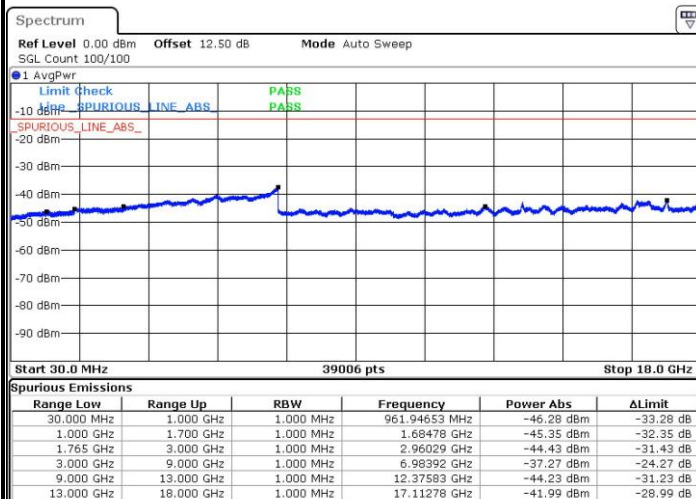




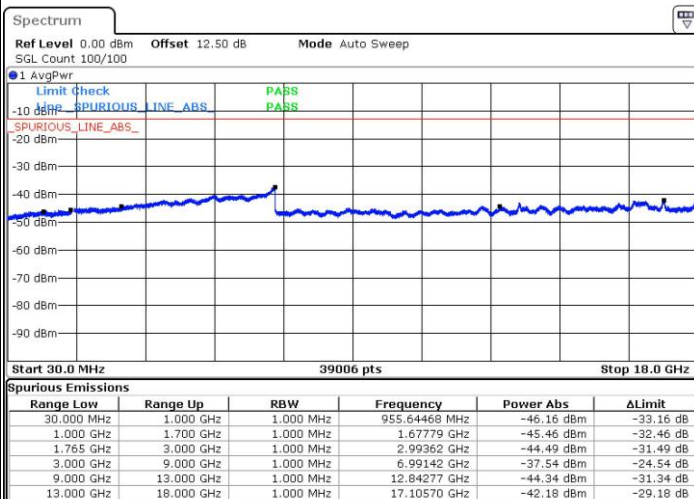
## LTE Band 4 / 10MHz

## Lowest Channel / 64QAM



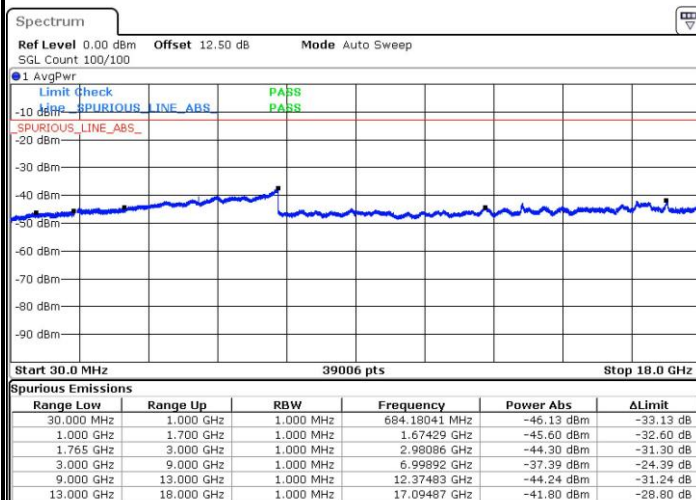
Date: 28.JUN.2019 03:49:45

## Middle Channel / 64QAM



Date: 28.JUN.2019 03:51:09

## Highest Channel / 64QAM

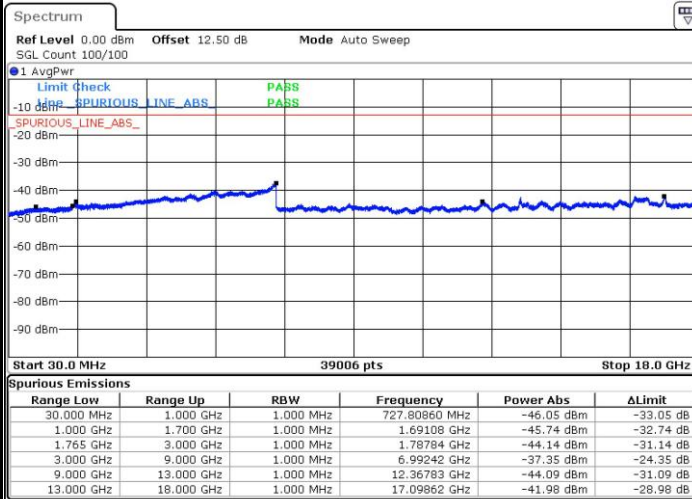


Date: 28.JUN.2019 03:54:42



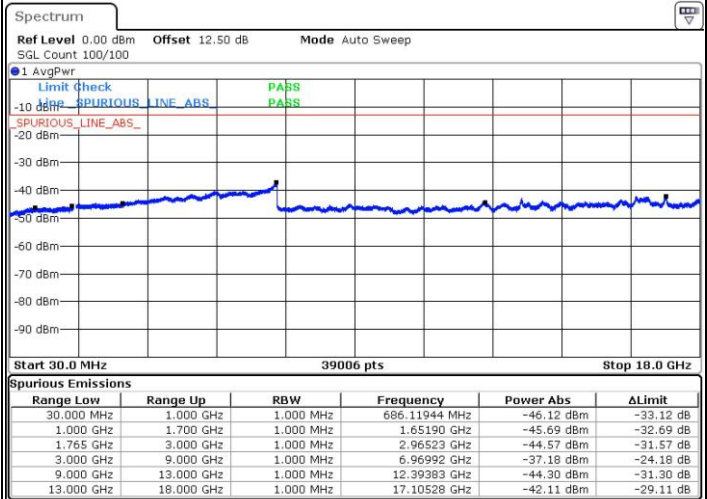
## LTE Band 4 / 15MHz

## Lowest Channel / 64QAM



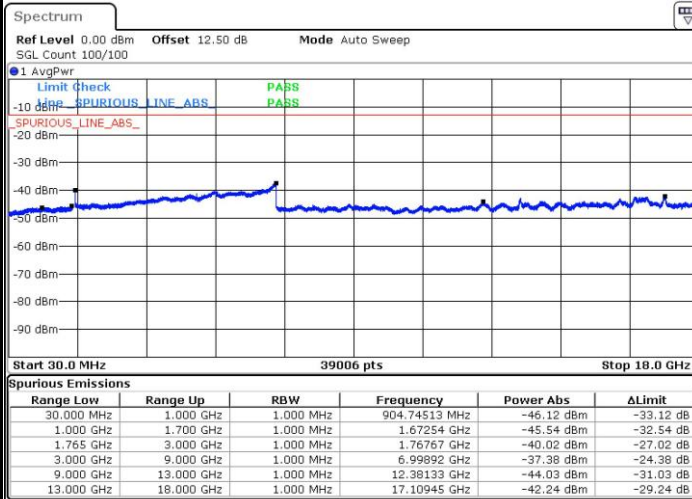
Date: 28.JUN.2019 03:58:15

## Middle Channel / 64QAM



Date: 28.JUN.2019 03:59:39

## Highest Channel / 64QAM

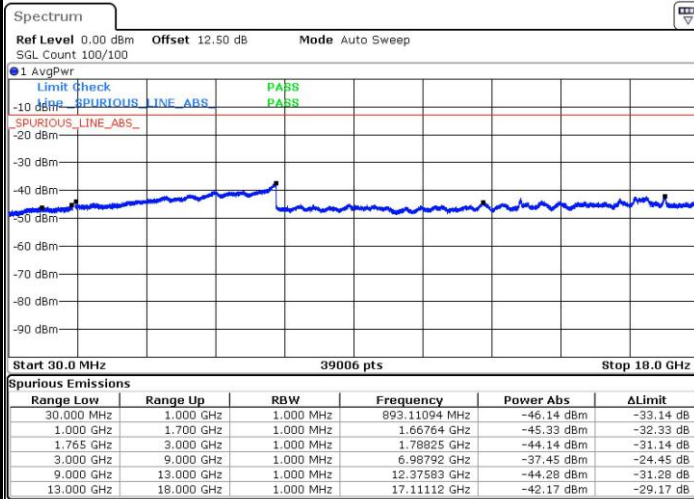


Date: 28.JUN.2019 04:03:12



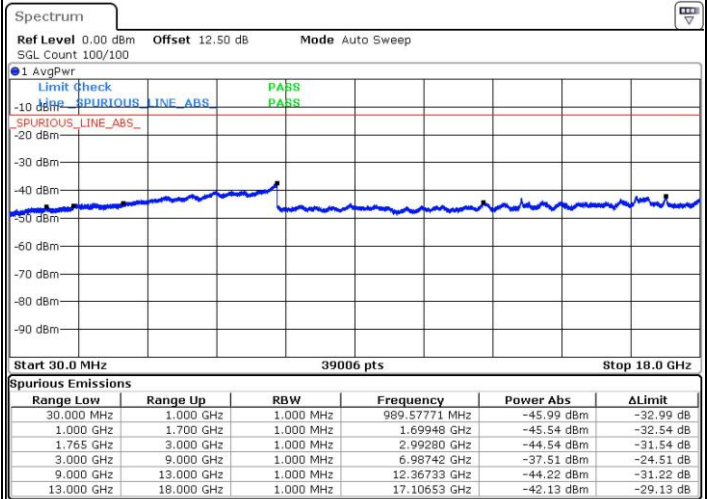
## LTE Band 4 / 20MHz

## Lowest Channel / 64QAM



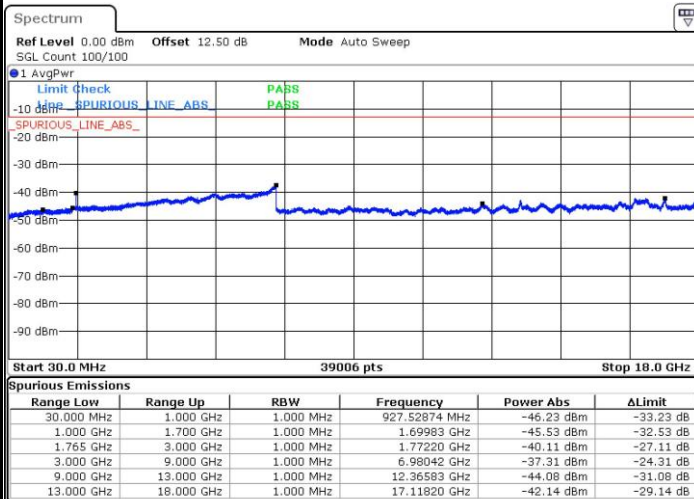
Date: 28.JUN.2019 04:06:45

## Middle Channel / 64QAM



Date: 28.JUN.2019 04:08:10

## Highest Channel / 64QAM



Date: 28.JUN.2019 04:11:43

## 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    | 0.0142                             | PASS    |
| 40               | Normal Voltage    | 0.0106                             |         |
| 30               | Normal Voltage    | 0.0002                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0083                             |         |
| 0                | Normal Voltage    | 0.0086                             |         |
| -10              | Normal Voltage    | 0.0042                             |         |
| -20              | Normal Voltage    | 0.0068                             |         |
| -30              | Normal Voltage    | 0.0078                             |         |
| 20               | Maximum Voltage   | 0.0114                             |         |
| 20               | Normal Voltage    | 0.0000                             |         |
| 20               | Battery End Point | 0.0057                             |         |

