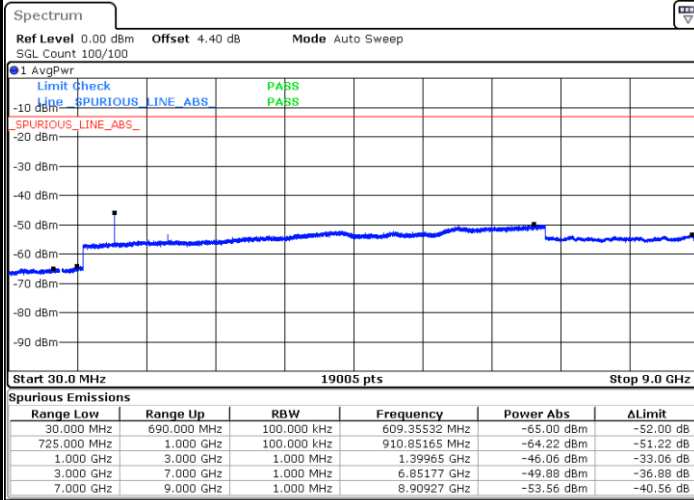




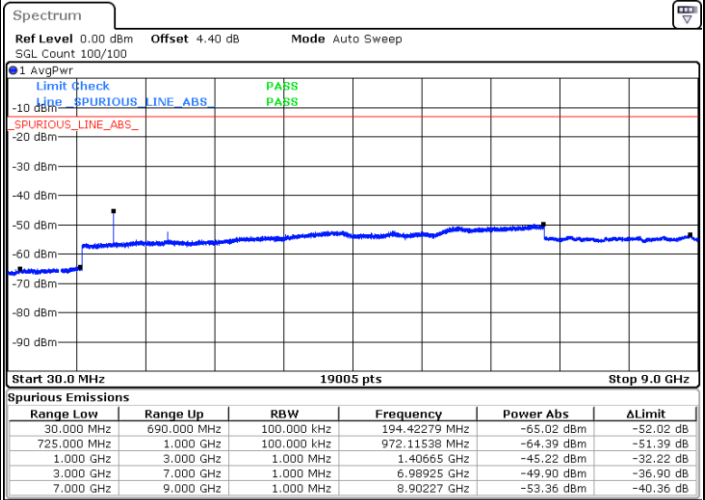
## LTE Band 12 / 10MHz

## Lowest Channel / 64QAM



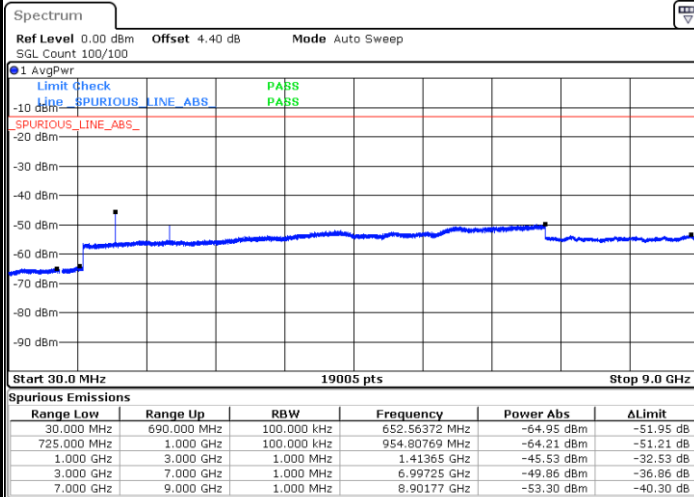
Date: 4 MAY 2020 17:13:03

## Middle Channel / 64QAM



Date: 4 MAY 2020 17:13:57

## Highest Channel / 64QAM



Date: 4 MAY 2020 17:14:50

## Frequency Stability

| Test Conditions  |                   | LTE Band 12 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|-------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                            | Note 2. |
|                  |                   | Deviation (ppm)                     | Result  |
| 50               | Normal Voltage    | 0.0007                              | PASS    |
| 40               | Normal Voltage    | 0.0095                              |         |
| 30               | Normal Voltage    | 0.0116                              |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                              |         |
| 10               | Normal Voltage    | 0.0011                              |         |
| 0                | Normal Voltage    | 0.0096                              |         |
| -10              | Normal Voltage    | 0.0008                              |         |
| -20              | Normal Voltage    | 0.0110                              |         |
| -30              | Normal Voltage    | 0.0102                              |         |
| 20               | Maximum Voltage   | 0.0112                              |         |
| 20               | Normal Voltage    | 0.0020                              |         |
| 20               | Battery End Point | 0.0140                              |         |

**Note:**

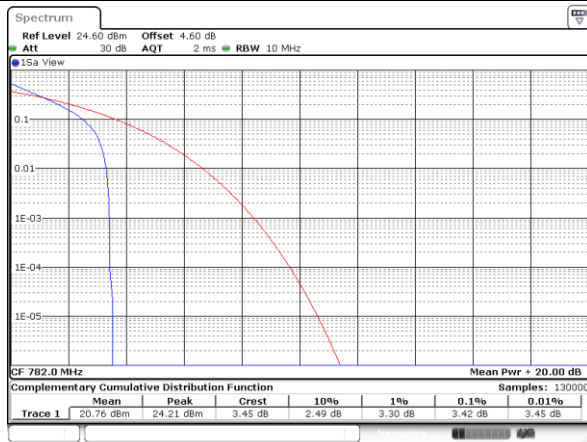
1. Normal Voltage =3.85V. ; Battery End Point (BEP) =3.6V. ; Maximum Voltage =4.4V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



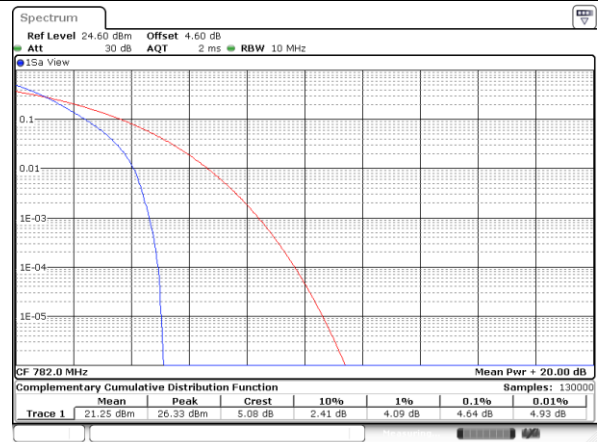
## LTE Band 13

## Peak-to-Average Ratio

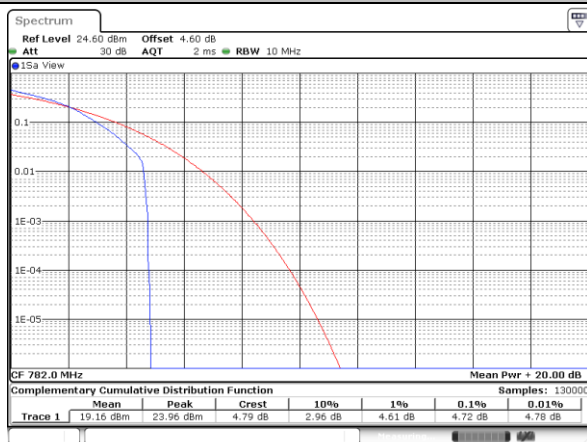
| Mode       | LTE Band 13 / 10MHz |         |       |         |             |
|------------|---------------------|---------|-------|---------|-------------|
| Mod.       | QPSK                |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | -                   | -       | -     | -       | PASS        |
| Middle CH  | 3.42                | 4.64    | 4.72  | 5.57    |             |
| Highest CH | -                   | -       | -     | -       |             |
| Mode       | LTE Band 13 / 10MHz |         |       |         |             |
| Mod.       | 64QAM               |         |       |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB |       |         | Result      |
| Lowest CH  | -                   | -       | -     | -       | PASS        |
| Middle CH  | 4.70                | 5.54    | -     | -       |             |
| Highest CH | -                   | -       | -     | -       |             |

**LTE Band 13 / 10MHz / QPSK**
**Middle Channel / 1RB**


Date: 15 MAY 2020 03:06:17

**Middle Channel / Full RB**


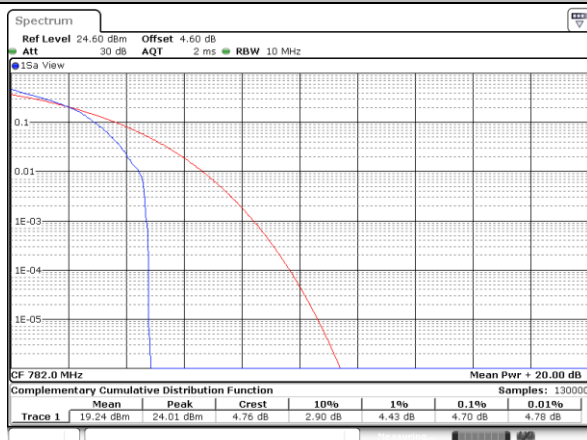
Date: 15 MAY 2020 03:06:28

**LTE Band 13 / 10MHz / 16QAM**
**Middle Channel / 1RB**


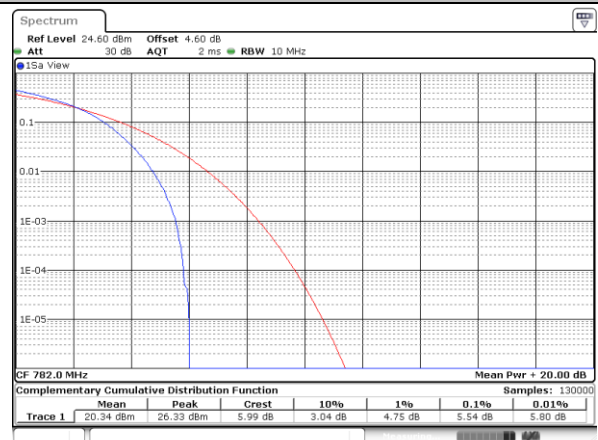
Date: 15 MAY 2020 03:06:07

**Middle Channel / Full RB**


Date: 15 MAY 2020 03:06:39

**LTE Band 13 / 10MHz / 64QAM**
**Middle Channel / 1RB**


Date: 15 MAY 2020 03:05:58

**Middle Channel / Full RB**


Date: 15 MAY 2020 03:06:50

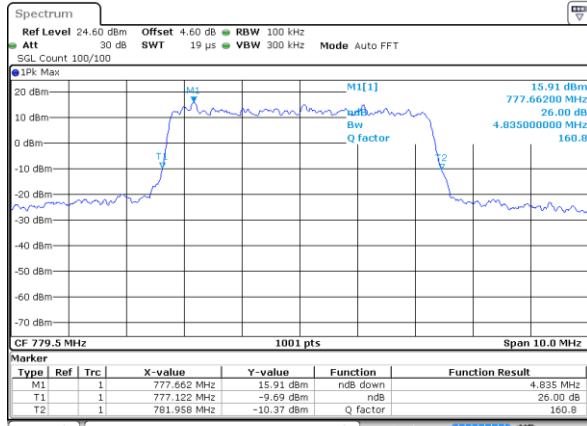
**26dB Bandwidth**

| Mode       | LTE Band 13 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
|------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| BW         | 1.4MHz                     |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | QPSK                       | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM |
| Lowest CH  | -                          | -     | -     | -     | 4.84  | 4.89  | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                          | -     | -     | -     | 4.97  | 4.92  | 9.69  | 9.63  | -     | -     | -     | -     |
| Highest CH | -                          | -     | -     | -     | 4.88  | 4.97  | -     | -     | -     | -     | -     | -     |
| Mode       | LTE Band 13 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                     |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                      |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | -                          | -     | -     | -     | 4.92  | -     | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                          | -     | -     | -     | 4.96  | -     | 9.95  | -     | -     | -     | -     | -     |
| Highest CH | -                          | -     | -     | -     | 4.92  | -     | -     | -     | -     | -     | -     | -     |

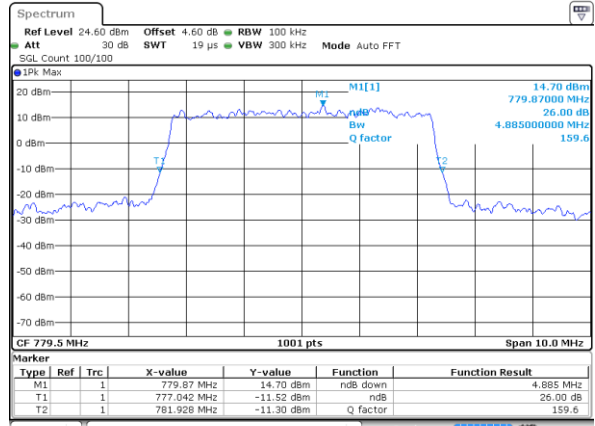


## LTE Band 13

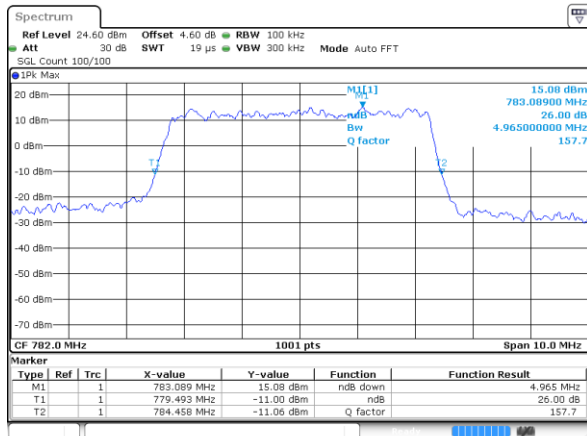
## Lowest Channel / 5MHz / QPSK



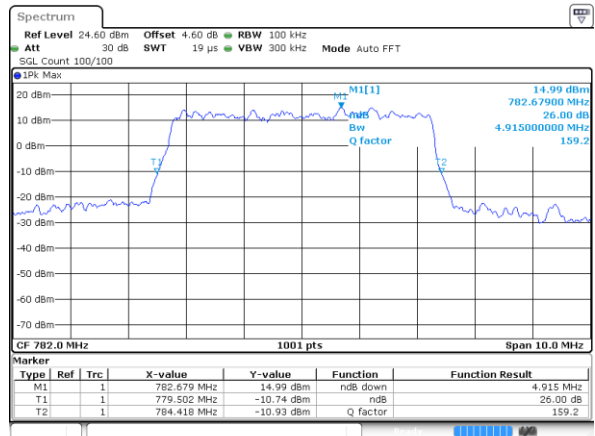
## Lowest Channel / 5MHz / 16QAM



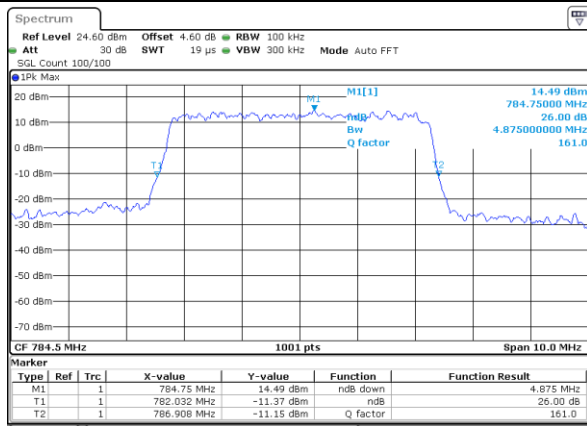
## Middle Channel / 5MHz / QPSK



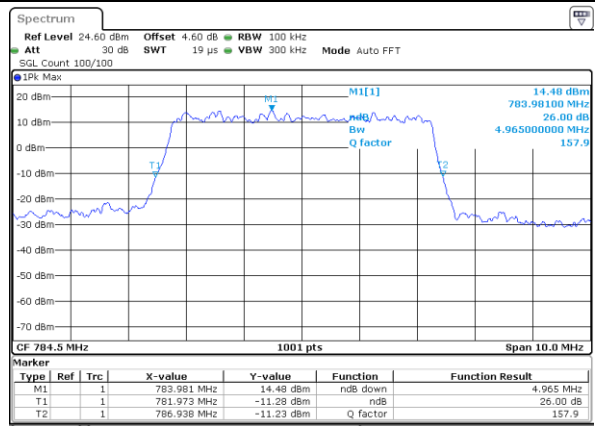
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



