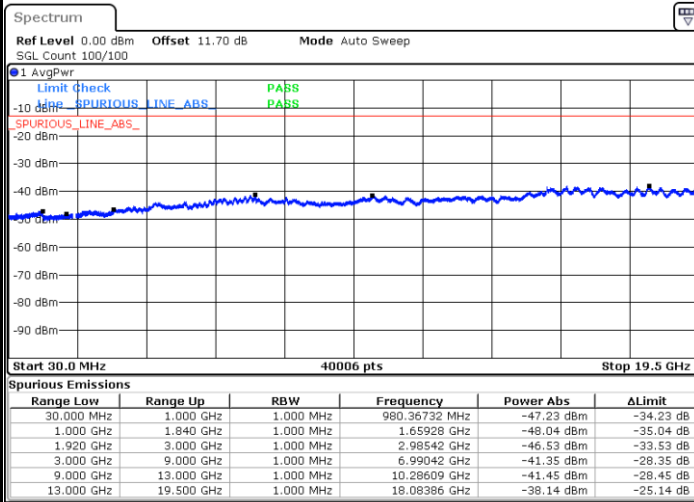




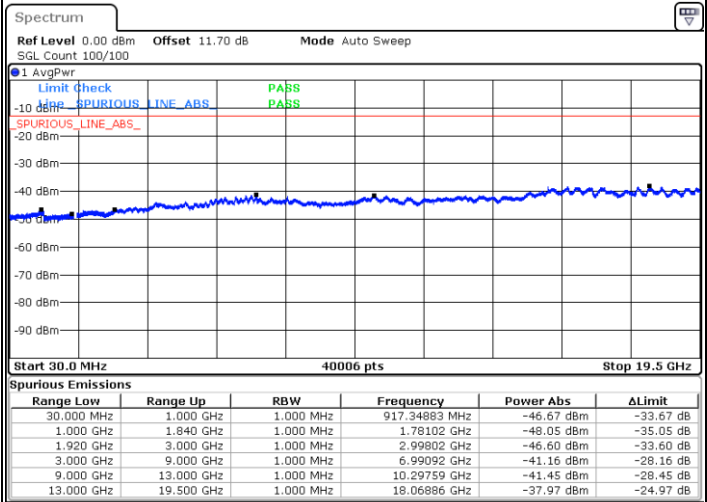
## LTE Band 2 / 5MHz

## Lowest Channel / 64QAM



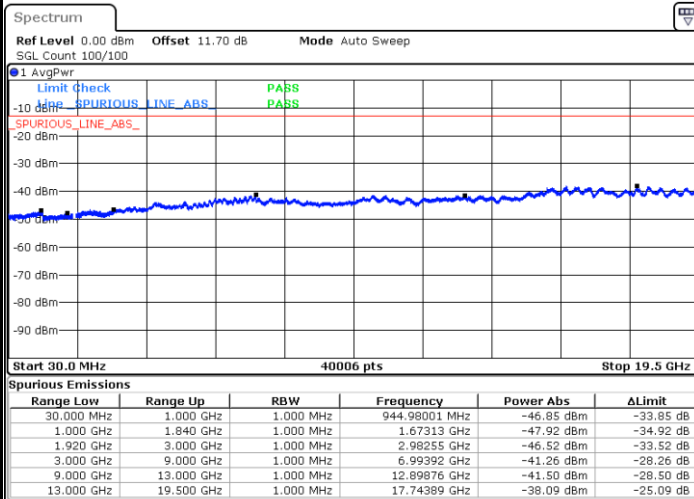
Date: 21 JUN 2017 19:02:09

## Middle Channel / 64QAM



Date: 21 JUN 2017 19:03:23

## Highest Channel / 64QAM

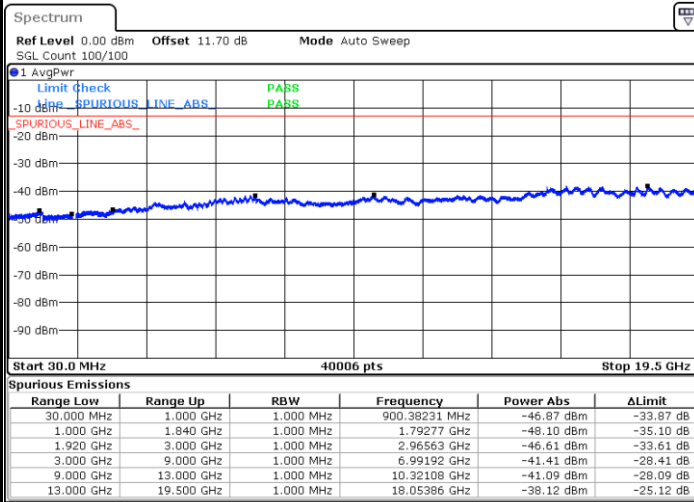


Date: 21 JUN 2017 19:06:56



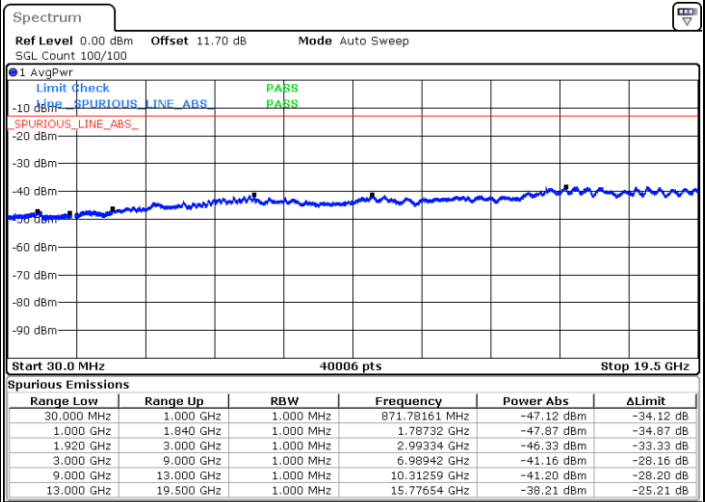
## LTE Band 2 / 10MHz

## Lowest Channel / 64QAM



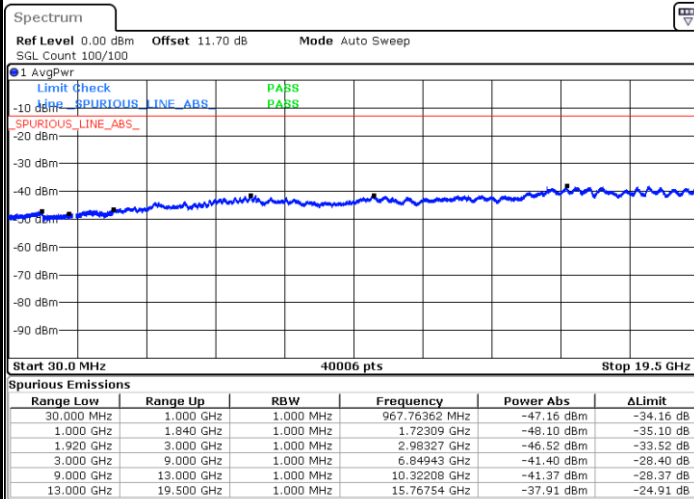
Date: 21 JUN 2017 19:10:27

## Middle Channel / 64QAM



Date: 21 JUN 2017 19:11:41

## Highest Channel / 64QAM

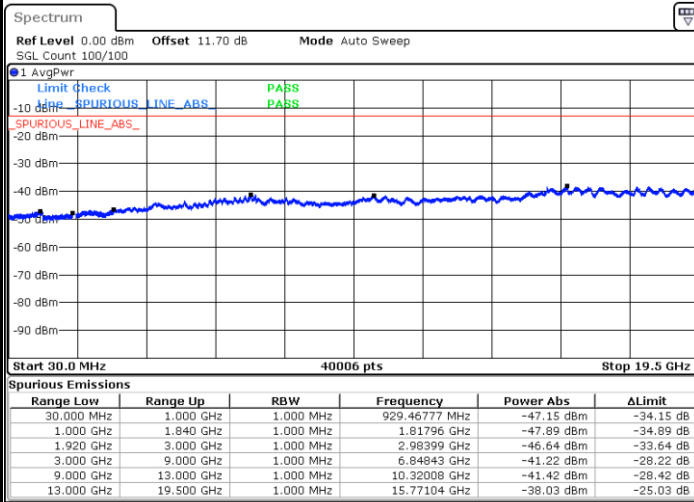


Date: 21 JUN 2017 19:15:13



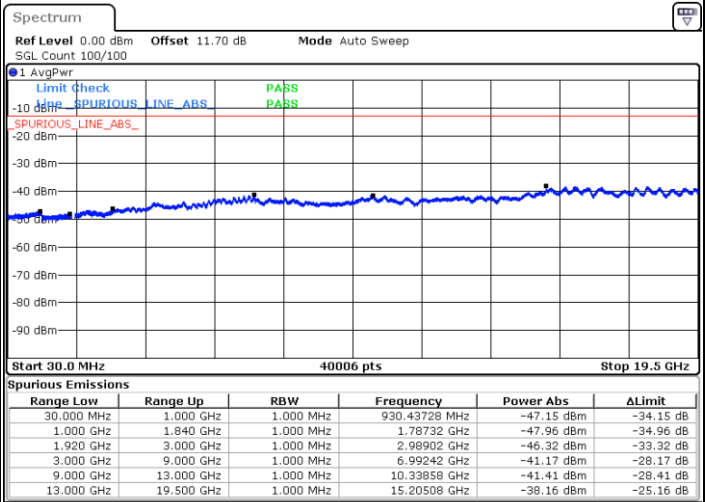
## LTE Band 2 / 15MHz

## Lowest Channel / 64QAM



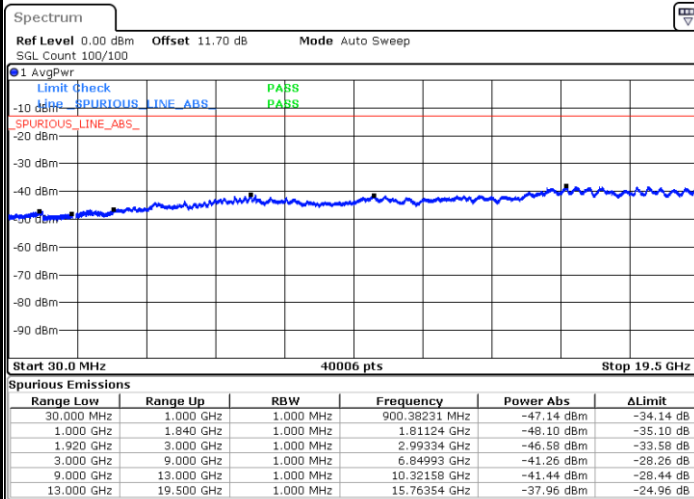
Date: 21 JUN 2017 19:18:44

## Middle Channel / 64QAM



Date: 21 JUN 2017 19:19:58

## Highest Channel / 64QAM

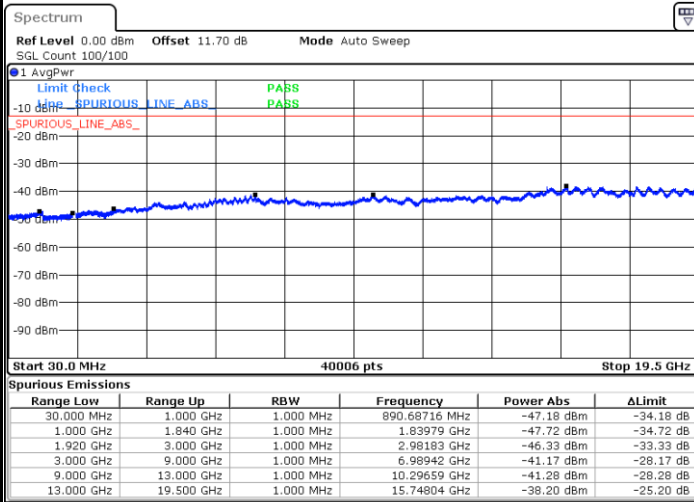


Date: 21 JUN 2017 19:23:30



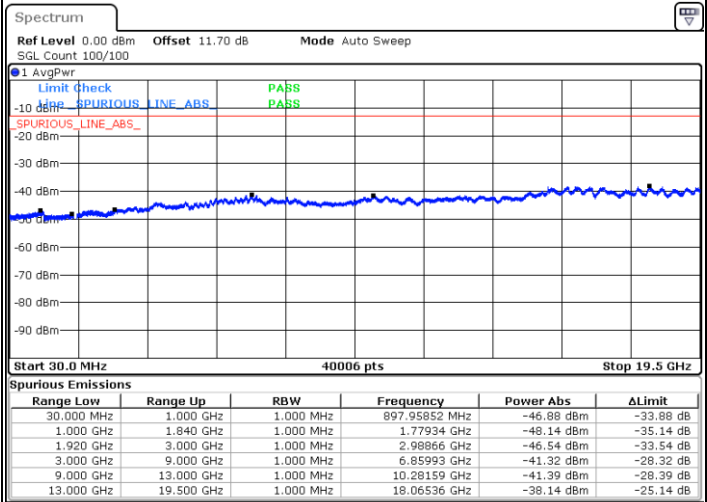
## LTE Band 2 / 20MHz

## Lowest Channel / 64QAM



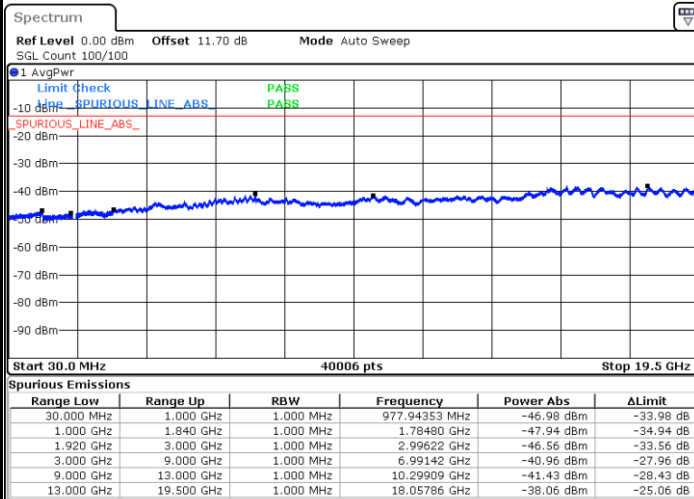
Date: 21 JUN 2017 19:27:01

## Middle Channel / 64QAM



Date: 21 JUN 2017 19:28:15

## Highest Channel / 64QAM



Date: 21 JUN 2017 19:31:47

## Frequency Stability

| Test Conditions  |                   | LTE Band 2 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                           | Note 2. |
