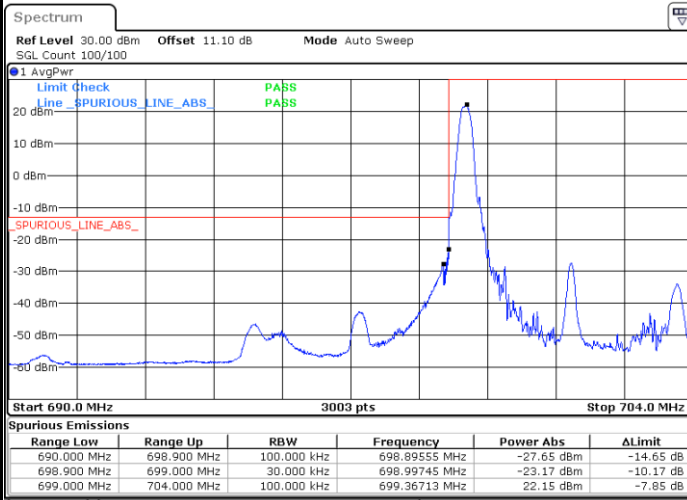




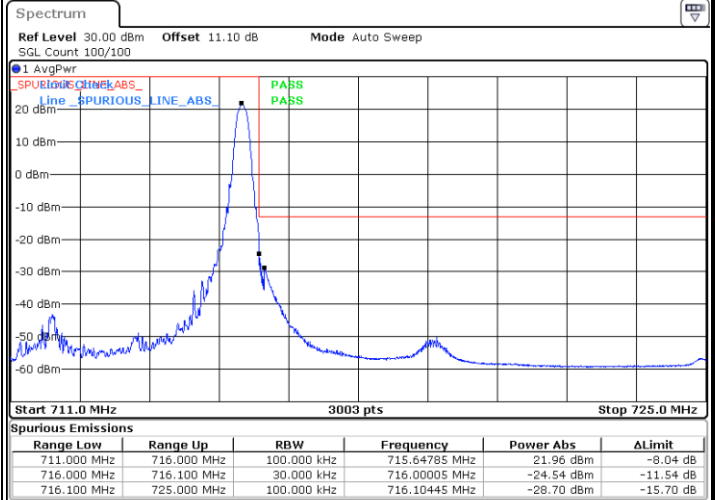
LTE Band 12 / 5MHz / 16QAM

Lowest Band Edge / 1RB



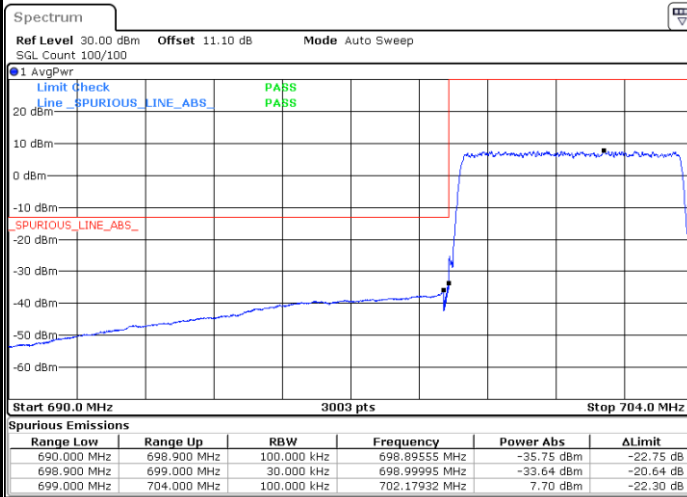
Date: 10.JUL.2020 20:57:49

Highest Band Edge / 1 RB



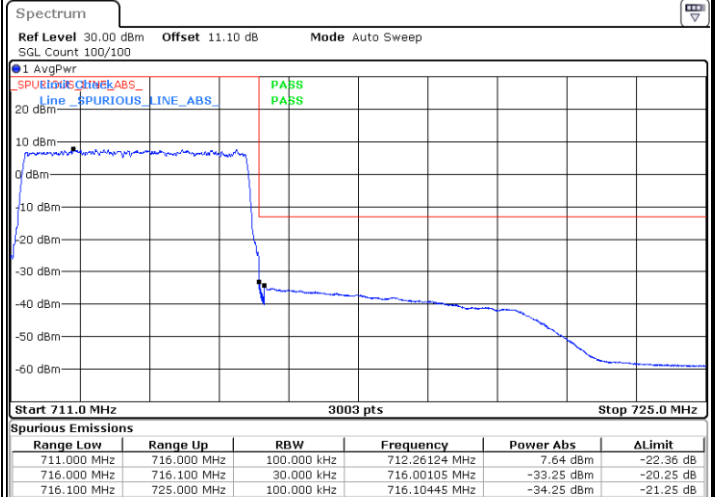
Date: 10.JUL.2020 21:07:20

Lowest Band Edge / Full RB



Date: 10.JUL.2020 20:56:48

Highest Band Edge / Full RB

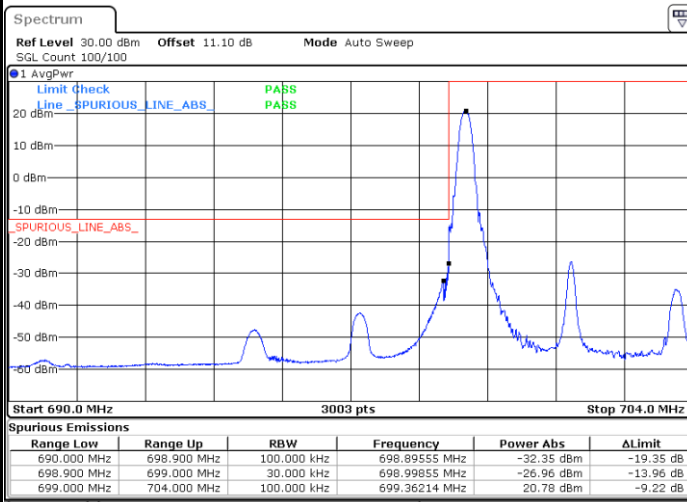


Date: 10.JUL.2020 21:05:17



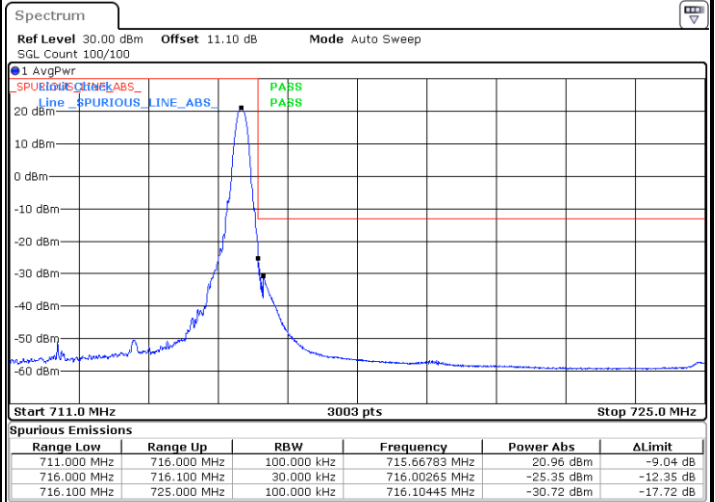
LTE Band 12 / 5MHz / 64QAM

Lowest Band Edge / 1RB



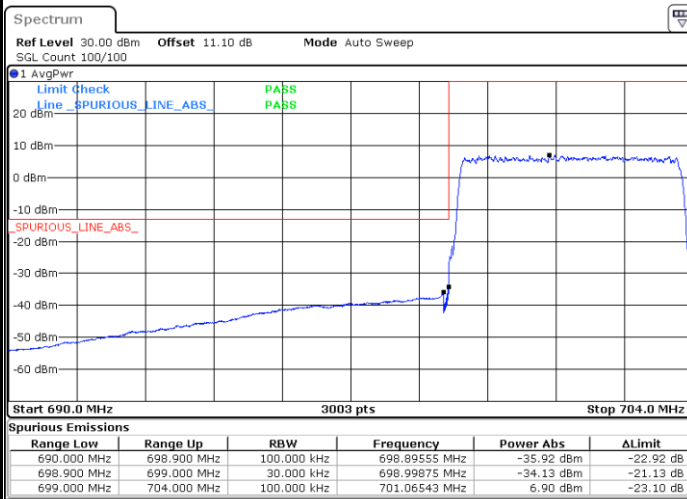
Date: 10.JUL.2020 20:49:01

Highest Band Edge / 1 RB



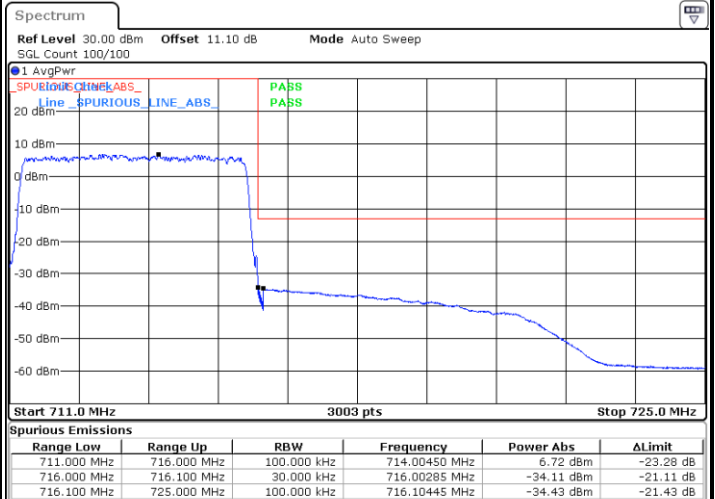
Date: 10.JUL.2020 20:53:15

Lowest Band Edge / Full RB



Date: 10.JUL.2020 20:47:59

Highest Band Edge / Full RB

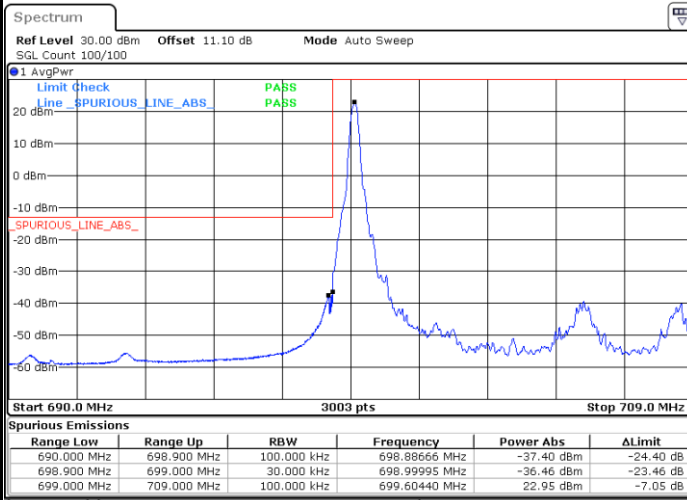


Date: 10.JUL.2020 20:52:14



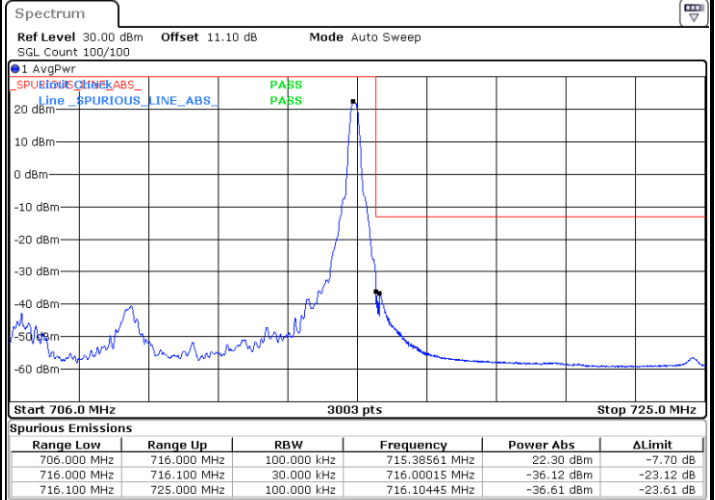
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1 RB



