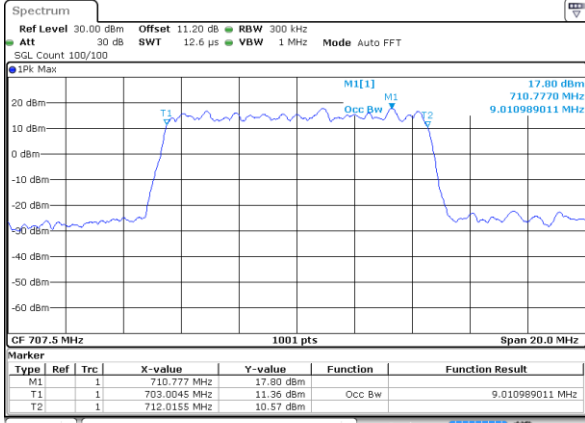




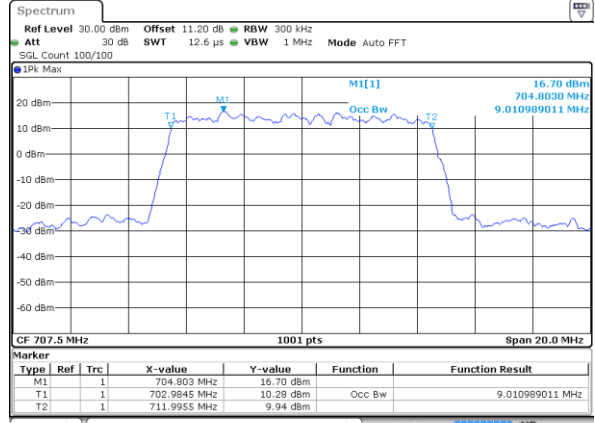
LTE Band 12

Middle Channel / 10MHz / QPSK



Date: 22 DEC 2020 10:52:04

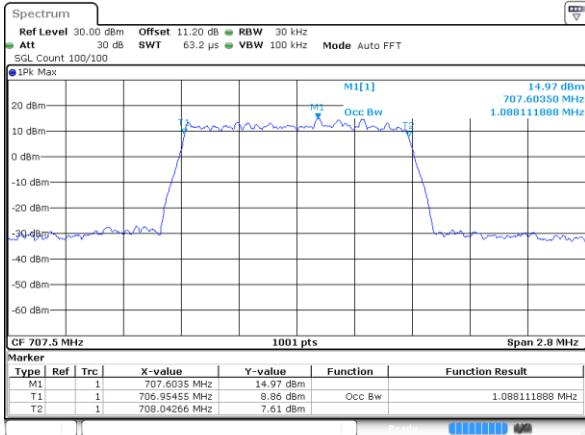
Middle Channel / 10MHz / 16QAM



Date: 22 DEC 2020 10:51:51

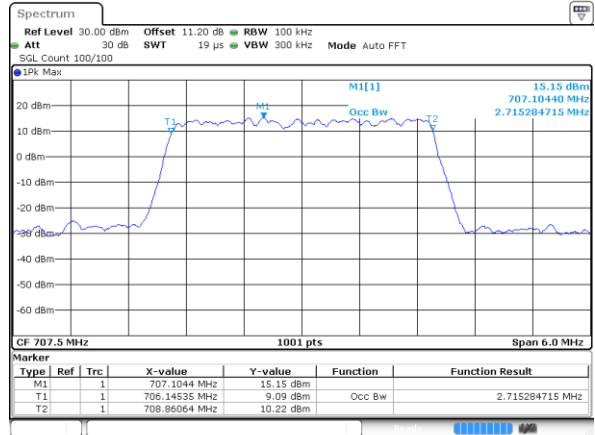
LTE Band 12

Middle Channel / 1.4MHz / 64QAM



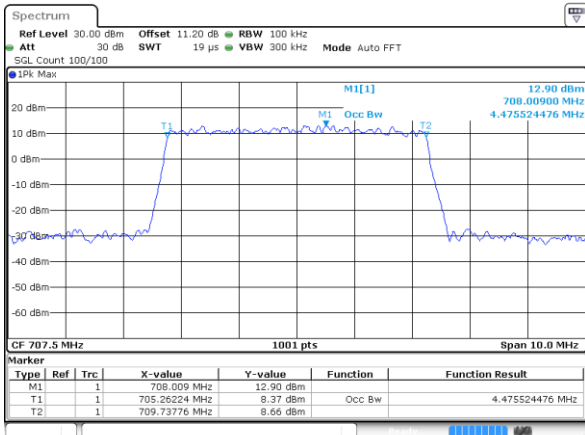
Date: 22 DEC 2020 10:22:46

Middle Channel / 3MHz / 64QAM



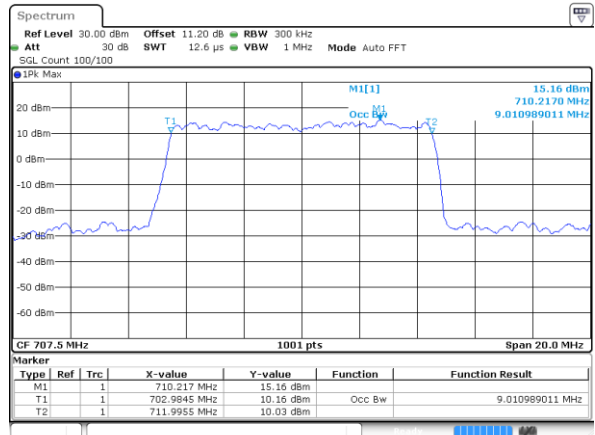
Date: 22 DEC 2020 10:34:38

Middle Channel / 5MHz / 64QAM



Date: 22 DEC 2020 10:37:53

Middle Channel / 10MHz / 64QAM

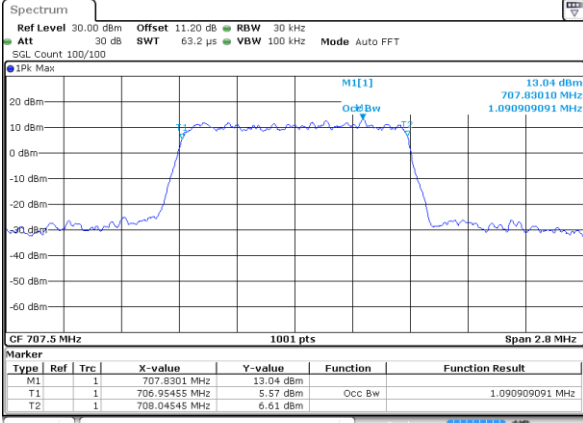


Date: 22 DEC 2020 10:58:20

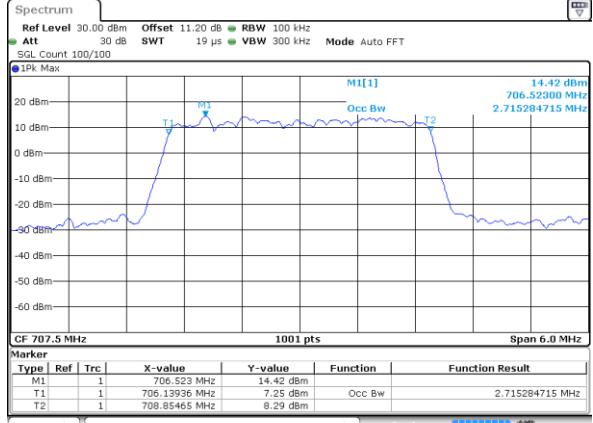


LTE Band 12

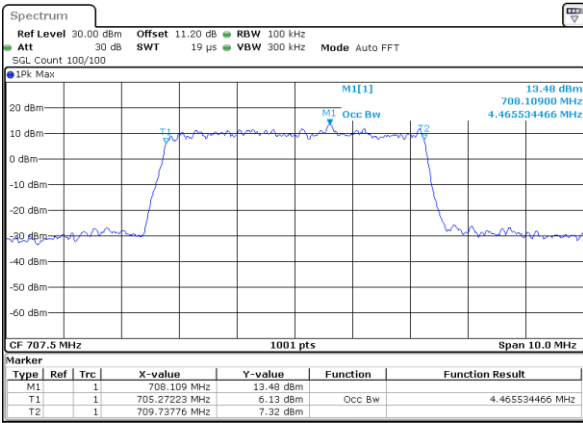
Middle Channel / 1.4MHz / 256QAM



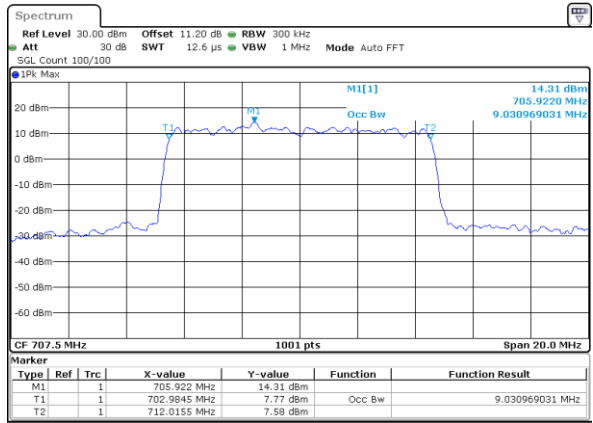
Middle Channel / 3MHz / 256QAM



Middle Channel / 5MHz / 256QAM

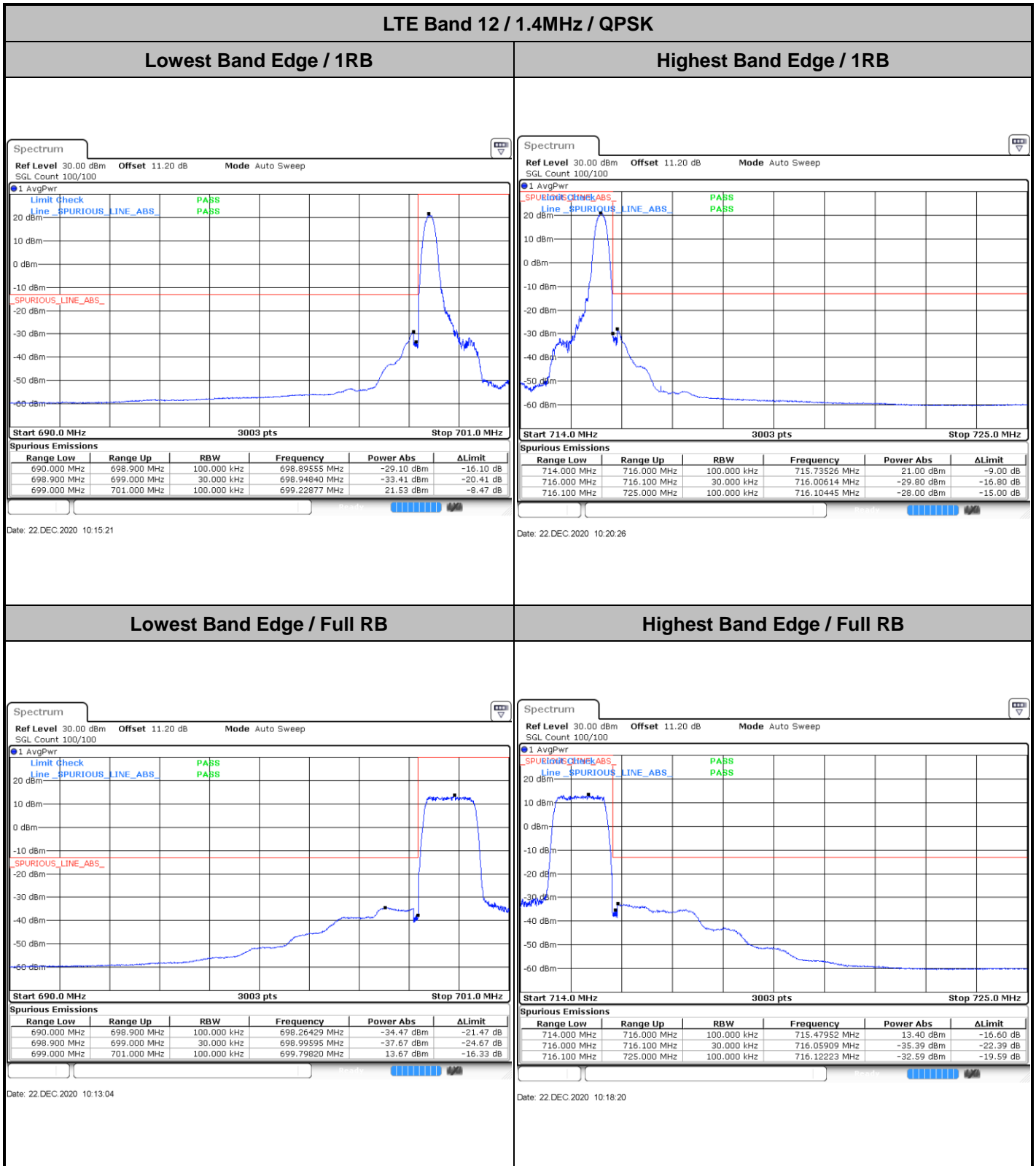


Middle Channel / 10MHz / 256QAM





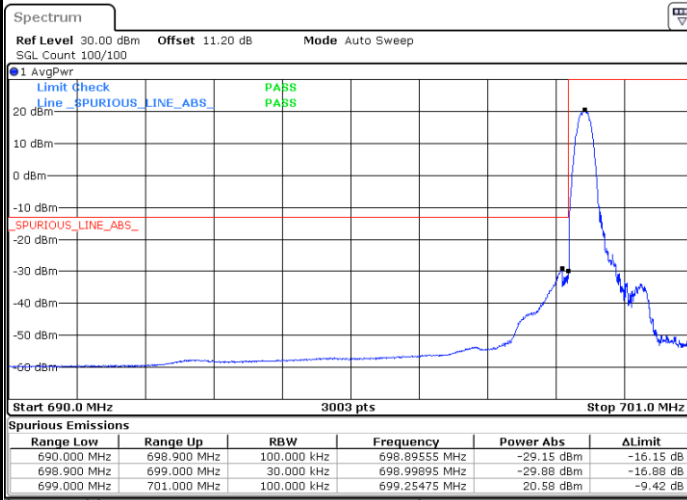
# Conducted Band Edge





LTE Band 12 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB



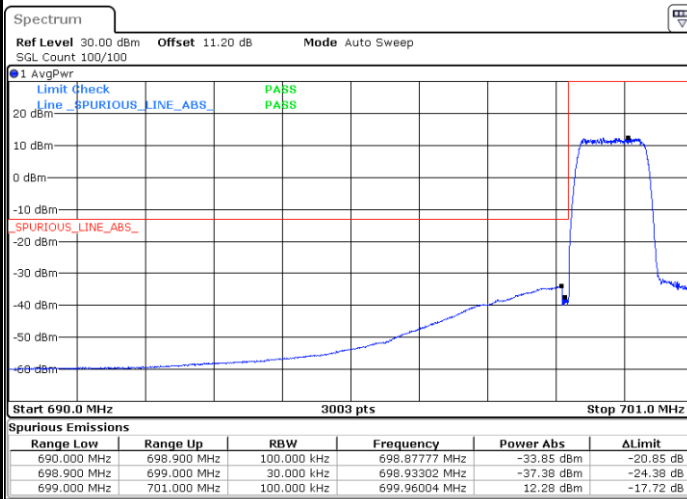
Date: 22 DEC 2020 10:14:38

Highest Band Edge / 1 RB



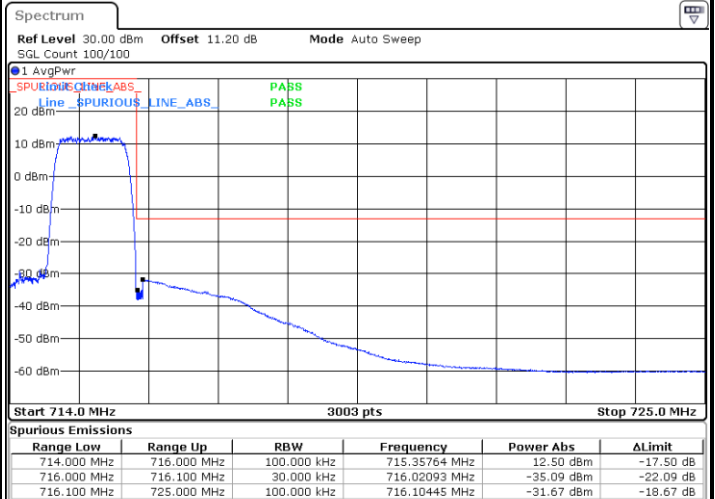
Date: 22 DEC 2020 10:19:44

