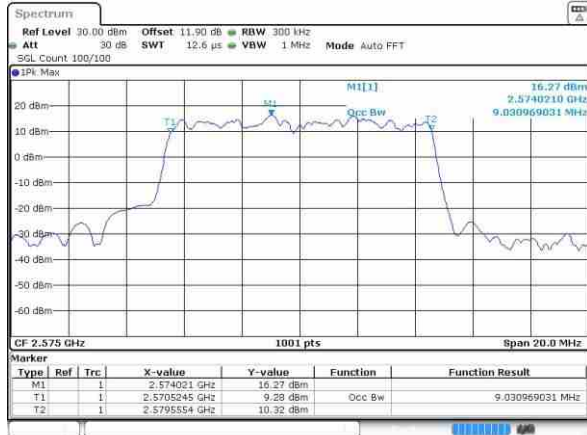




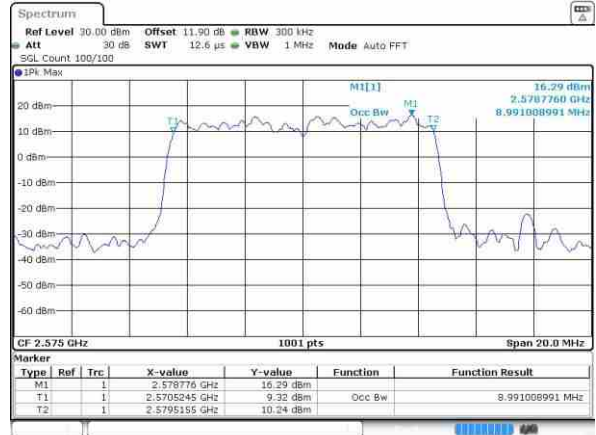
LTE Band 38

Lowest Channel / 10MHz / QPSK



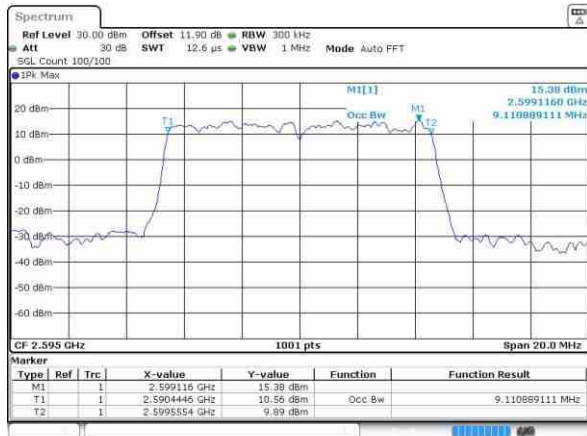
Date: 23 MAY 2019 01:21:17

Lowest Channel / 10MHz / 16QAM



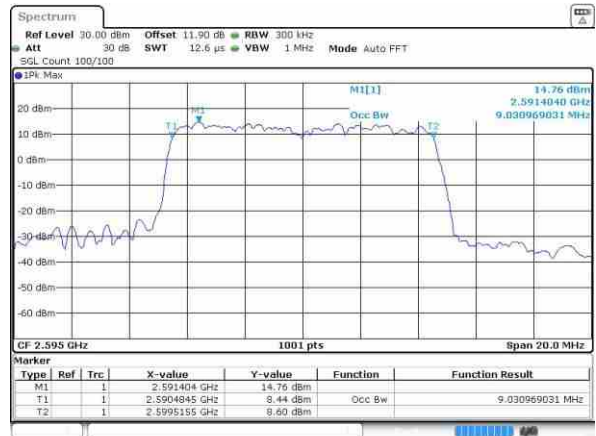
Date: 23 MAY 2019 01:21:29

Middle Channel / 10MHz / QPSK



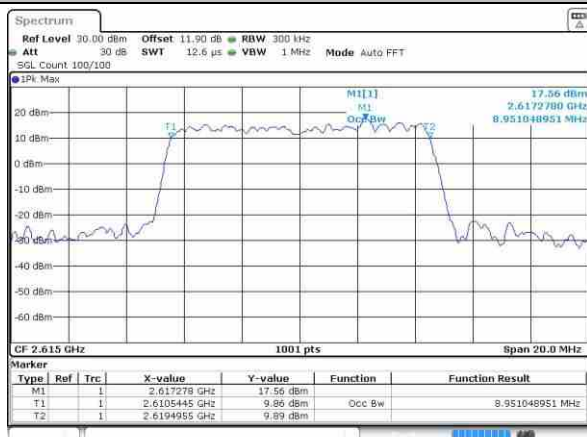
Date: 23 MAY 2019 01:22:06

Middle Channel / 10MHz / 16QAM



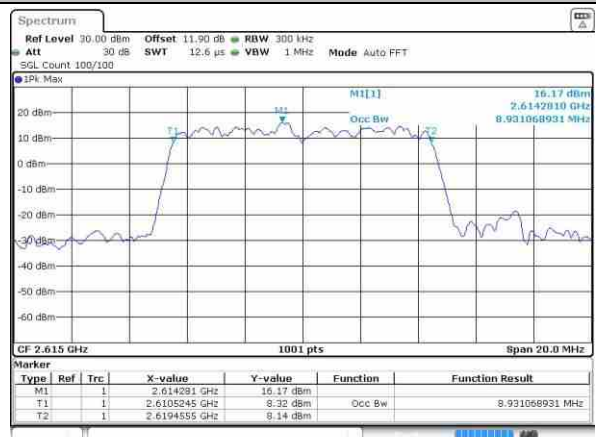
Date: 23 MAY 2019 01:22:18

Highest Channel / 10MHz / QPSK



Date: 23 MAY 2019 01:22:53

Highest Channel / 10MHz / 16QAM

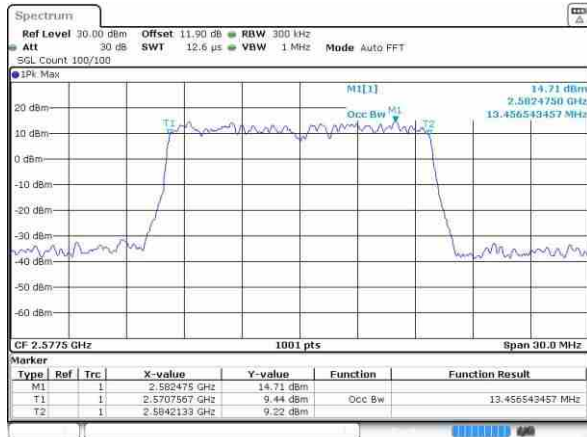


Date: 23 MAY 2019 01:23:06

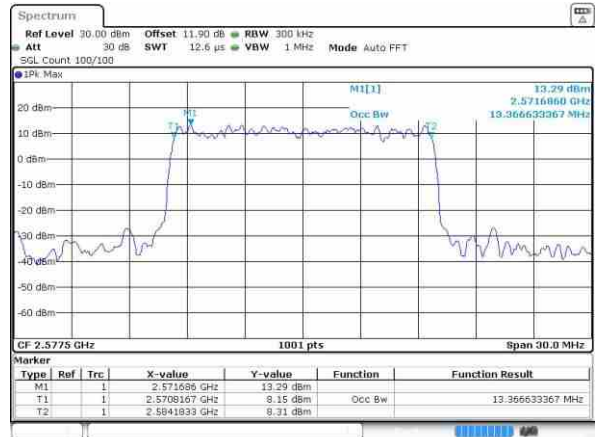


LTE Band 38

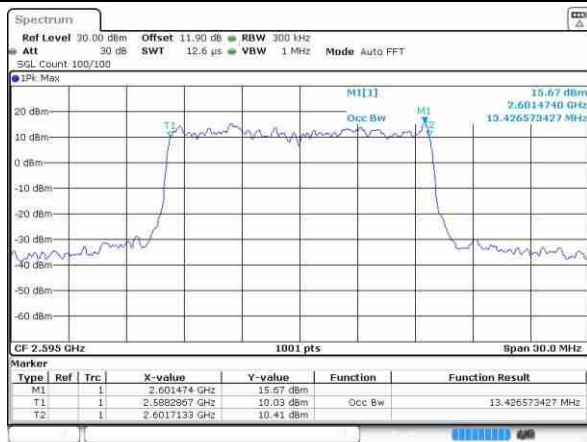
Lowest Channel / 15MHz / QPSK



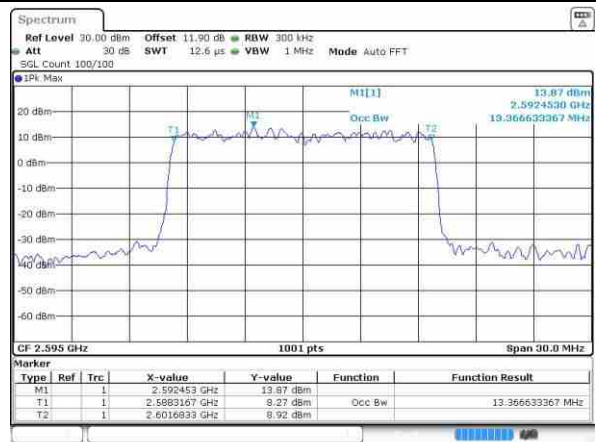
Lowest Channel / 15MHz / 16QAM



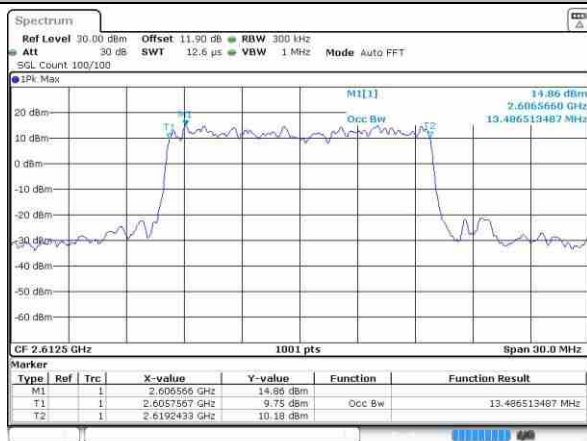
Middle Channel / 15MHz / QPSK



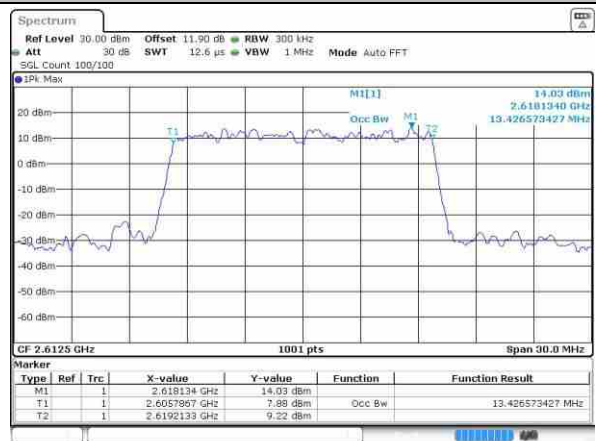
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK



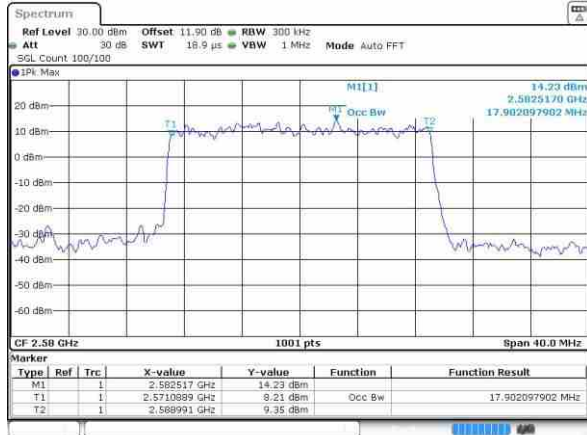
Highest Channel / 15MHz / 16QAM



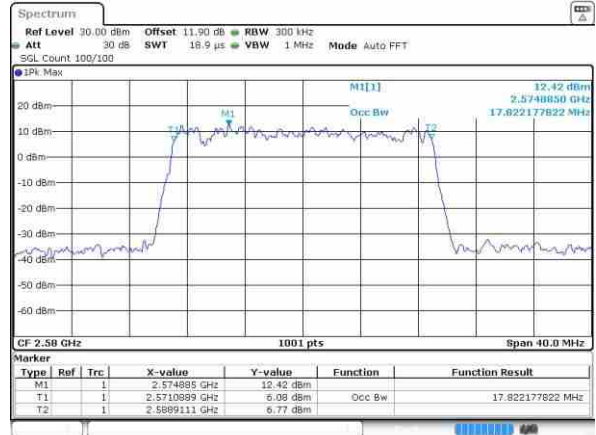


LTE Band 38

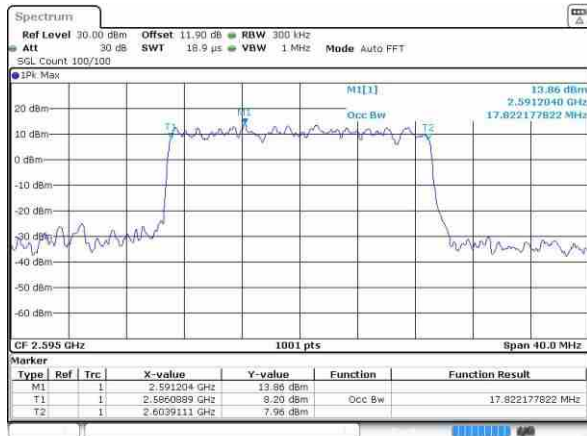
Lowest Channel / 20MHz / QPSK



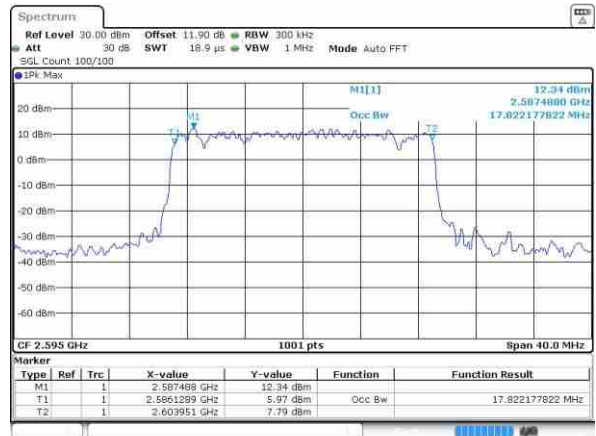
Lowest Channel / 20MHz / 16QAM



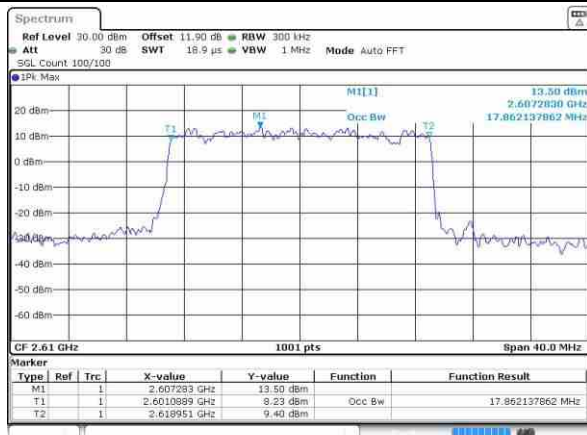
Middle Channel / 20MHz / QPSK



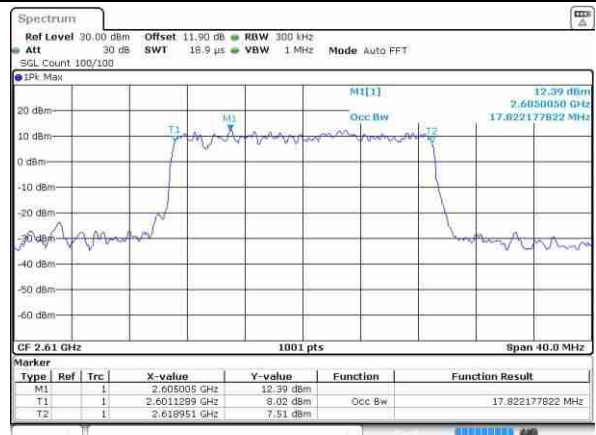
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



