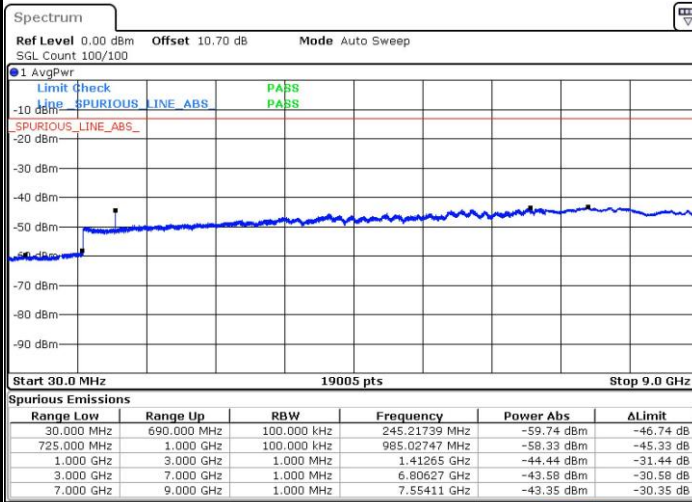




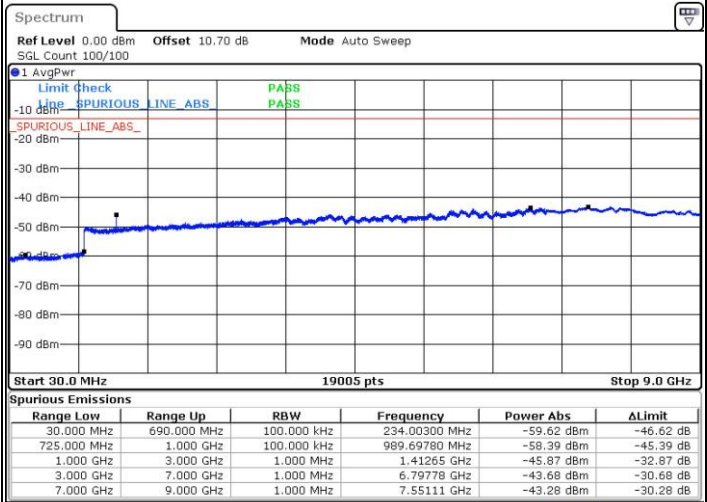
## LTE Band 12 / 3MHz

## Middle Channel / QPSK



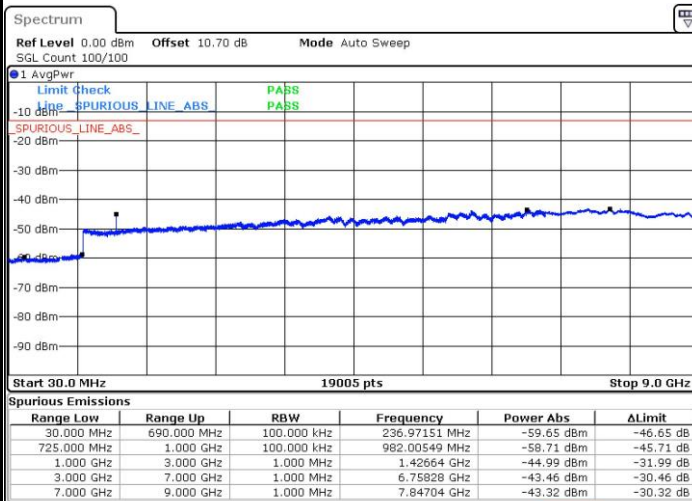
Date: 20 FEB 2019 00:02:16

## Middle Channel / 16QAM



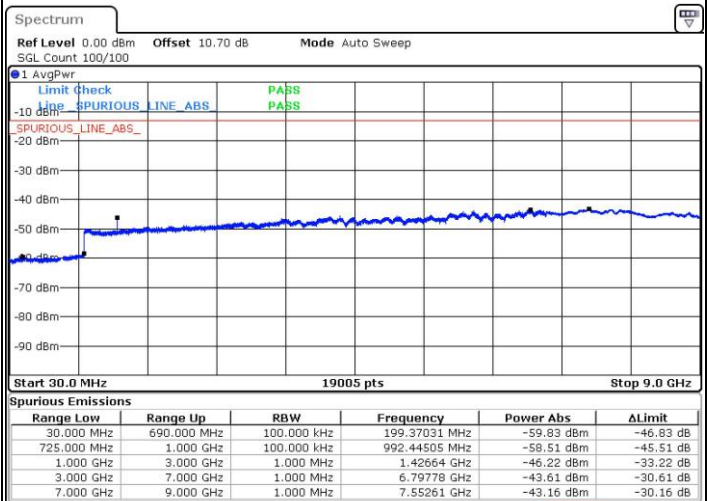
Date: 20 FEB 2019 00:01:21

## Highest Channel / QPSK



Date: 20 FEB 2019 00:07:57

## Highest Channel / 16QAM

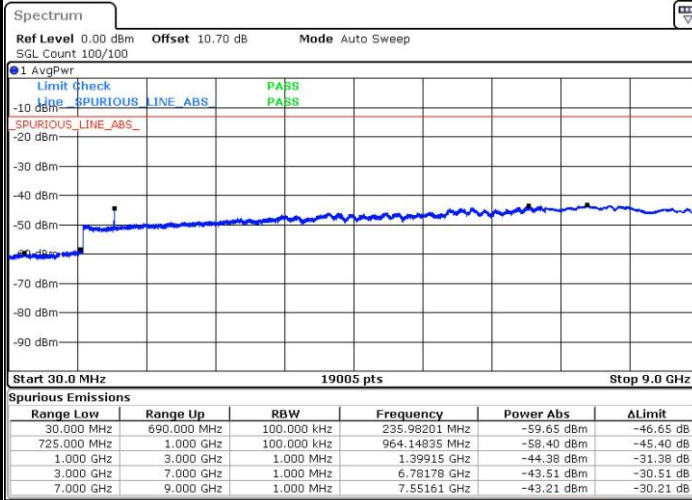


Date: 20 FEB 2019 00:08:52



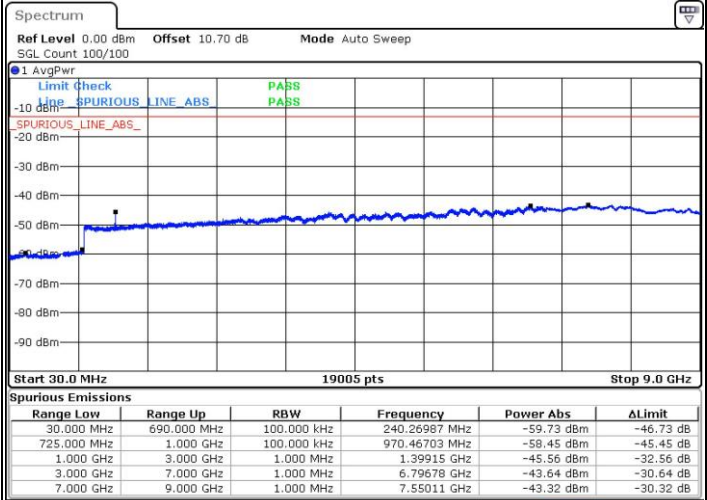
## LTE Band 12 / 5MHz

## Lowest Channel / QPSK



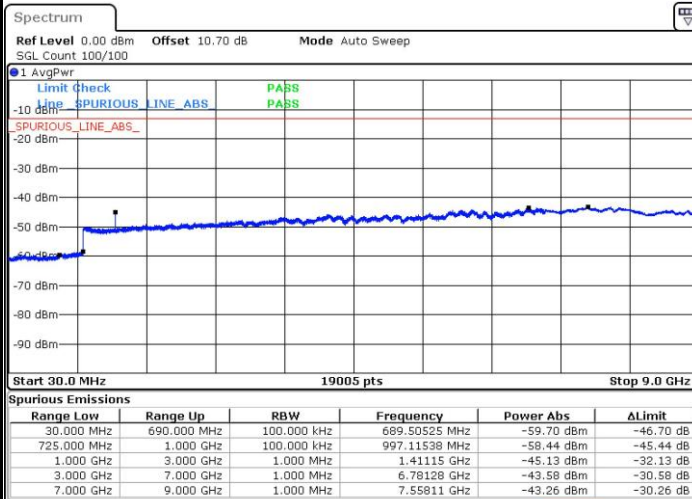
Date: 20 FEB 2019 00:14:34

## Lowest Channel / 16QAM



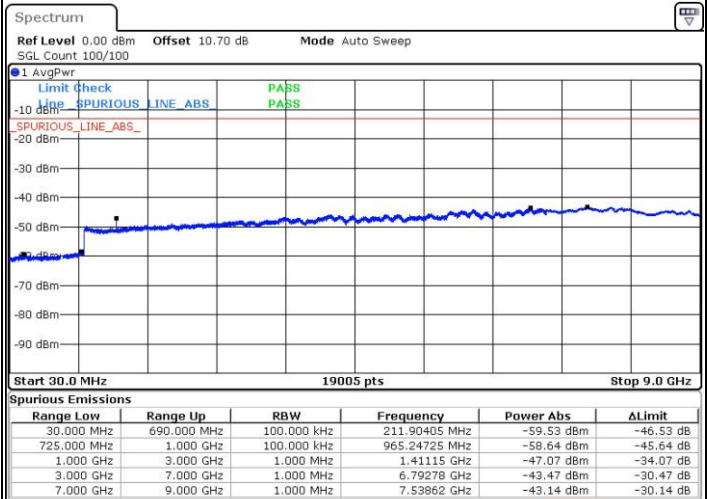
Date: 20 FEB 2019 00:15:29

## Middle Channel / QPSK



Date: 20 FEB 2019 00:18:05

## Middle Channel / 16QAM

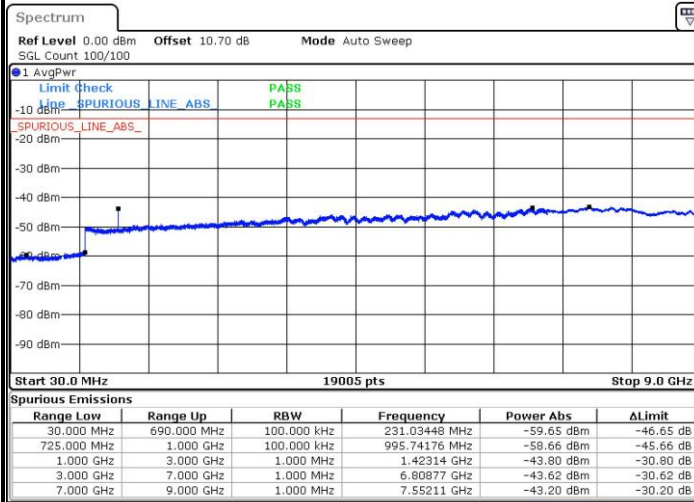


Date: 20 FEB 2019 00:17:10



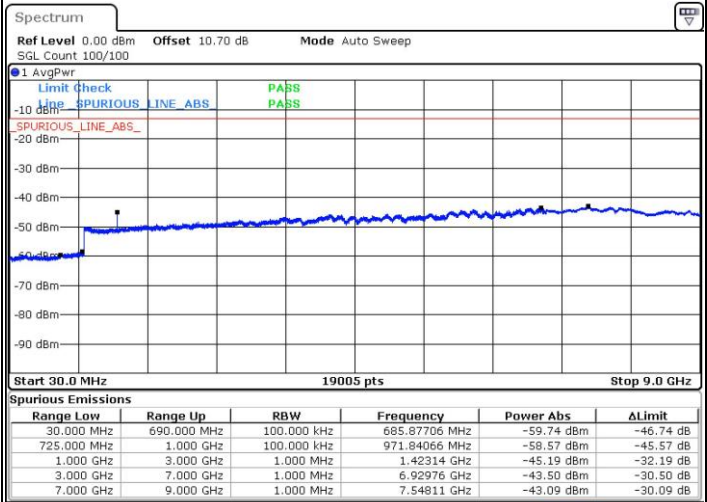
## LTE Band 12 / 5MHz

## Highest Channel / QPSK



Date: 20 FEB 2019 00:24:41

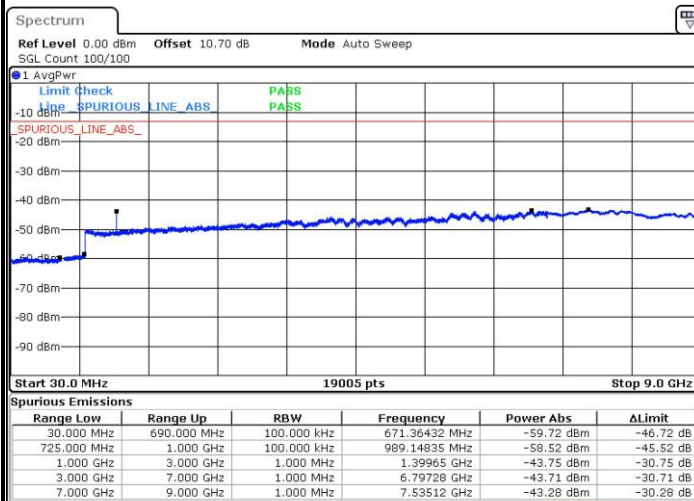
## Highest Channel / 16QAM



Date: 20 FEB 2019 00:23:46

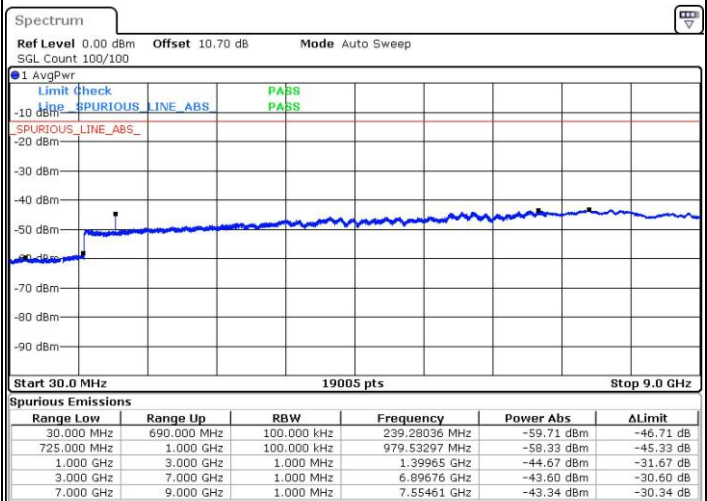
## LTE Band 12 / 10MHz

## Lowest Channel / QPSK



Date: 20 FEB 2019 00:30:22

## Lowest Channel / 16QAM

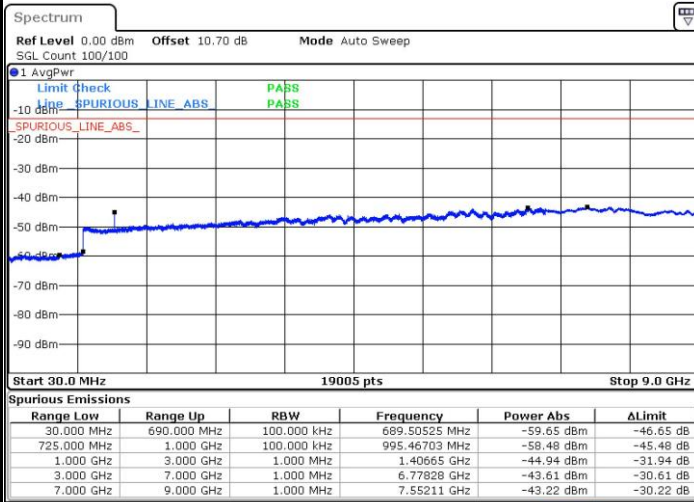


Date: 20 FEB 2019 00:31:17



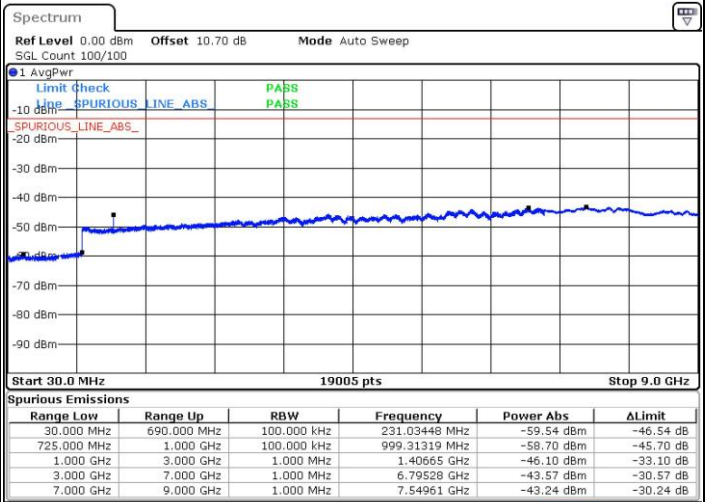
## LTE Band 12 / 10MHz

## Middle Channel / QPSK



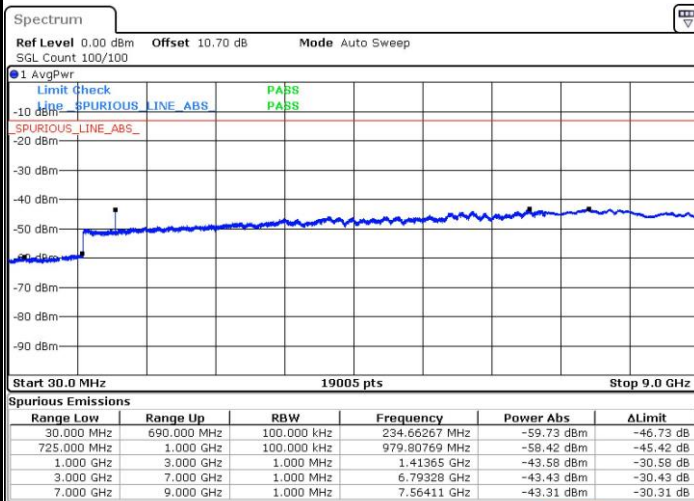