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



## LTE Band 5

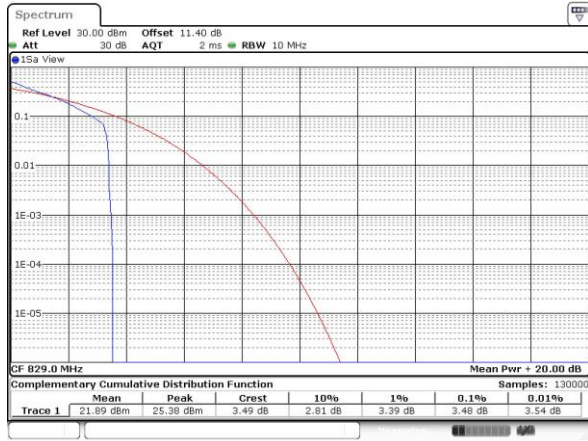
### Peak-to-Average Ratio

| Mode       | LTE Band 5 / 10MHz |         |       |         |             |
|------------|--------------------|---------|-------|---------|-------------|
| Mod.       | QPSK               |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 3.48               | 4.52    | 4.72  | 5.65    | PASS        |
| Middle CH  | 3.28               | 4.46    | 4.72  | 5.74    |             |
| Highest CH | 3.54               | 4.61    | 5.19  | 5.88    |             |
| Mode       | LTE Band 5 / 10MHz |         |       |         |             |
| Mod.       | 64QAM              |         |       |         | Limit: 13dB |
| RB Size    | 1RB                | Full RB |       |         | Result      |
| Lowest CH  | 6.26               | 6.38    | -     | -       | PASS        |
| Middle CH  | 5.8                | 6.46    | -     | -       |             |
| Highest CH | 6.75               | 6.46    | -     | -       |             |

