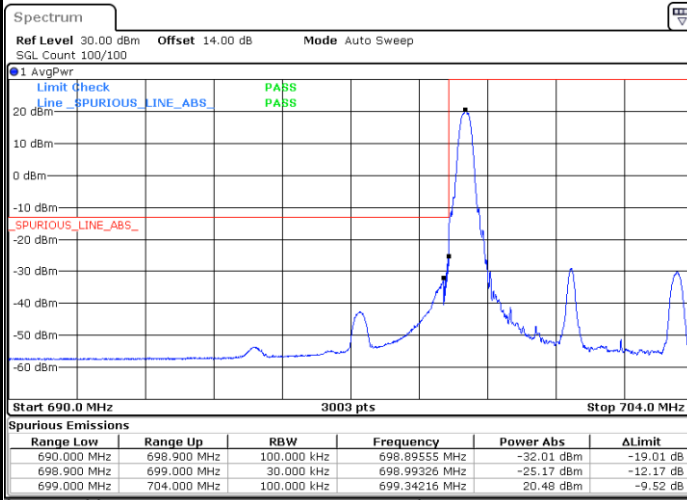




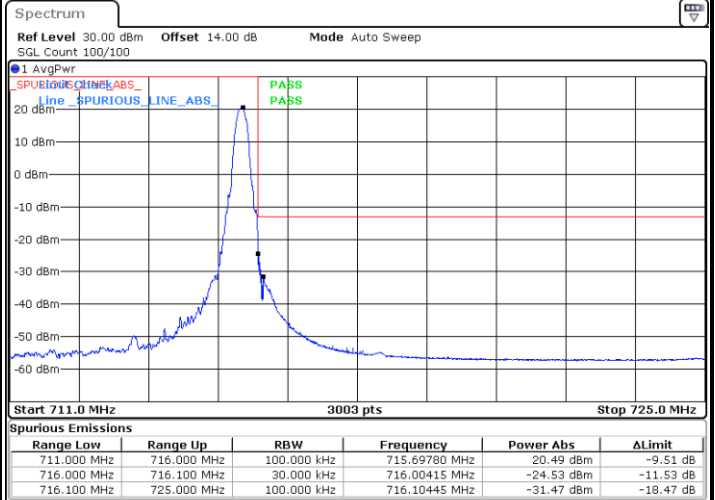
LTE Band 12 / 5MHz / 64QAM

Lowest Band Edge / 1RB



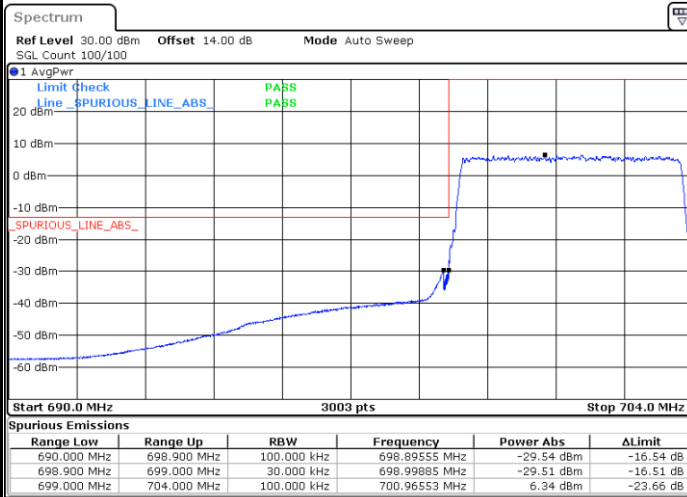
Date: 13.DEC.2022 20:36:55

Highest Band Edge / 1 RB



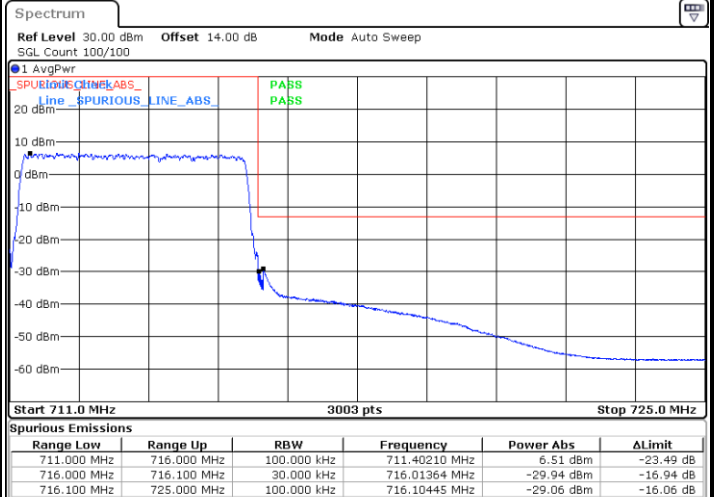
Date: 13.DEC.2022 20:43:06

Lowest Band Edge / Full RB



Date: 13.DEC.2022 20:35:12

Highest Band Edge / Full RB

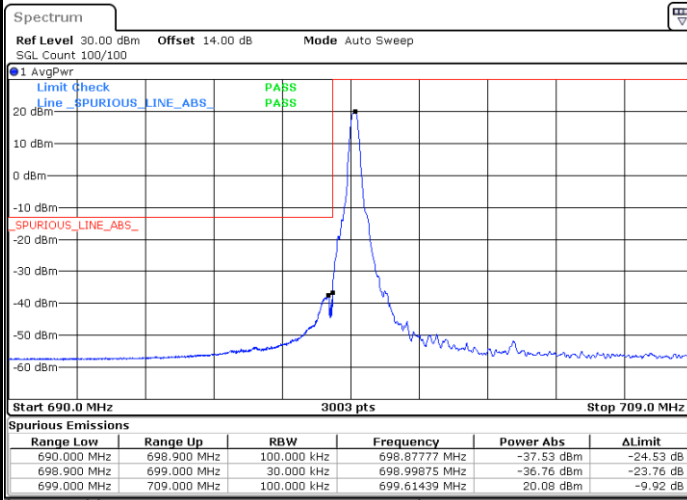


Date: 13.DEC.2022 20:41:23



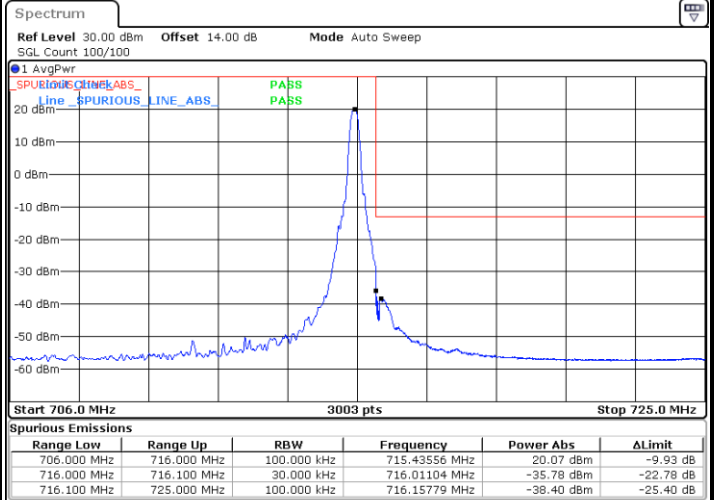
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1 RB



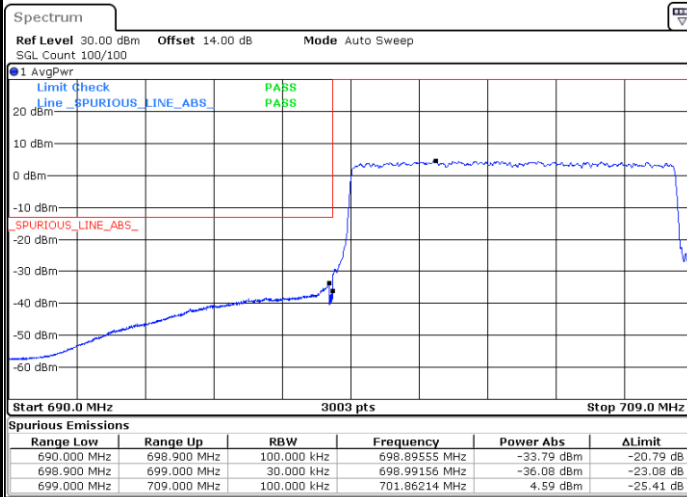
Date: 13.DEC.2022 18:57:03

Highest Band Edge / 1 RB



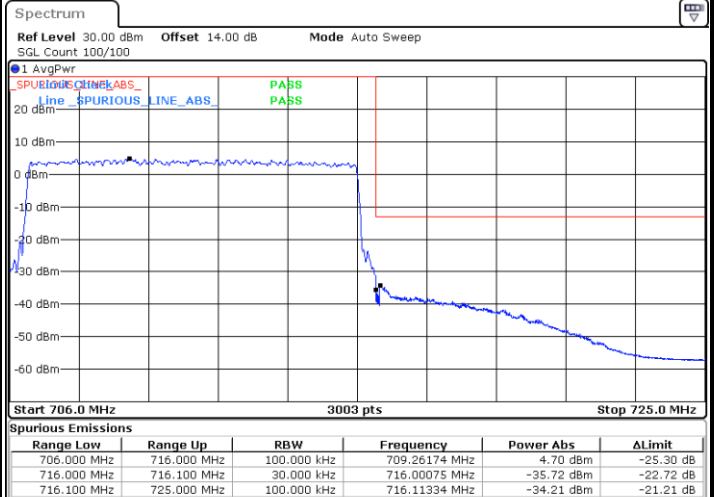
Date: 13.DEC.2022 19:10:02

Lowest Band Edge / Full RB



Date: 13.DEC.2022 18:51:55

Highest Band Edge / Full RB

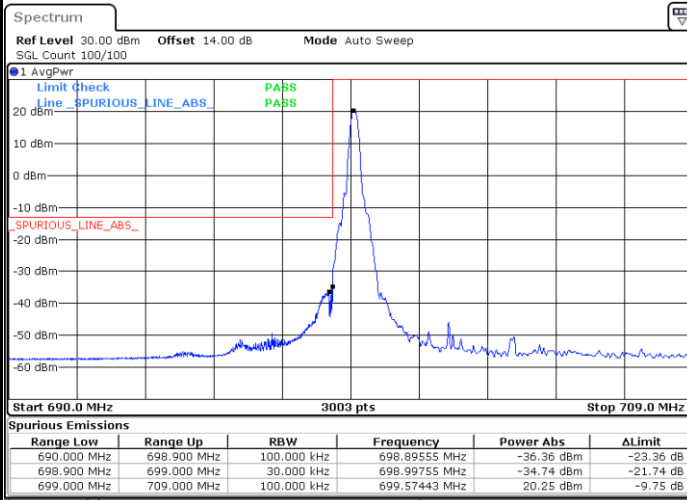


Date: 13.DEC.2022 19:04:54



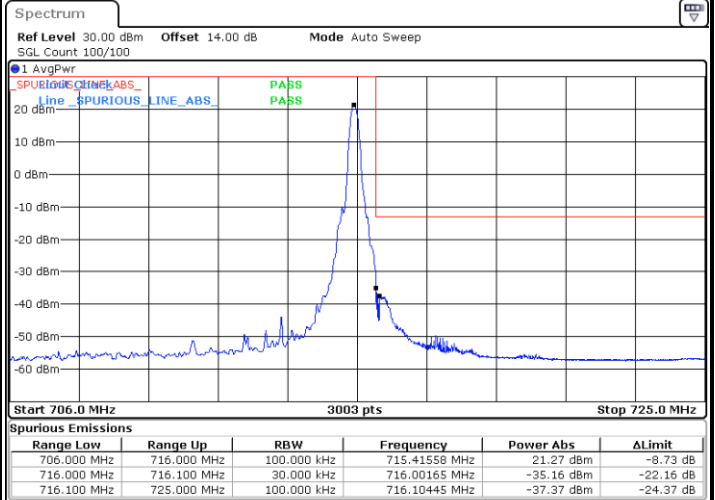
LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



