



## LTE Band 5

## Conducted Output Power(Average power)

| LTE Band 5 Maximum Average Power [dBm] |         |           |        |        |        |         |
|----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                               | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 1.4                                    | 1       | 0         | QPSK   | 22.87  | 22.92  | 23.16   |
| 1.4                                    | 1       | 2         |        | 23.00  | 22.91  | 23.10   |
| 1.4                                    | 1       | 5         |        | 22.91  | 22.78  | 22.93   |
| 1.4                                    | 3       | 0         |        | 22.90  | 22.93  | 23.22   |
| 1.4                                    | 3       | 1         |        | 23.00  | 22.90  | 23.18   |
| 1.4                                    | 3       | 2         |        | 23.05  | 22.90  | 23.21   |
| 1.4                                    | 6       | 0         |        | 22.05  | 22.06  | 22.07   |
| 1.4                                    | 1       | 0         | 16-QAM | 22.11  | 22.25  | 22.36   |
| 1.4                                    | 1       | 2         |        | 22.07  | 22.15  | 22.28   |
| 1.4                                    | 1       | 5         |        | 22.19  | 22.26  | 22.35   |
| 1.4                                    | 3       | 0         |        | 22.03  | 22.08  | 22.24   |
| 1.4                                    | 3       | 1         |        | 22.10  | 22.11  | 22.13   |
| 1.4                                    | 3       | 2         |        | 22.17  | 22.04  | 22.18   |
| 1.4                                    | 6       | 0         |        | 20.97  | 20.91  | 21.05   |
| 3                                      | 1       | 0         | QPSK   | 22.86  | 22.82  | 23.08   |
| 3                                      | 1       | 7         |        | 22.93  | 22.93  | 22.93   |
| 3                                      | 1       | 14        |        | 22.86  | 23.10  | 22.80   |
| 3                                      | 8       | 0         |        | 21.97  | 22.05  | 22.04   |
| 3                                      | 8       | 4         |        | 22.03  | 21.87  | 22.06   |
| 3                                      | 8       | 7         |        | 21.99  | 21.92  | 22.02   |
| 3                                      | 15      | 0         |        | 22.10  | 21.95  | 22.10   |
| 3                                      | 1       | 0         | 16-QAM | 22.15  | 22.72  | 22.69   |
| 3                                      | 1       | 7         |        | 22.28  | 22.24  | 22.33   |
| 3                                      | 1       | 14        |        | 22.32  | 22.39  | 22.41   |
| 3                                      | 8       | 0         |        | 21.18  | 20.85  | 20.94   |
| 3                                      | 8       | 4         |        | 20.97  | 20.90  | 21.22   |
| 3                                      | 8       | 7         |        | 20.88  | 20.82  | 21.04   |
| 3                                      | 15      | 0         |        | 20.91  | 20.93  | 21.10   |



| LTE Band 5 Maximum Average Power [dBm] |         |           |        |        |        |         |
|----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                               | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 5                                      | 1       | 0         | QPSK   | 23.11  | 23.11  | 22.87   |
| 5                                      | 1       | 12        |        | 23.00  | 22.84  | 23.00   |
| 5                                      | 1       | 24        |        | 22.75  | 22.81  | 22.83   |
| 5                                      | 12      | 0         |        | 21.98  | 21.98  | 22.03   |
| 5                                      | 12      | 6         |        | 22.03  | 21.90  | 21.99   |
| 5                                      | 12      | 11        |        | 22.04  | 21.93  | 22.06   |
| 5                                      | 25      | 0         |        | 22.04  | 21.93  | 21.94   |
| 5                                      | 1       | 0         | 16-QAM | 22.79  | 22.21  | 22.26   |
| 5                                      | 1       | 12        |        | 22.31  | 22.21  | 22.22   |
| 5                                      | 1       | 24        |        | 22.21  | 22.29  | 22.20   |
| 5                                      | 12      | 0         |        | 20.94  | 20.90  | 20.99   |
| 5                                      | 12      | 6         |        | 20.99  | 20.77  | 20.88   |
| 5                                      | 12      | 11        |        | 20.84  | 20.90  | 20.97   |
| 5                                      | 25      | 0         |        | 20.98  | 20.95  | 20.80   |
| 10                                     | 1       | 0         | QPSK   | 23.08  | 23.17  | 23.40   |
| 10                                     | 1       | 24        |        | 22.97  | 22.85  | 22.94   |
| 10                                     | 1       | 49        |        | 22.80  | 22.83  | 22.92   |
| 10                                     | 25      | 0         |        | 21.99  | 21.95  | 22.07   |
| 10                                     | 25      | 12        |        | 21.96  | 21.97  | 22.01   |
| 10                                     | 25      | 24        |        | 22.04  | 22.04  | 21.96   |
| 10                                     | 50      | 0         |        | 22.08  | 21.92  | 22.09   |
| 10                                     | 1       | 0         | 16-QAM | 22.39  | 22.42  | 22.57   |
| 10                                     | 1       | 24        |        | 22.26  | 22.14  | 22.22   |
| 10                                     | 1       | 49        |        | 22.30  | 22.34  | 22.32   |
| 10                                     | 25      | 0         |        | 21.04  | 21.07  | 20.91   |
| 10                                     | 25      | 12        |        | 21.02  | 20.92  | 21.18   |
| 10                                     | 25      | 24        |        | 20.98  | 20.99  | 21.05   |
| 10                                     | 50      | 0         |        | 20.80  | 20.80  | 20.93   |

**Peak-to-Average Ratio**

| Mode       | LTE Band 5 / 10MHz |         |       |         |             |
|------------|--------------------|---------|-------|---------|-------------|
| Mod.       | QPSK               |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                | Full RB | 1RB   | RB Size | Result      |
| Lowest CH  | 4.49               | 5.33    | 5.33  | 6.20    | <b>PASS</b> |
| Middle CH  | 4.46               | 5.16    | 5.36  | 6.03    |             |
| Highest CH | 4.52               | 5.39    | 5.22  | 6.23    |             |



## LTE Band 5 / 10MHz / QPSK

## Lowest Channel / 1RB



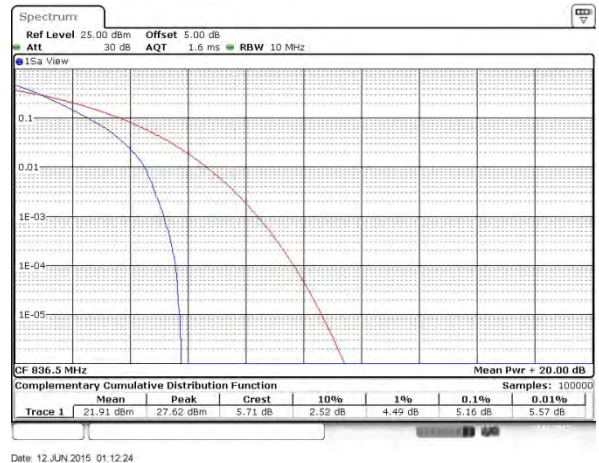
## Lowest Channel / Full RB



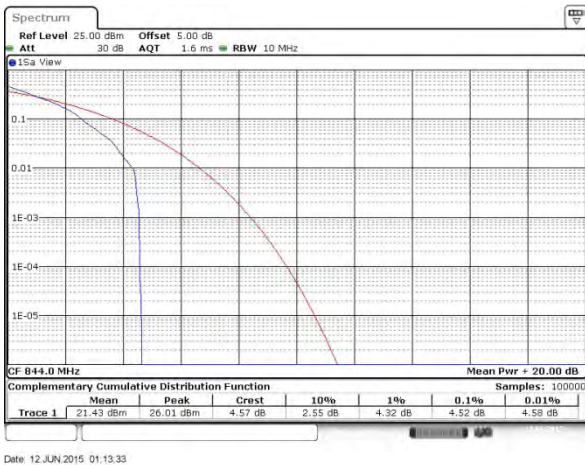
## Middle Channel / 1RB



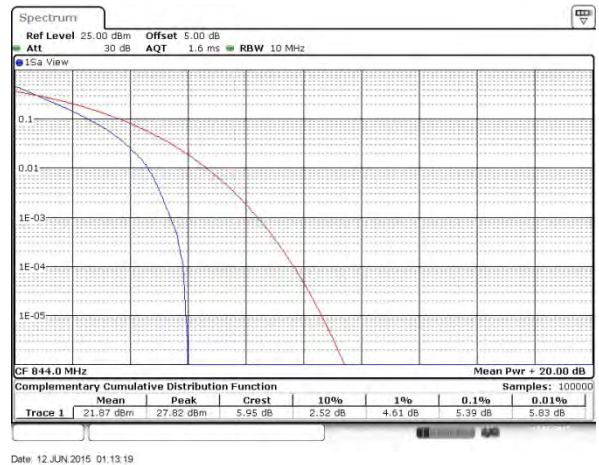
## Middle Channel / Full RB



## Highest Channel / 1RB



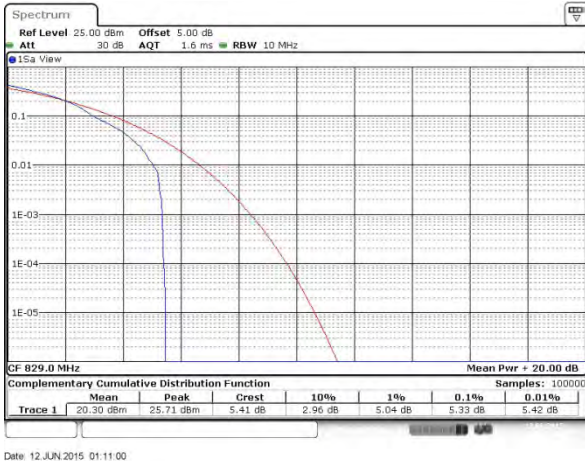
## Highest Channel / Full RB





## LTE Band 5 / 10MHz / 16QAM

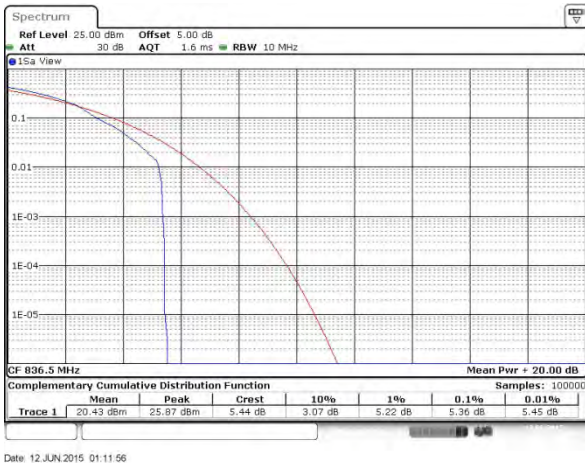
## Lowest Channel / 1RB



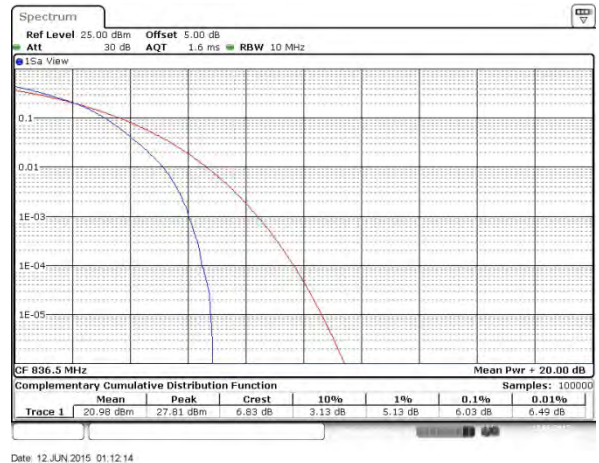
## Lowest Channel / Full RB



## Middle Channel / 1RB



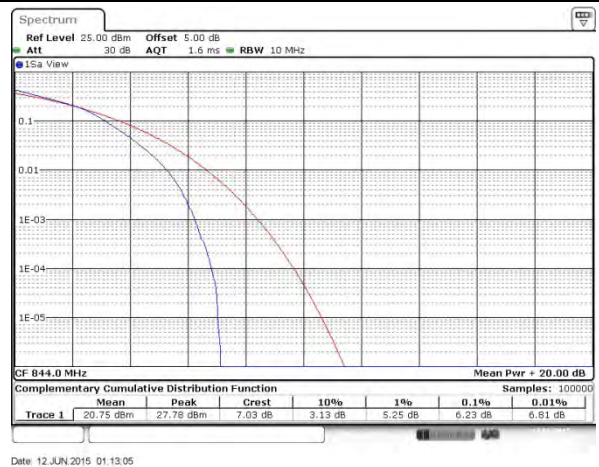
## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB



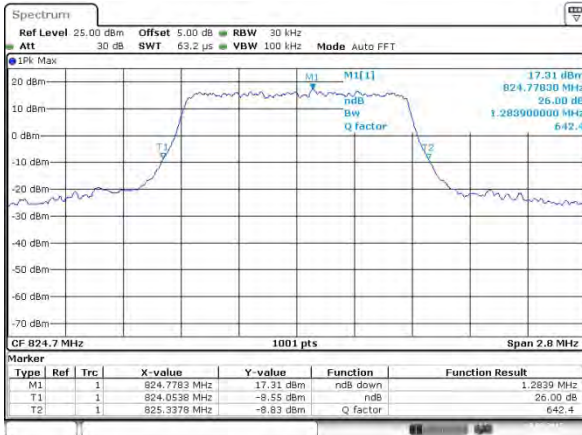
**26dB Bandwidth**

| 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  | 1.28                      | 1.30  | 3.05 | 3.06  | 5.04 | 5.05  | 10.11 | 10.05 | -     | -     | -     | -     |
| Middle CH  | 1.28                      | 1.30  | 3.04 | 3.05  | 5.04 | 5.05  | 10.01 | 9.95  | -     | -     | -     | -     |
| Highest CH | 1.28                      | 1.30  | 3.04 | 3.05  | 5.04 | 5.05  | 10.07 | 10.11 | -     | -     | -     | -     |

