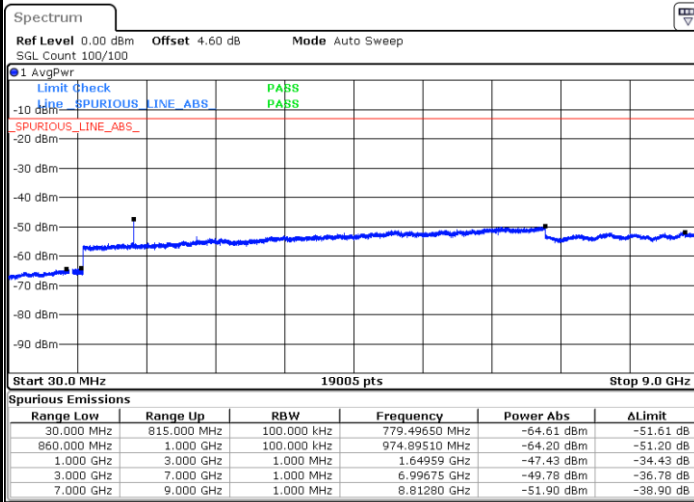




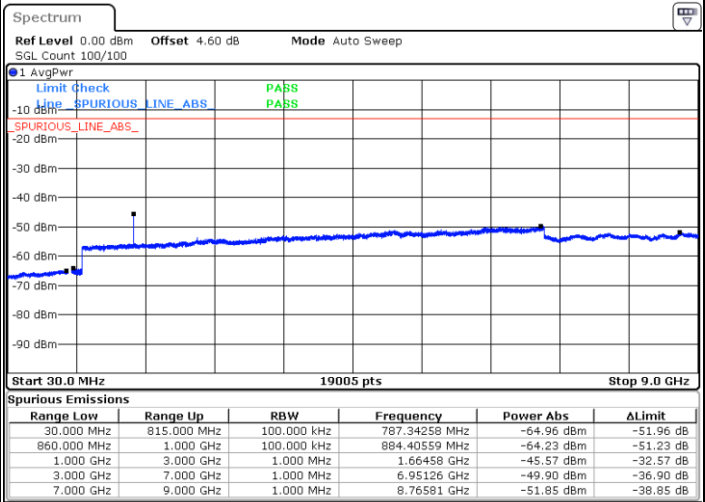
## LTE Band 5 / 10MHz

## Lowest Channel / 64QAM



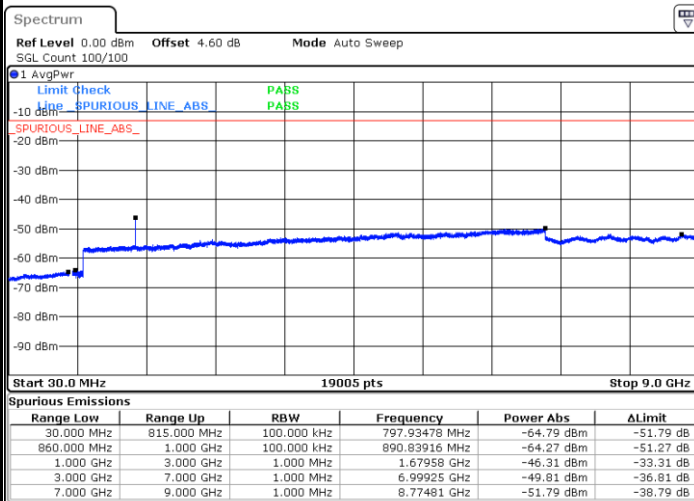
Date: 4 JAN 2020 01:13:06

## Middle Channel / 64QAM



Date: 4 JAN 2020 01:14:01

## Highest Channel / 64QAM



Date: 4 JAN 2020 01:18:50

**Frequency Stability**

| Test Conditions  |                   | LTE Band 5 (QPSK) / Middle Channel | Limit  |
|------------------|-------------------|------------------------------------|--------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                           | 2.5ppm |
|                  |                   | Deviation (ppm)                    | Result |
| 50               | Normal Voltage    | 0.0001                             | PASS   |
| 40               | Normal Voltage    | 0.0018                             |        |
| 30               | Normal Voltage    | 0.0050                             |        |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |        |
| 10               | Normal Voltage    | 0.0056                             |        |
| 0                | Normal Voltage    | 0.0059                             |        |
| -10              | Normal Voltage    | 0.0051                             |        |
| -20              | Normal Voltage    | 0.0023                             |        |
| -30              | Normal Voltage    | 0.0010                             |        |
| 20               | Maximum Voltage   | 0.0051                             |        |
| 20               | Normal Voltage    | 0.0060                             |        |
| 20               | Battery End Point | 0.0012                             |        |

**Note:** Normal Voltage =3.87V. ; Battery End Point (BEP) =3.0 V. ; Maximum Voltage =4.45 V.



## LTE Band 7

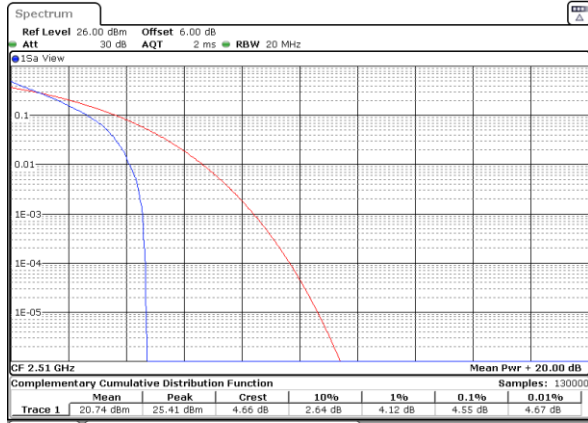
## Peak-to-Average Ratio

| Mode       | LTE Band 7 / 20MHz |         |       |         |             |
|------------|--------------------|---------|-------|---------|-------------|
| Mod.       | QPSK               |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 4.55               | 5.07    | 5.16  | 5.91    | PASS        |
| Middle CH  | 4.55               | 5.04    | 5.83  | 5.86    |             |
| Highest CH | 4.75               | 5.01    | 5.65  | 5.91    |             |
| Mod.       | 64QAM              |         |       |         | Limit: 13dB |
| RB Size    | 1RB                | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 5.10               | 6.00    |       |         | PASS        |
| Middle CH  | 5.04               | 5.94    |       |         |             |
| Highest CH | 5.33               | 5.94    |       |         |             |

