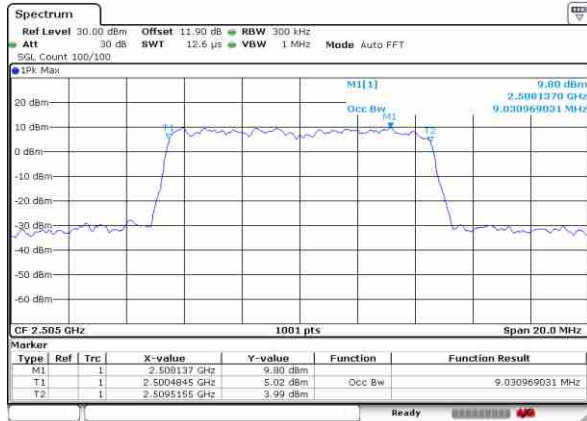




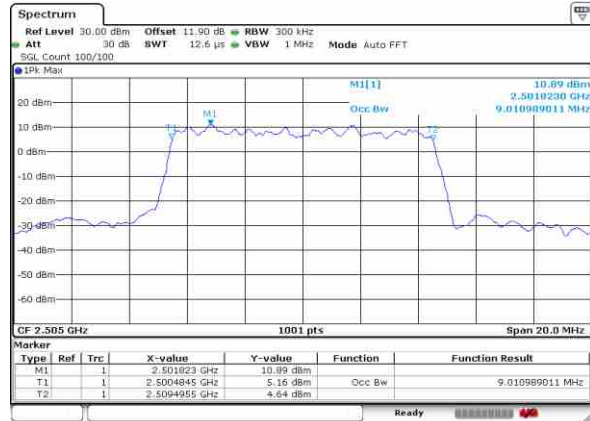
## LTE Band 7

## Lowest Channel / 10MHz / QPSK



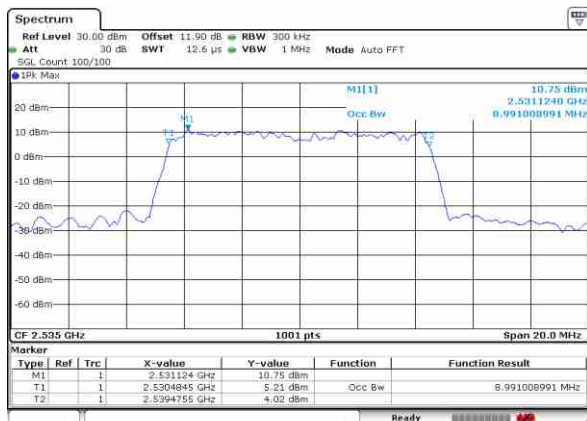
Date: 11.FEB.2019 20:27:37

## Lowest Channel / 10MHz / 16QAM



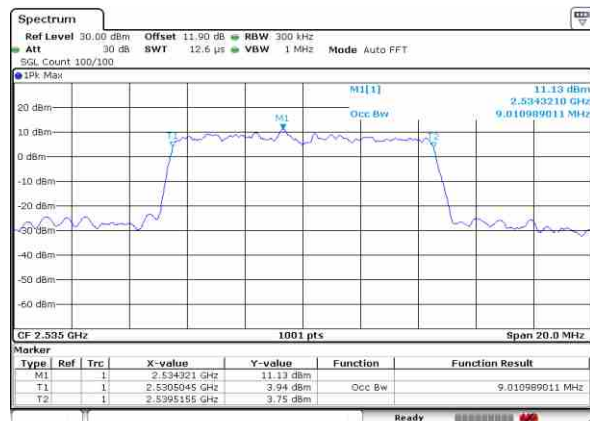
Date: 11.FEB.2019 20:27:49

## Middle Channel / 10MHz / QPSK



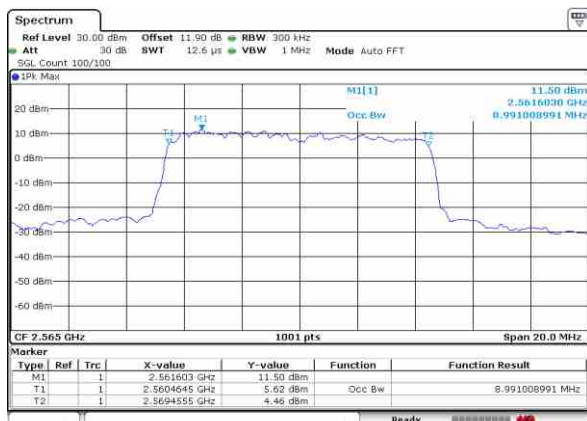
Date: 11.FEB.2019 20:35:01

## Middle Channel / 10MHz / 16QAM



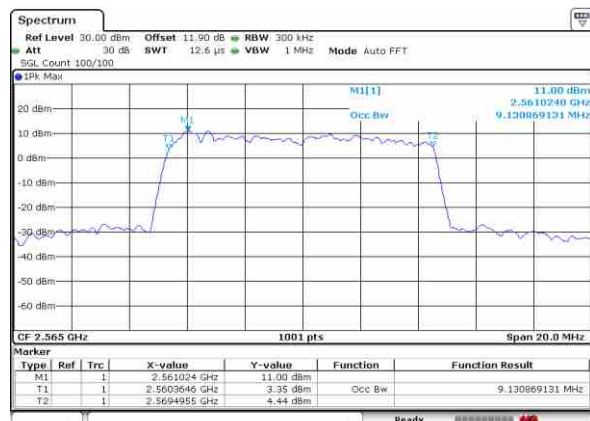
Date: 11.FEB.2019 20:35:13

## Highest Channel / 10MHz / QPSK



Date: 11.FEB.2019 20:37:42

## Highest Channel / 10MHz / 16QAM

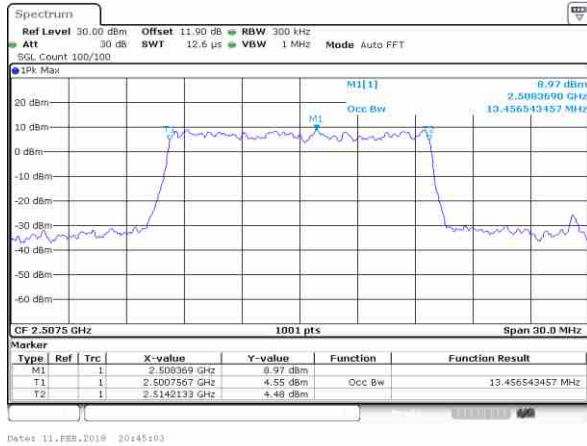


Date: 11.FEB.2019 20:37:54

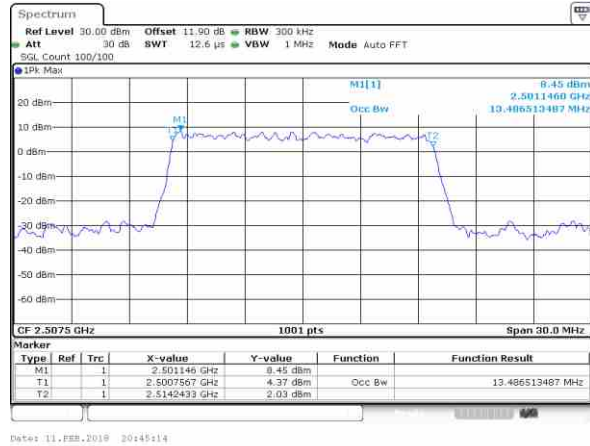


## LTE Band 7

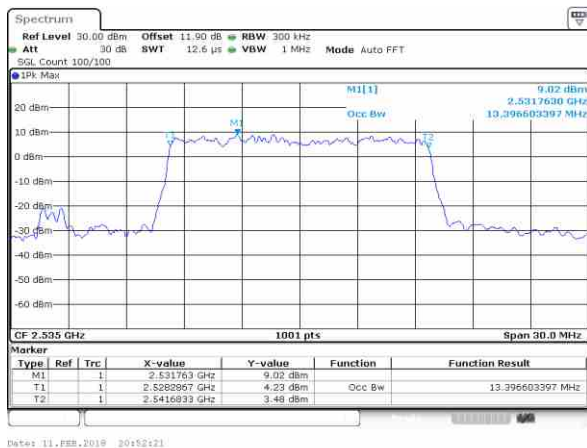
## Lowest Channel / 15MHz / QPSK



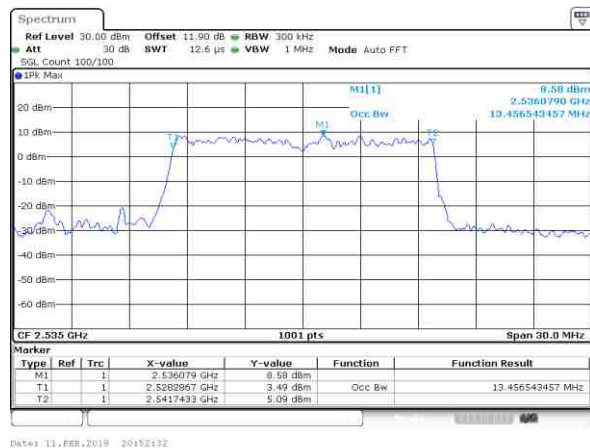
## Lowest Channel / 15MHz / 16QAM



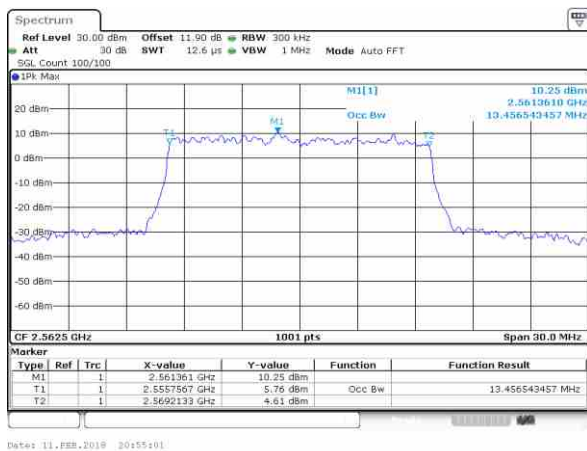
## Middle Channel / 15MHz / QPSK



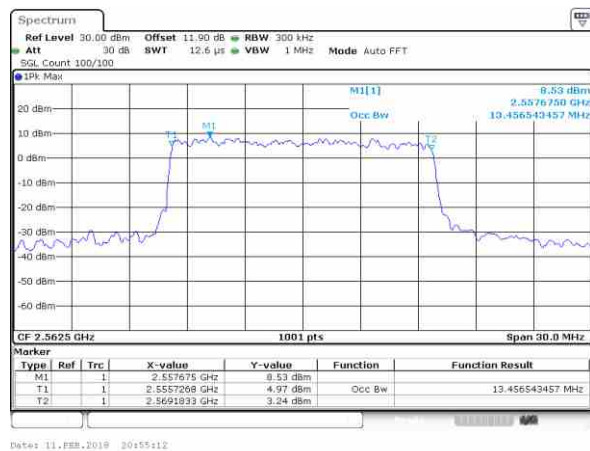
## Middle Channel / 15MHz / 16QAM



## Highest Channel / 15MHz / QPSK



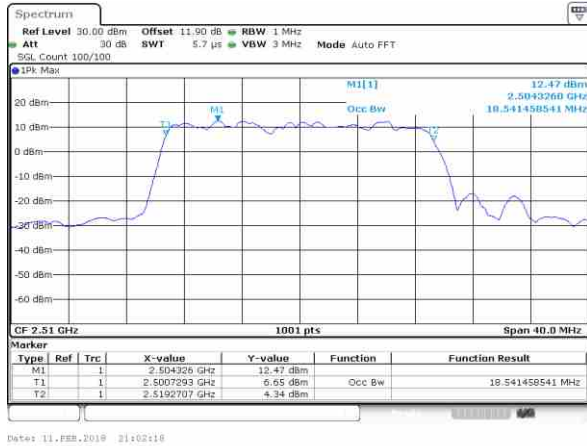
## Highest Channel / 15MHz / 16QAM



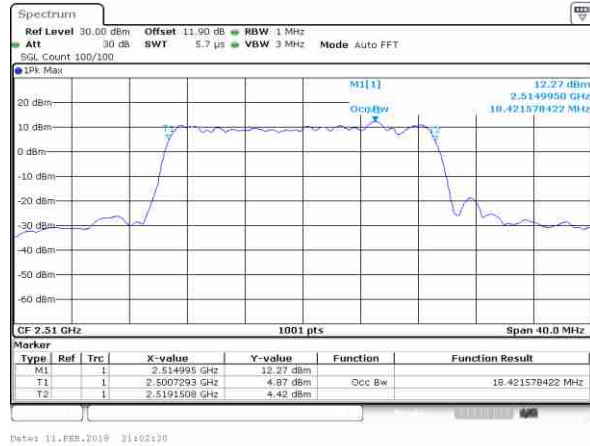


## LTE Band 7

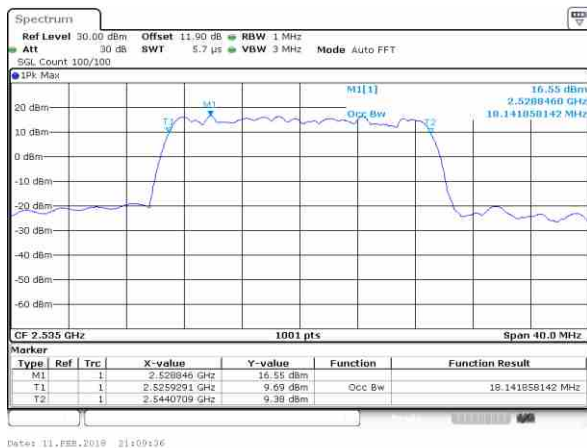
## Lowest Channel / 20MHz / QPSK



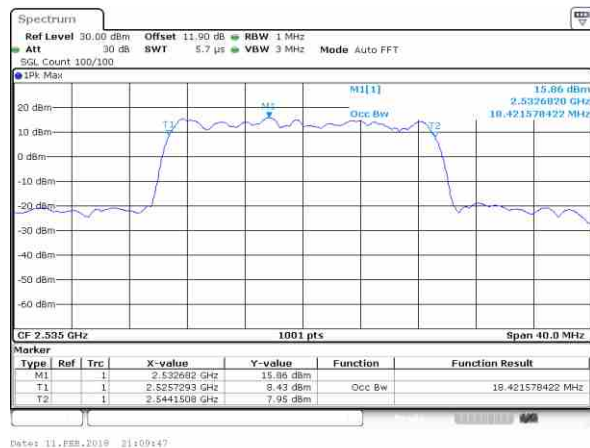
## Lowest Channel / 20MHz / 16QAM



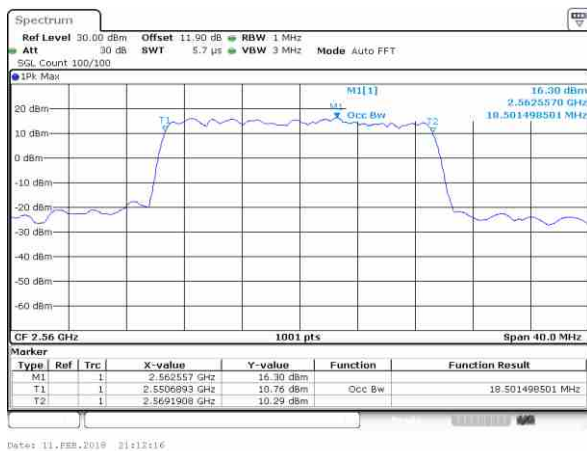
## Middle Channel / 20MHz / QPSK



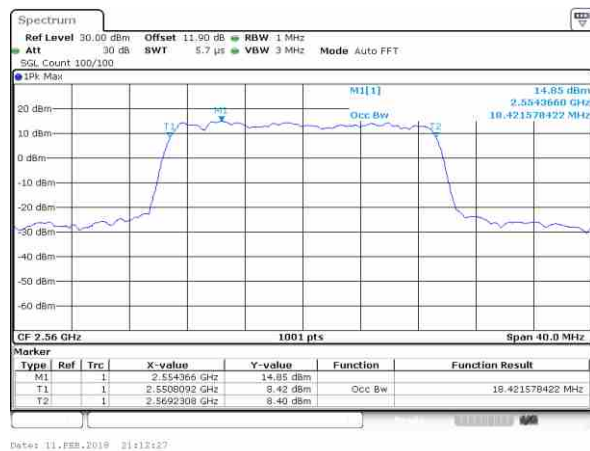
## Middle Channel / 20MHz / 16QAM



## Highest Channel / 20MHz / QPSK



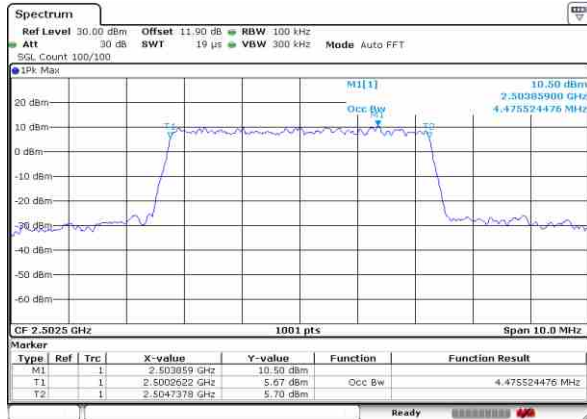
## Highest Channel / 20MHz / 16QAM





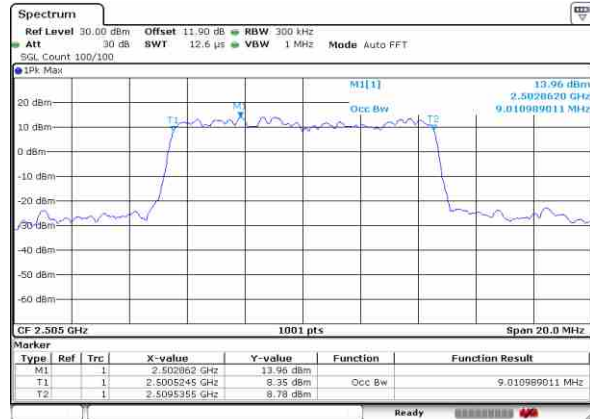
## LTE Band 7

## Lowest Channel / 5MHz / 64QAM



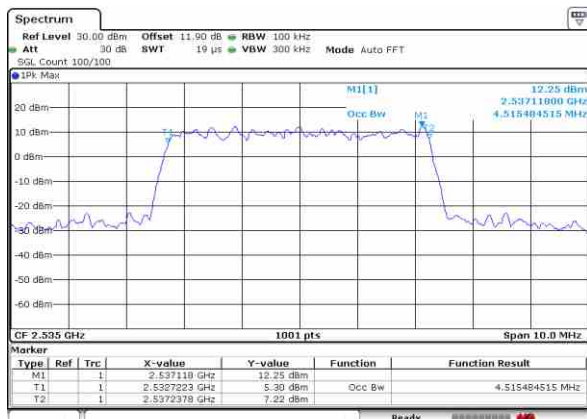
Date: 11.FEB.2019 22:02:28

