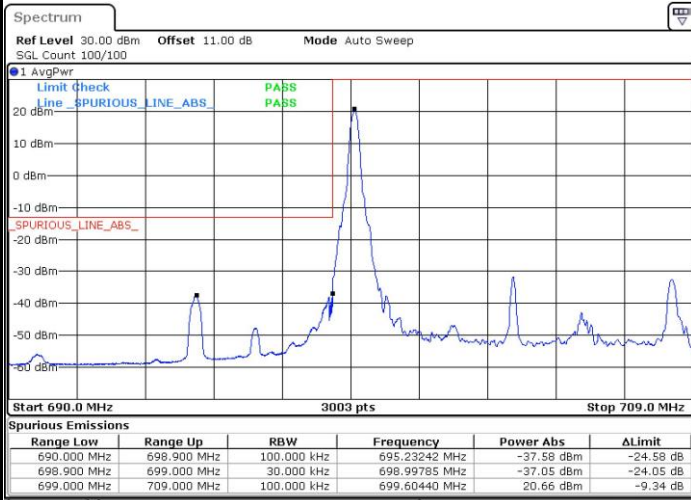




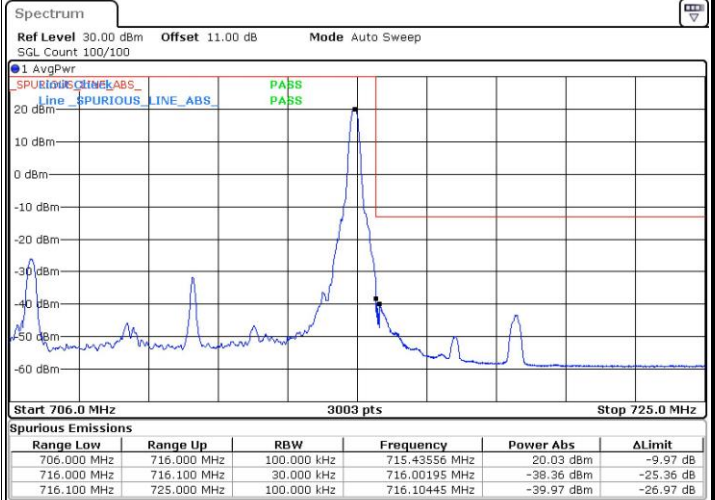
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1 RB



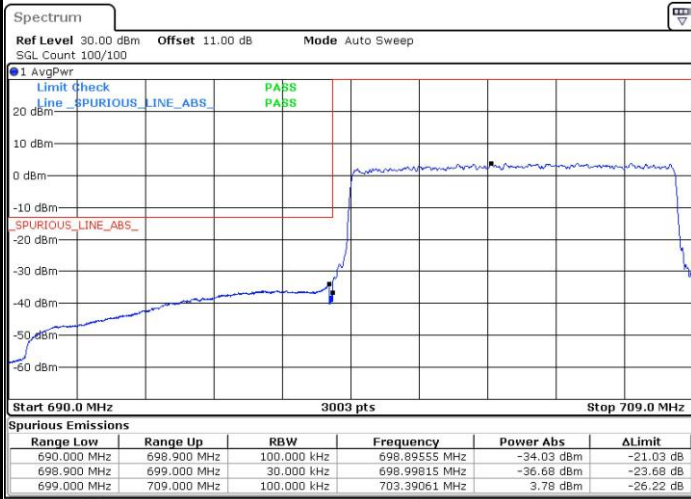
Date: 21.SEP.2018 02:45:03

Highest Band Edge / 1 RB



Date: 21.SEP.2018 02:55:07

Lowest Band Edge / Full RB



Date: 21.SEP.2018 02:41:32

Highest Band Edge / Full RB

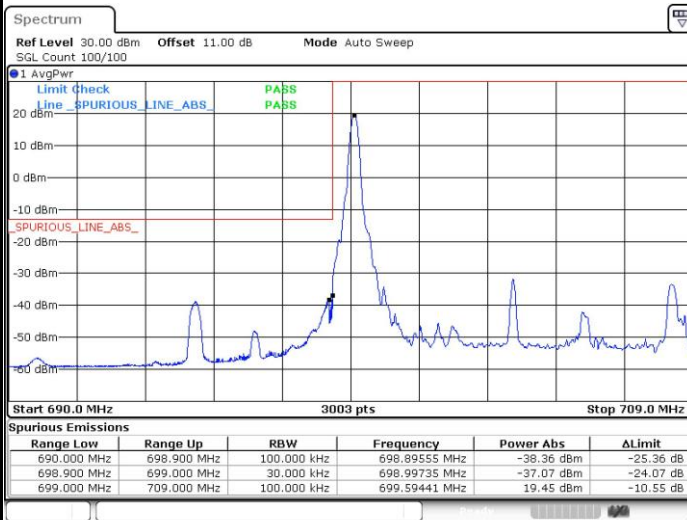


Date: 21.SEP.2018 02:51:35



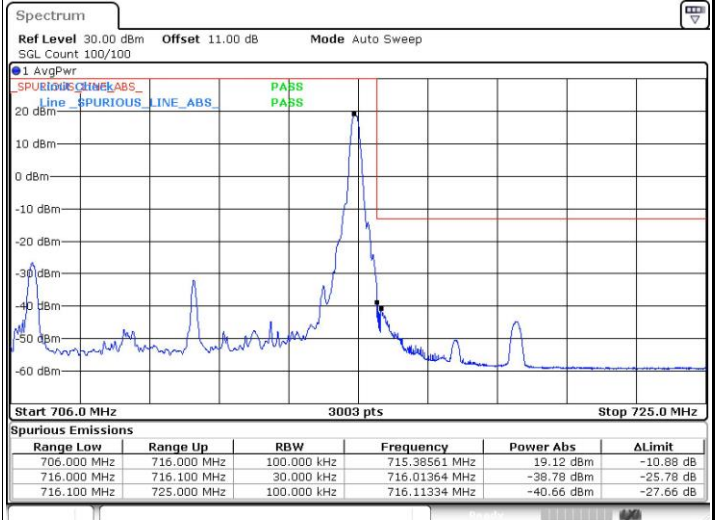
LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



