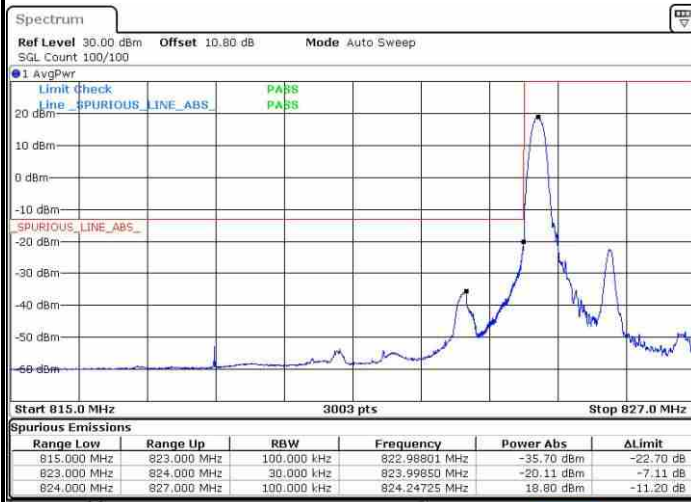




## LTE Band 5 / 3MHz / 16QAM

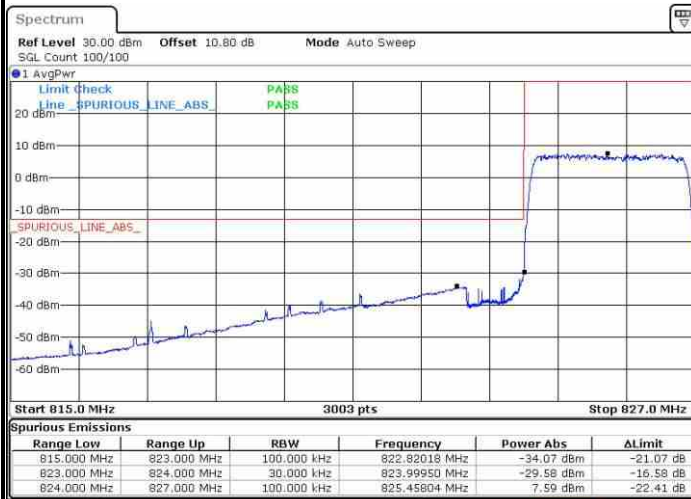
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



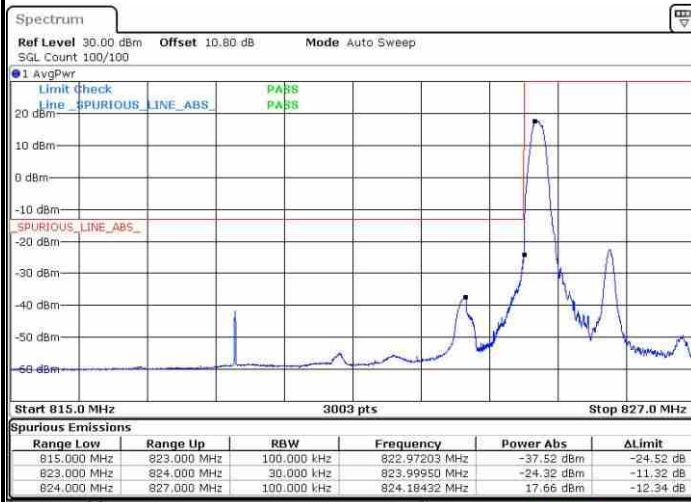
## Highest Band Edge / Full RB





## LTE Band 5 / 3MHz / 64QAM

## Lowest Band Edge / 1 RB



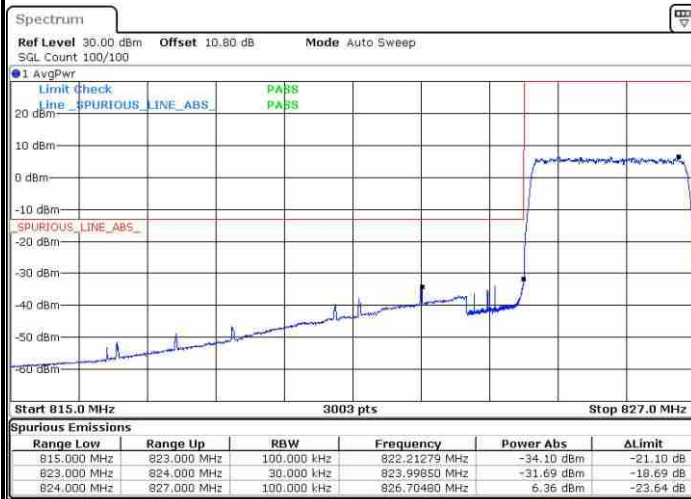
Date: 24 FEB 2019 19:10:48

## Highest Band Edge / 1 RB



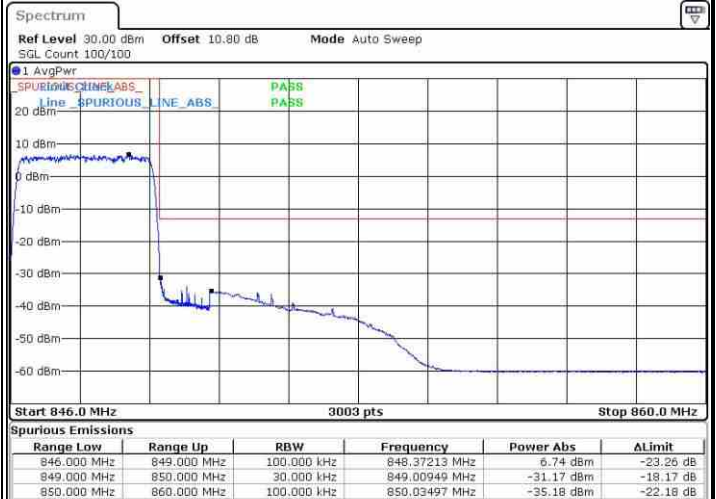
Date: 24 FEB 2019 19:16:35

## Lowest Band Edge / Full RB



Date: 24 FEB 2019 19:12:29

## Highest Band Edge / Full RB

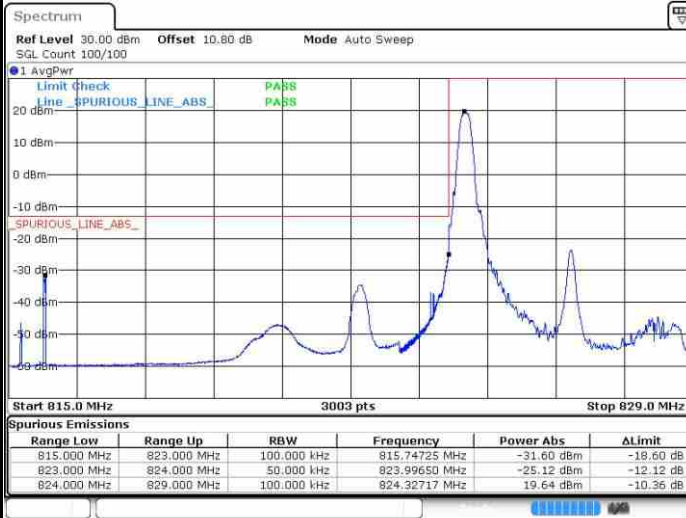


Date: 24 FEB 2019 19:18:15

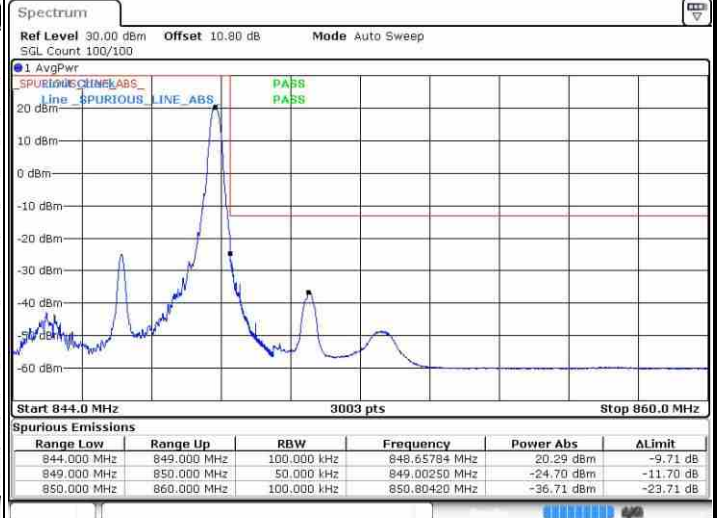


## LTE Band 5 / 5MHz / QPSK

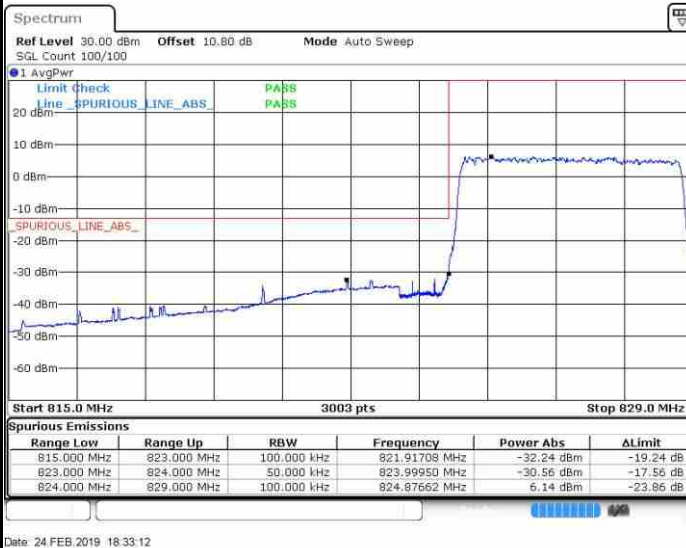
## Lowest Band Edge / 1 RB



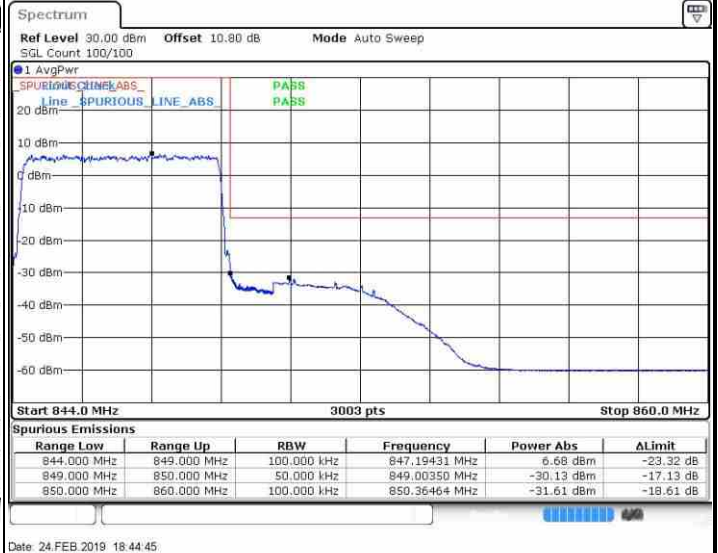
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



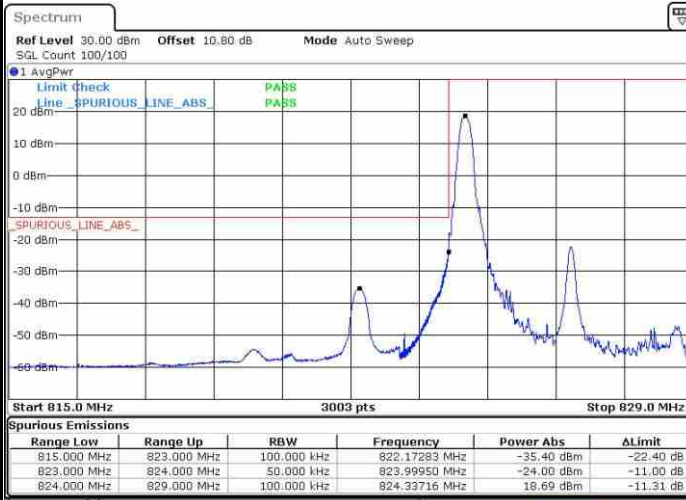
## Highest Band Edge / Full RB





## LTE Band 5 / 5MHz / 16QAM

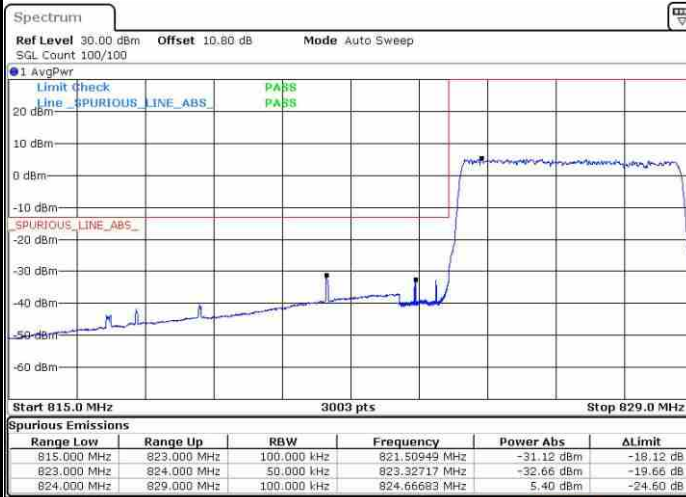
## Lowest Band Edge / 1RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



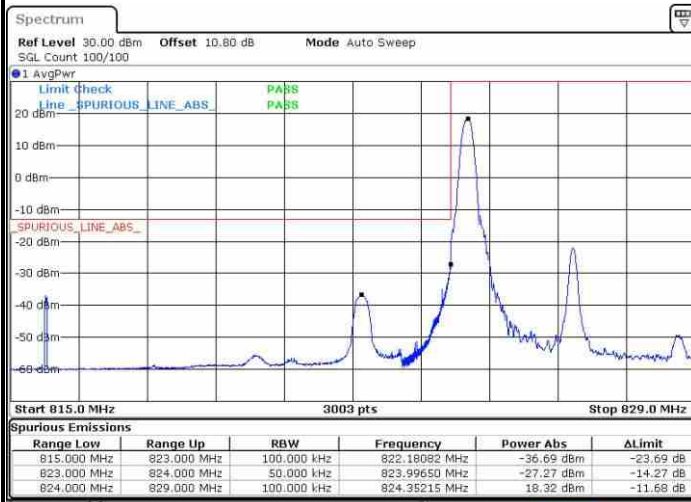
## Highest Band Edge / Full RB





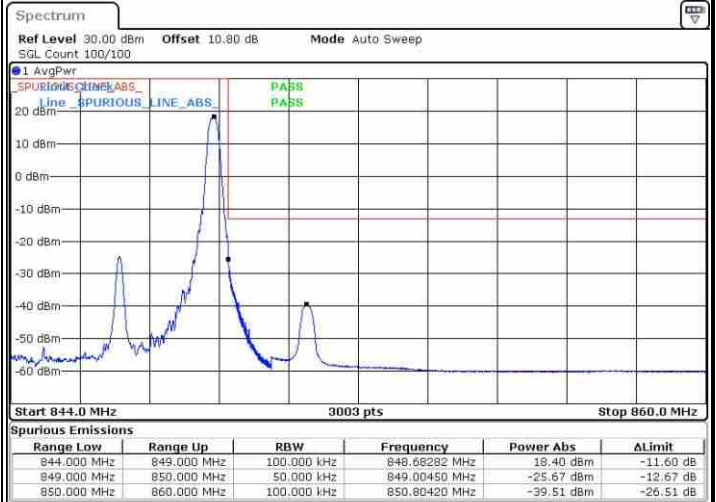
## LTE Band 5 / 5MHz / 64QAM

## Lowest Band Edge / 1RB



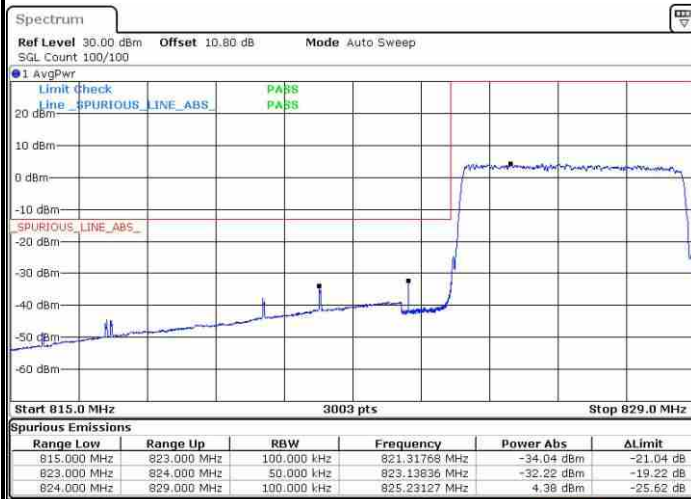
Date: 24 FEB 2019 19:21:09

## Highest Band Edge / 1 RB



Date: 24 FEB 2019 19:26:55

## Lowest Band Edge / Full RB



Date: 24 FEB 2019 19:22:49

## Highest Band Edge / Full RB

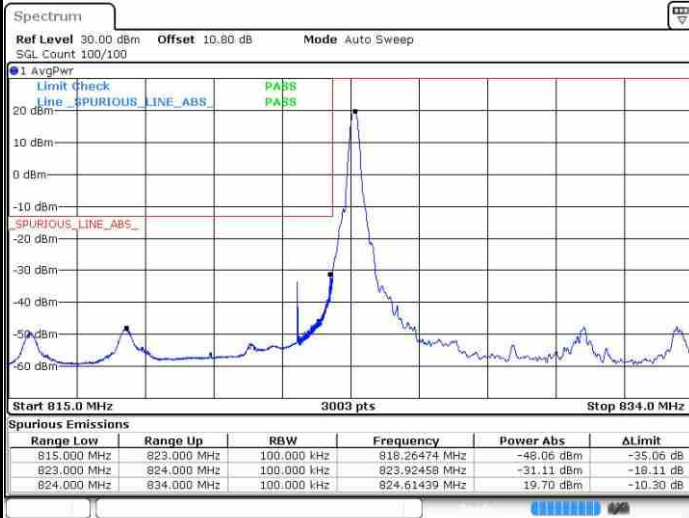


Date: 24 FEB 2019 19:28:35

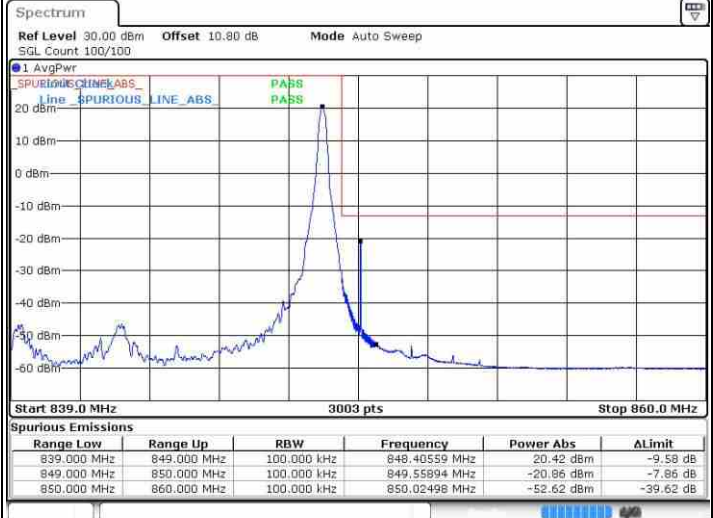


## LTE Band 5 / 10MHz / QPSK

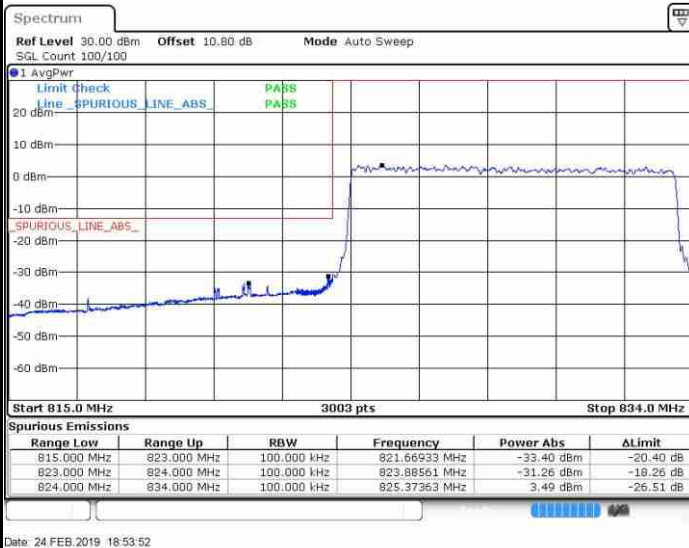
## Lowest Band Edge / 1 RB



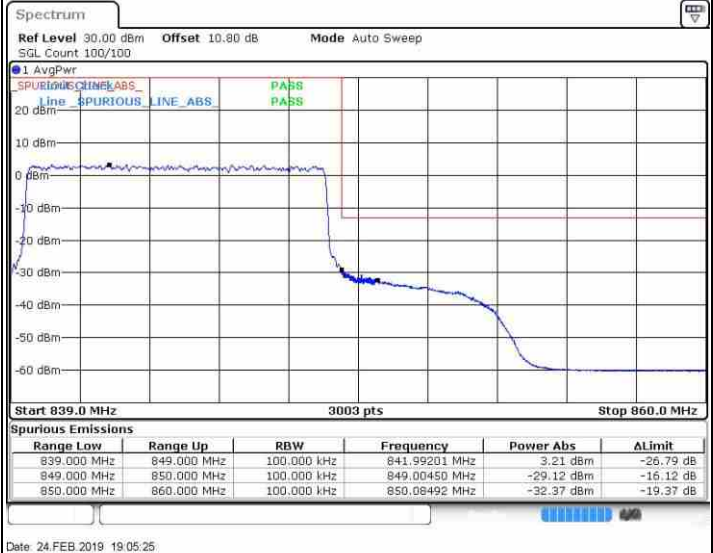
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



