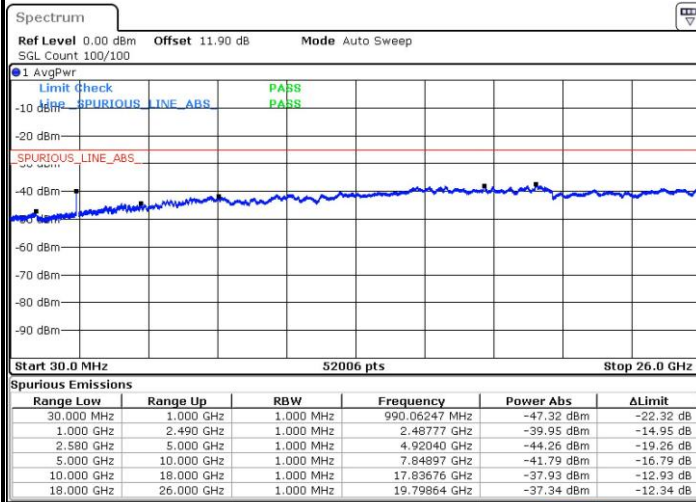




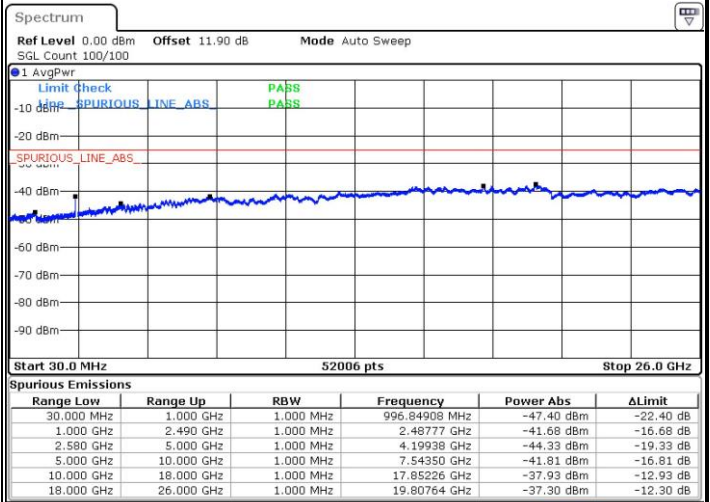
## LTE Band 7 / 15MHz

## Lowest Channel / QPSK



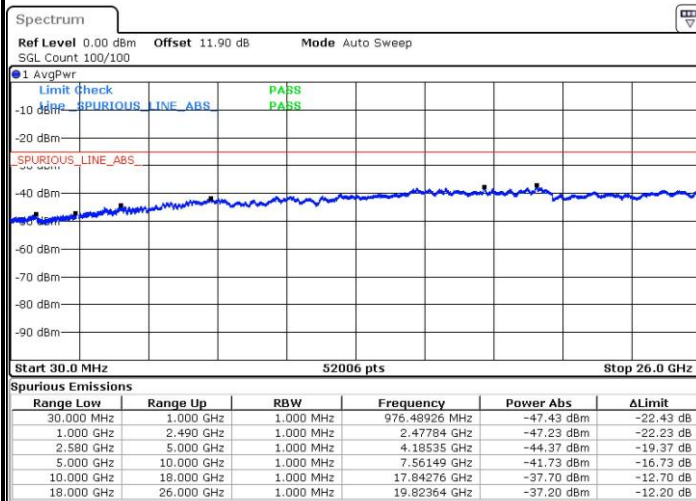
Date: 4 SEP. 2018 22:23:09

## Lowest Channel / 16QAM



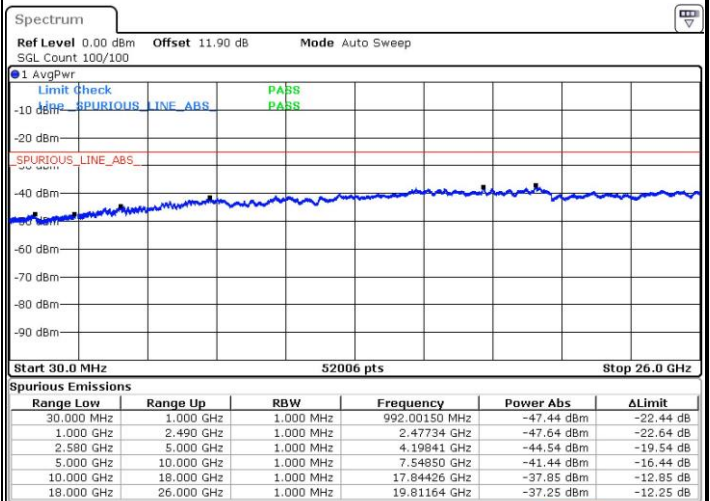
Date: 4 SEP. 2018 22:23:58

## Middle Channel / QPSK



Date: 4 SEP. 2018 22:25:33

## Middle Channel / 16QAM

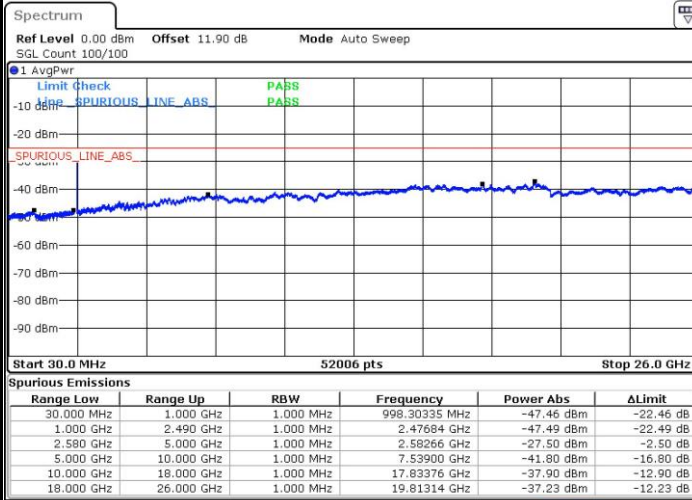


Date: 4 SEP. 2018 22:26:23



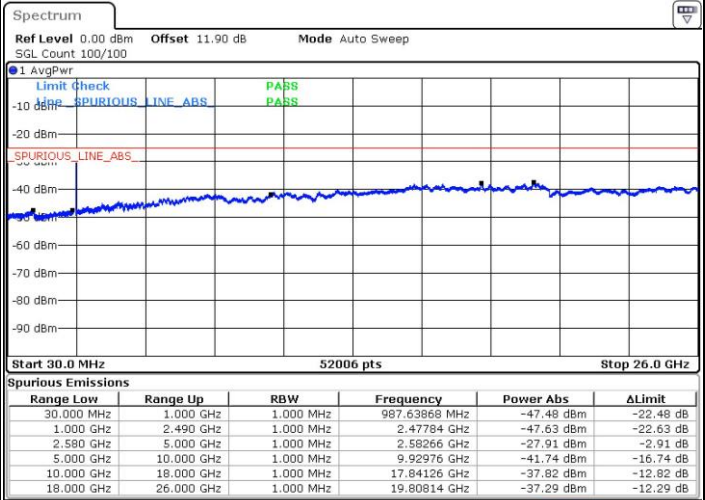
## LTE Band 7 / 15MHz

## Highest Channel / QPSK



Date: 4 SEP. 2018 22:32:41

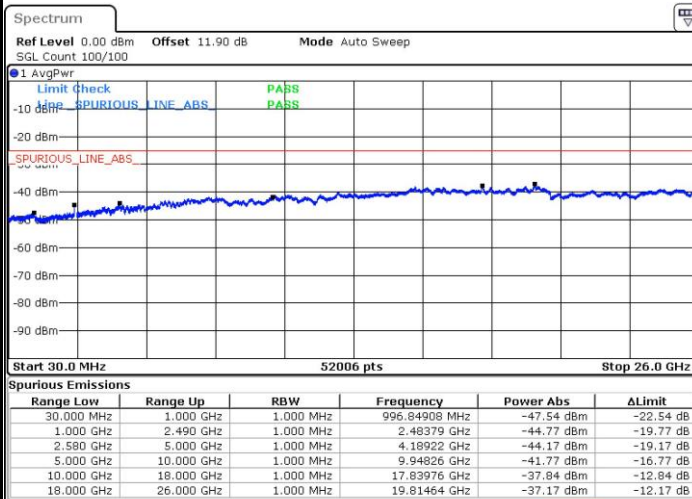
## Highest Channel / 16QAM



Date: 4 SEP. 2018 22:33:31

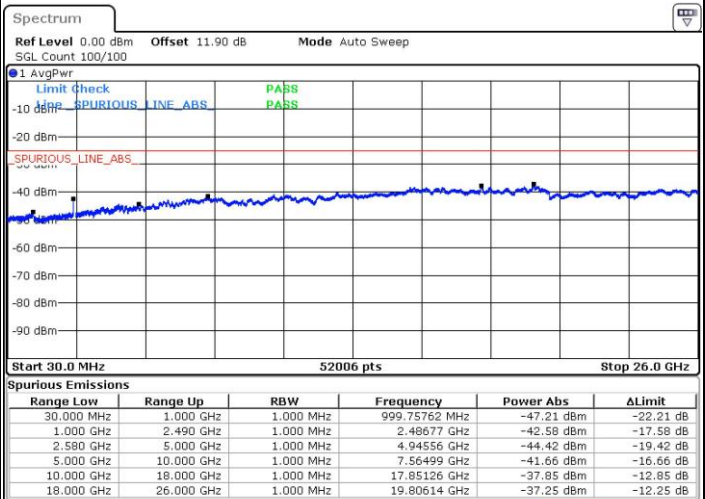
## LTE Band 7 / 20MHz

## Lowest Channel / QPSK



Date: 4 SEP. 2018 22:48:09

## Lowest Channel / 16QAM

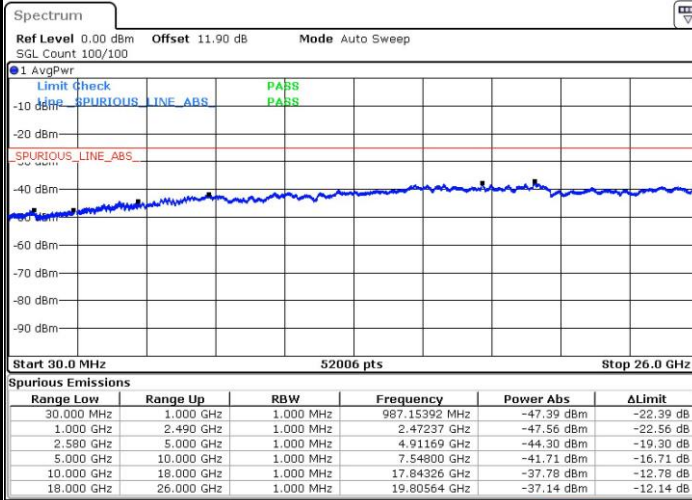


Date: 4 SEP. 2018 22:48:58



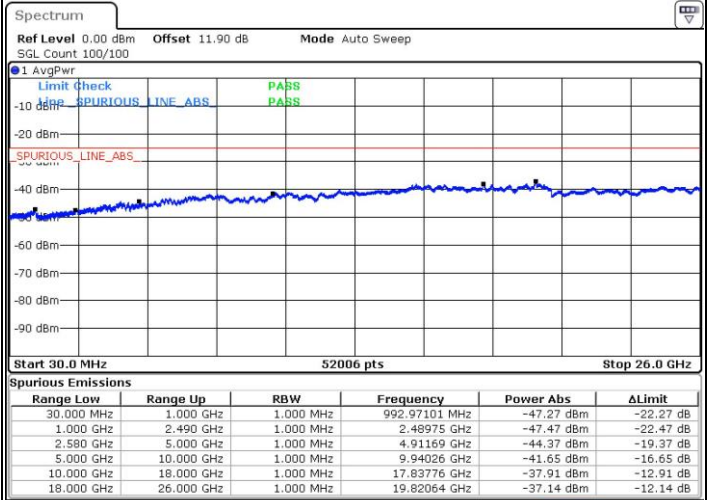
## LTE Band 7 / 20MHz

## Middle Channel / QPSK



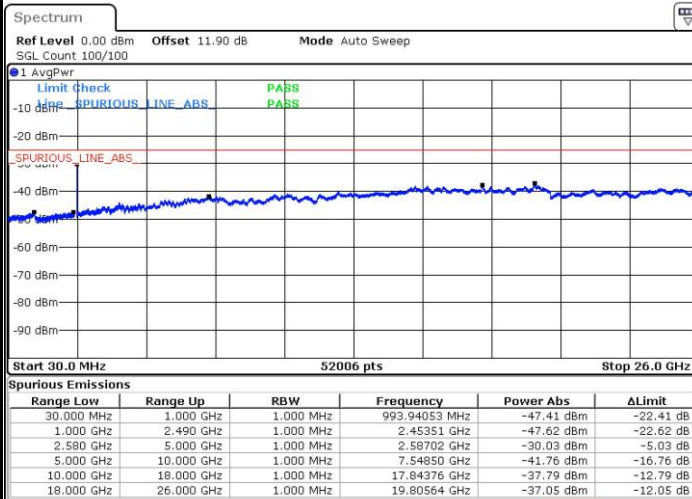
Date: 4 SEP. 2018 22:50:34

## Middle Channel / 16QAM



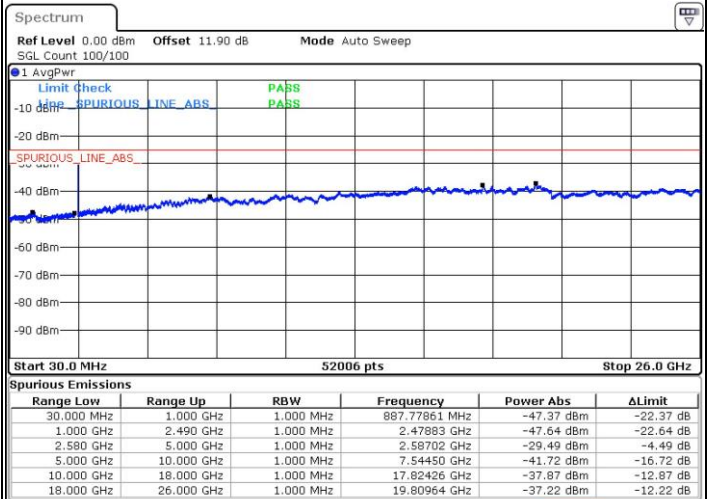
Date: 4 SEP. 2018 22:51:23

## Highest Channel / QPSK



Date: 4 SEP. 2018 22:57:41

## Highest Channel / 16QAM

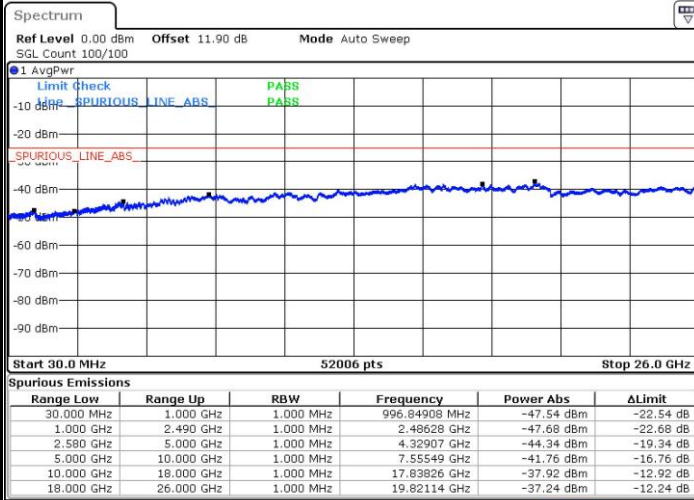


Date: 4 SEP. 2018 22:58:31



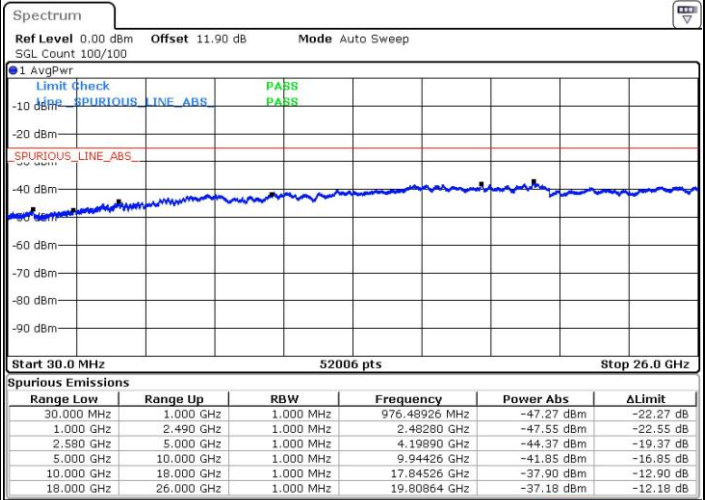
## LTE Band 7 / 5MHz

## Lowest Channel / 64QAM



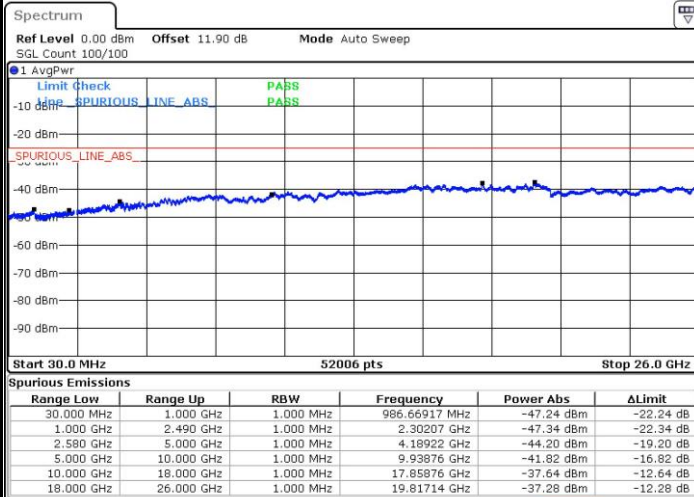
Date: 4 SEP. 2018 21:47:04

## Middle Channel / 64QAM



Date: 4 SEP. 2018 21:48:17

## Highest Channel / 64QAM

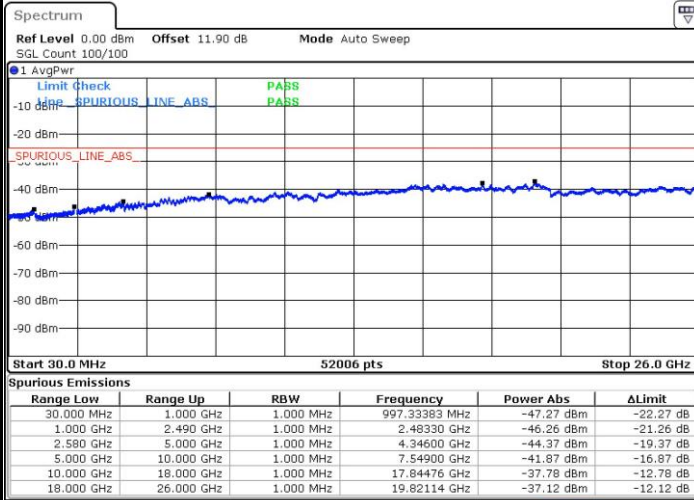


Date: 4 SEP. 2018 21:51:51



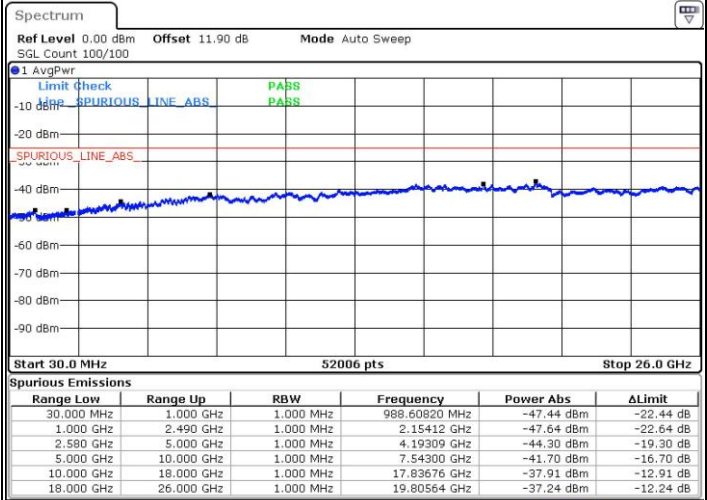