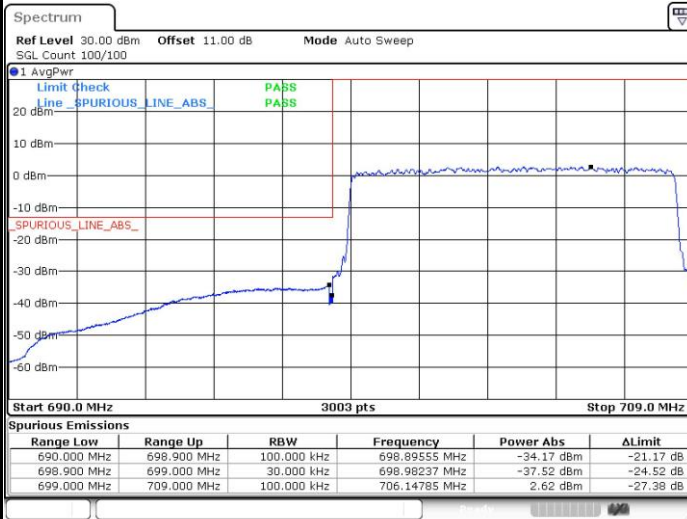
Date: 21.SEP.2018 02:43:52

Highest Band Edge / 1 RB



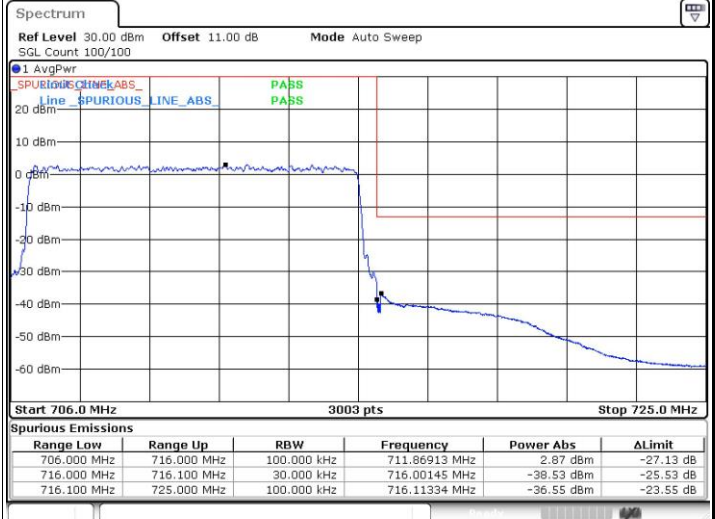
Date: 21.SEP.2018 02:53:56

Lowest Band Edge / Full RB



Date: 21.SEP.2018 02:42:42

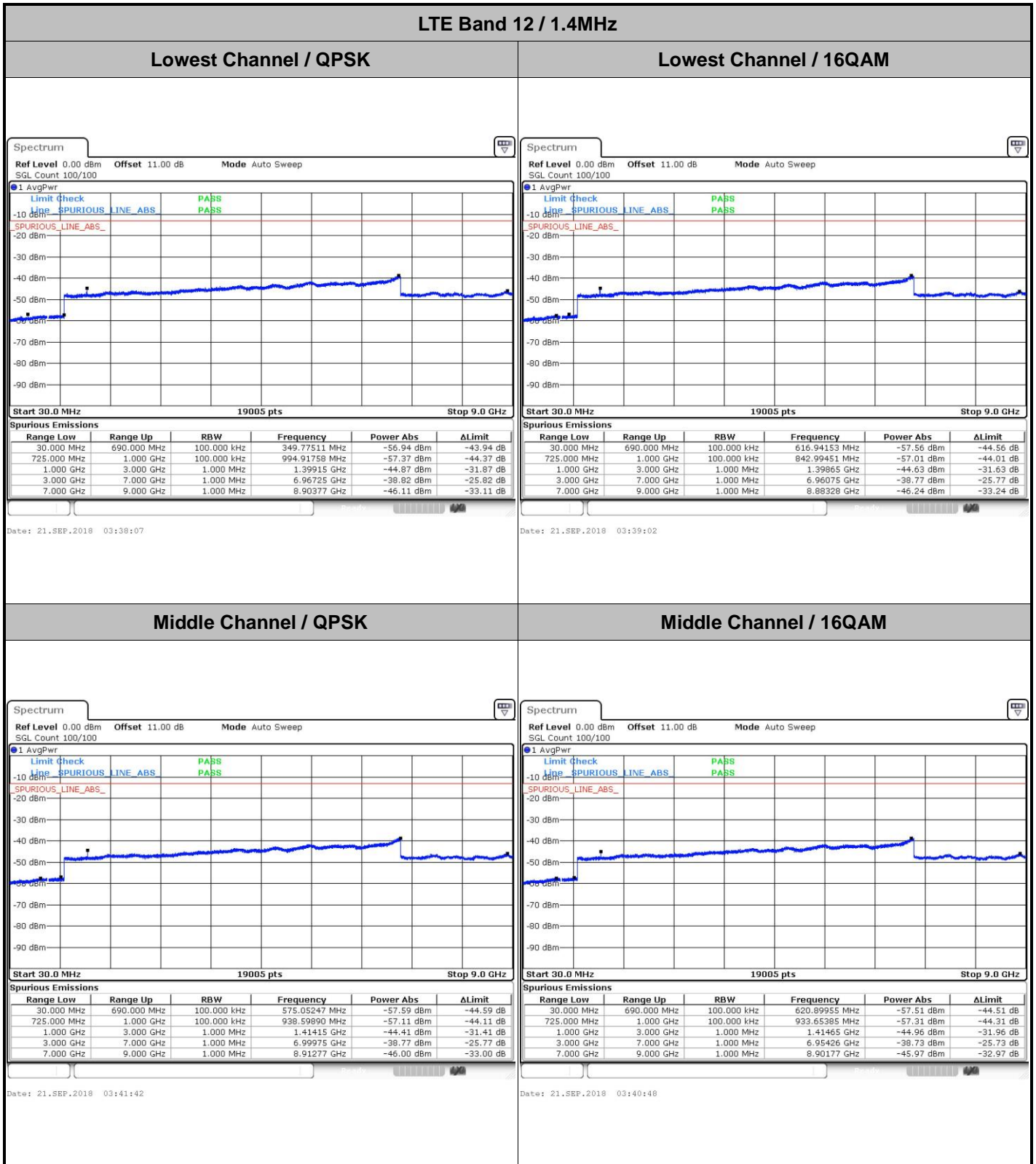
Highest Band Edge / Full RB



Date: 21.SEP.2018 02:52:45



# Conducted Spurious Emission

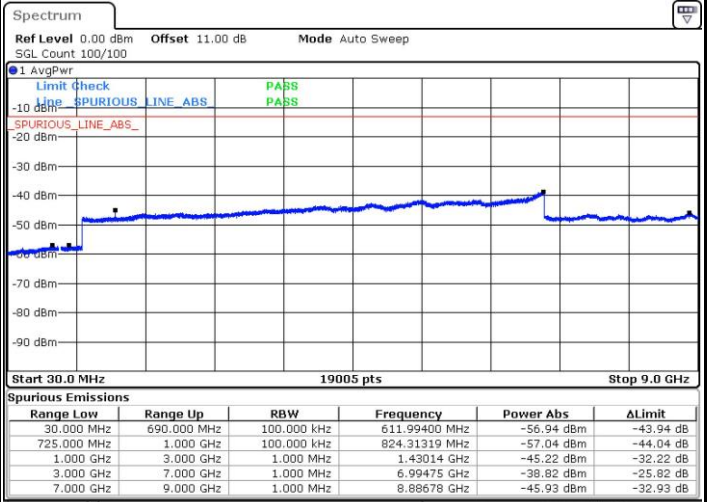
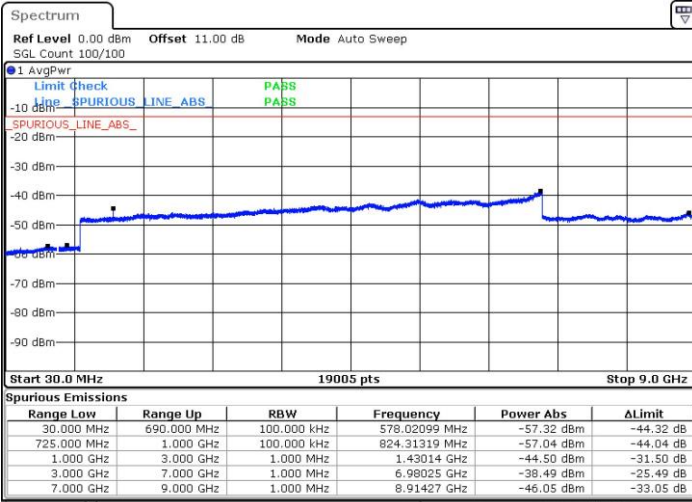




LTE Band 12 / 1.4MHz

Highest Channel / QPSK

Highest Channel / 16QAM



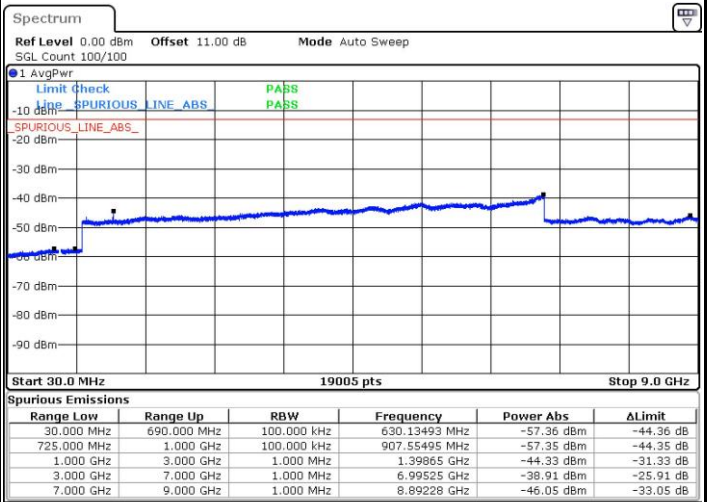
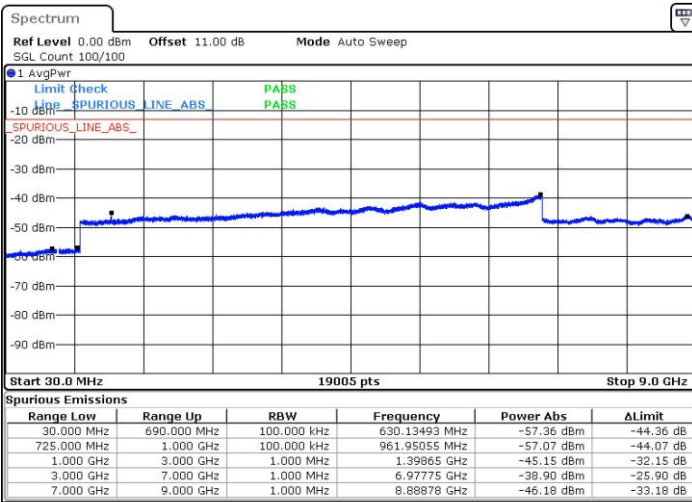
Date: 21.SEP.2018 03:48:10

Date: 21.SEP.2018 03:49:04

LTE Band 12 / 3MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 21.SEP.2018 02:11:08

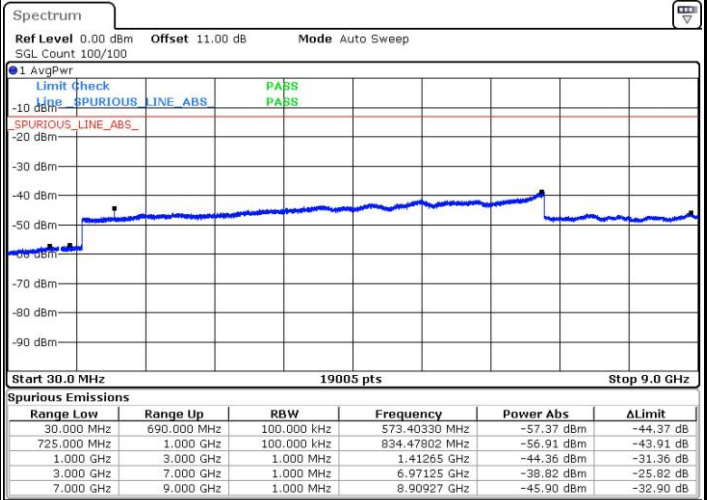
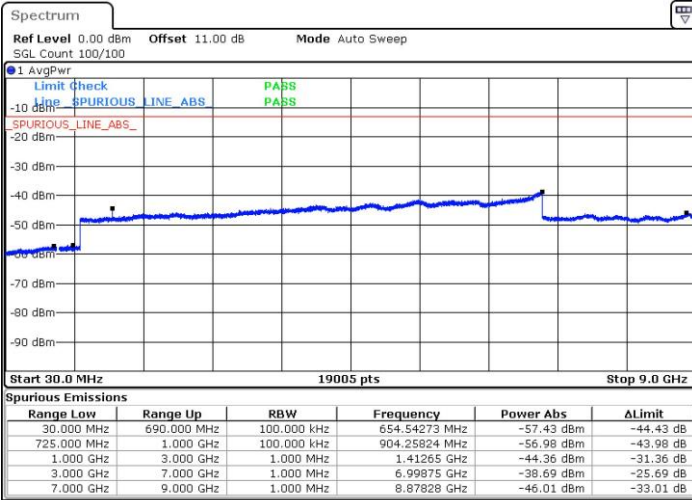
Date: 21.SEP.2018 02:12:03



LTE Band 12 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM

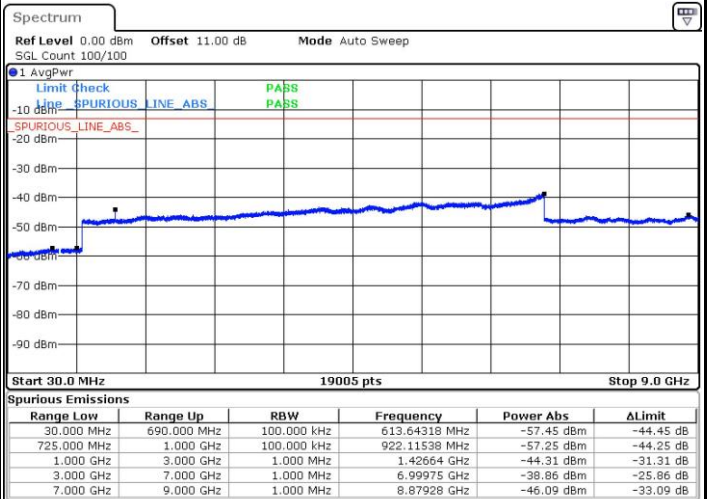
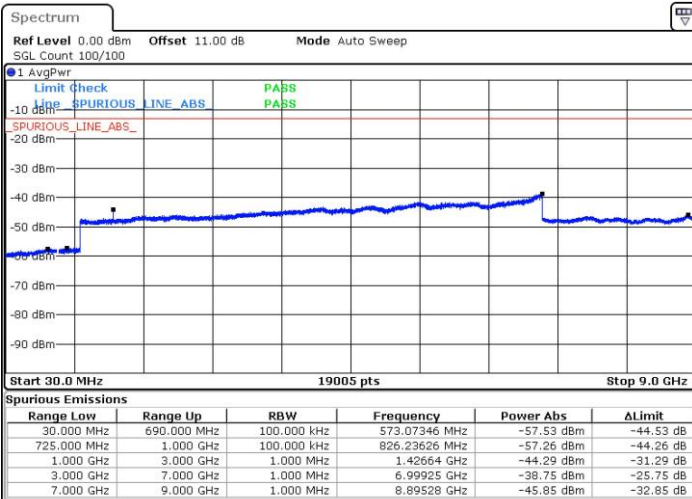


