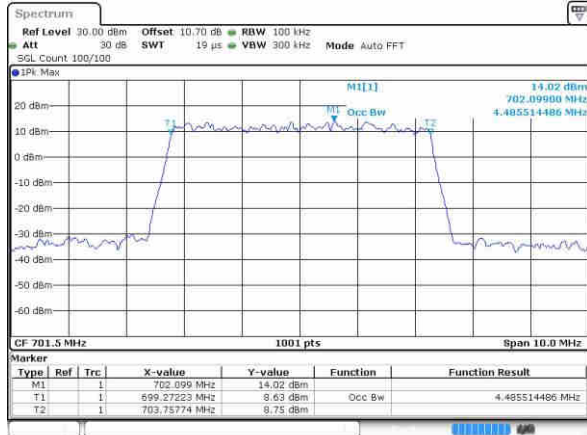


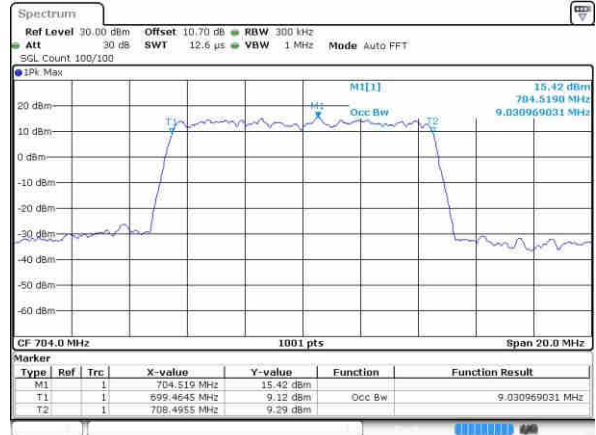


LTE Band 12

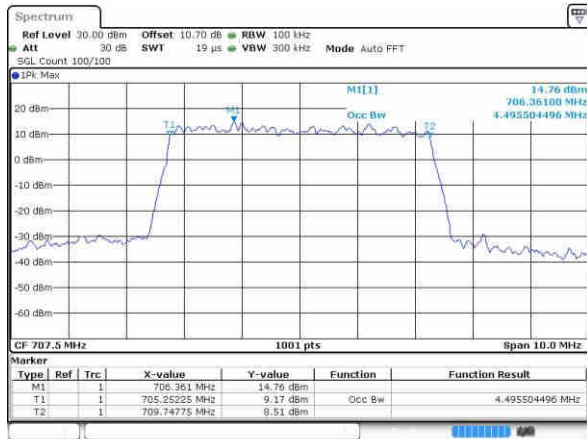
Lowest Channel / 5MHz / 64QAM



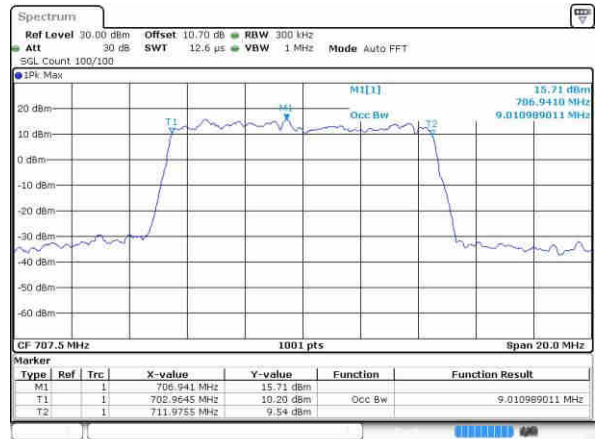
Lowest Channel / 10MHz / 64QAM



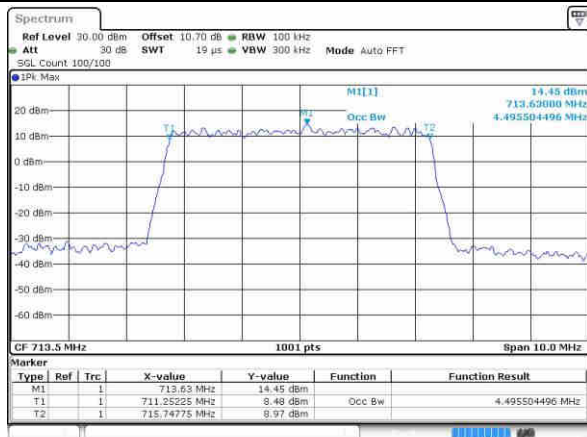
Middle Channel / 5MHz / 64QAM



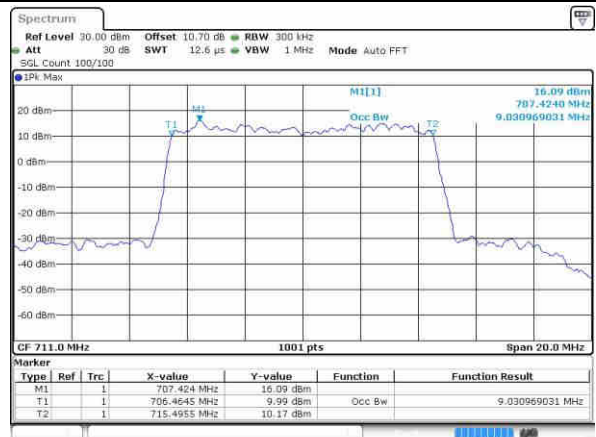
Middle Channel / 10MHz / 64QAM

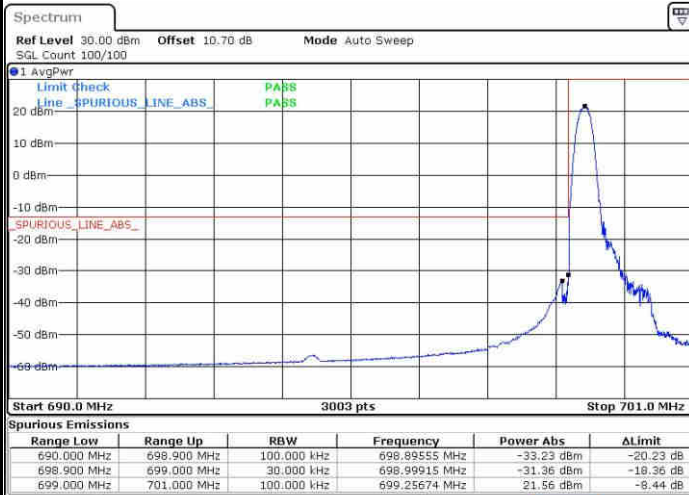
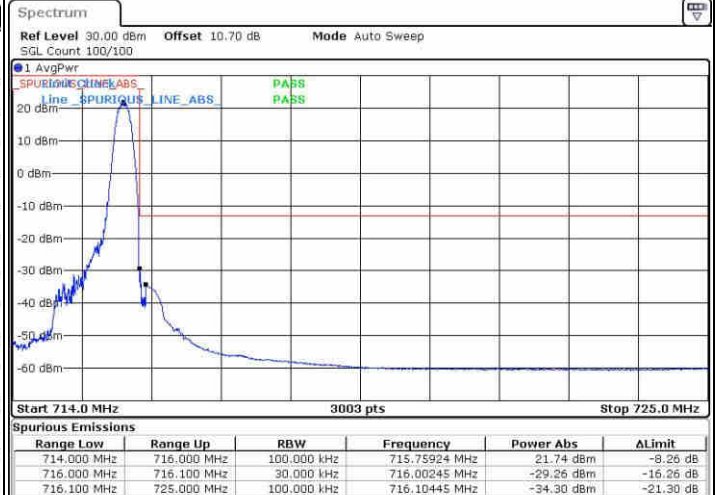


Highest Channel / 5MHz / 64QAM



Highest Channel / 10MHz / 64QAM



**Conducted Band Edge****LTE Band 12 / 1.4MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**



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 / 1.4MHz / 64QAM

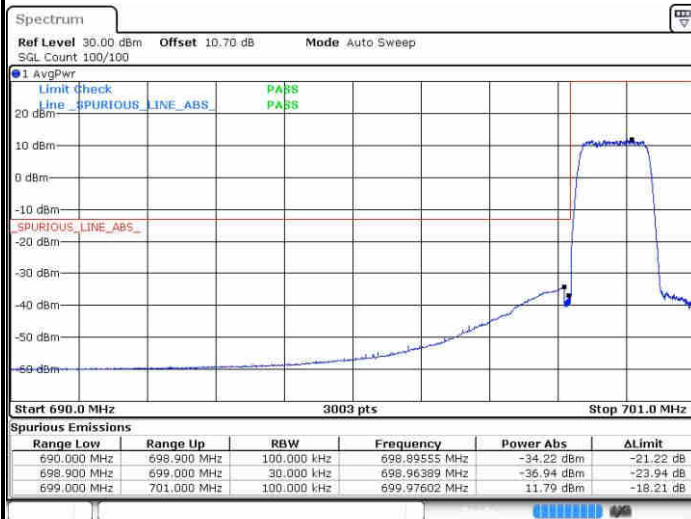
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



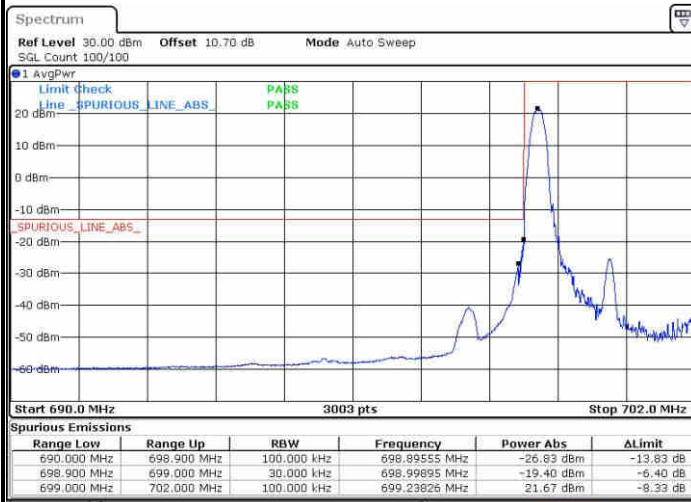
Highest Band Edge / Full RB





LTE Band 12 / 3MHz / QPSK

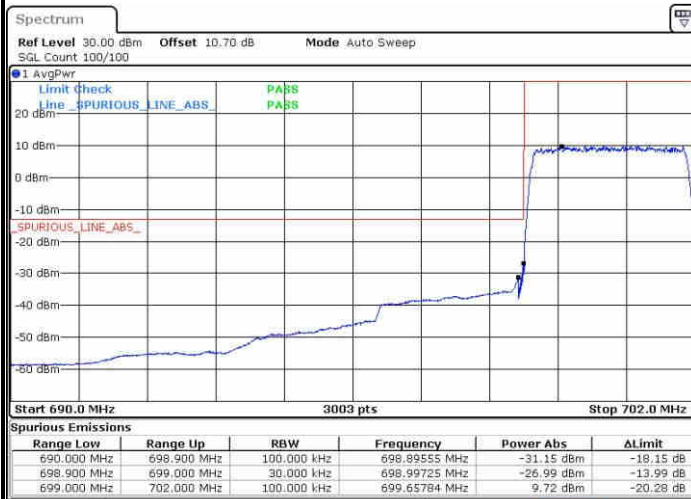
Lowest Band Edge / 1RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



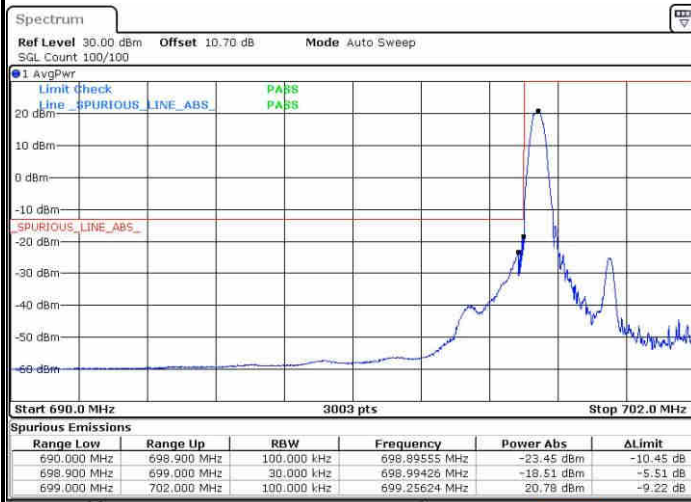
Highest Band Edge / Full RB





LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



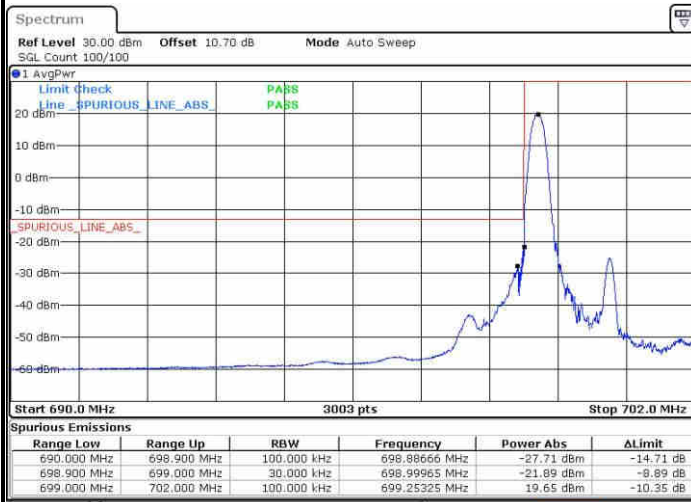
Highest Band Edge / Full RB





LTE Band 12 / 3MHz / 64QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



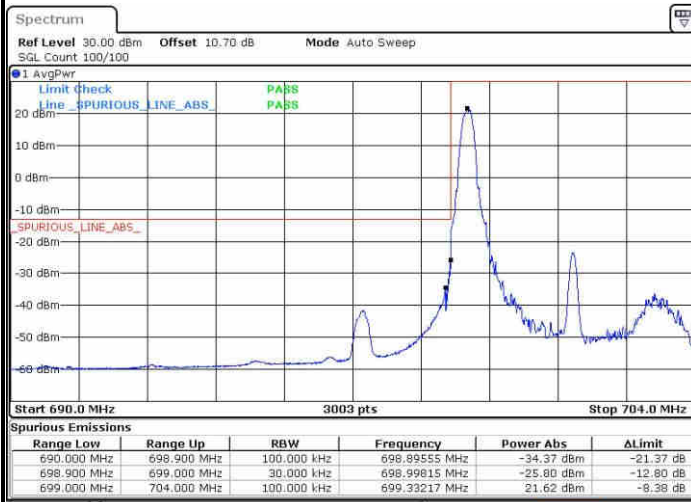
Highest Band Edge / Full RB



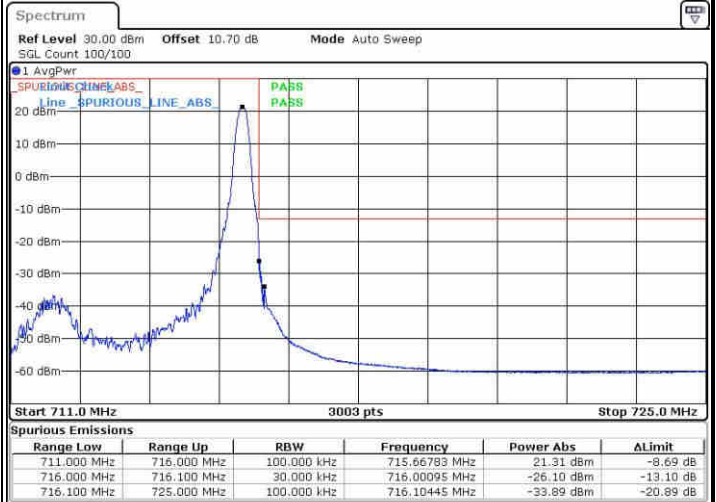


LTE Band 12 / 5MHz / QPSK

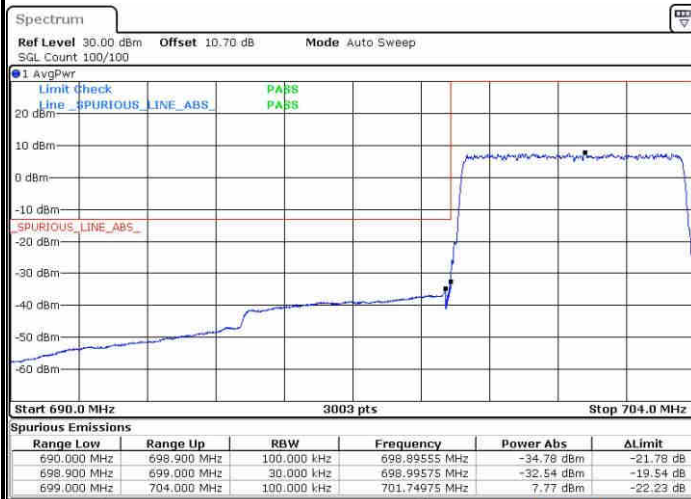
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