Date: 20 FEB 2019 00:33:53

## Middle Channel / 16QAM



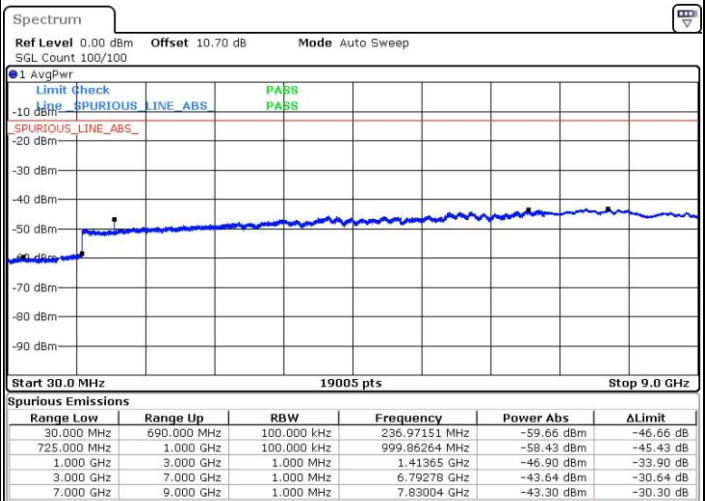
Date: 20 FEB 2019 00:32:58

## Highest Channel / QPSK



Date: 20 FEB 2019 00:47:12

## Highest Channel / 16QAM

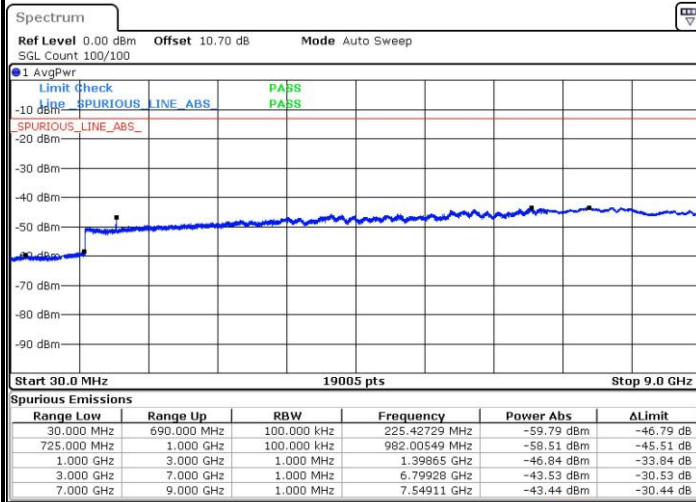


Date: 20 FEB 2019 00:48:07



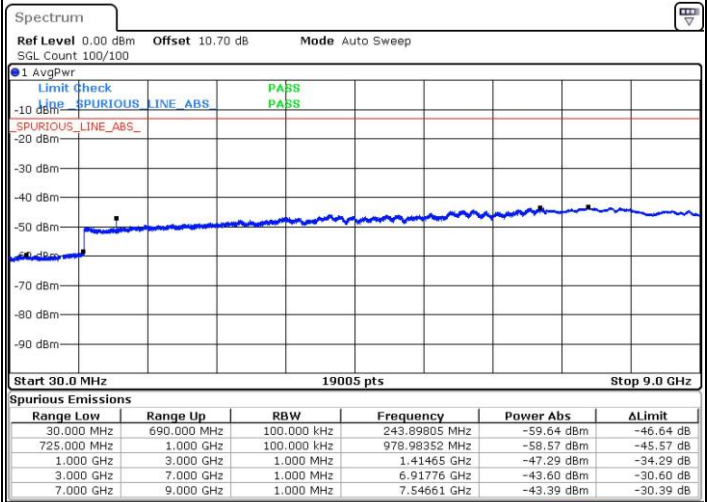
## LTE Band 12 / 1.4MHz

## Lowest Channel / 64QAM



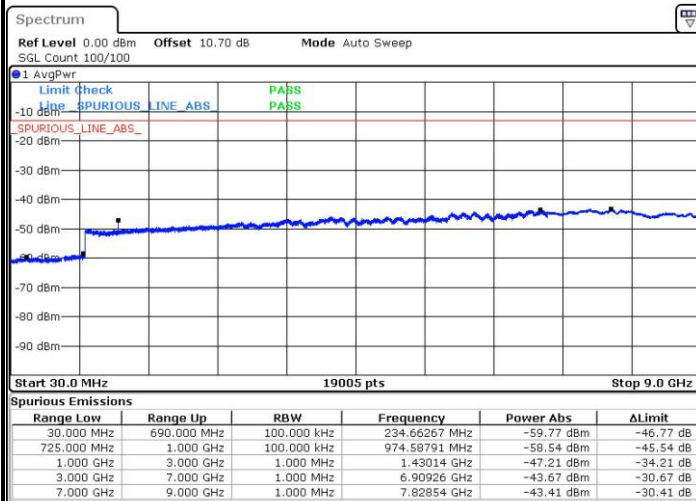
Date: 20 FEB 2019 01:30:56

## Middle Channel / 64QAM



Date: 20 FEB 2019 01:32:14

## Highest Channel / 64QAM

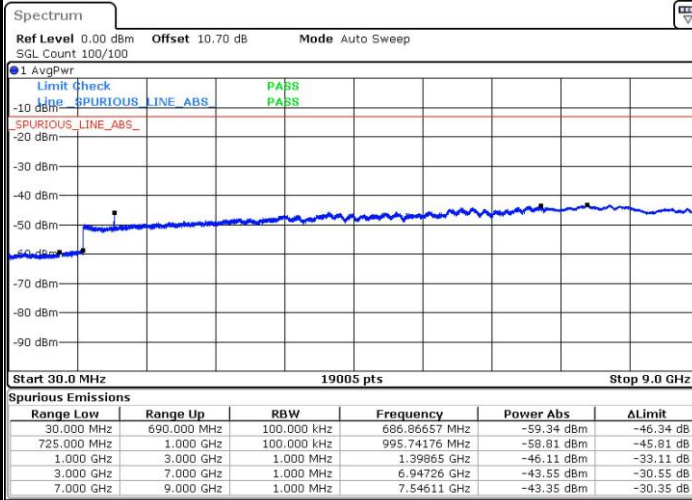


Date: 20 FEB 2019 01:35:32



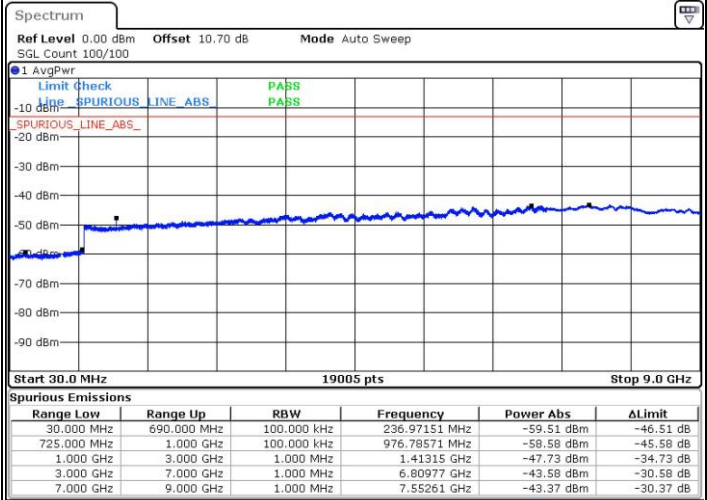
## LTE Band 12 / 3MHz

## Lowest Channel / 64QAM



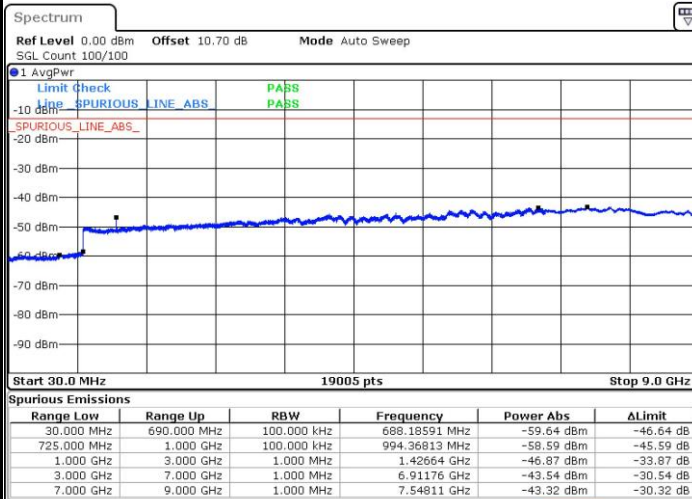
Date: 20 FEB 2019 01:07:13

## Middle Channel / 64QAM



Date: 20 FEB 2019 01:08:31

## Highest Channel / 64QAM

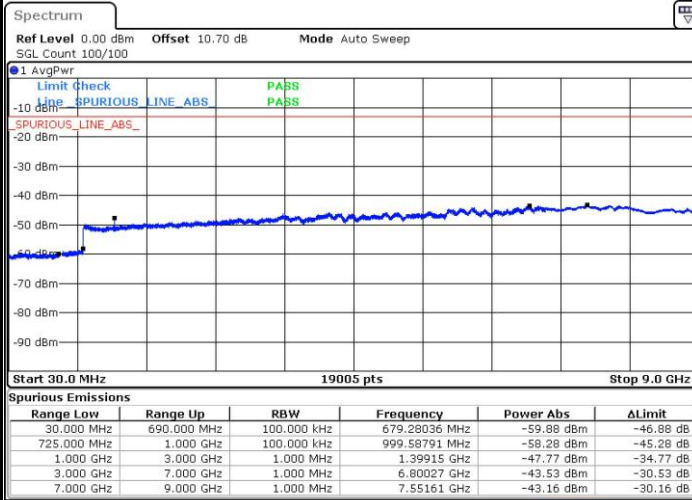


Date: 20 FEB 2019 01:11:49



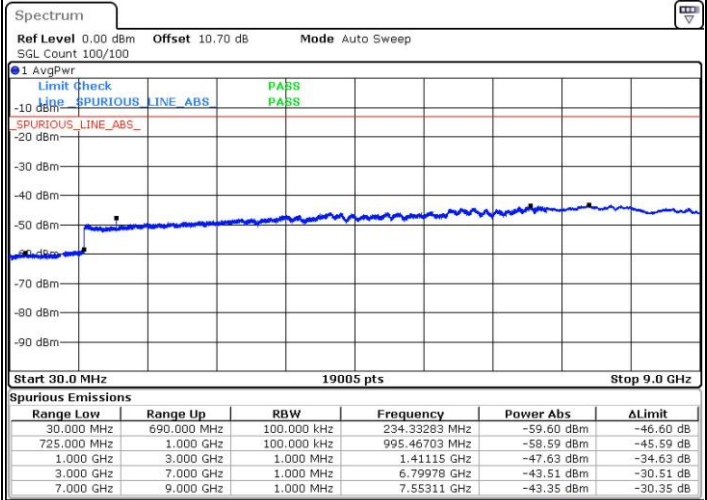
## LTE Band 12 / 5MHz

## Lowest Channel / 64QAM



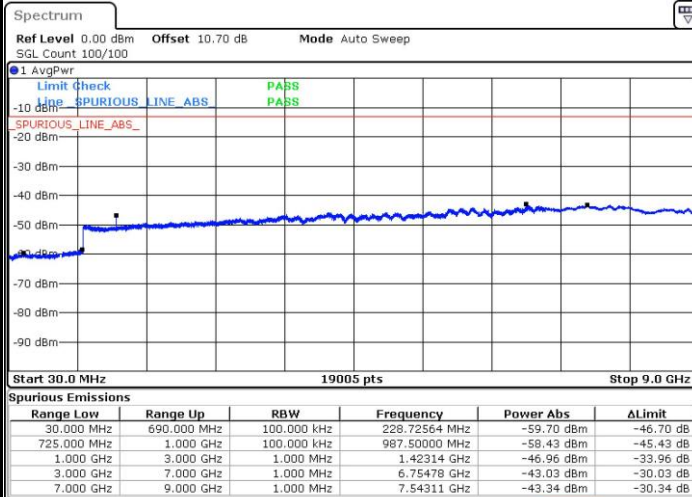
Date: 20 FEB 2019 01:15:07

## Middle Channel / 64QAM



Date: 20 FEB 2019 01:16:25

## Highest Channel / 64QAM

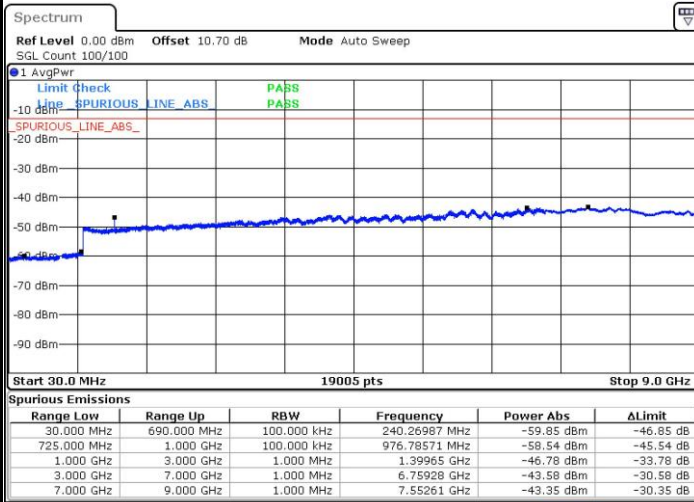


Date: 20 FEB 2019 01:19:44



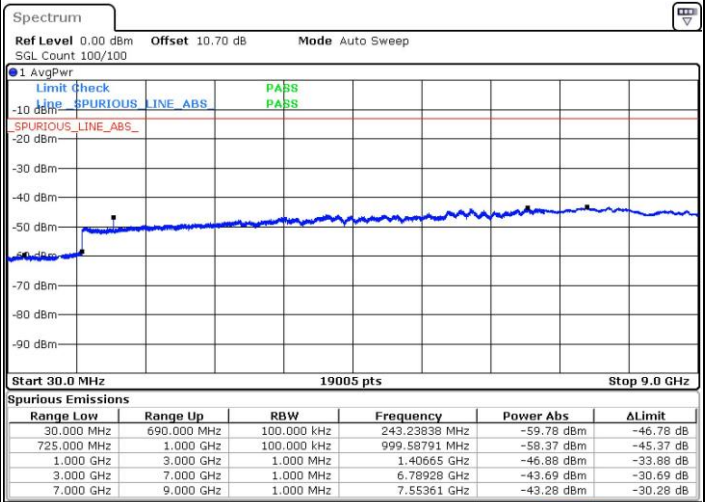
## LTE Band 12 / 10MHz

## Lowest Channel / 64QAM



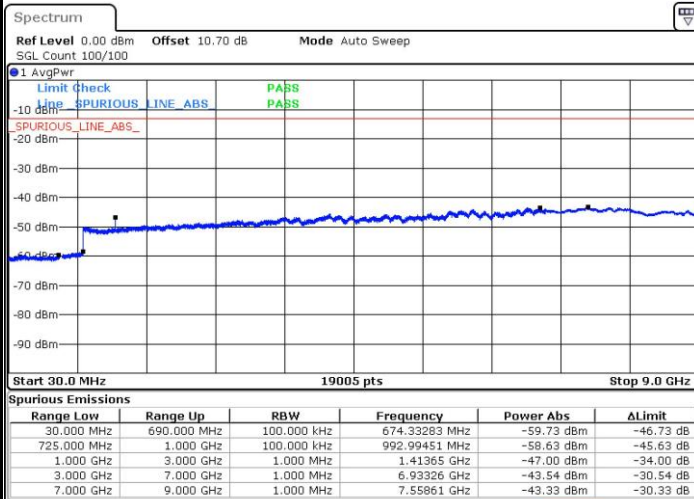
Date: 20 FEB 2019 01:23:02

## Middle Channel / 64QAM



Date: 20 FEB 2019 01:24:20

## Highest Channel / 64QAM



Date: 20 FEB 2019 01:27:38

## Frequency Stability

| Test Conditions  |                   | LTE Band 12 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|-------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                            | Note 2. |
|                  |                   | Deviation (ppm)                     | Result  |
| 50               | Normal Voltage    | 0.0024                              | PASS    |
| 40               | Normal Voltage    | 0.0020                              |         |
| 30               | Normal Voltage    | 0.0011                              |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                              |         |
| 10               | Normal Voltage    | 0.0006                              |         |
| 0                | Normal Voltage    | 0.0017                              |         |
| -10              | Normal Voltage    | 0.0038                              |         |
| -20              | Normal Voltage    | 0.0020                              |         |
| -30              | Normal Voltage    | 0.0100                              |         |
| 20               | Maximum Voltage   | 0.0034                              |         |
| 20               | Normal Voltage    | 0.0000                              |         |
| 20               | Battery End Point | 0.0040                              |         |

