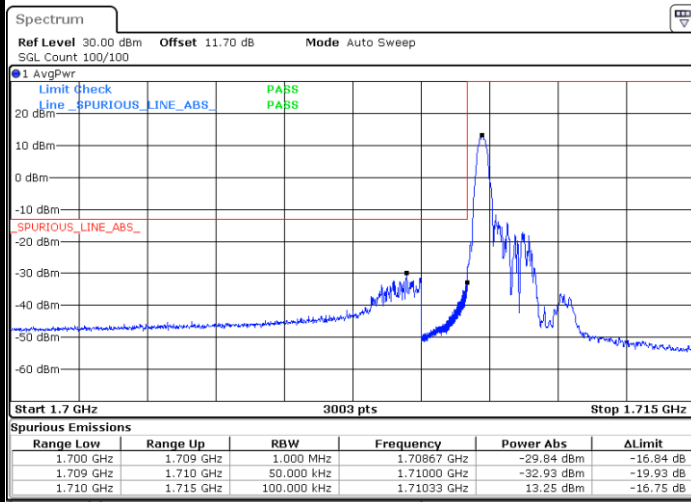


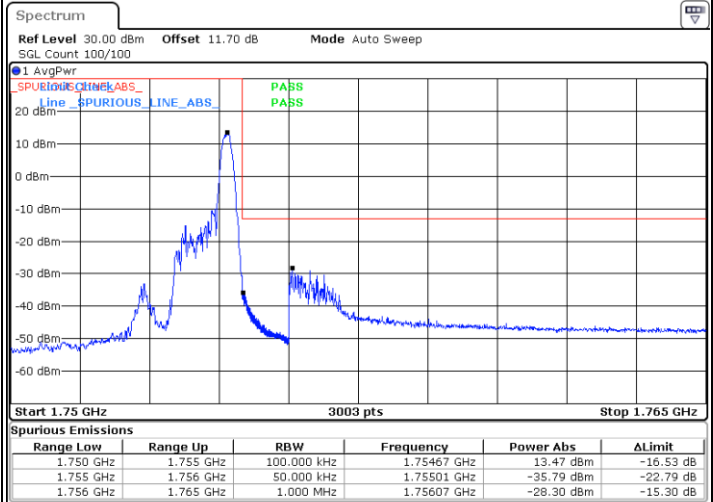


## LTE Band 4 / 5MHz / QPSK

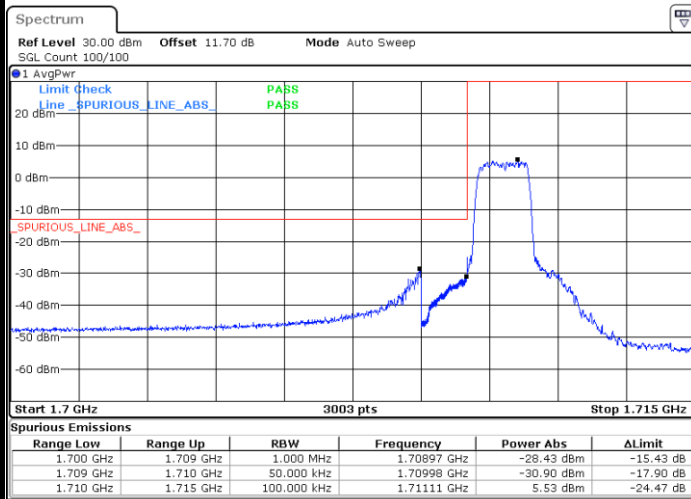
## Lowest Band Edge / 1 RB



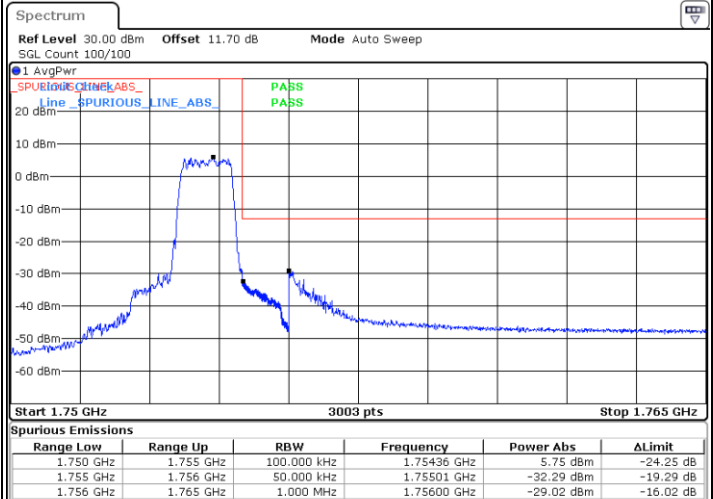
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



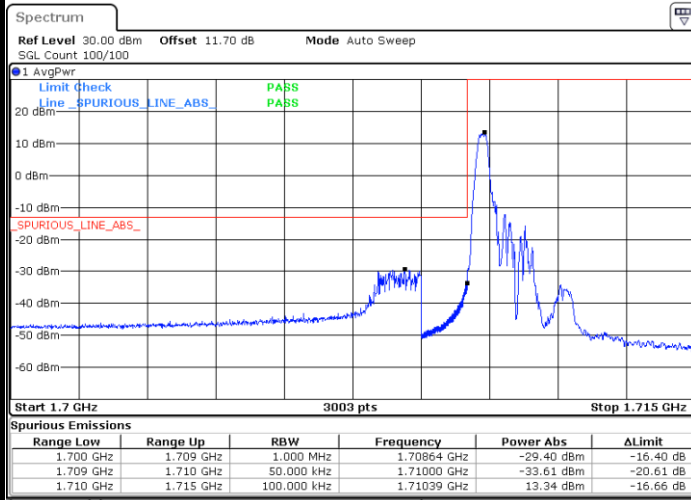
## Highest Band Edge / Full RB



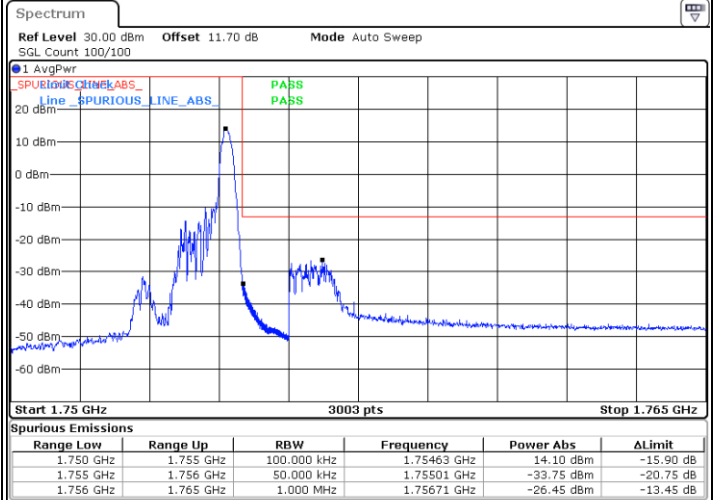


## LTE Band 4 / 5MHz / 16QAM

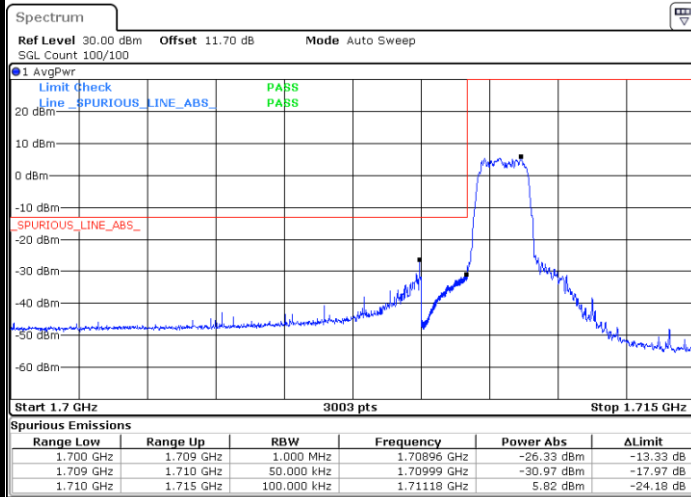
## Lowest Band Edge / 1RB



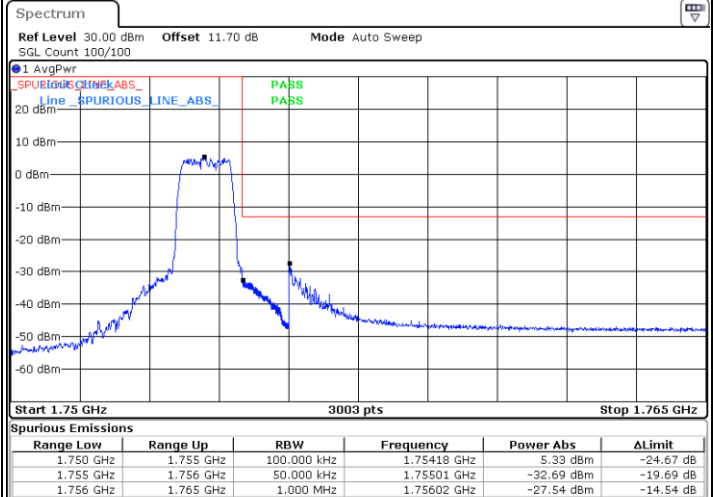
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



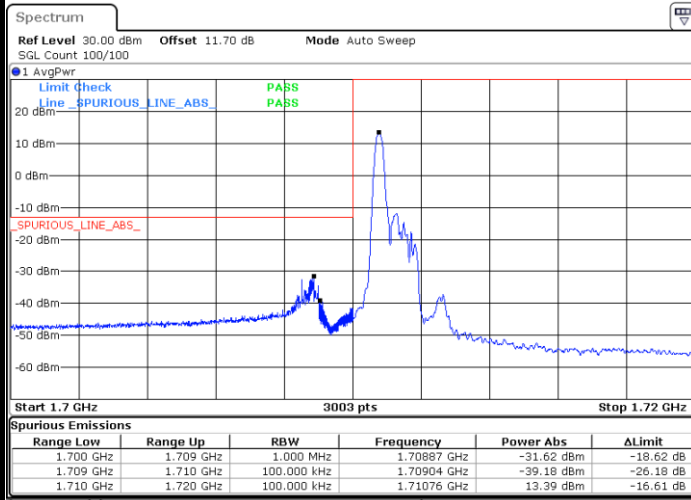
## Highest Band Edge / Full RB





## LTE Band 4 / 10MHz / QPSK

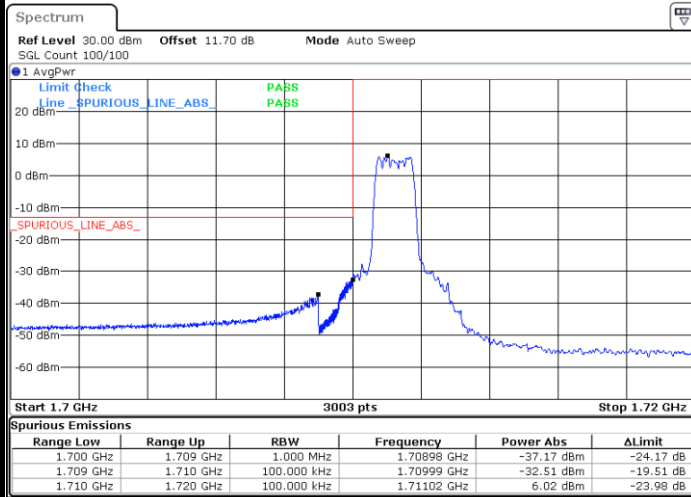
## Lowest Band Edge / 1 RB



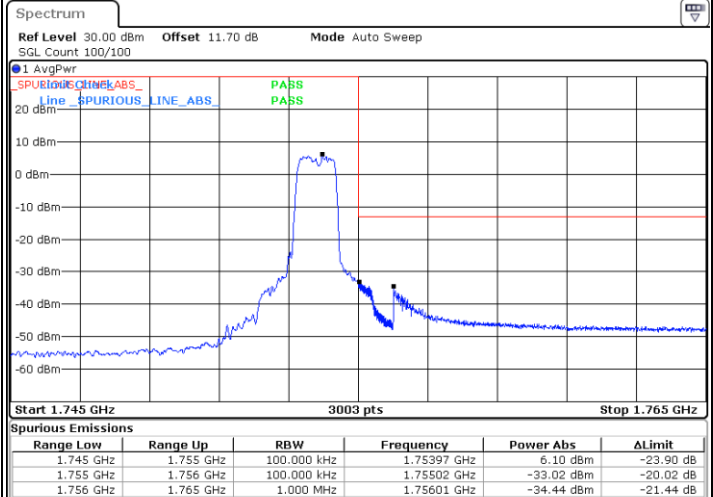
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