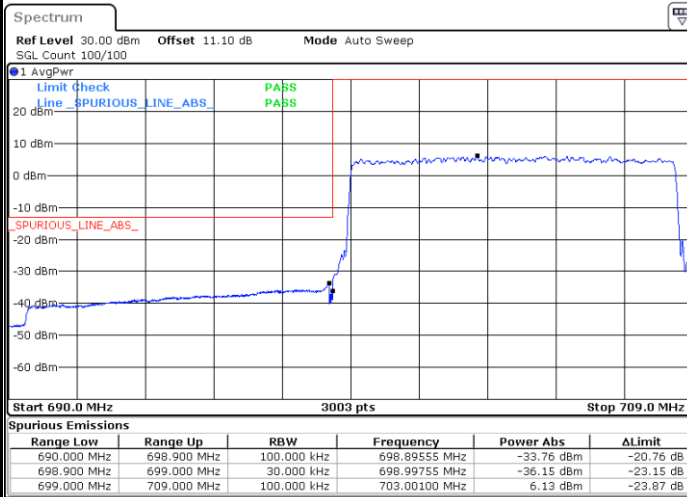
Date: 10.JUL.2020 21:13:38

Highest Band Edge / 1 RB



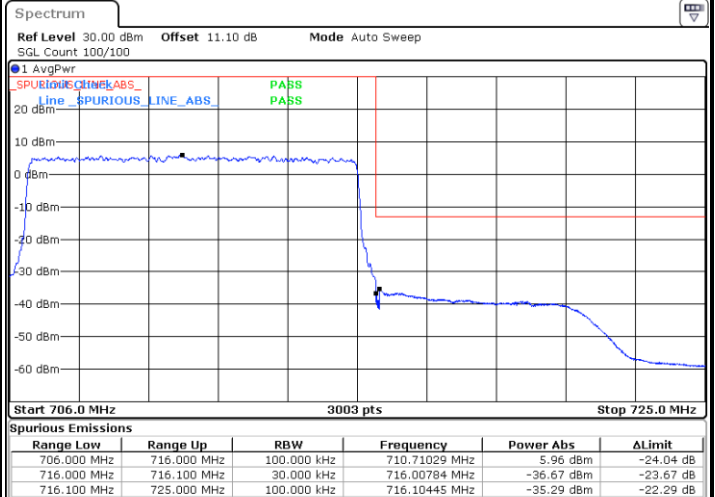
Date: 10.JUL.2020 21:22:06

Lowest Band Edge / Full RB



Date: 10.JUL.2020 21:10:34

Highest Band Edge / Full RB

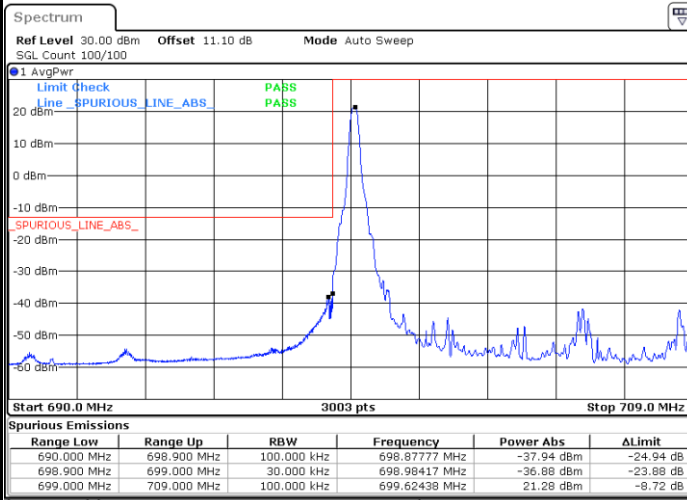


Date: 10.JUL.2020 21:19:02



LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



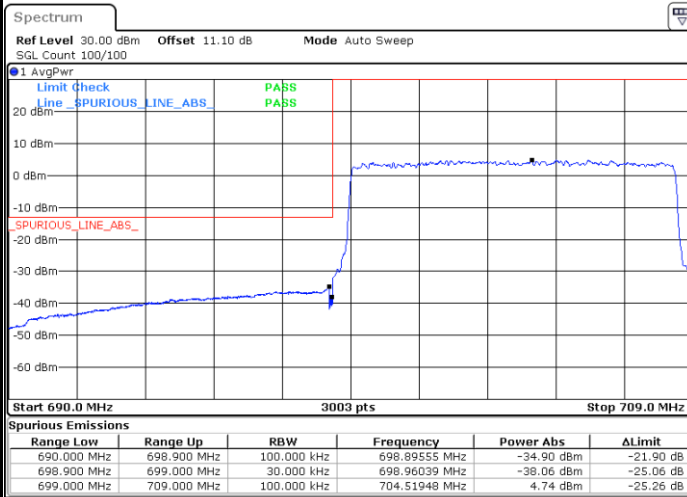
Date: 10.JUL.2020 21:12:37

Highest Band Edge / 1 RB



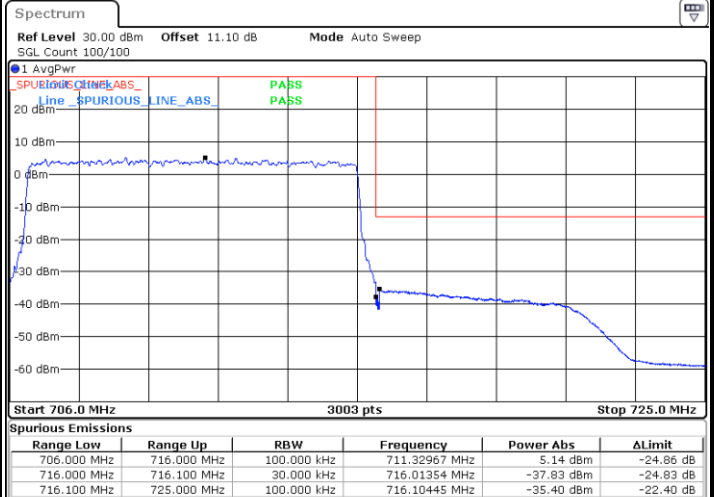
Date: 10.JUL.2020 21:21:04

Lowest Band Edge / Full RB



Date: 10.JUL.2020 21:11:35

Highest Band Edge / Full RB

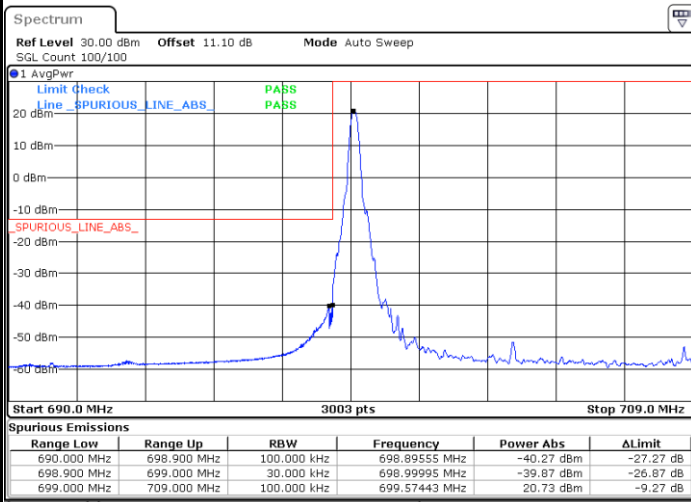


Date: 10.JUL.2020 21:20:03



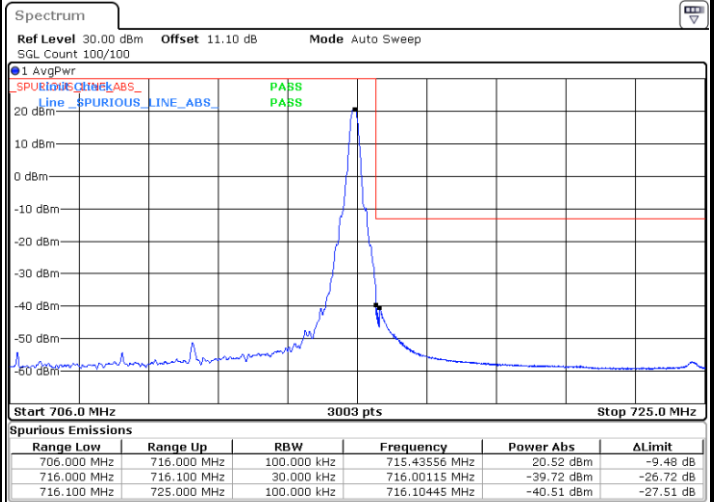
LTE Band 12 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



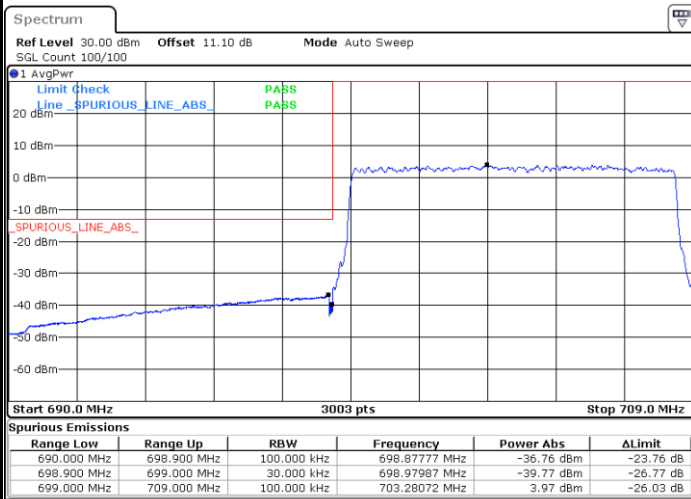
Date: 10.JUL.2020 21:25:57

Highest Band Edge / 1 RB



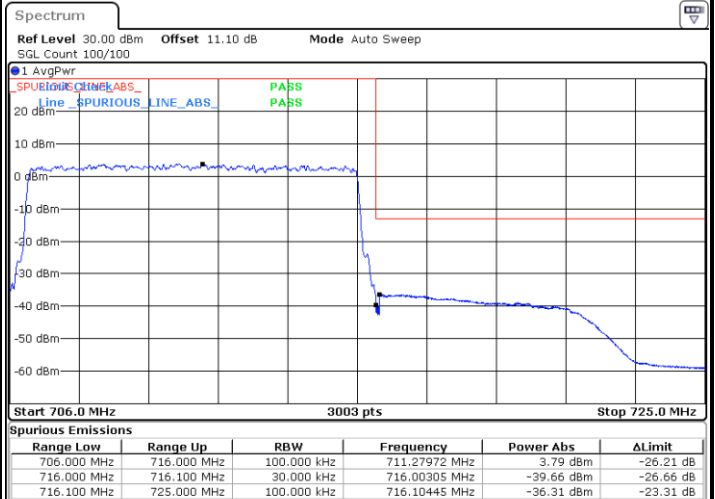
Date: 10.JUL.2020 21:30:11

Lowest Band Edge / Full RB



Date: 10.JUL.2020 21:24:56

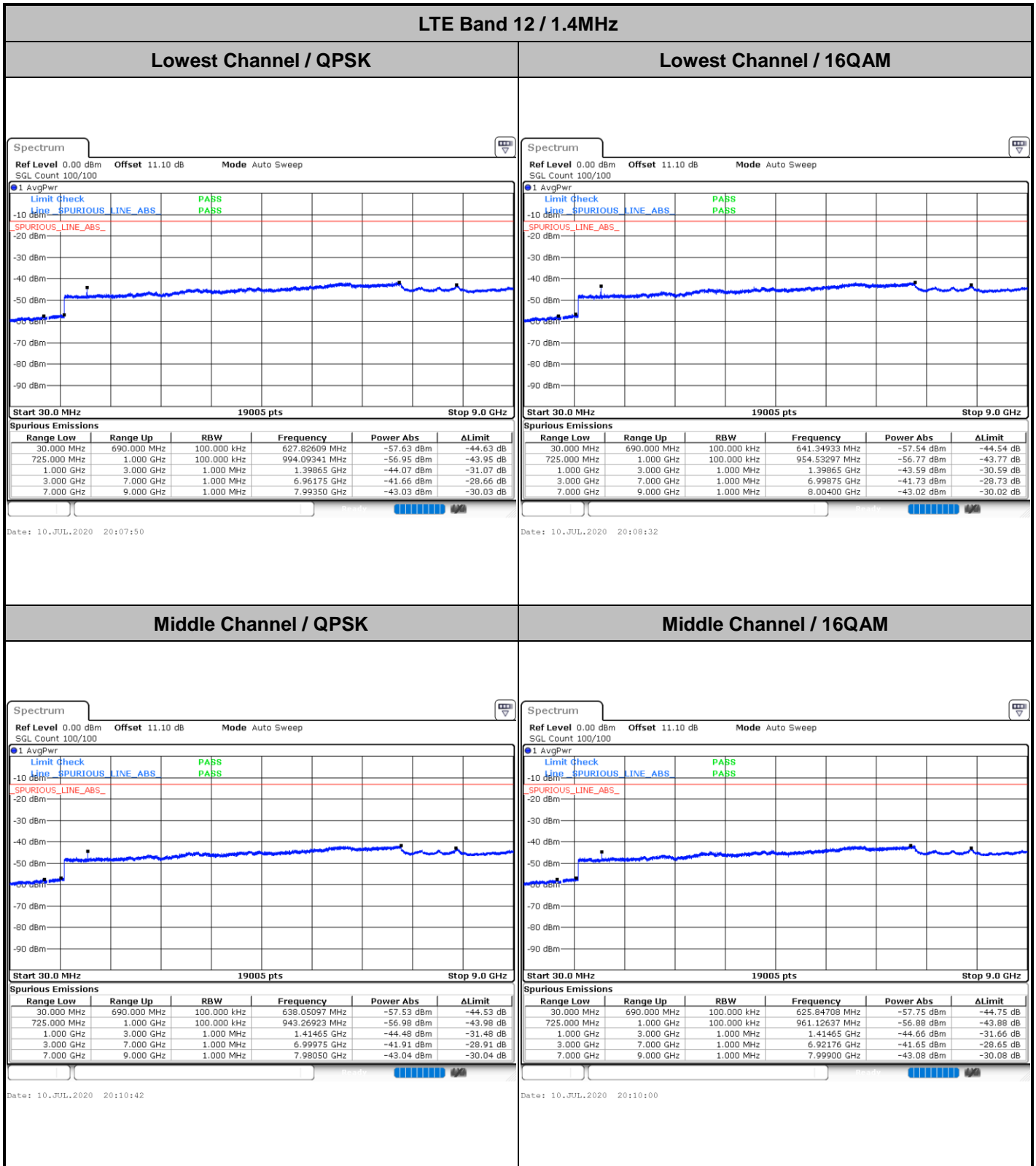
Highest Band Edge / Full RB



Date: 10.JUL.2020 21:23:10



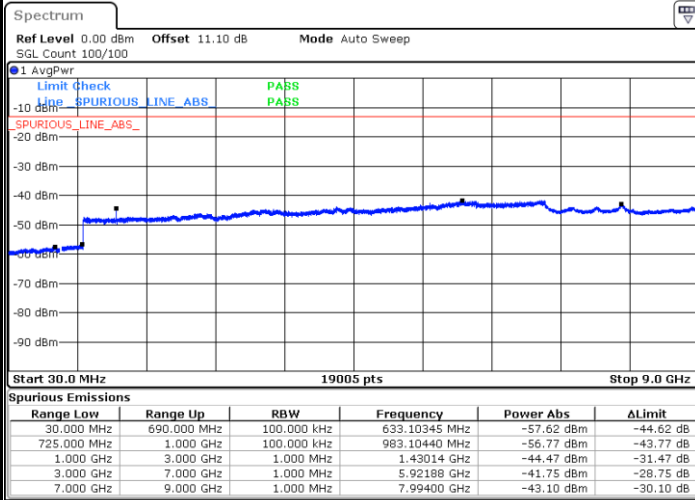
# Conducted Spurious Emission





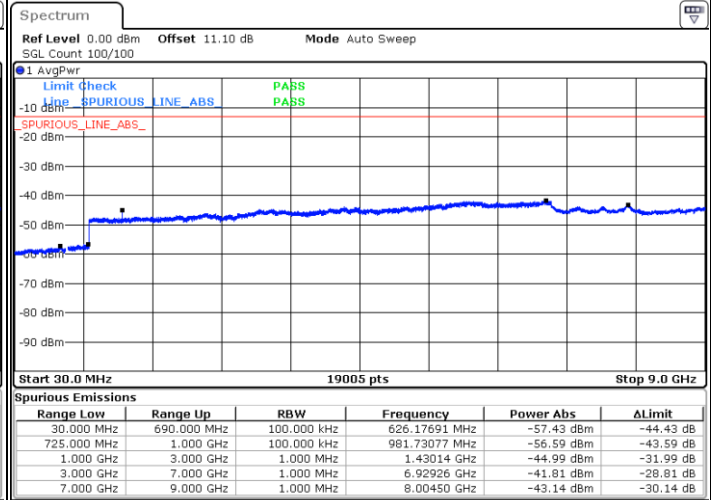
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 10.JUL.2020 20:16:18