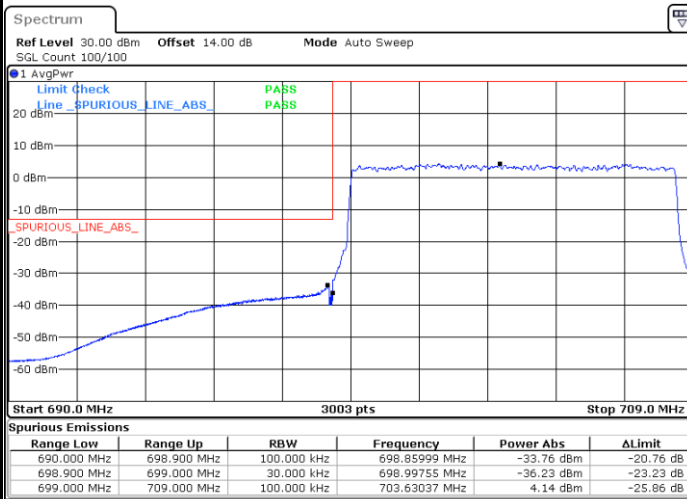
Date: 13.DEC.2022 18:55:20

Highest Band Edge / 1 RB



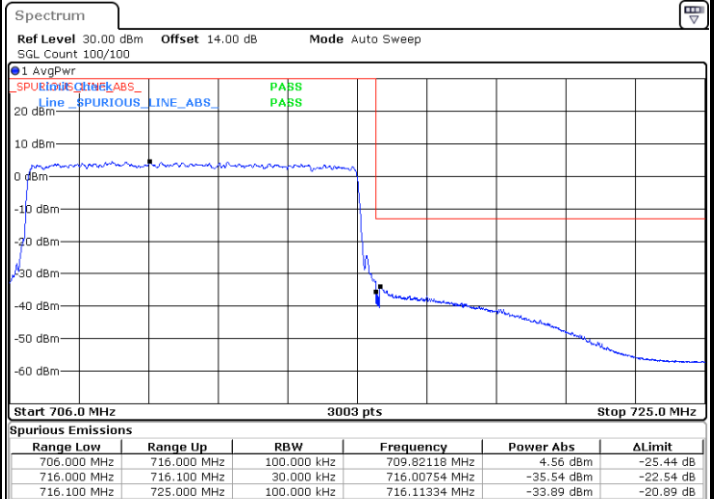
Date: 13.DEC.2022 19:08:20

Lowest Band Edge / Full RB



Date: 13.DEC.2022 18:53:37

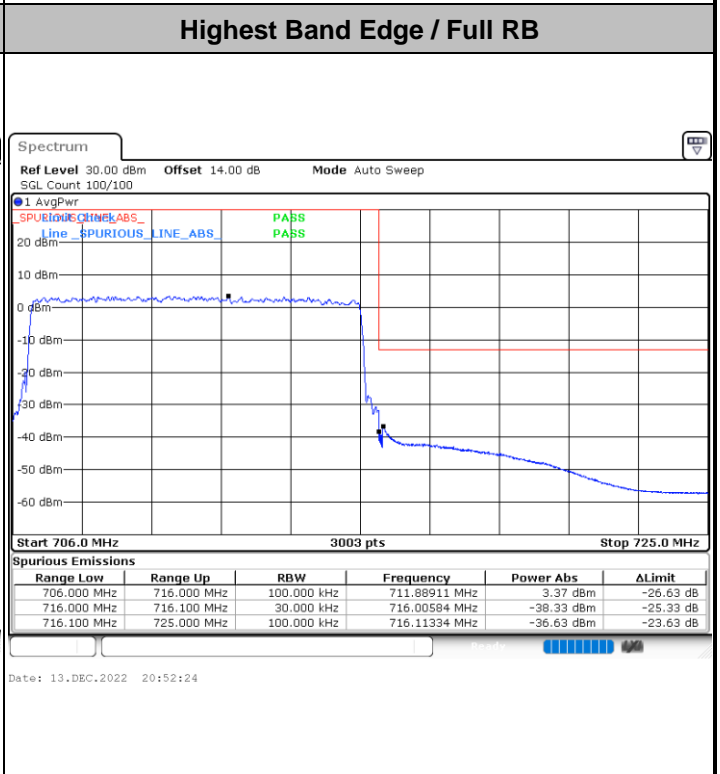
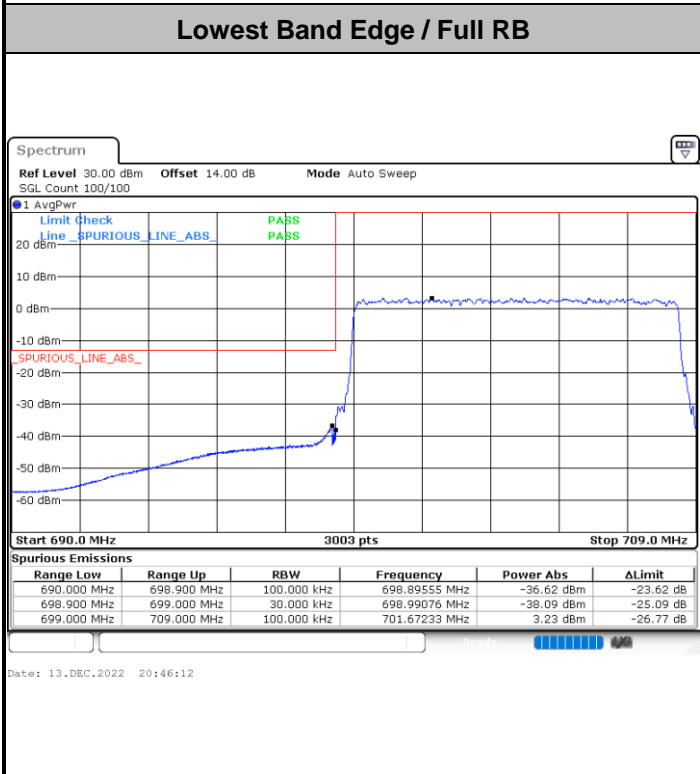
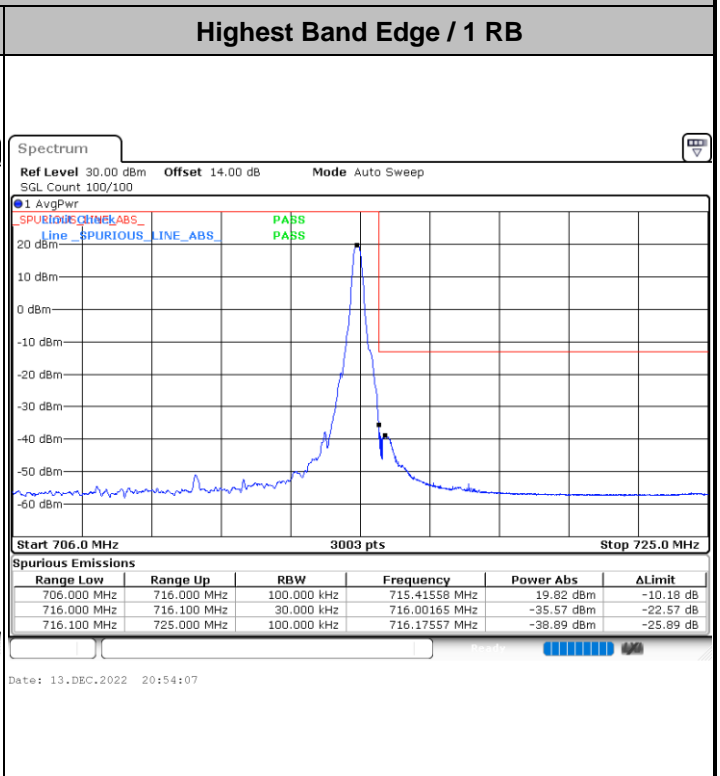
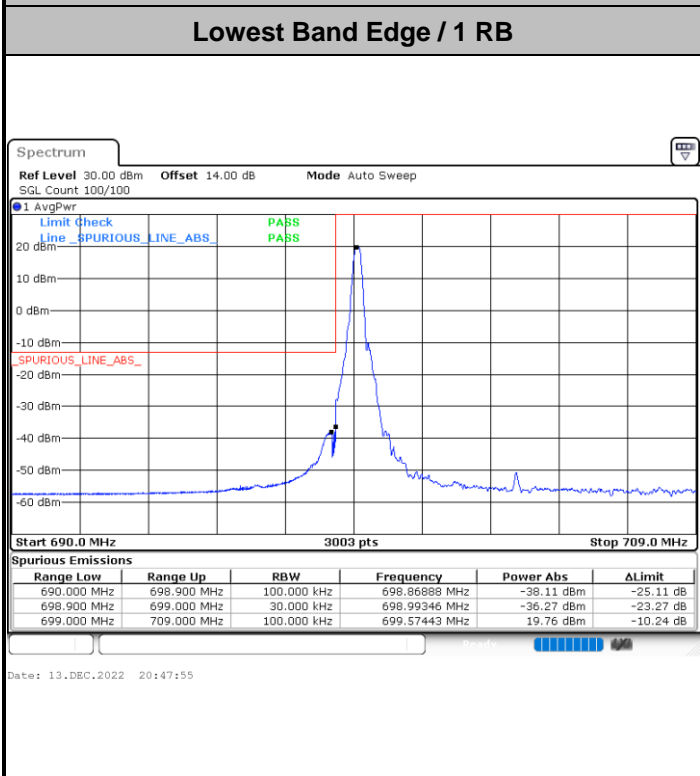
Highest Band Edge / Full RB