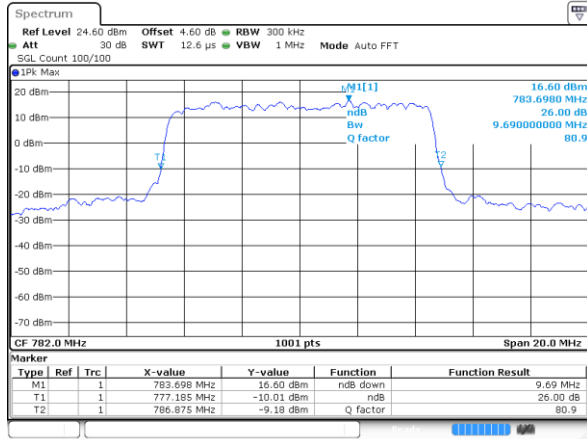
## Highest Channel / 5MHz / 16QAM





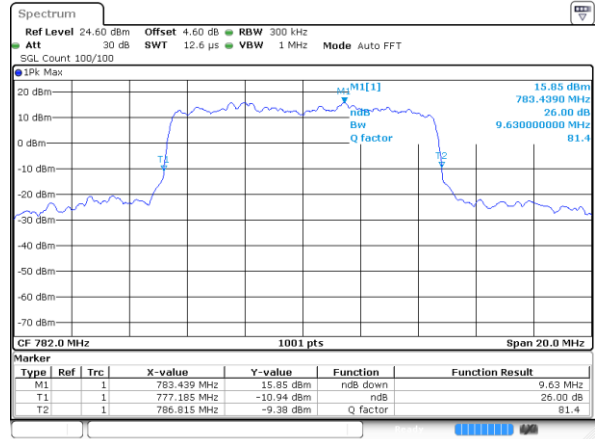
## LTE Band 13

## Middle Channel / 10MHz / QPSK



Date: 15 MAY 2020 02:39:16

## Middle Channel / 10MHz / 16QAM

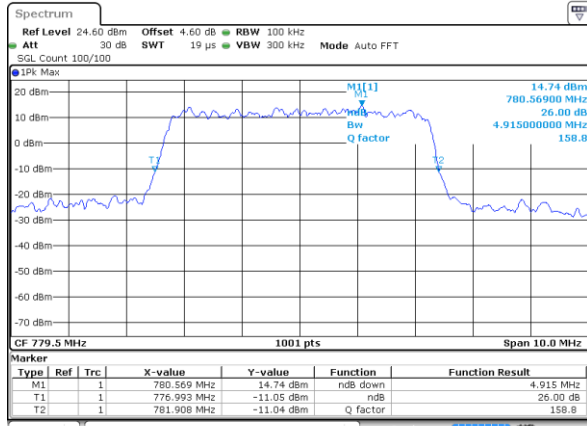


Date: 15 MAY 2020 02:39:06



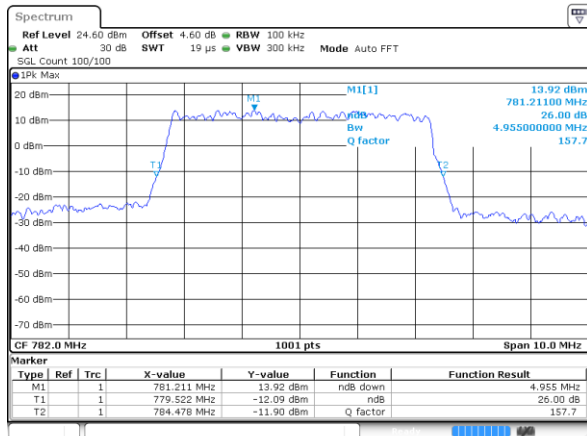
## LTE Band 13

## Lowest Channel / 5MHz / 64QAM



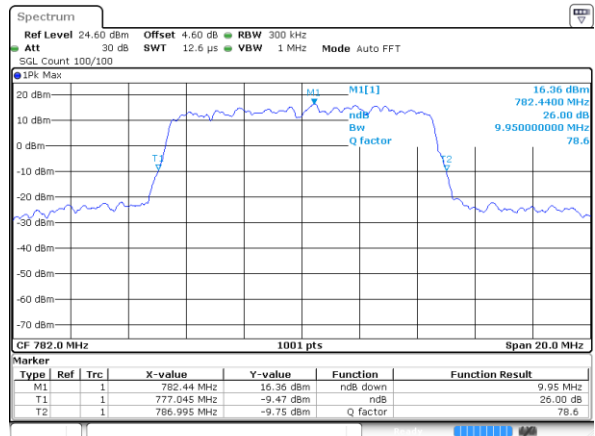
Date: 15 MAY 2020 02:50:01

## Middle Channel / 5MHz / 64QAM



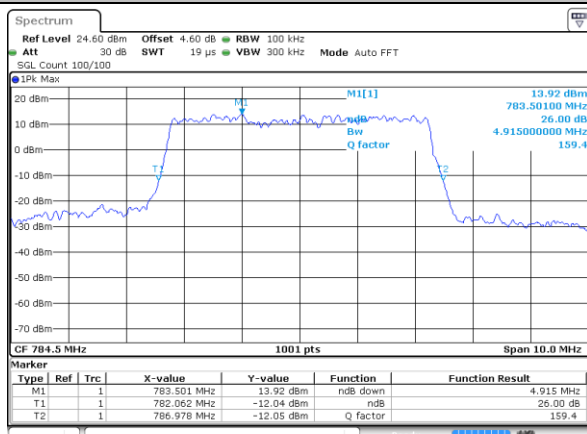
Date: 15 MAY 2020 02:50:11

## Middle Channel / 10MHz / 64QAM



Date: 15 MAY 2020 02:58:53

## Highest Channel / 5MHz / 64QAM



Date: 15 MAY 2020 02:50:21

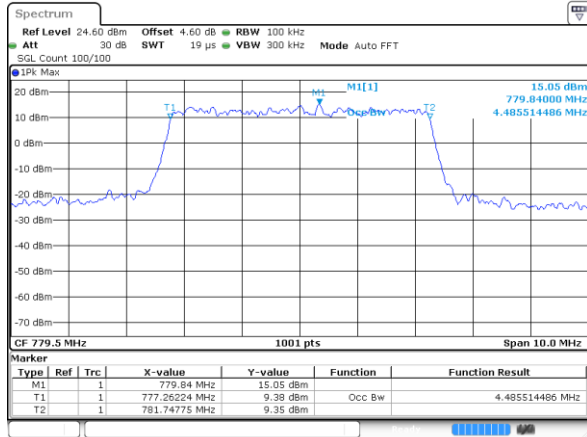
**Occupied Bandwidth**

| Mode       | LTE Band 13 : 99%OBW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
|------------|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| BW         | 1.4MHz                    |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | QPSK                      | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM |
| Lowest CH  | -                         | -     | -     | -     | 4.49  | 4.48  | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                         | -     | -     | -     | 4.49  | 4.50  | 8.97  | 9.03  | -     | -     | -     | -     |
| Highest CH | -                         | -     | -     | -     | 4.48  | 4.49  | -     | -     | -     | -     | -     | -     |
| Mode       | LTE Band 13 : 99%OBW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                    |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                     |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | -                         | -     | -     | -     | 4.50  | -     | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                         | -     | -     | -     | 4.50  | -     | 8.95  | -     | -     | -     | -     | -     |
| Highest CH | -                         | -     | -     | -     | 4.47  | -     | -     | -     | -     | -     | -     | -     |

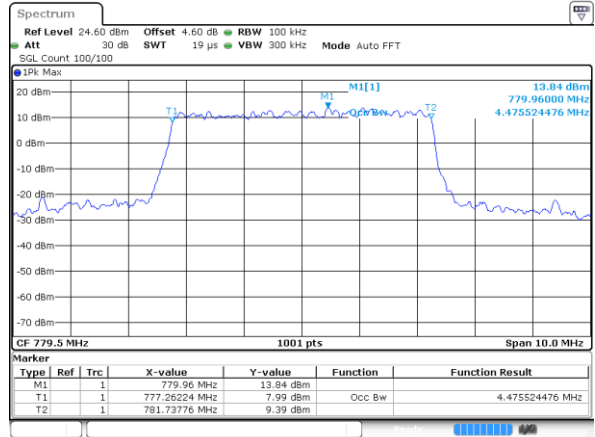


## LTE Band 13

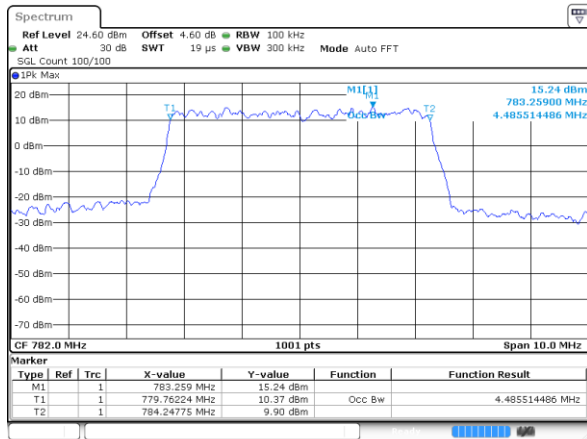
## Lowest Channel / 5MHz / QPSK



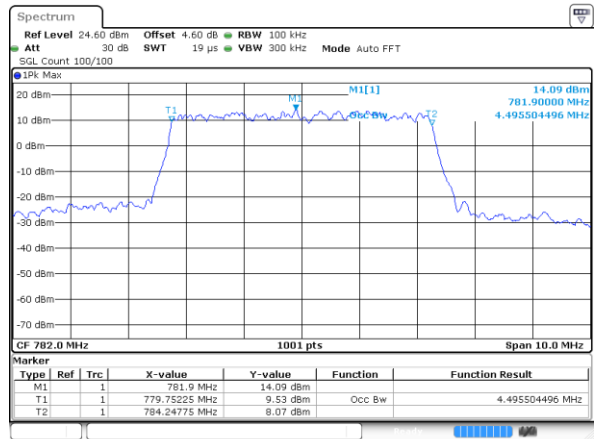
## Lowest Channel / 5MHz / 16QAM



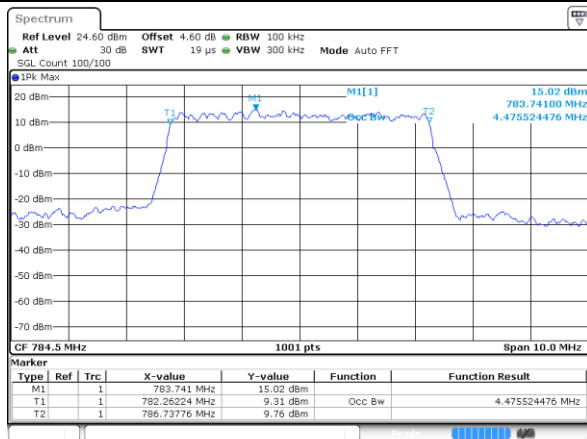
## Middle Channel / 5MHz / QPSK



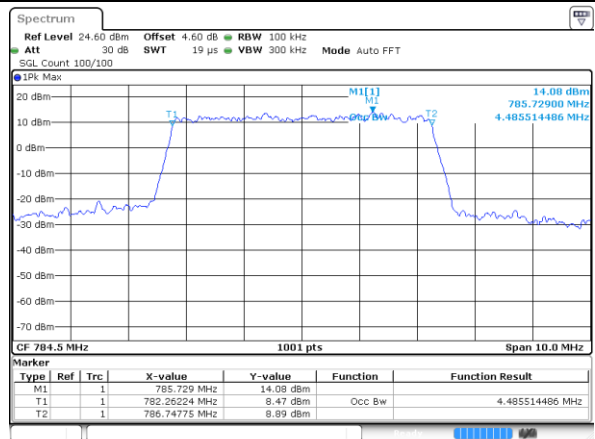
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



