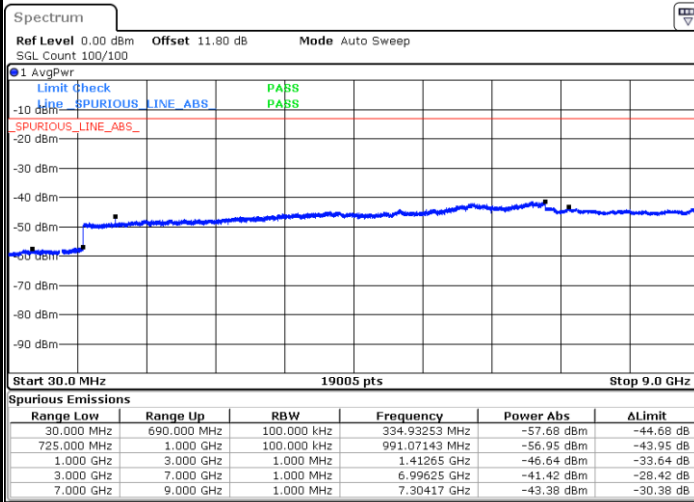




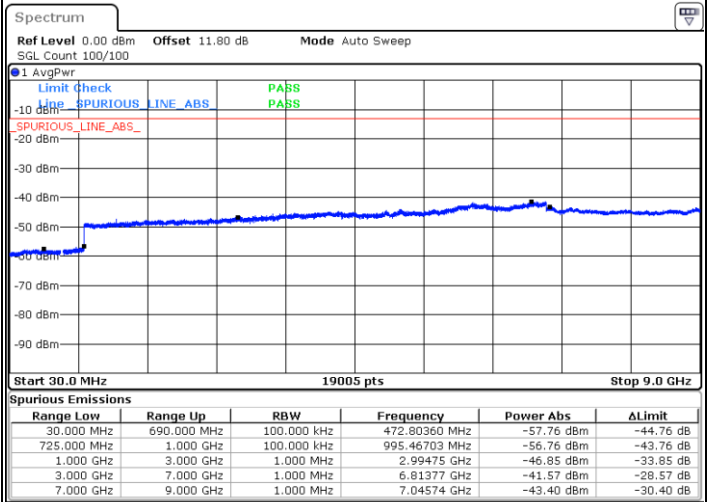
## LTE Band 12 / 3MHz

## Middle Channel / QPSK



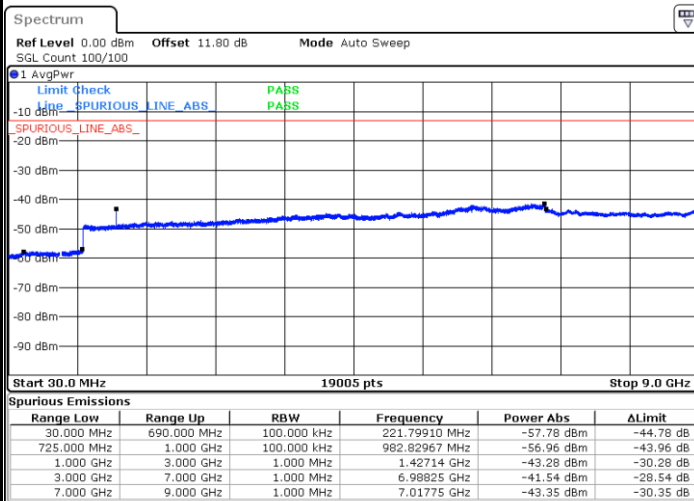
Date: 6.JAN.2018 19:08:48

## Middle Channel / 16QAM



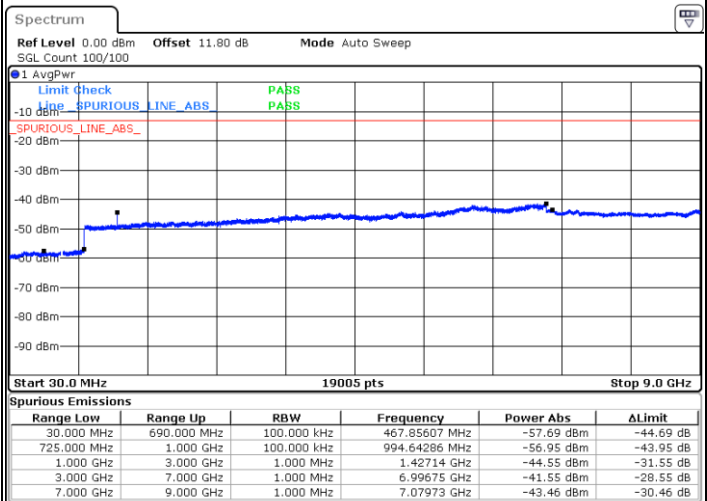
Date: 6.JAN.2018 19:07:55

## Highest Channel / QPSK



Date: 6.JAN.2018 19:14:52

## Highest Channel / 16QAM

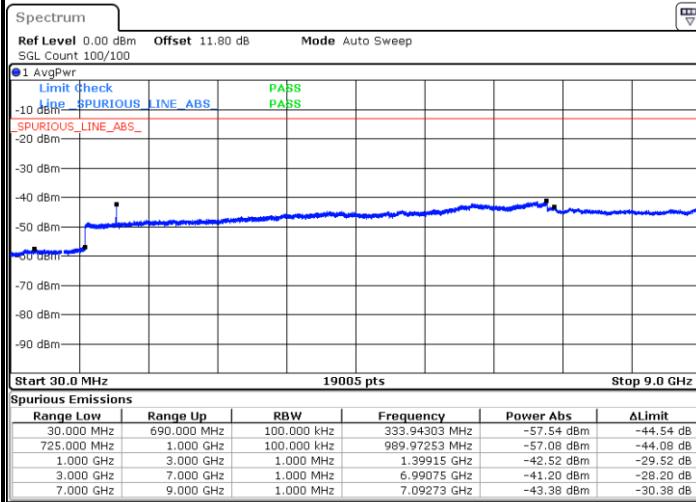


Date: 6.JAN.2018 19:15:45



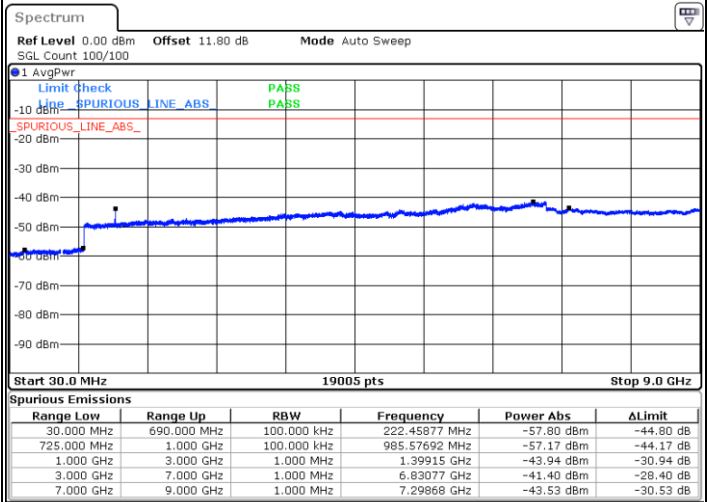
## LTE Band 12 / 5MHz

## Lowest Channel / QPSK



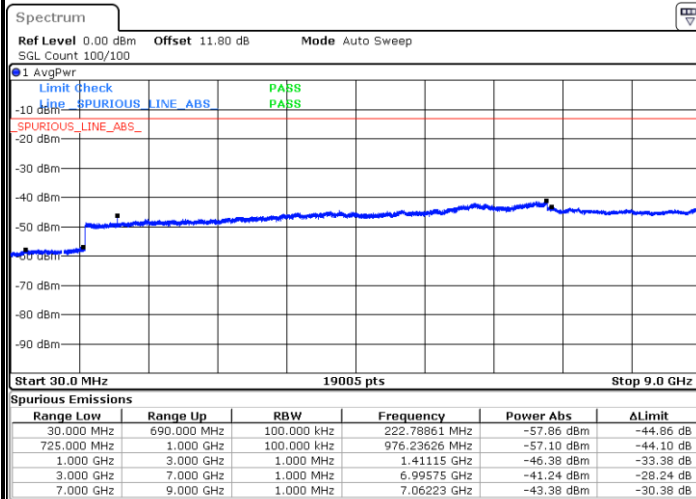
Date: 6.JAN.2018 19:21:49

## Lowest Channel / 16QAM



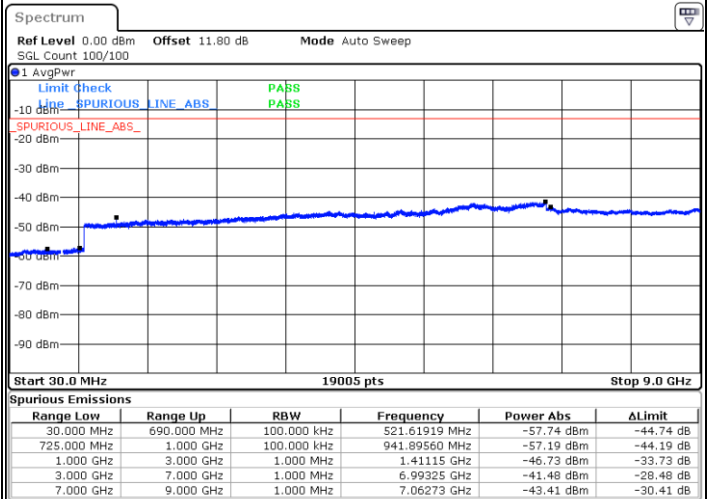
Date: 6.JAN.2018 19:22:42

## Middle Channel / QPSK



Date: 6.JAN.2018 19:25:07

## Middle Channel / 16QAM

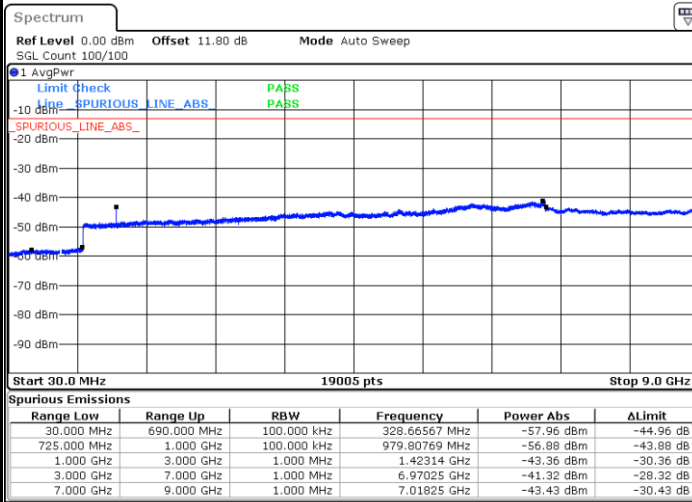


Date: 6.JAN.2018 19:24:14



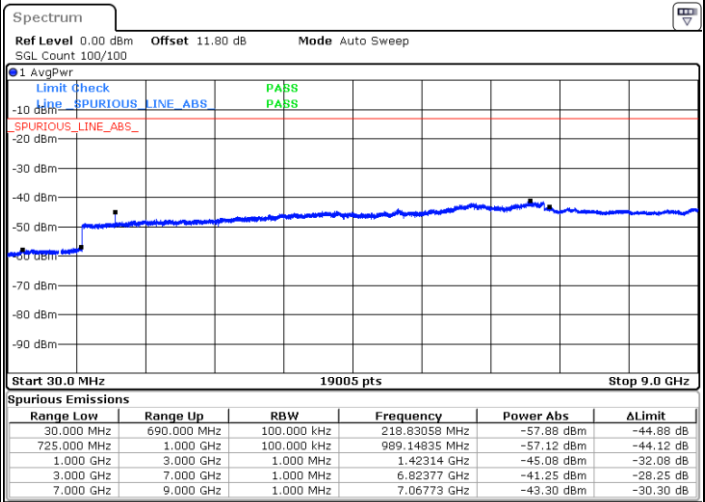
## LTE Band 12 / 5MHz

## Highest Channel / QPSK



Date: 6.JAN.2018 19:32:04

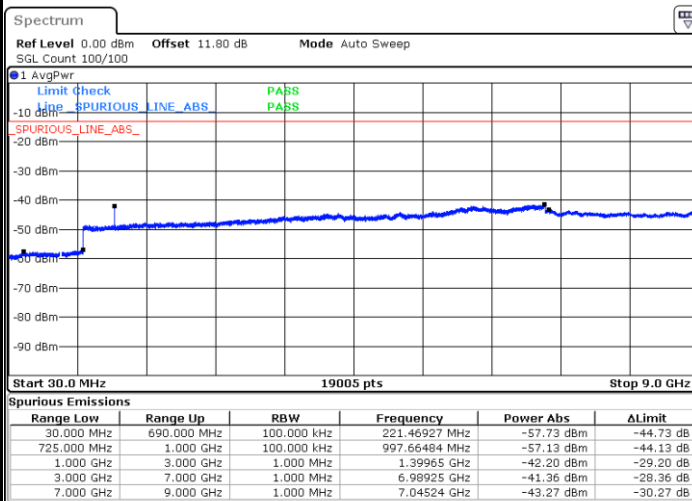
## Highest Channel / 16QAM



Date: 6.JAN.2018 19:31:11

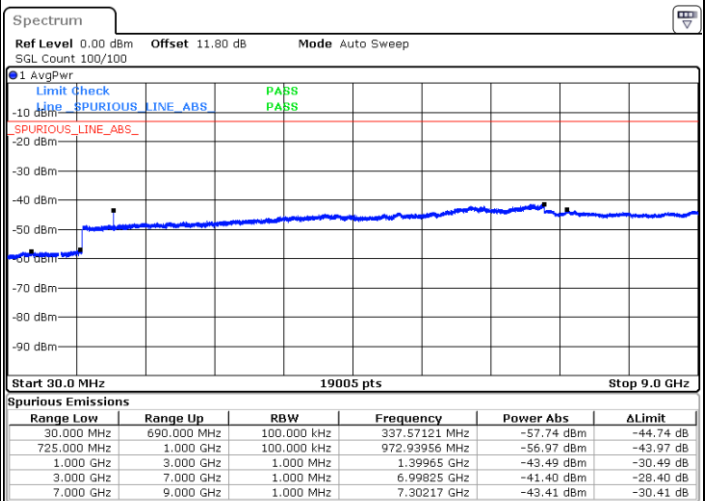
## LTE Band 12 / 10MHz

## Lowest Channel / QPSK



Date: 6.JAN.2018 19:38:07

## Lowest Channel / 16QAM

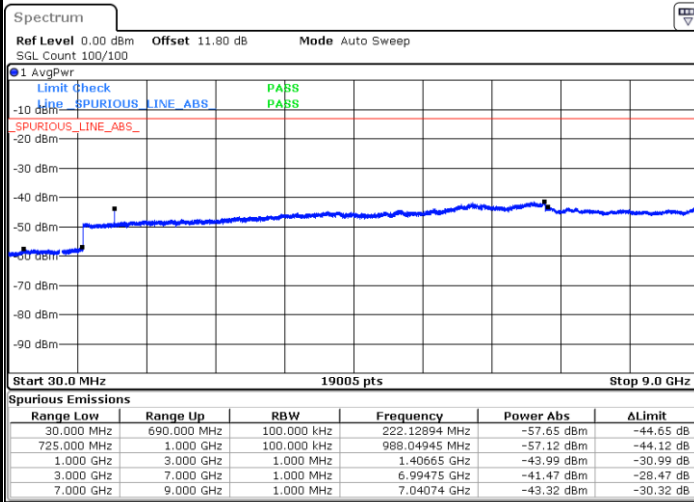


Date: 6.JAN.2018 19:39:00



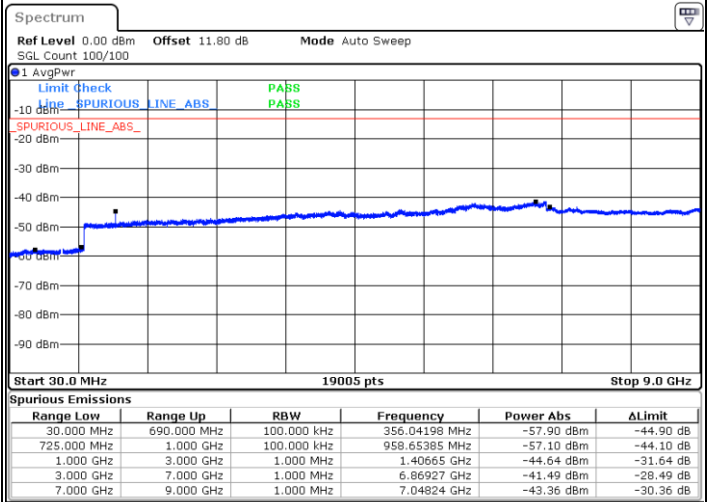
## LTE Band 12 / 10MHz

## Middle Channel / QPSK



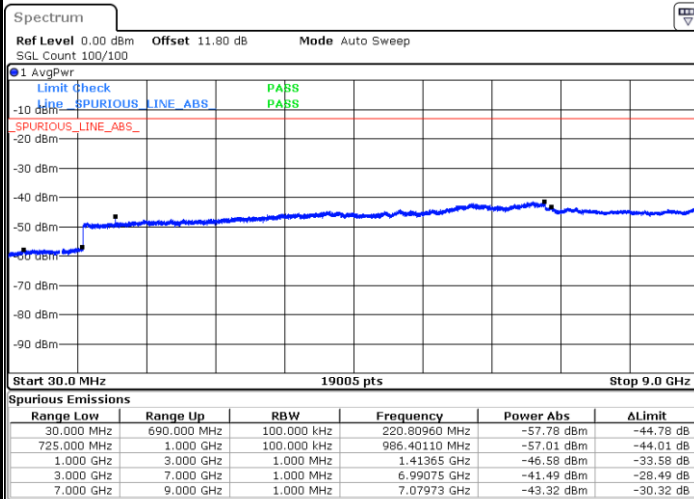
Date: 6.JAN.2018 19:41:25

## Middle Channel / 16QAM



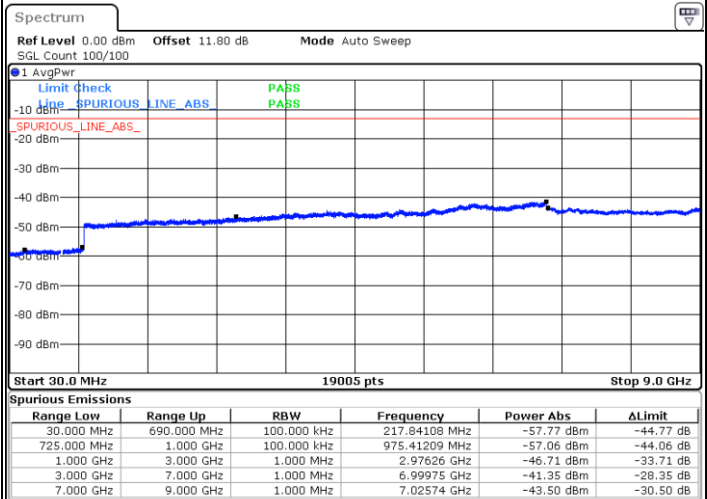
Date: 6.JAN.2018 19:40:32

## Highest Channel / QPSK



Date: 6.JAN.2018 19:47:28

## Highest Channel / 16QAM



Date: 6.JAN.2018 19:48:21

## 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    | 0.0006                              | PASS    |
| 40               | Normal Voltage    | 0.0007                              |         |
| 30               | Normal Voltage    | 0.0000                              |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                              |         |
| 10               | Normal Voltage    | 0.0007                              |         |
