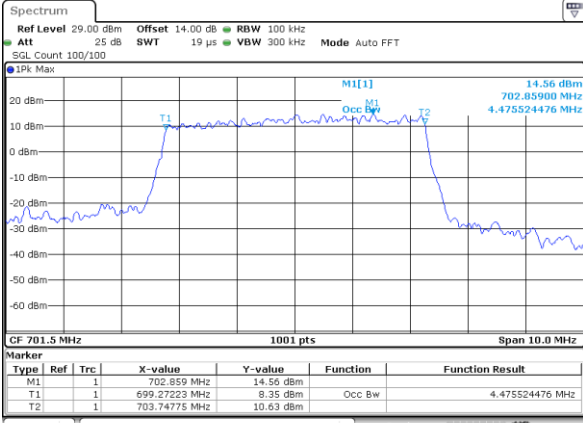




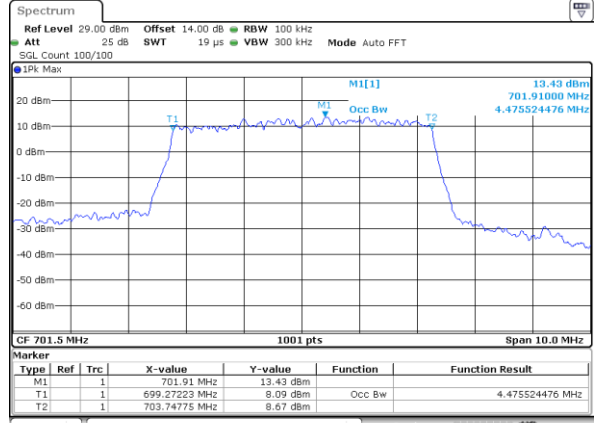
LTE Band 12

Lowest Channel / 5MHz / QPSK



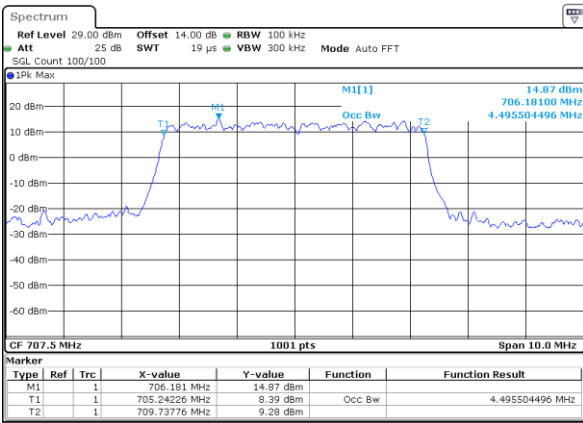
Date: 16, DEC, 2020 09:58:50

Lowest Channel / 5MHz / 16QAM



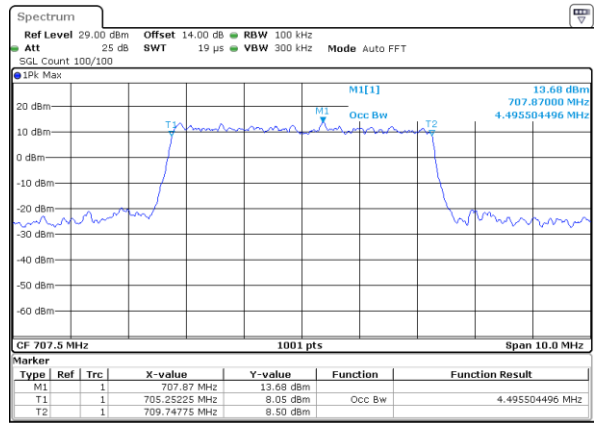
Date: 16, DEC, 2020 09:59:58

Middle Channel / 5MHz / QPSK



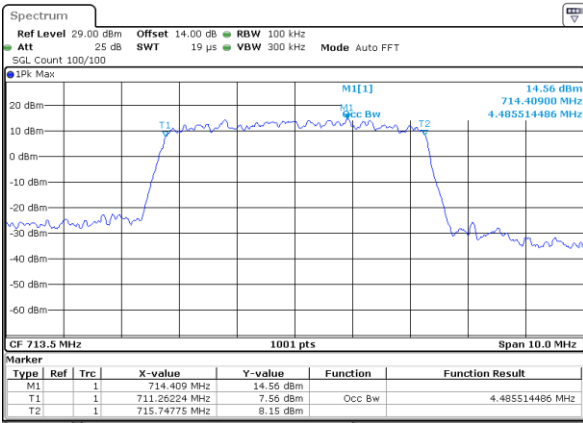
Date: 16, DEC, 2020 10:38:33

Middle Channel / 5MHz / 16QAM



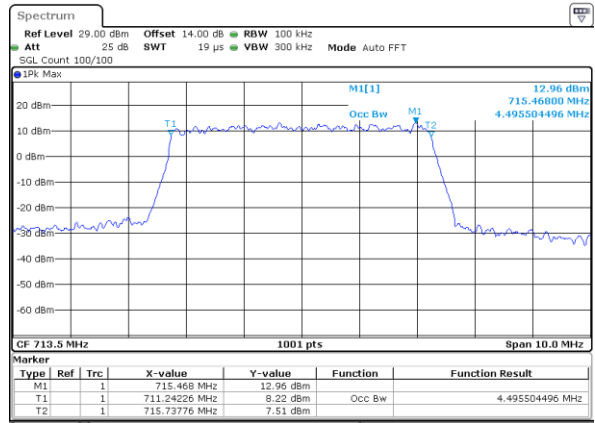
Date: 16, DEC, 2020 10:38:08

Highest Channel / 5MHz / QPSK



Date: 16, DEC, 2020 10:34:01

Highest Channel / 5MHz / 16QAM

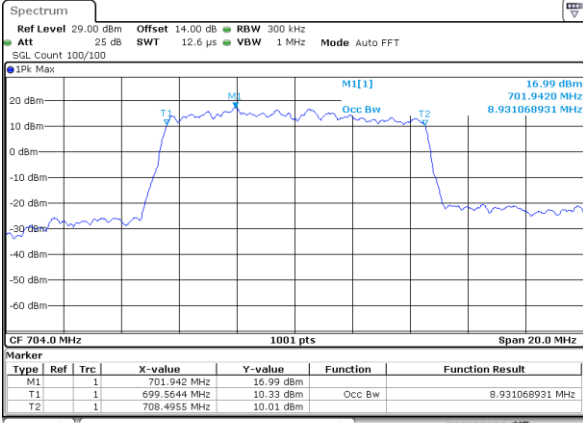


Date: 16, DEC, 2020 10:32:13



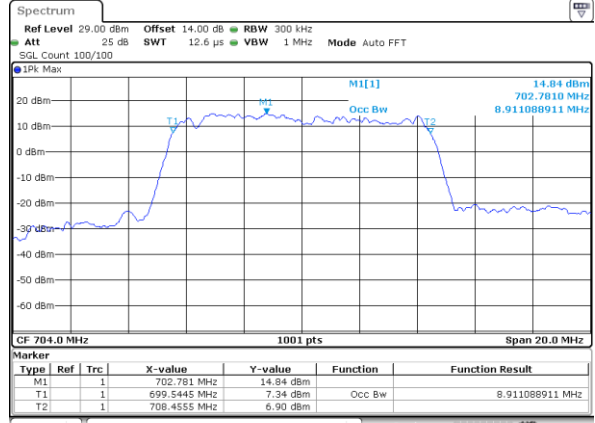
LTE Band 12

Lowest Channel / 10MHz / QPSK



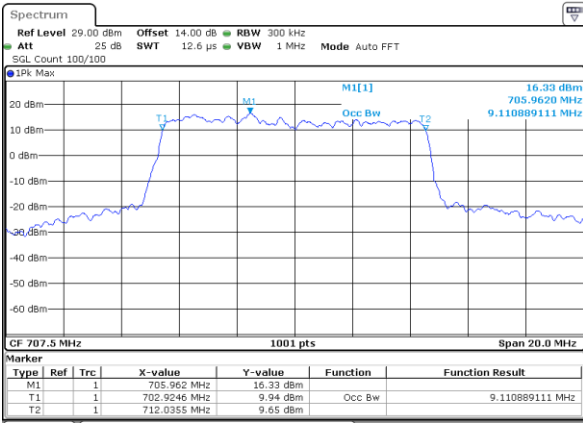
Date: 16, DEC, 2020 10:39:39

Lowest Channel / 10MHz / 16QAM



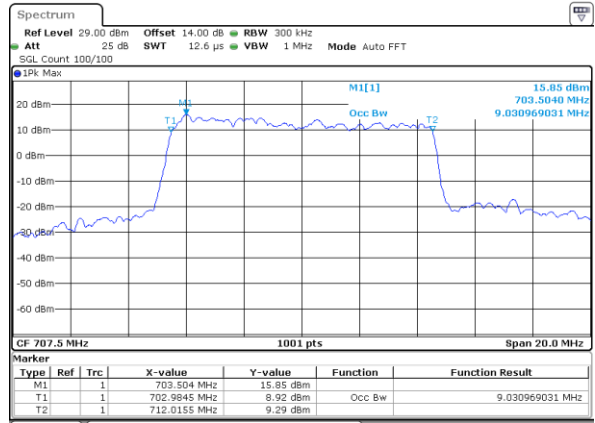
Date: 16, DEC, 2020 10:41:18

Middle Channel / 10MHz / QPSK



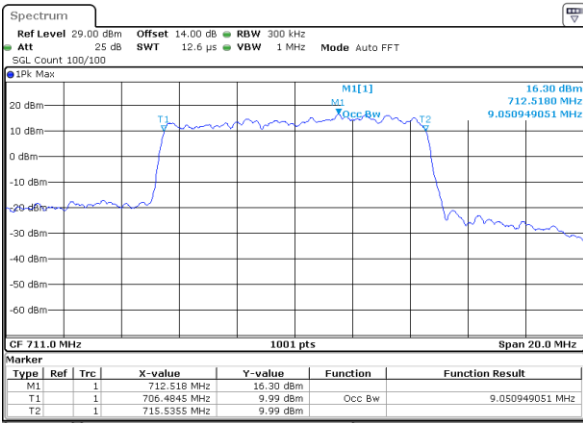
Date: 16, DEC, 2020 13:45:20

Middle Channel / 10MHz / 16QAM



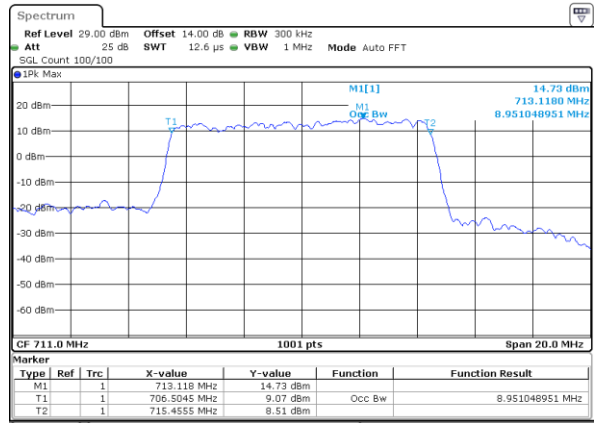
Date: 16, DEC, 2020 13:43:35

Highest Channel / 10MHz / QPSK



Date: 16, DEC, 2020 13:47:10

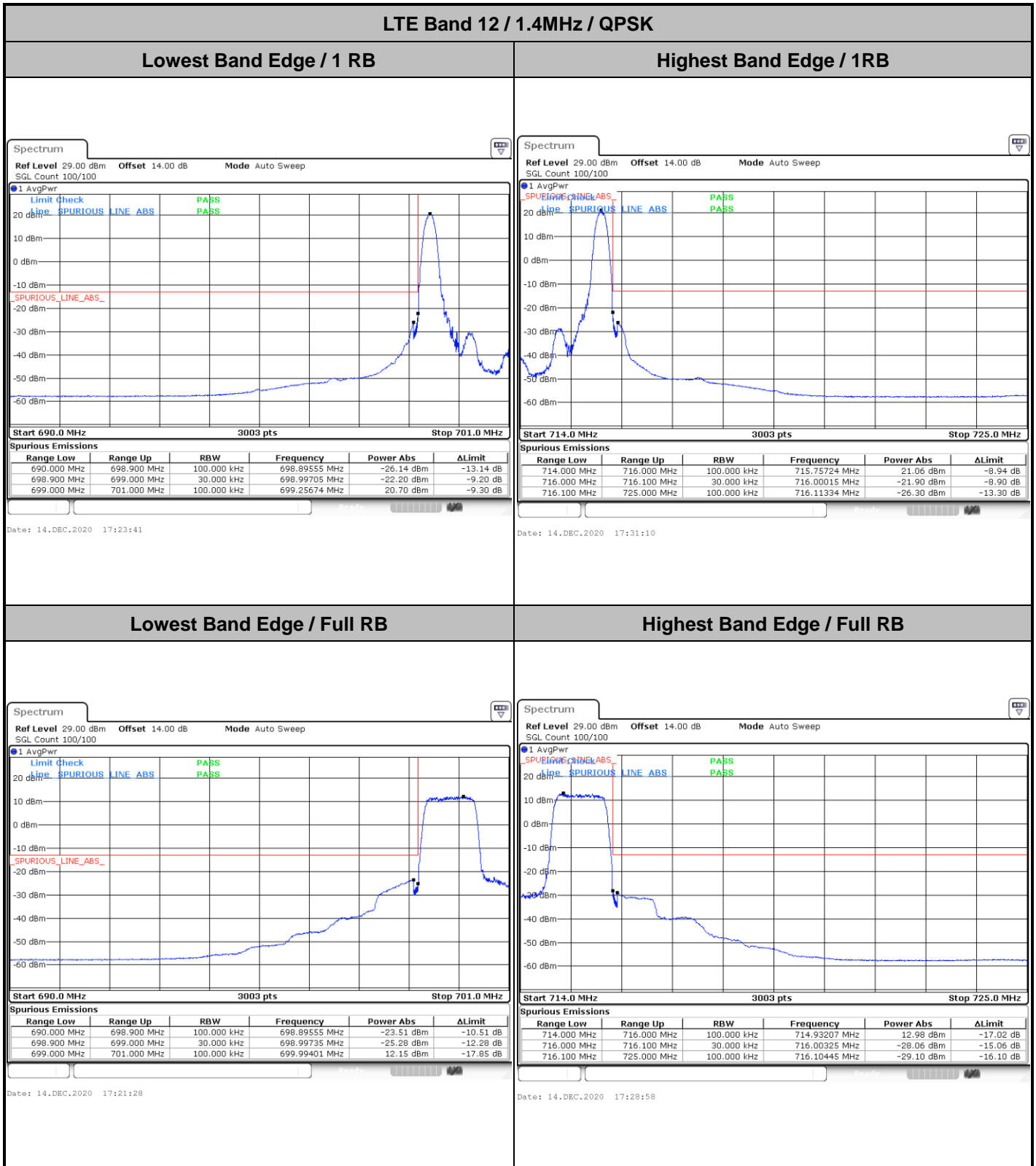
Highest Channel / 10MHz / 16QAM



Date: 16, DEC, 2020 13:49:52