Date: 21.SEP.2018 02:14:44

Date: 21.SEP.2018 02:13:49

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 21.SEP.2018 02:21:12

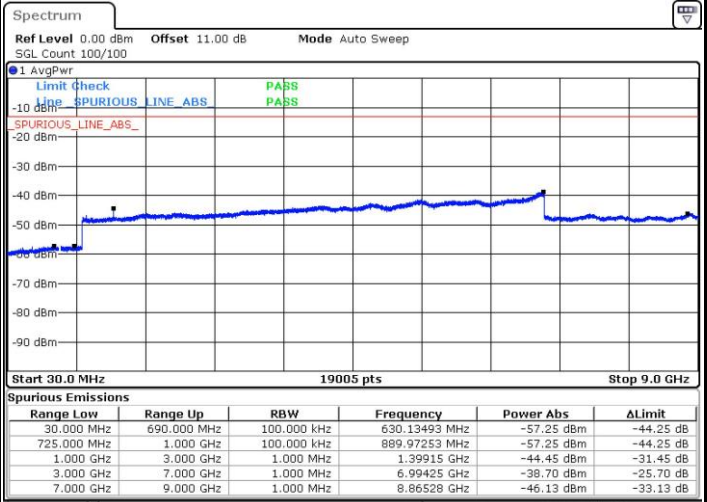
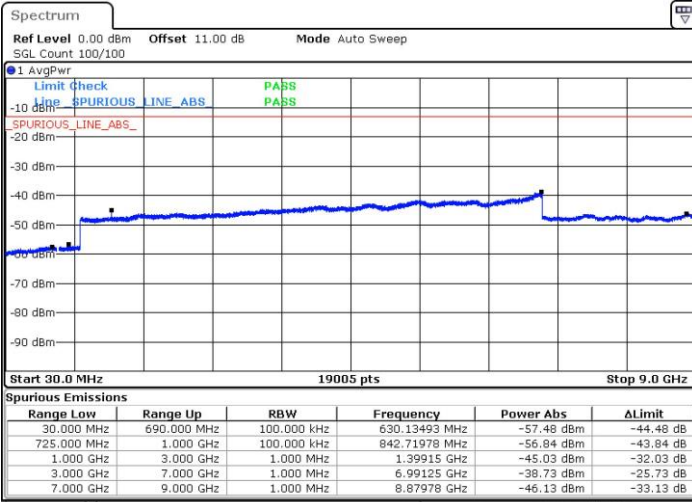
Date: 21.SEP.2018 02:22:07



LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

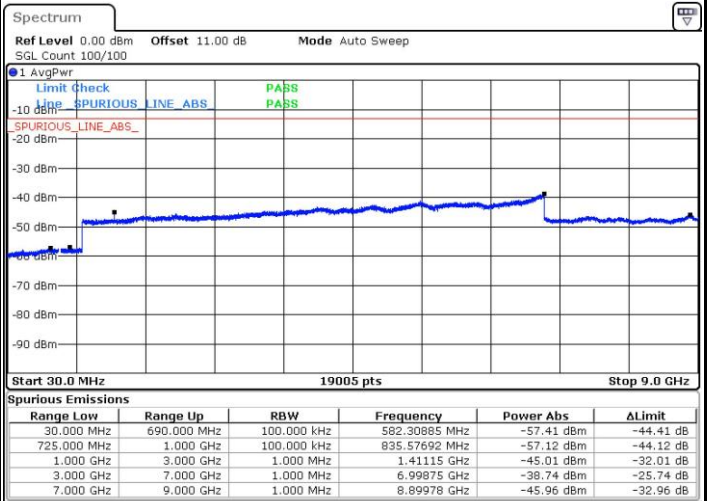
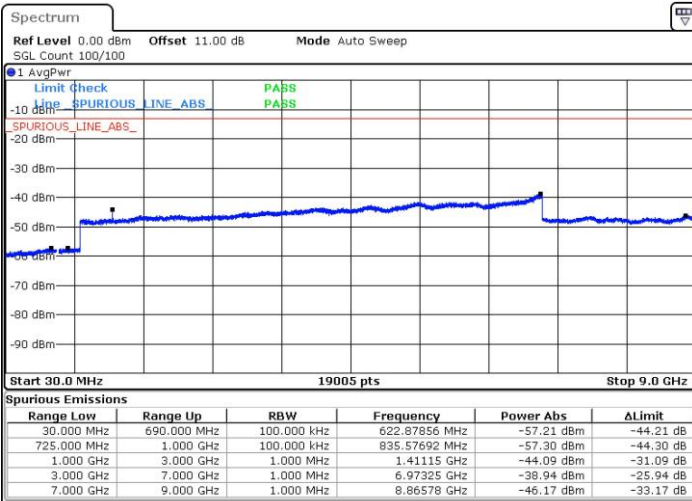


Date: 21.SEP.2018 02:28:34

Date: 21.SEP.2018 02:29:28

Middle Channel / QPSK

Middle Channel / 16QAM



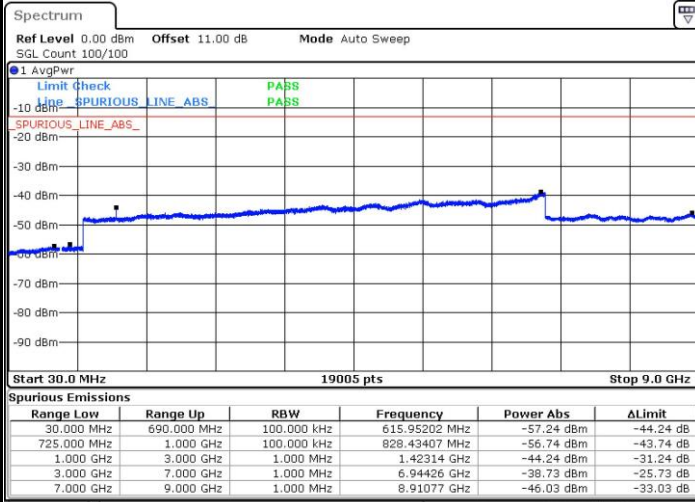
Date: 21.SEP.2018 02:32:08

Date: 21.SEP.2018 02:31:14



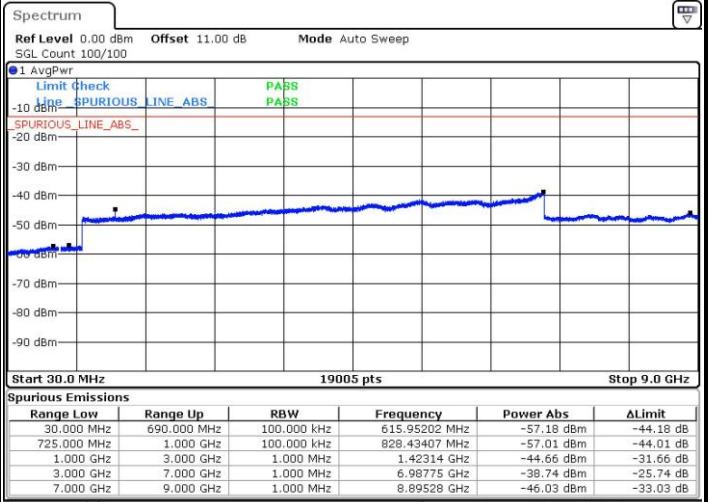
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 21.SEP.2018 02:39:29

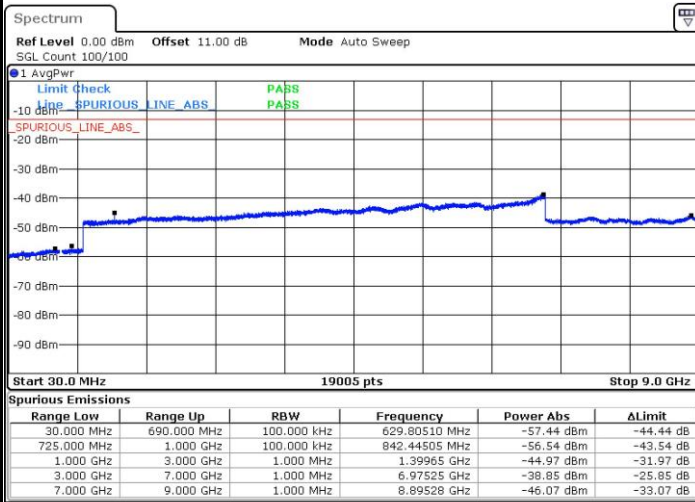
Highest Channel / 16QAM



Date: 21.SEP.2018 02:38:35

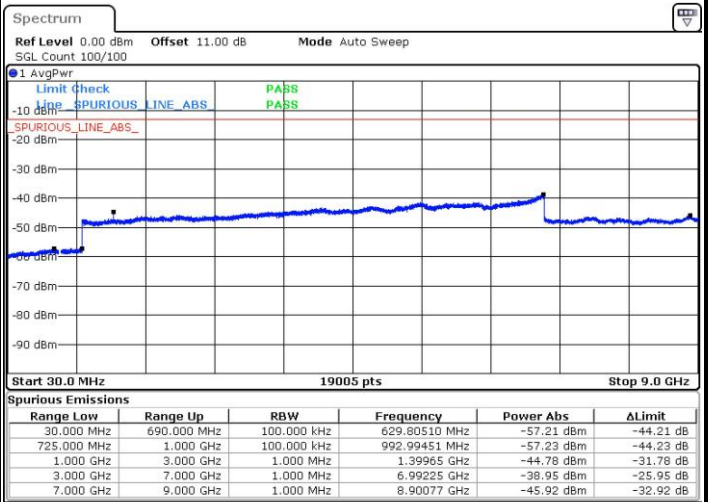
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 21.SEP.2018 02:45:57