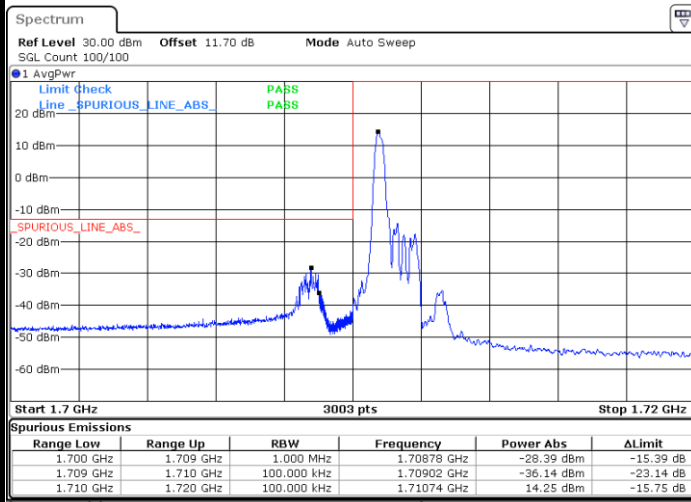
## Highest Band Edge / Full RB



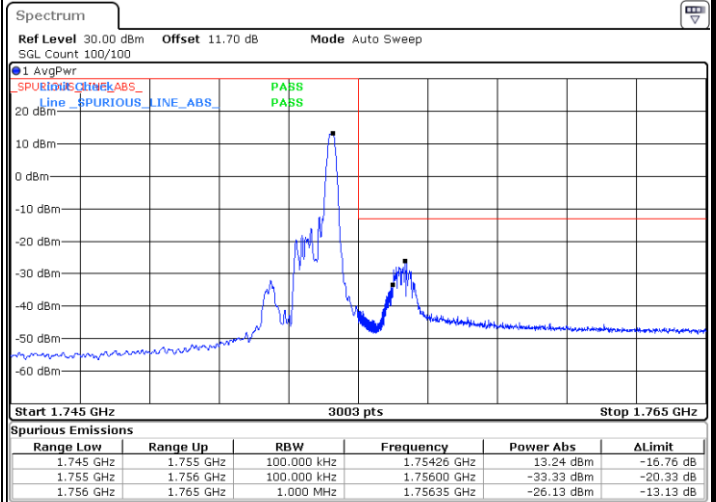


## LTE Band 4 / 10MHz / 16QAM

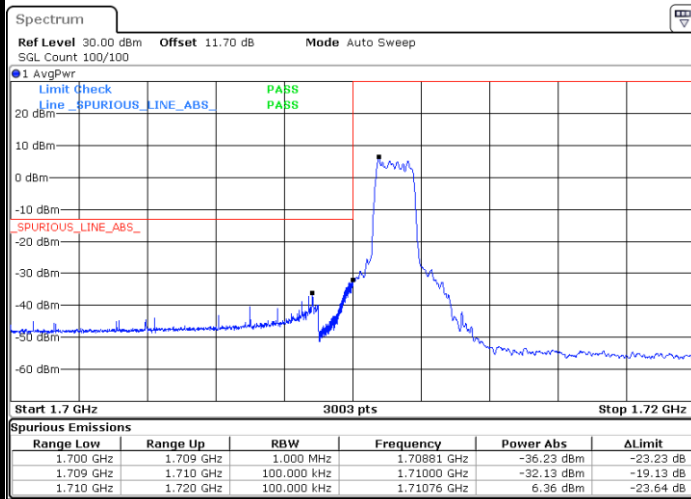
## Lowest Band Edge / 1 RB



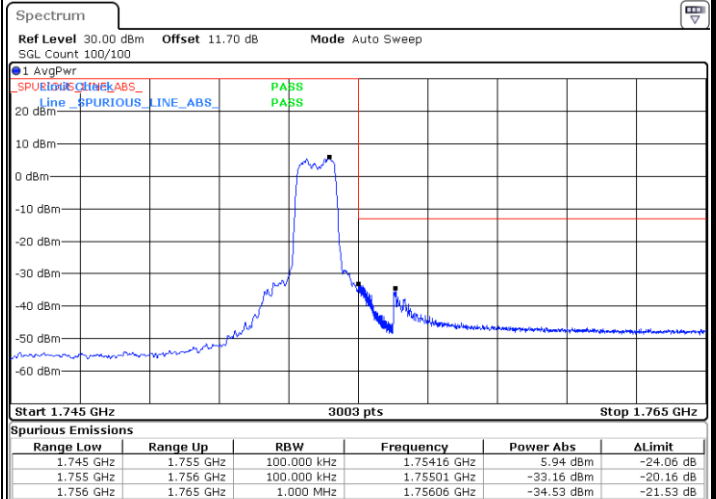
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



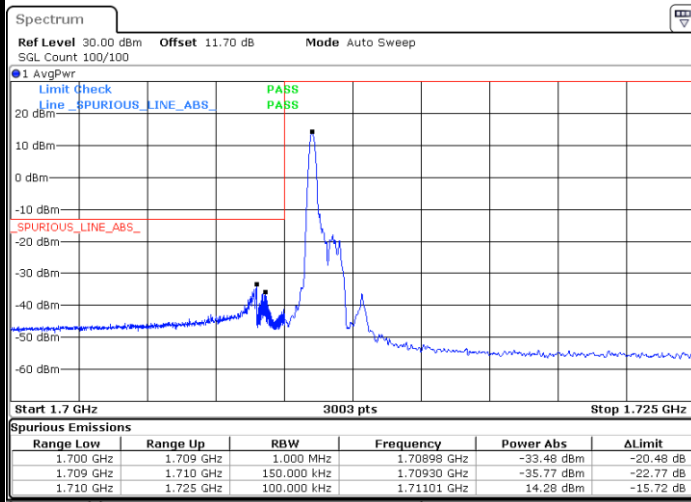
## Highest Band Edge / Full RB



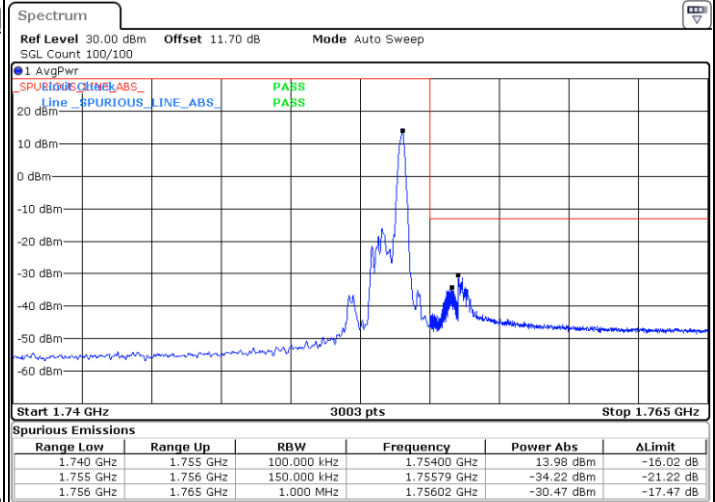


## LTE Band 4 / 15MHz / QPSK

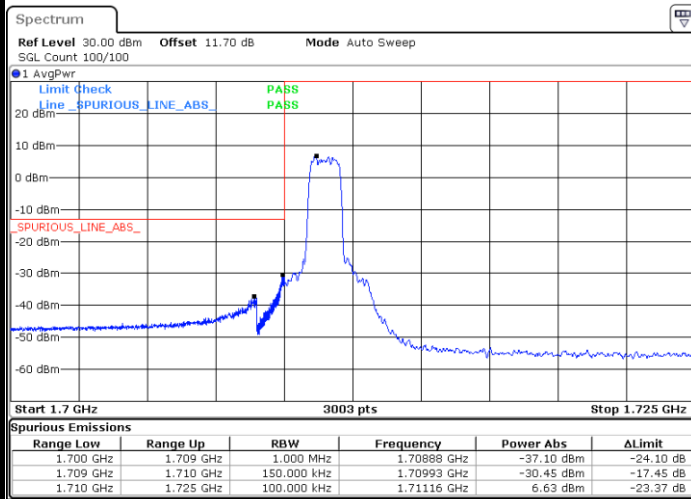
## Lowest Band Edge / 1 RB



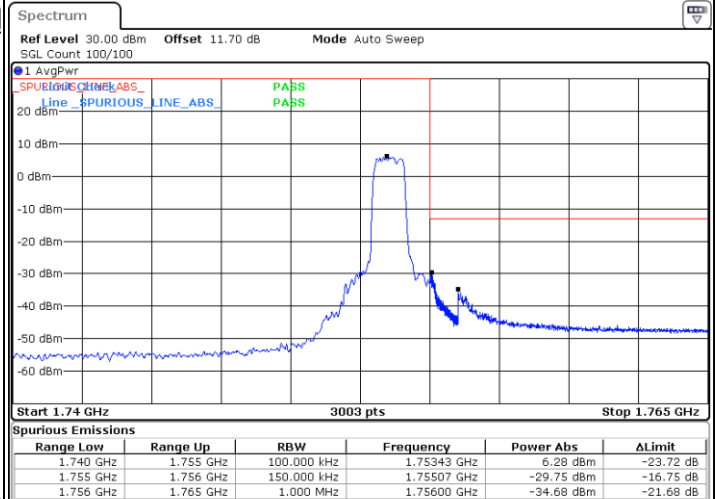
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



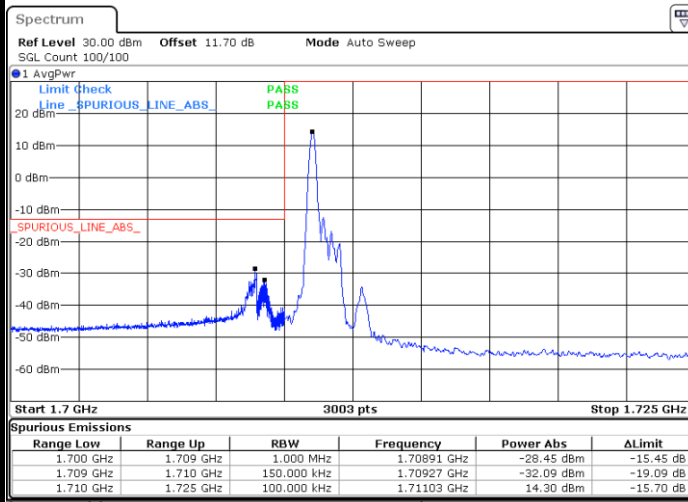
## Highest Band Edge / Full RB



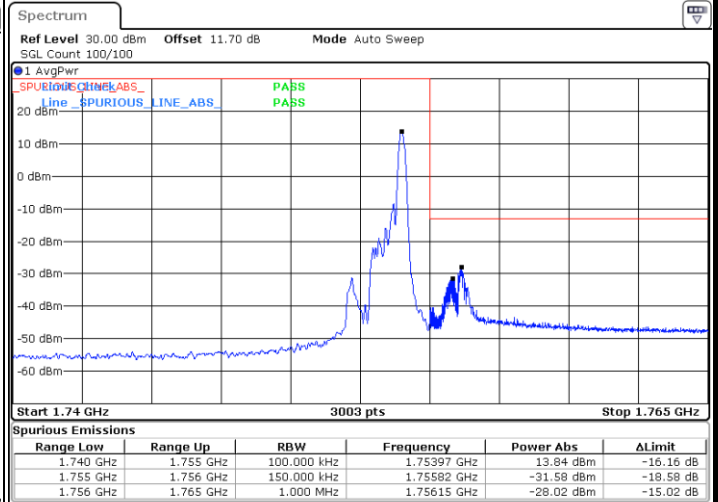


## LTE Band 4 / 15MHz / 16QAM

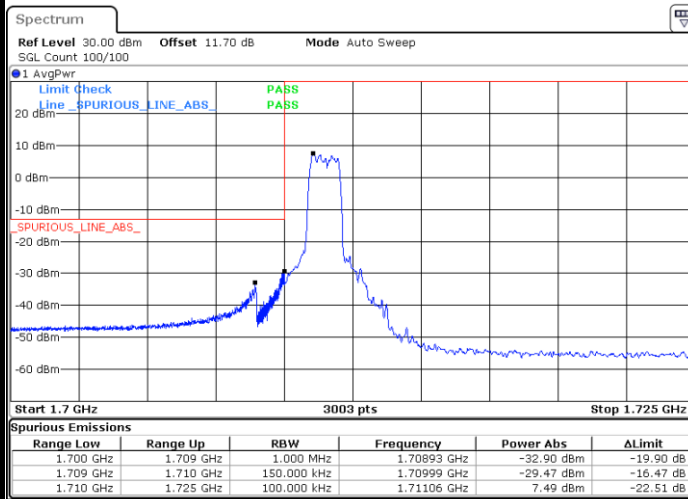
## Lowest Band Edge / 1 RB



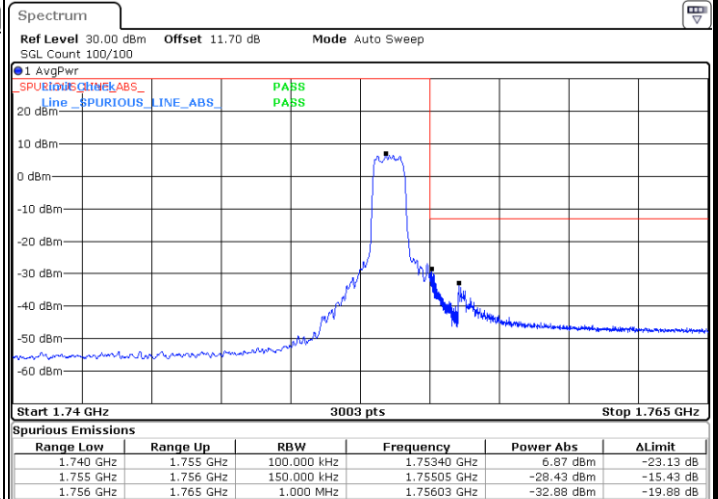
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