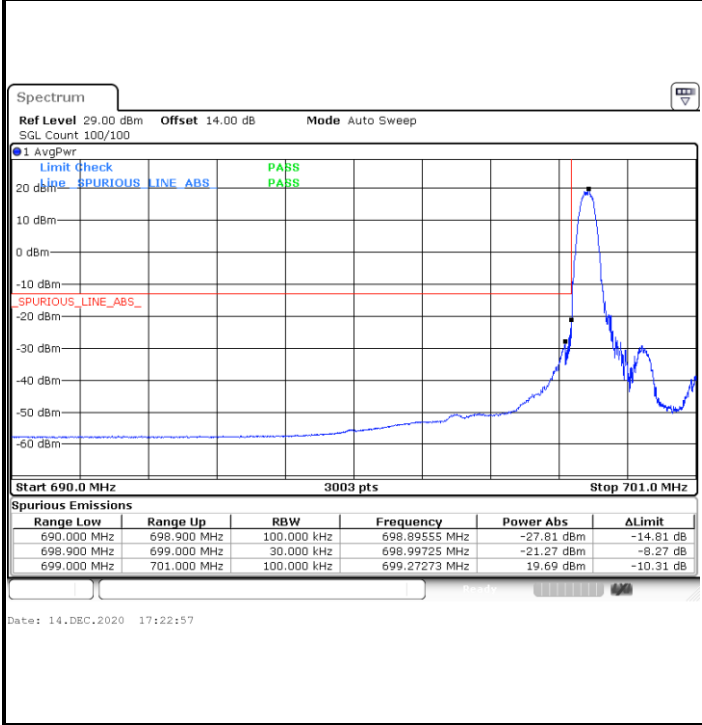
# Conducted Band Edge



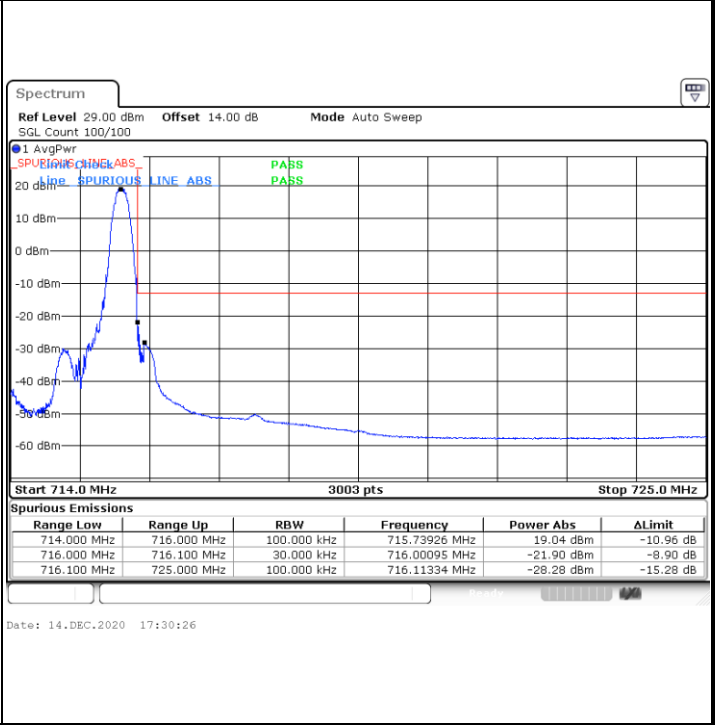


LTE Band 12 / 1.4MHz / 16QAM

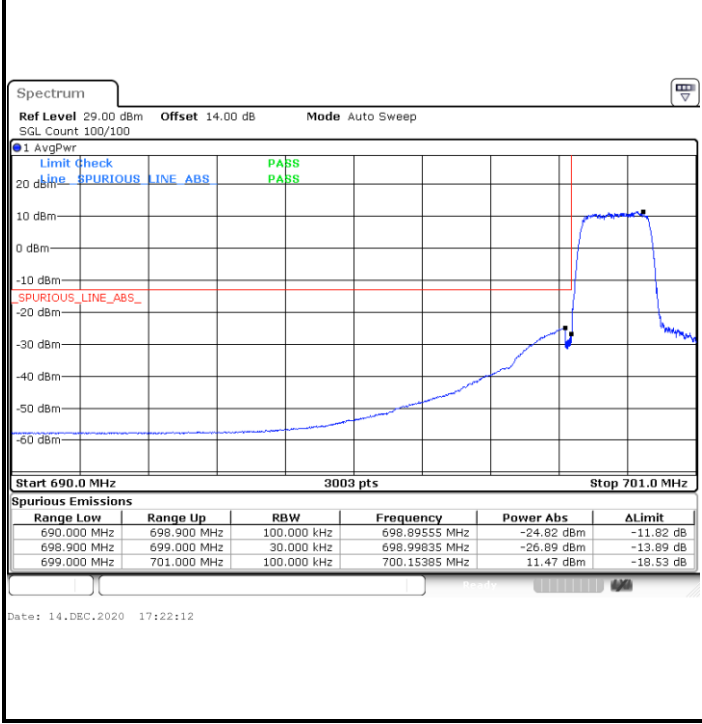
Lowest Band Edge / 1 RB



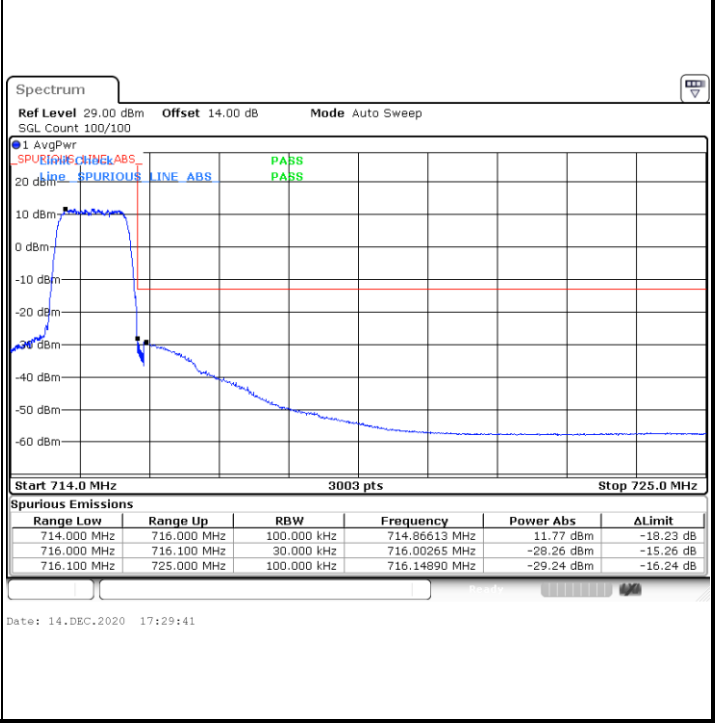
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



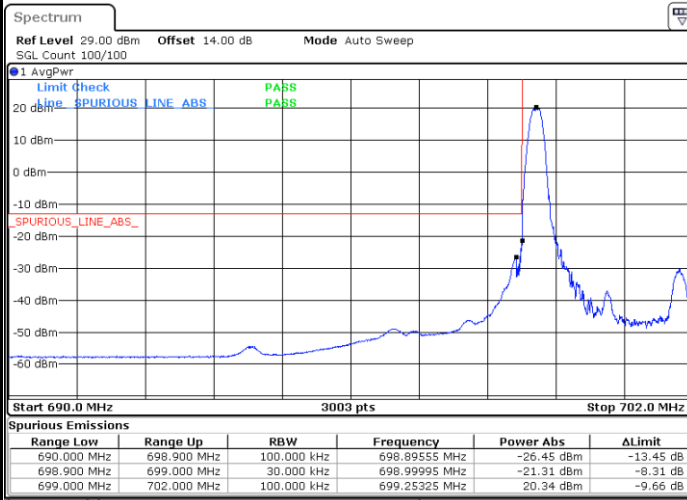
Highest Band Edge / Full RB





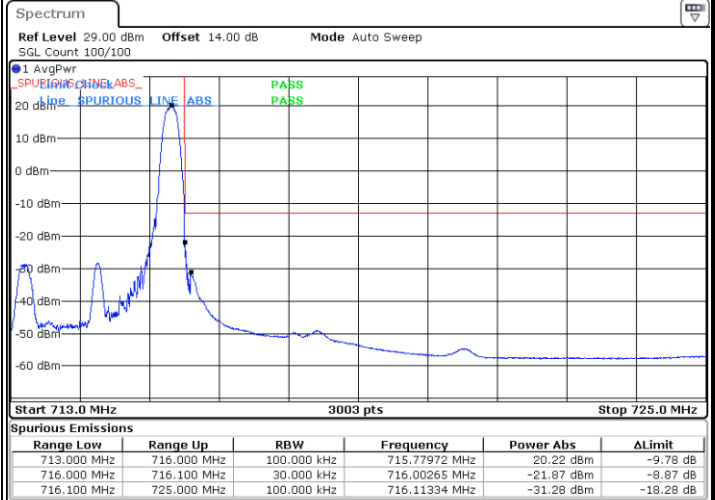
LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / 1RB



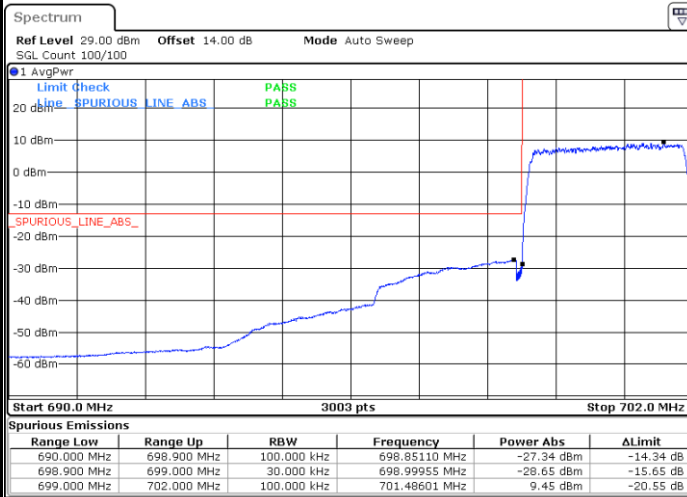
Date: 14.DEC.2020 18:00:43

Highest Band Edge / 1 RB



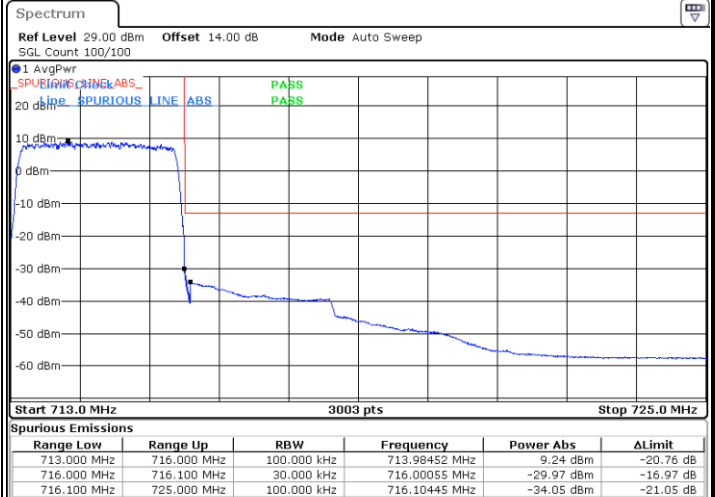
Date: 14.DEC.2020 18:08:25

Lowest Band Edge / Full RB



Date: 14.DEC.2020 17:55:54

Highest Band Edge / Full RB

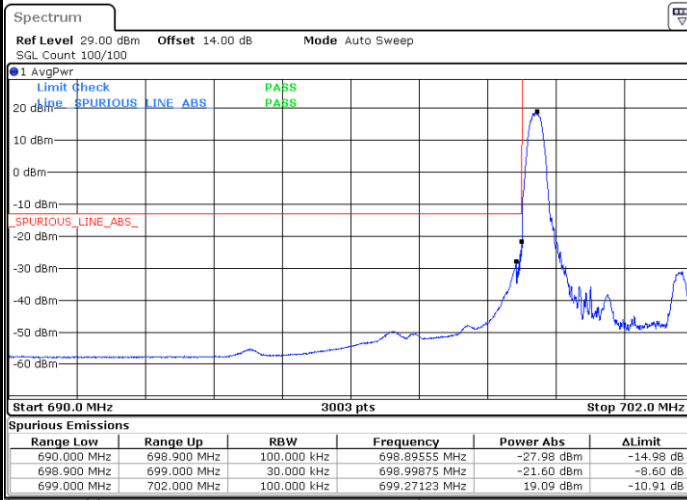


Date: 14.DEC.2020 18:06:22



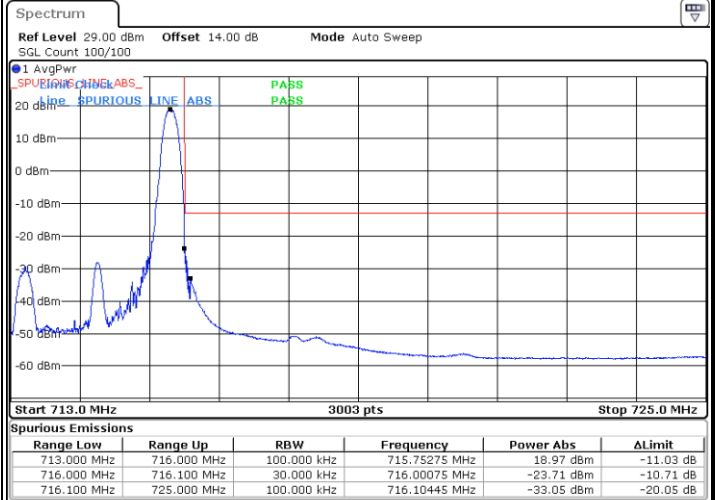
LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



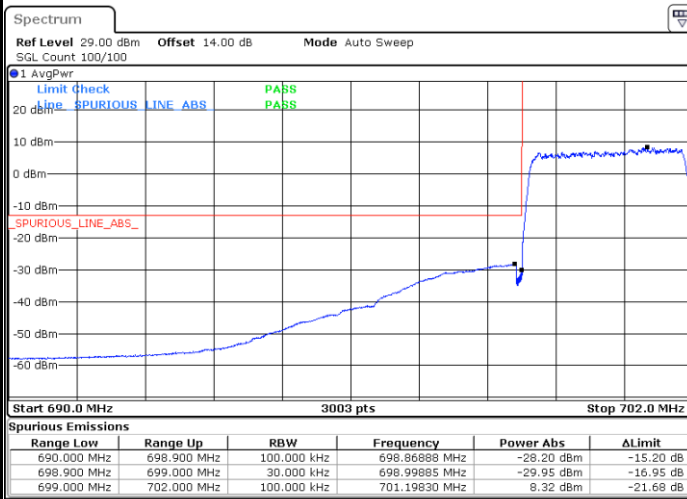
Date: 14.DEC.2020 18:00:08

Highest Band Edge / 1 RB



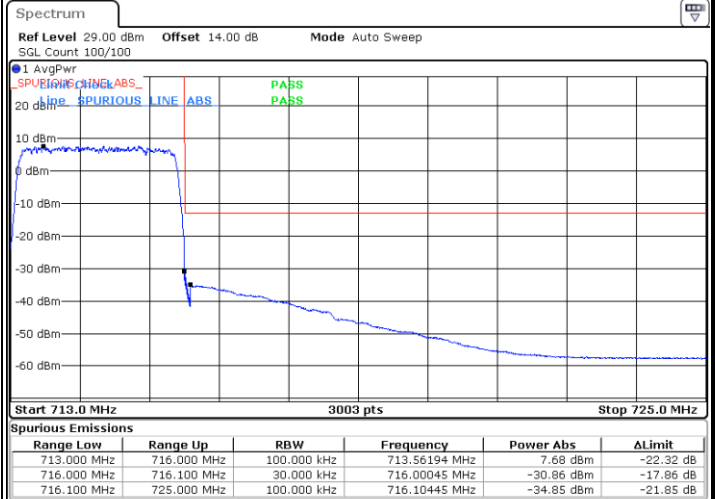
Date: 14.DEC.2020 18:07:48

Lowest Band Edge / Full RB



Date: 14.DEC.2020 18:24:03

Highest Band Edge / Full RB

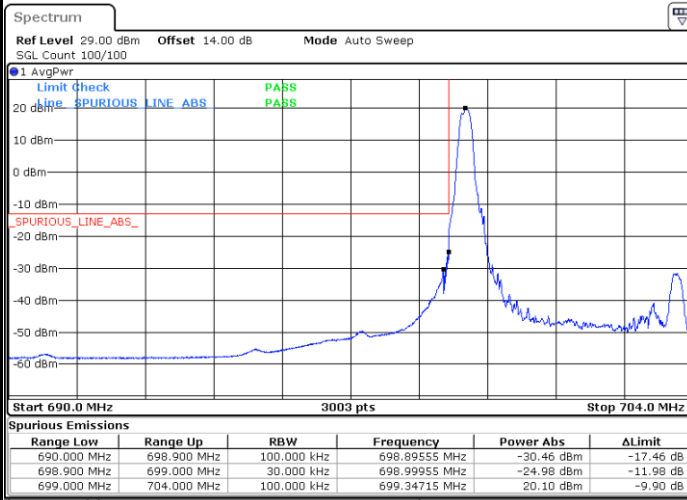


Date: 14.DEC.2020 18:07:06



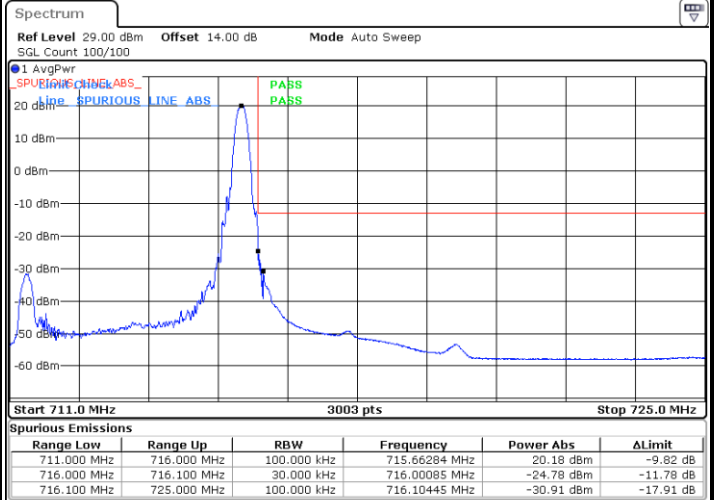
LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / 1 RB



