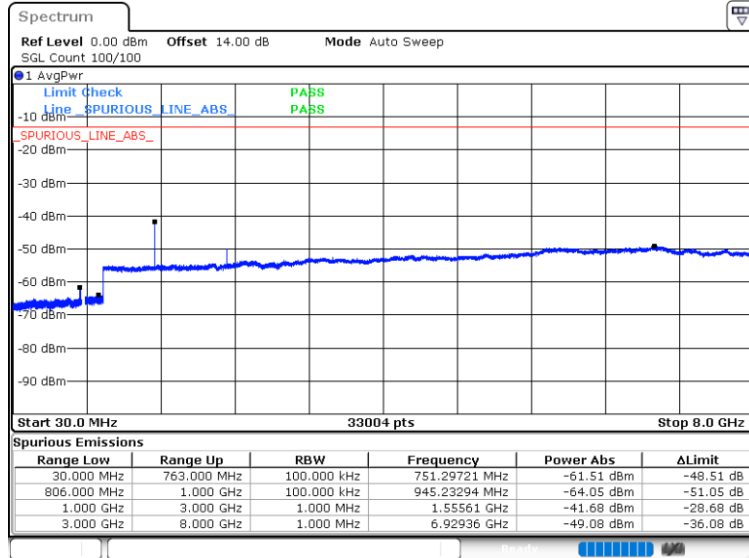
# Conducted Spurious Emission





LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 20.DEC.2023 18:08:24



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	0.0166	PASS
40	Normal Voltage	0.0005	
30	Normal Voltage	0.0183	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0018	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0035	
-20	Normal Voltage	0.0168	
-30	Normal Voltage	0.0183	
20	Maximum Voltage	0.0015	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0012	

Note:

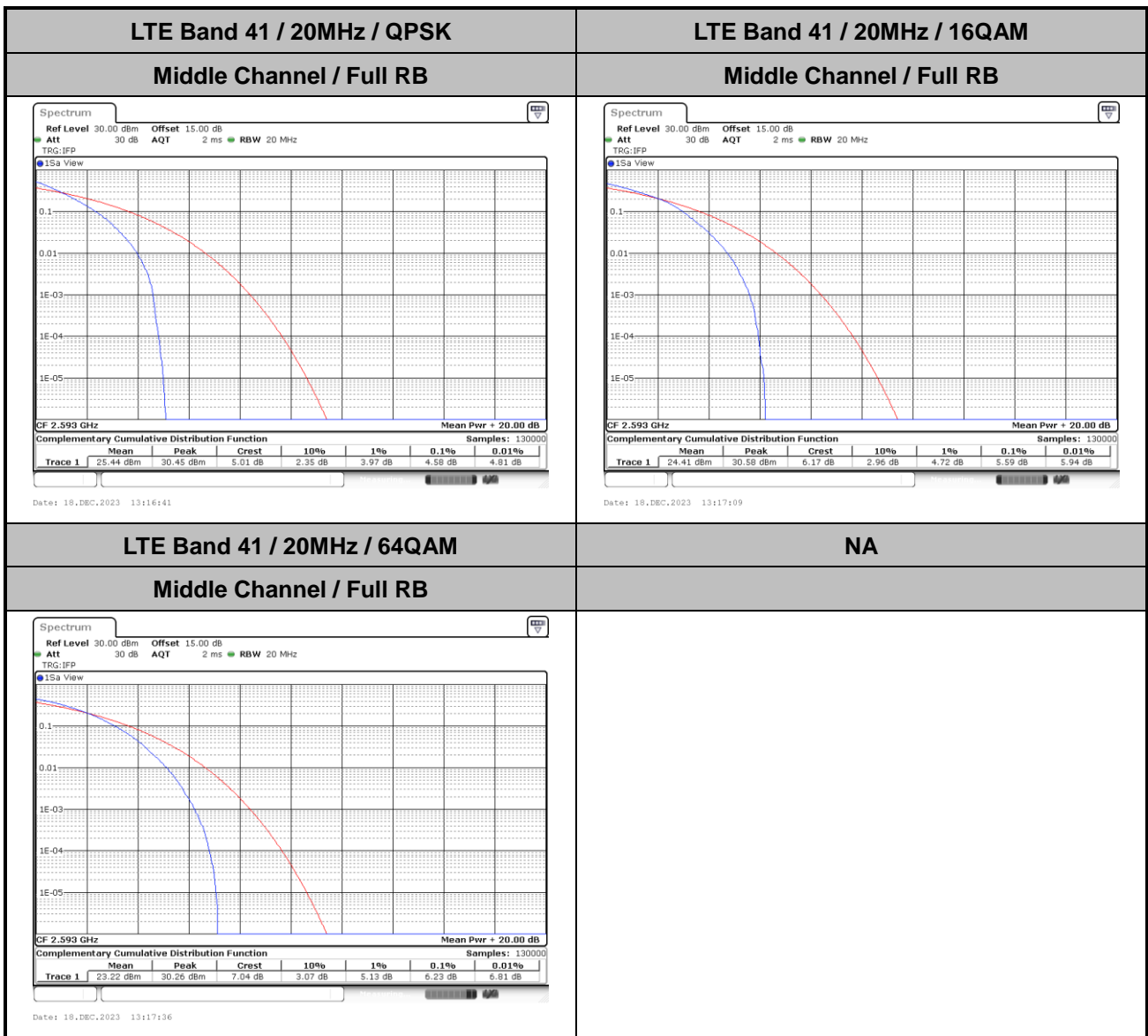
1. Normal Voltage =3.91 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.5 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



# LTE Band 41

## Peak-to-Average Ratio

Mode	LTE Band 41 / 20MHz			
Mod.	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Result
Middle CH	4.58	5.59	6.23	PASS







## 26dB Bandwidth

Mode	LTE Band 41 : 26dB BW(MHz)							
	5MHz		10MHz		15MHz		20MHz	
BW								
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	4.94	4.79	9.93	9.67	14.63	14.12	18.98	18.98