Date: 13.DEC.2022 19:06:37



**LTE Band 12 / 10MHz / 64QAM**



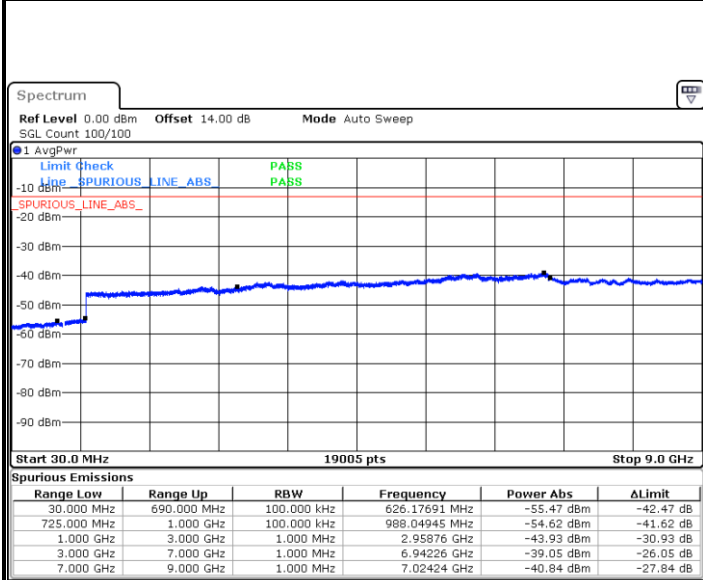


**Conducted Spurious Emission**



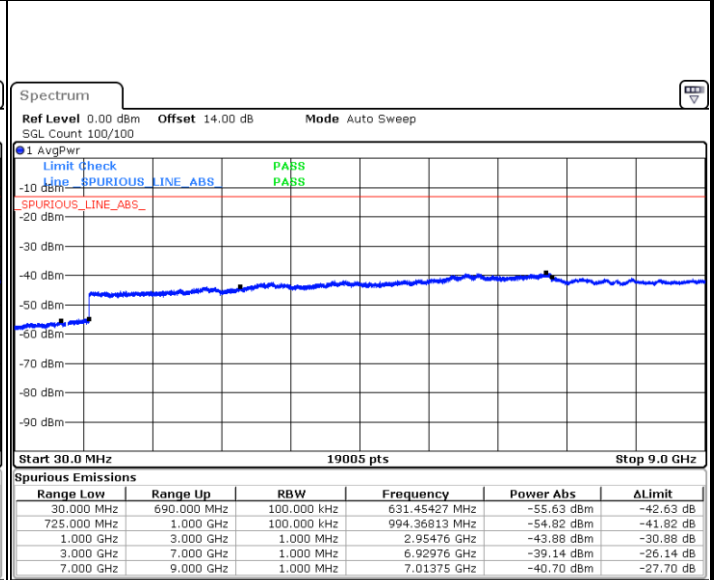
LTE Band 12 / 1.4MHz

Lowest Channel / QPSK



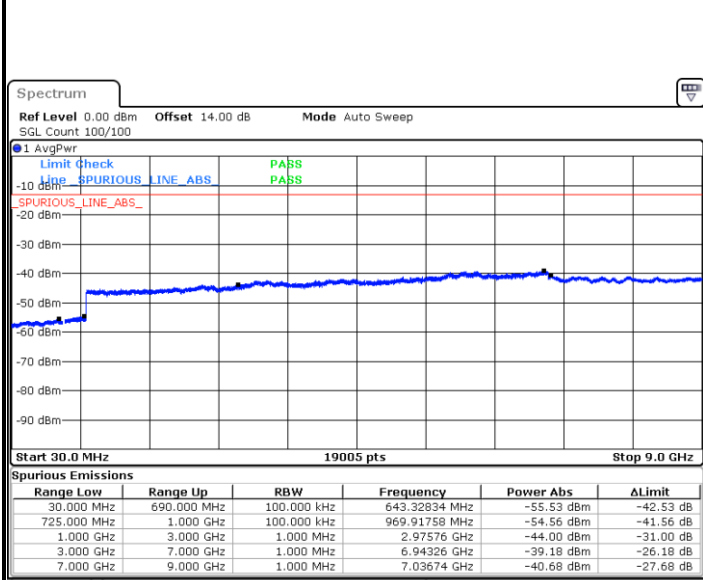
Date: 13.DEC.2022 21:15:41

Lowest Channel / 16QAM



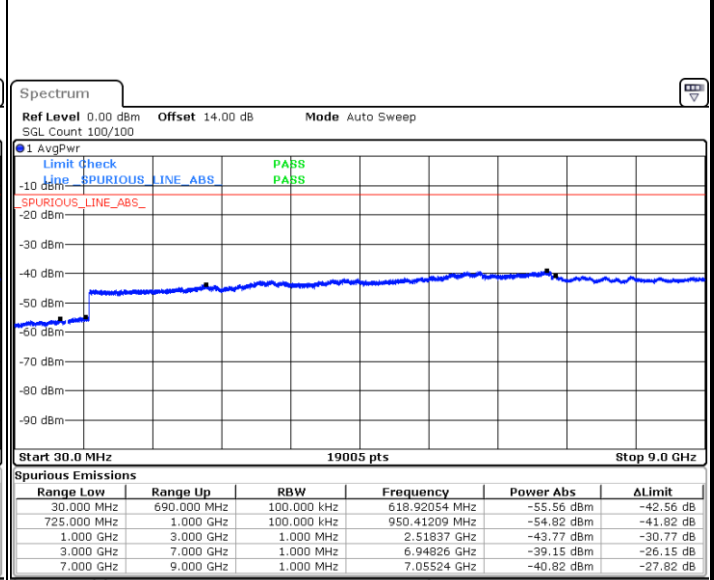
Date: 13.DEC.2022 21:16:34

Middle Channel / QPSK



Date: 13.DEC.2022 21:19:49

Middle Channel / 16QAM

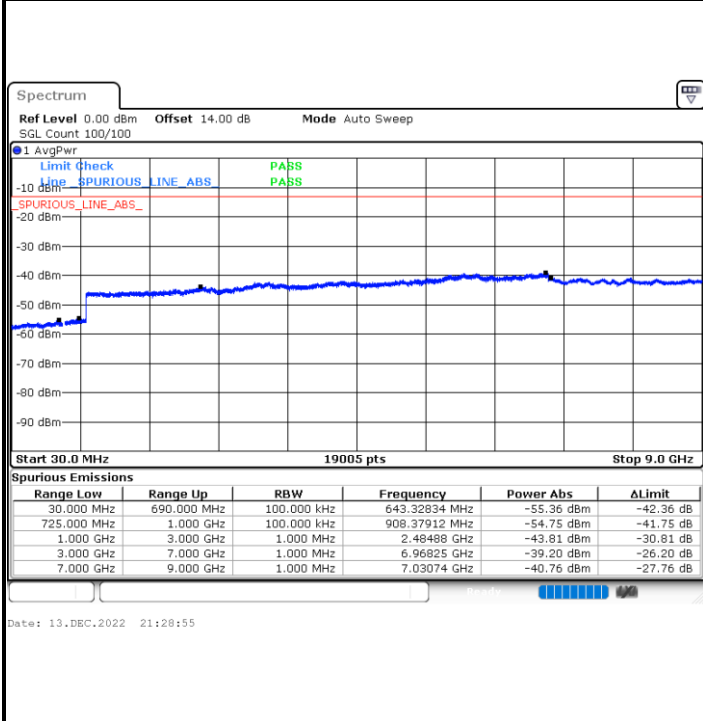


Date: 13.DEC.2022 21:18:56

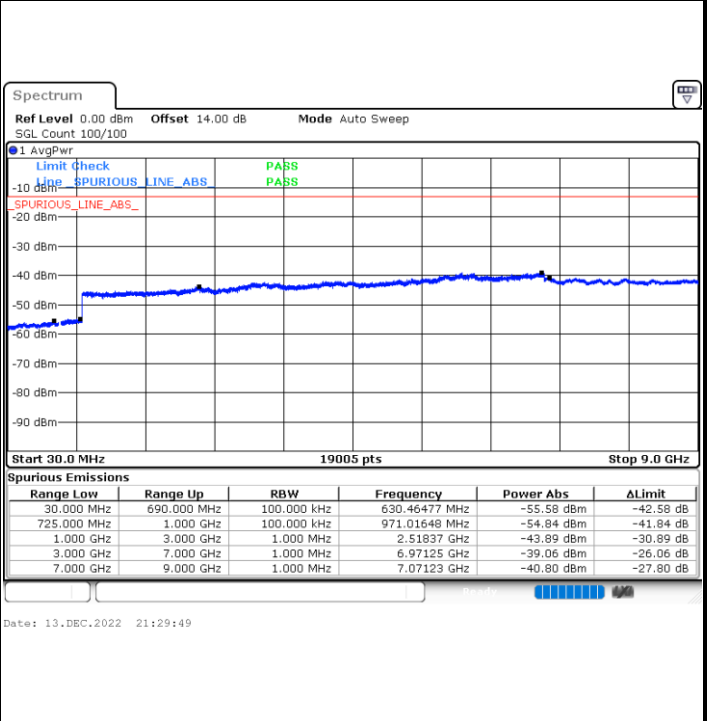


LTE Band 12 / 1.4MHz

Highest Channel / QPSK

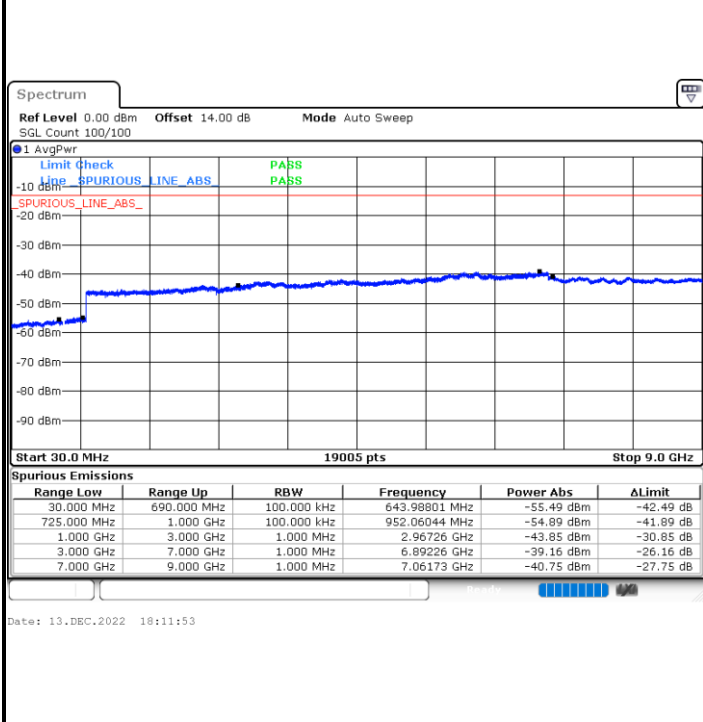


Highest Channel / 16QAM

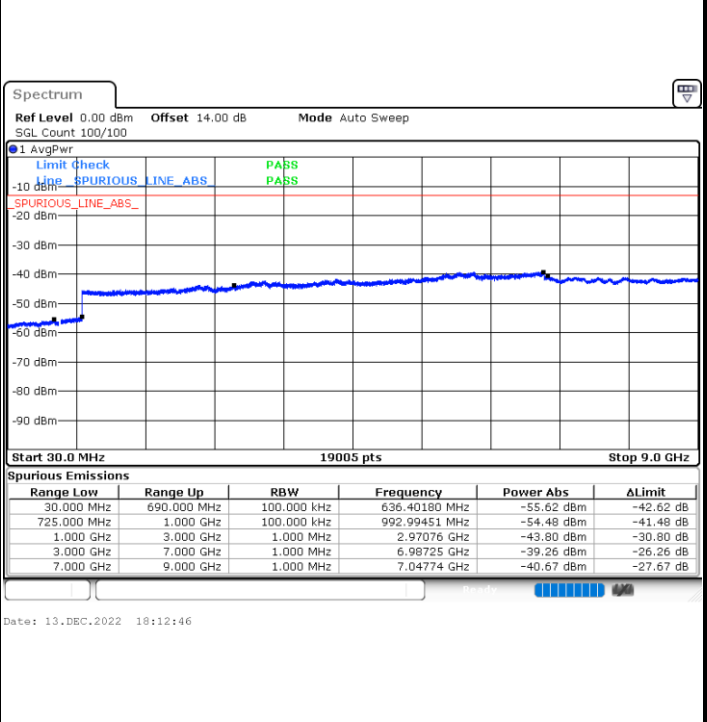


LTE Band 12 / 3MHz

Lowest Channel / QPSK



Lowest Channel / 16QAM

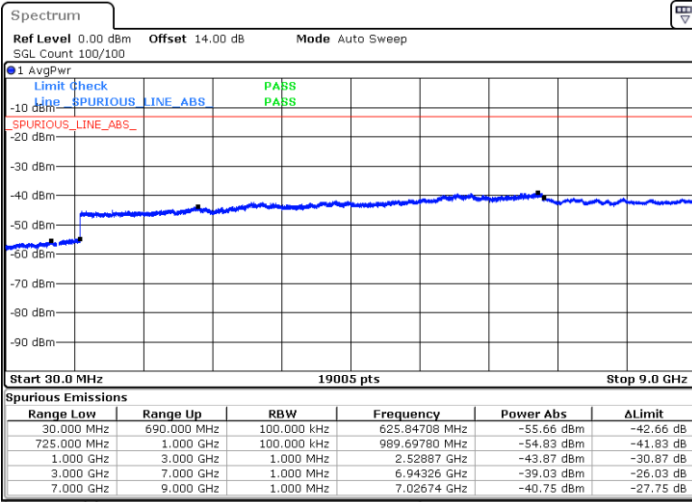




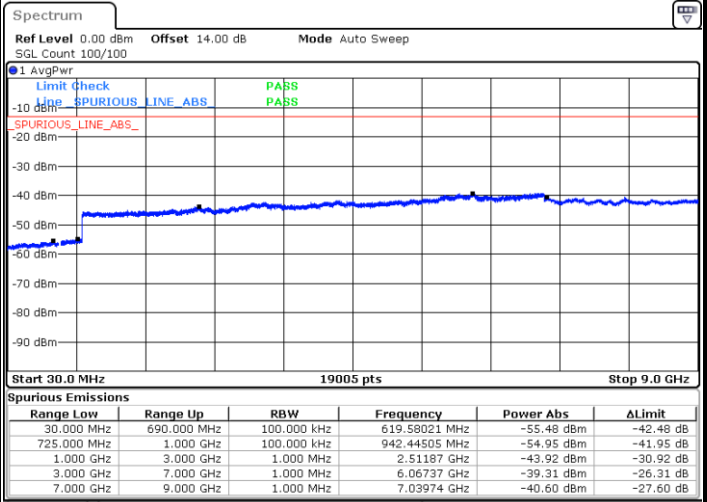
LTE Band 12 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM



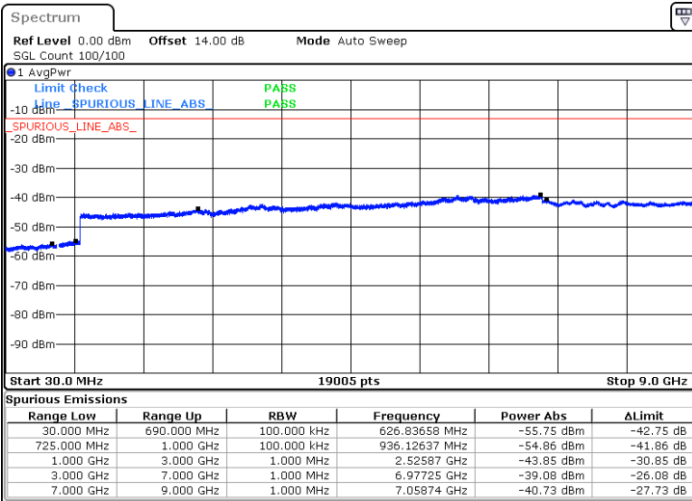
Date: 13.DEC.2022 18:15:59



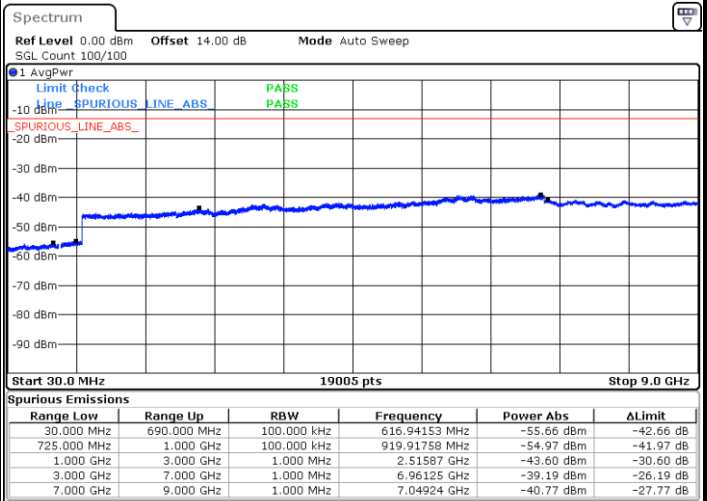
Date: 13.DEC.2022 18:15:06

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 13.DEC.2022 18:25:02



Date: 13.DEC.2022 18:25:54

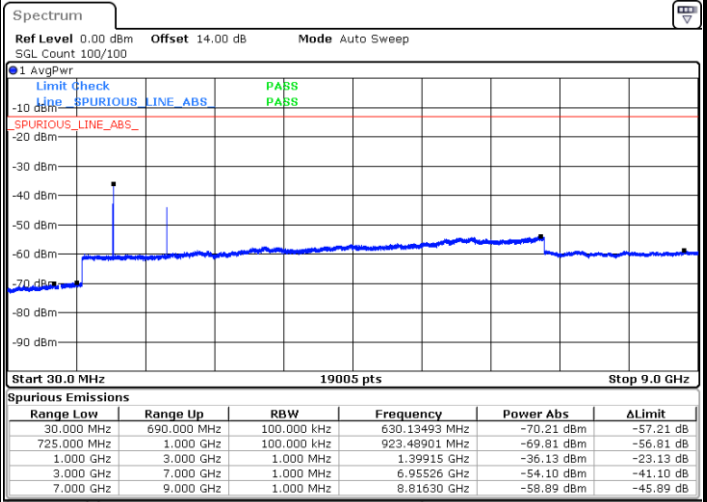
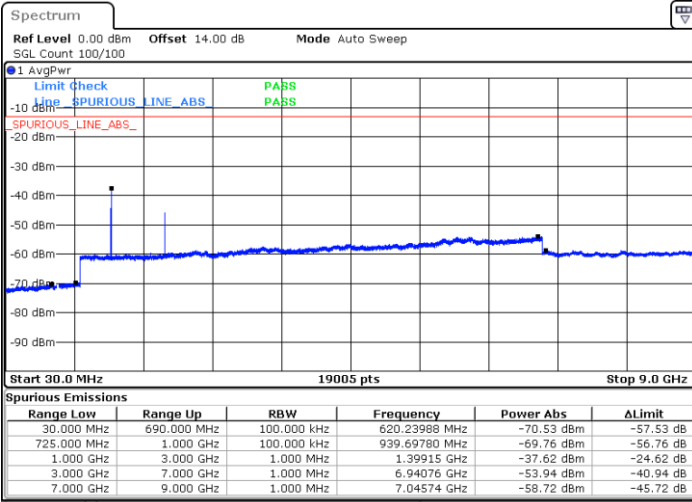




LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

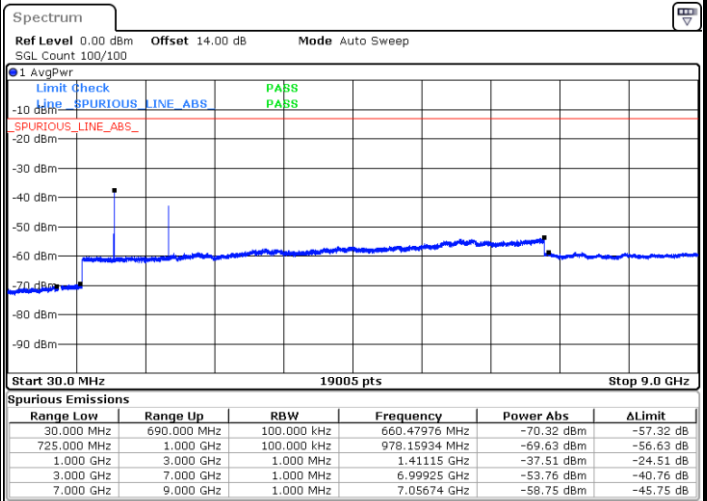
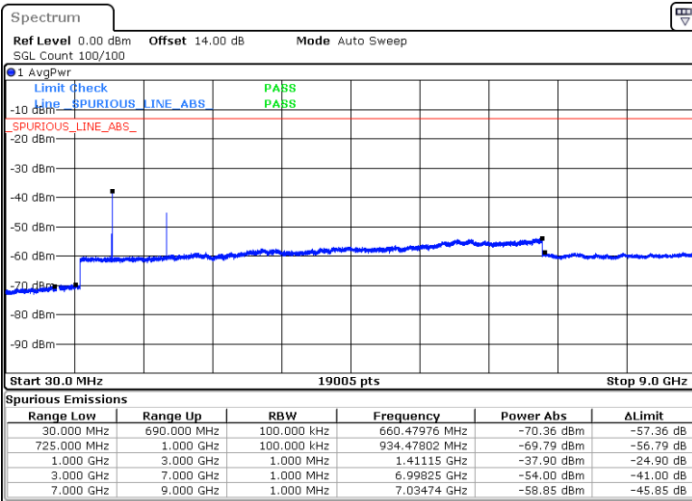


