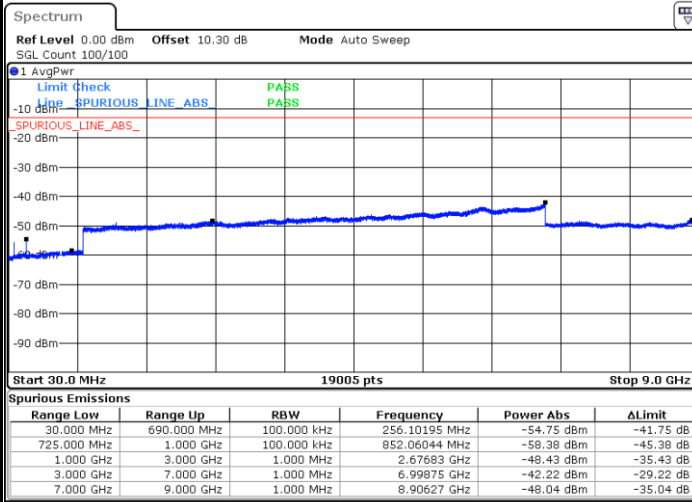




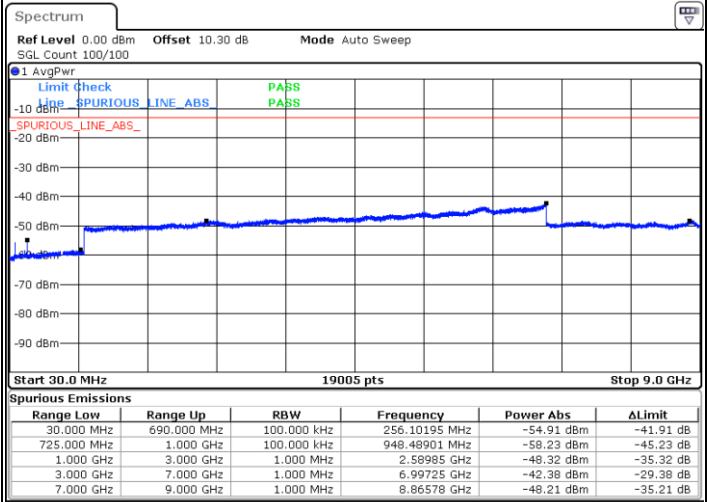
## LTE Band 12 / 1.4MHz

## Highest Channel / QPSK



Date: 27.MAR.2020 17:35:13

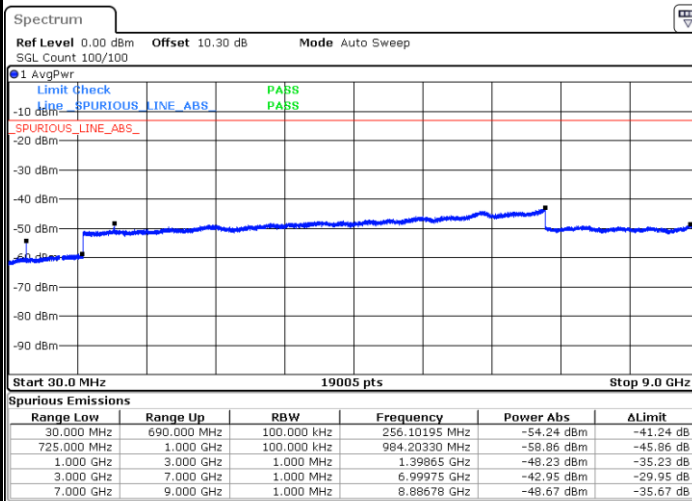
## Highest Channel / 16QAM



Date: 27.MAR.2020 17:35:56

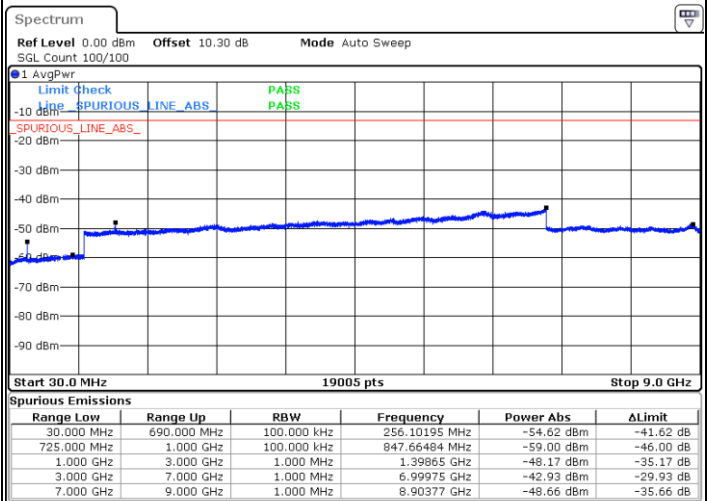
## LTE Band 12 / 3MHz

## Lowest Channel / QPSK



Date: 26.MAR.2020 14:10:11

## Lowest Channel / 16QAM

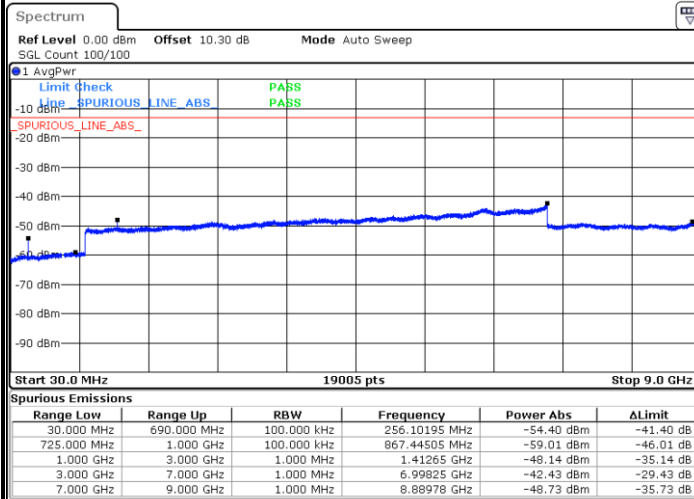


Date: 26.MAR.2020 14:10:54



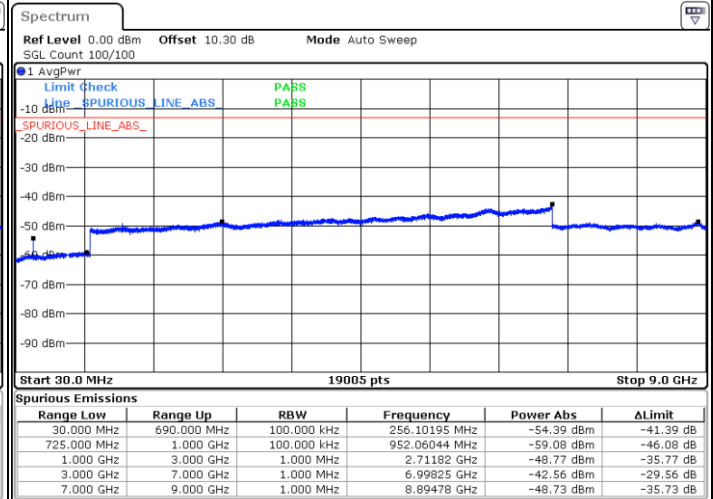
## LTE Band 12 / 3MHz

## Middle Channel / QPSK



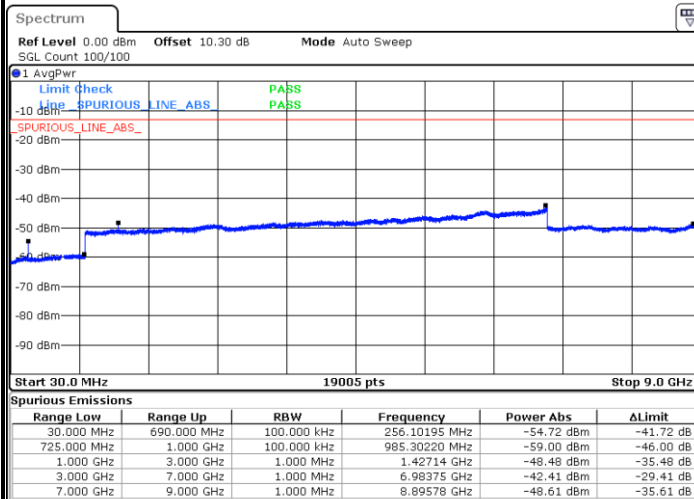
Date: 26.MAR.2020 14:13:05

## Middle Channel / 16QAM



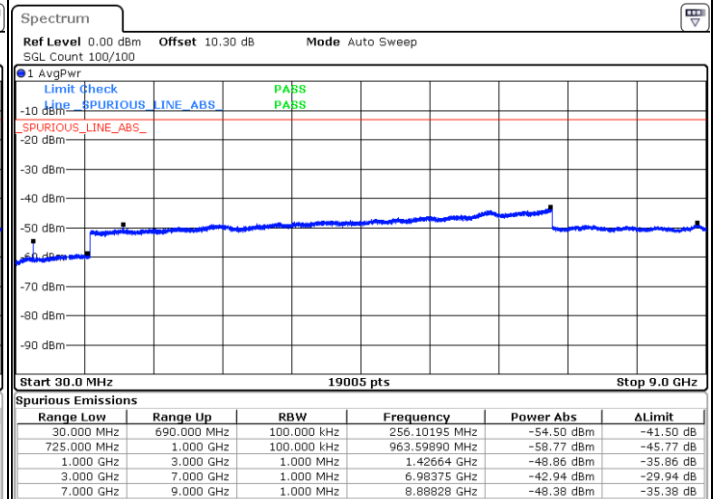
Date: 26.MAR.2020 14:12:22

## Highest Channel / QPSK



Date: 26.MAR.2020 14:18:34

## Highest Channel / 16QAM

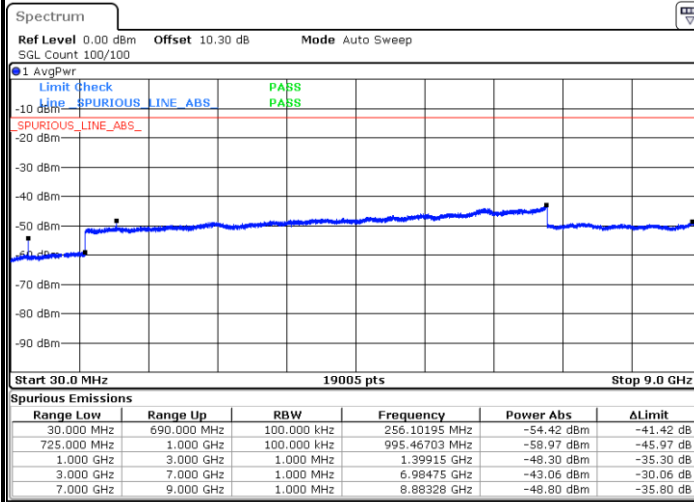


Date: 26.MAR.2020 14:19:17



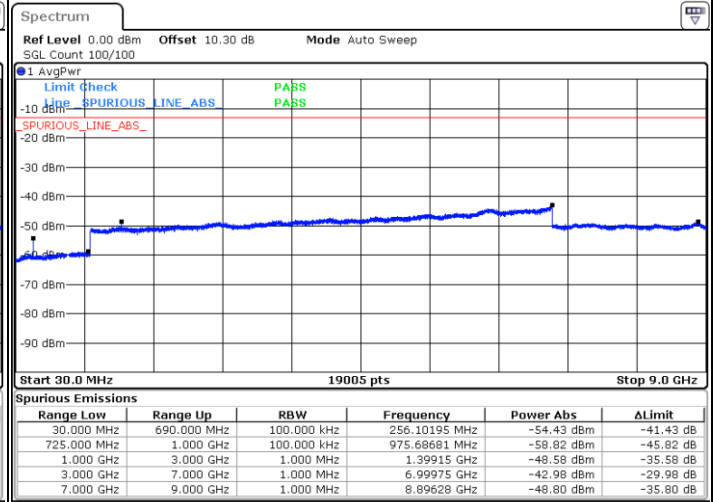
## LTE Band 12 / 5MHz

## Lowest Channel / QPSK



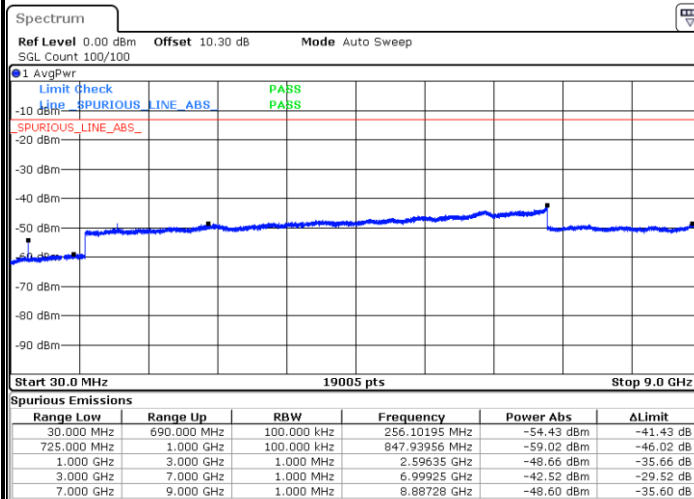
Date: 26.MAR.2020 14:39:23

## Lowest Channel / 16QAM



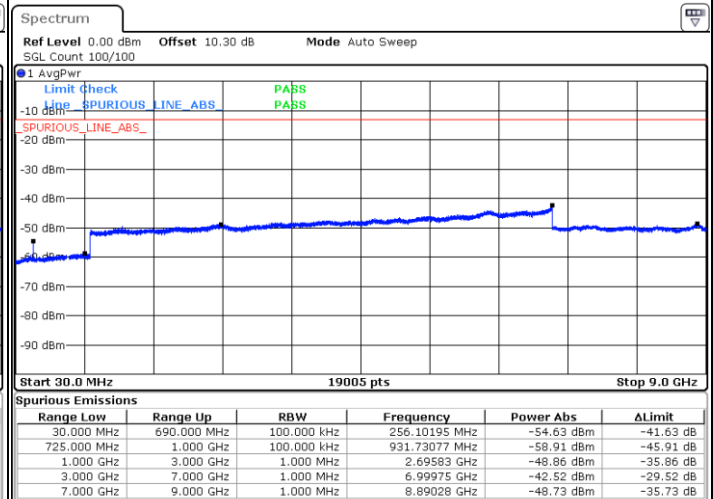
Date: 26.MAR.2020 14:40:06

## Middle Channel / QPSK



Date: 26.MAR.2020 14:42:16

## Middle Channel / 16QAM

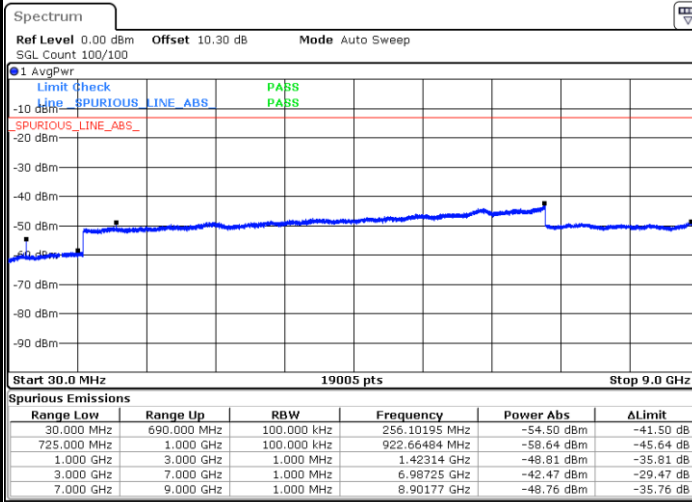


Date: 26.MAR.2020 14:41:34



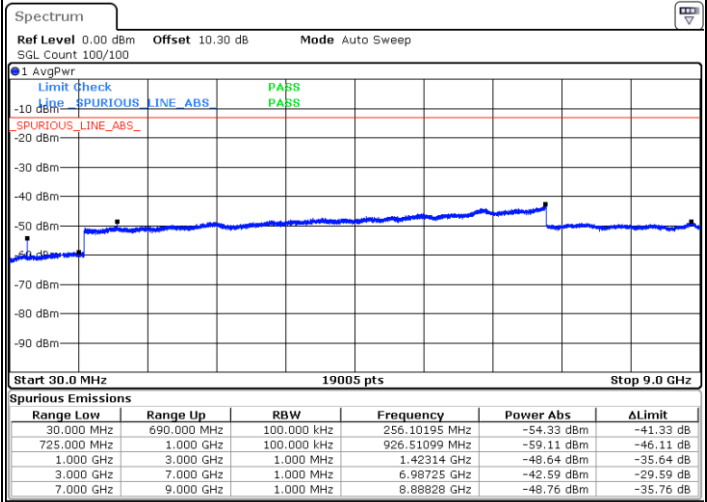
## LTE Band 12 / 5MHz

## Highest Channel / QPSK



Date: 26.MAR.2020 14:48:28

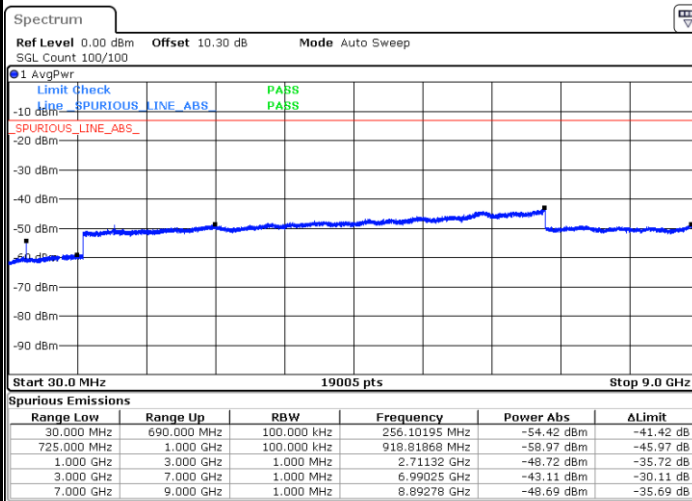
## Highest Channel / 16QAM



Date: 26.MAR.2020 14:47:45

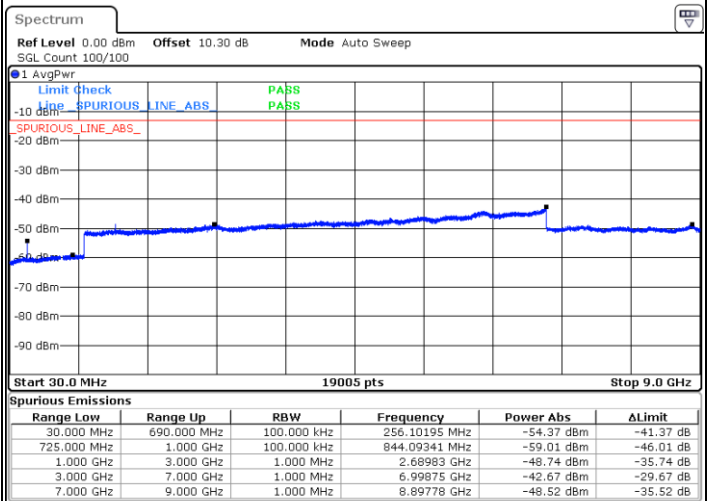
## LTE Band 12 / 10MHz

## Lowest Channel / QPSK



Date: 26.MAR.2020 14:53:59

## Lowest Channel / 16QAM

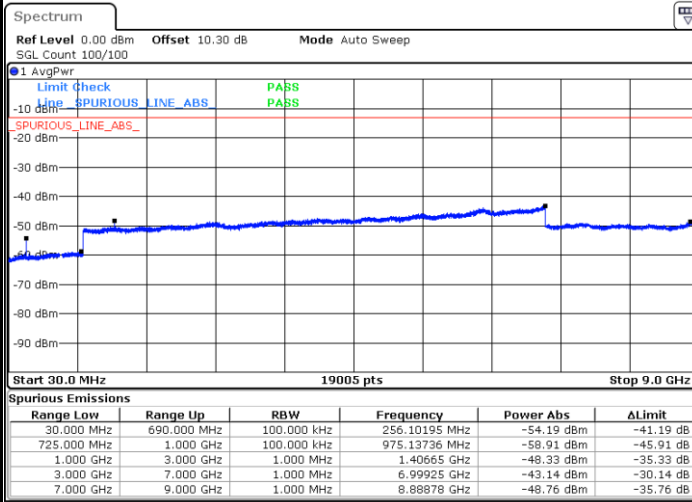


Date: 26.MAR.2020 14:54:42



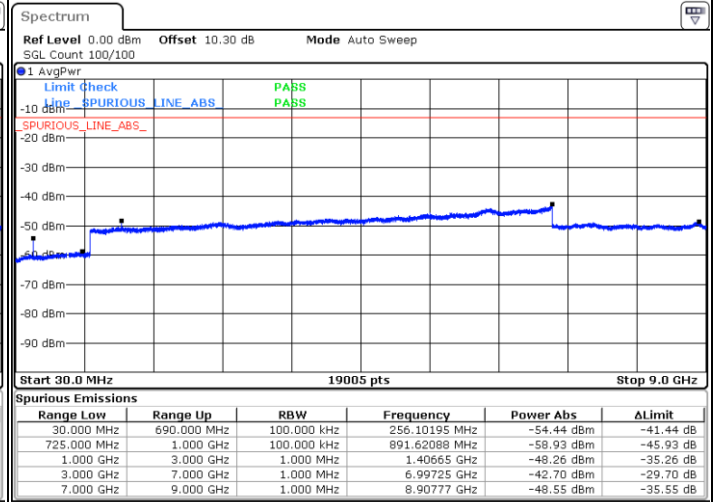
## LTE Band 12 / 10MHz

## Middle Channel / QPSK



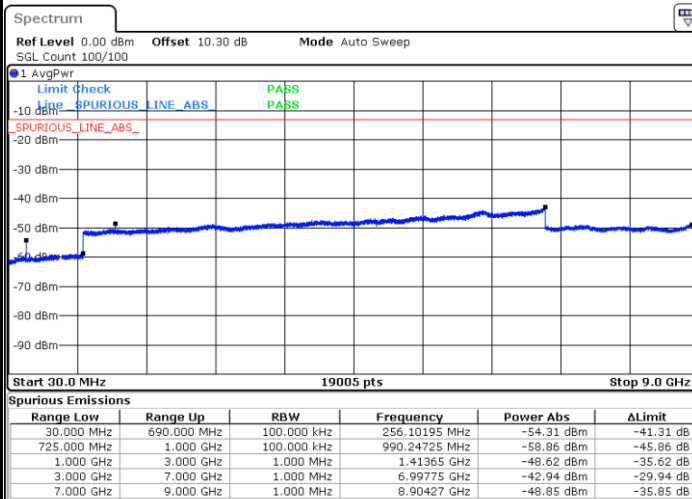
