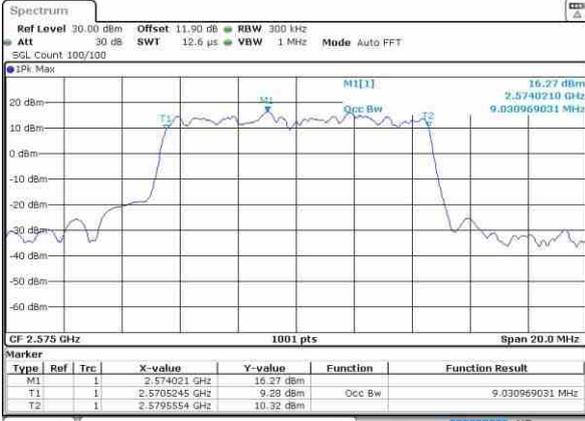




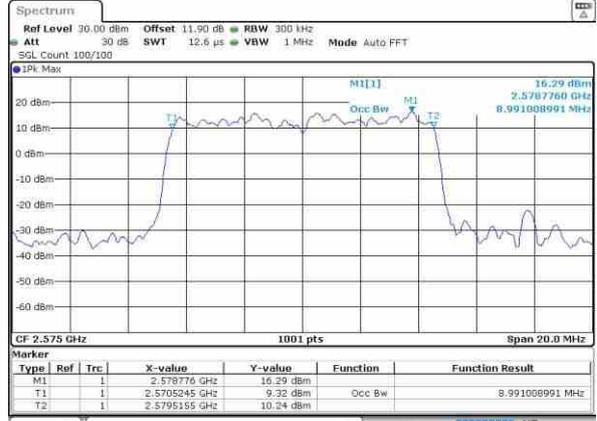
LTE Band 38

Lowest Channel / 10MHz / QPSK



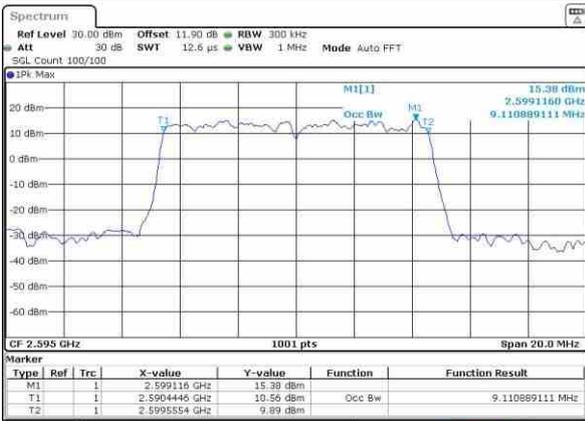
Date: 23 MAY 2019 01:21:17

Lowest Channel / 10MHz / 16QAM



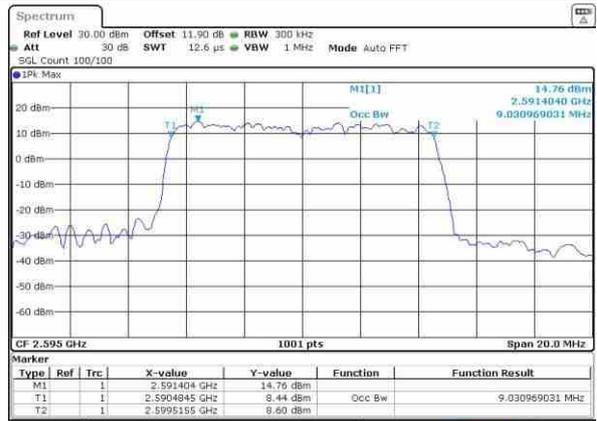
Date: 23 MAY 2019 01:21:29

Middle Channel / 10MHz / QPSK



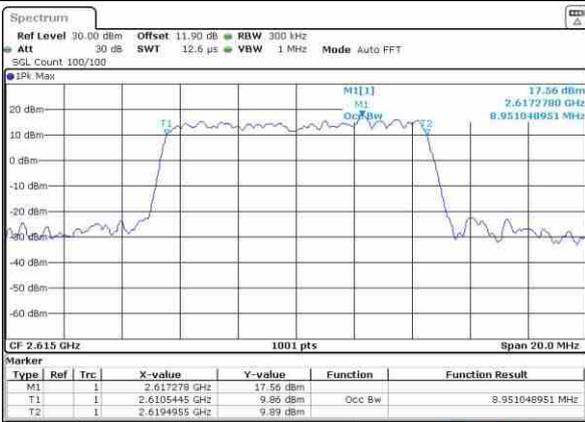
Date: 23 MAY 2019 01:22:06

Middle Channel / 10MHz / 16QAM



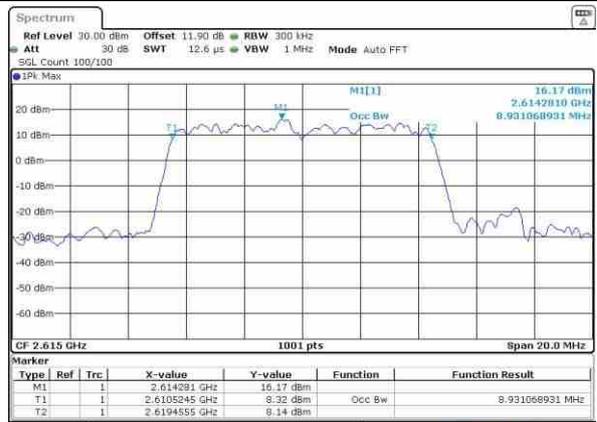
Date: 23 MAY 2019 01:22:18

Highest Channel / 10MHz / QPSK



Date: 23 MAY 2019 01:22:53

Highest Channel / 10MHz / 16QAM

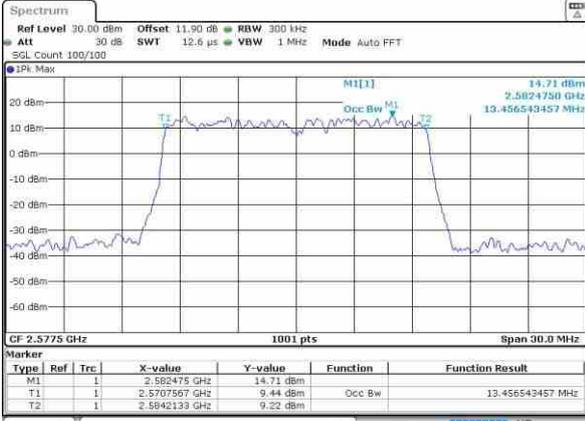


Date: 23 MAY 2019 01:23:06

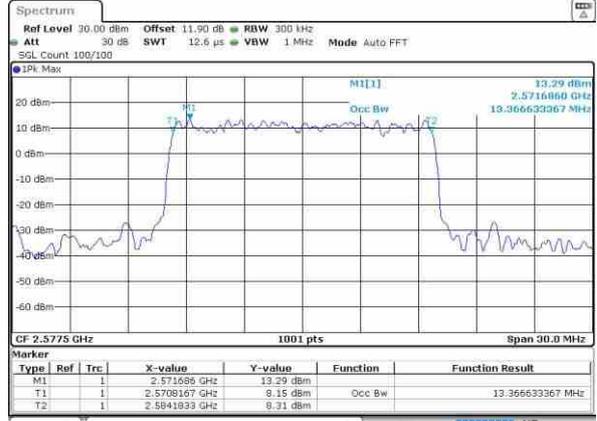


LTE Band 38

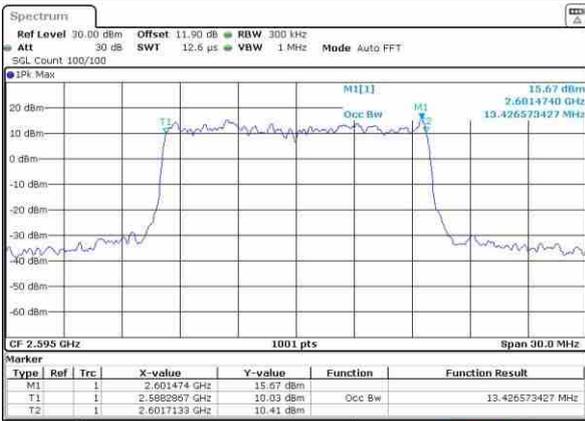
Lowest Channel / 15MHz / QPSK



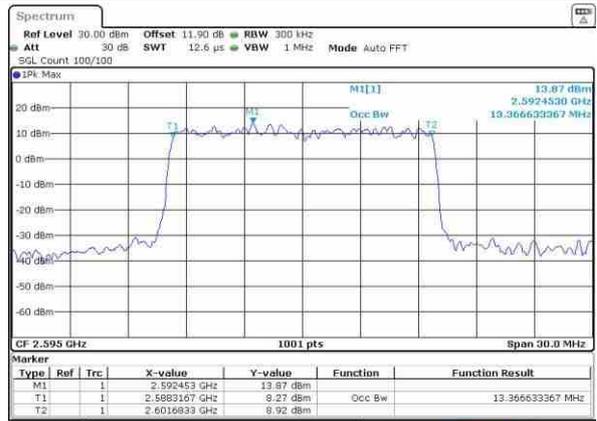
Lowest Channel / 15MHz / 16QAM



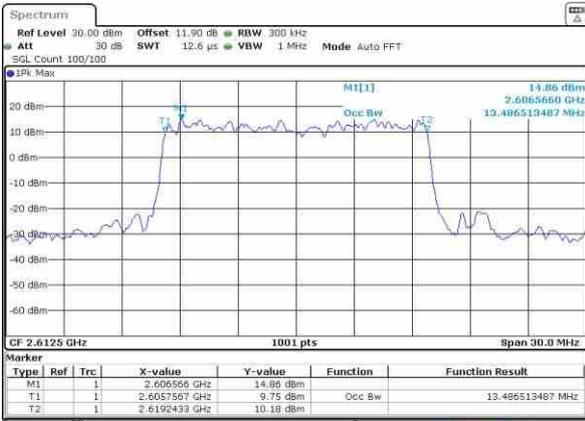
Middle Channel / 15MHz / QPSK



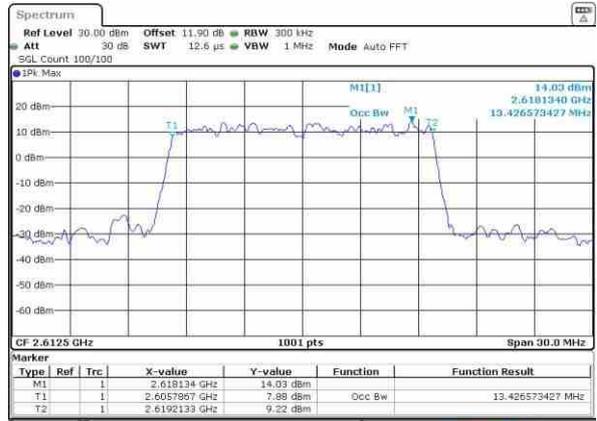
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK



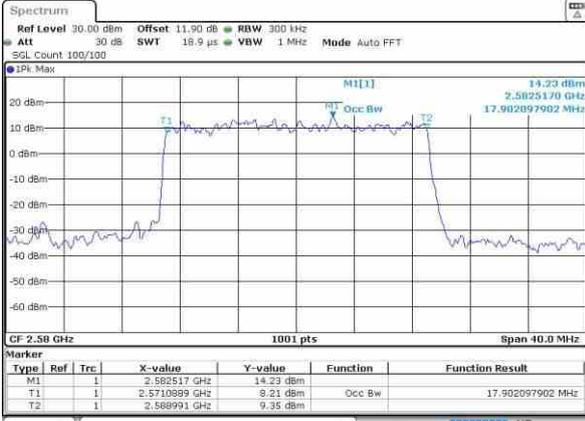
Highest Channel / 15MHz / 16QAM





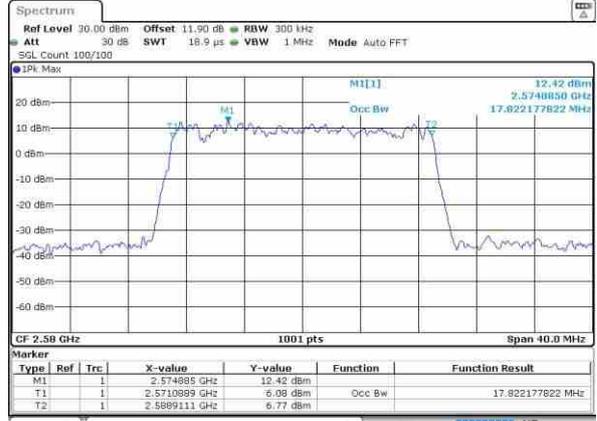
LTE Band 38

Lowest Channel / 20MHz / QPSK



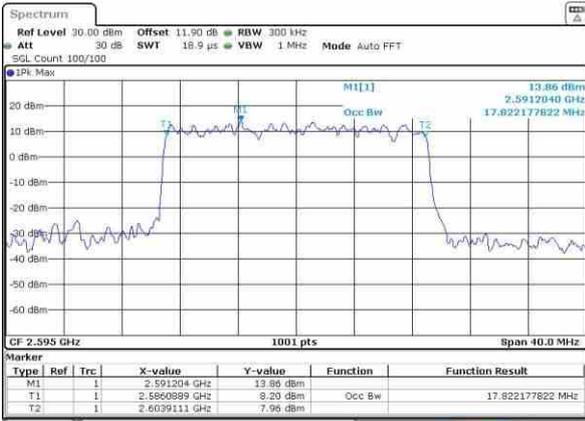
Date: 23 MAY 2019 01:26:12

Lowest Channel / 20MHz / 16QAM



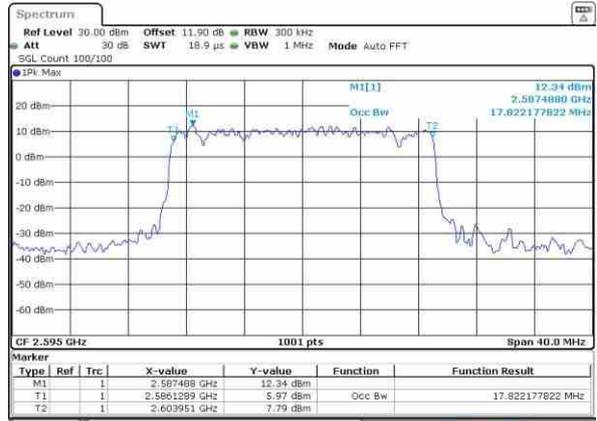
Date: 23 MAY 2019 01:26:24

Middle Channel / 20MHz / QPSK



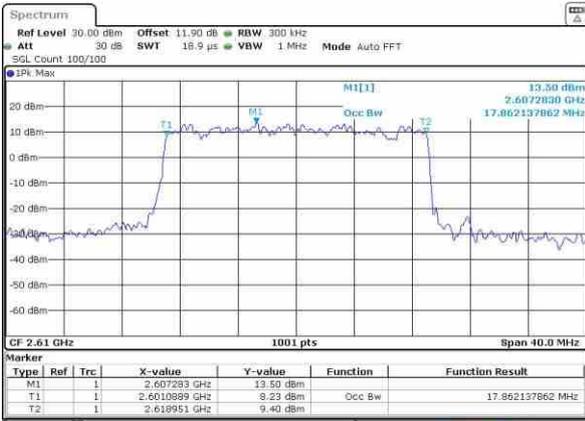
Date: 23 MAY 2019 01:27:01

Middle Channel / 20MHz / 16QAM



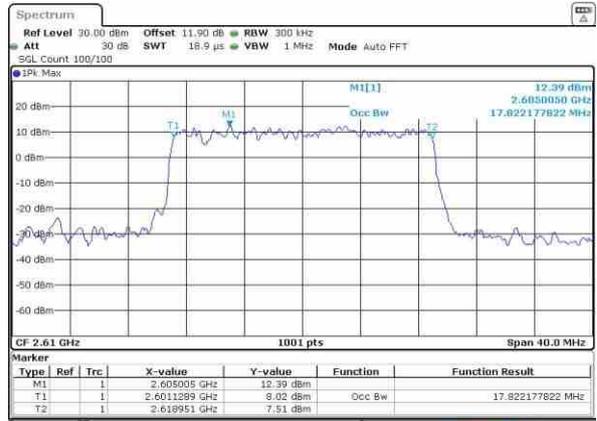
Date: 23 MAY 2019 01:27:13

Highest Channel / 20MHz / QPSK



Date: 23 MAY 2019 01:27:48

Highest Channel / 20MHz / 16QAM

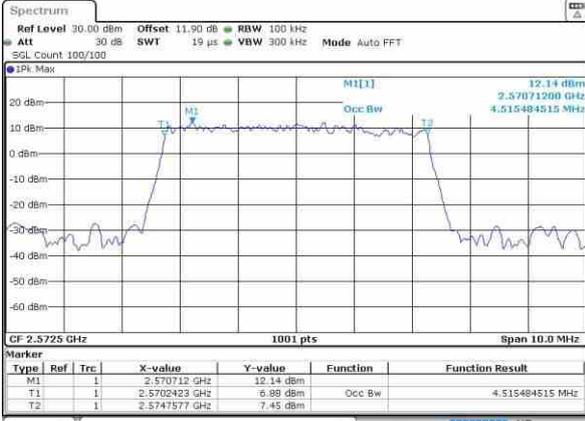


Date: 23 MAY 2019 01:28:01



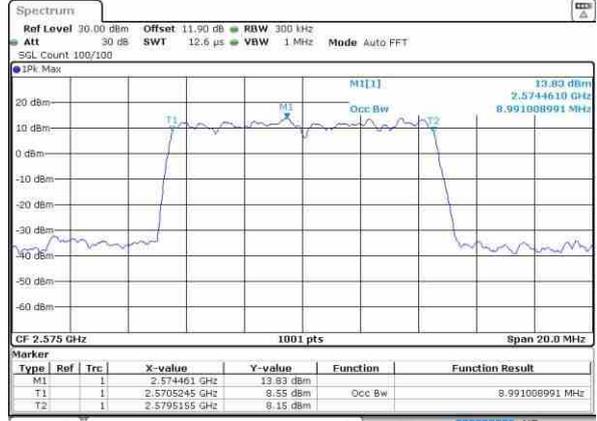
LTE Band 38

Lowest Channel / 5MHz / 64QAM



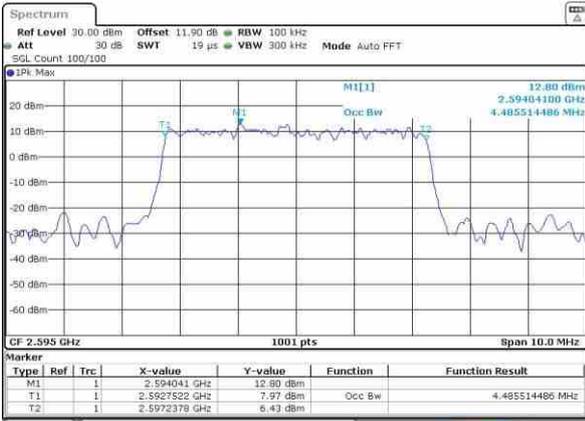
Date: 23 MAY 2019 01:28:39

Lowest Channel / 10MHz / 64QAM



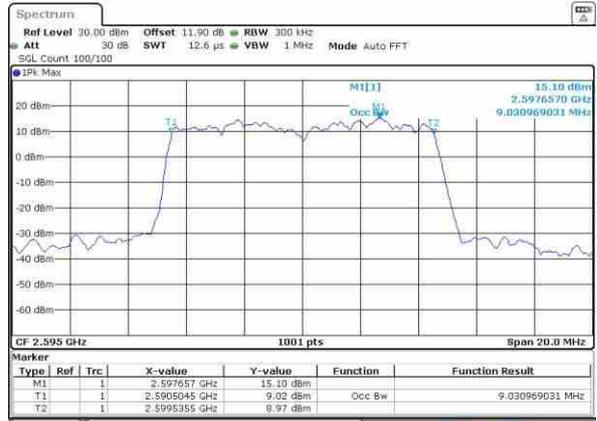
Date: 23 MAY 2019 01:28:53

Middle Channel / 5MHz / 64QAM



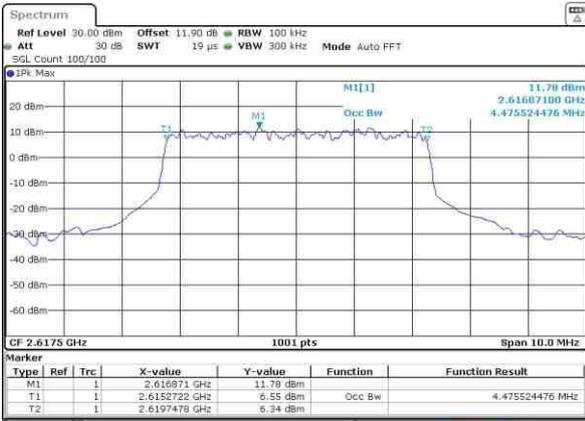
Date: 23 MAY 2019 01:29:04

Middle Channel / 10MHz / 64QAM



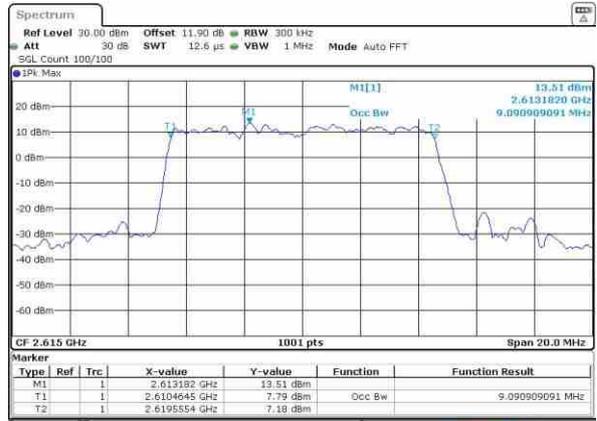
Date: 23 MAY 2019 01:30:18

Highest Channel / 5MHz / 64QAM



Date: 23 MAY 2019 01:29:27

Highest Channel / 10MHz / 64QAM

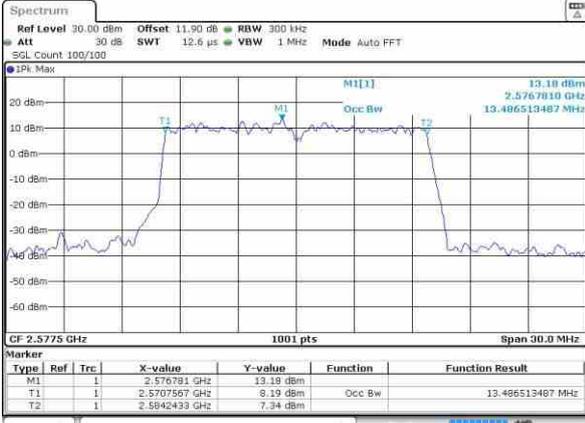


Date: 23 MAY 2019 01:30:41



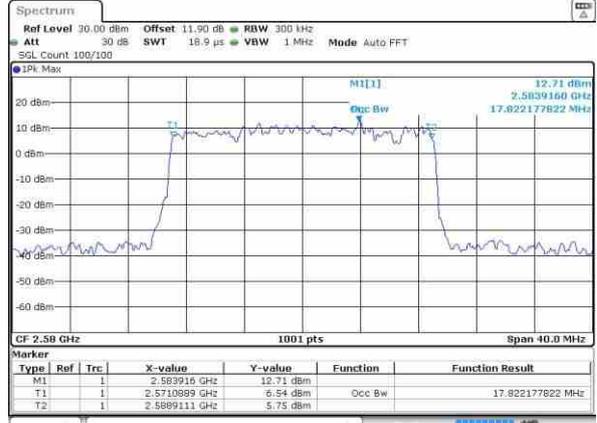
LTE Band 38

Lowest Channel / 15MHz / 64QAM



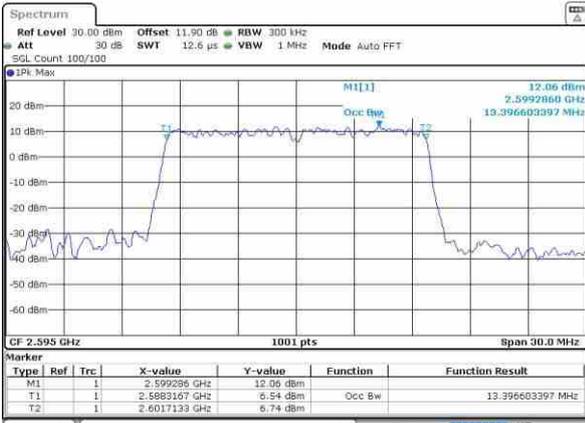
Date: 23 MAY 2019 01:31:07

Lowest Channel / 20MHz / 64QAM



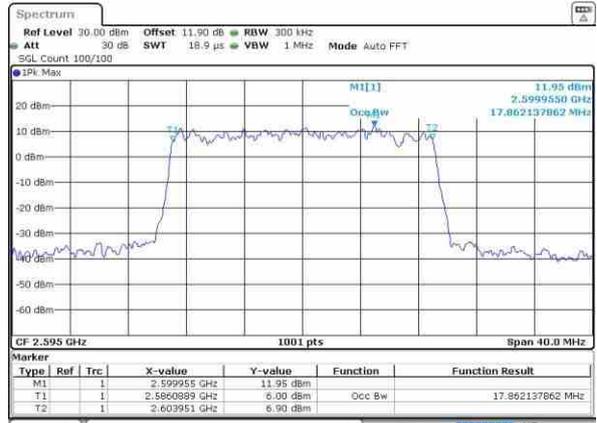
Date: 23 MAY 2019 01:32:21

Middle Channel / 15MHz / 64QAM



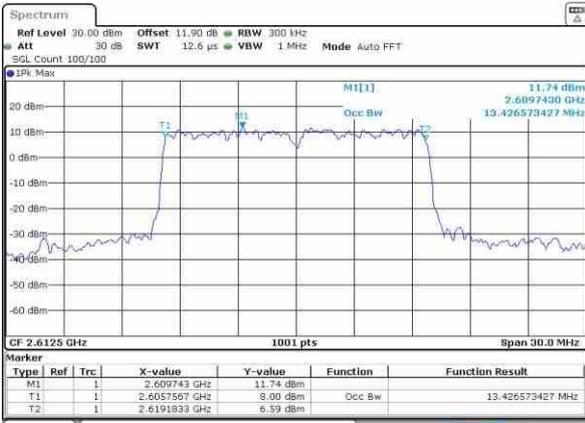
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Middle Channel / 20MHz / 64QAM



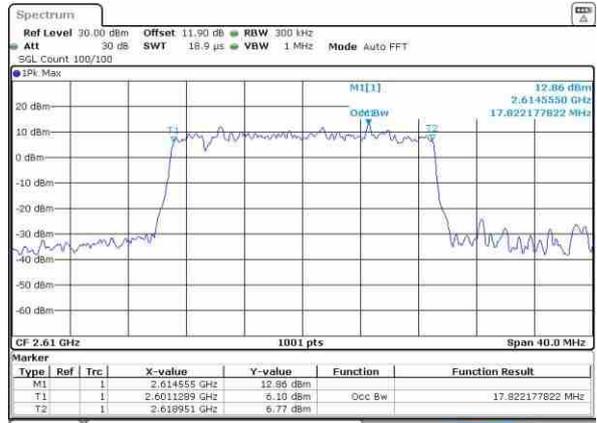
Date: 23 MAY 2019 01:32:46

Highest Channel / 15MHz / 64QAM



Date: 23 MAY 2019 01:31:55

Highest Channel / 20MHz / 64QAM



Date: 23 MAY 2019 01:33:09



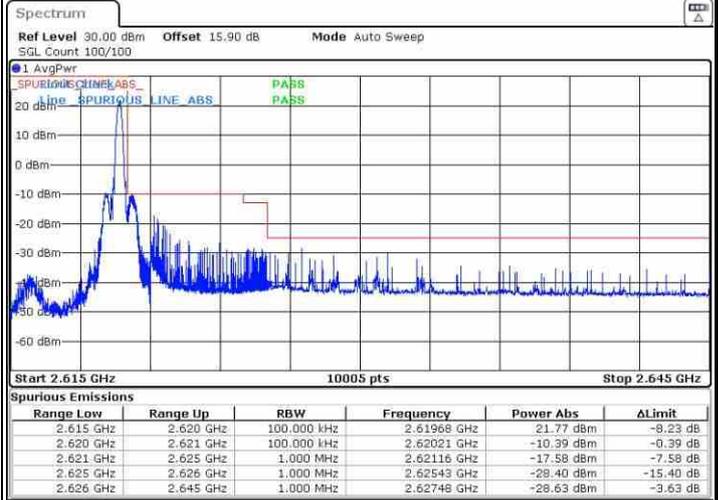
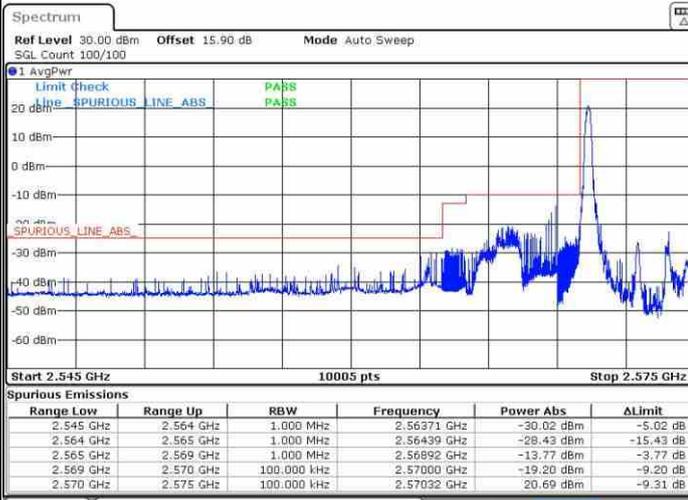
**Conducted Band Edge**



LTE Band 38 / 5MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

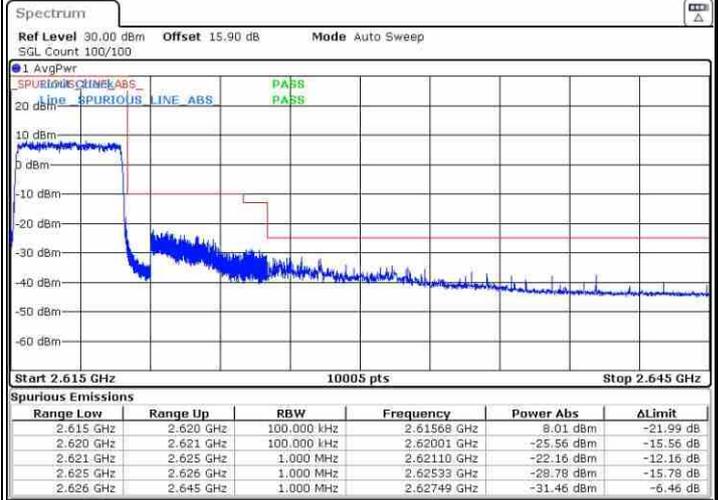
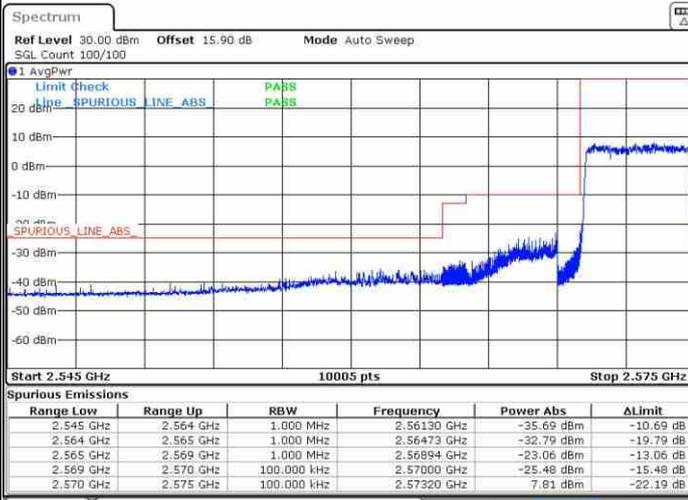


