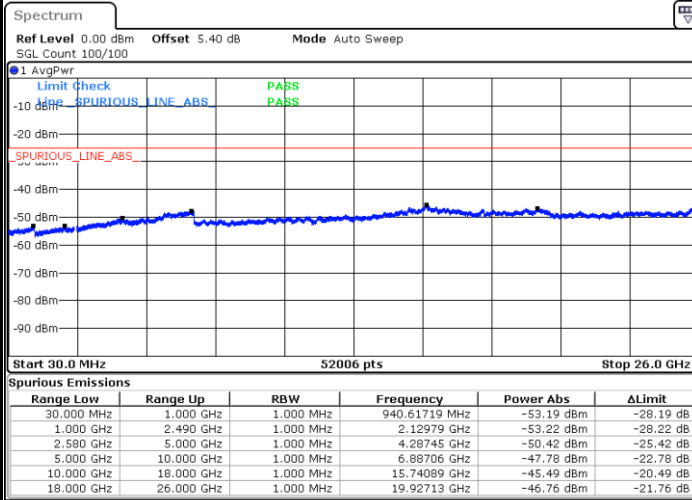


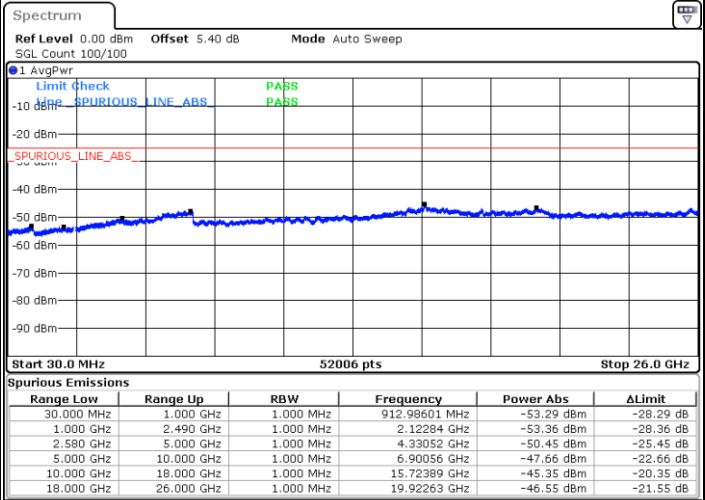


## LTE Band 7 / 5MHz

## Highest Channel / QPSK

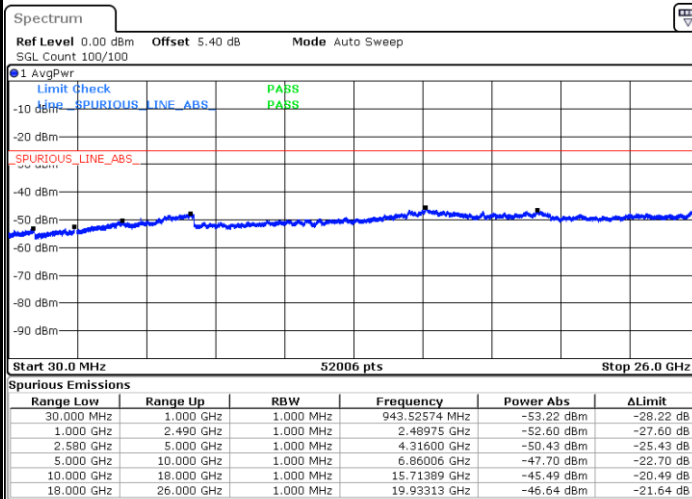


## Highest Channel / 16QAM

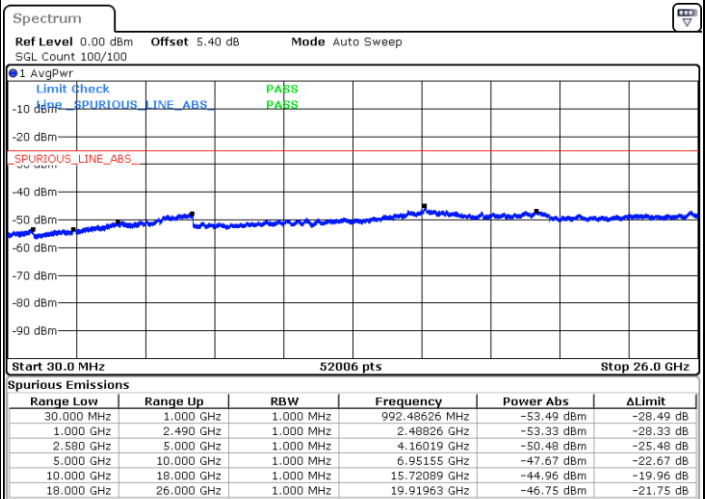


## LTE Band 7 / 10MHz

## Lowest Channel / QPSK



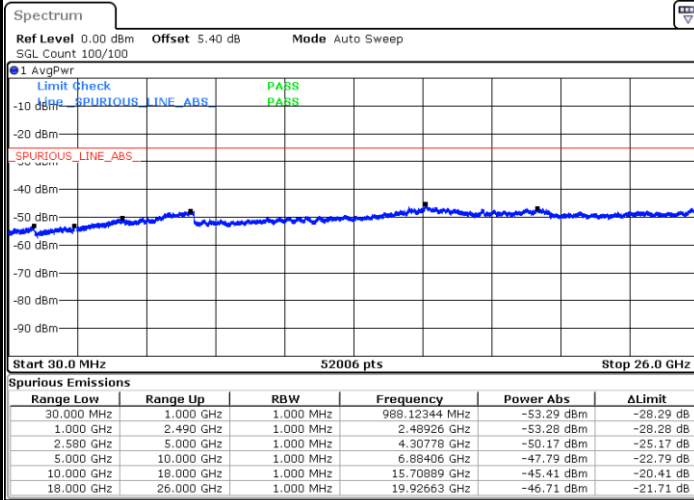
## Lowest Channel / 16QAM



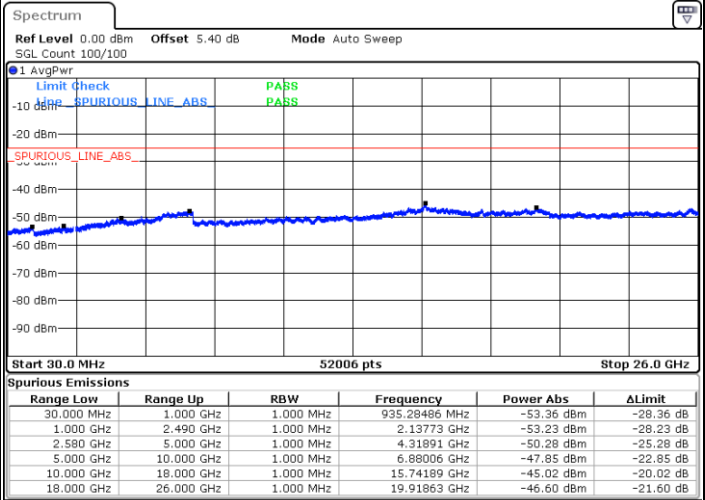


## LTE Band 7 / 10MHz

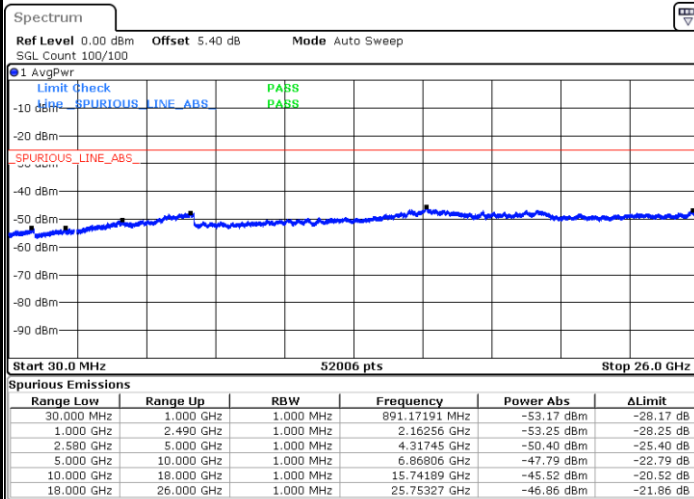
## Middle Channel / QPSK



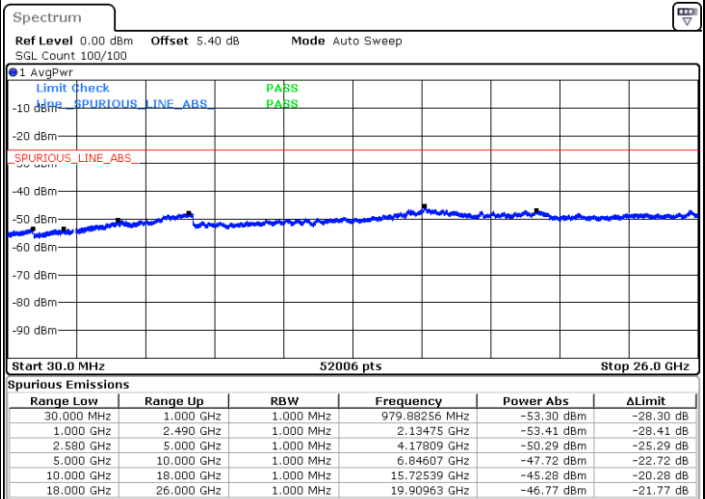
## Middle Channel / 16QAM



## Highest Channel / QPSK



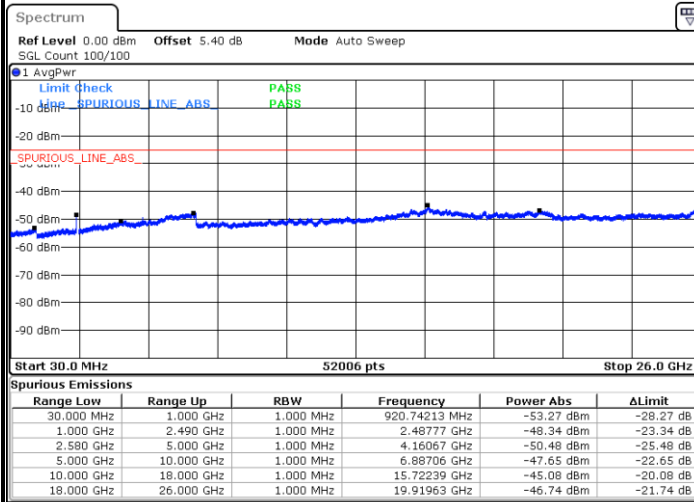
## Highest Channel / 16QAM



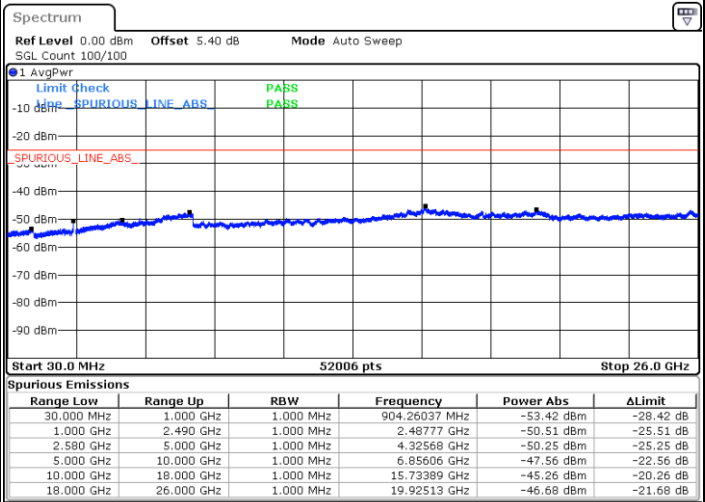


## LTE Band 7 / 15MHz

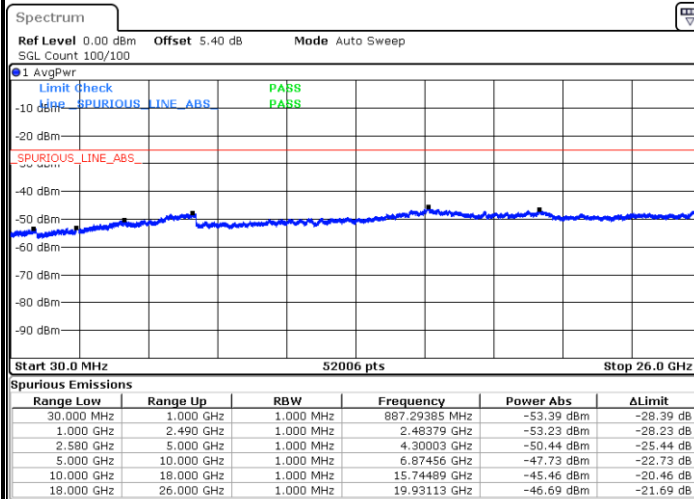
## Lowest Channel / QPSK



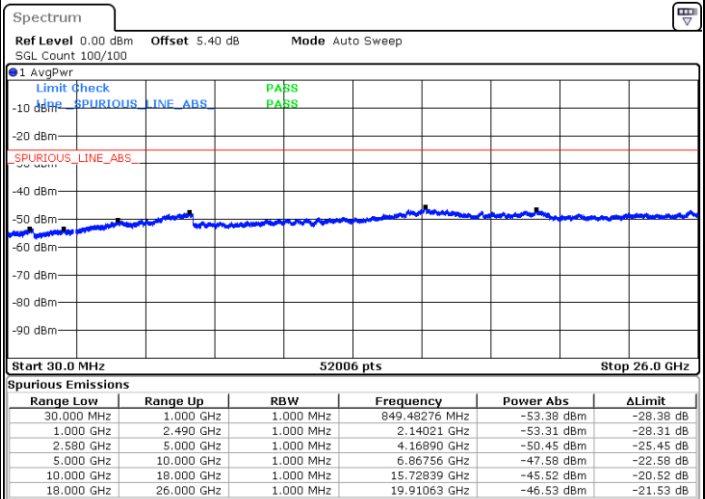
## Lowest Channel / 16QAM



## Middle Channel / QPSK



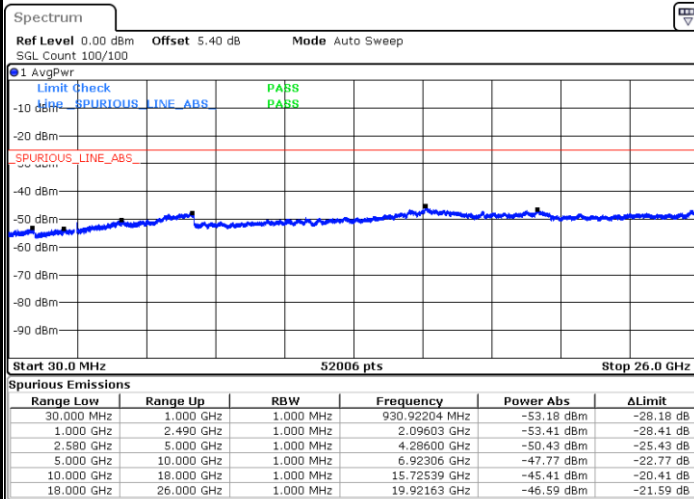
## Middle Channel / 16QAM



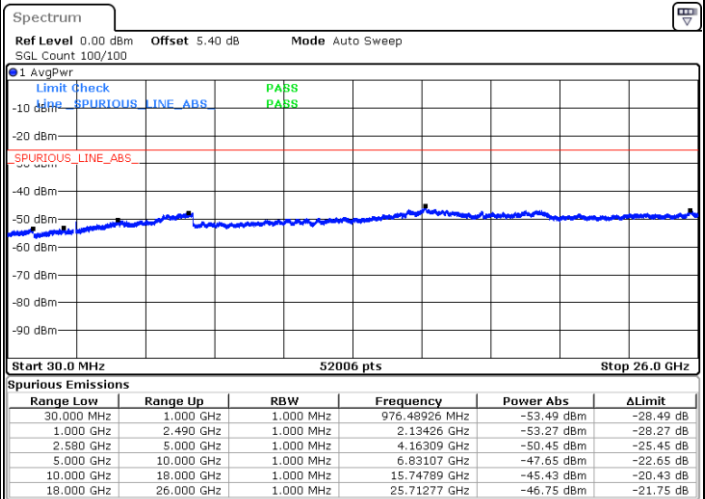


## LTE Band7 / 15MHz

## Highest Channel / QPSK

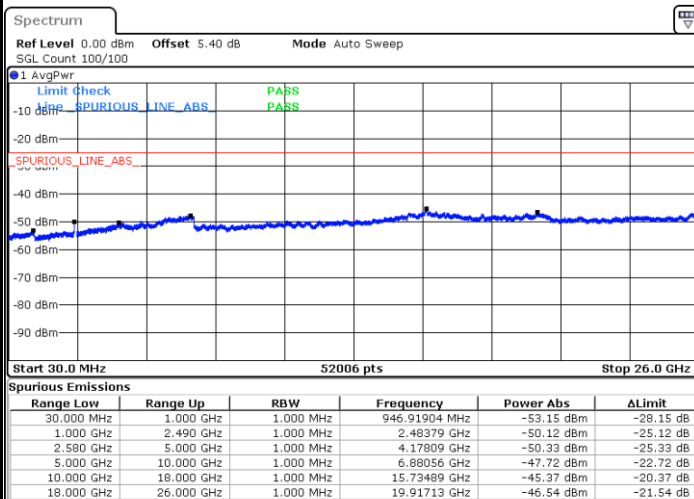


## Highest Channel / 16QAM

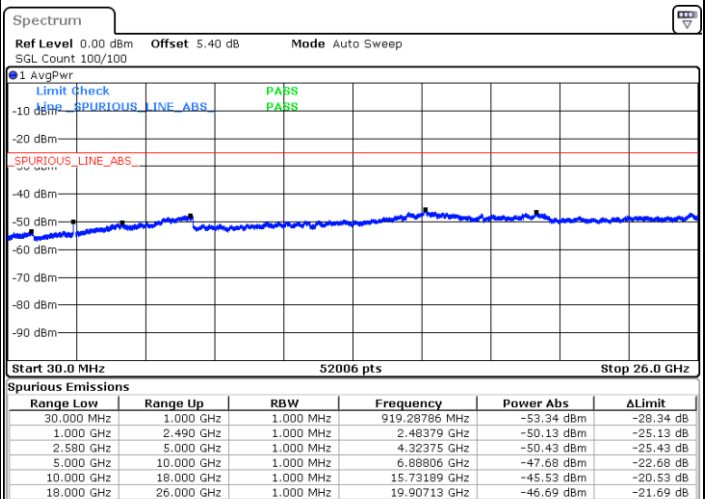


## LTE Band 7 / 20MHz

## Lowest Channel / QPSK



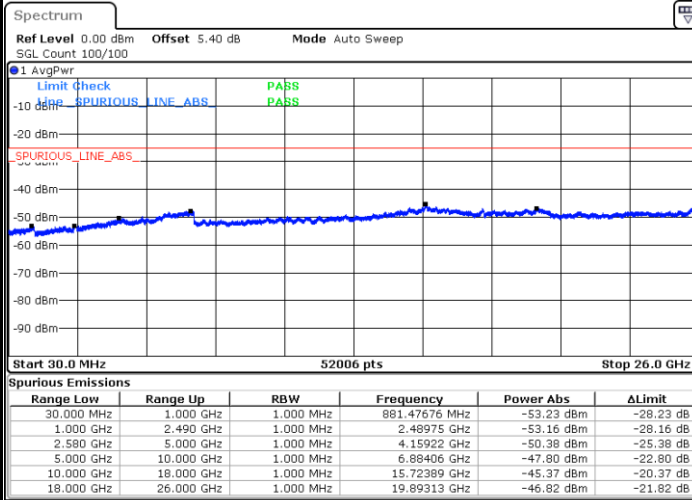
## Lowest Channel / 16QAM



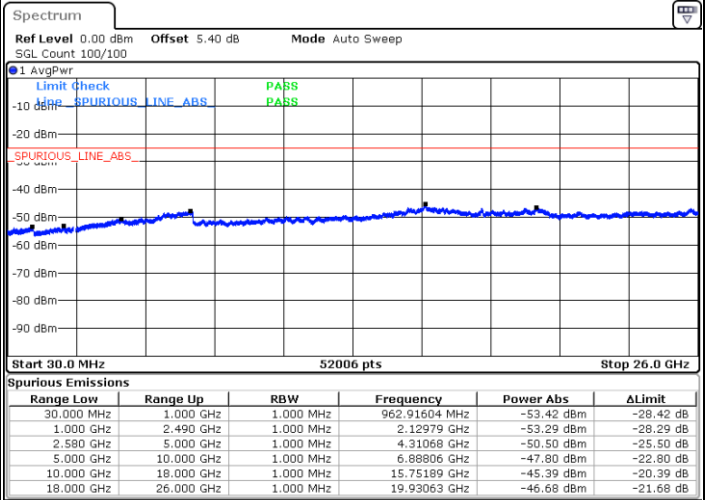


## LTE Band 7 / 20MHz

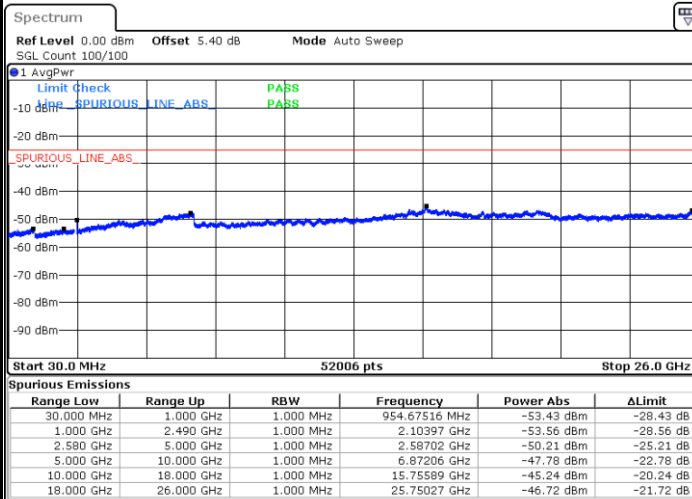
## Middle Channel / QPSK



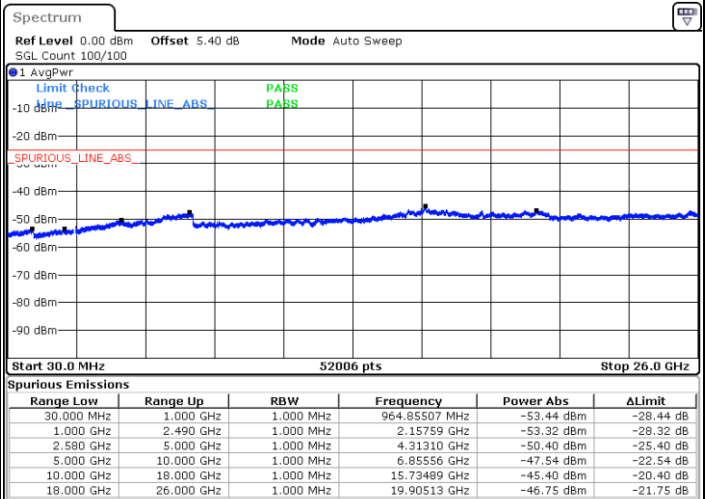
