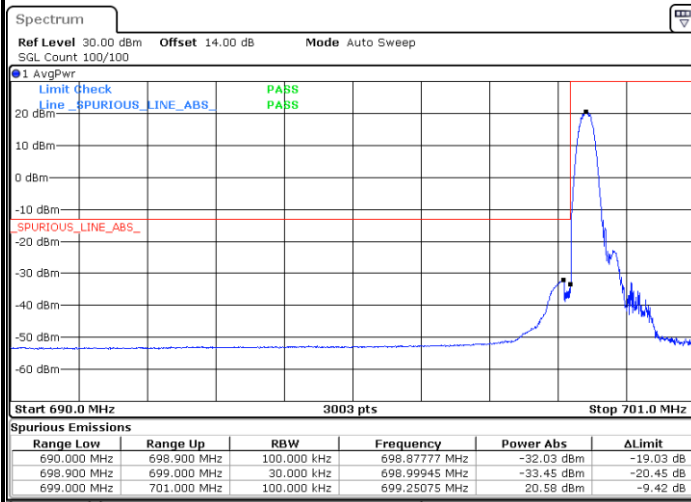




LTE Band 12 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB



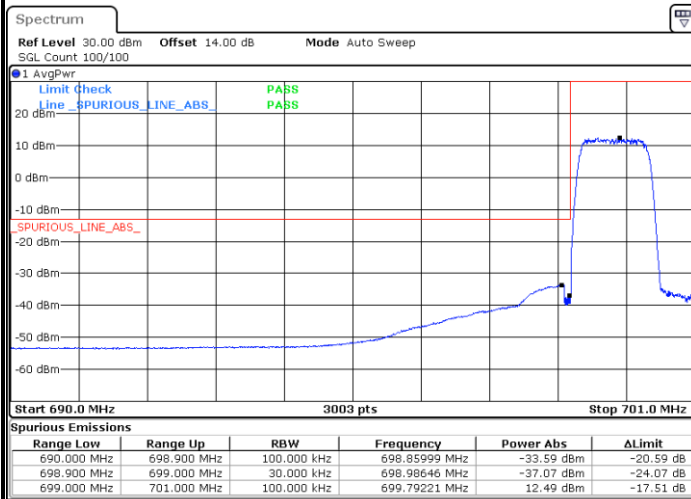
Date: 16.DEC.2019 00:55:39

Highest Band Edge / 1 RB



Date: 16.DEC.2019 01:03:55

Lowest Band Edge / Full RB



Date: 16.DEC.2019 00:54:39

Highest Band Edge / Full RB

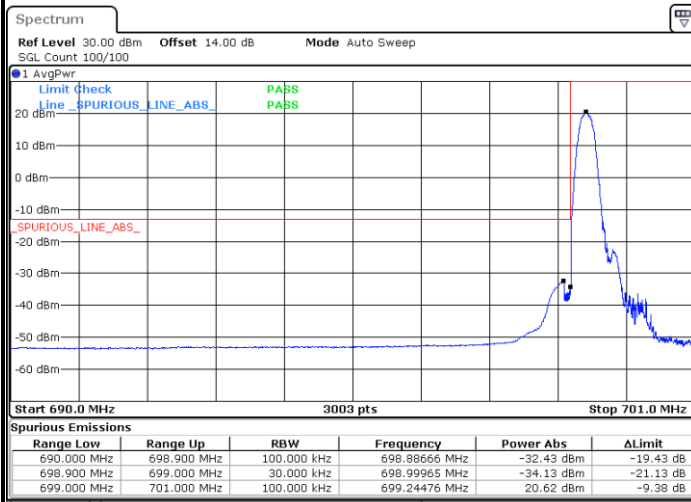


Date: 16.DEC.2019 01:02:55



LTE Band 12 / 1.4MHz / 64QAM

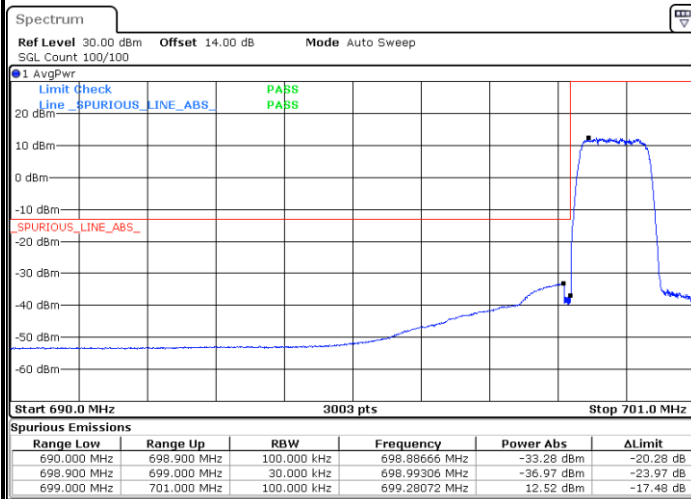
Lowest Band Edge / 1 RB



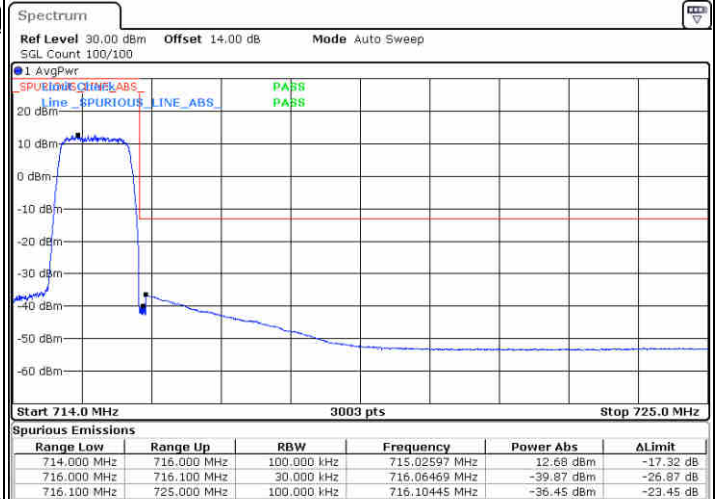
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



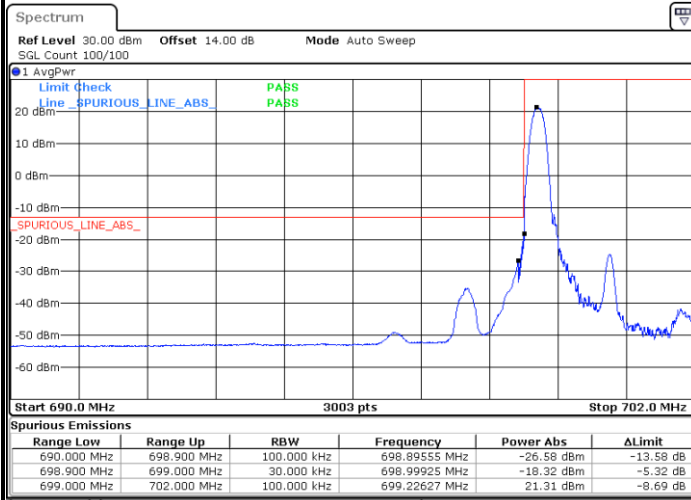
Highest Band Edge / Full RB





LTE Band 12 / 3MHz / QPSK

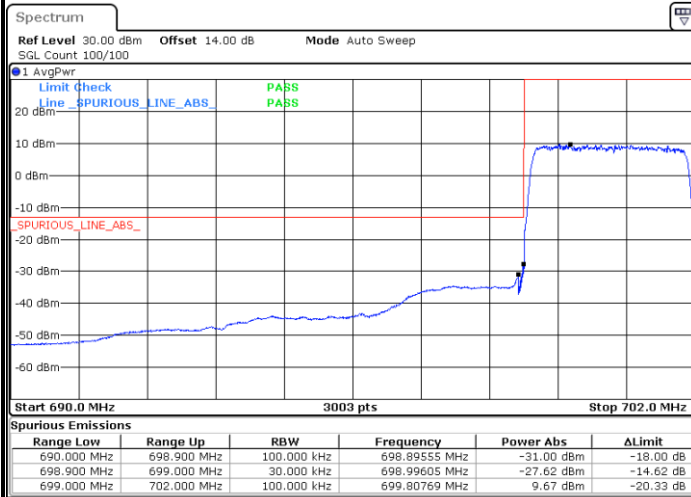
Lowest Band Edge / 1RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



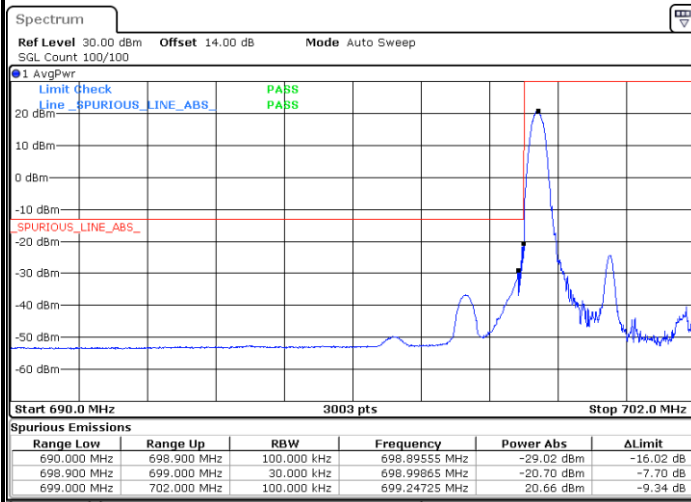
Highest Band Edge / Full RB



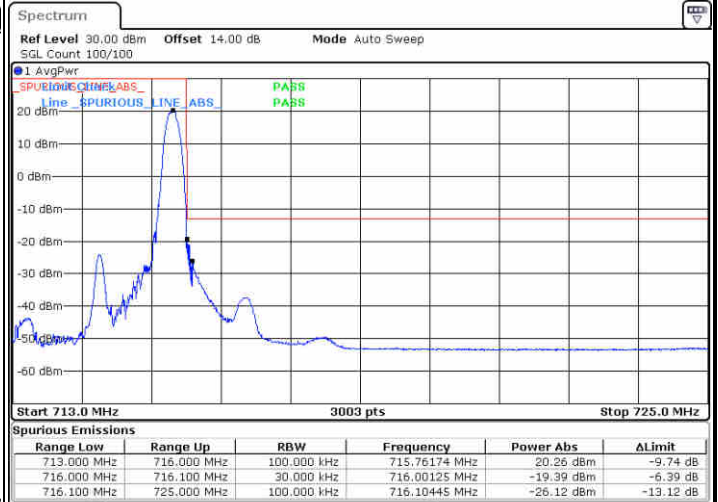


LTE Band 12 / 3MHz / 16QAM

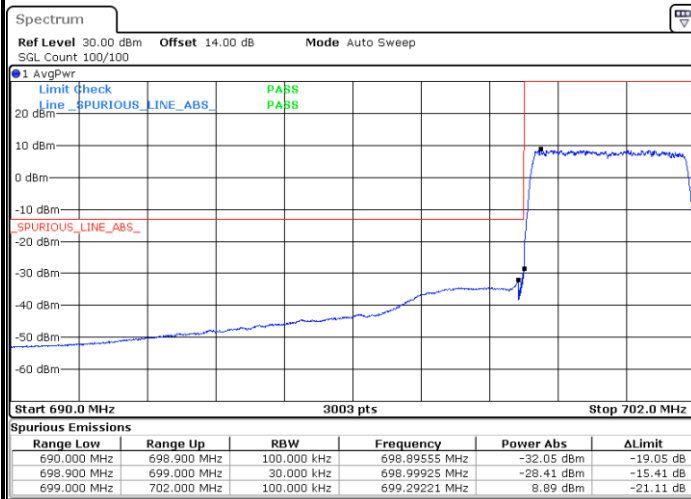
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



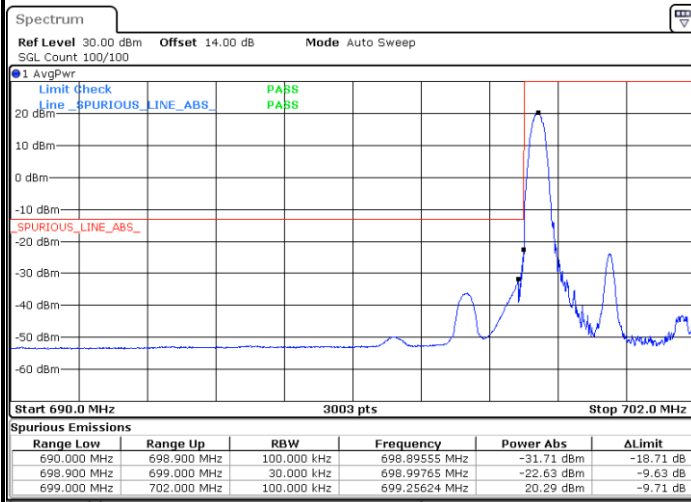
Highest Band Edge / Full RB



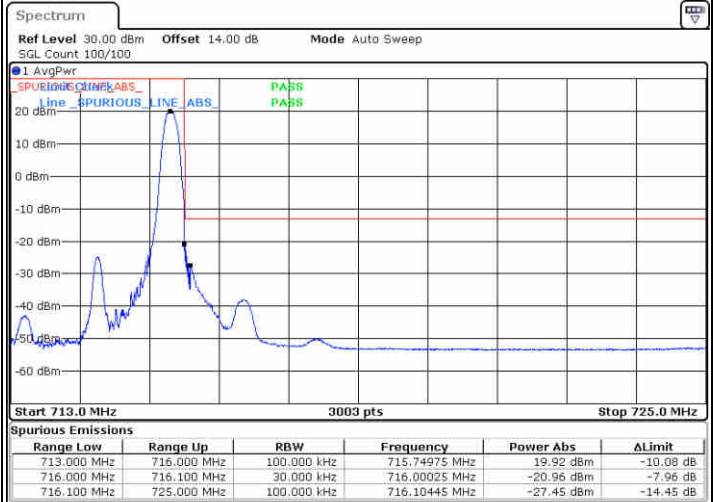


LTE Band 12 / 3MHz / 64QAM

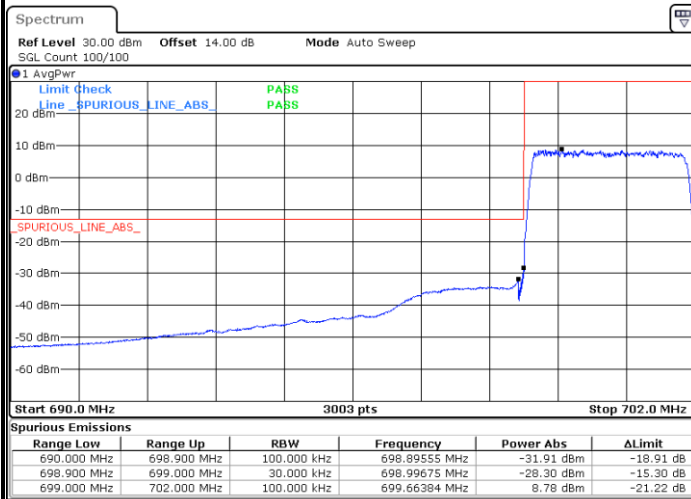
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



