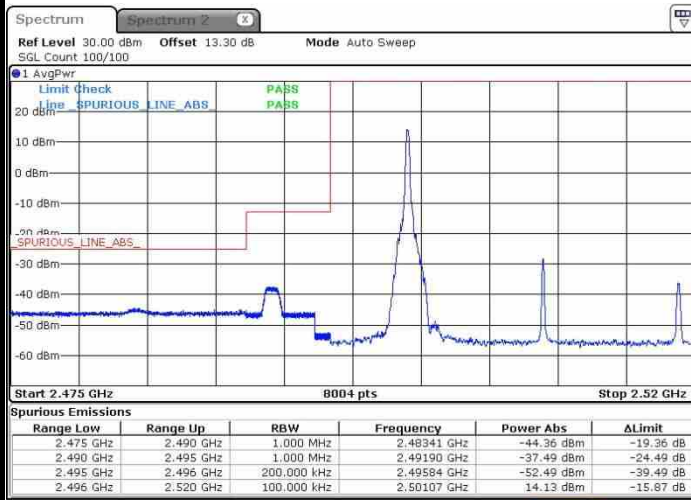


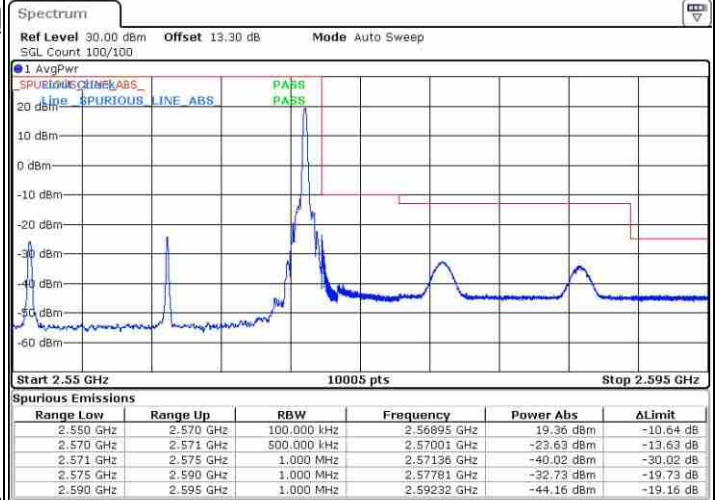


## LTE Band 7 / 20MHz / 64QAM

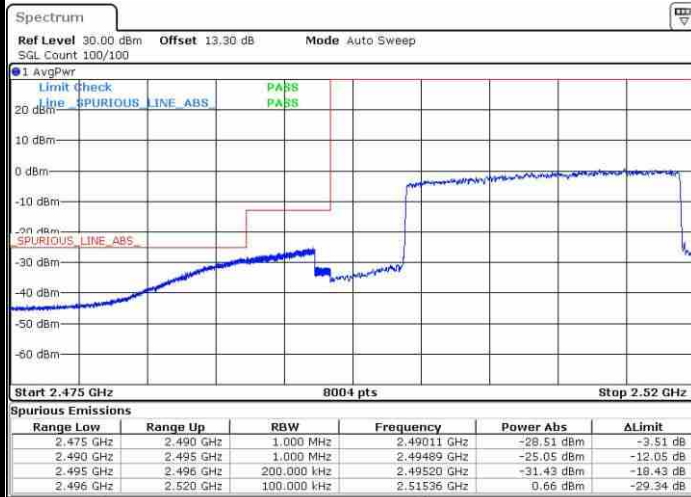
## Lowest Band Edge / 1 RB



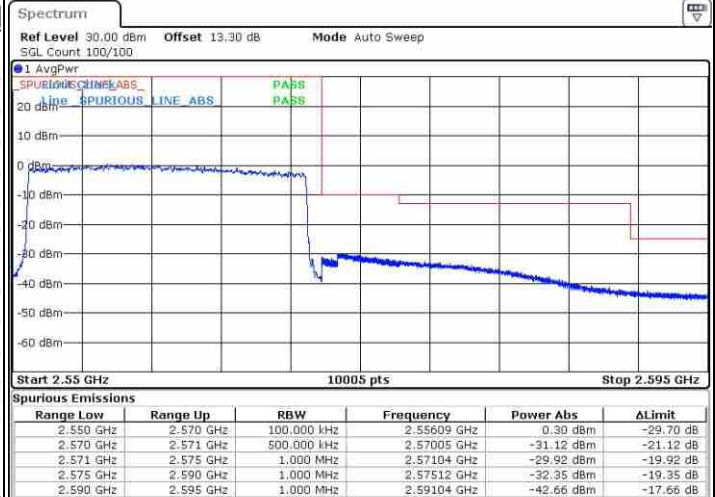
## Highest Band Edge / 1 RB

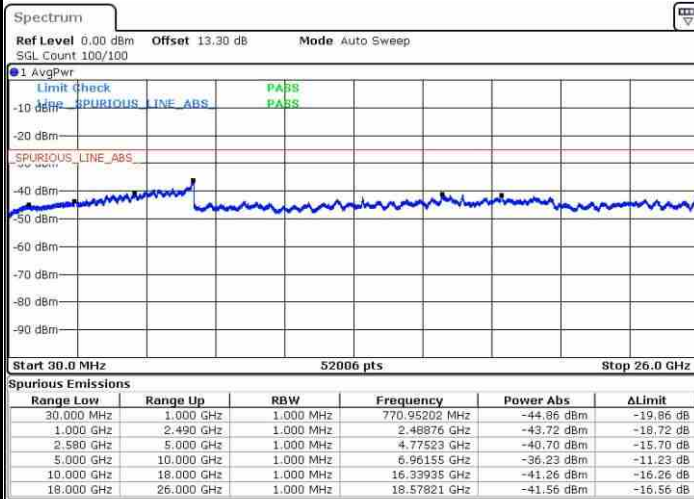


## Lowest Band Edge / Full RB

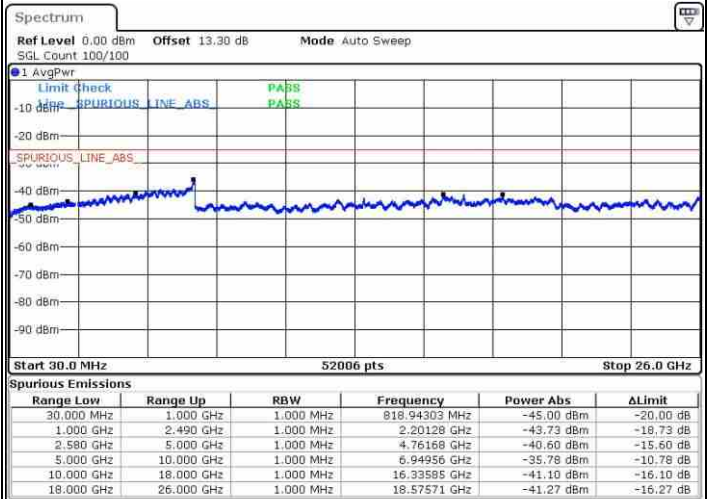


## Highest Band Edge / Full RB

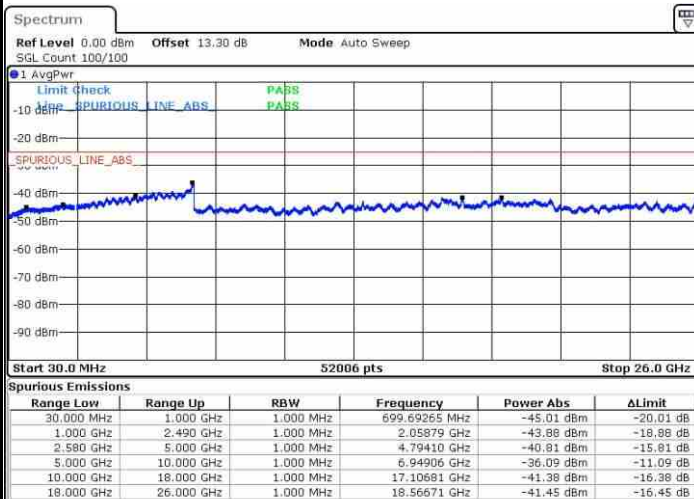


**Conducted Spurious Emission****LTE Band 7 / 5MHz****Lowest Channel / QPSK**

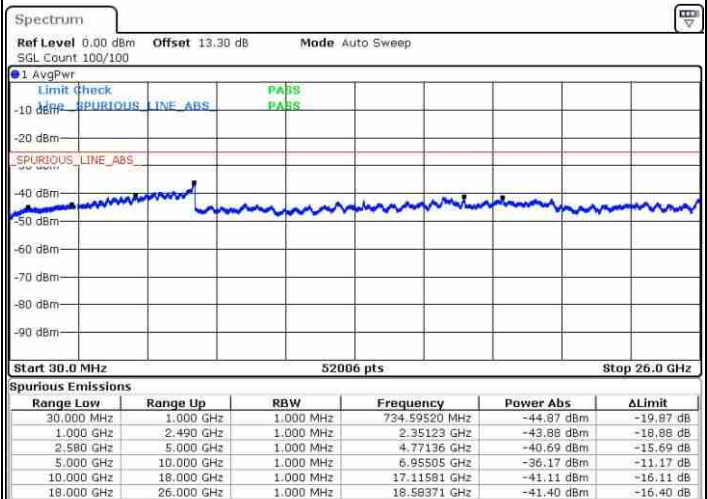
Date: 13.MAR.2018 11:58:18

**Lowest Channel / 16QAM**

Date: 13.MAR.2018 11:59:16

**Middle Channel / QPSK**

Date: 13.MAR.2018 12:00:14

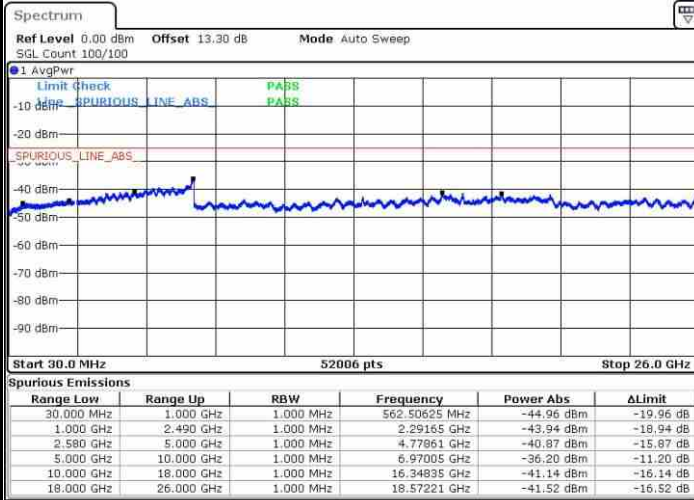
**Middle Channel / 16QAM**

Date: 13.MAR.2018 12:01:12



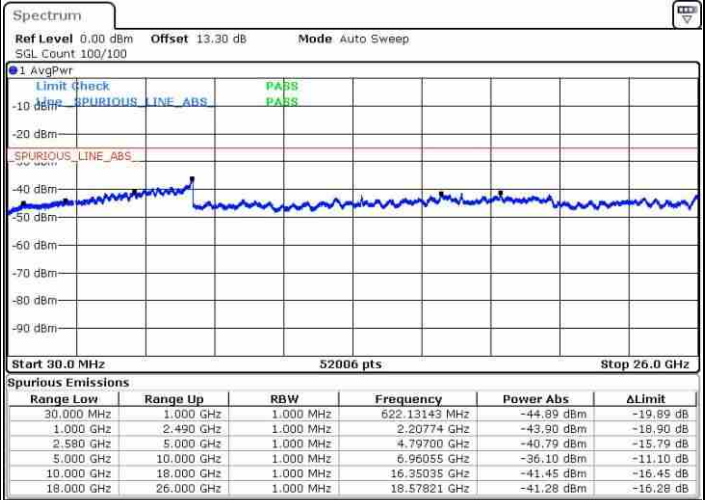
## LTE Band 7 / 5MHz

## Highest Channel / QPSK



Date: 13.MAR.2018 12:02:10

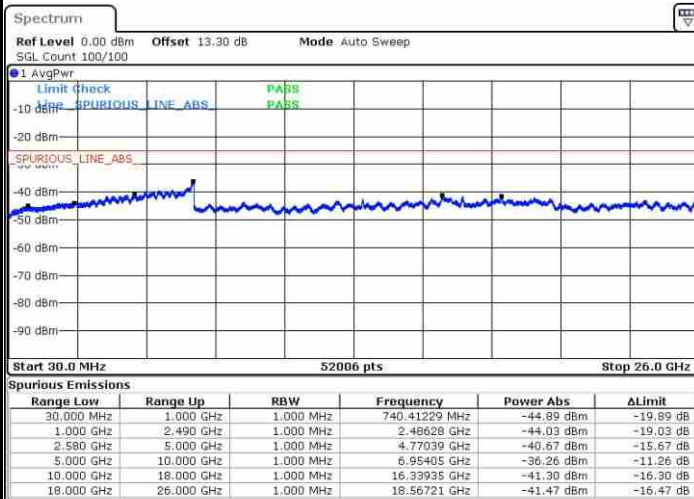
## Highest Channel / 16QAM



Date: 13.MAR.2018 12:03:08

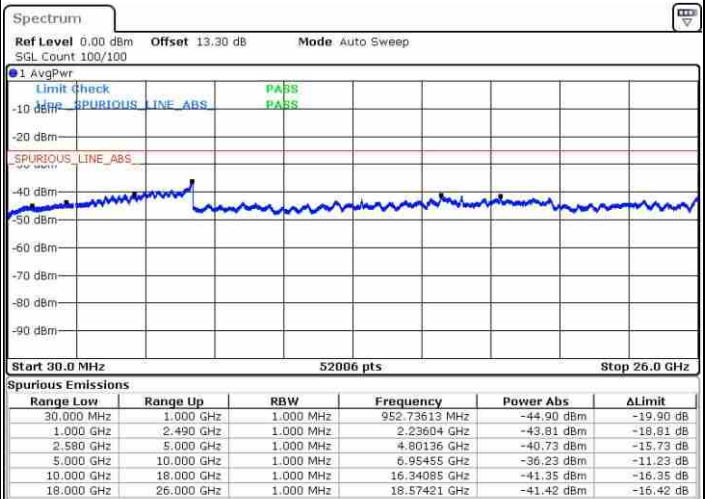
## LTE Band 7 / 10MHz

## Lowest Channel / QPSK



Date: 13.MAR.2018 12:04:06

## Lowest Channel / 16QAM

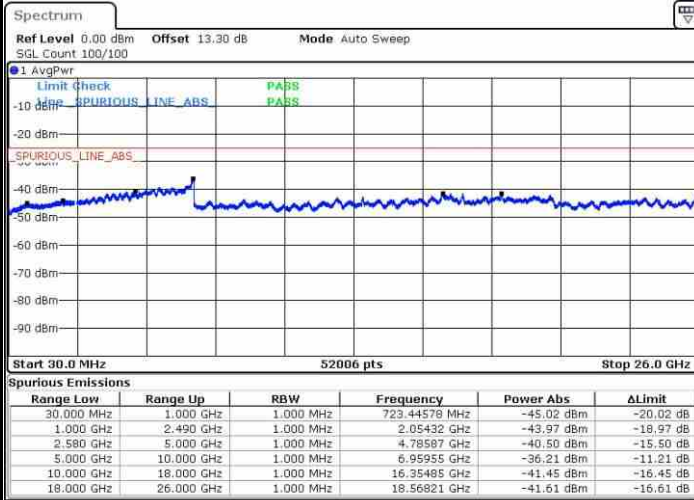


Date: 13.MAR.2018 12:05:04



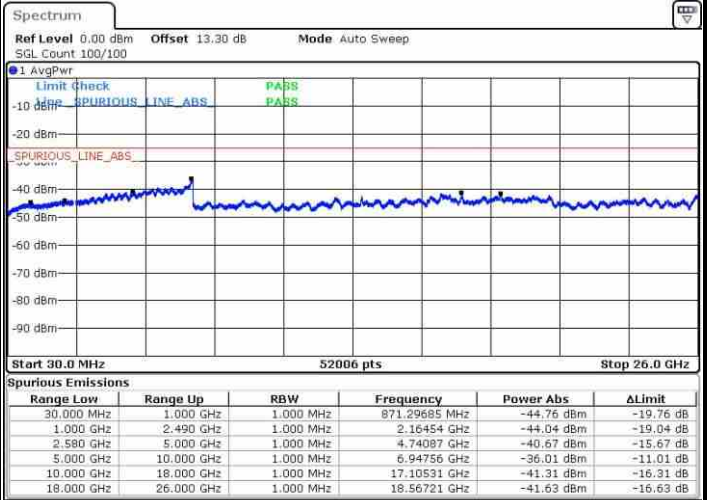
## LTE Band 7 / 10MHz

## Middle Channel / QPSK



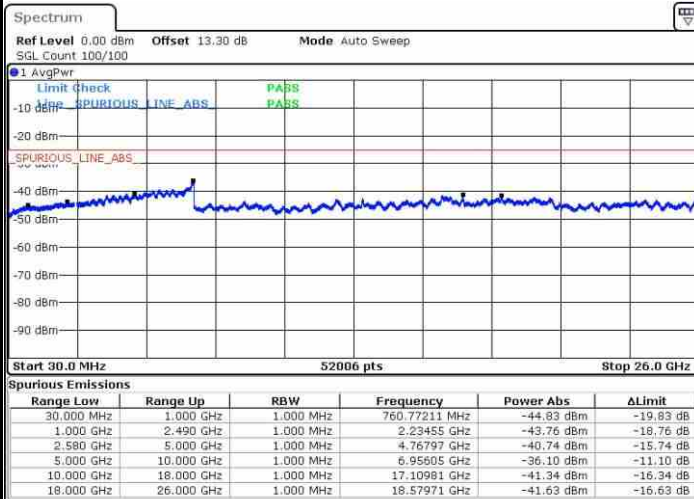
Date: 13.MAR.2018 12:06:02

## Middle Channel / 16QAM



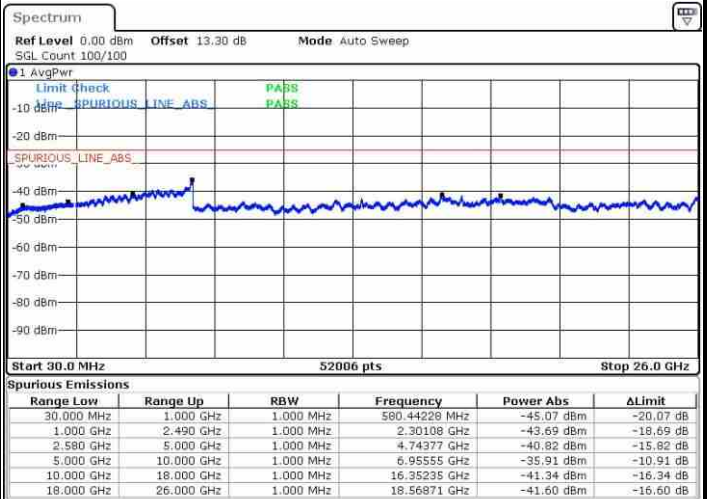
Date: 13.MAR.2018 12:07:00

## Highest Channel / QPSK



Date: 13.MAR.2018 12:07:59

## Highest Channel / 16QAM

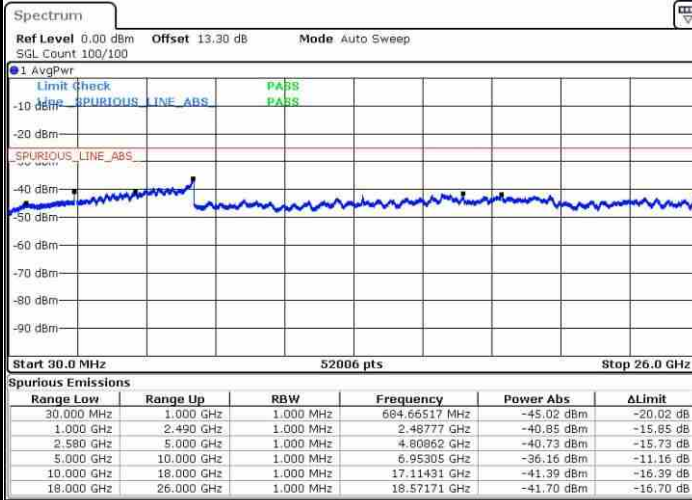


Date: 13.MAR.2018 12:08:56



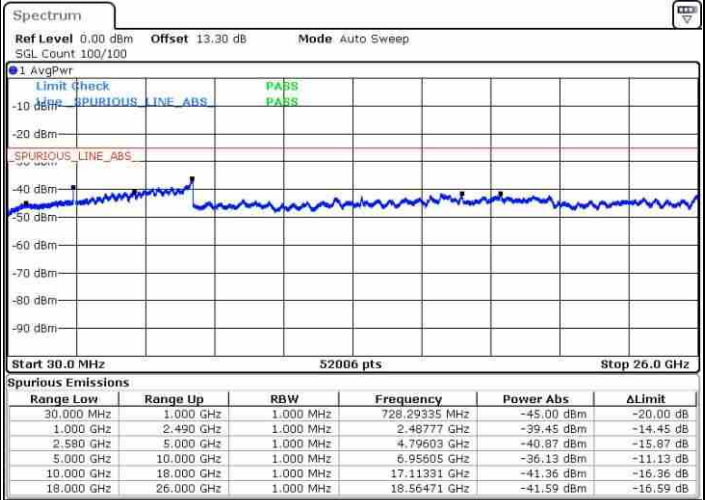
## LTE Band 7 / 15MHz

## Lowest Channel / QPSK



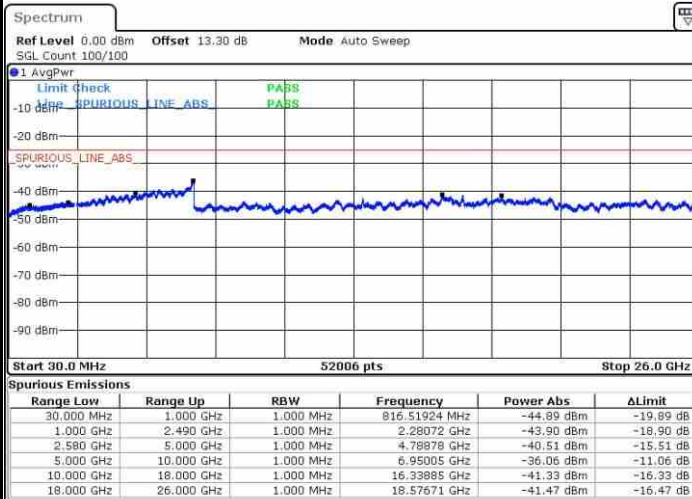
Date: 13.MAR.2018 12:09:54

## Lowest Channel / 16QAM



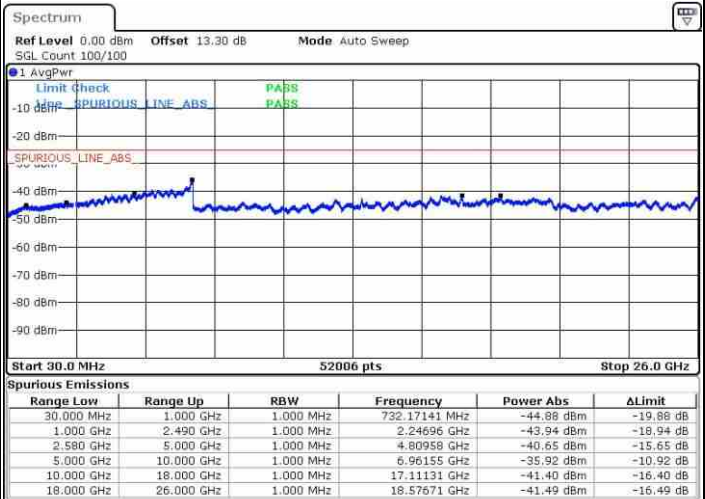
Date: 13.MAR.2018 12:10:53

## Middle Channel / QPSK



Date: 13.MAR.2018 12:11:51

## Middle Channel / 16QAM

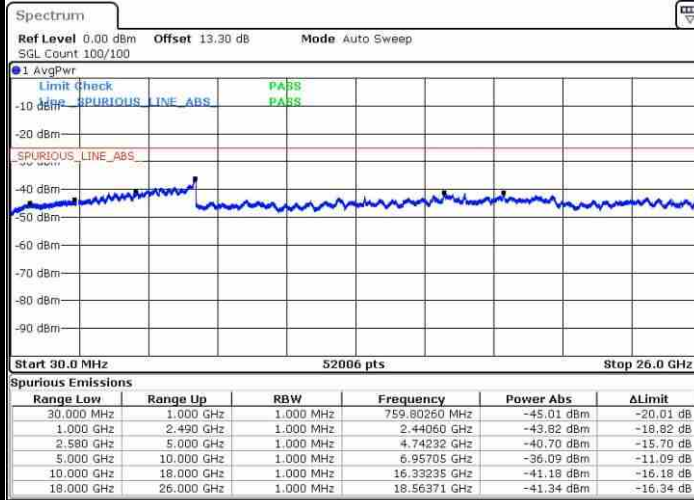


Date: 13.MAR.2018 12:12:49



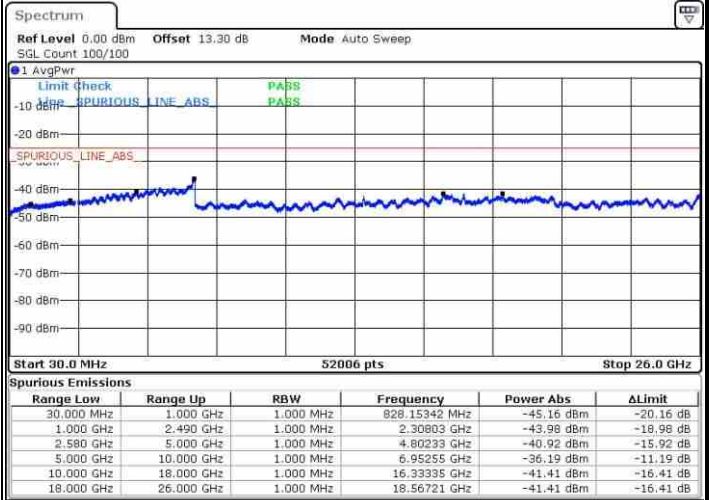