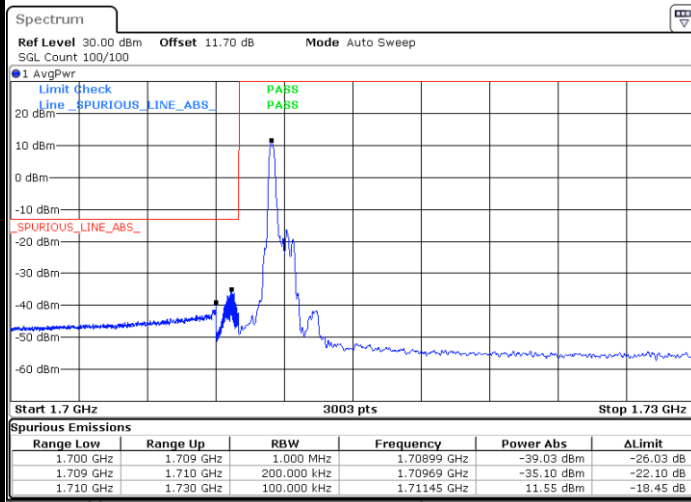
## Highest Band Edge / Full RB



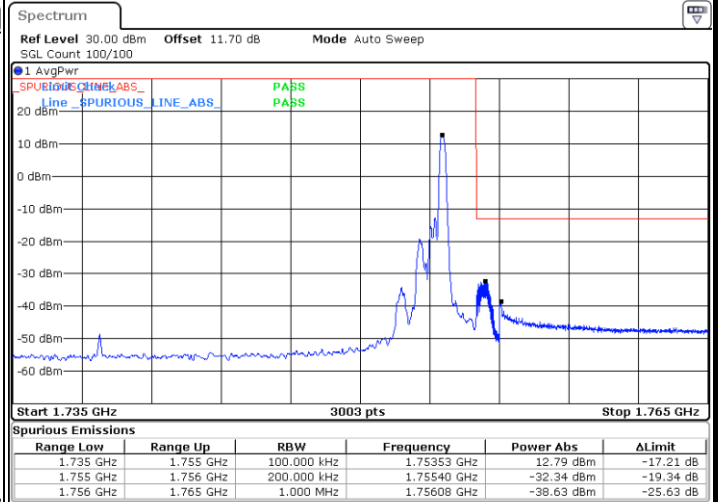


## LTE Band 4 / 20MHz / QPSK

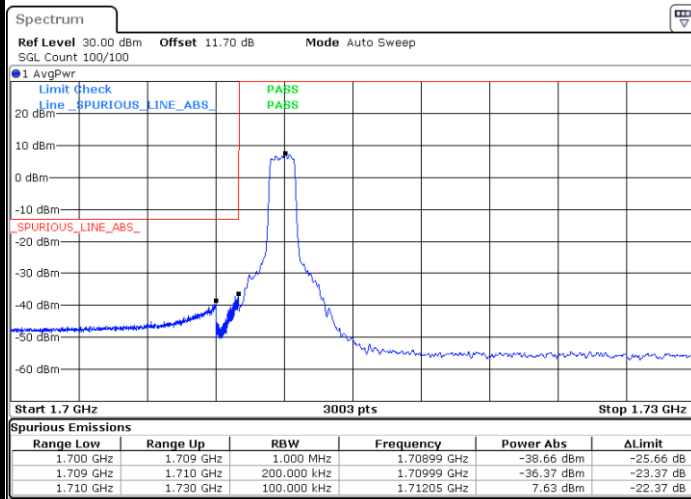
## Lowest Band Edge / 1 RB



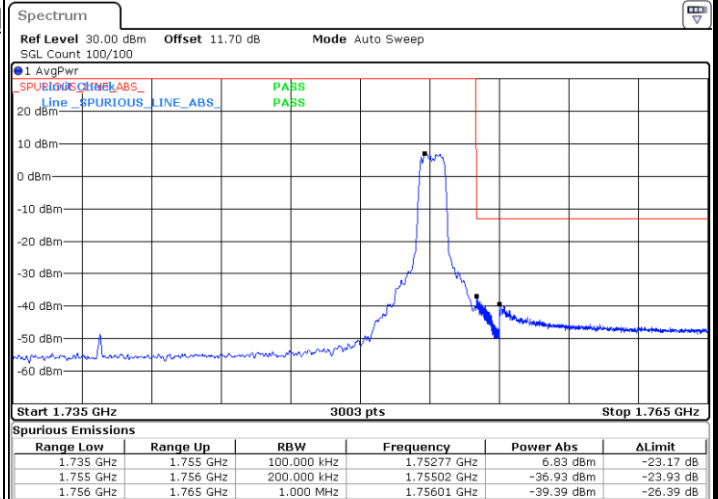
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



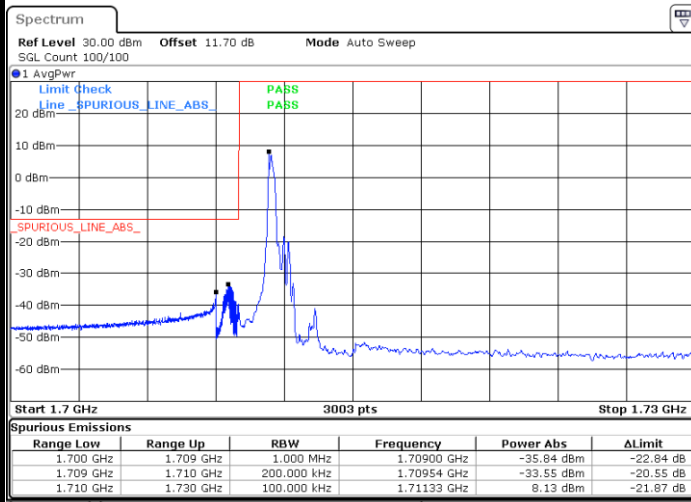
## Highest Band Edge / Full RB



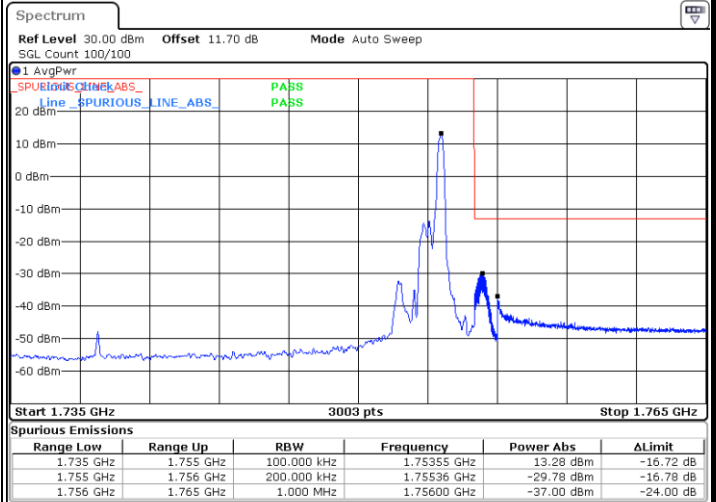


## LTE Band 4 / 20MHz / 16QAM

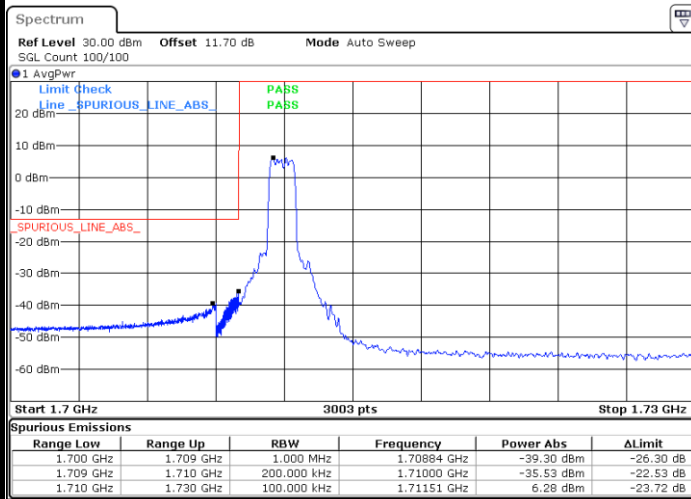
## Lowest Band Edge / 1 RB



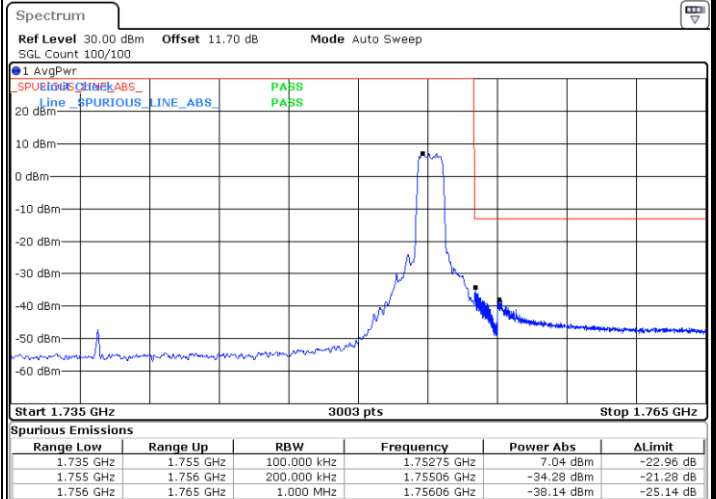
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB



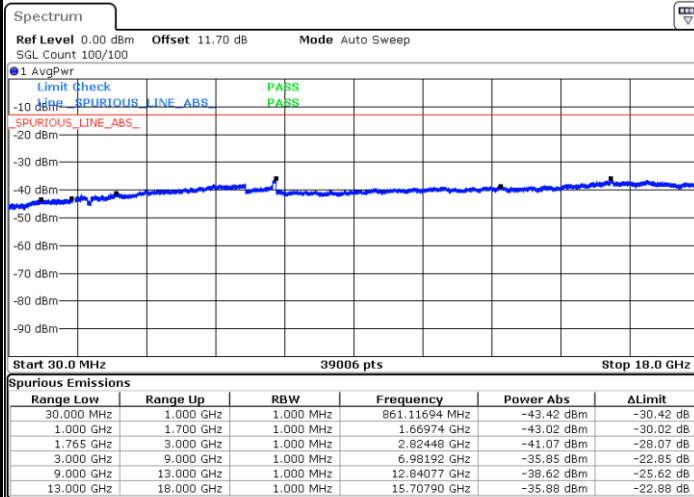




## Conducted Spurious Emission

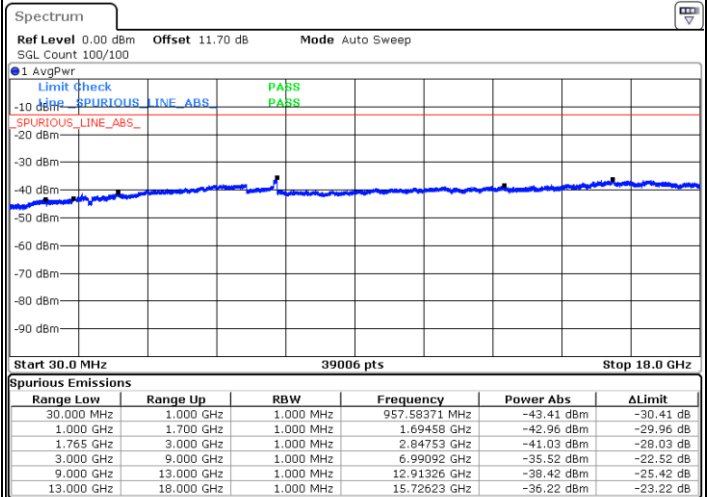
### LTE Band 4 / 1.4MHz

#### Lowest Channel / QPSK



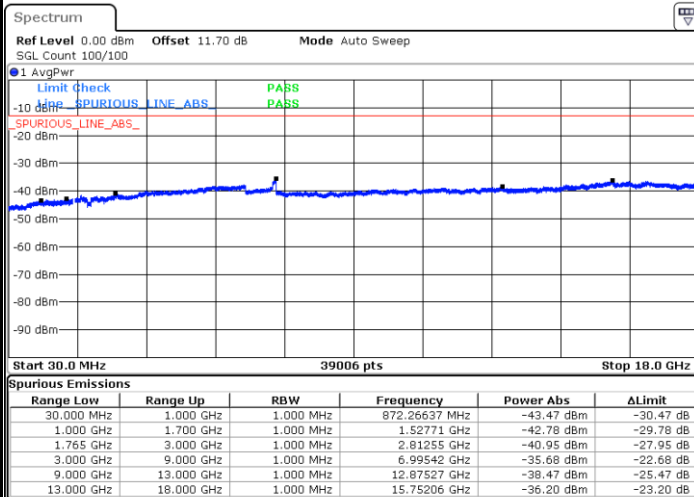
Date: 15.NOV.2019 18:56:31

#### Lowest Channel / 16QAM



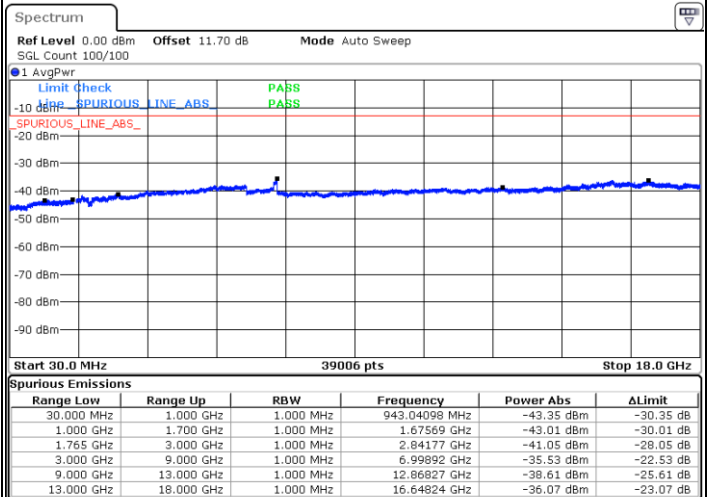
Date: 15.NOV.2019 18:57:31

#### Middle Channel / QPSK



Date: 15.NOV.2019 19:02:10

#### Middle Channel / 16QAM

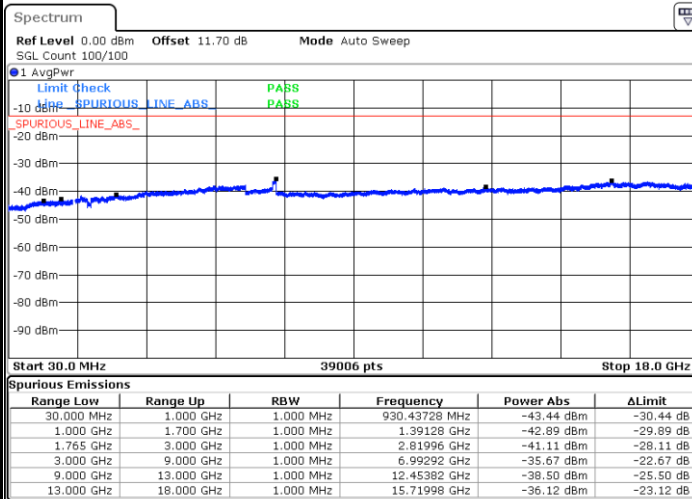


Date: 15.NOV.2019 19:02:54



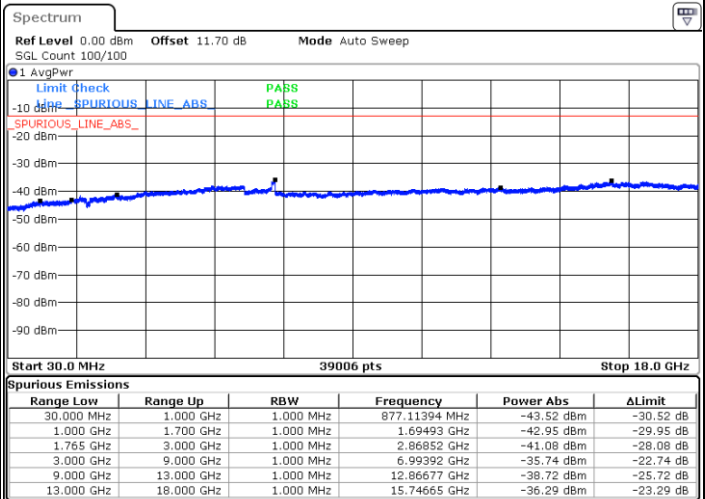
## LTE Band 4 / 1.4MHz

## Highest Channel / QPSK



Date: 15.NOV.2019 18:22:19

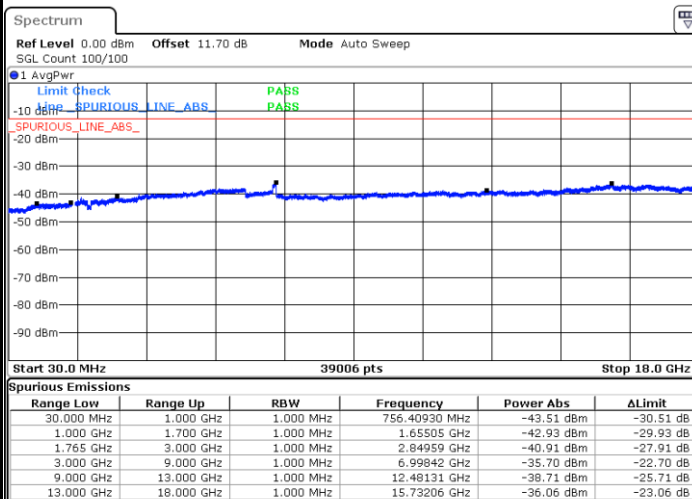
## Highest Channel / 16QAM



Date: 15.NOV.2019 18:23:09

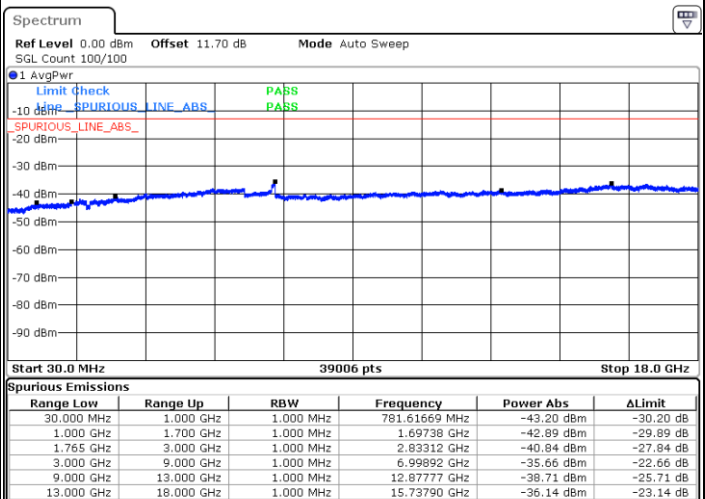
## LTE Band 4 / 3MHz

## Lowest Channel / QPSK



Date: 15.NOV.2019 19:30:02

## Lowest Channel / 16QAM

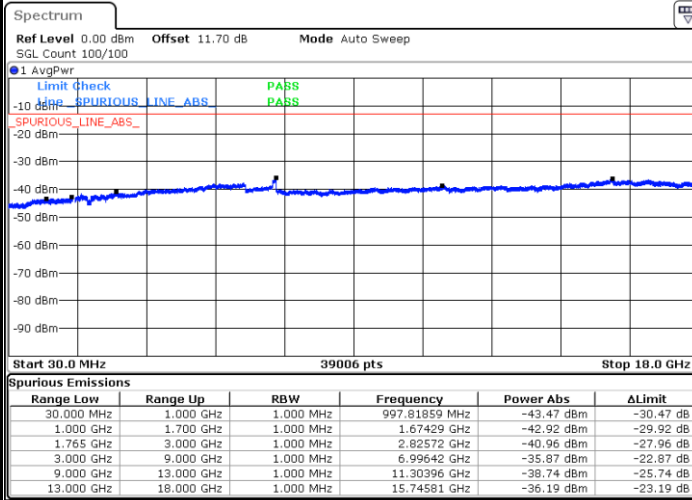


Date: 15.NOV.2019 19:30:55



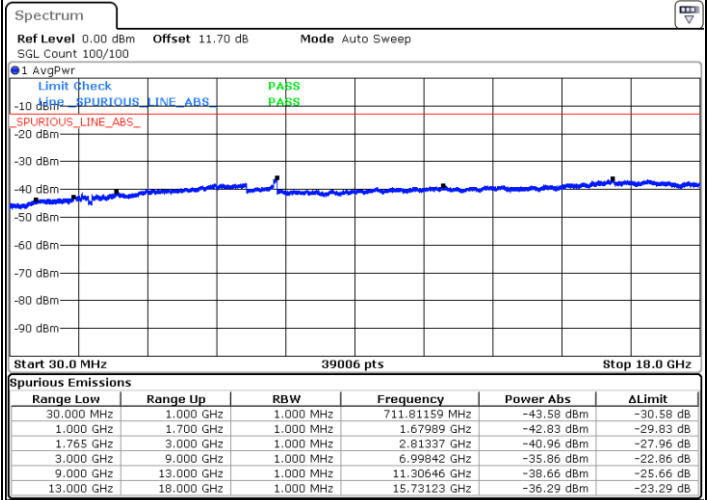
## LTE Band 4 / 3MHz

## Middle Channel / QPSK



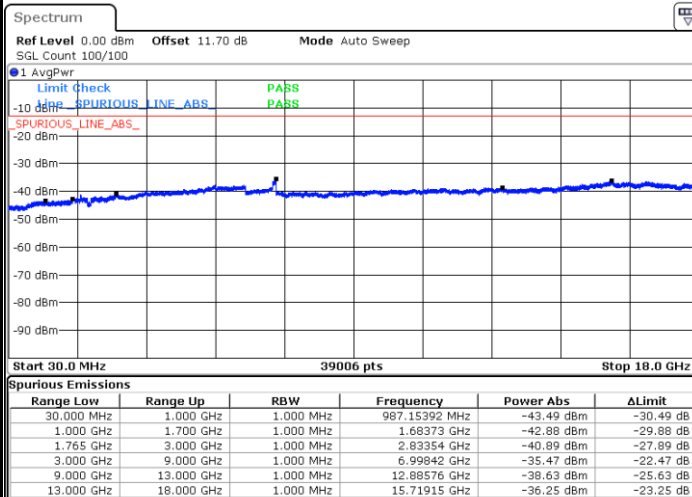
Date: 15.NOV.2019 19:34:43

## Middle Channel / 16QAM



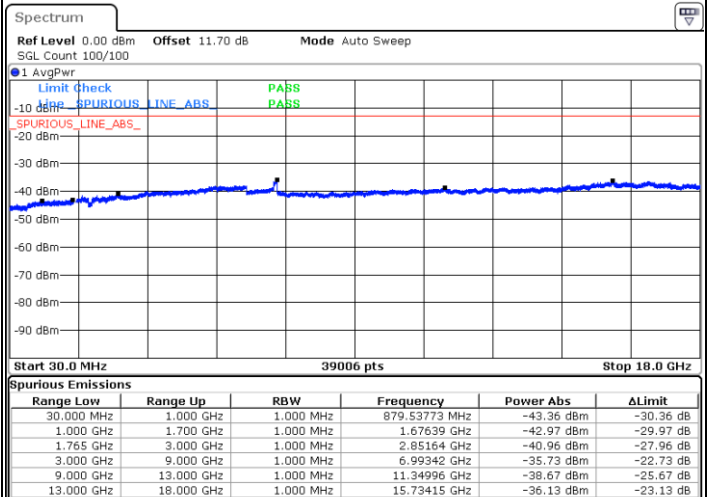
Date: 15.NOV.2019 19:35:46

## Highest Channel / QPSK



Date: 15.NOV.2019 19:46:18

## Highest Channel / 16QAM

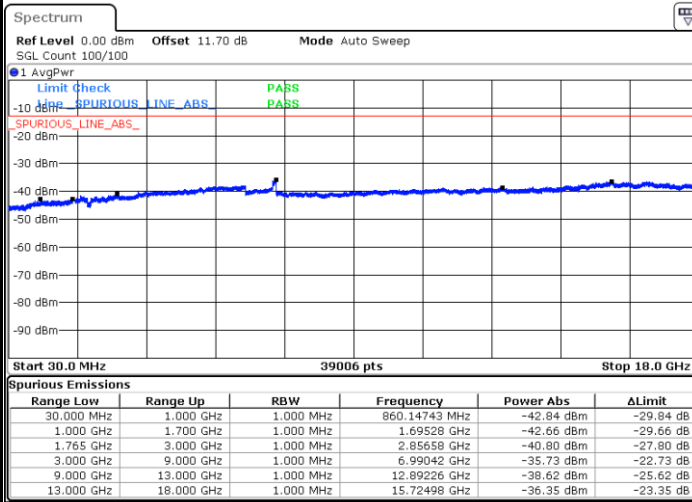


Date: 15.NOV.2019 19:47:09



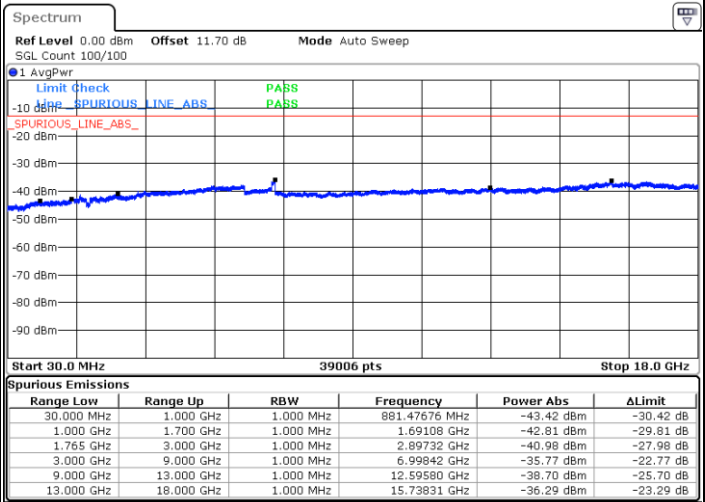
## LTE Band 4 / 5MHz

## Lowest Channel / QPSK



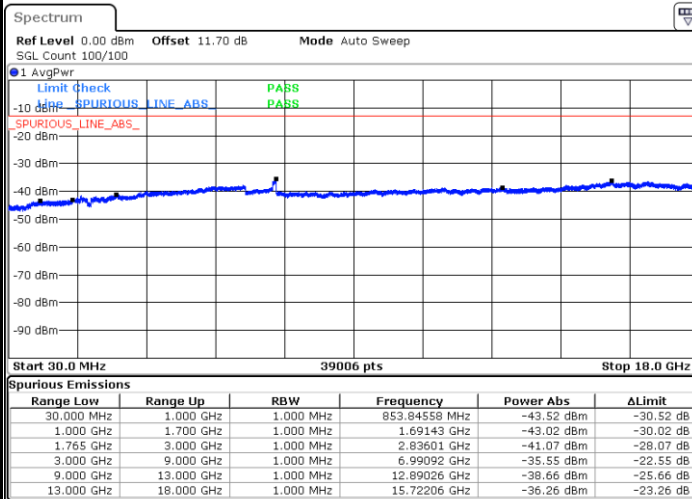
Date: 15.NOV.2019 20:00:05

## Lowest Channel / 16QAM



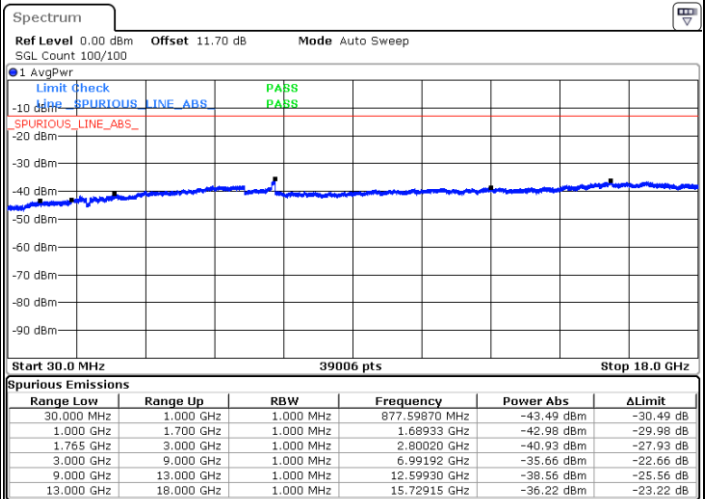
Date: 15.NOV.2019 20:01:19

## Middle Channel / QPSK



Date: 15.NOV.2019 20:03:36

## Middle Channel / 16QAM

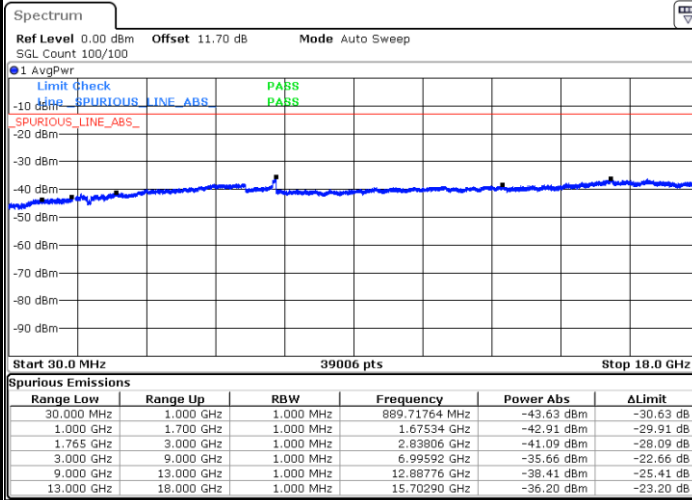


Date: 15.NOV.2019 20:04:34



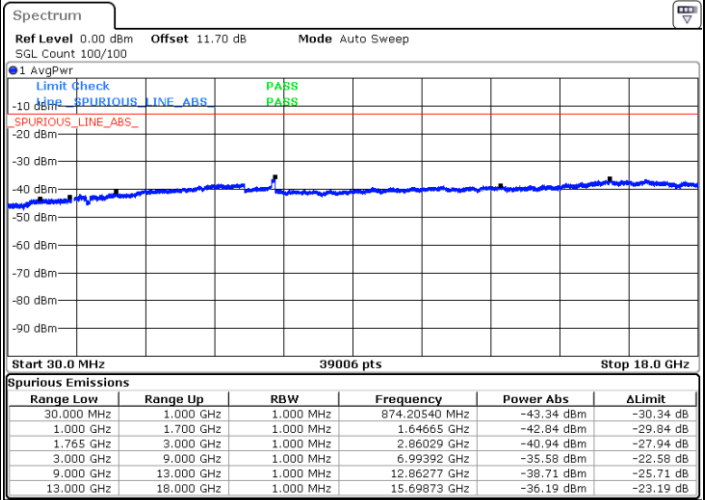
## LTE Band 4 / 5MHz

## Highest Channel / QPSK



Date: 15.NOV.2019 21:18:43

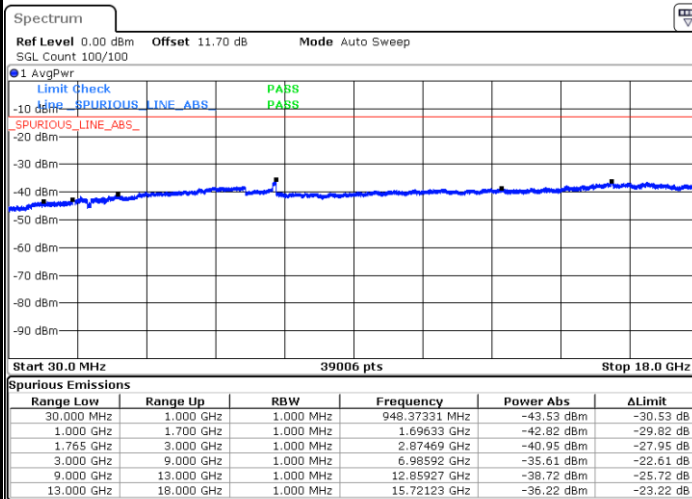