Lowest Band Edge / Full RB



Date: 22 DEC 2020 10:13:47

Highest Band Edge / Full RB

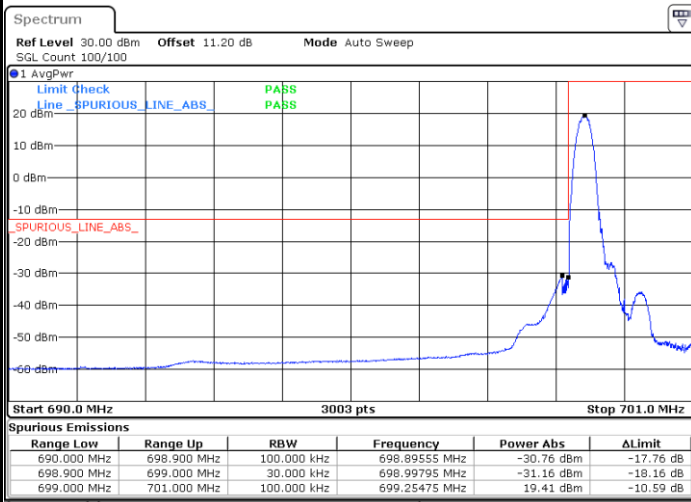


Date: 22 DEC 2020 10:19:02



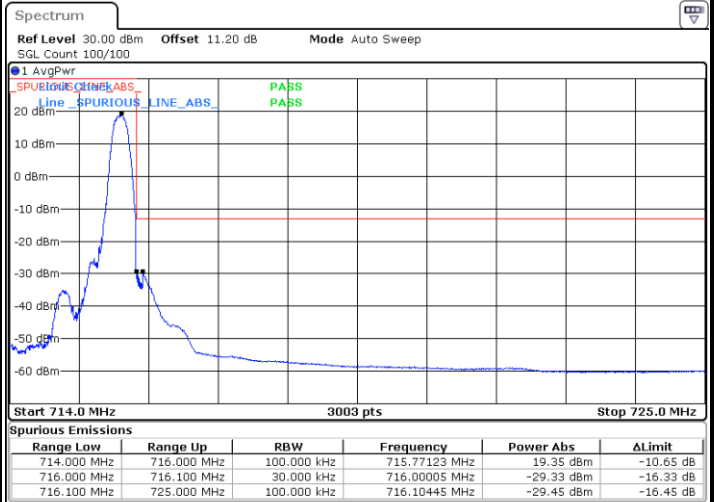
LTE Band 12 / 1.4MHz / 64QAM

Lowest Band Edge / 1 RB



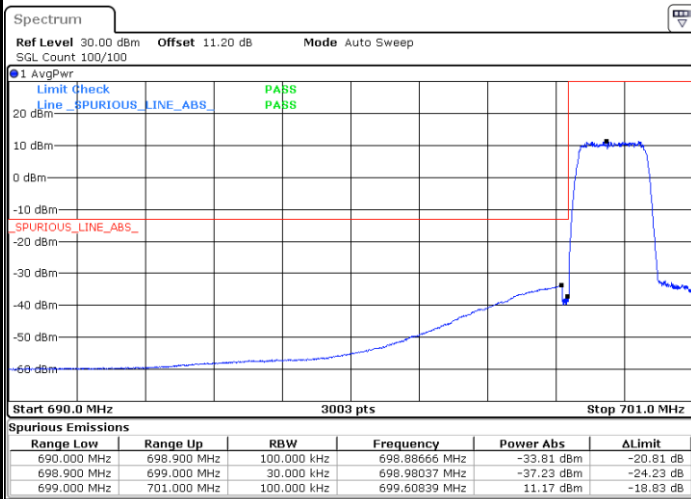
Date: 22 DEC 2020 10:22:33

Highest Band Edge / 1 RB



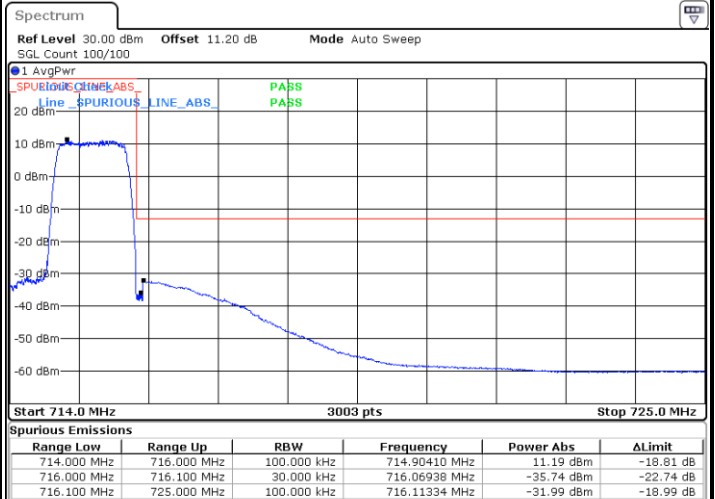
Date: 22 DEC 2020 10:24:23

Lowest Band Edge / Full RB



Date: 22 DEC 2020 10:21:51

Highest Band Edge / Full RB

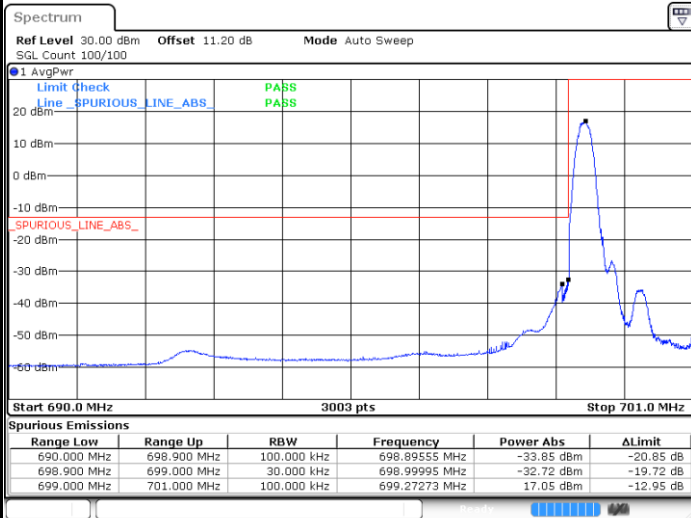


Date: 22 DEC 2020 10:23:41



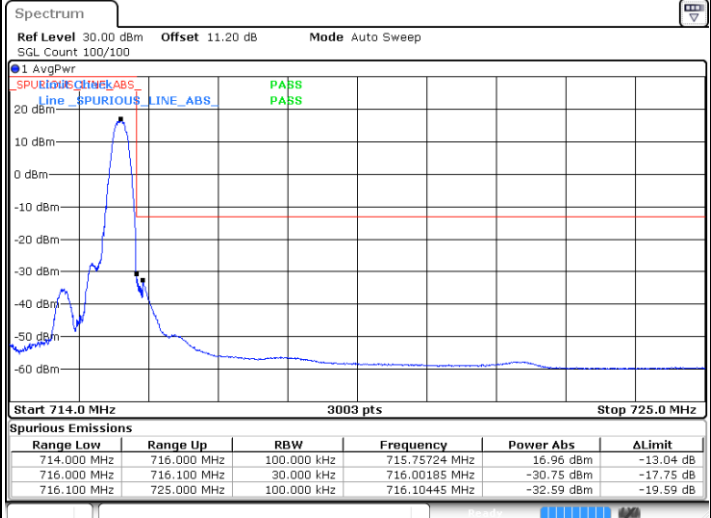
LTE Band 12 / 1.4MHz / 256QAM

Lowest Band Edge / 1 RB



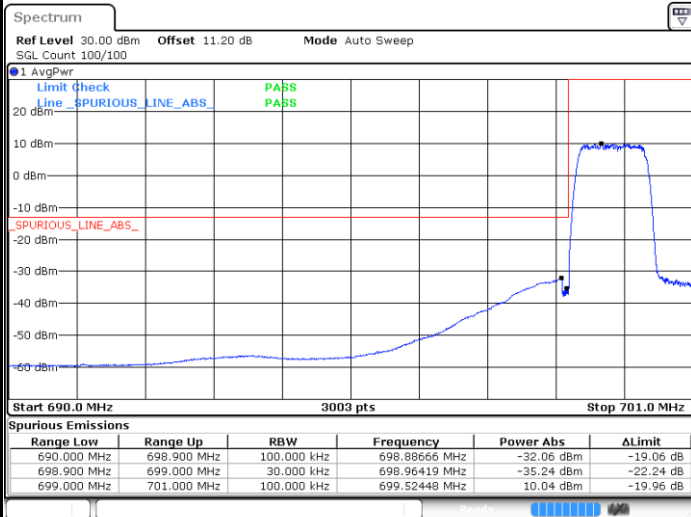
Date: 24 DEC 2020 15:39:45

Highest Band Edge / 1 RB



Date: 24 DEC 2020 15:43:13

Lowest Band Edge / Full RB



Date: 24 DEC 2020 16:03:14

Highest Band Edge / Full RB

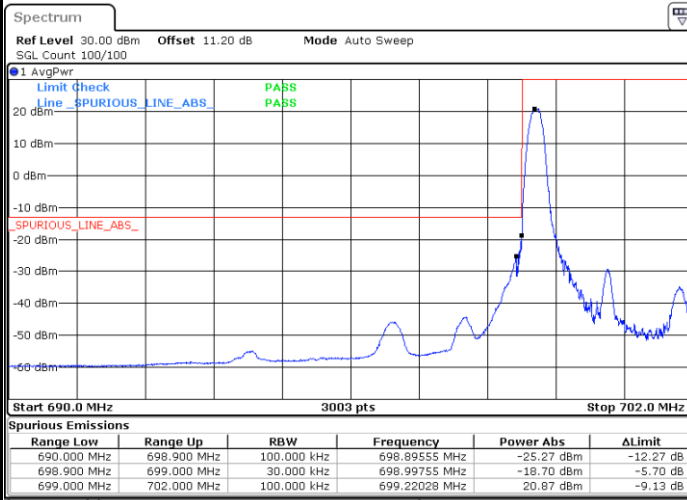


Date: 24 DEC 2020 15:42:20



LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / 1RB



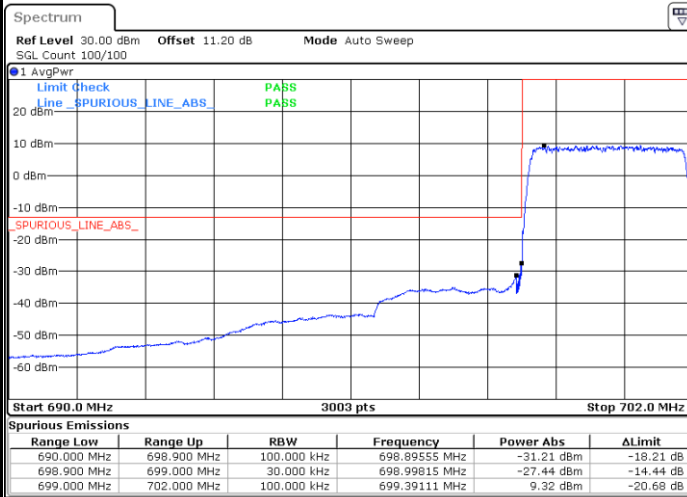
Date: 22 DEC 2020 10:27:12

Highest Band Edge / 1 RB



Date: 22 DEC 2020 10:32:18

Lowest Band Edge / Full RB



Date: 22 DEC 2020 10:25:06

Highest Band Edge / Full RB

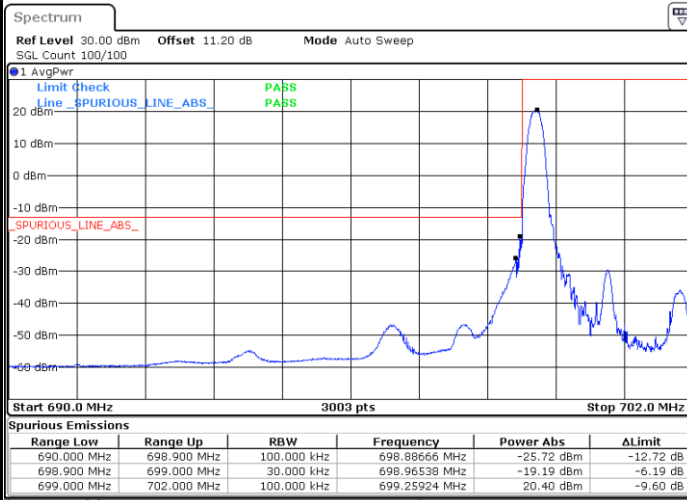


Date: 22 DEC 2020 10:30:11



LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



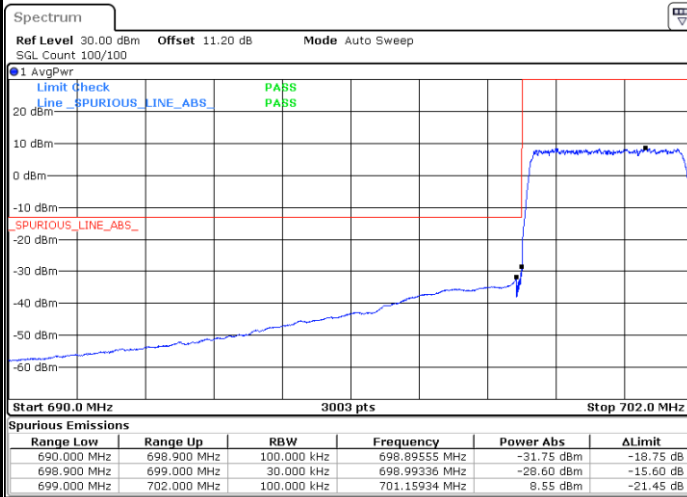
Date: 22 DEC 2020 10:26:30

Highest Band Edge / 1 RB



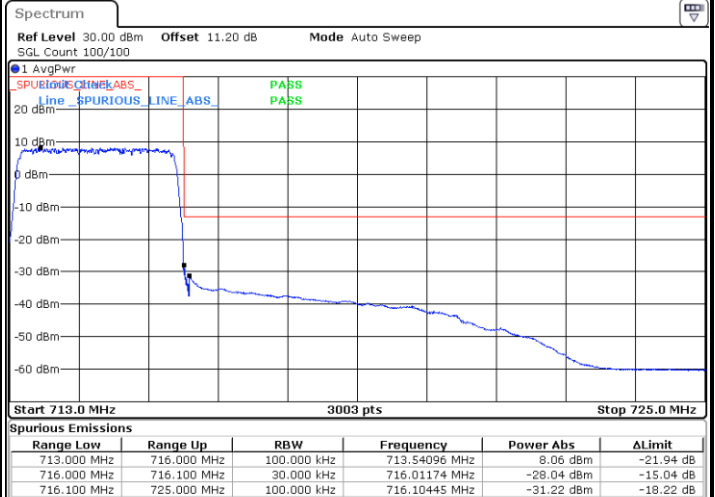
Date: 22 DEC 2020 10:31:36

Lowest Band Edge / Full RB



Date: 22 DEC 2020 10:25:48

Highest Band Edge / Full RB



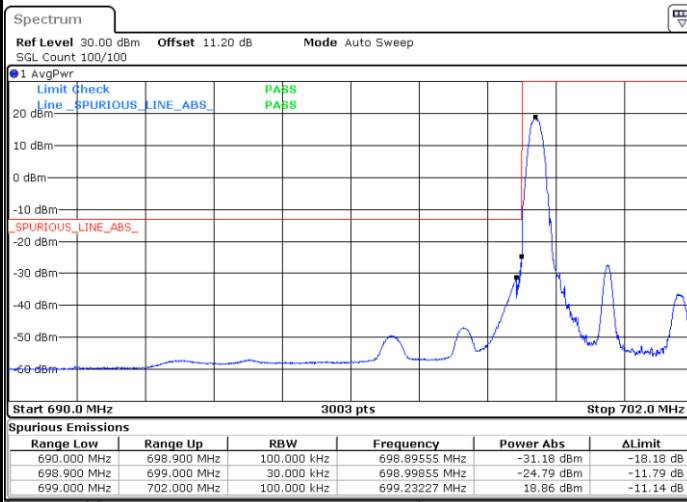
Date: 22 DEC 2020 10:30:53





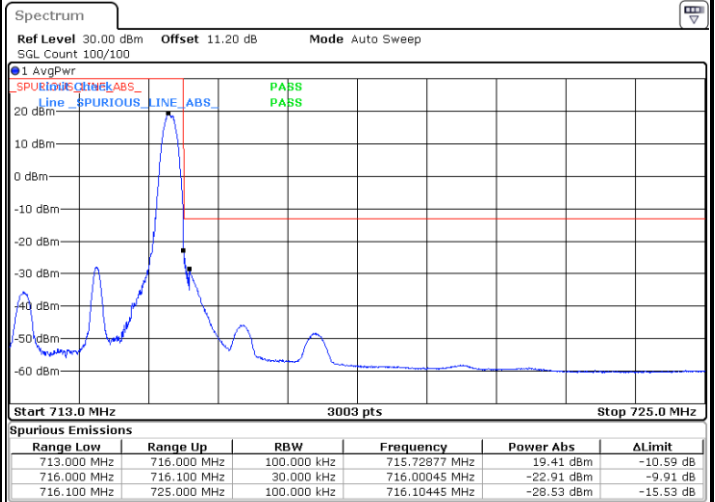
LTE Band 12 / 3MHz / 64QAM

Lowest Band Edge / 1 RB



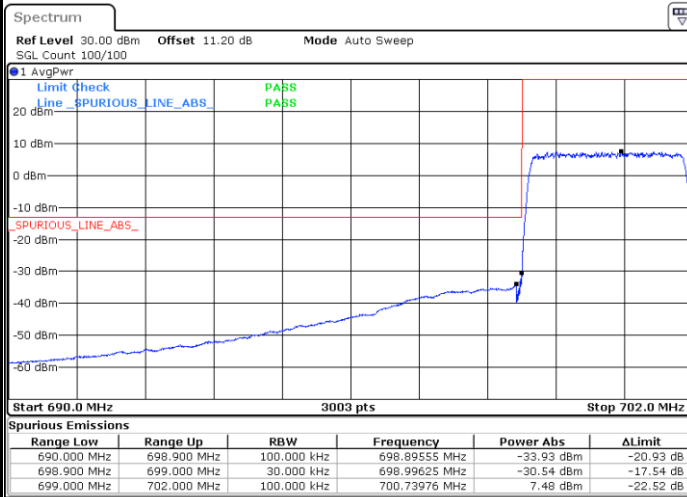
Date: 22 DEC 2020 10:34:25

Highest Band Edge / 1 RB



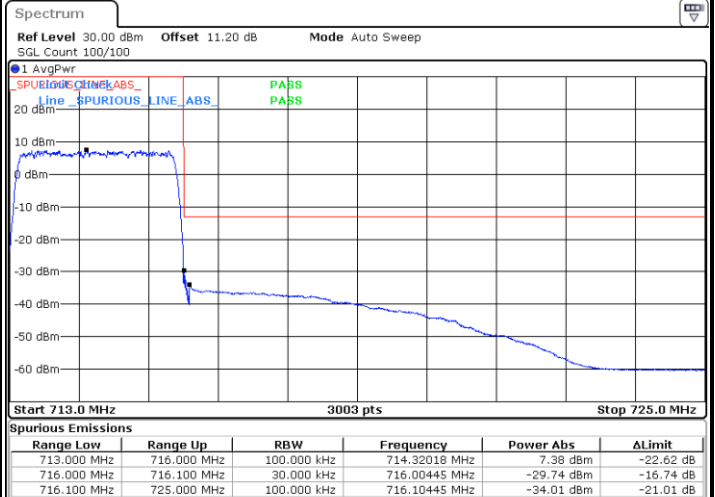
Date: 22 DEC 2020 10:36:15

Lowest Band Edge / Full RB



Date: 22 DEC 2020 10:33:42

Highest Band Edge / Full RB

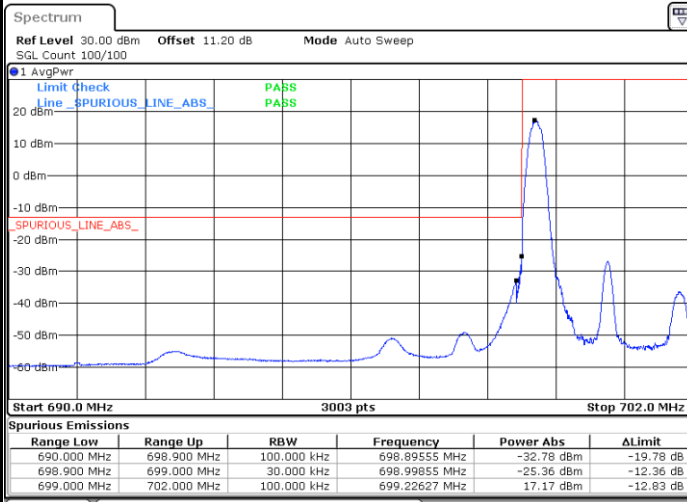


Date: 22 DEC 2020 10:35:33



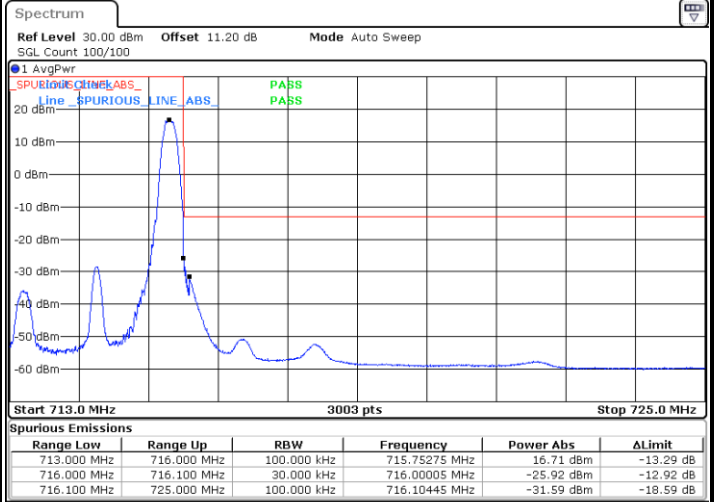
LTE Band 12 / 3MHz / 256QAM

Lowest Band Edge / 1 RB



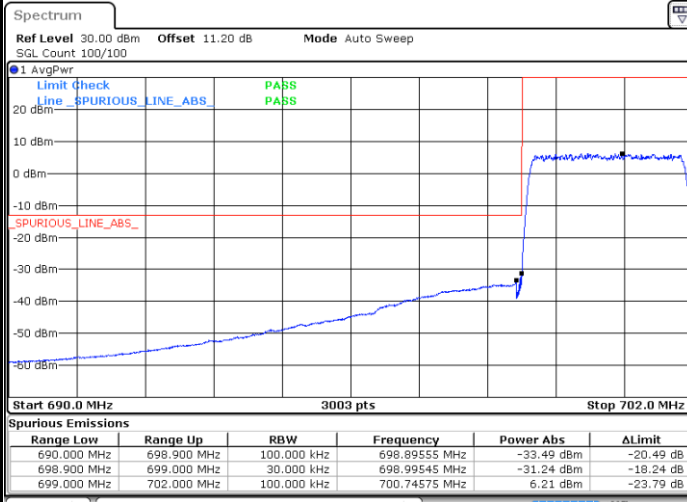
Date: 24 DEC 2020 15:45:06

Highest Band Edge / 1 RB



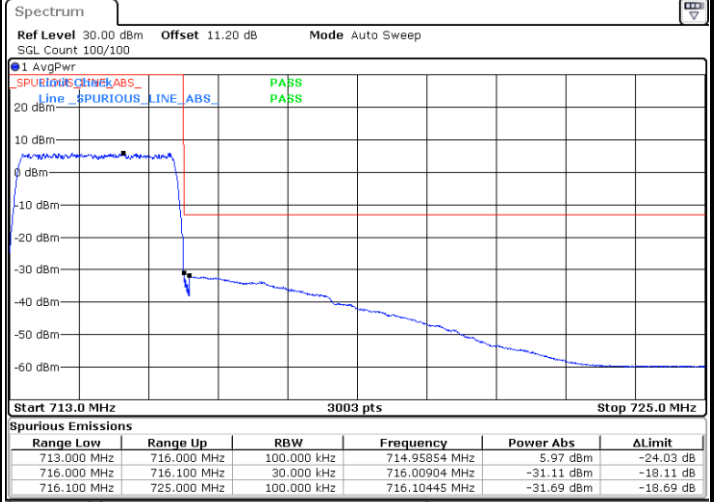
Date: 24 DEC 2020 15:47:46

Lowest Band Edge / Full RB



Date: 24 DEC 2020 16:08:09

Highest Band Edge / Full RB

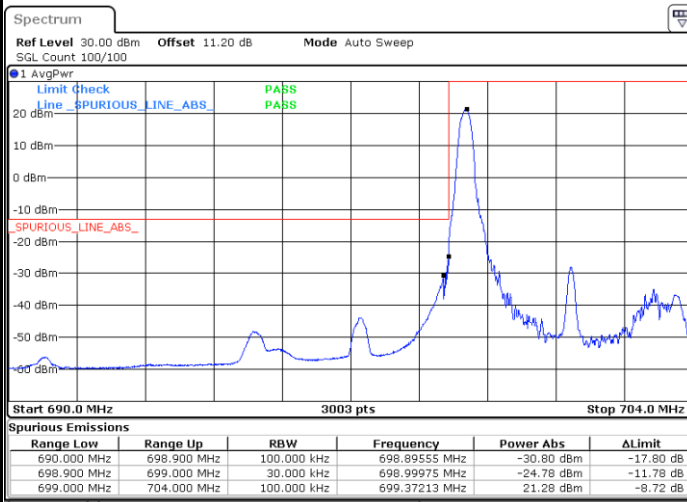


Date: 24 DEC 2020 16:09:42



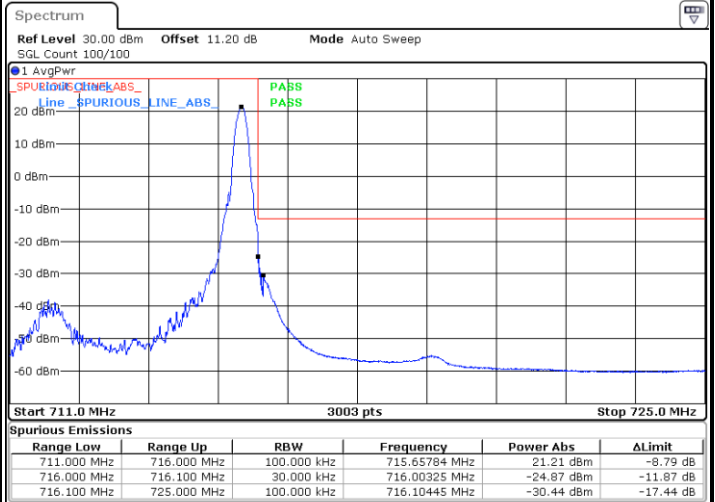
LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / 1 RB