|                  |                   | Deviation (ppm)                    | Result  |
| 50               | Normal Voltage    | 0.0042                             | PASS    |
| 40               | Normal Voltage    | 0.0007                             |         |
| 30               | Normal Voltage    | 0.0005                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0004                             |         |
| 0                | Normal Voltage    | 0.0006                             |         |
| -10              | Normal Voltage    | 0.0014                             |         |
| -20              | Normal Voltage    | 0.0003                             |         |
| -30              | Normal Voltage    | 0.0004                             |         |
| 20               | Maximum Voltage   | 0.0034                             |         |
| 20               | Normal Voltage    | 0.0000                             |         |
| 20               | Battery End Point | 0.0006                             |         |

**Note:**

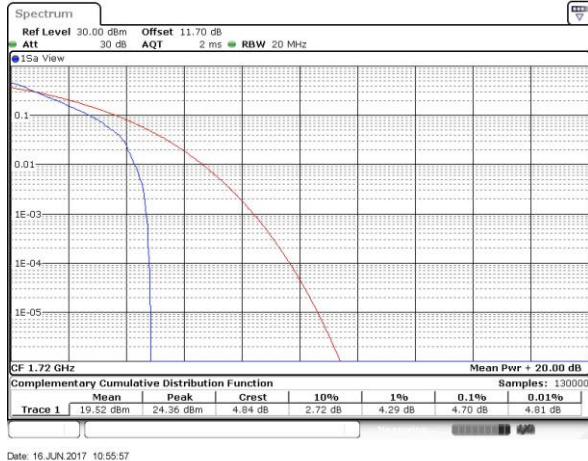
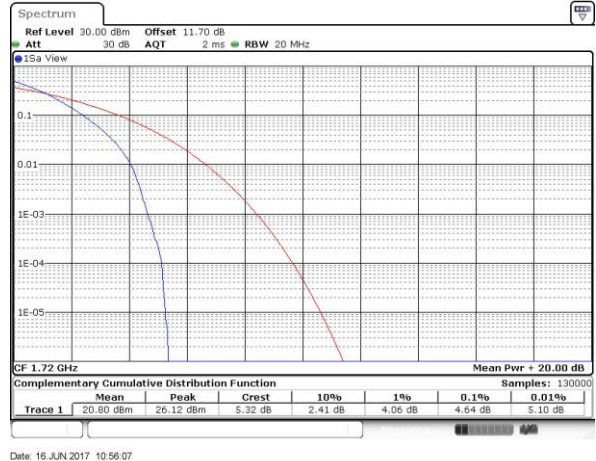
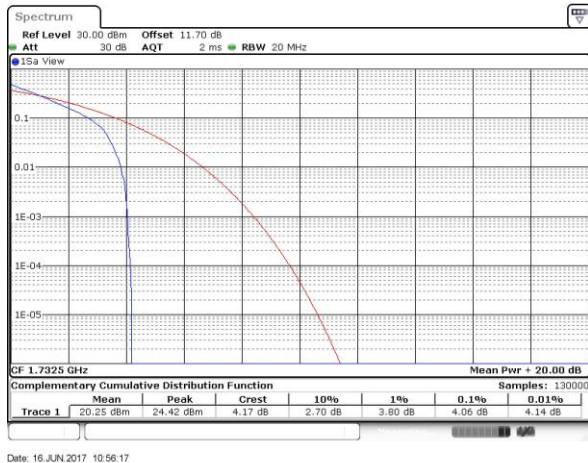
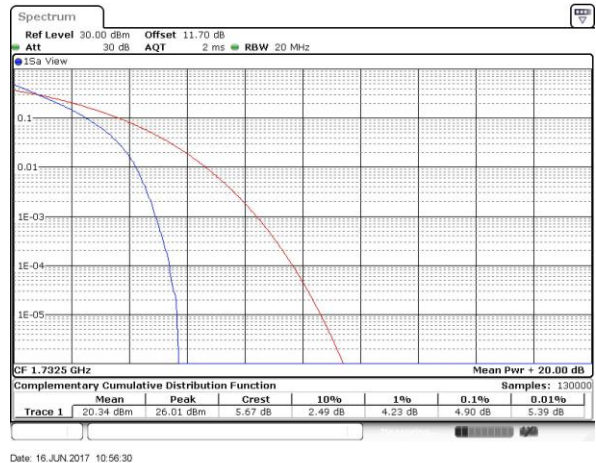
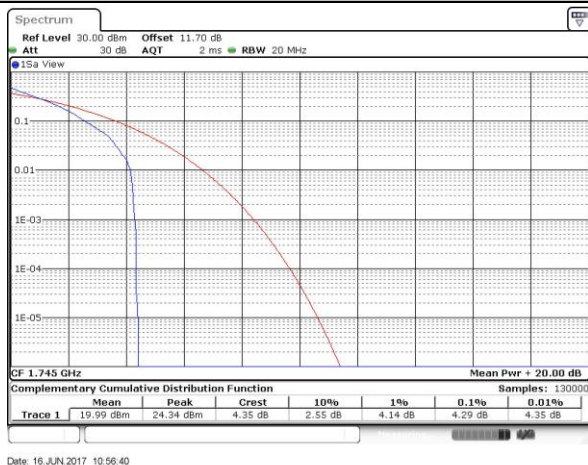
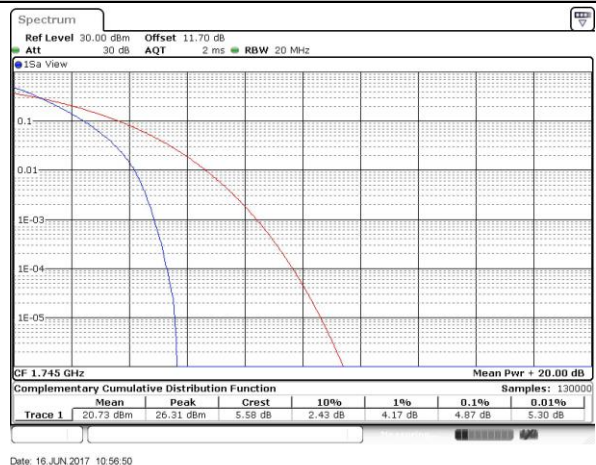
1. Normal Voltage =3.3 V. ; Battery End Point (BEP) =3.1 V. ; Maximum Voltage =3.6 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