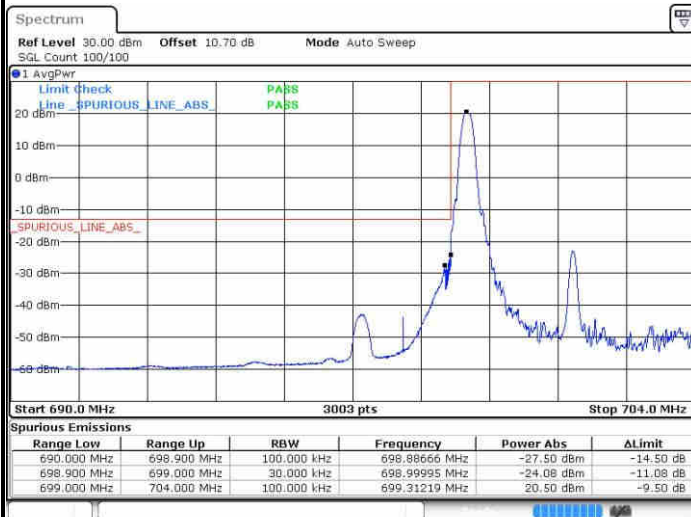
Highest Band Edge / Full RB



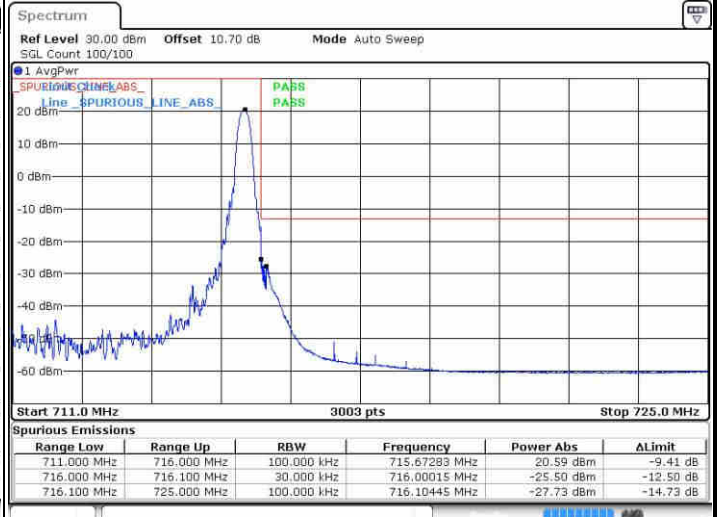


LTE Band 12 / 5MHz / 16QAM

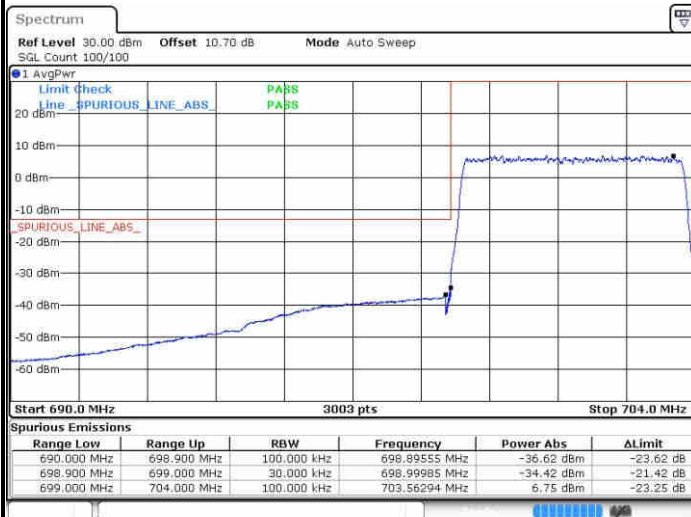
Lowest Band Edge / 1RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



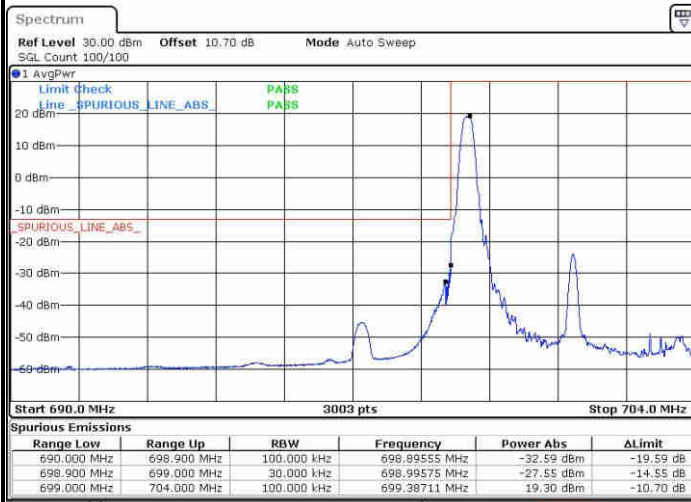
Highest Band Edge / Full RB



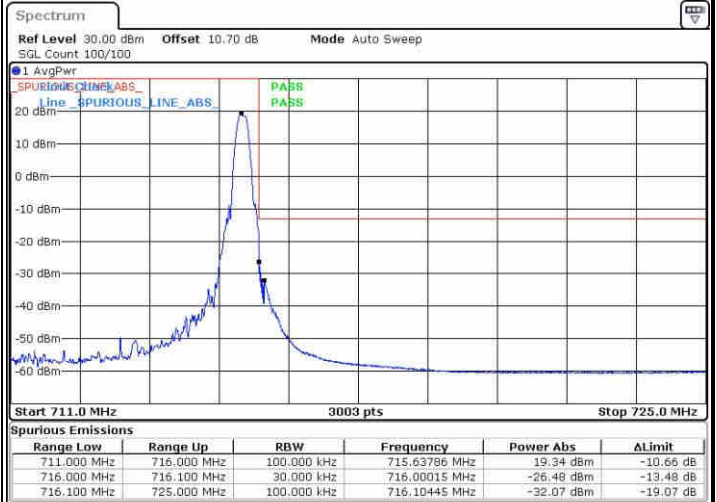


LTE Band 12 / 5MHz / 64QAM

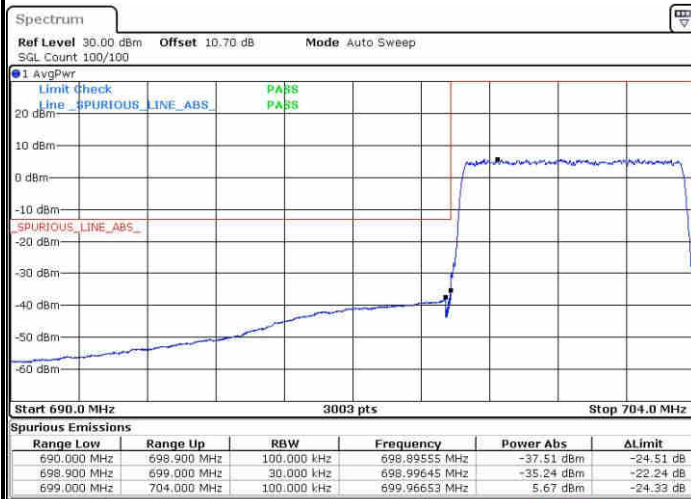
Lowest Band Edge / 1RB



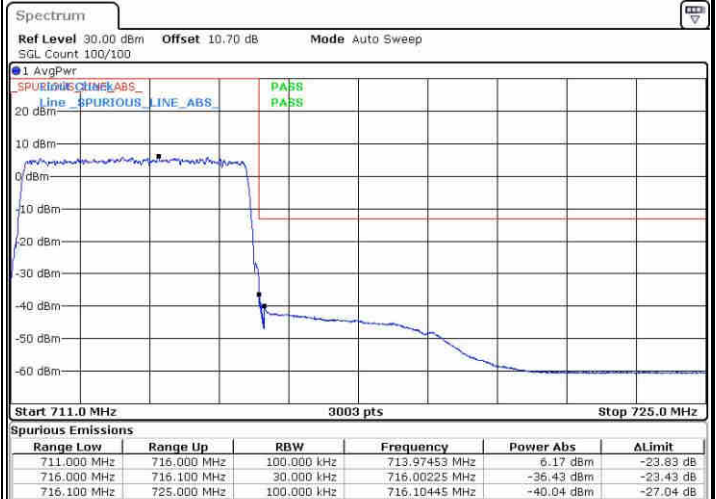
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



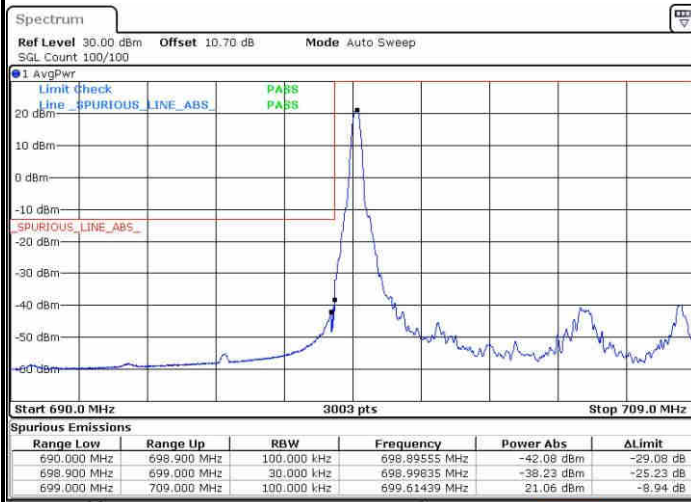
Highest Band Edge / Full RB



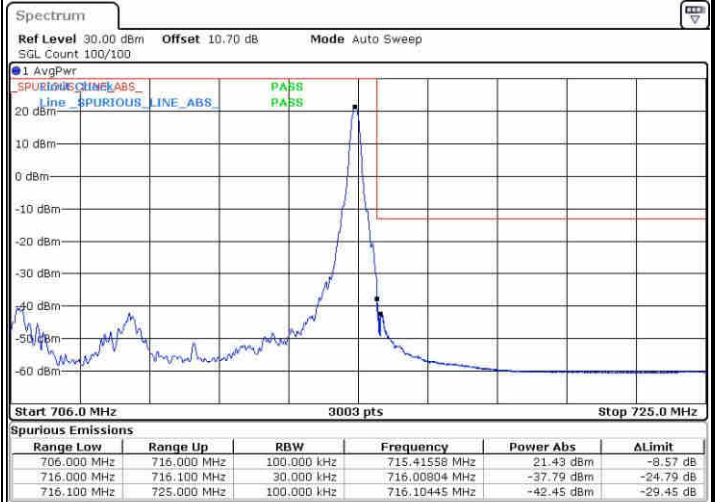


LTE Band 12 / 10MHz / QPSK

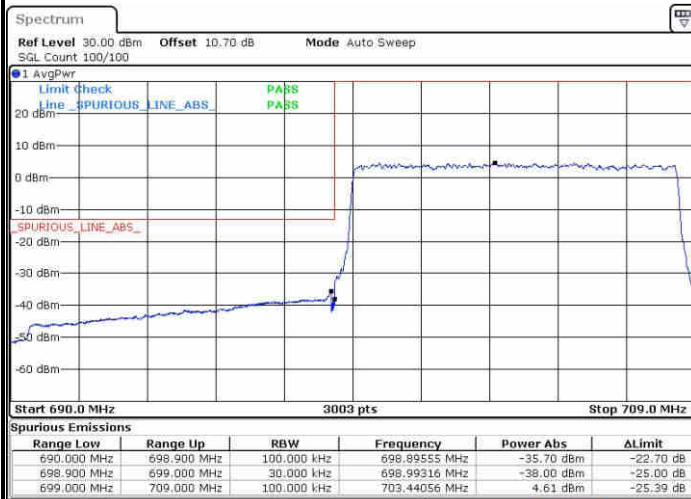
Lowest Band Edge / 1 RB



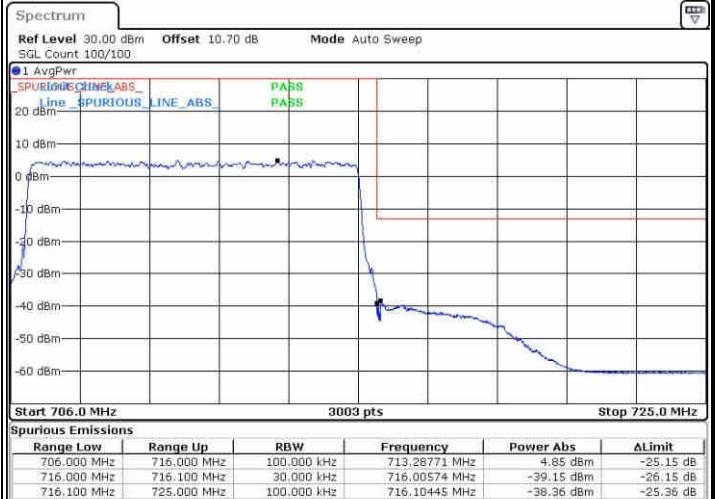
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



