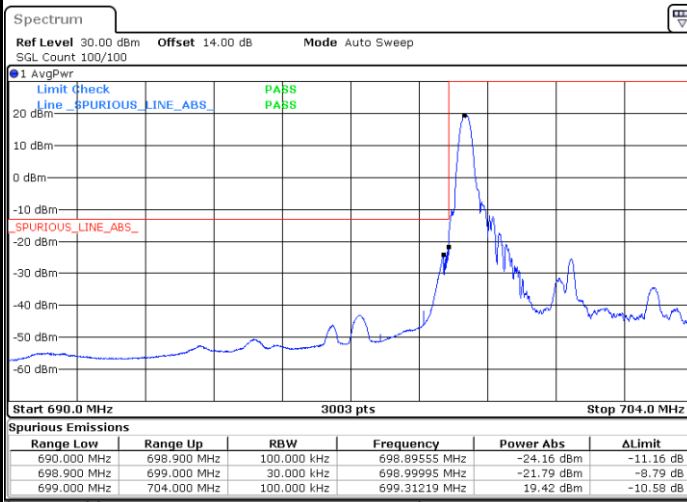




LTE Band 12 / 5MHz / 64QAM

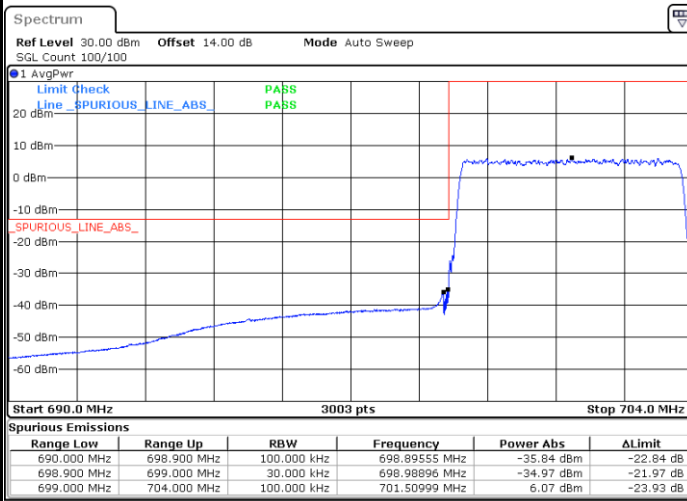
Lowest Band Edge / 1RB



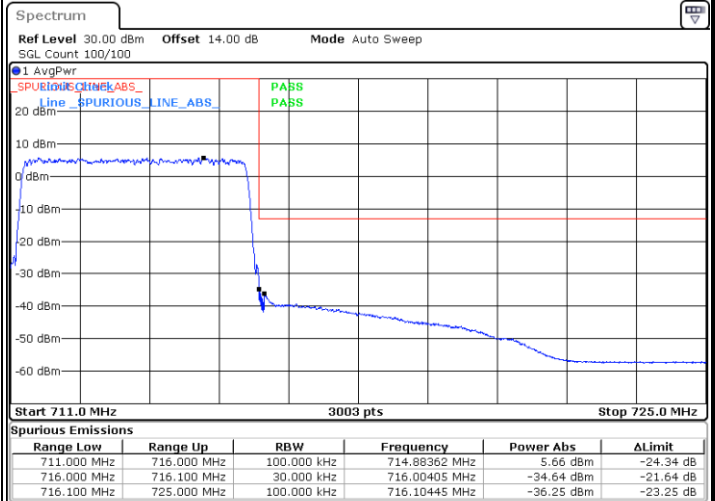
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



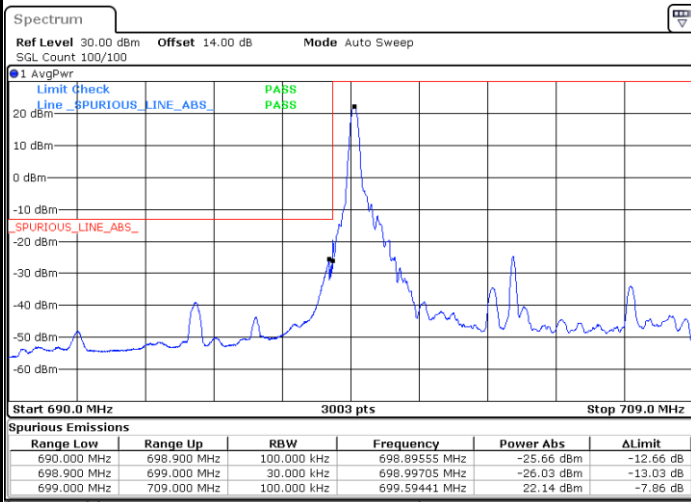
Highest Band Edge / Full RB





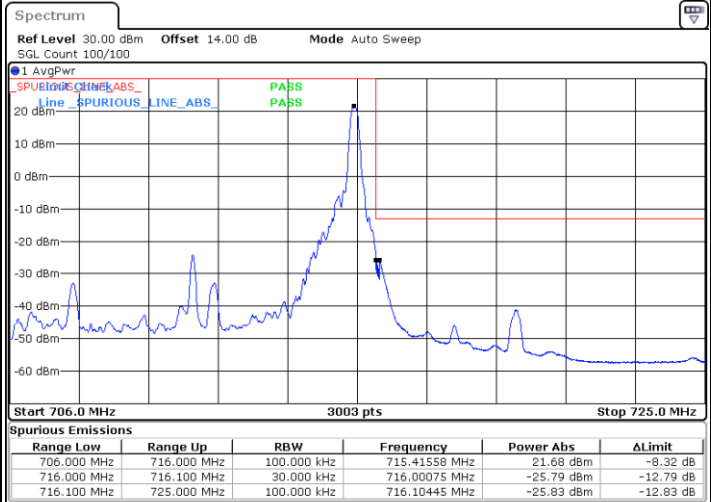
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1 RB



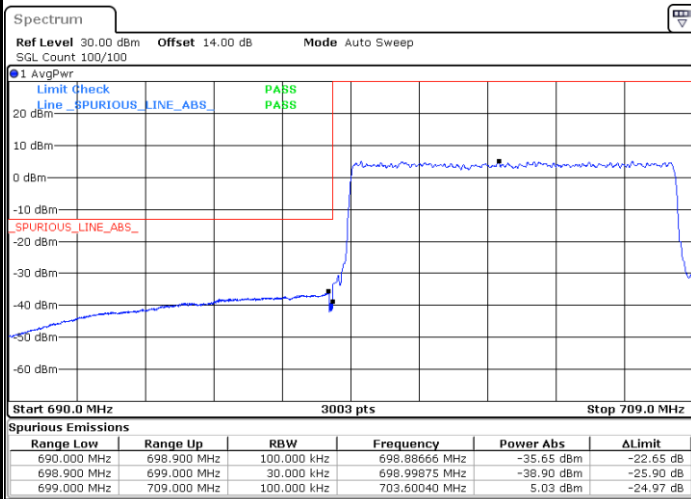
Date: 18.DEC.2020 02:05:53

Highest Band Edge / 1 RB



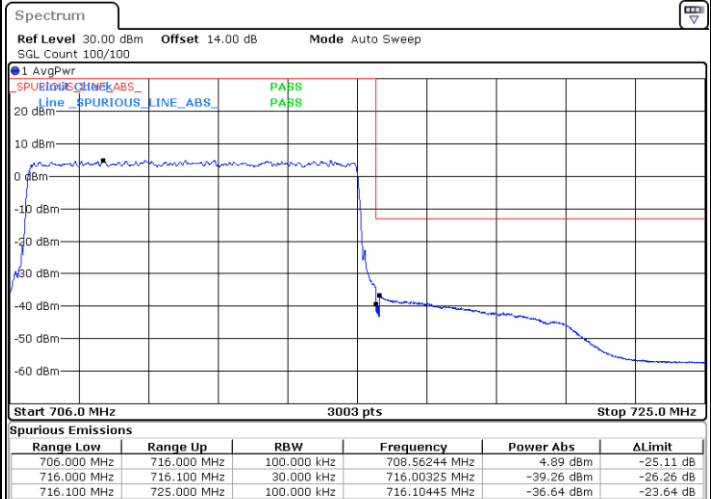
Date: 18.DEC.2020 02:16:33

Lowest Band Edge / Full RB



Date: 18.DEC.2020 02:02:27

Highest Band Edge / Full RB

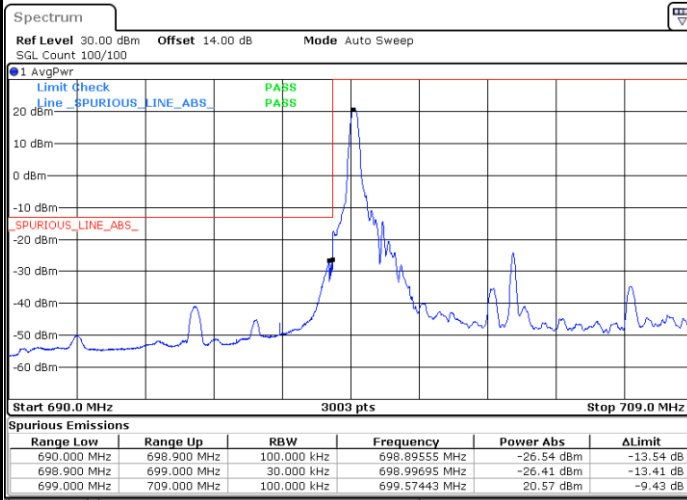


Date: 18.DEC.2020 02:13:06



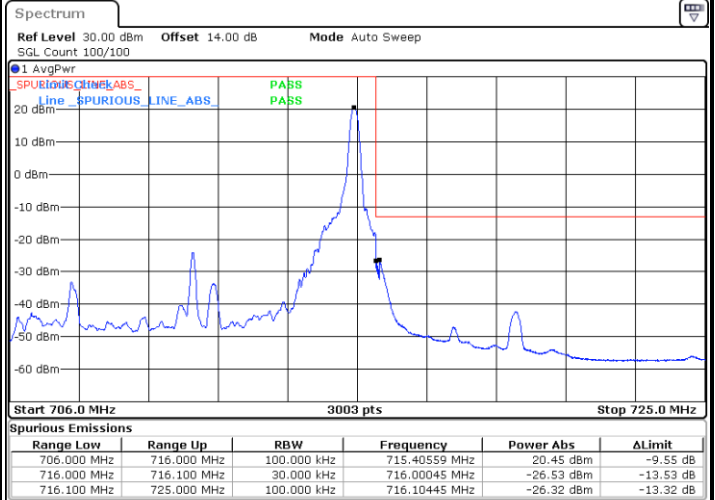
LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



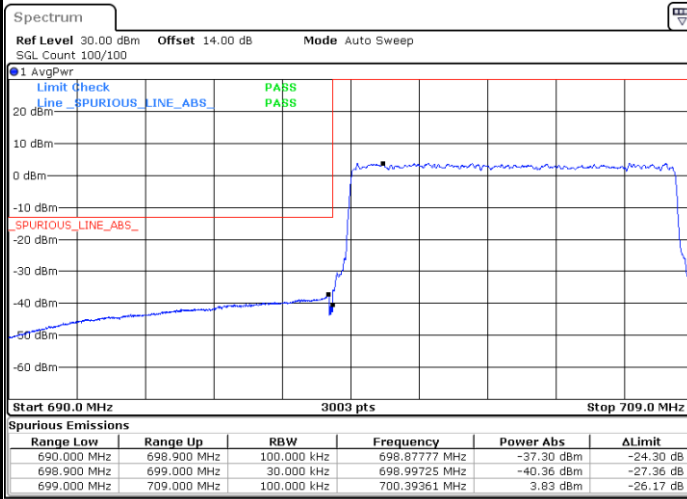
Date: 18.DEC.2020 02:04:45

Highest Band Edge / 1 RB



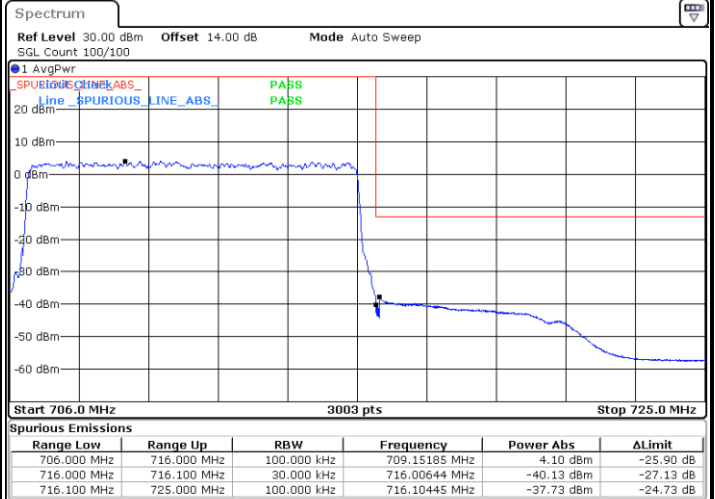
Date: 18.DEC.2020 02:15:24

Lowest Band Edge / Full RB



Date: 18.DEC.2020 02:03:36

Highest Band Edge / Full RB

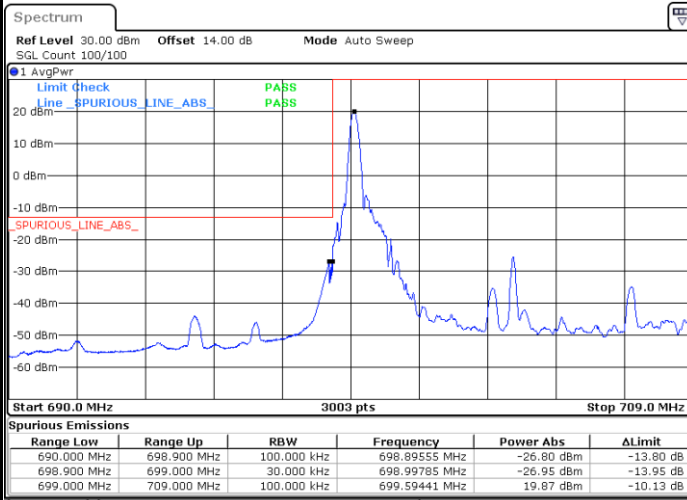


Date: 18.DEC.2020 02:14:15



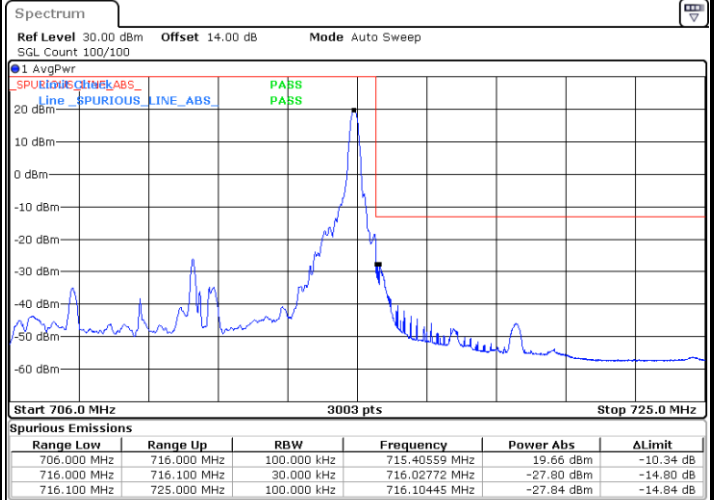
LTE Band 12 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