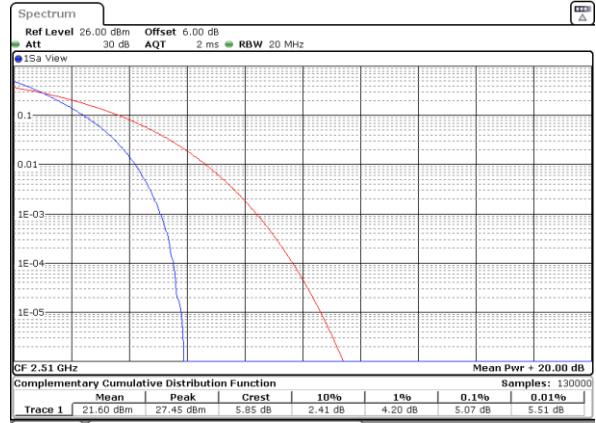


## LTE Band 7 / 20MHz / QPSK

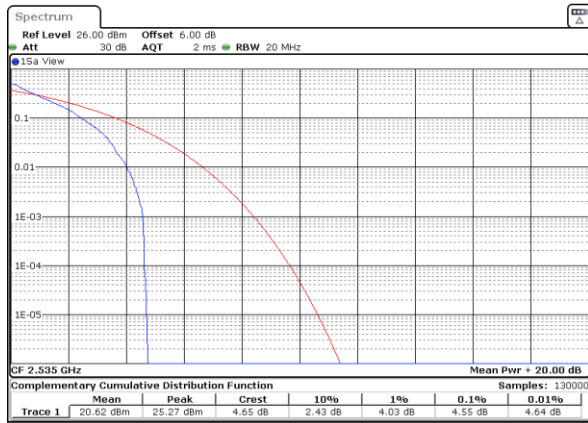
## Lowest Channel / 1RB



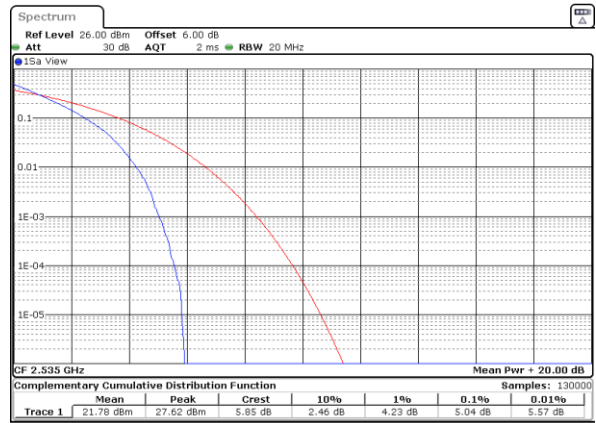
## Lowest Channel / Full RB



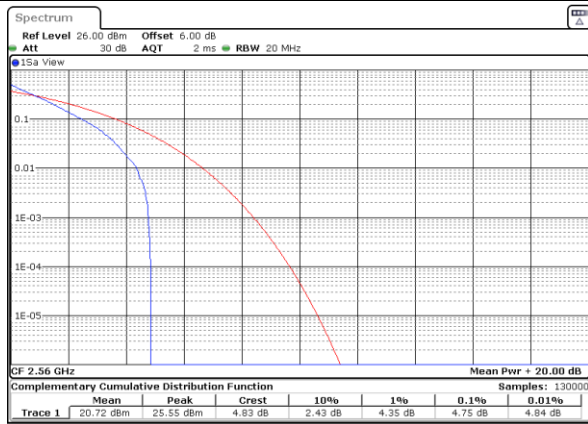
## Middle Channel / 1RB



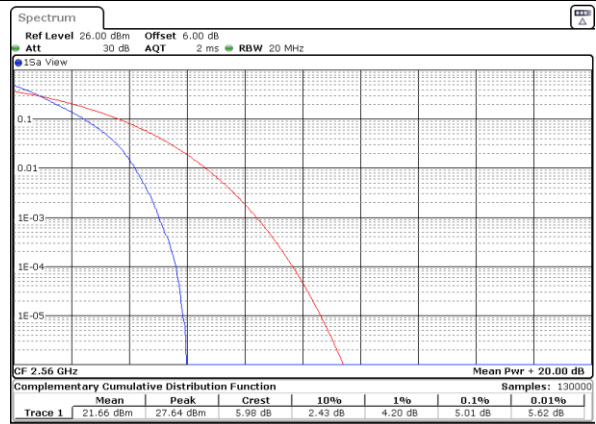
## Middle Channel / Full RB

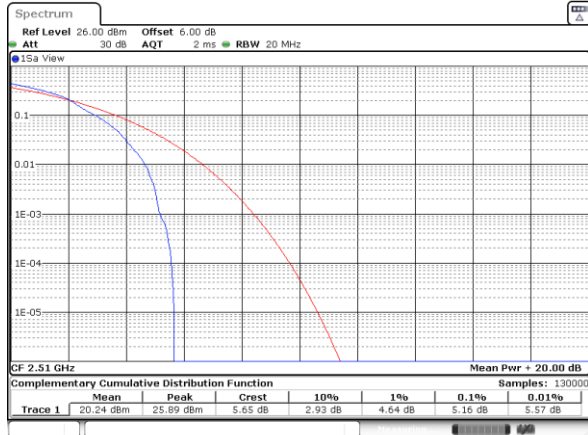


## Highest Channel / 1RB

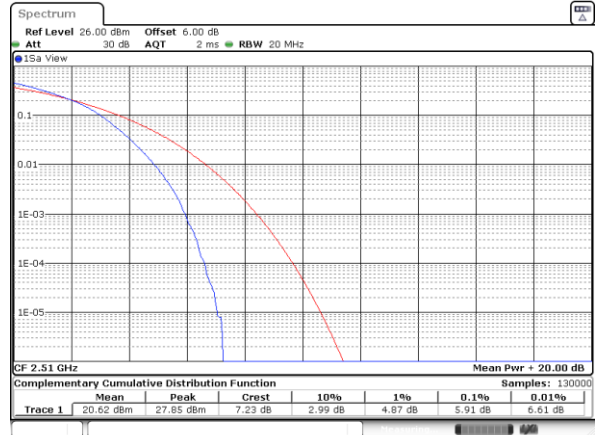


## Highest Channel / Full RB

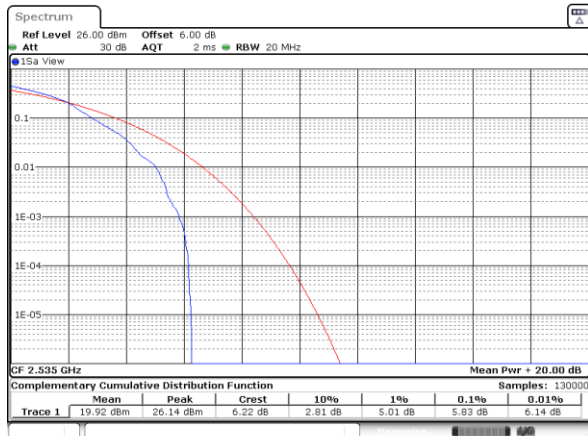


**LTE Band 7 / 20MHz / 16QAM**
**Lowest Channel / 1RB**


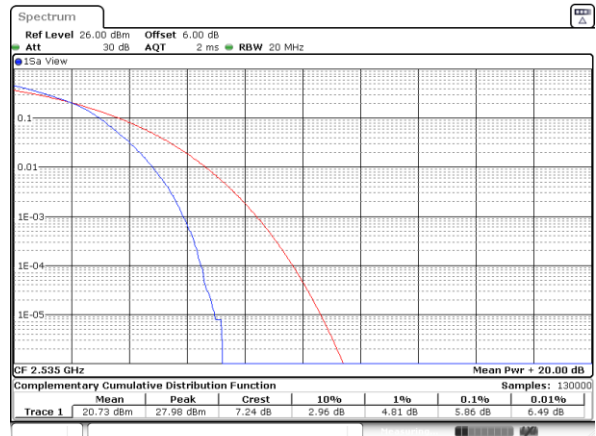
Date: 4 JAN 2020 22:39:04

**Lowest Channel / Full RB**


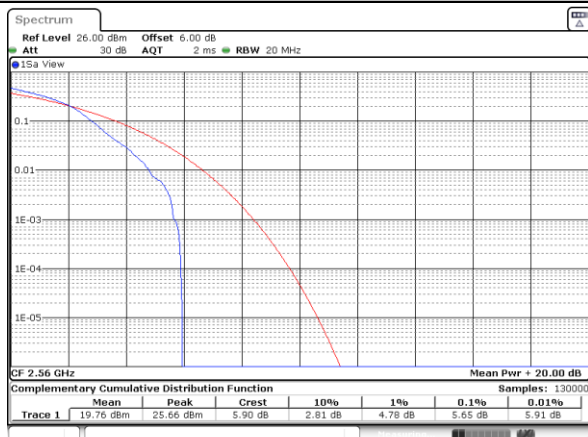
Date: 4 JAN 2020 22:39:31

**Middle Channel / 1RB**


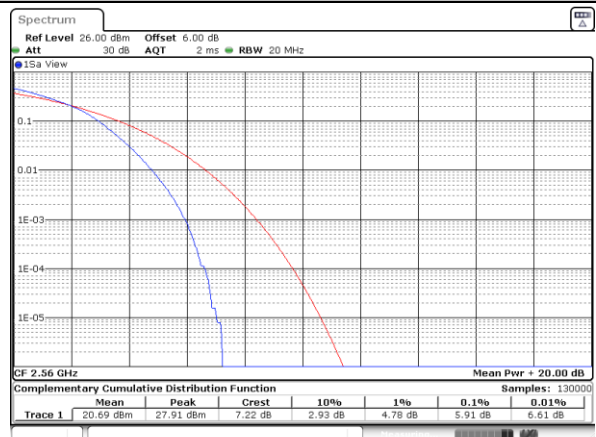
Date: 4 JAN 2020 22:40:07

**Middle Channel / Full RB**


Date: 4 JAN 2020 22:39:40

**Highest Channel / 1RB**


Date: 4 JAN 2020 22:40:16

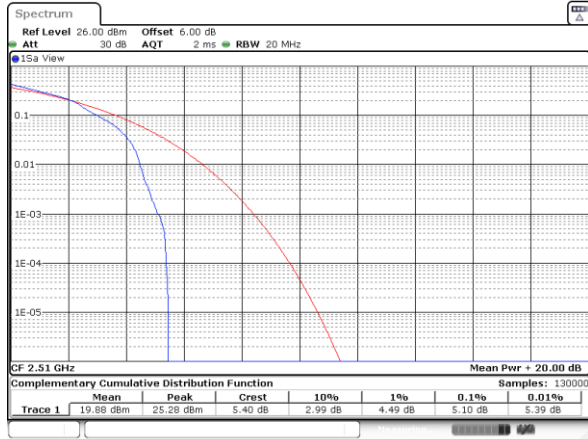
**Highest Channel / Full RB**


Date: 4 JAN 2020 22:40:42

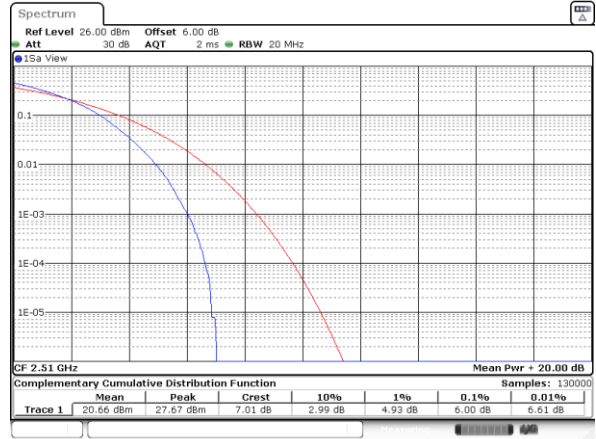


## LTE Band 7 / 20MHz / 64QAM

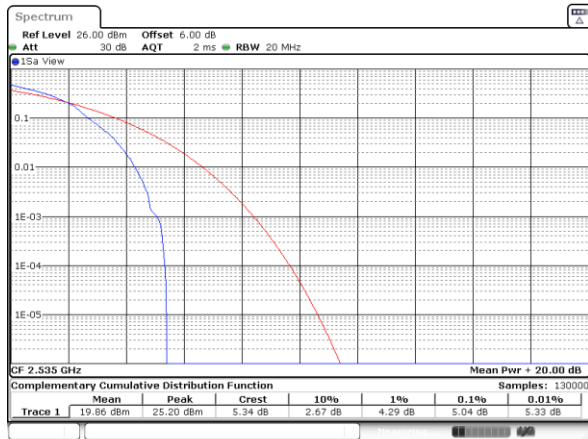
## Lowest Channel / 1RB



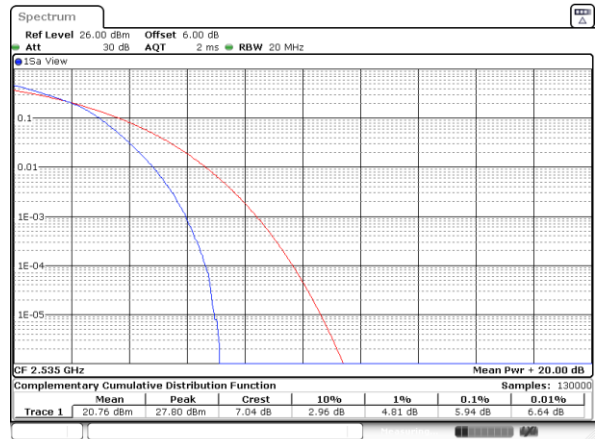
## Lowest Channel / Full RB



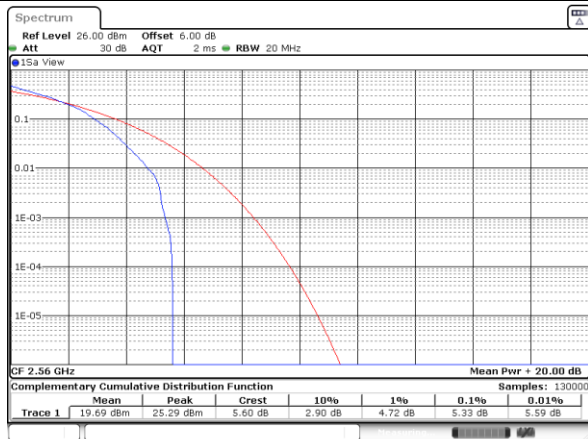
## Middle Channel / 1RB



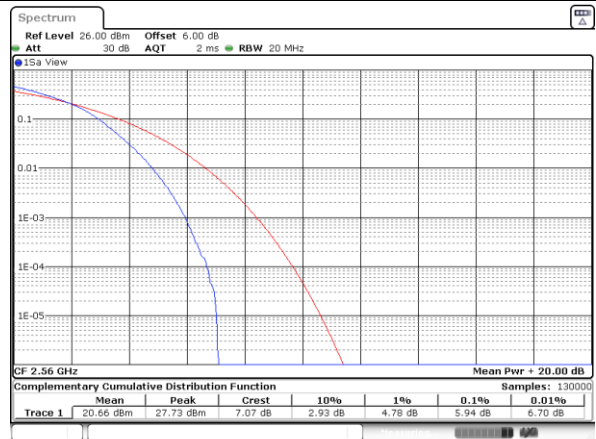
## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB



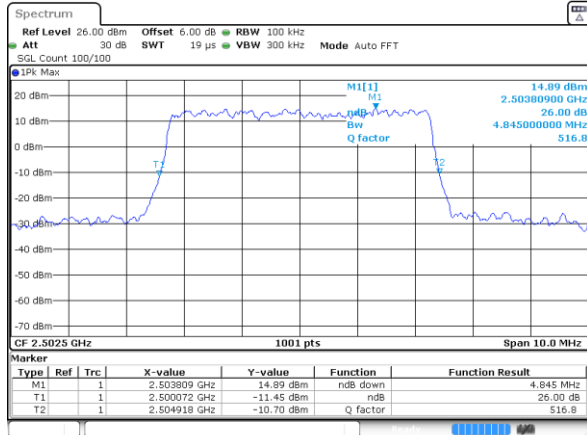
**26dB Bandwidth**

| Mode       | LTE Band 7 : 26dB BW(MHz) |       |       |       |        |        |       |       |
|------------|---------------------------|-------|-------|-------|--------|--------|-------|-------|
| BW         | 5MHz                      |       | 10MHz |       | 15MHz  |        | 20MHz |       |
| Mod.       | QPSK                      | 16QAM | QPSK  | 16QAM | QPSK   | 16QAM  | QPSK  | 16QAM |
| Lowest CH  | 4.845                     | 4.835 | 9.83  | 9.59  | 14.296 | 14.446 | 20.14 | 20.22 |
| Middle CH  | 4.805                     | 4.835 | 9.79  | 9.71  | 14.296 | 14.386 | 20.06 | 20.14 |
| Highest CH | 4.895                     | 4.845 | 9.81  | 9.73  | 14.386 | 14.296 | 20.22 | 20.22 |
| BW         | 5MHz                      |       | 10MHz |       | 15MHz  |        | 20MHz |       |
| Mod.       | 64QAM                     |       | 64QAM |       | 64QAM  |        | 64QAM |       |
| Lowest CH  | 4.835                     |       | 9.75  |       | 14.326 |        | 20.1  |       |
| Middle CH  | 4.855                     |       | 9.71  |       | 14.386 |        | 20.14 |       |
| Highest CH | 4.805                     |       | 9.79  |       | 14.505 |        | 20.14 |       |