Date: 13.DEC.2022 18:34:49

Date: 13.DEC.2022 18:35:42

Middle Channel / QPSK

Middle Channel / 16QAM



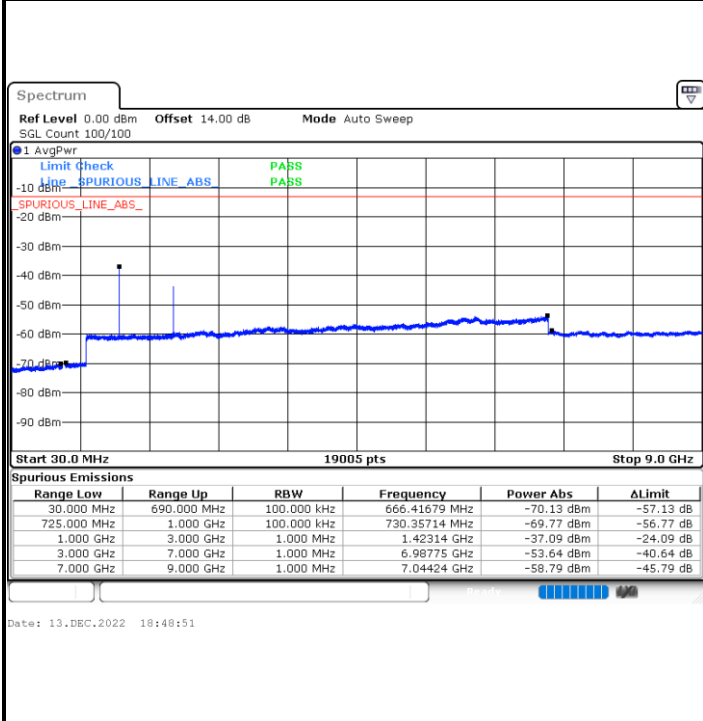
Date: 13.DEC.2022 18:38:54

Date: 13.DEC.2022 18:38:02

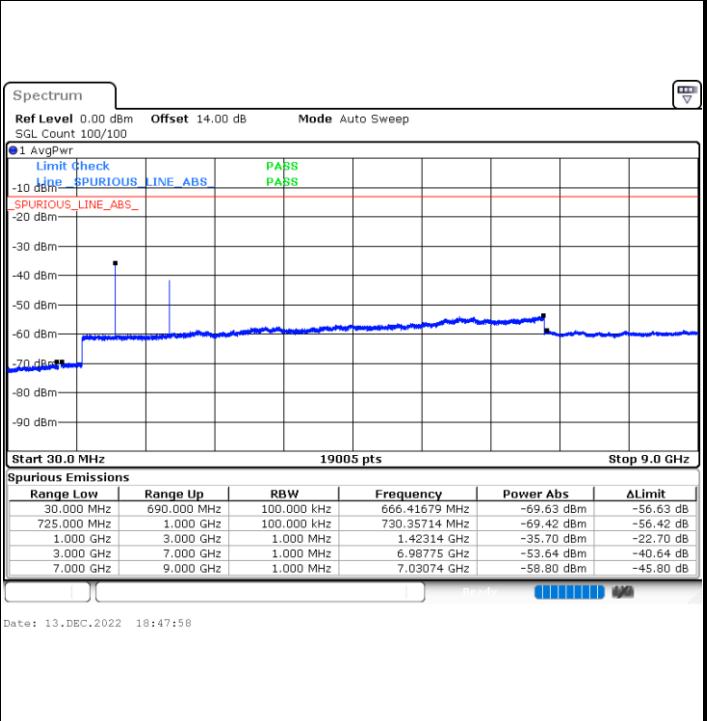


LTE Band 12 / 5MHz

Highest Channel / QPSK

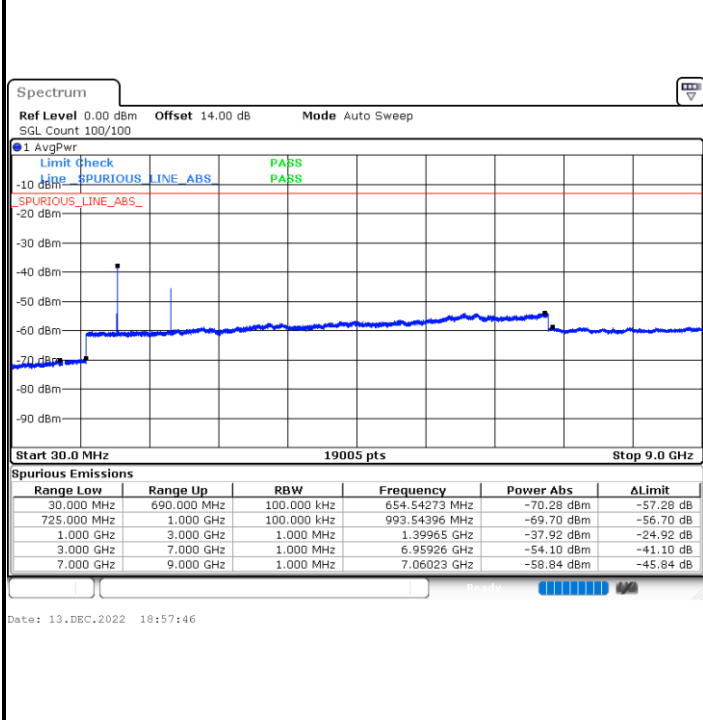


Highest Channel / 16QAM

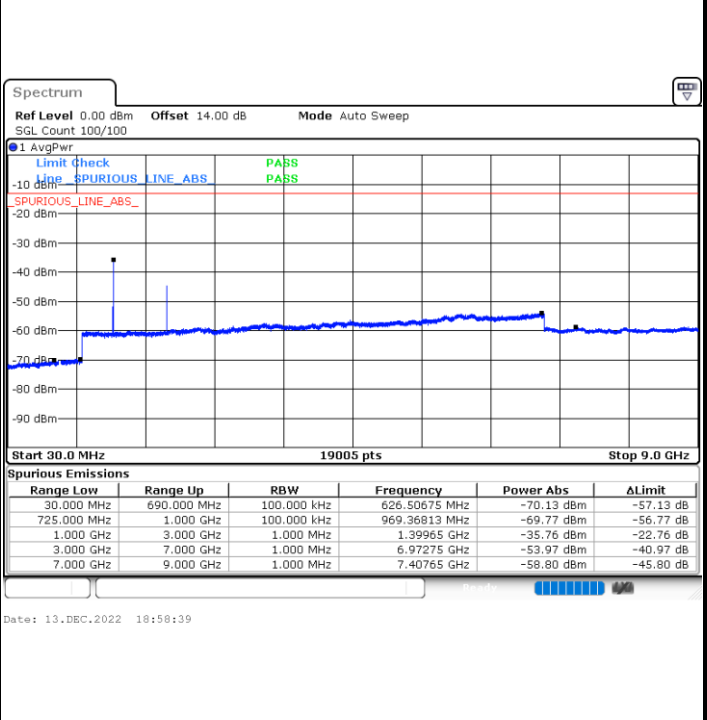


LTE Band 12 / 10MHz

Lowest Channel / QPSK



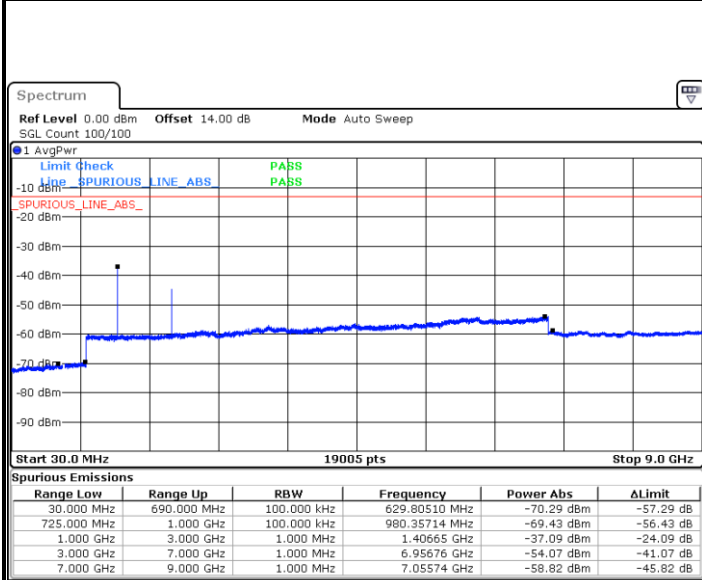
Lowest Channel / 16QAM





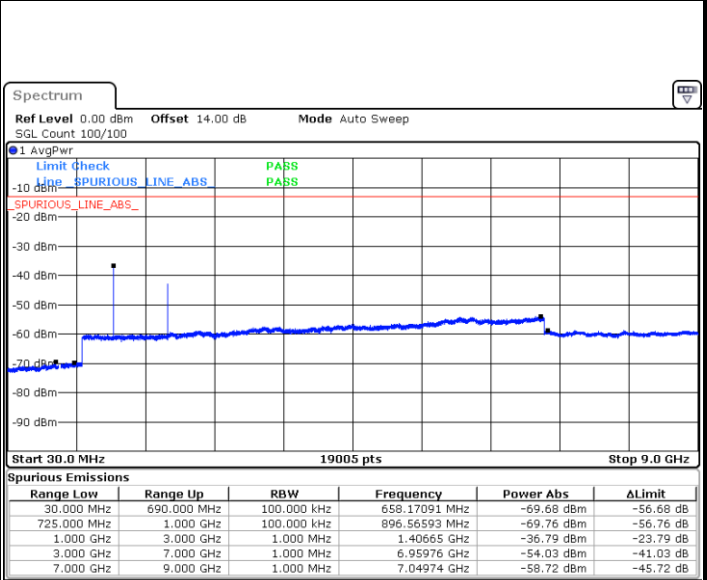
LTE Band 12 / 10MHz

Middle Channel / QPSK



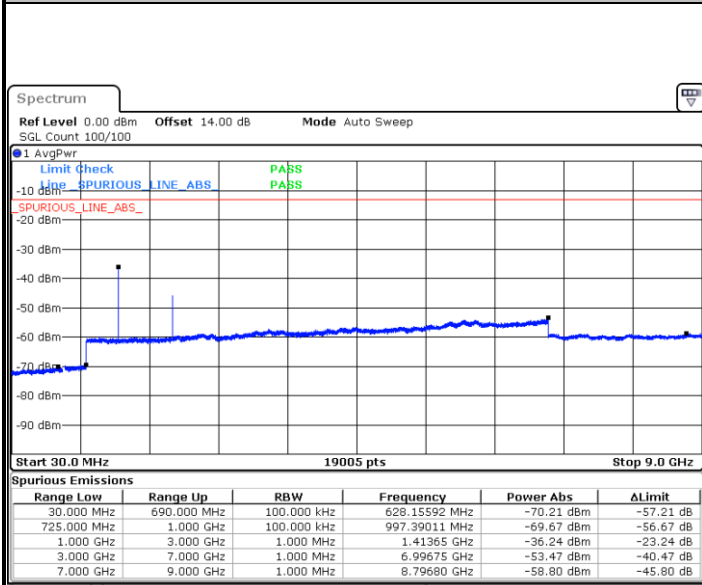
Date: 13.DEC.2022 19:01:52

Middle Channel / 16QAM



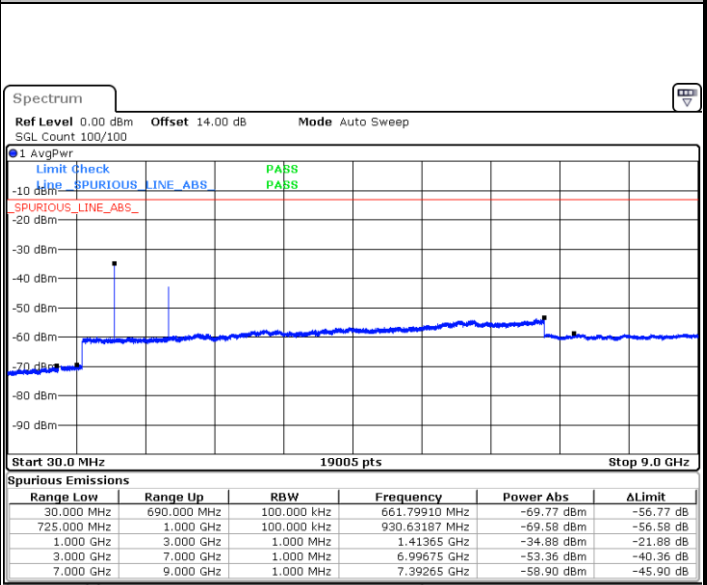
Date: 13.DEC.2022 19:01:00

Highest Channel / QPSK



Date: 13.DEC.2022 19:10:55

Highest Channel / 16QAM



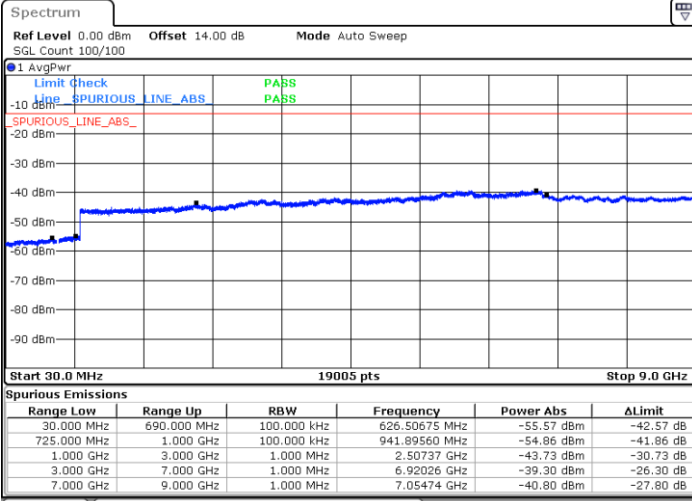
Date: 13.DEC.2022 19:11:48



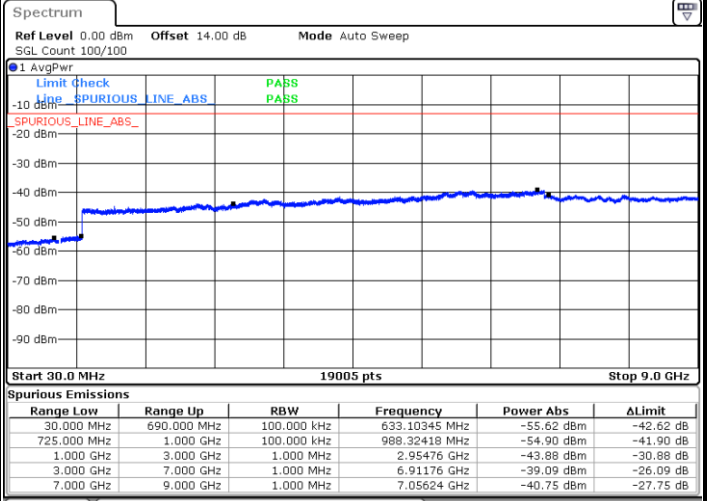
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

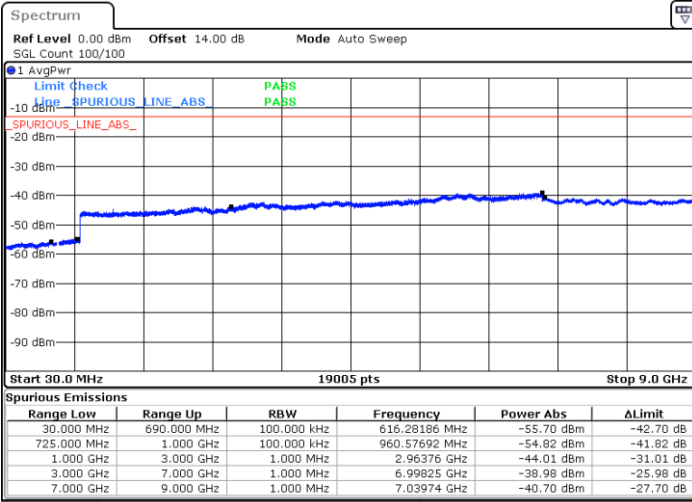


Date: 13.DEC.2022 21:00:21



Date: 13.DEC.2022 21:01:54

Highest Channel / 64QAM



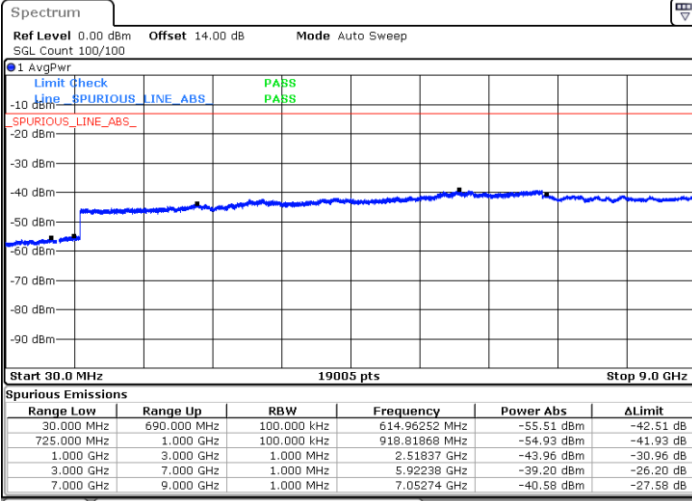
Date: 13.DEC.2022 21:06:44



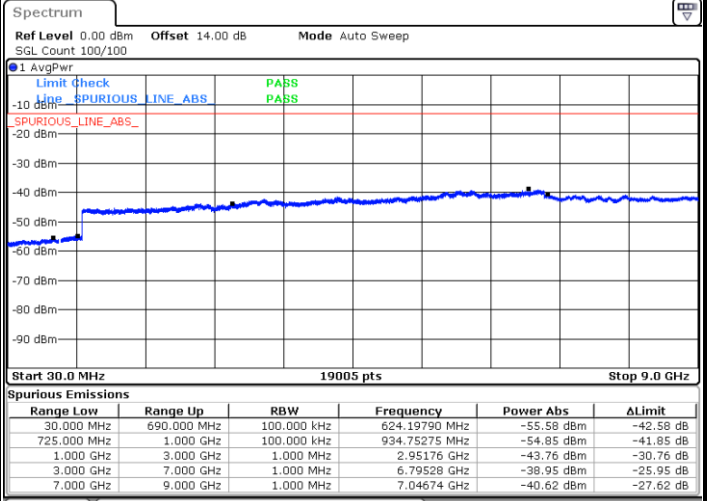
LTE Band 12 / 3MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

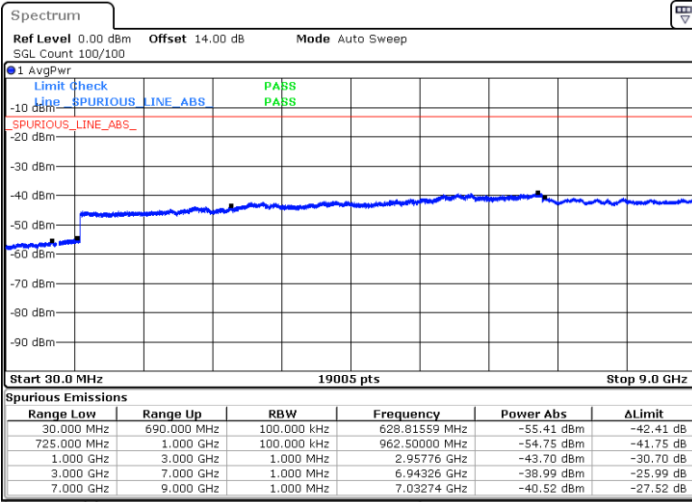


Date: 13.DEC.2022 20:26:37



Date: 13.DEC.2022 20:28:10

Highest Channel / 64QAM



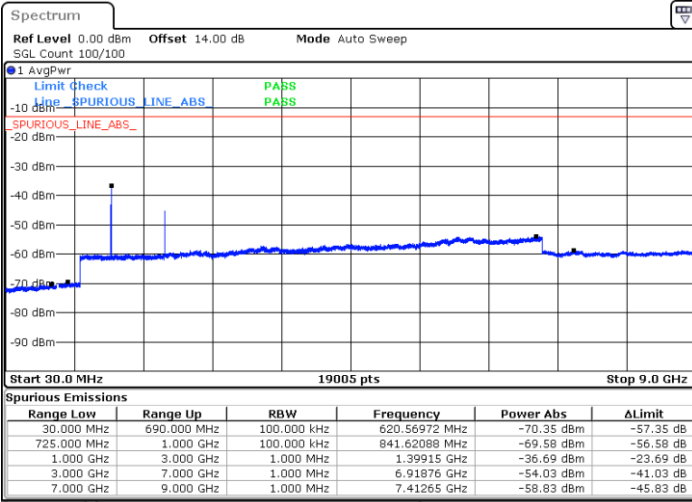
Date: 13.DEC.2022 20:32:59



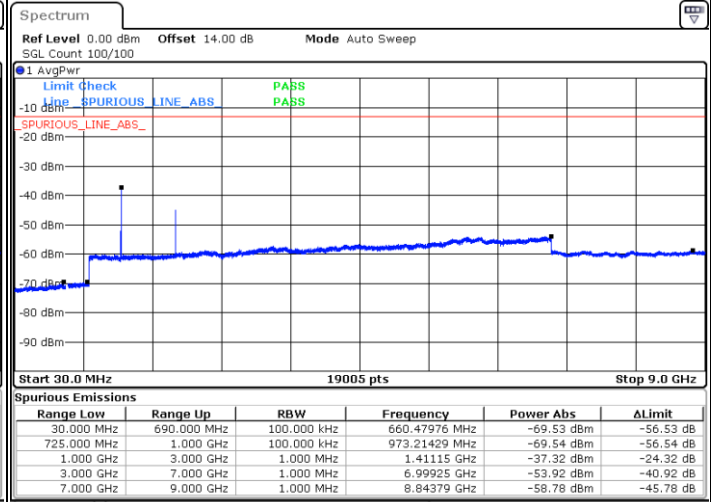
LTE Band 12 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