Date: 22 MAY 2019 18:40:01

Date: 22 MAY 2019 18:43:11

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



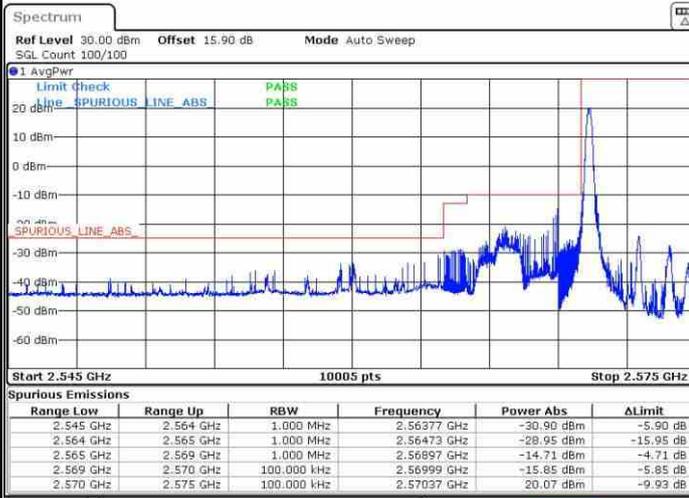
Date: 22 MAY 2019 18:41:05

Date: 22 MAY 2019 18:42:08



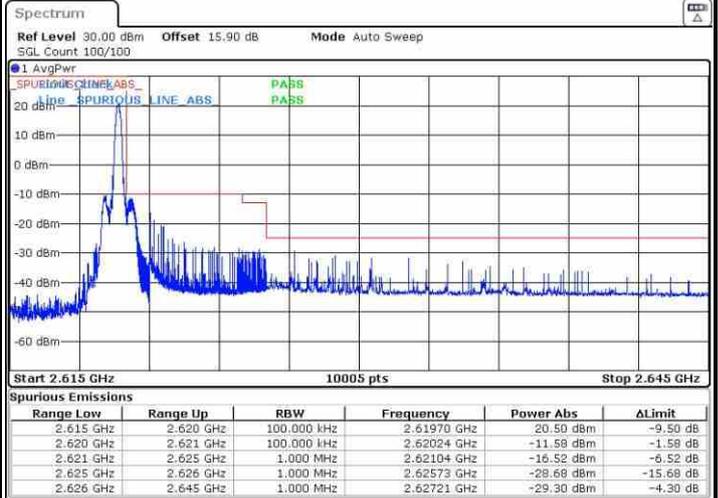
LTE Band 38 / 5MHz / 16QAM

Lowest Band Edge / 1RB



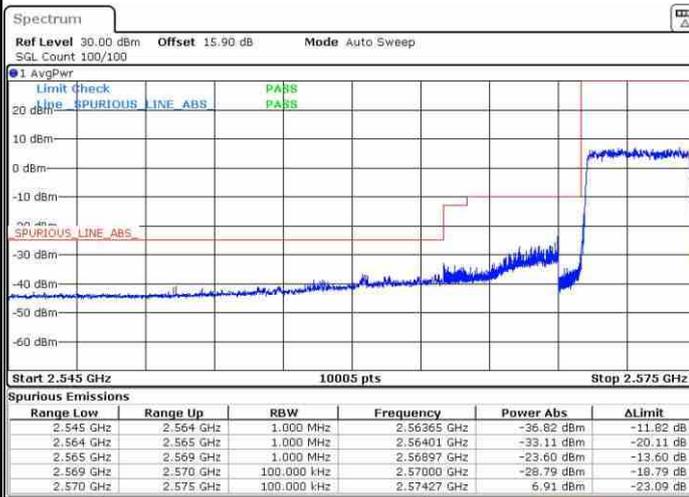
Date: 22 MAY 2019 18:40:33

Highest Band Edge / 1 RB



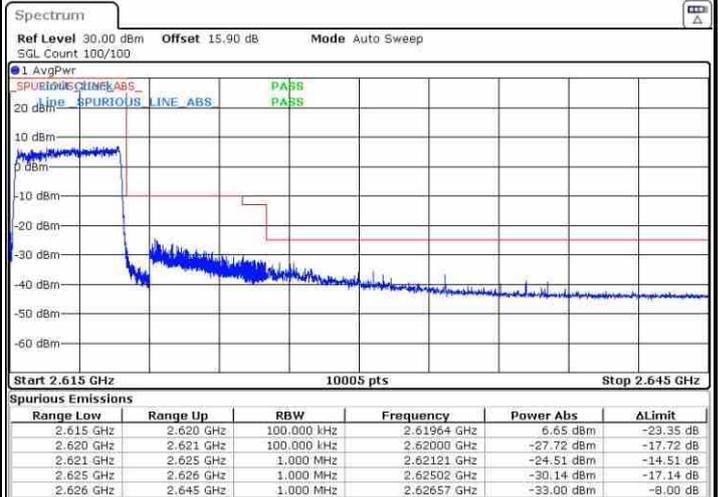
Date: 22 MAY 2019 18:43:43

Lowest Band Edge / Full RB



Date: 22 MAY 2019 18:41:36

Highest Band Edge / Full RB

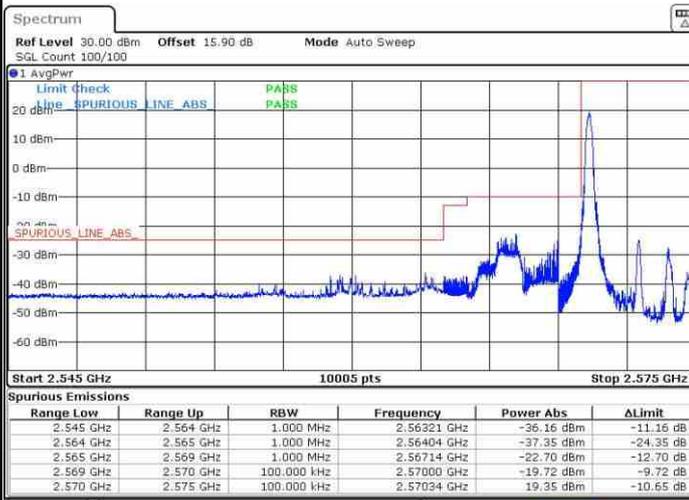


Date: 22 MAY 2019 18:42:40



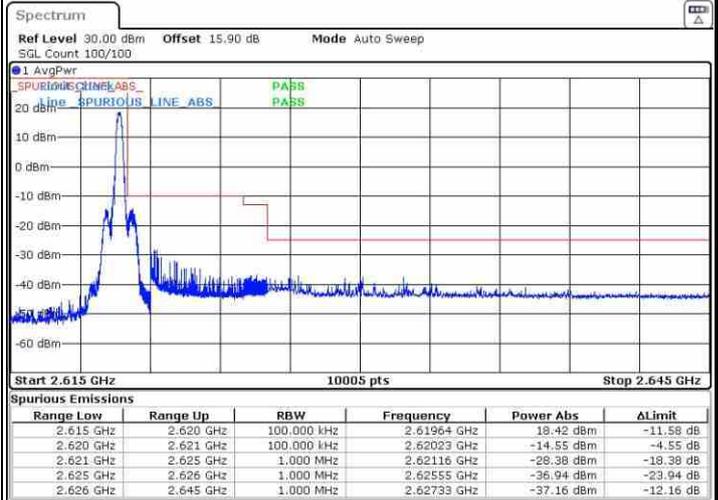
LTE Band 38 / 5MHz / 64QAM

Lowest Band Edge / 1RB



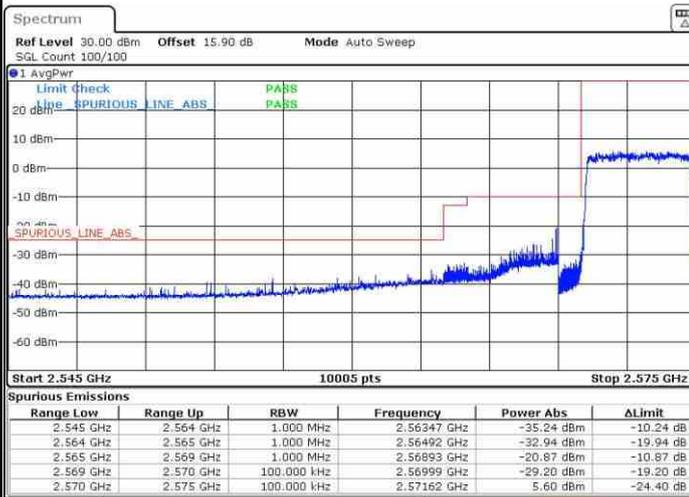
Date: 22 MAY 2019 18:44:15

Highest Band Edge / 1 RB



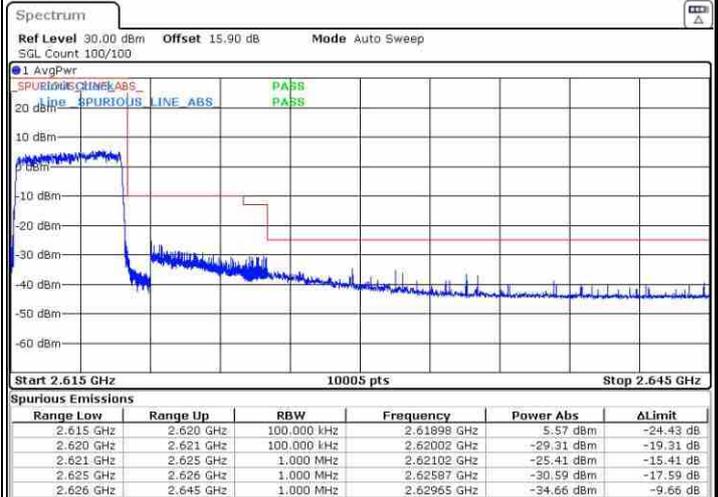
Date: 22 MAY 2019 18:45:50

Lowest Band Edge / Full RB



Date: 22 MAY 2019 18:44:47

Highest Band Edge / Full RB



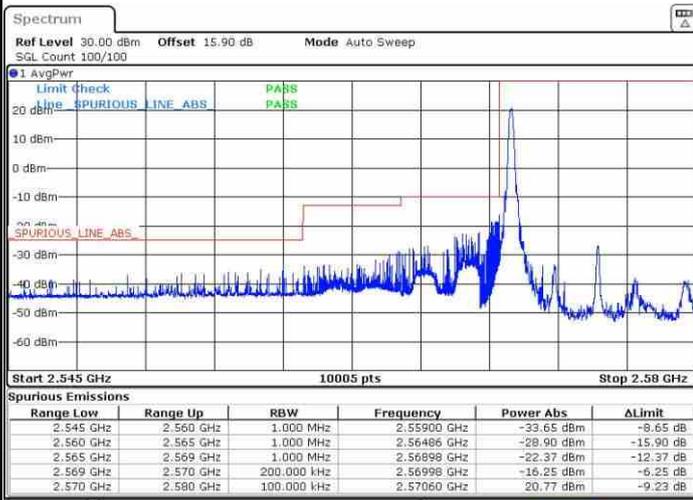
Date: 22 MAY 2019 18:45:18



LTE Band 38 / 10MHz / QPSK

Lowest Band Edge / 1 RB

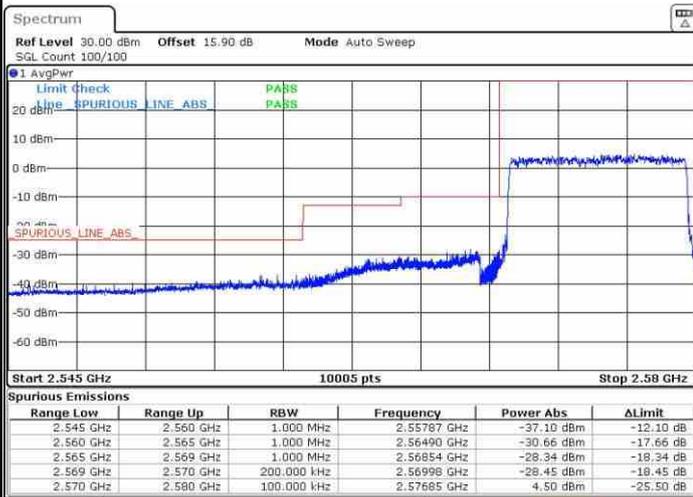
Highest Band Edge / 1 RB



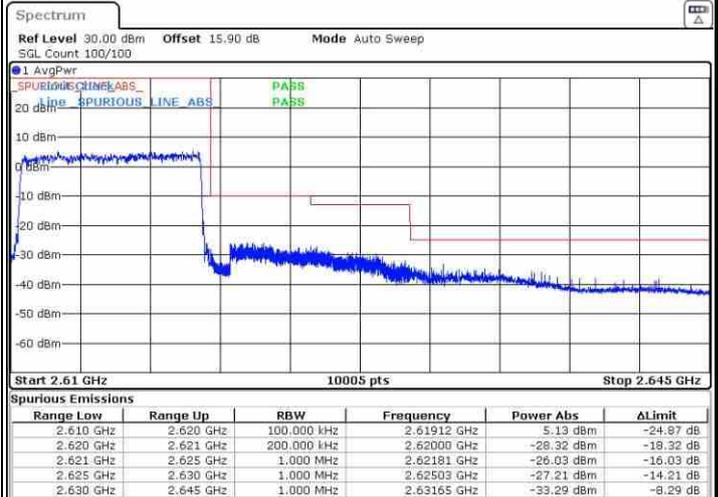
Date: 22 MAY 2019 18:48:29

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 22 MAY 2019 18:49:33



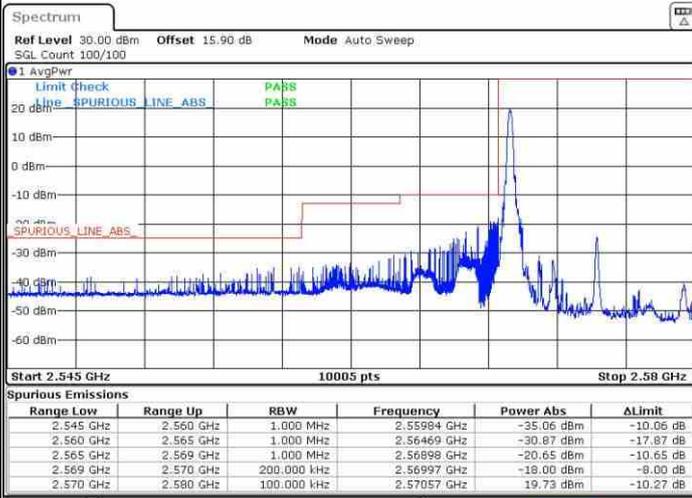
Date: 22 MAY 2019 18:50:37



LTE Band 38 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

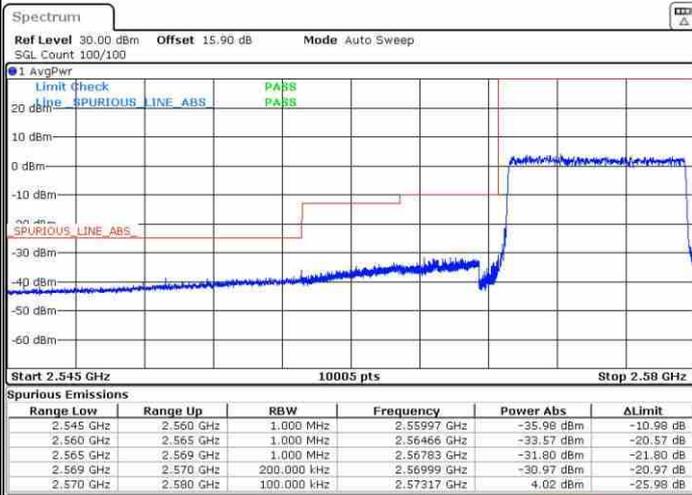
Highest Band Edge / 1 RB



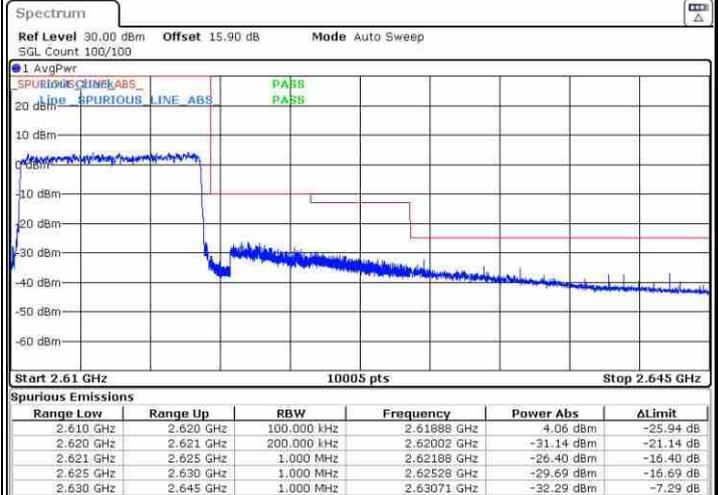
Date: 22 MAY 2019 18:49:01

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 22 MAY 2019 18:50:05



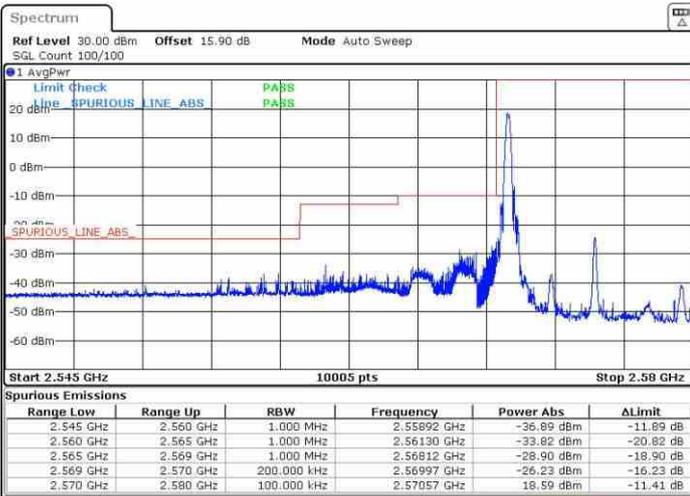
Date: 22 MAY 2019 18:51:08



LTE Band 38 / 10MHz / 64QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



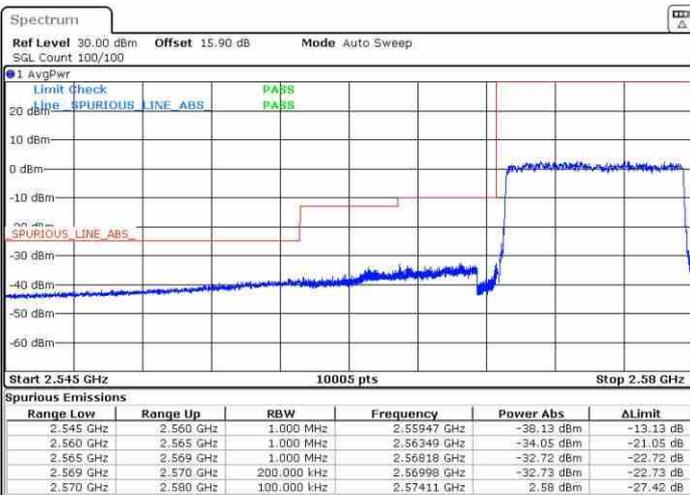
Date: 22 MAY 2019 18:46:22



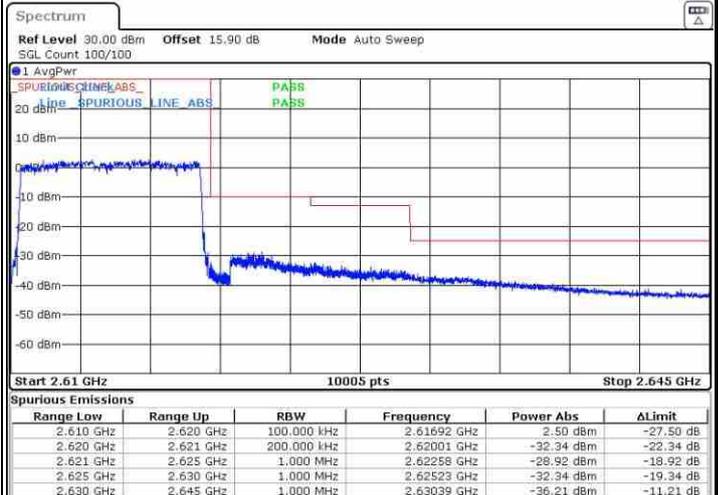
Date: 22 MAY 2019 18:47:58

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 22 MAY 2019 18:46:54

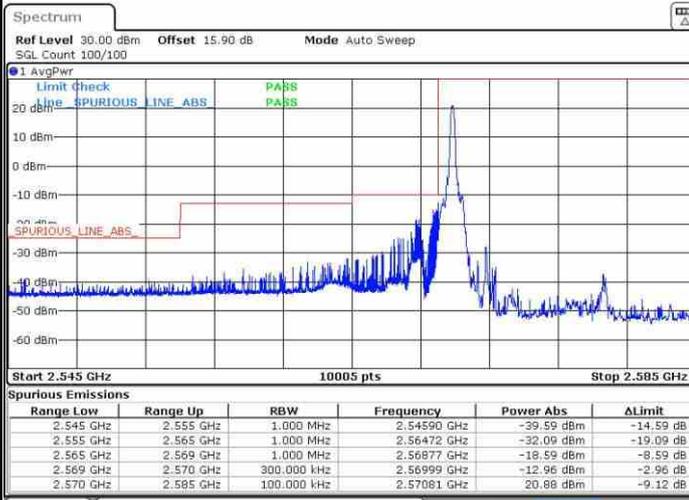


Date: 22 MAY 2019 18:47:26



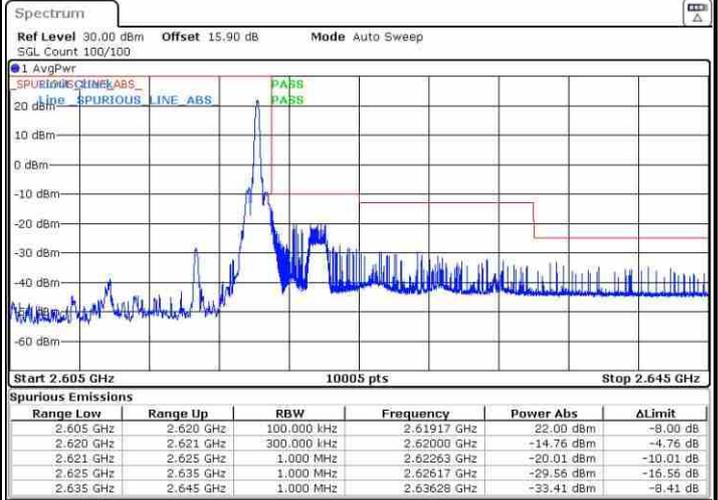
LTE Band 38 / 15MHz / QPSK

Lowest Band Edge / 1 RB



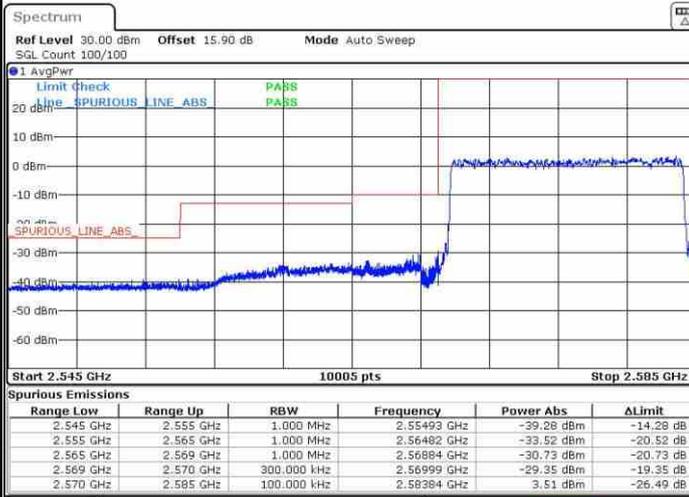
Date: 22 MAY 2019 18:52:45

Highest Band Edge / 1 RB



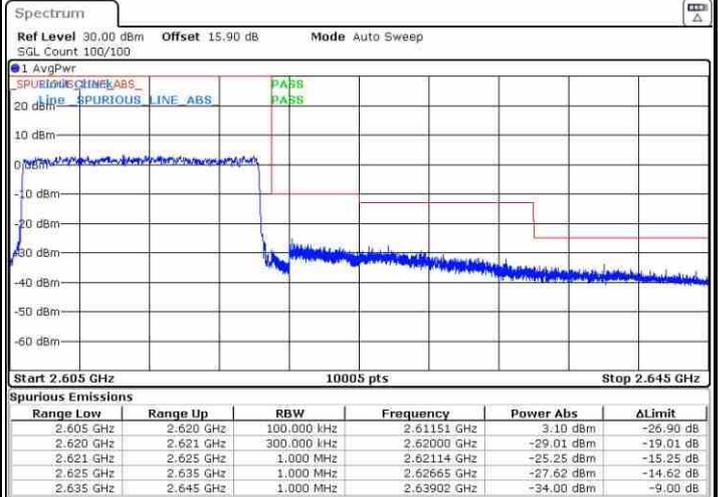
Date: 22 MAY 2019 20:44:31

Lowest Band Edge / Full RB



Date: 22 MAY 2019 18:53:48

Highest Band Edge / Full RB

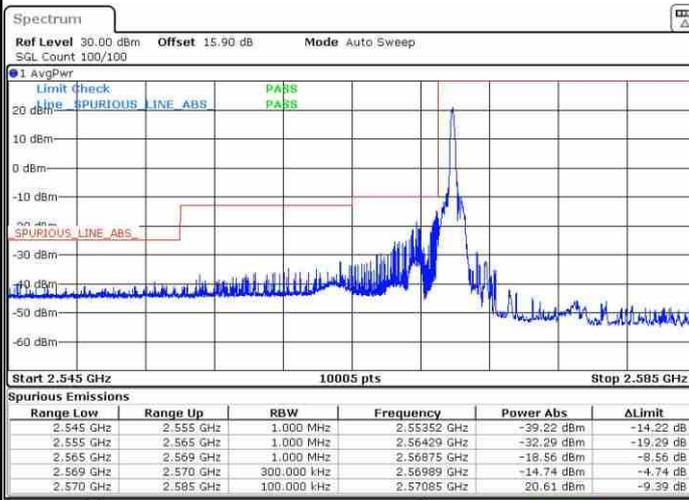


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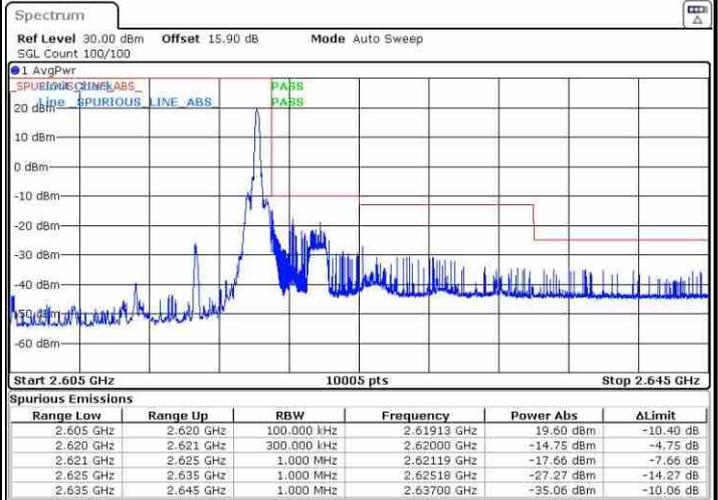
LTE Band 38 / 15MHz / 16QAM