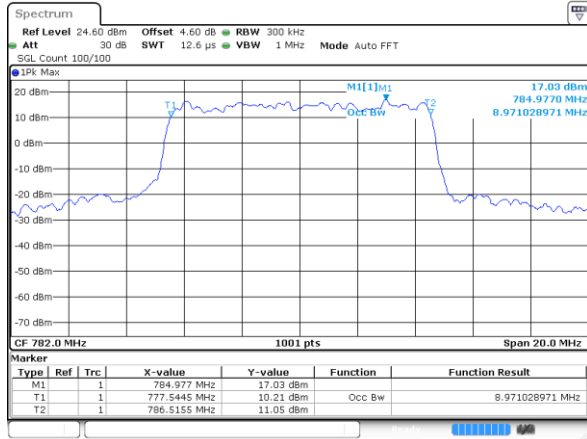
## Highest Channel / 5MHz / 16QAM



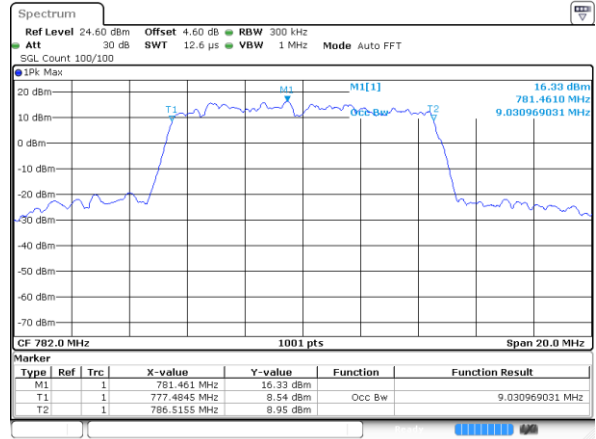


LTE Band 13

Middle Channel / 10MHz / QPSK



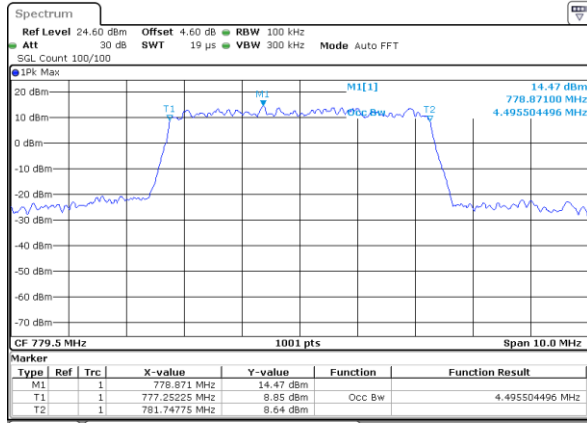
Middle Channel / 10MHz / 16QAM





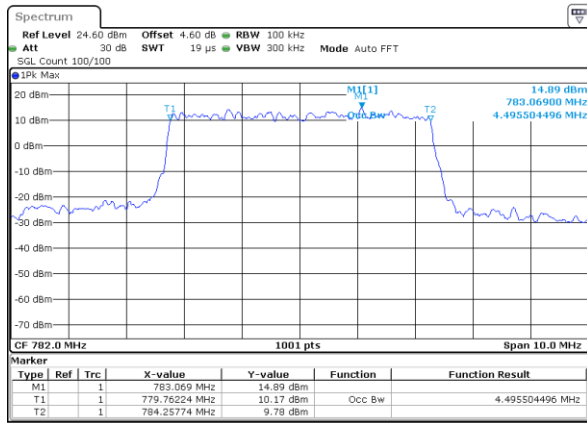
## LTE Band 13

## Lowest Channel / 5MHz / 64QAM



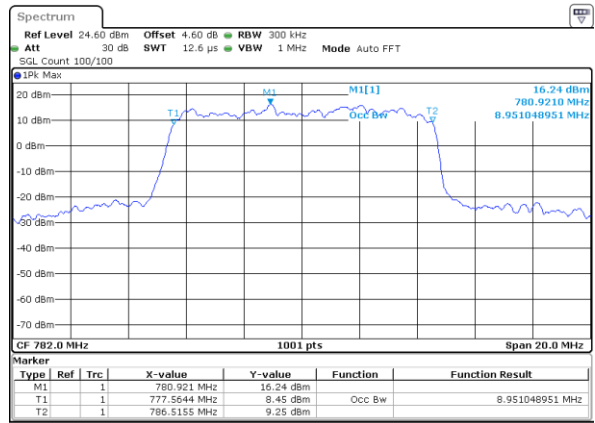
Date: 15 MAY 2020 02:49:31

## Middle Channel / 5MHz / 64QAM



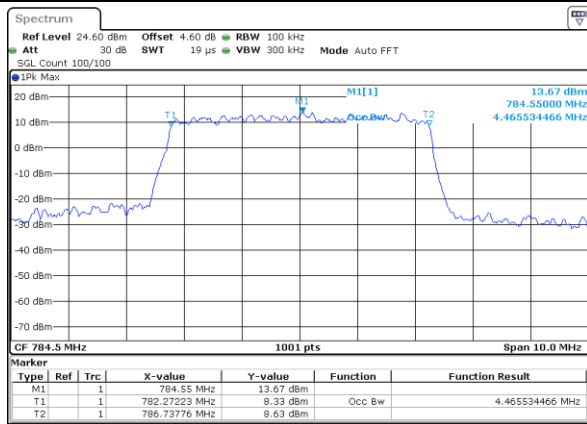
Date: 15 MAY 2020 02:49:41

## Middle Channel / 10MHz / 64QAM



Date: 15 MAY 2020 02:59:43

## Highest Channel / 5MHz / 64QAM



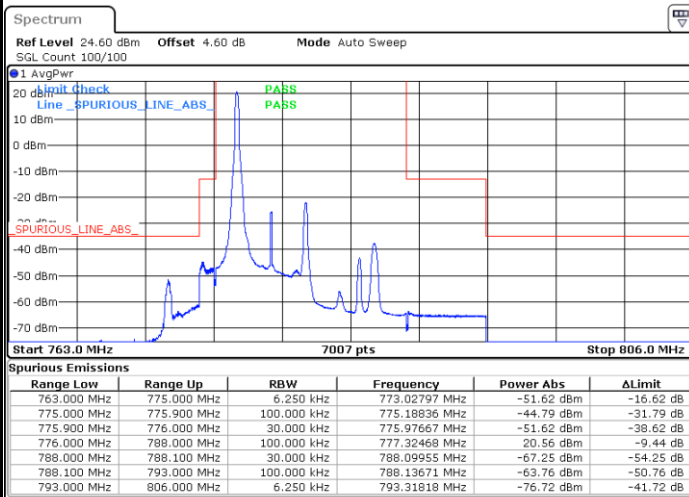
Date: 15 MAY 2020 02:49:51



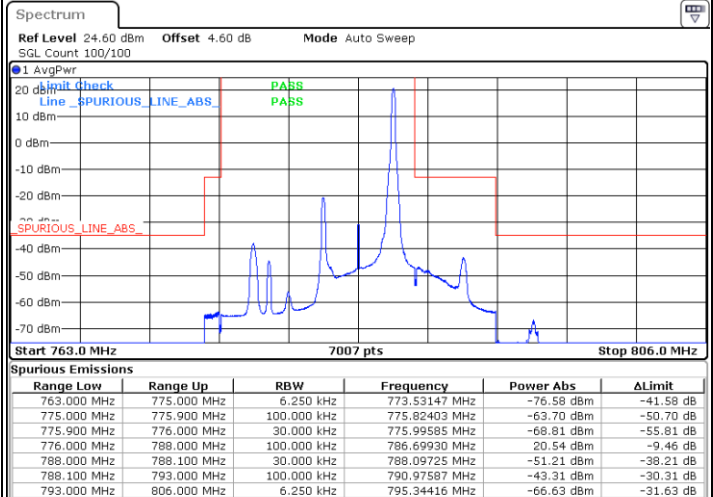
# Conducted Band Edge

## LTE Band 13 / 5MHz / QPSK

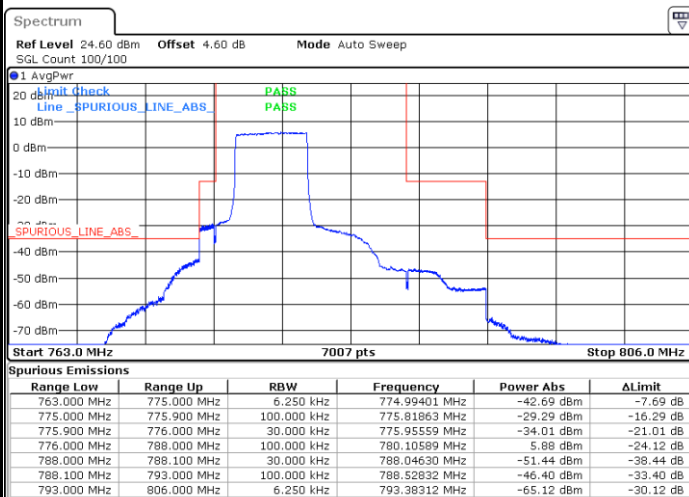
### Lowest Band Edge / 1 RB



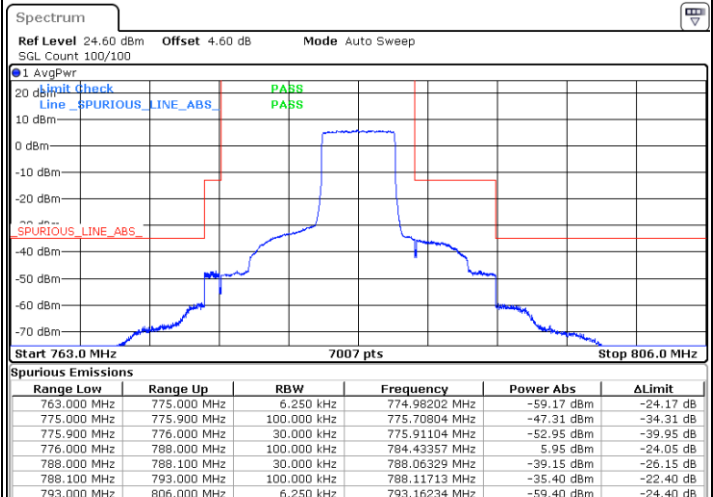
### Highest Band Edge / 1 RB



### Lowest Band Edge / Full RB



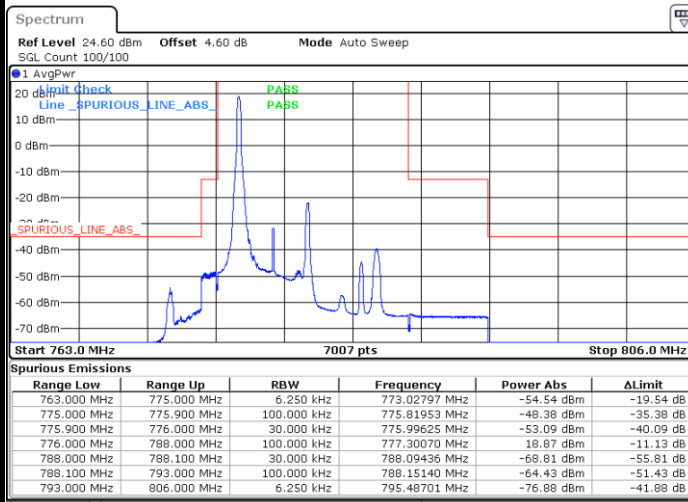
### Highest Band Edge / Full RB





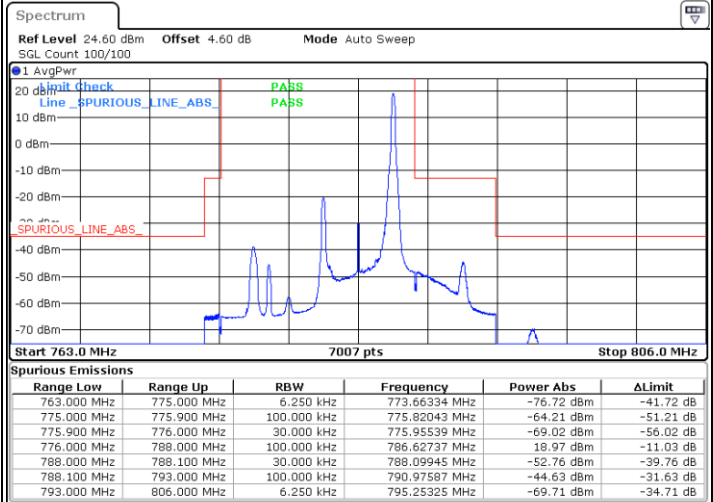
## LTE Band 13 / 5MHz / 16QAM

## Lowest Band Edge / 1 RB



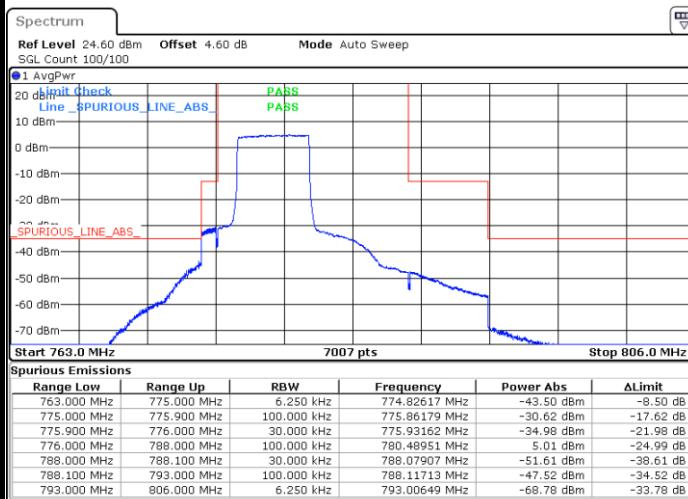
Date: 15 MAY 2020 02:23:54

## Highest Band Edge / 1 RB



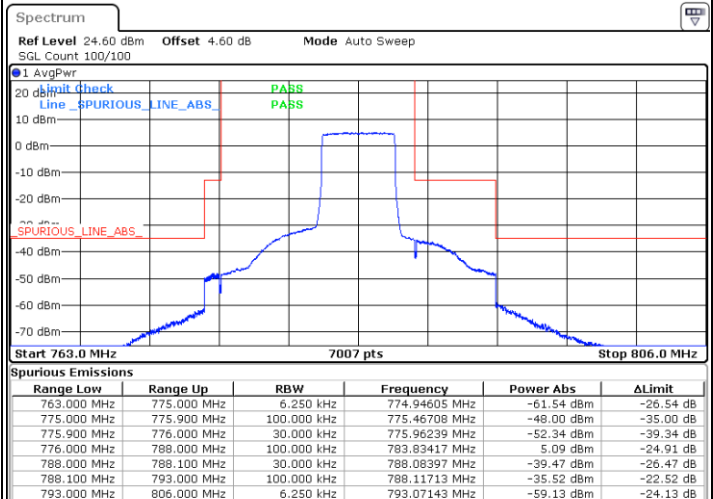
Date: 15 MAY 2020 02:35:20

## Lowest Band Edge / Full RB



Date: 15 MAY 2020 02:19:02

## Highest Band Edge / Full RB

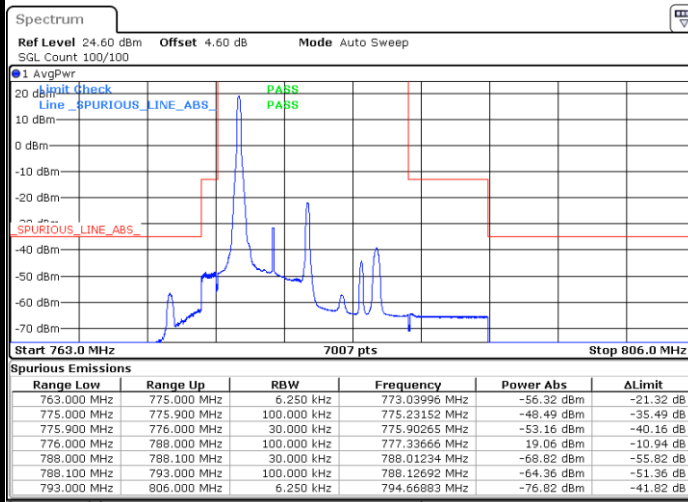


Date: 15 MAY 2020 02:30:28



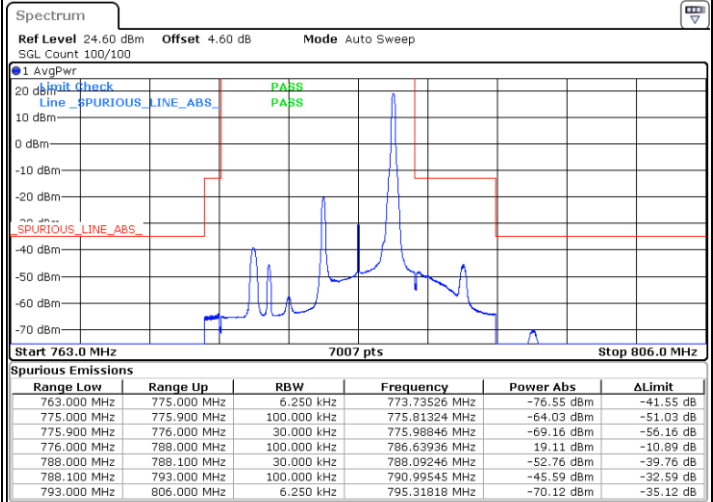
## LTE Band 13 / 5MHz / 64QAM

## Lowest Band Edge / 1 RB



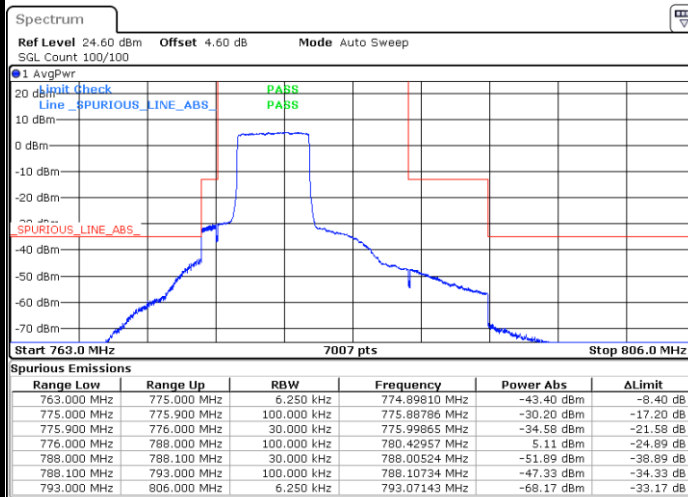
Date: 15 MAY 2020 02:51:59

## Highest Band Edge / 1 RB



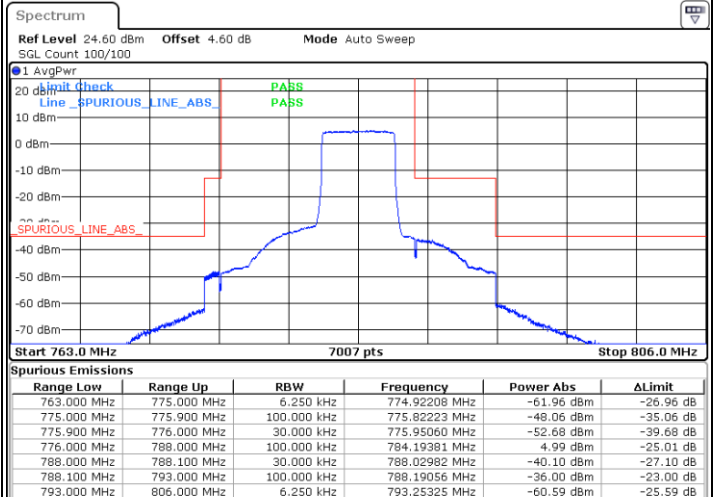
