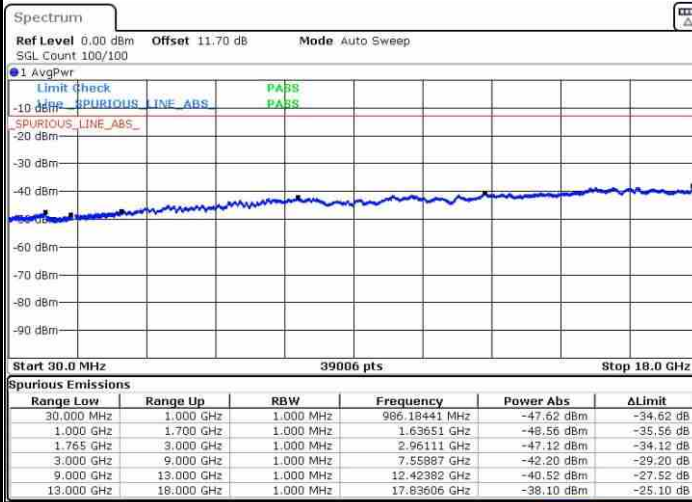




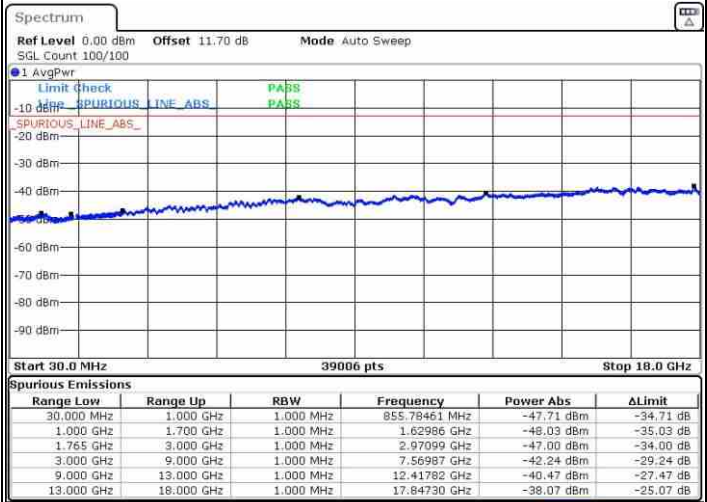
## LTE Band 4 / 10MHz

## Middle Channel / QPSK



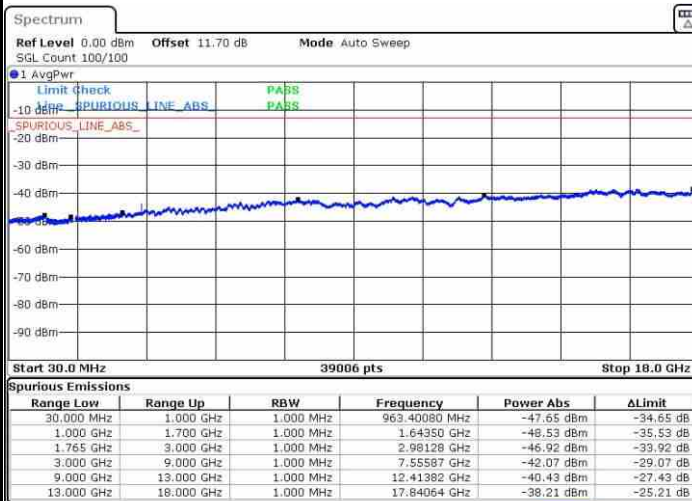
Date: 23 MAY 2019 17:40:24

## Middle Channel / 16QAM



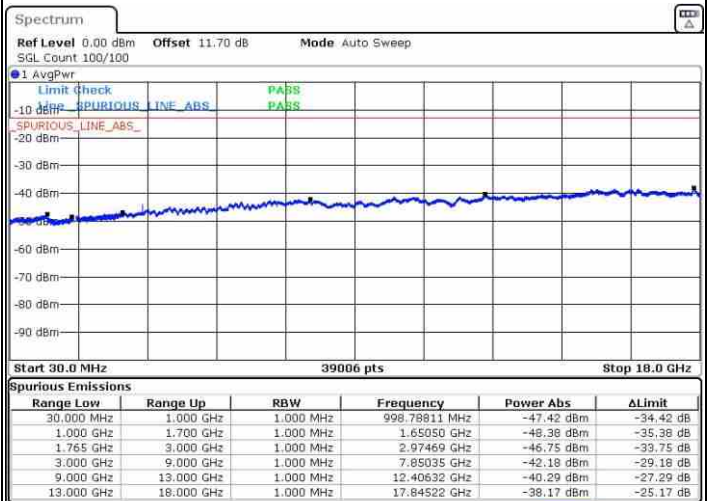
Date: 23 MAY 2019 17:41:04

## Highest Channel / QPSK



Date: 23 MAY 2019 17:46:40

## Highest Channel / 16QAM

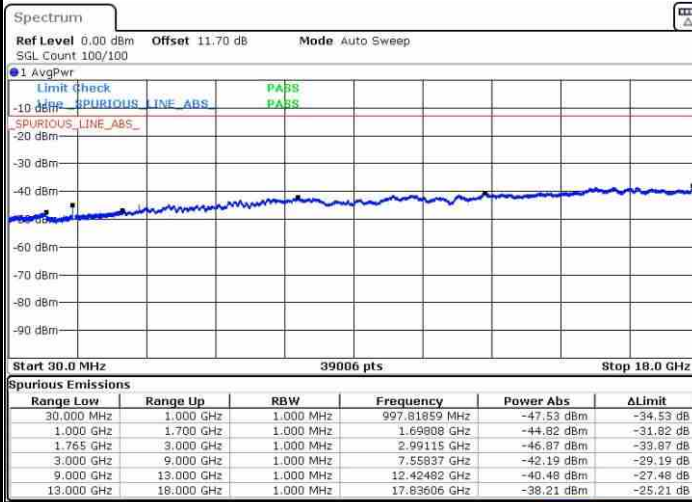


Date: 23 MAY 2019 17:47:22



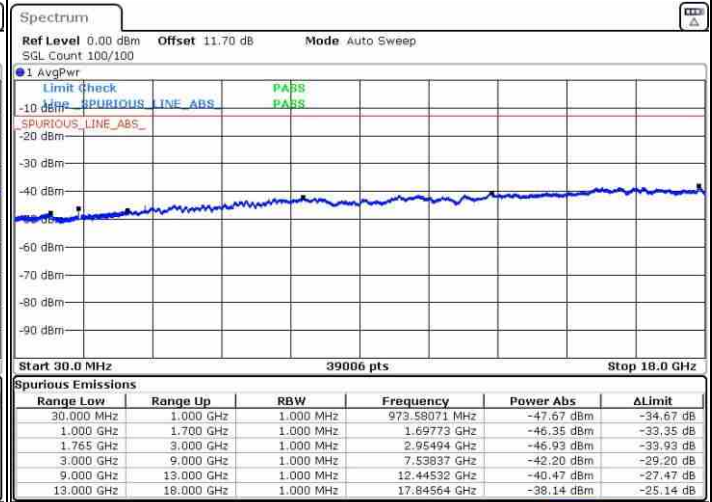
## LTE Band 4 / 15MHz

## Lowest Channel / QPSK



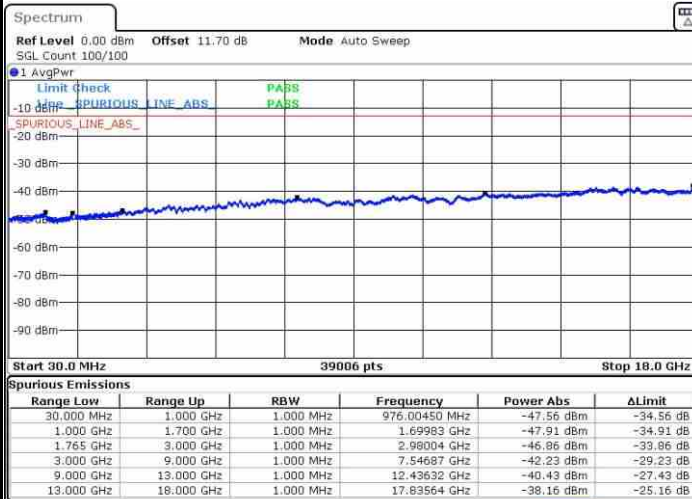
Date: 23 MAY 2019 17:52:58

## Lowest Channel / 16QAM



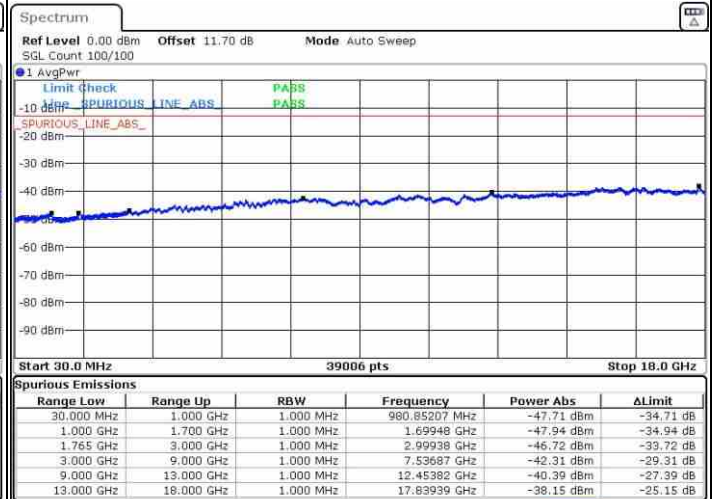
Date: 23 MAY 2019 17:53:39

## Middle Channel / QPSK



Date: 23 MAY 2019 17:55:09

## Middle Channel / 16QAM

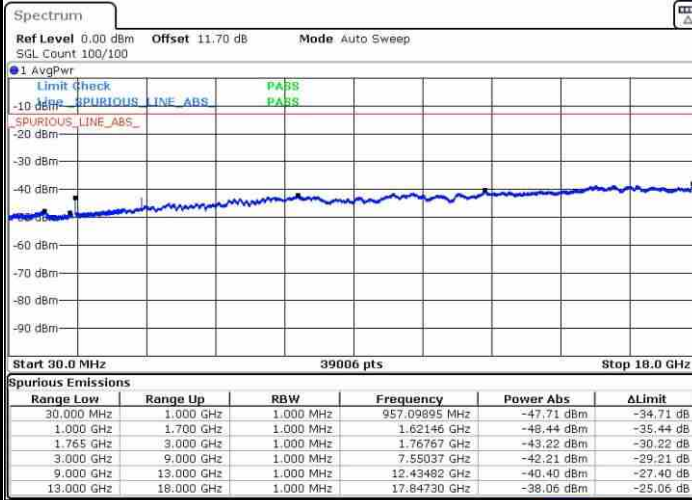


Date: 23 MAY 2019 17:55:49



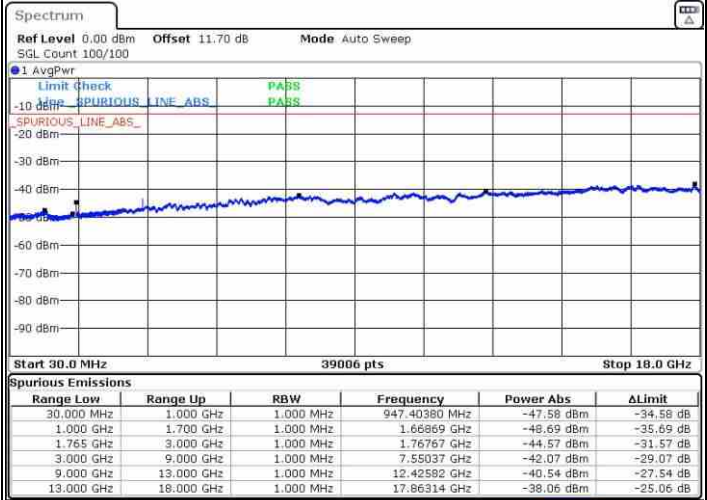
## LTE Band 4 / 15MHz

## Highest Channel / QPSK



Date: 23 MAY 2019 18:01:27

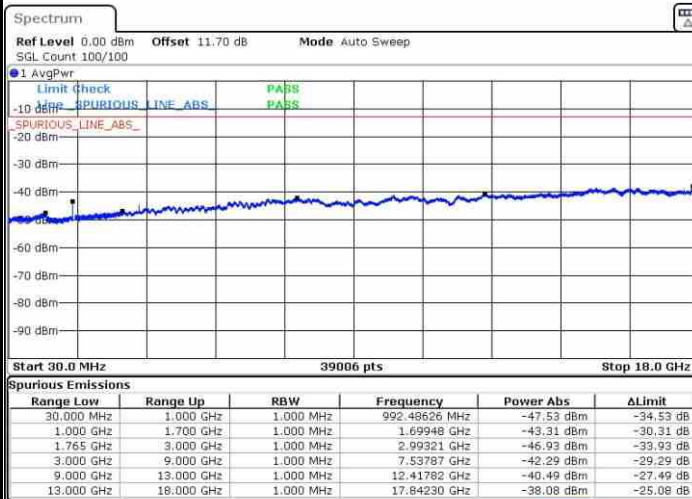
## Highest Channel / 16QAM



Date: 23 MAY 2019 18:02:09

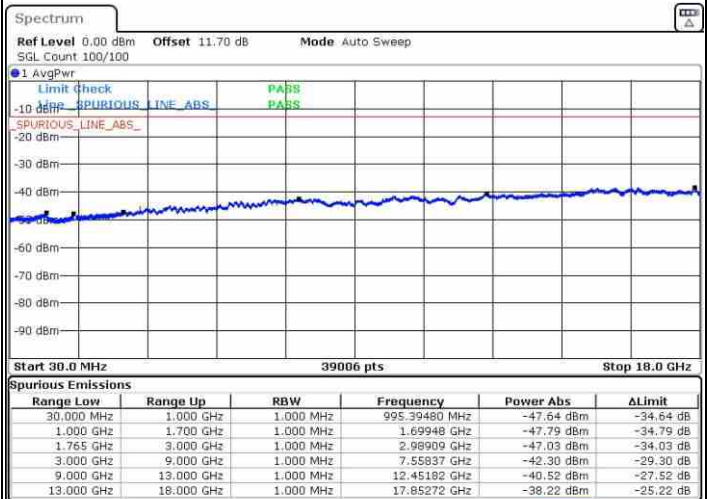
## LTE Band 4 / 20MHz

## Lowest Channel / QPSK



Date: 23 MAY 2019 18:07:45

## Lowest Channel / 16QAM

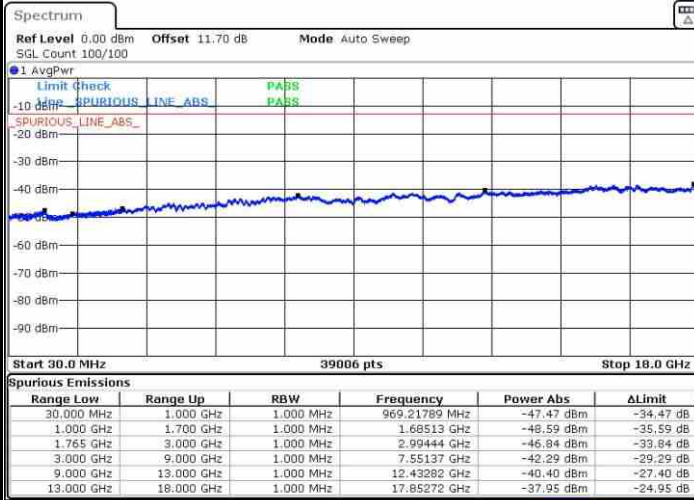


Date: 23 MAY 2019 18:08:27



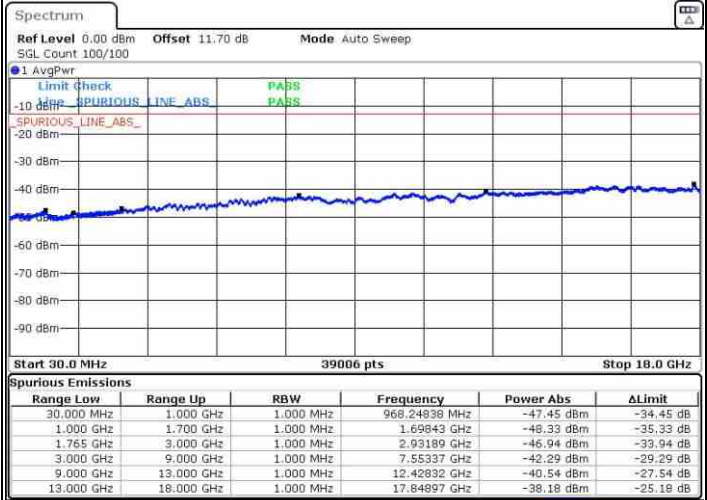
## LTE Band 4 / 20MHz

## Middle Channel / QPSK



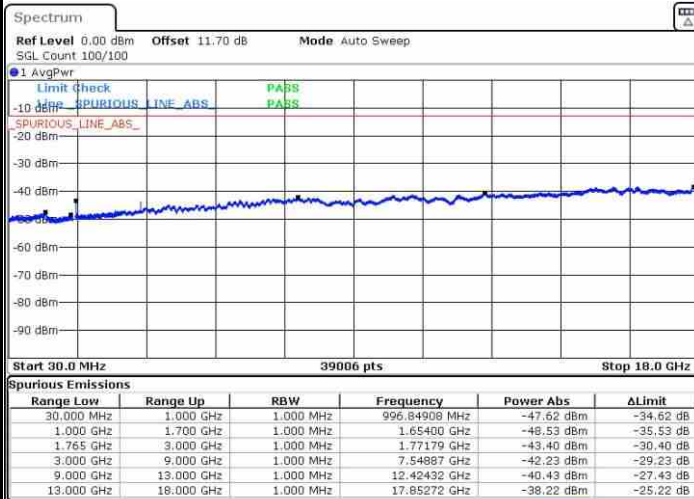
Date: 23 MAY 2019 18:09:55

## Middle Channel / 16QAM



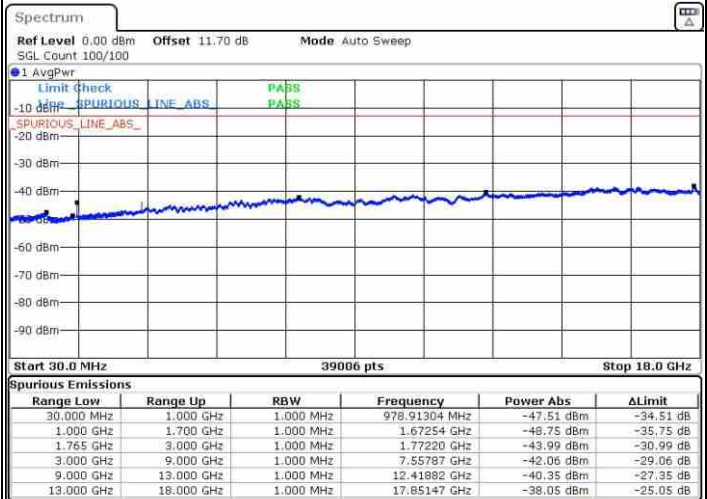
Date: 23 MAY 2019 18:10:36

## Highest Channel / QPSK



Date: 23 MAY 2019 18:16:12

## Highest Channel / 16QAM

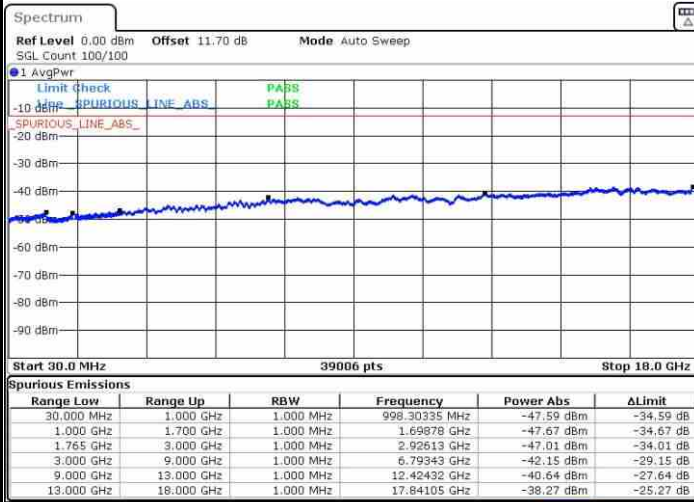


Date: 23 MAY 2019 18:16:54



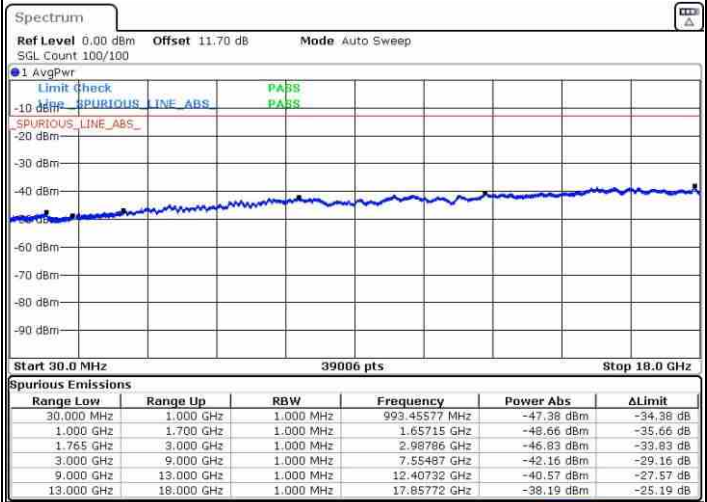
## LTE Band 4 / 1.4MHz

## Lowest Channel / 64QAM



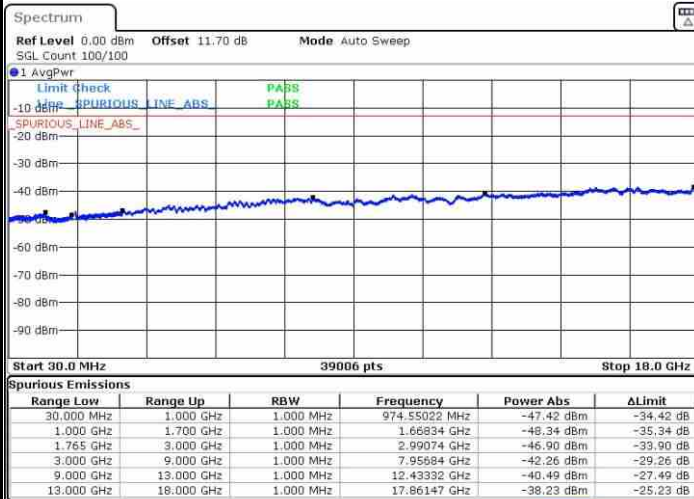
Date: 23 MAY 2019 16:41:58

## Middle Channel / 64QAM



Date: 23 MAY 2019 16:43:02

## Highest Channel / 64QAM

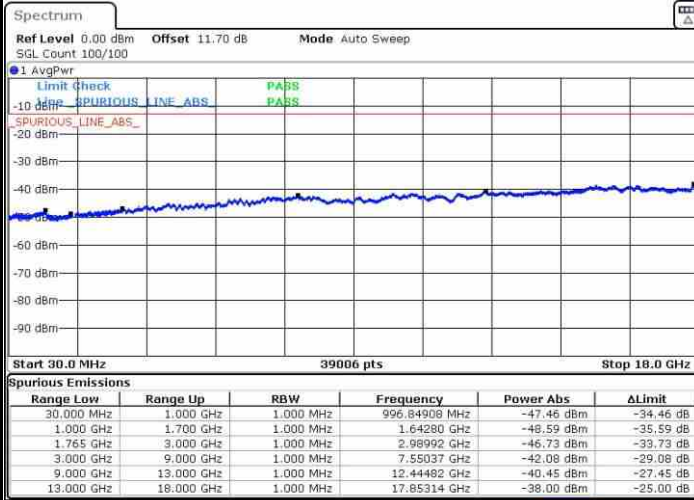


Date: 23 MAY 2019 16:46:17



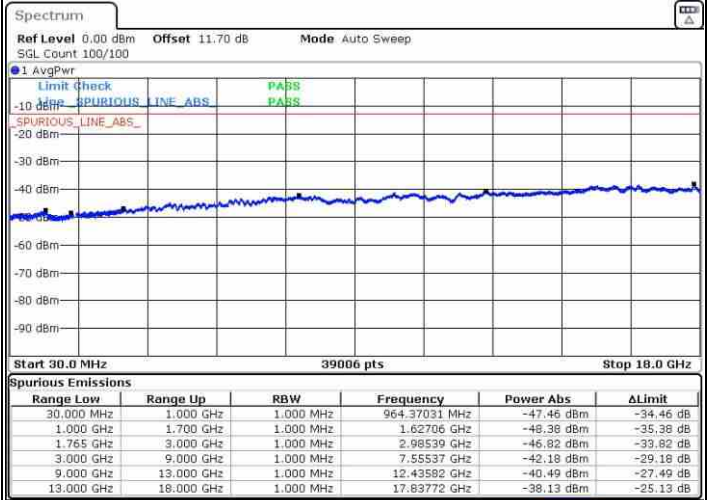
## LTE Band 4 / 3MHz

## Lowest Channel / 64QAM



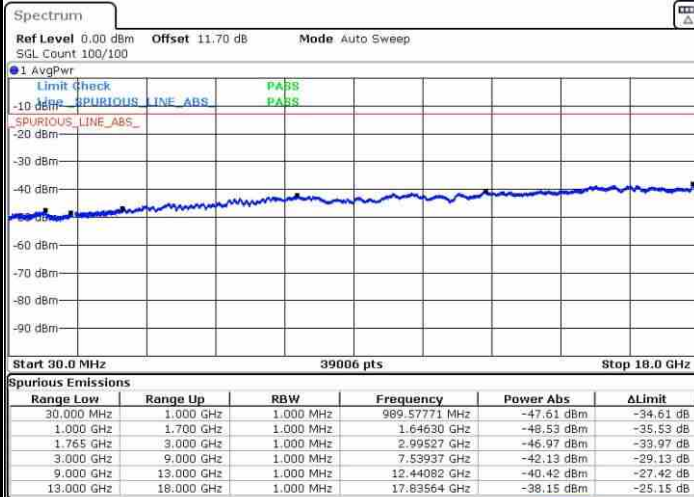
Date: 23 MAY 2019 18:20:02

## Middle Channel / 64QAM



Date: 23 MAY 2019 18:21:06

## Highest Channel / 64QAM

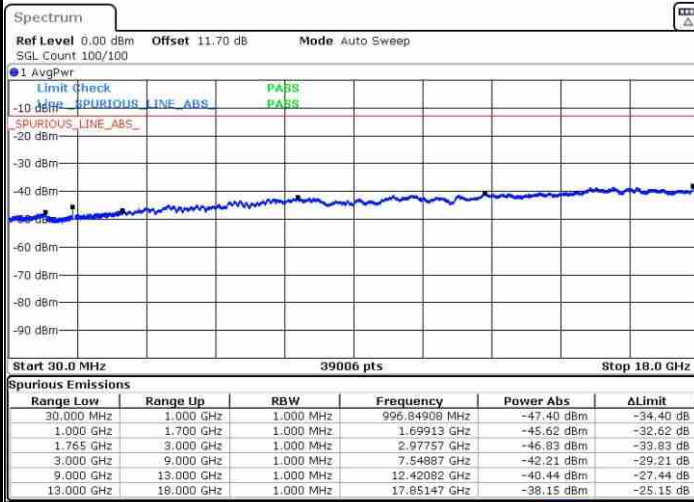


Date: 23 MAY 2019 18:24:14



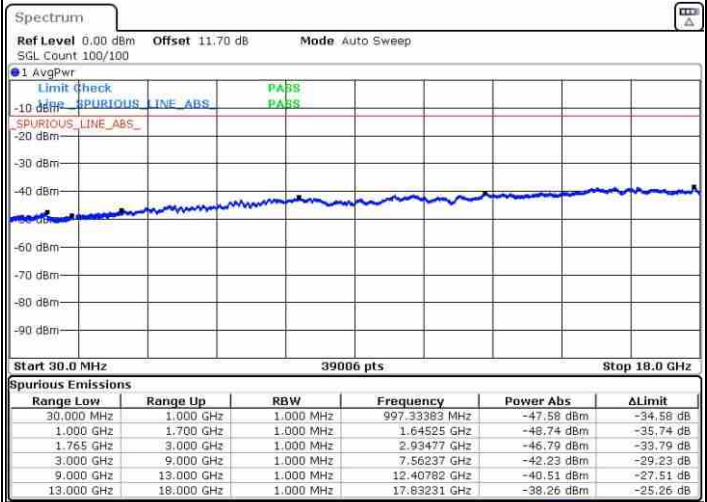
## LTE Band 4 / 5MHz

## Lowest Channel / 64QAM



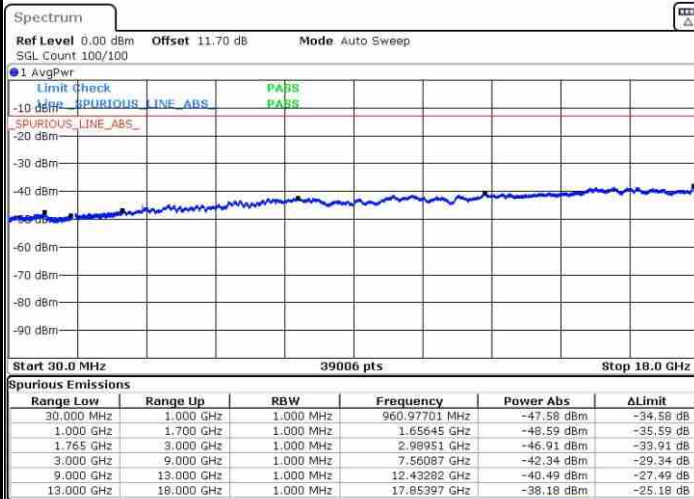
Date: 23 MAY 2019 18:27:22

## Middle Channel / 64QAM



Date: 23 MAY 2019 18:28:27

## Highest Channel / 64QAM

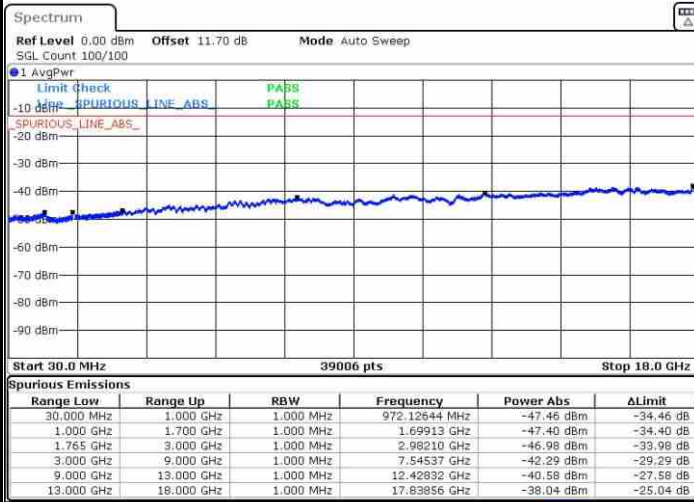


Date: 23 MAY 2019 18:31:35



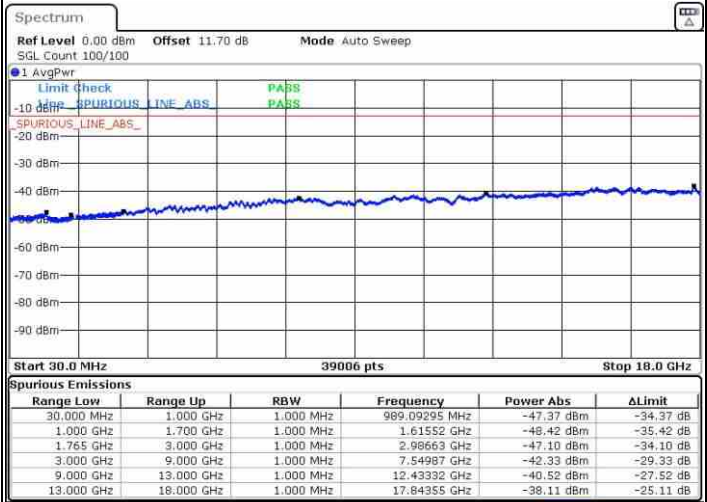
## LTE Band 4 / 10MHz

## Lowest Channel / 64QAM



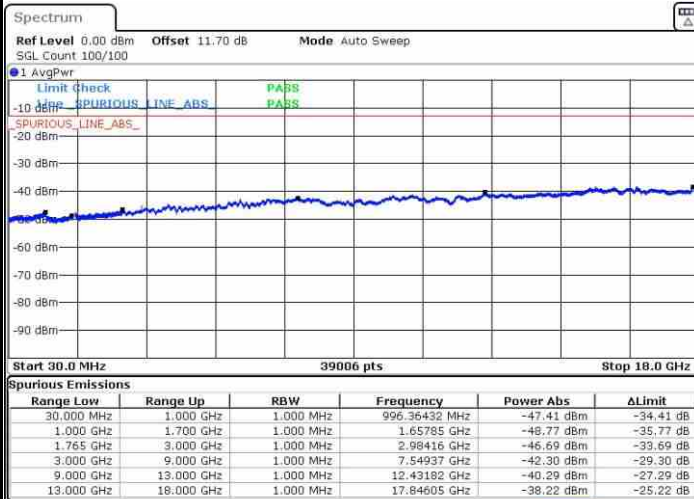
Date: 23 MAY 2019 18:34:43

## Middle Channel / 64QAM



Date: 23 MAY 2019 18:35:48