## LTE Band 7 / 10MHz

## Lowest Channel / 64QAM



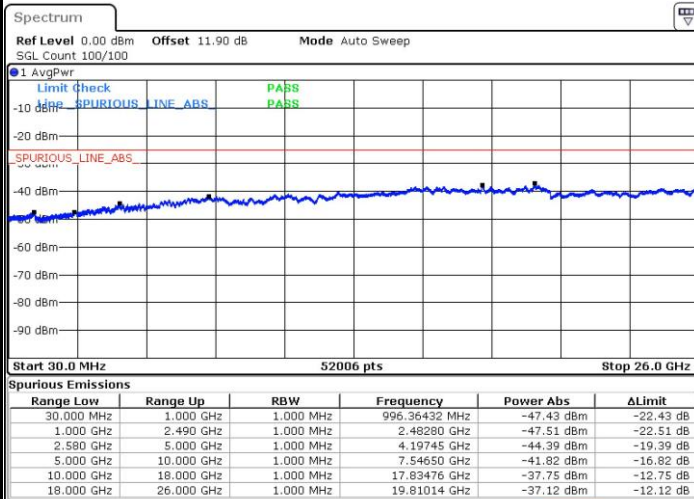
Date: 4 SEP. 2018 22:12:04

## Middle Channel / 64QAM



Date: 4 SEP. 2018 22:13:17

## Highest Channel / 64QAM

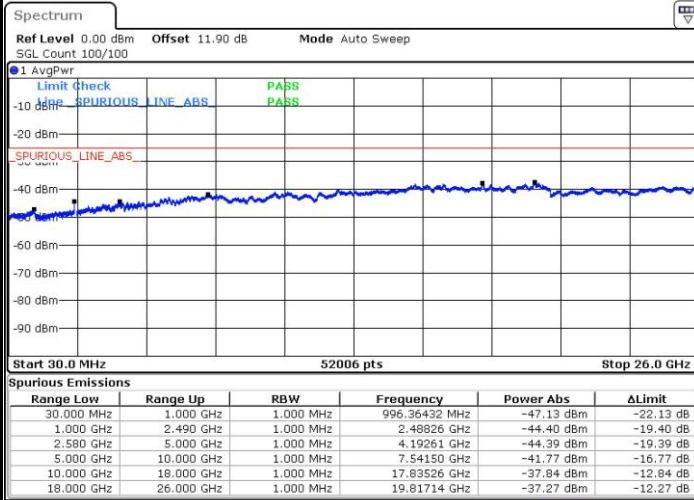


Date: 4 SEP. 2018 22:16:51



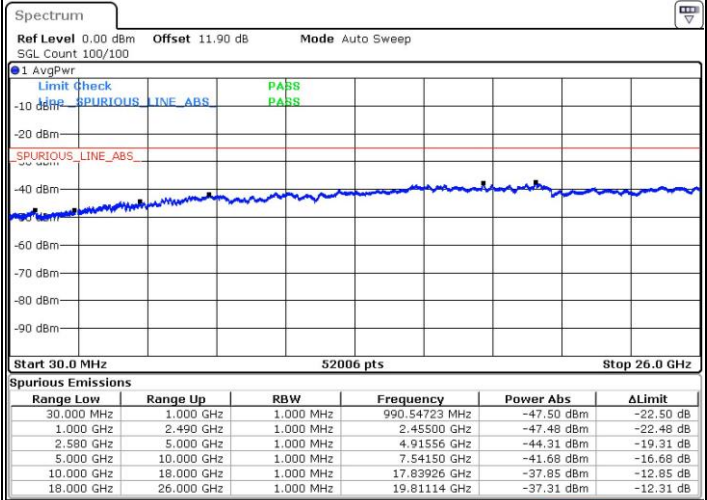
## LTE Band 7 / 15MHz

## Lowest Channel / 64QAM



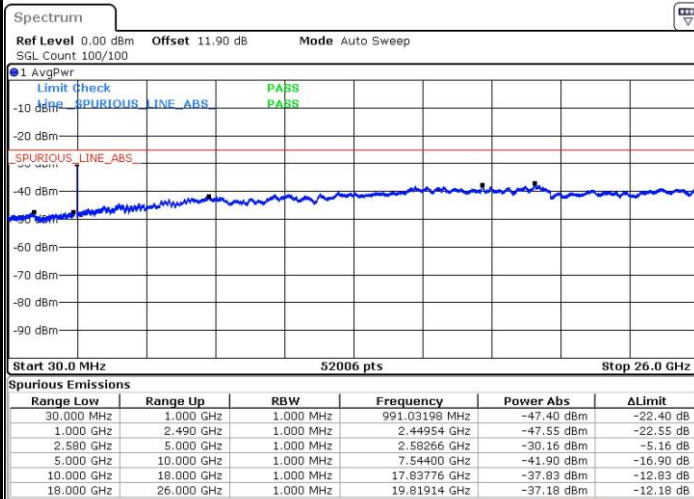
Date: 4 SEP. 2018 22:37:05

## Middle Channel / 64QAM



Date: 4 SEP. 2018 22:38:17

## Highest Channel / 64QAM

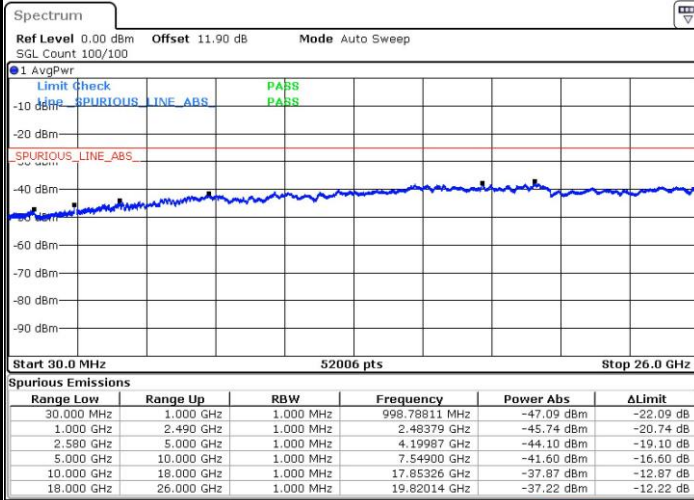


Date: 4 SEP. 2018 22:41:51



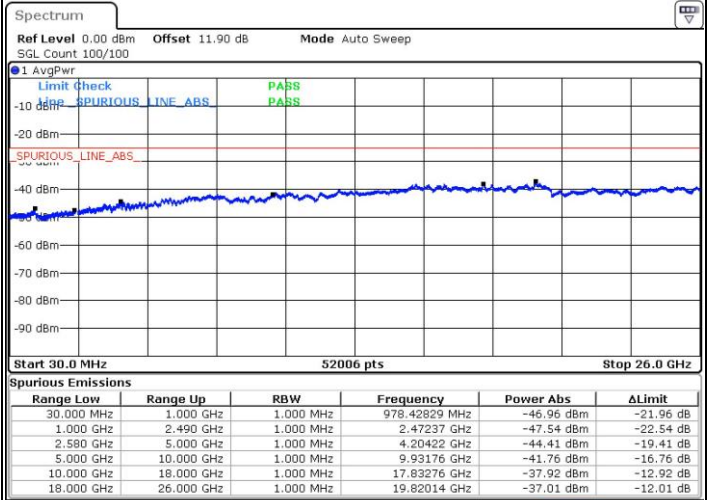
## LTE Band 7 / 20MHz

## Lowest Channel / 64QAM



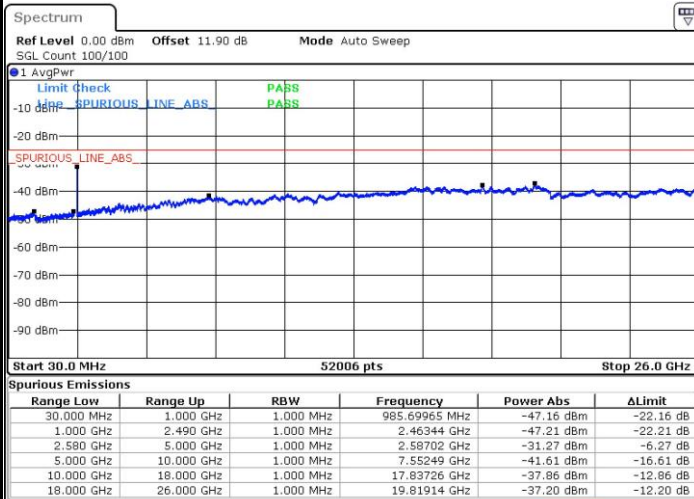
Date: 4 SEP. 2018 23:02:05

## Middle Channel / 64QAM



Date: 4 SEP. 2018 23:03:17

## Highest Channel / 64QAM



Date: 4 SEP. 2018 23:06:51

## Frequency Stability

| Test Conditions     |                   | LTE Band 7 (QPSK) / Middle Channel | Limit   |
|---------------------|-------------------|------------------------------------|---------|
| Temperature<br>(°C) | Voltage<br>(Volt) | BW 10MHz                           | Note 2. |
|                     |                   | Deviation (ppm)                    | Result  |
| 50                  | Normal Voltage    | 0.0001                             | PASS    |
| 40                  | Normal Voltage    | 0.0060                             |         |
| 30                  | Normal Voltage    | 0.0065                             |         |
| 20(Ref.)            | Normal Voltage    | 0.0000                             |         |
| 10                  | Normal Voltage    | 0.0064                             |         |