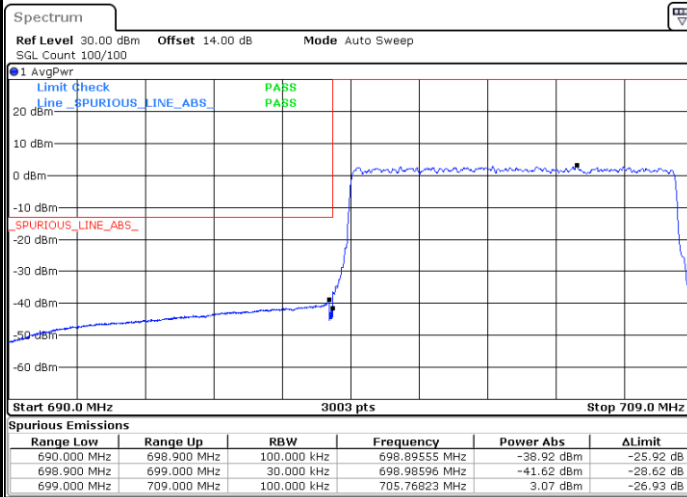
Date: 18.DEC.2020 02:21:31

Highest Band Edge / 1 RB



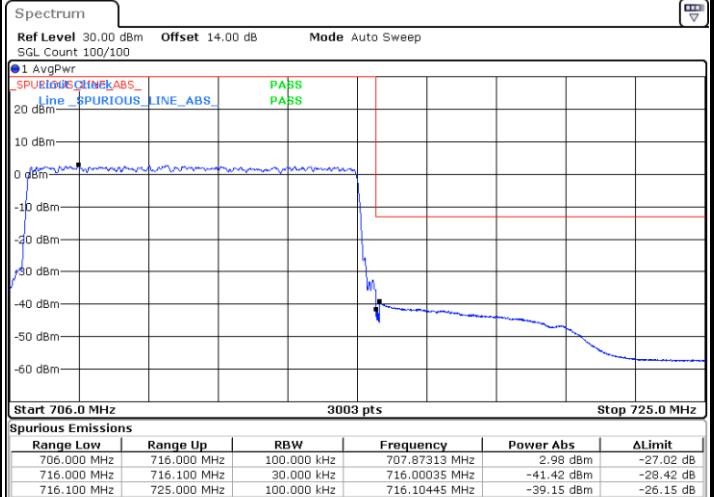
Date: 18.DEC.2020 02:26:50

Lowest Band Edge / Full RB



Date: 18.DEC.2020 02:20:22

Highest Band Edge / Full RB



Date: 18.DEC.2020 02:25:41

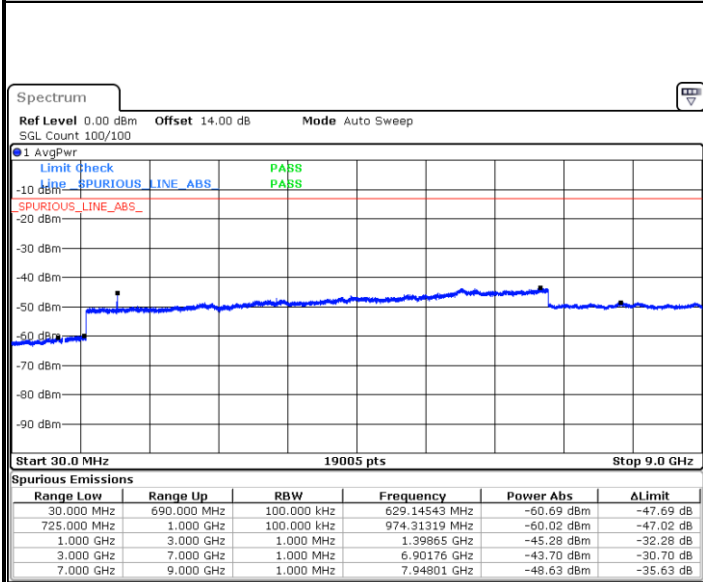


**Conducted Spurious Emission**



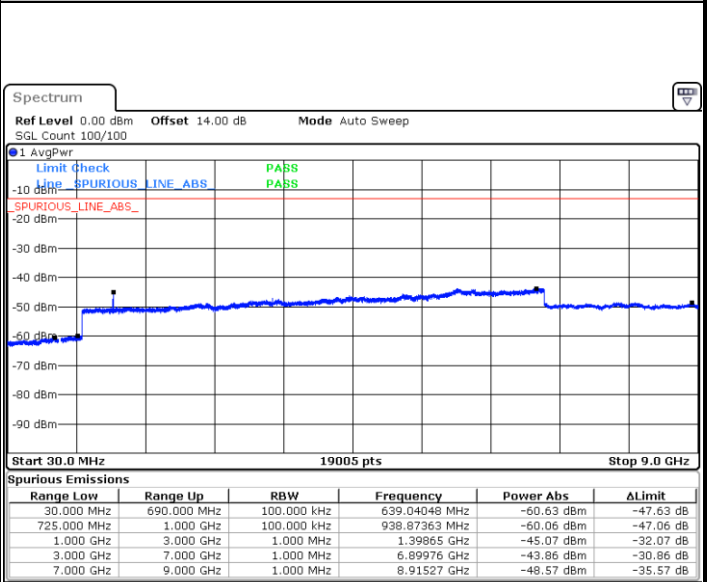
LTE Band 12 / 1.4MHz

Lowest Channel / QPSK



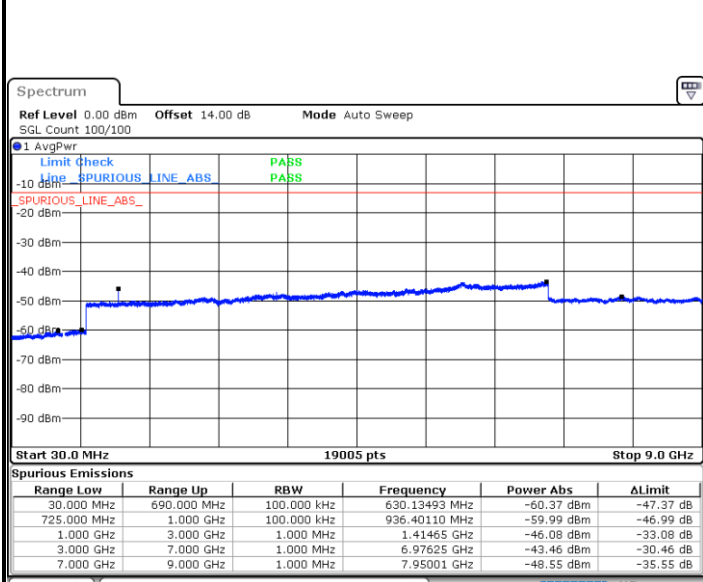
Date: 18.DEC.2020 00:37:30

Lowest Channel / 16QAM



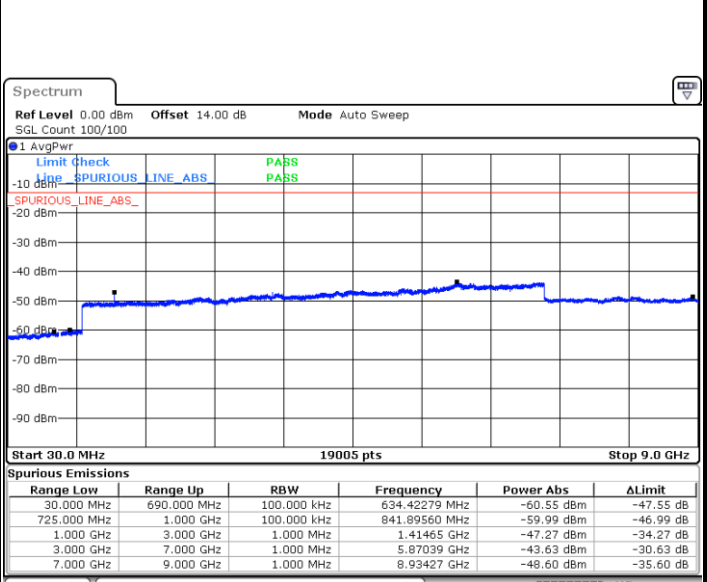
Date: 18.DEC.2020 00:38:39

Middle Channel / QPSK



Date: 18.DEC.2020 00:41:41

Middle Channel / 16QAM

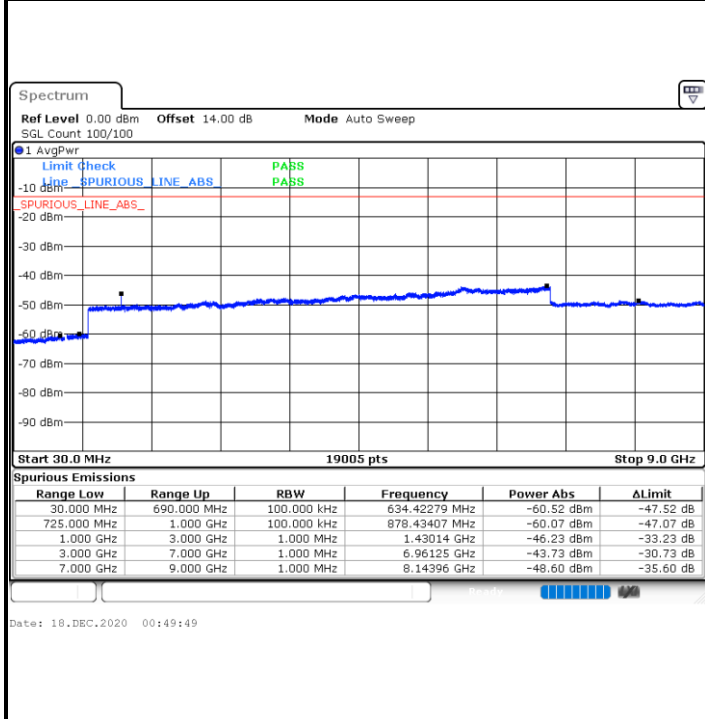


Date: 18.DEC.2020 00:40:32



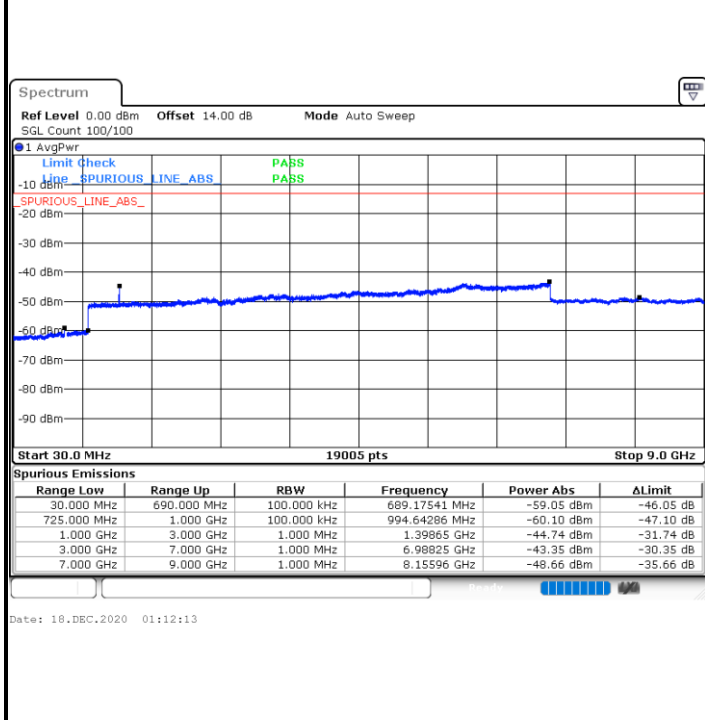
LTE Band 12 / 1.4MHz

Highest Channel / QPSK

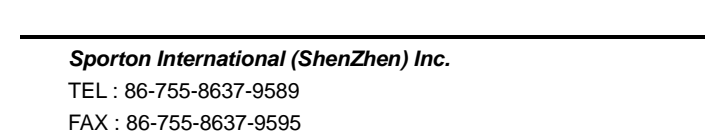


LTE Band 12 / 3MHz

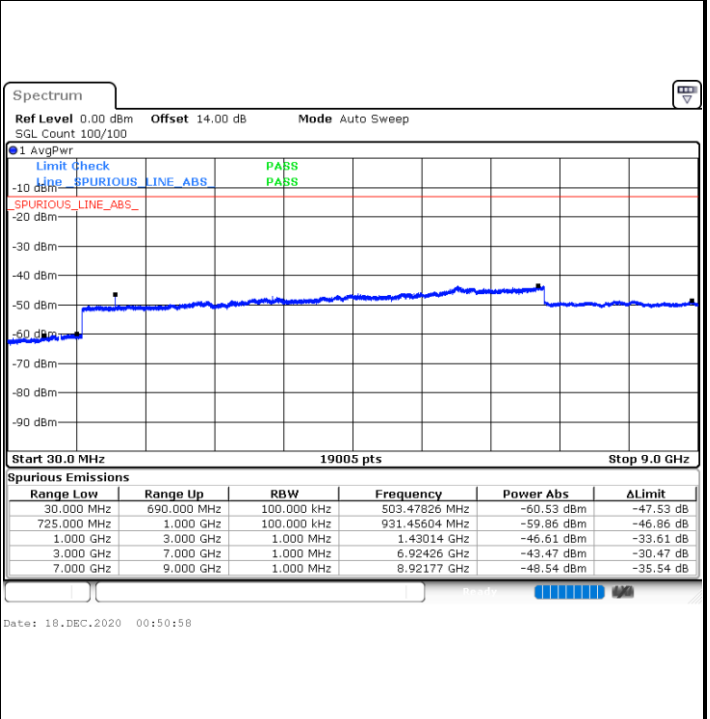
Lowest Channel / QPSK



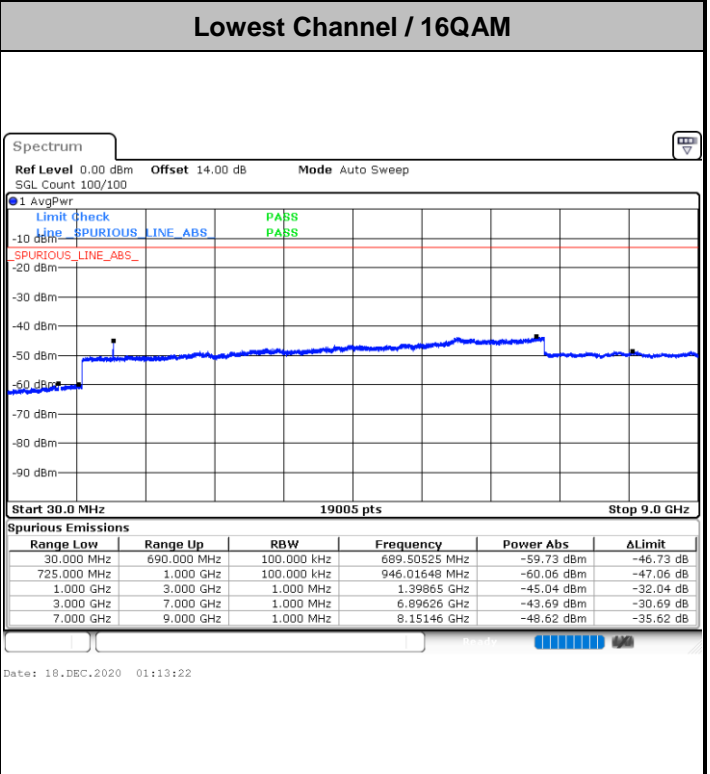