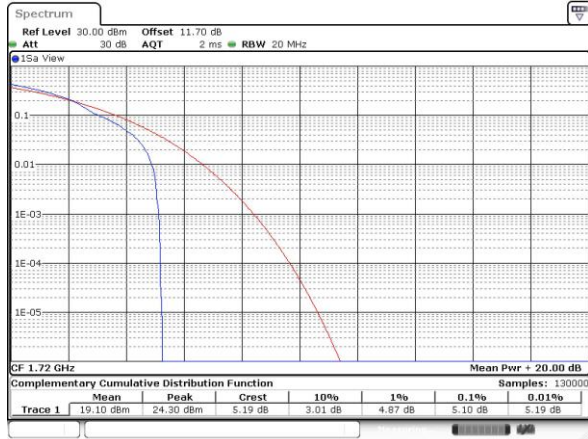


## LTE Band 4

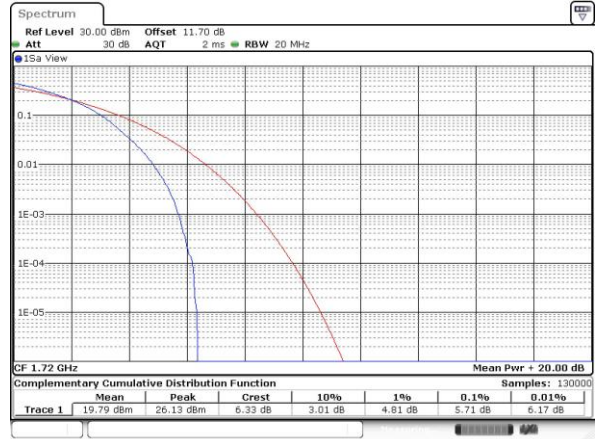
**Peak-to-Average Ratio**

| Mode       | LTE Band 4 / 20MHz |         |       |         |             |
|------------|--------------------|---------|-------|---------|-------------|
| Mod.       | QPSK               |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 4.7                | 4.64    | 5.1   | 5.71    | PASS        |
| Middle CH  | 4.06               | 4.9     | 4.93  | 5.74    |             |
| Highest CH | 4.29               | 4.87    | 5.22  | 5.86    |             |
| Mode       | LTE Band 4 / 20MHz |         |       |         |             |
| Mod.       | 64QAM              |         |       |         | Limit: 13dB |
| RB Size    | 1RB                | Full RB |       |         | Result      |
| Lowest CH  | 6.06               | 6.09    |       |         | PASS        |
| Middle CH  | 5.86               | 6.14    |       |         |             |
| Highest CH | 5.94               | 6.17    |       |         |             |

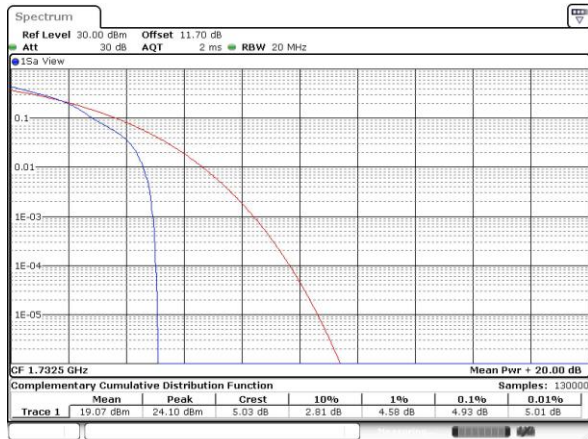
**LTE Band 4 / 20MHz / QPSK**
**Lowest Channel / 1RB**

**Lowest Channel / Full RB**

**Middle Channel / 1RB**

**Middle Channel / Full RB**

**Highest Channel / 1RB**

**Highest Channel / Full RB**


**LTE Band 4 / 20MHz / 16QAM**
**Lowest Channel / 1RB**


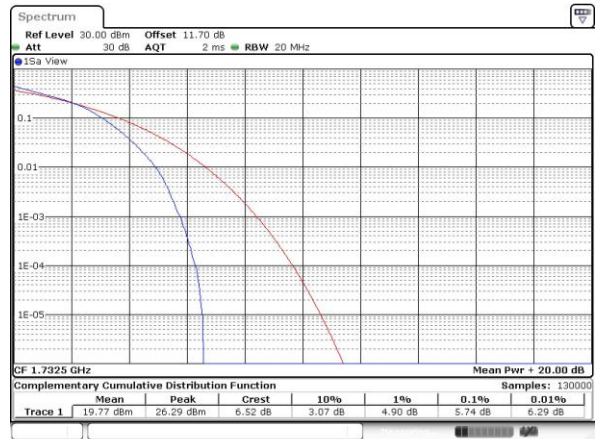
Date: 16 JUN 2017 10:54:30

**Lowest Channel / Full RB**


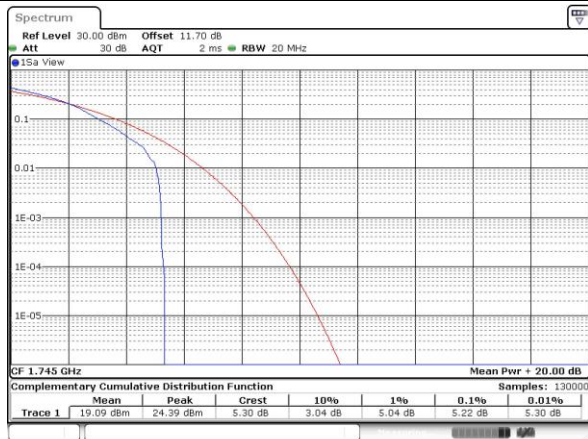
Date: 16 JUN 2017 10:54:40

**Middle Channel / 1RB**


Date: 16 JUN 2017 10:55:17

**Middle Channel / Full RB**


Date: 16 JUN 2017 10:55:28

**Highest Channel / 1RB**


Date: 16 JUN 2017 10:55:37

**Highest Channel / Full RB**

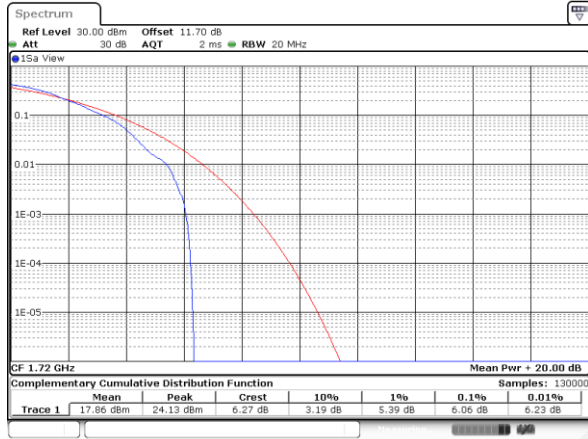

Date: 16 JUN 2017 10:55:47



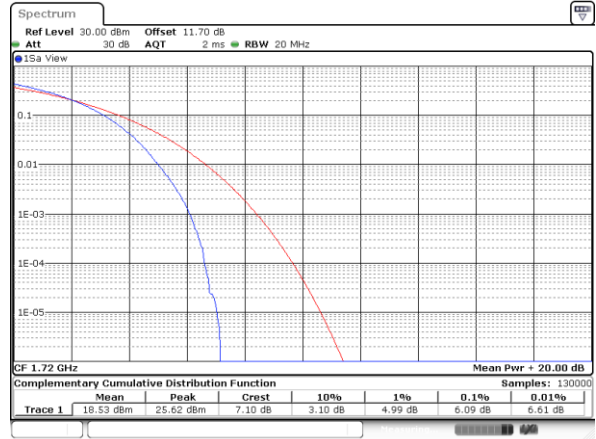


## LTE Band 4 / 20MHz / 64QAM

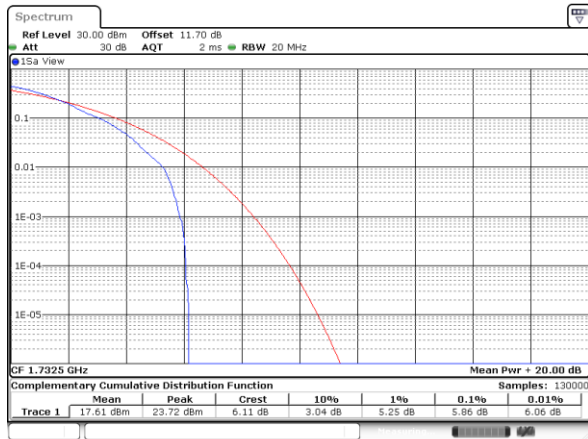
## Lowest Channel / 1RB



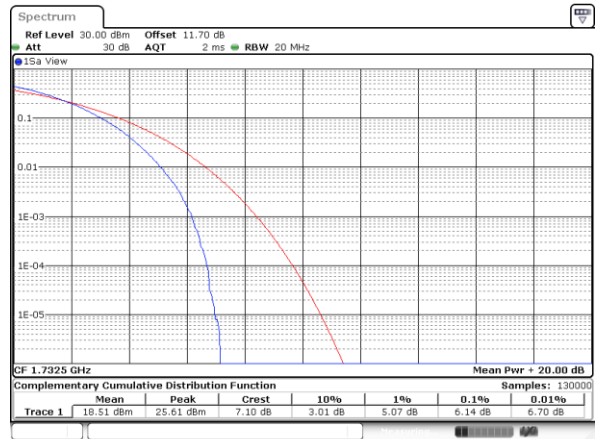
## Lowest Channel / Full RB



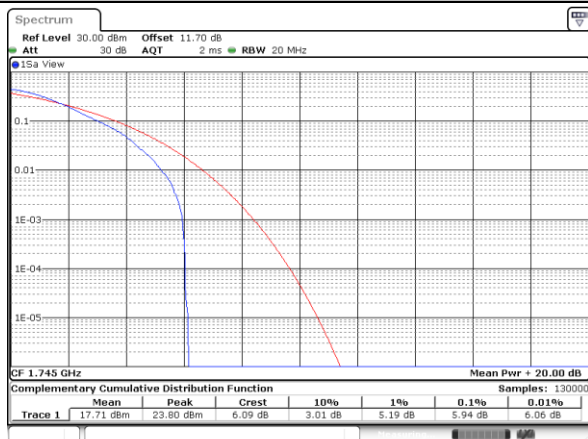
## Middle Channel / 1RB



## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB



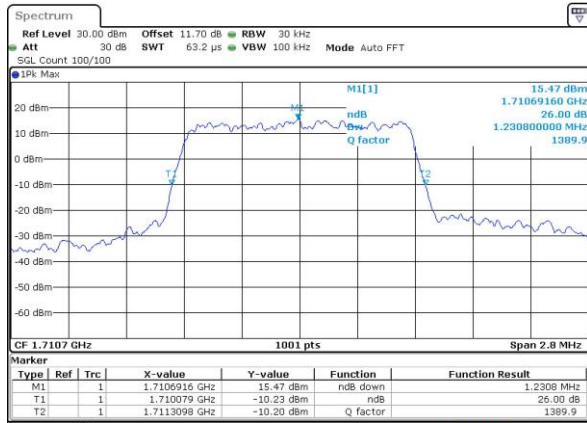
**26dB Bandwidth**

| Mode       | LTE Band 4 : 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                      | 1.23  | 3.00  | 3.02  | 4.86  | 4.84  | 9.65  | 9.69  | 14.57 | 14.69 | 20.26 | 20.10 |
| Middle CH  | 1.23                      | 1.25  | 3.02  | 3.05  | 4.92  | 4.90  | 9.81  | 9.87  | 14.60 | 14.36 | 20.34 | 20.14 |
| Highest CH | 1.23                      | 1.25  | 3.03  | 2.99  | 4.97  | 4.92  | 9.73  | 9.93  | 14.54 | 14.30 | 20.22 | 20.22 |
| Mode       | LTE Band 4 : 26dB BW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                    |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                     |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | 1.21                      | -     | 3     | -     | 4.89  | -     | 9.75  | -     | 14.27 | -     | 20.18 | -     |
| Middle CH  | 1.23                      | -     | 3.03  | -     | 4.91  | -     | 9.77  | -     | 14.3  | -     | 20.22 | -     |
| Highest CH | 1.2                       | -     | 3.03  | -     | 4.96  | -     | 9.83  | -     | 14.24 | -     | 20.22 | -     |



