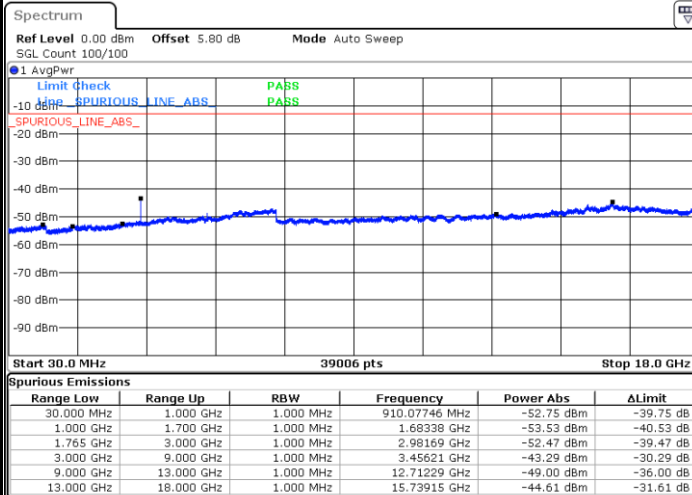


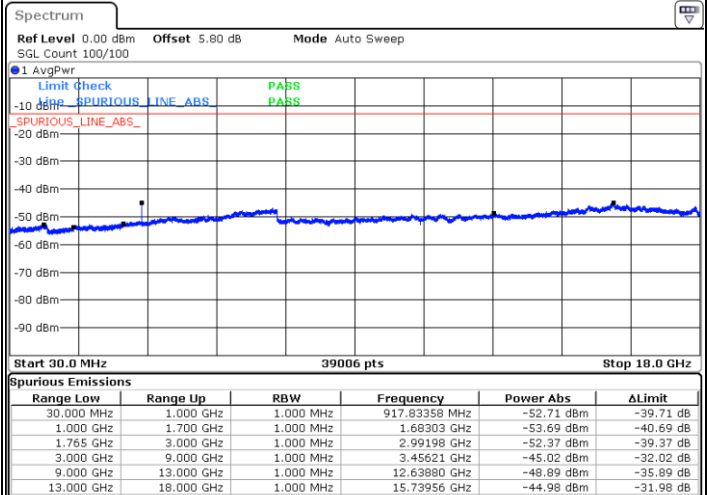


## LTE Band 4 / 10MHz

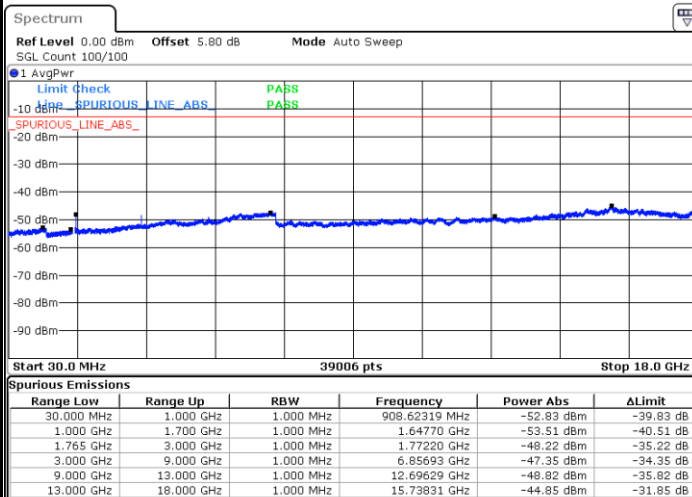
## Middle Channel / QPSK



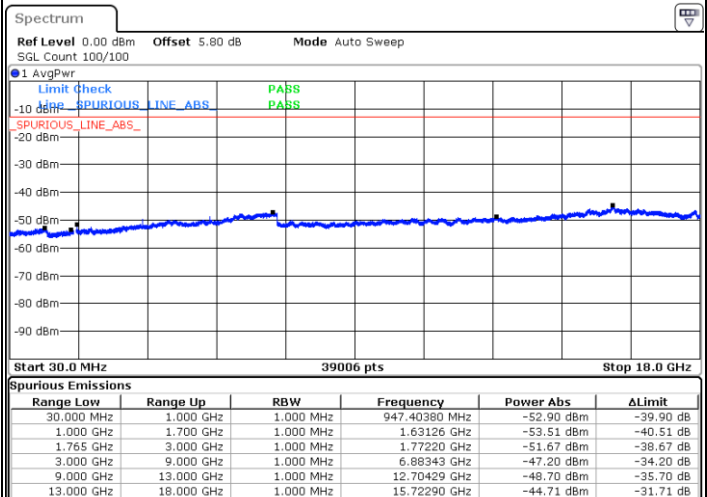
## Middle Channel / 16QAM



## Highest Channel / QPSK



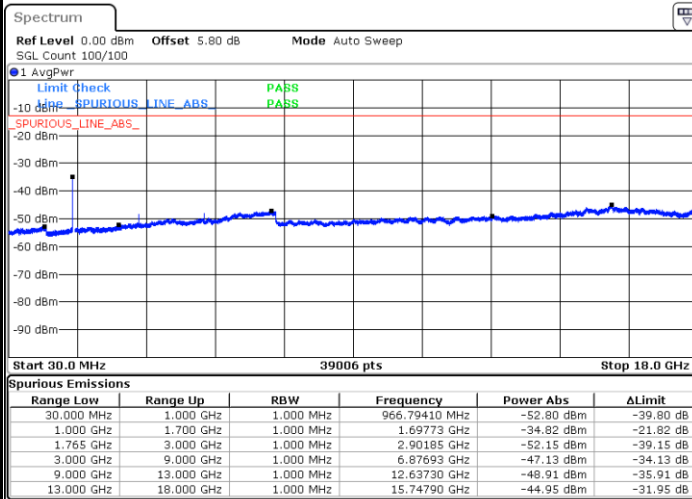
## Highest Channel / 16QAM



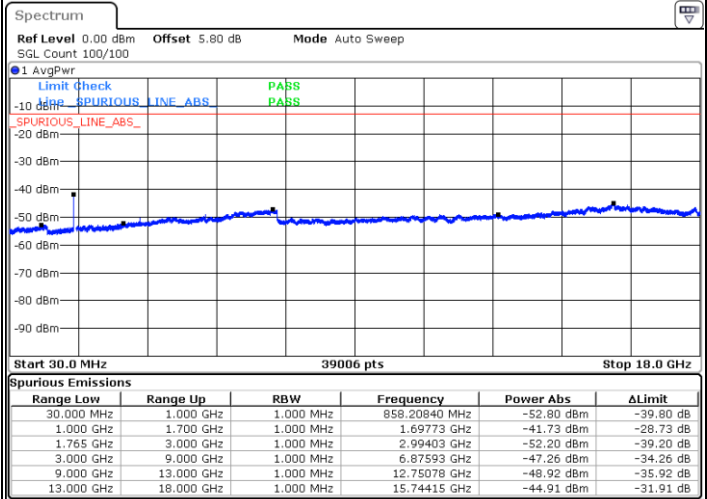


## LTE Band 4 / 15MHz

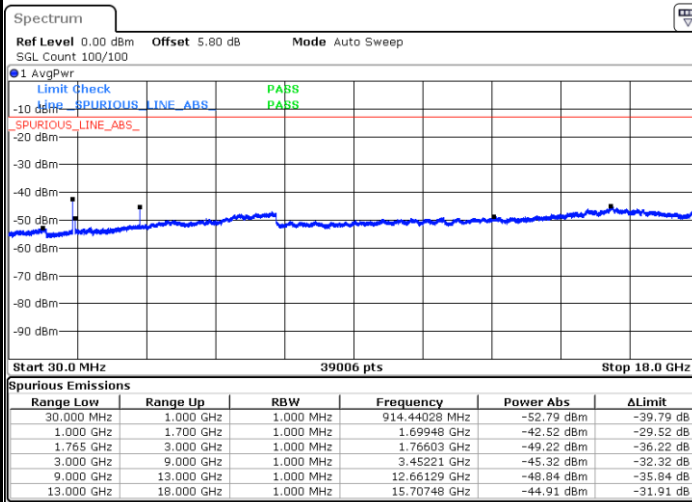
## Lowest Channel / QPSK



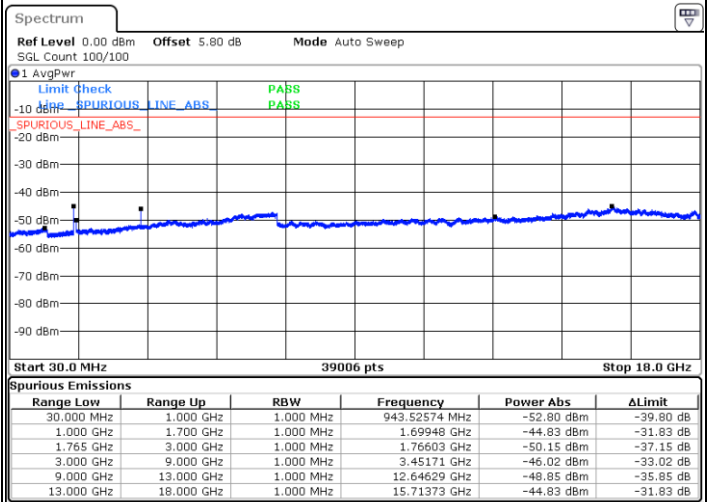
## Lowest Channel / 16QAM



## Middle Channel / QPSK



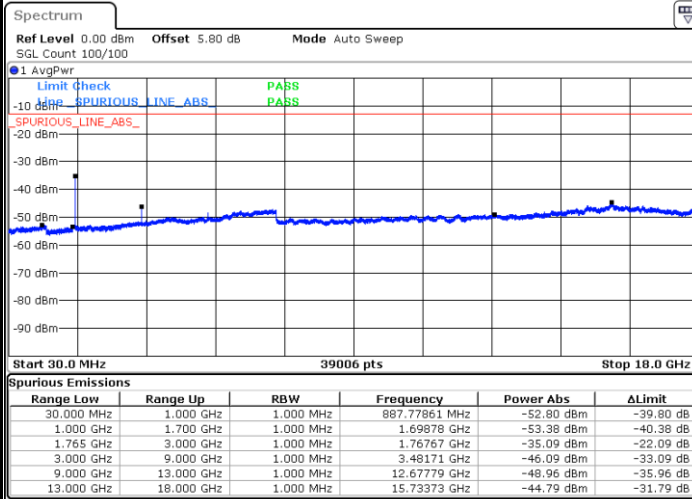
## Middle Channel / 16QAM



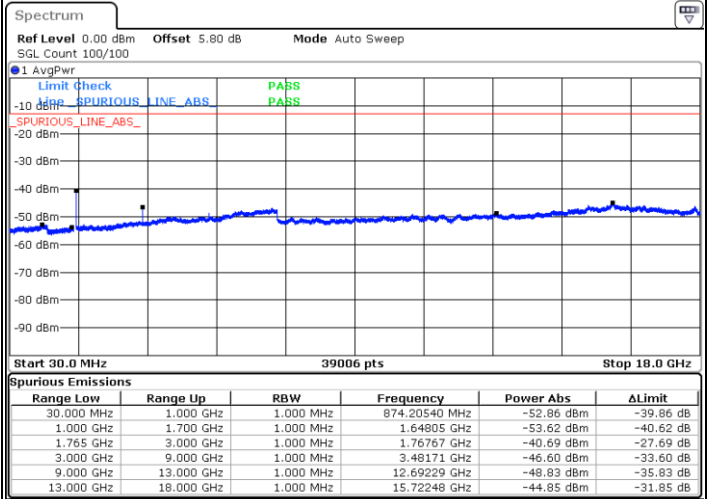


## LTE Band 4 / 15MHz

## Highest Channel / QPSK

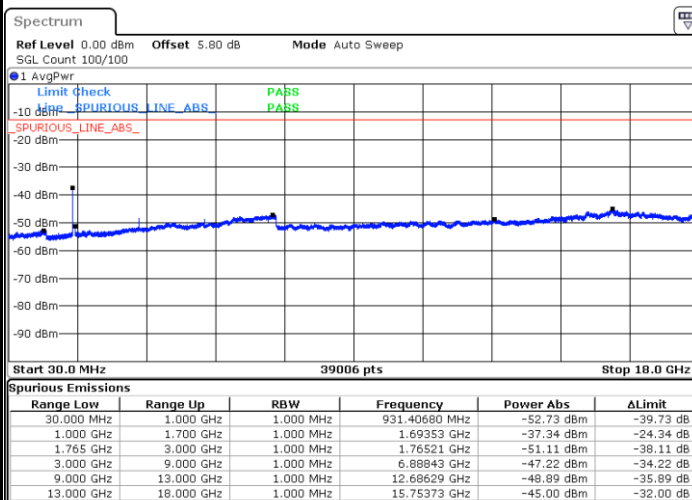


## Highest Channel / 16QAM

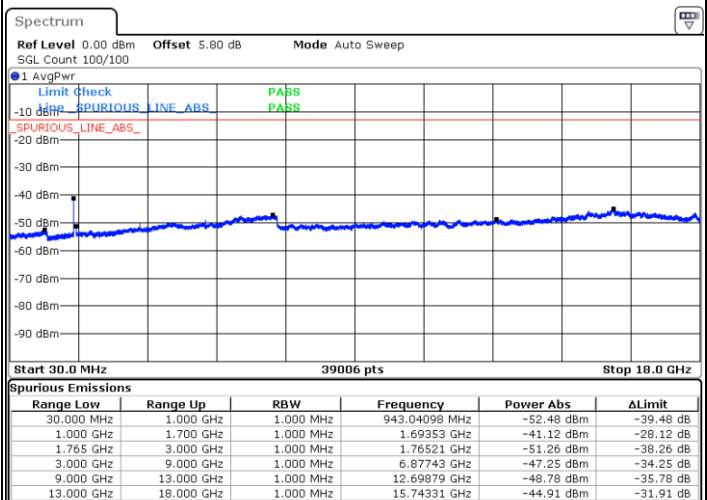


## LTE Band 4 / 20MHz

## Lowest Channel / QPSK



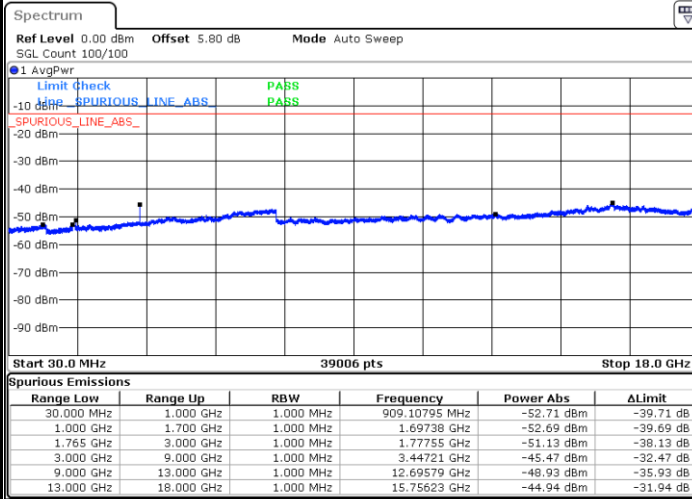
## Lowest Channel / 16QAM



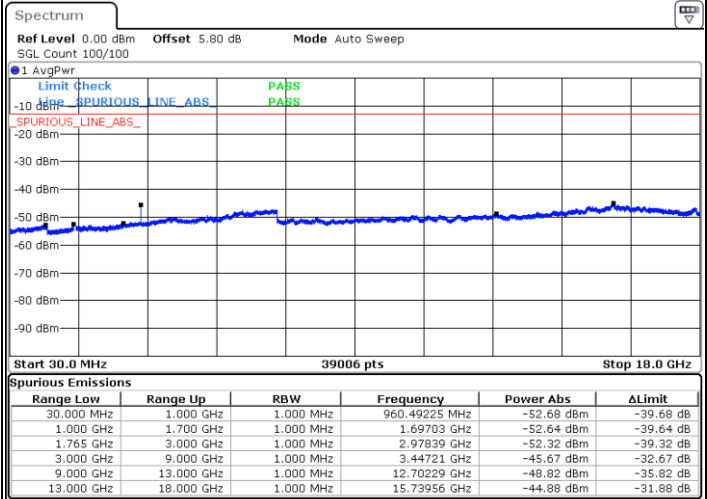


## LTE Band 4 / 20MHz

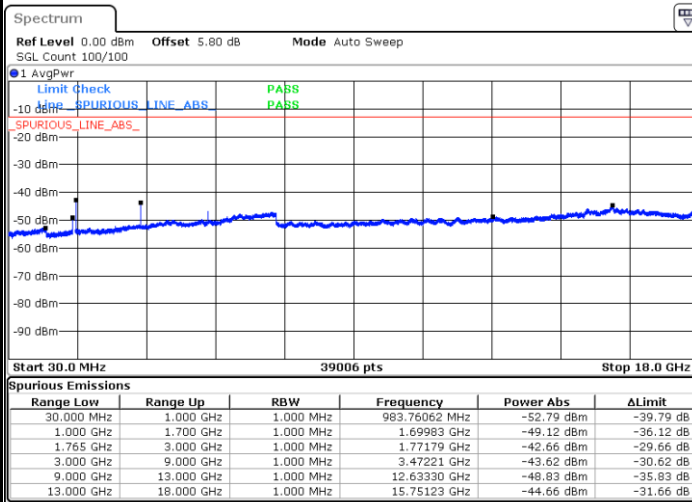
## Middle Channel / QPSK



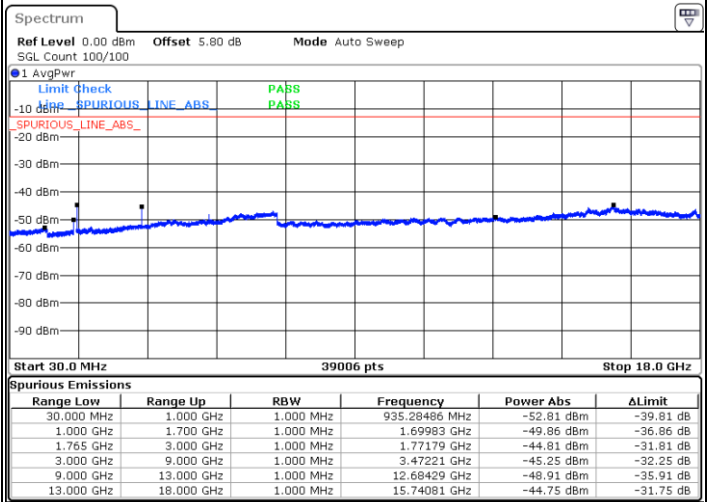
## Middle Channel / 16QAM



## Highest Channel / QPSK



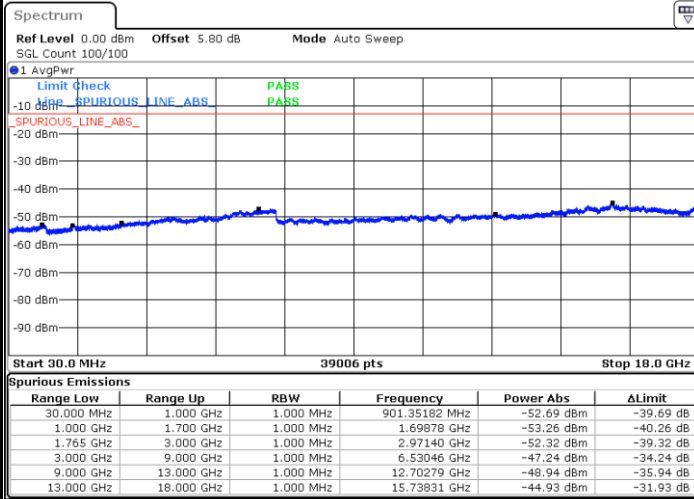
## Highest Channel / 16QAM



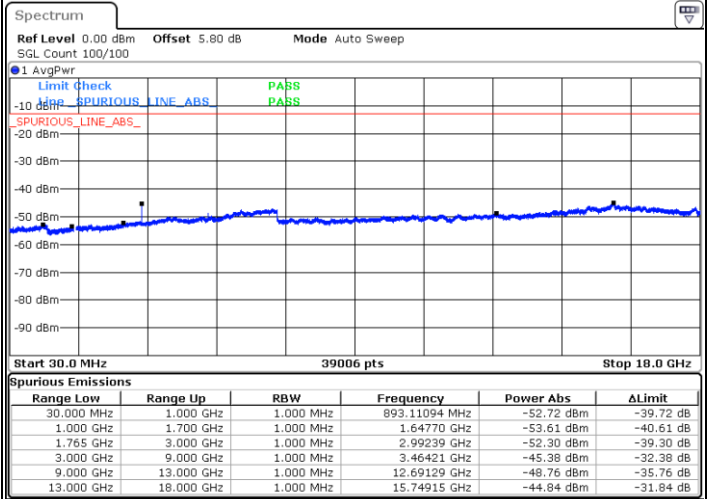


## LTE Band 4 / 1.4MHz

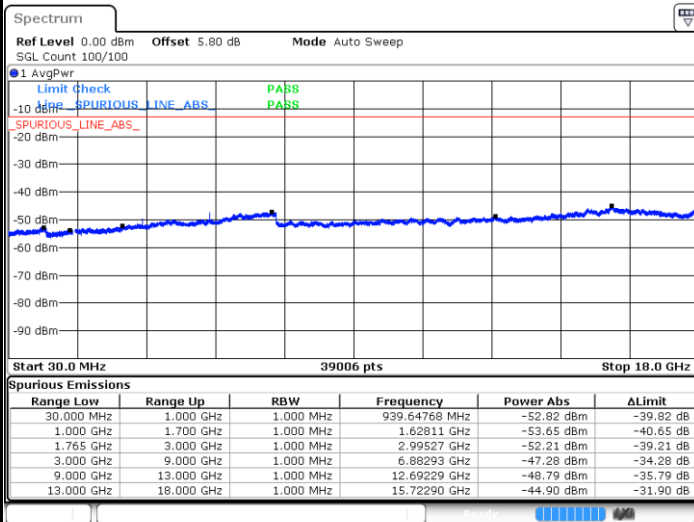
## Lowest Channel / 64QAM



## Middle Channel / 64QAM



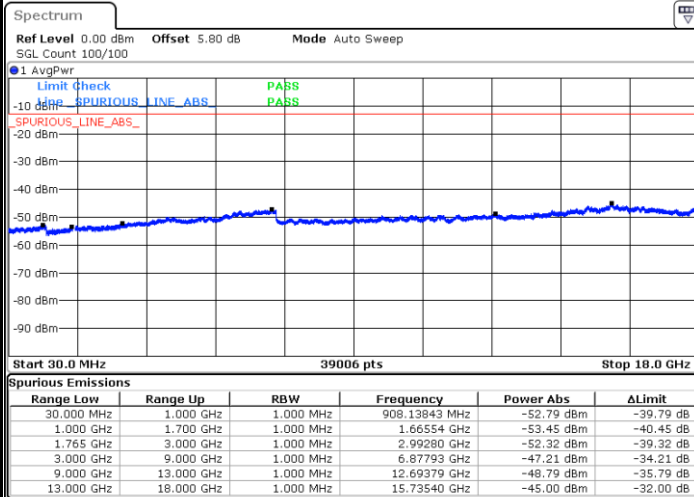
## Highest Channel / 64QAM



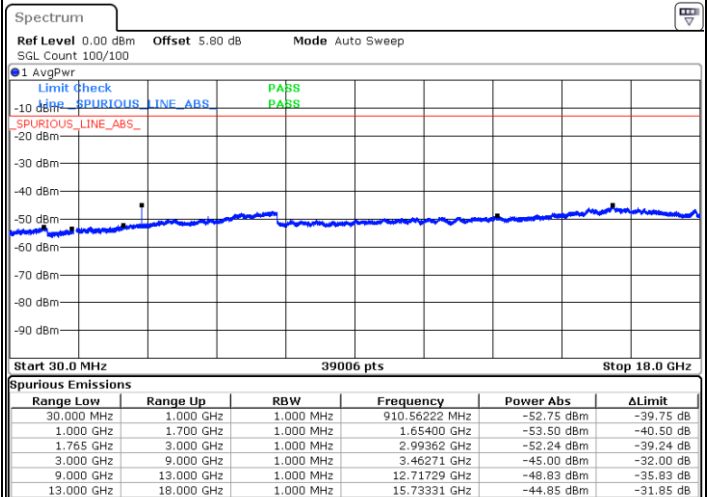


## LTE Band 4 / 3MHz

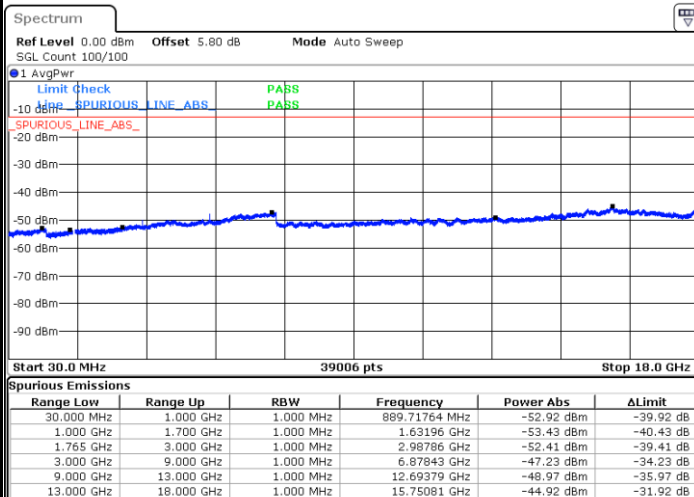
## Lowest Channel / 64QAM



## Middle Channel / 64QAM



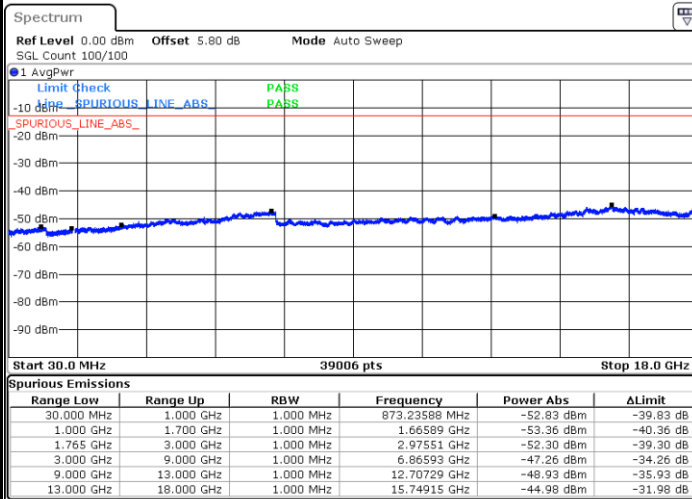