## Highest Channel / 64QAM

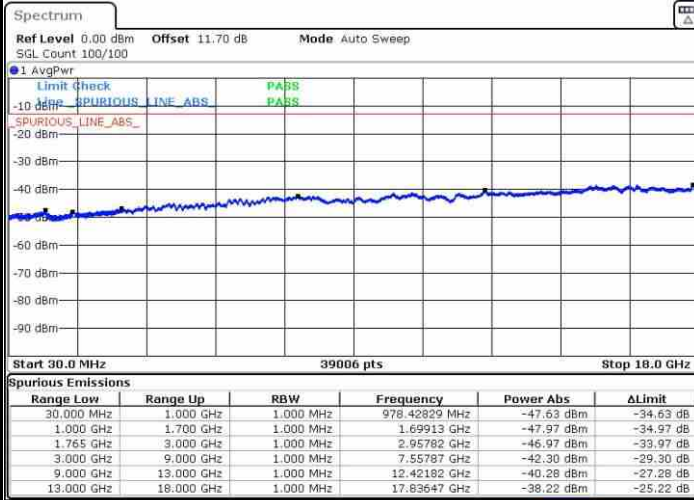


Date: 23 MAY 2019 18:38:56



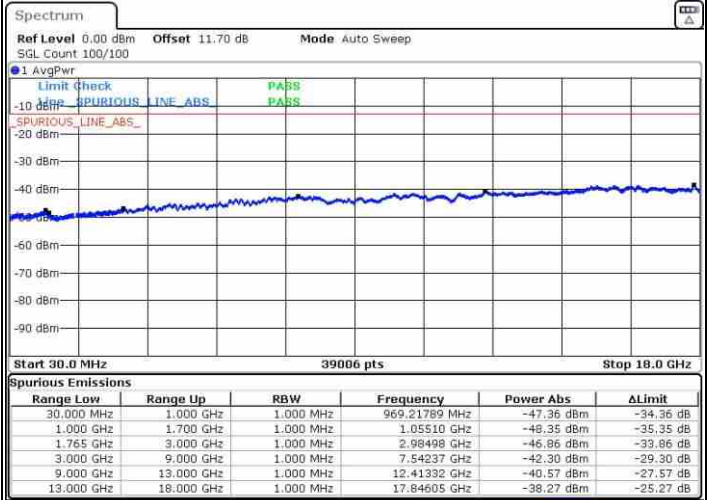
## LTE Band 4 / 15MHz

## Lowest Channel / 64QAM



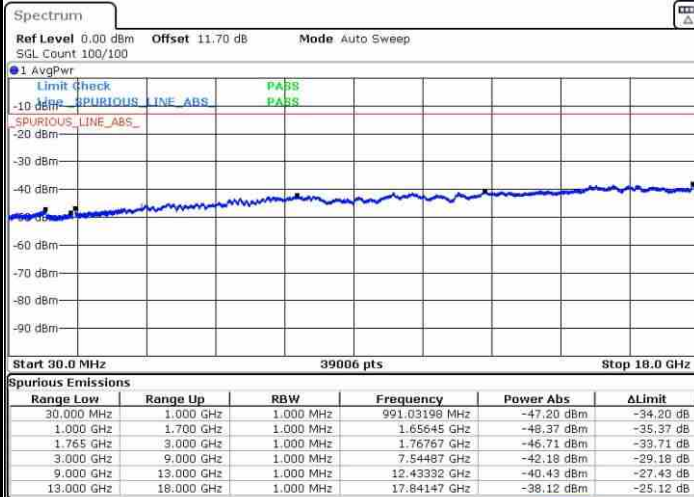
Date: 23 MAY 2019 18:42:05

## Middle Channel / 64QAM



Date: 23 MAY 2019 18:43:09

## Highest Channel / 64QAM

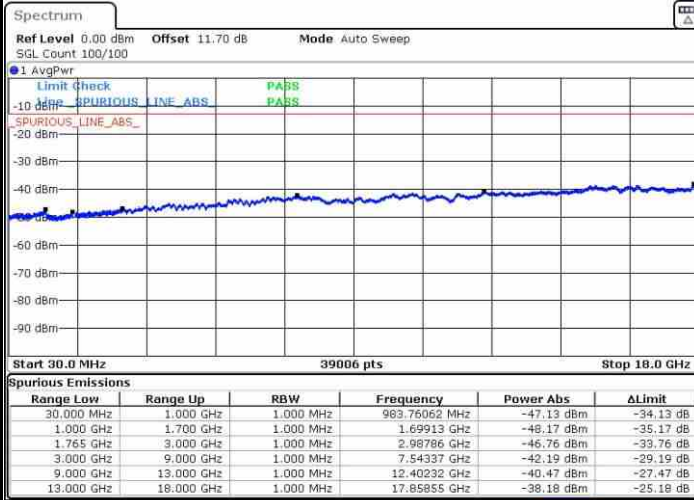


Date: 23 MAY 2019 18:46:17



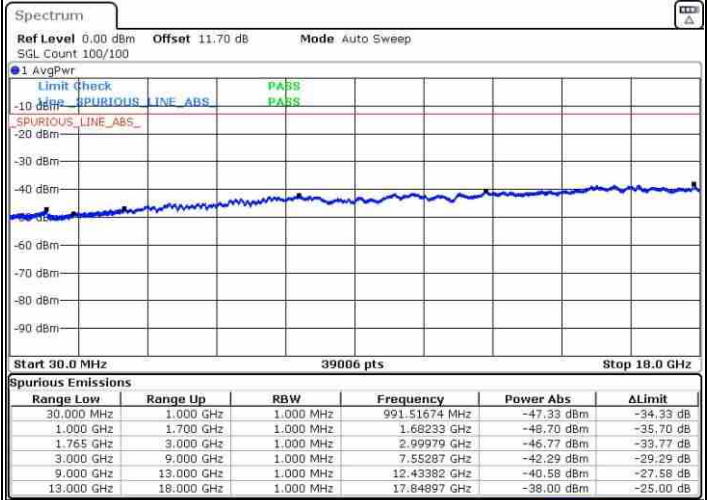
## LTE Band 4 / 20MHz

## Lowest Channel / 64QAM



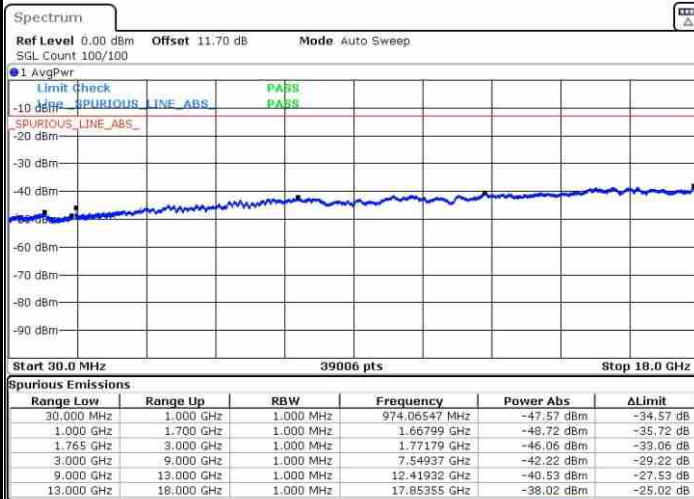
Date: 23 MAY 2019 18:49:26

## Middle Channel / 64QAM



Date: 23 MAY 2019 18:50:30

## Highest Channel / 64QAM



Date: 23 MAY 2019 18:53:38

## Frequency Stability

| Test Conditions  |                   | LTE Band 4 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                           | Note 2. |
|                  |                   | Deviation (ppm)                    | Result  |
| 50               | Normal Voltage    | 0.0050                             | PASS    |
| 40               | Normal Voltage    | 0.0013                             |         |
| 30               | Normal Voltage    | 0.0053                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0050                             |         |
| 0                | Normal Voltage    | 0.0047                             |         |
| -10              | Normal Voltage    | 0.0054                             |         |
| -20              | Normal Voltage    | 0.0062                             |         |
| -30              | Normal Voltage    | 0.0013                             |         |
| 20               | Maximum Voltage   | 0.0048                             |         |
| 20               | Normal Voltage    | 0.0000                             |         |
| 20               | Battery End Point | 0.0048                             |         |

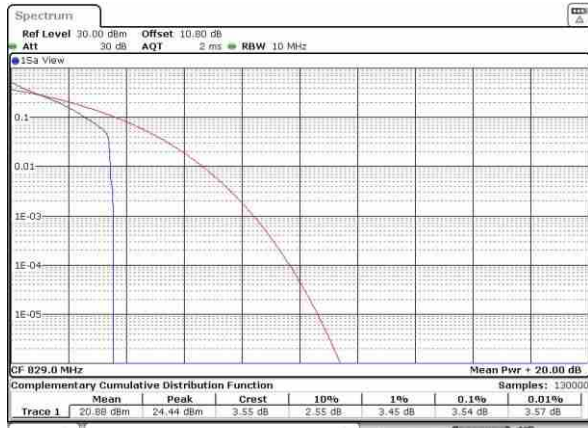
**Note:**

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

## LTE Band 5

### Peak-to-Average Ratio

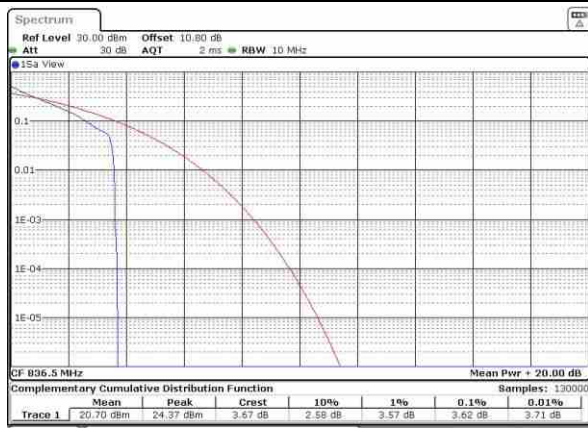
| Mode       | LTE Band 5 / 10MHz |         |       |         |             |
|------------|--------------------|---------|-------|---------|-------------|
| Mod.       | QPSK               |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 3.54               | 4.64    | 4.00  | 5.77    | PASS        |
| Middle CH  | 3.62               | 4.93    | 4.12  | 5.97    |             |
| Highest CH | 3.65               | 4.93    | 4.32  | 5.80    |             |
| Mode       | LTE Band 5 / 10MHz |         |       |         |             |
| Mod.       | 64QAM              |         |       |         | Limit: 13dB |
| RB Size    | 1RB                | Full RB |       |         | Result      |
| Lowest CH  | 5.22               | 6.41    | -     | -       | PASS        |