Lowest Channel / 16QAM



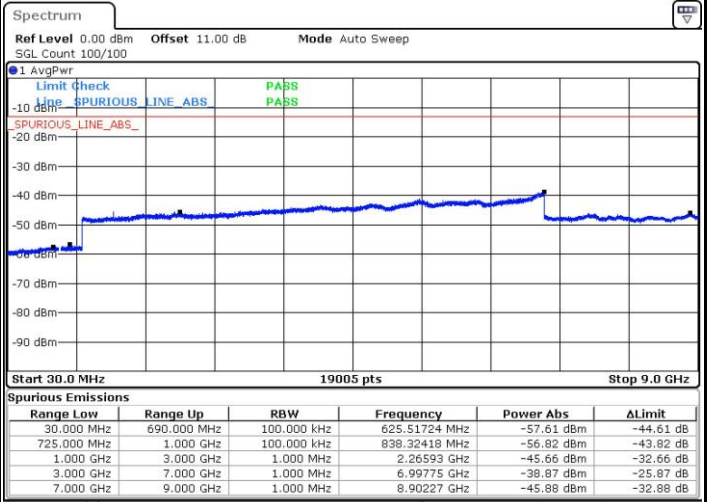
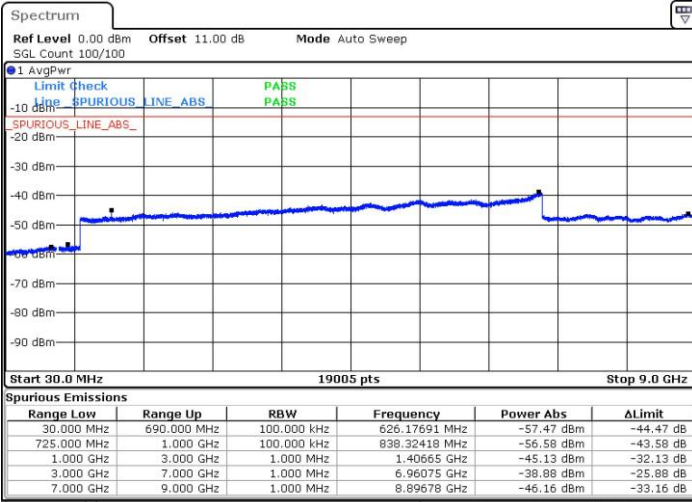
Date: 21.SEP.2018 02:46:51



LTE Band 12 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

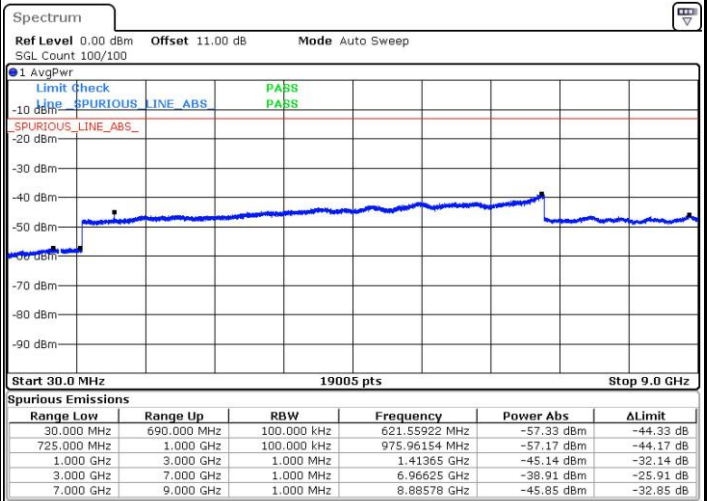
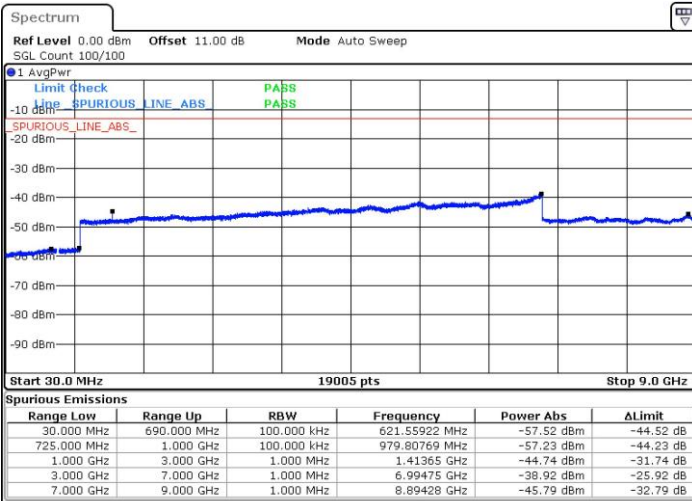


Date: 21.SEP.2018 02:49:32

Date: 21.SEP.2018 02:48:38

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 21.SEP.2018 02:56:00

Date: 21.SEP.2018 02:56:54





### 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	0.0141	PASS
40	Normal Voltage	0.0038	
30	Normal Voltage	0.0065	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0052	
0	Normal Voltage	0.0045	
-10	Normal Voltage	0.0040	
-20	Normal Voltage	0.0083	
-30	Normal Voltage	0.0079	
20	Maximum Voltage	0.0051	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0072	

**Note:**

- 1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.35 V.
- 2. Note: The frequency fundamental emissions stay within the authorized frequency block.



## LTE Band 13

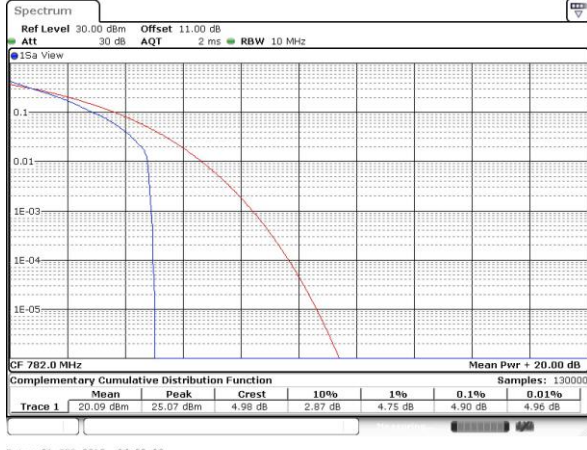
### Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	<b>PASS</b>
Middle CH	4.9	5.19	5.45	6.26	
Highest CH	-	-	-	-	



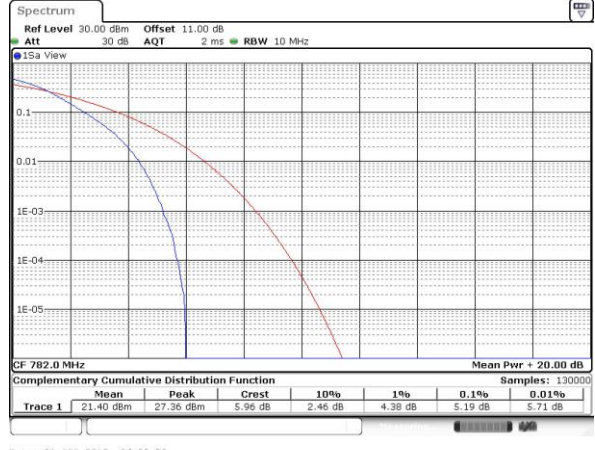
LTE Band 13 / 10MHz / QPSK

Middle Channel/ 1RB



Date: 21.SEP.2018 06:33:38

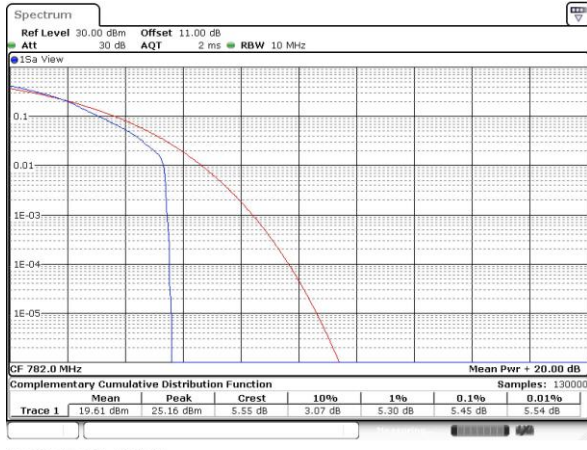
Middle Channel / Full RB



Date: 21.SEP.2018 06:33:50

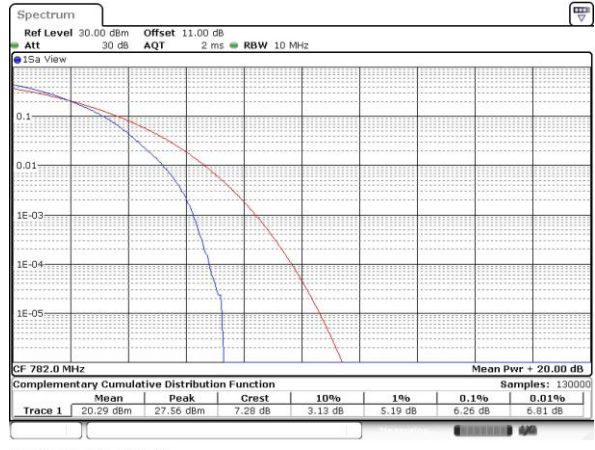
LTE Band 13 / 10MHz / 16QAM

Middle Channel/ 1RB



Date: 21.SEP.2018 06:33:14

Middle Channel / Full RB



Date: 21.SEP.2018 06:33:26



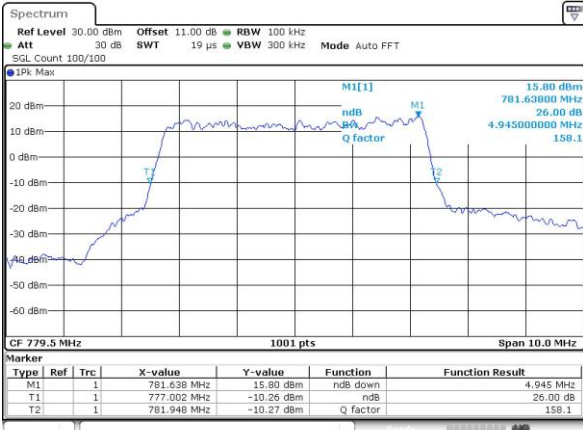
**26dB Bandwidth**

Mode	LTE Band 13 : 26dB BW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.95	4.92	-	-	-	-	-	-
Middle CH	-	-	-	-	4.95	4.90	9.71	9.75	-	-	-	-
Highest CH	-	-	-	-	5.00	4.88	-	-	-	-	-	-