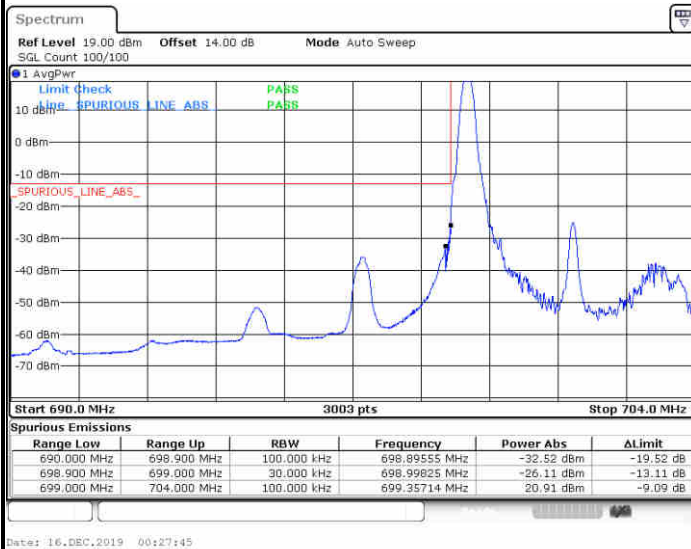
Highest Band Edge / Full RB



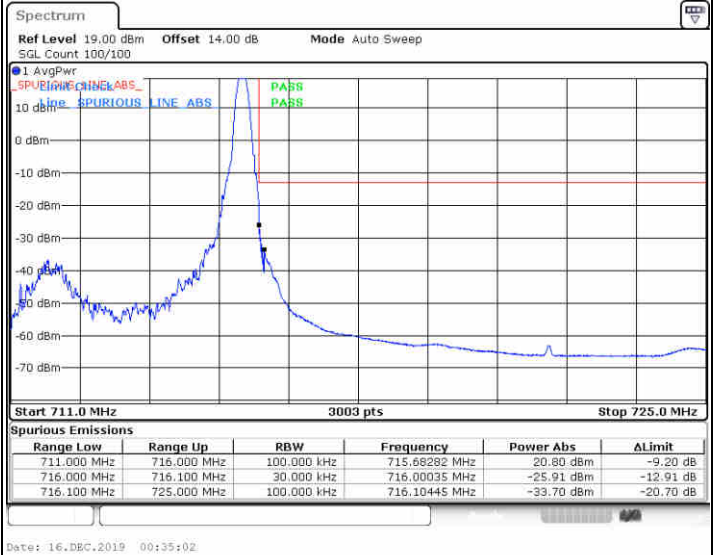


LTE Band 12 / 5MHz / QPSK

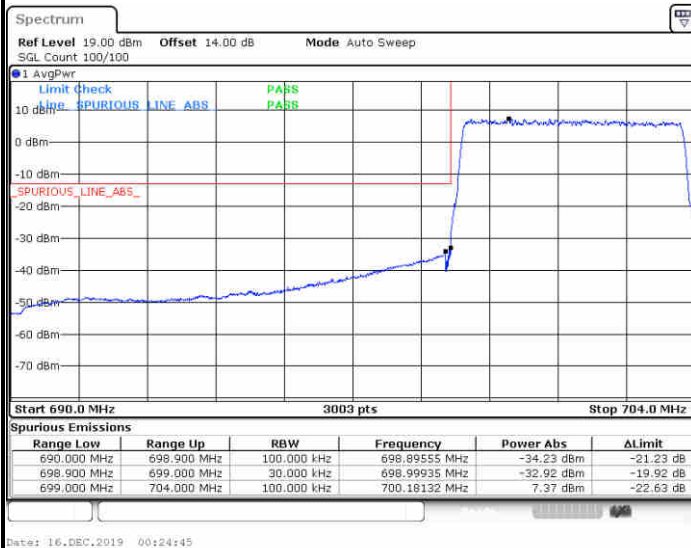
Lowest Band Edge / 1 RB



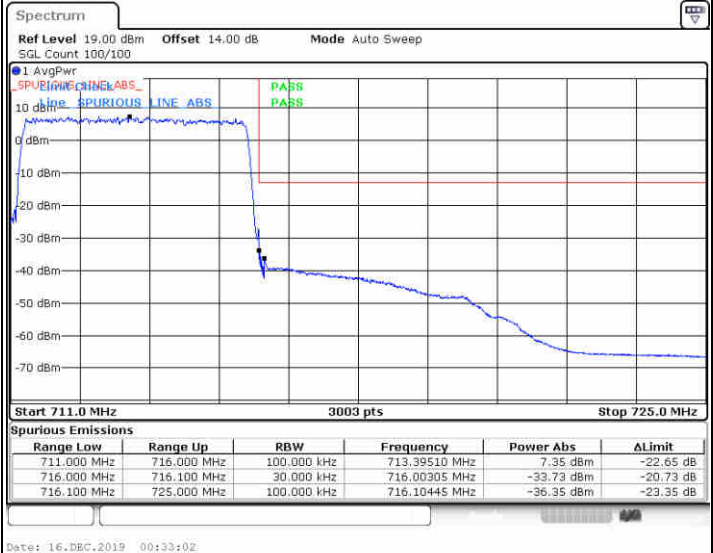
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



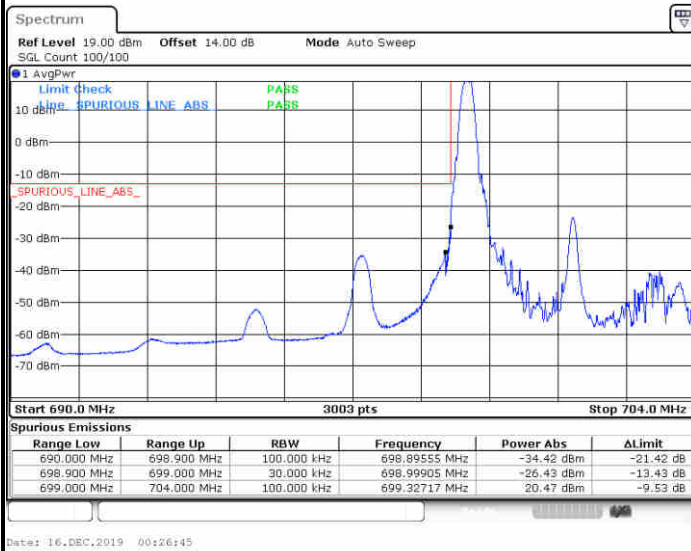
Highest Band Edge / Full RB



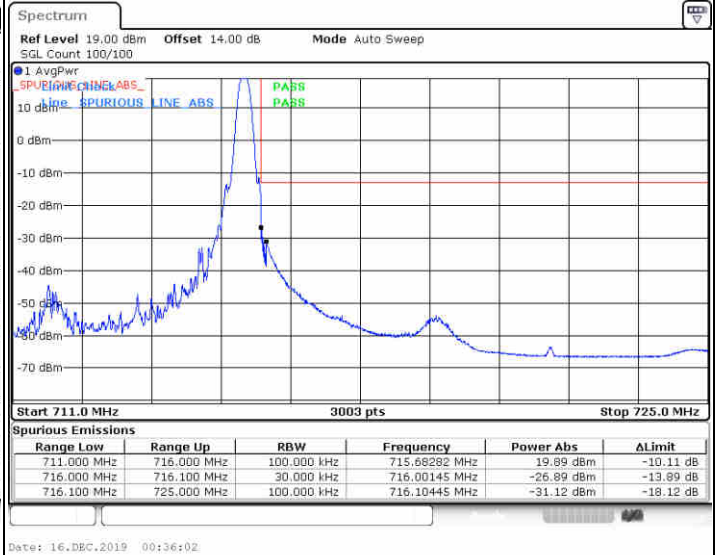


LTE Band 12 / 5MHz / 16QAM

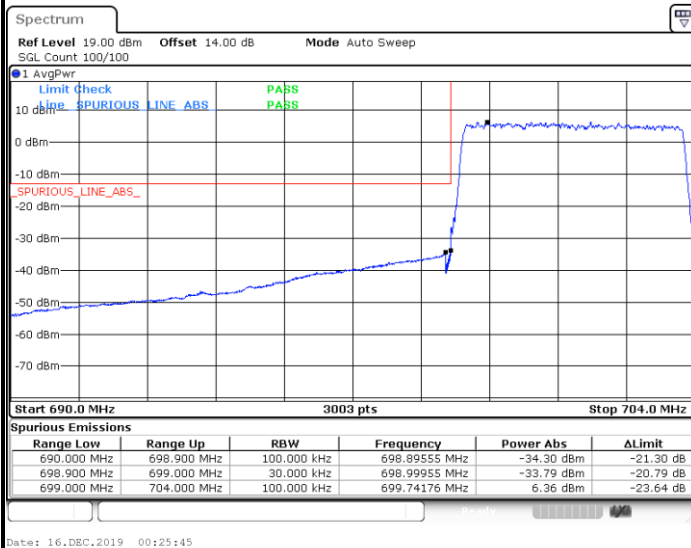
Lowest Band Edge / 1RB



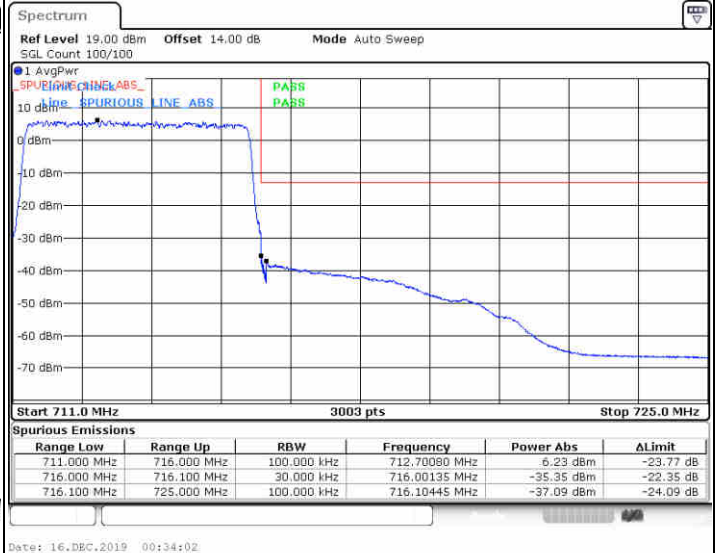
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



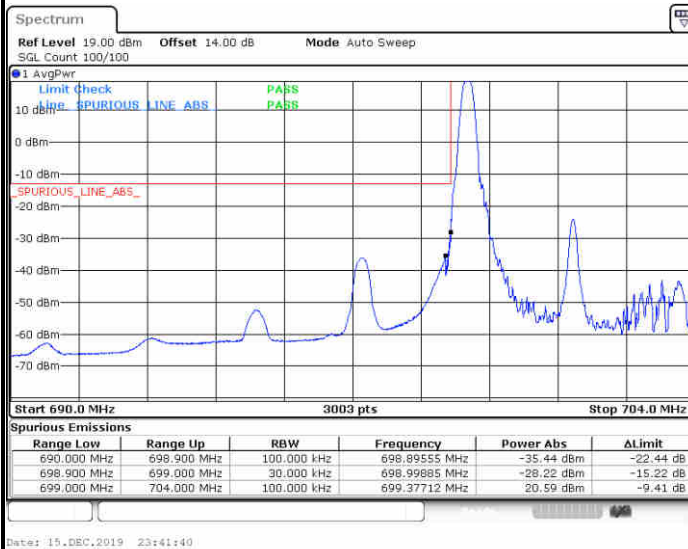
Highest Band Edge / Full RB



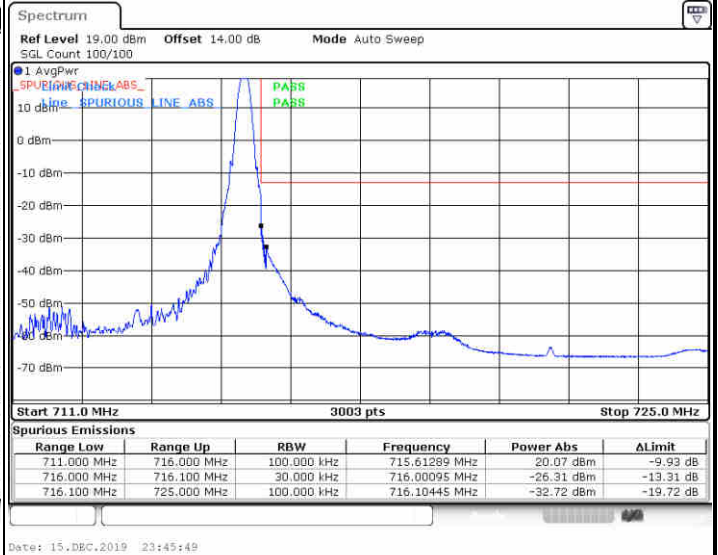


LTE Band 12 / 5MHz / 64QAM

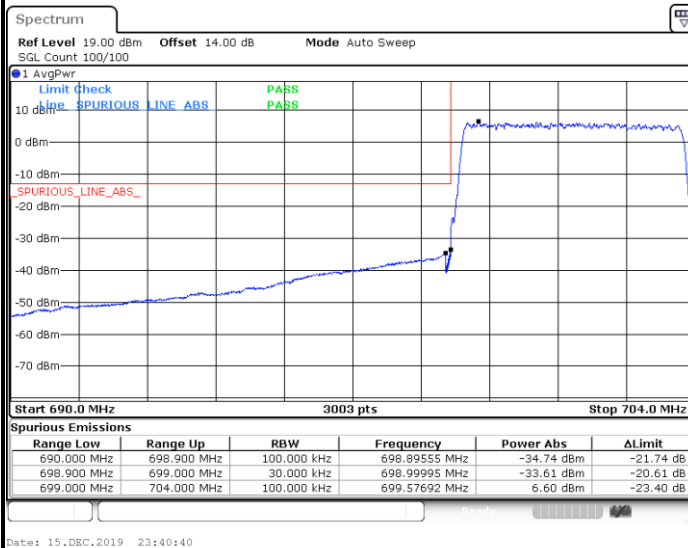
Lowest Band Edge / 1RB



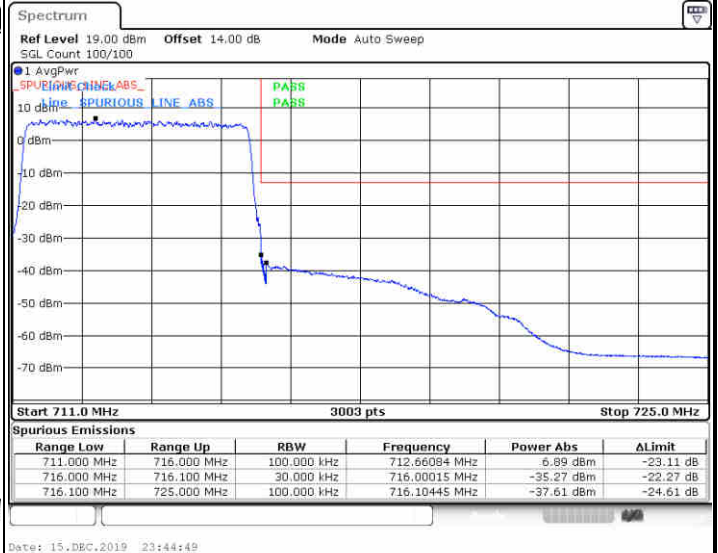
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



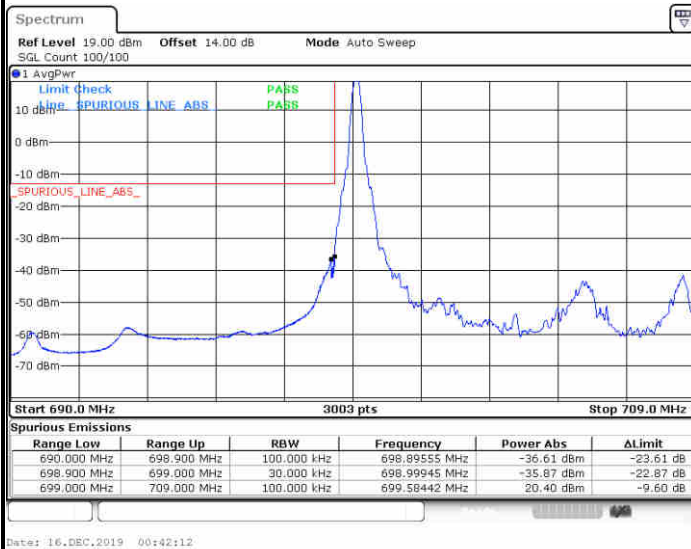
Highest Band Edge / Full RB



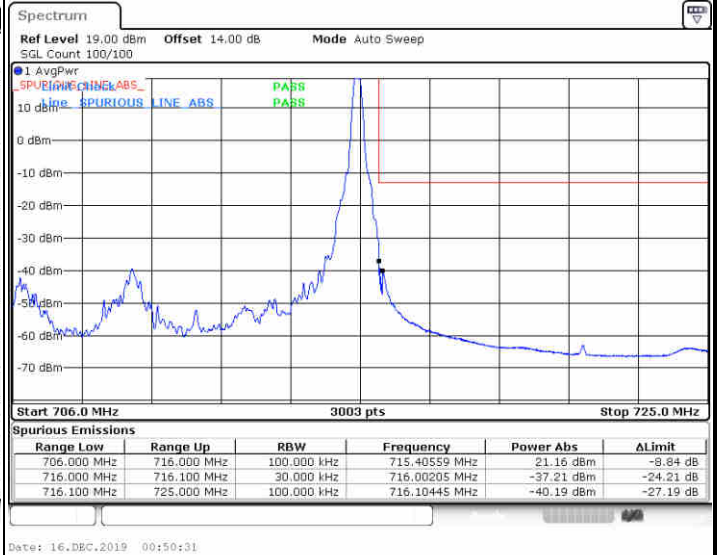


LTE Band 12 / 10MHz / QPSK

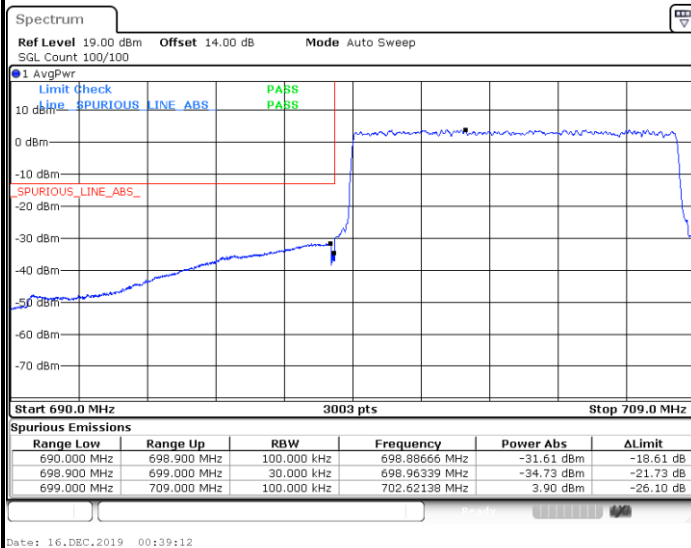
Lowest Band Edge / 1 RB



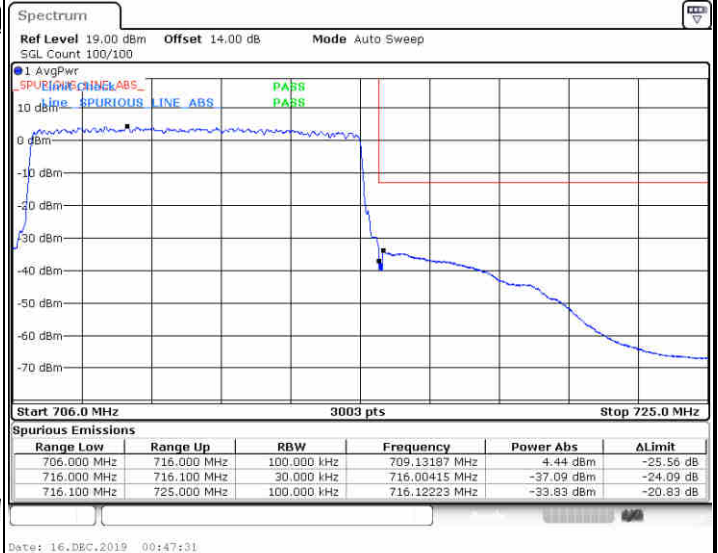
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