Date: 15 MAY 2020 02:56:51

## Lowest Band Edge / Full RB



Date: 15 MAY 2020 02:53:36

## Highest Band Edge / Full RB

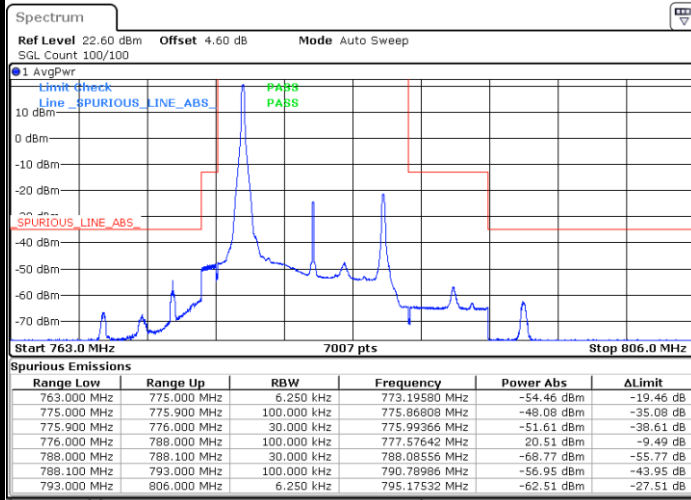


Date: 15 MAY 2020 02:55:14



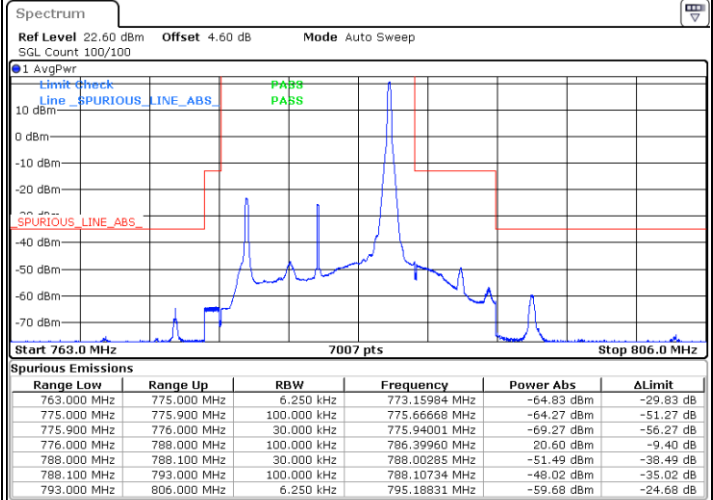
## LTE Band 13 / 10MHz / QPSK

## Lowest Band Edge / 1 RB



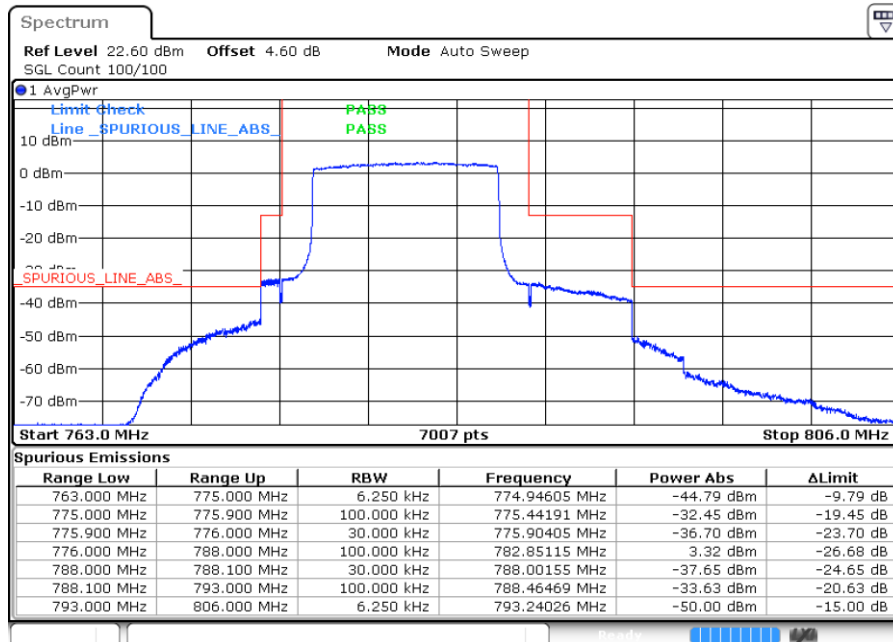
Date: 15.MAY.2020 02:42:52

## Highest Band Edge / 1 RB



Date: 15.MAY.2020 02:49:22

## Band Edge / Full RB

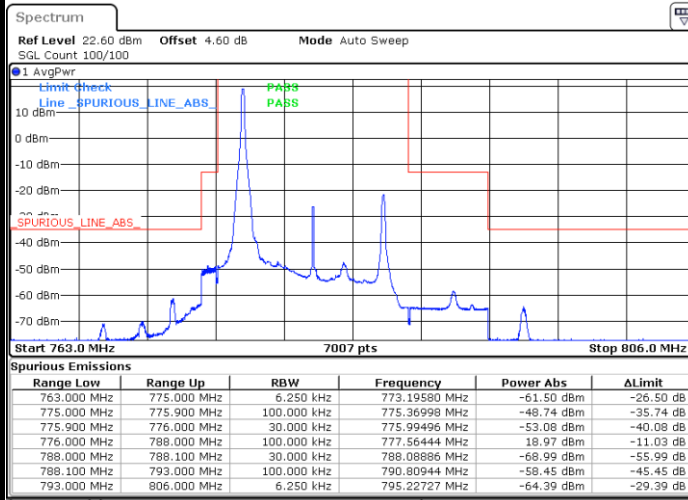


Date: 15.MAY.2020 02:44:29



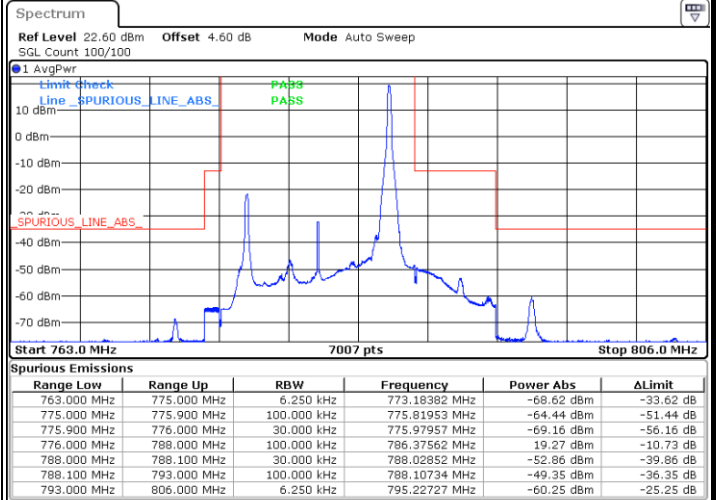
## LTE Band 13 / 10MHz / 16QAM

## Lowest Band Edge / 1 RB



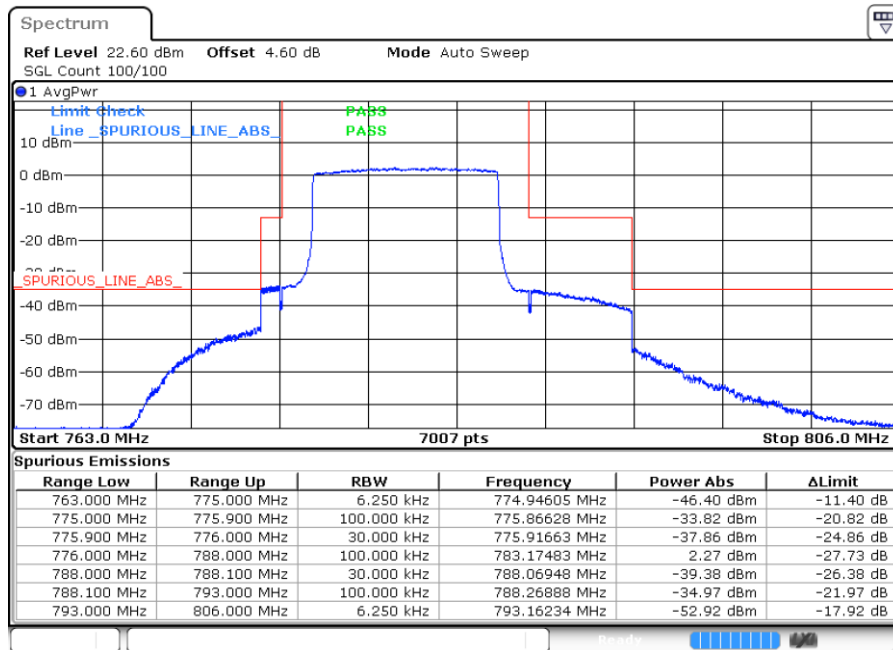
Date: 15.MAY.2020 02:41:14

## Highest Band Edge / 1 RB



Date: 15.MAY.2020 02:47:44

## Band Edge / Full RB

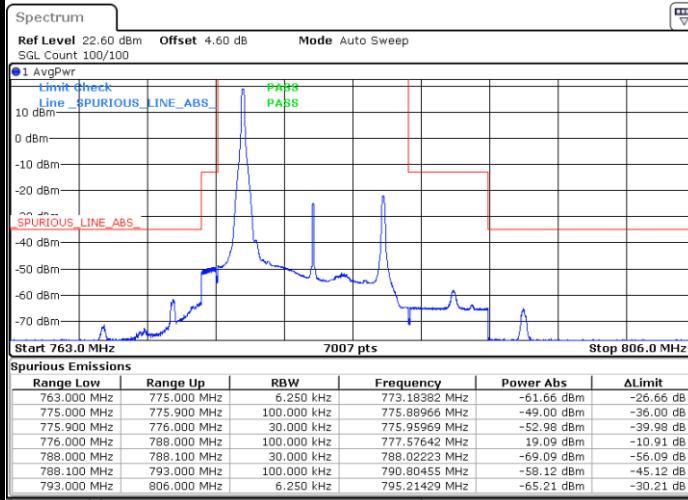


Date: 15.MAY.2020 02:46:07



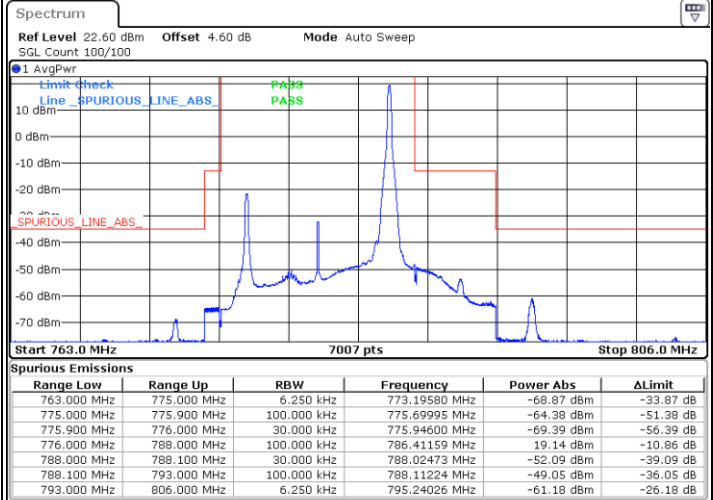
## LTE Band 13 / 10MHz / 64QAM

## Lowest Band Edge / 1 RB



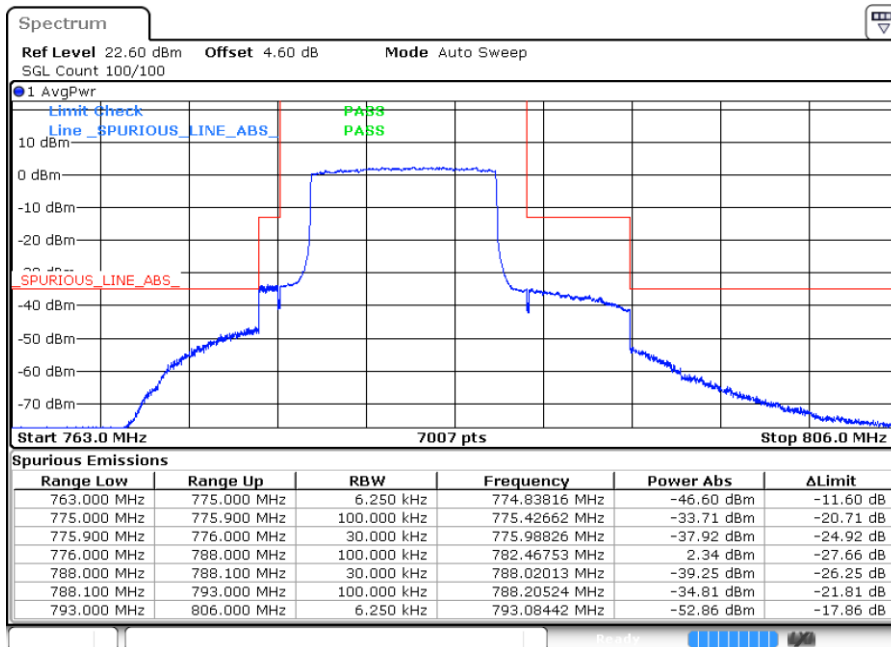
Date: 15.MAY.2020 03:01:31

## Highest Band Edge / 1 RB



Date: 15.MAY.2020 03:03:09

## Band Edge / Full RB



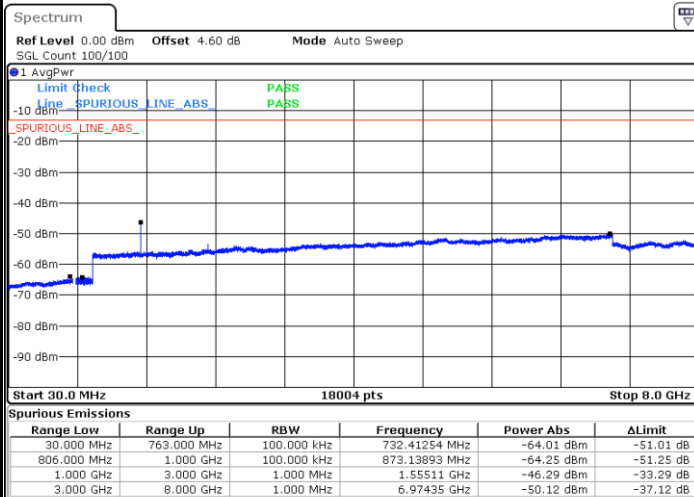
Date: 15.MAY.2020 03:04:46



# Conducted Spurious Emission

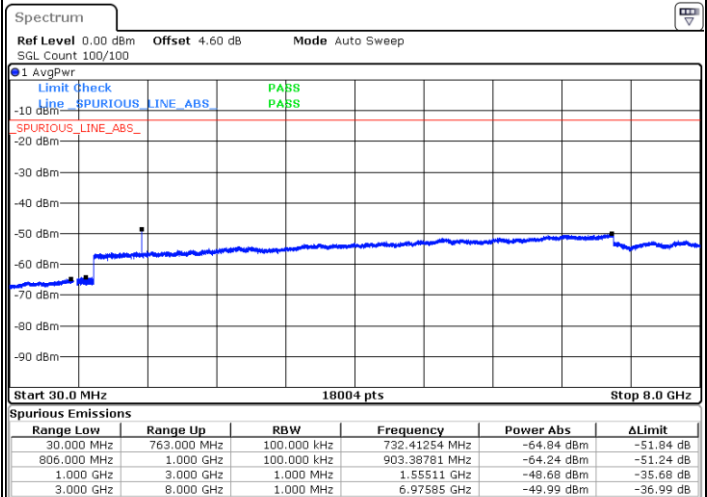
## LTE Band 13 / 5MHz

### Lowest Channel / QPSK



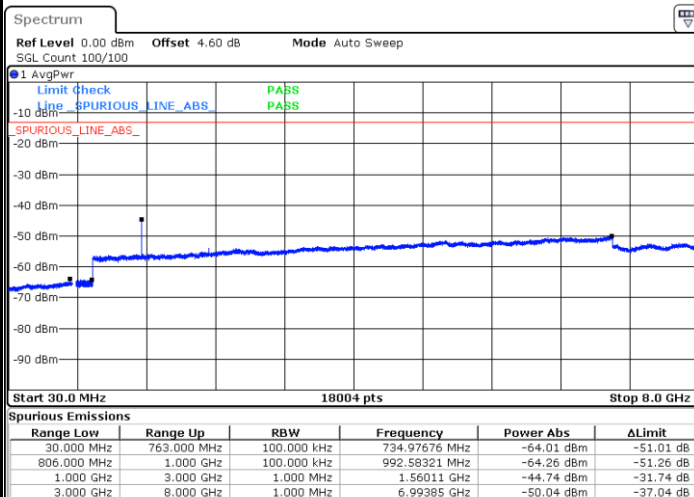
Date: 15 MAY 2020 02:25:41

### Lowest Channel / 16QAM



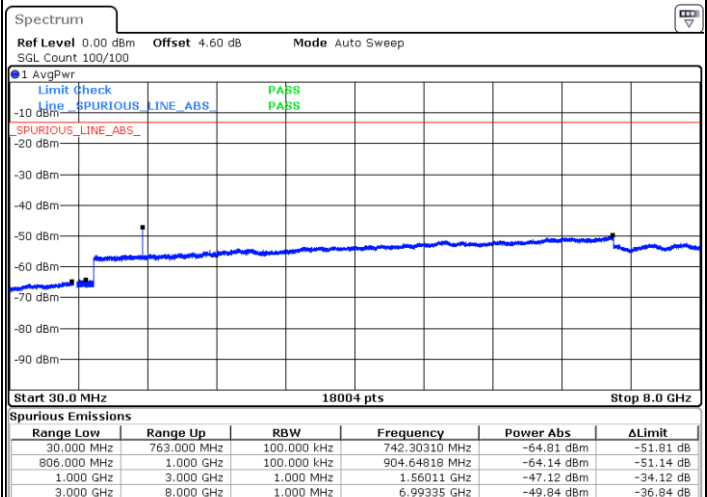
Date: 15 MAY 2020 02:24:47

### Middle Channel / QPSK



Date: 15 MAY 2020 02:27:15

### Middle Channel / 16QAM

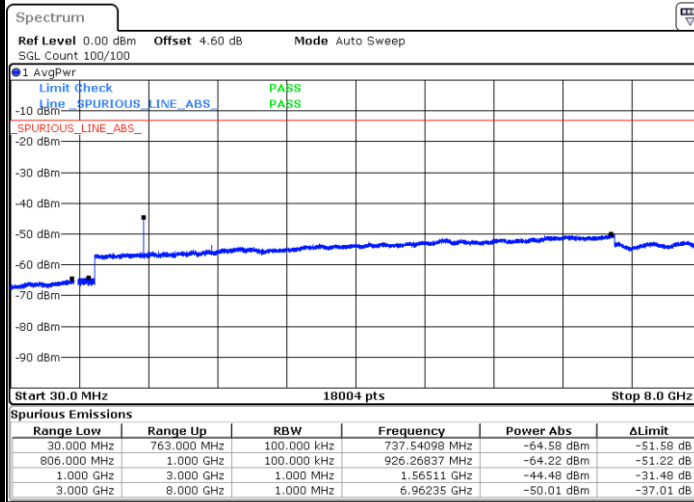


Date: 15 MAY 2020 02:28:09



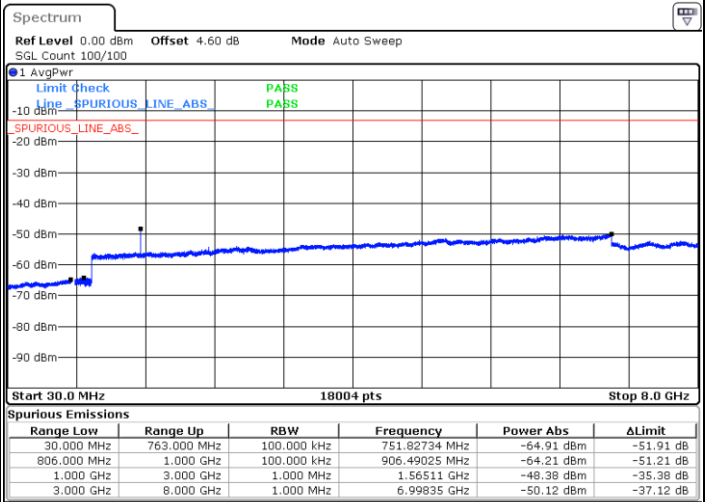