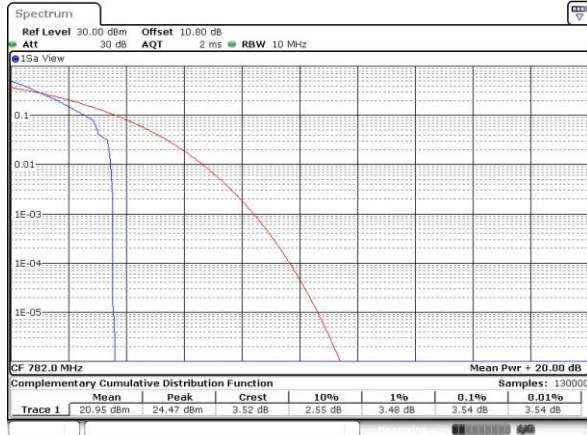
**Note:**

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.25 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

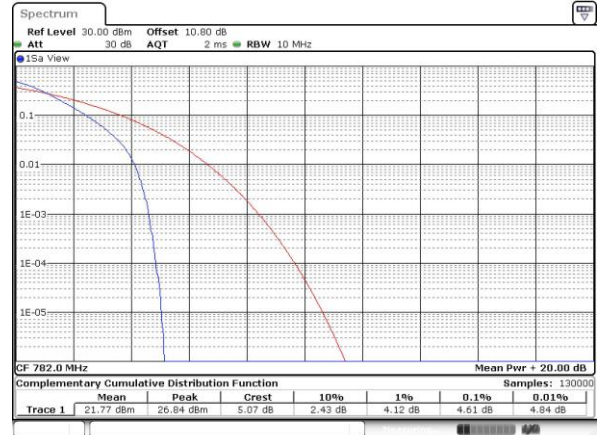
## LTE Band 13

### Peak-to-Average Ratio

| Mode       | LTE Band 13 / 10MHz |         |       |         |             |
|------------|---------------------|---------|-------|---------|-------------|
| Mod.       | QPSK                |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | -                   | -       | -     | -       | PASS        |
| Middle CH  | 3.54                | 4.61    | 4.14  | 5.42    |             |
| Highest CH | -                   | -       | -     | -       |             |
| Mode       | LTE Band 13 / 10MHz |         |       |         |             |
| Mod.       | 64QAM               |         |       |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB |       |         | Result      |
| Lowest CH  | -                   | -       | -     | -       | PASS        |
| Middle CH  | 4.14                | 5.48    | -     | -       |             |
| Highest CH | -                   | -       | -     | -       |             |

**LTE Band 13 / 10MHz / QPSK**
**Middle Channel / 1RB**


Date: 22 FEB 2019 11:09:16

**Middle Channel / Full RB**


Date: 22 FEB 2019 11:09:27

**LTE Band 13 / 10MHz / 16QAM**
**Middle Channel / 1RB**

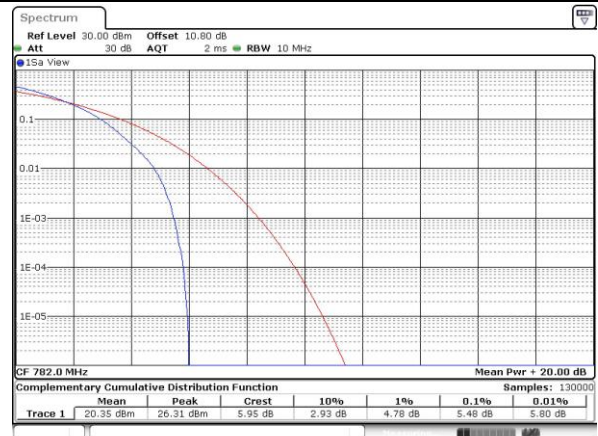

Date: 22 FEB 2019 11:08:55

**Middle Channel / Full RB**


Date: 22 FEB 2019 11:09:06

**LTE Band 13 / 10MHz / 64QAM**
**Middle Channel / 1RB**


Date: 22 FEB 2019 11:08:33

**Middle Channel / Full RB**


Date: 22 FEB 2019 11:08:44

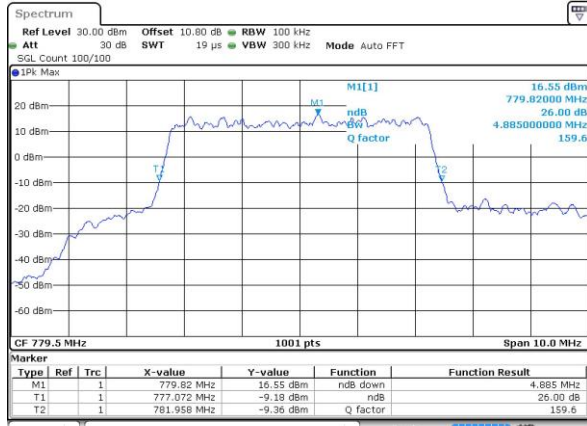
**26dB Bandwidth**

| Mode       | LTE Band 13 : 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  | -                          | -     | -     | -     | 4.89  | 4.86  | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                          | -     | -     | -     | 4.94  | 4.96  | 9.69  | 9.93  | -     | -     | -     | -     |
| Highest CH | -                          | -     | -     | -     | 4.90  | 4.92  | -     | -     | -     | -     | -     | -     |
| Mode       | LTE Band 13 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                     |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                      |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | -                          | -     | -     | -     | 4.91  | -     | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                          | -     | -     | -     | 4.92  | -     | 9.73  | -     | -     | -     | -     | -     |
| Highest CH | -                          | -     | -     | -     | 4.79  | -     | -     | -     | -     | -     | -     | -     |