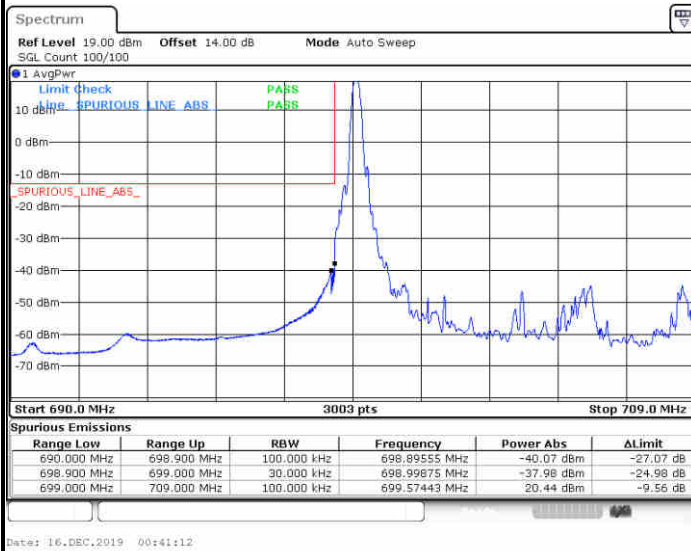
Highest Band Edge / Full RB



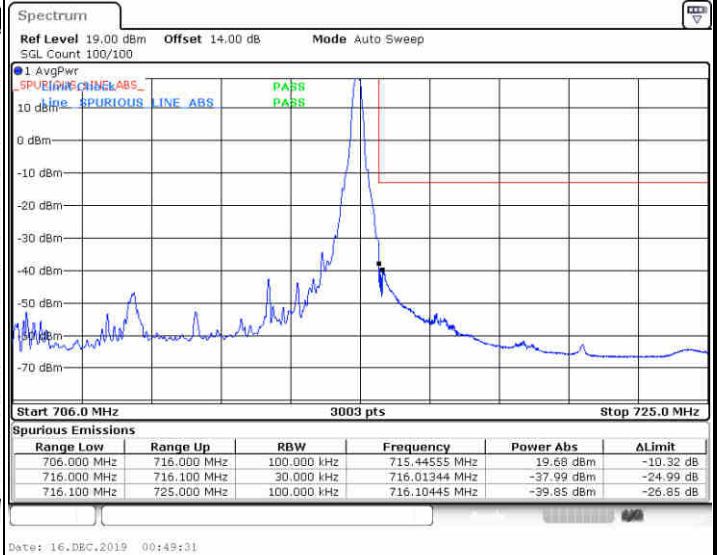


LTE Band 12 / 10MHz / 16QAM

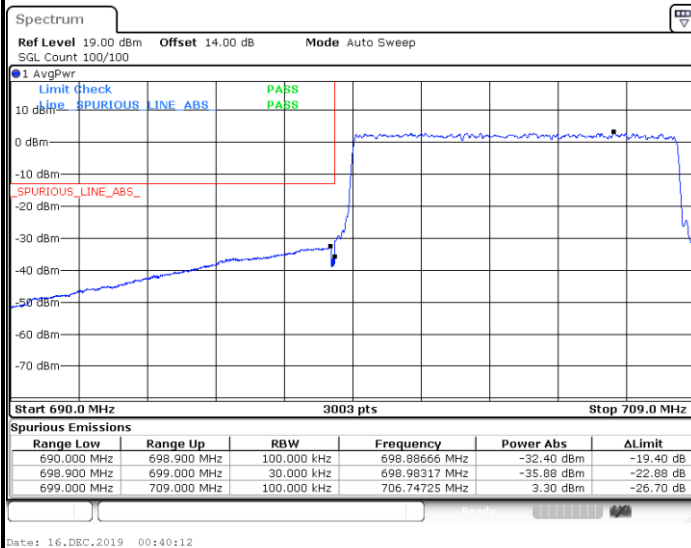
Lowest Band Edge / 1 RB



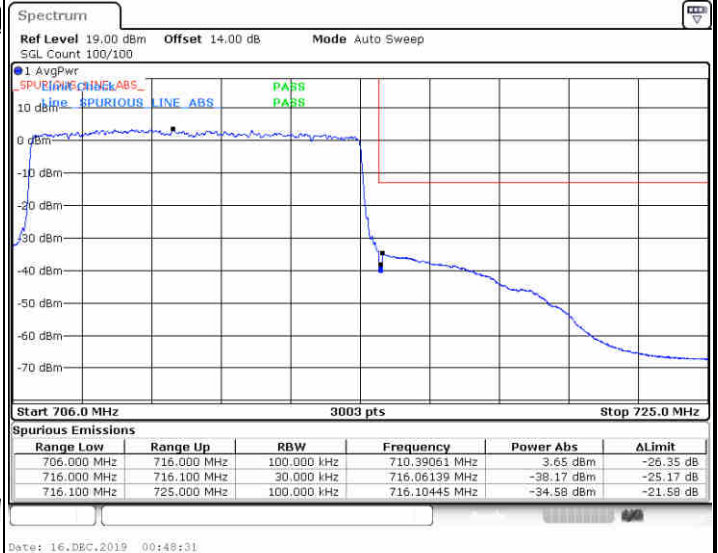
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



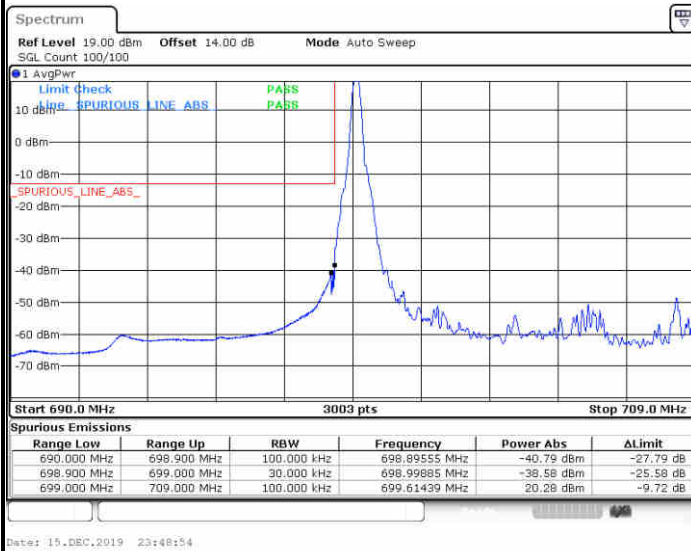
Highest Band Edge / Full RB



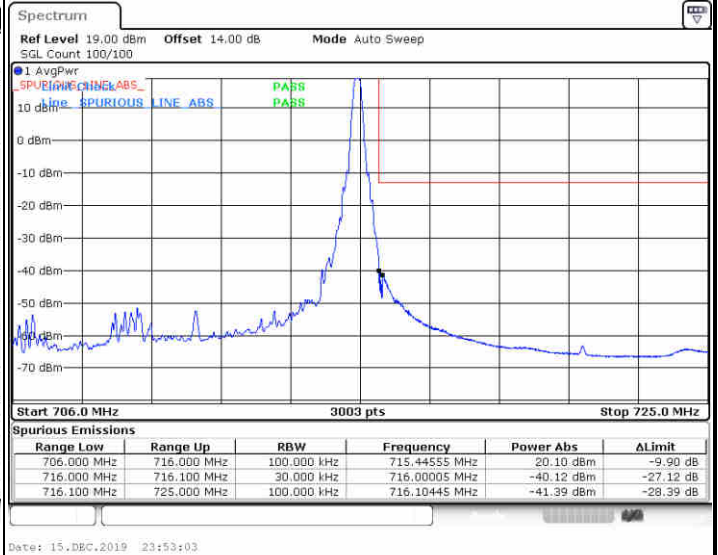


LTE Band 12 / 10MHz / 64QAM

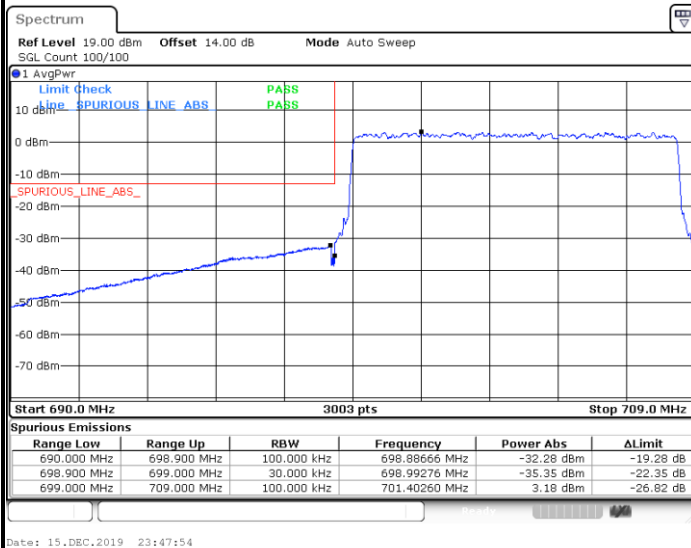
Lowest Band Edge / 1 RB



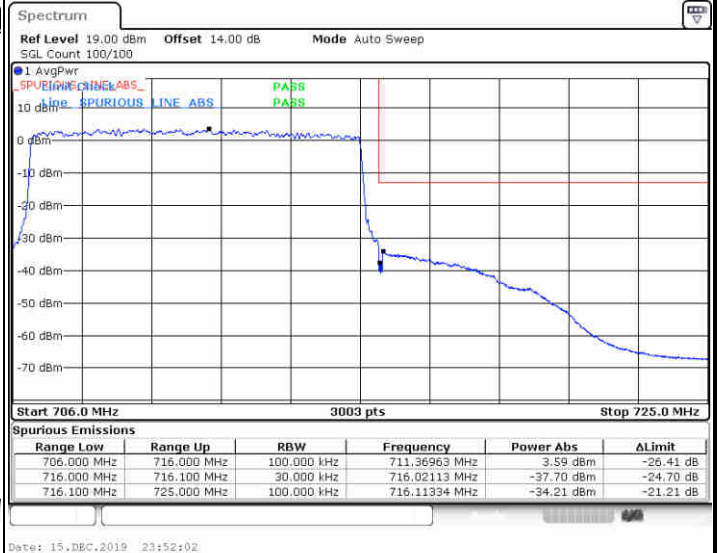
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

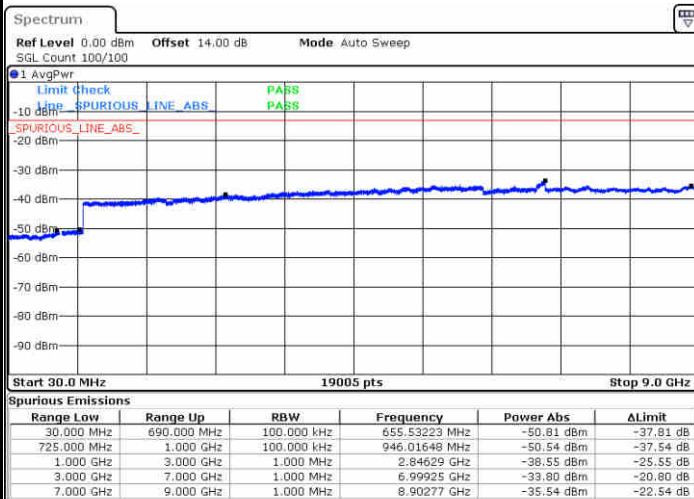




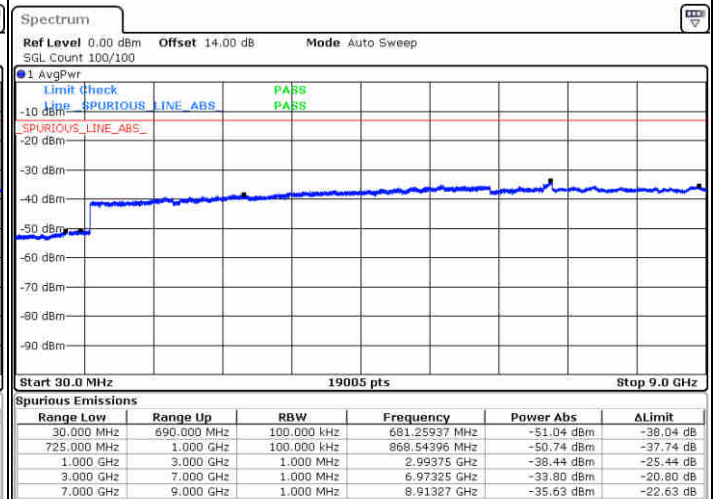
Conducted Spurious Emission

LTE Band 12 / 1.4MHz

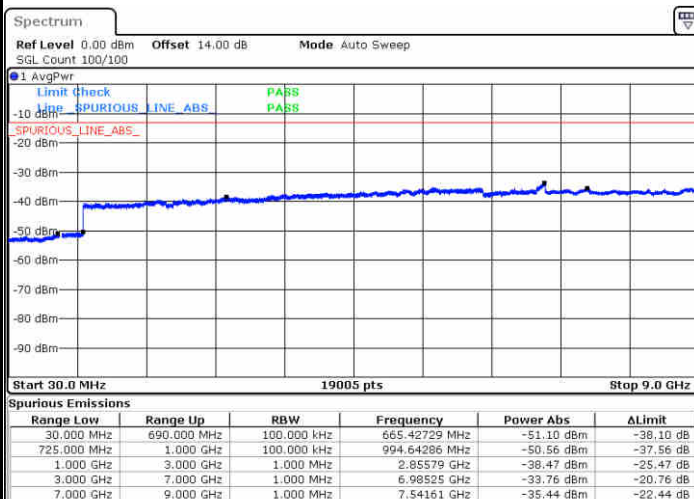
Lowest Channel / QPSK



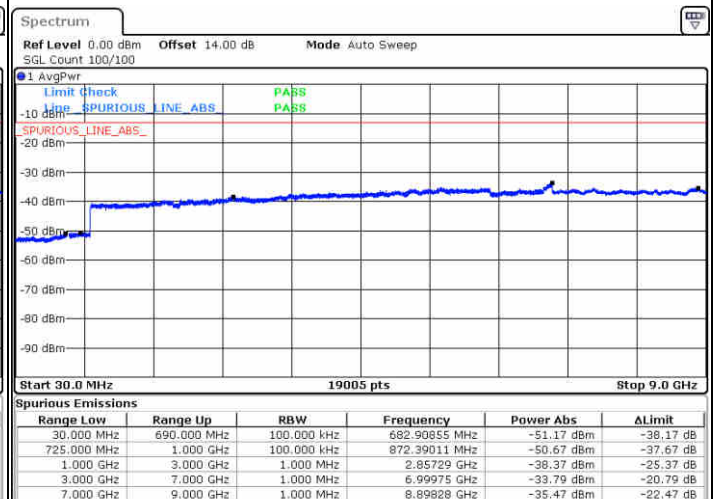
Lowest Channel / 16QAM



Middle Channel / QPSK



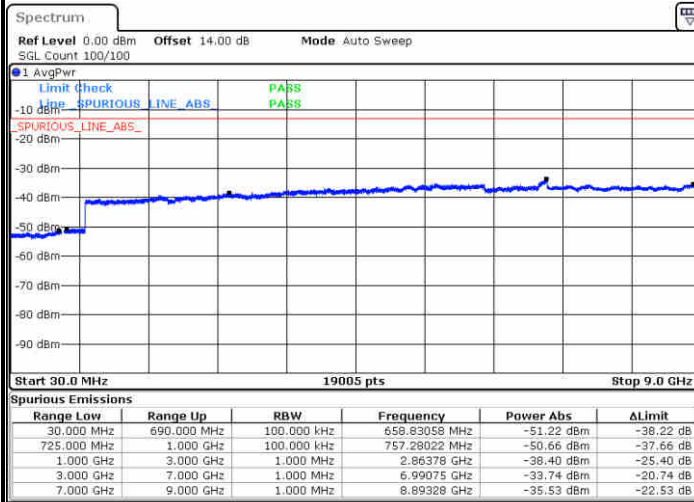
Middle Channel / 16QAM





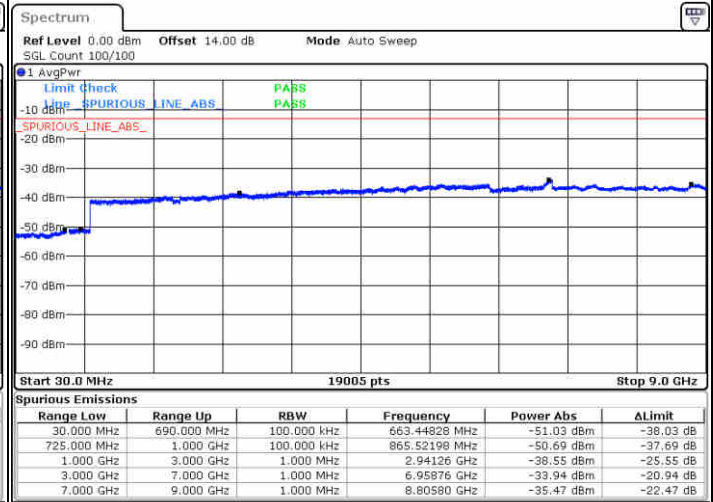
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 16.DEC.2019 01:05:38