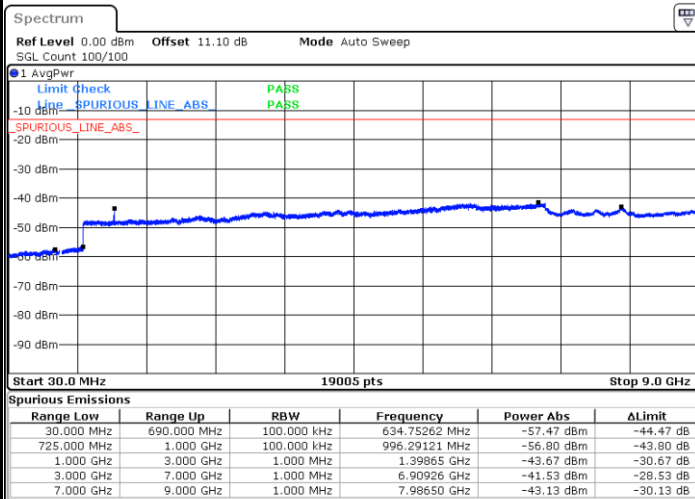
Highest Channel / 16QAM



Date: 10.JUL.2020 20:17:00

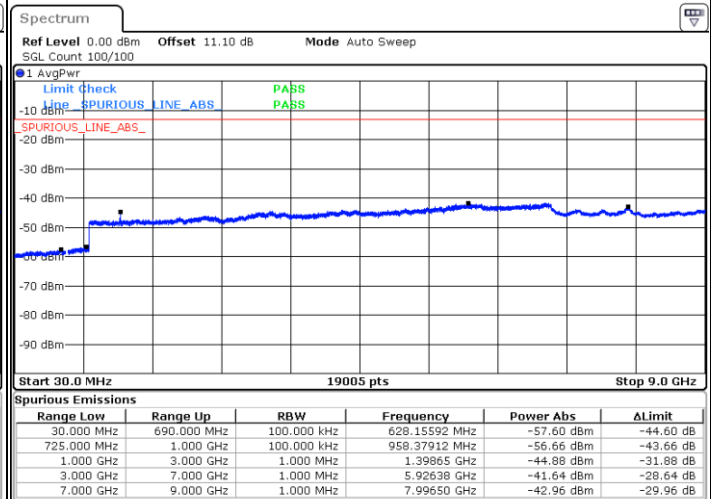
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 10.JUL.2020 20:29:59

Lowest Channel / 16QAM



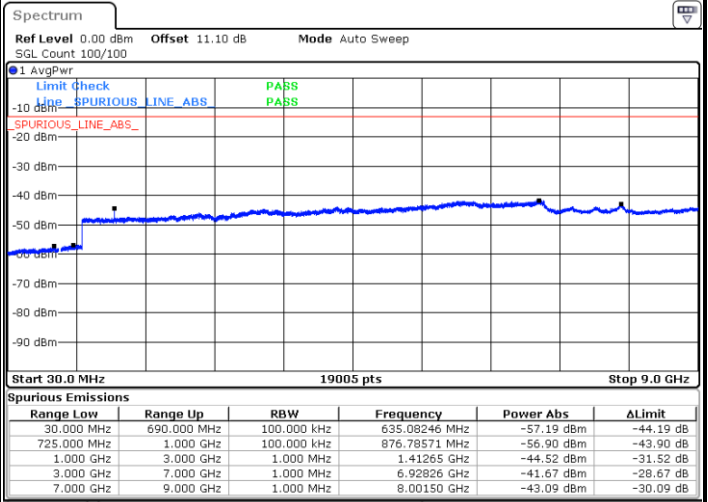
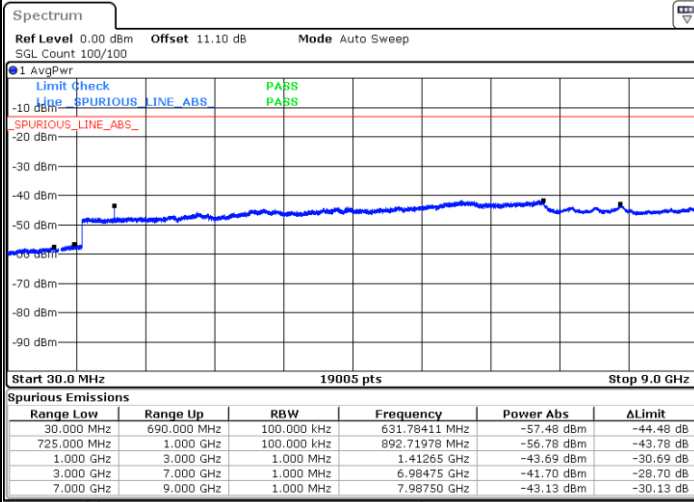
Date: 10.JUL.2020 20:30:42



LTE Band 12 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM

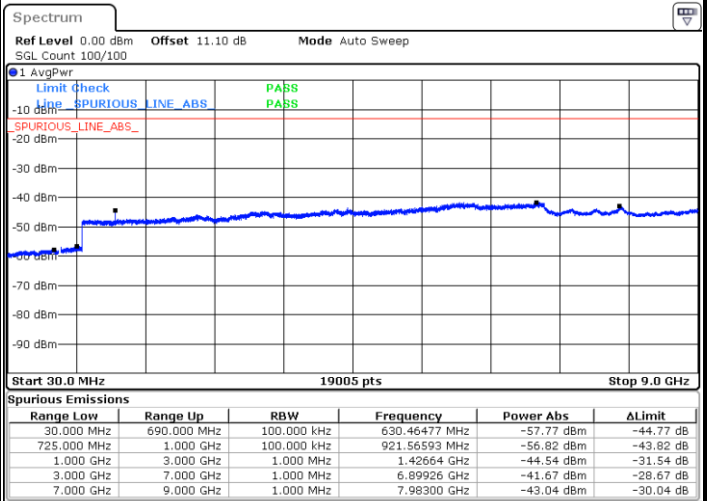
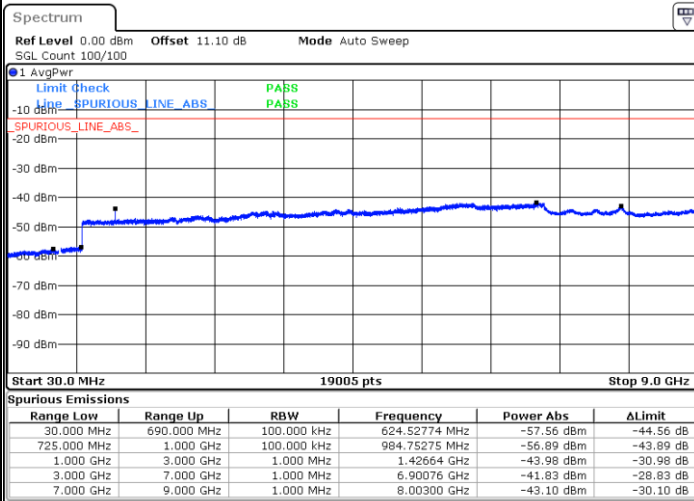


Date: 10.JUL.2020 20:32:52

Date: 10.JUL.2020 20:32:10

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 10.JUL.2020 20:38:27

Date: 10.JUL.2020 20:39:10

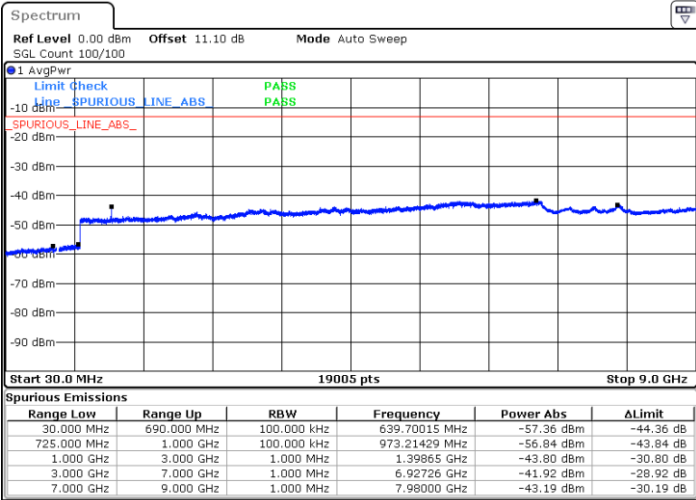




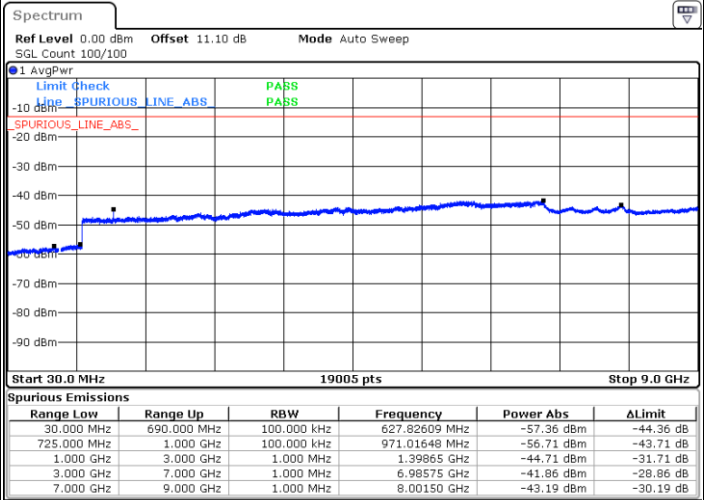
LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



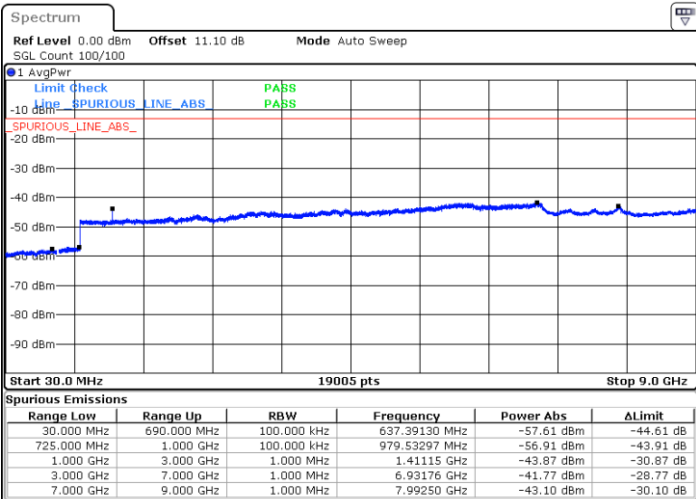
Date: 10.JUL.2020 20:59:32



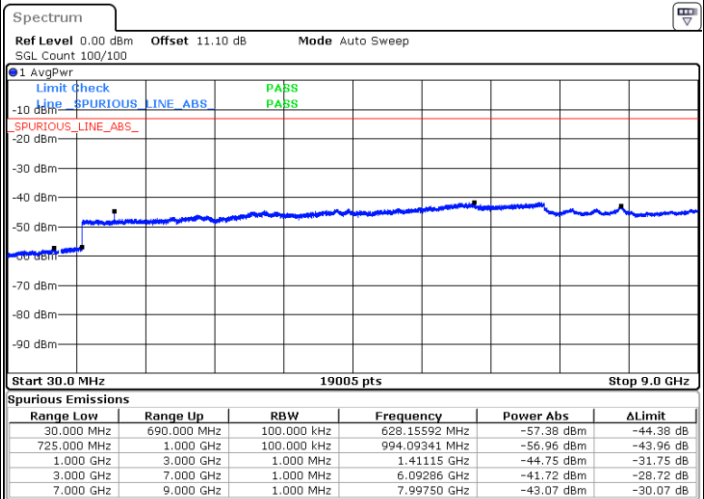
Date: 10.JUL.2020 21:00:15

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 10.JUL.2020 21:02:26



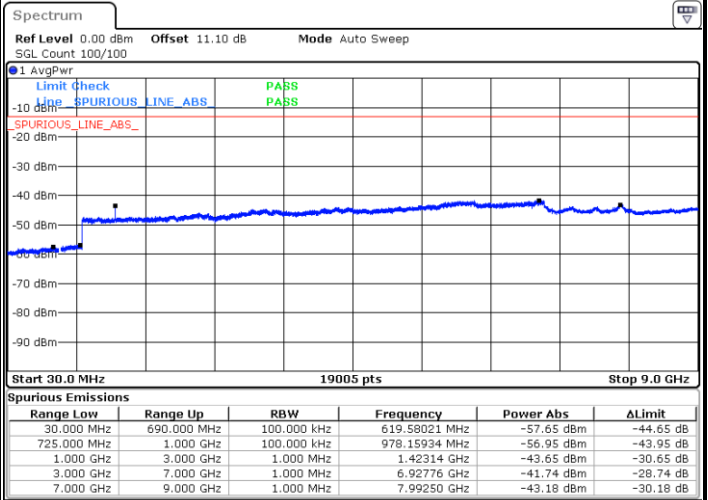
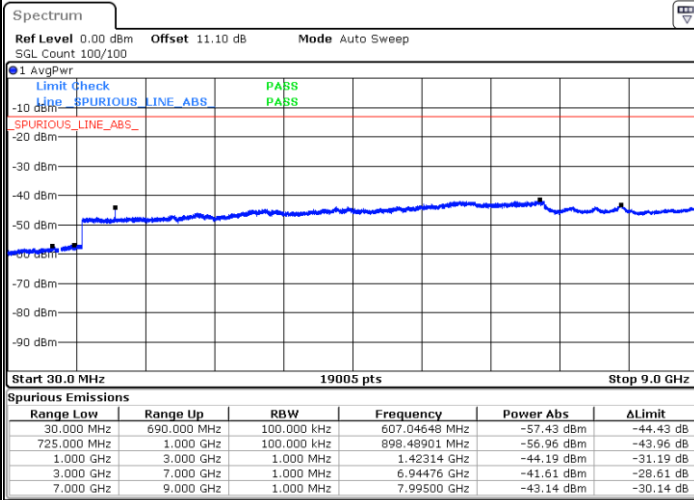
Date: 10.JUL.2020 21:01:43