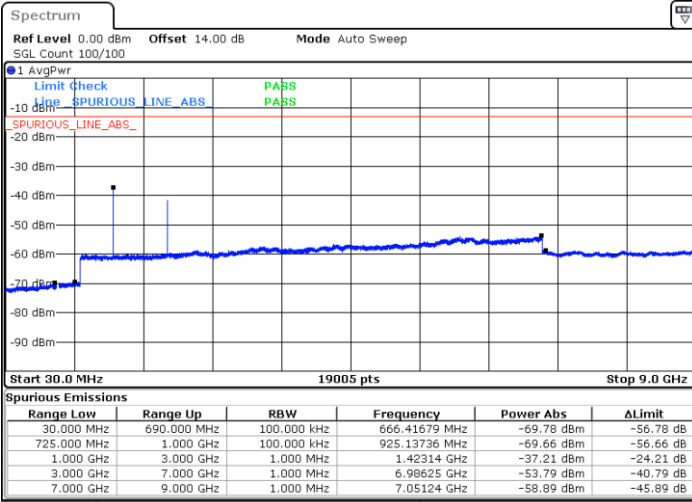


Date: 13.DEC.2022 20:37:38



Date: 13.DEC.2022 20:39:10

Highest Channel / 64QAM



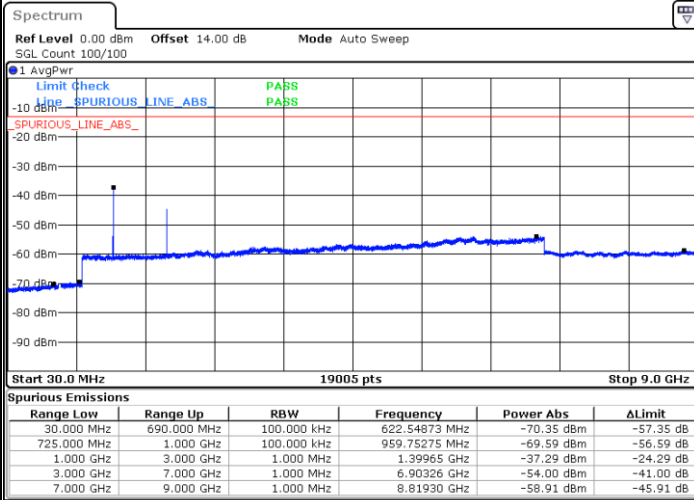
Date: 13.DEC.2022 20:43:59



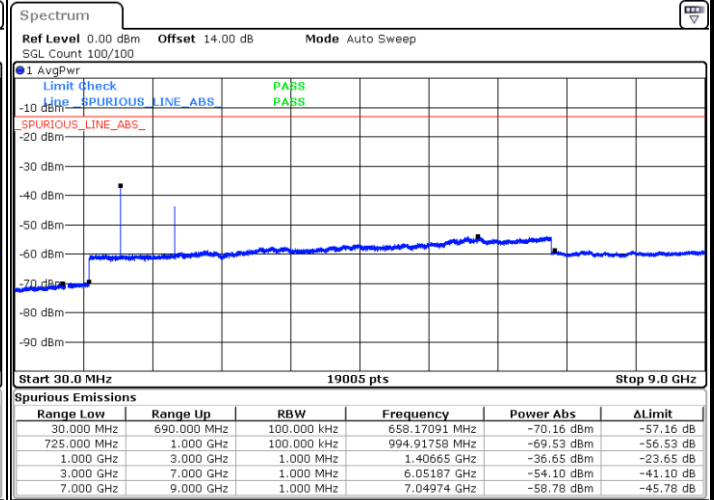
LTE Band 12 / 10MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

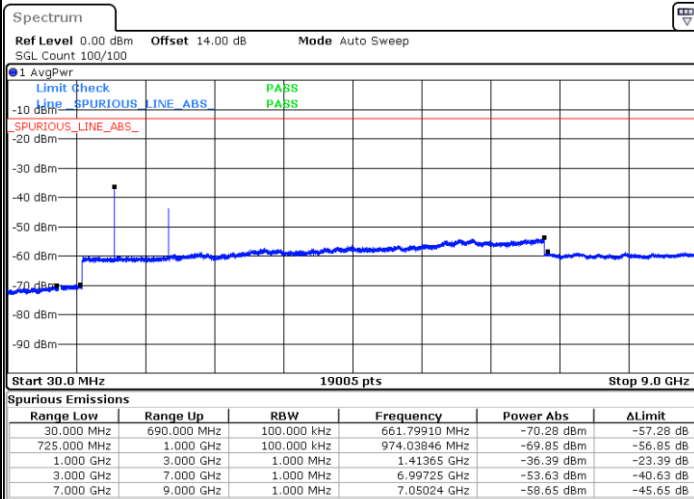


Date: 13.DEC.2022 20:48:38



Date: 13.DEC.2022 20:50:11

Highest Channel / 64QAM



Date: 13.DEC.2022 20:55:01



### 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	0.0006	PASS
40	Normal Voltage	0.0001	
30	Normal Voltage	0.0010	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0025	
0	Normal Voltage	0.0011	
-10	Normal Voltage	0.0006	
-20	Normal Voltage	0.0001	
-30	Normal Voltage	0.0011	
20	Maximum Voltage	0.0020	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0014	

**Note:**

1. Normal Voltage =3.89 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.48 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.





# LTE Band 13

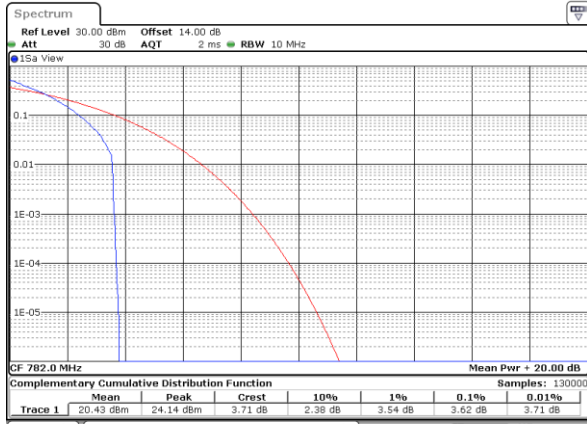
## Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.62	5.04	3.77	5.97	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	4.70	6.32	-	-	
Highest CH	-	-	-	-	



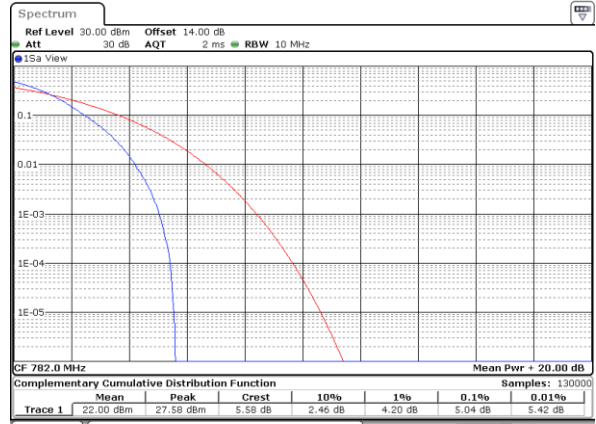
LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 10, DEC, 2022 11:50:43

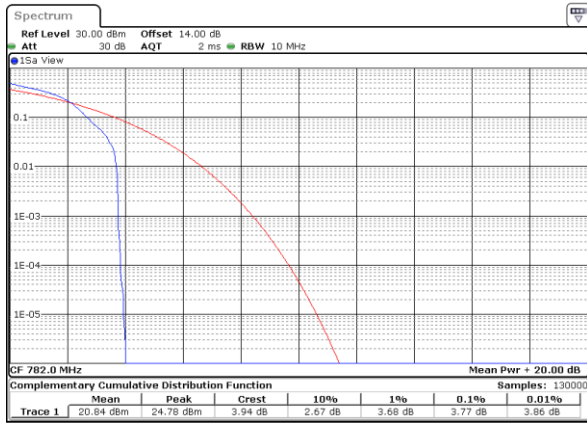
Middle Channel / Full RB



Date: 10, DEC, 2022 11:51:08

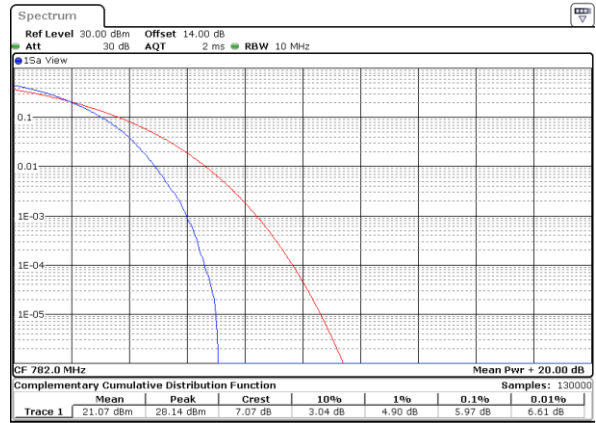
LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 10, DEC, 2022 11:49:51

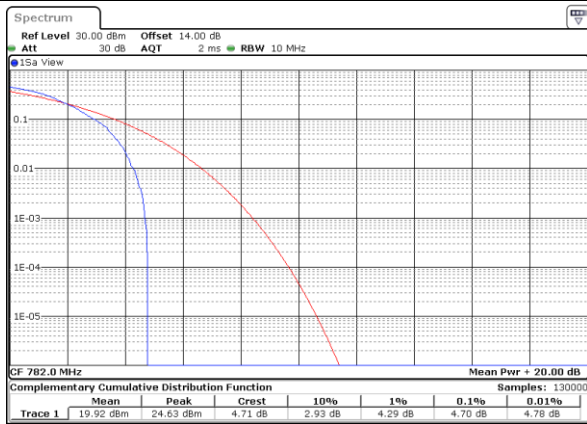
Middle Channel / Full RB



Date: 10, DEC, 2022 11:50:17

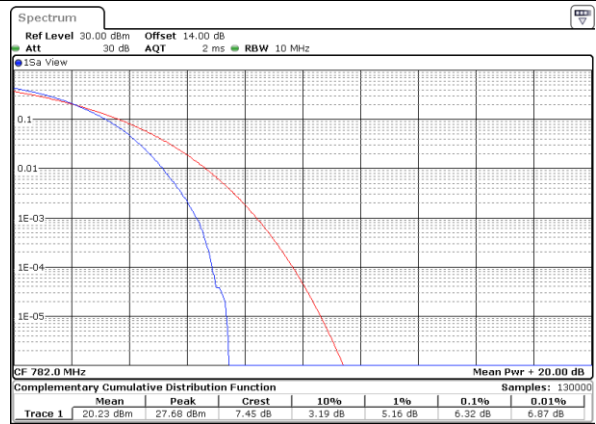
LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Date: 10, DEC, 2022 11:48:59

Middle Channel / Full RB



Date: 10, DEC, 2022 11:49:25



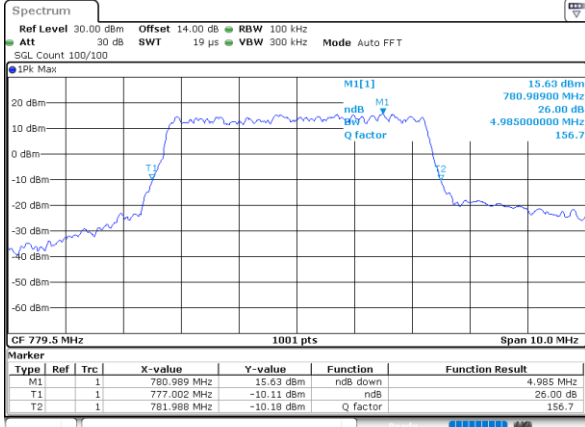
**26dB Bandwidth**

Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.99	4.94	-	-	-	-	-	-
Middle CH	-	-	-	-	5.03	5.23	9.83	9.83	-	-	-	-
Highest CH	-	-	-	-	5.00	4.86	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.95	-	-	-	-	-	-	-
Middle CH	-	-	-	-	5.07	-	9.77	-	-	-	-	-
Highest CH	-	-	-	-	4.88	-	-	-	-	-	-	-