## Lowest Channel / 10MHz / 64QAM



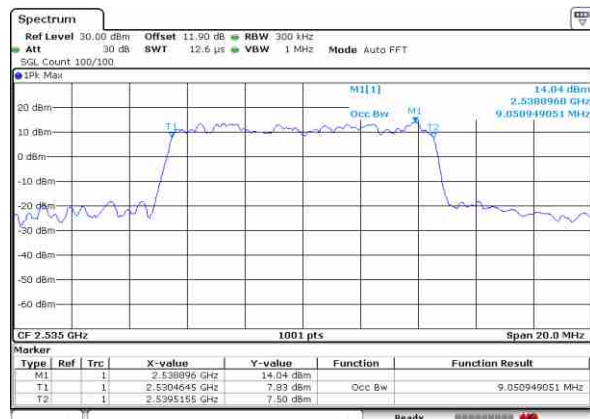
Date: 11.FEB.2019 22:11:10

## Middle Channel / 5MHz / 64QAM



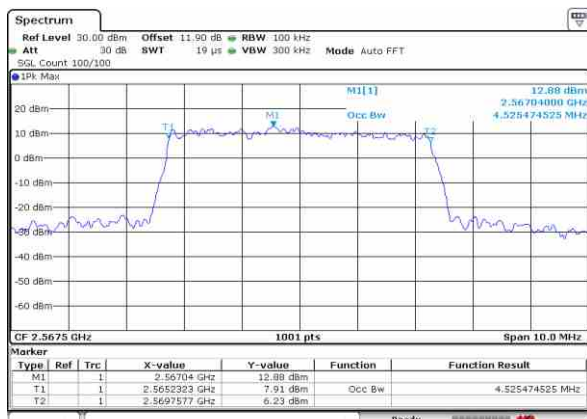
Date: 11.FEB.2019 22:06:09

## Middle Channel / 10MHz / 64QAM



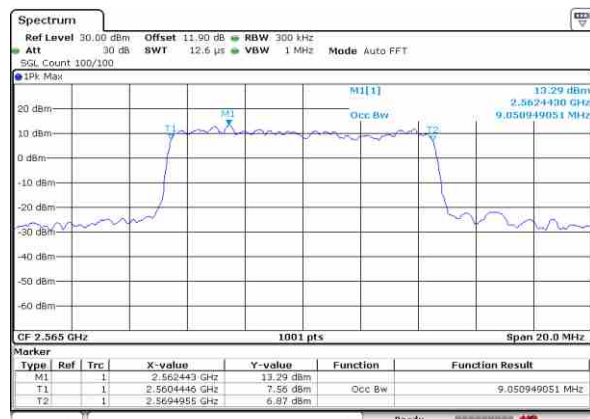
Date: 11.FEB.2019 22:14:51

## Highest Channel / 5MHz / 64QAM



Date: 11.FEB.2019 22:07:30

## Highest Channel / 10MHz / 64QAM

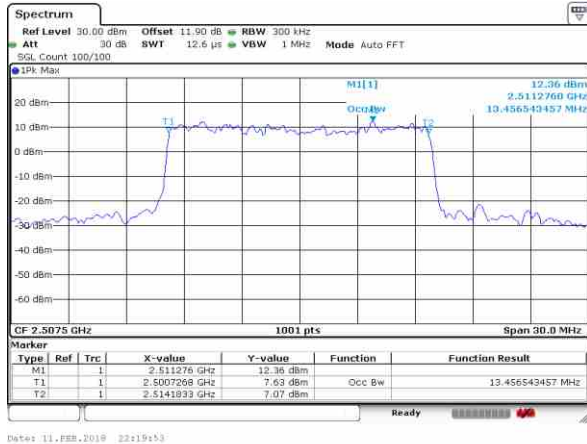


Date: 11.FEB.2019 22:16:11

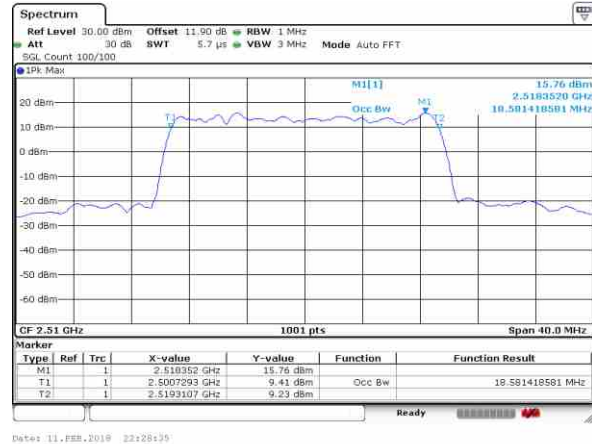


## LTE Band 7

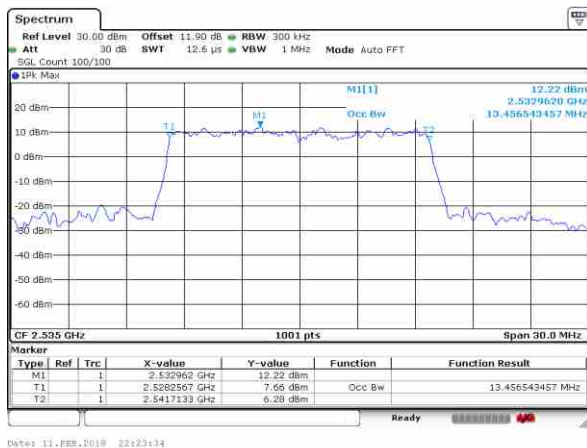
## Lowest Channel / 15MHz / 64QAM



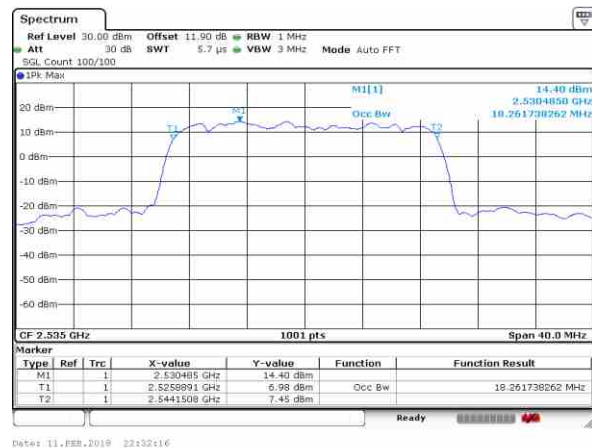
## Lowest Channel / 20MHz / 64QAM



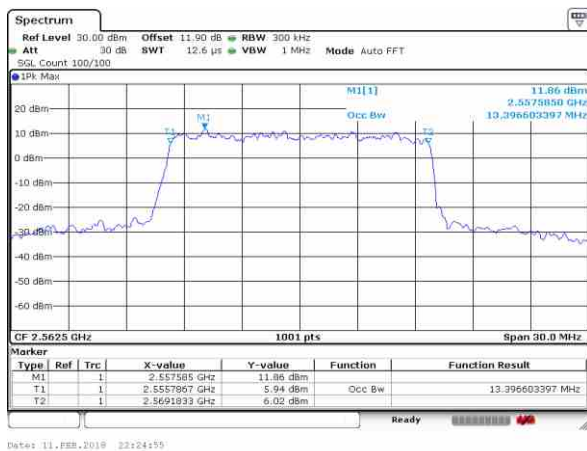
## Middle Channel / 15MHz / 64QAM



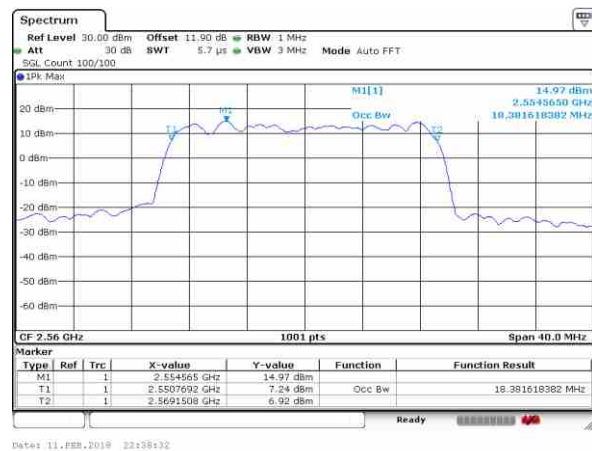
## Middle Channel / 20MHz / 64QAM



## Highest Channel / 15MHz / 64QAM



## Highest Channel / 20MHz / 64QAM



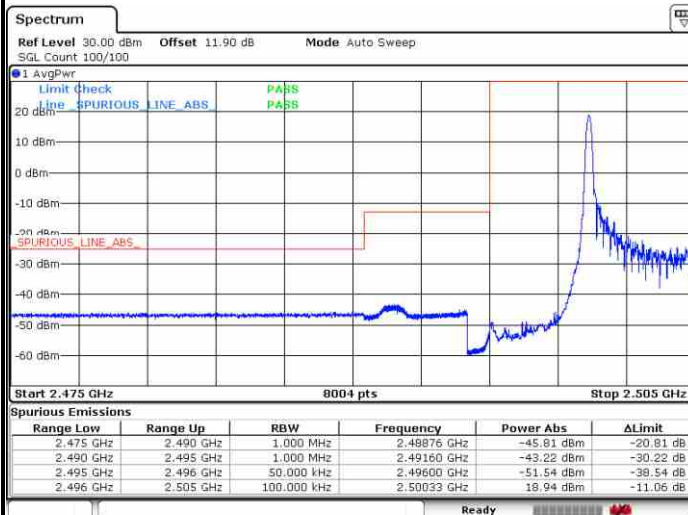


## **Conducted Band Edge**



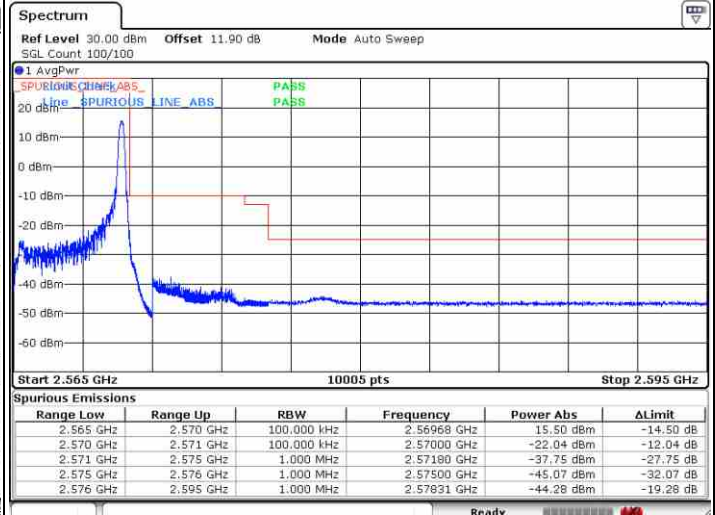
## LTE Band 7 / 5MHz / QPSK

## Lowest Band Edge / 1 RB



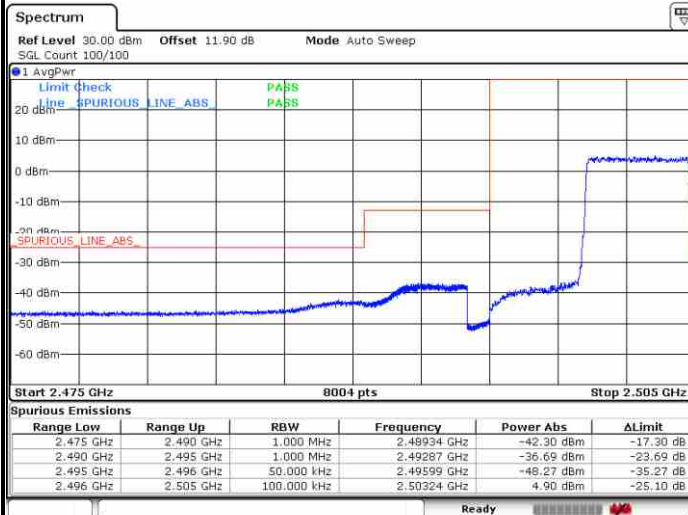
Date: 11.FEB.2018 20:01:42

## Highest Band Edge / 1 RB



Date: 11.FEB.2018 20:21:56

## Lowest Band Edge / Full RB



Date: 11.FEB.2018 20:04:04

## Highest Band Edge / Full RB

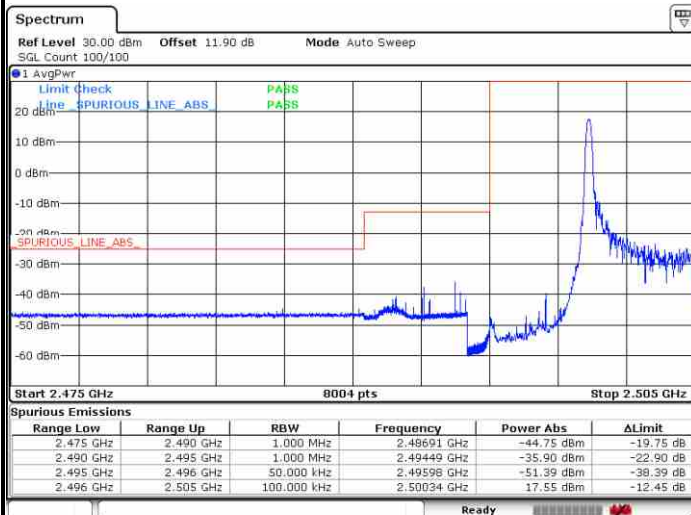


Date: 11.FEB.2018 20:24:18

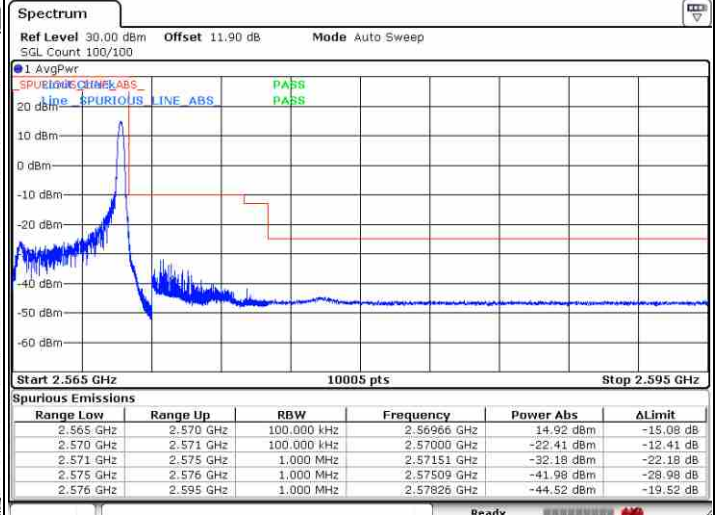


## LTE Band 7 / 5MHz / 16QAM

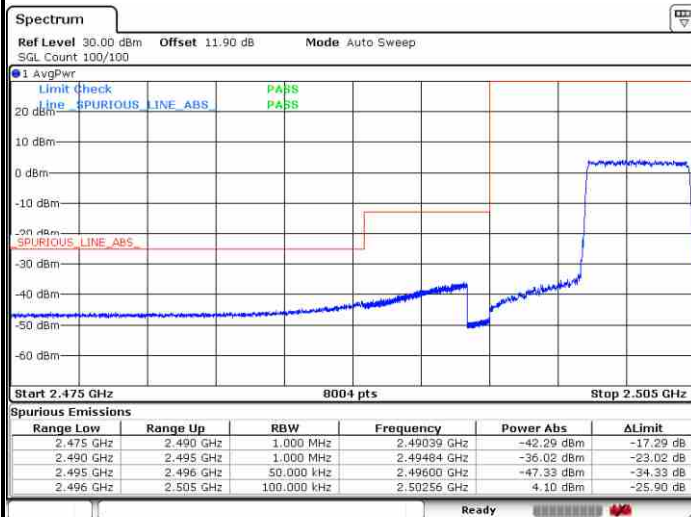
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



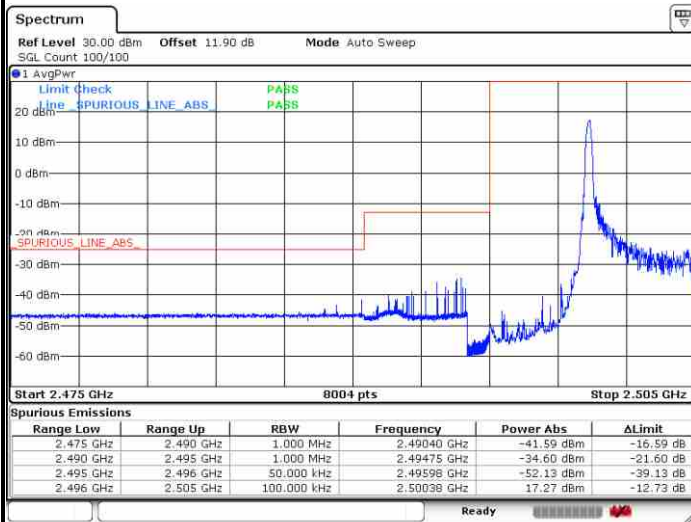
## Highest Band Edge / Full RB



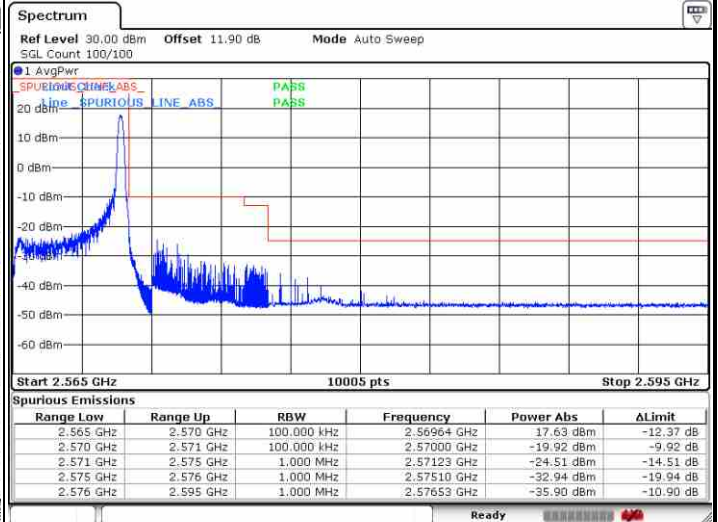


## LTE Band 7 / 5MHz / 64QAM

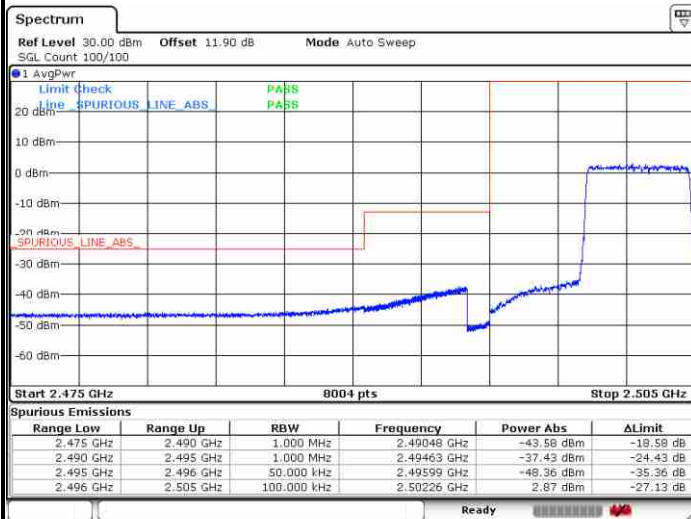
## Lowest Band Edge / 1RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