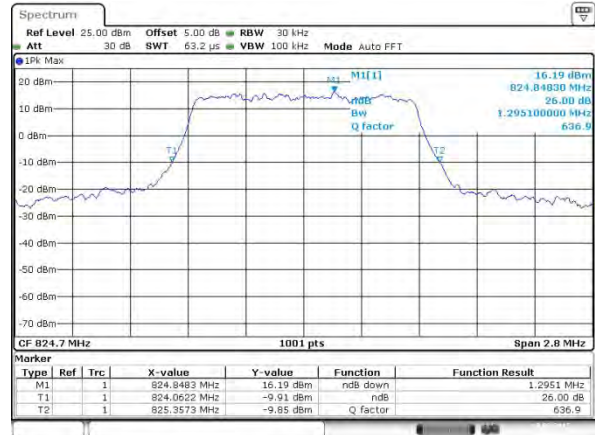


## LTE Band 5

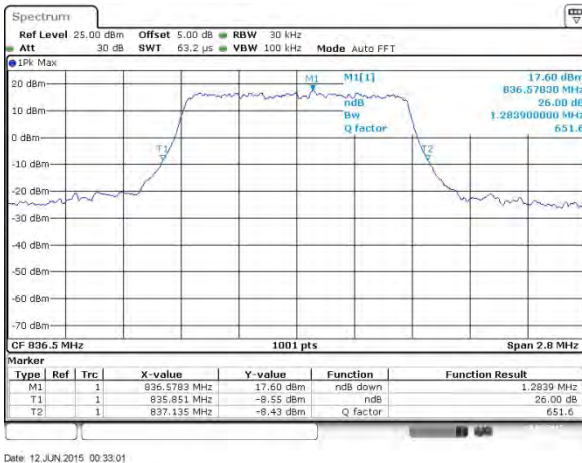
## Lowest Channel / 1.4MHz / QPSK



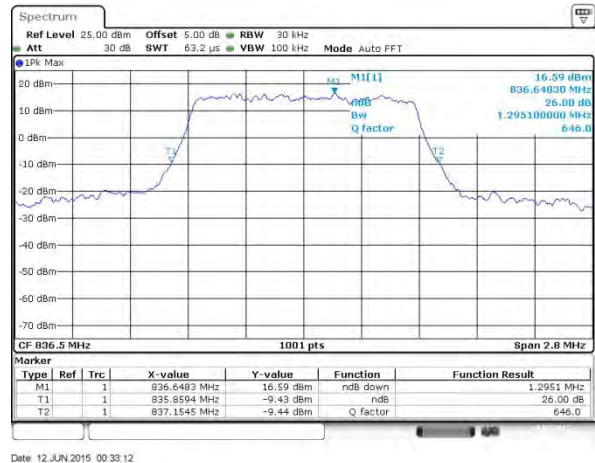
## Lowest Channel / 1.4MHz / 16QAM



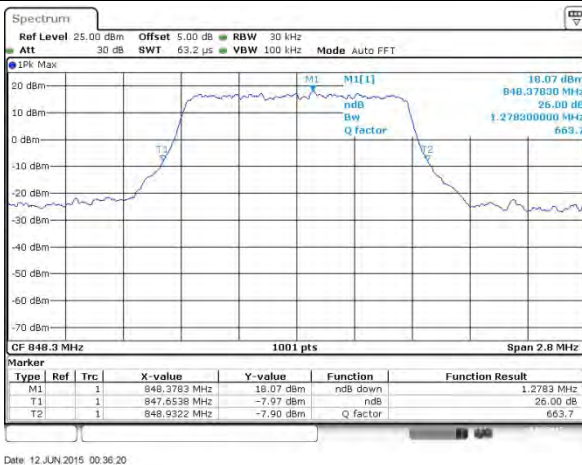
## Middle Channel / 1.4MHz / QPSK



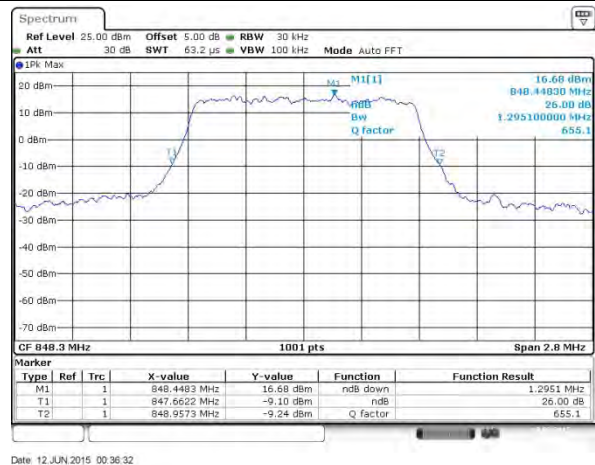
## Middle Channel / 1.4MHz / 16QAM



## Highest Channel / 1.4MHz / QPSK



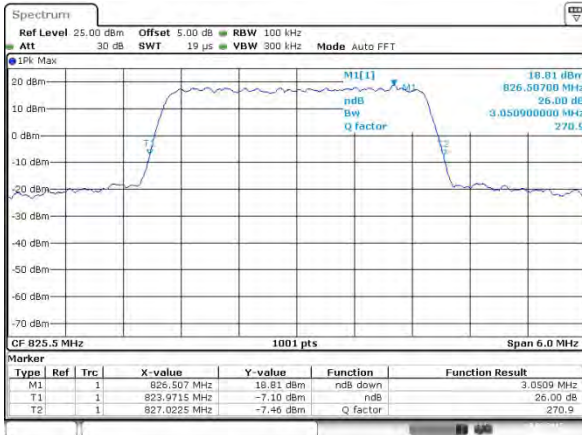
## Highest Channel / 1.4MHz / 16QAM



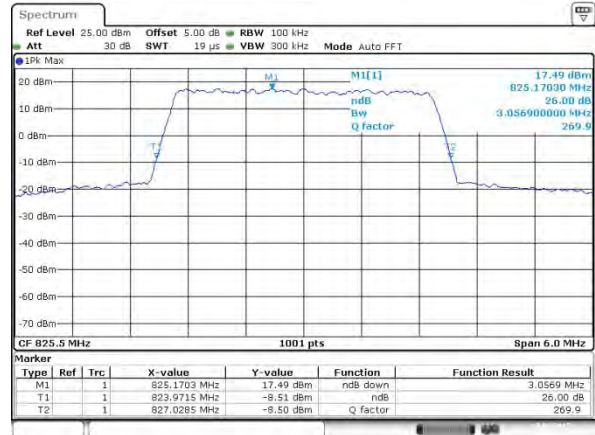


## LTE Band 5

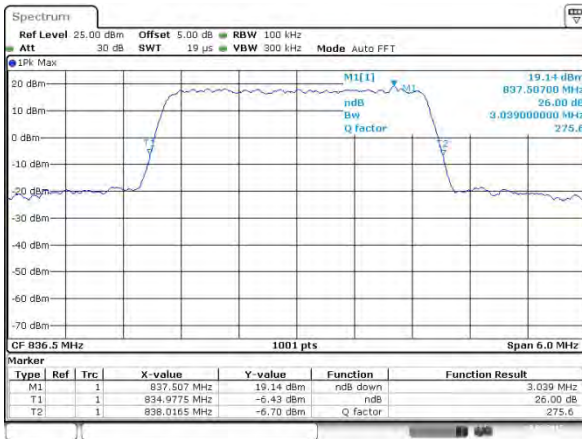
## Lowest Channel / 3MHz / QPSK



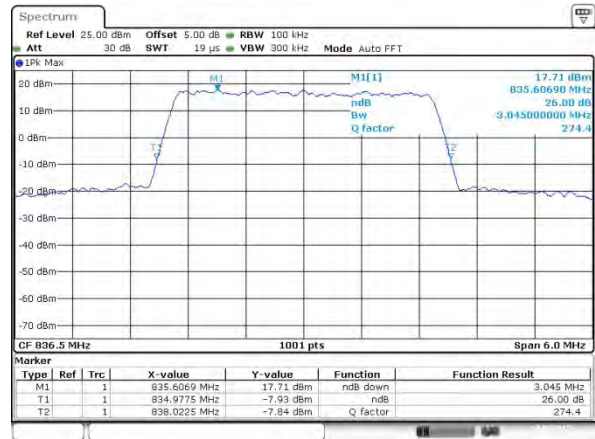
## Lowest Channel / 3MHz / 16QAM



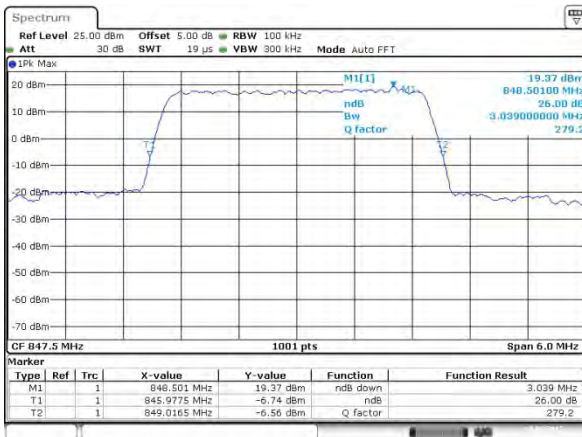
## Middle Channel / 3MHz / QPSK



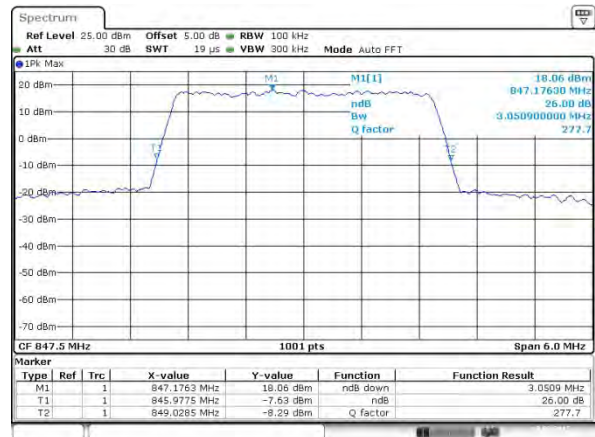
## Middle Channel / 3MHz / 16QAM



## Highest Channel / 3MHz / QPSK



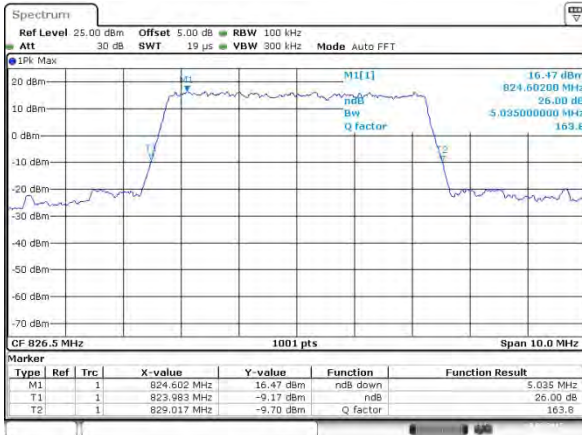
## Highest Channel / 3MHz / 16QAM



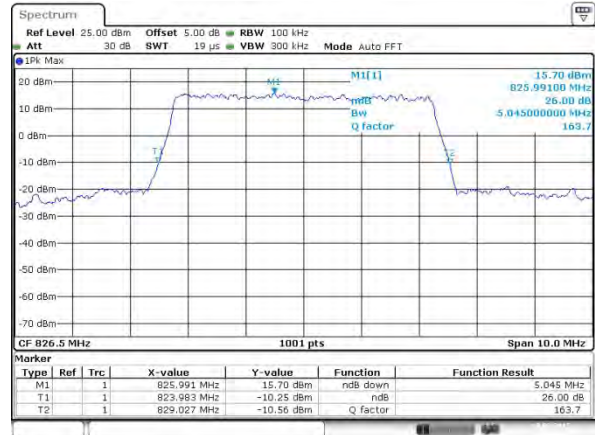


## LTE Band 5

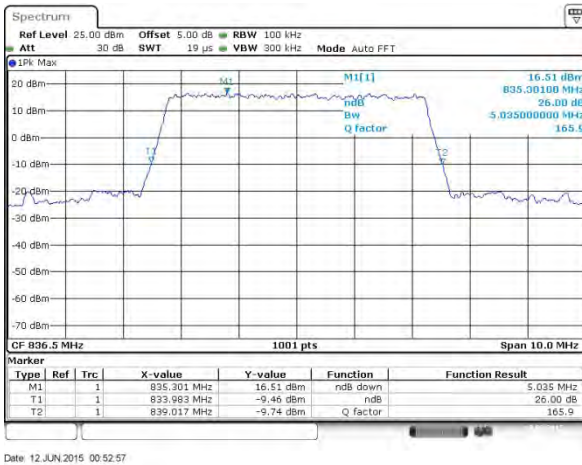
## Lowest Channel / 5MHz / QPSK



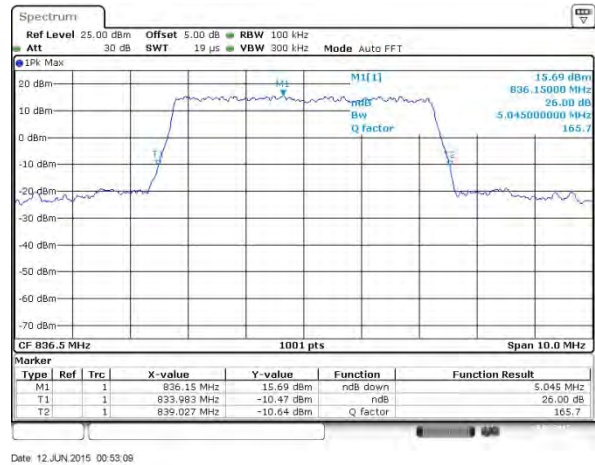
## Lowest Channel / 5MHz / 16QAM



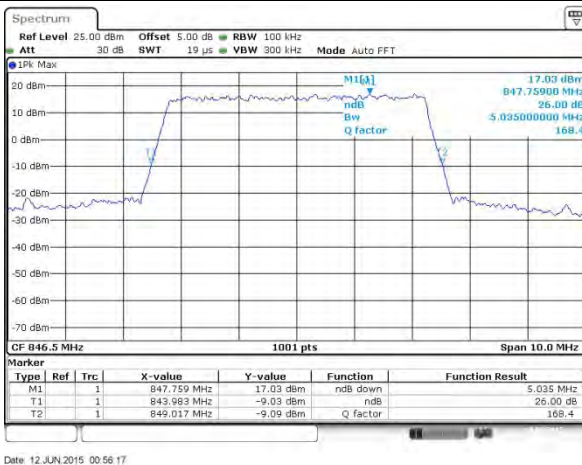
## Middle Channel / 5MHz / QPSK



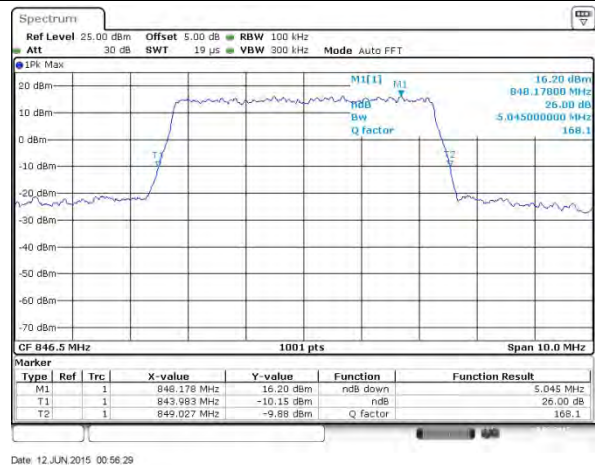
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