| 0                | Normal Voltage    | 0.0008                              |         |
| -10              | Normal Voltage    | 0.0003                              |         |
| -20              | Normal Voltage    | 0.0011                              |         |
| -30              | Normal Voltage    | 0.0007                              |         |
| 20               | Maximum Voltage   | 0.0016                              |         |
| 20               | Normal Voltage    | 0.0000                              |         |
| 20               | Battery End Point | 0.0004                              |         |

**Note:**

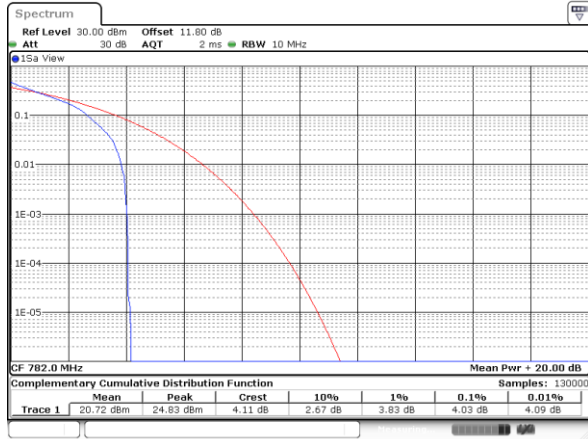
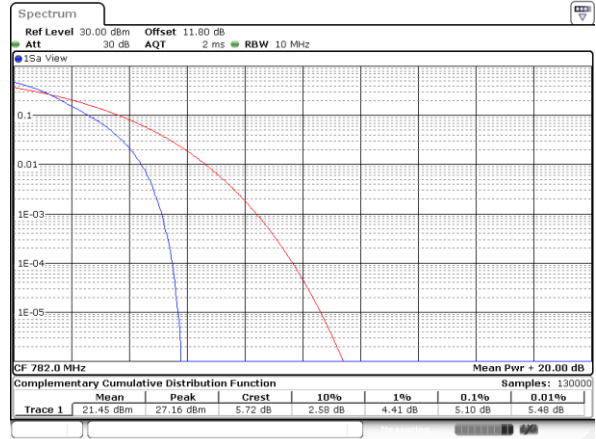
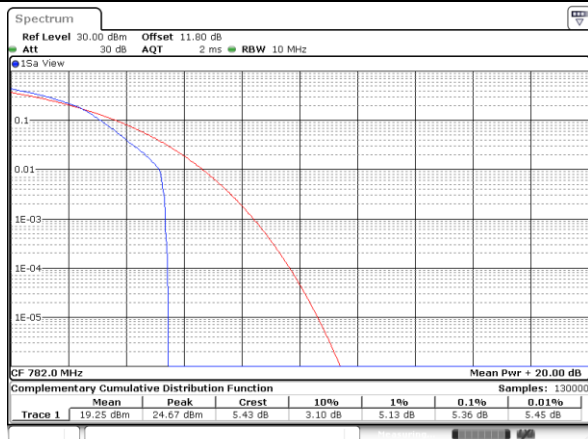
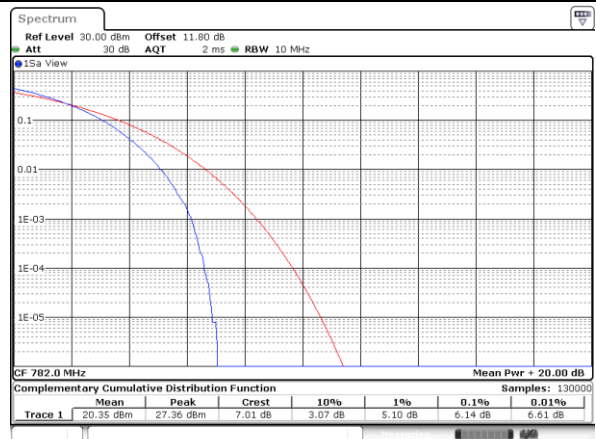
1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



## 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  | 4.03                | 5.1     | 5.36  | 6.14    |             |
| Highest CH | -                   | -       | -     | -       |             |

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

**Middle Channel / Full RB**

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

**Middle Channel / Full RB**


**26dB Bandwidth**

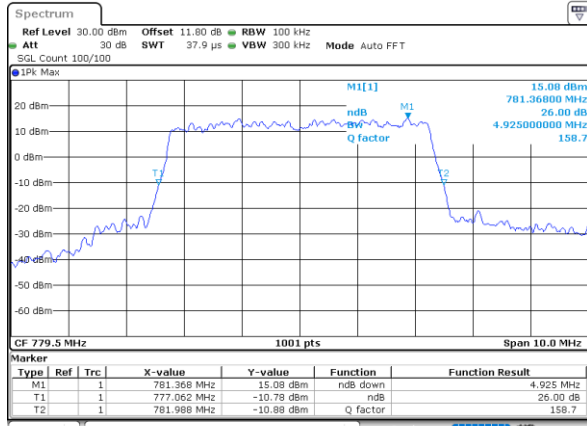
| Mode       | LTE Band 13 : 26dB BW(MHz) |       |      |       |      |       |       |       |       |       |       |       |
|------------|----------------------------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| BW         | 1.4MHz                     |       | 3MHz |       | 5MHz |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | QPSK                       | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM |
| Lowest CH  | -                          | -     | -    | -     | 4.93 | 4.87  | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                          | -     | -    | -     | 4.96 | 4.92  | 9.85  | 9.71  | -     | -     | -     | -     |
| Highest CH | -                          | -     | -    | -     | 4.90 | 4.93  | -     | -     | -     | -     | -     | -     |