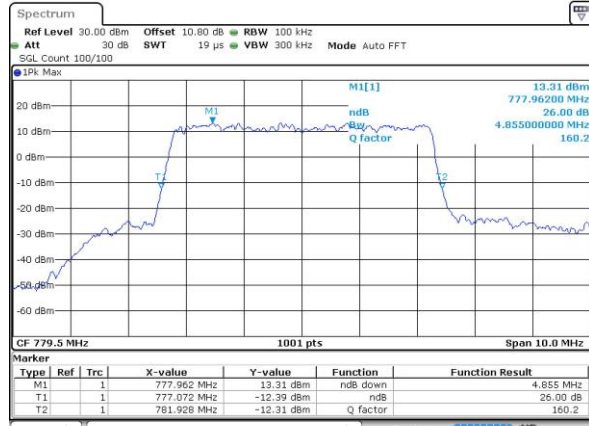
## LTE Band 13

## Lowest Channel / 5MHz / QPSK



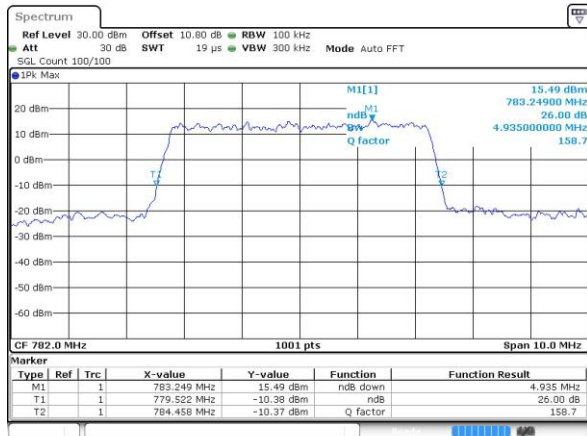
Date: 22 FEB 2019 09:56:03

## Lowest Channel / 5MHz / 16QAM



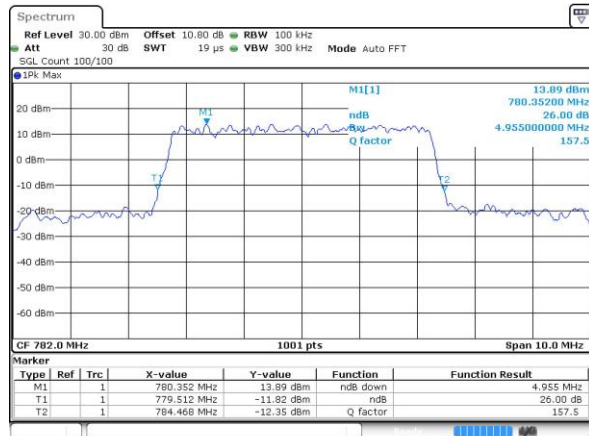
Date: 22 FEB 2019 09:55:52

## Middle Channel / 5MHz / QPSK



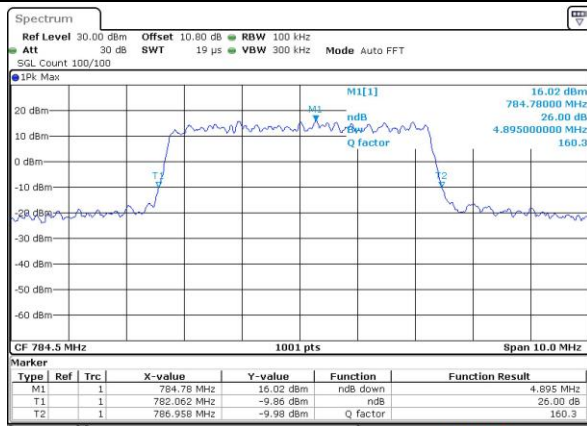
Date: 22 FEB 2019 10:06:17

## Middle Channel / 5MHz / 16QAM



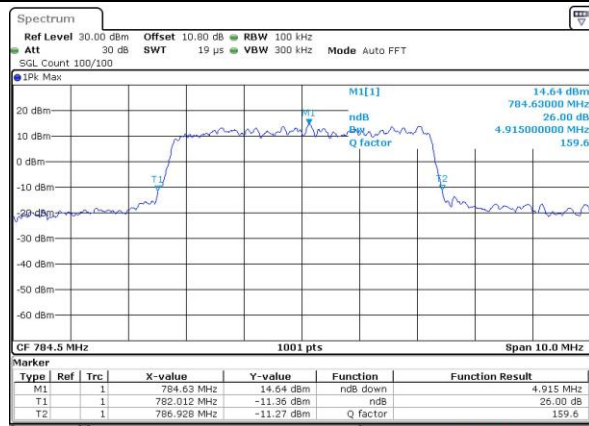
Date: 22 FEB 2019 10:06:28

## Highest Channel / 5MHz / QPSK



Date: 22 FEB 2019 10:07:37

## Highest Channel / 5MHz / 16QAM

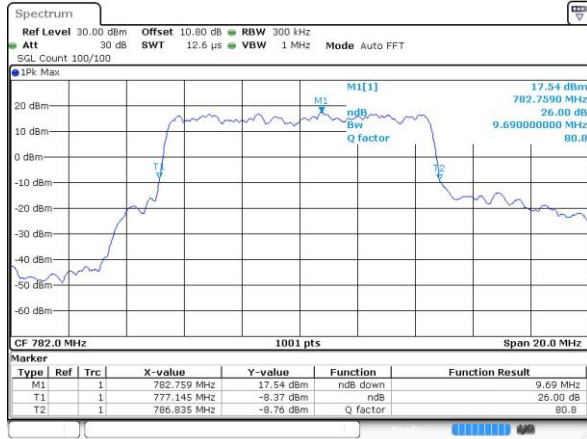


Date: 22 FEB 2019 10:07:26



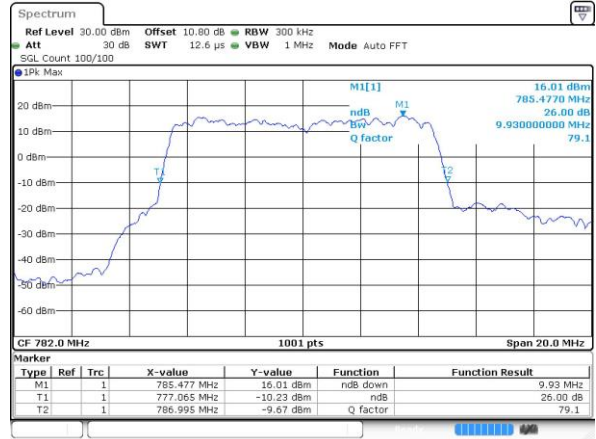
## LTE Band 13

## Middle Channel / 10MHz / QPSK



Date: 22 FEB 2019 10:27:05

## Middle Channel / 10MHz / 16QAM

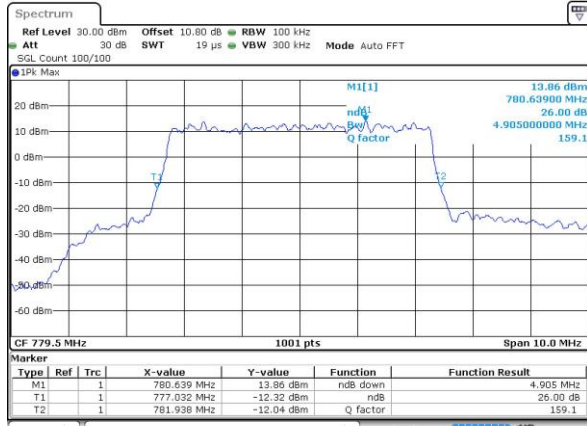


Date: 22 FEB 2019 10:26:54

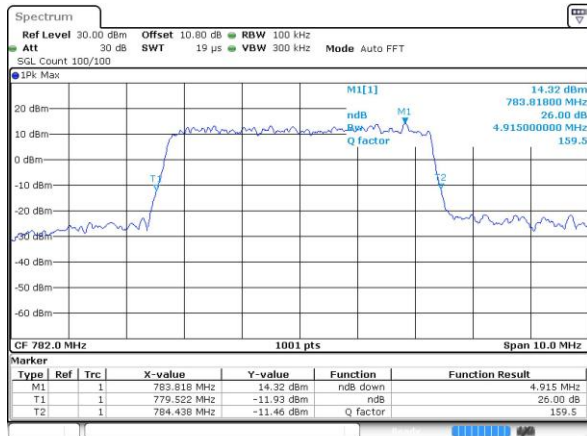


## LTE Band 13

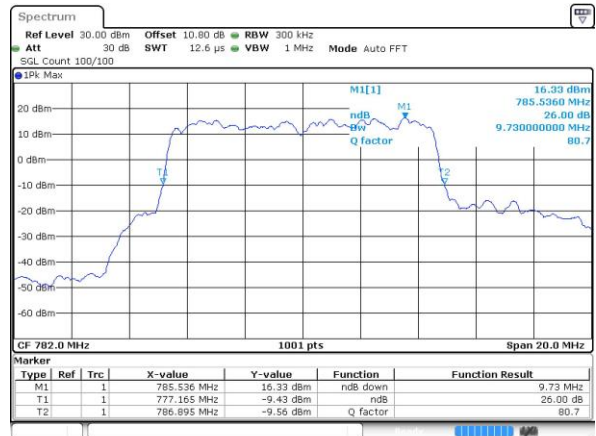
## Lowest Channel / 5MHz / 64QAM



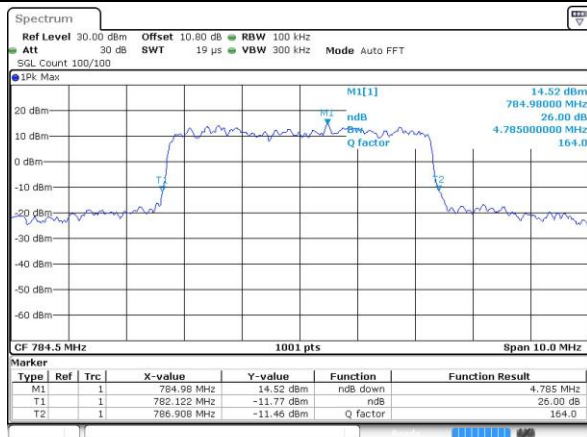
## Middle Channel / 5MHz / 64QAM



## Middle Channel / 10MHz / 64QAM



## Highest Channel / 5MHz / 64QAM



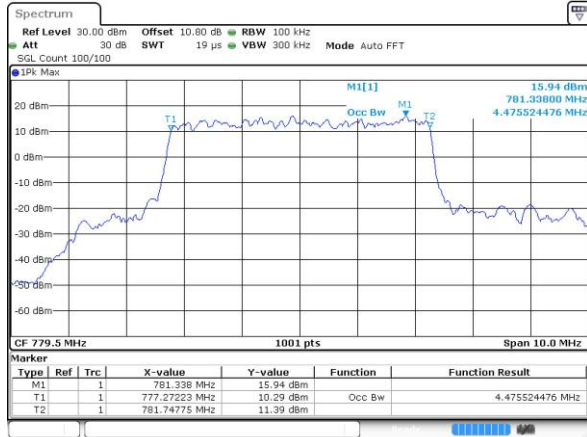
**Occupied Bandwidth**

| Mode       | LTE Band 13 : 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  | -                         | -     | -     | -     | 4.48  | 4.48  | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                         | -     | -     | -     | 4.52  | 4.49  | 9.01  | 8.97  | -     | -     | -     | -     |
| Highest CH | -                         | -     | -     | -     | 4.49  | 4.49  | -     | -     | -     | -     | -     | -     |
| Mode       | LTE Band 13 : 99%OBW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                    |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                     |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | -                         | -     | -     | -     | 4.48  | -     | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                         | -     | -     | -     | 4.47  | -     | 9.07  | -     | -     | -     | -     | -     |
| Highest CH | -                         | -     | -     | -     | 4.52  | -     | -     | -     | -     | -     | -     | -     |

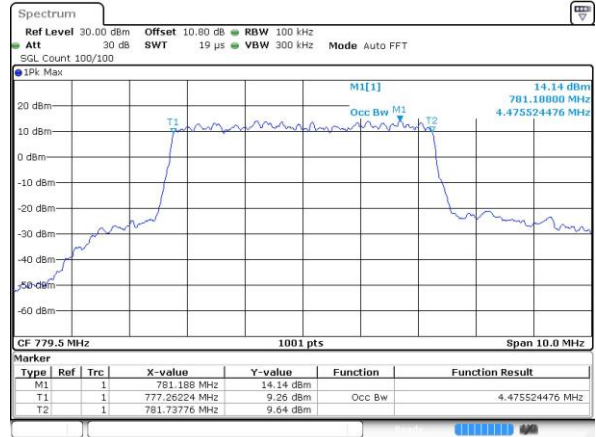


## LTE Band 13

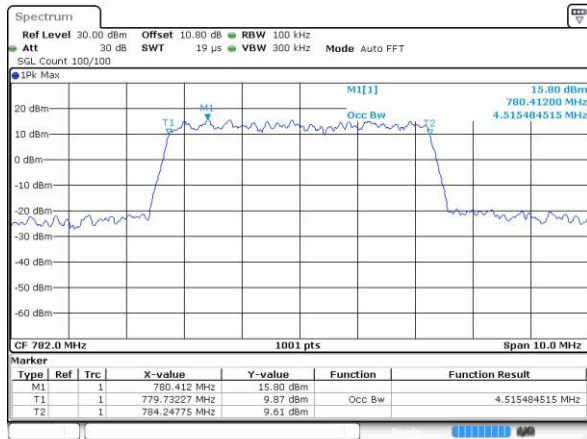
## Lowest Channel / 5MHz / QPSK



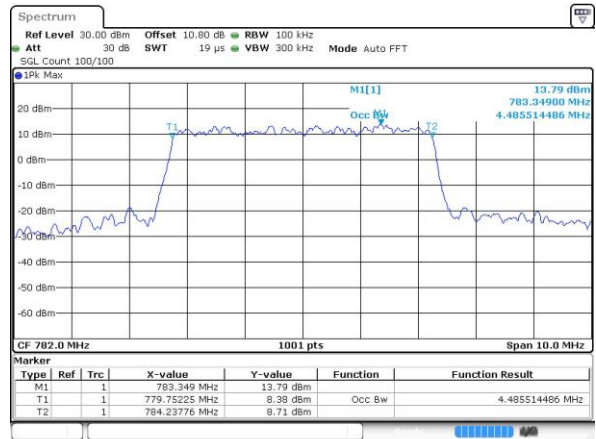
## Lowest Channel / 5MHz / 16QAM



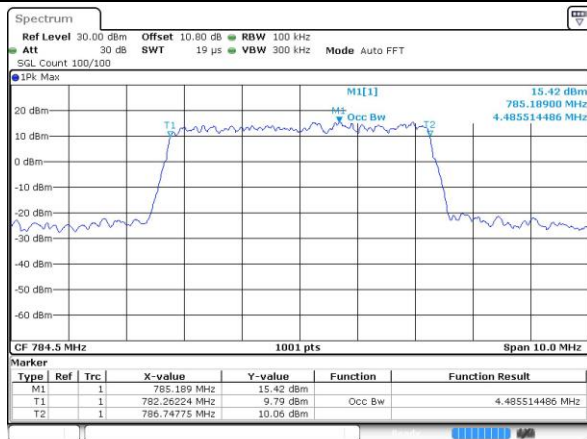
## Middle Channel / 5MHz / QPSK



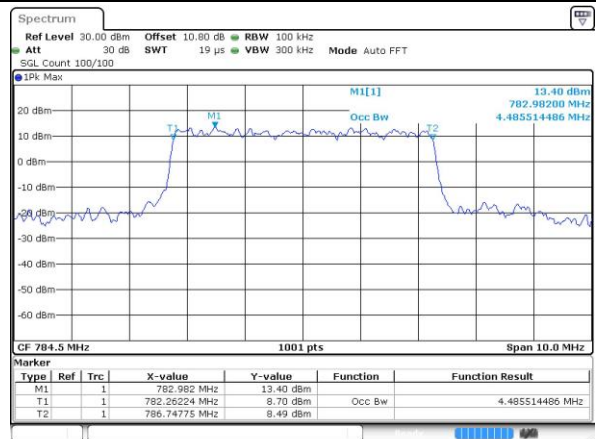
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