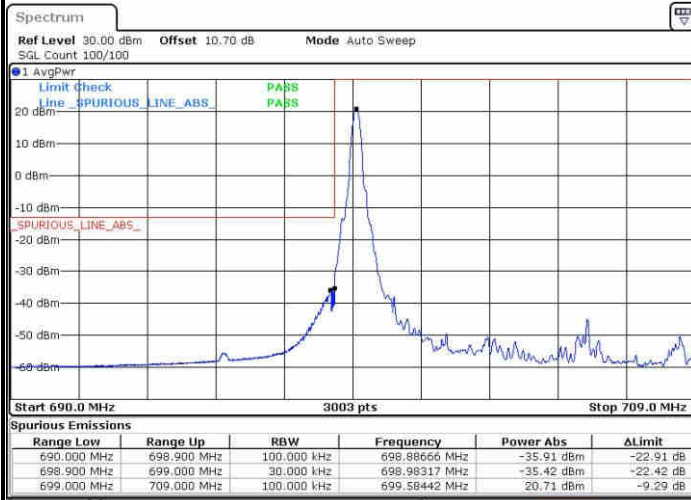
Highest Band Edge / Full RB



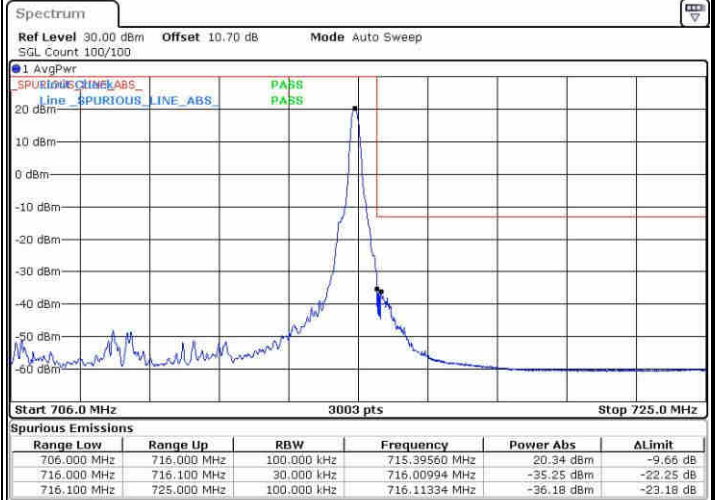


LTE Band 12 / 10MHz / 16QAM

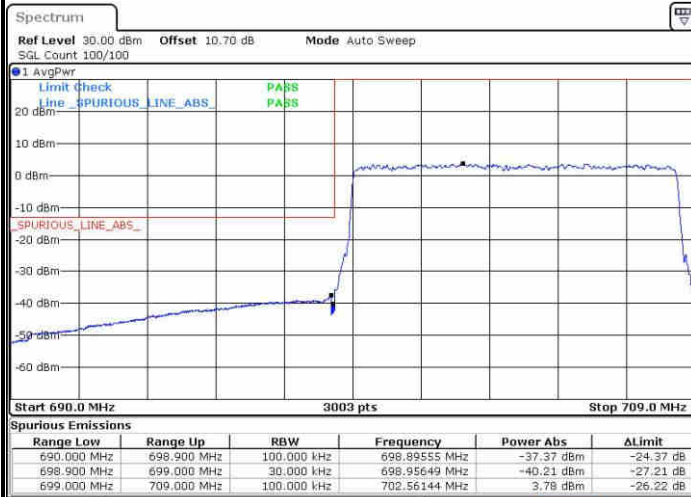
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



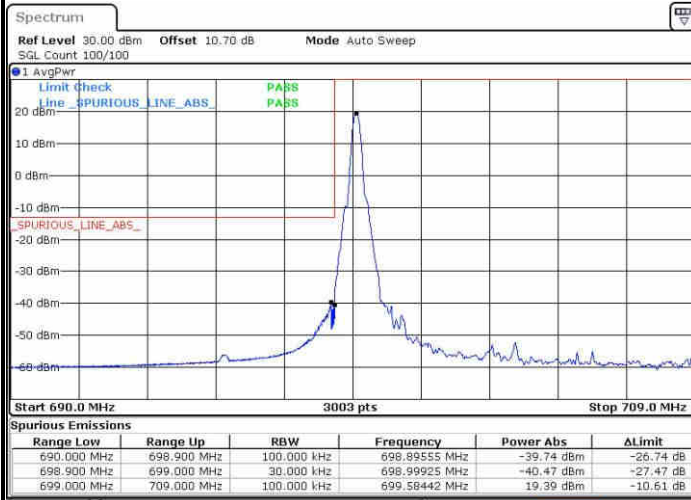
Highest Band Edge / Full RB



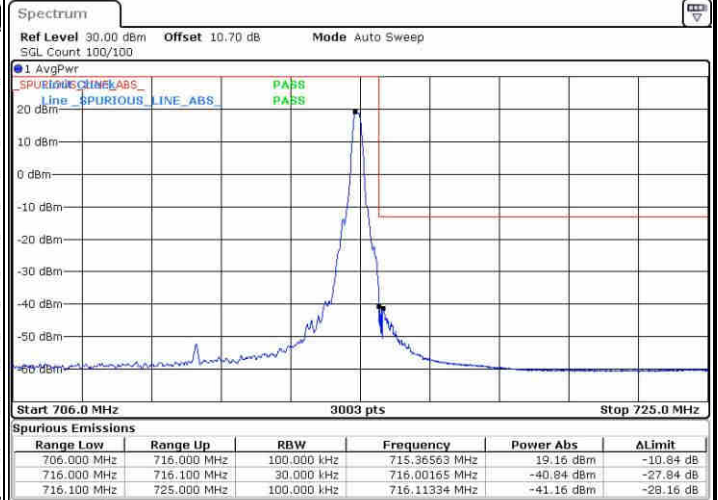


LTE Band 12 / 10MHz / 64QAM

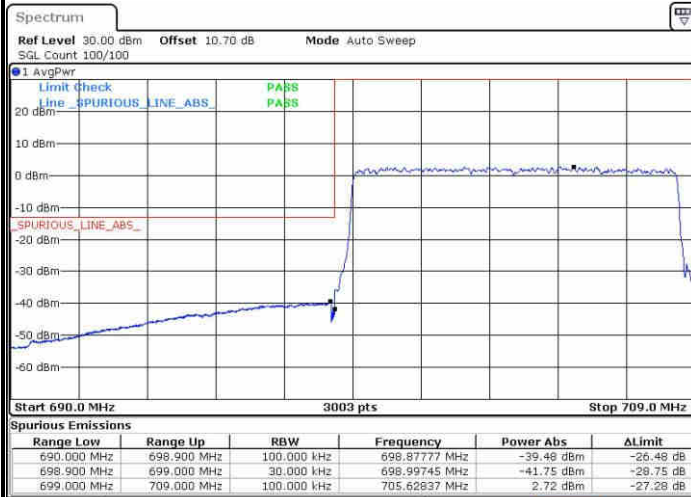
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

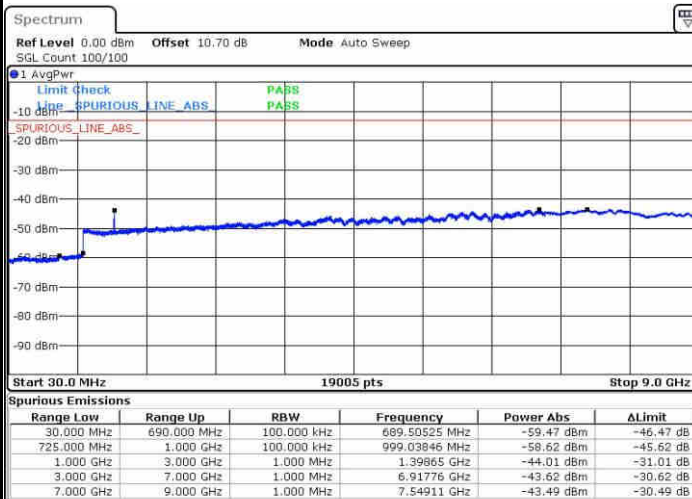




Conducted Spurious Emission

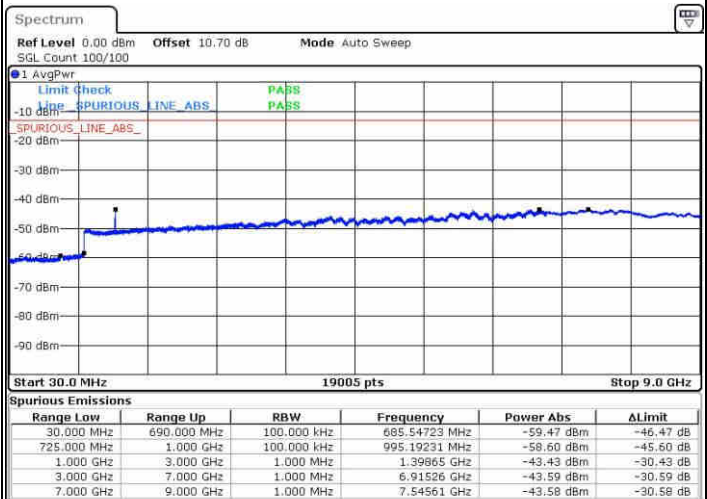
LTE Band 12 / 1.4MHz

Lowest Channel / QPSK



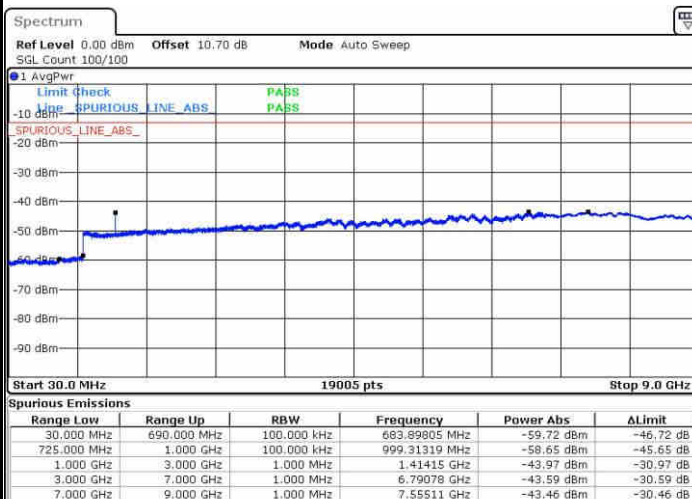
Date: 14 APR 2019 18:14:58

Lowest Channel / 16QAM



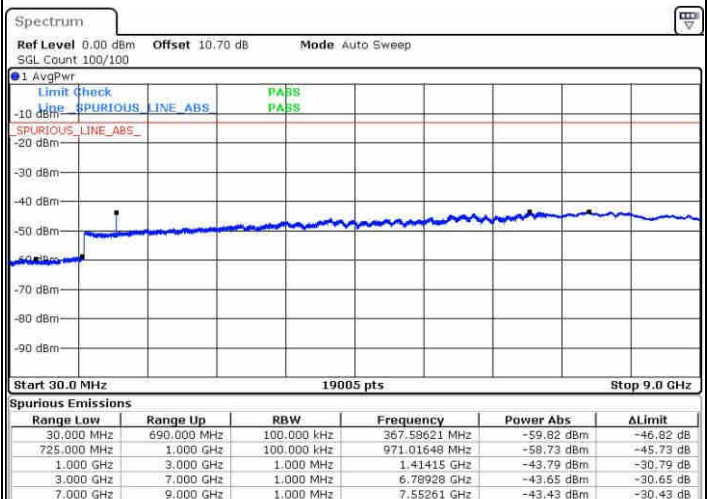
Date: 14 APR 2019 18:15:39

Middle Channel / QPSK



Date: 14 APR 2019 18:17:47

Middle Channel / 16QAM

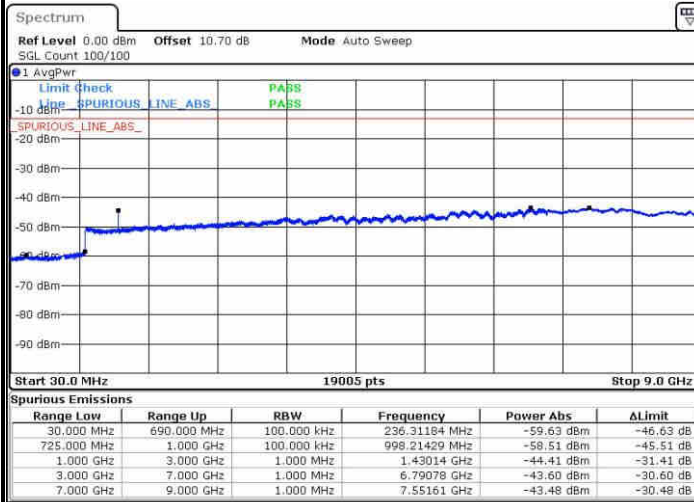


Date: 14 APR 2019 18:17:07



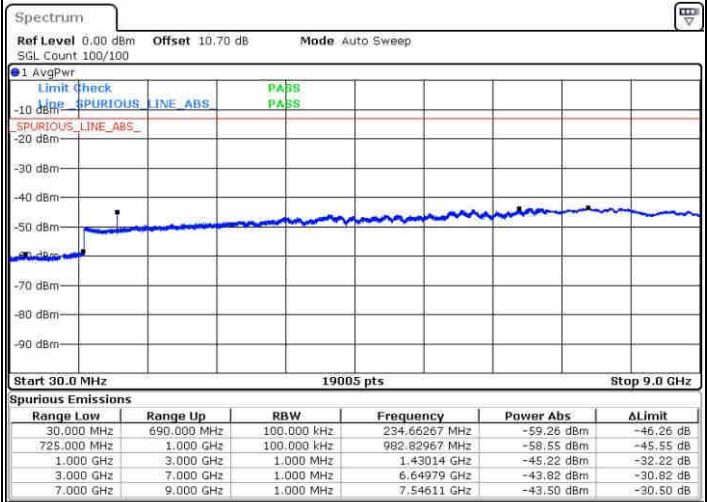
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 14 APR 2019 18:23:20