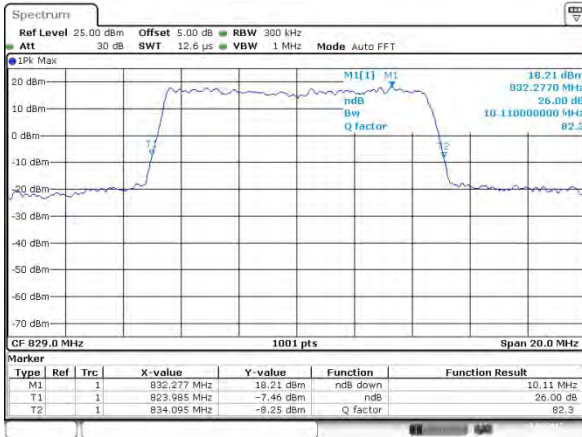
## Highest Channel / 5MHz / 16QAM



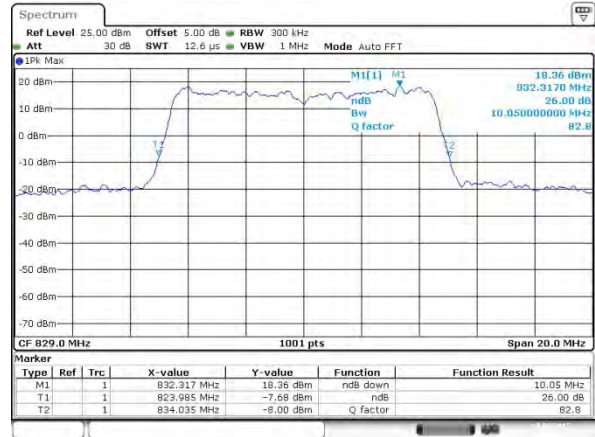


## LTE Band 5

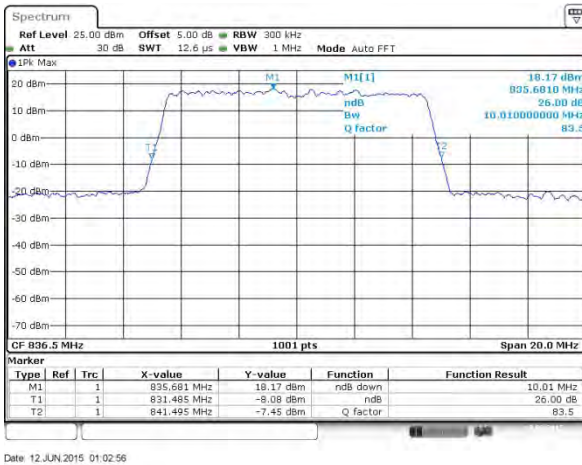
## Lowest Channel / 10MHz / QPSK



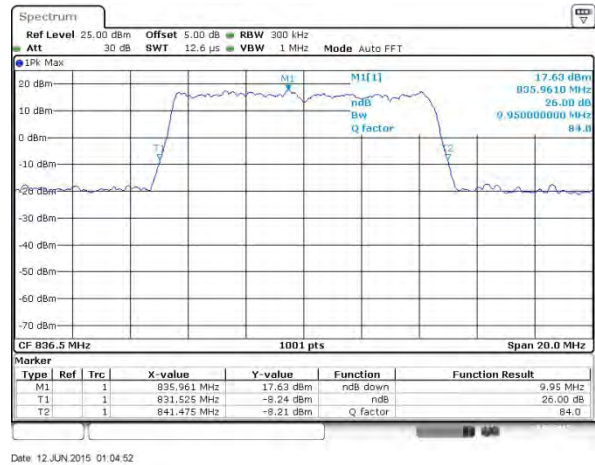
## Lowest Channel / 10MHz / 16QAM



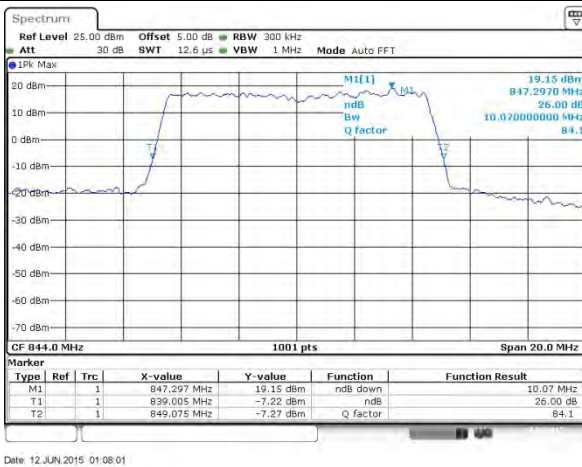
## Middle Channel / 10MHz / QPSK



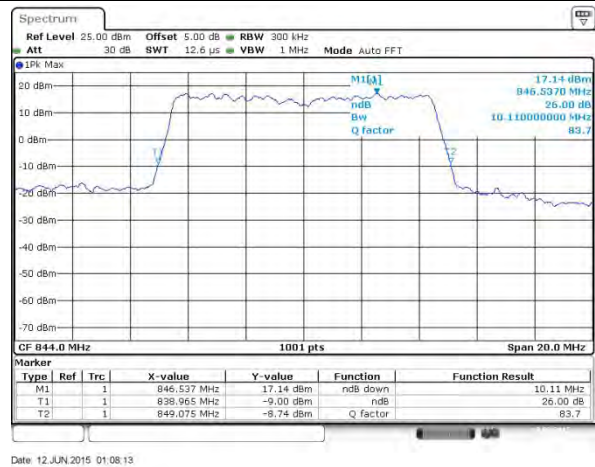
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



## Highest Channel / 10MHz / 16QAM



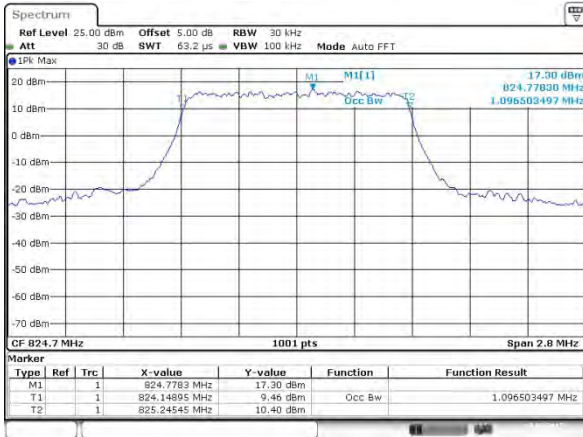
**Occupied Bandwidth**

| 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  | 1.10                     | 1.09  | 2.72 | 2.73  | 4.50 | 4.51  | 9.09  | 9.09  | -     | -     | -     | -     |
| Middle CH  | 1.09                     | 1.10  | 2.73 | 2.72  | 4.50 | 4.50  | 9.05  | 9.01  | -     | -     | -     | -     |
| Highest CH | 1.10                     | 1.10  | 2.72 | 2.73  | 4.50 | 4.50  | 9.09  | 9.05  | -     | -     | -     | -     |