Lowest Channel / 16QAM



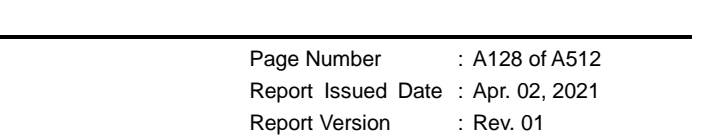
Highest Channel / 16QAM



Lowest Channel / 16QAM



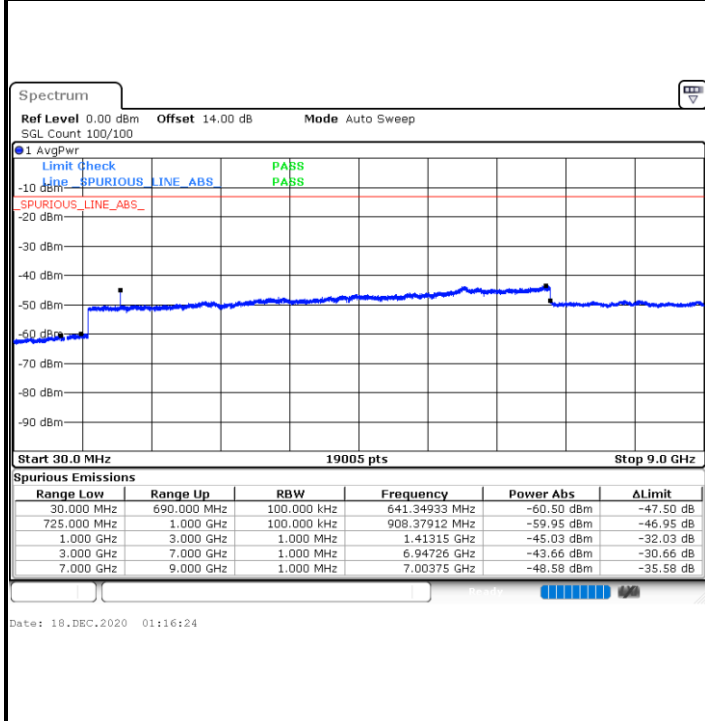
Highest Channel / QPSK



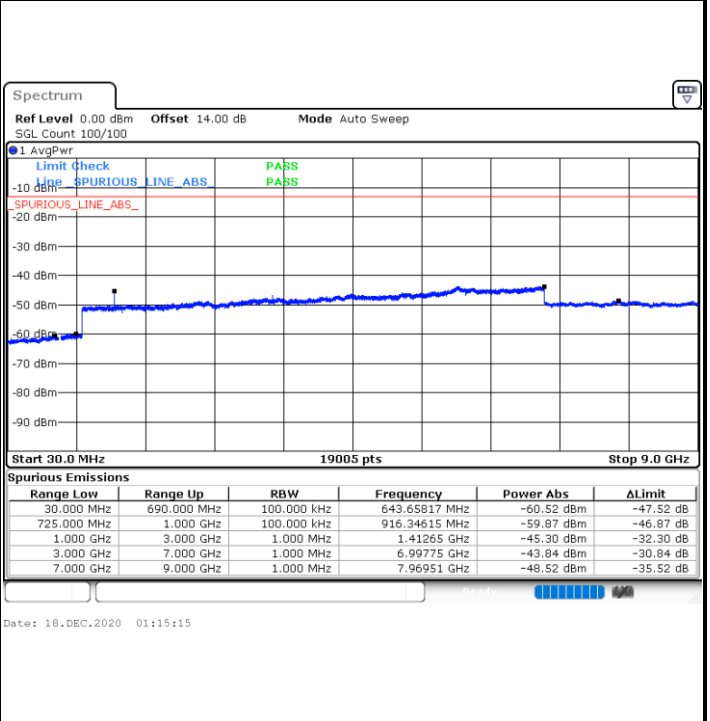


LTE Band 12 / 3MHz

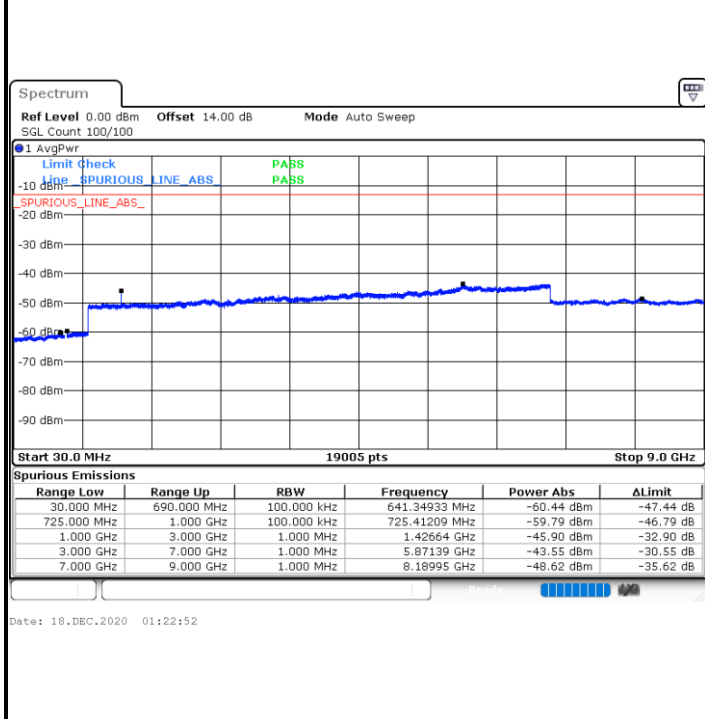
Middle Channel / QPSK



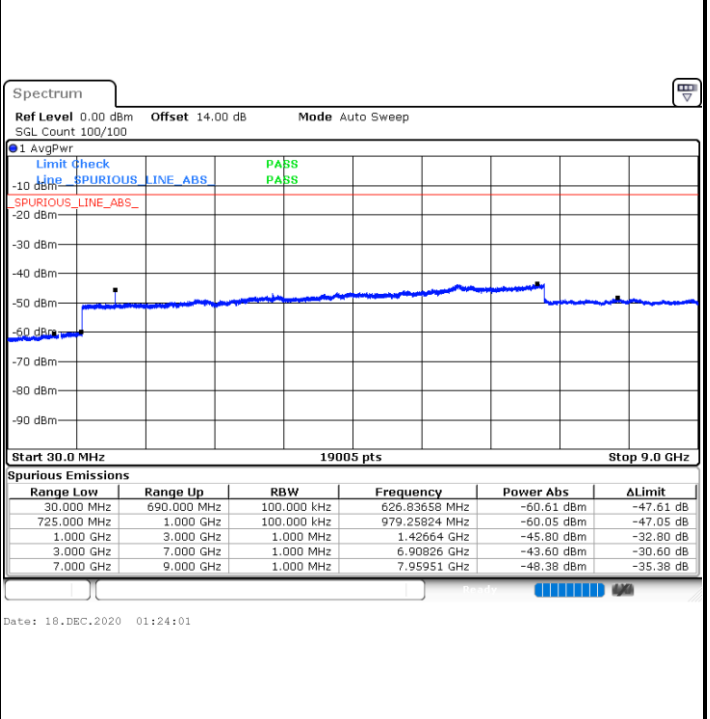
Middle Channel / 16QAM



Highest Channel / QPSK



Highest Channel / 16QAM



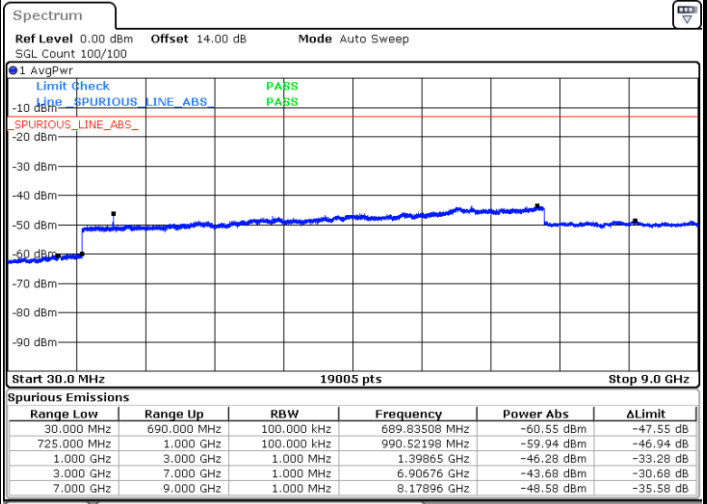
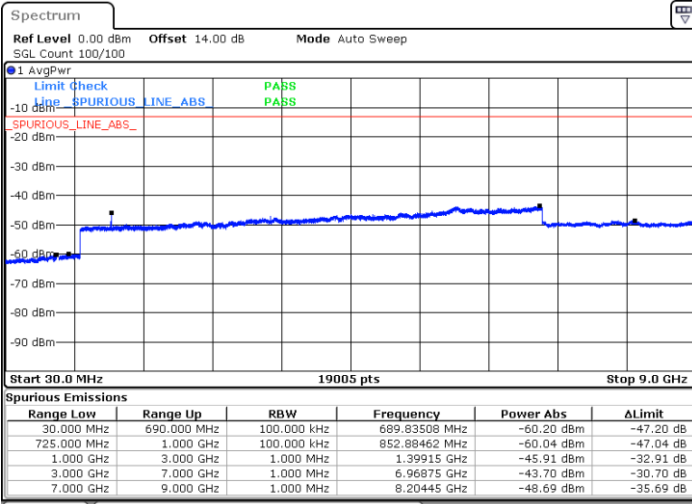




LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

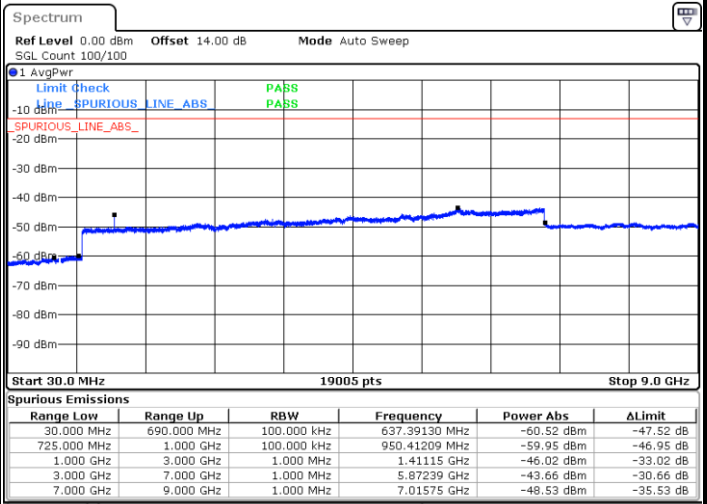
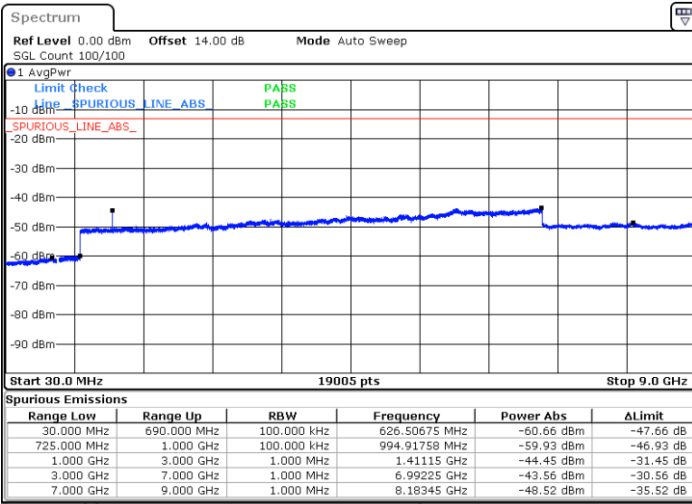


Date: 18.DEC.2020 01:48:46

Date: 18.DEC.2020 01:49:55

Middle Channel / QPSK

Middle Channel / 16QAM



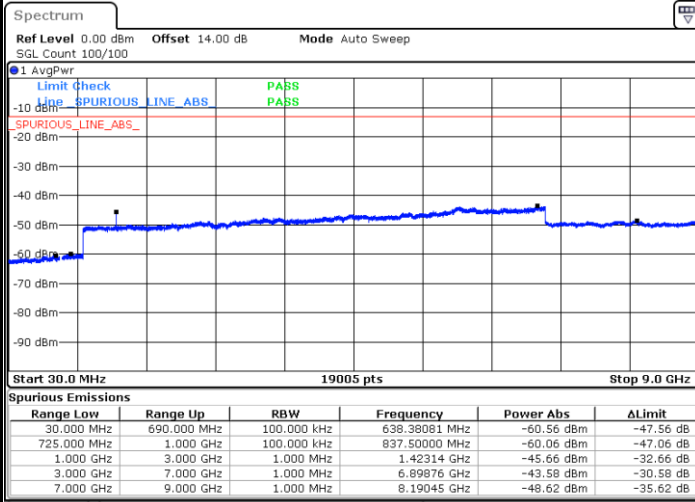
Date: 18.DEC.2020 01:52:57

Date: 18.DEC.2020 01:51:48



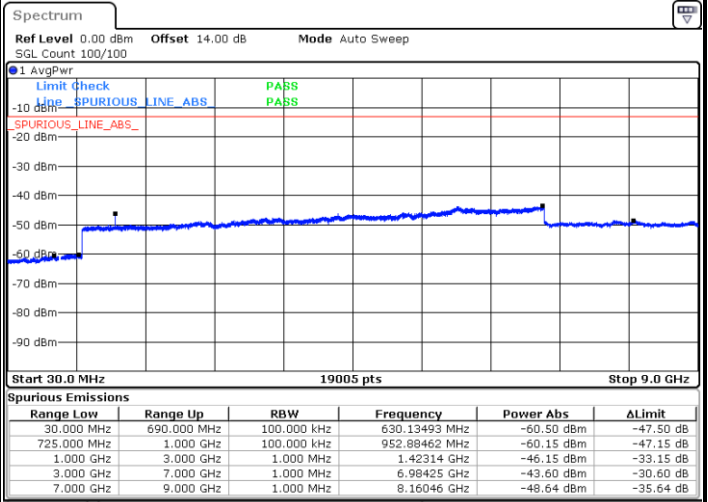
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 18.DEC.2020 02:00:35