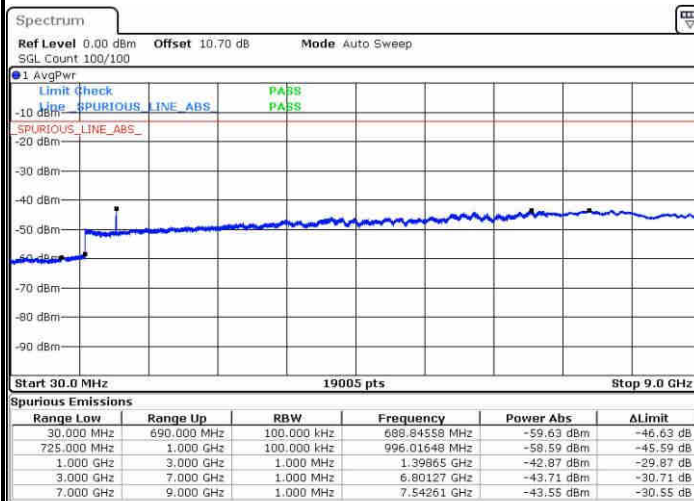
Highest Channel / 16QAM



Date: 14 APR 2019 18:24:01

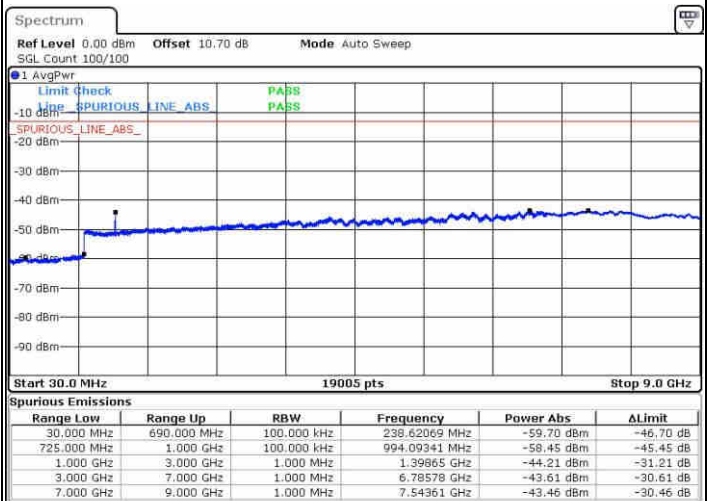
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 14 APR 2019 17:03:55

Lowest Channel / 16QAM

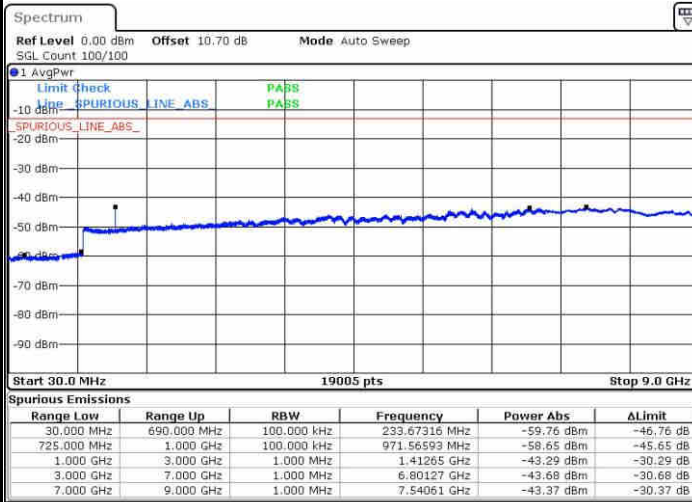


Date: 14 APR 2019 17:04:36



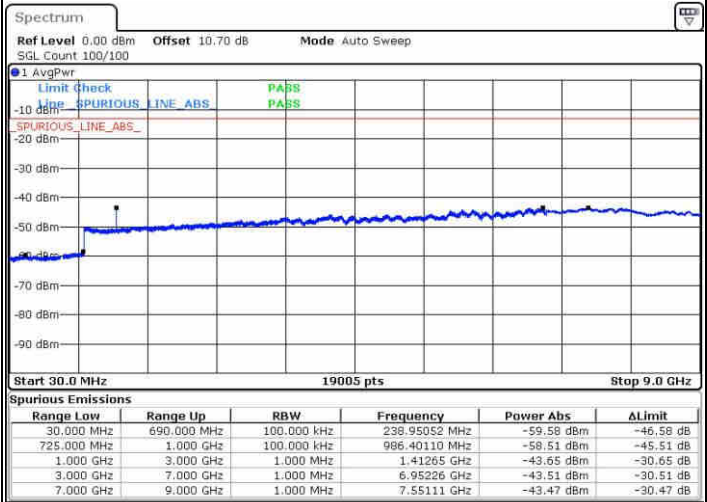
LTE Band 12 / 3MHz

Middle Channel / QPSK



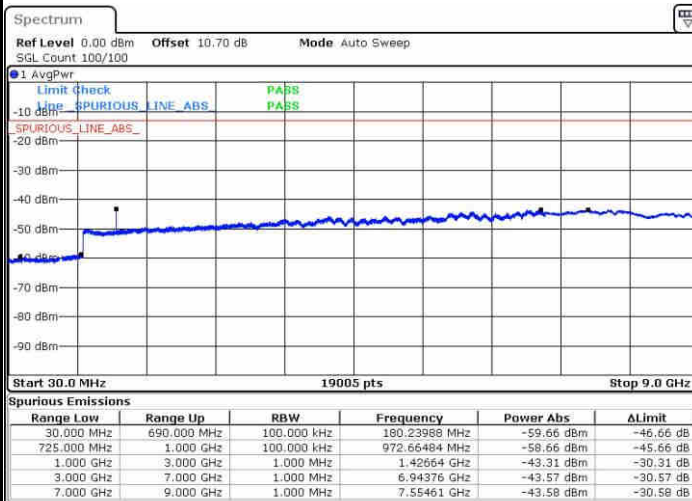
Date: 14 APR 2019 17:06:44

Middle Channel / 16QAM



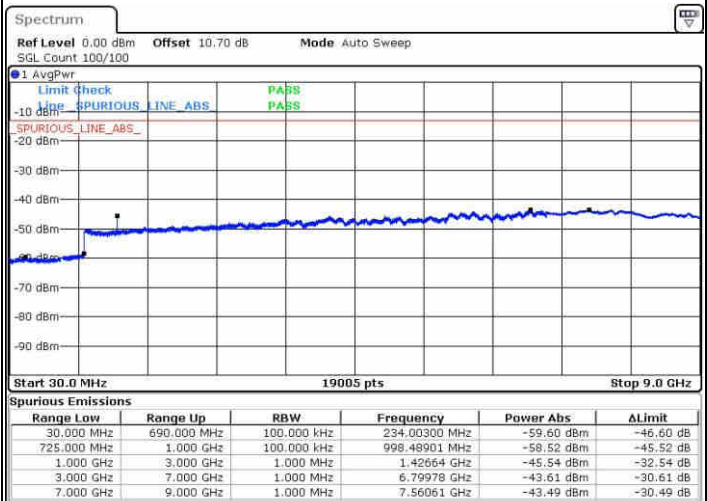
Date: 14 APR 2019 17:06:03

Highest Channel / QPSK



Date: 14 APR 2019 17:12:17

Highest Channel / 16QAM

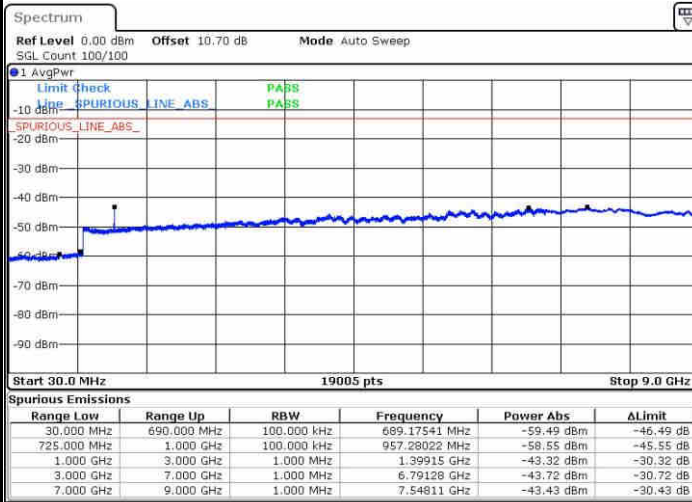


Date: 14 APR 2019 17:12:58



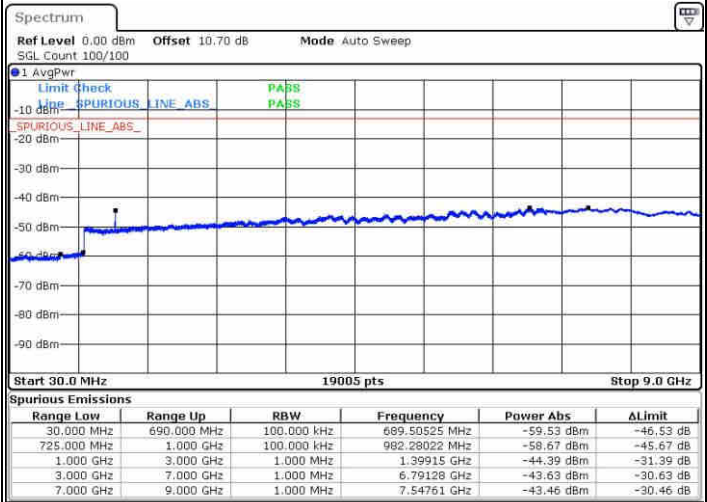
LTE Band 12 / 5MHz

Lowest Channel / QPSK



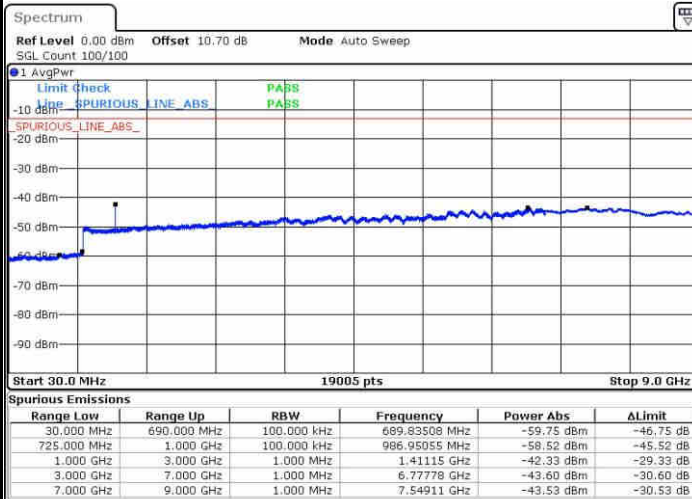
Date: 14 APR 2019 17:33:09

Lowest Channel / 16QAM



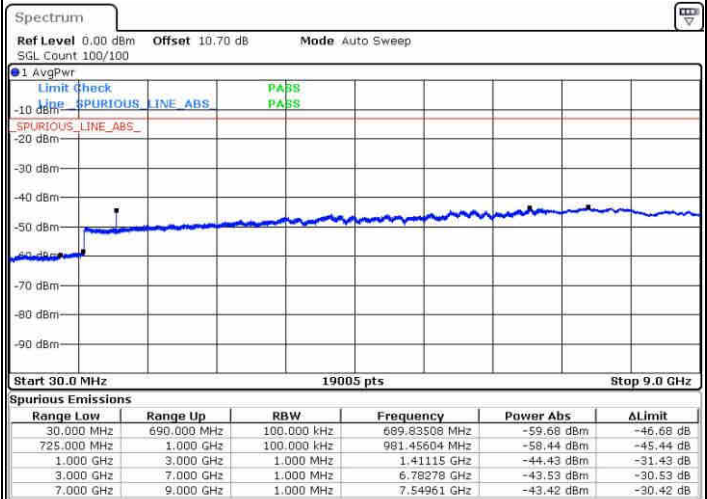
Date: 14 APR 2019 17:33:50

Middle Channel / QPSK



Date: 14 APR 2019 17:35:58

Middle Channel / 16QAM

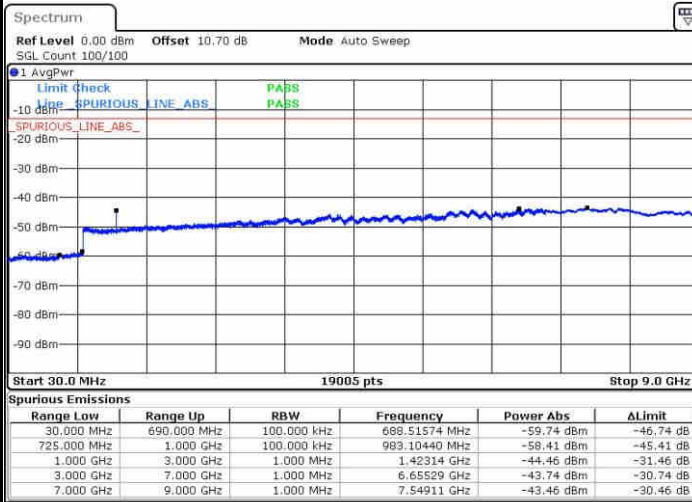


Date: 14 APR 2019 17:35:18



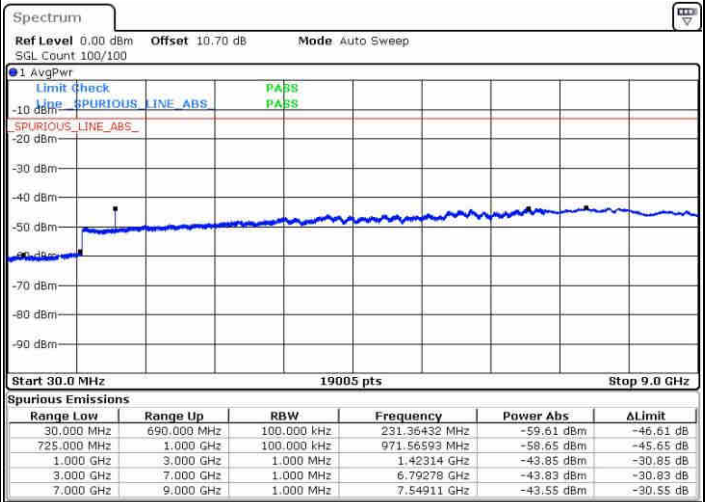
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 14 APR 2019 17:45:00