## LTE Band7 / 15MHz

## Highest Channel / QPSK



Date: 13.MAR.2018 12:13:47

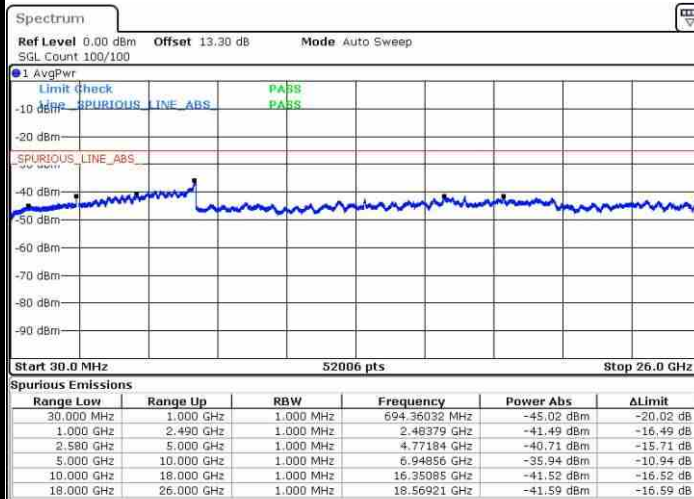
## Highest Channel / 16QAM



Date: 13.MAR.2018 12:14:45

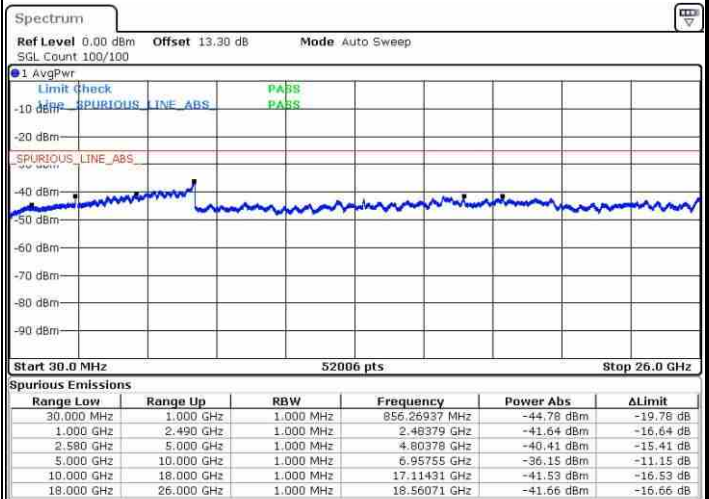
## LTE Band 7 / 20MHz

## Lowest Channel / QPSK



Date: 13.MAR.2018 12:15:44

## Lowest Channel / 16QAM

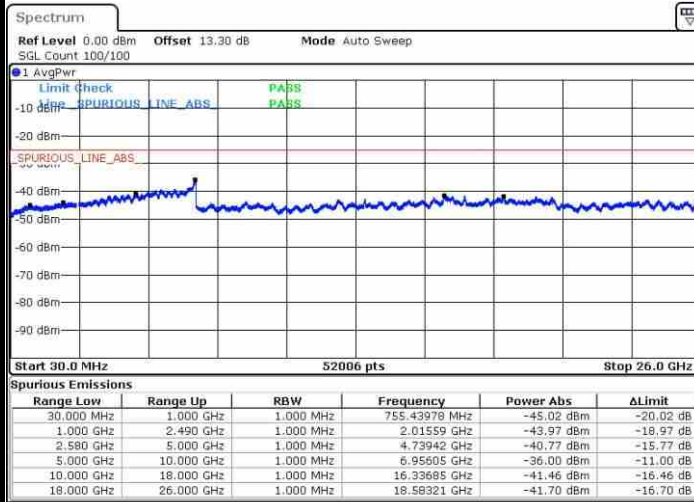


Date: 13.MAR.2018 12:16:42



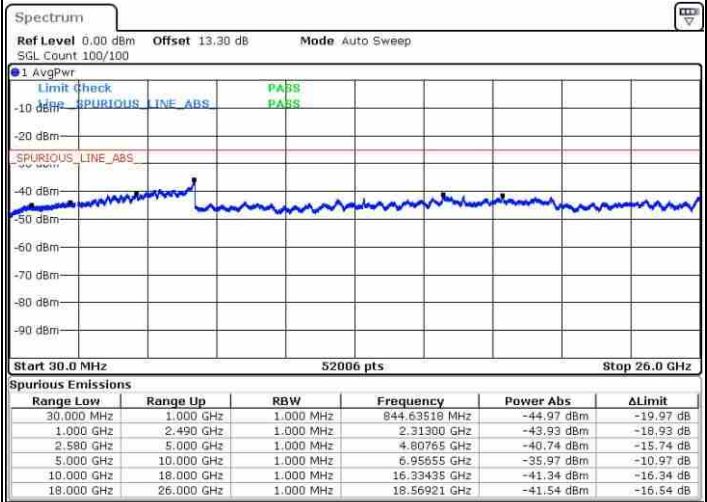
## LTE Band 7 / 20MHz

## Middle Channel / QPSK



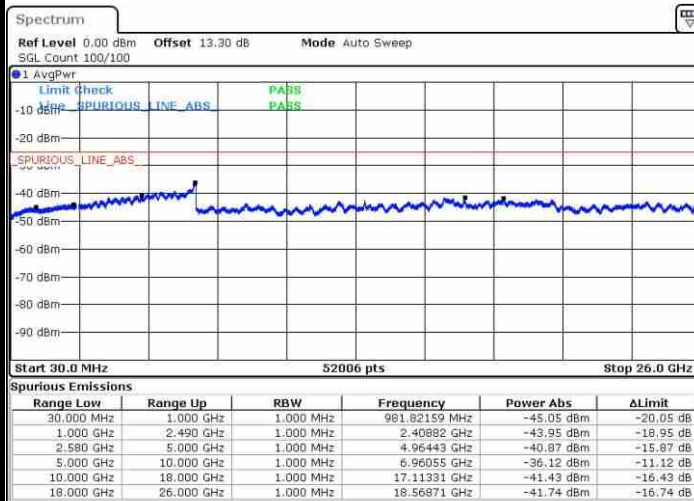
Date: 13.MAR.2018 12:17:40

## Middle Channel / 16QAM



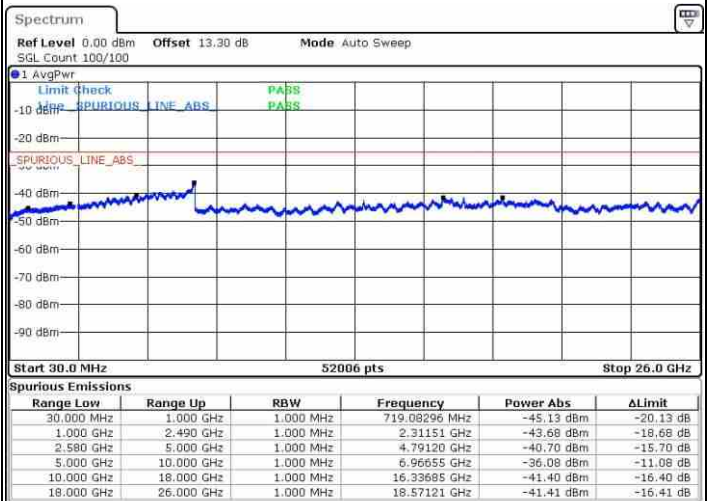
Date: 13.MAR.2018 12:18:38

## Highest Channel / QPSK



Date: 13.MAR.2018 12:19:35

## Highest Channel / 16QAM

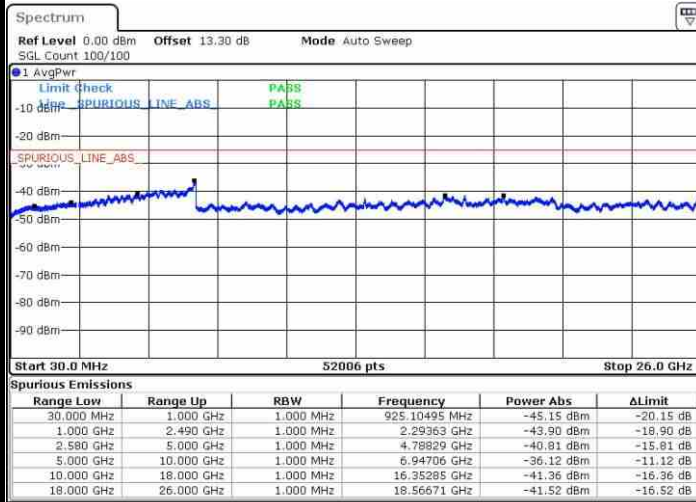


Date: 13.MAR.2018 12:20:33



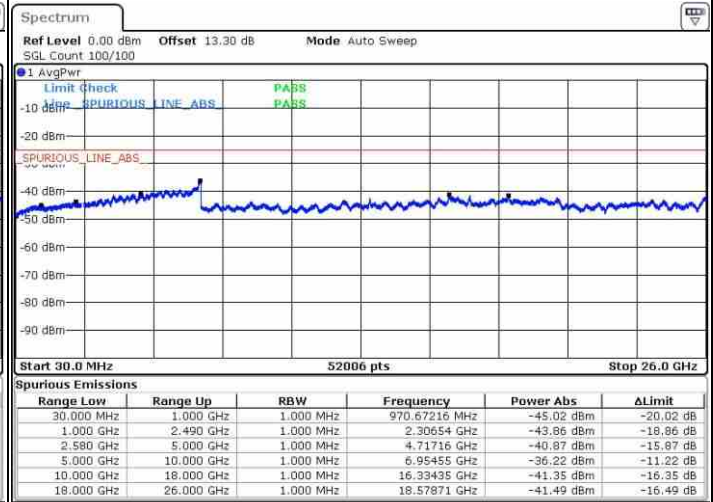
## LTE Band 7 / 5MHz

## Lowest Channel / 64QAM



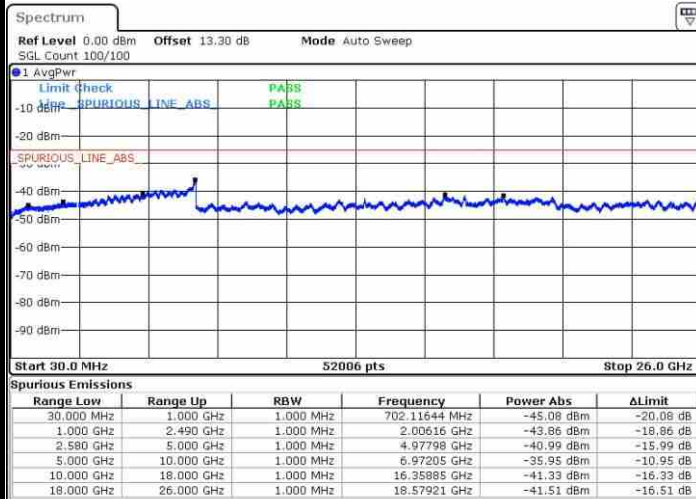
Date: 16.MAR.2018 10:31:17

## Middle Channel / 64QAM



Date: 16.MAR.2018 10:32:39

## Highest Channel / 64QAM

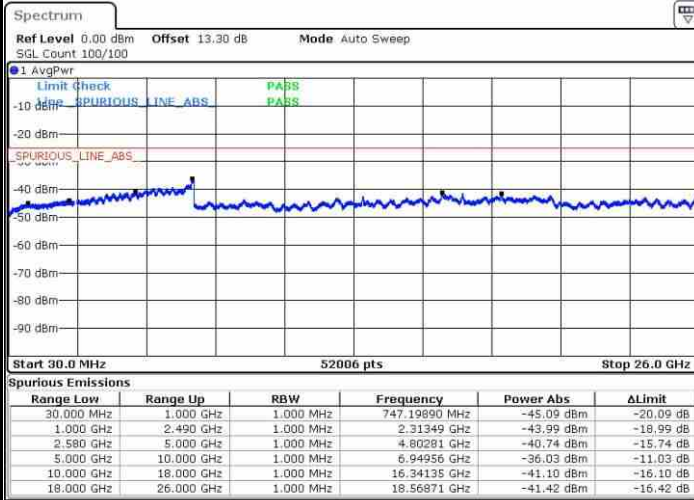


Date: 16.MAR.2018 10:36:22



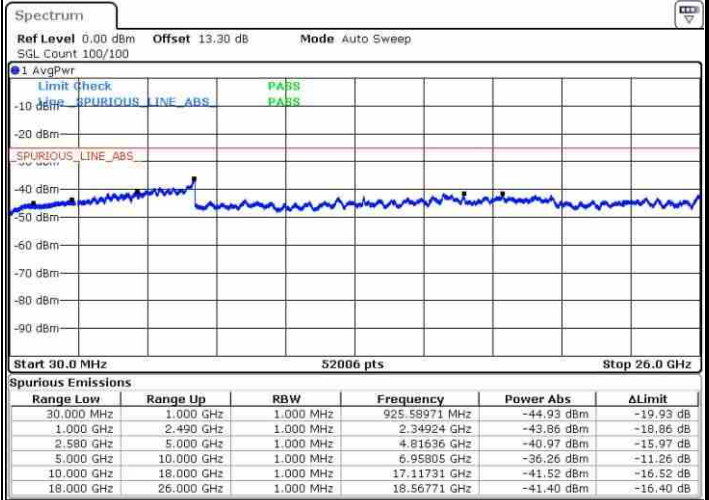
## LTE Band 7 / 10MHz

## Lowest Channel / 64QAM



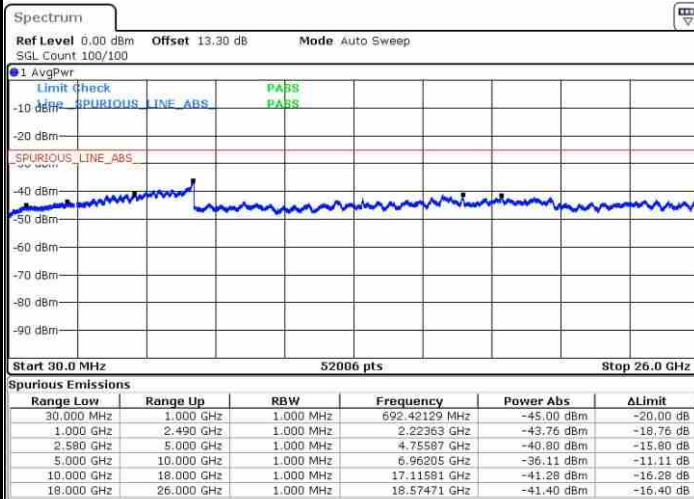
Date: 16.MAR.2018 10:40:05

## Middle Channel / 64QAM



Date: 16.MAR.2018 10:42:35

## Highest Channel / 64QAM

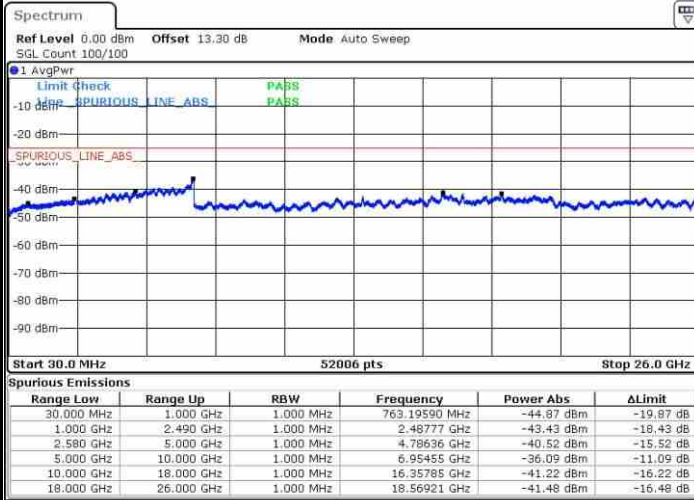


Date: 16.MAR.2018 10:46:18



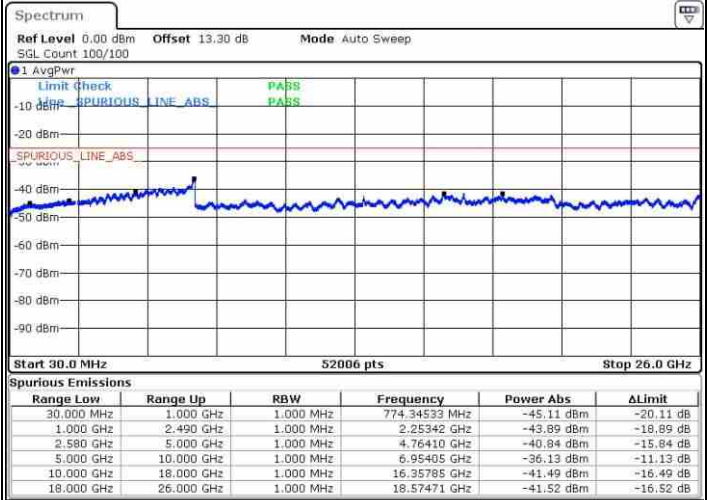
## LTE Band 7 / 15MHz

## Lowest Channel / 64QAM



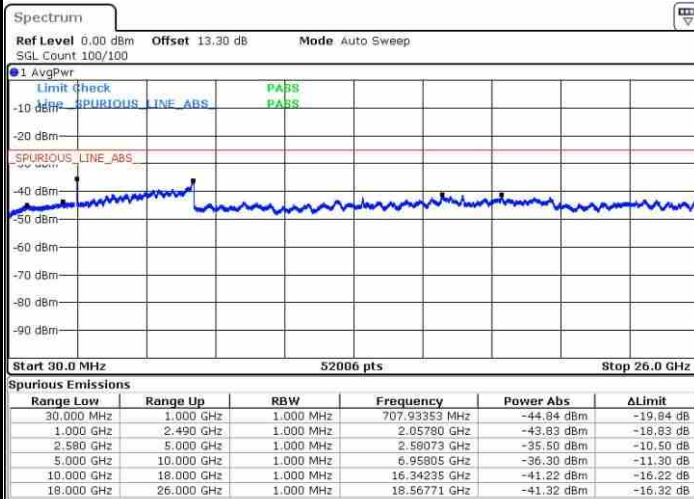
Date: 16.MAR.2018 10:50:00

## Middle Channel / 64QAM



Date: 16.MAR.2018 10:51:22

## Highest Channel / 64QAM

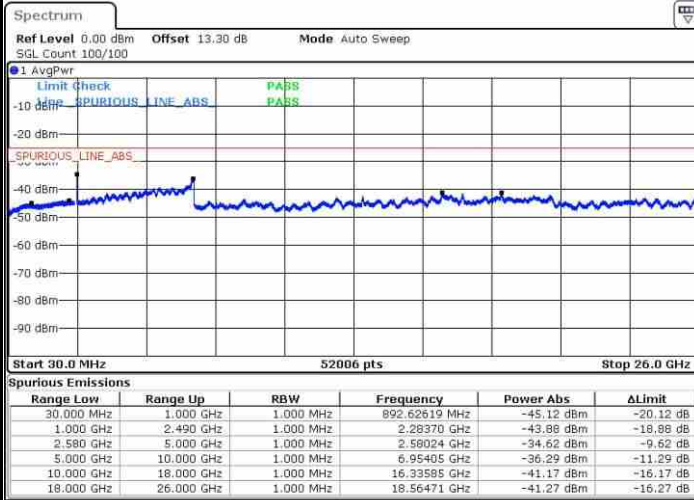


Date: 16.MAR.2018 10:55:22



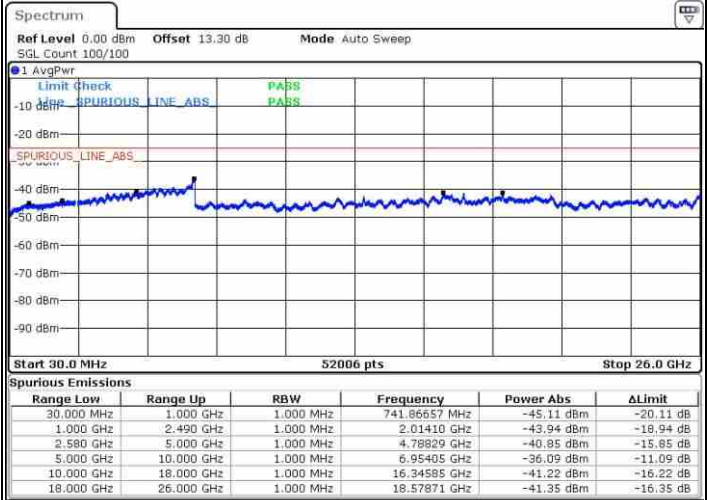
## LTE Band 7 / 20MHz

## Lowest Channel / 64QAM



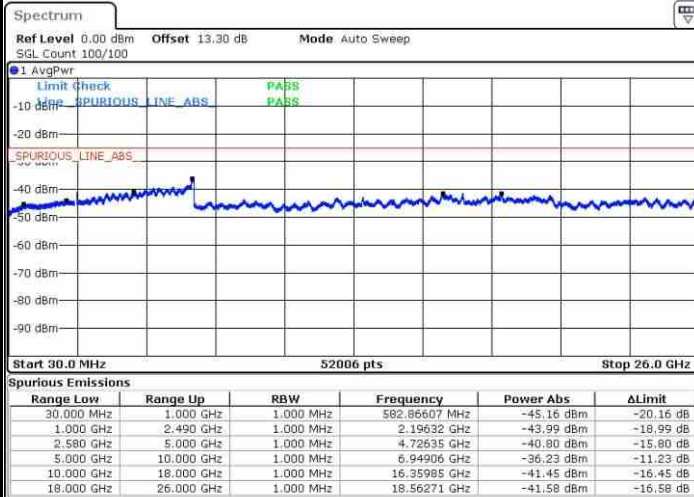
Date: 16.MAR.2018 10:59:28

## Middle Channel / 64QAM



Date: 16.MAR.2018 11:25:37

## Highest Channel / 64QAM



Date: 16.MAR.2018 11:29:19

## Frequency Stability

| Test Conditions  |                   | LTE Band 7 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                           | Note 2. |