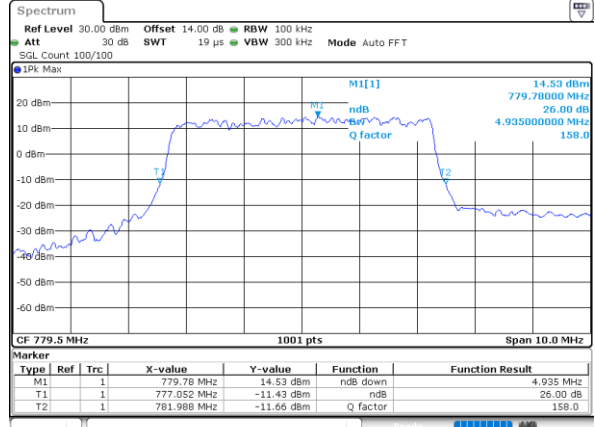
LTE Band 13

Lowest Channel / 5MHz / QPSK



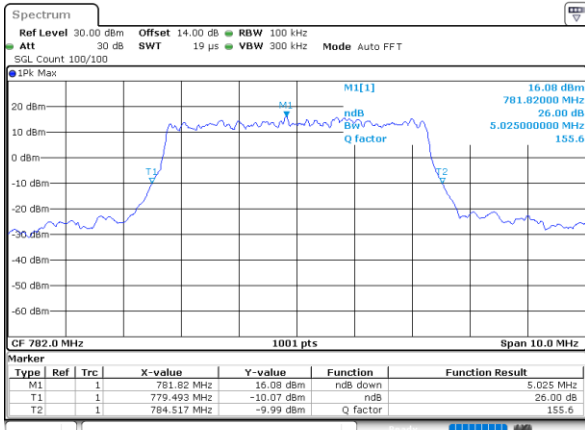
Date: 10, DEC, 2022 10:25:47

Lowest Channel / 5MHz / 16QAM



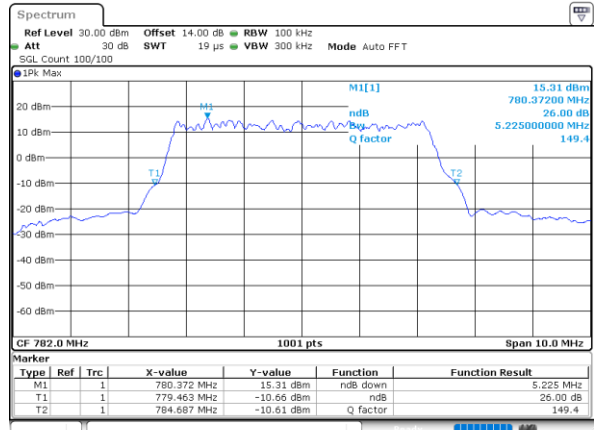
Date: 10, DEC, 2022 10:25:122

Middle Channel / 5MHz / QPSK



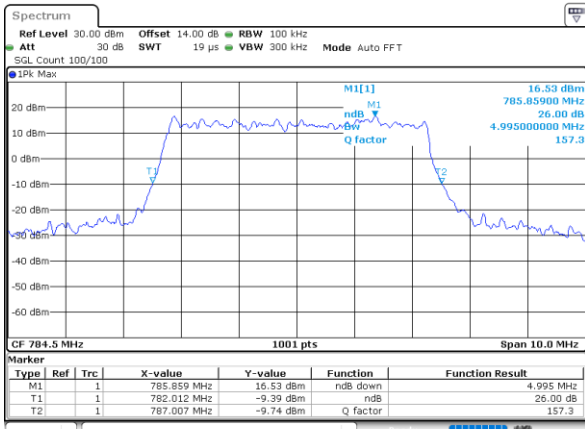
Date: 10, DEC, 2022 10:36:54

Middle Channel / 5MHz / 16QAM



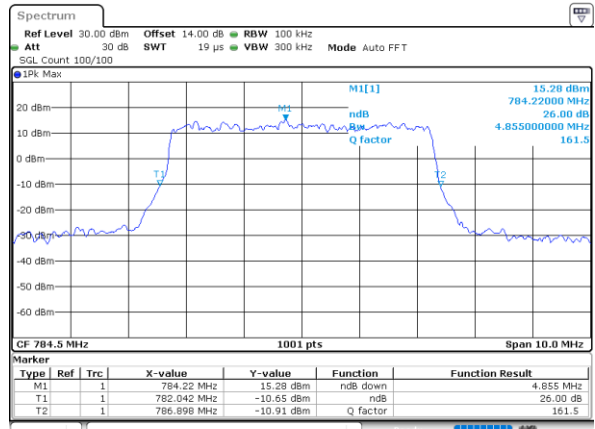
Date: 10, DEC, 2022 10:37:118

Highest Channel / 5MHz / QPSK



Date: 10, DEC, 2022 10:39:27

Highest Channel / 5MHz / 16QAM



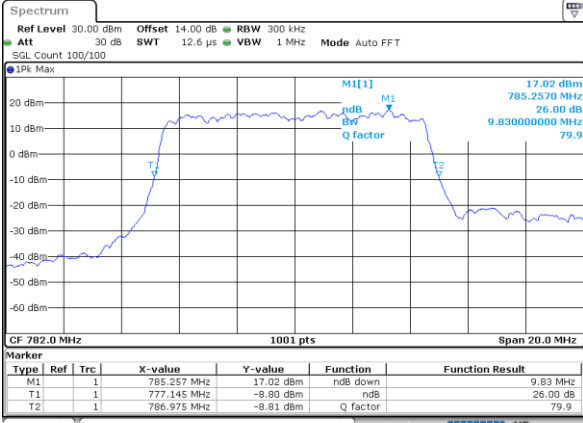
Date: 10, DEC, 2022 10:39:102



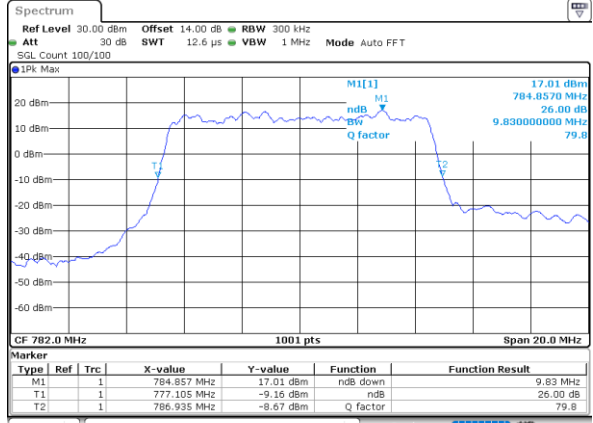
LTE Band 13

Middle Channel / 10MHz / QPSK

Middle Channel / 10MHz / 16QAM



Date: 10, DEC, 2022 11:01:43

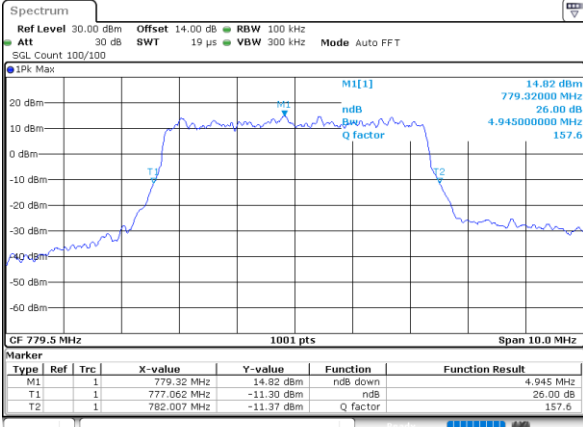


Date: 10, DEC, 2022 11:01:19



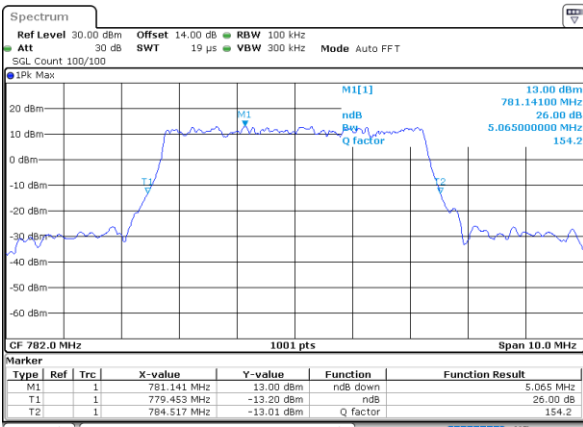
LTE Band 13

Lowest Channel / 5MHz / 64QAM



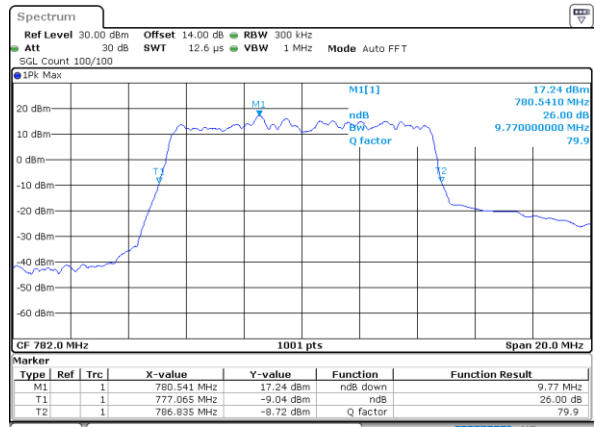
Date: 10, DEC, 2022 10:49:15

Middle Channel / 5MHz / 64QAM



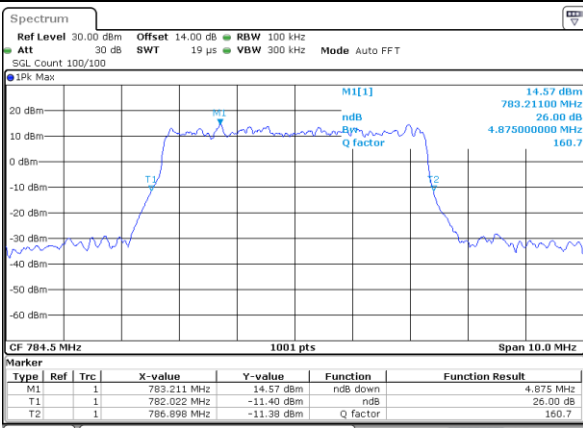
Date: 10, DEC, 2022 10:54:50

Middle Channel / 10MHz / 64QAM



Date: 10, DEC, 2022 11:42:23

Highest Channel / 5MHz / 64QAM



Date: 10, DEC, 2022 10:55:45



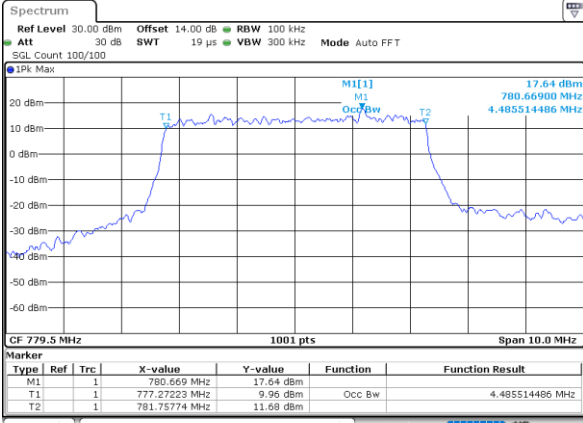
**Occupied Bandwidth**

Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.49	4.50	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	4.50	8.99	8.99	-	-	-	-
Highest CH	-	-	-	-	4.50	4.50	-	-	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.48	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	-	9.03	-	-	-	-	-
Highest CH	-	-	-	-	4.51	-	-	-	-	-	-	-



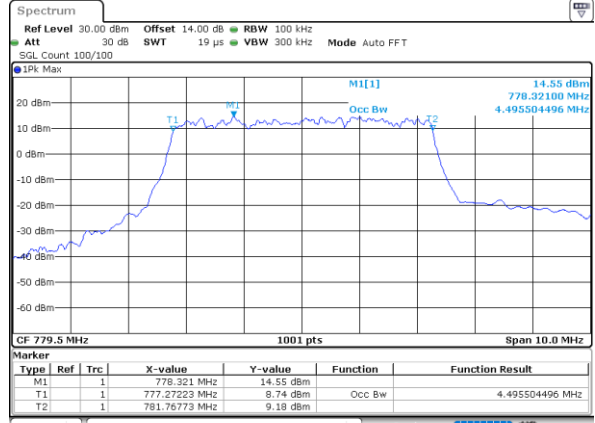
LTE Band 13

Lowest Channel / 5MHz / QPSK



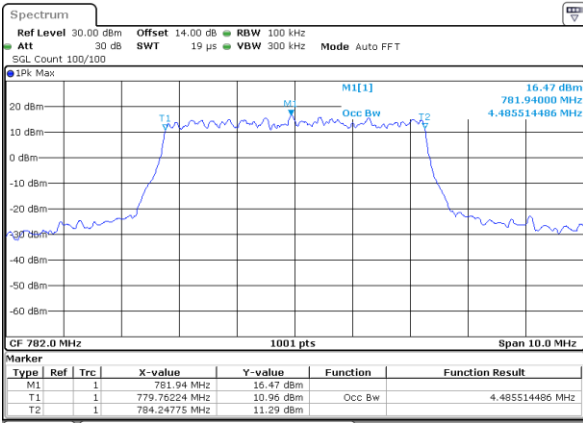
Date: 10. DEC. 2022 10:24:41

Lowest Channel / 5MHz / 16QAM



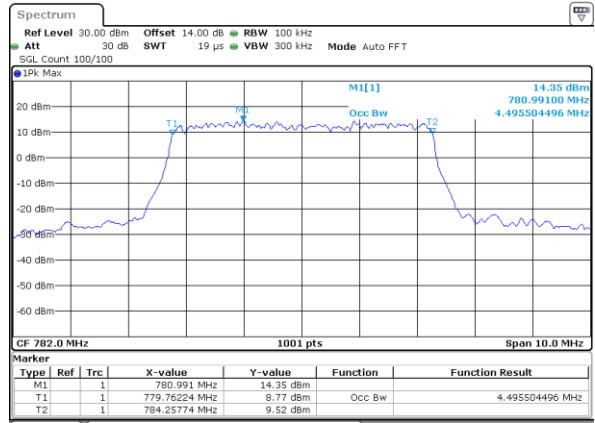
Date: 10. DEC. 2022 10:25:06

Middle Channel / 5MHz / QPSK



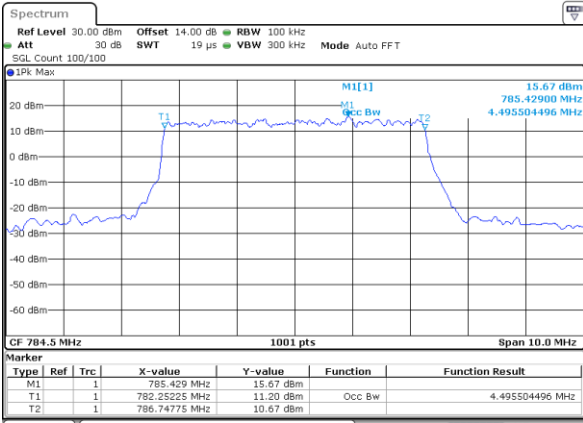
Date: 10. DEC. 2022 10:37:58

Middle Channel / 5MHz / 16QAM



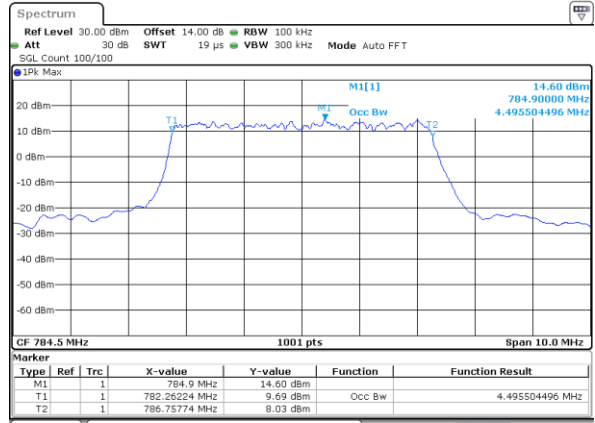
Date: 10. DEC. 2022 10:37:33

Highest Channel / 5MHz / QPSK



Date: 10. DEC. 2022 10:38:22

Highest Channel / 5MHz / 16QAM



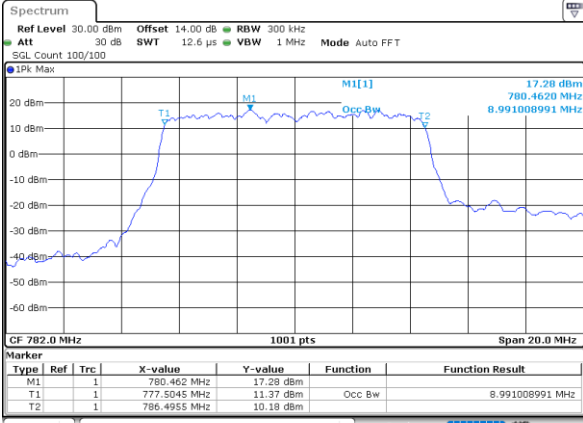
Date: 10. DEC. 2022 10:38:47





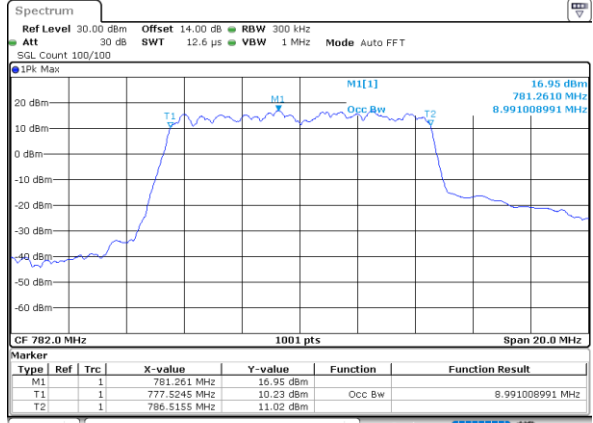
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 10, DEC, 2022 11:00:39