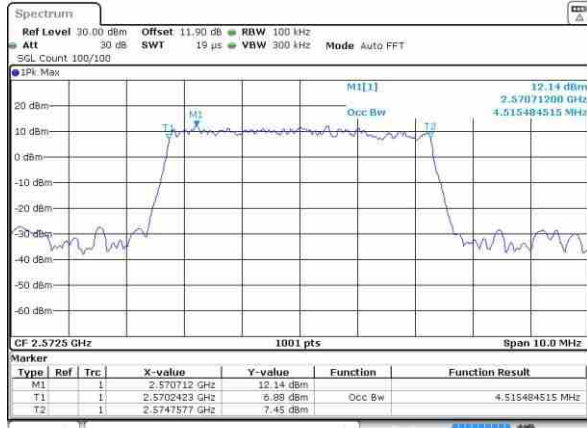
Highest Channel / 20MHz / 16QAM





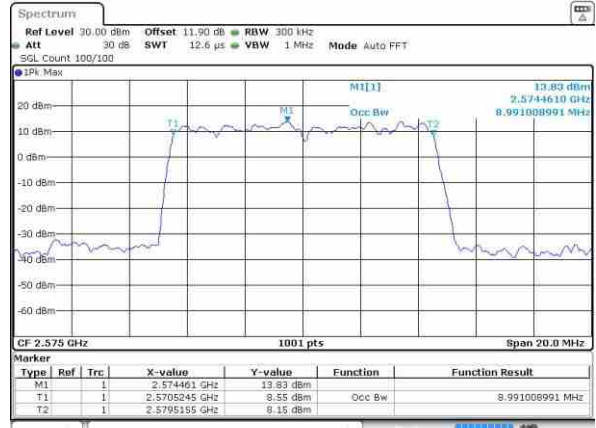
LTE Band 38

Lowest Channel / 5MHz / 64QAM



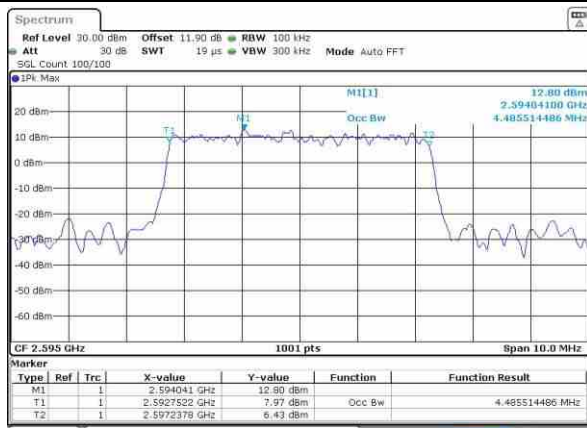
Date: 23 MAY 2019 01:28:39

Lowest Channel / 10MHz / 64QAM



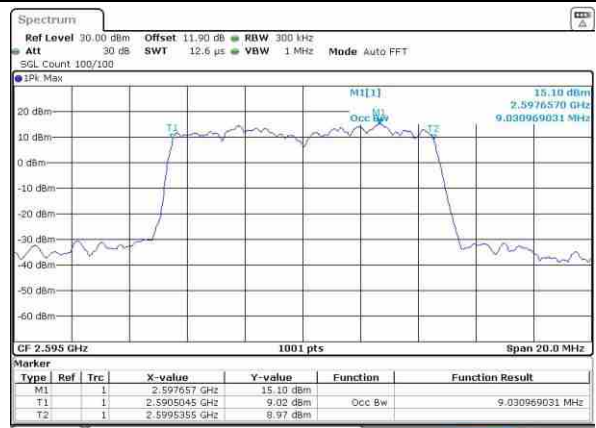
Date: 23 MAY 2019 01:29:53

Middle Channel / 5MHz / 64QAM



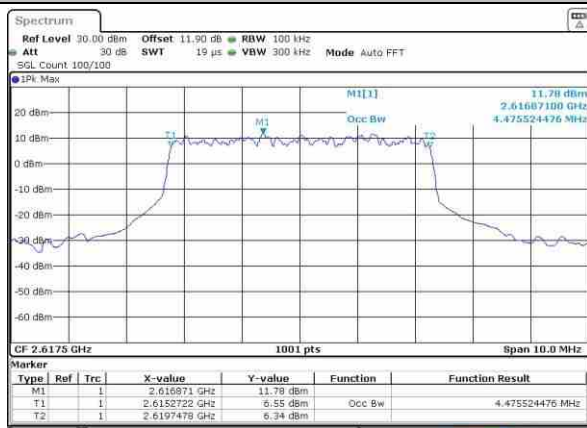
Date: 23 MAY 2019 01:29:04

Middle Channel / 10MHz / 64QAM



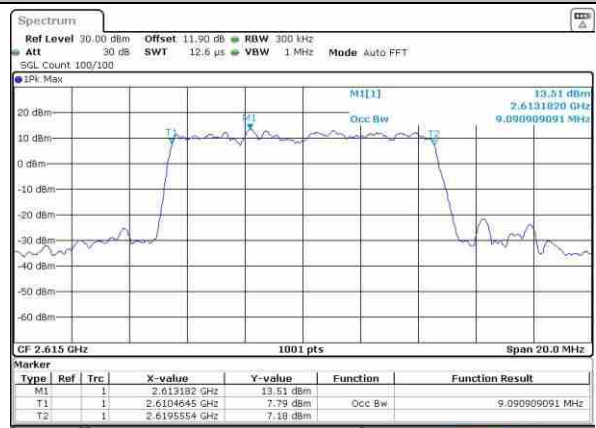
Date: 23 MAY 2019 01:30:18

Highest Channel / 5MHz / 64QAM



Date: 23 MAY 2019 01:29:27

Highest Channel / 10MHz / 64QAM

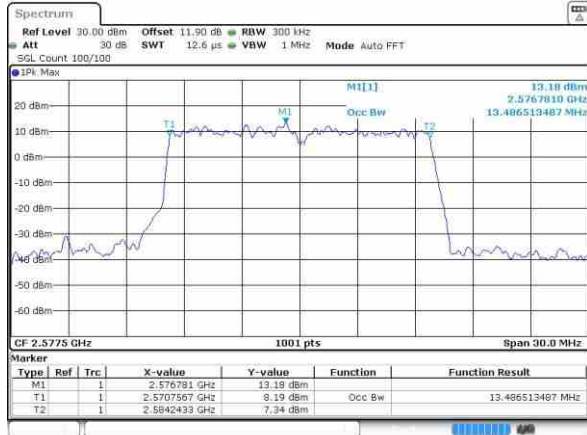


Date: 23 MAY 2019 01:30:41

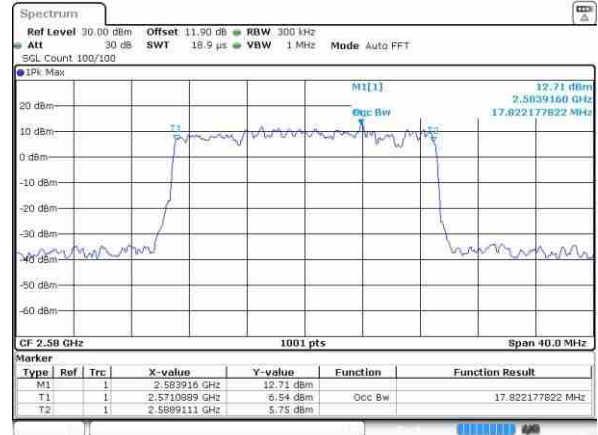


LTE Band 38

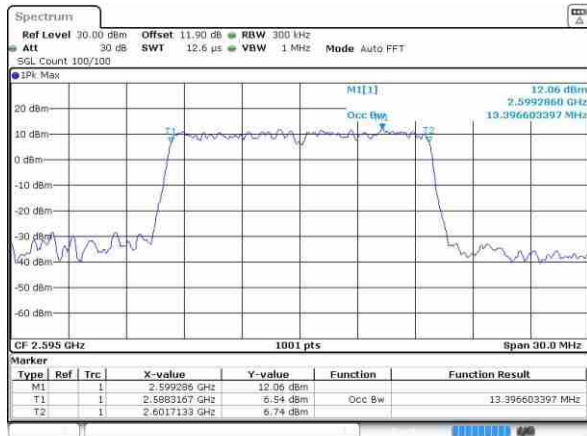
Lowest Channel / 15MHz / 64QAM



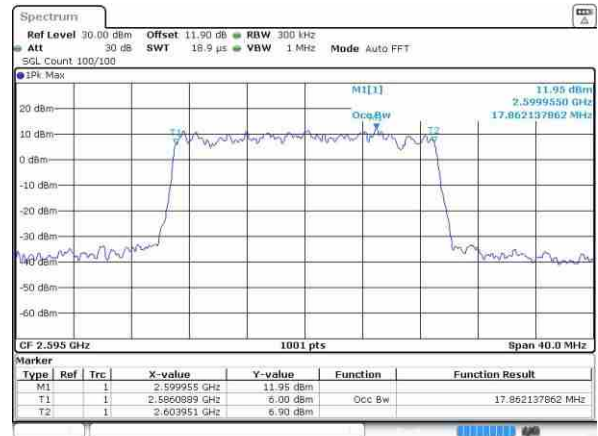
Lowest Channel / 20MHz / 64QAM



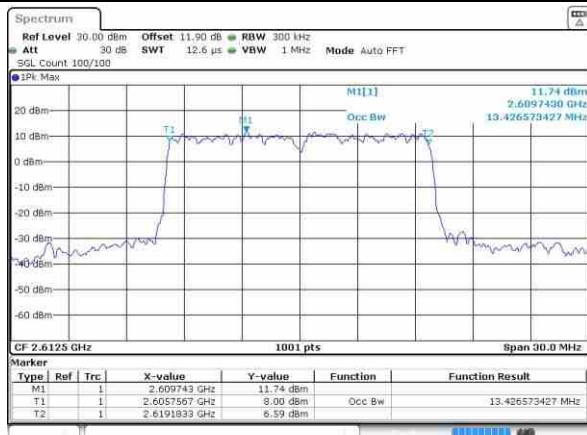
Middle Channel / 15MHz / 64QAM



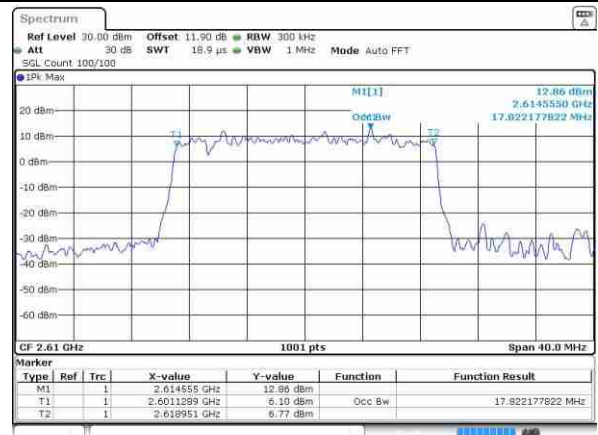
Middle Channel / 20MHz / 64QAM



Highest Channel / 15MHz / 64QAM



Highest Channel / 20MHz / 64QAM



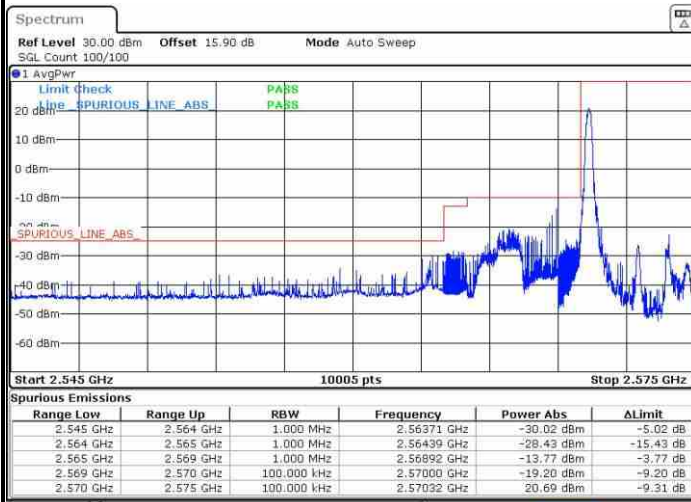


Conducted Band Edge

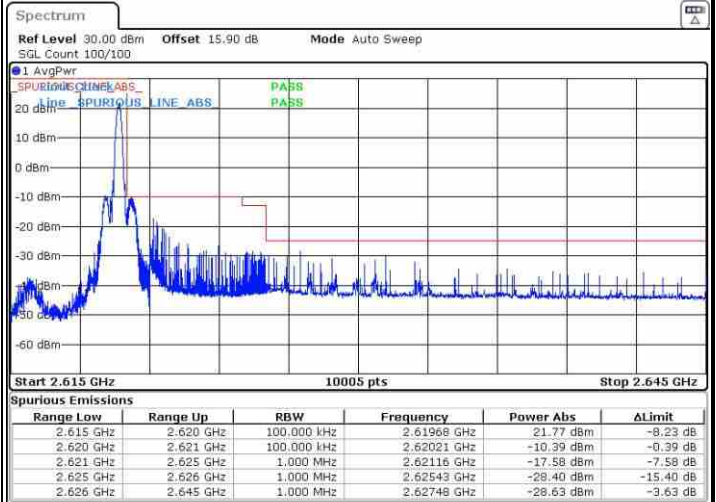


LTE Band 38 / 5MHz / QPSK

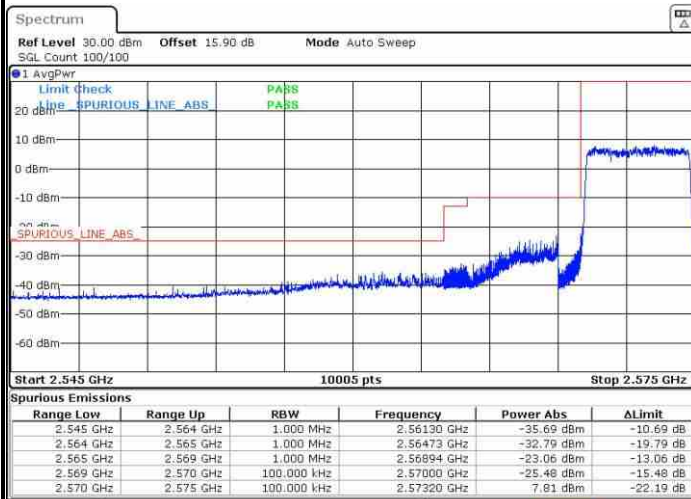
Lowest Band Edge / 1 RB



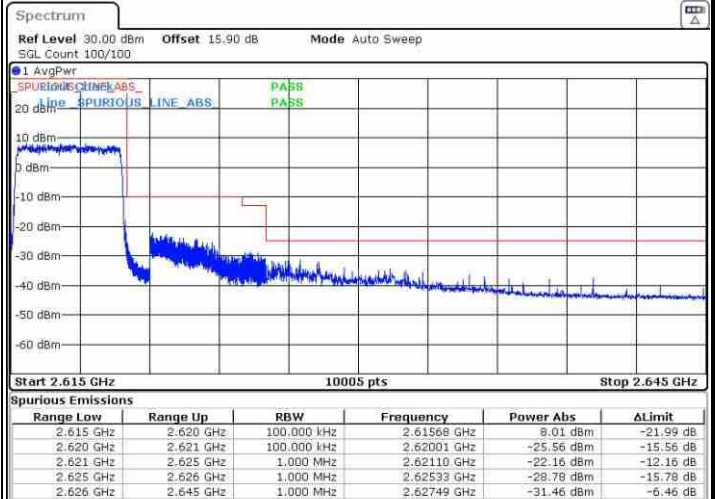
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



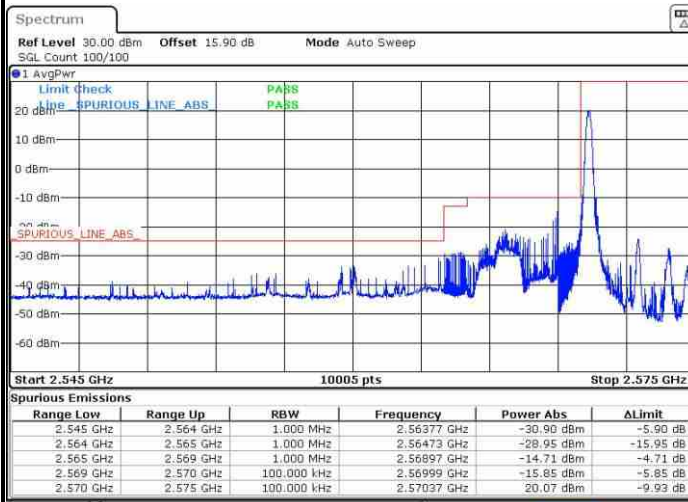
Highest Band Edge / Full RB



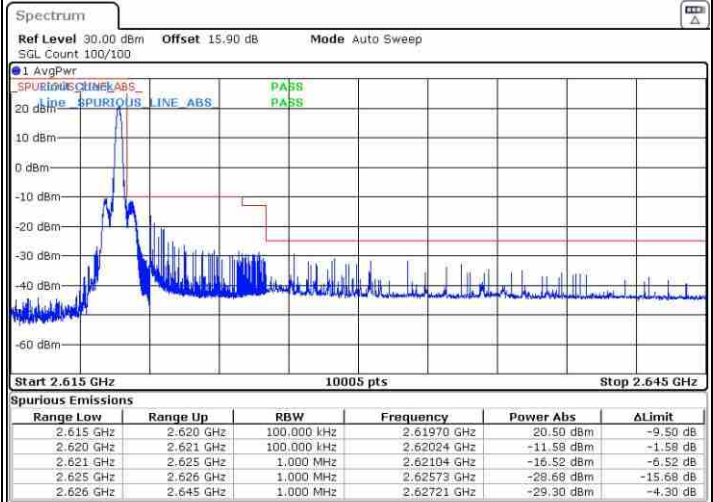


LTE Band 38 / 5MHz / 16QAM

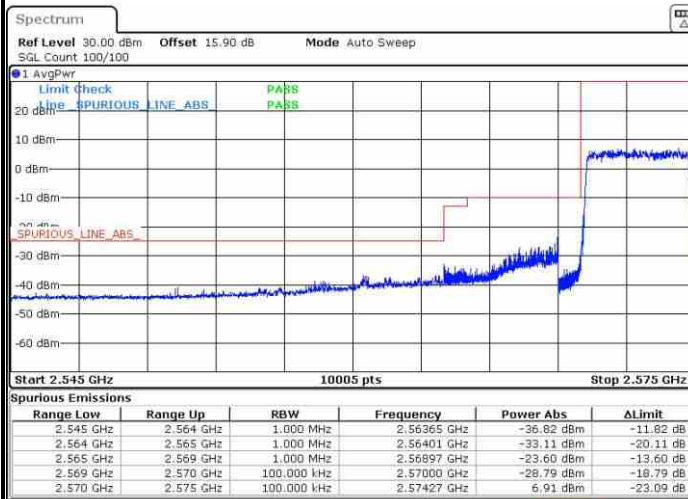
Lowest Band Edge / 1RB



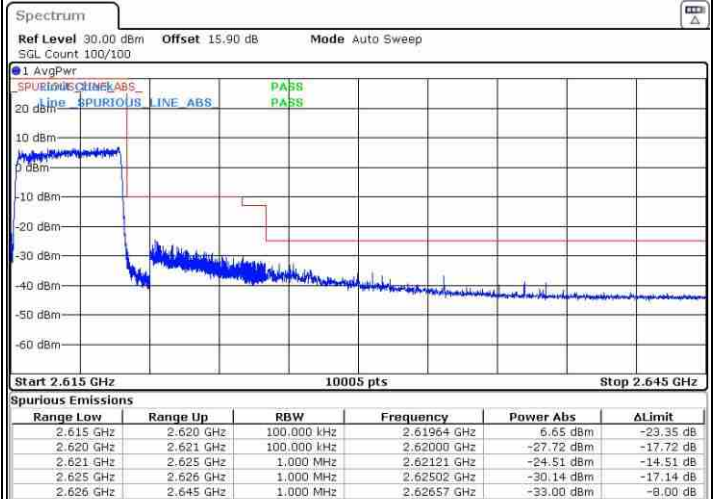
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



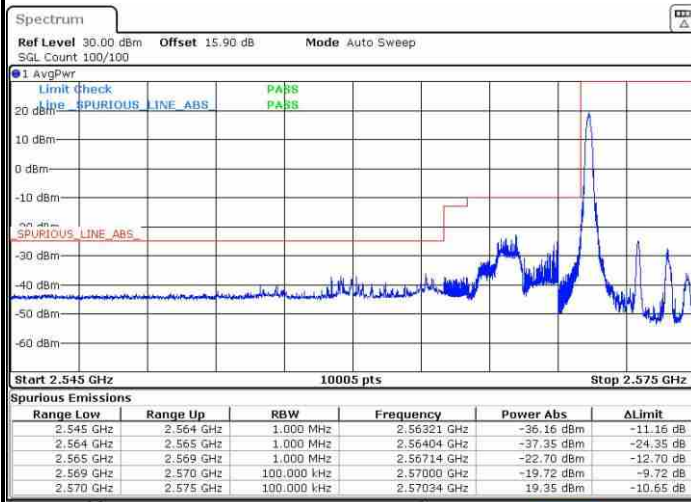
Highest Band Edge / Full RB



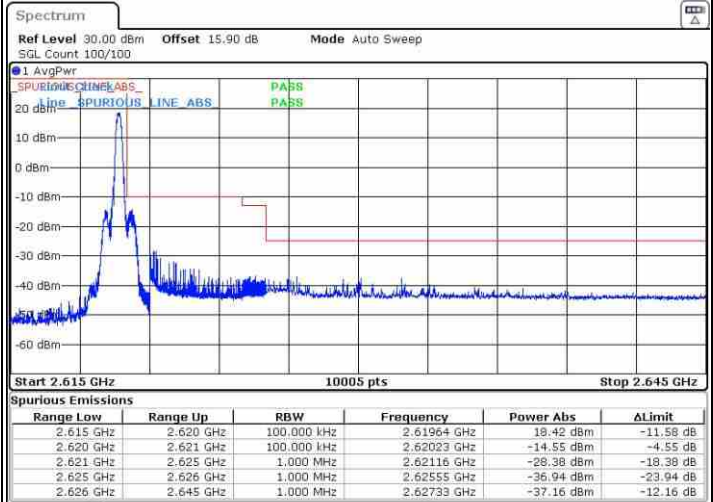


LTE Band 38 / 5MHz / 64QAM

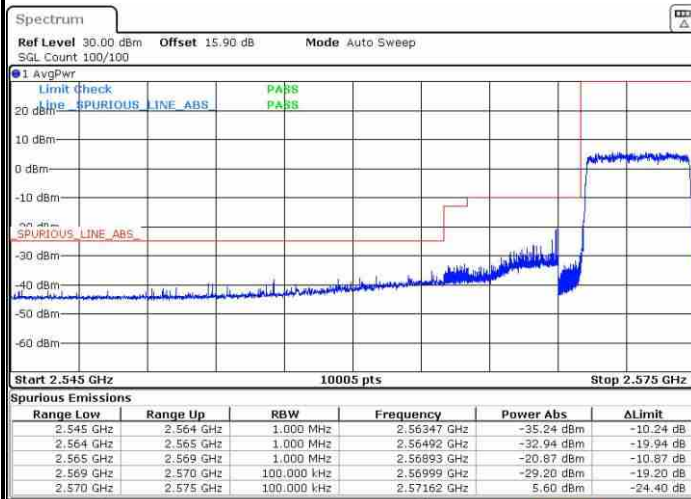
Lowest Band Edge / 1RB



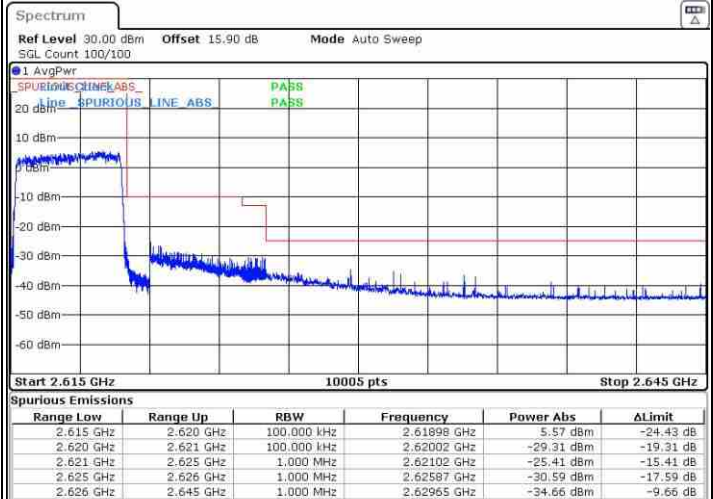
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