|                  |                   | Deviation (ppm)                    | Result  |
| 50               | Normal Voltage    | 0.0006                             | PASS    |
| 40               | Normal Voltage    | 0.0030                             |         |
| 30               | Normal Voltage    | 0.0006                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0013                             |         |
| 0                | Normal Voltage    | 0.0061                             |         |
| -10              | Normal Voltage    | 0.0055                             |         |
| -20              | Normal Voltage    | 0.0048                             |         |
| -30              | Normal Voltage    | 0.0041                             |         |
| 20               | Maximum Voltage   | 0.0029                             |         |
| 20               | Normal Voltage    | 0.0000                             |         |
| 20               | Battery End Point | 0.0033                             |         |

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

## LTE Band 12

### Peak-to-Average Ratio

| Mode       | LTE Band 12 / 10MHz |         |       |         |             |
|------------|---------------------|---------|-------|---------|-------------|
| Mod.       | QPSK                |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 3.62                | 4.61    | 5.16  | 5.88    | PASS        |
| Middle CH  | 4.23                | 4.64    | 5.83  | 5.94    |             |
| Highest CH | 3.65                | 4.58    | 5.57  | 6.03    |             |
| Mode       | LTE Band 12 / 10MHz |         |       |         |             |
| Mod.       | 64QAM               |         |       |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB |       |         | Result      |
| Lowest CH  | 6.67                | 6.49    | -     | -       | PASS        |
| Middle CH  | 6.84                | 6.55    | -     | -       |             |
| Highest CH | 6.43                | 6.55    | -     | -       |             |