| 0                   | Normal Voltage    | 0.0058                             |         |
| -10                 | Normal Voltage    | 0.0002                             |         |
| -20                 | Normal Voltage    | 0.0056                             |         |
| -30                 | Normal Voltage    | 0.0005                             |         |
| 20                  | Maximum Voltage   | 0.0006                             |         |
| 20                  | Normal Voltage    | 0.0000                             |         |
| 20                  | Battery End Point | 0.0059                             |         |

**Note:**

1. Normal Voltage =3.85 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 12

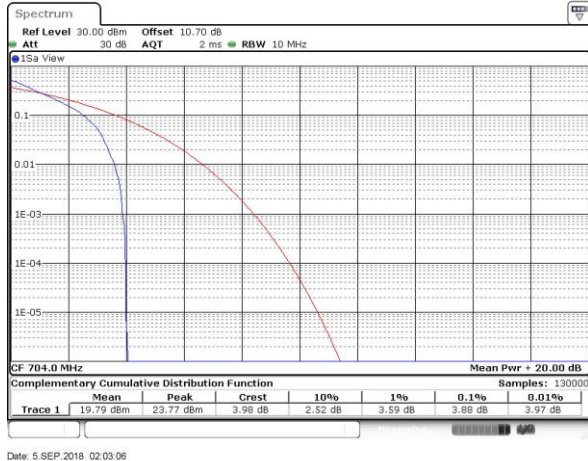
### Peak-to-Average Ratio

| Mode       | LTE Band 12 / 10MHz |         |       |         |             |
|------------|---------------------|---------|-------|---------|-------------|
| Mod.       | QPSK                |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 3.88                | 4.55    | 4.78  | 5.65    | PASS        |
| Middle CH  | 3.83                | 4.64    | 4.78  | 5.57    |             |
| Highest CH | 3.91                | 4.67    | 4.81  | 5.68    |             |
| Mode       | LTE Band 12 / 10MHz |         |       |         |             |
| Mod.       | 64QAM               |         |       |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB |       |         | Result      |
| Lowest CH  | 5.59                | 6.03    | -     | -       | PASS        |
| Middle CH  | 5.71                | 6.00    | -     | -       |             |
| Highest CH | 5.22                | 5.97    | -     | -       |             |