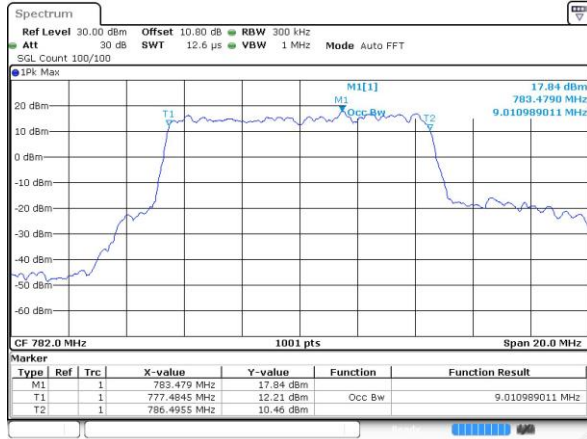
## Highest Channel / 5MHz / 16QAM





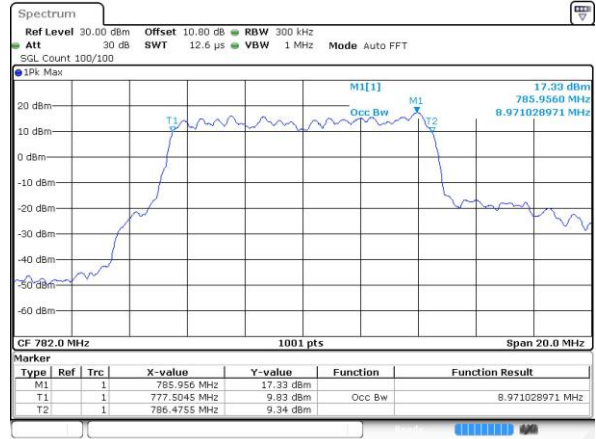
## LTE Band 13

## Middle Channel / 10MHz / QPSK



Date: 22 FEB 2019 10:26:31

## Middle Channel / 10MHz / 16QAM

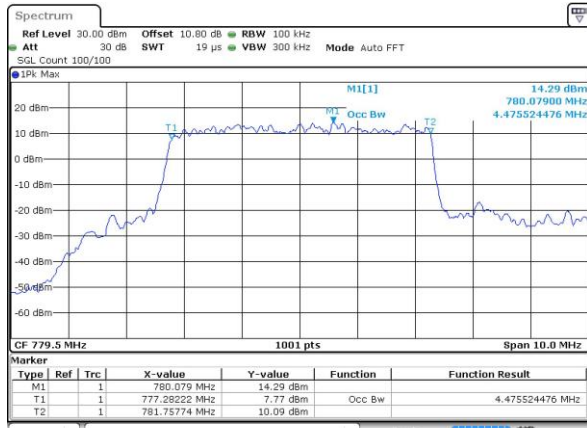


Date: 22 FEB 2019 10:26:42



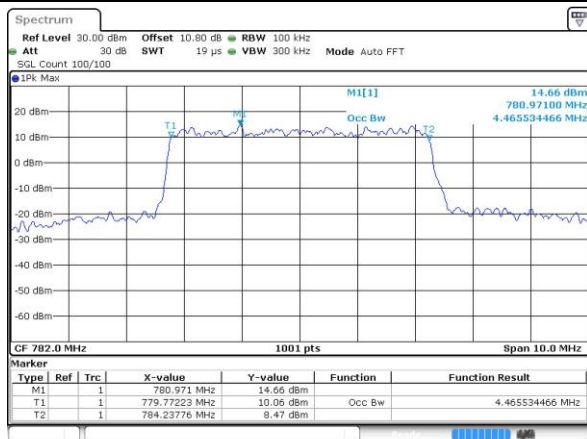
## LTE Band 13

## Lowest Channel / 5MHz / 64QAM



Date: 22 FEB 2019 10:16:10

## Middle Channel / 5MHz / 64QAM



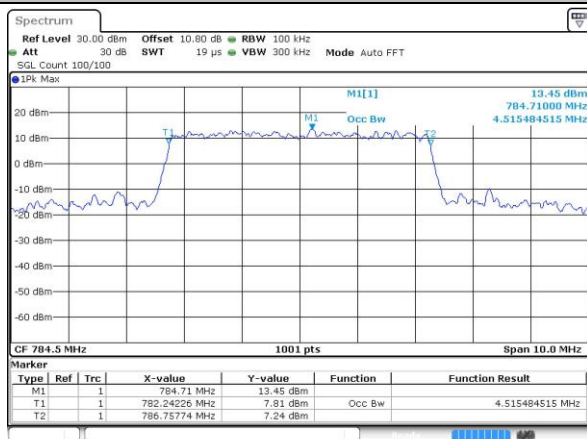
Date: 22 FEB 2019 10:21:48

## Middle Channel / 10MHz / 64QAM

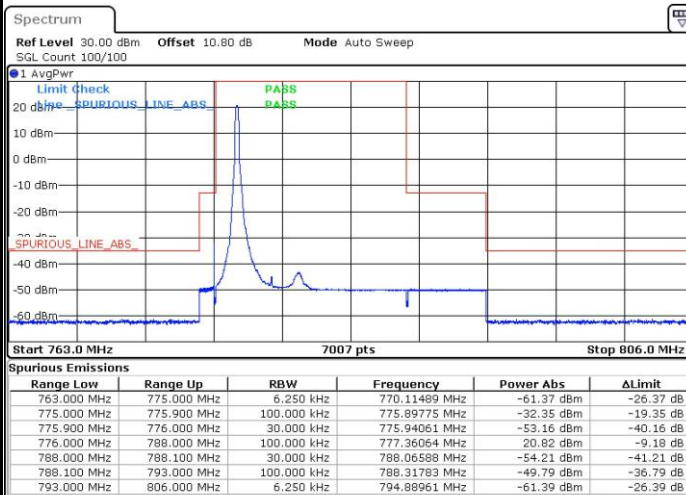


Date: 22 FEB 2019 10:38:59

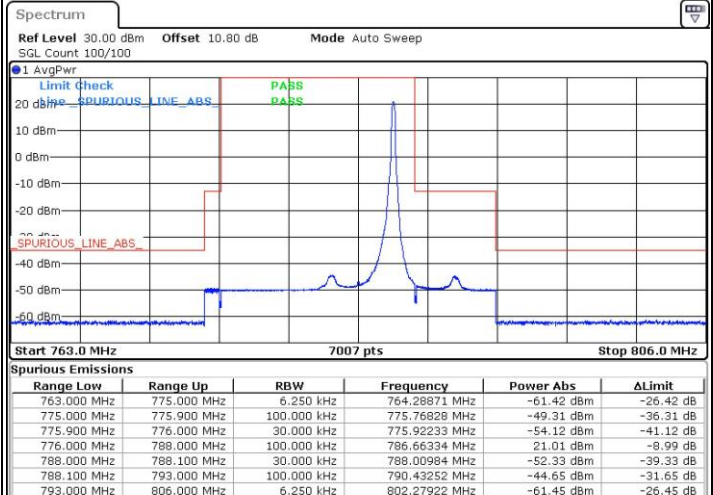
## Highest Channel / 5MHz / 64QAM



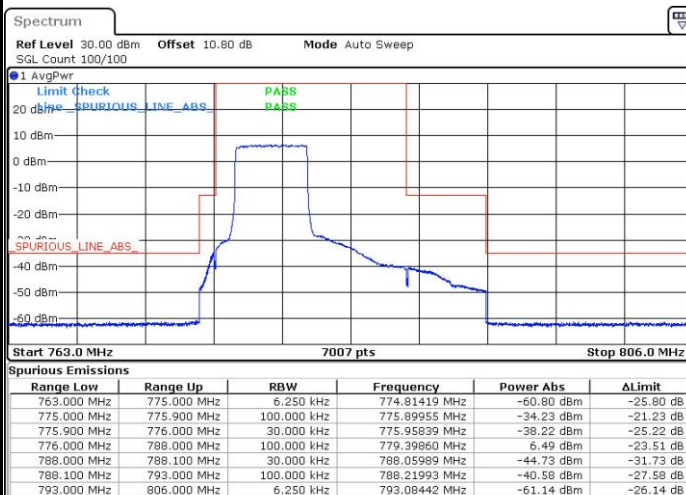
Date: 22 FEB 2019 10:21:57

**Conducted Band Edge****LTE Band 13 / 5MHz / QPSK****Lowest Band Edge / 1 RB**

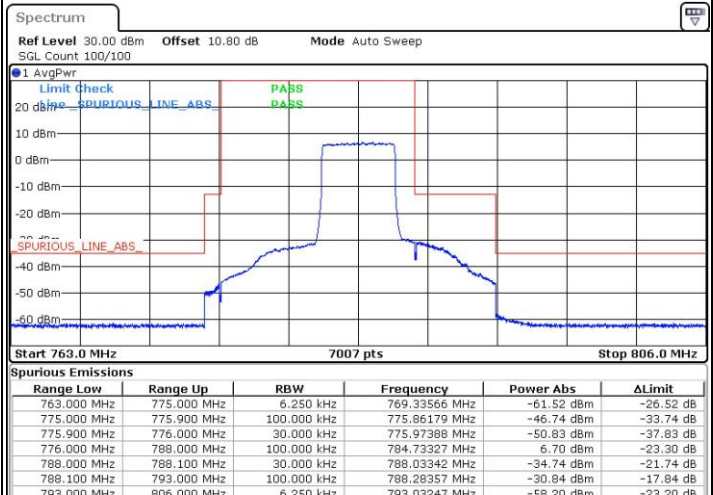