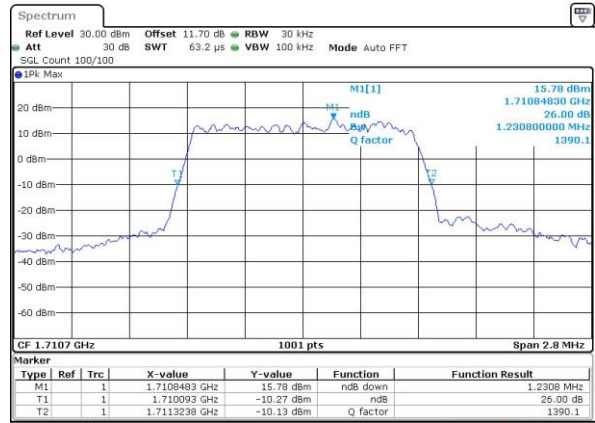
## LTE Band 4

## Lowest Channel / 1.4MHz / QPSK



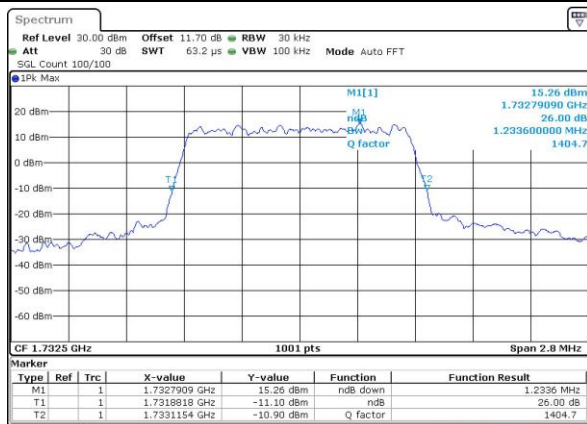
Date: 16 JUN 2017 10:37:09

## Lowest Channel / 1.4MHz / 16QAM



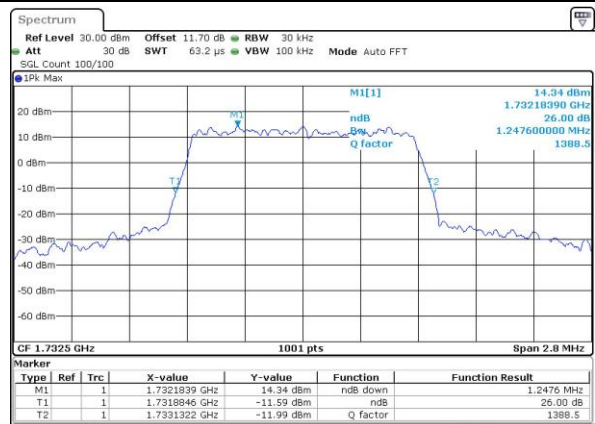
Date: 16 JUN 2017 10:37:19

## Middle Channel / 1.4MHz / QPSK



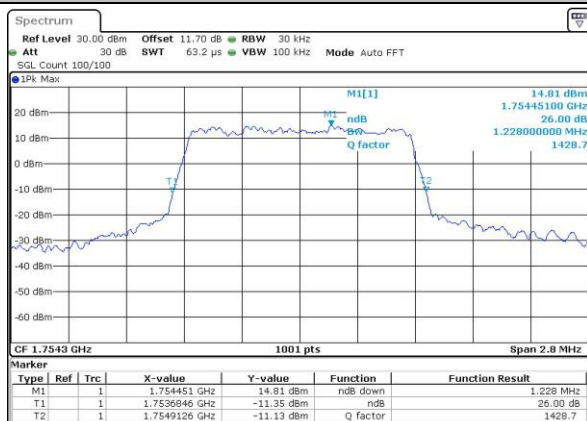
Date: 16 JUN 2017 10:44:16

## Middle Channel / 1.4MHz / 16QAM



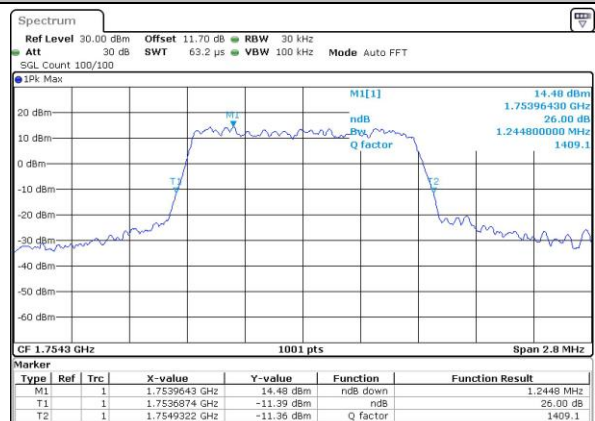
Date: 16 JUN 2017 10:44:26

## Highest Channel / 1.4MHz / QPSK



Date: 16 JUN 2017 10:46:46

## Highest Channel / 1.4MHz / 16QAM



Date: 16 JUN 2017 10:46:56



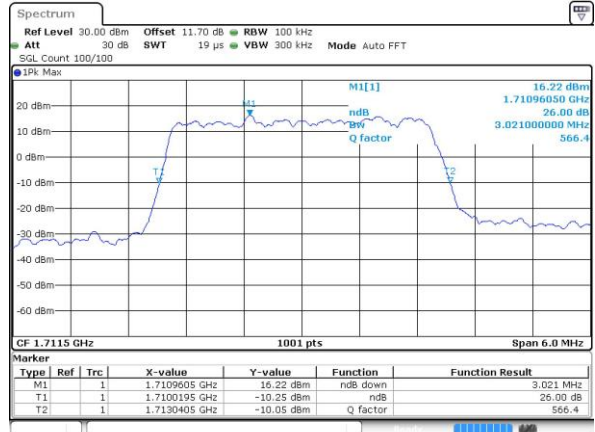
## LTE Band 4

## Lowest Channel / 3MHz / QPSK



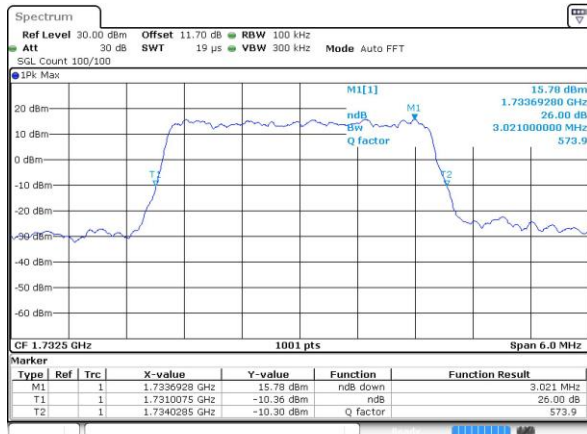
Date: 16 JUN 2017 09:12:08

## Lowest Channel / 3MHz / 16QAM



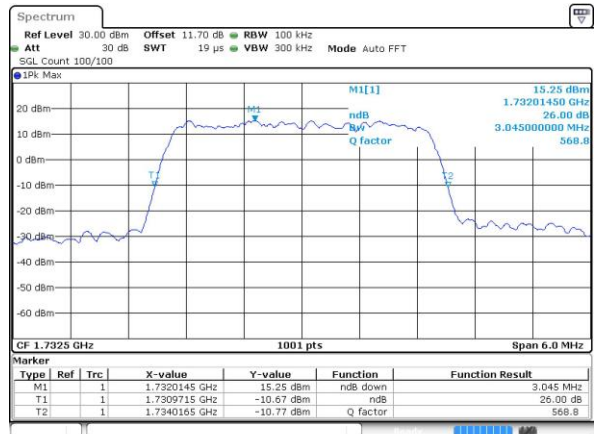
Date: 16 JUN 2017 09:12:19

## Middle Channel / 3MHz / QPSK



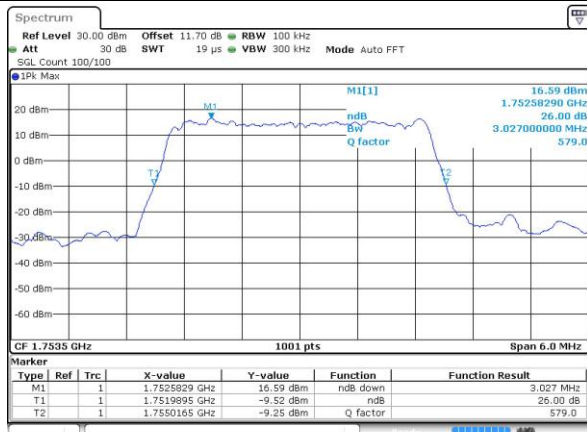
Date: 16 JUN 2017 09:19:15

## Middle Channel / 3MHz / 16QAM



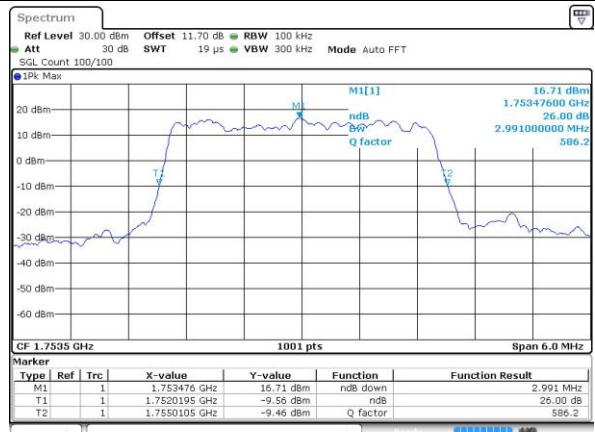