Lowest Band Edge / 1 RB



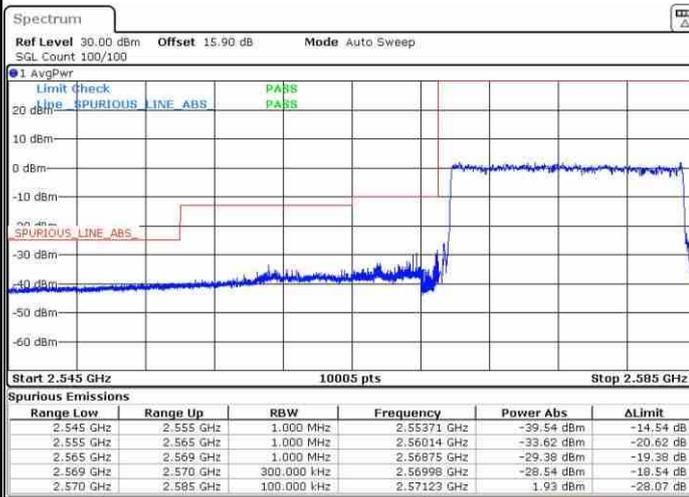
Date: 22 MAY 2019 18:53:16

Highest Band Edge / 1 RB



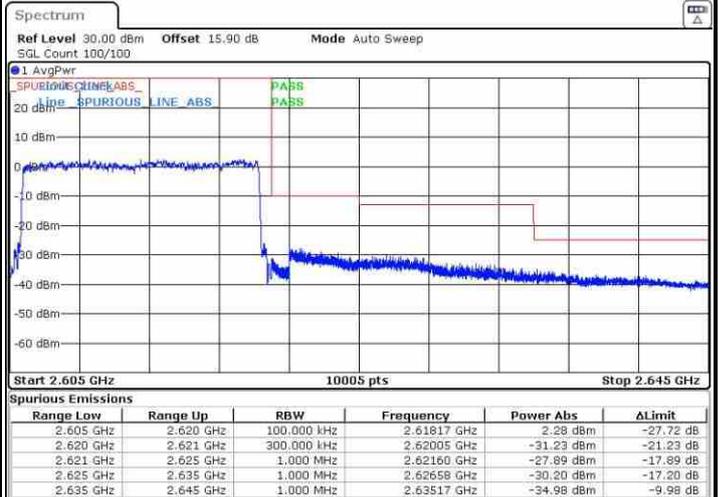
Date: 22 MAY 2019 20:45:03

Lowest Band Edge / Full RB



Date: 22 MAY 2019 18:54:20

Highest Band Edge / Full RB

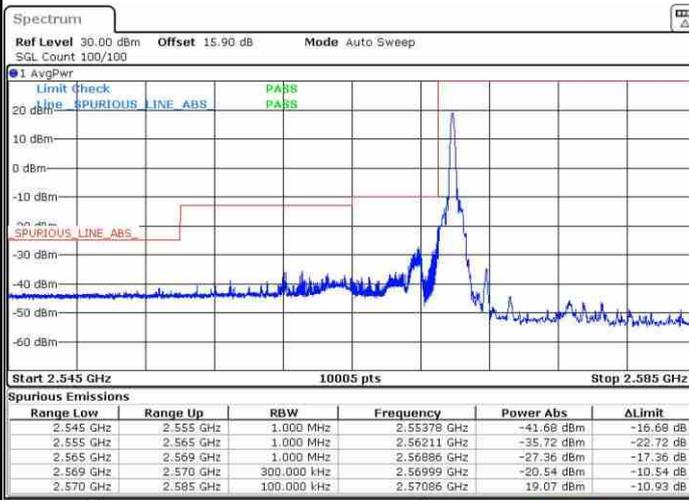


Date: 22 MAY 2019 18:55:23



LTE Band 38 / 15MHz / 64QAM

Lowest Band Edge / 1 RB



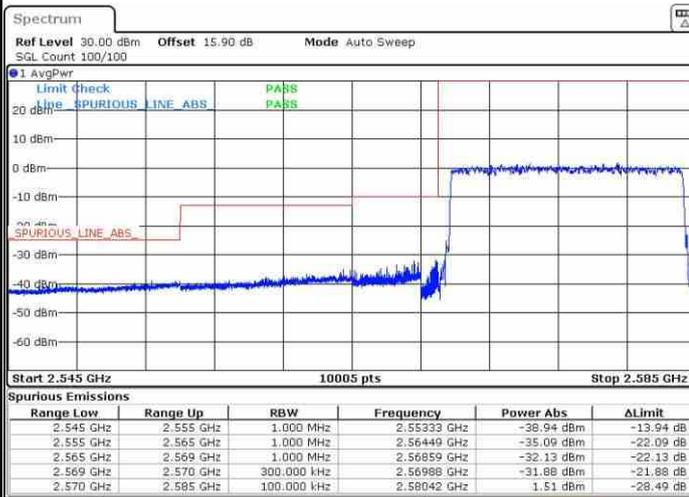
Date: 22 MAY 2019 20:45:34

Highest Band Edge / 1 RB



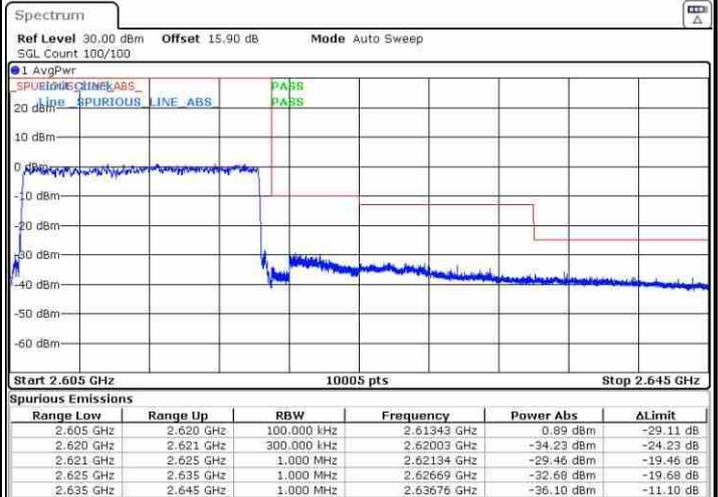
Date: 22 MAY 2019 20:47:10

Lowest Band Edge / Full RB



Date: 22 MAY 2019 20:46:06

Highest Band Edge / Full RB

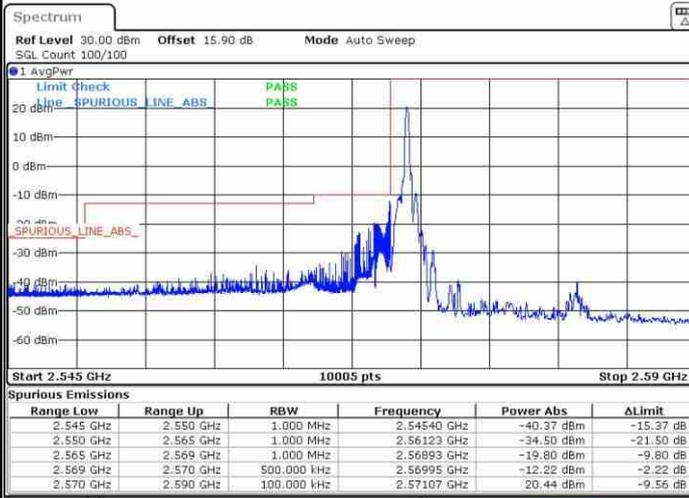


Date: 22 MAY 2019 20:46:38



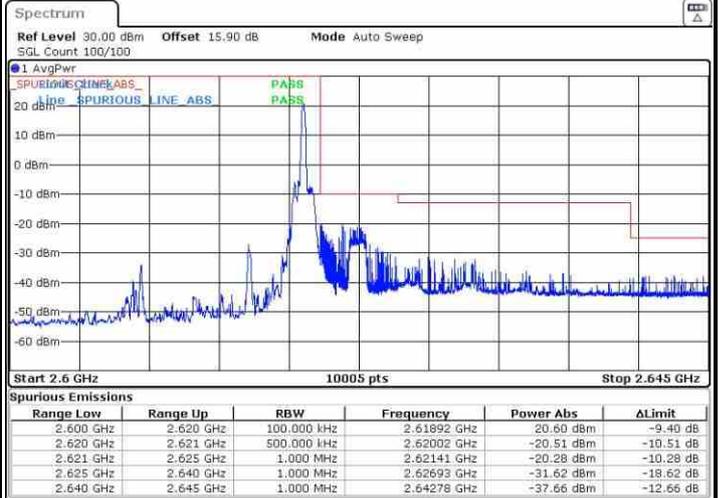
LTE Band 38 / 20MHz / QPSK

Lowest Band Edge / 1 RB



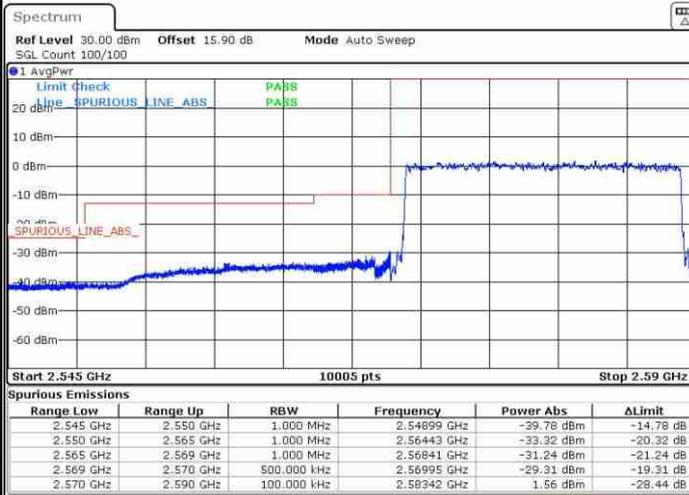
Date: 22 MAY 2019 20:47:43

Highest Band Edge / 1 RB



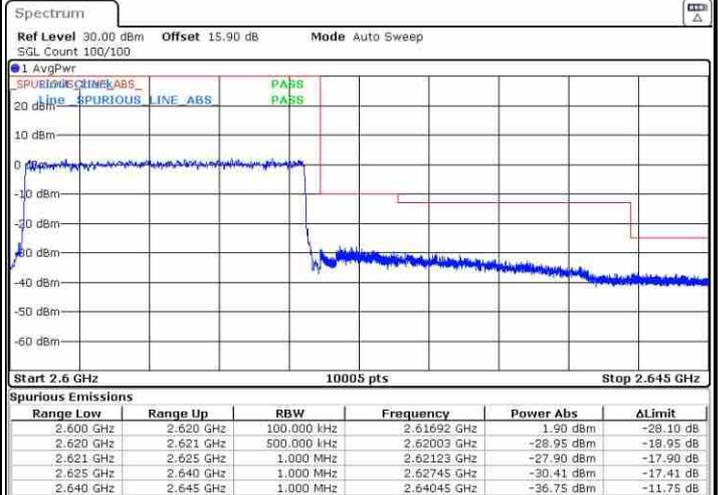
Date: 22 MAY 2019 20:50:53

Lowest Band Edge / Full RB



Date: 22 MAY 2019 20:48:47

Highest Band Edge / Full RB

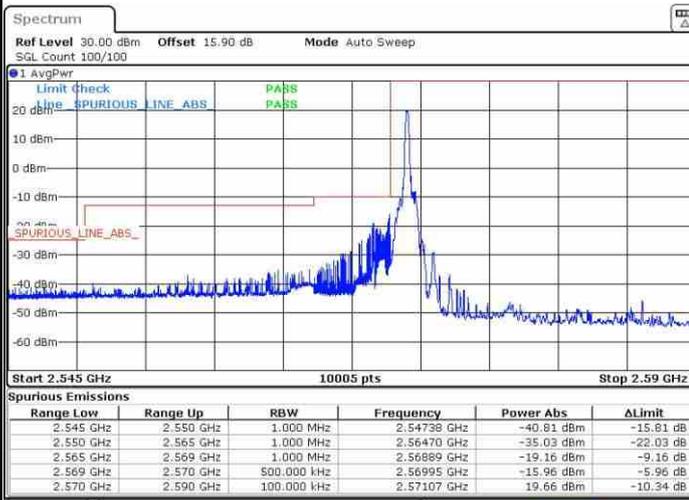


Date: 22 MAY 2019 20:49:50



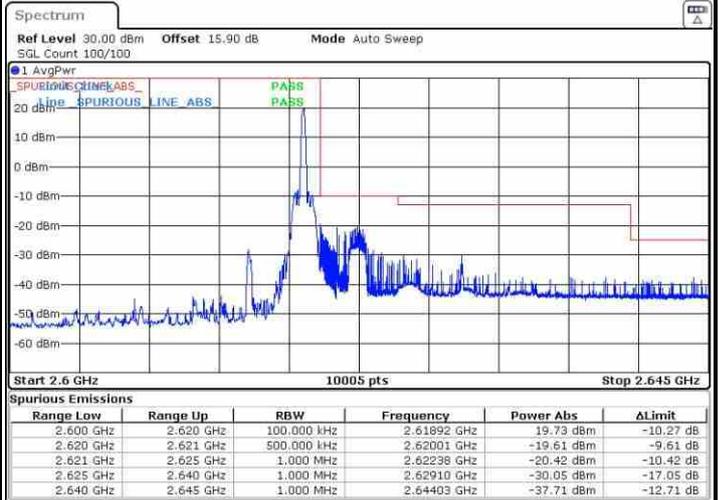
LTE Band 38 / 20MHz / 16QAM

Lowest Band Edge / 1 RB



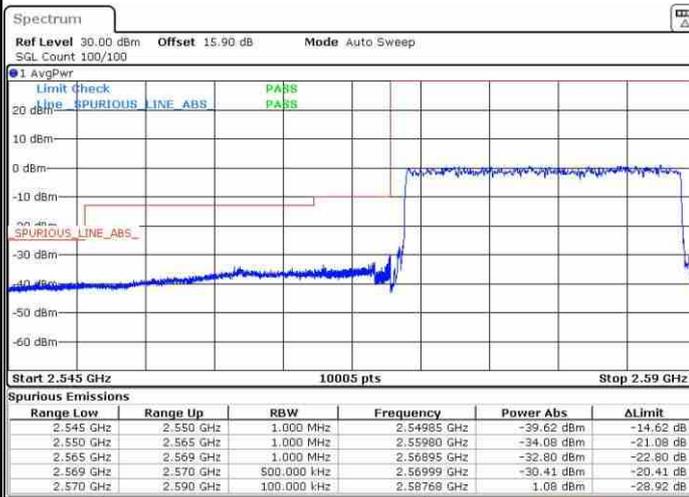
Date: 22 MAY 2019 20:48:15

Highest Band Edge / 1 RB



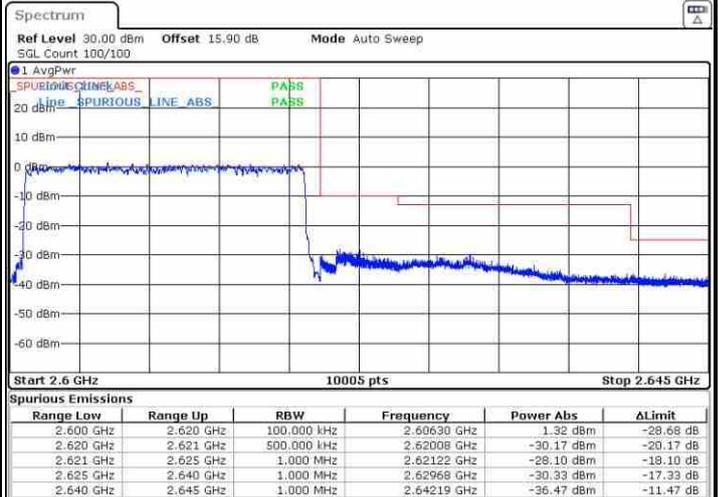
Date: 22 MAY 2019 20:51:25

Lowest Band Edge / Full RB



Date: 22 MAY 2019 20:49:18

Highest Band Edge / Full RB

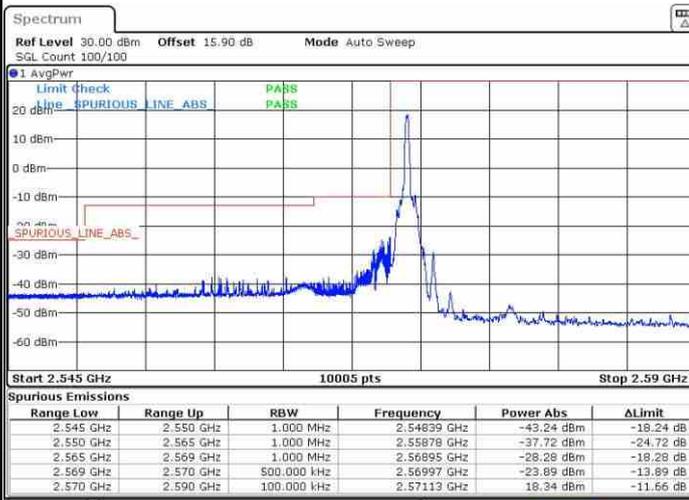


Date: 22 MAY 2019 20:50:22



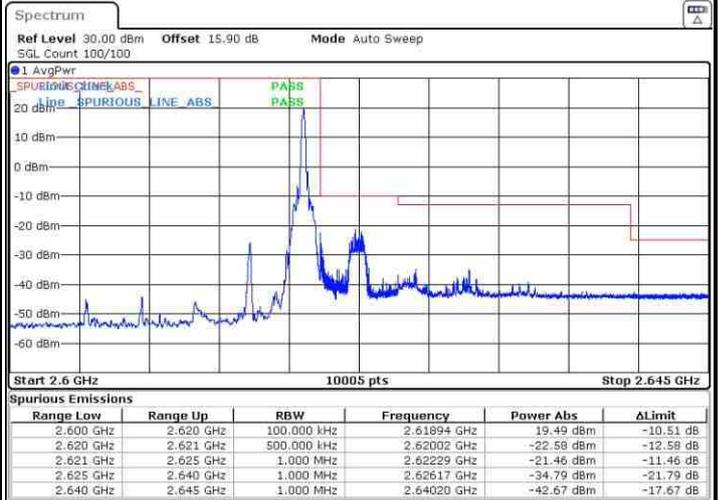
LTE Band 38 / 20MHz / 64QAM

Lowest Band Edge / 1 RB



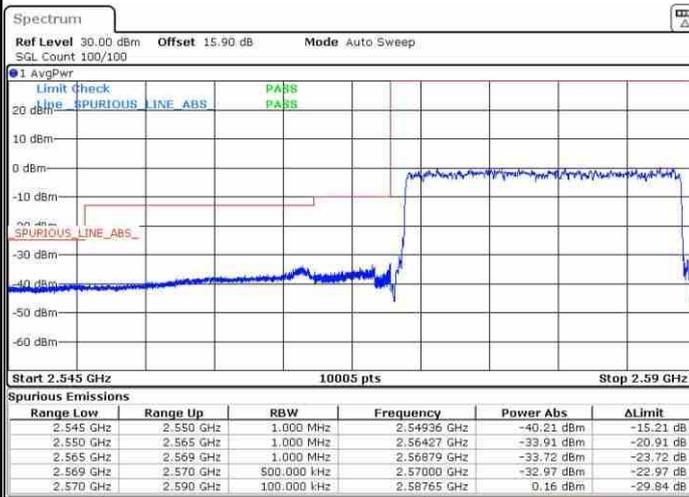
Date: 22 MAY 2019 20:51:57

Highest Band Edge / 1 RB



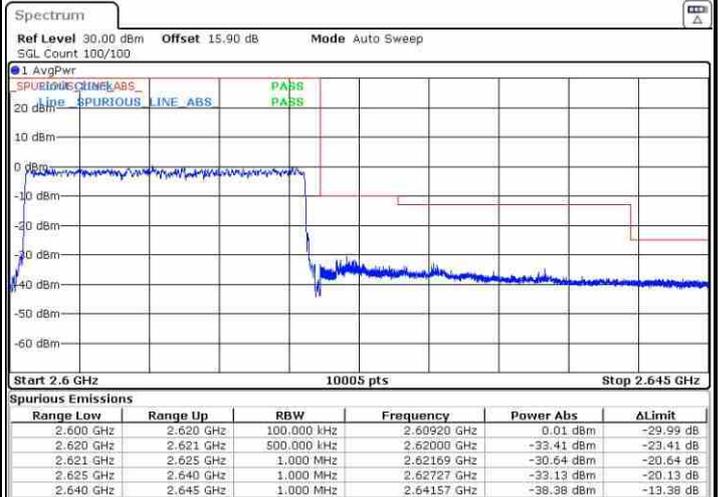
Date: 22 MAY 2019 20:53:32

Lowest Band Edge / Full RB



Date: 22 MAY 2019 20:52:29

Highest Band Edge / Full RB



Date: 22 MAY 2019 20:53:00



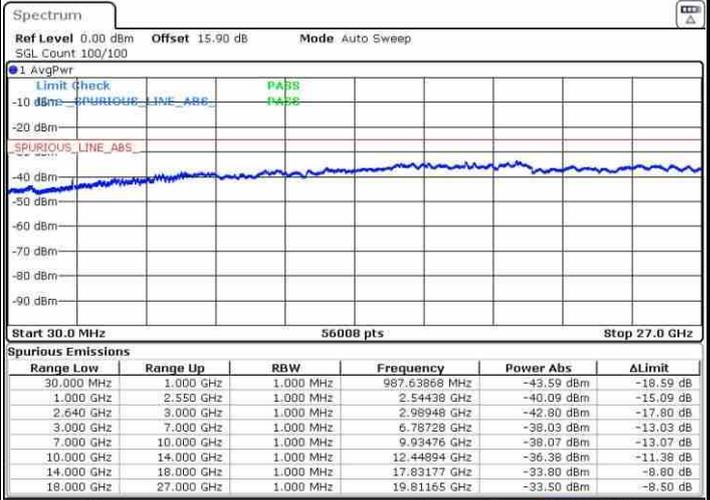
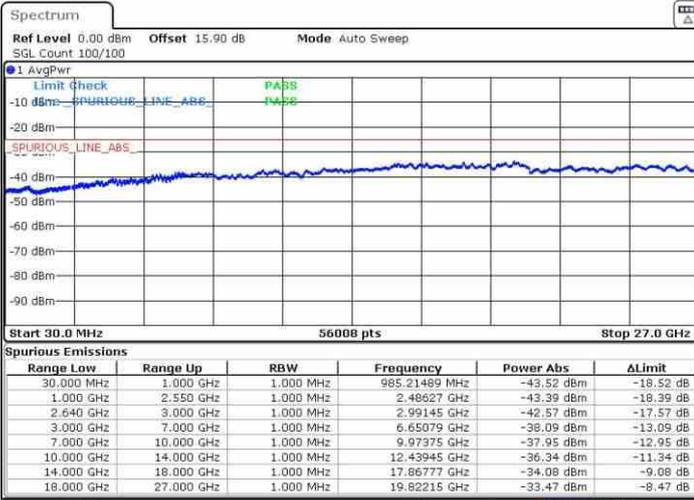
**Conducted Spurious Emission**