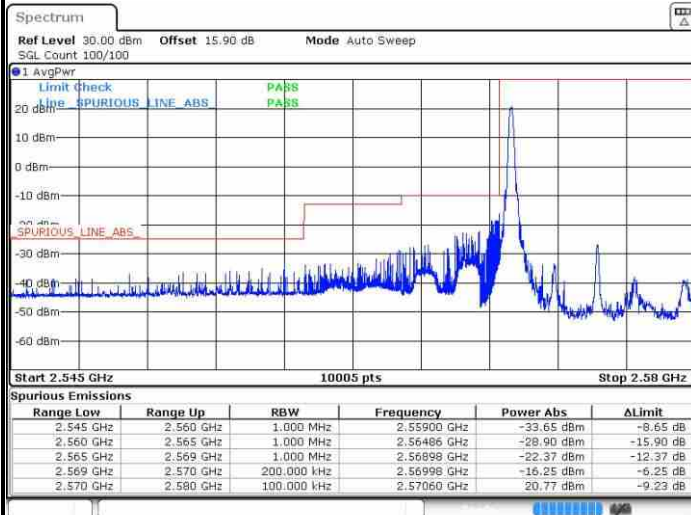
Highest Band Edge / Full RB





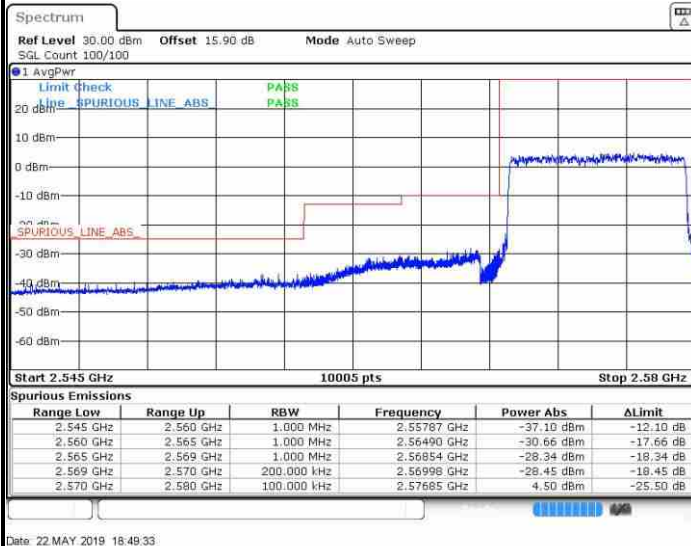
LTE Band 38 / 10MHz / QPSK

Lowest Band Edge / 1 RB

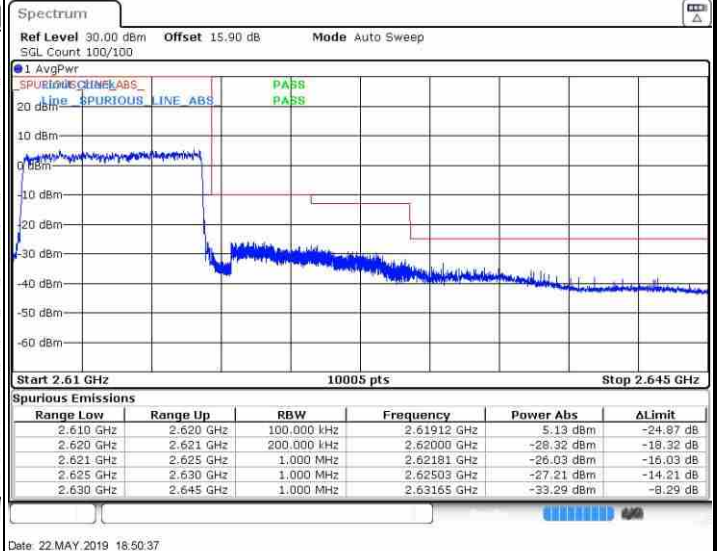


Highest Band Edge / 1 RB

Lowest Band Edge / Full RB



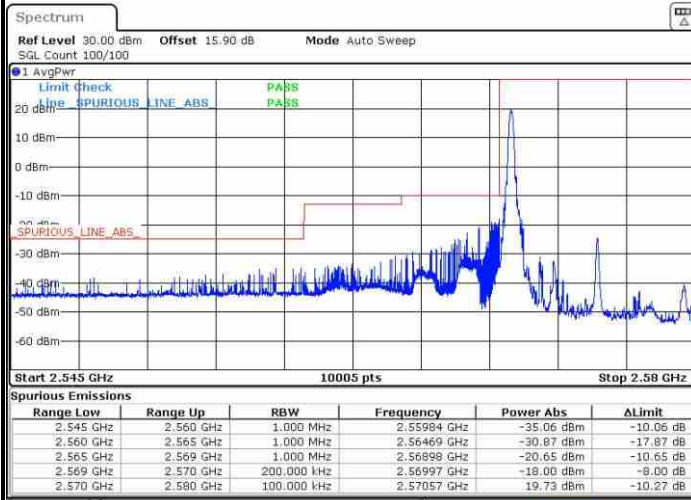
Highest Band Edge / Full RB





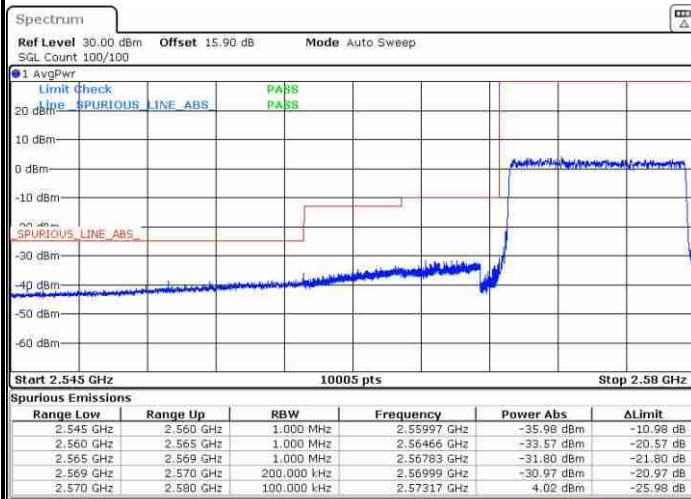
LTE Band 38 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

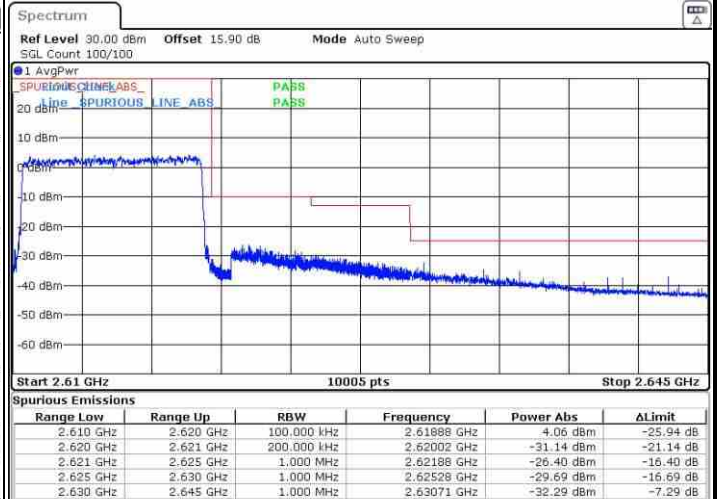


Highest Band Edge / 1 RB

Lowest Band Edge / Full RB



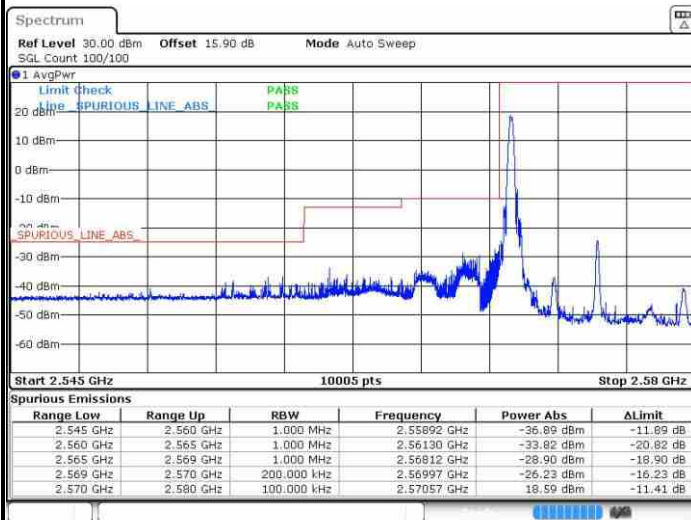
Highest Band Edge / Full RB





LTE Band 38 / 10MHz / 64QAM

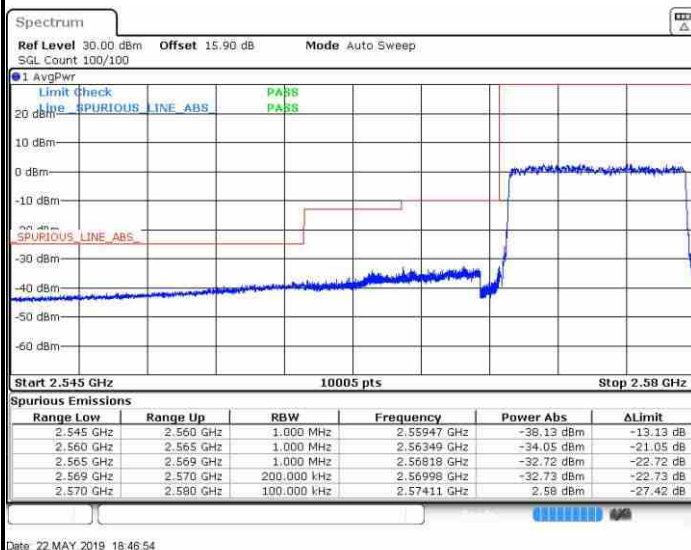
Lowest Band Edge / 1 RB



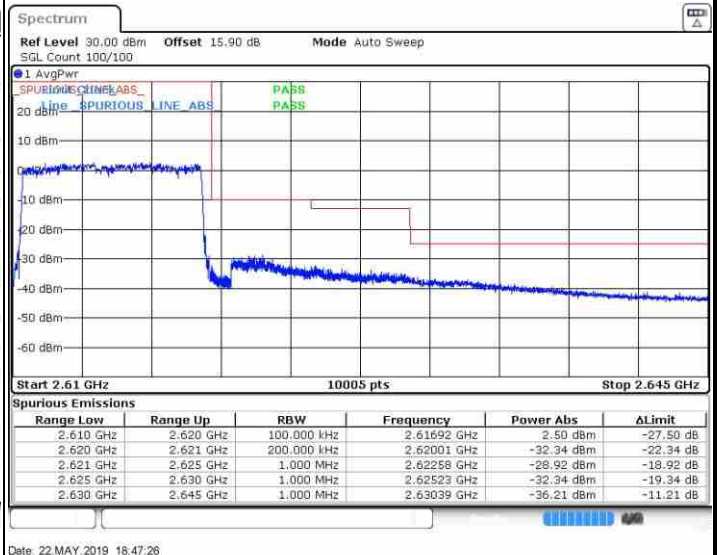
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



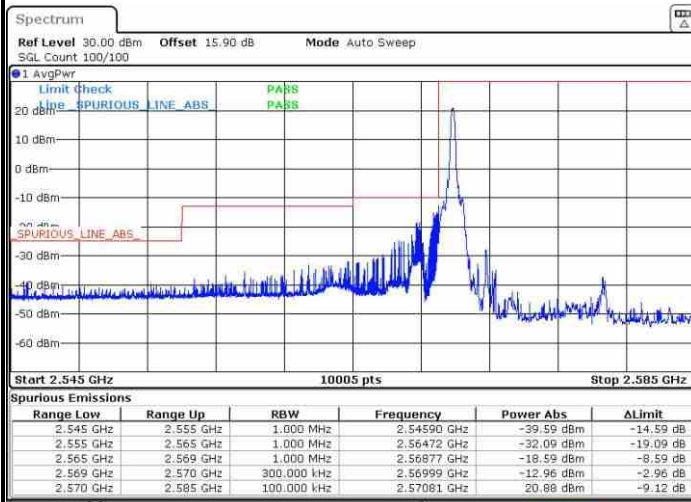
Highest Band Edge / Full RB



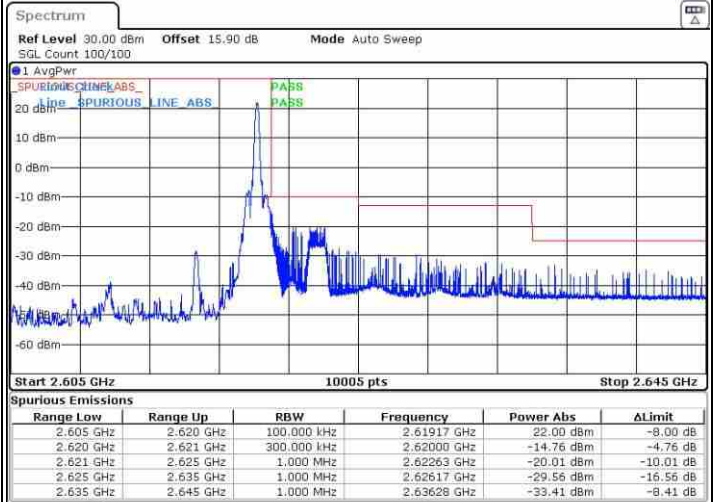


LTE Band 38 / 15MHz / QPSK

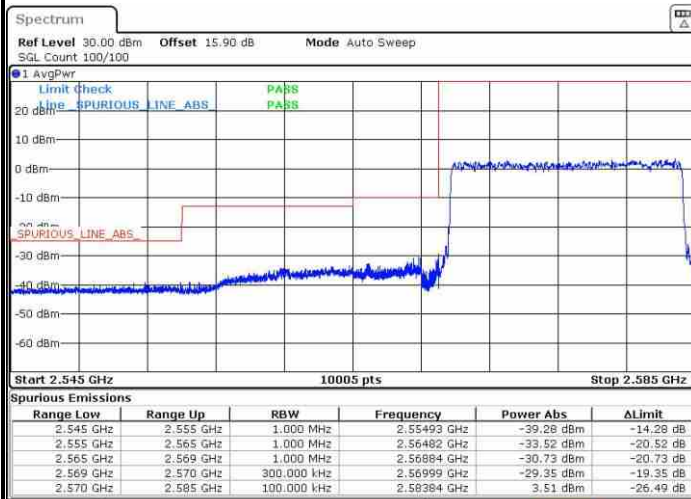
Lowest Band Edge / 1 RB



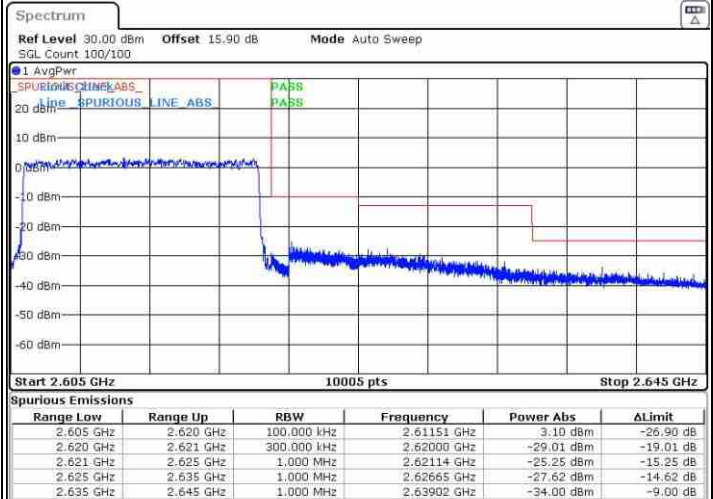
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