## LTE Band 13 / 5MHz

## Highest Channel / QPSK



Date: 15 MAY 2020 02:37:08

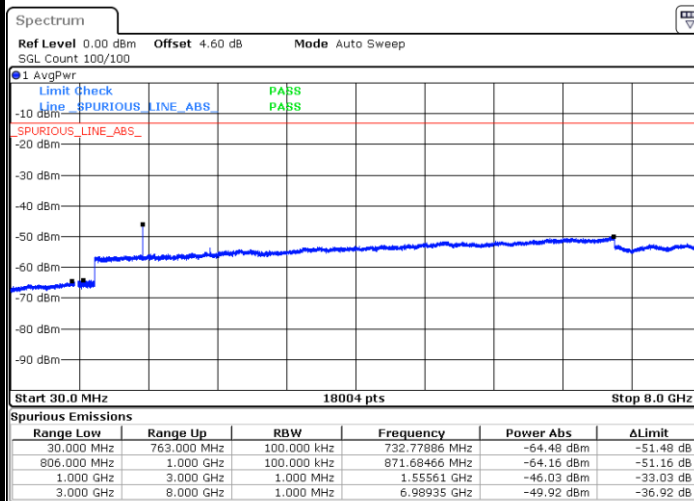
## Highest Channel / 16QAM



Date: 15 MAY 2020 02:36:14

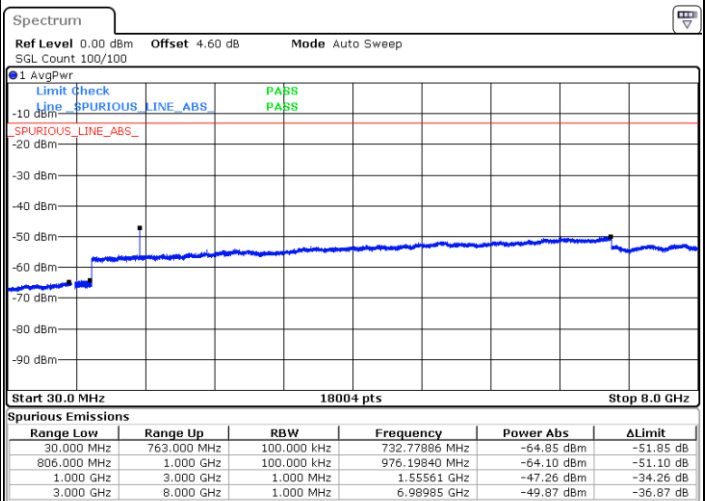
## LTE Band 13 / 10MHz

## Middle Channel / QPSK



Date: 15 MAY 2020 02:38:02

## Middle Channel / 16QAM

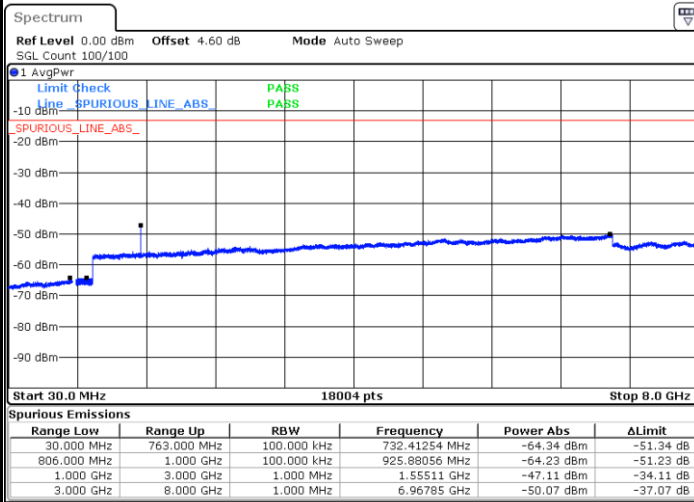


Date: 15 MAY 2020 02:38:56



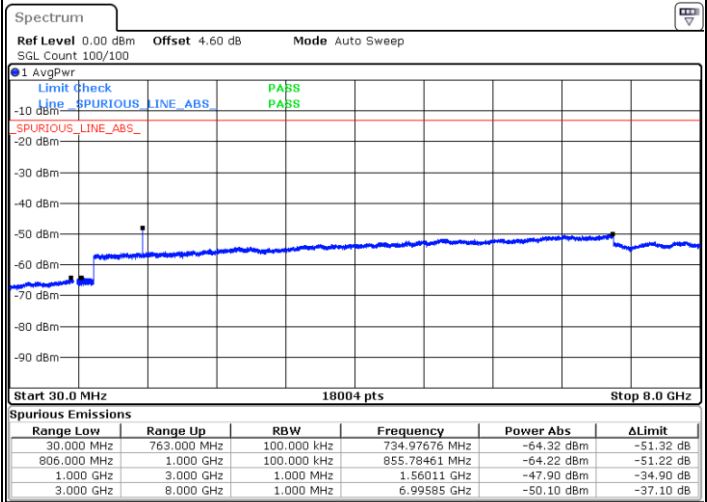
## LTE Band 13 / 5MHz

## Lowest Channel / 64QAM



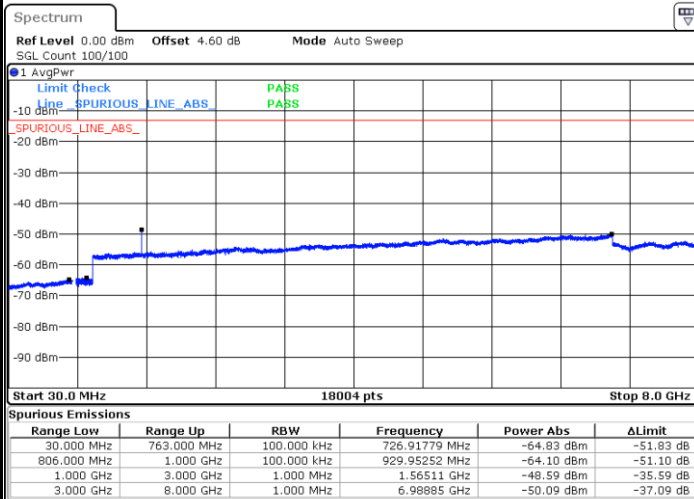
Date: 15 MAY 2020 02:57:45

## Middle Channel / 64QAM



Date: 15 MAY 2020 02:58:39

## Highest Channel / 64QAM

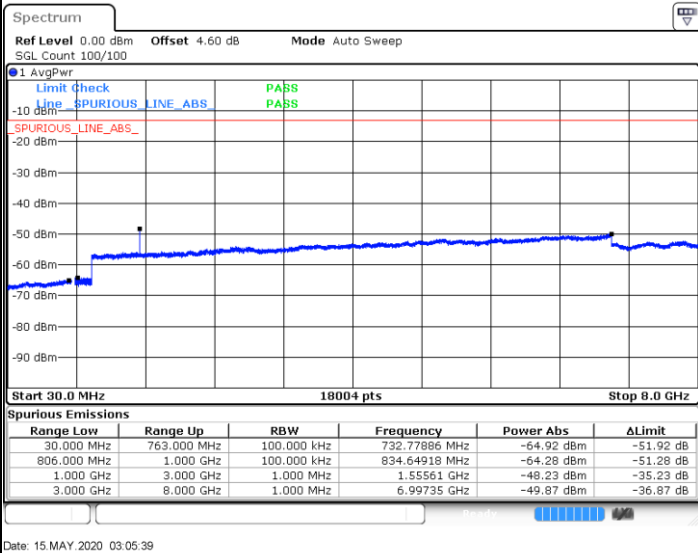


Date: 15 MAY 2020 02:59:33



LTE Band 13 / 10MHz

Middle Channel / 64QAM



**Frequency Stability**

| Test Conditions  |                   | LTE Band 13 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|-------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                            | Note 2. |
|                  |                   | Deviation (ppm)                     | Result  |
| 50               | Normal Voltage    | 0.0046                              | PASS    |
| 40               | Normal Voltage    | 0.0024                              |         |
| 30               | Normal Voltage    | 0.0016                              |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                              |         |
| 10               | Normal Voltage    | 0.0020                              |         |
| 0                | Normal Voltage    | 0.0012                              |         |
| -10              | Normal Voltage    | 0.0028                              |         |