LTE Band 12 / 5MHz

Highest Channel / QPSK

Highest Channel / 16QAM



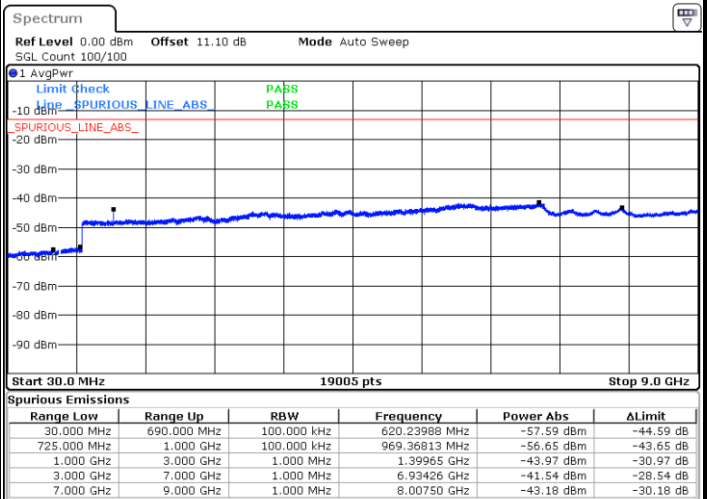
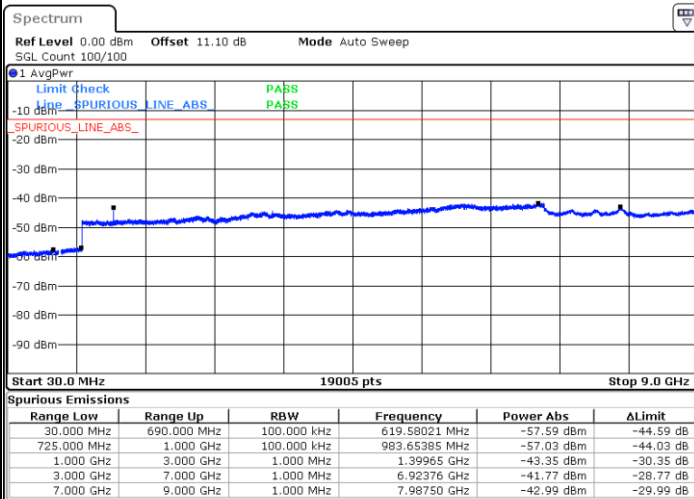
Date: 10.JUL.2020 21:08:44

Date: 10.JUL.2020 21:08:01

LTE Band 12 / 10MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 10.JUL.2020 21:14:20

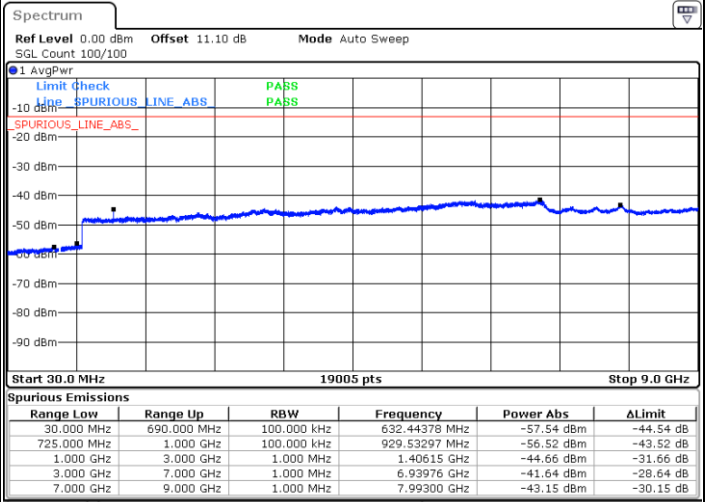
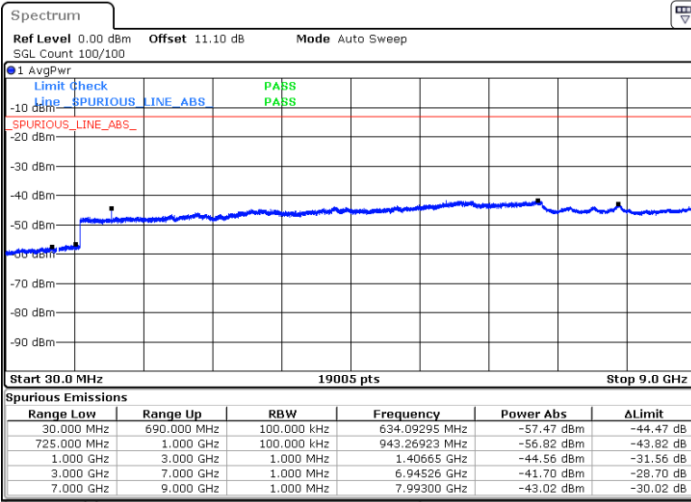
Date: 10.JUL.2020 21:15:02



LTE Band 12 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

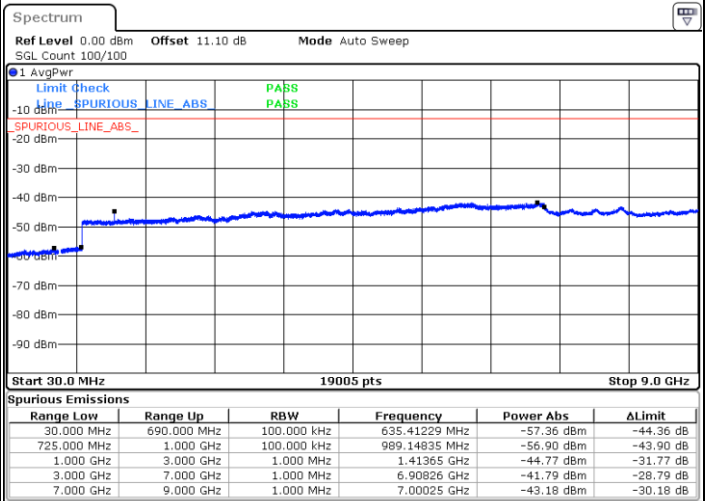
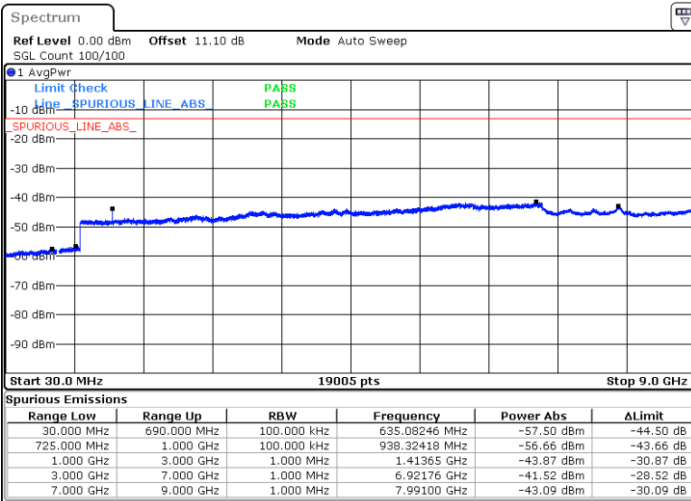


Date: 10.JUL.2020 21:17:13

Date: 10.JUL.2020 21:16:30

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 10.JUL.2020 21:22:47

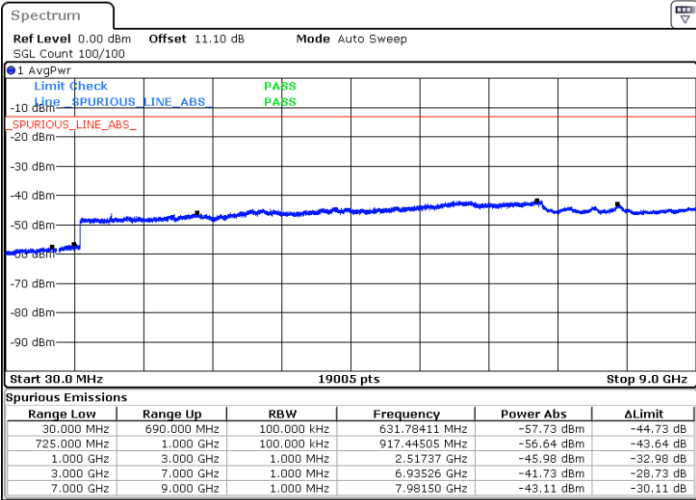
Date: 10.JUL.2020 21:23:30



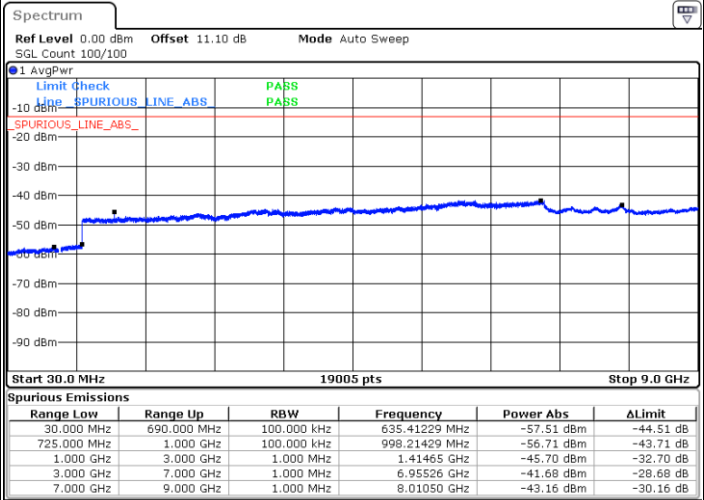
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

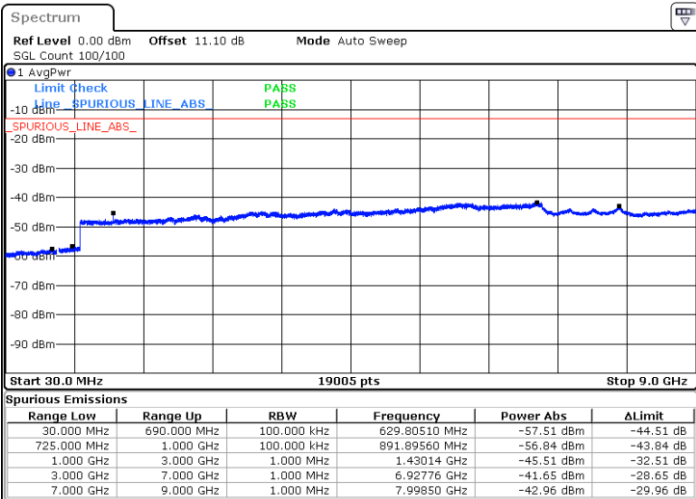


Date: 10.JUL.2020 20:20:09



Date: 10.JUL.2020 20:21:14

Highest Channel / 64QAM



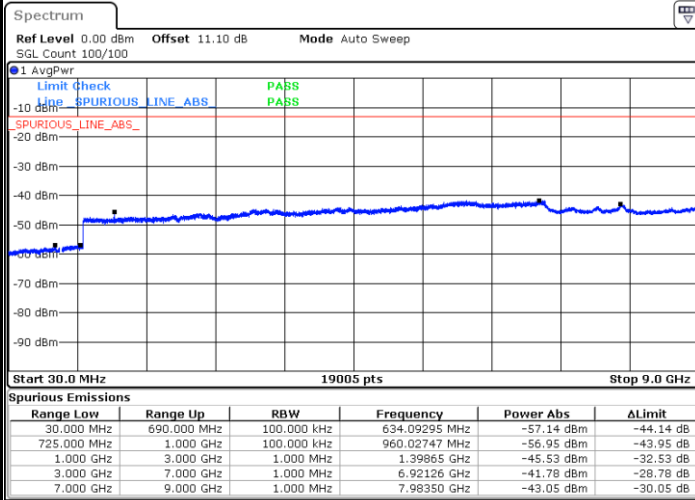
Date: 10.JUL.2020 20:24:23



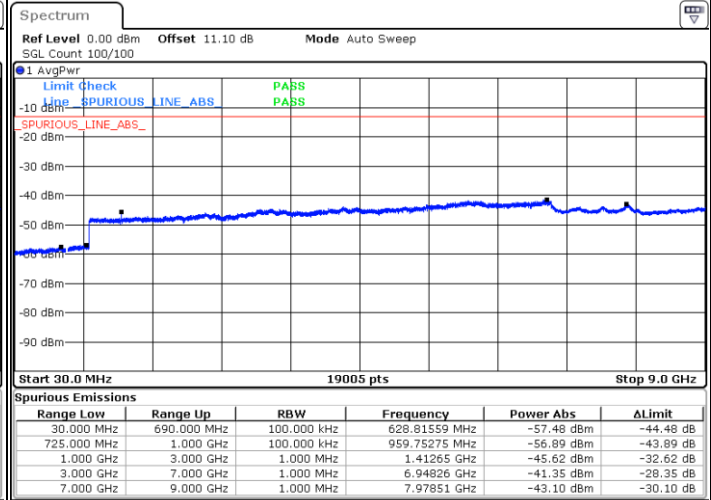
LTE Band 12 / 3MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