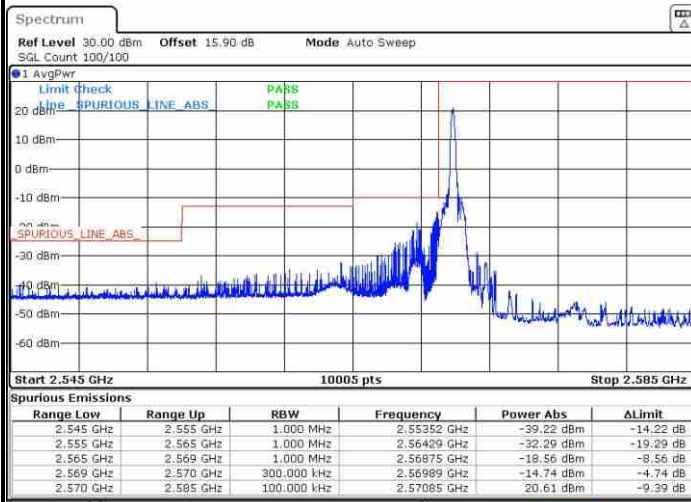
Highest Band Edge / Full RB



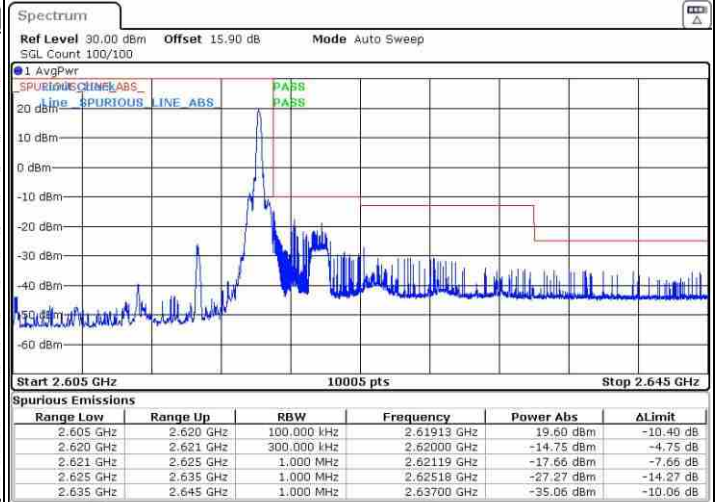


LTE Band 38 / 15MHz / 16QAM

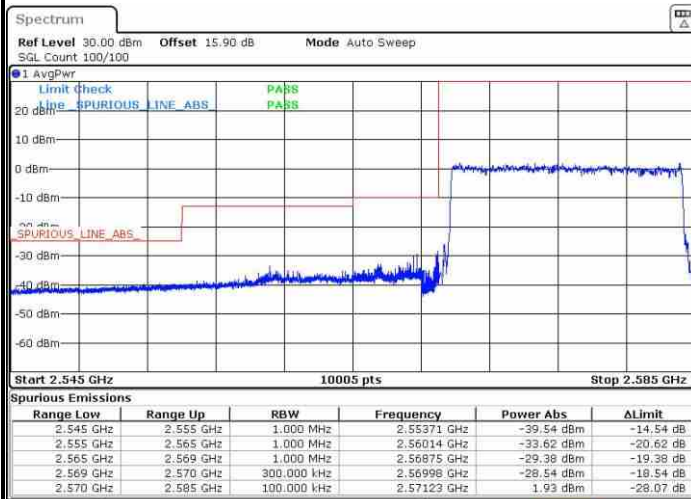
Lowest Band Edge / 1 RB



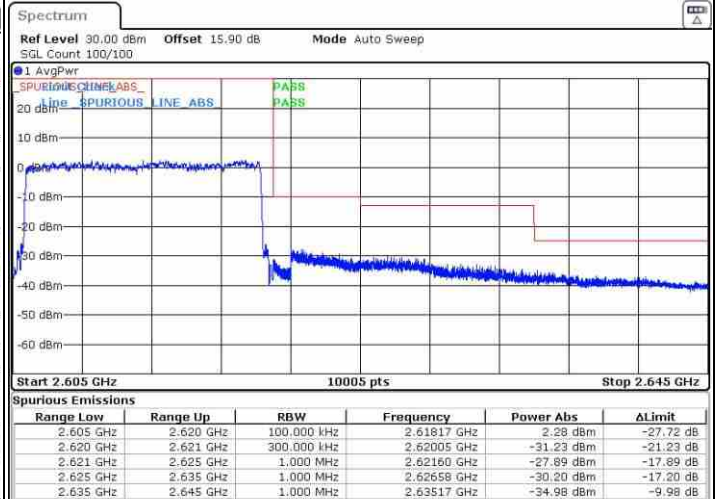
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



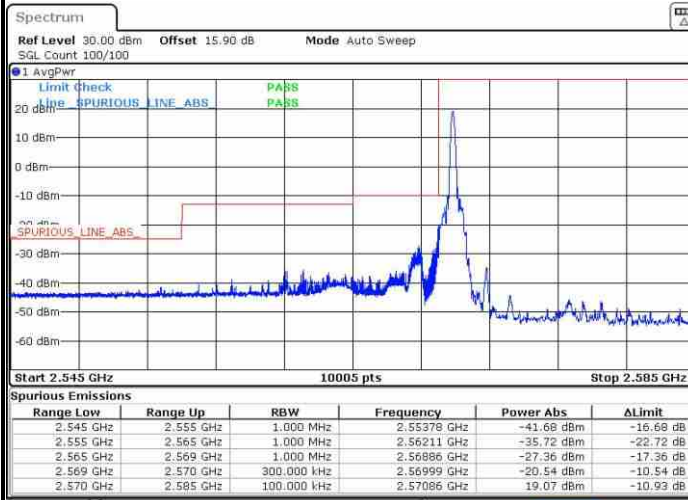
Highest Band Edge / Full RB





LTE Band 38 / 15MHz / 64QAM

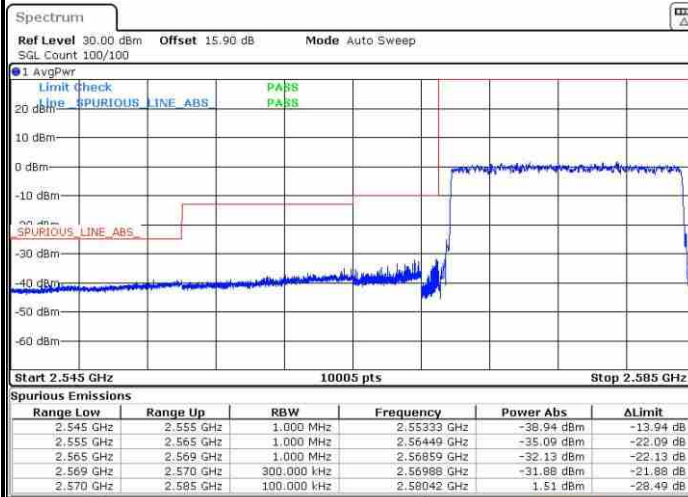
Lowest Band Edge / 1 RB



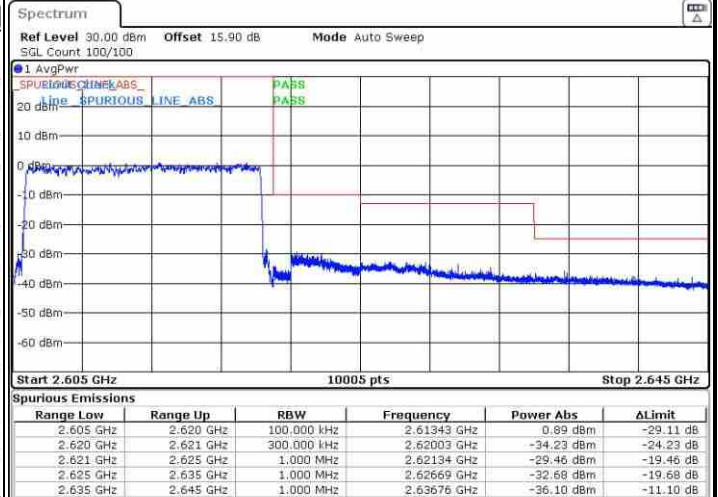
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



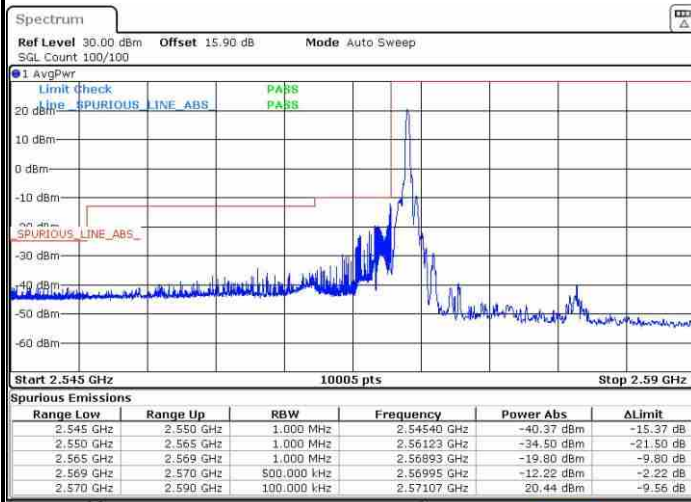
Highest Band Edge / Full RB



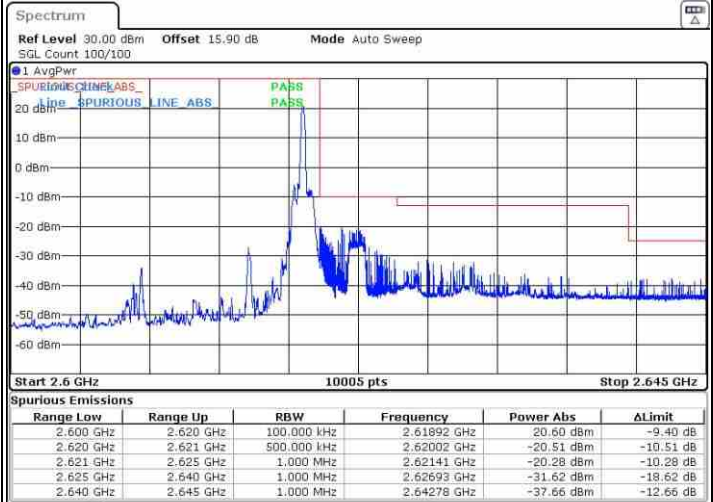


LTE Band 38 / 20MHz / QPSK

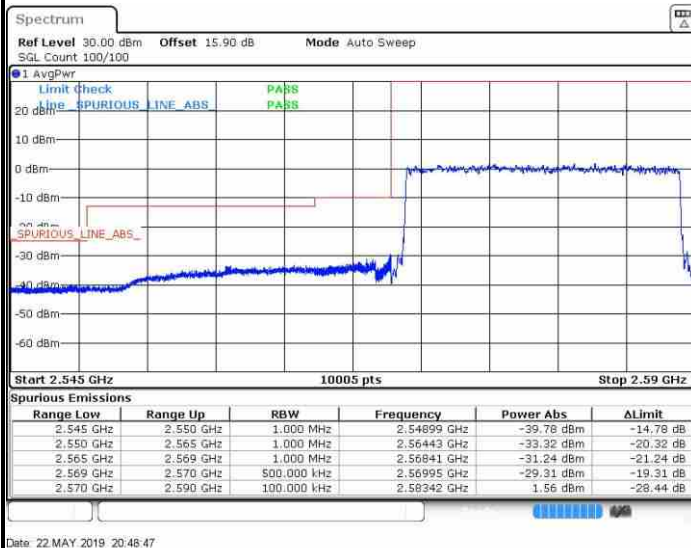
Lowest Band Edge / 1 RB



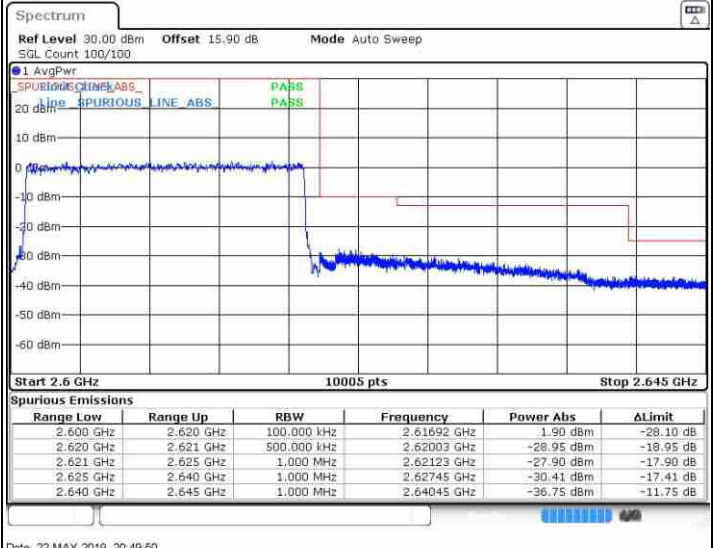
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



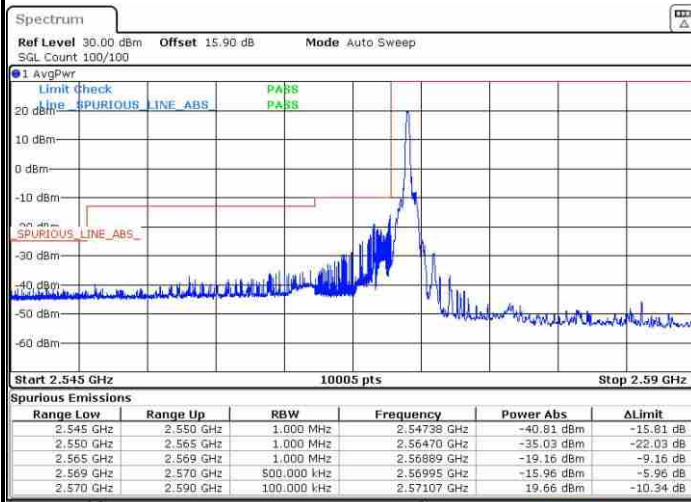
Highest Band Edge / Full RB



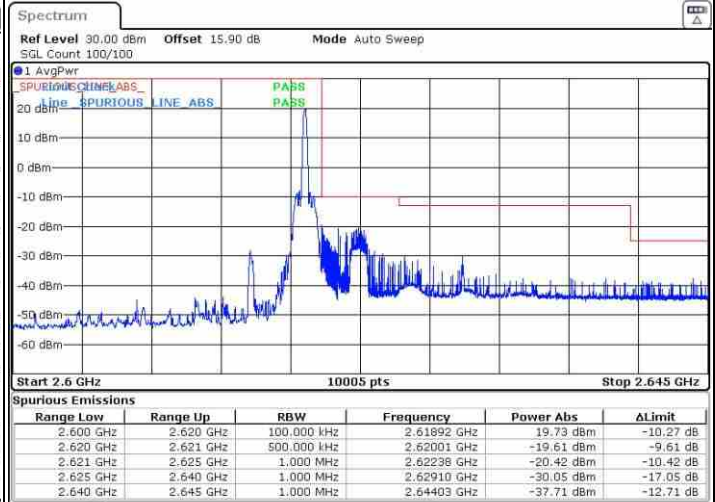


LTE Band 38 / 20MHz / 16QAM

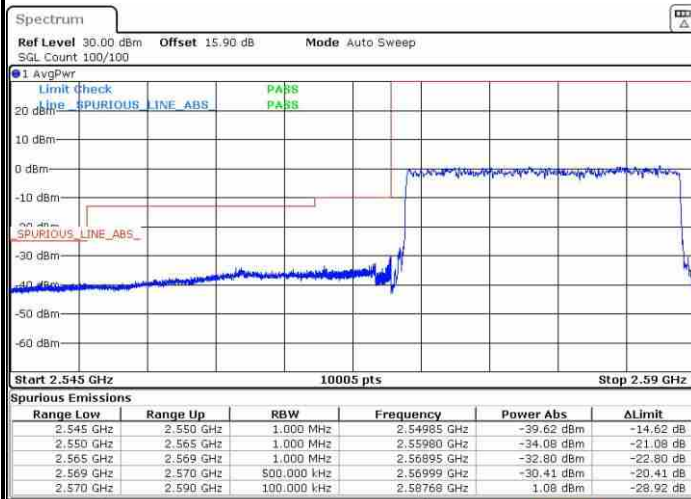
Lowest Band Edge / 1 RB



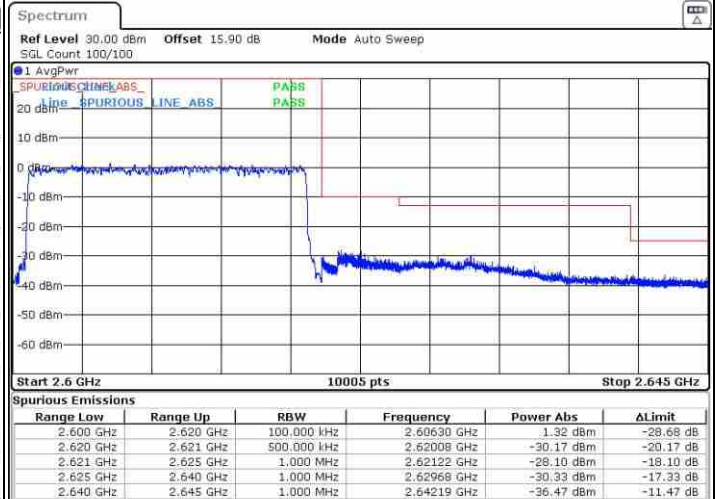
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



