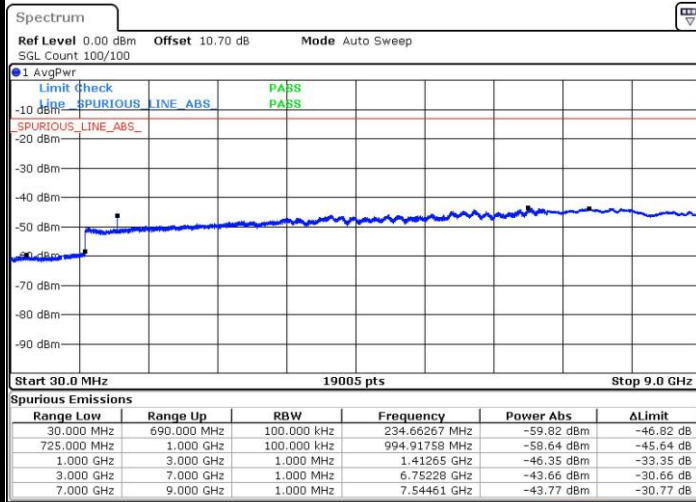




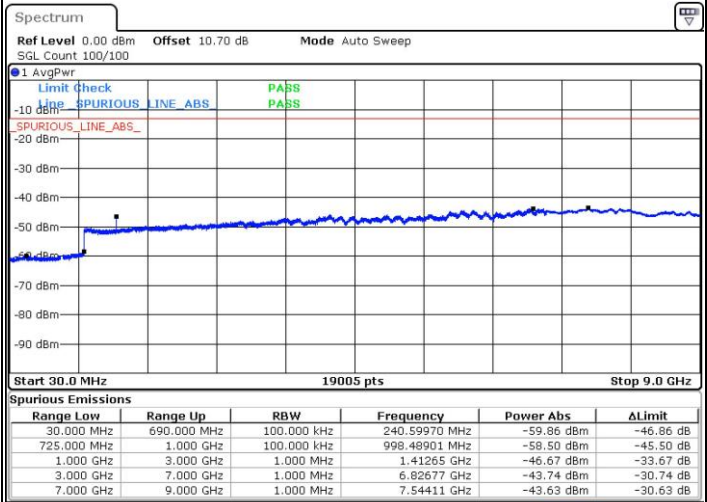
LTE Band 12 / 3MHz

Middle Channel / QPSK



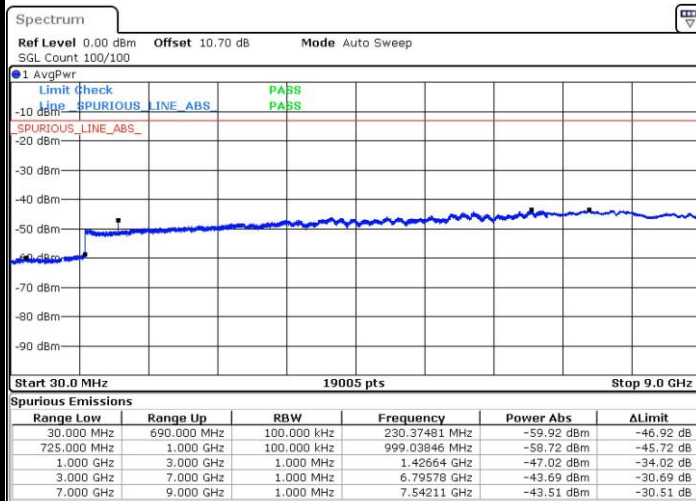
Date: 23 MAR 2019 16:16:00

Middle Channel / 16QAM



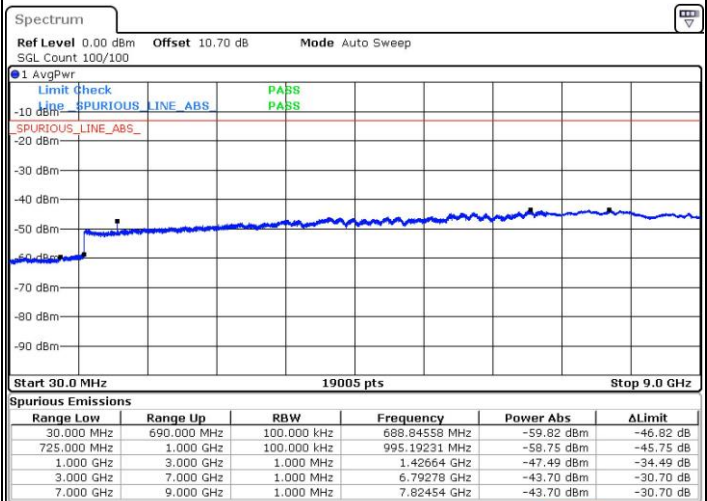
Date: 23 MAR 2019 16:15:09

Highest Channel / QPSK



Date: 23 MAR 2019 16:22:25

Highest Channel / 16QAM

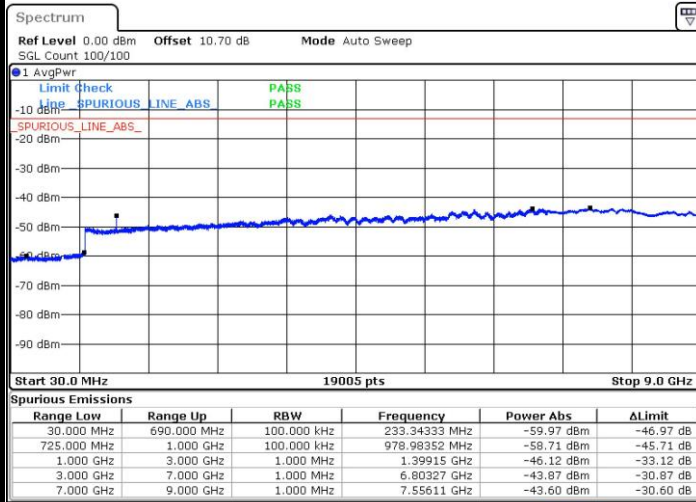


Date: 23 MAR 2019 16:23:16



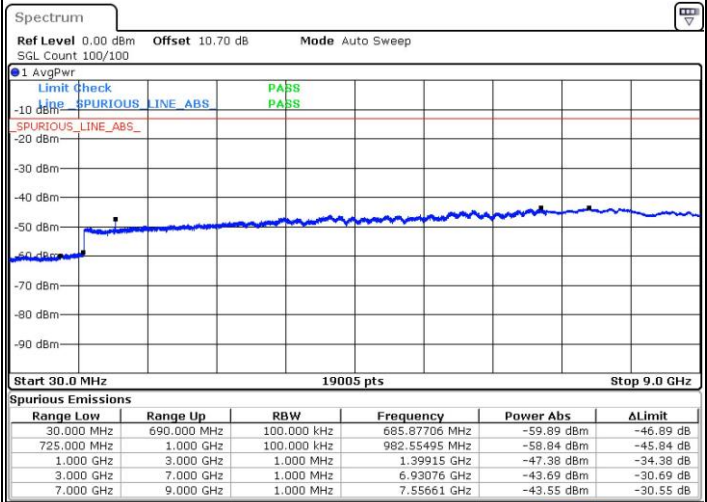
LTE Band 12 / 5MHz

Lowest Channel / QPSK



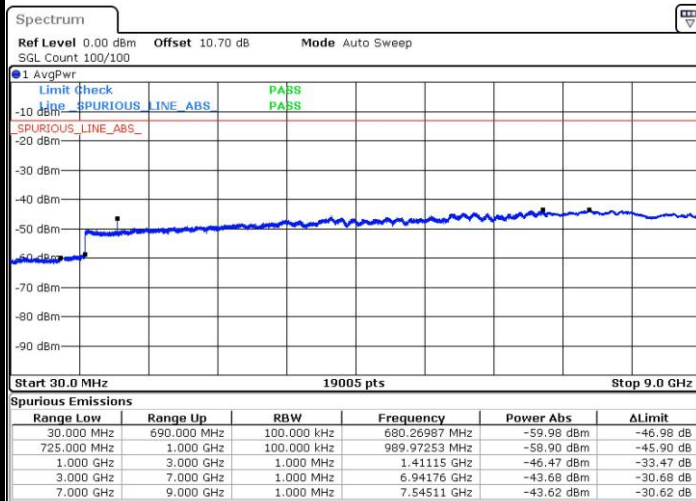
Date: 23 MAR 2019 16:29:41

Lowest Channel / 16QAM



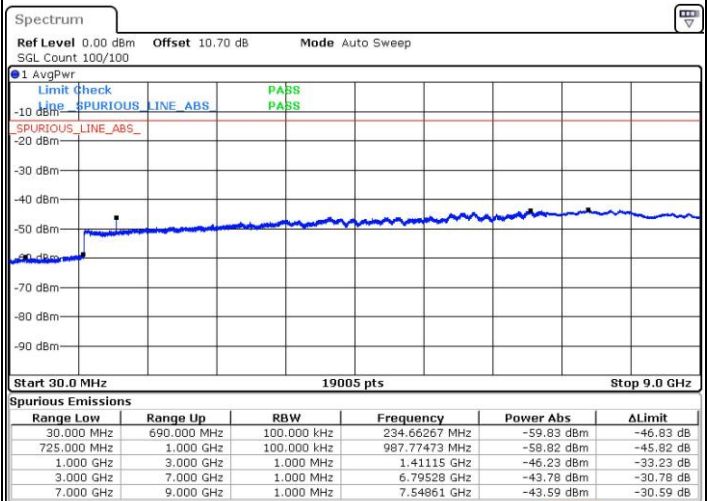
Date: 23 MAR 2019 16:30:33

Middle Channel / QPSK



Date: 23 MAR 2019 16:33:01

Middle Channel / 16QAM

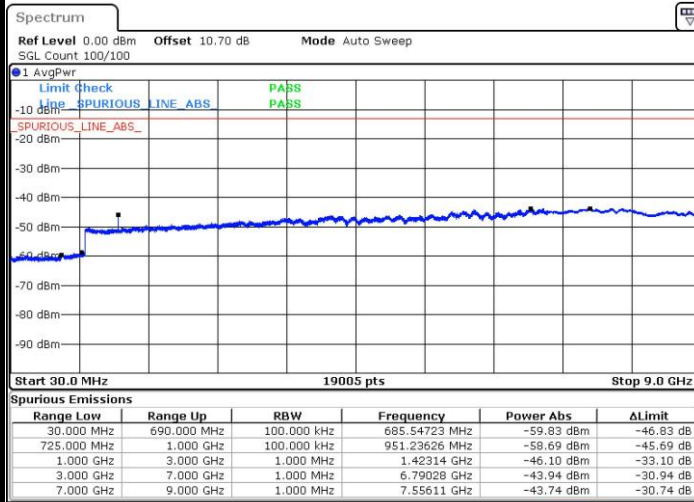


Date: 23 MAR 2019 16:32:11



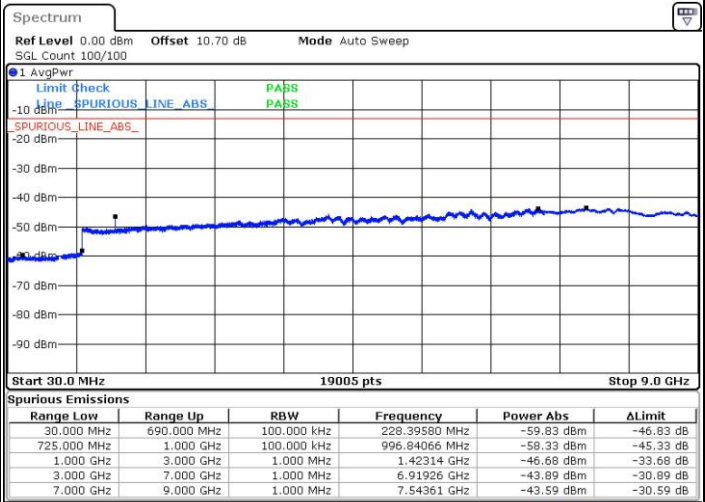
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 23 MAR 2019 16:49:25