Middle Channel / 10MHz / 16QAM

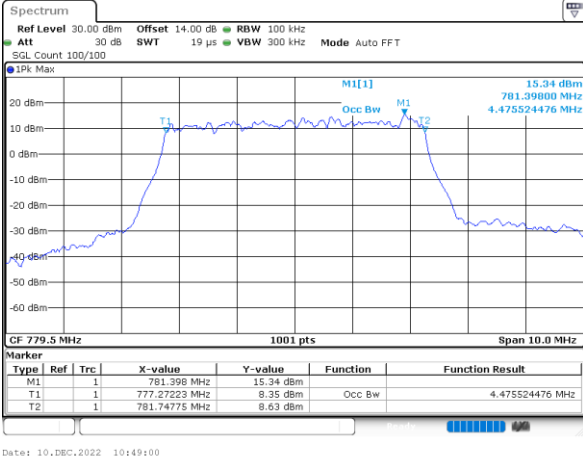


Date: 10, DEC, 2022 11:01:03

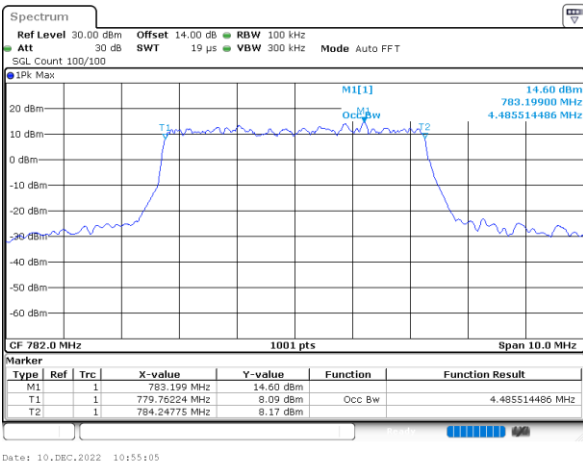


LTE Band 13

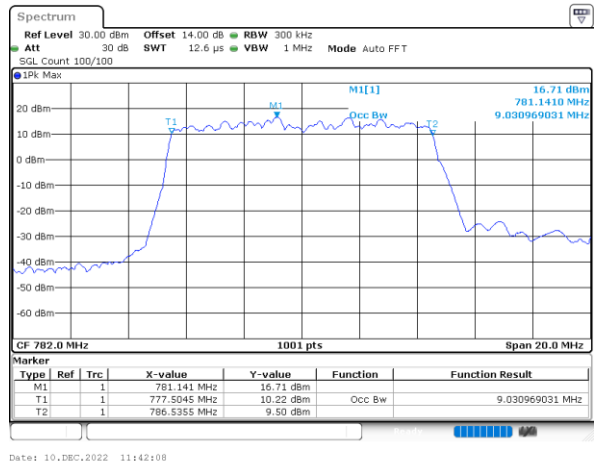
Lowest Channel / 5MHz / 64QAM



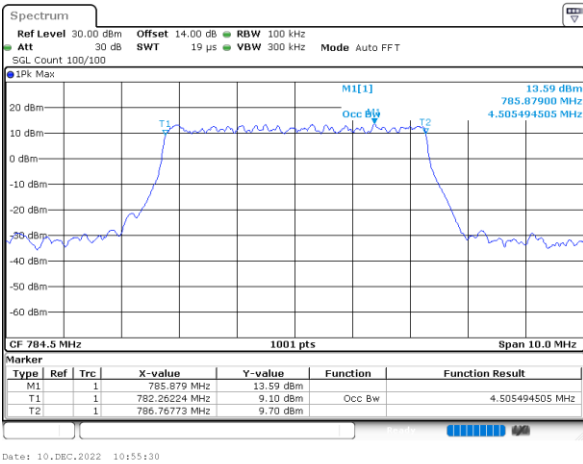
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

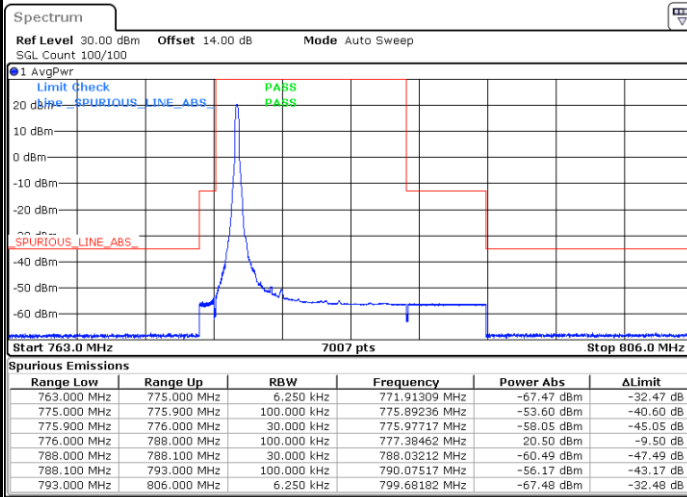




# Conducted Band Edge

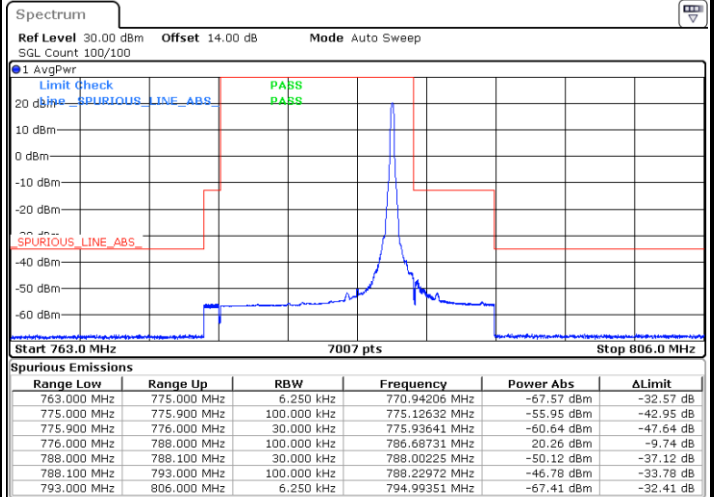
## LTE Band 13 / 5MHz / QPSK

### Lowest Band Edge / 1 RB



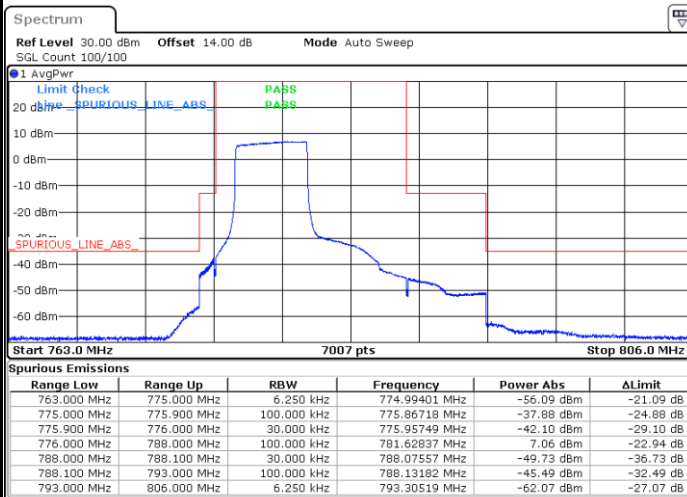
Date: 10.DEC.2022 11:13:40

### Highest Band Edge / 1 RB



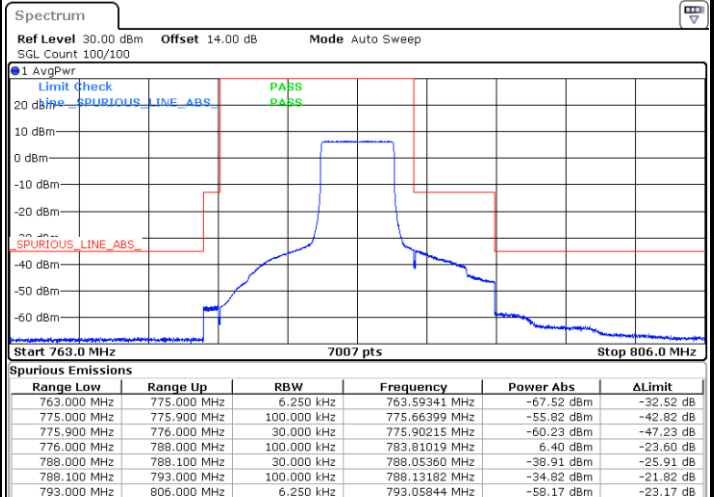
Date: 10.DEC.2022 11:21:11

### Lowest Band Edge / Full RB



Date: 10.DEC.2022 11:08:02

### Highest Band Edge / Full RB



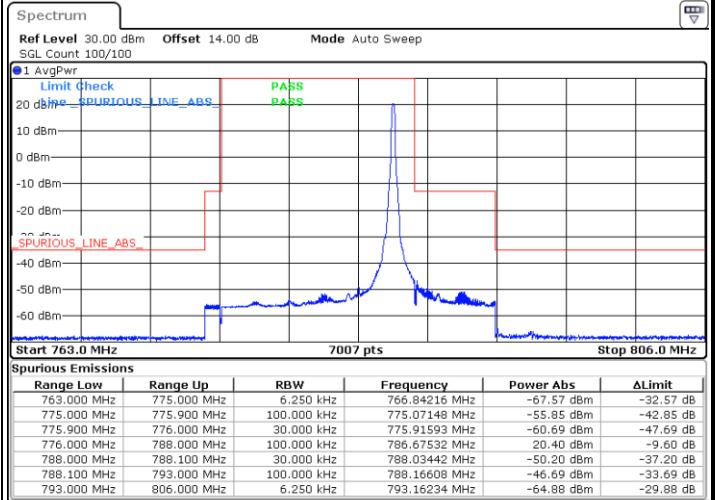
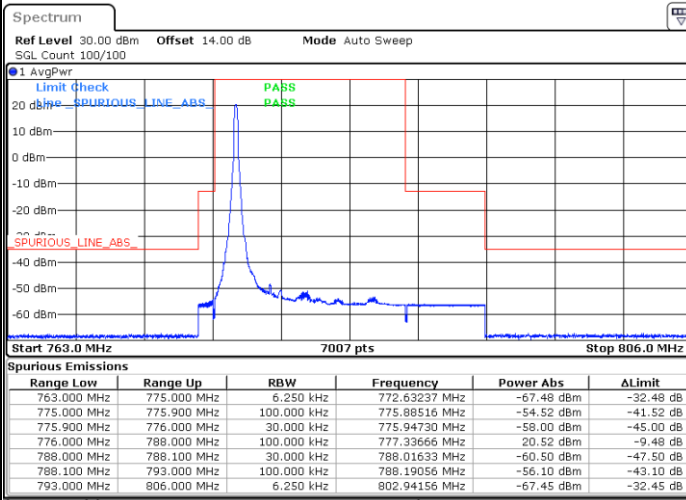
Date: 10.DEC.2022 11:15:33



LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

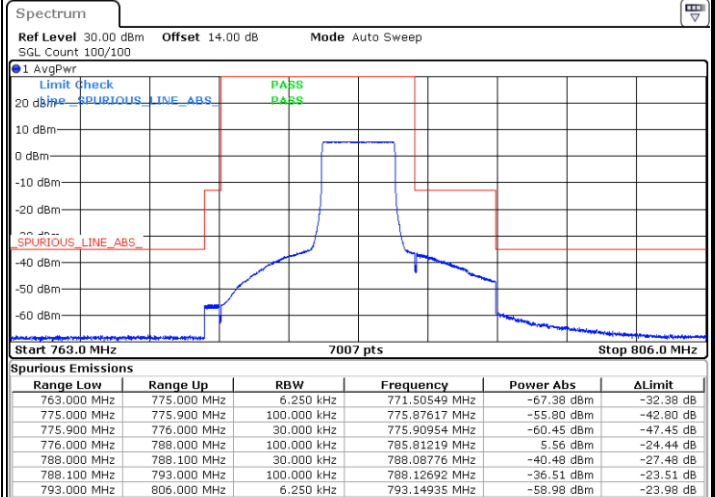
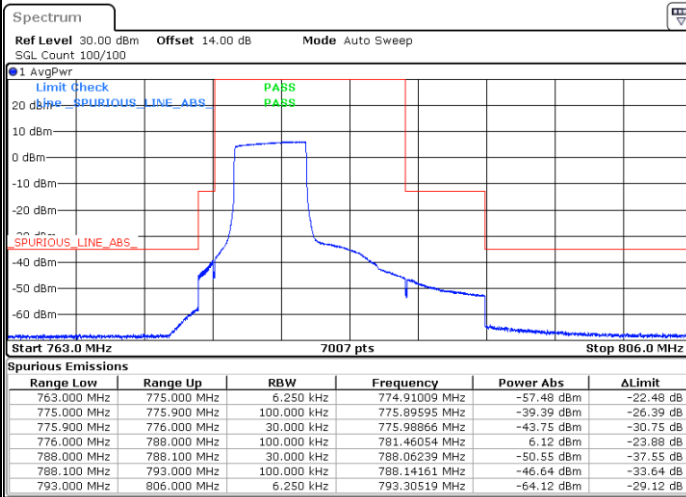


Date: 10.DEC.2022 11:11:47

Date: 10.DEC.2022 11:19:18

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 10.DEC.2022 11:09:55

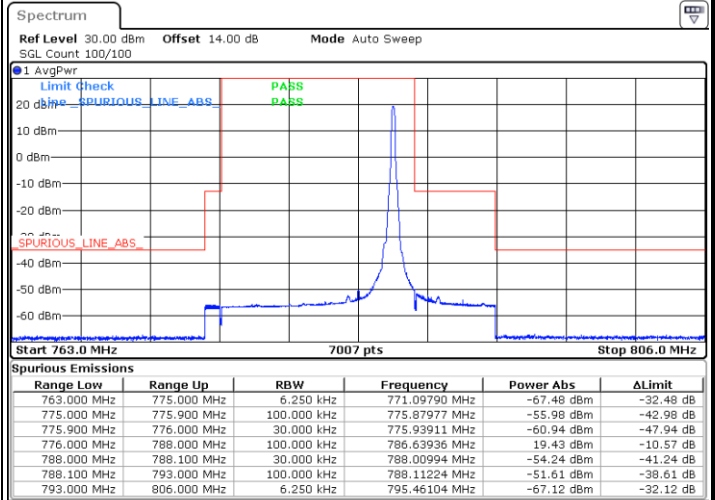
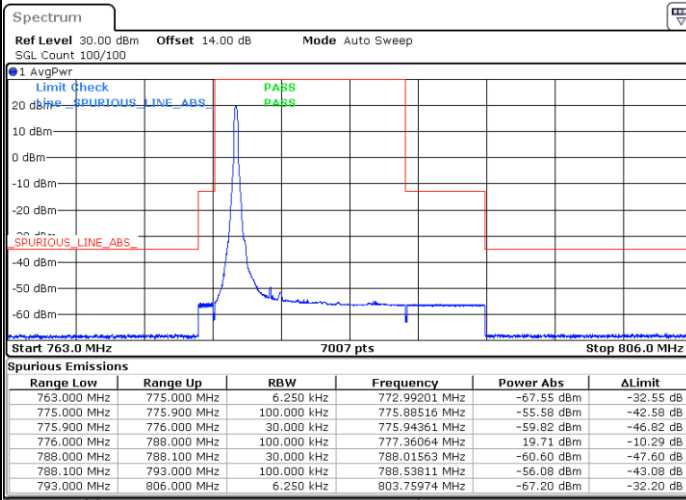
Date: 10.DEC.2022 11:17:26



LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

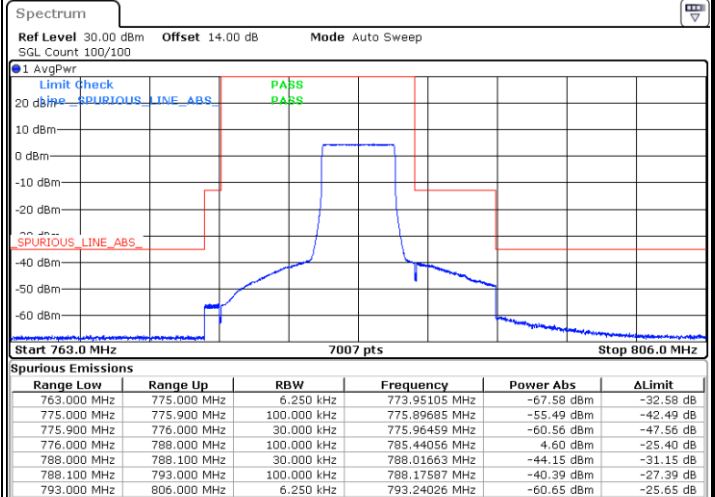
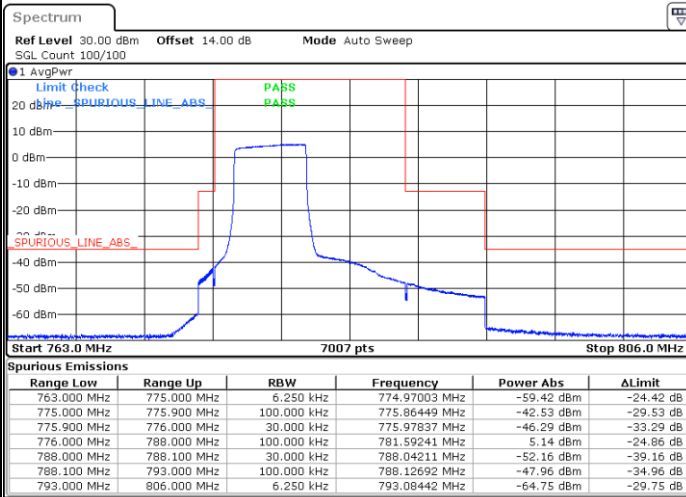