## Highest Channel / 16QAM



Date: 15.NOV.2019 21:19:31

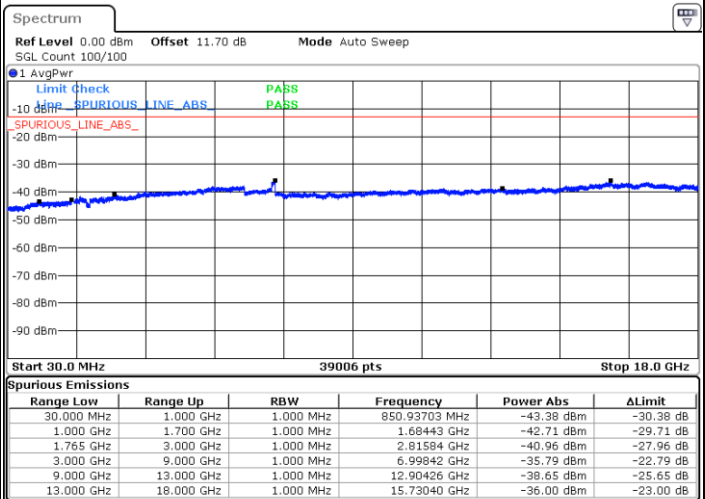
## LTE Band 4 / 10MHz

## Lowest Channel / QPSK



Date: 15.NOV.2019 21:29:28

## Lowest Channel / 16QAM

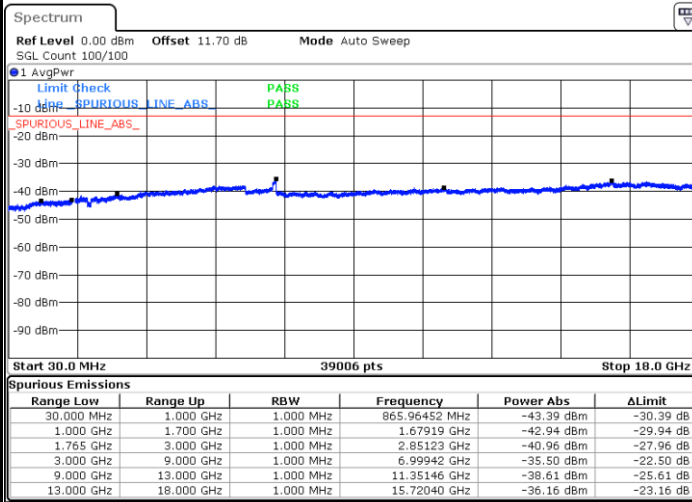


Date: 15.NOV.2019 21:30:11



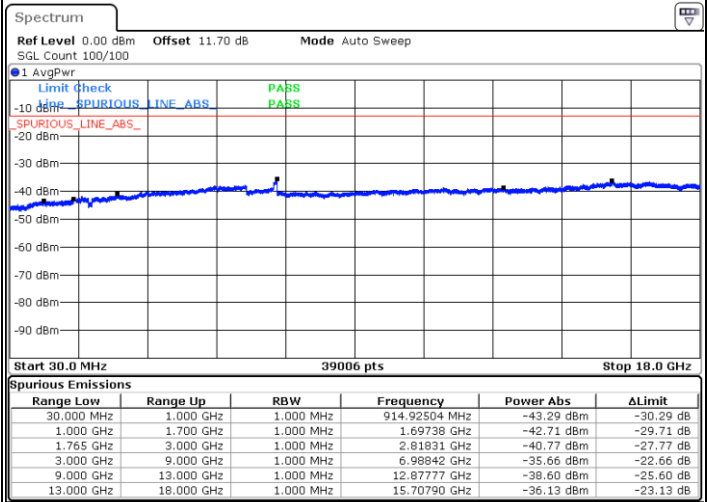
## LTE Band 4 / 10MHz

## Middle Channel / QPSK



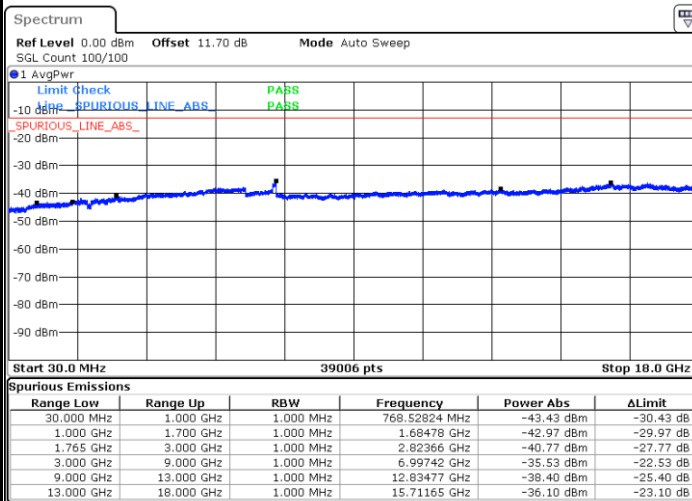
Date: 15.NOV.2019 21:32:26

## Middle Channel / 16QAM



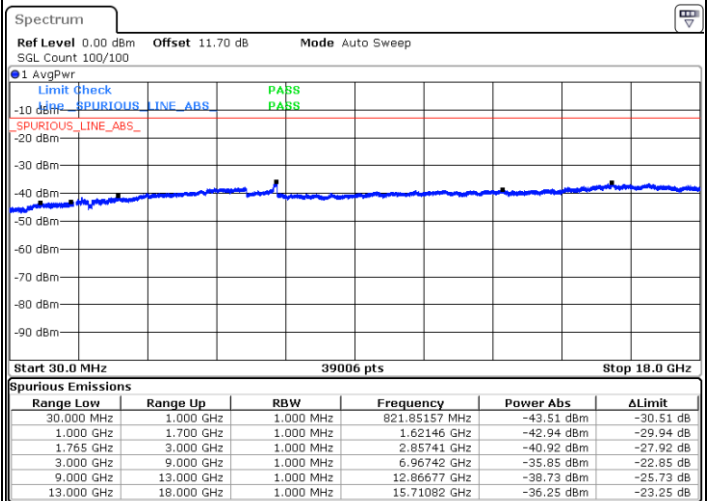
Date: 15.NOV.2019 21:33:09

## Highest Channel / QPSK



Date: 15.NOV.2019 21:46:23

## Highest Channel / 16QAM

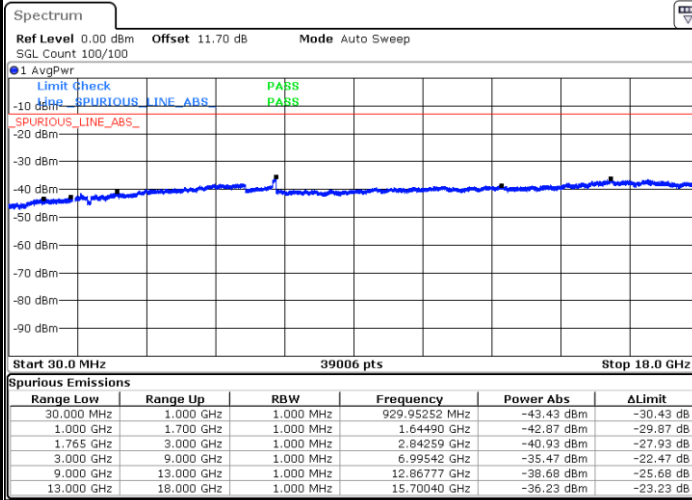


Date: 15.NOV.2019 21:48:10



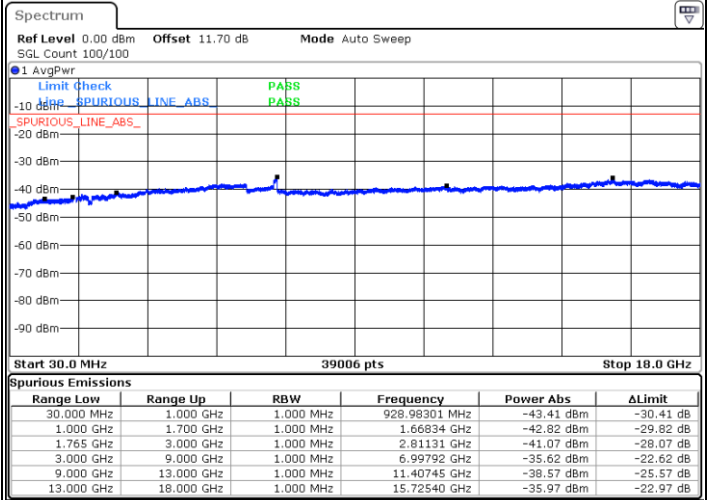
## LTE Band 4 / 15MHz

## Lowest Channel / QPSK



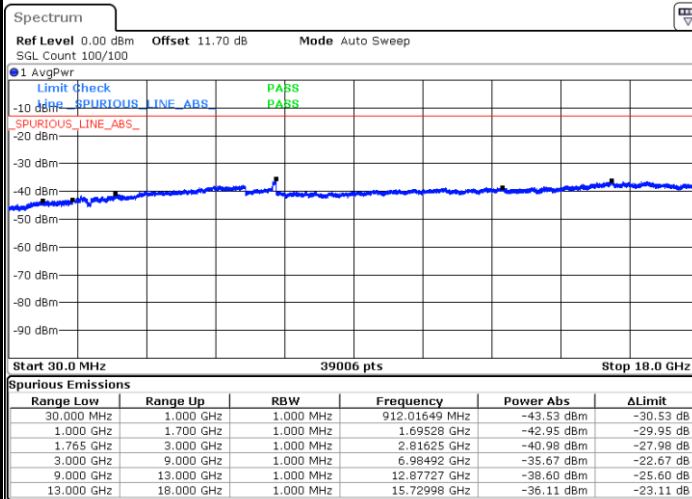
Date: 15.NOV.2019 21:58:50

## Lowest Channel / 16QAM



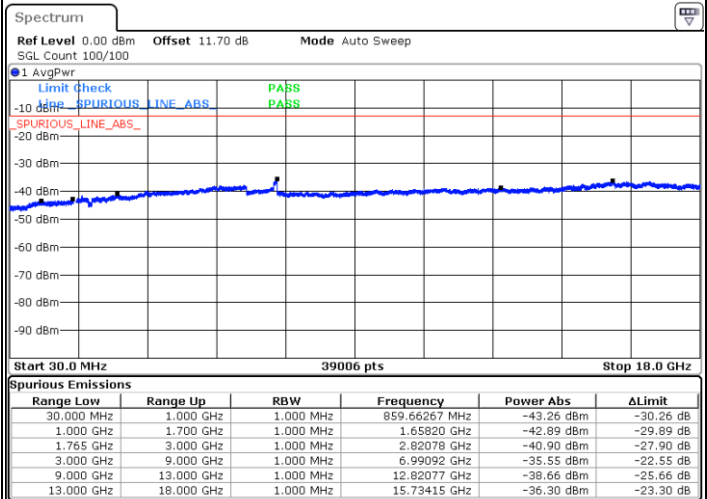
Date: 15.NOV.2019 21:59:36

## Middle Channel / QPSK



Date: 15.NOV.2019 22:01:59

## Middle Channel / 16QAM

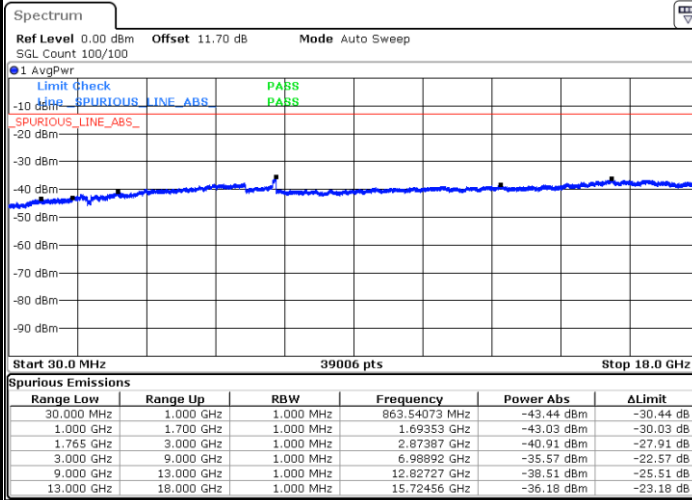


Date: 15.NOV.2019 22:02:46



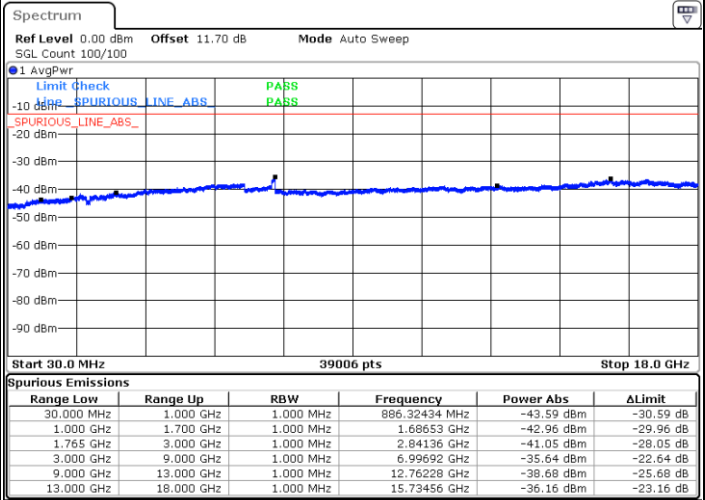
## LTE Band 4 / 15MHz

## Highest Channel / QPSK



Date: 15.NOV.2019 22:09:40

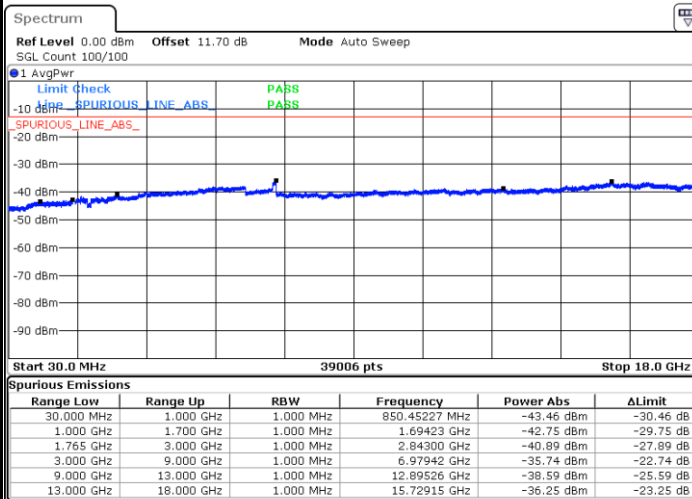
## Highest Channel / 16QAM



Date: 15.NOV.2019 22:10:29

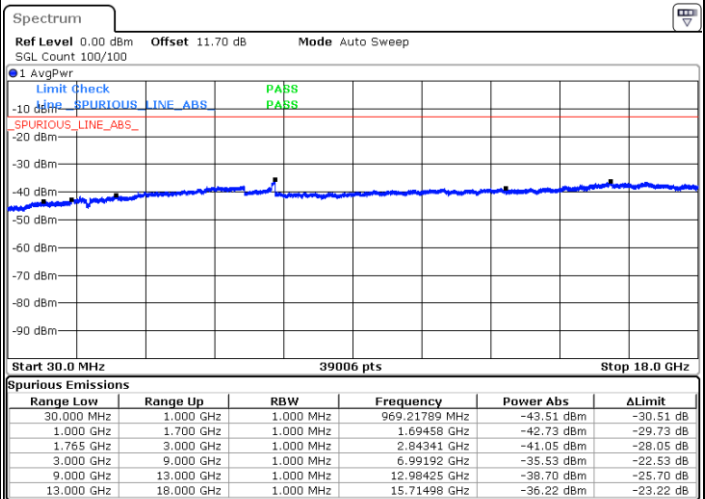
## LTE Band 4 / 20MHz

## Lowest Channel / QPSK



Date: 15.NOV.2019 22:16:35

## Lowest Channel / 16QAM



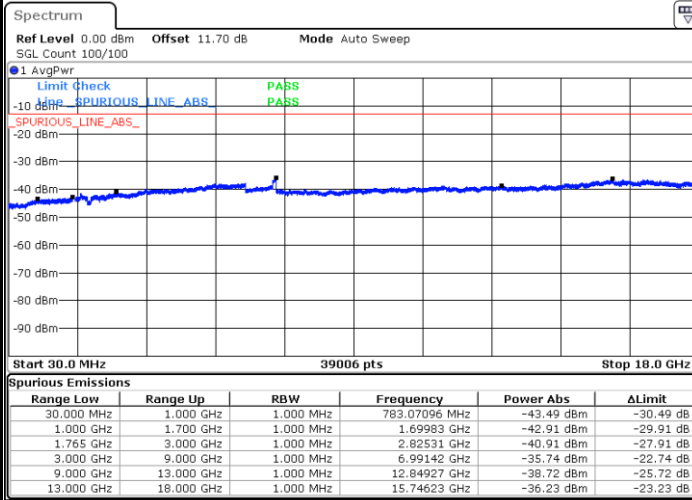
Date: 15.NOV.2019 22:17:54





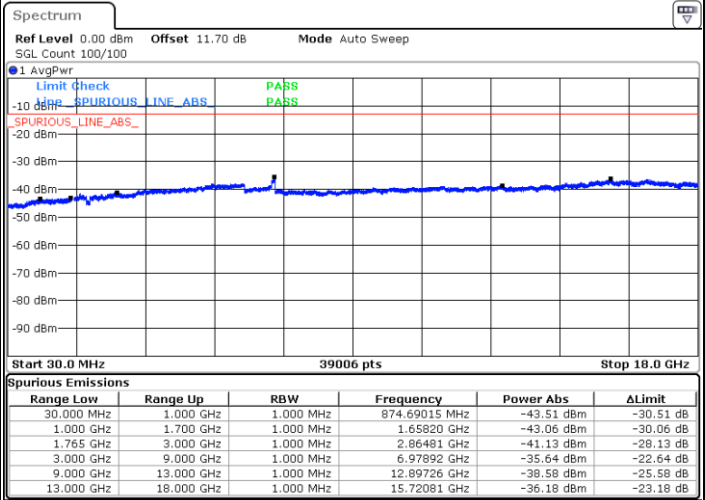
## LTE Band 4 / 20MHz

## Middle Channel / QPSK



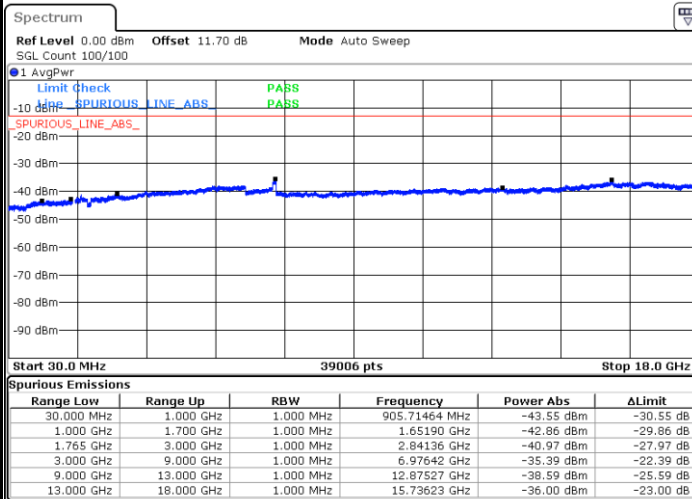
Date: 15.NOV.2019 22:19:57

## Middle Channel / 16QAM



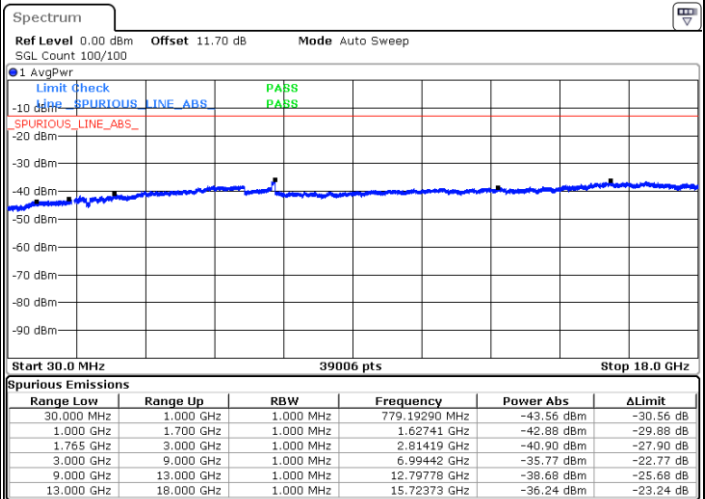
Date: 15.NOV.2019 22:22:18

## Highest Channel / QPSK



Date: 15.NOV.2019 22:54:38

## Highest Channel / 16QAM



Date: 15.NOV.2019 22:55:20

