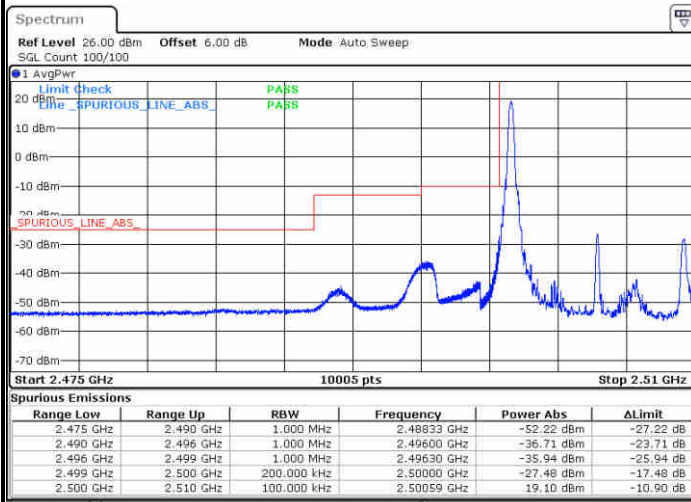


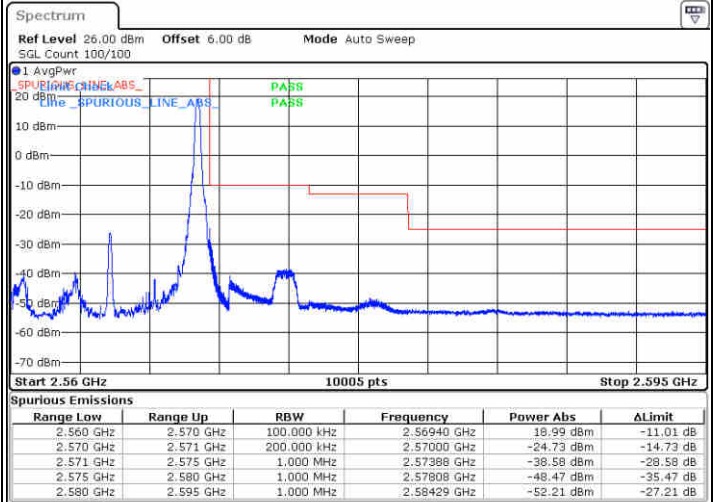


## LTE Band 7 / 10MHz / 16QAM

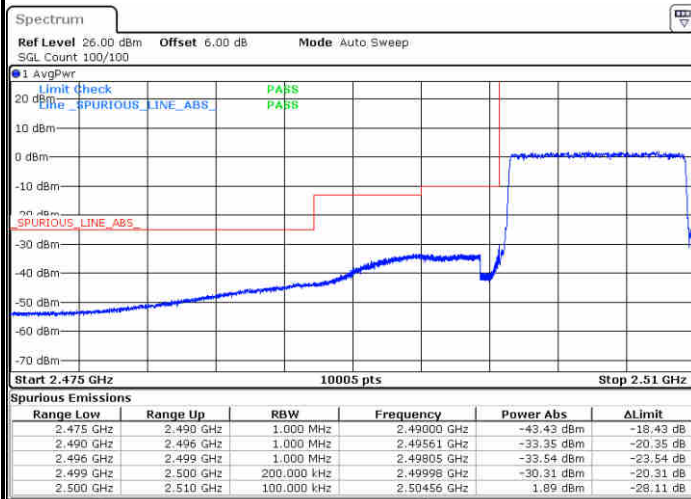
## Lowest Band Edge / 1 RB



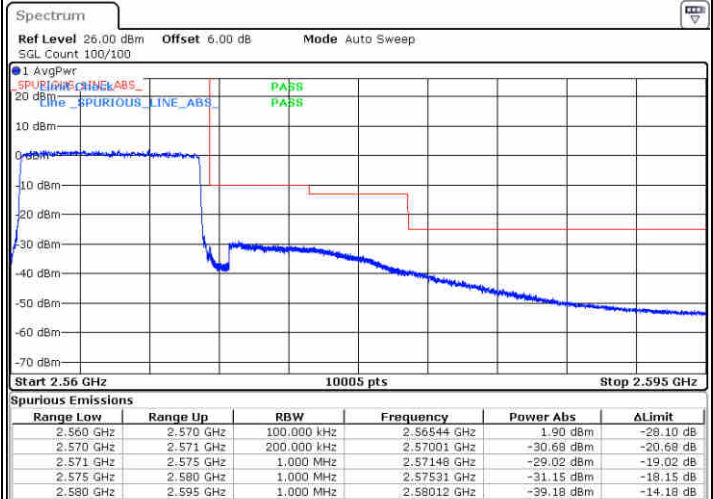
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



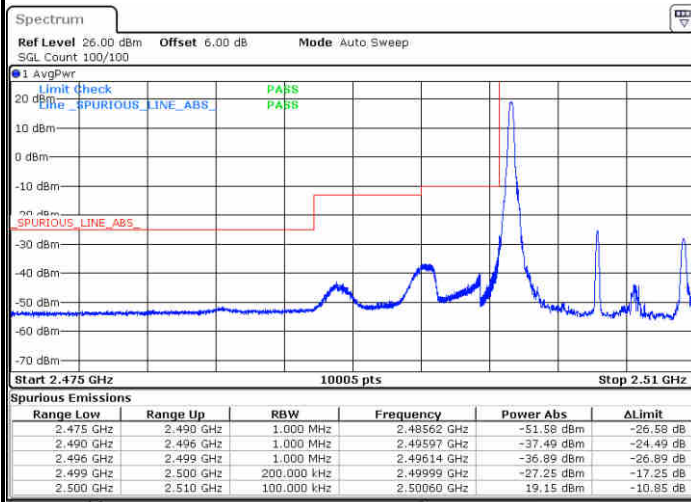
## Highest Band Edge / Full RB



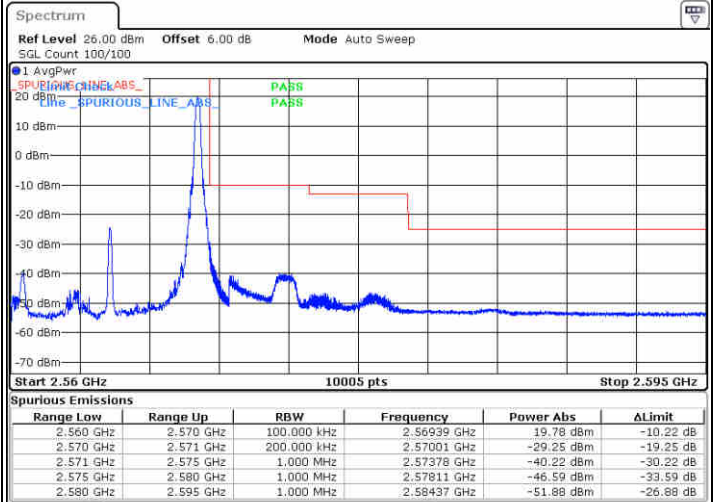


## LTE Band 7 / 10MHz / 64QAM

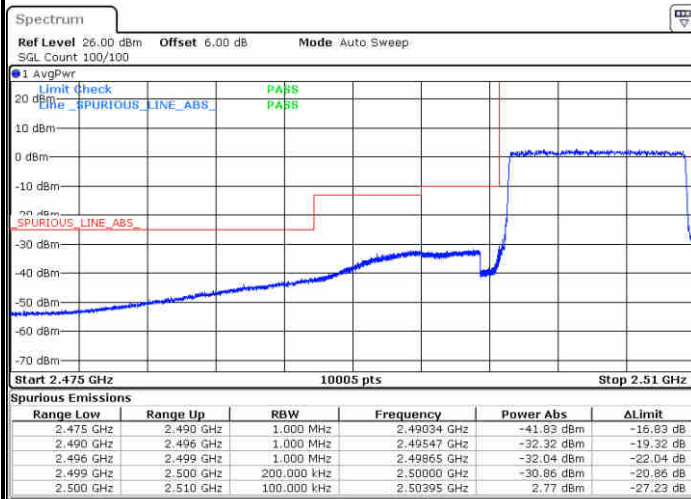
## Lowest Band Edge / 1 RB



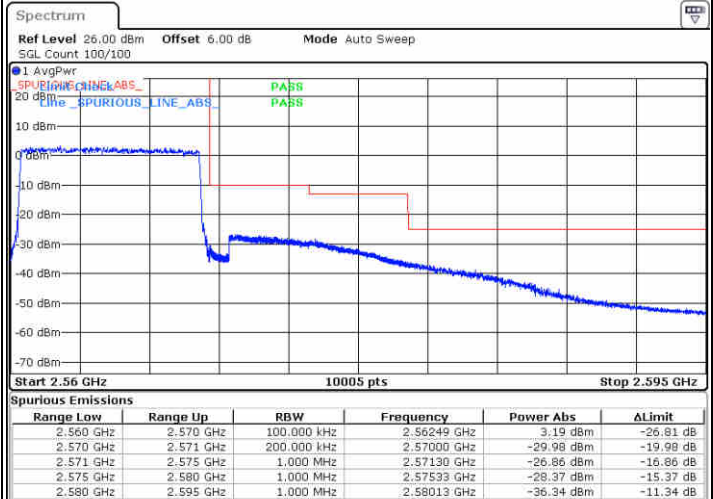
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



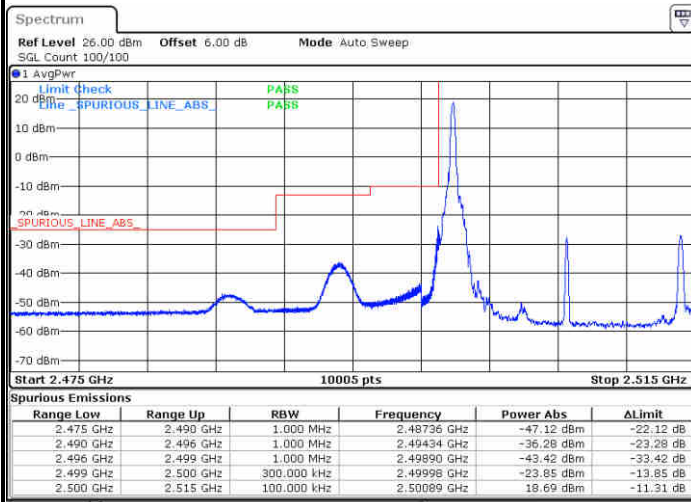
## Highest Band Edge / Full RB



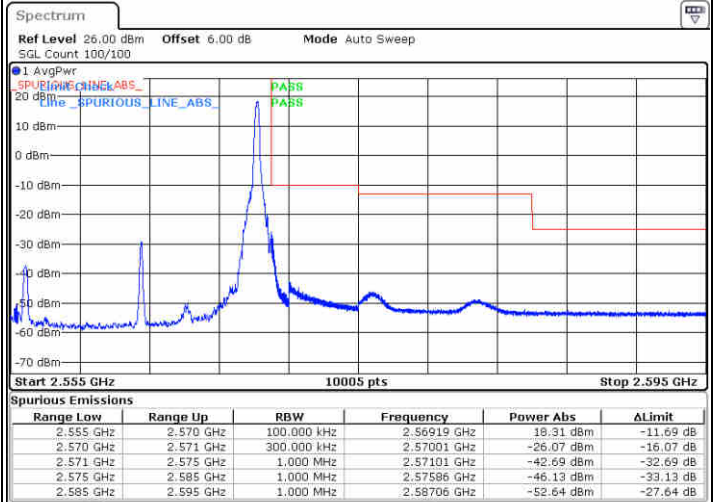


## LTE Band 7 / 15MHz / QPSK

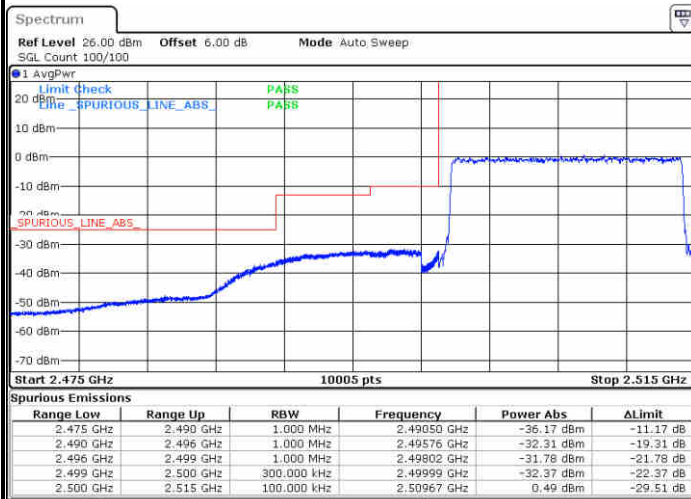
## Lowest Band Edge / 1 RB



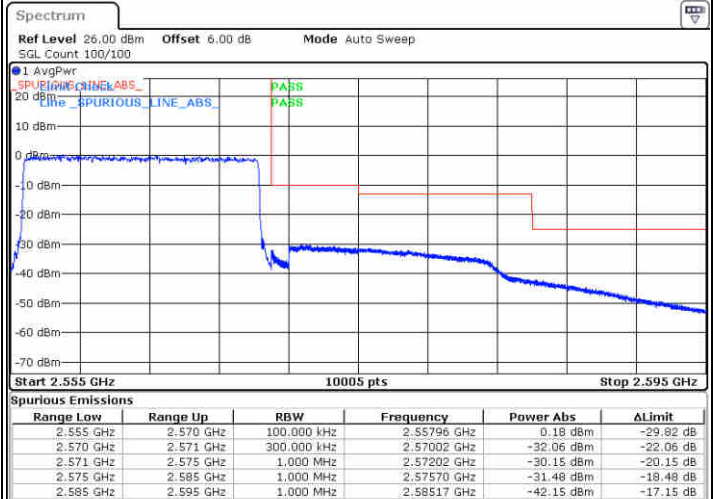
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



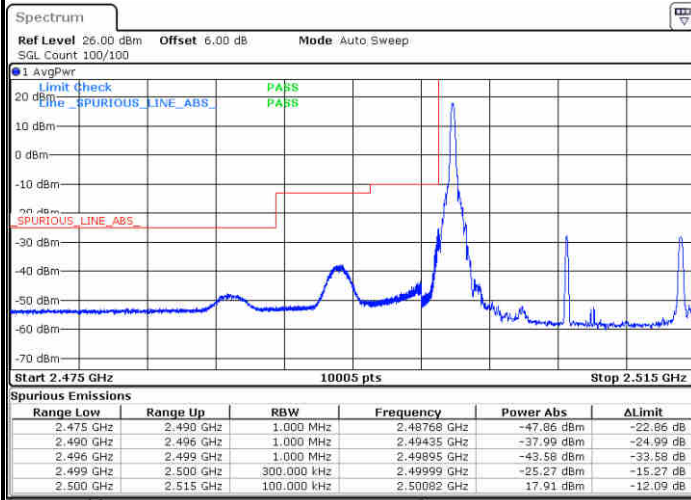
## Highest Band Edge / Full RB



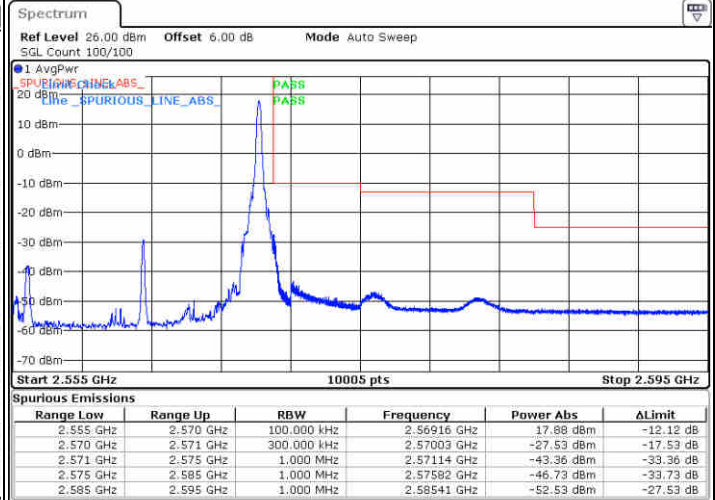


## LTE Band 7 / 15MHz / 16QAM

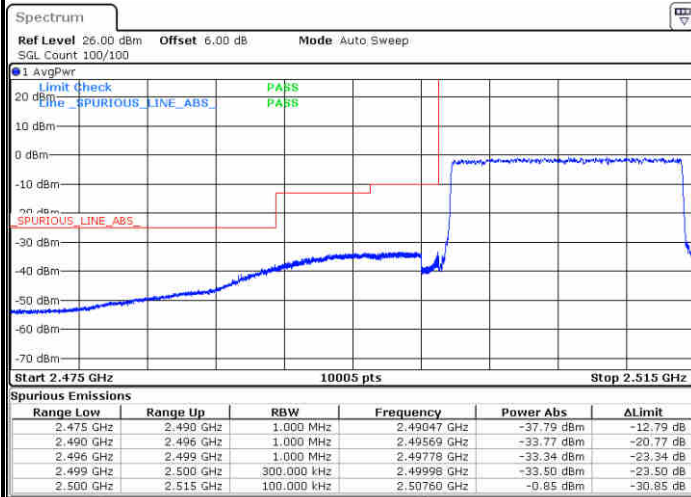
## Lowest Band Edge / 1 RB



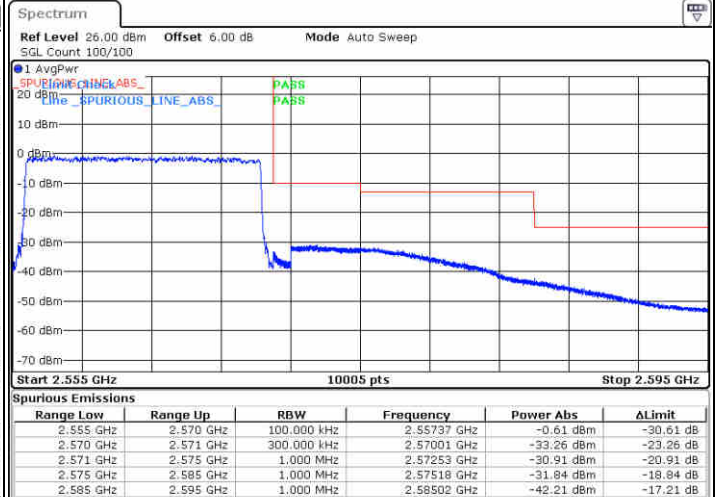
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB

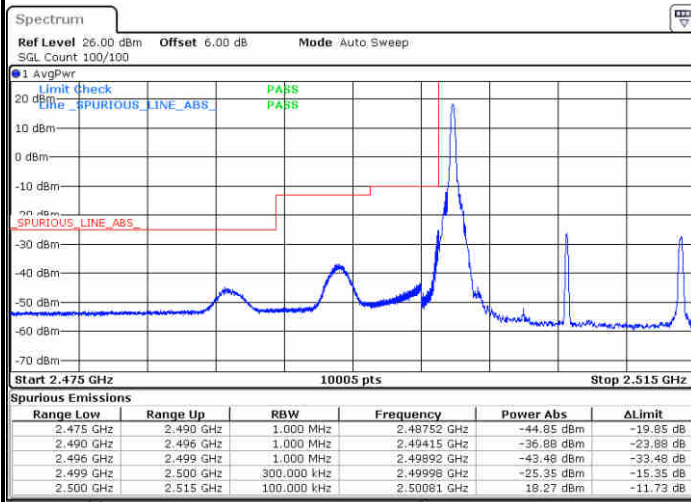




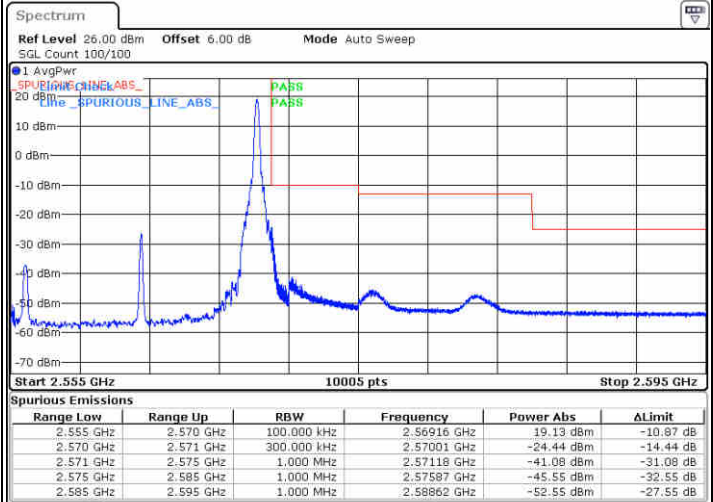


## LTE Band 7 / 15MHz / 64QAM

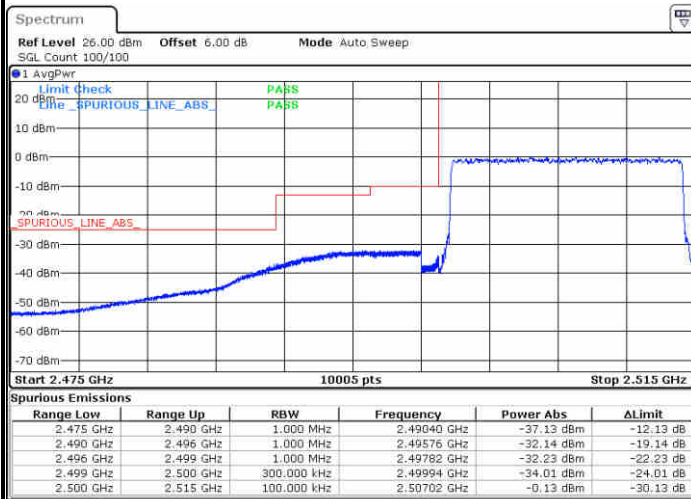
## Lowest Band Edge / 1 RB



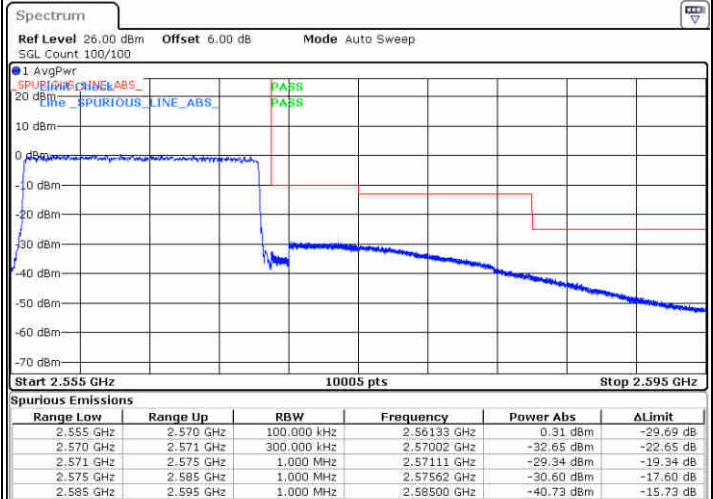
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



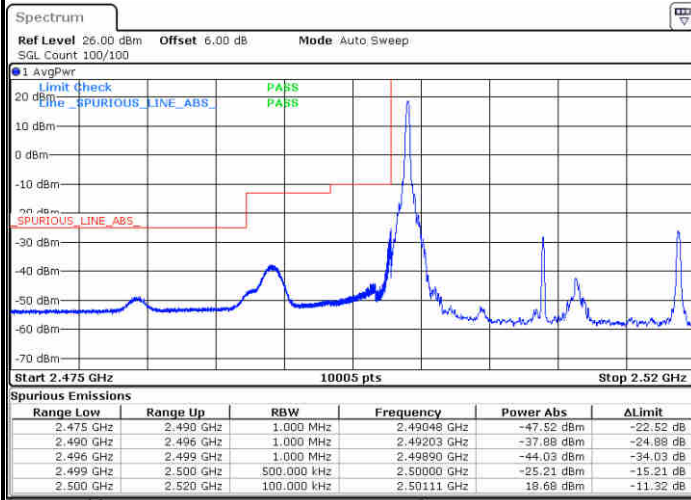
## Highest Band Edge / Full RB



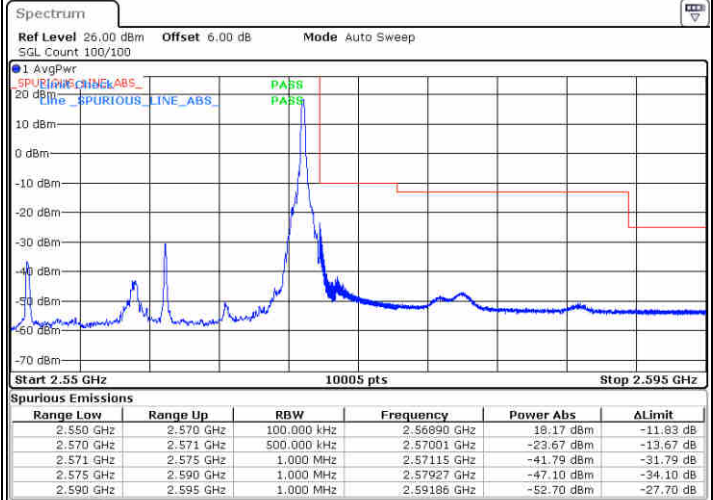


## LTE Band 7 / 20MHz / QPSK

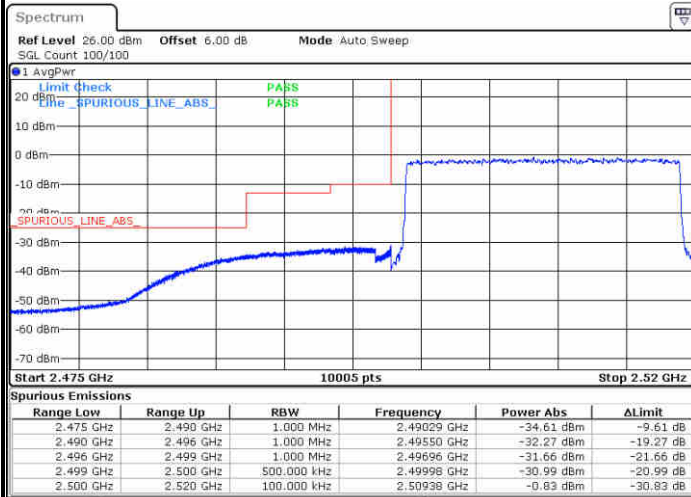
## Lowest Band Edge / 1 RB



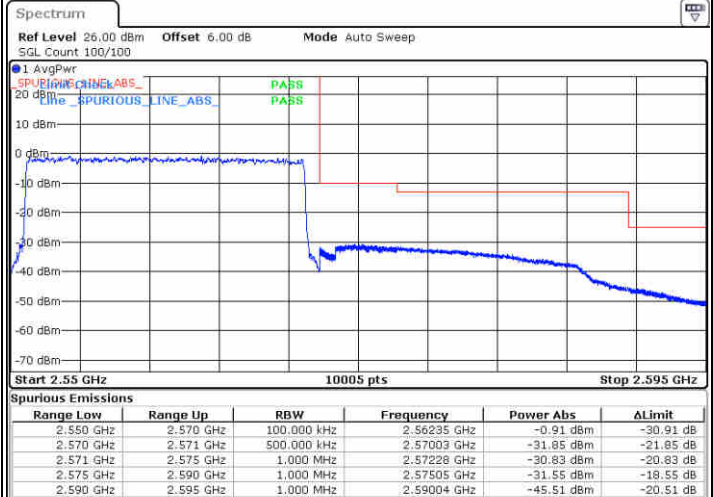
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



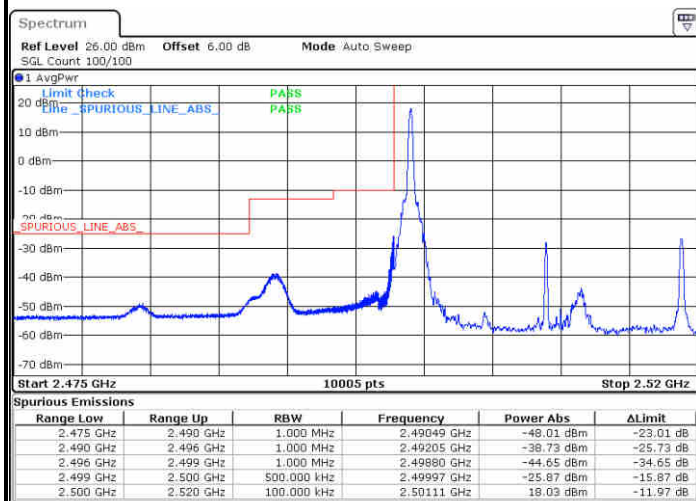
## Highest Band Edge / Full RB



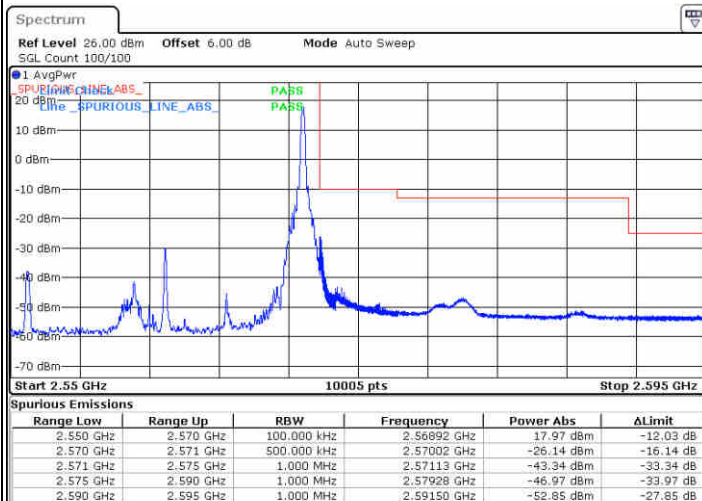


## LTE Band 7 / 20MHz / 16QAM

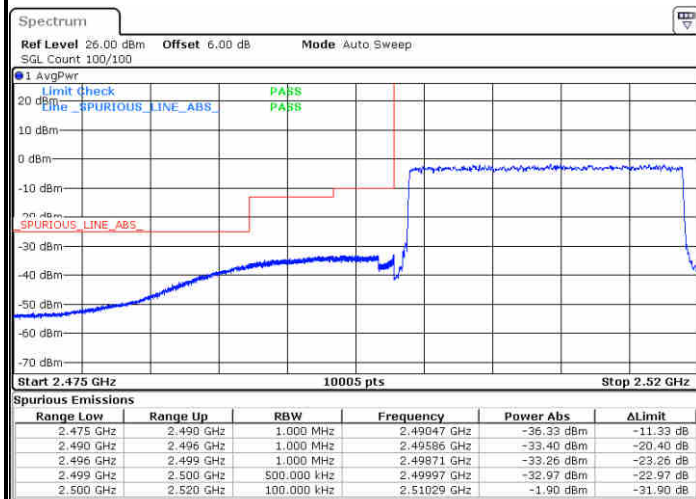
## Lowest Band Edge / 1 RB



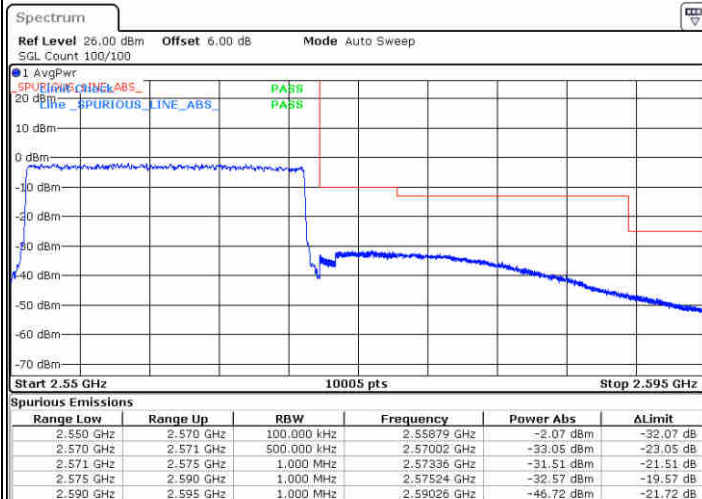
## Highest Band Edge / 1RB



## Lowest Band Edge / Full RB



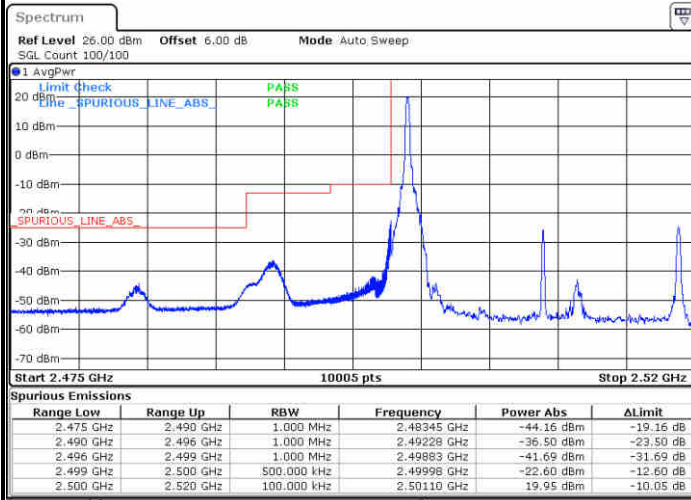
## Highest Band Edge / Full RB



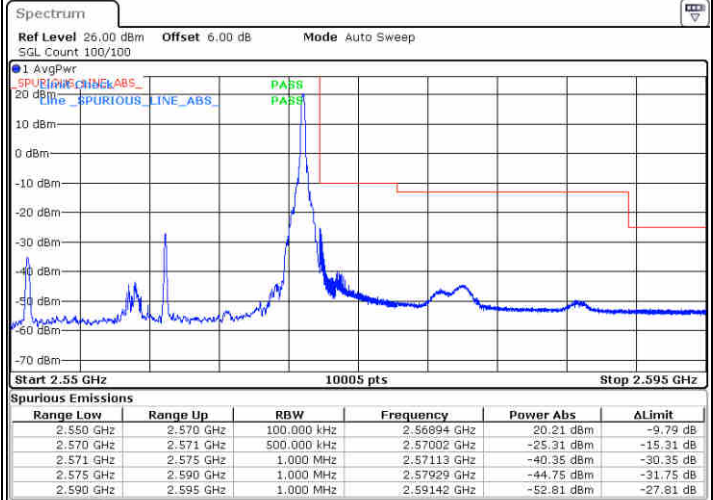


## LTE Band 7 / 20MHz / 64QAM

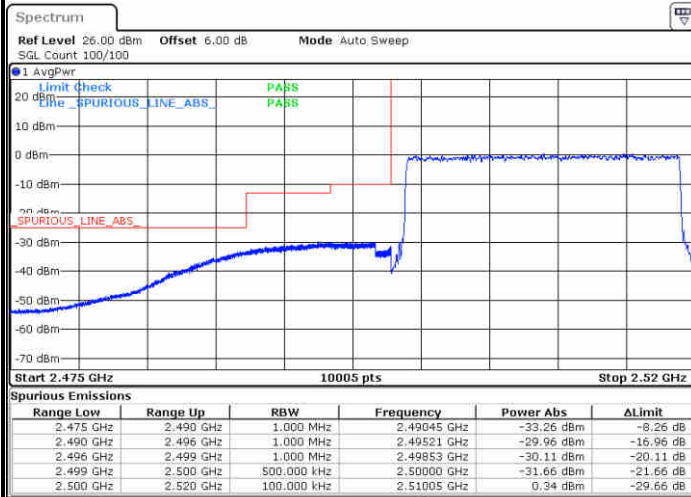
## Lowest Band Edge / 1 RB



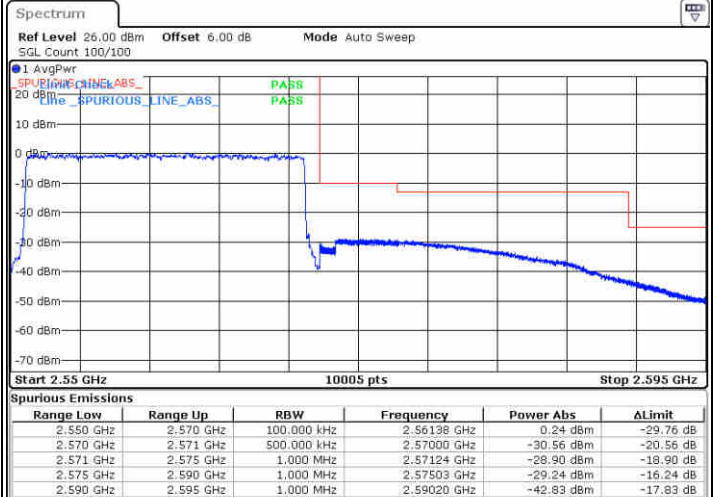
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB



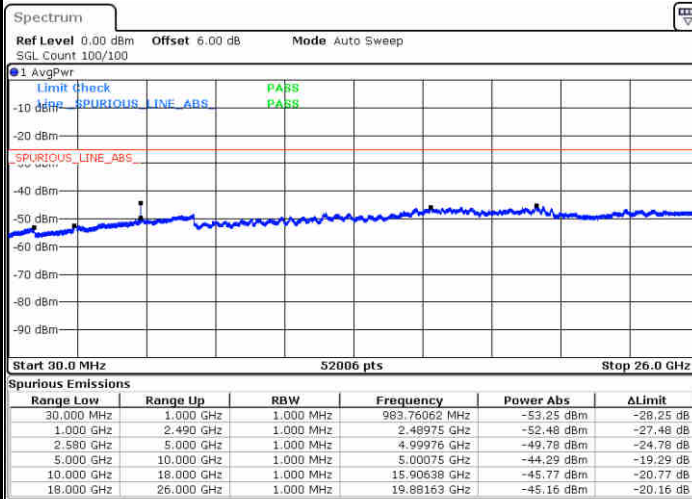




# Conducted Spurious Emission

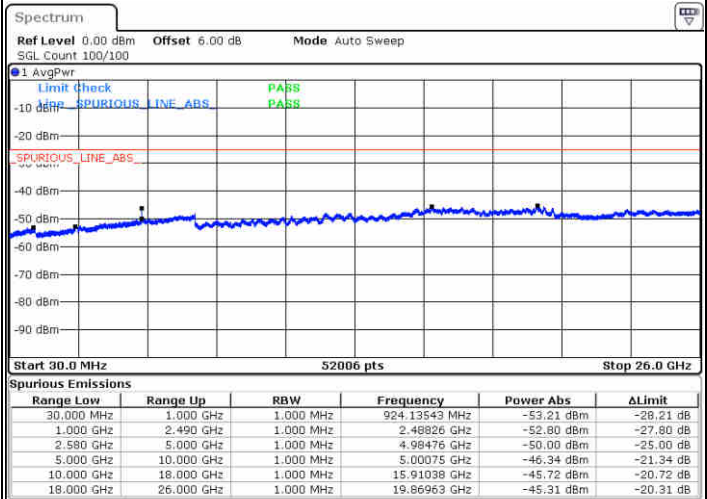
## LTE Band 7 / 5MHz

### Lowest Channel / QPSK



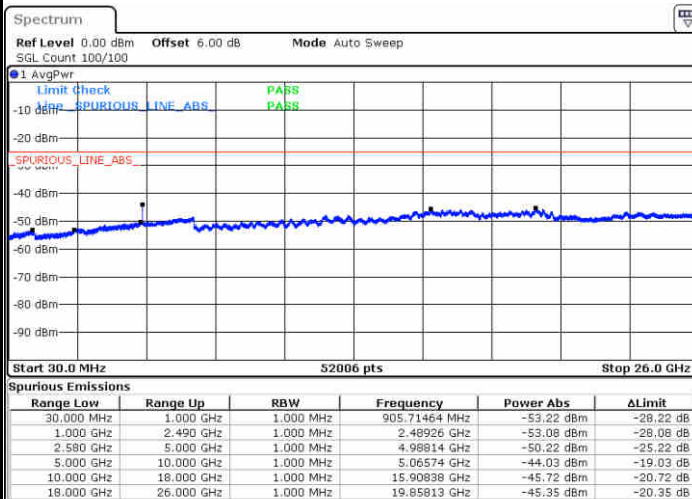
Date: 19 JAN 2020 09:15:52

### Lowest Channel / 16QAM



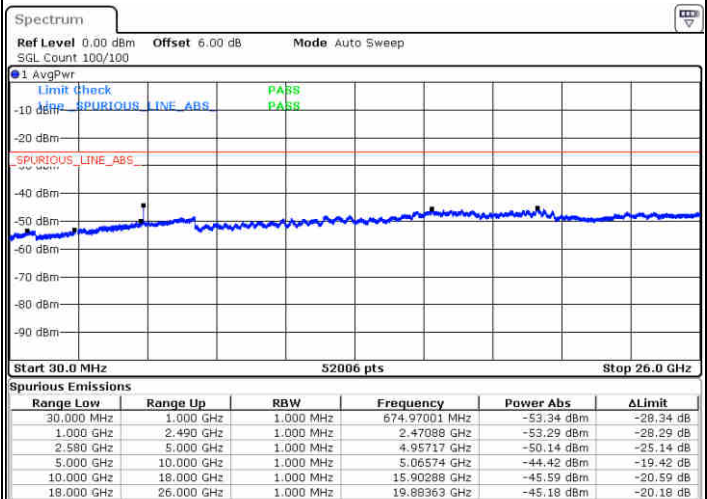
Date: 19 JAN 2020 09:28:40

### Middle Channel / QPSK



Date: 19 JAN 2020 09:30:28

### Middle Channel / 16QAM

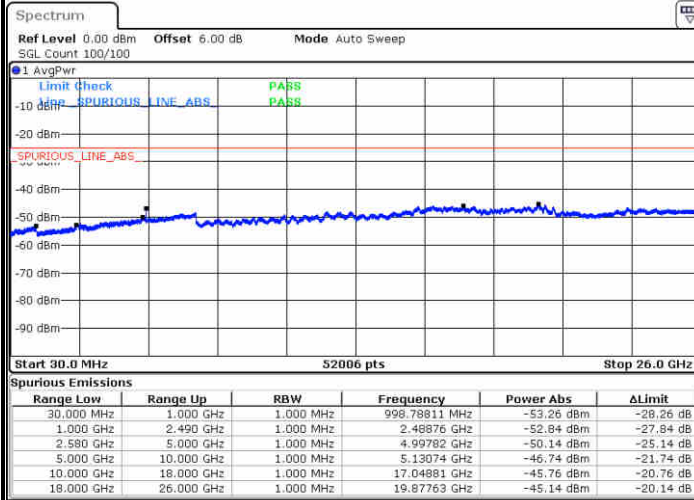


Date: 19 JAN 2020 09:29:34



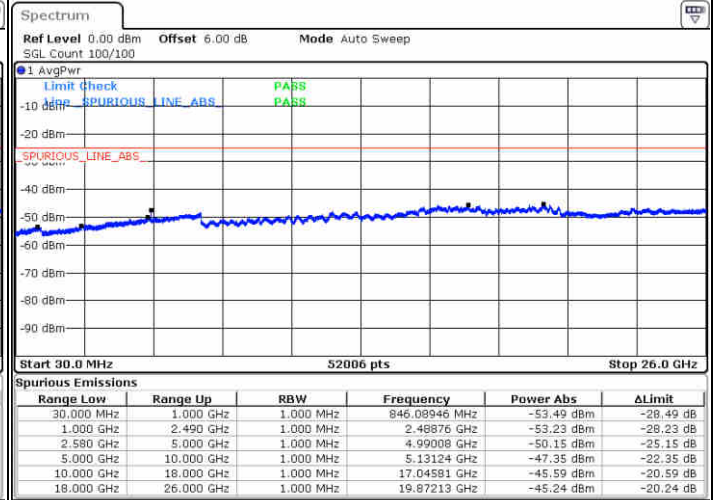
## LTE Band 7 / 5MHz

## Highest Channel / QPSK



Date: 19 JAN 2020 09:31:21

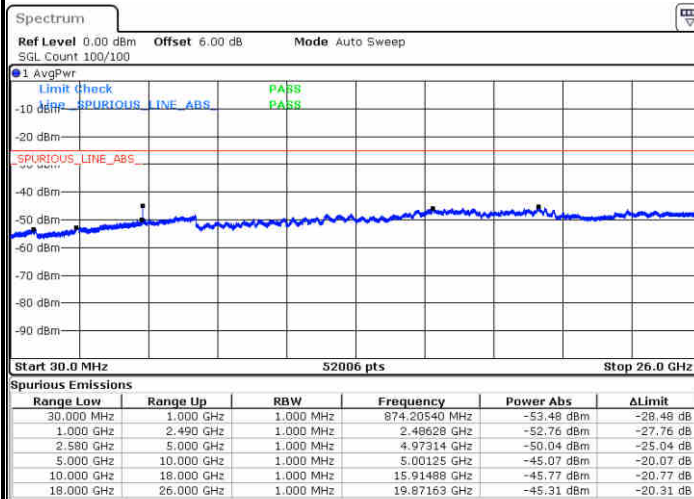
## Highest Channel / 16QAM



Date: 19 JAN 2020 09:32:15

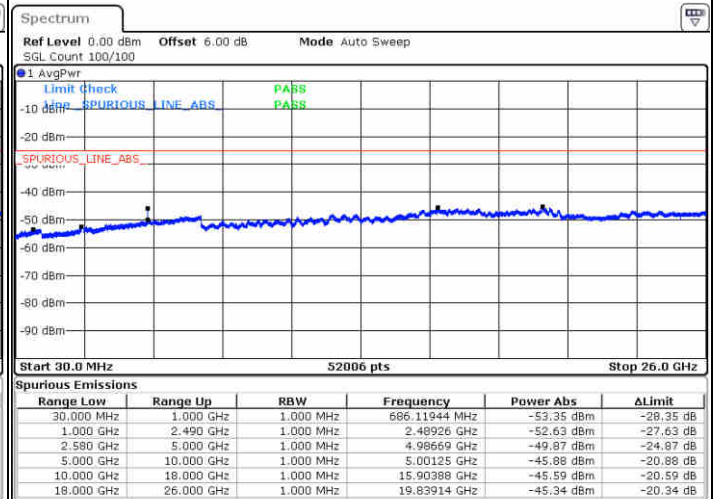
## LTE Band 7 / 10MHz

## Lowest Channel / QPSK



Date: 19 JAN 2020 09:44:13

## Lowest Channel / 16QAM

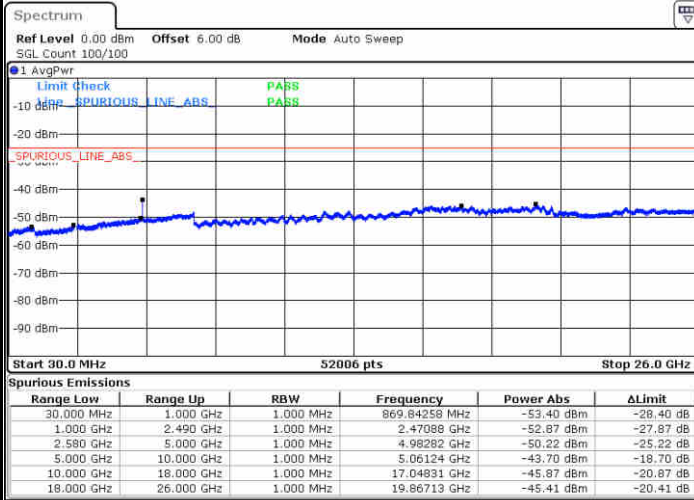


Date: 19 JAN 2020 09:45:07



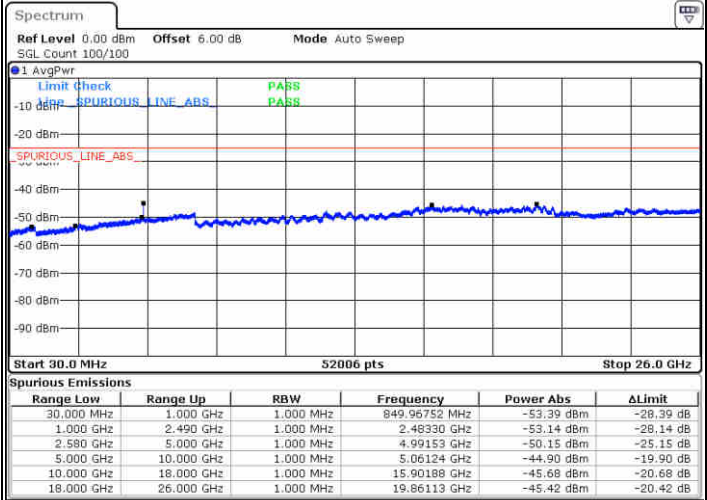
## LTE Band 7 / 10MHz

## Middle Channel / QPSK



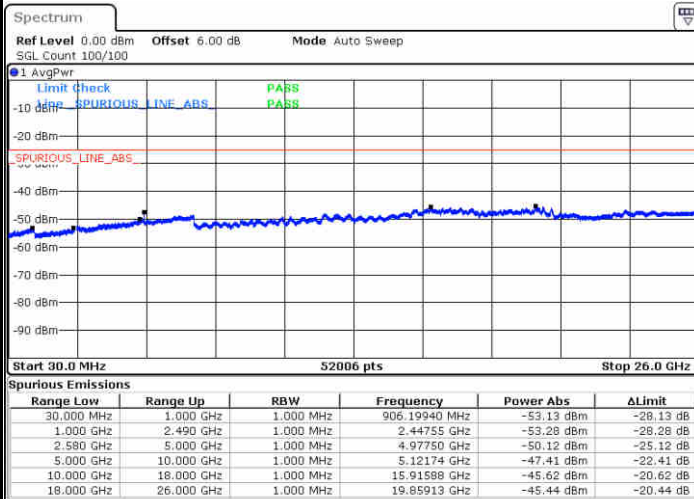
Date: 19 JAN 2020 09:46:55

## Middle Channel / 16QAM



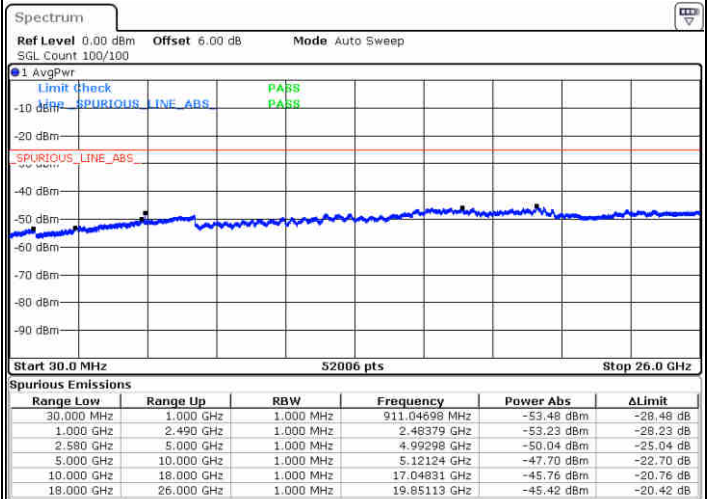
Date: 19 JAN 2020 09:46:01

## Highest Channel / QPSK



Date: 19 JAN 2020 09:47:48

## Highest Channel / 16QAM

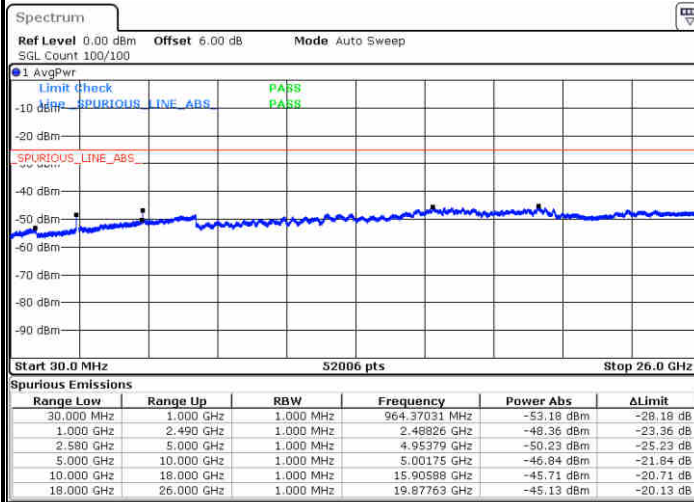


Date: 19 JAN 2020 09:48:42



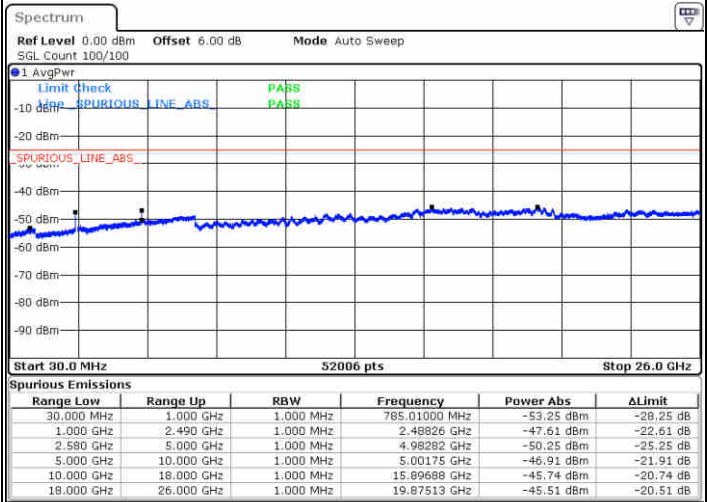
## LTE Band 7 / 15MHz

## Lowest Channel / QPSK



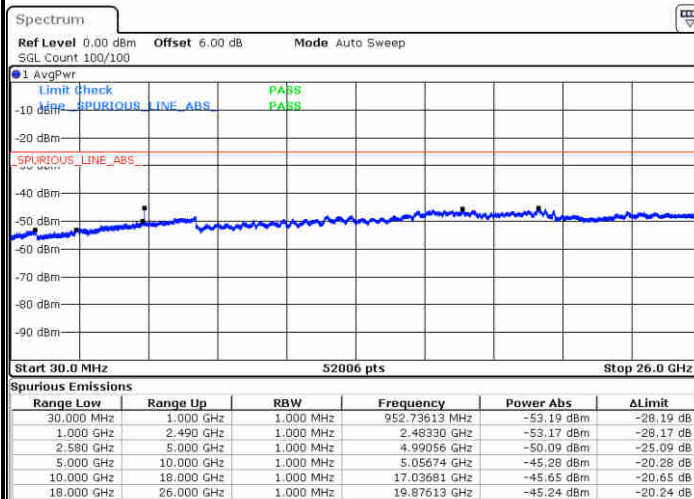
Date: 19 JAN 2020 10:00:41

## Lowest Channel / 16QAM



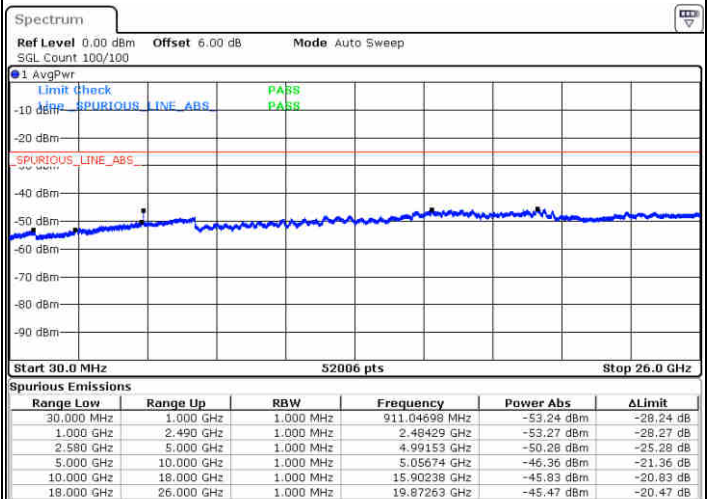
Date: 19 JAN 2020 10:01:35

## Middle Channel / QPSK



Date: 19 JAN 2020 10:03:22

## Middle Channel / 16QAM



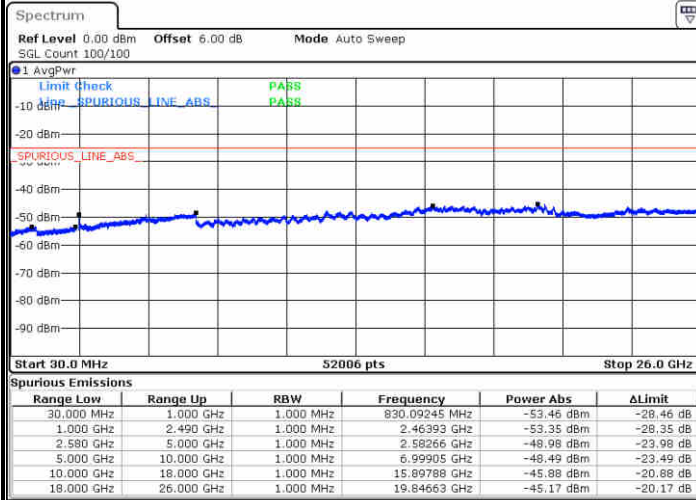
Date: 19 JAN 2020 10:02:29





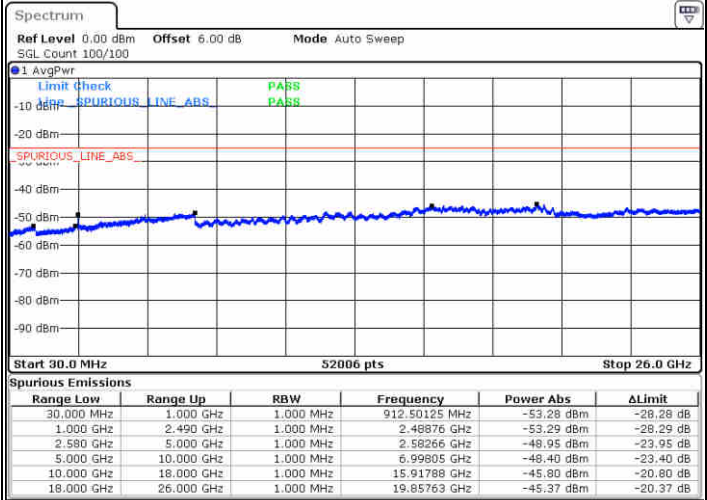
## LTE Band7 / 15MHz

## Highest Channel / QPSK



Date: 19 JAN 2020 10:04:16

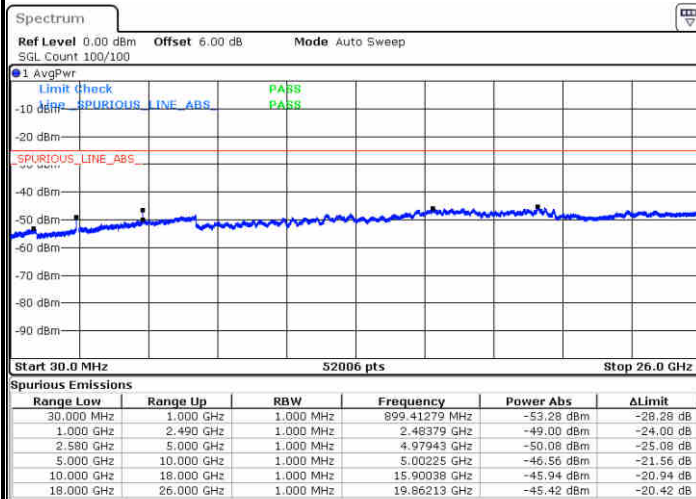
## Highest Channel / 16QAM



Date: 19 JAN 2020 10:05:10

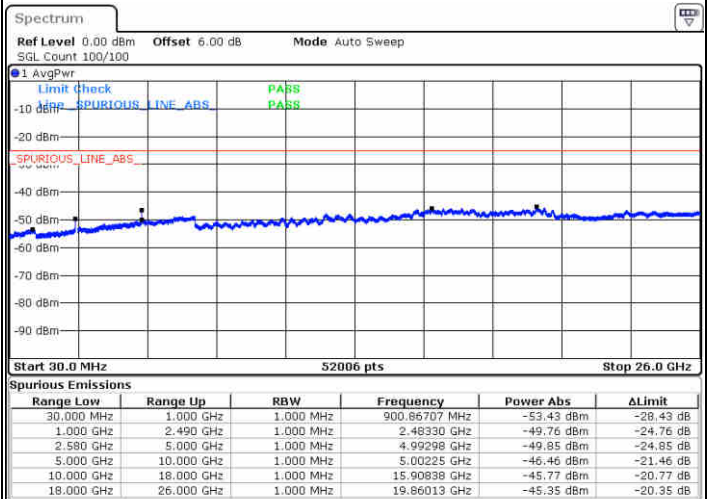