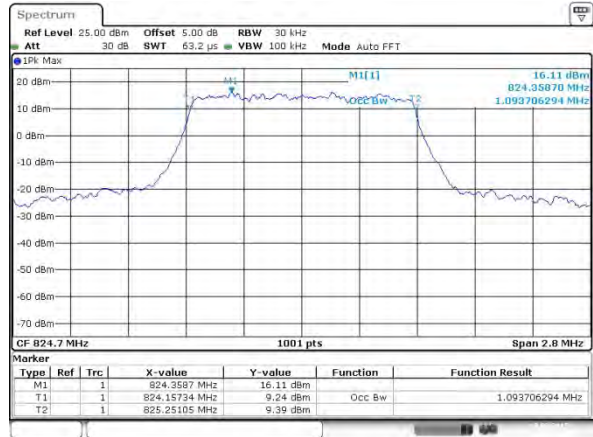


## LTE Band 5

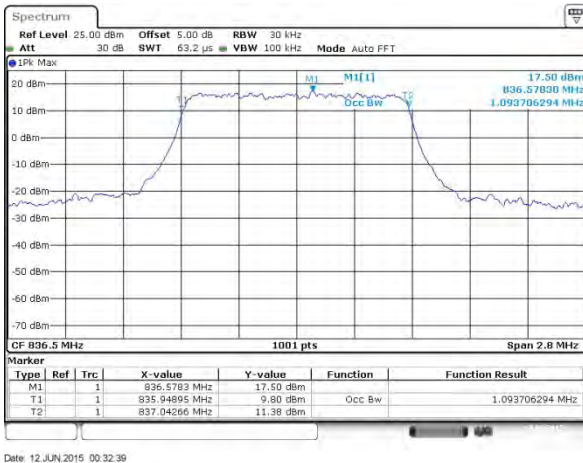
## Lowest Channel / 1.4MHz / QPSK



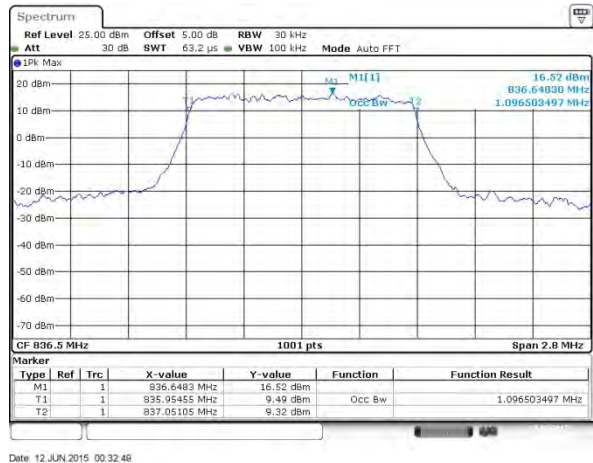
## Lowest Channel / 1.4MHz / 16QAM



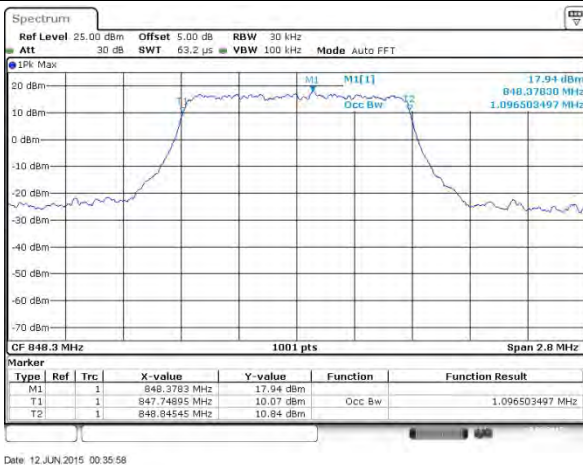
## Middle Channel / 1.4MHz / QPSK



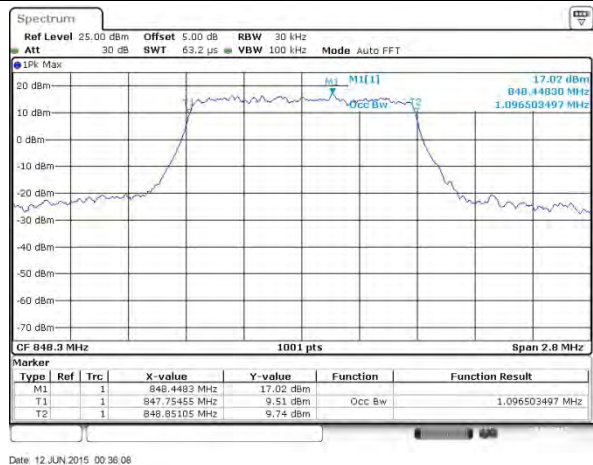
## Middle Channel / 1.4MHz / 16QAM



## Highest Channel / 1.4MHz / QPSK



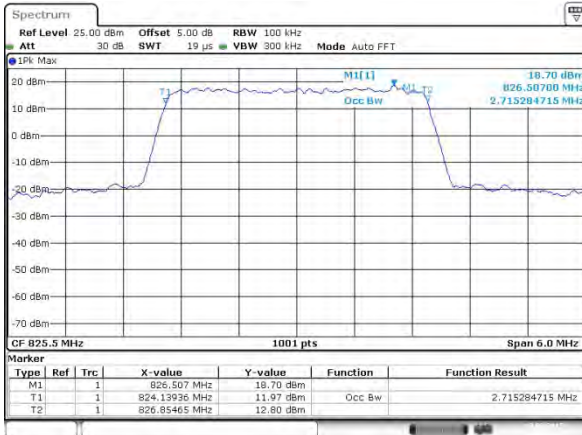
## Highest Channel / 1.4MHz / 16QAM



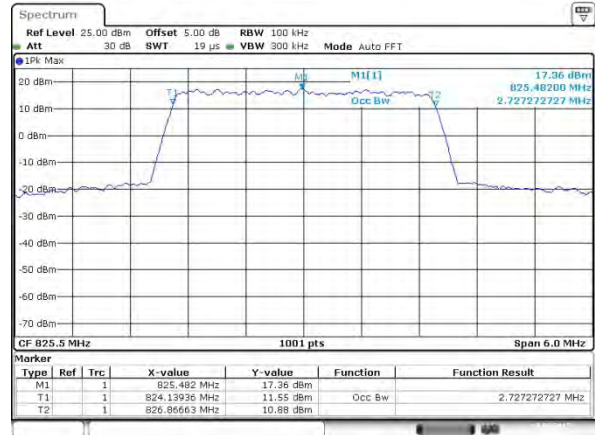


## LTE Band 5

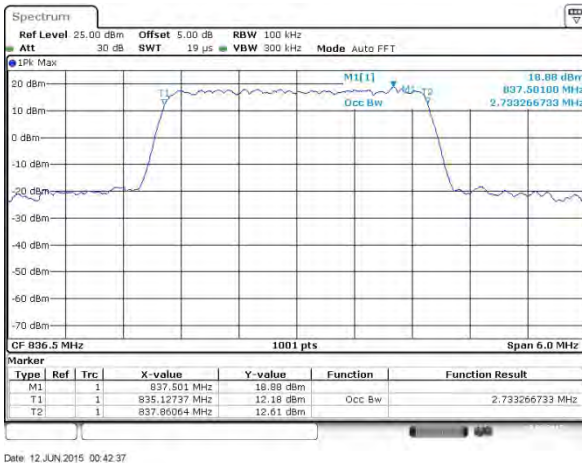
## Lowest Channel / 3MHz / QPSK



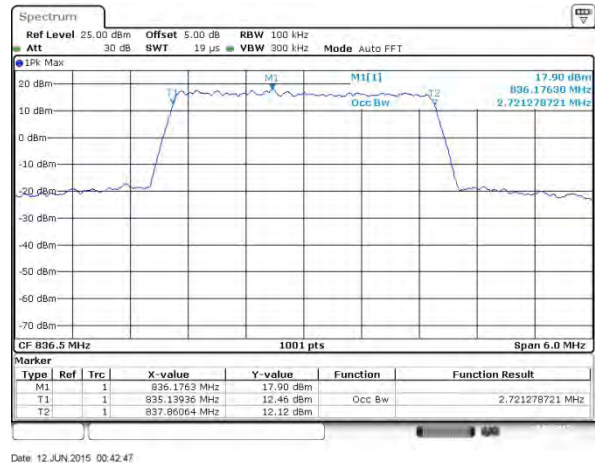
## Lowest Channel / 3MHz / 16QAM



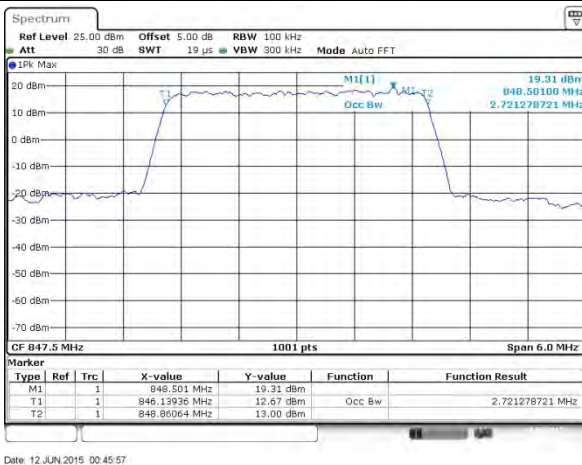
## Middle Channel / 3MHz / QPSK



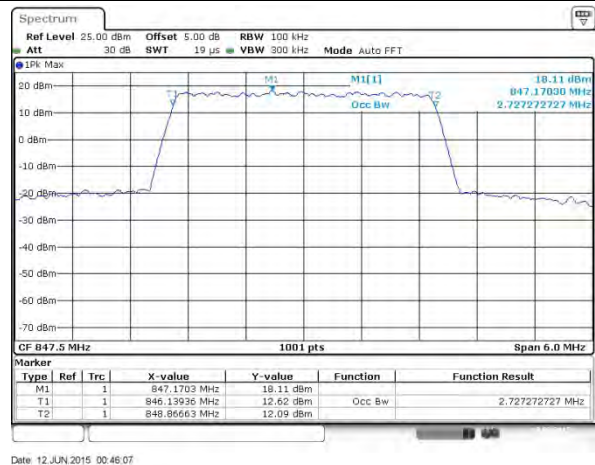
## Middle Channel / 3MHz / 16QAM



## Highest Channel / 3MHz / QPSK



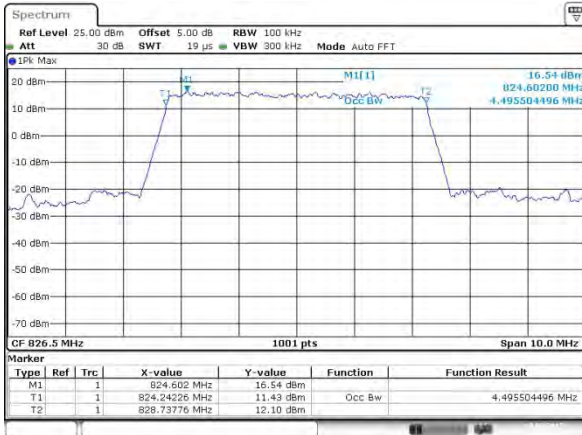
## Highest Channel / 3MHz / 16QAM



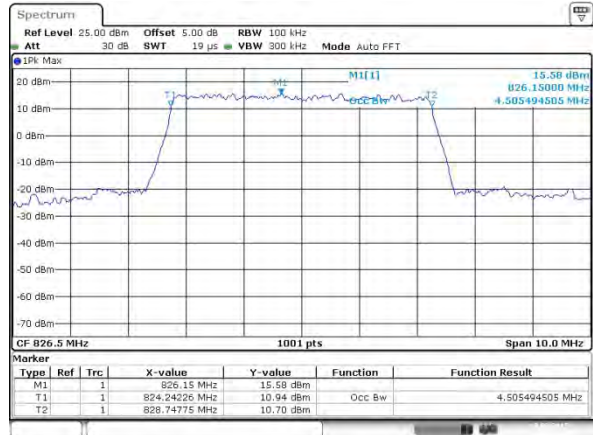


## LTE Band 5

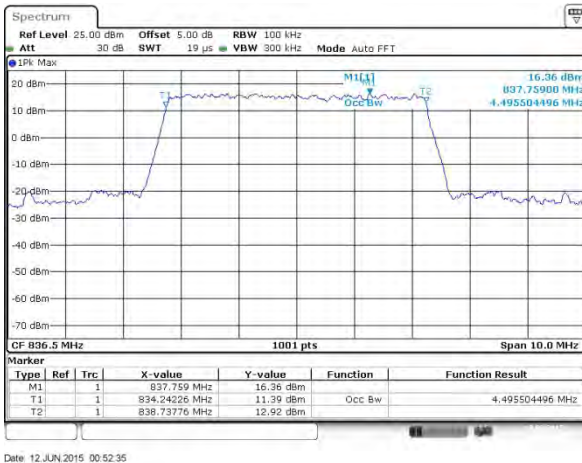
## Lowest Channel / 5MHz / QPSK



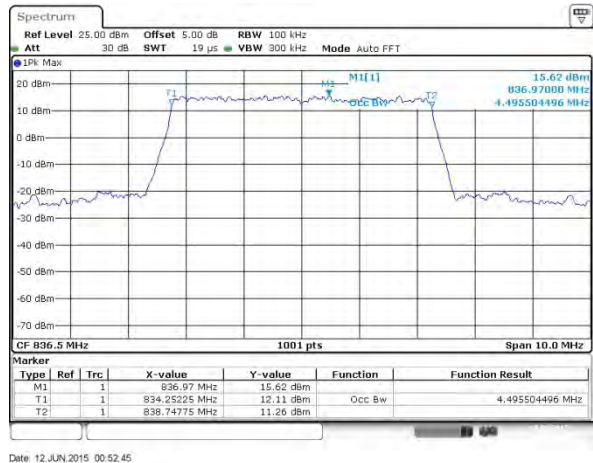
## Lowest Channel / 5MHz / 16QAM



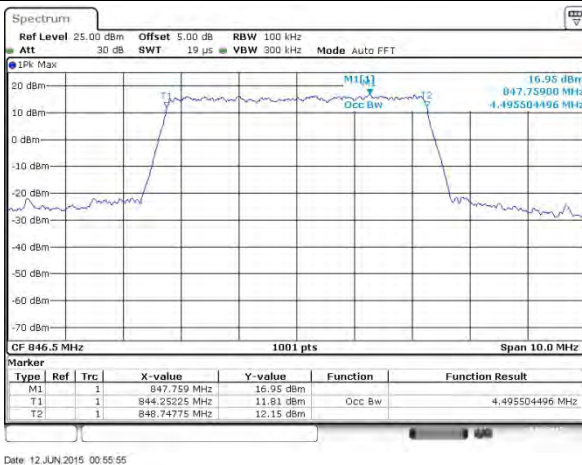
## Middle Channel / 5MHz / QPSK



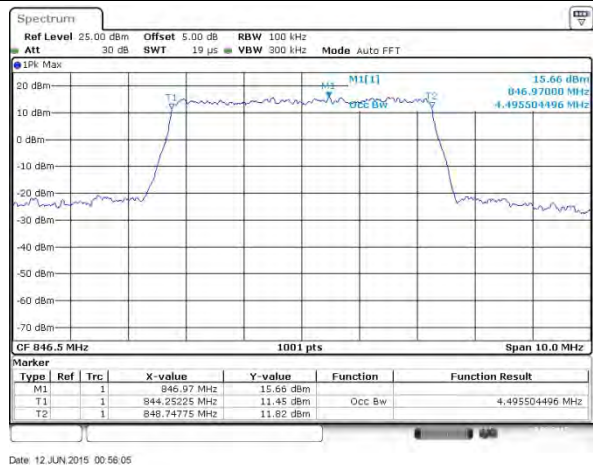
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



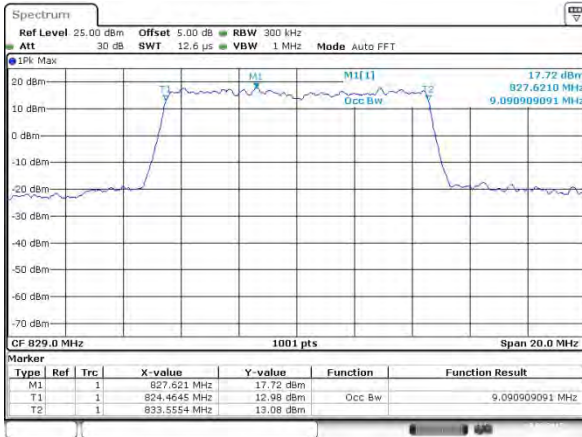
## Highest Channel / 5MHz / 16QAM



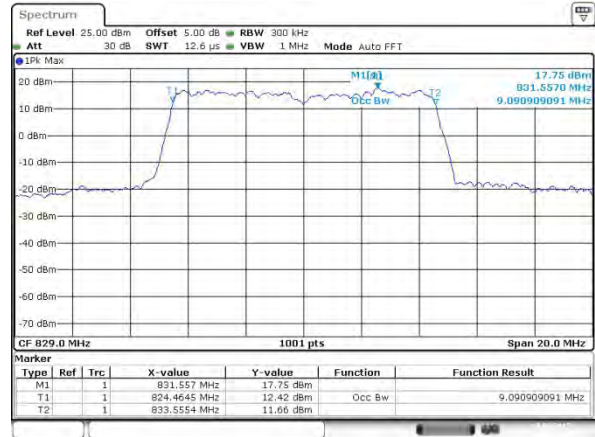


## LTE Band 5

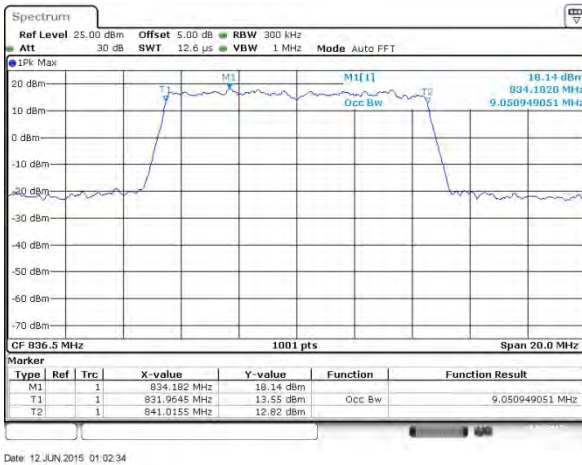
## Lowest Channel / 10MHz / QPSK



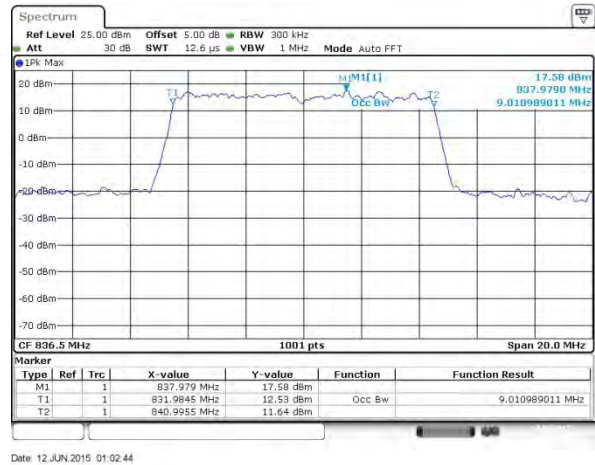
## Lowest Channel / 10MHz / 16QAM



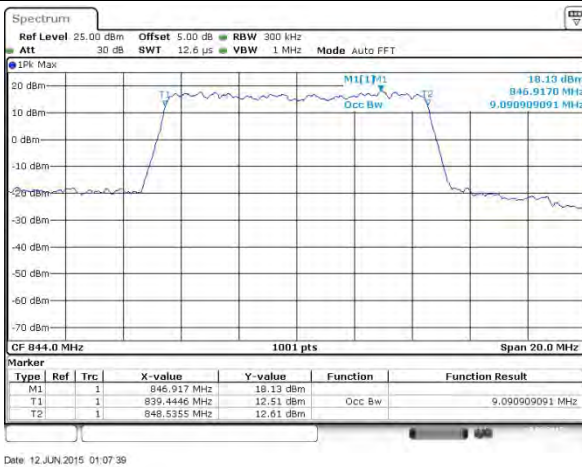
## Middle Channel / 10MHz / QPSK



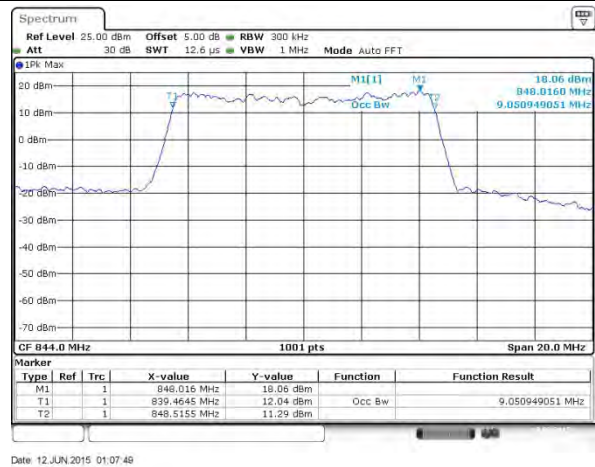
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



## Highest Channel / 10MHz / 16QAM



**Conducted Band Edge****LTE Band 5 / 1.4MHz / QPSK****Lowest Band Edge / 1RB****Highest Band Edge / 1RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**



