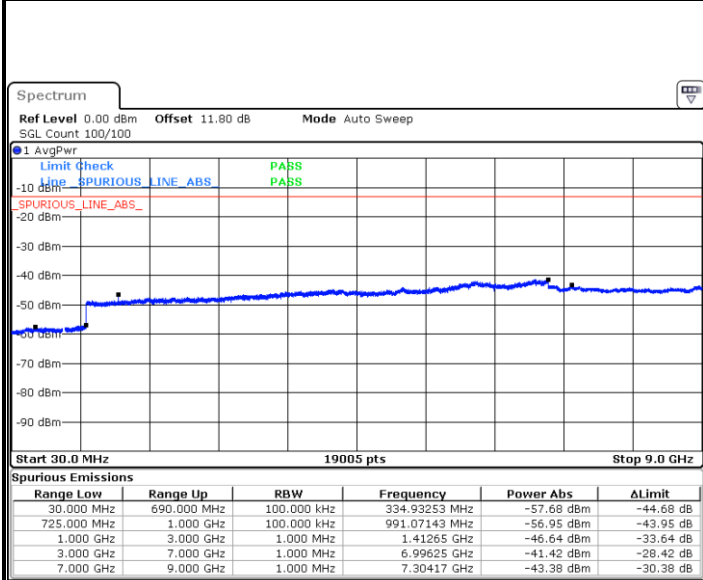




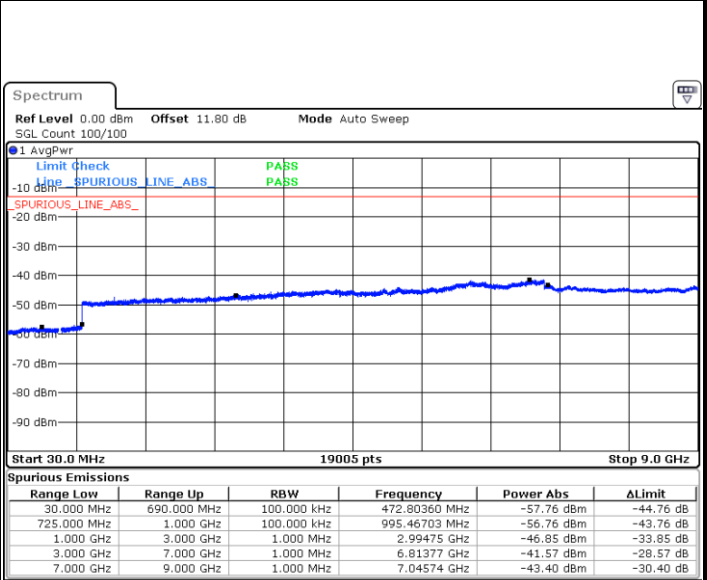
LTE Band 12 / 3MHz

Middle Channel / QPSK



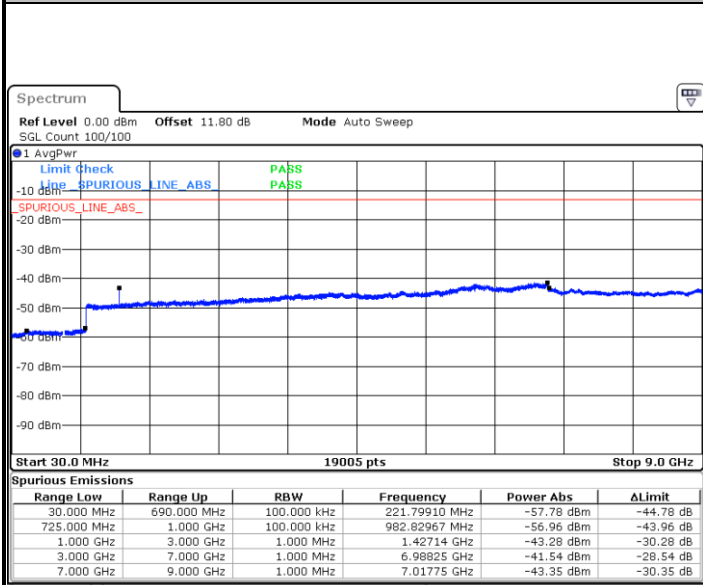
Date: 6. JAN. 2018 19:08:48

Middle Channel / 16QAM



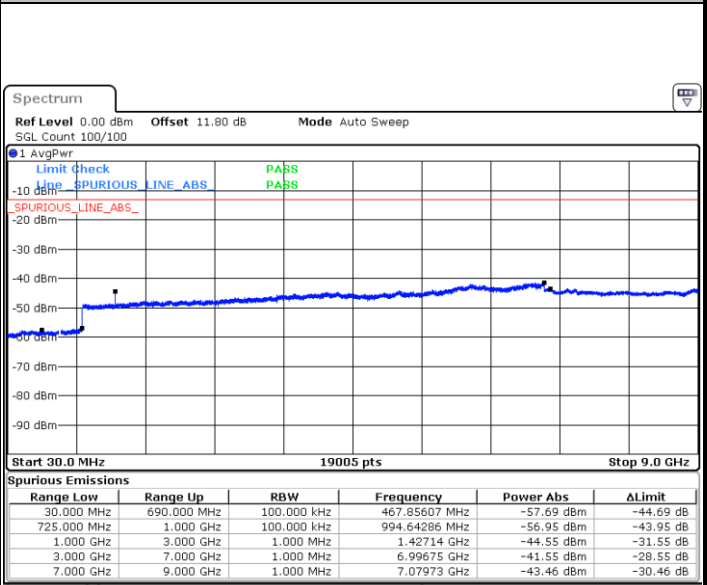
Date: 6. JAN. 2018 19:07:55

Highest Channel / QPSK



Date: 6. JAN. 2018 19:14:52

Highest Channel / 16QAM



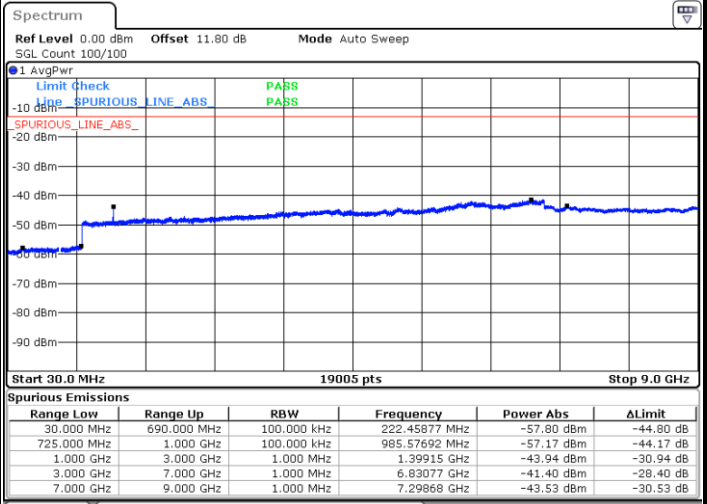
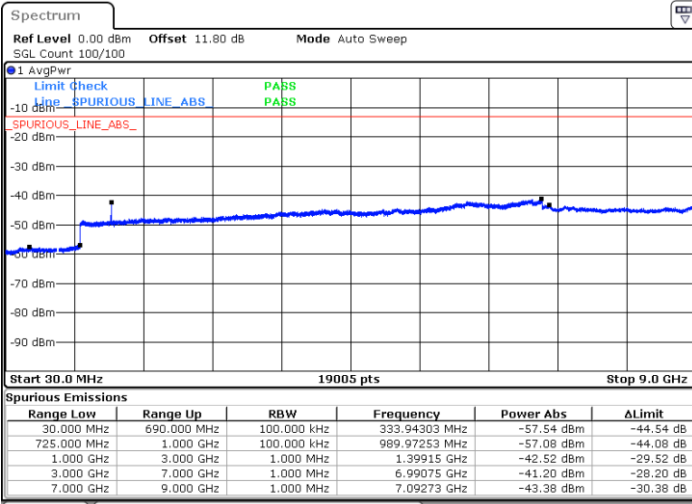
Date: 6. JAN. 2018 19:15:45



LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

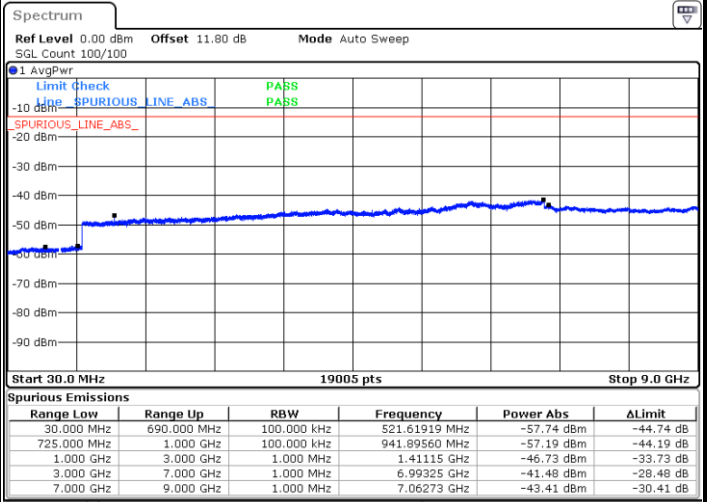
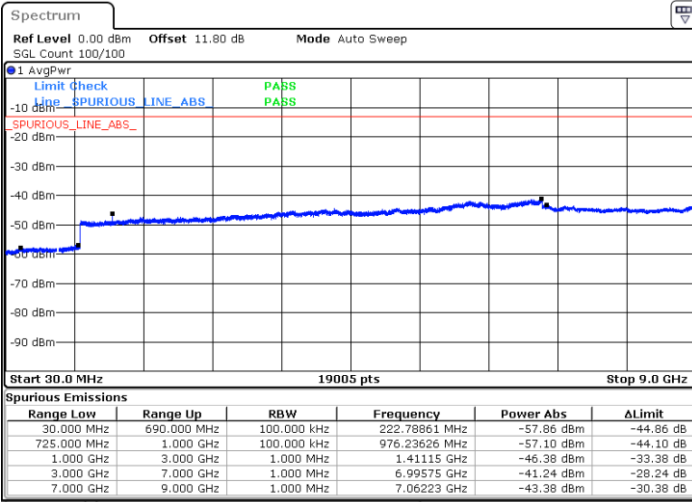


Date: 6. JAN. 2018 19:21:49

Date: 6. JAN. 2018 19:22:42

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 6. JAN. 2018 19:25:07

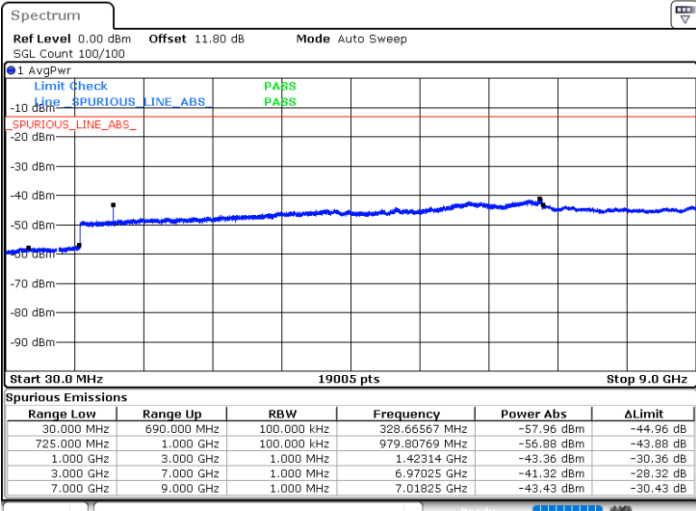
Date: 6. JAN. 2018 19:24:14



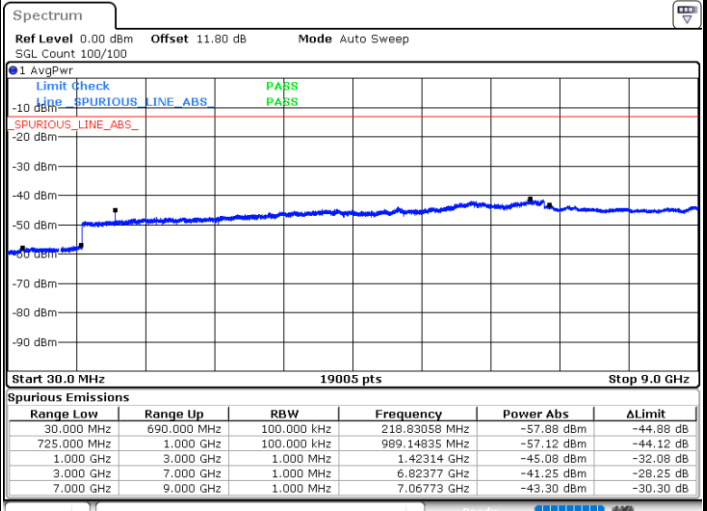
LTE Band 12 / 5MHz

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 6.JAN.2018 19:32:04

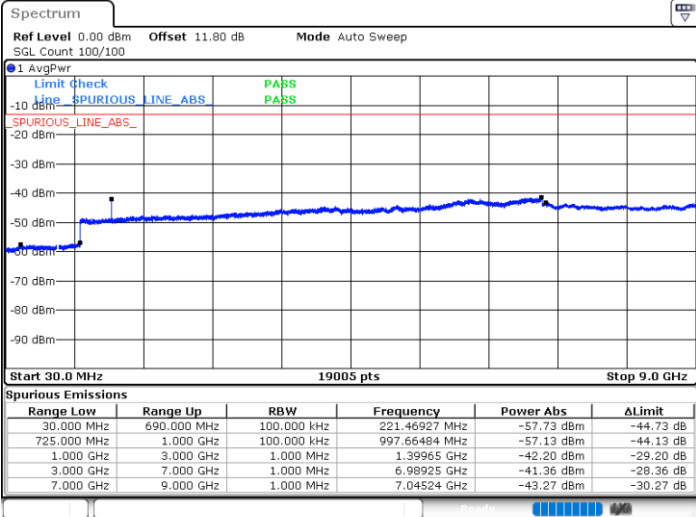


Date: 6.JAN.2018 19:31:11

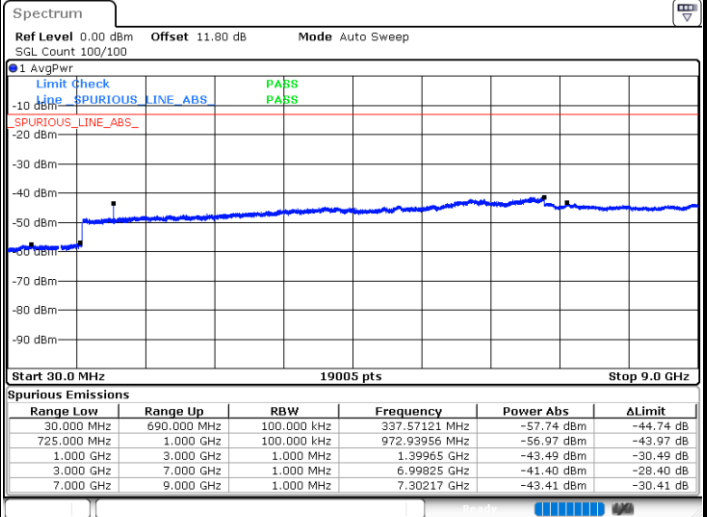
LTE Band 12 / 10MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 6.JAN.2018 19:38:07