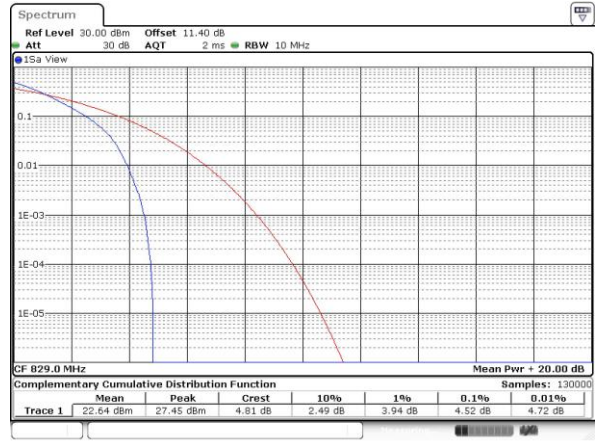


## LTE Band 5 / 10MHz / QPSK

## Lowest Channel / 1RB



## Lowest Channel / Full RB



## Middle Channel / 1RB



## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB



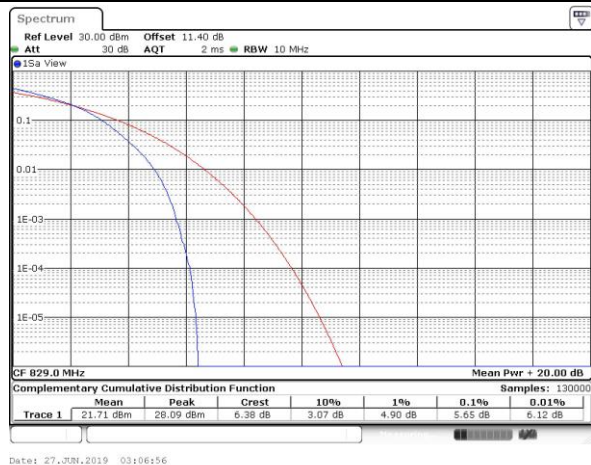


## LTE Band 5 / 10MHz / 16QAM

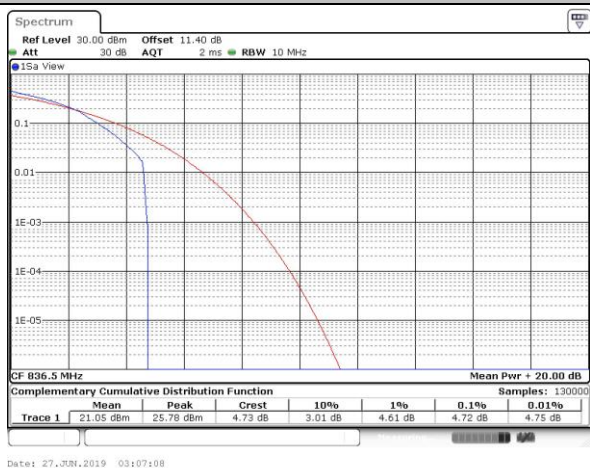
## Lowest Channel / 1RB



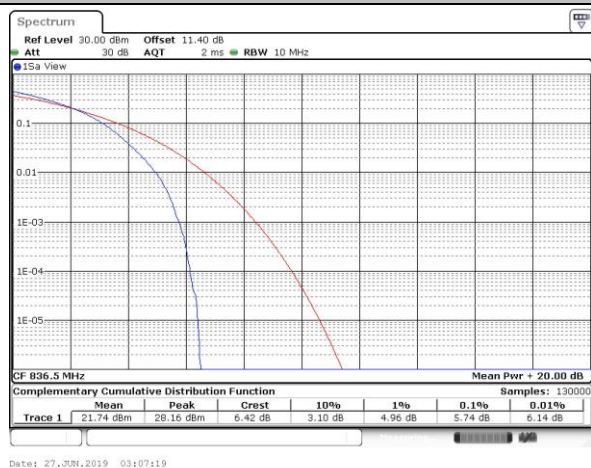
## Lowest Channel / Full RB



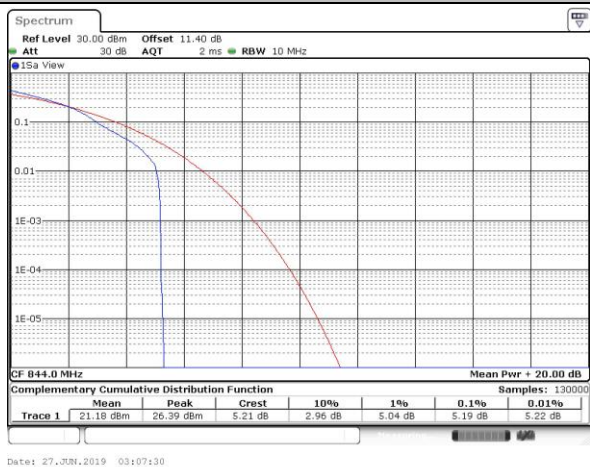
## Middle Channel / 1RB



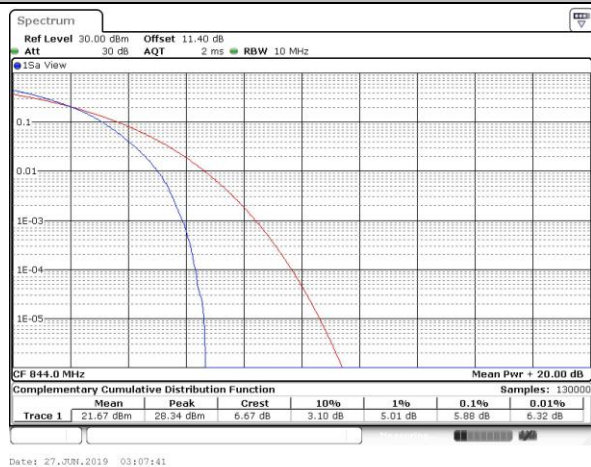
## Middle Channel / Full RB



## Highest Channel / 1RB



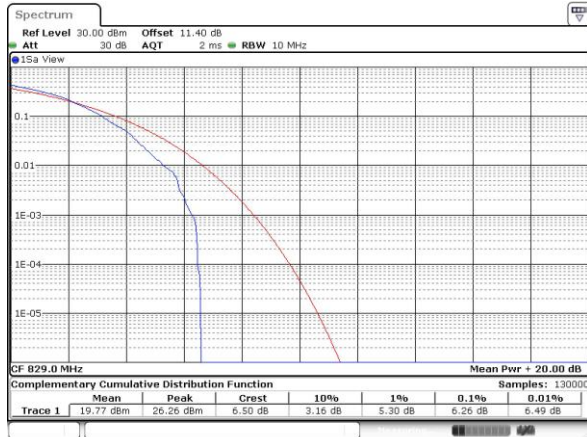
## Highest Channel / Full RB



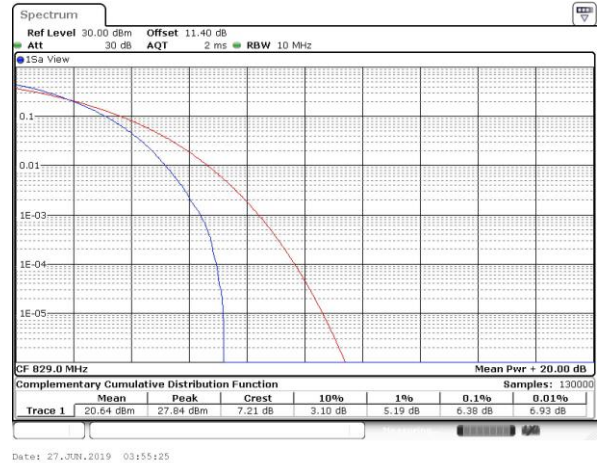


## LTE Band 5 / 10MHz / 64QAM

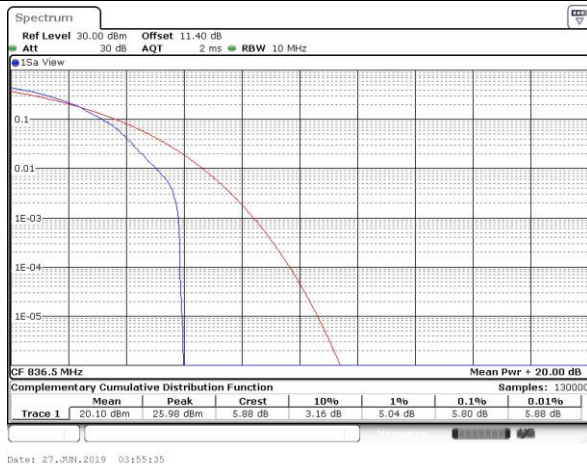
## Lowest Channel / 1RB



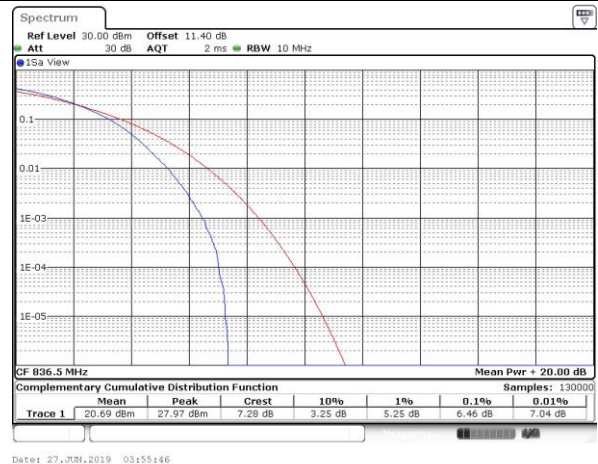
## Lowest Channel / Full RB



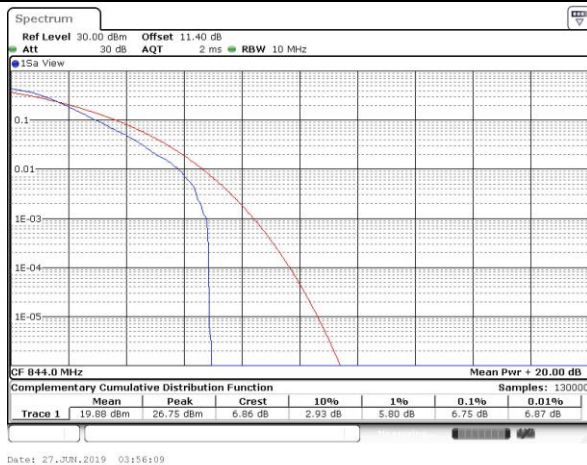
## Middle Channel / 1RB



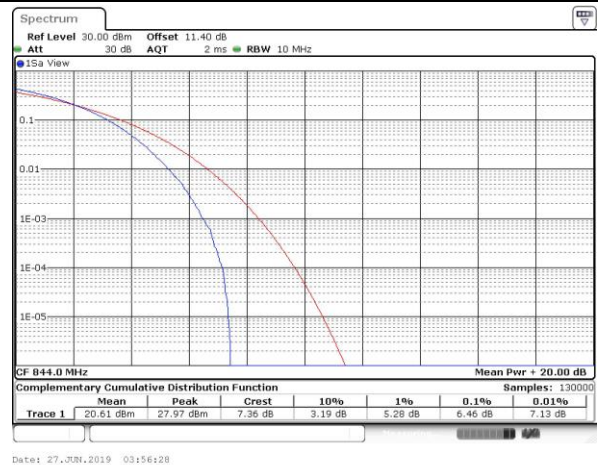
## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB



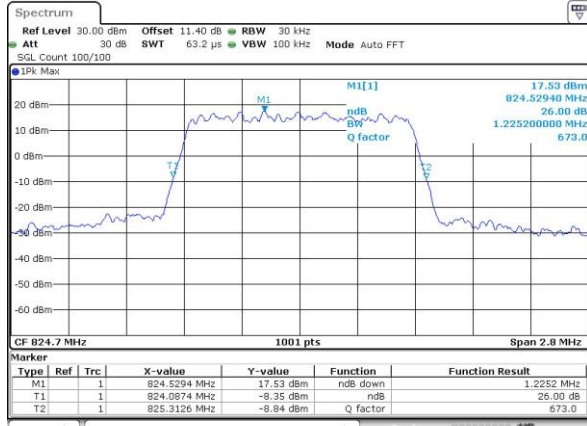
**26dB Bandwidth**

| 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  | 1.23                      | 1.21  | 3.06  | 2.97  | 4.96  | 4.85  | 9.79  | 9.83  | -     | -     | -     | -     |
| Middle CH  | 1.21                      | 1.22  | 3.05  | 3.03  | 4.88  | 4.87  | 9.79  | 9.69  | -     | -     | -     | -     |
| Highest CH | 1.22                      | 1.22  | 3.02  | 3.06  | 4.93  | 4.87  | 9.87  | 9.75  | -     | -     | -     | -     |
| Mode       | LTE Band 5 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                    |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                     |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | 1.24                      | -     | 3.00  | -     | 4.83  | -     | 9.93  | -     | -     | -     | -     | -     |
| Middle CH  | 1.23                      | -     | 2.99  | -     | 4.89  | -     | 9.75  | -     | -     | -     | -     | -     |
| Highest CH | 1.21                      | -     | 2.93  | -     | 4.98  | -     | 9.77  | -     | -     | -     | -     | -     |