## LTE Band 7 / 20MHz

## Lowest Channel / QPSK



Date: 19 JAN 2020 10:17:09

## Lowest Channel / 16QAM

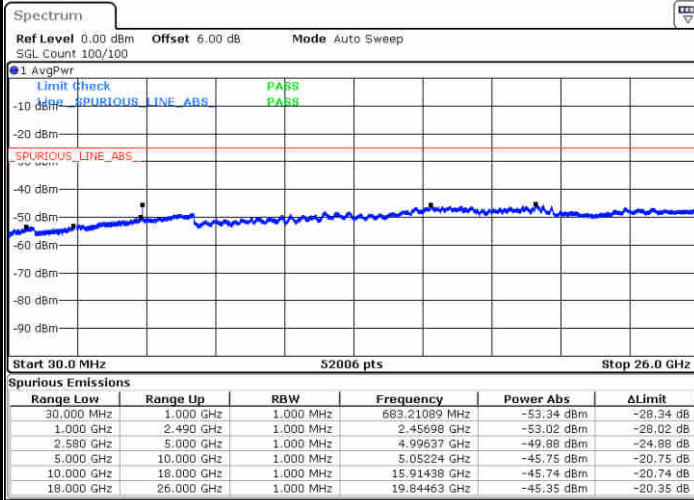


Date: 19 JAN 2020 10:18:03



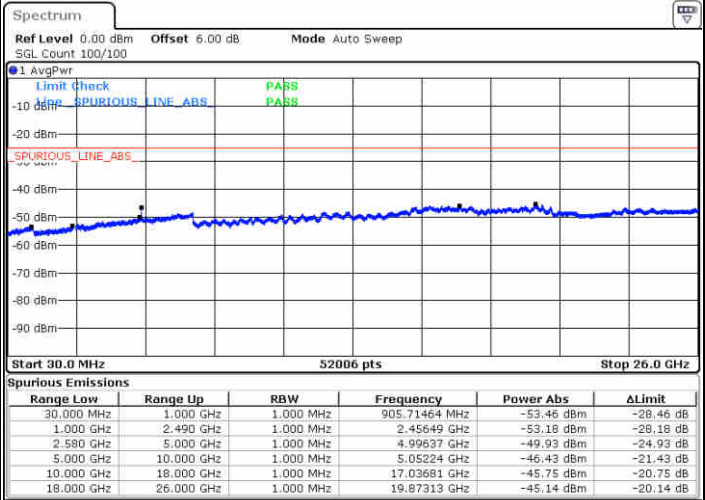
## LTE Band 7 / 20MHz

## Middle Channel / QPSK



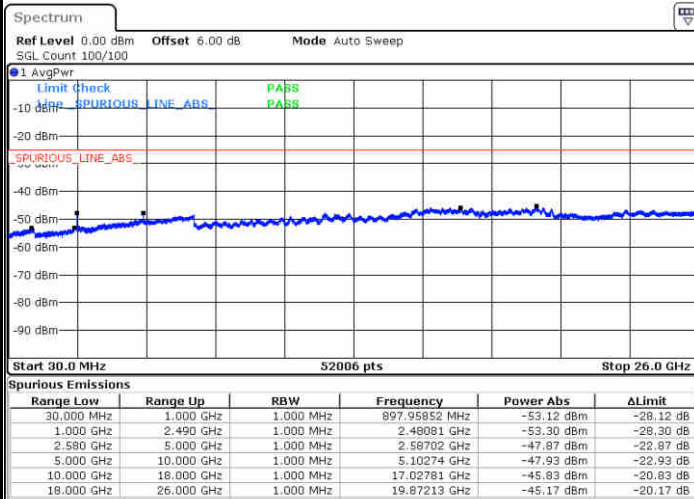
Date: 19 JAN 2020 10:19:50

## Middle Channel / 16QAM



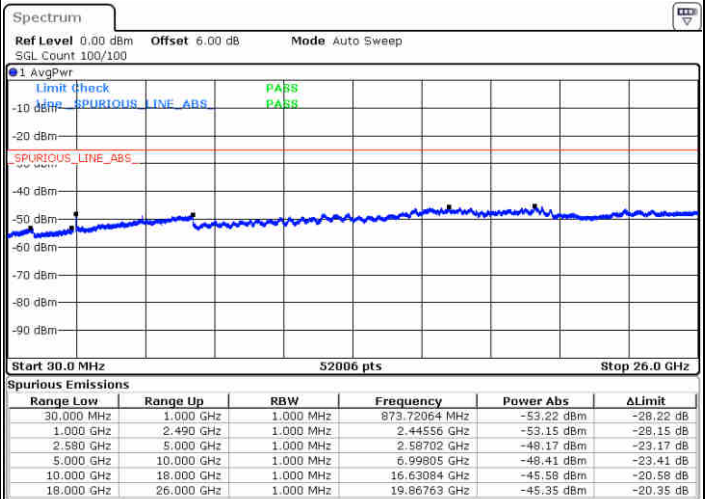
Date: 19 JAN 2020 10:18:57

## Highest Channel / QPSK



Date: 19 JAN 2020 10:20:44

## Highest Channel / 16QAM

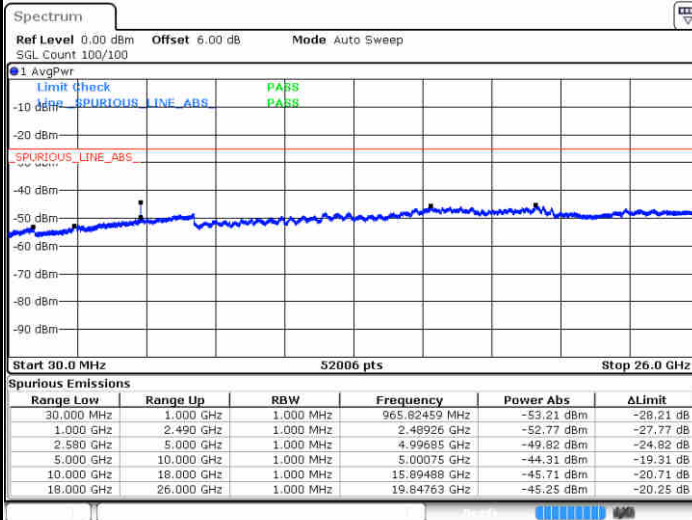


Date: 19 JAN 2020 10:21:38



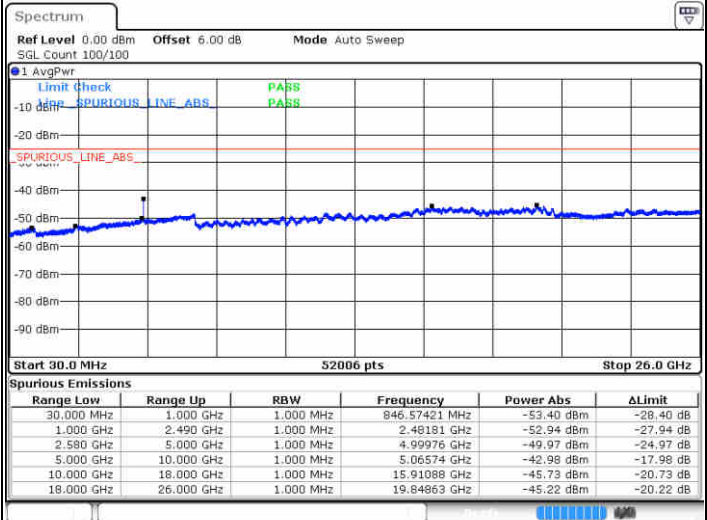
## LTE Band 7 / 5MHz

## Lowest Channel / 64QAM



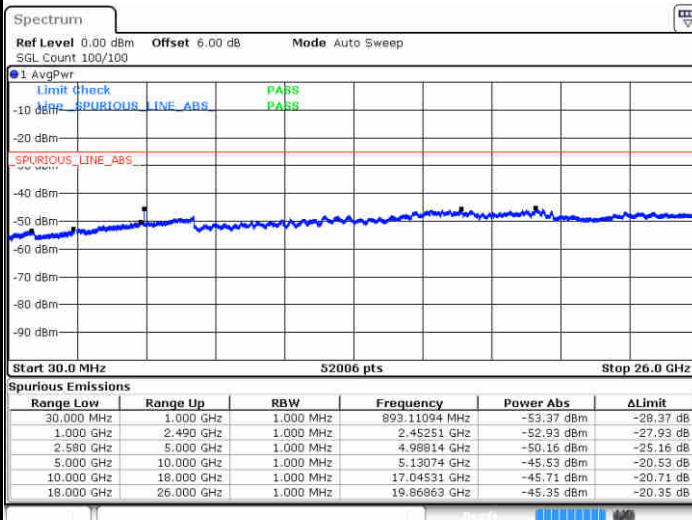
Date: 19 JAN 2020 10:23:32

## Middle Channel / 64QAM



Date: 19 JAN 2020 10:24:26

## Highest Channel / 64QAM

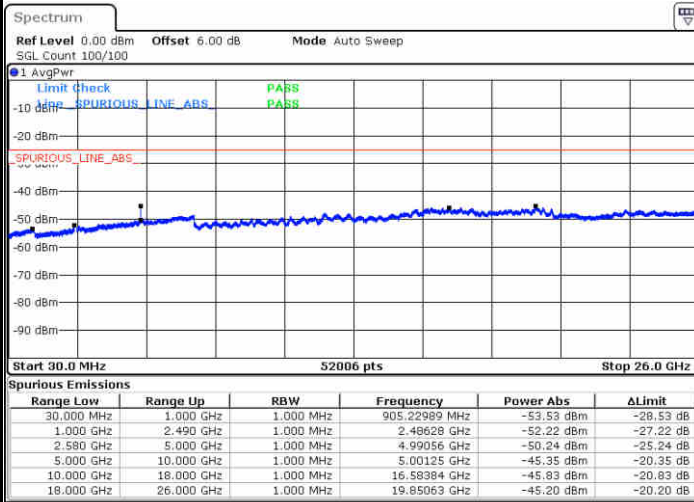


Date: 19 JAN 2020 10:25:19



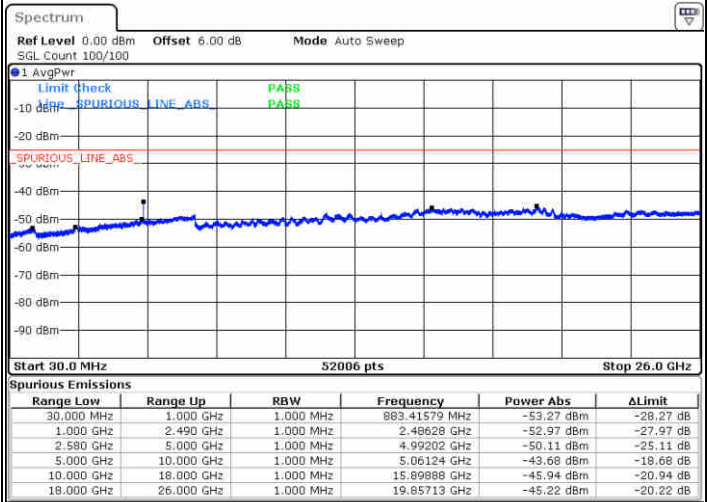
## LTE Band 7 / 10MHz

## Lowest Channel / 64QAM



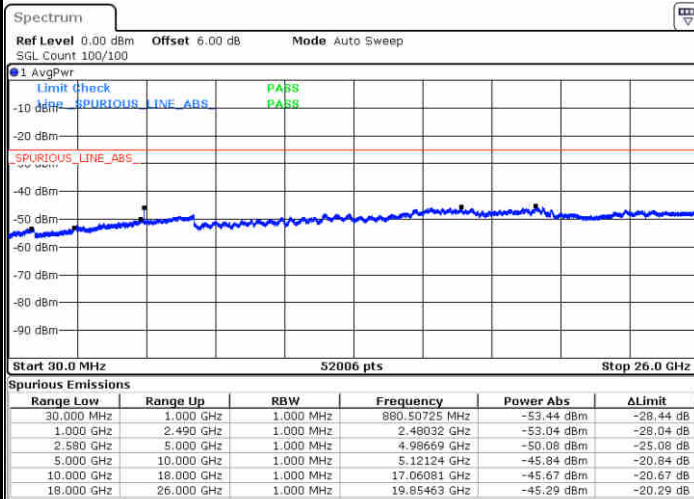
Date: 19 JAN 2020 10:31:46

## Middle Channel / 64QAM



Date: 19 JAN 2020 10:32:40

## Highest Channel / 64QAM



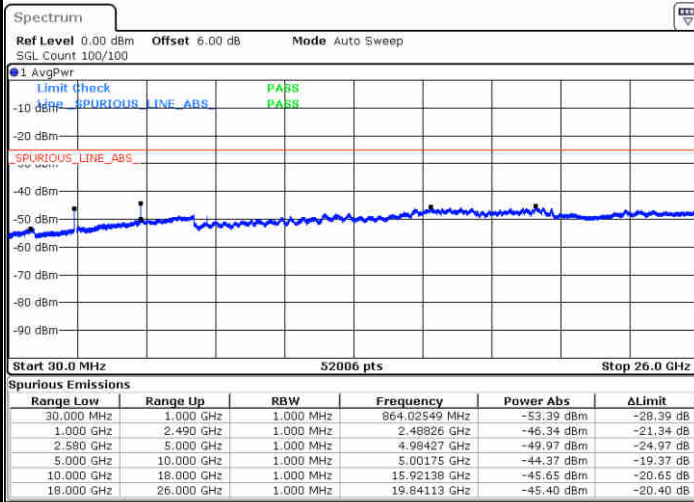
Date: 19 JAN 2020 10:33:33





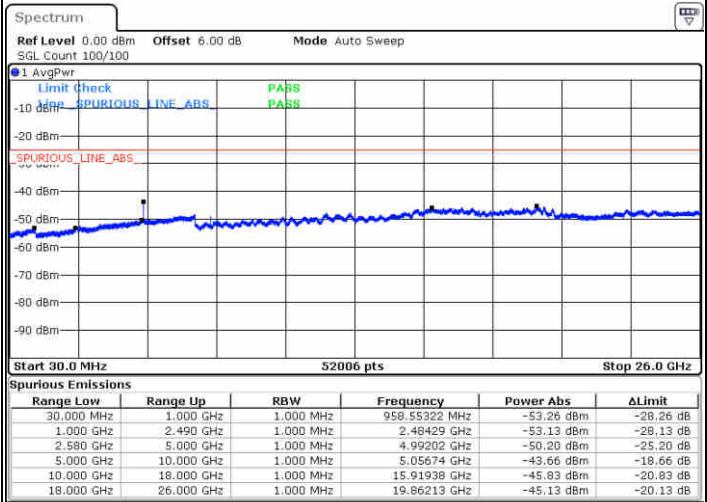
## LTE Band 7 / 15MHz

## Lowest Channel / 64QAM



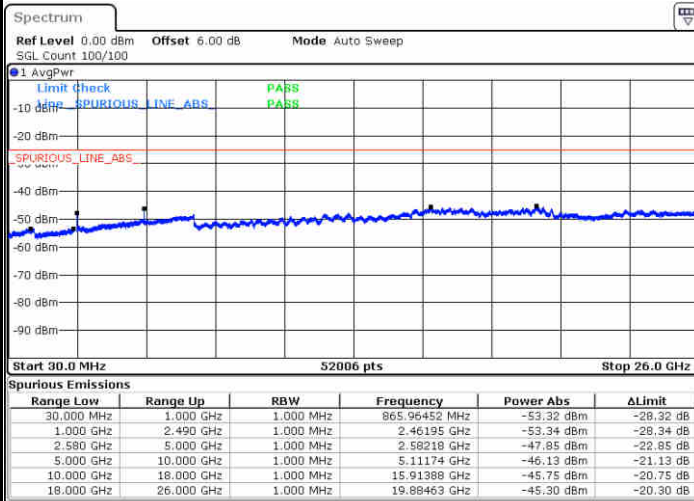
Date: 19 JAN 2020 10:44:32

## Middle Channel / 64QAM



Date: 19 JAN 2020 10:45:26

## Highest Channel / 64QAM

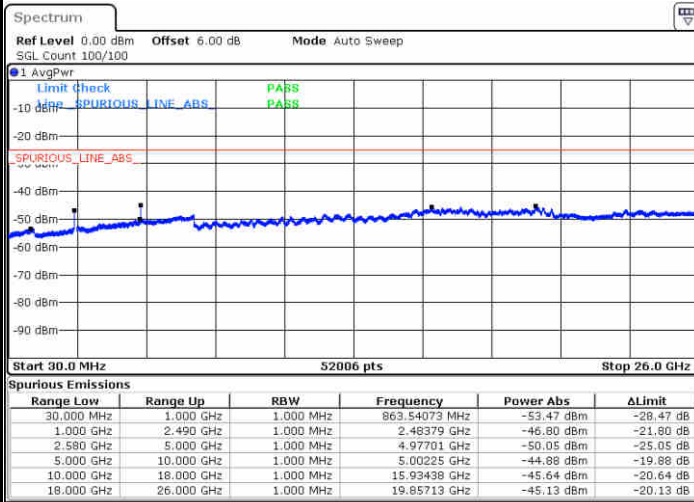


Date: 19 JAN 2020 10:46:20



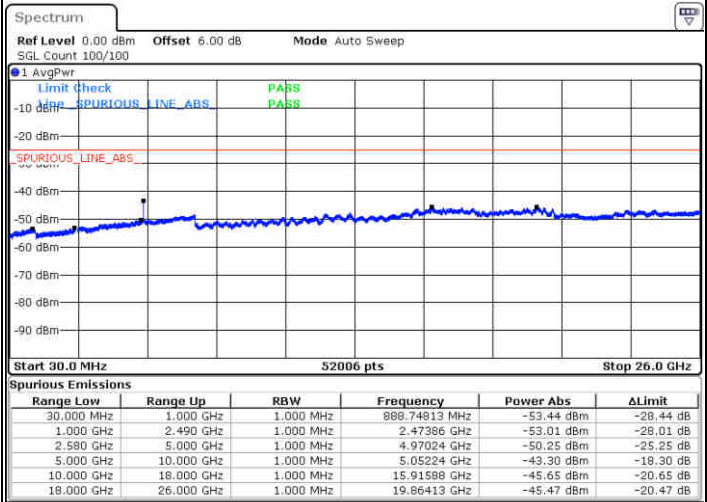
## LTE Band 7 / 20MHz

## Lowest Channel / 64QAM



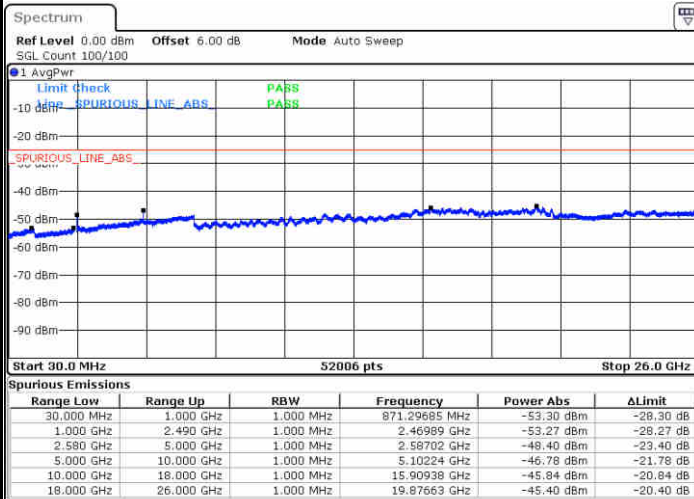
Date: 19 JAN 2020 10:52:46

## Middle Channel / 64QAM



Date: 19 JAN 2020 10:53:40

## Highest Channel / 64QAM



Date: 19 JAN 2020 10:54:33

**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    | 0.0043                             | PASS    |
| 40               | Normal Voltage    | 0.0058                             |         |