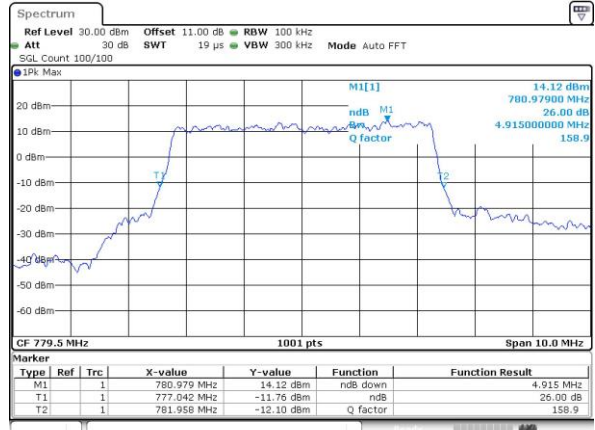
LTE Band 13

Lowest Channel / 5MHz / QPSK



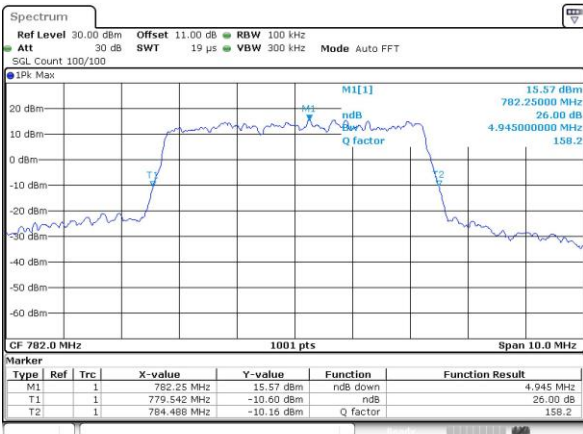
Date: 21\_SEP.2018 05:58:33

Lowest Channel / 5MHz / 16QAM



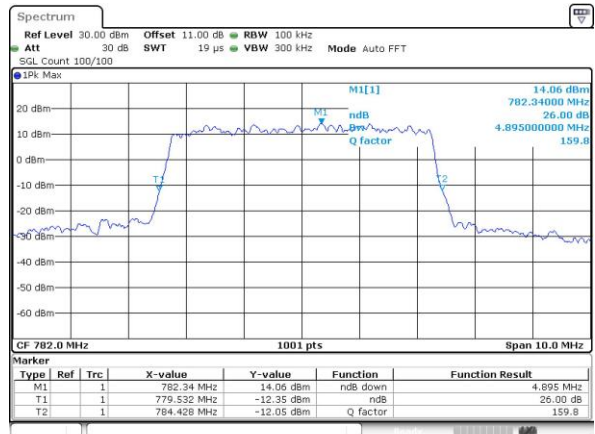
Date: 21\_SEP.2018 05:58:20

Middle Channel / 5MHz / QPSK



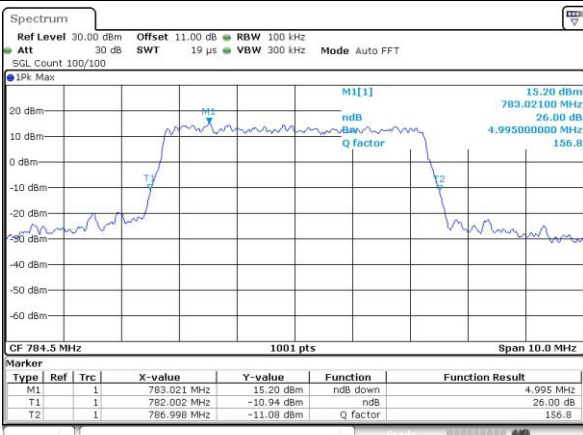
Date: 21\_SEP.2018 06:09:02

Middle Channel / 5MHz / 16QAM



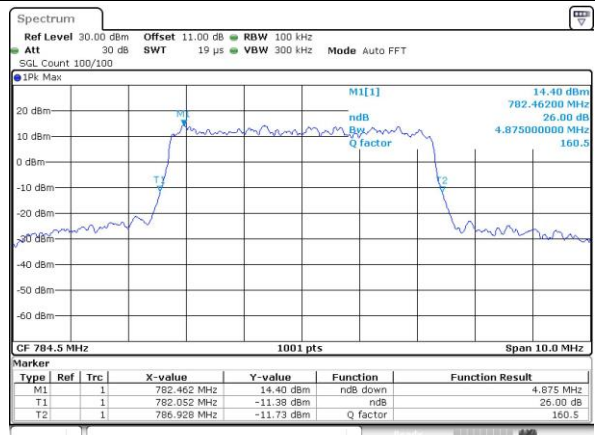
Date: 21\_SEP.2018 06:09:14

Highest Channel / 5MHz / QPSK



Date: 21\_SEP.2018 06:10:32

Highest Channel / 5MHz / 16QAM

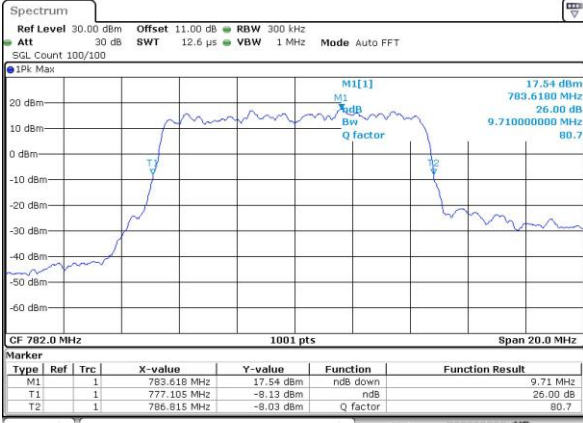


Date: 21\_SEP.2018 06:10:19



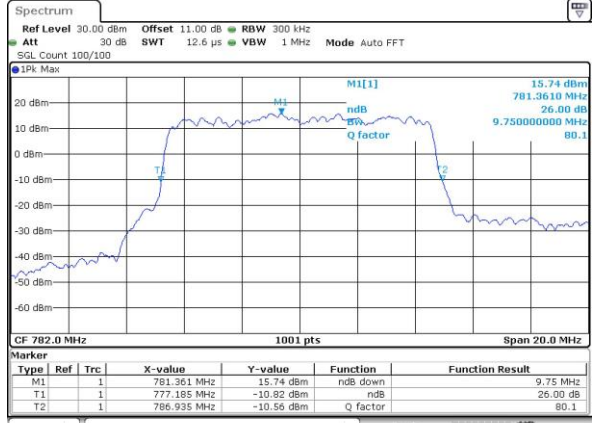
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 21\_SEP.2018 06:19:52

Middle Channel / 10MHz / 16QAM



Date: 21\_SEP.2018 06:19:39



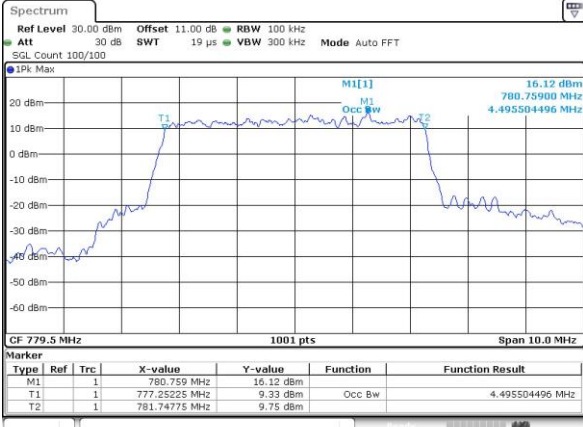
### Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.5	4.48	-	-	-	-	-	-
Middle CH	-	-	-	-	4.48	4.49	9.03	9.03	-	-	-	-
Highest CH	-	-	-	-	4.49	4.51	-	-	-	-	-	-