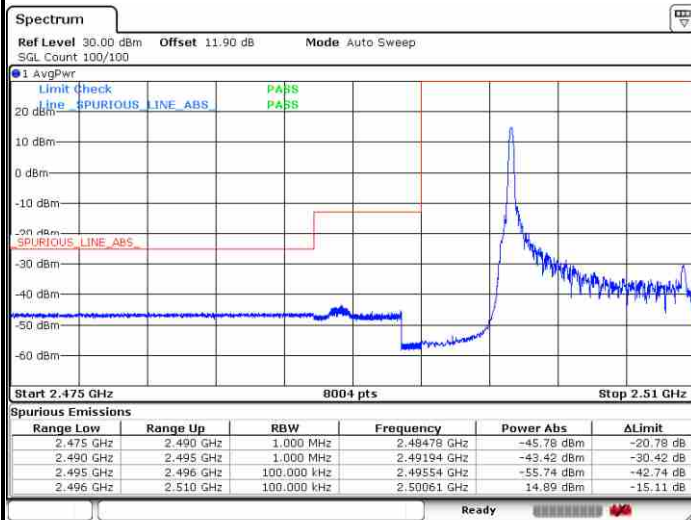
## Highest Band Edge / Full RB



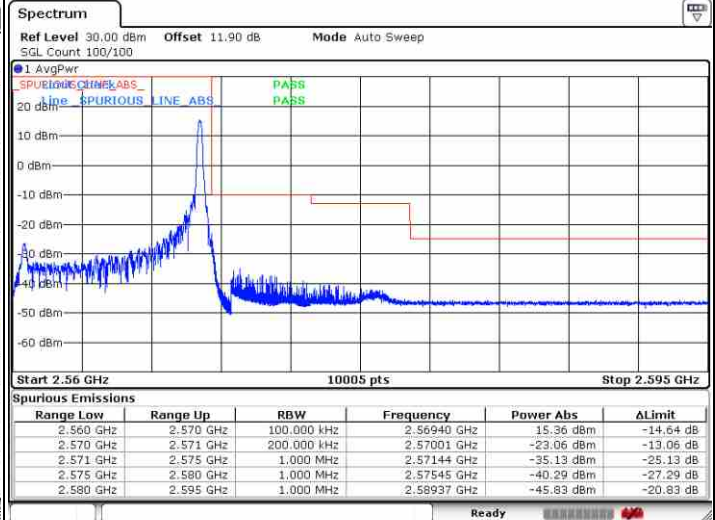


## LTE Band 7 / 10MHz / QPSK

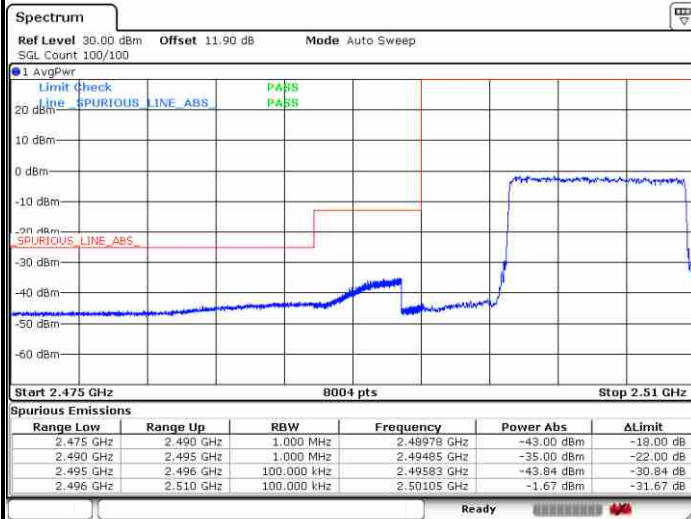
## Lowest Band Edge / 1 RB



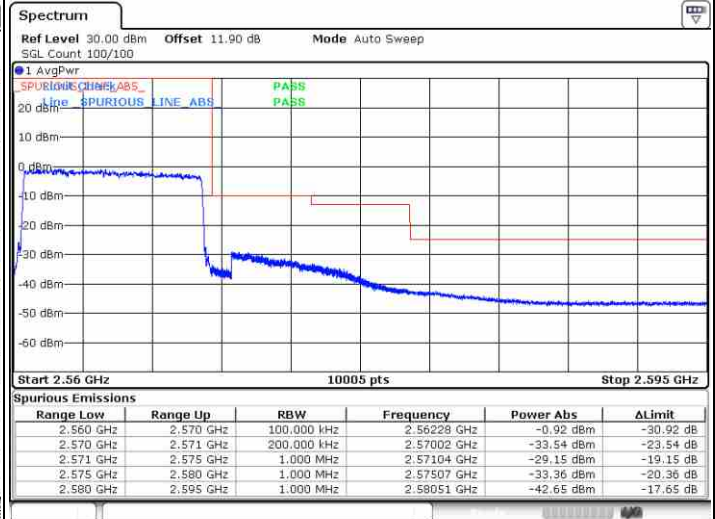
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



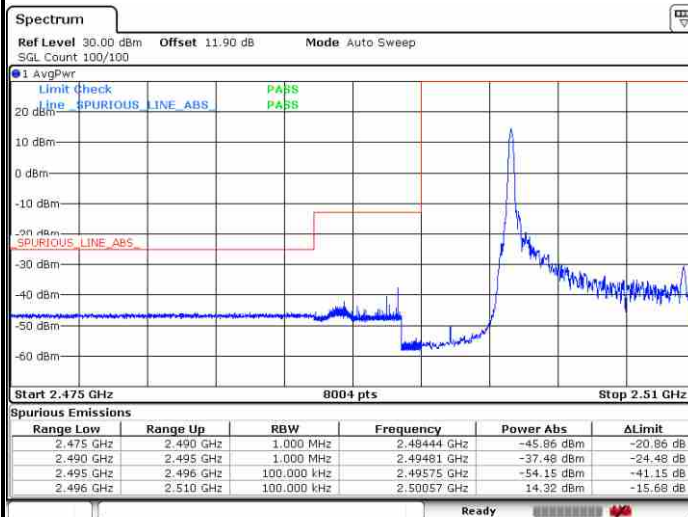
## Highest Band Edge / Full RB



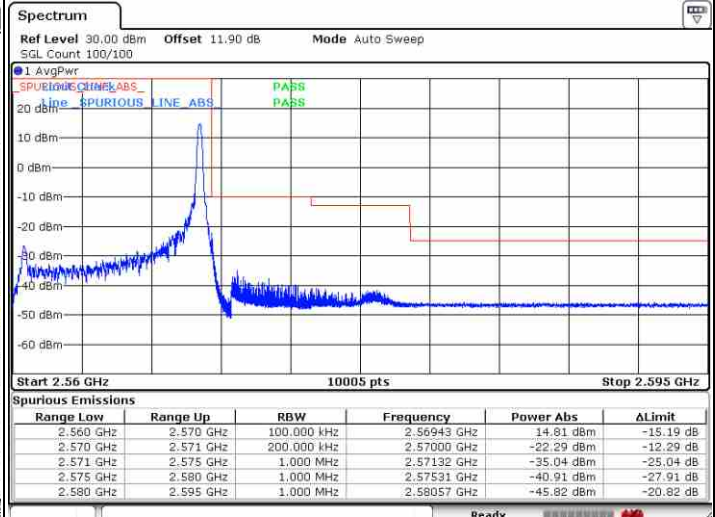


## LTE Band 7 / 10MHz / 16QAM

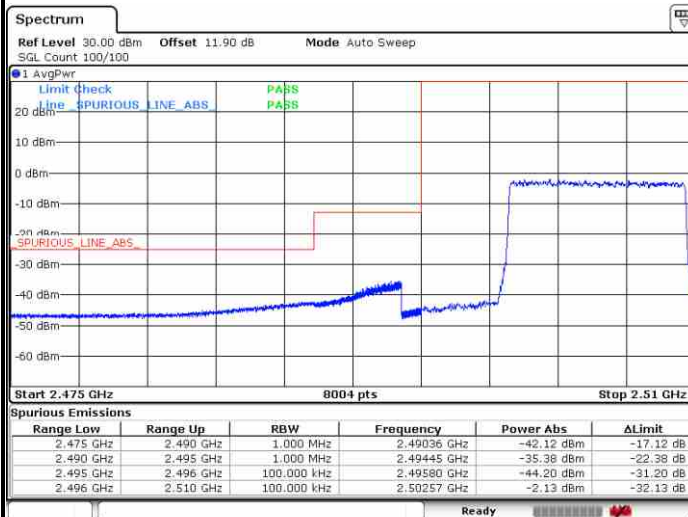
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



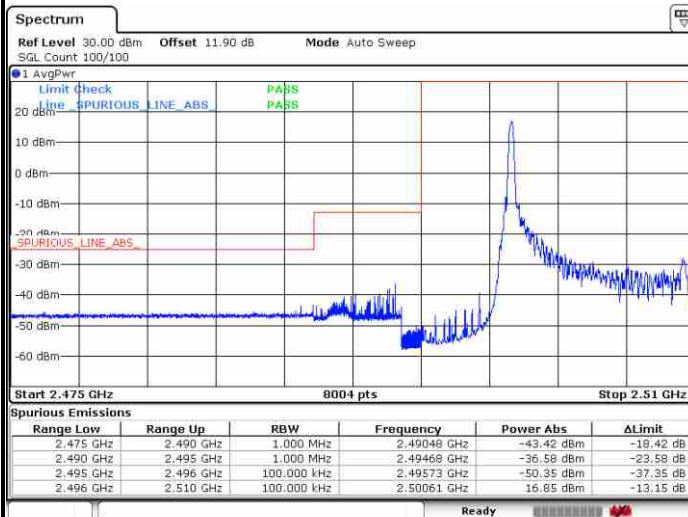
## Highest Band Edge / Full RB



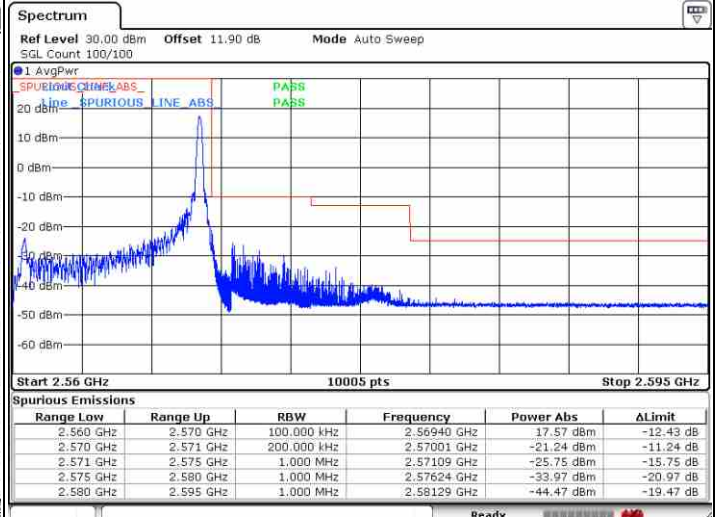


## LTE Band 7 / 10MHz / 64QAM

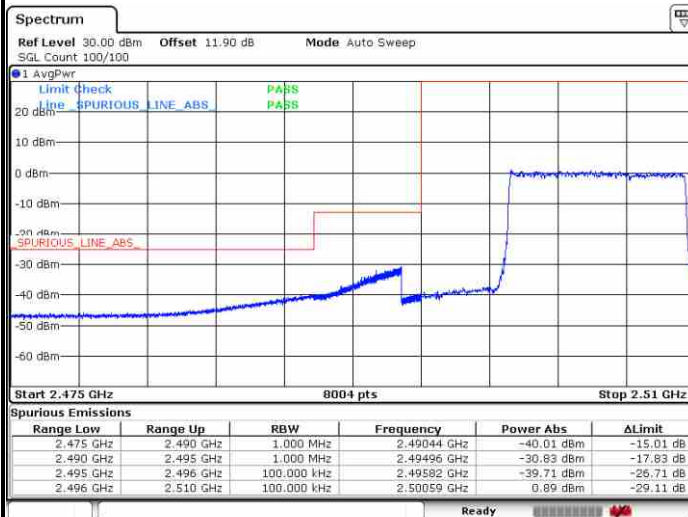
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



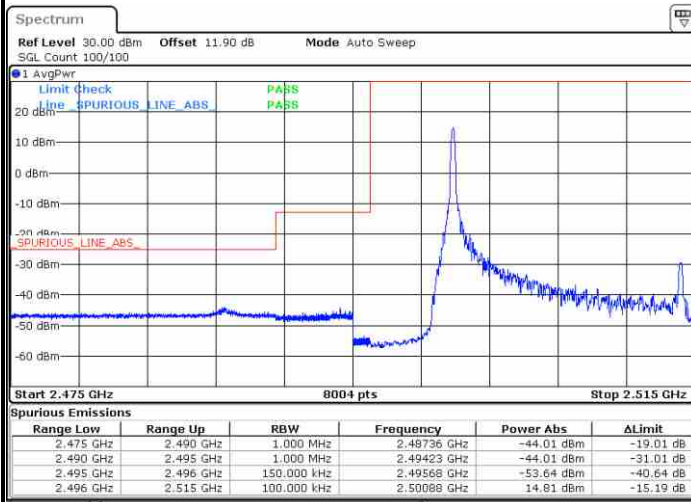
## Highest Band Edge / Full RB





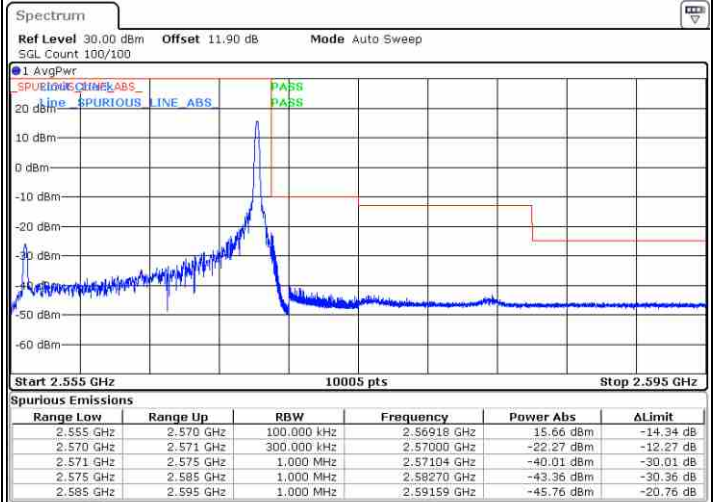
## LTE Band 7 / 15MHz / QPSK

## Lowest Band Edge / 1 RB



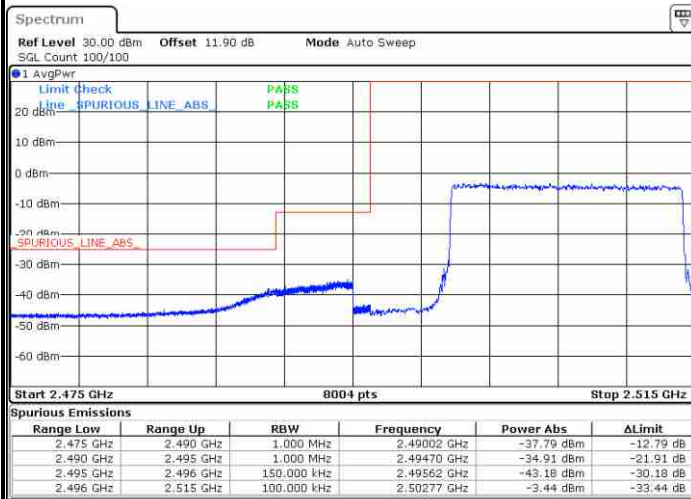
Date: 11.FEB.2018 20:46:46

## Highest Band Edge / 1 RB



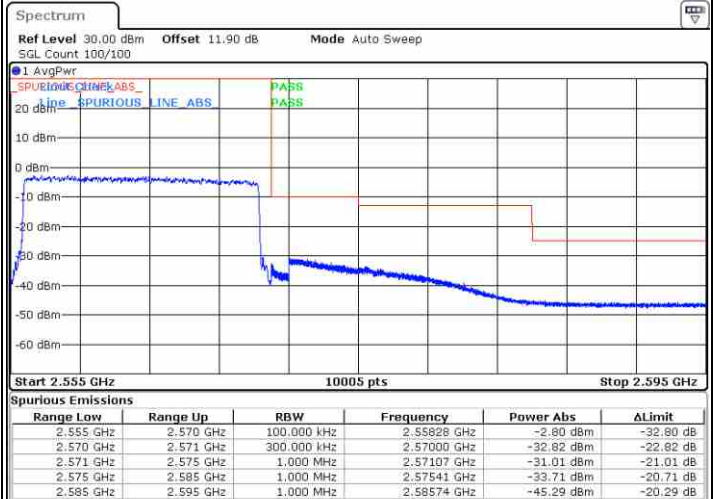
Date: 11.FEB.2018 20:56:44

## Lowest Band Edge / Full RB



Date: 11.FEB.2018 20:49:05

## Highest Band Edge / Full RB

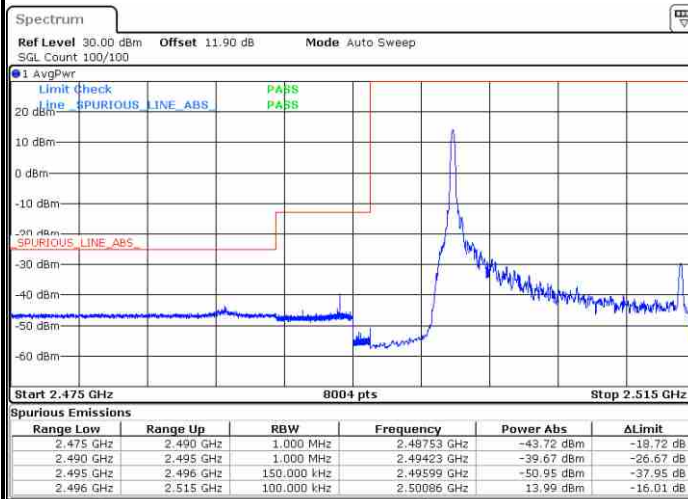


Date: 11.FEB.2018 20:59:03

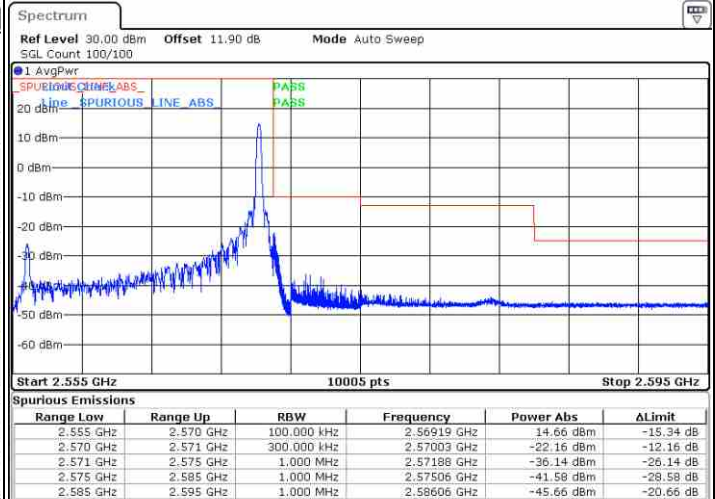


## LTE Band 7 / 15MHz / 16QAM

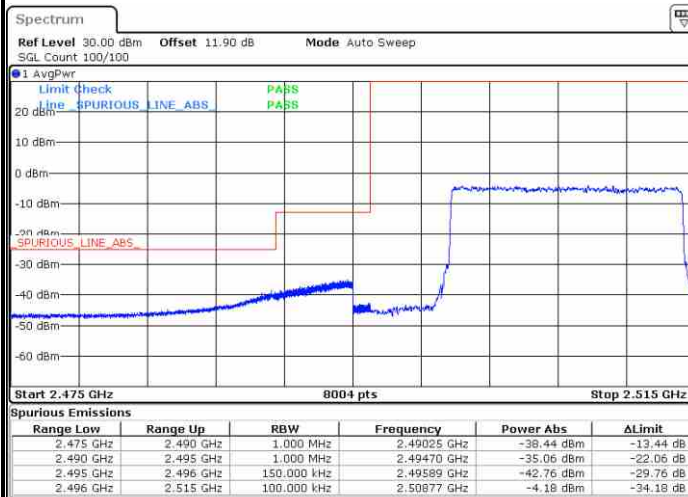
## Lowest Band Edge / 1 RB



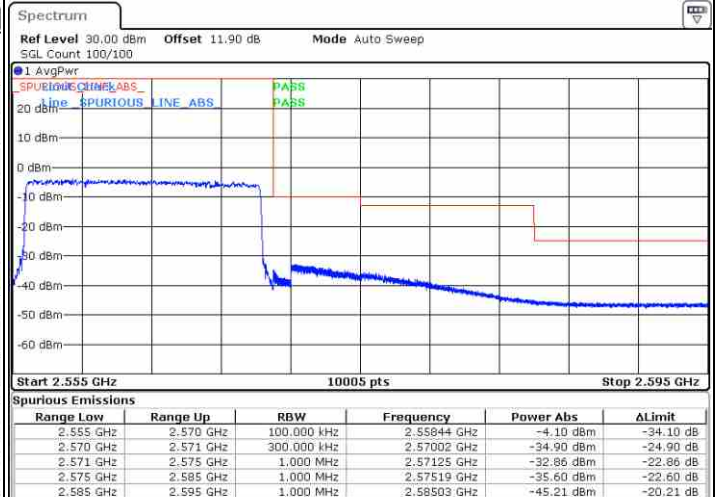
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