| 30               | Normal Voltage    | 0.0018                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0019                             |         |
| 0                | Normal Voltage    | 0.0032                             |         |
| -10              | Normal Voltage    | 0.0002                             |         |
| -20              | Normal Voltage    | 0.0004                             |         |
| -30              | Normal Voltage    | 0.0020                             |         |
| 20               | Maximum Voltage   | 0.0006                             |         |
| 20               | Normal Voltage    | 0.0024                             |         |
| 20               | Battery End Point | 0.0027                             |         |

**Note:**

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.40 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



## LTE Band 12

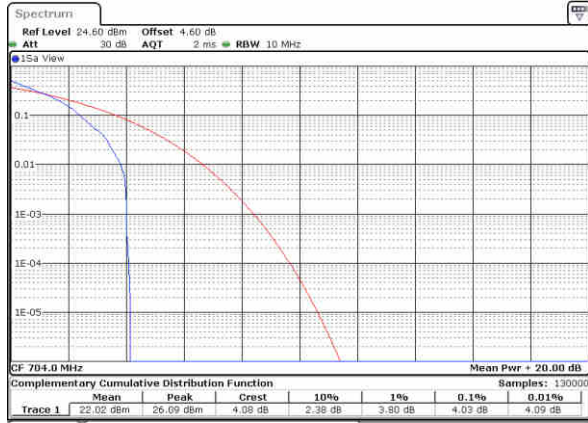
## Peak-to-Average Ratio

| Mode       | LTE Band 12 / 10MHz |         |             |         |             |
|------------|---------------------|---------|-------------|---------|-------------|
| Mod.       | QPSK                |         | 16QAM       |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB | 1RB         | Full RB | Result      |
| Lowest CH  | 4.03                | 4.67    | 4.75        | 5.65    | PASS        |
| Middle CH  | 4.09                | 4.67    | 4.78        | 5.65    |             |
| Highest CH | 4.06                | 4.70    | 4.90        | 5.59    |             |
| Mod.       | 64QAM               |         | Limit: 13dB |         |             |
| RB Size    | 1RB                 | Full RB | Result      |         |             |
| Lowest CH  | 5.10                | 5.65    | PASS        |         |             |
| Middle CH  | 5.01                | 5.71    |             |         |             |
| Highest CH | 5.16                | 5.71    |             |         |             |