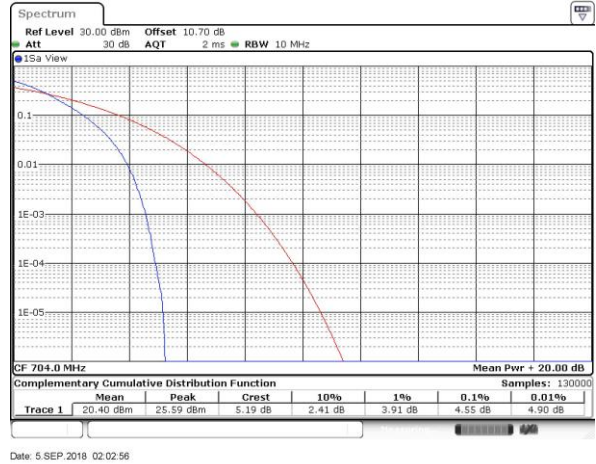


## LTE Band 12 / 10MHz / QPSK

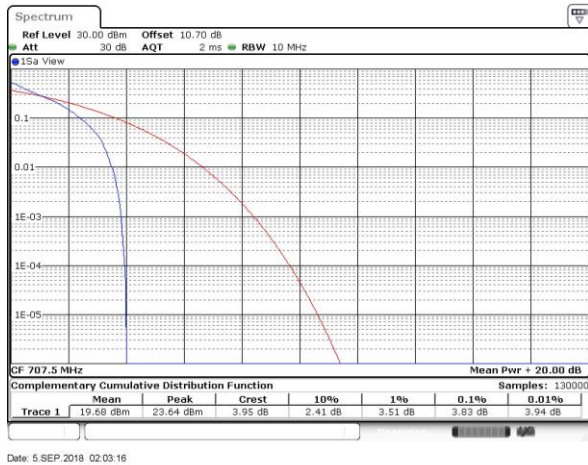
## Lowest Channel / 1RB



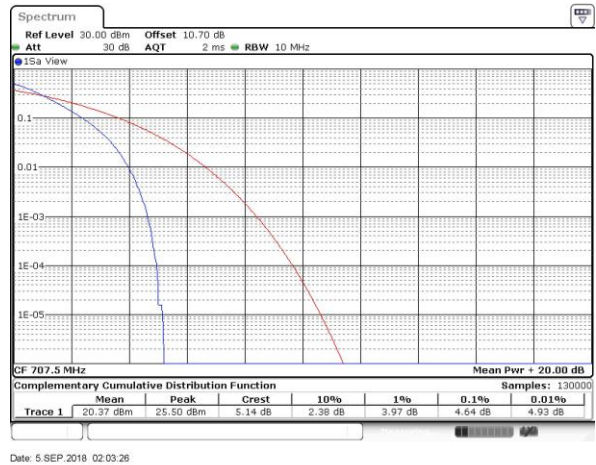
## Lowest Channel / Full RB



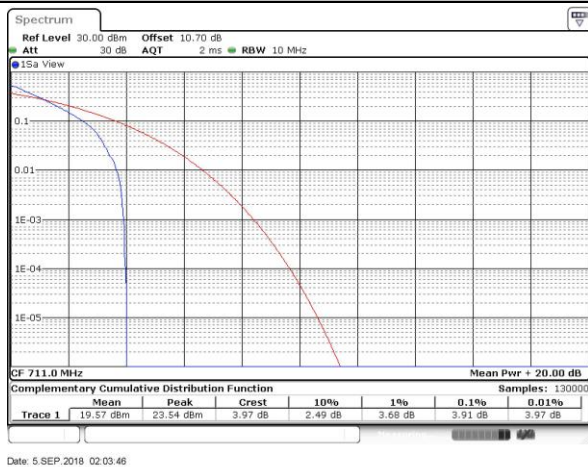
## Middle Channel / 1RB



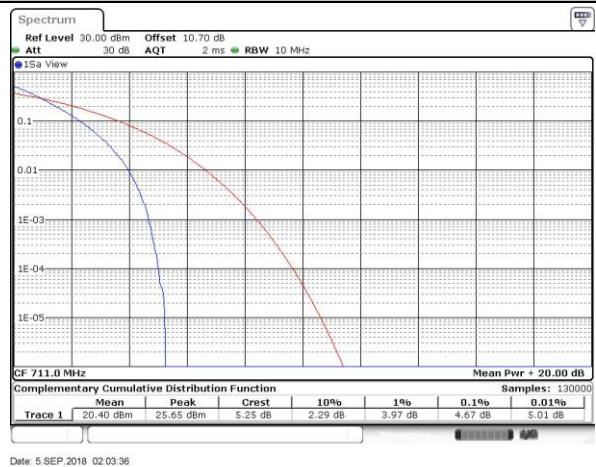
## Middle Channel / Full RB



## Highest Channel / 1RB



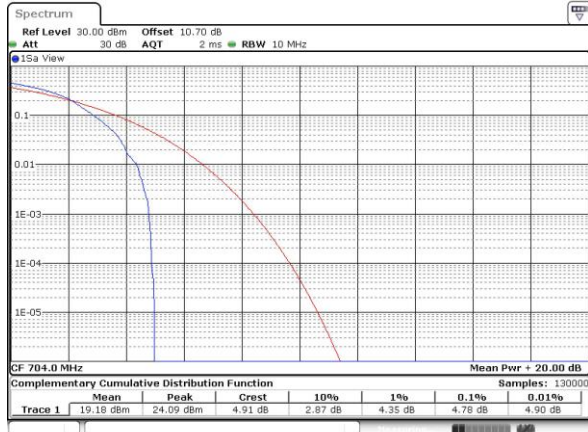
## Highest Channel / Full RB



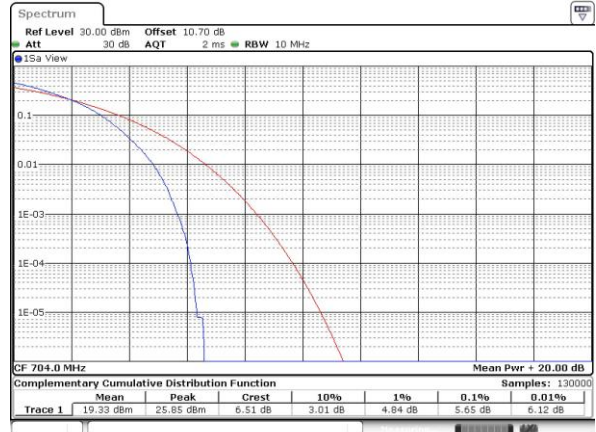


## LTE Band 12 / 10MHz / 16QAM

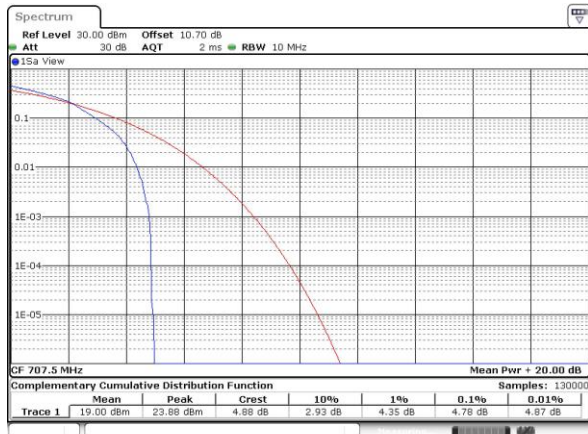
## Lowest Channel / 1RB



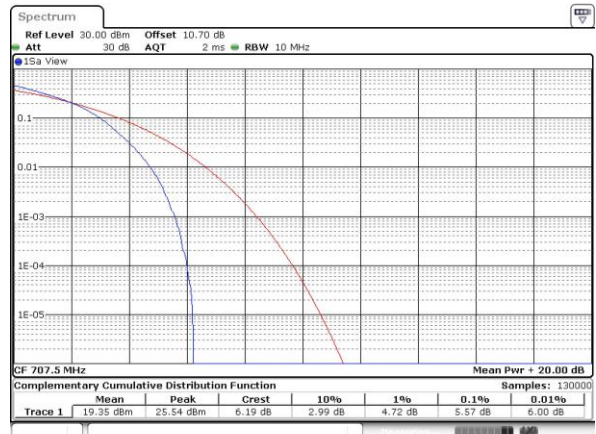
## Lowest Channel / Full RB



## Middle Channel / 1RB



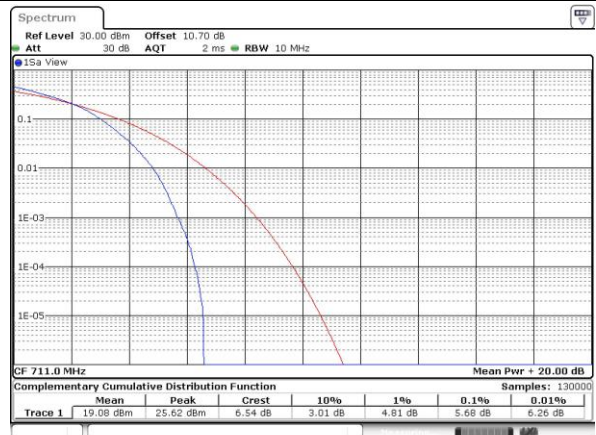
## Middle Channel / Full RB



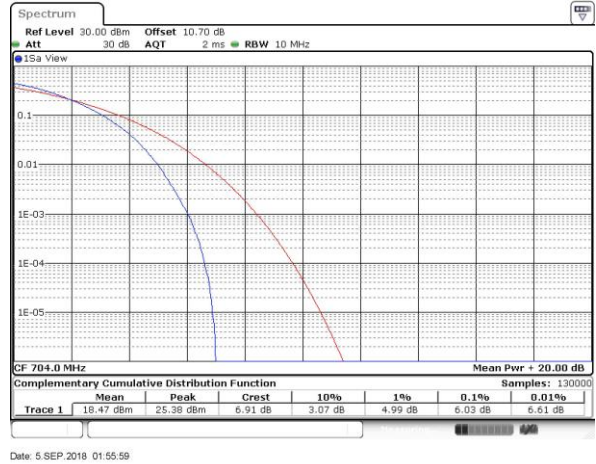
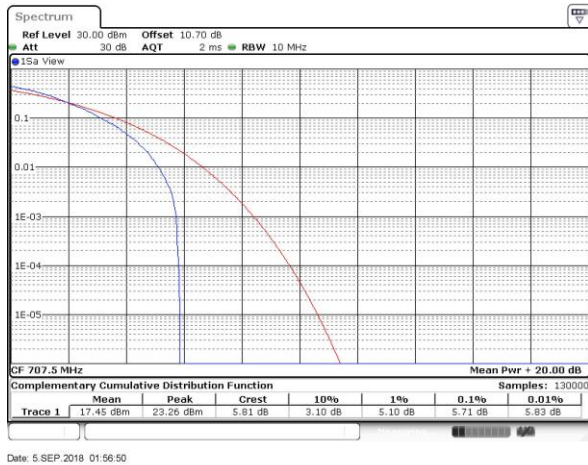
## Highest Channel / 1RB