## Middle Channel / 16QAM



## Highest Channel / QPSK



## Highest Channel / 16QAM



**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    | 0.0003                             | PASS    |
| 40               | Normal Voltage    | 0.0028                             |         |
| 30               | Normal Voltage    | 0.0021                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0007                             |         |
| 0                | Normal Voltage    | 0.0001                             |         |
| -10              | Normal Voltage    | 0.0025                             |         |
| -20              | Normal Voltage    | 0.0002                             |         |
| -30              | Normal Voltage    | 0.0020                             |         |
| 20               | Maximum Voltage   | 0.0006                             |         |
| 20               | Normal Voltage    | 0.0000                             |         |
| 20               | Battery End Point | 0.0005                             |         |

**Note:**

1. Normal Voltage =7.2 V. ; Battery End Point (BEP) =7 V. ; Maximum Voltage =8.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



## LTE Band 12

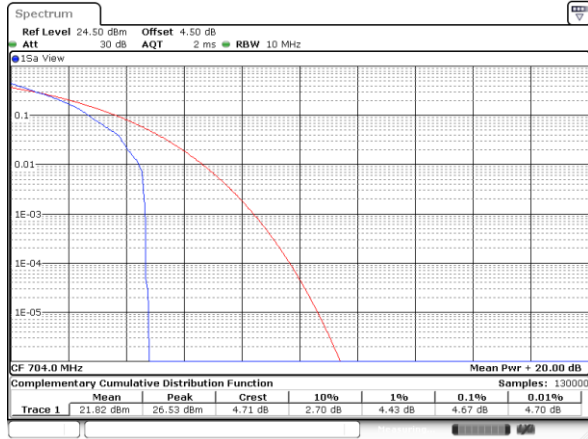
## Peak-to-Average Ratio

| Mode       | LTE Band 12 / 10MHz |         |       |         |             |
|------------|---------------------|---------|-------|---------|-------------|
| Mod.       | QPSK                |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 4.67                | 5.59    | 5.83  | 6.49    | PASS        |
| Middle CH  | 4.55                | 5.54    | 5.94  | 6.38    |             |
| Highest CH | 4.84                | 5.30    | 5.62  | 6.23    |             |

