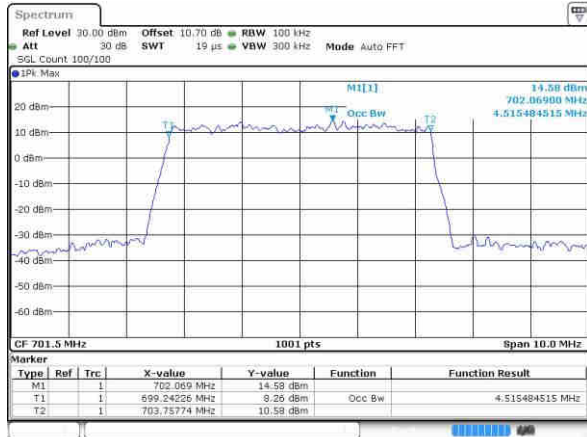


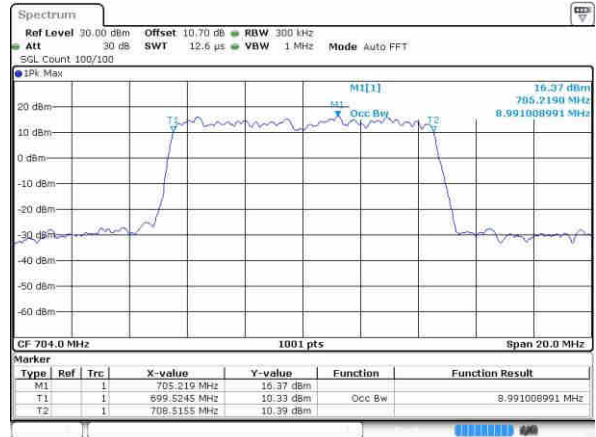


LTE Band 12

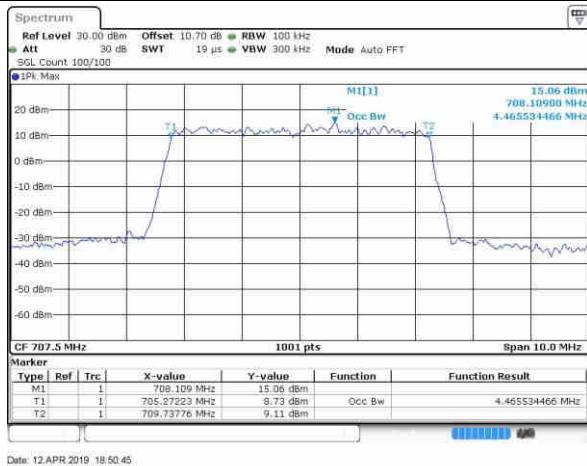
Lowest Channel / 5MHz / 64QAM



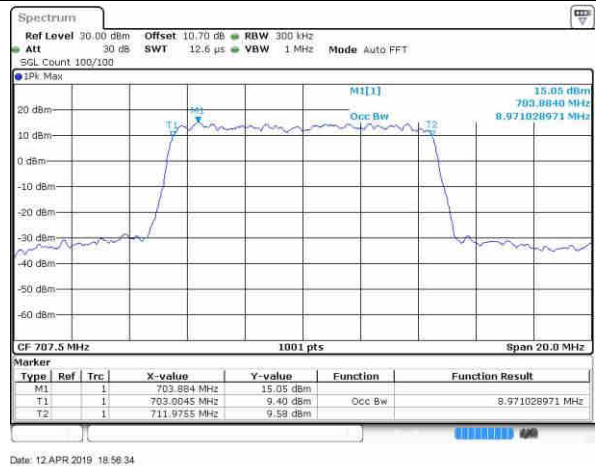
Lowest Channel / 10MHz / 64QAM



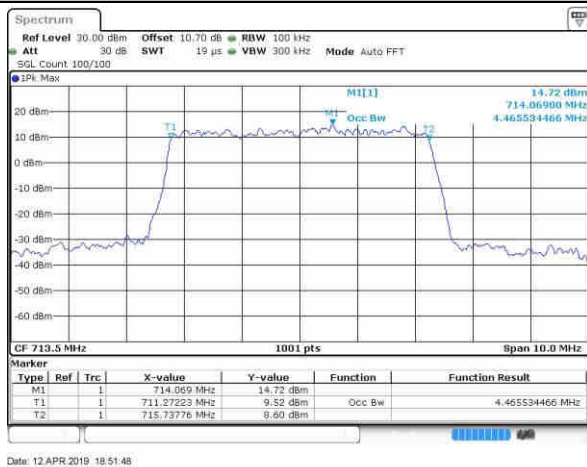
Middle Channel / 5MHz / 64QAM



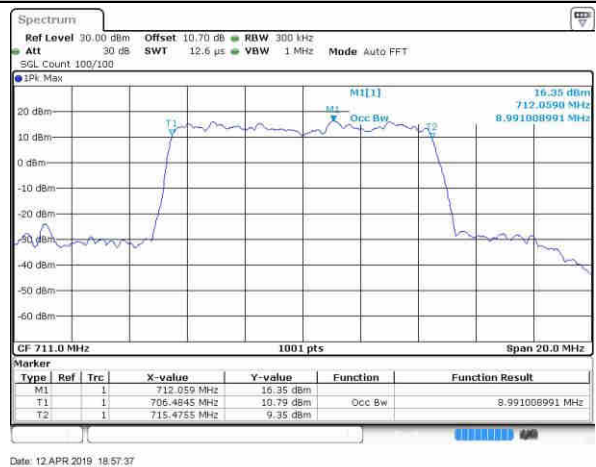
Middle Channel / 10MHz / 64QAM

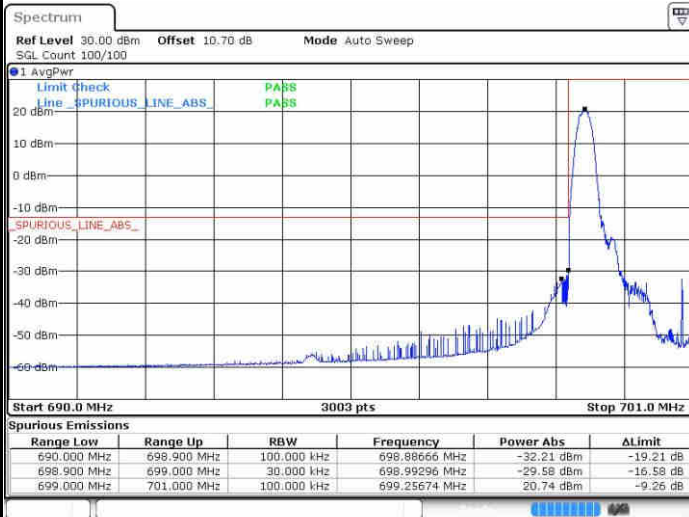
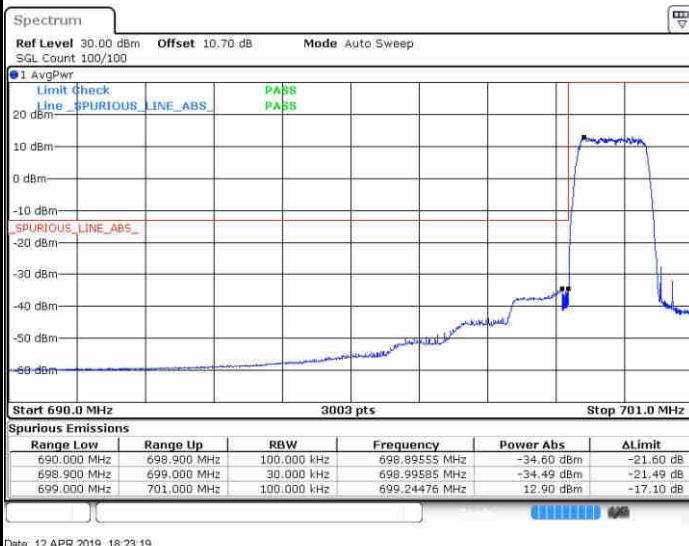
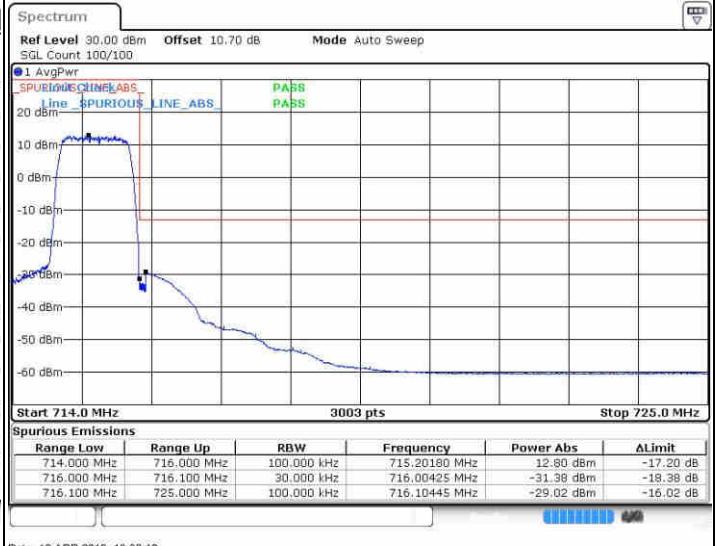


Highest Channel / 5MHz / 64QAM



Highest Channel / 10MHz / 64QAM

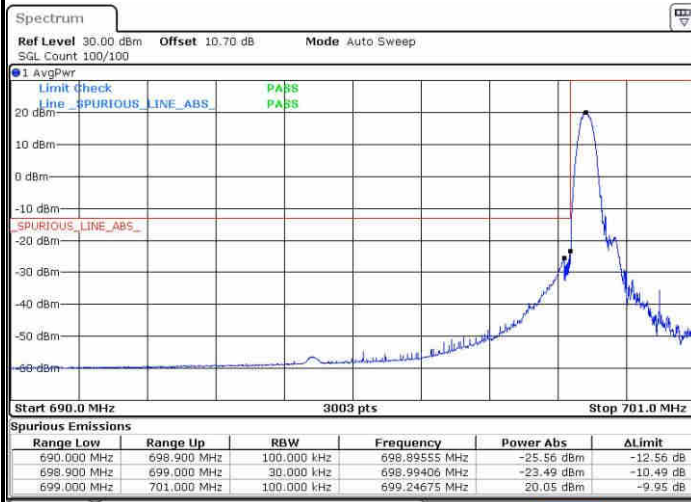


**Conducted Band Edge****LTE Band 12 / 1.4MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**



LTE Band 12 / 1.4MHz / 16QAM

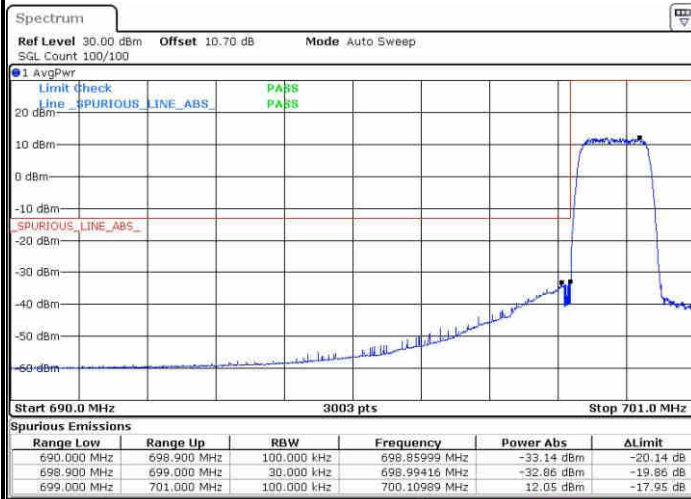
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



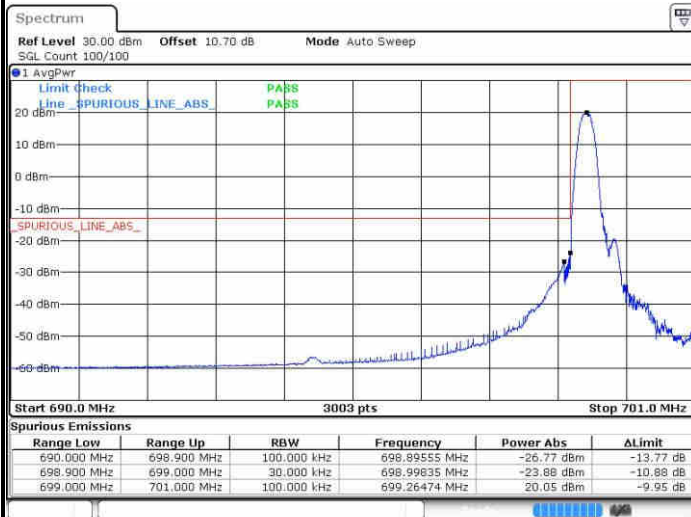
Highest Band Edge / Full RB





LTE Band 12 / 1.4MHz / 64QAM

Lowest Band Edge / 1 RB



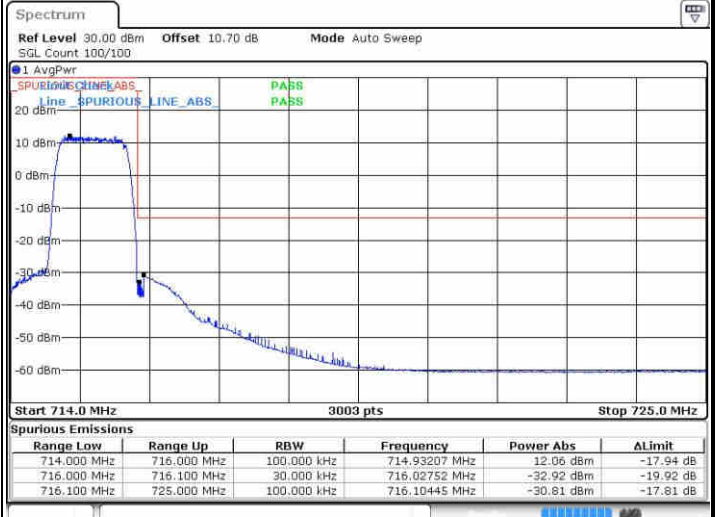
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



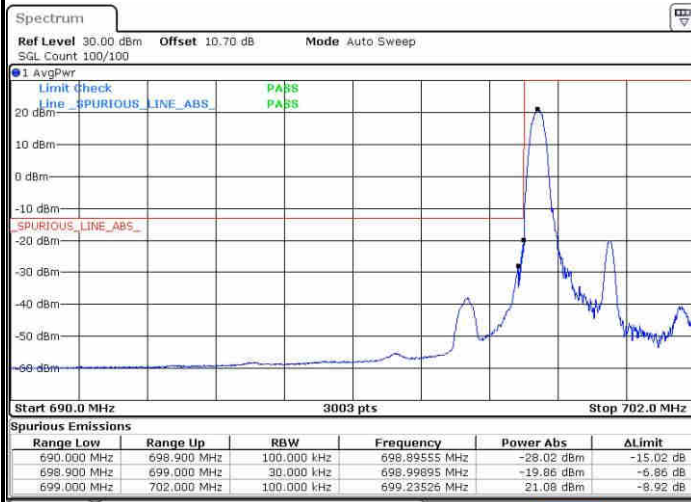
Highest Band Edge / Full RB





LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / 1RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