## Frequency Stability

| Test Conditions  |                   | LTE Band 4 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                           | Note 2. |
|                  |                   | Deviation (ppm)                    | Result  |
| 50               | Normal Voltage    | 0.0045                             | PASS    |
| 40               | Normal Voltage    | 0.0053                             |         |
| 30               | Normal Voltage    | 0.0026                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0054                             |         |
| 0                | Normal Voltage    | 0.0016                             |         |
| -10              | Normal Voltage    | 0.0006                             |         |
| -20              | Normal Voltage    | 0.0062                             |         |
| -30              | Normal Voltage    | 0.0016                             |         |
| 20               | Maximum Voltage   | 0.0064                             |         |
| 20               | Normal Voltage    | 0.0000                             |         |
| 20               | Battery End Point | 0.0014                             |         |

**Note:**

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.35 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

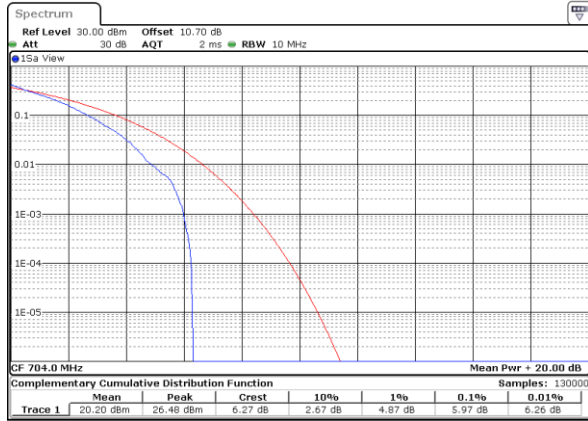
**LTE Band 12****Peak-to-Average Ratio**

| Mode       | LTE Band 12 / 10MHz |         |       |         |             |
|------------|---------------------|---------|-------|---------|-------------|
| Mod.       | QPSK                |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 5.97                | 6.78    | 7.01  | 7.01    | PASS        |
| Middle CH  | 6.49                | 6.20    | 7.16  | 7.25    |             |
| Highest CH | 5.80                | 6.38    | 7.19  | 7.54    |             |