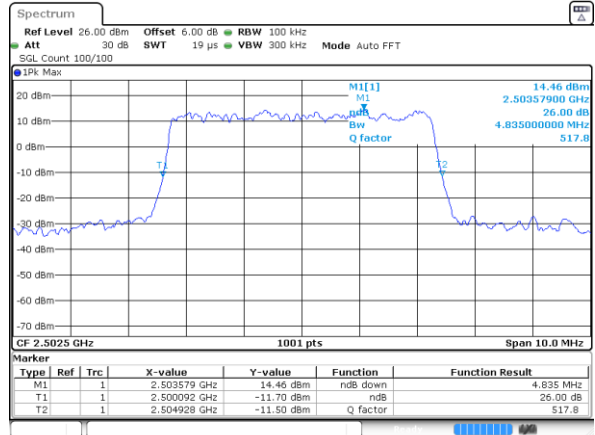
## LTE Band 7

## Lowest Channel / 5MHz / QPSK



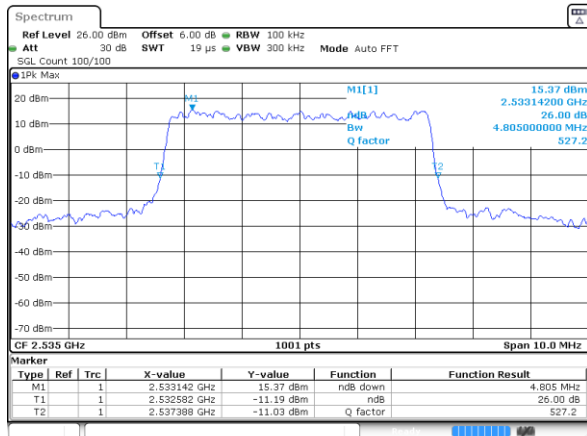
Date: 4 JAN 2020 20:59:31

## Lowest Channel / 5MHz / 16QAM



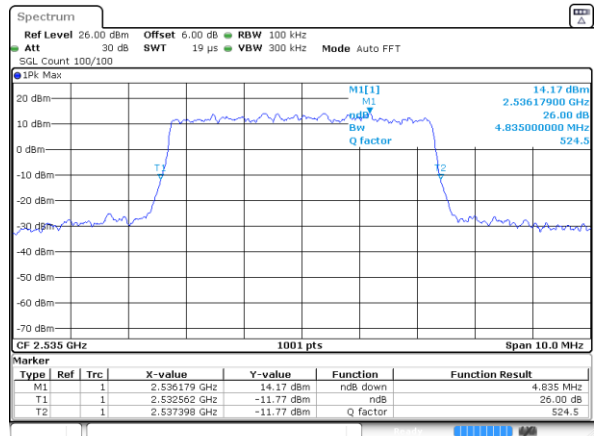
Date: 4 JAN 2020 20:59:51

## Middle Channel / 5MHz / QPSK



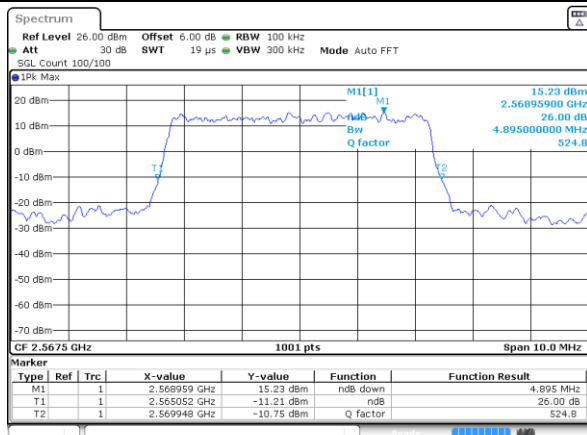
Date: 4 JAN 2020 21:00:31

## Middle Channel / 5MHz / 16QAM



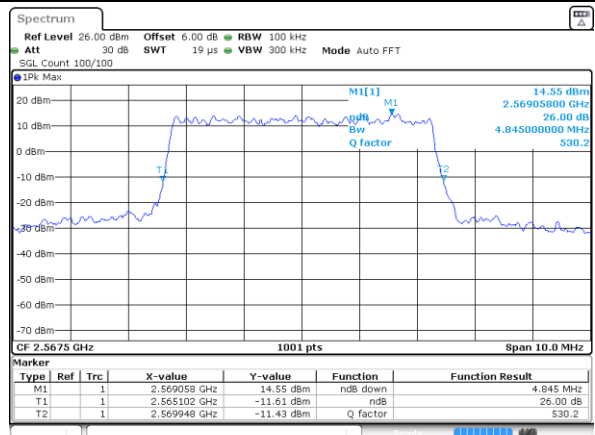
Date: 4 JAN 2020 21:00:11

## Highest Channel / 5MHz / QPSK



Date: 4 JAN 2020 21:00:51

## Highest Channel / 5MHz / 16QAM

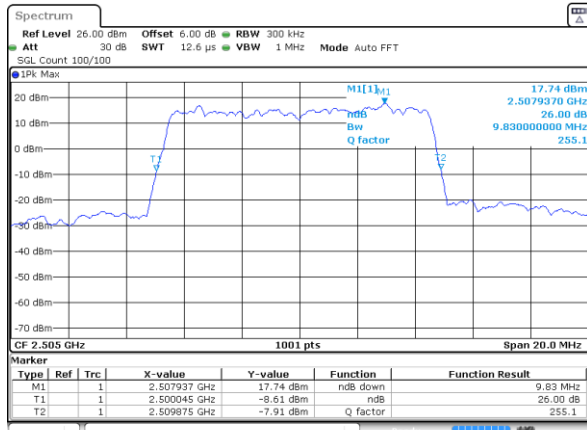


Date: 4 JAN 2020 21:01:11



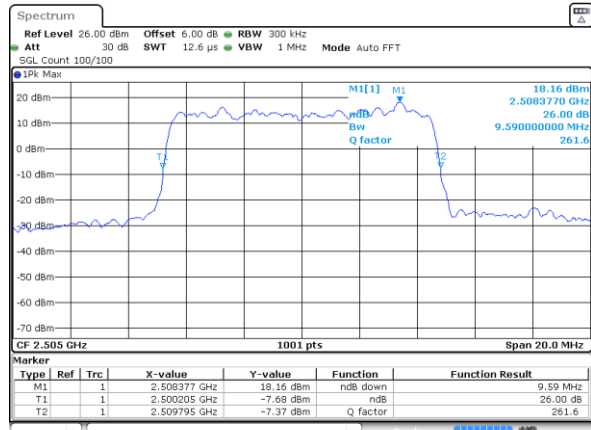
## LTE Band 7

## Lowest Channel / 10MHz / QPSK



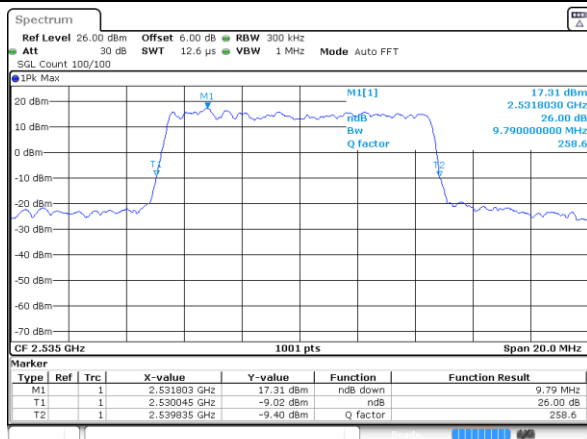
Date: 4 JAN 2020 21:15:59

## Lowest Channel / 10MHz / 16QAM



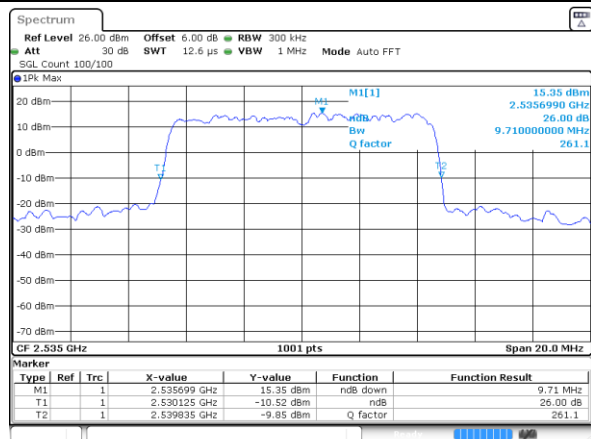
Date: 4 JAN 2020 21:16:19

## Middle Channel / 10MHz / QPSK



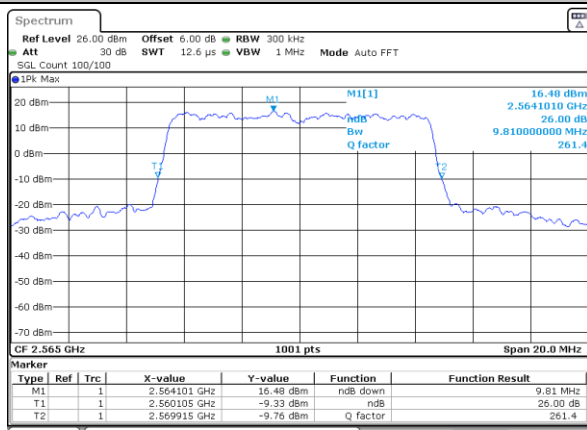
Date: 4 JAN 2020 21:16:59

## Middle Channel / 10MHz / 16QAM



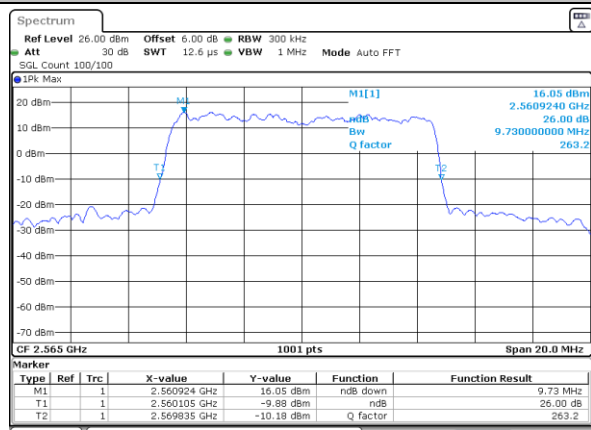
Date: 4 JAN 2020 21:16:39

## Highest Channel / 10MHz / QPSK



Date: 4 JAN 2020 21:17:19

## Highest Channel / 10MHz / 16QAM

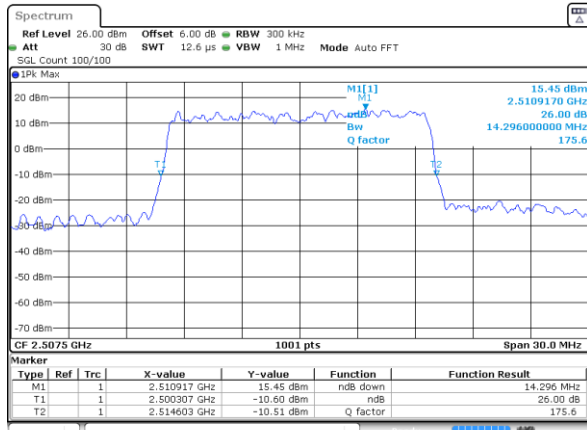


Date: 4 JAN 2020 21:17:39

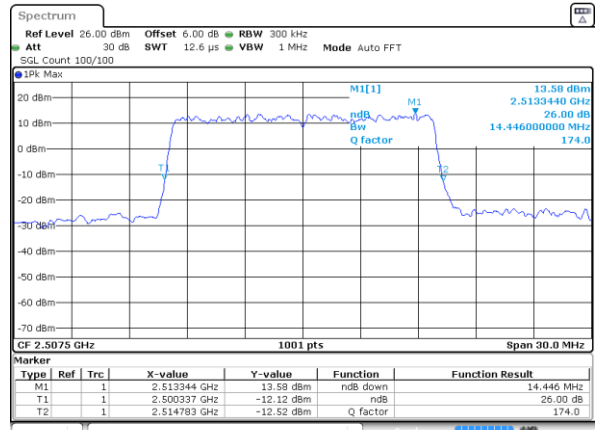


## LTE Band 7

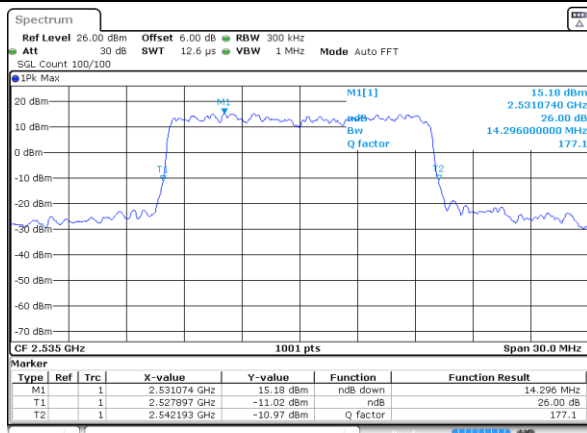
## Lowest Channel / 15MHz / QPSK



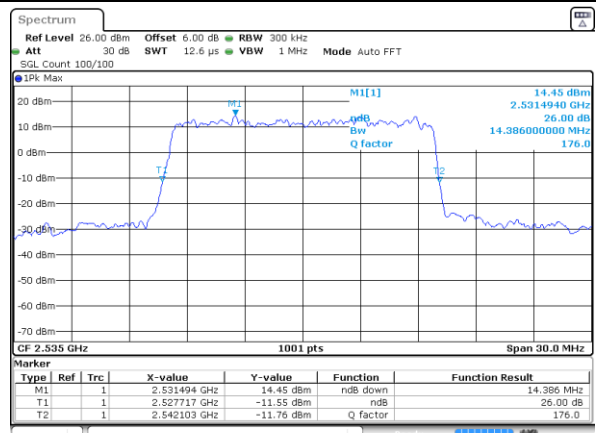
## Lowest Channel / 15MHz / 16QAM



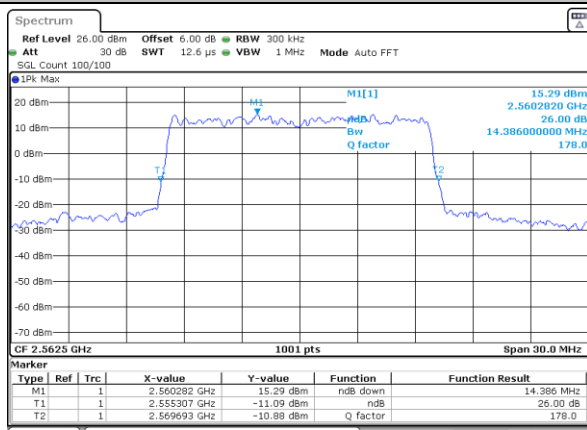
## Middle Channel / 15MHz / QPSK



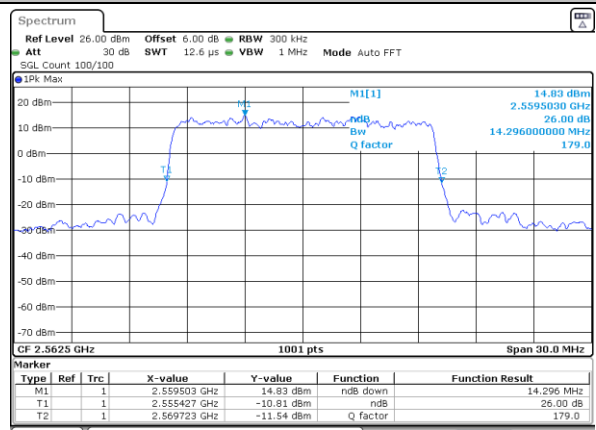
## Middle Channel / 15MHz / 16QAM



## Highest Channel / 15MHz / QPSK



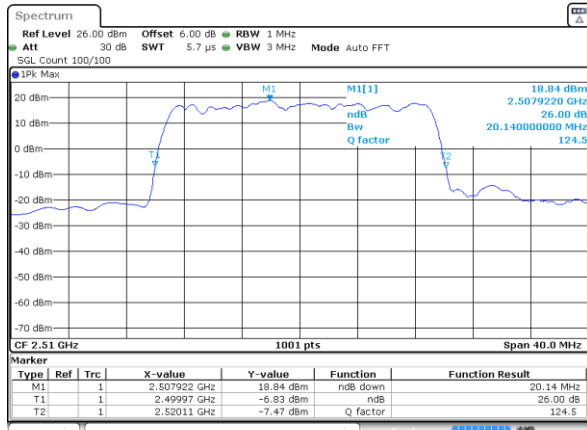
## Highest Channel / 15MHz / 16QAM





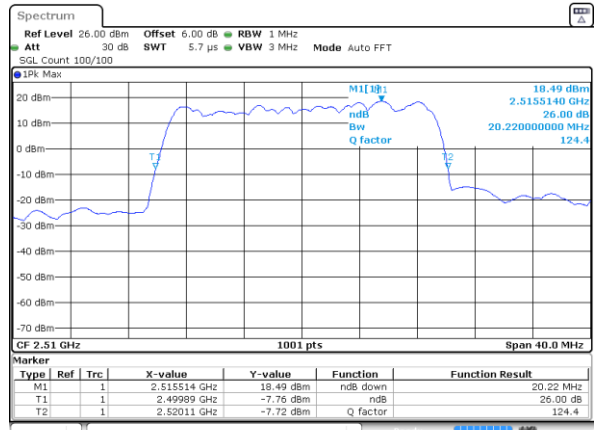
## LTE Band 7

## Lowest Channel / 20MHz / QPSK



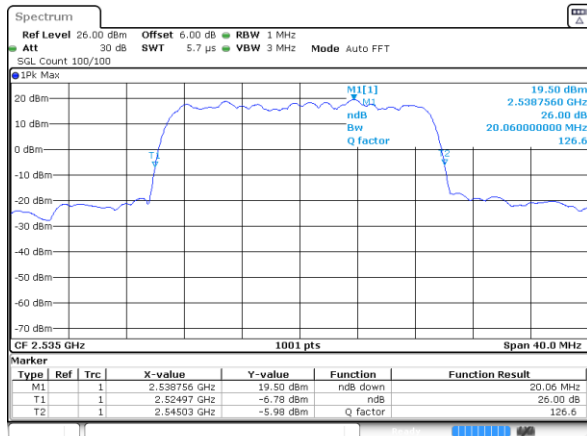
Date: 4 JAN 2020 21:49:14

## Lowest Channel / 20MHz / 16QAM



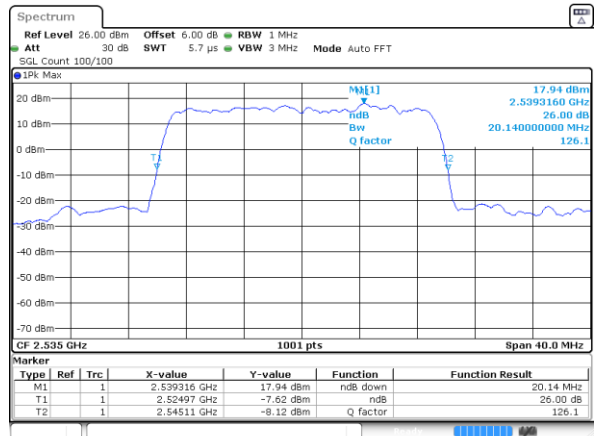
Date: 4 JAN 2020 21:48:54

## Middle Channel / 20MHz / QPSK



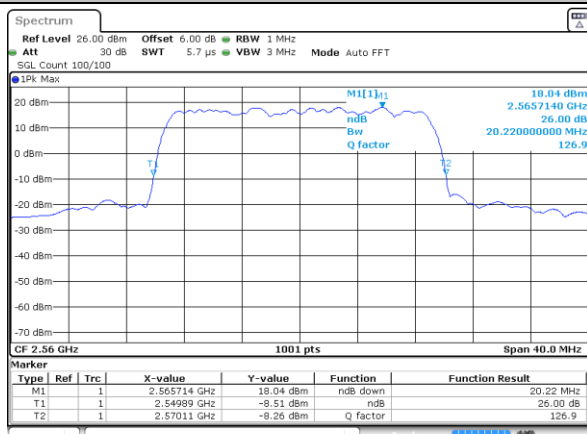
Date: 4 JAN 2020 21:49:34

## Middle Channel / 20MHz / 16QAM



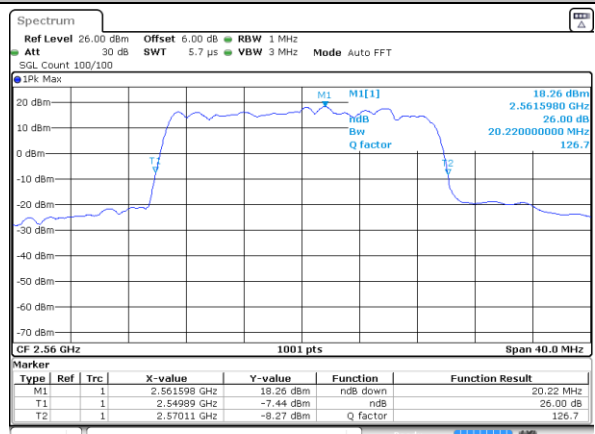
Date: 4 JAN 2020 21:49:54

## Highest Channel / 20MHz / QPSK



Date: 4 JAN 2020 21:50:34

## Highest Channel / 20MHz / 16QAM

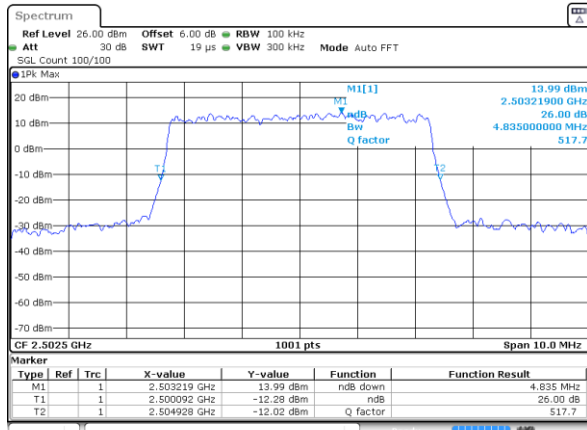


Date: 4 JAN 2020 21:50:14



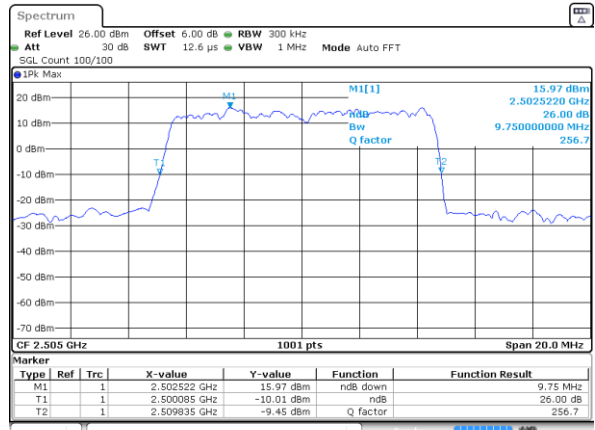
## LTE Band 7

## Lowest Channel / 5MHz / 64QAM



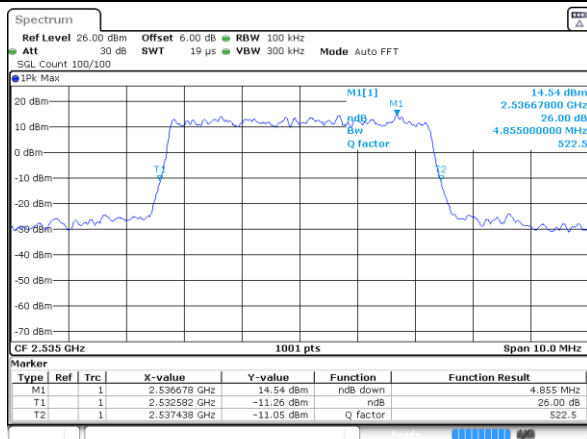
Date: 4 JAN 2020 22:05:42

## Lowest Channel / 10MHz / 64QAM



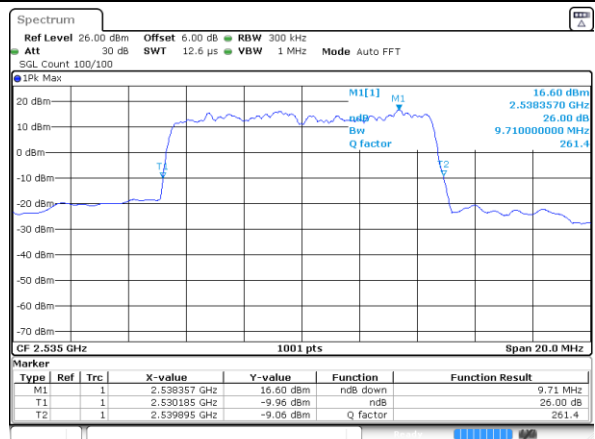
Date: 4 JAN 2020 22:13:56