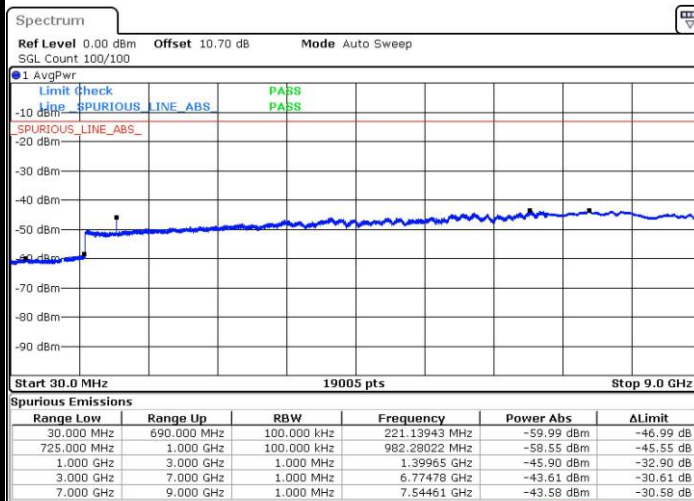
Highest Channel / 16QAM



Date: 23 MAR 2019 16:48:34

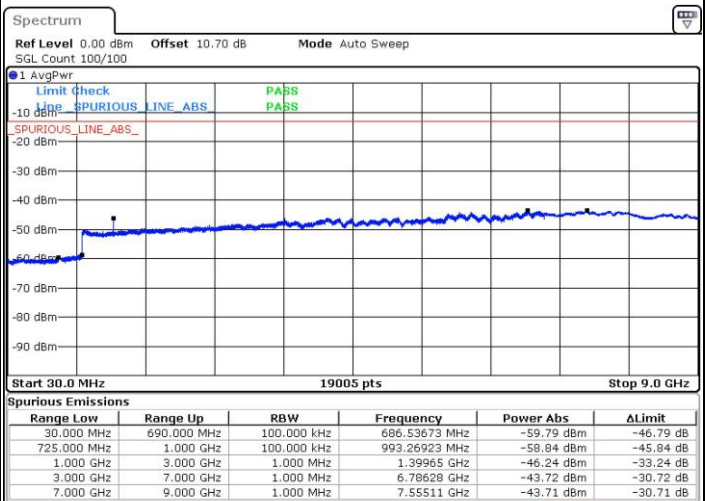
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 23 MAR 2019 16:55:51

Lowest Channel / 16QAM

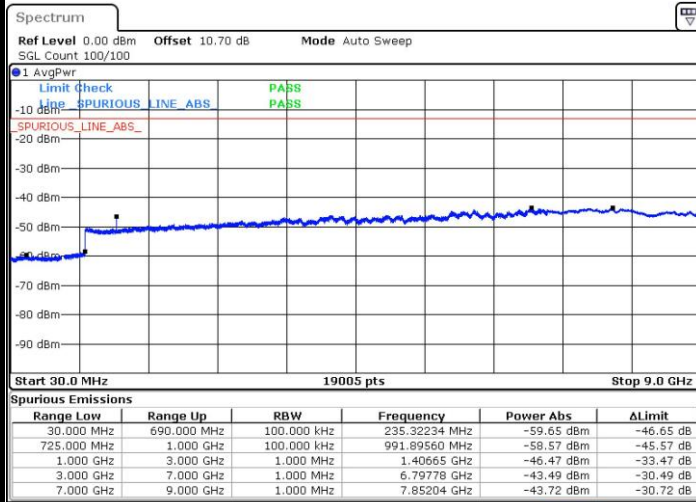


Date: 23 MAR 2019 16:56:42



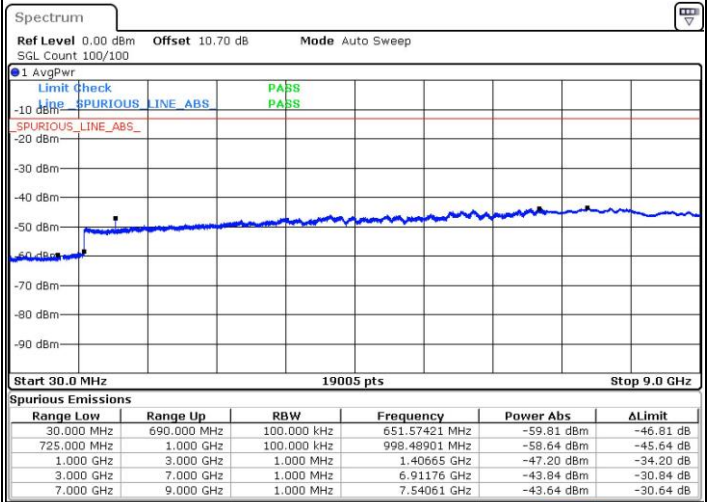
LTE Band 12 / 10MHz

Middle Channel / QPSK



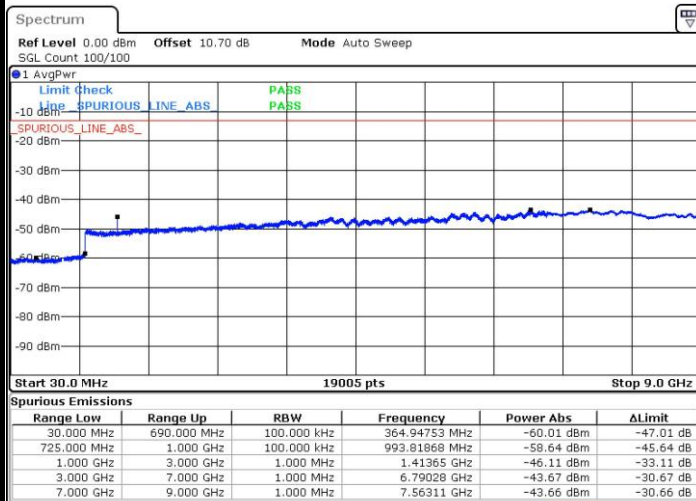
Date: 23 MAR 2019 16:59:10

Middle Channel / 16QAM



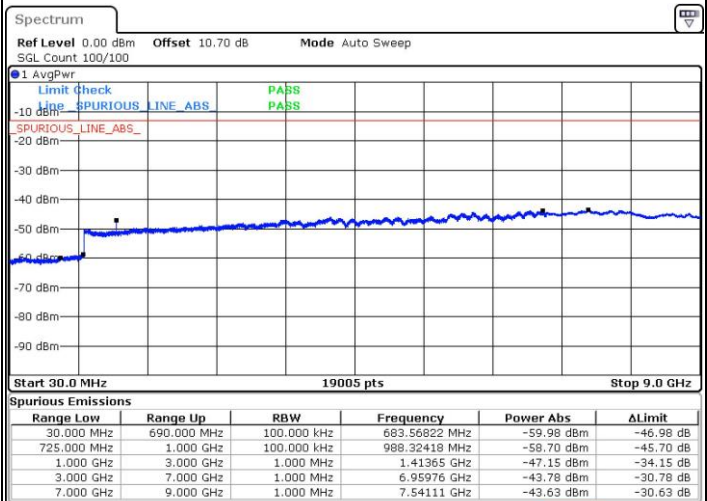
Date: 23 MAR 2019 16:58:20

Highest Channel / QPSK



Date: 23 MAR 2019 17:05:35

Highest Channel / 16QAM

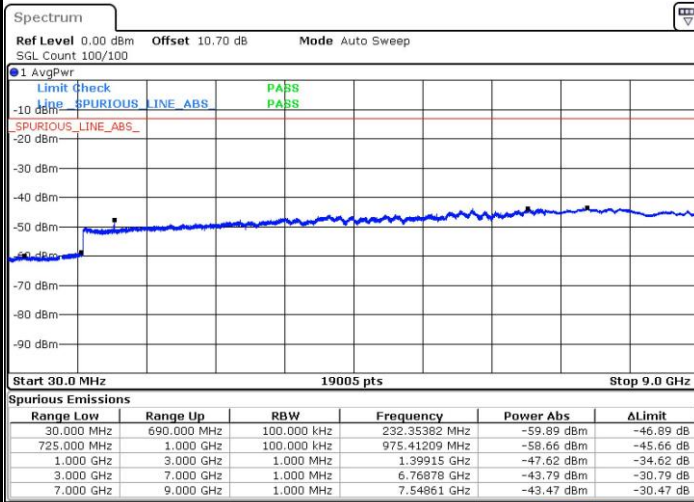


Date: 23 MAR 2019 17:06:26



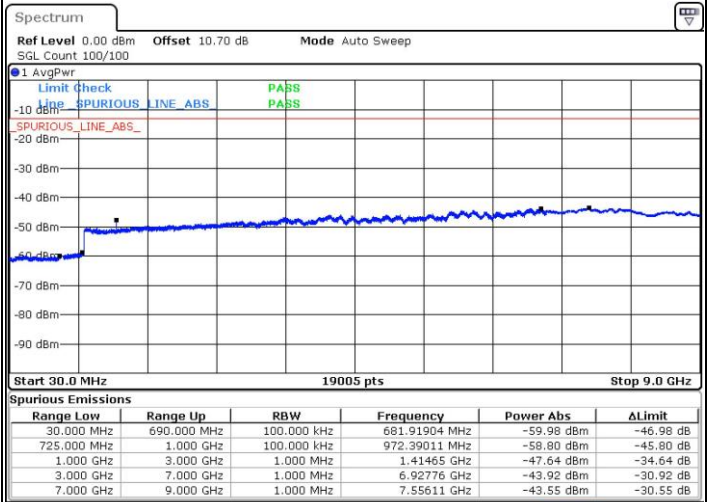
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM



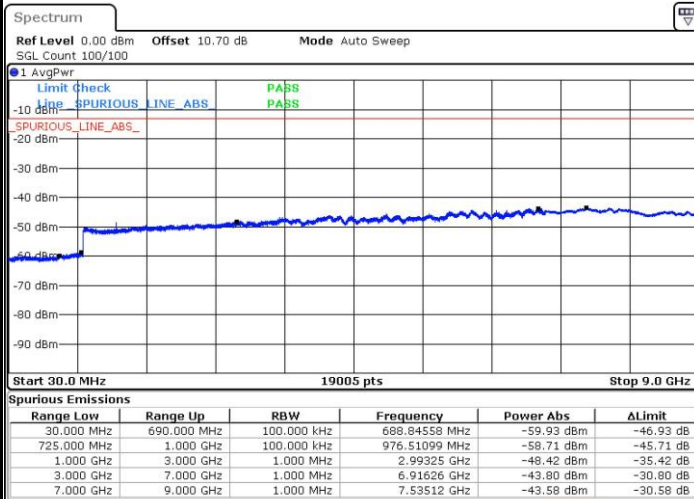
Date: 23 MAR 2019 18:26:41

Middle Channel / 64QAM



Date: 23 MAR 2019 18:27:55

Highest Channel / 64QAM

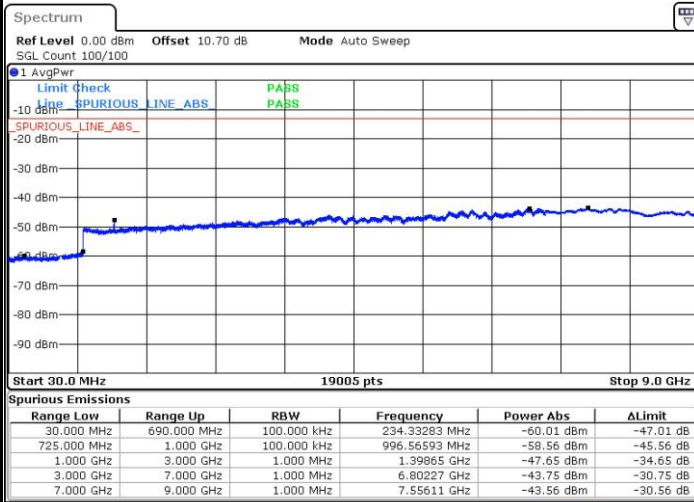


Date: 23 MAR 2019 18:31:33



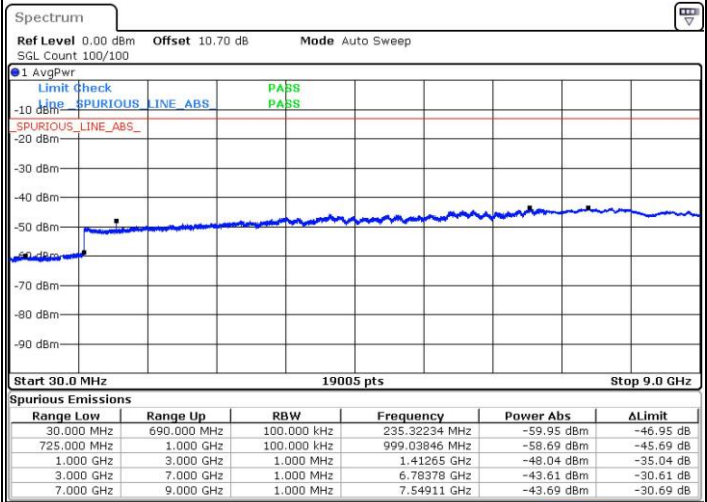
LTE Band 12 / 3MHz

Lowest Channel / 64QAM



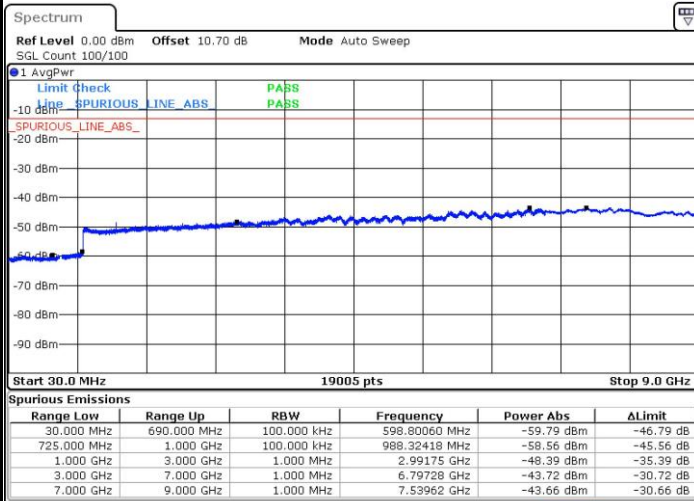
Date: 23 MAR 2019 18:01:10

Middle Channel / 64QAM



Date: 23 MAR 2019 18:02:25

Highest Channel / 64QAM

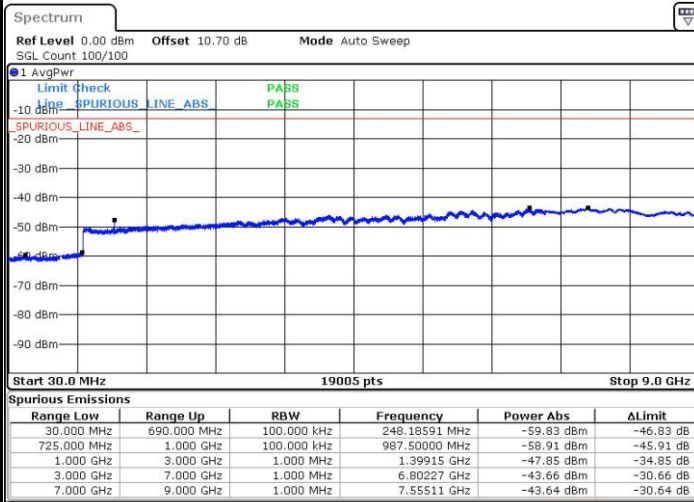


Date: 23 MAR 2019 18:06:03



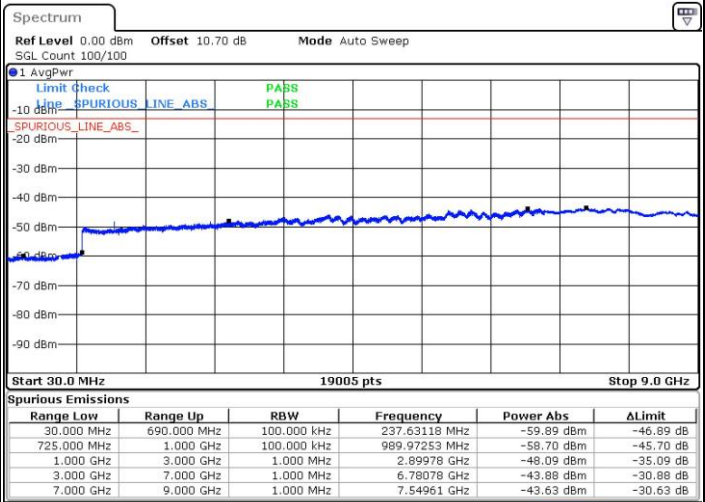
LTE Band 12 / 5MHz

Lowest Channel / 64QAM



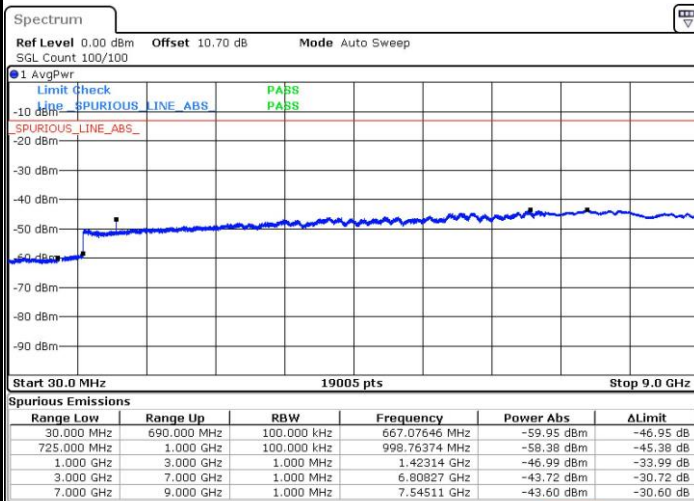
Date: 23 MAR 2019 18:09:41

Middle Channel / 64QAM



Date: 23 MAR 2019 18:10:55

Highest Channel / 64QAM

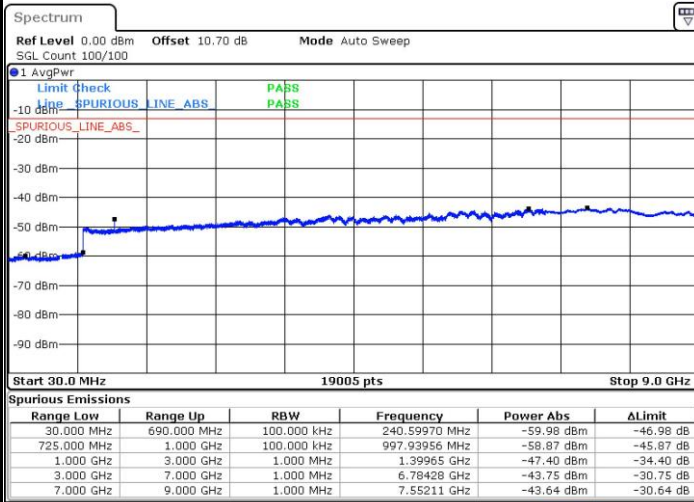


Date: 23 MAR 2019 18:14:33



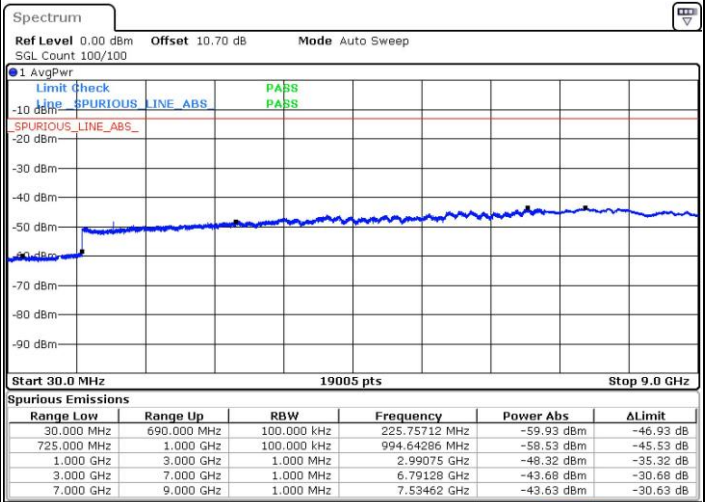
LTE Band 12 / 10MHz

Lowest Channel / 64QAM



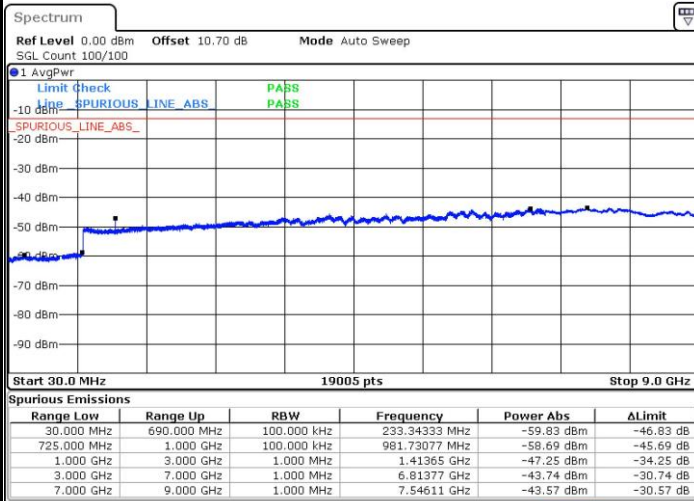
Date: 23 MAR 2019 18:18:11

Middle Channel / 64QAM



Date: 23 MAR 2019 18:19:25

Highest Channel / 64QAM



Date: 23 MAR 2019 18:23:03

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	0.0107	PASS
40	Normal Voltage	0.0033	