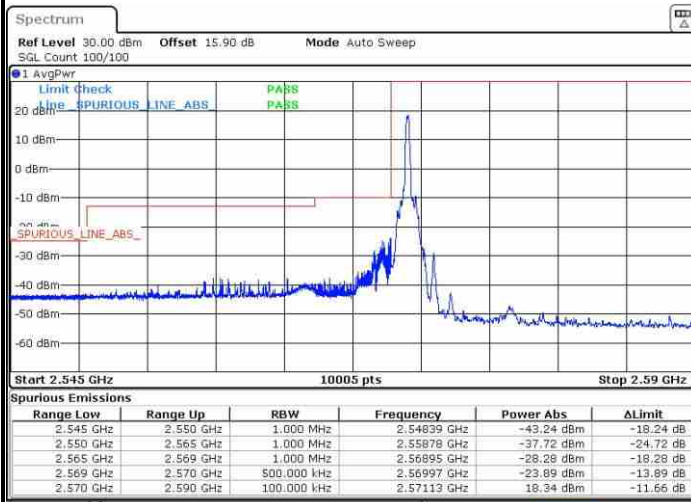
Highest Band Edge / Full RB





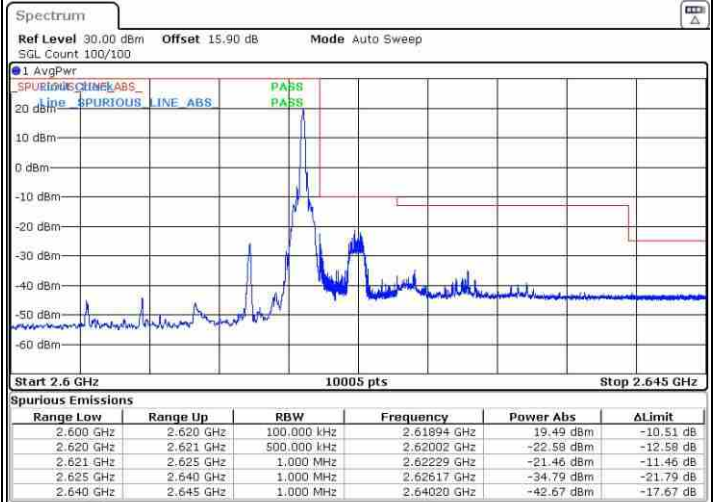
LTE Band 38 / 20MHz / 64QAM

Lowest Band Edge / 1 RB



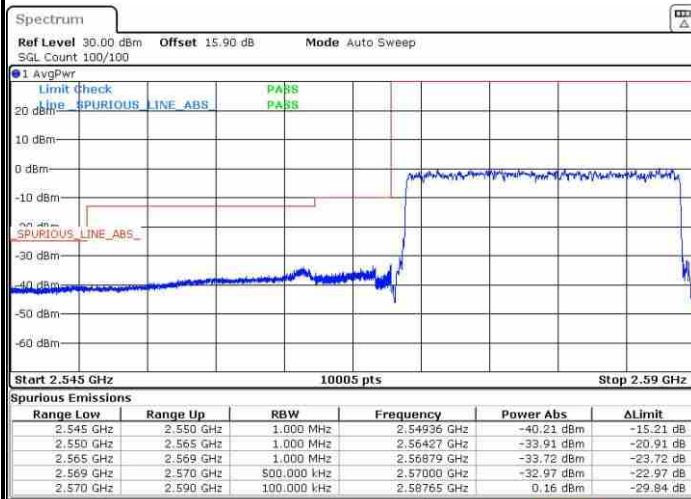
Date: 22 MAY 2019 20:51:57

Highest Band Edge / 1 RB



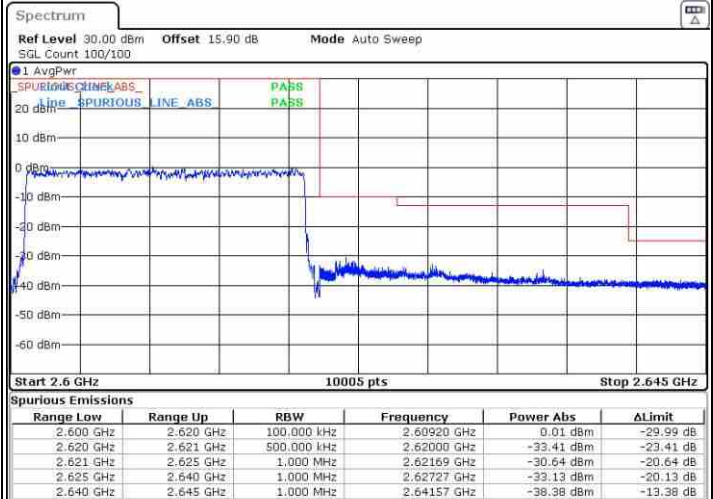
Date: 22 MAY 2019 20:53:32

Lowest Band Edge / Full RB



Date: 22 MAY 2019 20:52:29

Highest Band Edge / Full RB



Date: 22 MAY 2019 20:53:00

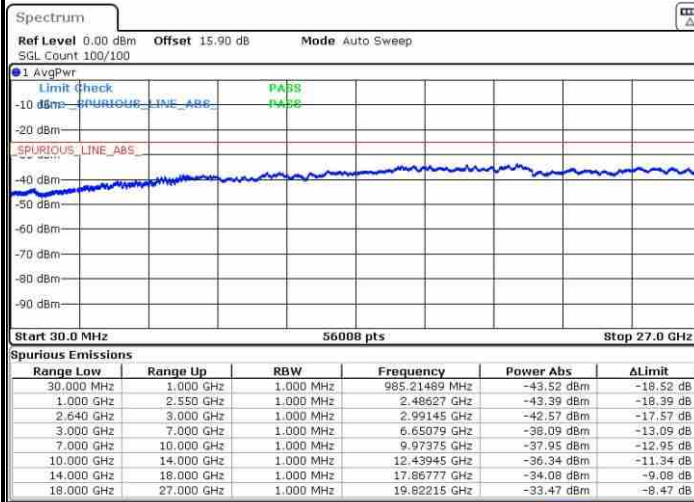


Conducted Spurious Emission



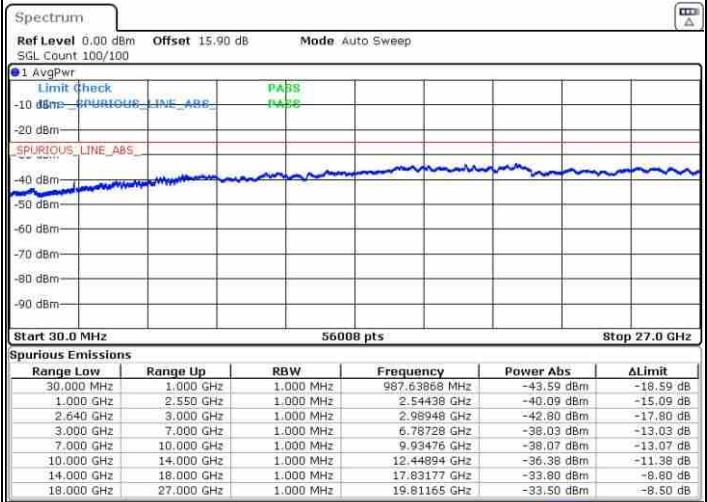
LTE Band 38 / 5MHz

Lowest Channel / QPSK



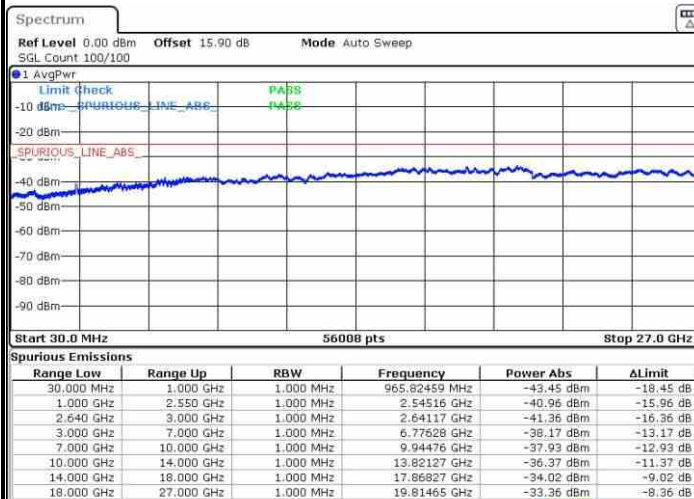
Date: 22 MAY 2019 20:56:37

Lowest Channel / 16QAM



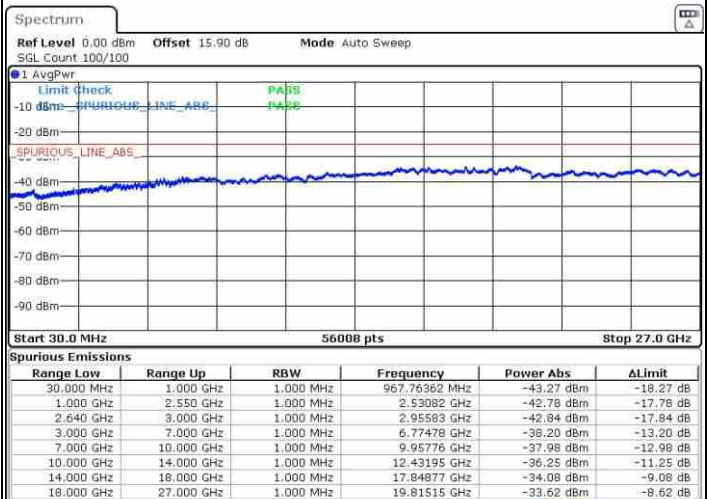
Date: 22 MAY 2019 20:57:23

Middle Channel / QPSK



Date: 22 MAY 2019 20:58:09

Middle Channel / 16QAM

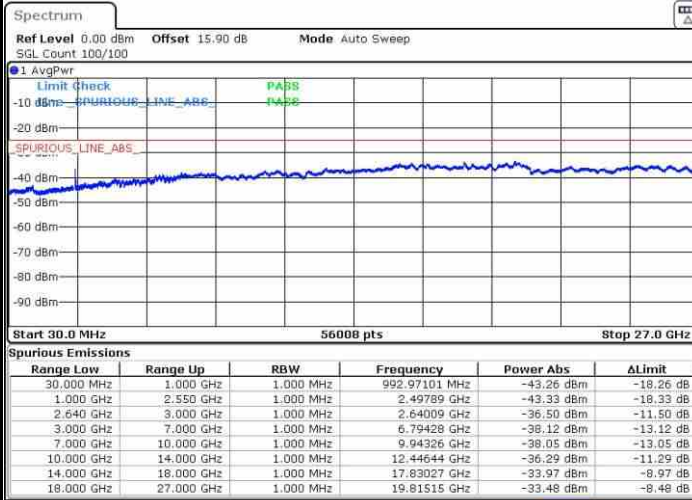


Date: 22 MAY 2019 20:58:54



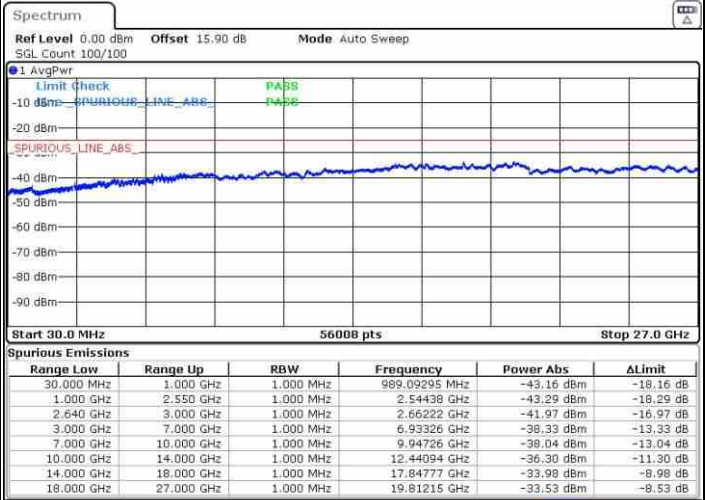
LTE Band 38 / 5MHz

Highest Channel / QPSK



Date: 22 MAY 2019 20:59:40

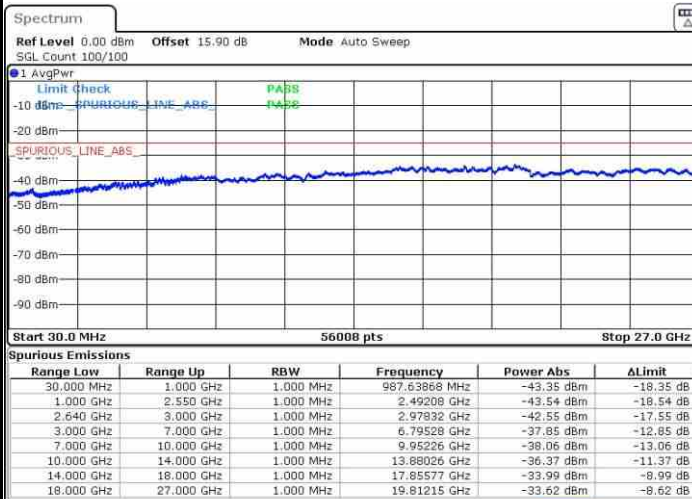
Highest Channel / 16QAM



Date: 22 MAY 2019 21:00:26

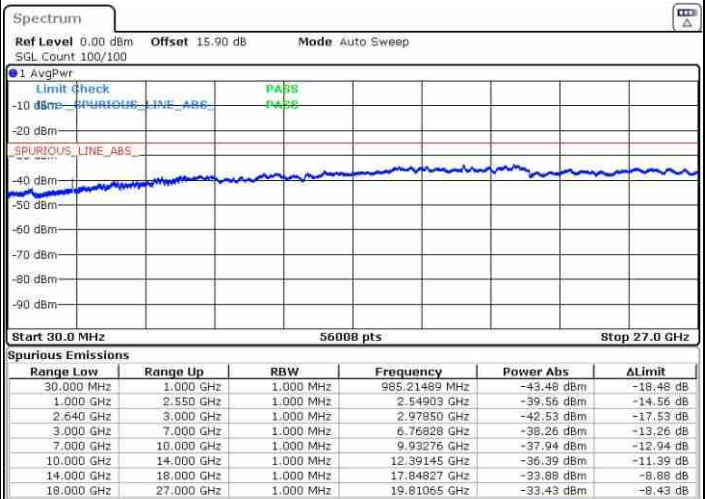
LTE Band 38 / 10MHz

Lowest Channel / QPSK



Date: 22 MAY 2019 21:03:30

Lowest Channel / 16QAM

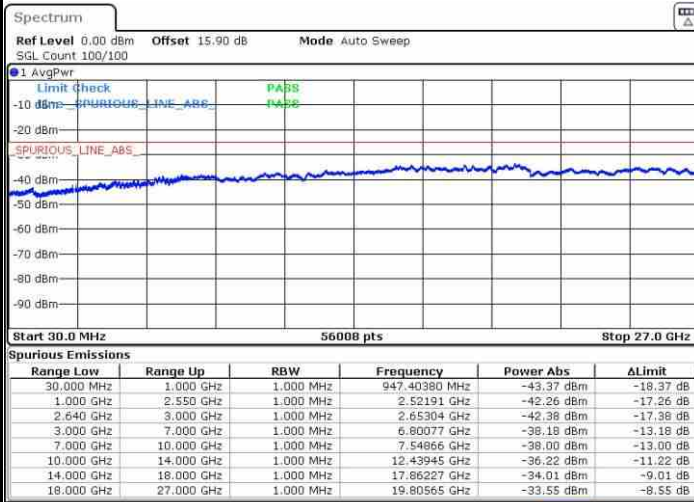


Date: 22 MAY 2019 21:04:16



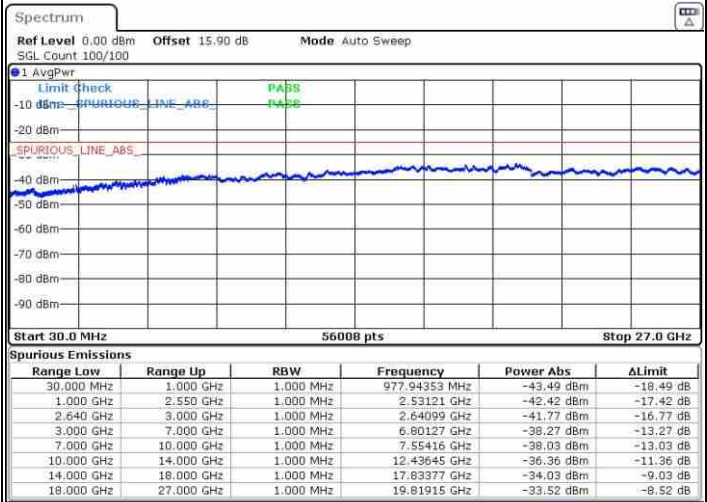
LTE Band 38 / 10MHz

Middle Channel / QPSK



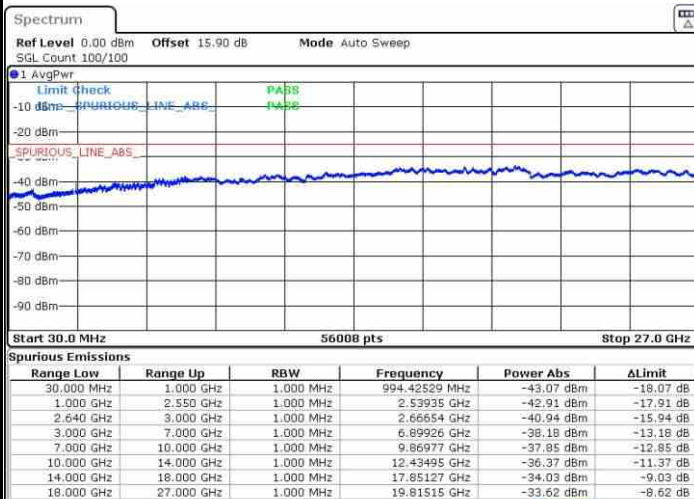
Date: 22 MAY 2019 21:05:02

Middle Channel / 16QAM



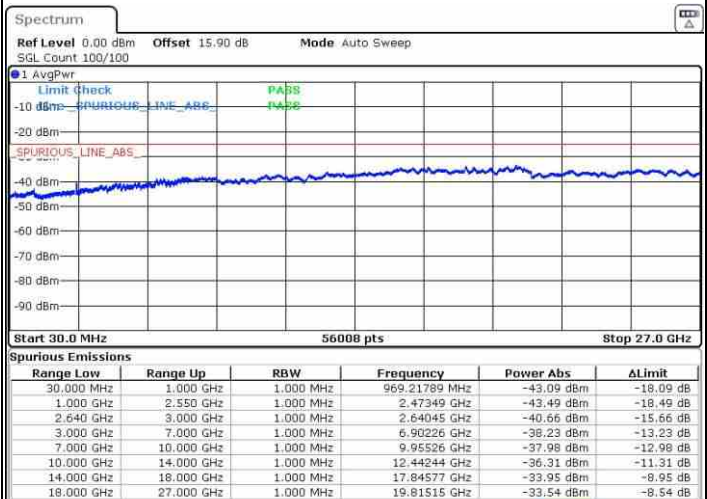
Date: 22 MAY 2019 21:05:47

Highest Channel / QPSK



Date: 22 MAY 2019 21:06:33

Highest Channel / 16QAM

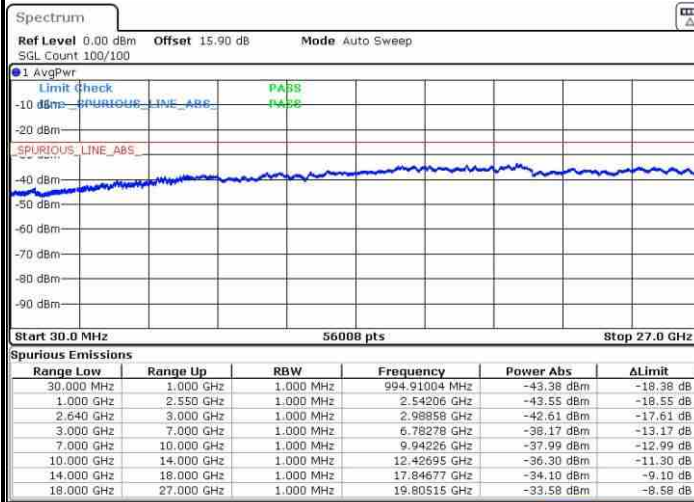


Date: 22 MAY 2019 21:07:19



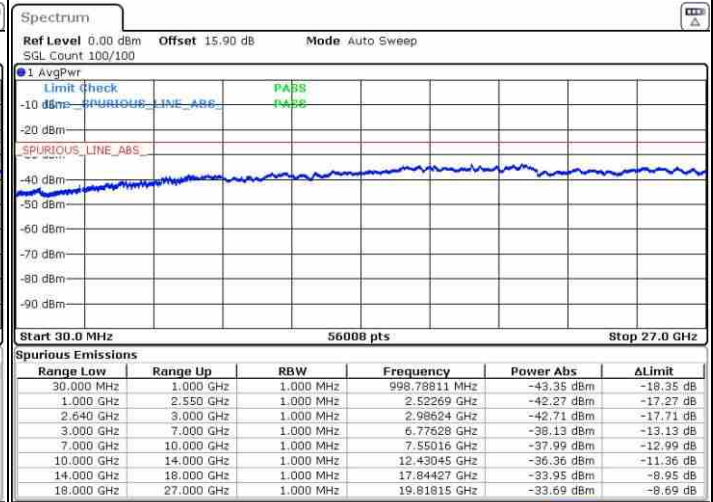
LTE Band 38 / 15MHz

Lowest Channel / QPSK



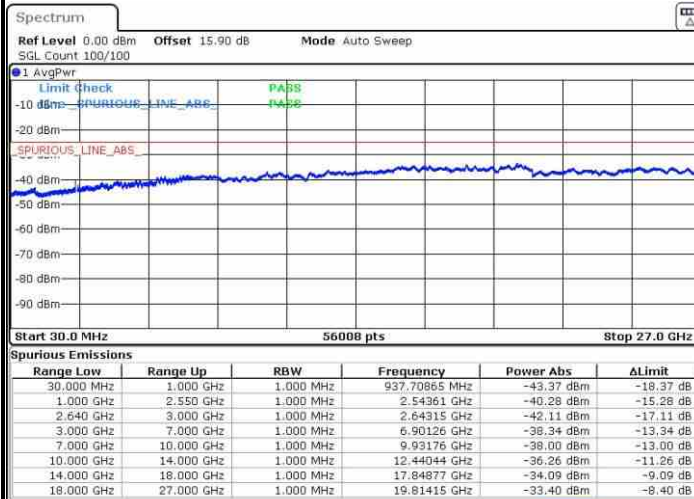
Date: 22 MAY 2019 21:08:06

Lowest Channel / 16QAM



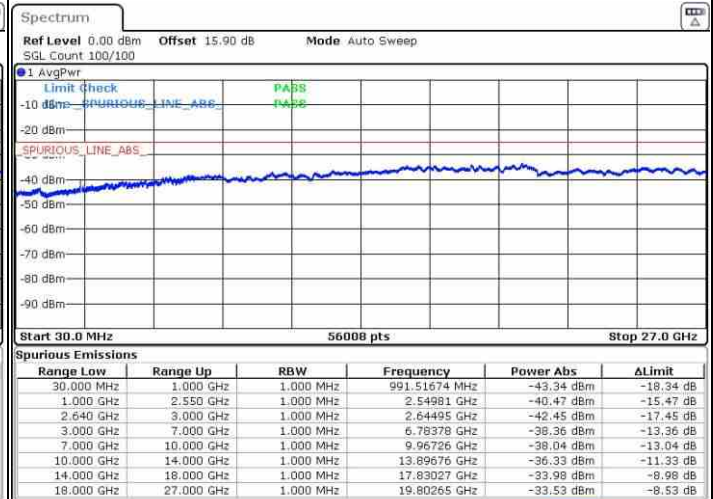
Date: 22 MAY 2019 21:08:52

Middle Channel / QPSK



Date: 22 MAY 2019 21:09:38

Middle Channel / 16QAM

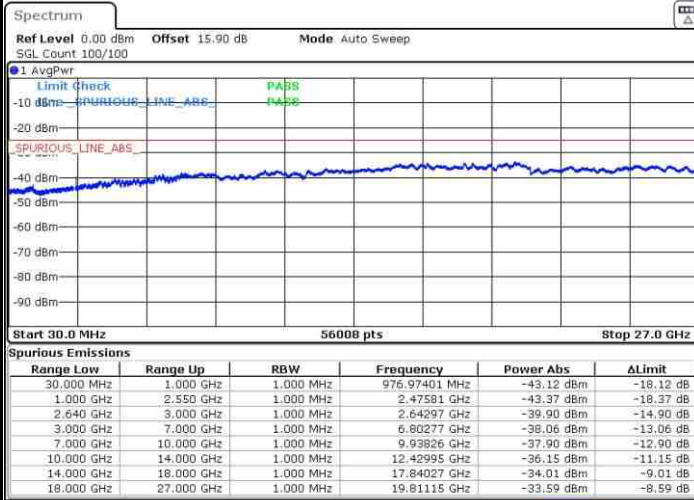


Date: 22 MAY 2019 21:10:23



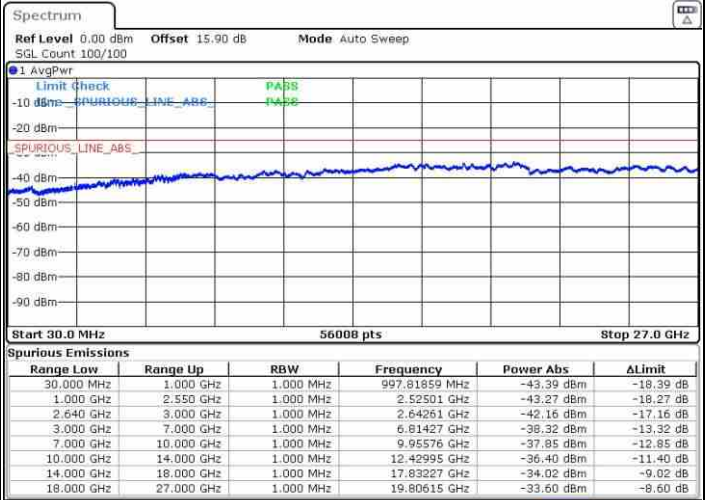
LTE Band 38 / 15MHz

Highest Channel / QPSK



Date: 22 MAY 2019 21:11:09