LTE Band 38 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

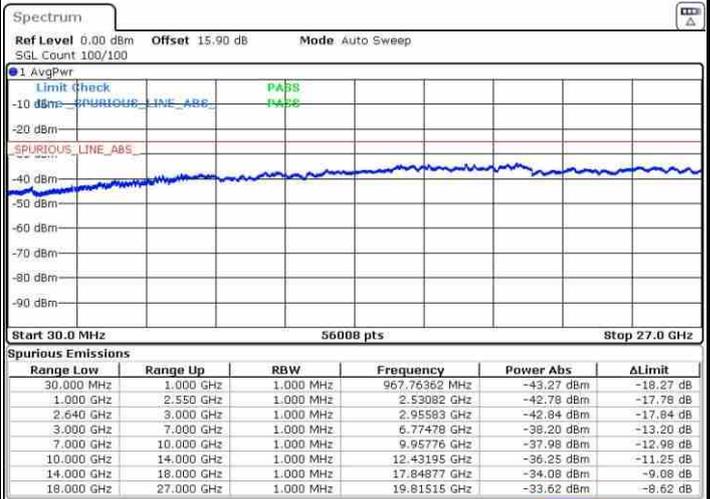
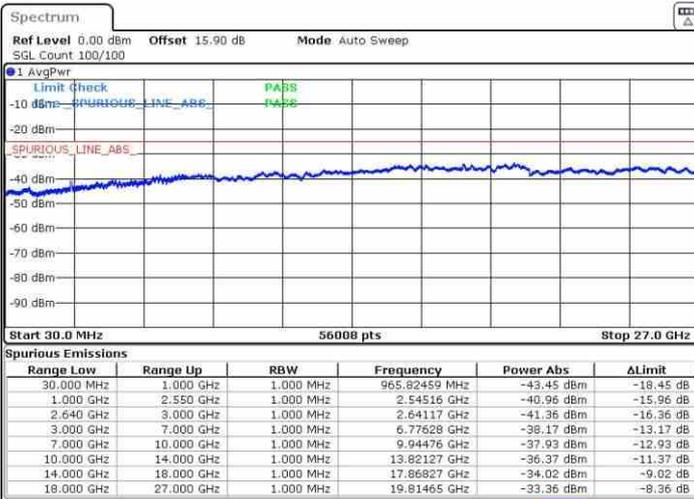


Date: 22 MAY.2019 20:56:37

Date: 22 MAY.2019 20:57:23

Middle Channel / QPSK

Middle Channel / 16QAM



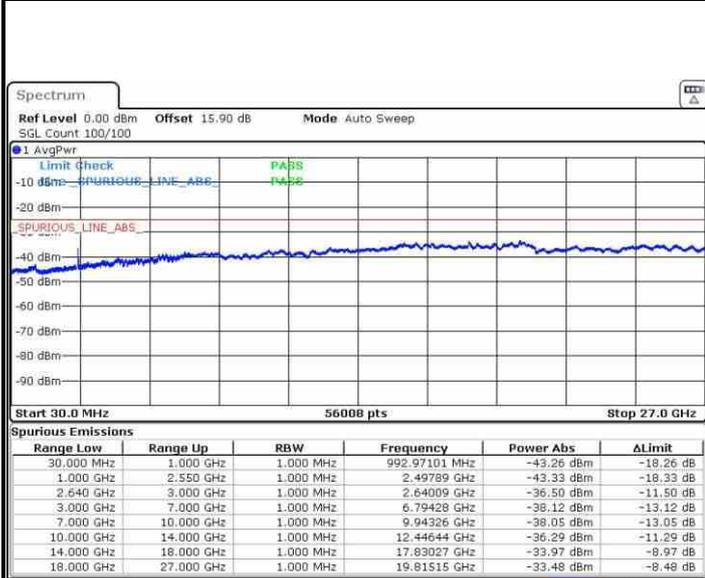
Date: 22 MAY.2019 20:58:09

Date: 22 MAY.2019 20:58:54



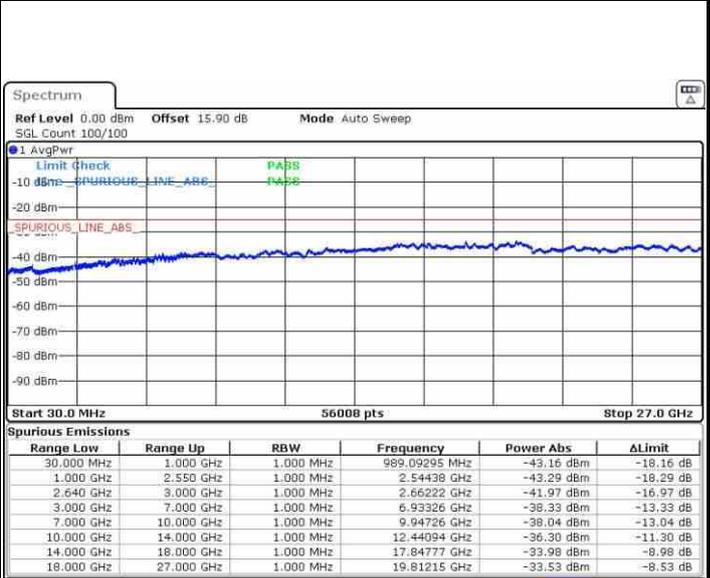
LTE Band 38 / 5MHz

Highest Channel / QPSK



Date: 22 MAY 2019 20:59:40

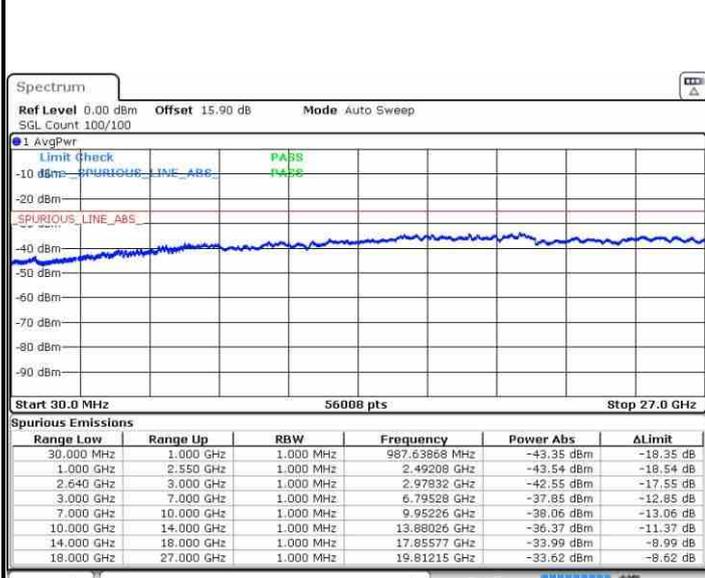
Highest Channel / 16QAM



Date: 22 MAY 2019 21:00:26

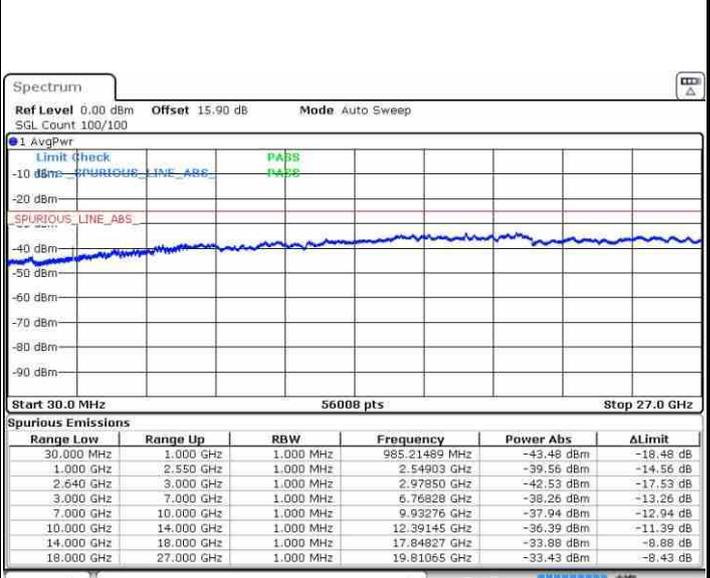
LTE Band 38 / 10MHz

Lowest Channel / QPSK



Date: 22 MAY 2019 21:03:30

Lowest Channel / 16QAM



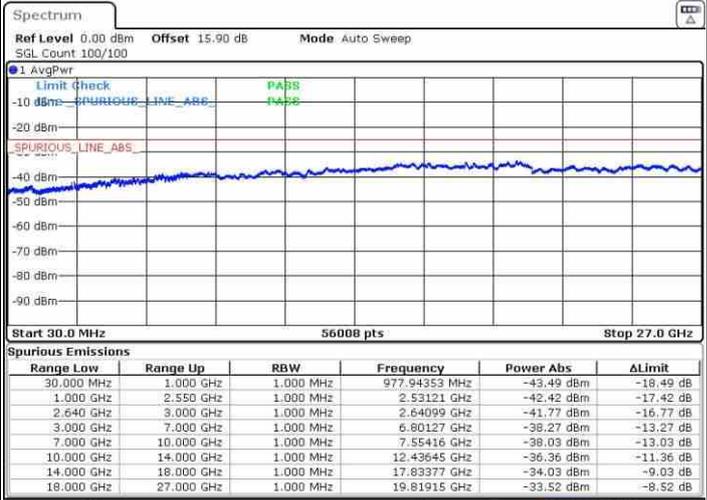
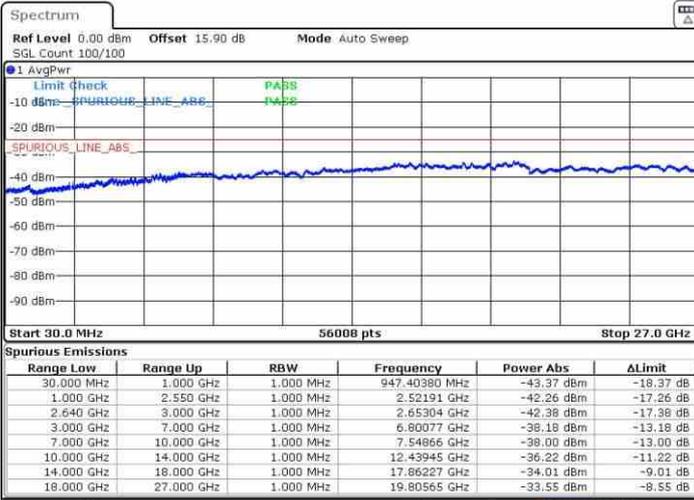
Date: 22 MAY 2019 21:04:16



LTE Band 38 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

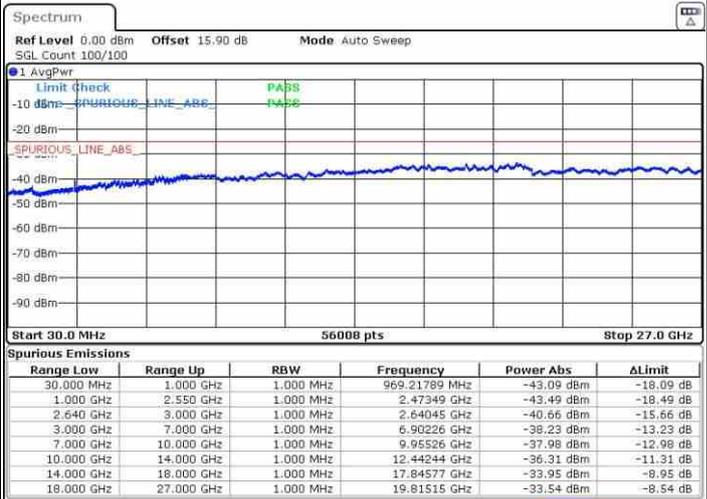
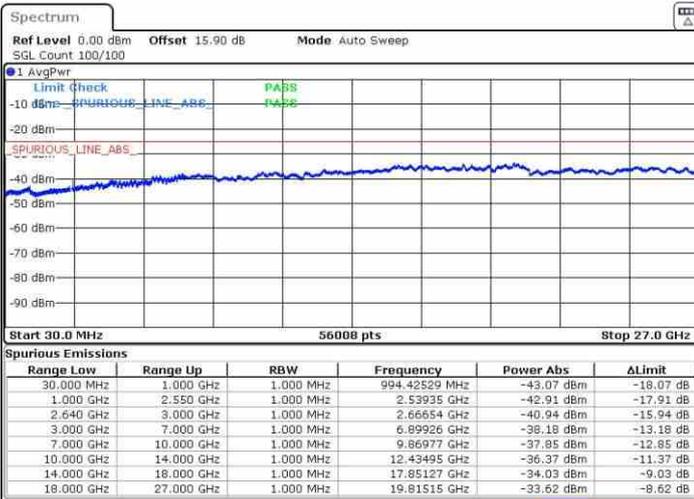


Date: 22 MAY 2019 21:05:02

Date: 22 MAY 2019 21:05:47

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 22 MAY 2019 21:06:33

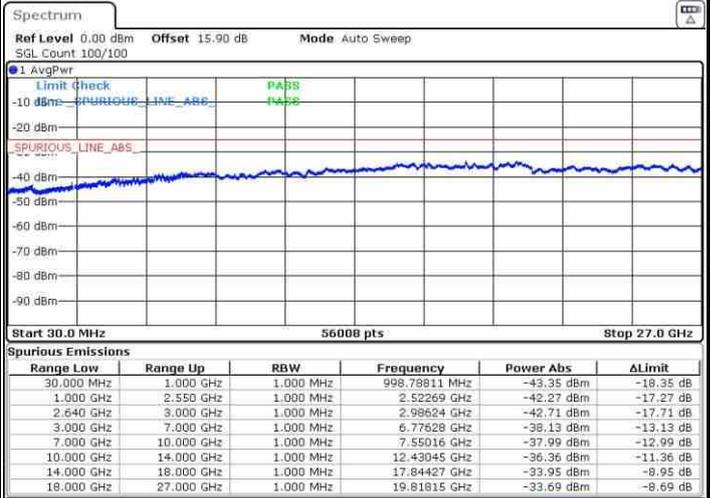
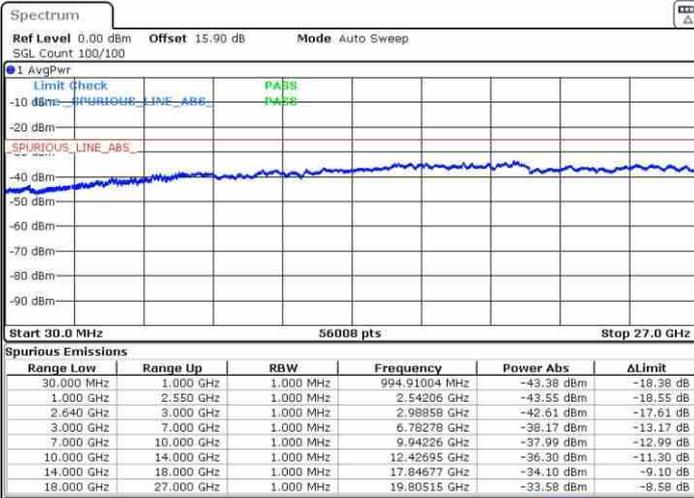
Date: 22 MAY 2019 21:07:19



LTE Band 38 / 15MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

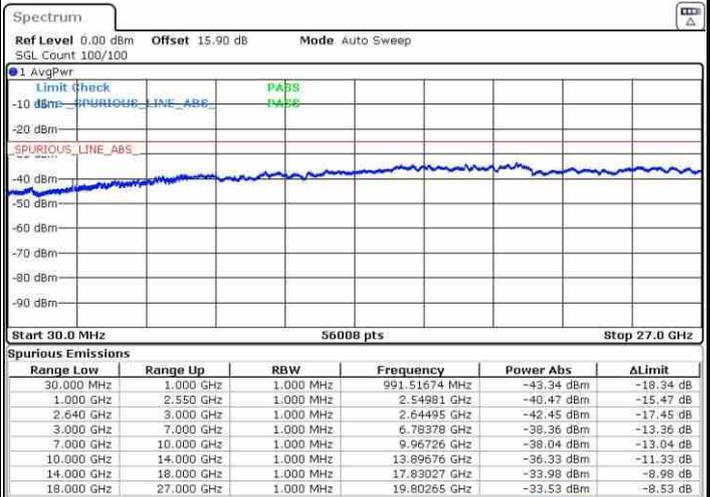
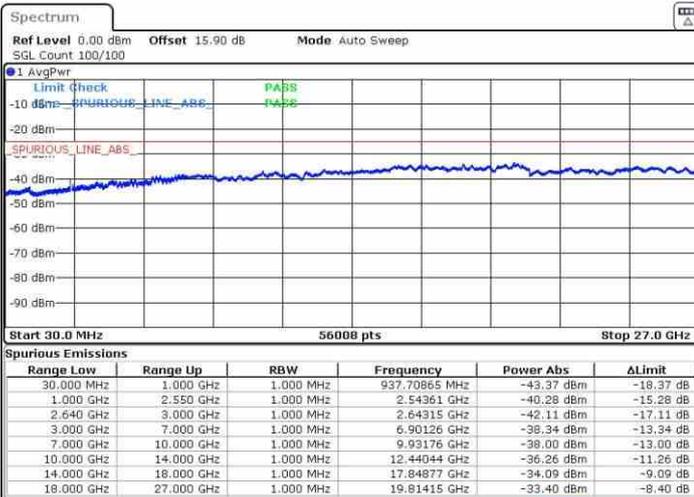