Date: 16 JUN 2017 09:19:25

## Highest Channel / 3MHz / QPSK



Date: 16 JUN 2017 09:21:45

## Highest Channel / 3MHz / 16QAM

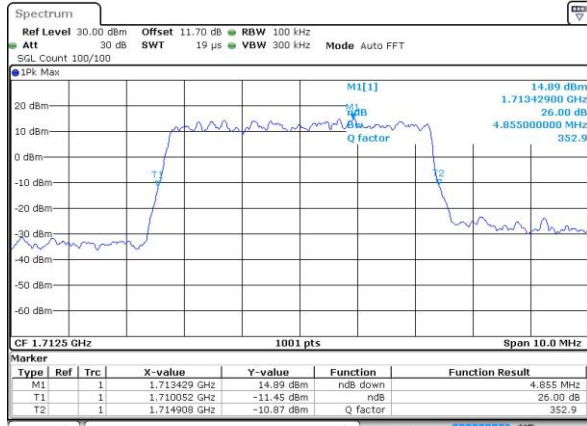


Date: 16 JUN 2017 09:21:56

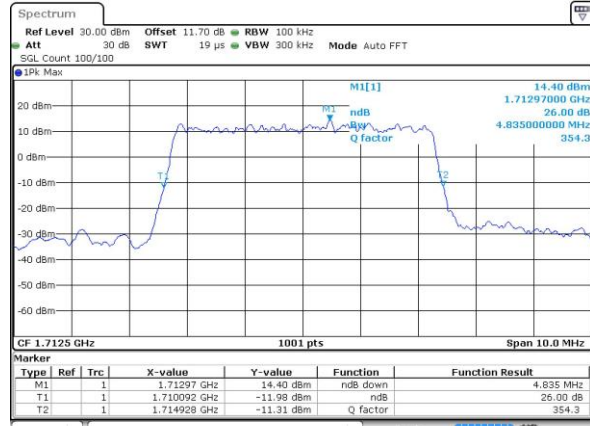


## LTE Band 4

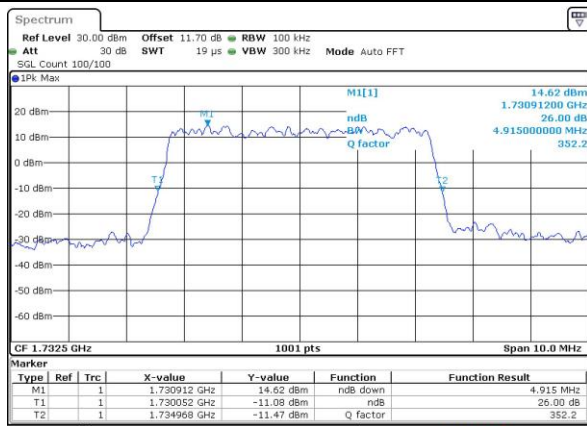
## Lowest Channel / 5MHz / QPSK



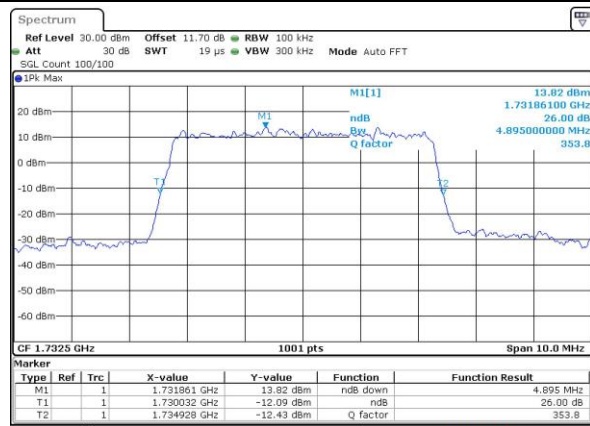
## Lowest Channel / 5MHz / 16QAM



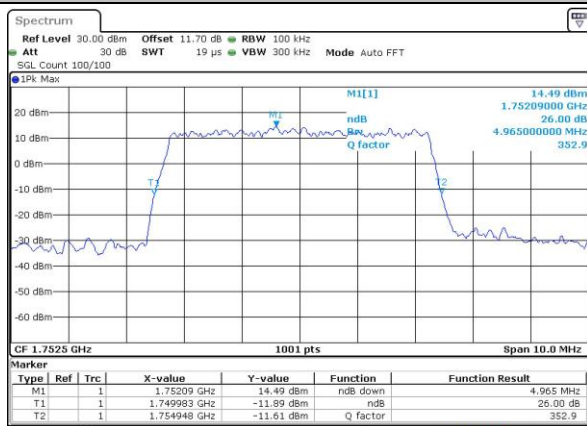
## Middle Channel / 5MHz / QPSK



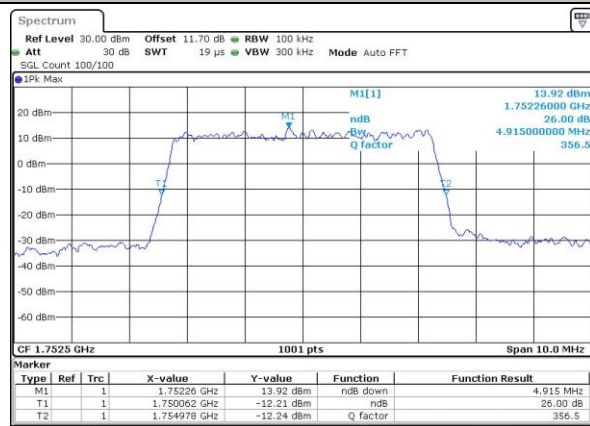
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



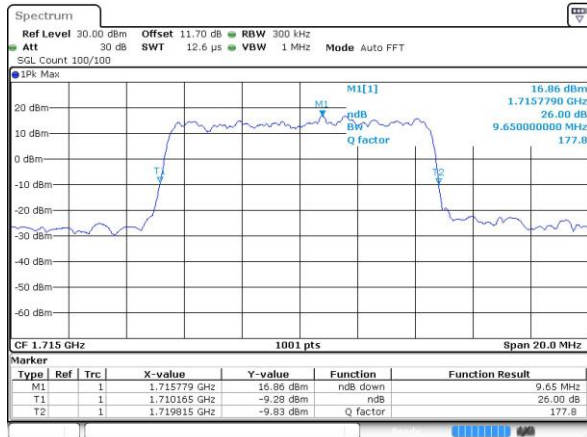
## Highest Channel / 5MHz / 16QAM



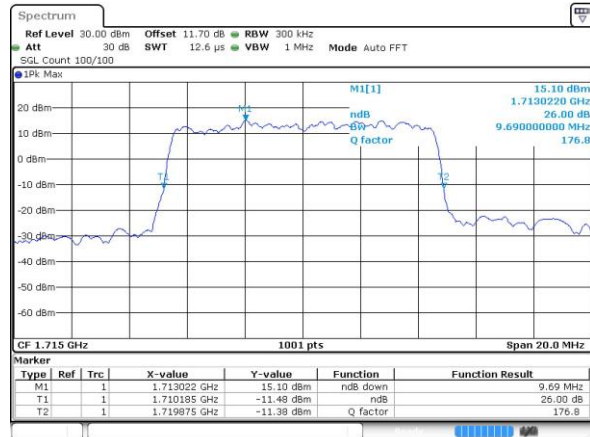


## LTE Band 4

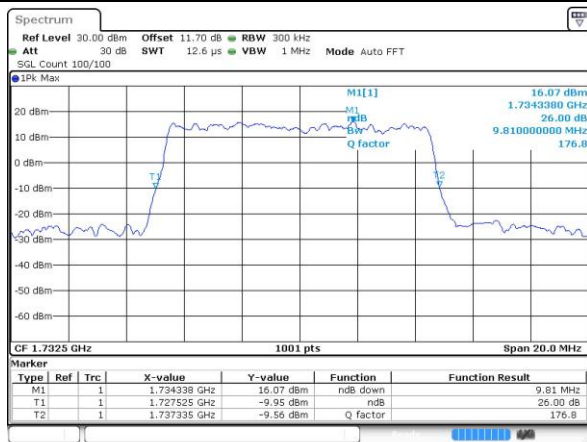
## Lowest Channel / 10MHz / QPSK



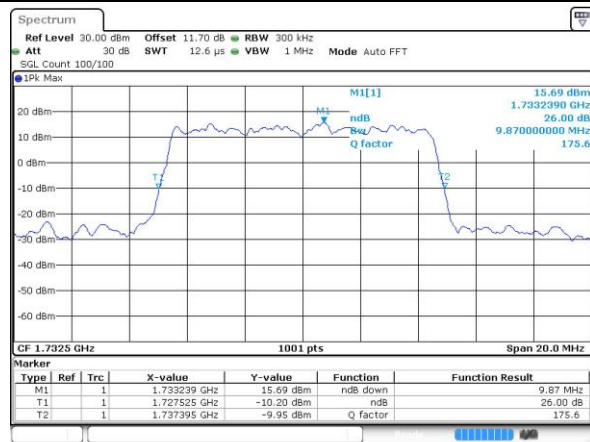
## Lowest Channel / 10MHz / 16QAM



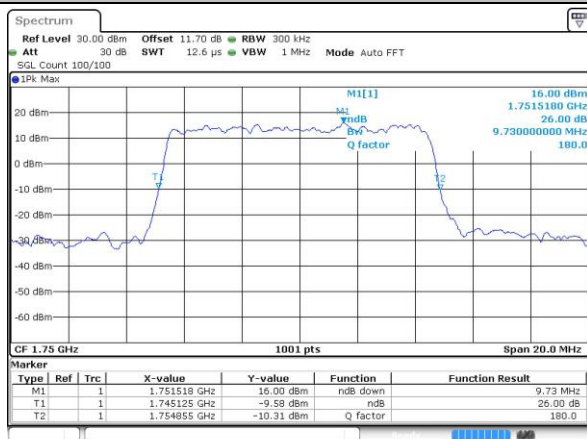
## Middle Channel / 10MHz / QPSK



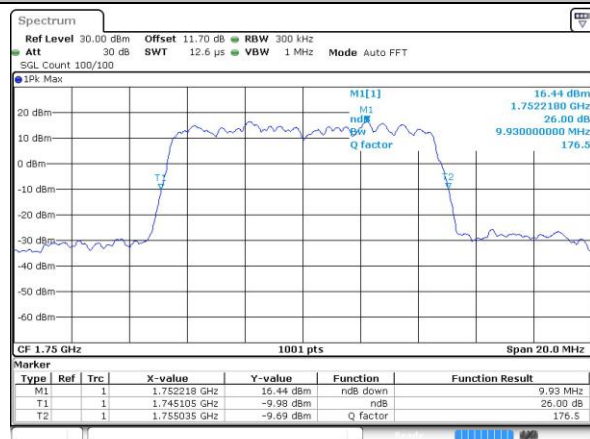
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



## Highest Channel / 10MHz / 16QAM

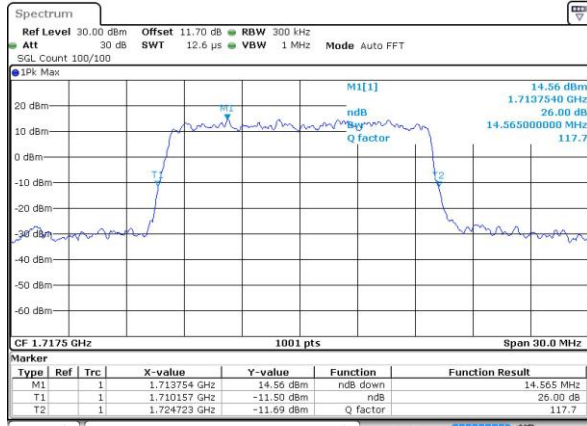






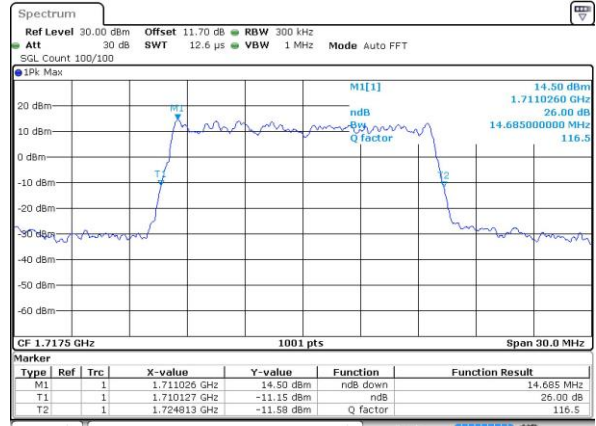
## LTE Band 4

## Lowest Channel / 15MHz / QPSK



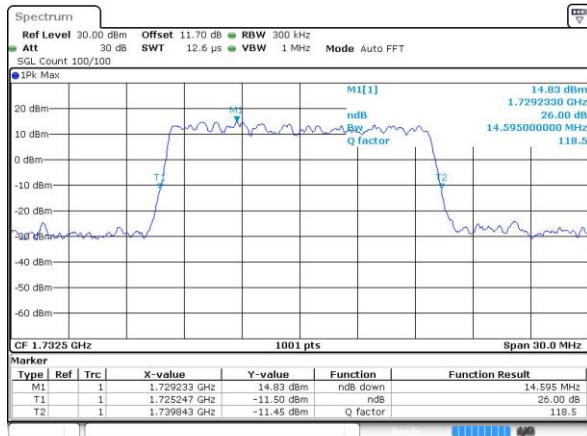
Date: 16 JUN 2017 10:02:21

## Lowest Channel / 15MHz / 16QAM



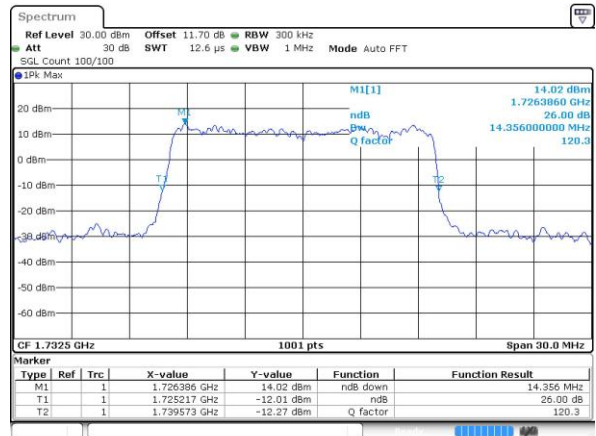
Date: 16 JUN 2017 10:02:31

## Middle Channel / 15MHz / QPSK



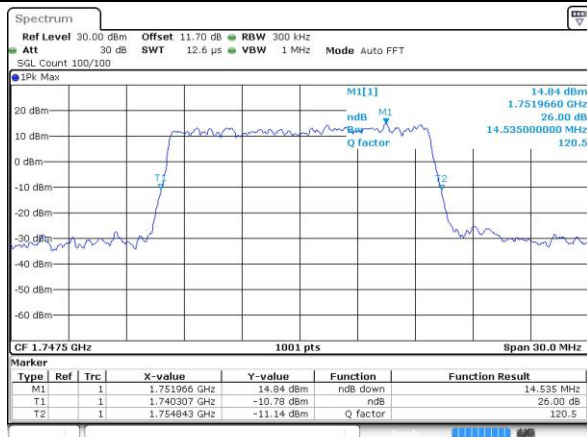
Date: 16 JUN 2017 10:09:28

## Middle Channel / 15MHz / 16QAM



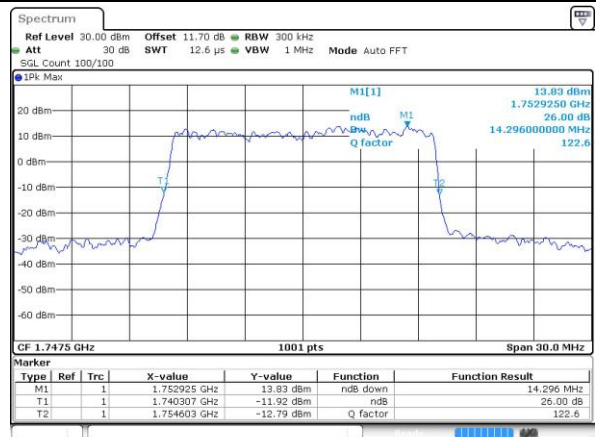
Date: 16 JUN 2017 10:09:38

## Highest Channel / 15MHz / QPSK



Date: 16 JUN 2017 10:11:58

## Highest Channel / 15MHz / 16QAM

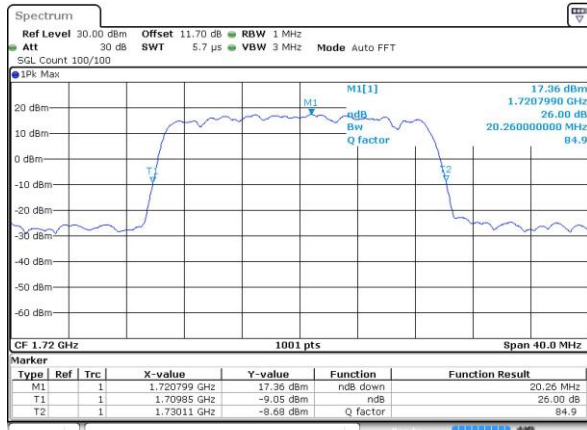


Date: 16 JUN 2017 10:12:08

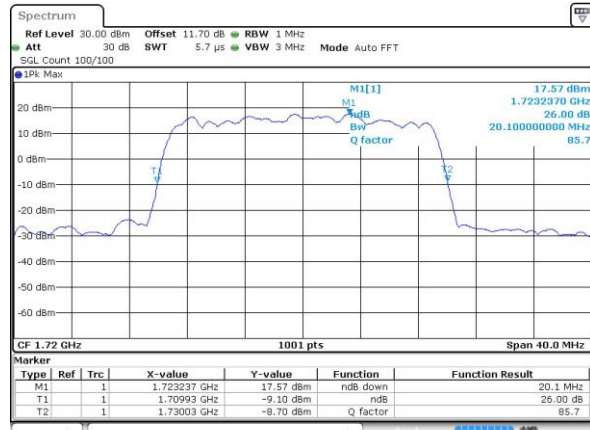


## LTE Band 4

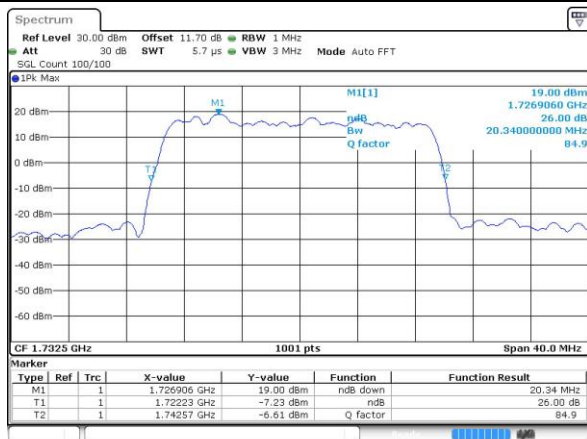
## Lowest Channel / 20MHz / QPSK



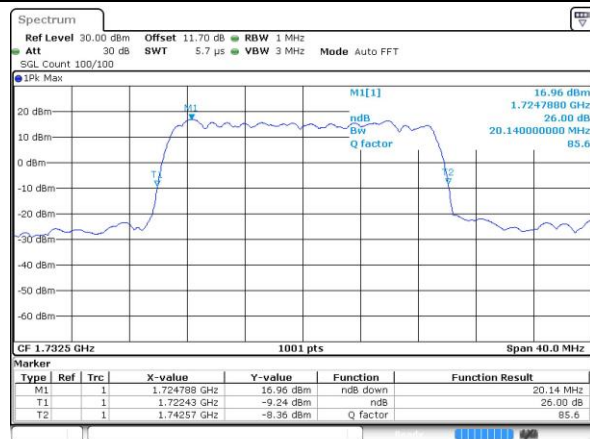
## Lowest Channel / 20MHz / 16QAM



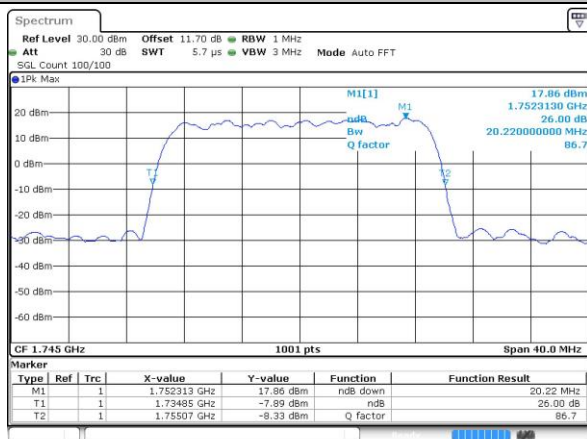
## Middle Channel / 20MHz / QPSK



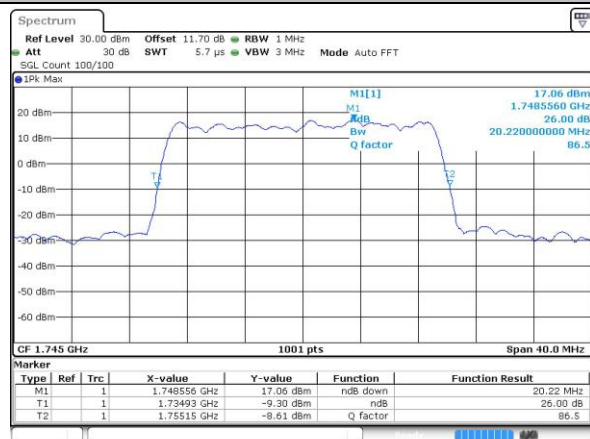
## Middle Channel / 20MHz / 16QAM



## Highest Channel / 20MHz / QPSK



## Highest Channel / 20MHz / 16QAM

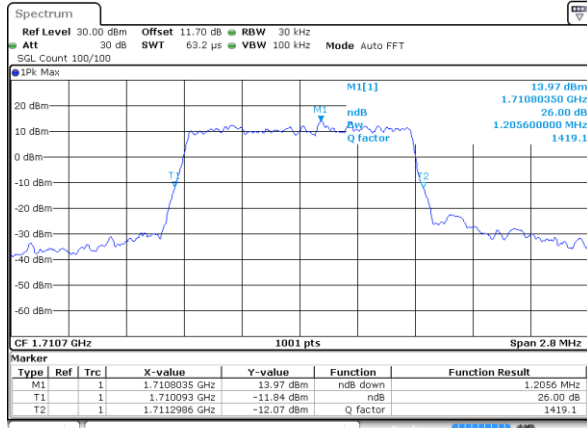






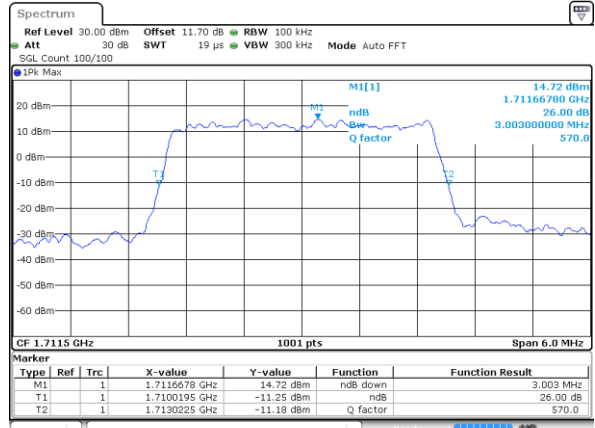
## LTE Band 4

## Lowest Channel / 1.4MHz / 64QAM



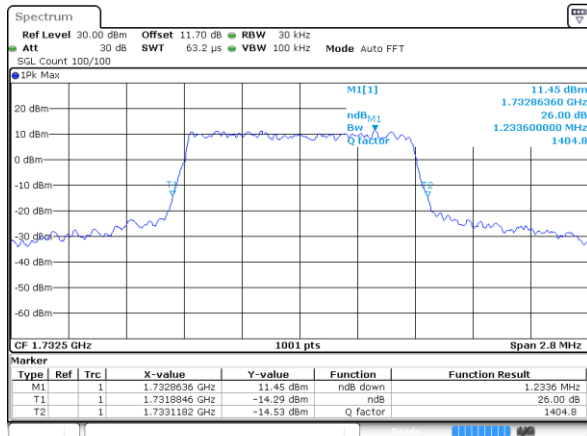
Date: 21 JUN 2017 20:43:01

## Lowest Channel / 3MHz / 64QAM



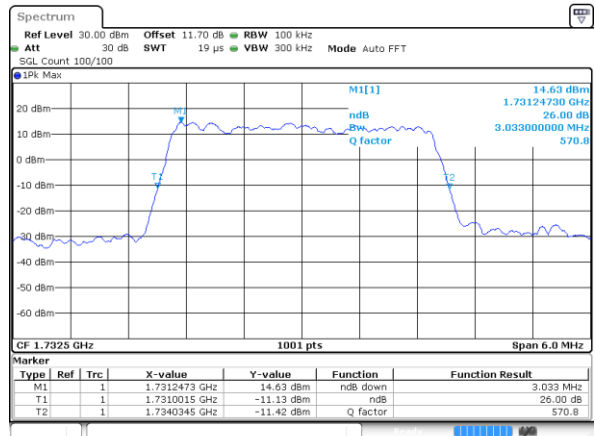
Date: 21 JUN 2017 19:32:07

## Middle Channel / 1.4MHz / 64QAM



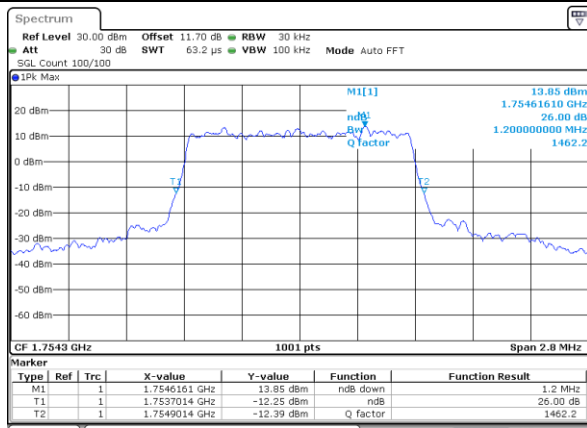
Date: 21 JUN 2017 20:46:32

## Middle Channel / 3MHz / 64QAM



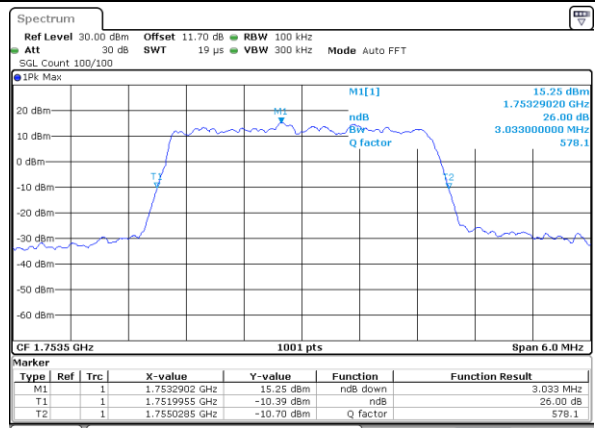
Date: 21 JUN 2017 19:35:39

## Highest Channel / 1.4MHz / 64QAM



Date: 21 JUN 2017 20:47:47

## Highest Channel / 3MHz / 64QAM

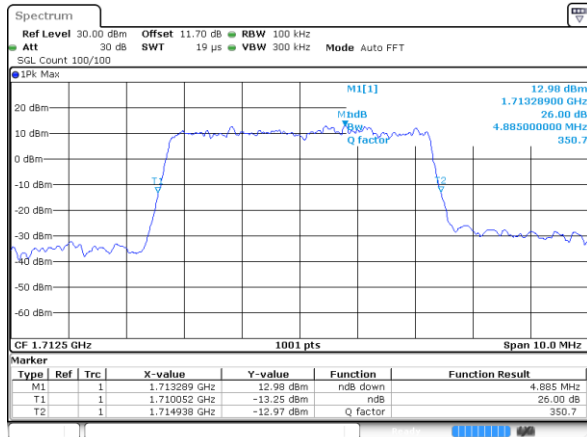


Date: 21 JUN 2017 19:36:52

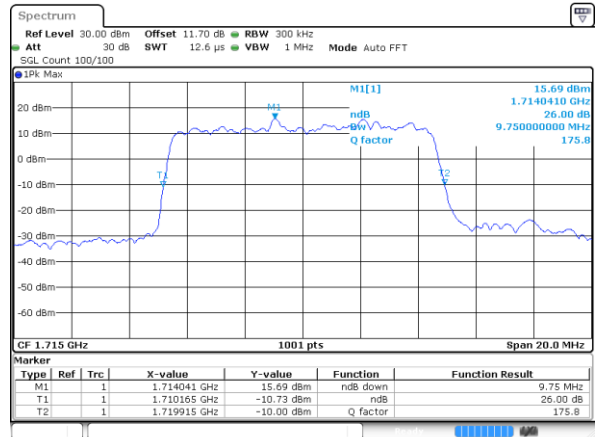


## LTE Band 4

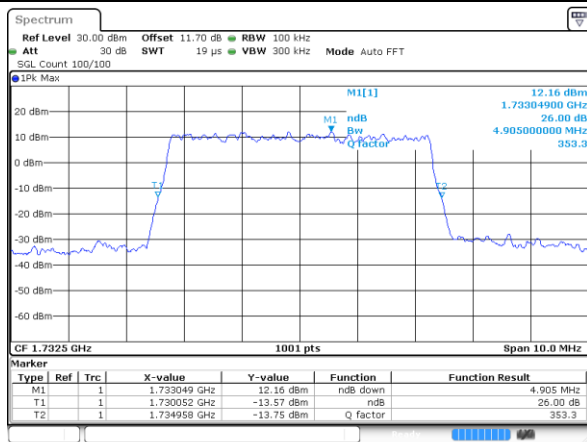
## Lowest Channel / 5MHz / 64QAM



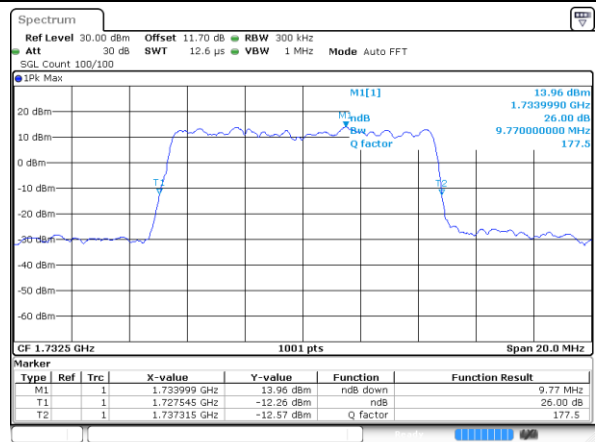
## Lowest Channel / 10MHz / 64QAM



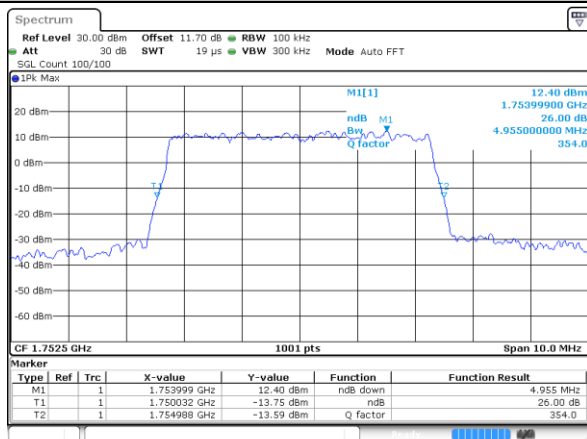
## Middle Channel / 5MHz / 64QAM



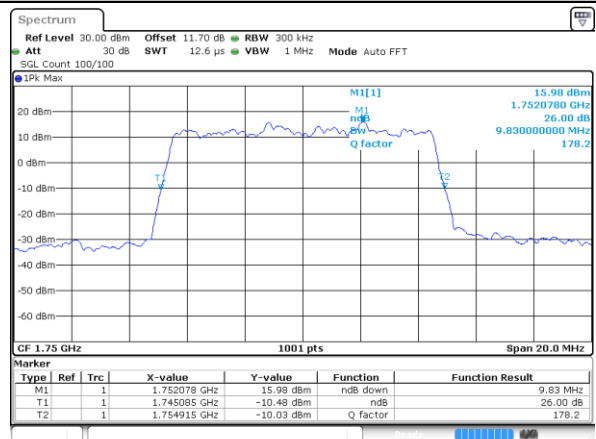
## Middle Channel / 10MHz / 64QAM



## Highest Channel / 5MHz / 64QAM



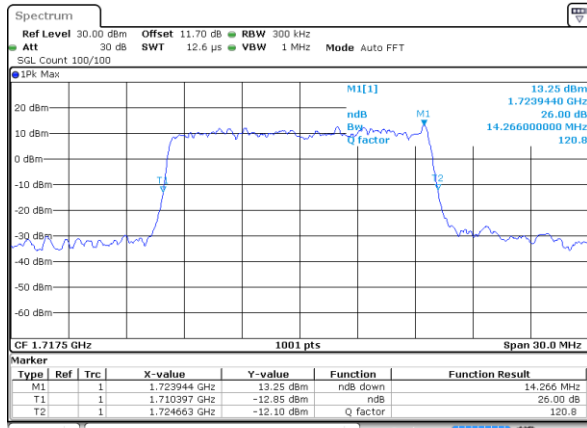
## Highest Channel / 10MHz / 64QAM





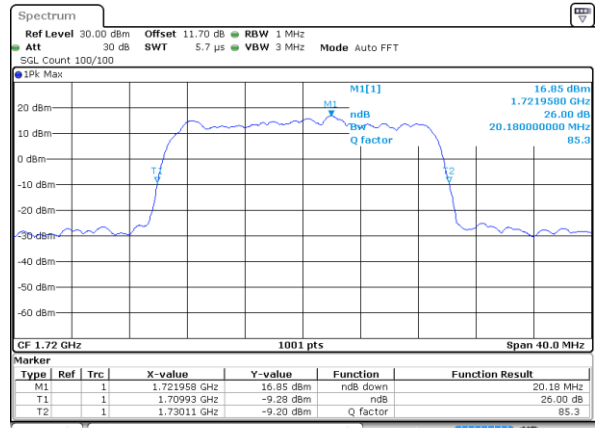
## LTE Band 4

## Lowest Channel / 15MHz / 64QAM



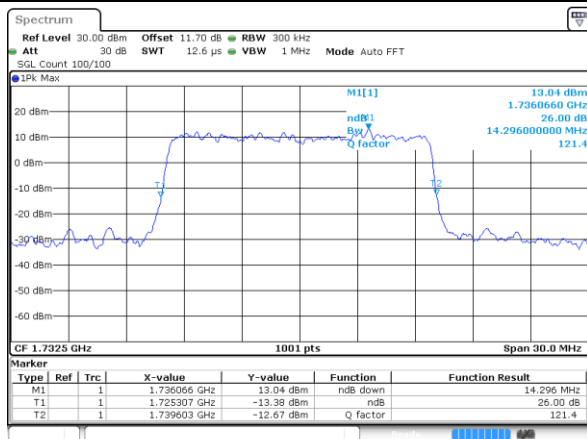
Date: 21 JUN 2017 19:56:59

## Lowest Channel / 20MHz / 64QAM



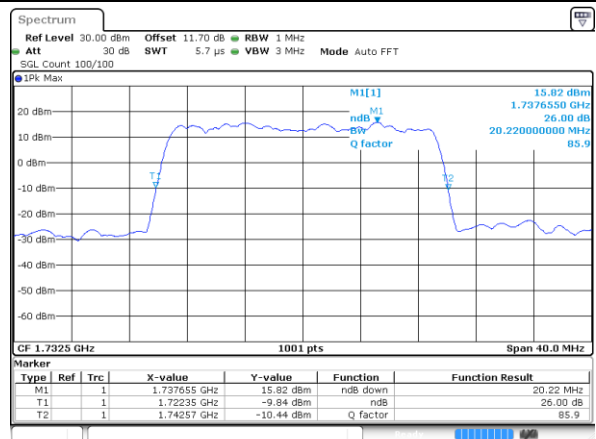
Date: 21 JUN 2017 20:05:16

## Middle Channel / 15MHz / 64QAM



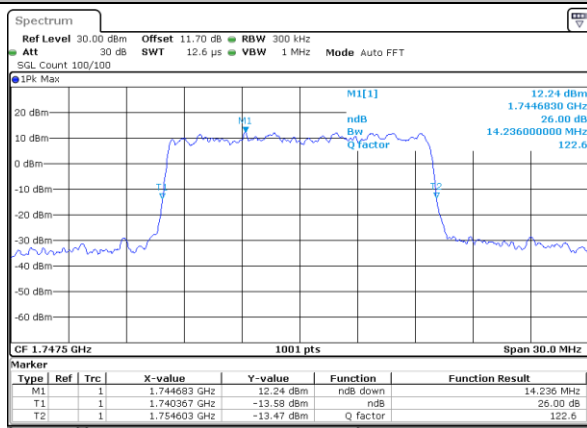
Date: 21 JUN 2017 20:00:31

## Middle Channel / 20MHz / 64QAM



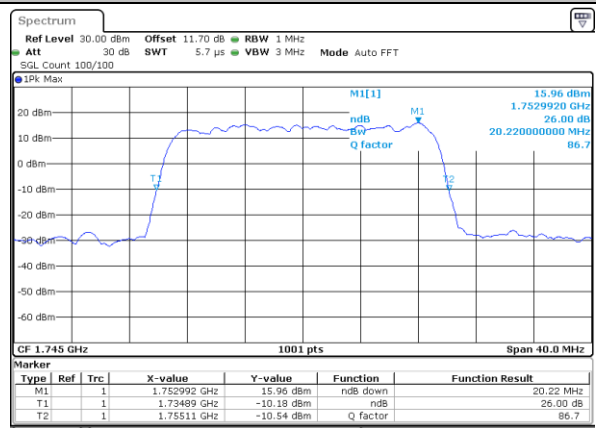
Date: 21 JUN 2017 20:06:48

## Highest Channel / 15MHz / 64QAM



Date: 21 JUN 2017 20:01:45

## Highest Channel / 20MHz / 64QAM



Date: 21 JUN 2017 20:10:02

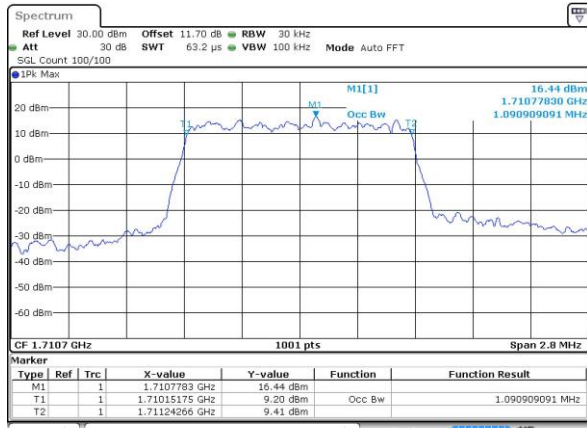
**Occupied Bandwidth**

| Mode       | LTE Band 4 : 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  | 4.48  | 4.49  | 9.01  | 9.05  | 13.43 | 13.46 | 18.34 | 18.34 |
| Middle CH  | 1.09                     | 1.09  | 2.74  | 2.73  | 4.51  | 4.49  | 9.03  | 8.97  | 13.43 | 13.46 | 18.46 | 18.54 |
| Highest CH | 1.09                     | 1.09  | 2.73  | 2.72  | 4.48  | 4.49  | 8.95  | 9.01  | 13.4  | 13.4  | 18.46 | 18.38 |
| Mode       | LTE Band 4 : 99%OBW(MHz) |       |       |       |       |       |       |       |       |       |       |       |
| BW         | 1.4MHz                   |       | 3MHz  |       | 5MHz  |       | 10MHz |       | 15MHz |       | 20MHz |       |
| Mod.       | 64QAM                    |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       | 64QAM |       |
| Lowest CH  | 1.09                     | -     | 2.72  | -     | 4.48  | -     | 9.01  | -     | 13.43 | -     | 18.3  | -     |
| Middle CH  | 1.09                     | -     | 2.73  | -     | 4.51  | -     | 9     | -     | 13.49 | -     | 18.46 | -     |
| Highest CH | 1.09                     | -     | 2.73  | -     | 4.51  | -     | 9.01  | -     | 13.46 | -     | 18.26 | -     |

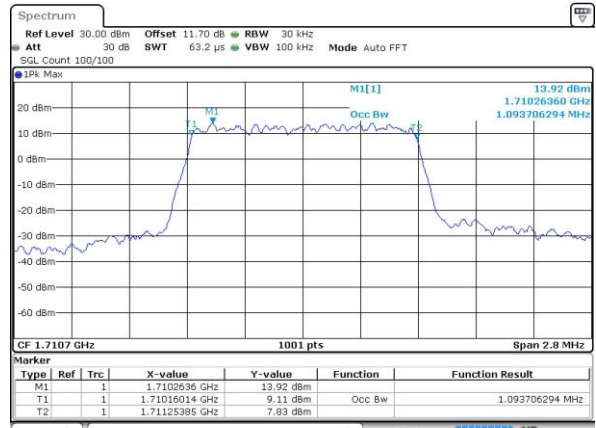


## LTE Band 4

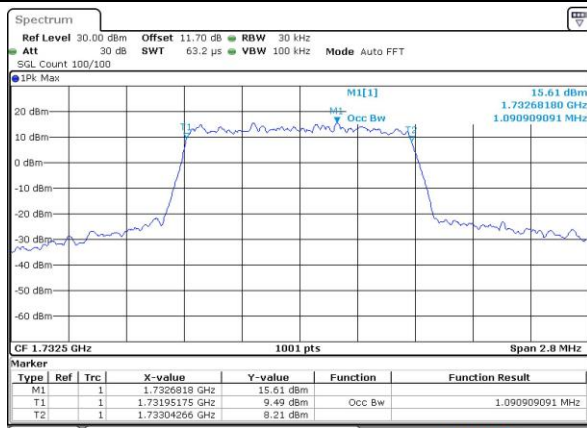
## Lowest Channel / 1.4MHz / QPSK



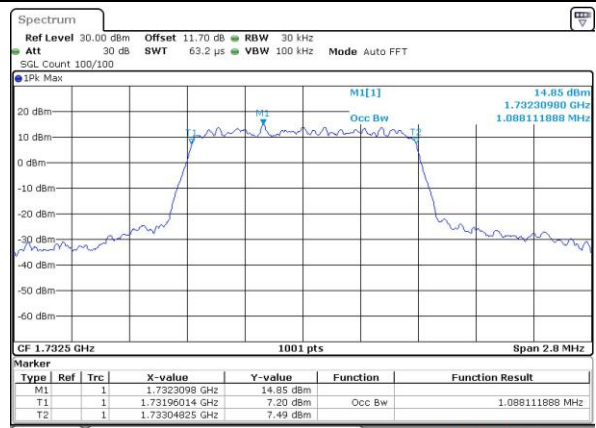
## Lowest Channel / 1.4MHz / 16QAM



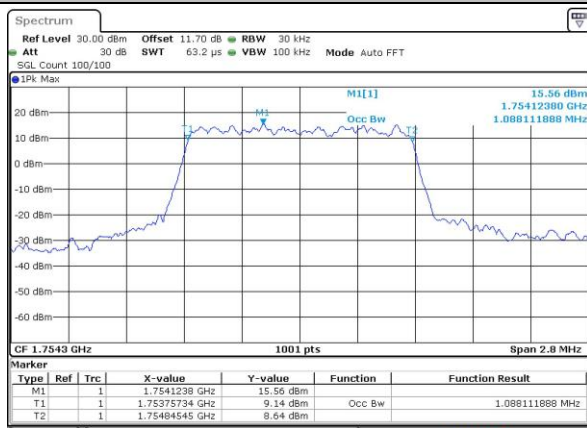
## Middle Channel / 1.4MHz / QPSK



## Middle Channel / 1.4MHz / 16QAM



## Highest Channel / 1.4MHz / QPSK



## Highest Channel / 1.4MHz / 16QAM