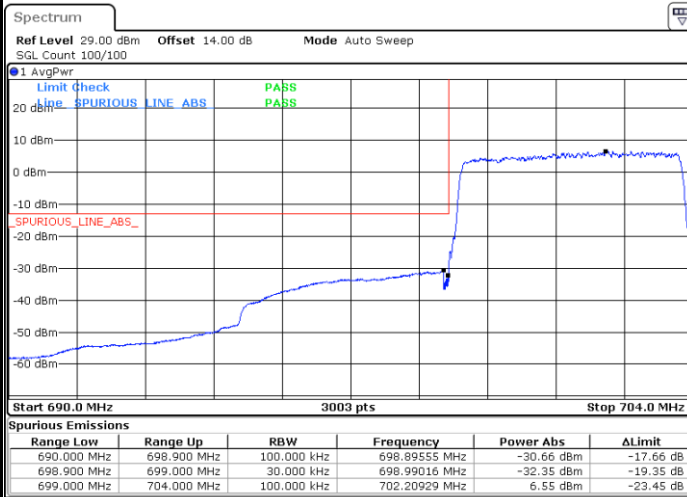
Date: 16.DEC.2020 10:09:39

Highest Band Edge / 1 RB



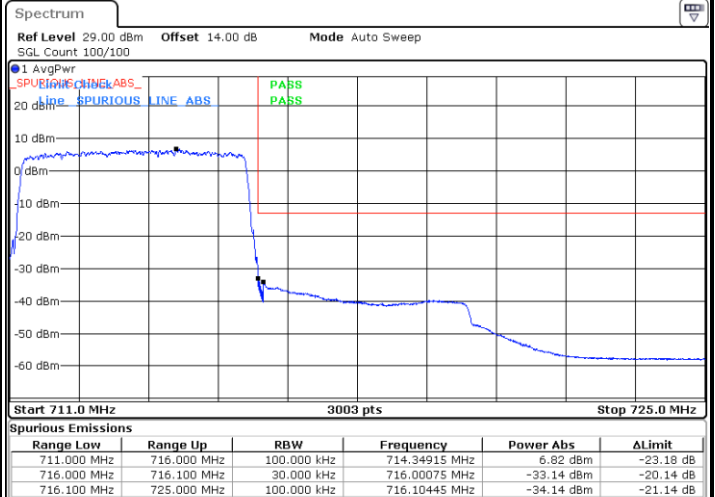
Date: 16.DEC.2020 10:29:55

Lowest Band Edge / Full RB



Date: 16.DEC.2020 09:59:45

Highest Band Edge / Full RB

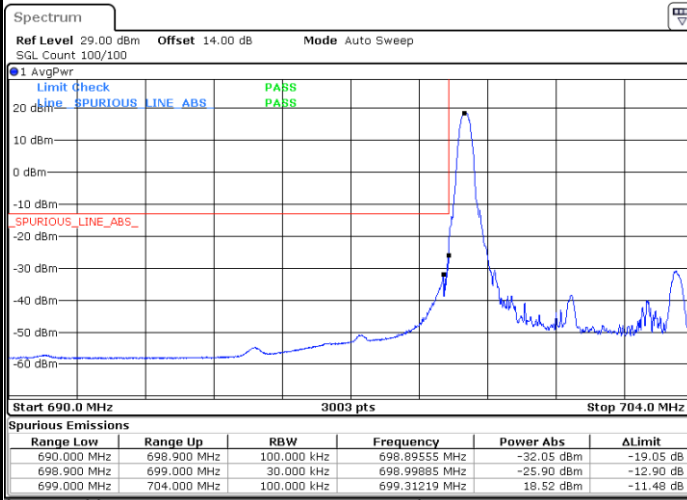


Date: 16.DEC.2020 10:35:17



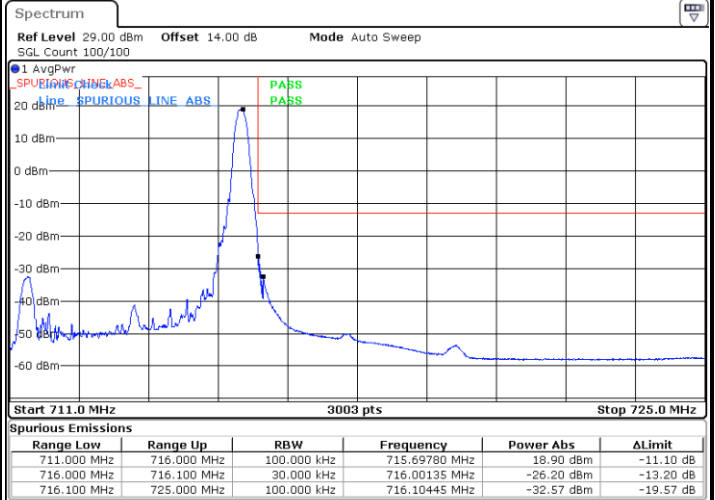
LTE Band 12 / 5MHz / 16QAM

Lowest Band Edge / 1RB



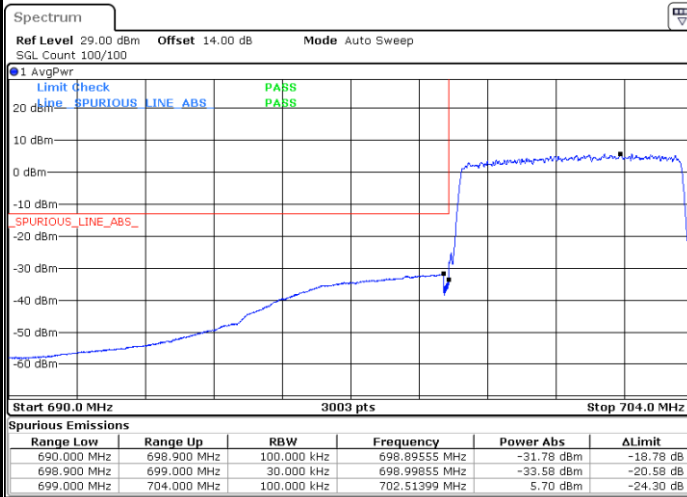
Date: 16.DEC.2020 10:05:10

Highest Band Edge / 1 RB



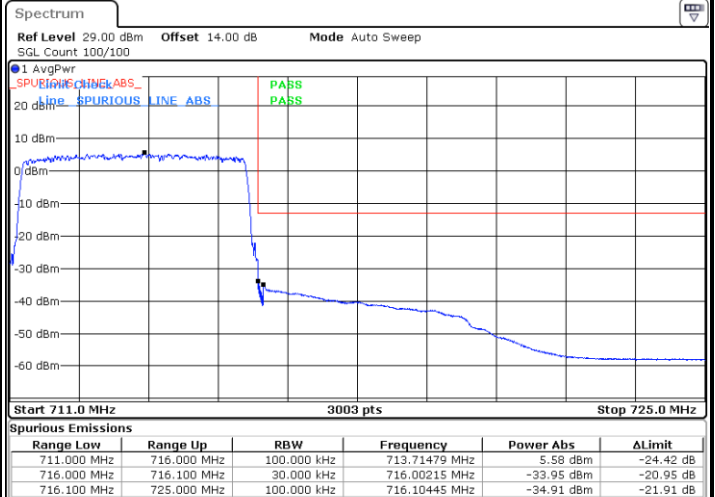
Date: 16.DEC.2020 10:30:36

Lowest Band Edge / Full RB



Date: 16.DEC.2020 10:01:06

Highest Band Edge / Full RB



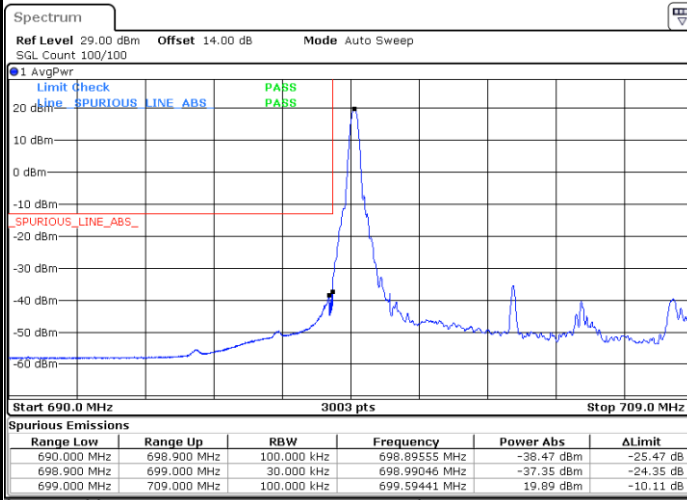
Date: 16.DEC.2020 10:36:25





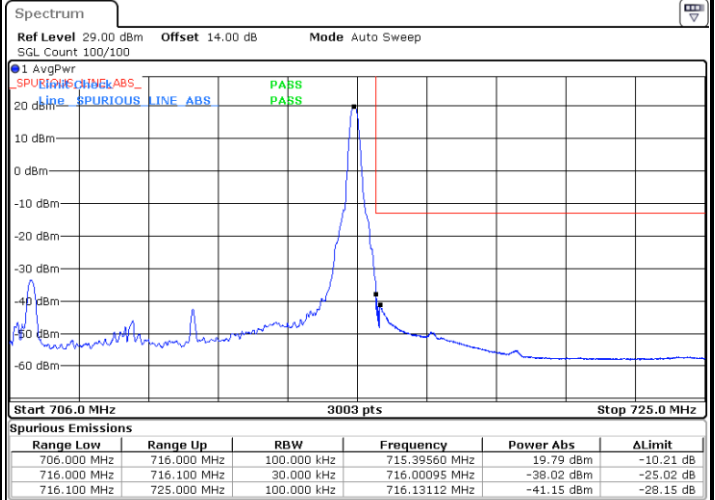
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1 RB



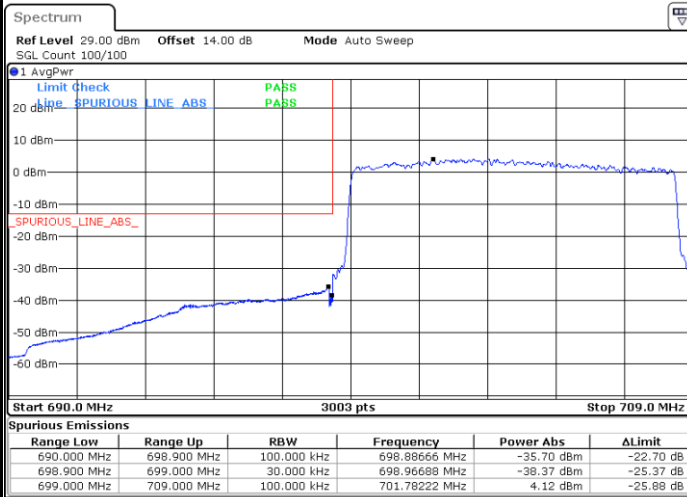
Date: 16.DEC.2020 11:54:34

Highest Band Edge / 1 RB



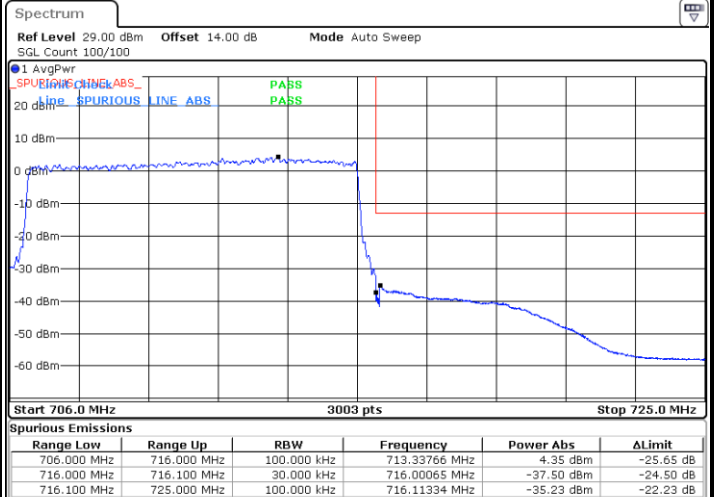
Date: 16.DEC.2020 20:07:54

Lowest Band Edge / Full RB



Date: 16.DEC.2020 10:40:36

Highest Band Edge / Full RB

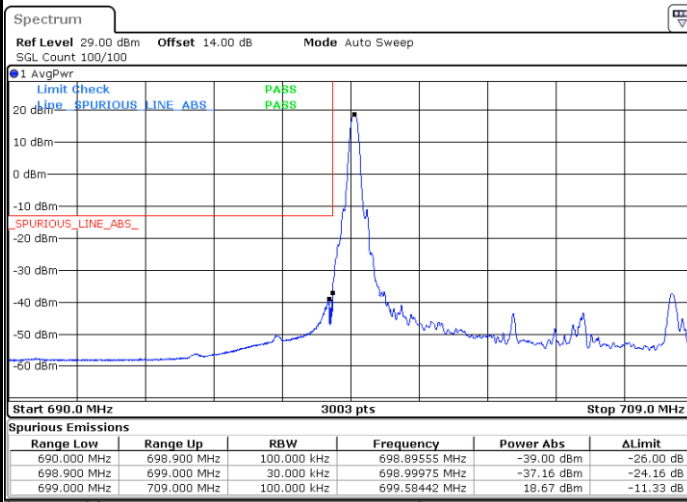


Date: 16.DEC.2020 13:49:15



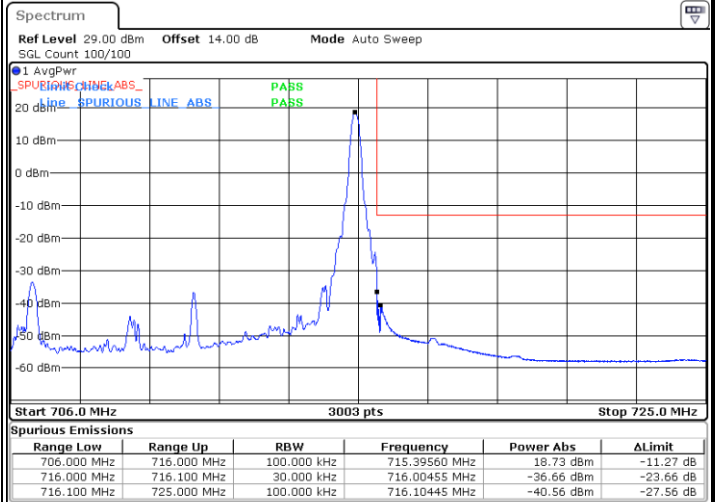
LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