Date: 22 MAY 2019 21:08:06

Date: 22 MAY 2019 21:08:52

Middle Channel / QPSK

Middle Channel / 16QAM



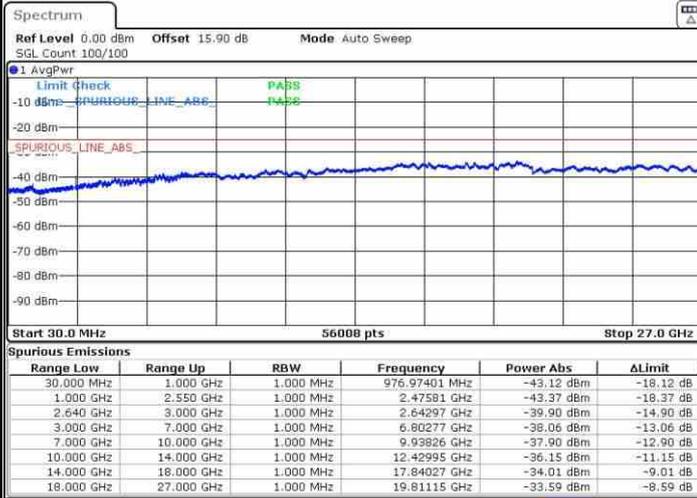
Date: 22 MAY 2019 21:09:38

Date: 22 MAY 2019 21:10:23



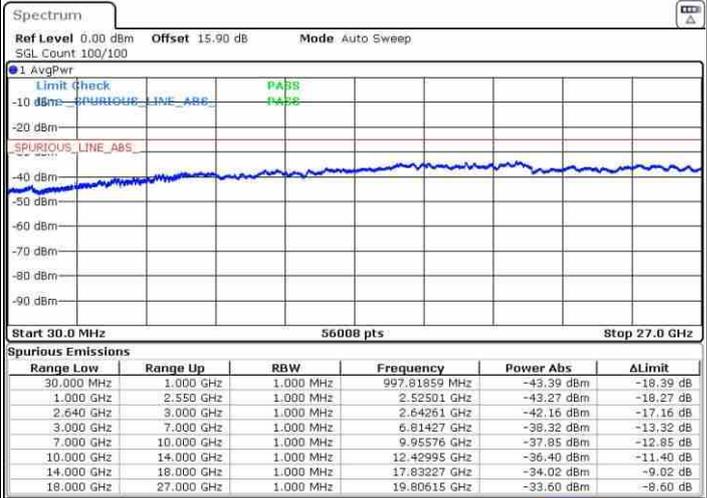
LTE Band 38 / 15MHz

Highest Channel / QPSK



Date: 22 MAY 2019 21:11:09

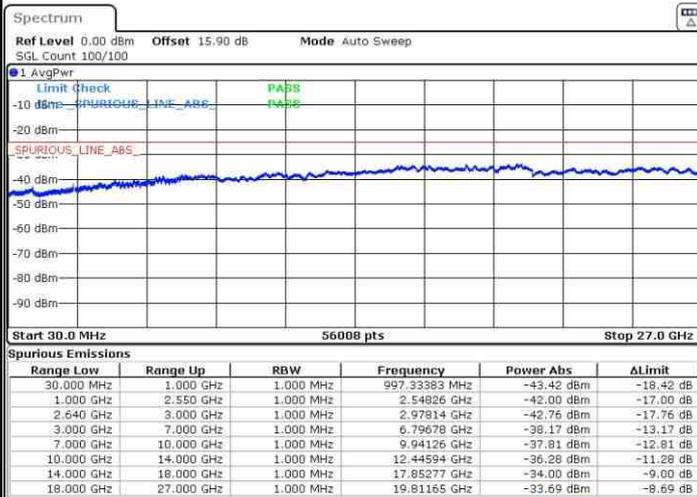
Highest Channel / 16QAM



Date: 22 MAY 2019 21:11:55

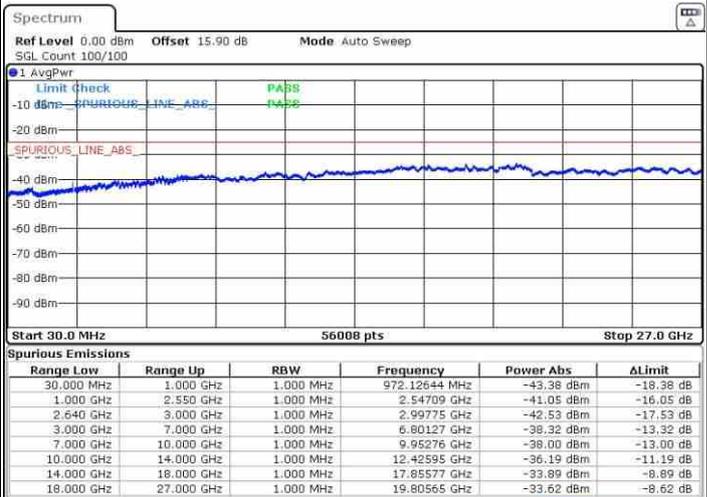
LTE Band 38 / 20MHz

Lowest Channel / QPSK



Date: 22 MAY 2019 21:14:59

Lowest Channel / 16QAM



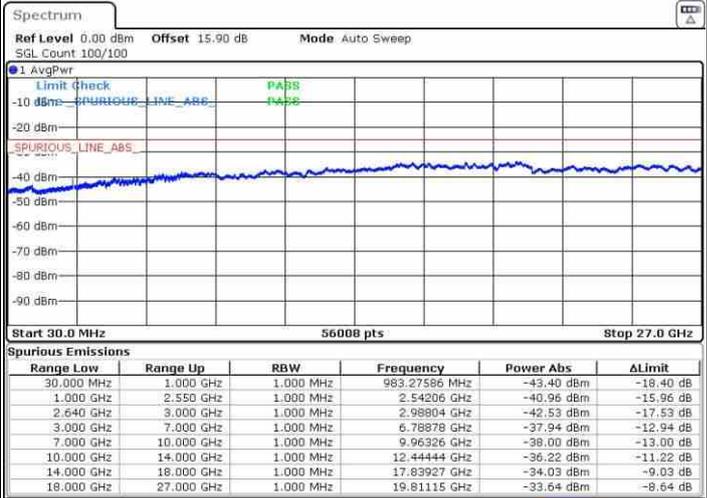
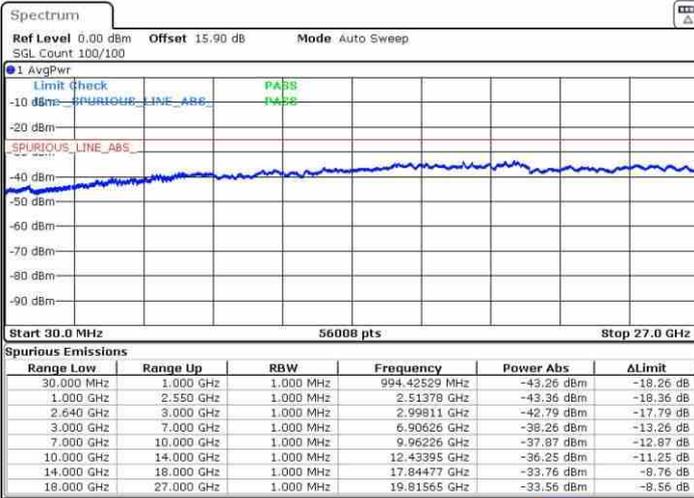
Date: 22 MAY 2019 21:15:45



LTE Band 38 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM

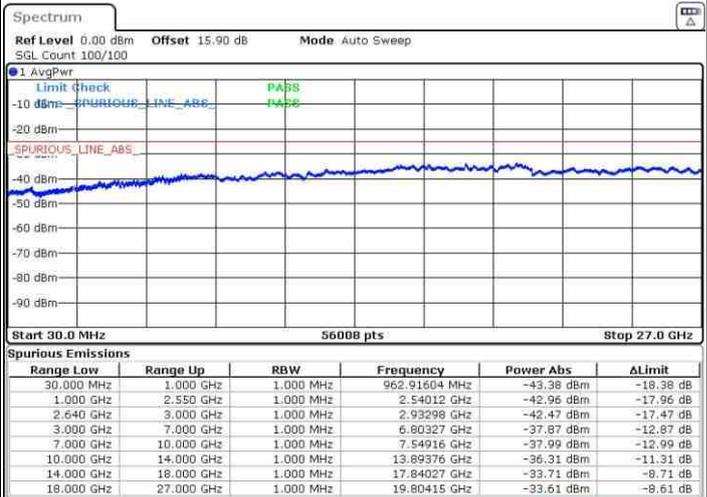
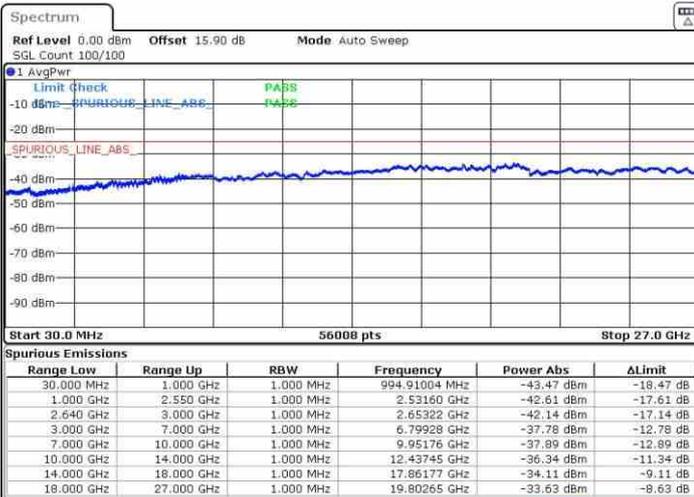


Date: 22 MAY 2019 21:16:31

Date: 22 MAY 2019 21:17:16

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 22 MAY 2019 21:18:02

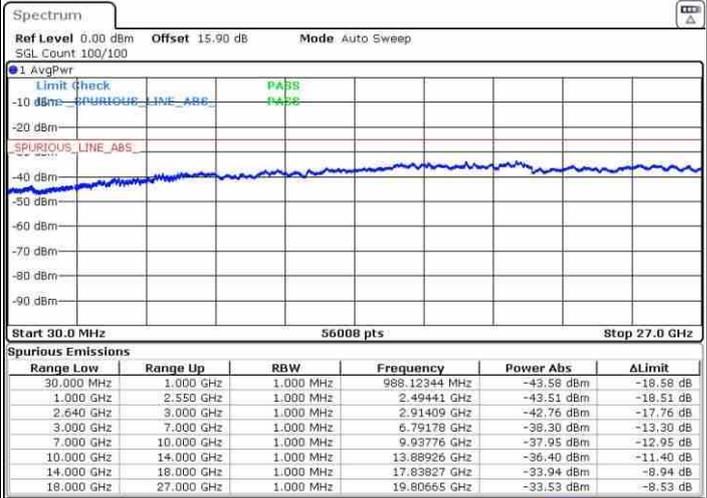
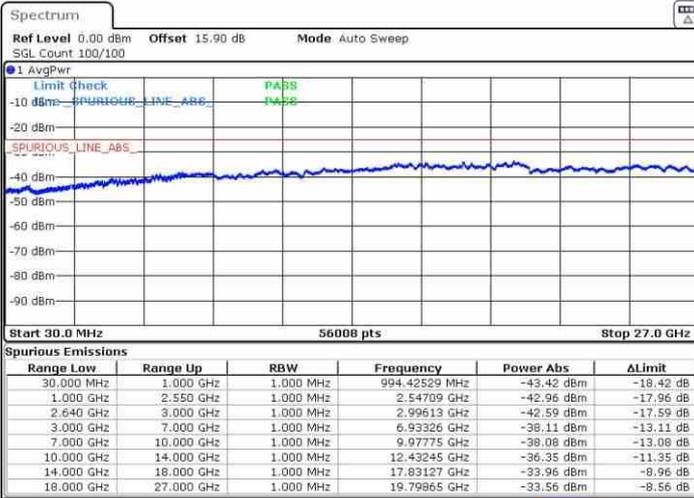
Date: 22 MAY 2019 21:18:48



LTE Band 38 / 5MHz

Lowest Channel / 64QAM

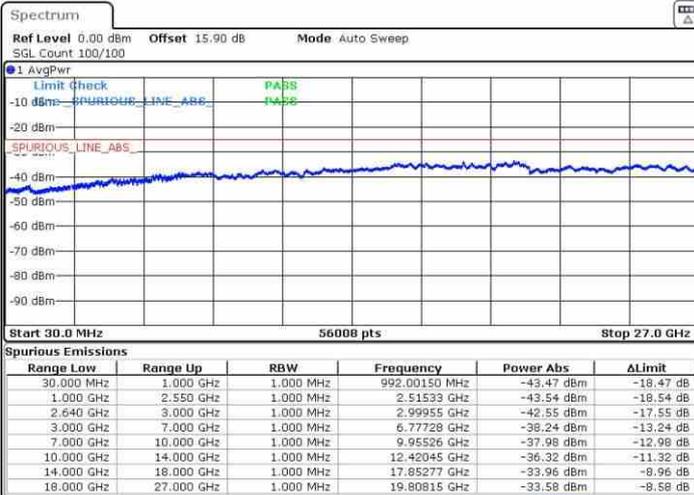
Middle Channel / 64QAM



Date: 22 MAY 2019 20:54:20

Date: 22 MAY 2019 20:55:05

Highest Channel / 64QAM



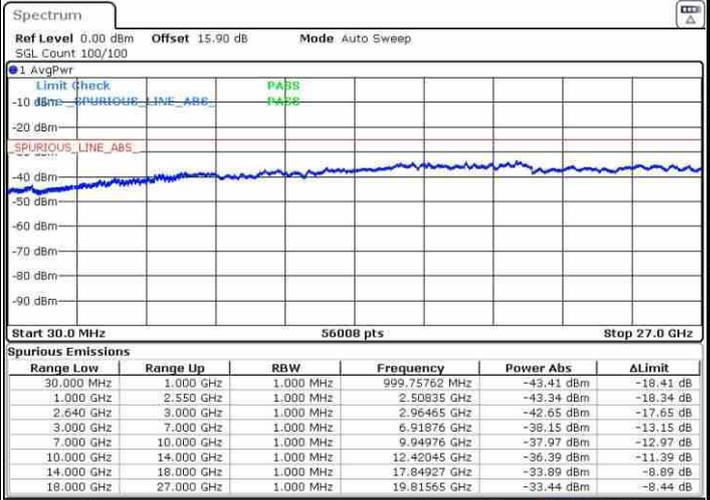
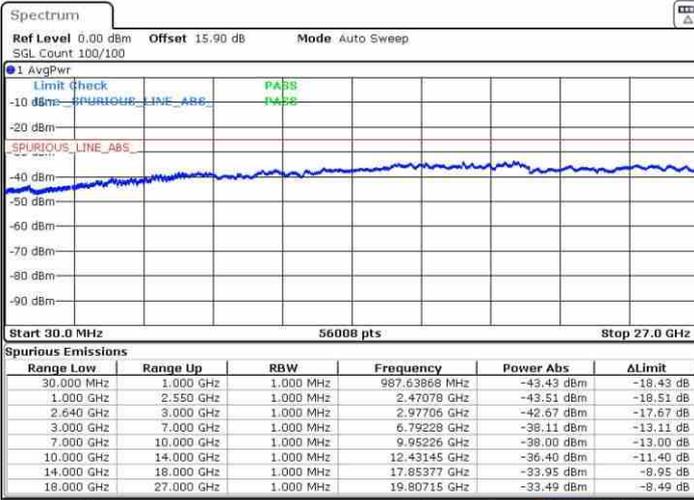
Date: 22 MAY 2019 20:55:51



LTE Band 38 / 10MHz

Lowest Channel / 64QAM

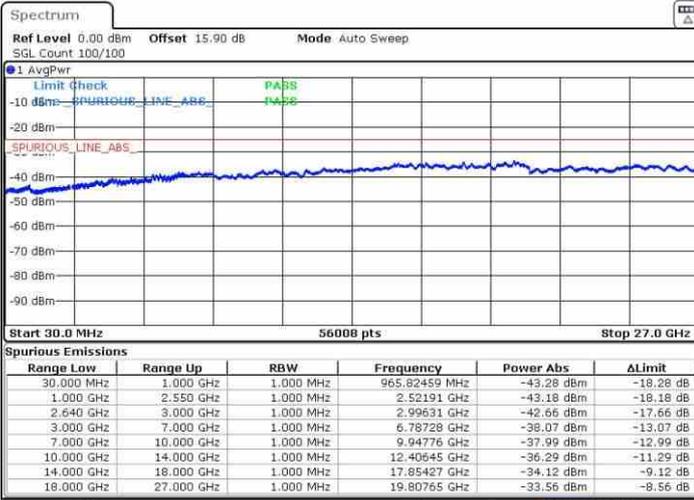
Middle Channel / 64QAM



Date: 22 MAY 2019 21:01:13

Date: 22 MAY 2019 21:01:59

Highest Channel / 64QAM



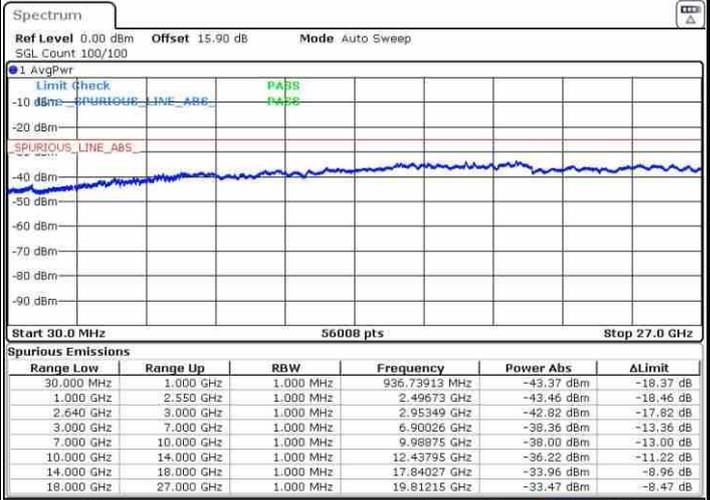
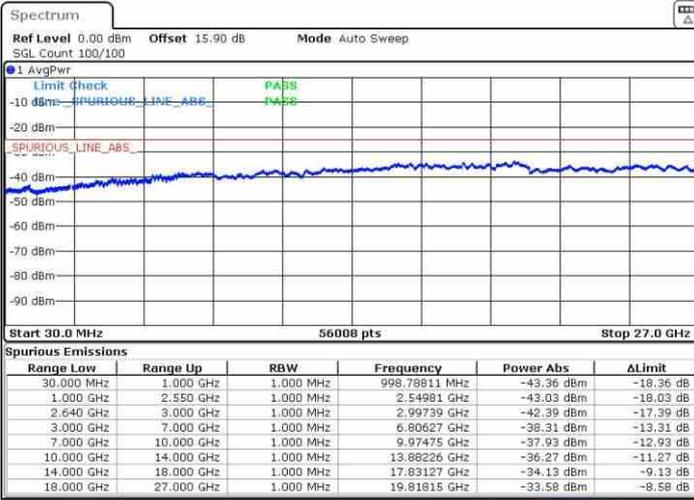
Date: 22 MAY 2019 21:02:44