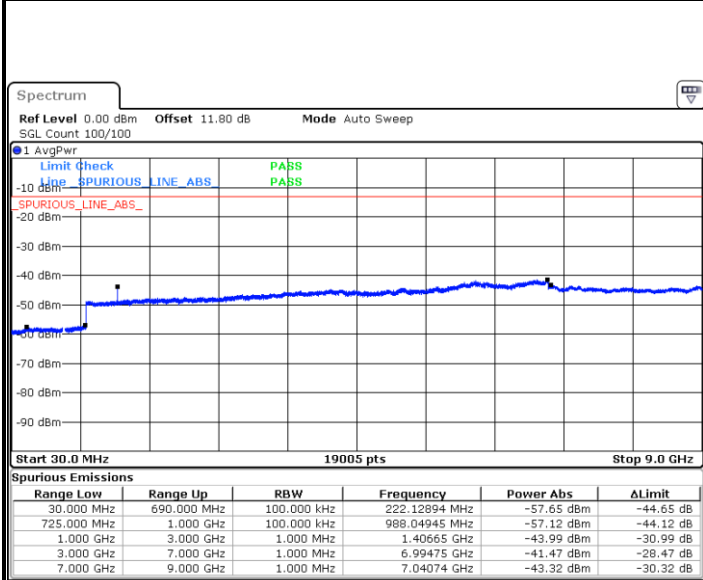


Date: 6.JAN.2018 19:39:00



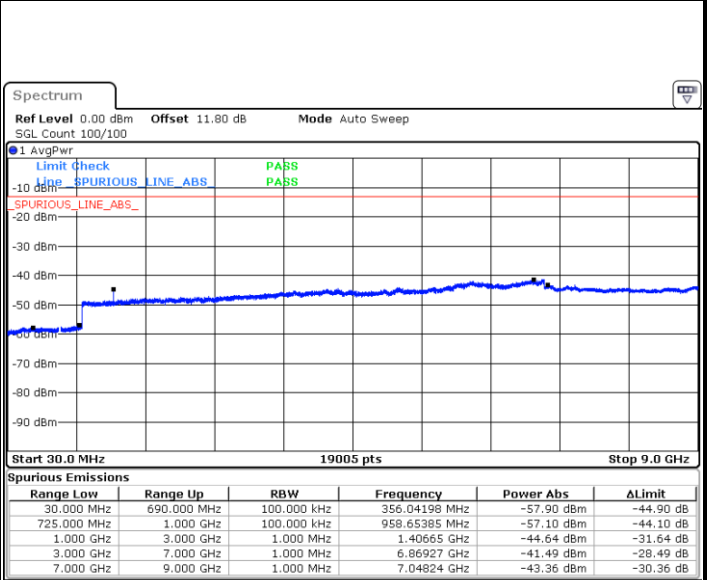
LTE Band 12 / 10MHz

Middle Channel / QPSK



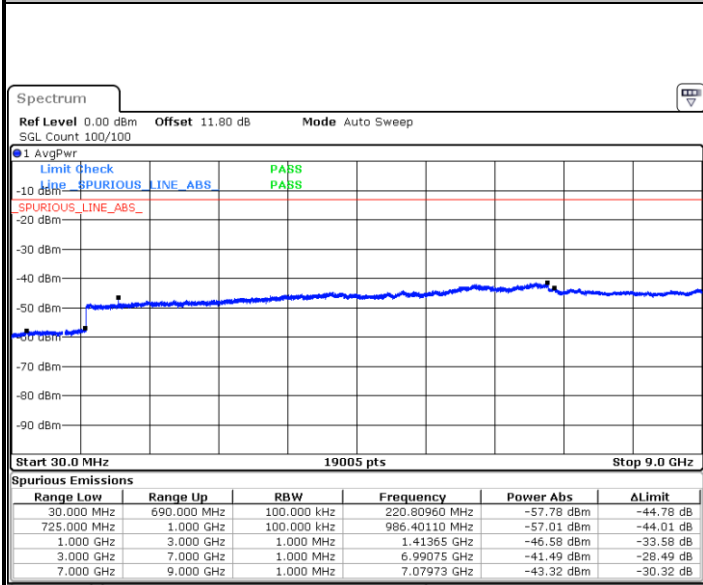
Date: 6. JAN. 2018 19:41:25

Middle Channel / 16QAM



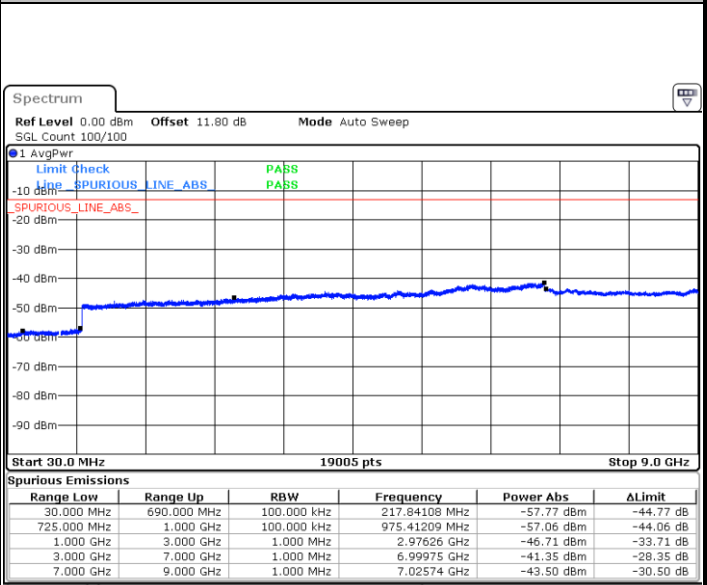
Date: 6. JAN. 2018 19:40:32

Highest Channel / QPSK



Date: 6. JAN. 2018 19:47:28

Highest Channel / 16QAM



Date: 6. JAN. 2018 19:48:21



**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	0.0006	PASS
40	Normal Voltage	0.0007	
30	Normal Voltage	0.0000	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0007	
0	Normal Voltage	0.0008	
-10	Normal Voltage	0.0003	
-20	Normal Voltage	0.0011	
-30	Normal Voltage	0.0007	
20	Maximum Voltage	0.0016	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0004	

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.4 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	4.03	5.1	5.36	6.14	
Highest CH	-	-	-	-	



LTE Band 13 / 10MHz / QPSK

Middle Channel/ 1RB



Date: 7\_JAN.2018 00:56:38

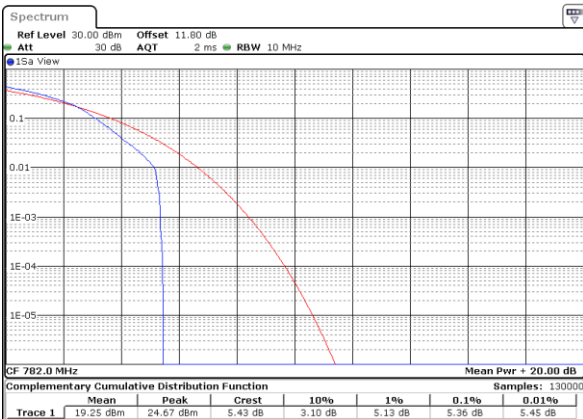
Middle Channel / Full RB



Date: 7\_JAN.2018 00:56:46

LTE Band 13 / 10MHz / 16QAM

Middle Channel/ 1RB



Date: 7\_JAN.2018 00:56:21

Middle Channel / Full RB



Date: 7\_JAN.2018 00:56:29



**26dB Bandwidth**

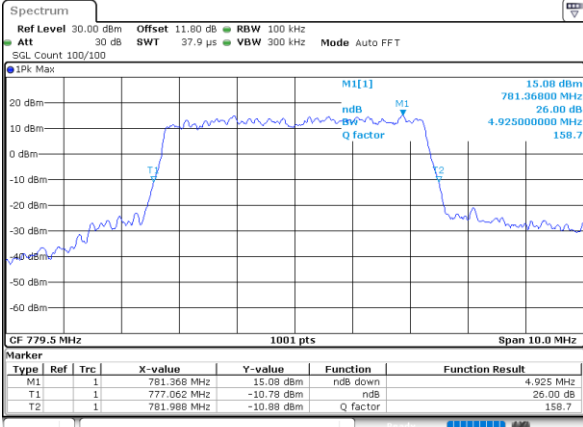
Mode	LTE Band 13 : 26dB BW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW												
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.93	4.87	-	-	-	-	-	-
Middle CH	-	-	-	-	4.96	4.92	9.85	9.71	-	-	-	-
Highest CH	-	-	-	-	4.90	4.93	-	-	-	-	-	-





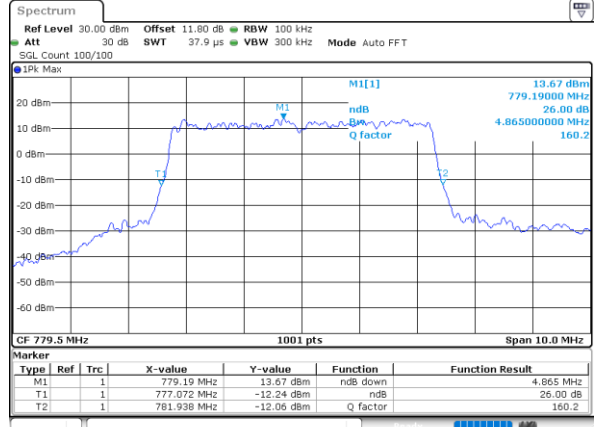
LTE Band 13

Lowest Channel / 5MHz / QPSK



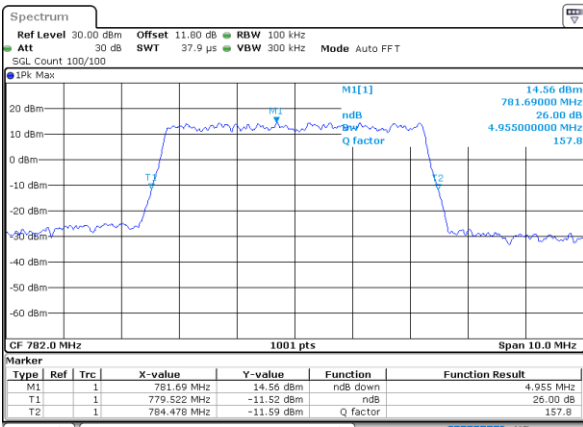
Date: 7, JAN, 2018 00:20:46

Lowest Channel / 5MHz / 16QAM



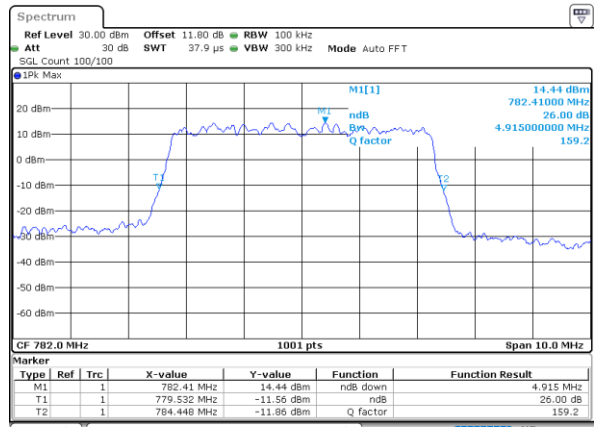
Date: 7, JAN, 2018 00:20:36

Middle Channel / 5MHz / QPSK



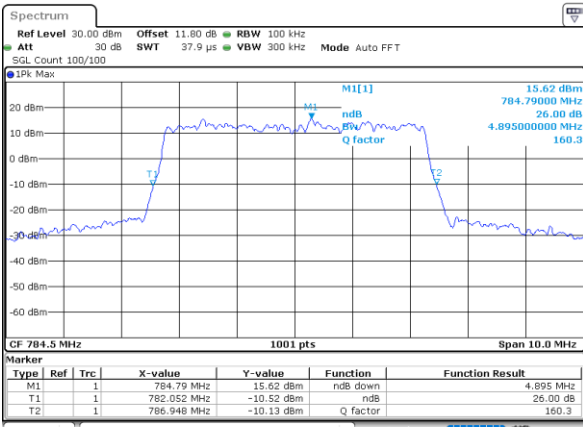
Date: 7, JAN, 2018 00:33:31

Middle Channel / 5MHz / 16QAM



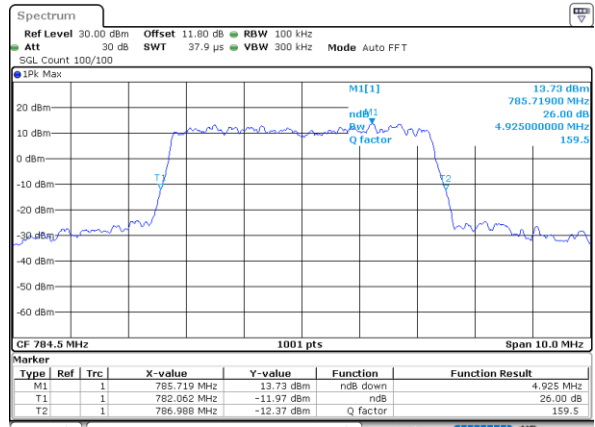
Date: 7, JAN, 2018 00:33:41

Highest Channel / 5MHz / QPSK



Date: 7, JAN, 2018 00:34:40

Highest Channel / 5MHz / 16QAM

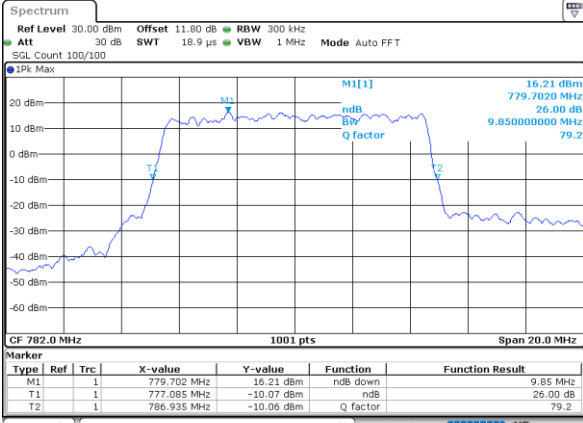


Date: 7, JAN, 2018 00:34:31



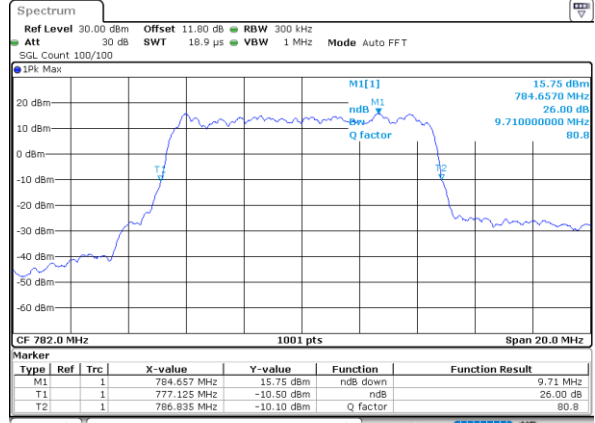
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 7\_JAN\_2018 00:43:18