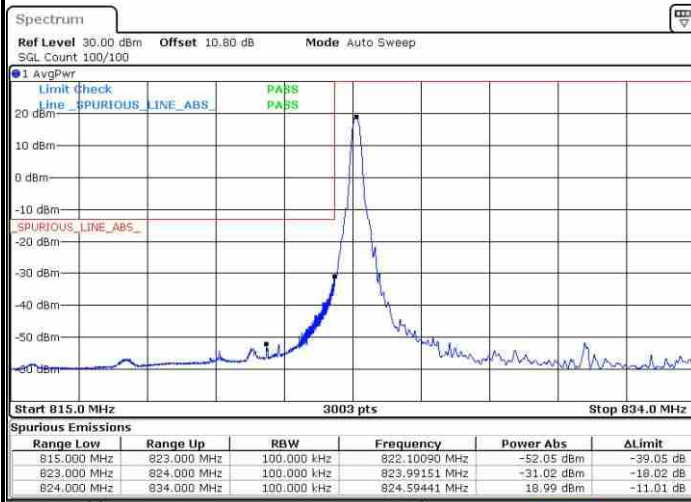
## Highest Band Edge / Full RB



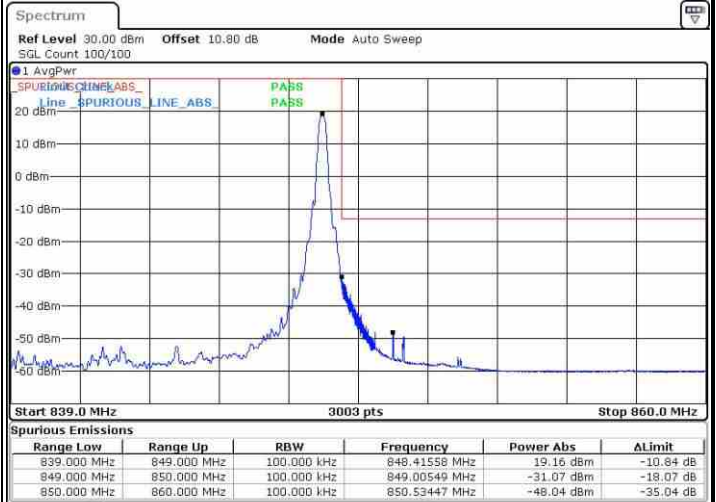


## LTE Band 5 / 10MHz / 16QAM

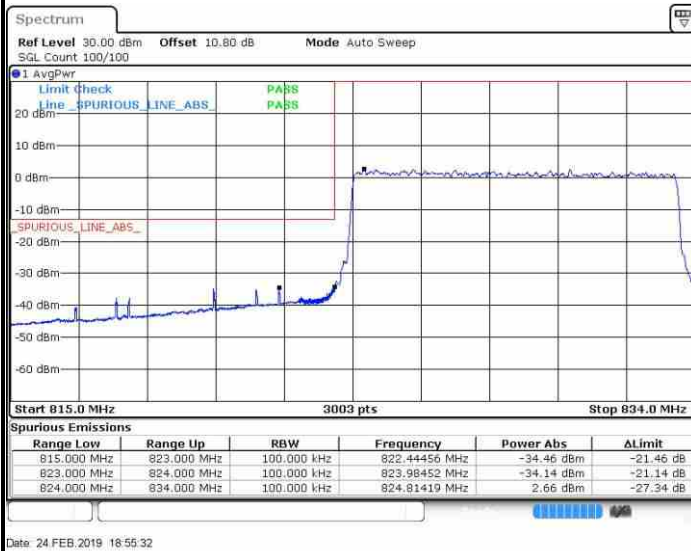
## Lowest Band Edge / 1 RB



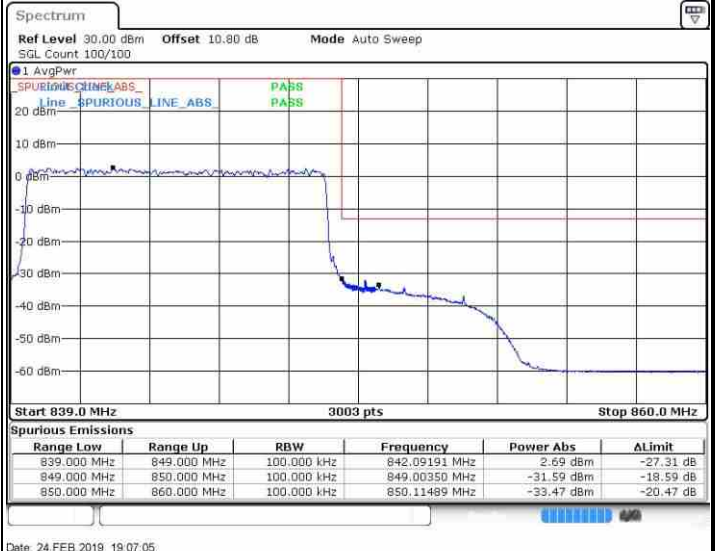
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



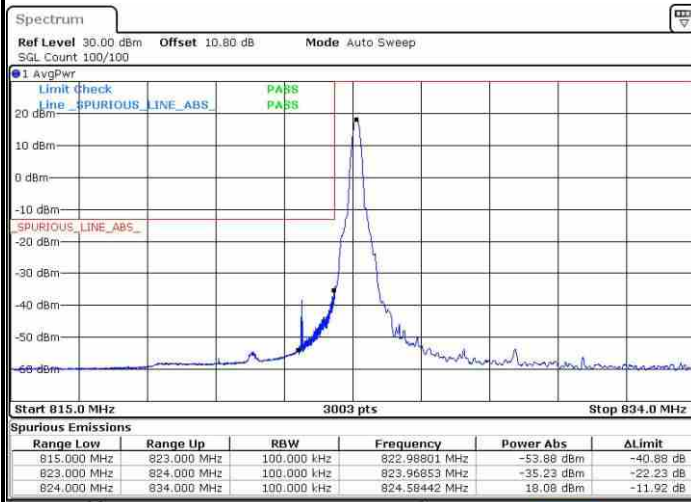
## Highest Band Edge / Full RB



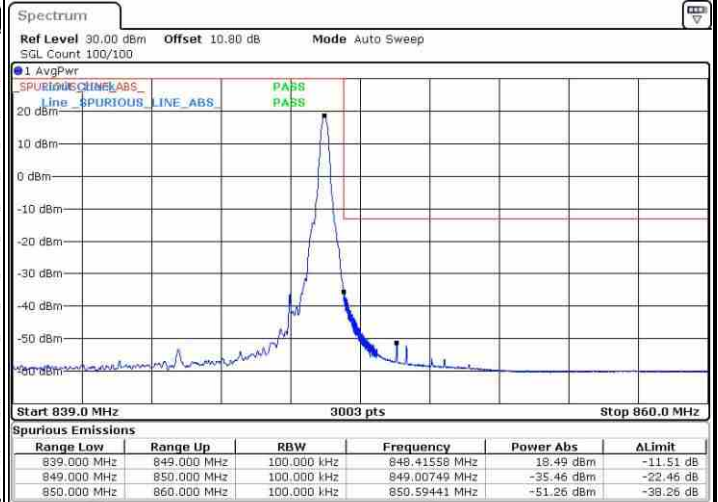


## LTE Band 5 / 10MHz / 64QAM

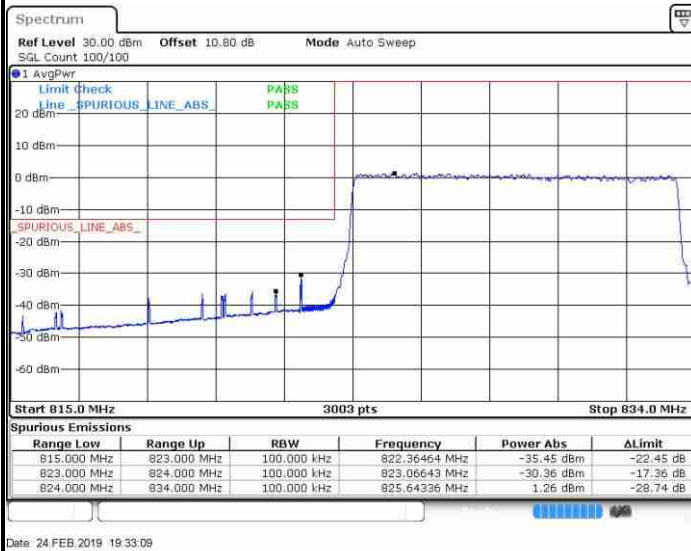
## Lowest Band Edge / 1 RB



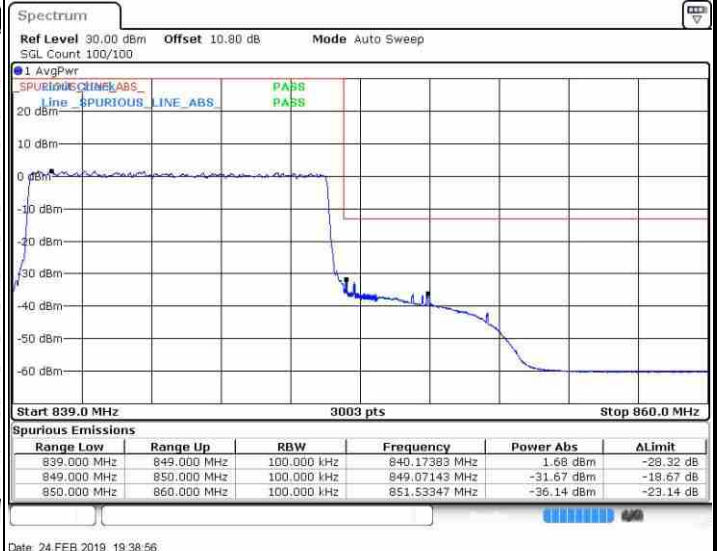
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB

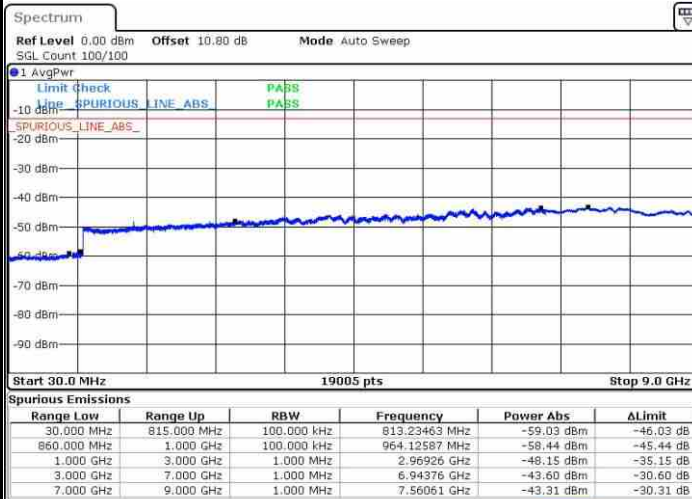




## Conducted Spurious Emission

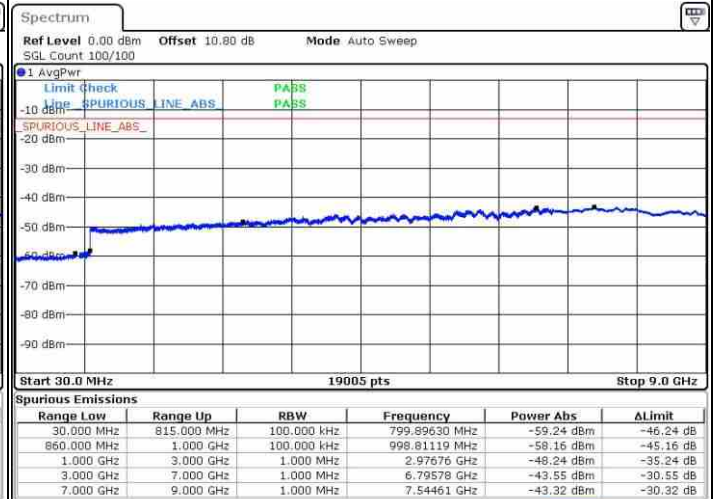
### LTE Band 5 / 1.4MHz

#### Lowest Channel / QPSK



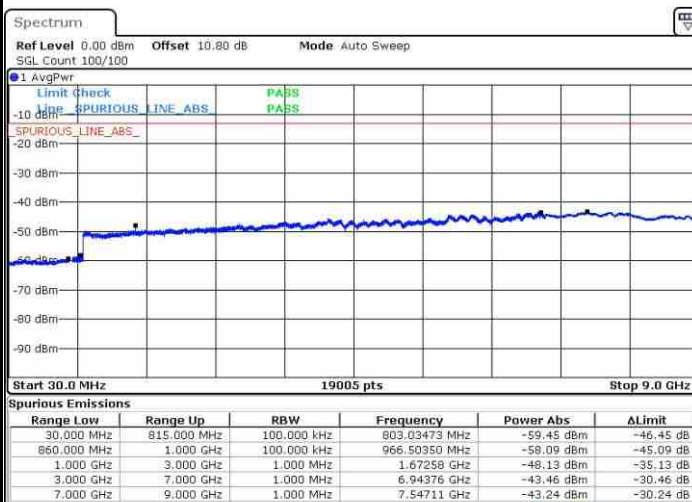
Date: 24.FEB.2019 : 20:03:44

#### Lowest Channel / 16QAM



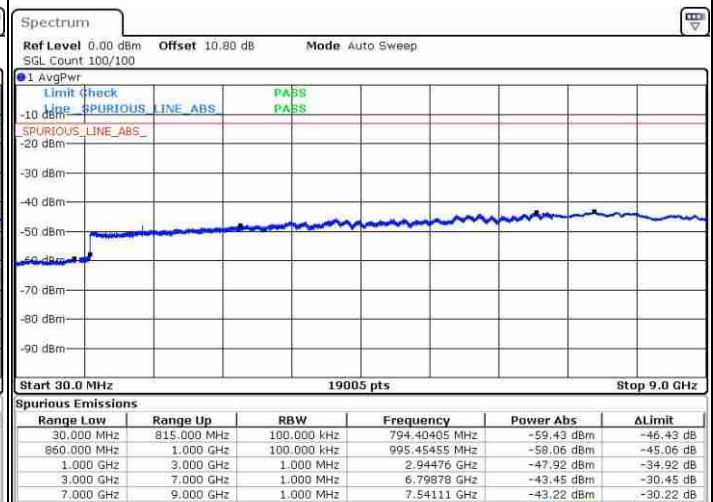
Date: 24.FEB.2019 : 20:04:34

#### Middle Channel / QPSK



Date: 24.FEB.2019 : 20:06:10

#### Middle Channel / 16QAM

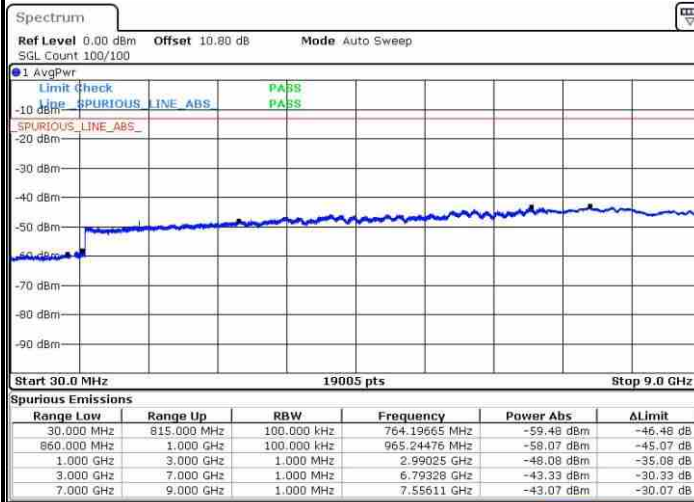


Date: 24.FEB.2019 : 20:07:00



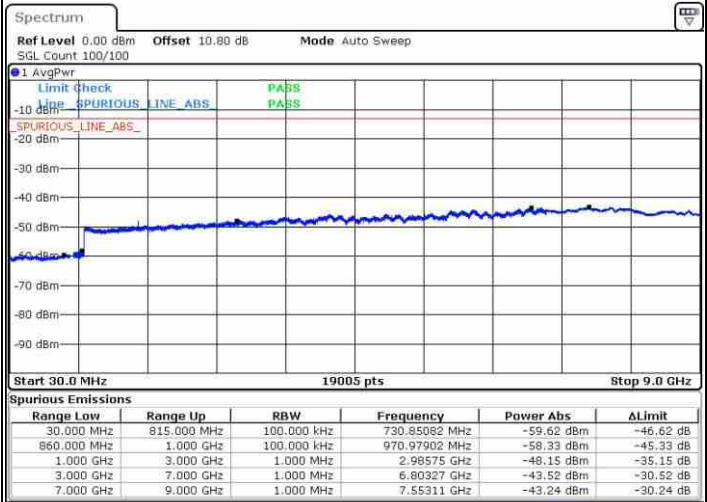
## LTE Band 5 / 1.4MHz

## Highest Channel / QPSK



Date: 24 FEB 2019 20:15:17

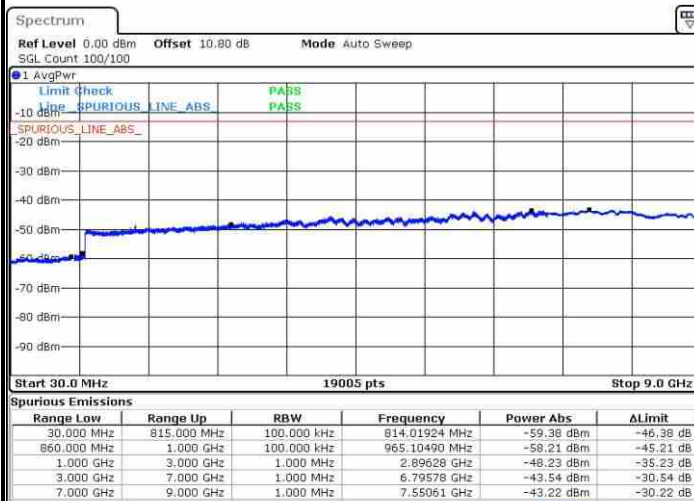
## Highest Channel / 16QAM



Date: 24 FEB 2019 20:16:07

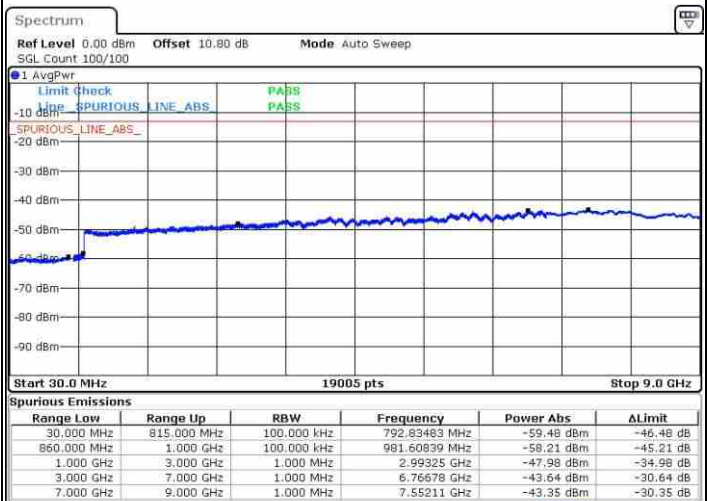
## LTE Band 5 / 3MHz

## Lowest Channel / QPSK



Date: 24 FEB 2019 18:15:03

## Lowest Channel / 16QAM

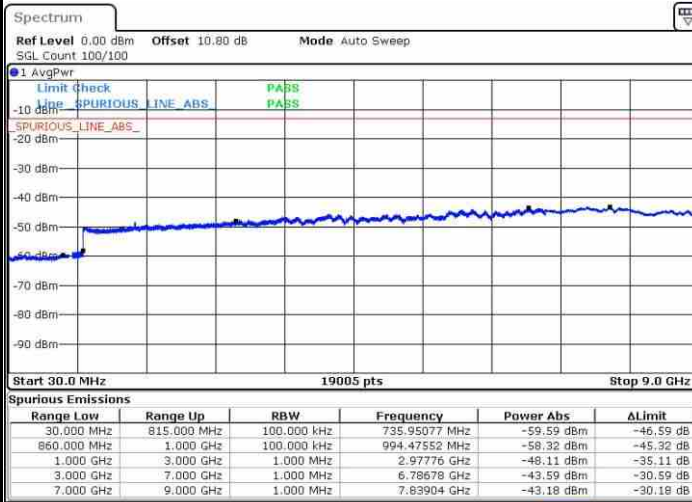


Date: 24 FEB 2019 18:15:53



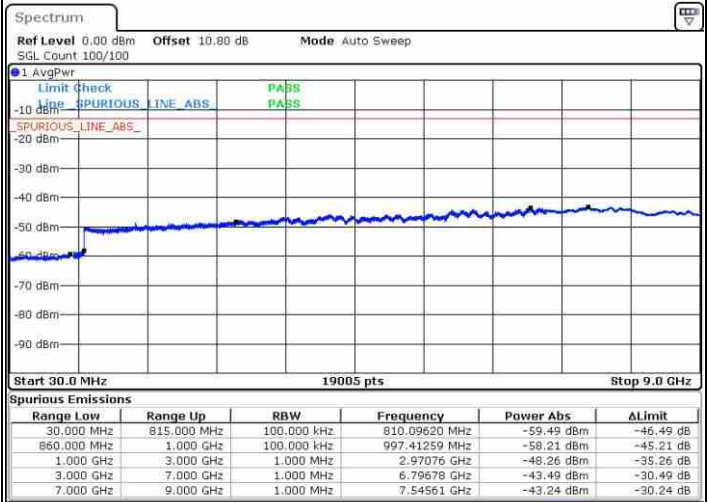
## LTE Band 5 / 3MHz

## Middle Channel / QPSK



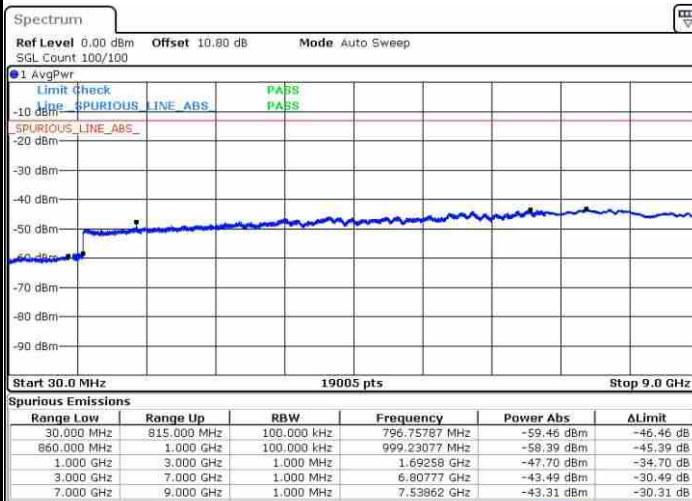
Date: 24 FEB 2019 18:17:29

## Middle Channel / 16QAM



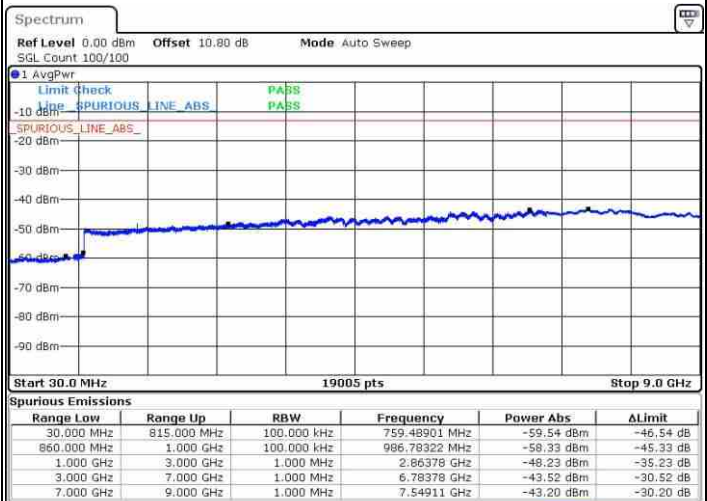
Date: 24 FEB 2019 18:18:20

## Highest Channel / QPSK



Date: 24 FEB 2019 18:26:36

## Highest Channel / 16QAM

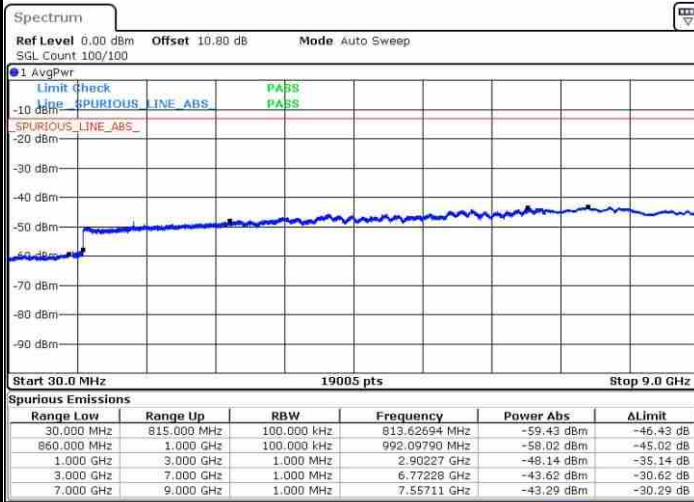


Date: 24 FEB 2019 18:27:26



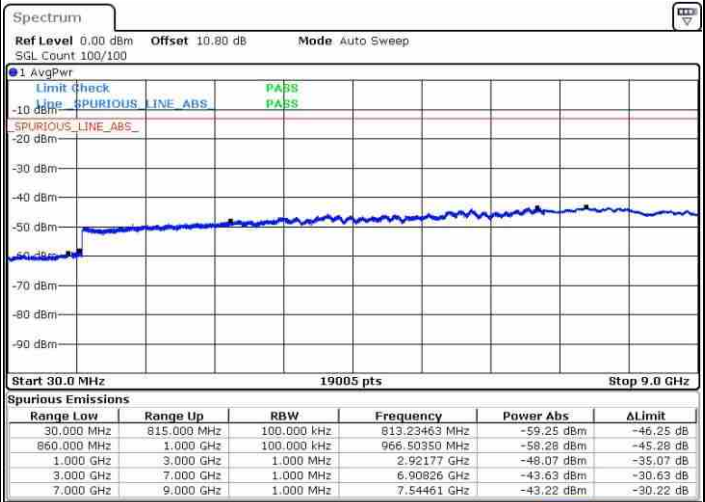
## LTE Band 5 / 5MHz

## Lowest Channel / QPSK



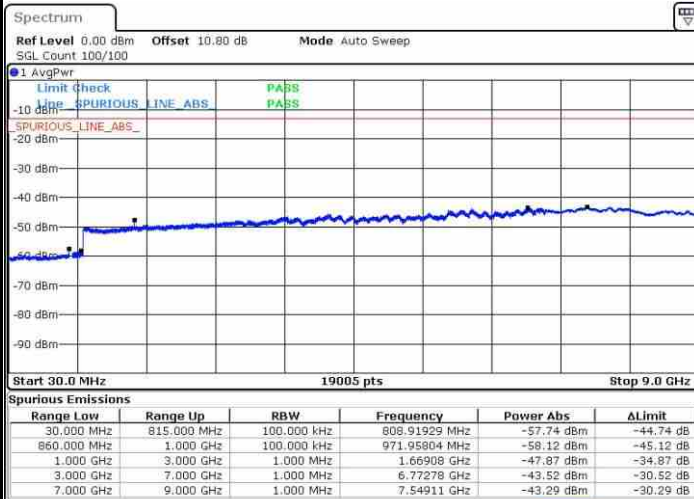
Date: 24 FEB 2019 18:35:43

## Lowest Channel / 16QAM



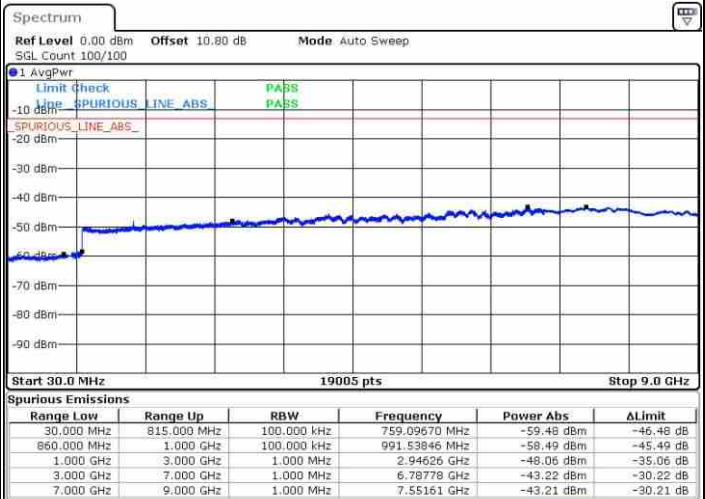
Date: 24 FEB 2019 18:36:33

## Middle Channel / QPSK



Date: 24 FEB 2019 18:38:09

## Middle Channel / 16QAM

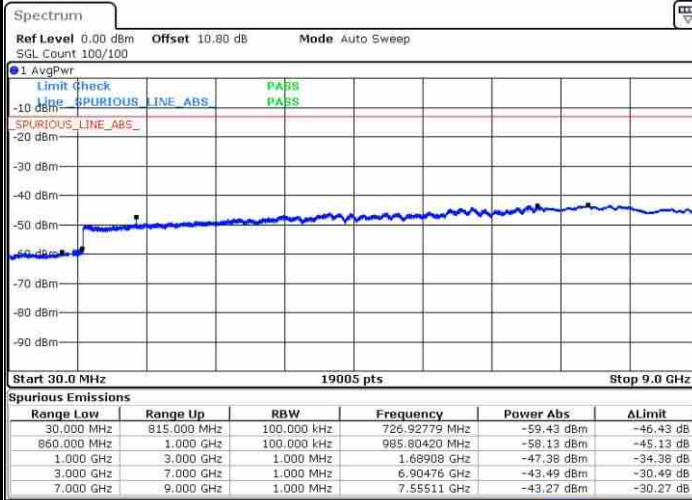


Date: 24 FEB 2019 18:38:59



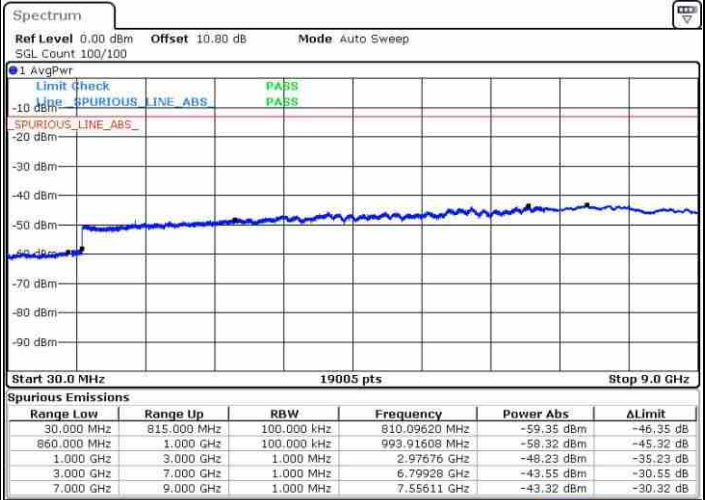
## LTE Band 5 / 5MHz

## Highest Channel / QPSK



Date: 24 FEB 2019 18:47:16

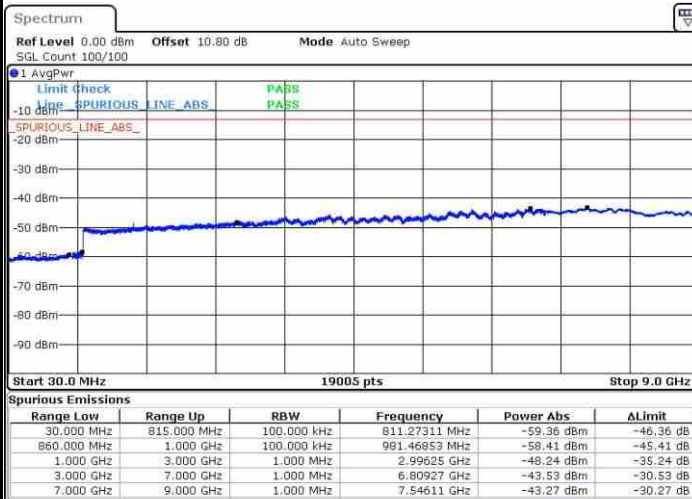
## Highest Channel / 16QAM



Date: 24 FEB 2019 18:48:06

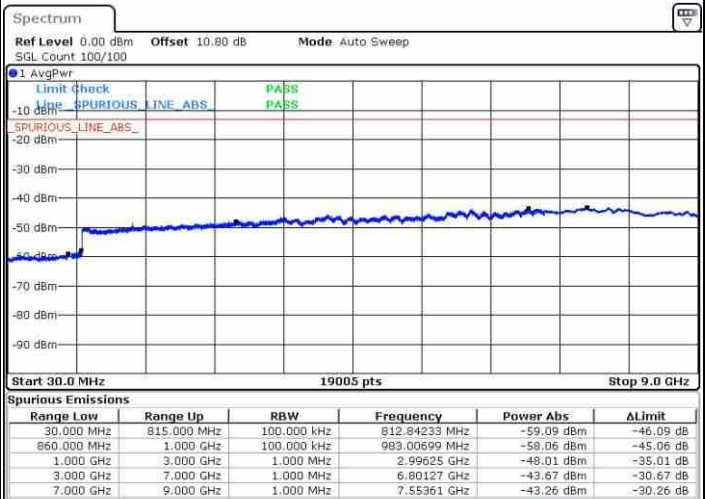
## LTE Band 5 / 10MHz

## Lowest Channel / QPSK



Date: 24 FEB 2019 18:56:23

## Lowest Channel / 16QAM

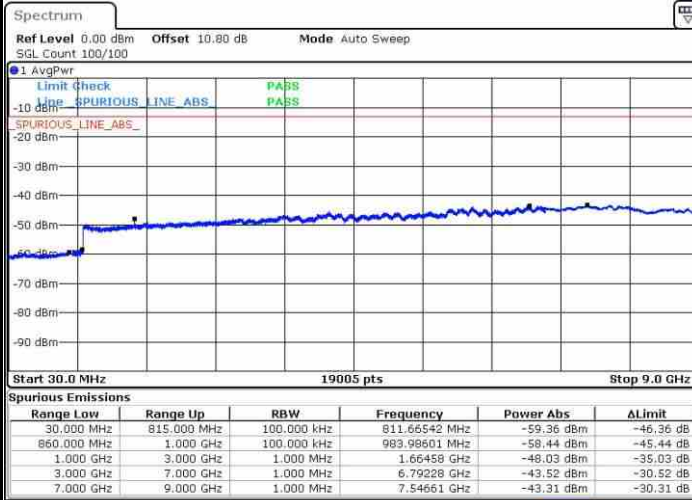


Date: 24 FEB 2019 18:57:13



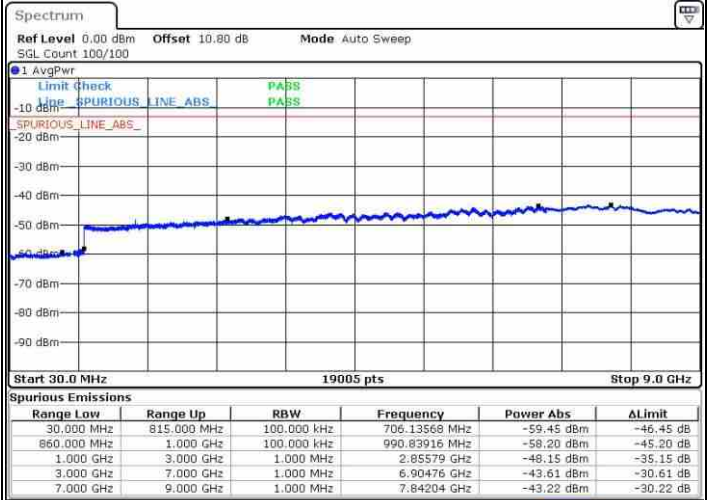
## LTE Band 5 / 10MHz

## Middle Channel / QPSK



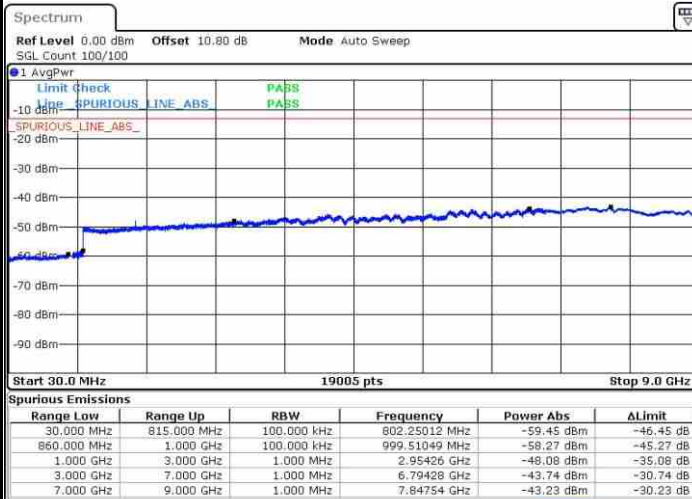
Date: 24 FEB 2019 18:58:49

## Middle Channel / 16QAM



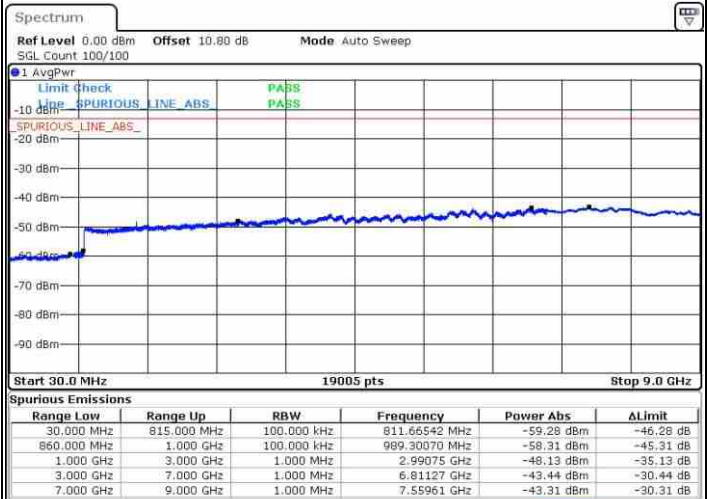
Date: 24 FEB 2019 18:59:39

## Highest Channel / QPSK



Date: 24 FEB 2019 19:07:56

## Highest Channel / 16QAM

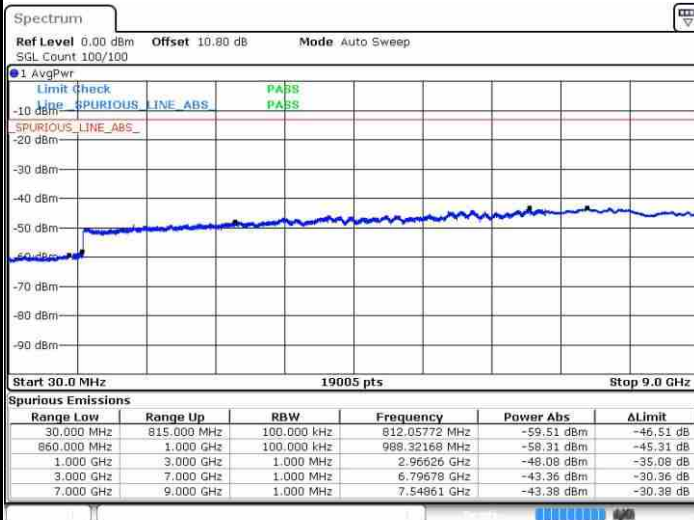


Date: 24 FEB 2019 19:08:46



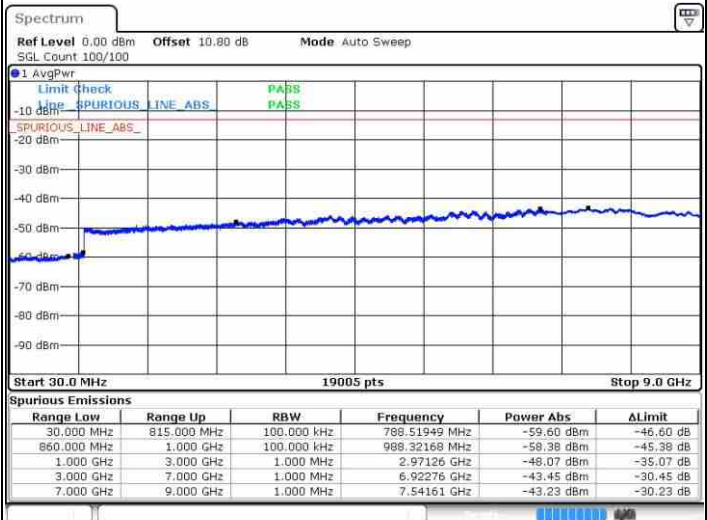
## LTE Band 5 / 1.4MHz

## Lowest Channel / 64QAM



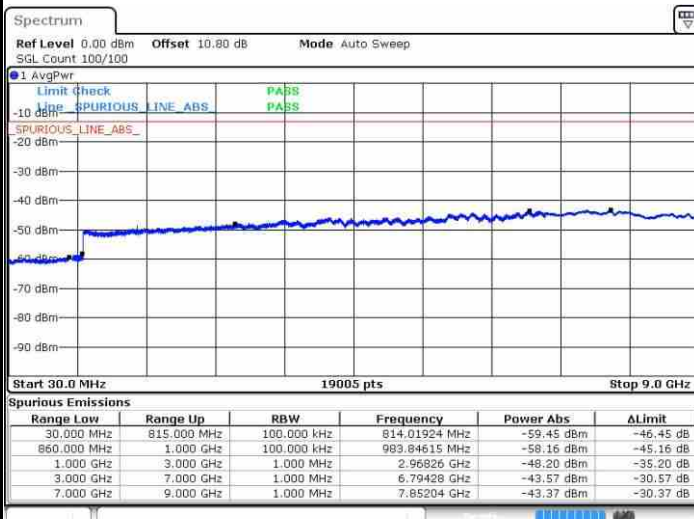
Date: 24 FEB 2019 19:49:41

## Middle Channel / 64QAM



Date: 24 FEB 2019 19:50:54

## Highest Channel / 64QAM

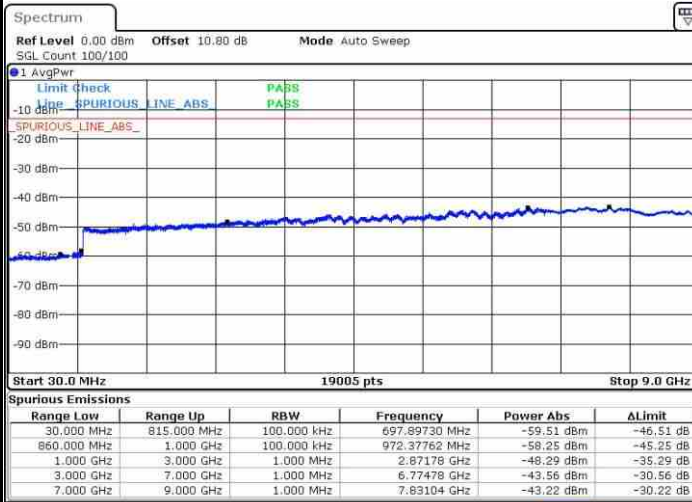


Date: 24 FEB 2019 19:55:28



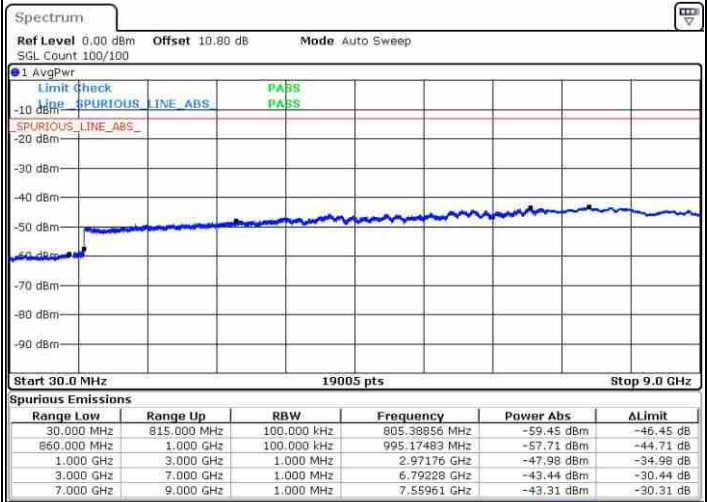
## LTE Band 5 / 3MHz

## Lowest Channel / 64QAM



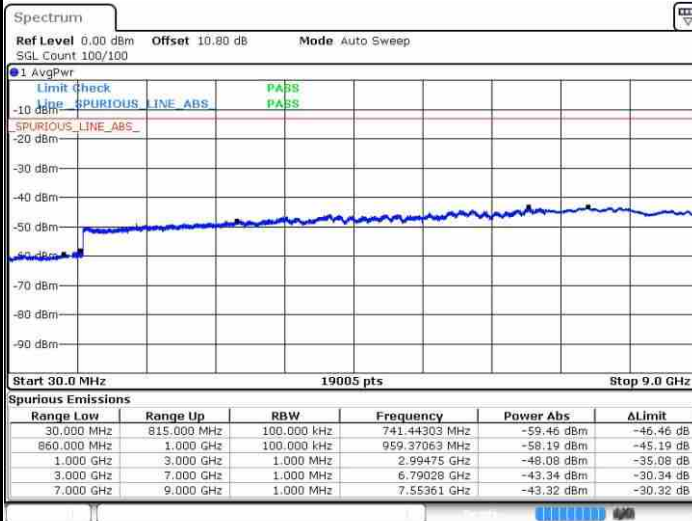
Date: 24 FEB 2019 19:13:19

## Middle Channel / 64QAM



Date: 24 FEB 2019 19:14:33

## Highest Channel / 64QAM

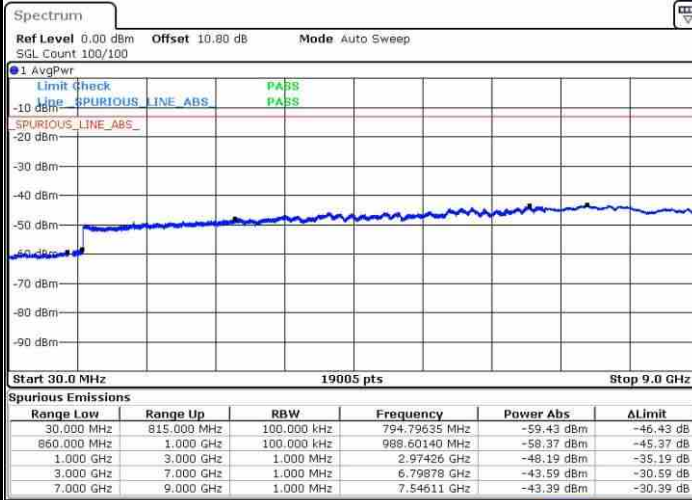


Date: 24 FEB 2019 19:19:05



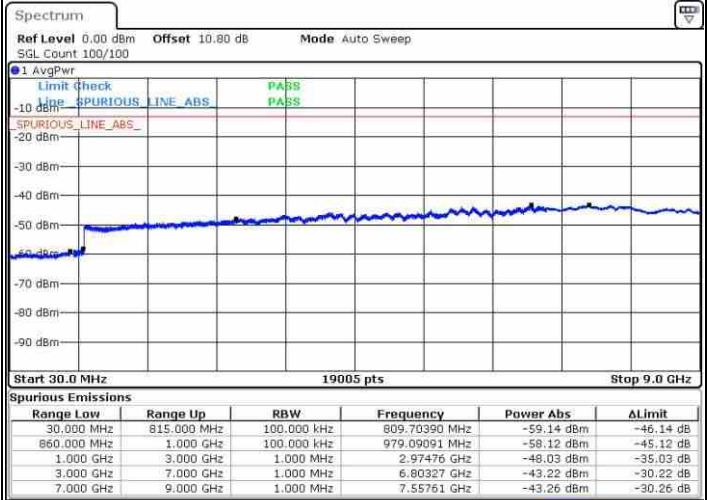
## LTE Band 5 / 5MHz

## Lowest Channel / 64QAM



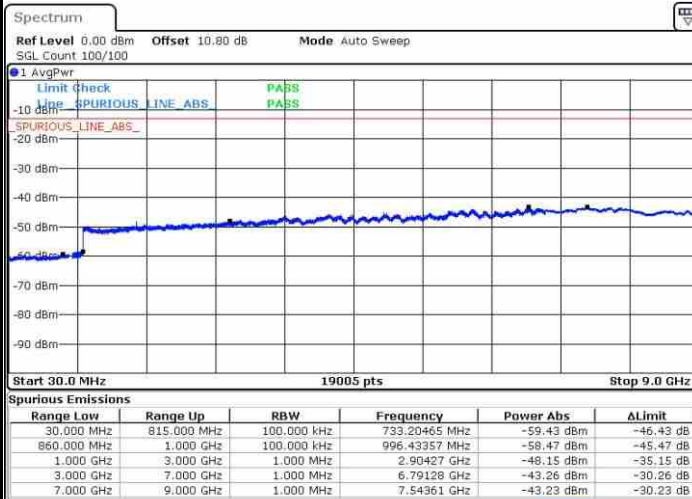
Date: 24 FEB 2019 19:23:40

## Middle Channel / 64QAM



Date: 24 FEB 2019 19:24:53