Date: 26.MAR.2020 14:56:54

## Middle Channel / 16QAM



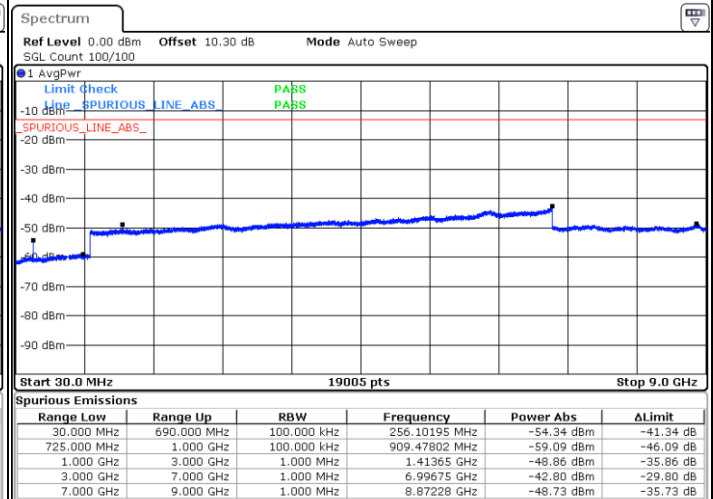
Date: 26.MAR.2020 14:56:11

## Highest Channel / QPSK



Date: 26.MAR.2020 15:02:23

## Highest Channel / 16QAM

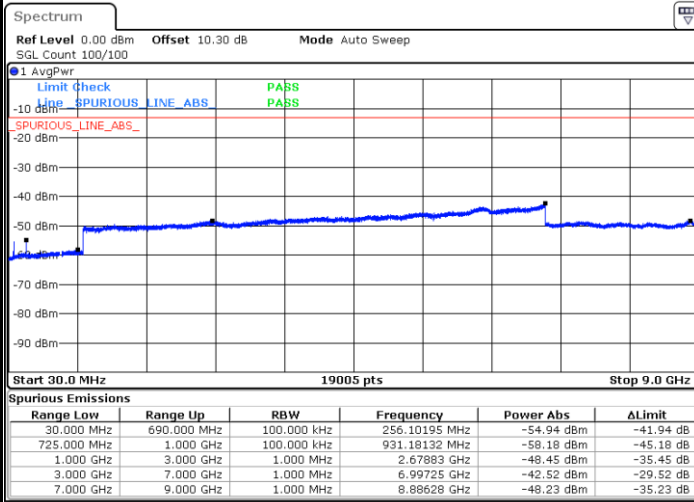


Date: 26.MAR.2020 15:03:06



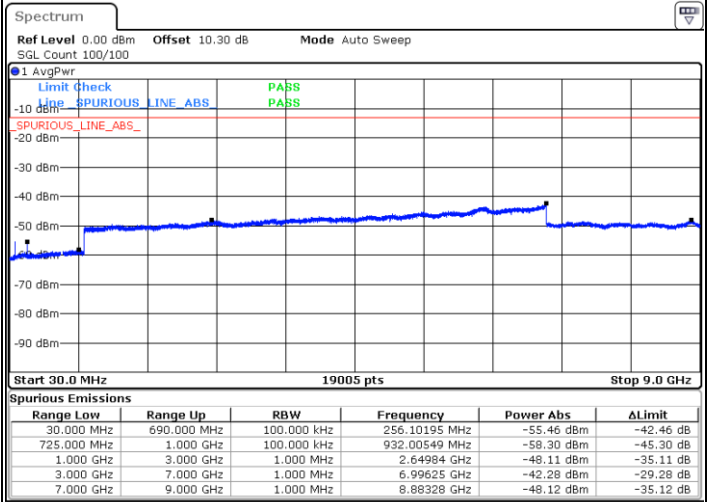
## LTE Band 12 / 1.4MHz

## Lowest Channel / 64QAM



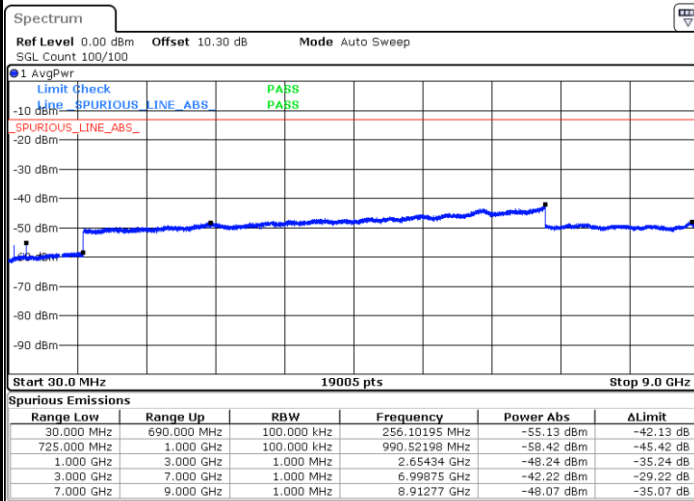
Date: 27.MAR.2020 17:39:04

## Middle Channel / 64QAM



Date: 27.MAR.2020 17:40:10

## Highest Channel / 64QAM

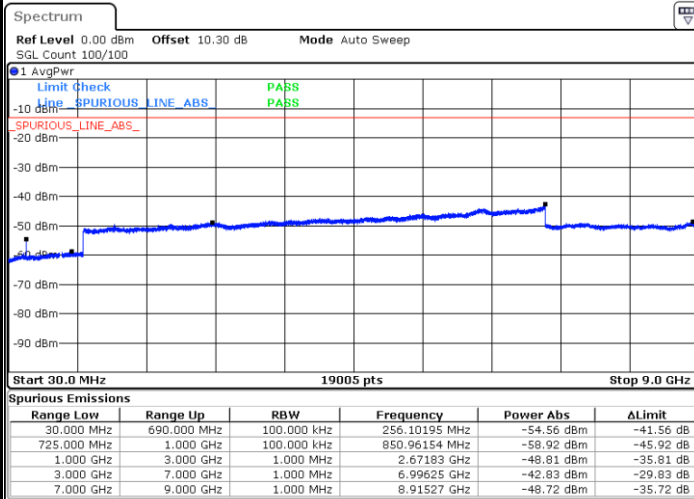


Date: 27.MAR.2020 17:43:17



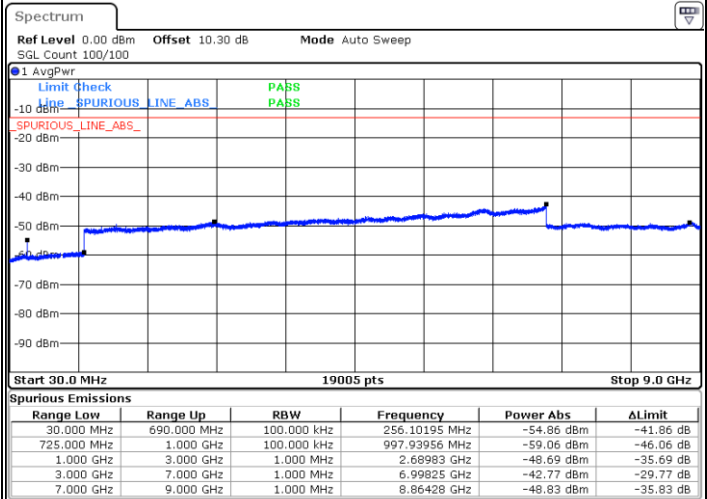
## LTE Band 12 / 3MHz

## Lowest Channel / 64QAM



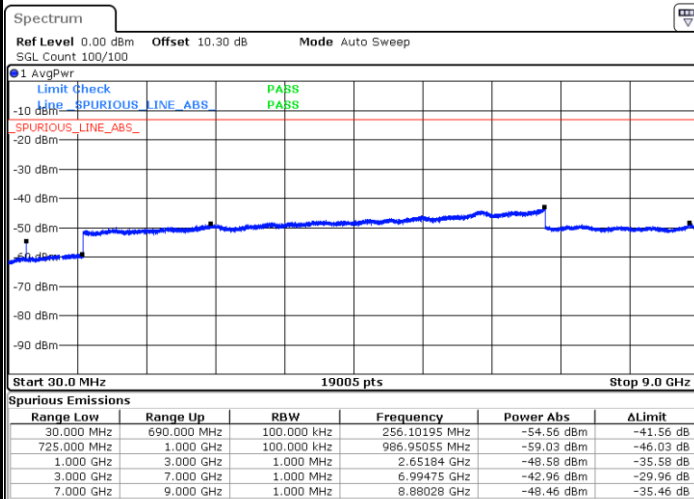
Date: 26.MAR.2020 14:22:24

## Middle Channel / 64QAM



Date: 26.MAR.2020 14:23:29

## Highest Channel / 64QAM

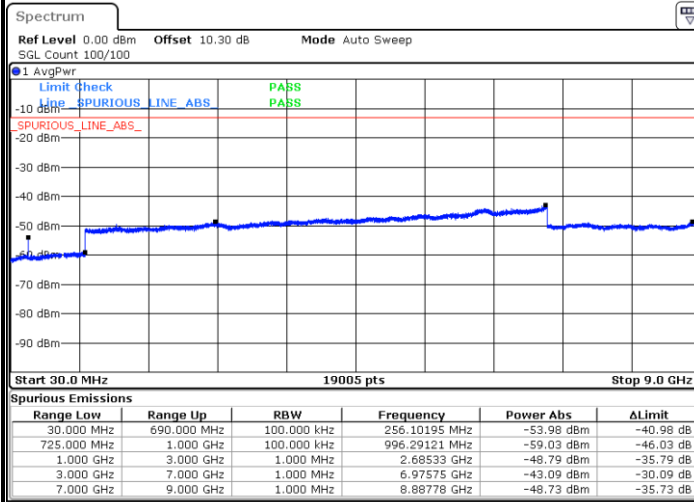


Date: 26.MAR.2020 14:26:35



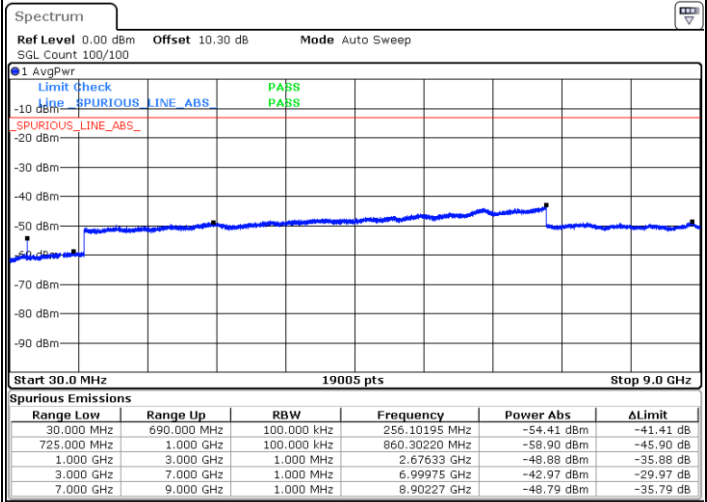
## LTE Band 12 / 5MHz

## Lowest Channel / 64QAM



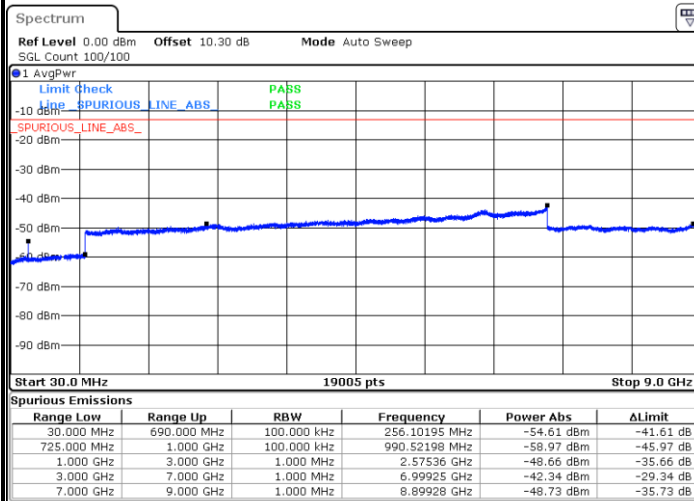
Date: 26.MAR.2020 14:29:42

## Middle Channel / 64QAM



Date: 26.MAR.2020 14:30:48

## Highest Channel / 64QAM

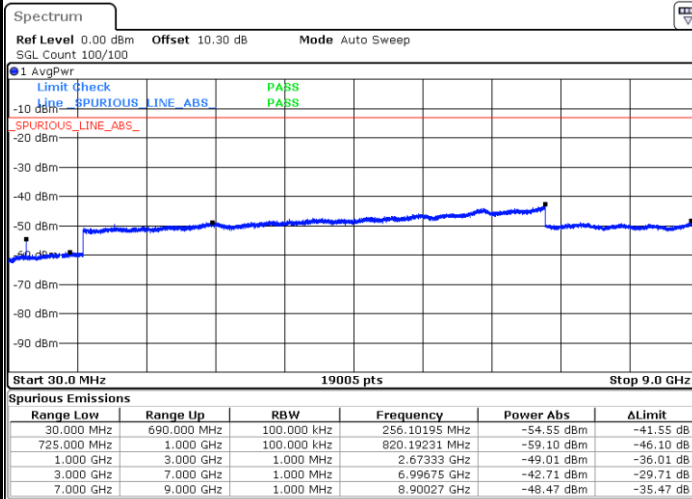


Date: 26.MAR.2020 14:33:54



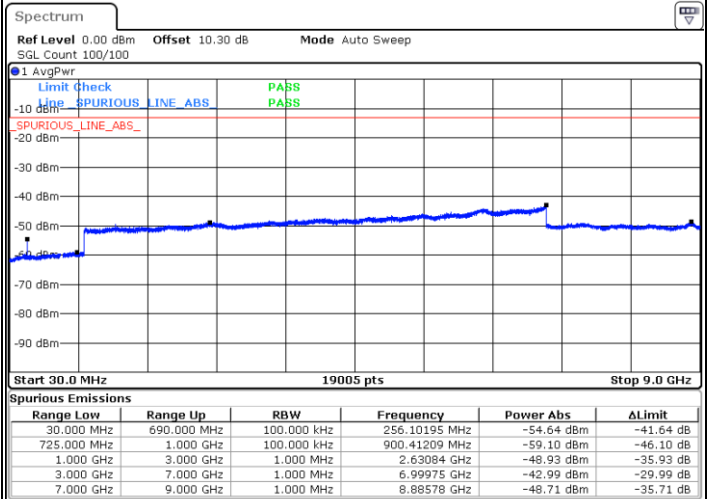
## LTE Band 12 / 10MHz

## Lowest Channel / 64QAM



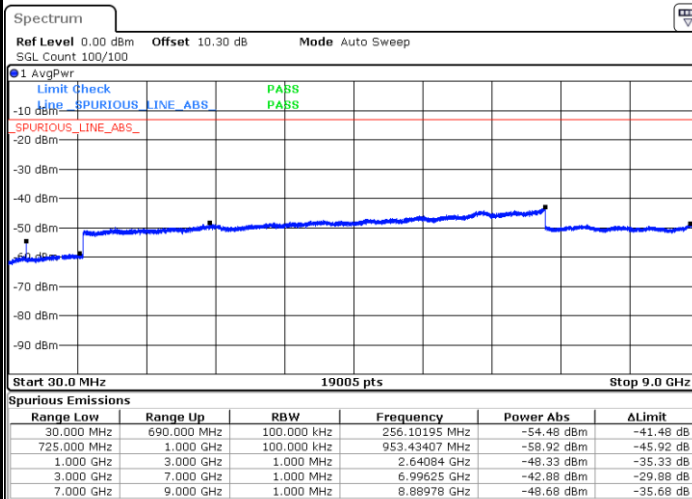
Date: 26.MAR.2020 15:06:12

## Middle Channel / 64QAM



Date: 26.MAR.2020 15:07:17

## Highest Channel / 64QAM



Date: 26.MAR.2020 15:10:24

## 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    | 0.0003                              | PASS    |
| 40               | Normal Voltage    | 0.0017                              |         |
| 30               | Normal Voltage    | 0.0021                              |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                              |         |