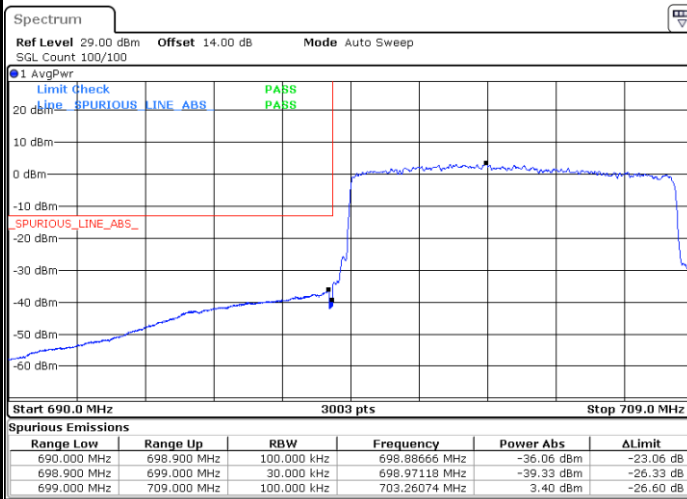
Date: 16.DEC.2020 10:47:11

Highest Band Edge / 1 RB



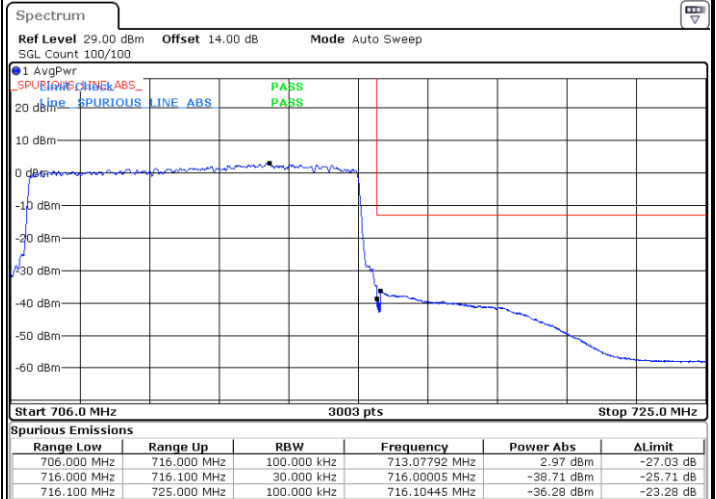
Date: 16.DEC.2020 20:08:43

Lowest Band Edge / Full RB



Date: 16.DEC.2020 10:42:12

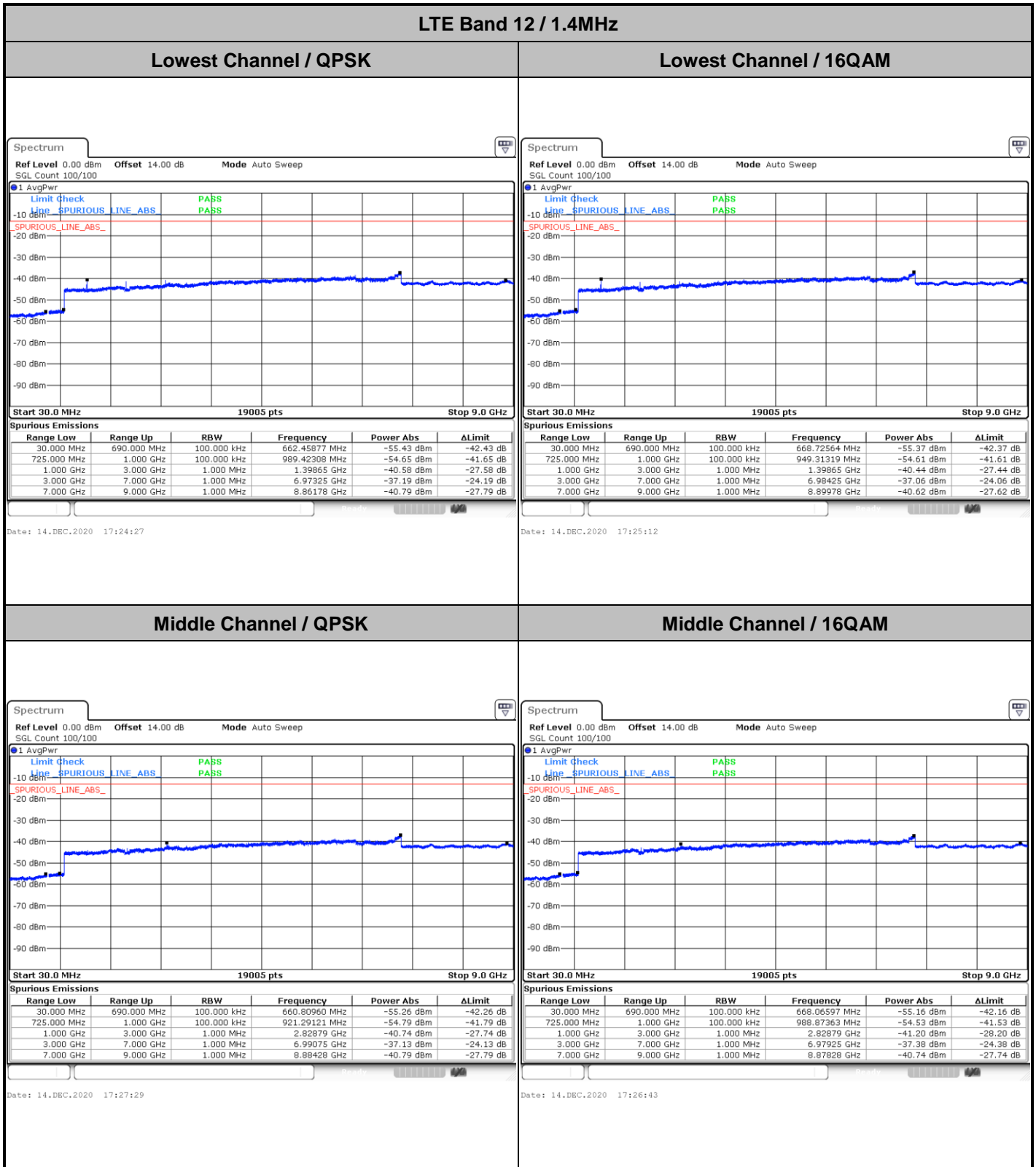
Highest Band Edge / Full RB



Date: 16.DEC.2020 13:50:36



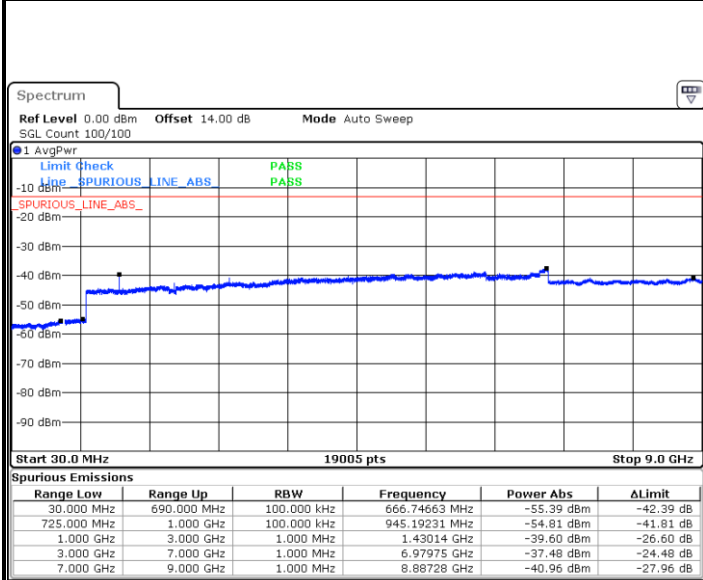
# Conducted Spurious Emission





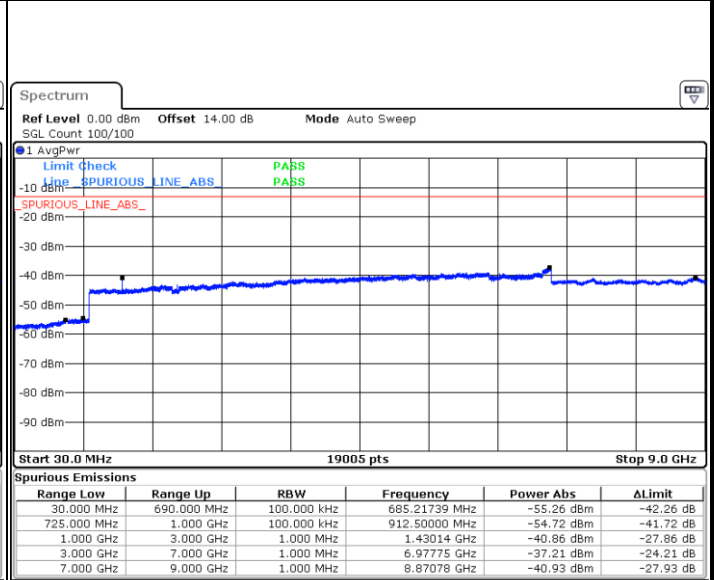
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 14.DEC.2020 17:31:57

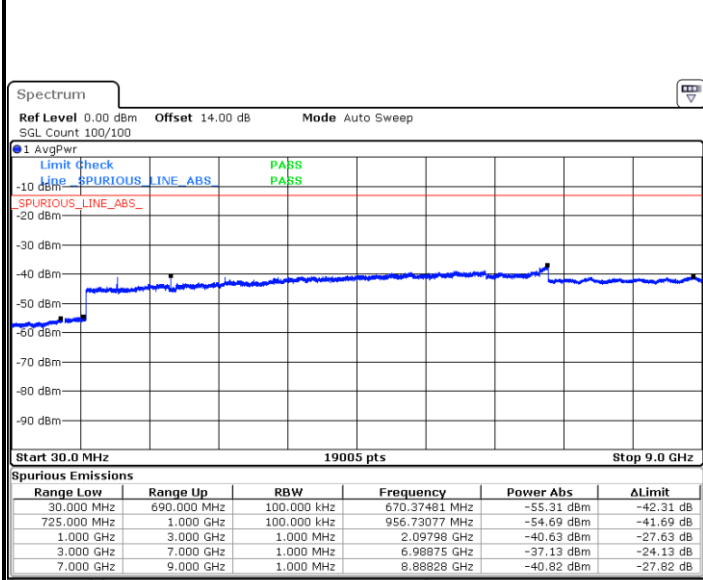
Highest Channel / 16QAM



Date: 14.DEC.2020 17:32:42

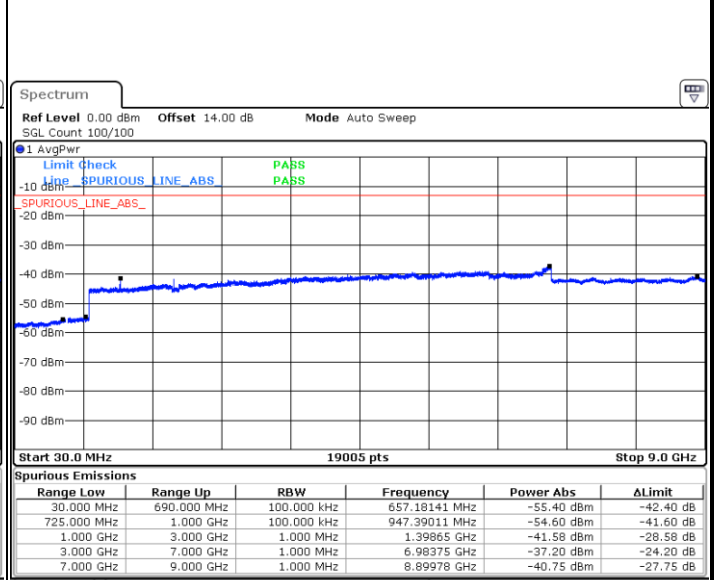
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 14.DEC.2020 18:01:30

Lowest Channel / 16QAM



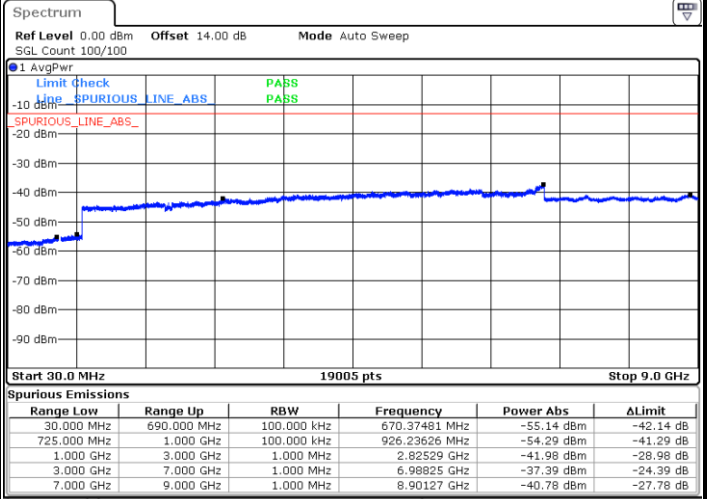
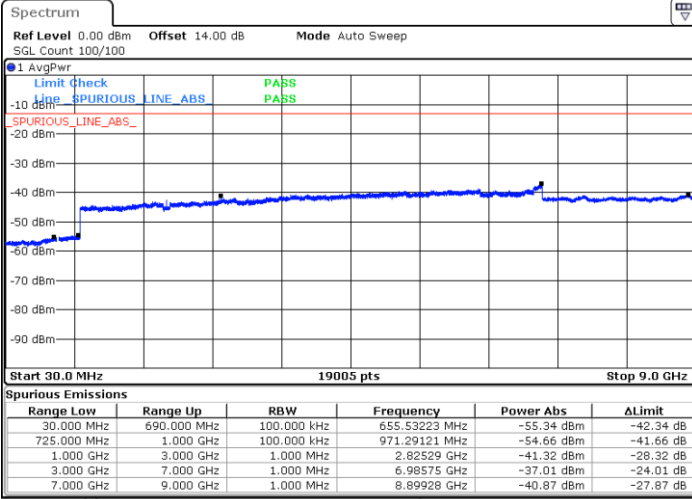
Date: 14.DEC.2020 18:02:17



LTE Band 12 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM

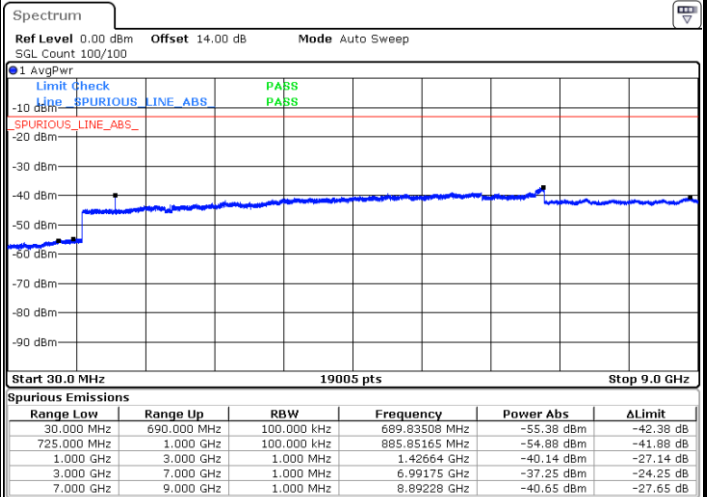
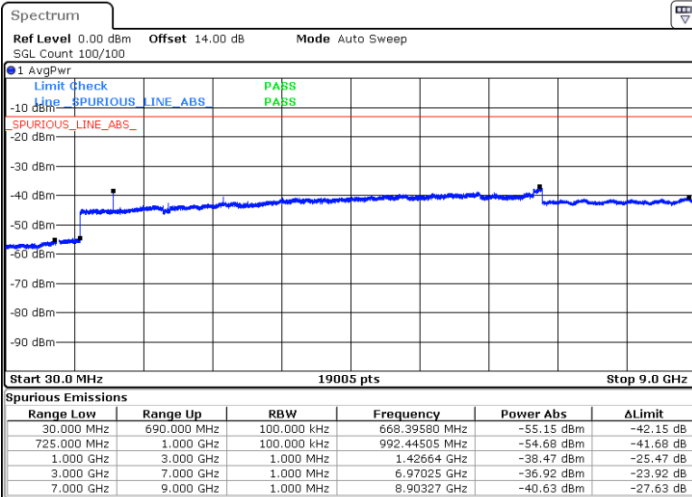