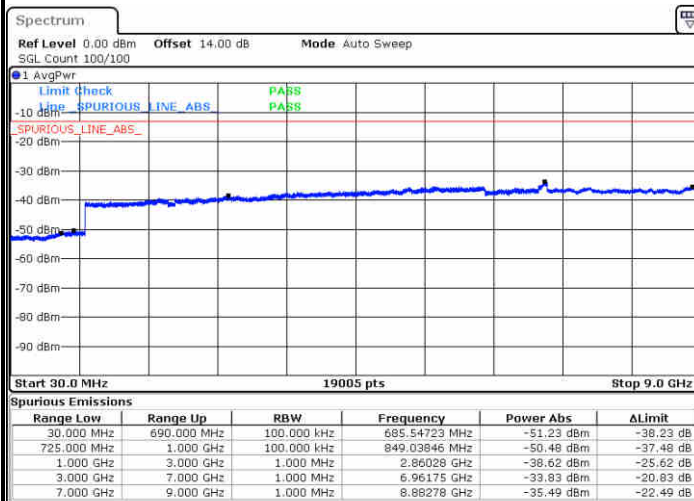
Highest Channel / 16QAM



Date: 16.DEC.2019 01:06:19

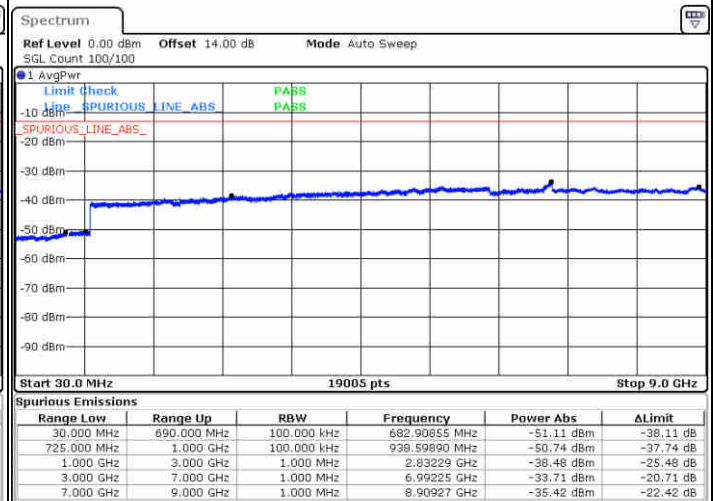
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 16.DEC.2019 00:14:01

Lowest Channel / 16QAM

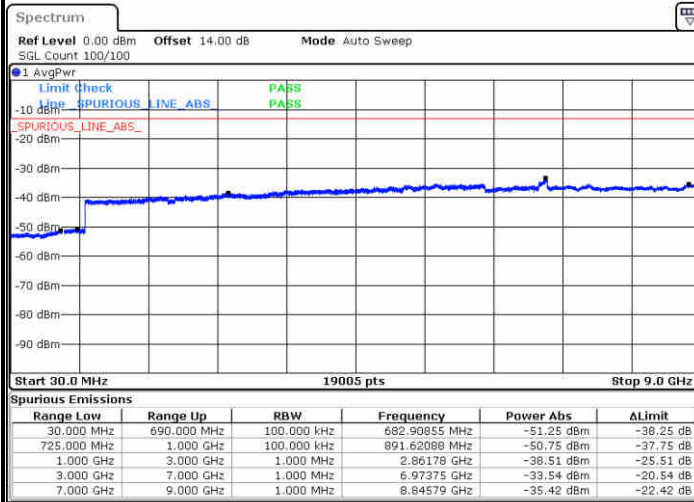


Date: 16.DEC.2019 00:14:43



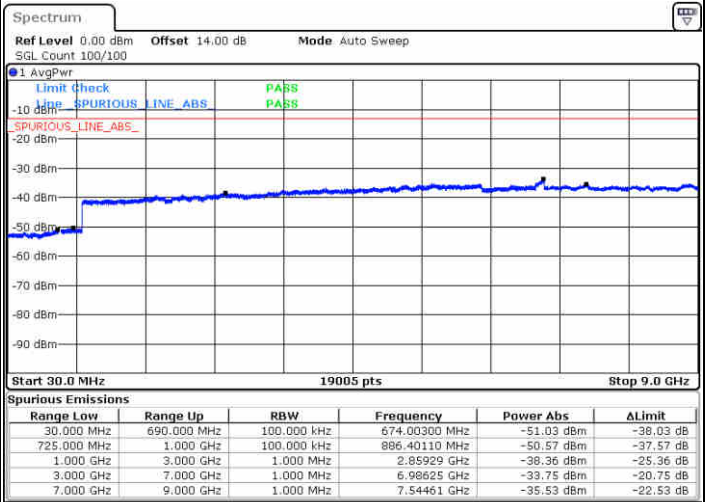
LTE Band 12 / 3MHz

Middle Channel / QPSK



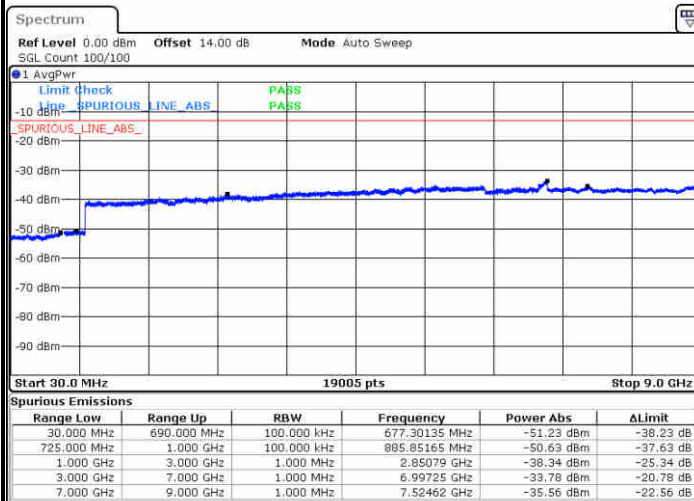
Date: 16.DEC.2019 00:16:52

Middle Channel / 16QAM



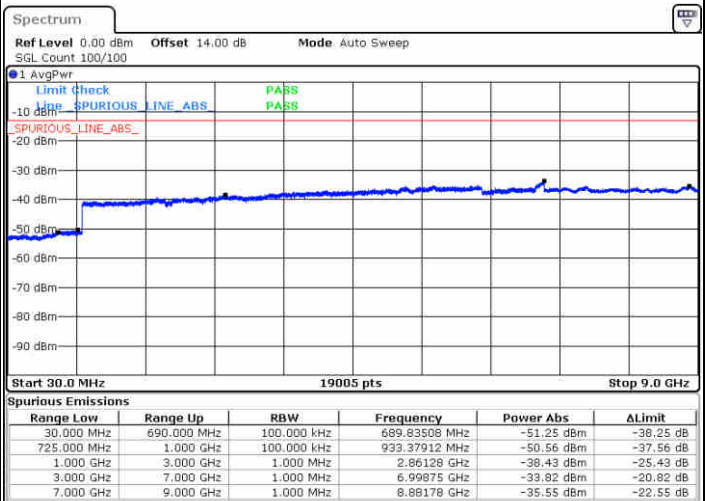
Date: 16.DEC.2019 00:16:09

Highest Channel / QPSK



Date: 16.DEC.2019 00:22:19

Highest Channel / 16QAM

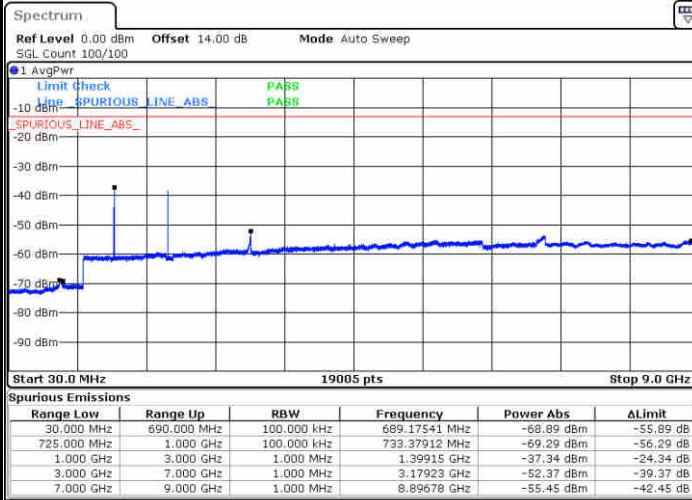


Date: 16.DEC.2019 00:23:01



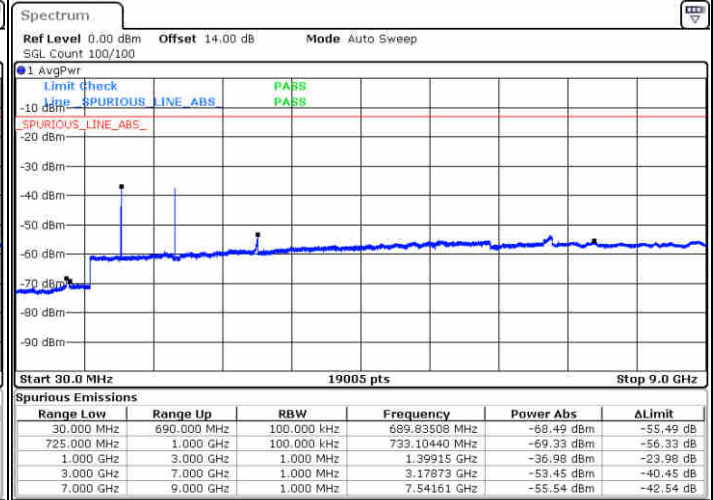
LTE Band 12 / 5MHz

Lowest Channel / QPSK



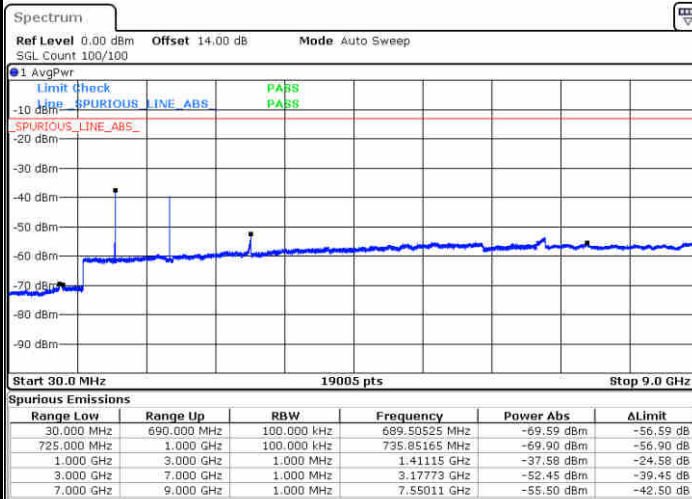
Date: 16.DEC.2019 00:28:28

Lowest Channel / 16QAM



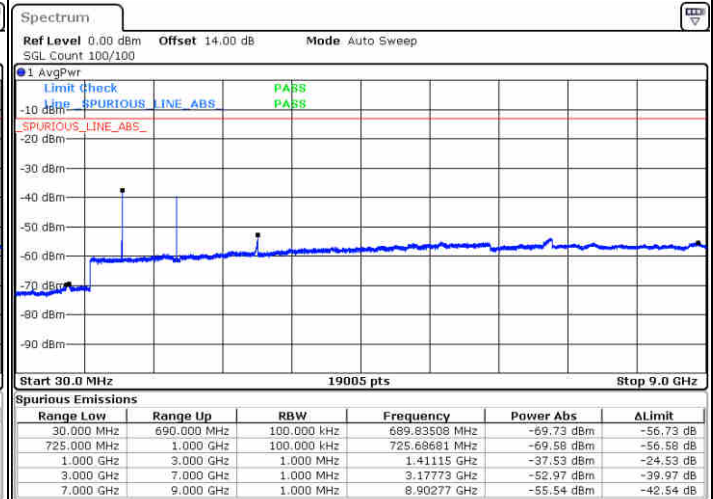
Date: 16.DEC.2019 00:29:10

Middle Channel / QPSK



Date: 16.DEC.2019 00:31:19

Middle Channel / 16QAM

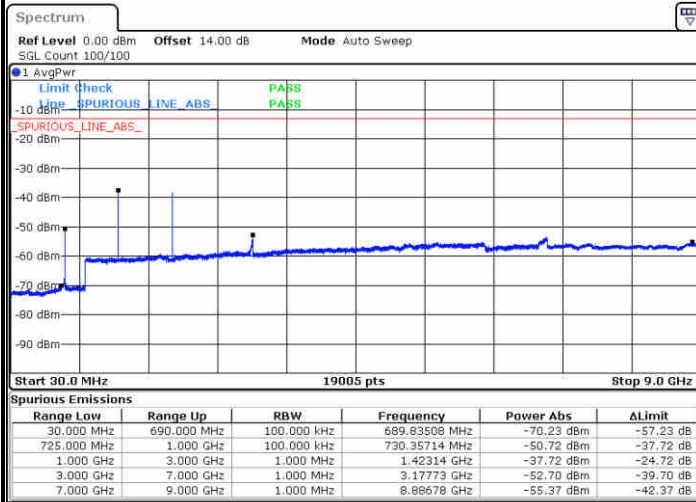


Date: 16.DEC.2019 00:30:36



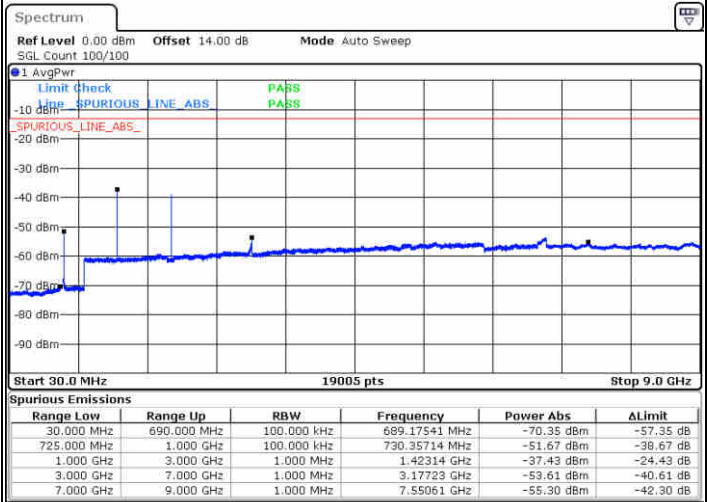
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 16.DEC.2019 00:37:27

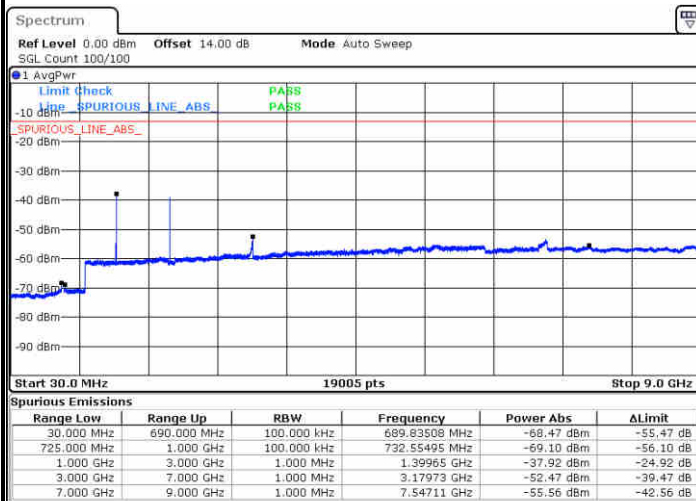
Highest Channel / 16QAM



Date: 16.DEC.2019 01:18:57

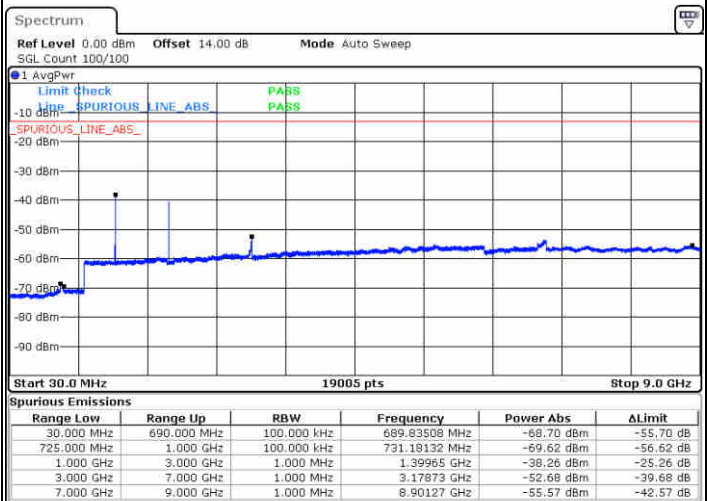
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 16.DEC.2019 00:42:55