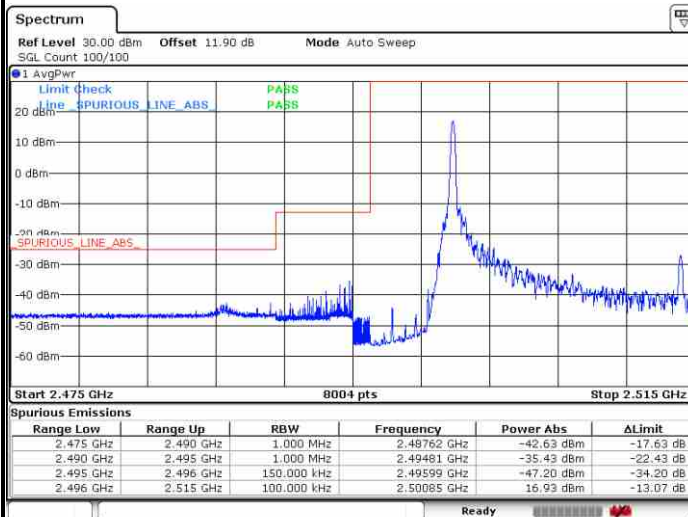
## Highest Band Edge / Full RB



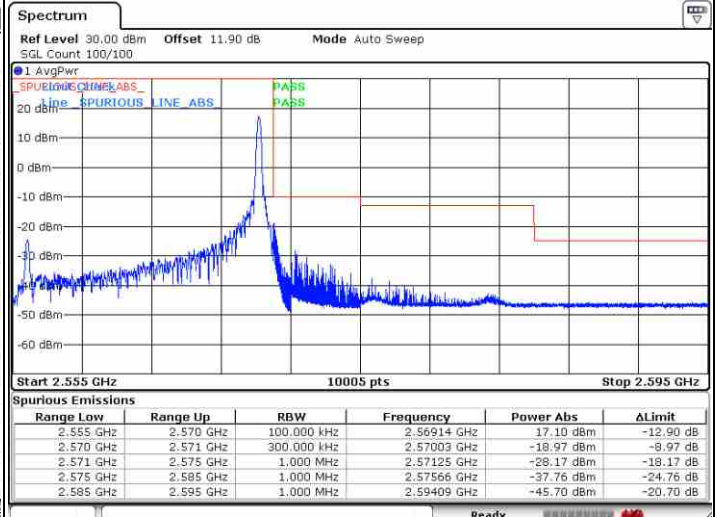


## LTE Band 7 / 15MHz / 64QAM

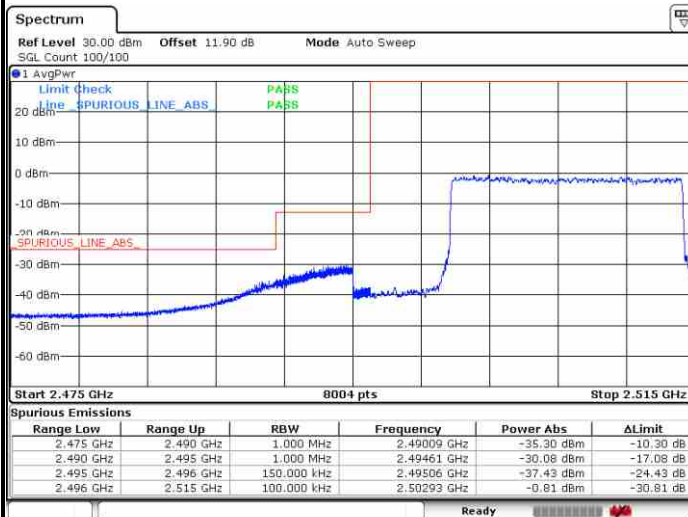
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



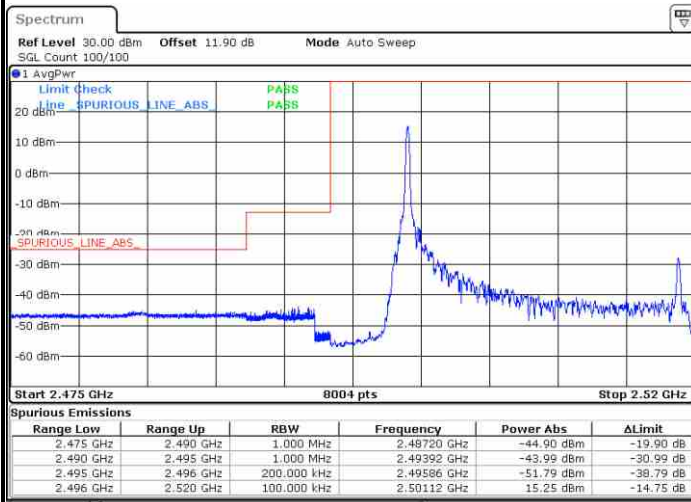
## Highest Band Edge / Full RB





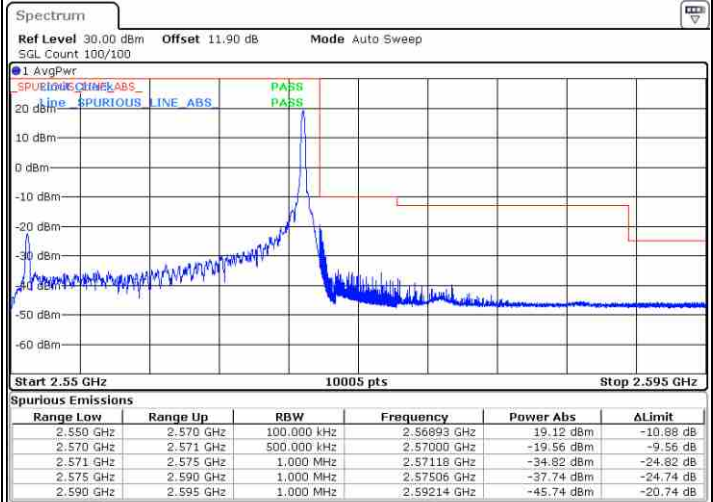
## LTE Band 7 / 20MHz / QPSK

## Lowest Band Edge / 1 RB



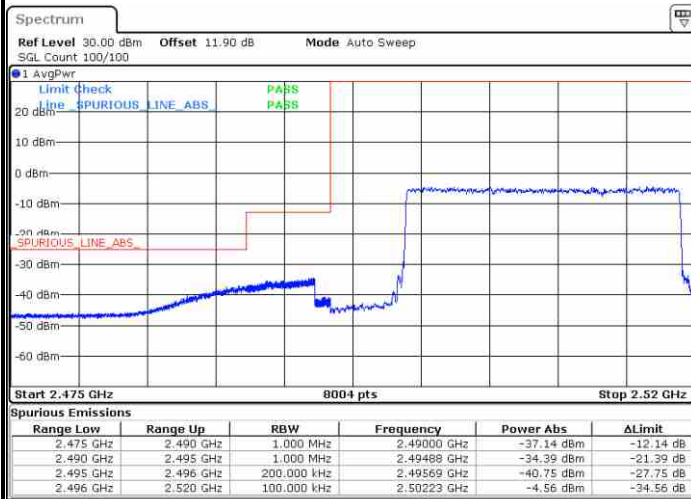
Date: 11.FEB.2018 21:04:02

## Highest Band Edge / 1 RB



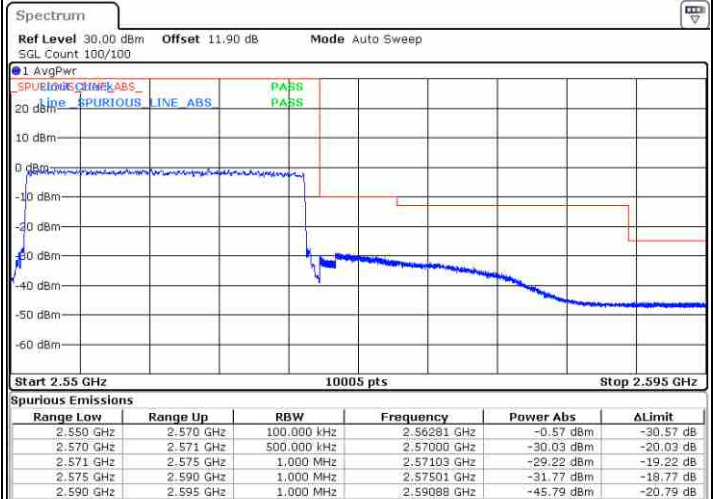
Date: 11.FEB.2018 21:14:00

## Lowest Band Edge / Full RB



Date: 11.FEB.2018 21:06:21

## Highest Band Edge / Full RB

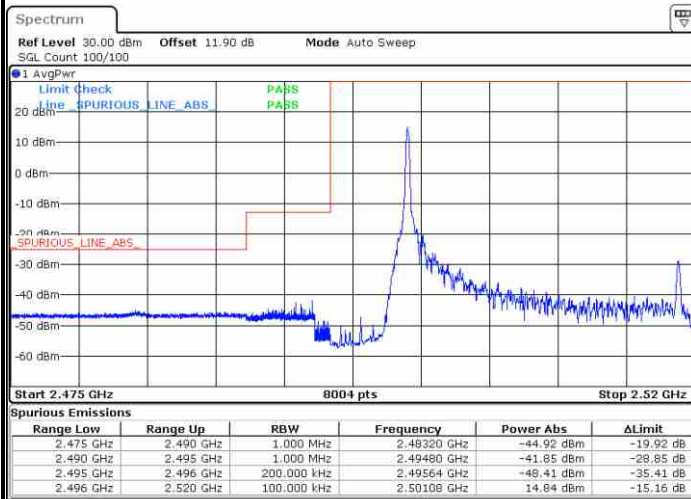


Date: 11.FEB.2018 21:17:28

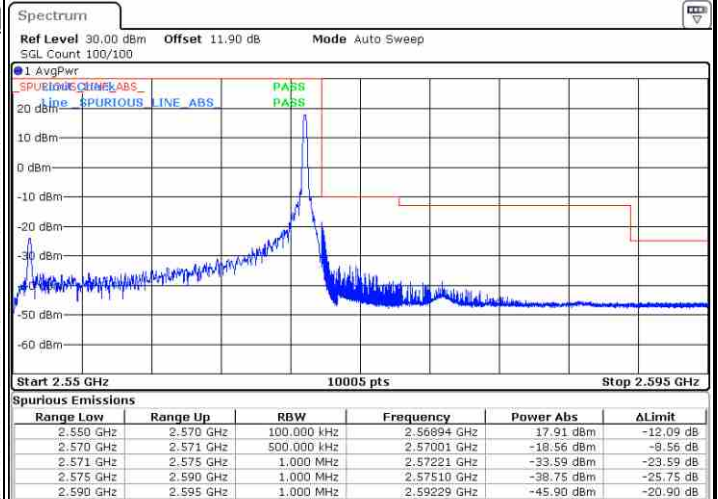


## LTE Band 7 / 20MHz / 16QAM

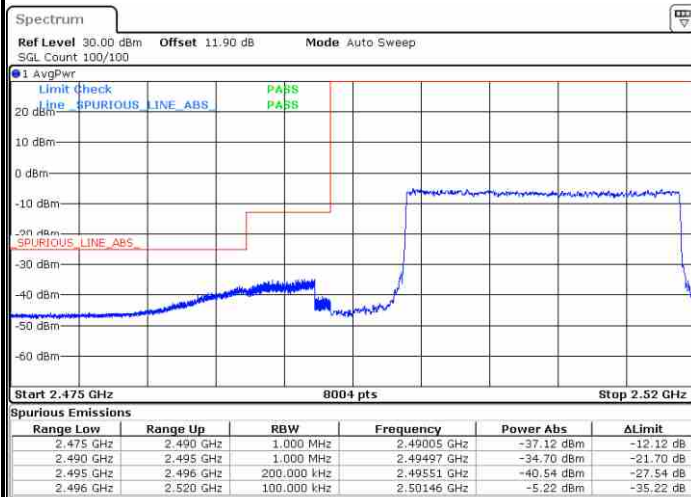
## Lowest Band Edge / 1 RB



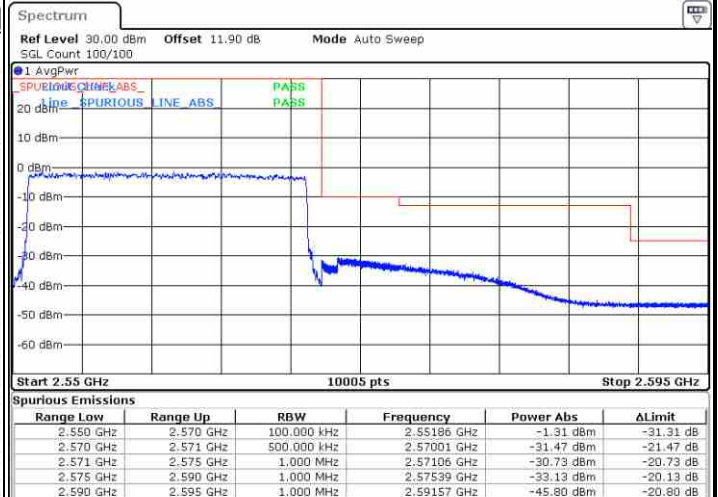
## Highest Band Edge / 1RB



## Lowest Band Edge / Full RB



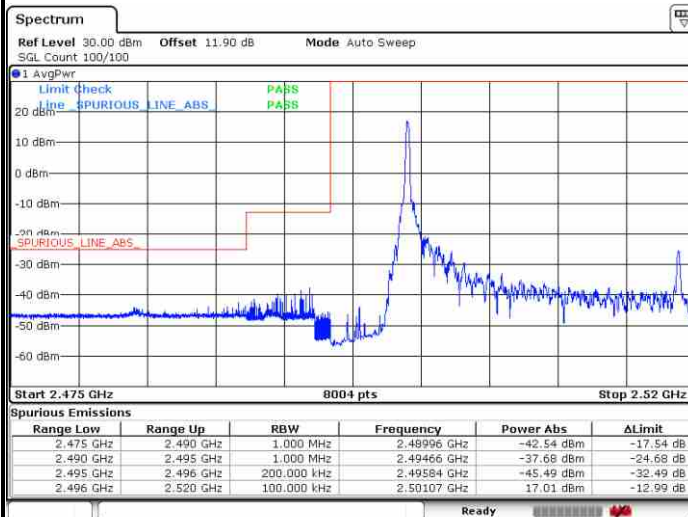
## Highest Band Edge / Full RB



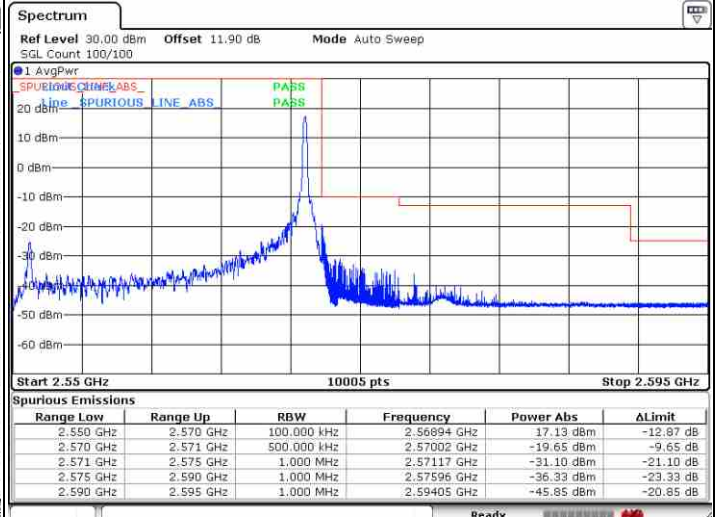


## LTE Band 7 / 20MHz / 64QAM

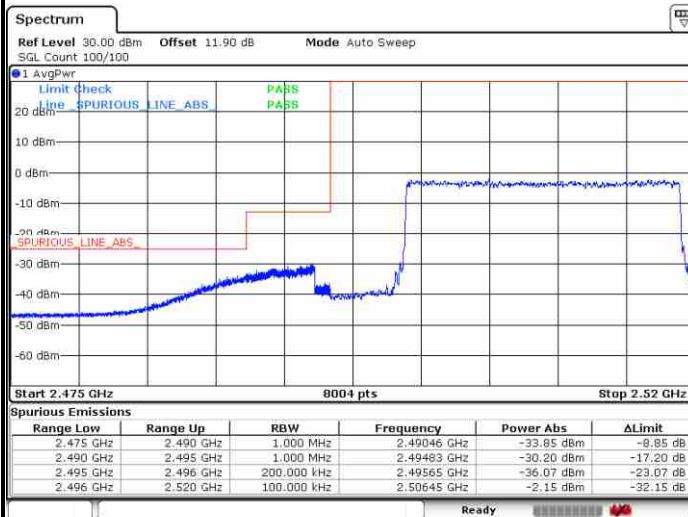
## Lowest Band Edge / 1 RB



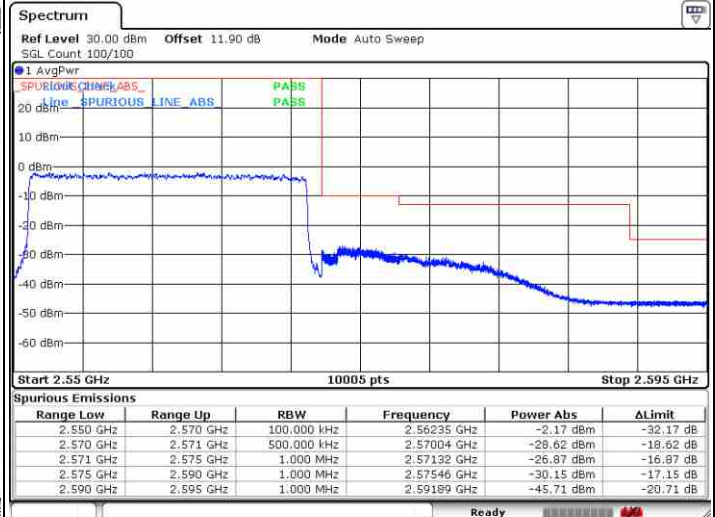
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB



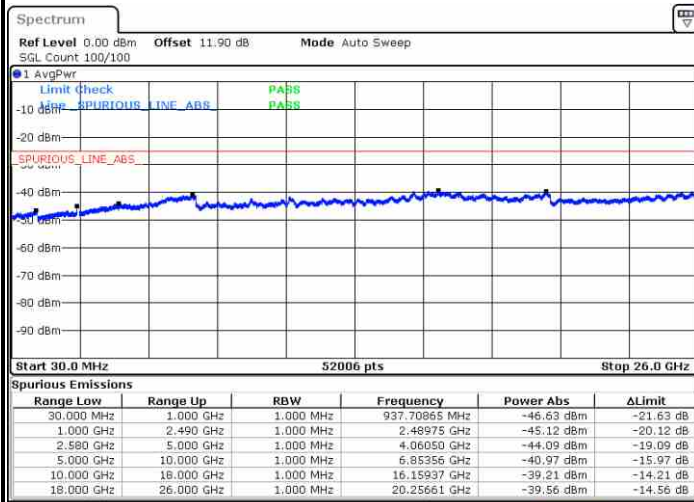


## **Conducted Spurious Emission**



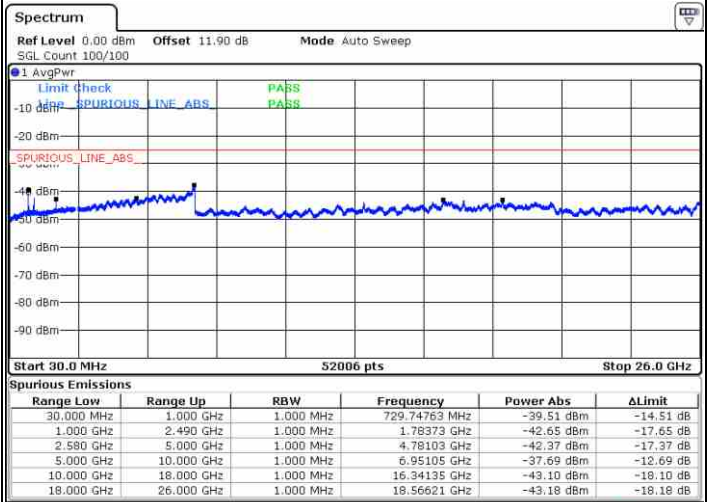
## LTE Band 7 / 5MHz

## Lowest Channel / QPSK



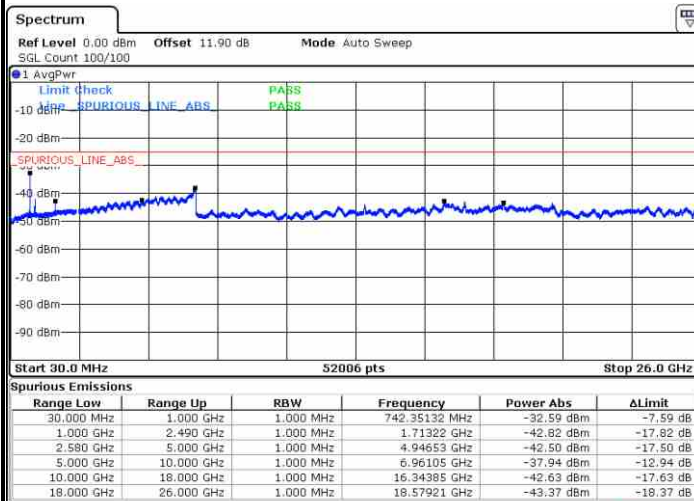
Date: 12.FEB.2018 08:23:17

## Lowest Channel / 16QAM



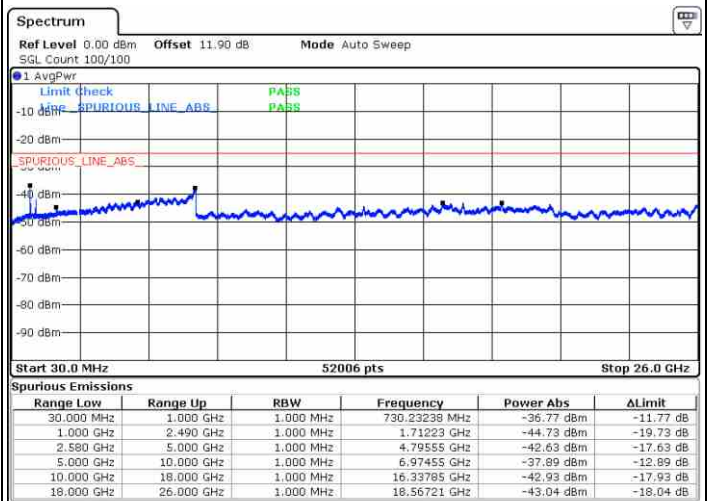
Date: 11.FEB.2018 20:17:17

## Middle Channel / QPSK



Date: 11.FEB.2018 20:19:02

## Middle Channel / 16QAM

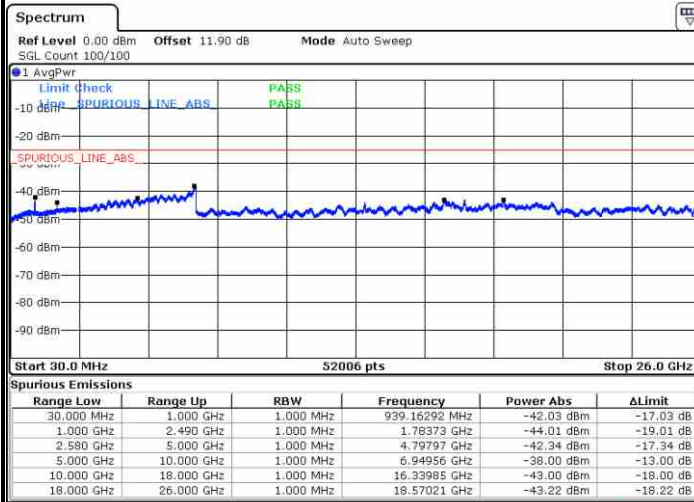


Date: 11.FEB.2018 20:20:00



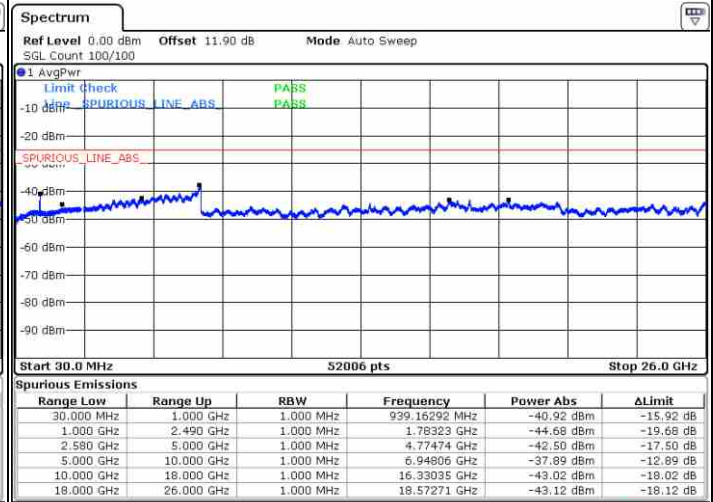
## LTE Band 7 / 5MHz

## Highest Channel / QPSK



Date: 11.FEB.2018 20:26:26

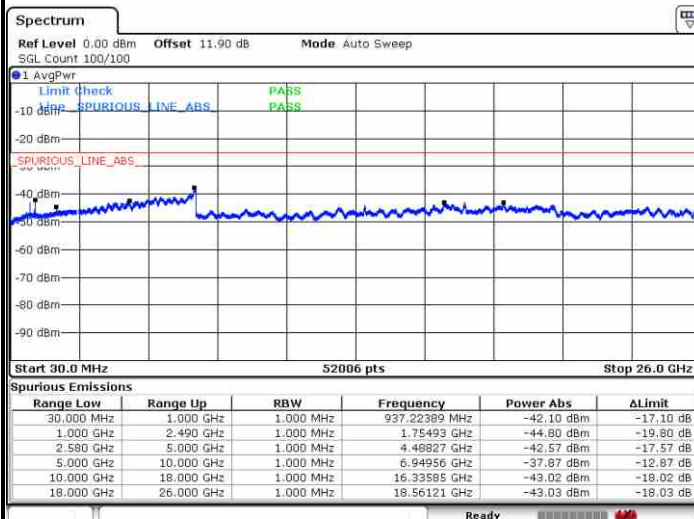
## Highest Channel / 16QAM



Date: 11.FEB.2018 20:27:24

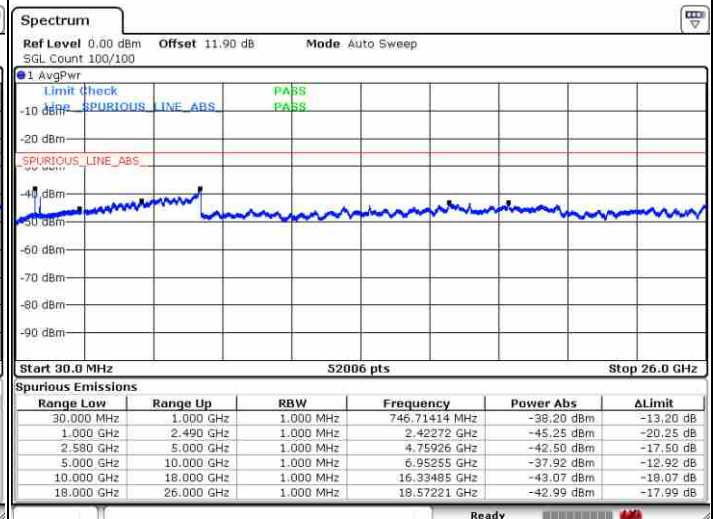
## LTE Band 7 / 10MHz

## Lowest Channel / QPSK



Date: 11.FEB.2018 20:33:50

## Lowest Channel / 16QAM

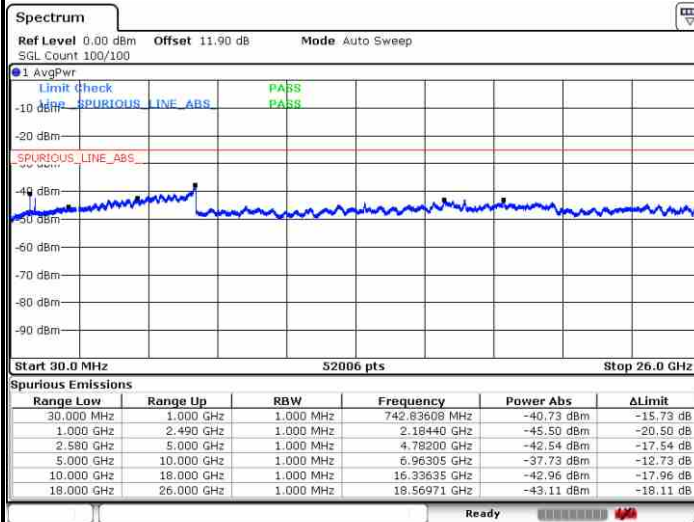


Date: 11.FEB.2018 20:34:46



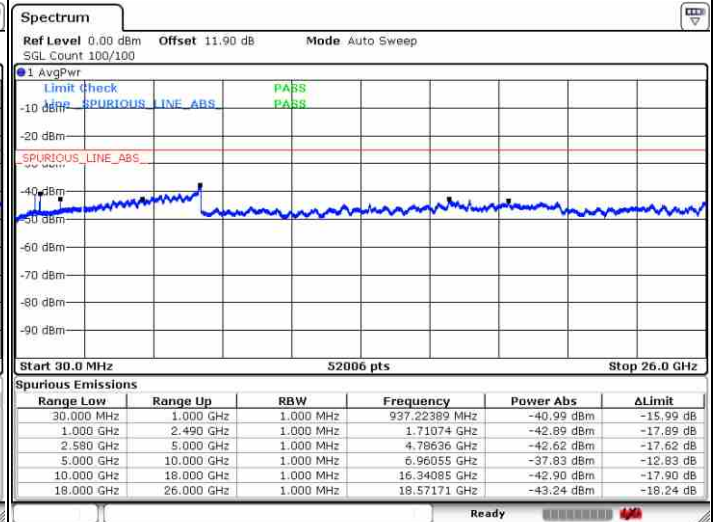
## LTE Band 7 / 10MHz

## Middle Channel / QPSK



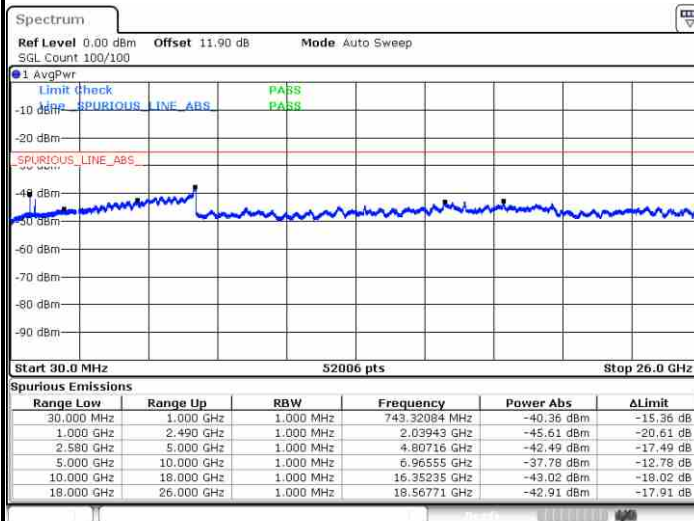
Date: 11.FEB.2018 20:36:32

## Middle Channel / 16QAM



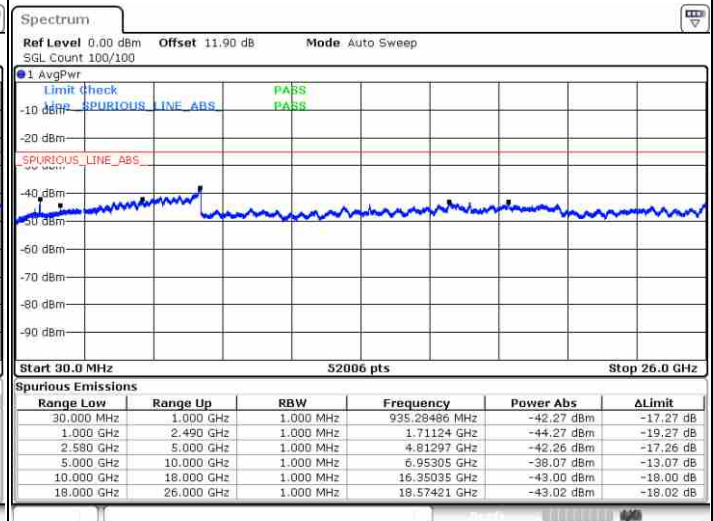
Date: 11.FEB.2018 20:37:30

## Highest Channel / QPSK



Date: 11.FEB.2018 20:43:53

## Highest Channel / 16QAM

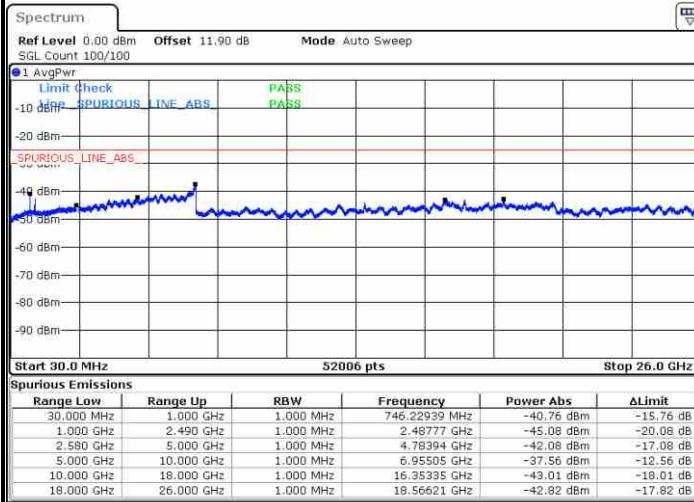


Date: 11.FEB.2018 20:44:50



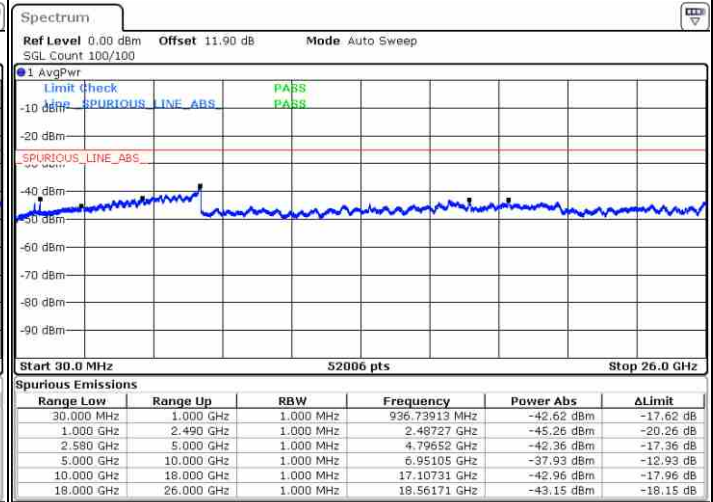
## LTE Band 7 / 15MHz

## Lowest Channel / QPSK



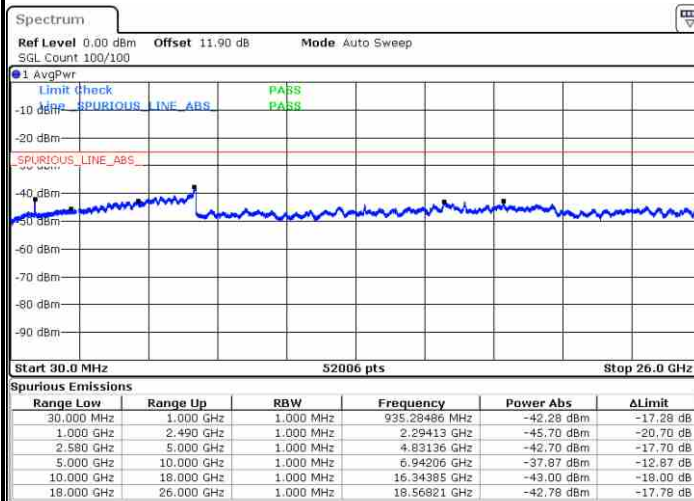
Date: 11.FEB.2018 20:51:11

## Lowest Channel / 16QAM



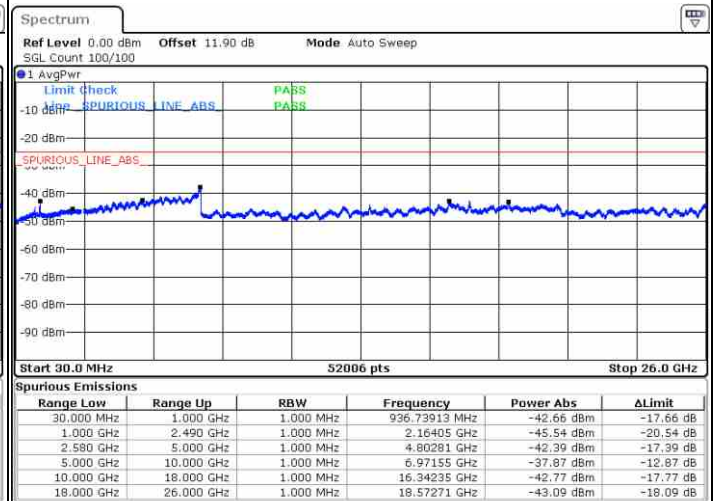
Date: 11.FEB.2018 20:52:08

## Middle Channel / QPSK



Date: 11.FEB.2018 20:53:51

## Middle Channel / 16QAM

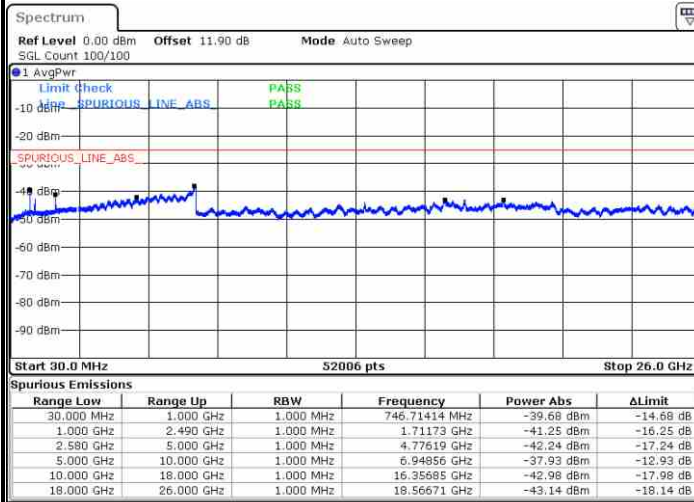


Date: 11.FEB.2018 20:54:48



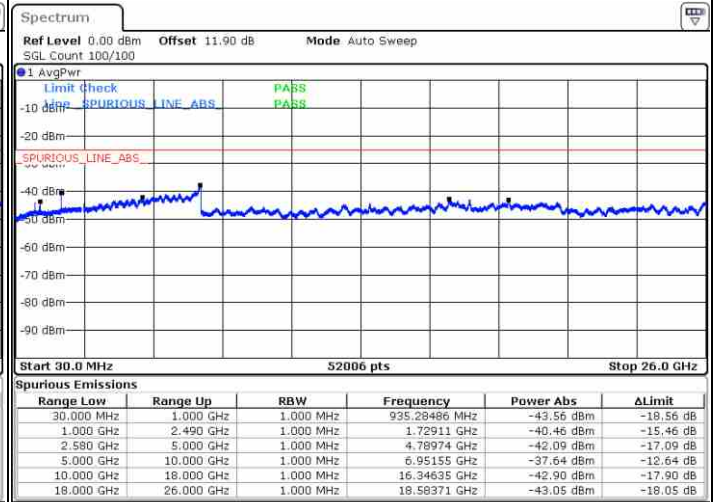
## LTE Band 7 / 15MHz

## Highest Channel / QPSK



Date: 11.FEB.2018 21:01:09

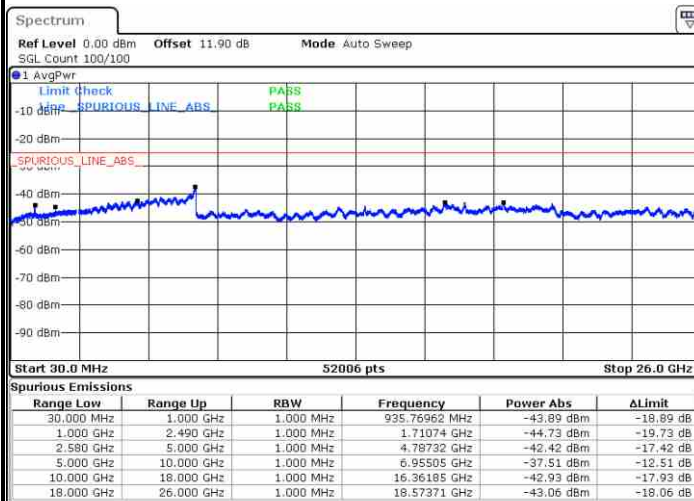
## Highest Channel / 16QAM



Date: 11.FEB.2018 21:02:06

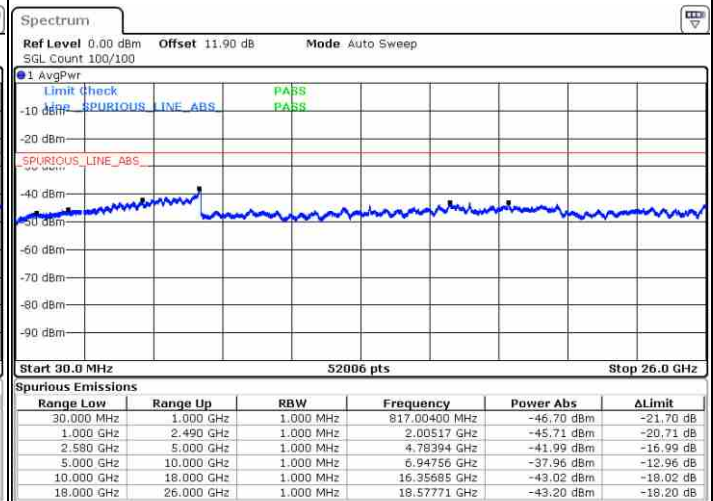
## LTE Band 7 / 20MHz

## Lowest Channel / QPSK



Date: 11.FEB.2018 21:08:26

## Lowest Channel / 16QAM

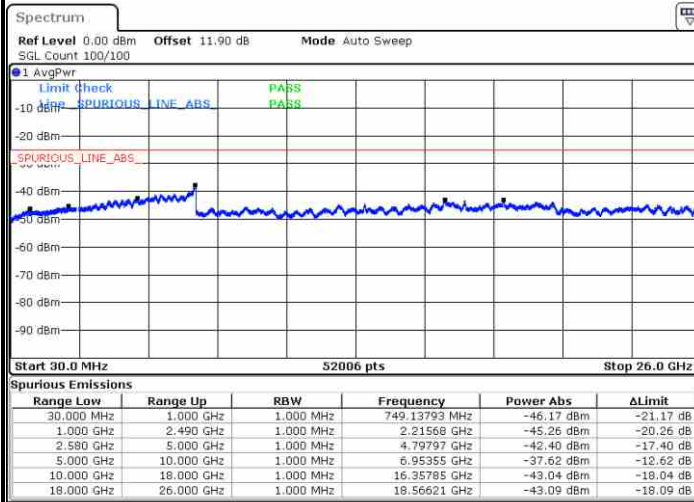