LTE Band 38 / 15MHz

Lowest Channel / 64QAM

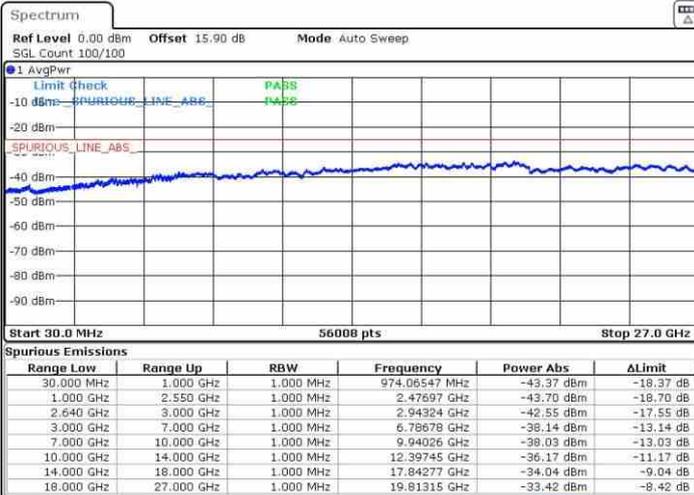
Middle Channel / 64QAM



Date: 22 MAY 2019 21:12:41

Date: 22 MAY 2019 21:13:26

Highest Channel / 64QAM



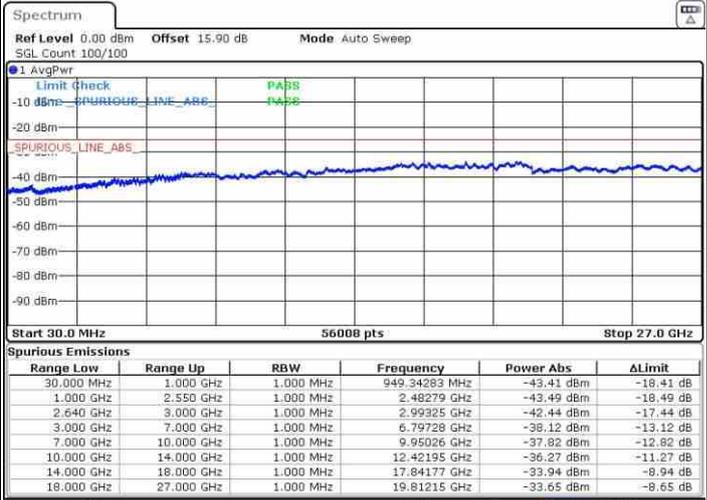
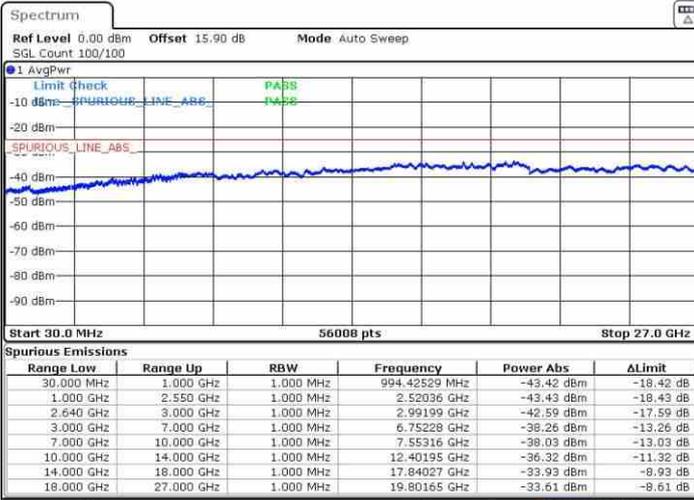
Date: 22 MAY 2019 21:14:12



LTE Band 38 / 20MHz

Lowest Channel / 64QAM

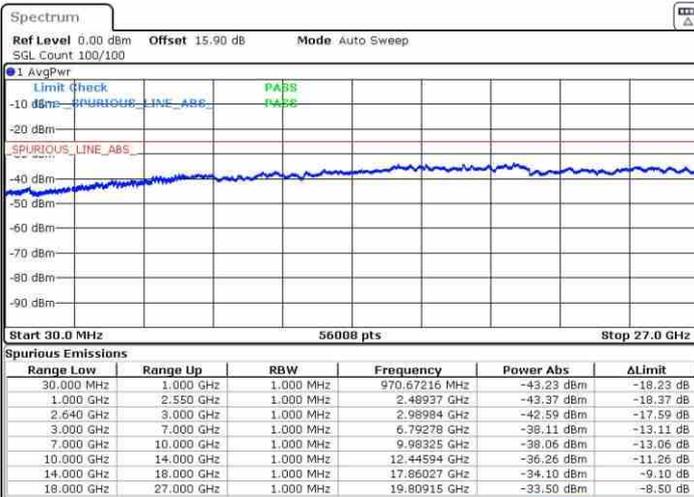
Middle Channel / 64QAM



Date: 22 MAY 2019 21:19:34

Date: 22 MAY 2019 21:20:20

Highest Channel / 64QAM



Date: 22 MAY 2019 21:21:05



**Frequency Stability**

Test Conditions		LTE Band 38 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0007	PASS
40	Normal Voltage	0.0016	
30	Normal Voltage	0.0016	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0007	
0	Normal Voltage	0.0007	
-10	Normal Voltage	0.0011	
-20	Normal Voltage	0.0015	
-30	Normal Voltage	0.0007	
20	Maximum Voltage	0.0015	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0010	

**Note:**

1. Normal Voltage =3.85 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.



Test Conditions		LTE Band 38 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 5MHz	Within Band
		Frequency Offset ( $\Delta f$ ) (Hz)	Result
50	Normal Voltage	-1.9	PASS
40	Normal Voltage	-4.1	
30	Normal Voltage	-4.1	
20(Ref.)	Normal Voltage	0	
10	Normal Voltage	-1.9	
0	Normal Voltage	-1.7	
-10	Normal Voltage	-2.9	
-20	Normal Voltage	-4	
-30	Normal Voltage	-1.7	
20	Maximum Voltage	-3.9	
20	Normal Voltage	0	
20	Battery End Point	-2.6	

$|\text{MAX}(\Delta f)| = 4.1\text{Hz}$

Frequency Stability	Frequency (MHz)	Limit Line	Result
$f_L -  \text{MAX}(\Delta f) $	2570.155996	$\geq 2570\text{ MHz}$	PASS
$f_H +  \text{MAX}(\Delta f) $	2619.848004	$\leq 2620\text{ MHz}$	



## LTE Band 38C

### 26dB Bandwidth

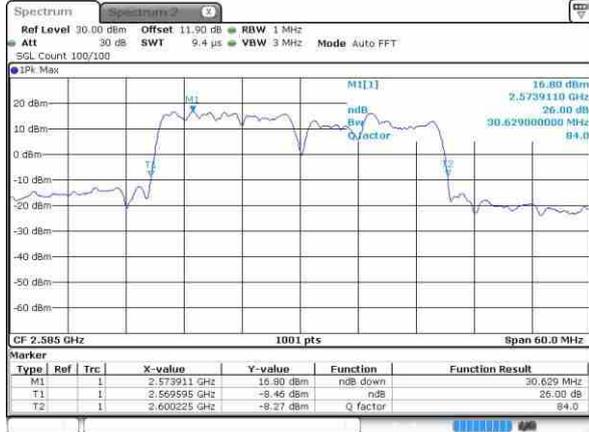
Mode	LTE Band 38C : 26dB BW(MHz)		
	QPSK	16QAM	64QAM
<b>BW</b>	<b>15MHz+15MHz</b>	<b>15MHz+15MHz</b>	<b>15MHz+15MHz</b>
<b>Lowest CH</b>	30.62	30.50	30.45
<b>Middle CH</b>	30.56	30.56	30.56
<b>Highest CH</b>	30.56	30.62	30.50
<b>BW</b>	<b>20MHz+20MHz</b>	<b>20MHz+20MHz</b>	<b>20MHz+20MHz</b>
<b>Lowest CH</b>	39.79	40.12	39.48
<b>Middle CH</b>	39.96	39.96	39.88
<b>Highest CH</b>	39.79	39.64	39.88