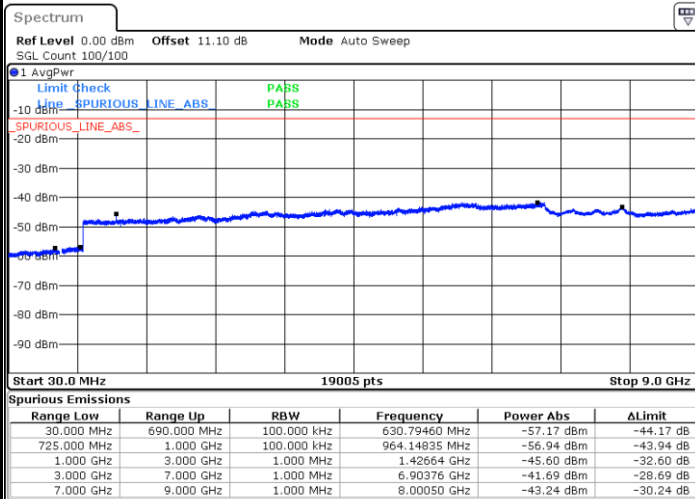


Date: 10.JUL.2020 20:42:19



Date: 10.JUL.2020 20:43:25

Highest Channel / 64QAM



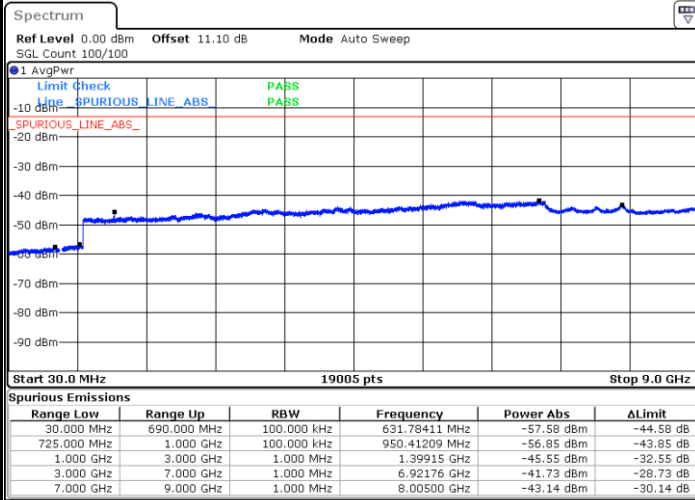
Date: 10.JUL.2020 20:46:33



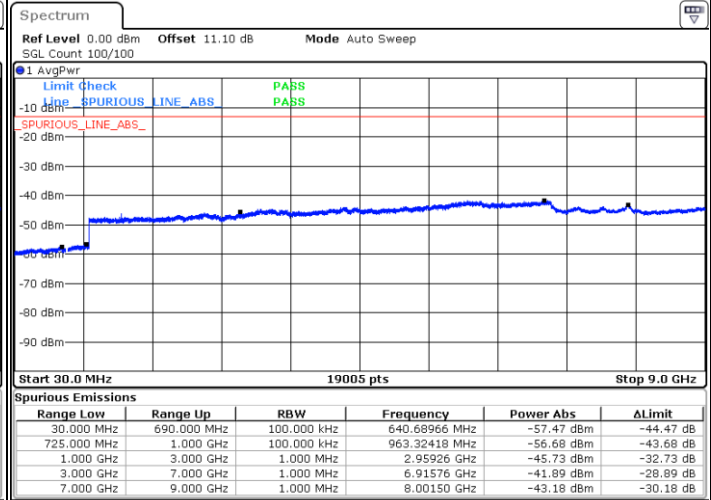
LTE Band 12 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

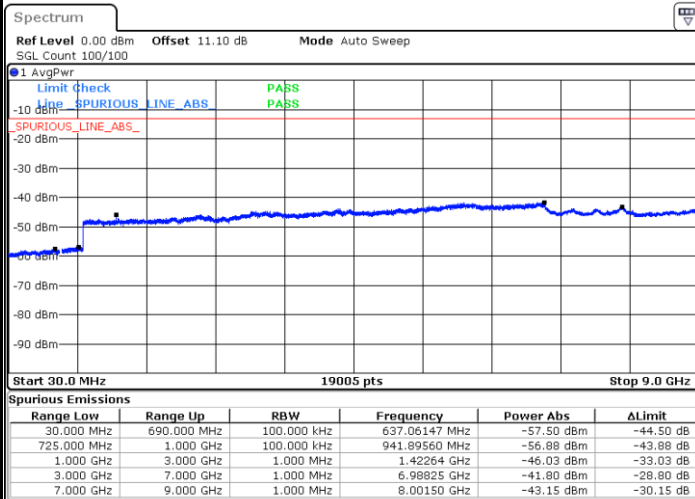


Date: 10.JUL.2020 20:49:42



Date: 10.JUL.2020 20:50:48

Highest Channel / 64QAM

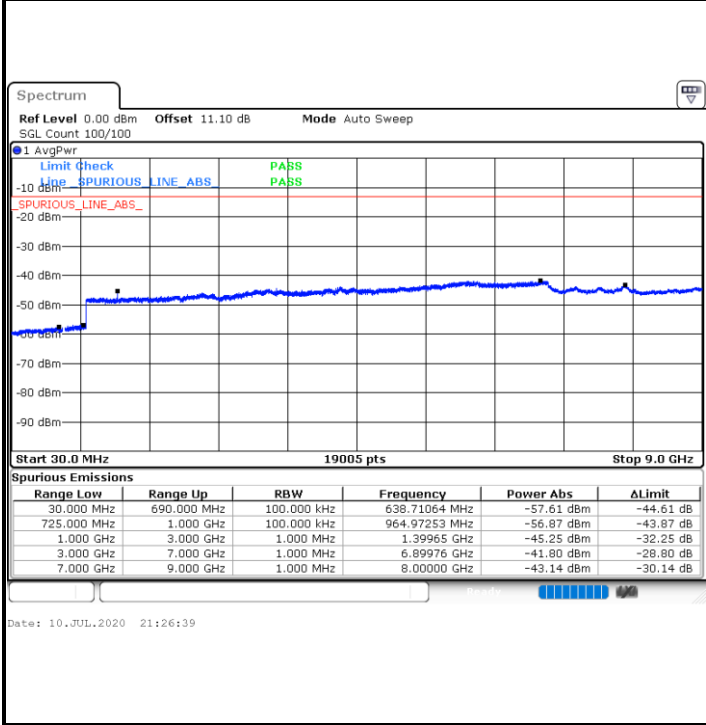


Date: 10.JUL.2020 20:53:56

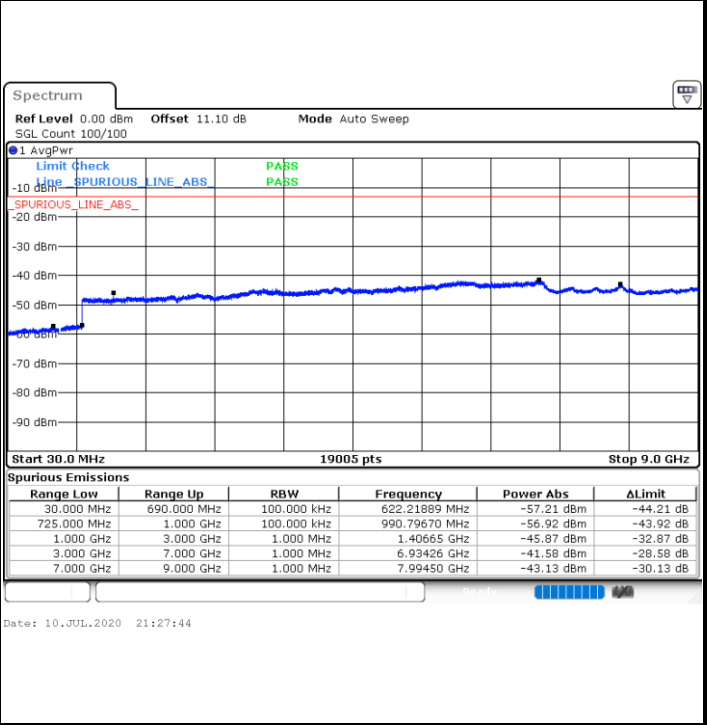


**LTE Band 12 / 10MHz**

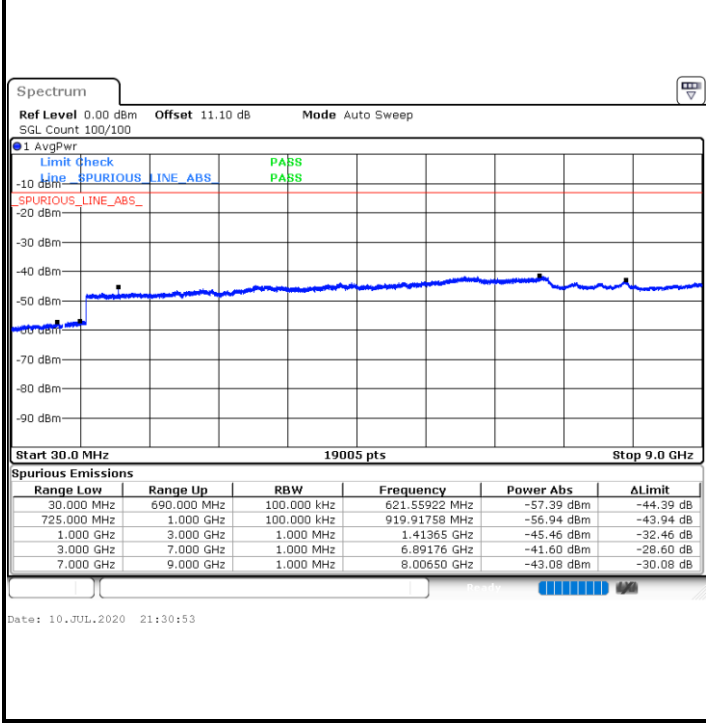
**Lowest Channel / 64QAM**



**Middle Channel / 64QAM**



**Highest Channel / 64QAM**





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	0.0078	PASS
40	Normal Voltage	0.0058	
30	Normal Voltage	0.0008	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0073	
0	Normal Voltage	0.0020	
-10	Normal Voltage	0.0040	
-20	Normal Voltage	0.0178	
-30	Normal Voltage	0.0187	
20	Maximum Voltage	0.0071	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0092	

Note:

1. Normal Voltage =3.87 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

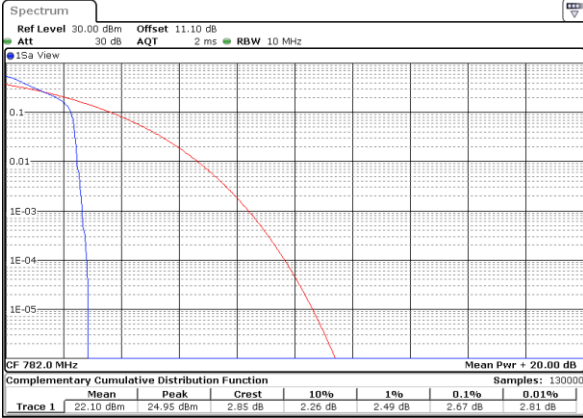
## Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	2.67	4.87	3.88	5.80	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	4.55	6.32	-	-	
Highest CH	-	-	-	-	



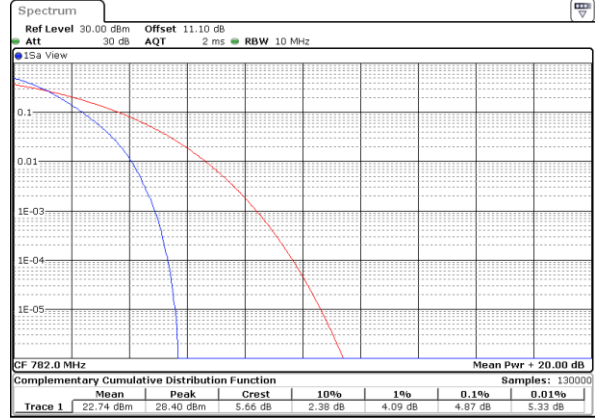
LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 10\_JUL\_2020 22:34:57

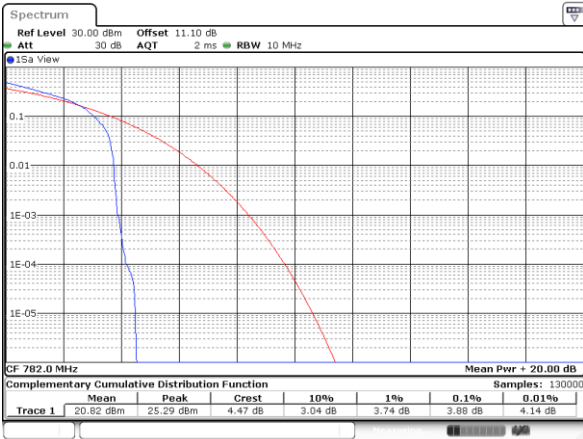
Middle Channel / Full RB



Date: 10\_JUL\_2020 22:35:12

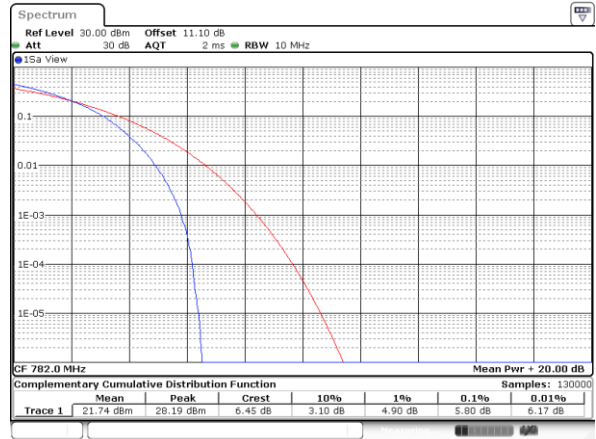
LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 10\_JUL\_2020 22:34:13

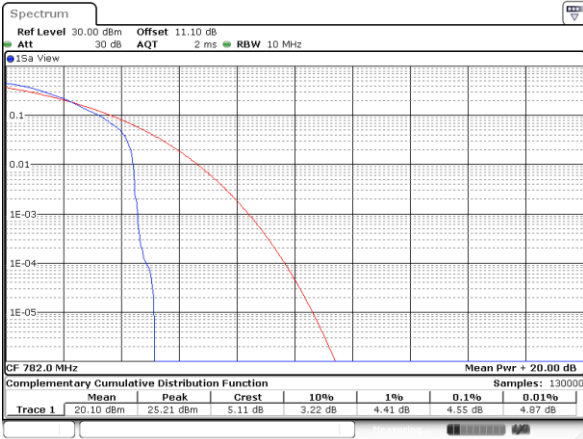
Middle Channel / Full RB



Date: 10\_JUL\_2020 22:34:24

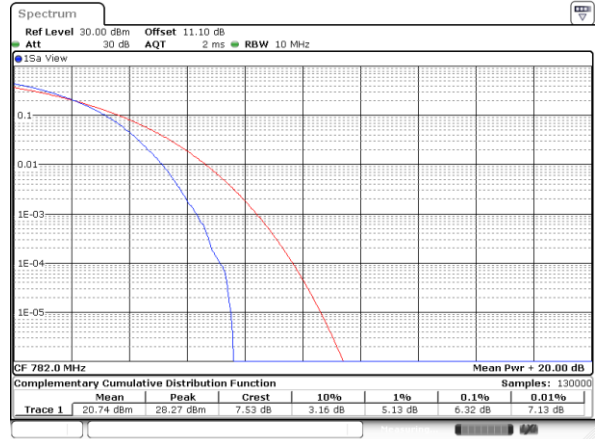
LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Date: 10\_JUL\_2020 22:33:50