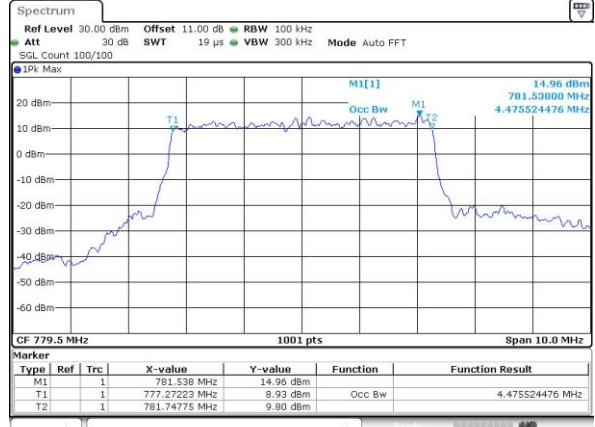
LTE Band 13

Lowest Channel / 5MHz / QPSK



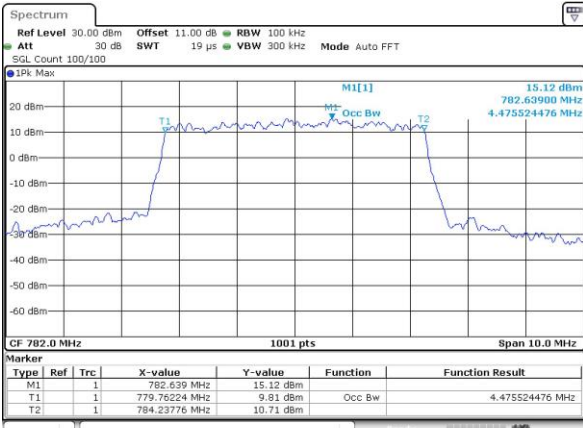
Date: 21.SEP.2018 05:57:54

Lowest Channel / 5MHz / 16QAM



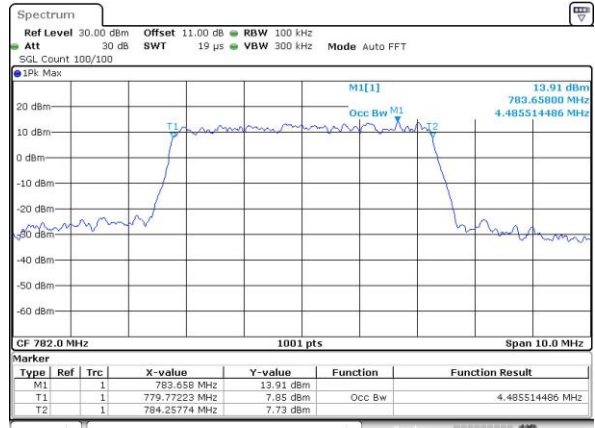
Date: 21.SEP.2018 05:58:08

Middle Channel / 5MHz / QPSK



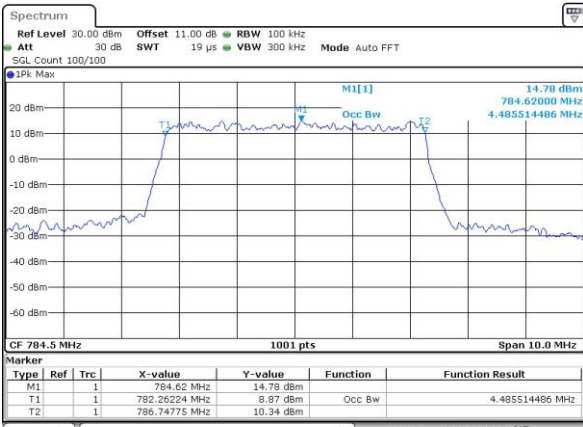
Date: 21.SEP.2018 06:09:40

Middle Channel / 5MHz / 16QAM



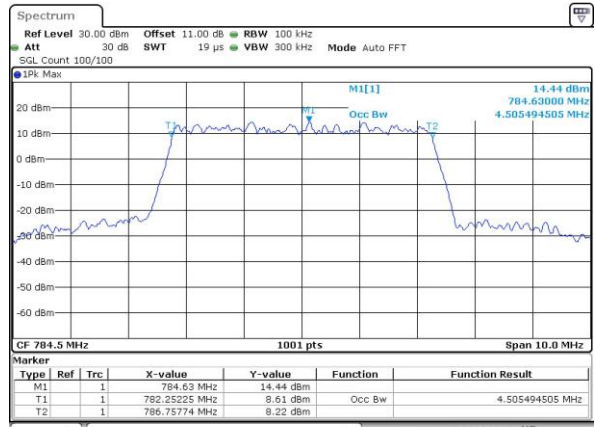
Date: 21.SEP.2018 06:09:27

Highest Channel / 5MHz / QPSK



Date: 21.SEP.2018 06:09:53

Highest Channel / 5MHz / 16QAM



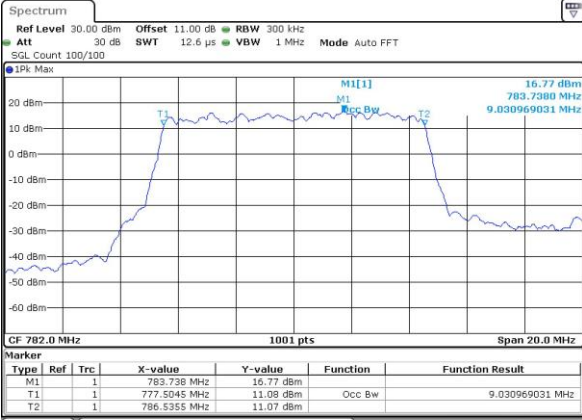
Date: 21.SEP.2018 06:10:06





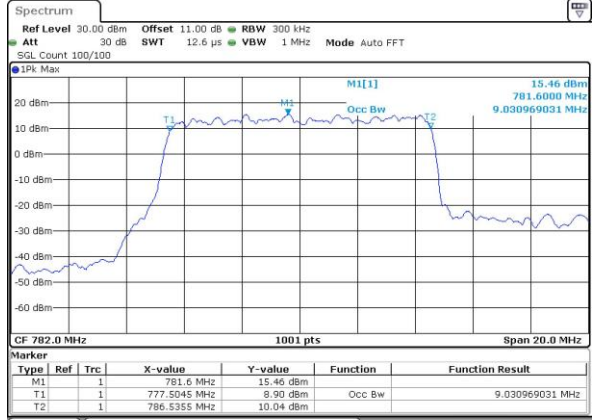
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 21\_SEP.2018 06:19:14

Middle Channel / 10MHz / 16QAM



Date: 21\_SEP.2018 06:19:26

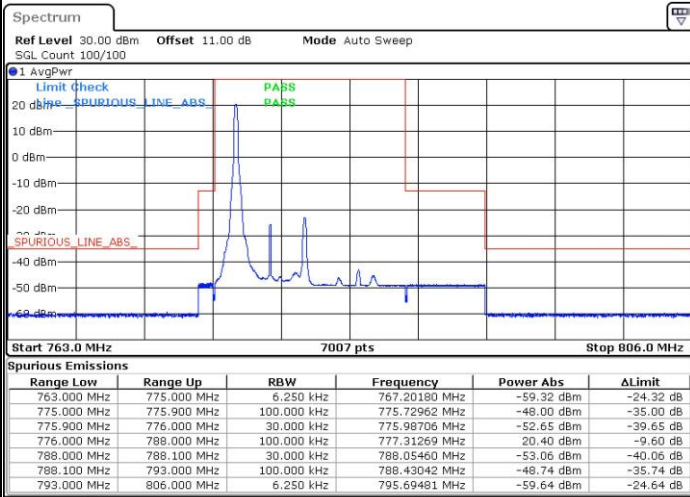


Conducted Band Edge

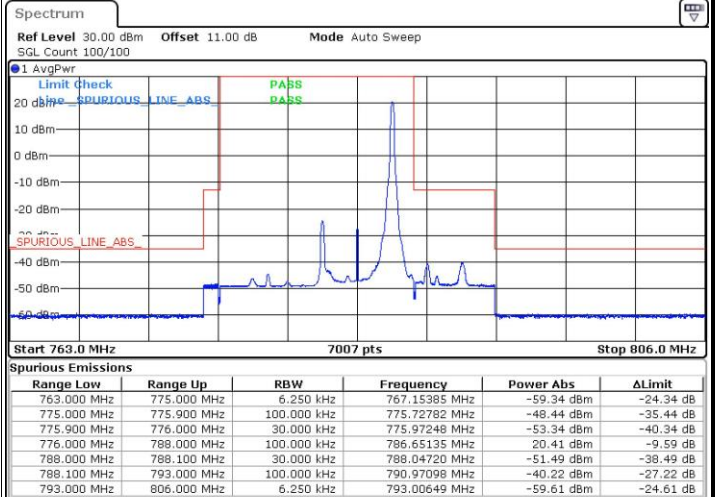
LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



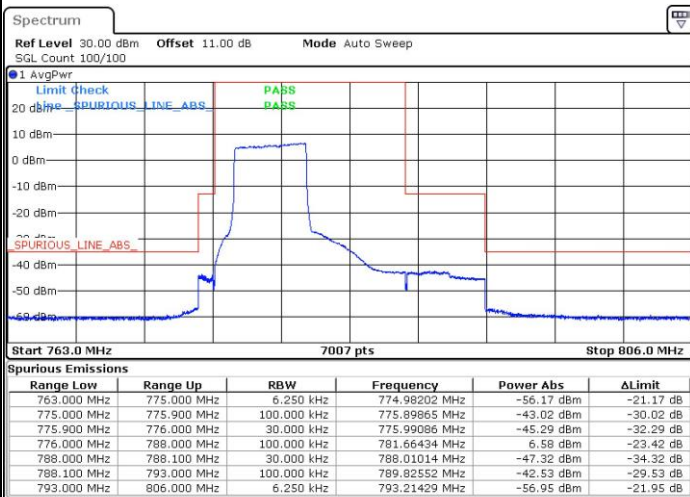
Date: 21.SEP.2018 06:05:15



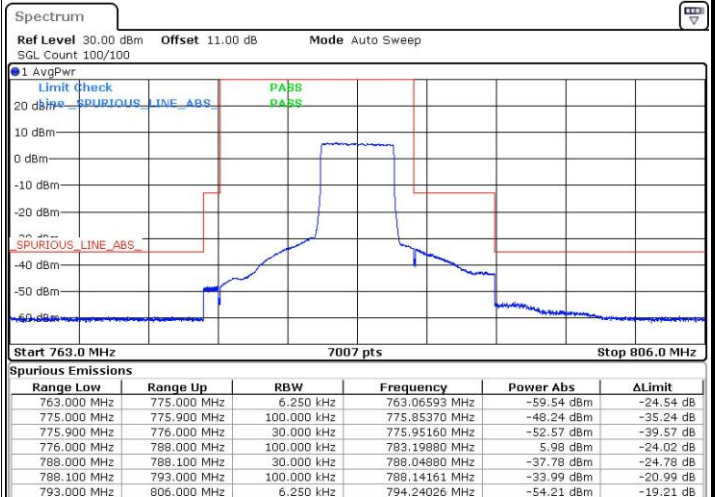
Date: 21.SEP.2018 06:17:14

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 21.SEP.2018 06:00:14



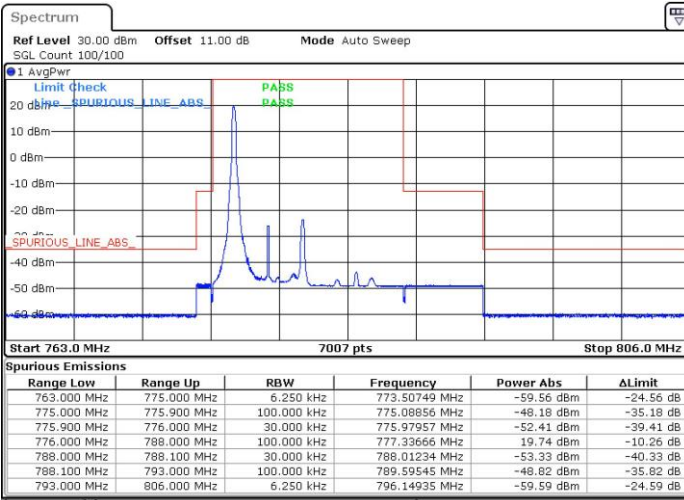
Date: 21.SEP.2018 06:12:12



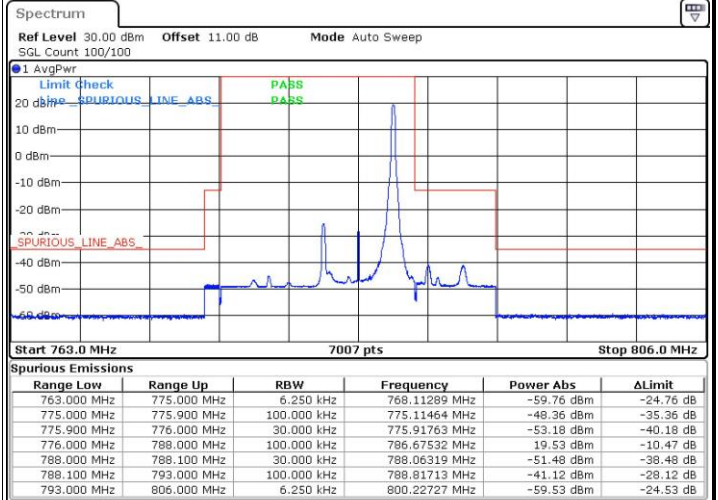
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