30	Normal Voltage	0.0020	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0023	
0	Normal Voltage	0.0017	
-10	Normal Voltage	0.0109	
-20	Normal Voltage	0.0037	
-30	Normal Voltage	0.0023	
20	Maximum Voltage	0.0010	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0126	

Note:

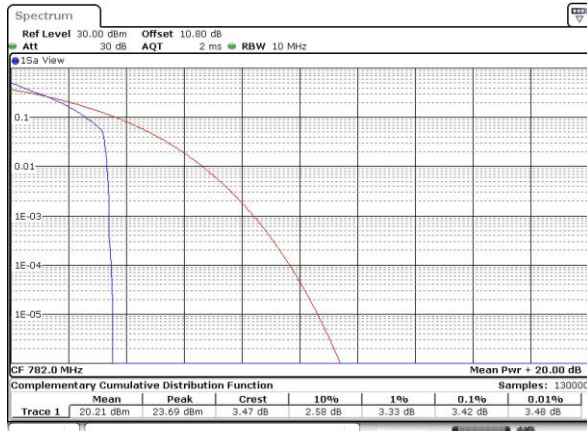
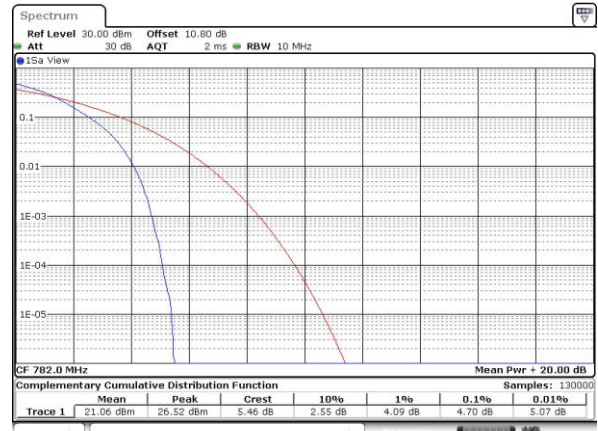
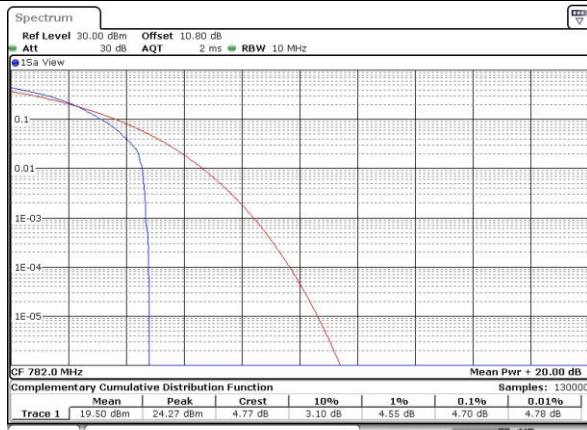
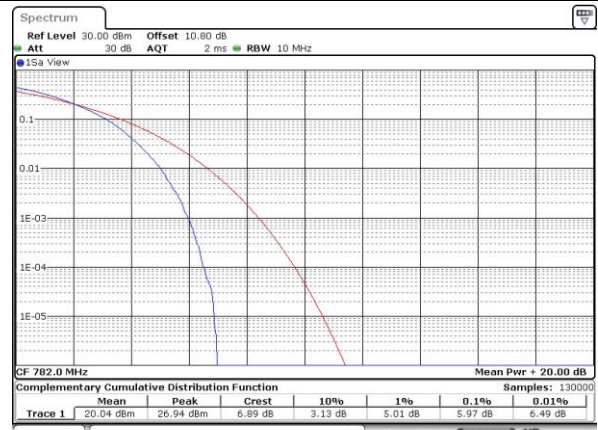
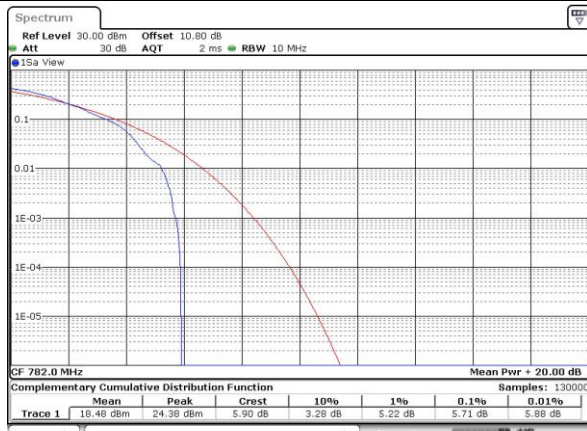
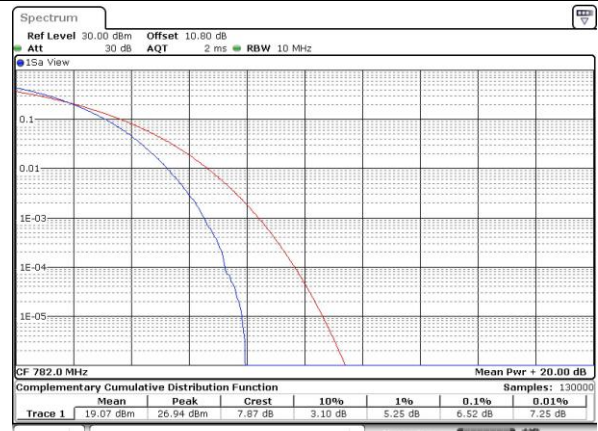
1. Normal Voltage =4.0 V. ; Battery End Point (BEP) =3.8 V. ; Maximum Voltage =4.2 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 13

Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.42	4.7	4.7	5.97	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	5.71	6.52	-	-	
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


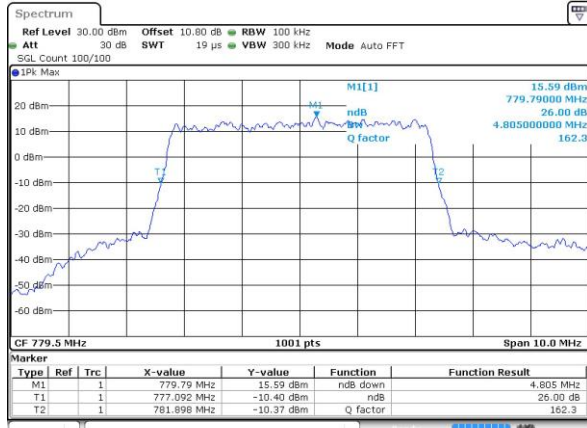
**26dB Bandwidth**

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	-	-	-	-	4.81	4.84	-	-	-	-	-	-
Middle CH	-	-	-	-	4.87	4.88	9.89	9.89	-	-	-	-
Highest CH	-	-	-	-	4.88	4.93	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.76	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.79	-	9.79	-	-	-	-	-
Highest CH	-	-	-	-	4.96	-	-	-	-	-	-	-