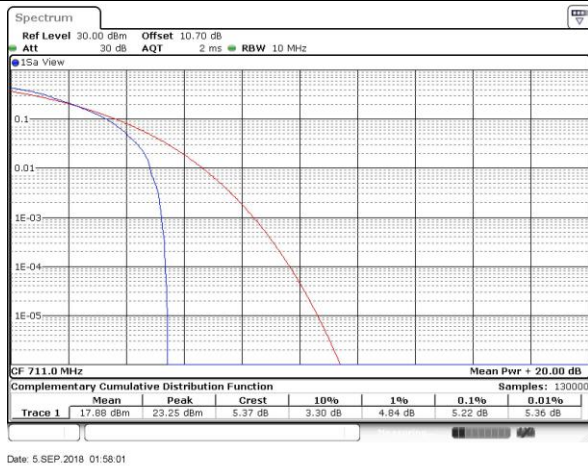
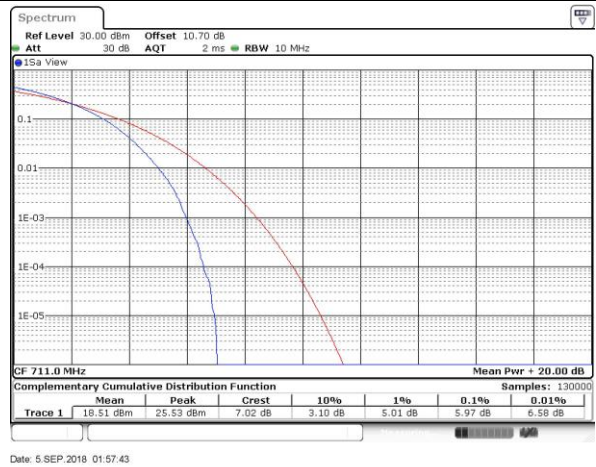


## Highest Channel / Full RB



**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**


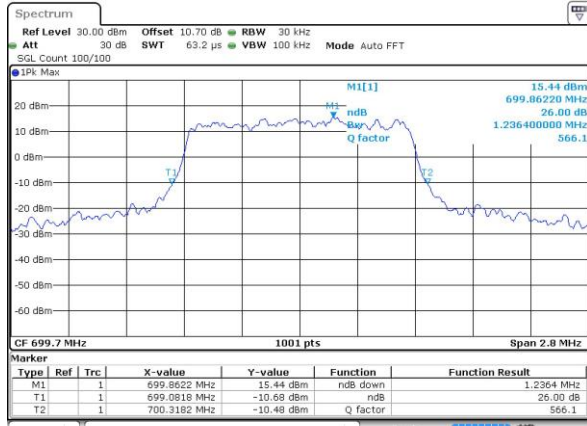
**26dB Bandwidth**

| 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  | 1.24                       | 1.25  | 2.94  | 2.97  | 4.98  | 5.01  | 9.75  | 9.91  | -     | -     | -     | -     |
| Middle CH  | 1.28                       | 1.26  | 2.99  | 2.93  | 5.03  | 5.00  | 9.91  | 9.99  | -     | -     | -     | -     |
| Highest CH | 1.30                       | 1.27  | 2.95  | 2.95  | 5.20  | 5.01  | 9.99  | 9.81  | -     | -     | -     | -     |
| Mode       | LTE Band 12 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                     |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                      |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | 1.26                       | -     | 2.91  | -     | 5.01  | -     | 10.29 | -     | -     | -     | -     | -     |
| Middle CH  | 1.28                       | -     | 2.96  | -     | 4.98  | -     | 10.21 | -     | -     | -     | -     | -     |
| Highest CH | 1.29                       | -     | 2.95  | -     | 5.37  | -     | 9.93  | -     | -     | -     | -     | -     |