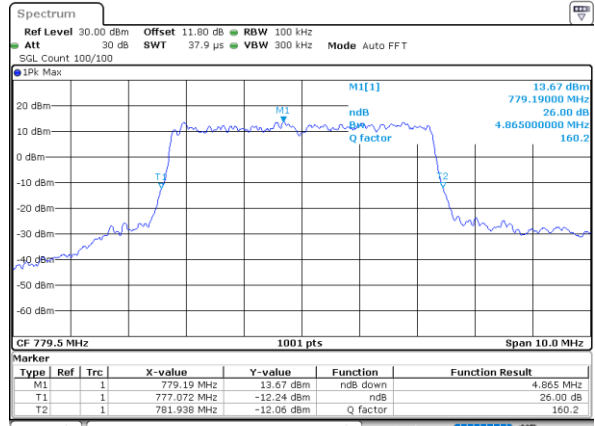
## LTE Band 13

## Lowest Channel / 5MHz / QPSK



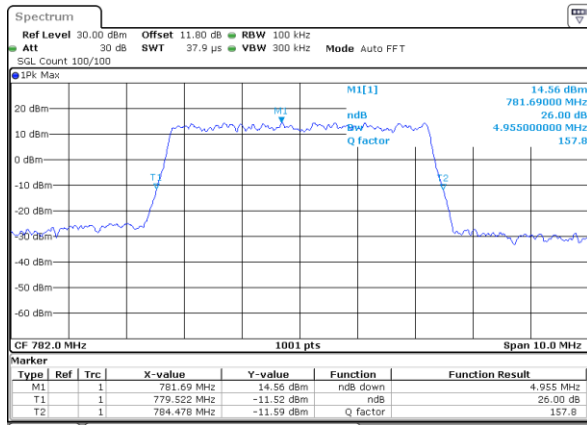
Date: 7,JAN,2018 00:20:46

## Lowest Channel / 5MHz / 16QAM



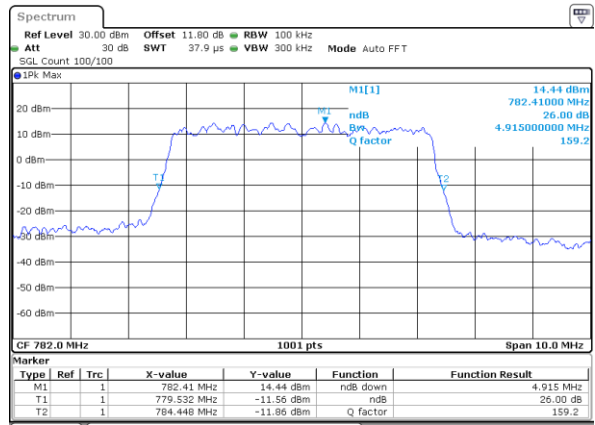
Date: 7,JAN,2018 00:20:36

## Middle Channel / 5MHz / QPSK



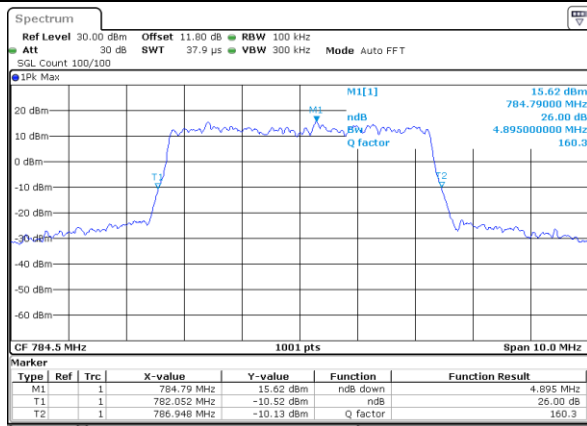
Date: 7,JAN,2018 00:33:31

## Middle Channel / 5MHz / 16QAM



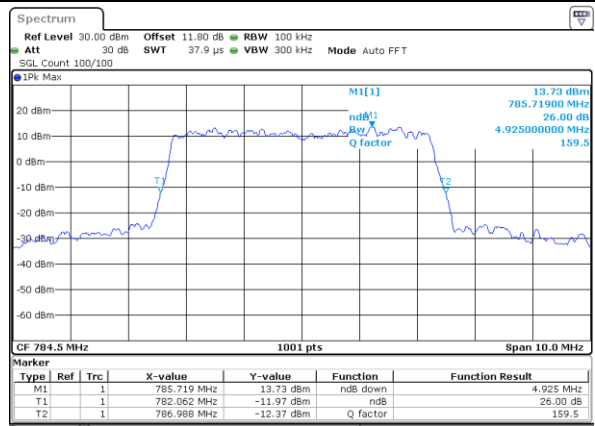
Date: 7,JAN,2018 00:33:41

## Highest Channel / 5MHz / QPSK



Date: 7,JAN,2018 00:34:40

## Highest Channel / 5MHz / 16QAM

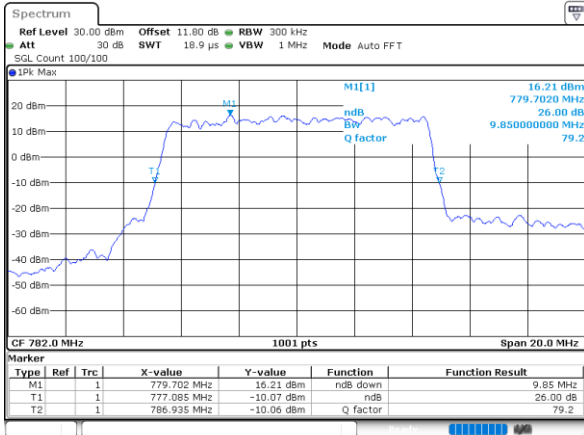


Date: 7,JAN,2018 00:34:31



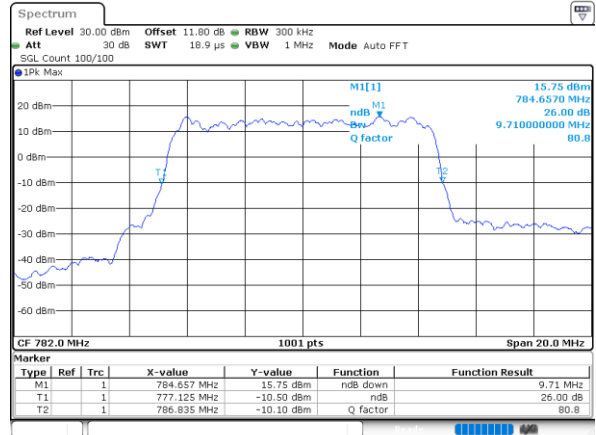
## LTE Band 13

## Middle Channel / 10MHz / QPSK



Date: 7.JAN.2018 00:43:18

## Middle Channel / 10MHz / 16QAM



Date: 7.JAN.2018 00:43:28



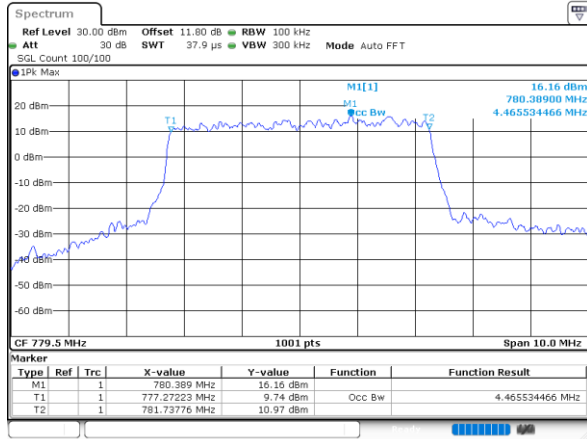
## Occupied Bandwidth

| 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  | -                         | -     | -    | -     | 4.47 | 4.48  | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                         | -     | -    | -     | 4.5  | 4.48  | 9.03  | 9.03  | -     | -     | -     | -     |
| Highest CH | -                         | -     | -    | -     | 4.5  | 4.51  | -     | -     | -     | -     | -     | -     |

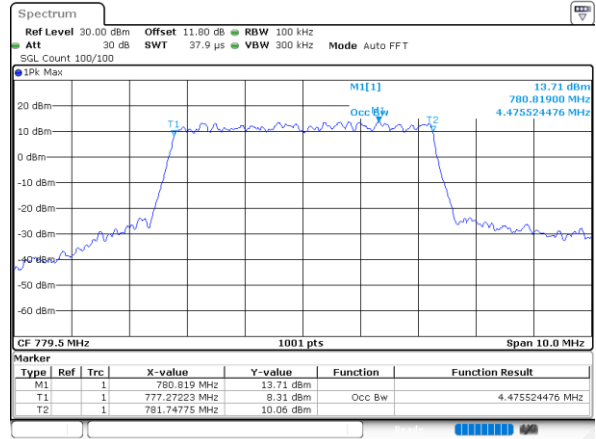


## LTE Band 13

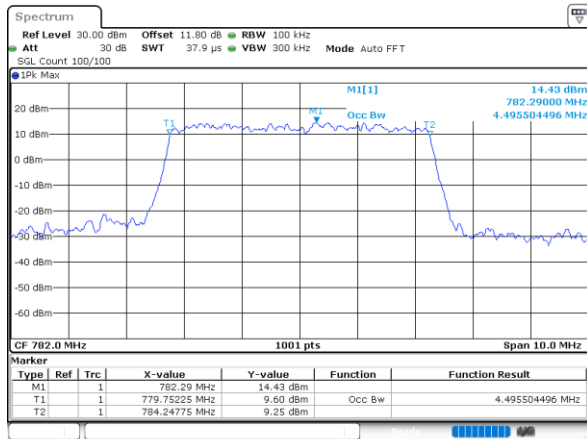
## Lowest Channel / 5MHz / QPSK



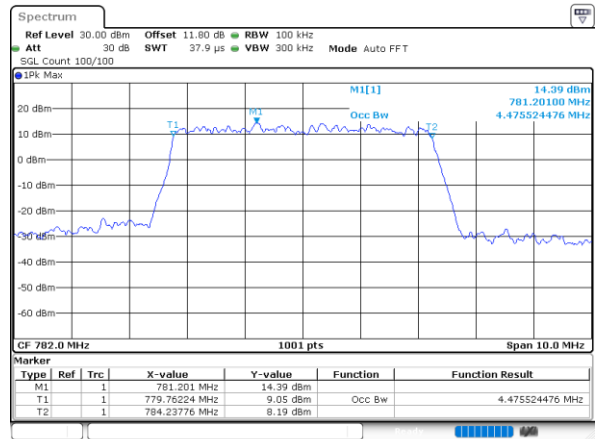
## Lowest Channel / 5MHz / 16QAM



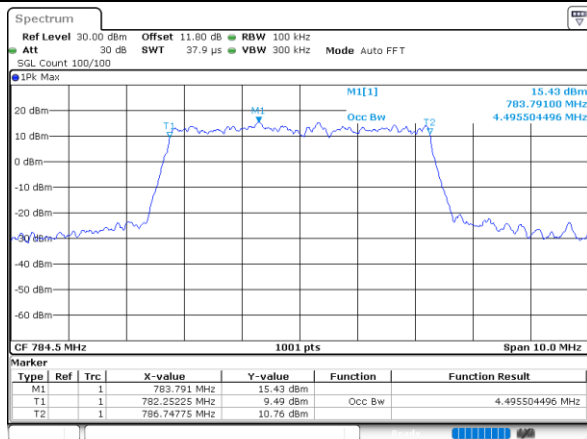
## Middle Channel / 5MHz / QPSK



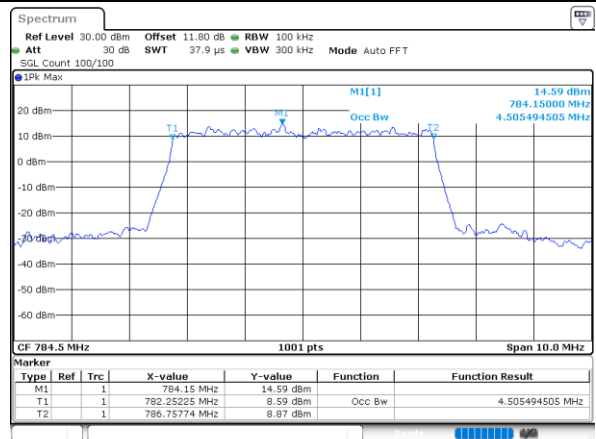
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



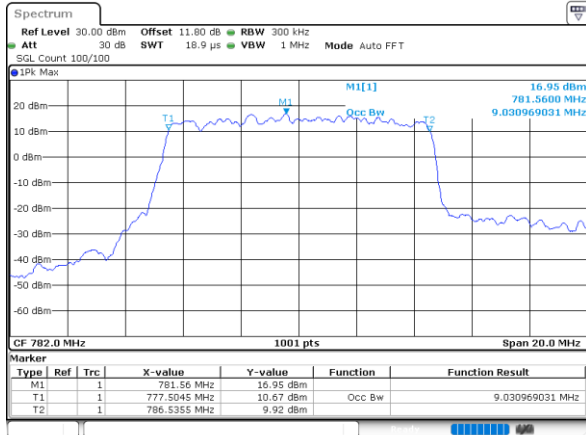
## Highest Channel / 5MHz / 16QAM





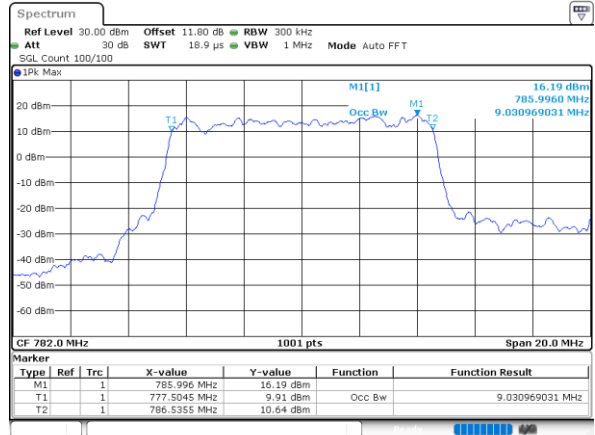
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 7.JAN.2018 00:43:08

Middle Channel / 10MHz / 16QAM



Date: 7.JAN.2018 00:43:18

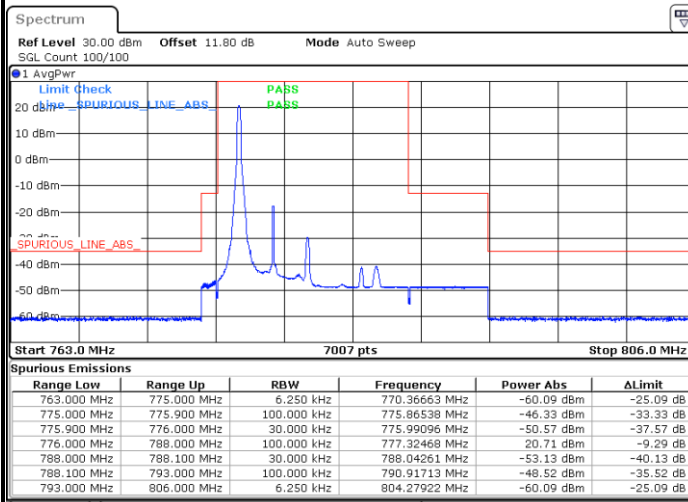


## **Conducted Band Edge**

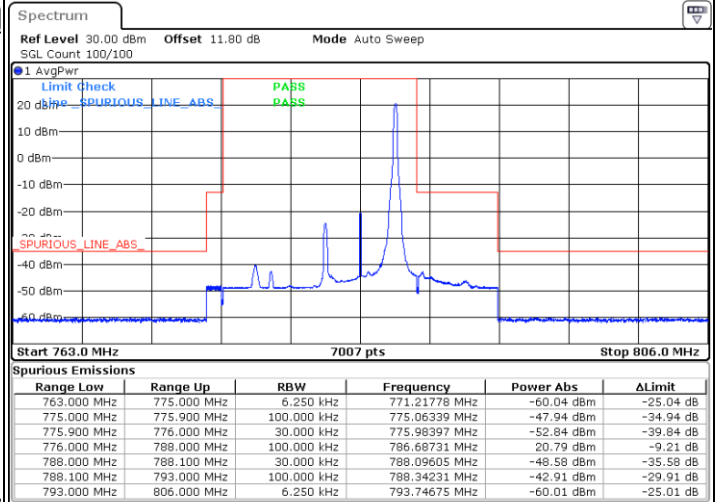


## LTE Band 13 / 5MHz / QPSK

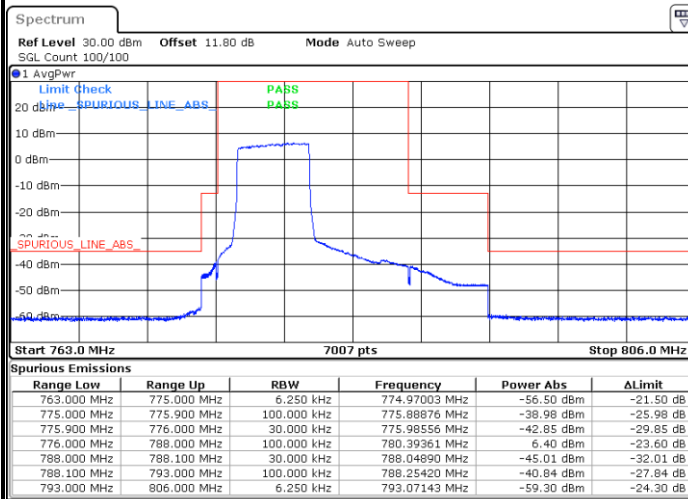
## Lowest Band Edge / 1 RB



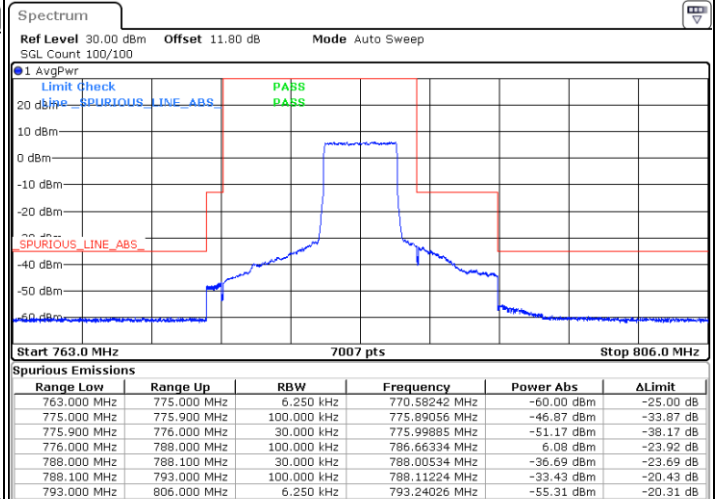
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