Middle Channel / Full RB



Date: 10\_JUL\_2020 22:34:01



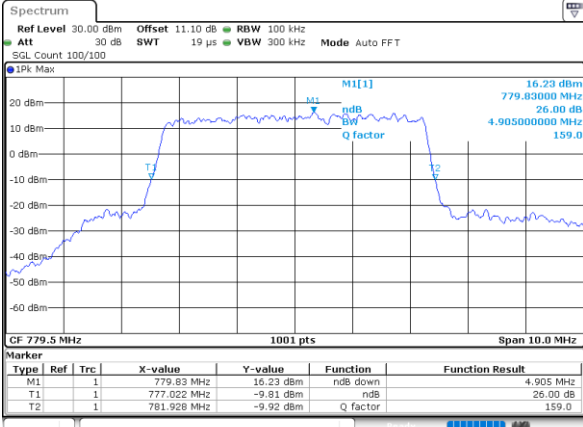
**26dB Bandwidth**

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	-	-	-	-	4.91	4.89	-	-	-	-	-	-
Middle CH	-	-	-	-	4.88	4.90	9.87	9.67	-	-	-	-
Highest CH	-	-	-	-	4.90	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	-	-	-	-	4.80	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.88	-	9.79	-	-	-	-	-
Highest CH	-	-	-	-	4.90	-	-	-	-	-	-	-



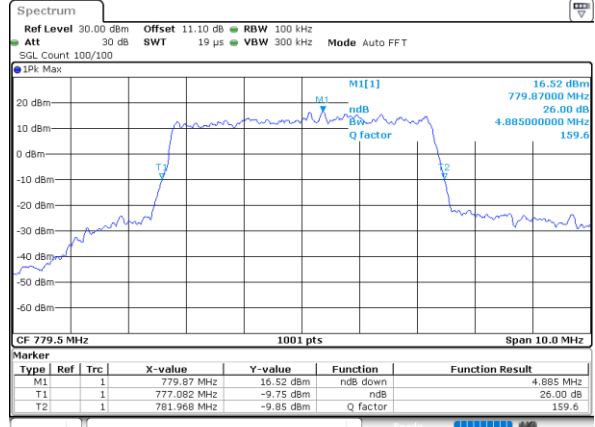
LTE Band 13

Lowest Channel / 5MHz / QPSK



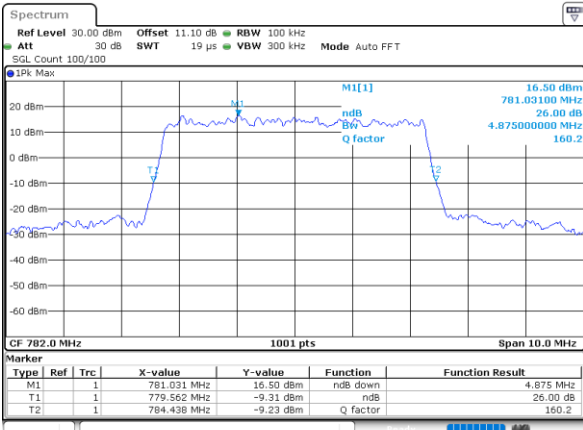
Date: 10\_JUL\_2020 21:40:48

Lowest Channel / 5MHz / 16QAM



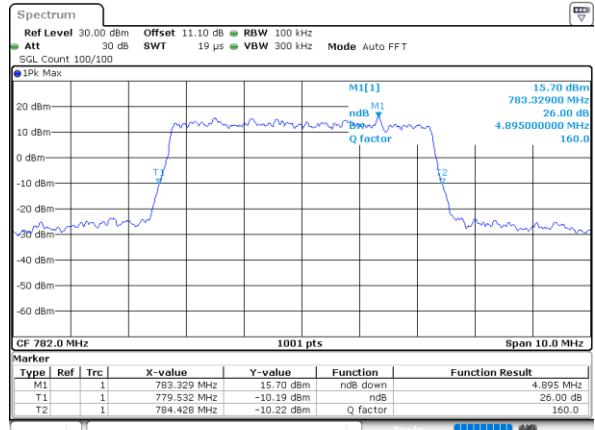
Date: 10\_JUL\_2020 21:40:36

Middle Channel / 5MHz / QPSK



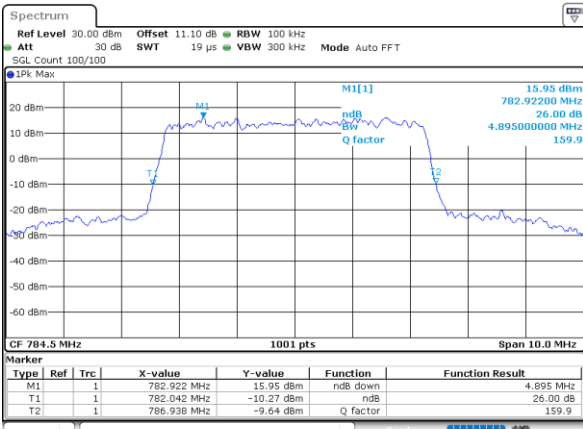
Date: 10\_JUL\_2020 21:50:05

Middle Channel / 5MHz / 16QAM



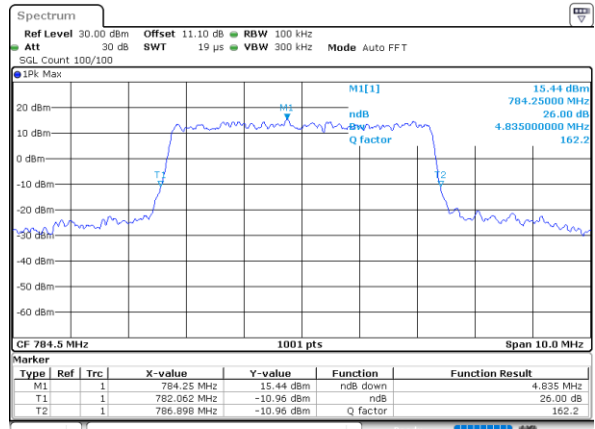
Date: 10\_JUL\_2020 21:50:47

Highest Channel / 5MHz / QPSK



Date: 10\_JUL\_2020 21:51:57

Highest Channel / 5MHz / 16QAM



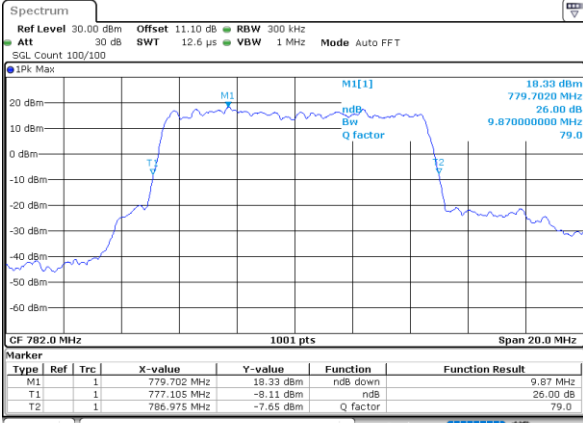
Date: 10\_JUL\_2020 21:51:46



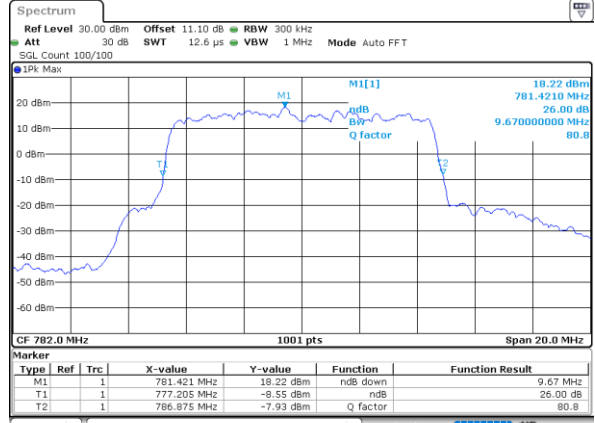
LTE Band 13

Middle Channel / 10MHz / QPSK

Middle Channel / 10MHz / 16QAM



Date: 10\_JUL\_2020 22:10:59

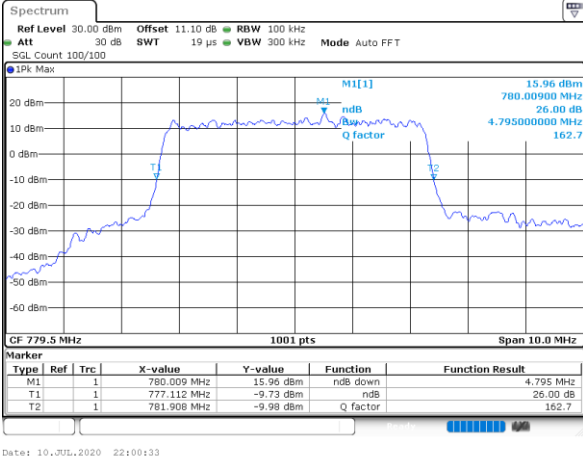


Date: 10\_JUL\_2020 22:10:48



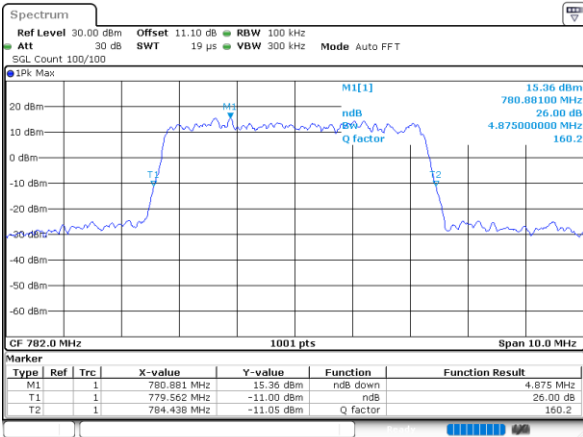
LTE Band 13

Lowest Channel / 5MHz / 64QAM



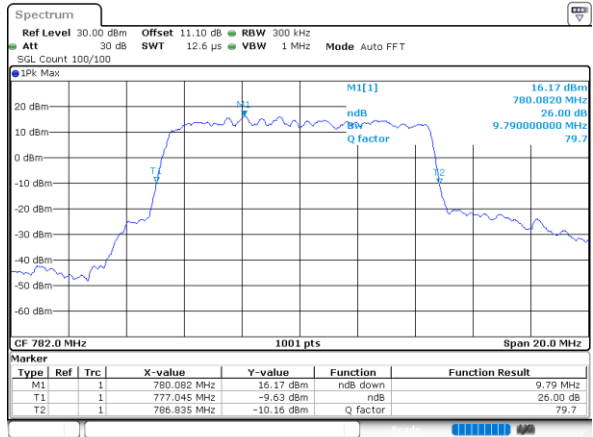
Date: 10\_JUL\_2020 22:00:33

Middle Channel / 5MHz / 64QAM



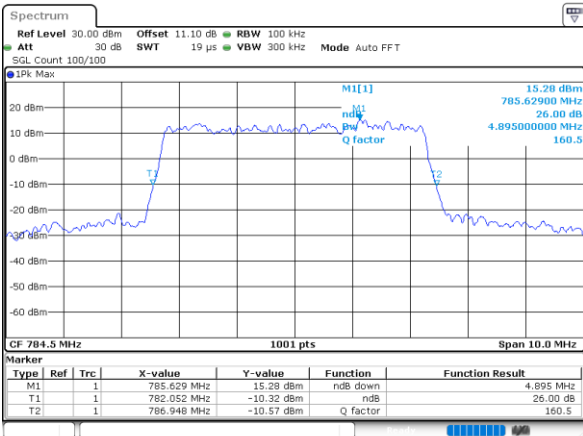
Date: 10\_JUL\_2020 22:05:32

Middle Channel / 10MHz / 64QAM



Date: 10\_JUL\_2020 22:26:51

Highest Channel / 5MHz / 64QAM



Date: 10\_JUL\_2020 22:06:07



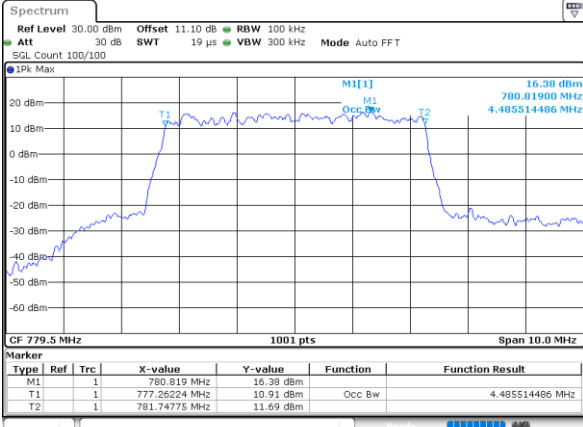
**Occupied Bandwidth**

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	4.46	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	4.50	9.01	9.03	-	-	-	-
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	-	-	-	-	4.46	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	-	8.99	-	-	-	-	-
Highest CH	-	-	-	-	4.51	-	-	-	-	-	-	-