## LTE Band 5 / 1.4MHz / 16QAM

## Lowest Band Edge / 1 RB

## Highest Band Edge / 1 RB



Date: 12 JUN 2015 01:17:50



Date: 12 JUN 2015 01:31:30

## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB



Date: 12 JUN 2015 01:23:03

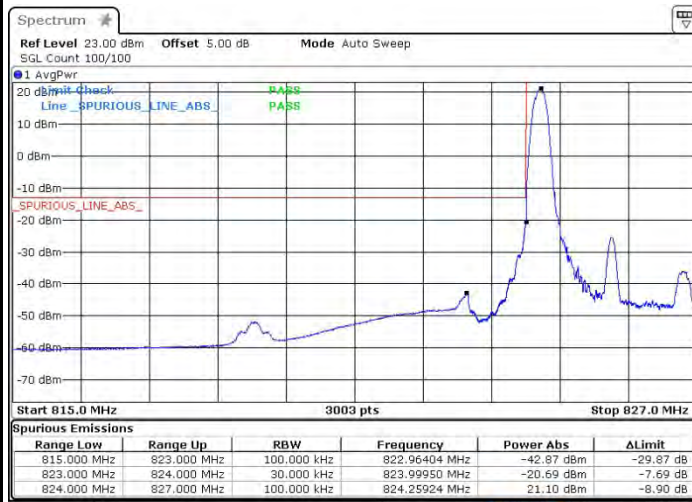


Date: 12 JUN 2015 01:30:02

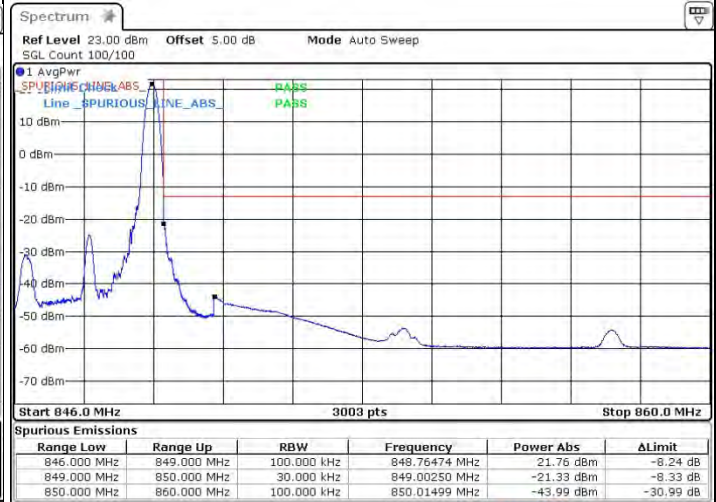


## LTE Band 5 / 3MHz / QPSK

## Lowest Band Edge / 1RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB



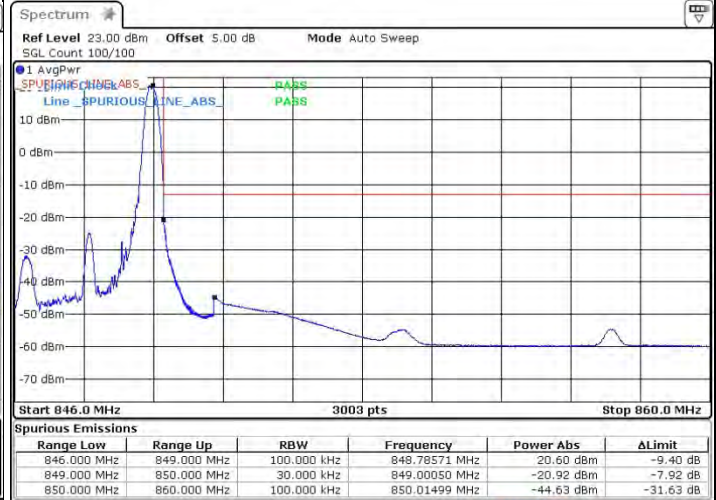


## LTE Band 5 / 3MHz / 16QAM

## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



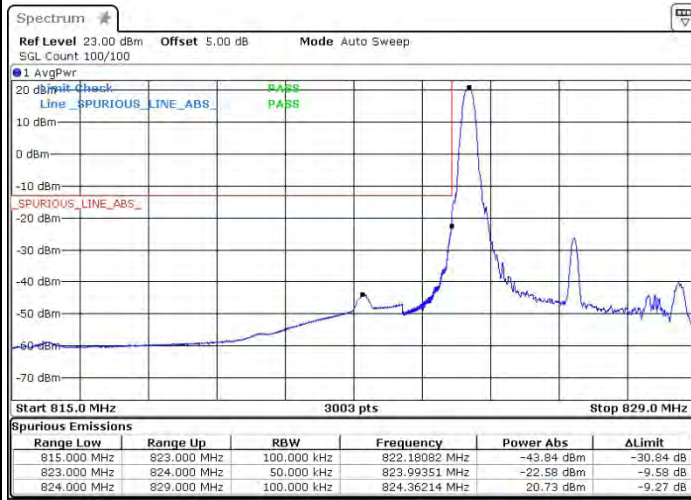
## Highest Band Edge / Full RB



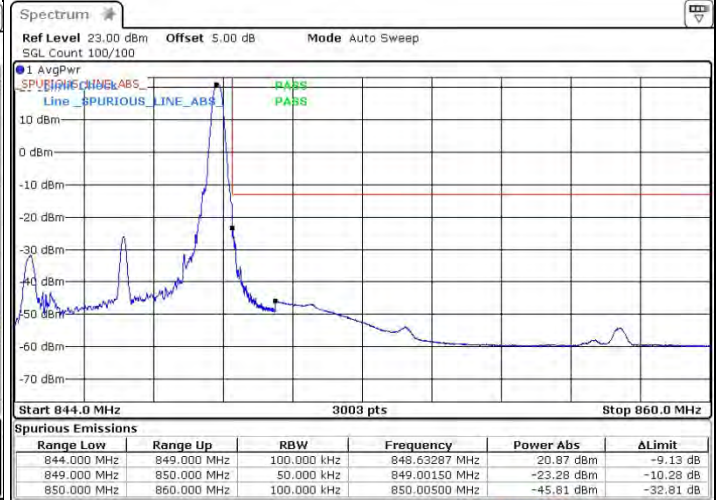


## LTE Band 5 / 5MHz / QPSK

## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



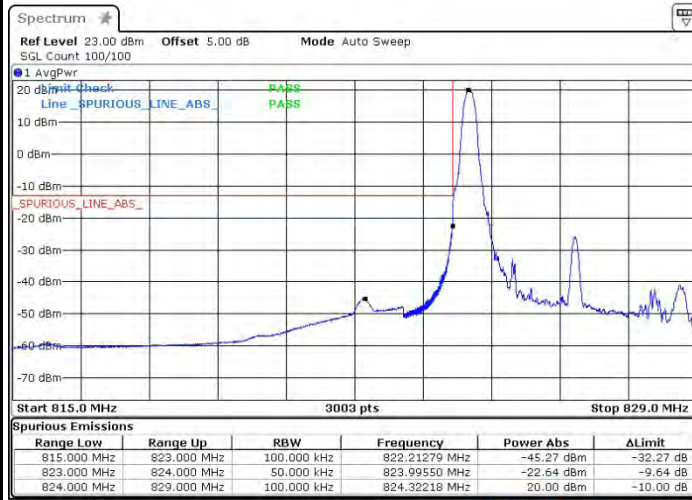
## Highest Band Edge / Full RB



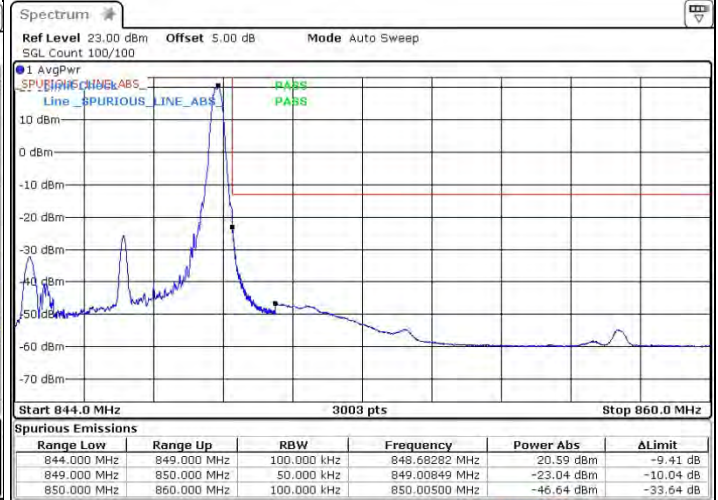


## LTE Band 5 / 5MHz / 16QAM

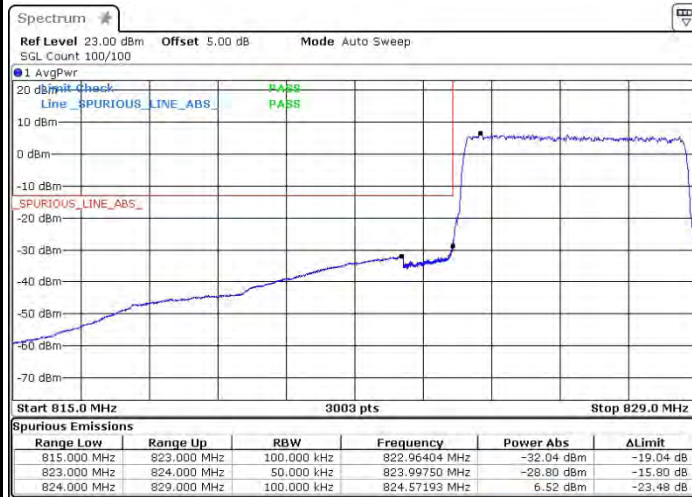
## Lowest Band Edge / 1RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



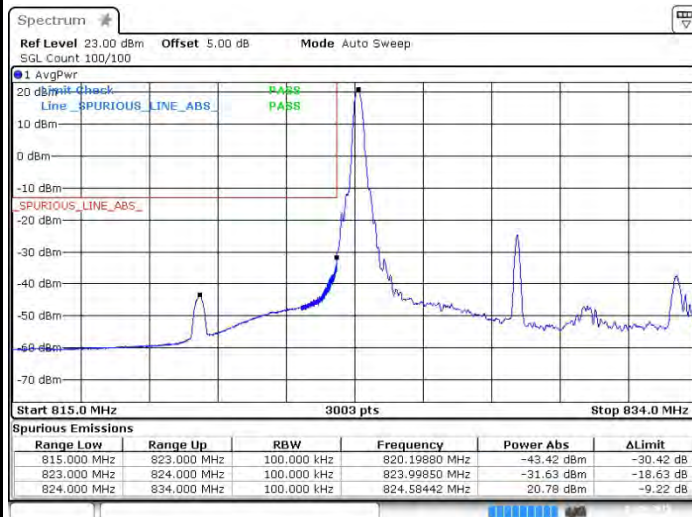
## Highest Band Edge / Full RB



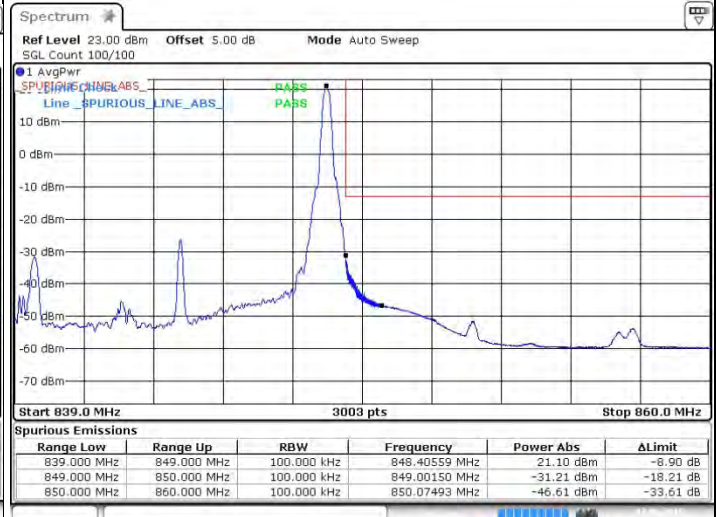


## LTE Band 5 / 10MHz / QPSK

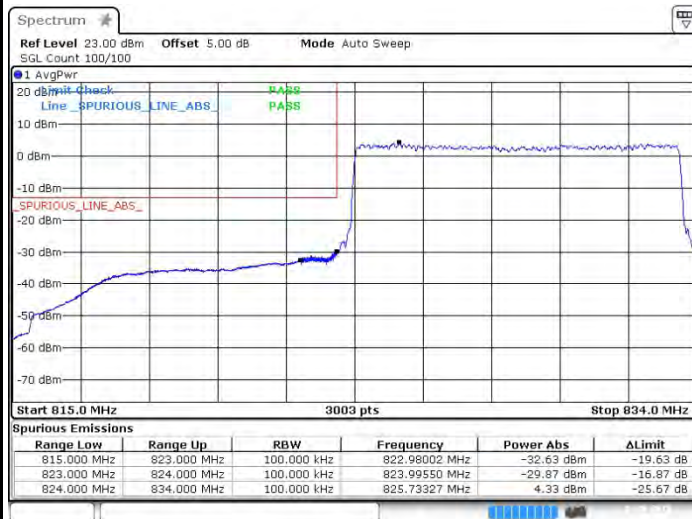
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



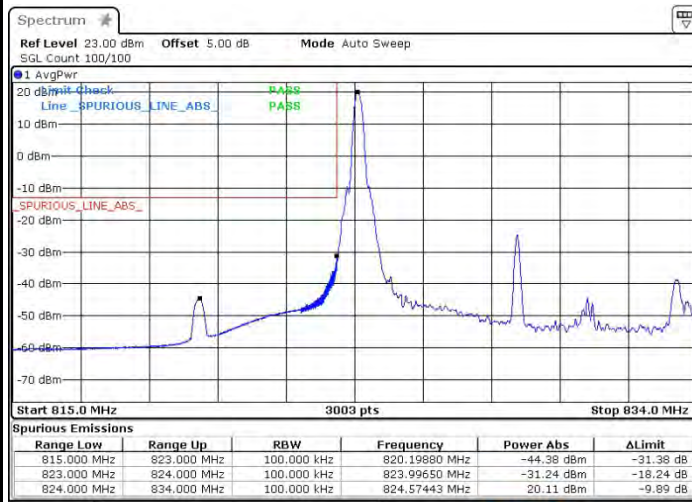
## Highest Band Edge / Full RB



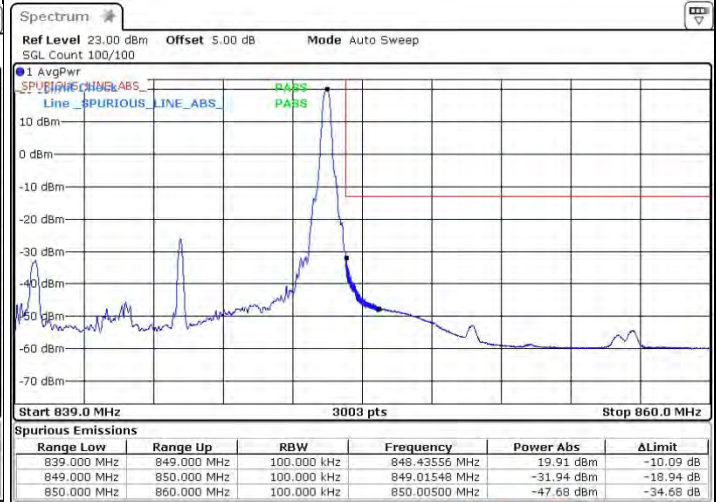


## LTE Band 5 / 10MHz / 16QAM

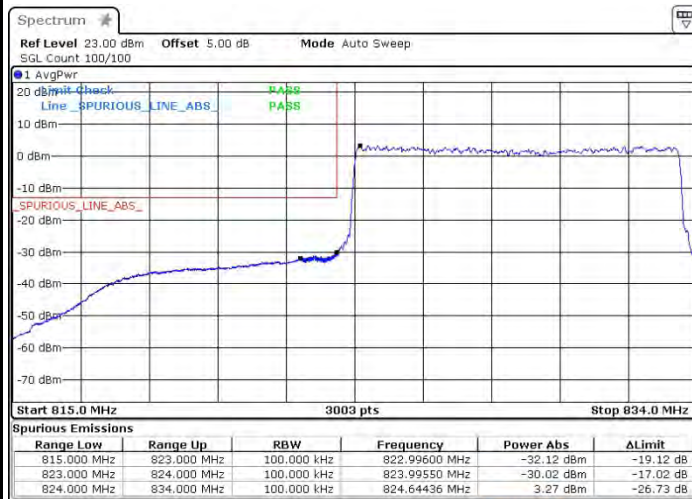
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB

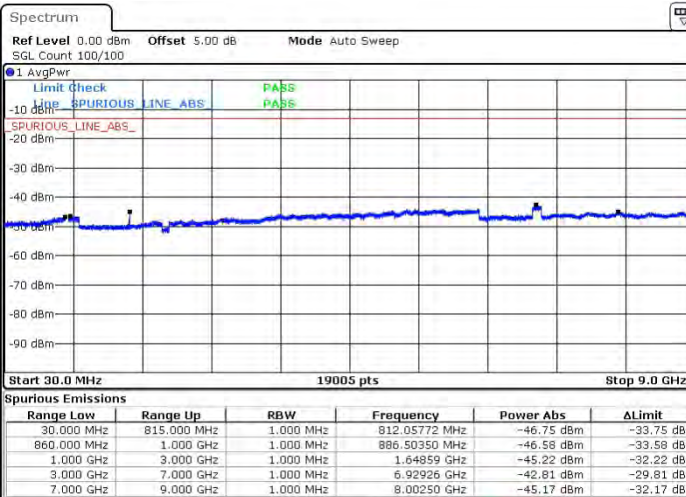




# Conducted Spurious Emission

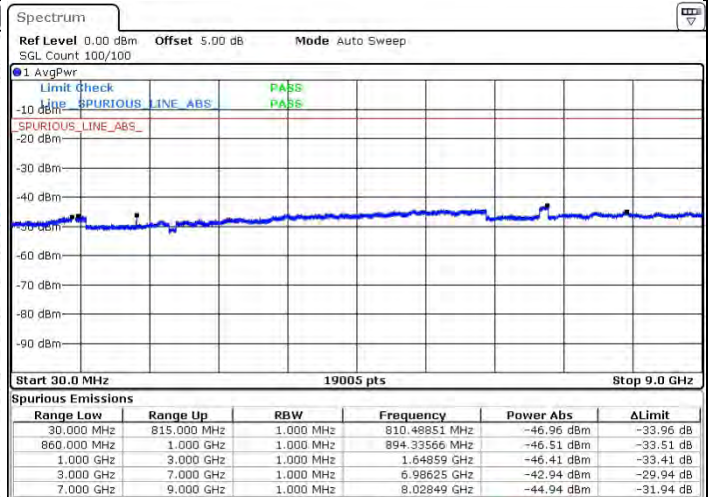
## LTE Band 5 / 1.4MHz

### Lowest Channel / QPSK



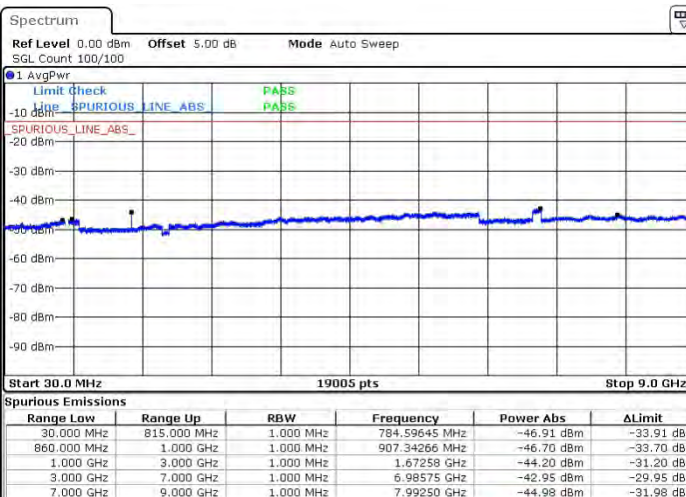
Date: 12 JUN 2015 00:31:01

### Lowest Channel / 16QAM



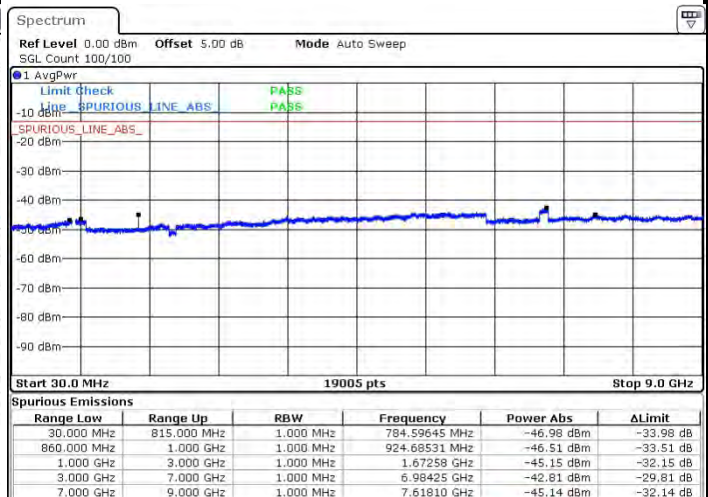
Date: 12 JUN 2015 00:32:19

### Middle Channel / QPSK



Date: 12 JUN 2015 00:34:20

### Middle Channel / 16QAM



Date: 12 JUN 2015 00:35:38

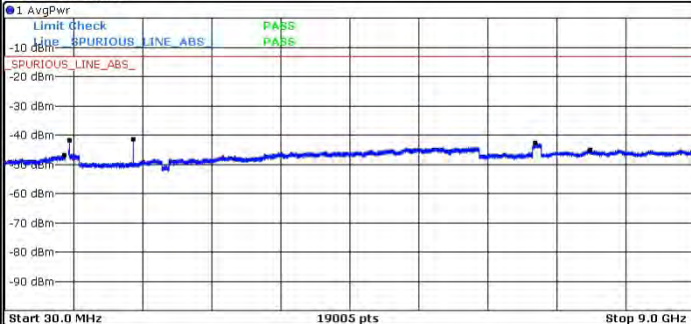


## LTE Band 5 / 1.4MHz

## Highest Channel / QPSK

## Highest Channel / 16QAM

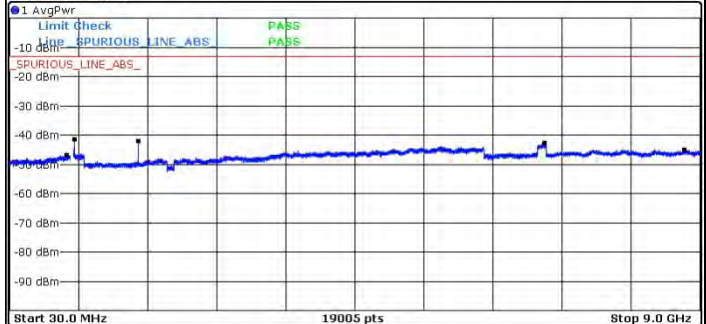
Spectrum

Ref Level 0.00 dBm Offset 5.00 dB Mode Auto Sweep  
SGL Count 100/100

| Range Low   | Range Up    | RBW       | Frequency     | Power Abs  | ΔLimit    |
|-------------|-------------|-----------|---------------|------------|-----------|
| 30.000 MHz  | 815.000 MHz | 1.000 MHz | 798.32709 MHz | -46.89 dBm | -33.89 dB |
| 860.000 MHz | 1.000 GHz   | 1.000 MHz | 866.92308 MHz | -41.75 dBm | -28.75 dB |
| 1.000 GHz   | 3.000 GHz   | 1.000 MHz | 1.69608 GHz   | -41.47 dBm | -28.47 dB |
| 3.000 GHz   | 7.000 GHz   | 1.000 MHz | 6.92526 GHz   | -42.82 dBm | -29.82 dB |
| 7.000 GHz   | 9.000 GHz   | 1.000 MHz | 7.63609 GHz   | -44.97 dBm | -31.97 dB |