## Highest Channel / 64QAM

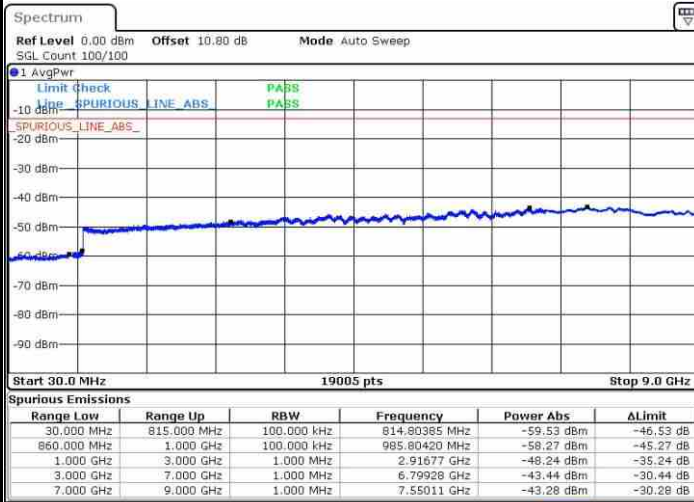


Date: 24 FEB 2019 19:29:25



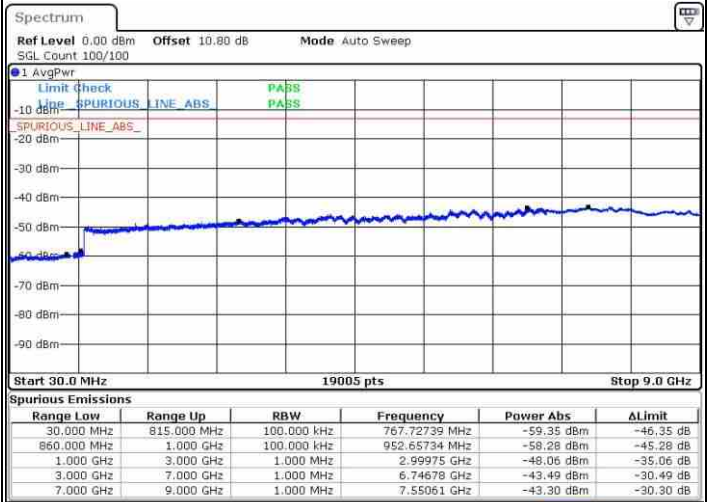
## LTE Band 5 / 10MHz

## Lowest Channel / 64QAM



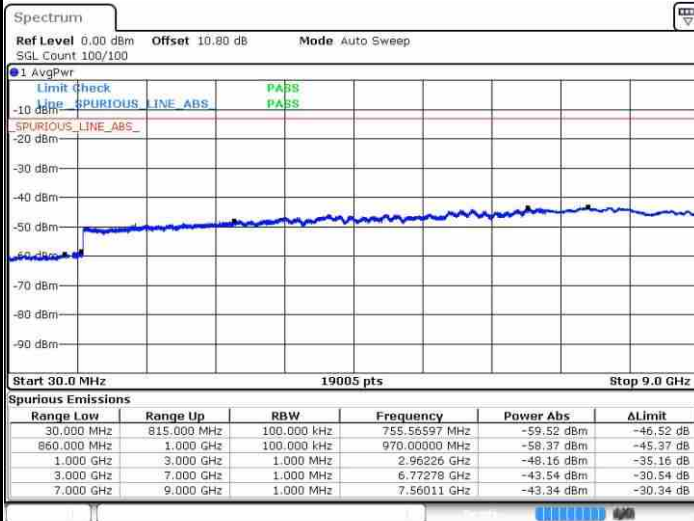
Date: 24 FEB 2019 19:34:00

## Middle Channel / 64QAM



Date: 24 FEB 2019 19:35:13

## Highest Channel / 64QAM



Date: 24 FEB 2019 19:39:46

## Frequency Stability

| Test Conditions  |                   | LTE Band 5 (QPSK) / Middle Channel | Limit  |
|------------------|-------------------|------------------------------------|--------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                           | 2.5ppm |
|                  |                   | Deviation (ppm)                    | Result |
| 50               | Normal Voltage    | 0.0085                             | PASS   |
| 40               | Normal Voltage    | 0.0099                             |        |
| 30               | Normal Voltage    | 0.0088                             |        |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |        |
| 10               | Normal Voltage    | 0.0004                             |        |
| 0                | Normal Voltage    | 0.0008                             |        |
| -10              | Normal Voltage    | 0.0004                             |        |
| -20              | Normal Voltage    | 0.0097                             |        |
| -30              | Normal Voltage    | 0.0090                             |        |
| 20               | Maximum Voltage   | 0.0001                             |        |
| 20               | Normal Voltage    | 0.0000                             |        |
| 20               | Battery End Point | 0.0008                             |        |

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.2 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

## LTE Band 5\_CA

### 26dB Bandwidth

| Mode       | LTE Band 5 : 26dB BW(MHz) |             |            |
|------------|---------------------------|-------------|------------|
| QPSK       |                           |             |            |
| BW         | 3MHz+5MHz                 | 5MHz+3MHz   | 5MHz+10MHz |
| Lowest CH  | 8.14                      | 8.18        | 14.54      |
| Middle CH  | 8.09                      | 8.2         | 14.51      |
| Highest CH | 8.12                      | 8.17        | 14.54      |
| BW         | 10MHz+5MHz                | 10MHz+10MHz |            |
| Lowest CH  | 14.69                     | 19.62       |            |
| Middle CH  | 14.69                     | 19.5        |            |
| Highest CH | 14.72                     | 19.7        |            |

| Mode       | LTE Band 5 : 26dB BW(MHz) |             |            |
|------------|---------------------------|-------------|------------|
| 16QAM      |                           |             |            |
| BW         | 3MHz+5MHz                 | 5MHz+3MHz   | 5MHz+10MHz |
| Lowest CH  | 8.09                      | 8.15        | 14.57      |
| Middle CH  | 8.15                      | 8.18        | 14.54      |
| Highest CH | 8.14                      | 8.23        | 14.51      |
| BW         | 10MHz+5MHz                | 10MHz+10MHz |            |
| Lowest CH  | 14.63                     | 19.58       |            |
| Middle CH  | 14.54                     | 19.54       |            |
| Highest CH | 14.66                     | 19.62       |            |