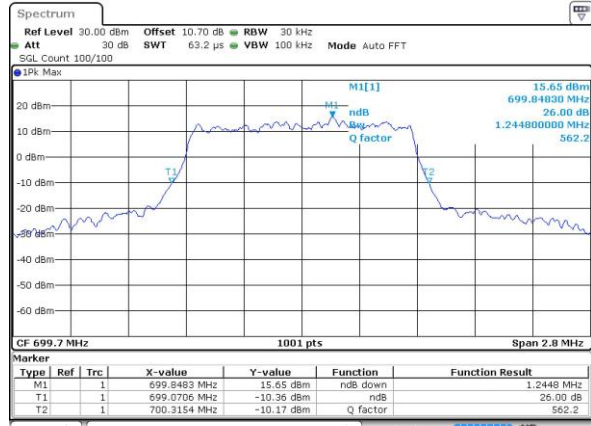
## LTE Band 12

## Lowest Channel / 1.4MHz / QPSK



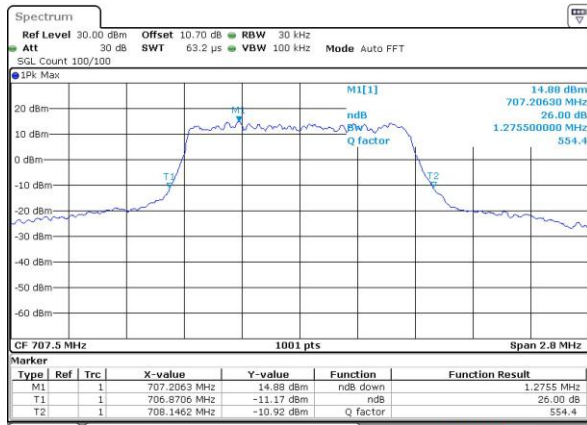
Date: 5 SEP 2018 01:39:11

## Lowest Channel / 1.4MHz / 16QAM



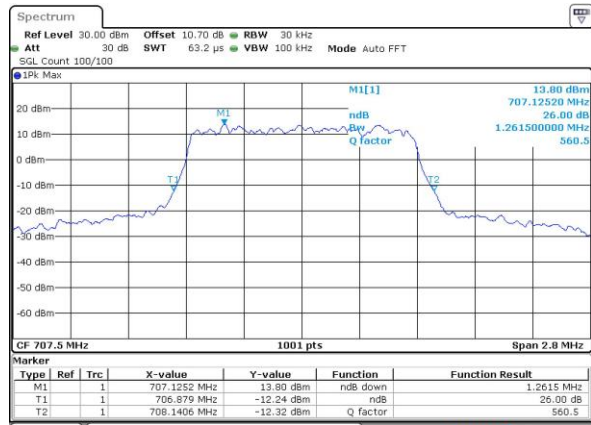
Date: 5 SEP 2018 01:38:59

## Middle Channel / 1.4MHz / QPSK



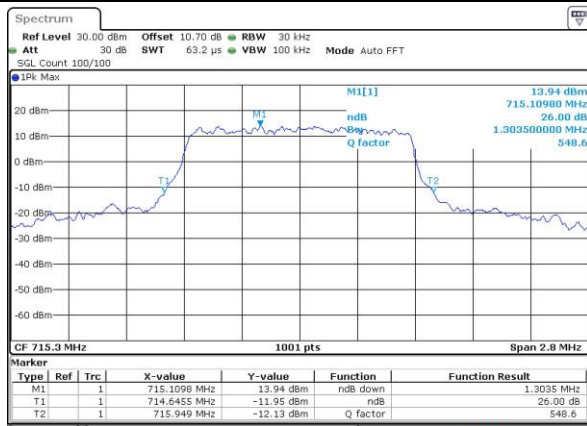
Date: 5 SEP 2018 01:46:06

## Middle Channel / 1.4MHz / 16QAM



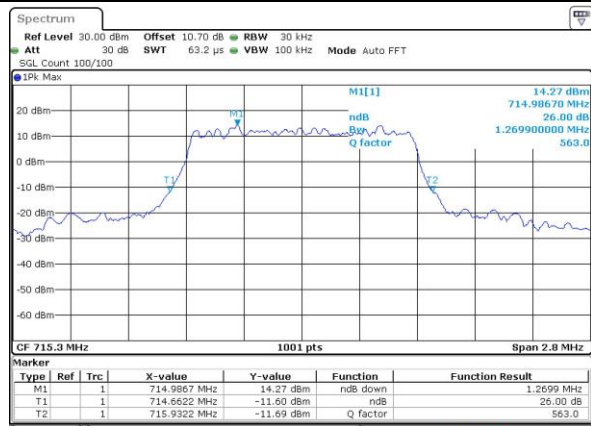
Date: 5 SEP 2018 01:46:17

## Highest Channel / 1.4MHz / QPSK



Date: 5 SEP 2018 01:48:43

## Highest Channel / 1.4MHz / 16QAM

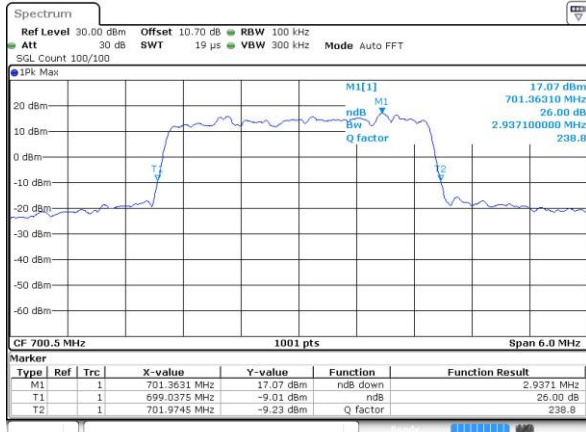


Date: 5 SEP 2018 01:48:32



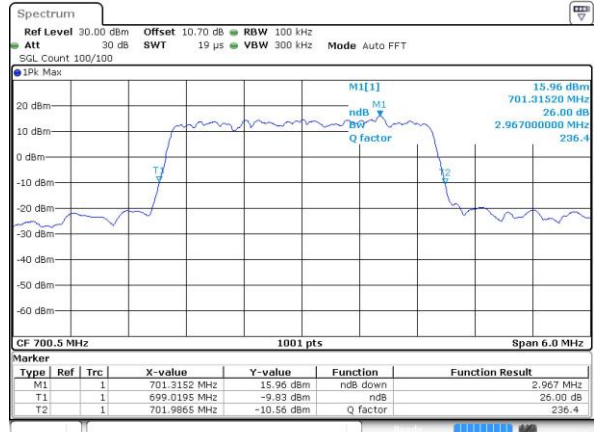
## LTE Band 12

## Lowest Channel / 3MHz / QPSK



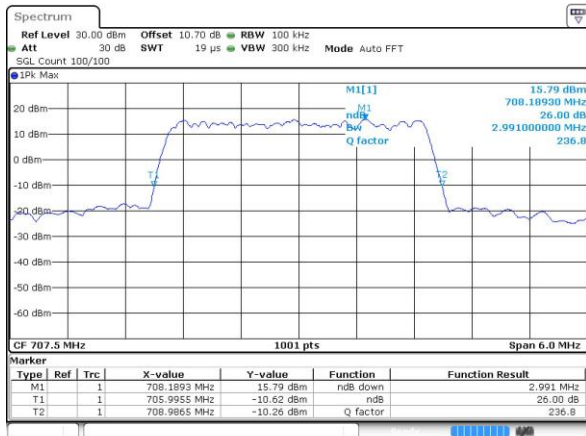
Date: 4 SEP 2018 23:18:08

## Lowest Channel / 3MHz / 16QAM



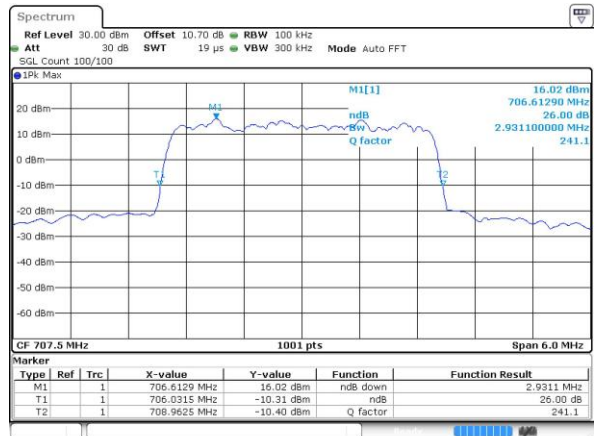
Date: 4 SEP 2018 23:17:57

## Middle Channel / 3MHz / QPSK



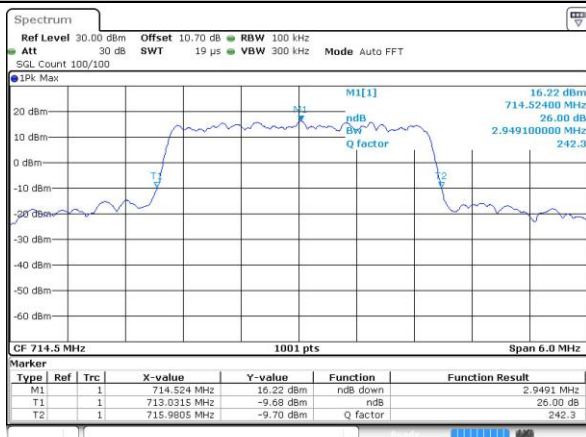
Date: 4 SEP 2018 23:25:03

## Middle Channel / 3MHz / 16QAM



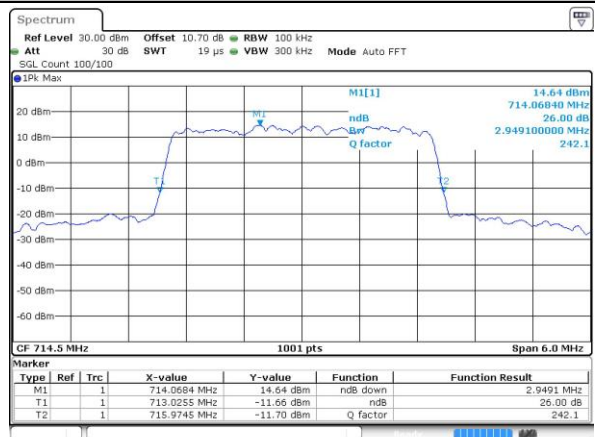
Date: 4 SEP 2018 23:25:15