Date: 11.FEB.2018 21:09:23



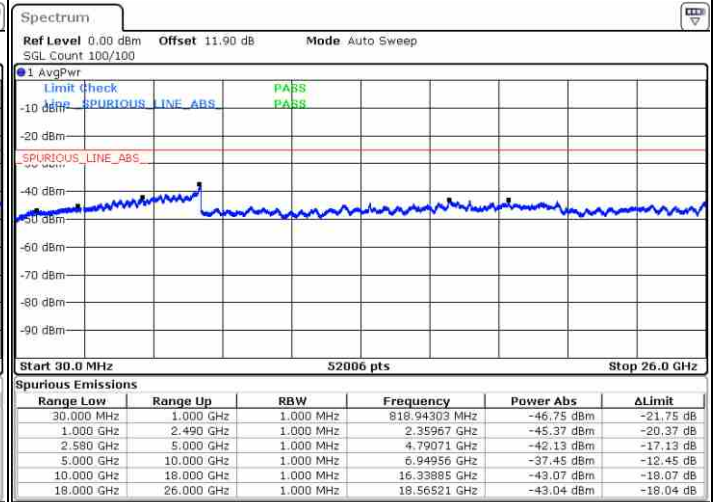
## LTE Band 7 / 20MHz

## Middle Channel / QPSK



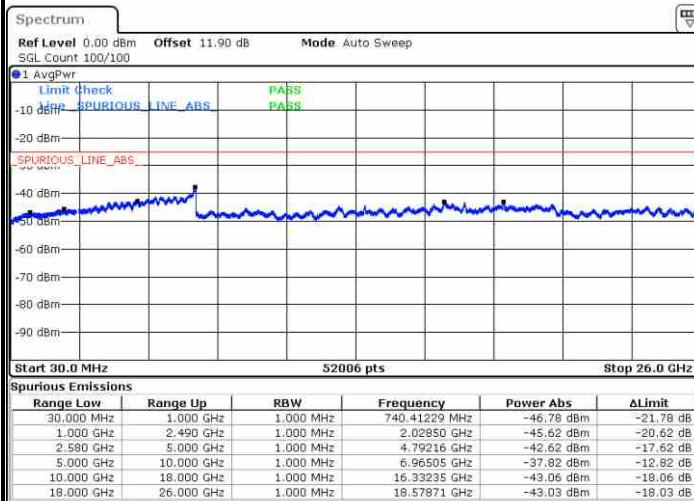
Date: 11.FEB.2018 21:11:06

## Middle Channel / 16QAM



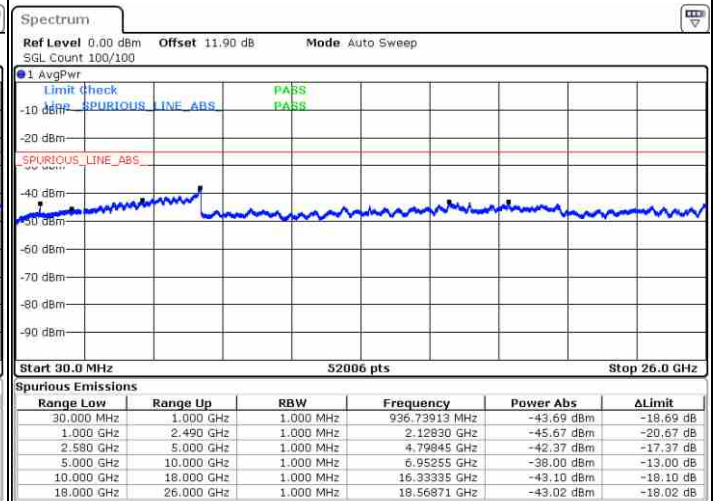
Date: 11.FEB.2018 21:12:04

## Highest Channel / QPSK



Date: 11.FEB.2018 21:18:24

## Highest Channel / 16QAM

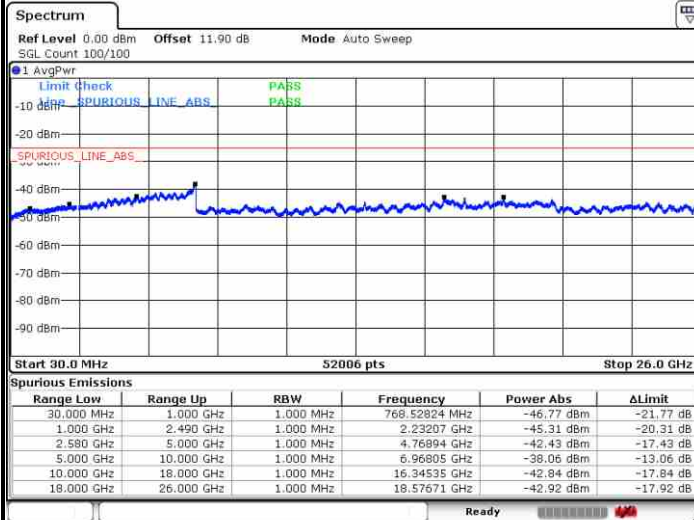


Date: 11.FEB.2018 21:19:21



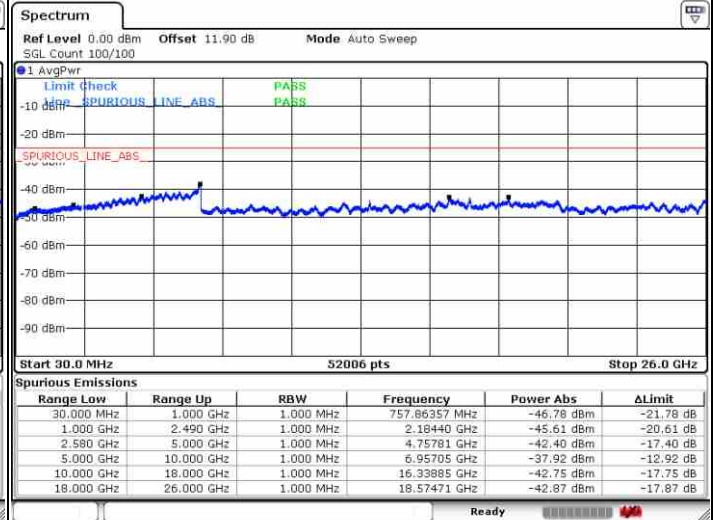
## LTE Band 7 / 5MHz

## Lowest Channel / 64QAM



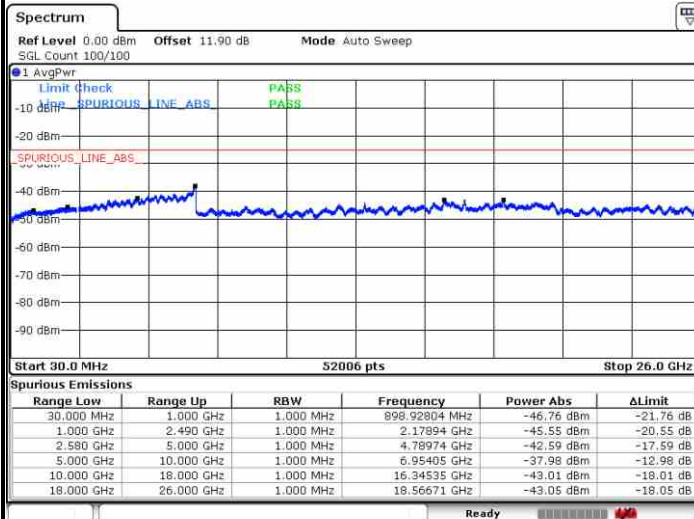
Date: 11.FEB.2018 22:05:57

## Middle Channel / 64QAM



Date: 11.FEB.2018 22:07:17

## Highest Channel / 64QAM

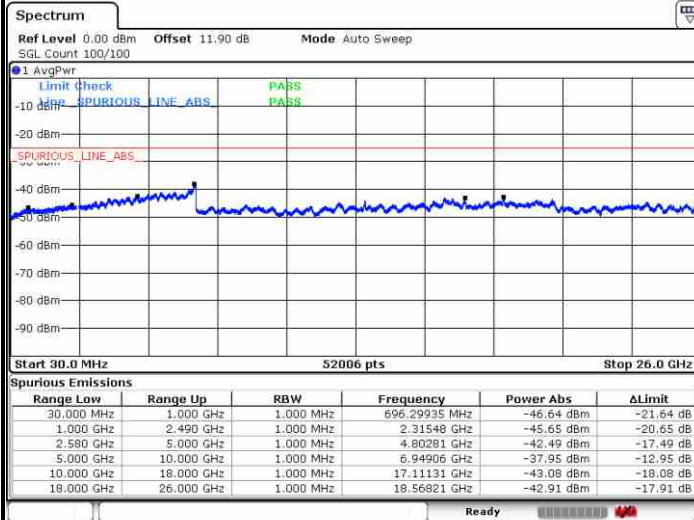


Date: 11.FEB.2018 22:10:57



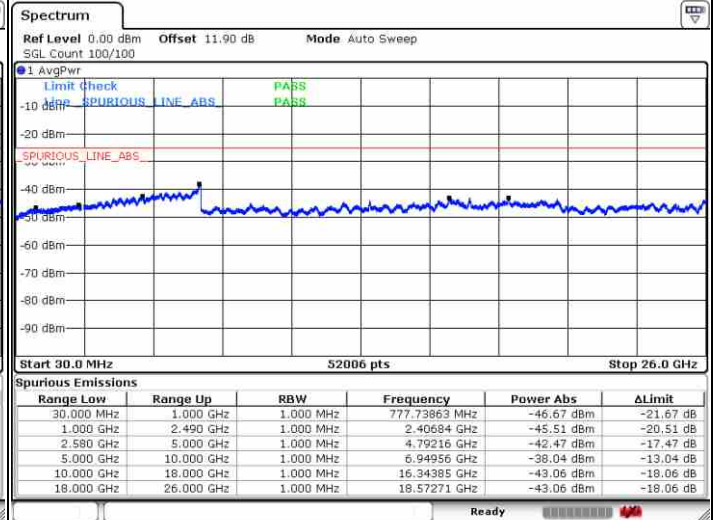
## LTE Band 7 / 10MHz

## Lowest Channel / 64QAM



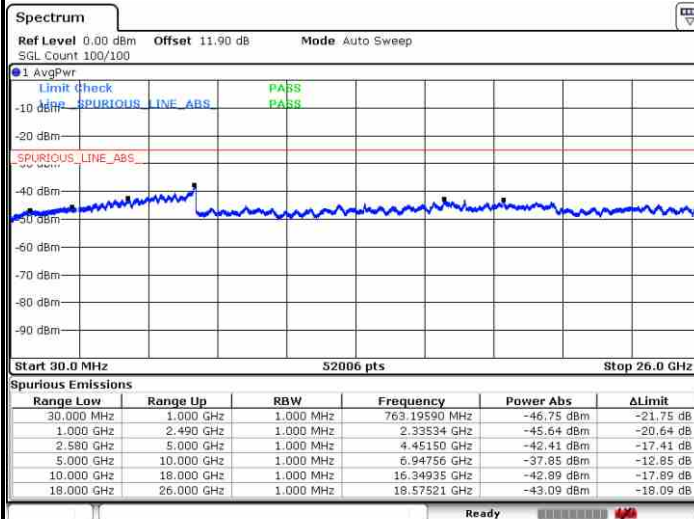
Date: 11.FEB.2018 22:14:38

## Middle Channel / 64QAM



Date: 11.FEB.2018 22:15:59

## Highest Channel / 64QAM

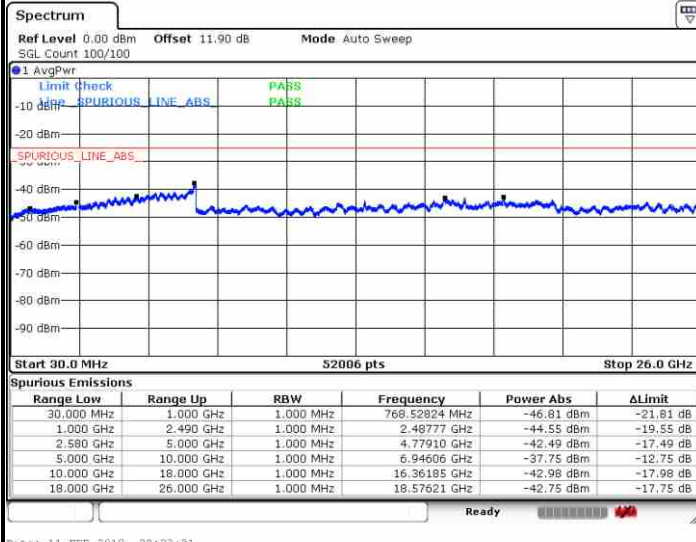


Date: 11.FEB.2018 22:19:41



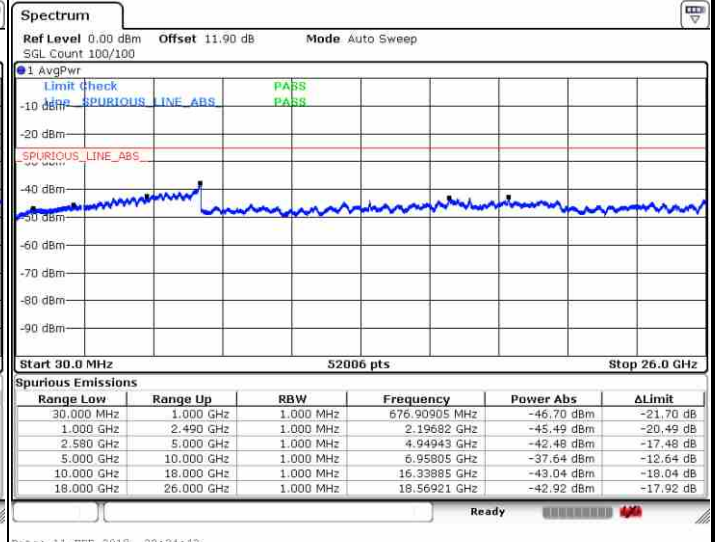
## LTE Band 7 / 15MHz

## Lowest Channel / 64QAM



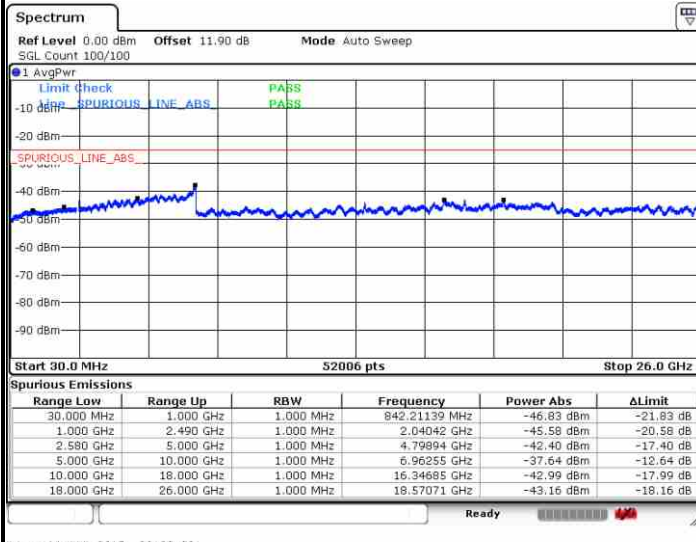
Date: 11.FEB.2018 22:23:21

## Middle Channel / 64QAM



Date: 11.FEB.2018 22:24:42

## Highest Channel / 64QAM

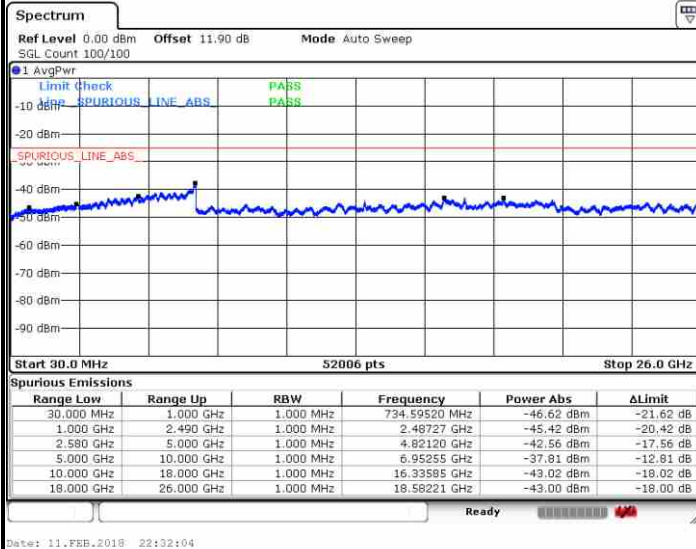


Date: 11.FEB.2018 22:28:22

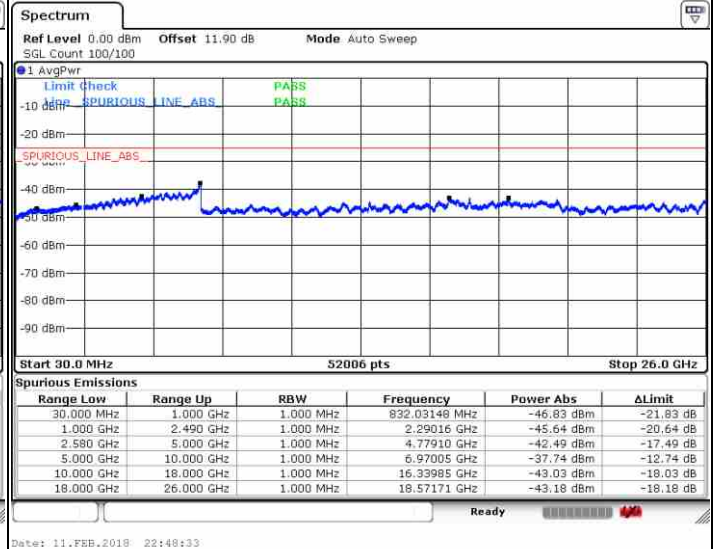


## LTE Band 7 / 20MHz

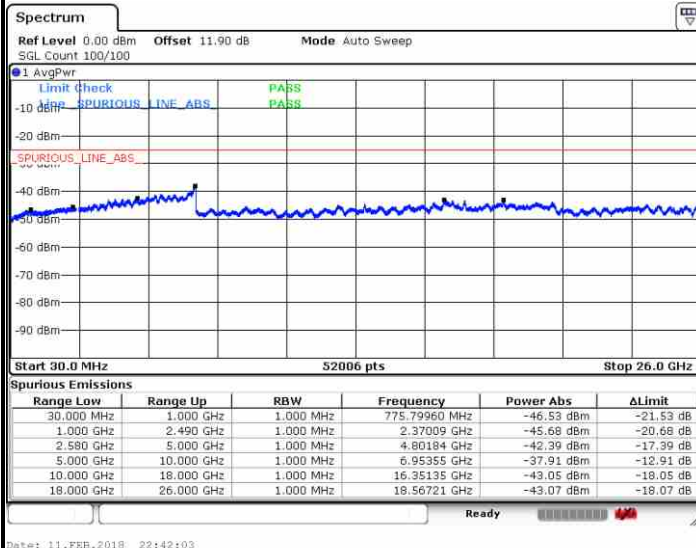
## Lowest Channel / 64QAM



## Middle Channel / 64QAM



## Highest Channel / 64QAM



## Frequency Stability

| Test Conditions  |                   | LTE Band 7 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                           | Note 2. |
|                  |                   | Deviation (ppm)                    | Result  |
| 50               | Normal Voltage    | 0.0001                             | PASS    |
| 40               | Normal Voltage    | 0.0086                             |         |
| 30               | Normal Voltage    | 0.0002                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0001                             |         |