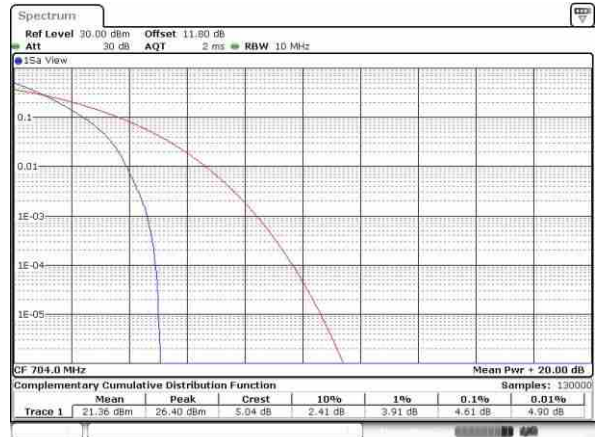


## LTE Band 12 / 10MHz / QPSK

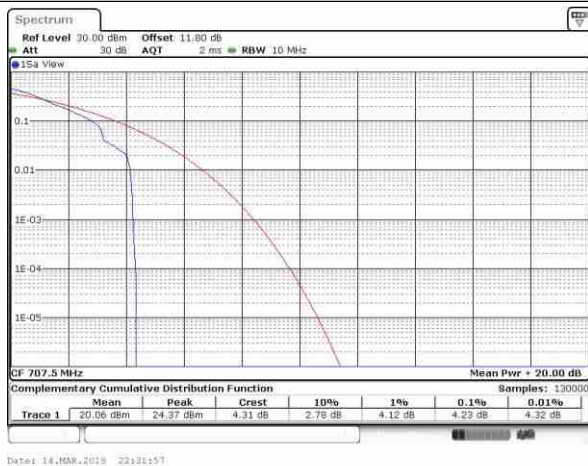
## Lowest Channel / 1RB



## Lowest Channel / Full RB



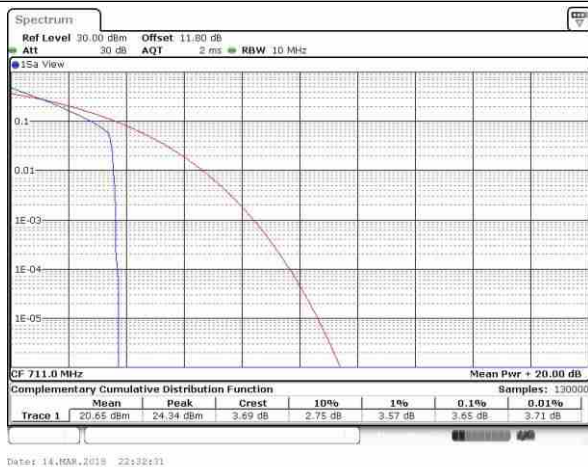
## Middle Channel / 1RB



## Middle Channel / Full RB



## Highest Channel / 1RB



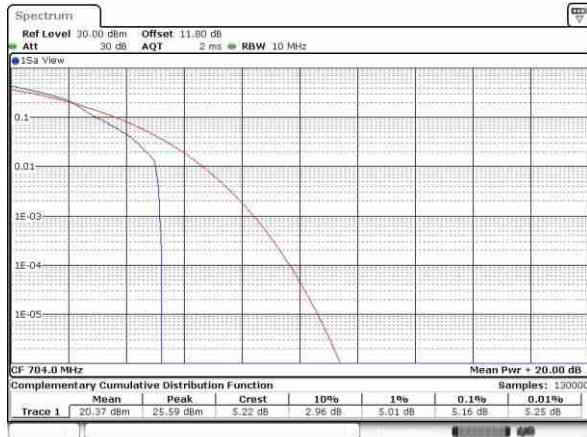
## Highest Channel / Full RB



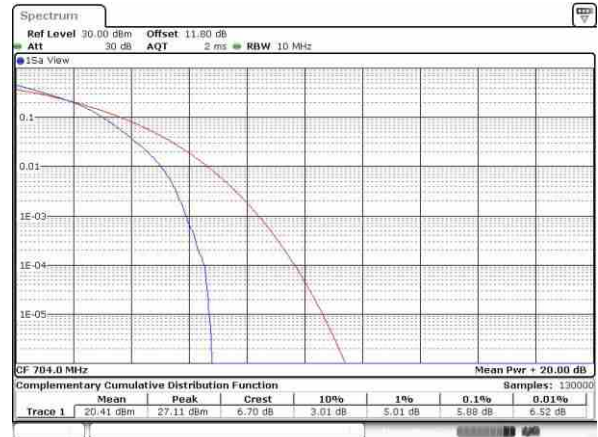


## LTE Band 12 / 10MHz / 16QAM

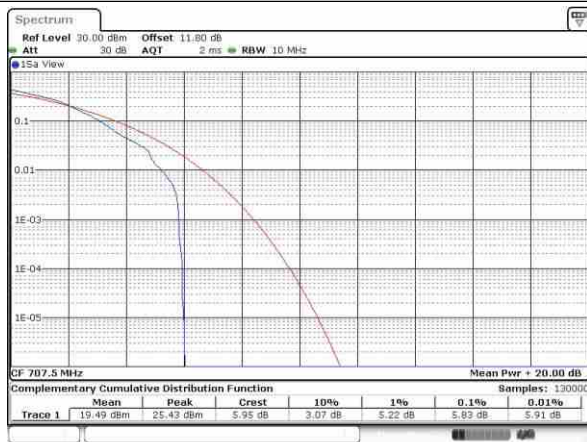
## Lowest Channel / 1RB



## Lowest Channel / Full RB



## Middle Channel / 1RB



## Middle Channel / Full RB



## Highest Channel / 1RB



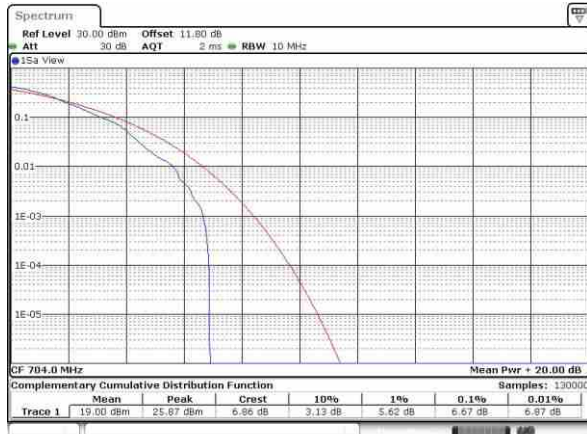
## Highest Channel / Full RB



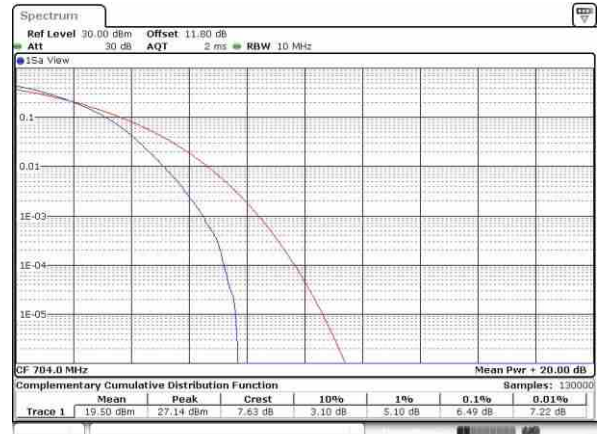


## LTE Band 12 / 10MHz / 64QAM

## Lowest Channel / 1RB



## Lowest Channel / Full RB



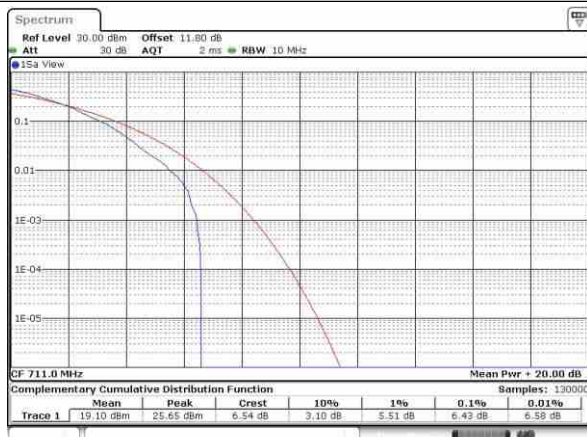
## Middle Channel / 1RB



## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB



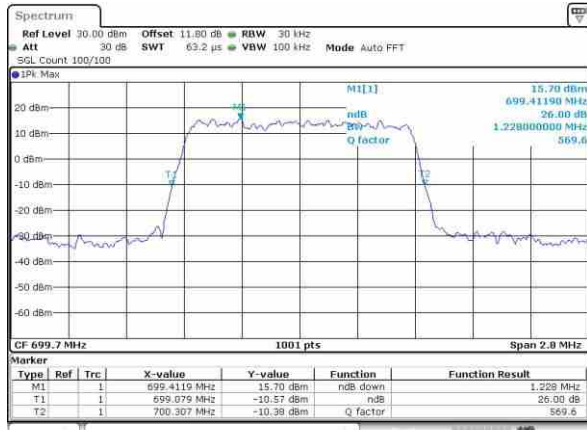
**26dB Bandwidth**

| Mode       | LTE Band 12 : 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                       | 1.22  | 3.05  | 3.02  | 4.99  | 4.90  | 9.81  | 9.85  | -     | -     | -     | -     |
| Middle CH  | 1.22                       | 1.23  | 3.02  | 3.05  | 4.92  | 5.00  | 9.79  | 9.71  | -     | -     | -     | -     |
| Highest CH | 1.23                       | 1.24  | 2.99  | 3.01  | 4.83  | 4.91  | 9.83  | 9.71  | -     | -     | -     | -     |
| Mode       | LTE Band 12 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                     |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                      |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | 1.24                       | -     | 2.97  | -     | 4.87  | -     | 9.85  | -     | -     | -     | -     | -     |
| Middle CH  | 1.24                       | -     | 3.01  | -     | 4.96  | -     | 9.79  | -     | -     | -     | -     | -     |
| Highest CH | 1.22                       | -     | 3.01  | -     | 4.92  | -     | 9.67  | -     | -     | -     | -     | -     |