| Middle CH  | 5.01               | 6.67    | -     | -       |             |
| Highest CH | 5.19               | 6.41    | -     | -       |             |

**LTE Band 5 / 10MHz / QPSK**
**Lowest Channel / 1RB**


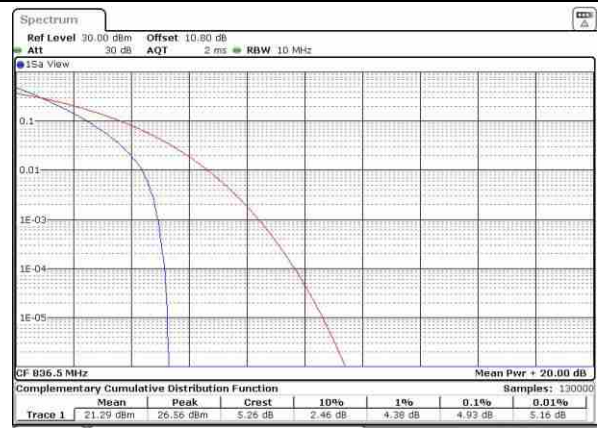
Date: 21 MAY 2019 22:11:58

**Lowest Channel / Full RB**


Date: 21 MAY 2019 22:12:23

**Middle Channel / 1RB**


Date: 21 MAY 2019 22:13:02

**Middle Channel / Full RB**


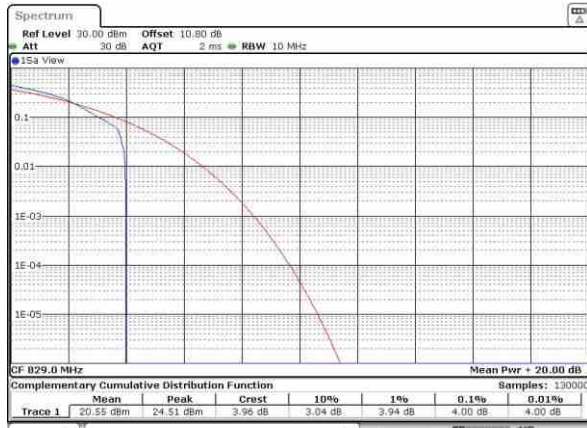
Date: 21 MAY 2019 22:13:15

**Highest Channel / 1RB**


Date: 21 MAY 2019 22:13:31

**Highest Channel / Full RB**

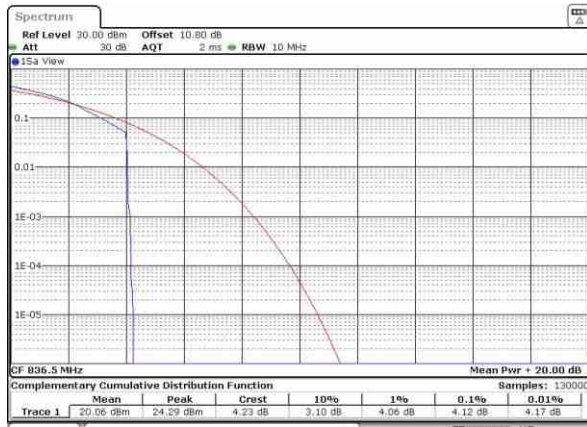

Date: 21 MAY 2019 22:13:57

**LTE Band 5 / 10MHz / 16QAM**
**Lowest Channel / 1RB**


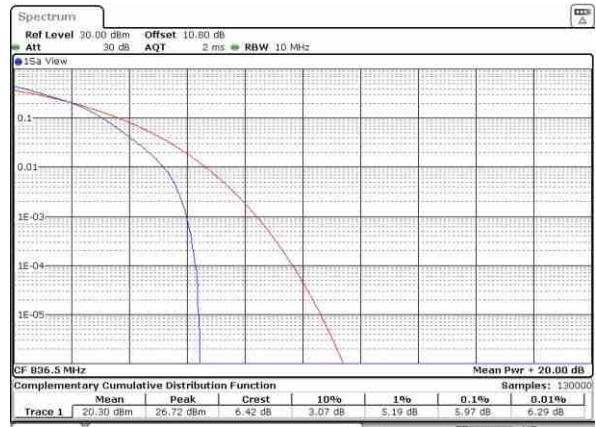
Date: 21 MAY 2019 22:08:52

**Lowest Channel / Full RB**

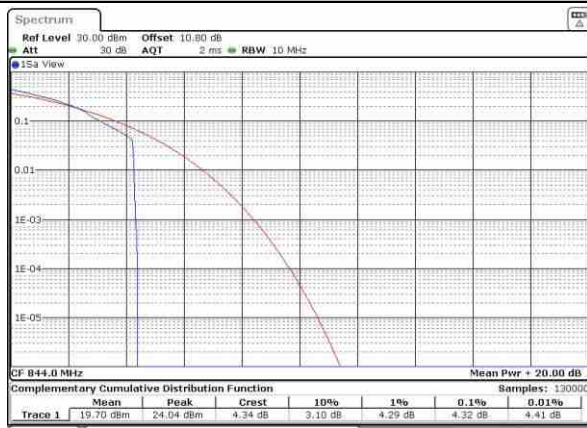

Date: 21 MAY 2019 22:08:12

**Middle Channel / 1RB**


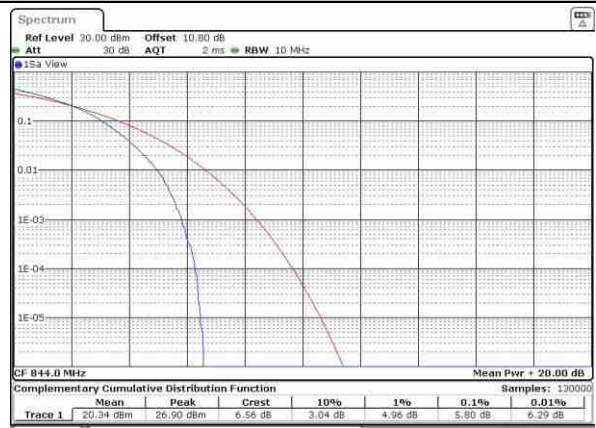
Date: 21 MAY 2019 22:09:23

**Middle Channel / Full RB**


Date: 21 MAY 2019 22:09:34

**Highest Channel / 1RB**


Date: 21 MAY 2019 22:09:45

**Highest Channel / Full RB**


Date: 21 MAY 2019 22:09:56



## LTE Band 5 / 10MHz / 64QAM

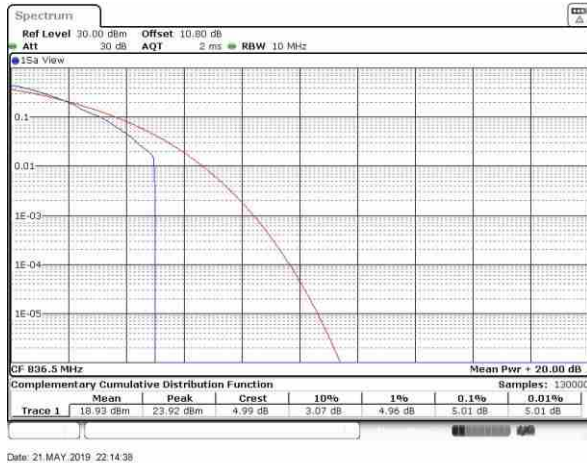
## Lowest Channel / 1RB



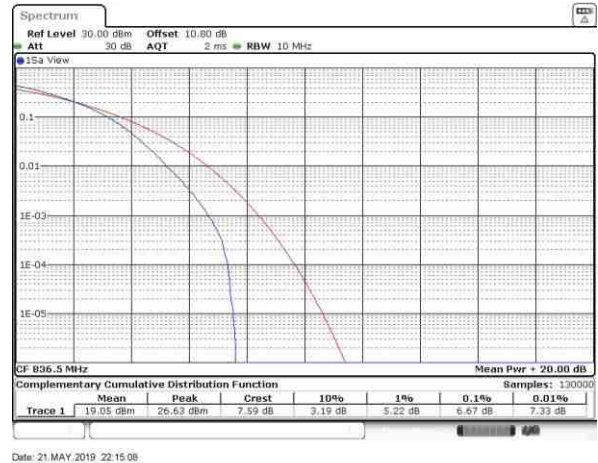
## Lowest Channel / Full RB



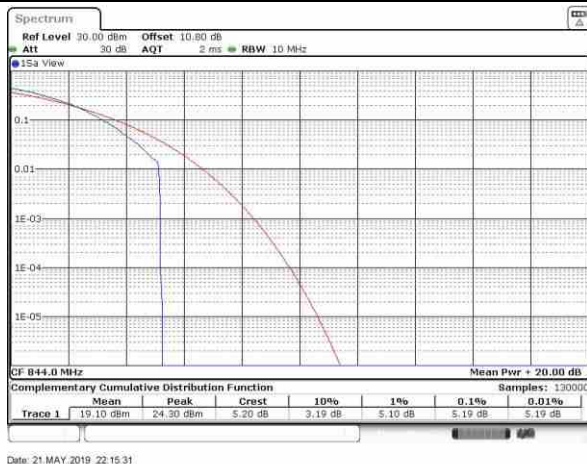
## Middle Channel / 1RB



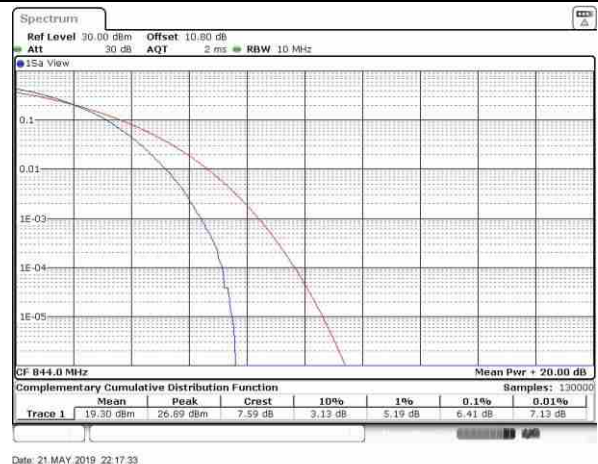
## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB



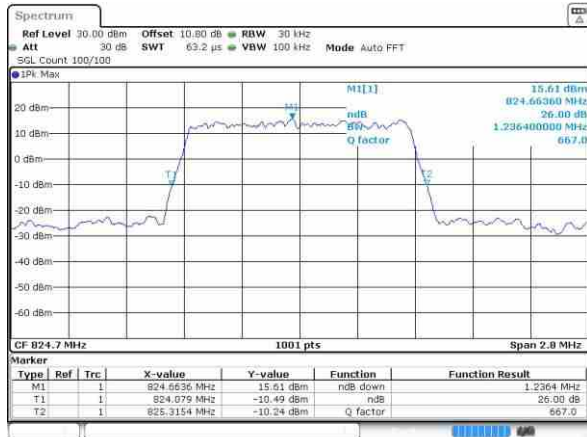
**26dB Bandwidth**

| Mode       | LTE Band 5 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
|------------|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| BW         | 1.4MHz                    |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | QPSK                      | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM |
| Lowest CH  | 1.24                      | 1.21  | 3.00  | 3.03  | 4.88  | 4.88  | 9.85  | 9.81  | -     | -     | -     | -     |
| Middle CH  | 1.22                      | 1.24  | 3.04  | 3.00  | 4.91  | 4.88  | 9.89  | 9.83  | -     | -     | -     | -     |
| Highest CH | 1.21                      | 1.23  | 3.02  | 3.03  | 4.89  | 5.00  | 9.63  | 9.89  | -     | -     | -     | -     |
| Mode       | LTE Band 5 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                    |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                     |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | 1.23                      | -     | 3.00  | -     | 4.93  | -     | 10.01 | -     | -     | -     | -     | -     |
| Middle CH  | 1.22                      | -     | 3.04  | -     | 4.92  | -     | 9.81  | -     | -     | -     | -     | -     |
| Highest CH | 1.21                      | -     | 3.01  | -     | 4.88  | -     | 9.81  | -     | -     | -     | -     | -     |