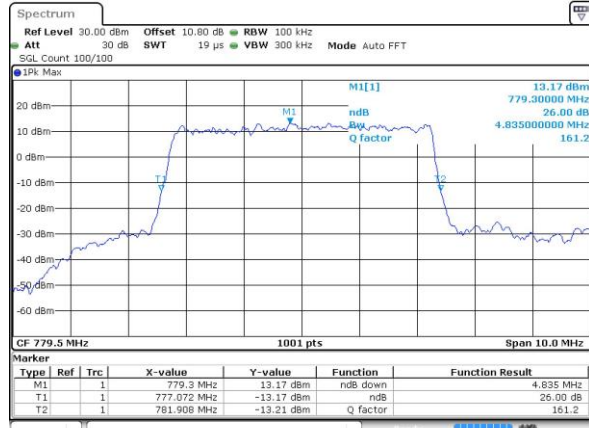
LTE Band 13

Lowest Channel / 5MHz / QPSK



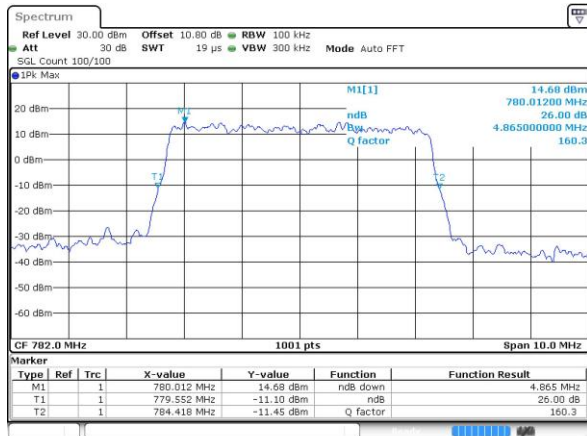
Date: 23 MAR 2019 14:14:33

Lowest Channel / 5MHz / 16QAM



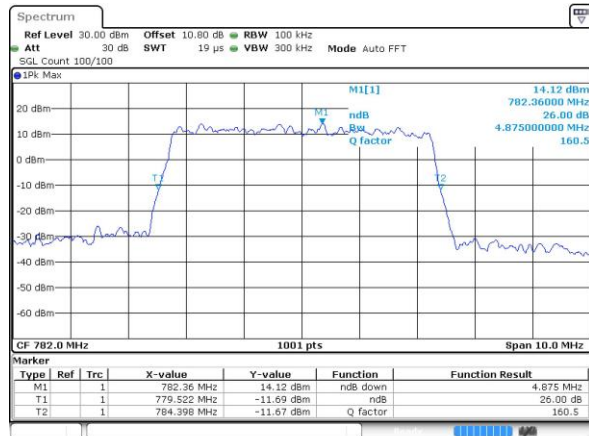
Date: 23 MAR 2019 14:14:21

Middle Channel / 5MHz / QPSK



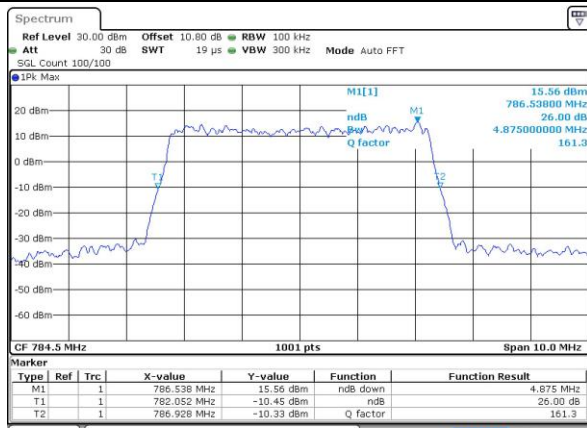
Date: 23 MAR 2019 14:24:53

Middle Channel / 5MHz / 16QAM



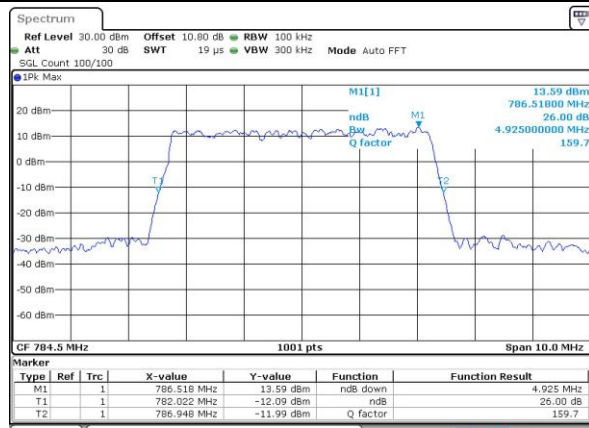
Date: 23 MAR 2019 14:25:05

Highest Channel / 5MHz / QPSK



Date: 23 MAR 2019 14:26:17

Highest Channel / 5MHz / 16QAM

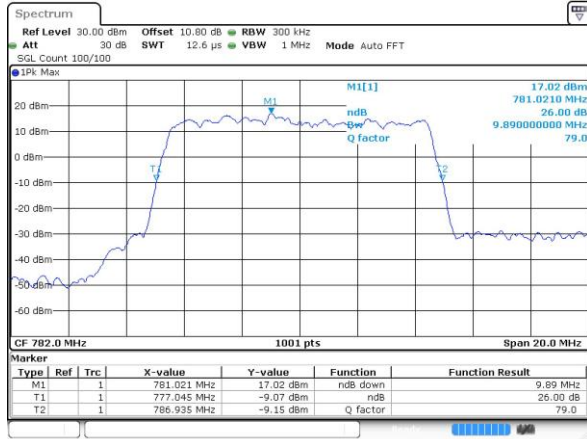


Date: 23 MAR 2019 14:26:05

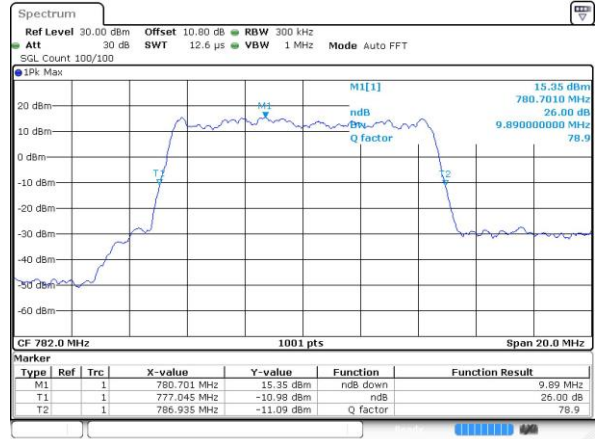


LTE Band 13

Middle Channel / 10MHz / QPSK



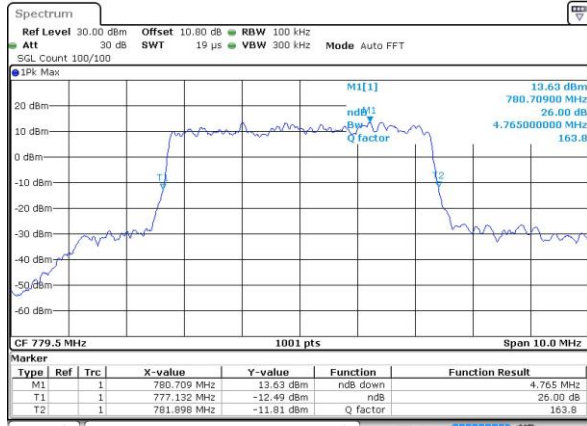
Middle Channel / 10MHz / 16QAM



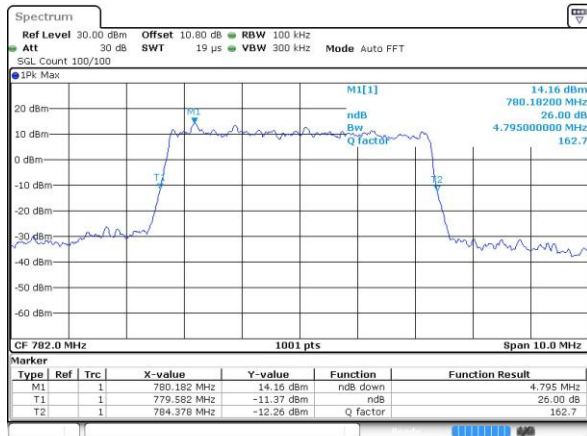


LTE Band 13

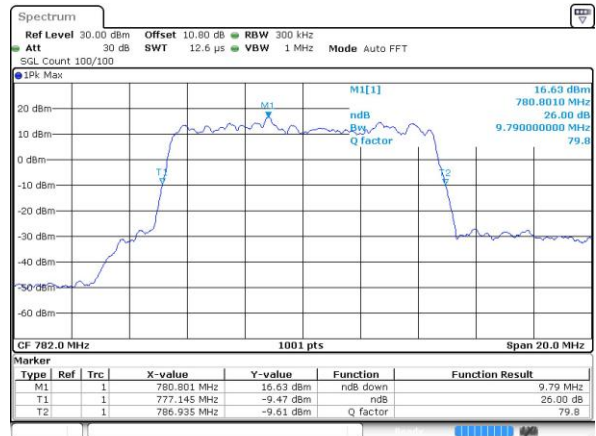
Lowest Channel / 5MHz / 64QAM



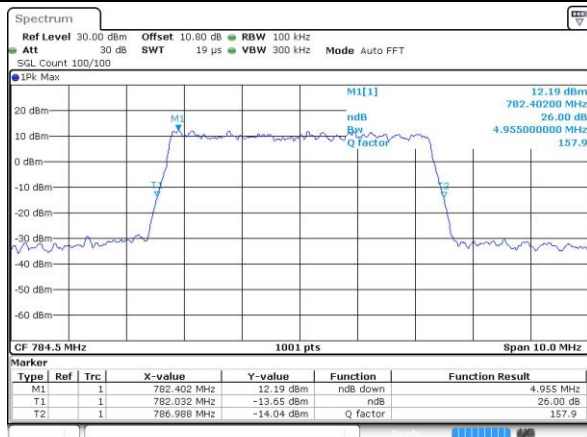
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



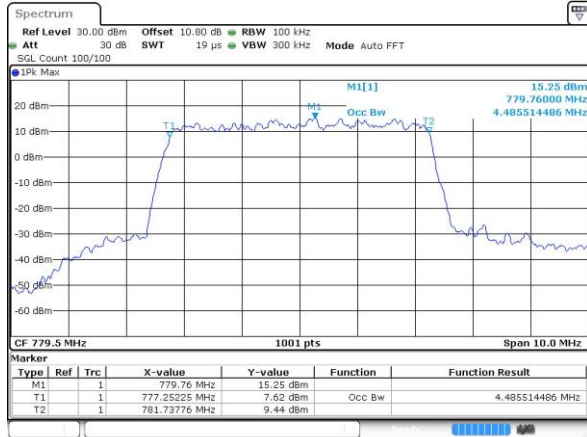
**Occupied Bandwidth**

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	4.5	-	-	-	-	-	-
Middle CH	-	-	-	-	4.48	4.48	9.07	8.97	-	-	-	-
Highest CH	-	-	-	-	4.5	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	-	-	-	-	4.50	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.48	-	9.01	-	-	-	-	-
Highest CH	-	-	-	-	4.49	-	-	-	-	-	-	-