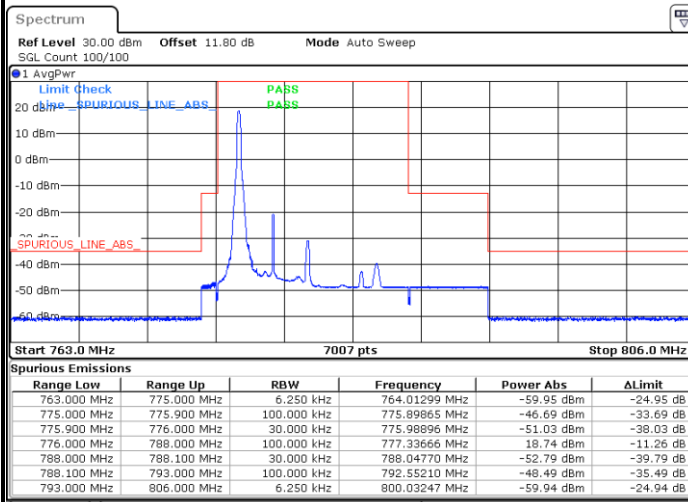
## Highest Band Edge / Full RB



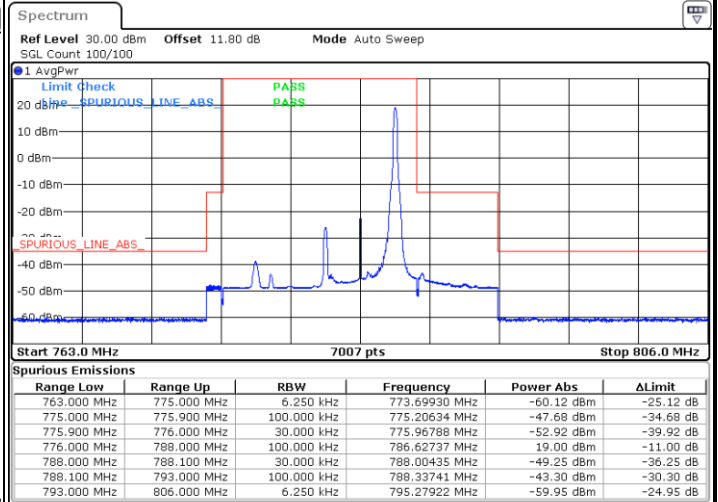


## LTE Band 13 / 5MHz / 16QAM

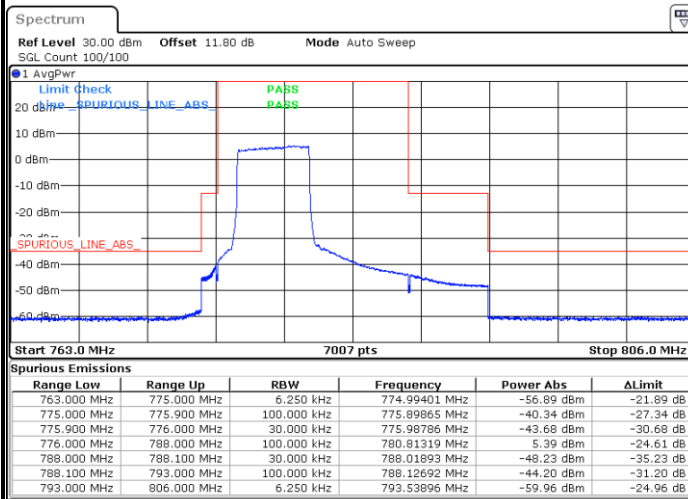
## Lowest Band Edge / 1 RB



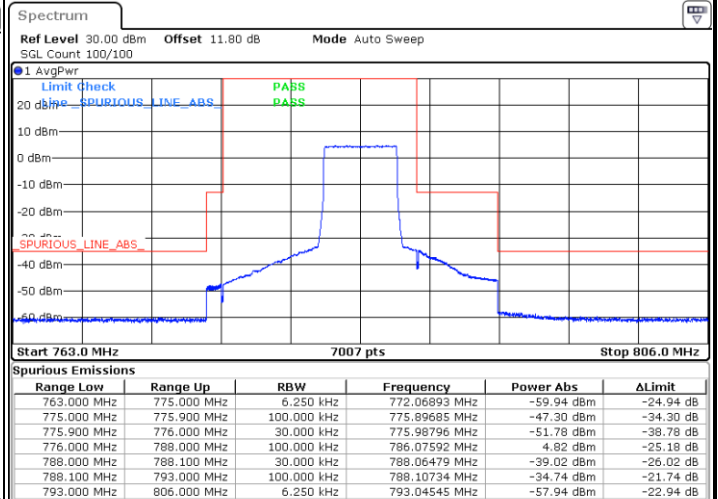
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB

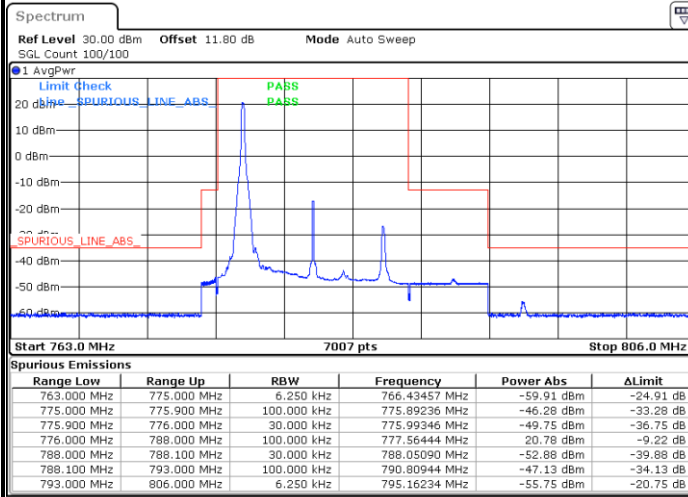




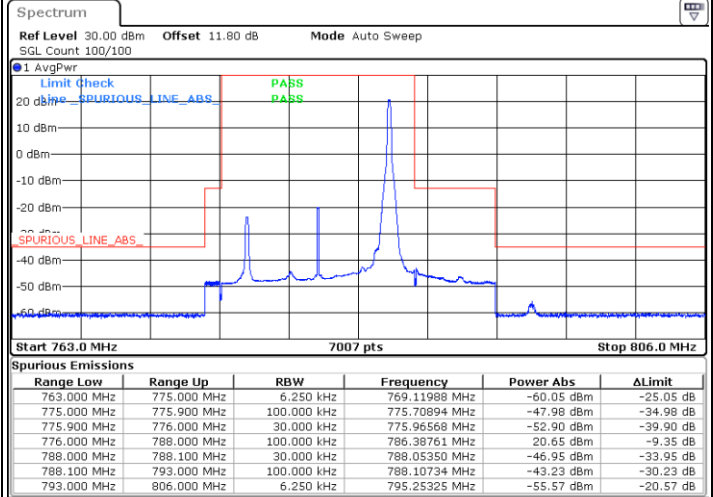


## LTE Band 13 / 10MHz / QPSK

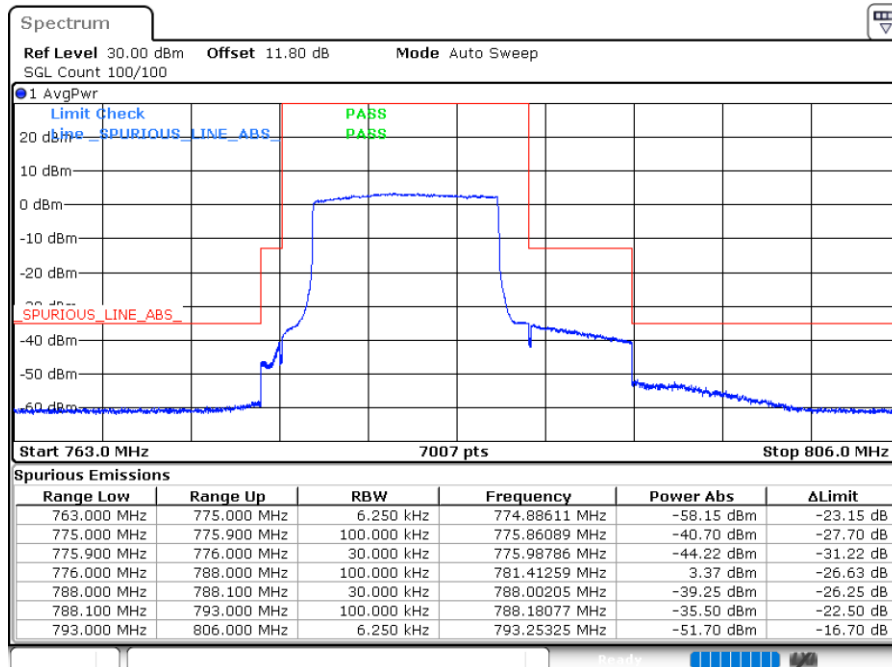
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