| 10               | Normal Voltage    | 0.0037                              |         |
| 0                | Normal Voltage    | 0.0024                              |         |
| -10              | Normal Voltage    | 0.0037                              |         |
| -20              | Normal Voltage    | 0.0044                              |         |
| -30              | Normal Voltage    | 0.0001                              |         |
| 20               | Maximum Voltage   | 0.0013                              |         |
| 20               | Normal Voltage    | 0.0000                              |         |
| 20               | Battery End Point | 0.0021                              |         |

**Note:**

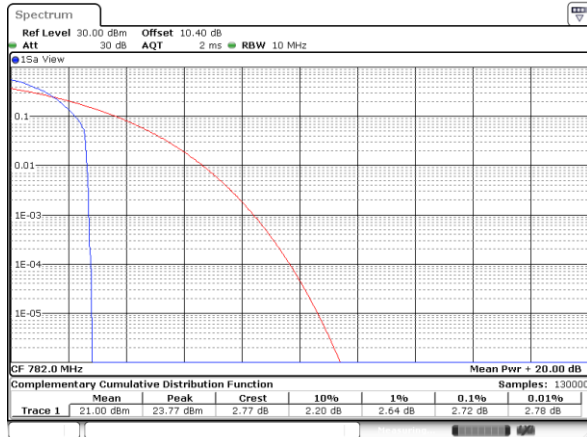
1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.2 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



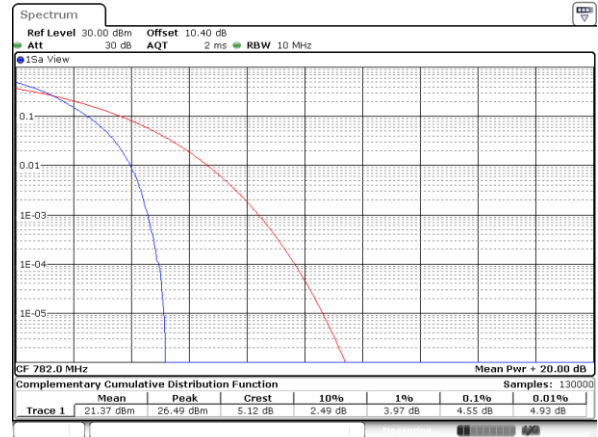
## LTE Band 13

## Peak-to-Average Ratio

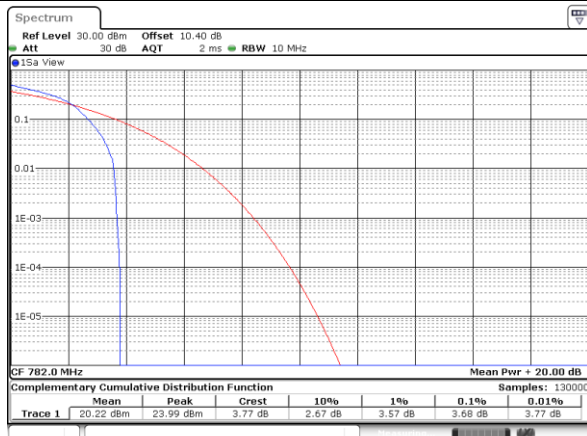
| Mode       | LTE Band 13 / 10MHz |         |       |         |             |
|------------|---------------------|---------|-------|---------|-------------|
| Mod.       | QPSK                |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | -                   | -       | -     | -       | PASS        |
| Middle CH  | 2.72                | 4.55    | 3.68  | 5.83    |             |
| Highest CH | -                   | -       | -     | -       |             |
| Mode       | LTE Band 13 / 10MHz |         |       |         |             |
| Mod.       | 64QAM               |         |       |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB |       |         | Result      |
| Lowest CH  | -                   | -       | -     | -       | PASS        |
| Middle CH  | 5.01                | 6.38    | -     | -       |             |
| Highest CH | -                   | -       | -     | -       |             |