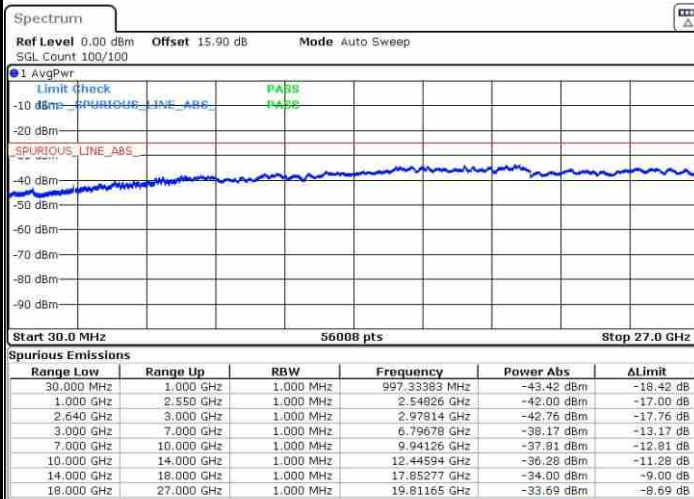
Highest Channel / 16QAM



Date: 22 MAY 2019 21:11:55

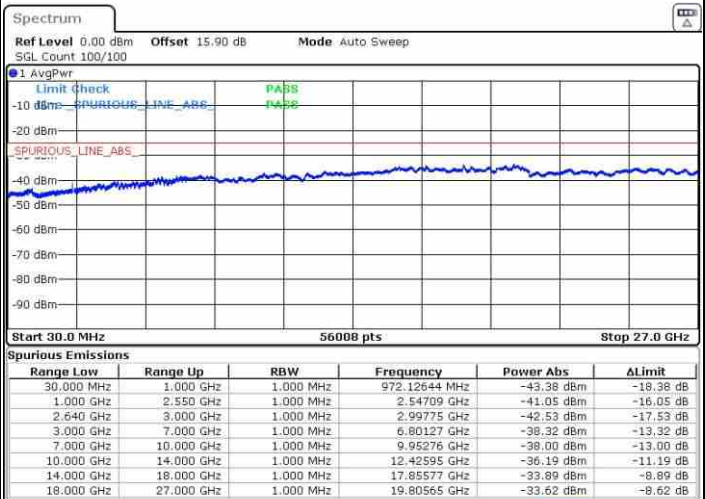
LTE Band 38 / 20MHz

Lowest Channel / QPSK



Date: 22 MAY 2019 21:14:59

Lowest Channel / 16QAM

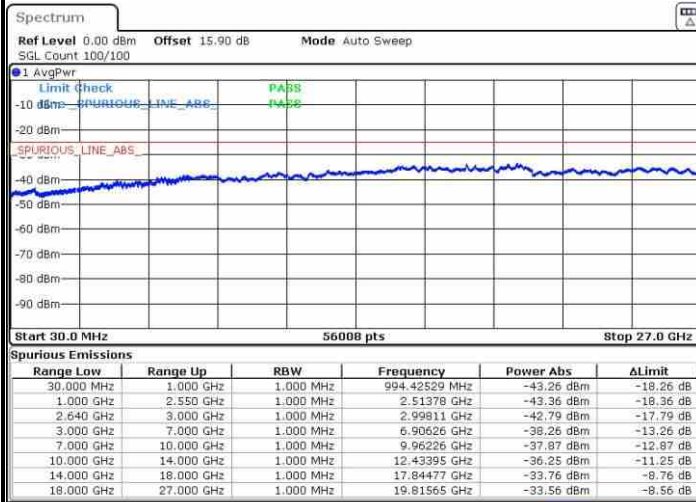


Date: 22 MAY 2019 21:15:45



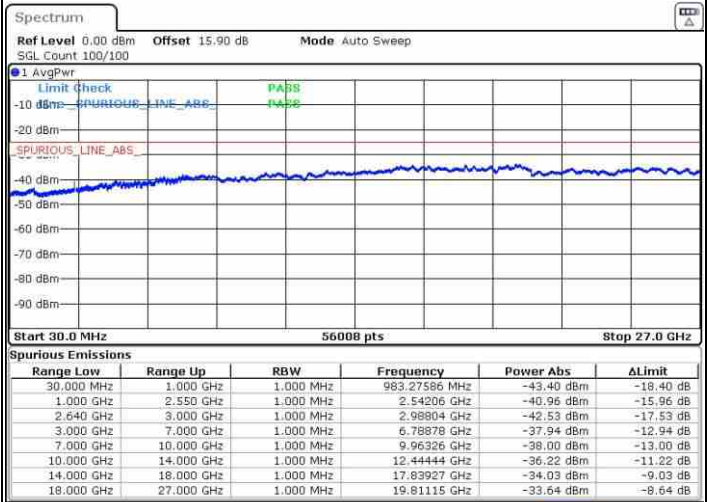
LTE Band 38 / 20MHz

Middle Channel / QPSK



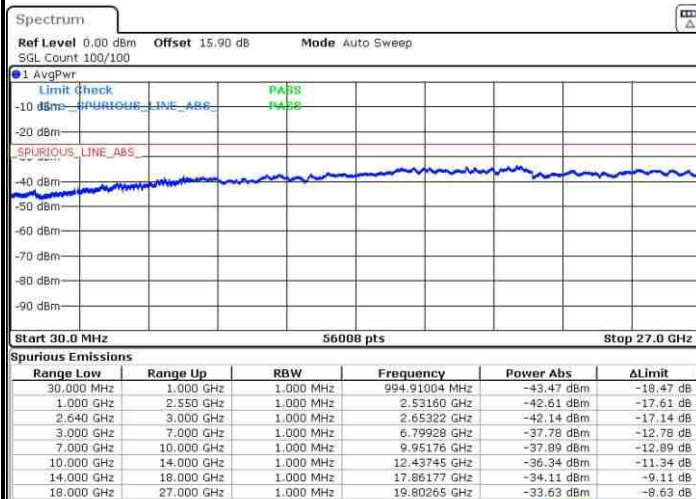
Date: 22 MAY 2019 21:16:31

Middle Channel / 16QAM



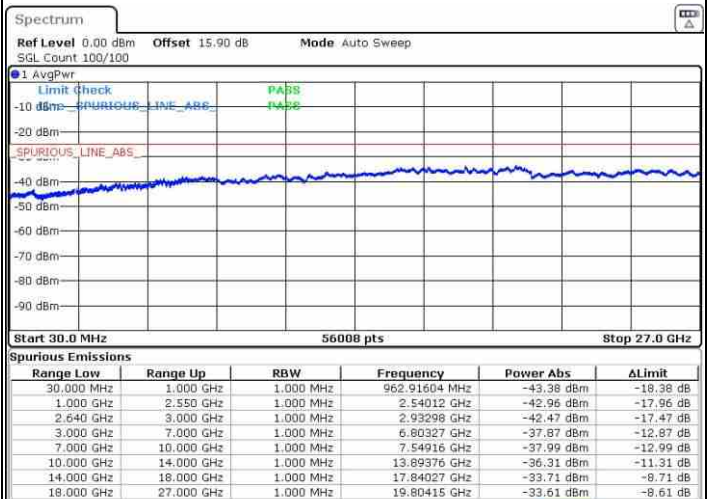
Date: 22 MAY 2019 21:17:16

Highest Channel / QPSK



Date: 22 MAY 2019 21:18:02

Highest Channel / 16QAM

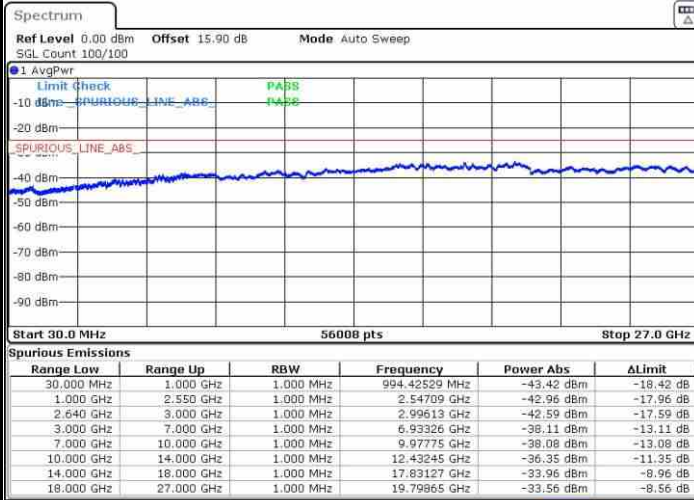


Date: 22 MAY 2019 21:18:48



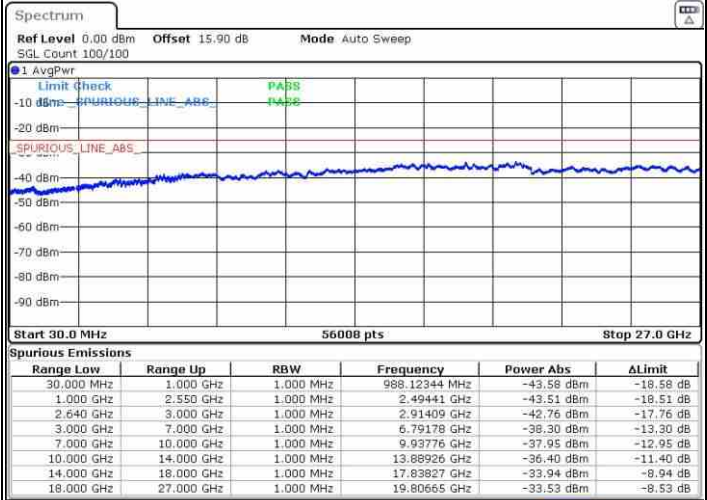
LTE Band 38 / 5MHz

Lowest Channel / 64QAM



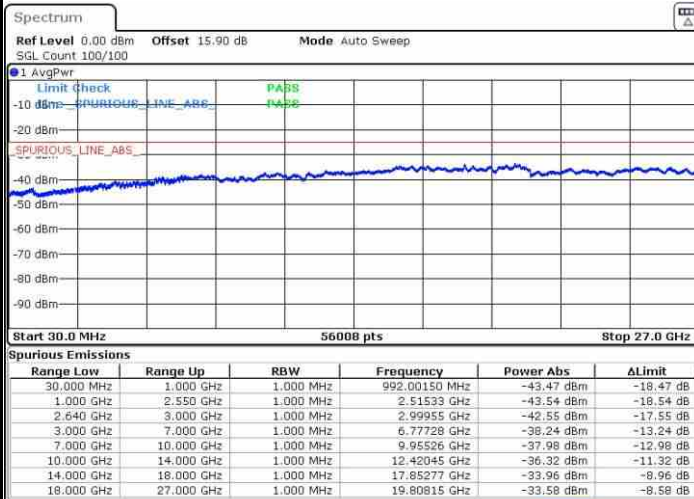
Date: 22 MAY 2019 20:54:20

Middle Channel / 64QAM



Date: 22 MAY 2019 20:55:05

Highest Channel / 64QAM

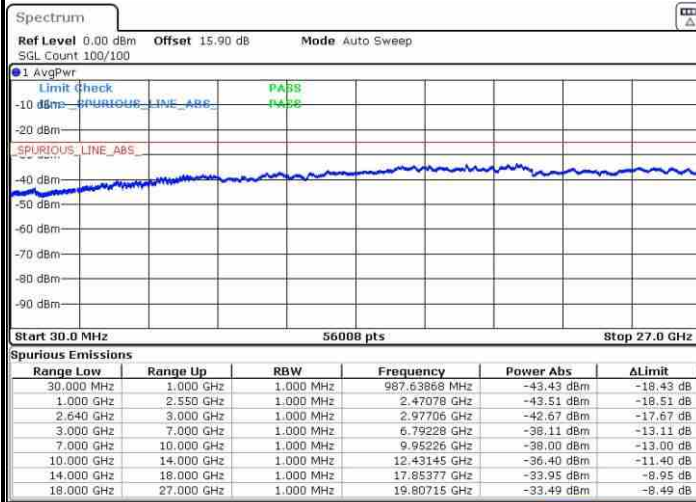


Date: 22 MAY 2019 20:55:51



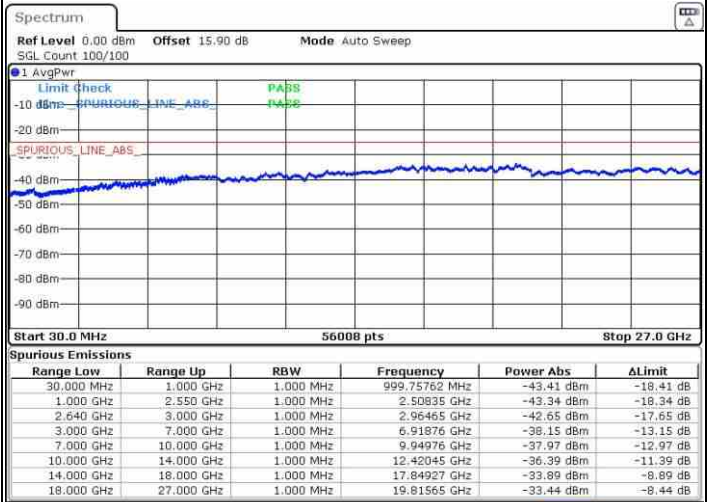
LTE Band 38 / 10MHz

Lowest Channel / 64QAM



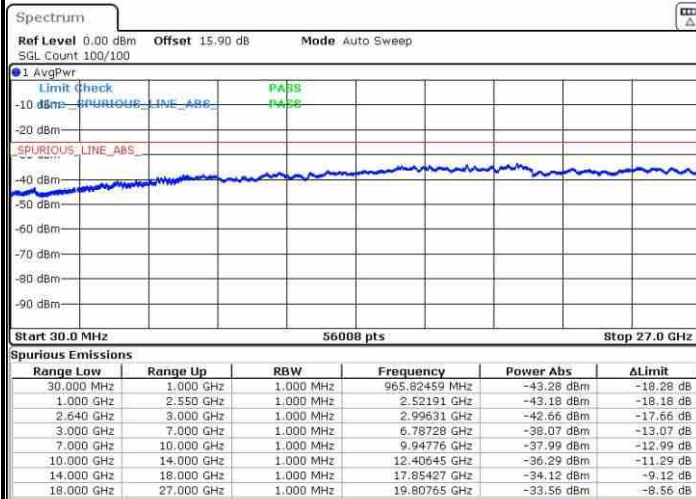
Date: 22 MAY 2019 21:01:13

Middle Channel / 64QAM



Date: 22 MAY 2019 21:01:59

Highest Channel / 64QAM

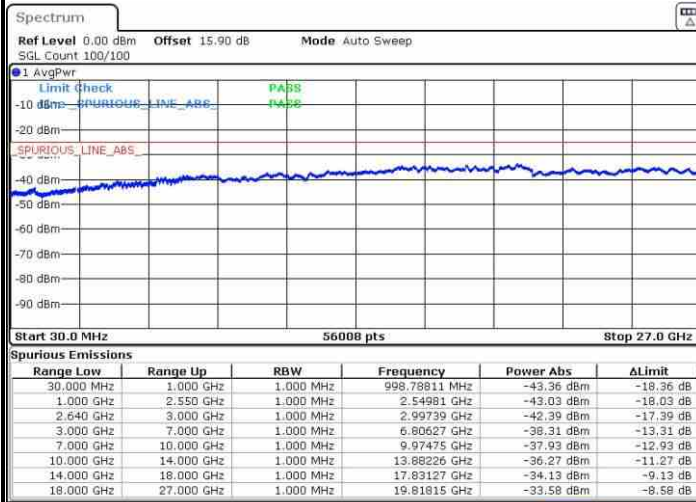


Date: 22 MAY 2019 21:02:44



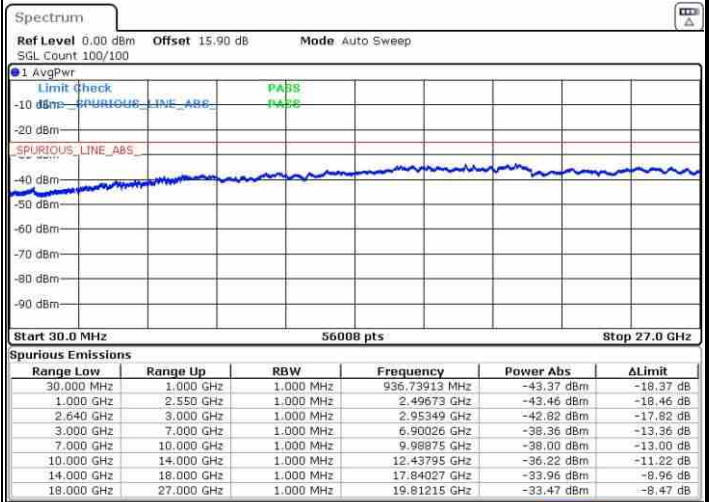
LTE Band 38 / 15MHz

Lowest Channel / 64QAM



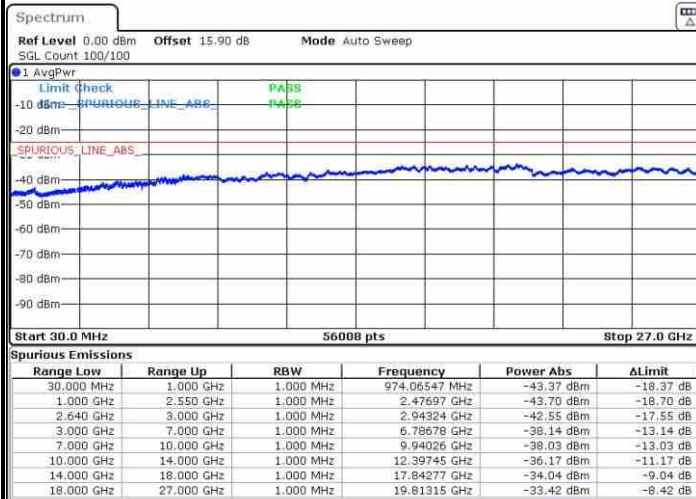
Date: 22 MAY 2019 21:12:41

Middle Channel / 64QAM



Date: 22 MAY 2019 21:13:26

Highest Channel / 64QAM

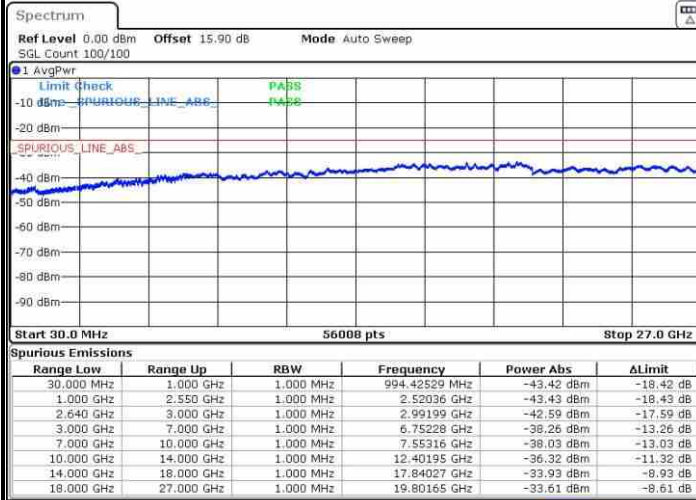


Date: 22 MAY 2019 21:14:12



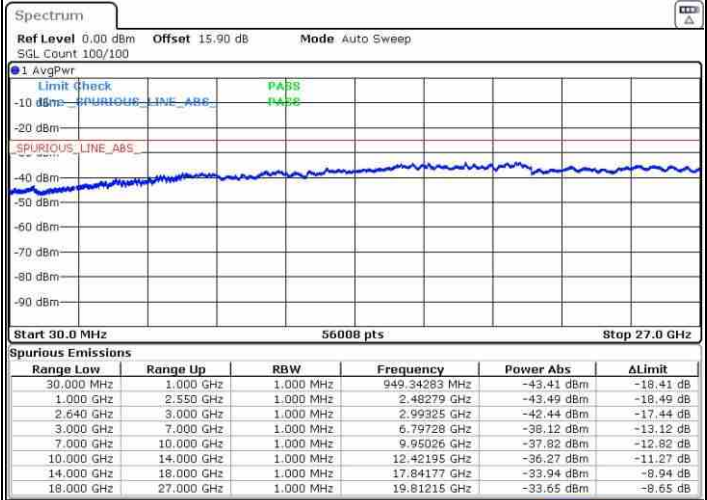
LTE Band 38 / 20MHz

Lowest Channel / 64QAM



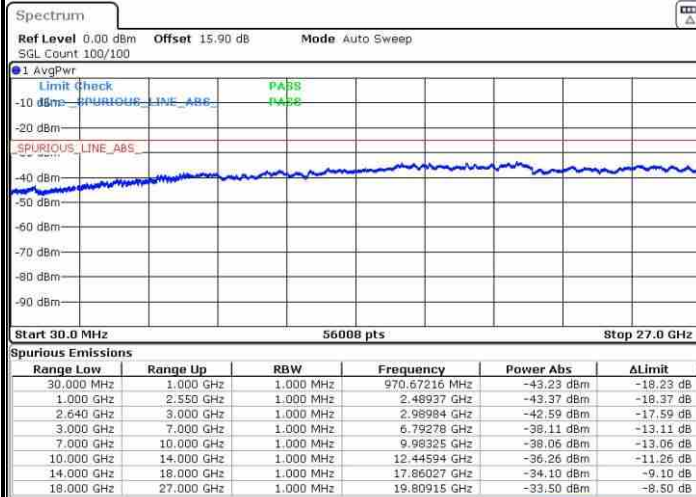
Date: 22 MAY 2019 21:19:34

Middle Channel / 64QAM



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 (Δf) (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

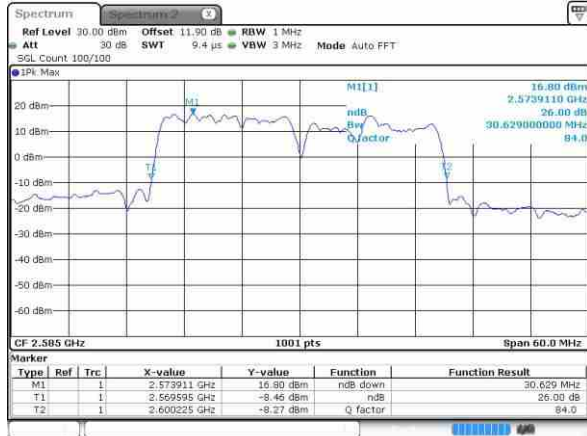
Mode	LTE Band 38C : 26dB BW(MHz)		
	QPSK	16QAM	64QAM
BW	15MHz+15MHz	15MHz+15MHz	15MHz+15MHz
Lowest CH	30.62	30.50	30.45
Middle CH	30.56	30.56	30.56
Highest CH	30.56	30.62	30.50
BW	20MHz+20MHz	20MHz+20MHz	20MHz+20MHz
Lowest CH	39.79	40.12	39.48
Middle CH	39.96	39.96	39.88
Highest CH	39.79	39.64	39.88