Date: 12 JUN 2015 00:37:40

Spectrum

Ref Level 0.00 dBm Offset 5.00 dB Mode Auto Sweep  
SGL Count 100/100

| Range Low   | Range Up    | RBW       | Frequency     | Power Abs  | ΔLimit    |
|-------------|-------------|-----------|---------------|------------|-----------|
| 30.000 MHz  | 815.000 MHz | 1.000 MHz | 766.55047 MHz | -46.84 dBm | -33.84 dB |
| 860.000 MHz | 1.000 GHz   | 1.000 MHz | 866.92308 MHz | -41.40 dBm | -28.40 dB |
| 1.000 GHz   | 3.000 GHz   | 1.000 MHz | 1.69608 GHz   | -42.22 dBm | -29.22 dB |
| 3.000 GHz   | 7.000 GHz   | 1.000 MHz | 6.97575 GHz   | -42.80 dBm | -29.80 dB |
| 7.000 GHz   | 9.000 GHz   | 1.000 MHz | 8.79680 GHz   | -45.10 dBm | -32.10 dB |

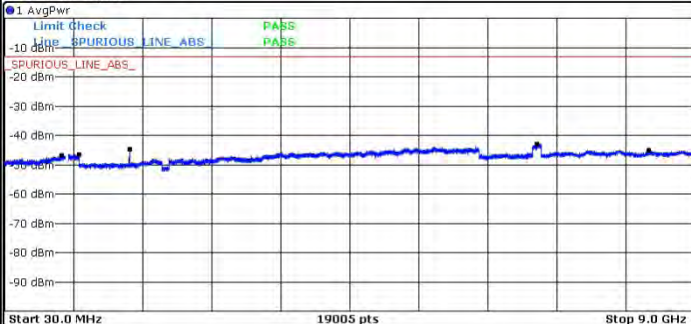
Date: 12 JUN 2015 00:38:58

## LTE Band 5 / 3MHz

## Lowest Channel / QPSK

## Lowest Channel / 16QAM

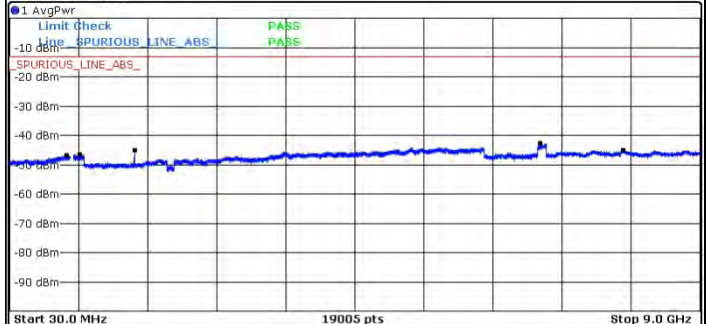
Spectrum

Ref Level 0.00 dBm Offset 5.00 dB Mode Auto Sweep  
SGL Count 100/100

| Range Low   | Range Up    | RBW       | Frequency     | Power Abs  | ΔLimit    |
|-------------|-------------|-----------|---------------|------------|-----------|
| 30.000 MHz  | 815.000 MHz | 1.000 MHz | 772.82734 MHz | -46.83 dBm | -33.83 dB |
| 860.000 MHz | 1.000 GHz   | 1.000 MHz | 999.51049 MHz | -46.54 dBm | -33.54 dB |
| 1.000 GHz   | 3.000 GHz   | 1.000 MHz | 1.64859 GHz   | -44.89 dBm | -31.89 dB |
| 3.000 GHz   | 7.000 GHz   | 1.000 MHz | 6.94326 GHz   | -42.99 dBm | -29.99 dB |
| 7.000 GHz   | 9.000 GHz   | 1.000 MHz | 8.39490 GHz   | -45.14 dBm | -32.14 dB |

Date: 12 JUN 2015 00:40:59

Spectrum

Ref Level 0.00 dBm Offset 5.00 dB Mode Auto Sweep  
SGL Count 100/100

| Range Low   | Range Up    | RBW       | Frequency     | Power Abs  | ΔLimit    |
|-------------|-------------|-----------|---------------|------------|-----------|
| 30.000 MHz  | 815.000 MHz | 1.000 MHz | 772.82734 MHz | -46.97 dBm | -33.97 dB |
| 860.000 MHz | 1.000 GHz   | 1.000 MHz | 941.60839 MHz | -46.51 dBm | -33.51 dB |
| 1.000 GHz   | 3.000 GHz   | 1.000 MHz | 1.64859 GHz   | -45.10 dBm | -32.10 dB |
| 3.000 GHz   | 7.000 GHz   | 1.000 MHz | 6.91726 GHz   | -42.78 dBm | -29.78 dB |
| 7.000 GHz   | 9.000 GHz   | 1.000 MHz | 8.00150 GHz   | -45.13 dBm | -32.13 dB |