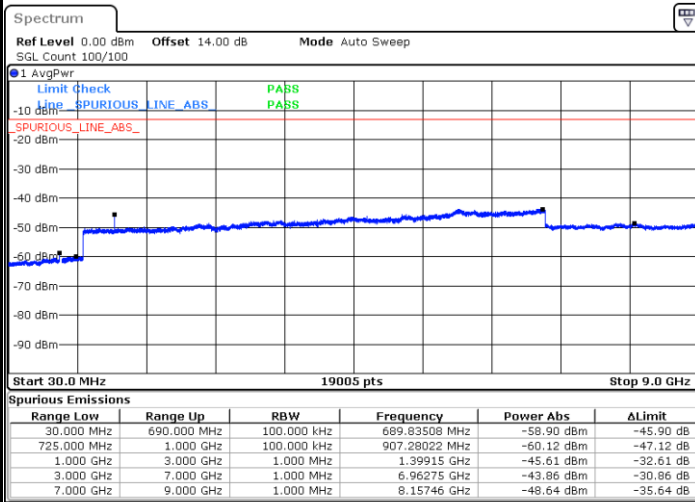
Highest Channel / 16QAM



Date: 18.DEC.2020 01:59:26

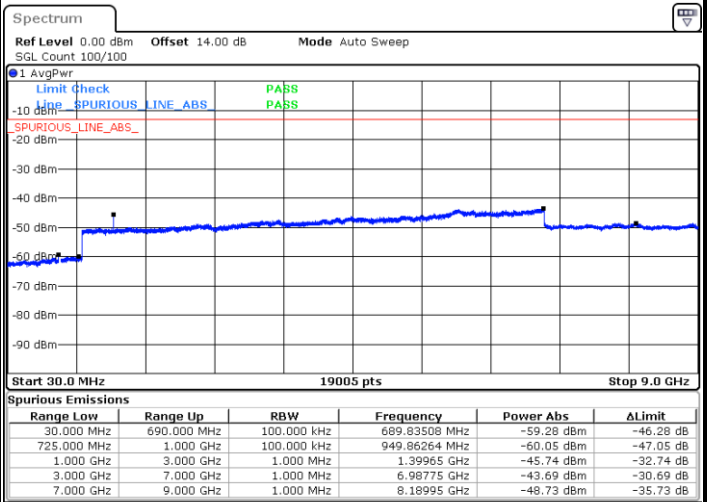
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 18.DEC.2020 02:07:03

Lowest Channel / 16QAM

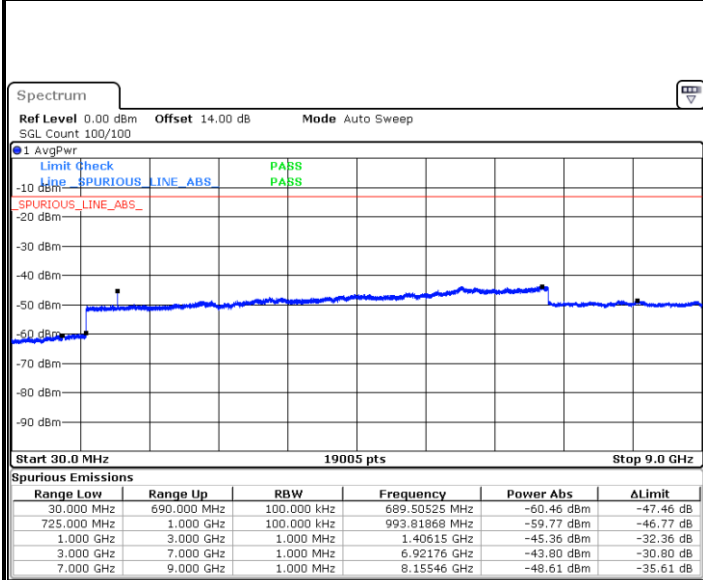


Date: 18.DEC.2020 02:08:12



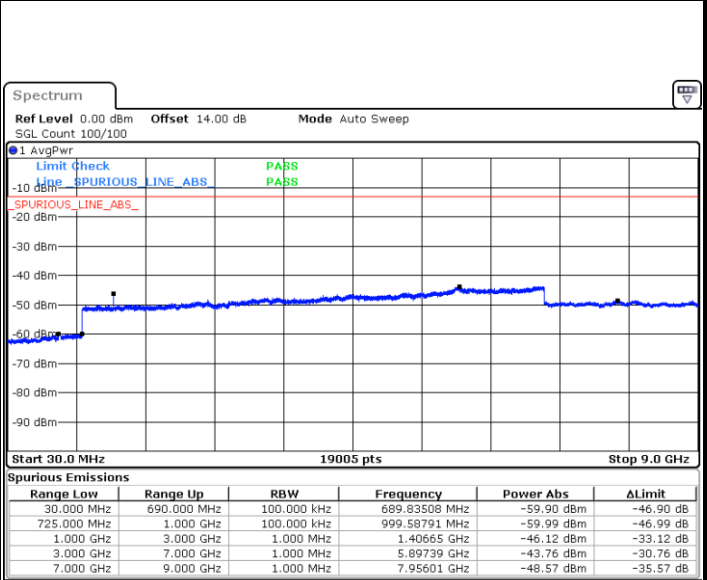
LTE Band 12 / 10MHz

Middle Channel / QPSK



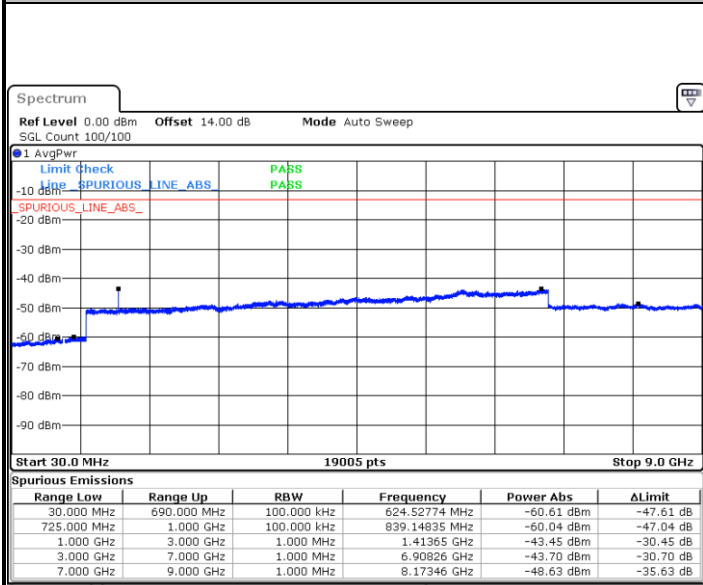
Date: 18.DEC.2020 02:11:14

Middle Channel / 16QAM



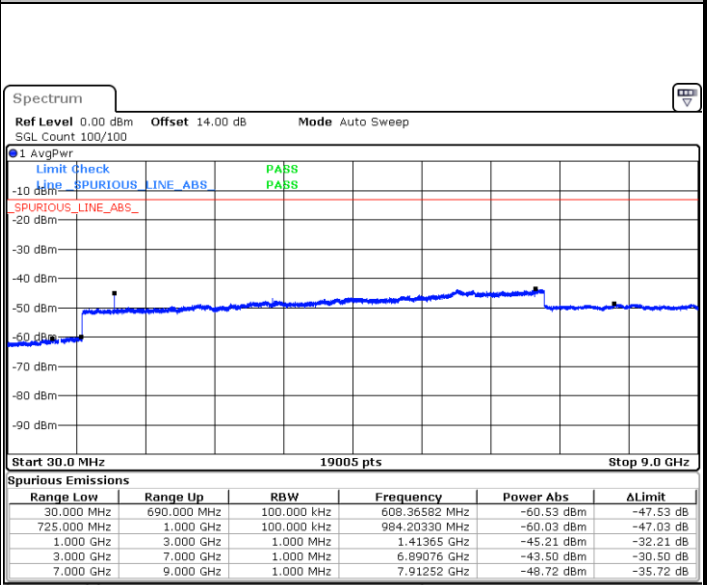
Date: 18.DEC.2020 02:10:05

Highest Channel / QPSK



Date: 18.DEC.2020 02:17:42

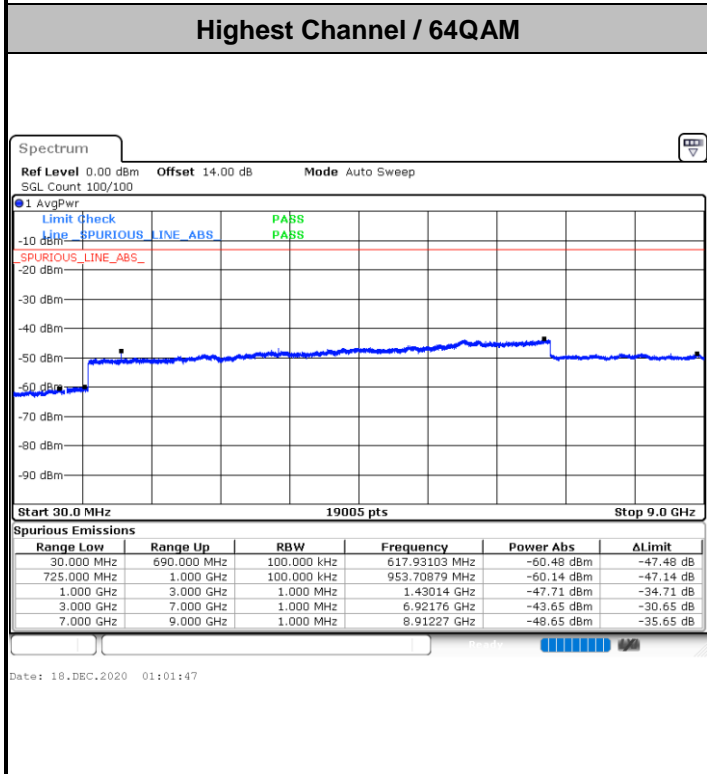
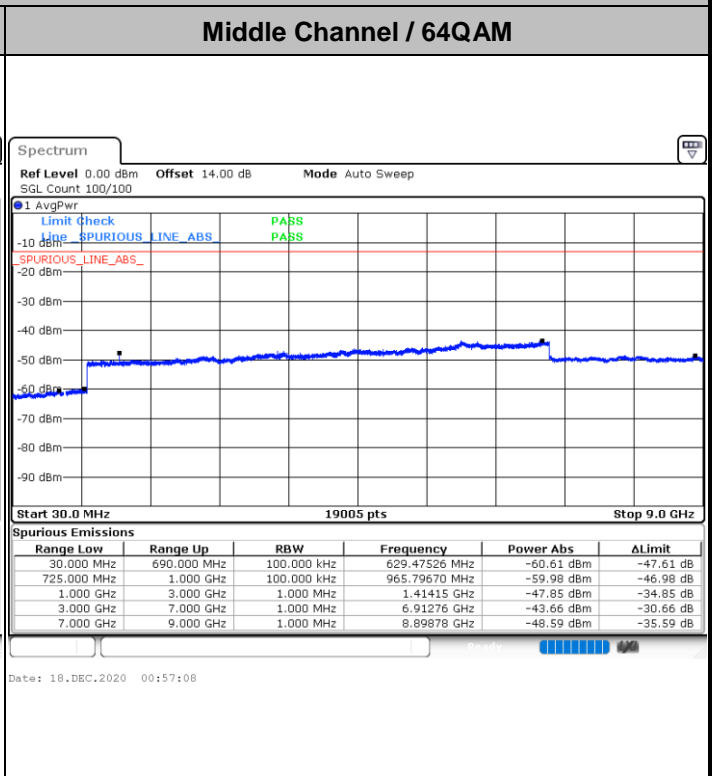
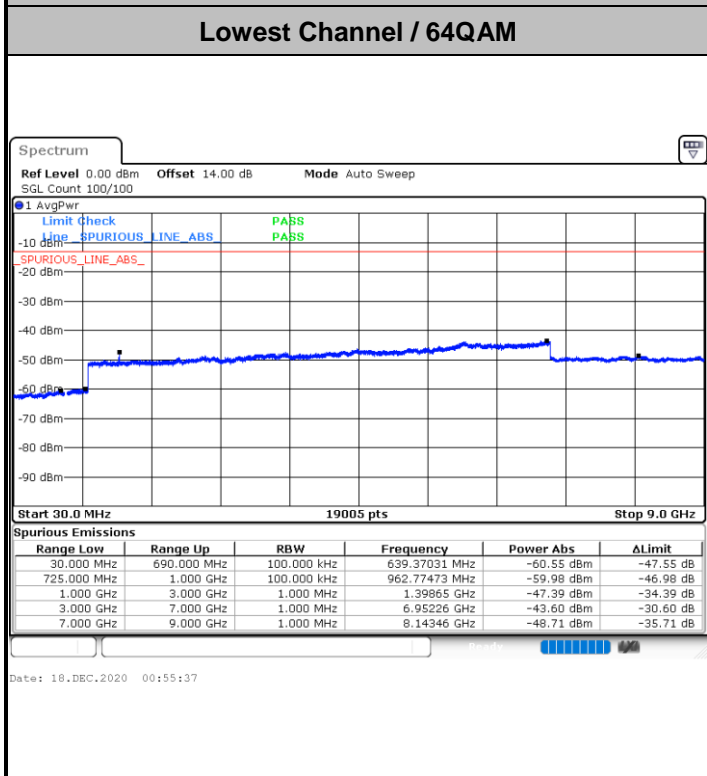
Highest Channel / 16QAM