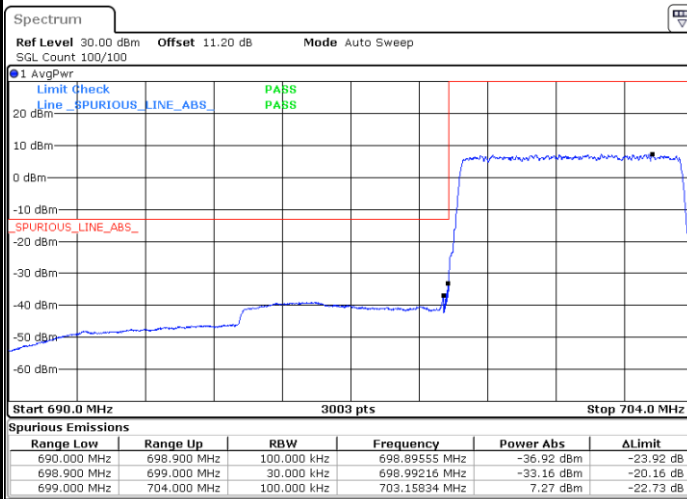
Date: 22 DEC 2020 10:42:19

Highest Band Edge / 1 RB



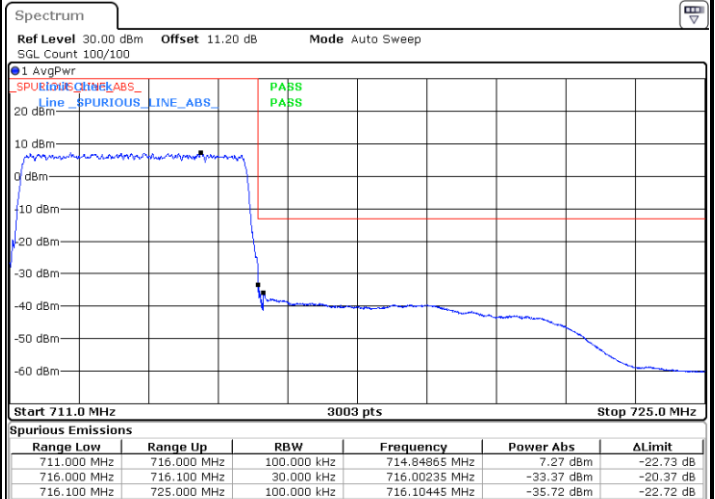
Date: 22 DEC 2020 10:46:42

Lowest Band Edge / Full RB



Date: 22 DEC 2020 10:40:12

Highest Band Edge / Full RB

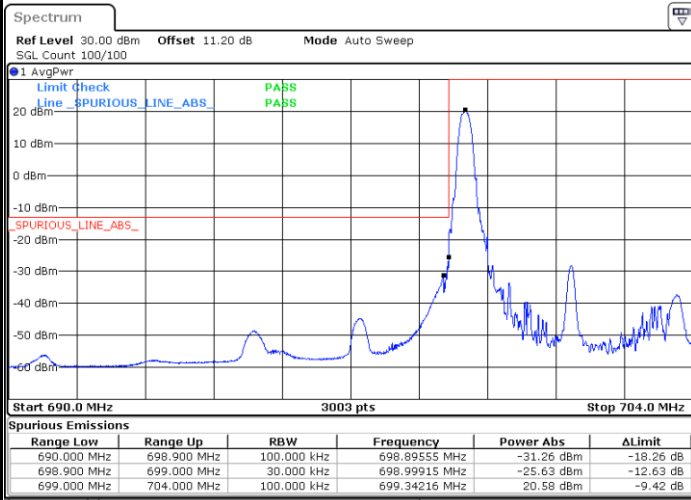


Date: 22 DEC 2020 10:45:18



LTE Band 12 / 5MHz / 16QAM

Lowest Band Edge / 1RB



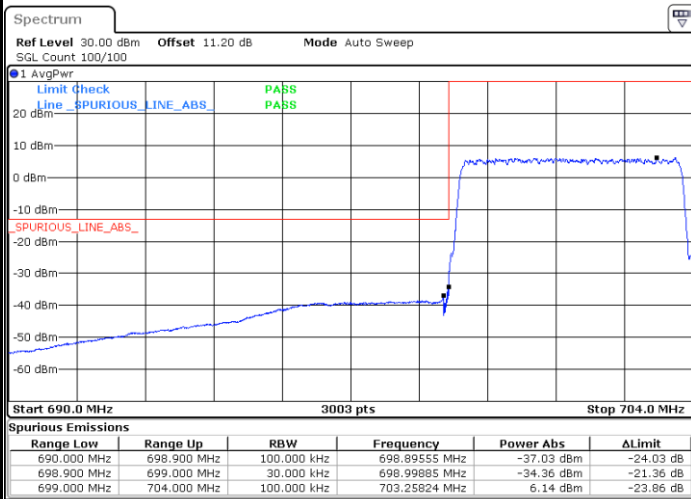
Date: 22 DEC 2020 10:41:37

Highest Band Edge / 1 RB



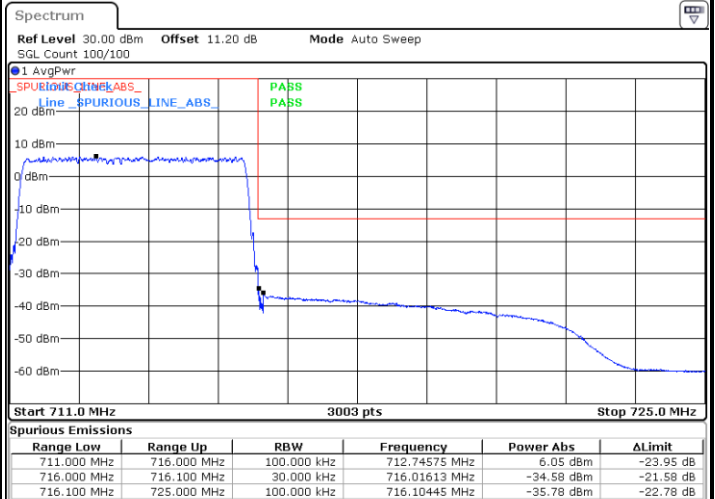
Date: 22 DEC 2020 10:47:24

Lowest Band Edge / Full RB



Date: 22 DEC 2020 10:40:55

Highest Band Edge / Full RB

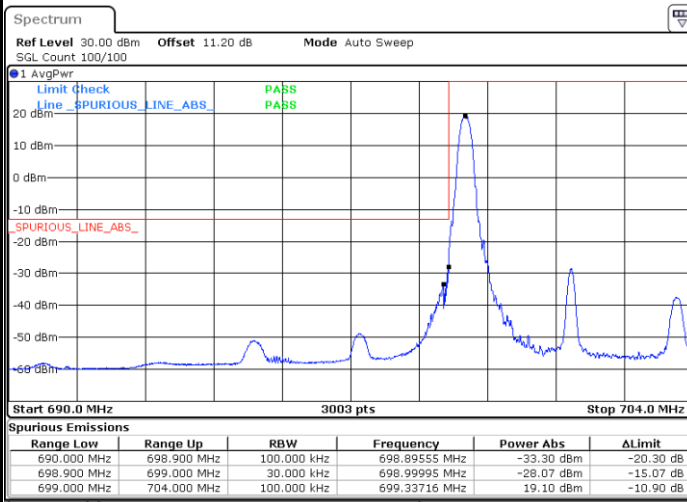


Date: 22 DEC 2020 10:46:00



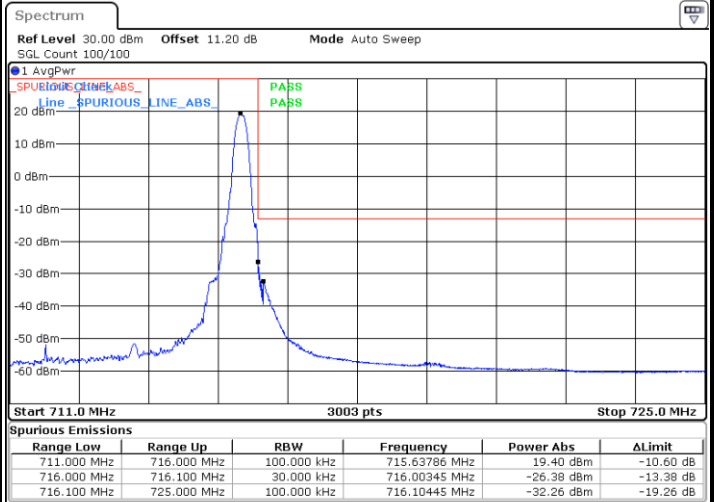
LTE Band 12 / 5MHz / 64QAM

Lowest Band Edge / 1RB



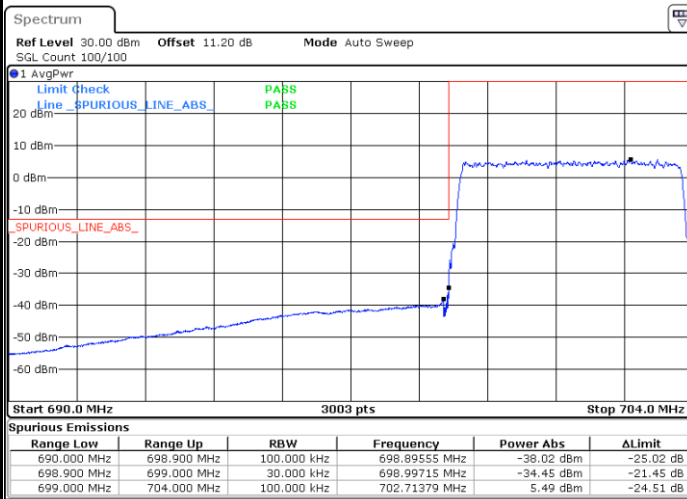
Date: 22 DEC 2020 10:37:40

Highest Band Edge / 1 RB



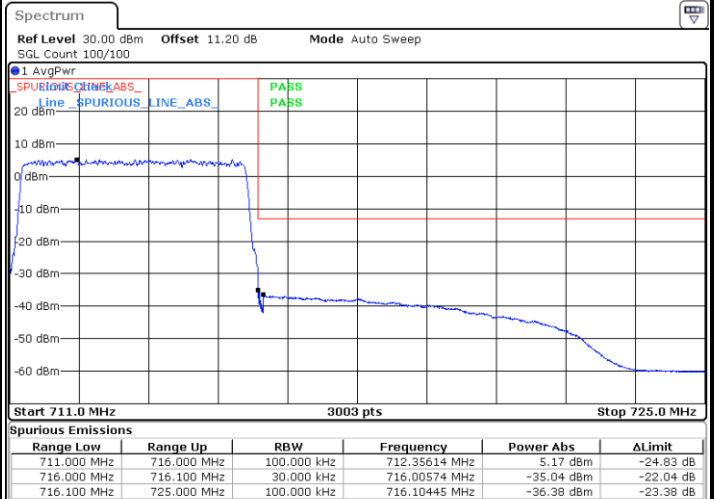
Date: 22 DEC 2020 10:39:30

Lowest Band Edge / Full RB



Date: 22 DEC 2020 10:36:57

Highest Band Edge / Full RB

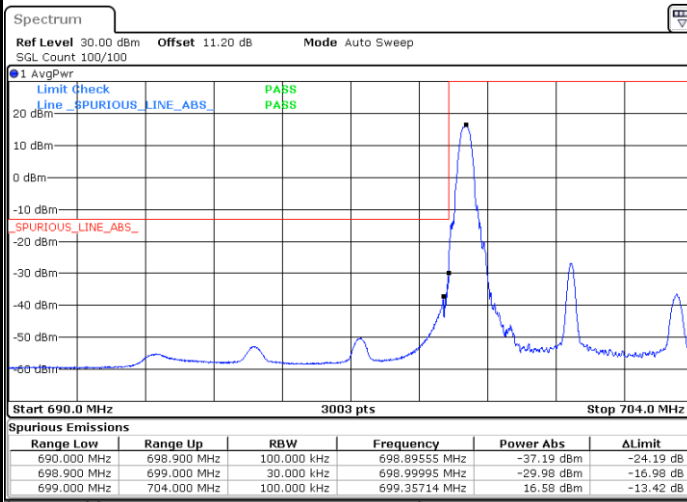


Date: 22 DEC 2020 10:38:48



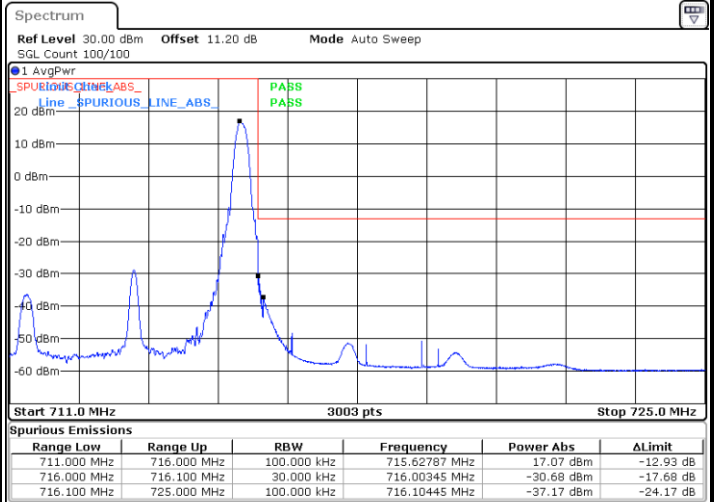
LTE Band 12 / 5MHz / 256QAM

Lowest Band Edge / 1RB



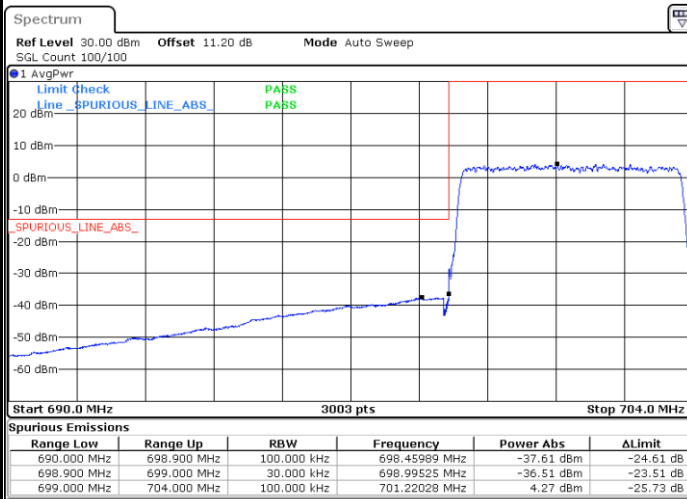
Date: 24 DEC 2020 15:49:32

Highest Band Edge / 1 RB



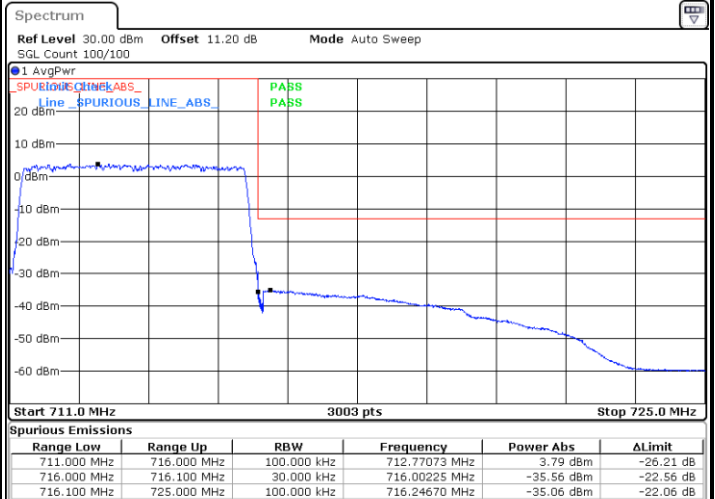
Date: 24 DEC 2020 15:52:11

Lowest Band Edge / Full RB



Date: 24 DEC 2020 15:48:39

Highest Band Edge / Full RB

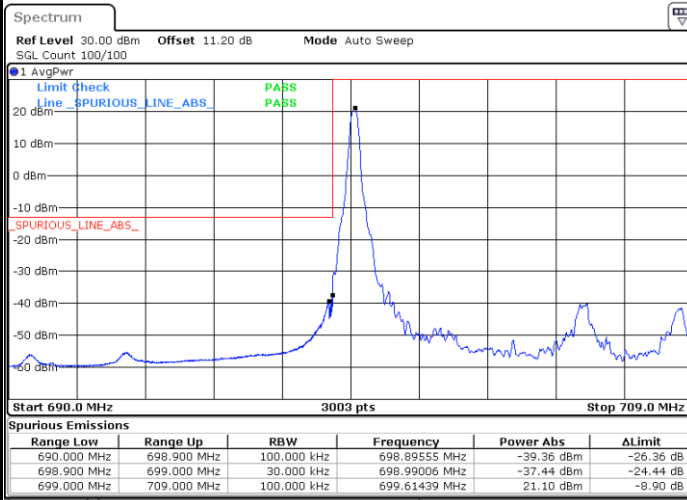


Date: 24 DEC 2020 16:11:54



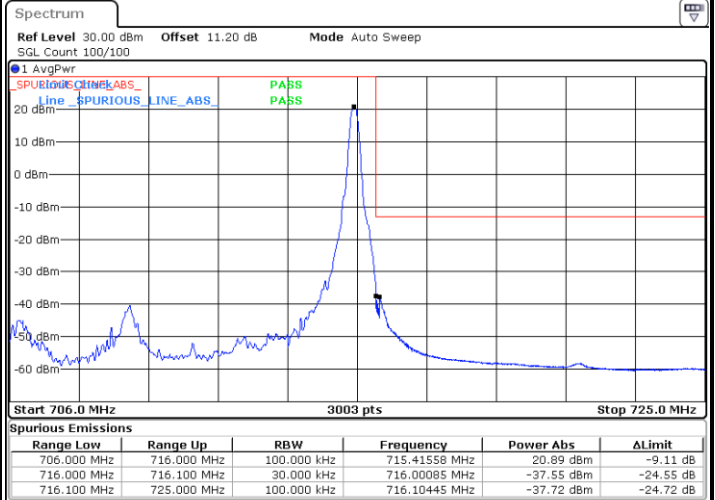
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1 RB