## Highest Channel / 64QAM



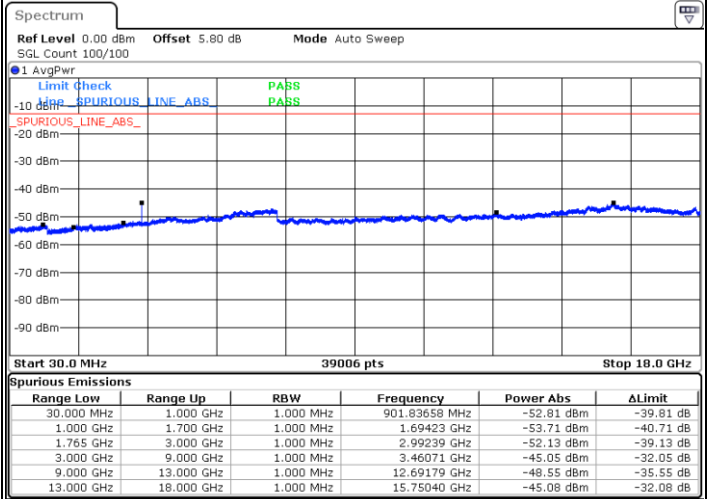


## LTE Band 4 / 5MHz

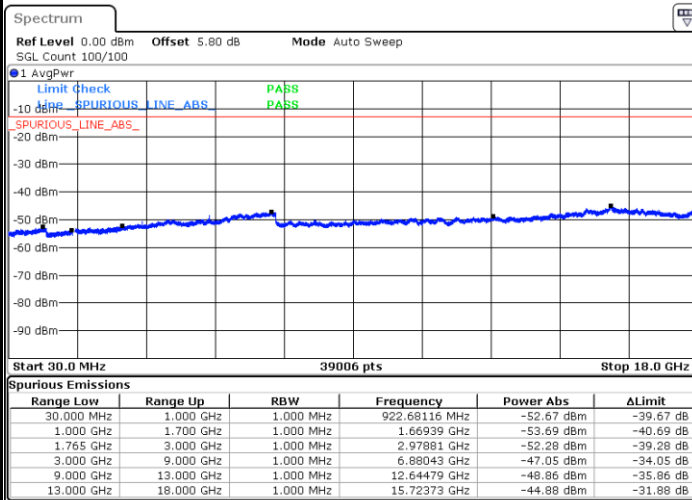
## Lowest Channel / 64QAM



## Middle Channel / 64QAM



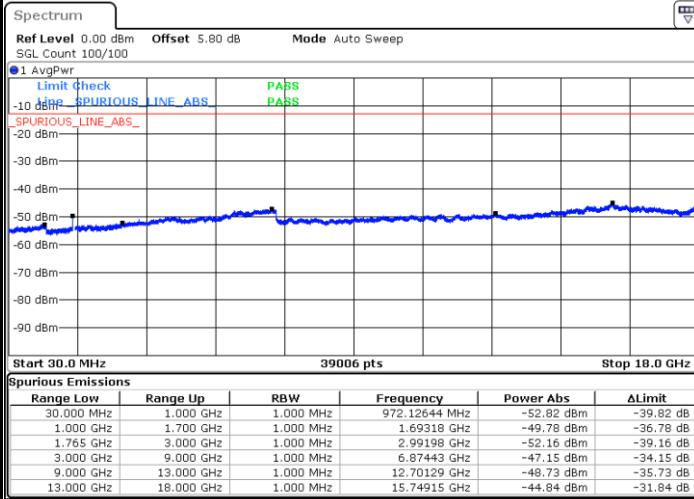
## Highest Channel / 64QAM



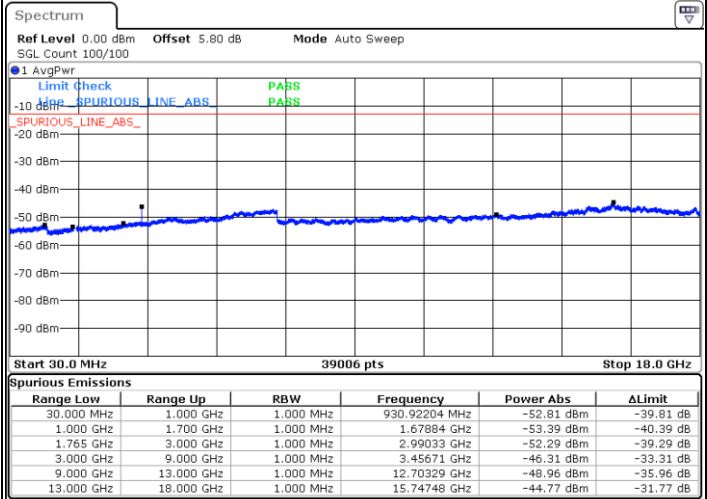


## LTE Band 4 / 10MHz

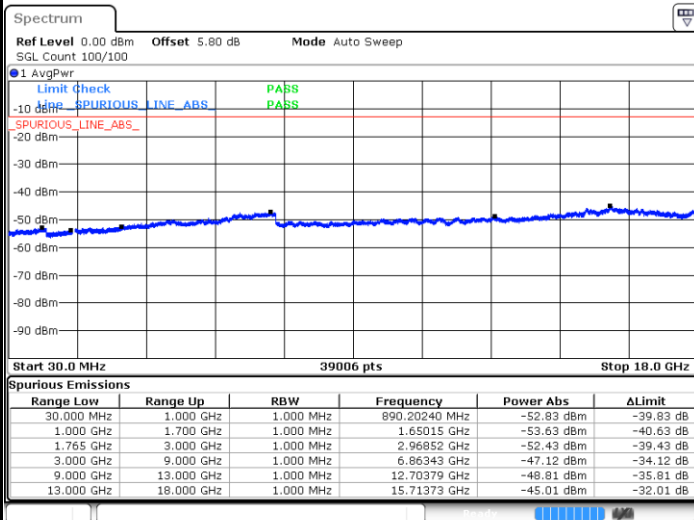
## Lowest Channel / 64QAM



## Middle Channel / 64QAM



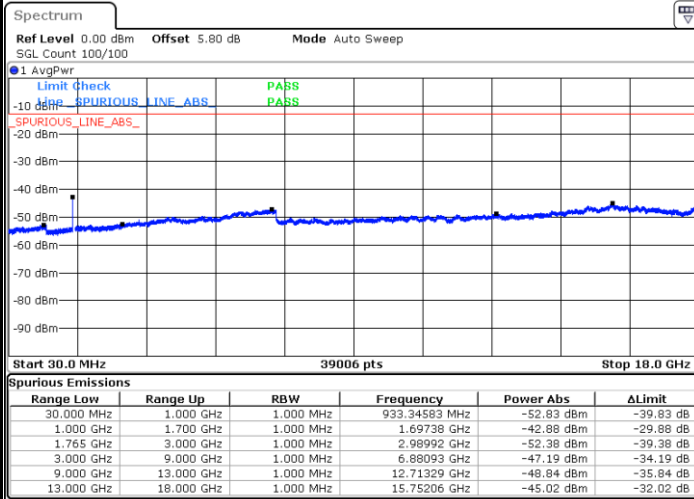
## Highest Channel / 64QAM



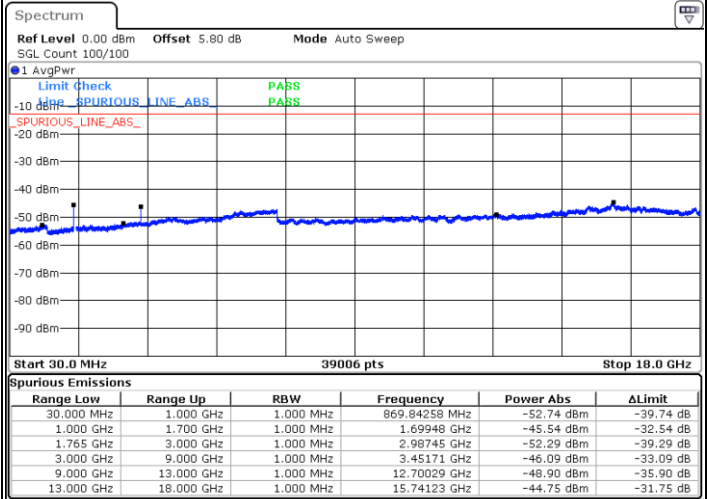


## LTE Band 4 / 15MHz

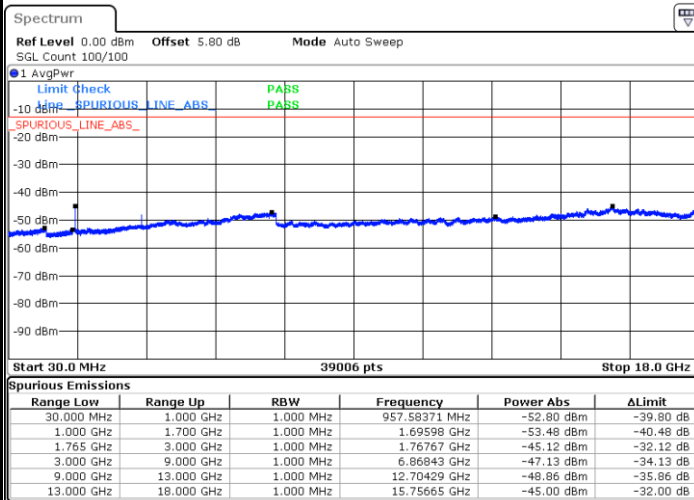
## Lowest Channel / 64QAM



## Middle Channel / 64QAM



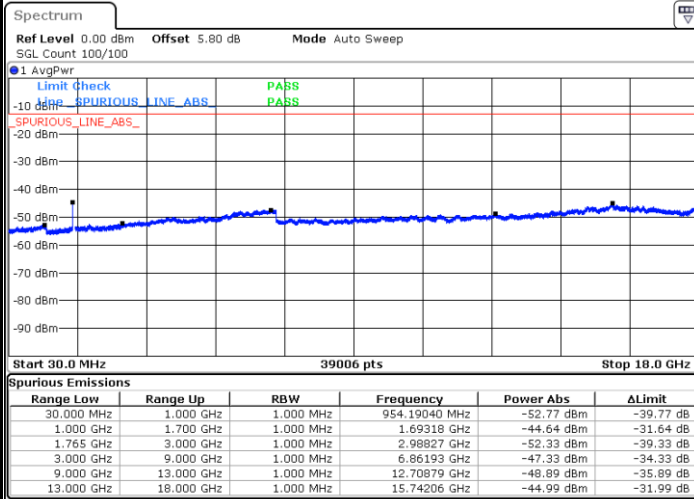
## Highest Channel / 64QAM



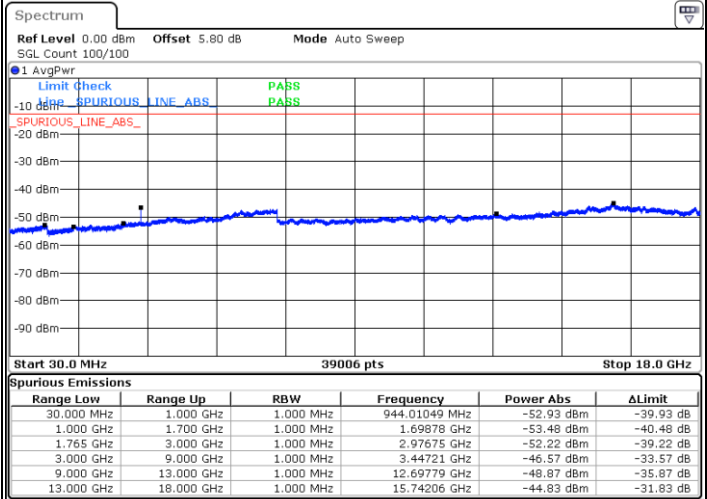


## LTE Band 4 / 20MHz

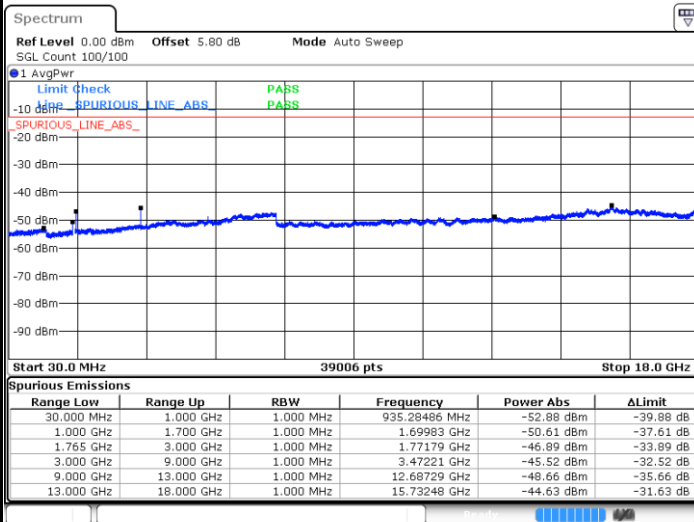
## Lowest Channel / 64QAM



## Middle Channel / 64QAM



## Highest Channel / 64QAM



## Frequency Stability

| Test Conditions  |                   | LTE Band 4 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                           | Note 2. |
|                  |                   | Deviation (ppm)                    | Result  |
| 50               | Normal Voltage    | 0.0011                             | PASS    |
| 40               | Normal Voltage    | 0.0036                             |         |
| 30               | Normal Voltage    | 0.0050                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0056                             |         |
| 0                | Normal Voltage    | 0.0047                             |         |
| -10              | Normal Voltage    | 0.0051                             |         |