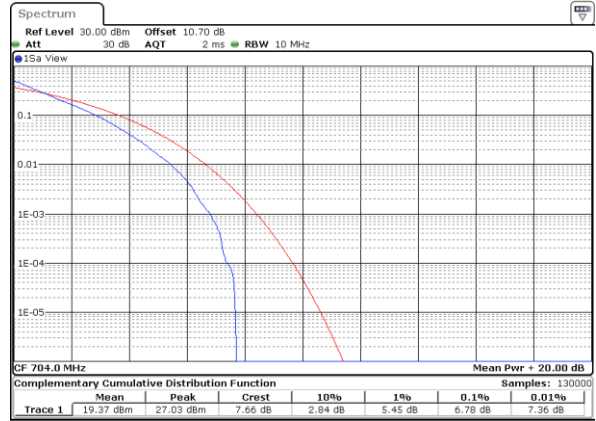


## LTE Band 12 / 10MHz / QPSK

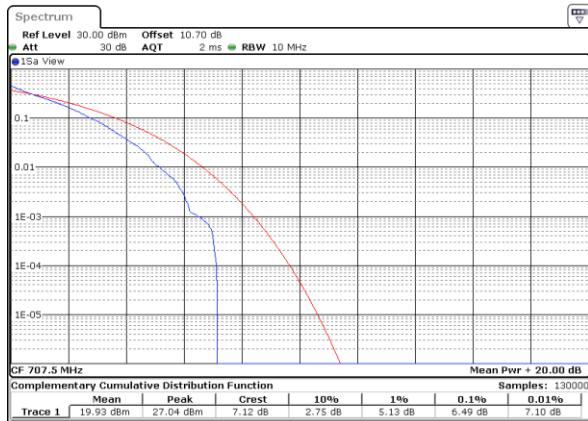
## Lowest Channel / 1RB



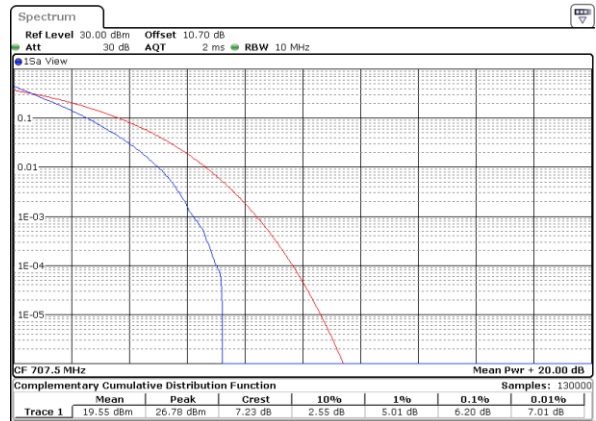
## Lowest Channel / Full RB



## Middle Channel / 1RB



## Middle Channel / Full RB

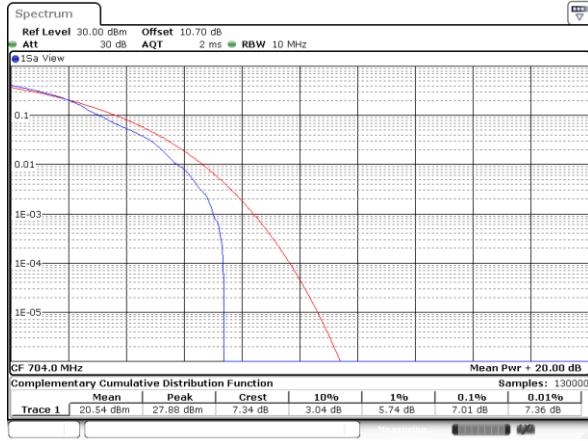
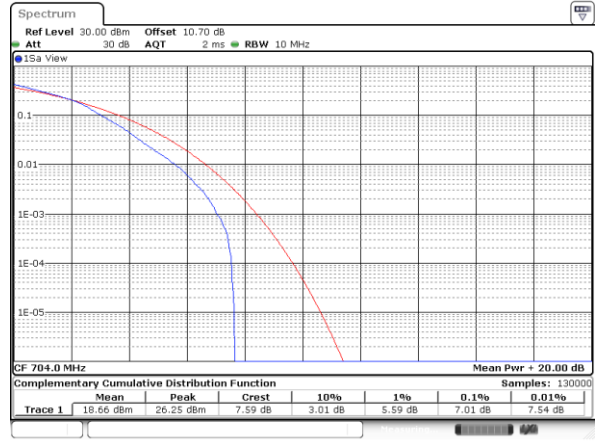
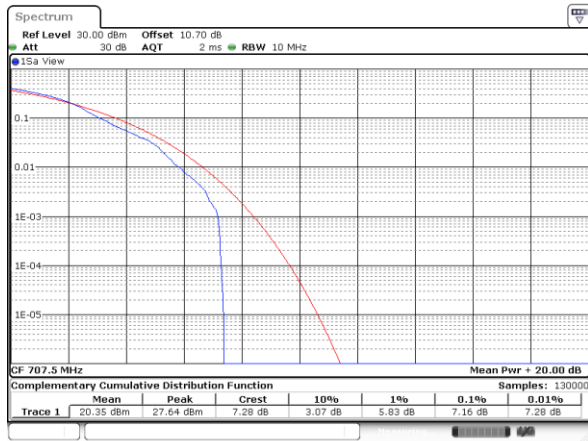
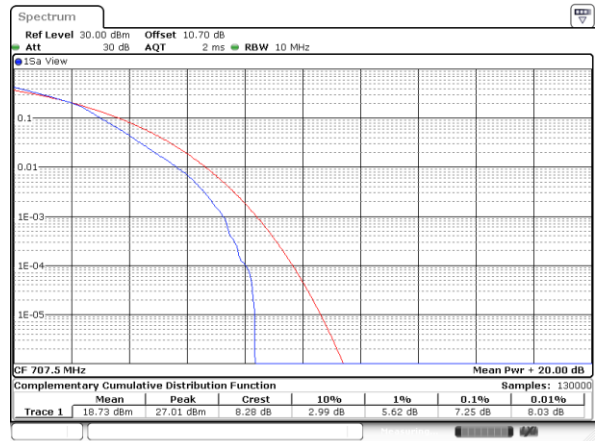
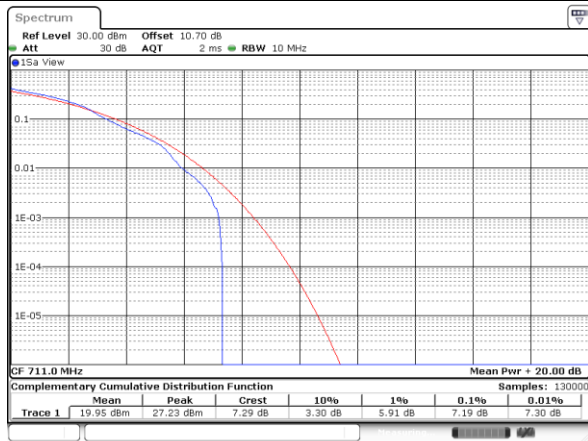
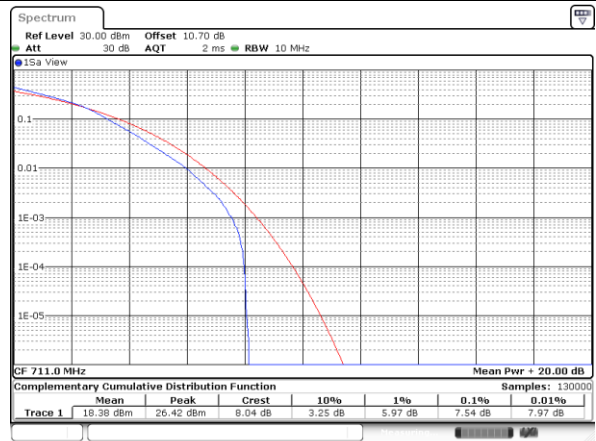


## Highest Channel / 1RB



## 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**




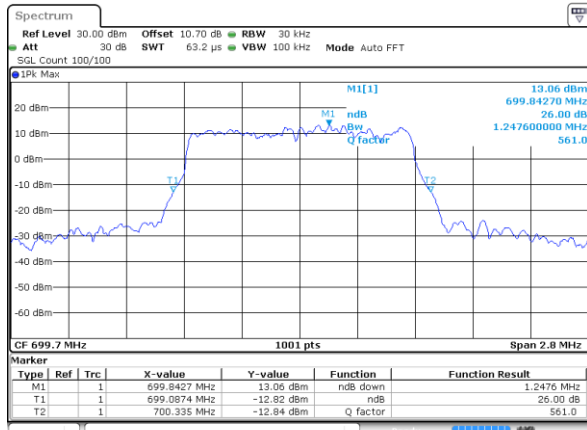
**26dB Bandwidth**

| 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  | 1.25                       | 1.28  | 1.32 | 1.35  | 1.46 | 1.30  | 1.80  | 1.84  | -     | -     | -     | -     |
| Middle CH  | 1.29                       | 1.29  | 1.34 | 1.44  | 1.40 | 1.39  | 1.80  | 1.78  | -     | -     | -     | -     |
| Highest CH | 1.30                       | 1.25  | 1.37 | 1.40  | 1.39 | 1.42  | 1.82  | 1.80  | -     | -     | -     | -     |