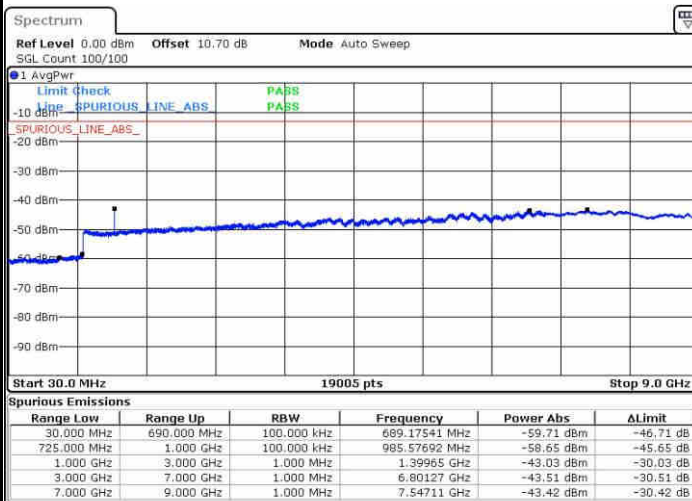
Highest Channel / 16QAM



Date: 14 APR 2019 17:44:19

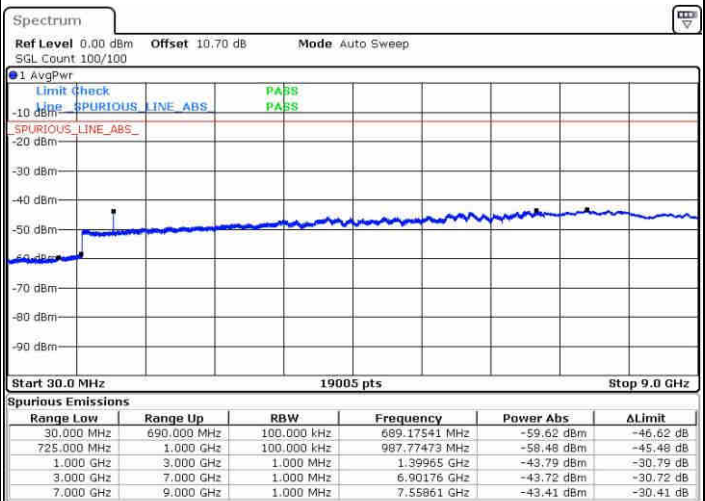
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 14 APR 2019 17:50:34

Lowest Channel / 16QAM

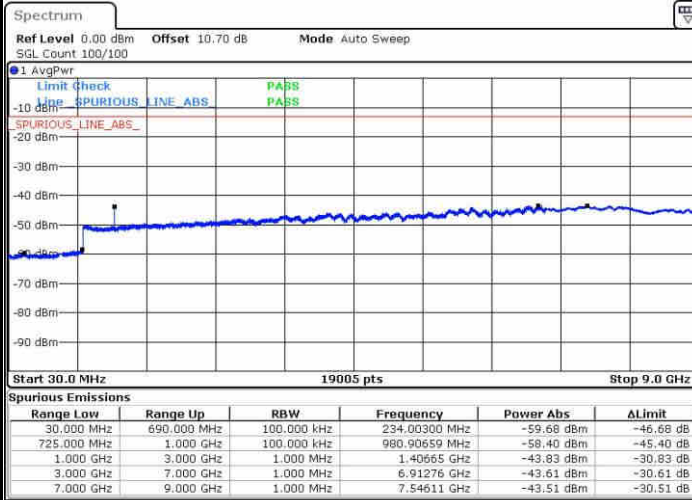


Date: 14 APR 2019 17:51:15



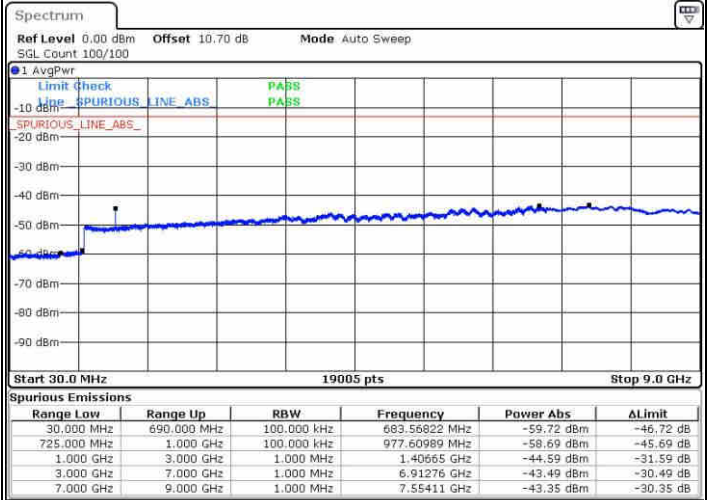
LTE Band 12 / 10MHz

Middle Channel / QPSK



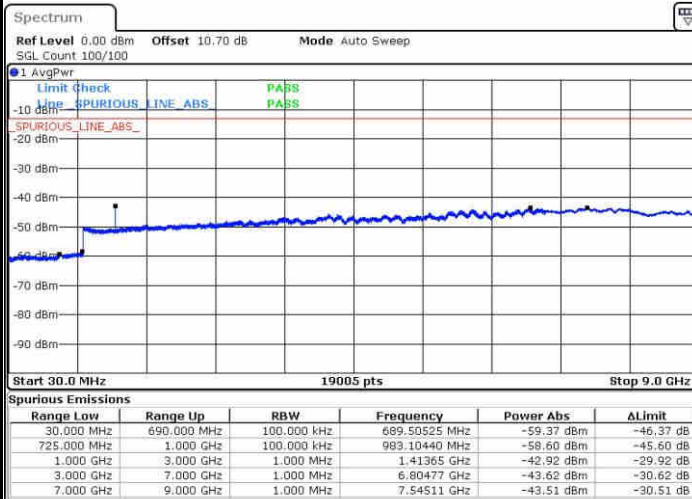
Date: 14 APR 2019 17:53:23

Middle Channel / 16QAM



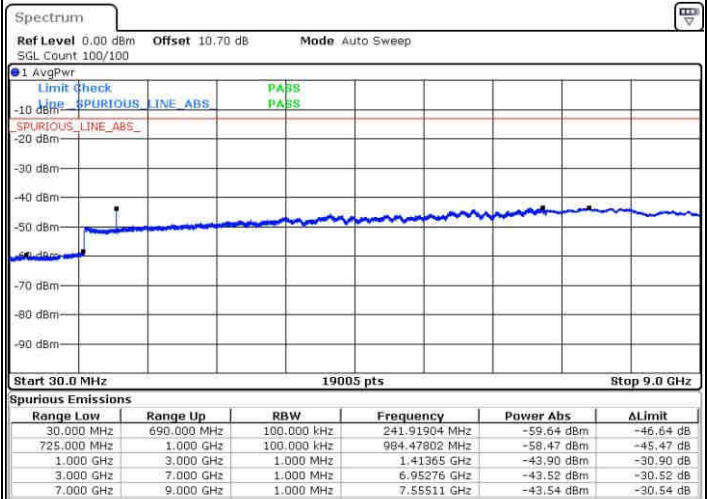
Date: 14 APR 2019 17:52:42

Highest Channel / QPSK



Date: 14 APR 2019 17:58:57

Highest Channel / 16QAM

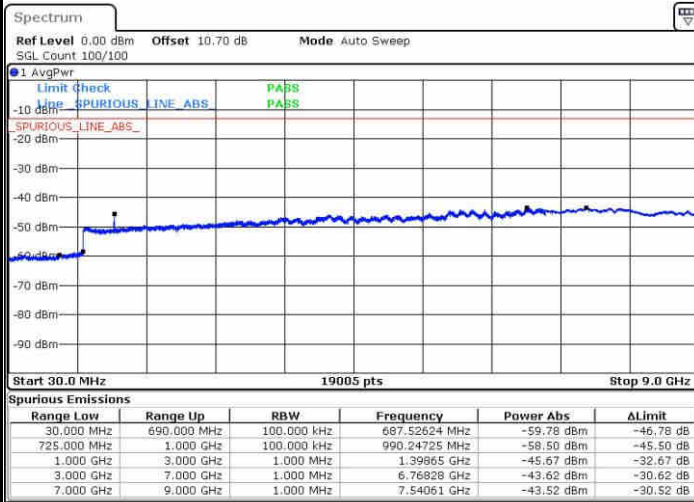


Date: 14 APR 2019 17:59:38



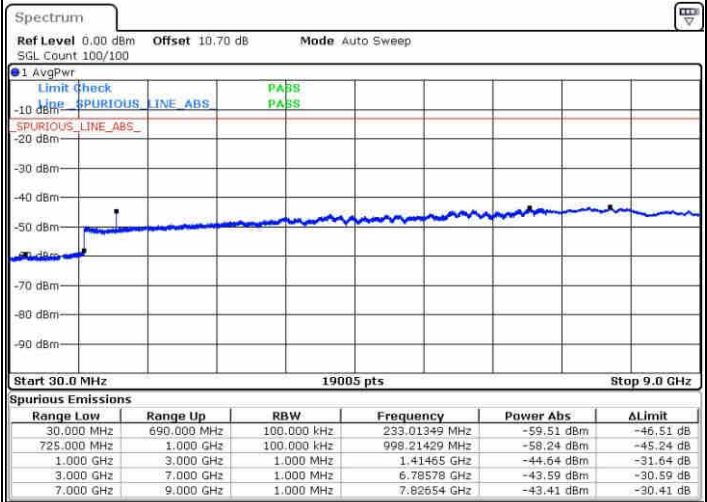
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM



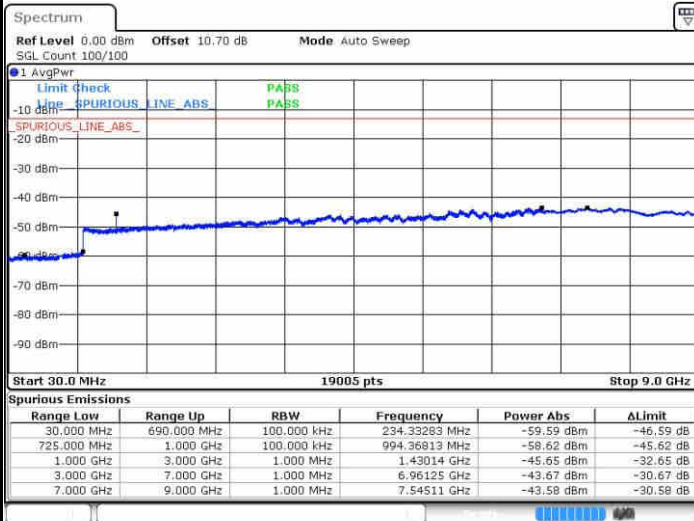
Date: 14 APR 2019 18:27:09

Middle Channel / 64QAM



Date: 14 APR 2019 18:28:13

Highest Channel / 64QAM

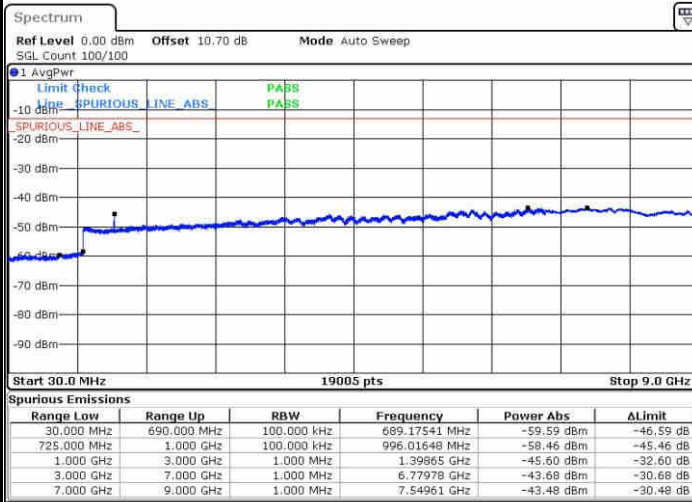


Date: 14 APR 2019 18:31:20



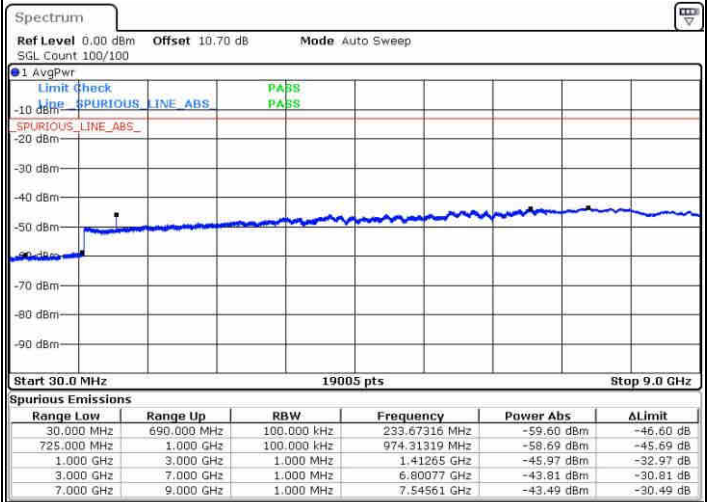
LTE Band 12 / 3MHz

Lowest Channel / 64QAM



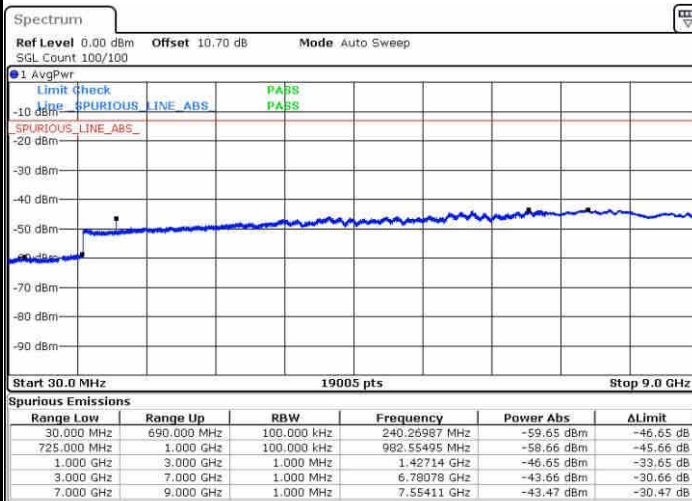
Date: 14 APR 2019 17:16:06

Middle Channel / 64QAM



Date: 14 APR 2019 17:17:10

Highest Channel / 64QAM

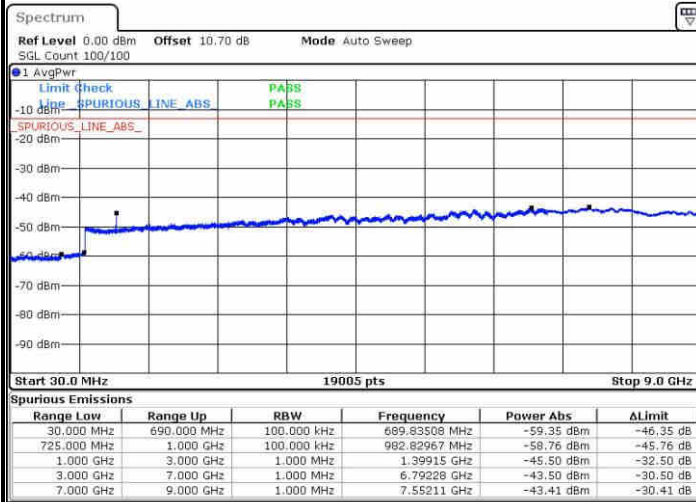


Date: 14 APR 2019 17:20:17



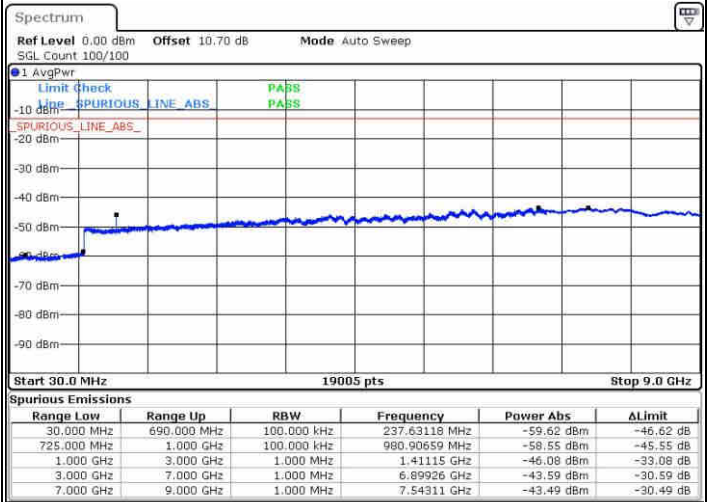
LTE Band 12 / 5MHz

Lowest Channel / 64QAM



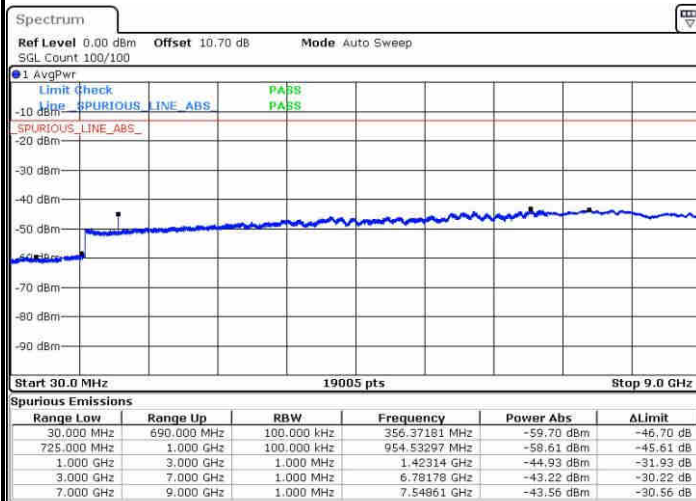
Date: 14 APR 2019 17:23:24

Middle Channel / 64QAM



Date: 14 APR 2019 17:24:28

Highest Channel / 64QAM

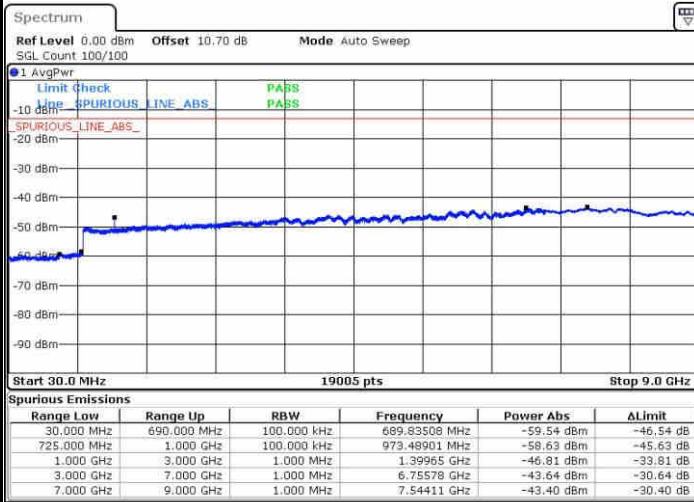


Date: 14 APR 2019 17:27:35



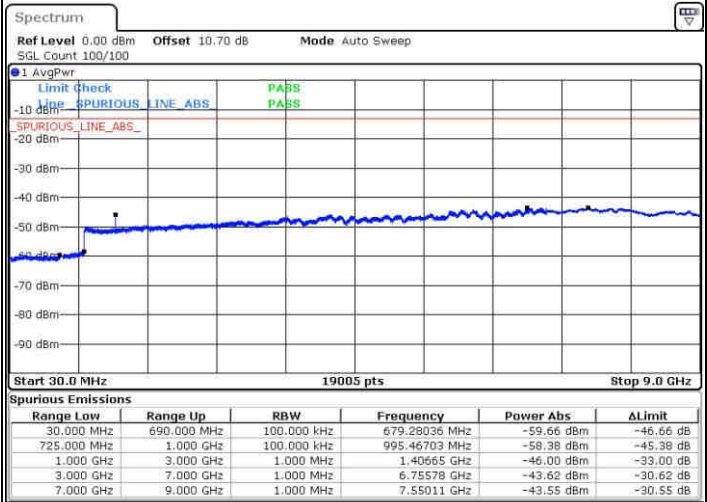
LTE Band 12 / 10MHz

Lowest Channel / 64QAM



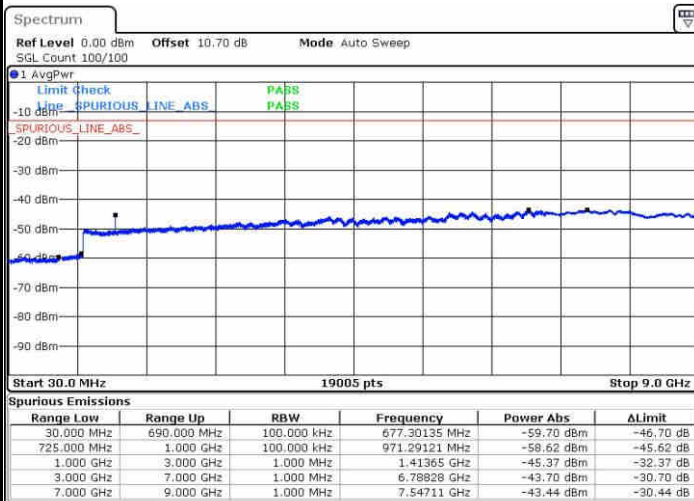
Date: 14 APR 2019 18:02:45

Middle Channel / 64QAM



Date: 14 APR 2019 18:03:50

Highest Channel / 64QAM



Date: 14 APR 2019 18:06:57

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	0.0055	PASS
40	Normal Voltage	0.0047	
30	Normal Voltage	0.0010	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0006	
0	Normal Voltage	0.0014	
-10	Normal Voltage	0.0042	
-20	Normal Voltage	0.0059	
-30	Normal Voltage	0.0042	
20	Maximum Voltage	0.0017	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0010	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.4 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	3.54	5.01	4.06	5.83	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	5.25	6.26	-	-	
Highest CH	-	-	-	-	

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


Date: 14 APR 2019 16:08:21

Middle Channel / Full RB

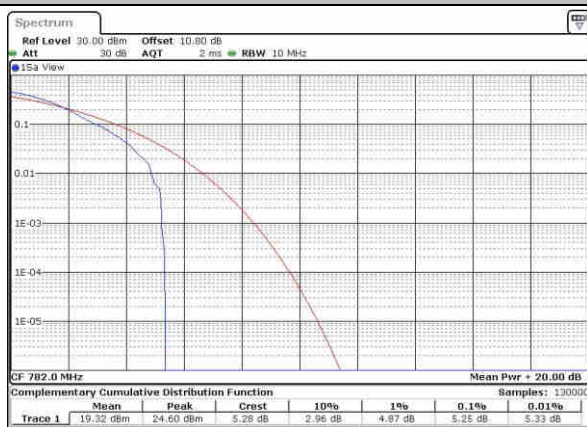

Date: 14 APR 2019 16:08:32

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


Date: 14 APR 2019 16:07:55

Middle Channel / Full RB


Date: 14 APR 2019 16:08:09

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


Date: 14 APR 2019 16:07:33

Middle Channel / Full RB


Date: 14 APR 2019 16:07:44

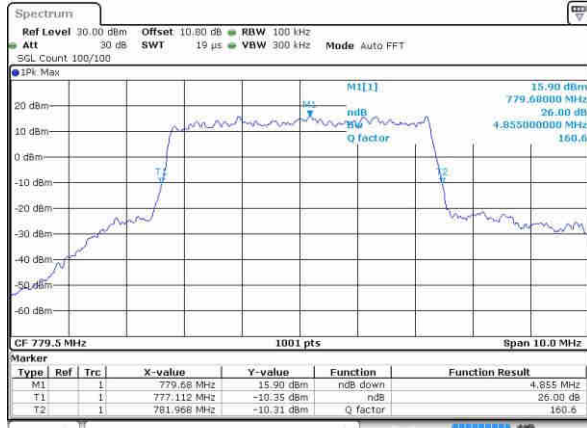
**26dB Bandwidth**

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	-	-	-	-	4.86	4.82	-	-	-	-	-	-
Middle CH	-	-	-	-	4.90	4.94	9.73	9.63	-	-	-	-
Highest CH	-	-	-	-	4.91	4.88	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.89	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.92	-	9.77	-	-	-	-	-
Highest CH	-	-	-	-	4.87	-	-	-	-	-	-	-