LTE Band 38C

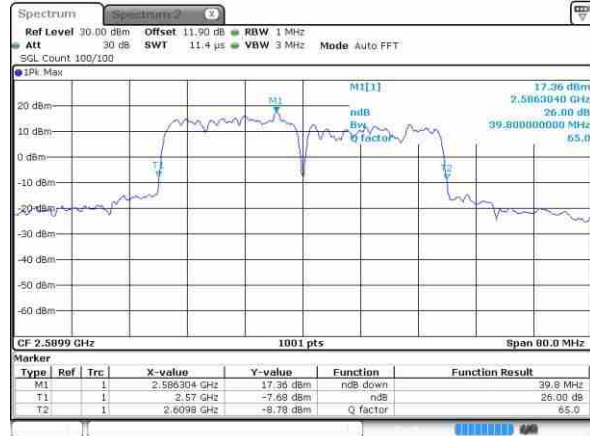
QPSK

Lowest Channel / 15MHz+15MHz



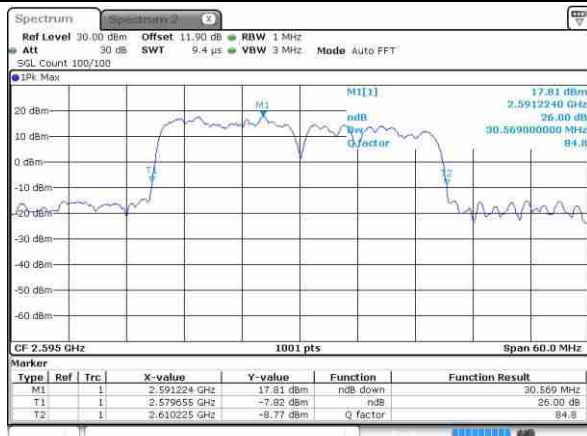
Date: 16 JUN 2019 19:41:47

Lowest Channel / 20MHz+20MHz



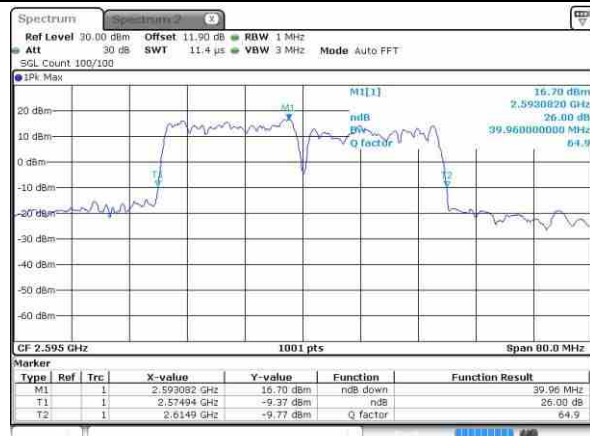
Date: 16 JUN 2019 21:43:33

Middle Channel / 15MHz+15MHz



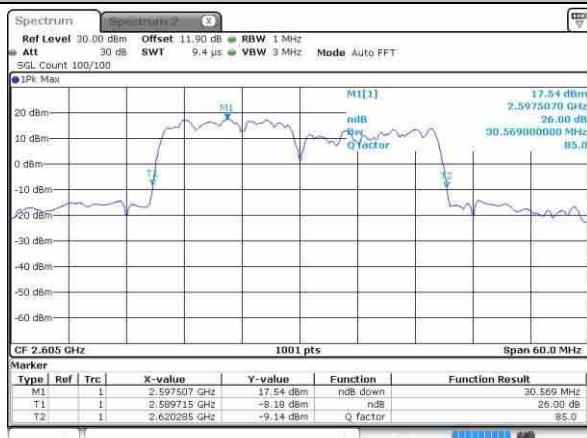
Date: 16 JUN 2019 20:08:21

Middle Channel / 20MHz+20MHz



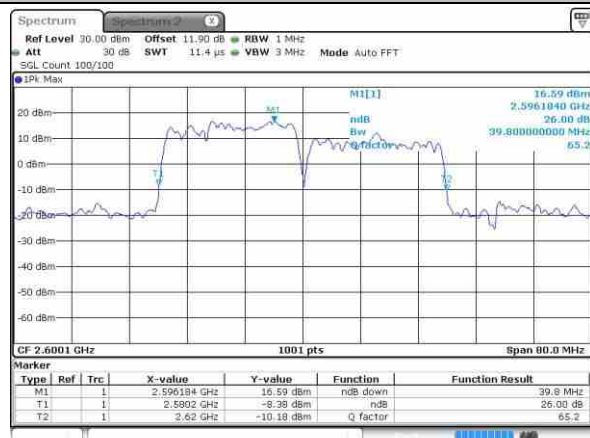
Date: 16 JUN 2019 22:07:39

Highest Channel / 15MHz+15MHz



Date: 16 JUN 2019 20:12:42

Highest Channel / 20MHz+20MHz



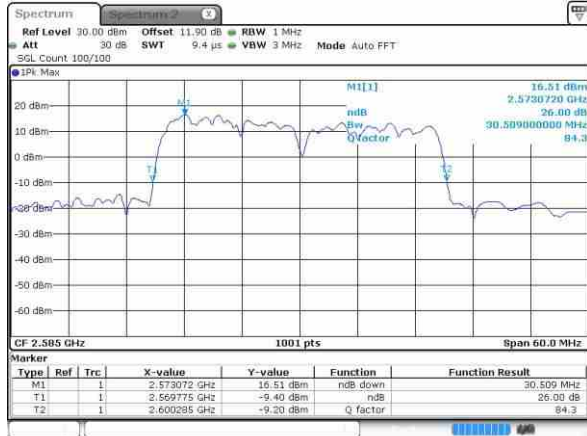
Date: 16 JUN 2019 22:13:03



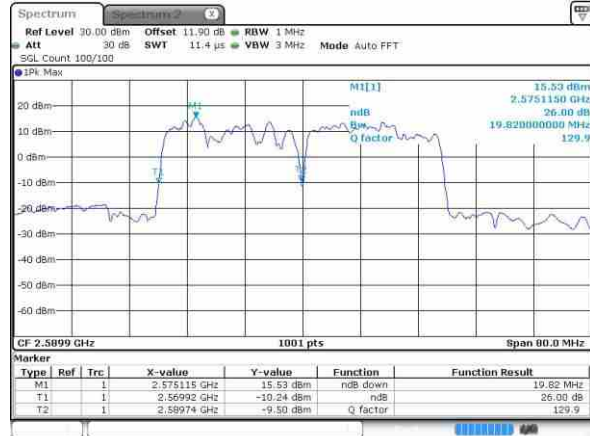
LTE Band 38C

16QAM

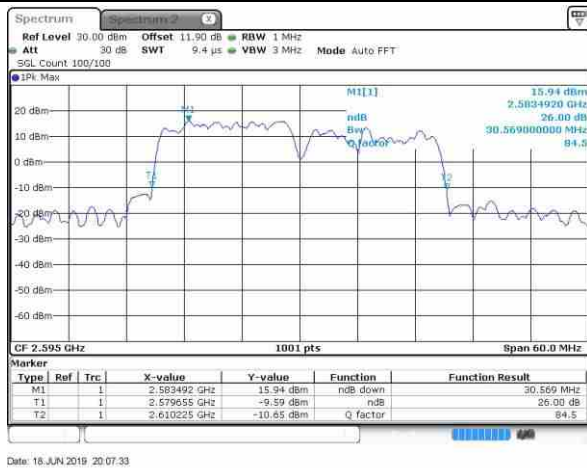
Lowest Channel / 15MHz+15MHz



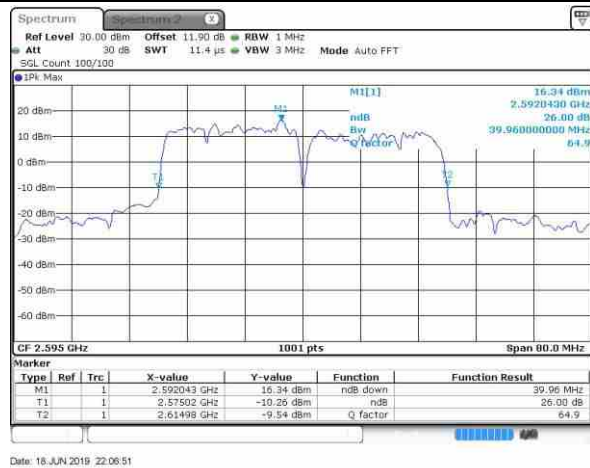
Lowest Channel / 20MHz+20MHz



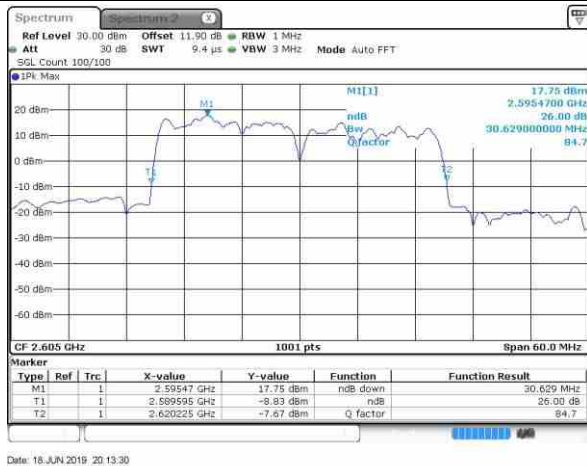
Middle Channel / 15MHz+15MHz



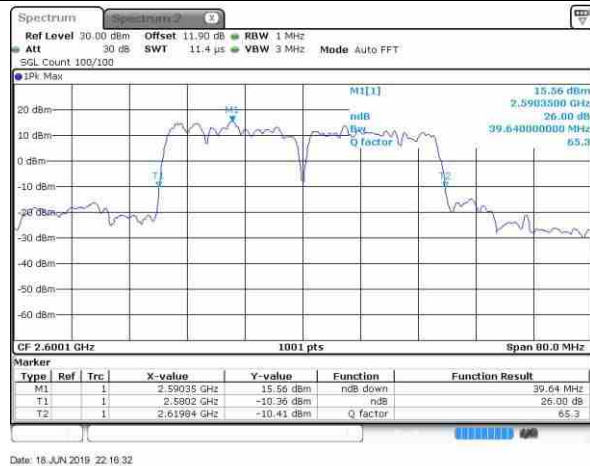
Middle Channel / 20MHz+20MHz



Highest Channel / 15MHz+15MHz



Highest Channel / 20MHz+20MHz

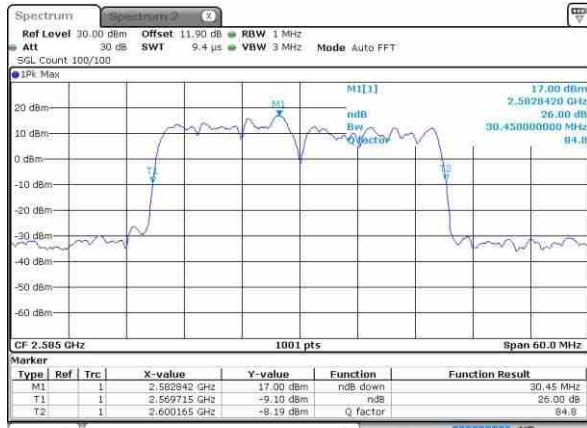




LTE Band 38C

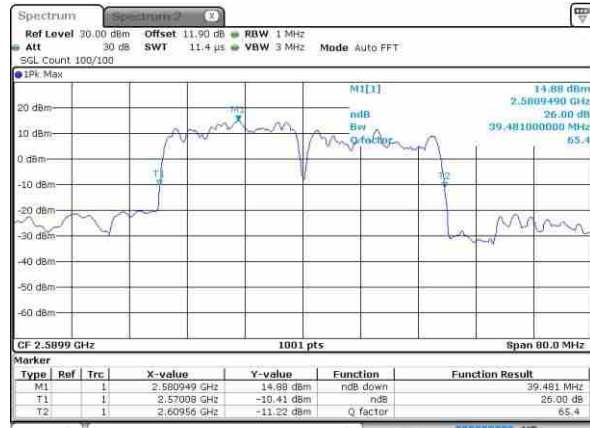
64QAM

Lowest Channel / 15MHz+15MHz



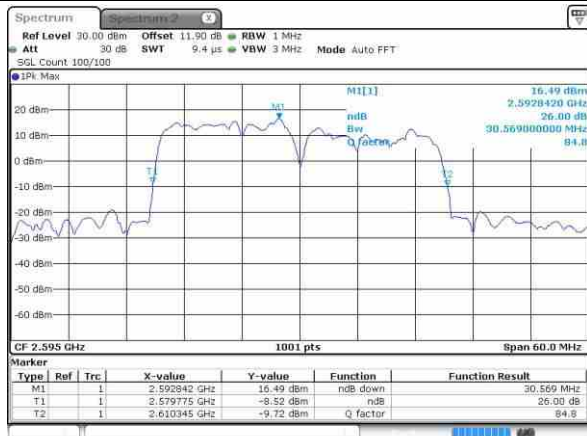
Date: 16 JUN 2019 19:40:10

Lowest Channel / 20MHz+20MHz



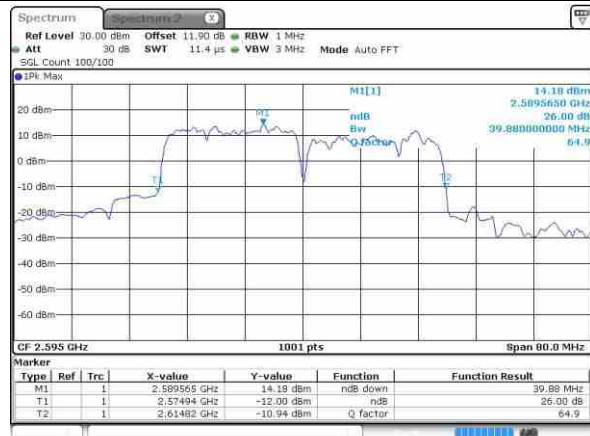
Date: 16 JUN 2019 21:41:56

Middle Channel / 15MHz+15MHz



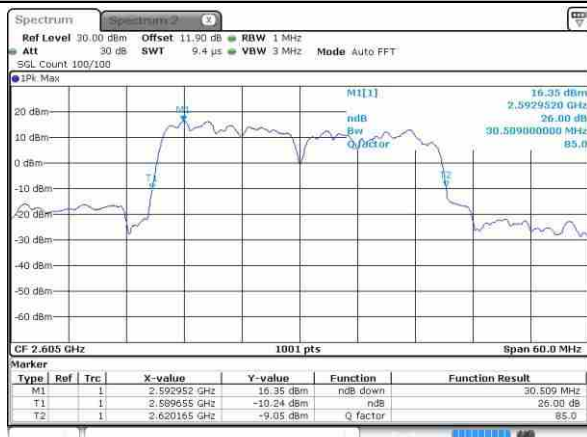
Date: 16 JUN 2019 20:06:43

Middle Channel / 20MHz+20MHz



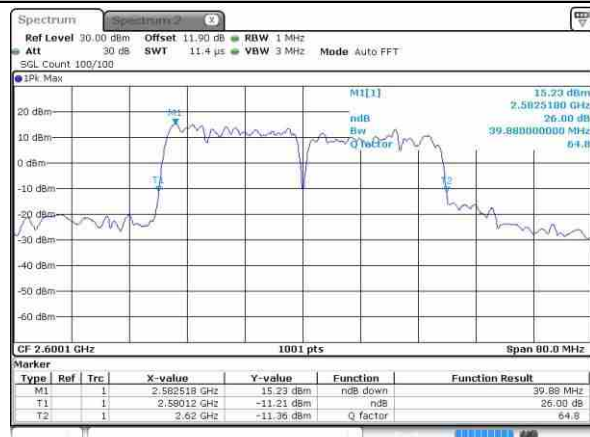
Date: 16 JUN 2019 22:06:02

Highest Channel / 15MHz+15MHz



Date: 16 JUN 2019 20:14:19

Highest Channel / 20MHz+20MHz



Date: 16 JUN 2019 22:14:40