## Highest Channel / 3MHz / QPSK



Date: 4 SEP 2018 23:27:41

## Highest Channel / 3MHz / 16QAM

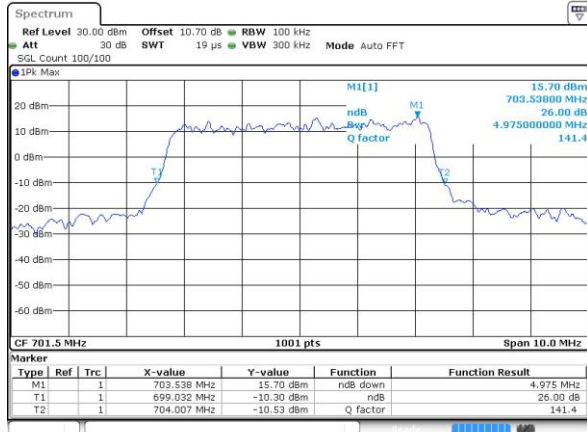


Date: 4 SEP 2018 23:27:30



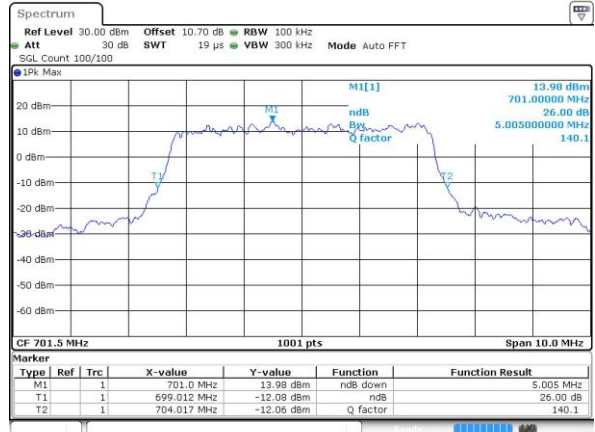
## LTE Band 12

## Lowest Channel / 5MHz / QPSK



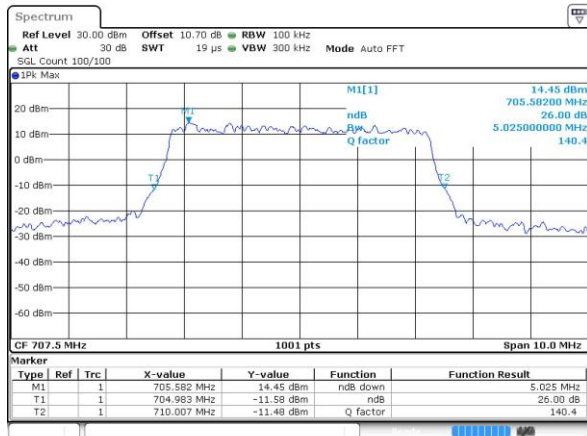
Date: 4 SEP 2018 23:34:47

## Lowest Channel / 5MHz / 16QAM



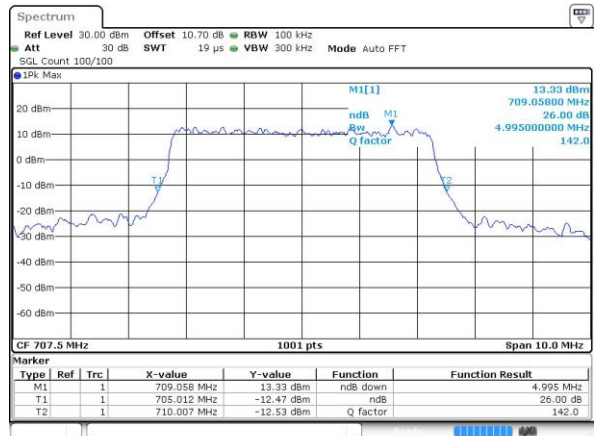
Date: 4 SEP 2018 23:34:36

## Middle Channel / 5MHz / QPSK



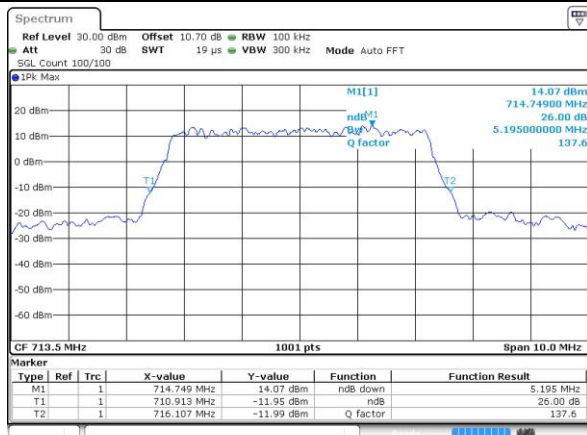
Date: 4 SEP 2018 23:41:42

## Middle Channel / 5MHz / 16QAM



Date: 4 SEP 2018 23:41:53

## Highest Channel / 5MHz / QPSK



Date: 4 SEP 2018 23:44:19

## Highest Channel / 5MHz / 16QAM

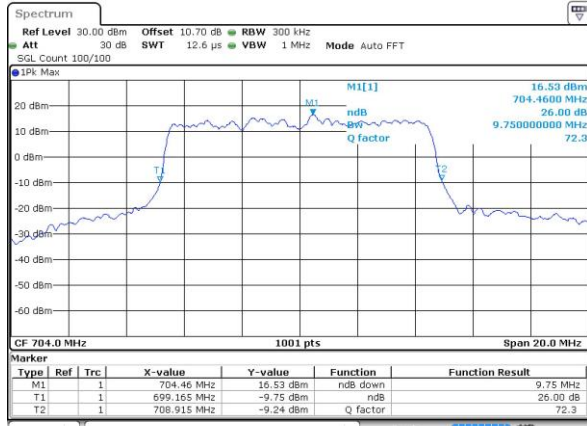


Date: 4 SEP 2018 23:44:08

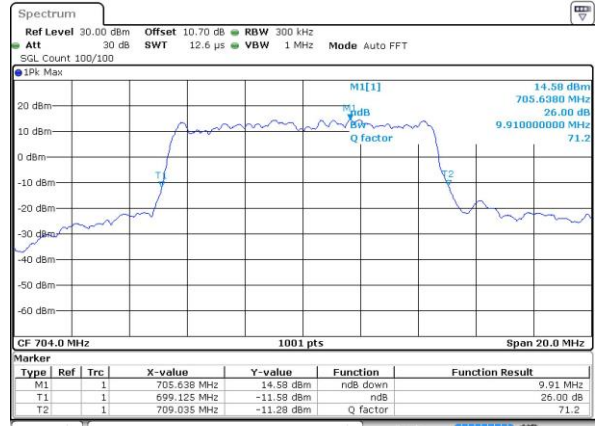


## LTE Band 12

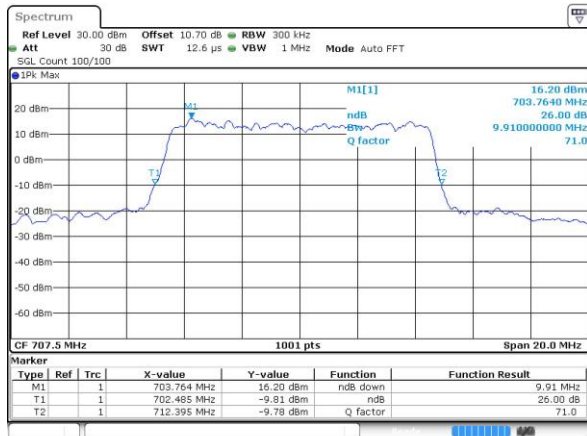
## Lowest Channel / 10MHz / QPSK



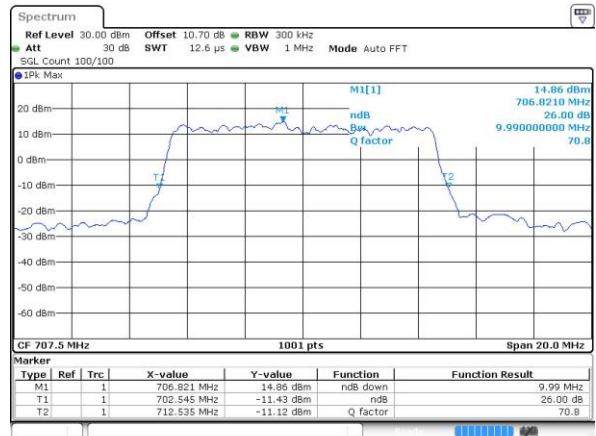
## Lowest Channel / 10MHz / 16QAM



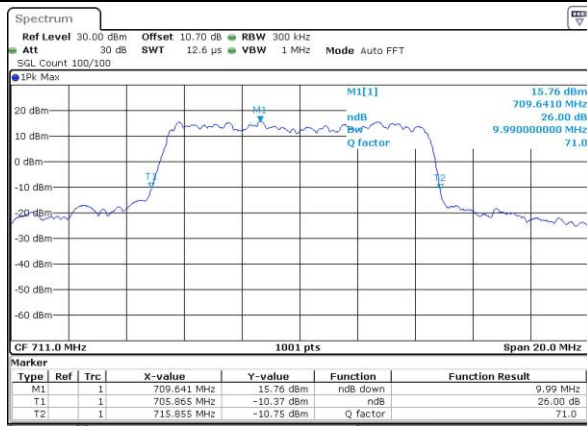
## Middle Channel / 10MHz / QPSK



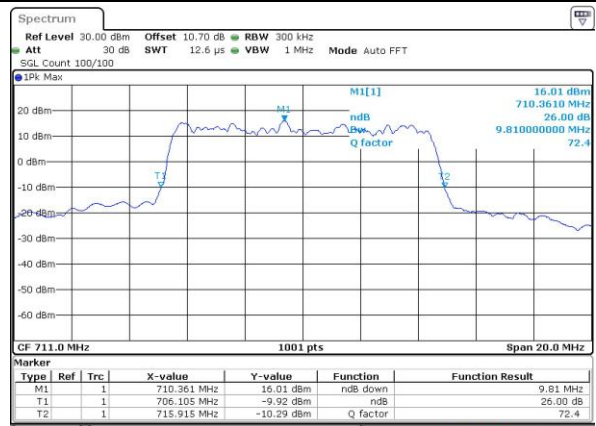
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