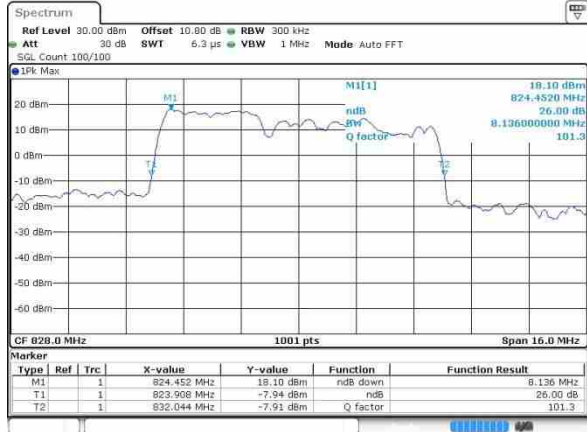
| Mode       | LTE Band 5 : 26dB BW(MHz) |             |            |
|------------|---------------------------|-------------|------------|
| 64QAM      |                           |             |            |
| BW         | 3MHz+5MHz                 | 5MHz+3MHz   | 5MHz+10MHz |
| Lowest CH  | 8.10                      | 8.18        | 14.57      |
| Middle CH  | 8.07                      | 8.14        | 14.54      |
| Highest CH | 8.09                      | 8.12        | 14.51      |
| BW         | 10MHz+5MHz                | 10MHz+10MHz |            |
| Lowest CH  | 14.63                     | 19.54       |            |
| Middle CH  | 14.54                     | 19.7        |            |
| Highest CH | 14.60                     | 19.74       |            |