Middle Channel / 10MHz / 16QAM



Date: 7\_JAN\_2018 00:43:28



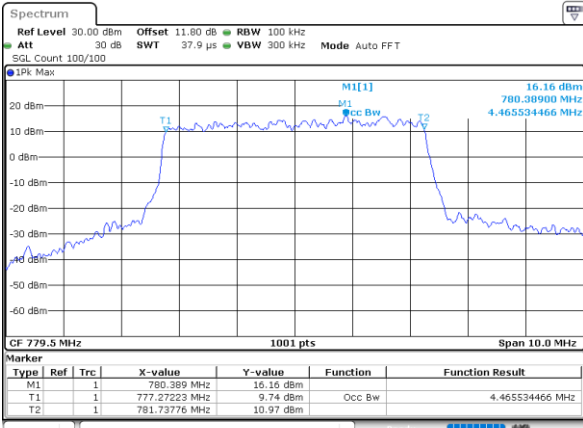
### Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(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	-	-	-	-	4.47	4.48	-	-	-	-	-	-
Middle CH	-	-	-	-	4.5	4.48	9.03	9.03	-	-	-	-
Highest CH	-	-	-	-	4.5	4.51	-	-	-	-	-	-



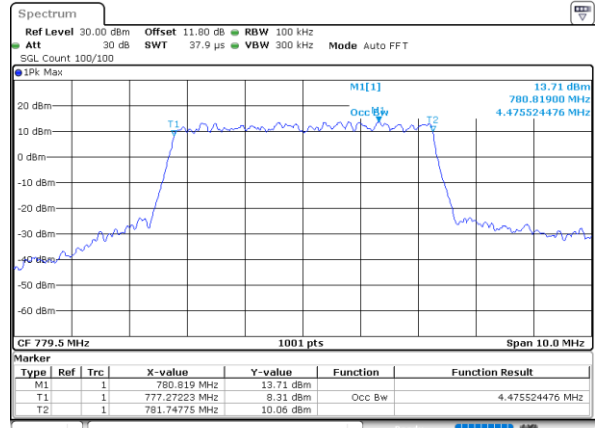
LTE Band 13

Lowest Channel / 5MHz / QPSK



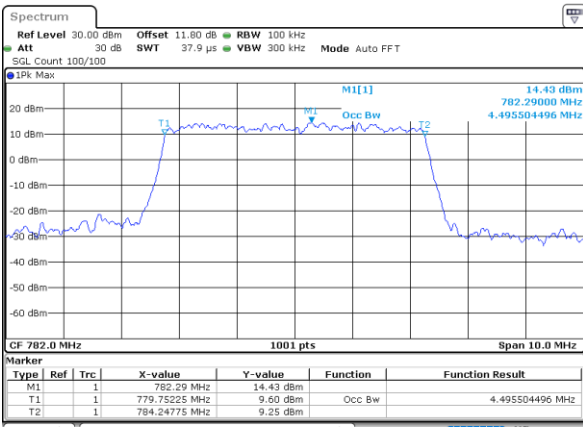
Date: 7, JAN, 2018 00:20:16

Lowest Channel / 5MHz / 16QAM



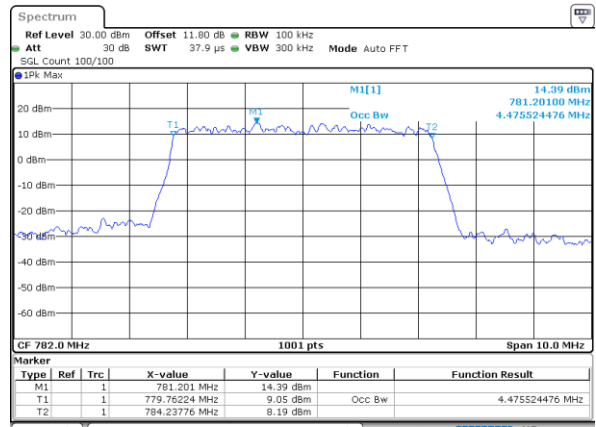
Date: 7, JAN, 2018 00:20:26

Middle Channel / 5MHz / QPSK



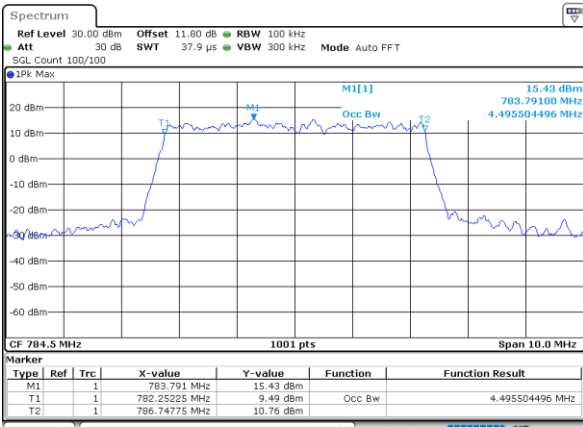
Date: 7, JAN, 2018 00:34:01

Middle Channel / 5MHz / 16QAM



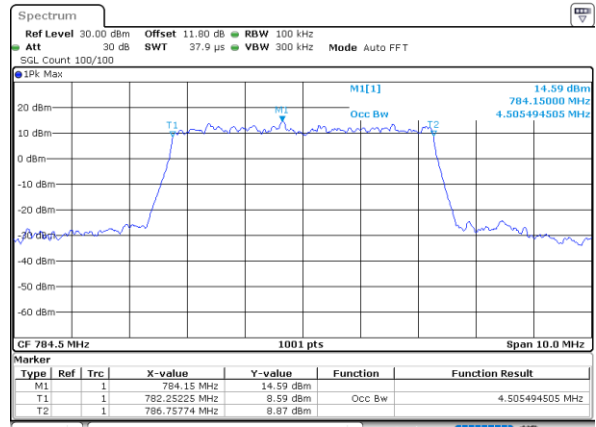
Date: 7, JAN, 2018 00:33:51

Highest Channel / 5MHz / QPSK



Date: 7, JAN, 2018 00:34:11

Highest Channel / 5MHz / 16QAM

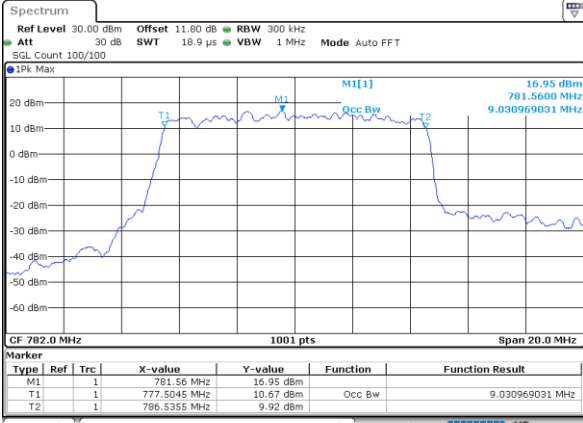


Date: 7, JAN, 2018 00:34:21



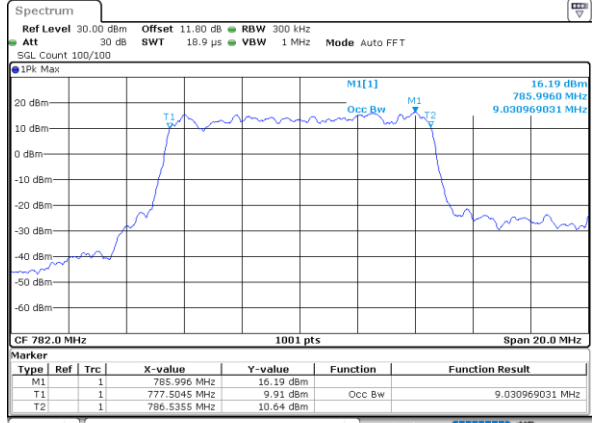
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 7\_JAN.2018 00:43:08

Middle Channel / 10MHz / 16QAM



Date: 7\_JAN.2018 00:43:18



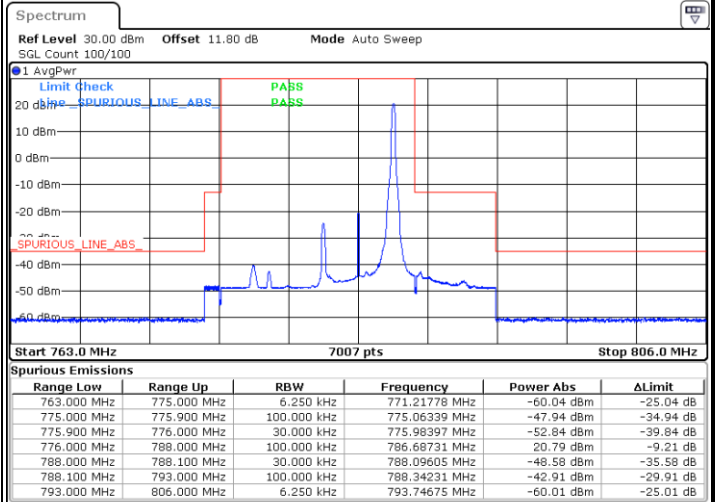
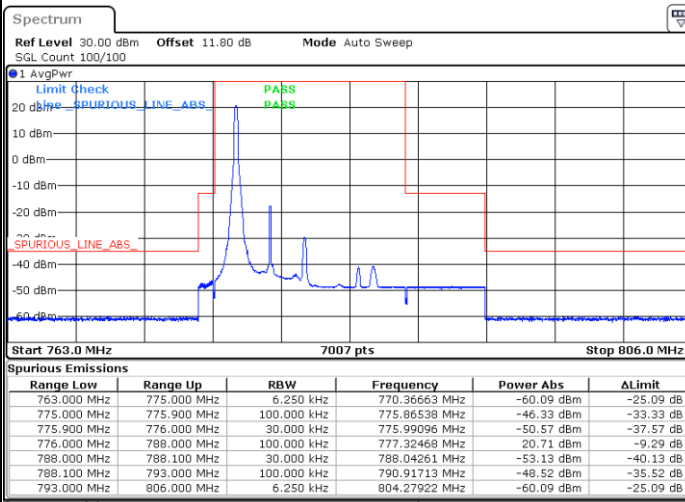
**Conducted Band Edge**



LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

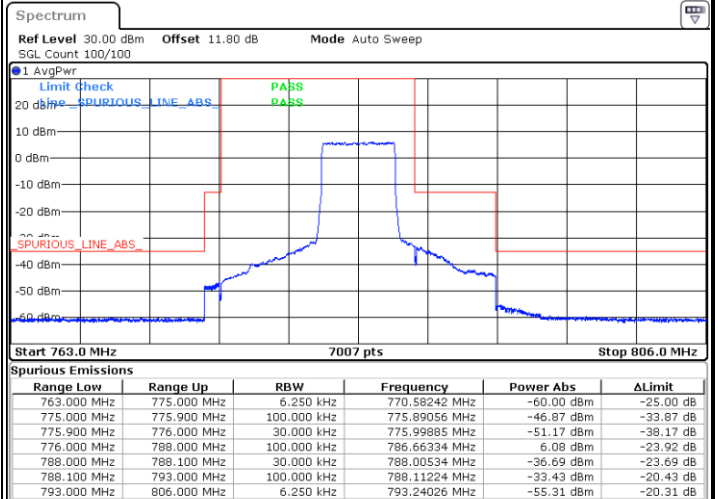
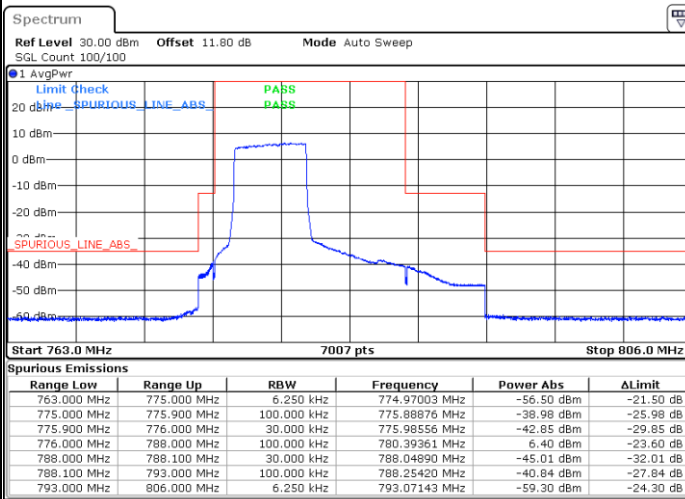


Date: 7.JAN.2018 00:29:50

Date: 7.JAN.2018 00:41:12

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 7.JAN.2018 00:24:56

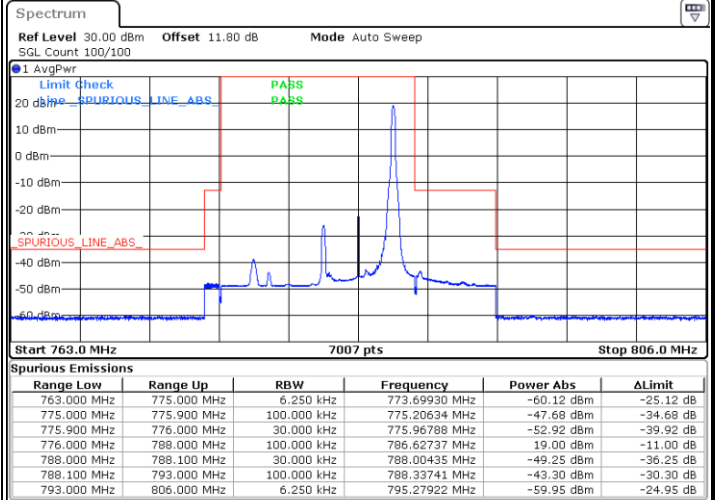
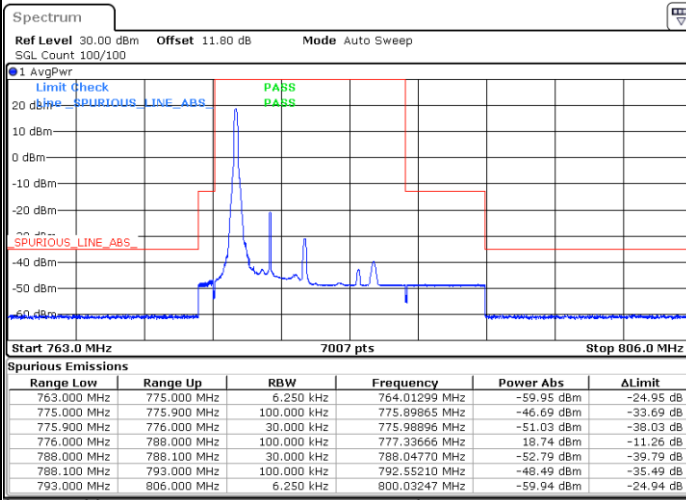
Date: 7.JAN.2018 00:36:18



LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

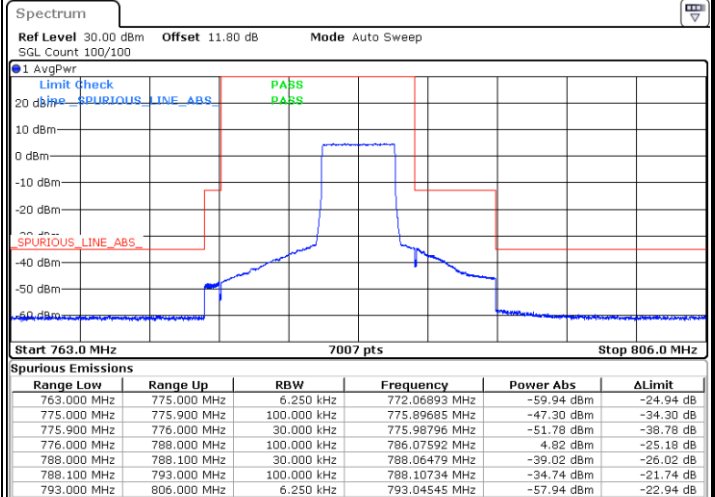
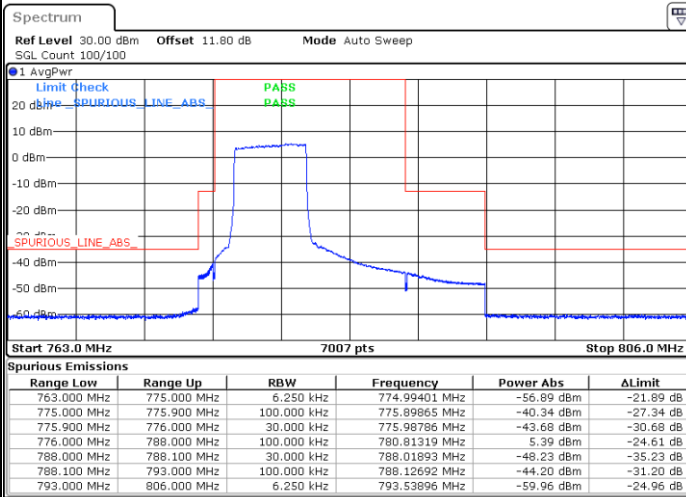


Date: 7.JAN.2018 00:28:12

Date: 7.JAN.2018 00:39:34

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 7.JAN.2018 00:26:34

Date: 7.JAN.2018 00:37:56

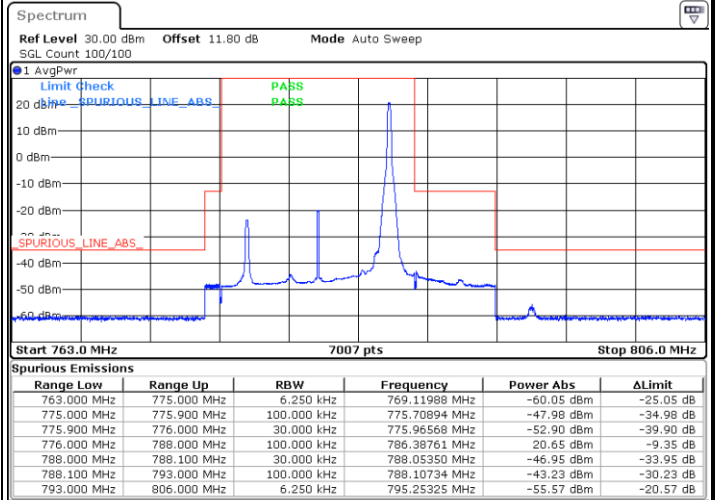
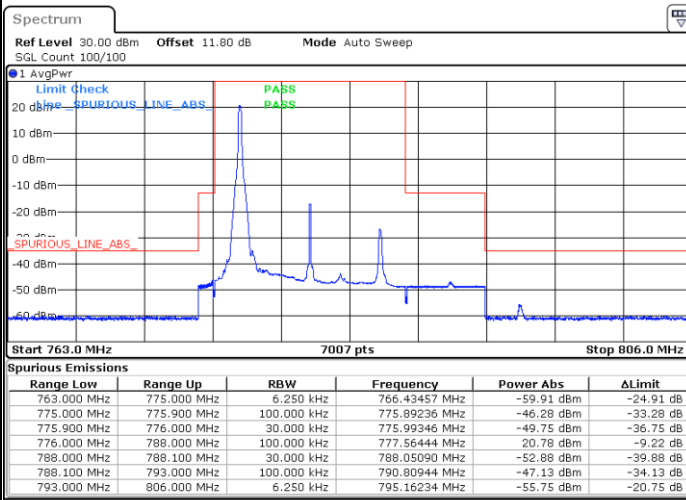




LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB

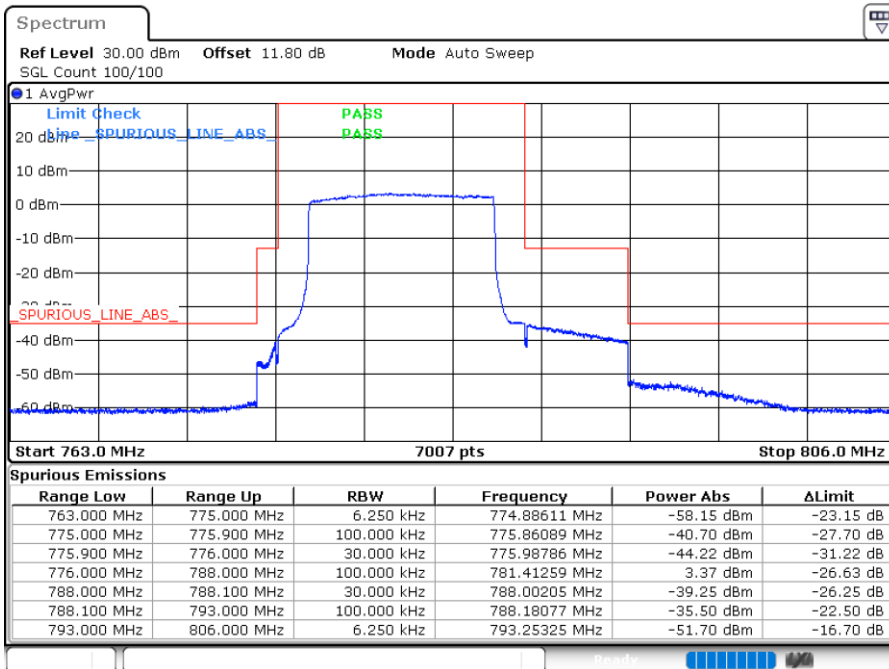
Highest Band Edge / 1 RB



Date: 7.JAN.2018 00:50:10

Date: 7.JAN.2018 00:51:48

Band Edge / Full RB



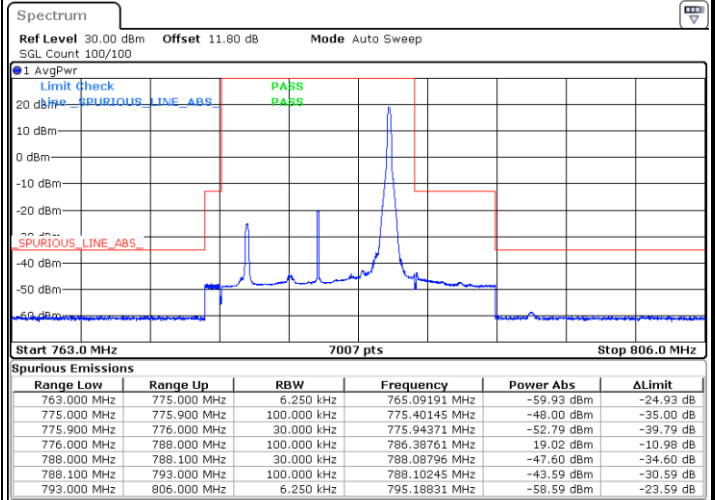
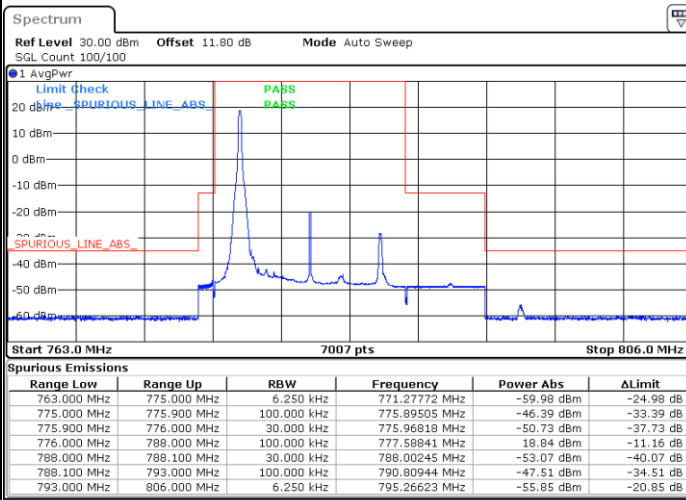
Date: 7.JAN.2018 00:45:15



LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

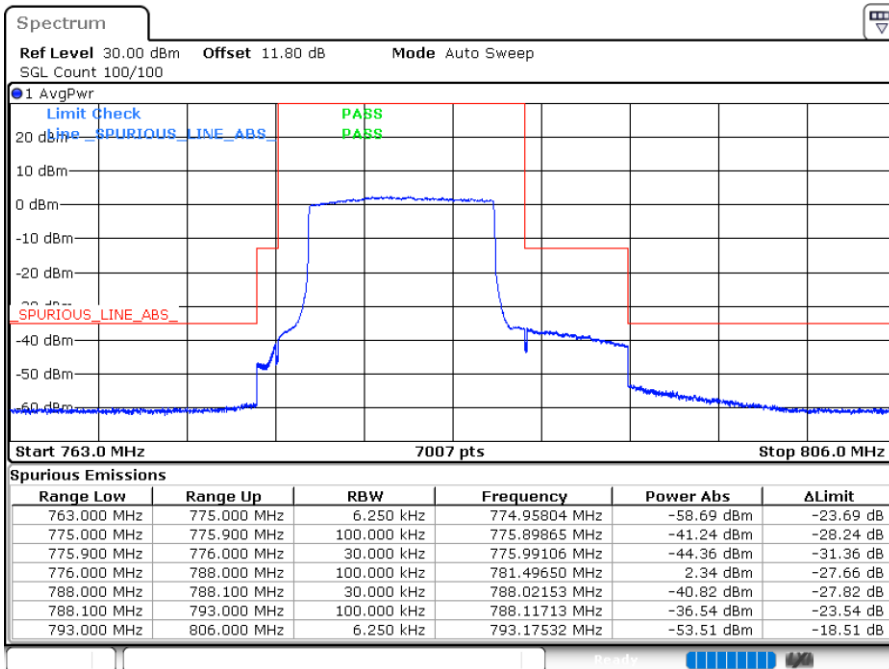
Highest Band Edge / 1 RB



Date: 7, JAN, 2018 00:48:32

Date: 7, JAN, 2018 00:53:26

Band Edge / Full RB



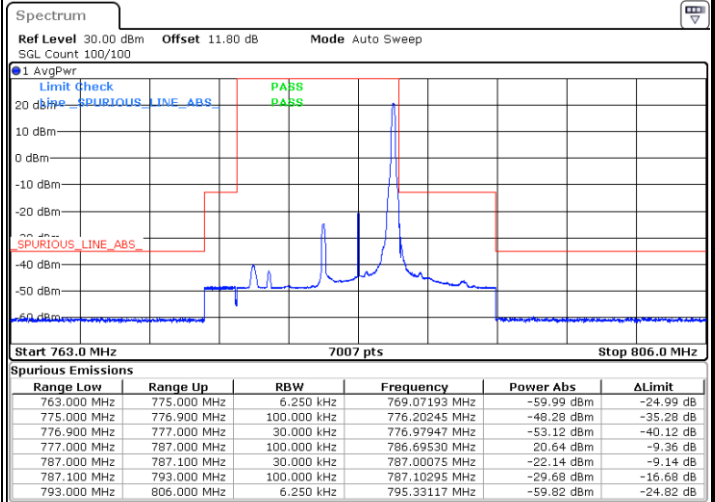
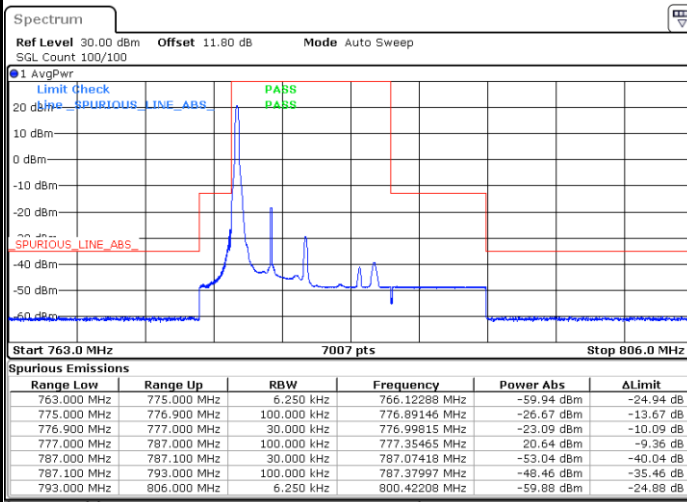
Date: 7, JAN, 2018 00:46:54