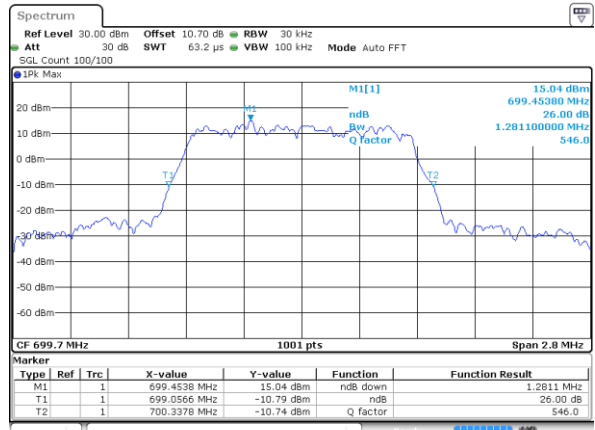
## LTE Band 12

## Lowest Channel / 1.4MHz / QPSK



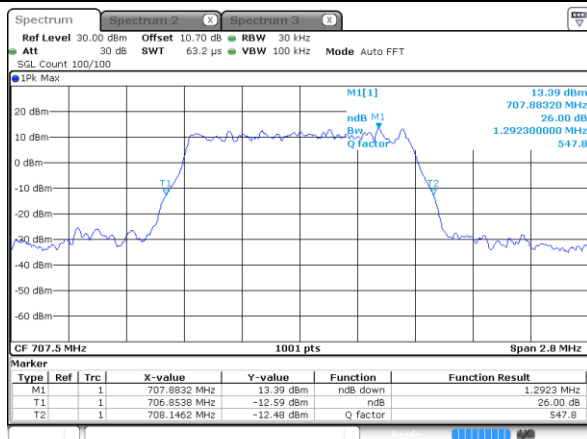
Date: 11 JAN 2020 00:22:29

## Lowest Channel / 1.4MHz / 16QAM



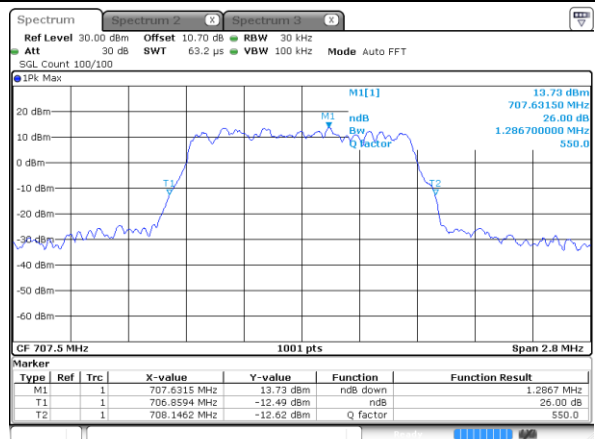
Date: 11 JAN 2020 00:21:51

## Middle Channel / 1.4MHz / QPSK



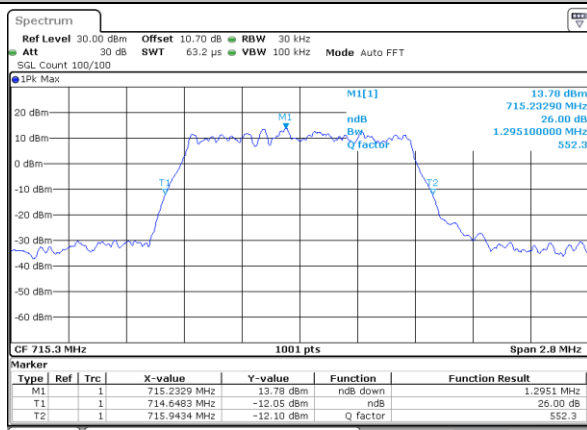
Date: 10 JAN 2020 00:44:56

## Middle Channel / 1.4MHz / 16QAM



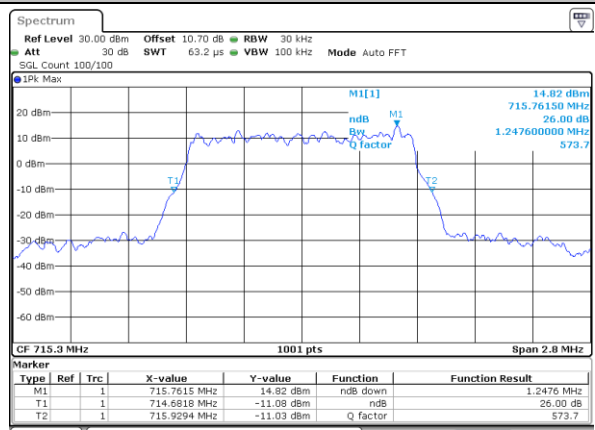
Date: 10 JAN 2020 00:45:17

## Highest Channel / 1.4MHz / QPSK



Date: 11 JAN 2020 00:10:21

## Highest Channel / 1.4MHz / 16QAM

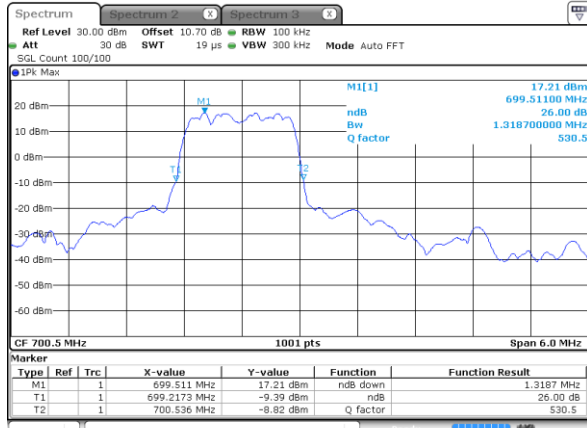


Date: 11 JAN 2020 00:11:45



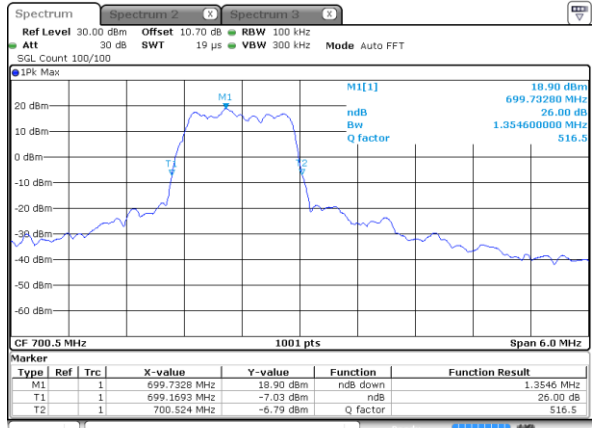
## LTE Band 12

## Lowest Channel / 3MHz / QPSK



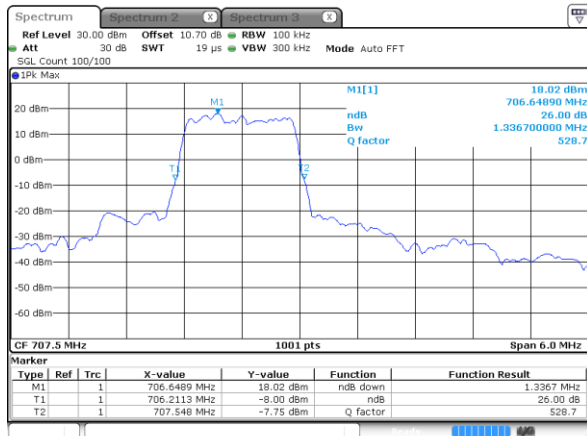
Date: 10 JAN 2020 00:19:37

## Lowest Channel / 3MHz / 16QAM



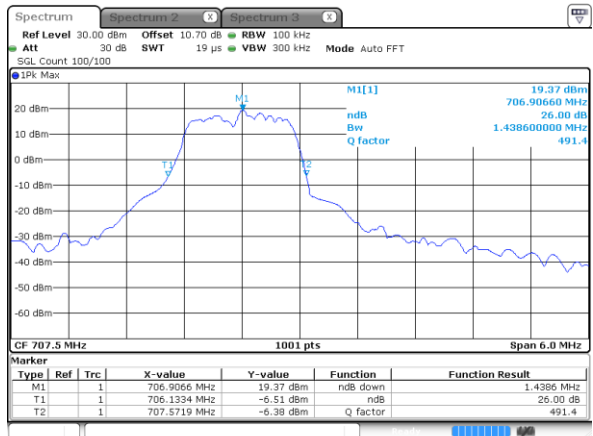
Date: 10 JAN 2020 00:19:15

## Middle Channel / 3MHz / QPSK



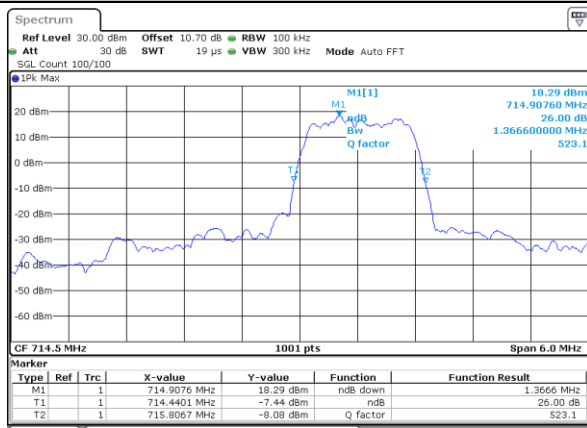
Date: 10 JAN 2020 00:27:34

## Middle Channel / 3MHz / 16QAM



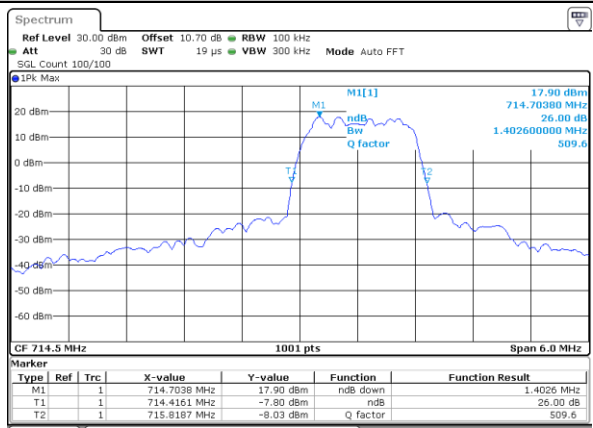
Date: 10 JAN 2020 00:27:57

## Highest Channel / 3MHz / QPSK



Date: 10 JAN 2020 23:57:27

## Highest Channel / 3MHz / 16QAM



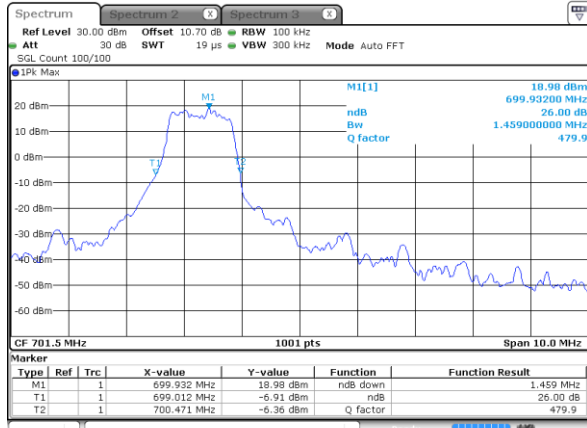
Date: 10 JAN 2020 23:58:29



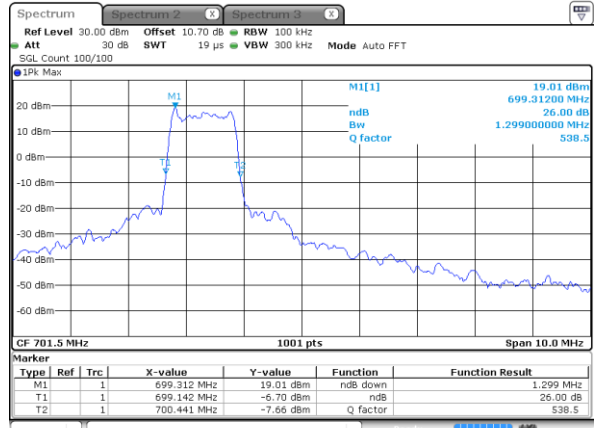


## LTE Band 12

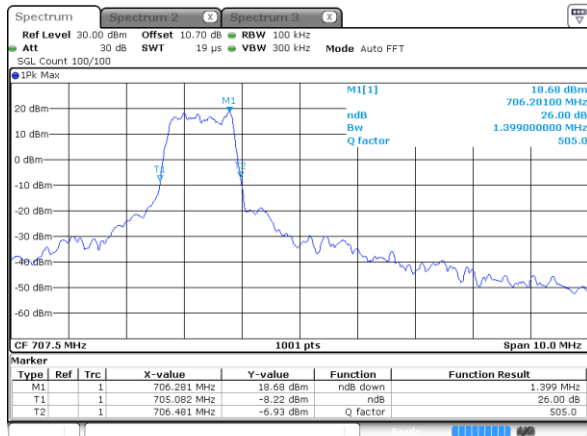
## Lowest Channel / 5MHz / QPSK



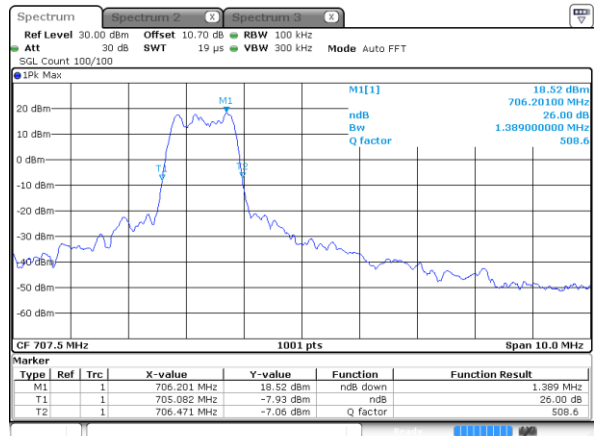
## Lowest Channel / 5MHz / 16QAM



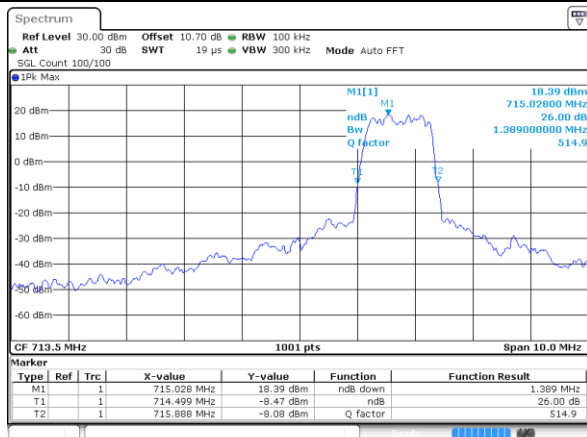
## Middle Channel / 5MHz / QPSK



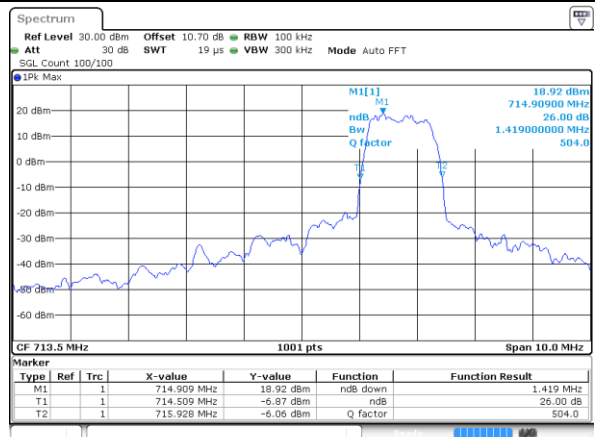
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



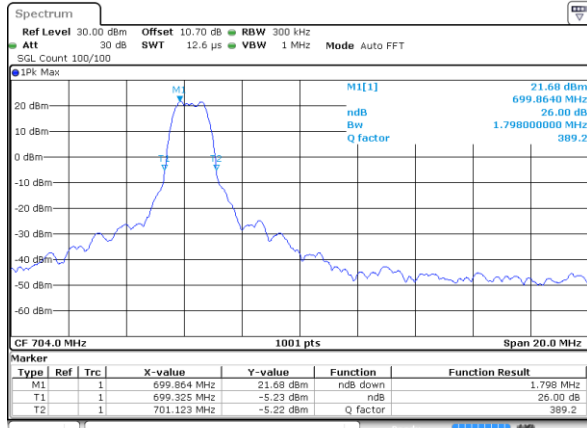
## Highest Channel / 5MHz / 16QAM



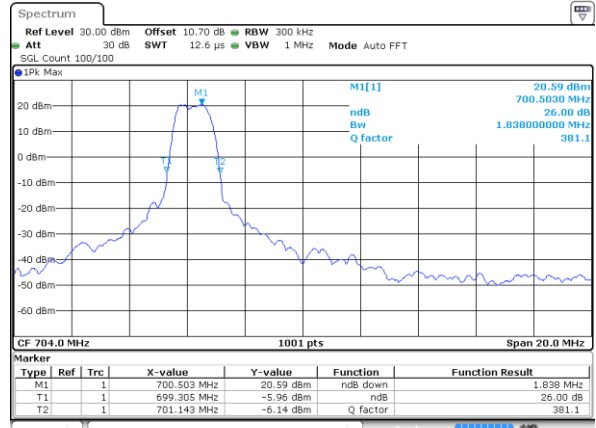


## LTE Band 12

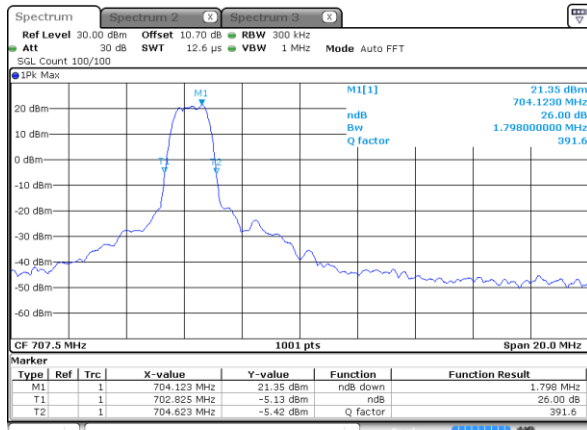
## Lowest Channel / 10MHz / QPSK



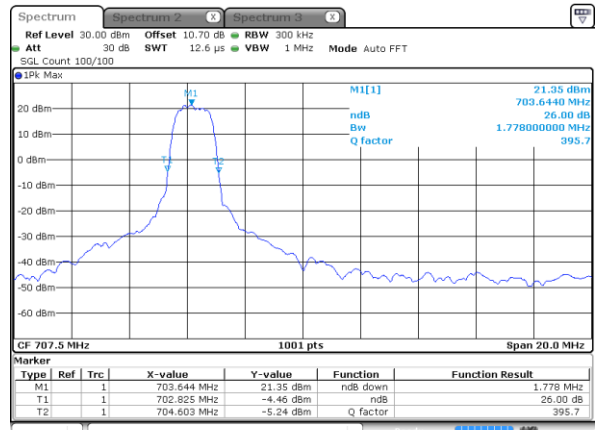
## Lowest Channel / 10MHz / 16QAM



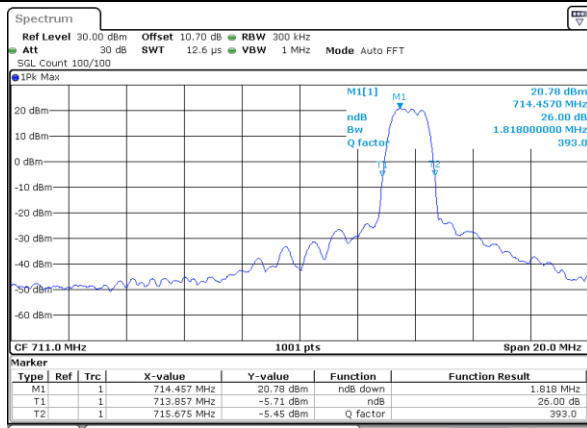
## Middle Channel / 10MHz / QPSK



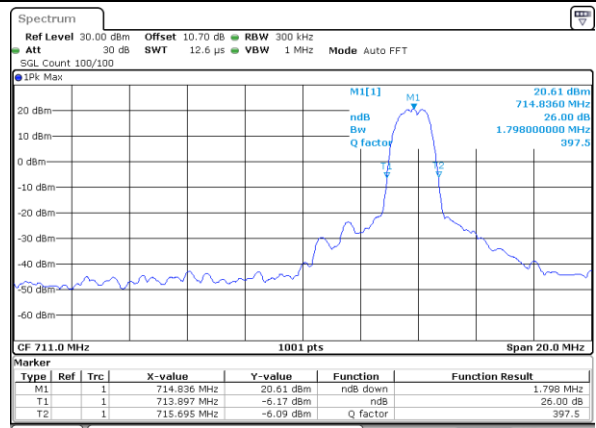
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



## Highest Channel / 10MHz / 16QAM



**Occupied Bandwidth**

| Mode       | LTE Band 12 : 99%OBW(MHz) |       |      |       |      |       |       |       |       |       |       |       |
|------------|---------------------------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| BW         | 1.4MHz                    |       | 3MHz |       | 5MHz |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | QPSK                      | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM |
| Lowest CH  | 1.09                      | 1.09  | 1.16 | 1.20  | 1.14 | 1.17  | 1.44  | 1.46  | -     | -     | -     | -     |
| Middle CH  | 1.09                      | 1.09  | 1.17 | 1.15  | 1.15 | 1.17  | 1.42  | 1.44  | -     | -     | -     | -     |
| Highest CH | 1.09                      | 1.10  | 1.17 | 1.13  | 1.16 | 1.14  | 1.48  | 1.44  | -     | -     | -     | -     |