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


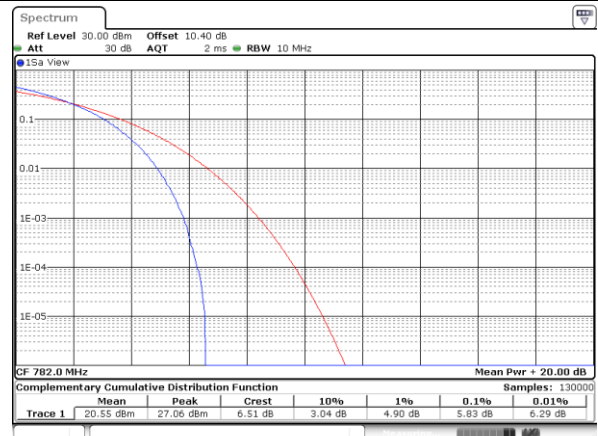
Date: 26.MAR.2020 12:56:12

**Middle Channel / Full RB**


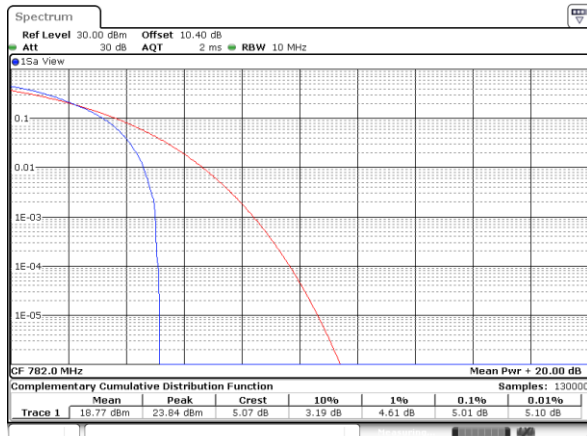
Date: 26.MAR.2020 12:56:22

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


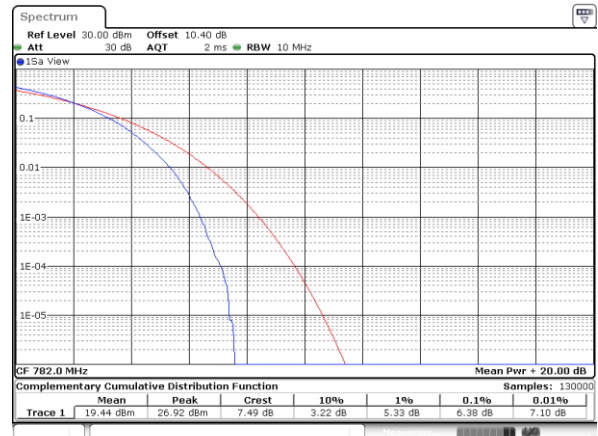
Date: 26.MAR.2020 12:55:50

**Middle Channel / Full RB**


Date: 26.MAR.2020 12:56:01

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


Date: 26.MAR.2020 12:55:28

**Middle Channel / Full RB**


Date: 26.MAR.2020 12:55:38

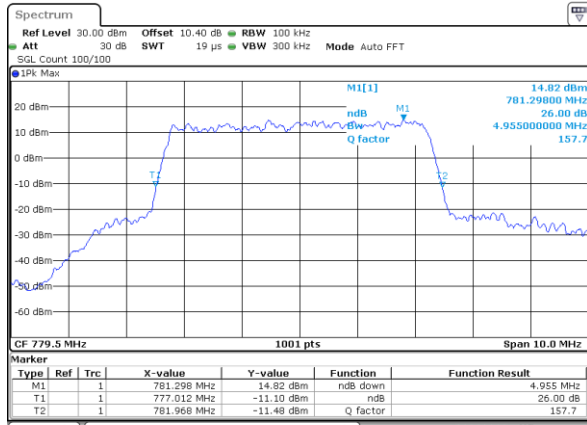
**26dB Bandwidth**

| 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  | -                          | -     | -     | -     | 4.96  | 4.92  | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                          | -     | -     | -     | 4.86  | 4.89  | 9.79  | 9.77  | -     | -     | -     | -     |
| Highest CH | -                          | -     | -     | -     | 4.88  | 5.03  | -     | -     | -     | -     | -     | -     |
| Mode       | LTE Band 13 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                     |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                      |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | -                          | -     | -     | -     | 4.89  | -     | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                          | -     | -     | -     | 4.94  | -     | 9.71  | -     | -     | -     | -     | -     |
| Highest CH | -                          | -     | -     | -     | 4.98  | -     | -     | -     | -     | -     | -     | -     |



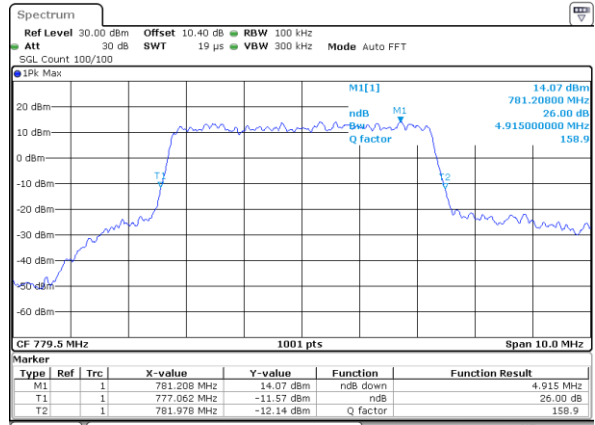
## LTE Band 13

## Lowest Channel / 5MHz / QPSK



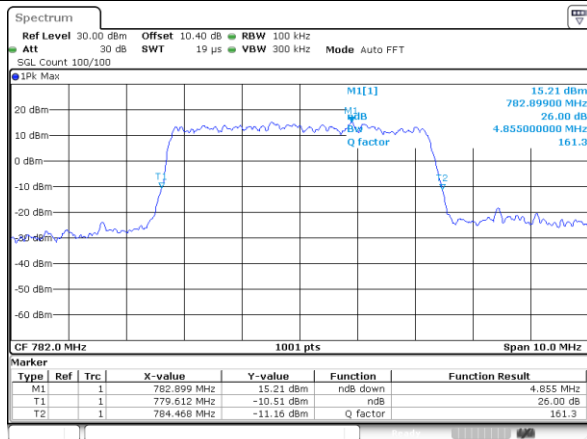
Date: 26.MAR.2020 11:40:22

## Lowest Channel / 5MHz / 16QAM



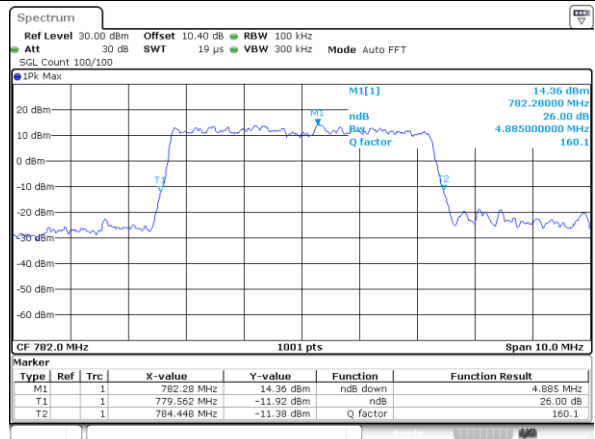
Date: 26.MAR.2020 11:40:10

## Middle Channel / 5MHz / QPSK



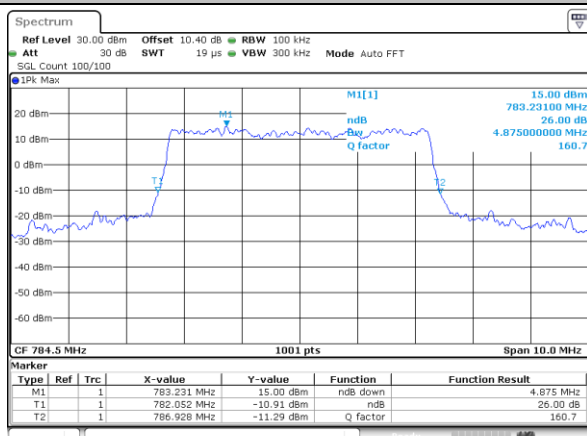
Date: 26.MAR.2020 11:51:23

## Middle Channel / 5MHz / 16QAM



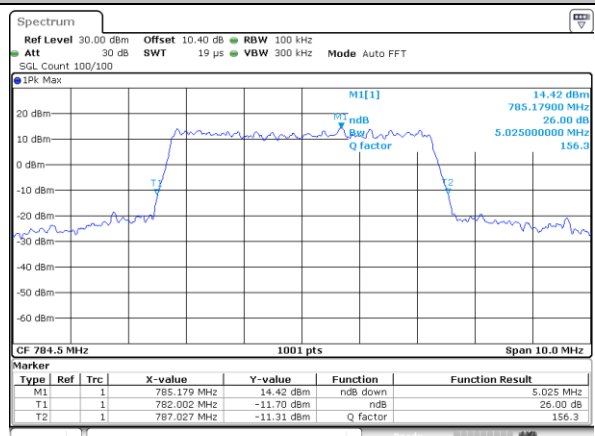
Date: 26.MAR.2020 11:51:34

## Highest Channel / 5MHz / QPSK



Date: 26.MAR.2020 11:52:45

## Highest Channel / 5MHz / 16QAM

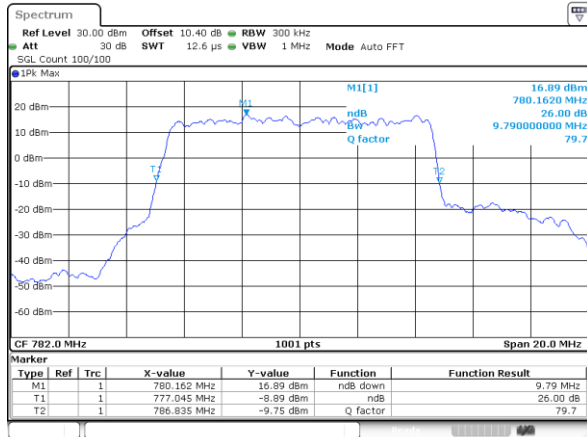


Date: 26.MAR.2020 11:52:33



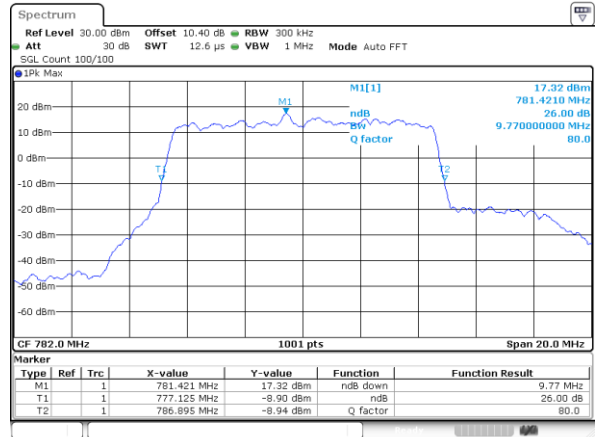
## LTE Band 13

## Middle Channel / 10MHz / QPSK



Date: 26.MAR.2020 12:13:11

## Middle Channel / 10MHz / 16QAM

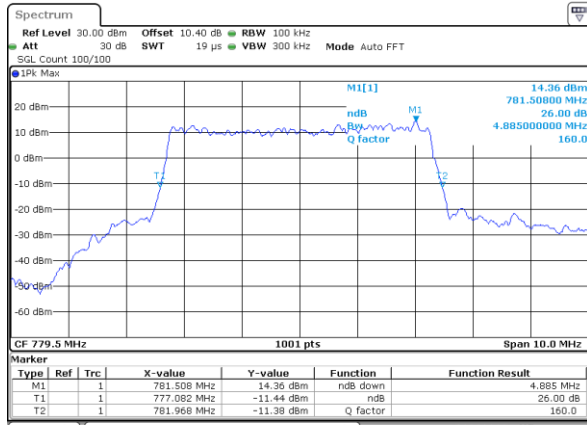


Date: 26.MAR.2020 12:13:00



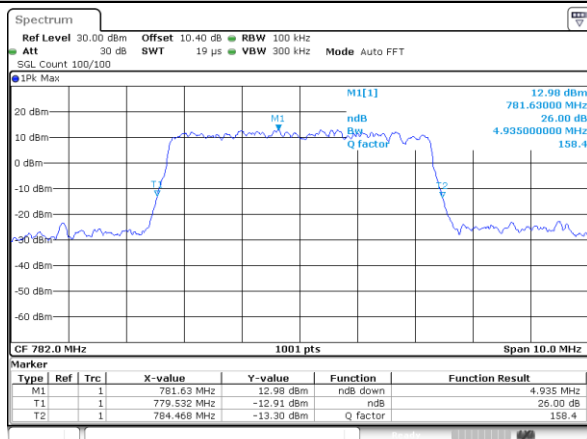
## LTE Band 13

## Lowest Channel / 5MHz / 64QAM



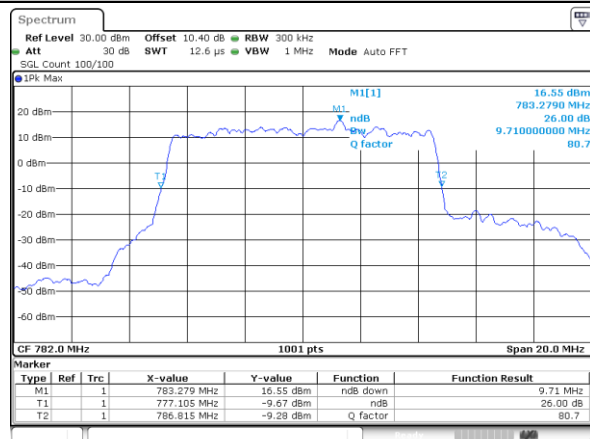
Date: 26.MAR.2020 12:01:53

## Middle Channel / 5MHz / 64QAM



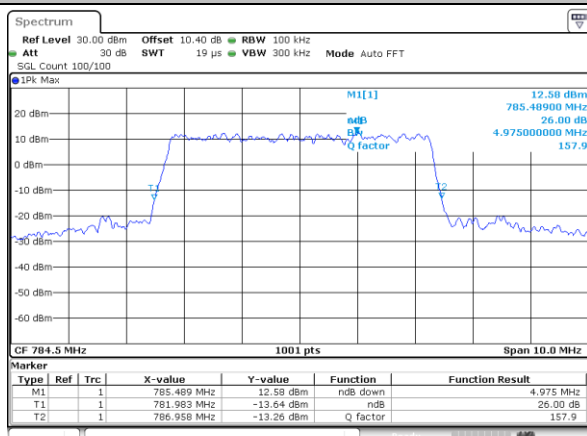
Date: 26.MAR.2020 12:07:28

## Middle Channel / 10MHz / 64QAM



Date: 26.MAR.2020 12:25:33

## Highest Channel / 5MHz / 64QAM



Date: 26.MAR.2020 12:08:03

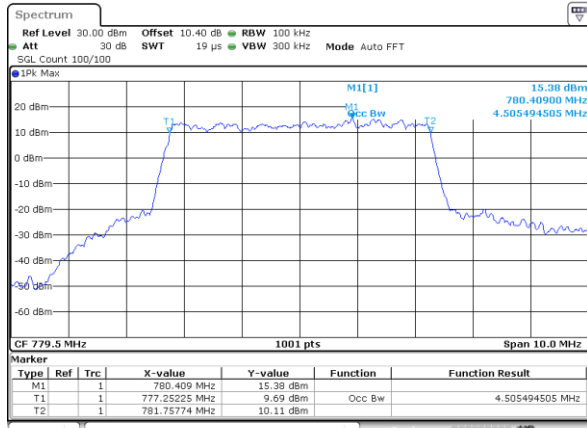
**Occupied Bandwidth**

| 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  | -                         | -     | -     | -     | 4.51  | 4.48  | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                         | -     | -     | -     | 4.48  | 4.48  | 9.05  | 8.97  | -     | -     | -     | -     |
| Highest CH | -                         | -     | -     | -     | 4.52  | 4.50  | -     | -     | -     | -     | -     | -     |
| Mode       | LTE Band 13 : 99%OBW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                    |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                     |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | -                         | -     | -     | -     | 4.55  | -     | -     | -     | -     | -     | -     | -     |
| Middle CH  | -                         | -     | -     | -     | 4.53  | -     | 9.01  | -     | -     | -     | -     | -     |
| Highest CH | -                         | -     | -     | -     | 4.51  | -     | -     | -     | -     | -     | -     | -     |