## Middle Channel / 5MHz / 64QAM



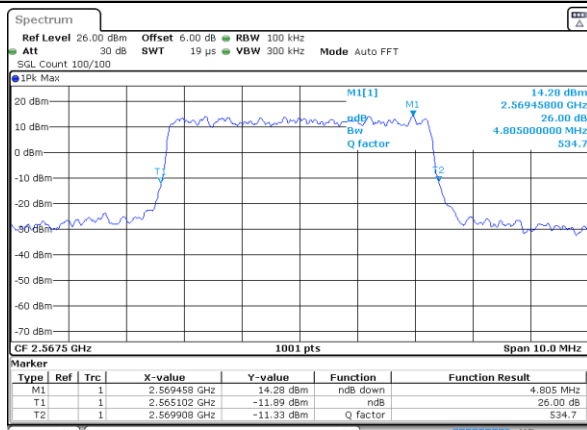
Date: 4 JAN 2020 22:05:52

## Middle Channel / 10MHz / 64QAM



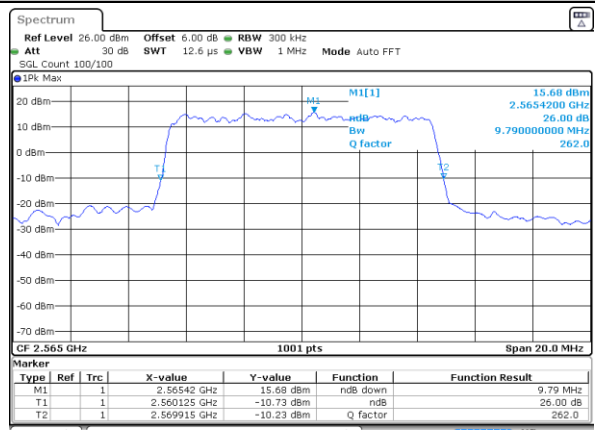
Date: 4 JAN 2020 22:14:06

## Highest Channel / 5MHz / 64QAM



Date: 4 JAN 2020 22:06:02

## Highest Channel / 10MHz / 64QAM

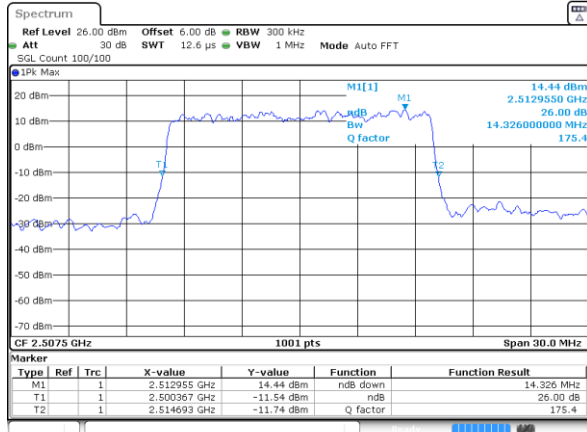


Date: 4 JAN 2020 22:14:16



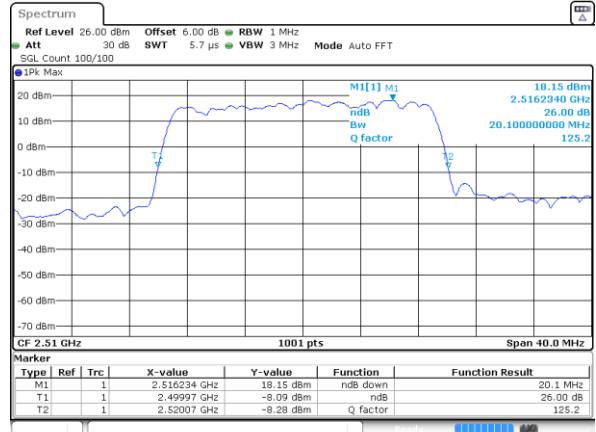
## LTE Band 7

## Lowest Channel / 15MHz / 64QAM



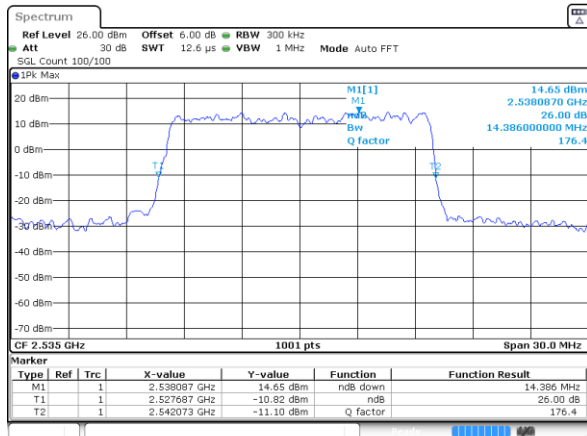
Date: 4 JAN 2020 22:22:10

## Lowest Channel / 20MHz / 64QAM



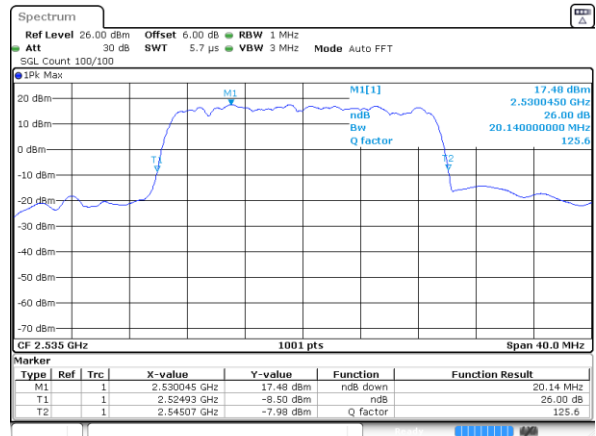
Date: 4 JAN 2020 22:30:24

## Middle Channel / 15MHz / 64QAM



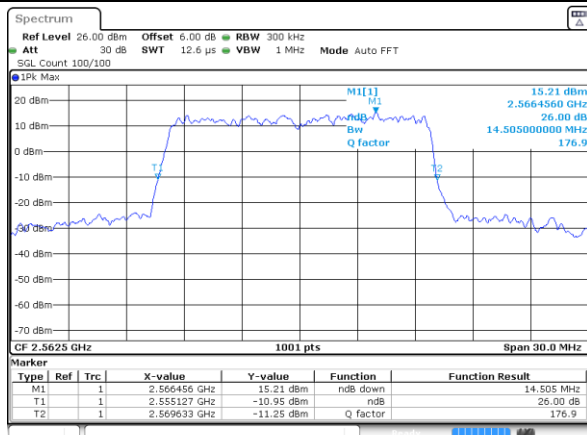
Date: 4 JAN 2020 22:22:20

## Middle Channel / 20MHz / 64QAM



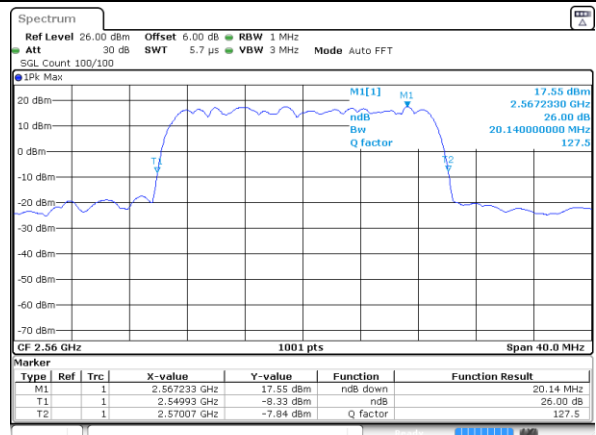
Date: 4 JAN 2020 22:30:34

## Highest Channel / 15MHz / 64QAM



Date: 4 JAN 2020 22:22:30

## Highest Channel / 20MHz / 64QAM



Date: 4 JAN 2020 22:30:44

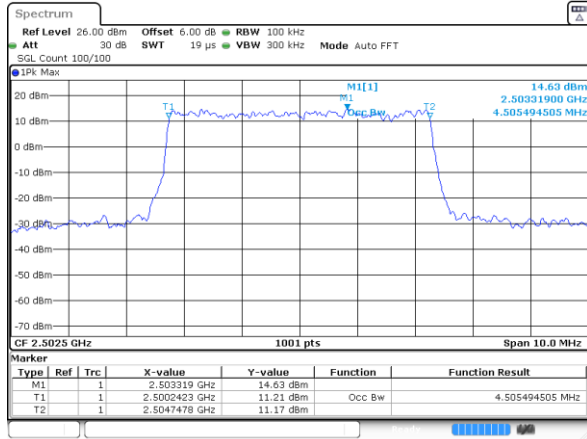
**Occupied Bandwidth**

| Mode       | LTE Band 7 : 99%OBW(MHz) |       |       |       |        |        |        |        |
|------------|--------------------------|-------|-------|-------|--------|--------|--------|--------|
| BW         | 5MHz                     |       | 10MHz |       | 15MHz  |        | 20MHz  |        |
| Mod.       | QPSK                     | 16QAM | QPSK  | 16QAM | QPSK   | 16QAM  | QPSK   | 16QAM  |
| Lowest CH  | 4.505                    | 4.496 | 9.031 | 8.991 | 13.397 | 13.487 | 18.262 | 18.342 |
| Middle CH  | 4.496                    | 4.486 | 9.031 | 8.971 | 13.516 | 13.457 | 18.222 | 18.262 |
| Highest CH | 4.496                    | 4.496 | 9.051 | 8.971 | 13.487 | 13.367 | 18.341 | 18.422 |
| BW         | 5MHz                     |       | 10MHz |       | 15MHz  |        | 20MHz  |        |
| Mod.       | 64QAM                    |       | 64QAM |       | 64QAM  |        | 64QAM  |        |
| Lowest CH  | 4.496                    |       | 8.971 |       | 13.516 |        | 18.342 |        |
| Middle CH  | 4.476                    |       | 8.971 |       | 13.427 |        | 18.302 |        |
| Highest CH | 4.476                    |       | 9.011 |       | 13.397 |        | 18.501 |        |

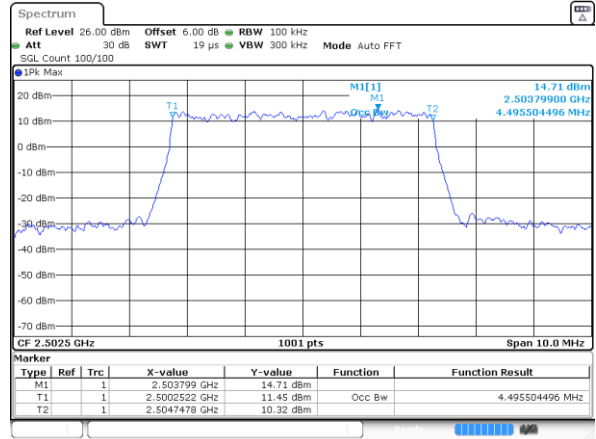


## LTE Band 7

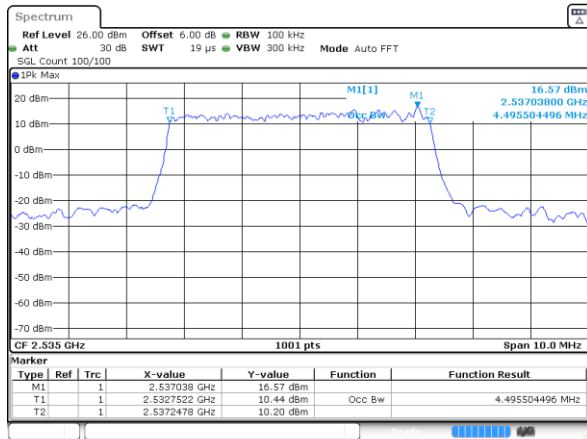
## Lowest Channel / 5MHz / QPSK



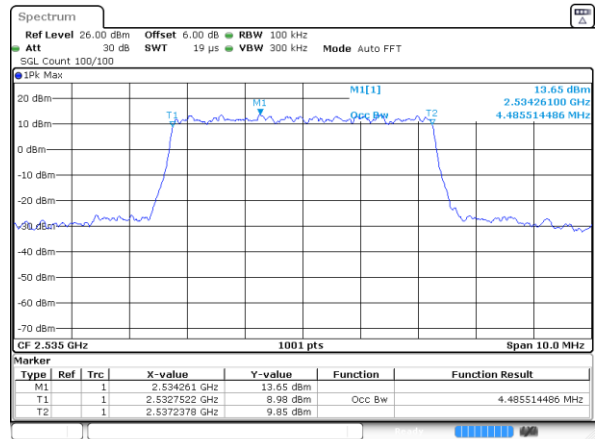
## Lowest Channel / 5MHz / 16QAM



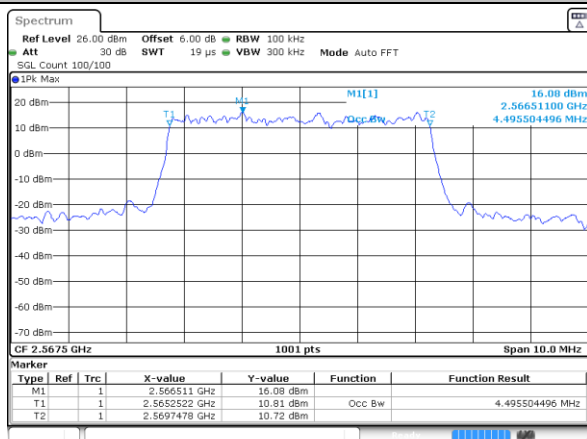
## Middle Channel / 5MHz / QPSK



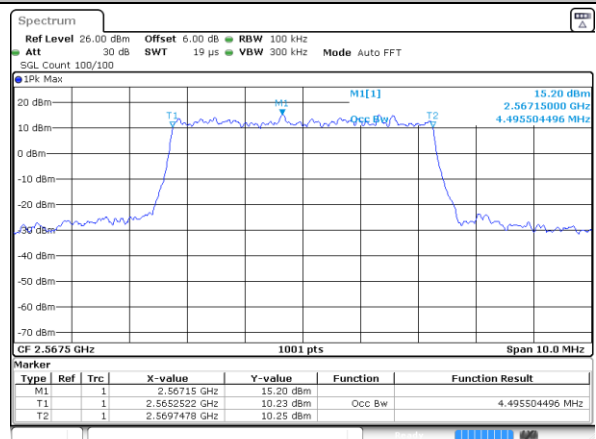
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