Date: 22 FEB 2019 10:02:45

**Highest Band Edge / 1 RB**

Date: 22 FEB 2019 10:14:18

**Lowest Band Edge / Full RB**

Date: 22 FEB 2019 09:57:44

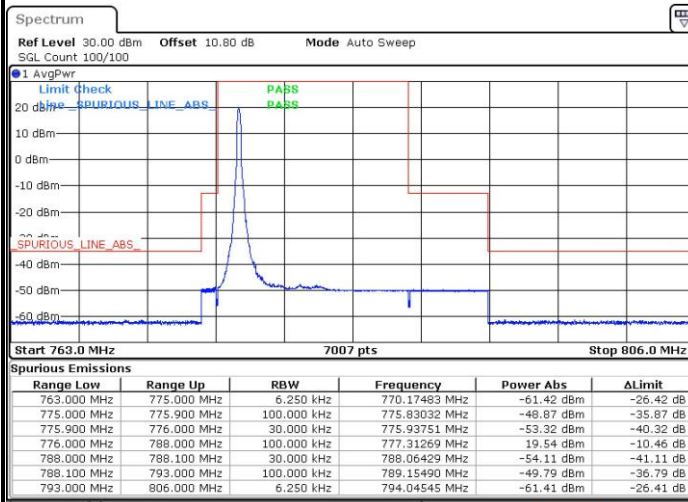
**Highest Band Edge / Full RB**

Date: 22 FEB 2019 10:09:17



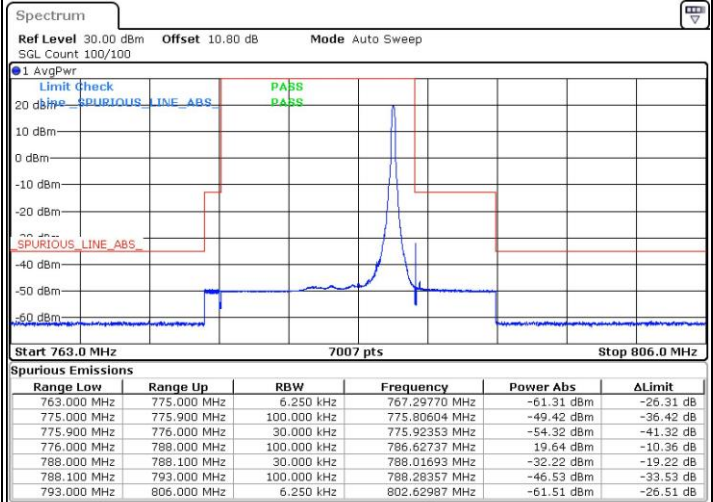
## LTE Band 13 / 5MHz / 16QAM

## Lowest Band Edge / 1 RB



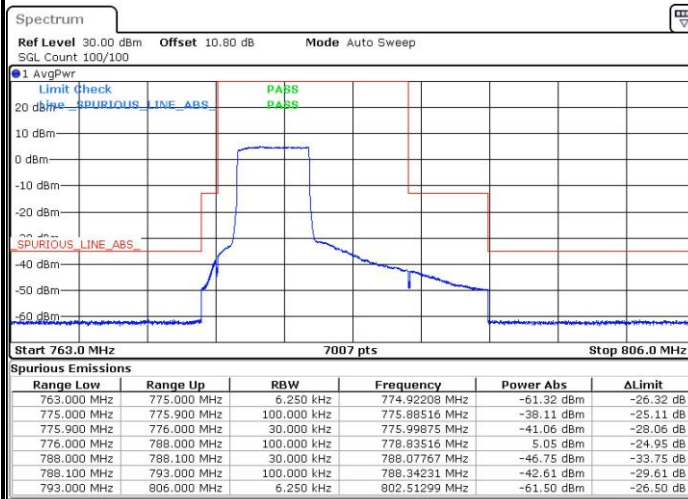
Date: 22.FEB.2019 10:01:05

## Highest Band Edge / 1 RB



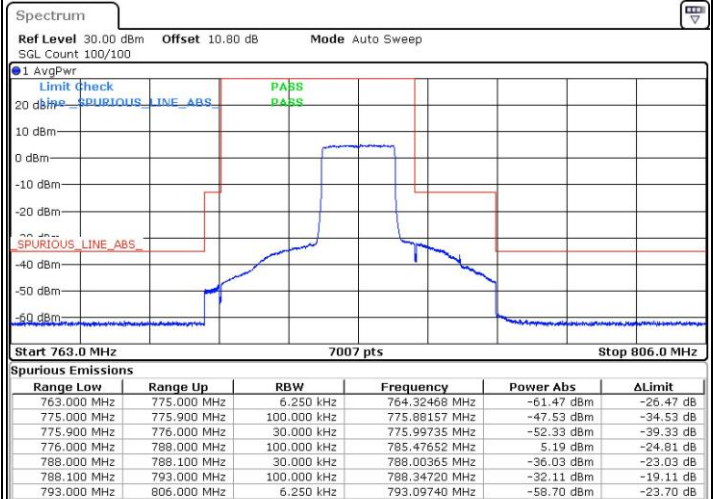
Date: 22.FEB.2019 10:12:38

## Lowest Band Edge / Full RB



Date: 22.FEB.2019 09:59:24

## Highest Band Edge / Full RB

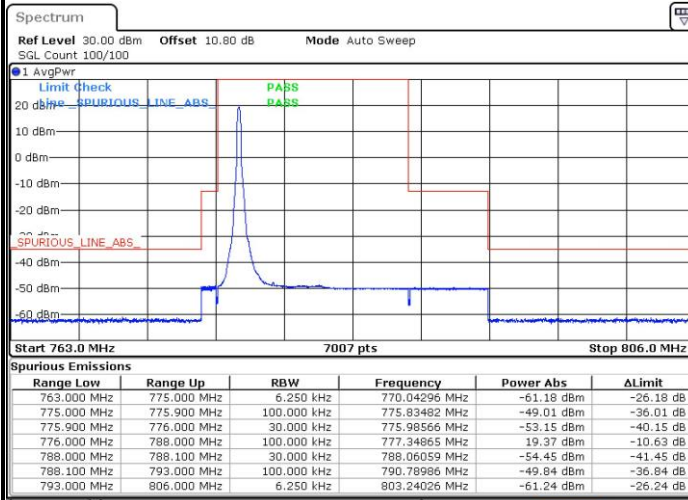


Date: 22.FEB.2019 10:10:57

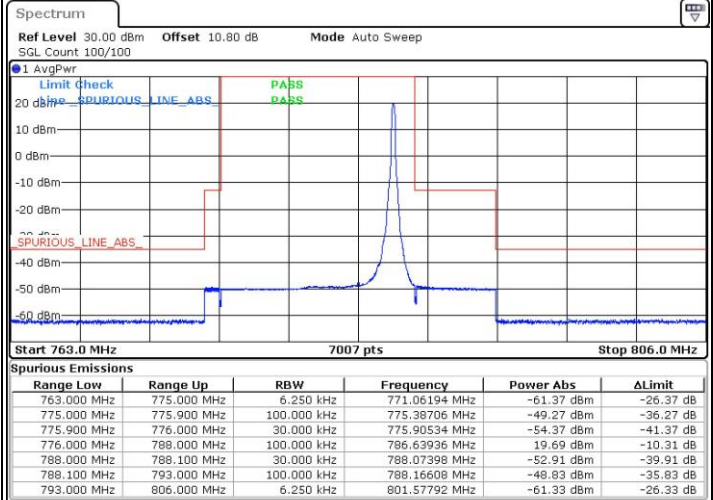


## LTE Band 13 / 5MHz / 64QAM

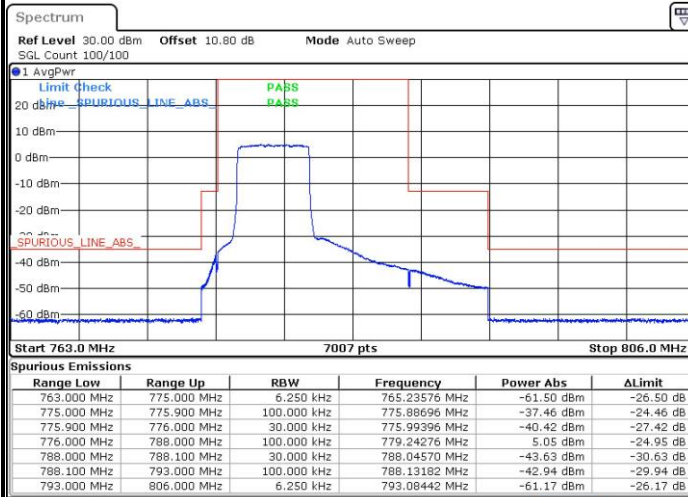
## Lowest Band Edge / 1 RB



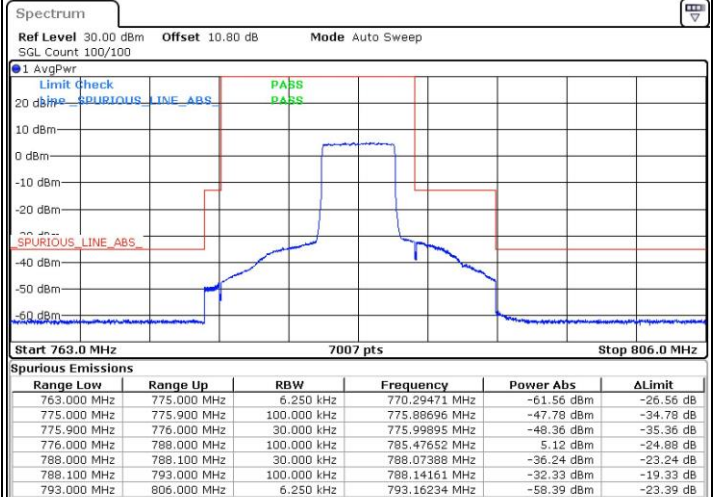
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