Date: 10.DEC.2022 11:24:57

Date: 10.DEC.2022 11:28:43

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



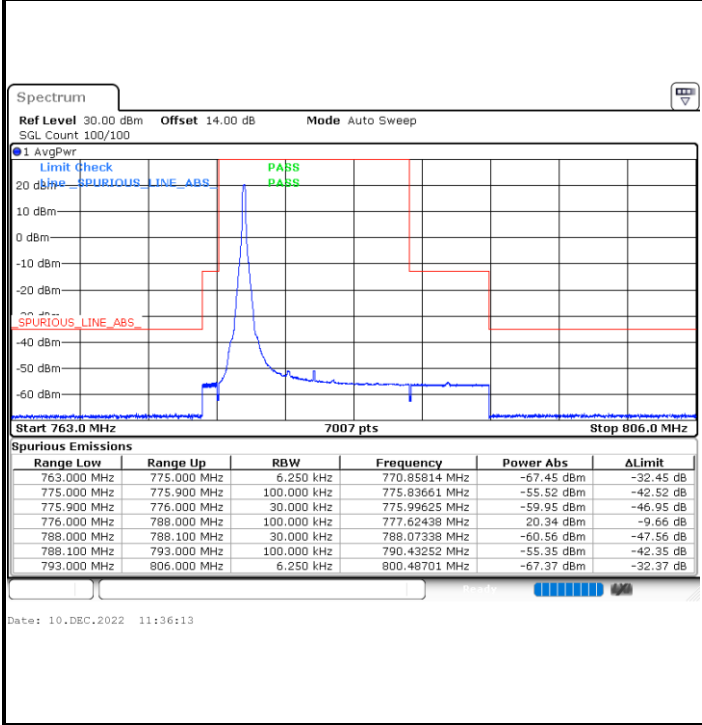
Date: 10.DEC.2022 11:23:04

Date: 10.DEC.2022 11:26:50

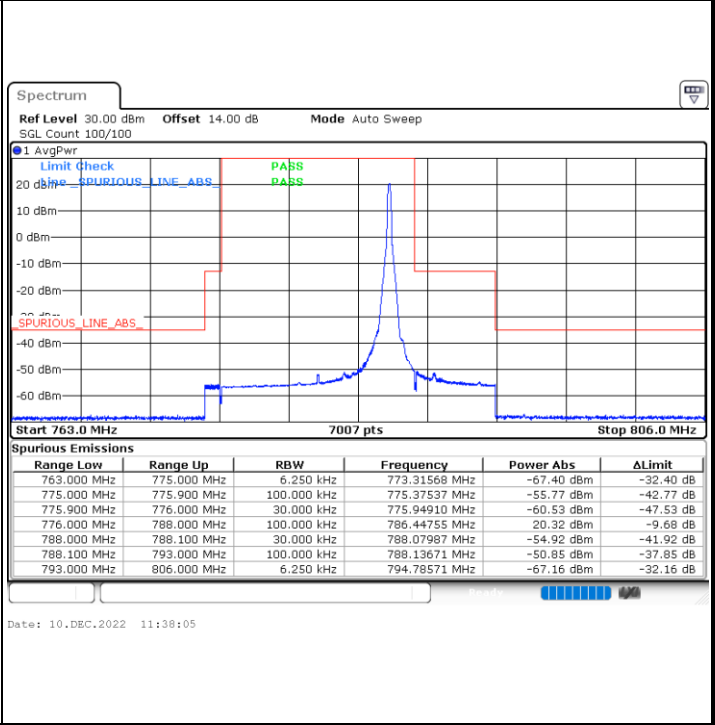


**LTE Band 13 / 10MHz / QPSK**

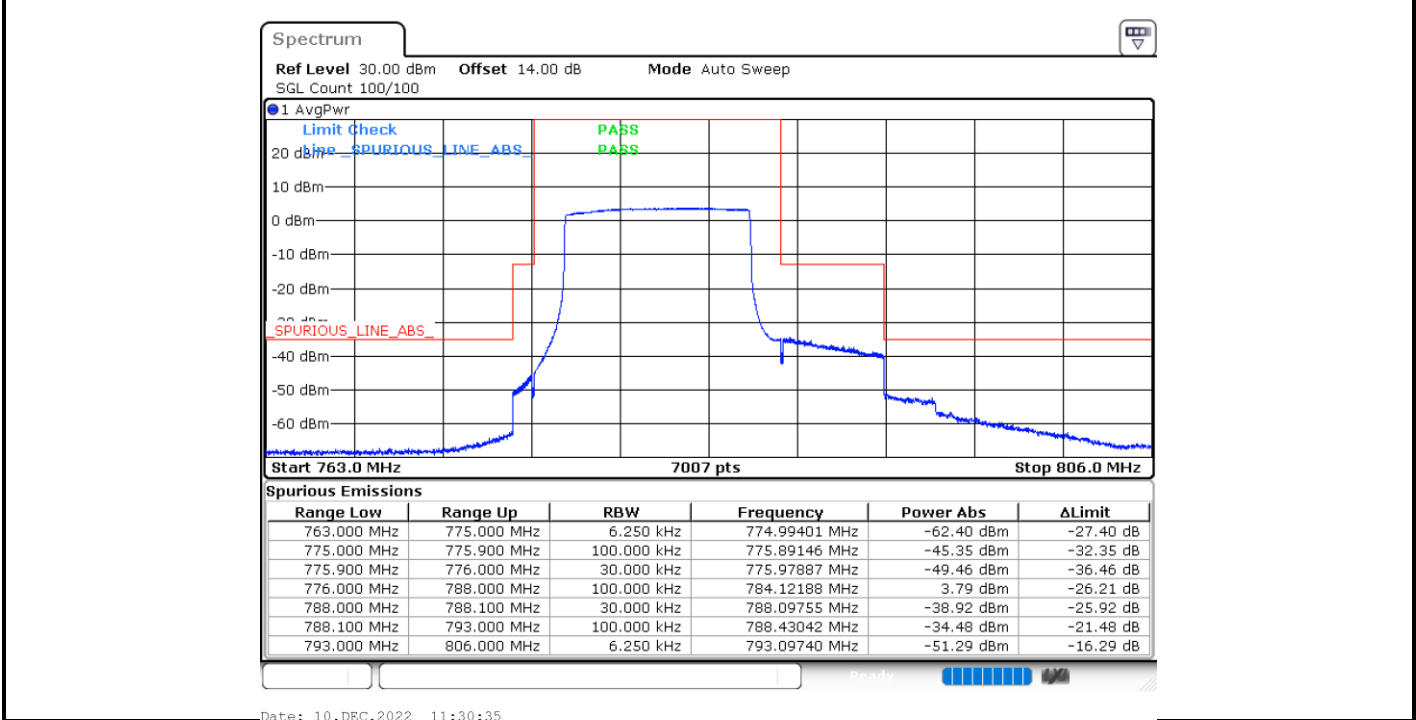
**Lowest Band Edge / 1 RB**



**Highest Band Edge / 1 RB**



**Band Edge / Full RB**

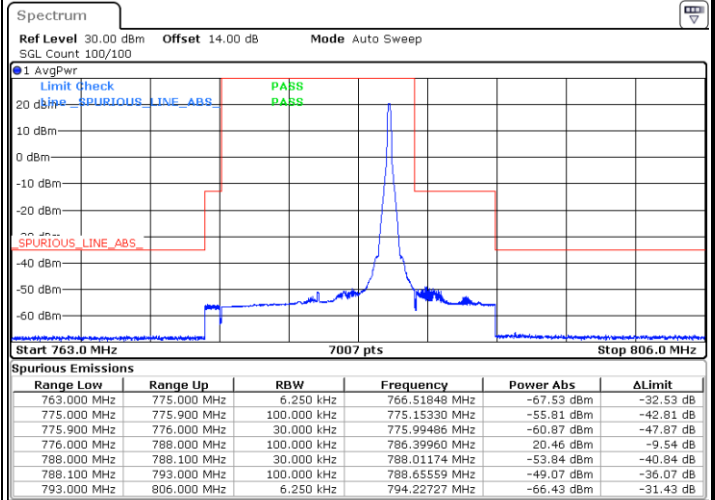
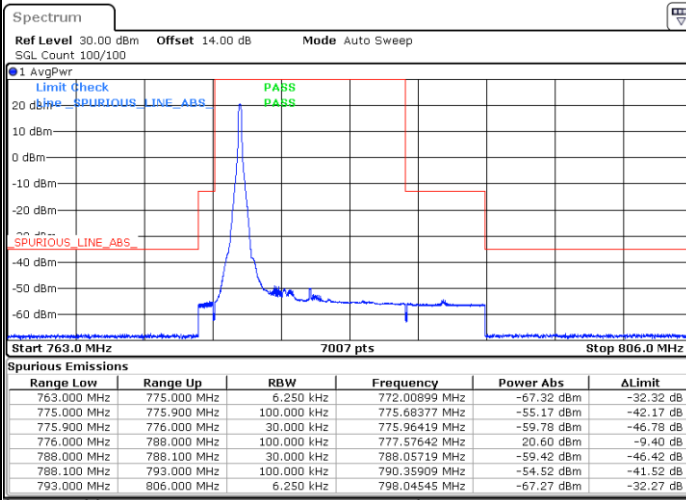




LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

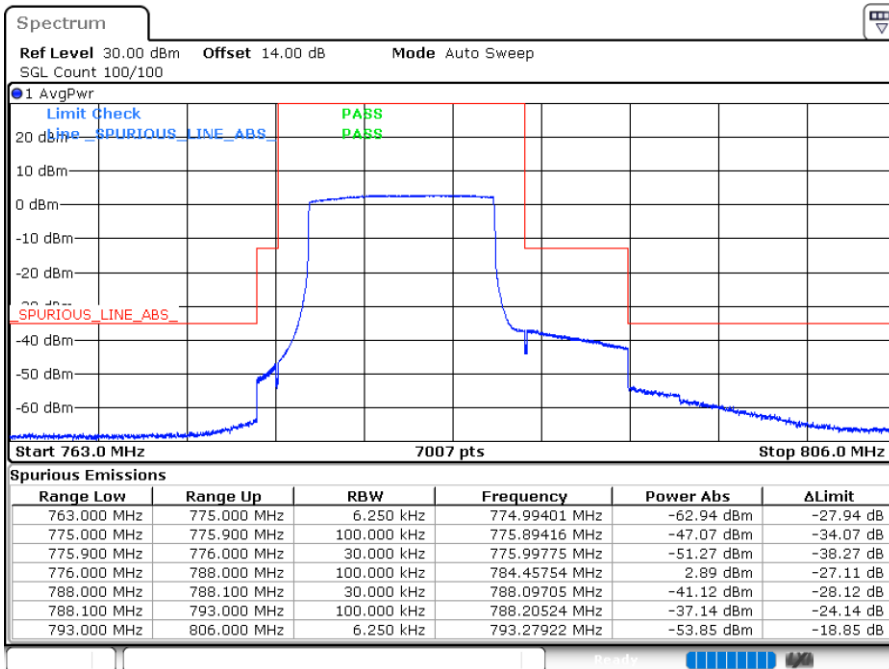
Highest Band Edge / 1 RB



Date: 10. DEC. 2022 11:34:20

Date: 10. DEC. 2022 11:39:58

Band Edge / Full RB

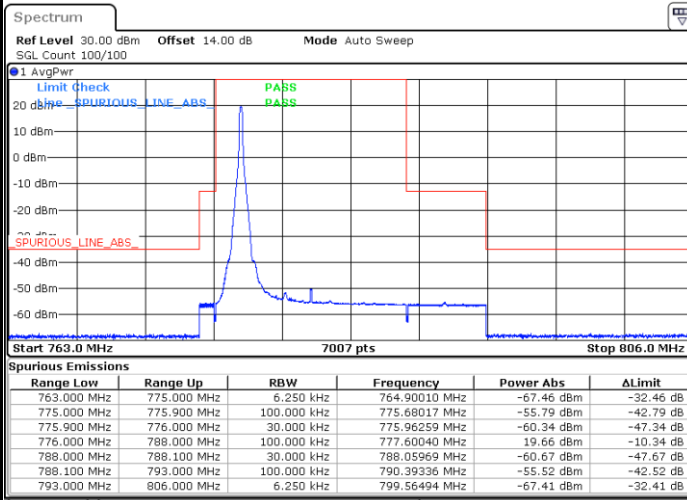


Date: 10. DEC. 2022 11:32:28



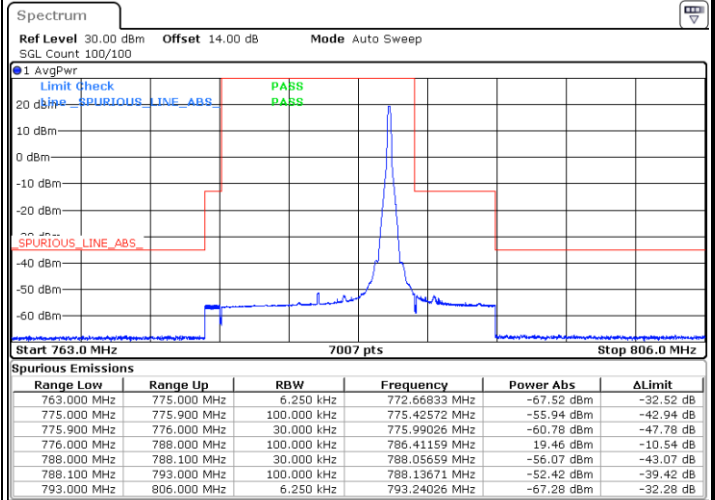
LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



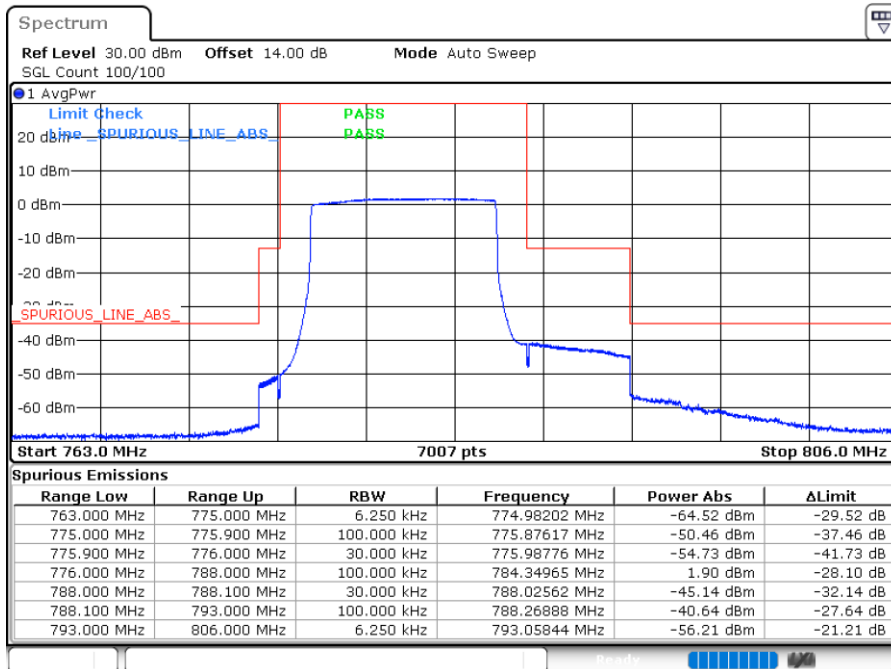
Date: 10. DEC. 2022 11:45:59

Highest Band Edge / 1 RB



Date: 10. DEC. 2022 11:47:51

Band Edge / Full RB



Date: 10. DEC. 2022 11:44:06