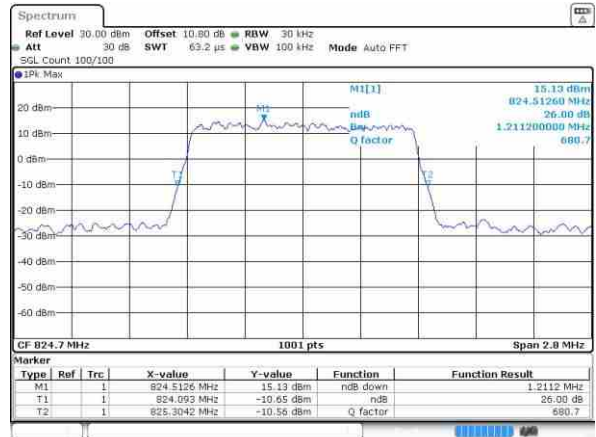
## LTE Band 5

## Lowest Channel / 1.4MHz / QPSK



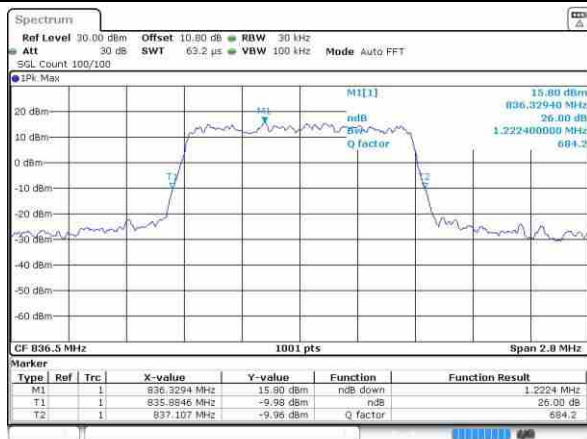
Date: 21 MAY 2019 21:04:43

## Lowest Channel / 1.4MHz / 16QAM



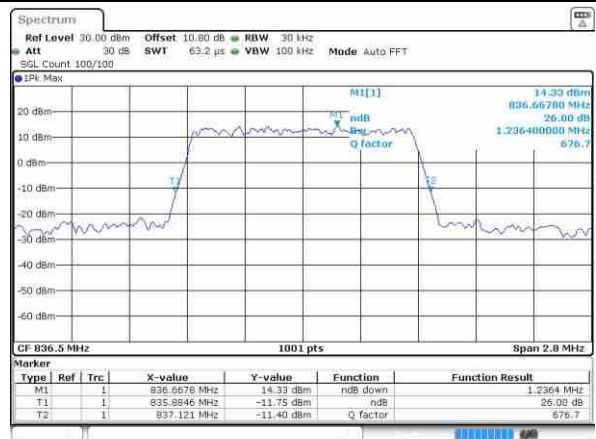
Date: 21 MAY 2019 21:04:31

## Middle Channel / 1.4MHz / QPSK



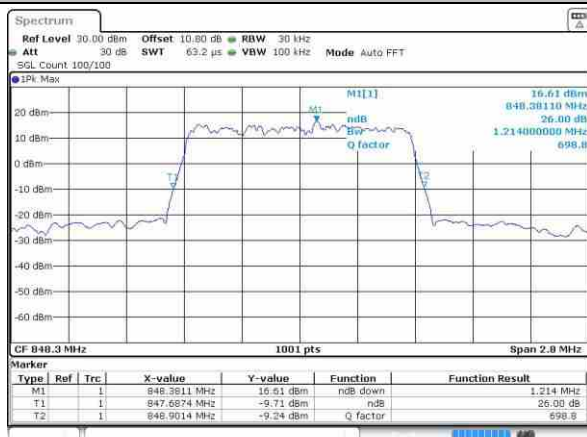
Date: 21 MAY 2019 21:13:36

## Middle Channel / 1.4MHz / 16QAM



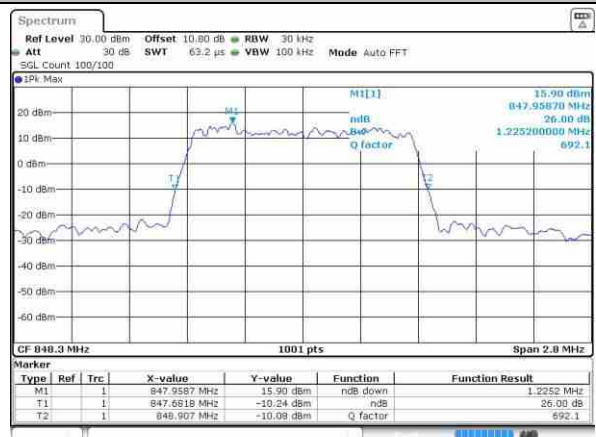
Date: 21 MAY 2019 21:13:48

## Highest Channel / 1.4MHz / QPSK



Date: 21 MAY 2019 21:15:56

## Highest Channel / 1.4MHz / 16QAM

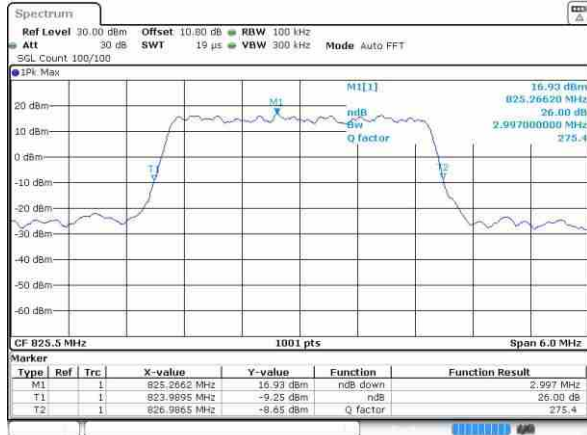


Date: 21 MAY 2019 21:16:08

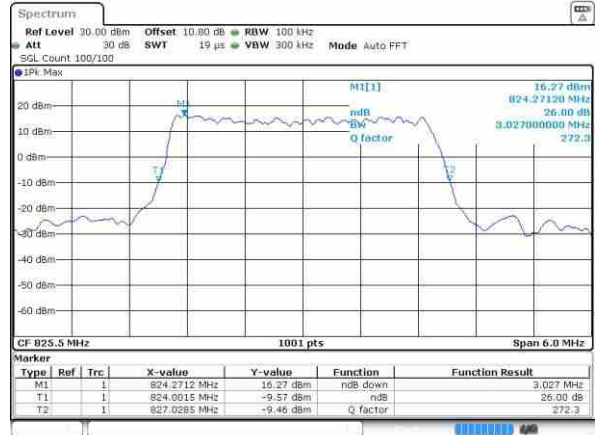


## LTE Band 5

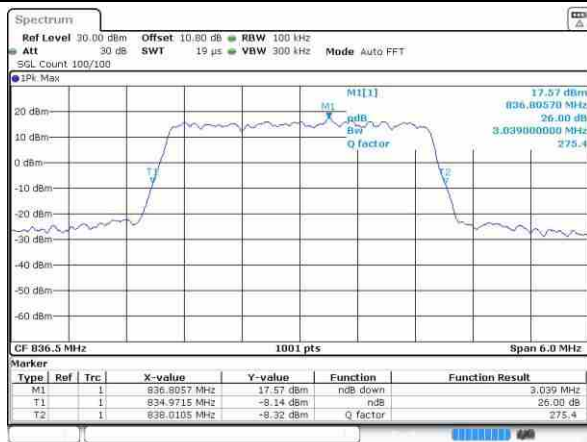
## Lowest Channel / 3MHz / QPSK



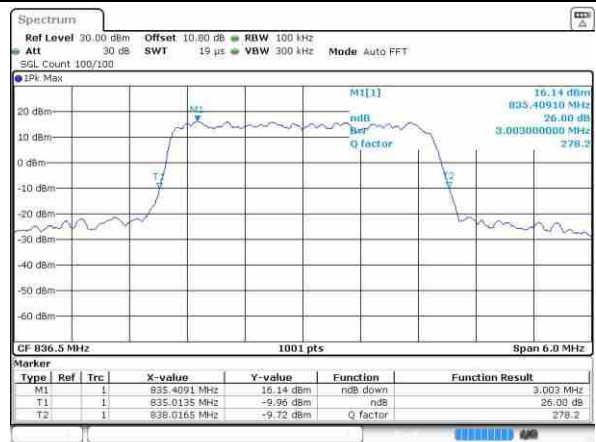
## Lowest Channel / 3MHz / 16QAM



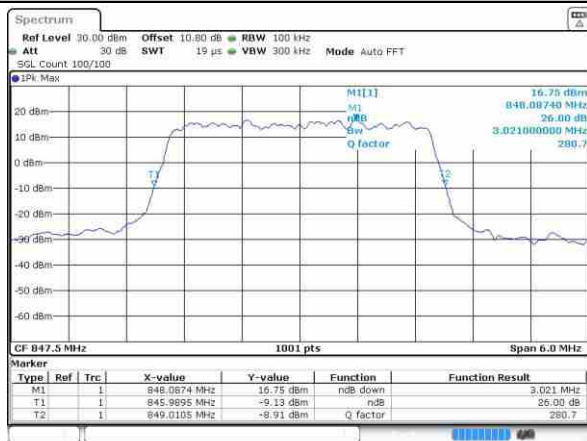
## Middle Channel / 3MHz / QPSK



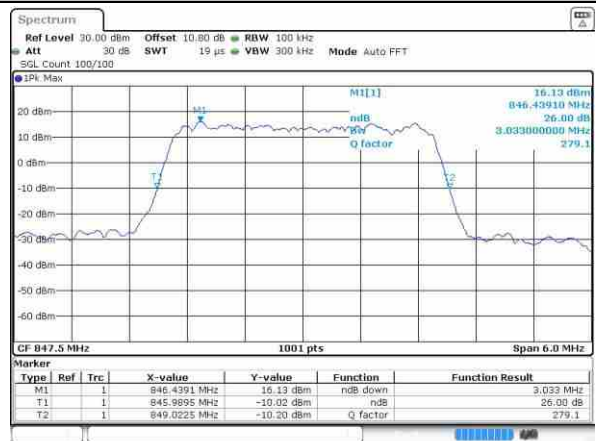
## Middle Channel / 3MHz / 16QAM



## Highest Channel / 3MHz / QPSK



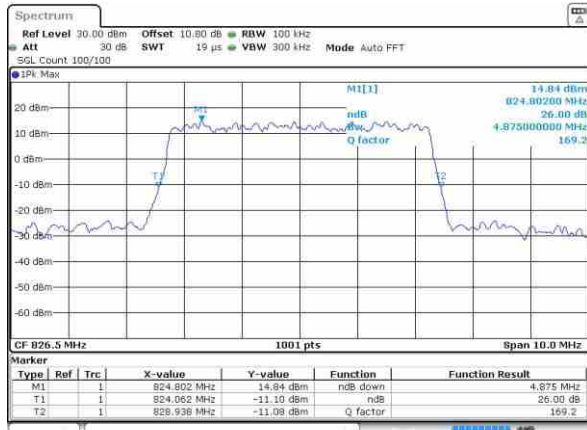
## Highest Channel / 3MHz / 16QAM



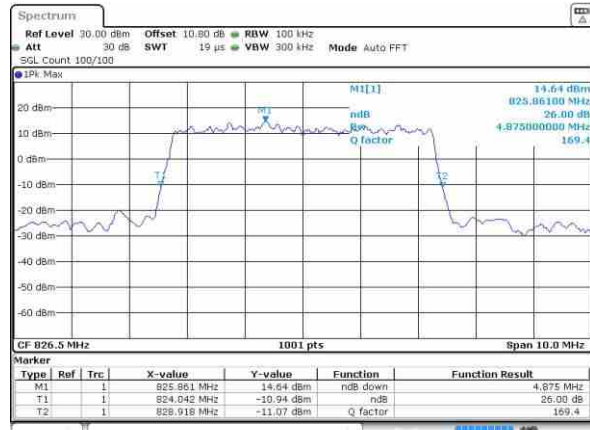


## LTE Band 5

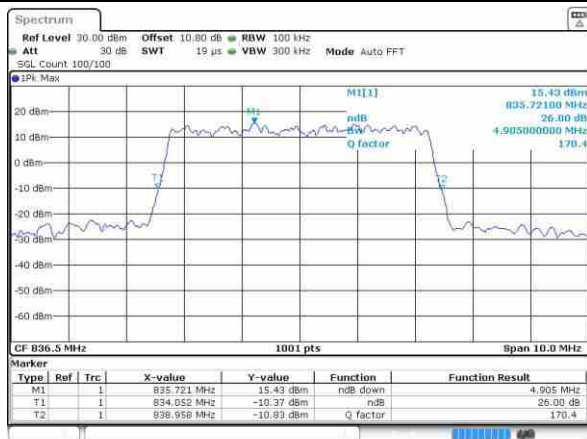
## Lowest Channel / 5MHz / QPSK



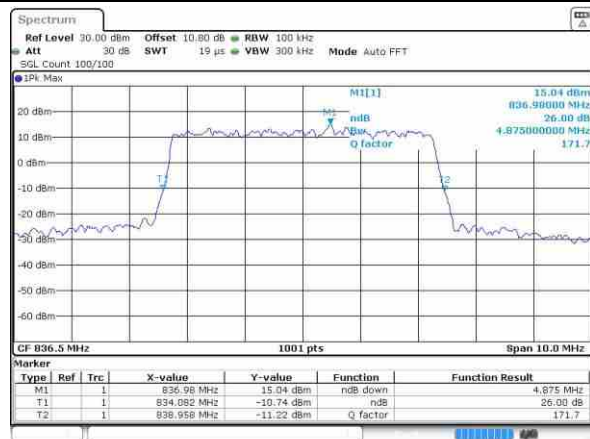
## Lowest Channel / 5MHz / 16QAM



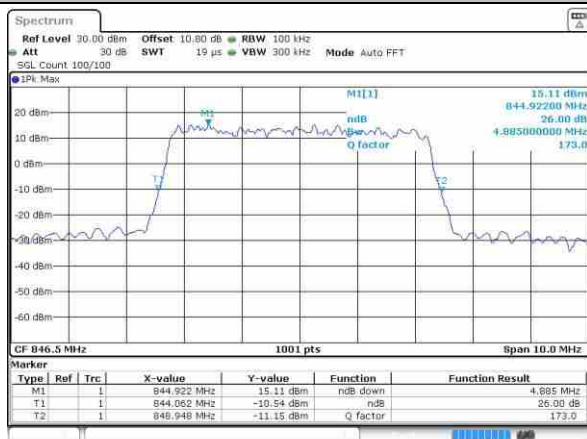
## Middle Channel / 5MHz / QPSK



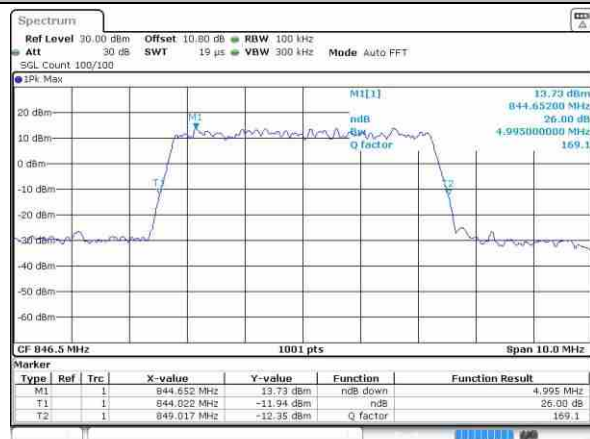
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



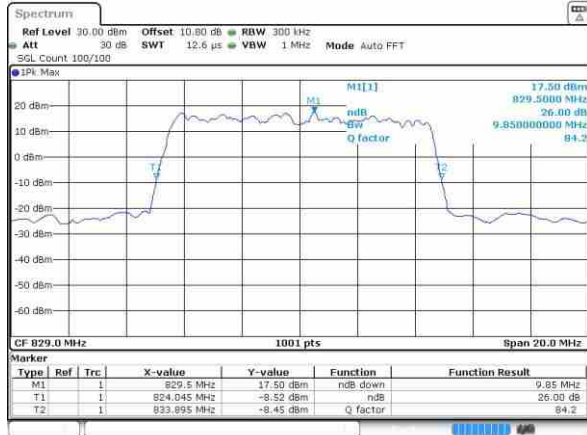
## Highest Channel / 5MHz / 16QAM



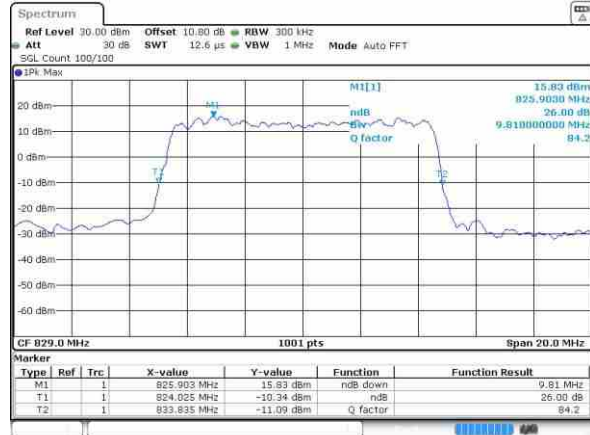


## LTE Band 5

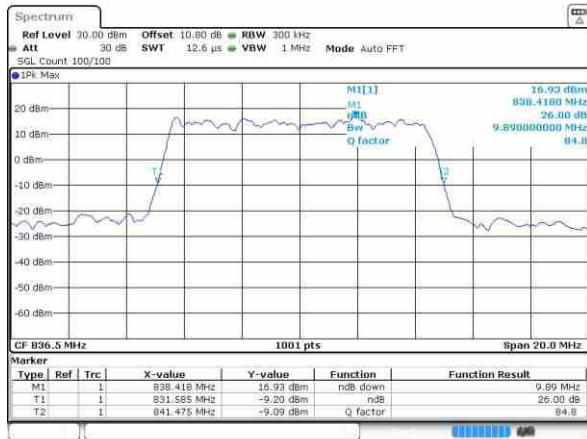
## Lowest Channel / 10MHz / QPSK



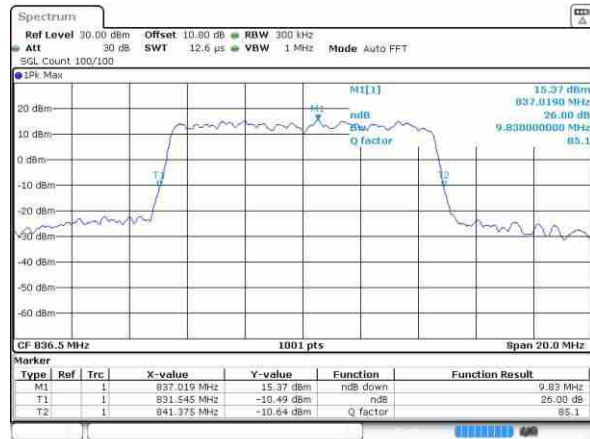
## Lowest Channel / 10MHz / 16QAM



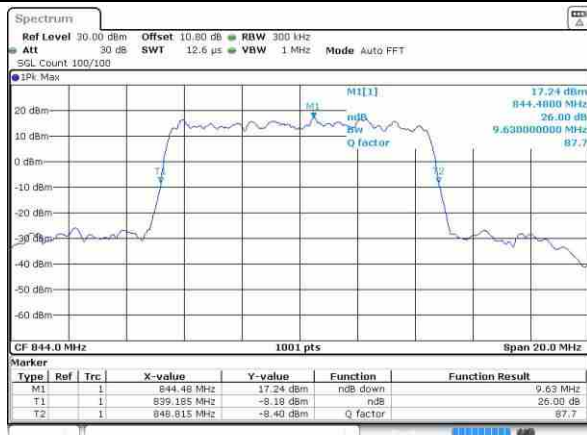
## Middle Channel / 10MHz / QPSK



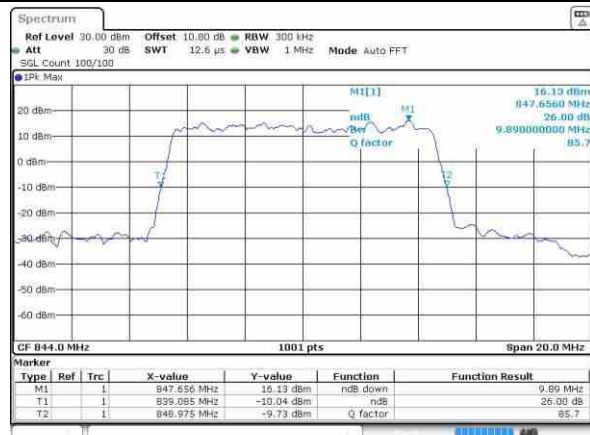
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