IC LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

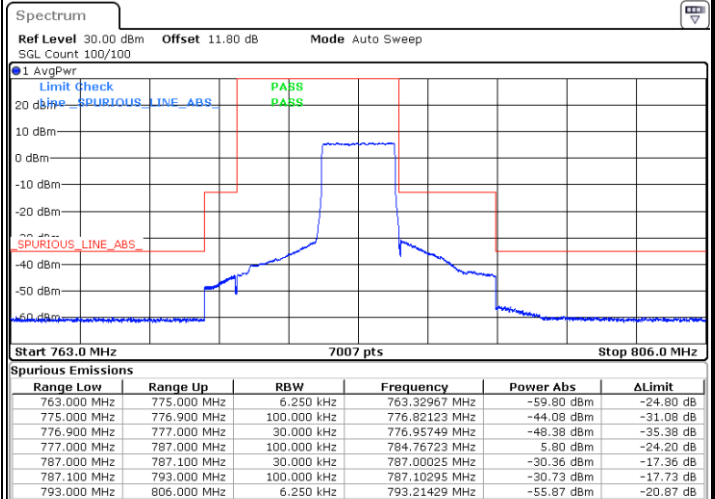
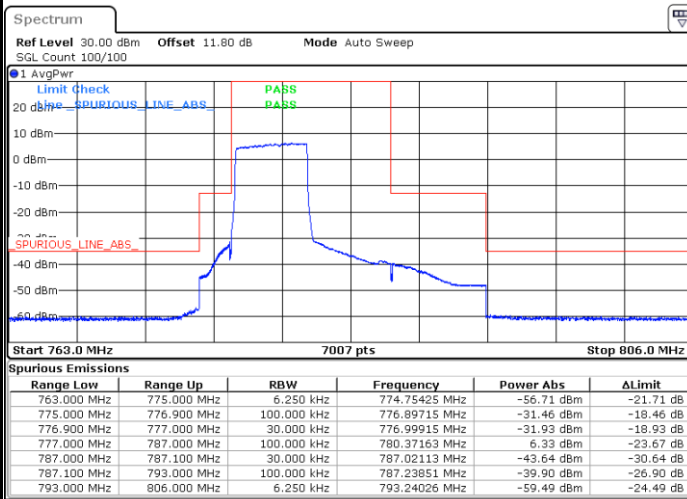


Date: 7.JAN.2018 01:03:44

Date: 7.JAN.2018 01:10:16

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 7.JAN.2018 00:58:50

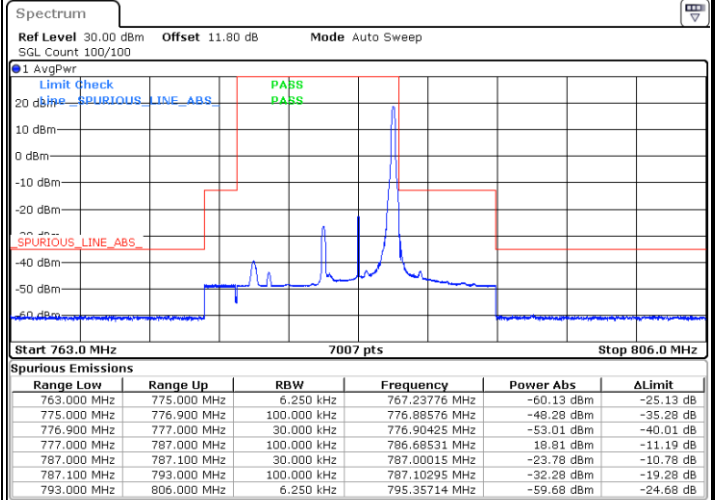
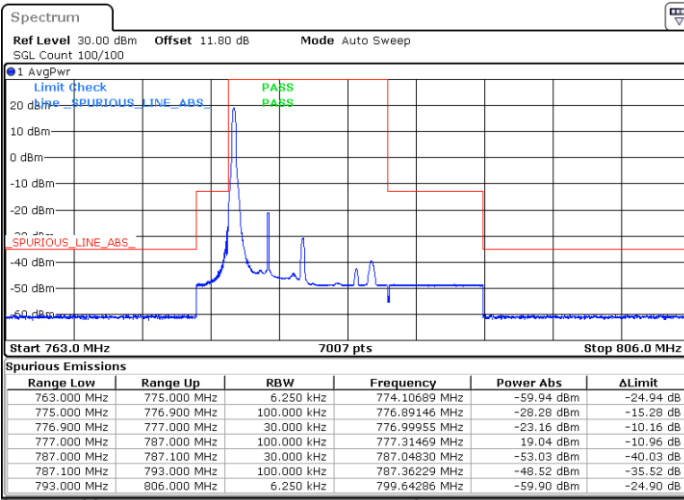
Date: 7.JAN.2018 01:05:22



IC LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

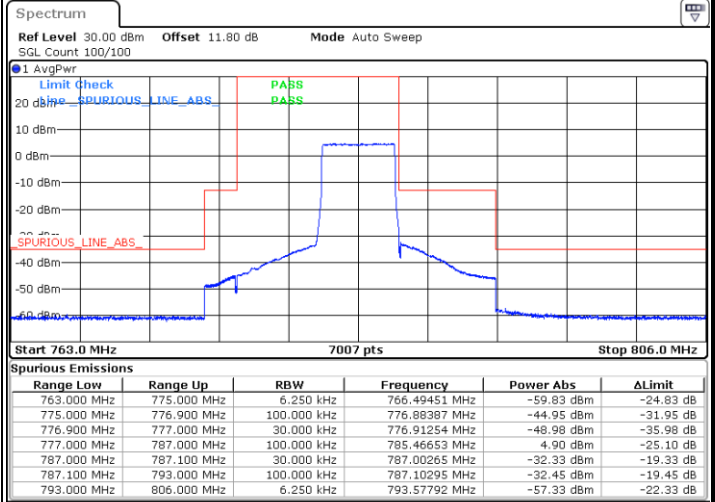
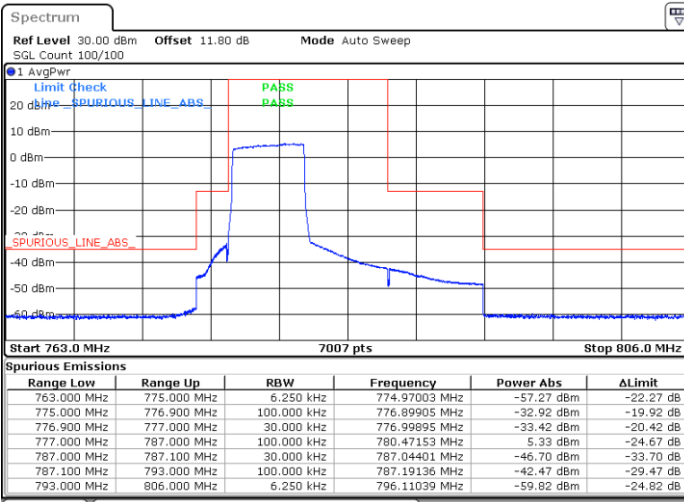


Date: 7.JAN.2018 01:02:06

Date: 7.JAN.2018 01:08:38

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 7.JAN.2018 01:00:28

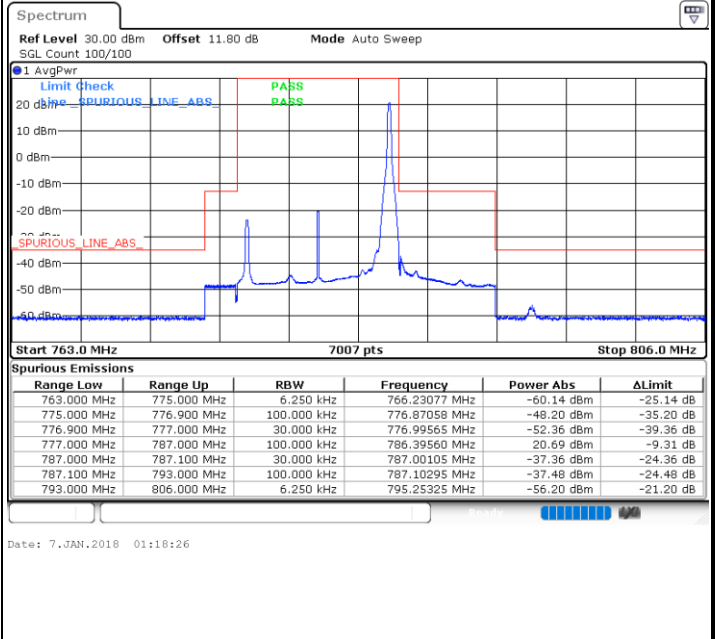
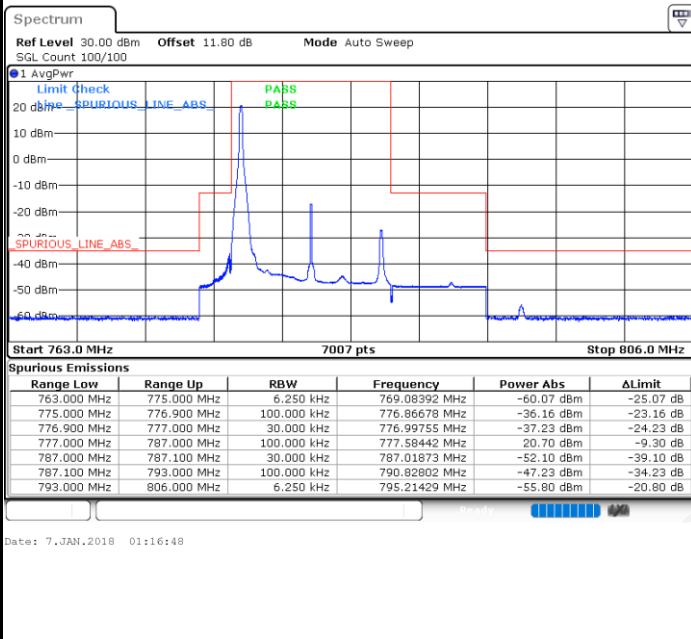
Date: 7.JAN.2018 01:07:00



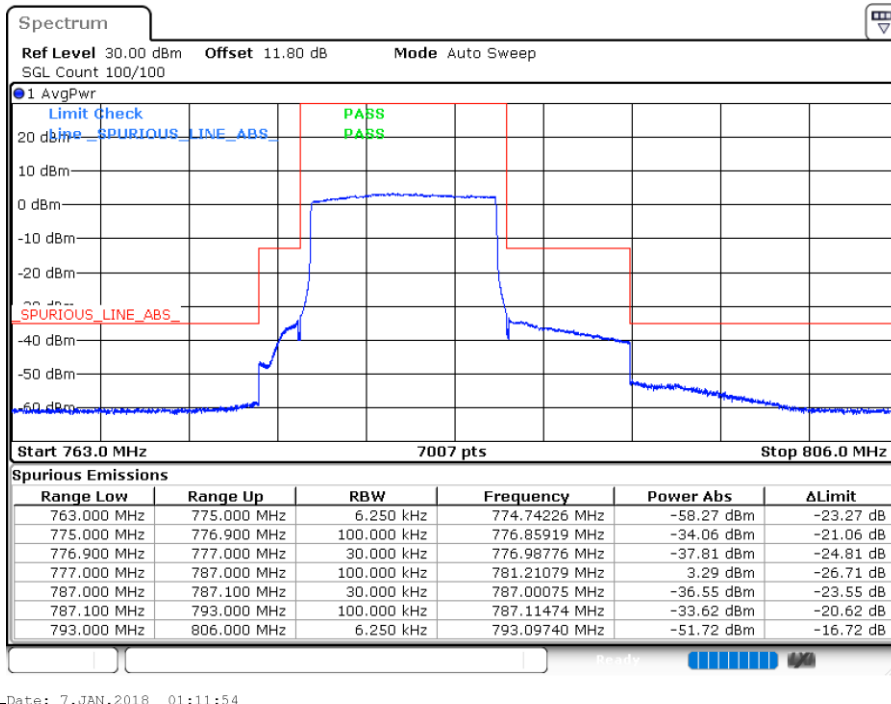
IC LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



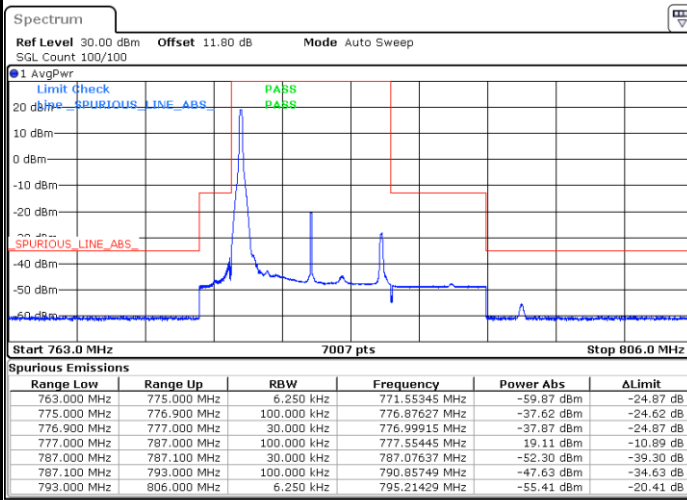
Band Edge / Full RB





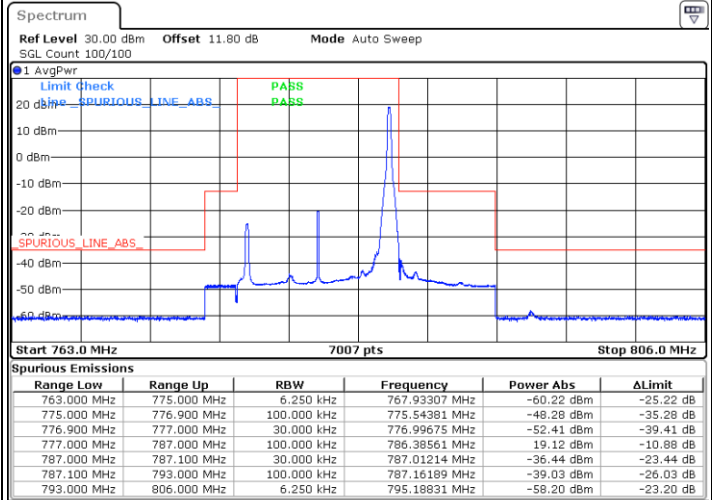
IC LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