| -20              | Normal Voltage    | 0.0021                             |         |
| -30              | Normal Voltage    | 0.0020                             |         |
| 20               | Maximum Voltage   | 0.0051                             |         |
| 20               | Normal Voltage    | 0.0060                             |         |
| 20               | Battery End Point | 0.0012                             |         |

**Note:**

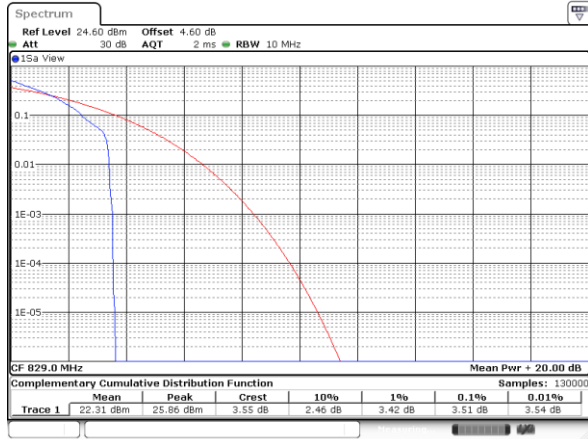
1. Normal Voltage =3.8 V.; Battery End Point (BEP) =3.6 V.; Maximum Voltage =4.2 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



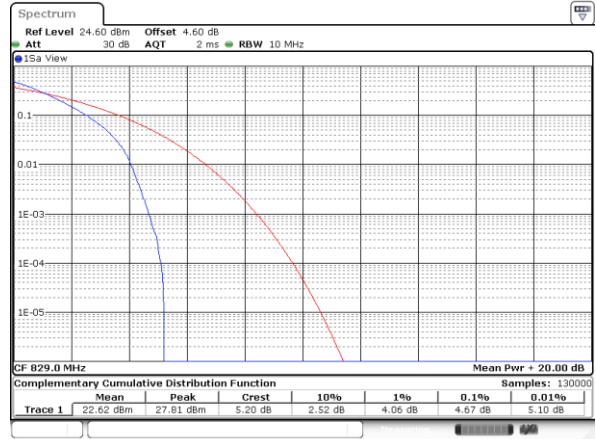
## LTE Band 5

## Peak-to-Average Ratio

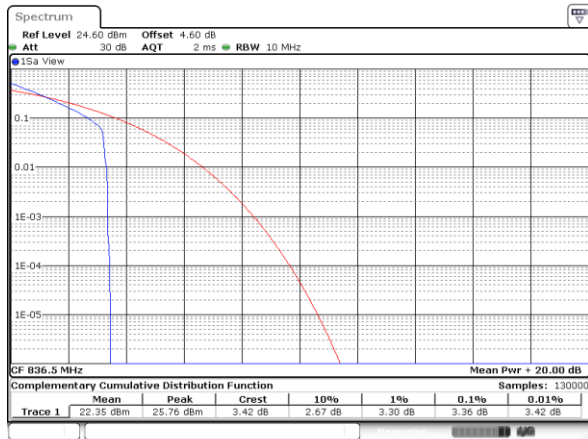
| Mode       | LTE Band 5 / 10MHz |         |             |         |             |
|------------|--------------------|---------|-------------|---------|-------------|
| Mod.       | QPSK               |         | 16QAM       |         | Limit: 13dB |
| RB Size    | 1RB                | Full RB | 1RB         | Full RB | Result      |
| Lowest CH  | 3.51               | 4.67    | 4.09        | 5.59    | PASS        |
| Middle CH  | 3.36               | 4.49    | 4.23        | 5.48    |             |
| Highest CH | 3.36               | 4.32    | 4.20        | 5.22    |             |
| Mod.       | 64QAM              |         | Limit: 13dB |         |             |
| RB Size    | 1RB                | Full RB | Result      |         |             |
| Lowest CH  | 4.52               | 5.57    | PASS        |         |             |
| Middle CH  | 4.35               | 5.42    |             |         |             |
| Highest CH | 4.41               | 5.25    |             |         |             |