| -20              | Normal Voltage    | 0.0021                              |         |
| -30              | Normal Voltage    | 0.0013                              |         |
| 20               | Maximum Voltage   | 0.0034                              |         |
| 20               | Normal Voltage    | 0.0022                              |         |
| 20               | Battery End Point | 0.0011                              |         |

**Note:**

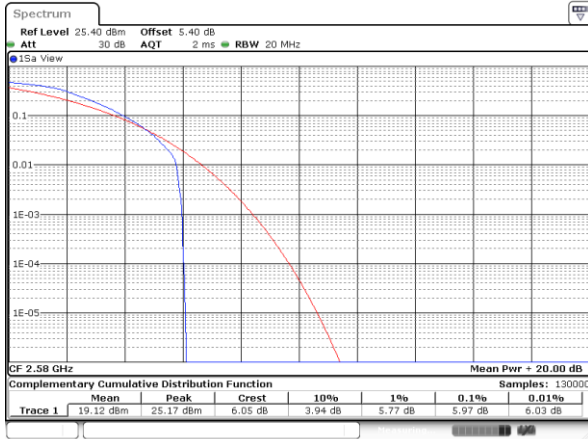
1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.6V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



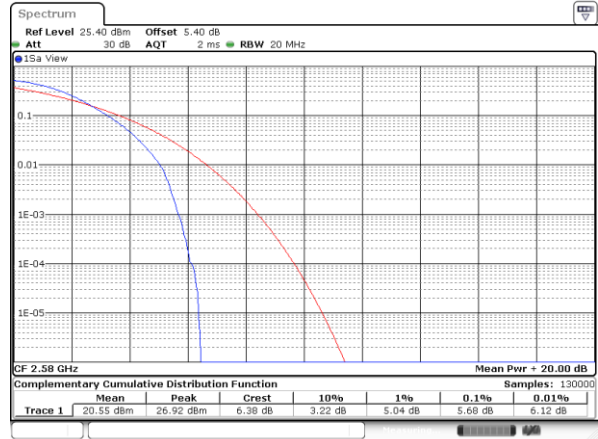
## LTE Band 38

## Peak-to-Average Ratio

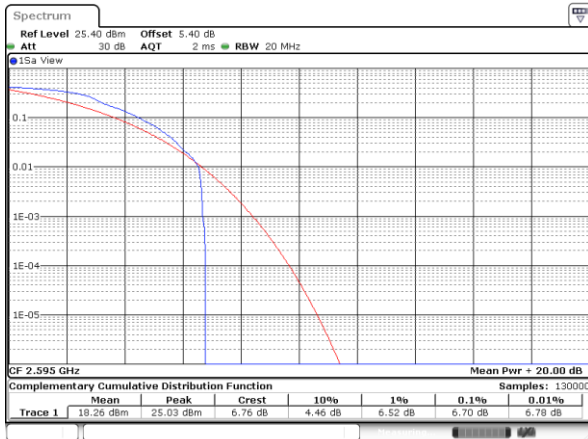
| Mode       | LTE Band 38 / 20MHz |         |       |         |             |
|------------|---------------------|---------|-------|---------|-------------|
| Mod.       | QPSK                |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 5.97                | 5.68    | 5.45  | 5.83    | PASS        |
| Middle CH  | 6.70                | 5.01    | 6.75  | 6.26    |             |
| Highest CH | 6.70                | 5.45    | 5.68  | 5.74    |             |
| Mode       | LTE Band 38 / 20MHz |         |       |         |             |
| Mod.       | 64QAM               |         |       |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB |       |         | Result      |
| Lowest CH  | 6.35                | 6.93    | -     | -       | PASS        |
| Middle CH  | 6.26                | 7.07    | -     | -       |             |
| Highest CH | 6.35                | 6.23    | -     | -       |             |