## LTE Band 5

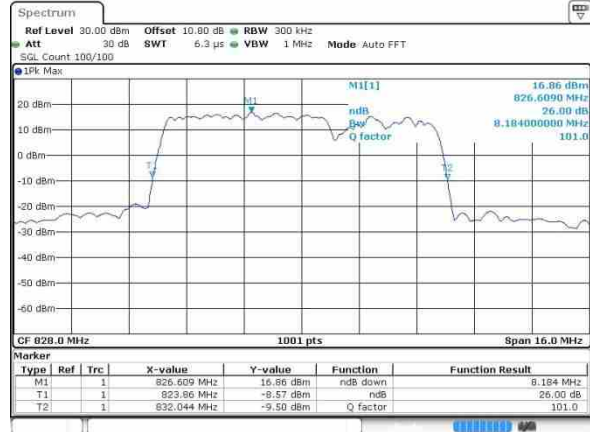
## QPSK

## Lowest Channel / 3MHz+5MHz



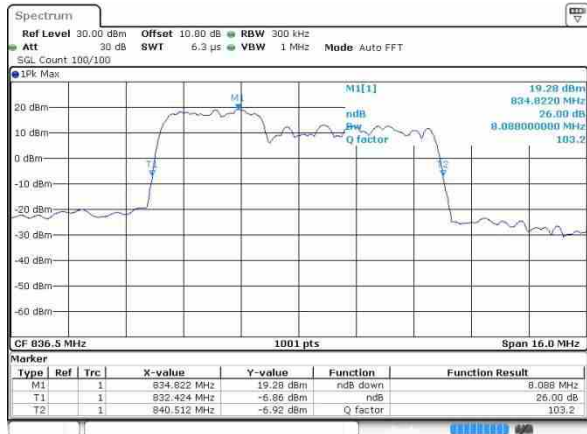
Date: 19 MAR 2019 23:09:51

## Lowest Channel / 5MHz+3MHz



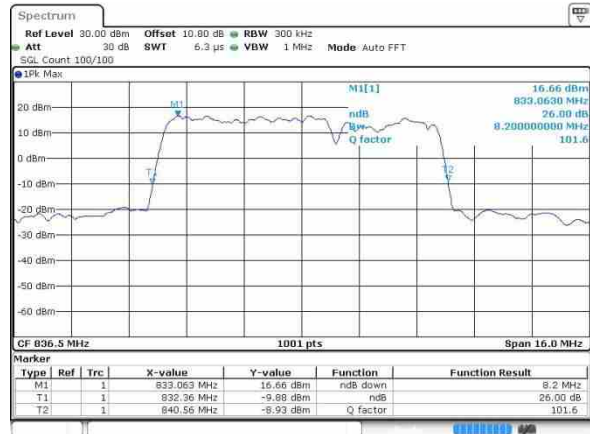
Date: 19 MAR 2019 23:43:27

## Middle Channel / 3MHz+5MHz



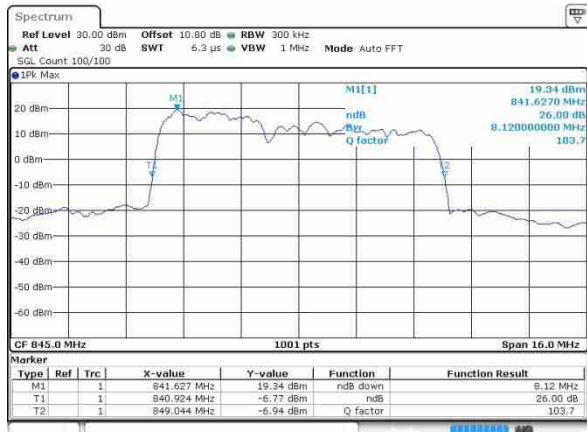
Date: 19 MAR 2019 23:17:00

## Middle Channel / 5MHz+3MHz



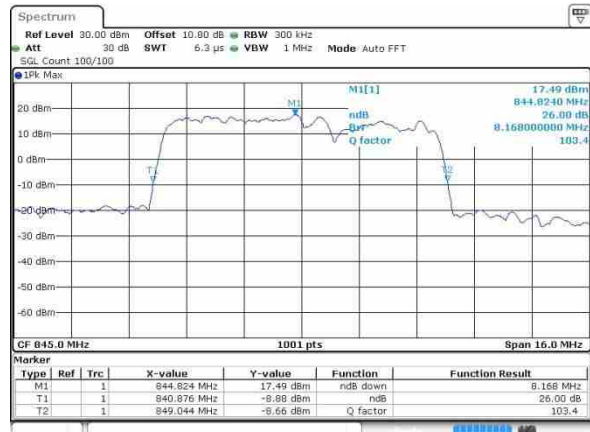
Date: 19 MAR 2019 23:47:57

## Highest Channel / 3MHz+5MHz



Date: 19 MAR 2019 23:25:19

## Highest Channel / 5MHz+3MHz



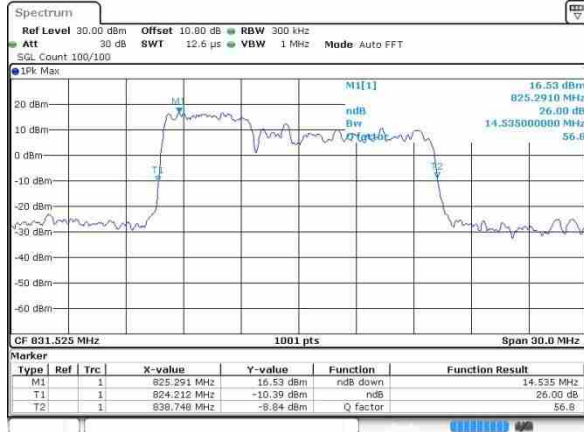
Date: 19 MAR 2019 23:53:11



## LTE Band 5

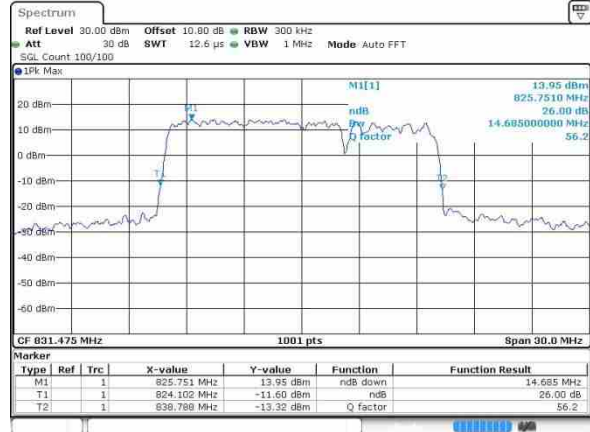
## QPSK

## Lowest Channel / 5MHz+10MHz



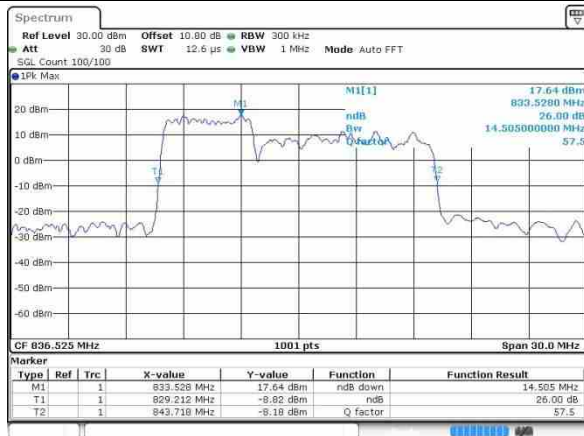
Date: 20 MAY 2019 14:23:34

## Lowest Channel / 10MHz+5MHz



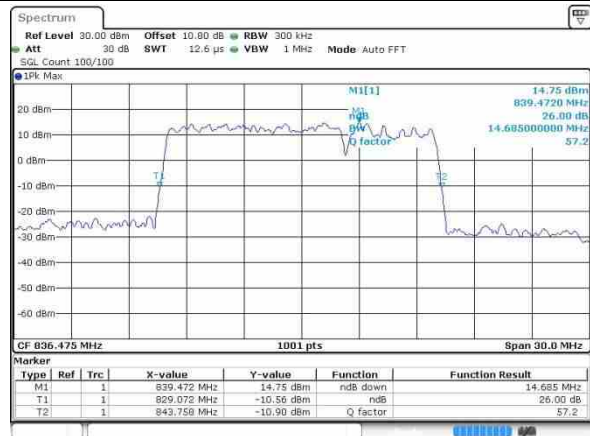
Date: 20 MAY 2019 14:08:31

## Middle Channel / 5MHz+10MHz



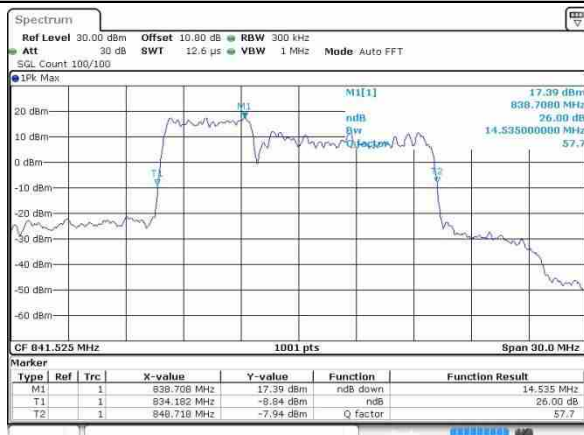
Date: 20 MAY 2019 14:30:06

## Middle Channel / 10MHz+5MHz



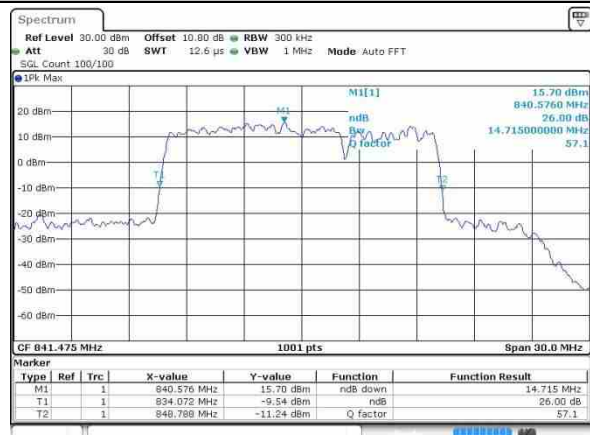
Date: 20 MAY 2019 14:14:31

## Highest Channel / 5MHz+10MHz



Date: 20 MAY 2019 14:42:28

## Highest Channel / 10MHz+5MHz



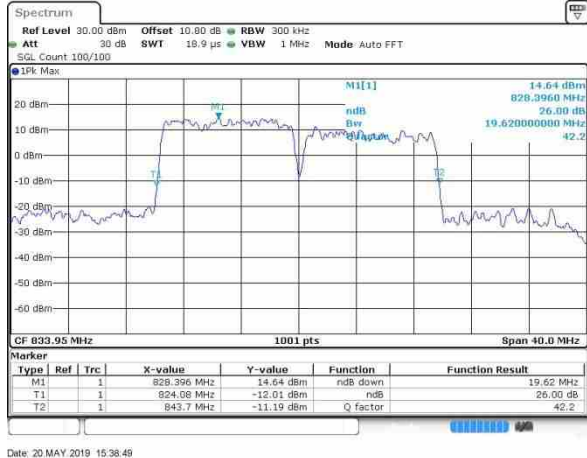
Date: 20 MAY 2019 14:17:27



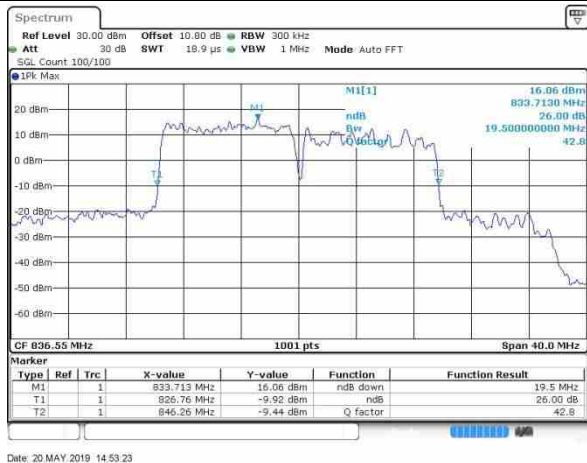
## LTE Band 5

## QPSK

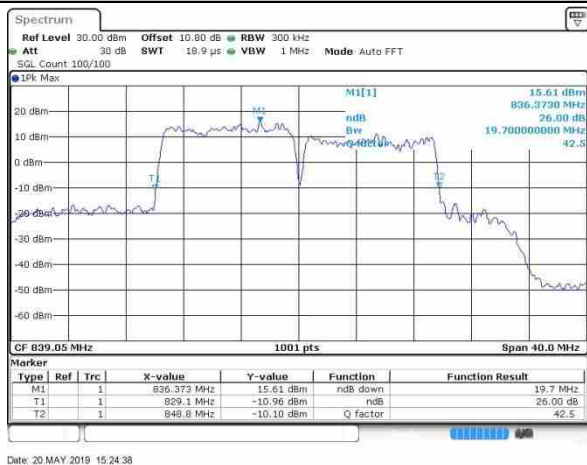
## Lowest Channel / 10MHz+10MHz



## Middle Channel / 10MHz+10MHz



## Highest Channel / 10MHz+10MHz

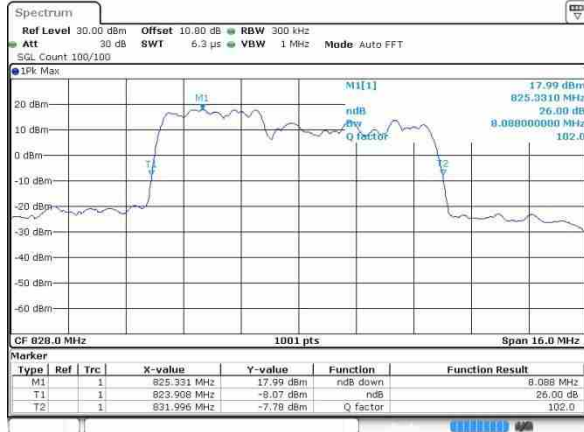




## LTE Band 5

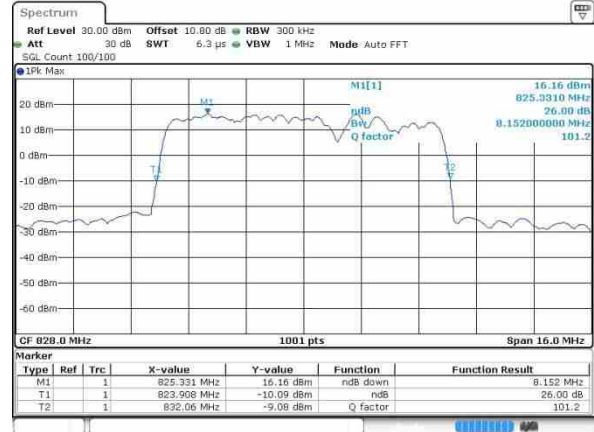
## 16QAM

## Lowest Channel / 3MHz+5MHz



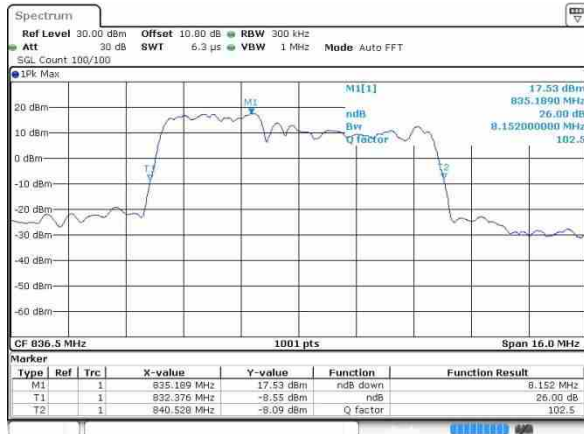
Date: 19 MAR 2019 23:09:28

## Lowest Channel / 5MHz+3MHz



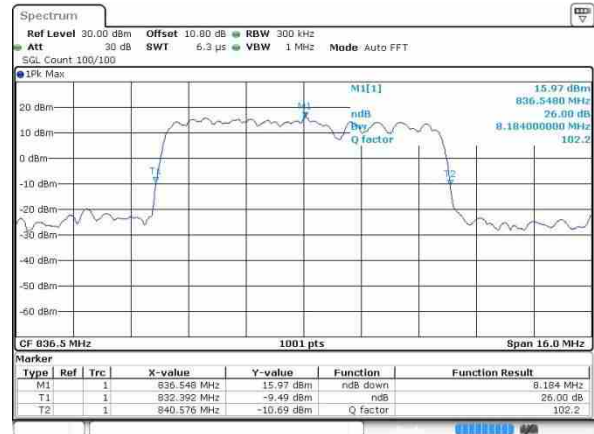
Date: 19 MAR 2019 23:58:16

## Middle Channel / 3MHz+5MHz



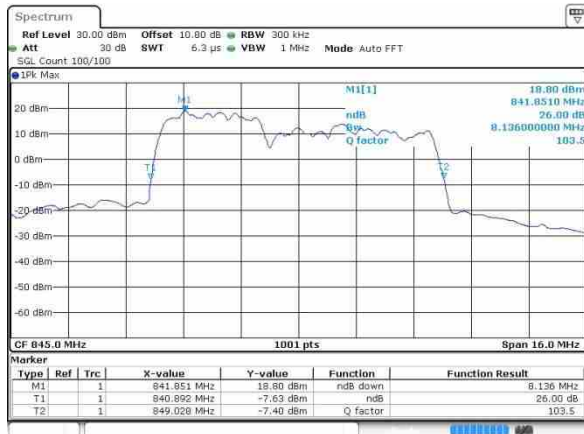
Date: 19 MAR 2019 23:18:37

## Middle Channel / 5MHz+3MHz



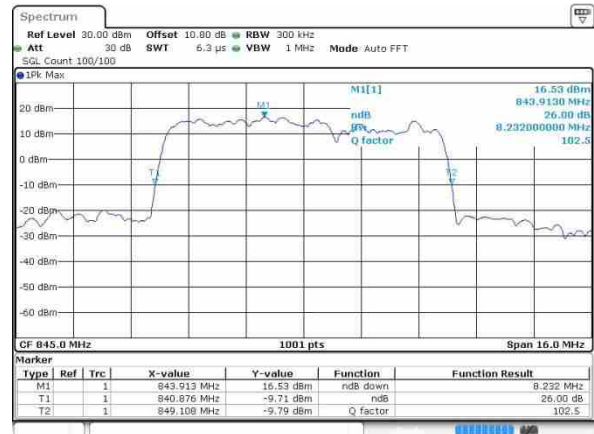
Date: 19 MAR 2019 23:47:34

## Highest Channel / 3MHz+5MHz



Date: 19 MAR 2019 23:25:42

## Highest Channel / 5MHz+3MHz



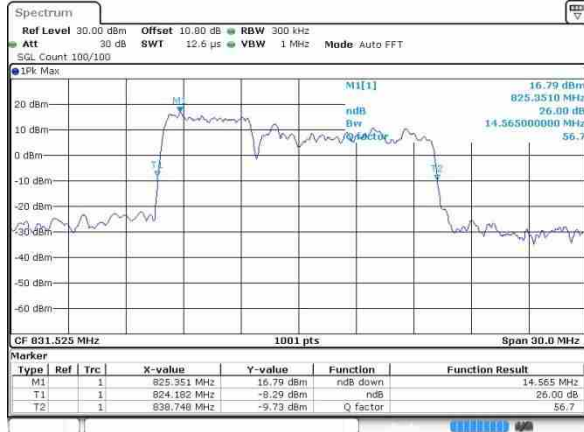
Date: 19 MAR 2019 23:53:34



## LTE Band 5

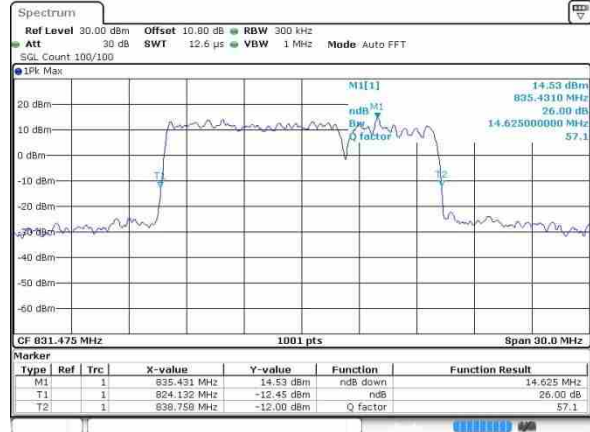
## 16QAM

## Lowest Channel / 5MHz+10MHz



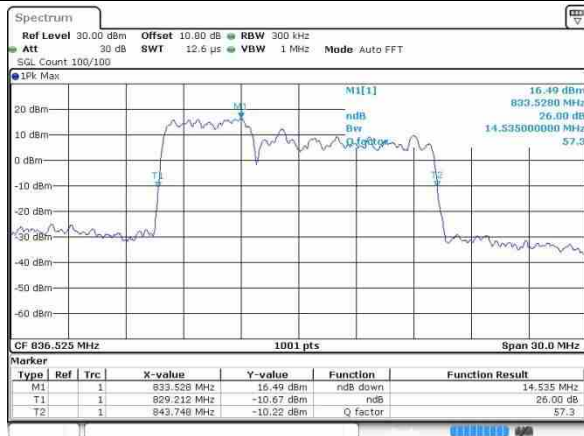
Date: 20 MAY 2019 14:23:10

## Lowest Channel / 10MHz+5MHz



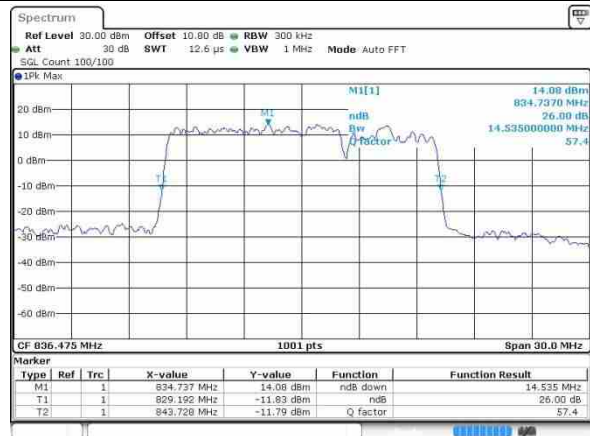
Date: 20 MAY 2019 14:08:08

## Middle Channel / 5MHz+10MHz



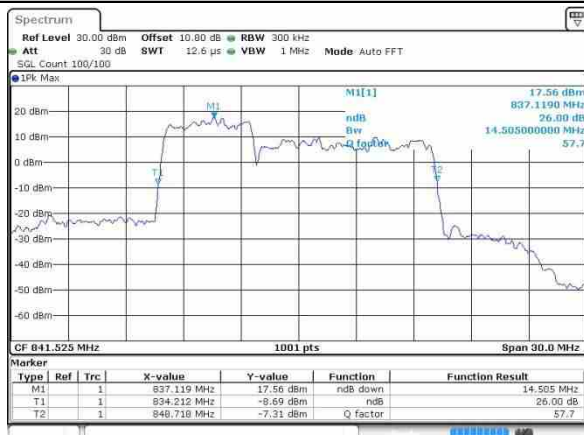
Date: 20 MAY 2019 14:28:43

## Middle Channel / 10MHz+5MHz



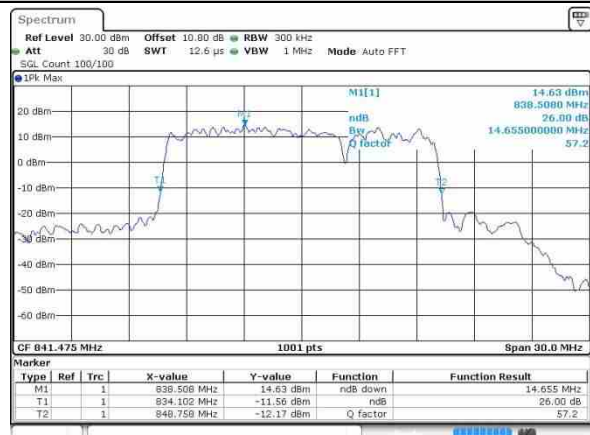
Date: 20 MAY 2019 14:14:07

## Highest Channel / 5MHz+10MHz



Date: 20 MAY 2019 14:42:50

## Highest Channel / 10MHz+5MHz

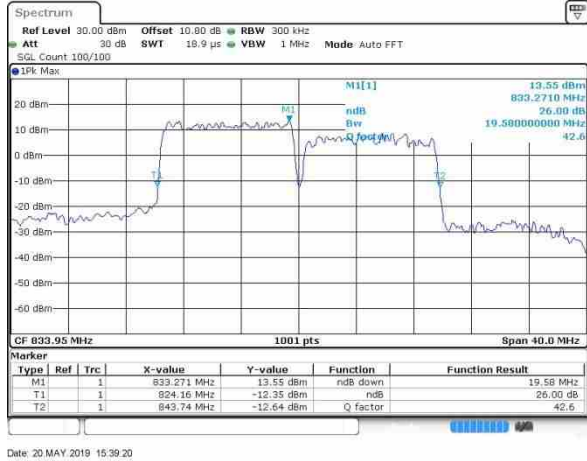


Date: 20 MAY 2019 14:17:50

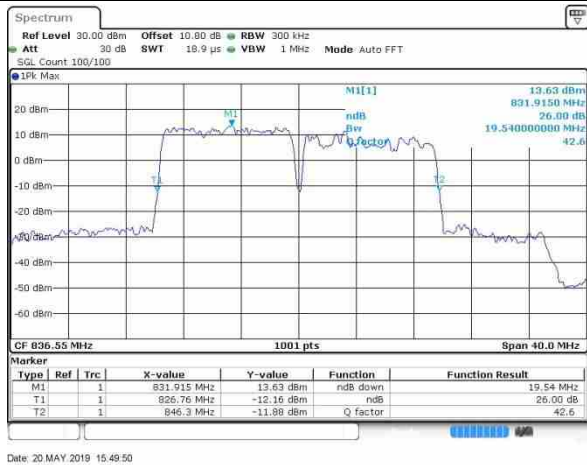
## LTE Band 5

## 16QAM

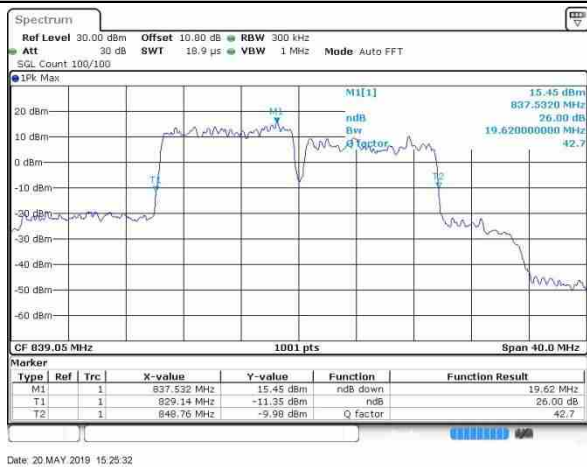
### Lowest Channel / 10MHz+10MHz



### Middle Channel / 10MHz+10MHz



### Highest Channel / 10MHz+10MHz

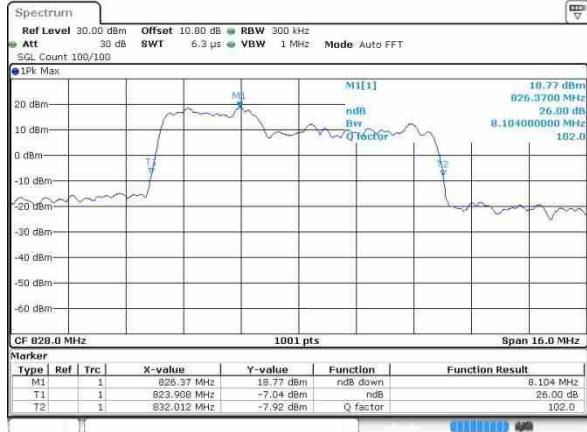




## LTE Band 5

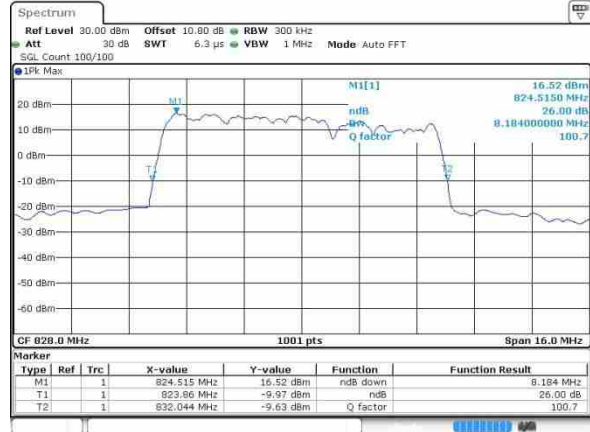
## 64QAM

## Lowest Channel / 3MHz+5MHz



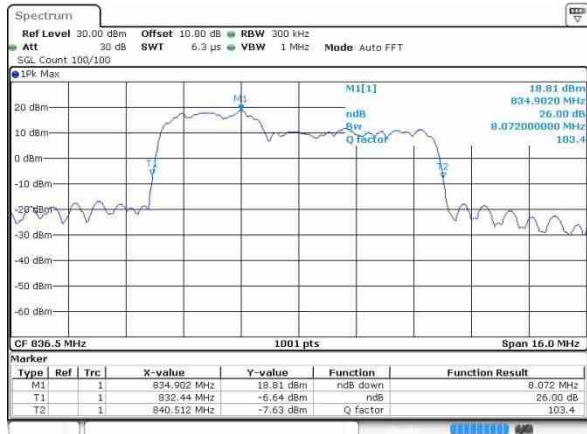
Date: 19 MAR 2019 23:09:04

## Lowest Channel / 5MHz+3MHz



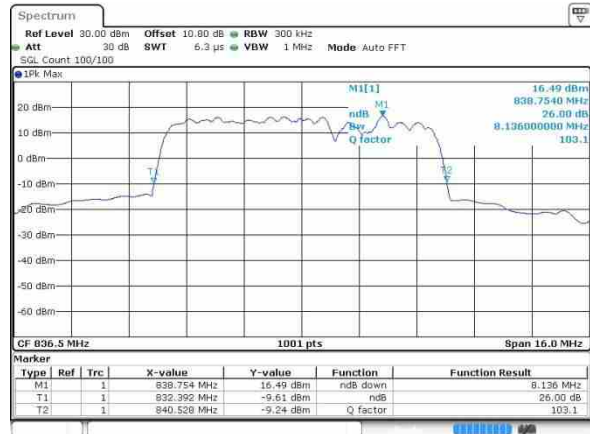
Date: 19 MAR 2019 23:42:40