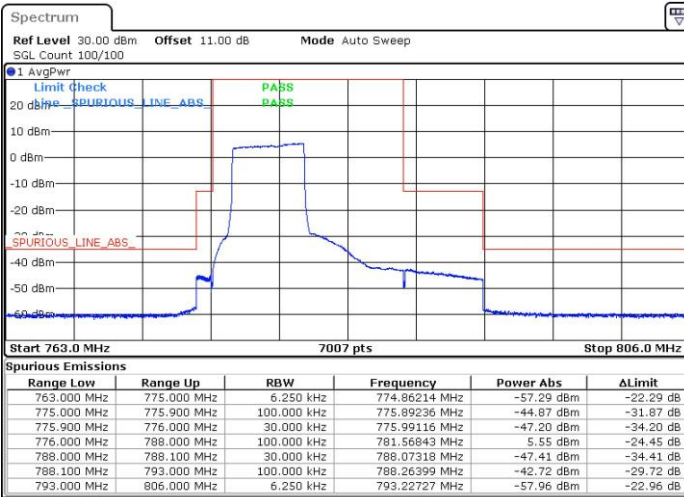
Date: 21.SEP.2018 06:03:35



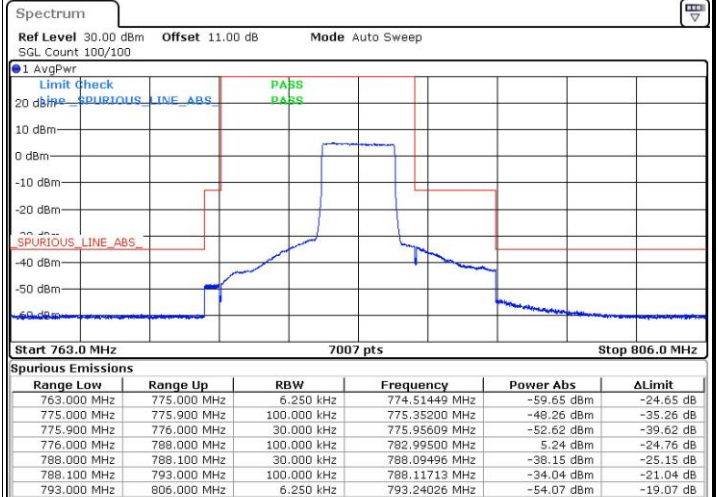
Date: 21.SEP.2018 06:15:34

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 21.SEP.2018 06:01:54



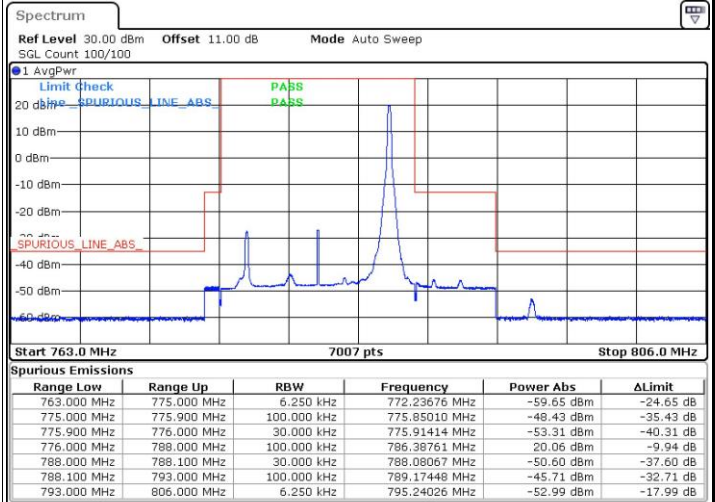
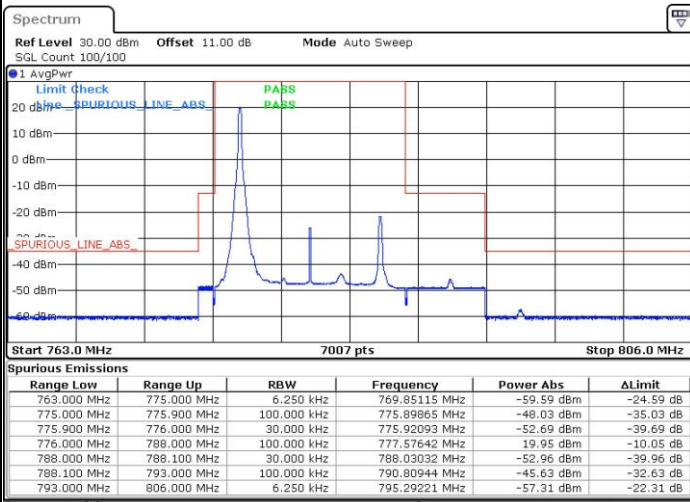
Date: 21.SEP.2018 06:13:53



LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB

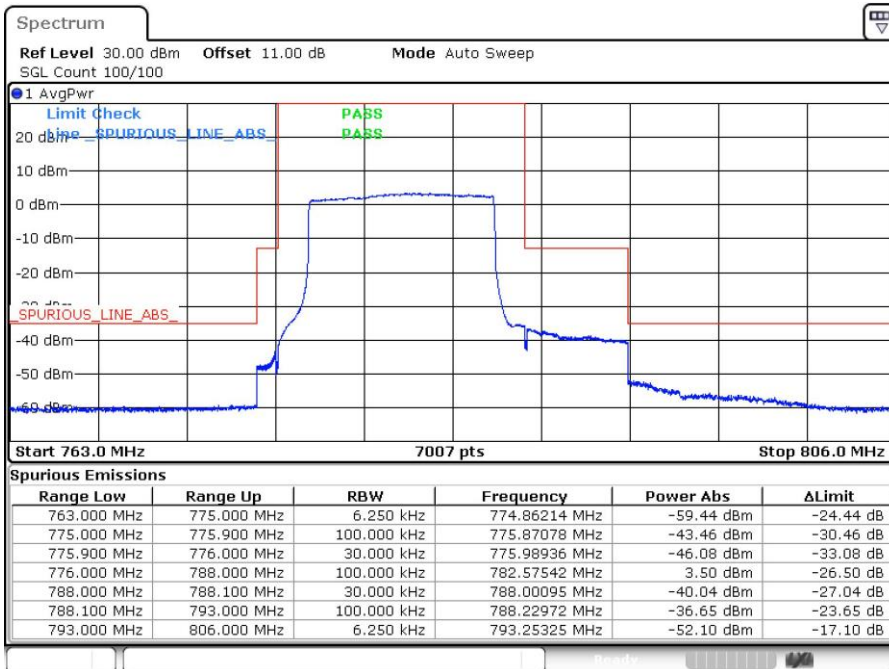
Highest Band Edge / 1 RB



Date: 21.SEP.2018 06:26:34

Date: 21.SEP.2018 06:28:15

Band Edge / Full RB



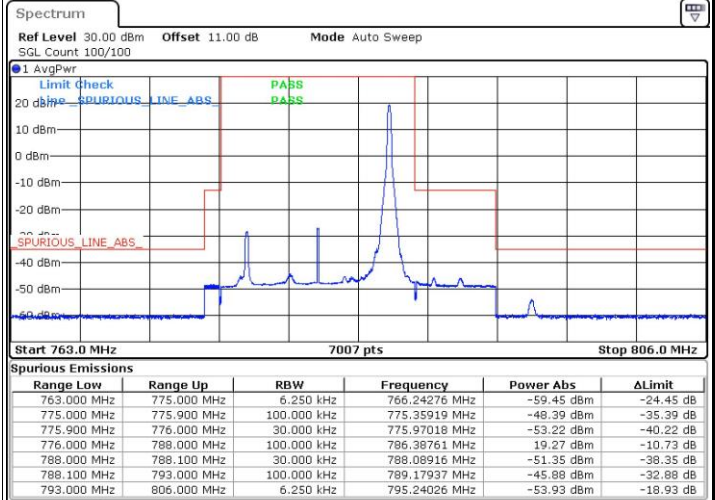
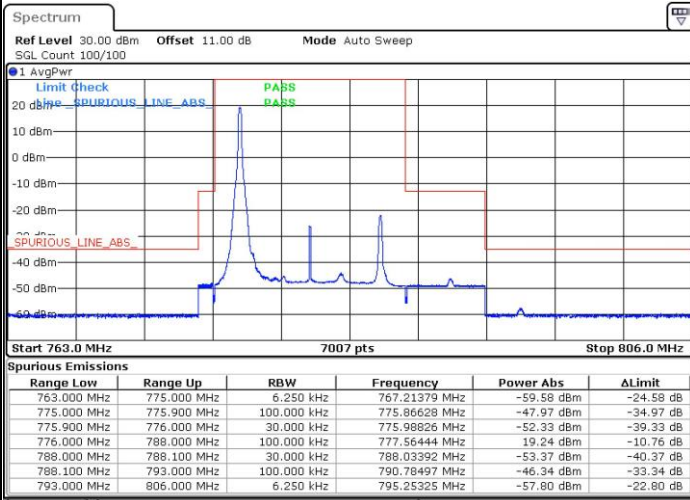
Date: 21.SEP.2018 06:21:33



LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

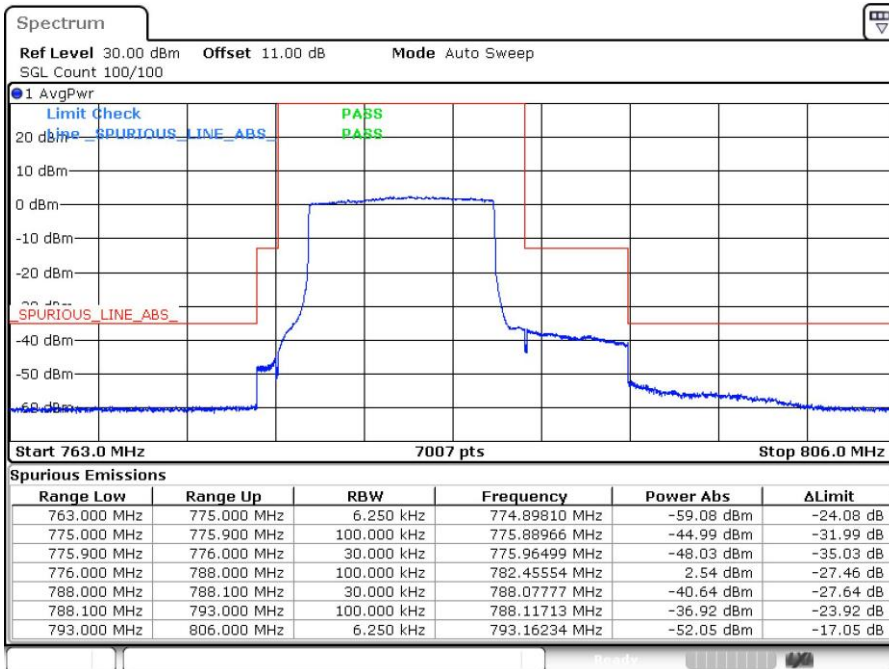
Highest Band Edge / 1 RB



Date: 21.SEP.2018 06:24:54

Date: 21.SEP.2018 06:29:55

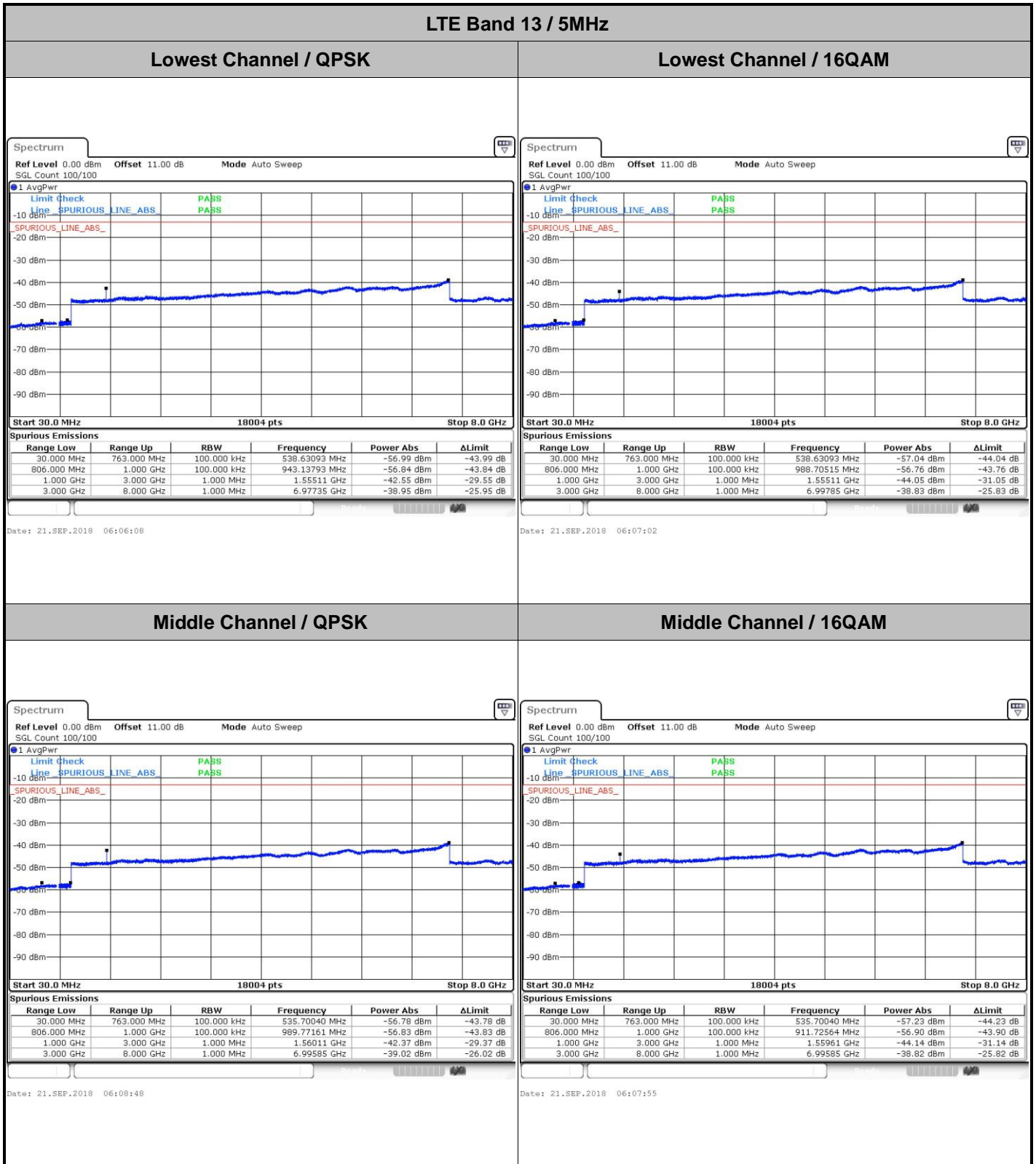
Band Edge / Full RB



Date: 21.SEP.2018 06:23:13



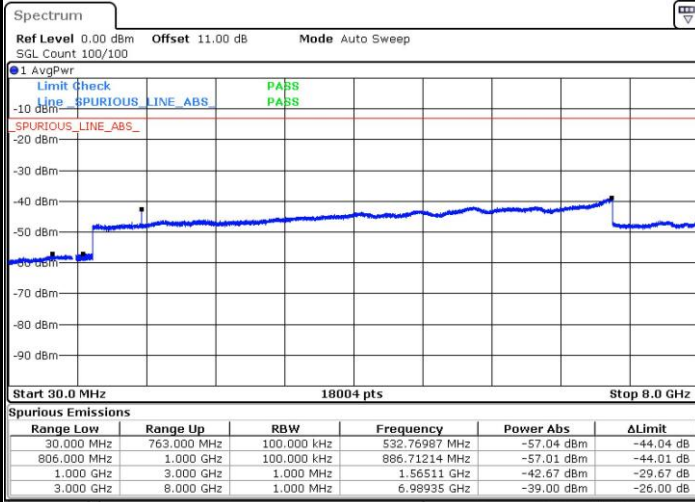
# Conducted Spurious Emission





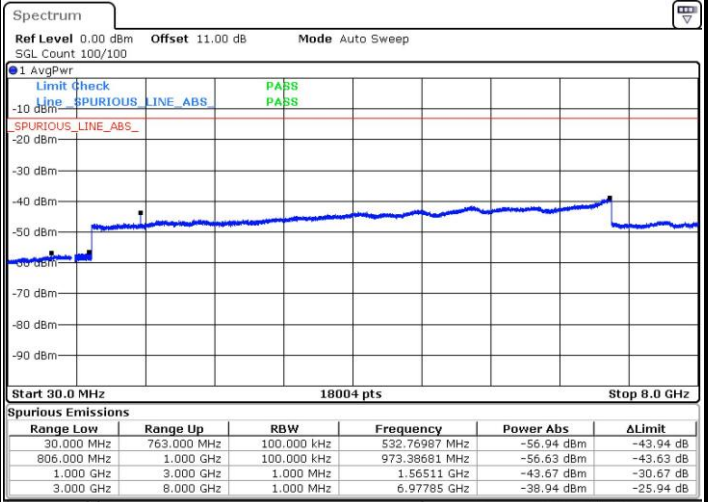
LTE Band 13 / 5MHz

Highest Channel / QPSK



Date: 21.SEP.2018 06:18:07

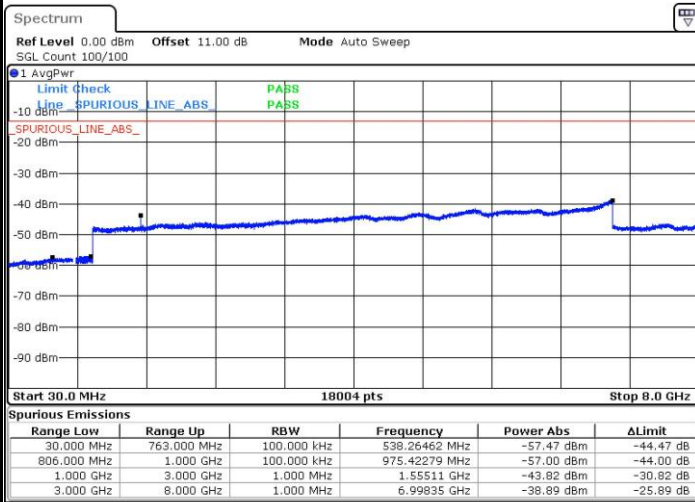
Highest Channel / 16QAM



Date: 21.SEP.2018 06:19:00

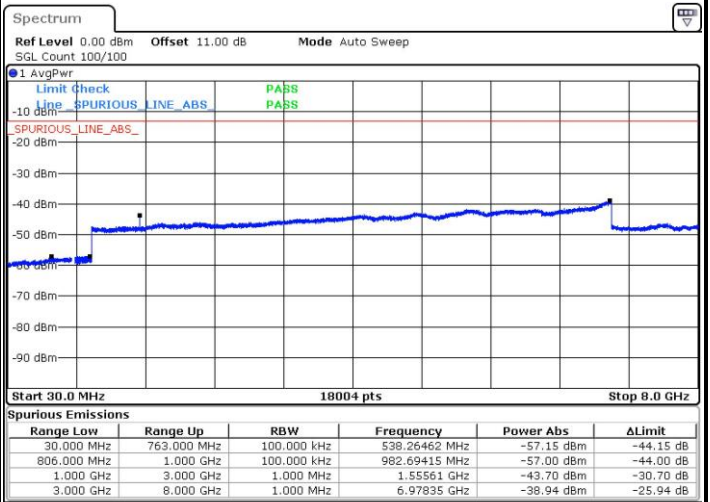
LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 21.SEP.2018 06:31:41

Middle Channel / 16QAM



Date: 21.SEP.2018 06:30:48



### Frequency Stability

Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0074	PASS
40	Normal Voltage	0.0095	
30	Normal Voltage	0.0119	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0050	
0	Normal Voltage	0.0095	
-10	Normal Voltage	0.0082	
-20	Normal Voltage	0.0006	
-30	Normal Voltage	0.0036	
20	Maximum Voltage	0.0128	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0049	

**Note:**

- 1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.35 V.
- 2. Note: The frequency fundamental emissions stay within the authorized frequency block.





## LTE Band 17

### Peak-to-Average Ratio

Mode	LTE Band 17 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.67	5.16	5.19	6.03	PASS
Middle CH	4.67	5.04	5.25	6.06	
Highest CH	4.58	5.01	5.65	6.09	