## LTE Band 12 / 10MHz / QPSK

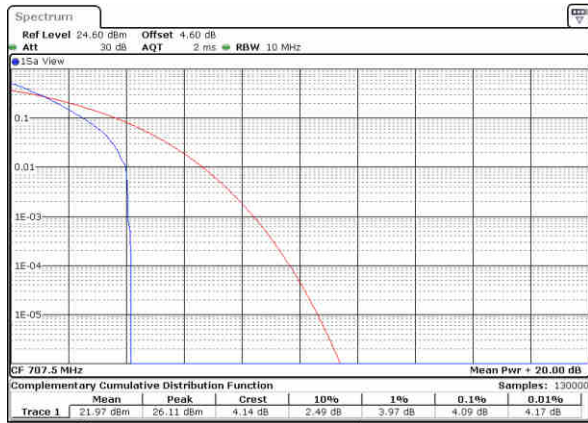
## Lowest Channel / 1RB



## Lowest Channel / Full RB



## Middle Channel / 1RB



## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB

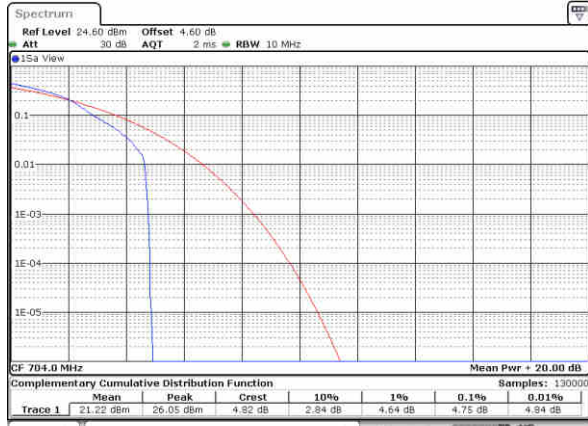




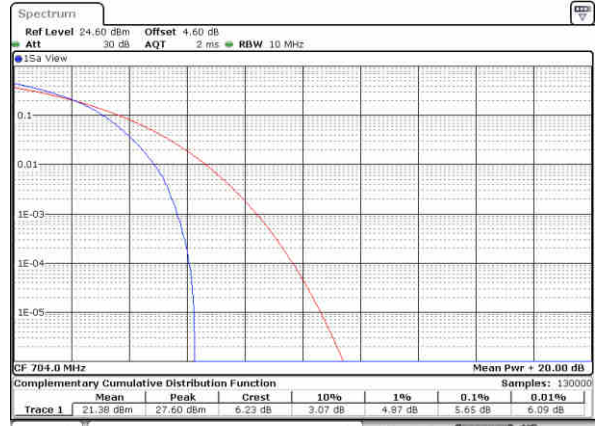


## LTE Band 12 / 10MHz / 16QAM

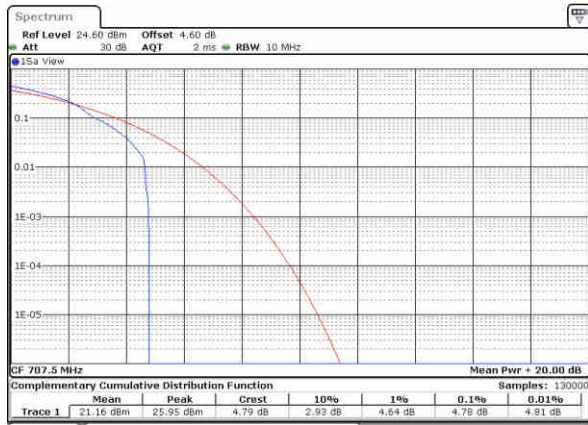
## Lowest Channel / 1RB



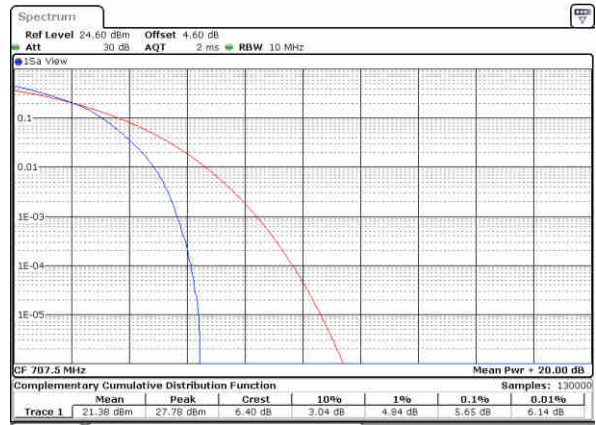
## Lowest Channel / Full RB



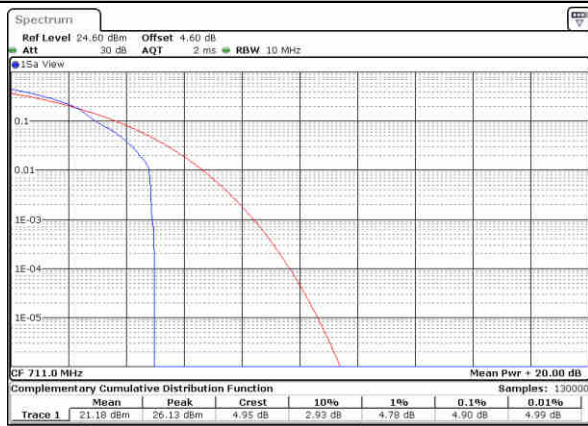
## Middle Channel / 1RB



## Middle Channel / Full RB



## Highest Channel / 1RB



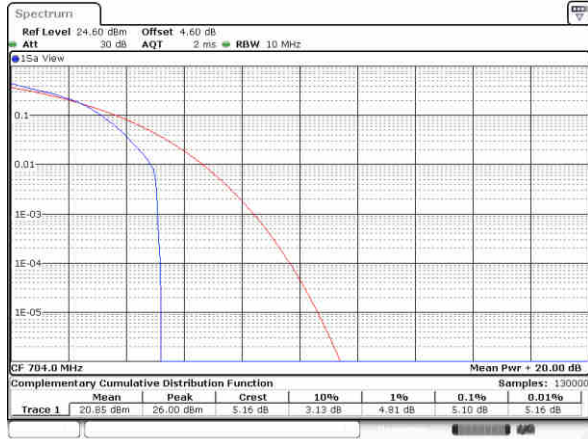
## Highest Channel / Full RB



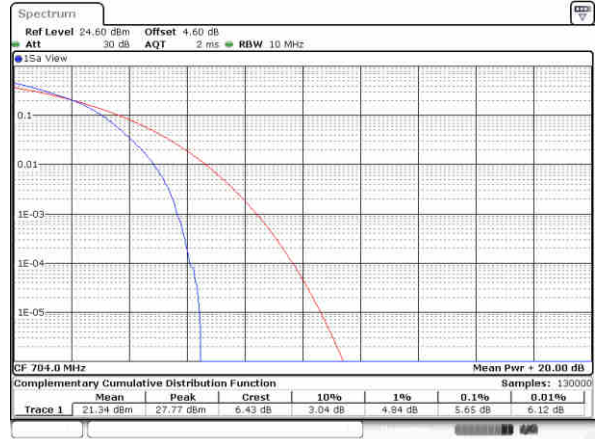


## LTE Band 12 / 10MHz / 64QAM

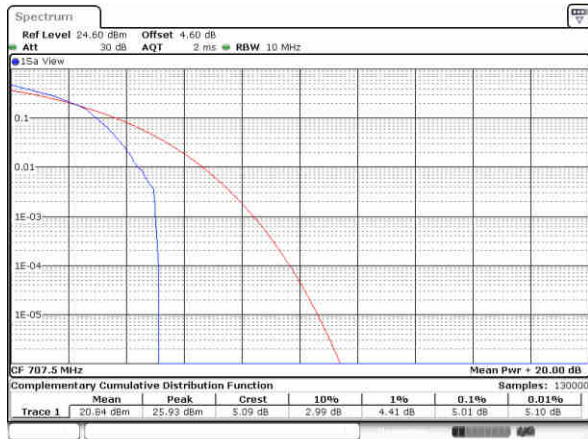
## Lowest Channel / 1RB



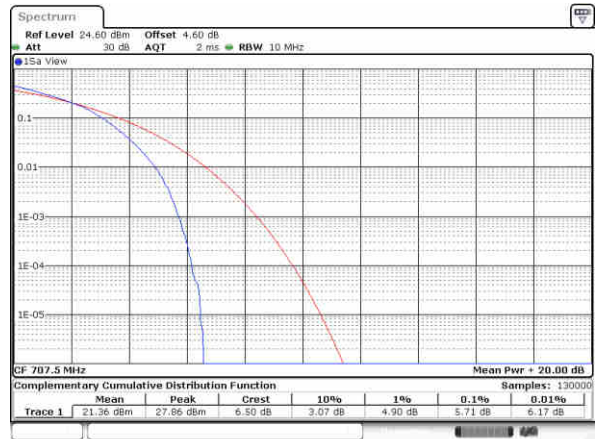
## Lowest Channel / Full RB



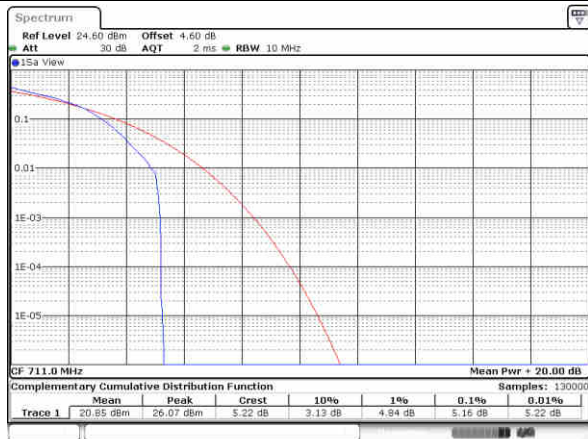
## Middle Channel / 1RB



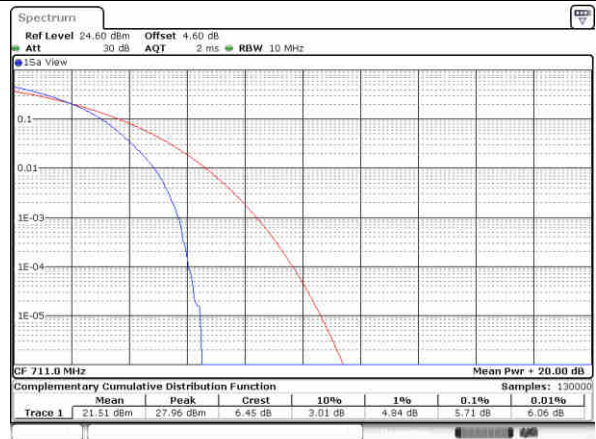
## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB





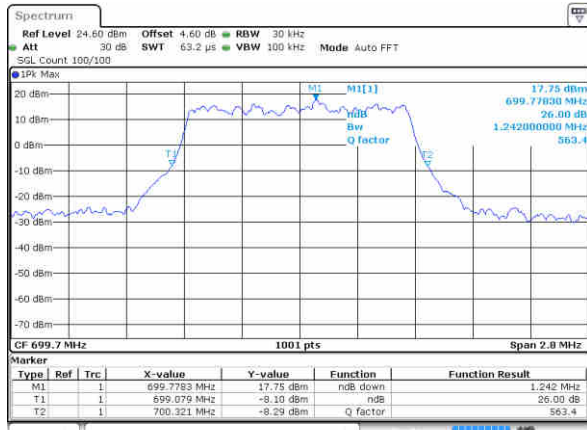
**26dB Bandwidth**

| Mode       | LTE Band 12 : 26dB BW(MHz) |       |      |       |      |       |       |       |        |       |       |       |
|------------|----------------------------|-------|------|-------|------|-------|-------|-------|--------|-------|-------|-------|
| BW         | 1.4MHz                     |       | 3MHz |       | 5MHz |       | 10MHz |       | 1.4MHz | 3MHz  | 5MHz  | 10MHz |
| Mod.       | QPSK                       | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK  | 16QAM | 64QAM  | 64QAM | 64QAM | 64QAM |
| Lowest CH  | 1.24                       | 1.28  | 2.96 | 3.02  | 4.95 | 4.84  | 9.75  | 9.89  | 1.27   | 3.01  | 4.92  | 9.77  |
| Middle CH  | 1.27                       | 1.27  | 2.98 | 2.99  | 4.99 | 4.91  | 9.99  | 9.91  | 1.28   | 3.03  | 4.92  | 9.91  |
| Highest CH | 1.30                       | 1.26  | 3.03 | 2.99  | 5.02 | 4.97  | 9.71  | 9.97  | 1.29   | 2.98  | 4.85  | 9.63  |



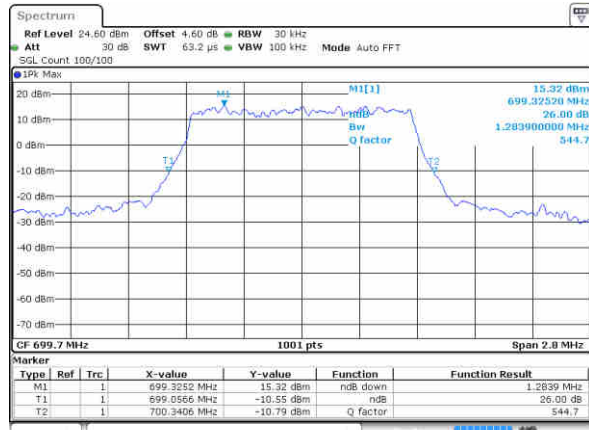
## LTE Band 12

## Lowest Channel / 1.4MHz / QPSK



Date: 16 JAN 2020 17:35:04

## Lowest Channel / 1.4MHz / 16QAM



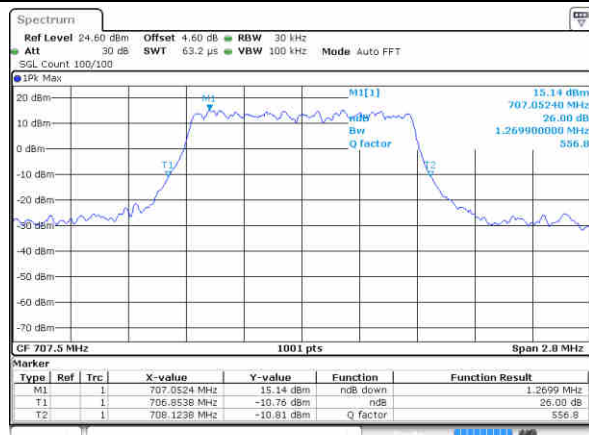
Date: 16 JAN 2020 17:35:54

## Middle Channel / 1.4MHz / QPSK



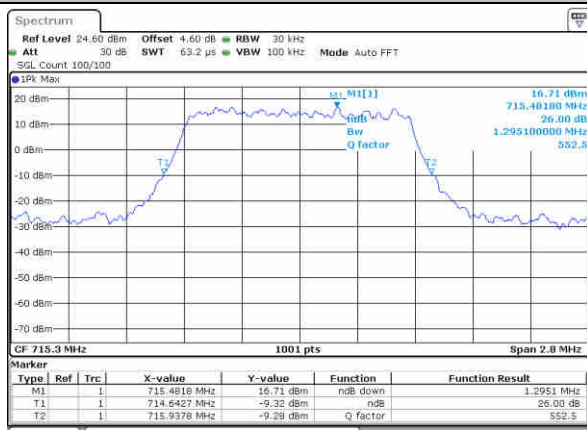
Date: 16 JAN 2020 17:35:34

## Middle Channel / 1.4MHz / 16QAM



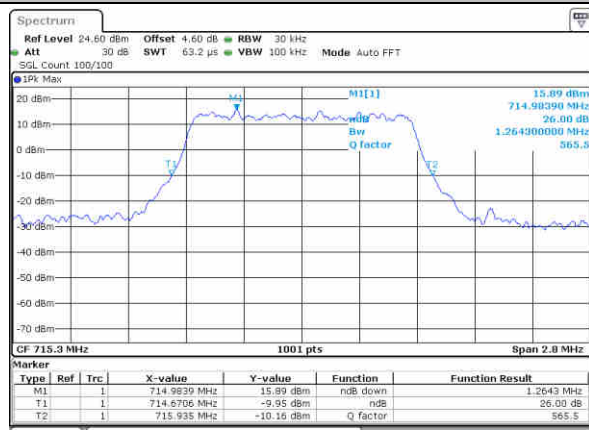
Date: 16 JAN 2020 17:35:44

## Highest Channel / 1.4MHz / QPSK



Date: 16 JAN 2020 17:35:24

## Highest Channel / 1.4MHz / 16QAM

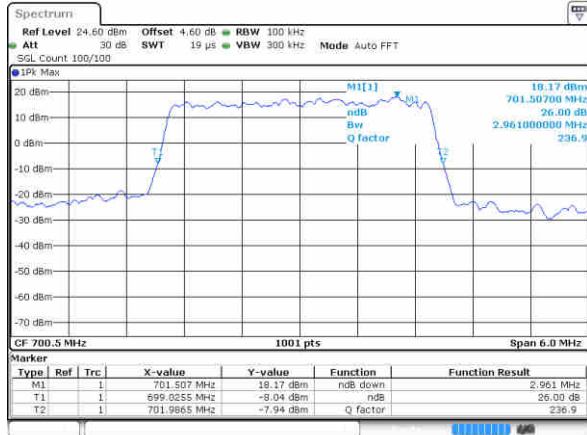


Date: 16 JAN 2020 17:35:14

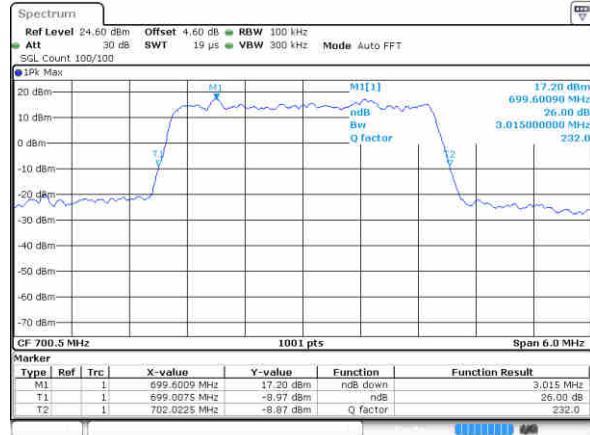


## LTE Band 12

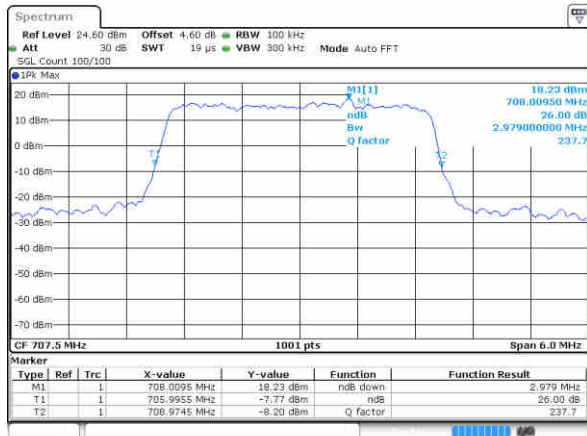
## Lowest Channel / 3MHz / QPSK



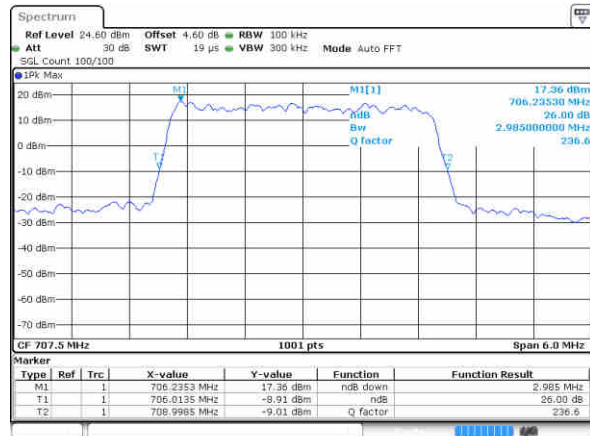
## Lowest Channel / 3MHz / 16QAM



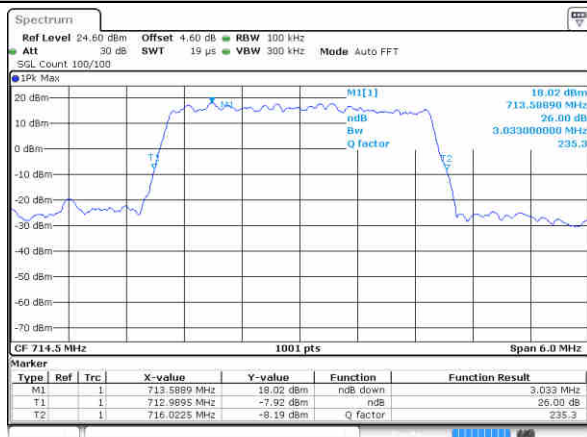
## Middle Channel / 3MHz / QPSK



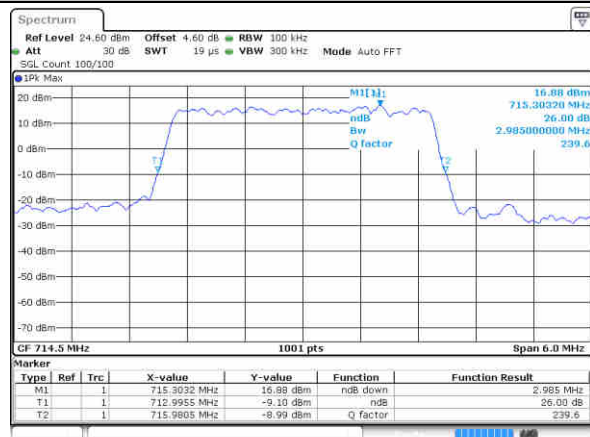
## Middle Channel / 3MHz / 16QAM



## Highest Channel / 3MHz / QPSK



## Highest Channel / 3MHz / 16QAM

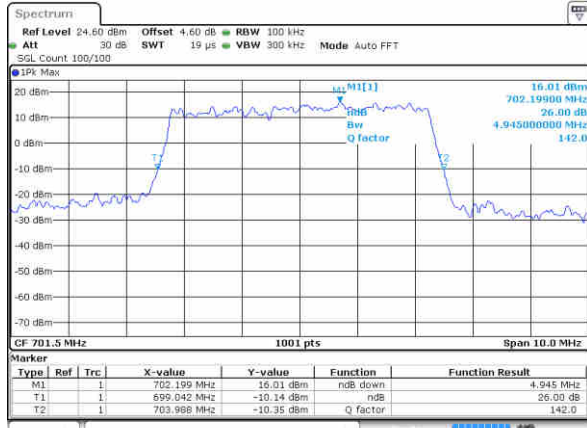




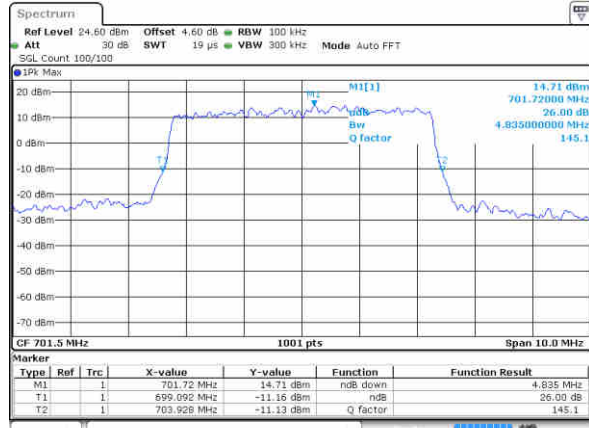


## LTE Band 12

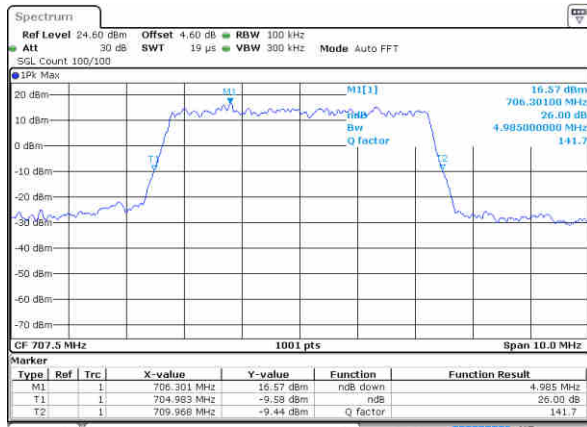
## Lowest Channel / 5MHz / QPSK



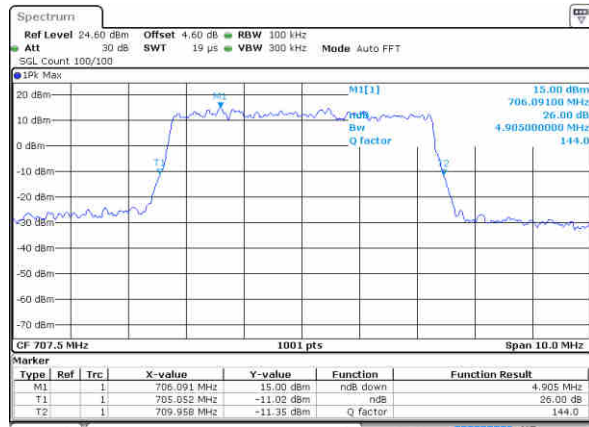
## Lowest Channel / 5MHz / 16QAM



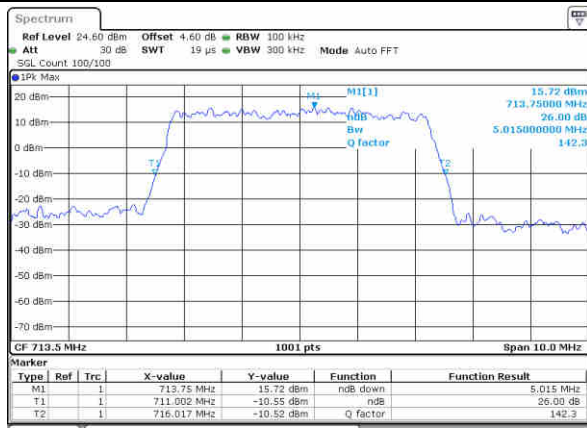
## Middle Channel / 5MHz / QPSK



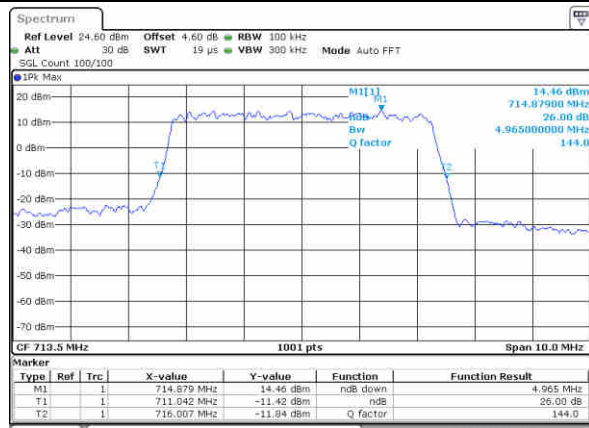
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