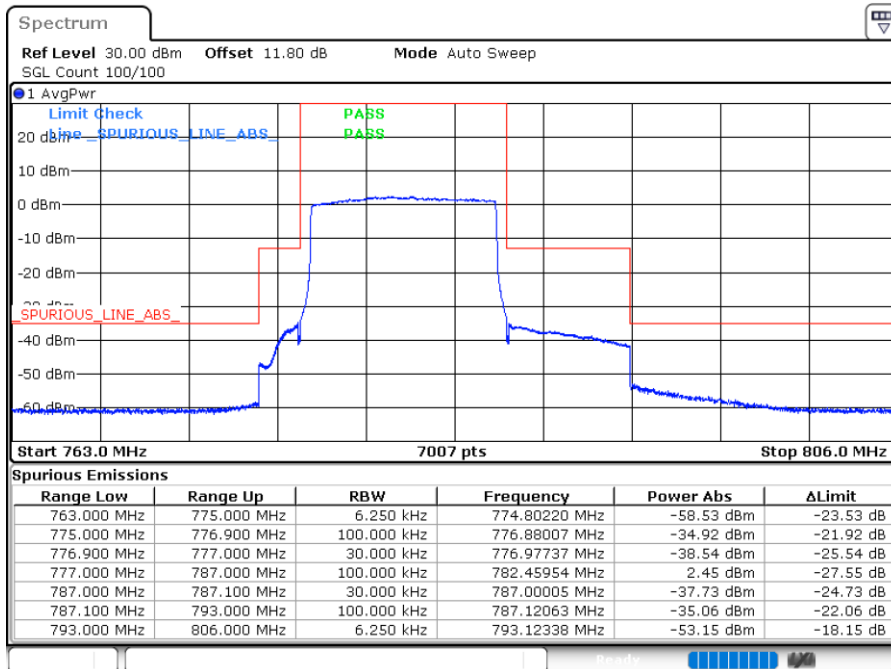
Date: 7.JAN.2018 01:15:10

Highest Band Edge / 1 RB



Date: 7.JAN.2018 01:20:04

Band Edge / Full RB



Date: 7.JAN.2018 01:13:32



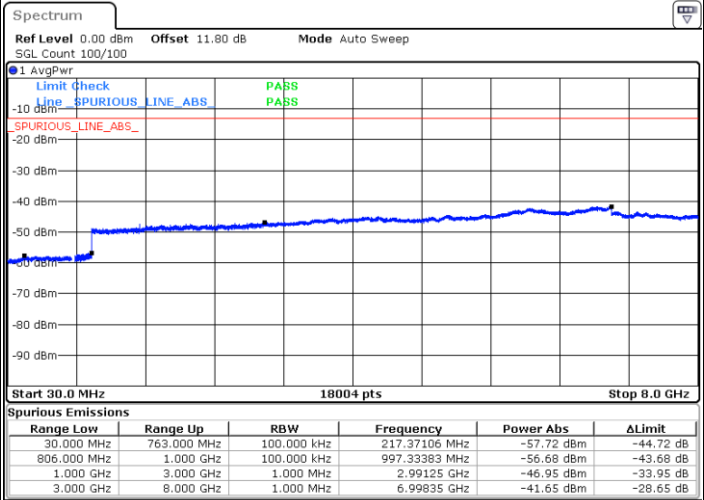
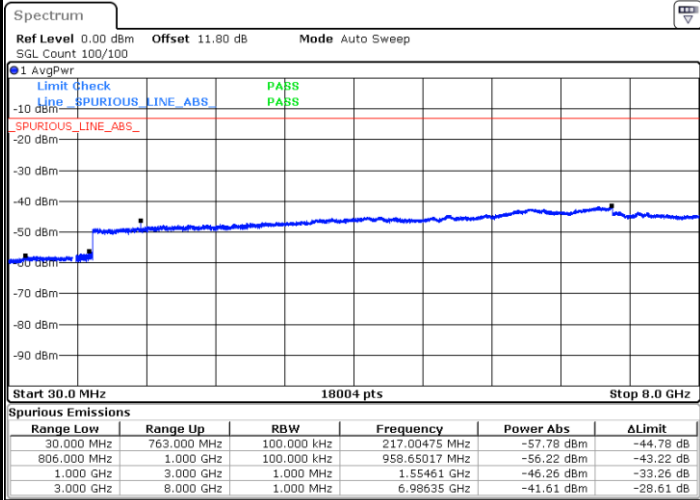
**Conducted Spurious Emission**



LTE Band 13 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

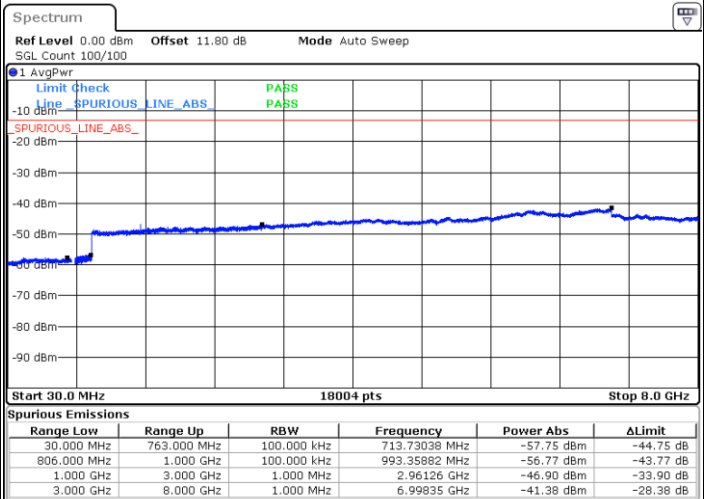
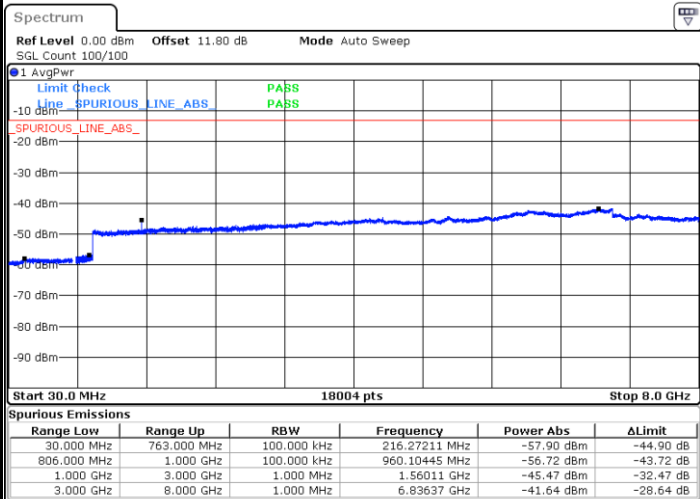


Date: 7. JAN. 2018 00:30:44

Date: 7. JAN. 2018 00:31:36

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 7. JAN. 2018 00:33:22

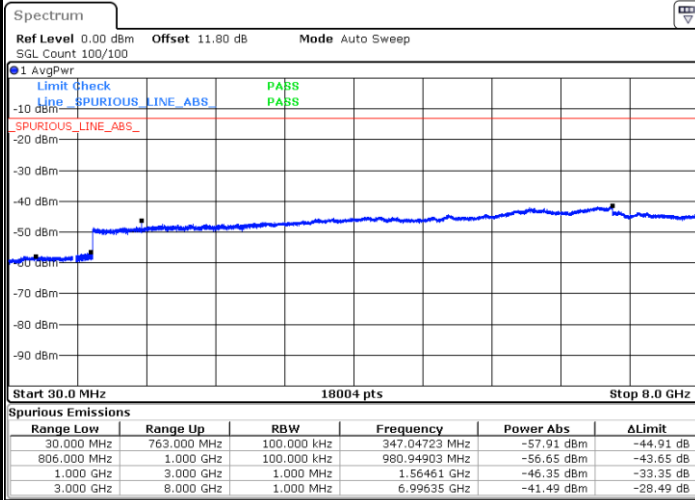
Date: 7. JAN. 2018 00:32:29





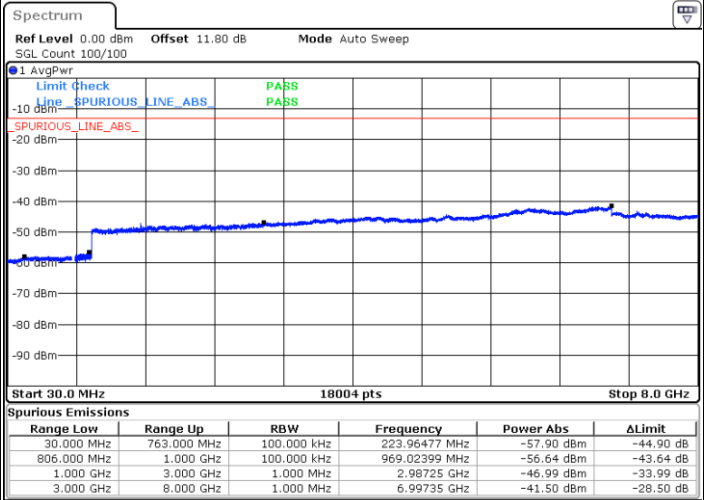
LTE Band 13 / 5MHz

Highest Channel / QPSK



Date: 7. JAN. 2018 00:42:05

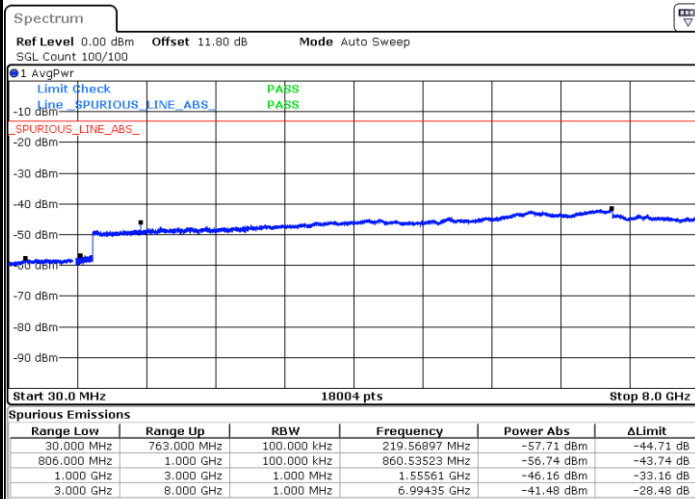
Highest Channel / 16QAM



Date: 7. JAN. 2018 00:42:58

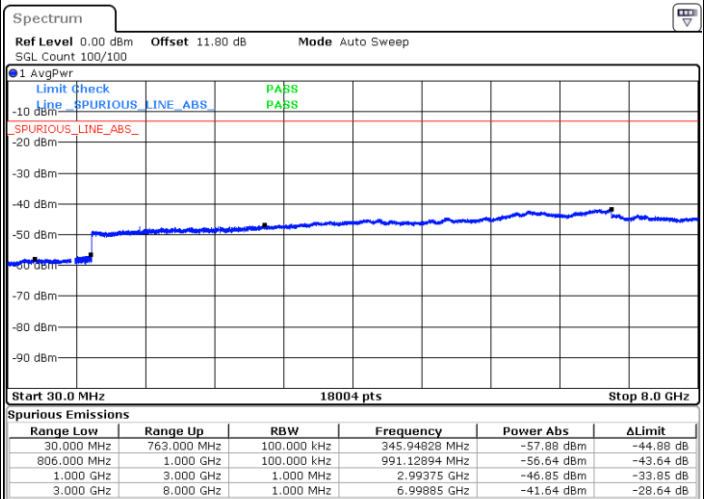
LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 7. JAN. 2018 00:55:12

Middle Channel / 16QAM



Date: 7. JAN. 2018 00:54:19



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	0.0001	PASS
40	Normal Voltage	0.0003	
30	Normal Voltage	0.0000	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0009	
0	Normal Voltage	0.0005	
-10	Normal Voltage	0.0005	
-20	Normal Voltage	0.0000	
-30	Normal Voltage	0.0005	
20	Maximum Voltage	0.0013	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0017	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



## LTE Band 17

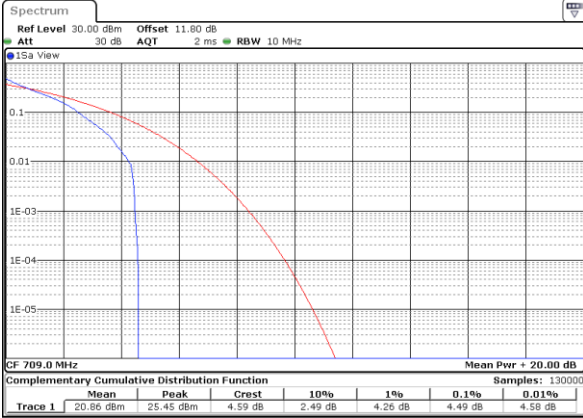
### Peak-to-Average Ratio

Mode	LTE Band 17 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.49	5.04	5.45	6.06	<b>PASS</b>
Middle CH	4.52	5.04	5.74	5.91	
Highest CH	4.61	4.93	5.74	5.86	