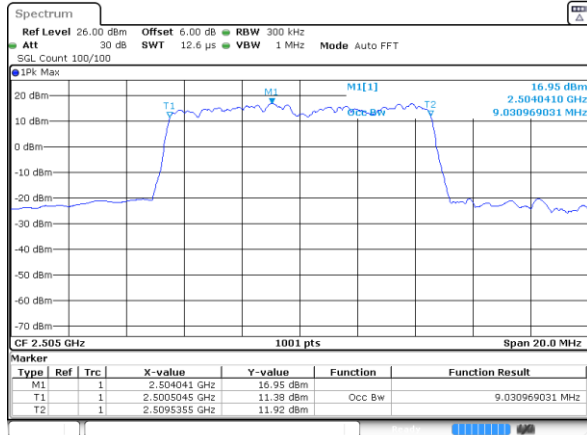
## Highest Channel / 5MHz / 16QAM





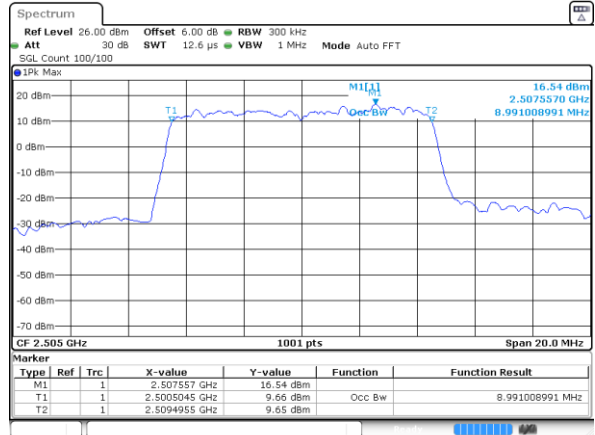
## LTE Band 7

## Lowest Channel / 10MHz / QPSK



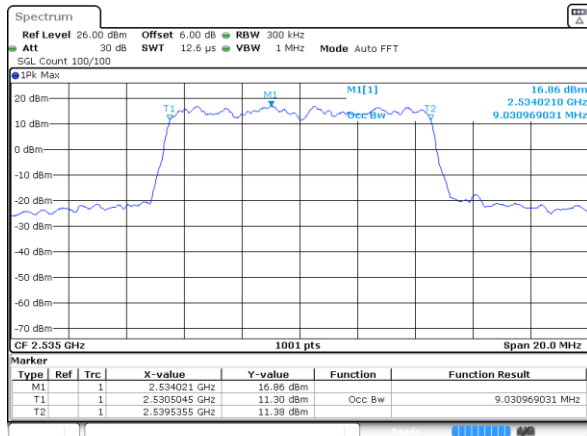
Date: 4 JAN 2020 21:15:49

## Lowest Channel / 10MHz / 16QAM



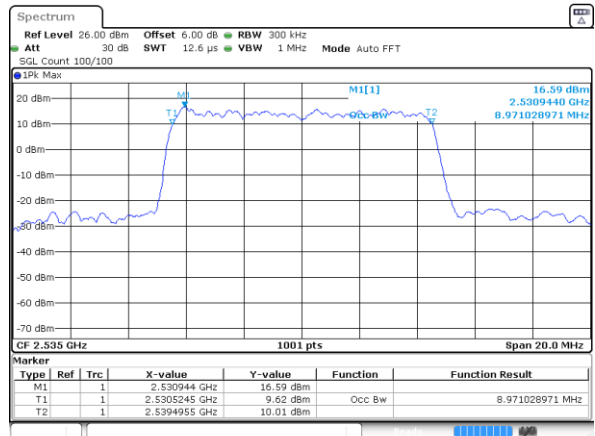
Date: 4 JAN 2020 21:16:09

## Middle Channel / 10MHz / QPSK



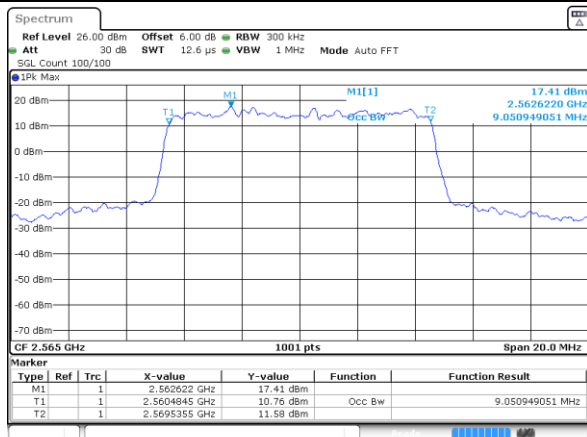
Date: 4 JAN 2020 21:16:49

## Middle Channel / 10MHz / 16QAM



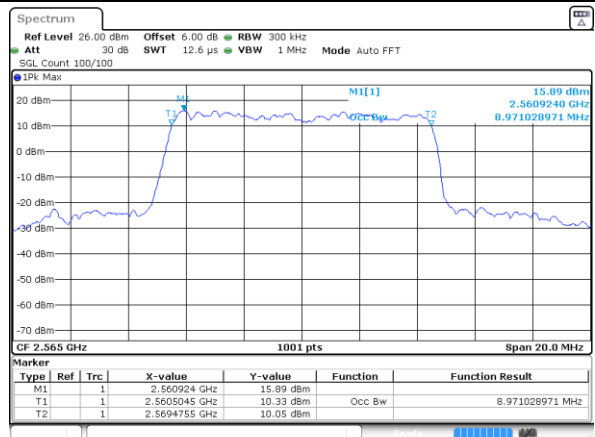
Date: 4 JAN 2020 21:16:29

## Highest Channel / 10MHz / QPSK



Date: 4 JAN 2020 21:17:09

## Highest Channel / 10MHz / 16QAM

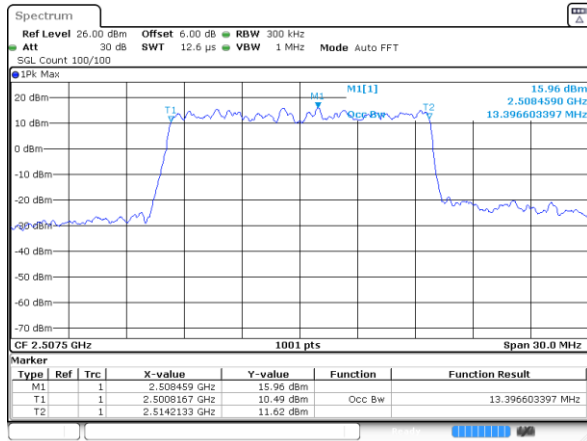


Date: 4 JAN 2020 21:17:29

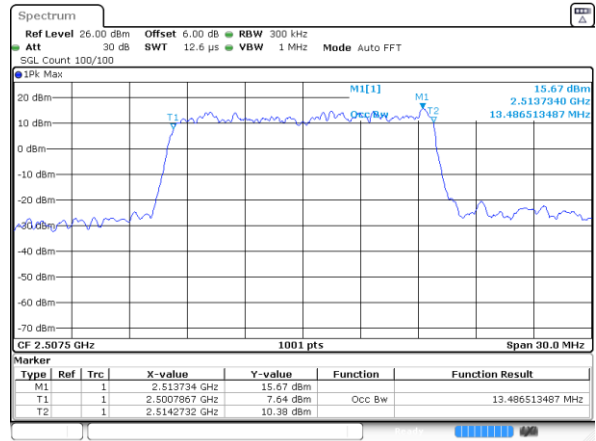


## LTE Band 7

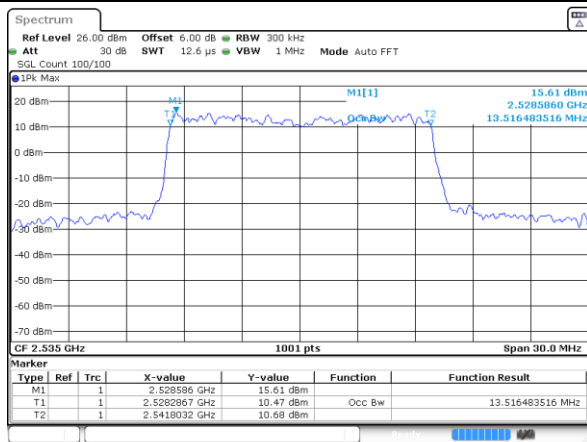
## Lowest Channel / 15MHz / QPSK



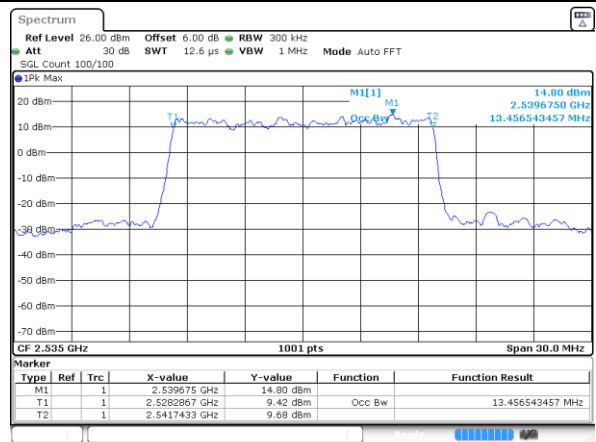
## Lowest Channel / 15MHz / 16QAM



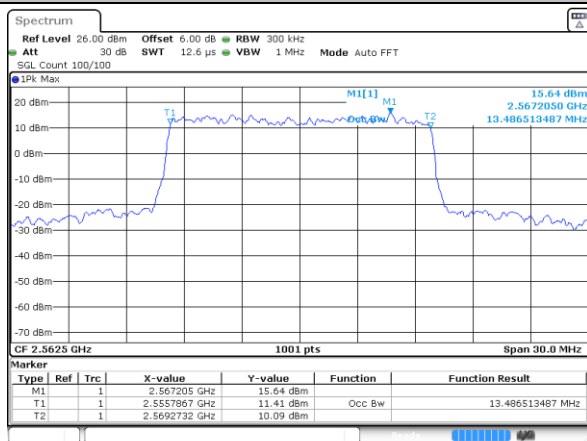
## Middle Channel / 15MHz / QPSK



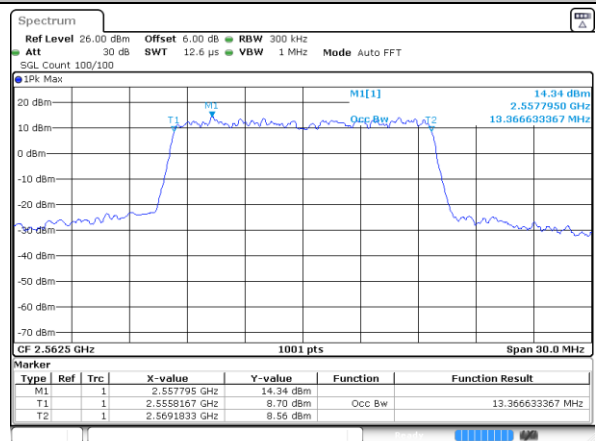
## Middle Channel / 15MHz / 16QAM



## Highest Channel / 15MHz / QPSK



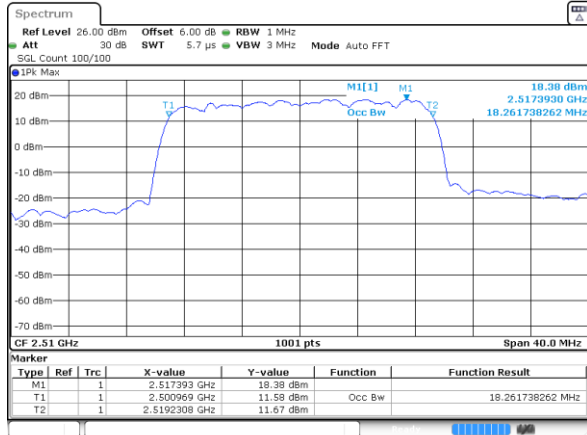
## Highest Channel / 15MHz / 16QAM



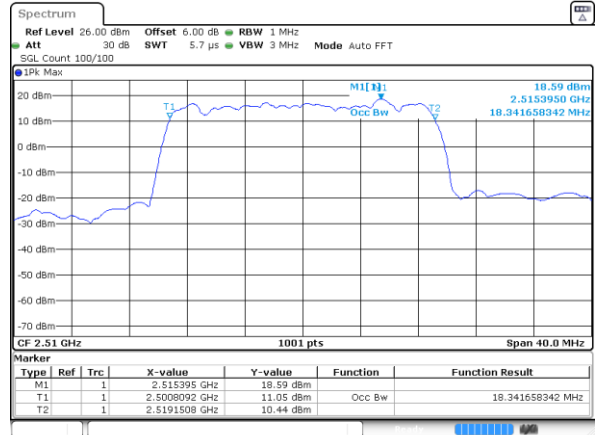


## LTE Band 7

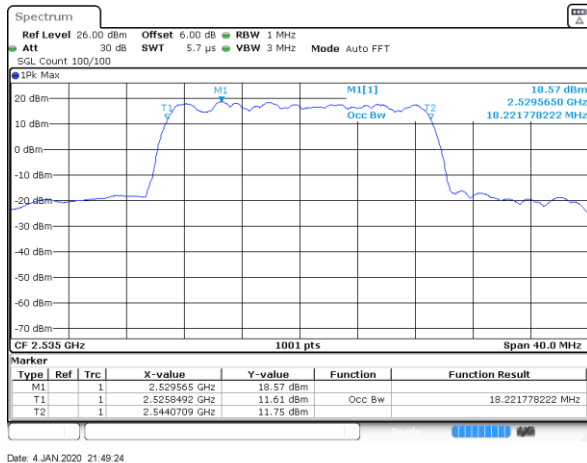