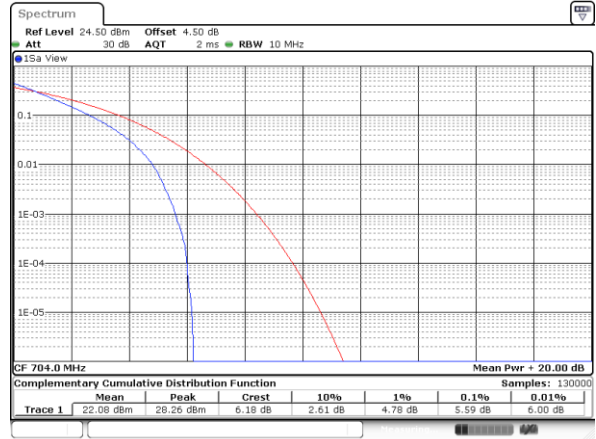


## LTE Band 12 / 10MHz / QPSK

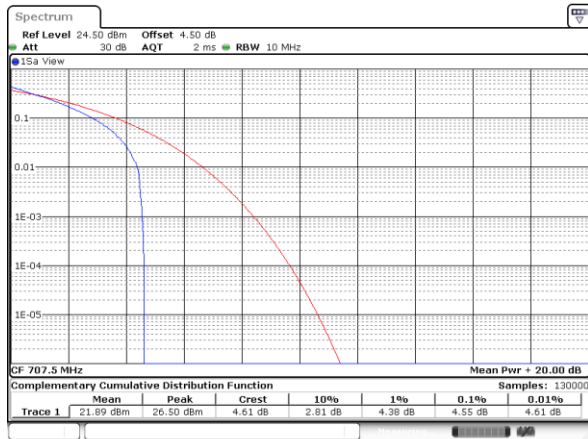
## Lowest Channel / 1RB



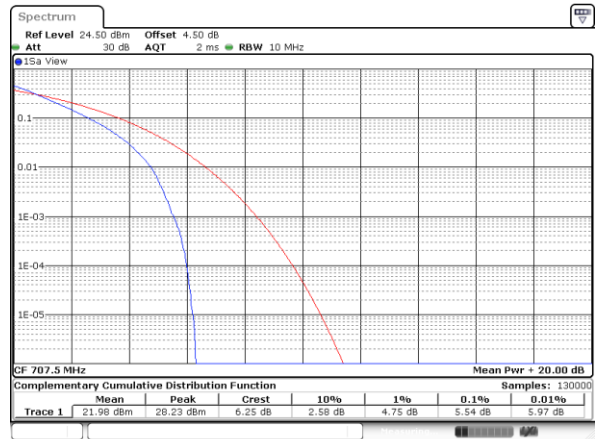
## Lowest Channel / Full RB



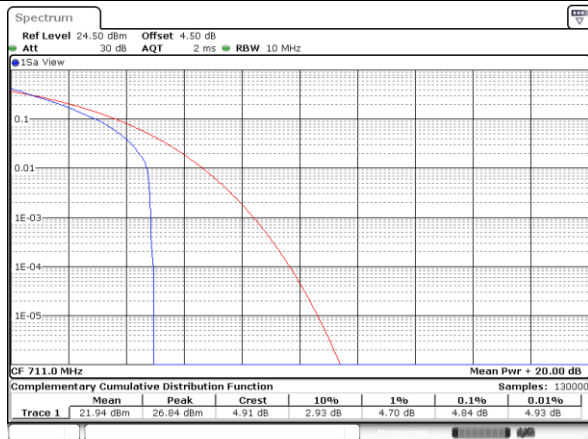
## Middle Channel / 1RB



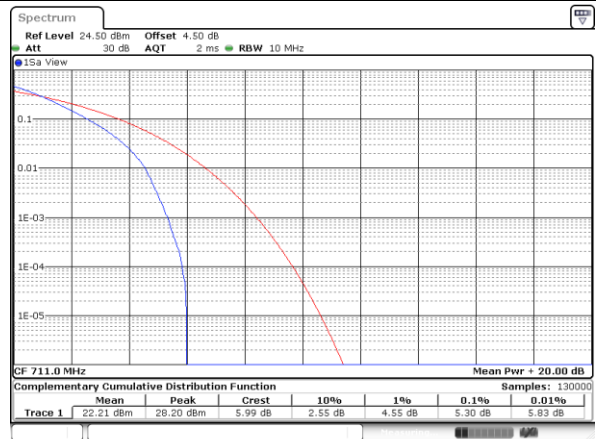
## Middle Channel / Full RB



## Highest Channel / 1RB



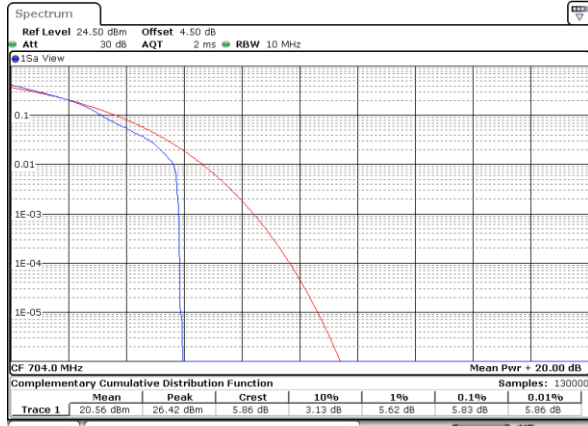
## Highest Channel / Full RB





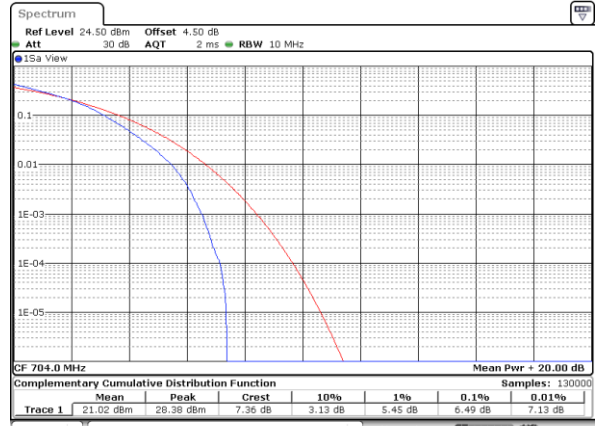
LTE Band 12 / 10MHz / 16QAM

Lowest Channel / 1RB



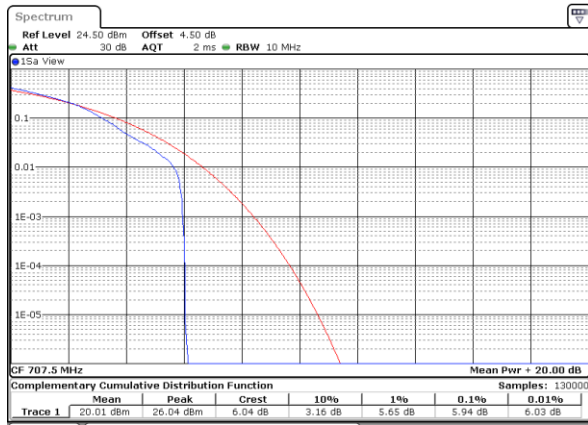
Date: 18 JAN 2020 07:03:17

Lowest Channel / Full RB



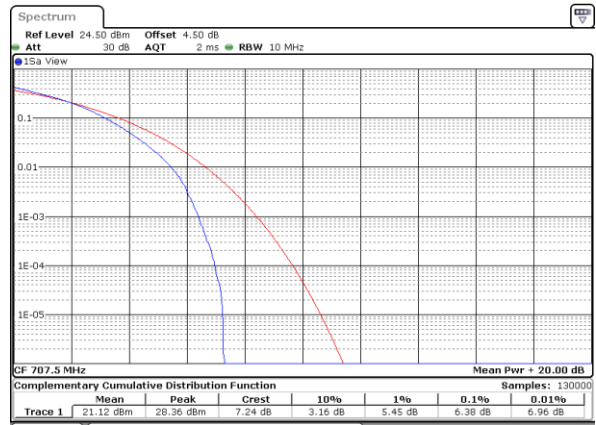
Date: 18 JAN 2020 07:03:45

Middle Channel / 1RB



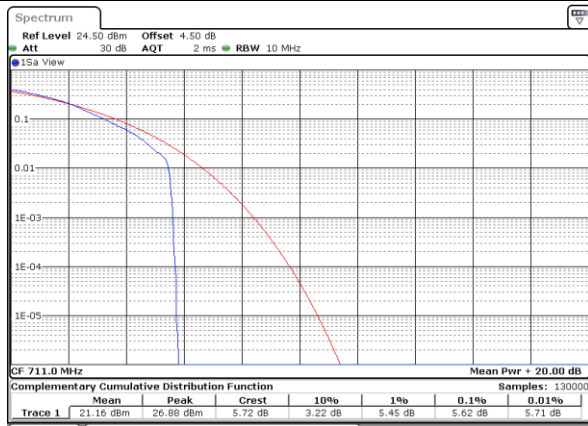
Date: 18 JAN 2020 07:04:19

Middle Channel / Full RB



Date: 18 JAN 2020 07:03:53

Highest Channel / 1RB



Date: 18 JAN 2020 07:04:27

Highest Channel / Full RB



Date: 18 JAN 2020 07:04:54

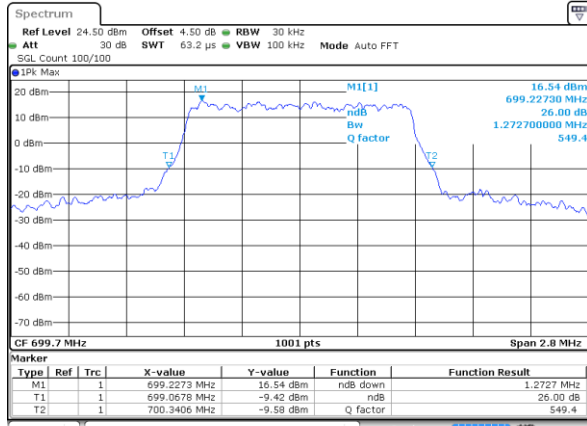
**26dB Bandwidth**

| Mode       | LTE Band 12 : 26dB BW(MHz) |       |       |       |       |       |        |       |
|------------|----------------------------|-------|-------|-------|-------|-------|--------|-------|
| BW         | 1.4MHz                     |       | 3MHz  |       | 5MHz  |       | 10MHz  |       |
| Mod.       | QPSK                       | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK   | 16QAM |
| Lowest CH  | 1.273                      | 1.278 | 3.009 | 3.003 | 4.965 | 4.905 | 9.910  | 9.770 |
| Middle CH  | 1.270                      | 1.312 | 3.033 | 3.003 | 4.955 | 4.935 | 10.010 | 9.970 |
| Highest CH | 1.306                      | 1.264 | 3.003 | 2.961 | 4.905 | 4.915 | 9.790  | 9.650 |