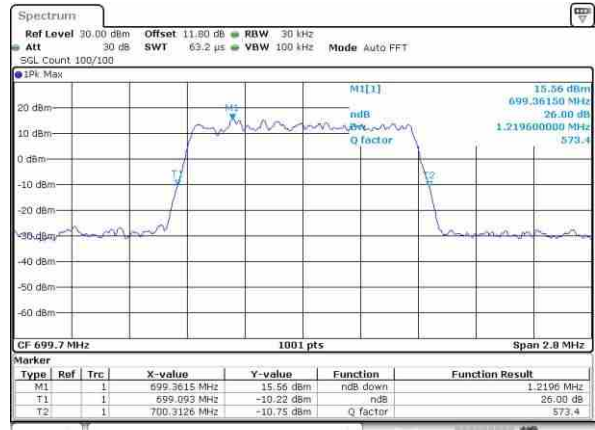
## LTE Band 12

## Lowest Channel / 1.4MHz / QPSK



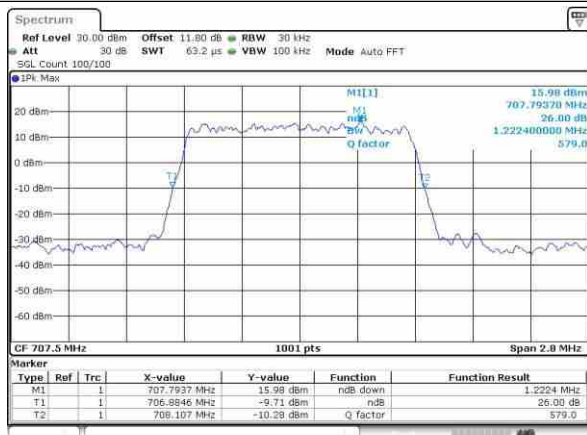
Date: 14, MAR, 2018 22:08:59

## Lowest Channel / 1.4MHz / 16QAM



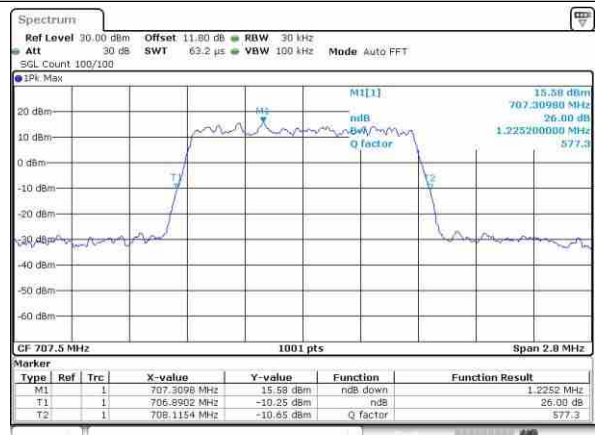
Date: 14, MAR, 2018 22:08:47

## Middle Channel / 1.4MHz / QPSK



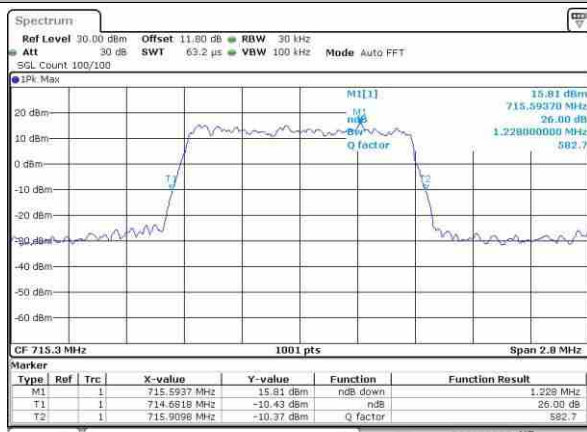
Date: 14, MAR, 2018 22:16:09

## Middle Channel / 1.4MHz / 16QAM



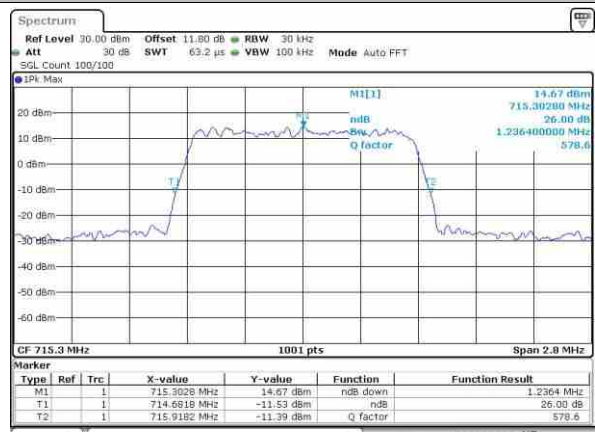
Date: 14, MAR, 2018 22:16:21

## Highest Channel / 1.4MHz / QPSK



Date: 14, MAR, 2018 22:19:05

## Highest Channel / 1.4MHz / 16QAM

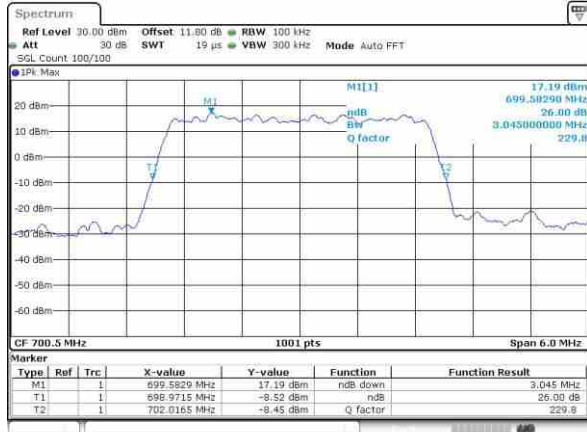


Date: 14, MAR, 2018 22:18:52

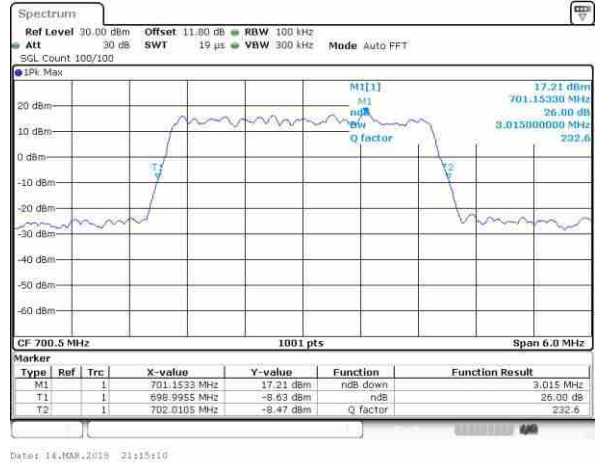


## LTE Band 12

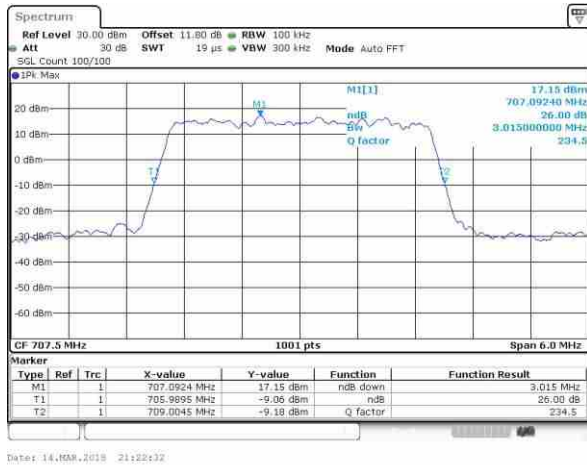
## Lowest Channel / 3MHz / QPSK



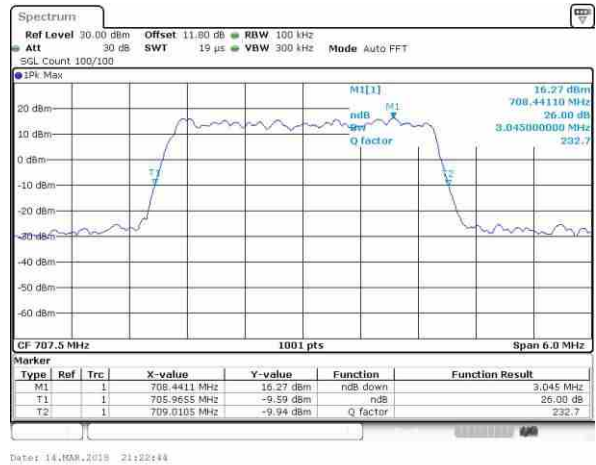
## Lowest Channel / 3MHz / 16QAM



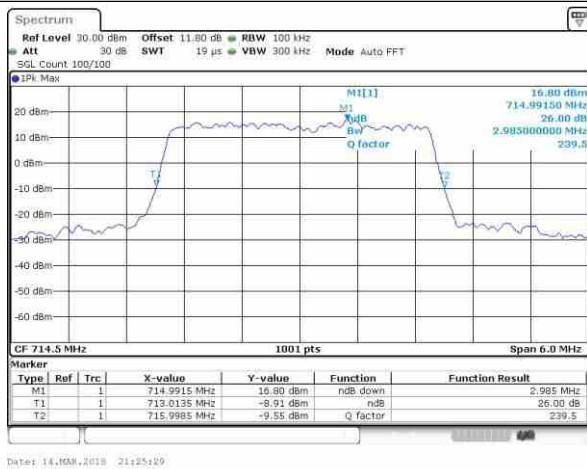
## Middle Channel / 3MHz / QPSK



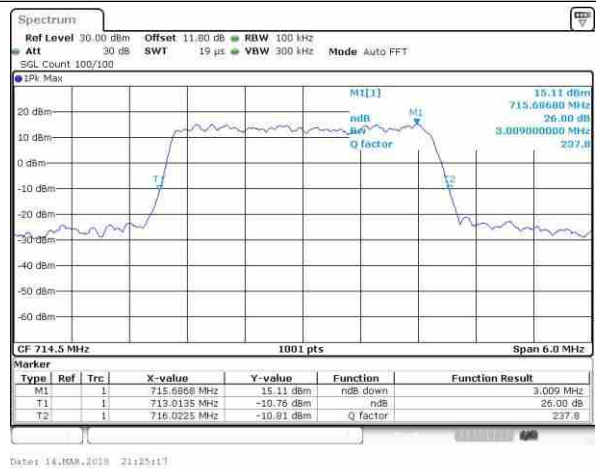
## Middle Channel / 3MHz / 16QAM



## Highest Channel / 3MHz / QPSK



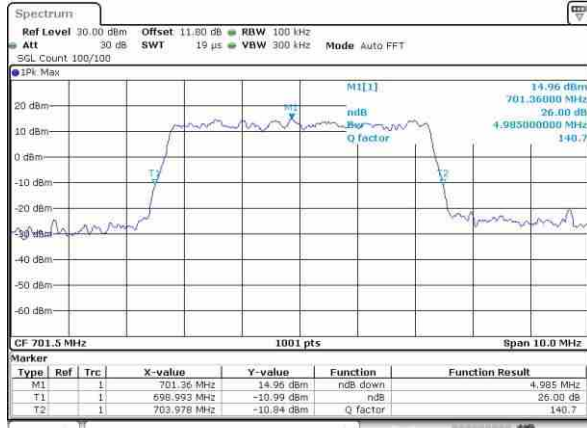
## Highest Channel / 3MHz / 16QAM





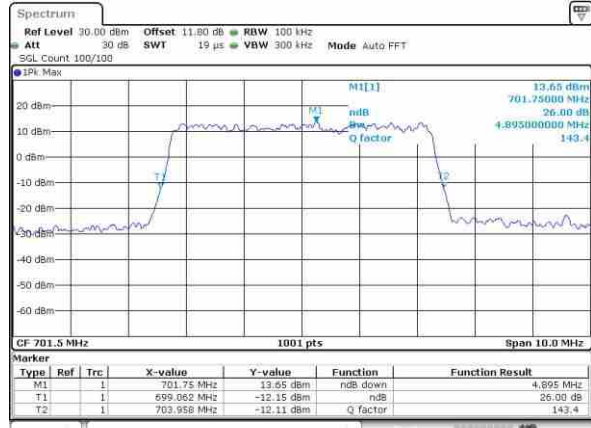
## LTE Band 12

## Lowest Channel / 5MHz / QPSK



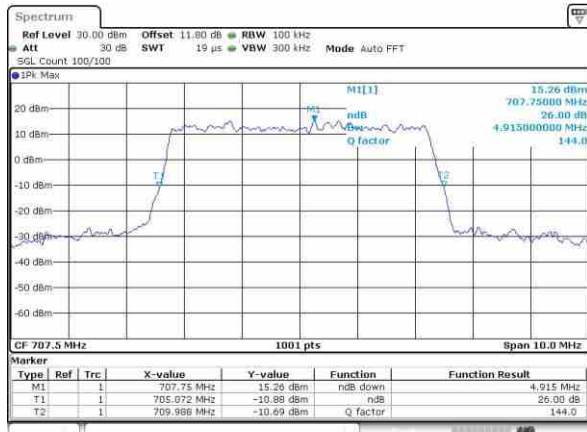
Date: 14, MAR, 2018 21:32:49

## Lowest Channel / 5MHz / 16QAM



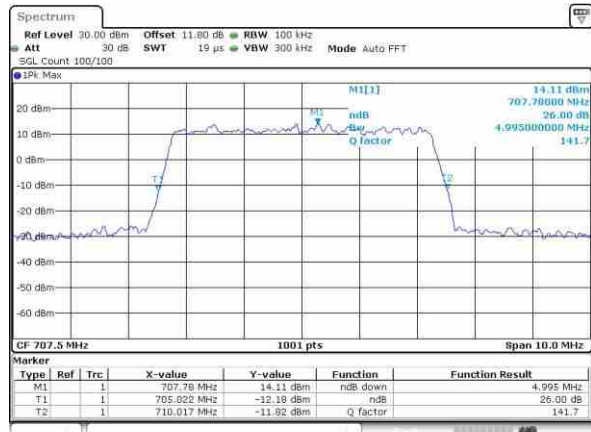
Date: 14, MAR, 2018 21:32:38

## Middle Channel / 5MHz / QPSK



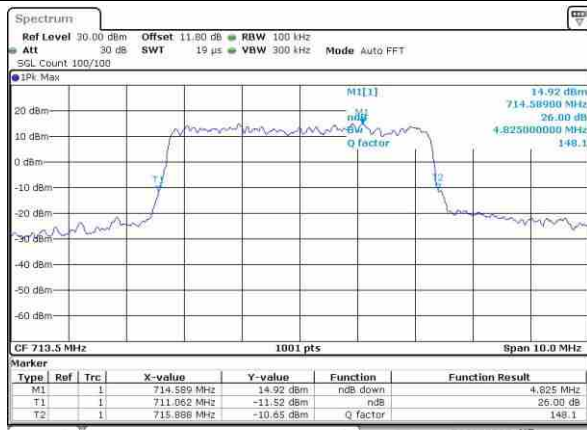
Date: 14, MAR, 2018 21:33:59

## Middle Channel / 5MHz / 16QAM



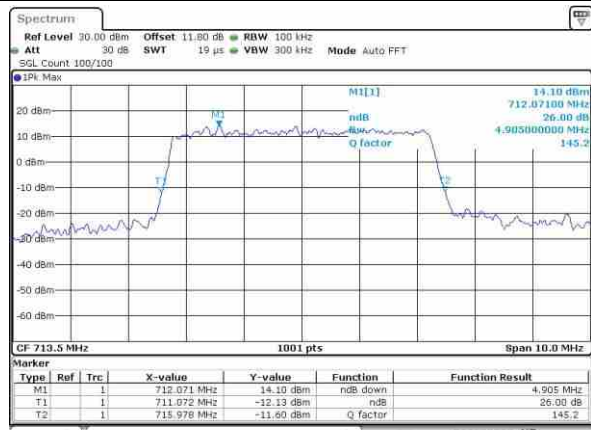
Date: 14, MAR, 2018 21:40:11

## Highest Channel / 5MHz / QPSK



Date: 14, MAR, 2018 21:42:55

## Highest Channel / 5MHz / 16QAM

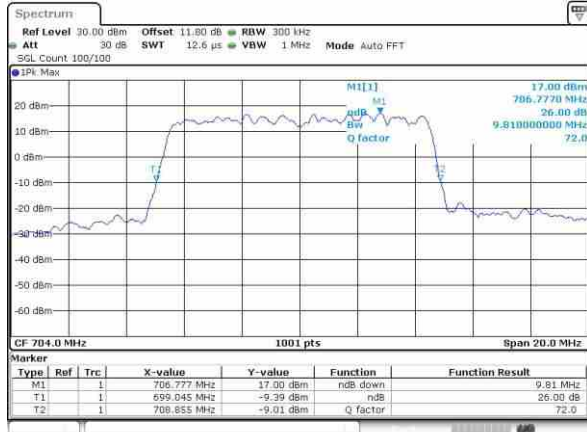


Date: 14, MAR, 2018 21:42:42



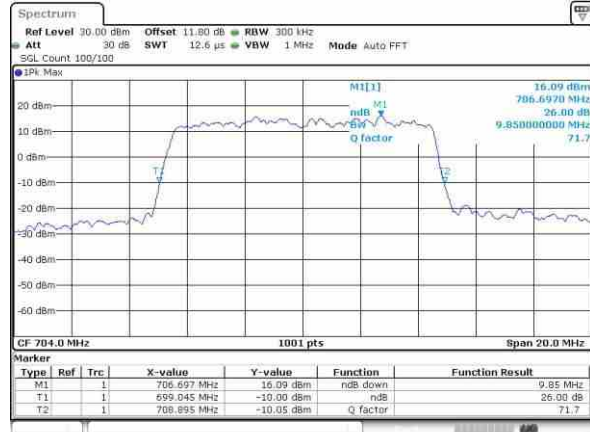
## LTE Band 12

## Lowest Channel / 10MHz / QPSK



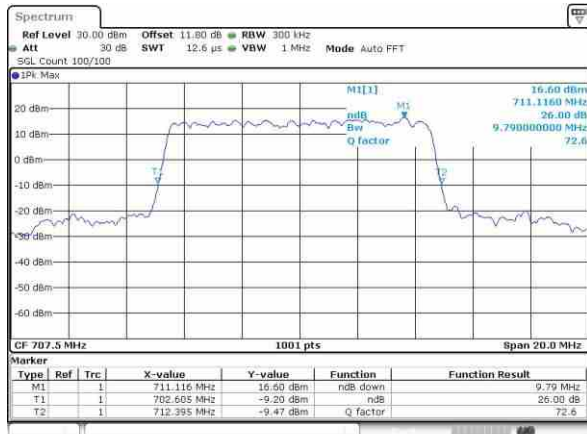
Date: 14, MAR, 2018 21:59:16

## Lowest Channel / 10MHz / 16QAM



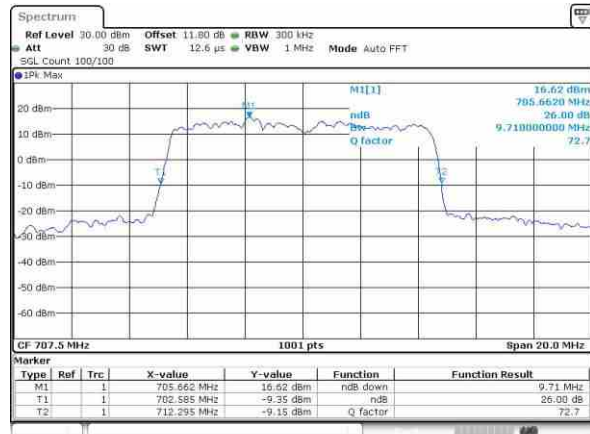
Date: 14, MAR, 2018 21:59:08

## Middle Channel / 10MHz / QPSK



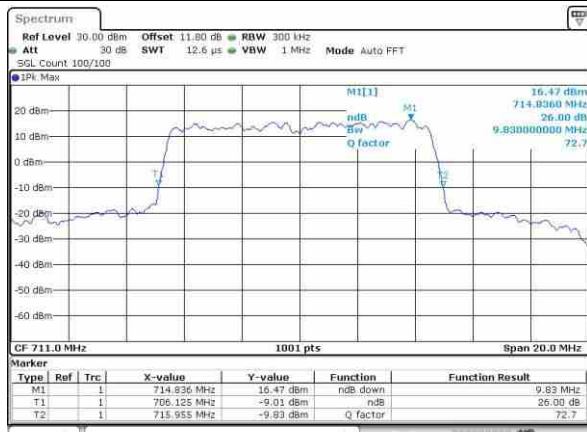
Date: 14, MAR, 2018 21:59:25

## Middle Channel / 10MHz / 16QAM



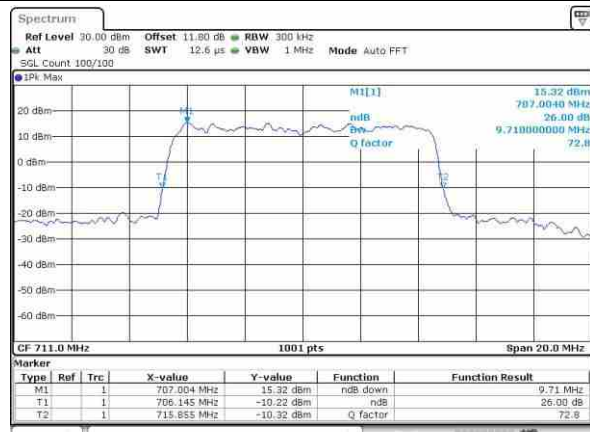