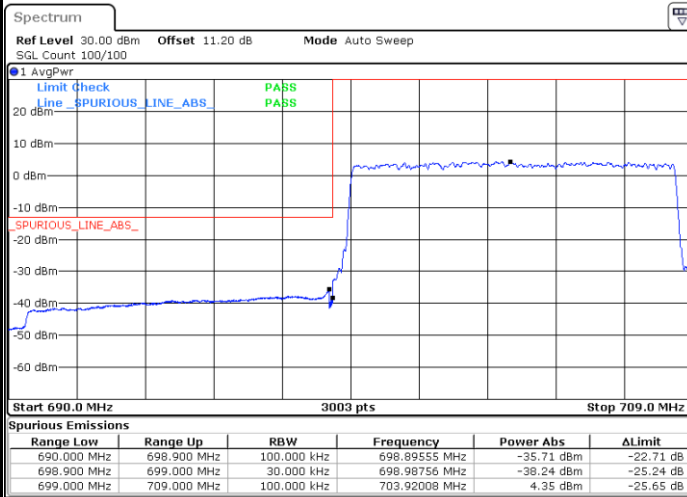
Date: 22 DEC 2020 10:50:55

Highest Band Edge / 1 RB



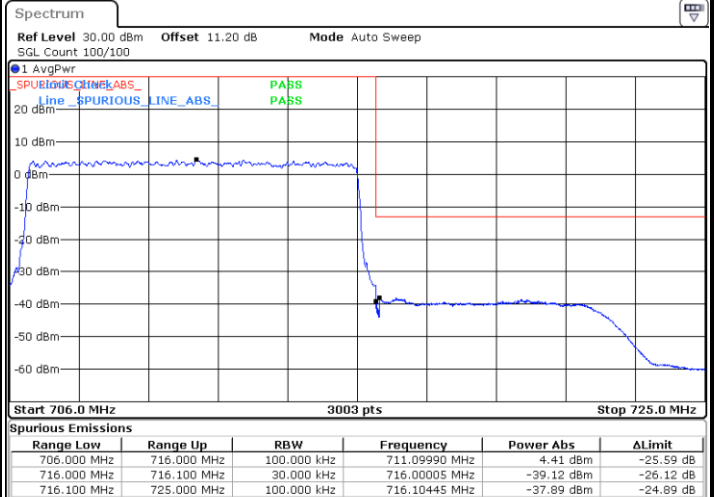
Date: 22 DEC 2020 10:56:00

Lowest Band Edge / Full RB



Date: 22 DEC 2020 10:48:49

Highest Band Edge / Full RB

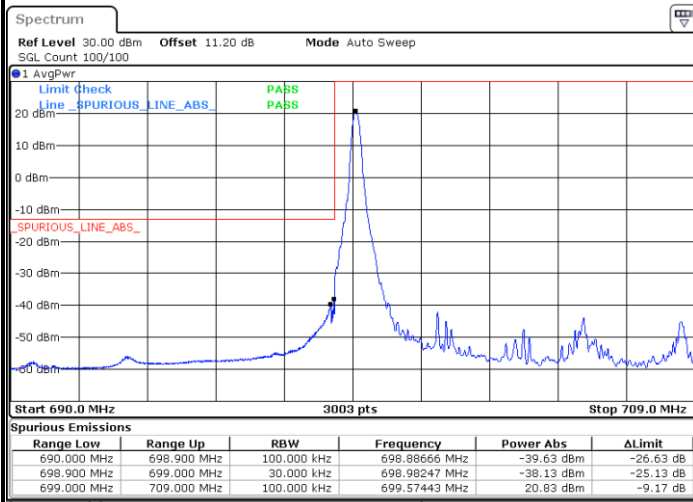


Date: 22 DEC 2020 10:53:54



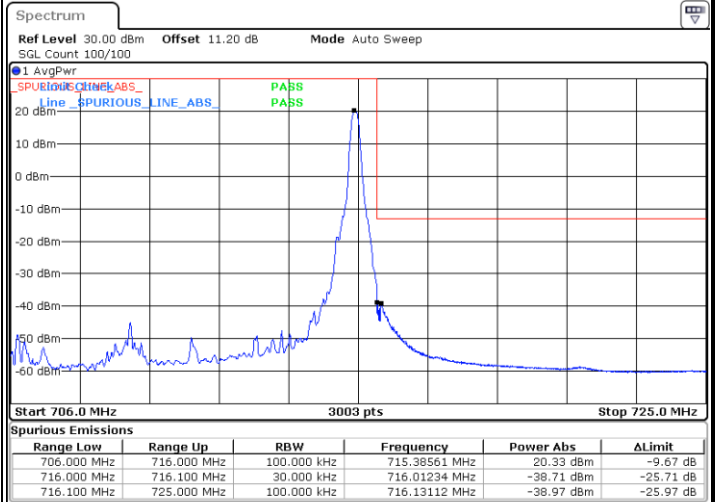
LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



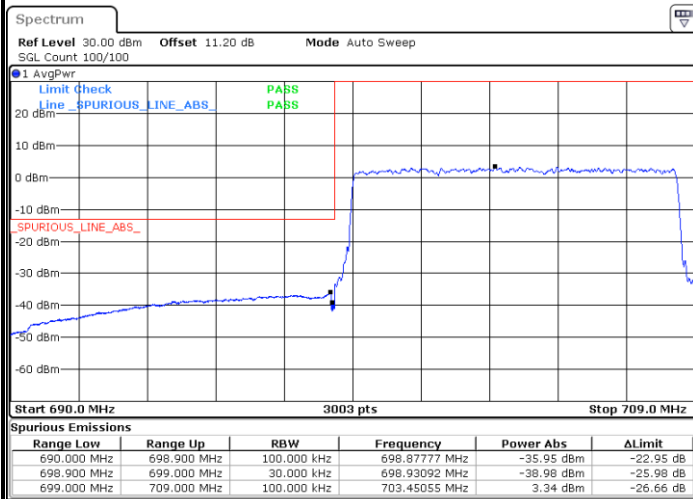
Date: 22 DEC 2020 10:50:13

Highest Band Edge / 1 RB



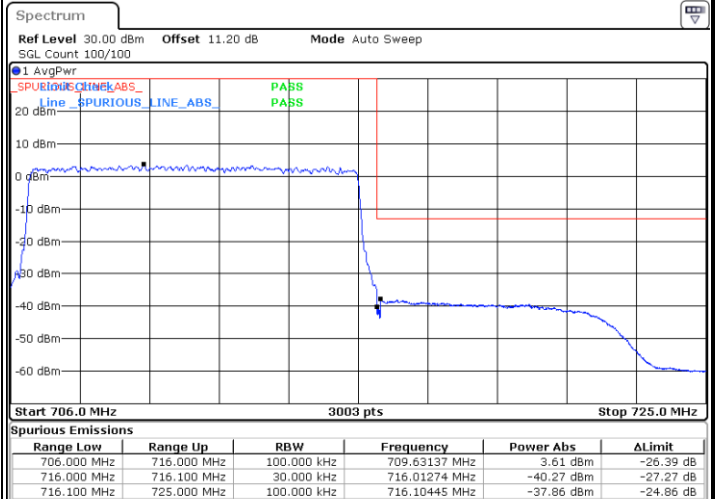
Date: 22 DEC 2020 10:55:18

Lowest Band Edge / Full RB



Date: 22 DEC 2020 10:49:31

Highest Band Edge / Full RB



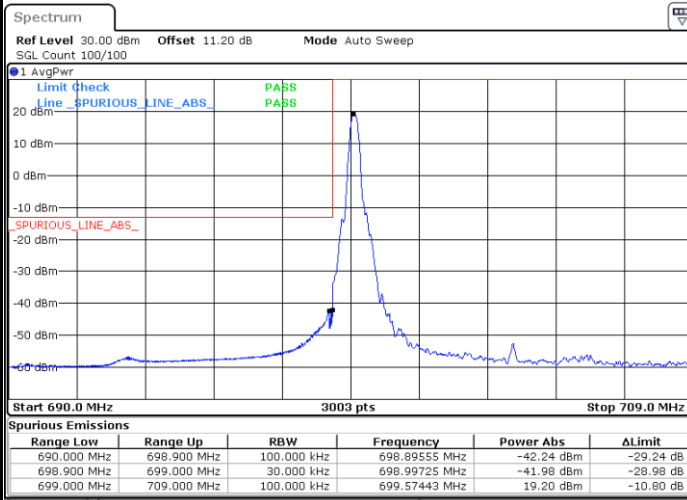
Date: 22 DEC 2020 10:54:36





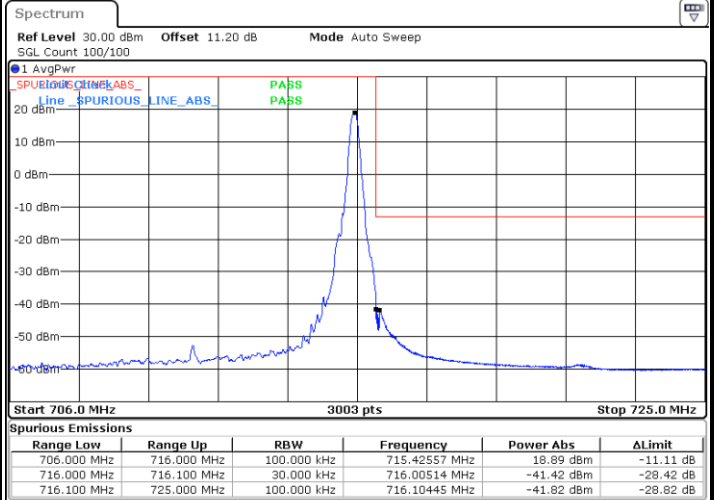
LTE Band 12 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