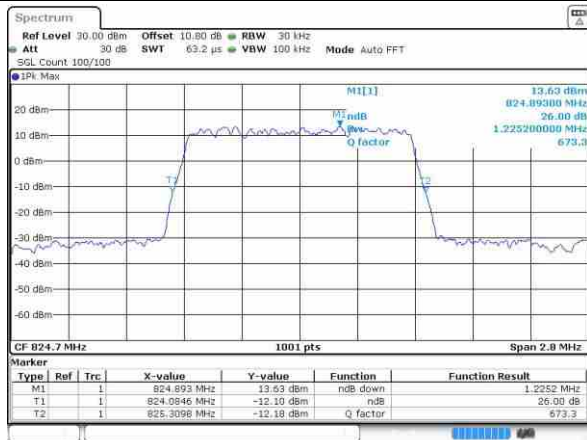
## Highest Channel / 10MHz / 16QAM



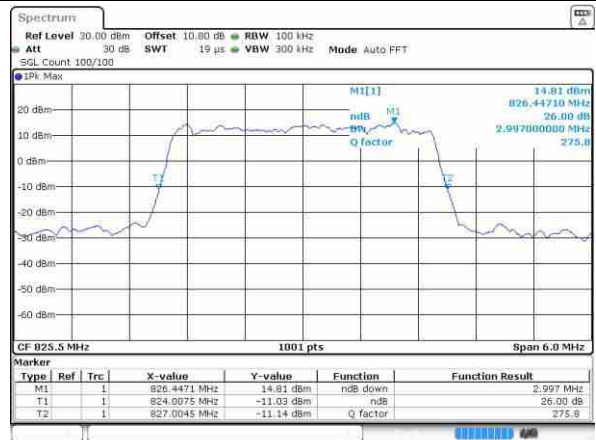


## LTE Band 5

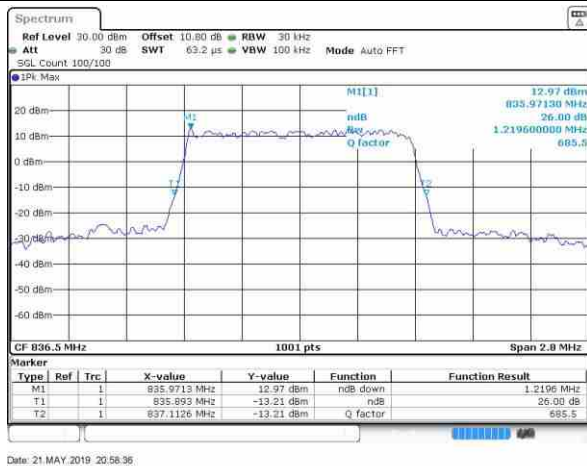
## Lowest Channel / 1.4MHz / 64QAM



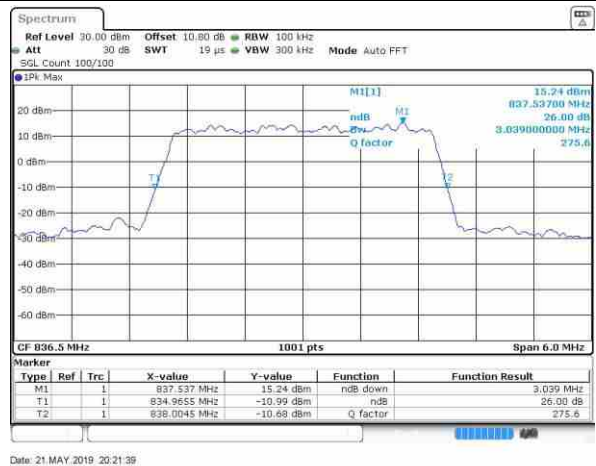
## Lowest Channel / 3MHz / 64QAM



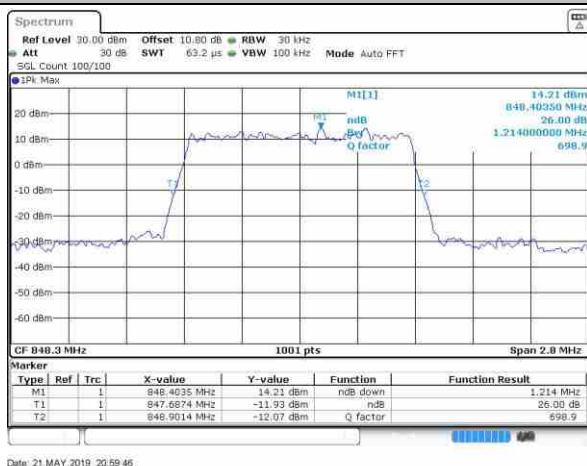
## Middle Channel / 1.4MHz / 64QAM



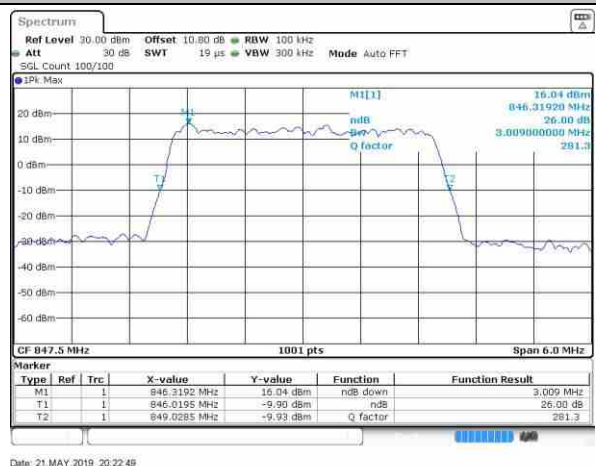
## Middle Channel / 3MHz / 64QAM



## Highest Channel / 1.4MHz / 64QAM



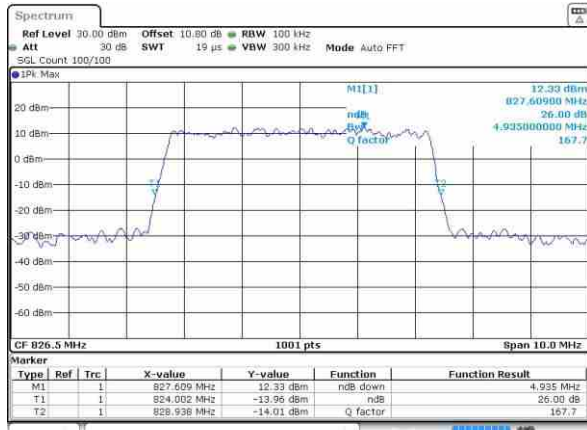
## Highest Channel / 3MHz / 64QAM





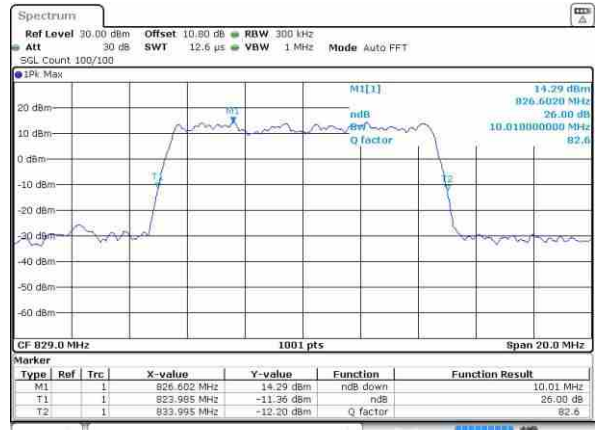
## LTE Band 5

## Lowest Channel / 5MHz / 64QAM



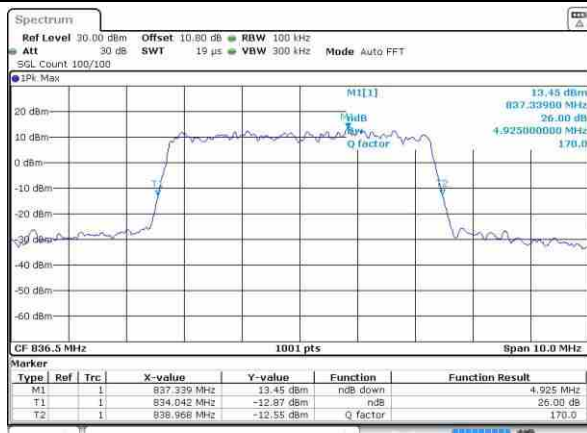
Date: 21 MAY 2019 20:27:23

## Lowest Channel / 10MHz / 64QAM



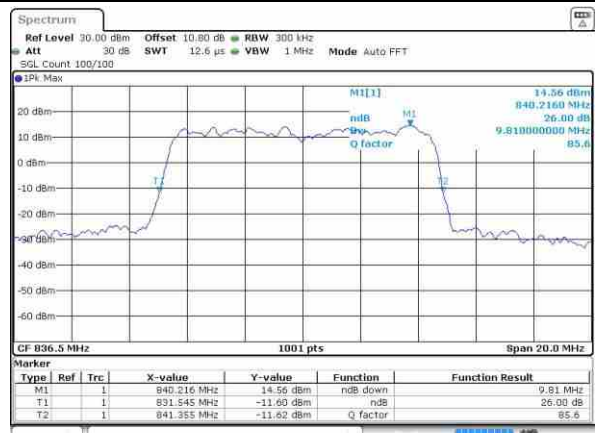
Date: 21 MAY 2019 20:37:44

## Middle Channel / 5MHz / 64QAM



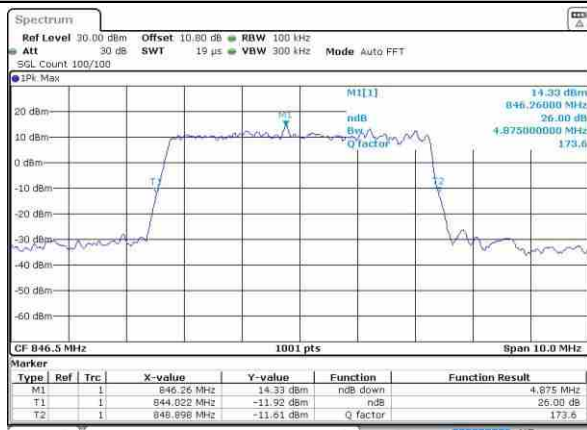
Date: 21 MAY 2019 20:31:57

## Middle Channel / 10MHz / 64QAM



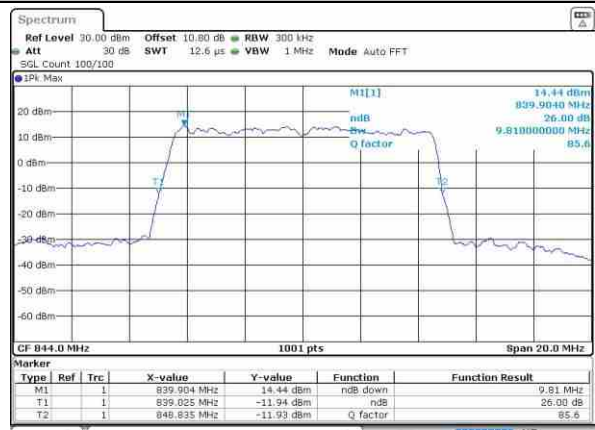
Date: 21 MAY 2019 20:42:16

## Highest Channel / 5MHz / 64QAM



Date: 21 MAY 2019 20:33:09

## Highest Channel / 10MHz / 64QAM



Date: 21 MAY 2019 20:43:26

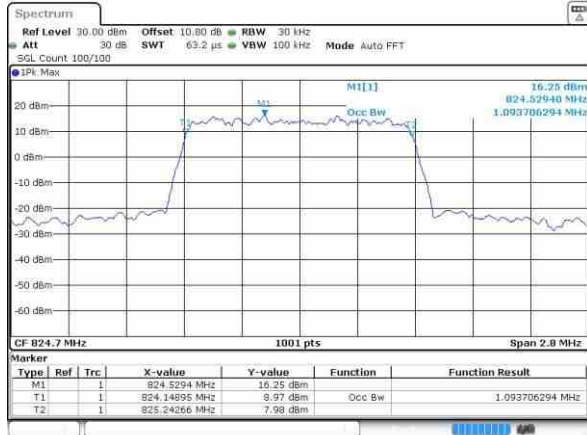
**Occupied Bandwidth**

| Mode       | LTE Band 5 : 99%OBW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
|------------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| BW         | 1.4MHz                   |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | QPSK                     | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM |
| Lowest CH  | 1.09                     | 1.09  | 2.70  | 2.72  | 4.49  | 4.50  | 9.01  | 9.01  | -     | -     | -     | -     |
| Middle CH  | 1.09                     | 1.09  | 2.71  | 2.70  | 4.49  | 4.51  | 9.07  | 9.01  | -     | -     | -     | -     |
| Highest CH | 1.09                     | 1.09  | 2.72  | 2.72  | 4.49  | 4.49  | 9.07  | 9.01  | -     | -     | -     | -     |
| Mode       | LTE Band 5 : 99%OBW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                   |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                    |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | 1.08                     | -     | 2.71  | -     | 4.48  | -     | 9.05  | -     | -     | -     | -     | -     |
| Middle CH  | 1.09                     | -     | 2.72  | -     | 4.50  | -     | 9.03  | -     | -     | -     | -     | -     |
| Highest CH | 1.08                     | -     | 2.73  | -     | 4.50  | -     | 9.03  | -     | -     | -     | -     | -     |