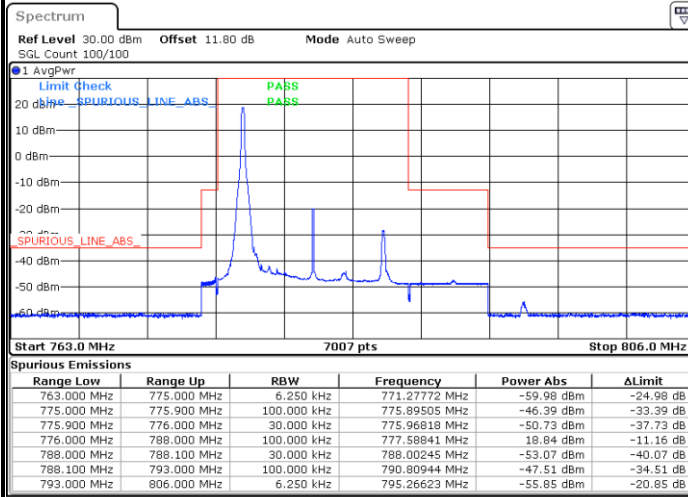
## Band Edge / Full RB





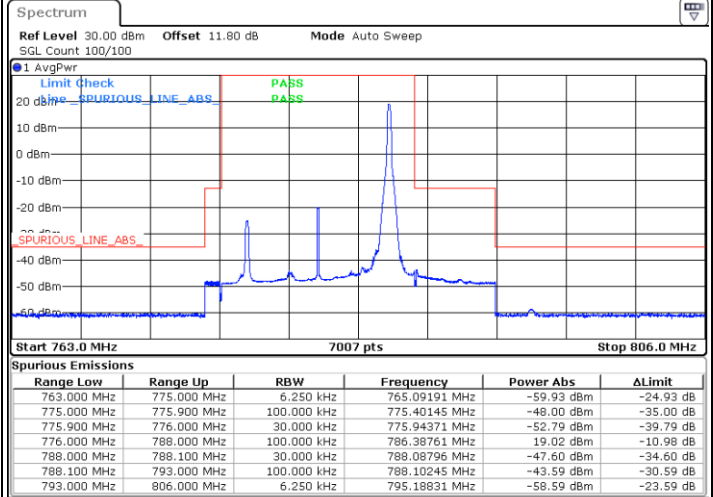
## LTE Band 13 / 10MHz / 16QAM

## Lowest Band Edge / 1 RB



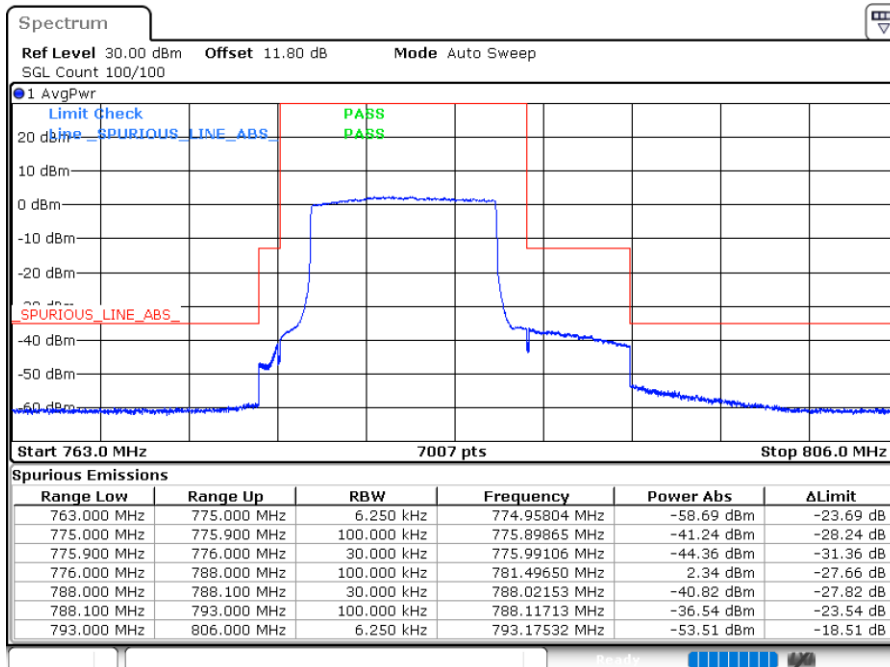
Date: 7.JAN.2018 00:48:32

## Highest Band Edge / 1 RB



Date: 7.JAN.2018 00:53:26

## Band Edge / Full RB

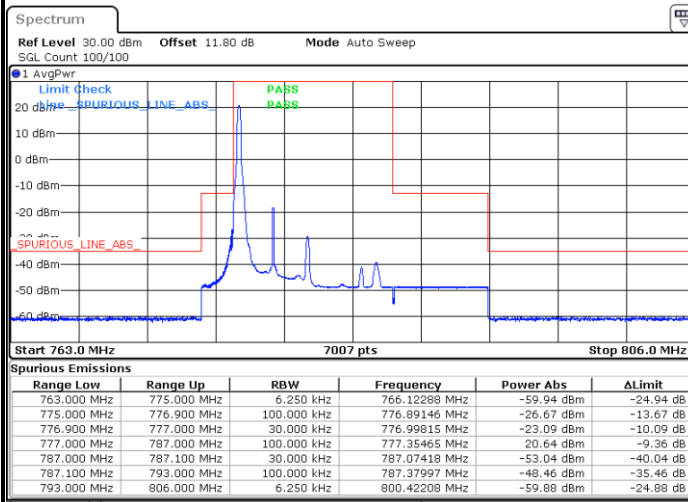


Date: 7.JAN.2018 00:46:54

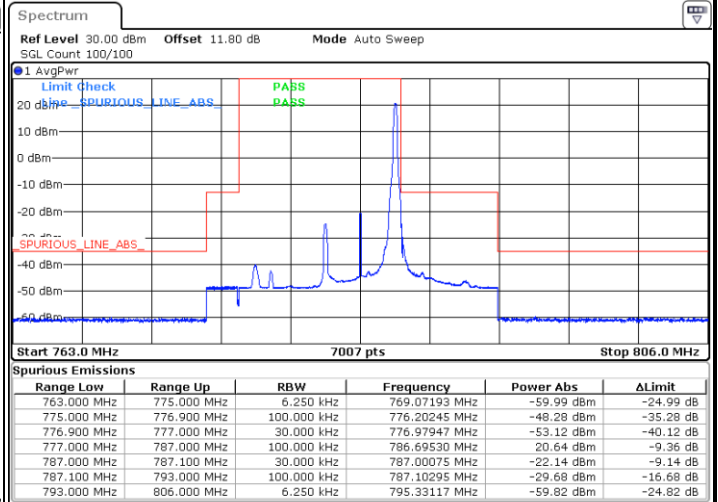


## IC LTE Band 13 / 5MHz / QPSK

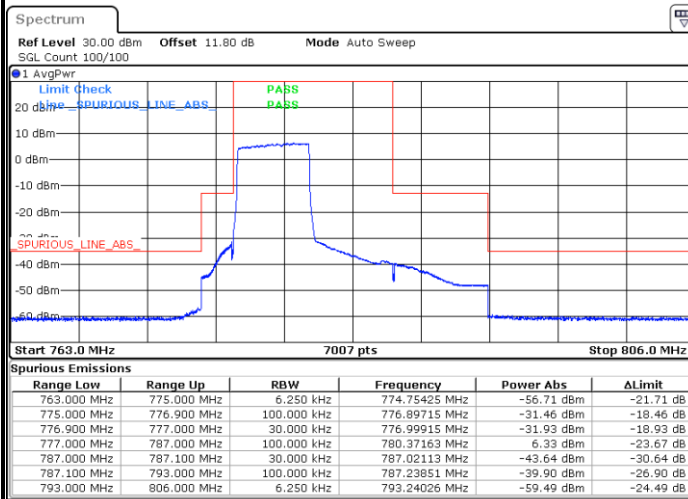
## Lowest Band Edge / 1 RB



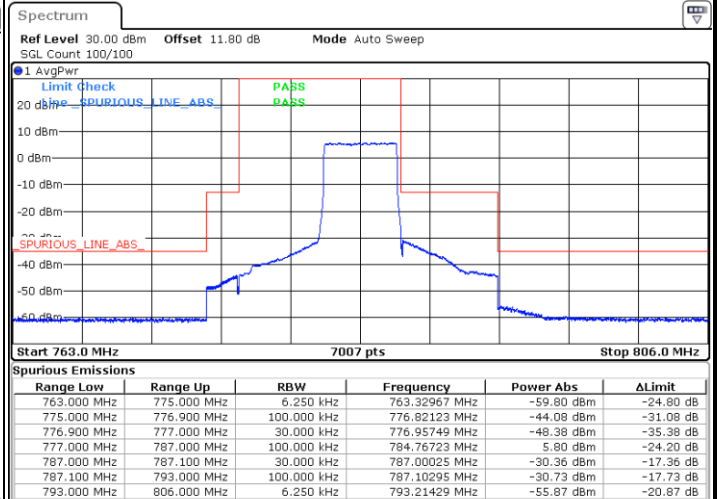
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



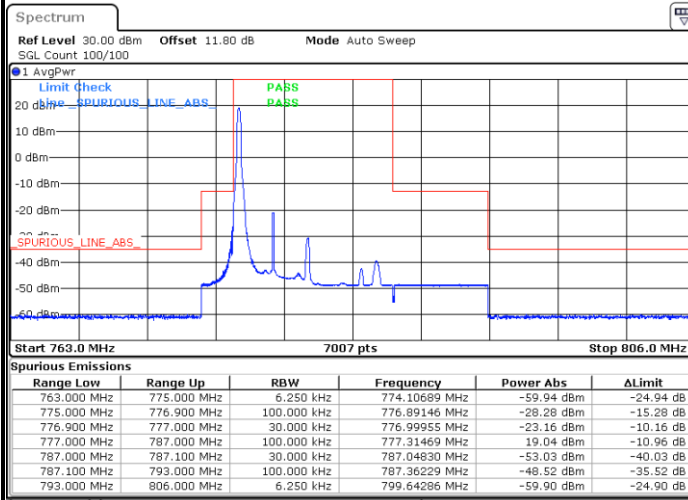
## Highest Band Edge / Full RB



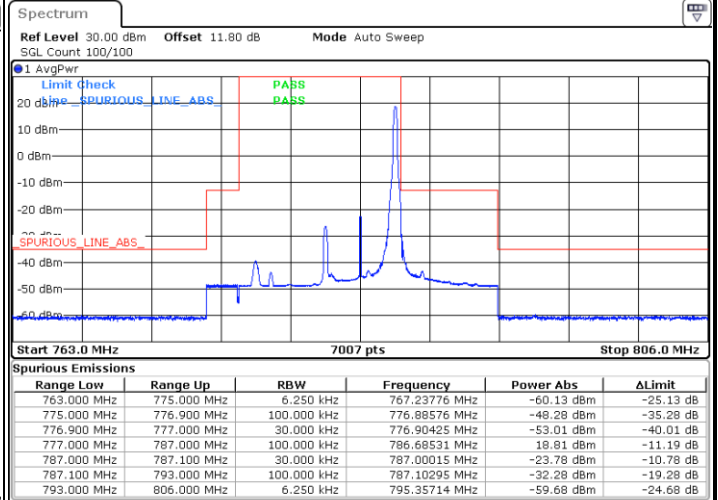


## IC LTE Band 13 / 5MHz / 16QAM

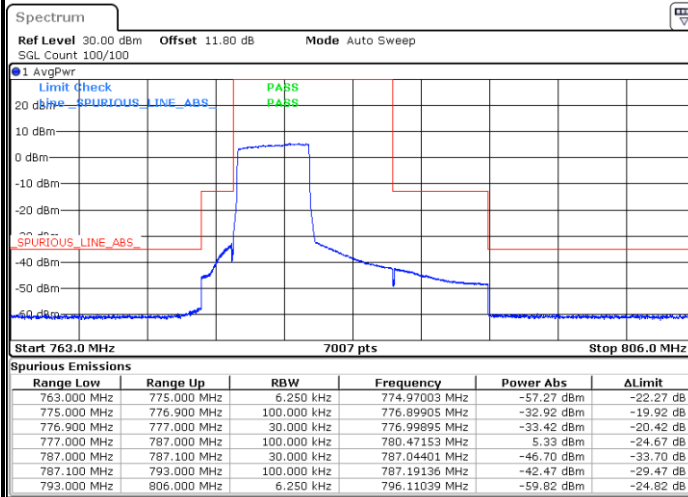
## Lowest Band Edge / 1 RB



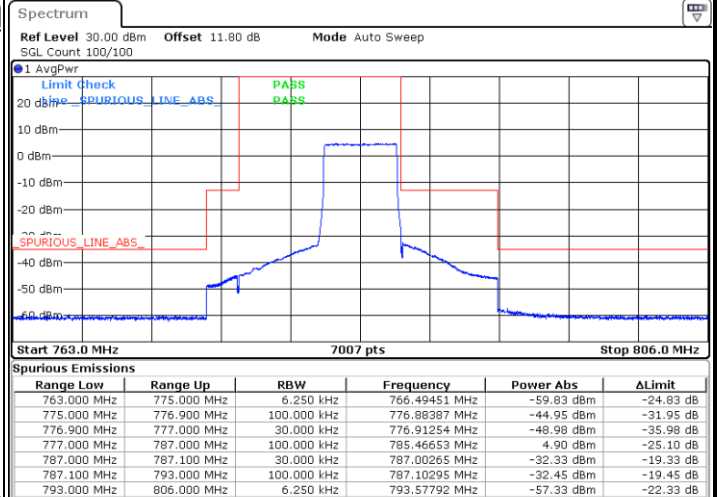
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