| 0                | Normal Voltage    | 0.0001                             |         |
| -10              | Normal Voltage    | 0.0093                             |         |
| -20              | Normal Voltage    | 0.0088                             |         |
| -30              | Normal Voltage    | 0.0087                             |         |
| 20               | Maximum Voltage   | 0.0093                             |         |
| 20               | Normal Voltage    | 0.0000                             |         |
| 20               | Battery End Point | 0.0088                             |         |

**Note:**

3. Normal Voltage =3.82 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.4 V.
4. Note: The frequency fundamental emissions stay within the authorized frequency block.

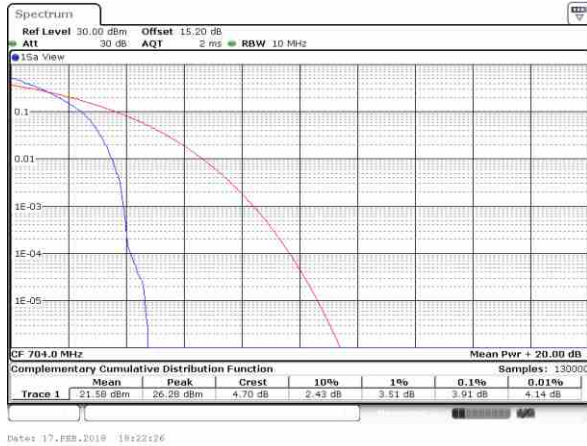
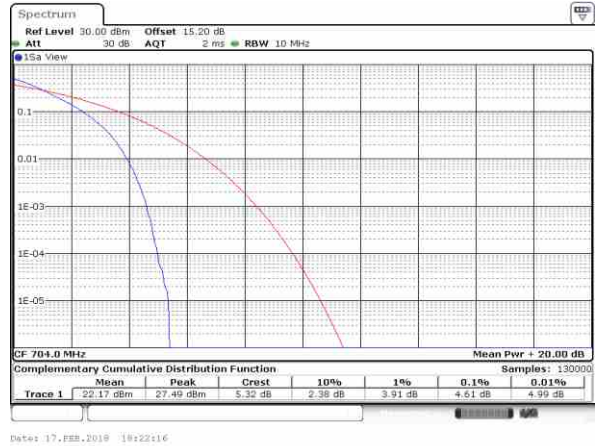
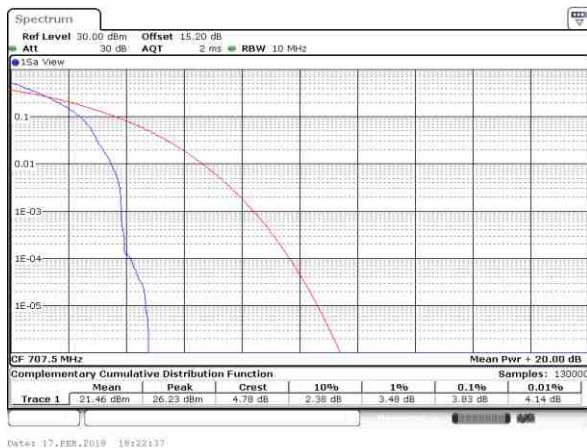
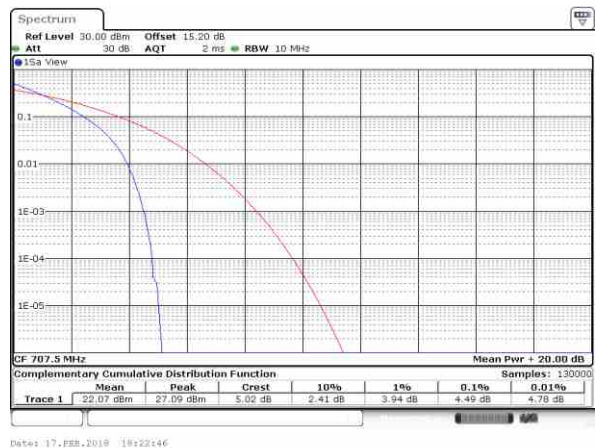
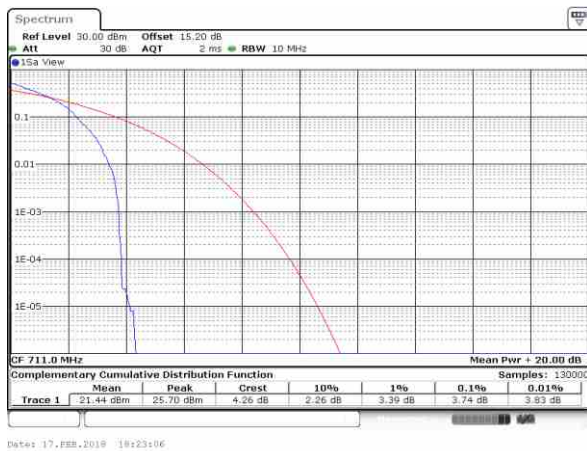
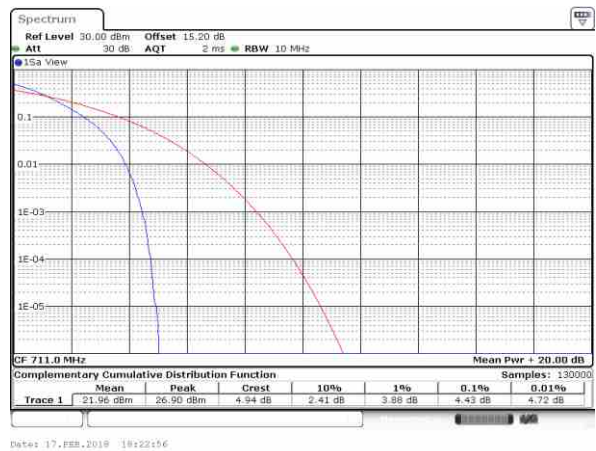


## A7. LTE Band 12

<For Up Antenna>

### Peak-to-Average Ratio

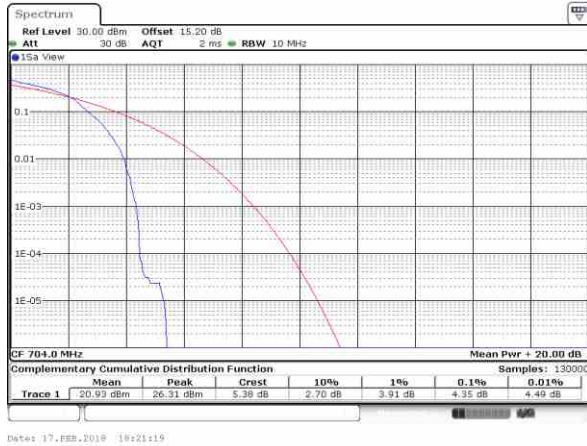
| Mode       | LTE Band 12 / 10MHz |         |       |         |             |
|------------|---------------------|---------|-------|---------|-------------|
| Mod.       | QPSK                |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 3.91                | 4.61    | 4.35  | 5.45    | PASS        |
| Middle CH  | 3.83                | 4.49    | 4.26  | 5.45    |             |
| Highest CH | 3.74                | 4.43    | 4.84  | 5.39    |             |
| Mode       | LTE Band 12 / 10MHz |         |       |         |             |
| Mod.       | 64QAM               |         |       |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB |       |         | Result      |
| Lowest CH  | 5.19                | 5.45    | -     | -       | PASS        |
| Middle CH  | 6.20                | 5.94    | -     | -       |             |
| Highest CH | 5.71                | 5.59    | -     | -       |             |