Date: 18.DEC.2020 02:18:51



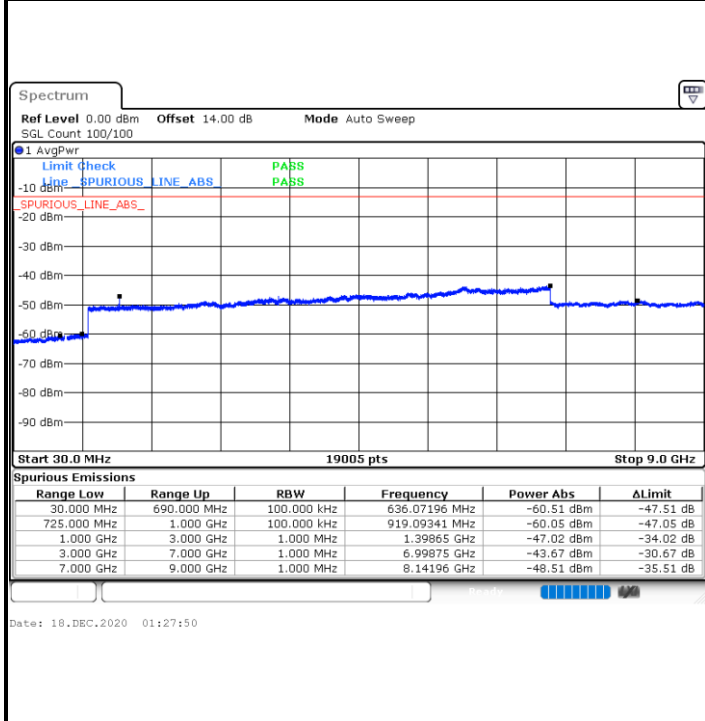
**LTE Band 12 / 1.4MHz**



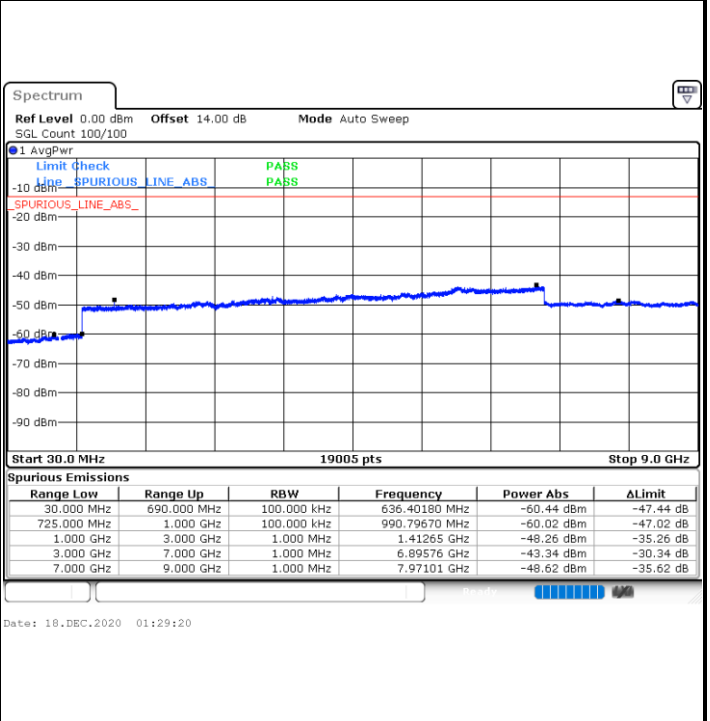


**LTE Band 12 / 3MHz**

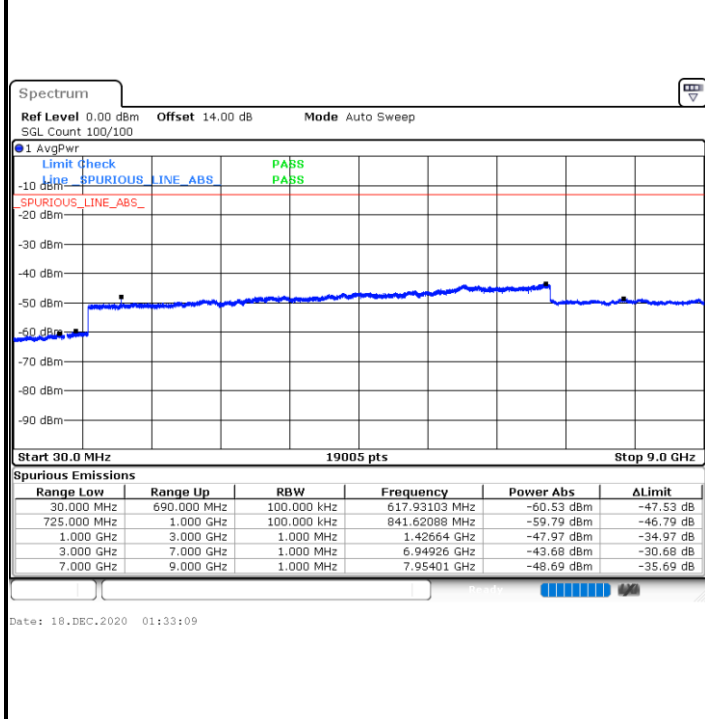
**Lowest Channel / 64QAM**



**Middle Channel / 64QAM**



**Highest Channel / 64QAM**

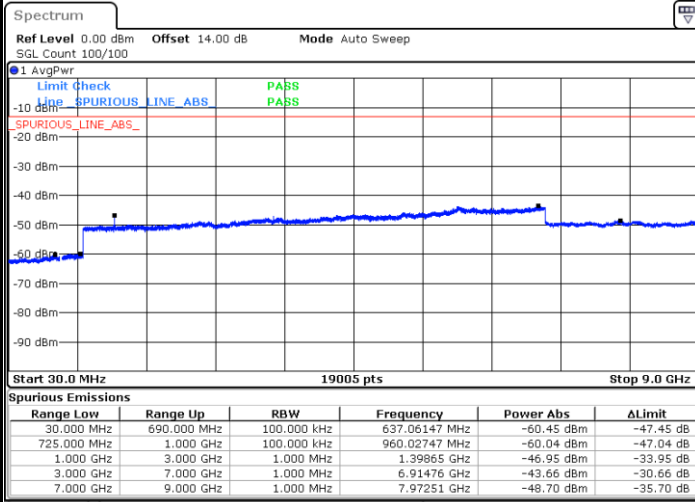




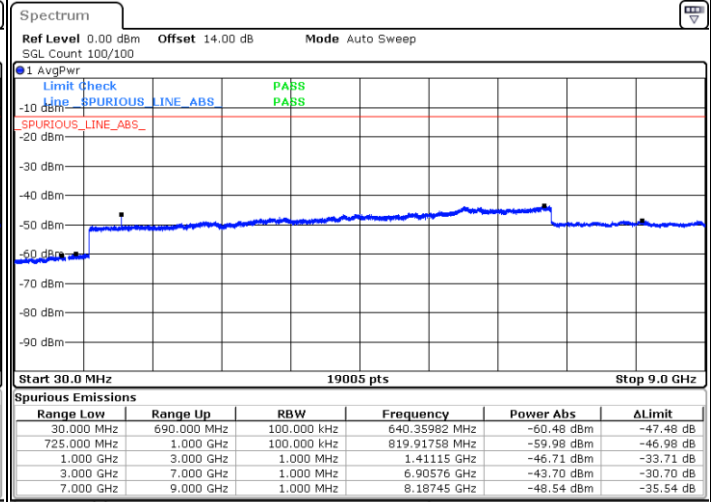
LTE Band 12 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

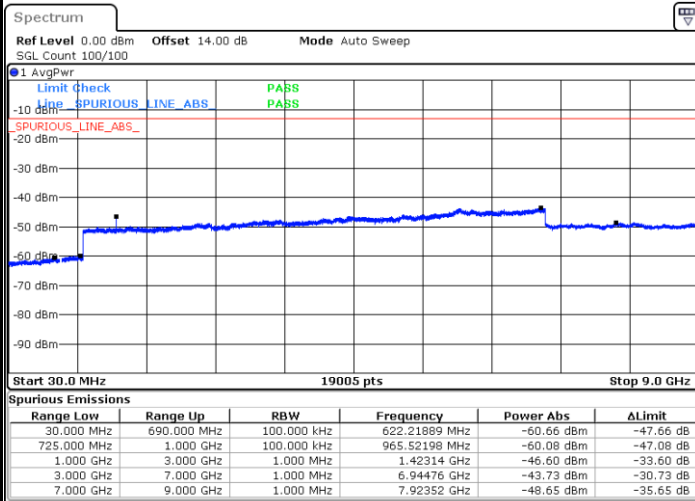


Date: 18.DEC.2020 01:36:58



Date: 18.DEC.2020 01:38:29

Highest Channel / 64QAM

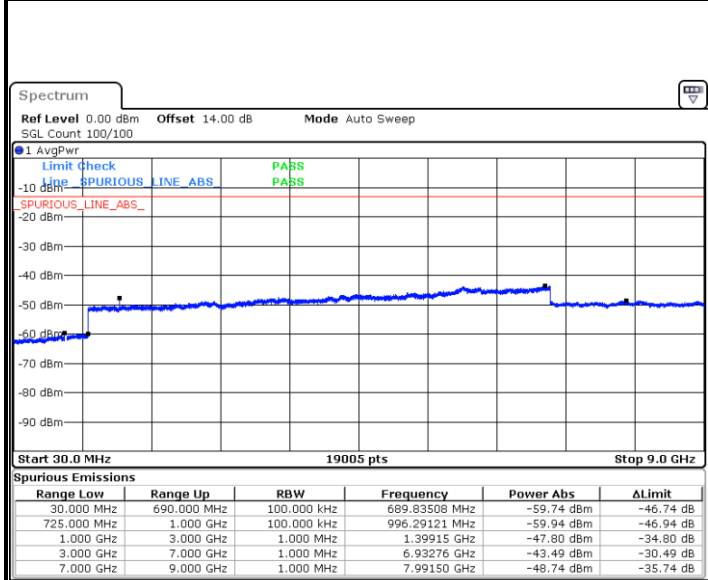


Date: 18.DEC.2020 01:42:18



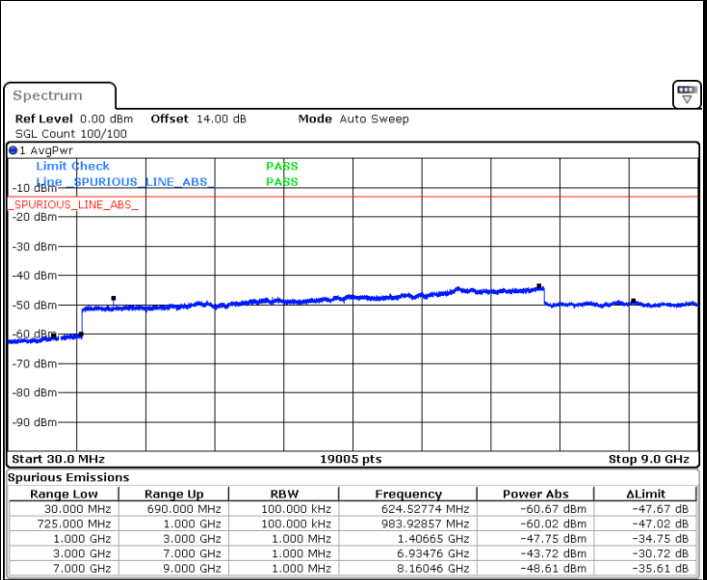
**LTE Band 12 / 10MHz**

**Lowest Channel / 64QAM**



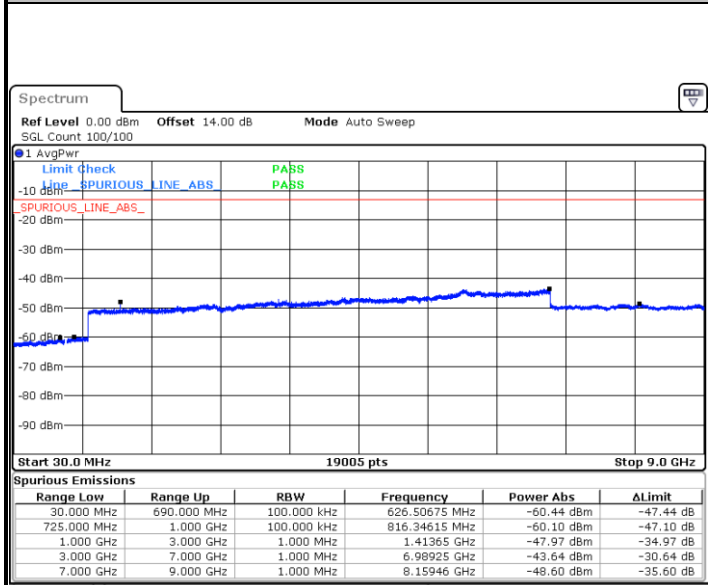
Date: 18.DEC.2020 02:22:40

**Middle Channel / 64QAM**



Date: 18.DEC.2020 02:24:11

**Highest Channel / 64QAM**



Date: 18.DEC.2020 02:28:00



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	0.0071	
30	Normal Voltage	0.0051	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0008	
0	Normal Voltage	0.0004	
-10	Normal Voltage	0.0027	
-20	Normal Voltage	0.0016	
-30	Normal Voltage	0.0003	
20	Maximum Voltage	0.0014	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0010	

Note:

1. Normal Voltage =3.3 V. ; Battery End Point (BEP) =3.14 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.





# LTE Band 13

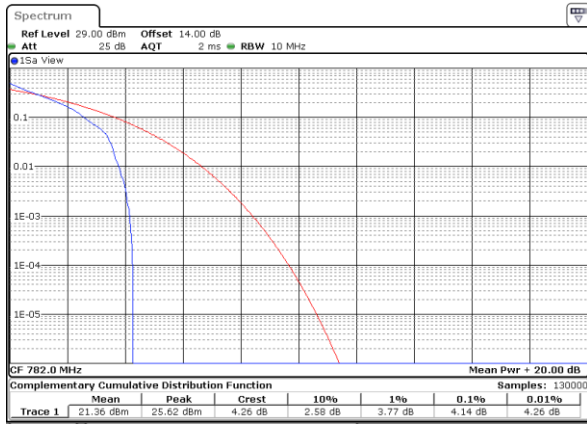
## Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	4.14	5.22	5.01	6.23	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	5.68	6.35	-	-	
Highest CH	-	-	-	-	



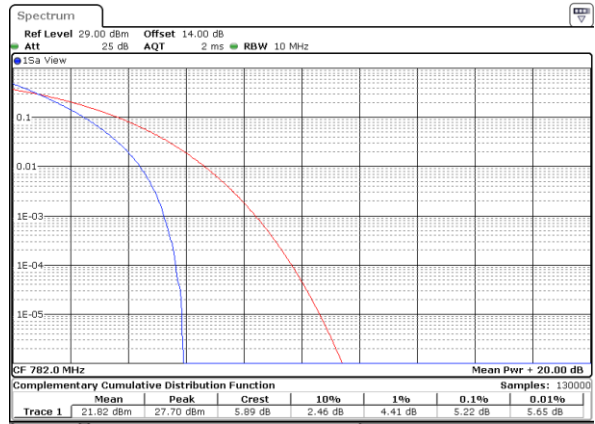
LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 19\_DEC.2020 12:30:32

Middle Channel / Full RB



Date: 19\_DEC.2020 12:30:51

LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 19\_DEC.2020 12:29:55

Middle Channel / Full RB



Date: 19\_DEC.2020 12:30:17

LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Date: 19\_DEC.2020 12:29:31

Middle Channel / Full RB



Date: 19\_DEC.2020 12:29:43



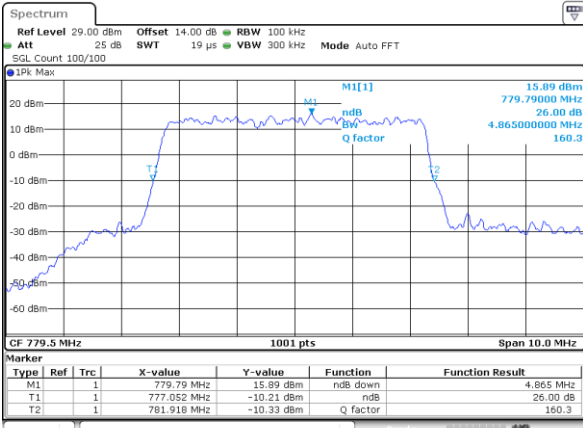
**26dB Bandwidth**

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	-	-	-	-	4.87	4.82	-	-	-	-	-	-
Middle CH	-	-	-	-	4.92	4.81	9.69	9.85	-	-	-	-
Highest CH	-	-	-	-	4.82	4.84	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.87	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.83	-	9.65	-	-	-	-	-
Highest CH	-	-	-	-	4.94	-	-	-	-	-	-	-