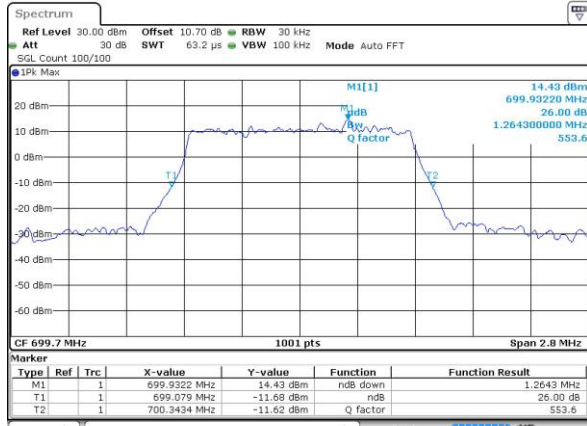
## Highest Channel / 10MHz / 16QAM





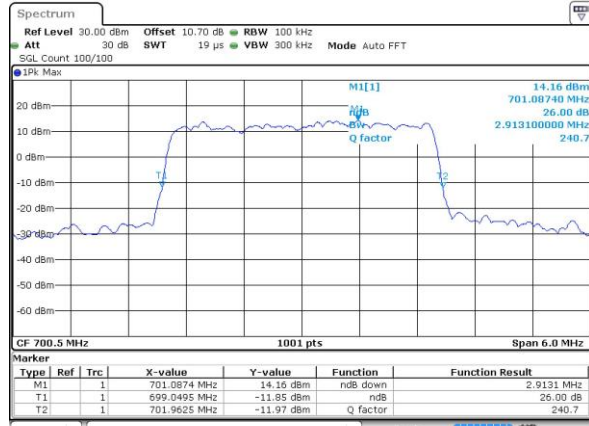
## LTE Band 12

## Lowest Channel / 1.4MHz / 64QAM



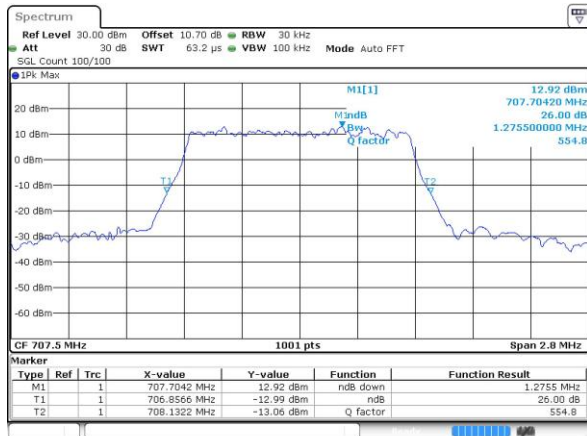
Date: 5 SEP 2018 01:30:28

## Lowest Channel / 3MHz / 64QAM



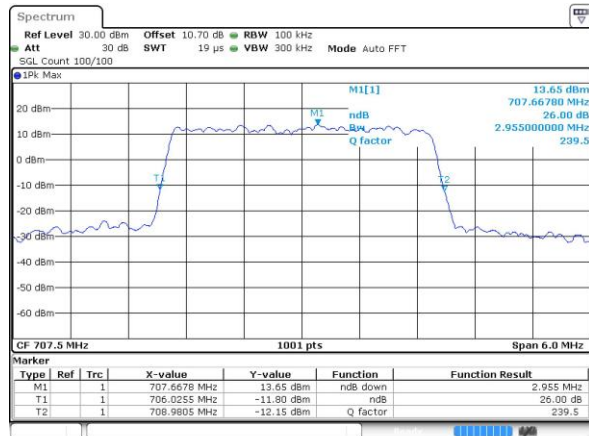
Date: 5 SEP 2018 01:05:29

## Middle Channel / 1.4MHz / 64QAM



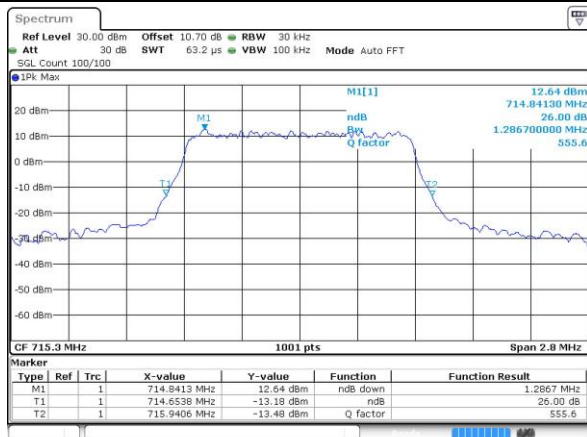
Date: 5 SEP 2018 01:34:02

## Middle Channel / 3MHz / 64QAM



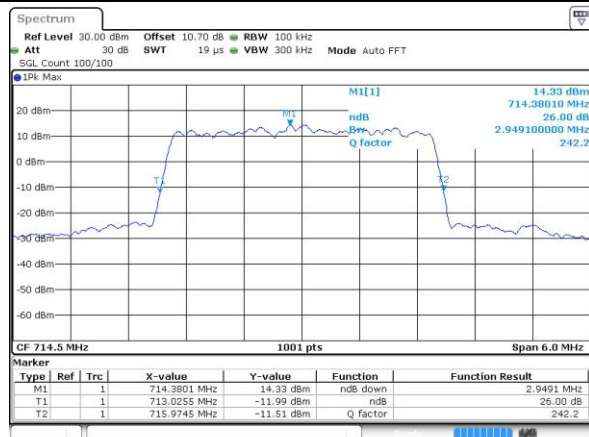
Date: 5 SEP 2018 01:09:03

## Highest Channel / 1.4MHz / 64QAM



Date: 5 SEP 2018 01:35:15

## Highest Channel / 3MHz / 64QAM

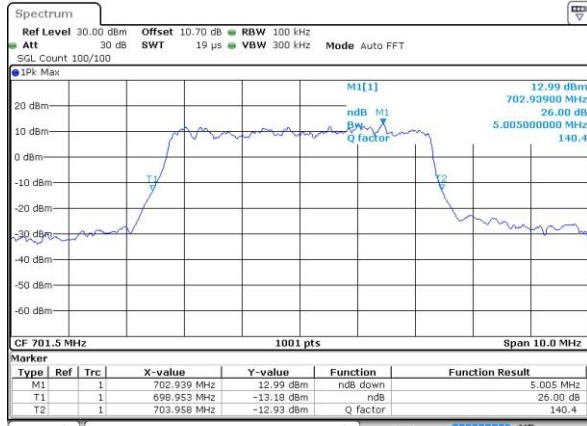


Date: 5 SEP 2018 01:10:16

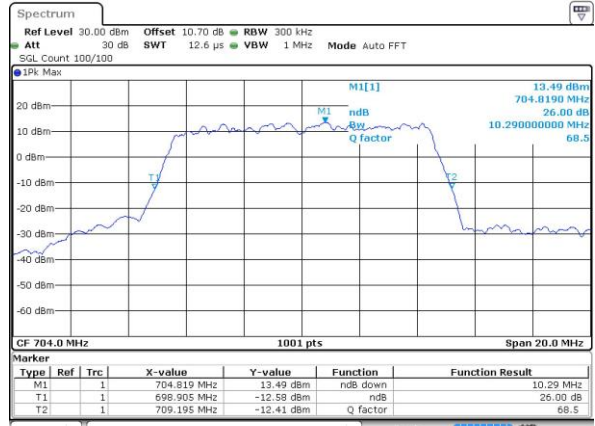


## LTE Band 12

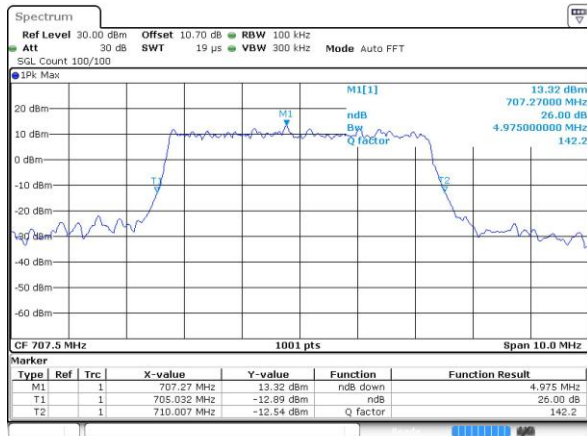
## Lowest Channel / 5MHz / 64QAM



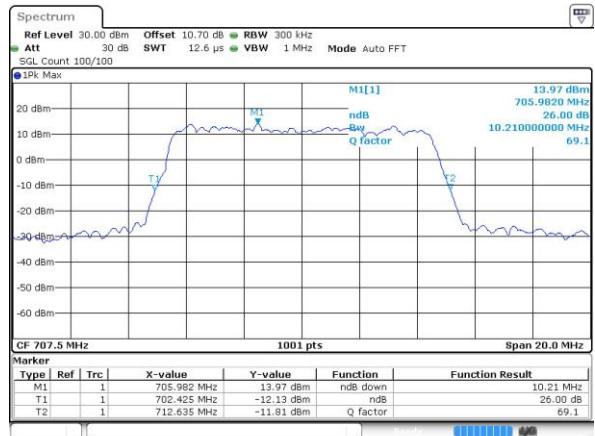
## Lowest Channel / 10MHz / 64QAM



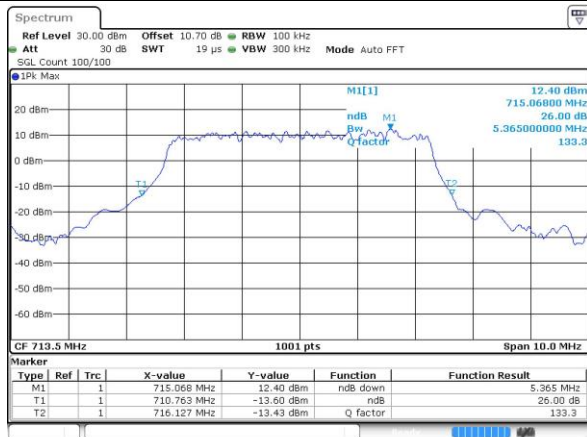
## Middle Channel / 5MHz / 64QAM



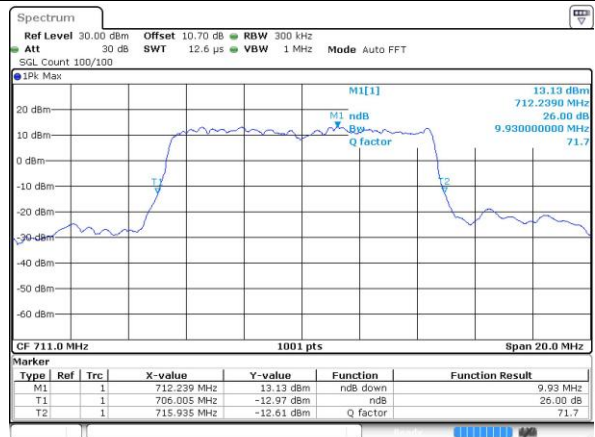
## Middle Channel / 10MHz / 64QAM



## Highest Channel / 5MHz / 64QAM



## Highest Channel / 10MHz / 64QAM



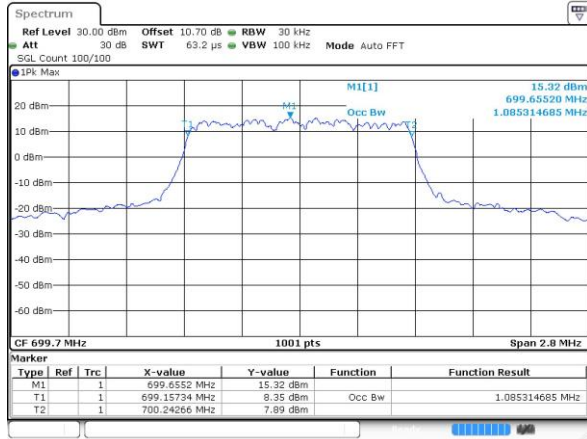
**Occupied Bandwidth**

| 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  | 2.71  | 4.51  | 4.5   | 8.97  | 8.95  | -     | -     | -     | -     |
| Middle CH  | 1.09                      | 1.09  | 2.7   | 2.7   | 4.5   | 4.5   | 8.99  | 9.09  | -     | -     | -     | -     |
| Highest CH | 1.09                      | 1.09  | 2.7   | 2.71  | 4.5   | 4.52  | 9.05  | 9.05  | -     | -     | -     | -     |
| Mode       | LTE Band 12 : 99%OBW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                    |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                     |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | 1.10                      | -     | 2.72  | -     | 4.51  | -     | 9.03  | -     | -     | -     | -     | -     |
| Middle CH  | 1.09                      | -     | 2.72  | -     | 4.53  | -     | 9.07  | -     | -     | -     | -     | -     |
| Highest CH | 1.10                      | -     | 2.71  | -     | 4.52  | -     | 9.05  | -     | -     | -     | -     | -     |

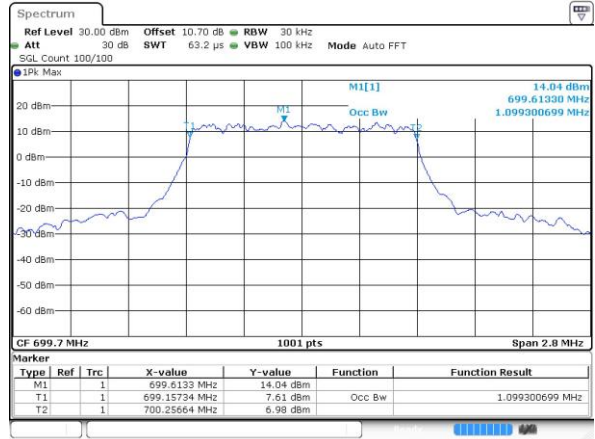


## LTE Band 12

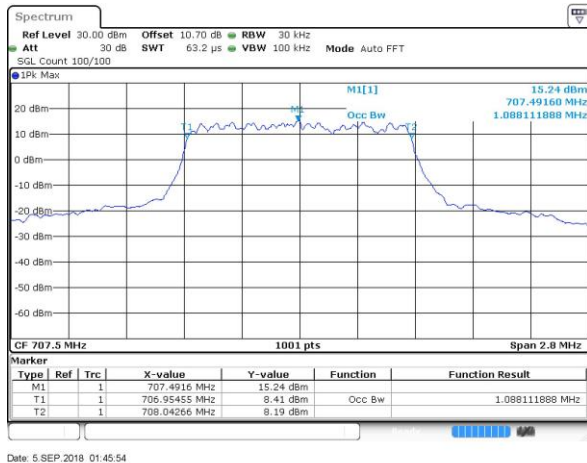
## Lowest Channel / 1.4MHz / QPSK



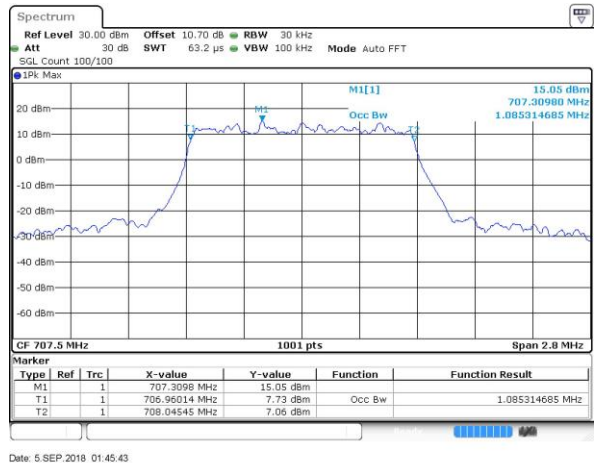
## Lowest Channel / 1.4MHz / 16QAM



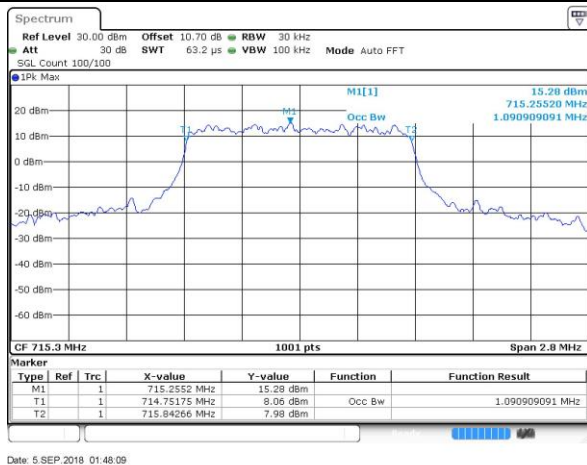
## Middle Channel / 1.4MHz / QPSK



## Middle Channel / 1.4MHz / 16QAM



## Highest Channel / 1.4MHz / QPSK



## Highest Channel / 1.4MHz / 16QAM