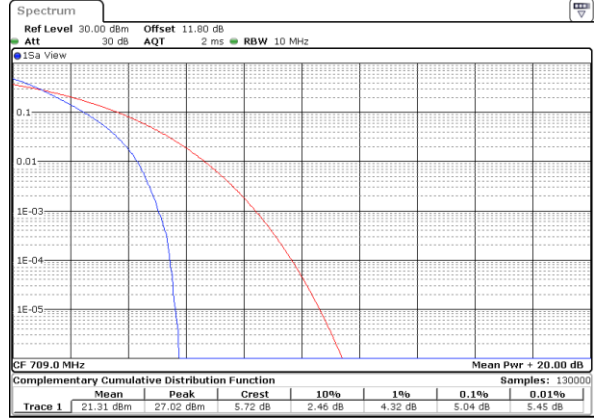
LTE Band 17 / 10MHz / QPSK

Lowest Channel / 1RB



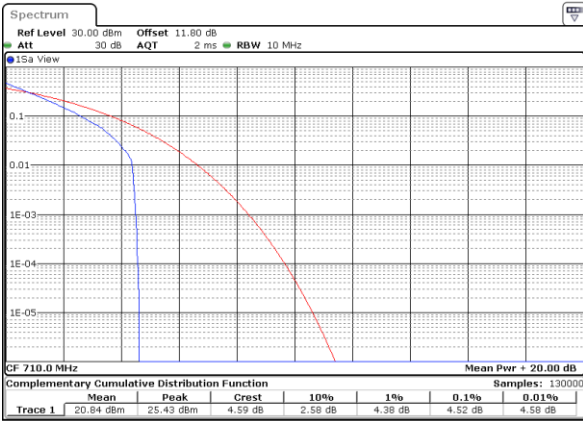
Date: 7, JAN, 2018 00:17:18

Lowest Channel / Full RB



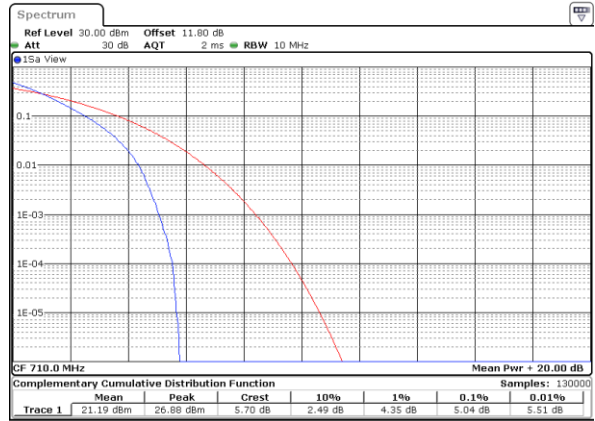
Date: 7, JAN, 2018 00:17:27

Middle Channel/ 1RB



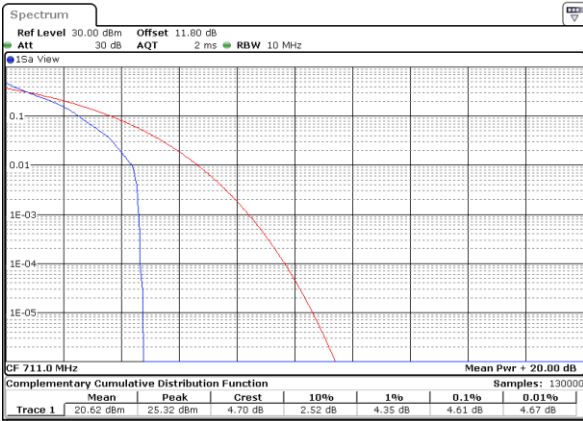
Date: 7, JAN, 2018 00:17:36

Middle Channel / Full RB



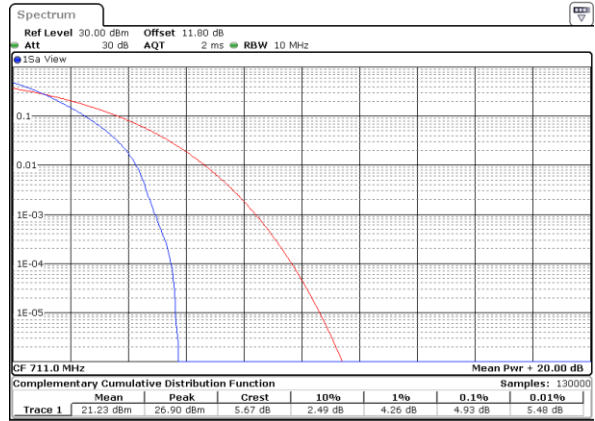
Date: 7, JAN, 2018 00:17:45

Highest Channel/ 1RB



Date: 7, JAN, 2018 00:17:53

Highest Channel / Full RB

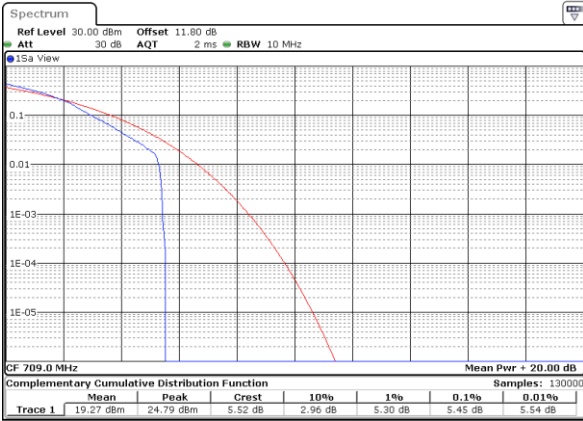


Date: 7, JAN, 2018 00:18:02



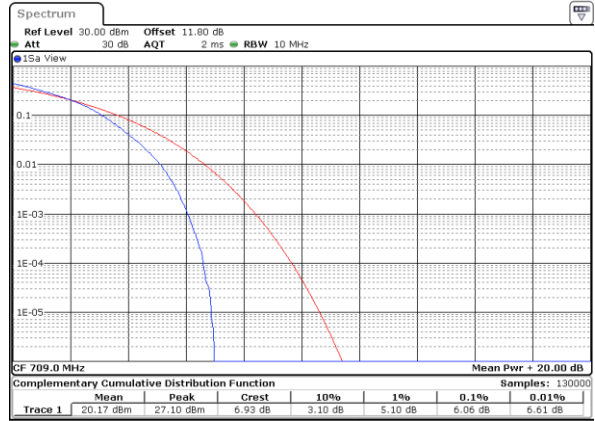
LTE Band 17 / 10MHz / 16QAM

Lowest Channel / 1RB



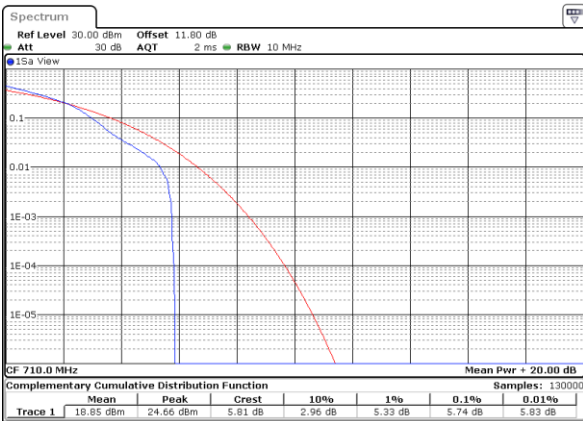
Date: 7, JAN, 2018 00:16:06

Lowest Channel / Full RB



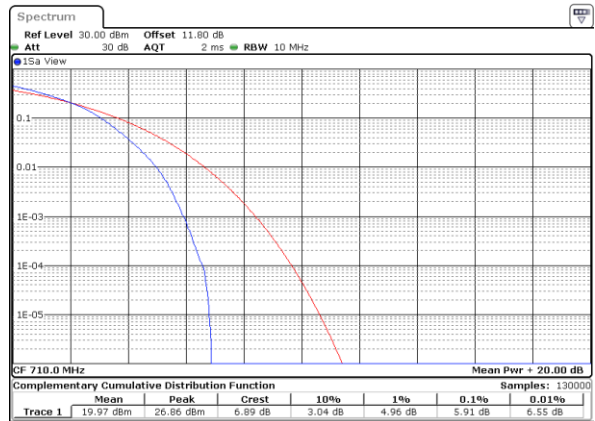
Date: 7, JAN, 2018 00:16:19

Middle Channel / 1RB



Date: 7, JAN, 2018 00:16:35

Middle Channel / Full RB



Date: 7, JAN, 2018 00:16:51

Highest Channel / 1RB



Date: 7, JAN, 2018 00:17:00

Highest Channel / Full RB



Date: 7, JAN, 2018 00:17:09



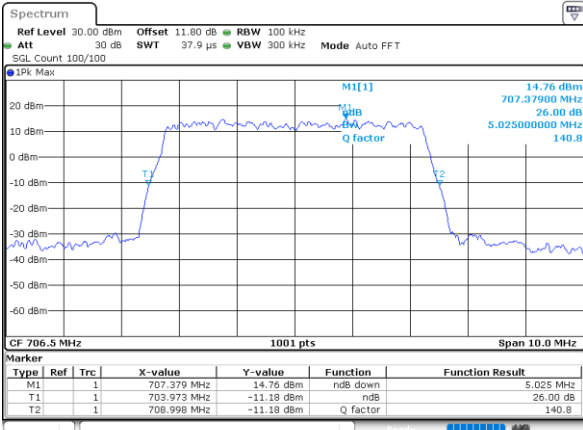
**26dB Bandwidth**

Mode	LTE Band 17 : 26dB BW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW												
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	5.03	4.86	9.85	9.77	-	-	-	-
Middle CH	-	-	-	-	4.92	4.91	9.75	9.77	-	-	-	-
Highest CH	-	-	-	-	4.98	4.91	9.87	9.95	-	-	-	-