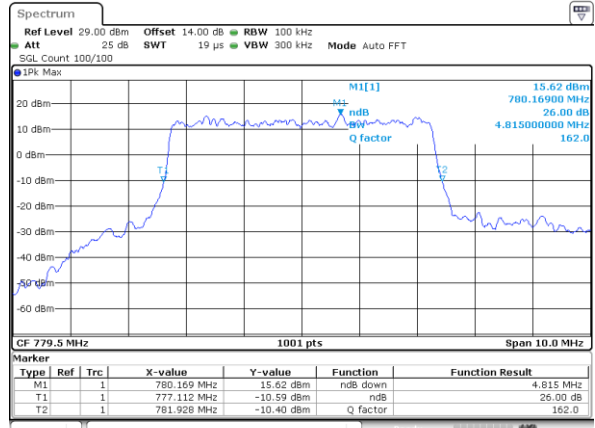
LTE Band 13

Lowest Channel / 5MHz / QPSK



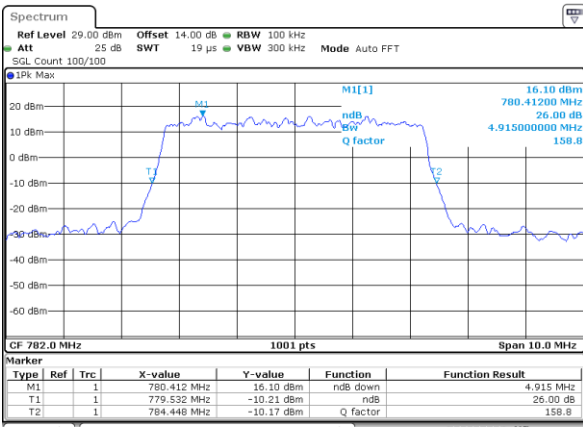
Date: 19\_DEC.2020 11:13:16

Lowest Channel / 5MHz / 16QAM



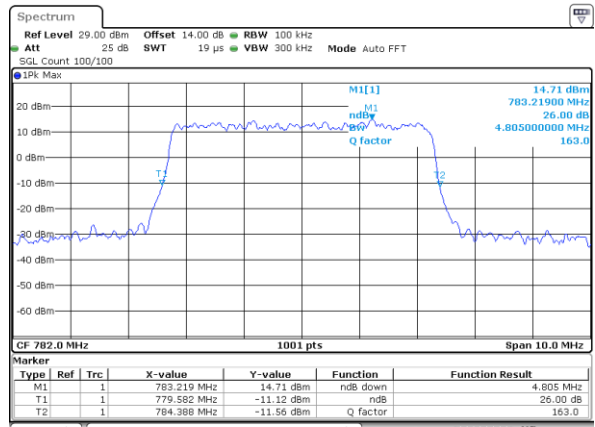
Date: 19\_DEC.2020 11:13:05

Middle Channel / 5MHz / QPSK



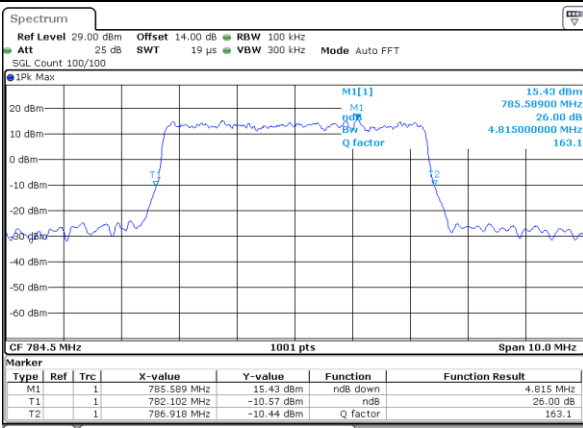
Date: 19\_DEC.2020 11:24:58

Middle Channel / 5MHz / 16QAM



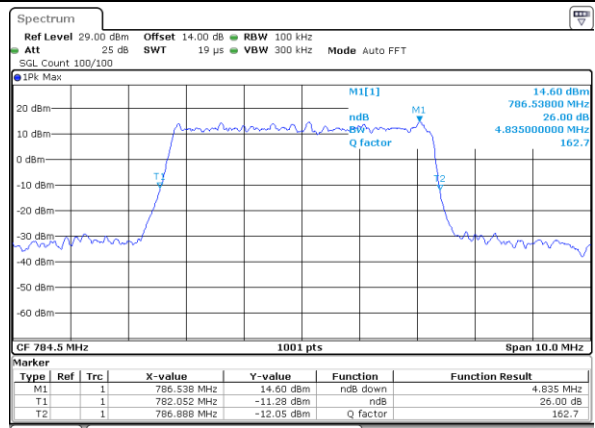
Date: 19\_DEC.2020 11:25:09

Highest Channel / 5MHz / QPSK



Date: 19\_DEC.2020 11:26:15

Highest Channel / 5MHz / 16QAM

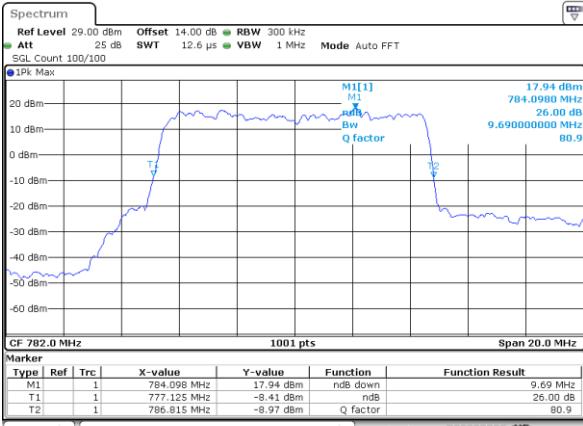


Date: 19\_DEC.2020 11:26:04



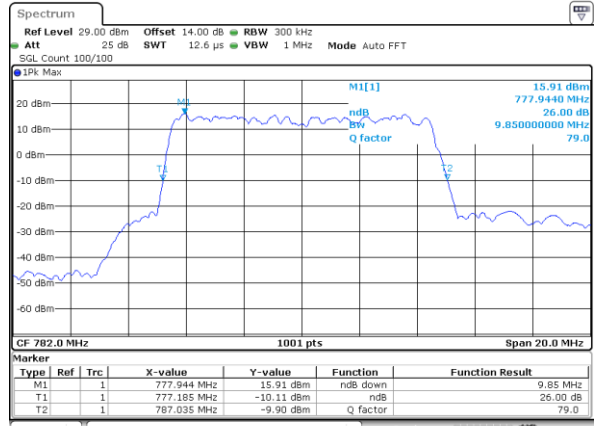
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 19, DEC, 2020 11:58:53

Middle Channel / 10MHz / 16QAM

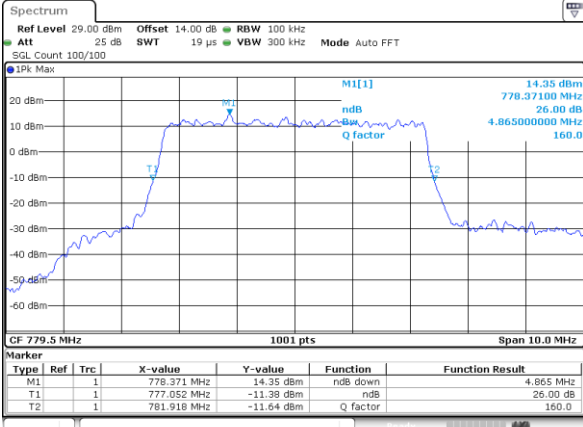


Date: 19, DEC, 2020 11:58:42



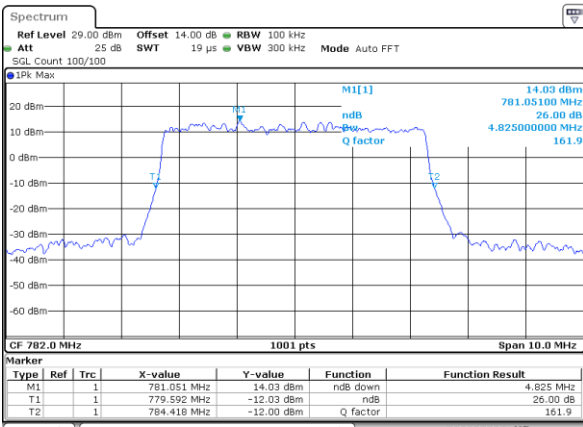
LTE Band 13

Lowest Channel / 5MHz / 64QAM



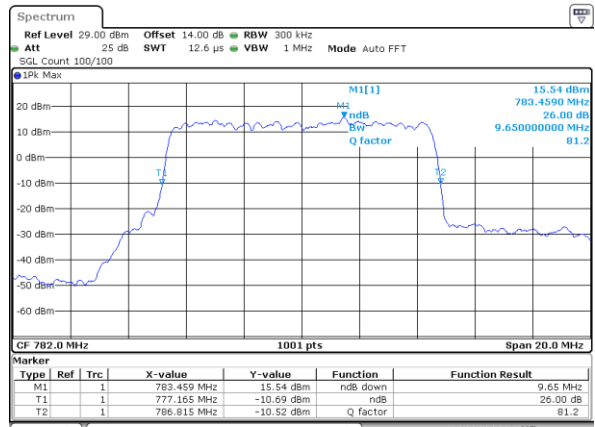
Date: 19, DEC, 2020 11:35:46

Middle Channel / 5MHz / 64QAM



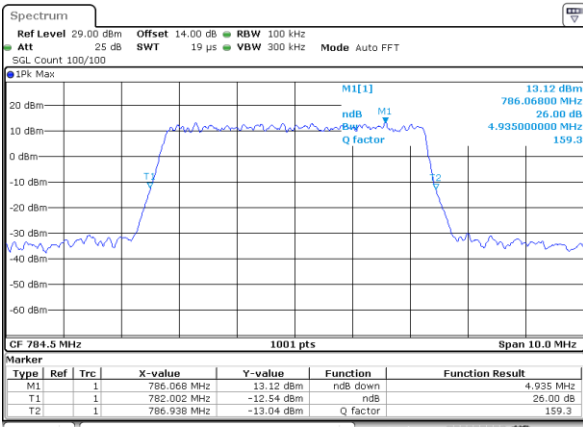
Date: 19, DEC, 2020 11:41:42

Middle Channel / 10MHz / 64QAM



Date: 19, DEC, 2020 12:11:42

Highest Channel / 5MHz / 64QAM



Date: 19, DEC, 2020 11:42:15



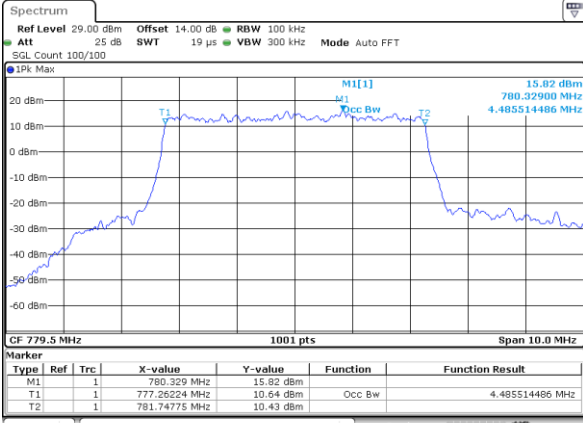
### Occupied Bandwidth

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	4.48	-	-	-	-	-	-
Middle CH	-	-	-	-	4.50	4.48	9.01	9.01	-	-	-	-
Highest CH	-	-	-	-	4.51	4.49	-	-	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.50	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.48	-	9.01	-	-	-	-	-
Highest CH	-	-	-	-	4.51	-	-	-	-	-	-	-