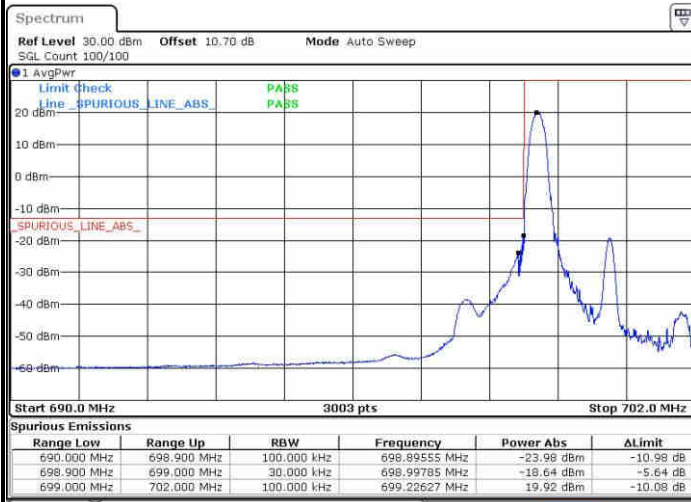
Highest Band Edge / Full RB





LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



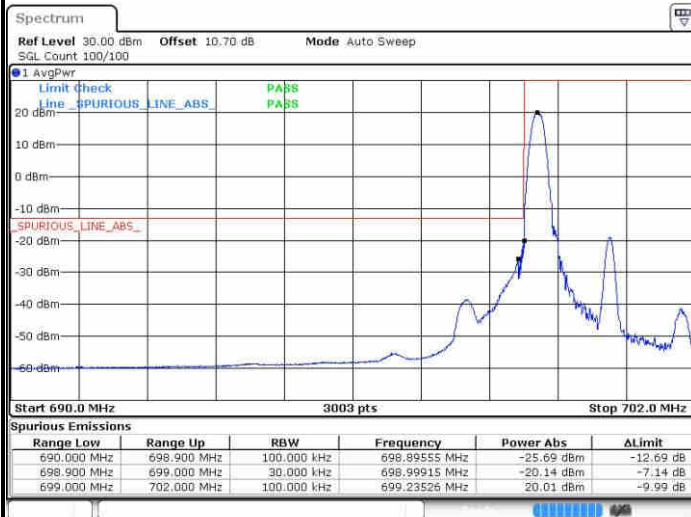
Highest Band Edge / Full RB



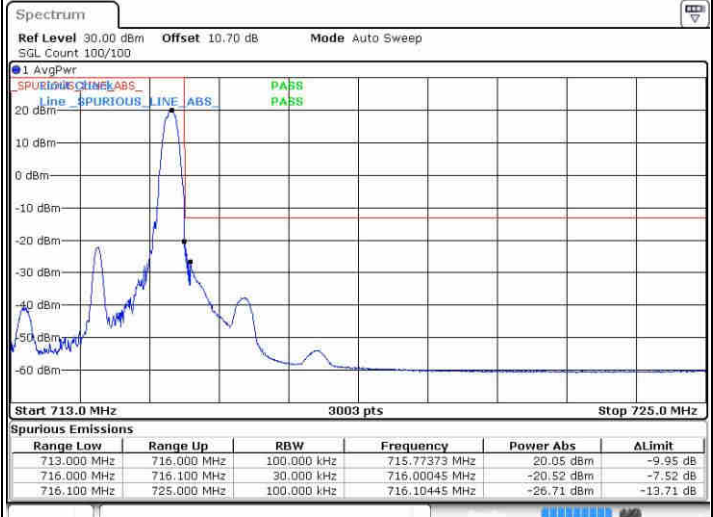


LTE Band 12 / 3MHz / 64QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



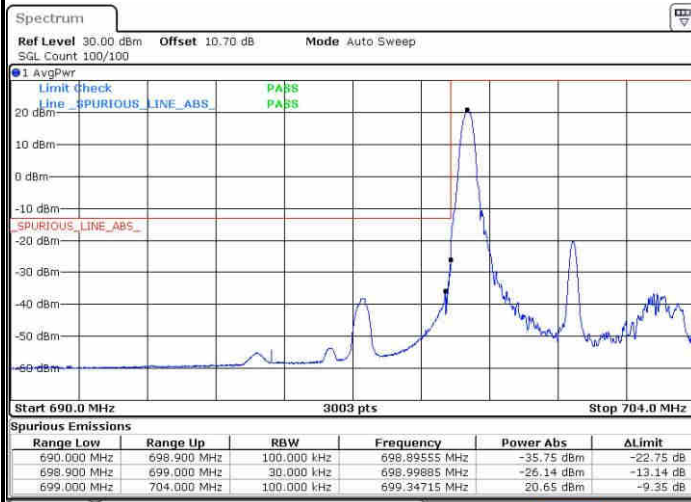
Highest Band Edge / Full RB





LTE Band 12 / 5MHz / QPSK

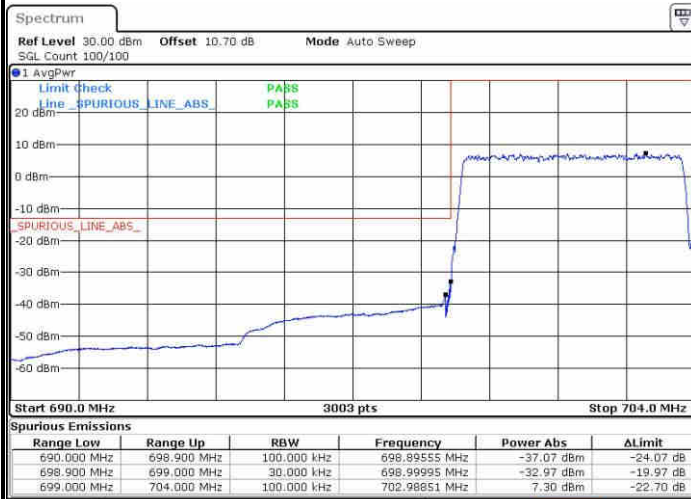
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



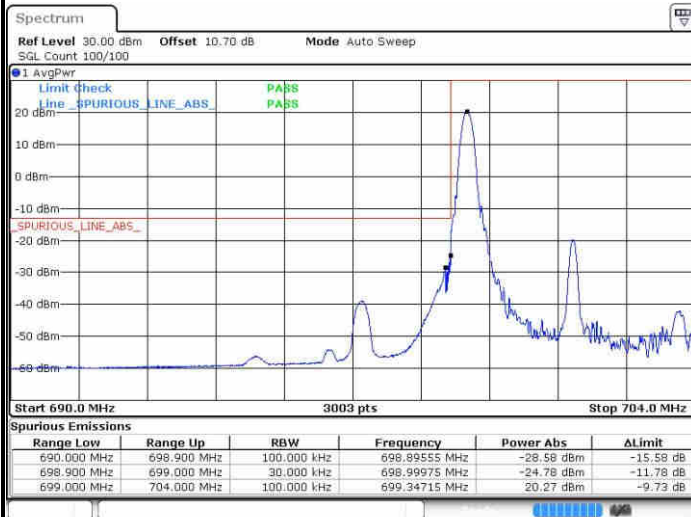
Highest Band Edge / Full RB





LTE Band 12 / 5MHz / 16QAM

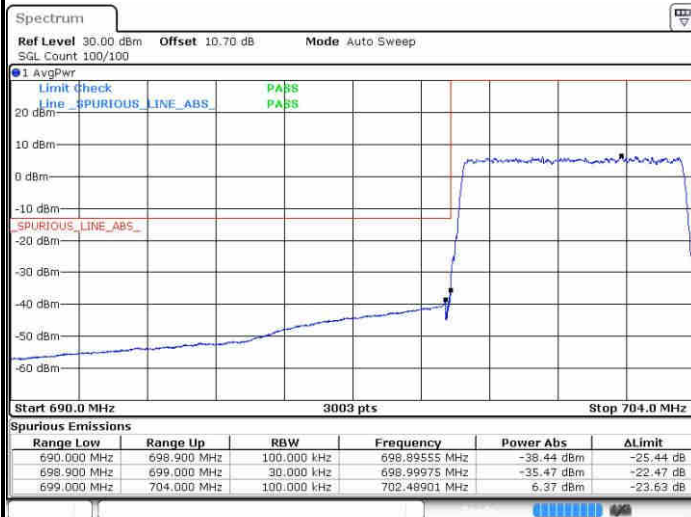
Lowest Band Edge / 1RB



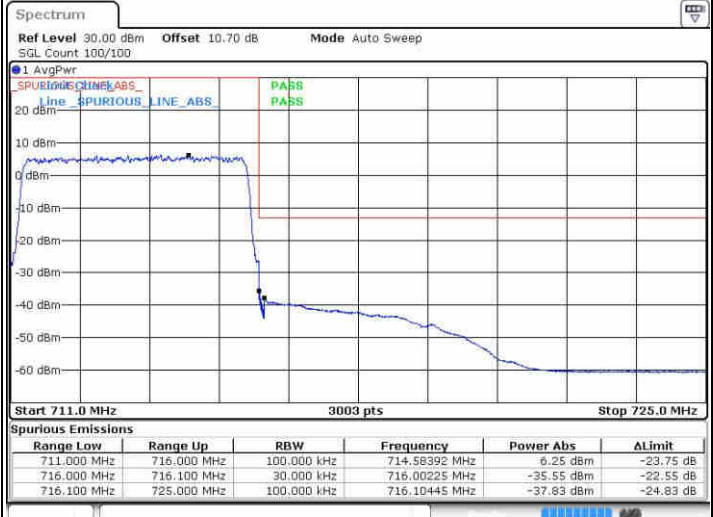
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



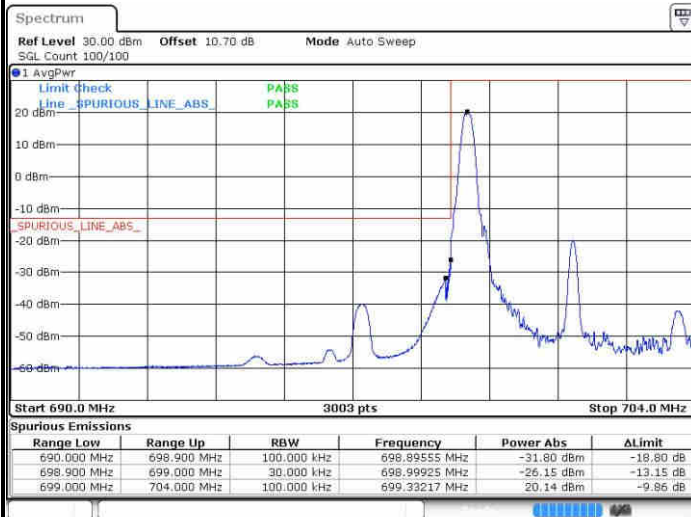
Highest Band Edge / Full RB



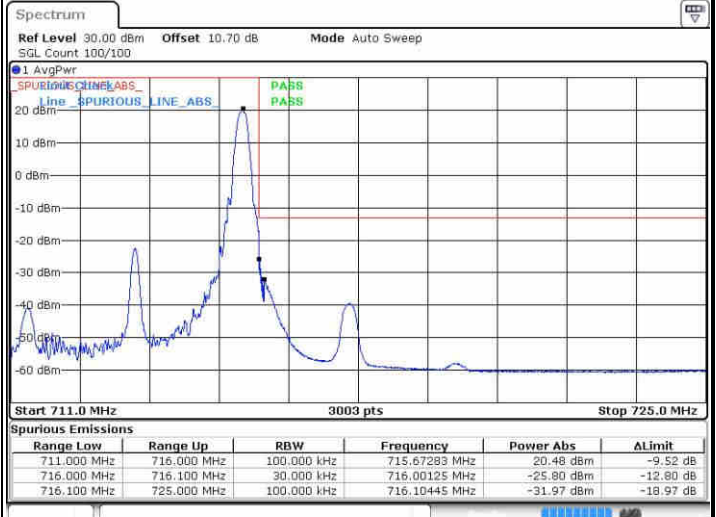


LTE Band 12 / 5MHz / 64QAM

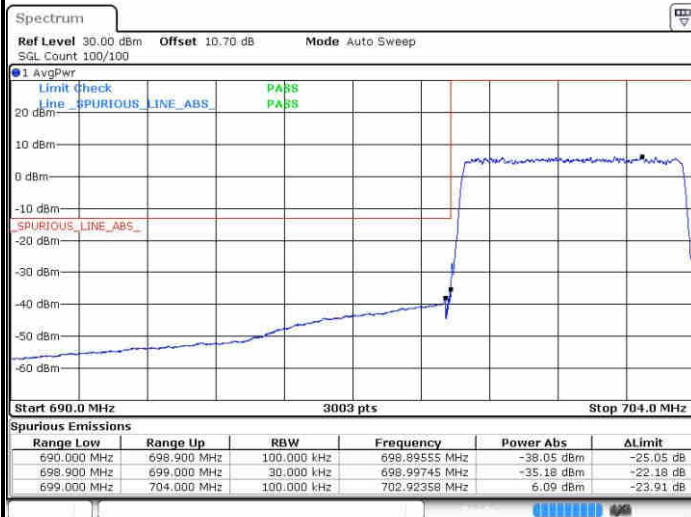
Lowest Band Edge / 1RB



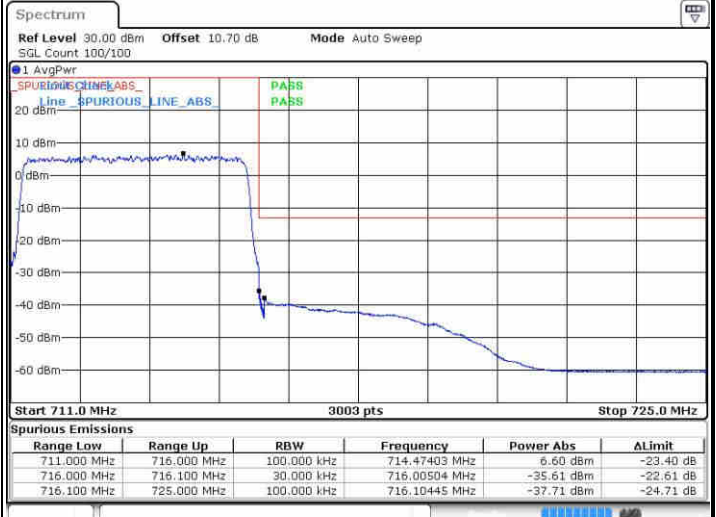
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



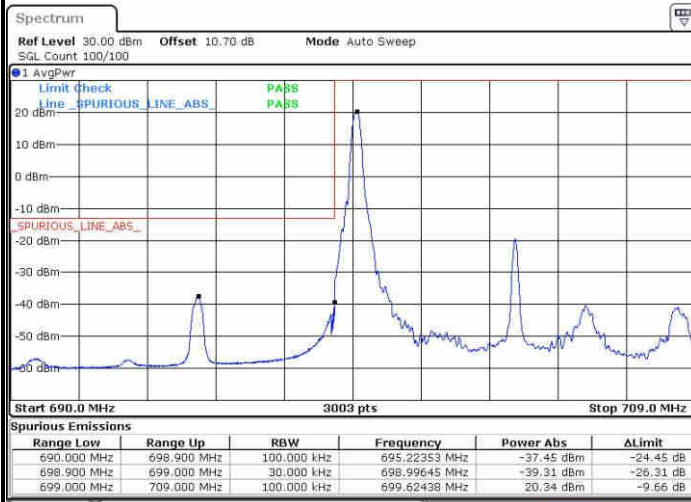
Highest Band Edge / Full RB



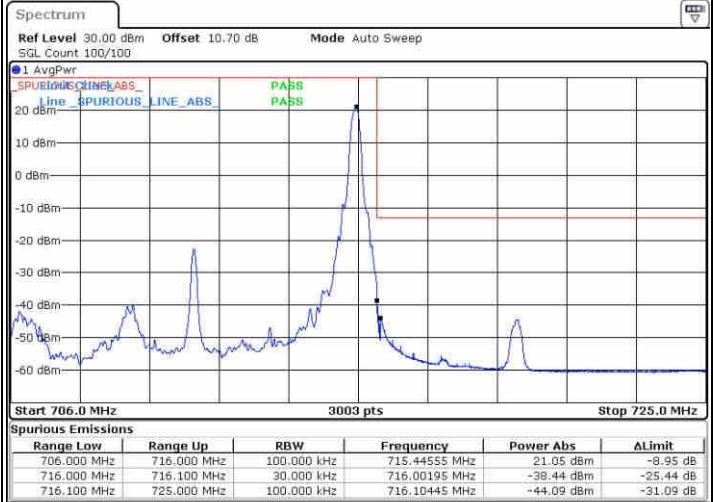


LTE Band 12 / 10MHz / QPSK

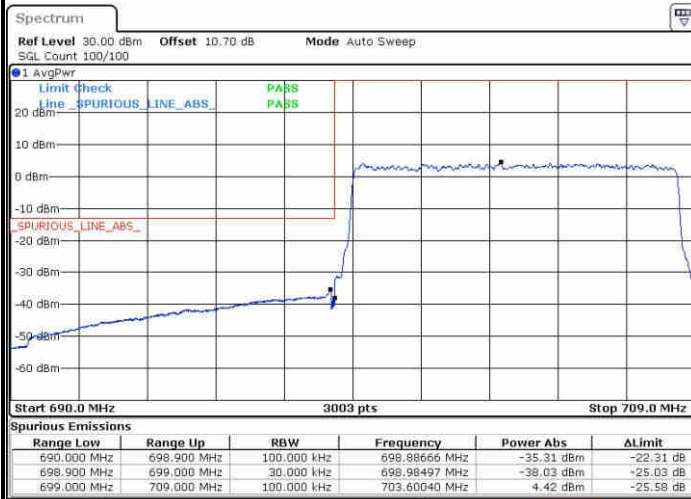
Lowest Band Edge / 1 RB



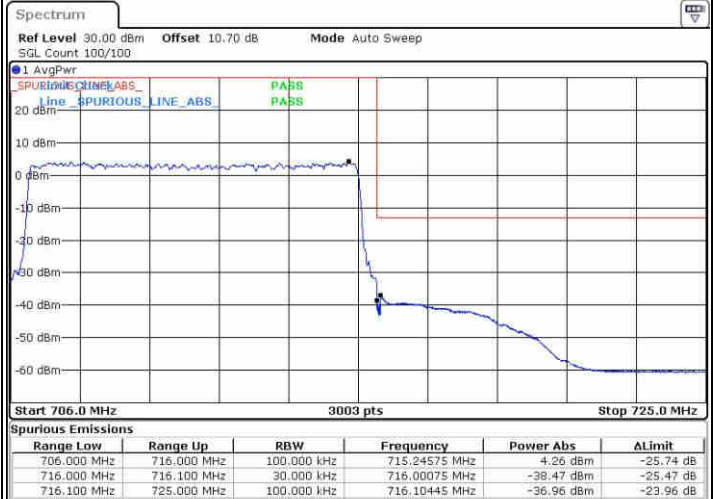
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