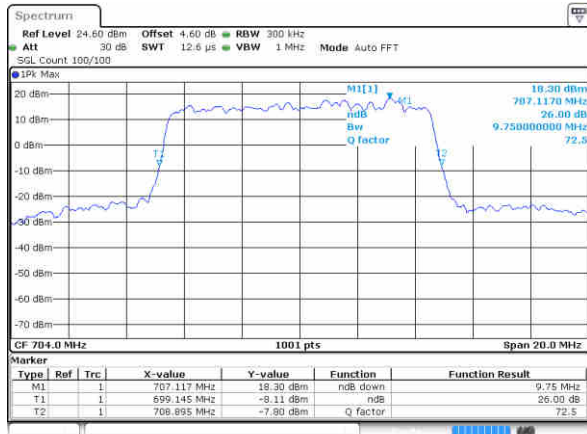
## Highest Channel / 5MHz / 16QAM



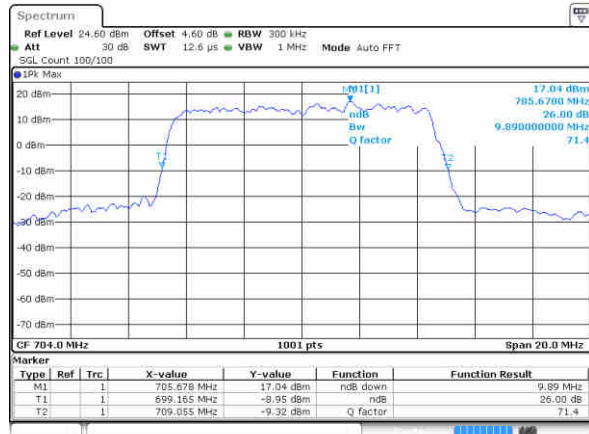


## LTE Band 12

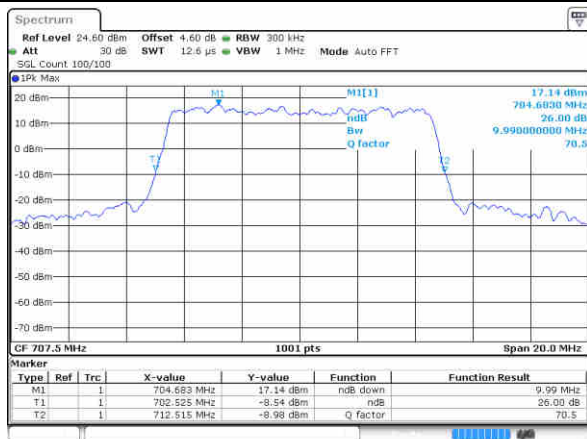
## Lowest Channel / 10MHz / QPSK



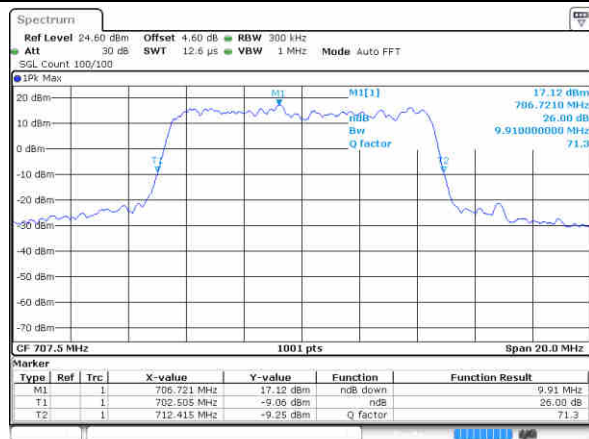
## Lowest Channel / 10MHz / 16QAM



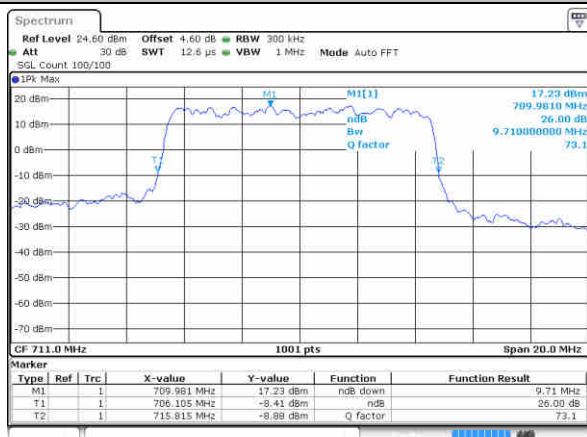
## Middle Channel / 10MHz / QPSK



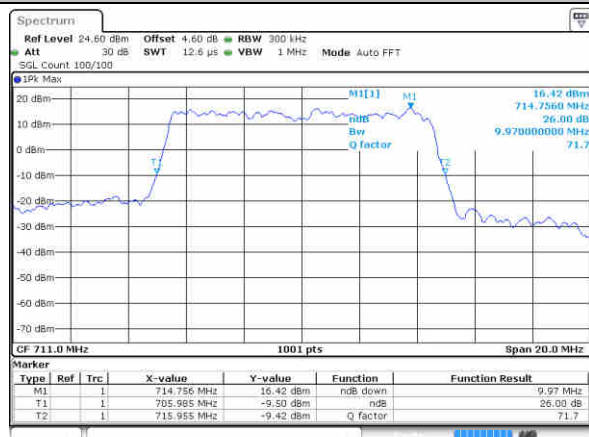
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



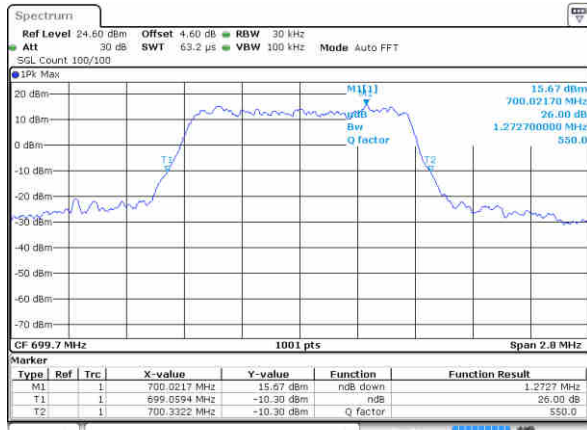
## Highest Channel / 10MHz / 16QAM



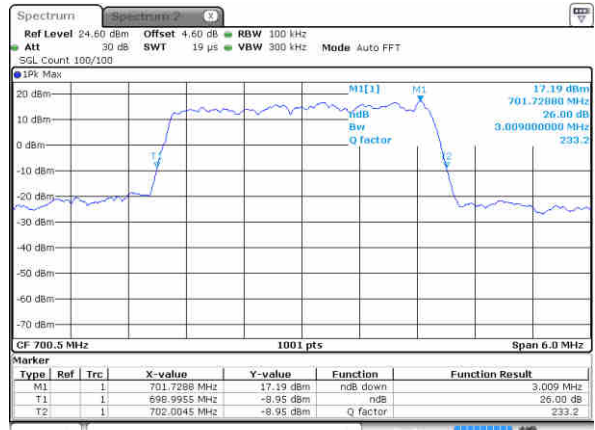


## LTE Band 12

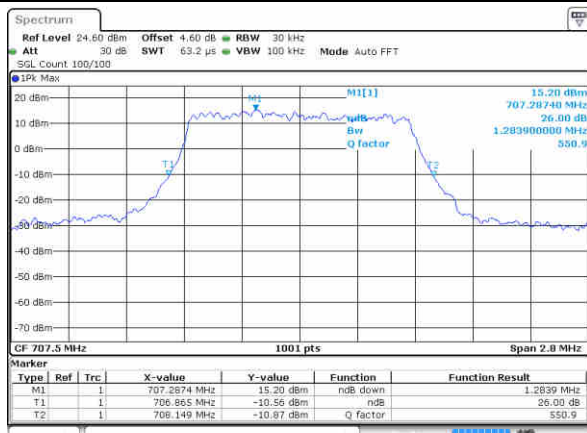
## Lowest Channel / 1.4MHz / 64QAM



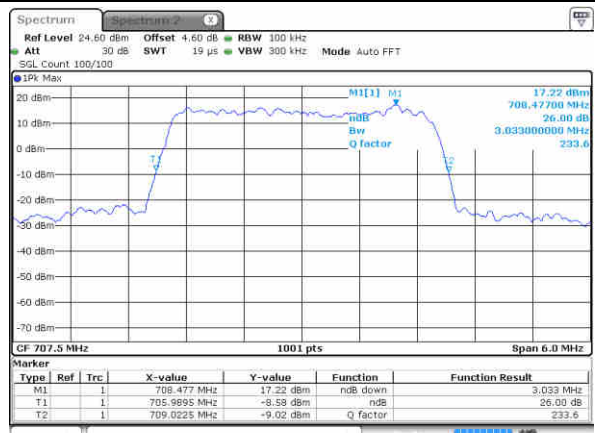
## Lowest Channel / 3MHz / 64QAM



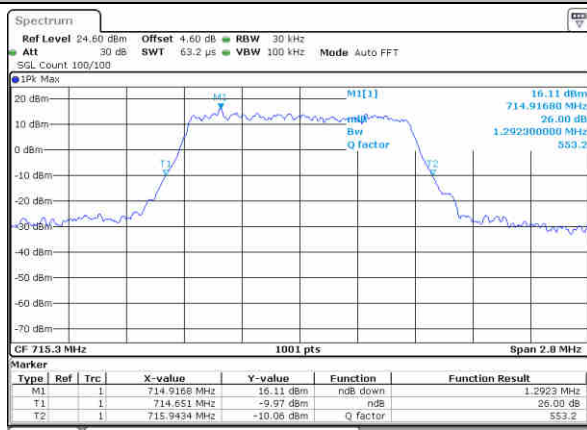
## Middle Channel / 1.4MHz / 64QAM



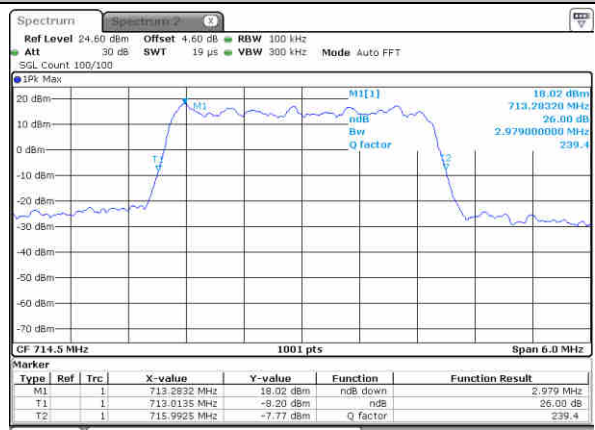
## Middle Channel / 3MHz / 64QAM



## Highest Channel / 1.4MHz / 64QAM



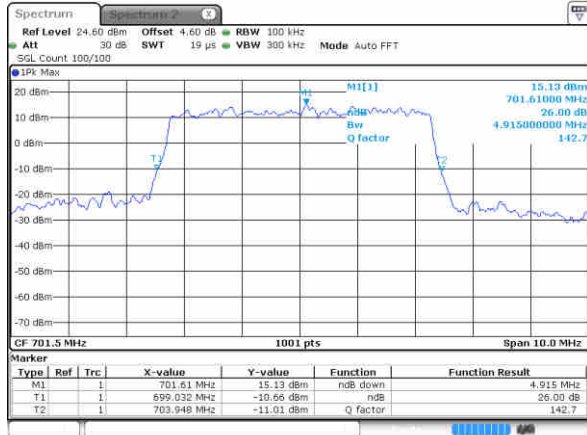
## Highest Channel / 3MHz / 64QAM



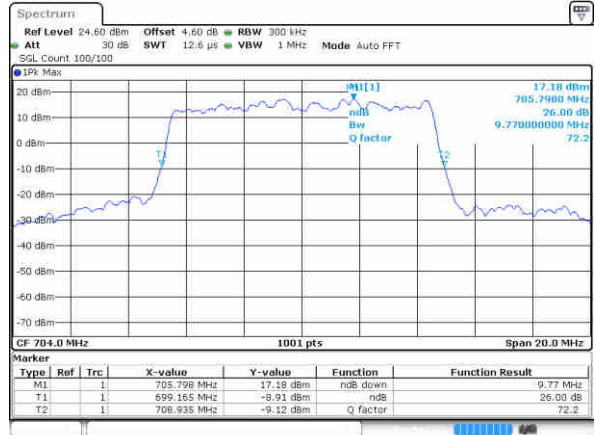


## LTE Band 12

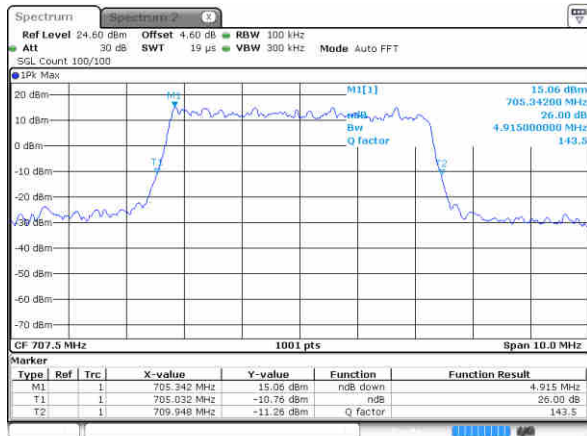
## Lowest Channel / 5MHz / 64QAM



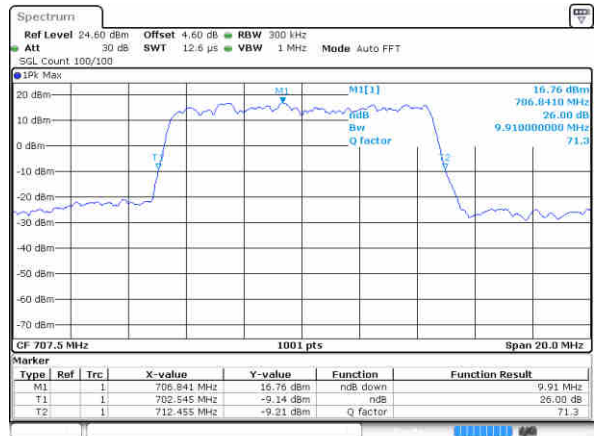
## Lowest Channel / 10MHz / 64QAM



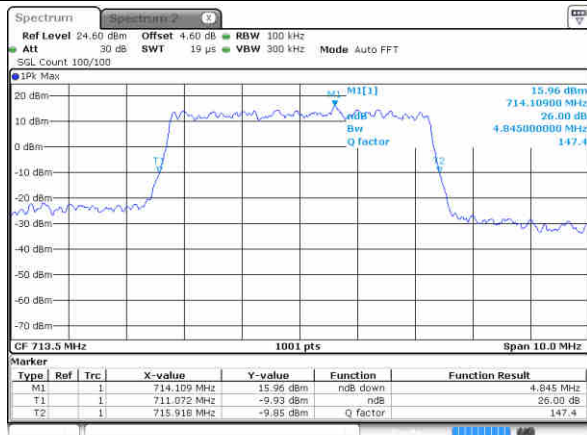
## Middle Channel / 5MHz / 64QAM



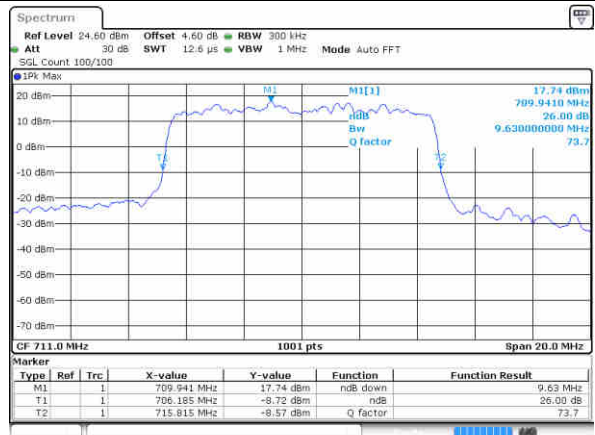
## Middle Channel / 10MHz / 64QAM



## Highest Channel / 5MHz / 64QAM



## Highest Channel / 10MHz / 64QAM



**Occupied Bandwidth**

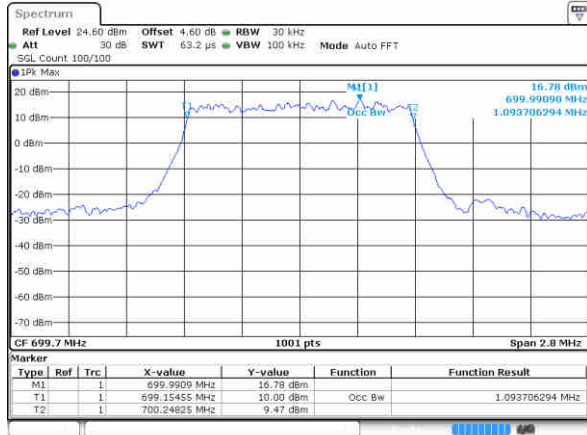
| Mode       | LTE Band 12 : 99%OBW(MHz) |       |      |       |      |       |       |       |        |       |       |       |
|------------|---------------------------|-------|------|-------|------|-------|-------|-------|--------|-------|-------|-------|
| BW         | 1.4MHz                    |       | 3MHz |       | 5MHz |       | 10MHz |       | 1.4MHz | 3MHz  | 5MHz  | 10MHz |
| Mod.       | QPSK                      | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK  | 16QAM | 64QAM  | 64QAM | 64QAM | 64QAM |
| Lowest CH  | 1.09                      | 1.09  | 2.70 | 2.72  | 4.49 | 4.50  | 8.97  | 8.93  | 1.09   | 2.73  | 4.49  | 9.03  |
| Middle CH  | 1.09                      | 1.09  | 2.72 | 2.71  | 4.48 | 4.49  | 9.01  | 9.03  | 1.09   | 2.73  | 4.48  | 9.03  |
| Highest CH | 1.09                      | 1.09  | 2.70 | 2.72  | 4.49 | 4.48  | 8.99  | 9.01  | 1.09   | 2.71  | 4.47  | 9.01  |