## Middle Channel / 3MHz+5MHz



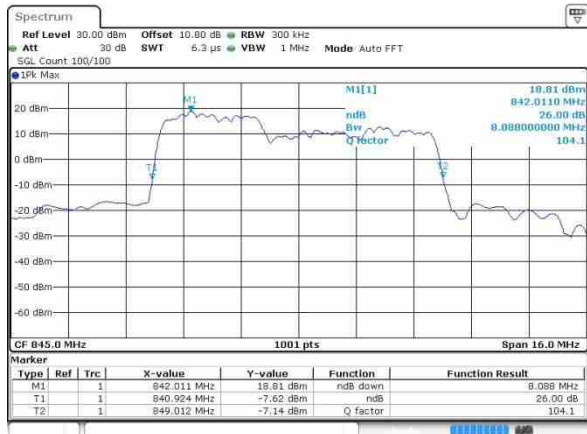
Date: 19 MAR 2019 23:18:14

## Middle Channel / 5MHz+3MHz



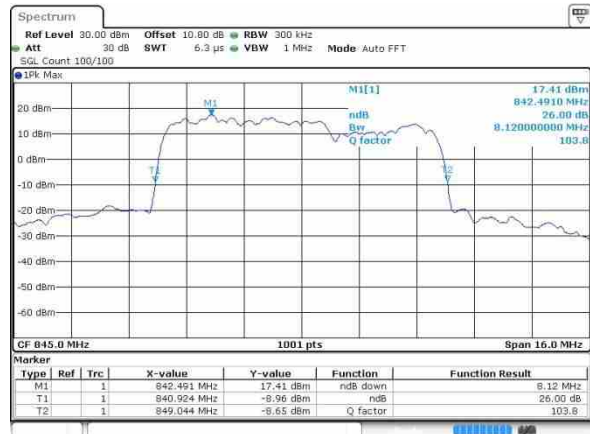
Date: 19 MAR 2019 23:47:10

## Highest Channel / 3MHz+5MHz



Date: 19 MAR 2019 23:26:05

## Highest Channel / 5MHz+3MHz



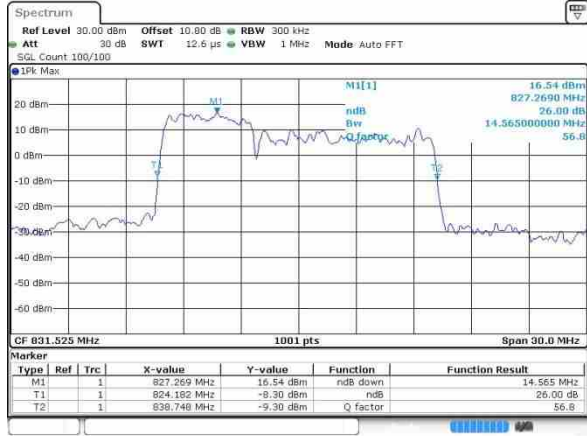
Date: 19 MAR 2019 23:53:57



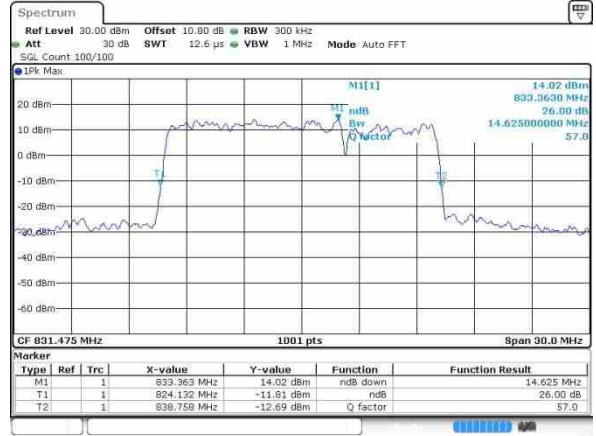
## LTE Band 5

## 64QAM

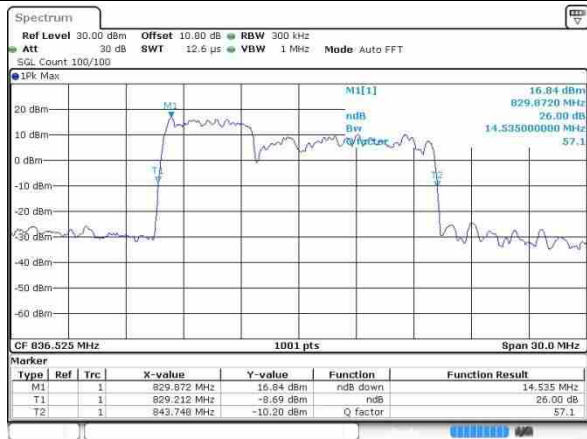
## Lowest Channel / 5MHz+10MHz



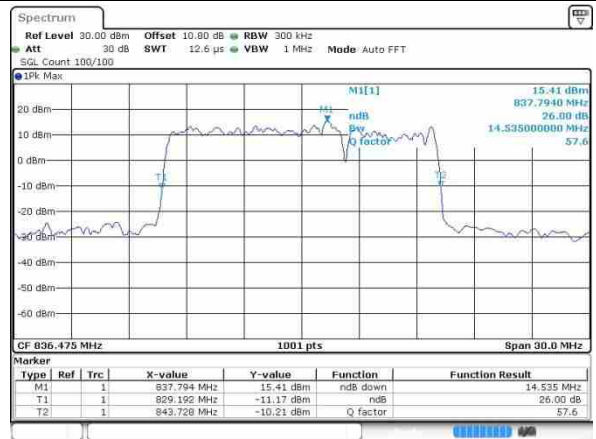
## Lowest Channel / 10MHz+5MHz



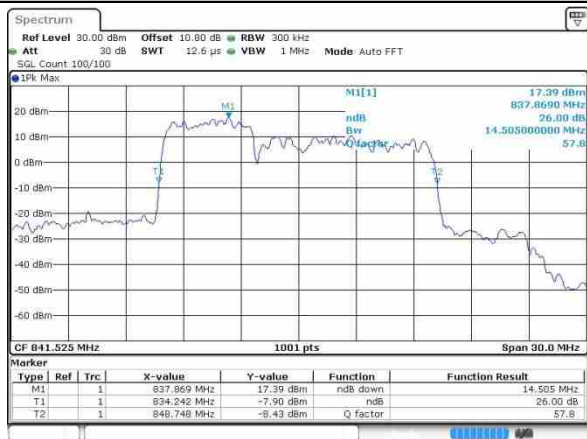
## Middle Channel / 5MHz+10MHz



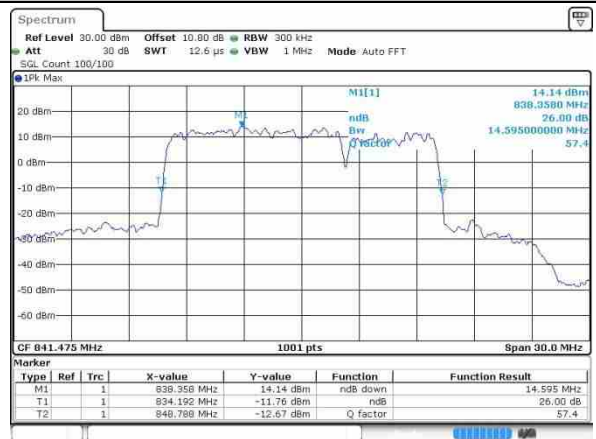
## Middle Channel / 10MHz+5MHz

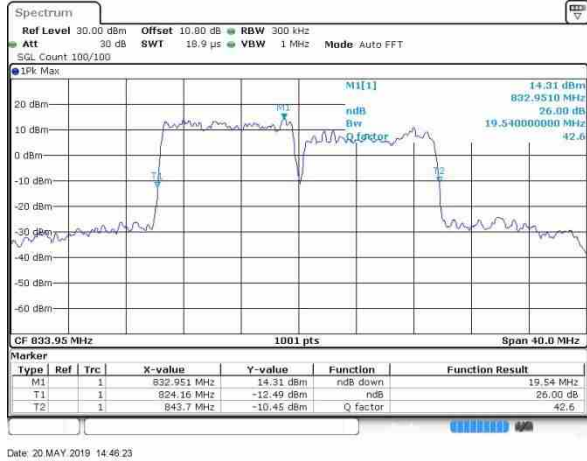
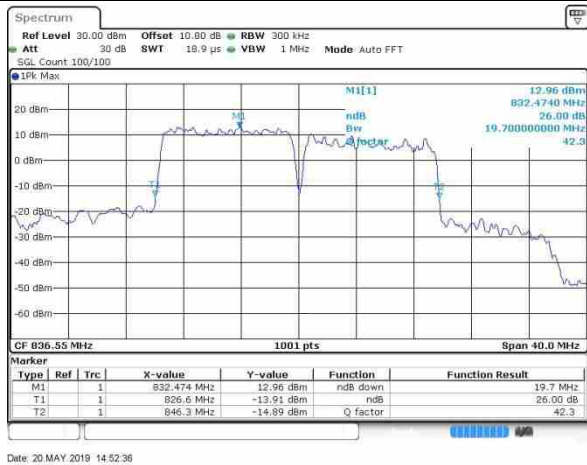
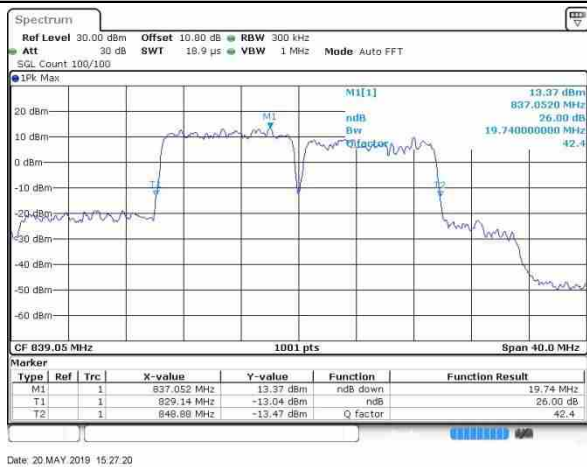


## Highest Channel / 5MHz+10MHz



## Highest Channel / 10MHz+5MHz



**LTE Band 5**
**64QAM**
**Lowest Channel / 10MHz+10MHz**

**Middle Channel / 10MHz+10MHz**

**Highest Channel / 10MHz+10MHz**


## Occupied Bandwidth

| Mode       | LTE Band 5 : 99%OBW(MHz) |             |            |
|------------|--------------------------|-------------|------------|
| QPSK       |                          |             |            |
| BW         | 3MHz+5MHz                | 5MHz+3MHz   | 5MHz+10MHz |
| Lowest CH  | 7.59                     | 7.61        | 13.85      |
| Middle CH  | 7.53                     | 7.51        | 13.79      |
| Highest CH | 7.51                     | 7.64        | 13.79      |
| BW         | 10MHz+5MHz               | 10MHz+10MHz |            |
| Lowest CH  | 13.91                    | 18.74       |            |
| Middle CH  | 13.76                    | 18.74       |            |
| Highest CH | 13.85                    | 18.74       |            |

| Mode       | LTE Band 5 : 99%OBW(MHz) |             |            |
|------------|--------------------------|-------------|------------|
| 16QAM      |                          |             |            |
| BW         | 3MHz+5MHz                | 5MHz+3MHz   | 5MHz+10MHz |
| Lowest CH  | 7.56                     | 7.59        | 13.94      |
| Middle CH  | 7.59                     | 7.54        | 13.76      |
| Highest CH | 7.51                     | 7.64        | 13.70      |
| BW         | 10MHz+5MHz               | 10MHz+10MHz |            |
| Lowest CH  | 13.88                    | 18.66       |            |
| Middle CH  | 13.79                    | 18.62       |            |
| Highest CH | 13.79                    | 18.70       |            |

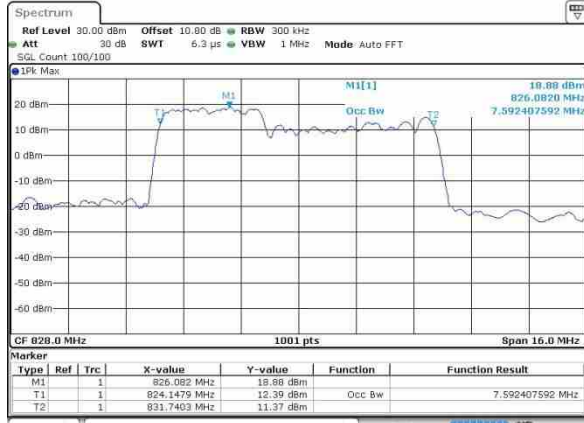
| Mode       | LTE Band 5 : 99%OBW(MHz) |             |            |
|------------|--------------------------|-------------|------------|
| 64QAM      |                          |             |            |
| BW         | 3MHz+5MHz                | 5MHz+3MHz   | 5MHz+10MHz |
| Lowest CH  | 7.53                     | 7.59        | 13.85      |
| Middle CH  | 7.54                     | 7.58        | 13.67      |
| Highest CH | 7.53                     | 7.58        | 13.88      |
| BW         | 10MHz+5MHz               | 10MHz+10MHz |            |
| Lowest CH  | 13.85                    | 18.70       |            |
| Middle CH  | 13.73                    | 18.66       |            |
| Highest CH | 13.94                    | 18.86       |            |