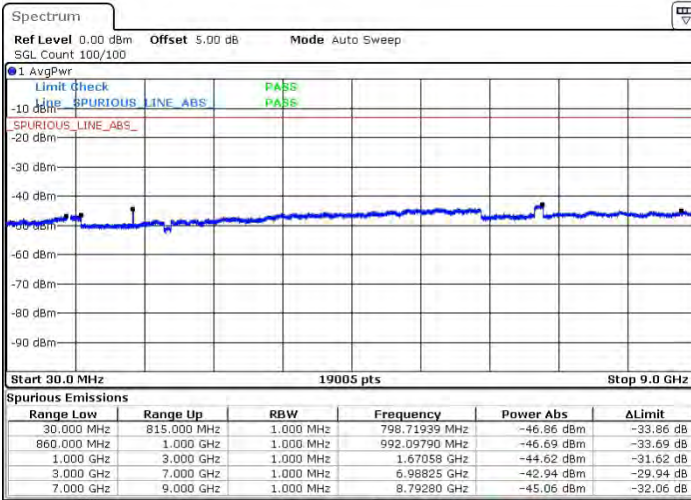
Date: 12 JUN 2015 00:42:17



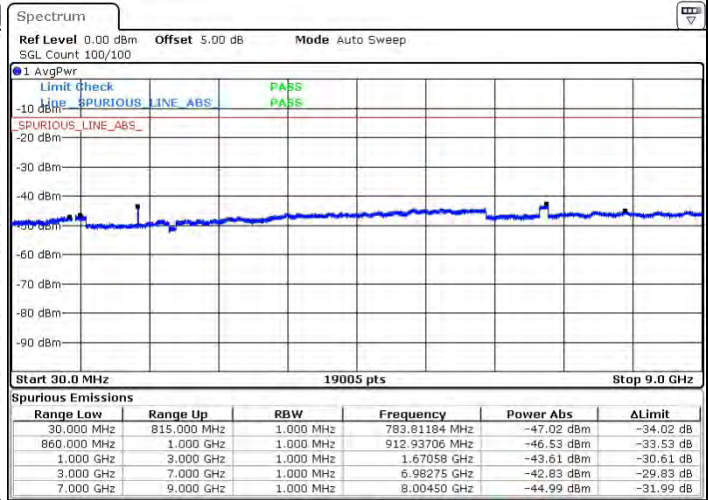
## LTE Band 5 / 3MHz

## Middle Channel / QPSK

## Middle Channel / 16QAM



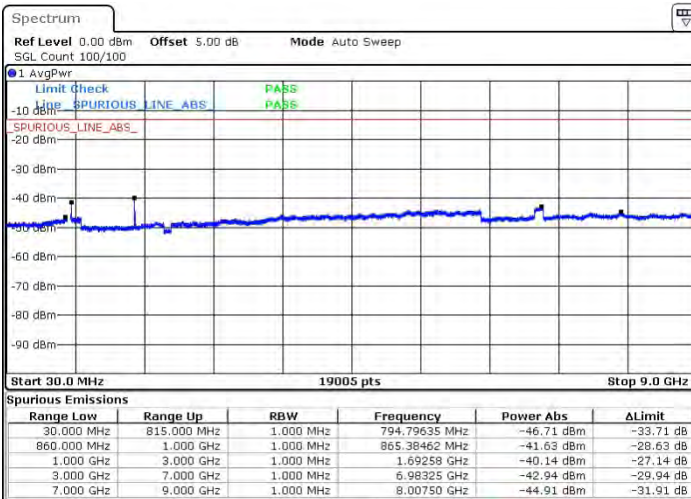
Date: 12 JUN 2015 00:44:19



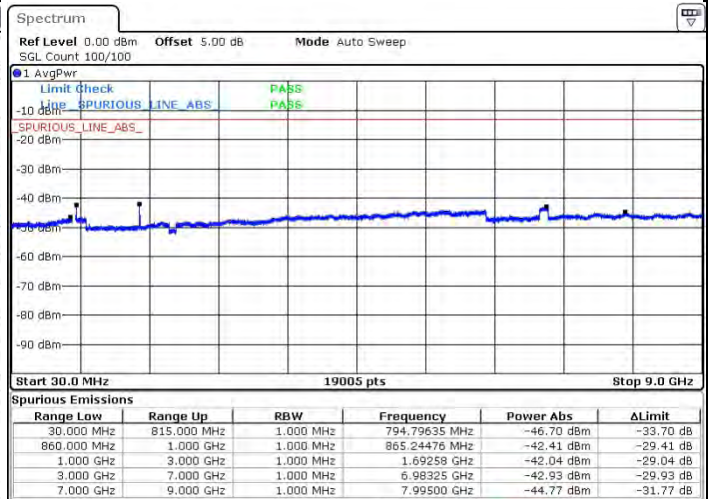
Date: 12 JUN 2015 00:45:36

## Highest Channel / QPSK

## Highest Channel / 16QAM



Date: 12 JUN 2015 00:47:38



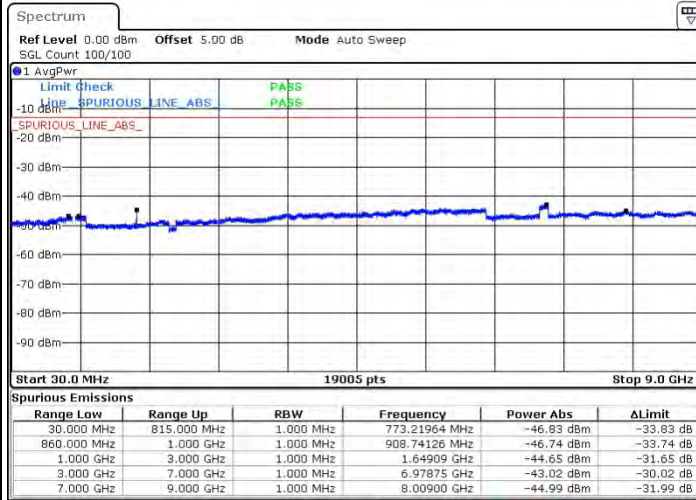
Date: 12 JUN 2015 00:48:56



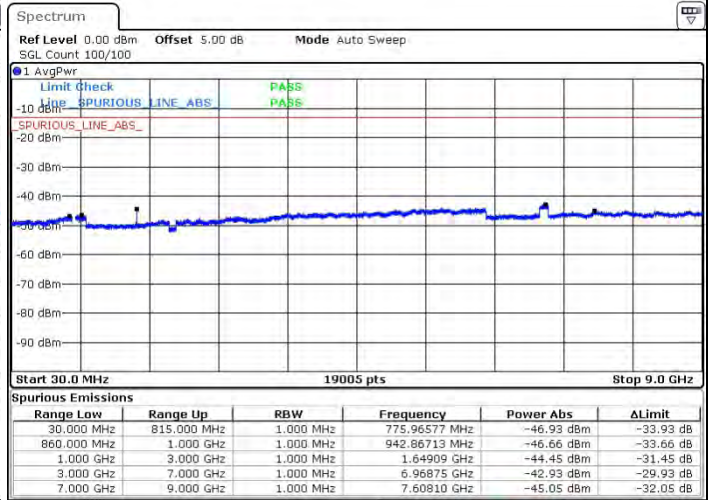
## LTE Band 5 / 5MHz

## Lowest Channel / QPSK

## Lowest Channel / 16QAM



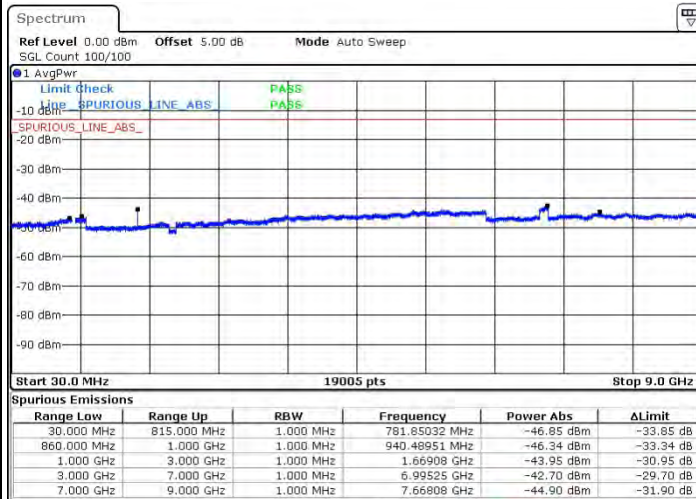
Date: 12 JUN 2015 00:50:58



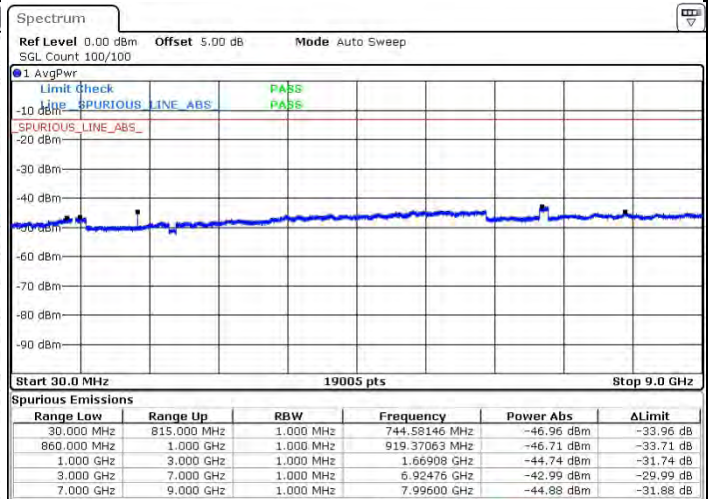
Date: 12 JUN 2015 00:52:15

## Middle Channel / QPSK

## Middle Channel / 16QAM



Date: 12 JUN 2015 00:54:17



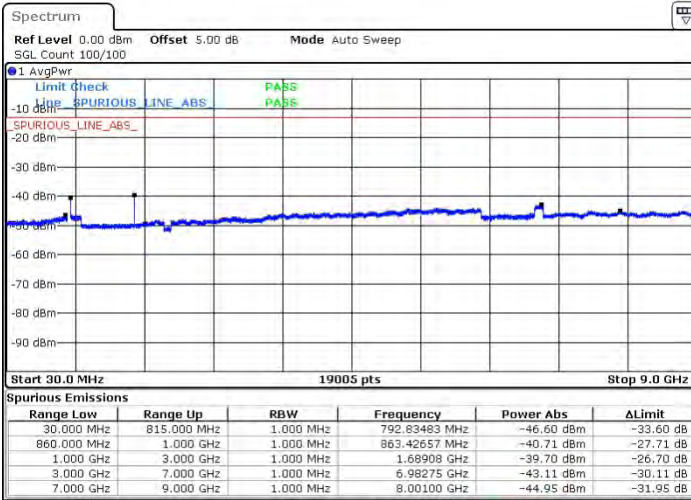
Date: 12 JUN 2015 00:55:35



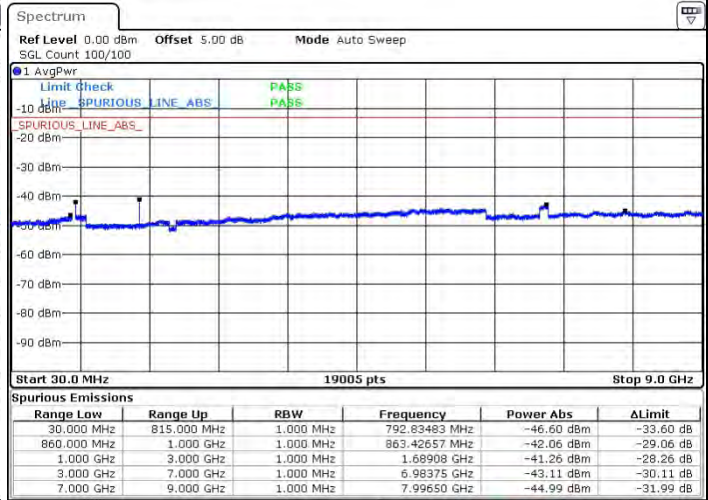
## LTE Band 5 / 5MHz

## Highest Channel / QPSK

## Highest Channel / 16QAM



Date: 12 JUN 2015 00:57:36

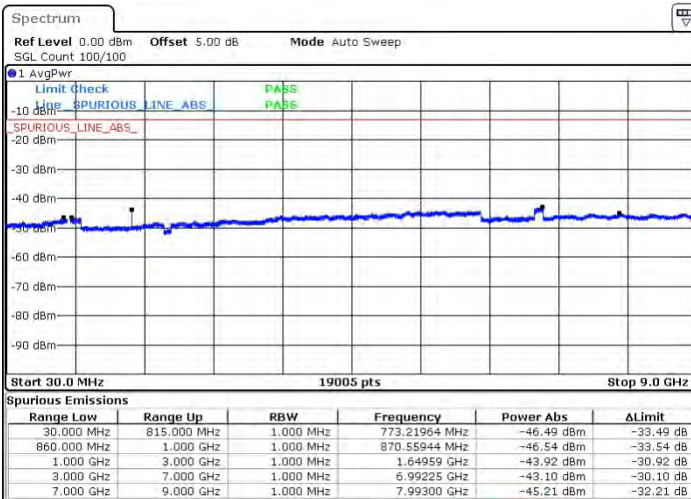


Date: 12 JUN 2015 00:58:54

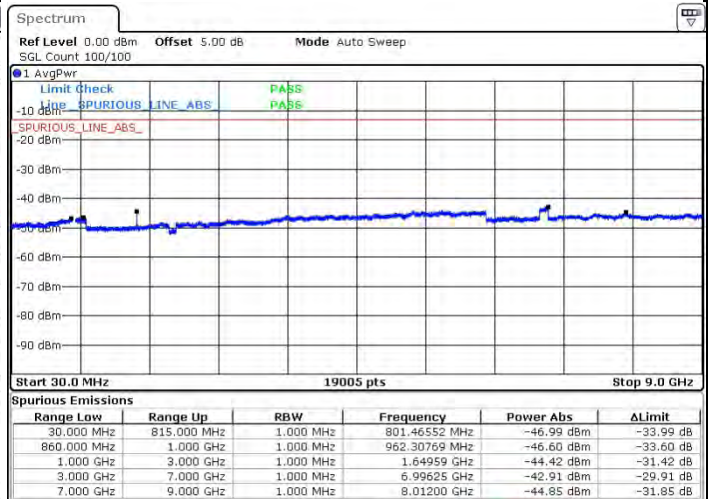
## LTE Band 5 / 10MHz

## Lowest Channel / QPSK

## Lowest Channel / 16QAM



Date: 12 JUN 2015 01:00:56



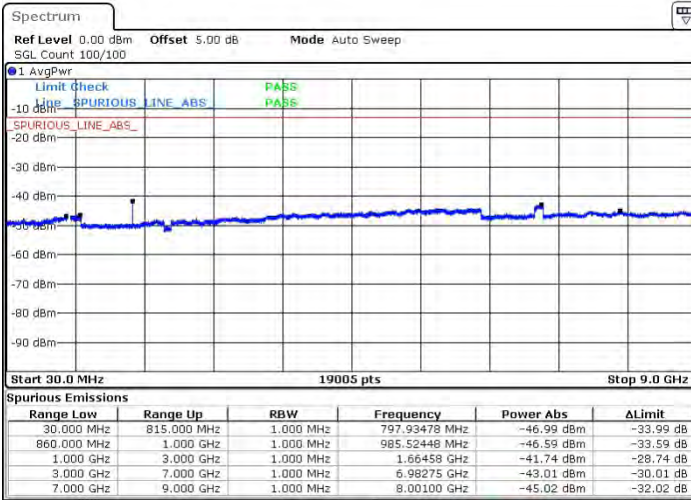
Date: 12 JUN 2015 01:02:14



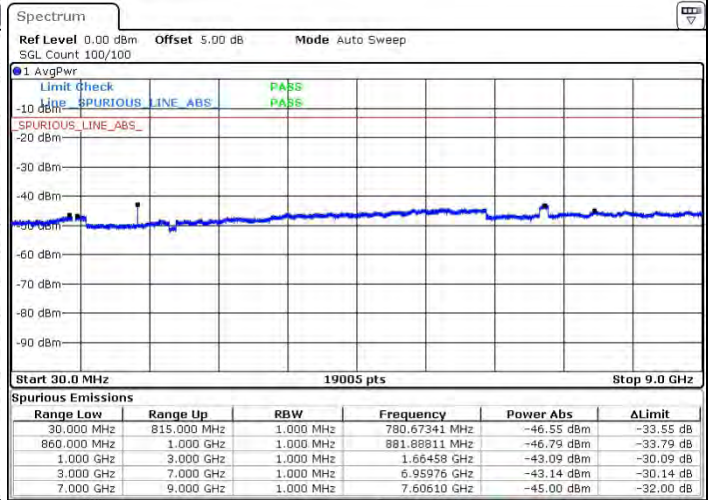
## LTE Band 5 / 10MHz

## Middle Channel / QPSK

## Middle Channel / 16QAM



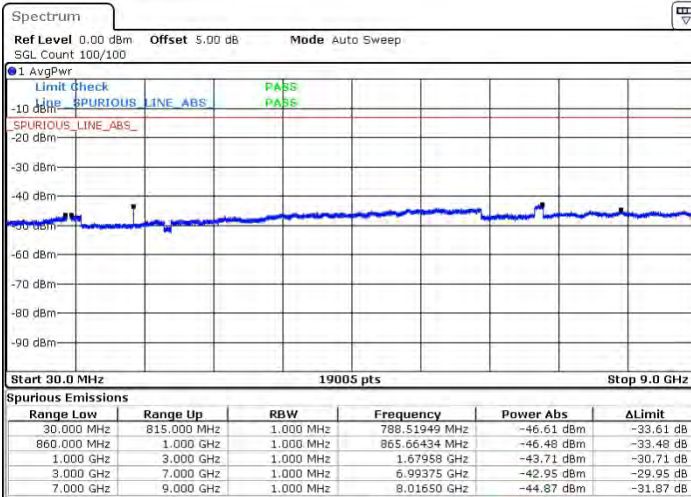
Date: 12 JUN 2015 01:06:01



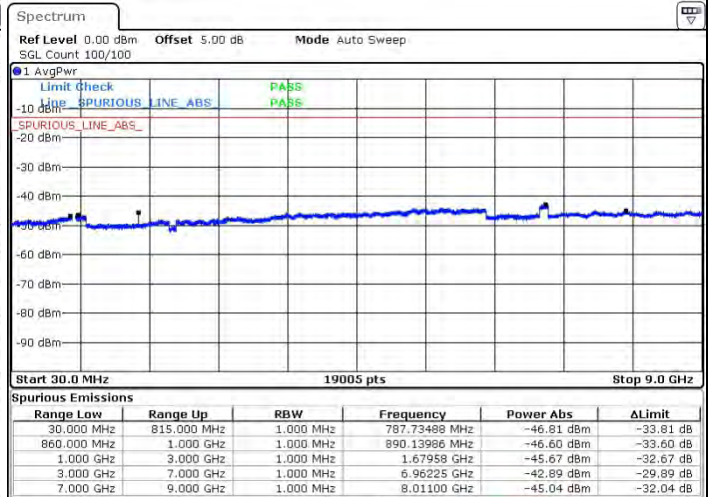
Date: 12 JUN 2015 01:07:19

## Highest Channel / QPSK

## Highest Channel / 16QAM



Date: 12 JUN 2015 01:09:20



Date: 12 JUN 2015 01:10:38

**Frequency Stability**

| Test Conditions  |                   | LTE Band 5 (QPSK) / Middle Channel | Limit  |
|------------------|-------------------|------------------------------------|--------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                           | 2.5ppm |
|                  |                   | Deviation (ppm)                    | Result |
| 50               | Normal Voltage    | 0.0191                             | PASS   |
| 40               | Normal Voltage    | 0.0275                             |        |
| 30               | Normal Voltage    | 0.0012                             |        |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |        |
| 10               | Normal Voltage    | 0.0132                             |        |
| 0                | Normal Voltage    | 0.0323                             |        |
| -10              | Normal Voltage    | 0.0430                             |        |
| -20              | Normal Voltage    | 0.0239                             |        |
| -30              | Normal Voltage    | 0.0251                             |        |
| 20               | Maximum Voltage   | 0.0108                             |        |
| 20               | Normal Voltage    | 0.0000                             |        |
| 20               | Battery End Point | 0.0036                             |        |

**Note:**

1. Normal Voltage = 3.8V. ; Battery End Point (BEP) = 3.6 V. ; Maximum Voltage =4.2 V
2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



## LTE Band 17

## Conducted Output Power(Average power)

| LTE Band 17 Maximum Average Power [dBm] |         |           |        |        |        |         |
|-----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                                | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 5                                       | 1       | 0         | QPSK   | 23.19  | 23.39  | 23.35   |
| 5                                       | 1       | 12        |        | 23.26  | 23.22  | 23.43   |
| 5                                       | 1       | 24        |        | 23.20  | 23.20  | 23.17   |
| 5                                       | 12      | 0         |        | 22.25  | 22.34  | 22.33   |
| 5                                       | 12      | 6         |        | 22.25  | 22.29  | 22.28   |
| 5                                       | 12      | 11        |        | 22.22  | 22.24  | 22.26   |
| 5                                       | 25      | 0         |        | 22.26  | 22.40  | 22.29   |
| 5                                       | 1       | 0         | 16-QAM | 22.87  | 22.73  | 22.68   |
| 5                                       | 1       | 12        |        | 22.54  | 22.56  | 22.15   |
| 5                                       | 1       | 24        |        | 22.53  | 22.89  | 22.59   |
| 5                                       | 12      | 0         |        | 21.20  | 21.34  | 21.20   |
| 5                                       | 12      | 6         |        | 21.29  | 21.25  | 21.25   |
| 5                                       | 12      | 11        |        | 21.25  | 21.22  | 21.25   |
| 5                                       | 25      | 0         |        | 21.23  | 21.31  | 21.34   |
| 10                                      | 1       | 0         | QPSK   | 23.44  | 23.29  | 23.41   |
| 10                                      | 1       | 24        |        | 23.30  | 23.07  | 23.21   |
| 10                                      | 1       | 49        |        | 23.07  | 23.28  | 23.25   |
| 10                                      | 25      | 0         |        | 22.37  | 22.31  | 22.27   |
| 10                                      | 25      | 12        |        | 22.22  | 22.27  | 22.26   |
| 10                                      | 25      | 24        |        | 22.34  | 22.34  | 22.30   |
| 10                                      | 50      | 0         |        | 22.34  | 22.33  | 22.24   |
| 10                                      | 1       | 0         | 16-QAM | 22.93  | 22.65  | 22.92   |
| 10                                      | 1       | 24        |        | 22.54  | 22.47  | 22.60   |
| 10                                      | 1       | 49        |        | 22.79  | 22.99  | 22.75   |
| 10                                      | 25      | 0         |        | 21.32  | 21.35  | 21.31   |
| 10                                      | 25      | 12        |        | 21.31  | 21.31  | 21.25   |
| 10                                      | 25      | 24        |        | 21.43  | 21.31  | 21.35   |
| 10                                      | 50      | 0         |        | 21.37  | 21.47  | 21.32   |

**Peak-to-Average Ratio**

| Mode       | LTE Band 17 / 10MHz |         |       |         |             |
|------------|---------------------|---------|-------|---------|-------------|
| Mod.       | QPSK                |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                 | Full RB | 1RB   | RB Size | Result      |
| Lowest CH  | 2.96                | 4.64    | 3.54  | 5.36    | <b>PASS</b> |
| Middle CH  | 3.07                | 4.67    | 3.77  | 5.48    |             |
| Highest CH | 3.19                | 4.70    | 4.00  | 5.39    |             |



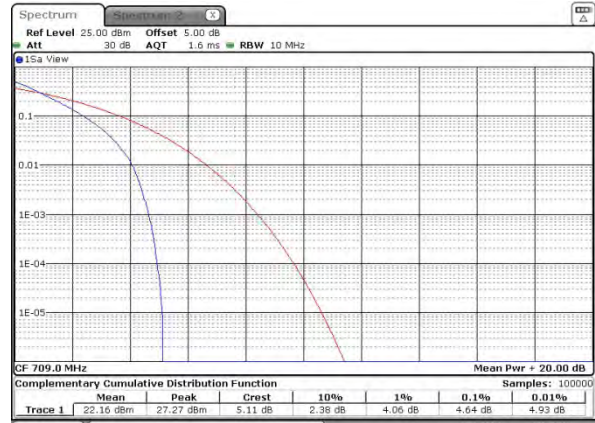
## LTE Band 17 / 10MHz / QPSK

## Lowest Channel / 1RB



Date: 12 JUN 2015 18:54:53

## Lowest Channel / Full RB



Date: 12 JUN 2015 18:56:12

## Middle Channel/ 1RB



Date: 12 JUN 2015 18:55:11

## Middle Channel / Full RB



Date: 12 JUN 2015 18:55:56

## Highest Channel/ 1RB



Date: 12 JUN 2015 18:55:25

## Highest Channel / Full RB



Date: 12 JUN 2015 18:55:41



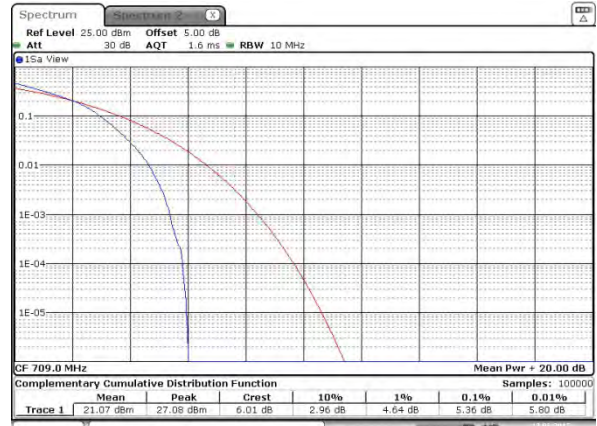
## LTE Band 17 / 10MHz / 16QAM

## Lowest Channel / 1RB



Date: 12 JUN 2015 18:51:11

## Lowest Channel / Full RB



Date: 12 JUN 2015 18:51:23

## Middle Channel/ 1RB



Date: 12 JUN 2015 18:51:35

## Middle Channel / Full RB



Date: 12 JUN 2015 18:51:47

## Highest Channel/ 1RB



Date: 12 JUN 2015 18:51:58

## Highest Channel / Full RB



Date: 12 JUN 2015 18:52:10

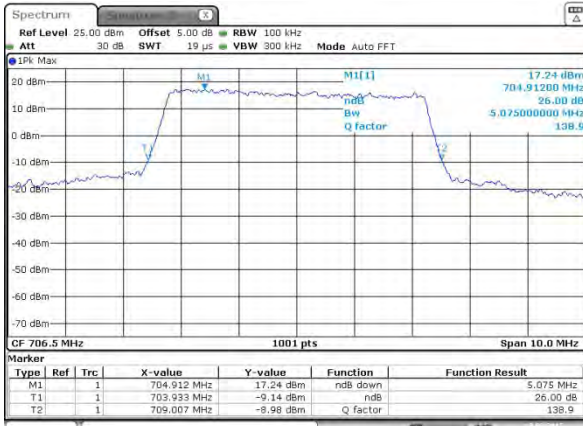
**26dB Bandwidth**

| Mode       | LTE Band 17 : 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  | -                          | -     | -    | -     | 5.08 | 5.02  | 10.13 | 10.01 | -     | -     | -     | -     |
| Middle CH  | -                          | -     | -    | -     | 5.10 | 5.05  | 10.23 | 10.01 | -     | -     | -     | -     |
| Highest CH | -                          | -     | -    | -     | 5.05 | 5.03  | 10.19 | 10.03 | -     | -     | -     | -     |