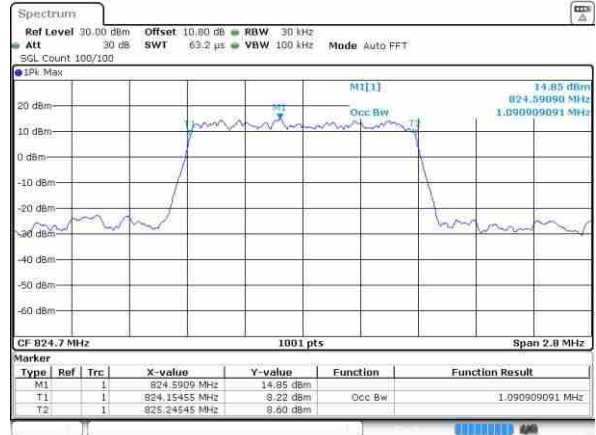


## LTE Band 5

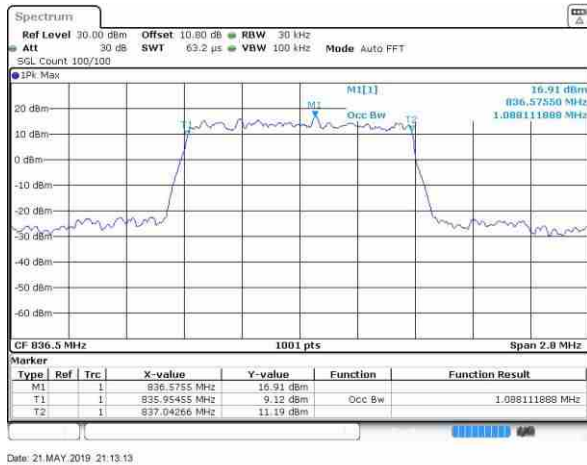
## Lowest Channel / 1.4MHz / QPSK



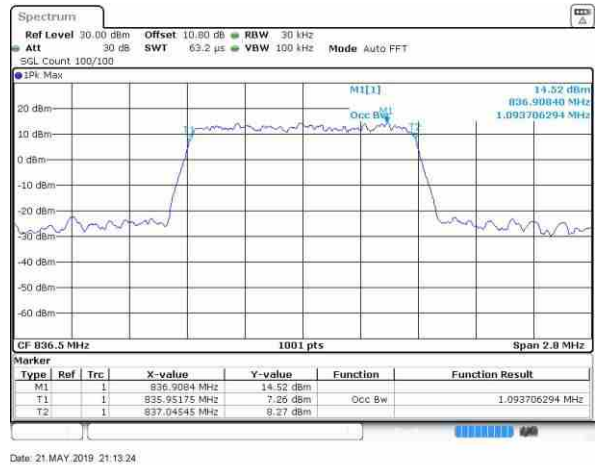
## Lowest Channel / 1.4MHz / 16QAM



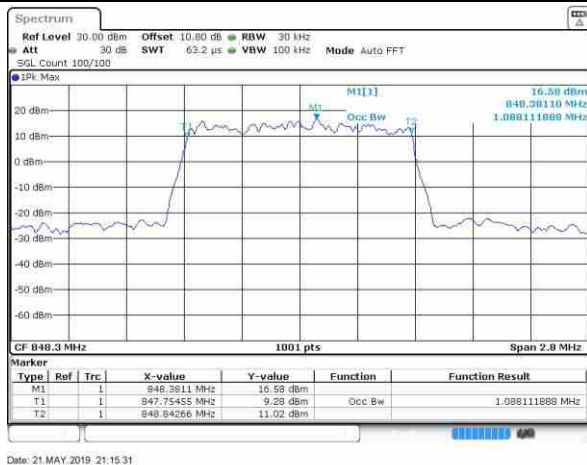
## Middle Channel / 1.4MHz / QPSK



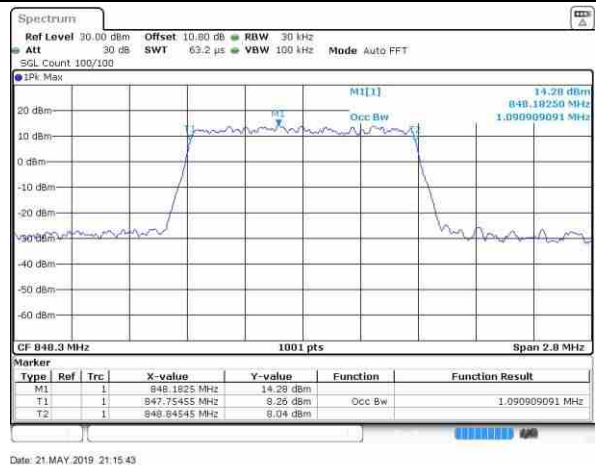
## Middle Channel / 1.4MHz / 16QAM



## Highest Channel / 1.4MHz / QPSK



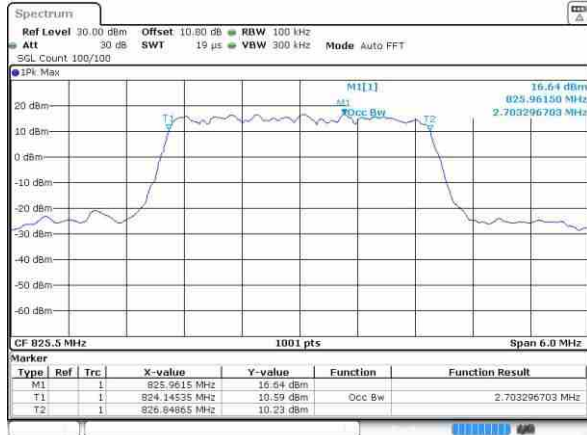
## Highest Channel / 1.4MHz / 16QAM





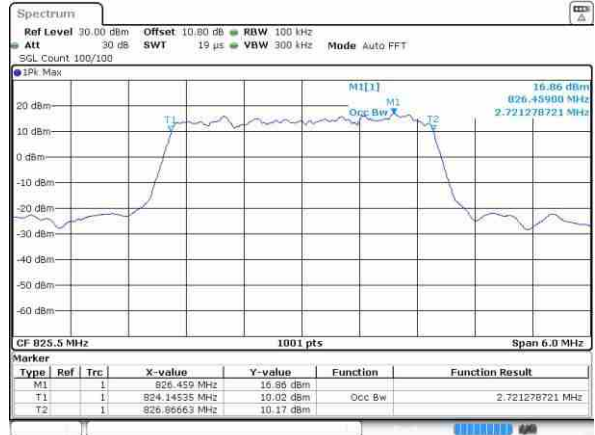
## LTE Band 5

## Lowest Channel / 3MHz / QPSK



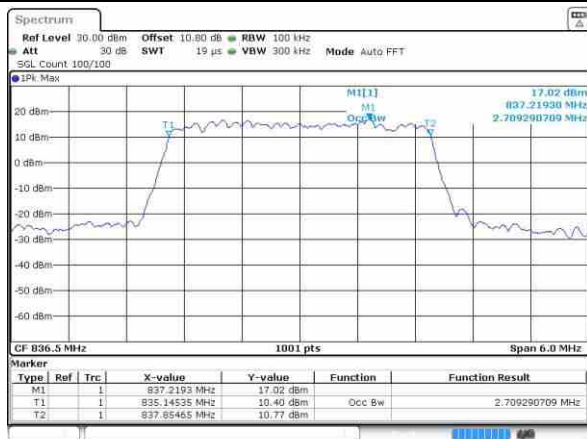
Date: 21 MAY 2019 19:15:17

## Lowest Channel / 3MHz / 16QAM



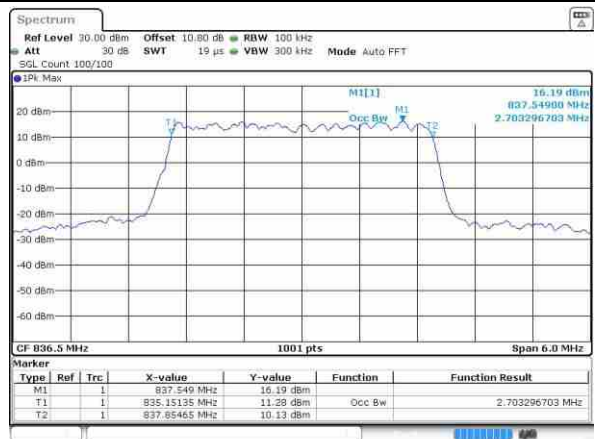
Date: 21 MAY 2019 19:15:30

## Middle Channel / 3MHz / QPSK



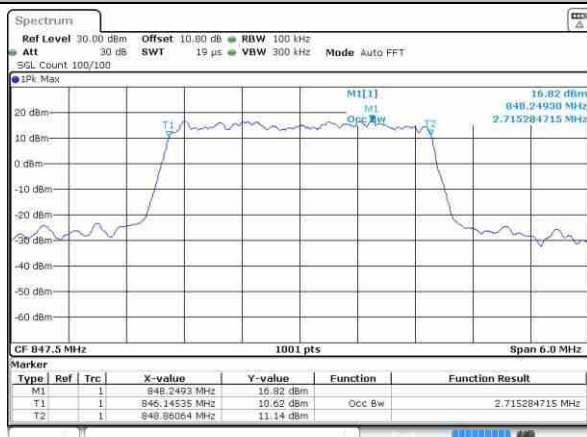
Date: 21 MAY 2019 19:24:24

## Middle Channel / 3MHz / 16QAM



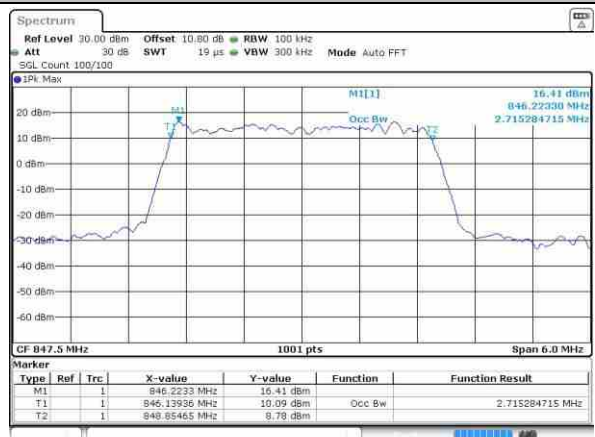
Date: 21 MAY 2019 19:24:35

## Highest Channel / 3MHz / QPSK



Date: 21 MAY 2019 19:26:43

## Highest Channel / 3MHz / 16QAM

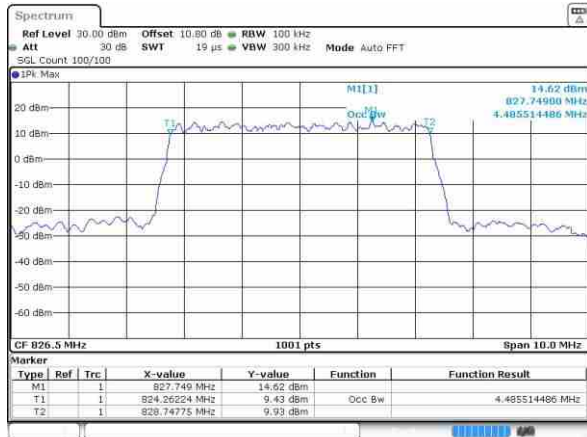


Date: 21 MAY 2019 19:26:55

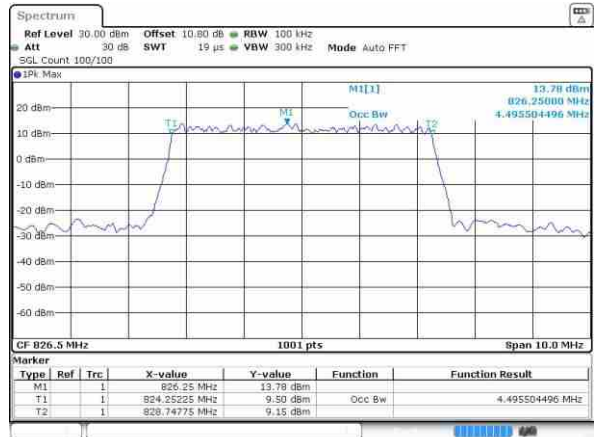


## LTE Band 5

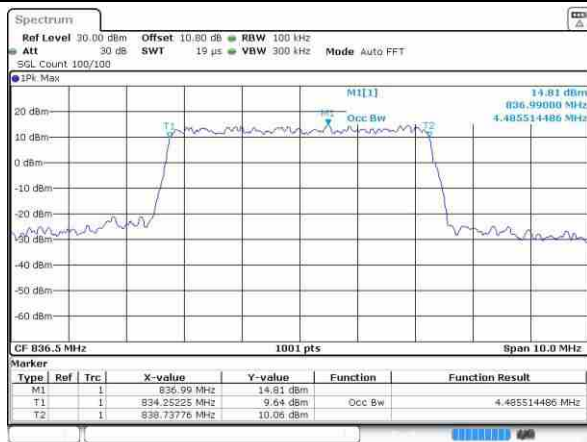
## Lowest Channel / 5MHz / QPSK



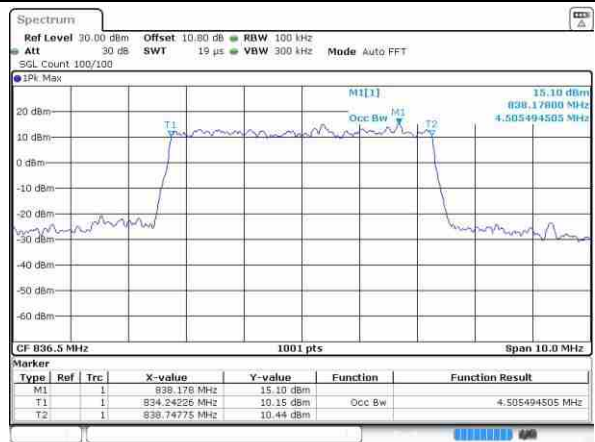
## Lowest Channel / 5MHz / 16QAM



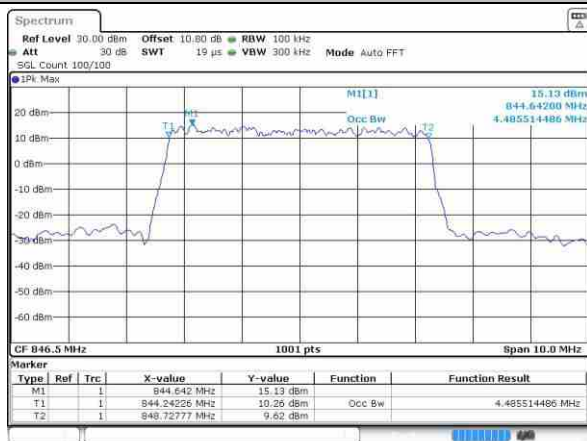
## Middle Channel / 5MHz / QPSK



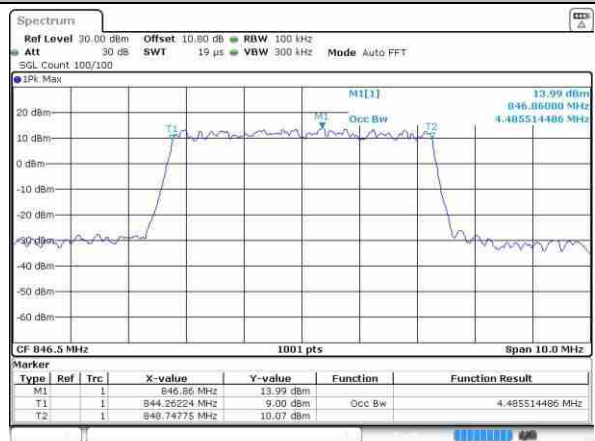
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



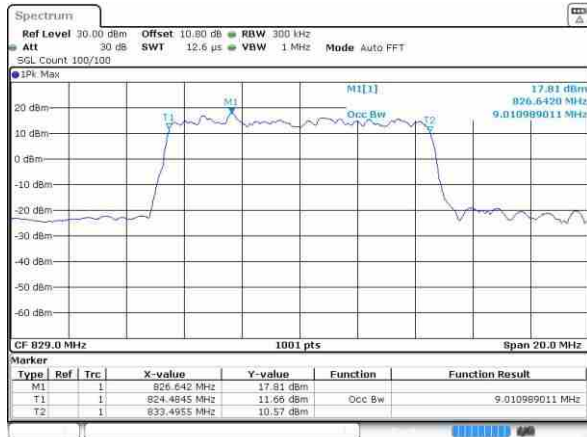
## Highest Channel / 5MHz / 16QAM



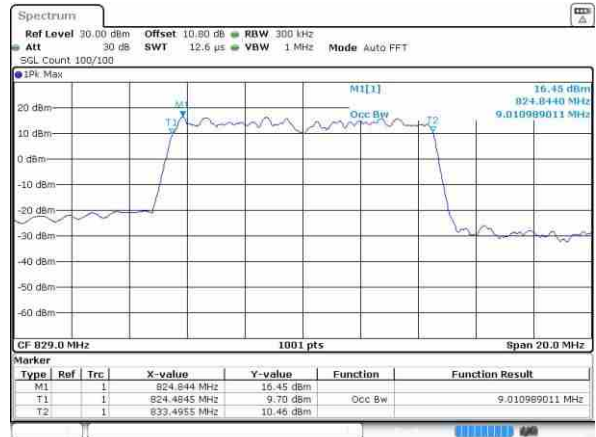


## LTE Band 5

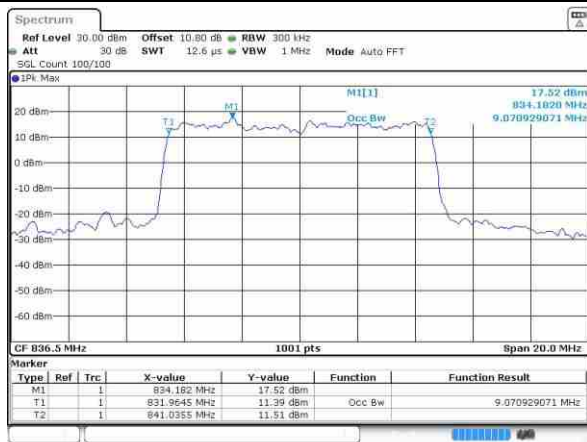
## Lowest Channel / 10MHz / QPSK



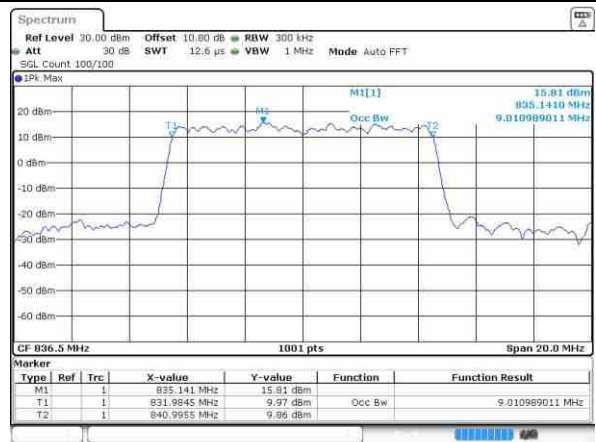
## Lowest Channel / 10MHz / 16QAM



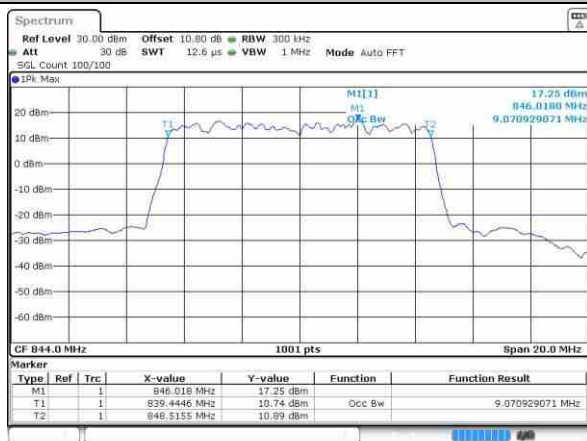
## Middle Channel / 10MHz / QPSK



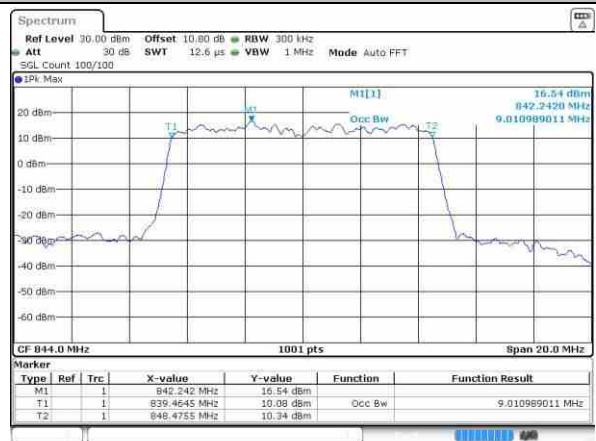
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