Date: 14, MAR, 2018 21:59:37

## Highest Channel / 10MHz / QPSK



Date: 14, MAR, 2018 22:00:21

## Highest Channel / 10MHz / 16QAM

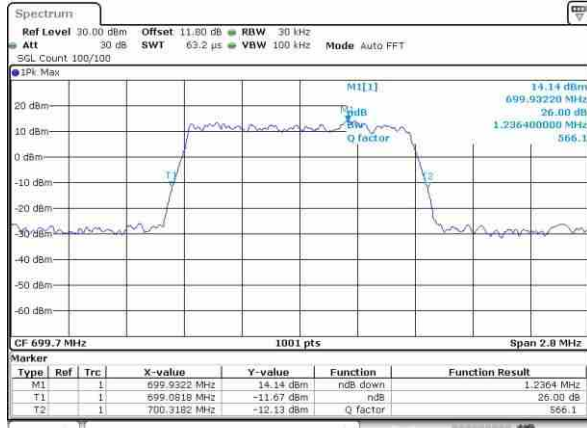


Date: 14, MAR, 2018 22:00:09

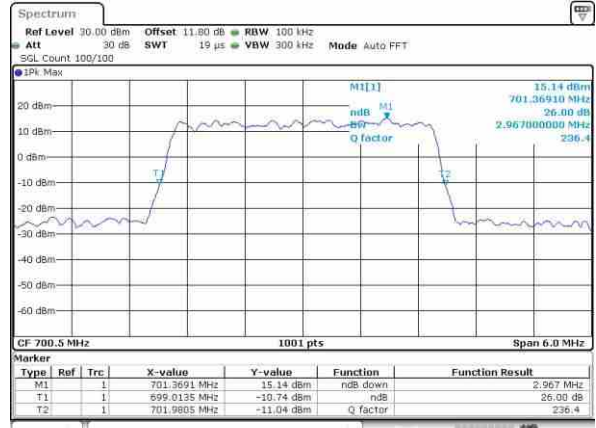


## LTE Band 12

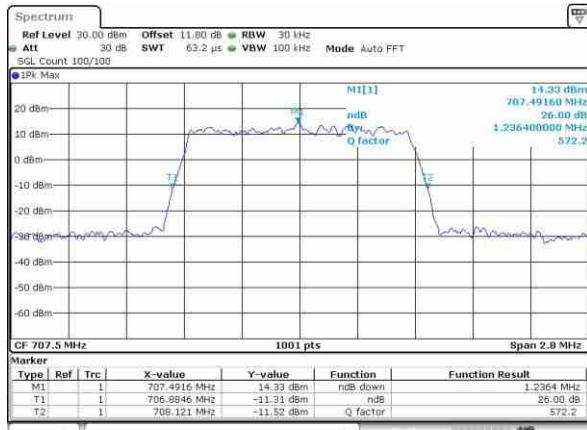
## Lowest Channel / 1.4MHz / 64QAM



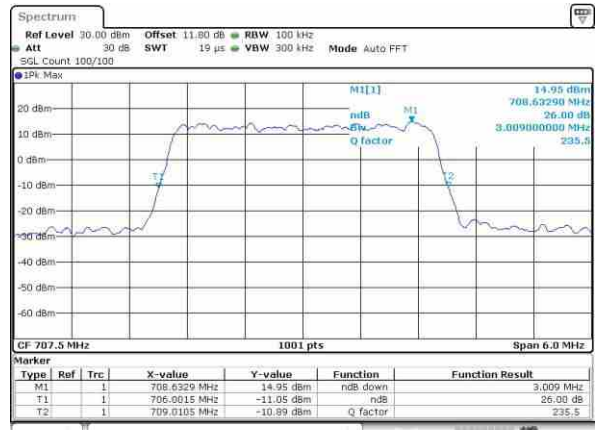
## Lowest Channel / 3MHz / 64QAM



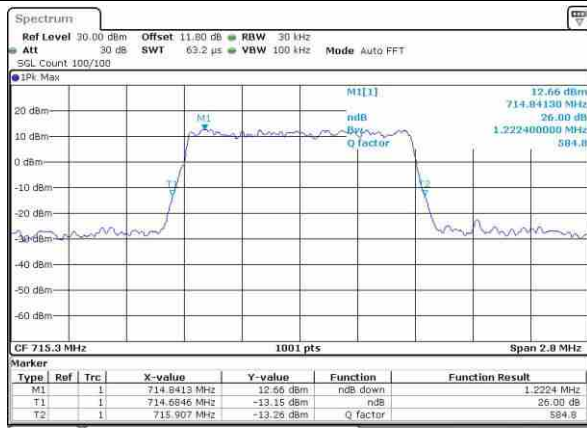
## Middle Channel / 1.4MHz / 64QAM



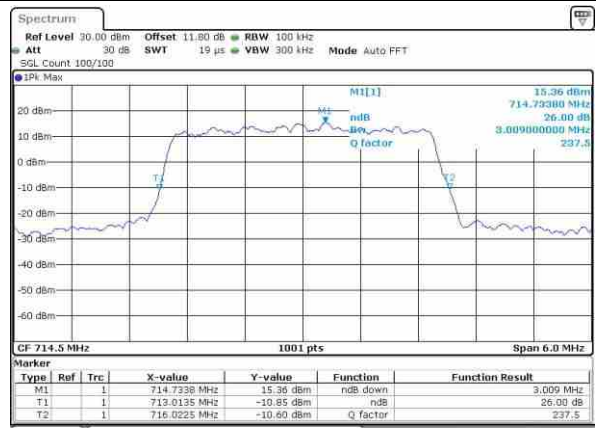
## Middle Channel / 3MHz / 64QAM



## Highest Channel / 1.4MHz / 64QAM



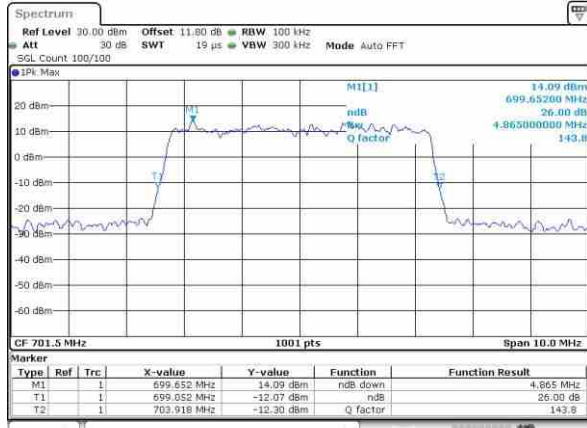
## Highest Channel / 3MHz / 64QAM



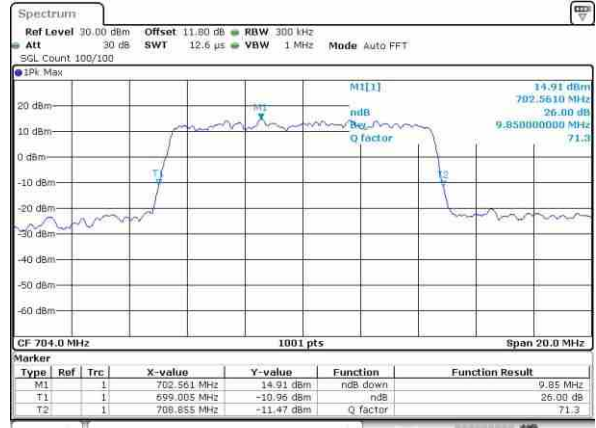


## LTE Band 12

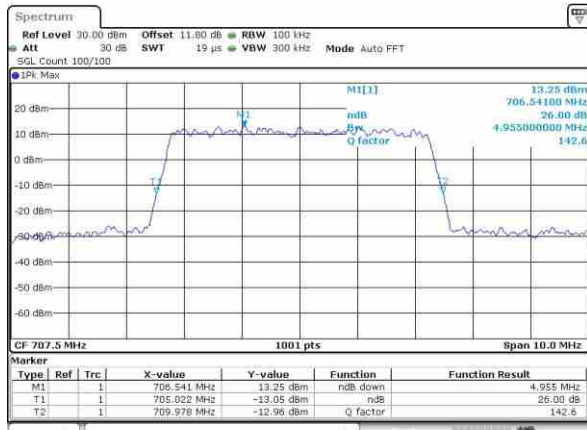
## Lowest Channel / 5MHz / 64QAM



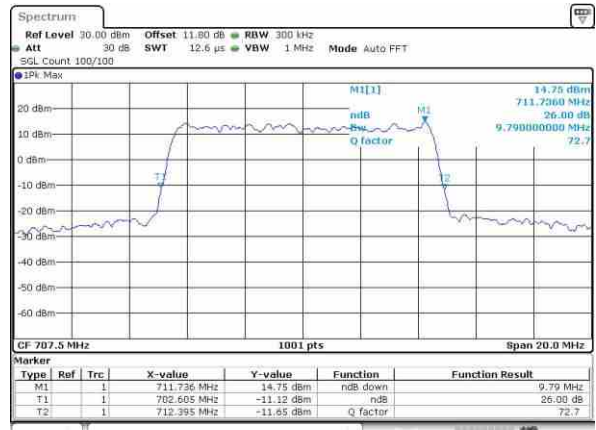
## Lowest Channel / 10MHz / 64QAM



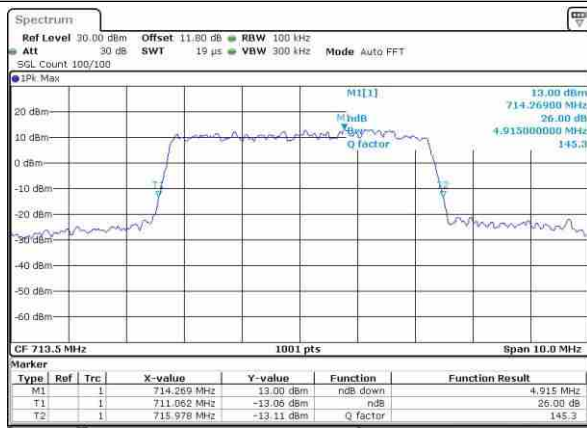
## Middle Channel / 5MHz / 64QAM



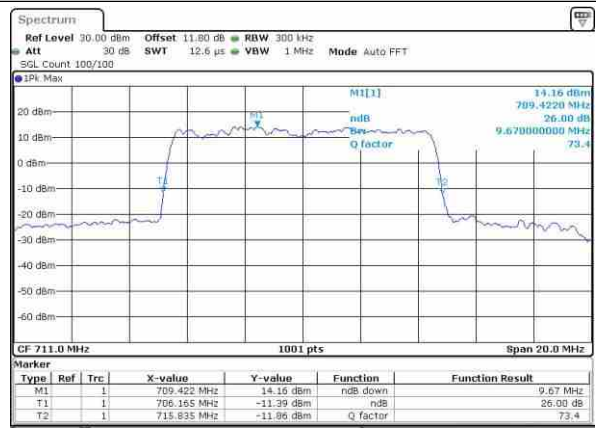
## Middle Channel / 10MHz / 64QAM



## Highest Channel / 5MHz / 64QAM



## Highest Channel / 10MHz / 64QAM



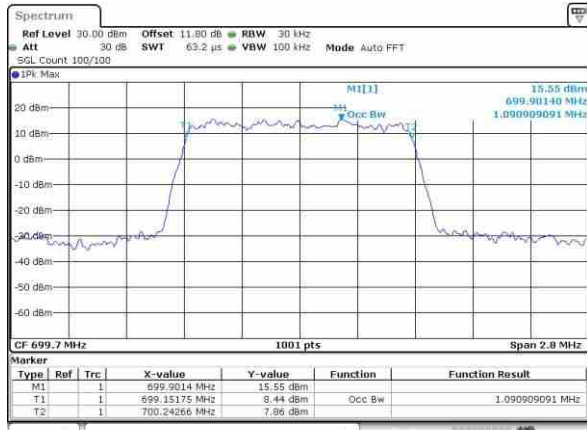
**Occupied Bandwidth**

| Mode       | LTE Band 12 : 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                      | 1.1   | 2.72  | 2.73  | 4.51  | 4.49  | 9.05  | 8.93  | -     | -     | -     | -     |
| Middle CH  | 1.09                      | 1.09  | 2.7   | 2.72  | 4.48  | 4.5   | 9.07  | 9.07  | -     | -     | -     | -     |
| Highest CH | 1.09                      | 1.09  | 2.73  | 2.72  | 4.47  | 4.48  | 9.01  | 9.03  | -     | -     | -     | -     |
| Mode       | LTE Band 12 : 99%OBW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                    |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                     |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | 1.09                      | -     | 2.72  | -     | 4.49  | -     | 9.01  | -     | -     | -     | -     | -     |
| Middle CH  | 1.09                      | -     | 2.74  | -     | 4.51  | -     | 9.03  | -     | -     | -     | -     | -     |
| Highest CH | 1.09                      | -     | 2.73  | -     | 4.50  | -     | 9.03  | -     | -     | -     | -     | -     |