Date: 14.DEC.2020 18:04:44

Date: 14.DEC.2020 18:03:56

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 14.DEC.2020 18:09:15

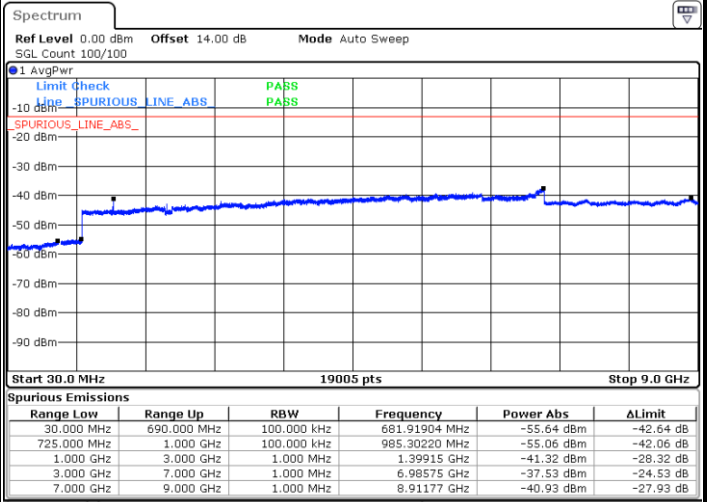
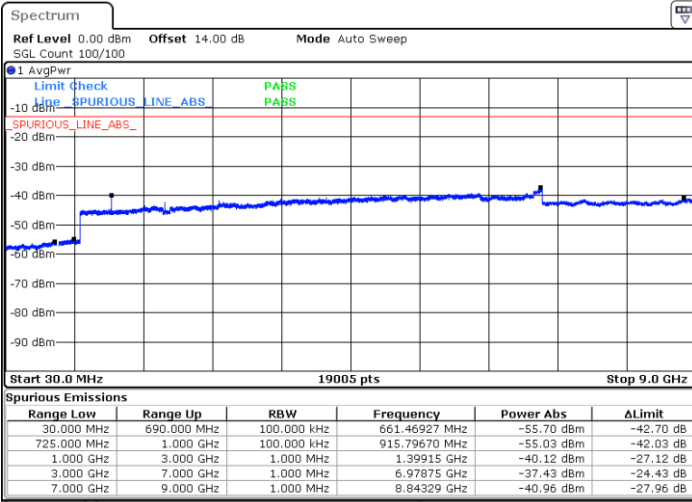
Date: 14.DEC.2020 18:10:03



LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

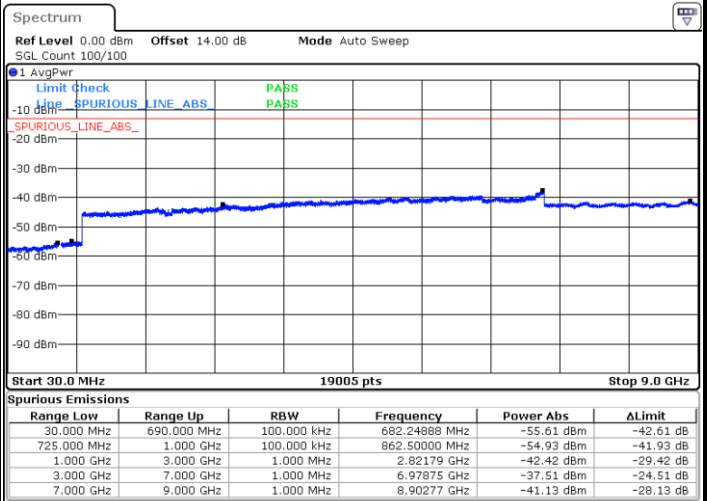
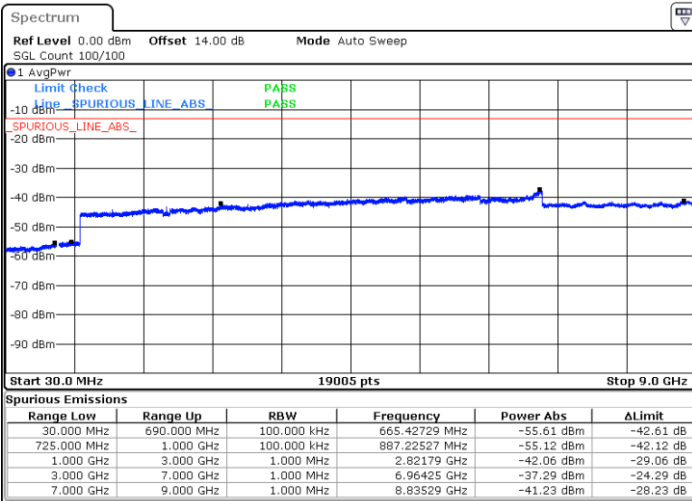


Date: 16.DEC.2020 10:10:38

Date: 16.DEC.2020 10:08:10

Middle Channel / QPSK

Middle Channel / 16QAM



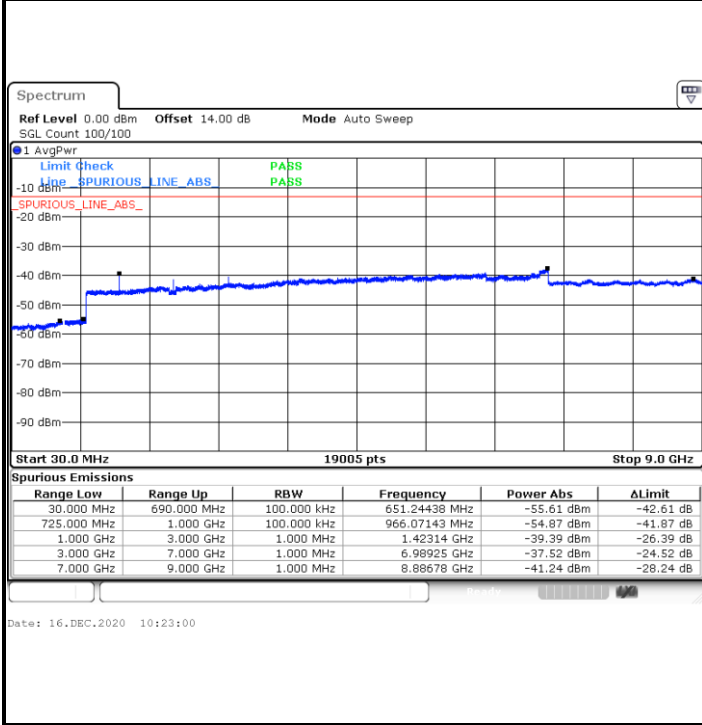
Date: 16.DEC.2020 10:14:39

Date: 16.DEC.2020 10:16:36

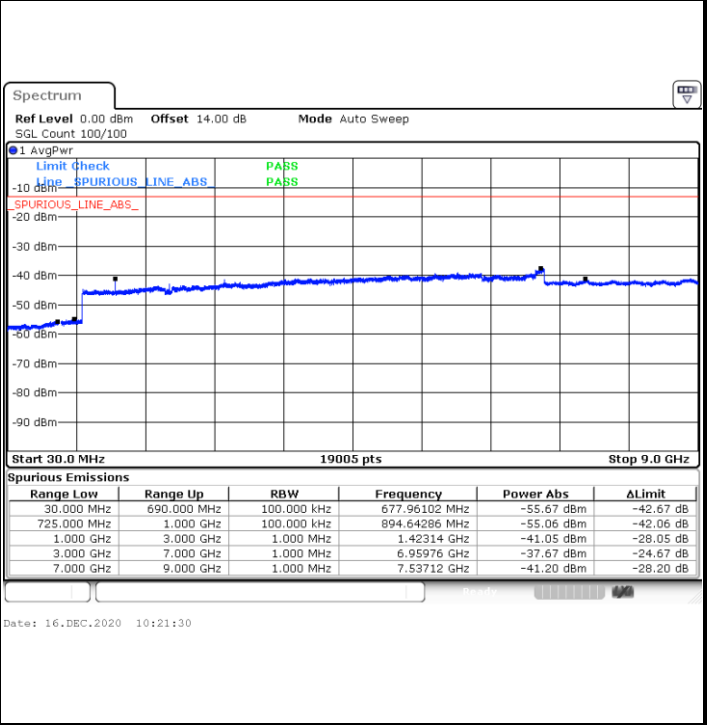


LTE Band 12 / 5MHz

Highest Channel / QPSK

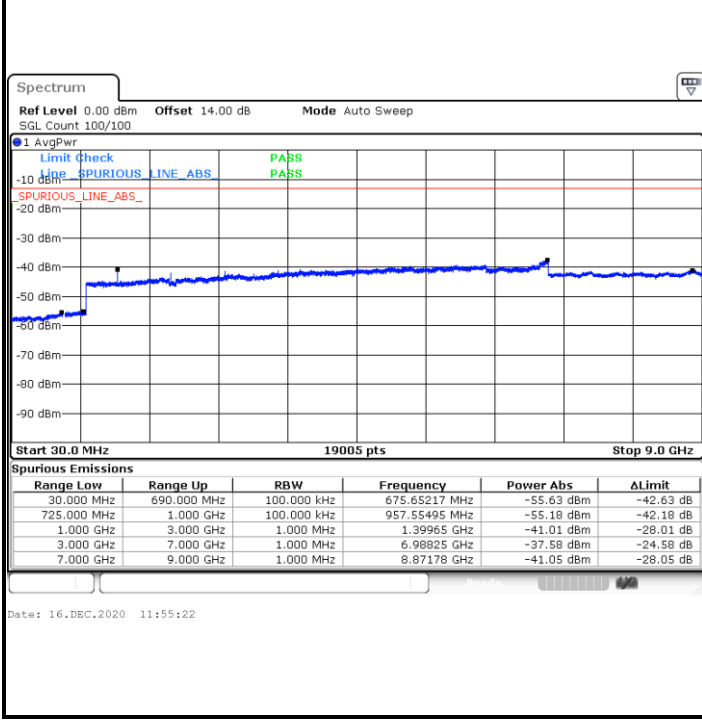


Highest Channel / 16QAM

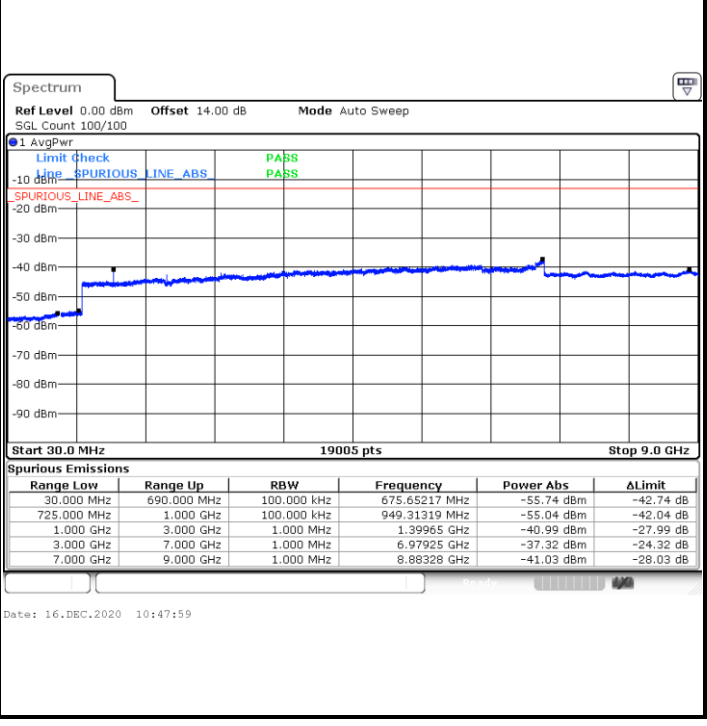


LTE Band 12 / 10MHz

Lowest Channel / QPSK



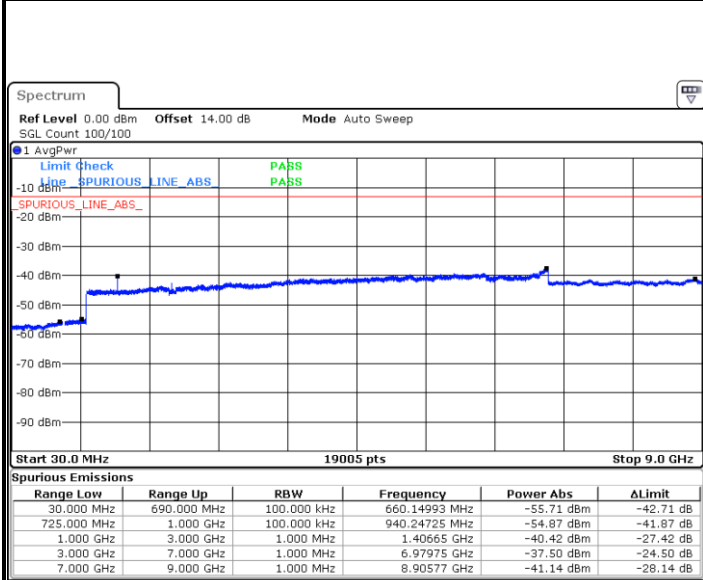
Lowest Channel / 16QAM





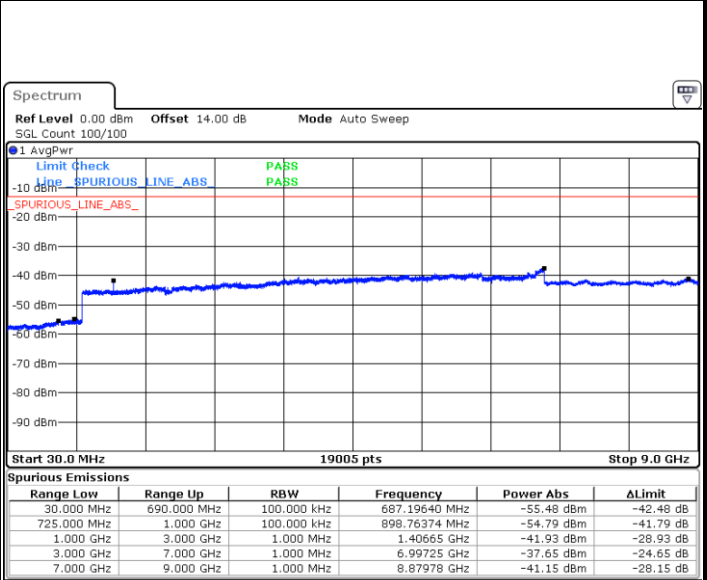
LTE Band 12 / 10MHz

Middle Channel / QPSK



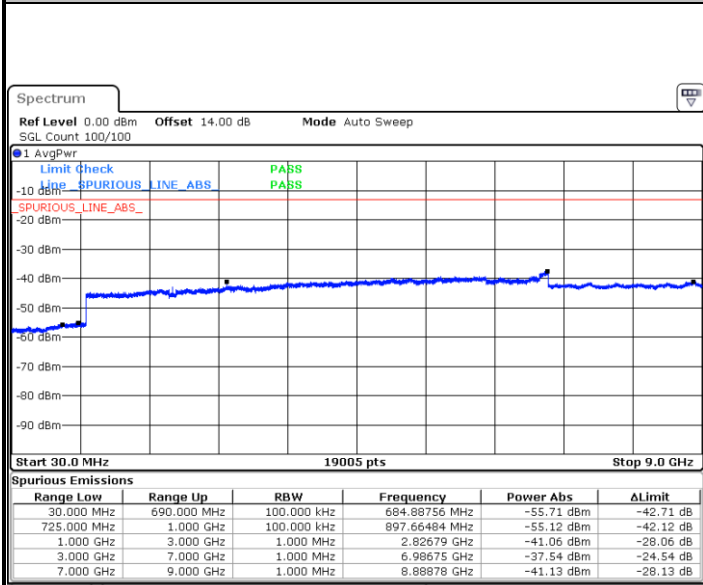
Date: 16.DEC.2020 11:56:57

Middle Channel / 16QAM



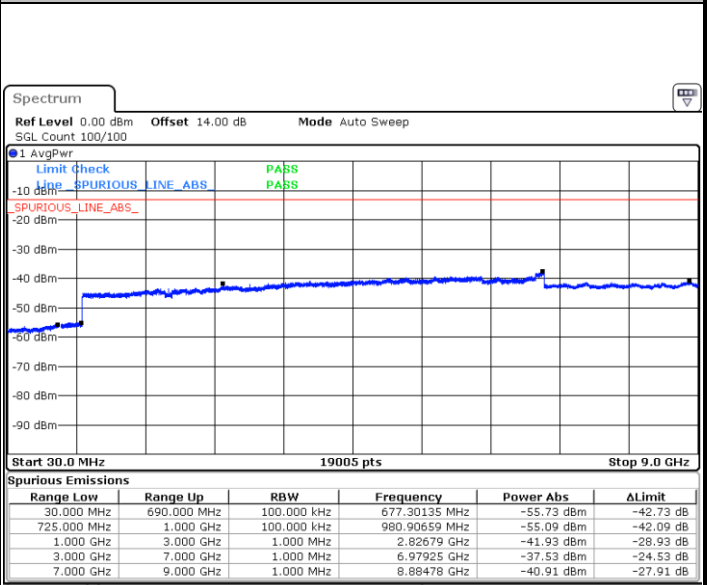
Date: 16.DEC.2020 11:59:06

Highest Channel / QPSK



Date: 16.DEC.2020 20:11:00

Highest Channel / 16QAM



Date: 16.DEC.2020 14:02:36





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	0.0092	PASS
40	Normal Voltage	0.0110	
30	Normal Voltage	0.0004	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0085	
0	Normal Voltage	0.0011	
-10	Normal Voltage	0.0082	
-20	Normal Voltage	0.0004	
-30	Normal Voltage	0.0003	
20	Maximum Voltage	0.0016	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0011	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.2 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