Lowest Channel / 16QAM

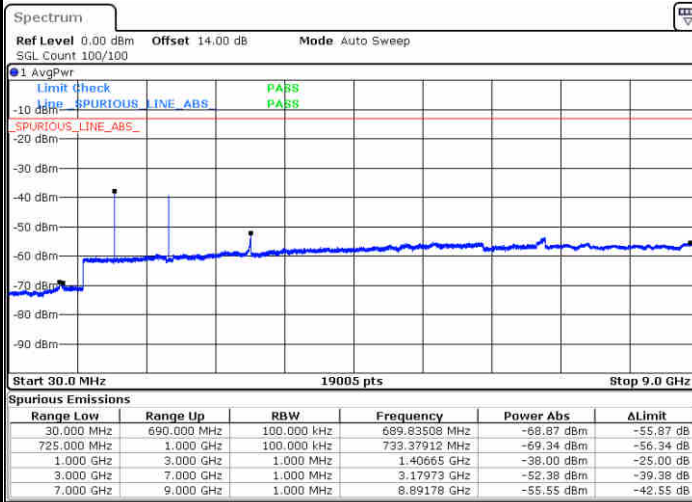


Date: 16.DEC.2019 00:43:37



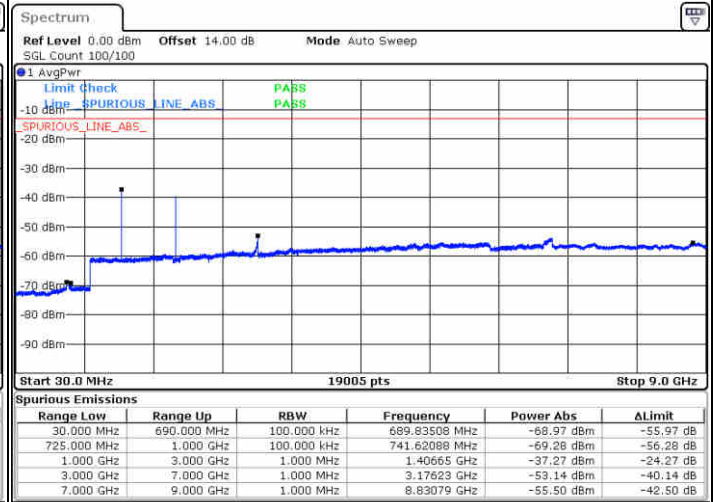
LTE Band 12 / 10MHz

Middle Channel / QPSK



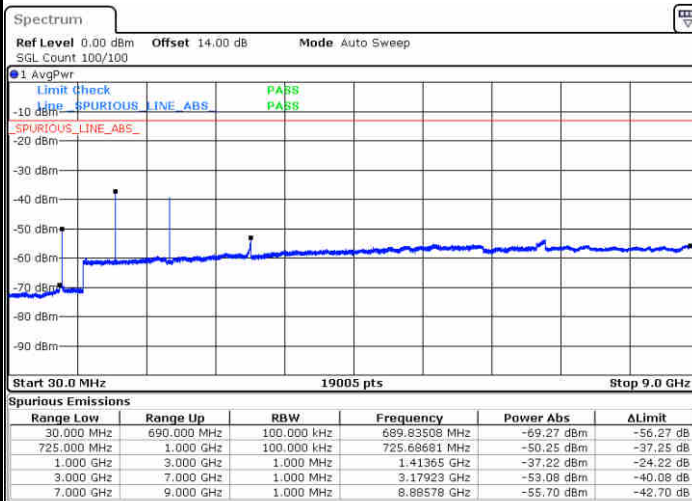
Date: 16.DEC.2019 00:45:47

Middle Channel / 16QAM



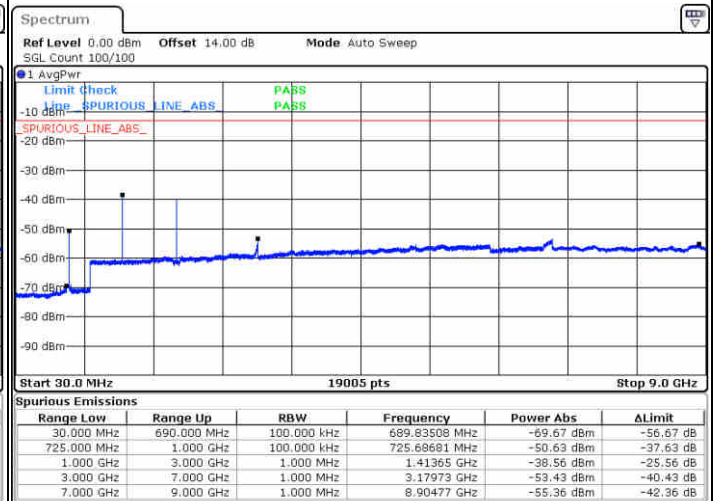
Date: 16.DEC.2019 00:45:05

Highest Channel / QPSK



Date: 16.DEC.2019 00:51:14

Highest Channel / 16QAM

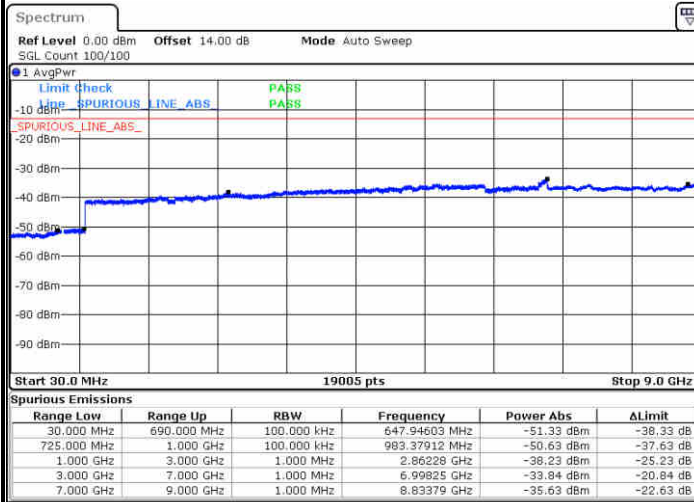


Date: 16.DEC.2019 00:51:55



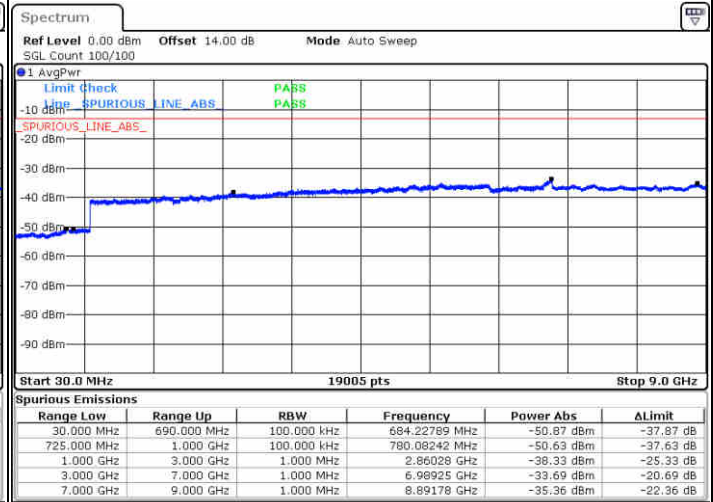
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM



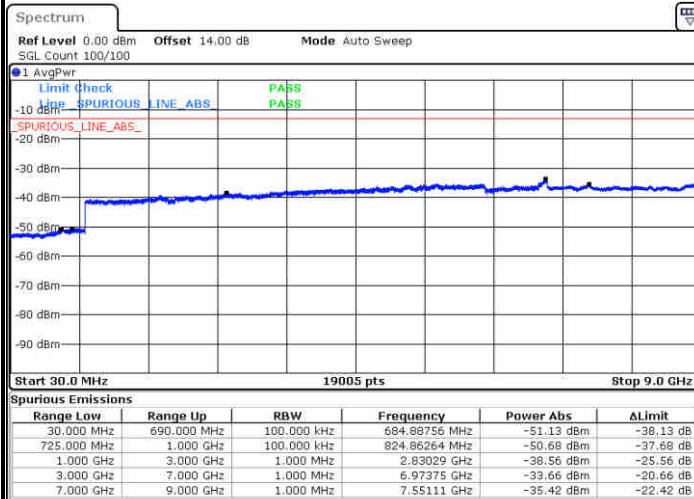
Date: 15.DEC.2019 23:56:50

Middle Channel / 64QAM



Date: 15.DEC.2019 23:57:55

Highest Channel / 64QAM

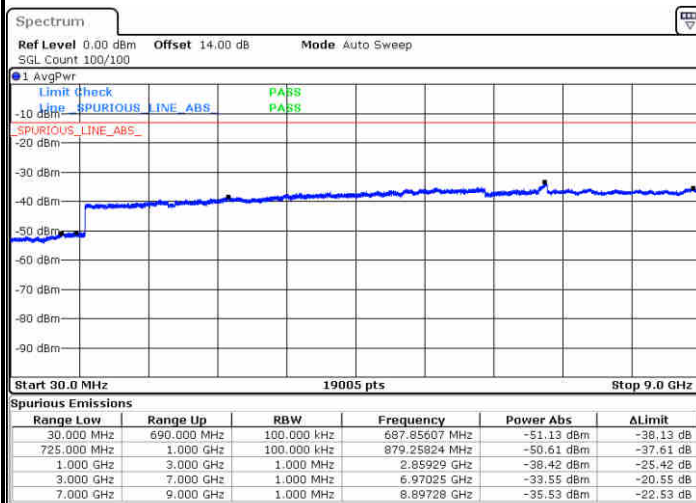


Date: 16.DEC.2019 00:00:59



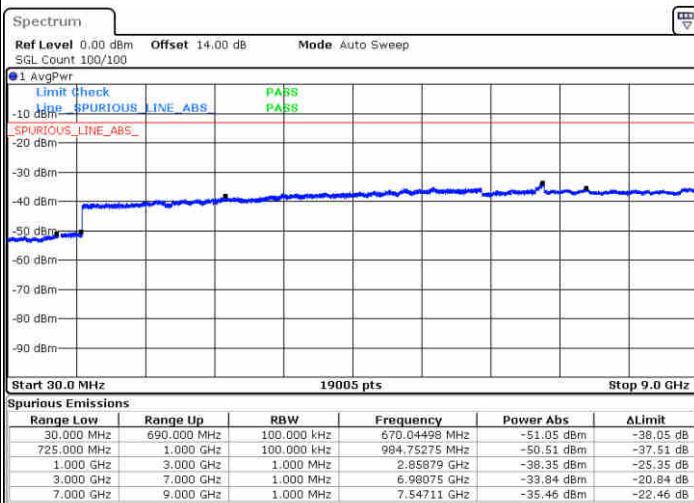
LTE Band 12 / 3MHz

Lowest Channel / 64QAM



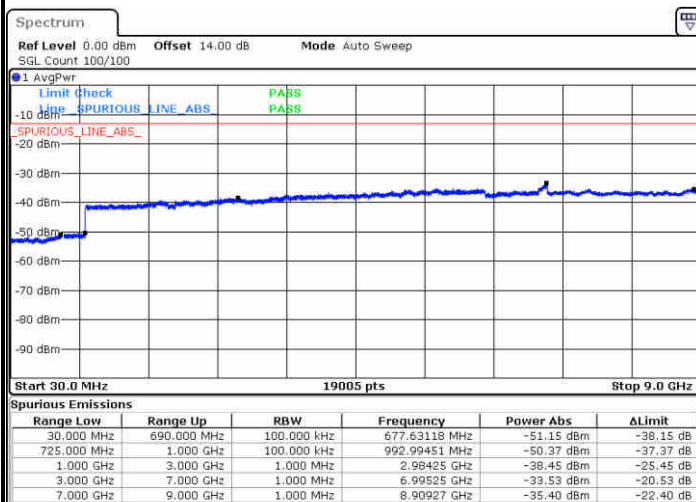
Date: 15.DEC.2019 23:35:09

Middle Channel / 64QAM



Date: 15.DEC.2019 23:36:13

Highest Channel / 64QAM

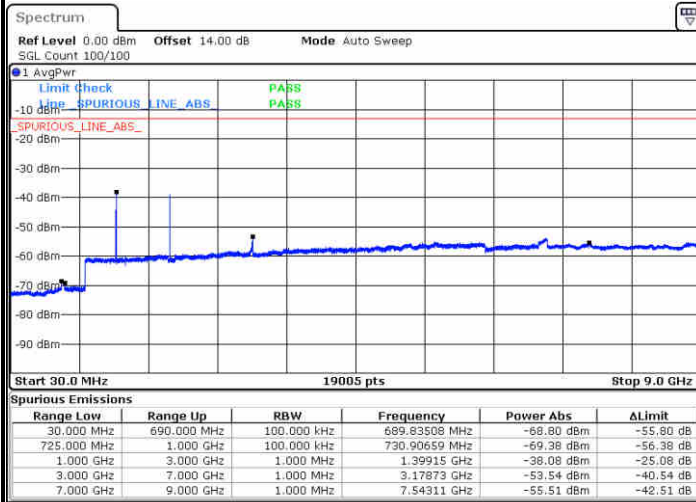


Date: 15.DEC.2019 23:39:18



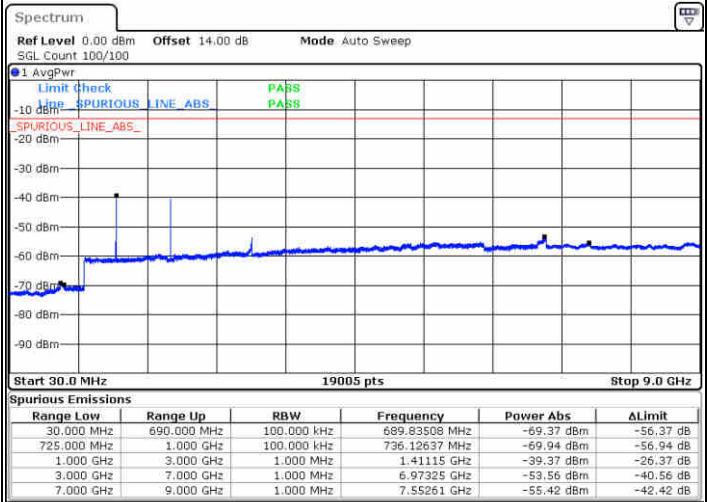
LTE Band 12 / 5MHz

Lowest Channel / 64QAM



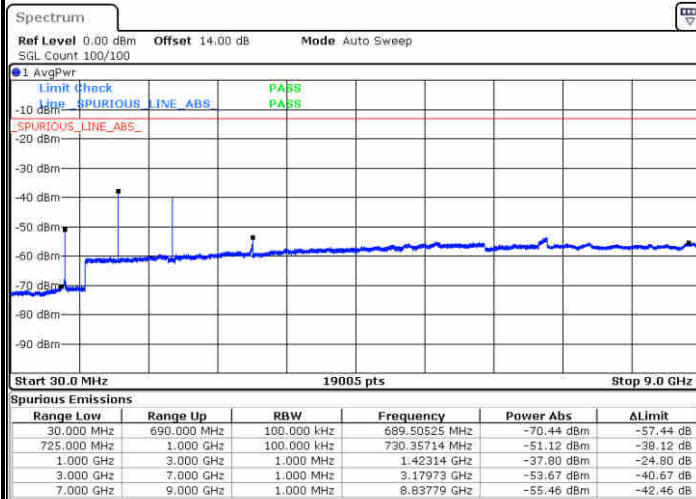
Date: 15.DEC.2019 23:42:23

Middle Channel / 64QAM



Date: 15.DEC.2019 23:43:28

Highest Channel / 64QAM

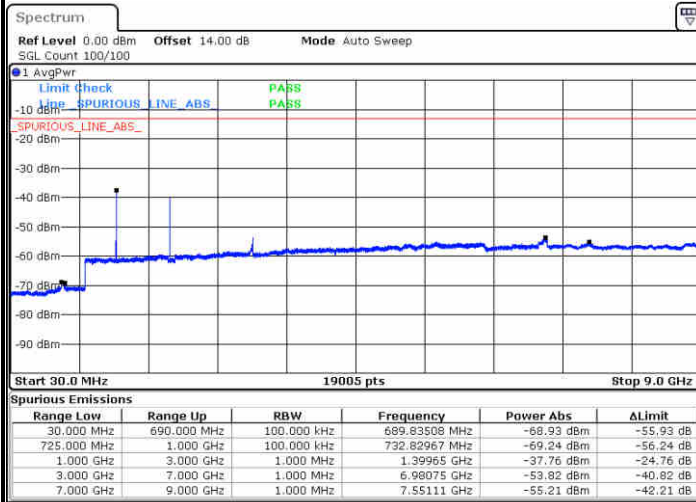


Date: 15.DEC.2019 23:46:32



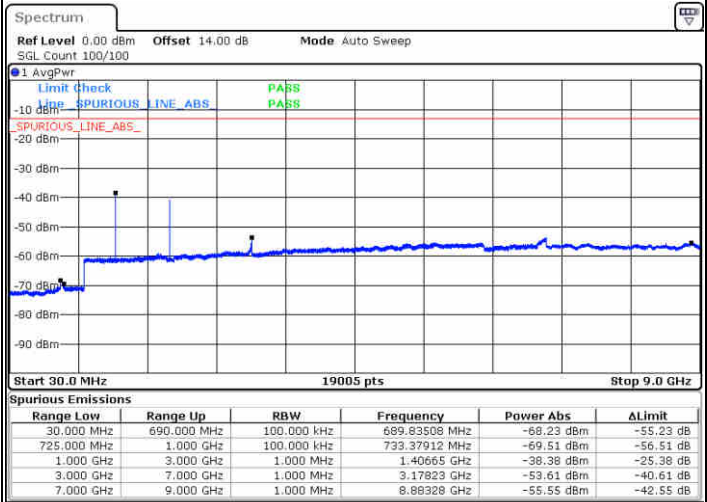
LTE Band 12 / 10MHz

Lowest Channel / 64QAM



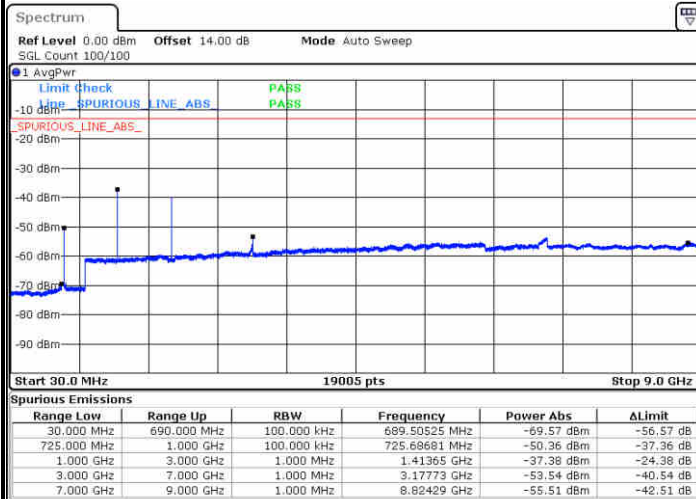
Date: 15.DEC.2019 23:49:37

Middle Channel / 64QAM



Date: 15.DEC.2019 23:50:41

Highest Channel / 64QAM



Date: 15.DEC.2019 23:53:46

**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	0.0007	PASS
40	Normal Voltage	0.0020	
30	Normal Voltage	0.0013	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0011	
0	Normal Voltage	0.0004	
-10	Normal Voltage	0.0020	
-20	Normal Voltage	0.0001	
-30	Normal Voltage	0.0017	
20	Maximum Voltage	0.0006	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0011	

Note:

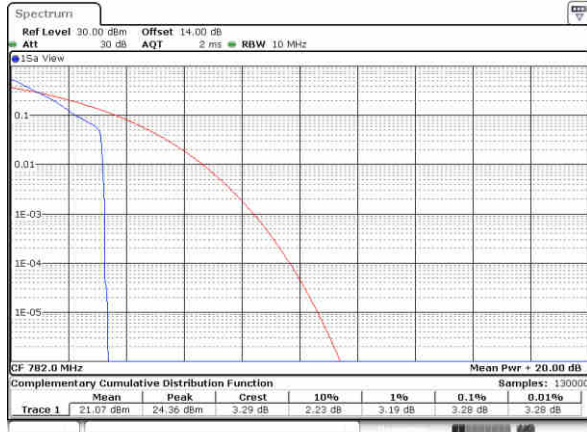
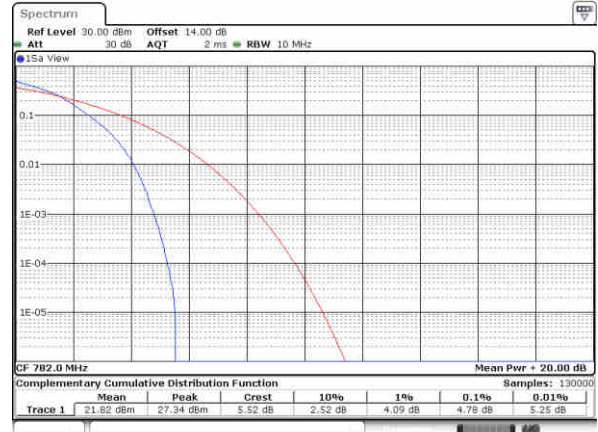
1. Normal Voltage =3.87 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.45 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 13

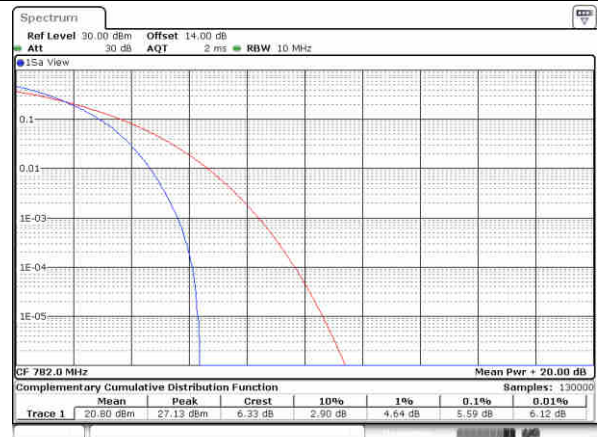
Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.28	4.78	3.71	5.54	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM		-		Limit: 13dB
RB Size	1RB	Full RB	-	-	Result
Lowest CH	-	-	-	-	PASS
Middle CH	4.06	5.59	-	-	
Highest CH	-	-	-	-	

LTE Band 13 / 10MHz / QPSK
Middle Channel / 1RB

Middle Channel / Full RB

LTE Band 13 / 10MHz / 16QAM
Middle Channel / 1RB

Middle Channel / Full RB

LTE Band 13 / 10MHz / 64QAM
Middle Channel / 1RB

Middle Channel / Full RB


Date: 17-Dec-2019 11:49:52

Date: 17-Dec-2019 11:50:02

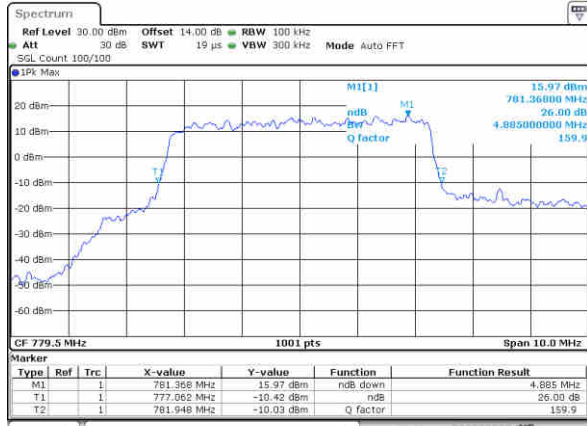
**26dB Bandwidth**

Mode	LTE Band 13 : 26dB BW(MHz)			
BW	5MHz		10MHz	
Mod.	QPSK	16QAM	QPSK	16QAM
Lowest CH	4.89	4.84	-	-
Middle CH	4.90	4.96	9.79	9.63
Highest CH	4.89	4.92	-	-
Mode	LTE Band 13 : 26dB BW(MHz)			
BW	5MHz		10MHz	
Mod.	64QAM		64QAM	
Lowest CH	4.92	-	-	-
Middle CH	4.89	-	9.73	-
Highest CH	4.88	-	-	-



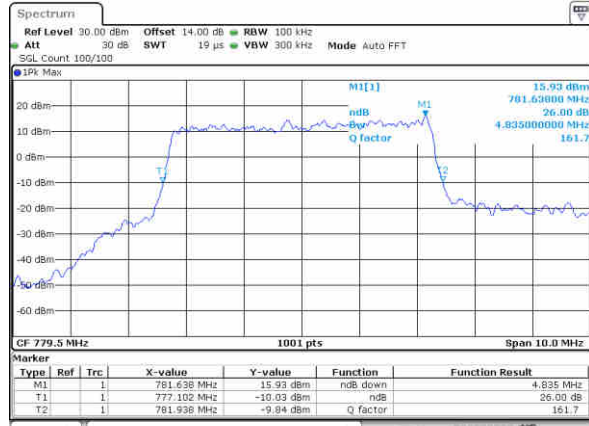
LTE Band 13

Lowest Channel / 5MHz / QPSK



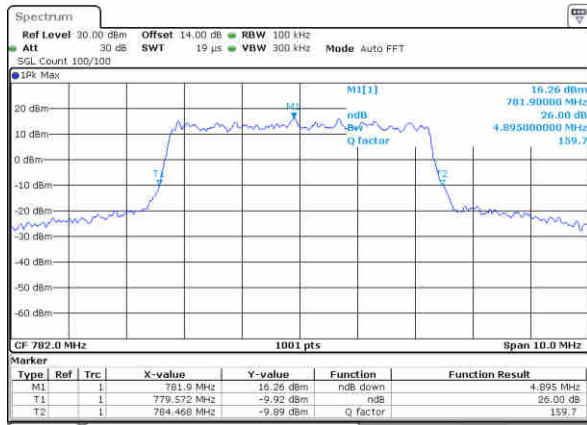
Date: 17, DEC, 2019 11:01:51

Lowest Channel / 5MHz / 16QAM



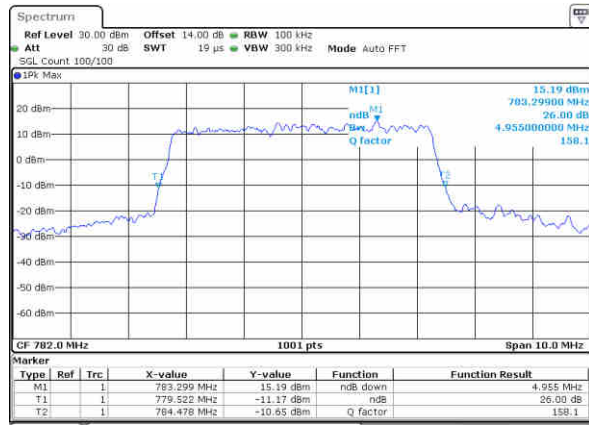
Date: 17, DEC, 2019 11:01:40

Middle Channel / 5MHz / QPSK



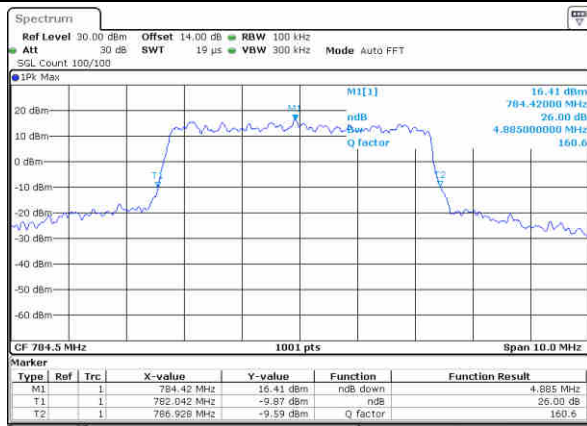
Date: 17, DEC, 2019 11:11:53

Middle Channel / 5MHz / 16QAM



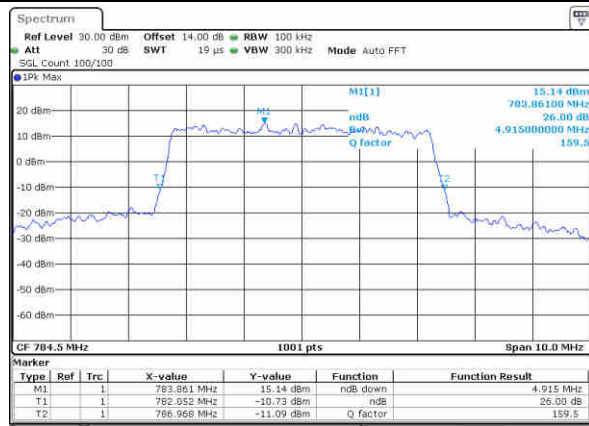
Date: 17, DEC, 2019 11:11:34

Highest Channel / 5MHz / QPSK



Date: 17, DEC, 2019 11:12:41

Highest Channel / 5MHz / 16QAM

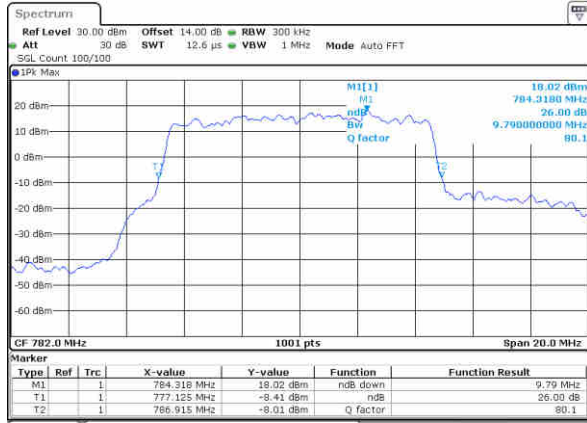


Date: 17, DEC, 2019 11:12:30



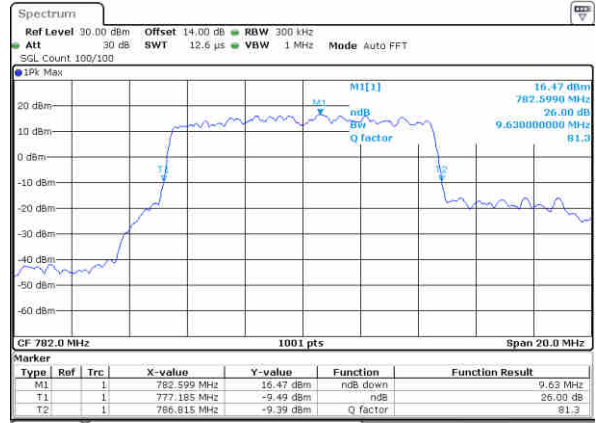
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 17, DEC, 2019 11:31:13

Middle Channel / 10MHz / 16QAM

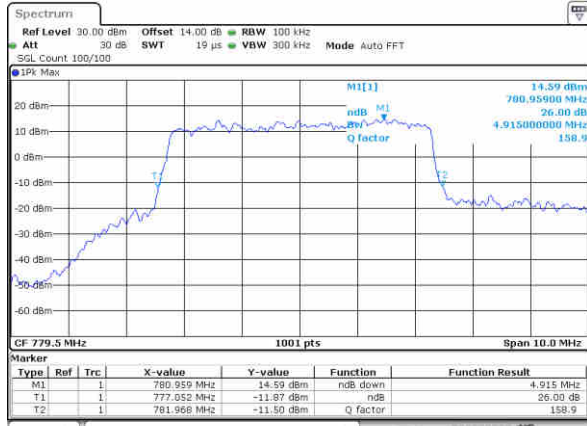


Date: 17, DEC, 2019 11:31:02



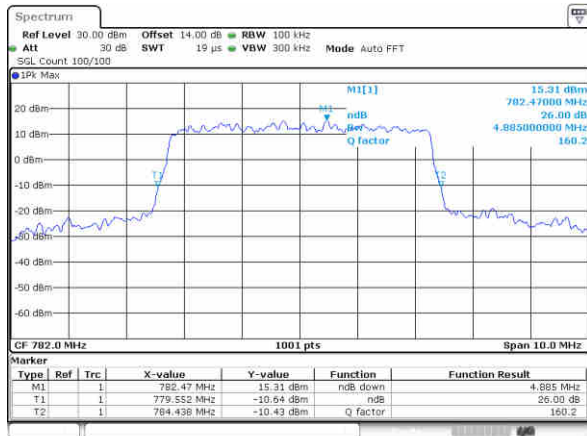
LTE Band 13

Lowest Channel / 5MHz / 64QAM



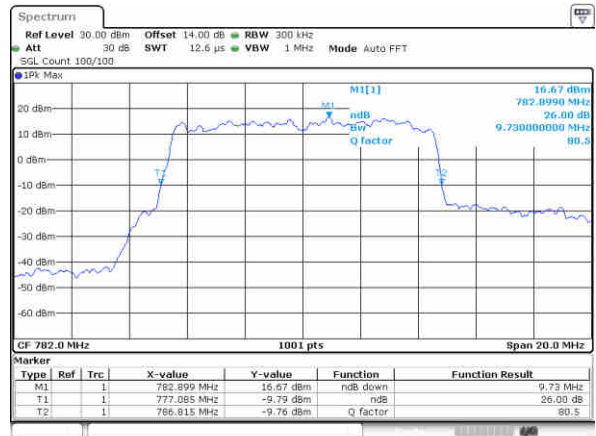
Date: 17, Dec, 2019 11:21:04

Middle Channel / 5MHz / 64QAM



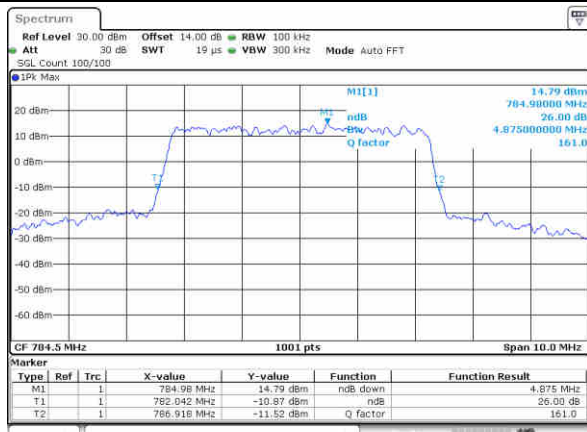
Date: 17, Dec, 2019 11:25:55

Middle Channel / 10MHz / 64QAM



Date: 17, Dec, 2019 11:42:56

Highest Channel / 5MHz / 64QAM



Date: 17, Dec, 2019 11:26:28

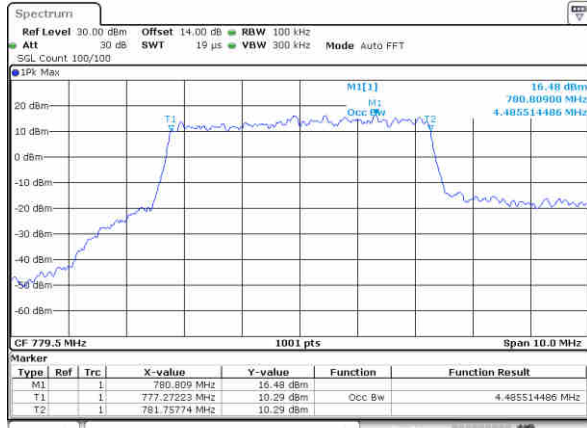
**Occupied Bandwidth**

Mode	LTE Band 13 : 99%OBW(MHz)			
BW	5MHz		10MHz	
Mod.	QPSK	16QAM	QPSK	16QAM
Lowest CH	4.49	4.50	-	-
Middle CH	4.48	4.48	9.01	8.97
Highest CH	4.48	4.50	-	-
Mode	LTE Band 13 : 99%OBW(MHz)			
BW	5MHz		10MHz	
Mod.	64QAM		64QAM	
Lowest CH	4.49	-	-	-
Middle CH	4.47	-	8.97	-
Highest CH	4.51	-	-	-