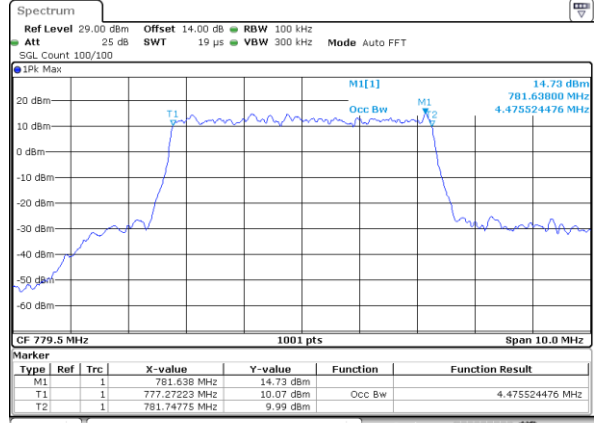
LTE Band 13

Lowest Channel / 5MHz / QPSK



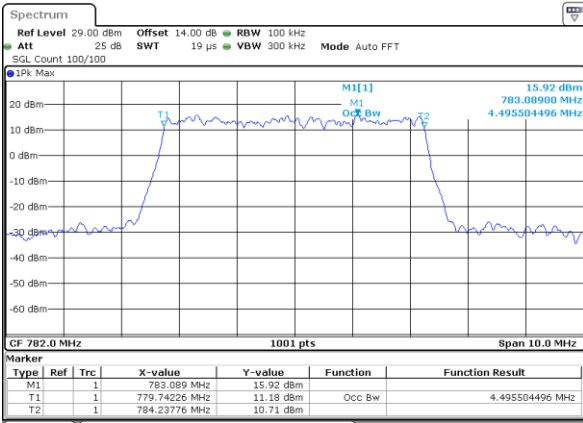
Date: 19\_DEC.2020 12:38:01

Lowest Channel / 5MHz / 16QAM



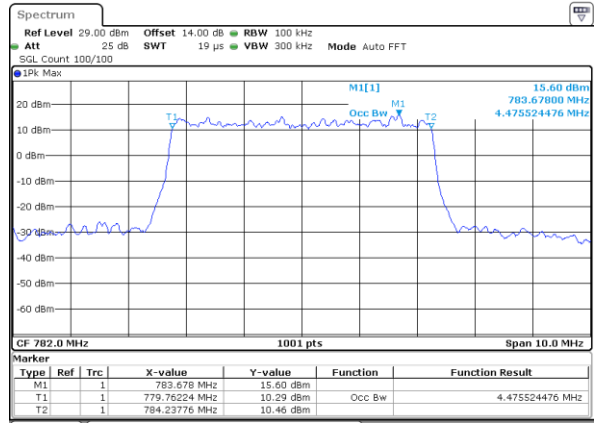
Date: 19\_DEC.2020 11:12:54

Middle Channel / 5MHz / QPSK



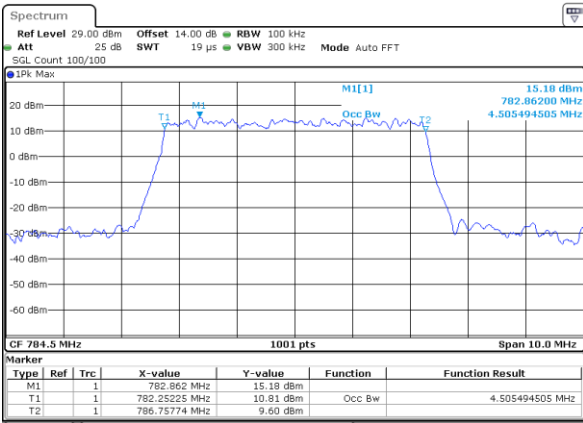
Date: 19\_DEC.2020 11:25:01

Middle Channel / 5MHz / 16QAM



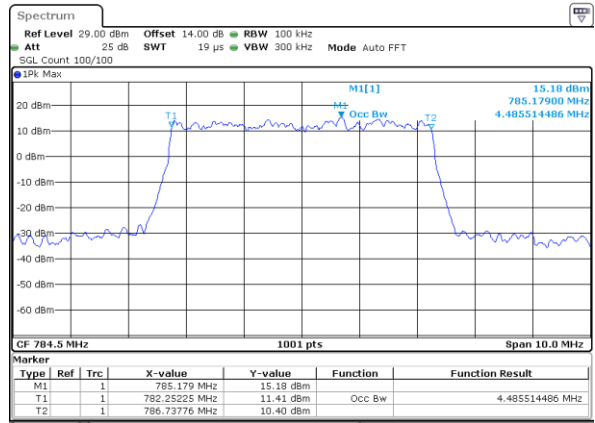
Date: 19\_DEC.2020 11:25:02

Highest Channel / 5MHz / QPSK



Date: 19\_DEC.2020 11:25:42

Highest Channel / 5MHz / 16QAM



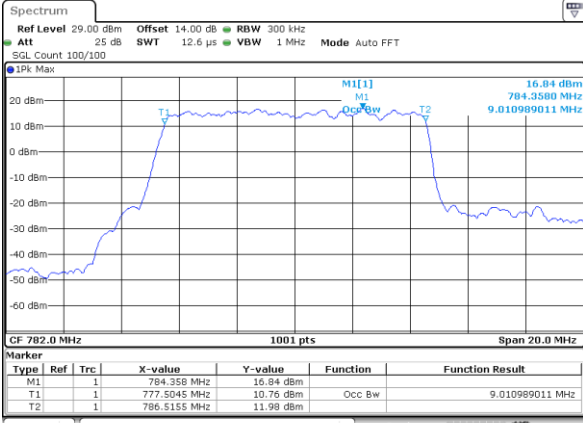
Date: 19\_DEC.2020 11:25:53





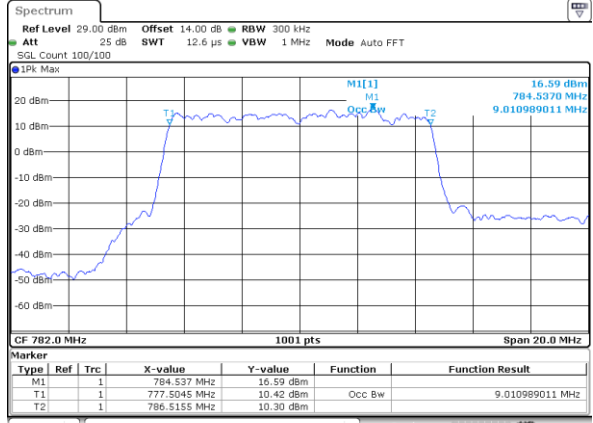
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 19, DEC, 2020 11:58:19

Middle Channel / 10MHz / 16QAM

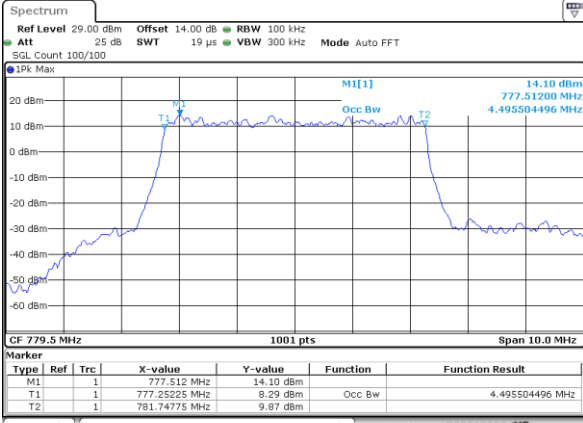


Date: 19, DEC, 2020 11:58:31



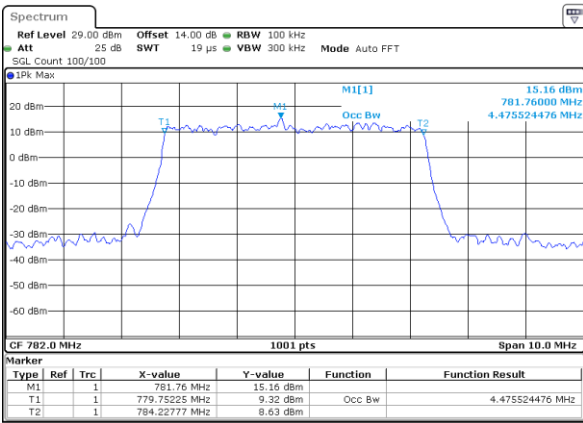
LTE Band 13

Lowest Channel / 5MHz / 64QAM



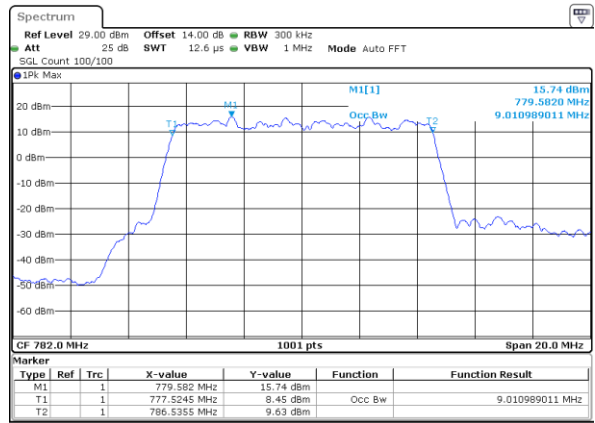
Date: 19, DEC, 2020 11:35:34

Middle Channel / 5MHz / 64QAM



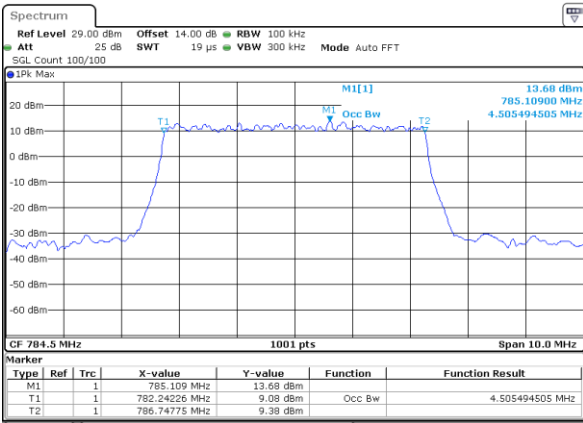
Date: 19, DEC, 2020 11:41:53

Middle Channel / 10MHz / 64QAM



Date: 19, DEC, 2020 12:11:31

Highest Channel / 5MHz / 64QAM



Date: 19, DEC, 2020 11:42:04



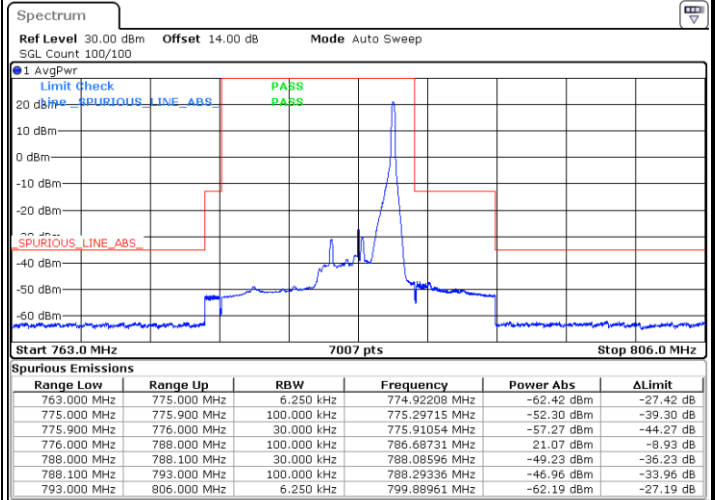
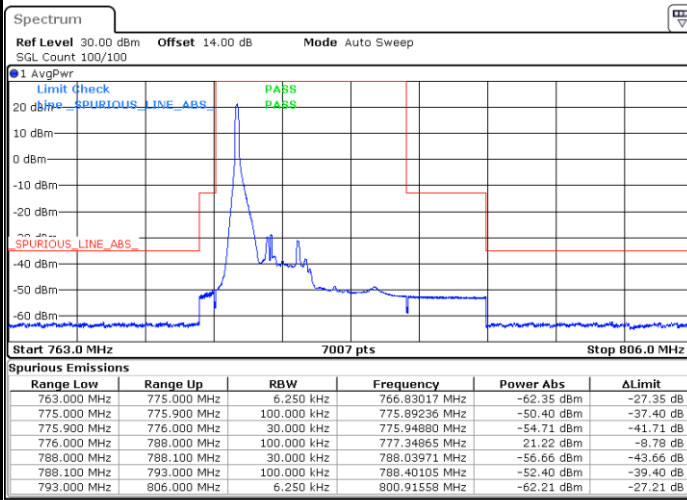
**Conducted Band Edge**



LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

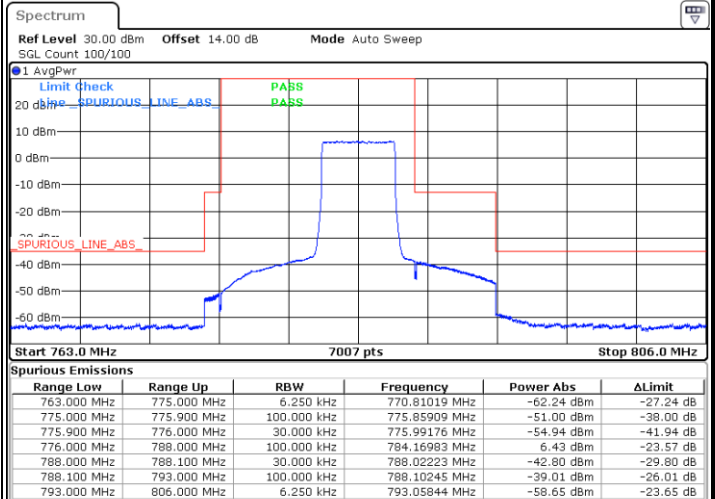
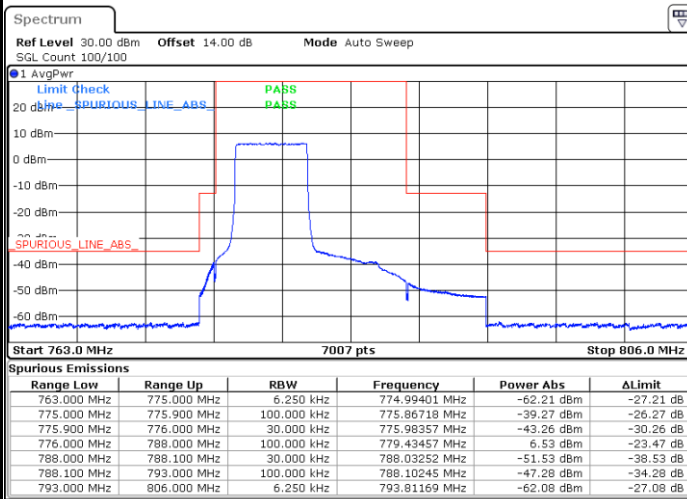


Date: 19.DEC.2020 11:20:00

Date: 19.DEC.2020 11:32:59

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 19.DEC.2020 11:14:57

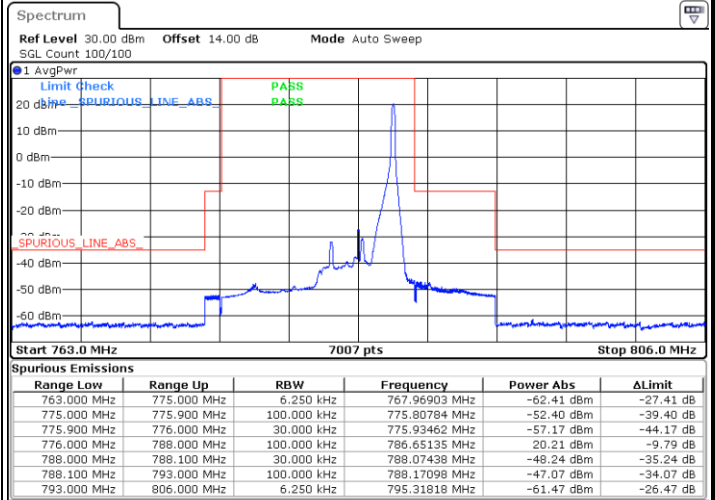
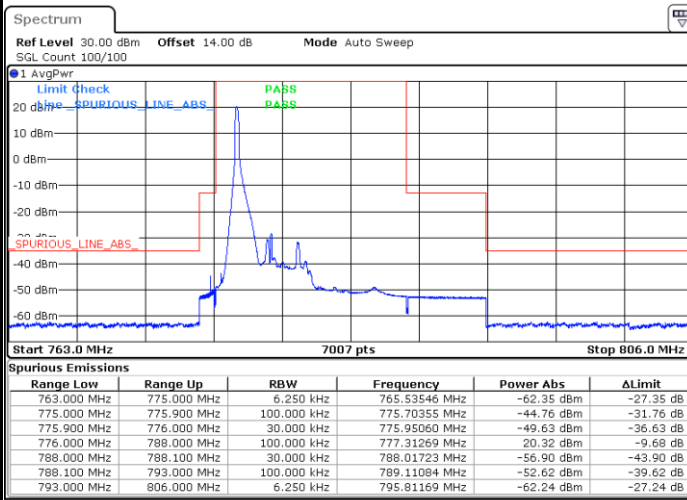
Date: 19.DEC.2020 11:27:56



LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

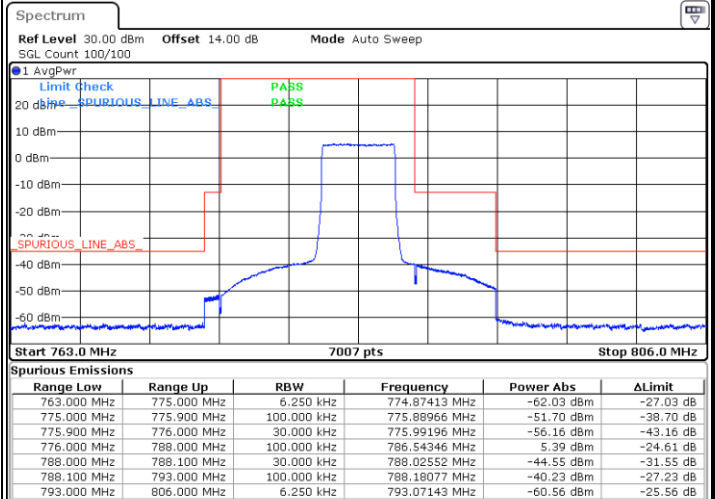
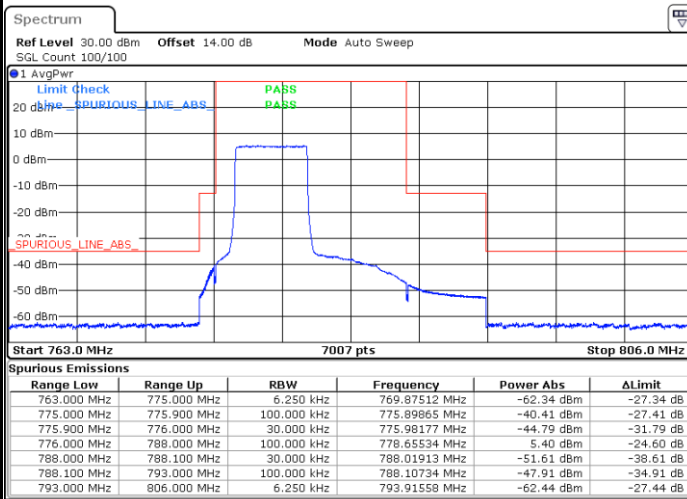


Date: 19.DEC.2020 11:18:19

Date: 19.DEC.2020 11:31:18

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 19.DEC.2020 11:16:37

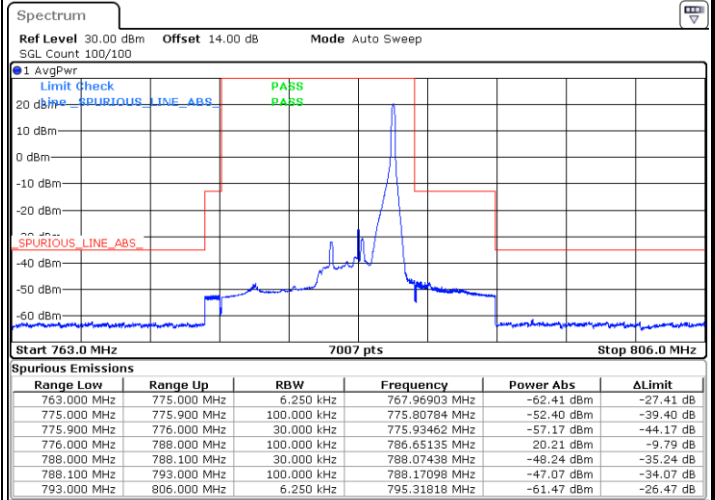
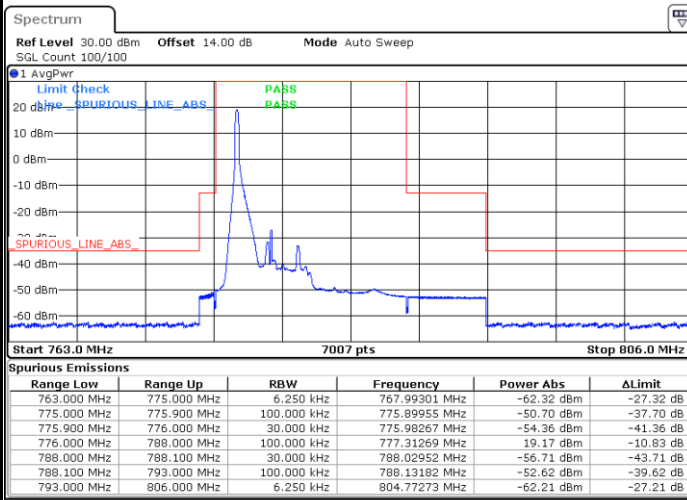
Date: 19.DEC.2020 11:29:37



LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

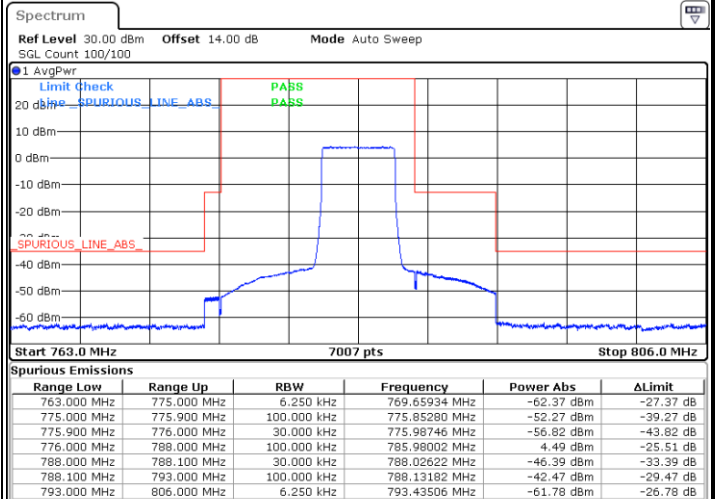
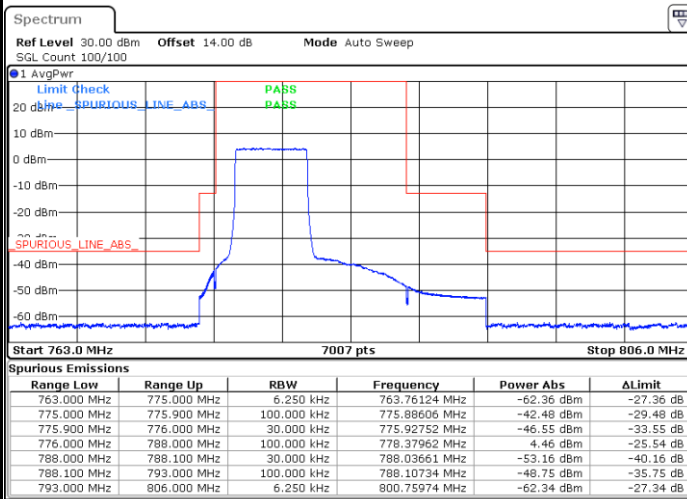


Date: 19.DEC.2020 11:39:07

Date: 19.DEC.2020 11:31:18

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



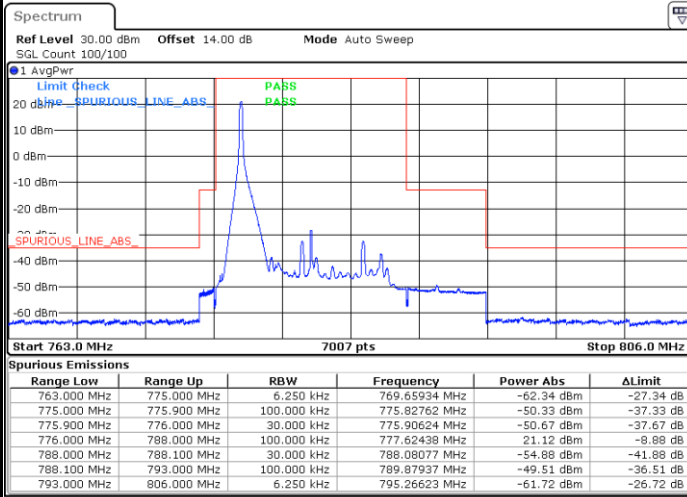
Date: 19.DEC.2020 11:37:26

Date: 19.DEC.2020 11:43:56



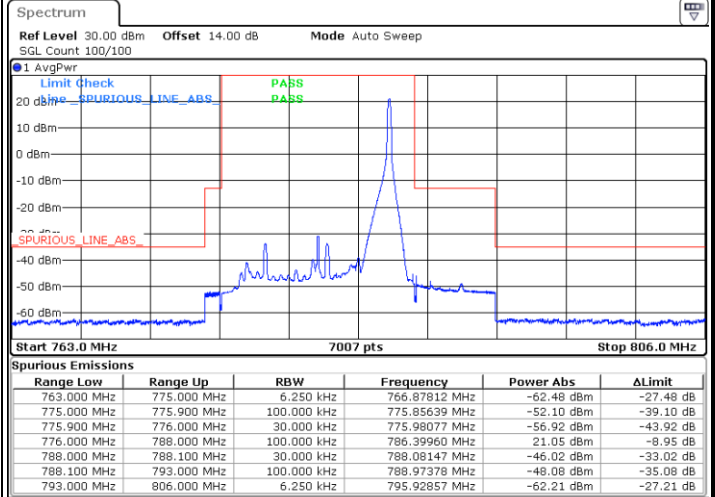
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



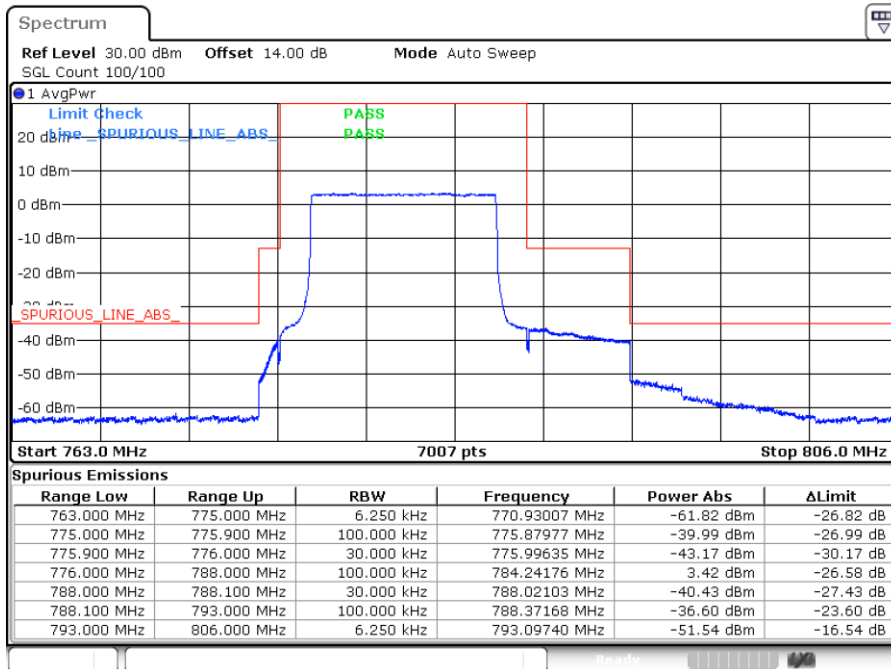
Date: 19.DEC.2020 12:05:34

Highest Band Edge / 1 RB



Date: 19.DEC.2020 12:07:15

Band Edge / Full RB



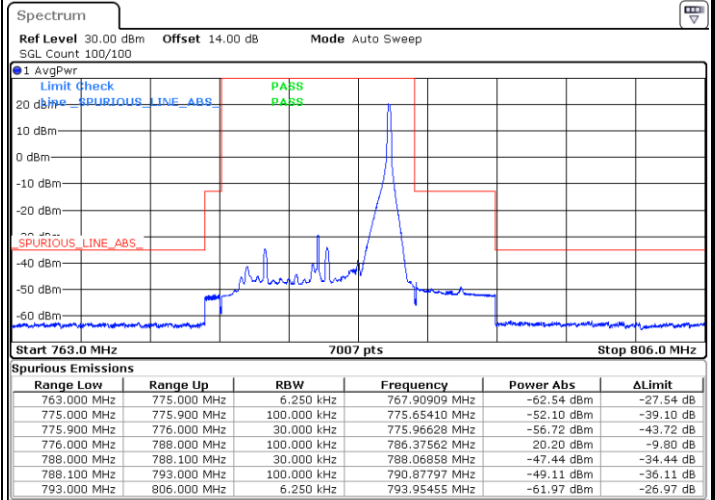
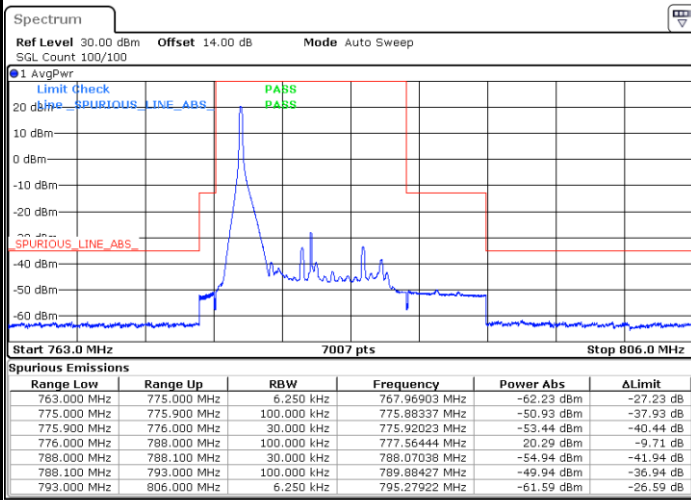
Date: 19.DEC.2020 12:00:33



LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

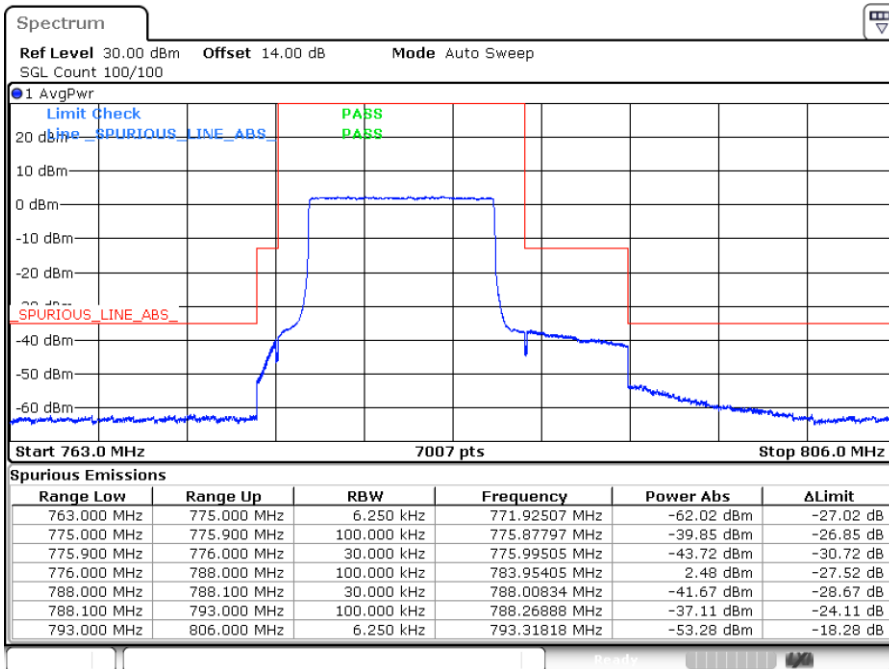
Highest Band Edge / 1 RB



Date: 19.DEC.2020 12:03:54

Date: 19.DEC.2020 12:08:56

Band Edge / Full RB



Date: 19.DEC.2020 12:02:13