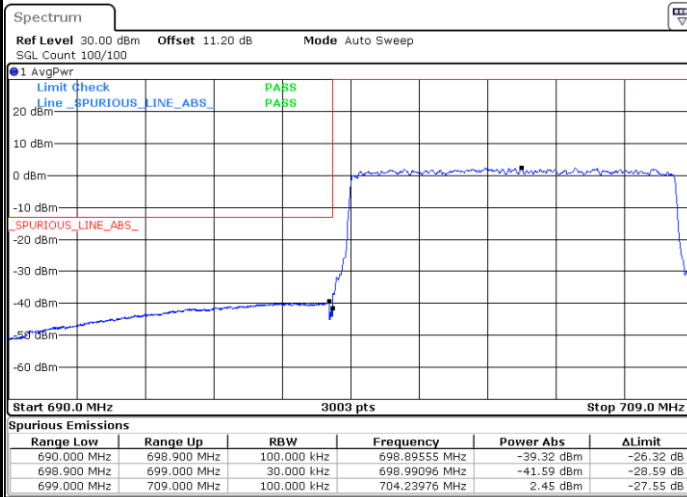
Date: 22 DEC 2020 10:58:07

Highest Band Edge / 1 RB



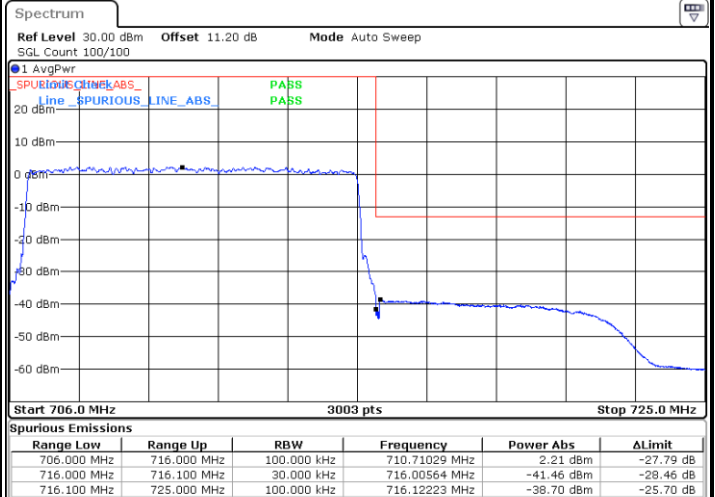
Date: 22 DEC 2020 10:59:58

Lowest Band Edge / Full RB



Date: 22 DEC 2020 10:57:25

Highest Band Edge / Full RB

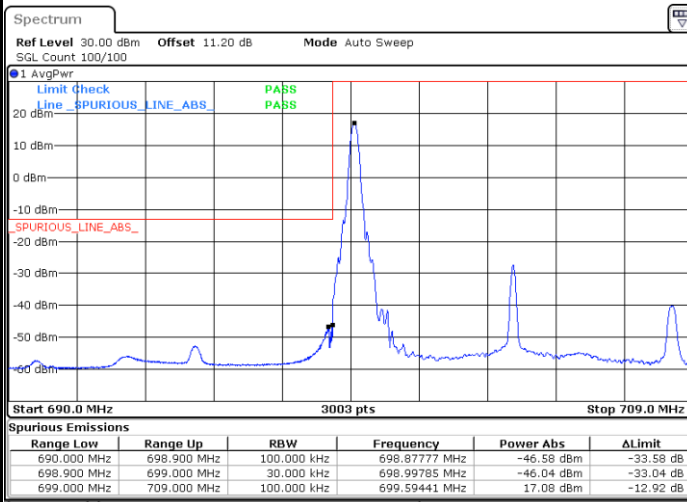


Date: 22 DEC 2020 10:58:15



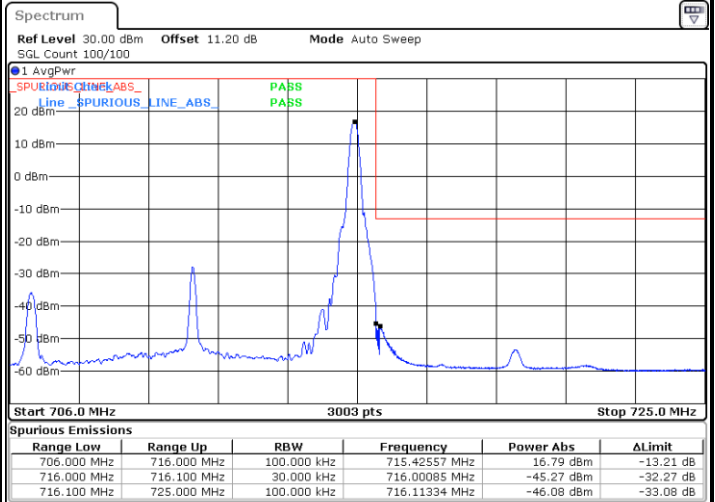
LTE Band 12 / 10MHz / 256QAM

Lowest Band Edge / 1 RB



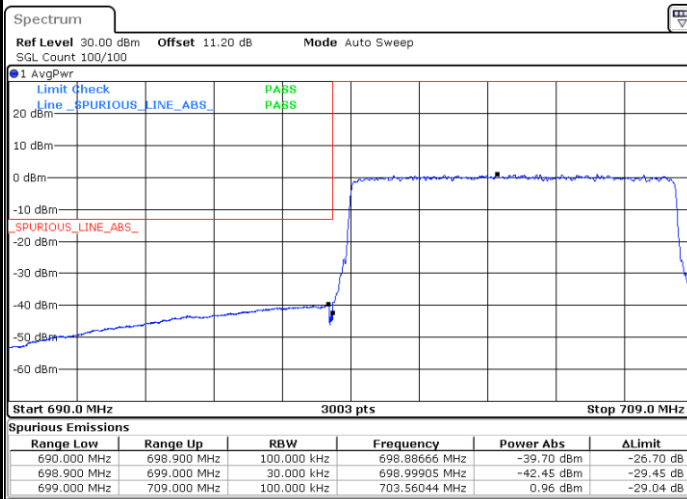
Date: 24 DEC 2020 15:53:57

Highest Band Edge / 1 RB



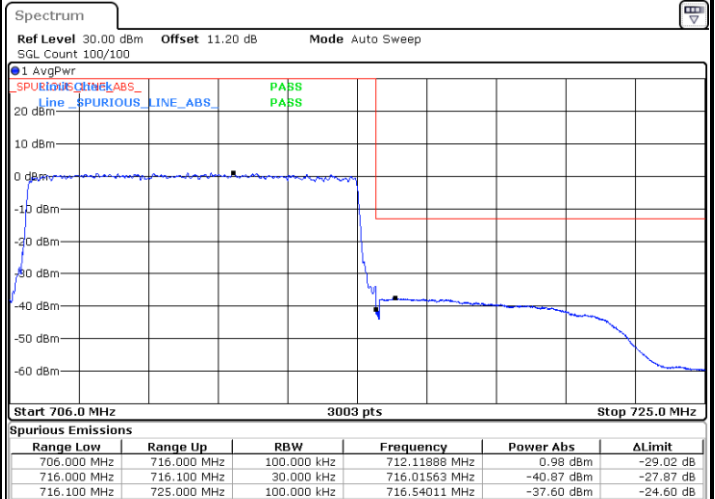
Date: 24 DEC 2020 15:56:37

Lowest Band Edge / Full RB



Date: 24 DEC 2020 15:53:04

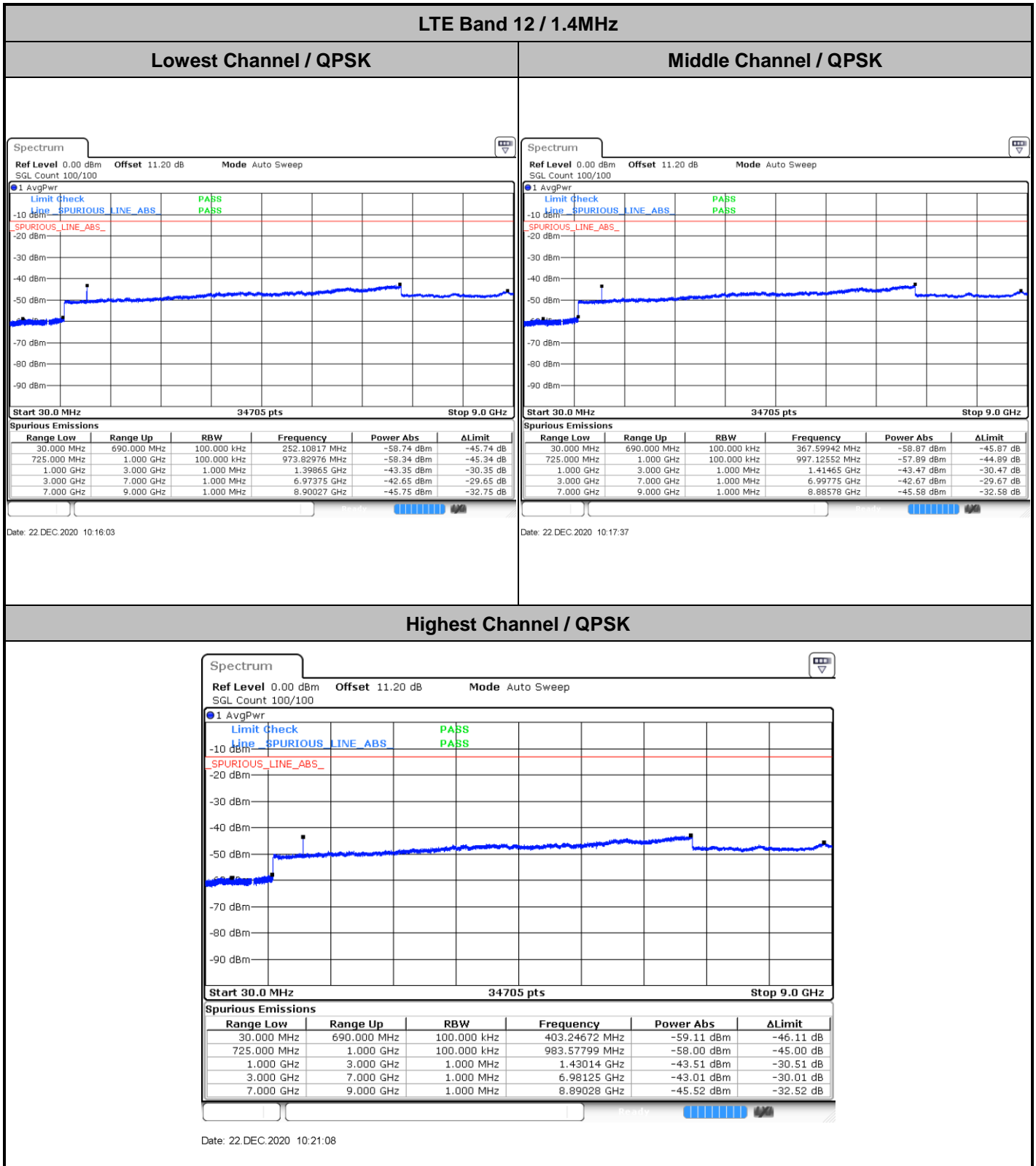
Highest Band Edge / Full RB



Date: 24 DEC 2020 16:14:12



# Conducted Spurious Emission

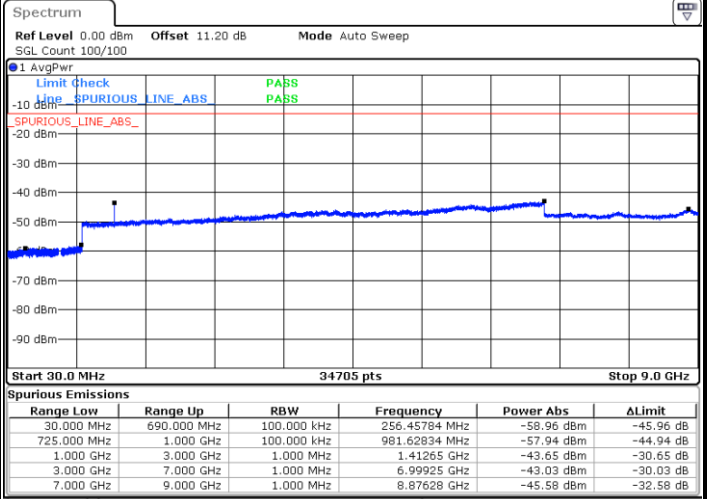
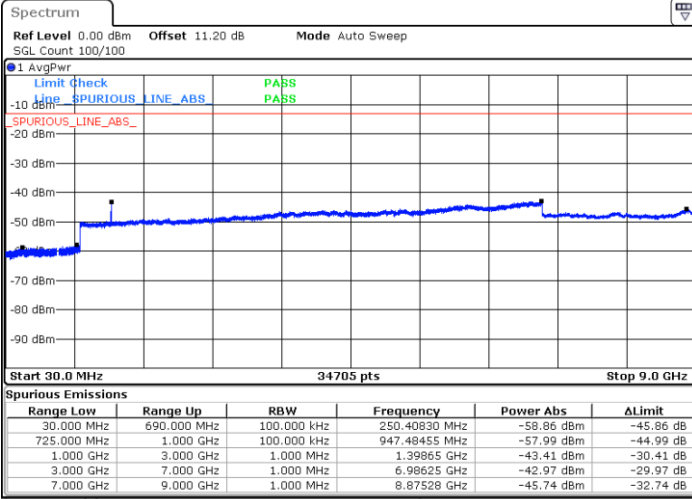