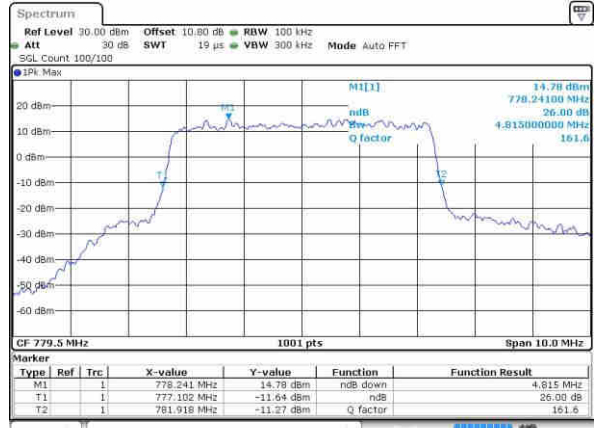
LTE Band 13

Lowest Channel / 5MHz / QPSK



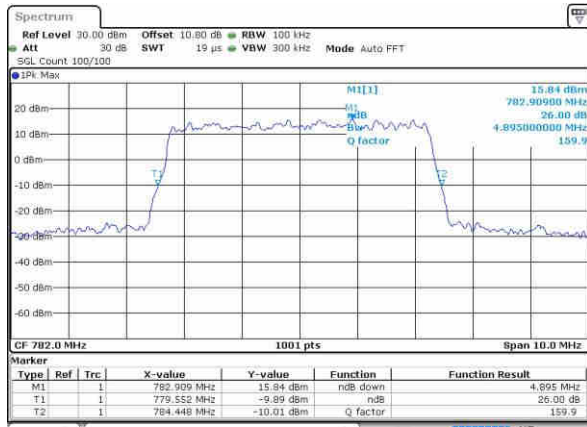
Date: 14 APR 2019 15:18:56

Lowest Channel / 5MHz / 16QAM



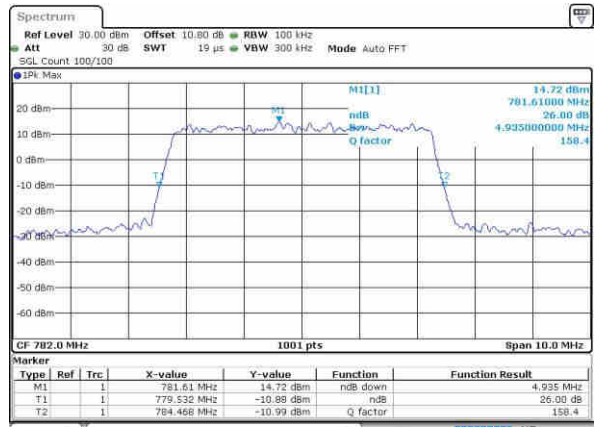
Date: 14 APR 2019 15:18:43

Middle Channel / 5MHz / QPSK



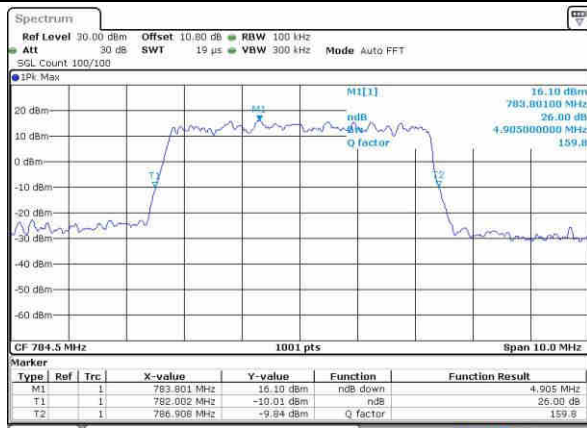
Date: 14 APR 2019 15:28:34

Middle Channel / 5MHz / 16QAM



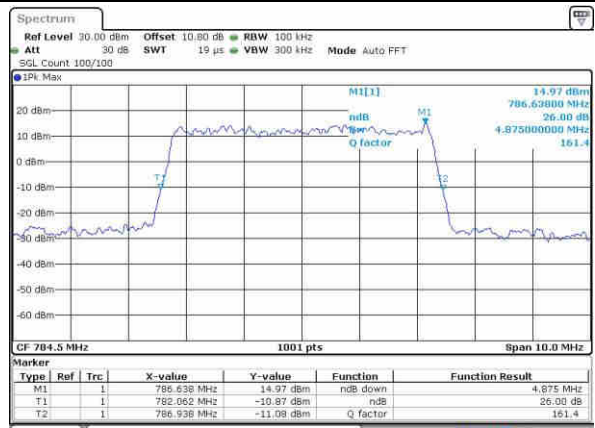
Date: 14 APR 2019 15:28:46

Highest Channel / 5MHz / QPSK



Date: 14 APR 2019 15:29:57

Highest Channel / 5MHz / 16QAM



Date: 14 APR 2019 15:29:45

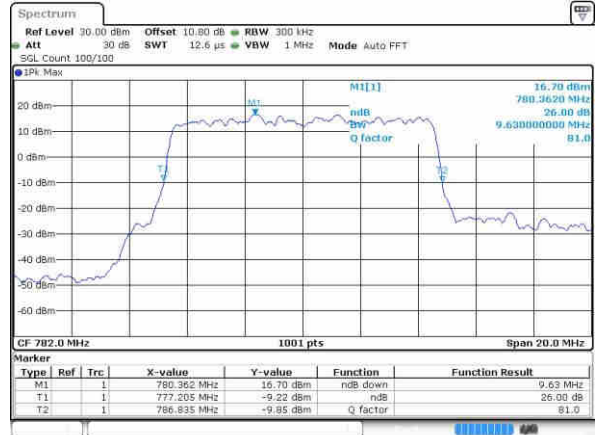


LTE Band 13

Middle Channel / 10MHz / QPSK



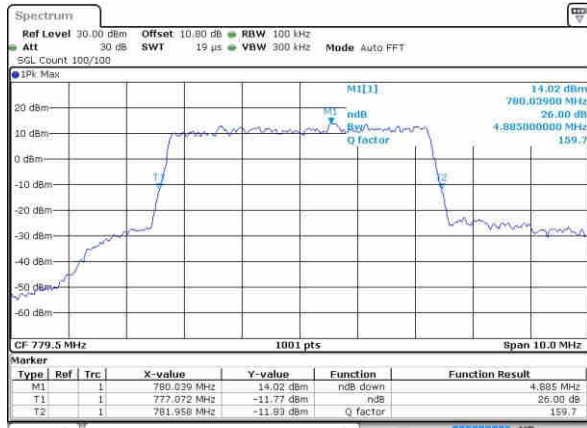
Middle Channel / 10MHz / 16QAM



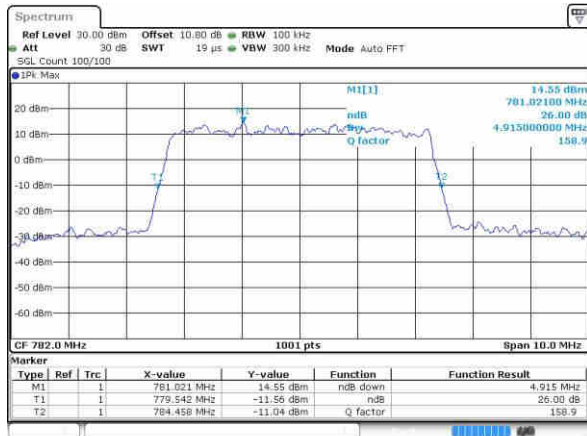


LTE Band 13

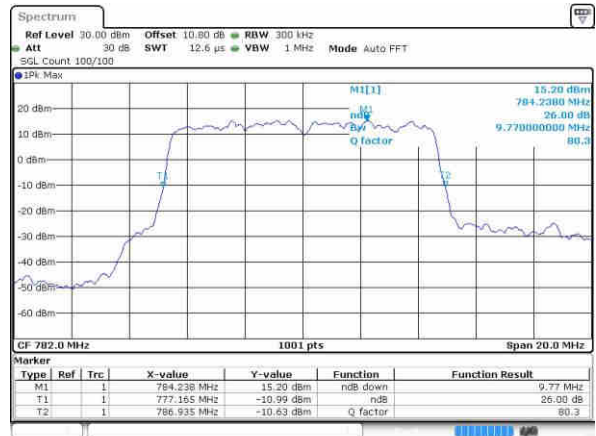
Lowest Channel / 5MHz / 64QAM



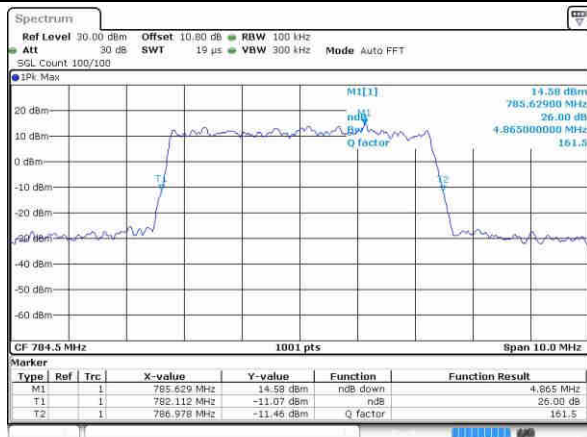
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



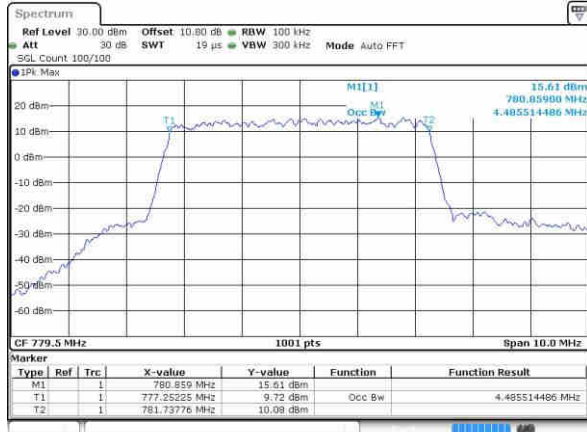
**Occupied Bandwidth**

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	4.47	-	-	-	-	-	-
Middle CH	-	-	-	-	4.5	4.5	9.05	9.07	-	-	-	-
Highest CH	-	-	-	-	4.51	4.5	-	-	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.47	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	-	8.99	-	-	-	-	-
Highest CH	-	-	-	-	4.49	-	-	-	-	-	-	-