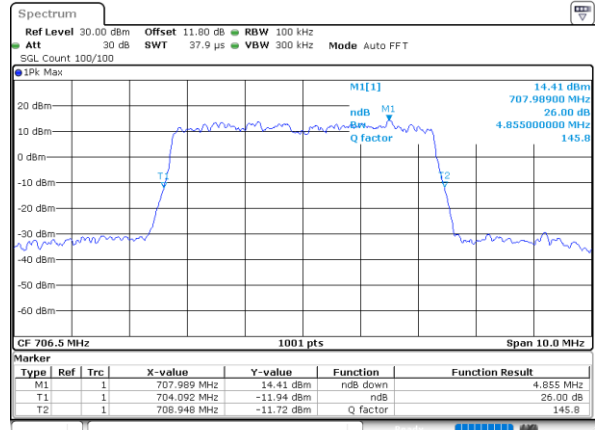
LTE Band 17

Lowest Channel / 5MHz / QPSK



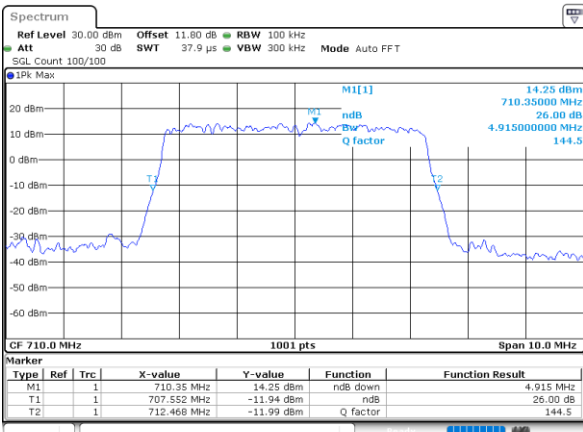
Date: 6, JAN, 2018 23:43:29

Lowest Channel / 5MHz / 16QAM



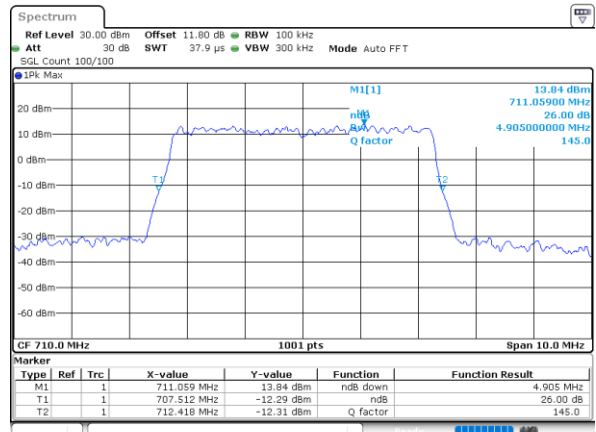
Date: 6, JAN, 2018 23:43:39

Middle Channel / 5MHz / QPSK



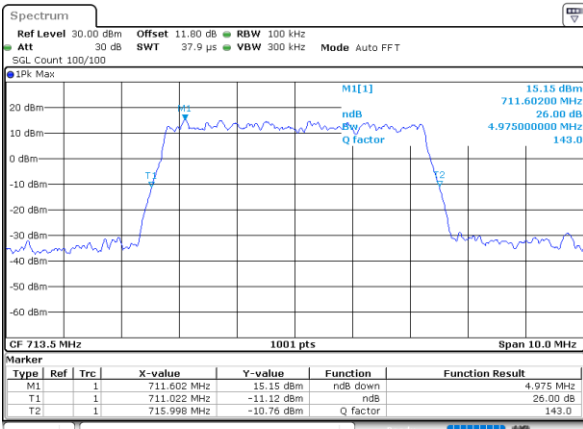
Date: 6, JAN, 2018 23:50:26

Middle Channel / 5MHz / 16QAM



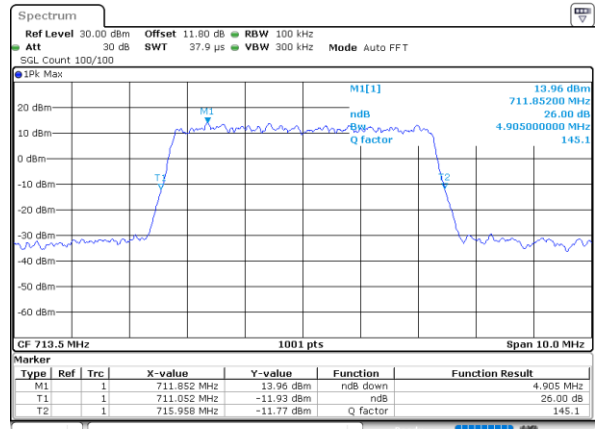
Date: 6, JAN, 2018 23:50:36

Highest Channel / 5MHz / QPSK



Date: 6, JAN, 2018 23:52:52

Highest Channel / 5MHz / 16QAM

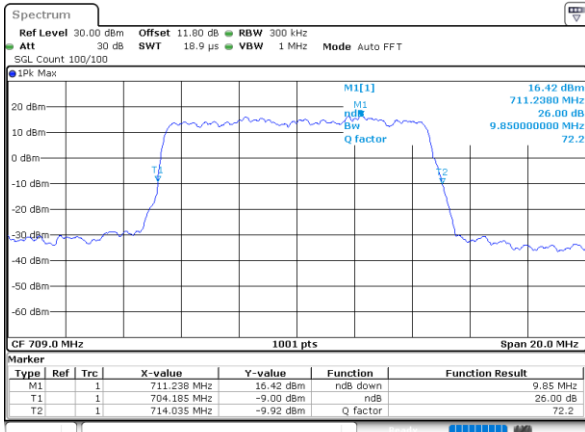


Date: 6, JAN, 2018 23:53:01



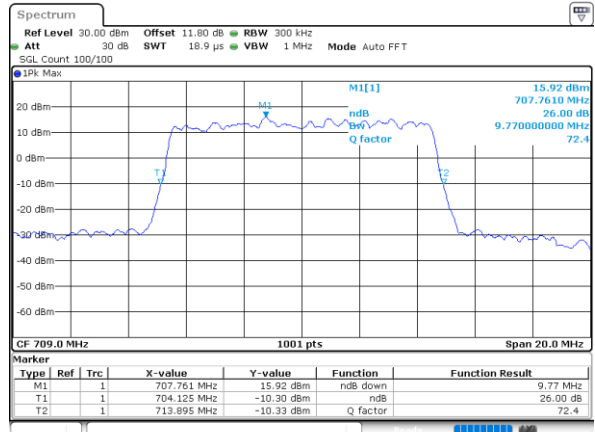
LTE Band 17

Lowest Channel / 10MHz / QPSK



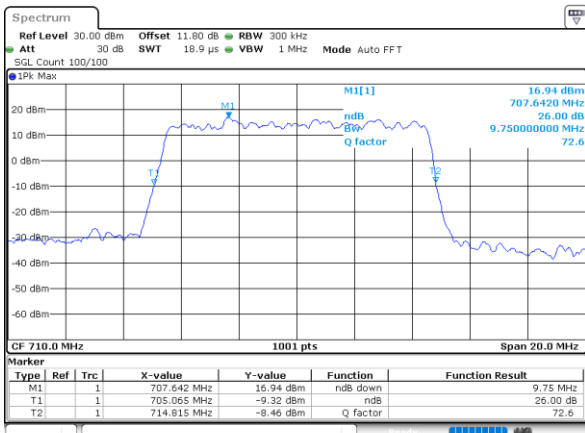
Date: 6, JAN, 2018 23:59:49

Lowest Channel / 10MHz / 16QAM



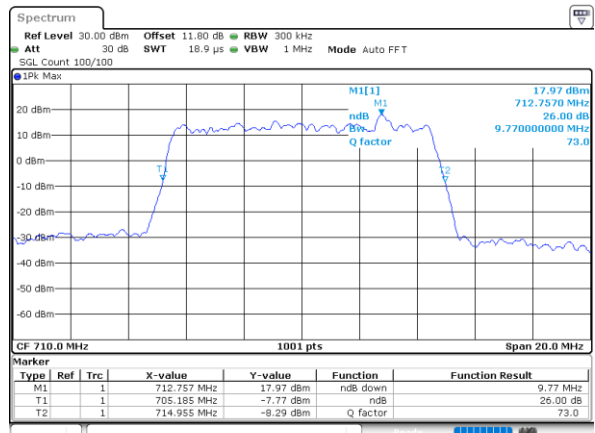
Date: 6, JAN, 2018 23:59:59

Middle Channel / 10MHz / QPSK



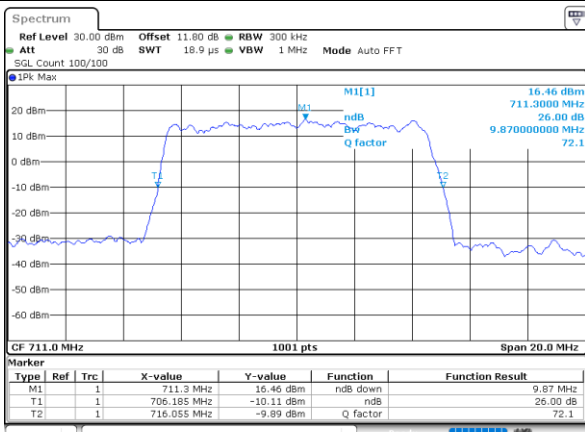
Date: 7, JAN, 2018 00:06:46

Middle Channel / 10MHz / 16QAM



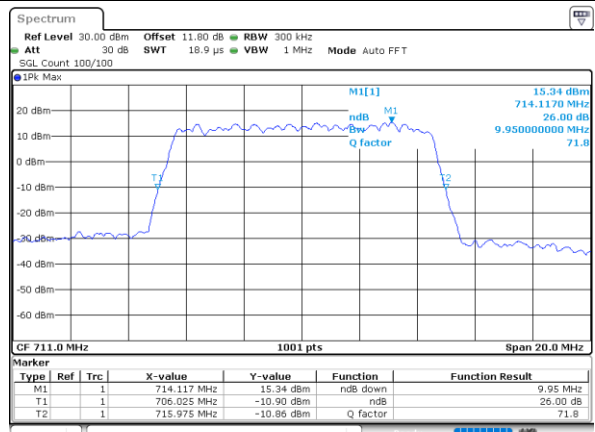
Date: 7, JAN, 2018 00:06:56

Highest Channel / 10MHz / QPSK



Date: 7, JAN, 2018 00:09:12

Highest Channel / 10MHz / 16QAM



Date: 7, JAN, 2018 00:09:22





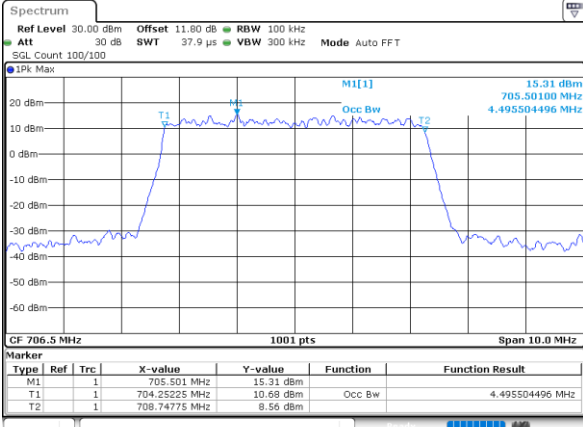
### Occupied Bandwidth

Mode	LTE Band 17 : 99%OBW(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	-	-	-	-	4.5	4.48	9.01	9.03	-	-	-	-
Middle CH	-	-	-	-	4.51	4.49	8.99	8.97	-	-	-	-
Highest CH	-	-	-	-	4.47	4.49	9.05	8.97	-	-	-	-



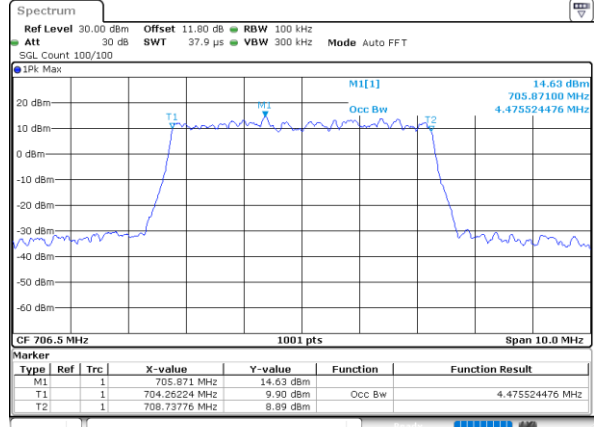
LTE Band 17

Lowest Channel / 5MHz / QPSK



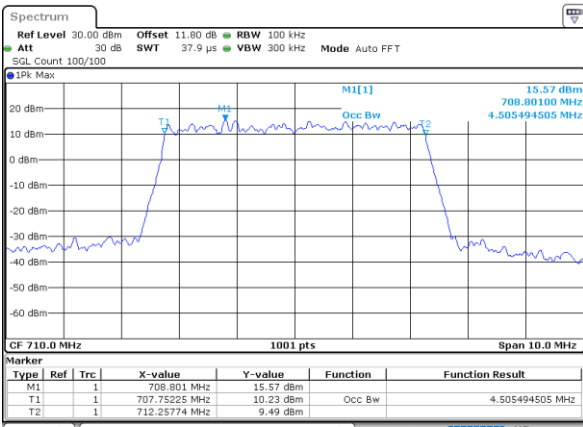
Date: 6, JAN, 2018 23:43:09

Lowest Channel / 5MHz / 16QAM



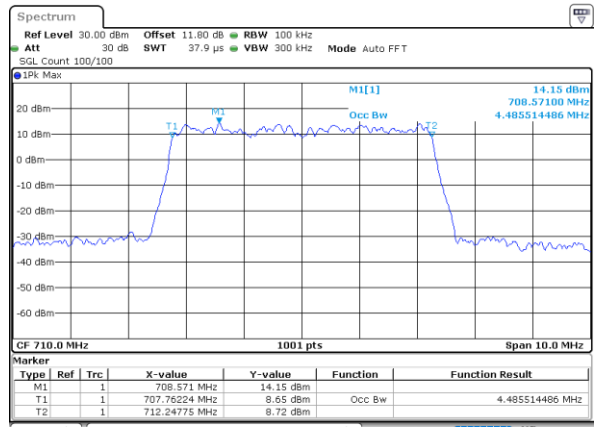
Date: 6, JAN, 2018 23:43:19

Middle Channel / 5MHz / QPSK



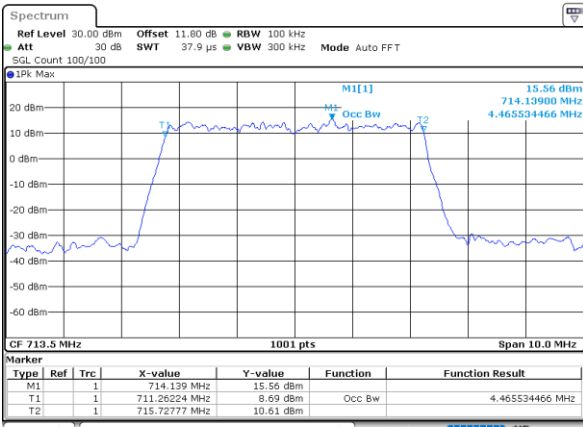
Date: 6, JAN, 2018 23:50:06

Middle Channel / 5MHz / 16QAM



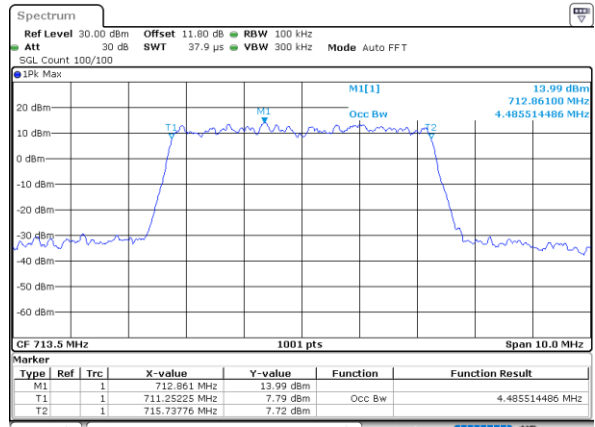
Date: 6, JAN, 2018 23:50:16

Highest Channel / 5MHz / QPSK



Date: 6, JAN, 2018 23:52:32

Highest Channel / 5MHz / 16QAM

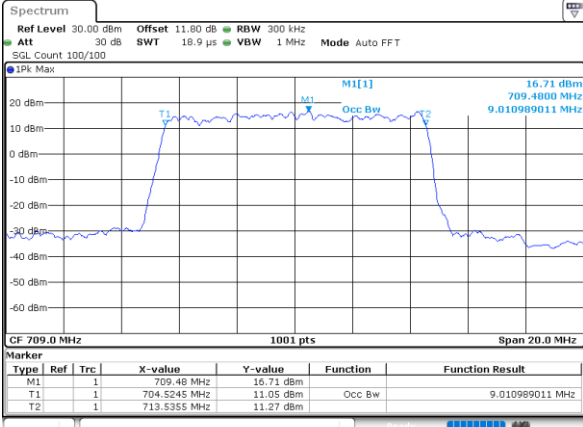


Date: 6, JAN, 2018 23:52:42



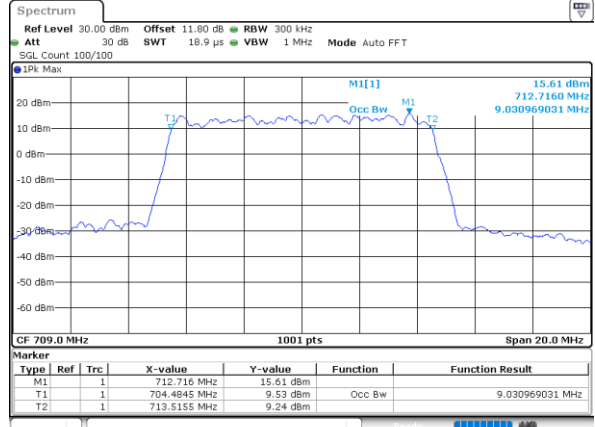
LTE Band 17

Lowest Channel / 10MHz / QPSK



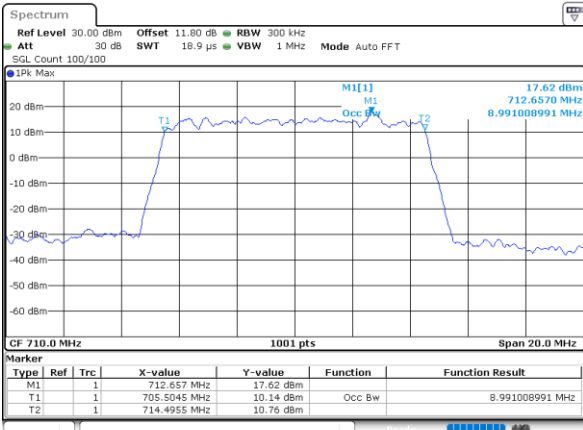
Date: 6, JAN, 2018 23:59:29

Lowest Channel / 10MHz / 16QAM



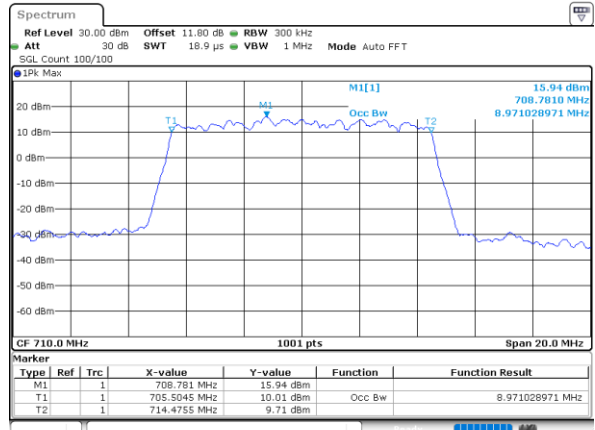
Date: 6, JAN, 2018 23:59:39

Middle Channel / 10MHz / QPSK



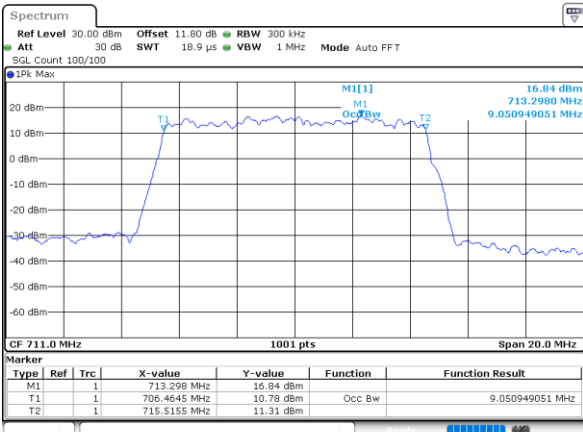
Date: 7, JAN, 2018 00:06:26

Middle Channel / 10MHz / 16QAM



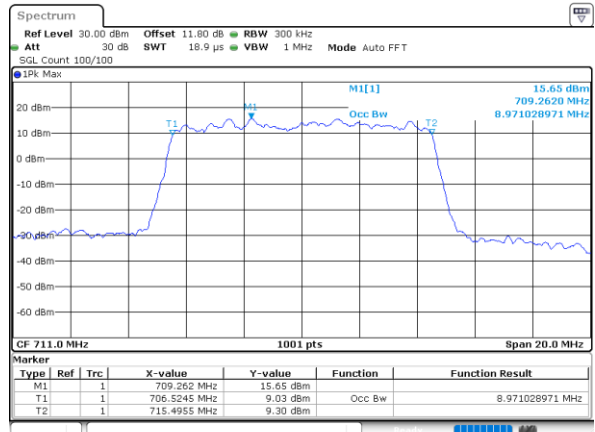
Date: 7, JAN, 2018 00:06:36

Highest Channel / 10MHz / QPSK



Date: 7, JAN, 2018 00:08:52

Highest Channel / 10MHz / 16QAM



Date: 7, JAN, 2018 00:09:02