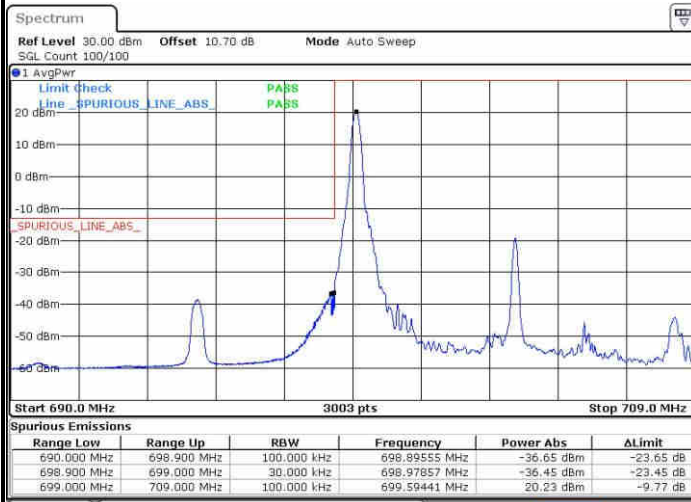
Highest Band Edge / Full RB



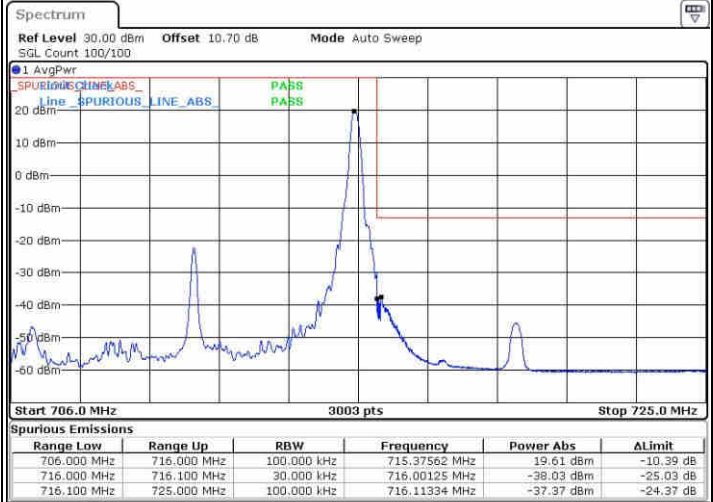


LTE Band 12 / 10MHz / 16QAM

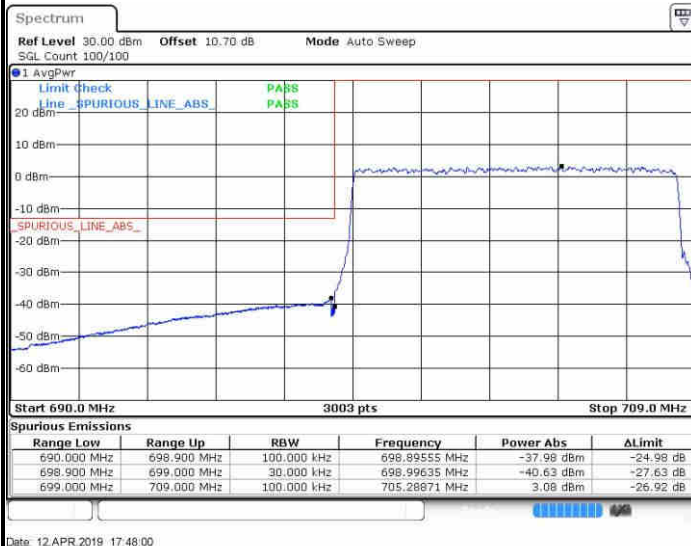
Lowest Band Edge / 1 RB



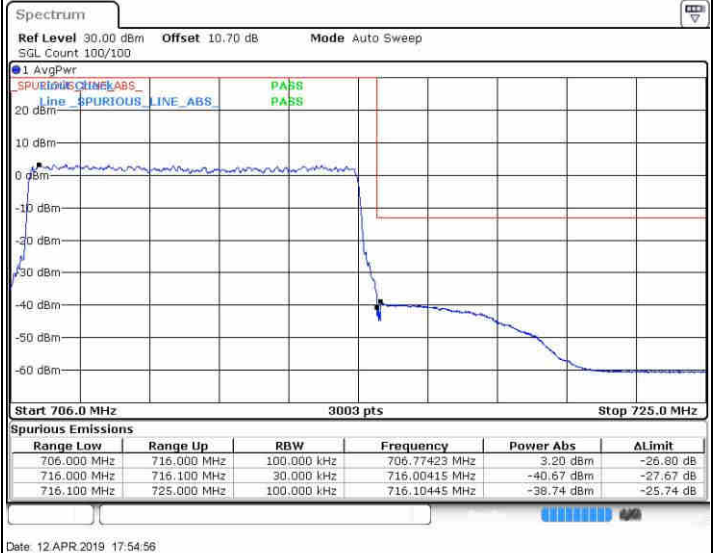
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



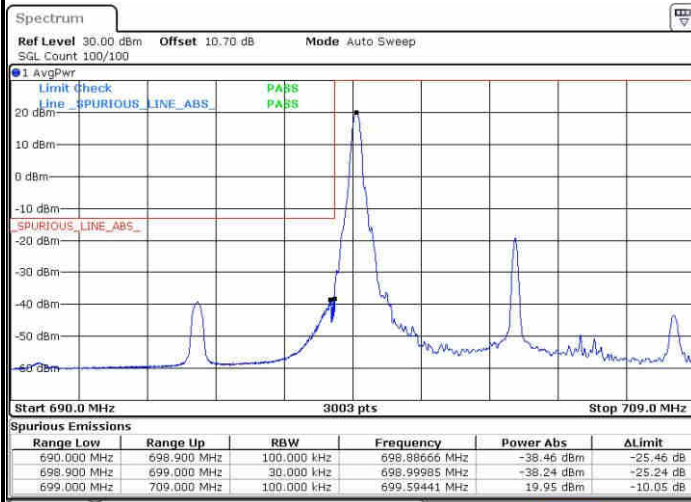
Highest Band Edge / Full RB



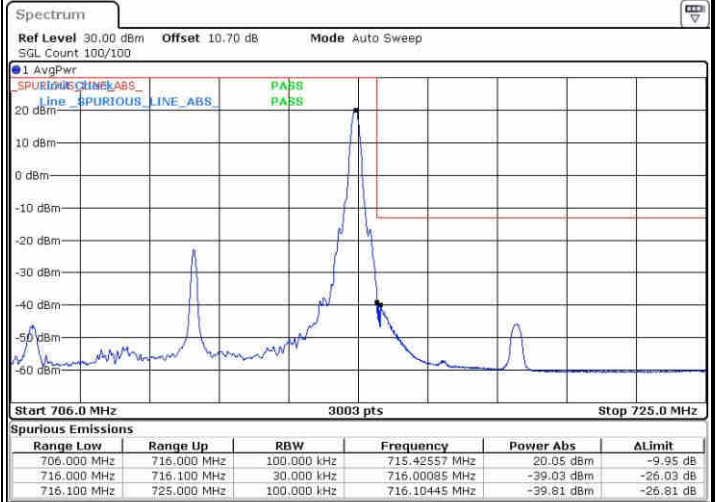


LTE Band 12 / 10MHz / 64QAM

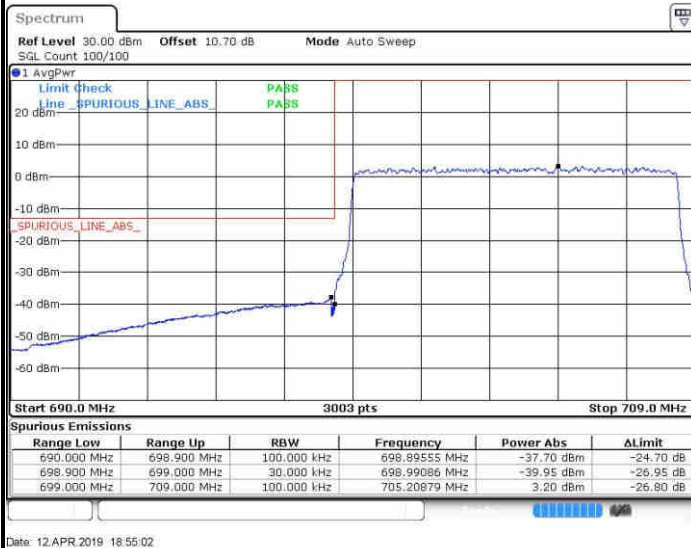
Lowest Band Edge / 1 RB



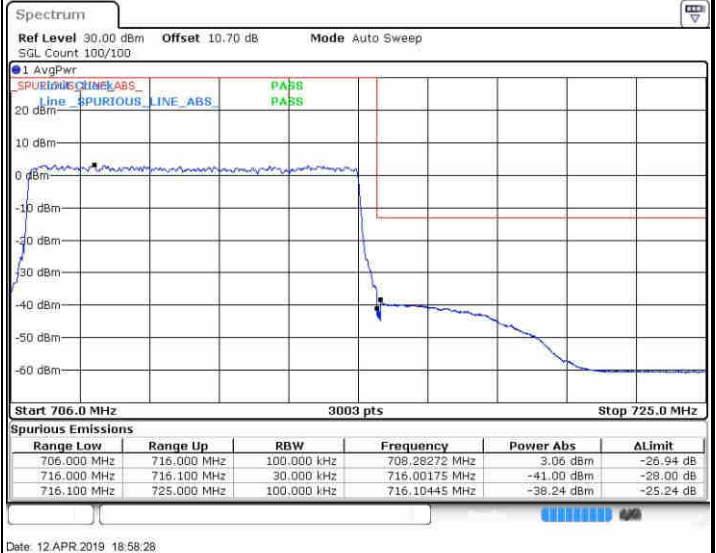
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