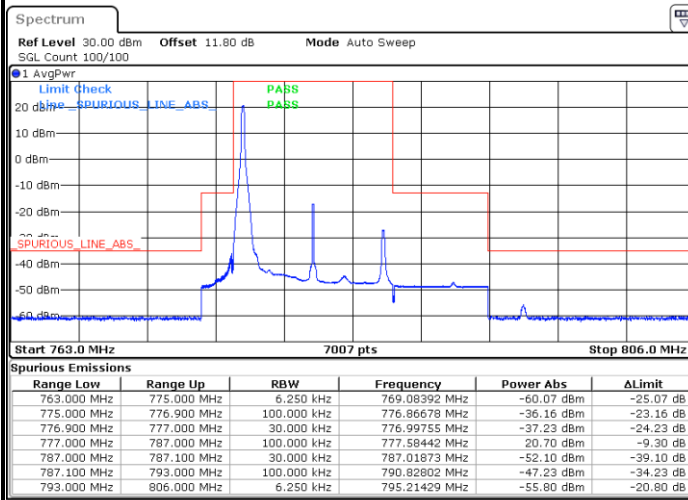
## Highest Band Edge / Full RB





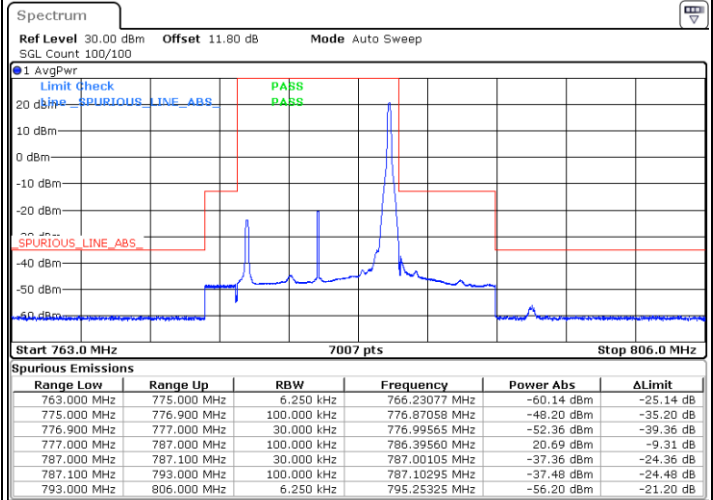
## IC LTE Band 13 / 10MHz / QPSK

## Lowest Band Edge / 1 RB



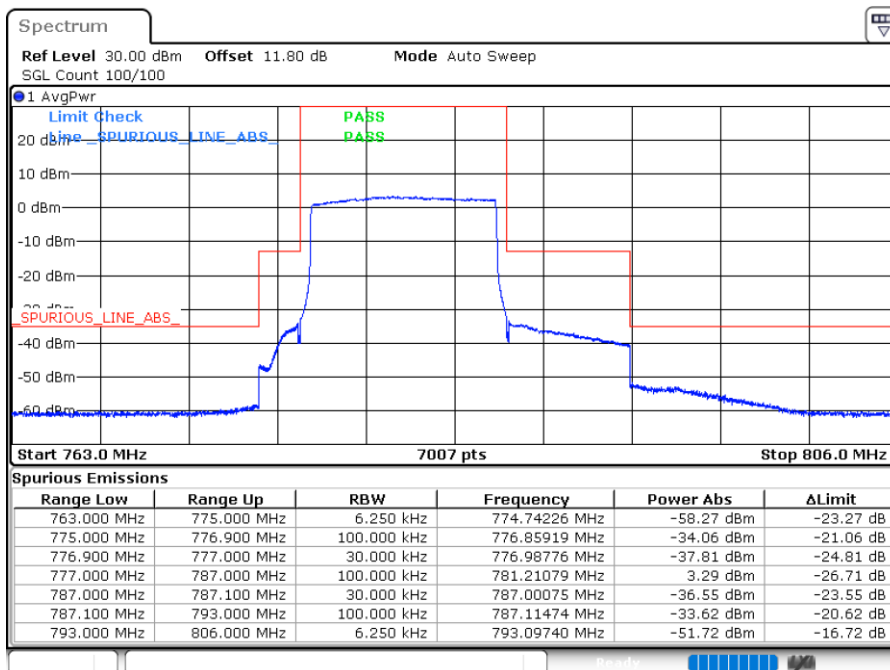
Date: 7.JAN.2018 01:16:48

## Highest Band Edge / 1 RB



Date: 7.JAN.2018 01:18:26

## Band Edge / Full RB

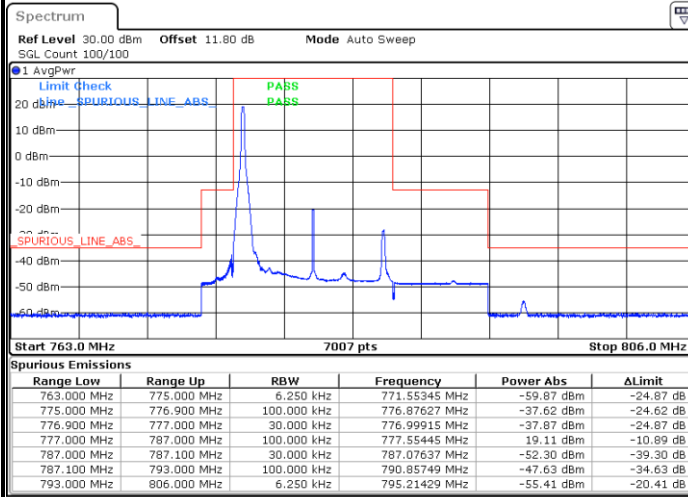


Date: 7.JAN.2018 01:11:54



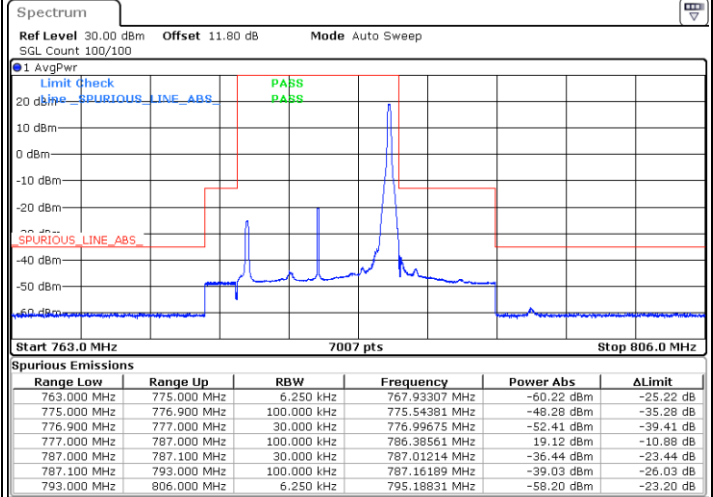
## IC LTE Band 13 / 10MHz / 16QAM

## Lowest Band Edge / 1 RB



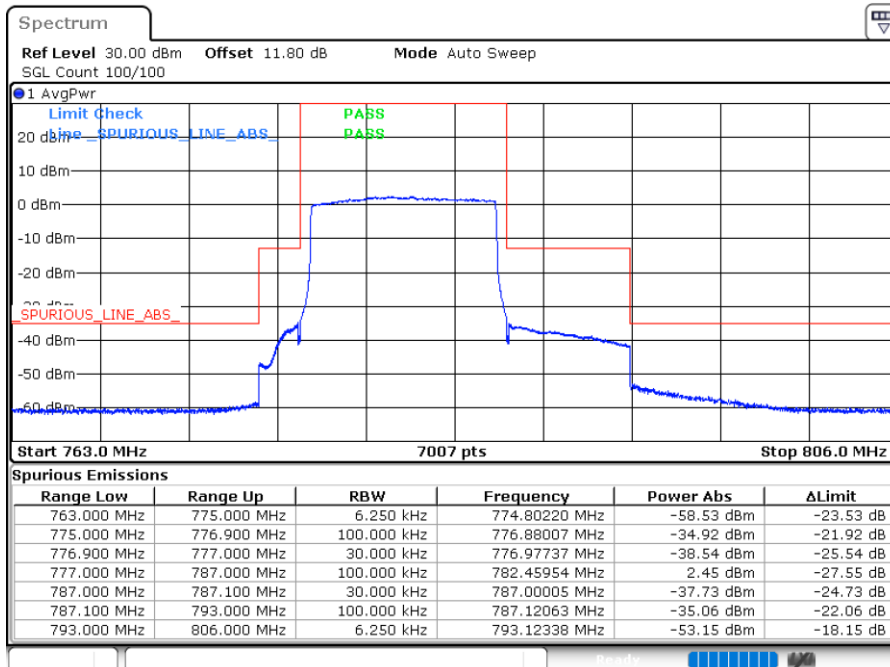
Date: 7.JAN.2018 01:15:10

## Highest Band Edge / 1 RB



Date: 7.JAN.2018 01:20:04

## Band Edge / Full RB



Date: 7.JAN.2018 01:13:32

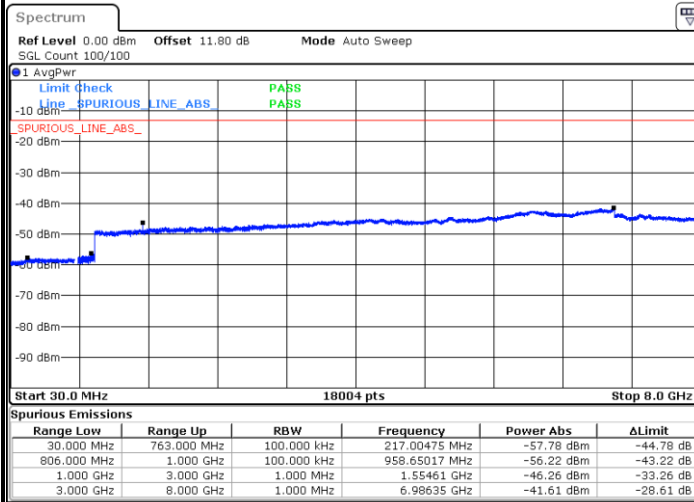


## **Conducted Spurious Emission**



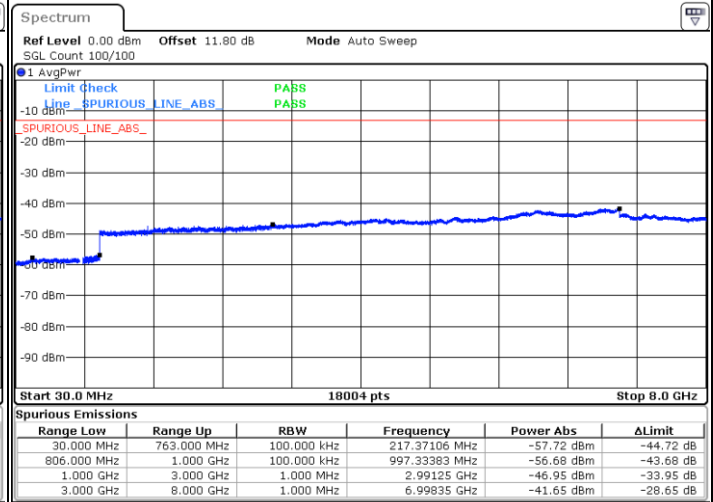
## LTE Band 13 / 5MHz

## Lowest Channel / QPSK



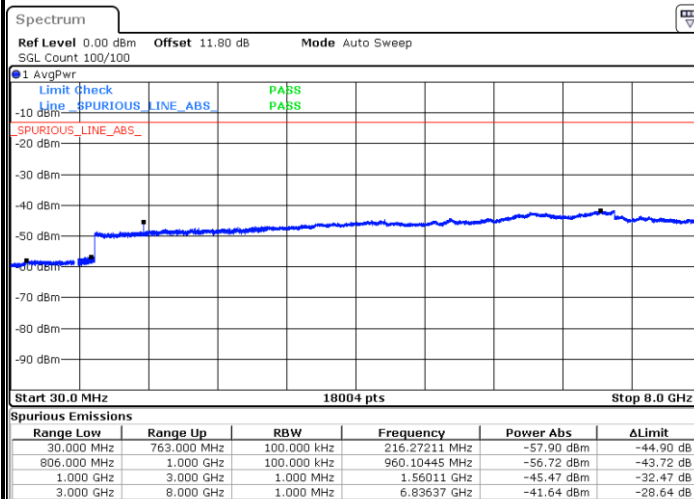
Date: 7.JAN.2018 00:30:44

## Lowest Channel / 16QAM



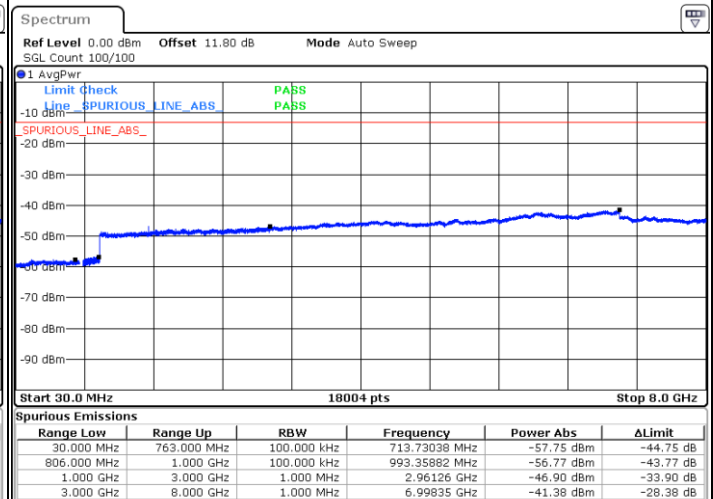
Date: 7.JAN.2018 00:31:36

## Middle Channel / QPSK



Date: 7.JAN.2018 00:33:22

## Middle Channel / 16QAM



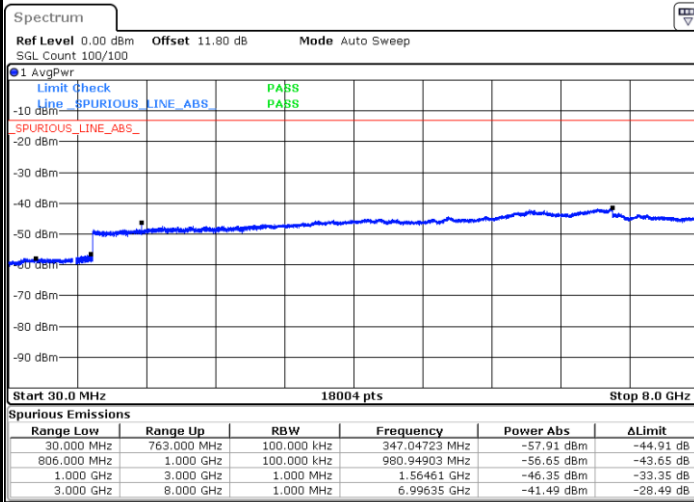
Date: 7.JAN.2018 00:32:29





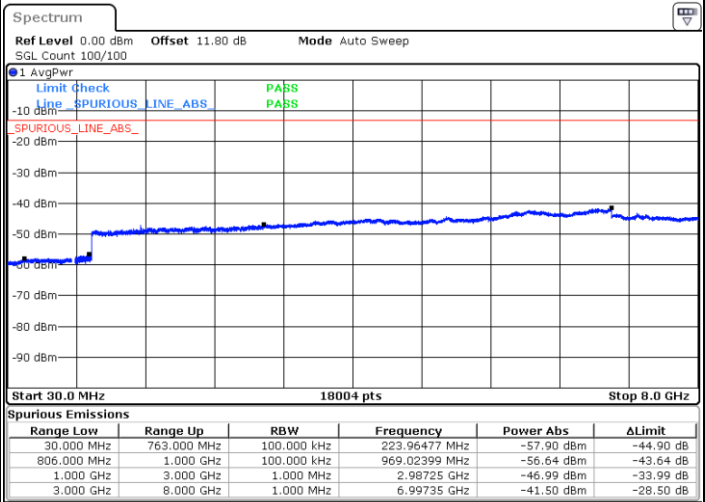
## LTE Band 13 / 5MHz

## Highest Channel / QPSK



Date: 7.JAN.2018 00:42:05

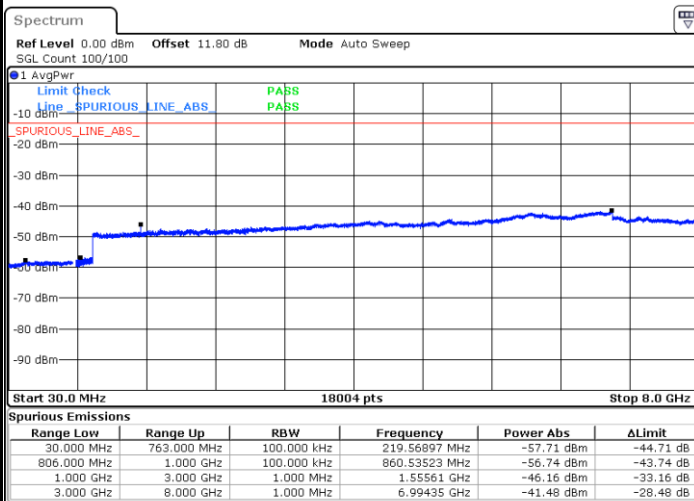
## Highest Channel / 16QAM



Date: 7.JAN.2018 00:42:58

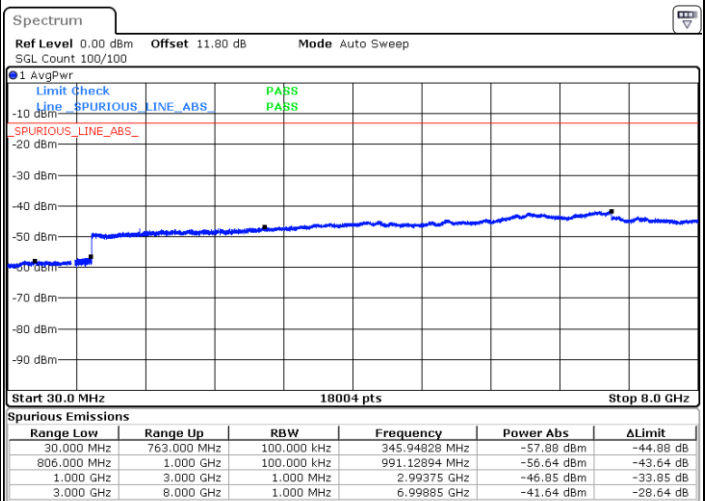
## LTE Band 13 / 10MHz

## Middle Channel / QPSK



Date: 7.JAN.2018 00:55:12

## Middle Channel / 16QAM



Date: 7.JAN.2018 00:54:19

## Frequency Stability

| Test Conditions  |                   | LTE Band 13 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|-------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                            | Note 2. |
|                  |                   | Deviation (ppm)                     | Result  |
| 50               | Normal Voltage    | 0.0001                              | PASS    |
| 40               | Normal Voltage    | 0.0003                              |         |
| 30               | Normal Voltage    | 0.0000                              |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                              |         |
| 10               | Normal Voltage    | 0.0009                              |         |
| 0                | Normal Voltage    | 0.0005                              |         |
| -10              | Normal Voltage    | 0.0005                              |         |
| -20              | Normal Voltage    | 0.0000                              |         |
| -30              | Normal Voltage    | 0.0005                              |         |
| 20               | Maximum Voltage   | 0.0013                              |         |
| 20               | Normal Voltage    | 0.0000                              |         |
| 20               | Battery End Point | 0.0017                              |         |

**Note:**

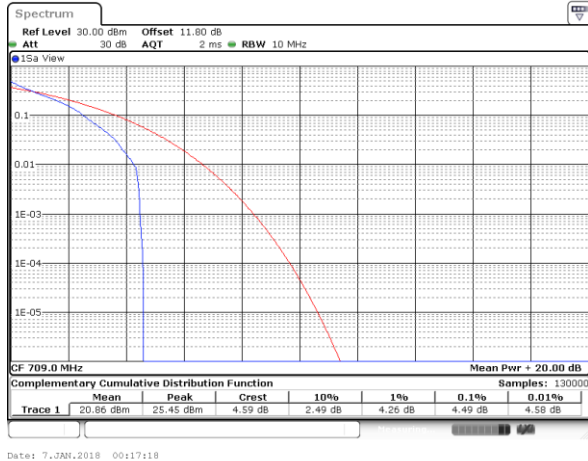
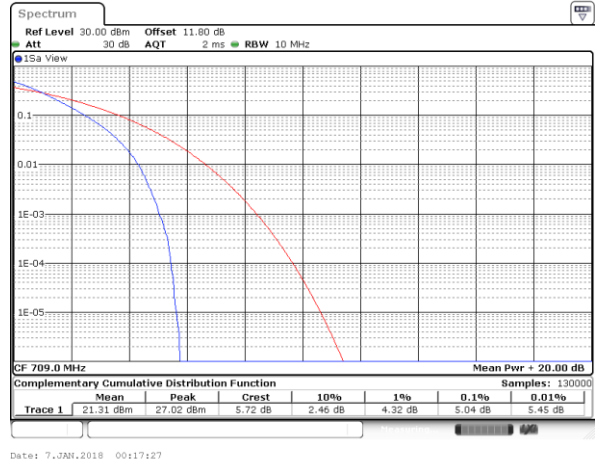
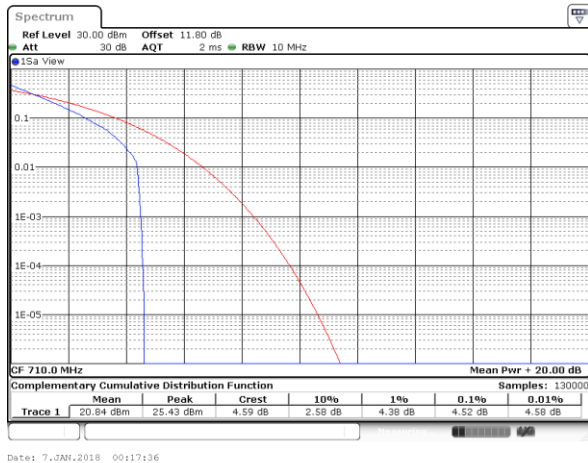
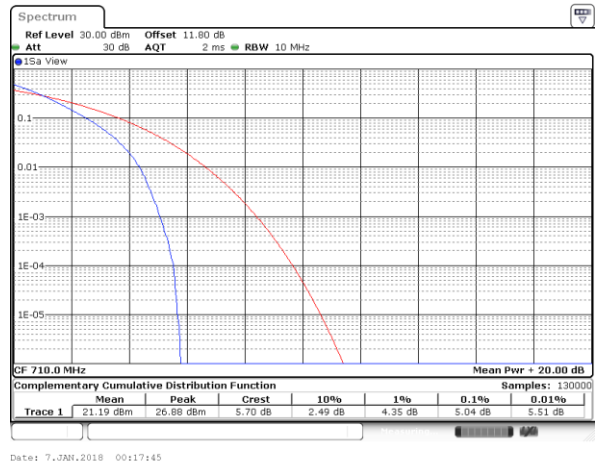
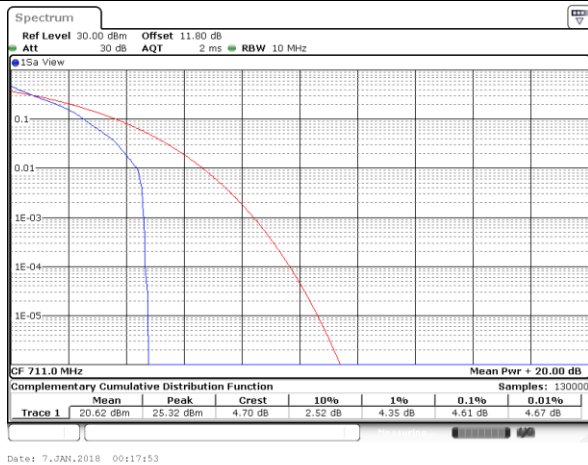
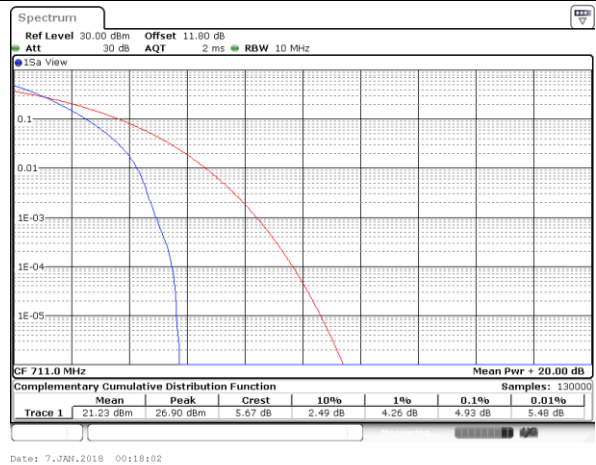
1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