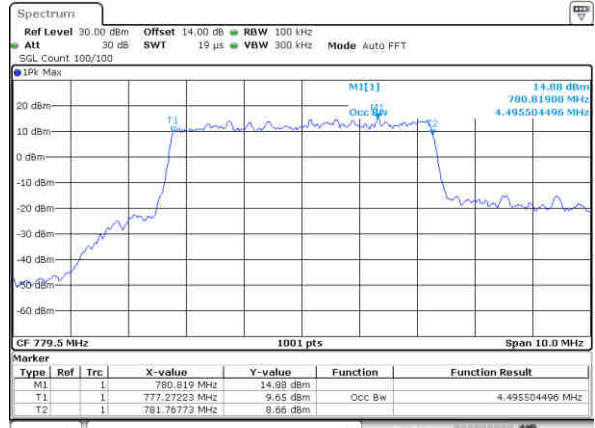


LTE Band 13

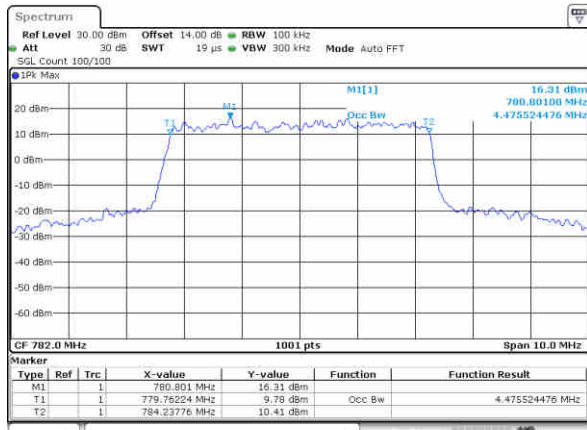
Lowest Channel / 5MHz / QPSK



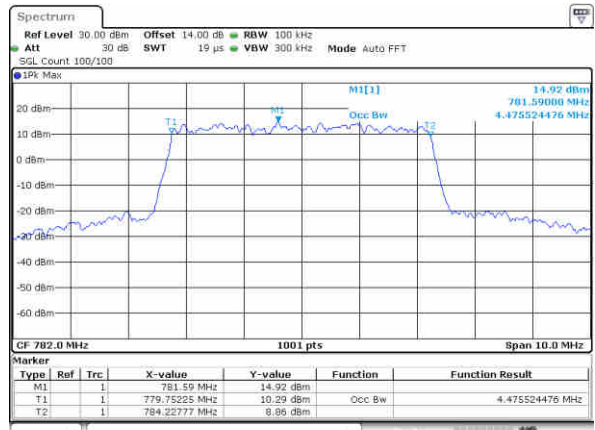
Lowest Channel / 5MHz / 16QAM



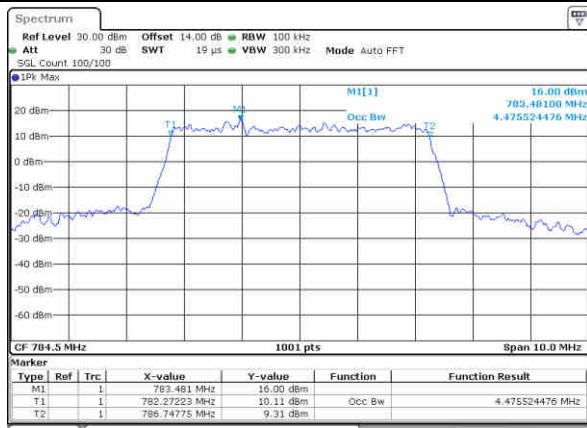
Middle Channel / 5MHz / QPSK



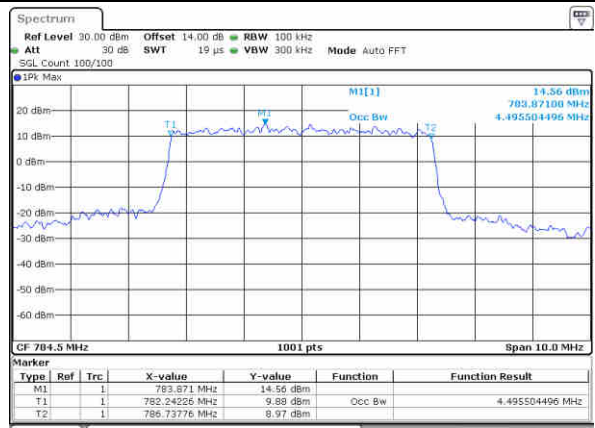
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



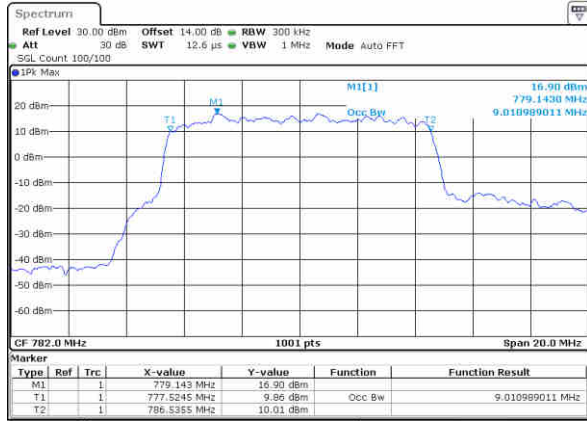
Highest Channel / 5MHz / 16QAM





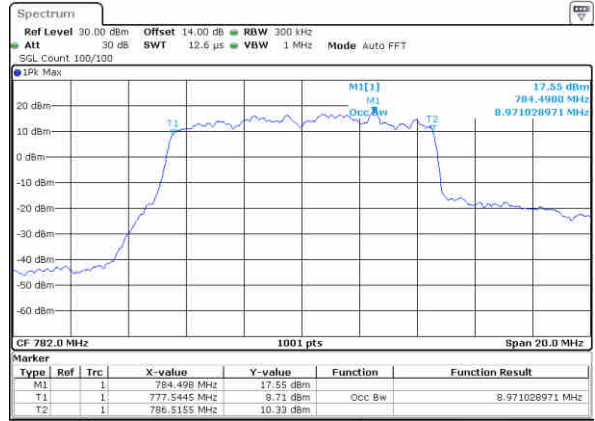
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 17, Dec, 2019 11:38:39

Middle Channel / 10MHz / 16QAM

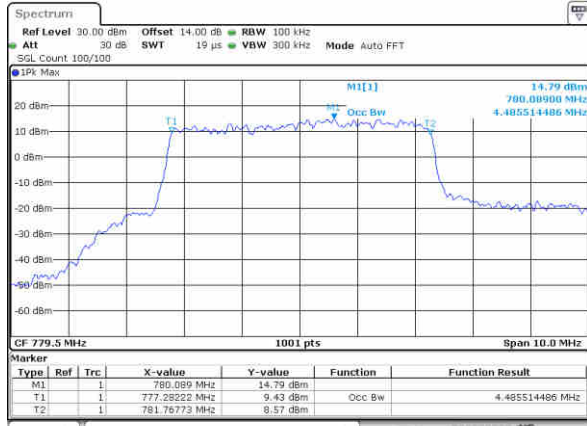


Date: 17, Dec, 2019 11:39:51

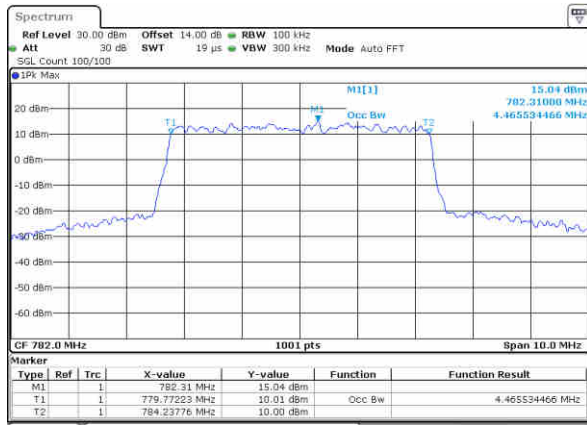


LTE Band 13

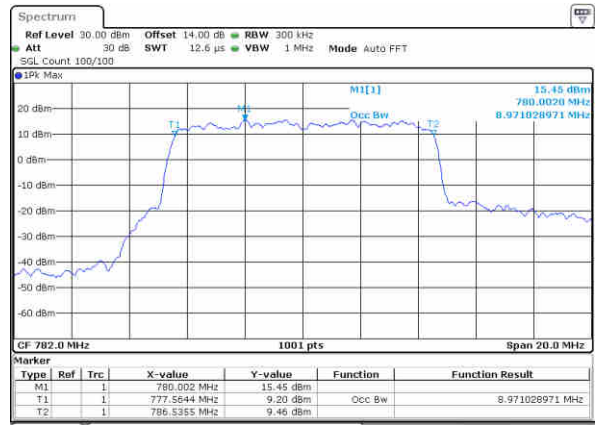
Lowest Channel / 5MHz / 64QAM



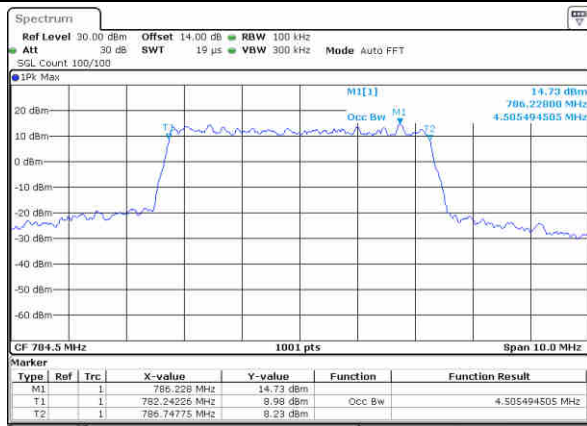
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

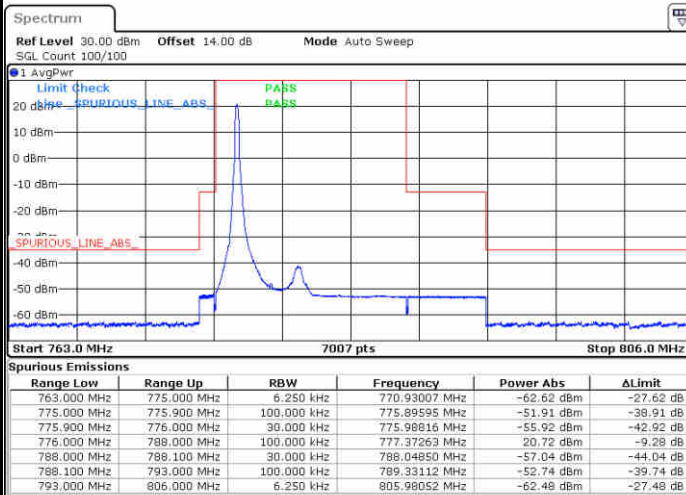




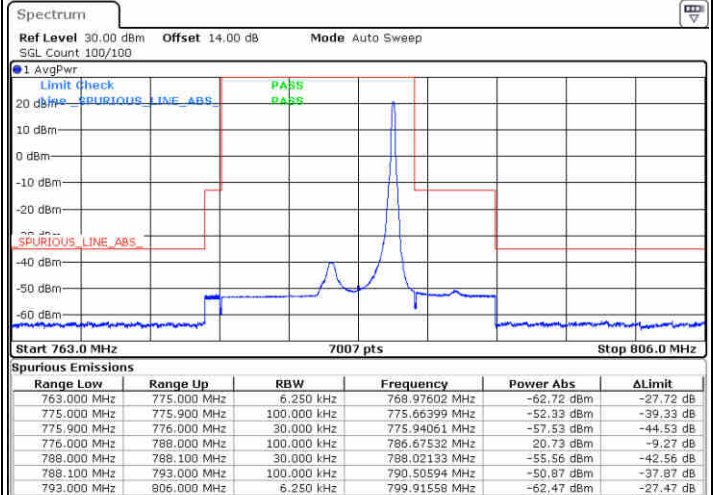
Conducted Band Edge

LTE Band 13 / 5MHz / QPSK

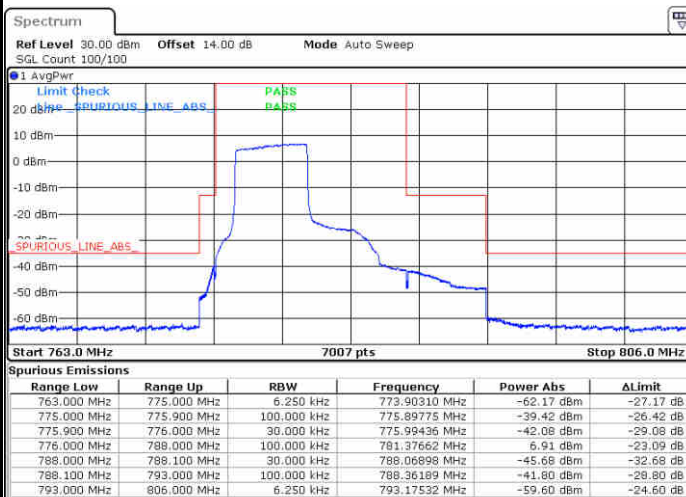
Lowest Band Edge / 1 RB



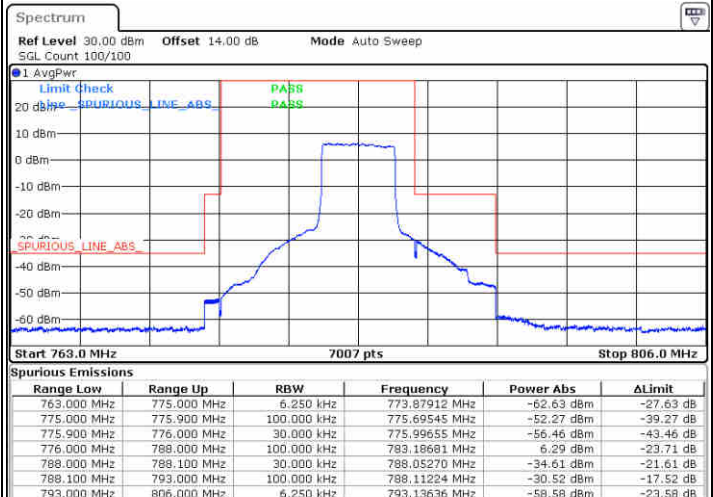
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