**LTE Band 5 / 10MHz / QPSK**
**Lowest Channel / 1RB**


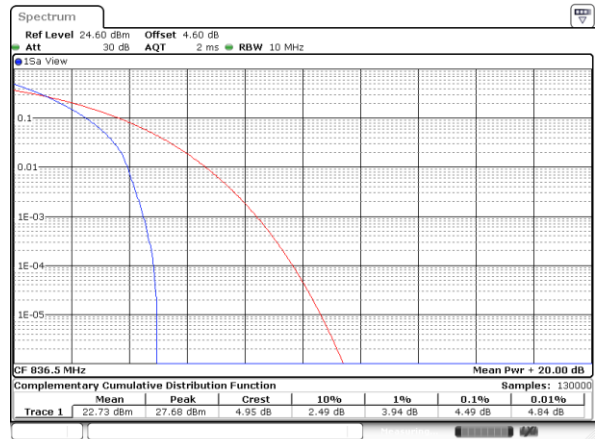
Date: 11 NOV 2019 20:47:43

**Lowest Channel / Full RB**


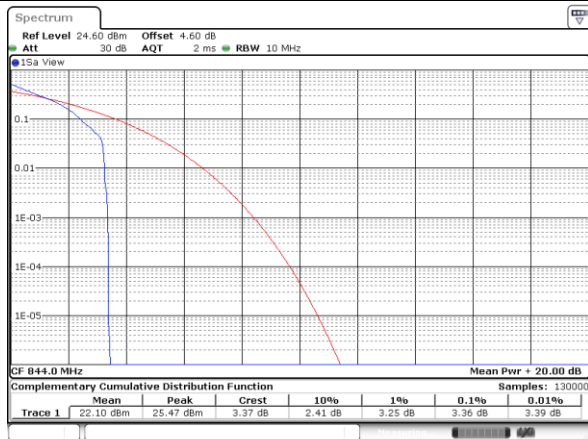
Date: 11 NOV 2019 20:46:50

**Middle Channel / 1RB**


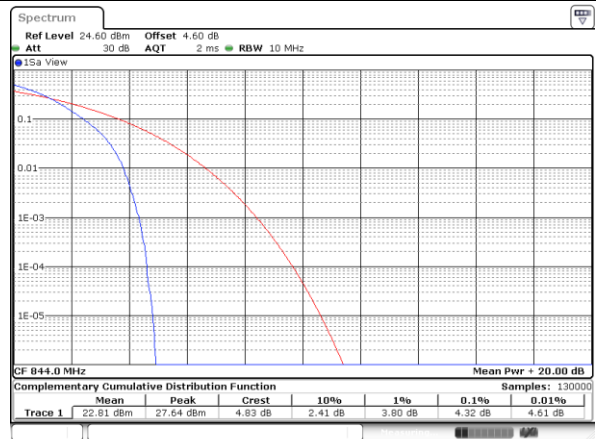
Date: 11 NOV 2019 20:46:06

**Middle Channel / Full RB**


Date: 11 NOV 2019 20:46:39

**Highest Channel / 1RB**


Date: 11 NOV 2019 20:45:53

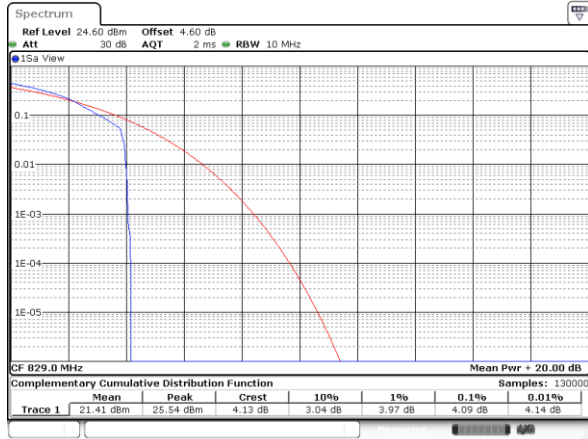
**Highest Channel / Full RB**


Date: 11 NOV 2019 20:45:19

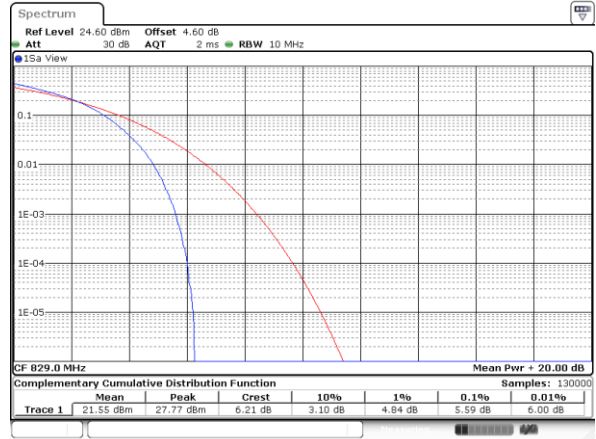


## LTE Band 5 / 10MHz / 16QAM

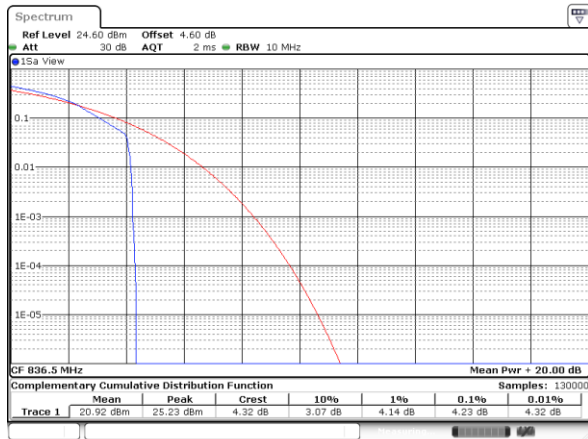
## Lowest Channel / 1RB



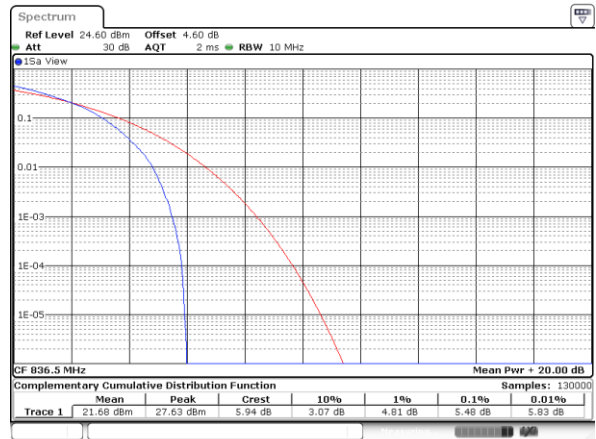
## Lowest Channel / Full RB



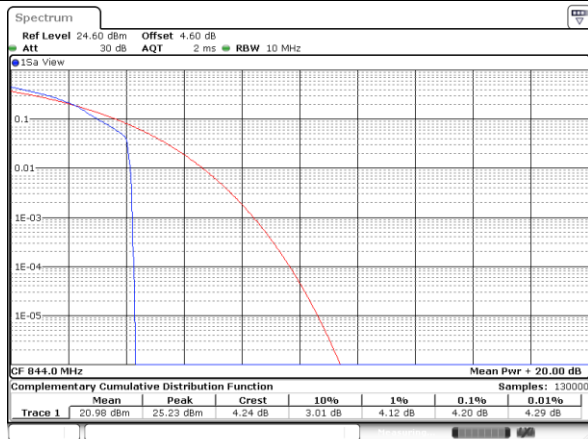
## Middle Channel / 1RB



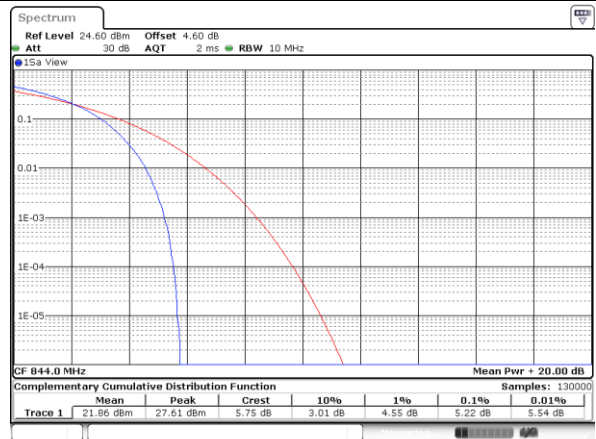
## Middle Channel / Full RB



## Highest Channel / 1RB



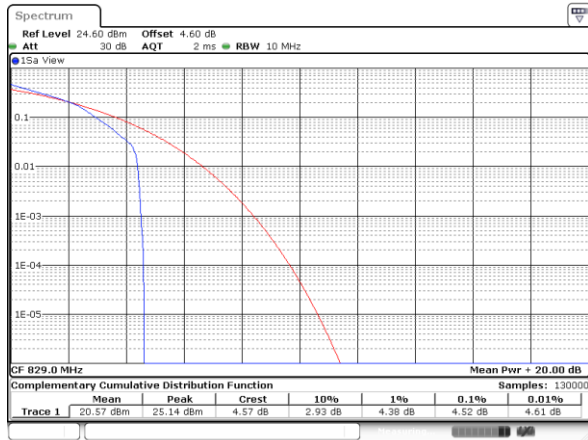
## Highest Channel / Full RB



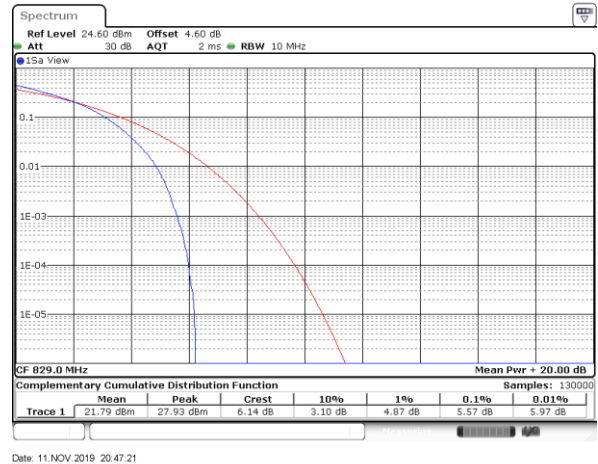


## LTE Band 5 / 10MHz / 64QAM

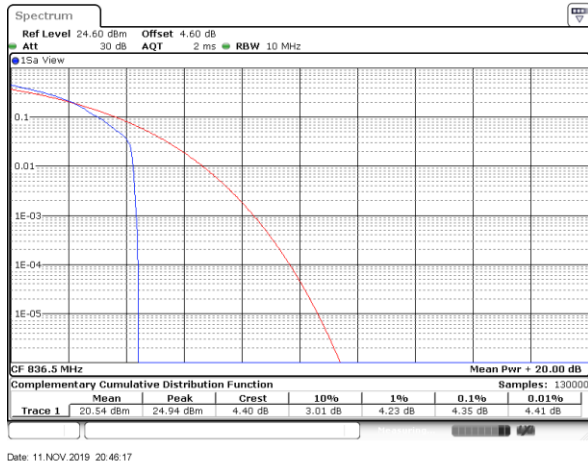
## Lowest Channel / 1RB



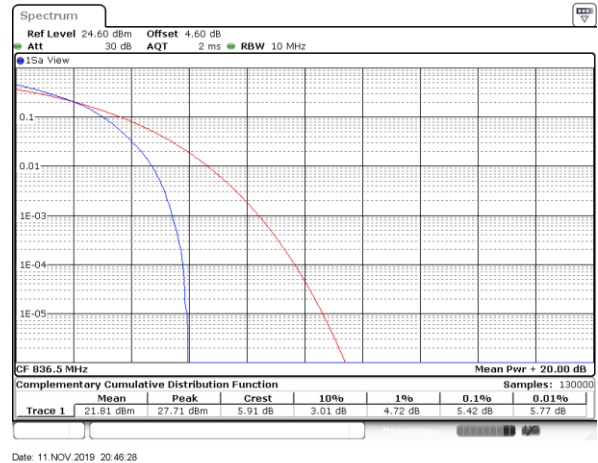
## Lowest Channel / Full RB



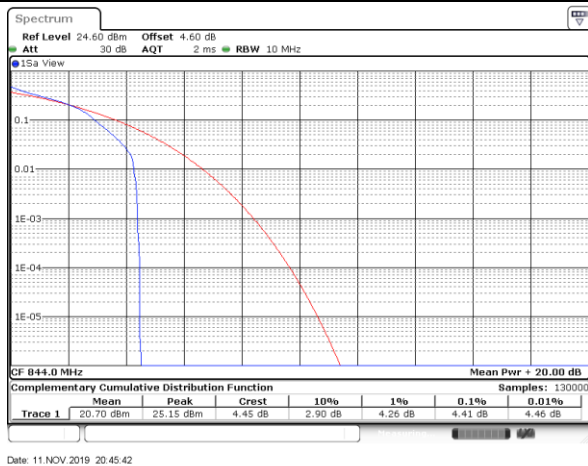
## Middle Channel / 1RB



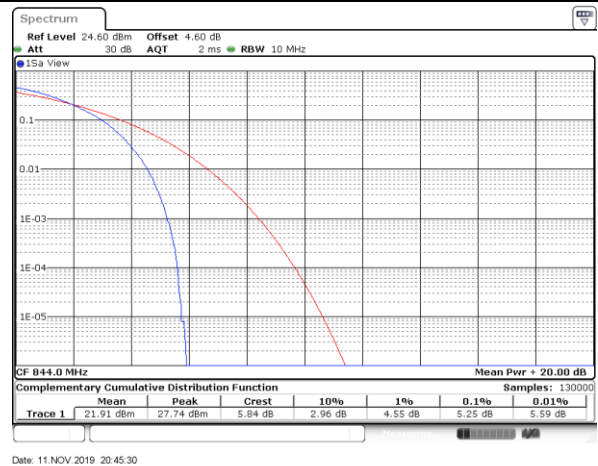
## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB



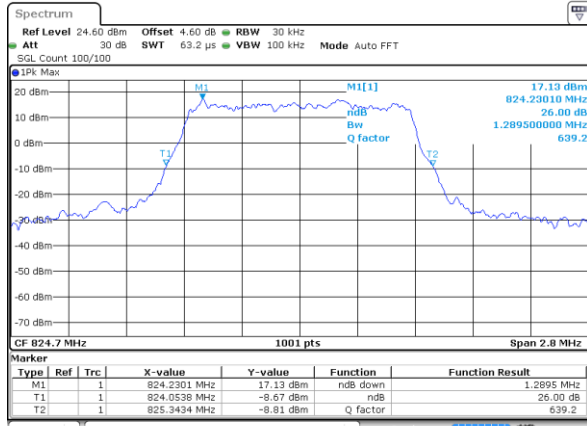
**26dB Bandwidth**

| Mode       | LTE Band 5 : 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  | 1.2895                    | 1.2699 | 2.997 | 3.003 | 4.925 | 4.895 | 9.91  | 9.93  | -     | -     | -     | -     |
| Middle CH  | 1.2923                    | 1.2895 | 2.979 | 3.021 | 4.935 | 4.895 | 9.75  | 9.75  | -     | -     | -     | -     |
| Highest CH | 1.2839                    | 1.3035 | 2.973 | 3.045 | 4.895 | 4.905 | 9.97  | 9.69  | -     | -     | -     | -     |
| Mode       | LTE Band 5 : 26dB BW(MHz) |        |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                    |        | 3MHz  |       | 5MHz  |       | 10MHz |       |       |       |       |       |
| Mod.       | 64QAM                     |        | 64QAM |       | 64QAM |       | 64QAM |       |       |       |       |       |
| Lowest CH  | 1.2587                    |        | 3.015 |       | 4.955 |       | 9.77  |       | -     | -     | -     | -     |
| Middle CH  | 1.3119                    |        | 3.015 |       | 4.925 |       | 9.93  |       | -     | -     | -     | -     |
| Highest CH | 1.3007                    |        | 3.027 |       | 4.885 |       | 9.97  |       | -     | -     | -     | -     |