LTE Band 38C

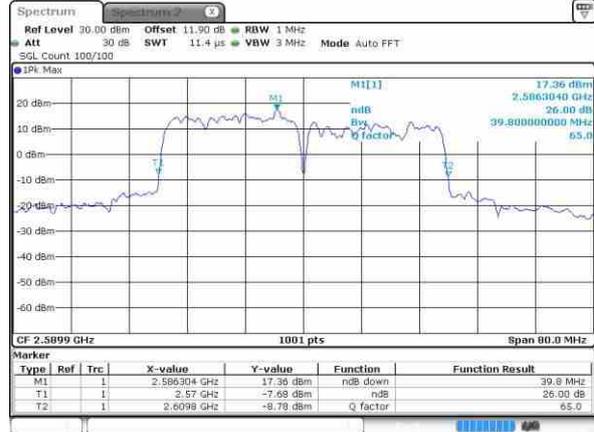
QPSK

Lowest Channel / 15MHz+15MHz



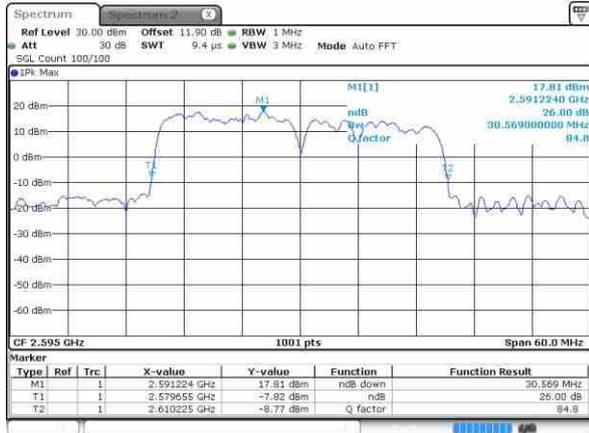
Date: 16 JUN 2019 19:41:47

Lowest Channel / 20MHz+20MHz



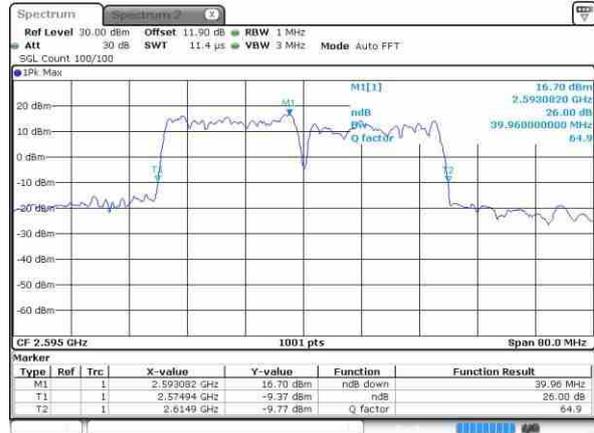
Date: 16 JUN 2019 21:43:33

Middle Channel / 15MHz+15MHz



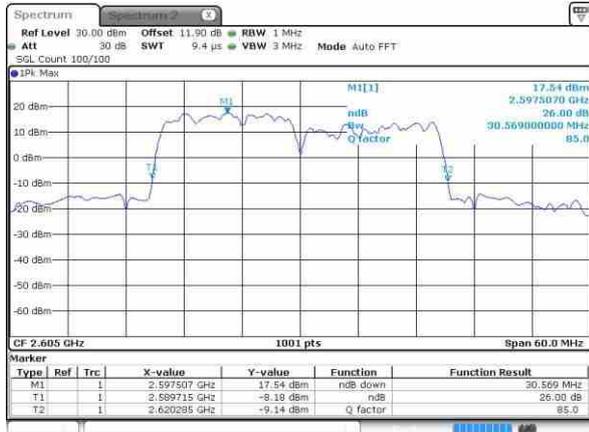
Date: 16 JUN 2019 20:06:21

Middle Channel / 20MHz+20MHz



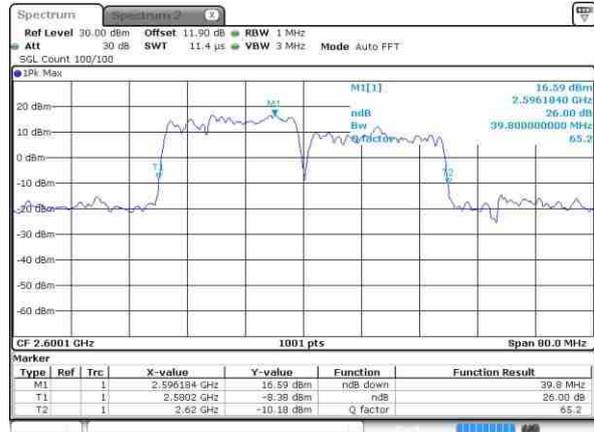
Date: 16 JUN 2019 22:07:39

Highest Channel / 15MHz+15MHz



Date: 16 JUN 2019 20:12:42

Highest Channel / 20MHz+20MHz



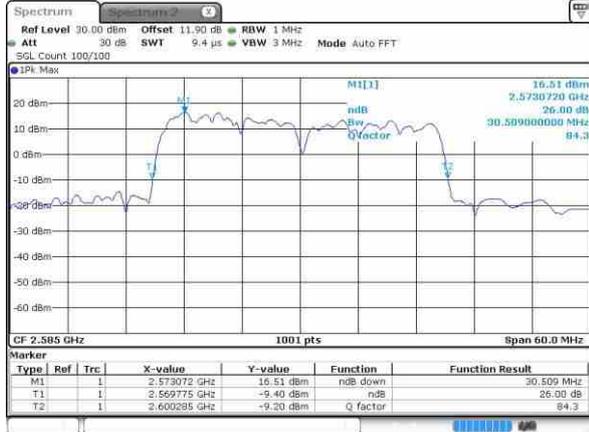
Date: 16 JUN 2019 22:13:03



LTE Band 38C

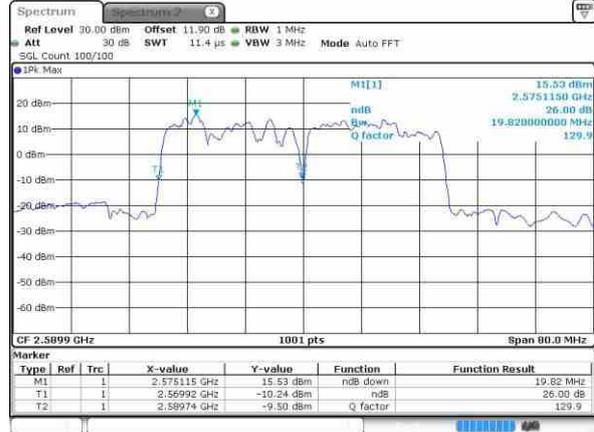
16QAM

Lowest Channel / 15MHz+15MHz



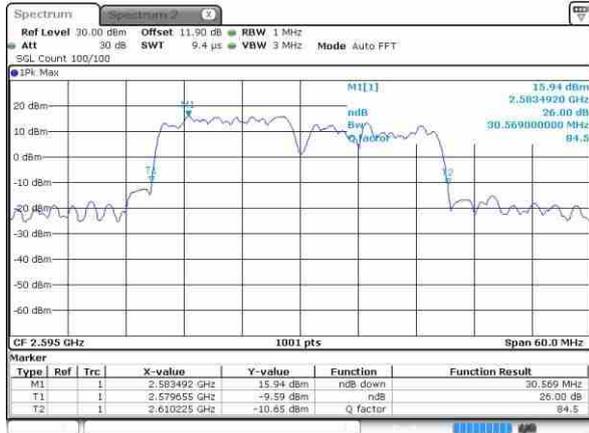
Date: 16 JUN 2019 19:40:59

Lowest Channel / 20MHz+20MHz



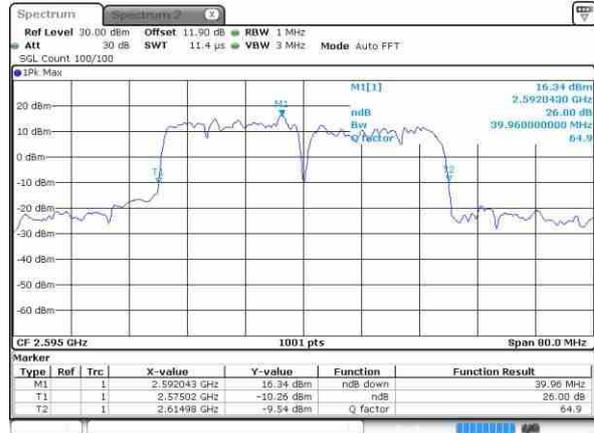
Date: 16 JUN 2019 21:42:44

Middle Channel / 15MHz+15MHz



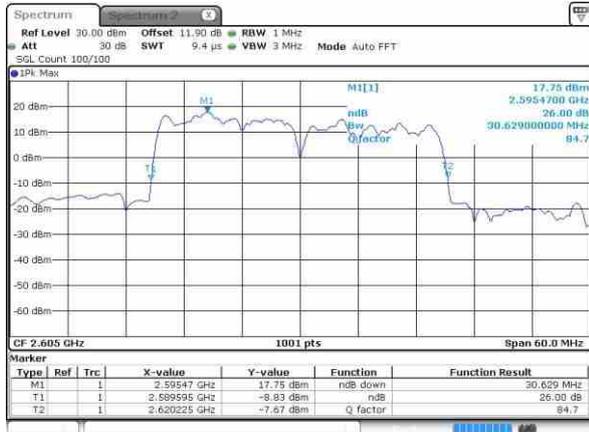
Date: 16 JUN 2019 20:07:33

Middle Channel / 20MHz+20MHz



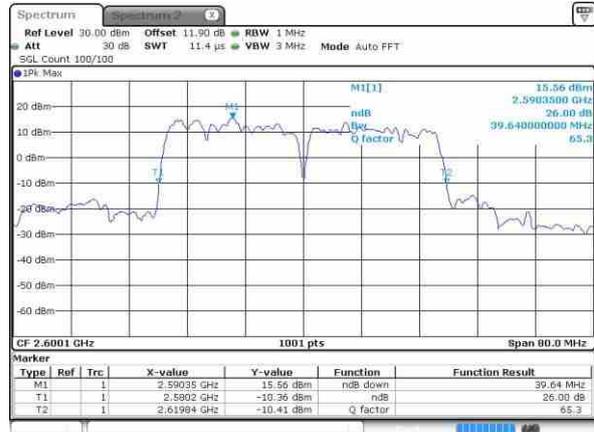
Date: 16 JUN 2019 22:06:51

Highest Channel / 15MHz+15MHz



Date: 16 JUN 2019 20:13:30

Highest Channel / 20MHz+20MHz



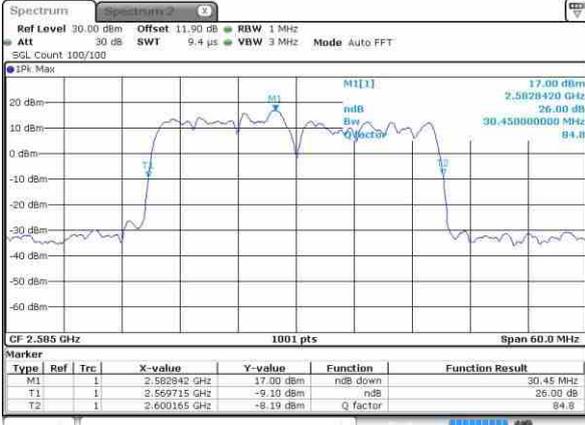
Date: 16 JUN 2019 22:16:32



LTE Band 38C

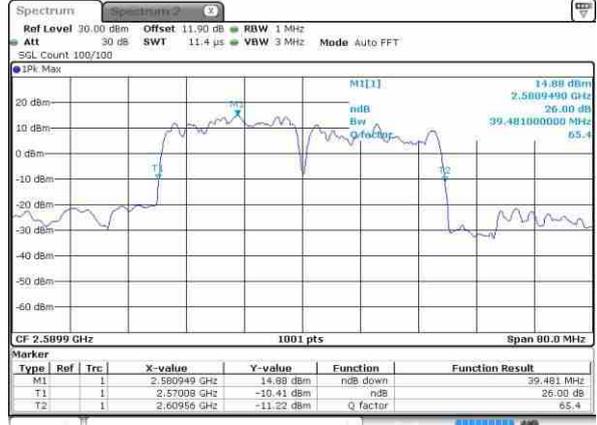
64QAM

Lowest Channel / 15MHz+15MHz



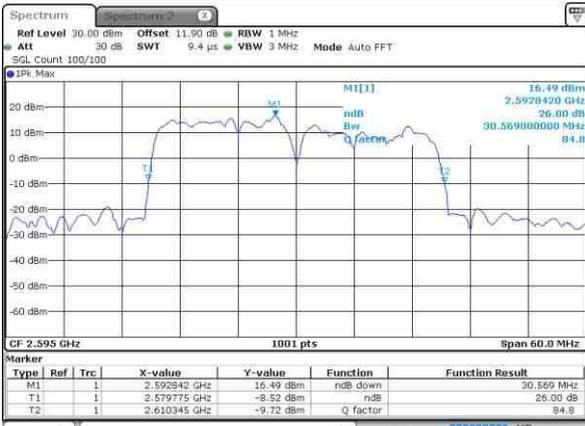
Date: 16 JUN 2019 19:40:10

Lowest Channel / 20MHz+20MHz



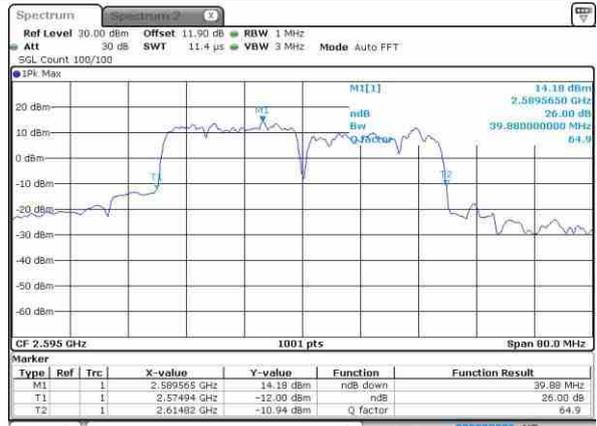
Date: 16 JUN 2019 21:41:56

Middle Channel / 15MHz+15MHz



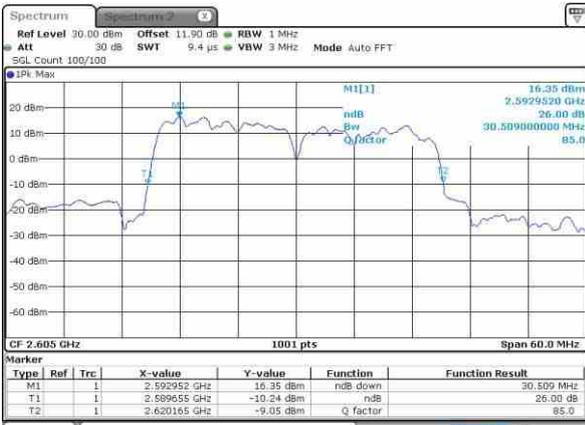
Date: 16 JUN 2019 20:06:43

Middle Channel / 20MHz+20MHz



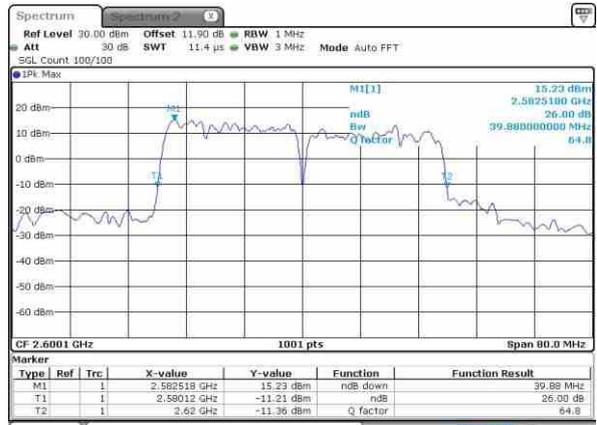
Date: 16 JUN 2019 22:06:02

Highest Channel / 15MHz+15MHz



Date: 16 JUN 2019 20:14:19

Highest Channel / 20MHz+20MHz



Date: 16 JUN 2019 22:14:40



### Occupied Bandwidth

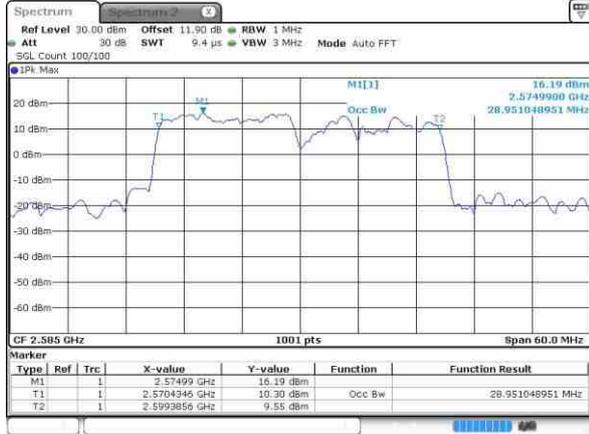
Mode	LTE Band 38C : 99%OBW(MHz)		
	QPSK	16QAM	64QAM
<b>BW</b>	<b>15MHz+15MHz</b>	<b>15MHz+15MHz</b>	<b>15MHz+15MHz</b>
Lowest CH	28.95	28.41	28.59
Middle CH	28.71	28.41	28.41
Highest CH	28.65	28.77	28.29
<b>BW</b>	<b>20MHz+20MHz</b>	<b>20MHz+20MHz</b>	<b>20MHz+20MHz</b>
Lowest CH	37.64	37.72	37.48
Middle CH	37.72	37.56	37.40
Highest CH	37.88	37.80	37.24



LTE Band 38C

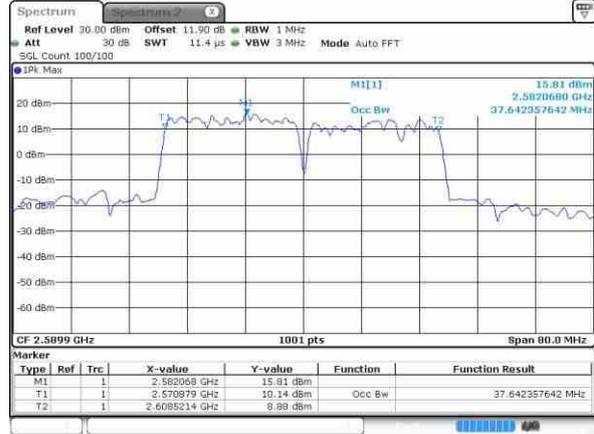
QPSK

Lowest Channel / 15MHz+15MHz



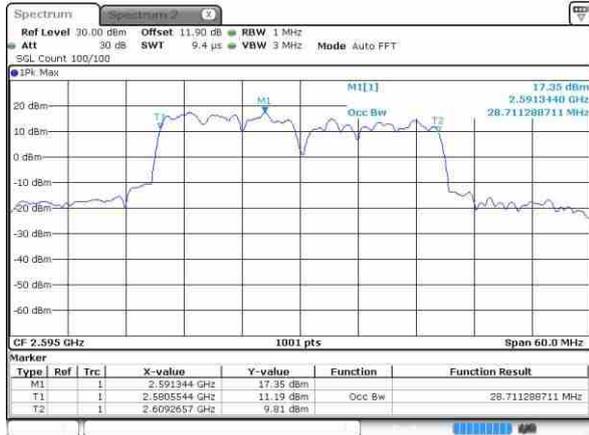
Date: 16 JUN 2019 19:37:45

Lowest Channel / 20MHz+20MHz



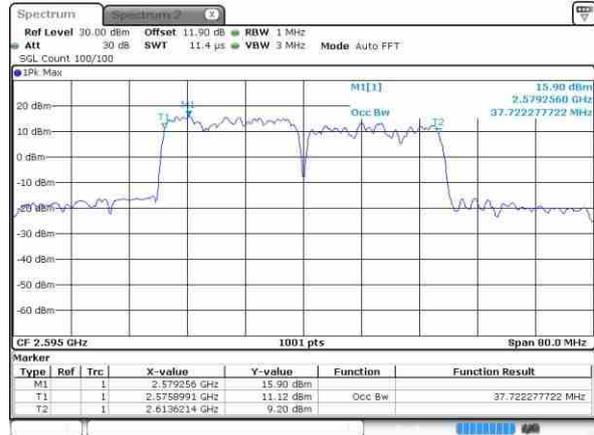
Date: 16 JUN 2019 21:39:31

Middle Channel / 15MHz+15MHz



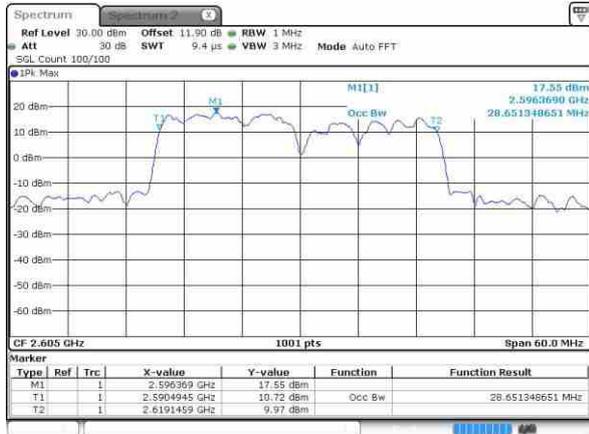
Date: 16 JUN 2019 20:04:19

Middle Channel / 20MHz+20MHz



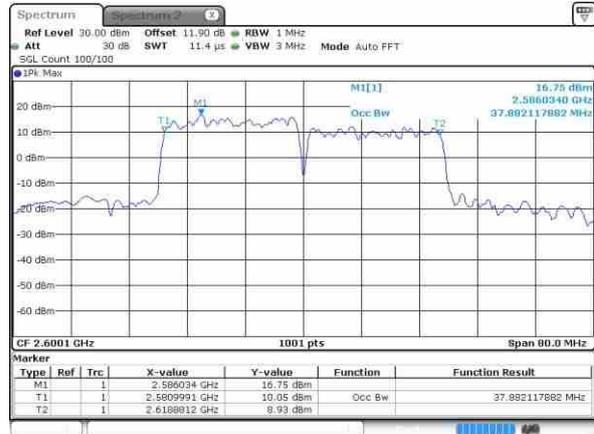
Date: 16 JUN 2019 22:03:37

Highest Channel / 15MHz+15MHz



Date: 16 JUN 2019 20:11:54

Highest Channel / 20MHz+20MHz



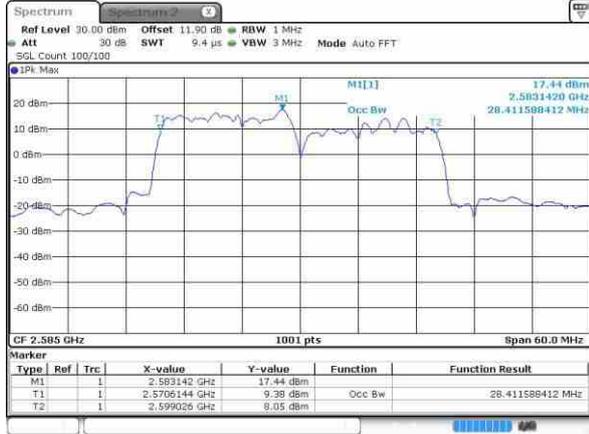
Date: 16 JUN 2019 22:12:15



LTE Band 38C

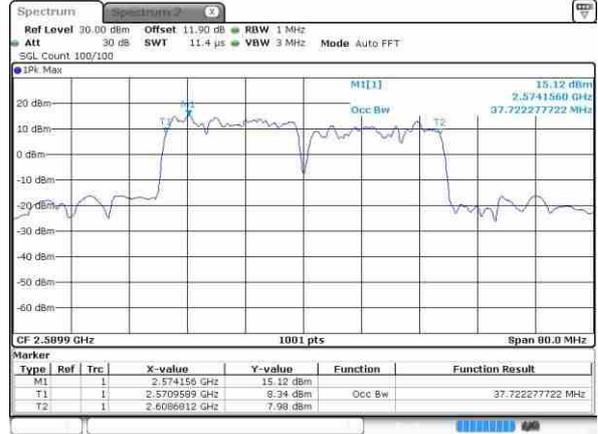
16QAM

Lowest Channel / 15MHz+15MHz



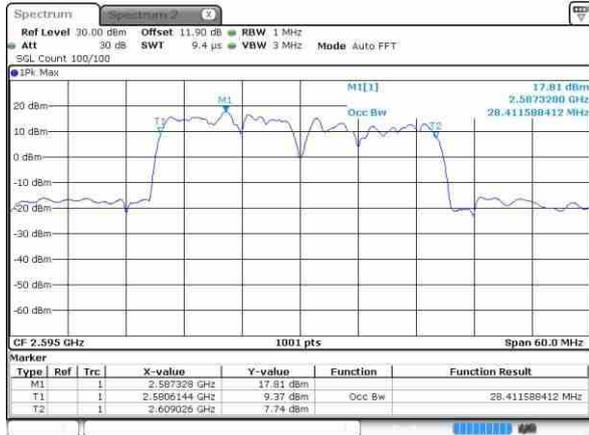
Date: 16 JUN 2019 19:35:34

Lowest Channel / 20MHz+20MHz



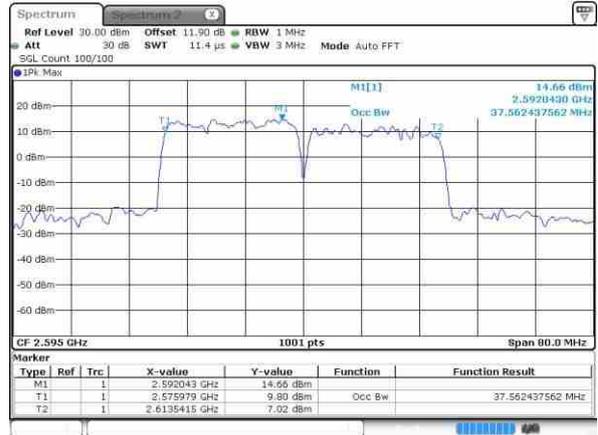
Date: 16 JUN 2019 21:40:20

Middle Channel / 15MHz+15MHz



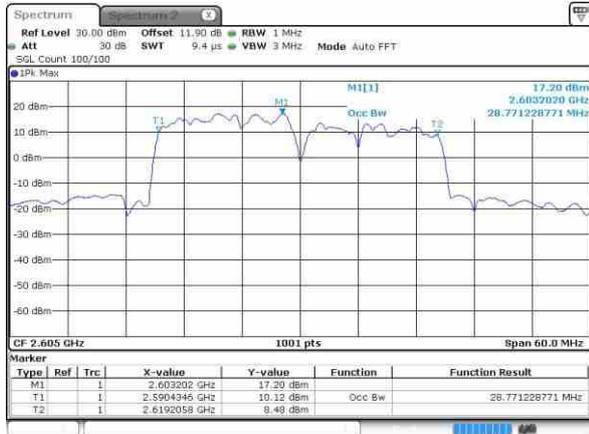
Date: 16 JUN 2019 20:05:07

Middle Channel / 20MHz+20MHz



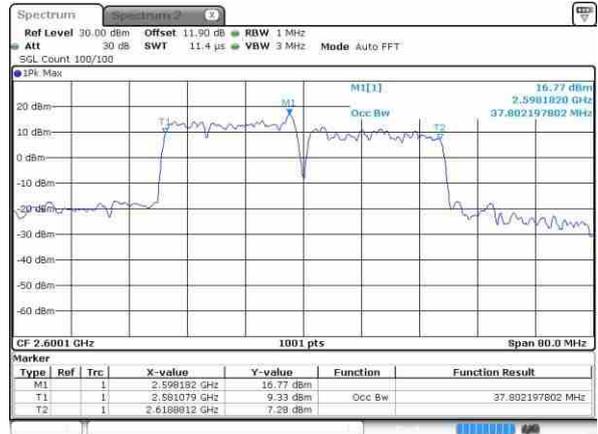
Date: 16 JUN 2019 22:04:26

Highest Channel / 15MHz+15MHz



Date: 16 JUN 2019 20:11:06

Highest Channel / 20MHz+20MHz



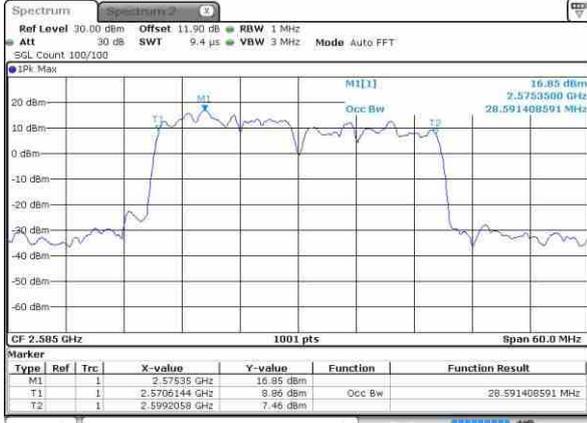
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LTE Band 38C

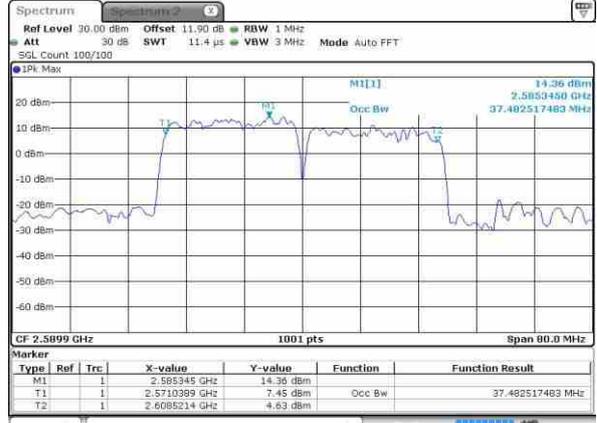
64QAM

Lowest Channel / 15MHz+15MHz



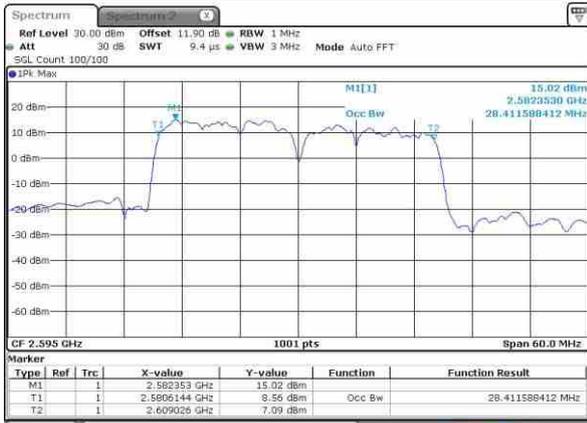
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Lowest Channel / 20MHz+20MHz



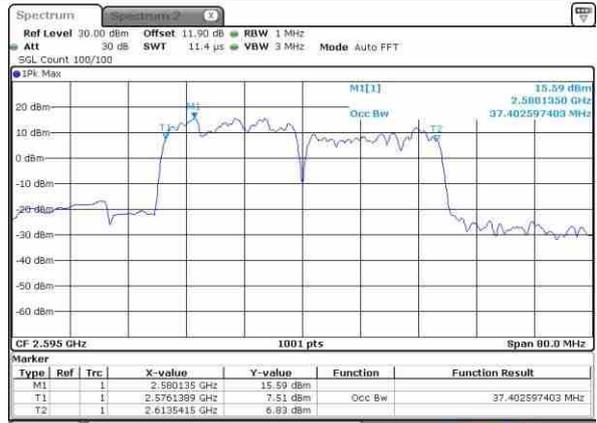
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Middle Channel / 15MHz+15MHz



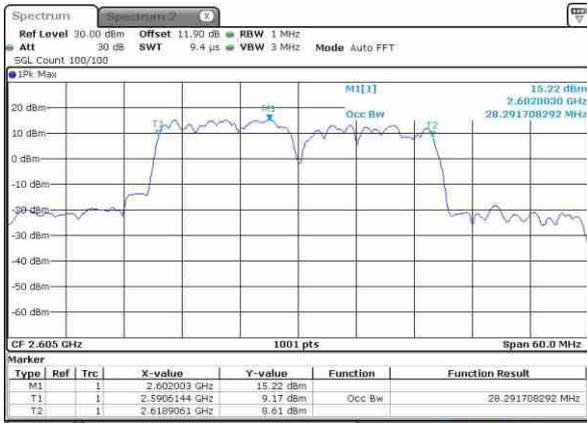
Date: 16 JUN 2019 20:05:98

Middle Channel / 20MHz+20MHz



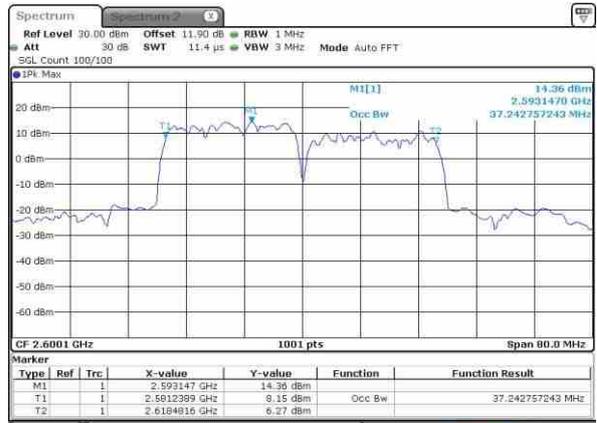
Date: 16 JUN 2019 22:05:15

Highest Channel / 15MHz+15MHz



Date: 16 JUN 2019 20:10:17

Highest Channel / 20MHz+20MHz



Date: 16 JUN 2019 22:10:38



**Conducted Band Edge**