**LTE Band 38 / 20MHz / QPSK**
**Lowest Channel / 1RB**


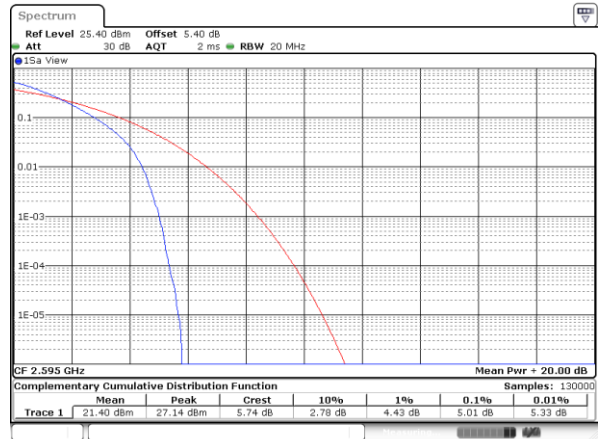
Date: 13 MAY 2020 03:07:31

**Lowest Channel / Full RB**


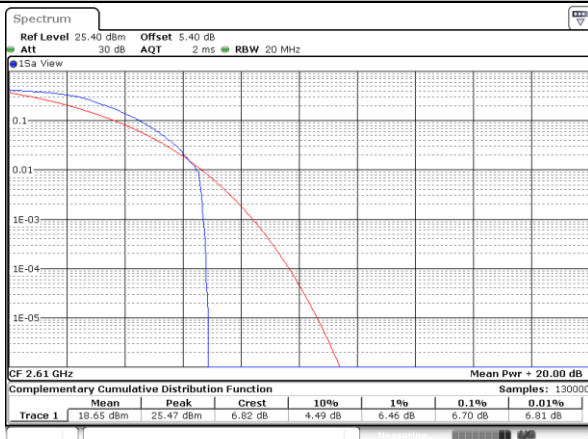
Date: 13 MAY 2020 03:07:46

**Middle Channel / 1RB**


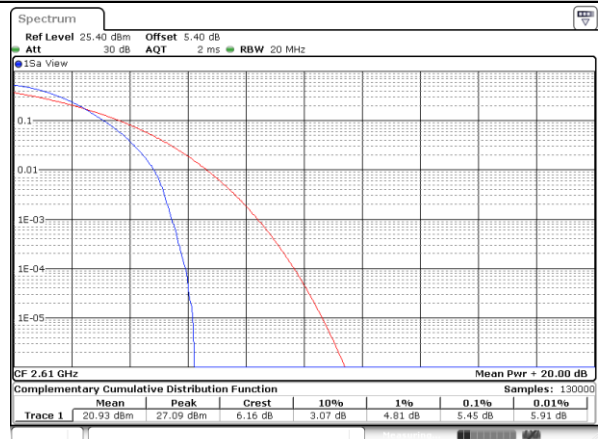
Date: 13 MAY 2020 03:08:03

**Middle Channel / Full RB**


Date: 13 MAY 2020 03:08:21

**Highest Channel / 1RB**


Date: 13 MAY 2020 03:08:36

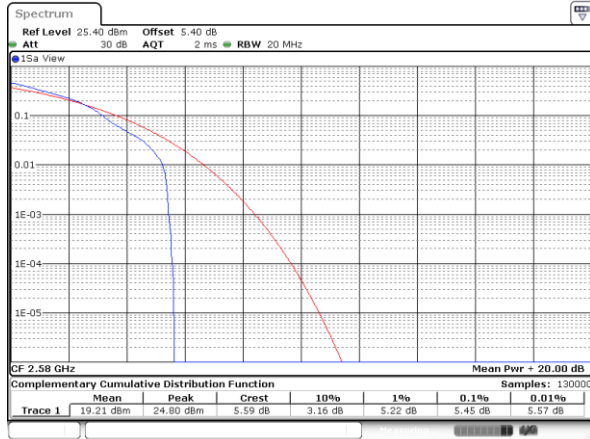
**Highest Channel / Full RB**


Date: 13 MAY 2020 03:08:48

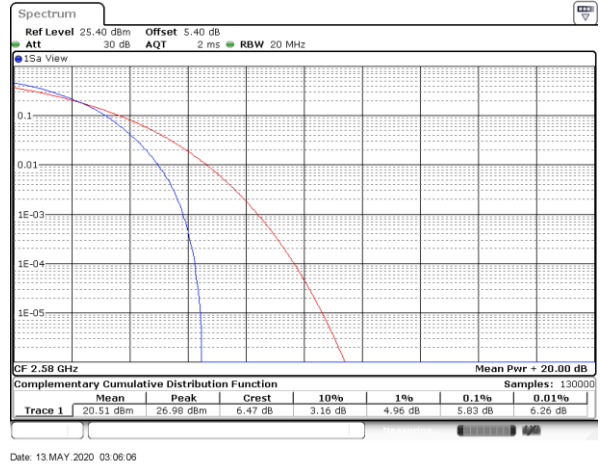


## LTE Band 38 / 20MHz / 16QAM

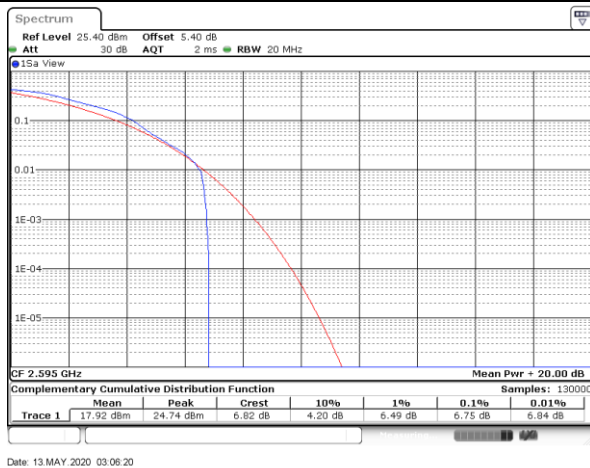
## Lowest Channel / 1RB



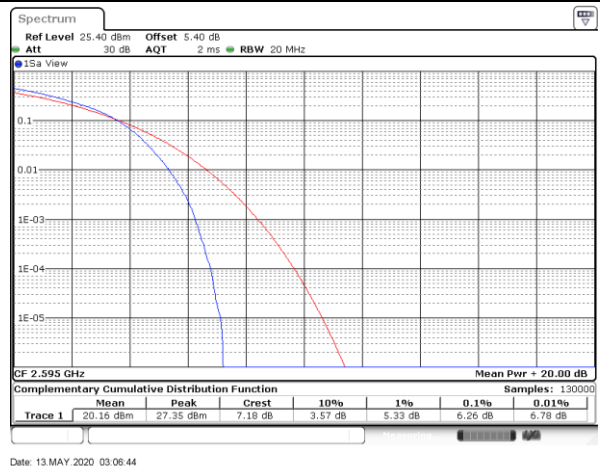
## Lowest Channel / Full RB



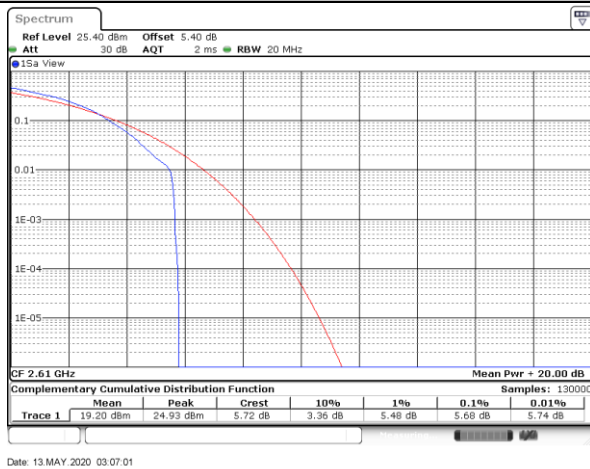
## Middle Channel / 1RB



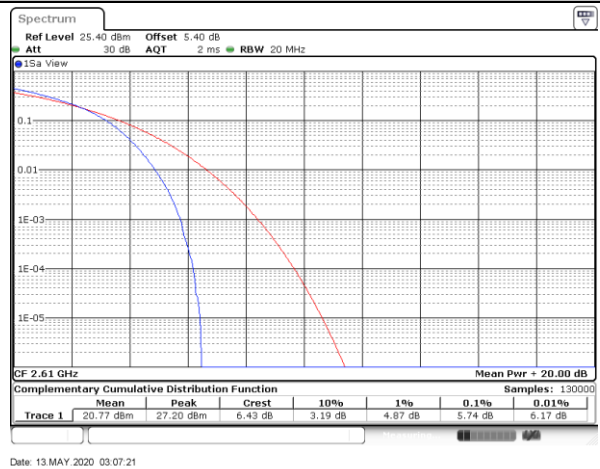
## Middle Channel / Full RB

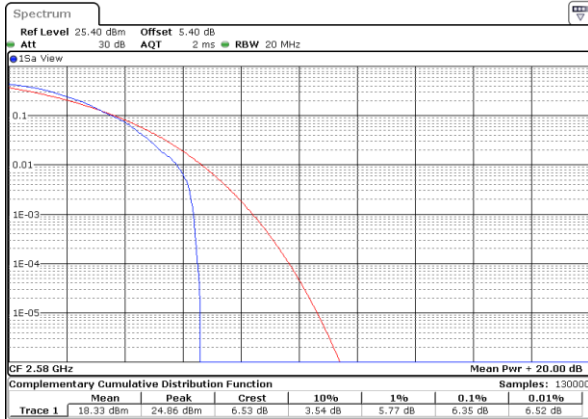


## Highest Channel / 1RB



## Highest Channel / Full RB

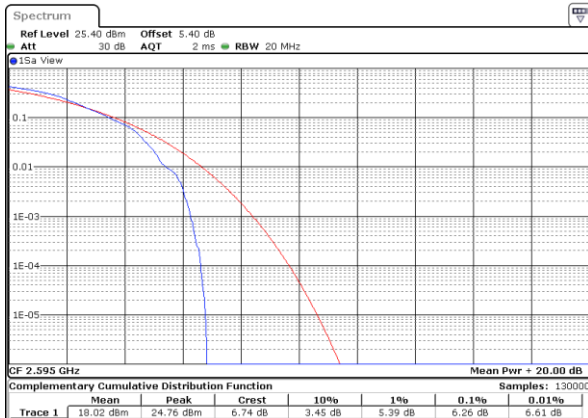


**LTE Band 38 / 20MHz / 64QAM**
**Lowest Channel / 1RB**


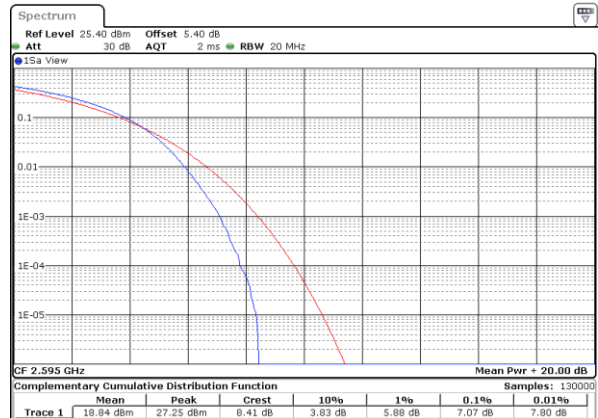
Date: 13 MAY 2020 03:09:47

**Lowest Channel / Full RB**

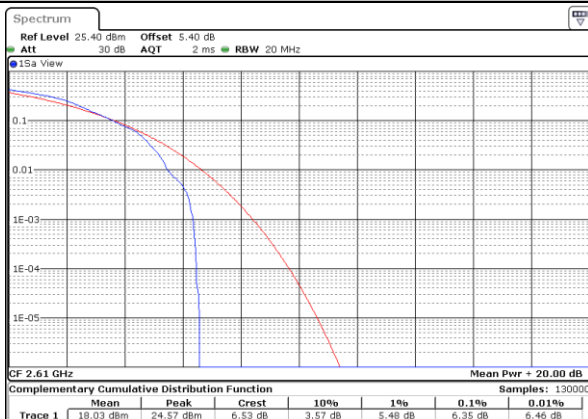

Date: 13 MAY 2020 03:09:24

**Middle Channel / 1RB**


Date: 13 MAY 2020 03:10:28

**Middle Channel / Full RB**


Date: 13 MAY 2020 03:10:52

**Highest Channel / 1RB**


Date: 13 MAY 2020 03:11:29

**Highest Channel / Full RB**


Date: 13 MAY 2020 03:11:17

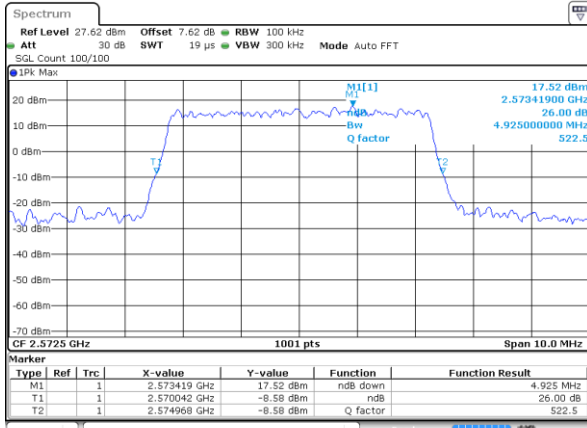
**26dB Bandwidth**

| Mode       | LTE Band 38 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
|------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| BW         | 1.4MHz                     |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | QPSK                       | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM | QPSK  | 16QAM |
| Lowest CH  | -                          | -     | -     | -     | 4.93  | 4.87  | 9.69  | 9.71  | 14.36 | 14.42 | 19.98 | 20.14 |
| Middle CH  | -                          | -     | -     | -     | 4.95  | 4.94  | 9.79  | 9.83  | 14.54 | 14.33 | 20.06 | 19.98 |
| Highest CH | -                          | -     | -     | -     | 4.87  | 4.91  | 9.63  | 9.67  | 14.15 | 14.33 | 20.10 | 20.06 |
| Mode       | LTE Band 38 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                     |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                      |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | -                          | -     | -     | -     | 4.90  | -     | 9.65  | -     | 14.27 | -     | 20.26 | -     |
| Middle CH  | -                          | -     | -     | -     | 4.94  | -     | 9.65  | -     | 14.27 | -     | 20.18 | -     |
| Highest CH | -                          | -     | -     | -     | 4.84  | -     | 9.85  | -     | 14.27 | -     | 20.02 | -     |