**LTE Band 12 / 10MHz / QPSK**
**Lowest Channel / 1RB**

**Lowest Channel / Full RB**

**Middle Channel / 1RB**

**Middle Channel / Full RB**

**Highest Channel / 1RB**

**Highest Channel / Full RB**


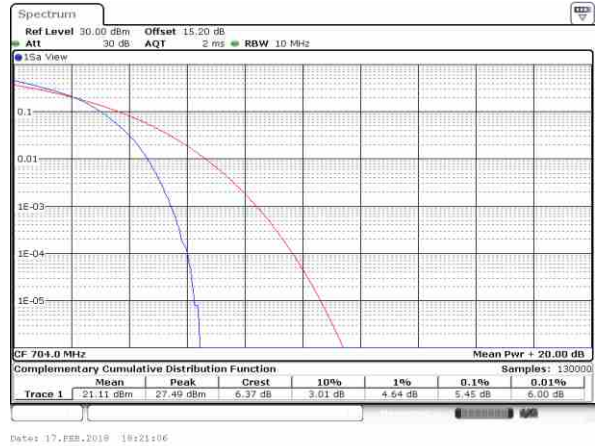


## LTE Band 12 / 10MHz / 16QAM

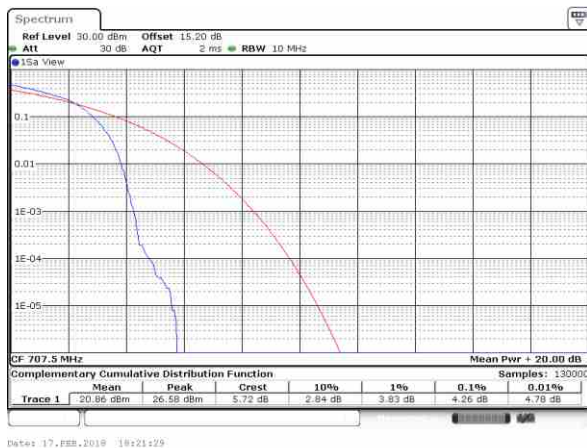
## Lowest Channel / 1RB



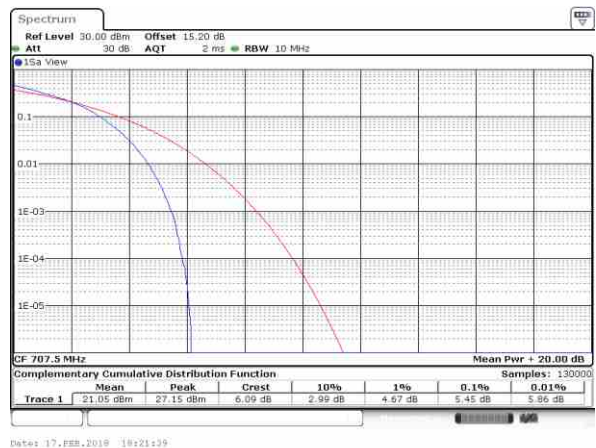
## Lowest Channel / Full RB



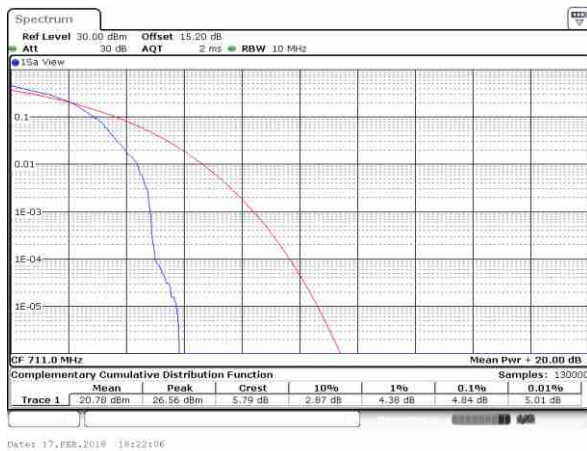
## Middle Channel / 1RB



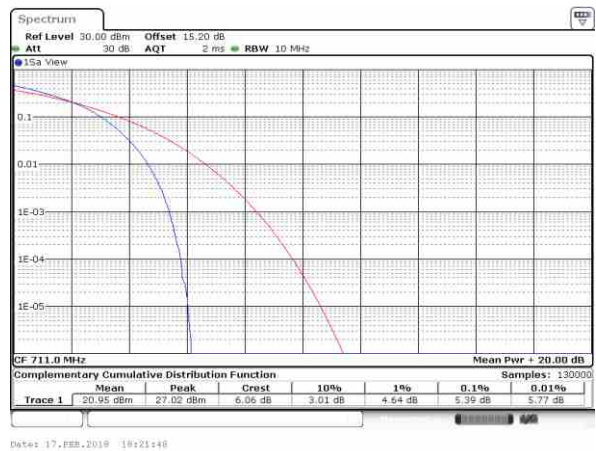
## Middle Channel / Full RB



## Highest Channel / 1RB



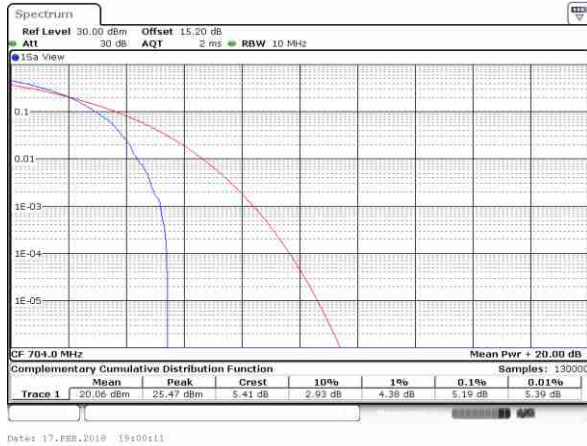
## Highest Channel / Full RB



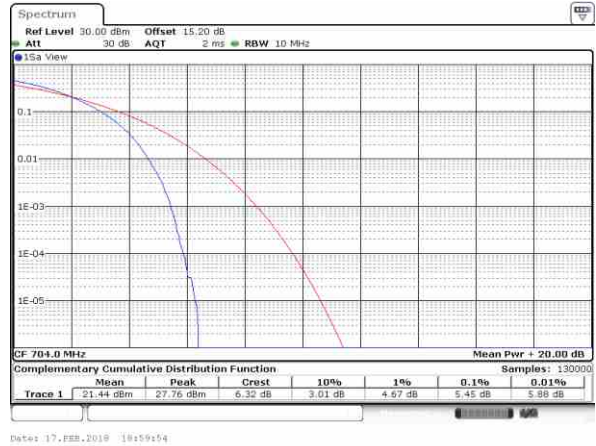


## LTE Band 12 / 10MHz / 64QAM

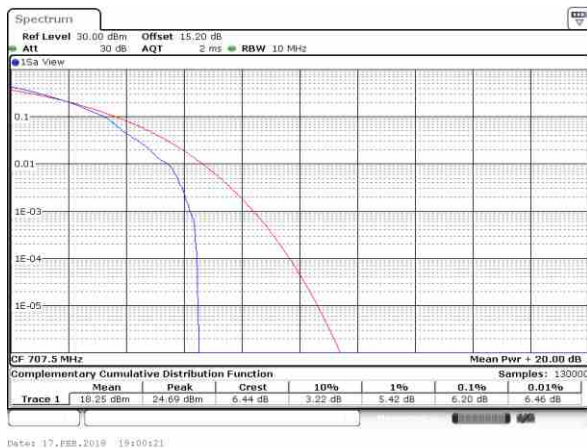
## Lowest Channel / 1RB



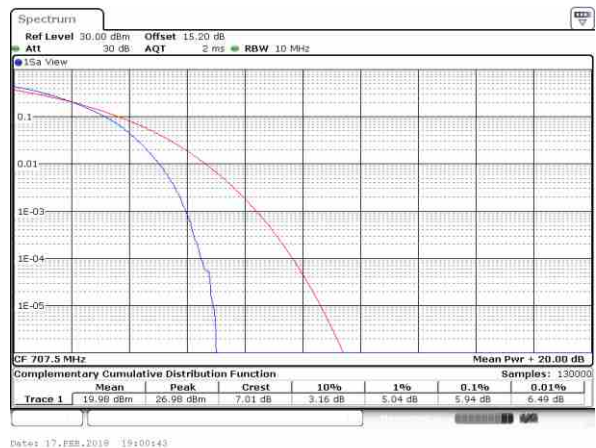
## Lowest Channel / Full RB



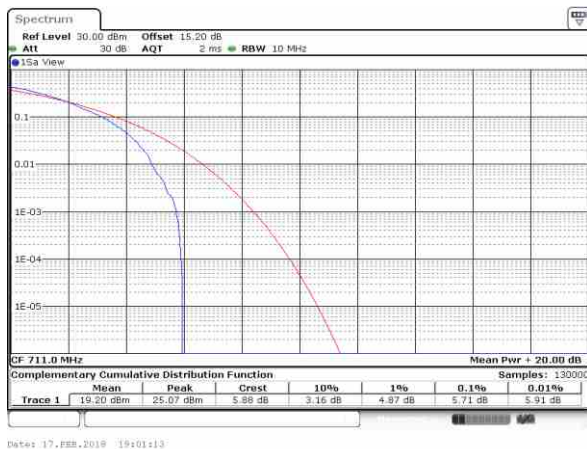
## Middle Channel / 1RB



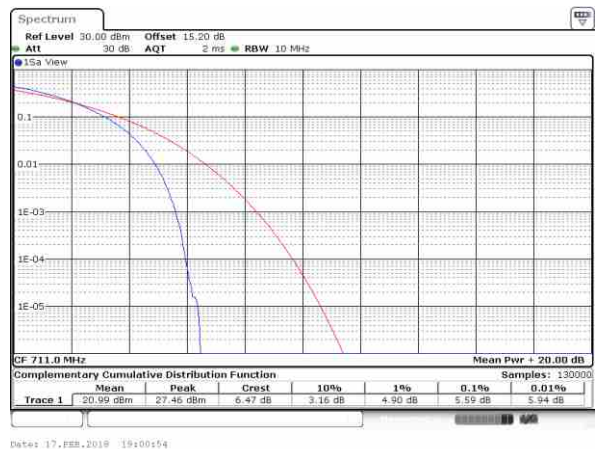
## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB



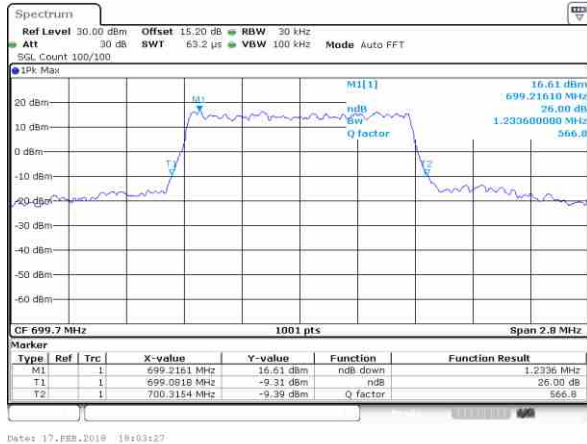
**26dB Bandwidth**

| Mode       | LTE Band 12 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
|------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| BW         | 1.4MHz                     |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | QPSK                       | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM |
| Lowest CH  | 1.23                       | 1.23  | 2.99  | 2.97  | 4.90  | 4.93  | 9.93  | 9.77  | -     | -     | -     | -     |
| Middle CH  | 1.24                       | 1.24  | 3.00  | 3.00  | 4.85  | 4.91  | 9.77  | 9.97  | -     | -     | -     | -     |
| Highest CH | 1.25                       | 1.23  | 3.01  | 3.01  | 4.96  | 4.88  | 9.91  | 9.65  | -     | -     | -     | -     |
| Mode       | LTE Band 12 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                     |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                      |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | 1.25                       | -     | 3.01  | -     | 4.88  | -     | 9.93  | -     | -     | -     | -     | -     |
| Middle CH  | 1.25                       | -     | 2.98  | -     | 4.93  | -     | 10.07 | -     | -     | -     | -     | -     |
| Highest CH | 1.25                       | -     | 2.99  | -     | 4.88  | -     | 9.83  | -     | -     | -     | -     | -     |

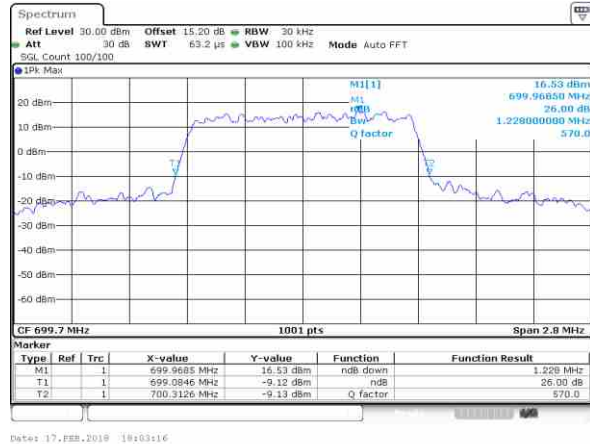


## LTE Band 12

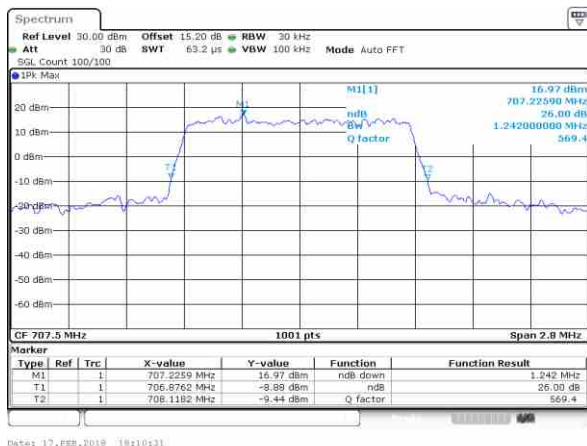
## Lowest Channel / 1.4MHz / QPSK



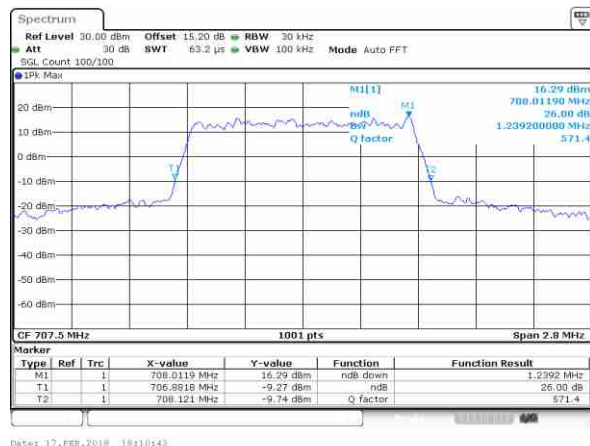
## Lowest Channel / 1.4MHz / 16QAM



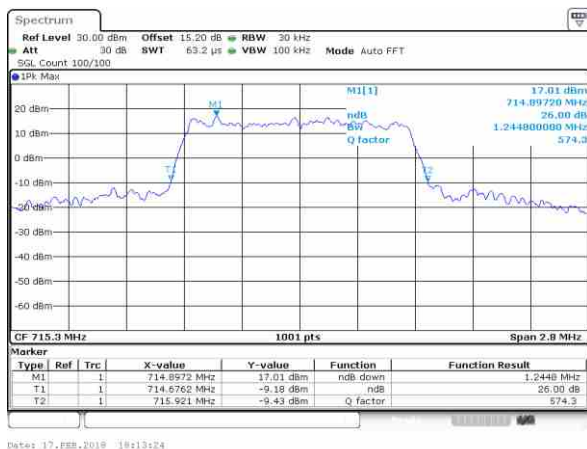
## Middle Channel / 1.4MHz / QPSK



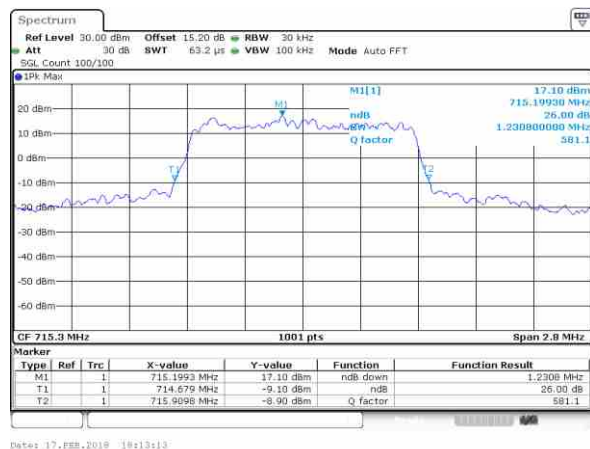
## Middle Channel / 1.4MHz / 16QAM



## Highest Channel / 1.4MHz / QPSK



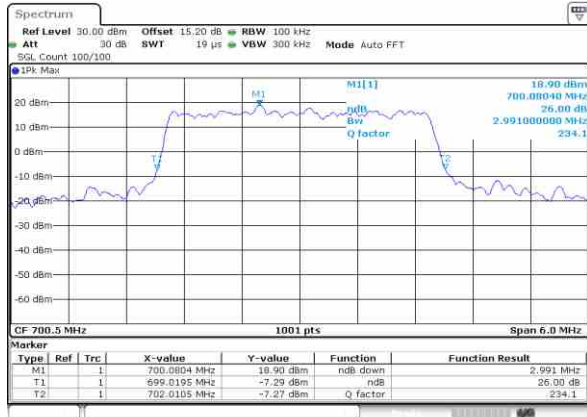
## Highest Channel / 1.4MHz / 16QAM



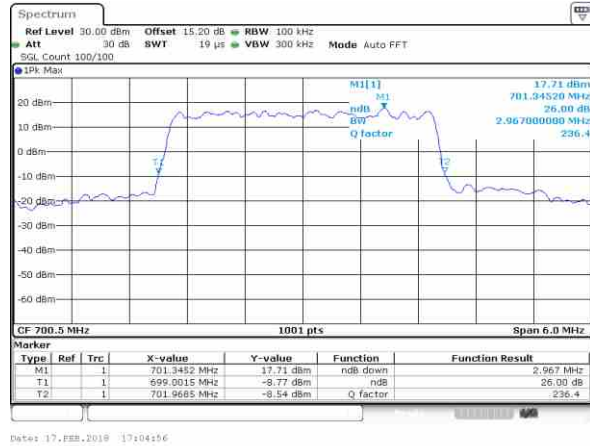


## LTE Band 12

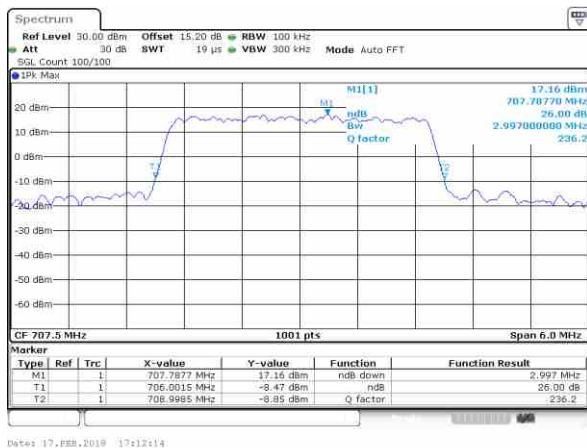
## Lowest Channel / 3MHz / QPSK



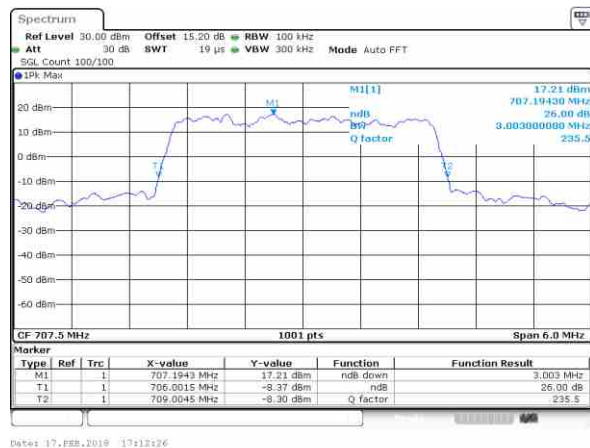
## Lowest Channel / 3MHz / 16QAM



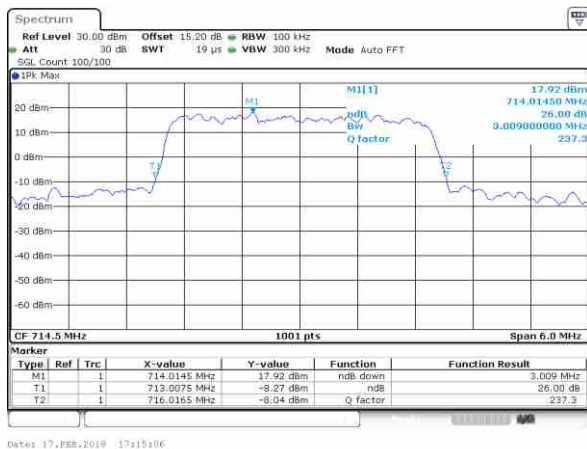
## Middle Channel / 3MHz / QPSK



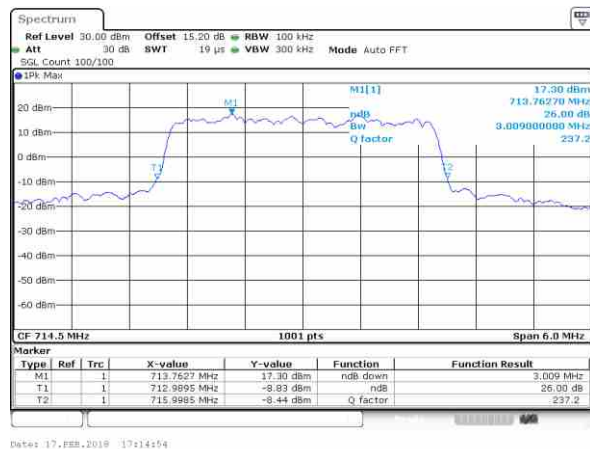
## Middle Channel / 3MHz / 16QAM



## Highest Channel / 3MHz / QPSK



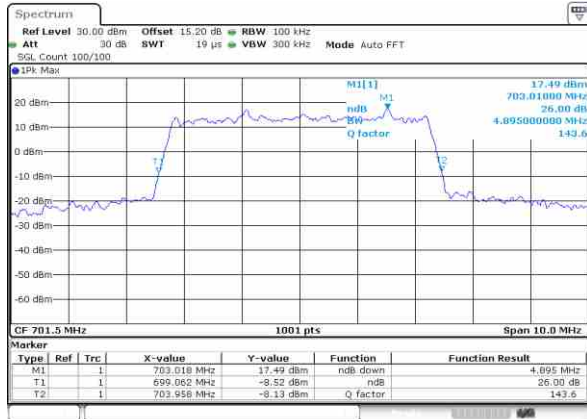
## Highest Channel / 3MHz / 16QAM



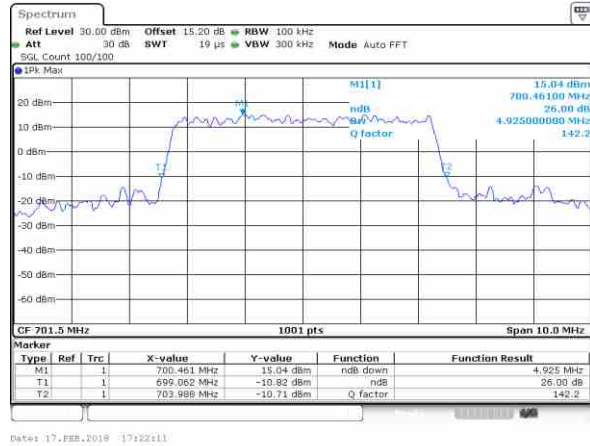


## LTE Band 12

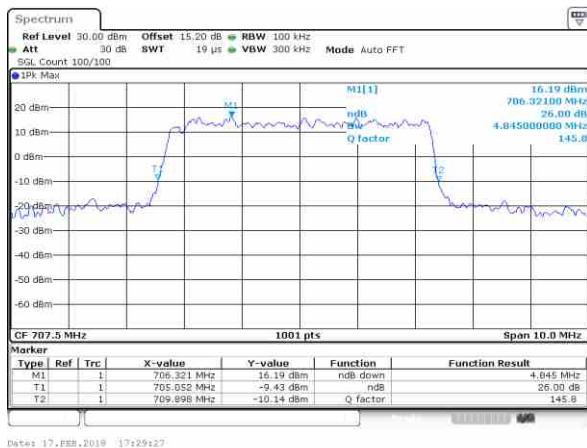
## Lowest Channel / 5MHz / QPSK



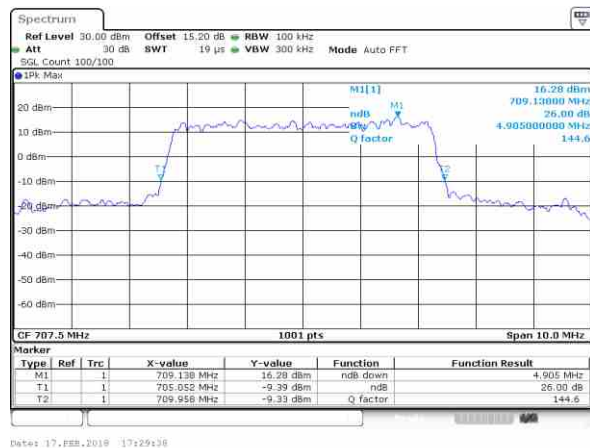
## Lowest Channel / 5MHz / 16QAM



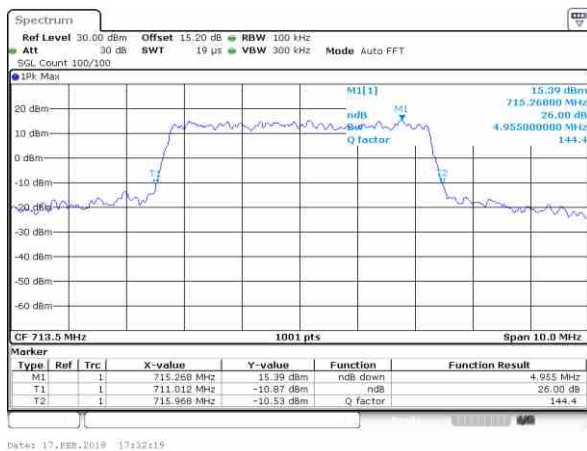
## Middle Channel / 5MHz / QPSK



## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



## Highest Channel / 5MHz / 16QAM