# LTE Band 13

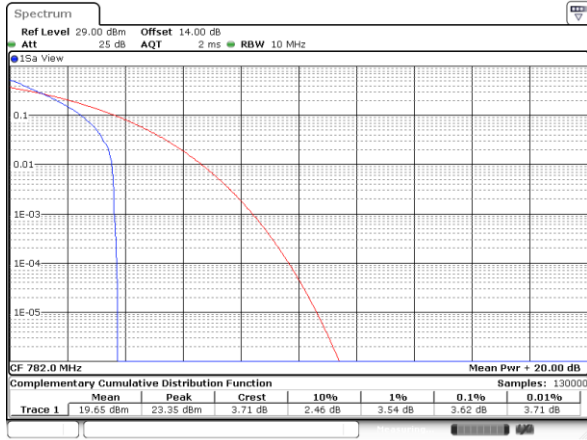
## Peak-to-Average Ratio

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	4.96	4.35	6.12	
Highest CH	-	-	-	-	



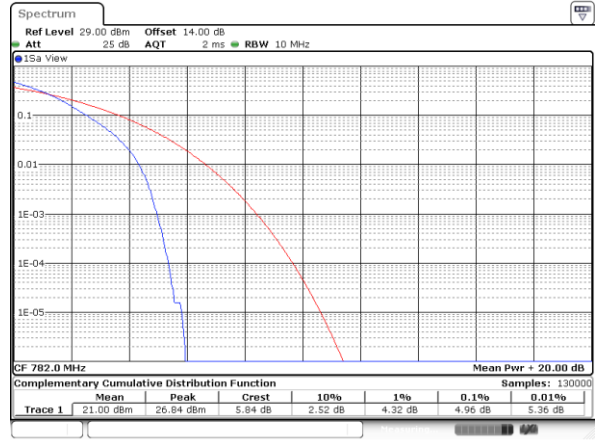
LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 16.DEC.2020 16:01:07

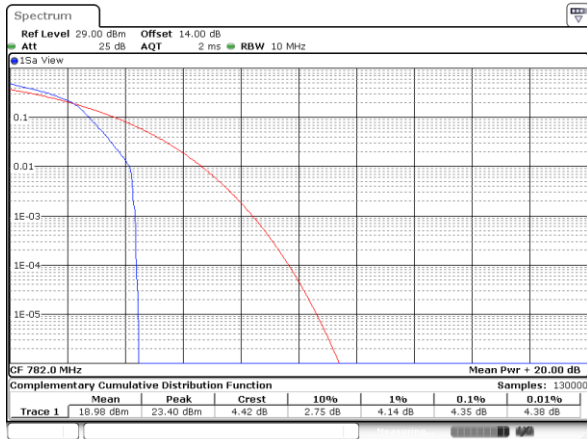
Middle Channel / Full RB



Date: 16.DEC.2020 15:34:46

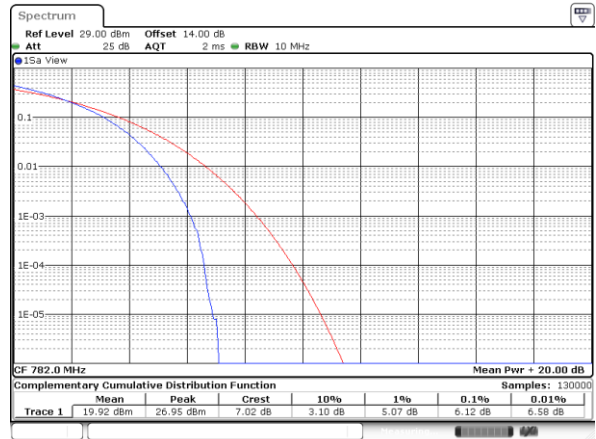
LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 16.DEC.2020 16:00:53

Middle Channel / Full RB



Date: 16.DEC.2020 15:33:28



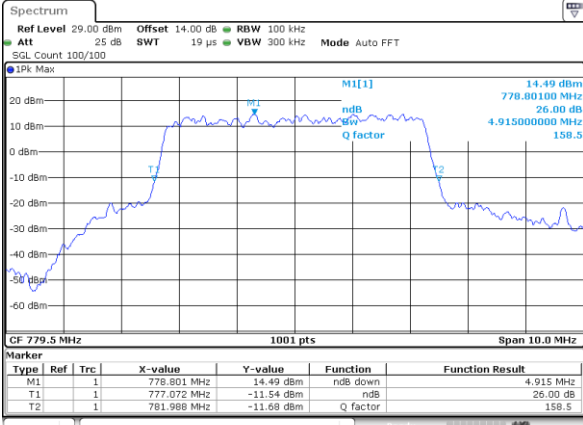
**26dB Bandwidth**

Mode	LTE Band 13 : 26dB BW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.92	4.92	-	-	-	-	-	-
Middle CH	-	-	-	-	4.89	4.87	9.67	9.89	-	-	-	-
Highest CH	-	-	-	-	4.96	4.94	-	-	-	-	-	-



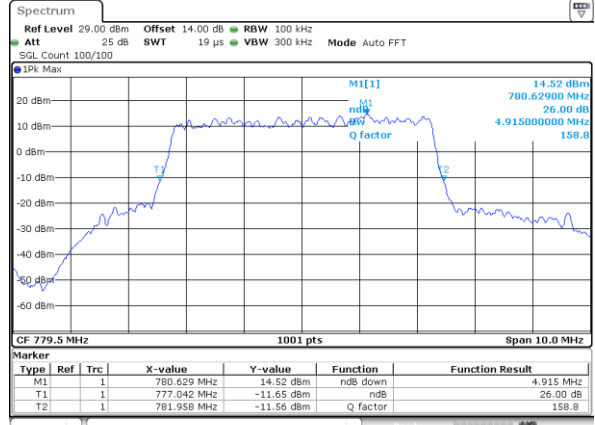
LTE Band 13

Lowest Channel / 5MHz / QPSK



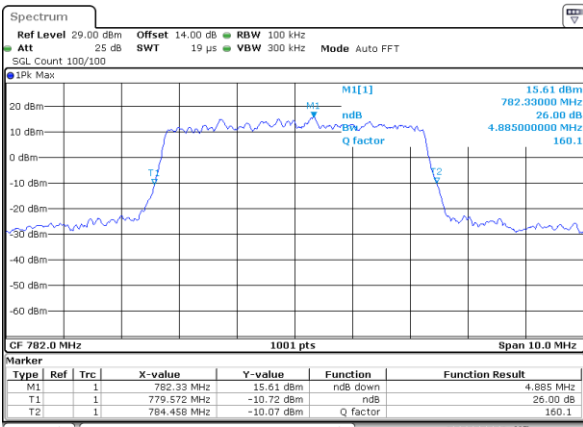
Date: 16, DEC, 2020 14:10:04

Lowest Channel / 5MHz / 16QAM



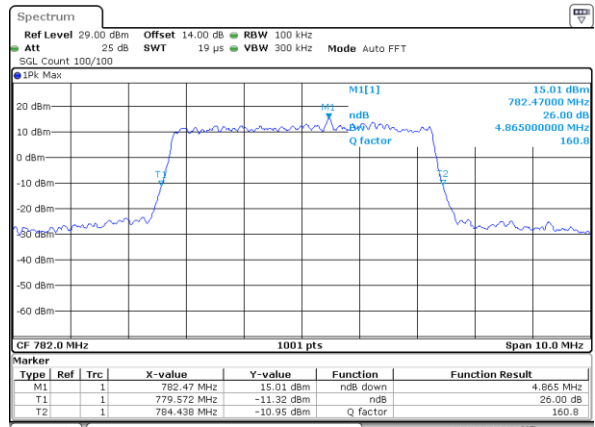
Date: 16, DEC, 2020 14:11:53

Middle Channel / 5MHz / QPSK



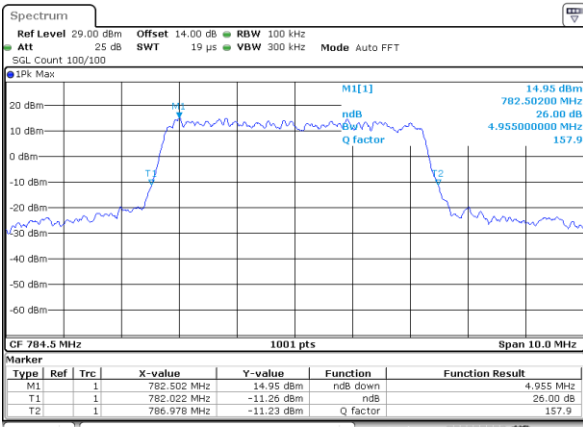
Date: 16, DEC, 2020 14:30:02

Middle Channel / 5MHz / 16QAM



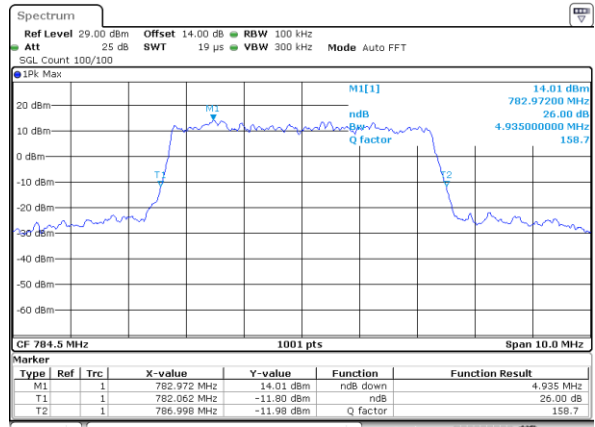
Date: 16, DEC, 2020 14:32:17

Highest Channel / 5MHz / QPSK



Date: 16, DEC, 2020 14:32:11

Highest Channel / 5MHz / 16QAM

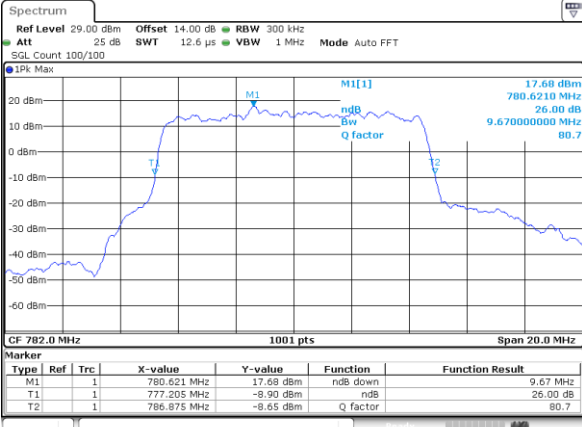


Date: 16, DEC, 2020 14:34:19



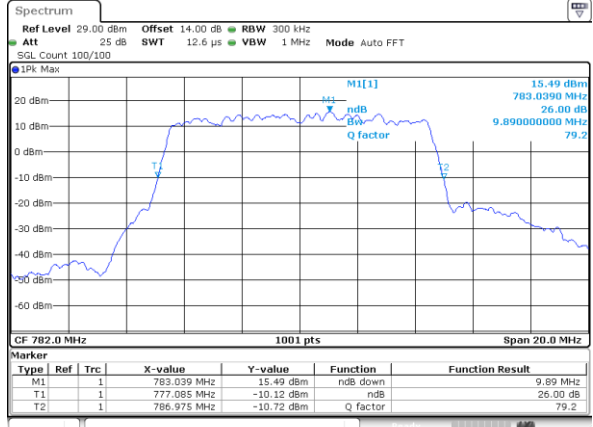
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 16, DEC, 2020 15:35:08

Middle Channel / 10MHz / 16QAM



Date: 16, DEC, 2020 15:31:47



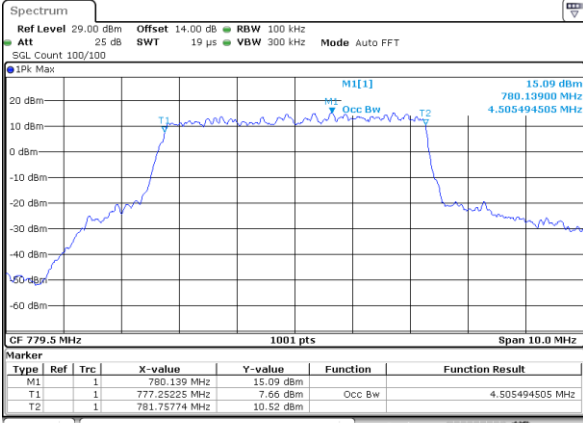
### Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.51	4.51	-	-	-	-	-	-
Middle CH	-	-	-	-	4.47	4.48	9.01	8.99	-	-	-	-
Highest CH	-	-	-	-	4.51	4.48	-	-	-	-	-	-