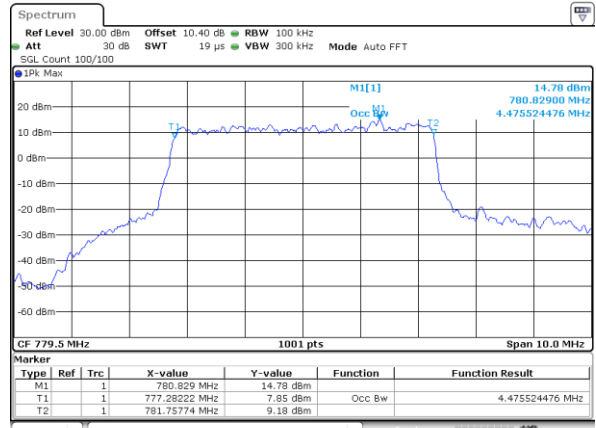
## LTE Band 13

## Lowest Channel / 5MHz / QPSK



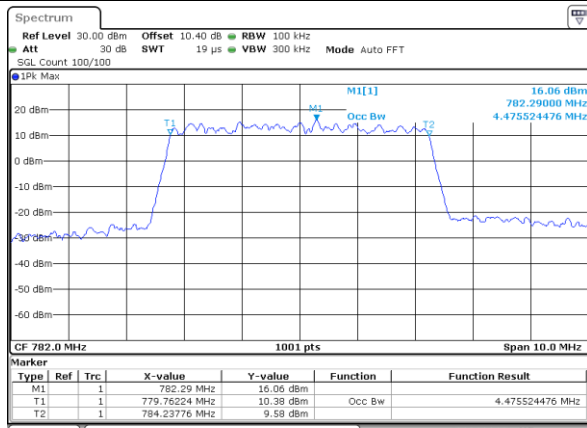
Date: 26.MAR.2020 11:39:47

## Lowest Channel / 5MHz / 16QAM



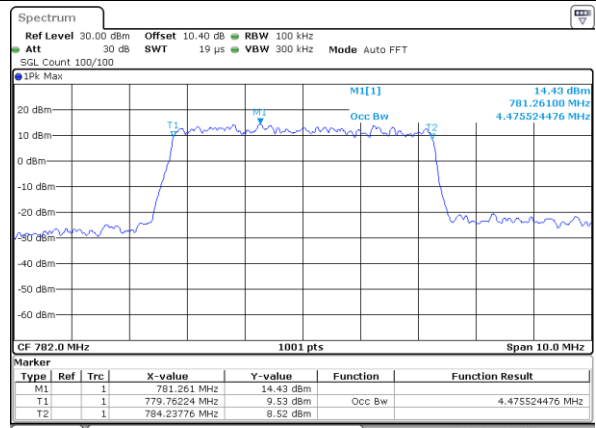
Date: 26.MAR.2020 11:39:59

## Middle Channel / 5MHz / QPSK



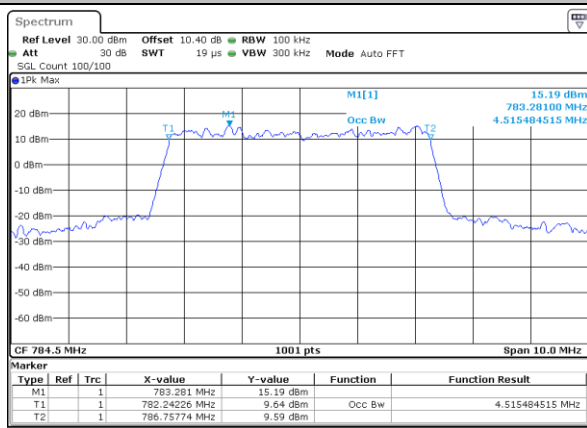
Date: 26.MAR.2020 11:51:57

## Middle Channel / 5MHz / 16QAM



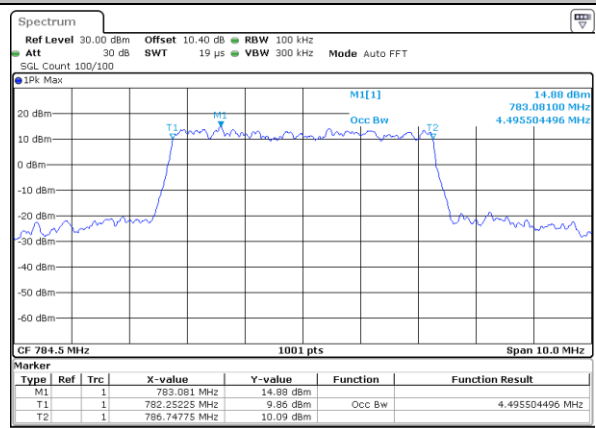
Date: 26.MAR.2020 11:51:46

## Highest Channel / 5MHz / QPSK



Date: 26.MAR.2020 11:52:09

## Highest Channel / 5MHz / 16QAM

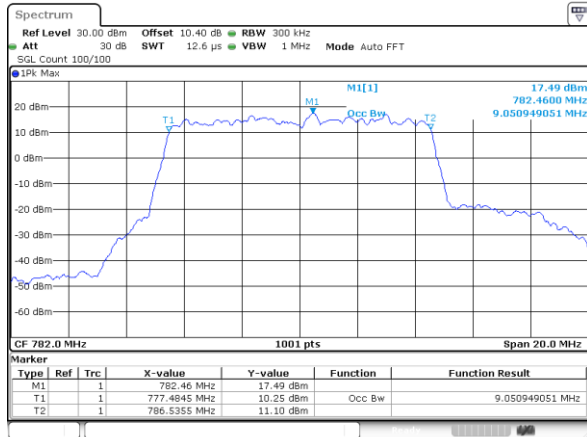


Date: 26.MAR.2020 11:52:21



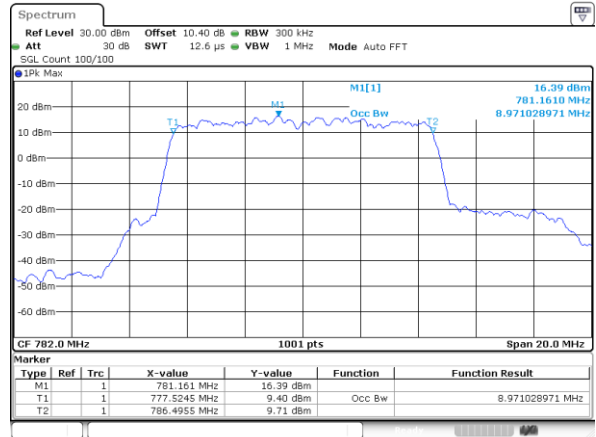
## LTE Band 13

## Middle Channel / 10MHz / QPSK



Date: 26.MAR.2020 12:12:37

## Middle Channel / 10MHz / 16QAM

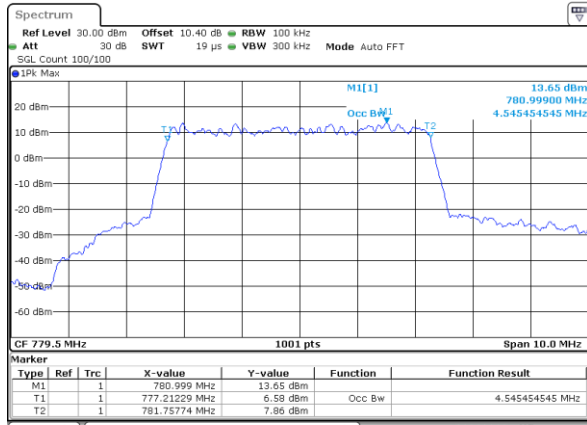


Date: 26.MAR.2020 12:12:49

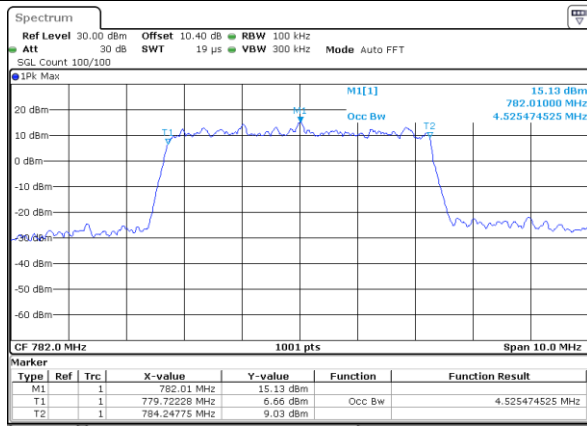


## LTE Band 13

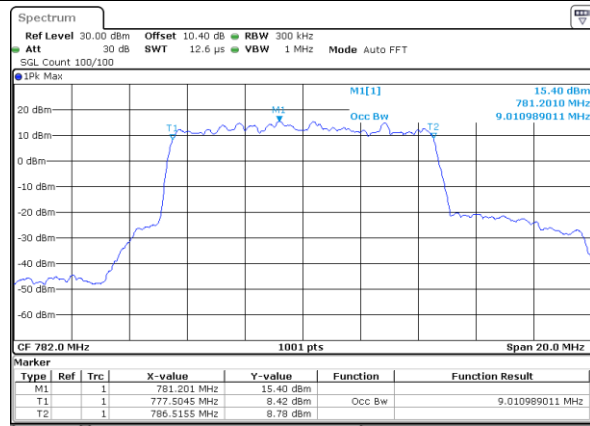
## Lowest Channel / 5MHz / 64QAM



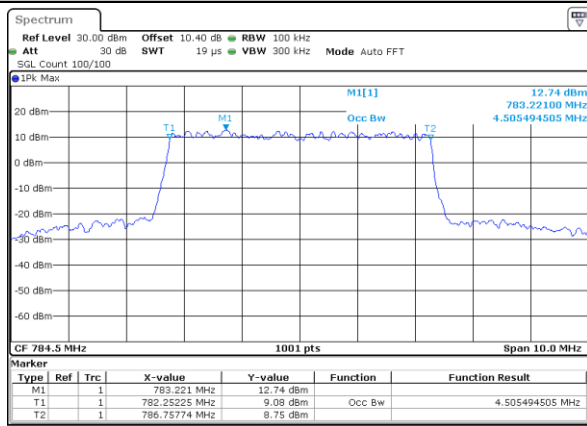
## Middle Channel / 5MHz / 64QAM

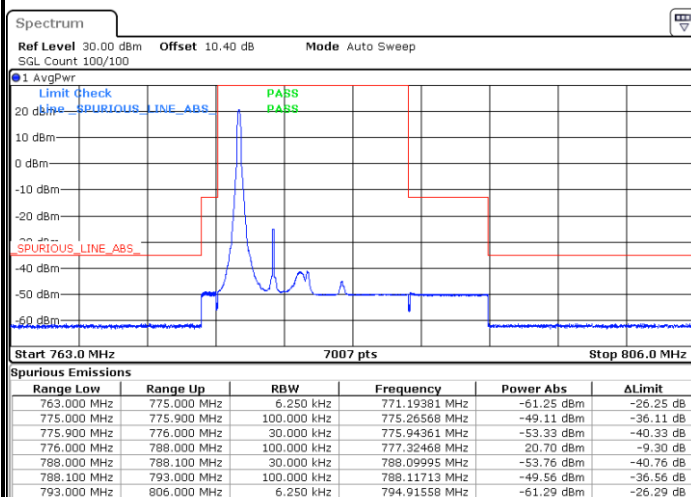
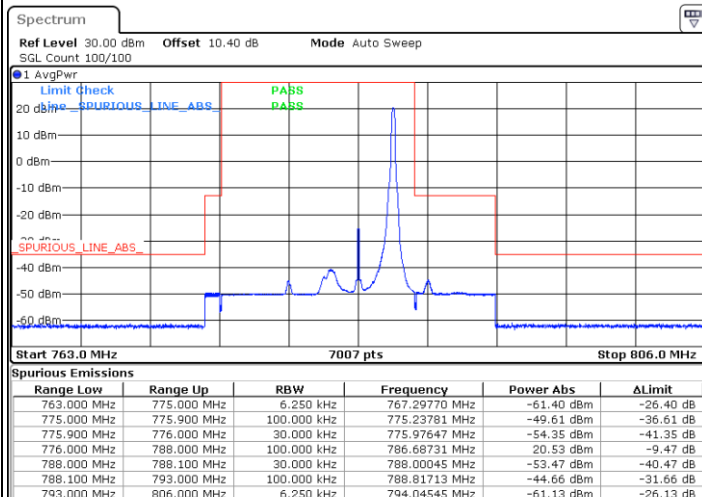
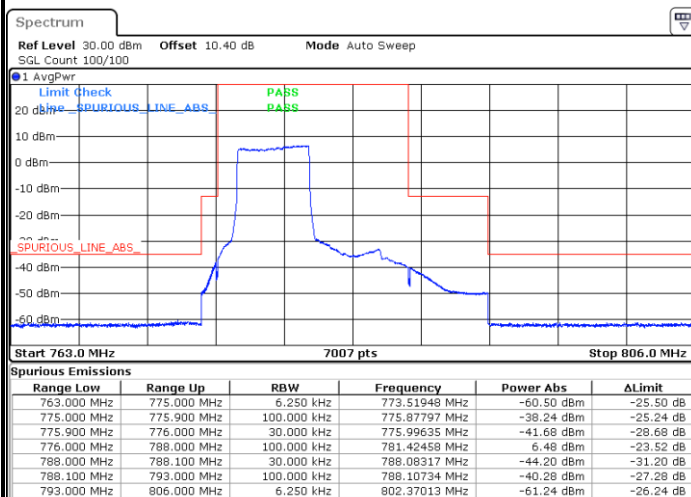
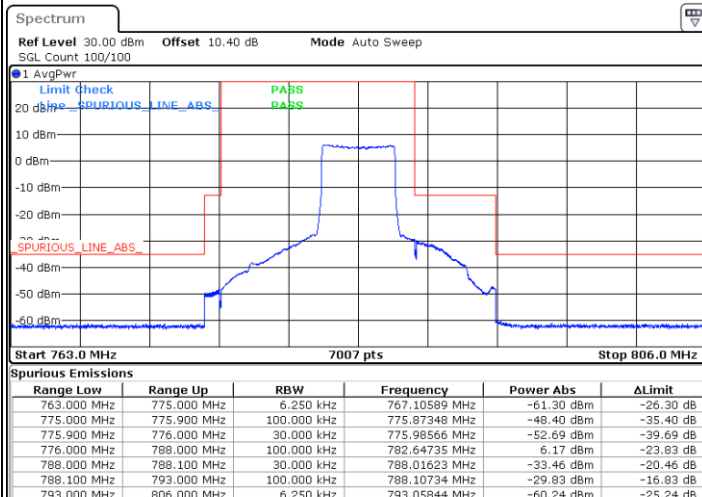