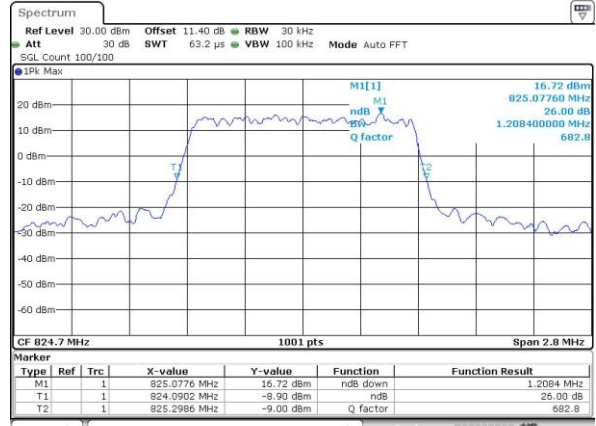
## LTE Band 5

## Lowest Channel / 1.4MHz / QPSK



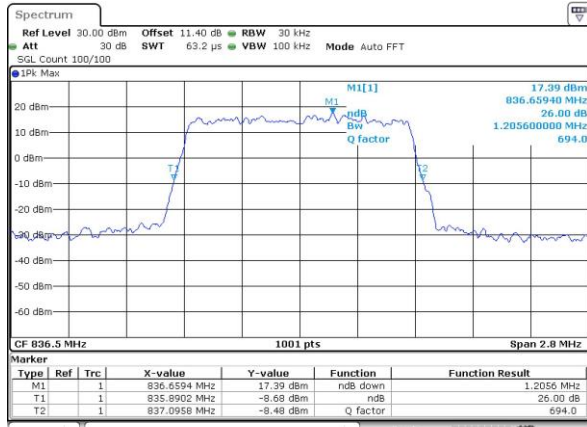
Date: 27 JUN 2019 23:25:09

## Lowest Channel / 1.4MHz / 16QAM



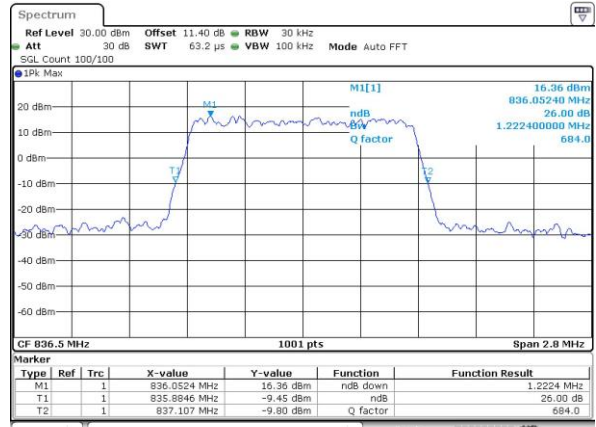
Date: 27 JUN 2019 23:25:120

## Middle Channel / 1.4MHz / QPSK



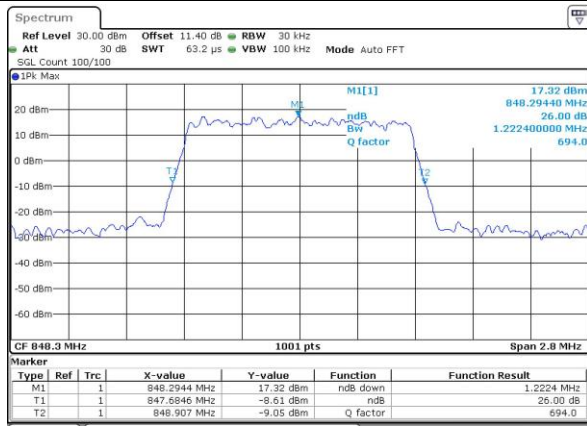
Date: 27 JUN 2019 23:25:32

## Middle Channel / 1.4MHz / 16QAM



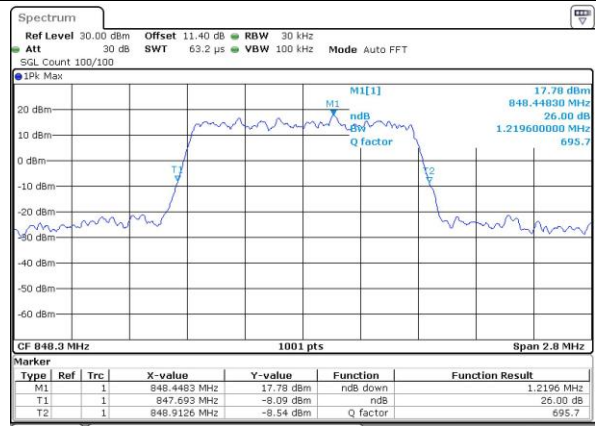
Date: 27 JUN 2019 23:25:143

## Highest Channel / 1.4MHz / QPSK



Date: 27 JUN 2019 23:25:54

## Highest Channel / 1.4MHz / 16QAM

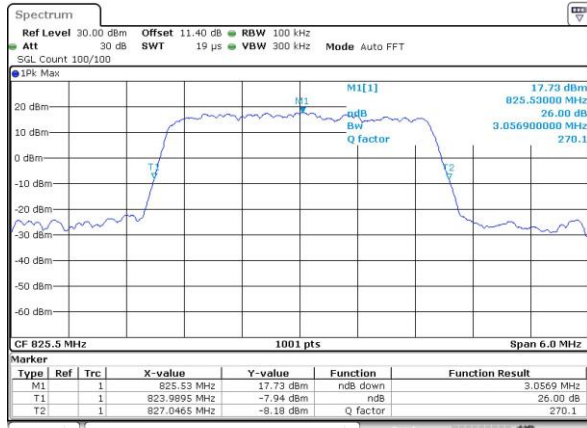


Date: 27 JUN 2019 23:26:06

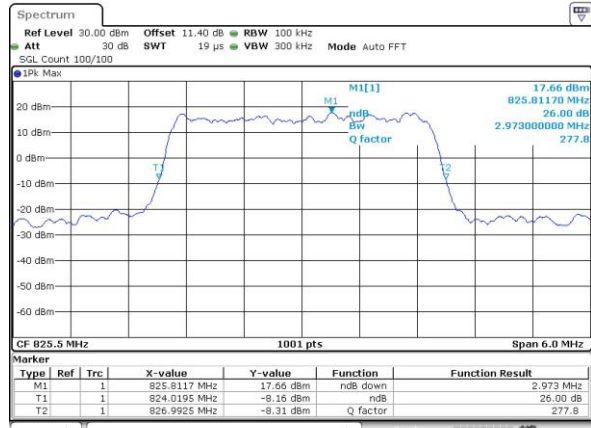


## LTE Band 5

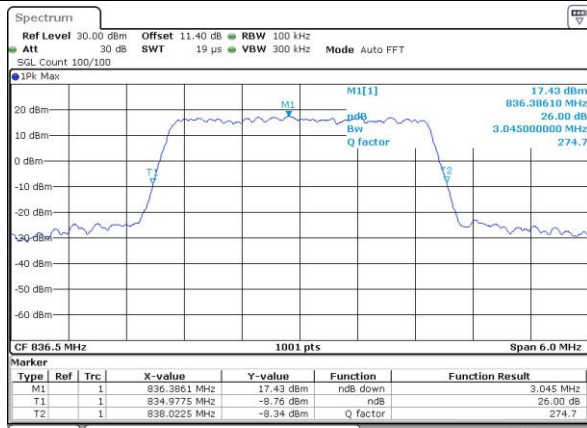
## Lowest Channel / 3MHz / QPSK



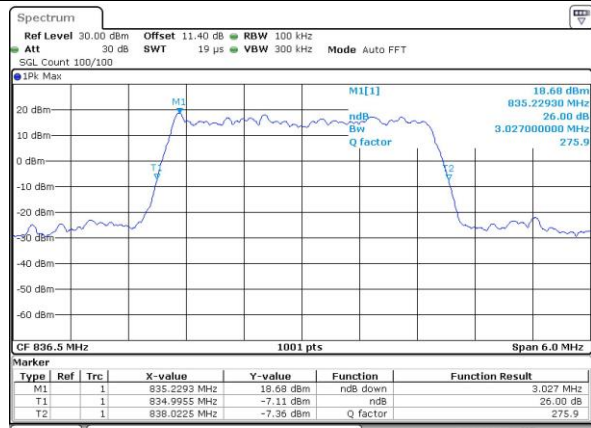
## Lowest Channel / 3MHz / 16QAM



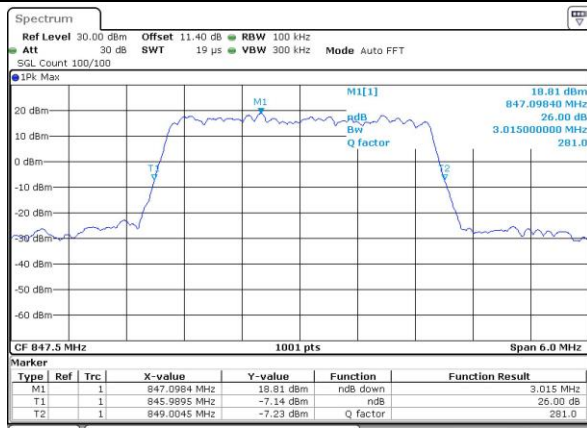
## Middle Channel / 3MHz / QPSK



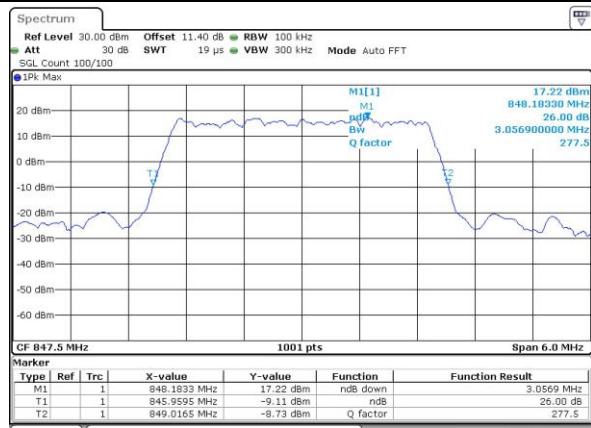
## Middle Channel / 3MHz / 16QAM



## Highest Channel / 3MHz / QPSK



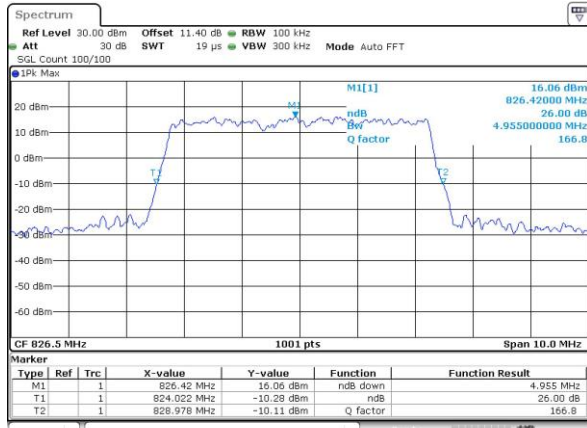
## Highest Channel / 3MHz / 16QAM



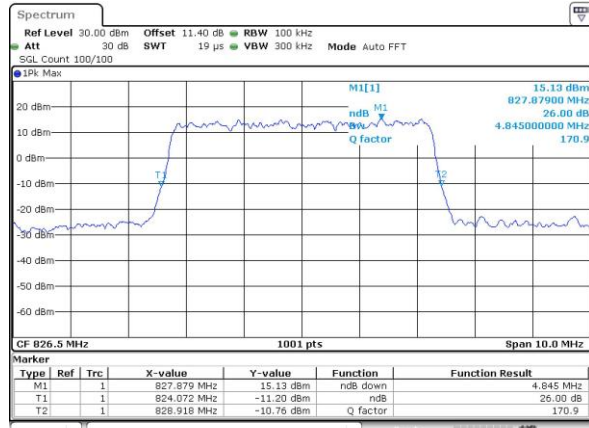


## LTE Band 5

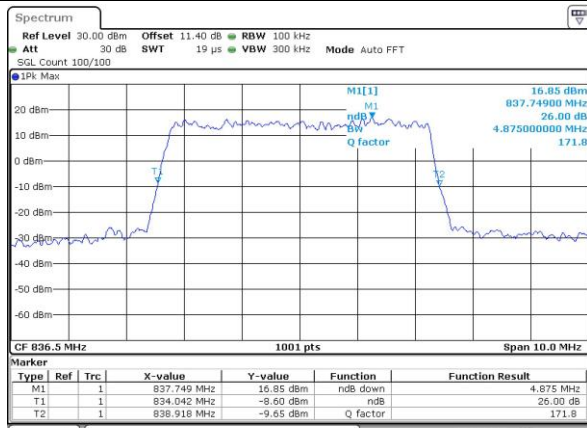
## Lowest Channel / 5MHz / QPSK



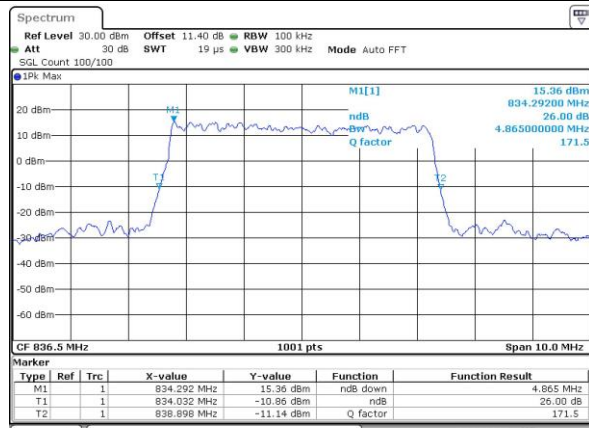
## Lowest Channel / 5MHz / 16QAM



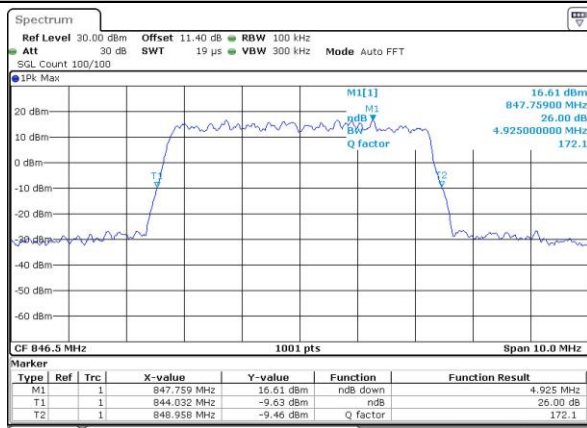
## Middle Channel / 5MHz / QPSK



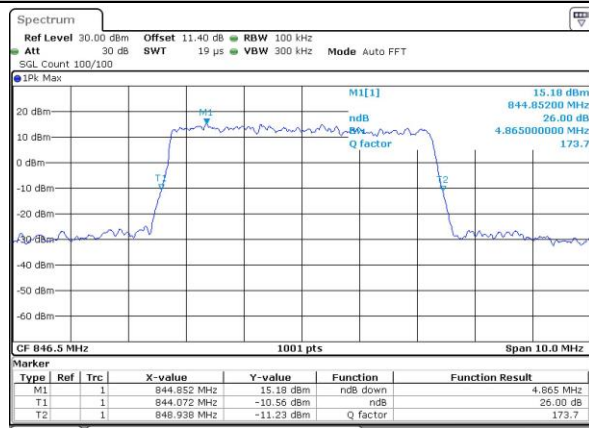
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