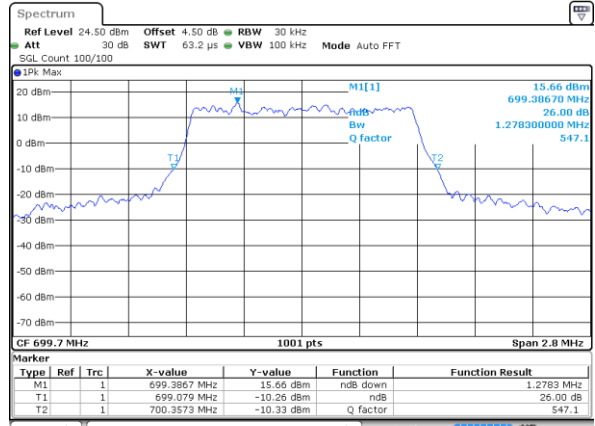
## LTE Band 12

## Lowest Channel / 1.4MHz / QPSK



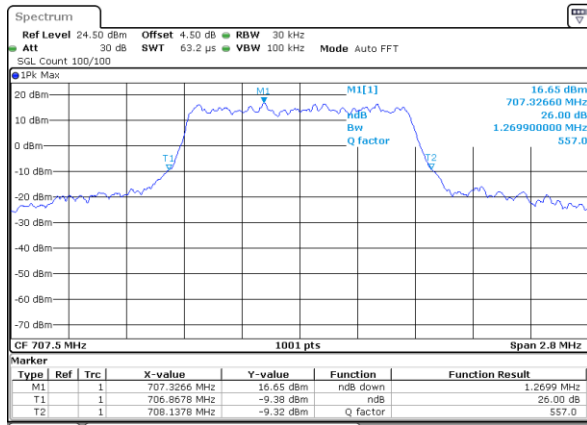
Date: 18 JAN 2020 05:27:42

## Lowest Channel / 1.4MHz / 16QAM



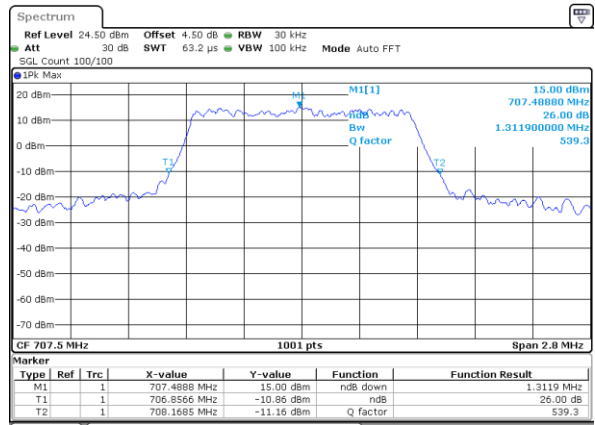
Date: 18 JAN 2020 05:27:32

## Middle Channel / 1.4MHz / QPSK



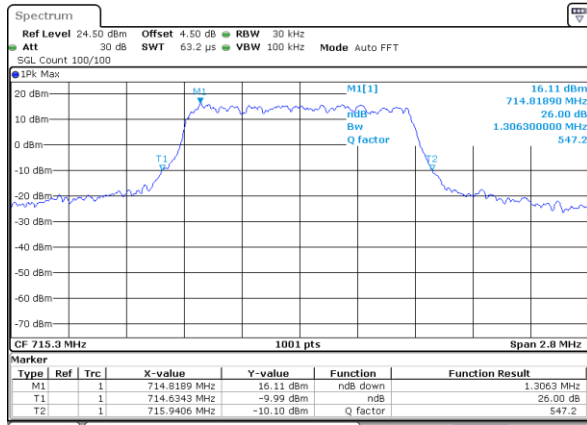
Date: 18 JAN 2020 05:27:12

## Middle Channel / 1.4MHz / 16QAM



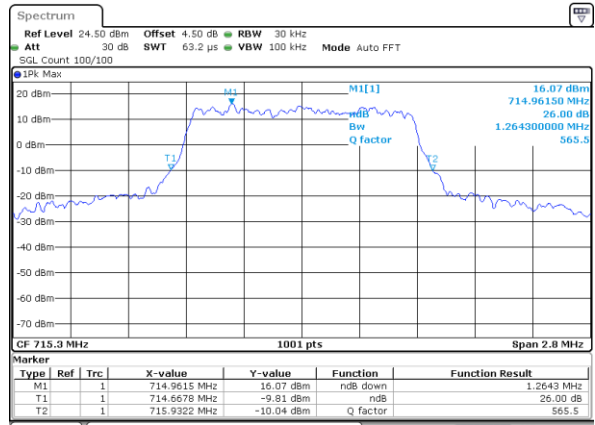
Date: 18 JAN 2020 05:27:22

## Highest Channel / 1.4MHz / QPSK



Date: 18 JAN 2020 05:27:02

## Highest Channel / 1.4MHz / 16QAM

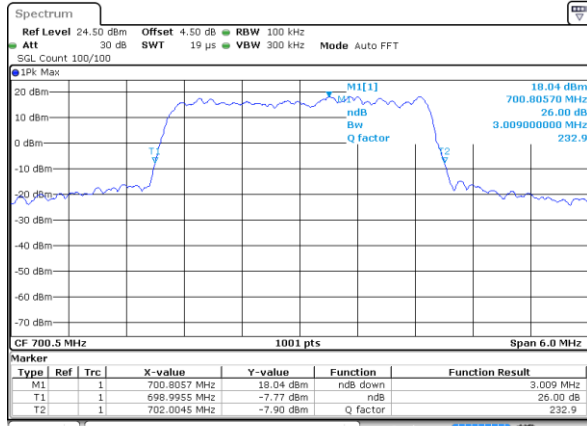


Date: 18 JAN 2020 05:26:52

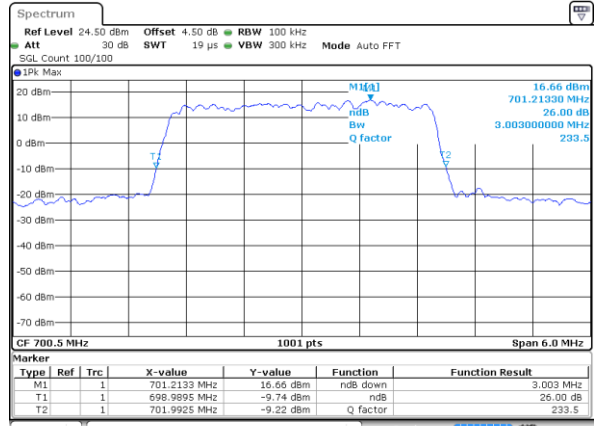


## LTE Band 12

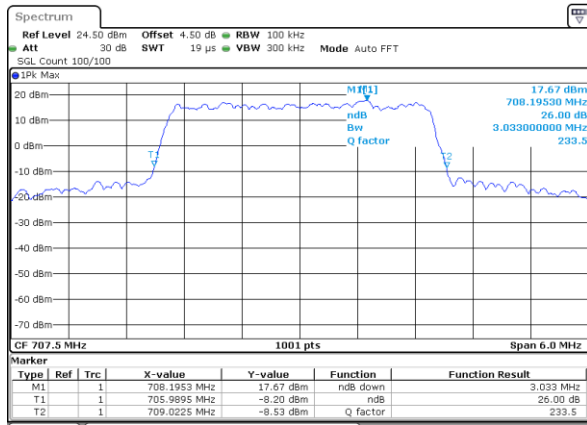
## Lowest Channel / 3MHz / QPSK



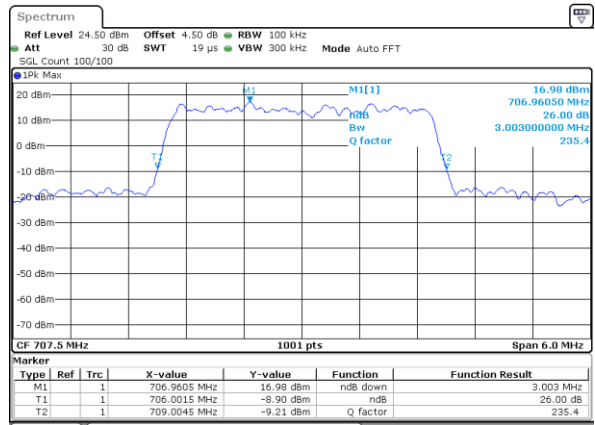
## Lowest Channel / 3MHz / 16QAM



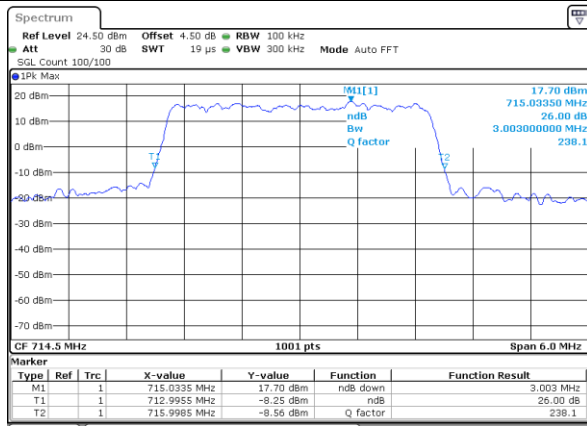
## Middle Channel / 3MHz / QPSK



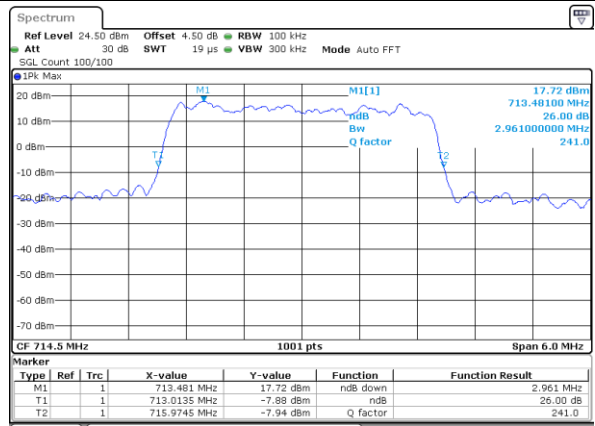
## Middle Channel / 3MHz / 16QAM



## Highest Channel / 3MHz / QPSK



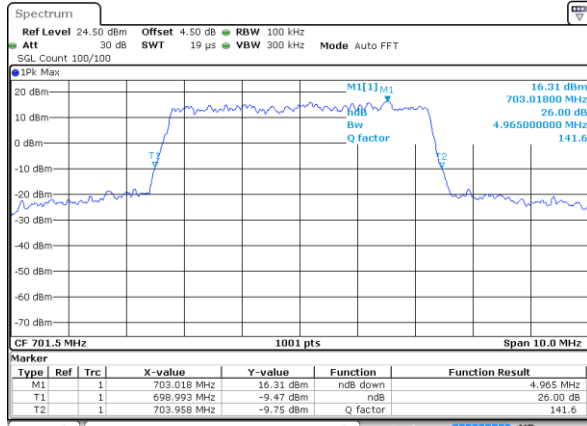
## Highest Channel / 3MHz / 16QAM



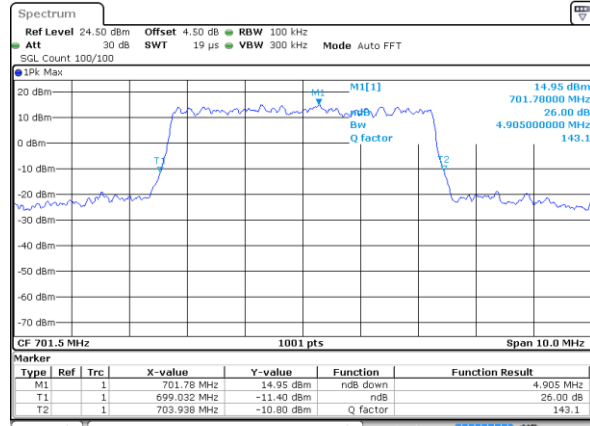


## LTE Band 12

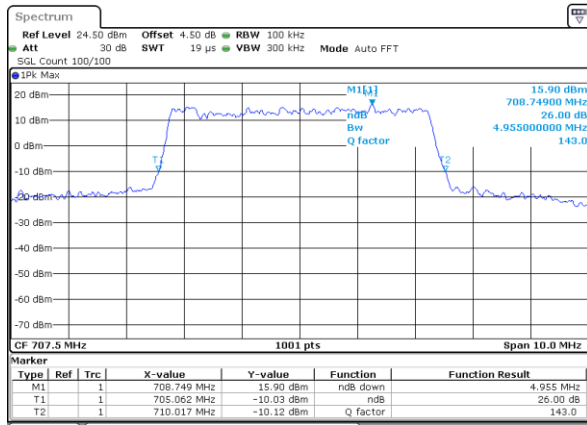
## Lowest Channel / 5MHz / QPSK



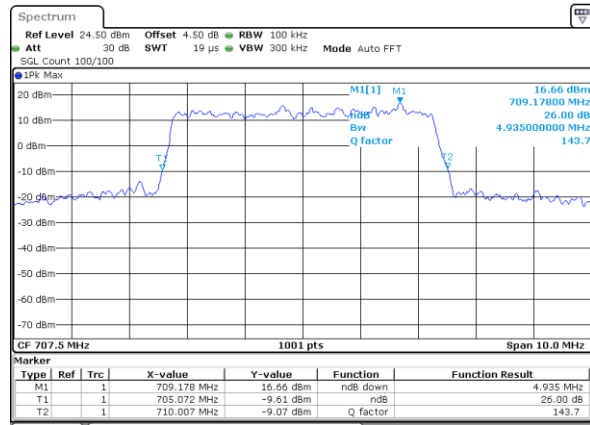
## Lowest Channel / 5MHz / 16QAM



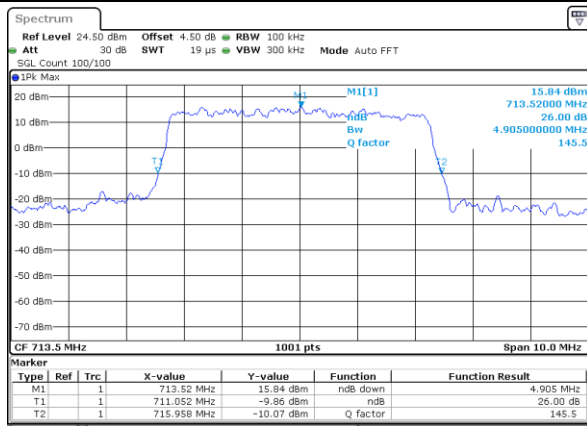
## Middle Channel / 5MHz / QPSK



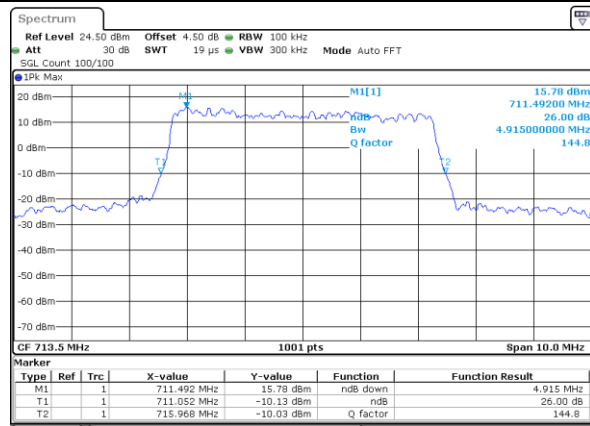
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



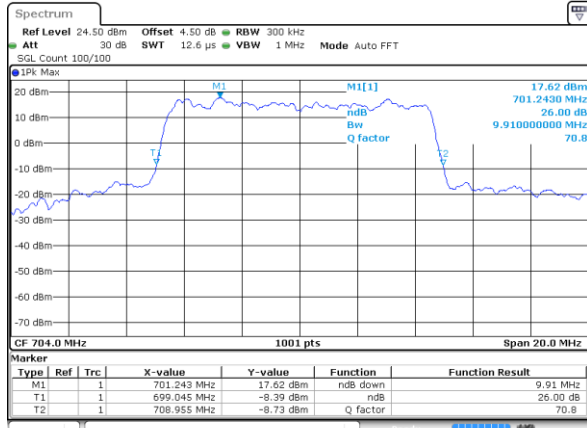
## Highest Channel / 5MHz / 16QAM





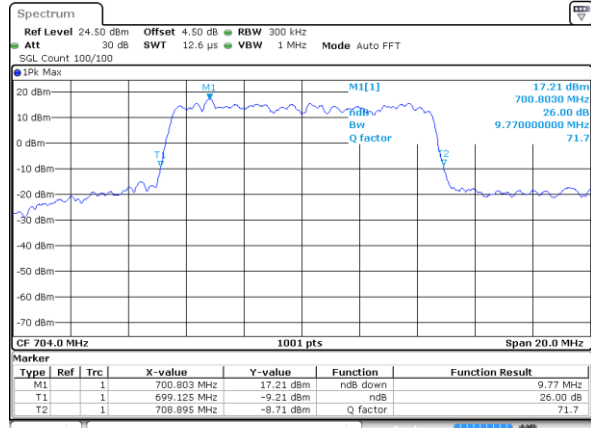
## LTE Band 12

## Lowest Channel / 10MHz / QPSK



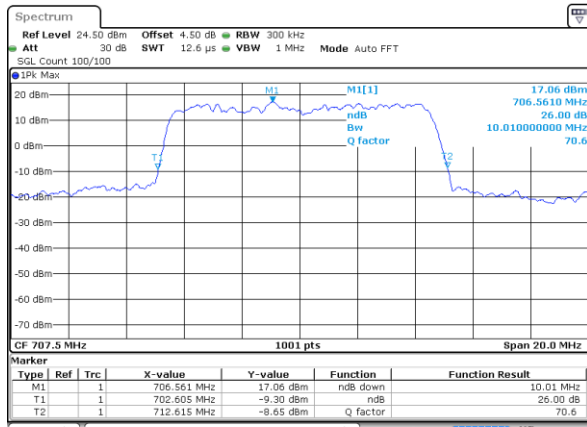
Date: 18 JAN 2020 06:27:05

## Lowest Channel / 10MHz / 16QAM



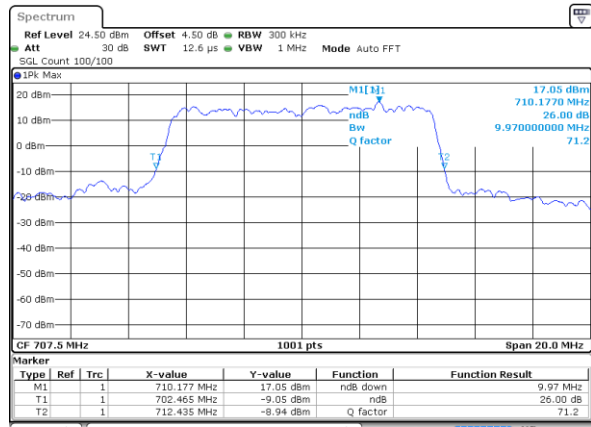
Date: 18 JAN 2020 06:26:55

## Middle Channel / 10MHz / QPSK



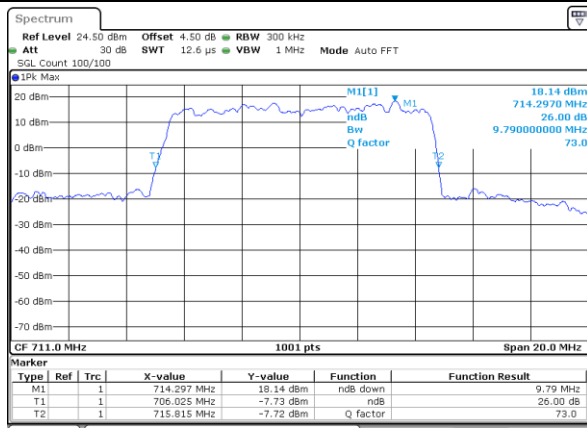
Date: 18 JAN 2020 06:26:35

## Middle Channel / 10MHz / 16QAM



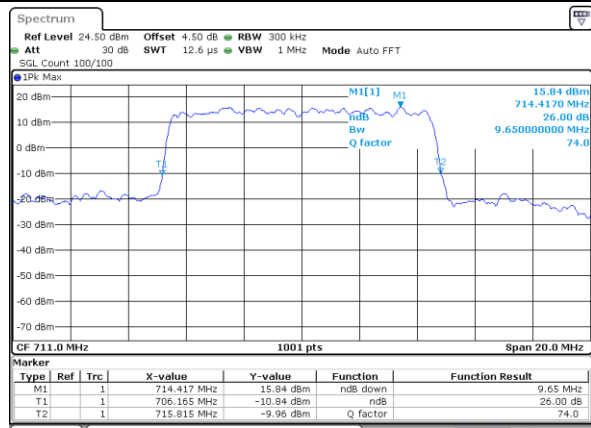
Date: 18 JAN 2020 06:26:45

## Highest Channel / 10MHz / QPSK



Date: 18 JAN 2020 06:26:26

## Highest Channel / 10MHz / 16QAM



Date: 18 JAN 2020 06:26:16

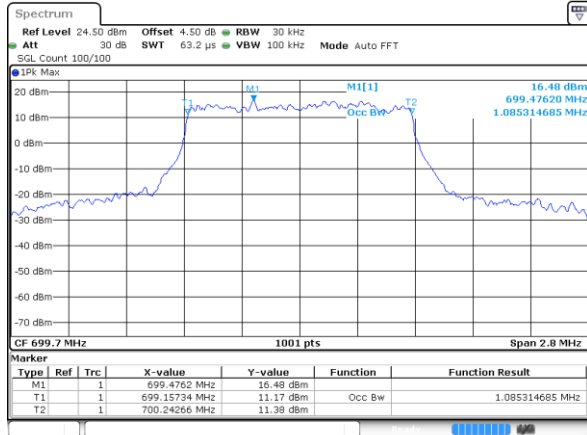
**Occupied Bandwidth**

| Mode       | LTE Band 12 : 99%OBW(MHz) |       |       |       |       |       |       |       |
|------------|---------------------------|-------|-------|-------|-------|-------|-------|-------|
| BW         | 1.4MHz                    |       | 3MHz  |       | 5MHz  |       | 10MHz |       |
| Mod.       | QPSK                      | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM |
| Lowest CH  | 1.085                     | 1.085 | 2.715 | 2.727 | 4.505 | 4.496 | 9.011 | 9.031 |
| Middle CH  | 1.085                     | 1.097 | 2.727 | 2.715 | 4.486 | 4.496 | 9.011 | 9.031 |
| Highest CH | 1.099                     | 1.102 | 2.733 | 2.709 | 4.505 | 4.505 | 9.011 | 8.911 |