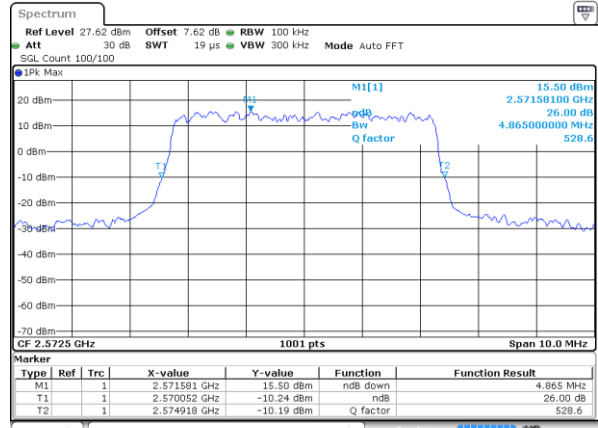
## LTE Band 38

## Lowest Channel / 5MHz / QPSK



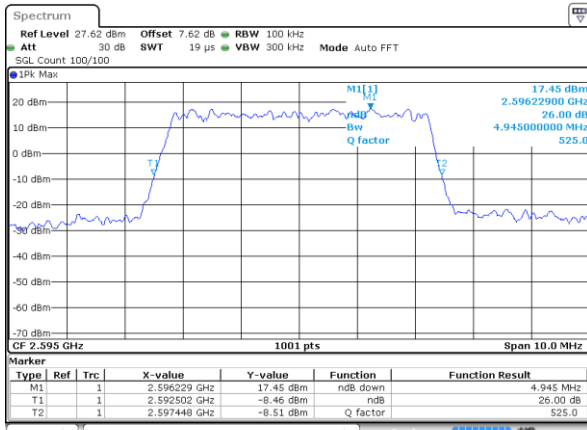
Date: 13 MAY 2020 04:48:33

## Lowest Channel / 5MHz / 16QAM



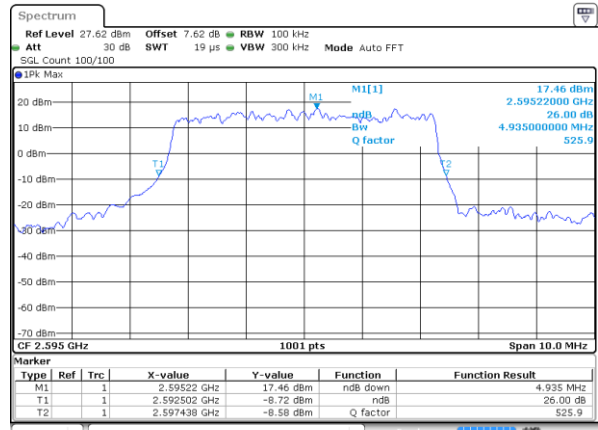
Date: 13 MAY 2020 04:48:43

## Middle Channel / 5MHz / QPSK



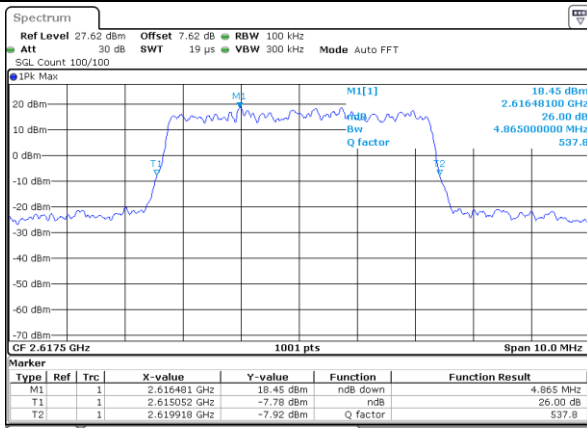
Date: 13 MAY 2020 04:49:12

## Middle Channel / 5MHz / 16QAM



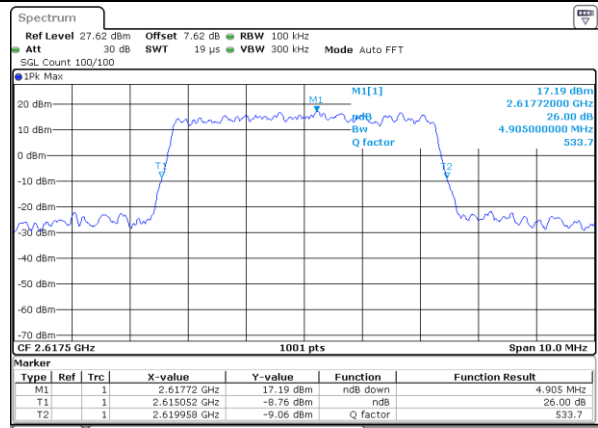
Date: 13 MAY 2020 04:49:22

## Highest Channel / 5MHz / QPSK



Date: 13 MAY 2020 04:49:52

## Highest Channel / 5MHz / 16QAM

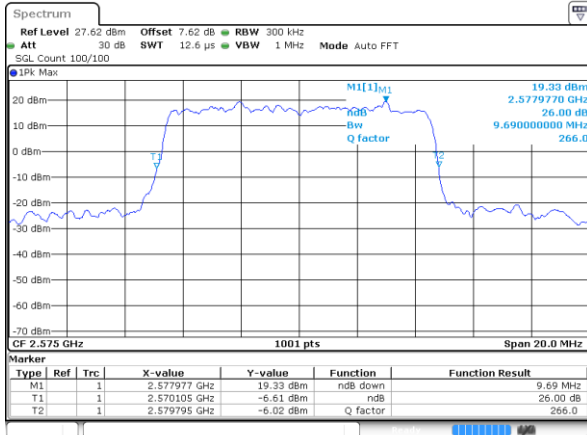


Date: 13 MAY 2020 04:50:02



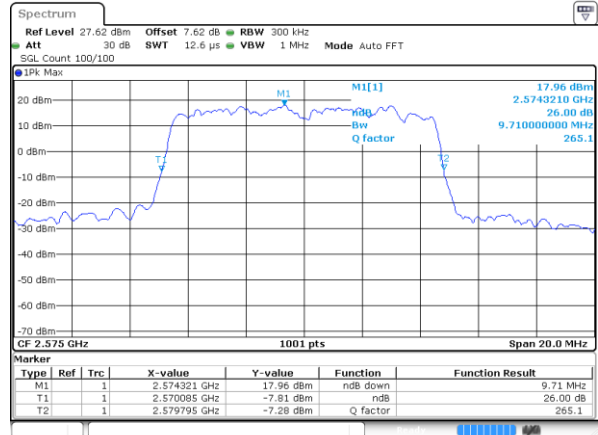
## LTE Band 38

## Lowest Channel / 10MHz / QPSK



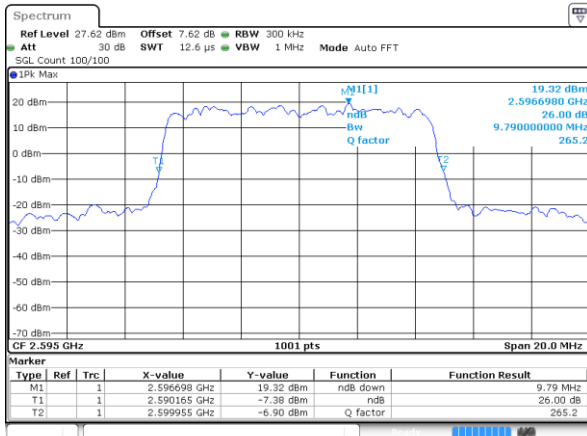
Date: 13 MAY 2020 04:50:32

## Lowest Channel / 10MHz / 16QAM



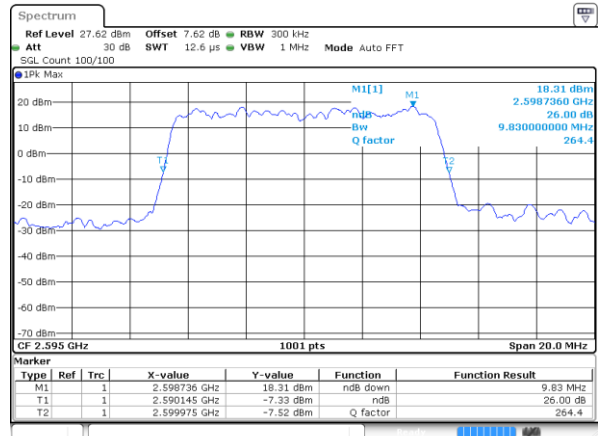
Date: 13 MAY 2020 04:50:42

## Middle Channel / 10MHz / QPSK



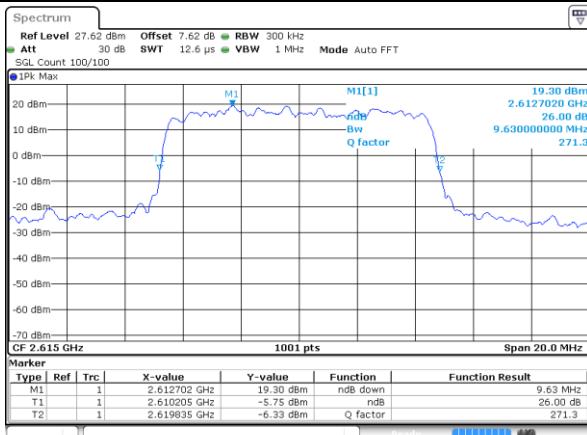
Date: 13 MAY 2020 04:51:11

## Middle Channel / 10MHz / 16QAM



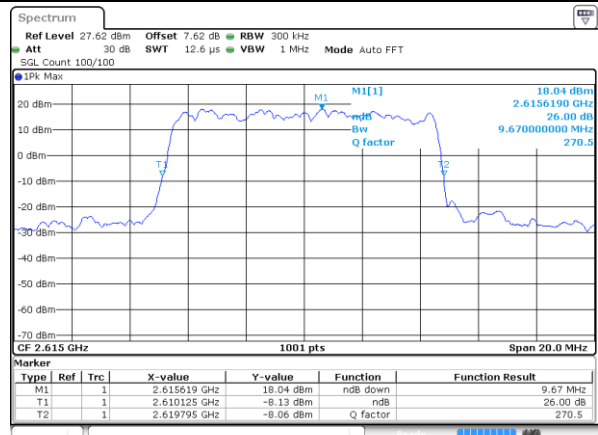
Date: 13 MAY 2020 04:51:21

## Highest Channel / 10MHz / QPSK



Date: 13 MAY 2020 04:51:51

## Highest Channel / 10MHz / 16QAM

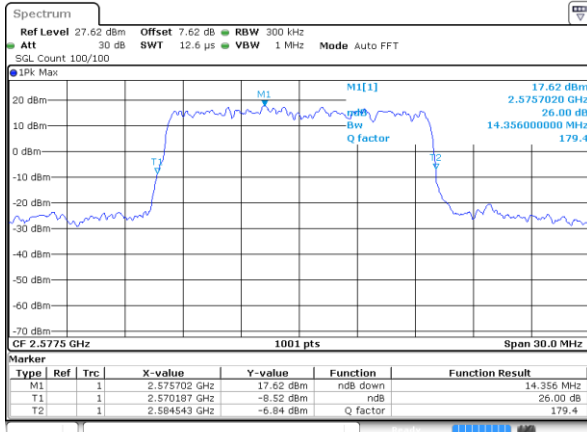


Date: 13 MAY 2020 04:52:01



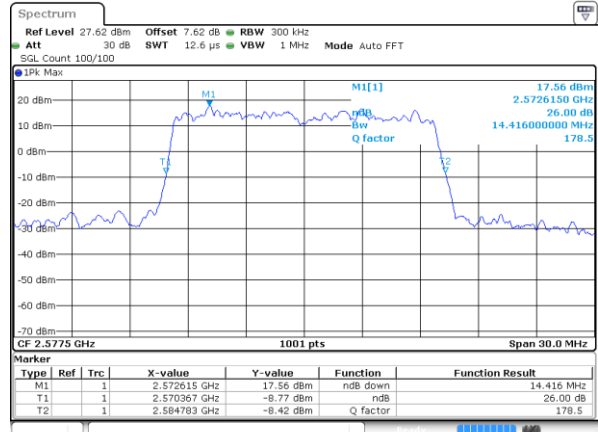
## LTE Band 38

## Lowest Channel / 15MHz / QPSK



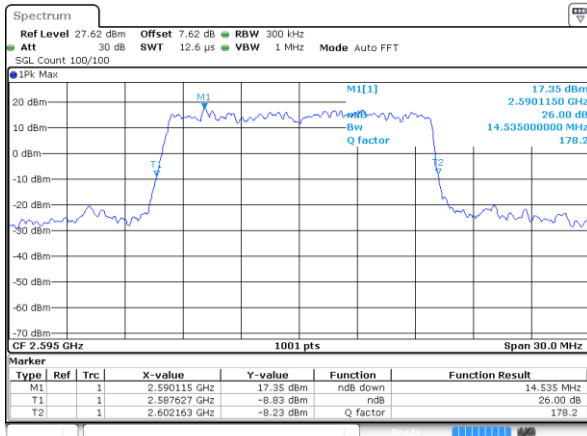
Date: 13 MAY 2020 04:52:30

## Lowest Channel / 15MHz / 16QAM



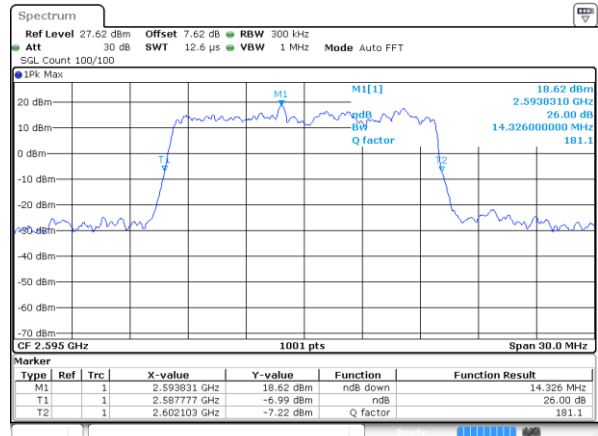
Date: 13 MAY 2020 04:52:40

## Middle Channel / 15MHz / QPSK



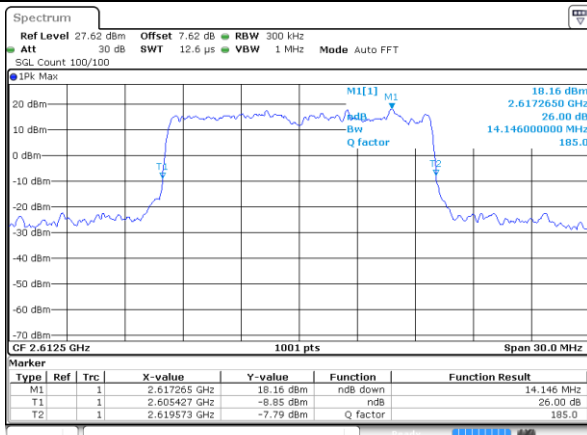
Date: 13 MAY 2020 04:53:10

## Middle Channel / 15MHz / 16QAM



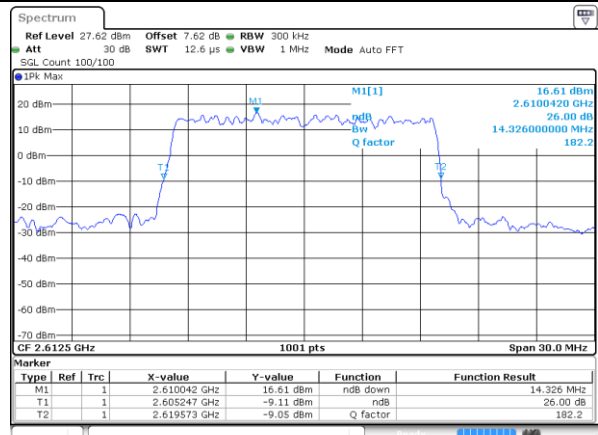
Date: 13 MAY 2020 04:53:20

## Highest Channel / 15MHz / QPSK



Date: 13 MAY 2020 04:53:49

## Highest Channel / 15MHz / 16QAM

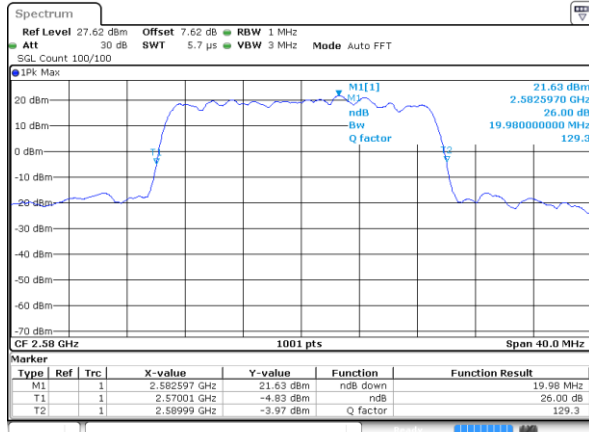


Date: 13 MAY 2020 04:53:59

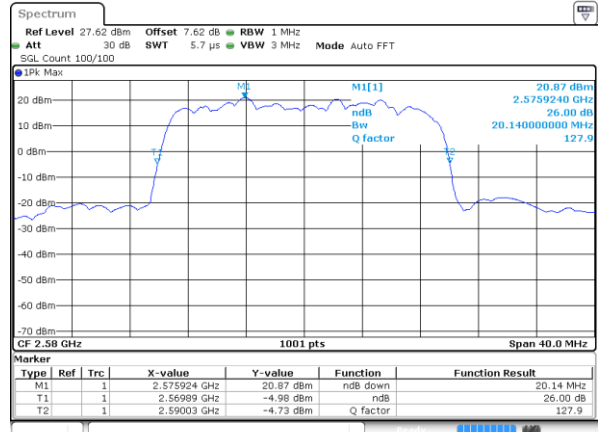


## LTE Band 38

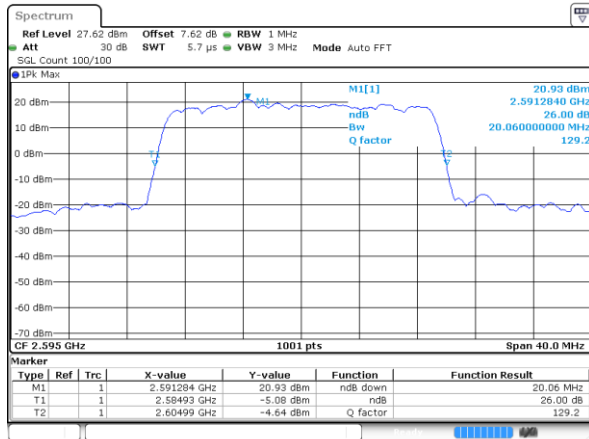
## Lowest Channel / 20MHz / QPSK



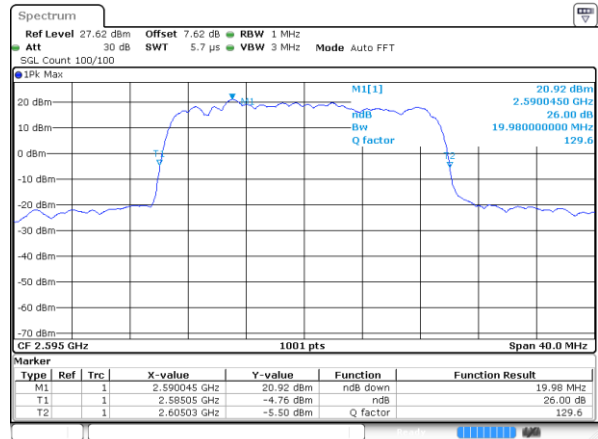
## Lowest Channel / 20MHz / 16QAM



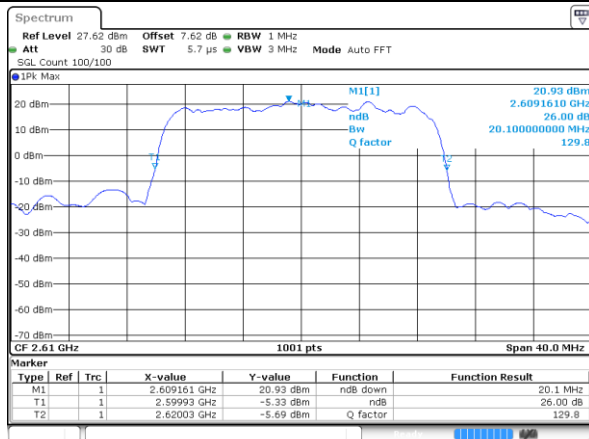
## Middle Channel / 20MHz / QPSK



## Middle Channel / 20MHz / 16QAM



## Highest Channel / 20MHz / QPSK



## Highest Channel / 20MHz / 16QAM