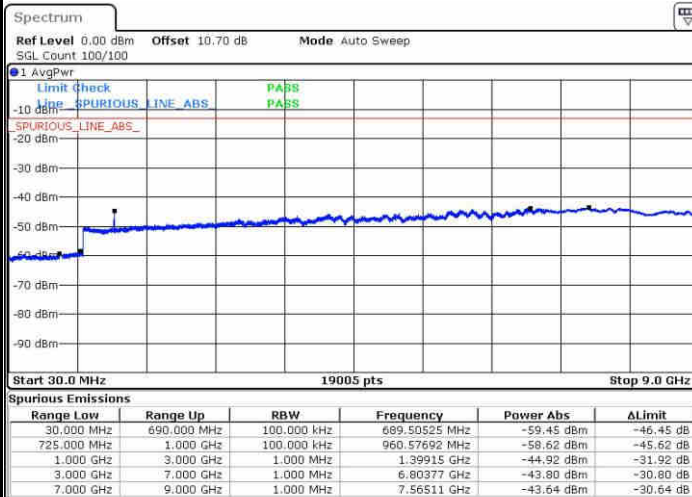




Conducted Spurious Emission

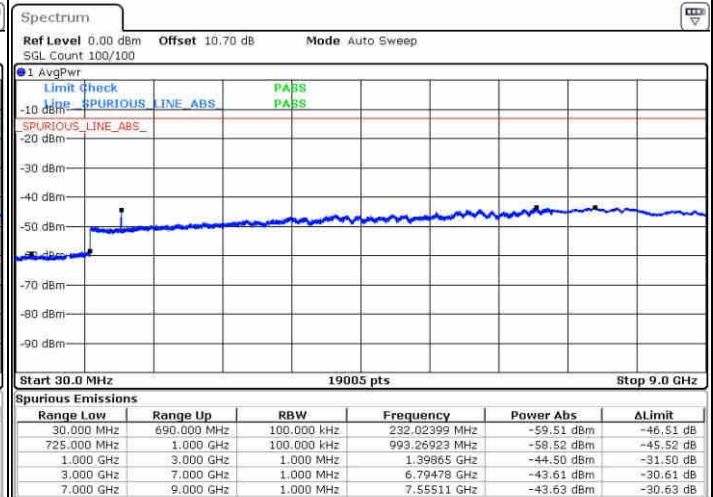
LTE Band 12 / 1.4MHz

Lowest Channel / QPSK



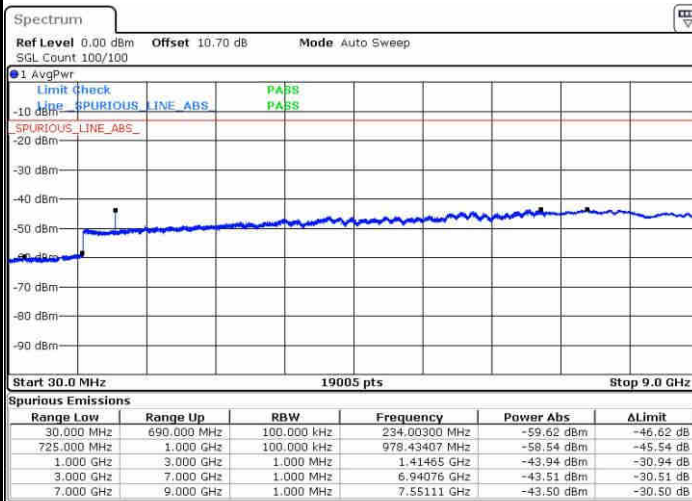
Date: 12 APR 2019 18:26:00

Lowest Channel / 16QAM



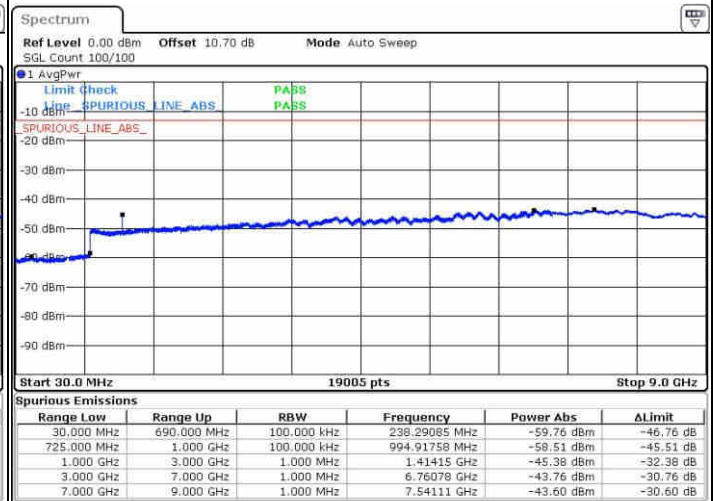
Date: 12 APR 2019 18:26:40

Middle Channel / QPSK



Date: 12 APR 2019 18:28:46

Middle Channel / 16QAM

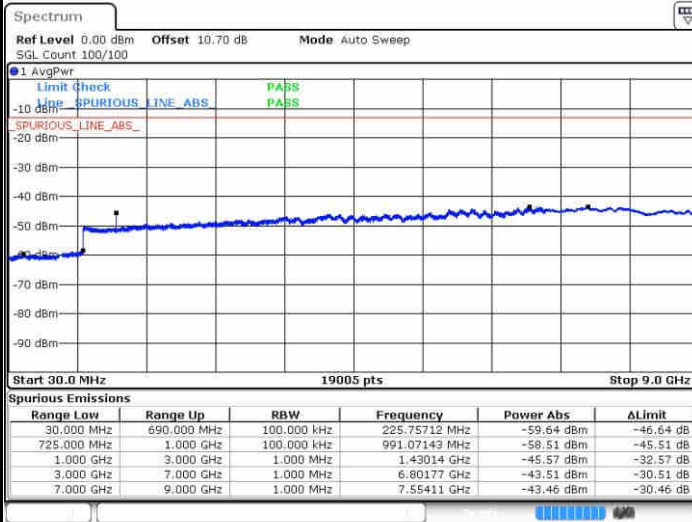


Date: 12 APR 2019 18:28:06



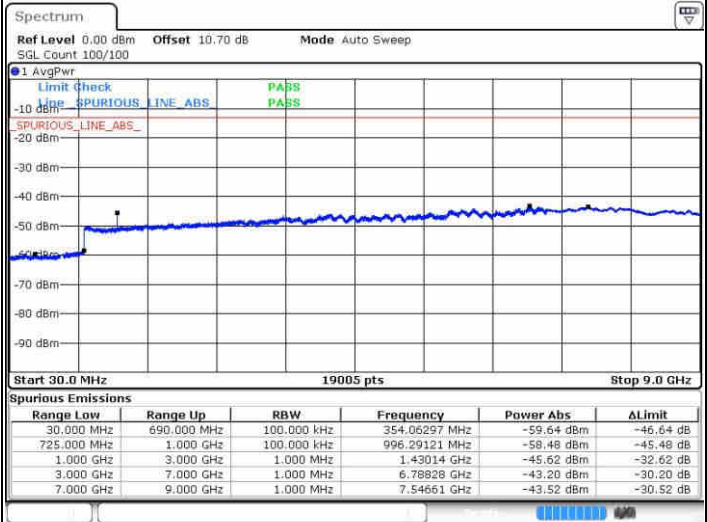
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 12 APR 2019 18:32:52

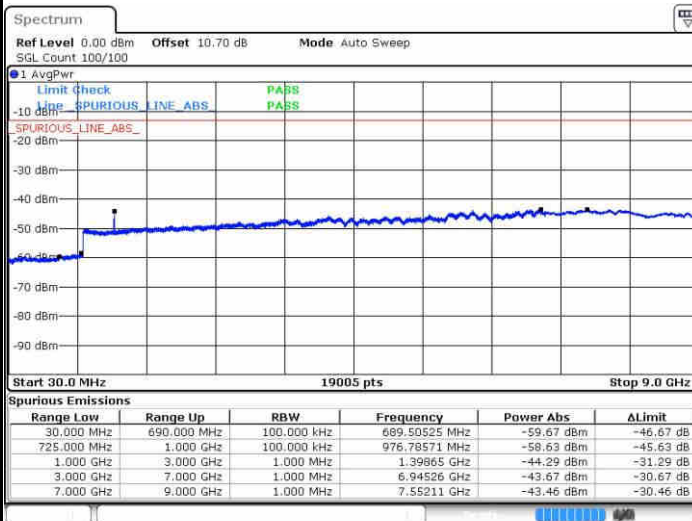
Highest Channel / 16QAM



Date: 12 APR 2019 18:33:33

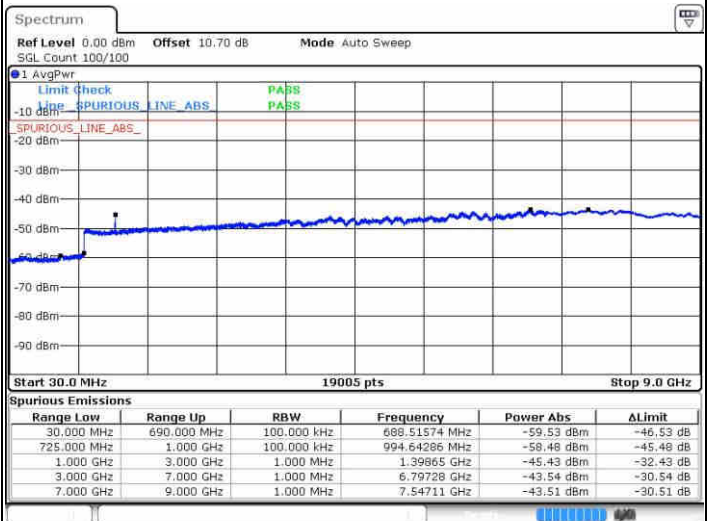
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 12 APR 2019 17:26:40

Lowest Channel / 16QAM

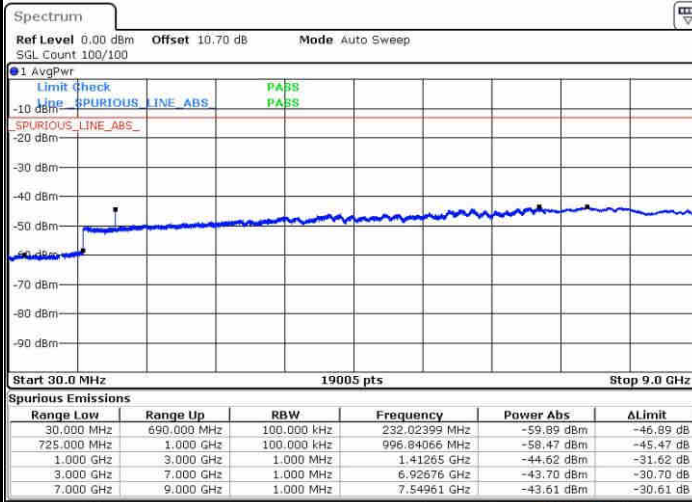


Date: 12 APR 2019 17:27:21



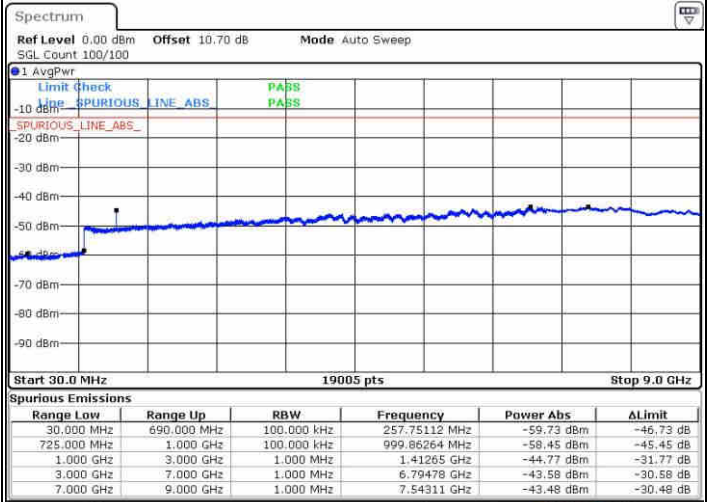
LTE Band 12 / 3MHz

Middle Channel / QPSK



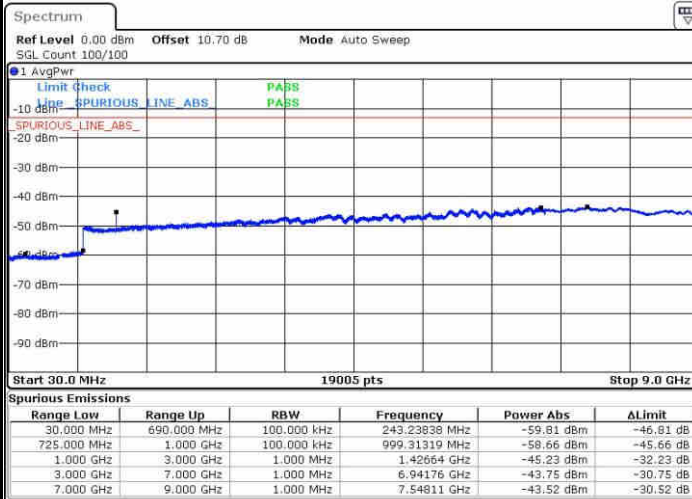
Date: 12 APR 2019 17:29:27

Middle Channel / 16QAM



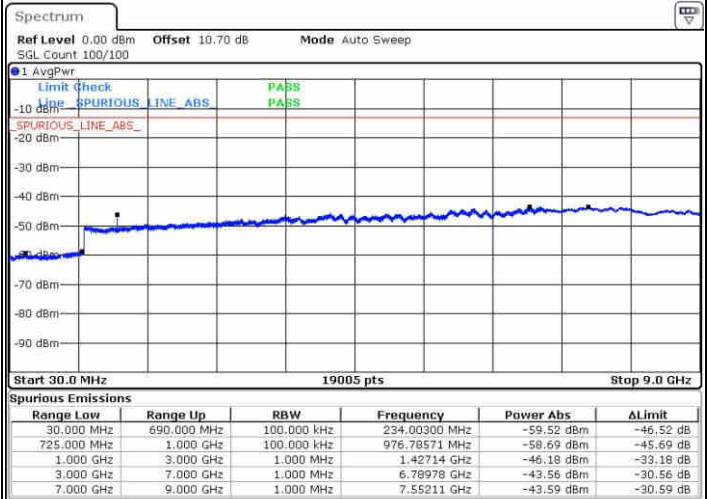
Date: 12 APR 2019 17:28:46

Highest Channel / QPSK



Date: 12 APR 2019 17:33:33

Highest Channel / 16QAM

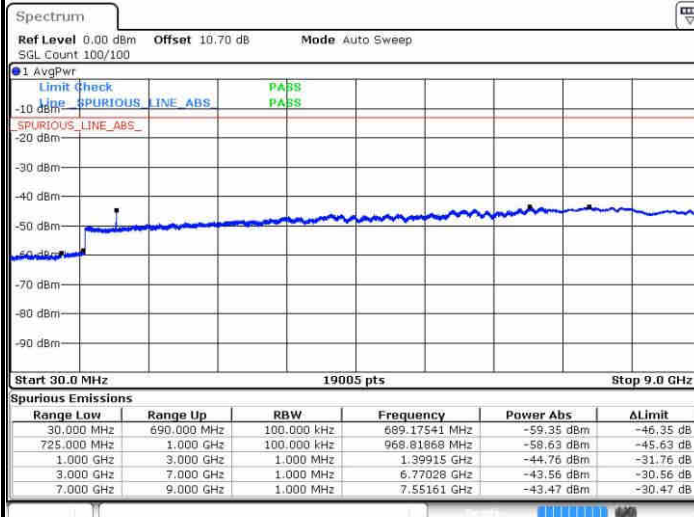


Date: 12 APR 2019 17:34:13



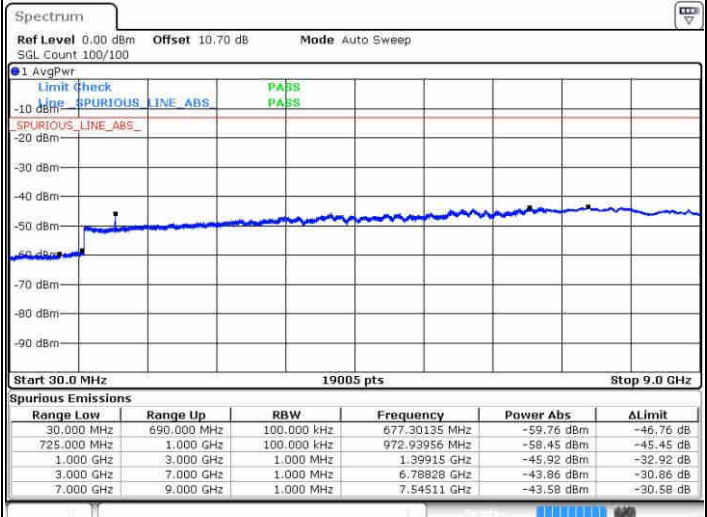
LTE Band 12 / 5MHz

Lowest Channel / QPSK



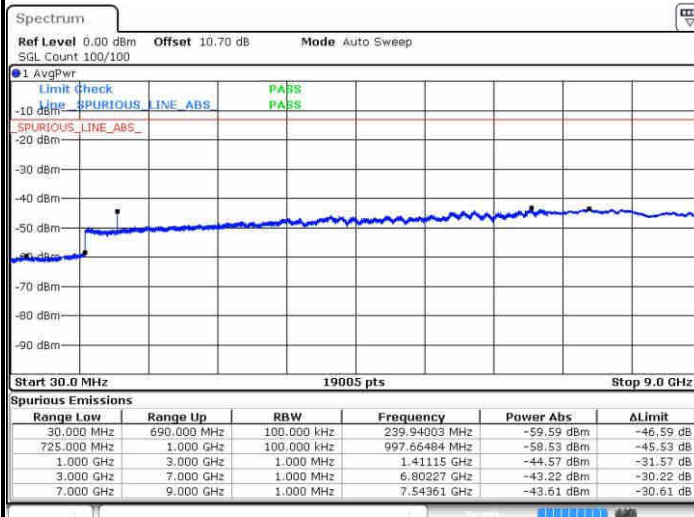
Date: 12 APR 2019 17:38:19

Lowest Channel / 16QAM



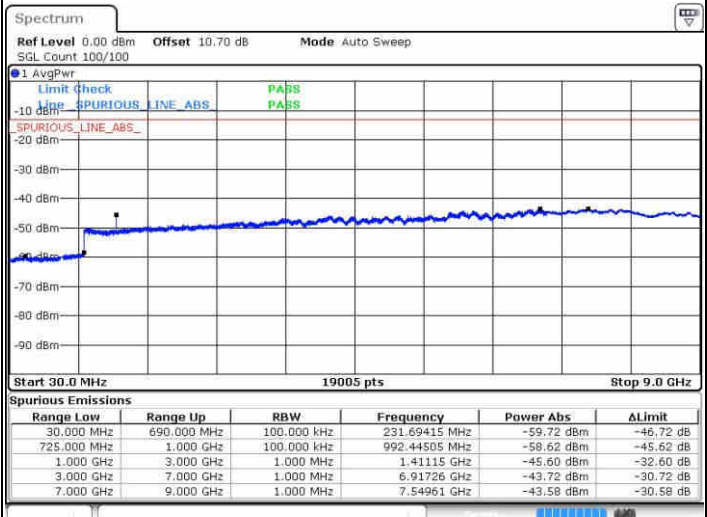
Date: 12 APR 2019 17:38:59

Middle Channel / QPSK



Date: 12 APR 2019 17:41:06

Middle Channel / 16QAM

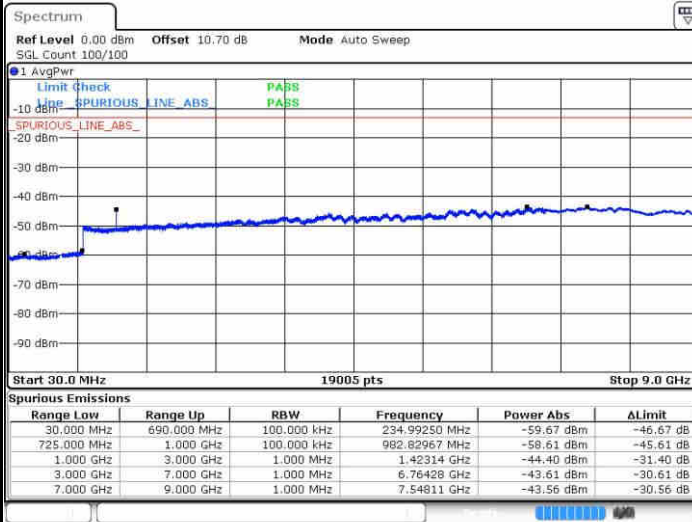


Date: 12 APR 2019 17:40:26



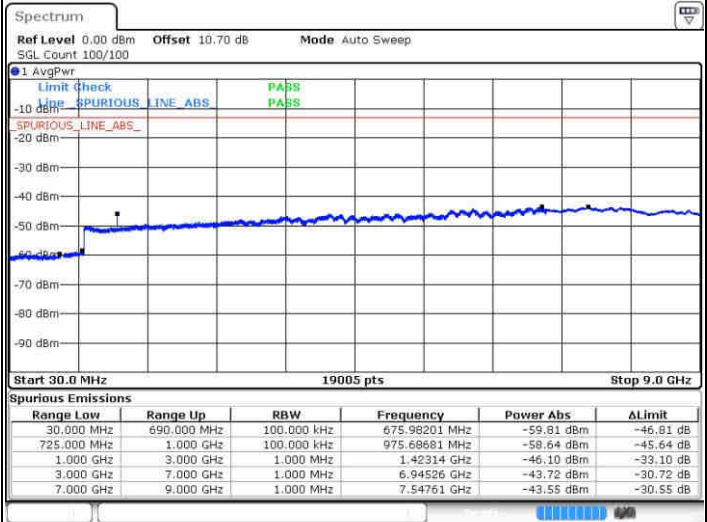
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 12 APR 2019 17:45:54