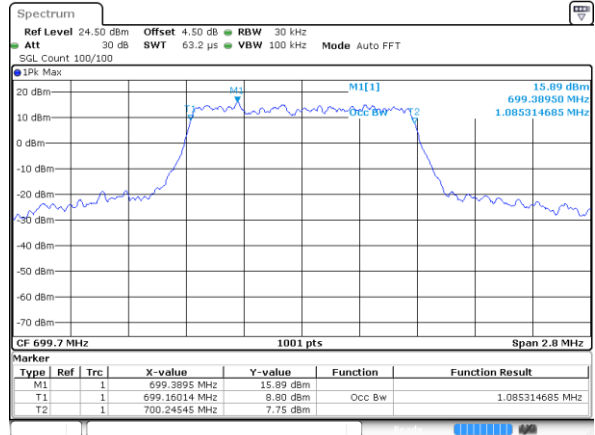


## LTE Band 12

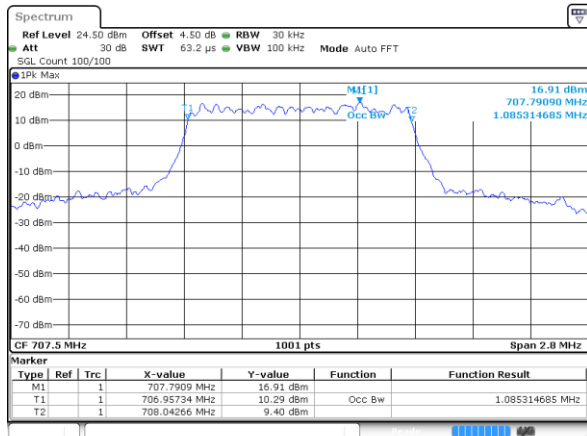
## Lowest Channel / 1.4MHz / QPSK



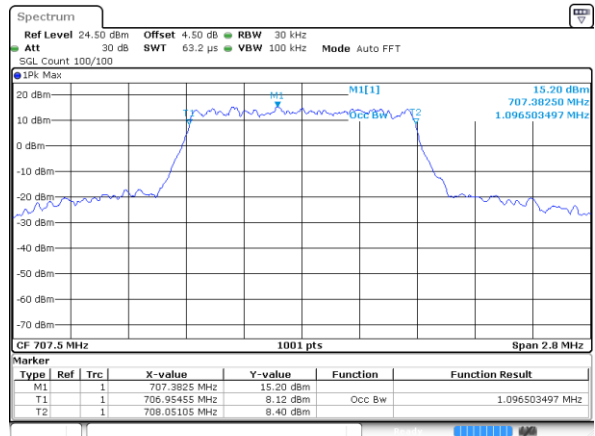
## Lowest Channel / 1.4MHz / 16QAM



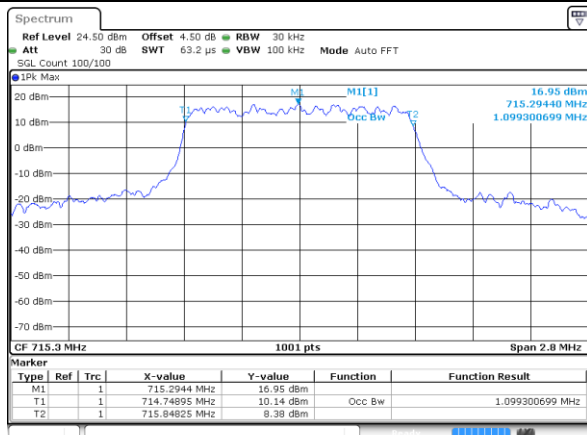
## Middle Channel / 1.4MHz / QPSK



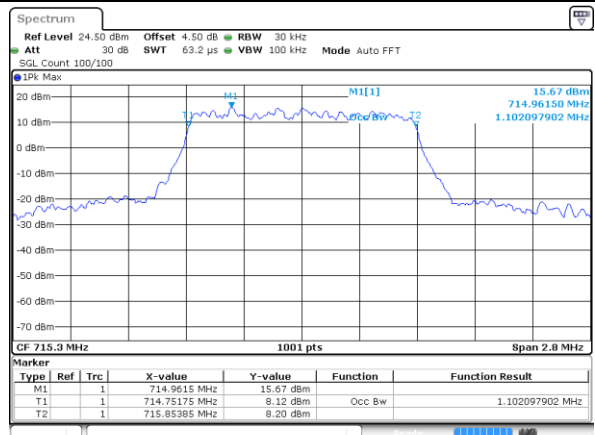
## Middle Channel / 1.4MHz / 16QAM



## Highest Channel / 1.4MHz / QPSK



## Highest Channel / 1.4MHz / 16QAM

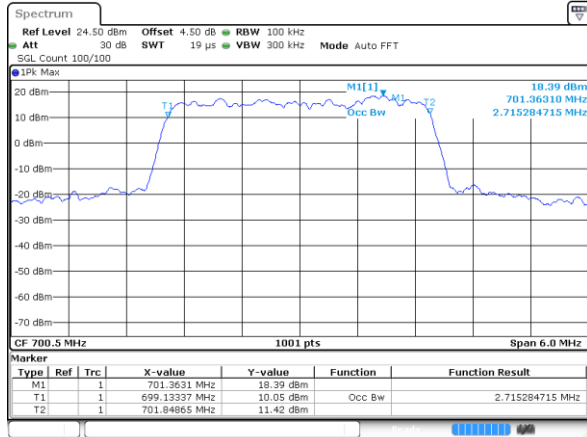




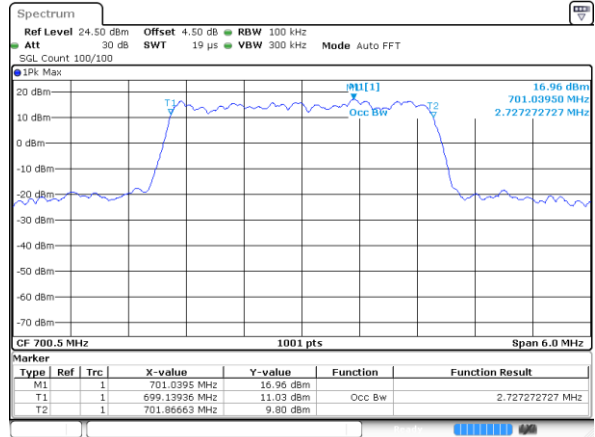


## LTE Band 12

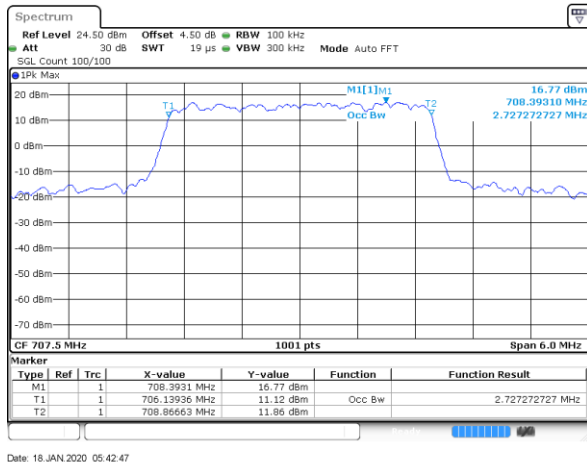
## Lowest Channel / 3MHz / QPSK



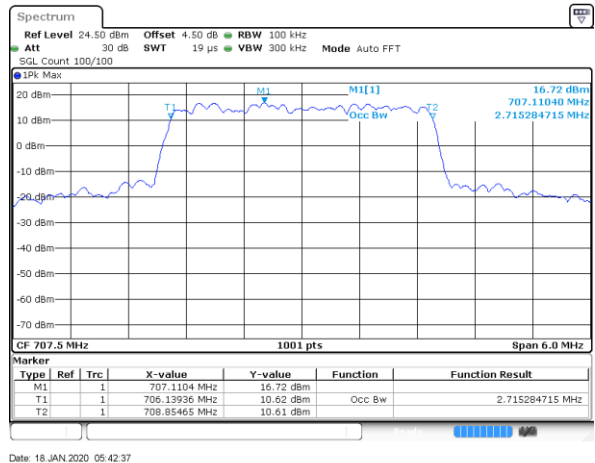
## Lowest Channel / 3MHz / 16QAM



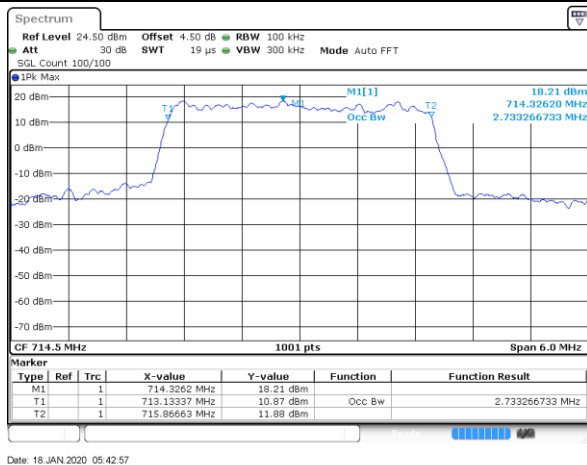
## Middle Channel / 3MHz / QPSK



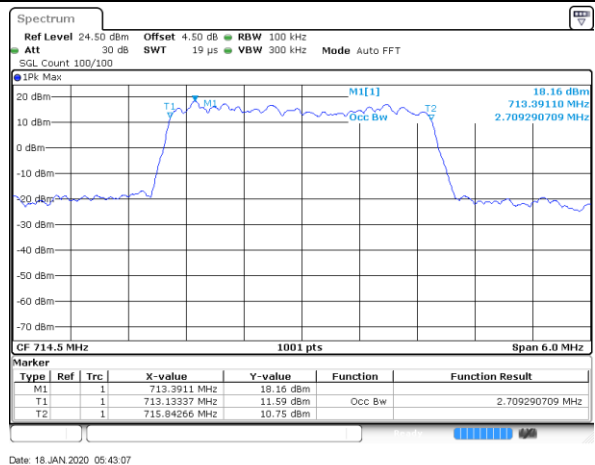
## Middle Channel / 3MHz / 16QAM



## Highest Channel / 3MHz / QPSK



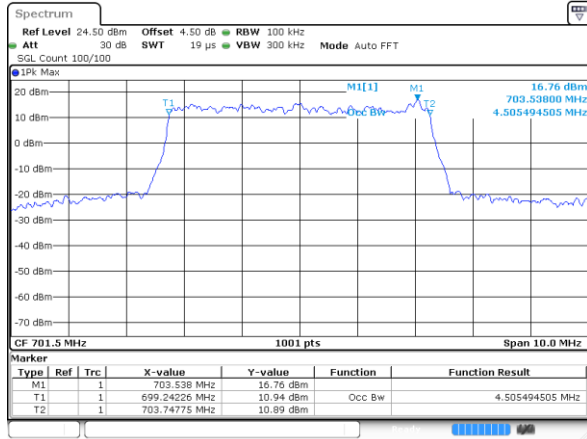
## Highest Channel / 3MHz / 16QAM



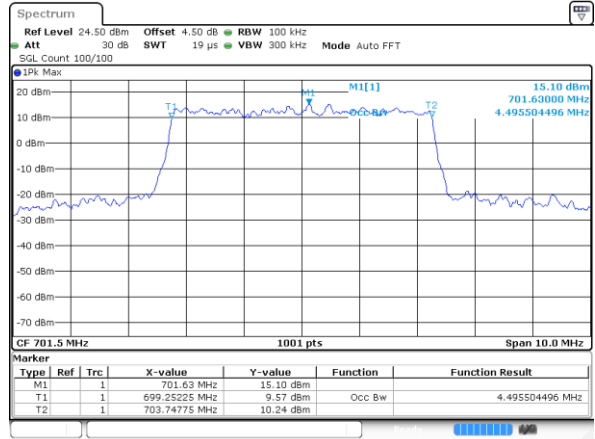


## LTE Band 12

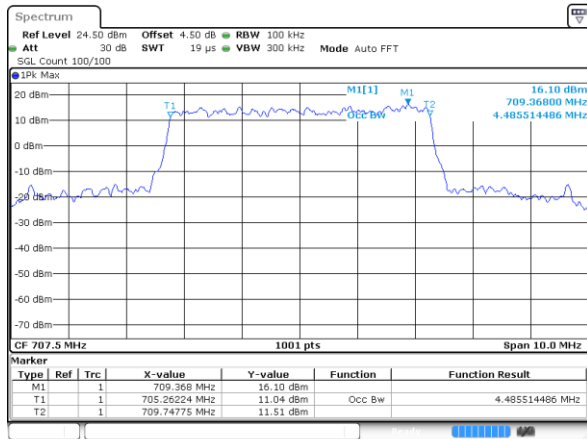
## Lowest Channel / 5MHz / QPSK



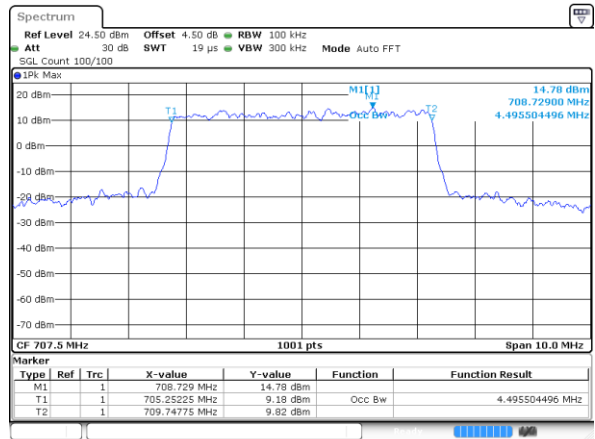
## Lowest Channel / 5MHz / 16QAM



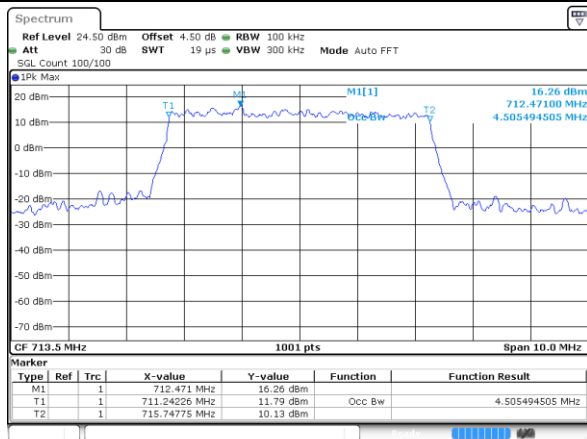
## Middle Channel / 5MHz / QPSK



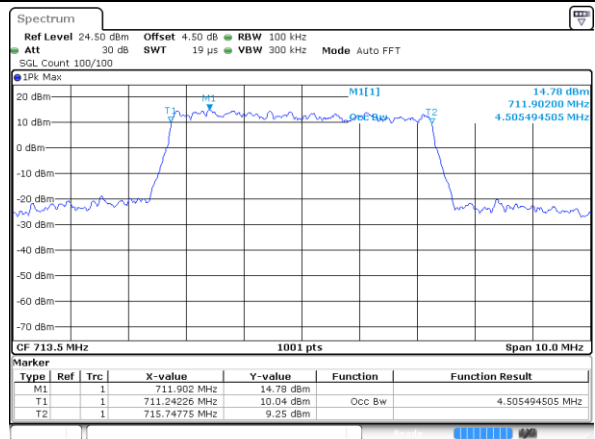
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



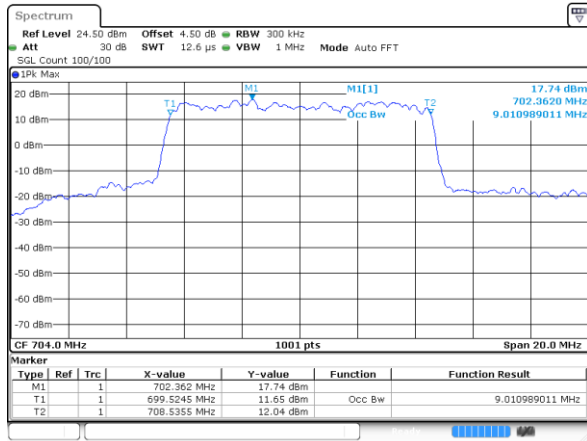
## Highest Channel / 5MHz / 16QAM



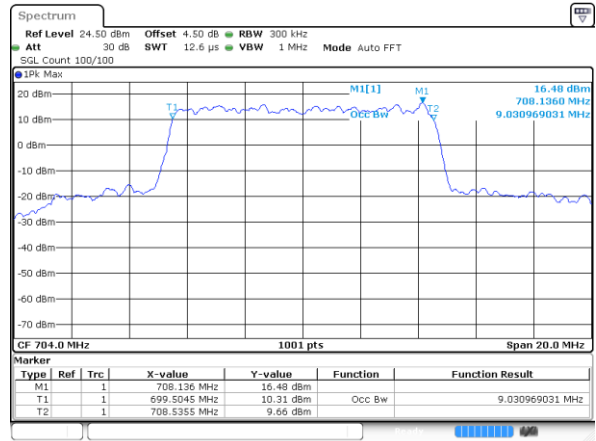


## LTE Band 12

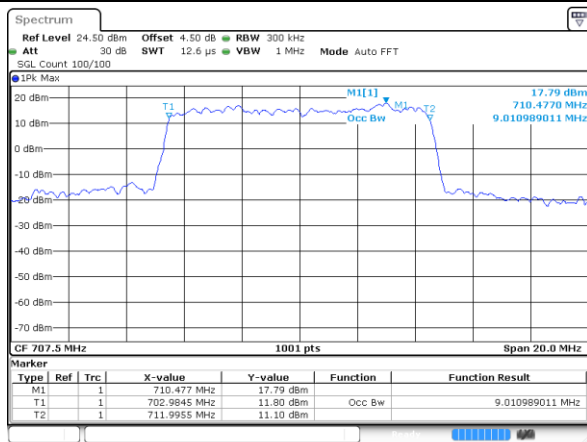
## Lowest Channel / 10MHz / QPSK



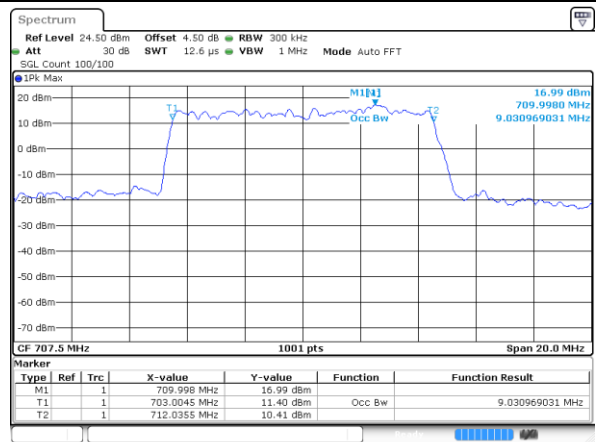
## Lowest Channel / 10MHz / 16QAM



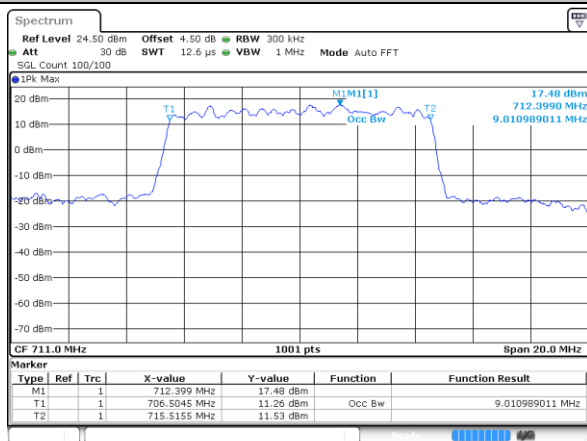
## Middle Channel / 10MHz / QPSK



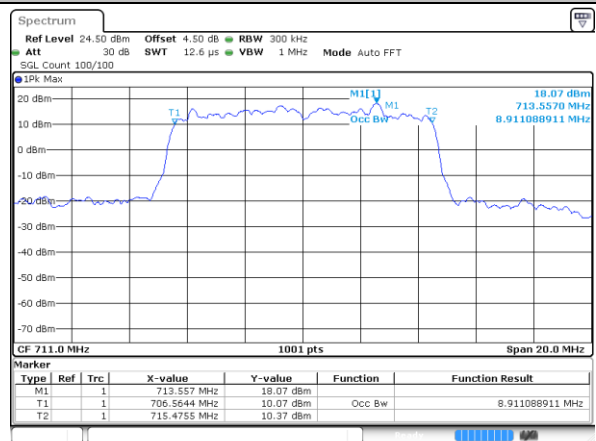
## Middle Channel / 10MHz / 16QAM

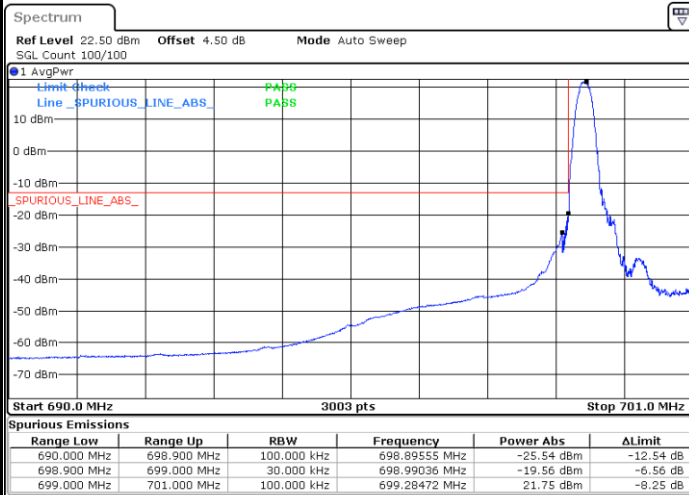
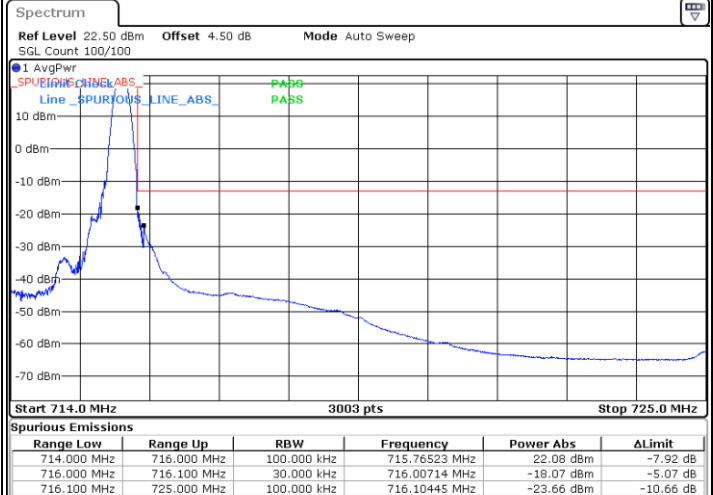
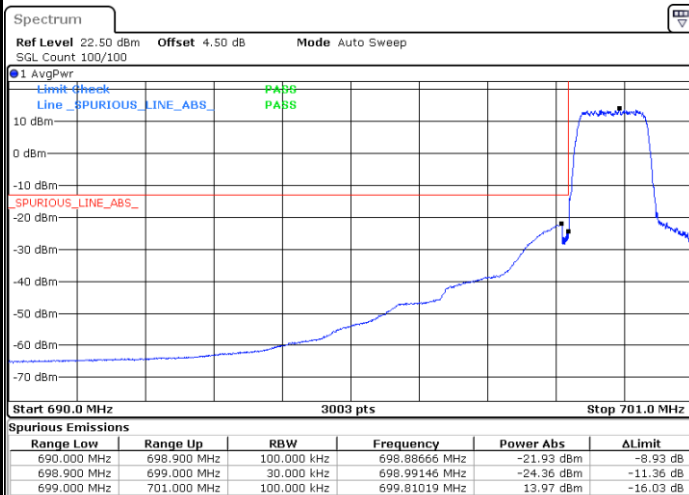
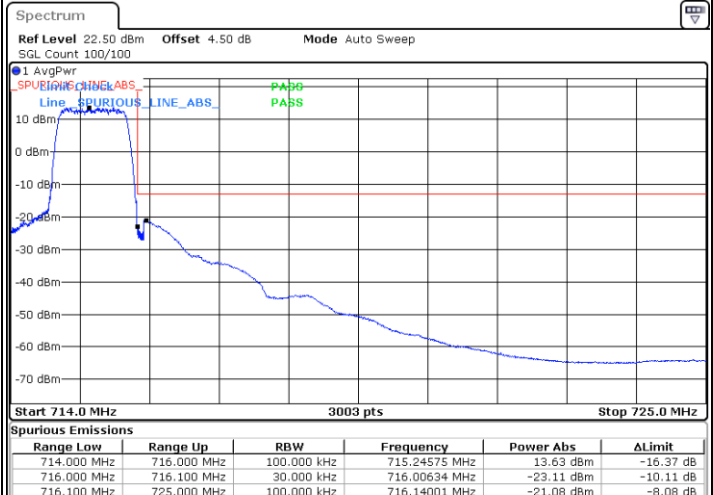


## Highest Channel / 10MHz / QPSK



## Highest Channel / 10MHz / 16QAM

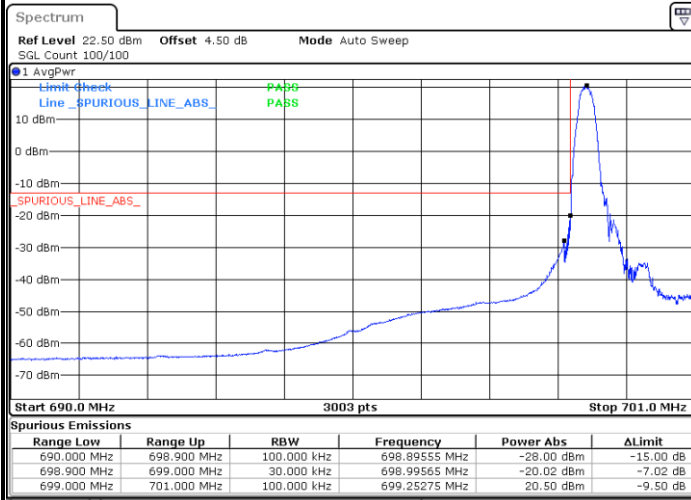


**Conducted Band Edge****LTE Band 12 / 1.4MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**



## LTE Band 12 / 1.4MHz / 16QAM

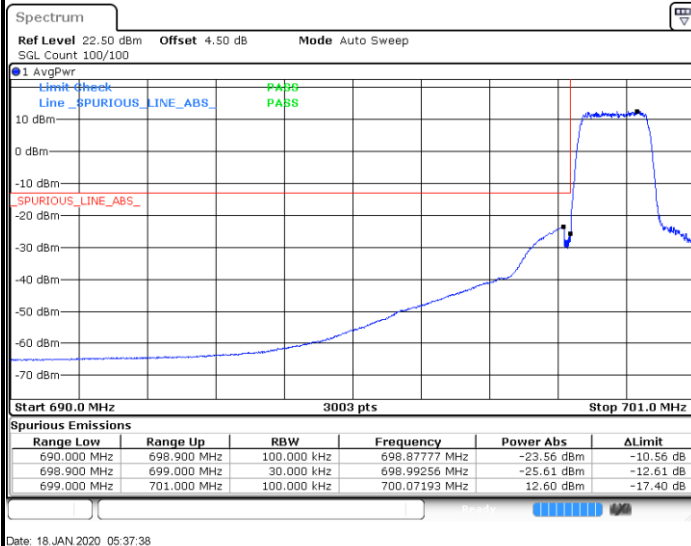
## Lowest Band Edge / 1 RB



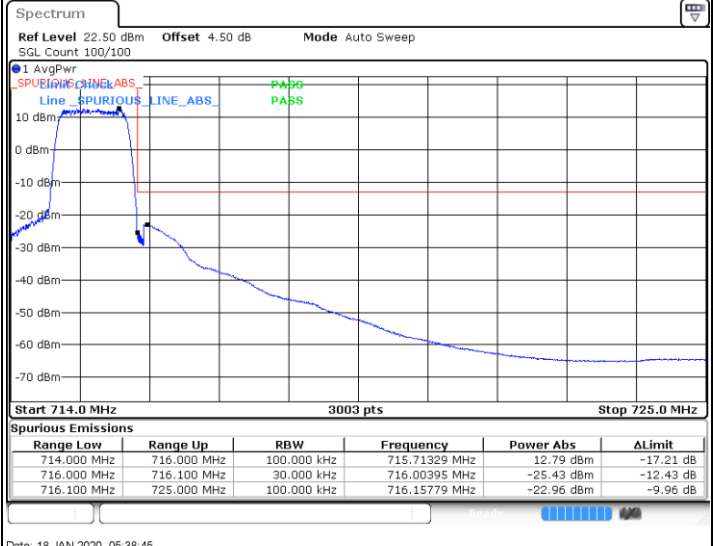
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



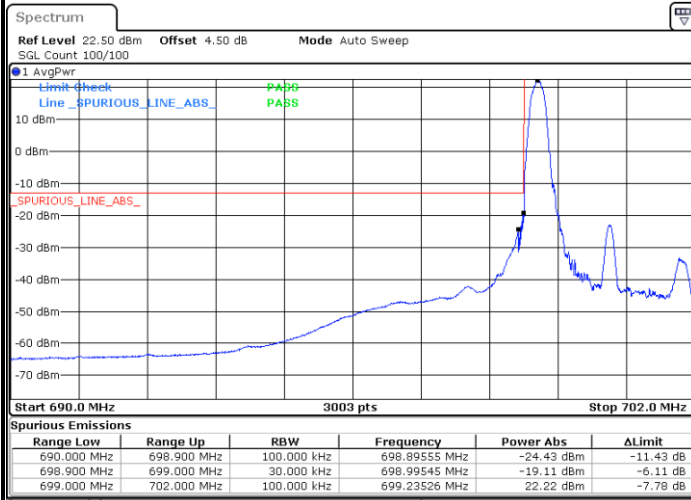
## Highest Band Edge / Full RB



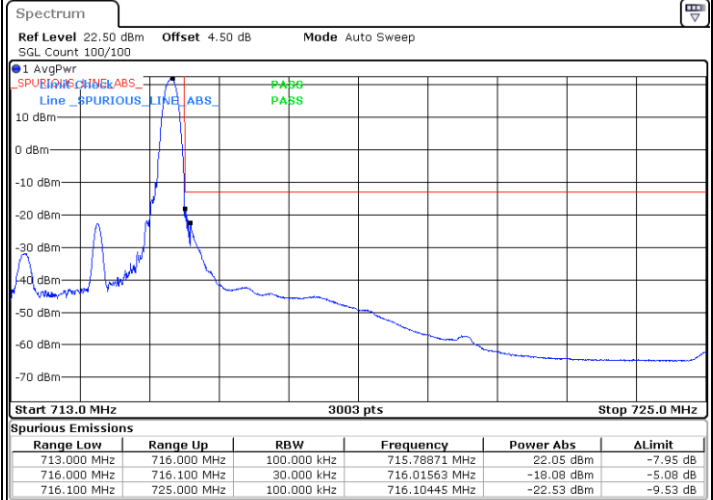


## LTE Band 12 / 3MHz / QPSK

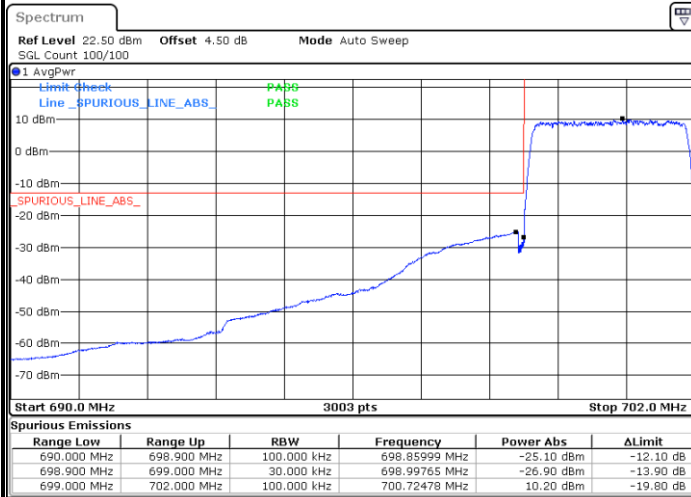
## Lowest Band Edge / 1RB



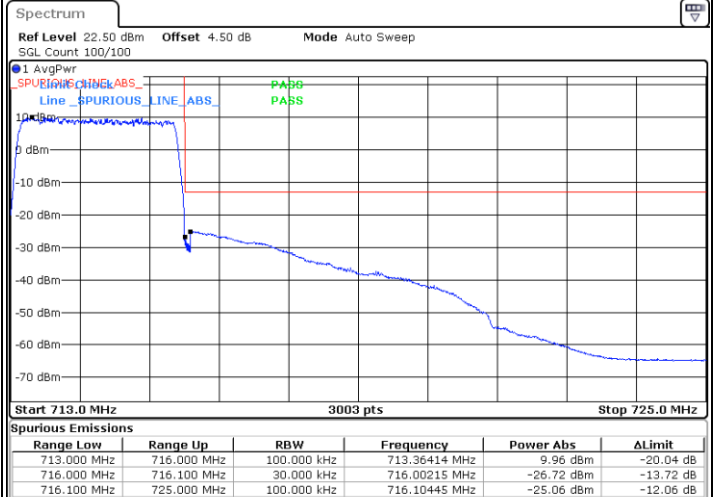
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



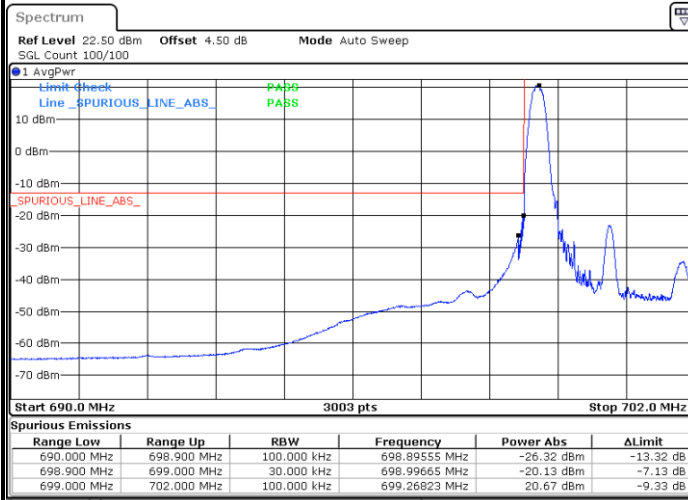
## Highest Band Edge / Full RB



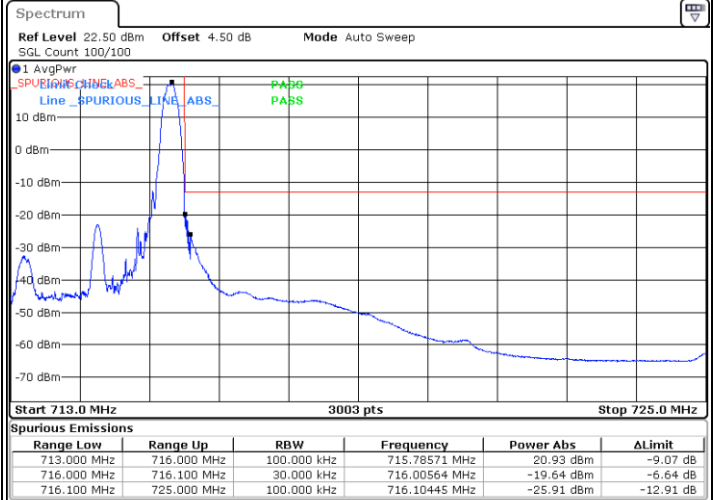


## LTE Band 12 / 3MHz / 16QAM

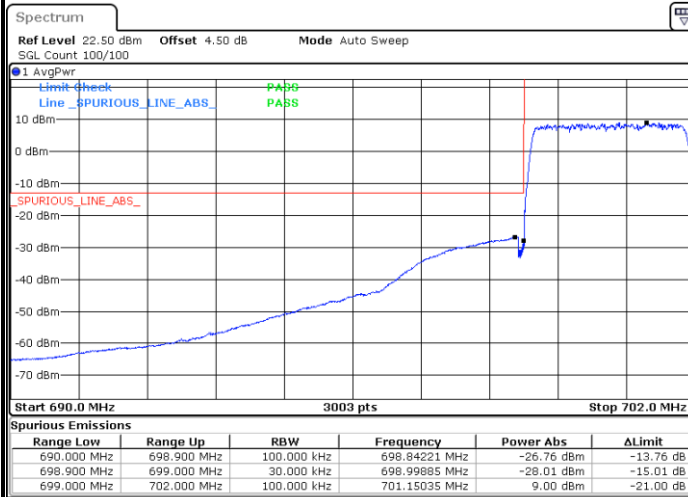
## Lowest Band Edge / 1 RB



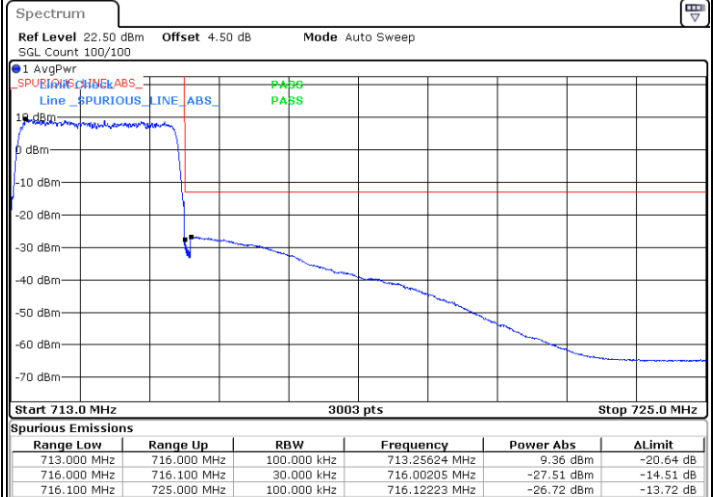
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



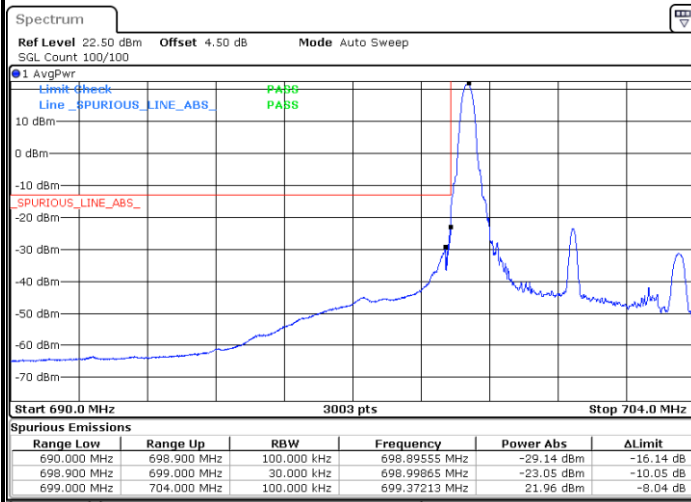
## Highest Band Edge / Full RB



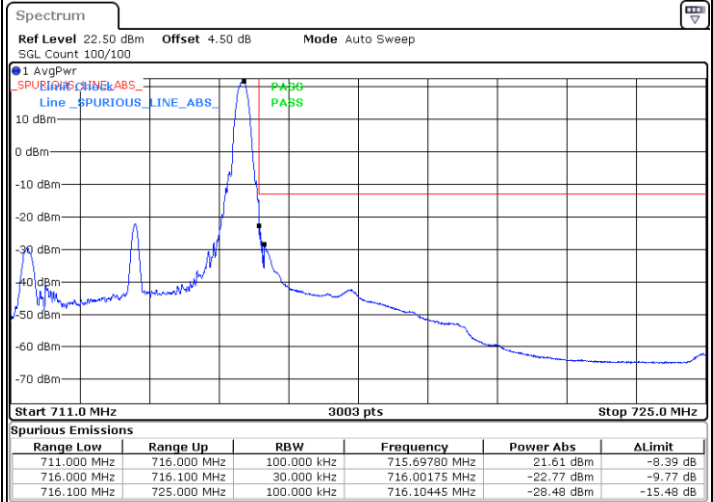


## LTE Band 12 / 5MHz / QPSK

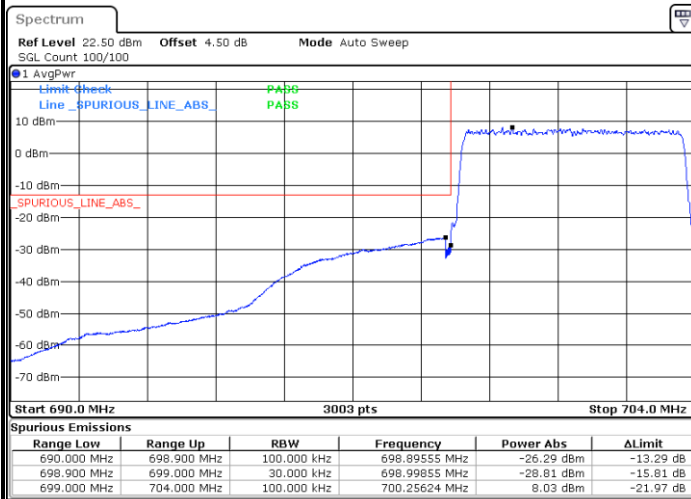
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB

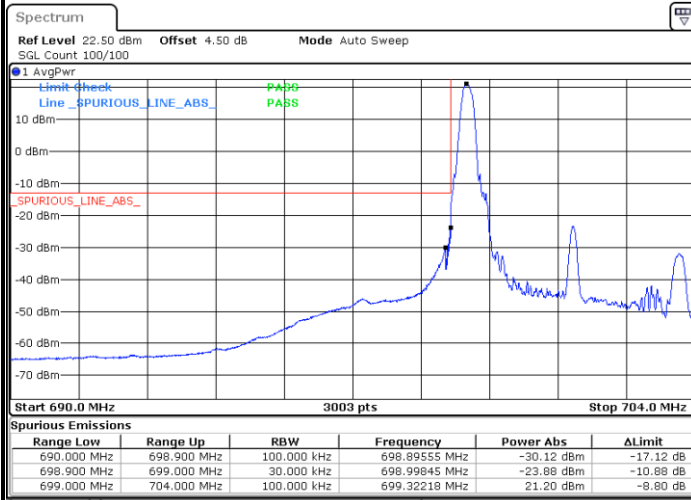




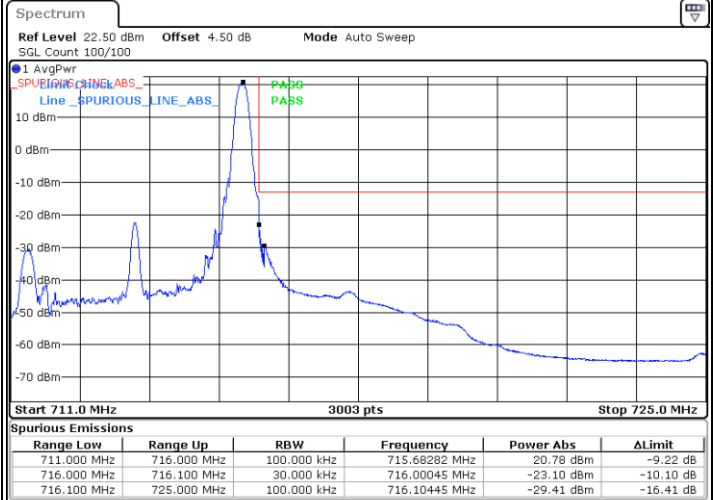


## LTE Band 12 / 5MHz / 16QAM

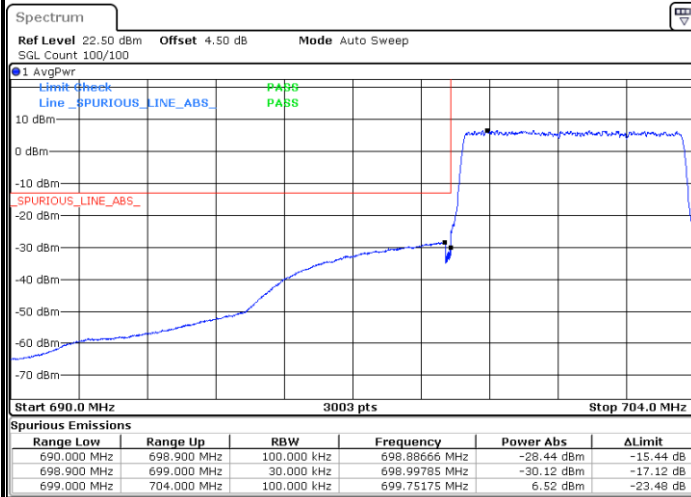
## Lowest Band Edge / 1RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



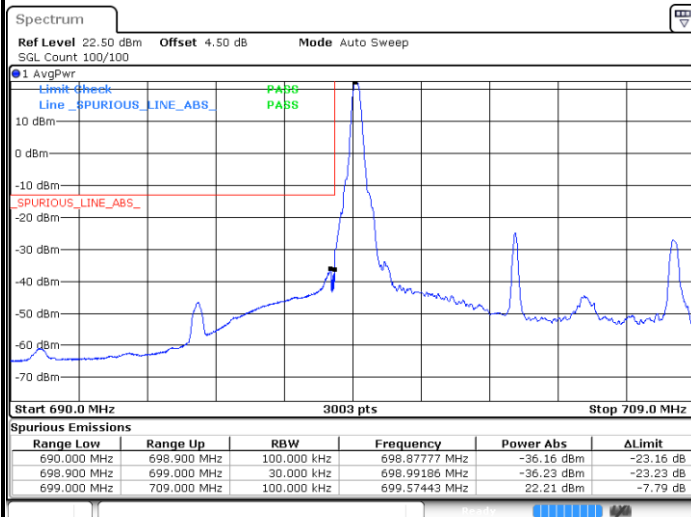
## Highest Band Edge / Full RB



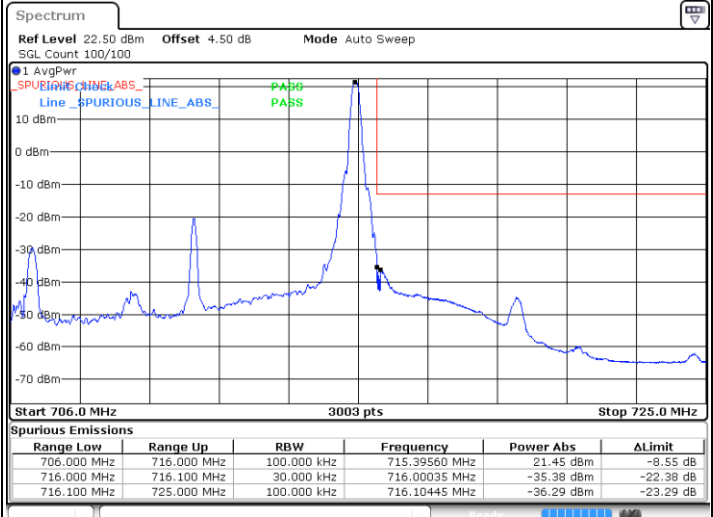


## LTE Band 12 / 10MHz / QPSK

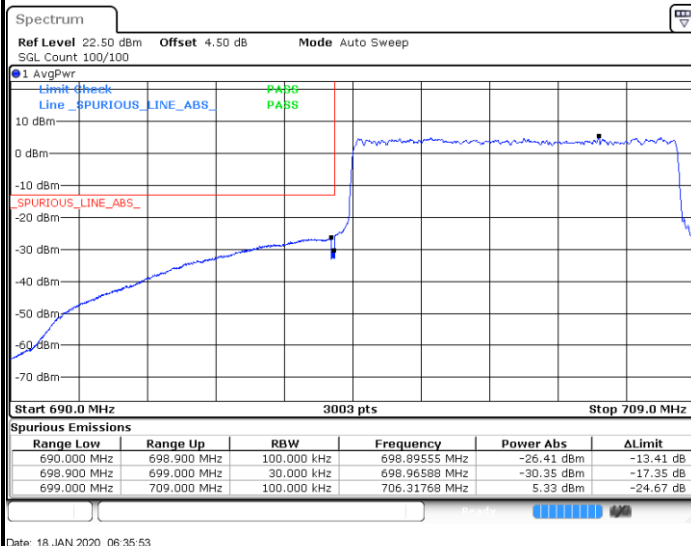
## Lowest Band Edge / 1 RB



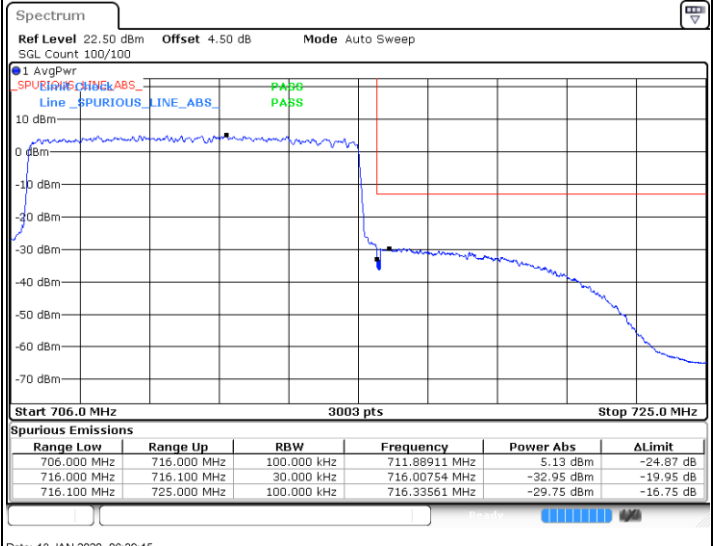
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



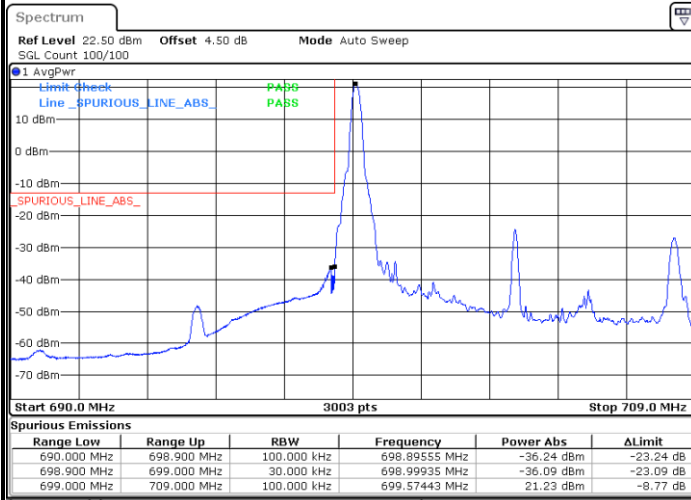
## Highest Band Edge / Full RB



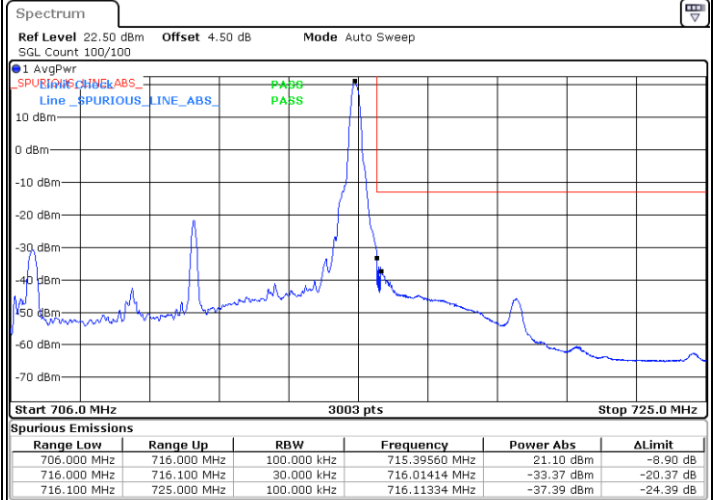


## LTE Band 12 / 10MHz / 16QAM

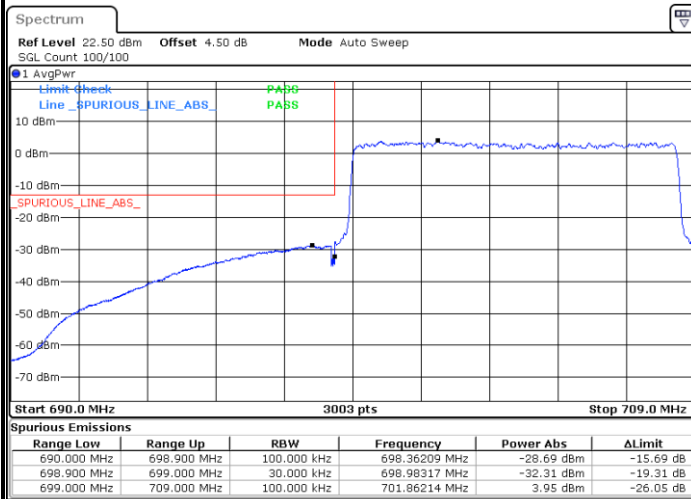
## Lowest Band Edge / 1 RB



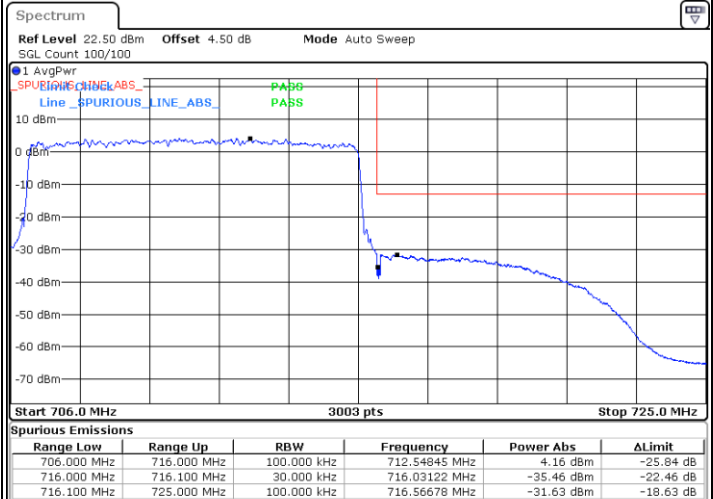
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB





## Conducted Spurious Emission