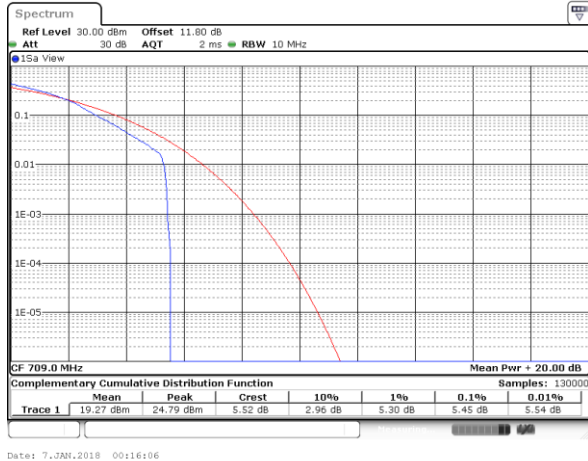
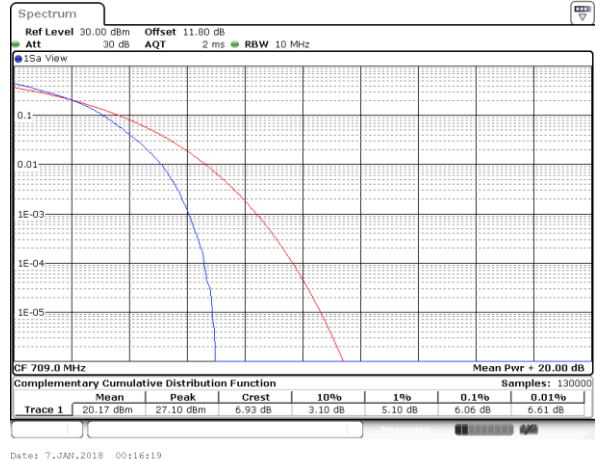
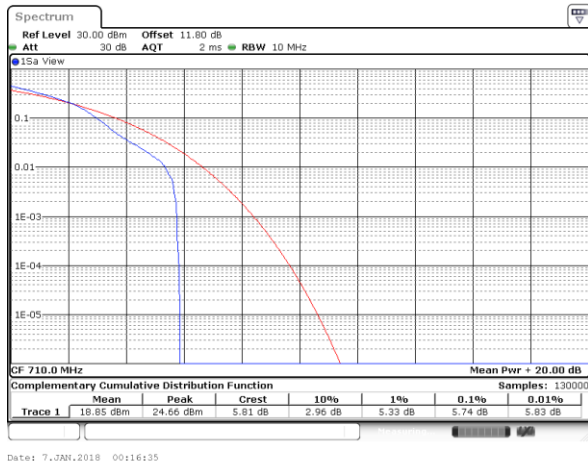
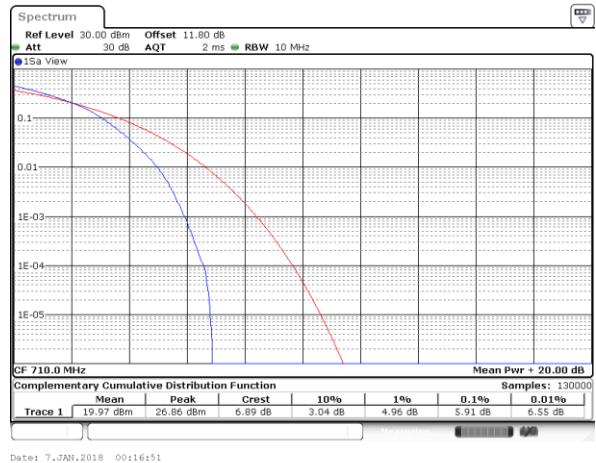
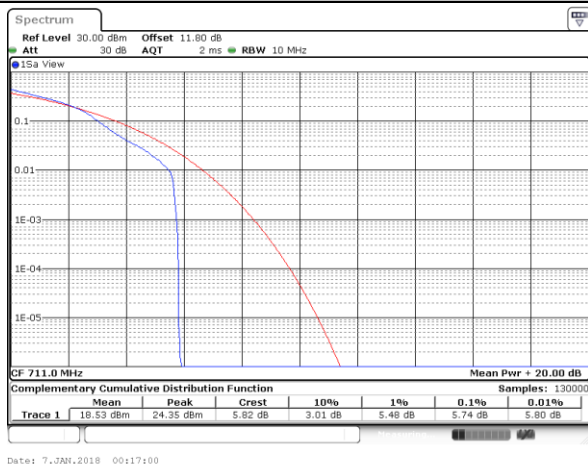
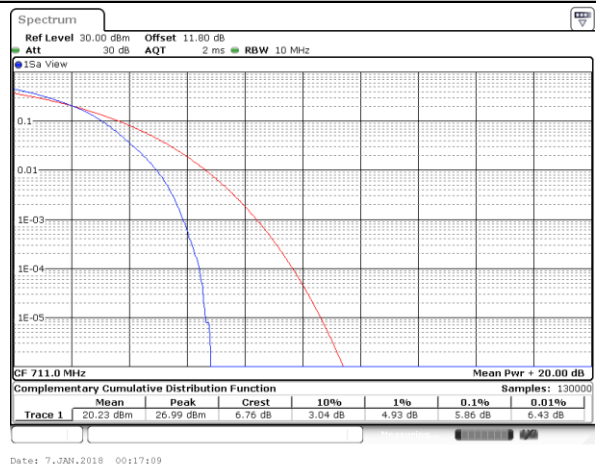


## LTE Band 17

### Peak-to-Average Ratio

| Mode       | LTE Band 17 / 10MHz |         |       |         |             |
|------------|---------------------|---------|-------|---------|-------------|
| Mod.       | QPSK                |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 4.49                | 5.04    | 5.45  | 6.06    | PASS        |
| Middle CH  | 4.52                | 5.04    | 5.74  | 5.91    |             |
| Highest CH | 4.61                | 4.93    | 5.74  | 5.86    |             |

**LTE Band 17 / 10MHz / QPSK**
**Lowest Channel / 1RB**

**Lowest Channel / Full RB**

**Middle Channel/ 1RB**

**Middle Channel / Full RB**

**Highest Channel/ 1RB**

**Highest Channel / Full RB**


**LTE Band 17 / 10MHz / 16QAM**
**Lowest Channel / 1RB**

**Lowest Channel / Full RB**

**Middle Channel/ 1RB**

**Middle Channel / Full RB**

**Highest Channel/ 1RB**

**Highest Channel / Full RB**


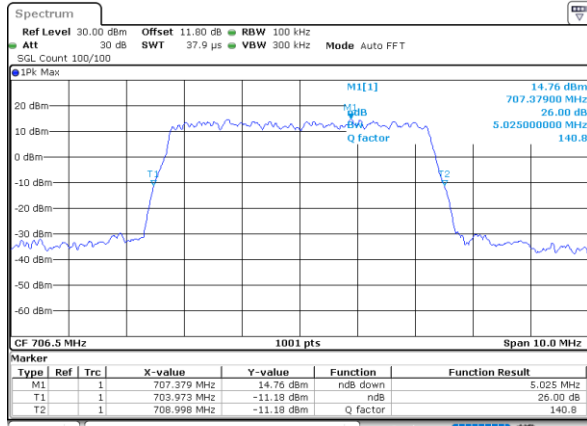
**26dB Bandwidth**

| Mode       | LTE Band 17 : 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  | -                          | -     | -    | -     | 5.03 | 4.86  | 9.85  | 9.77  | -     | -     | -     | -     |
| Middle CH  | -                          | -     | -    | -     | 4.92 | 4.91  | 9.75  | 9.77  | -     | -     | -     | -     |
| Highest CH | -                          | -     | -    | -     | 4.98 | 4.91  | 9.87  | 9.95  | -     | -     | -     | -     |

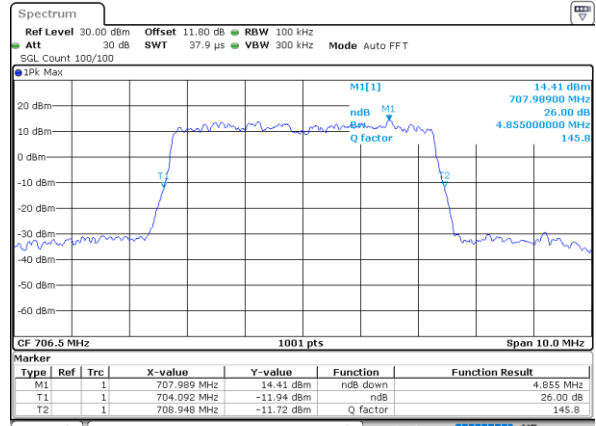


## LTE Band 17

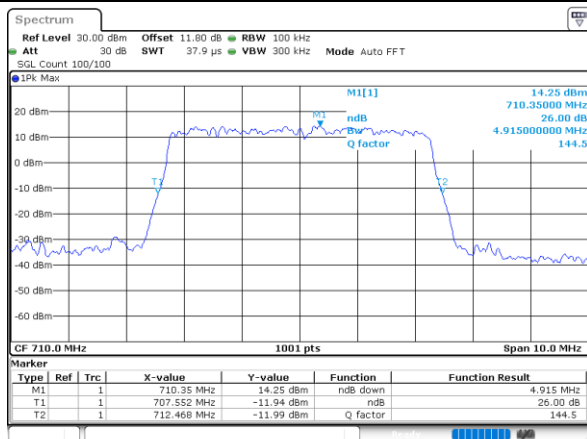
## Lowest Channel / 5MHz / QPSK



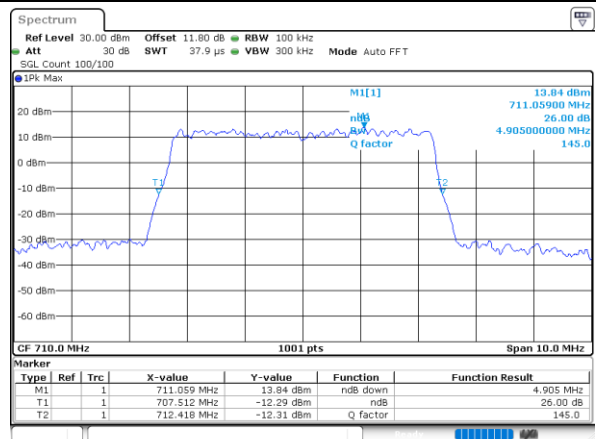
## Lowest Channel / 5MHz / 16QAM



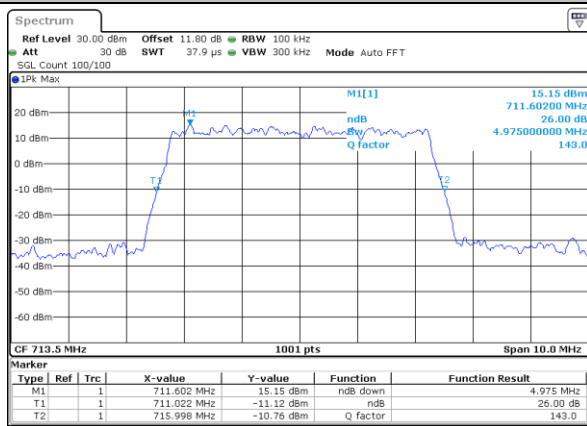
## Middle Channel / 5MHz / QPSK



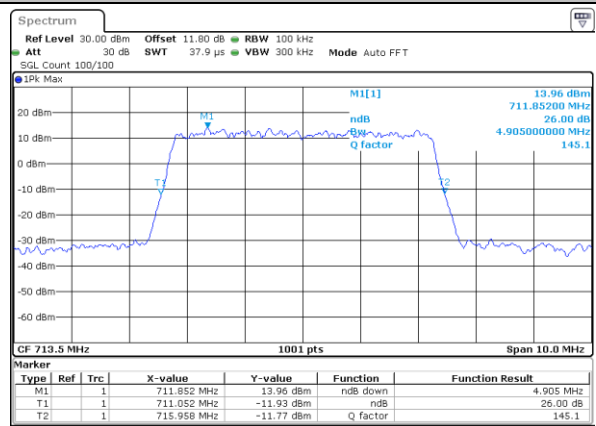
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