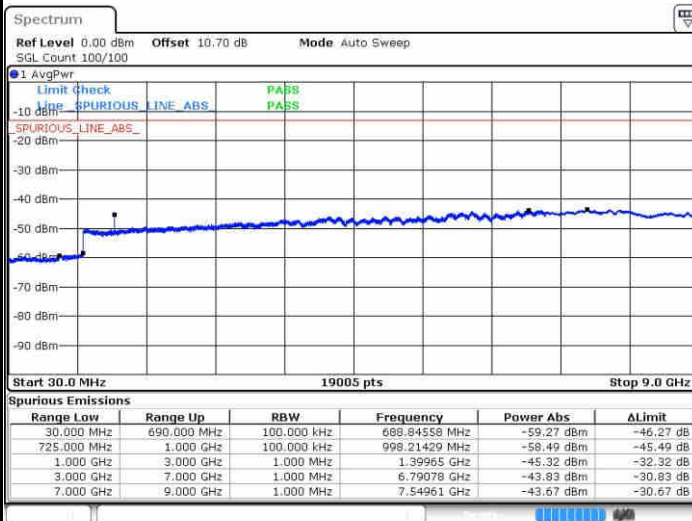
Highest Channel / 16QAM



Date: 12 APR 2019 17:45:14

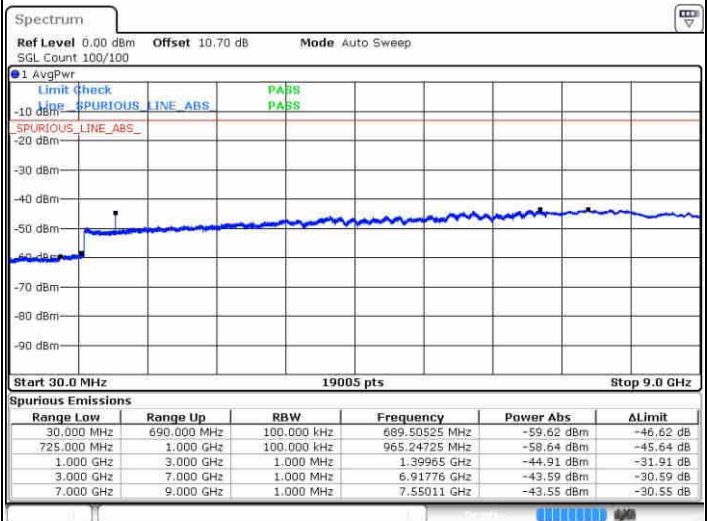
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 12 APR 2019 17:50:00

Lowest Channel / 16QAM

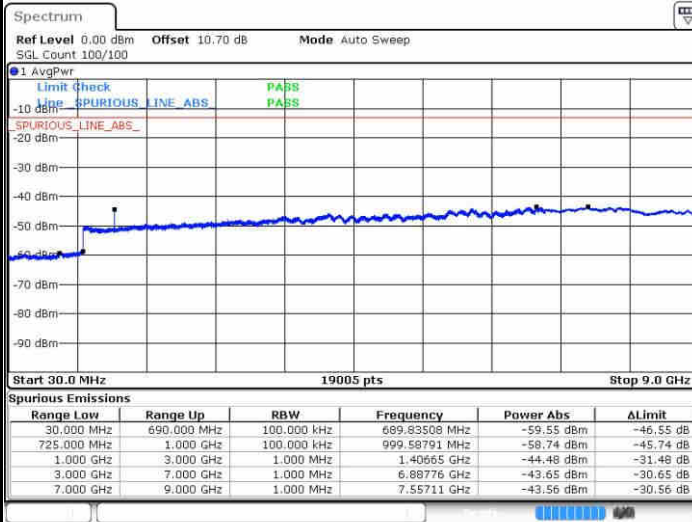


Date: 12 APR 2019 17:50:41



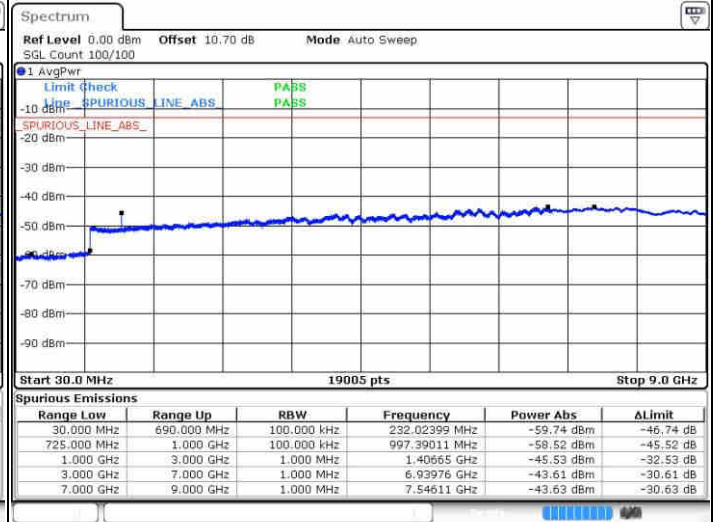
LTE Band 12 / 10MHz

Middle Channel / QPSK



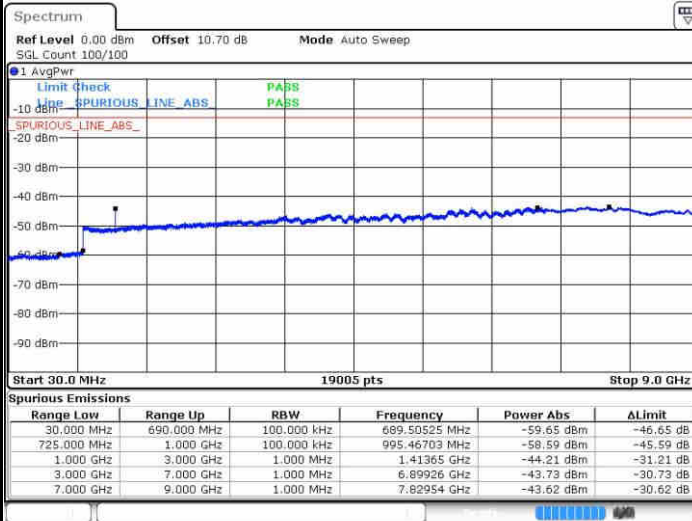
Date: 12 APR 2019 17:52:47

Middle Channel / 16QAM



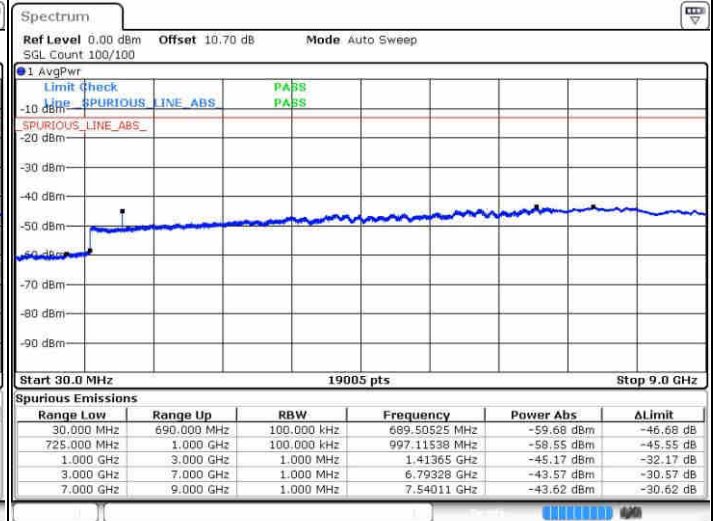
Date: 12 APR 2019 17:52:06

Highest Channel / QPSK



Date: 12 APR 2019 17:56:57

Highest Channel / 16QAM

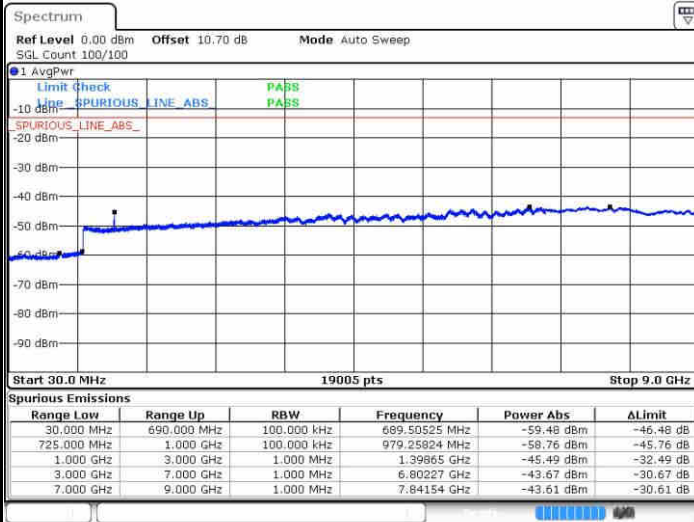


Date: 12 APR 2019 17:57:37



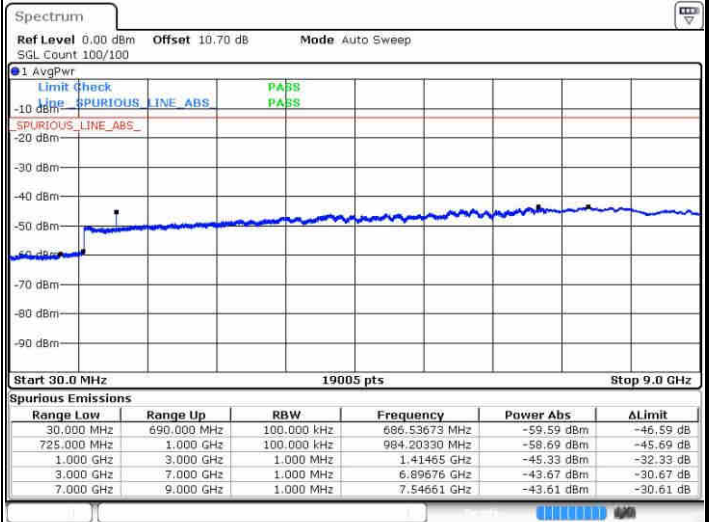
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM