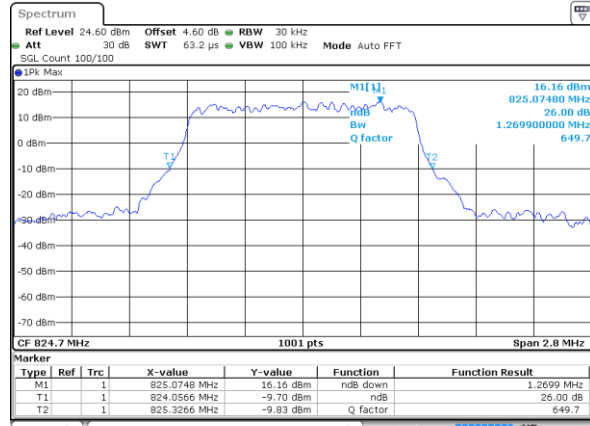
## LTE Band 5

## Lowest Channel / 1.4MHz / QPSK



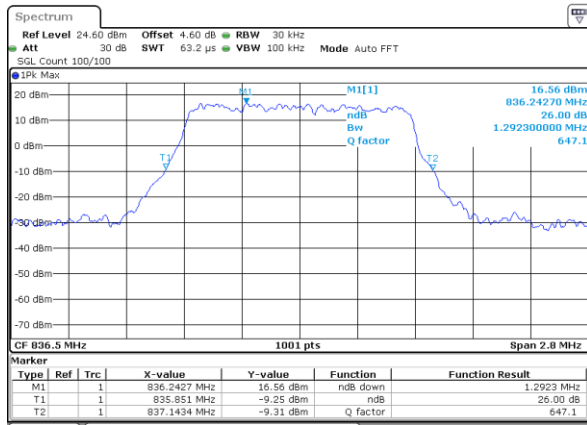
Date: 11 NOV 2019 19:50:17

## Lowest Channel / 1.4MHz / 16QAM



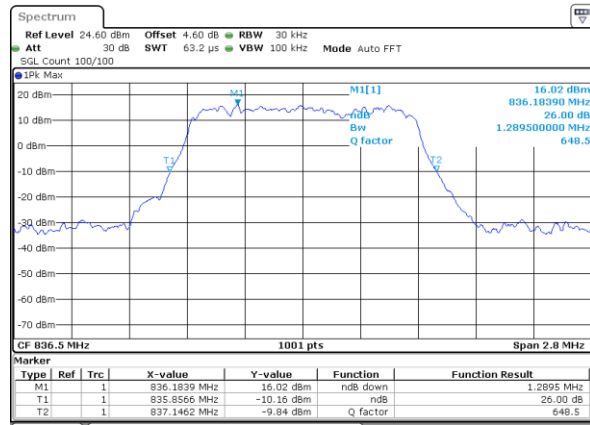
Date: 11 NOV 2019 19:50:07

## Middle Channel / 1.4MHz / QPSK



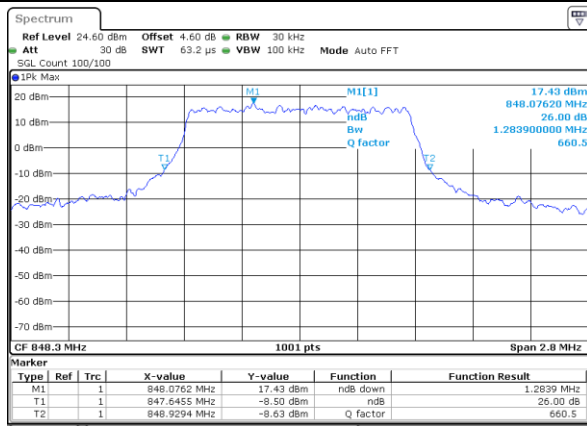
Date: 11 NOV 2019 19:59:08

## Middle Channel / 1.4MHz / 16QAM



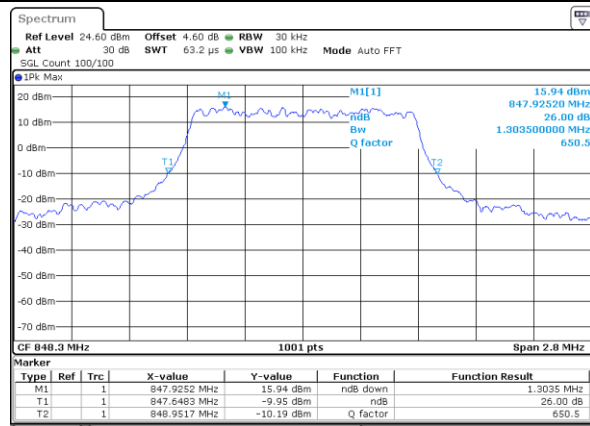
Date: 11 NOV 2019 19:58:18

## Highest Channel / 1.4MHz / QPSK



Date: 11 NOV 2019 20:00:42

## Highest Channel / 1.4MHz / 16QAM

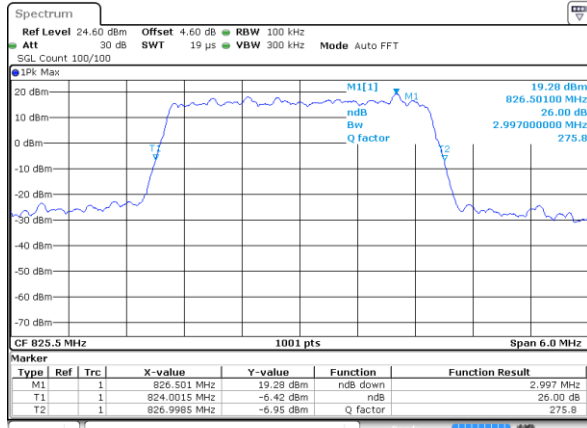


Date: 11 NOV 2019 20:00:52

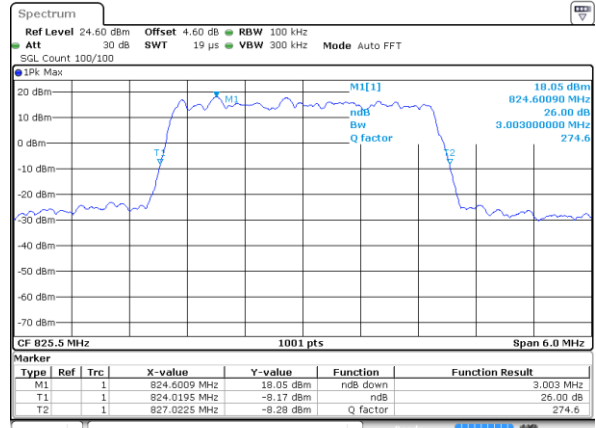


## LTE Band 5

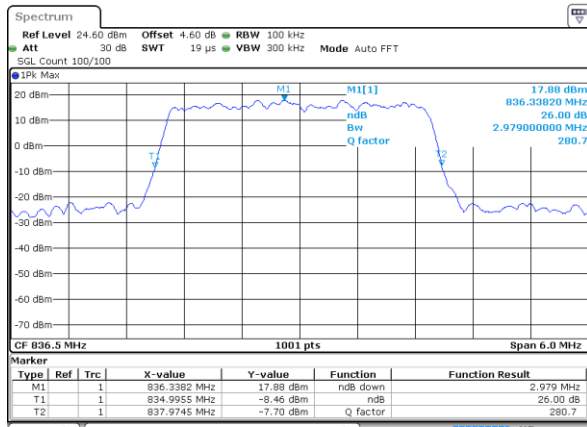
## Lowest Channel / 3MHz / QPSK



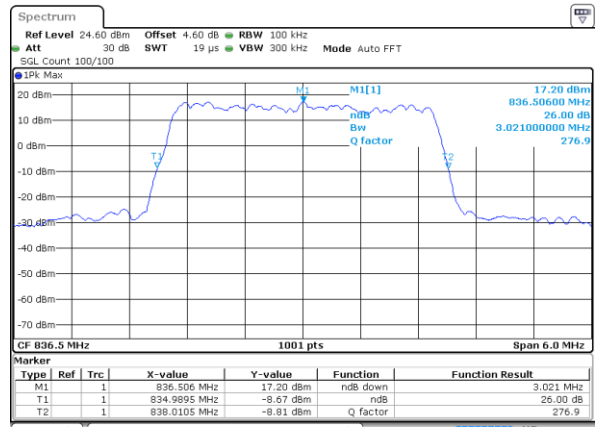
## Lowest Channel / 3MHz / 16QAM



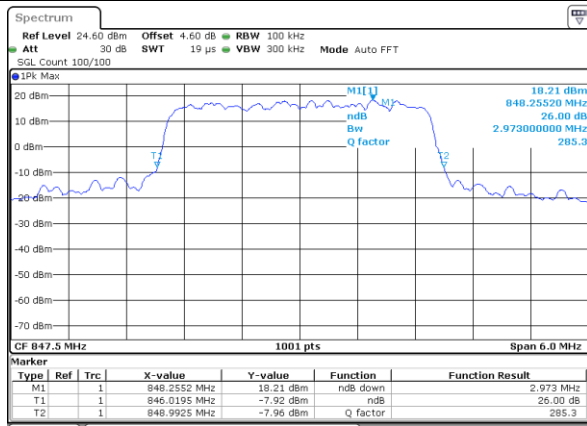
## Middle Channel / 3MHz / QPSK



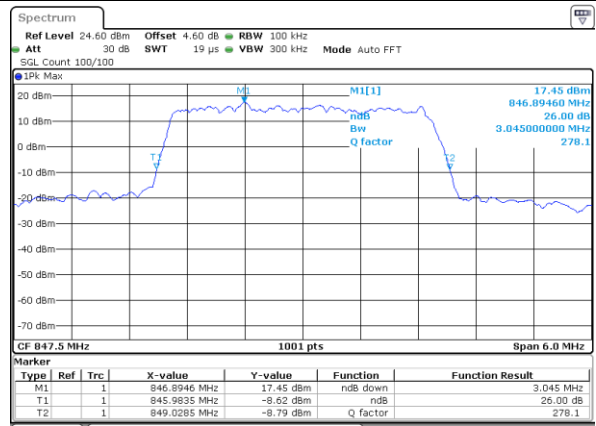
## Middle Channel / 3MHz / 16QAM



## Highest Channel / 3MHz / QPSK



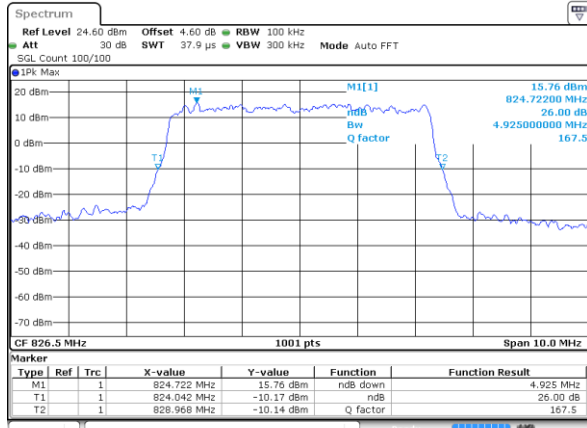
## Highest Channel / 3MHz / 16QAM





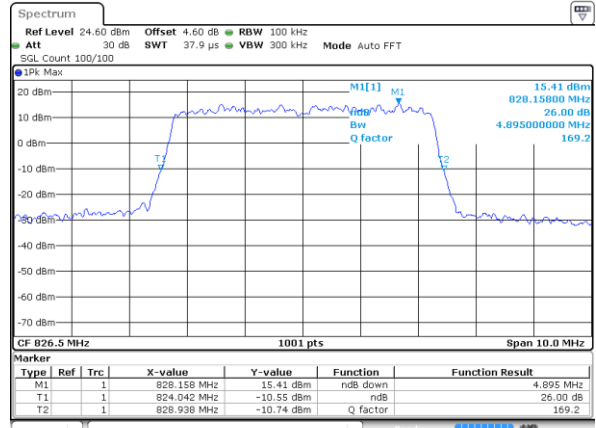
## LTE Band 5

## Lowest Channel / 5MHz / QPSK



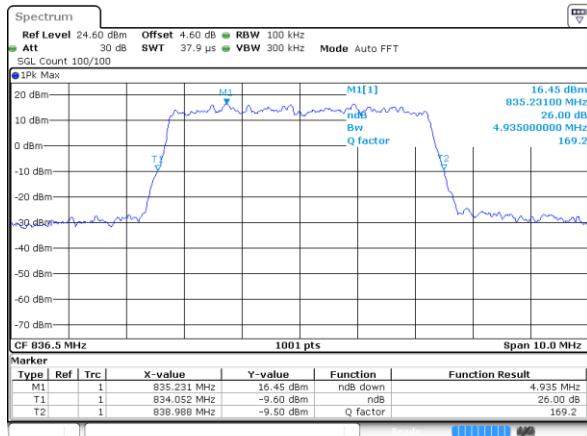
Date: 11 NOV 2019 21:37:16

## Lowest Channel / 5MHz / 16QAM



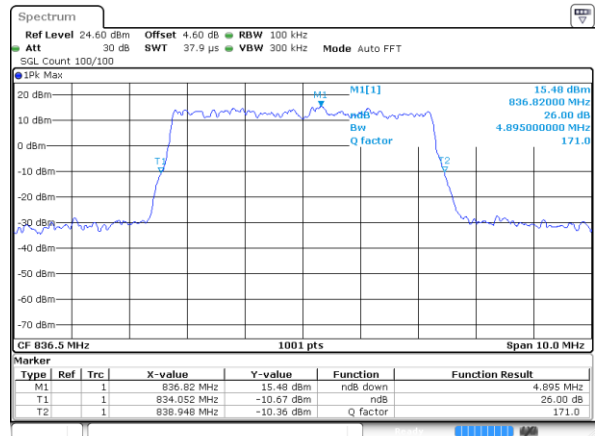
Date: 11 NOV 2019 21:37:36

## Middle Channel / 5MHz / QPSK



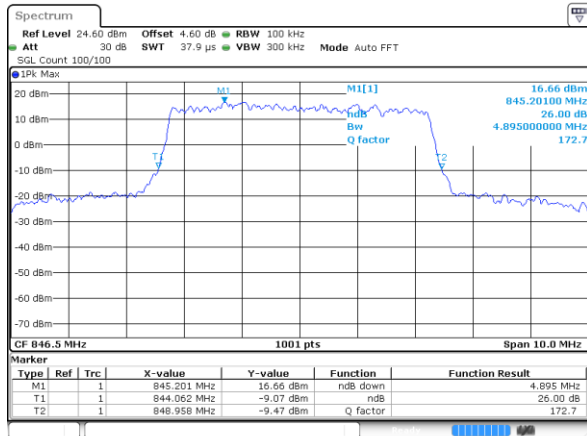
Date: 11 NOV 2019 20:11:17

## Middle Channel / 5MHz / 16QAM



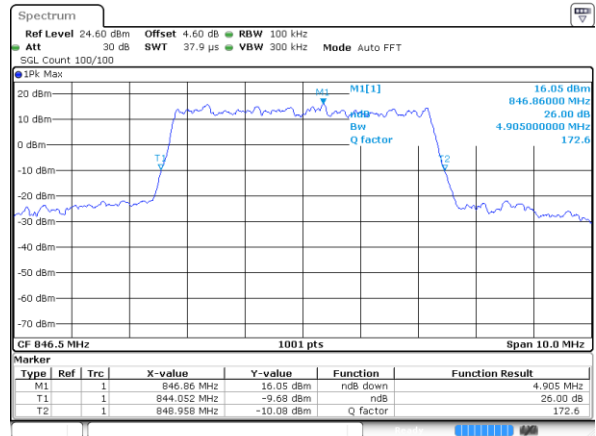
Date: 11 NOV 2019 20:11:27

## Highest Channel / 5MHz / QPSK



Date: 11 NOV 2019 20:13:44

## Highest Channel / 5MHz / 16QAM

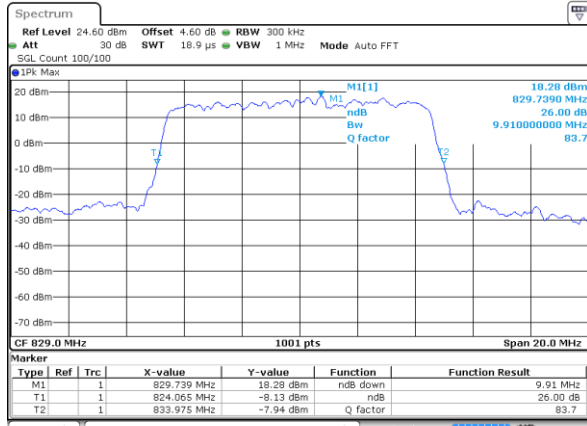


Date: 11 NOV 2019 20:13:54



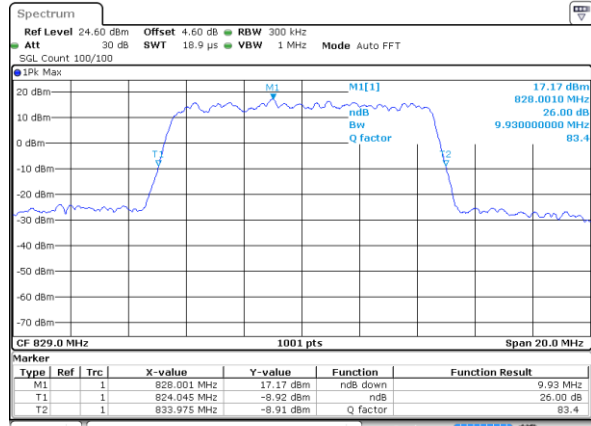
## LTE Band 5

## Lowest Channel / 10MHz / QPSK



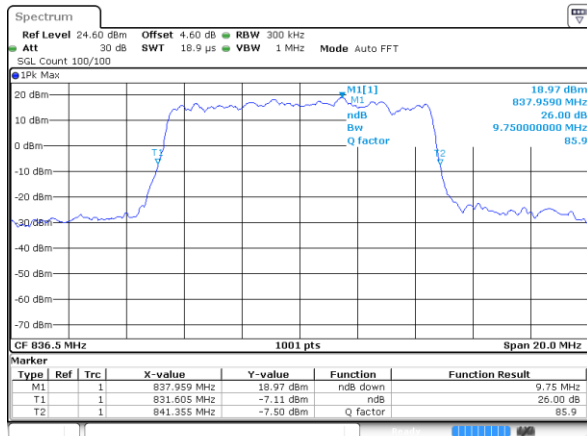
Date: 11 NOV 2019 20:22:46

## Lowest Channel / 10MHz / 16QAM



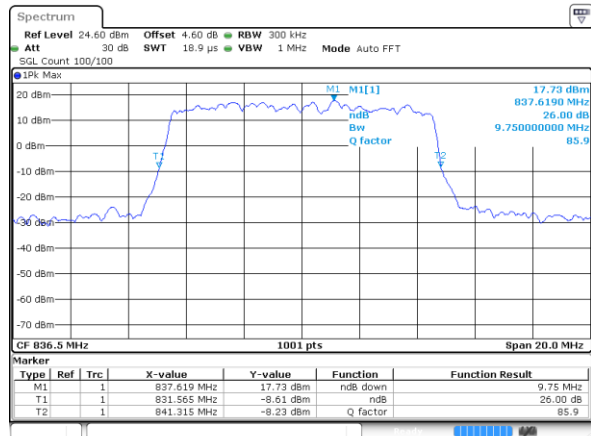
Date: 11 NOV 2019 20:22:56

## Middle Channel / 10MHz / QPSK



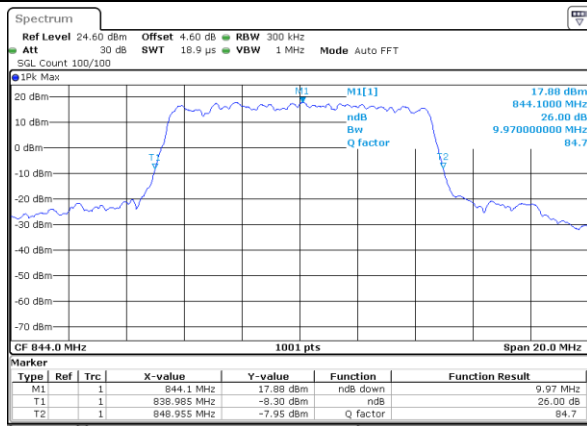
Date: 11 NOV 2019 20:31:47

## Middle Channel / 10MHz / 16QAM



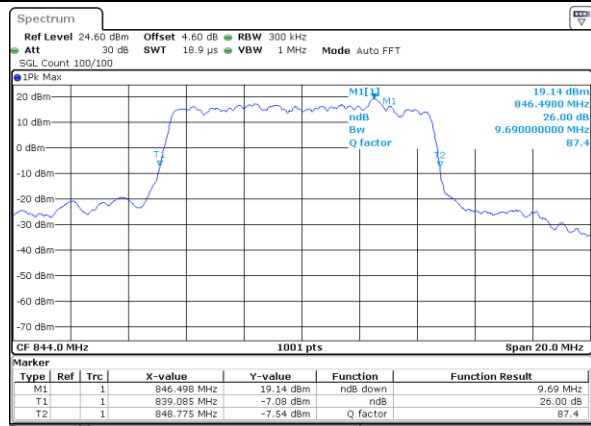
Date: 11 NOV 2019 20:31:57

## Highest Channel / 10MHz / QPSK



Date: 11 NOV 2019 20:34:15

## Highest Channel / 10MHz / 16QAM

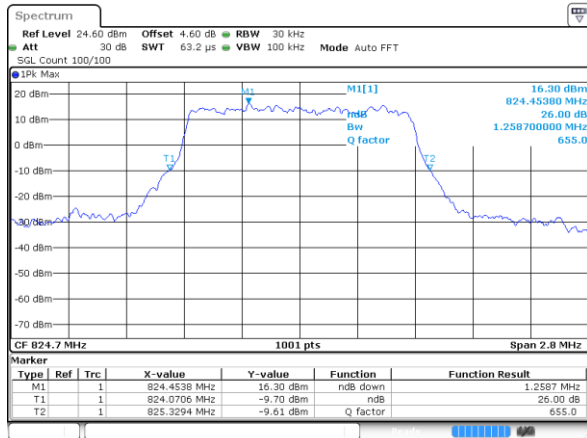


Date: 11 NOV 2019 20:34:25



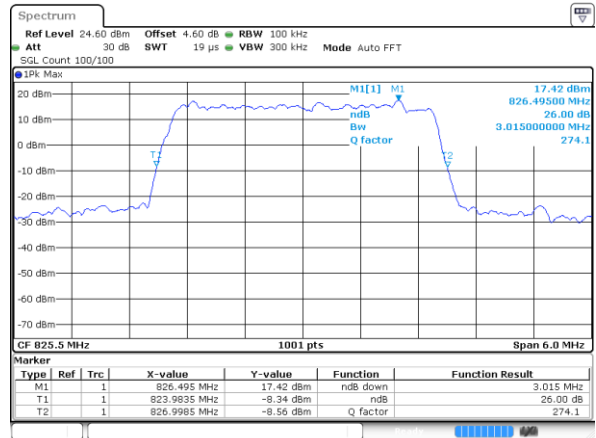