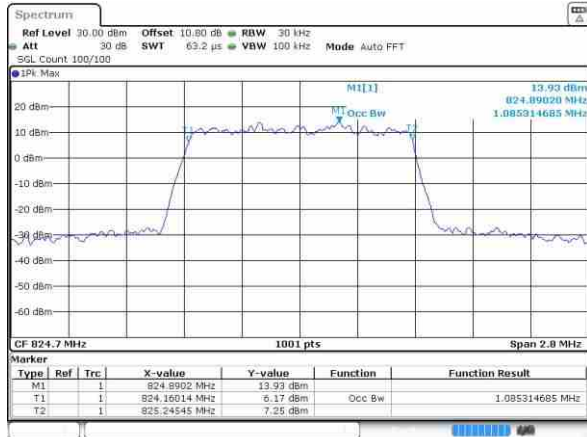
## Highest Channel / 10MHz / 16QAM



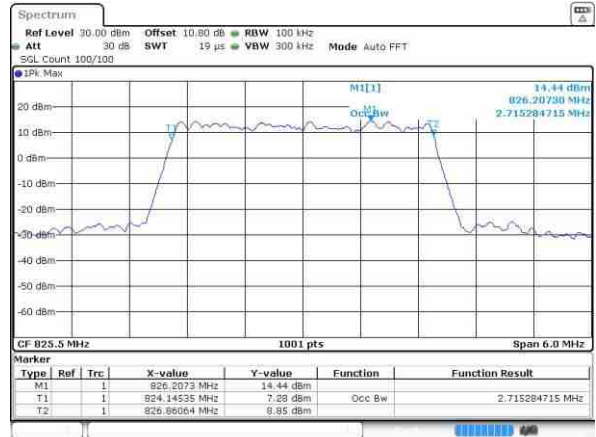


## LTE Band 5

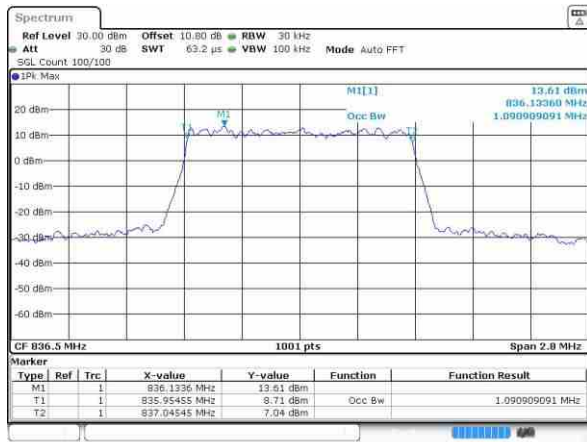
## Lowest Channel / 1.4MHz / 64QAM



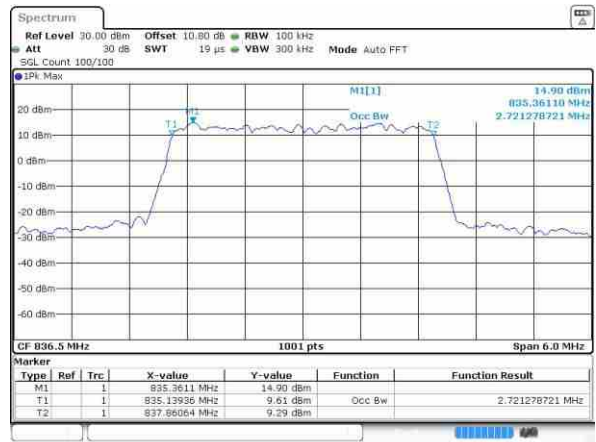
## Lowest Channel / 3MHz / 64QAM



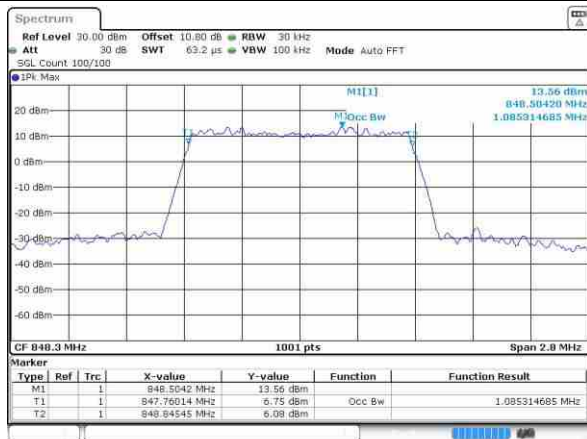
## Middle Channel / 1.4MHz / 64QAM



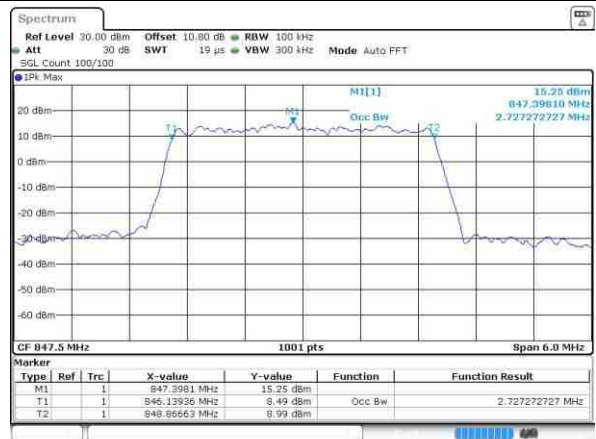
## Middle Channel / 3MHz / 64QAM



## Highest Channel / 1.4MHz / 64QAM



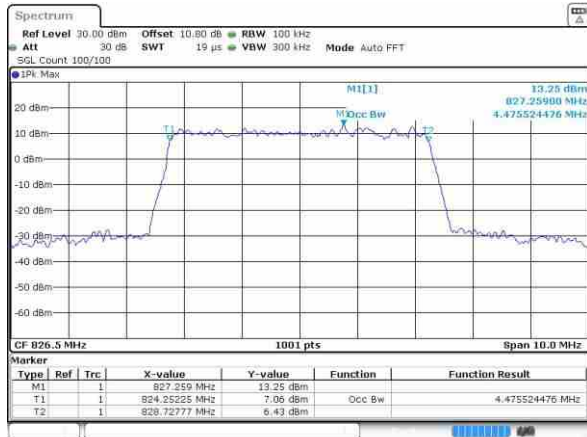
## Highest Channel / 3MHz / 64QAM



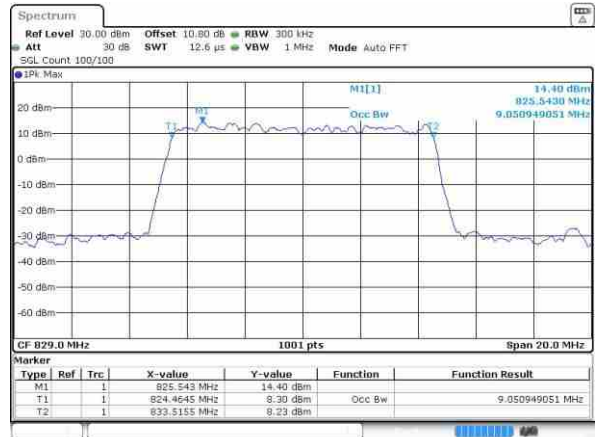


## LTE Band 5

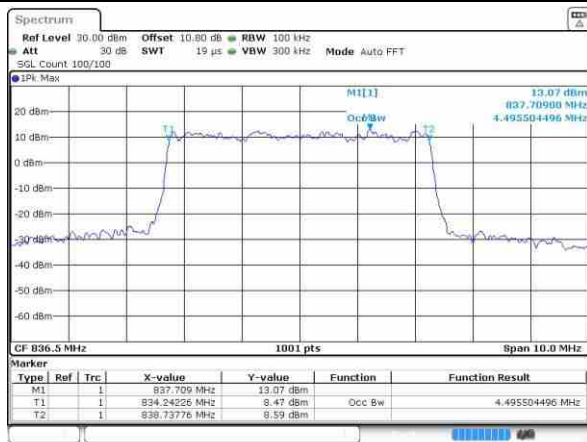
## Lowest Channel / 5MHz / 64QAM



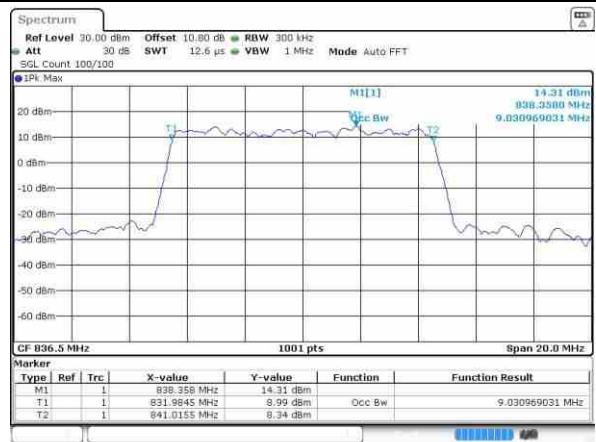
## Lowest Channel / 10MHz / 64QAM



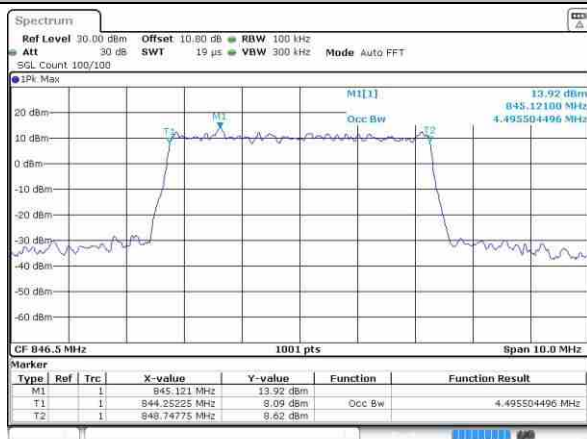
## Middle Channel / 5MHz / 64QAM



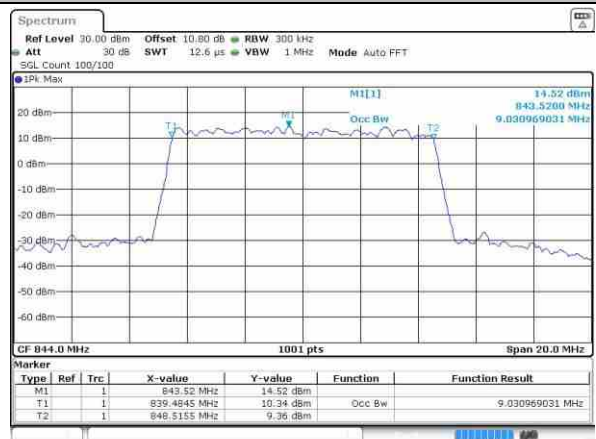
## Middle Channel / 10MHz / 64QAM



## Highest Channel / 5MHz / 64QAM



## Highest Channel / 10MHz / 64QAM



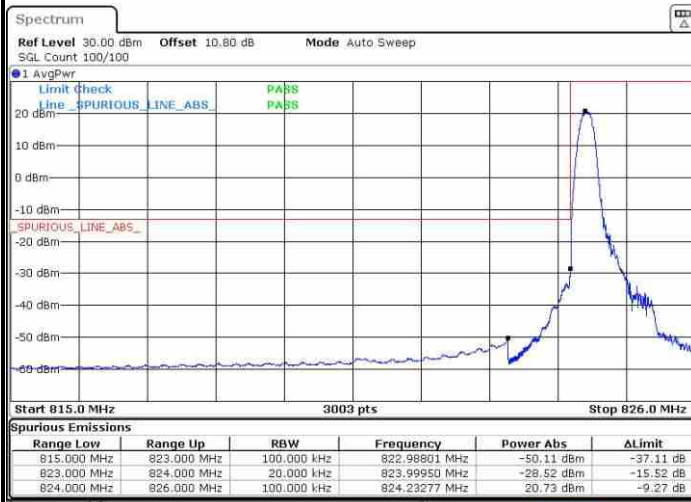


## **Conducted Band Edge**



## LTE Band 5 / 1.4MHz / QPSK

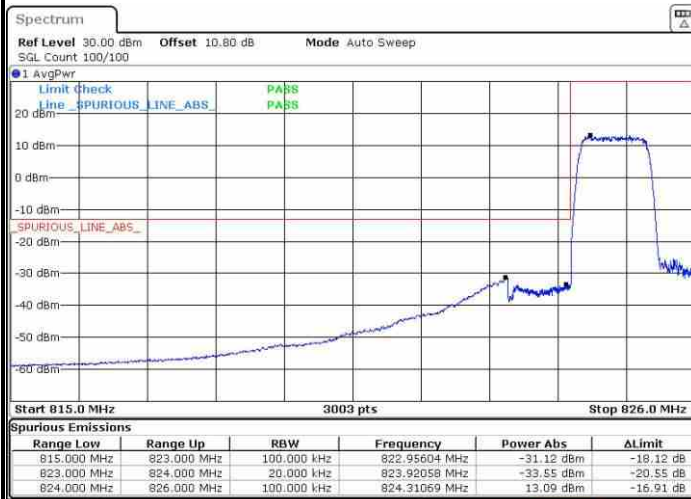
## Lowest Band Edge / 1RB



## Highest Band Edge / 1RB



## Lowest Band Edge / Full RB



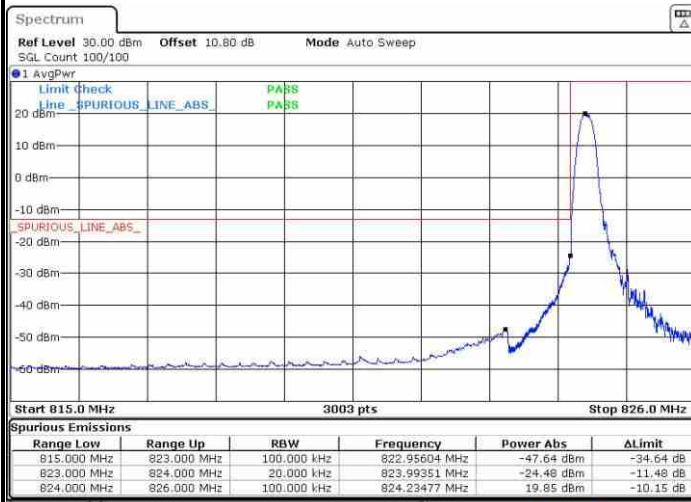
## Highest Band Edge / Full RB





## LTE Band 5 / 1.4MHz / 16QAM

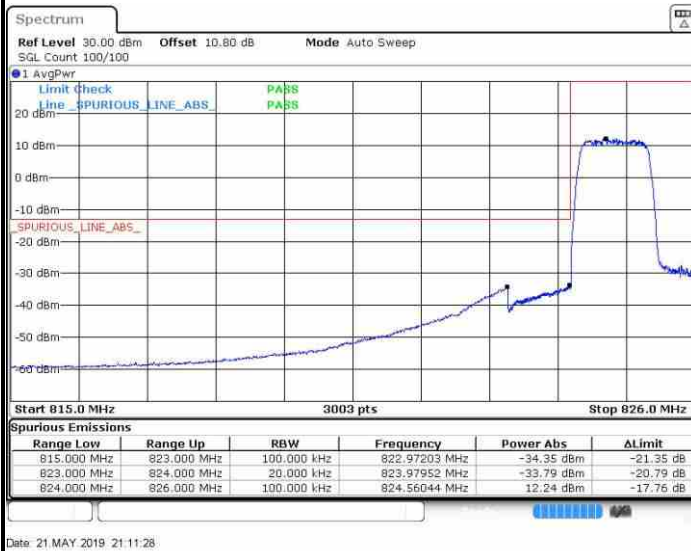
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB





## LTE Band 5 / 1.4MHz / 64QAM

## Lowest Band Edge / 1 RB



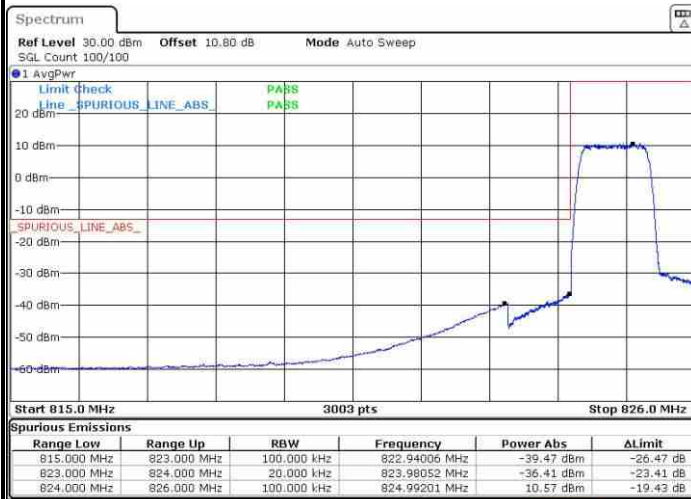
Date: 21 MAY 2019 20:55:44

## Highest Band Edge / 1 RB



Date: 21 MAY 2019 21:03:07

## Lowest Band Edge / Full RB



Date: 21 MAY 2019 20:57:25

## Highest Band Edge / Full RB

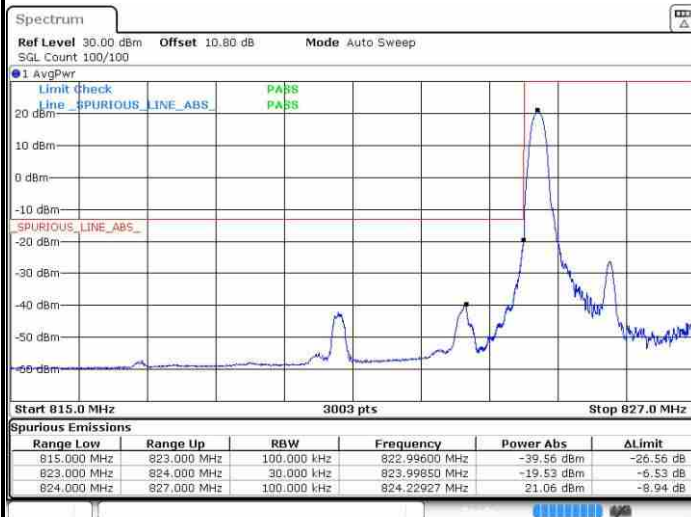


Date: 21 MAY 2019 21:01:26



## LTE Band 5 / 3MHz / QPSK

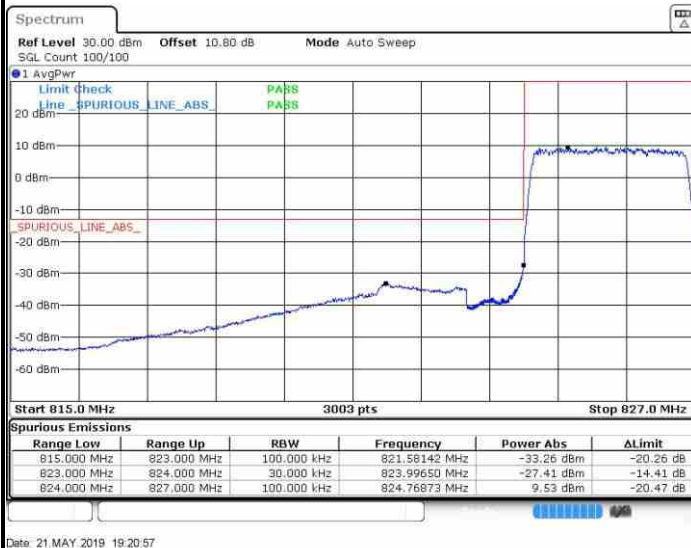
## Lowest Band Edge / 1RB



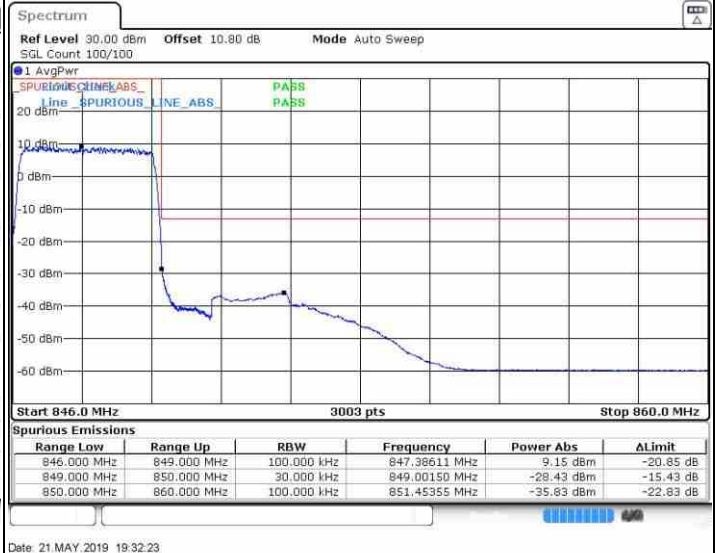
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