LTE Band 12 / 3MHz

Lowest Channel / QPSK

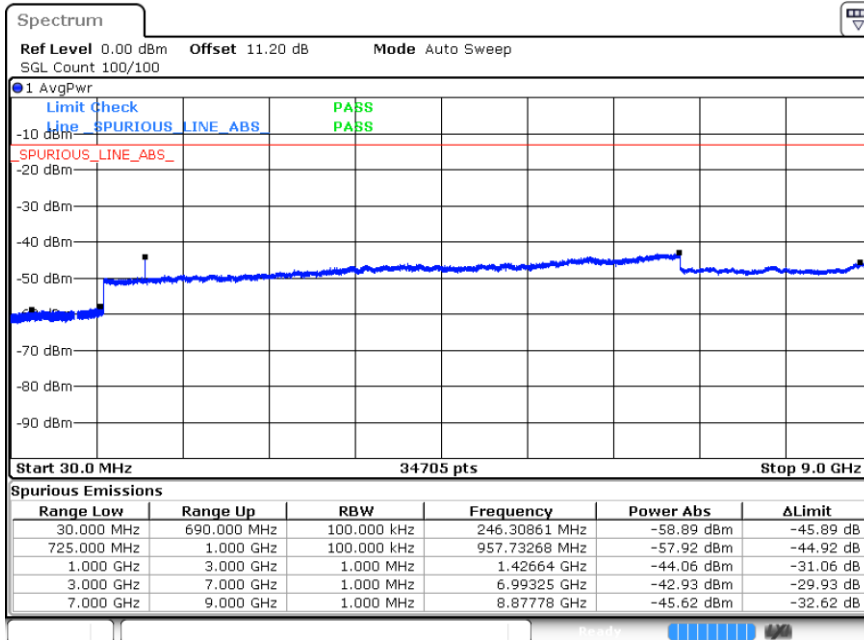
Middle Channel / QPSK



Date: 22 DEC 2020 10:27:54

Date: 22 DEC 2020 10:29:29

Highest Channel / QPSK



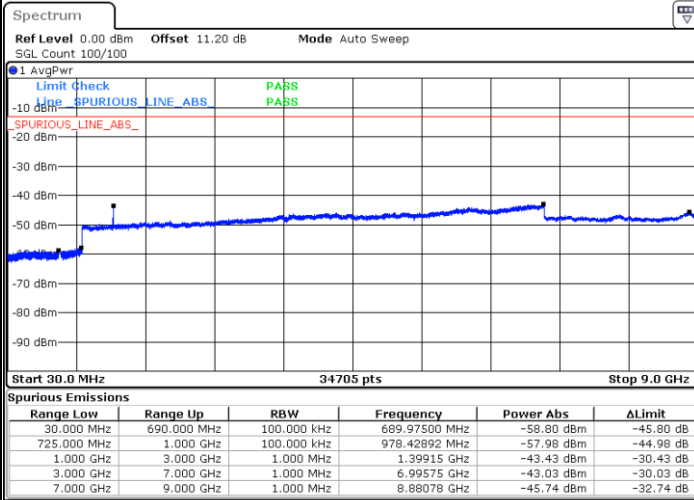
Date: 22 DEC 2020 10:33:00



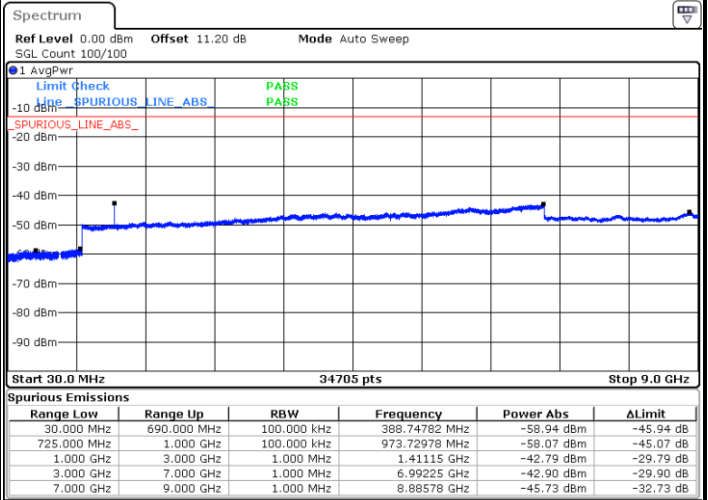
LTE Band 12 / 5MHz

Lowest Channel / QPSK

Middle Channel / QPSK

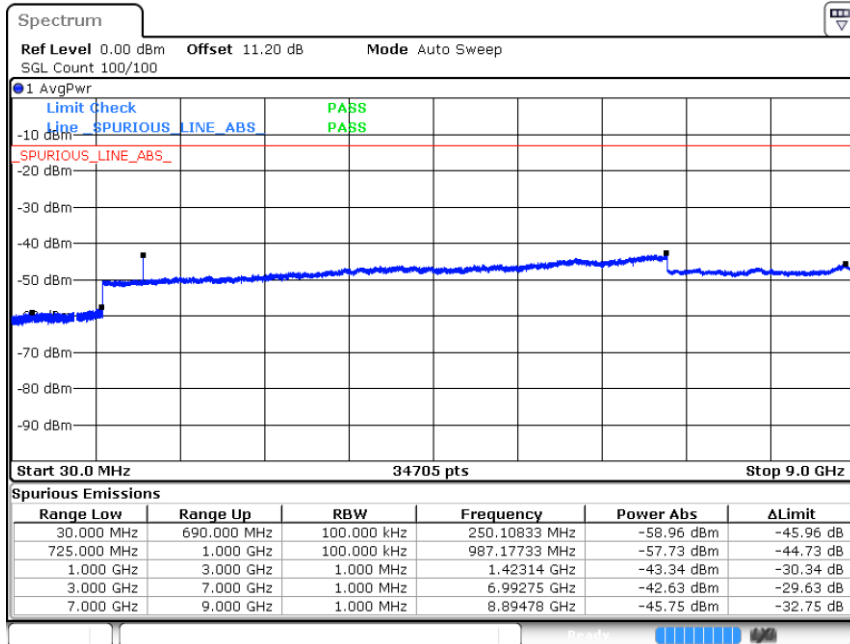


Date: 22 DEC.2020 10:43:01



Date: 22 DEC.2020 10:44:35

Highest Channel / QPSK



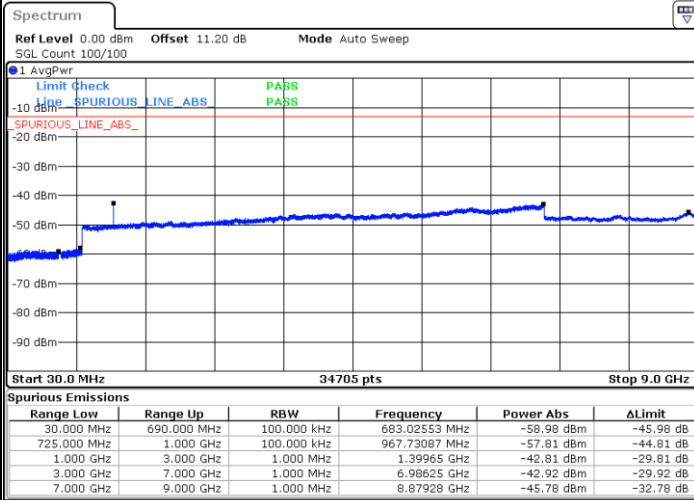
Date: 22 DEC.2020 10:48:06



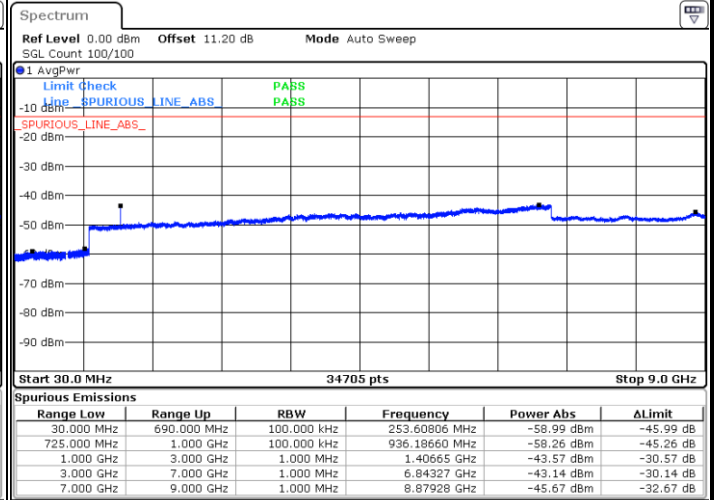
LTE Band 12 / 10MHz

Lowest Channel / QPSK

Middle Channel / QPSK

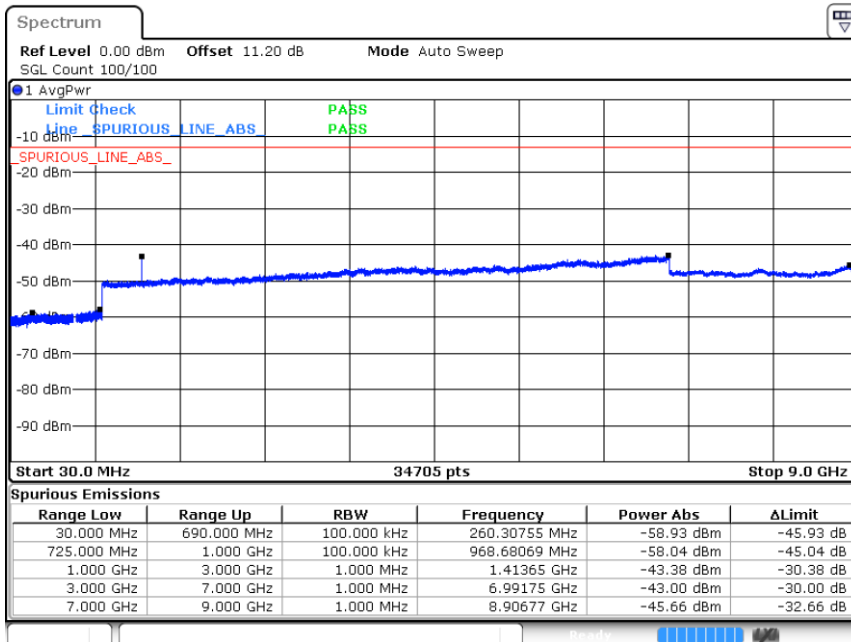


Date: 22 DEC.2020 10:51:37



Date: 22 DEC.2020 10:53:12

Highest Channel / QPSK



Date: 22 DEC.2020 10:56:42

**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	0.0218	PASS
40	Normal Voltage	0.0129	
30	Normal Voltage	0.0006	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0034	
0	Normal Voltage	0.0146	
-10	Normal Voltage	0.0004	
-20	Normal Voltage	0.0163	
-30	Normal Voltage	0.0016	
20	Maximum Voltage	0.0191	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0083	

**Note:**

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.45 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

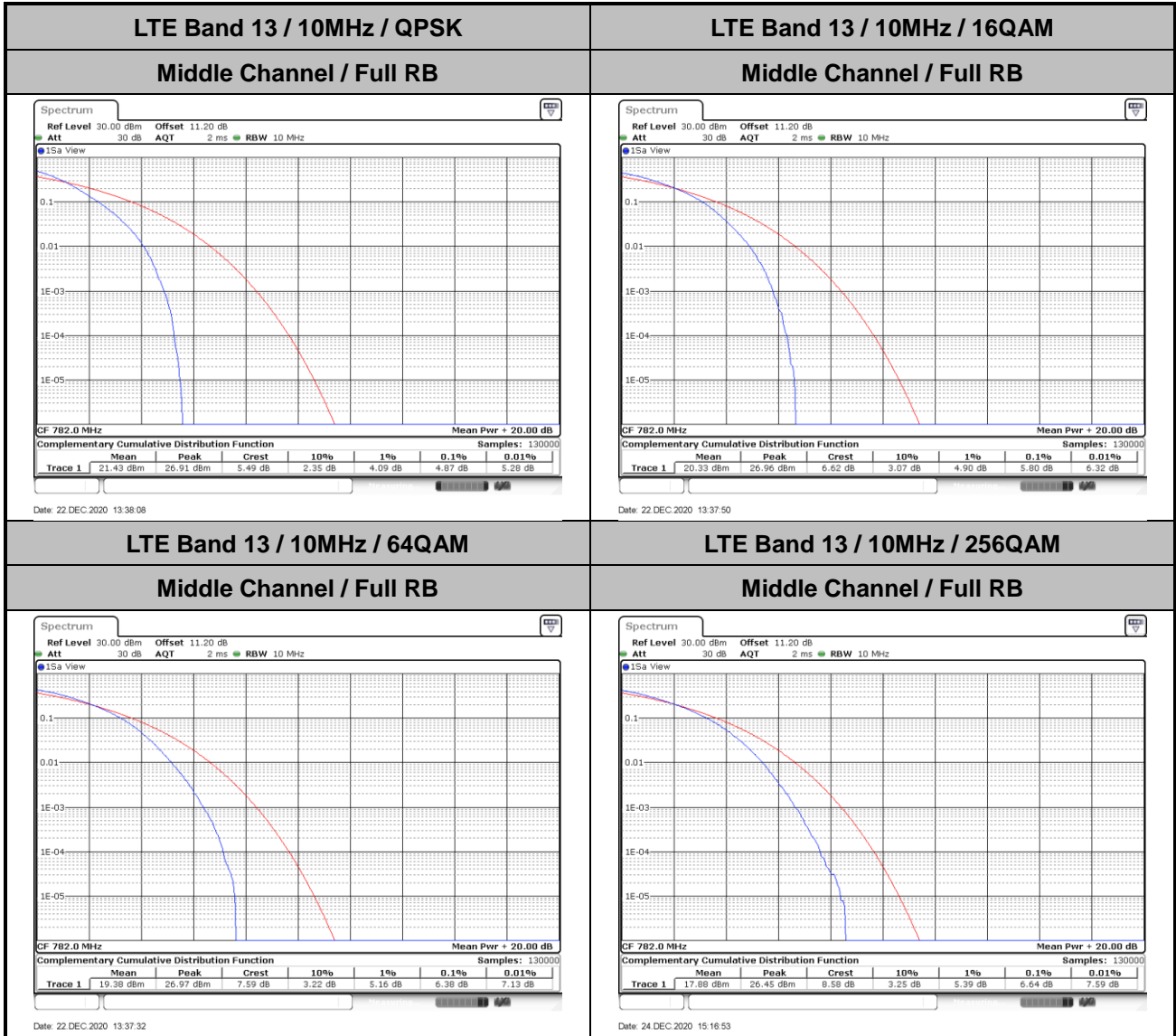


## LTE Band 13

### Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	4.87	5.80	6.38	6.64	<b>PASS</b>







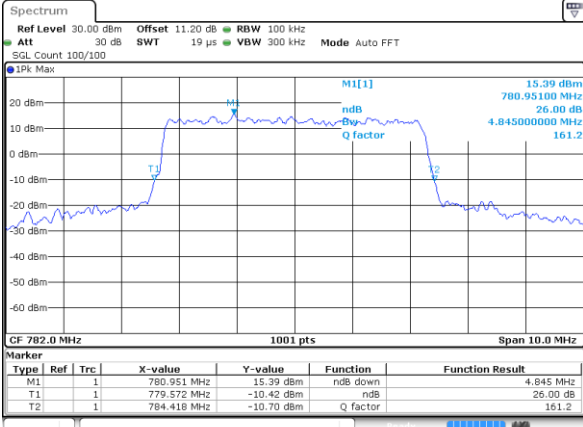
**26dB Bandwidth**

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
Middle CH	-	-	-	-	4.85	4.81	9.71	9.67	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256 QAM	64QAM	256 QAM	64QAM	256 QAM	64QAM	256 QAM	64QAM	256 QAM	64QAM	256 QAM
Middle CH	-	-	-	-	4.89	4.84	9.75	9.69	-	-	-	-



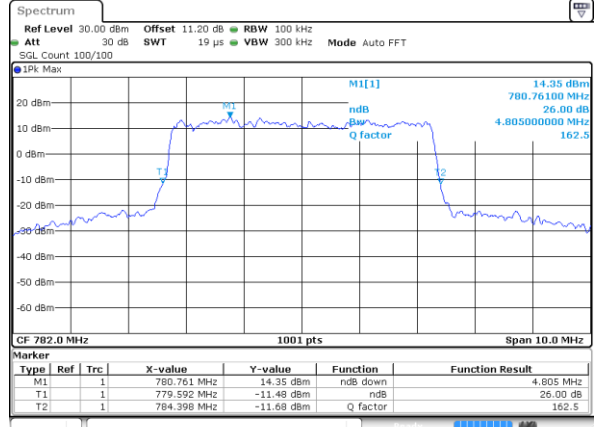
LTE Band 13

Middle Channel / 5MHz / QPSK



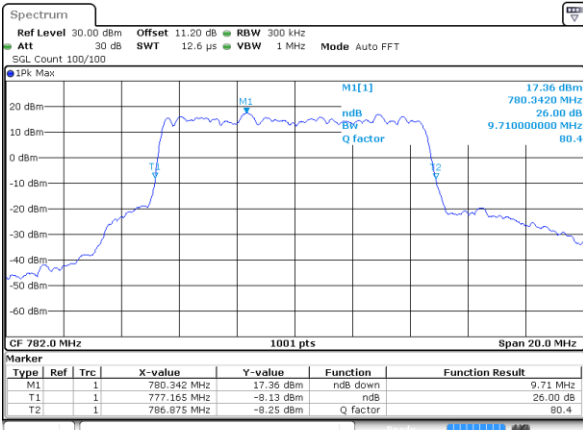
Date: 22 DEC 2020 13:03:21

Middle Channel / 5MHz / 16QAM



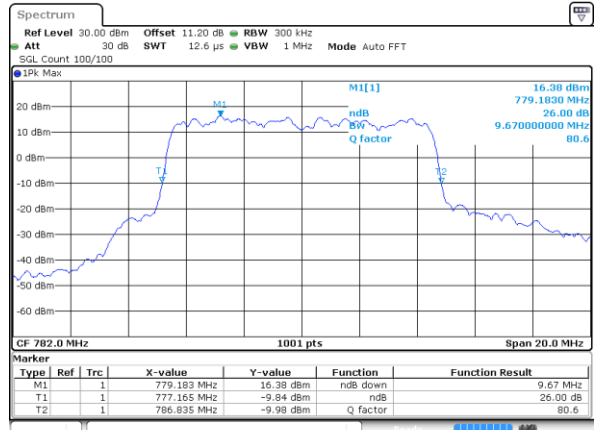
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Middle Channel / 10MHz / QPSK