## LTE Band 5

## Lowest Channel / 1.4MHz / 64QAM



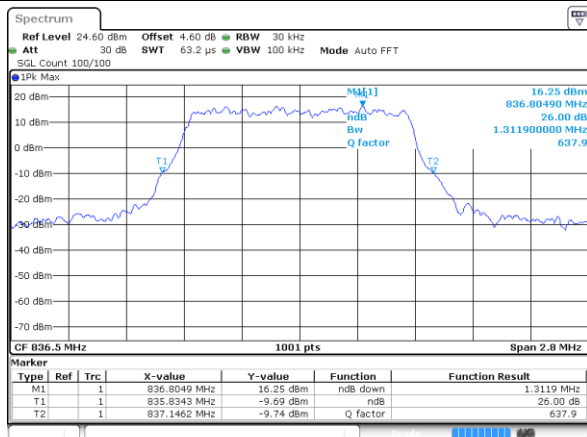
Date: 11 NOV 2019 20:48:33

## Lowest Channel / 3MHz / 64QAM



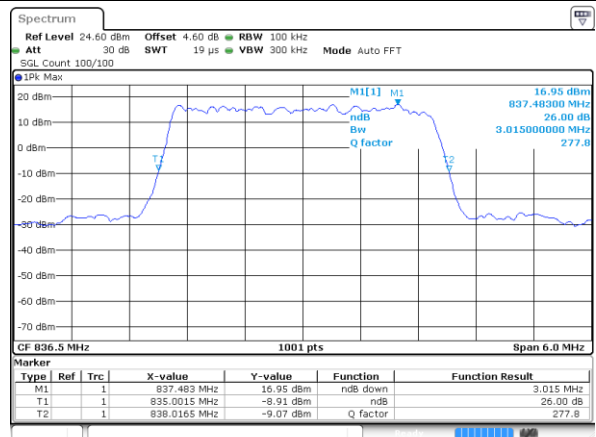
Date: 11 NOV 2019 20:58:48

## Middle Channel / 1.4MHz / 64QAM



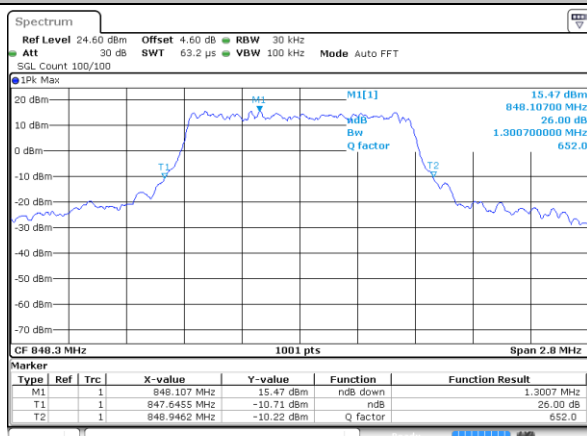
Date: 11 NOV 2019 20:53:57

## Middle Channel / 3MHz / 64QAM



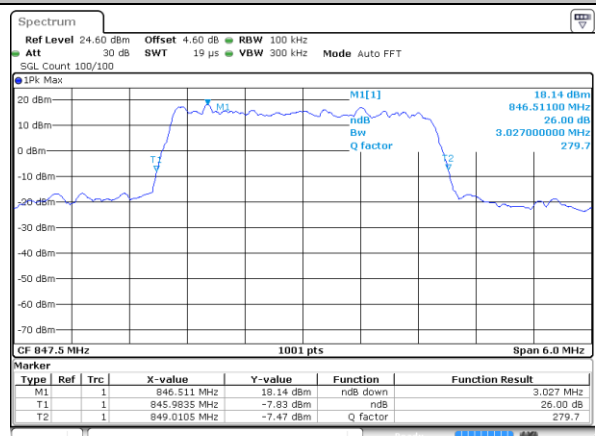
Date: 11 NOV 2019 21:04:12

## Highest Channel / 1.4MHz / 64QAM



Date: 11 NOV 2019 20:54:17

## Highest Channel / 3MHz / 64QAM

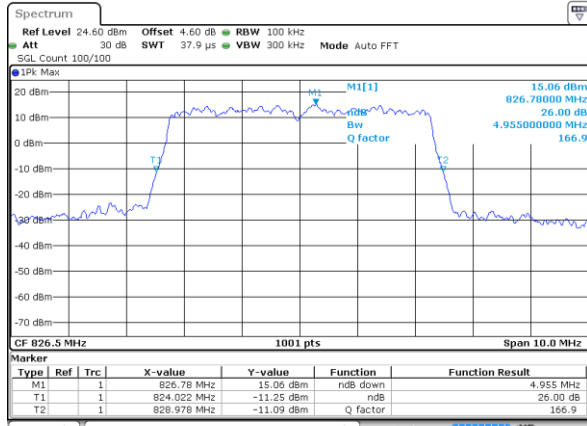


Date: 11 NOV 2019 21:04:32



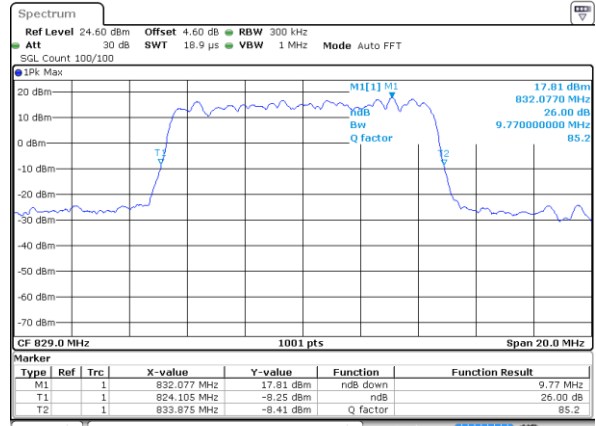
## LTE Band 5

## Lowest Channel / 5MHz / 64QAM



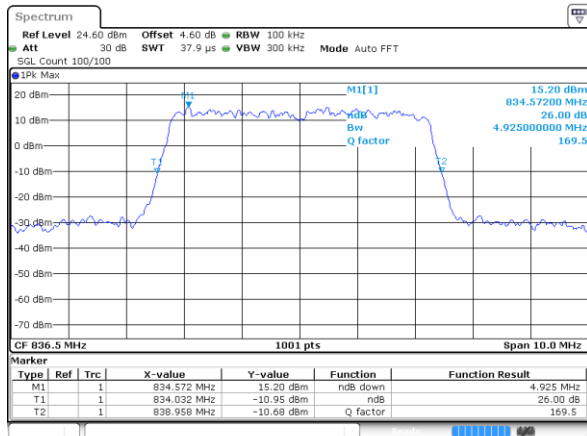
Date: 11.NOV.2019 21:09:03

## Lowest Channel / 10MHz / 64QAM



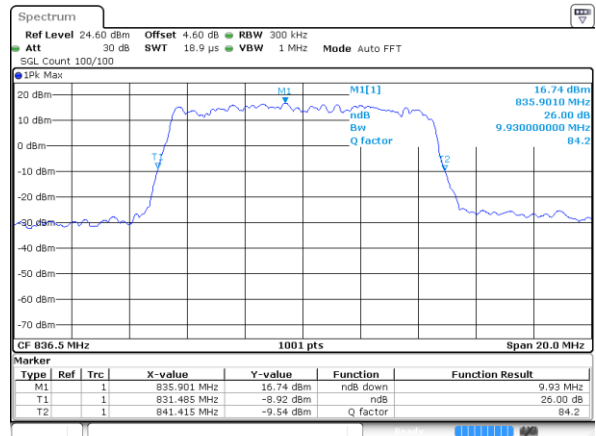
Date: 11.NOV.2019 21:19:18

## Middle Channel / 5MHz / 64QAM



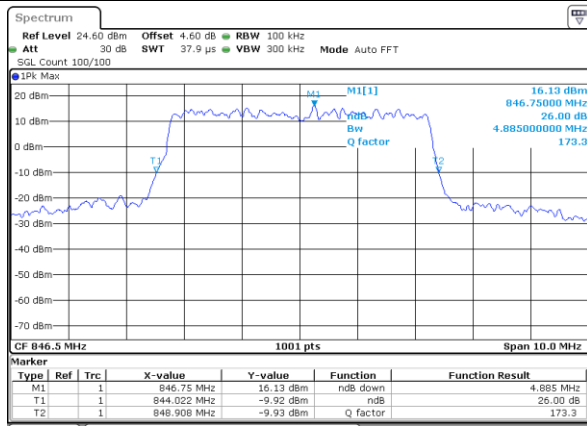
Date: 11.NOV.2019 21:14:28

## Middle Channel / 10MHz / 64QAM



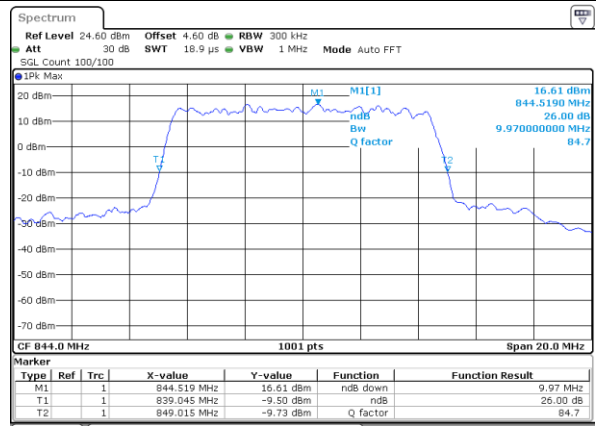
Date: 11.NOV.2019 21:24:43

## Highest Channel / 5MHz / 64QAM



Date: 11.NOV.2019 21:14:48

## Highest Channel / 10MHz / 64QAM



Date: 11.NOV.2019 21:25:03

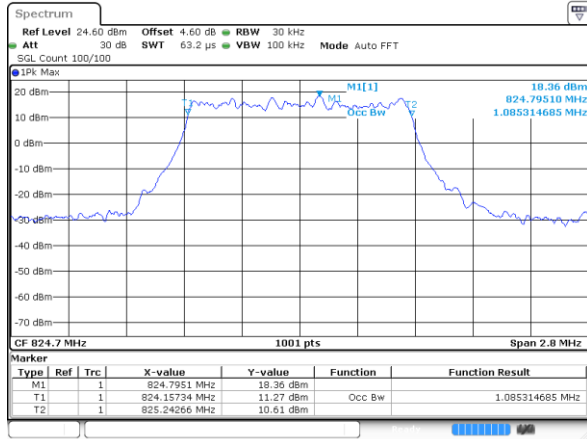
**Occupied Bandwidth**

| Mode       | LTE Band 5 : 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  | 1.09                     | 1.09  | 2.71  | 2.71  | 4.50  | 4.49  | 9.01  | 8.99  | -     | -     | -     | -     |
| Middle CH  | 1.09                     | 1.09  | 2.69  | 2.71  | 4.50  | 4.50  | 9.05  | 9.03  | -     | -     | -     | -     |
| Highest CH | 1.09                     | 1.09  | 2.72  | 2.72  | 4.49  | 4.49  | 8.95  | 8.99  | -     | -     | -     | -     |
| Mode       | LTE Band 5 : 99%OBW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                   |       | 3MHz  |       | 5MHz  |       | 10MHz |       |       |       |       |       |
| Mod.       | 64QAM                    |       | 64QAM |       | 64QAM |       | 64QAM |       |       |       |       |       |
| Lowest CH  | 1.09                     |       | 2.72  |       | 4.48  |       | 8.97  |       | -     | -     | -     | -     |
| Middle CH  | 1.09                     |       | 2.71  |       | 4.50  |       | 9.01  |       | -     | -     | -     | -     |
| Highest CH | 1.09                     |       | 2.73  |       | 4.49  |       | 9.01  |       | -     | -     | -     | -     |