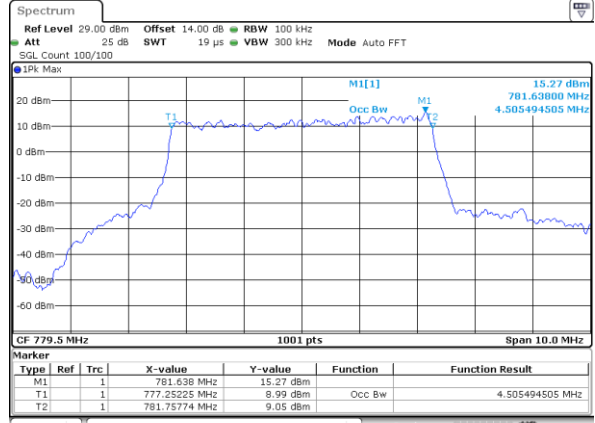
LTE Band 13

Lowest Channel / 5MHz / QPSK



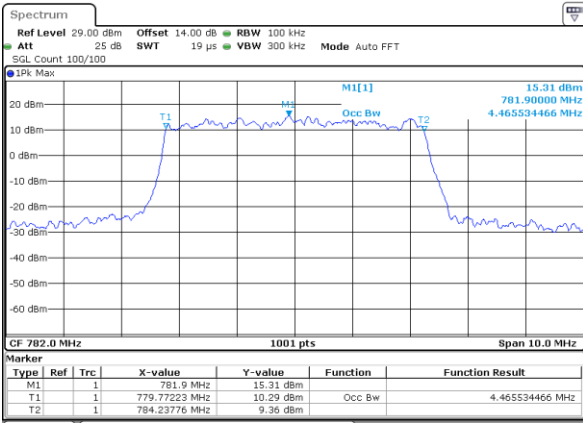
Date: 16, DEC, 2020 14:09:54

Lowest Channel / 5MHz / 16QAM



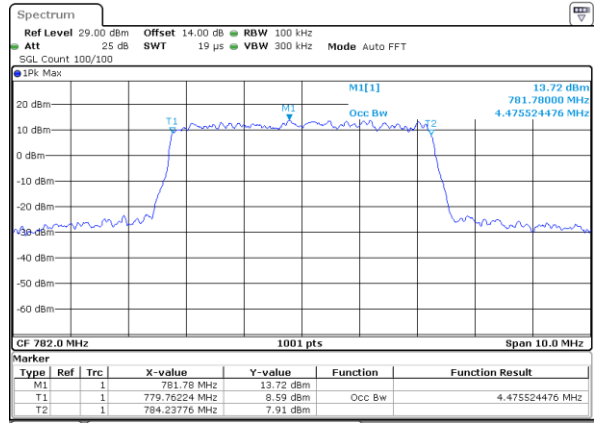
Date: 16, DEC, 2020 14:11:42

Middle Channel / 5MHz / QPSK



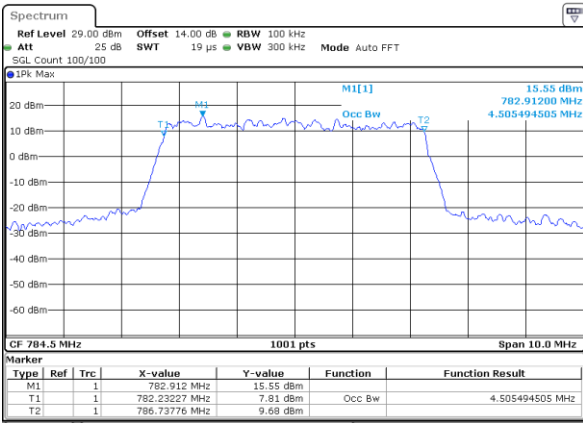
Date: 16, DEC, 2020 14:29:48

Middle Channel / 5MHz / 16QAM



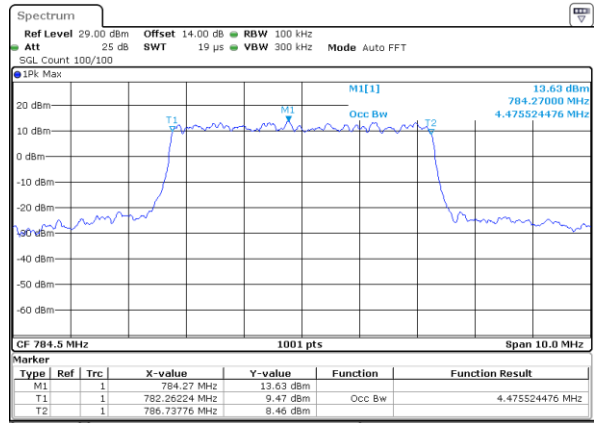
Date: 16, DEC, 2020 14:29:03

Highest Channel / 5MHz / QPSK



Date: 16, DEC, 2020 14:30:26

Highest Channel / 5MHz / 16QAM



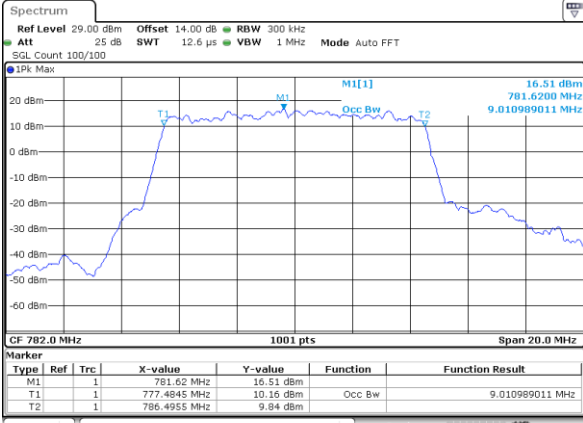
Date: 16, DEC, 2020 14:34:10





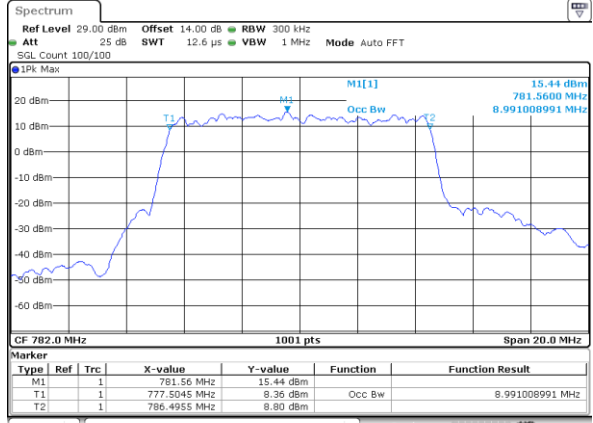
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 16, DEC, 2020 15:34:56

Middle Channel / 10MHz / 16QAM



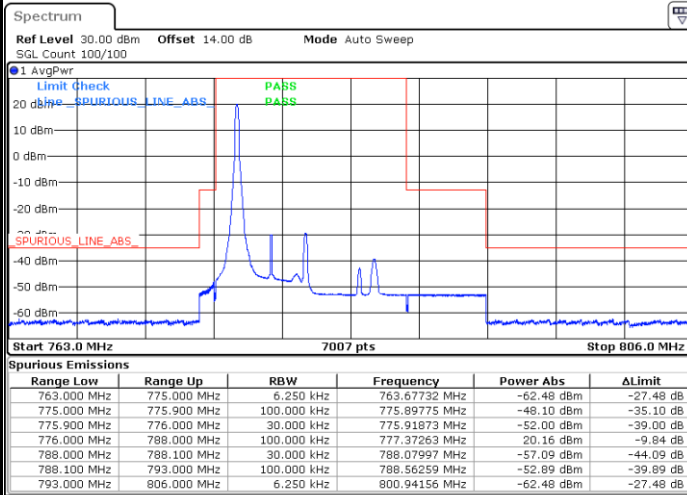
Date: 16, DEC, 2020 15:31:28



# Conducted Band Edge

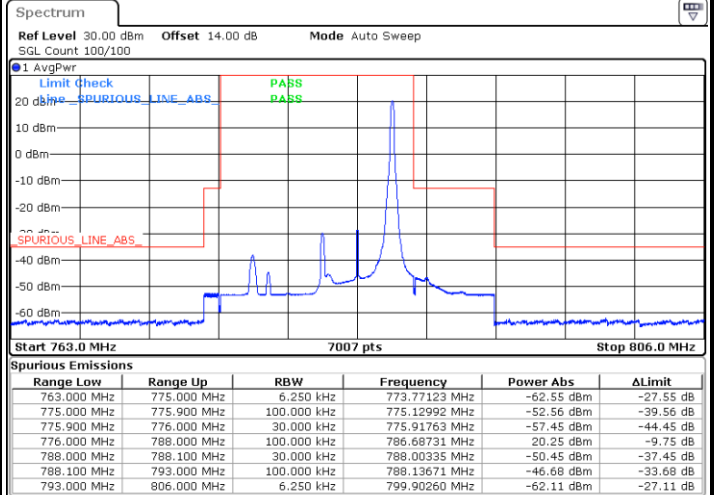
## LTE Band 13 / 5MHz / QPSK

### Lowest Band Edge / 1 RB



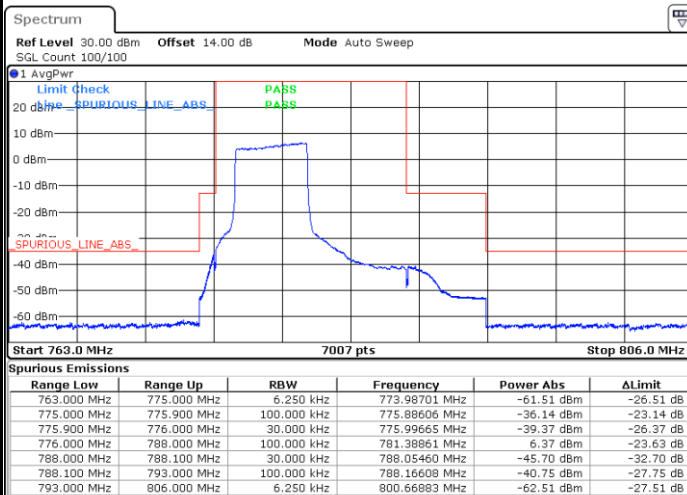
Date: 16.DEC.2020 14:23:09

### Highest Band Edge / 1 RB



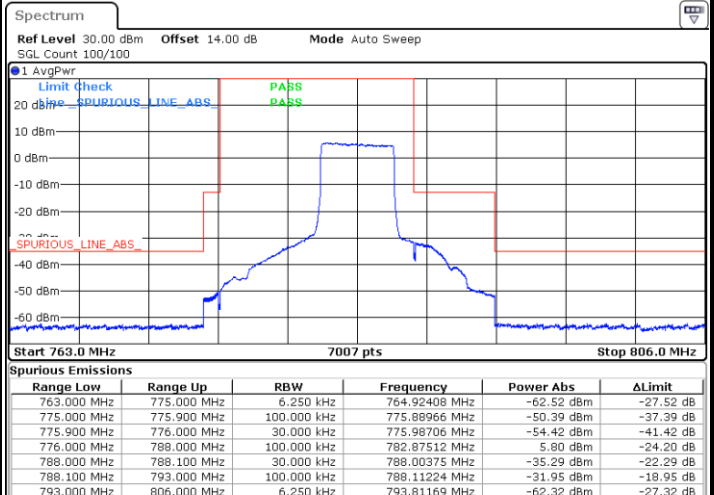
Date: 16.DEC.2020 15:10:47

### Lowest Band Edge / Full RB



Date: 16.DEC.2020 14:11:25

### Highest Band Edge / Full RB



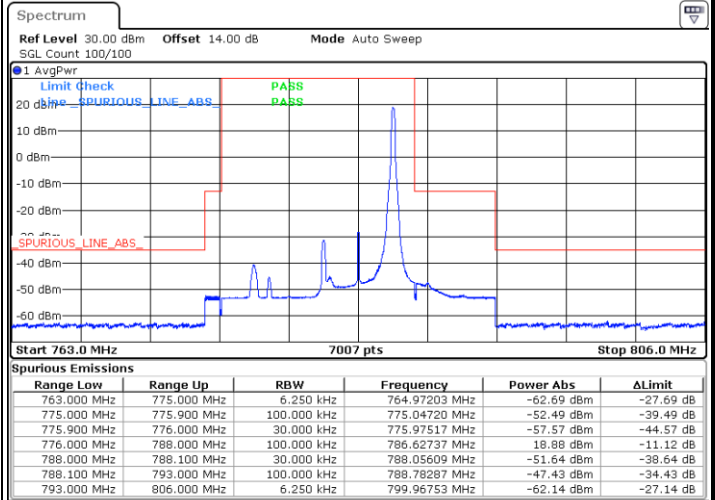
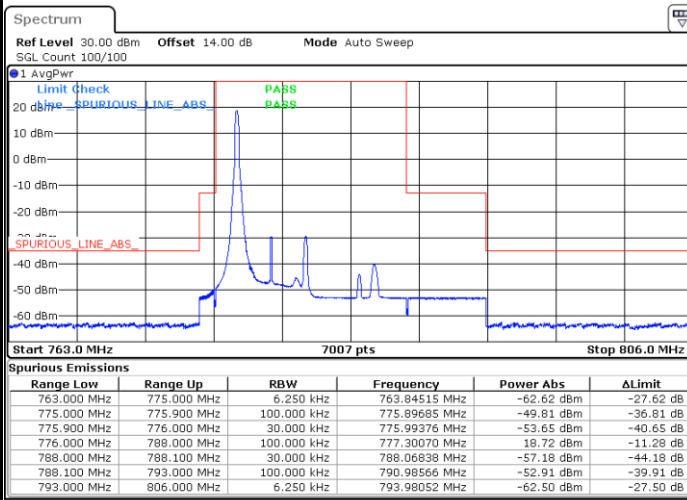
Date: 16.DEC.2020 14:33:25



LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

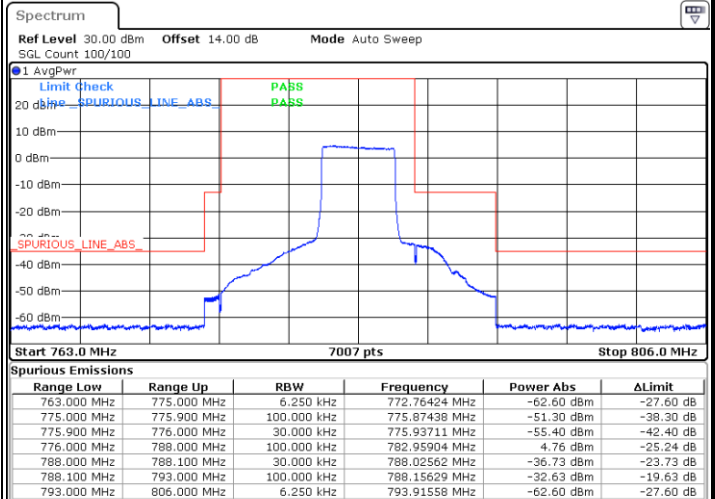
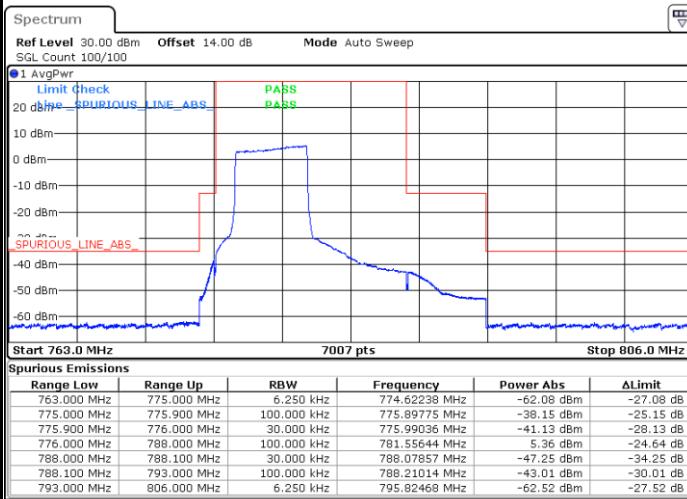


Date: 16.DEC.2020 14:20:30

Date: 16.DEC.2020 15:13:39

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 16.DEC.2020 14:13:05

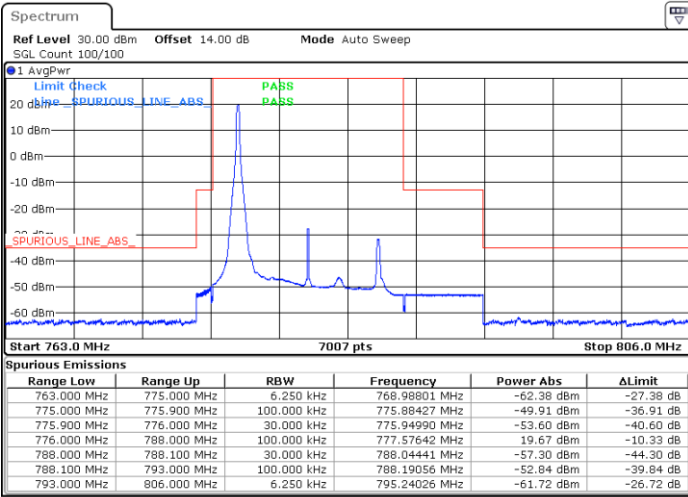
Date: 16.DEC.2020 14:35:54



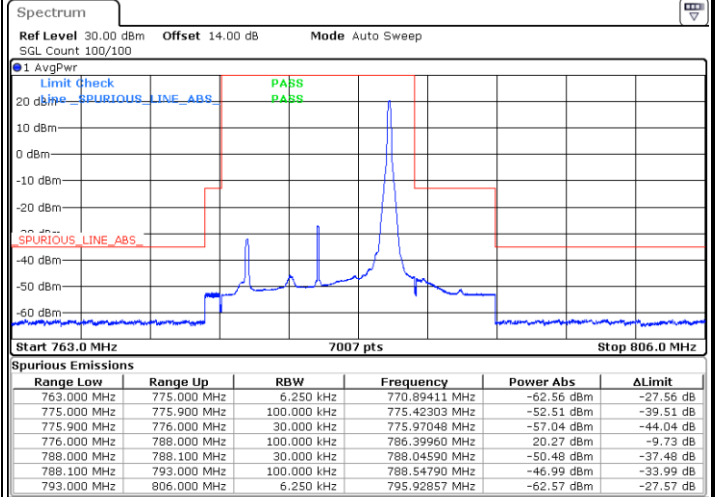
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