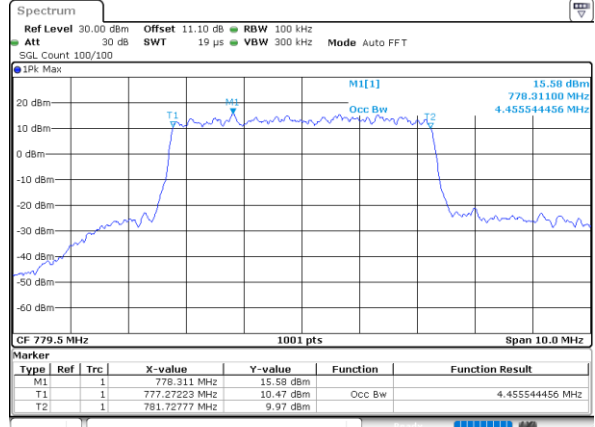
LTE Band 13

Lowest Channel / 5MHz / QPSK



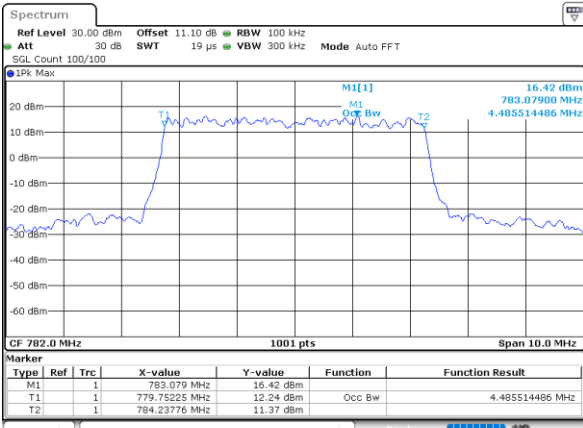
Date: 10\_JUL\_2020 21:40:13

Lowest Channel / 5MHz / 16QAM



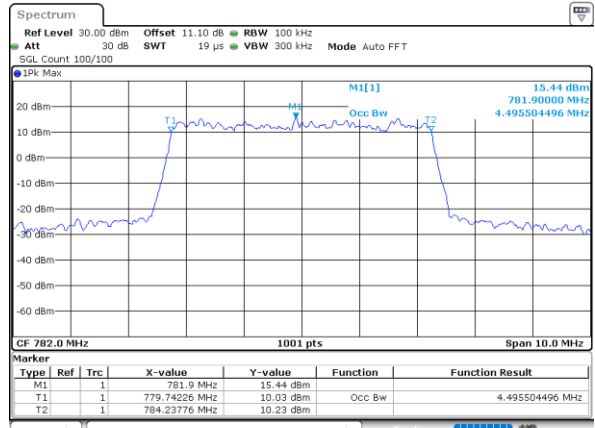
Date: 10\_JUL\_2020 21:40:24

Middle Channel / 5MHz / QPSK



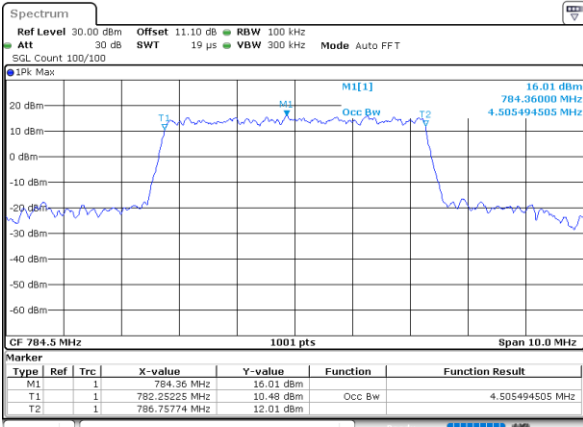
Date: 10\_JUL\_2020 21:51:10

Middle Channel / 5MHz / 16QAM



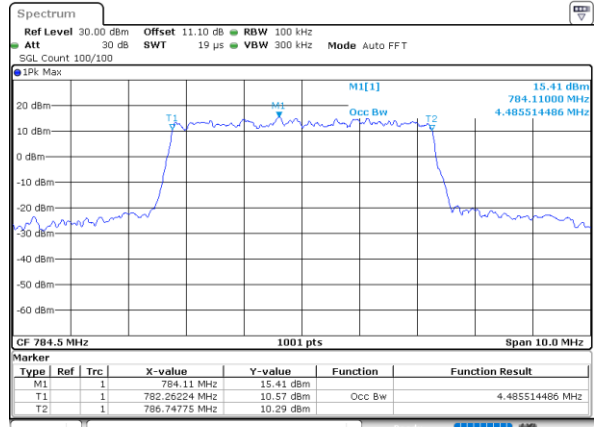
Date: 10\_JUL\_2020 21:50:58

Highest Channel / 5MHz / QPSK



Date: 10\_JUL\_2020 21:51:21

Highest Channel / 5MHz / 16QAM



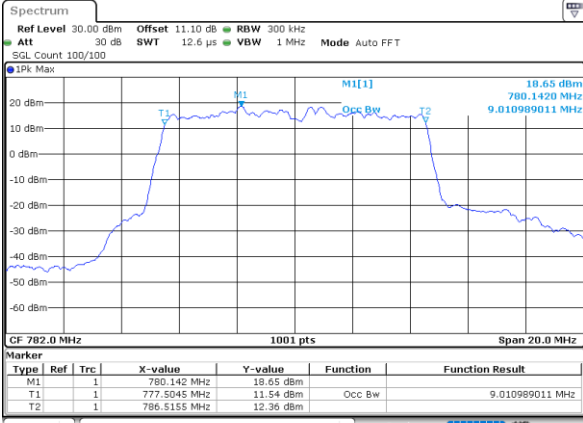
Date: 10\_JUL\_2020 21:51:34





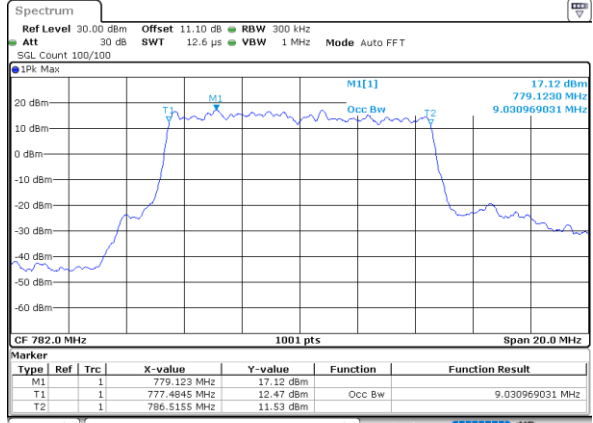
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 10\_JUL\_2020 22:10:25

Middle Channel / 10MHz / 16QAM

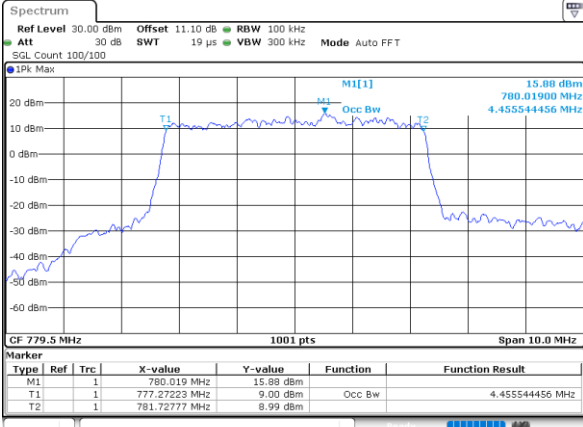


Date: 10\_JUL\_2020 22:10:37



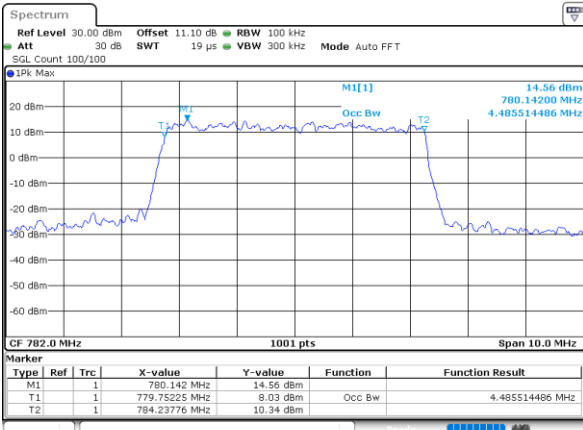
LTE Band 13

Lowest Channel / 5MHz / 64QAM



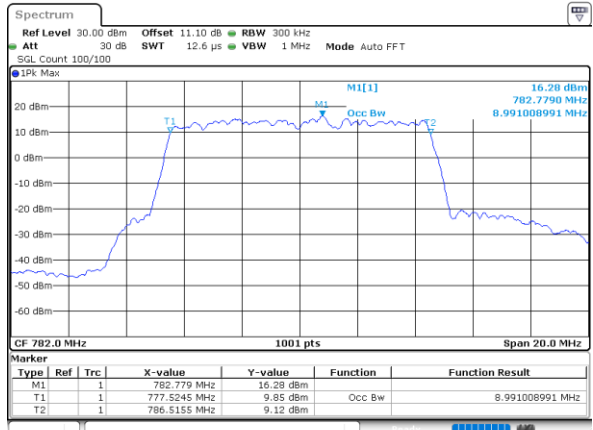
Date: 10\_JUL\_2020 22:00:21

Middle Channel / 5MHz / 64QAM



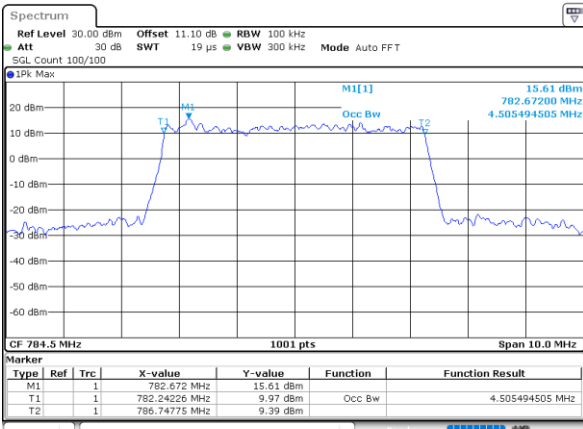
Date: 10\_JUL\_2020 22:05:44

Middle Channel / 10MHz / 64QAM



Date: 10\_JUL\_2020 22:12:140

Highest Channel / 5MHz / 64QAM



Date: 10\_JUL\_2020 22:05:55

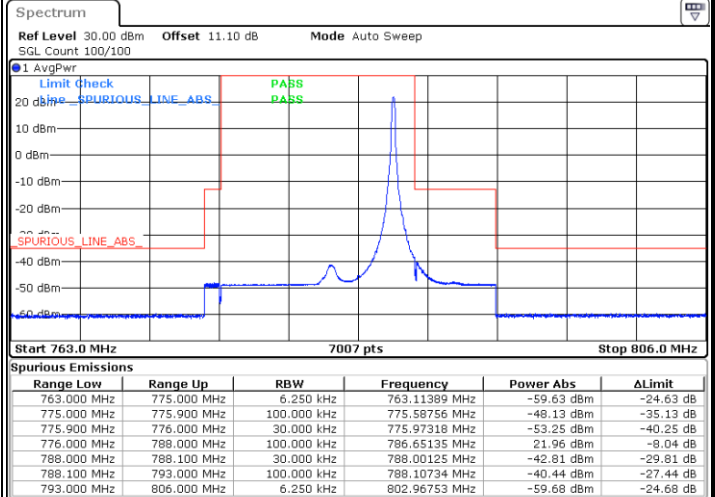
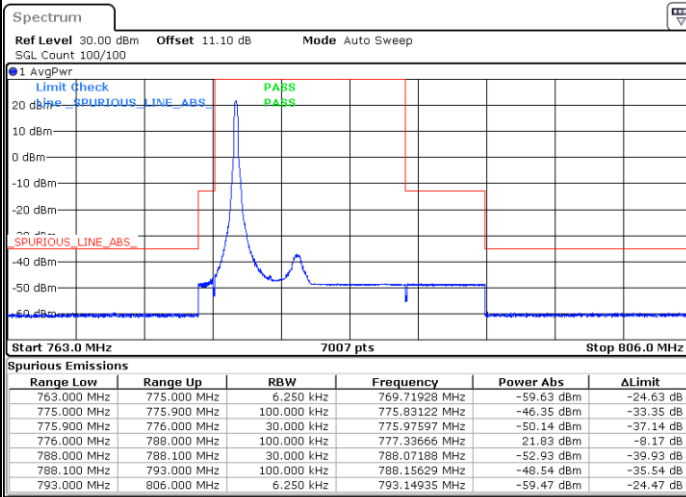


Conducted Band Edge

LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

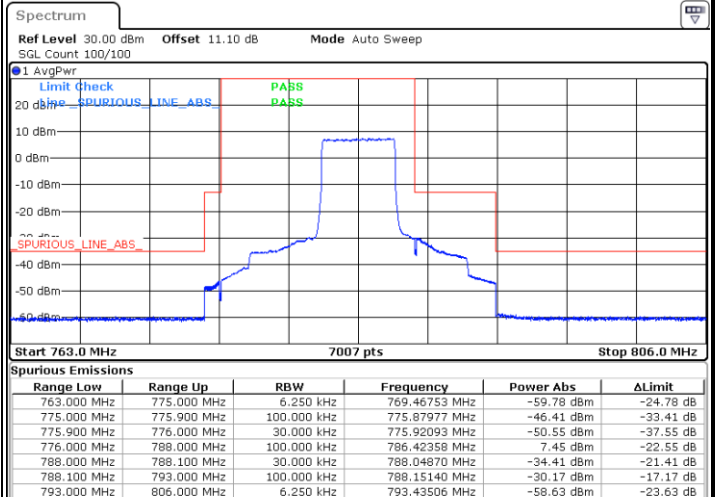
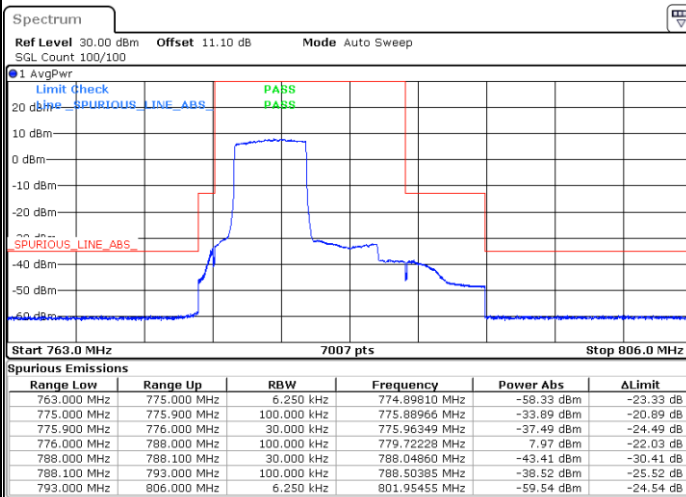