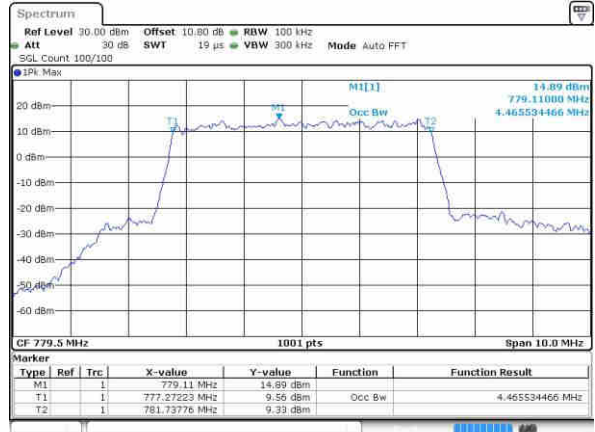
LTE Band 13

Lowest Channel / 5MHz / QPSK



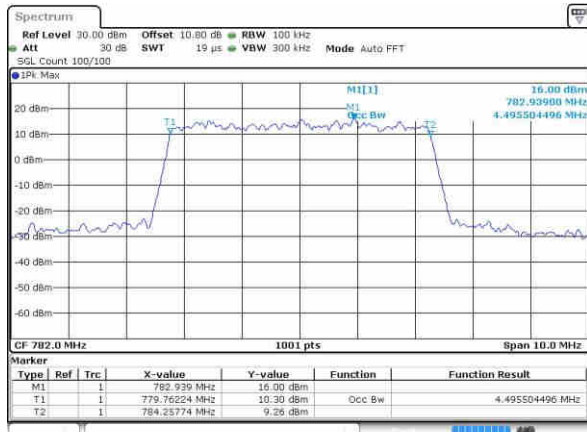
Date: 14 APR 2019 15:18:19

Lowest Channel / 5MHz / 16QAM



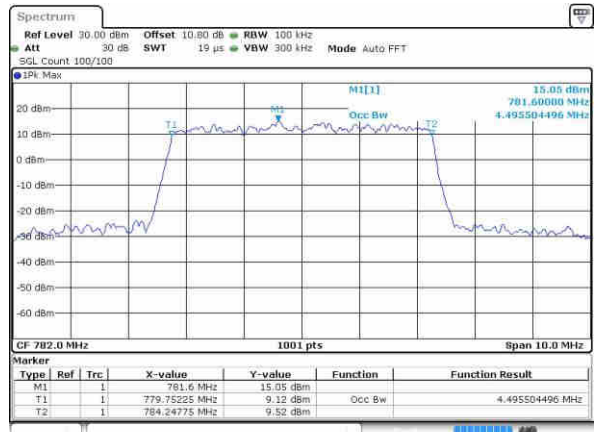
Date: 14 APR 2019 15:18:31

Middle Channel / 5MHz / QPSK



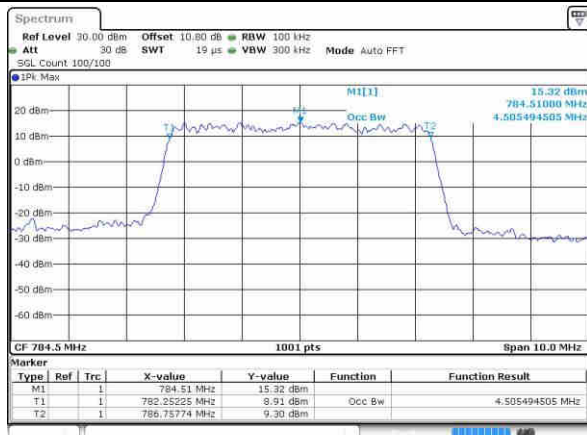
Date: 14 APR 2019 15:29:09

Middle Channel / 5MHz / 16QAM



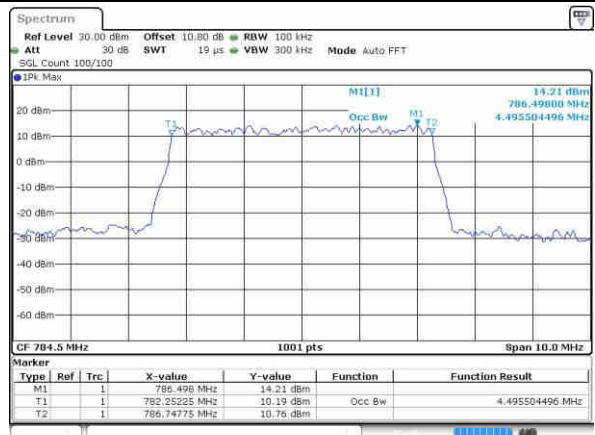
Date: 14 APR 2019 15:28:57

Highest Channel / 5MHz / QPSK



Date: 14 APR 2019 15:29:21

Highest Channel / 5MHz / 16QAM

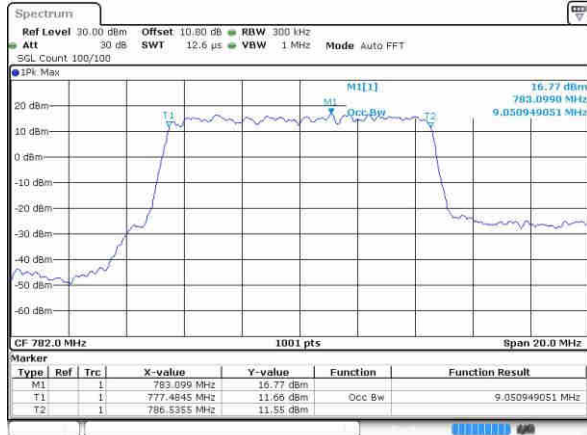


Date: 14 APR 2019 15:29:33

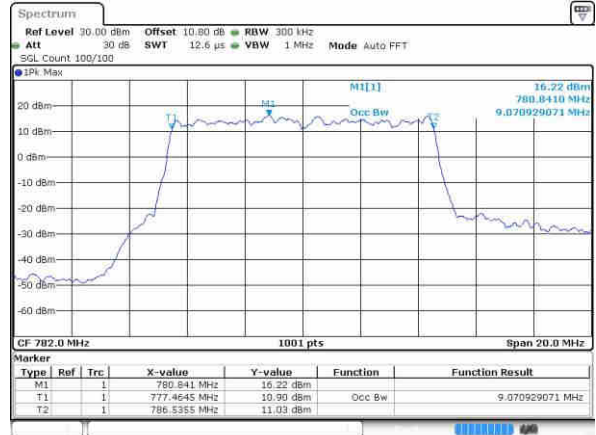


LTE Band 13

Middle Channel / 10MHz / QPSK



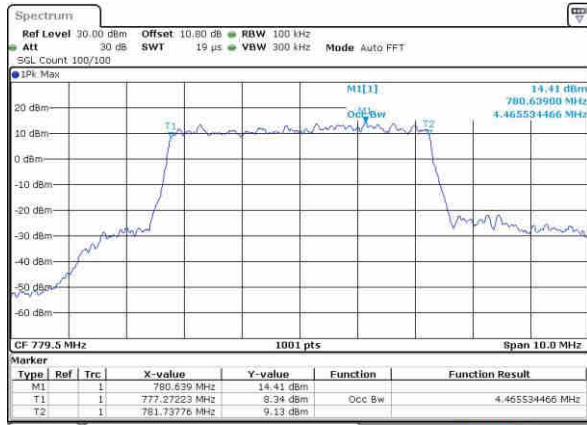
Middle Channel / 10MHz / 16QAM



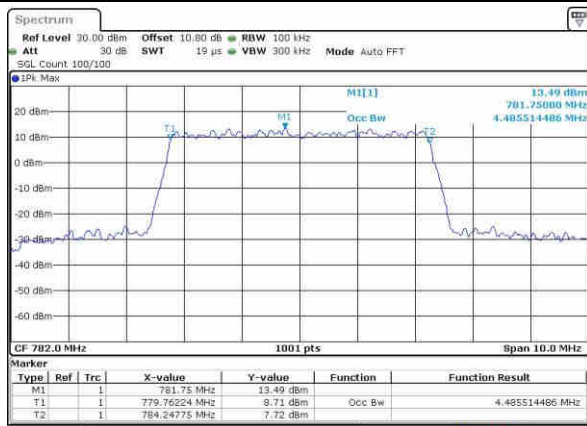


LTE Band 13

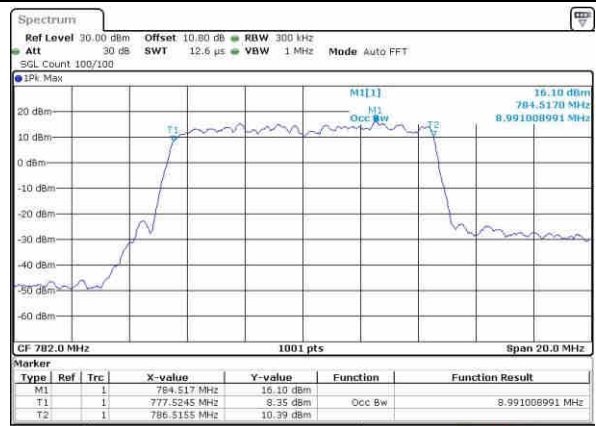
Lowest Channel / 5MHz / 64QAM



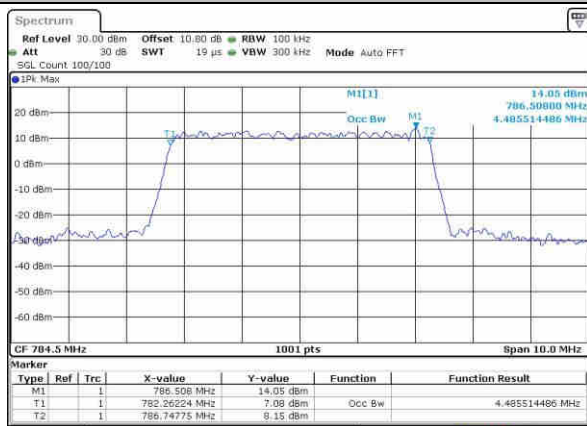
Middle Channel / 5MHz / 64QAM

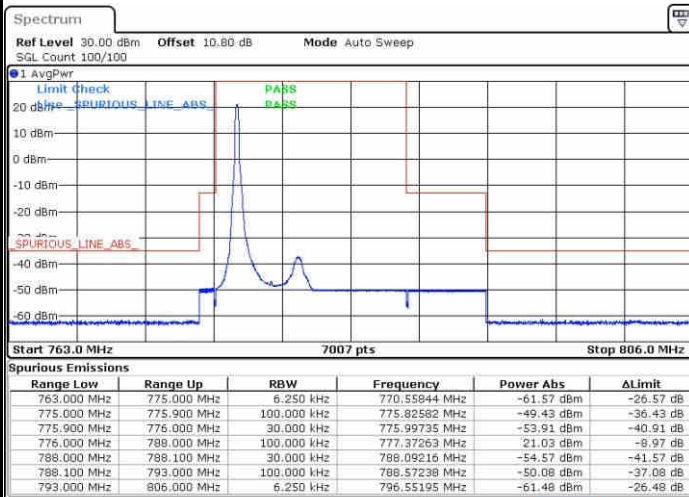
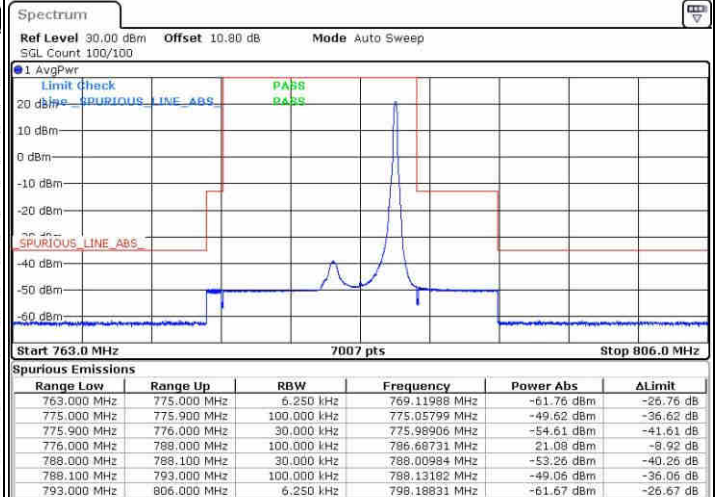
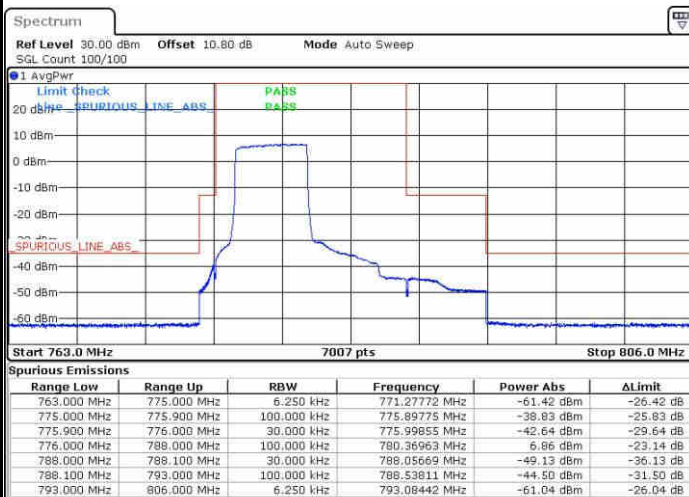


Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

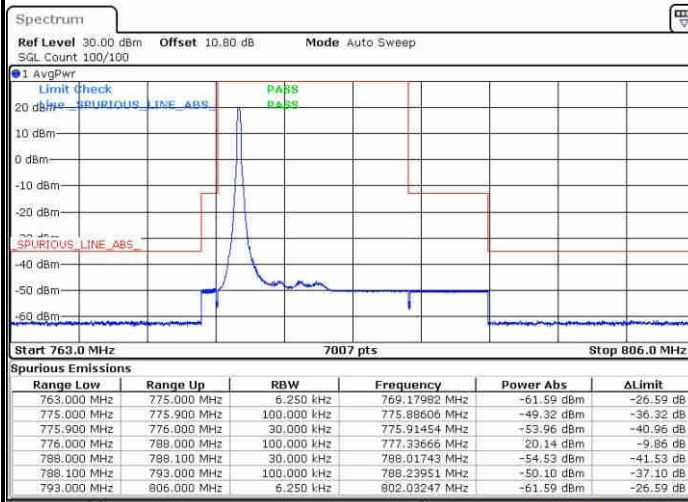


**Conducted Band Edge****LTE Band 13 / 5MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1 RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**



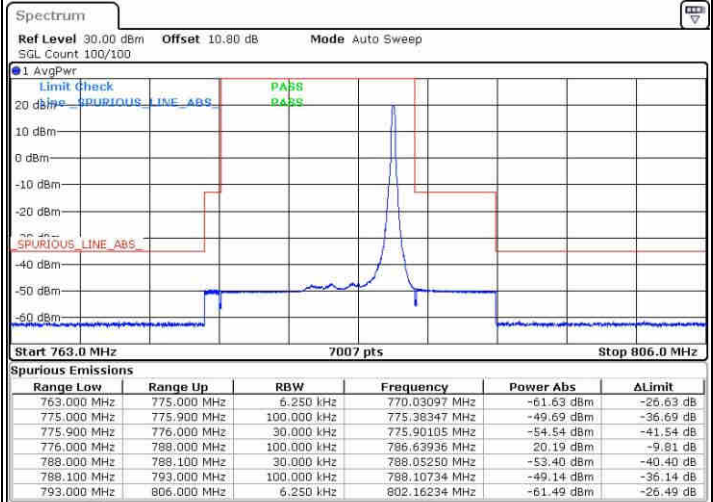
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



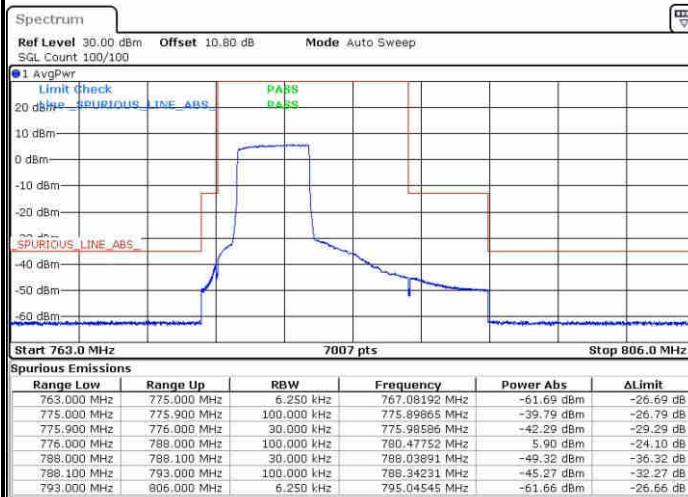
Date: 14 APR 2019 15:23:58

Highest Band Edge / 1 RB



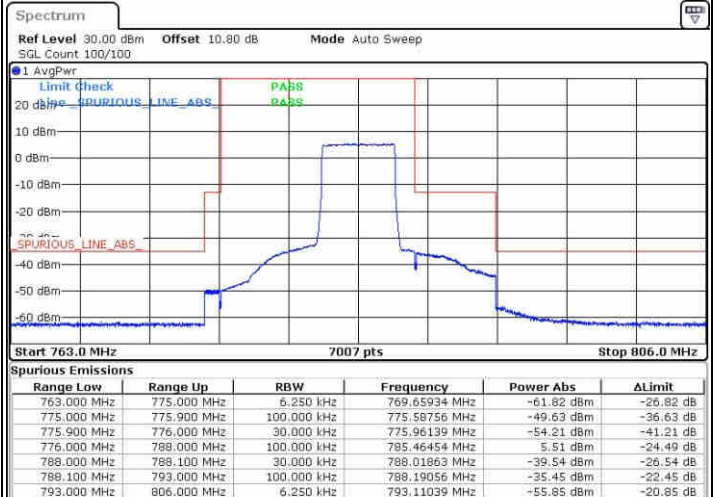
Date: 14 APR 2019 15:35:00

Lowest Band Edge / Full RB



Date: 14 APR 2019 15:22:17

Highest Band Edge / Full RB

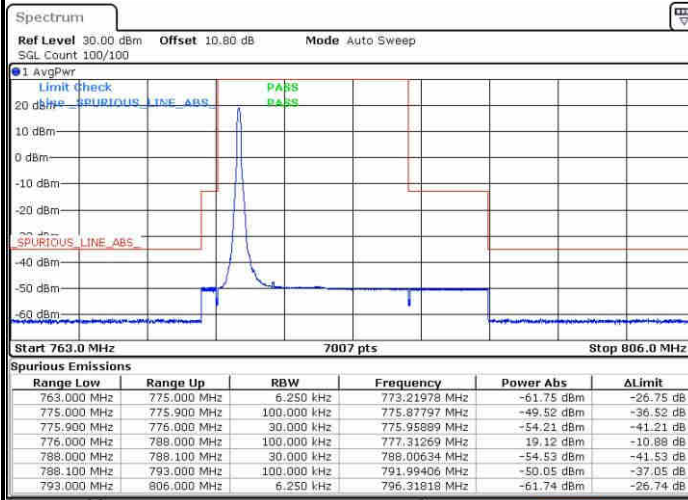


Date: 14 APR 2019 15:33:19

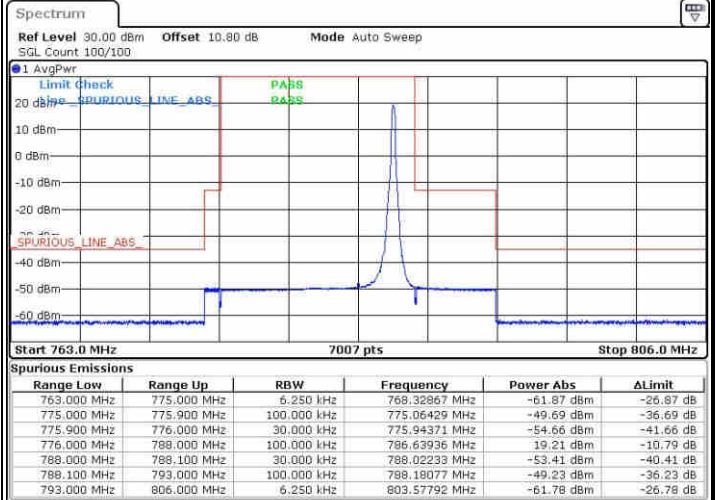


LTE Band 13 / 5MHz / 64QAM

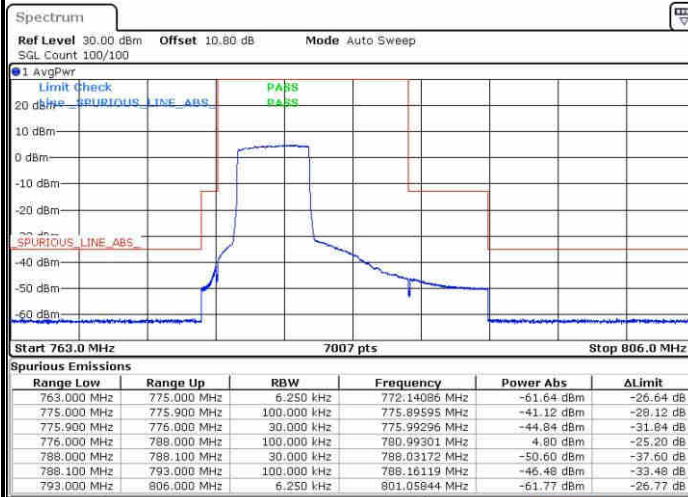
Lowest Band Edge / 1 RB



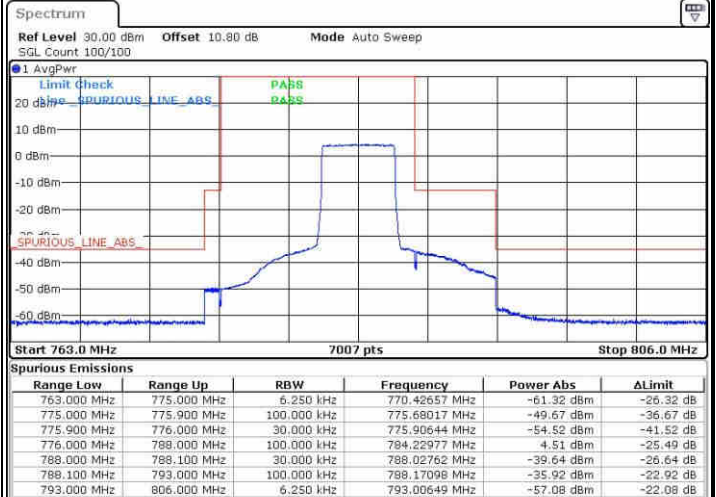
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



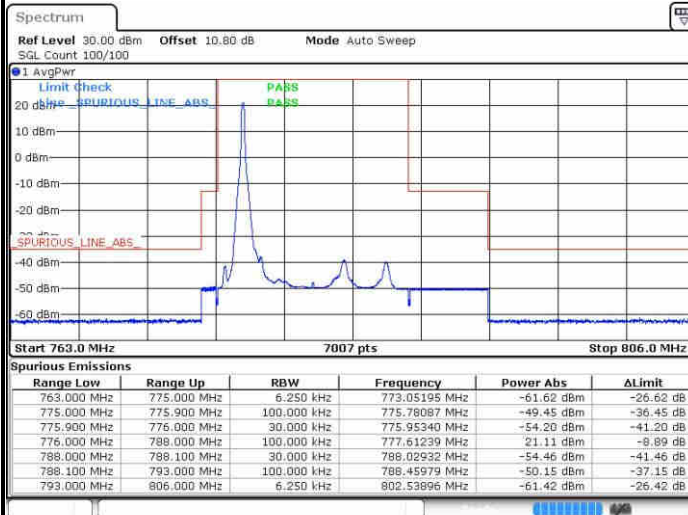
Highest Band Edge / Full RB



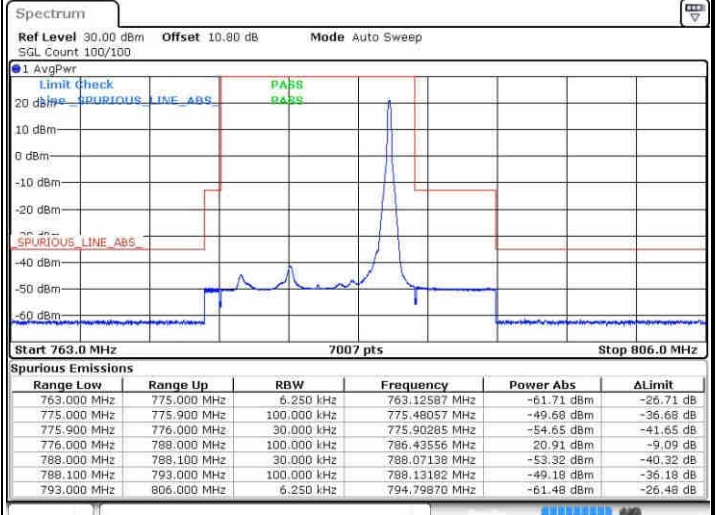


LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Band Edge / Full RB