## Middle Channel / 10MHz / 64QAM



## Highest Channel / 5MHz / 64QAM

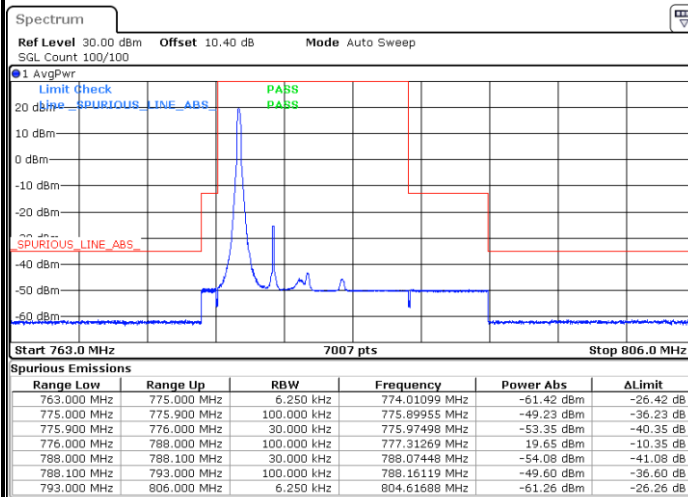


**Conducted Band Edge****LTE Band 13 / 5MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1 RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**



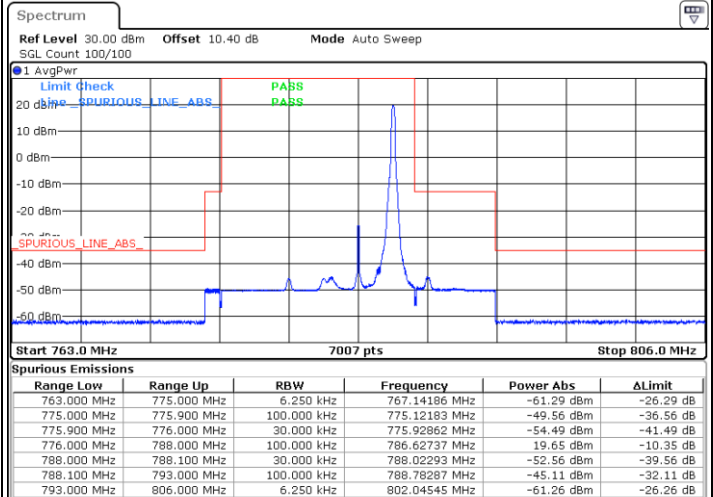
## LTE Band 13 / 5MHz / 16QAM

## Lowest Band Edge / 1 RB



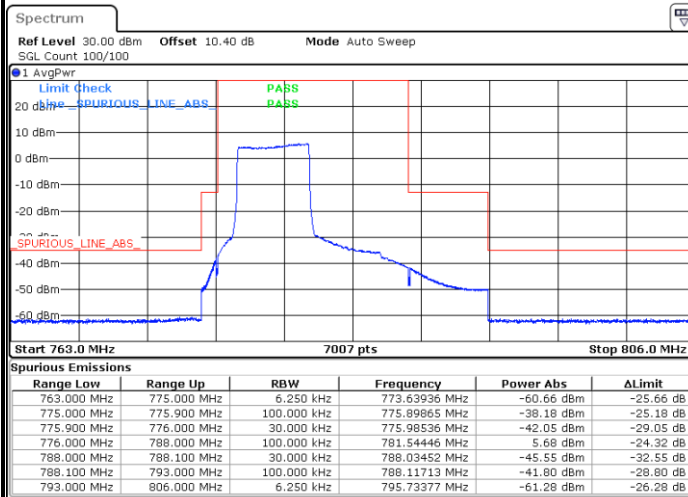
Date: 26.MAR.2020 11:45:22

## Highest Band Edge / 1 RB



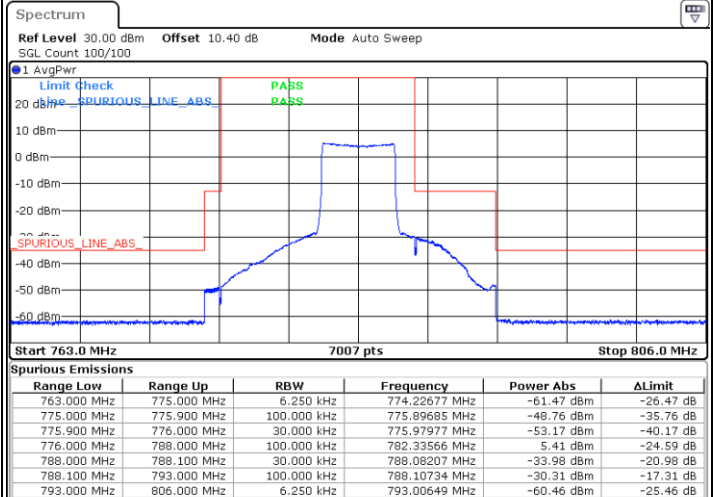
Date: 26.MAR.2020 11:57:44

## Lowest Band Edge / Full RB



Date: 26.MAR.2020 11:43:42

## Highest Band Edge / Full RB

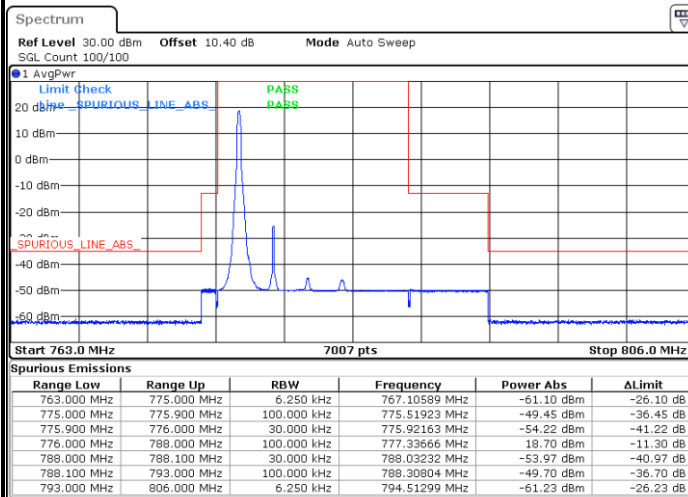


Date: 26.MAR.2020 11:56:04



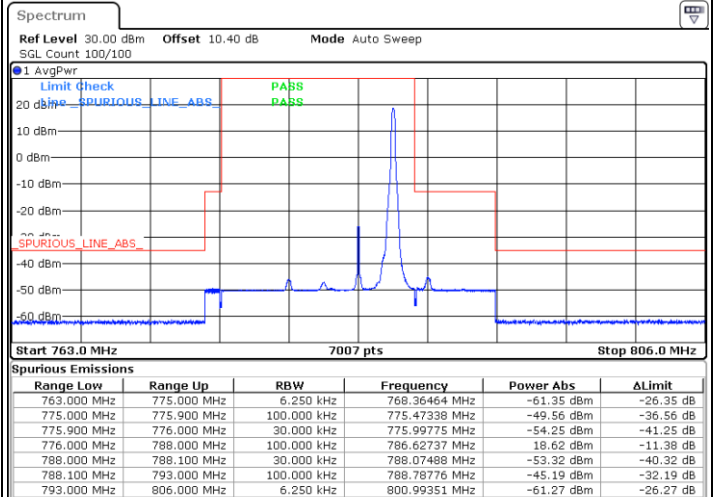
## LTE Band 13 / 5MHz / 64QAM

## Lowest Band Edge / 1 RB



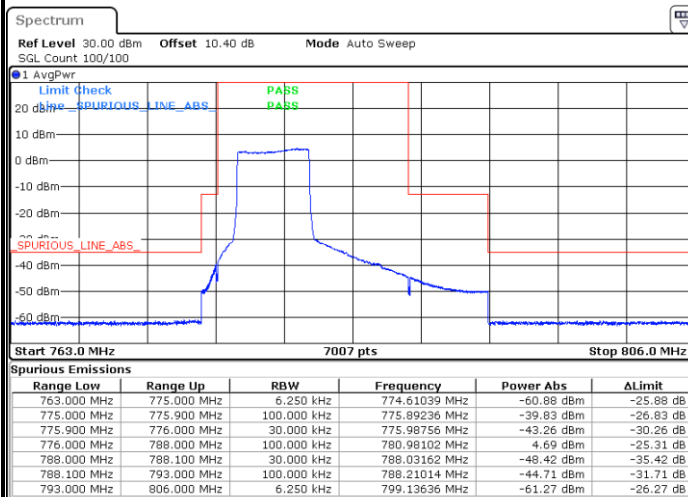
Date: 26.MAR.2020 12:05:12

## Highest Band Edge / 1 RB



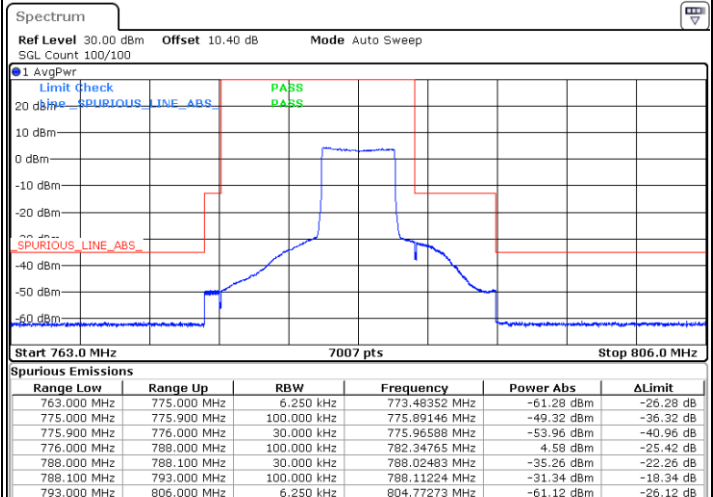
Date: 26.MAR.2020 12:11:22

## Lowest Band Edge / Full RB



Date: 26.MAR.2020 12:03:32

## Highest Band Edge / Full RB

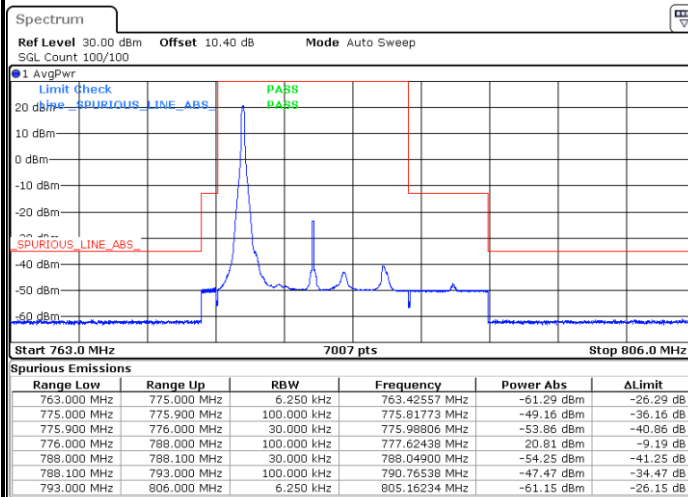


Date: 26.MAR.2020 12:09:43

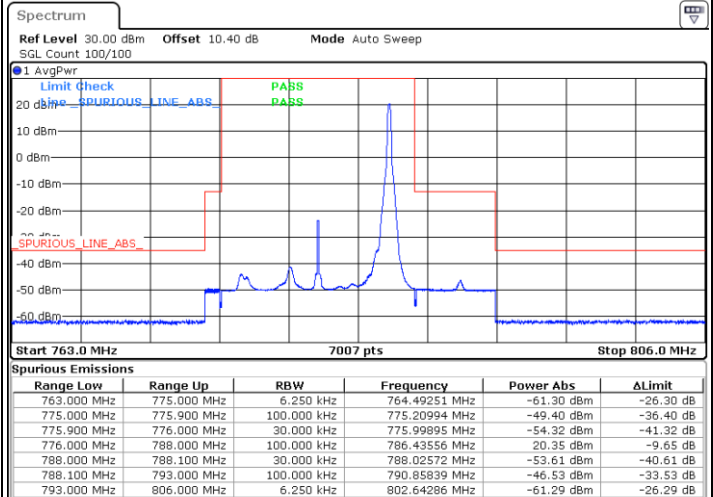


## LTE Band 13 / 10MHz / QPSK

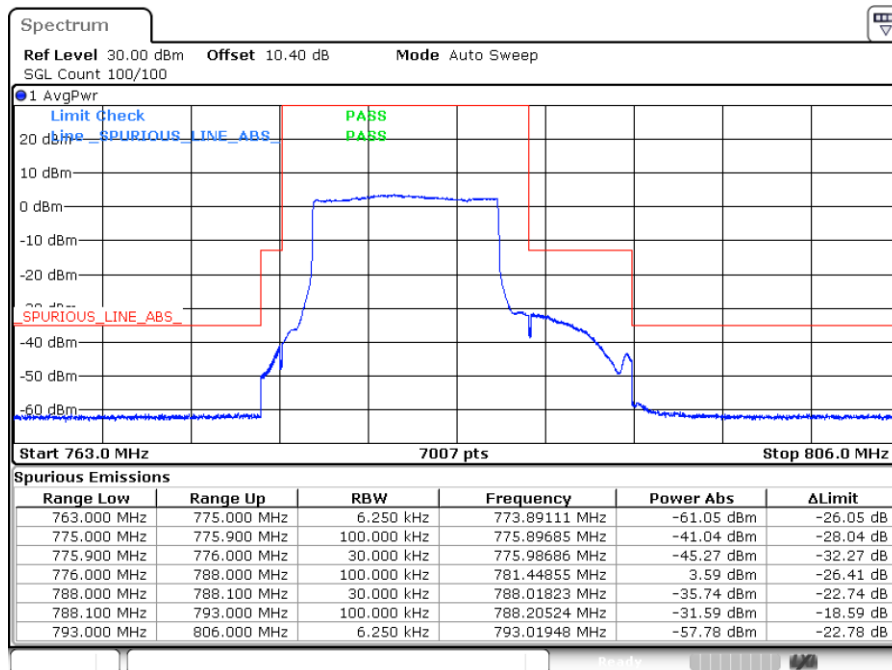
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