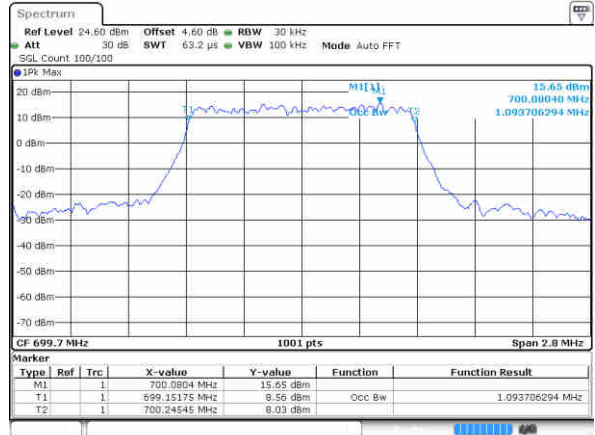


## LTE Band 12

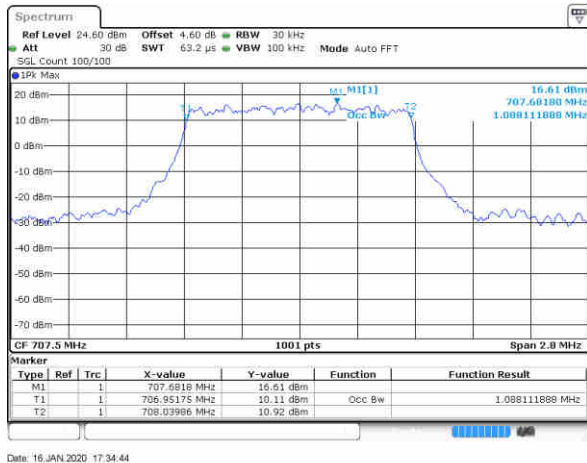
## Lowest Channel / 1.4MHz / QPSK



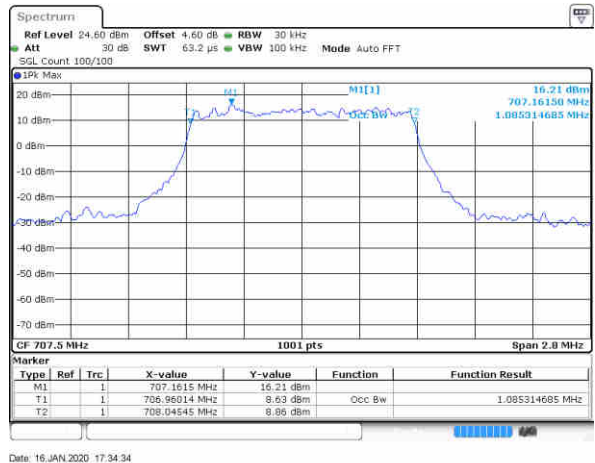
## Lowest Channel / 1.4MHz / 16QAM



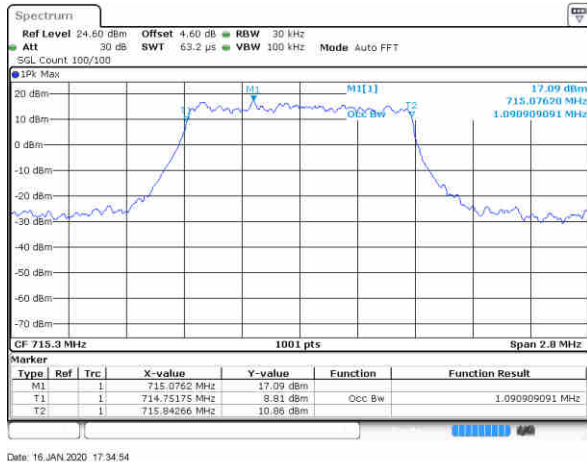
## Middle Channel / 1.4MHz / QPSK



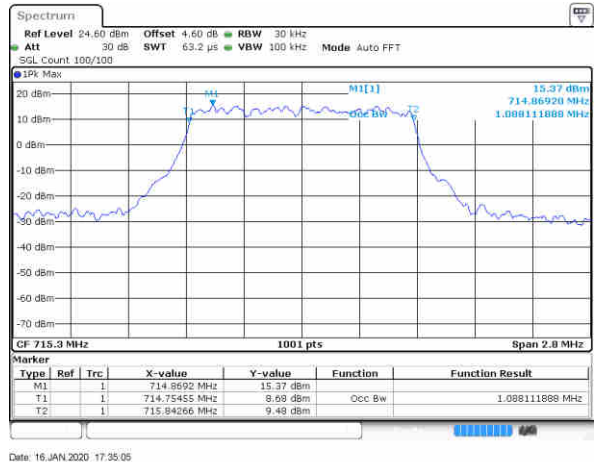
## Middle Channel / 1.4MHz / 16QAM



## Highest Channel / 1.4MHz / QPSK



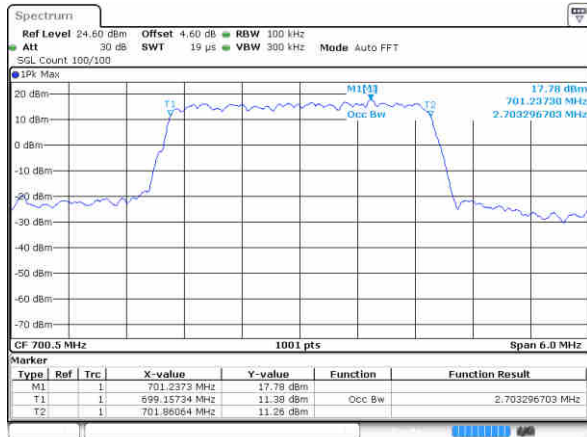
## Highest Channel / 1.4MHz / 16QAM



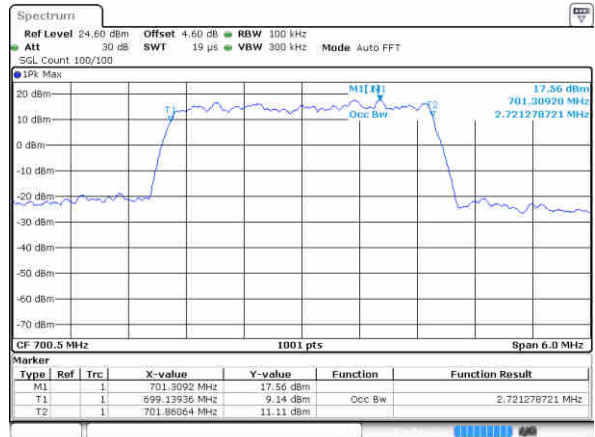


## LTE Band 12

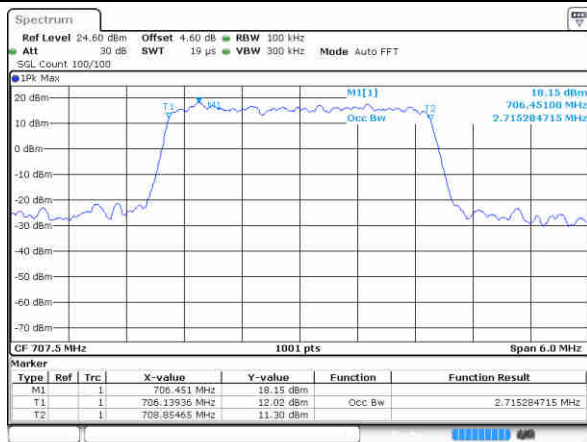
## Lowest Channel / 3MHz / QPSK



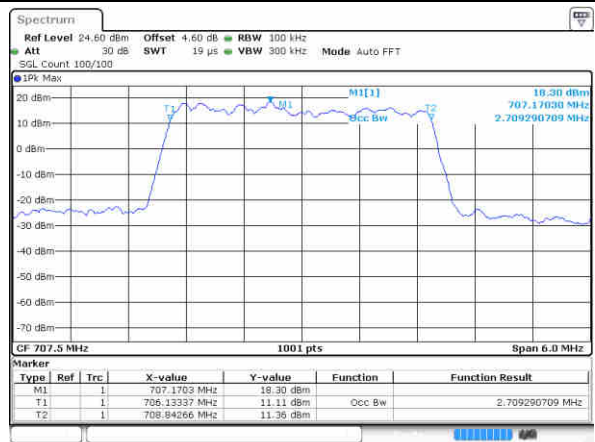
## Lowest Channel / 3MHz / 16QAM



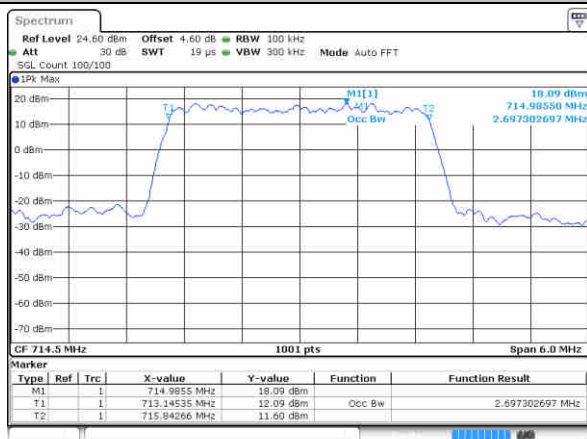
## Middle Channel / 3MHz / QPSK



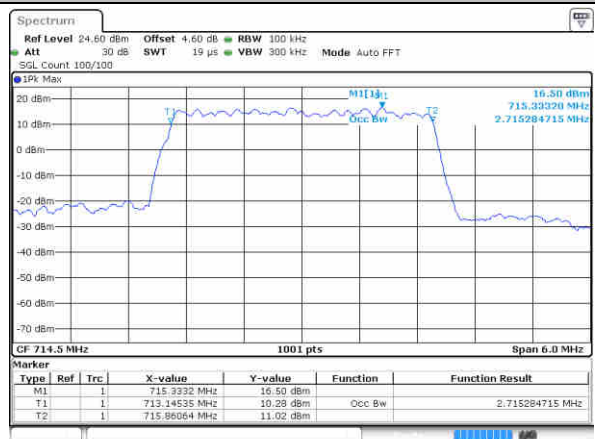
## Middle Channel / 3MHz / 16QAM



## Highest Channel / 3MHz / QPSK



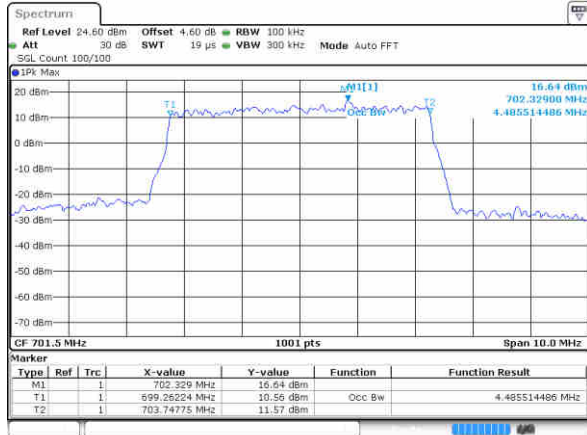
## Highest Channel / 3MHz / 16QAM





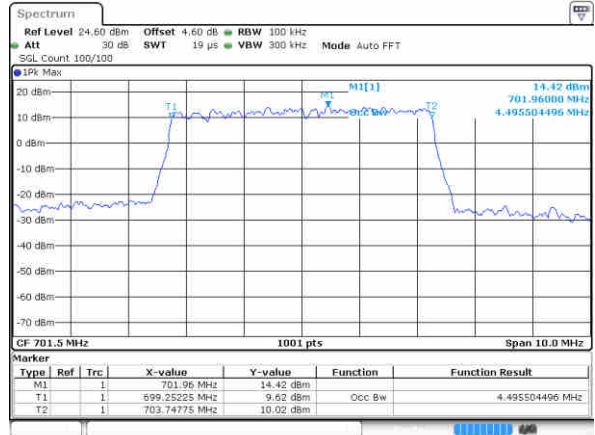
## LTE Band 12

## Lowest Channel / 5MHz / QPSK



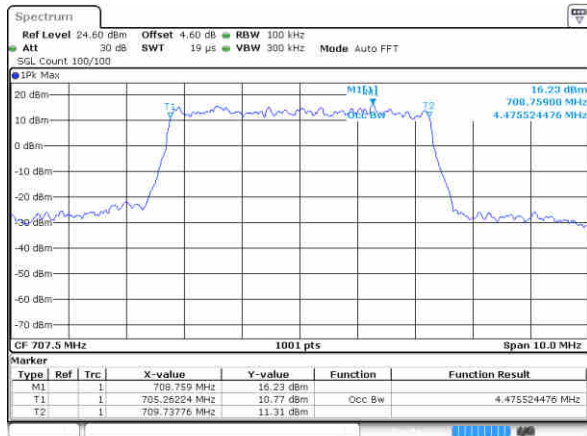
Date: 16 JAN 2020 18:07:03

## Lowest Channel / 5MHz / 16QAM



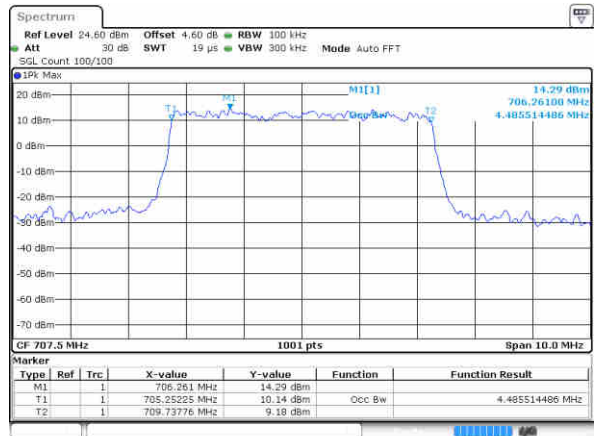
Date: 16 JAN 2020 18:07:13

## Middle Channel / 5MHz / QPSK



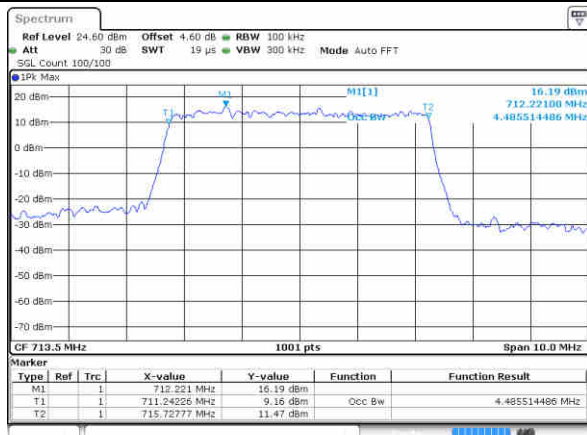
Date: 16 JAN 2020 18:07:33

## Middle Channel / 5MHz / 16QAM



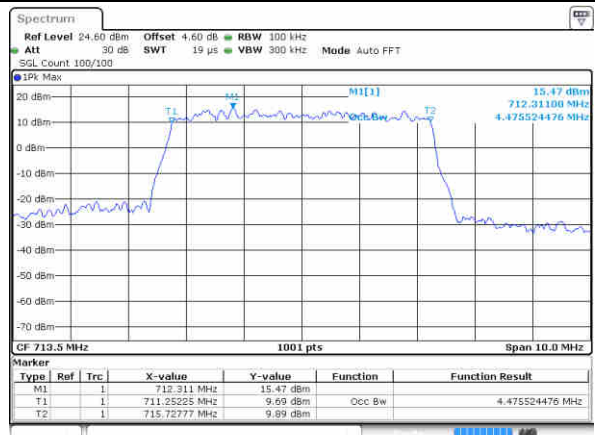
Date: 16 JAN 2020 18:07:23

## Highest Channel / 5MHz / QPSK



Date: 16 JAN 2020 18:07:44

## Highest Channel / 5MHz / 16QAM



Date: 16 JAN 2020 18:07:54