Date: 10.JUL.2020 21:47:33

Date: 10.JUL.2020 21:58:43

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 10.JUL.2020 21:42:28

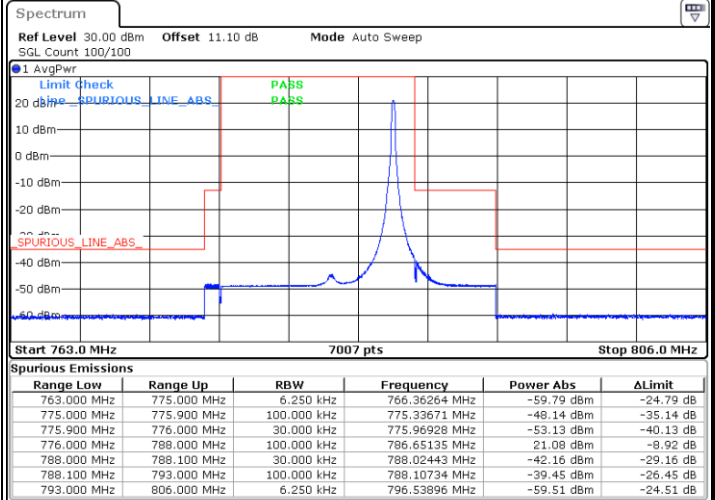
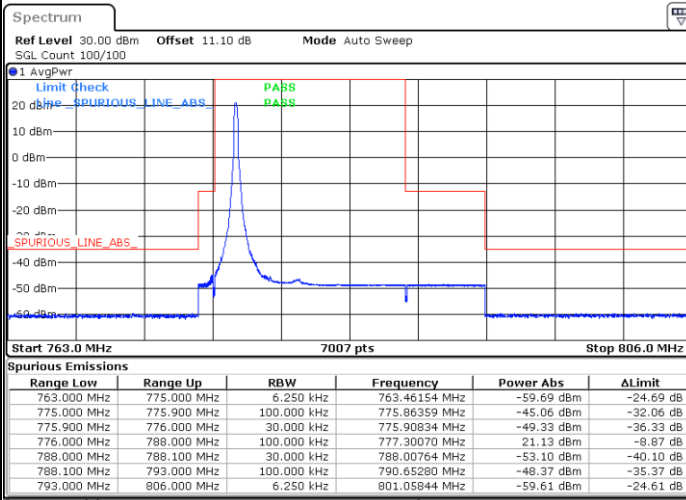
Date: 10.JUL.2020 21:53:38



LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

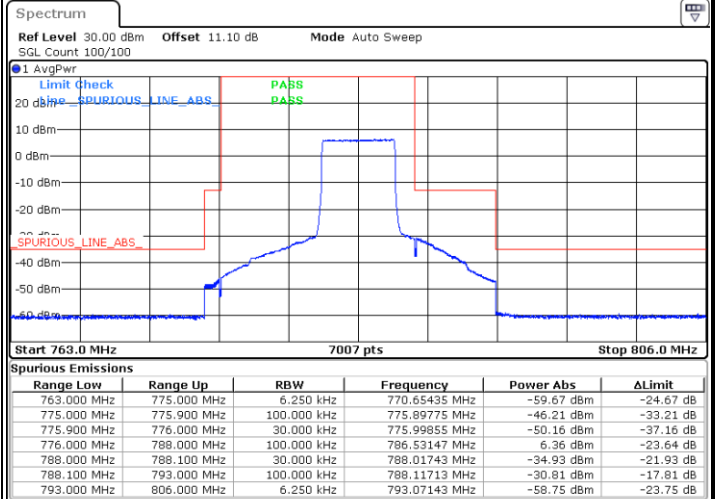
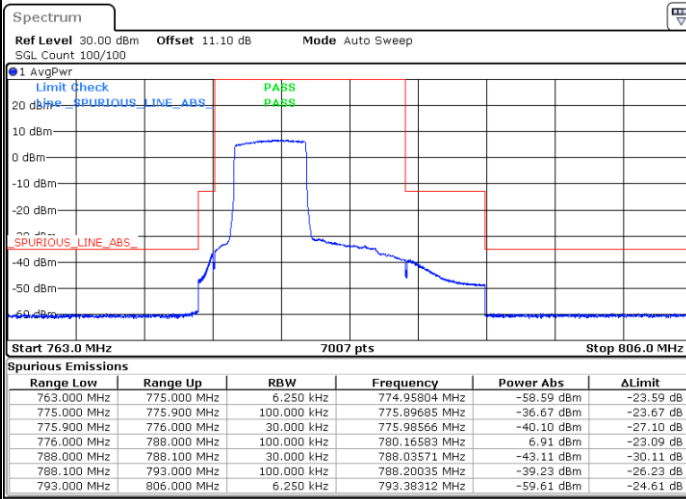


Date: 10.JUL.2020 21:45:52

Date: 10.JUL.2020 21:57:01

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 10.JUL.2020 21:44:10

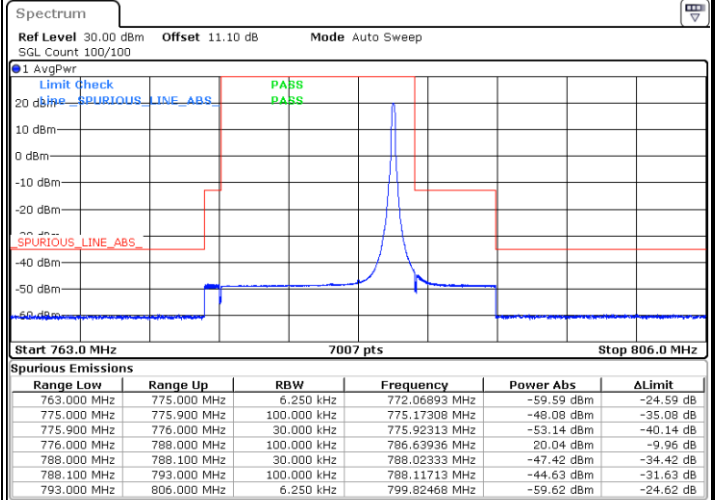
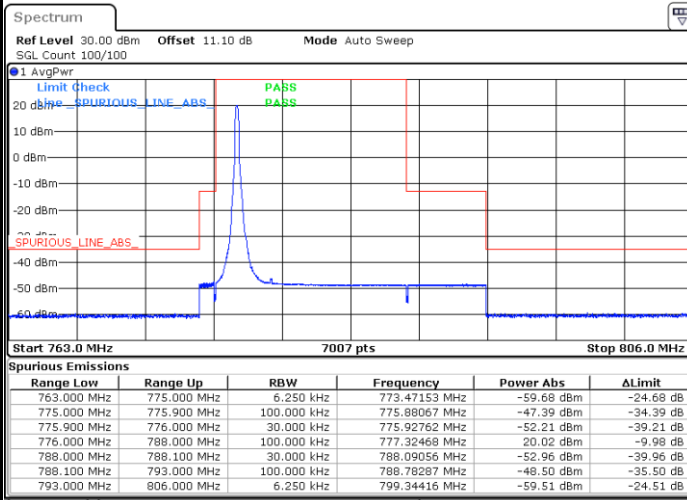
Date: 10.JUL.2020 21:55:19



LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

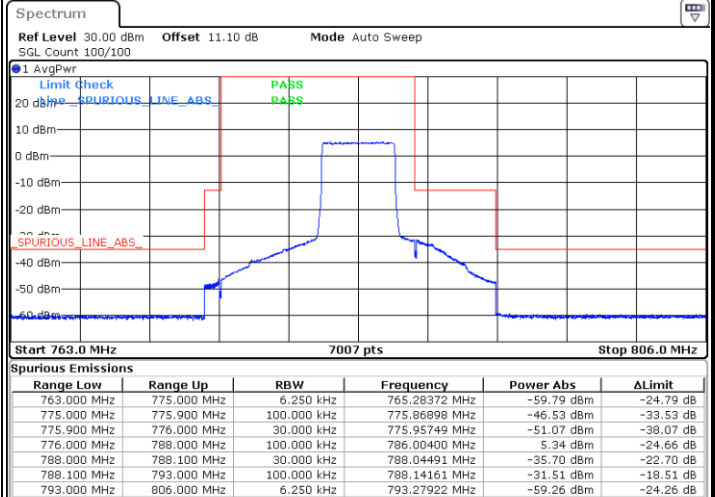
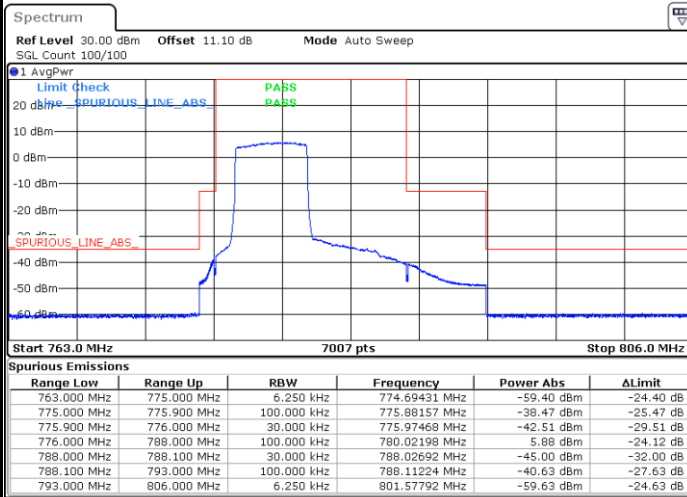


Date: 10.JUL.2020 22:03:55

Date: 10.JUL.2020 22:09:29

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 10.JUL.2020 22:02:13

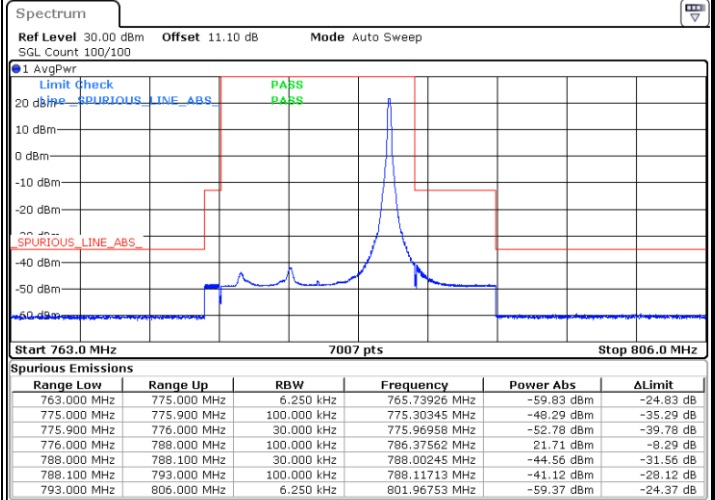
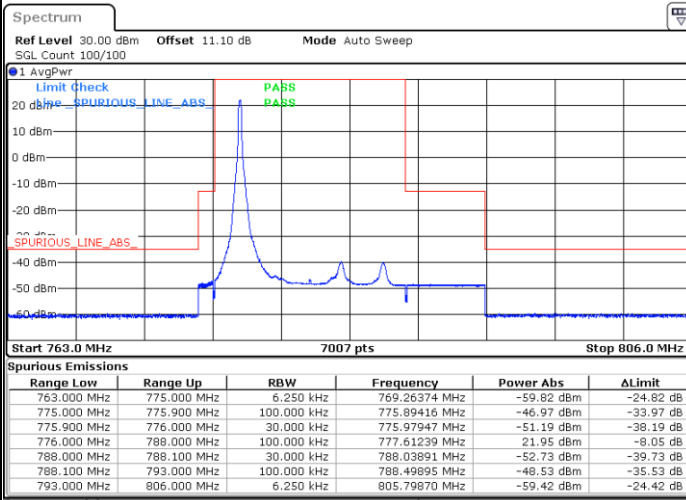
Date: 10.JUL.2020 22:07:47



LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB

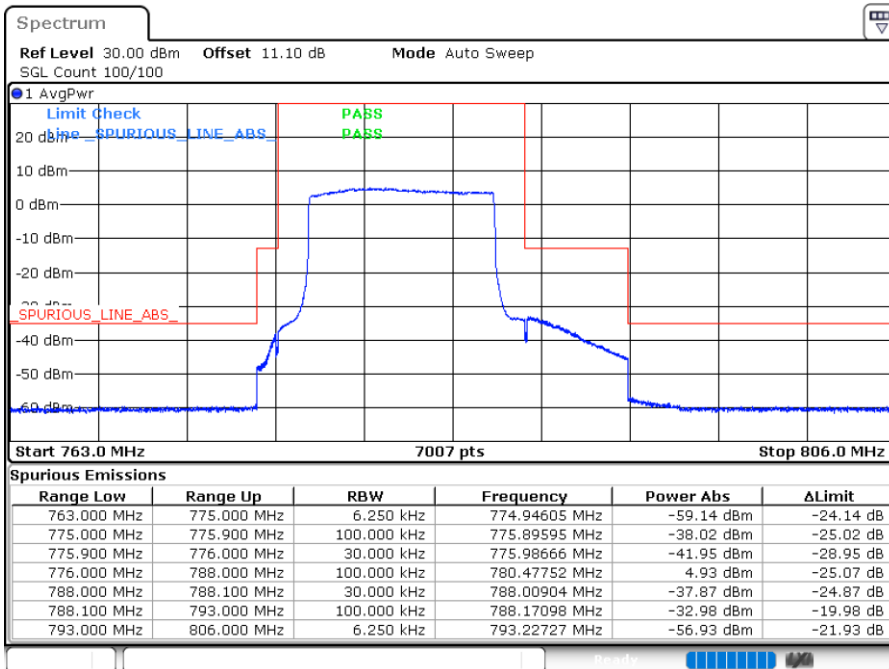
Highest Band Edge / 1 RB



Date: 10.JUL.2020 22:17:42

Date: 10.JUL.2020 22:19:23

Band Edge / Full RB



Date: 10.JUL.2020 22:12:38