**Occupied Bandwidth**

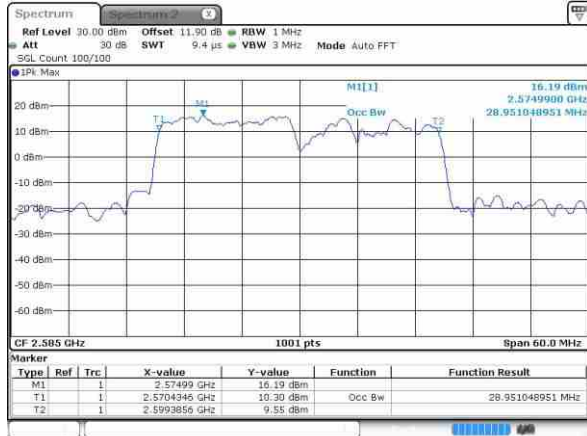
Mode	LTE Band 38C : 99%OBW(MHz)		
	QPSK	16QAM	64QAM
BW	15MHz+15MHz	15MHz+15MHz	15MHz+15MHz
Lowest CH	28.95	28.41	28.59
Middle CH	28.71	28.41	28.41
Highest CH	28.65	28.77	28.29
BW	20MHz+20MHz	20MHz+20MHz	20MHz+20MHz
Lowest CH	37.64	37.72	37.48
Middle CH	37.72	37.56	37.40
Highest CH	37.88	37.80	37.24



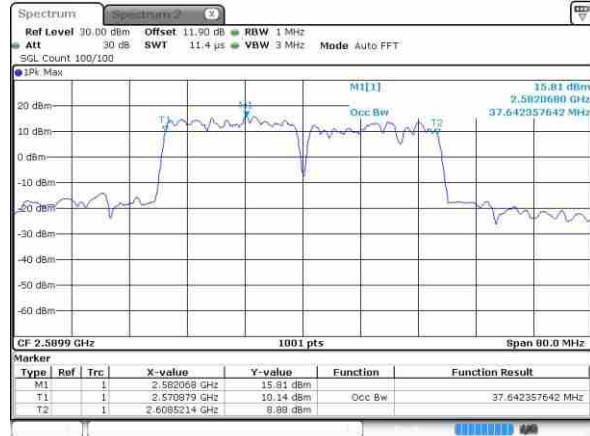
LTE Band 38C

QPSK

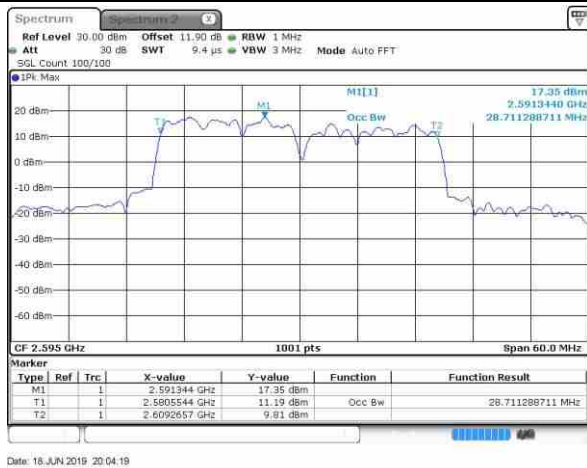
Lowest Channel / 15MHz+15MHz



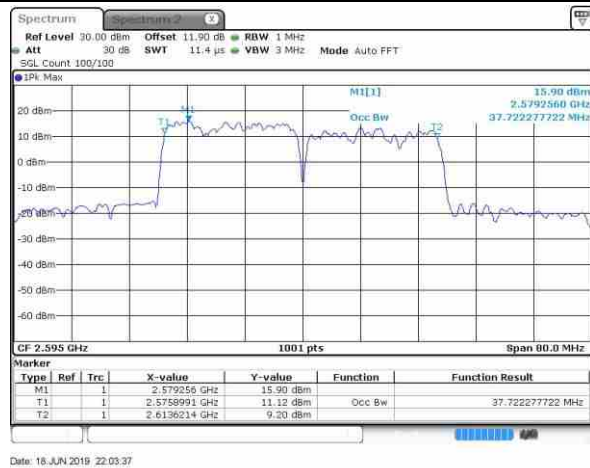
Lowest Channel / 20MHz+20MHz



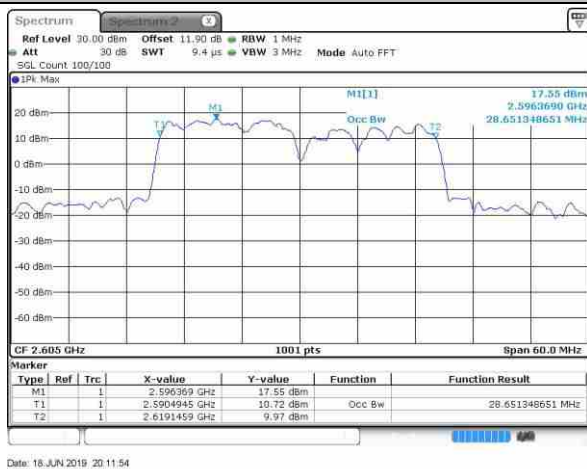
Middle Channel / 15MHz+15MHz



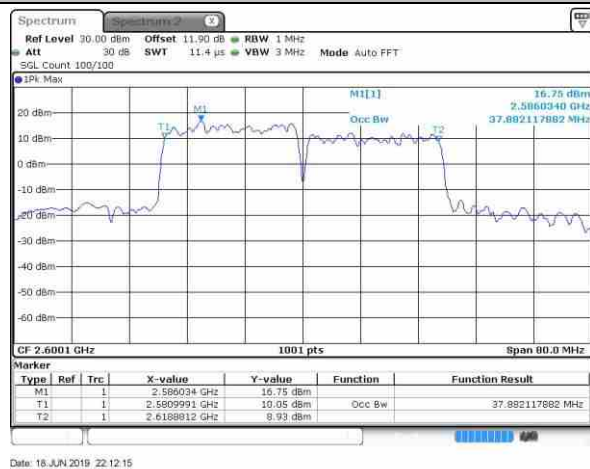
Middle Channel / 20MHz+20MHz



Highest Channel / 15MHz+15MHz



Highest Channel / 20MHz+20MHz

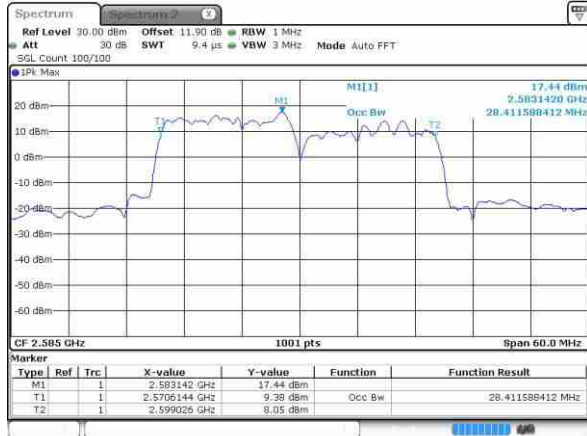




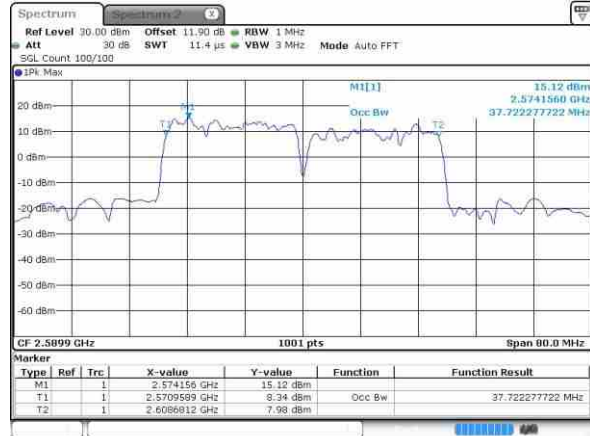
LTE Band 38C

16QAM

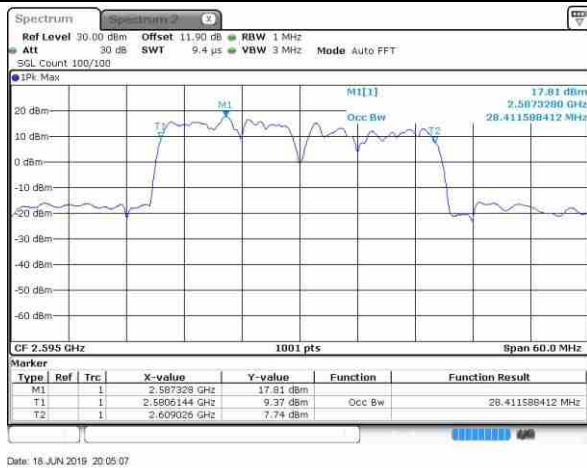
Lowest Channel / 15MHz+15MHz



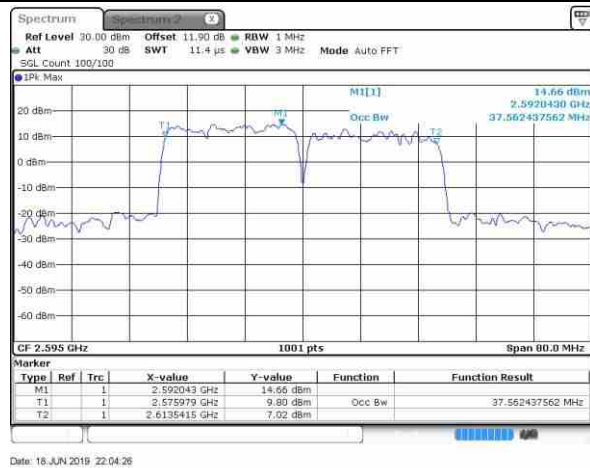
Lowest Channel / 20MHz+20MHz



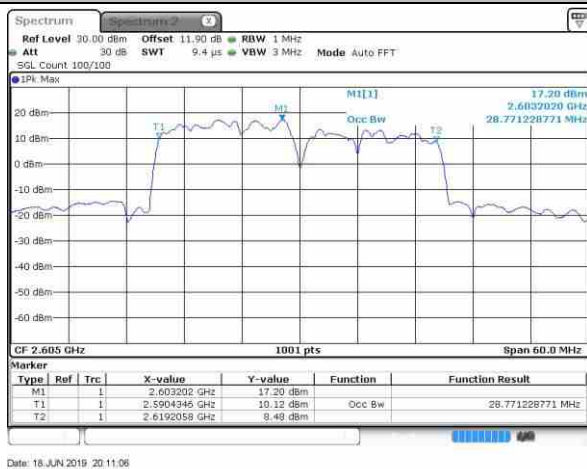
Middle Channel / 15MHz+15MHz



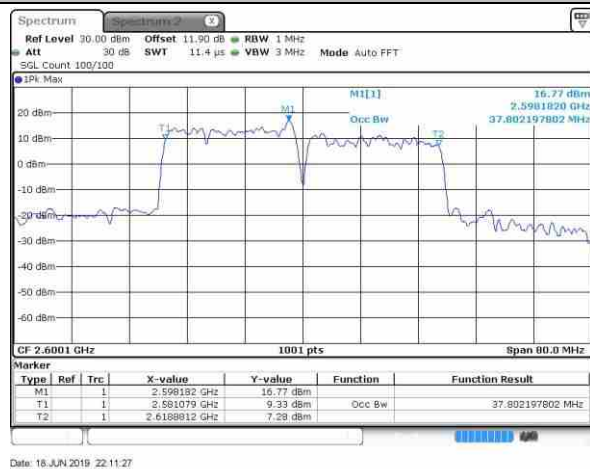
Middle Channel / 20MHz+20MHz



Highest Channel / 15MHz+15MHz



Highest Channel / 20MHz+20MHz

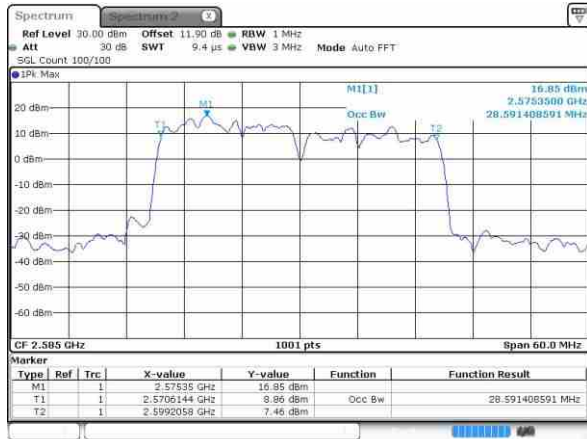




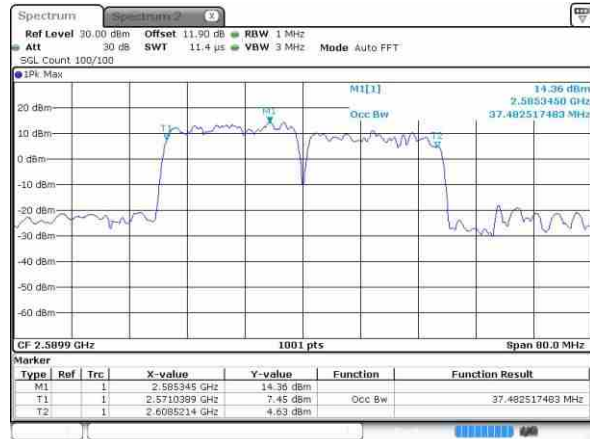
LTE Band 38C

64QAM

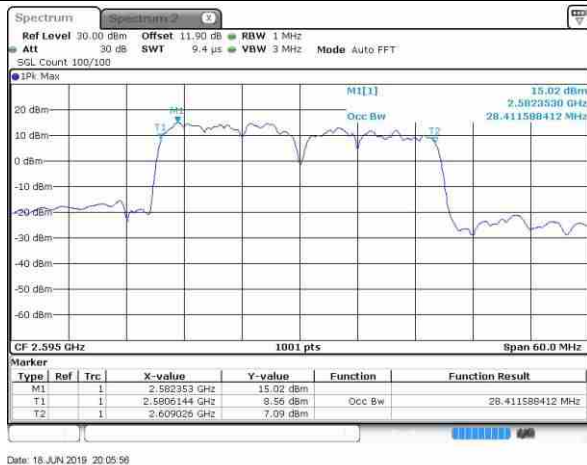
Lowest Channel / 15MHz+15MHz



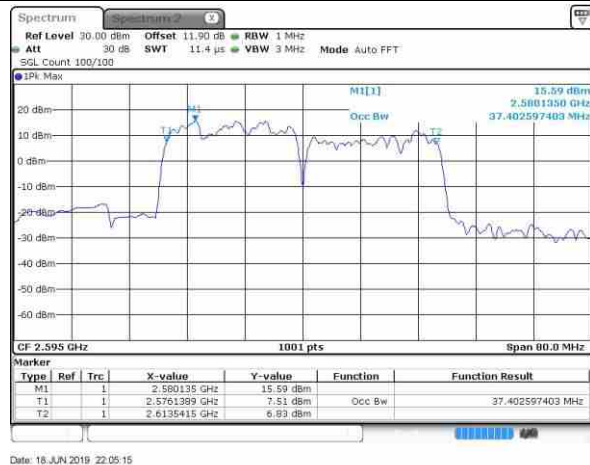
Lowest Channel / 20MHz+20MHz



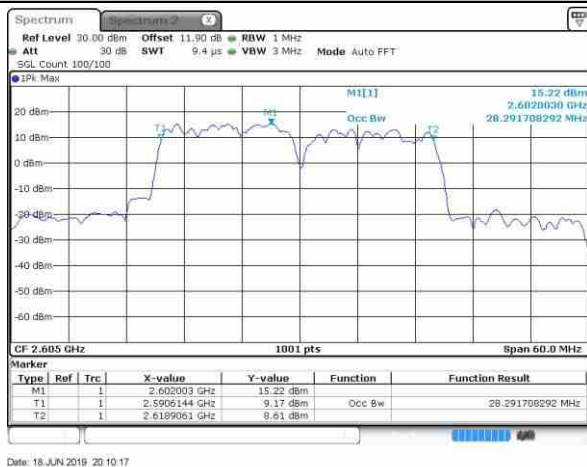
Middle Channel / 15MHz+15MHz



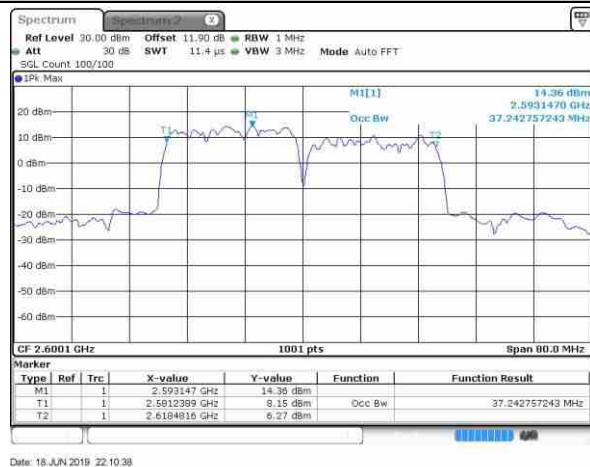
Middle Channel / 20MHz+20MHz



Highest Channel / 15MHz+15MHz



Highest Channel / 20MHz+20MHz





Conducted Band Edge