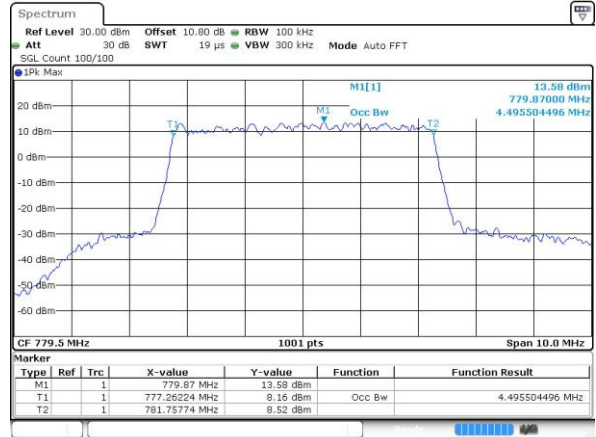


LTE Band 13

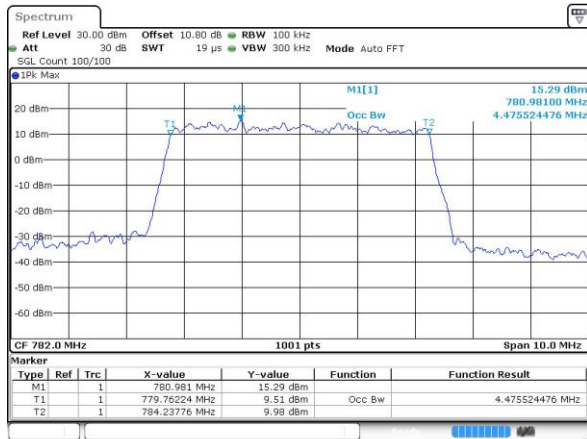
Lowest Channel / 5MHz / QPSK



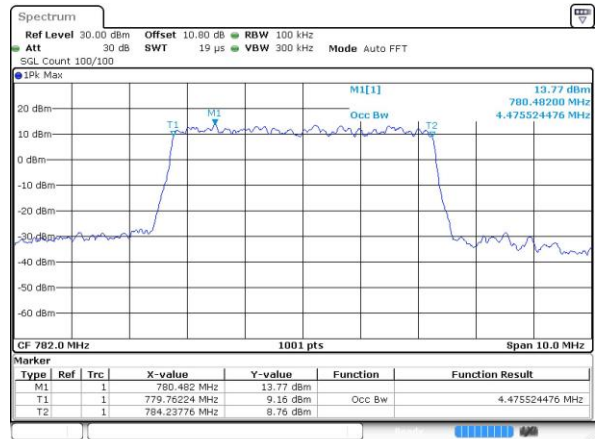
Lowest Channel / 5MHz / 16QAM



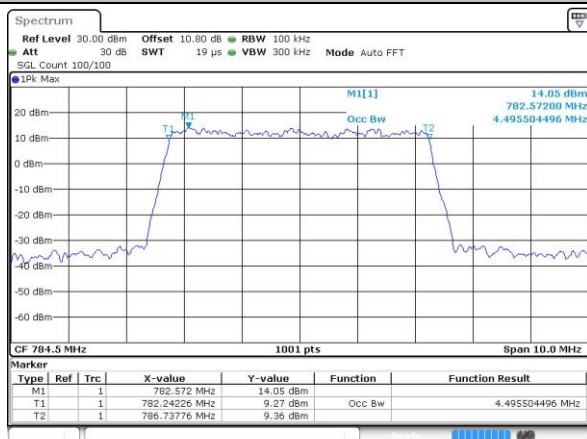
Middle Channel / 5MHz / QPSK



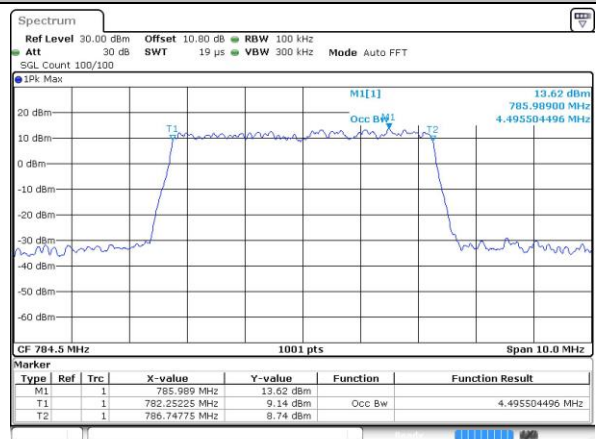
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



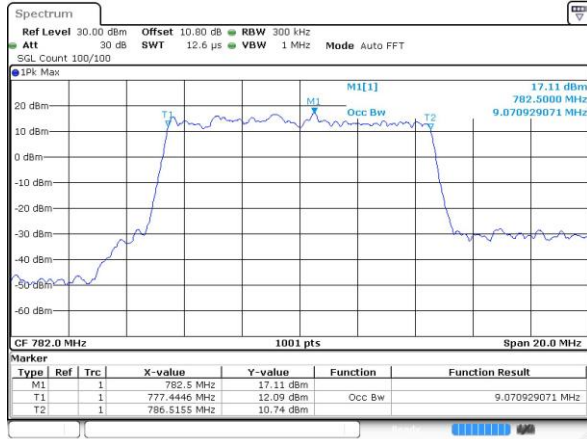
Highest Channel / 5MHz / 16QAM





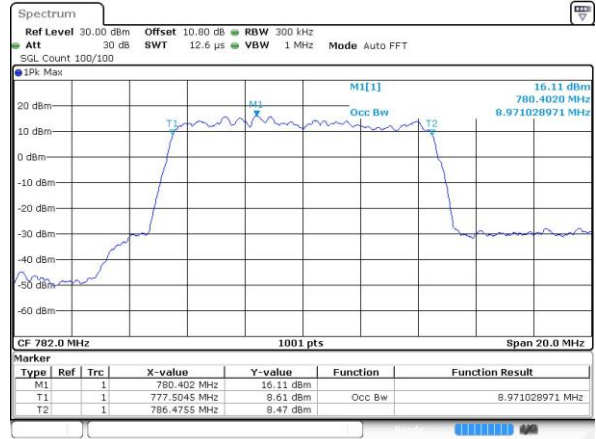
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 23 MAR 2019 14:45:28