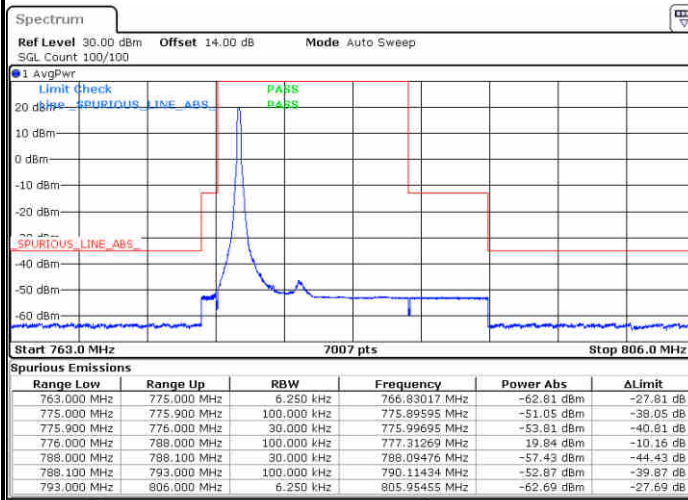
Highest Band Edge / Full RB





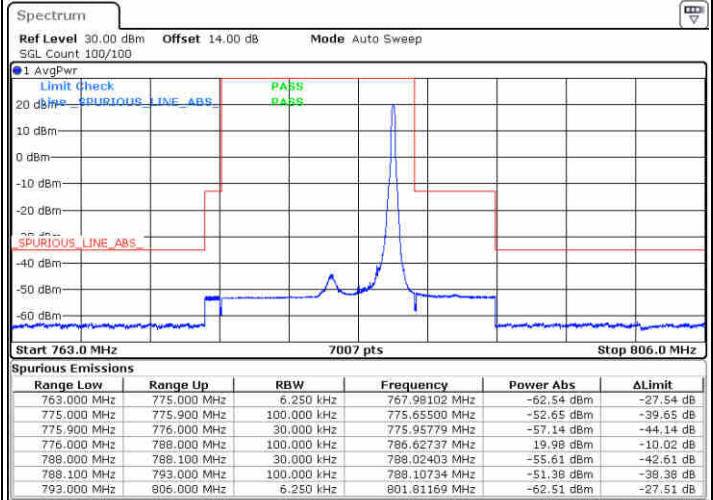
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



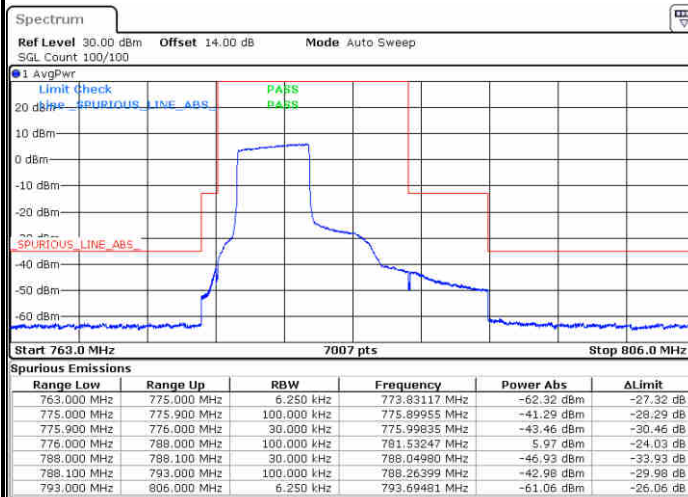
Date: 17.DEC.2019 11:06:51

Highest Band Edge / 1 RB



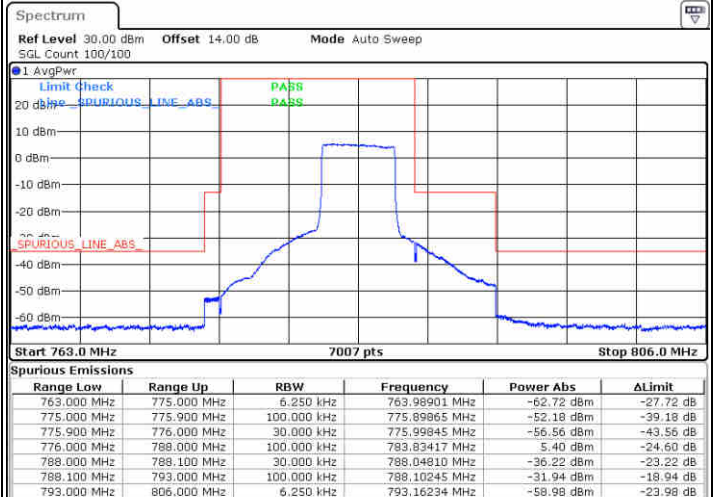
Date: 17.DEC.2019 11:17:40

Lowest Band Edge / Full RB



Date: 17.DEC.2019 11:05:11

Highest Band Edge / Full RB

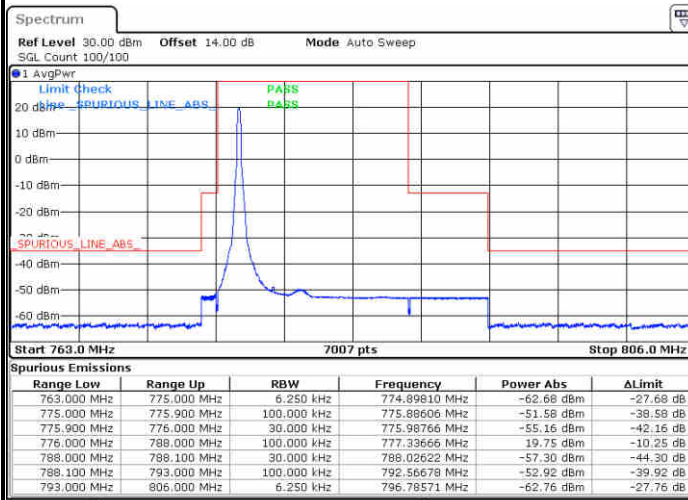


Date: 17.DEC.2019 11:16:00



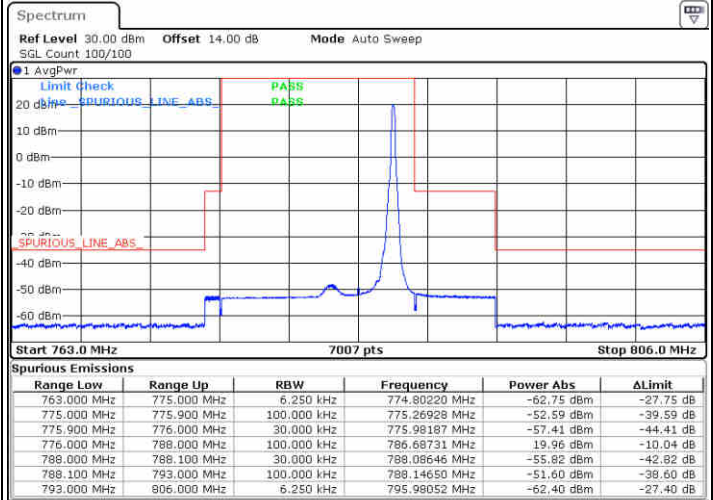
LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB



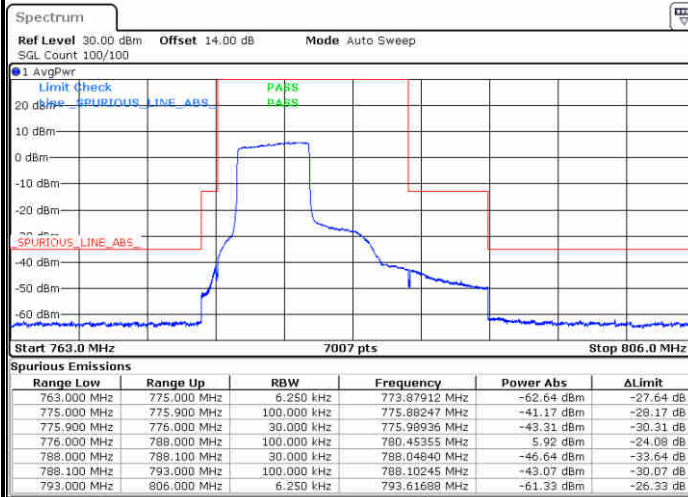
Date: 17.DEC.2019 11:24:23

Highest Band Edge / 1 RB



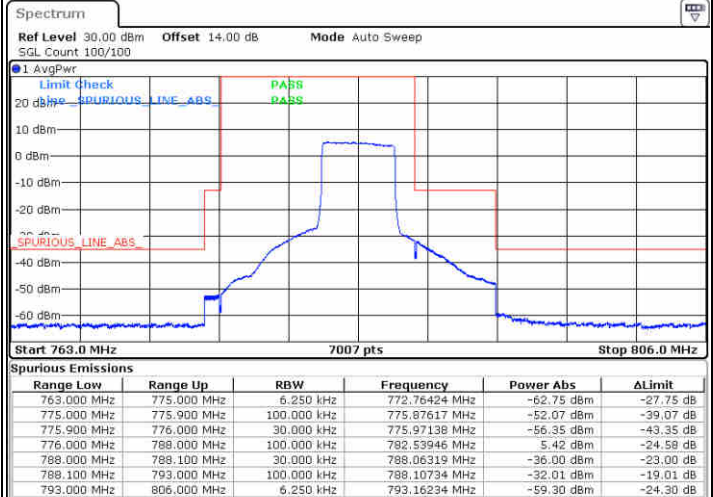
Date: 17.DEC.2019 11:29:48

Lowest Band Edge / Full RB



Date: 17.DEC.2019 11:22:43

Highest Band Edge / Full RB

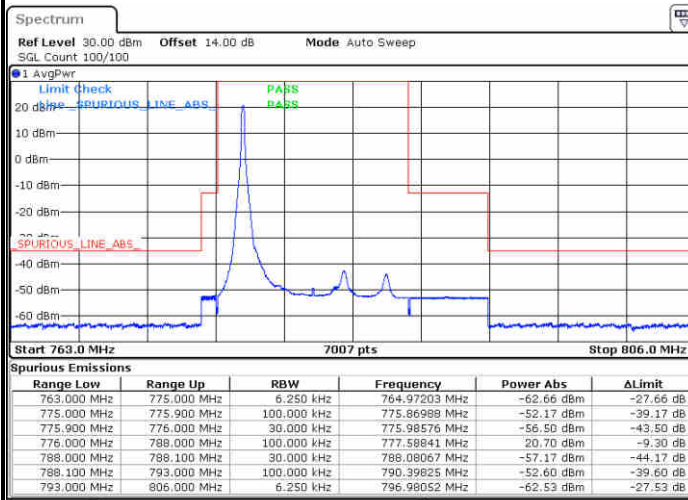


Date: 17.DEC.2019 11:28:08



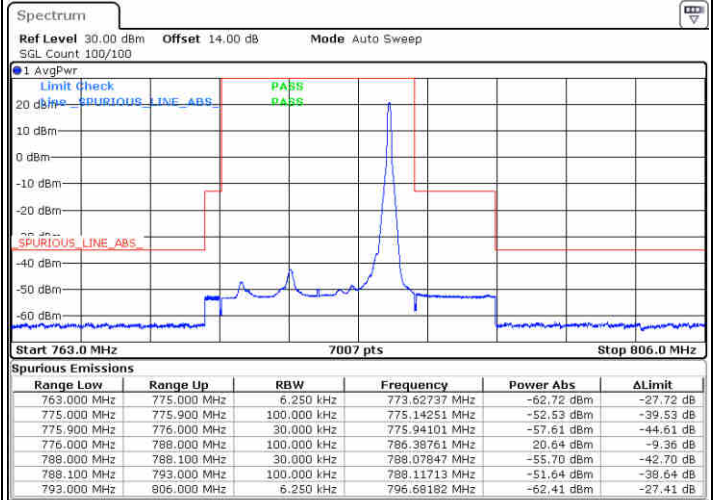
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



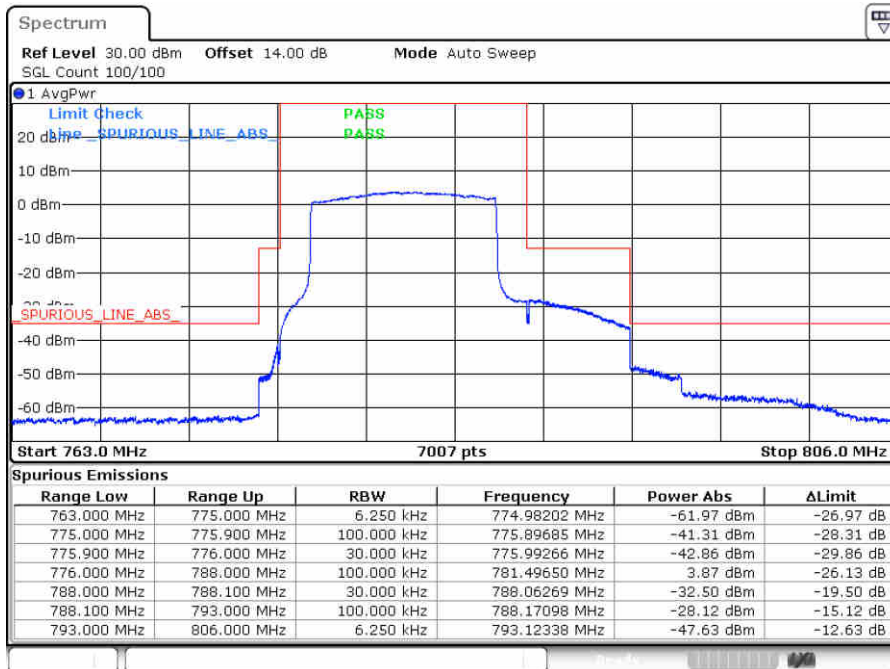
Date: 17.DEC.2019 11:37:52

Highest Band Edge / 1 RB



Date: 17.DEC.2019 11:39:32

Band Edge / Full RB

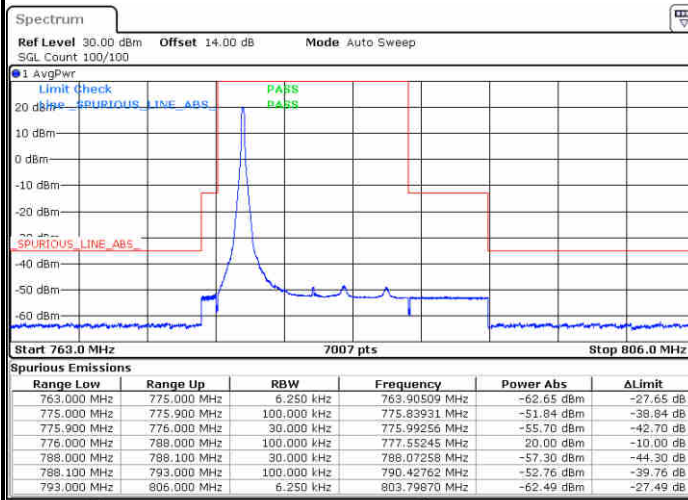


Date: 17.DEC.2019 11:32:52



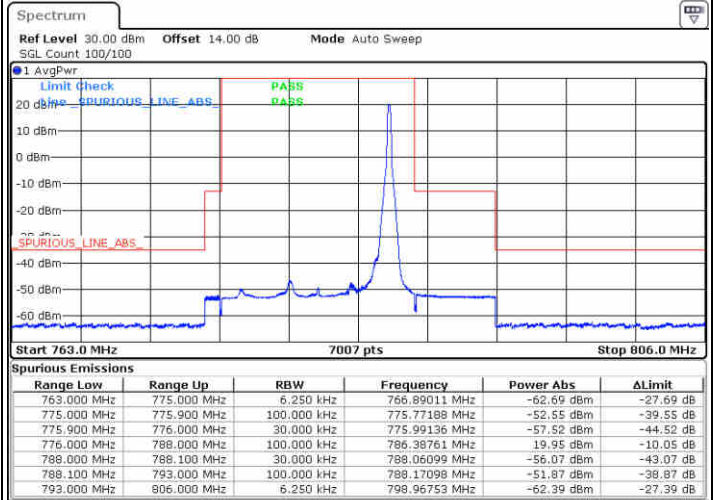
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



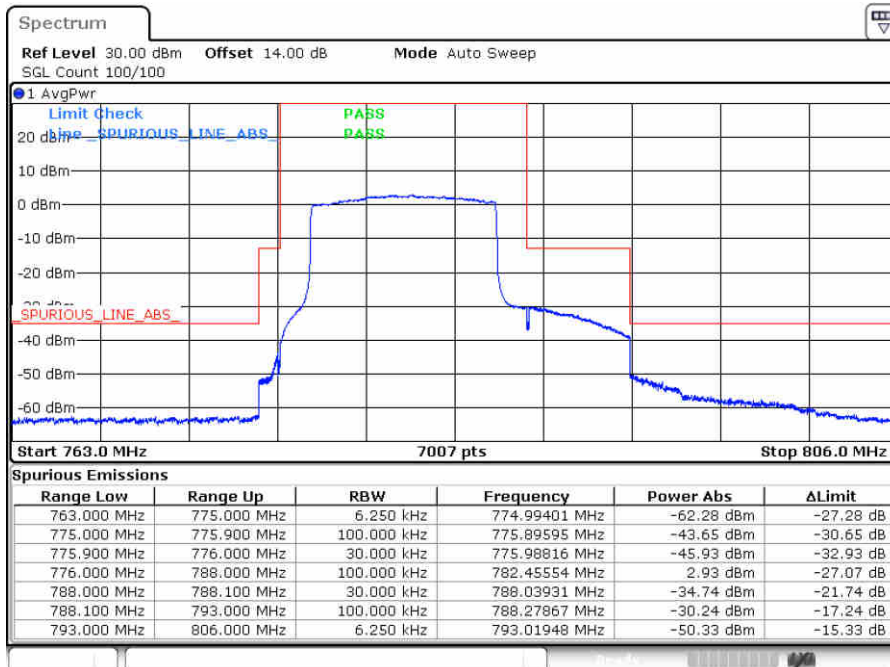
Date: 17.DEC.2019 11:36:12

Highest Band Edge / 1 RB



Date: 17.DEC.2019 11:41:13

Band Edge / Full RB



Date: 17.DEC.2019 11:34:32