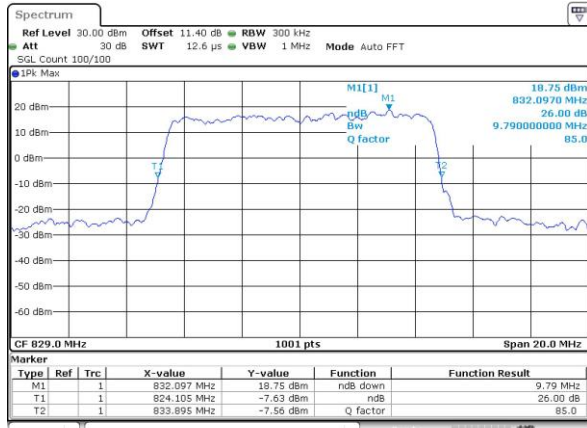
## Highest Channel / 5MHz / 16QAM





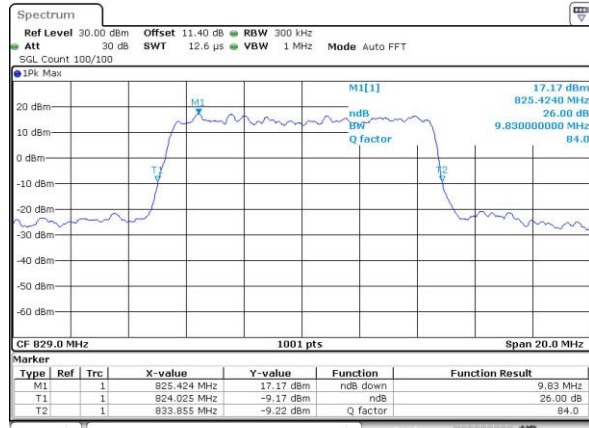
## LTE Band 5

## Lowest Channel / 10MHz / QPSK



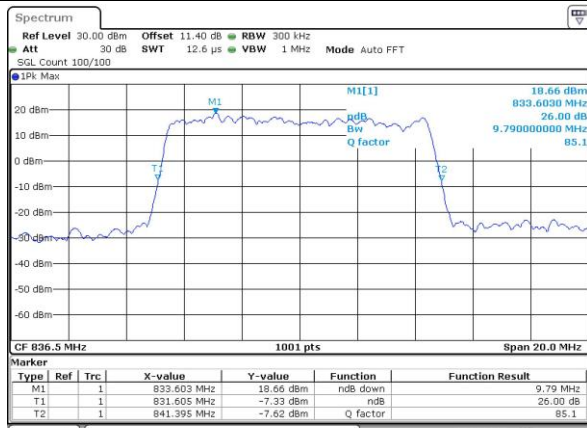
Date: 27 JUN 2019 23:35:17

## Lowest Channel / 10MHz / 16QAM



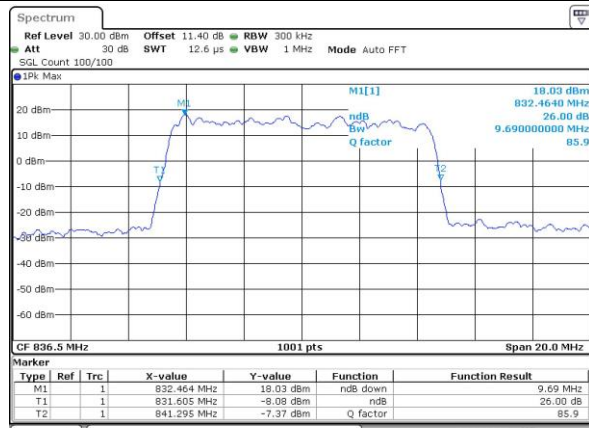
Date: 27 JUN 2019 23:35:29

## Middle Channel / 10MHz / QPSK



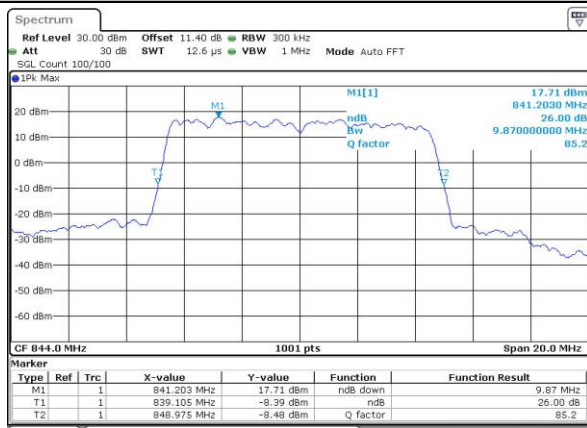
Date: 27 JUN 2019 23:35:40

## Middle Channel / 10MHz / 16QAM



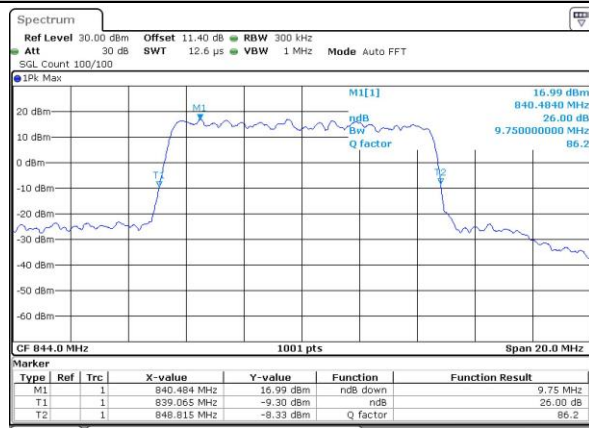
Date: 27 JUN 2019 23:35:52

## Highest Channel / 10MHz / QPSK



Date: 27 JUN 2019 23:36:03

## Highest Channel / 10MHz / 16QAM

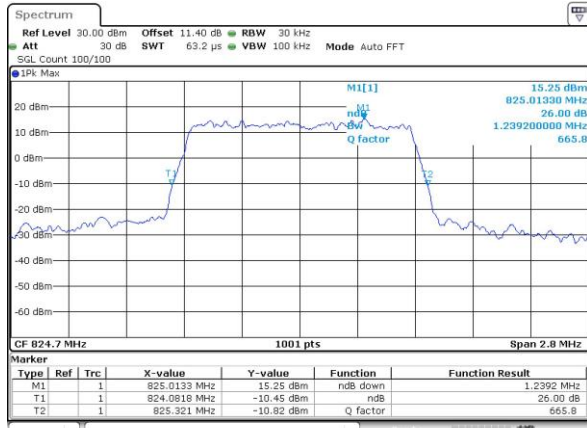


Date: 27 JUN 2019 23:36:15



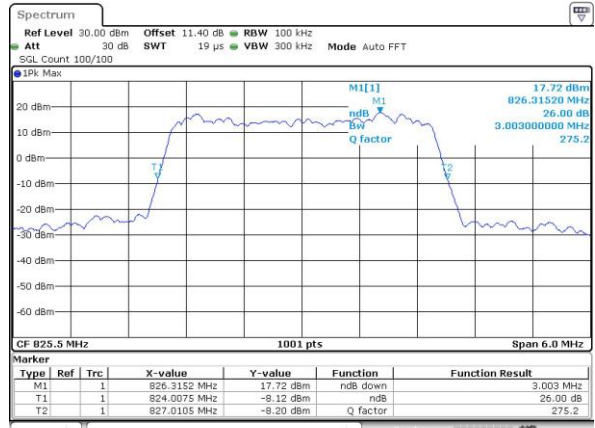
## LTE Band 5

## Lowest Channel / 1.4MHz / 64QAM



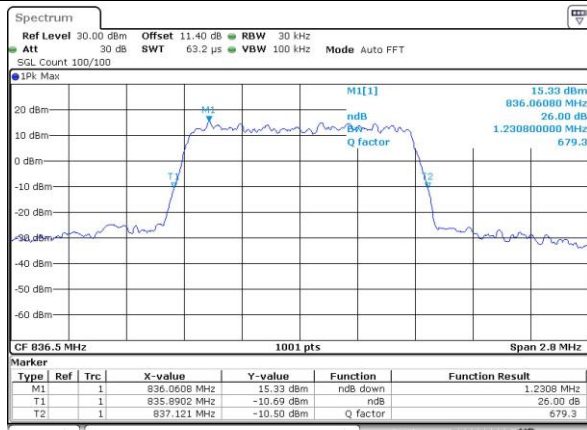
Date: 27 JUN 2019 23:36:26

## Lowest Channel / 3MHz / 64QAM



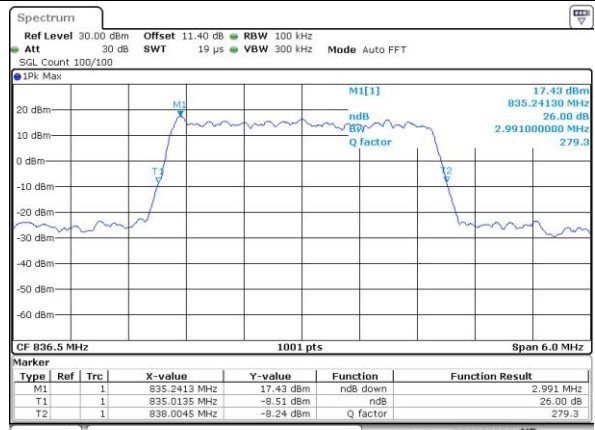
Date: 27 JUN 2019 23:37:01

## Middle Channel / 1.4MHz / 64QAM



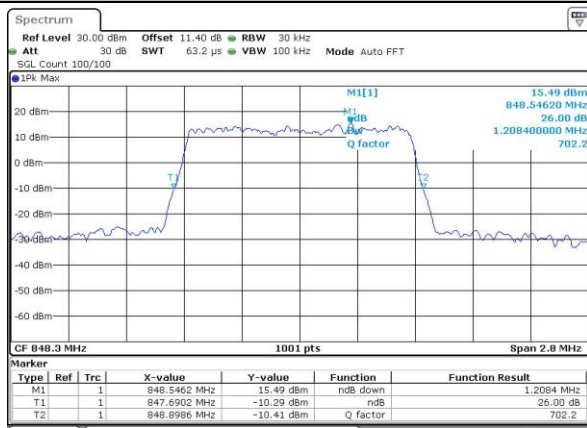
Date: 27 JUN 2019 23:36:38

## Middle Channel / 3MHz / 64QAM



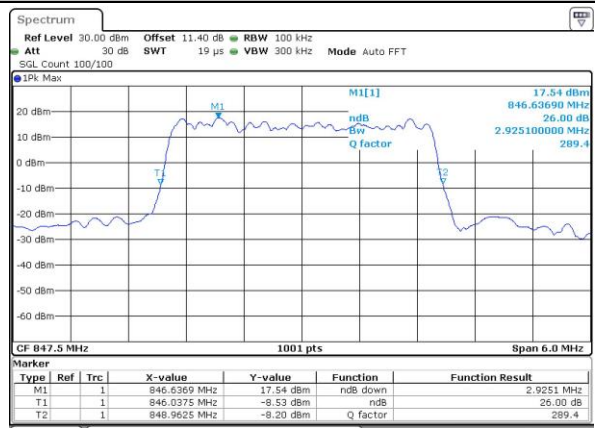
Date: 27 JUN 2019 23:37:12

## Highest Channel / 1.4MHz / 64QAM



Date: 27 JUN 2019 23:36:49

## Highest Channel / 3MHz / 64QAM

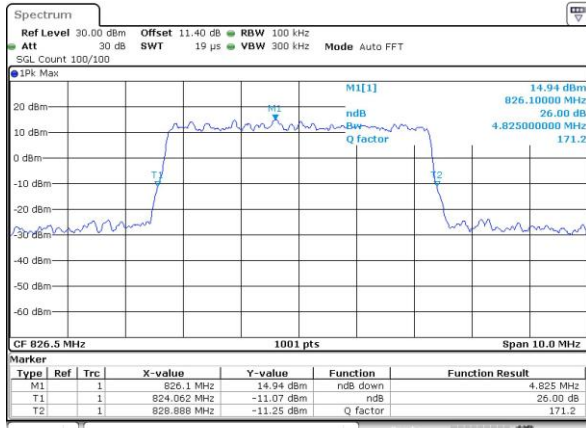


Date: 27 JUN 2019 23:37:24



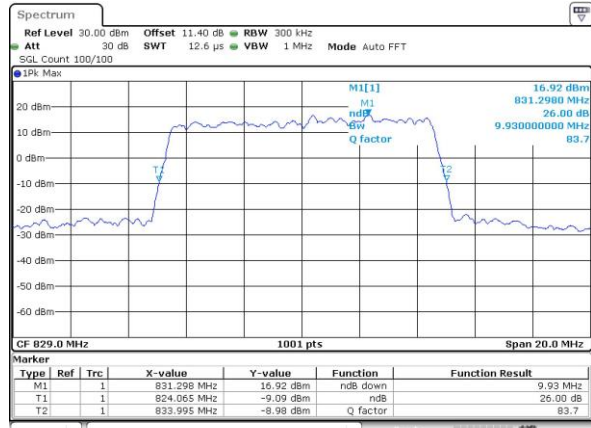
## LTE Band 5

## Lowest Channel / 5MHz / 64QAM



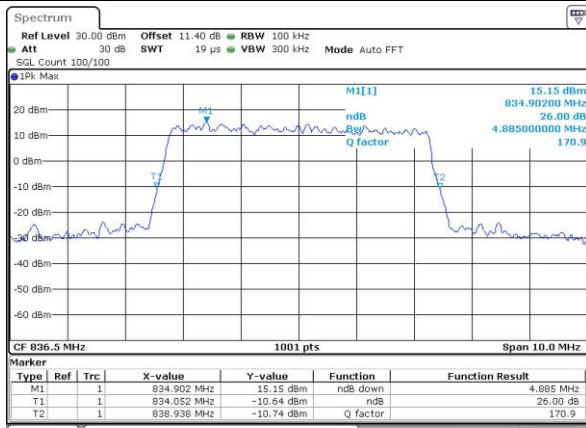
Date: 27 JUN 2019 23:37:35

## Lowest Channel / 10MHz / 64QAM



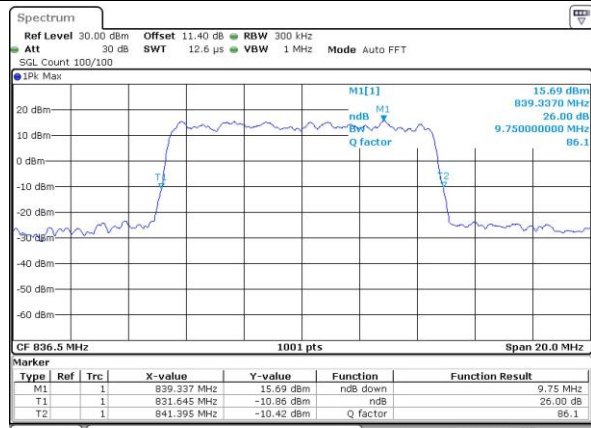
Date: 27 JUN 2019 23:38:10

## Middle Channel / 5MHz / 64QAM



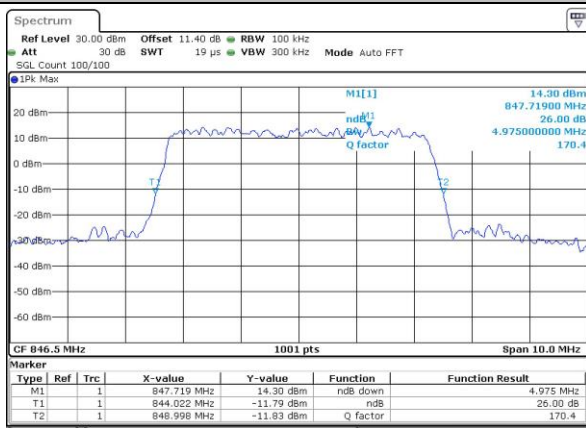
Date: 27 JUN 2019 23:37:47

## Middle Channel / 10MHz / 64QAM



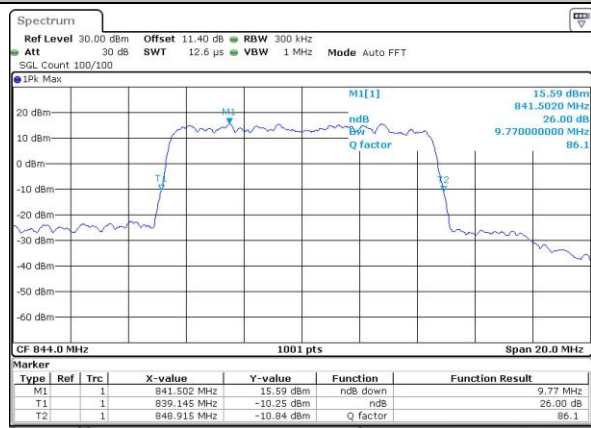
Date: 27 JUN 2019 23:38:21

## Highest Channel / 5MHz / 64QAM



Date: 27 JUN 2019 23:37:58

## Highest Channel / 10MHz / 64QAM



Date: 27 JUN 2019 23:38:33

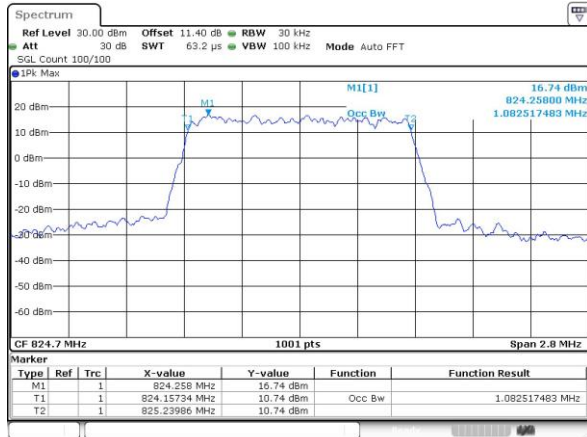
**Occupied Bandwidth**

| 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  | 1.08                     | 1.08  | 2.72  | 2.72  | 4.52  | 4.50  | 9.07  | 9.07  | -     | -     | -     | -     |
| Middle CH  | 1.09                     | 1.09  | 2.72  | 2.72  | 4.48  | 4.49  | 9.01  | 8.95  | -     | -     | -     | -     |
| Highest CH | 1.09                     | 1.09  | 2.71  | 2.71  | 4.48  | 4.51  | 9.03  | 8.97  | -     | -     | -     | -     |
| Mode       | LTE Band 5 : 99%OBW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                   |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                    |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | 1.09                     | -     | 2.72  | -     | 4.50  | -     | 9.03  | -     | -     | -     | -     | -     |
| Middle CH  | 1.09                     | -     | 2.73  | -     | 4.50  | -     | 9.05  | -     | -     | -     | -     | -     |
| Highest CH | 1.09                     | -     | 2.72  | -     | 4.49  | -     | 8.99  | -     | -     | -     | -     | -     |