## Lowest Channel / 20MHz / QPSK



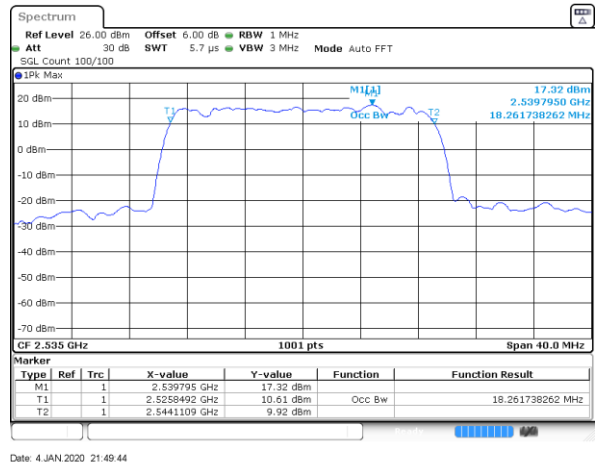
## Lowest Channel / 20MHz / 16QAM



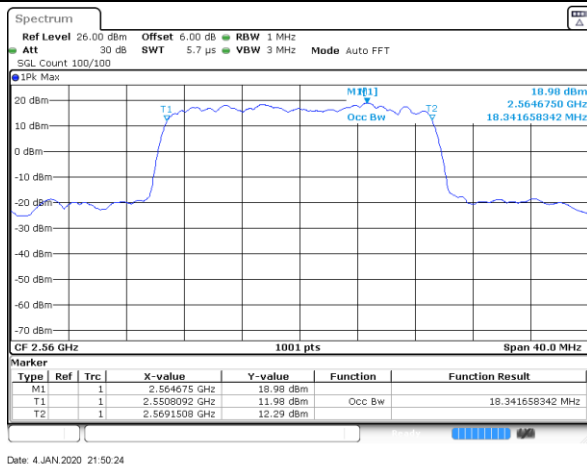
## Middle Channel / 20MHz / QPSK



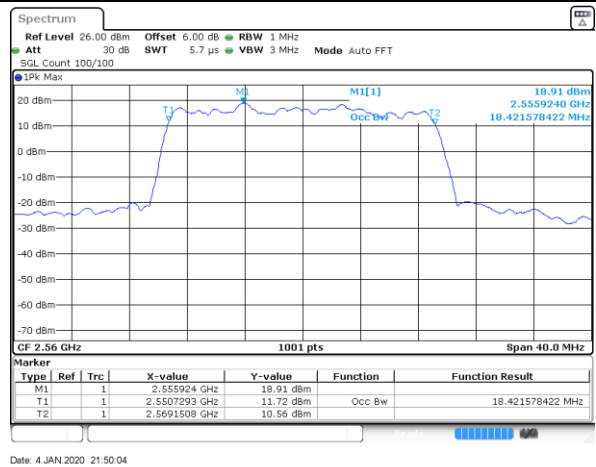
## Middle Channel / 20MHz / 16QAM



## Highest Channel / 20MHz / QPSK



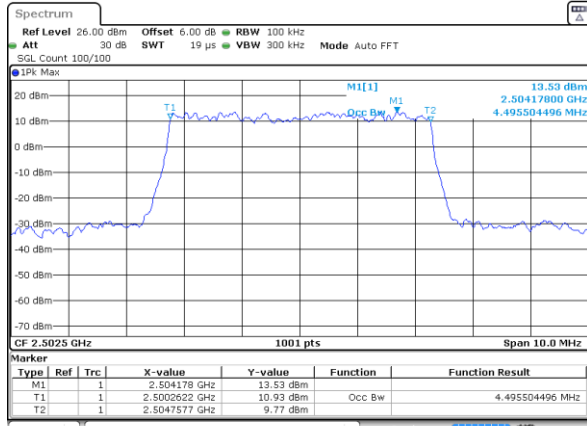
## Highest Channel / 20MHz / 16QAM





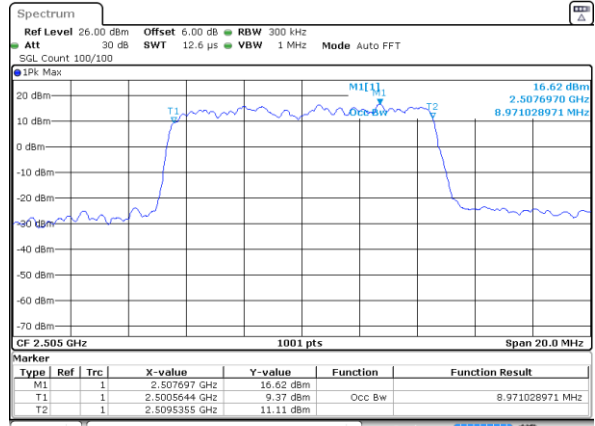
## LTE Band 7

## Lowest Channel / 5MHz / 64QAM



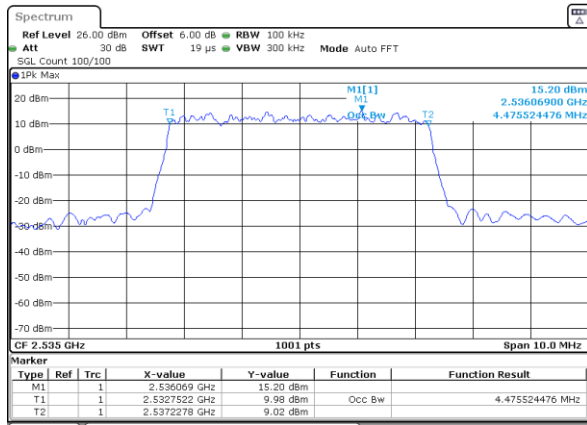
Date: 4 JAN 2020 22:05:12

## Lowest Channel / 10MHz / 64QAM



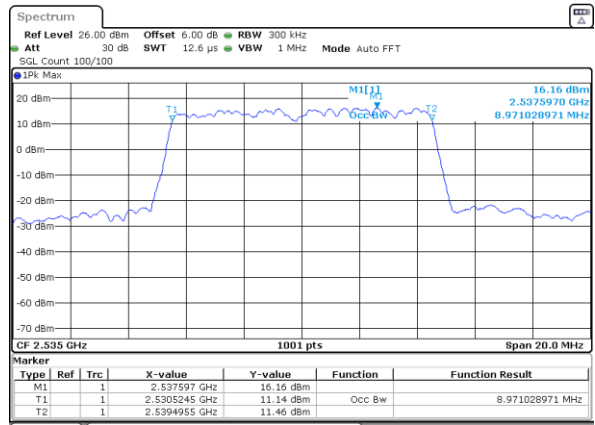
Date: 4 JAN 2020 22:13:26

## Middle Channel / 5MHz / 64QAM



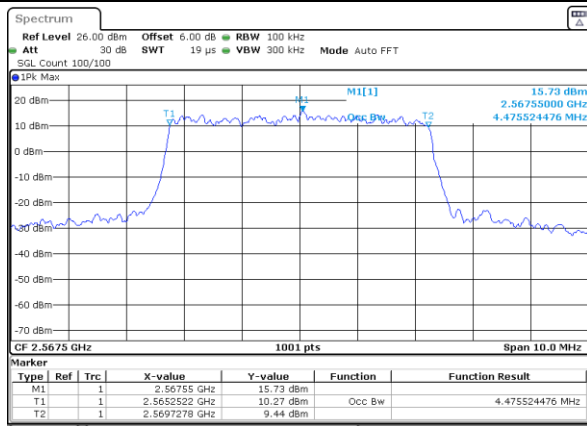
Date: 4 JAN 2020 22:05:22

## Middle Channel / 10MHz / 64QAM



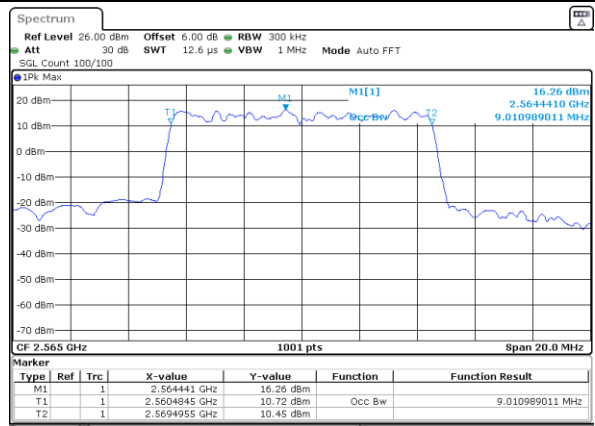
Date: 4 JAN 2020 22:13:36

## Highest Channel / 5MHz / 64QAM



Date: 4 JAN 2020 22:05:32

## Highest Channel / 10MHz / 64QAM

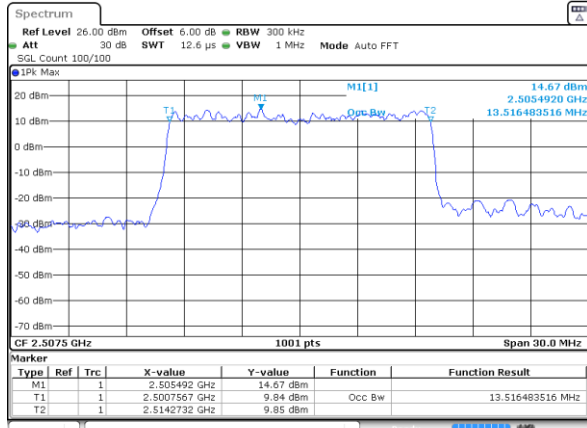


Date: 4 JAN 2020 22:13:46



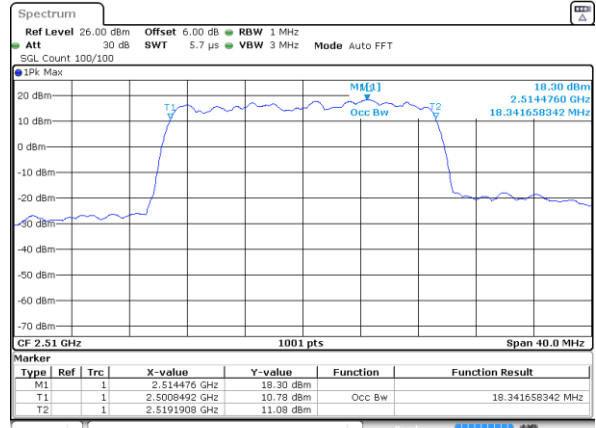
## LTE Band 7

## Lowest Channel / 15MHz / 64QAM



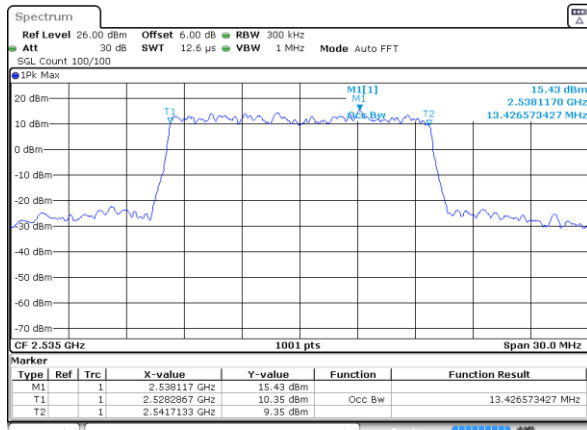
Date: 4 JAN 2020 22:21:40

## Lowest Channel / 20MHz / 64QAM



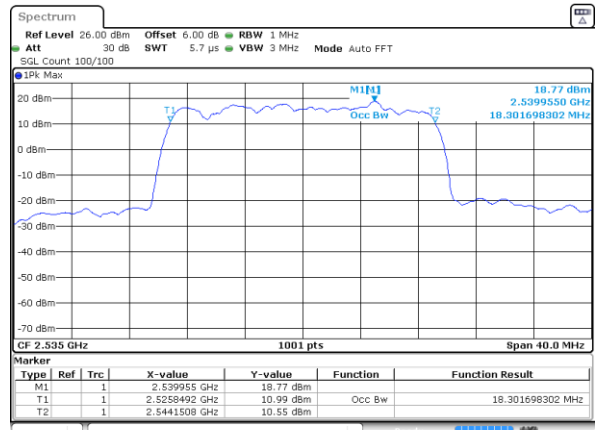
Date: 4 JAN 2020 22:29:54

## Middle Channel / 15MHz / 64QAM



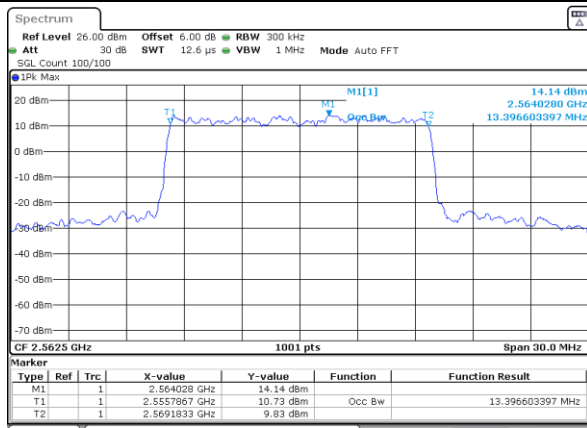