## LTE Band 5

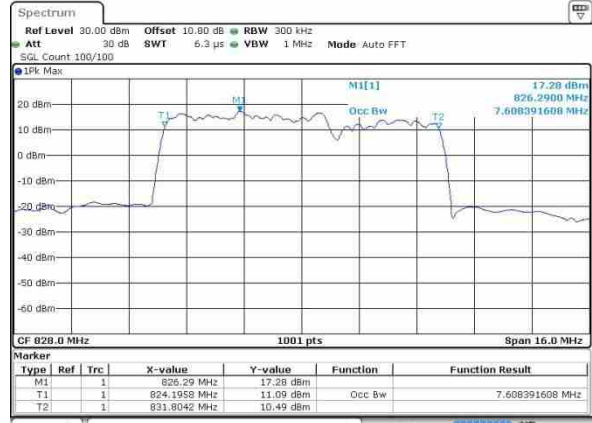
## QPSK

## Lowest Channel / 3MHz+5MHz



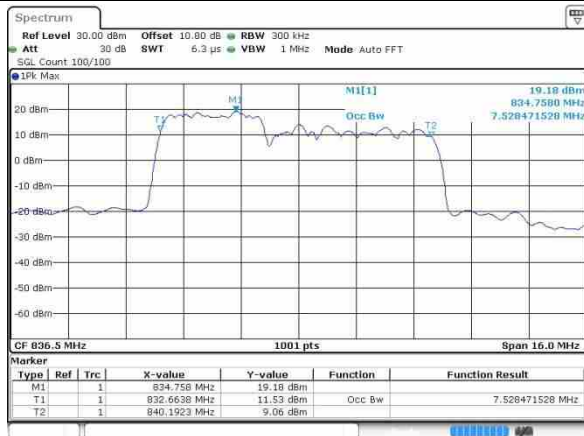
Date: 19 MAR 2019 23:07:55

## Lowest Channel / 5MHz+3MHz



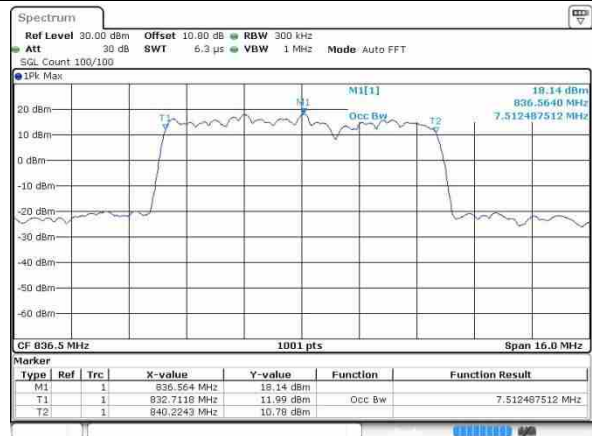
Date: 19 MAR 2019 23:41:31

## Middle Channel / 3MHz+5MHz



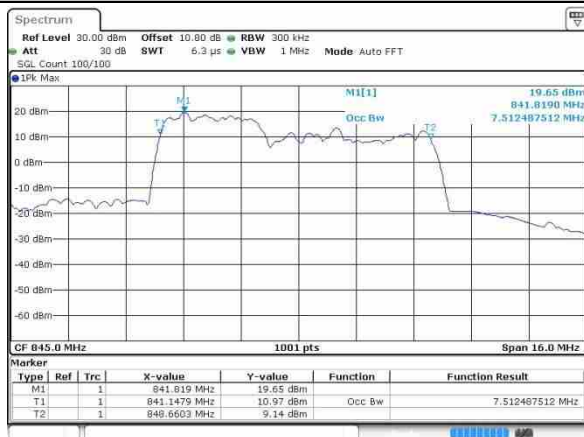
Date: 19 MAR 2019 23:15:04

## Middle Channel / 5MHz+3MHz



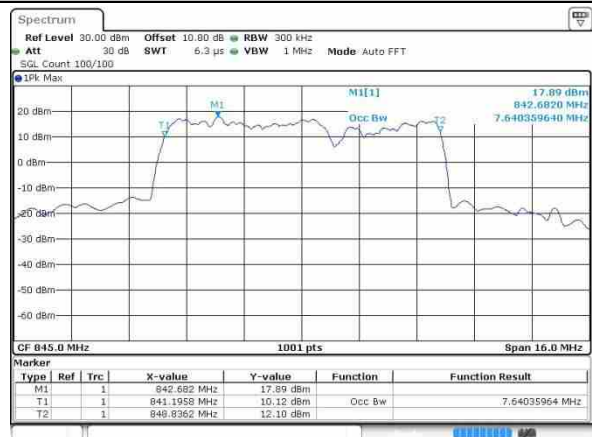
Date: 19 MAR 2019 23:46:01

## Highest Channel / 3MHz+5MHz



Date: 19 MAR 2019 23:24:56

## Highest Channel / 5MHz+3MHz



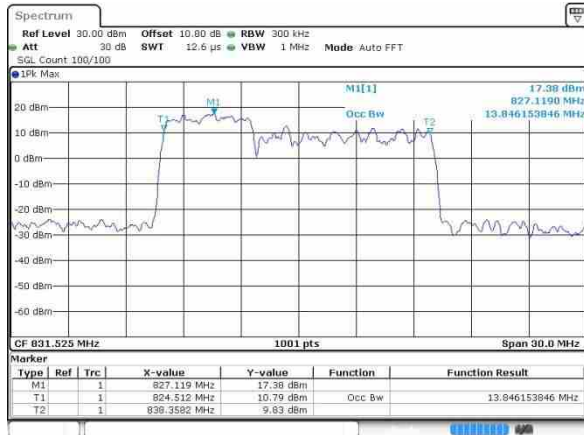
Date: 19 MAR 2019 23:52:48



## LTE Band 5

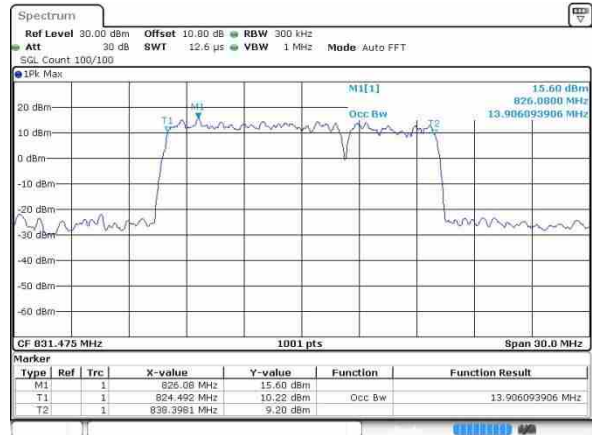
## QPSK

## Lowest Channel / 5MHz+10MHz



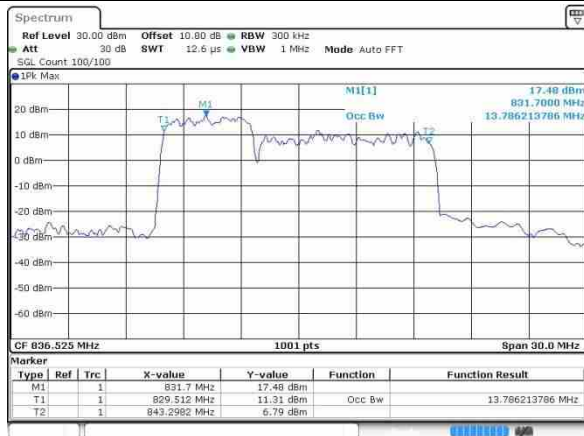
Date: 20 MAY 2019 14:21:38

## Lowest Channel / 10MHz+5MHz



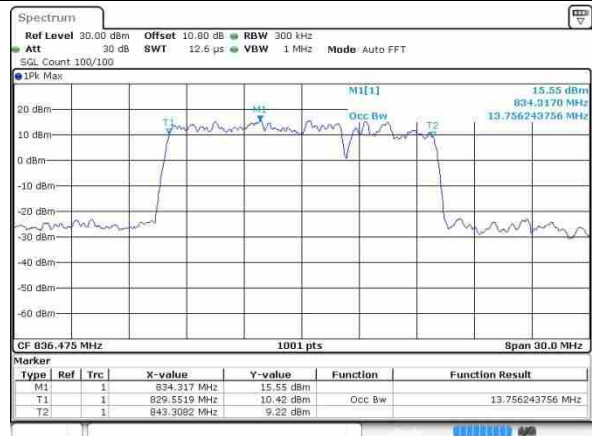
Date: 20 MAY 2019 14:06:34

## Middle Channel / 5MHz+10MHz



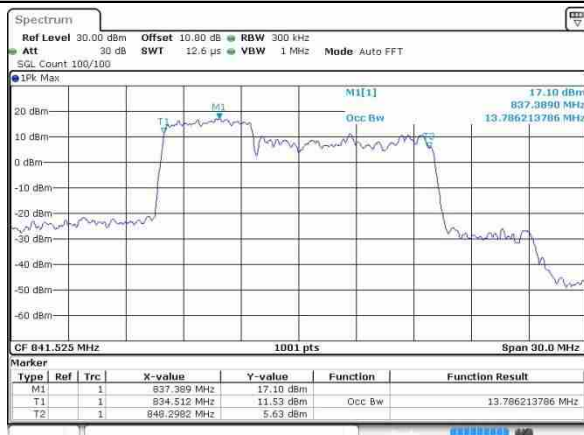
Date: 20 MAY 2019 14:28:10

## Middle Channel / 10MHz+5MHz



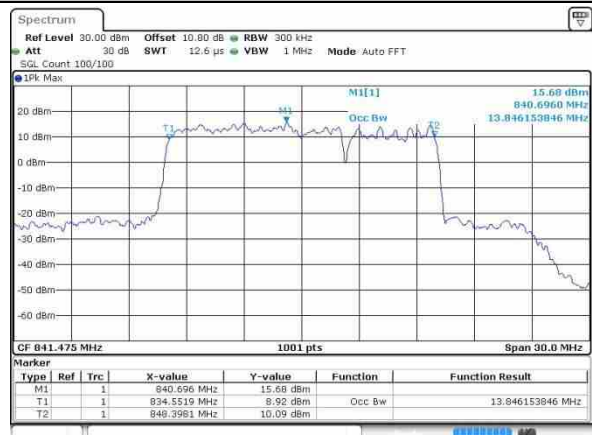
Date: 20 MAY 2019 14:12:35

## Highest Channel / 5MHz+10MHz



Date: 20 MAY 2019 14:42:04

## Highest Channel / 10MHz+5MHz

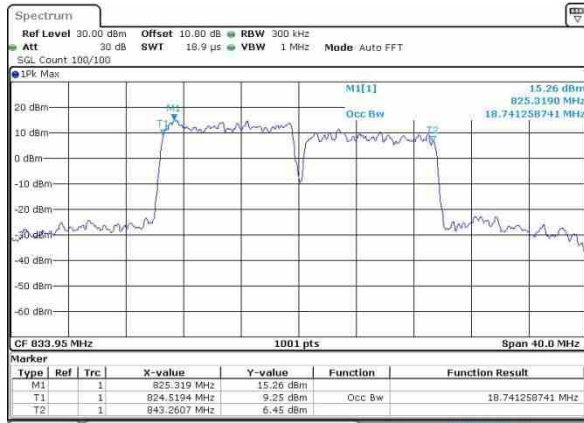


Date: 20 MAY 2019 14:17:04

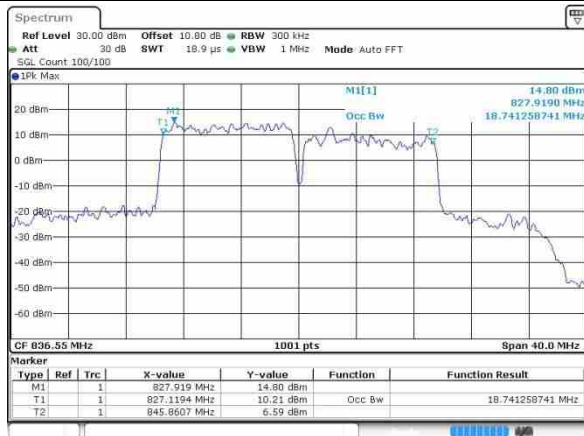
## LTE Band 5

## QPSK

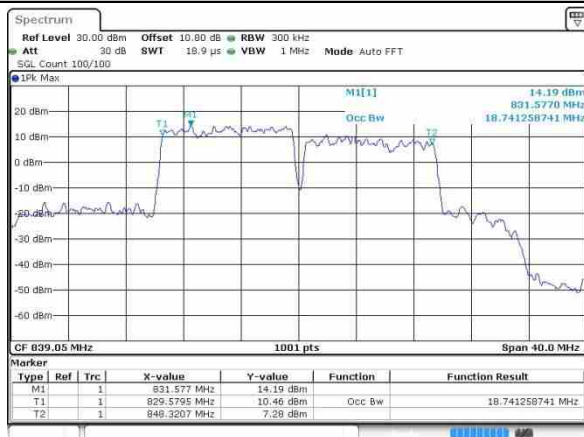
### Lowest Channel / 10MHz+10MHz



### Middle Channel / 10MHz+10MHz



### Highest Channel / 10MHz+10MHz

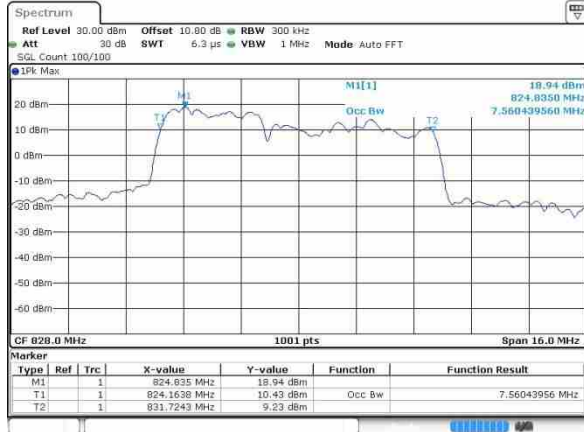




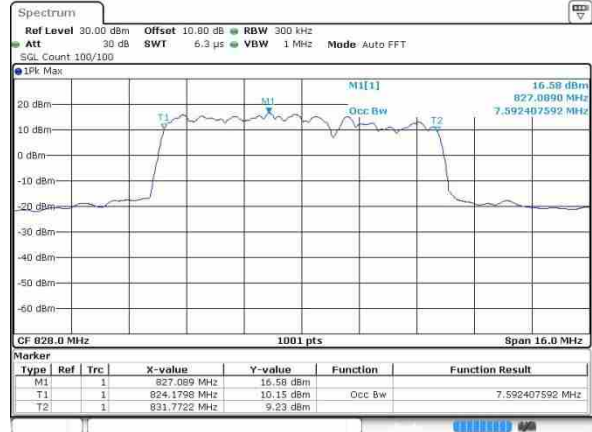
## LTE Band 5

## 16QAM

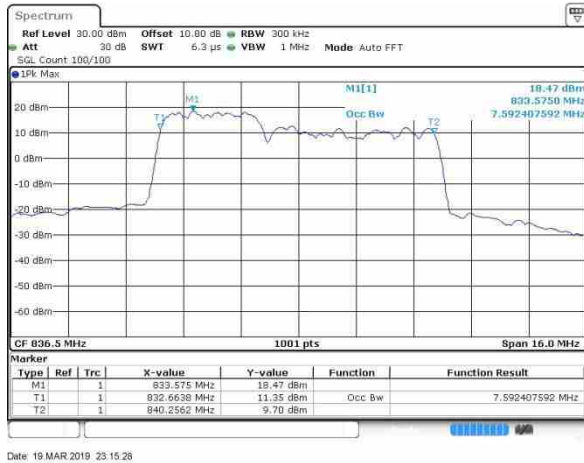
## Lowest Channel / 3MHz+5MHz



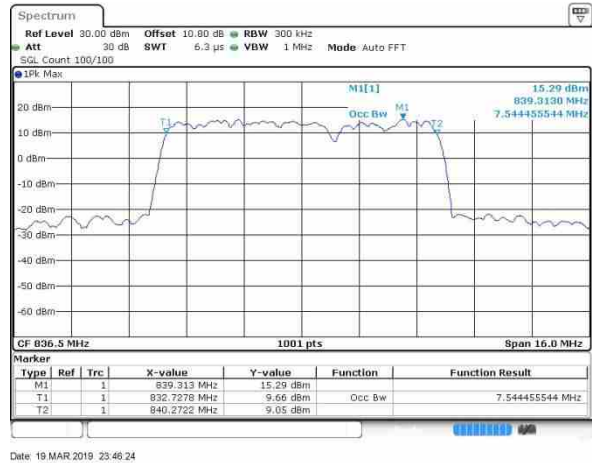
## Lowest Channel / 5MHz+3MHz



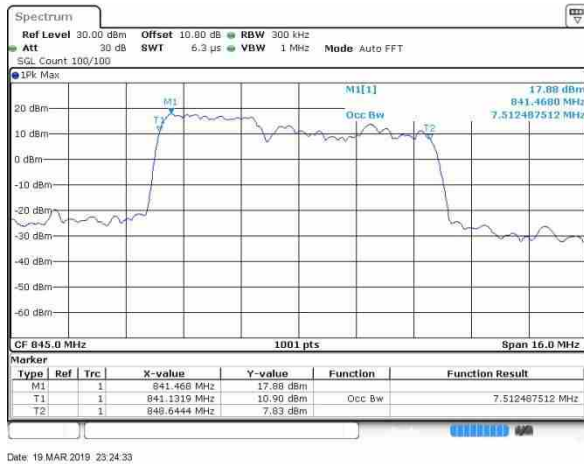
## Middle Channel / 3MHz+5MHz



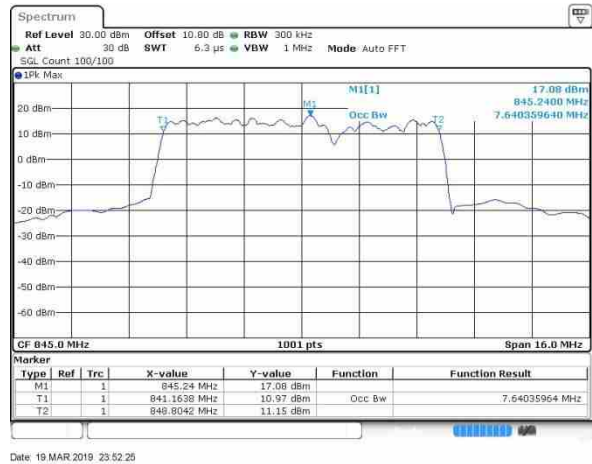
## Middle Channel / 5MHz+3MHz



## Highest Channel / 3MHz+5MHz



## Highest Channel / 5MHz+3MHz

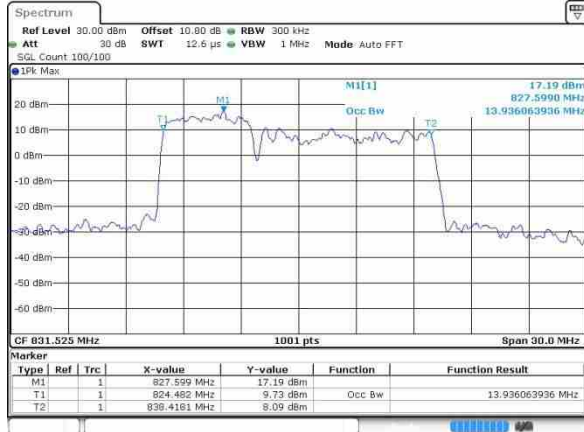




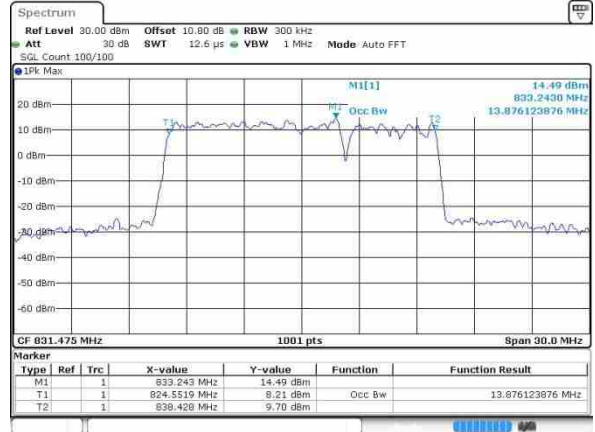
## LTE Band 5

## 16QAM

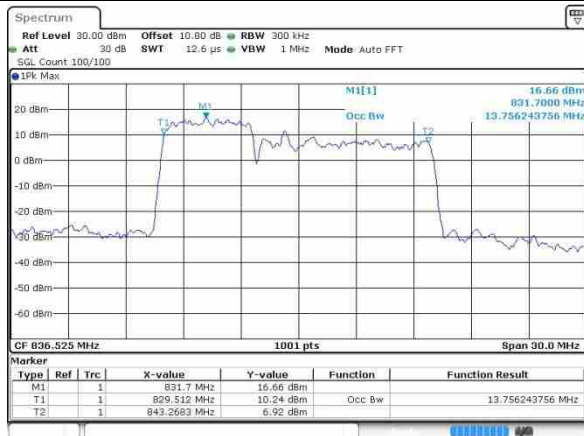
## Lowest Channel / 5MHz+10MHz



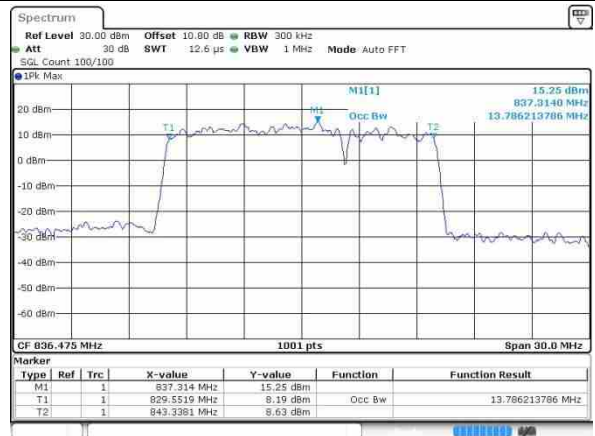
## Lowest Channel / 10MHz+5MHz



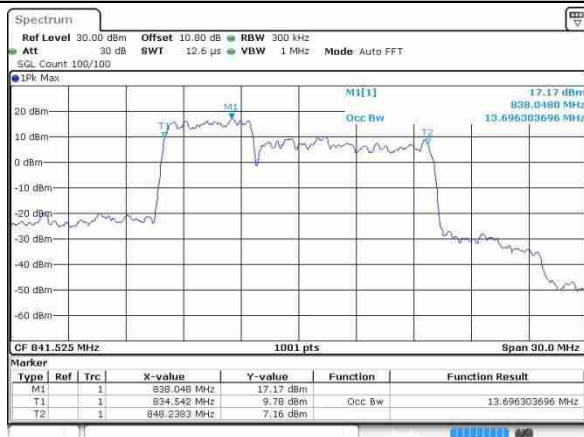
## Middle Channel / 5MHz+10MHz



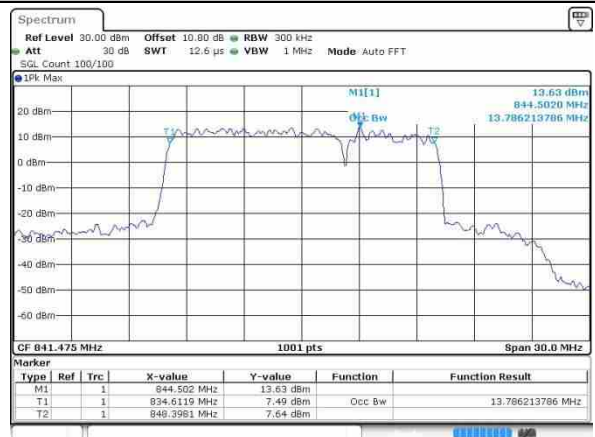
## Middle Channel / 10MHz+5MHz



## Highest Channel / 5MHz+10MHz



## Highest Channel / 10MHz+5MHz

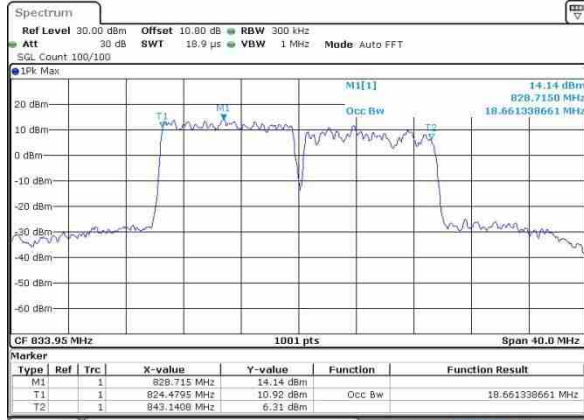




## LTE Band 5

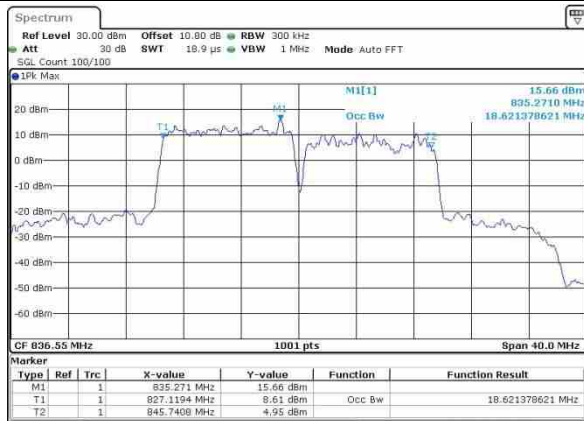
## 16QAM

## Lowest Channel / 10MHz+10MHz



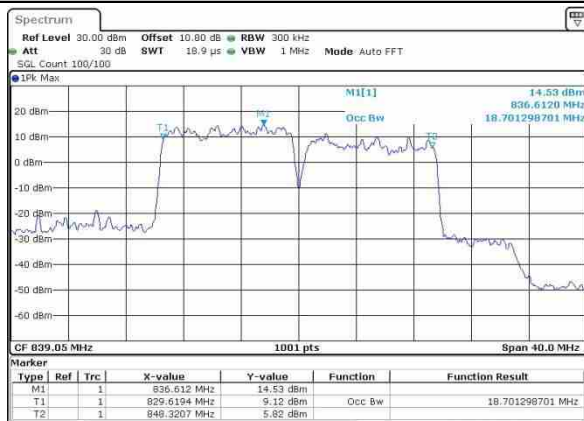
Date: 20 MAY 2019 14:45:37

## Middle Channel / 10MHz+10MHz



Date: 20 MAY 2019 14:51:50

## Highest Channel / 10MHz+10MHz



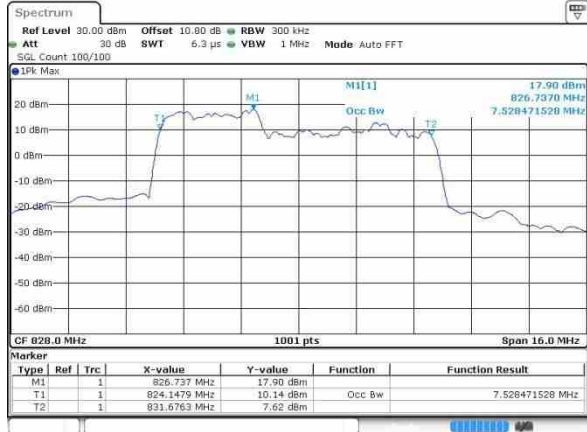
Date: 20 MAY 2019 15:00:39



## LTE Band 5

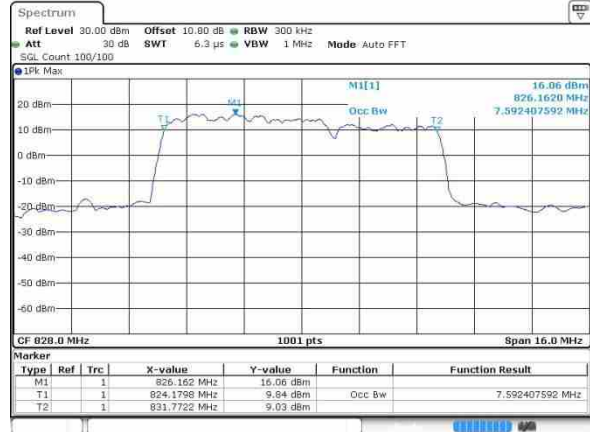
## 64QAM

## Lowest Channel / 3MHz+5MHz



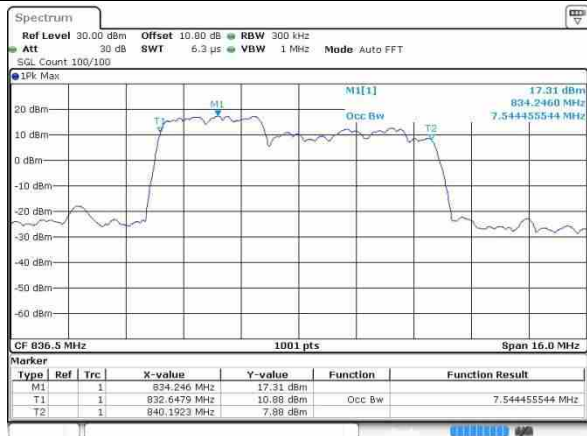
Date: 19 MAR 2019 23:08:42

## Lowest Channel / 5MHz+3MHz



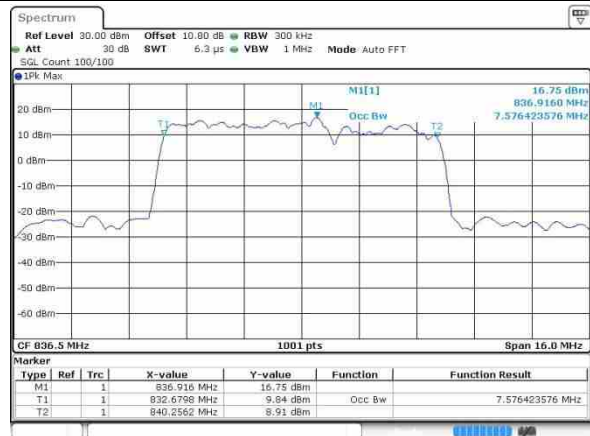
Date: 19 MAR 2019 23:42:18

## Middle Channel / 3MHz+5MHz



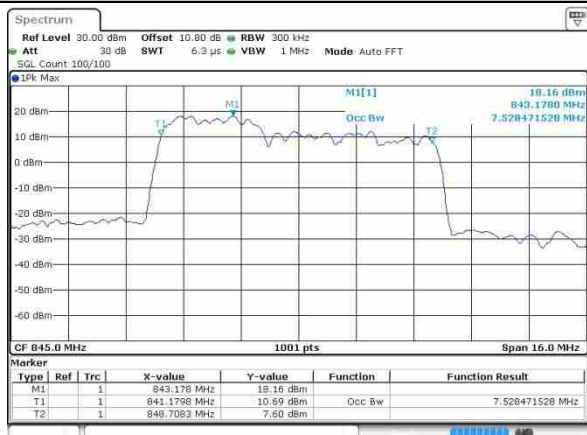
Date: 19 MAR 2019 23:15:51

## Middle Channel / 5MHz+3MHz



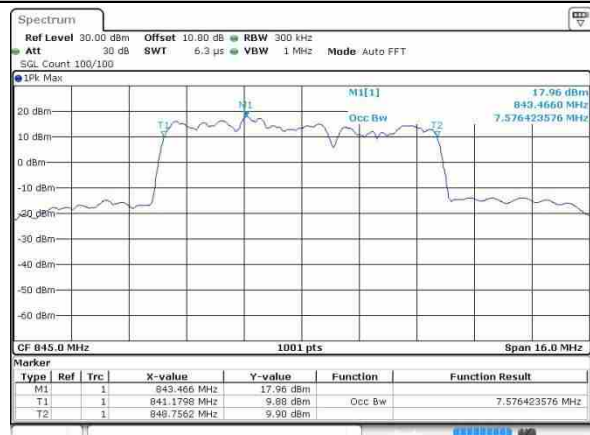
Date: 19 MAR 2019 23:46:48

## Highest Channel / 3MHz+5MHz



Date: 19 MAR 2019 23:24:09

## Highest Channel / 5MHz+3MHz



Date: 19 MAR 2019 23:52:01