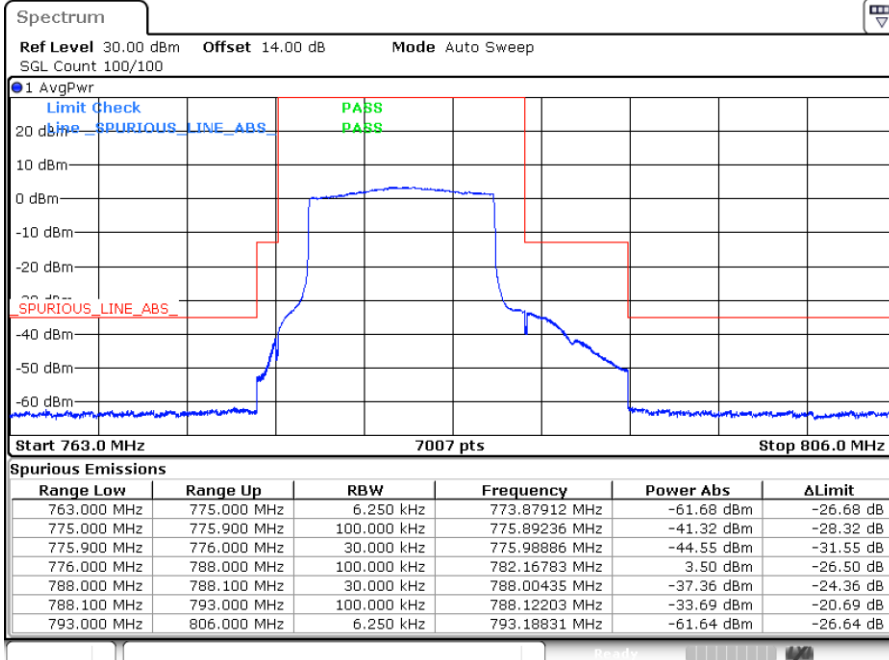


Date: 16.DEC.2020 15:57:04



Date: 16.DEC.2020 15:55:09

Band Edge / Full RB

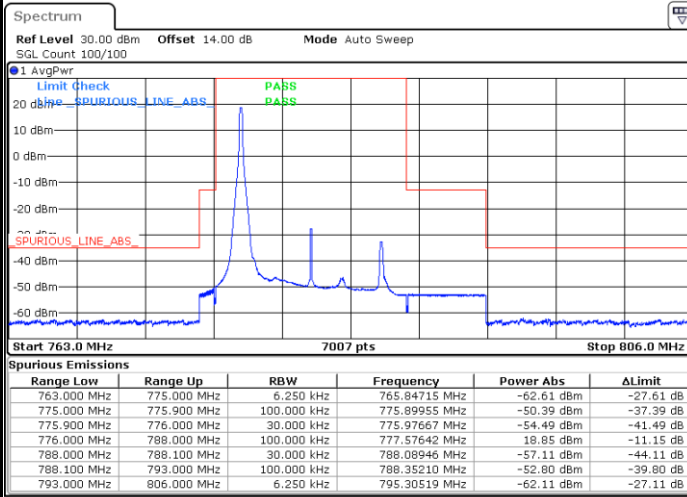


Date: 16.DEC.2020 15:36:30



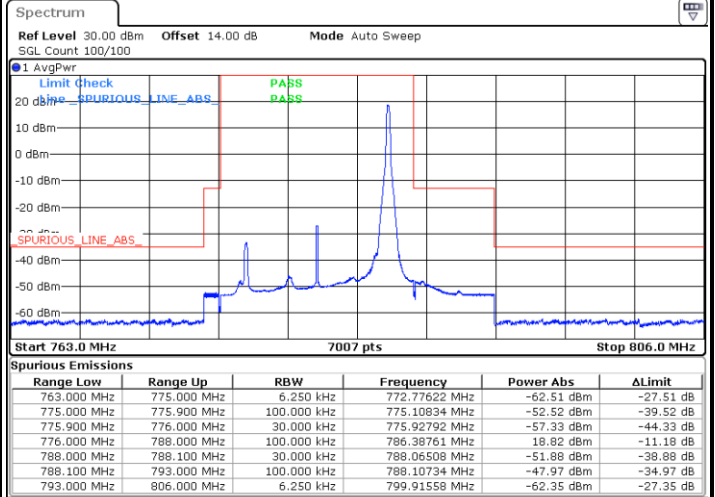
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



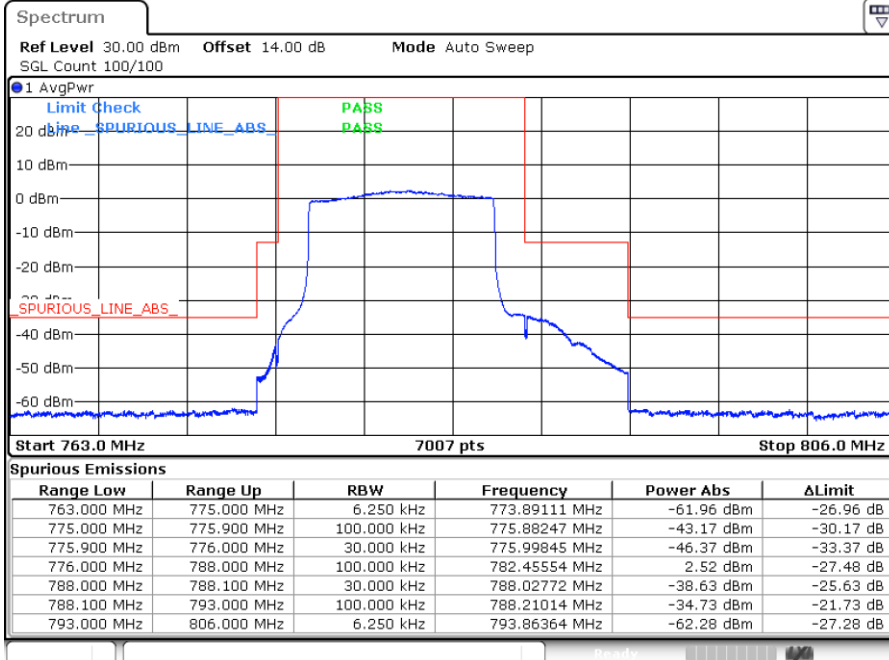
Date: 16.DEC.2020 15:58:42

Highest Band Edge / 1 RB



Date: 16.DEC.2020 15:53:33

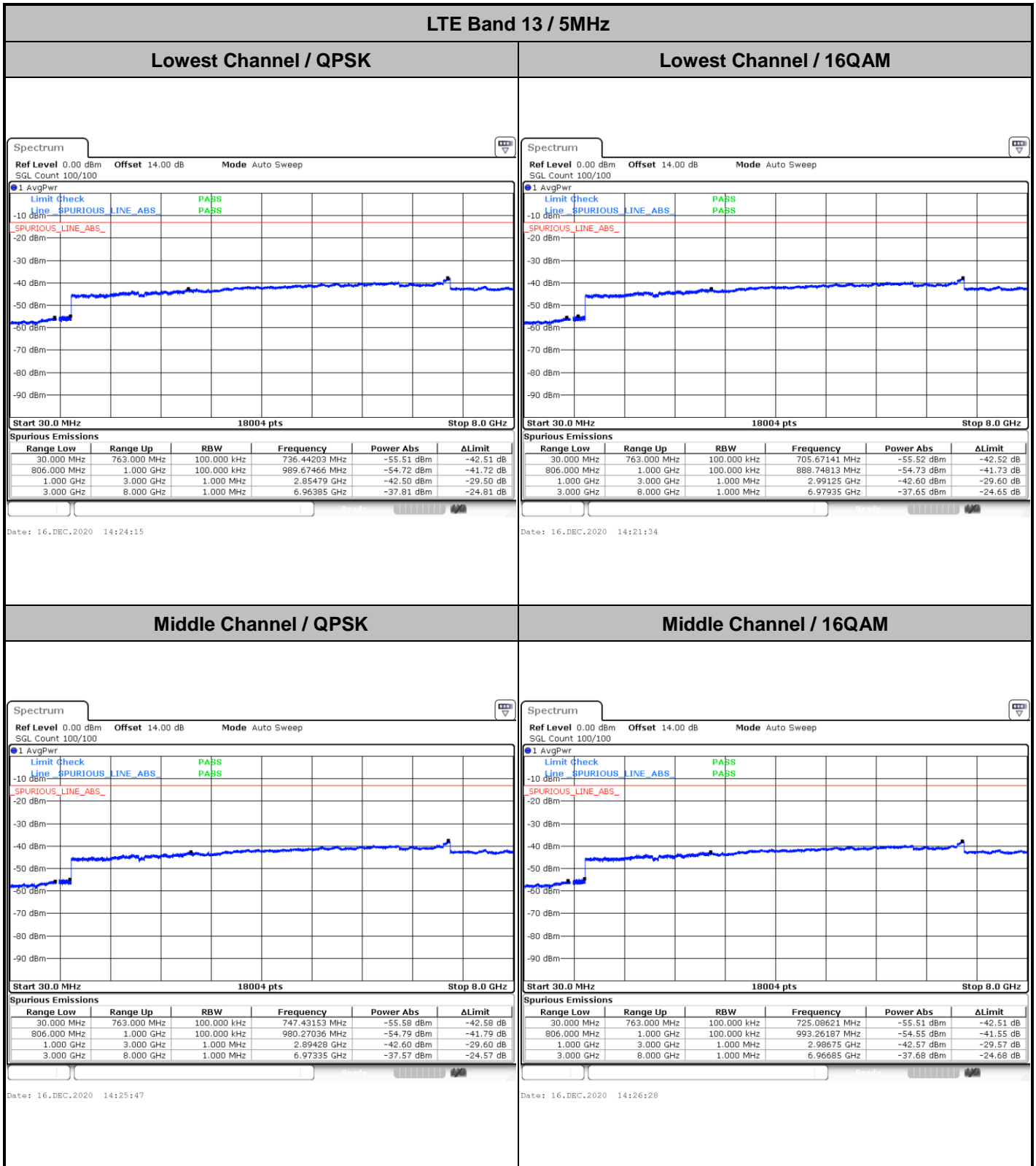
Band Edge / Full RB



Date: 16.DEC.2020 15:32:55



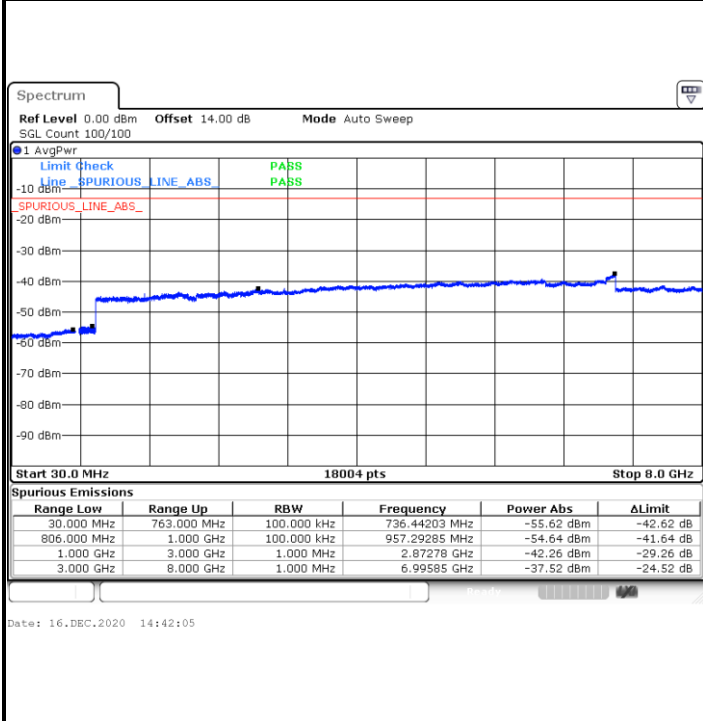
# Conducted Spurious Emission



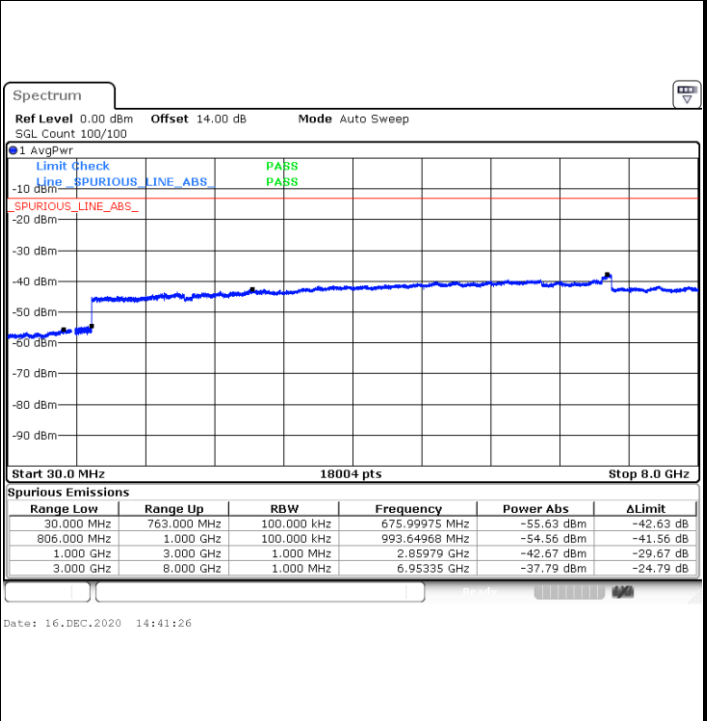


LTE Band 13 / 5MHz

Highest Channel / QPSK

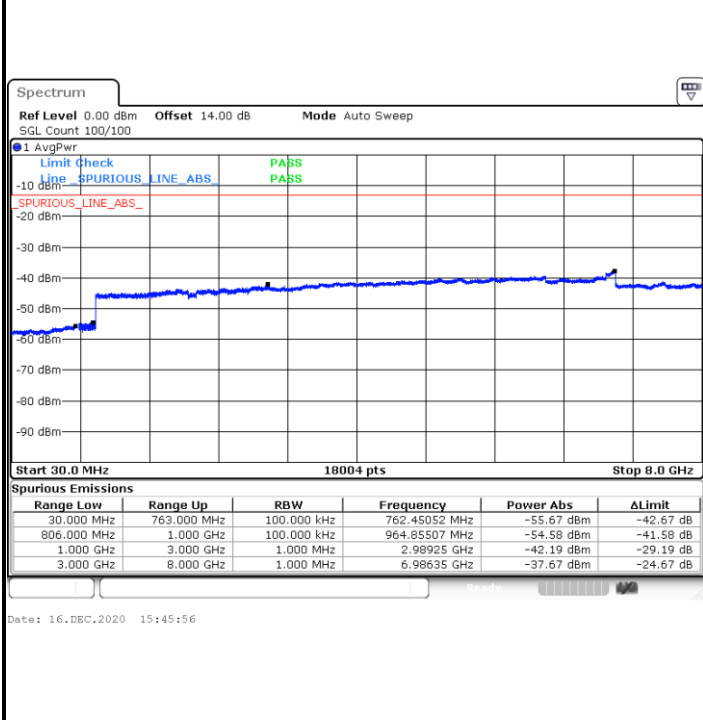


Highest Channel / 16QAM

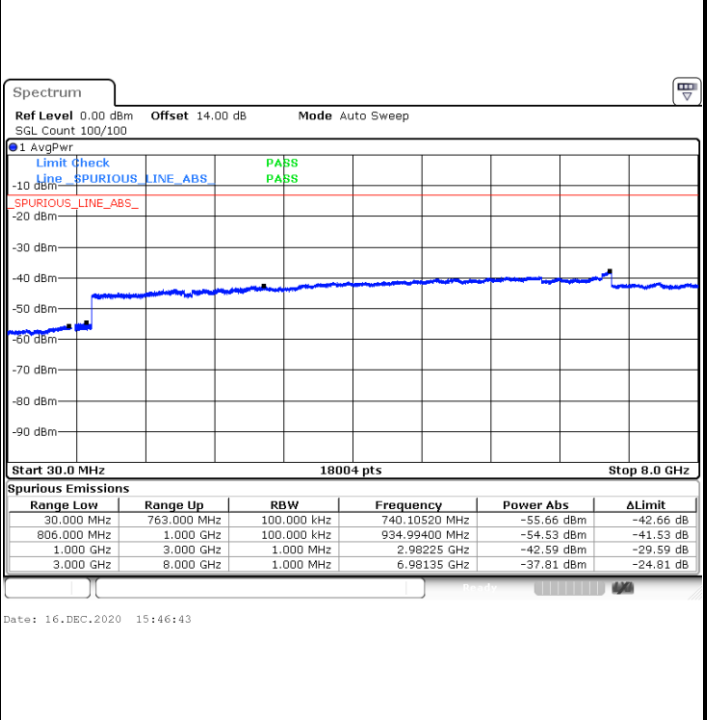


LTE Band 13 / 10MHz

Middle Channel / QPSK



Middle Channel / 16QAM





Frequency Stability

Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0036	PASS
40	Normal Voltage	0.0020	
30	Normal Voltage	0.0029	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0023	
0	Normal Voltage	0.0001	
-10	Normal Voltage	0.0020	
-20	Normal Voltage	0.0012	
-30	Normal Voltage	0.0098	
20	Maximum Voltage	0.0090	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0036	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.2 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.





## LTE Band 25

### Peak-to-Average Ratio

Mode	LTE Band 25 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.09	4.67	5.28	5.68	PASS
Middle CH	4.17	4.75	5.30	5.80	
Highest CH	3.94	4.58	4.70	5.59	