Date: 4 JAN 2020 22:21:50

## Middle Channel / 20MHz / 64QAM



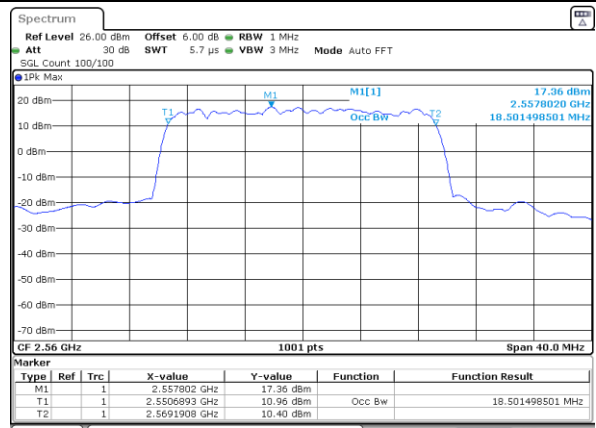
Date: 4 JAN 2020 22:30:04

## Highest Channel / 15MHz / 64QAM



Date: 4 JAN 2020 22:22:00

## Highest Channel / 20MHz / 64QAM



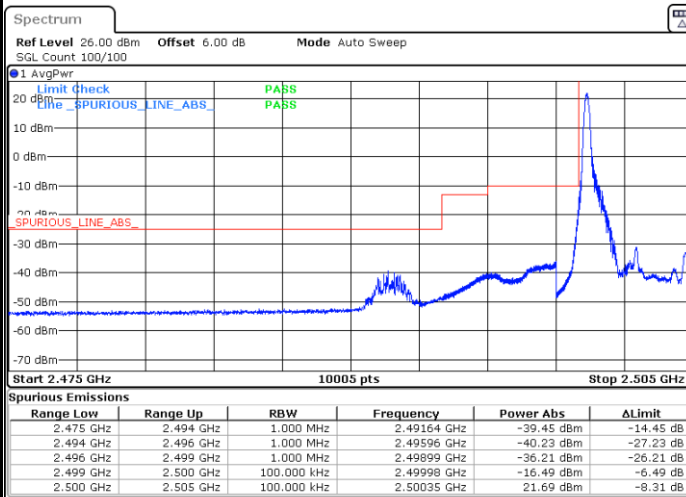
Date: 4 JAN 2020 22:30:14



# Conducted Band Edge

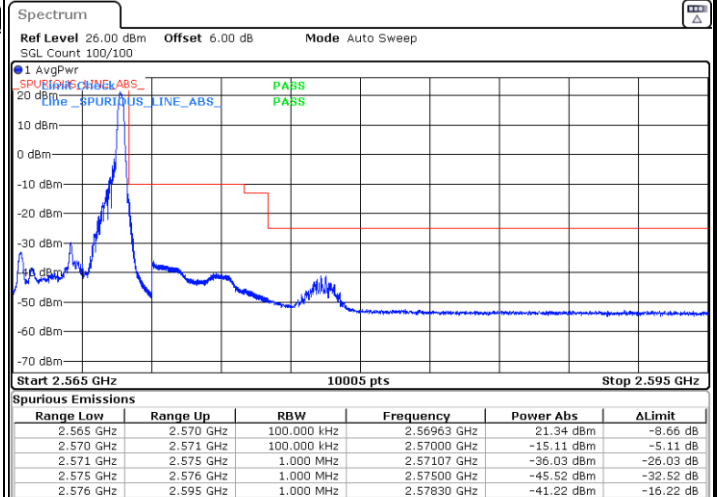
## LTE Band 7 / 5MHz / QPSK

### Lowest Band Edge / 1 RB



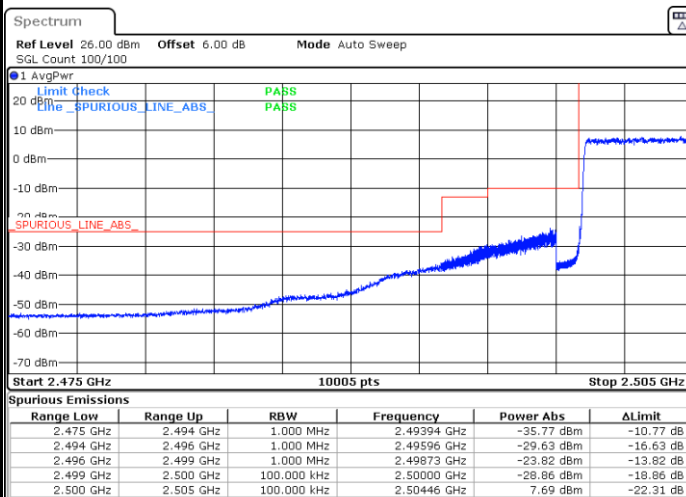
Date: 4 JAN 2020 21:02:19

### Highest Band Edge / 1 RB



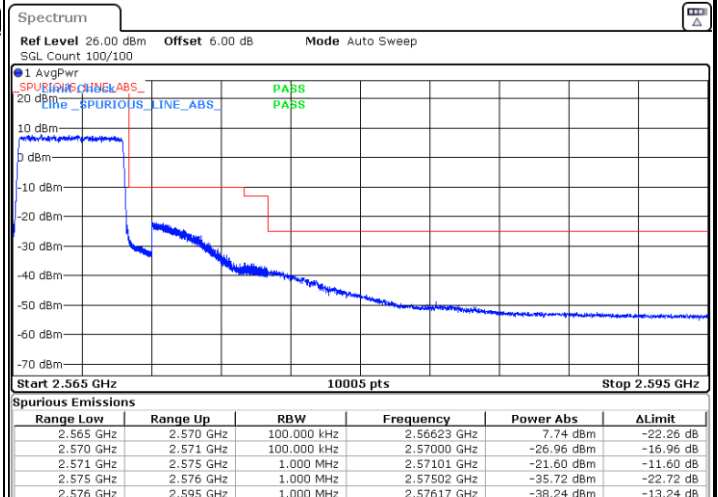
Date: 4 JAN 2020 21:10:17

### Lowest Band Edge / Full RB



Date: 4 JAN 2020 21:05:44

### Highest Band Edge / Full RB

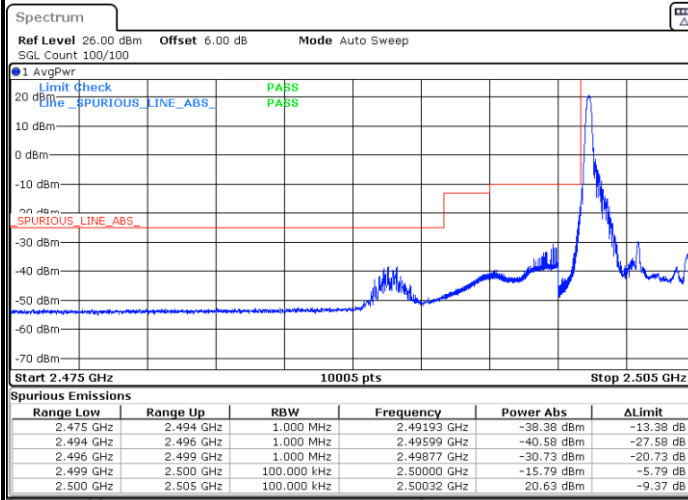


Date: 4 JAN 2020 21:06:53

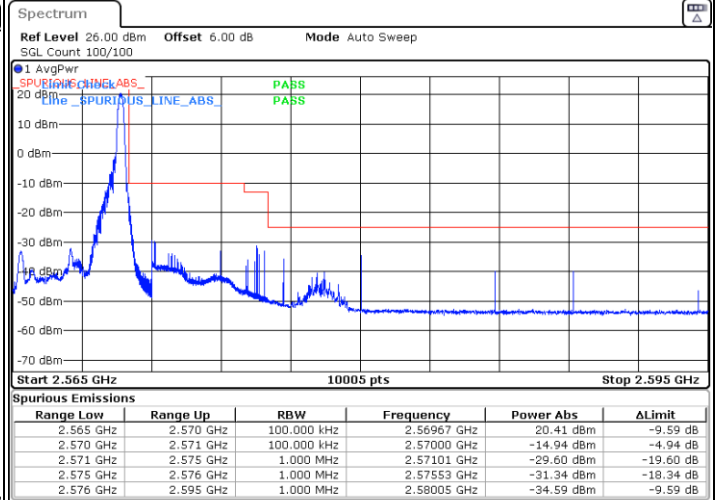


## LTE Band 7 / 5MHz / 16QAM

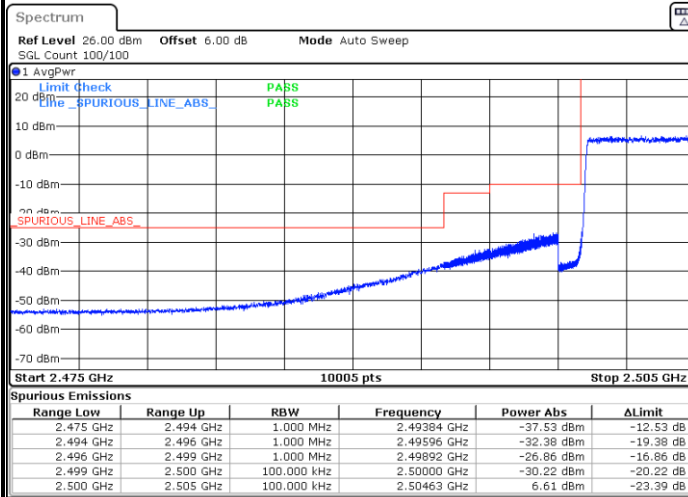
## Lowest Band Edge / 1 RB



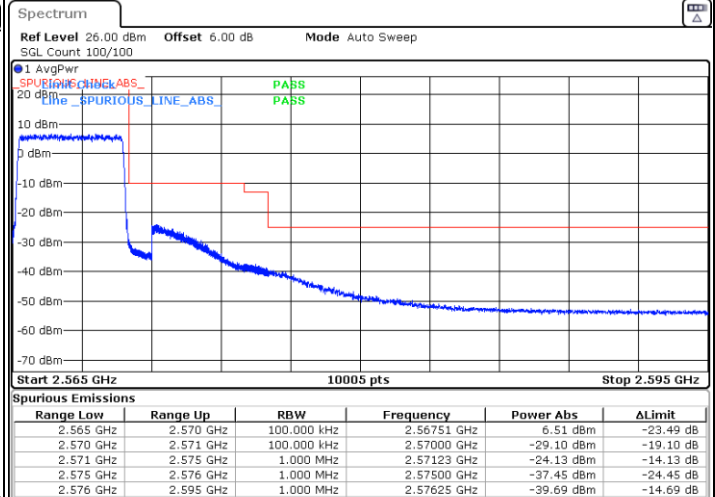
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



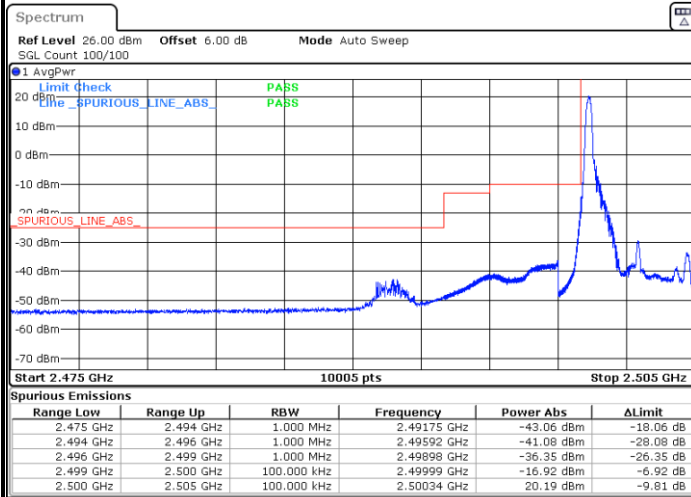
## Highest Band Edge / Full RB



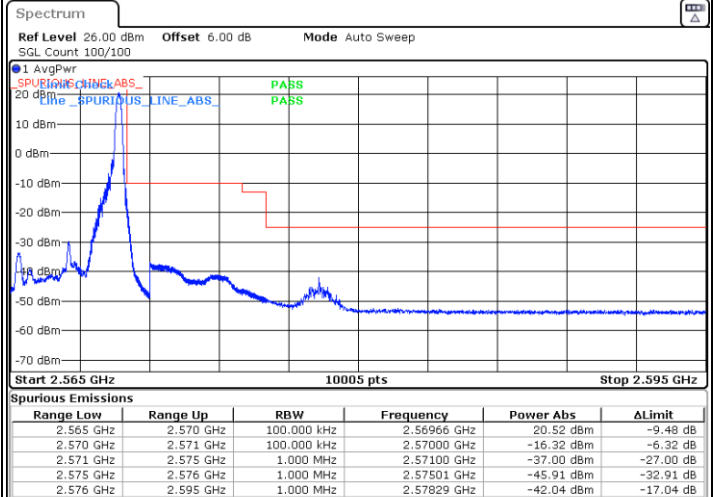


## LTE Band 7 / 5MHz / 64QAM

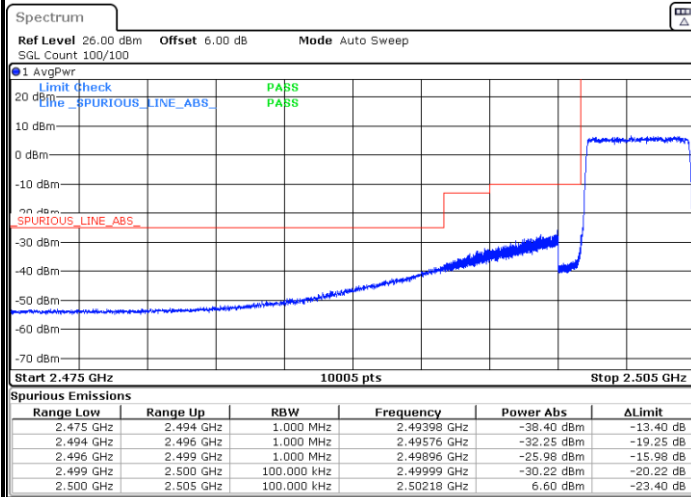
## Lowest Band Edge / 1RB



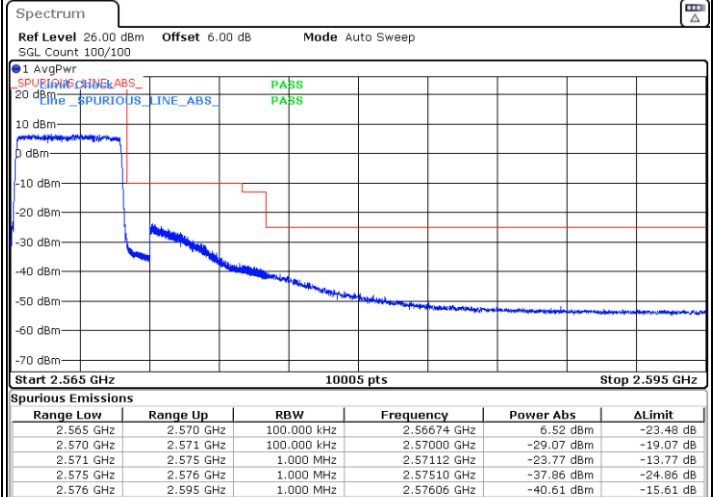
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