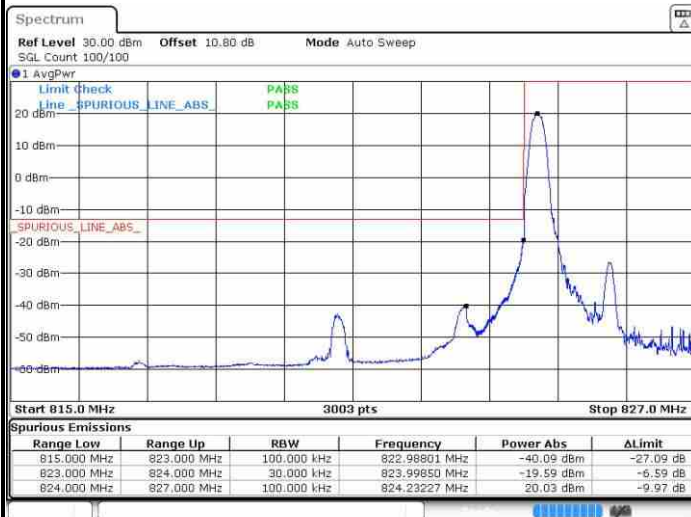
## Highest Band Edge / Full RB



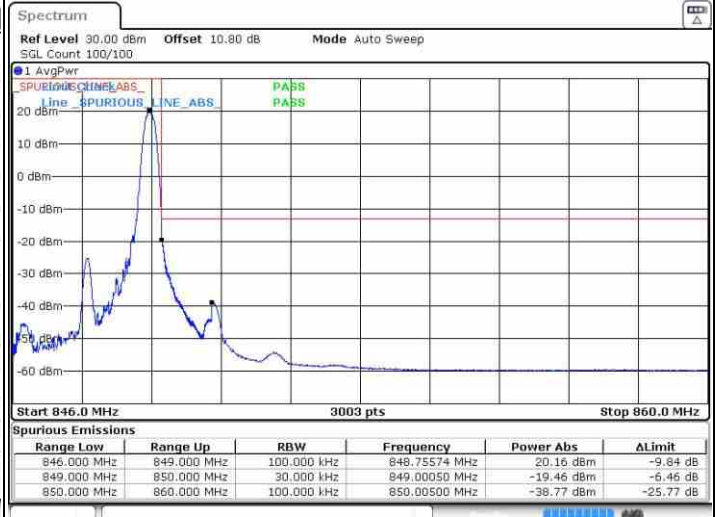


## LTE Band 5 / 3MHz / 16QAM

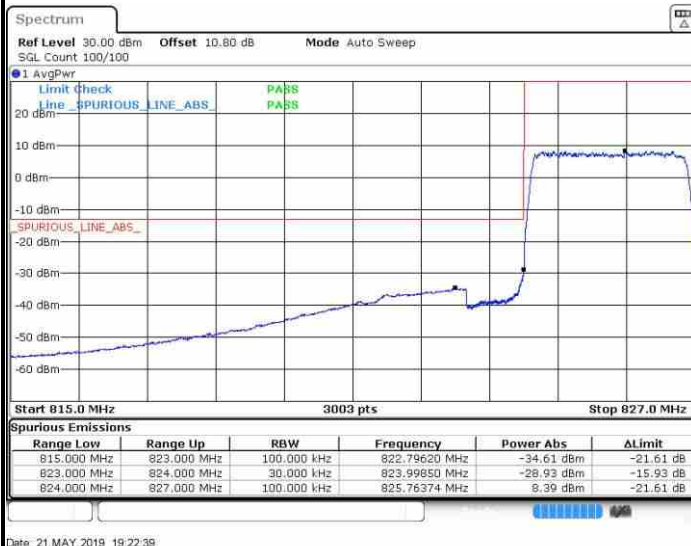
## Lowest Band Edge / 1 RB



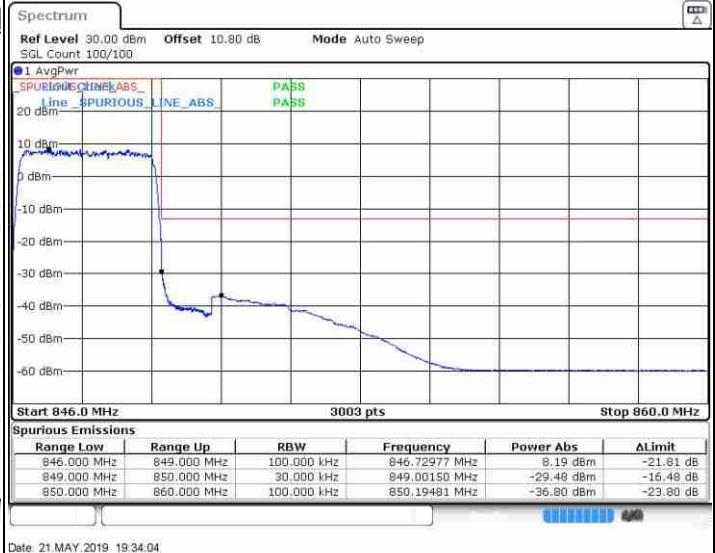
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



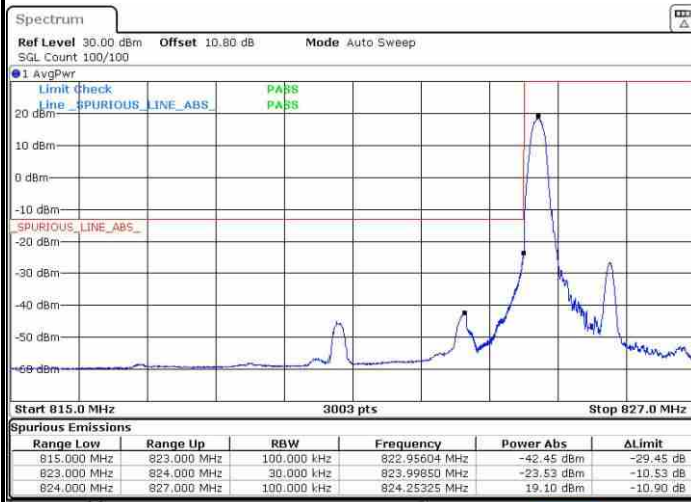
## Highest Band Edge / Full RB



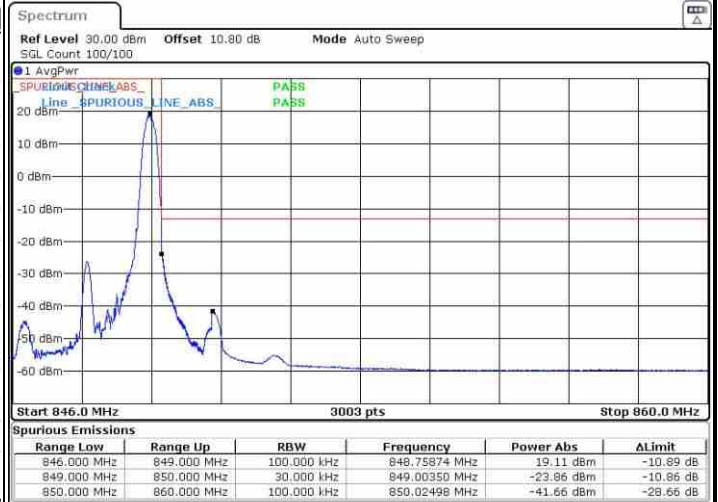


## LTE Band 5 / 3MHz / 64QAM

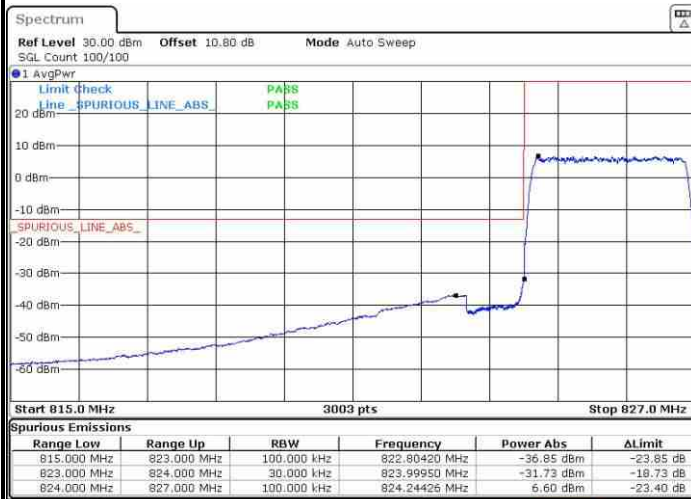
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



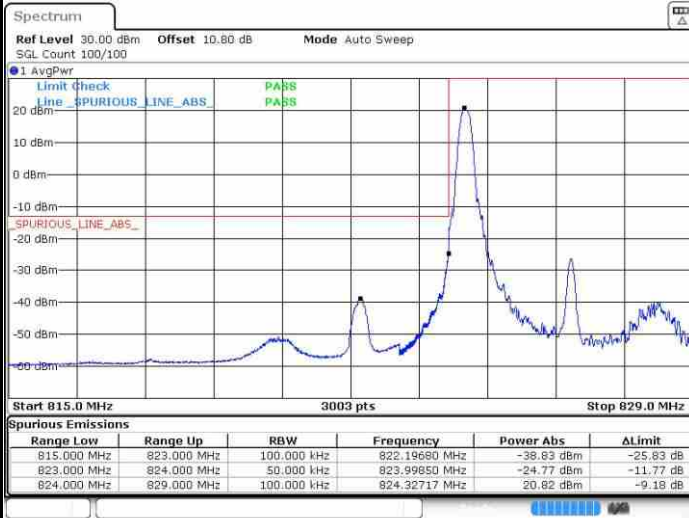
## Highest Band Edge / Full RB





## LTE Band 5 / 5MHz / QPSK

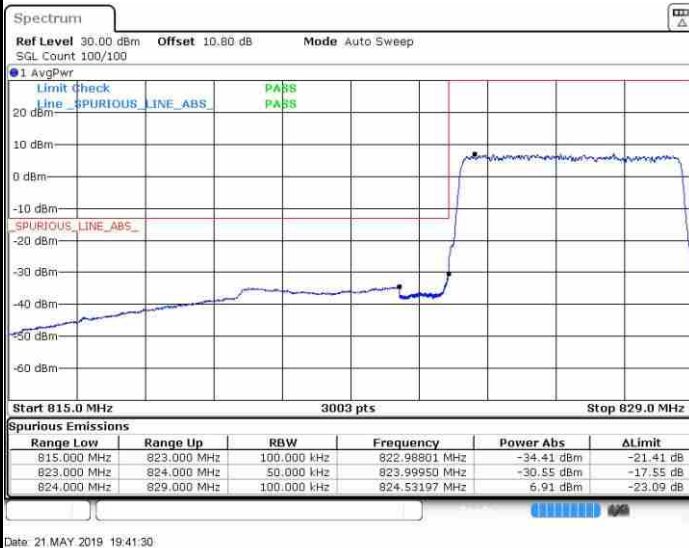
## Lowest Band Edge / 1 RB



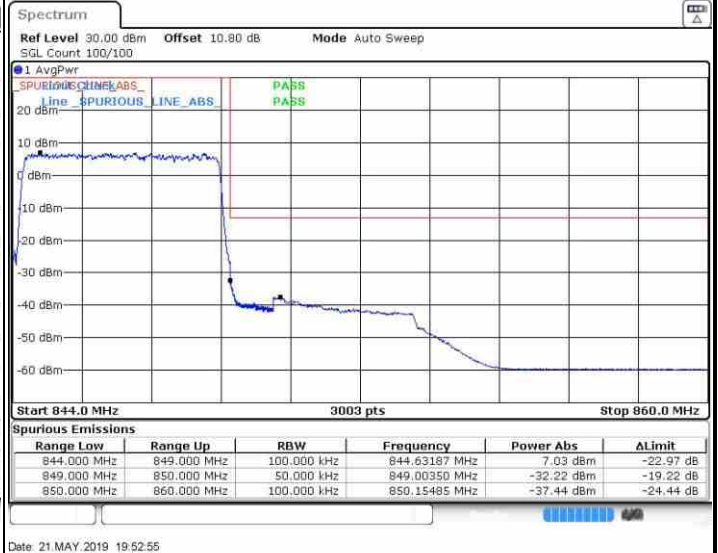
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



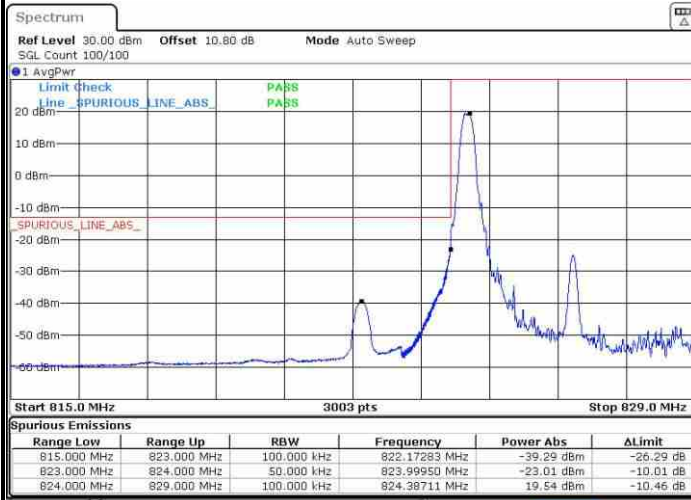
## Highest Band Edge / Full RB





## LTE Band 5 / 5MHz / 16QAM

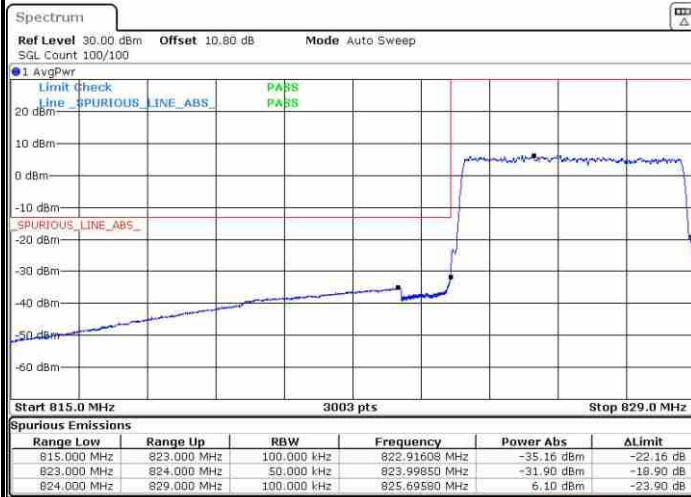
## Lowest Band Edge / 1RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



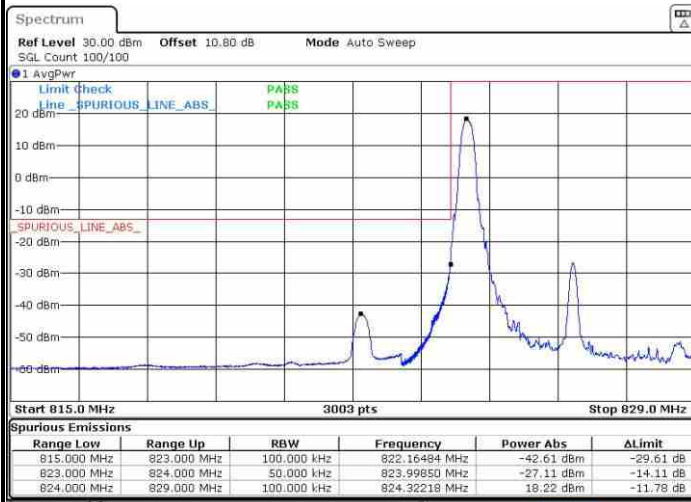
## Highest Band Edge / Full RB





## LTE Band 5 / 5MHz / 64QAM

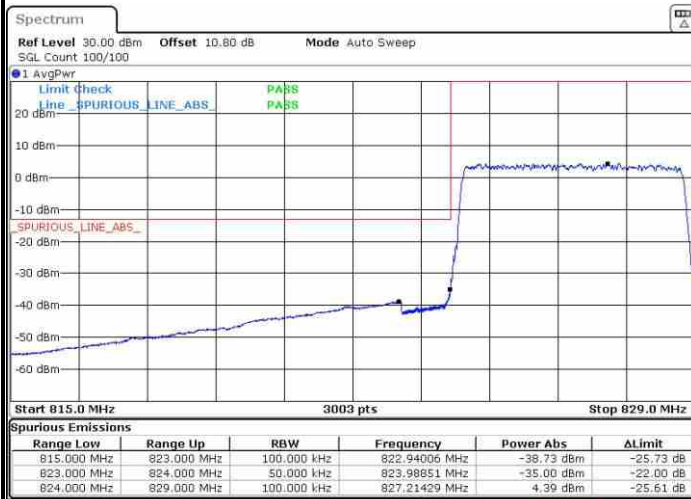
## Lowest Band Edge / 1RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



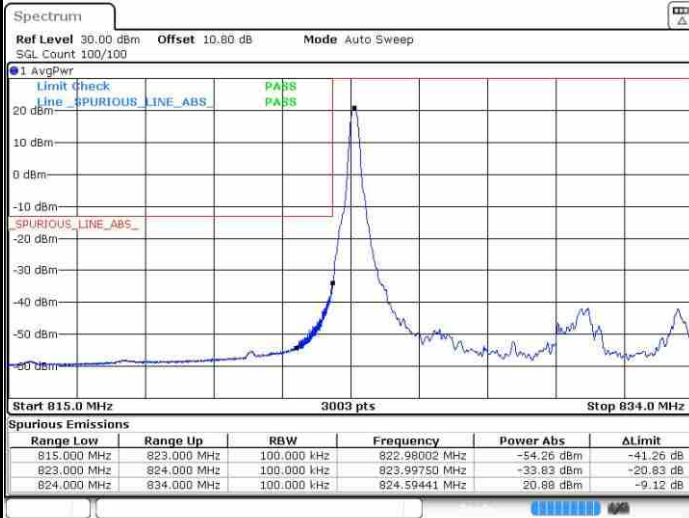
## Highest Band Edge / Full RB





## LTE Band 5 / 10MHz / QPSK

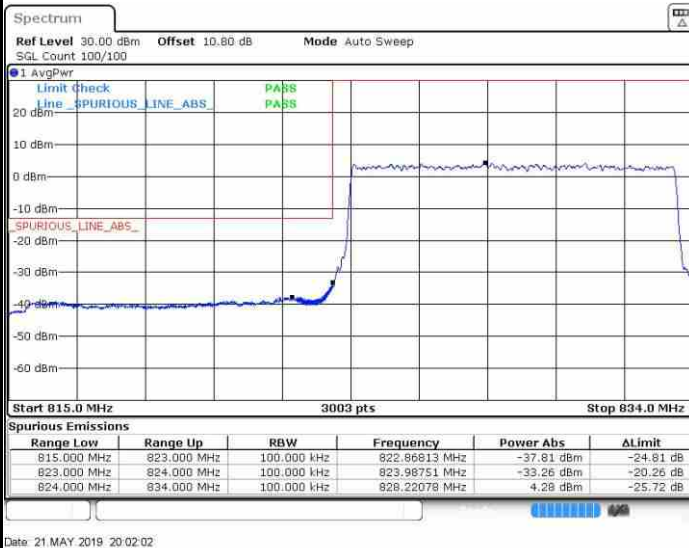
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB