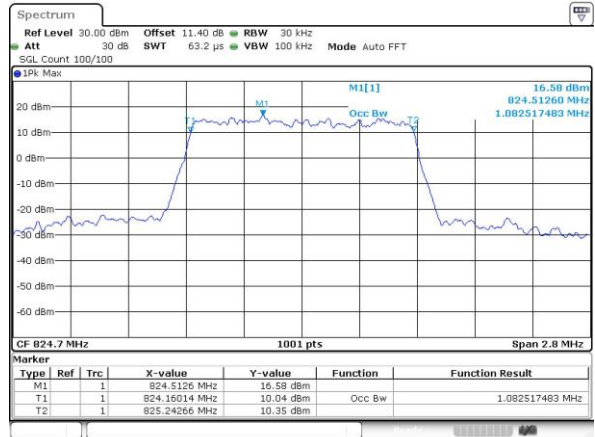


## LTE Band 5

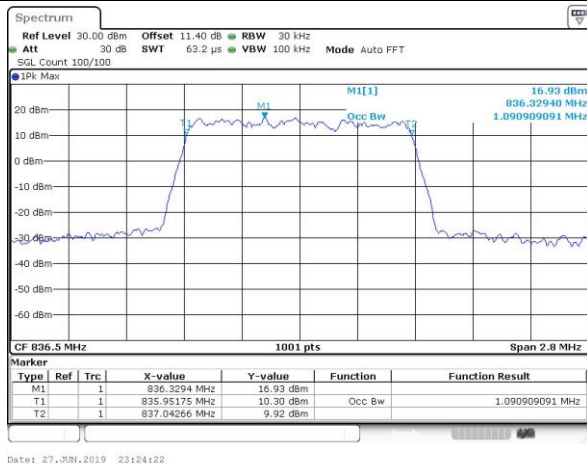
## Lowest Channel / 1.4MHz / QPSK



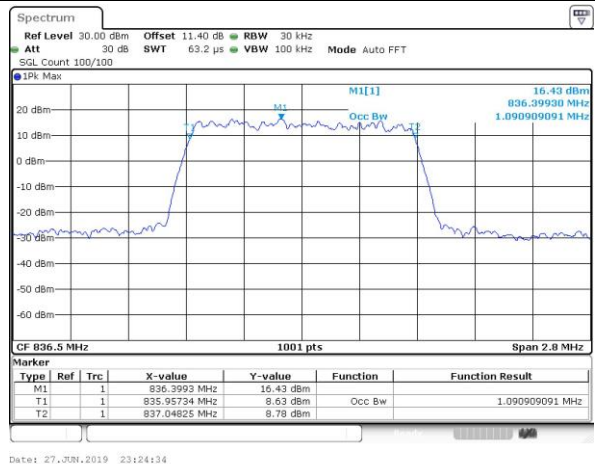
## Lowest Channel / 1.4MHz / 16QAM



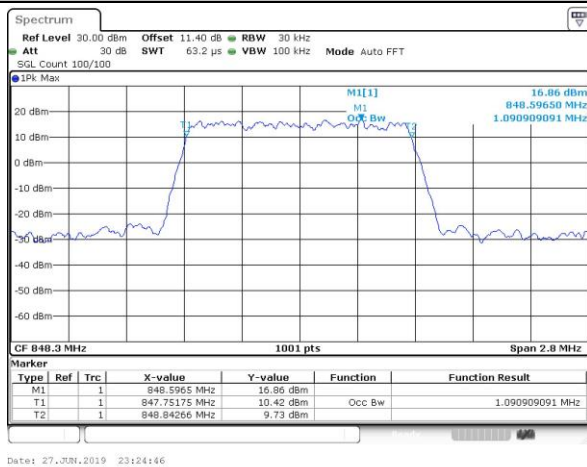
## Middle Channel / 1.4MHz / QPSK



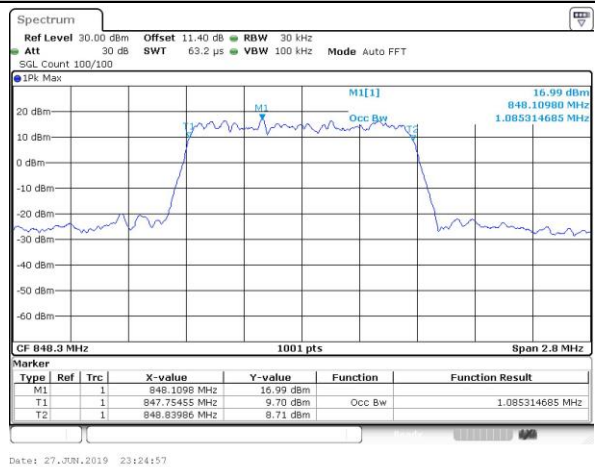
## Middle Channel / 1.4MHz / 16QAM



## Highest Channel / 1.4MHz / QPSK



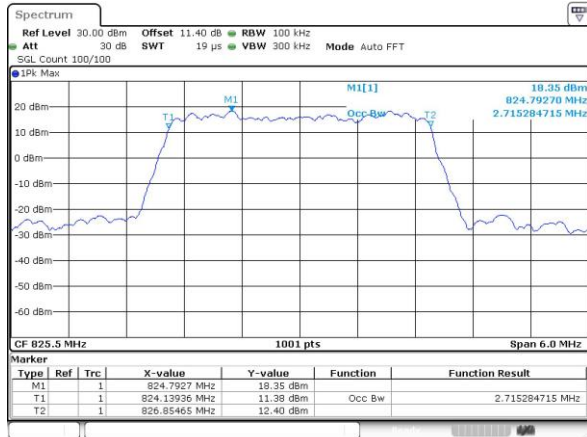
## Highest Channel / 1.4MHz / 16QAM





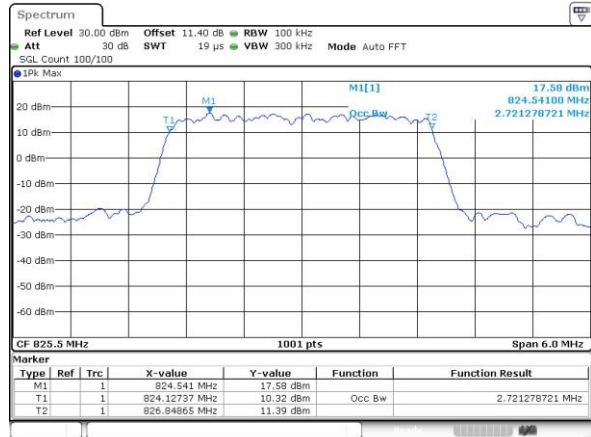
## LTE Band 5

## Lowest Channel / 3MHz / QPSK



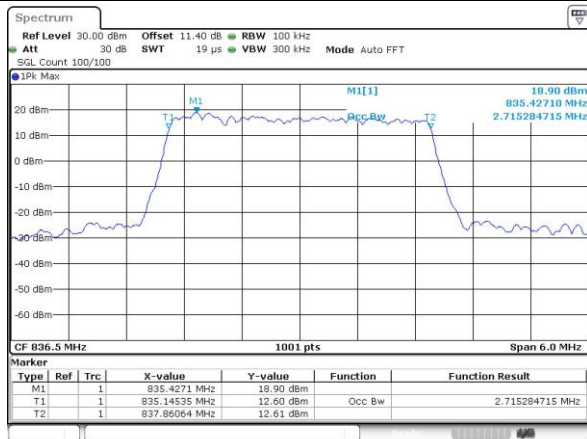
Date: 27-JUN-2019 23:26:17

## Lowest Channel / 3MHz / 16QAM



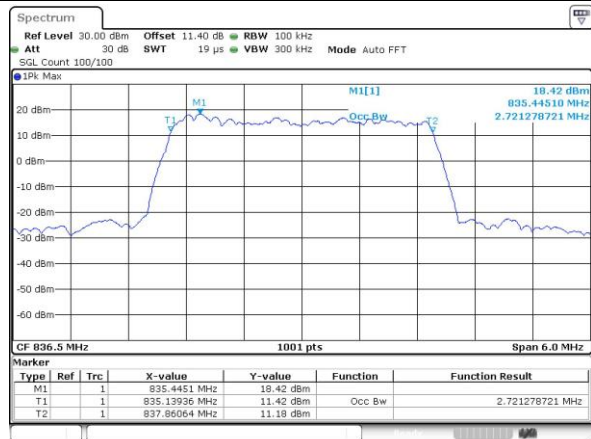
Date: 27-JUN-2019 23:26:29

## Middle Channel / 3MHz / QPSK



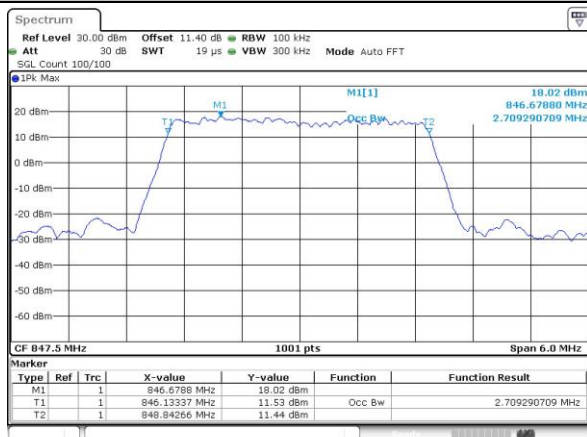
Date: 27-JUN-2019 23:26:41

## Middle Channel / 3MHz / 16QAM



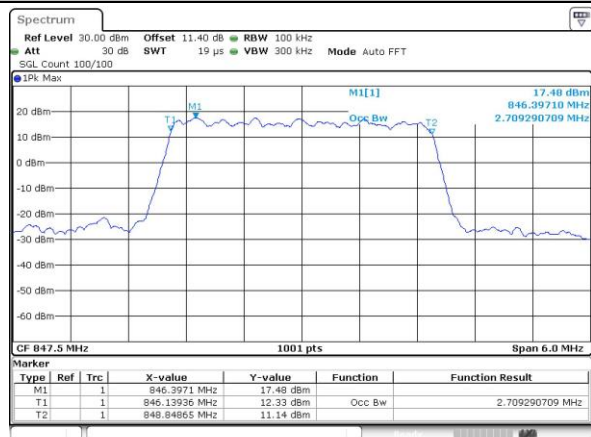
Date: 27-JUN-2019 23:26:52

## Highest Channel / 3MHz / QPSK



Date: 27-JUN-2019 23:27:04

## Highest Channel / 3MHz / 16QAM

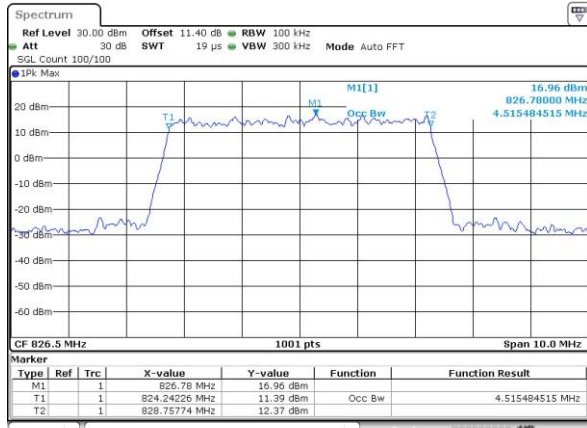


Date: 27-JUN-2019 23:27:15



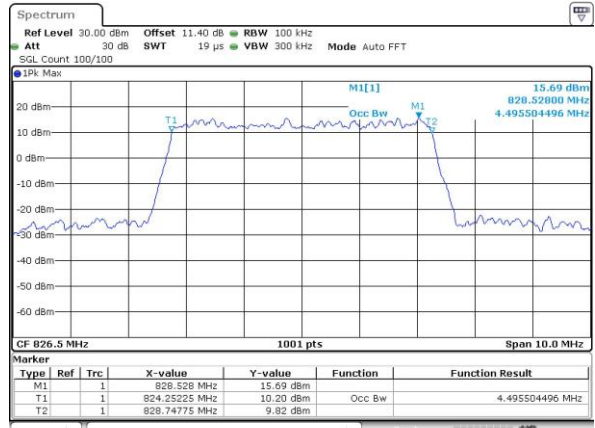
## LTE Band 5

## Lowest Channel / 5MHz / QPSK



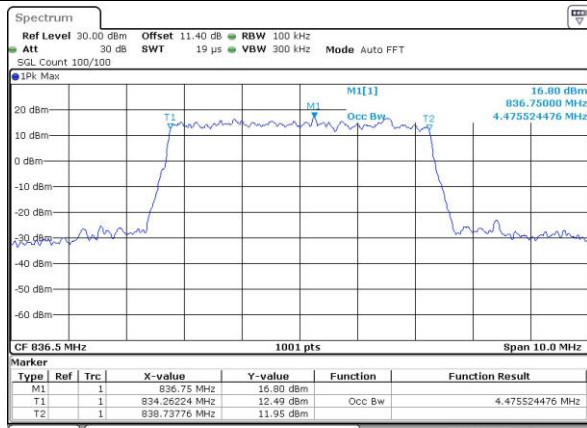
Date: 27 JUN 2019 23:28:23

## Lowest Channel / 5MHz / 16QAM



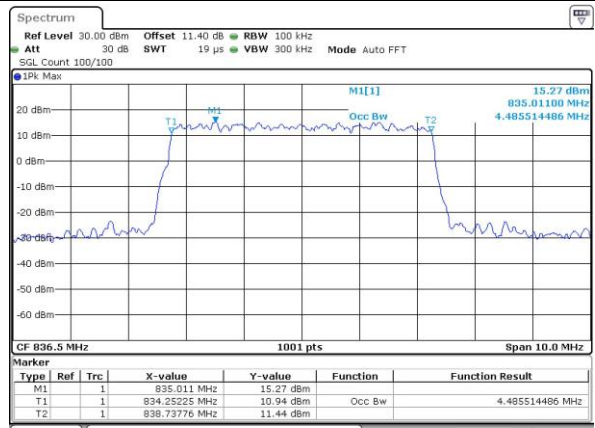
Date: 27 JUN 2019 23:28:35

## Middle Channel / 5MHz / QPSK



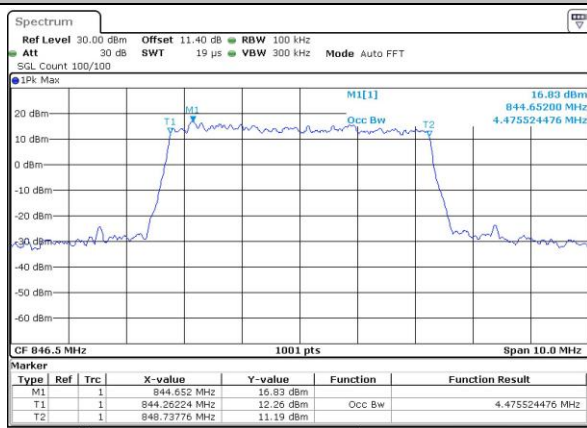
Date: 27 JUN 2019 23:28:46

## Middle Channel / 5MHz / 16QAM



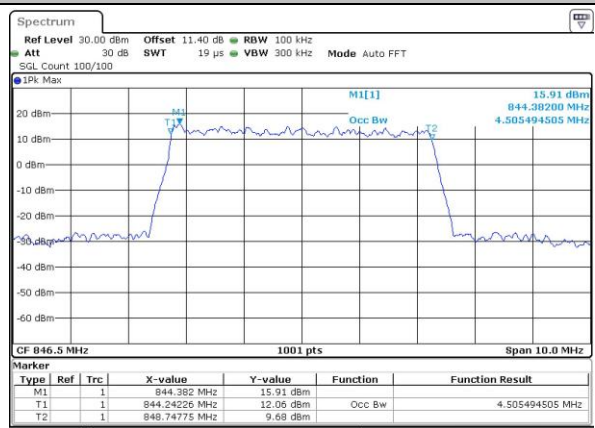
Date: 27 JUN 2019 23:28:58

## Highest Channel / 5MHz / QPSK



Date: 27 JUN 2019 23:29:09

## Highest Channel / 5MHz / 16QAM

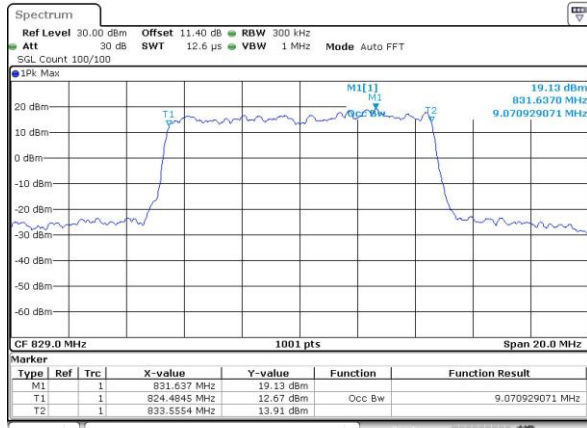


Date: 27 JUN 2019 23:29:21



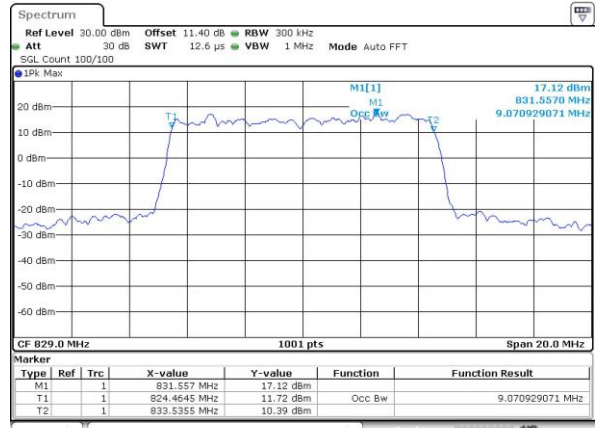
## LTE Band 5

## Lowest Channel / 10MHz / QPSK



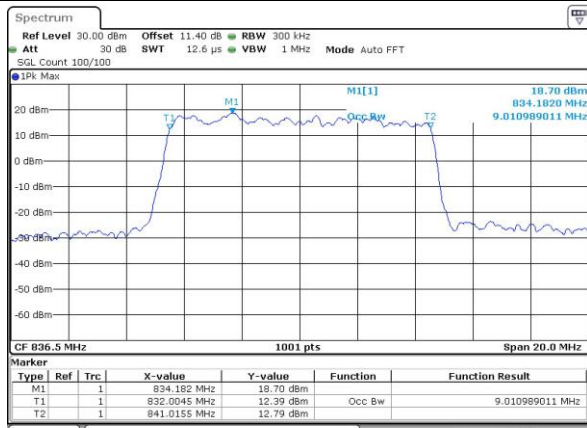
Date: 27 JUN 2019 23:29:32

## Lowest Channel / 10MHz / 16QAM



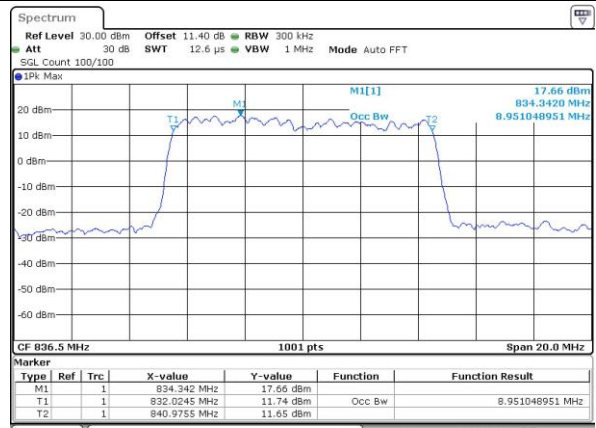
Date: 27 JUN 2019 23:29:44

## Middle Channel / 10MHz / QPSK



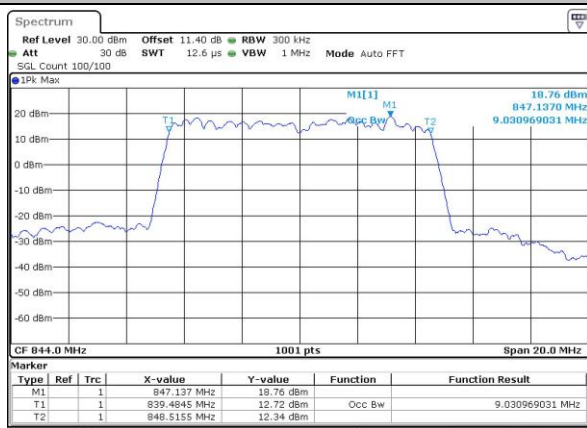
Date: 27 JUN 2019 23:29:55

## Middle Channel / 10MHz / 16QAM



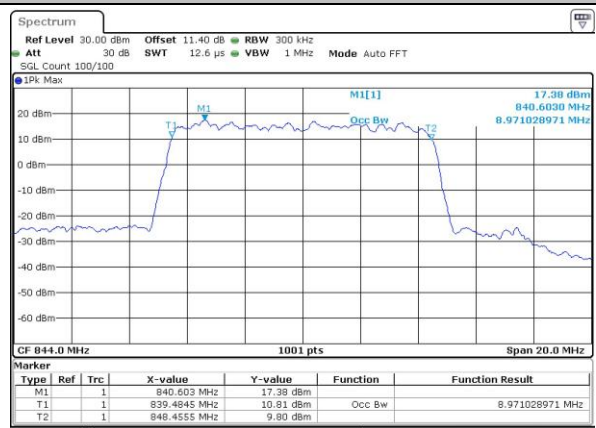
Date: 27 JUN 2019 23:30:07

## Highest Channel / 10MHz / QPSK



Date: 27 JUN 2019 23:30:19

## Highest Channel / 10MHz / 16QAM

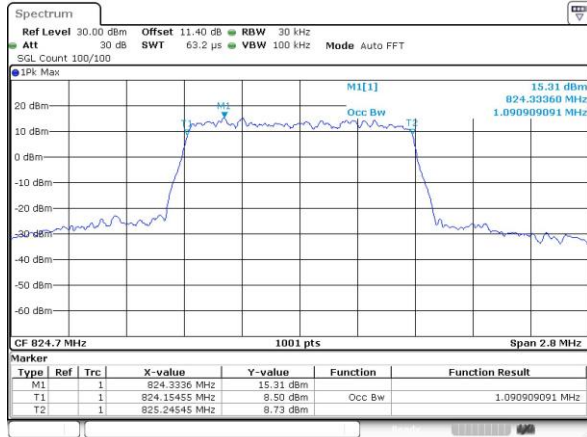


Date: 27 JUN 2019 23:30:30

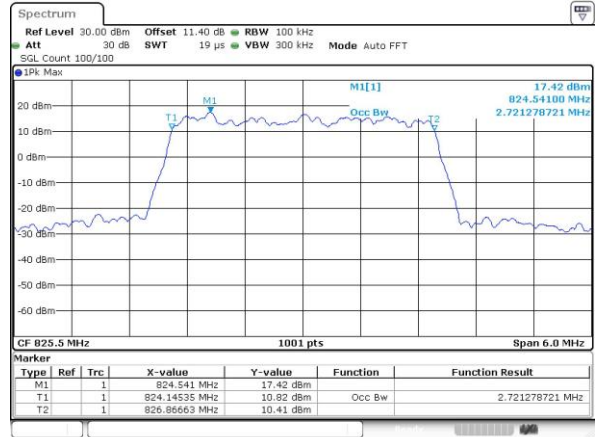


## LTE Band 5

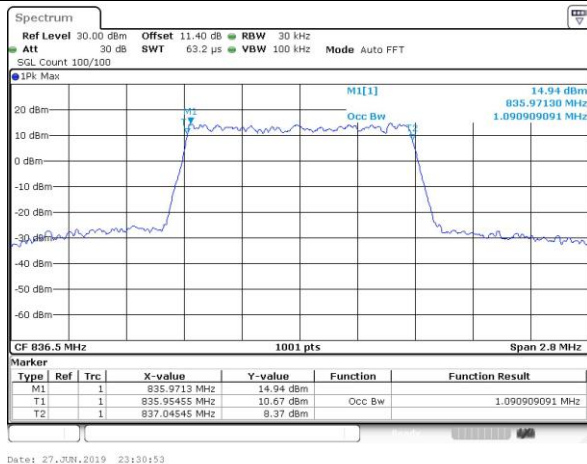
## Lowest Channel / 1.4MHz / 64QAM



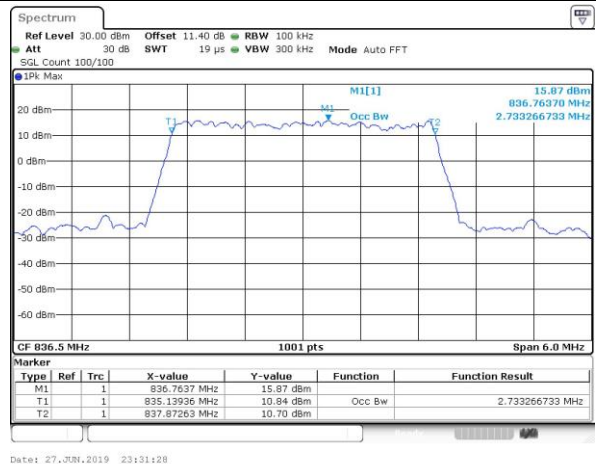
## Lowest Channel / 3MHz / 64QAM



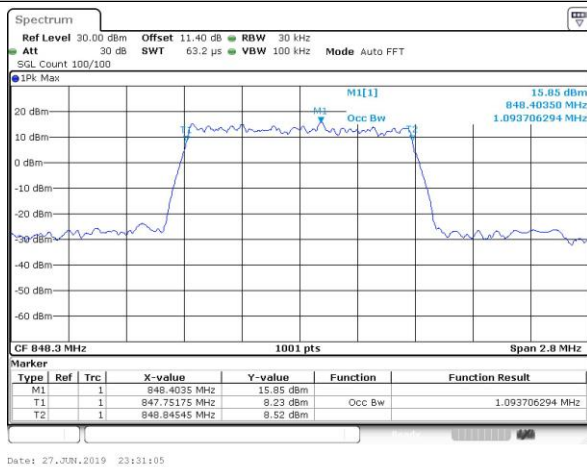
## Middle Channel / 1.4MHz / 64QAM



## Middle Channel / 3MHz / 64QAM



## Highest Channel / 1.4MHz / 64QAM



## Highest Channel / 3MHz / 64QAM