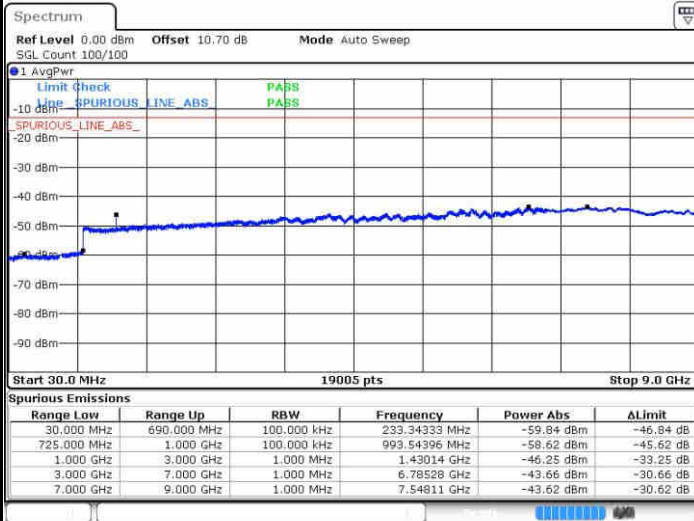
Date: 12 APR 2019 19:08:57

Middle Channel / 64QAM



Date: 12 APR 2019 19:10:00

Highest Channel / 64QAM

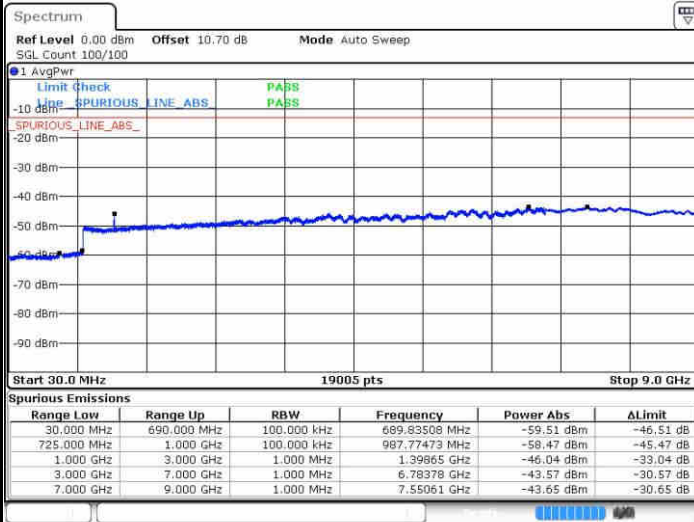


Date: 12 APR 2019 19:12:24

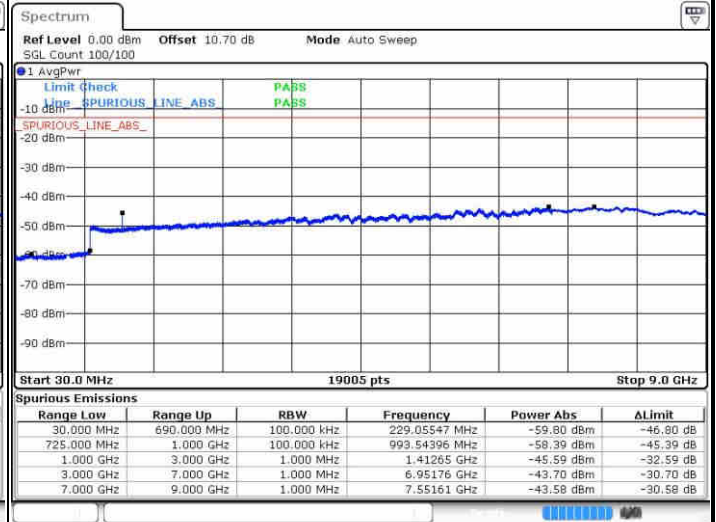


LTE Band 12 / 3MHz

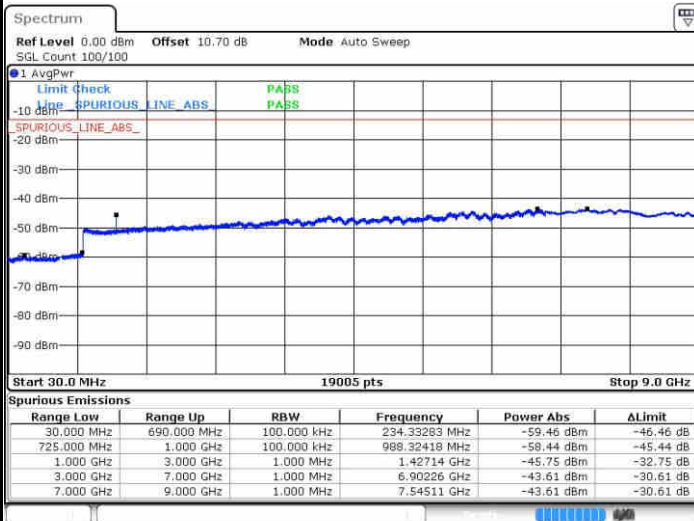
Lowest Channel / 64QAM



Middle Channel / 64QAM



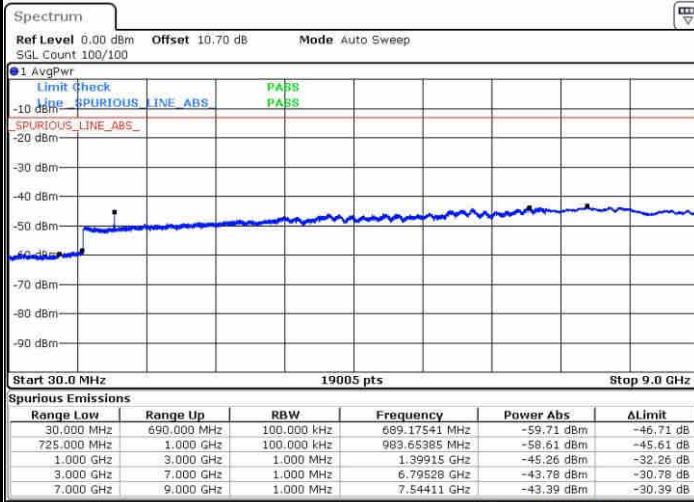
Highest Channel / 64QAM





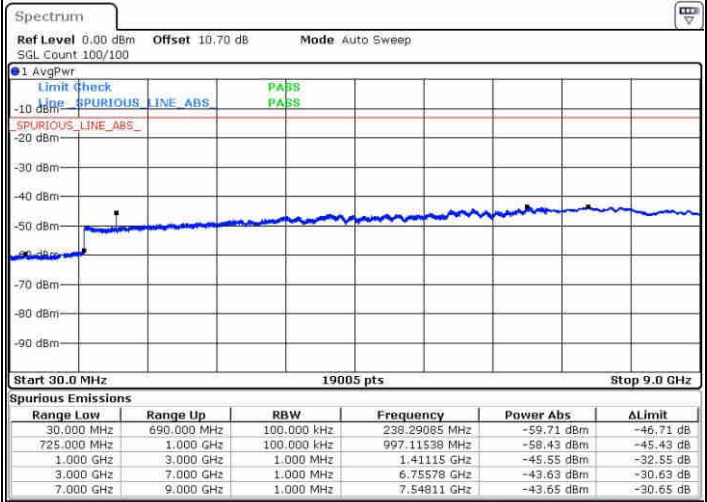
LTE Band 12 / 5MHz

Lowest Channel / 64QAM



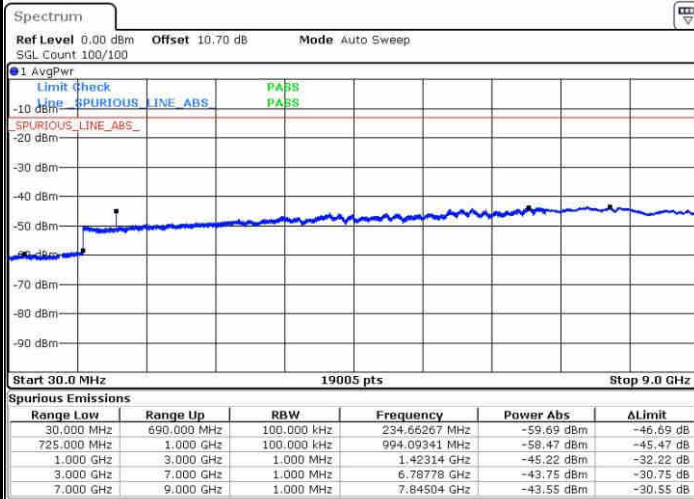
Date: 12 APR 2019 18:50:34

Middle Channel / 64QAM



Date: 12 APR 2019 18:51:37

Highest Channel / 64QAM

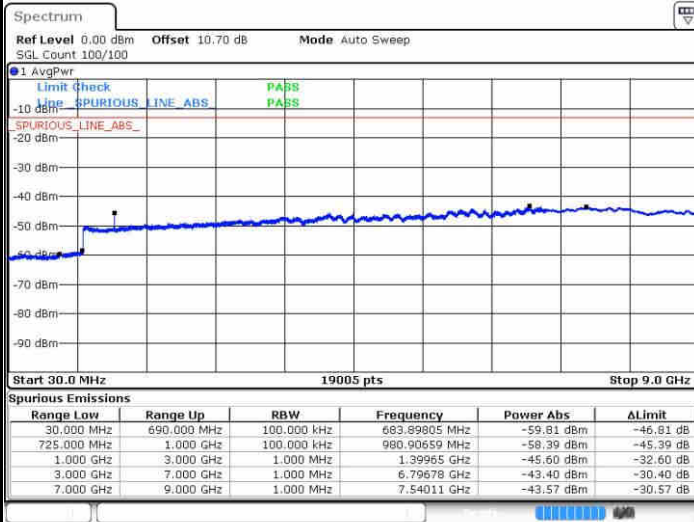


Date: 12 APR 2019 18:54:00



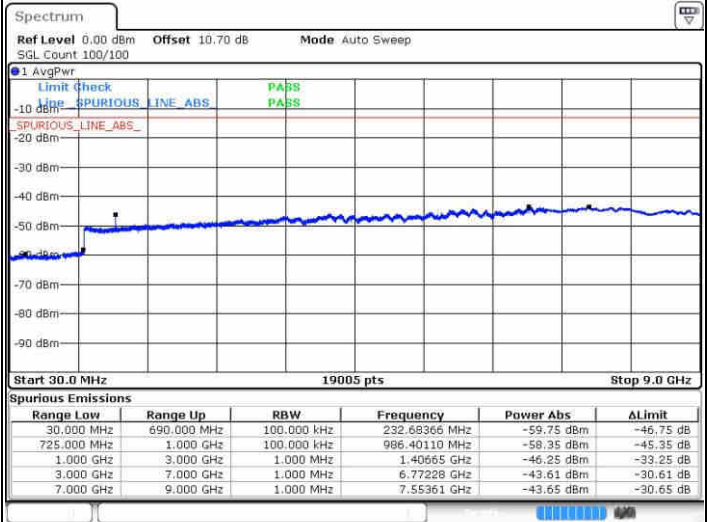
LTE Band 12 / 10MHz

Lowest Channel / 64QAM



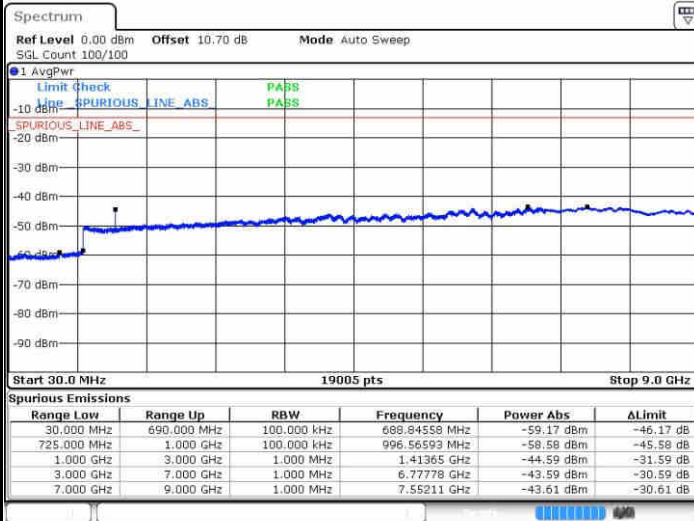
Date: 12 APR 2019 18:56:23

Middle Channel / 64QAM



Date: 12 APR 2019 18:57:26

Highest Channel / 64QAM



Date: 12 APR 2019 18:59:49

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	0.0072	PASS
40	Normal Voltage	0.0113	
30	Normal Voltage	0.0090	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0126	
0	Normal Voltage	0.0092	
-10	Normal Voltage	0.0075	
-20	Normal Voltage	0.0123	
-30	Normal Voltage	0.0085	
20	Maximum Voltage	0.0100	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0123	

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	3.91	5.16	4.46	6.03	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	5.42	6.43	-	-	
Highest CH	-	-	-	-	



LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Middle Channel / Full RB

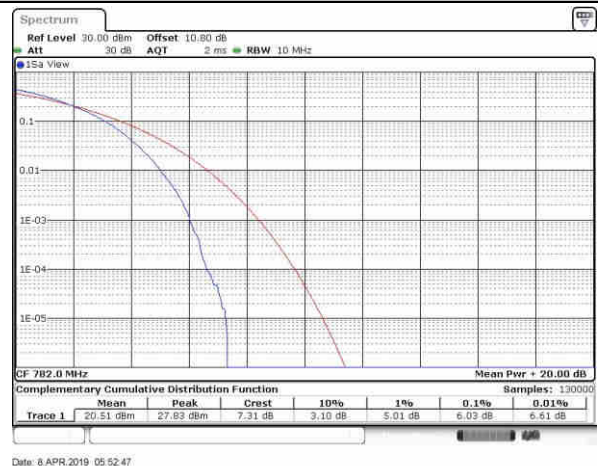


LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB

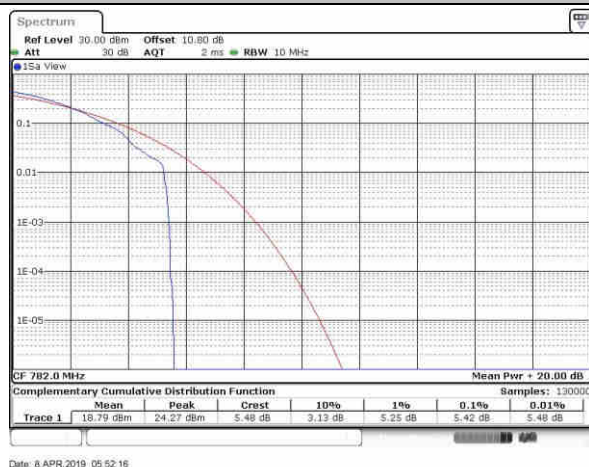


Middle Channel / Full RB

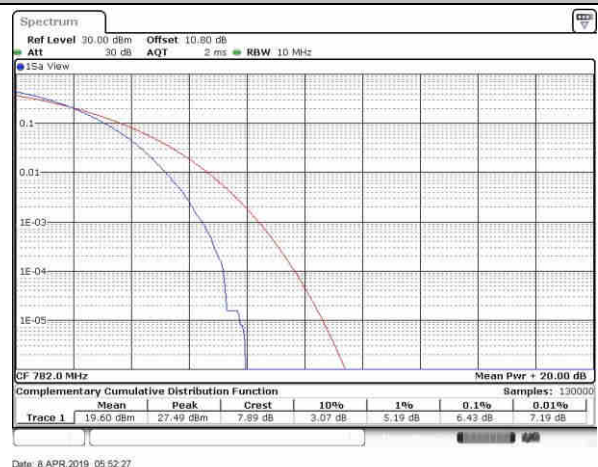


LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Middle Channel / Full RB



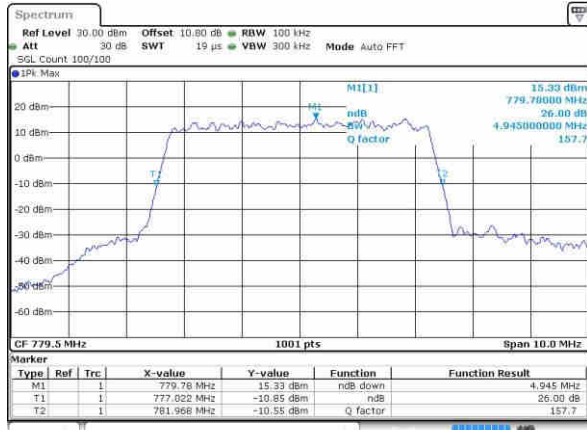
**26dB Bandwidth**

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	-	-	-	-	4.95	4.87	-	-	-	-	-	-
Middle CH	-	-	-	-	4.84	4.90	9.75	9.91	-	-	-	-
Highest CH	-	-	-	-	4.92	4.90	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.95	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.92	-	9.81	-	-	-	-	-
Highest CH	-	-	-	-	4.91	-	-	-	-	-	-	-

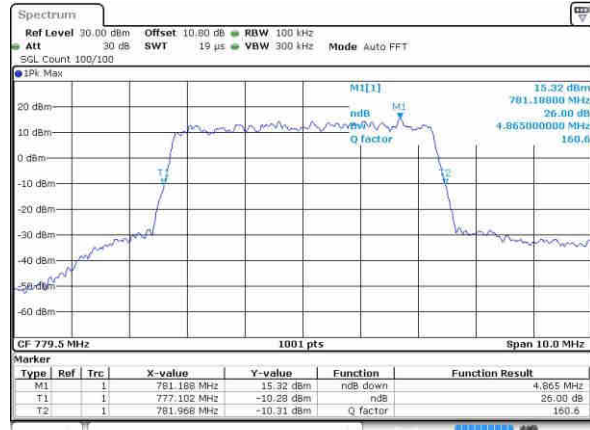


LTE Band 13

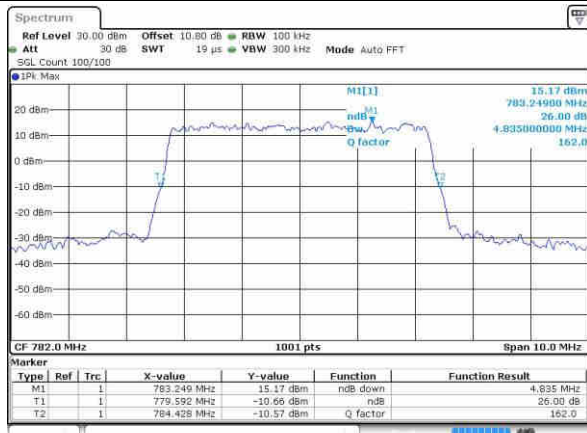
Lowest Channel / 5MHz / QPSK



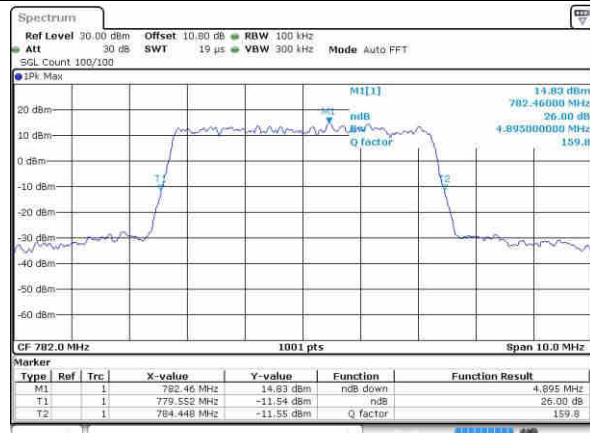
Lowest Channel / 5MHz / 16QAM



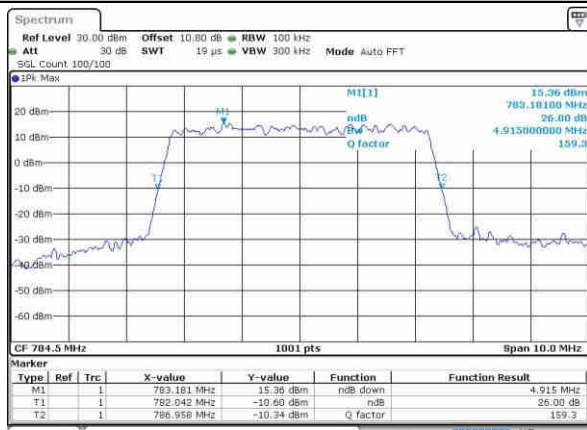
Middle Channel / 5MHz / QPSK



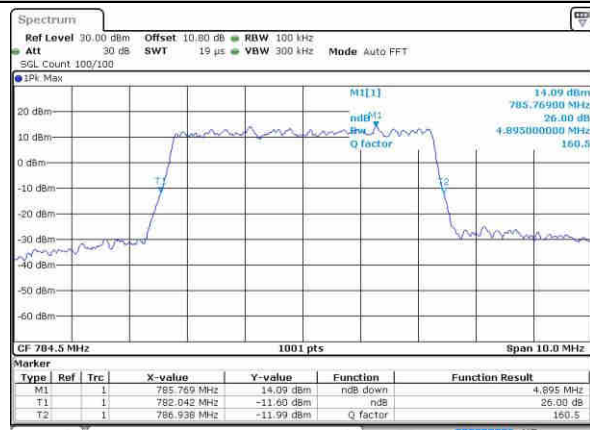
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