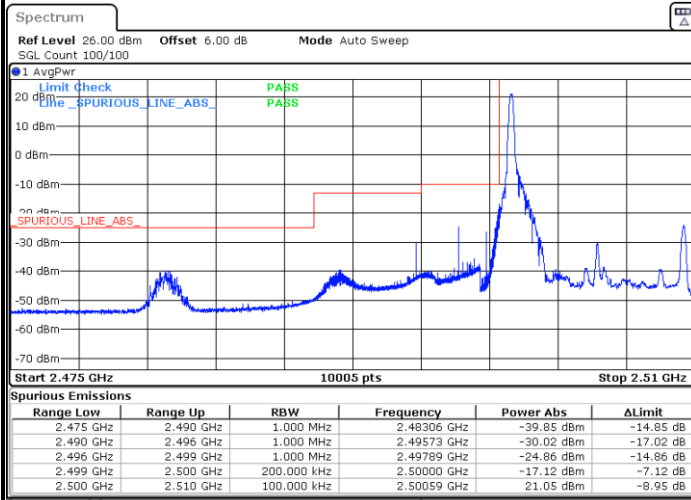
## Highest Band Edge / Full RB



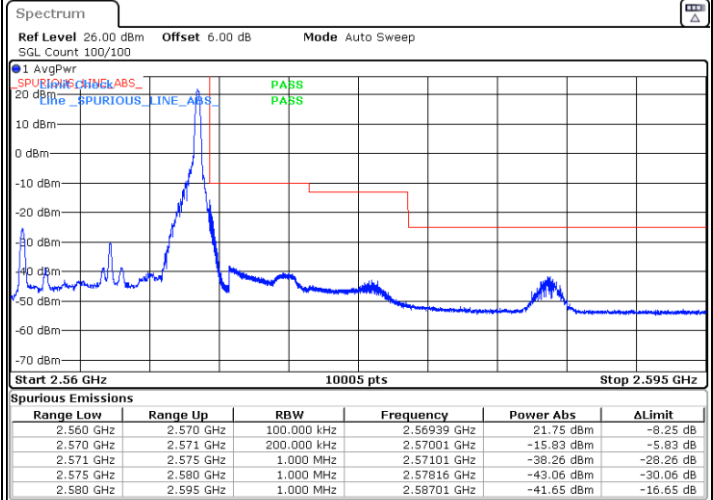


## LTE Band 7 / 10MHz / QPSK

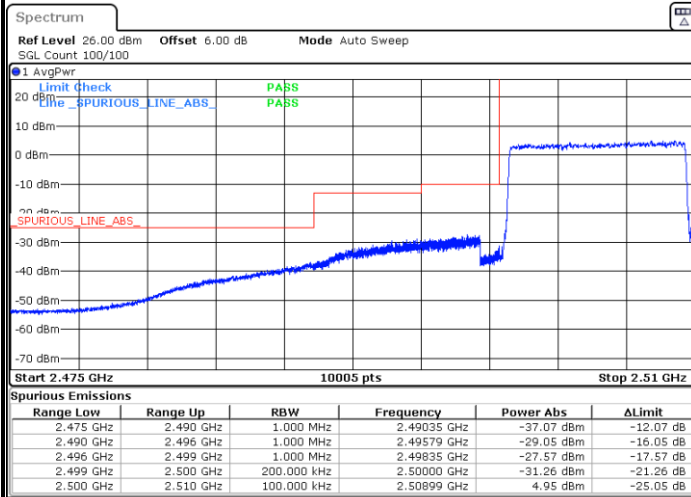
## Lowest Band Edge / 1 RB



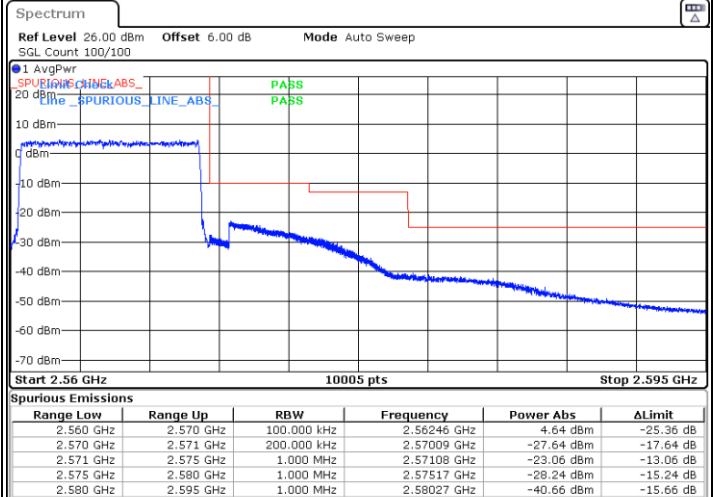
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



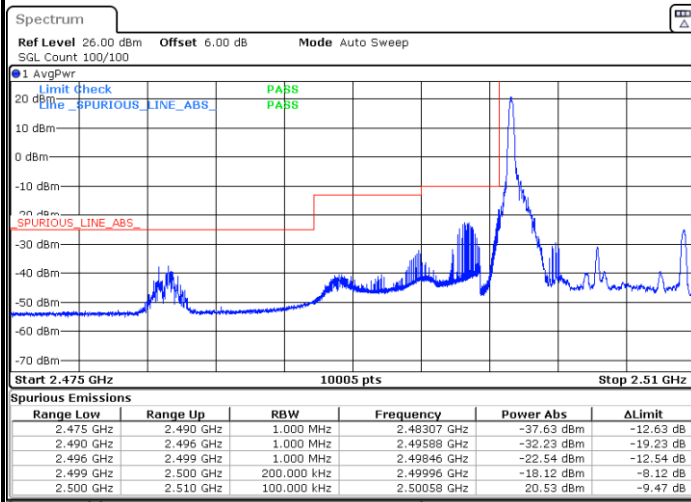
## Highest Band Edge / Full RB



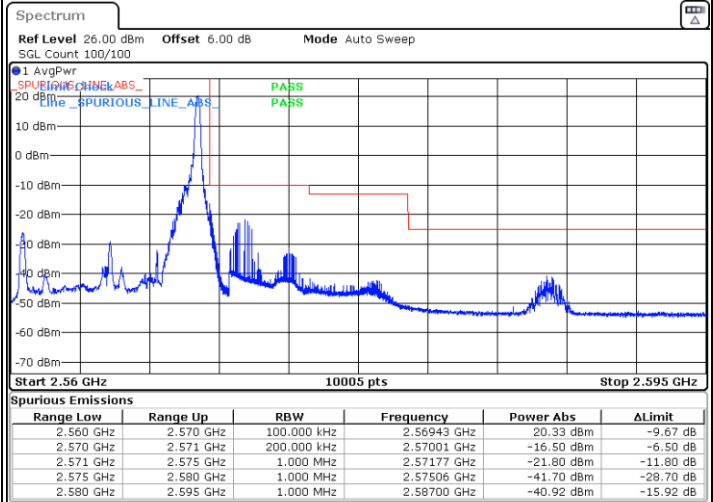


## LTE Band 7 / 10MHz / 16QAM

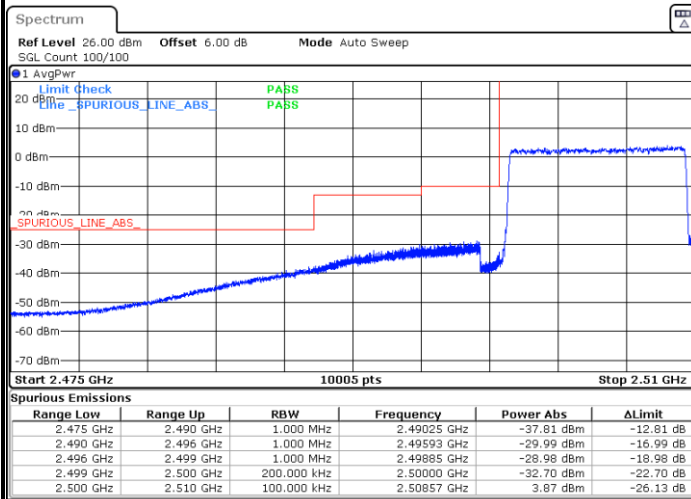
## Lowest Band Edge / 1 RB



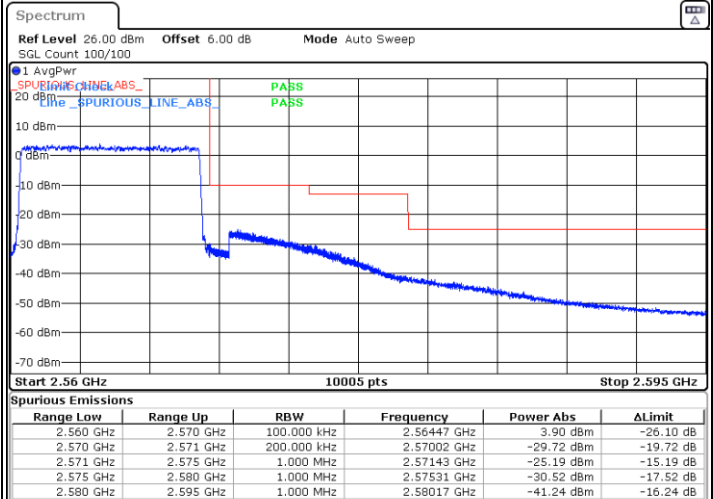
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



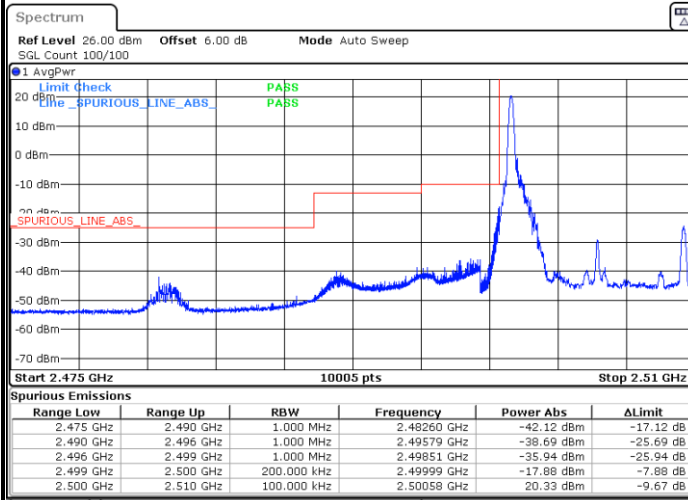
## Highest Band Edge / Full RB



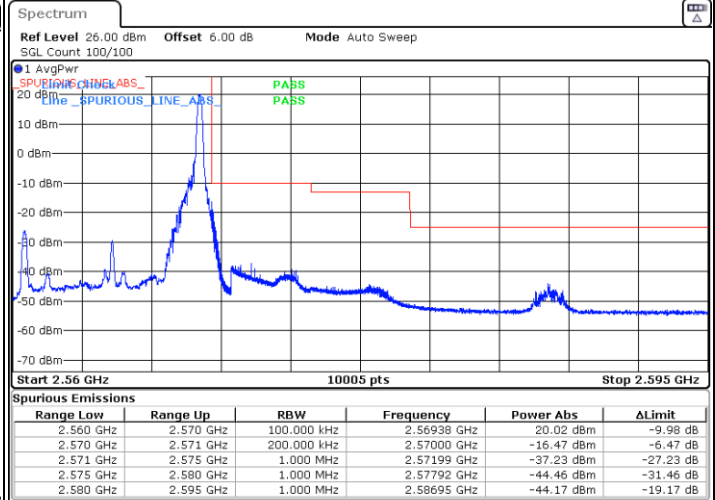


## LTE Band 7 / 10MHz / 64QAM

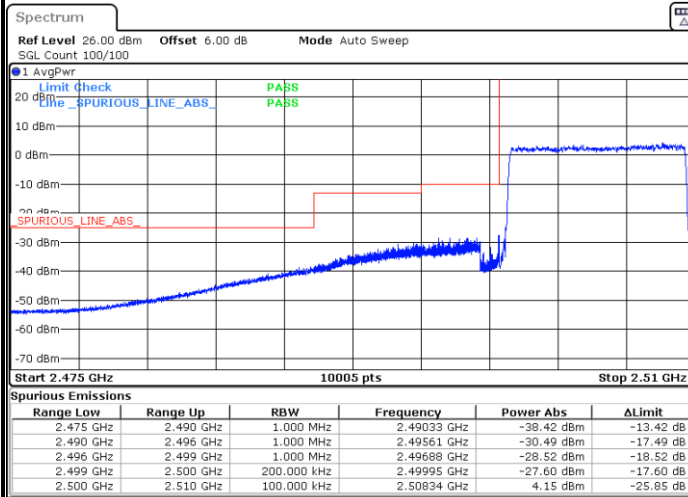
## Lowest Band Edge / 1 RB



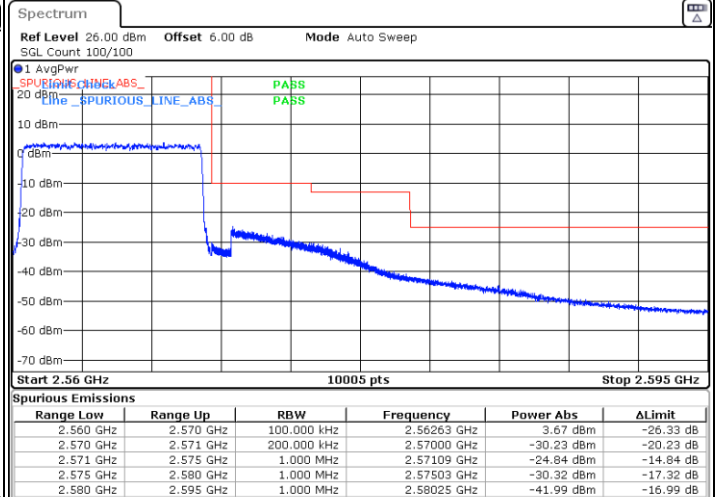
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



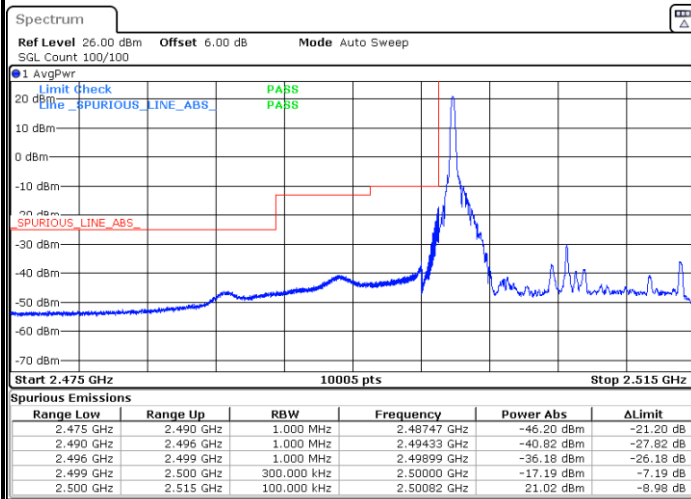
## Highest Band Edge / Full RB



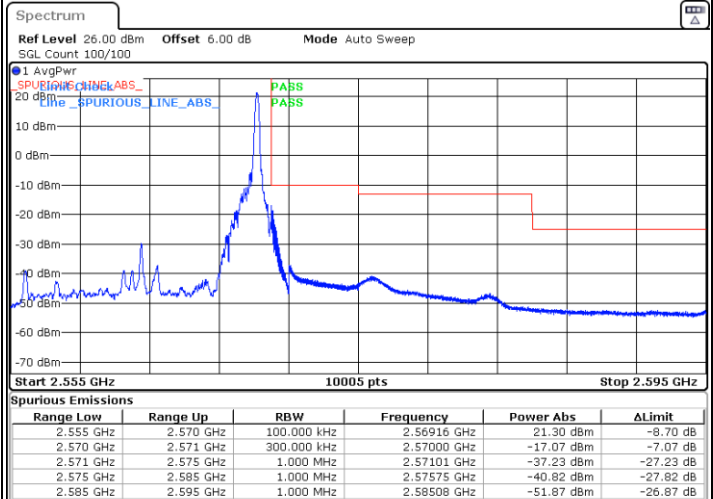


## LTE Band 7 / 15MHz / QPSK

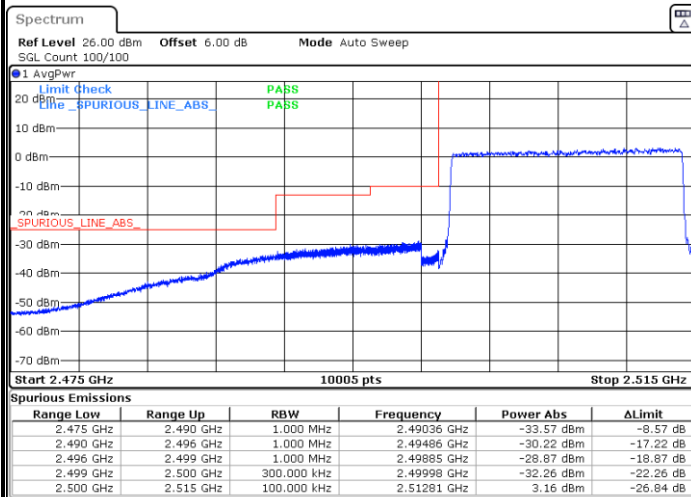
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB