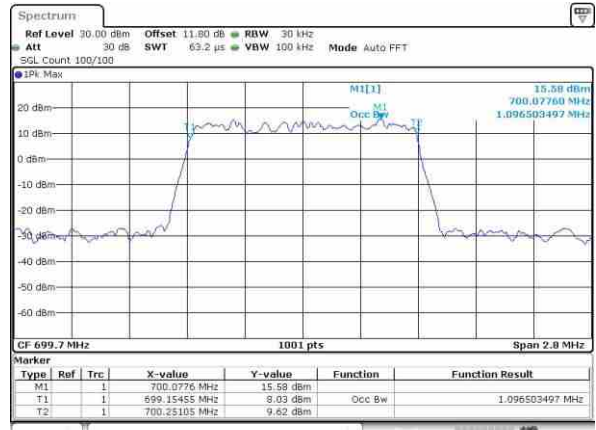


## LTE Band 12

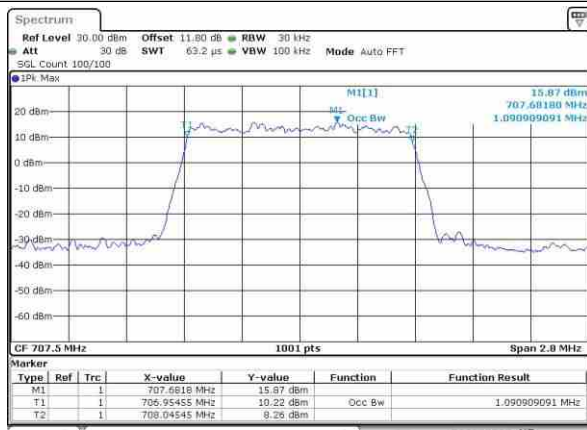
## Lowest Channel / 1.4MHz / QPSK



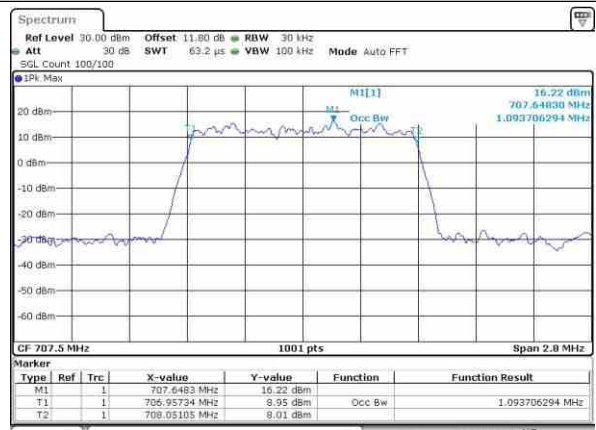
## Lowest Channel / 1.4MHz / 16QAM



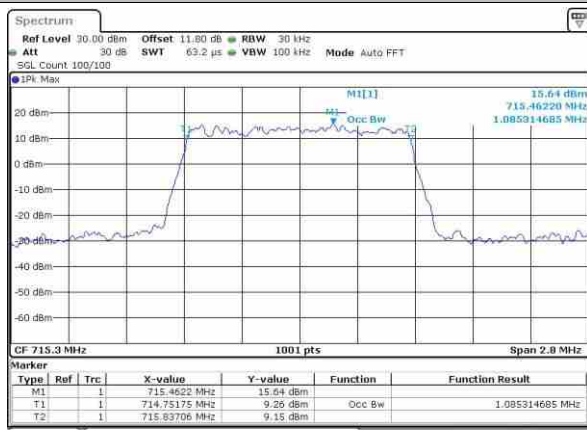
## Middle Channel / 1.4MHz / QPSK



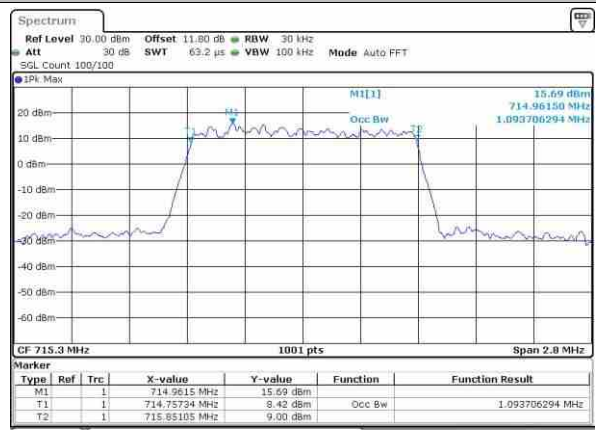
## Middle Channel / 1.4MHz / 16QAM



## Highest Channel / 1.4MHz / QPSK



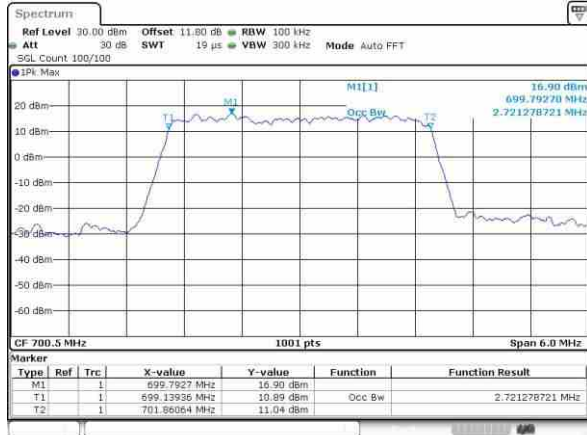
## Highest Channel / 1.4MHz / 16QAM



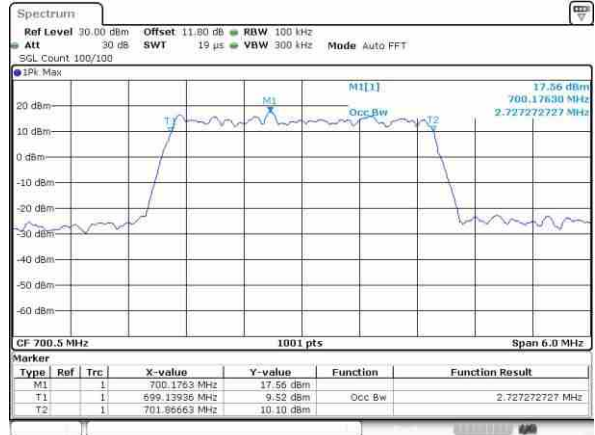


## LTE Band 12

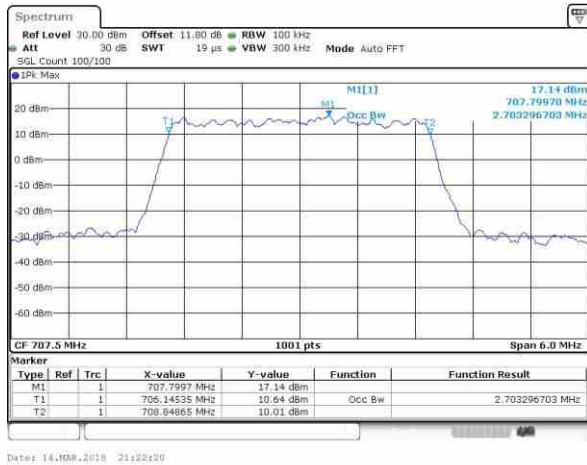
## Lowest Channel / 3MHz / QPSK



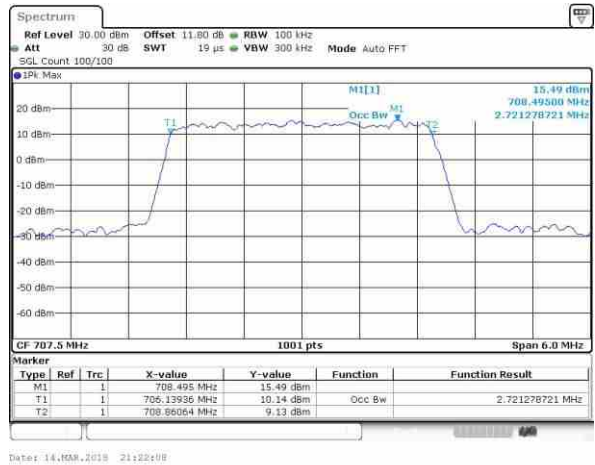
## Lowest Channel / 3MHz / 16QAM



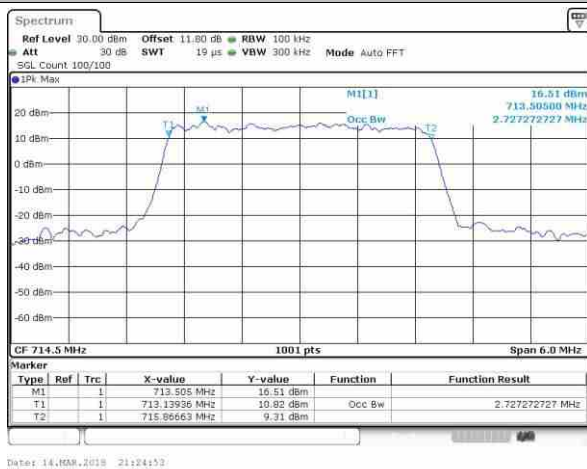
## Middle Channel / 3MHz / QPSK



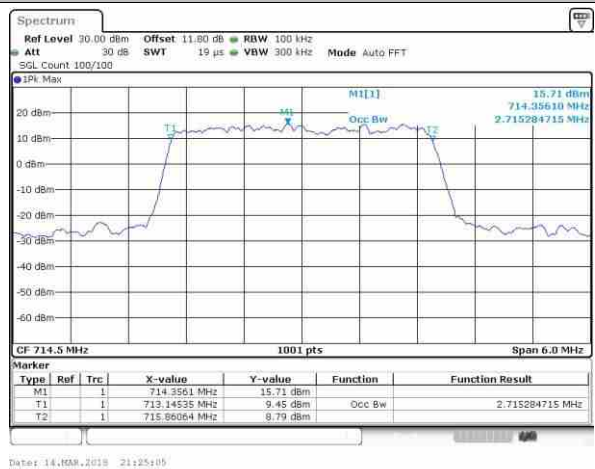
## Middle Channel / 3MHz / 16QAM



## Highest Channel / 3MHz / QPSK



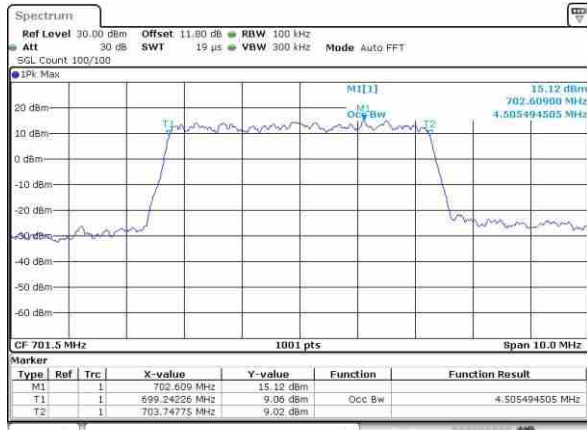
## Highest Channel / 3MHz / 16QAM





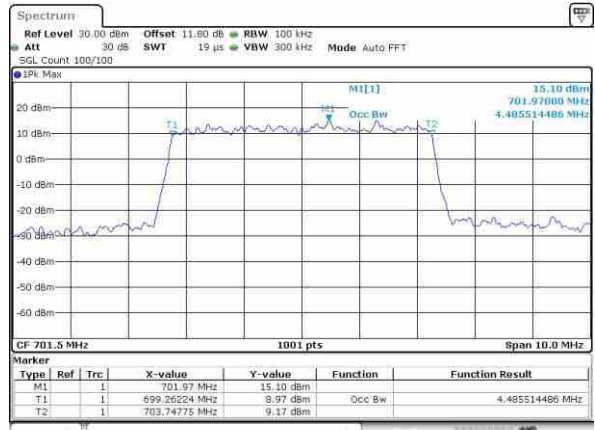
## LTE Band 12

## Lowest Channel / 5MHz / QPSK



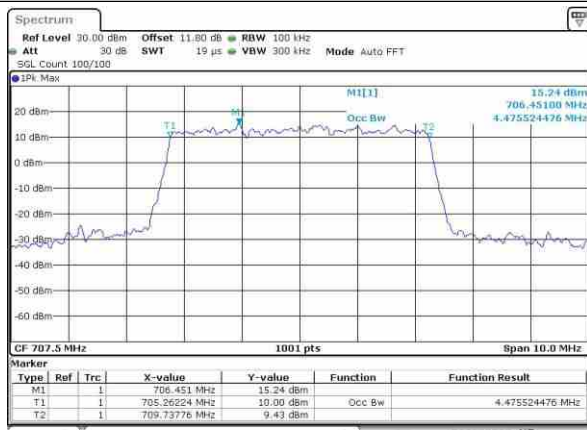
Date: 14, MAR, 2018 21:32:14

## Lowest Channel / 5MHz / 16QAM



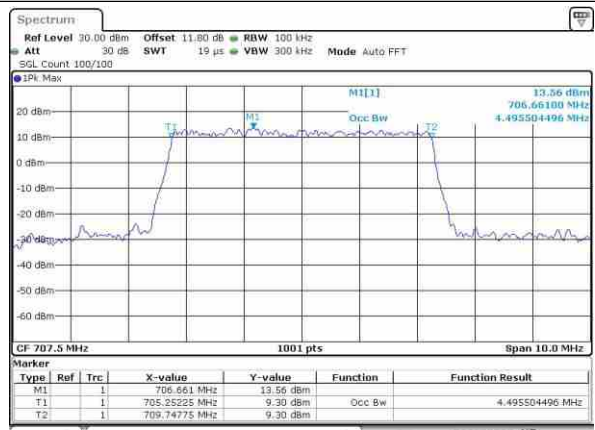
Date: 14, MAR, 2018 21:32:16

## Middle Channel / 5MHz / QPSK



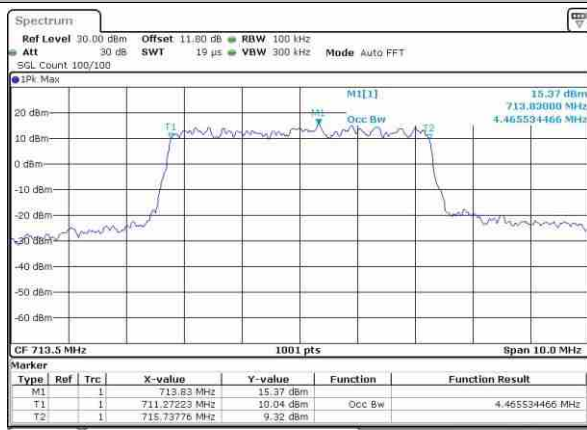
Date: 14, MAR, 2018 21:33:47

## Middle Channel / 5MHz / 16QAM



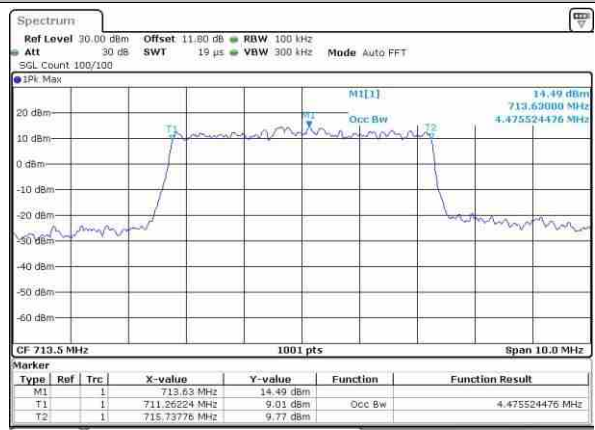
Date: 14, MAR, 2018 21:33:35

## Highest Channel / 5MHz / QPSK



Date: 14, MAR, 2018 21:42:19

## Highest Channel / 5MHz / 16QAM

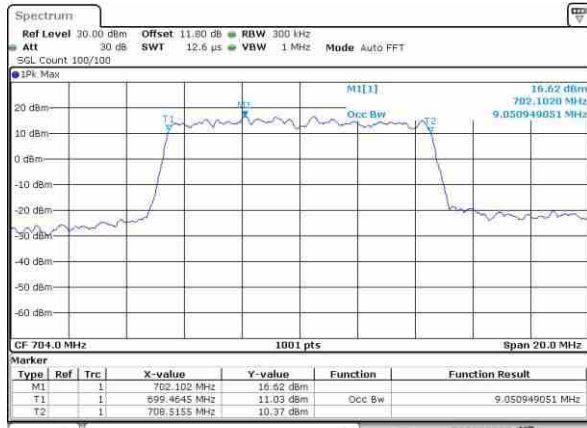


Date: 14, MAR, 2018 21:42:31



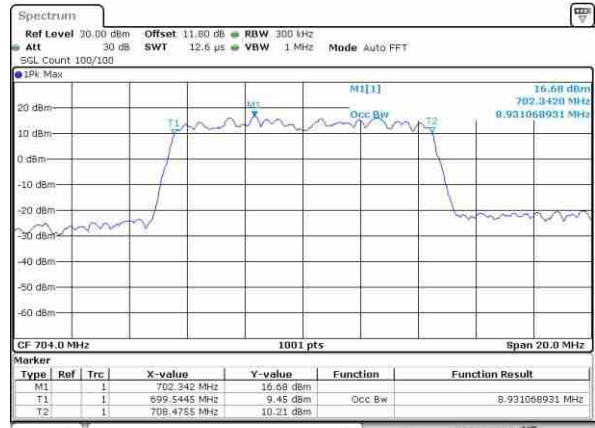
## LTE Band 12

## Lowest Channel / 10MHz / QPSK



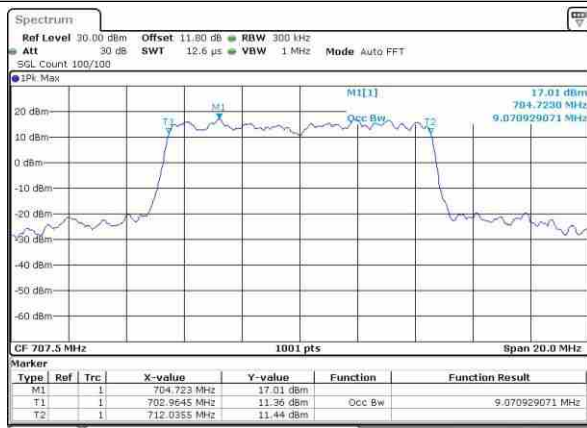
Date: 14, MAR, 2018 21:49:41

## Lowest Channel / 10MHz / 16QAM



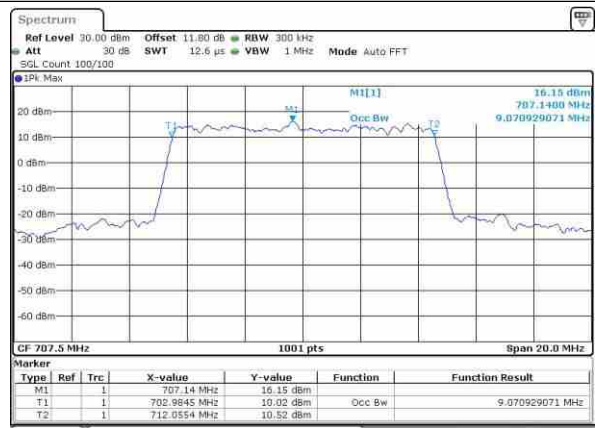
Date: 14, MAR, 2018 21:49:52

## Middle Channel / 10MHz / QPSK



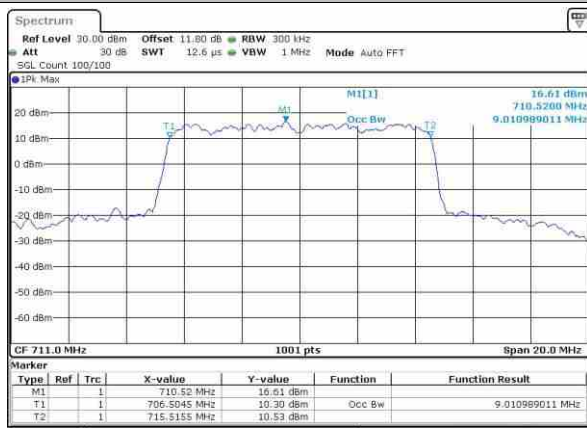
Date: 14, MAR, 2018 21:57:12

## Middle Channel / 10MHz / 16QAM



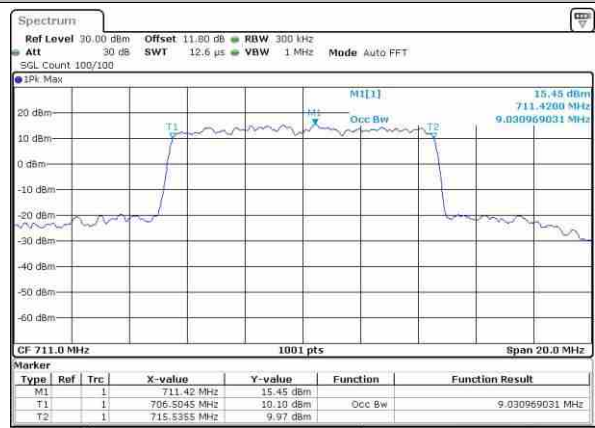
Date: 14, MAR, 2018 21:57:01

## Highest Channel / 10MHz / QPSK



Date: 14, MAR, 2018 21:59:45