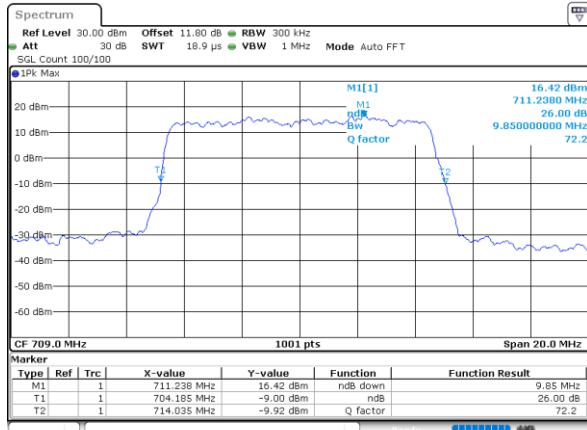
## Highest Channel / 5MHz / 16QAM



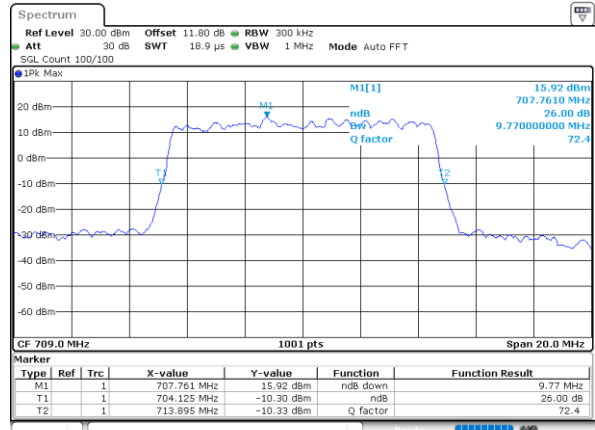


## LTE Band 17

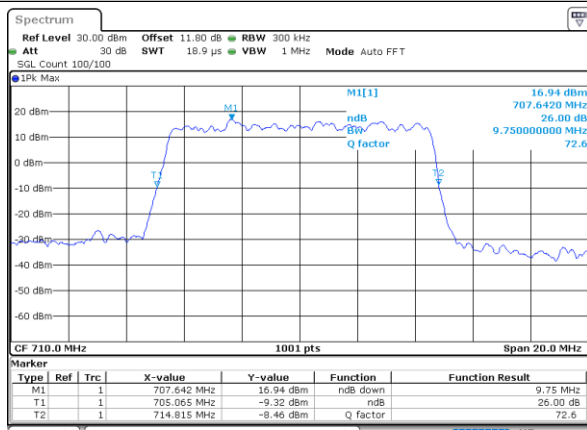
## Lowest Channel / 10MHz / QPSK



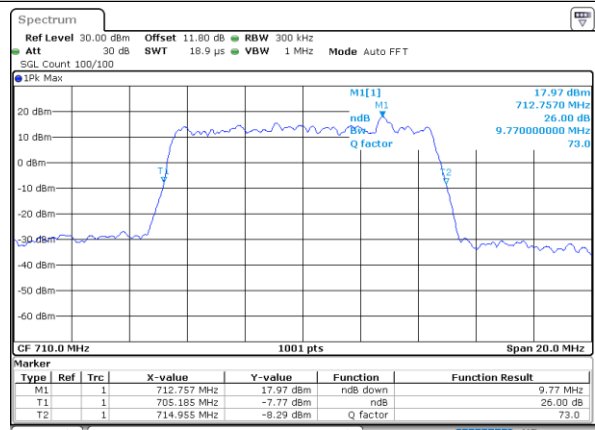
## Lowest Channel / 10MHz / 16QAM



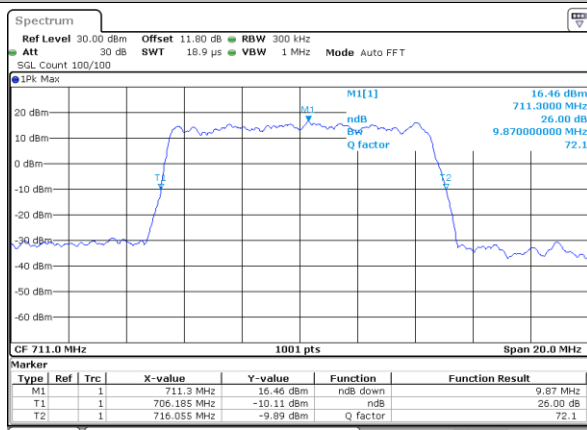
## Middle Channel / 10MHz / QPSK



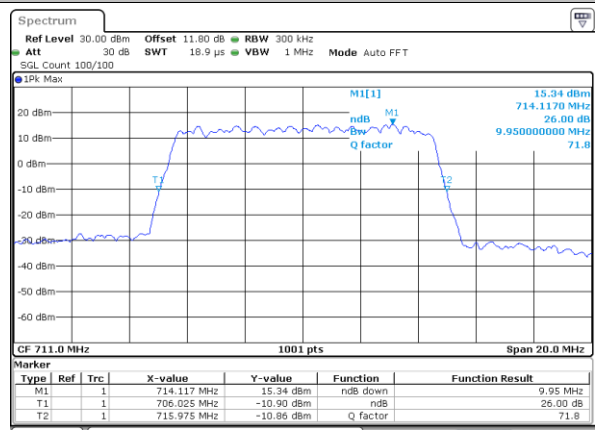
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



## Highest Channel / 10MHz / 16QAM







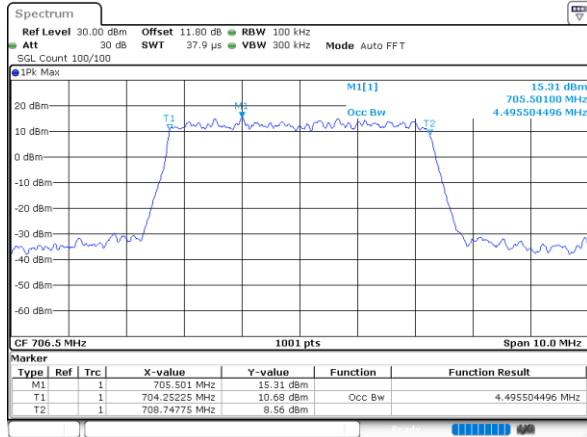
## Occupied Bandwidth

| Mode       | LTE Band 17 : 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  | -                         | -     | -    | -     | 4.5  | 4.48  | 9.01  | 9.03  | -     | -     | -     | -     |
| Middle CH  | -                         | -     | -    | -     | 4.51 | 4.49  | 8.99  | 8.97  | -     | -     | -     | -     |
| Highest CH | -                         | -     | -    | -     | 4.47 | 4.49  | 9.05  | 8.97  | -     | -     | -     | -     |

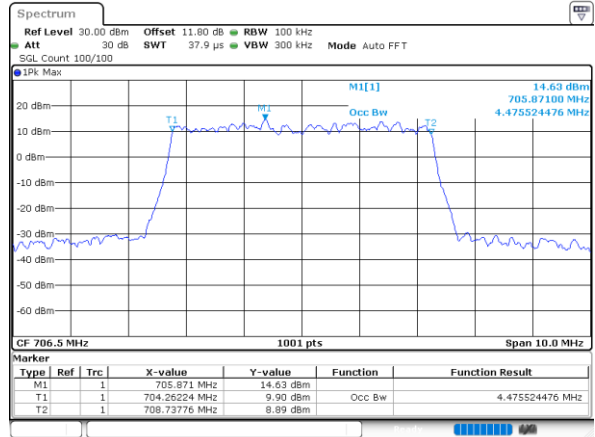


## LTE Band 17

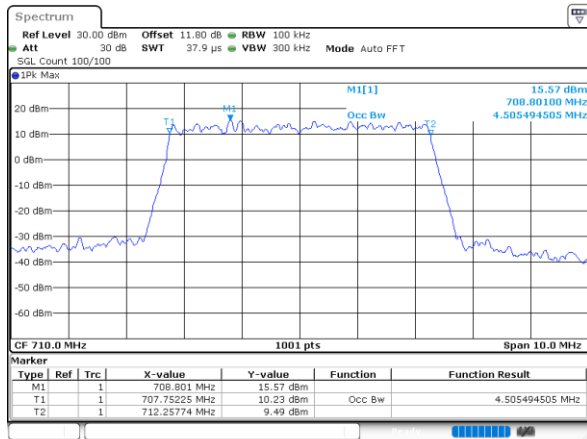
## Lowest Channel / 5MHz / QPSK



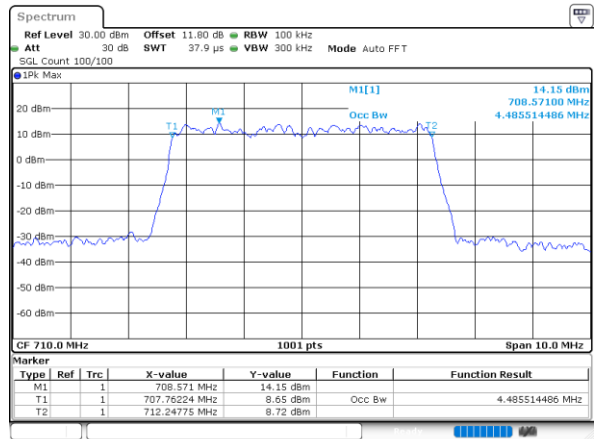
## Lowest Channel / 5MHz / 16QAM



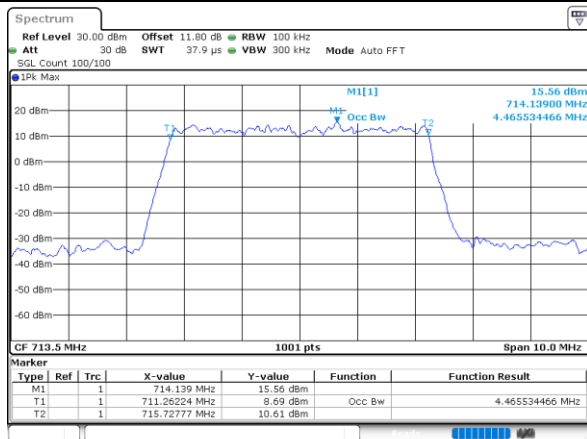
## Middle Channel / 5MHz / QPSK



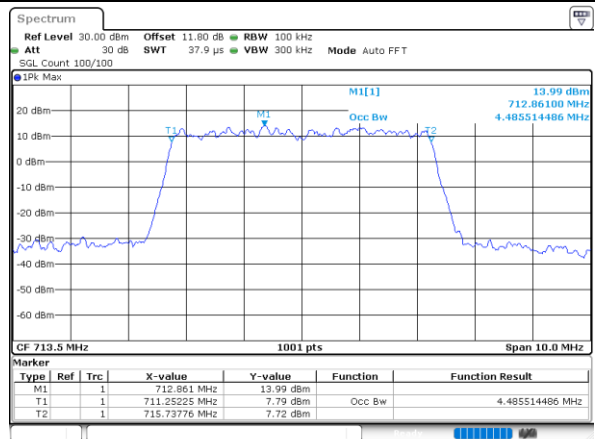
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



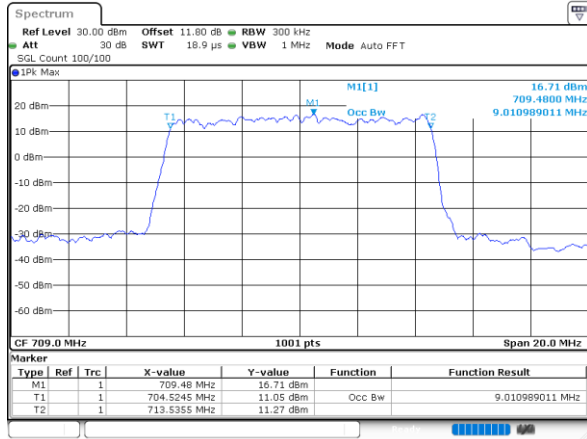
## Highest Channel / 5MHz / 16QAM



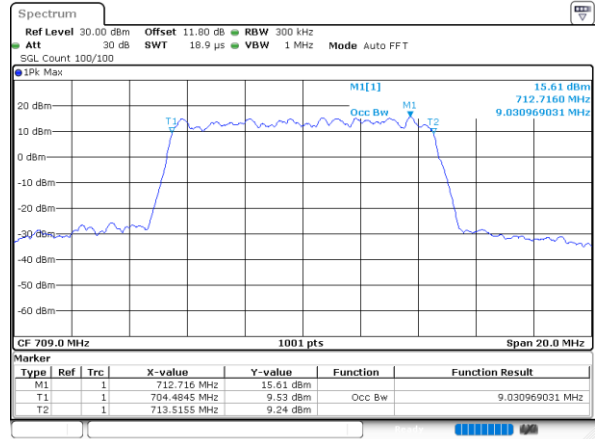


## LTE Band 17

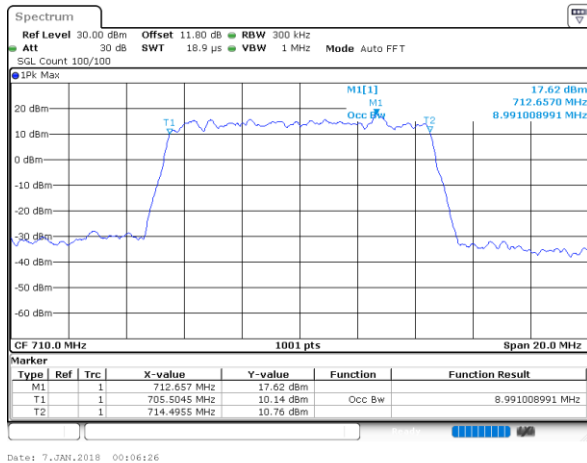
## Lowest Channel / 10MHz / QPSK



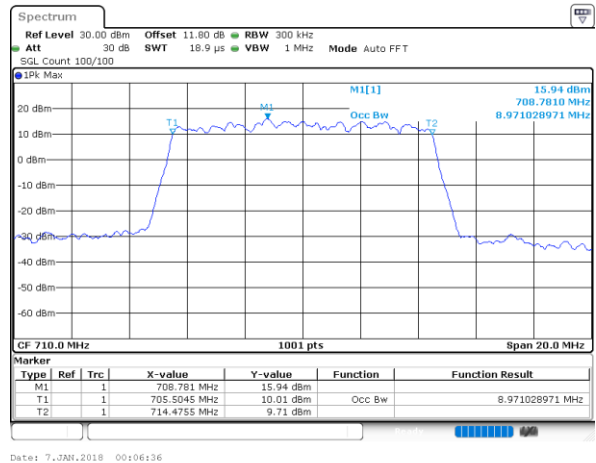
## Lowest Channel / 10MHz / 16QAM



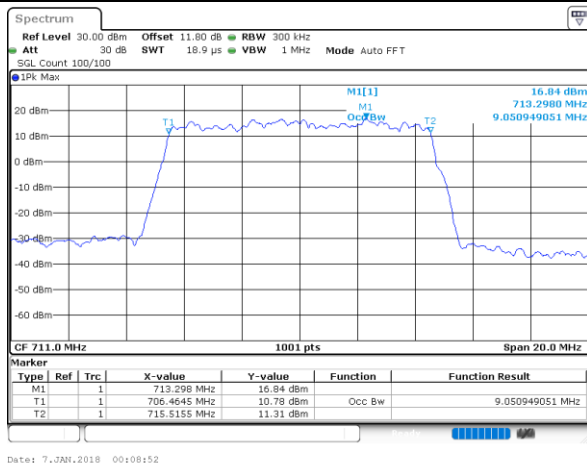
## Middle Channel / 10MHz / QPSK



## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



## Highest Channel / 10MHz / 16QAM