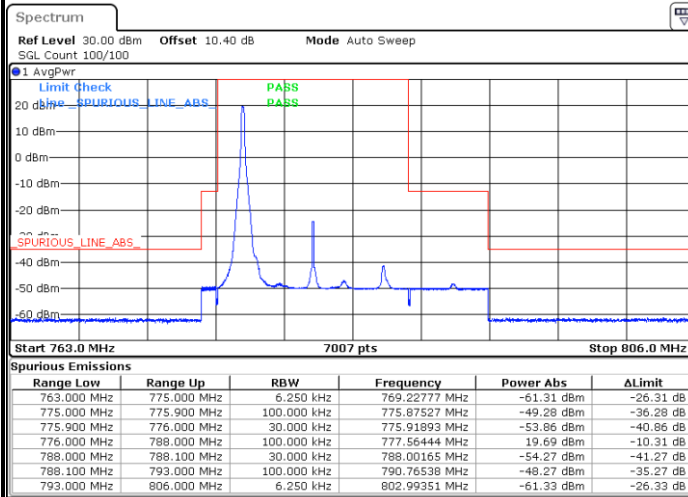
## Band Edge / Full RB





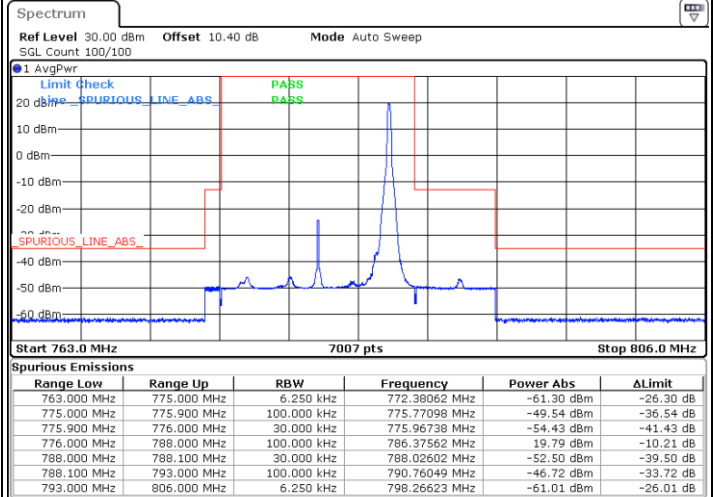
## LTE Band 13 / 10MHz / 16QAM

## Lowest Band Edge / 1 RB



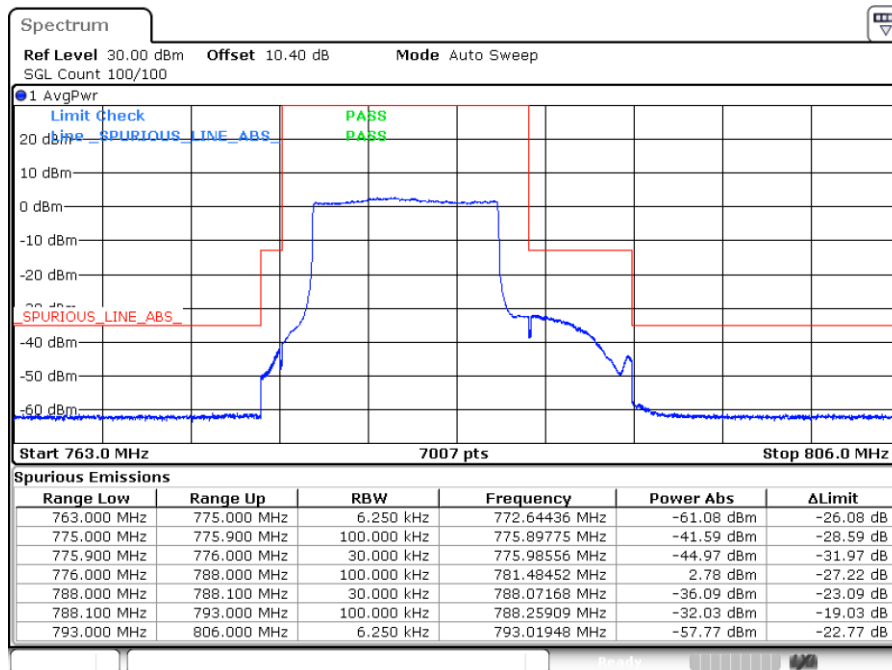
Date: 26.MAR.2020 12:18:09

## Highest Band Edge / 1 RB



Date: 26.MAR.2020 12:23:06

## Band Edge / Full RB

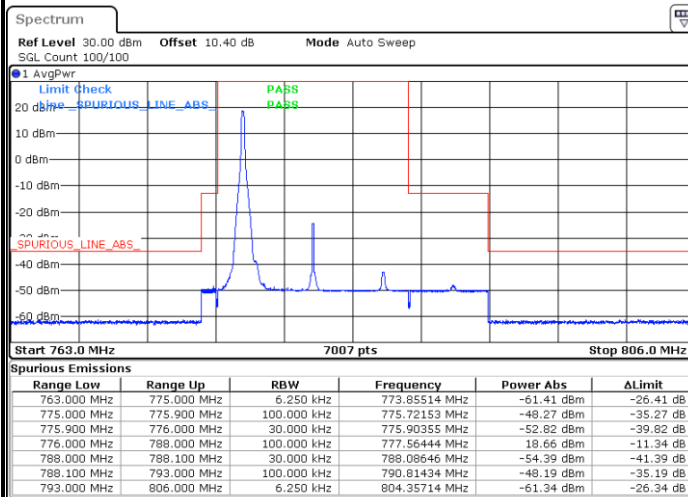


Date: 26.MAR.2020 12:16:30

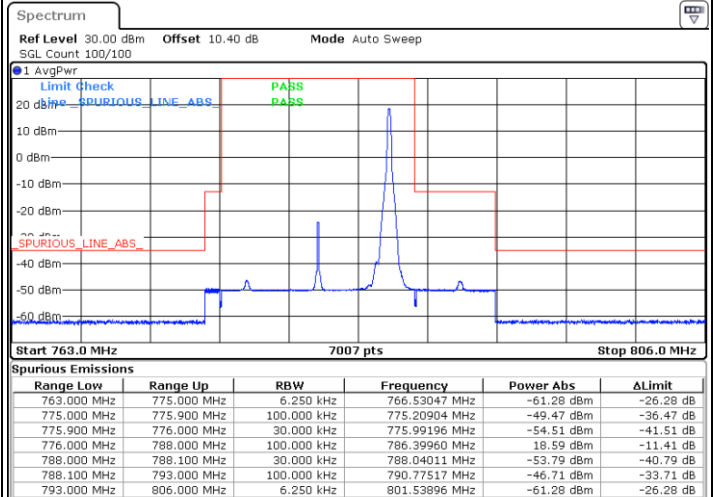


## LTE Band 13 / 10MHz / 64QAM

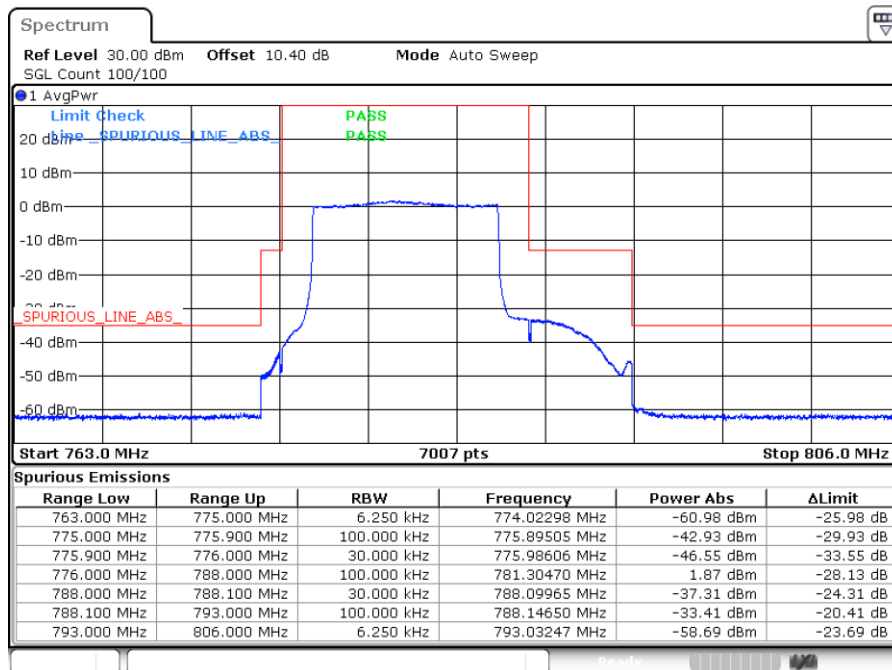
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Band Edge / Full RB