## Highest Channel / 10MHz / 16QAM

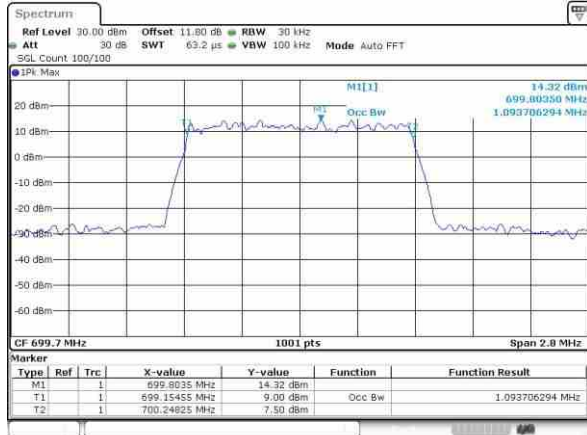


Date: 14, MAR, 2018 21:59:57

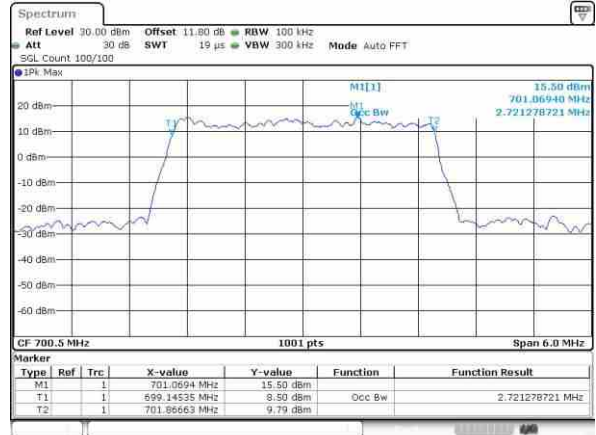


## LTE Band 12

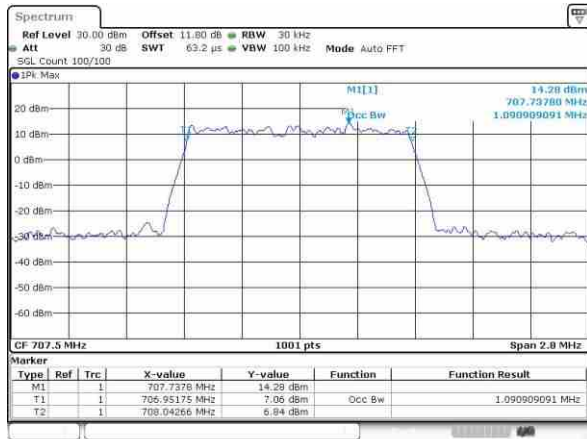
## Lowest Channel / 1.4MHz / 64QAM



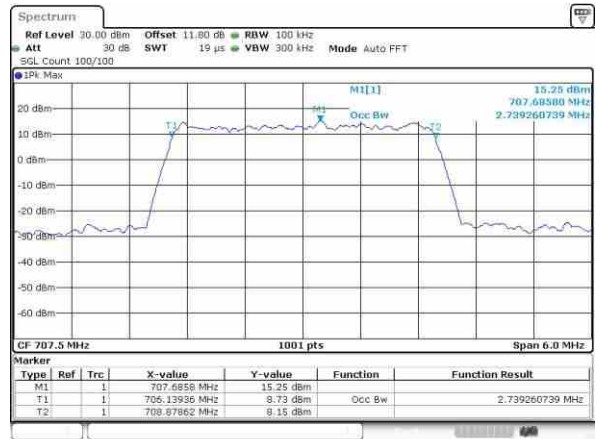
## Lowest Channel / 3MHz / 64QAM



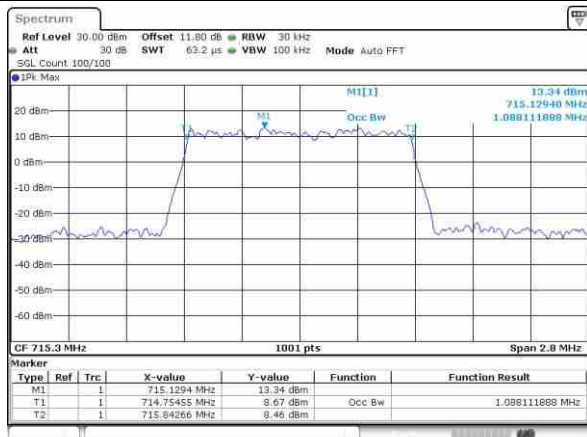
## Middle Channel / 1.4MHz / 64QAM



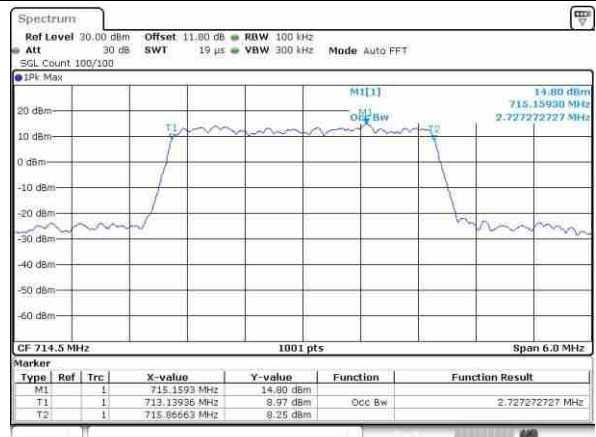
## Middle Channel / 3MHz / 64QAM



## Highest Channel / 1.4MHz / 64QAM



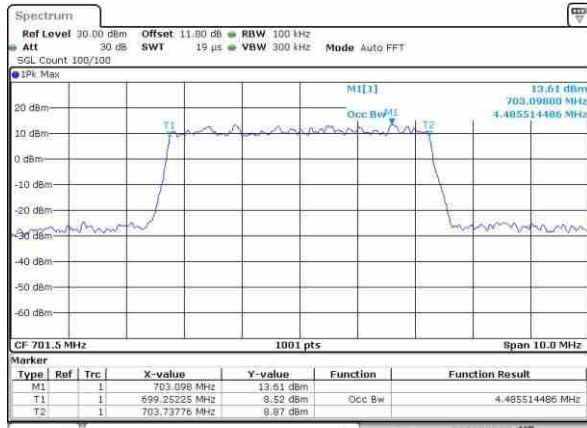
## Highest Channel / 3MHz / 64QAM



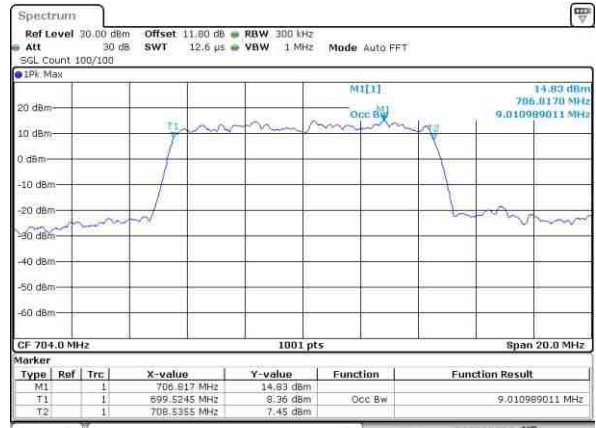


## LTE Band 12

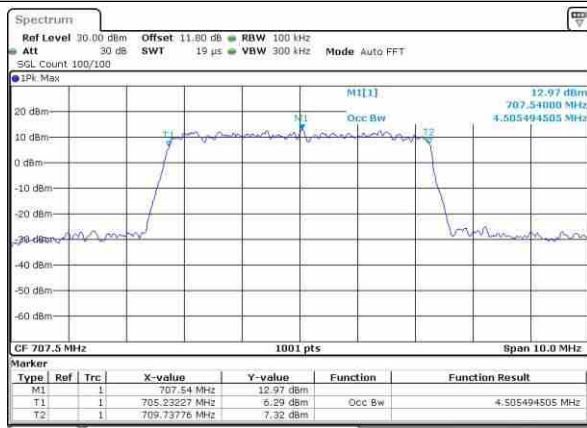
## Lowest Channel / 5MHz / 64QAM



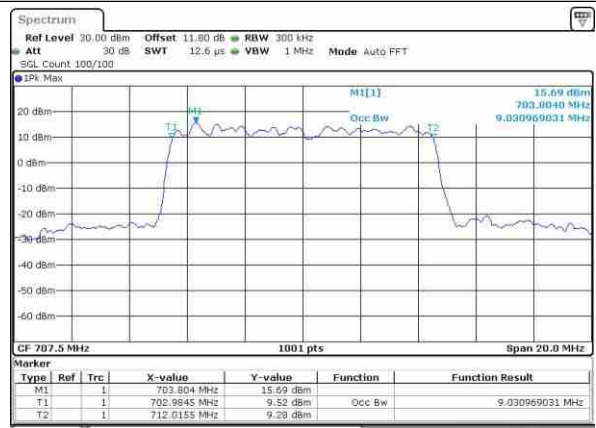
## Lowest Channel / 10MHz / 64QAM



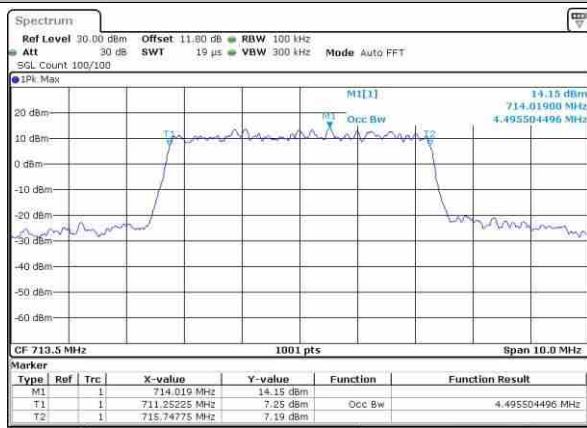
## Middle Channel / 5MHz / 64QAM



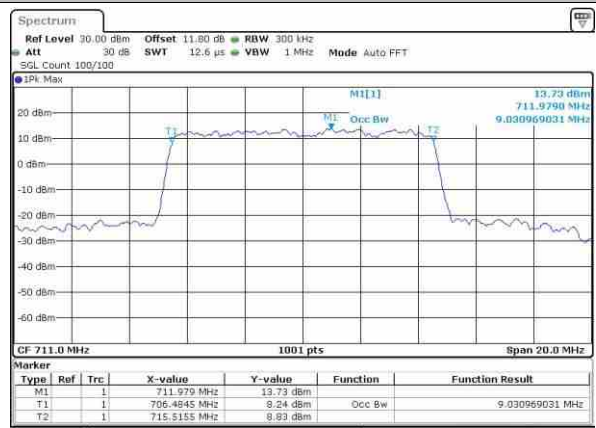
## Middle Channel / 10MHz / 64QAM



## Highest Channel / 5MHz / 64QAM



## Highest Channel / 10MHz / 64QAM



**Conducted Band Edge****LTE Band 12 / 1.4MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**



## LTE Band 12 / 1.4MHz / 16QAM

## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB





## LTE Band 12 / 1.4MHz / 64QAM

## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



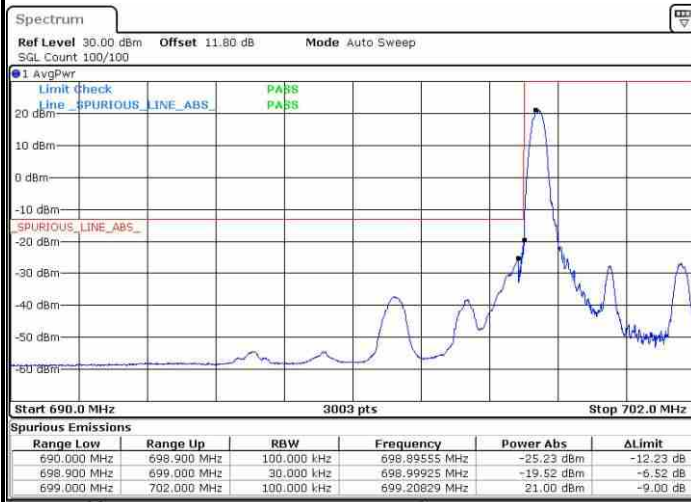
## Highest Band Edge / Full RB





## LTE Band 12 / 3MHz / QPSK

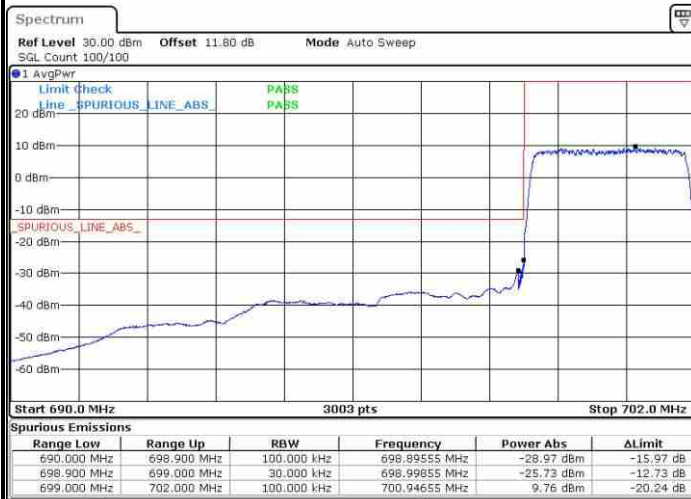
## Lowest Band Edge / 1RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



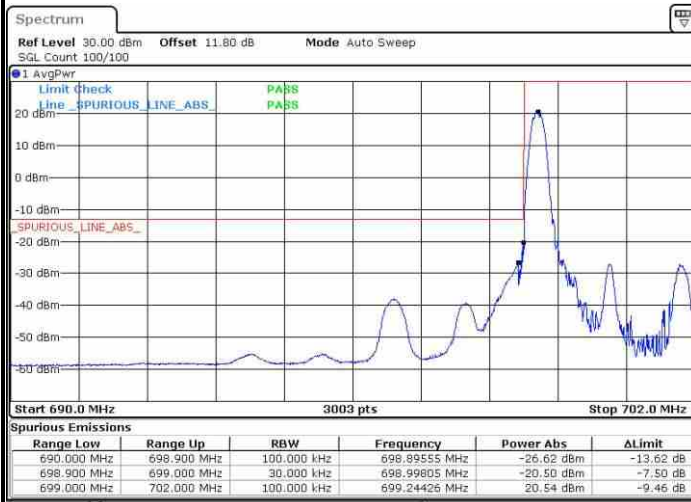
## Highest Band Edge / Full RB





## LTE Band 12 / 3MHz / 16QAM

## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



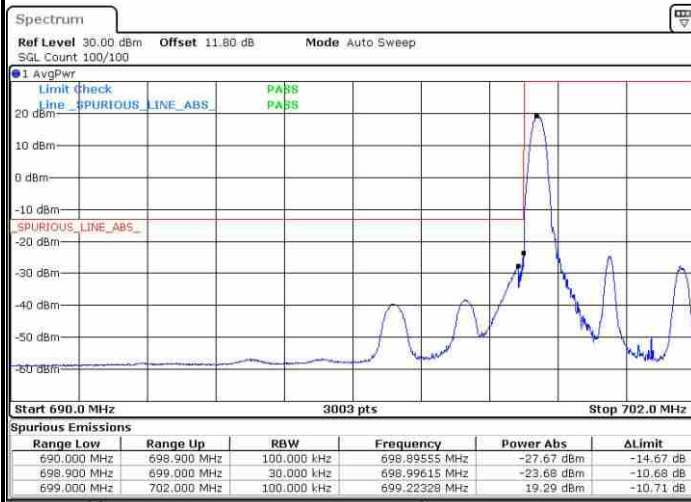
## Highest Band Edge / Full RB



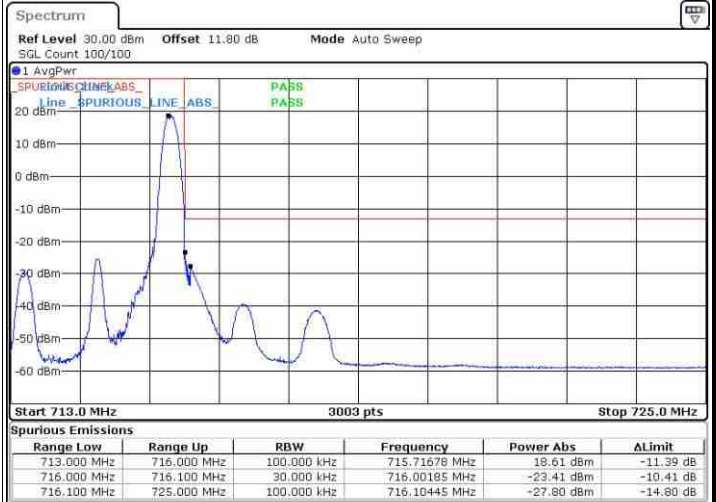


## LTE Band 12 / 3MHz / 64QAM

## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



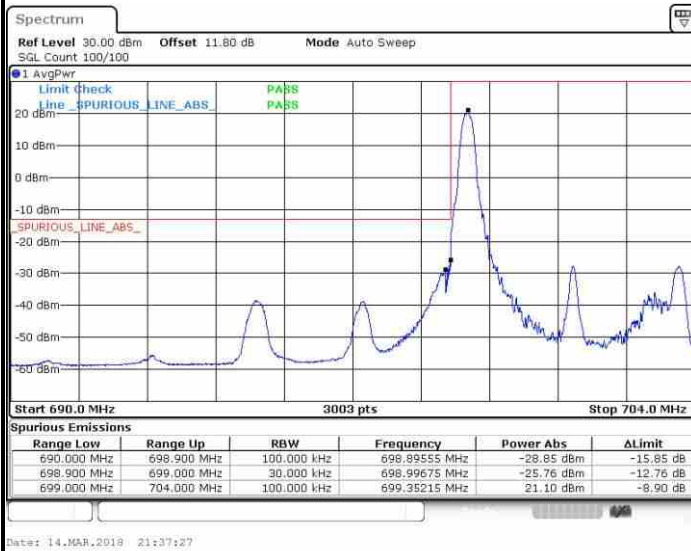
## Highest Band Edge / Full RB



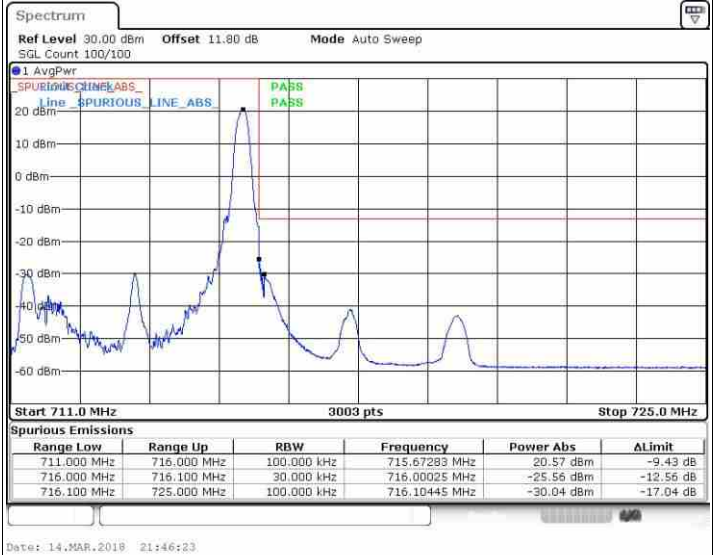


## LTE Band 12 / 5MHz / QPSK

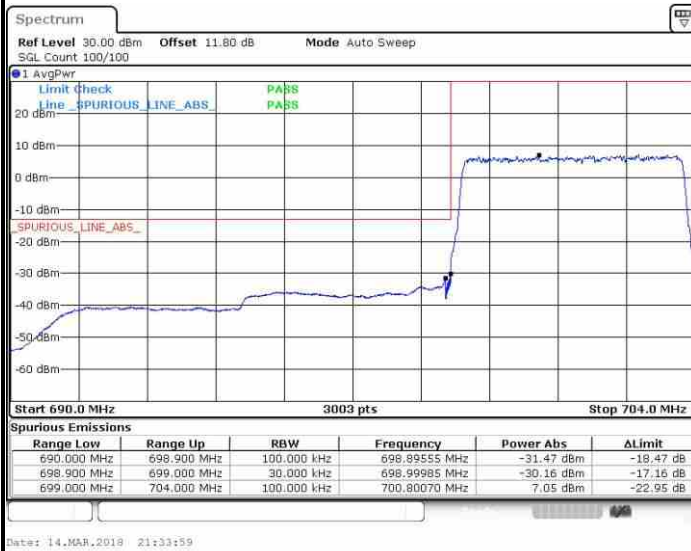
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB