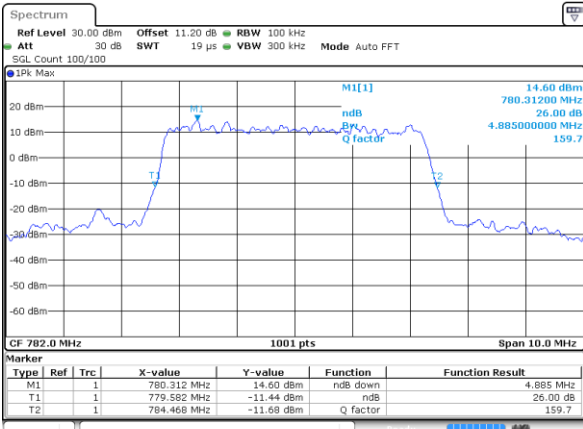
Date: 22 DEC 2020 13:19:39

Middle Channel / 10MHz / 16QAM



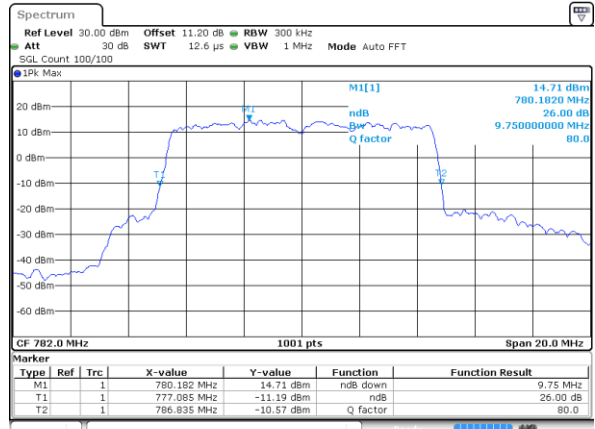
Date: 22 DEC 2020 13:19:26

Middle Channel / 5MHz / 64QAM



Date: 22 DEC 2020 13:15:09

Middle Channel / 10MHz / 64QAM



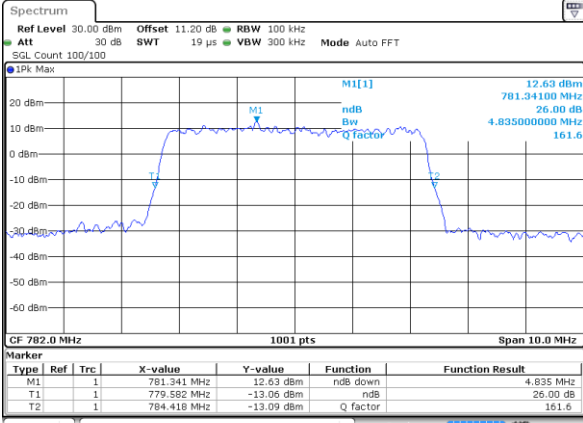
Date: 22 DEC 2020 13:30:57



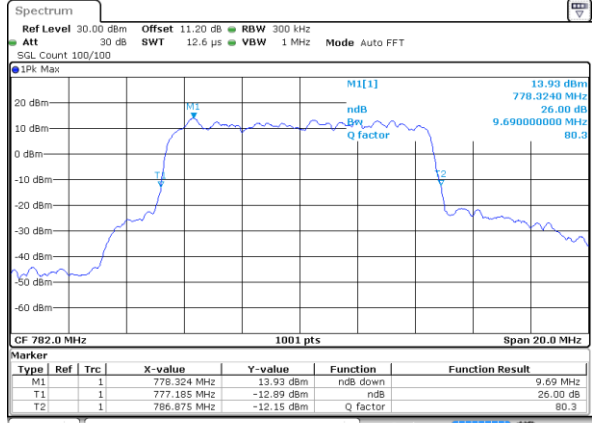
LTE Band 13

Middle Channel / 5MHz / 256QAM

Middle Channel / 10MHz / 256QAM



Date: 24 DEC 2020 15:19:55



Date: 24 DEC 2020 15:09:44



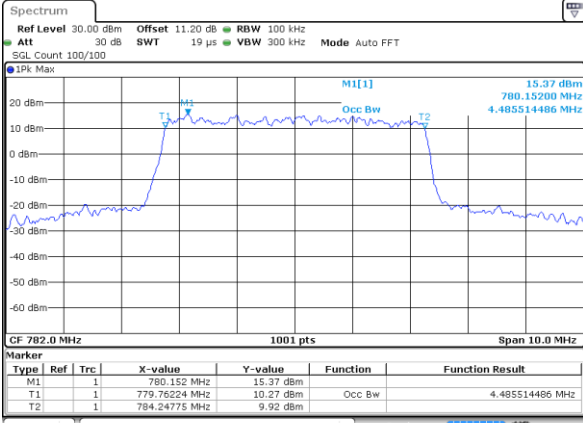
**Occupied Bandwidth**

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
Middle CH	-	-	-	-	4.49	4.50	8.97	8.97	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256 QAM	64QAM	256 QAM	64QAM	256 QAM	64QAM	256 QAM	64QAM	256 QAM	64QAM	256 QAM
Middle CH	-	-	-	-	4.50	4.50	8.99	9.05	-	-	-	-



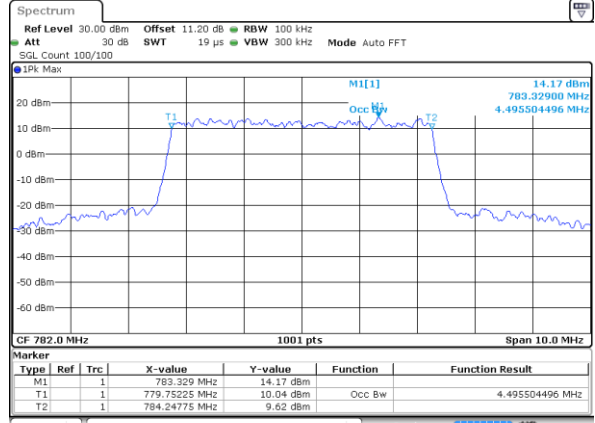
LTE Band 13

Middle Channel / 5MHz / QPSK



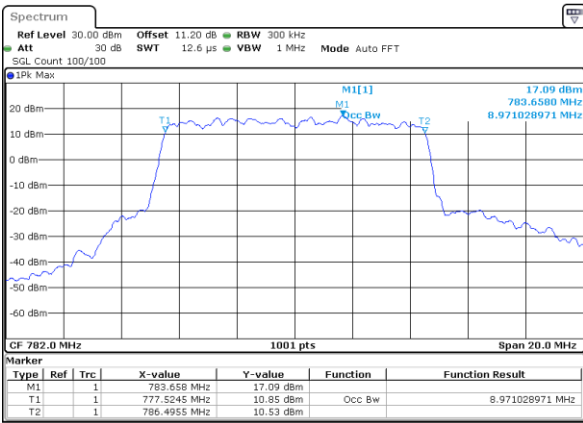
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Middle Channel / 5MHz / 16QAM



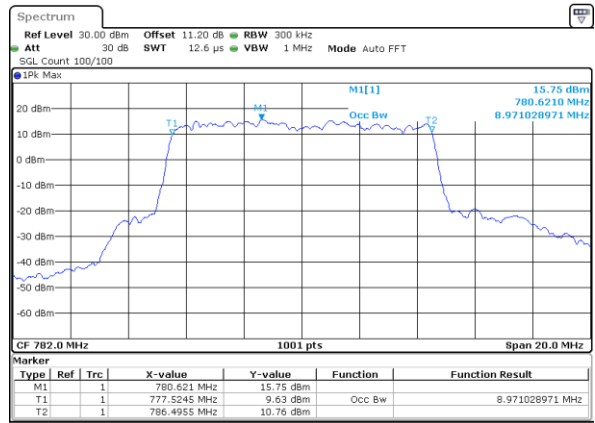
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Middle Channel / 10MHz / QPSK



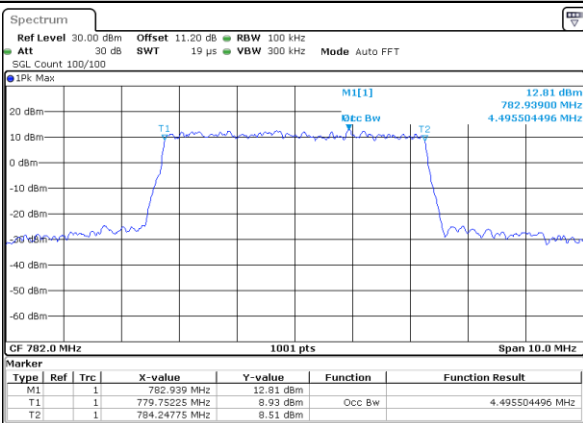
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Middle Channel / 10MHz / 16QAM



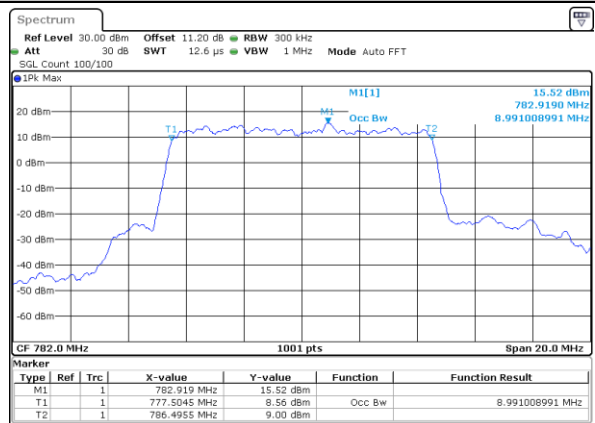
Date: 22 DEC 2020 13:19:13

Middle Channel / 5MHz / 64QAM



Date: 22 DEC 2020 13:15:22

Middle Channel / 10MHz / 64QAM



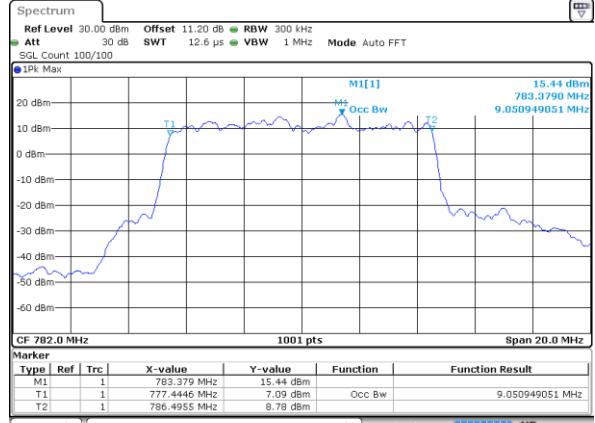
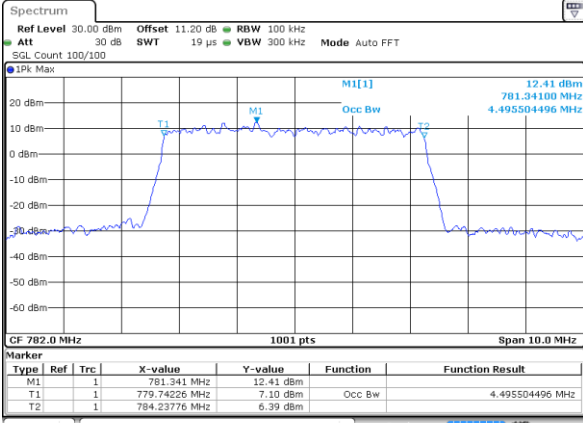
Date: 22 DEC 2020 13:30:44



LTE Band 13

Middle Channel / 5MHz / 256QAM

Middle Channel / 10MHz / 256QAM

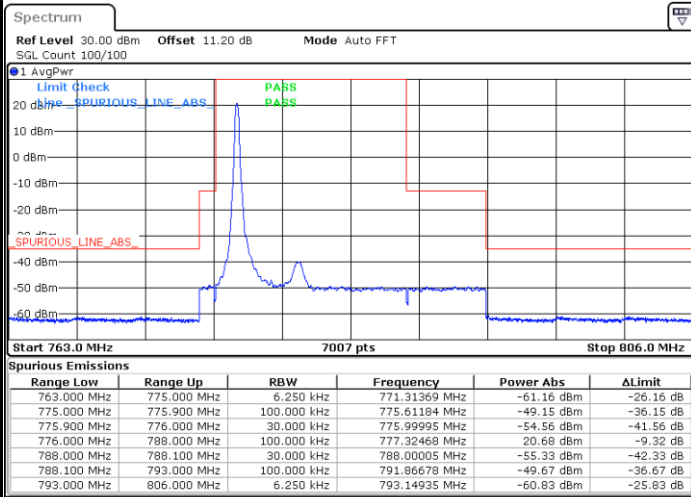




# Conducted Band Edge

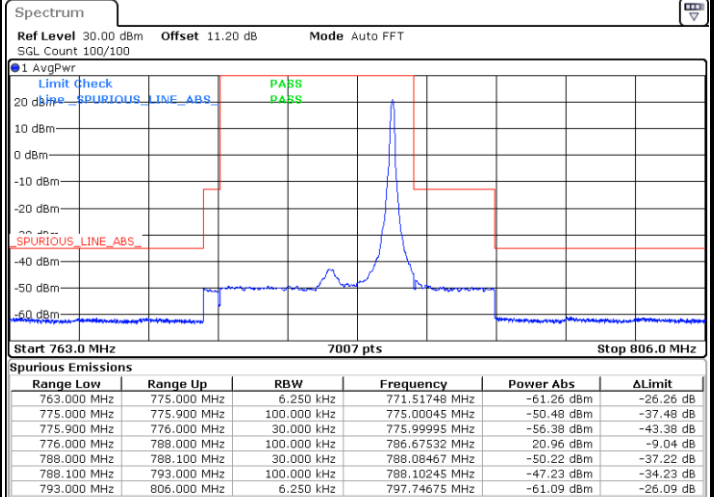
## LTE Band 13 / 5MHz / QPSK

### Lowest Band Edge / 1 RB



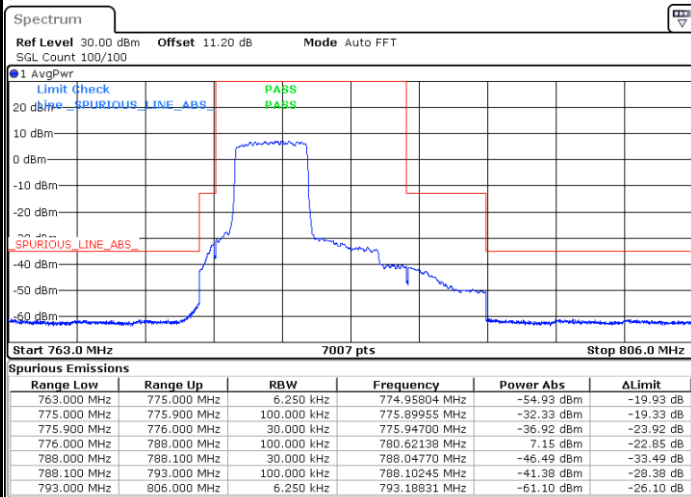
Date: 22 DEC 2020 13:01:44

### Highest Band Edge / 1 RB



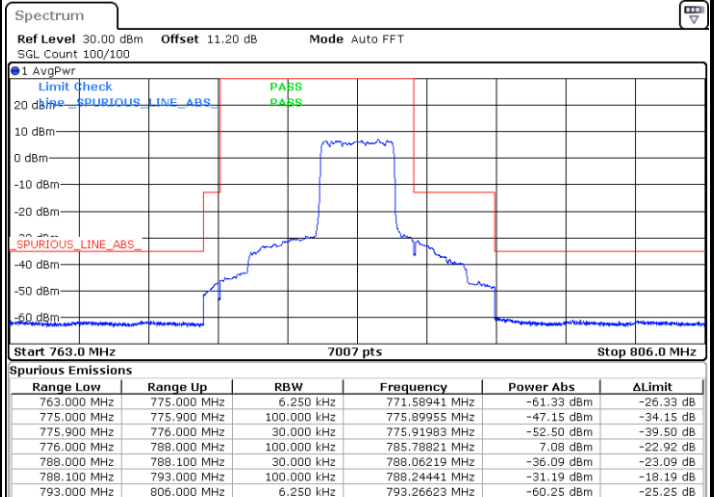
Date: 22 DEC 2020 13:10:49

### Lowest Band Edge / Full RB



Date: 22 DEC 2020 12:56:37

### Highest Band Edge / Full RB



Date: 22 DEC 2020 13:05:42