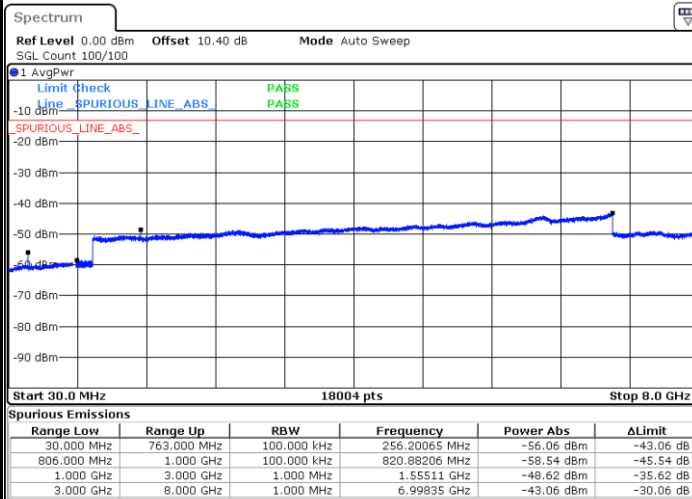




## Conducted Spurious Emission

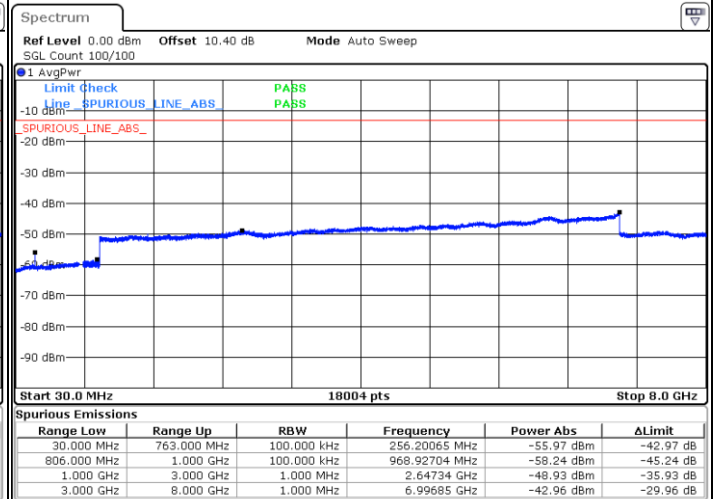
### LTE Band 13 / 5MHz

#### Lowest Channel / QPSK



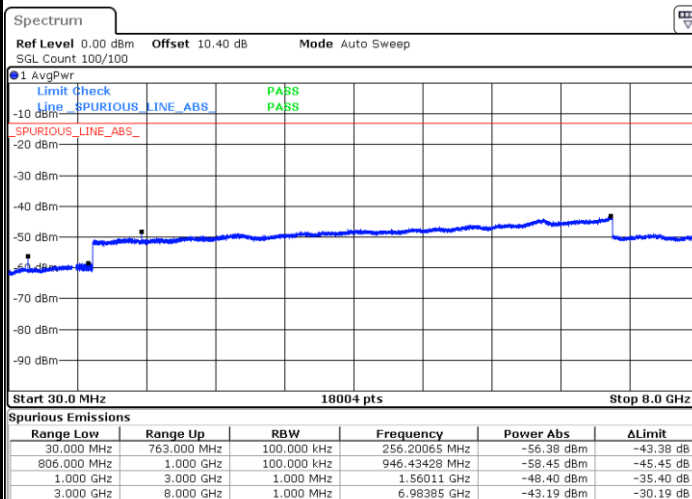
Date: 26.MAR.2020 11:48:04

#### Lowest Channel / 16QAM



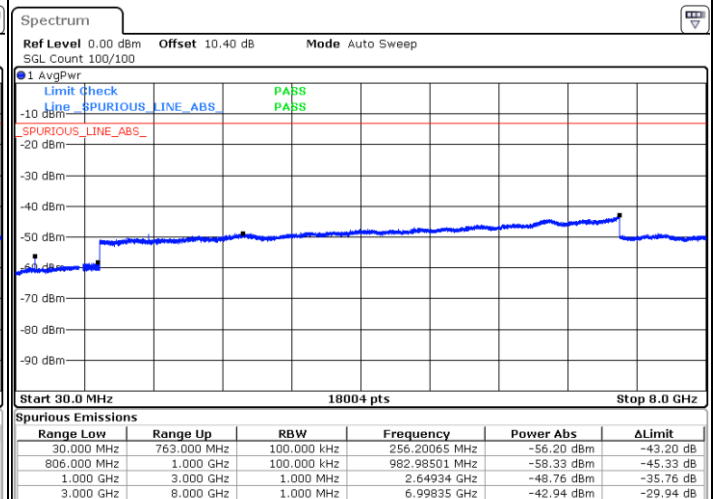
Date: 26.MAR.2020 11:49:07

#### Middle Channel / QPSK



Date: 26.MAR.2020 11:51:11

#### Middle Channel / 16QAM

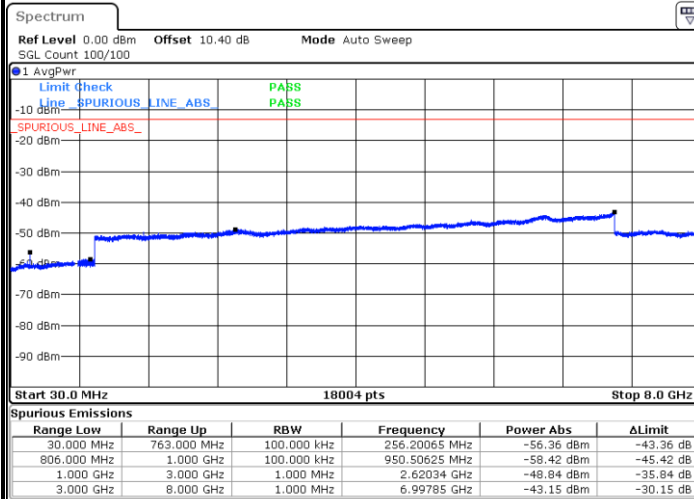


Date: 26.MAR.2020 11:50:09



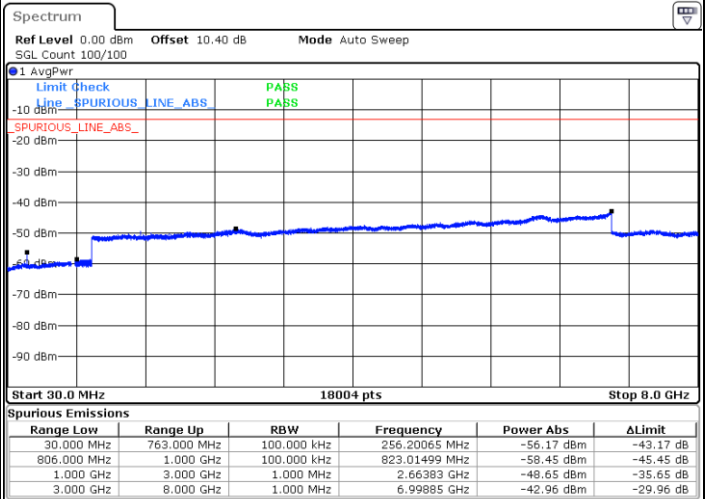
## LTE Band 13 / 5MHz

## Highest Channel / QPSK



Date: 26.MAR.2020 12:00:25

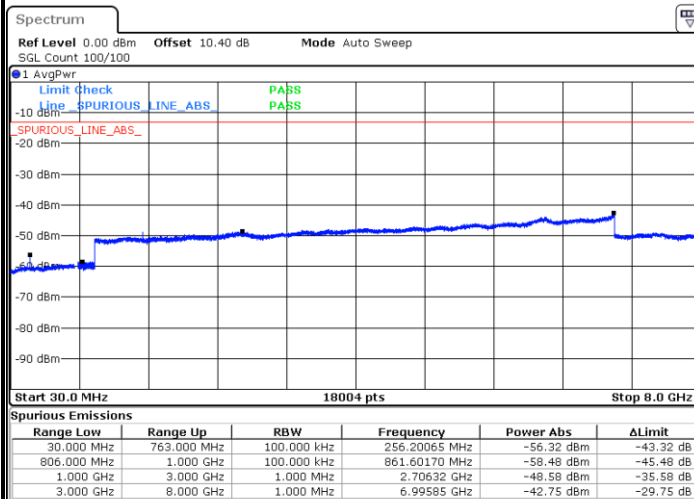
## Highest Channel / 16QAM



Date: 26.MAR.2020 12:01:28

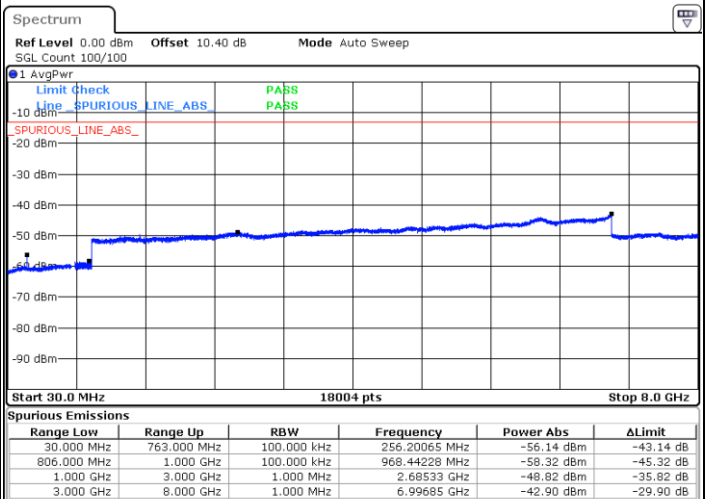
## LTE Band 13 / 10MHz

## Middle Channel / QPSK



Date: 26.MAR.2020 12:25:10

## Middle Channel / 16QAM

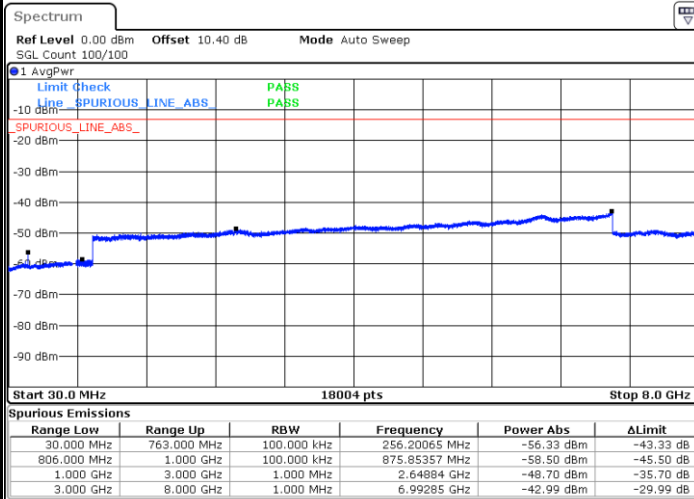


Date: 26.MAR.2020 12:24:08



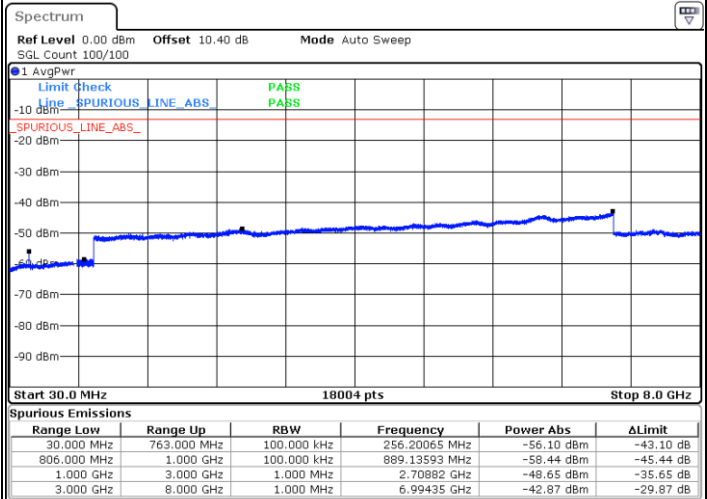
## LTE Band 13 / 5MHz

## Lowest Channel / 64QAM



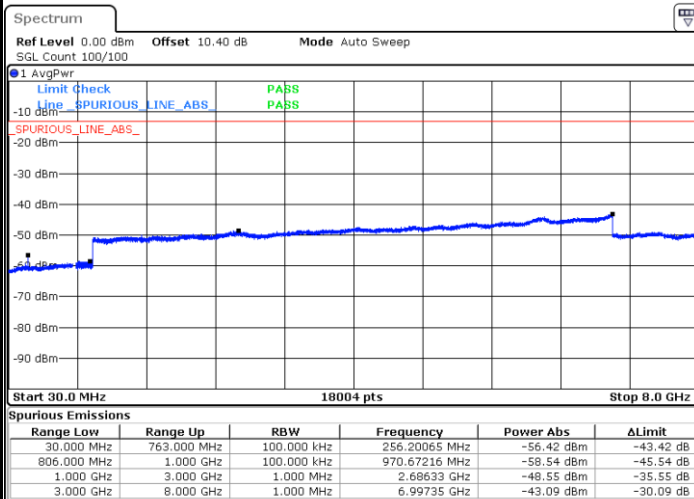
Date: 26.MAR.2020 12:06:14

## Middle Channel / 64QAM



Date: 26.MAR.2020 12:07:16

## Highest Channel / 64QAM

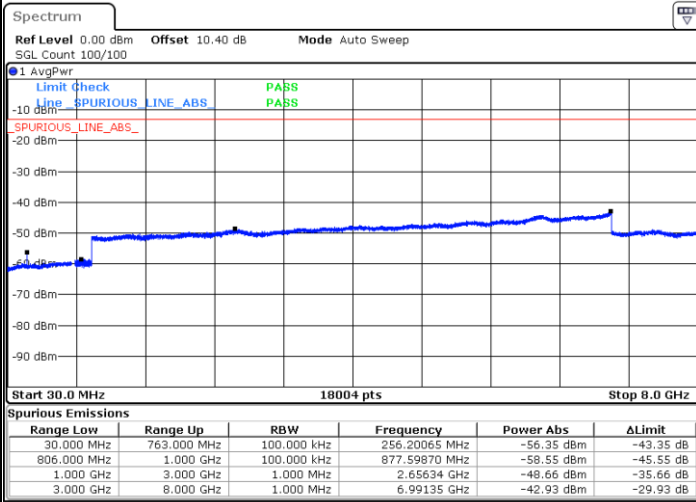


Date: 26.MAR.2020 12:12:24



## LTE Band 13 / 10MHz

## Middle Channel / 64QAM



Date: 26.MAR.2020 12:31:32

## 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    | 0.0037                              | PASS    |
| 40               | Normal Voltage    | 0.0003                              |         |
| 30               | Normal Voltage    | 0.0001                              |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                              |         |
| 10               | Normal Voltage    | 0.0019                              |         |
| 0                | Normal Voltage    | 0.0001                              |         |
| -10              | Normal Voltage    | 0.0008                              |         |
| -20              | Normal Voltage    | 0.0000                              |         |
| -30              | Normal Voltage    | 0.0010                              |         |
| 20               | Maximum Voltage   | 0.0012                              |         |
| 20               | Normal Voltage    | 0.0000                              |         |
| 20               | Battery End Point | 0.0010                              |         |

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.2 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



## LTE Band 17

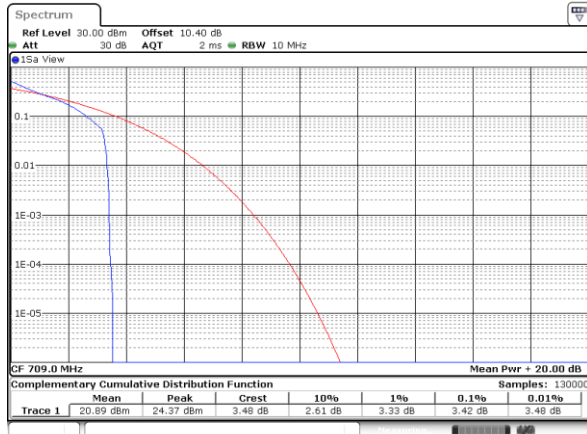
### Peak-to-Average Ratio

| Mode       | LTE Band 17 / 10MHz |         |       |         |             |
|------------|---------------------|---------|-------|---------|-------------|
| Mod.       | QPSK                |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 3.42                | 4.64    | 4.81  | 5.91    | PASS        |
| Middle CH  | 3.51                | 4.58    | 4.81  | 5.80    |             |
| Highest CH | 3.48                | 4.46    | 4.90  | 5.71    |             |
| Mode       | LTE Band 17 / 10MHz |         |       |         |             |
| Mod.       | 64QAM               |         |       |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB |       |         | Result      |
| Lowest CH  | 5.97                | 6.43    | -     | -       | PASS        |
| Middle CH  | 6.00                | 6.43    | -     | -       |             |
| Highest CH | 6.20                | 6.35    | -     | -       |             |

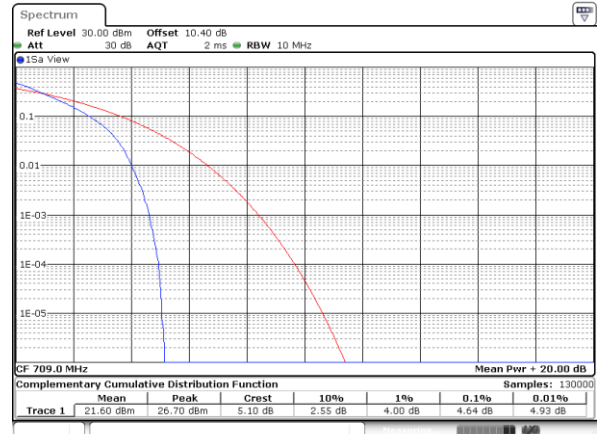


## LTE Band 17 / 10MHz / QPSK

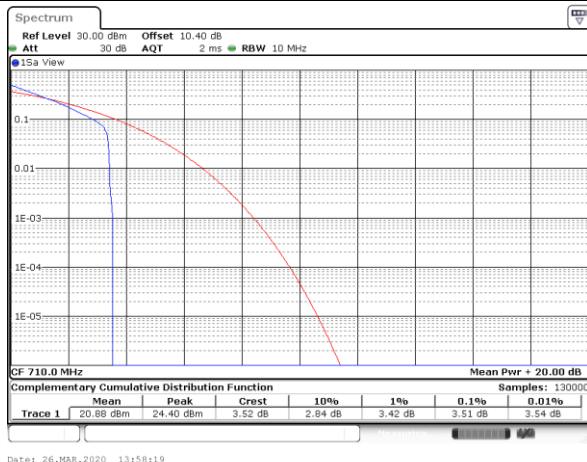
## Lowest Channel / 1RB



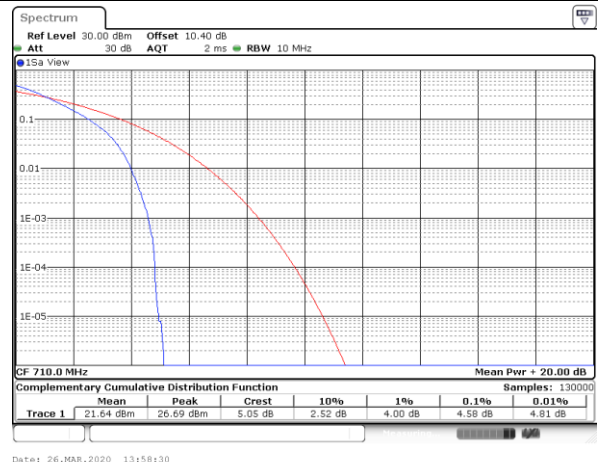
## Lowest Channel / Full RB



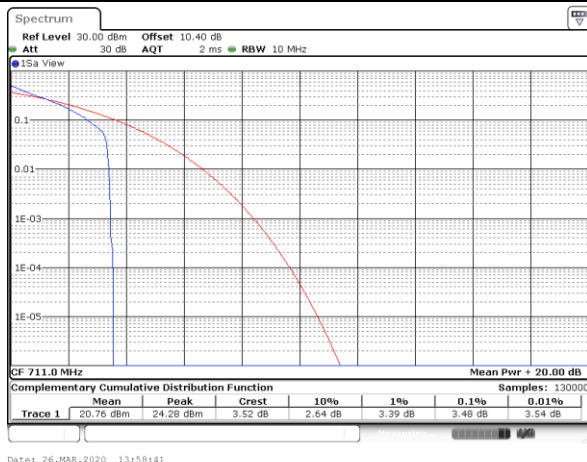
## Middle Channel / 1RB



## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB