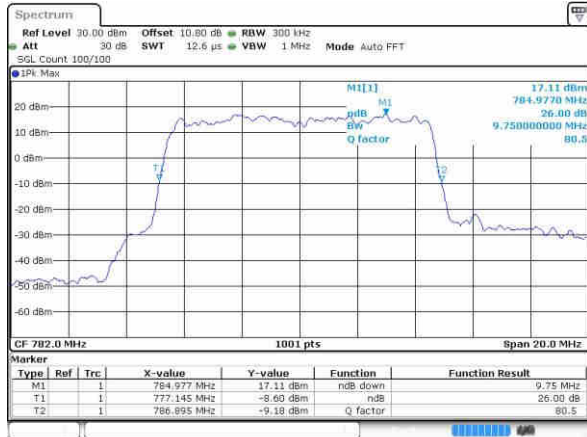
Highest Channel / 5MHz / 16QAM



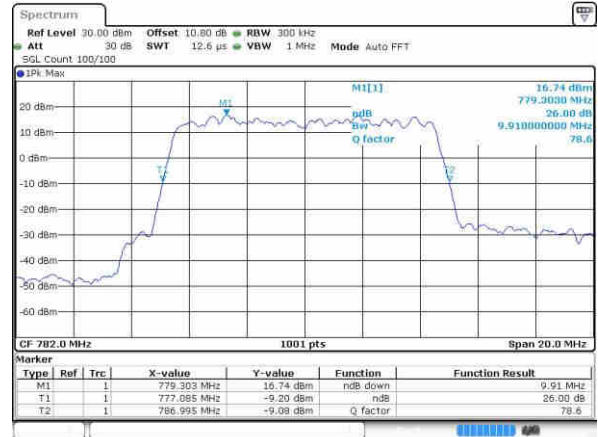


LTE Band 13

Middle Channel / 10MHz / QPSK



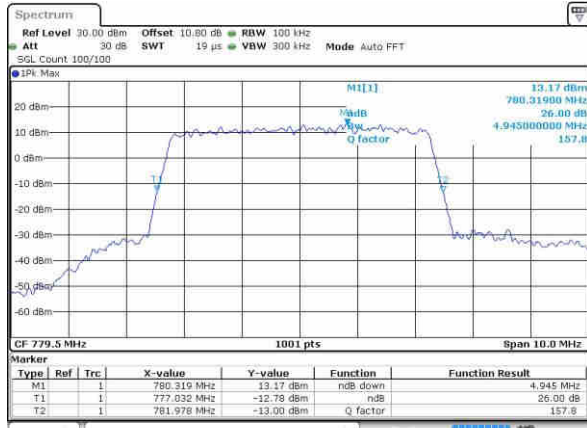
Middle Channel / 10MHz / 16QAM



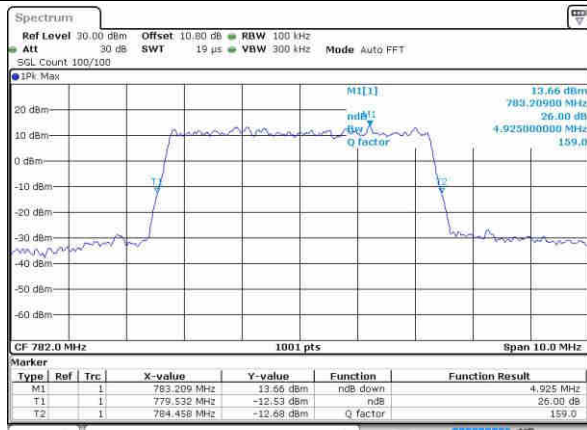


LTE Band 13

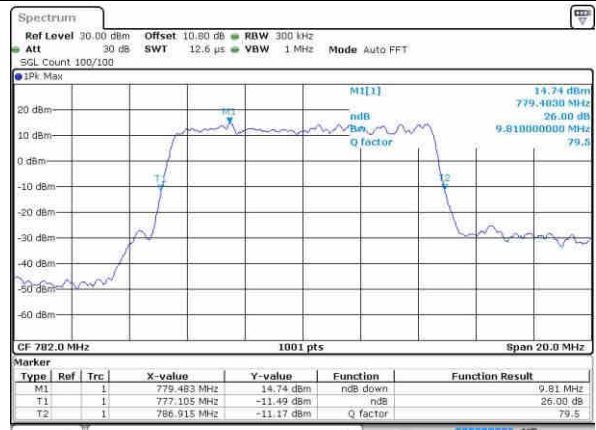
Lowest Channel / 5MHz / 64QAM



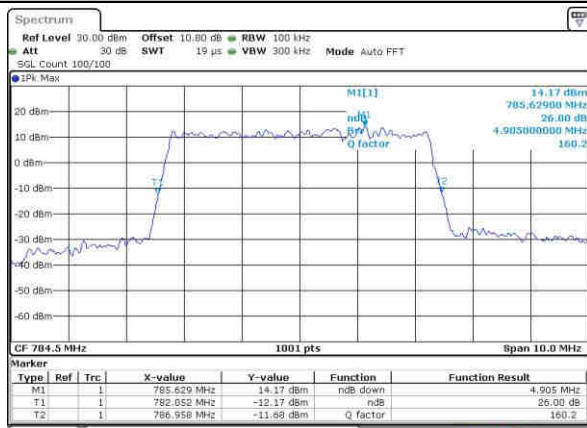
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



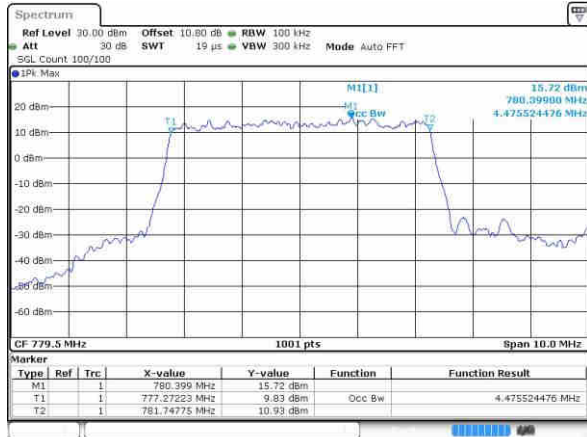
**Occupied Bandwidth**

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	-	-	-	-	4.48	4.49	-	-	-	-	-	-
Middle CH	-	-	-	-	4.5	4.49	8.99	9.01	-	-	-	-
Highest CH	-	-	-	-	4.51	4.48	-	-	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.48	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.50	-	9.03	-	-	-	-	-
Highest CH	-	-	-	-	4.50	-	-	-	-	-	-	-

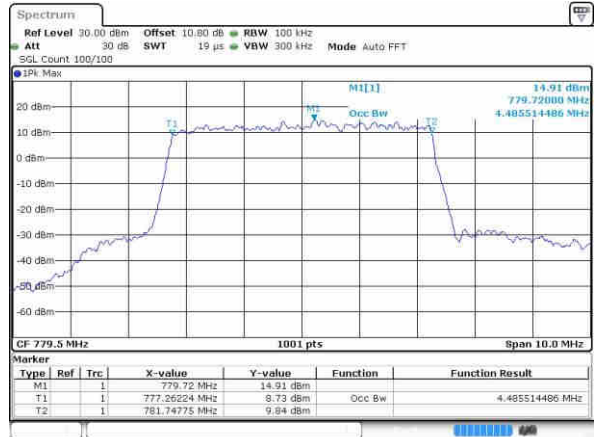


LTE Band 13

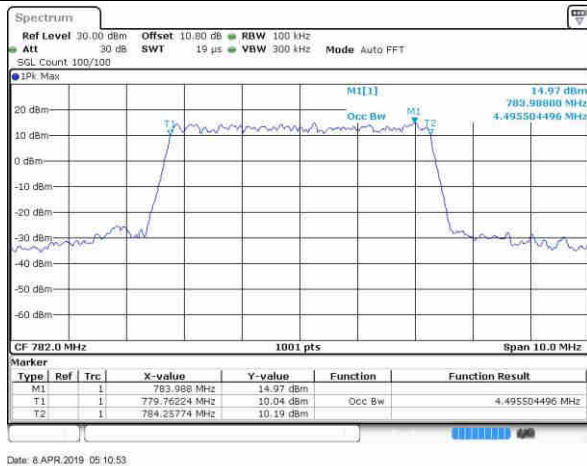
Lowest Channel / 5MHz / QPSK



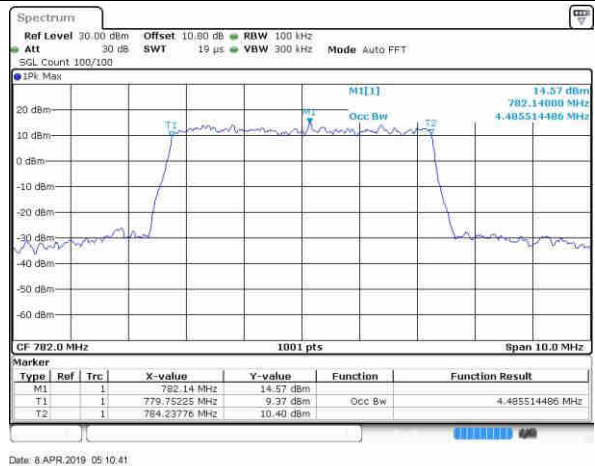
Lowest Channel / 5MHz / 16QAM



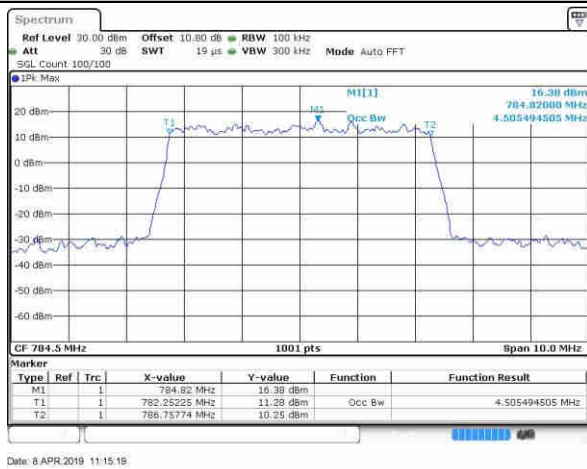
Middle Channel / 5MHz / QPSK



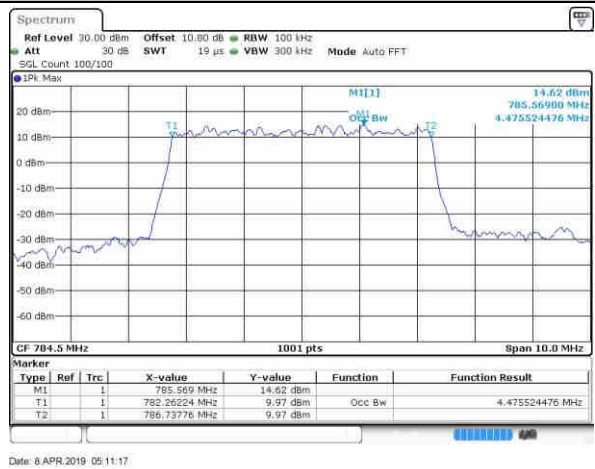
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



Highest Channel / 5MHz / 16QAM





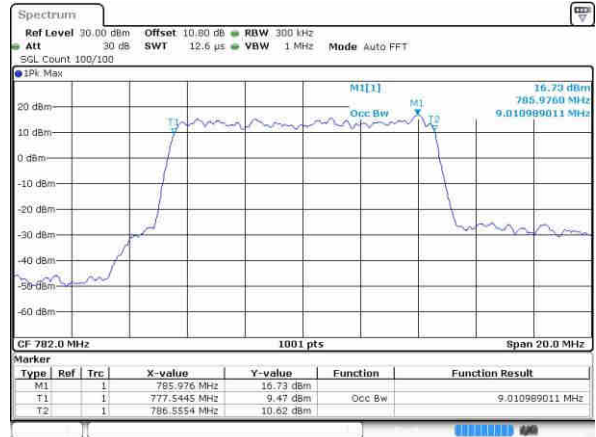
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 8 APR 2019 11:14:57

Middle Channel / 10MHz / 16QAM

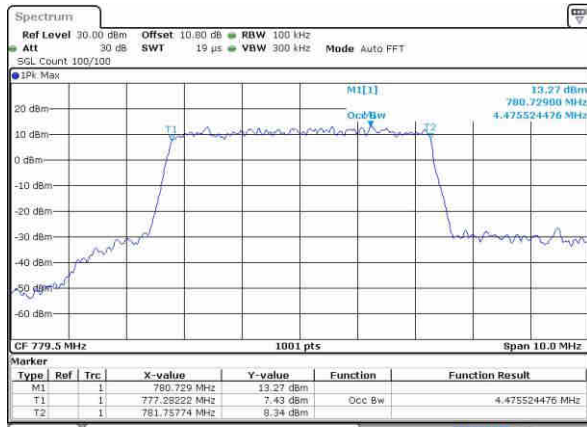


Date: 8 APR 2019 05:31:02



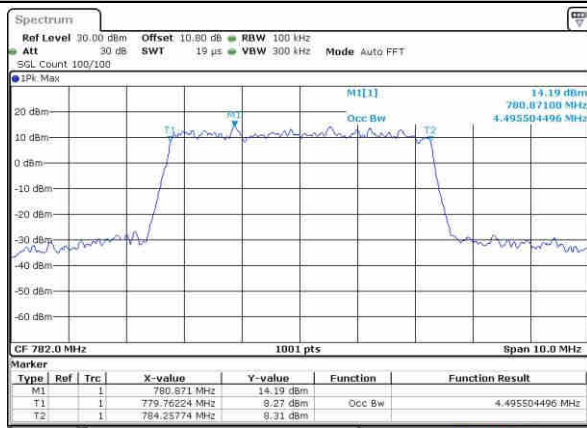
LTE Band 13

Lowest Channel / 5MHz / 64QAM



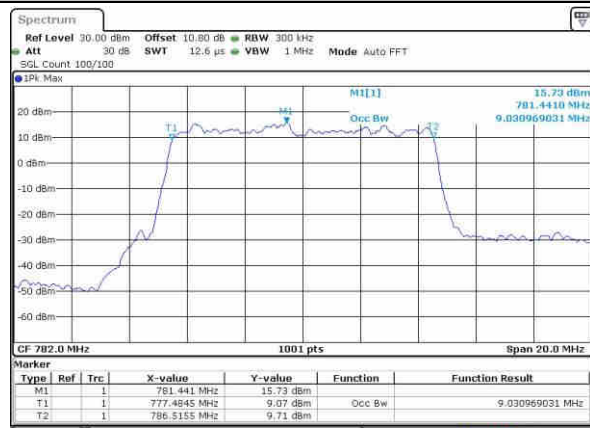
Date: 8 APR 2019 05:20:20

Middle Channel / 5MHz / 64QAM



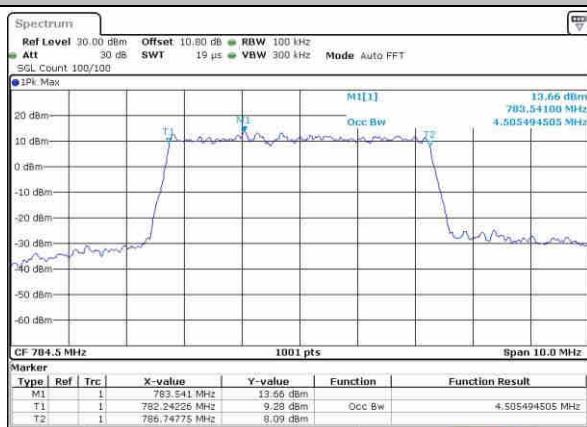
Date: 8 APR 2019 05:25:58

Middle Channel / 10MHz / 64QAM

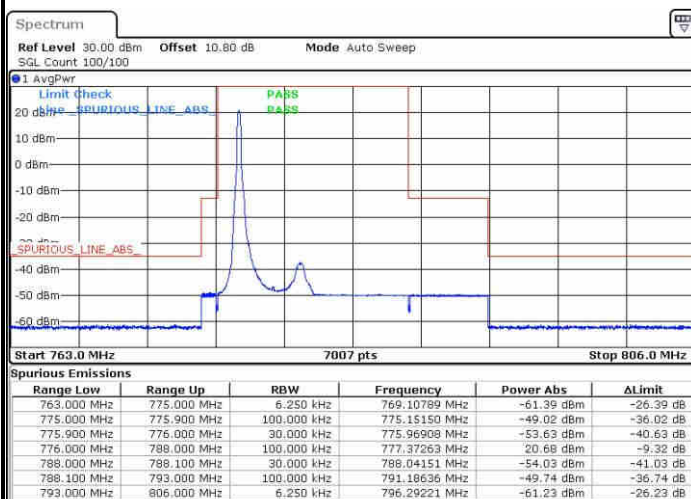


Date: 8 APR 2019 05:43:21

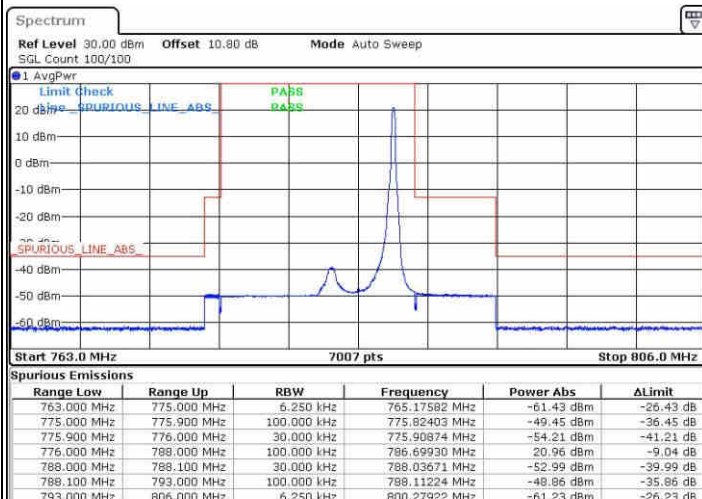
Highest Channel / 5MHz / 64QAM



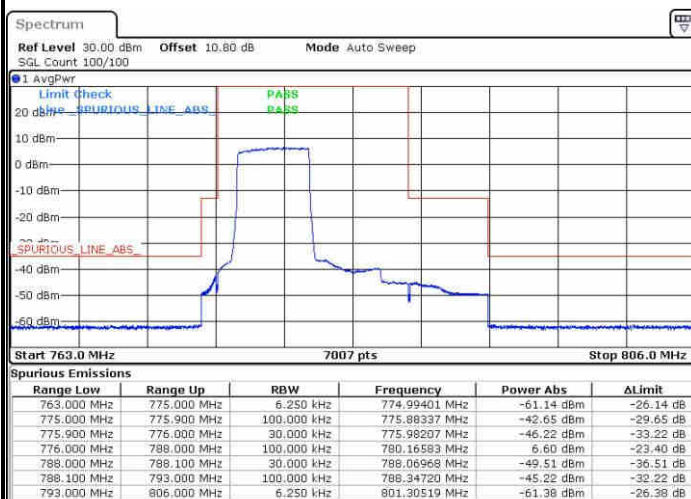
Date: 8 APR 2019 05:26:11

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

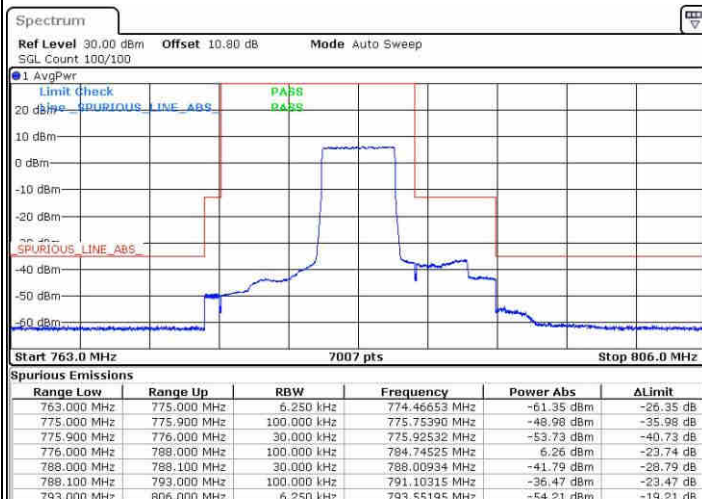
Date: 8 APR 2019 05:05:43

Highest Band Edge / 1 RB

Date: 8 APR 2019 05:18:25

Lowest Band Edge / Full RB

Date: 8 APR 2019 05:01:39

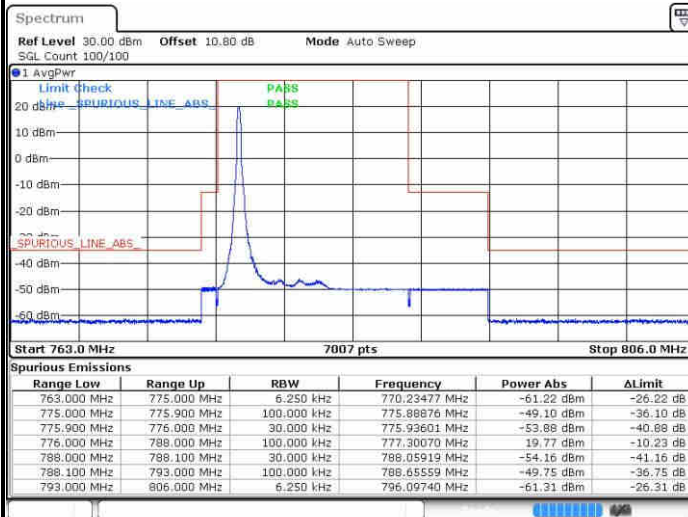
Highest Band Edge / Full RB

Date: 8 APR 2019 05:13:22

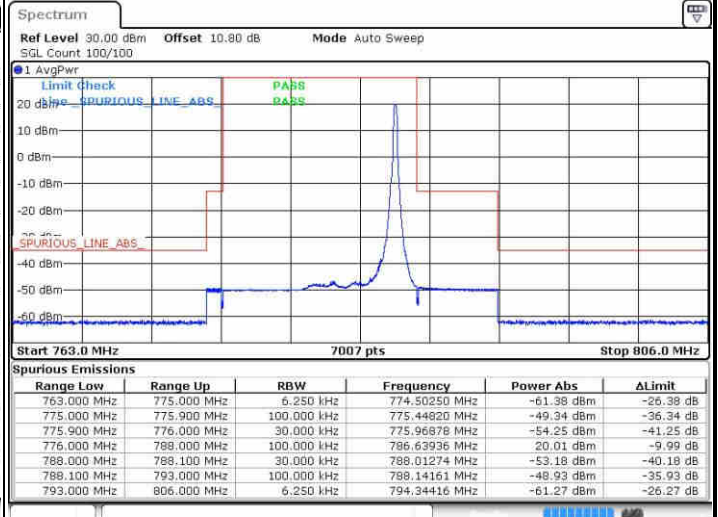


LTE Band 13 / 5MHz / 16QAM

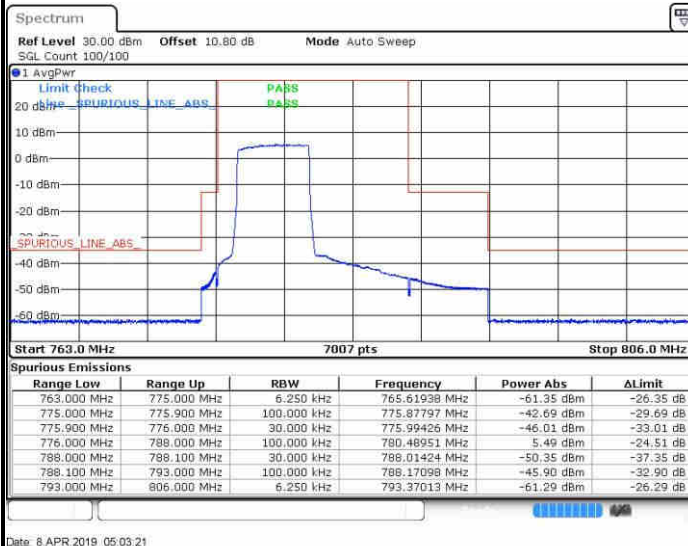
Lowest Band Edge / 1 RB



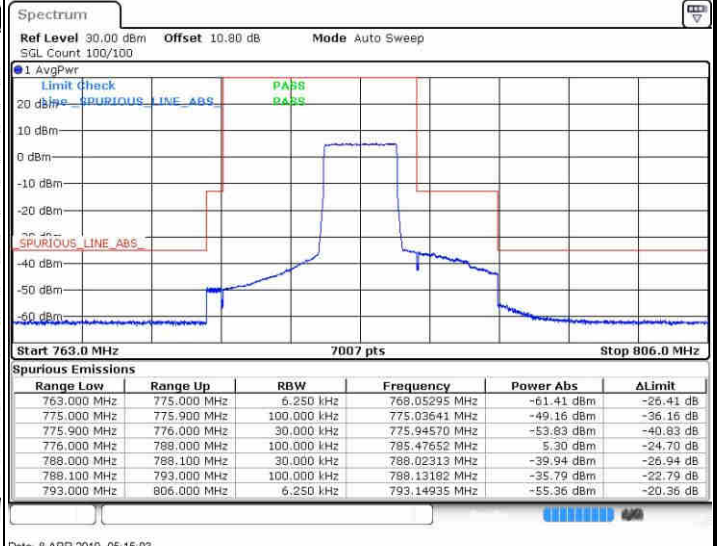
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



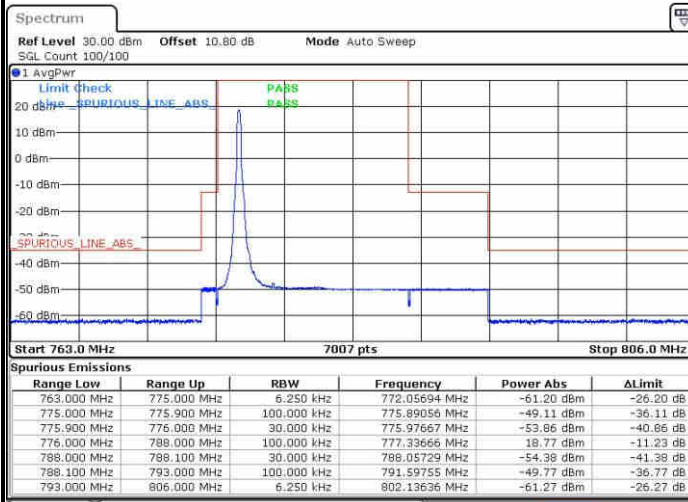
Highest Band Edge / Full RB



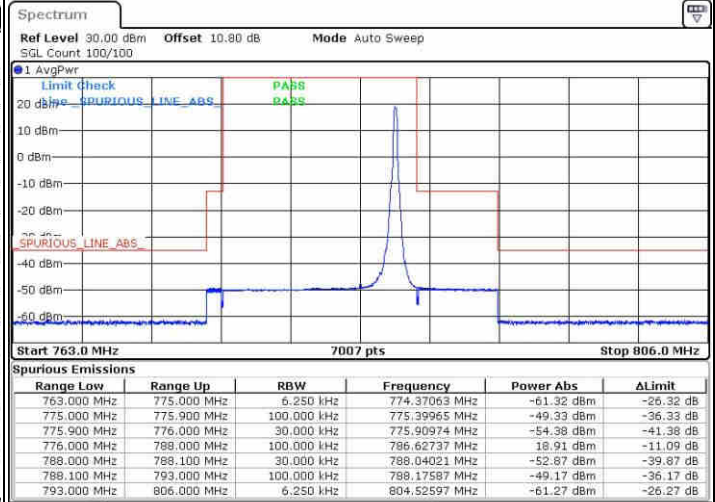


LTE Band 13 / 5MHz / 64QAM

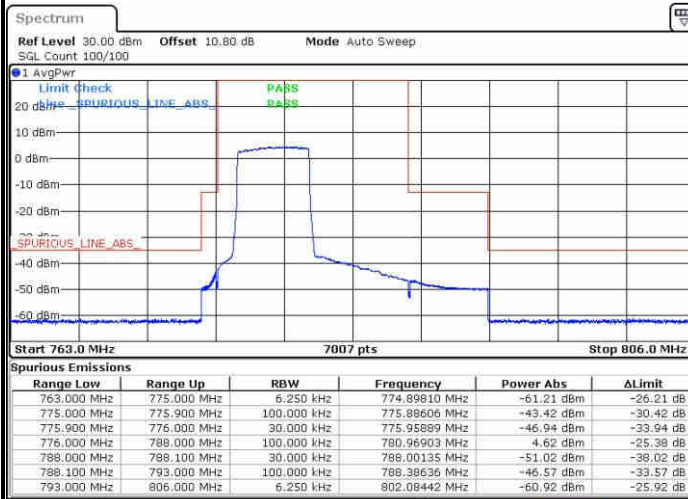
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



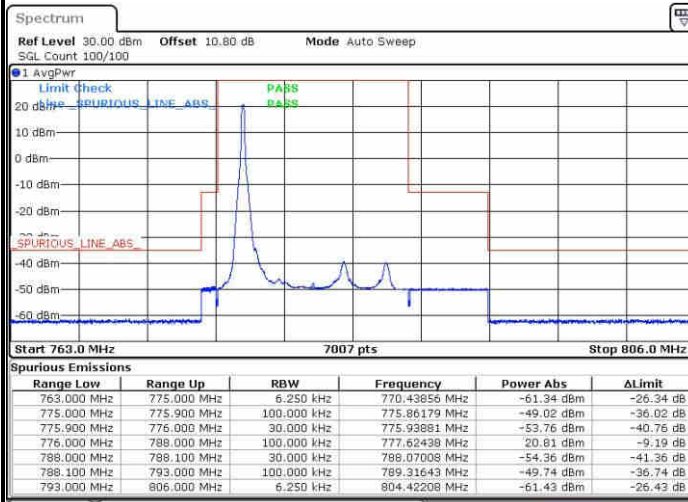
Highest Band Edge / Full RB



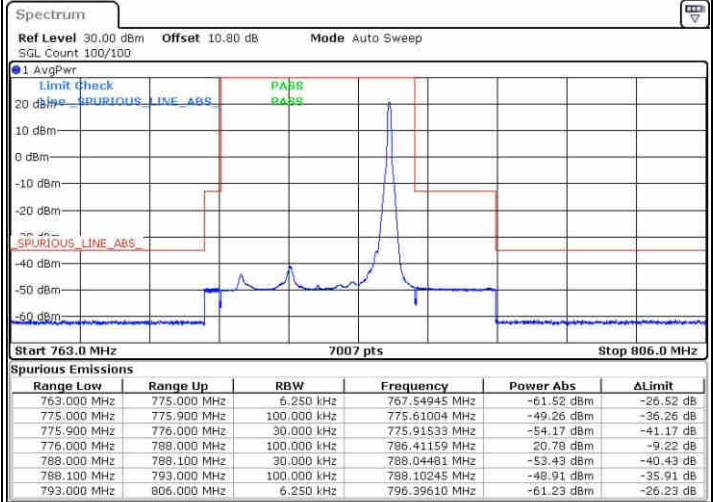


LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Band Edge / Full RB