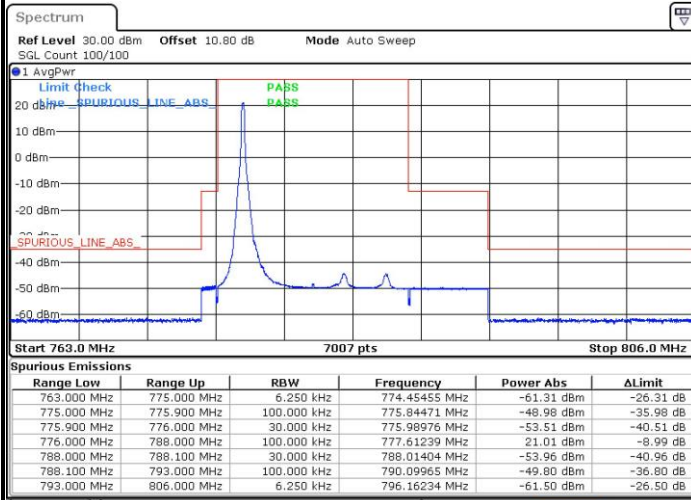
## Highest Band Edge / Full RB





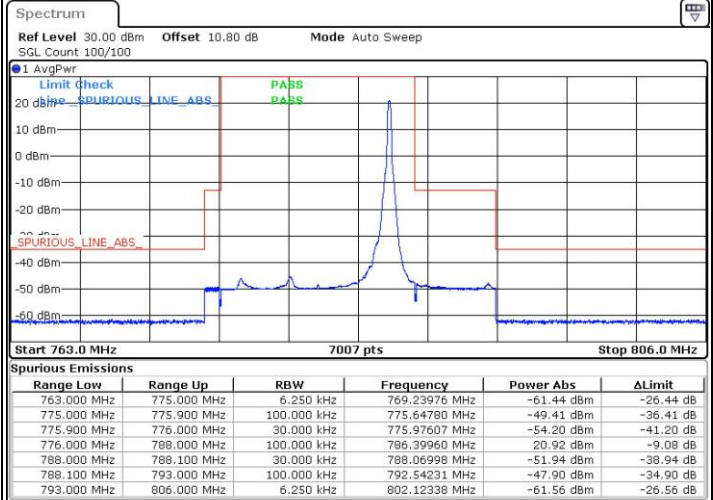
## LTE Band 13 / 10MHz / QPSK

## Lowest Band Edge / 1 RB



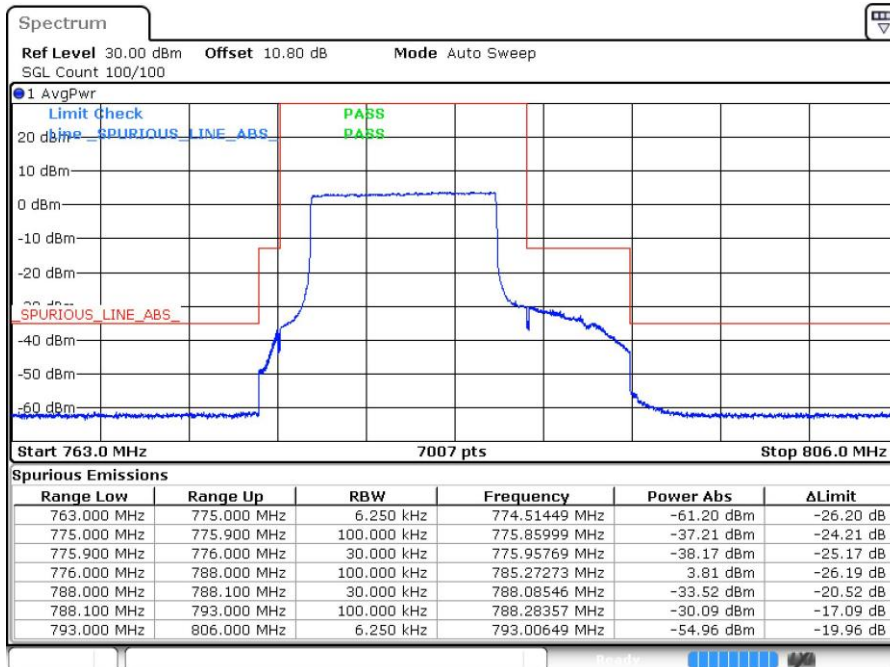
Date: 22.FEB.2019 10:33:46

## Highest Band Edge / 1 RB



Date: 22.FEB.2019 10:35:27

## Band Edge / Full RB

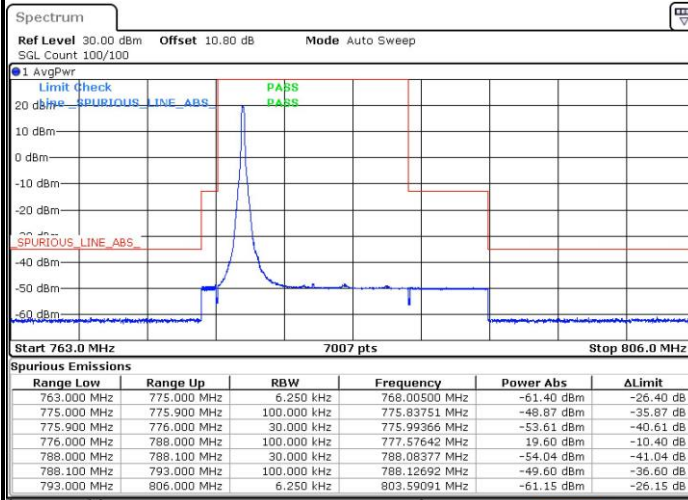


Date: 22.FEB.2019 10:28:45



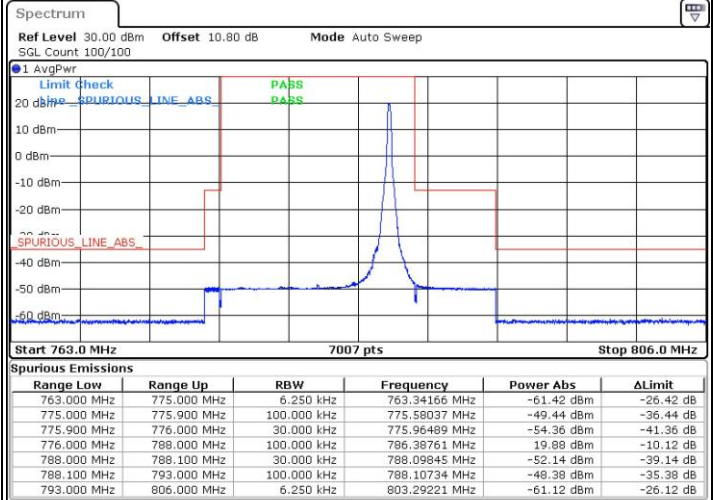
## LTE Band 13 / 10MHz / 16QAM

## Lowest Band Edge / 1 RB



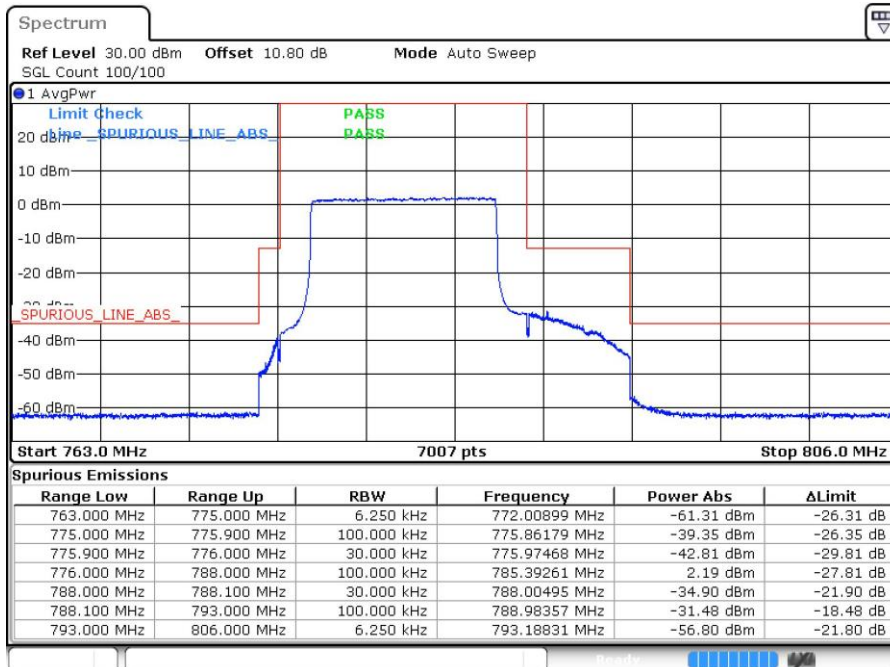
Date: 22.FEB.2019 10:32:06

## Highest Band Edge / 1 RB



Date: 22.FEB.2019 10:37:07

## Band Edge / Full RB

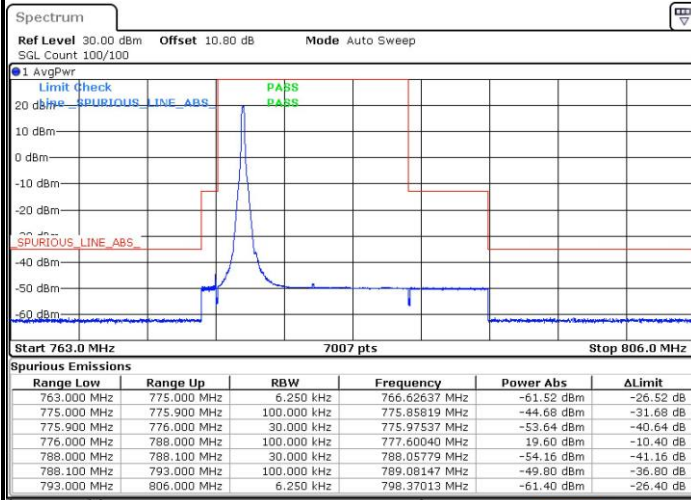


Date: 22.FEB.2019 10:30:26



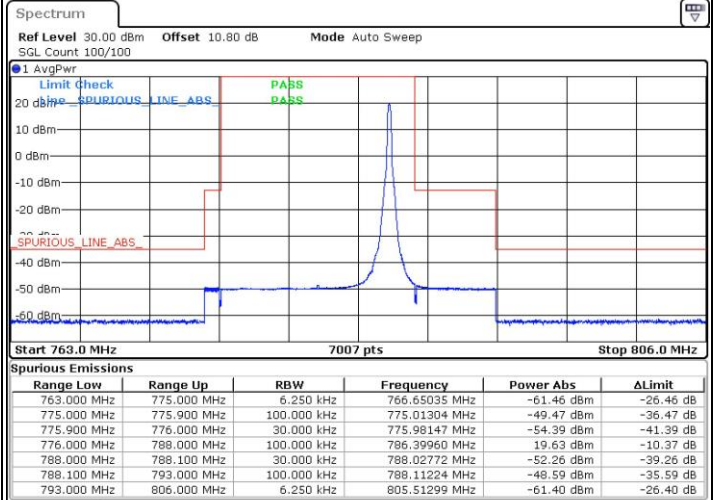
## LTE Band 13 / 10MHz / 64QAM

## Lowest Band Edge / 1 RB



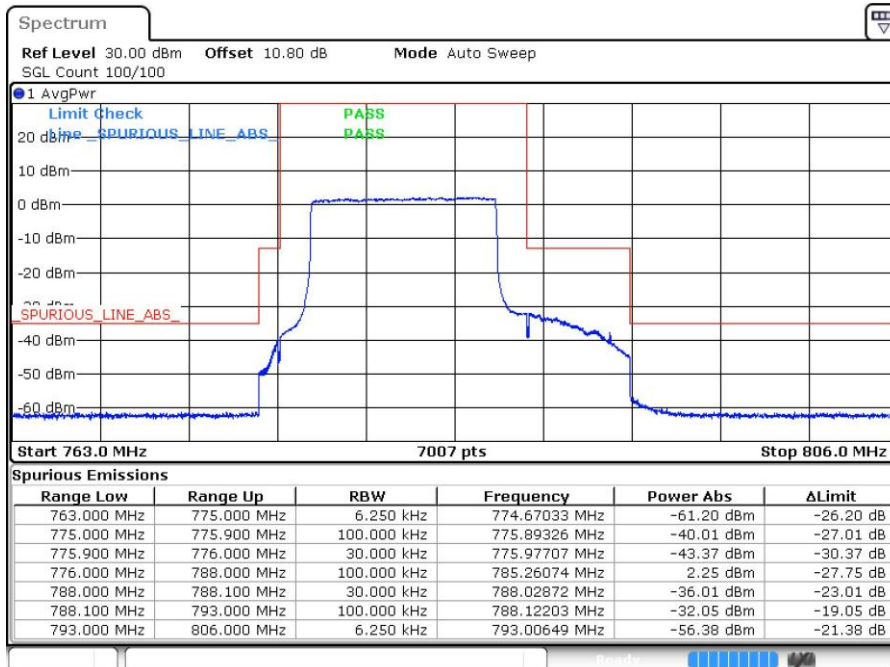
Date: 22.FEB.2019 10:42:31

## Highest Band Edge / 1 RB



Date: 22.FEB.2019 10:44:11

## Band Edge / Full RB



Date: 22.FEB.2019 10:40:50