Middle Channel / 10MHz / 16QAM

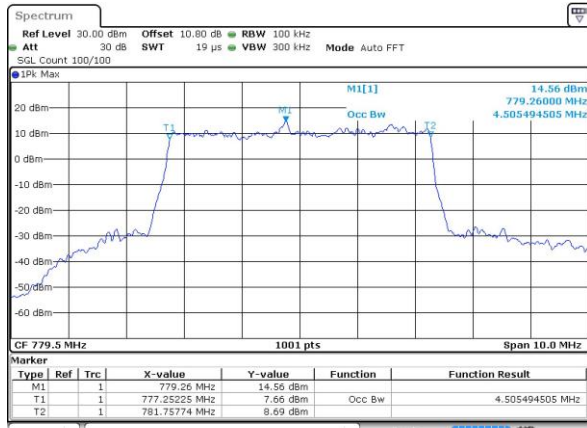


Date: 23 MAR 2019 14:45:40



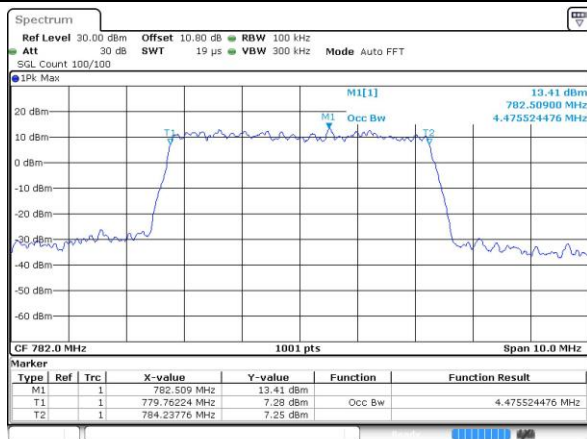
LTE Band 13

Lowest Channel / 5MHz / 64QAM



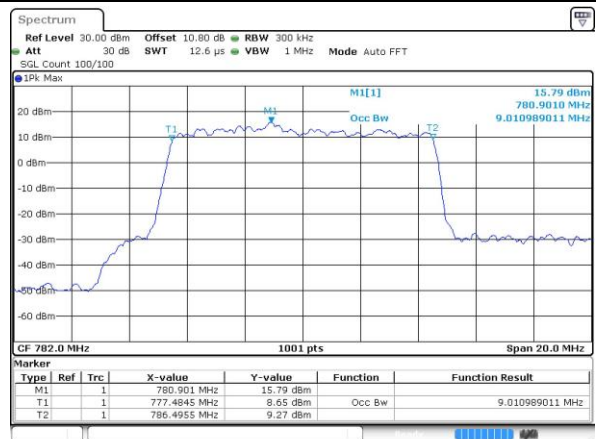
Date: 23 MAR 2019 14:34:57

Middle Channel / 5MHz / 64QAM



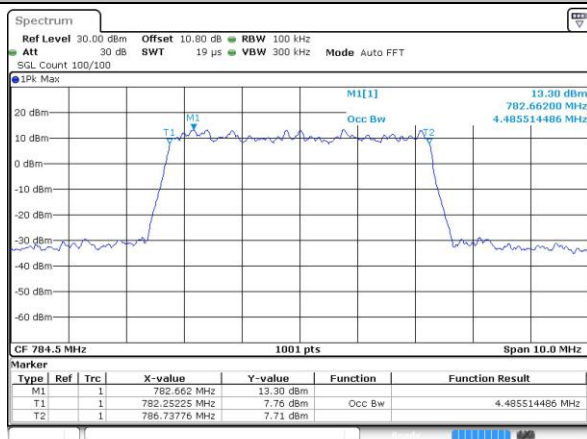
Date: 23 MAR 2019 14:40:37

Middle Channel / 10MHz / 64QAM

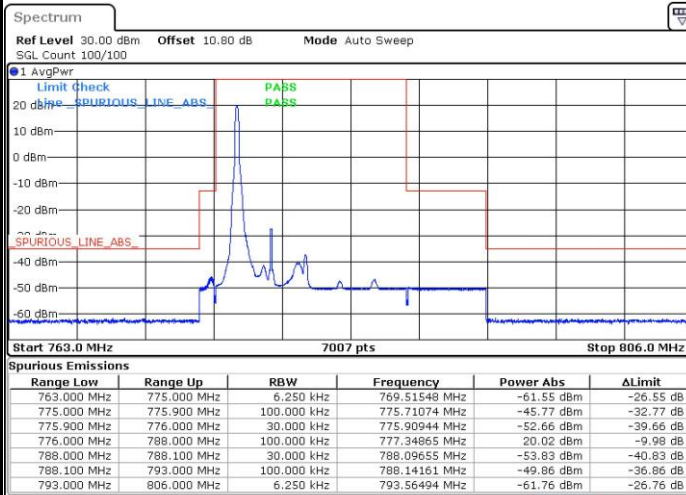
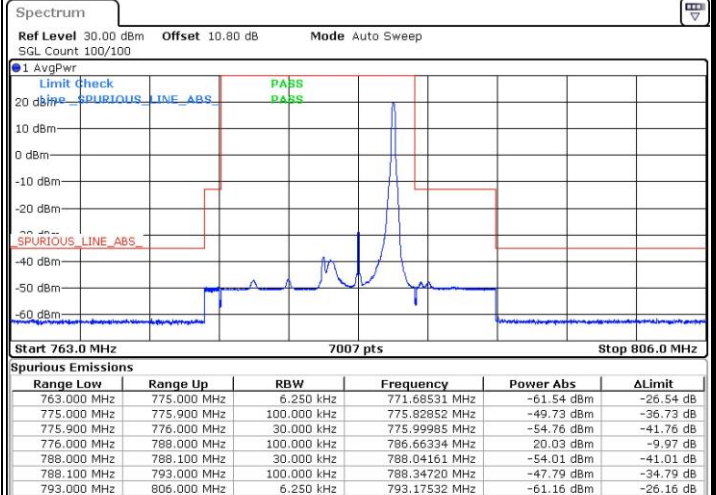
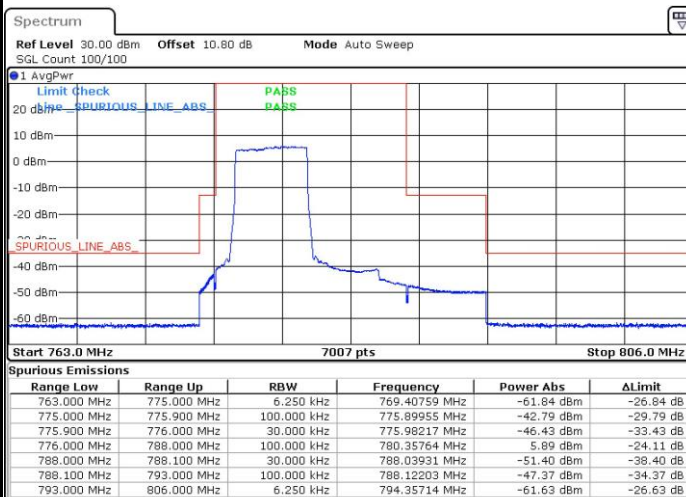
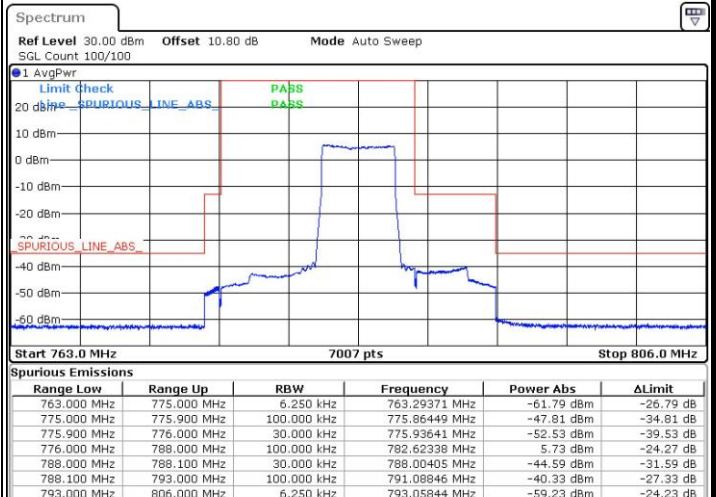


Date: 23 MAR 2019 14:58:00

Highest Channel / 5MHz / 64QAM



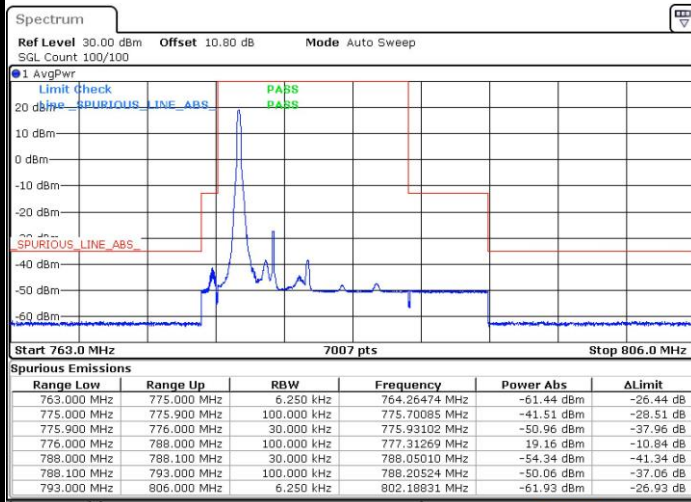
Date: 23 MAR 2019 14:40:49

**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**



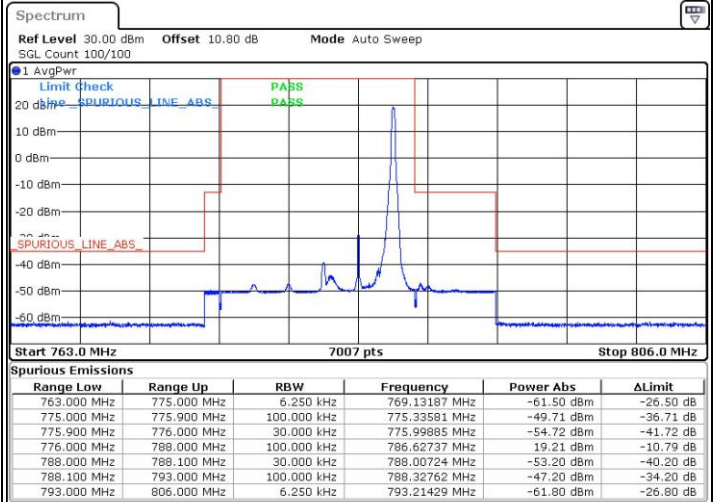
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



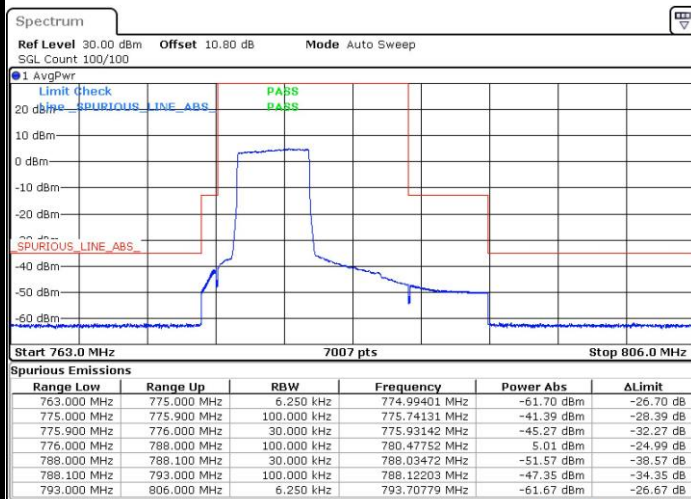
Date: 23 MAR 2019 14:19:36

Highest Band Edge / 1 RB



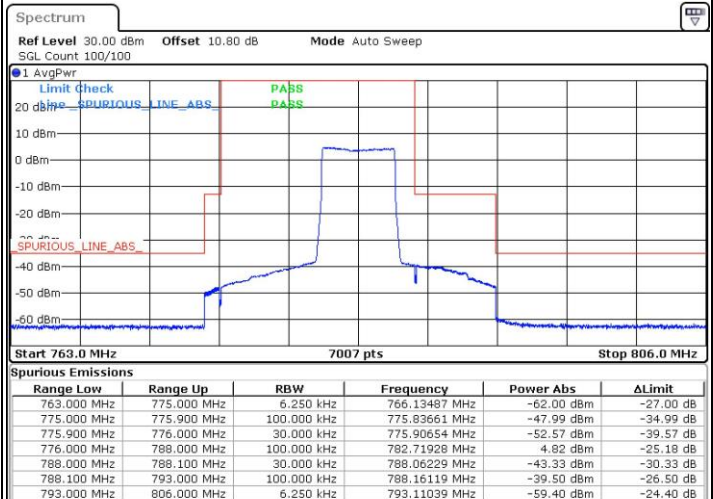
Date: 23 MAR 2019 14:31:21

Lowest Band Edge / Full RB



Date: 23 MAR 2019 14:17:55

Highest Band Edge / Full RB

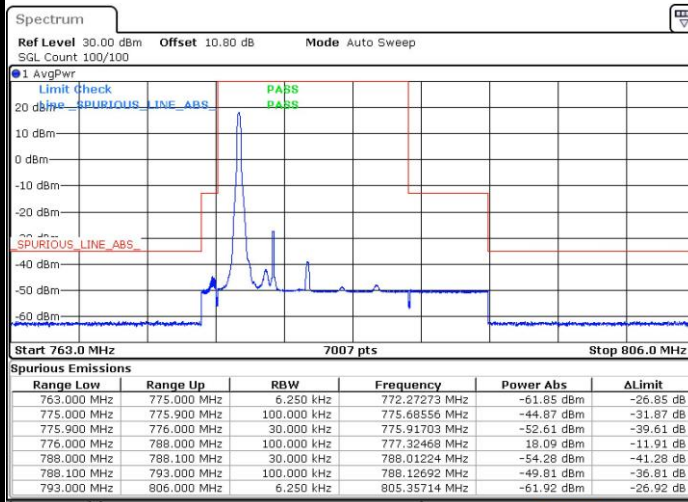


Date: 23 MAR 2019 14:29:39



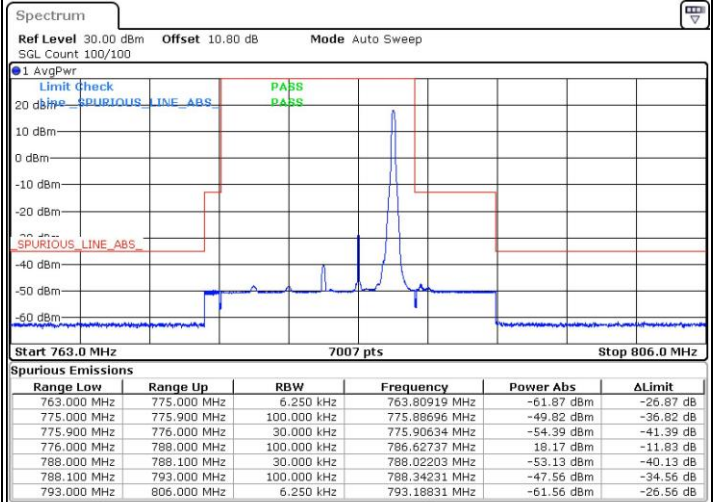
LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB



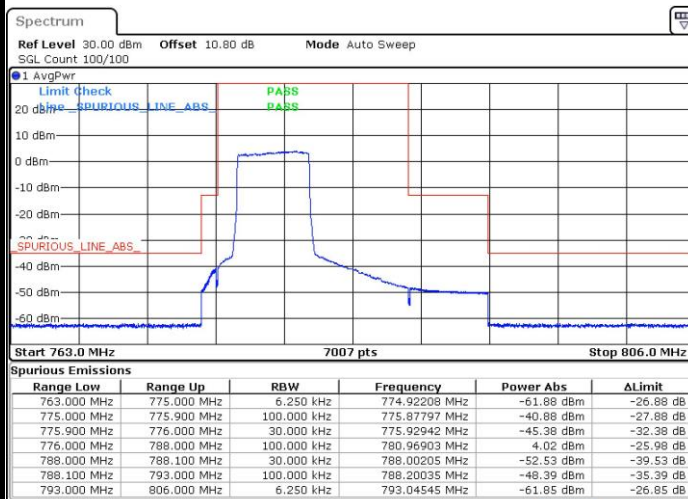
Date: 23 MAR 2019 14:38:32

Highest Band Edge / 1 RB



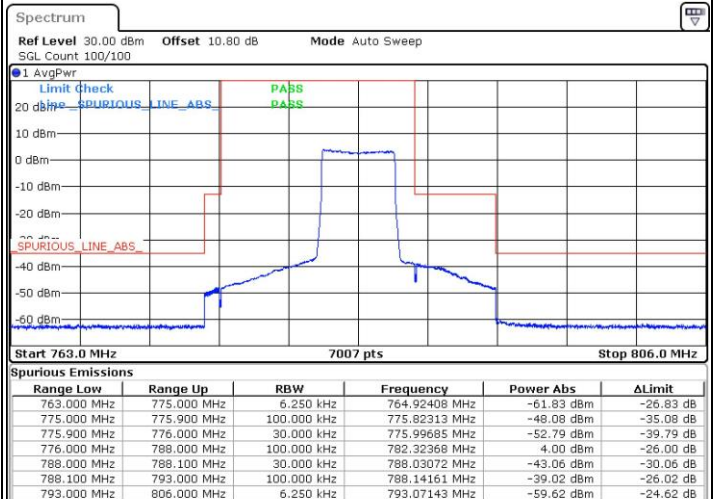
Date: 23 MAR 2019 14:44:24

Lowest Band Edge / Full RB



Date: 23 MAR 2019 14:36:50

Highest Band Edge / Full RB

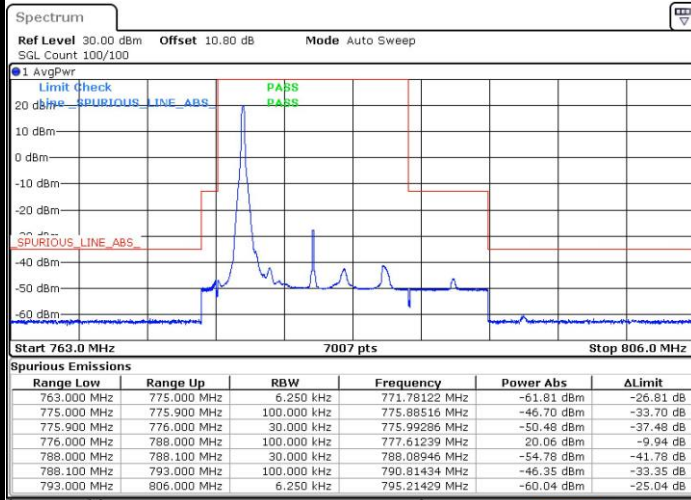


Date: 23 MAR 2019 14:42:42



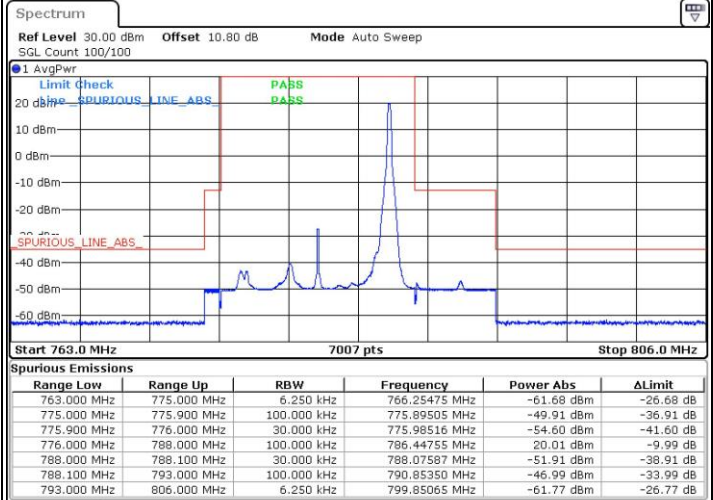
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



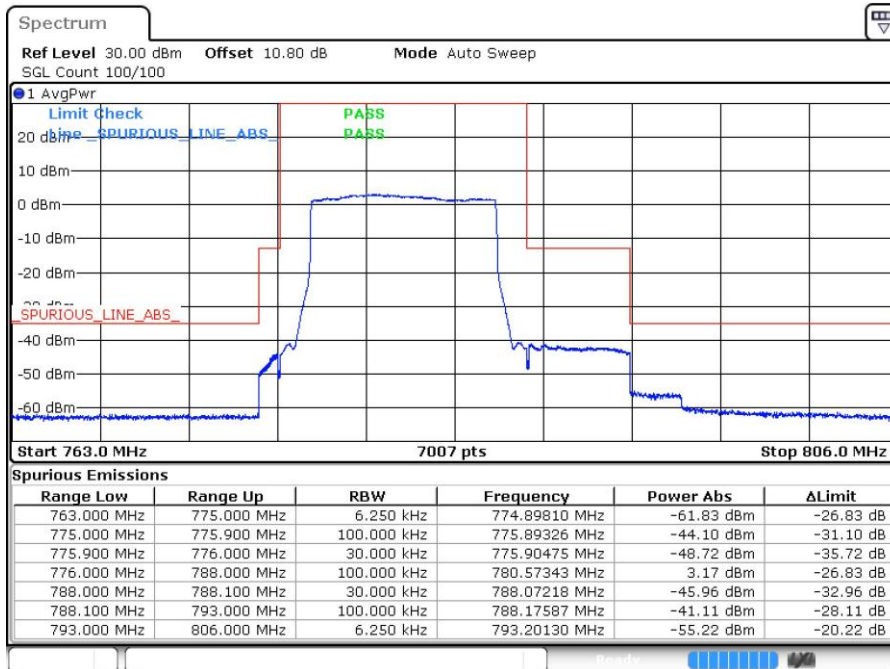
Date: 23.MAR.2019 14:52:45

Highest Band Edge / 1 RB



Date: 23.MAR.2019 14:54:26

Band Edge / Full RB

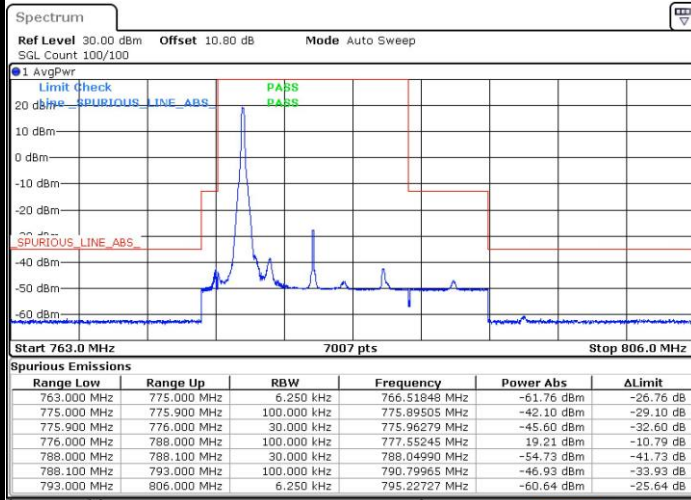


Date: 23.MAR.2019 14:47:43



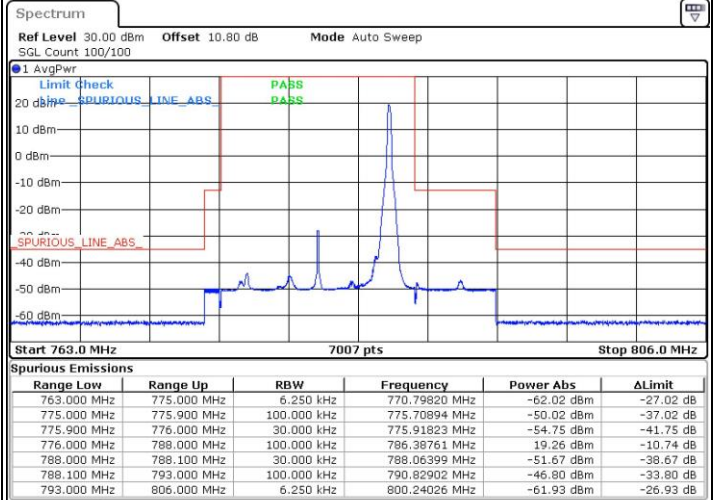
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



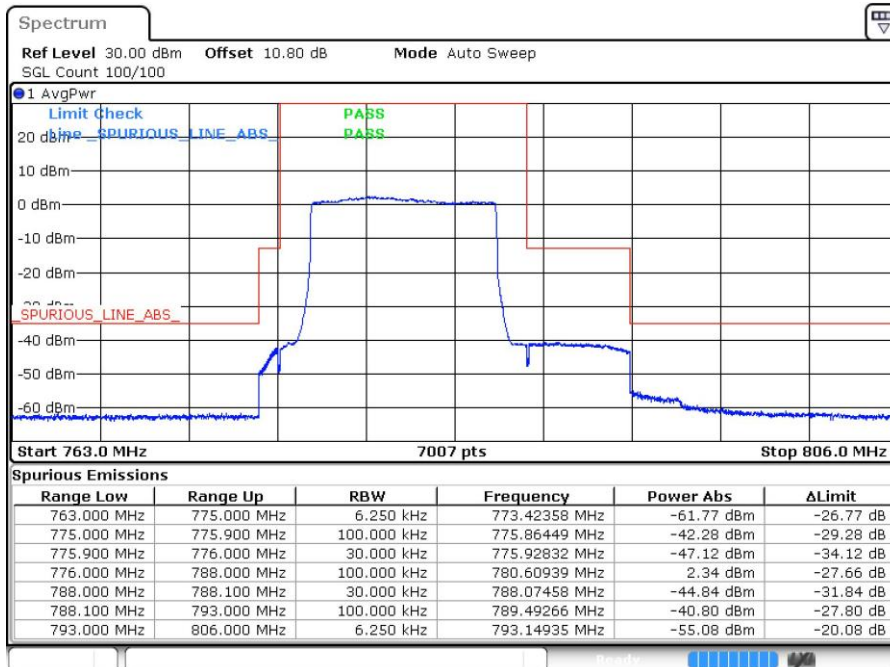
Date: 23.MAR.2019 14:51:05

Highest Band Edge / 1 RB



Date: 23.MAR.2019 14:56:07

Band Edge / Full RB



Date: 23.MAR.2019 14:49:24