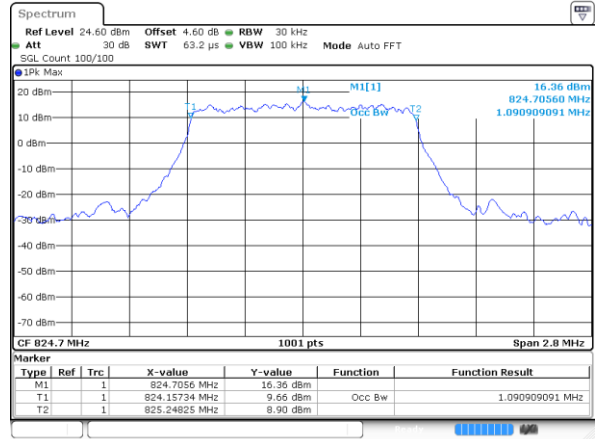


## LTE Band 5

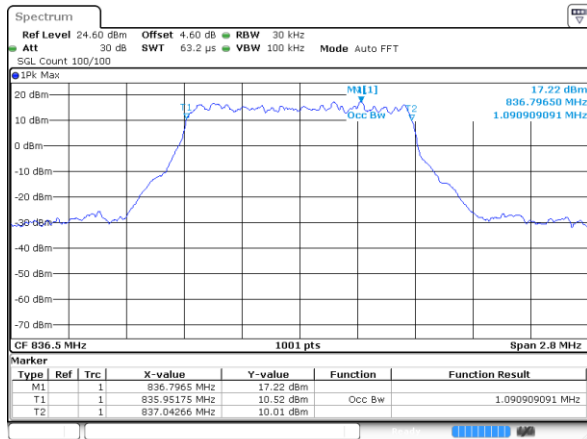
## Lowest Channel / 1.4MHz / QPSK



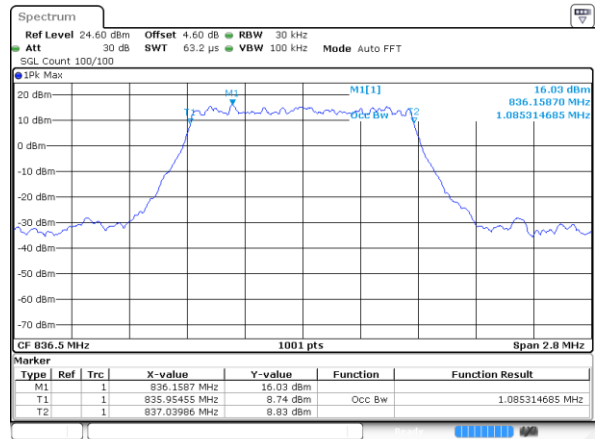
## Lowest Channel / 1.4MHz / 16QAM



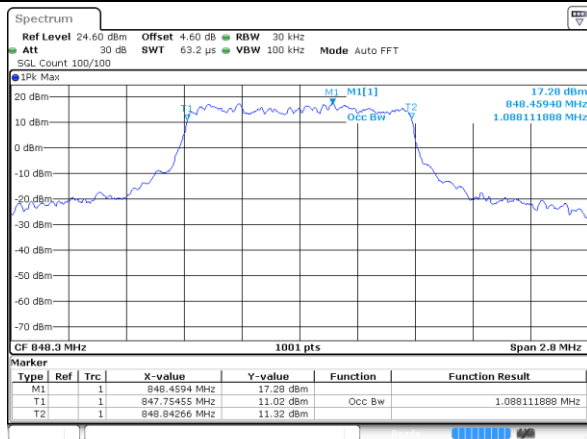
## Middle Channel / 1.4MHz / QPSK



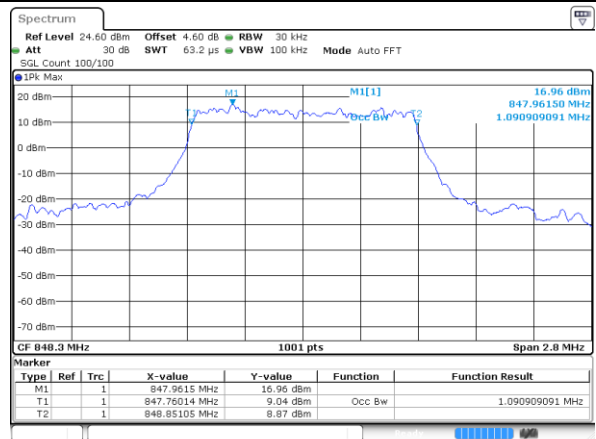
## Middle Channel / 1.4MHz / 16QAM



## Highest Channel / 1.4MHz / QPSK



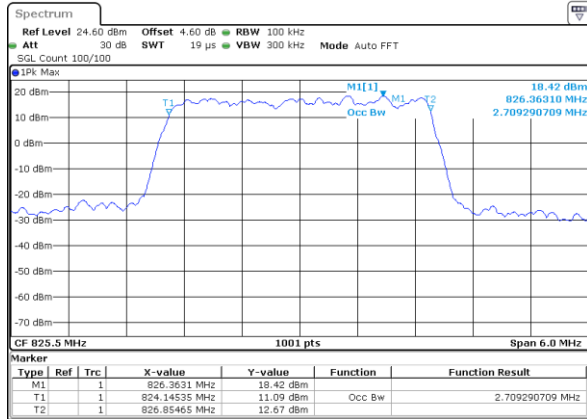
## Highest Channel / 1.4MHz / 16QAM





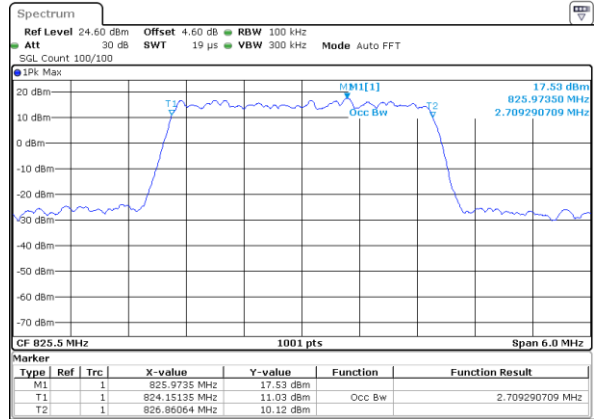
## LTE Band 5

## Lowest Channel / 3MHz / QPSK



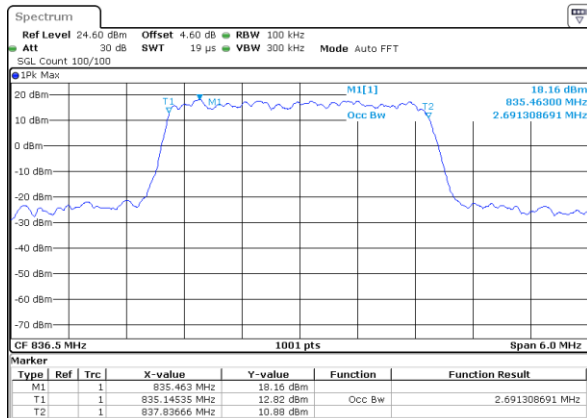
Date: 11 NOV 2019 21:45:08

## Lowest Channel / 3MHz / 16QAM



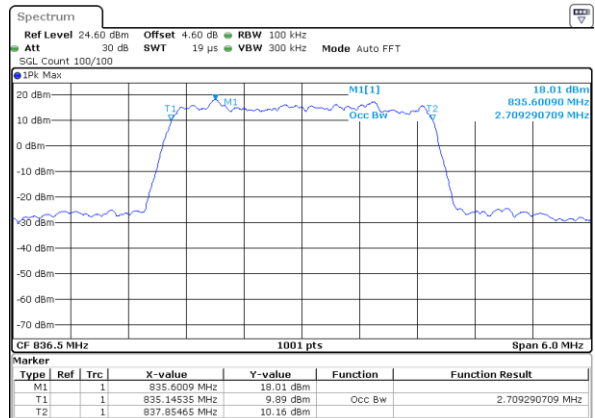
Date: 11 NOV 2019 21:45:18

## Middle Channel / 3MHz / QPSK



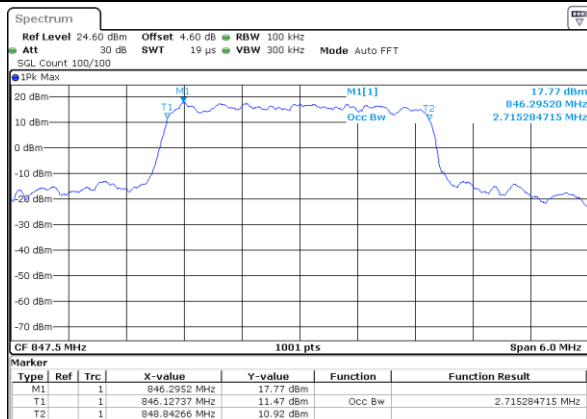
Date: 11 NOV 2019 21:54:10

## Middle Channel / 3MHz / 16QAM



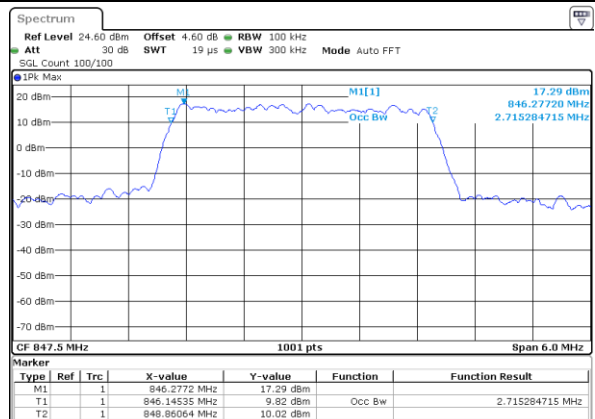
Date: 11 NOV 2019 21:54:20

## Highest Channel / 3MHz / QPSK



Date: 11 NOV 2019 21:56:37

## Highest Channel / 3MHz / 16QAM

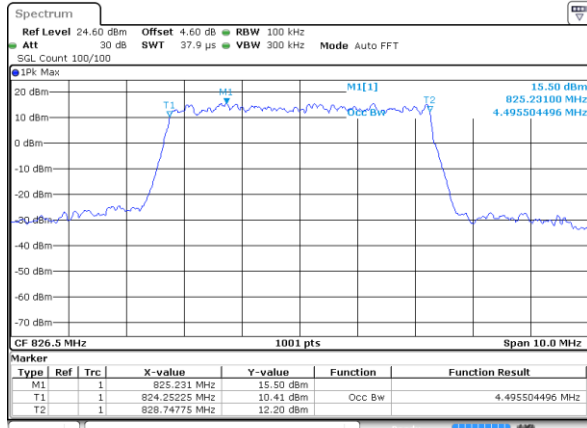


Date: 11 NOV 2019 21:56:47



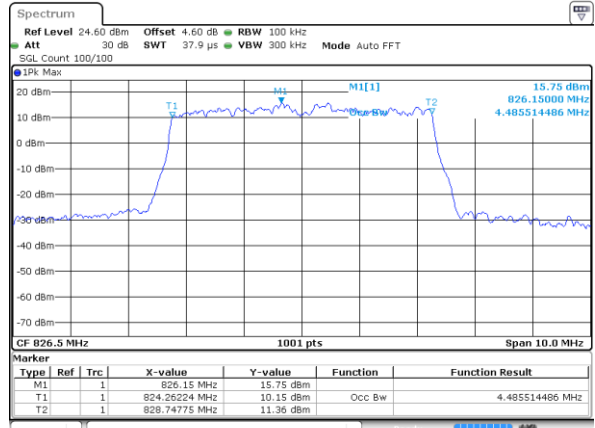
LTE Band 5

Lowest Channel / 5MHz / QPSK



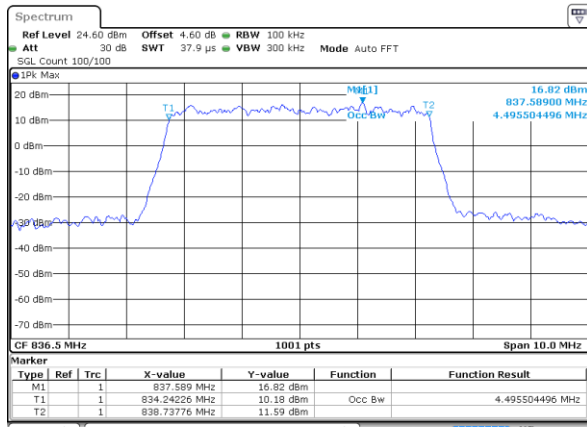
Date: 11 NOV 2019 21:37:08

Lowest Channel / 5MHz / 16QAM



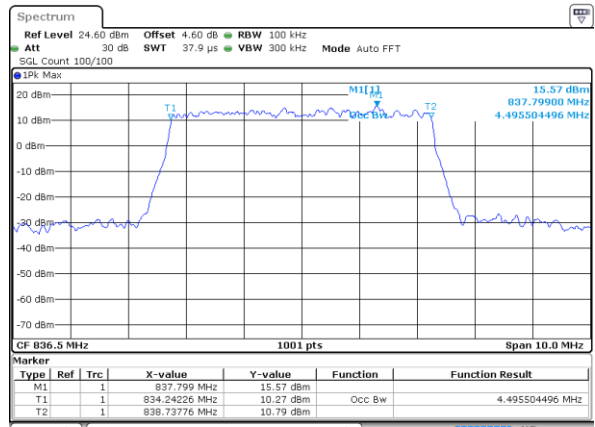
Date: 11 NOV 2019 21:37:27

Middle Channel / 5MHz / QPSK



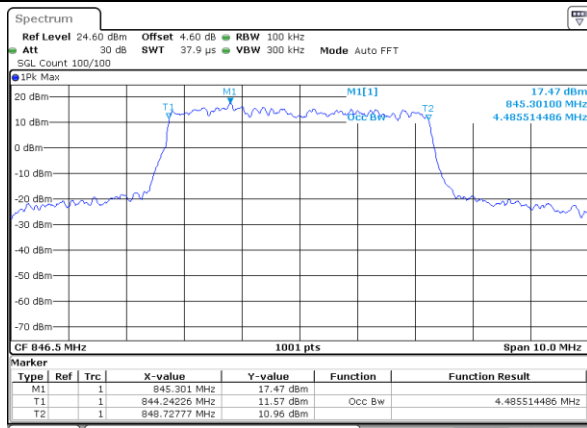
Date: 11 NOV 2019 20:10:57

Middle Channel / 5MHz / 16QAM



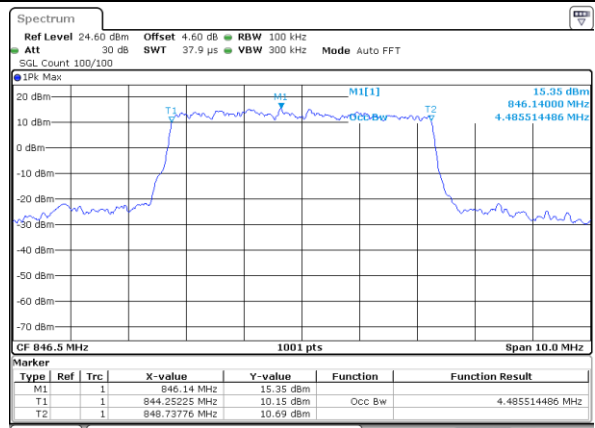
Date: 11 NOV 2019 20:11:07

Highest Channel / 5MHz / QPSK



Date: 11 NOV 2019 20:13:24

Highest Channel / 5MHz / 16QAM

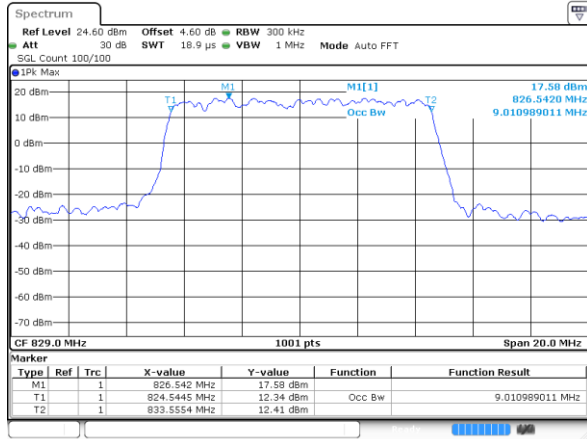


Date: 11 NOV 2019 20:13:34

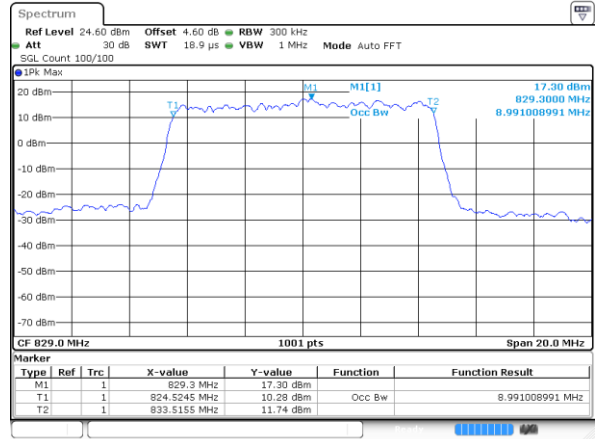


## LTE Band 5

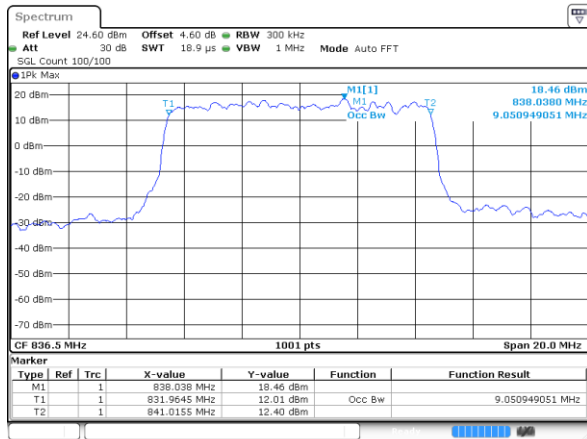
## Lowest Channel / 10MHz / QPSK



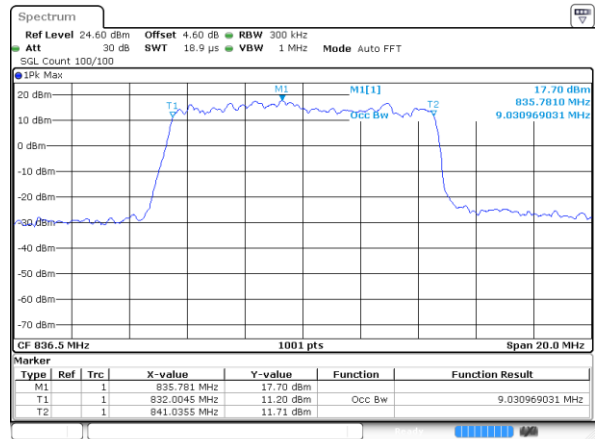
## Lowest Channel / 10MHz / 16QAM



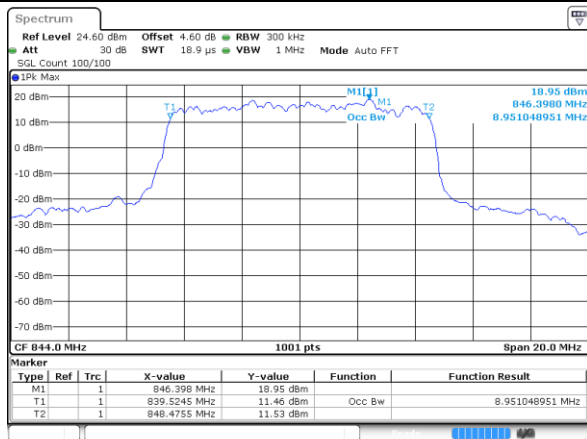
## Middle Channel / 10MHz / QPSK



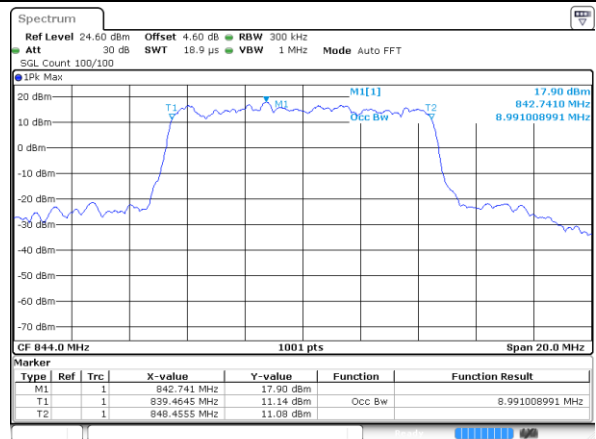
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



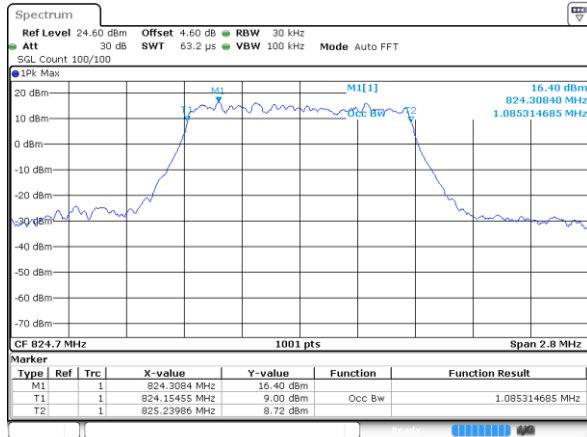
## Highest Channel / 10MHz / 16QAM





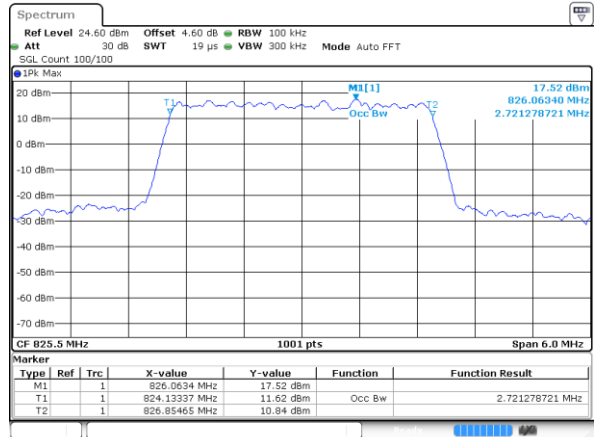
LTE Band 5

Lowest Channel / 1.4MHz / 64QAM



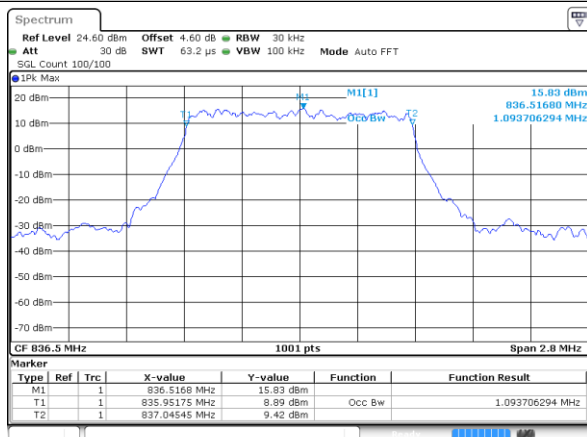
Date: 11 NOV 2019 20:48:23

Lowest Channel / 3MHz / 64QAM



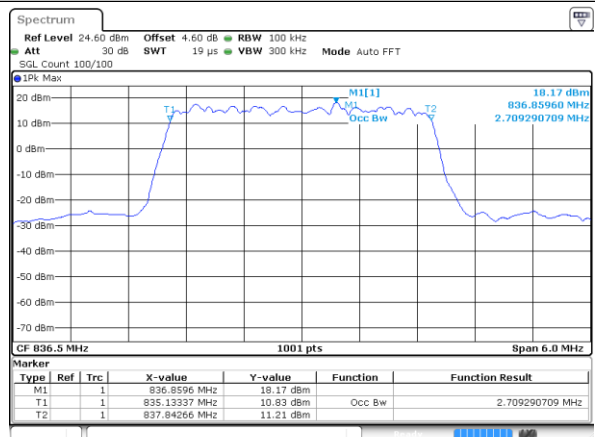
Date: 11 NOV 2019 20:58:38

Middle Channel / 1.4MHz / 64QAM



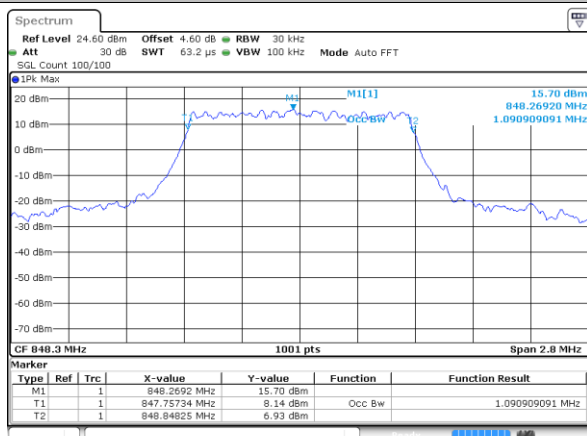
Date: 11 NOV 2019 20:53:47

Middle Channel / 3MHz / 64QAM



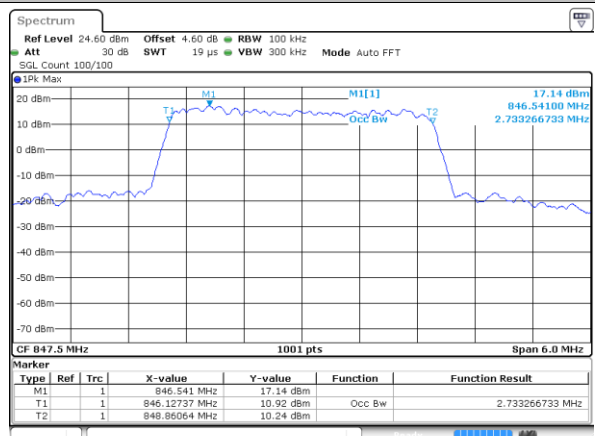
Date: 11 NOV 2019 21:04:02

Highest Channel / 1.4MHz / 64QAM



Date: 11 NOV 2019 20:54:07

Highest Channel / 3MHz / 64QAM



Date: 11 NOV 2019 21:04:22