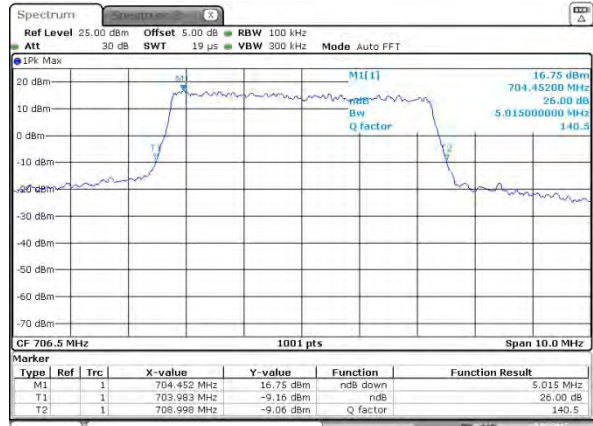


## LTE Band 17

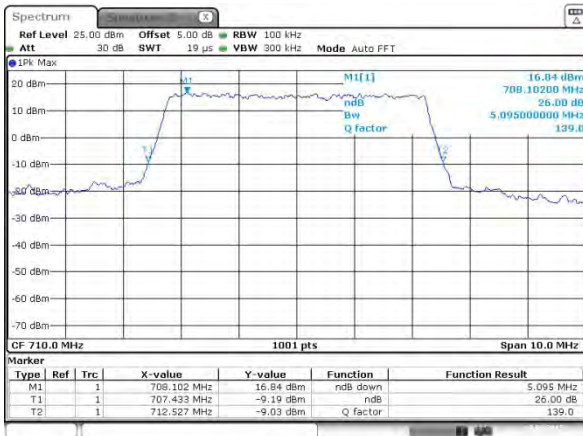
## Lowest Channel / 5MHz / QPSK



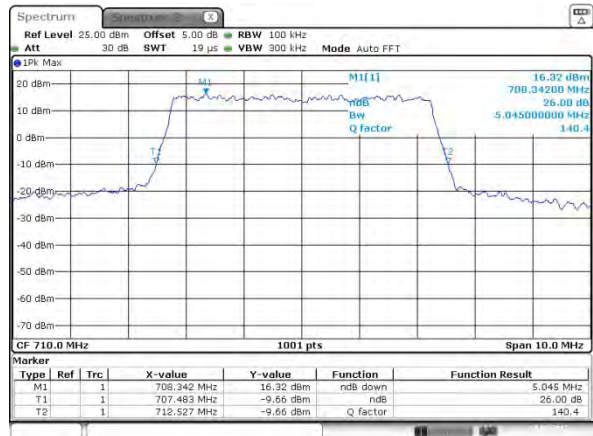
## Lowest Channel / 5MHz / 16QAM



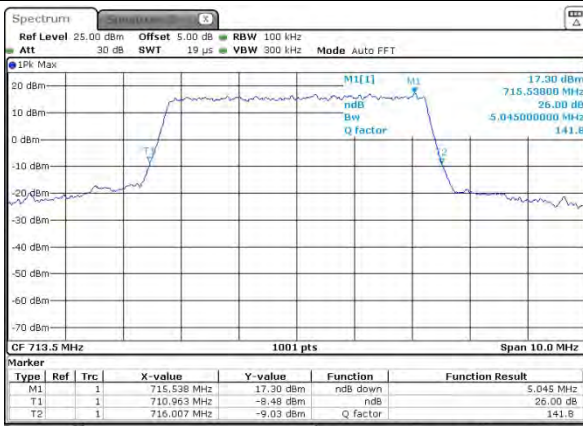
## Middle Channel / 5MHz / QPSK



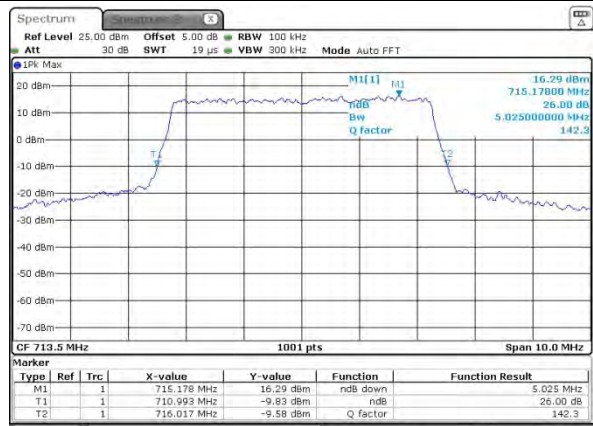
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



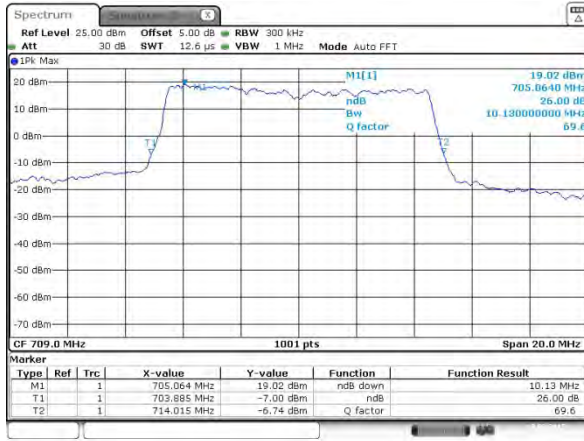
## Highest Channel / 5MHz / 16QAM





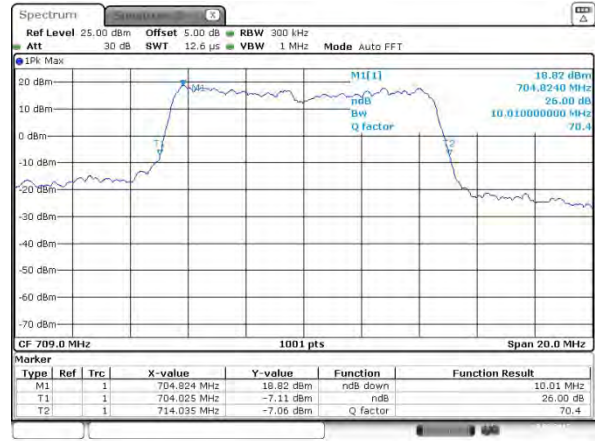
## LTE Band 17

## Lowest Channel / 10MHz / QPSK



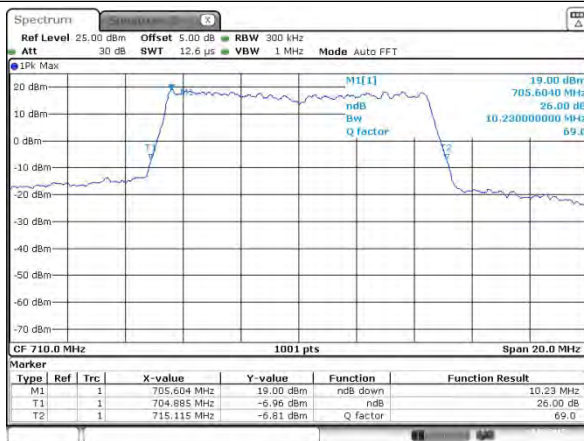
Date: 12 JUN 2015 18:27:58

## Lowest Channel / 10MHz / 16QAM



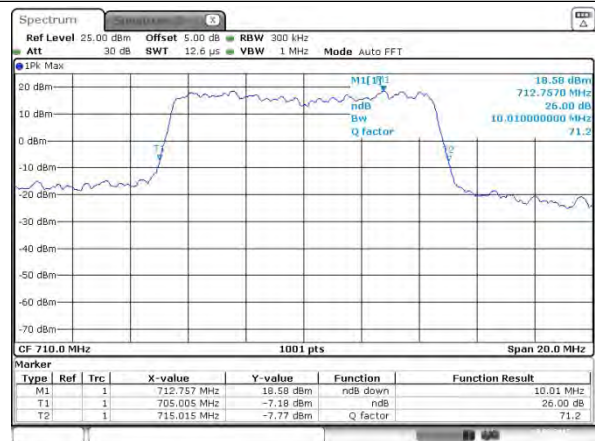
Date: 12 JUN 2015 18:28:11

## Middle Channel / 10MHz / QPSK



Date: 12 JUN 2015 18:35:40

## Middle Channel / 10MHz / 16QAM



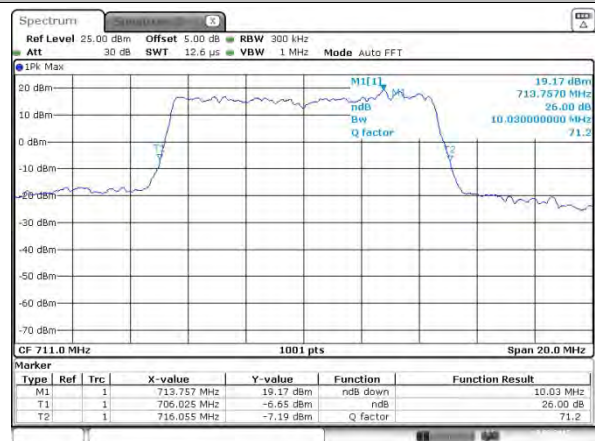
Date: 12 JUN 2015 18:35:53

## Highest Channel / 10MHz / QPSK



Date: 12 JUN 2015 18:38:48

## Highest Channel / 10MHz / 16QAM



Date: 12 JUN 2015 18:39:01

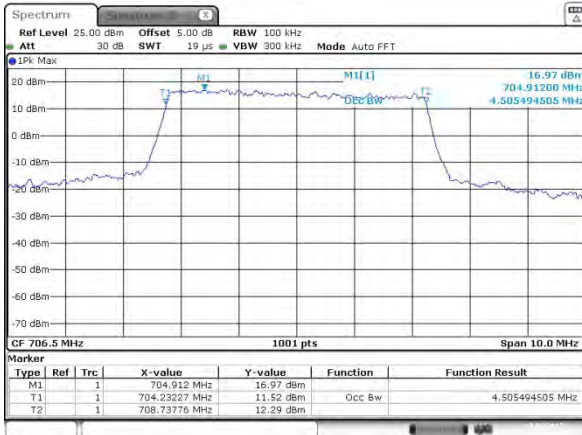
**Occupied Bandwidth**

| Mode       | LTE Band 17 : 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  | -                         | -     | -    | -     | 4.51 | 4.50  | 9.15  | 9.05  | -     | -     | -     | -     |
| Middle CH  | -                         | -     | -    | -     | 4.52 | 4.51  | 9.11  | 9.09  | -     | -     | -     | -     |
| Highest CH | -                         | -     | -    | -     | 4.50 | 4.50  | 9.11  | 9.07  | -     | -     | -     | -     |

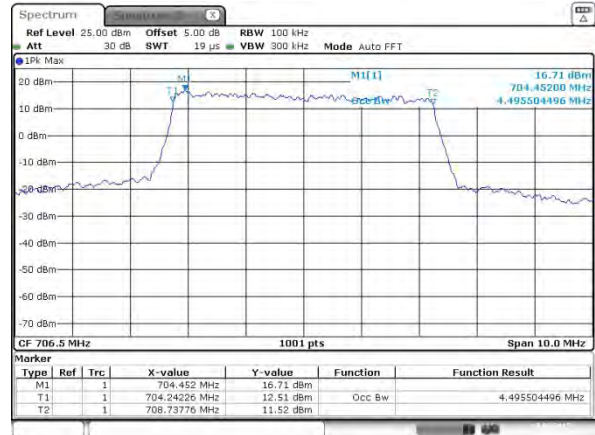


## LTE Band 17

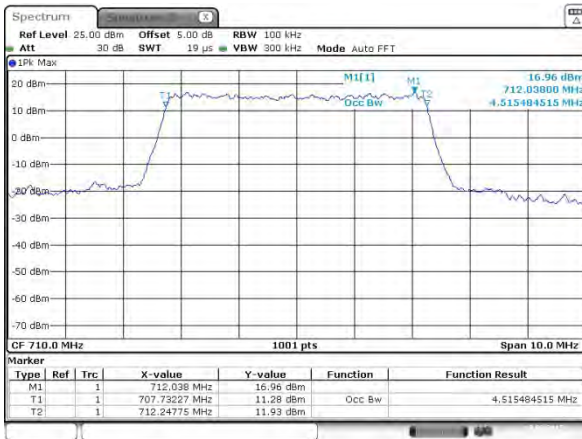
## Lowest Channel / 5MHz / QPSK



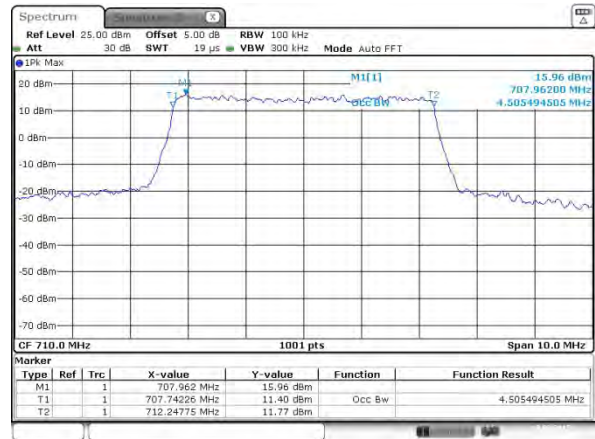
## Lowest Channel / 5MHz / 16QAM



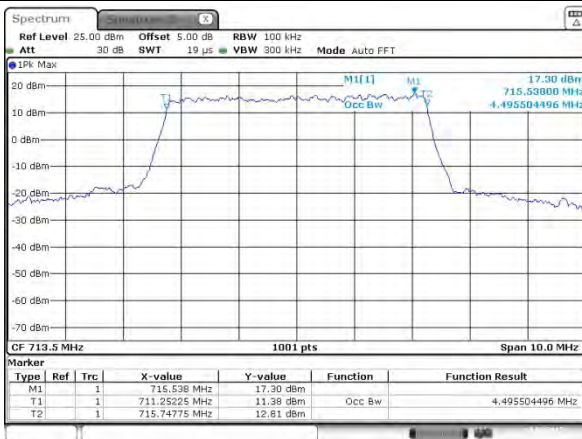
## Middle Channel / 5MHz / QPSK



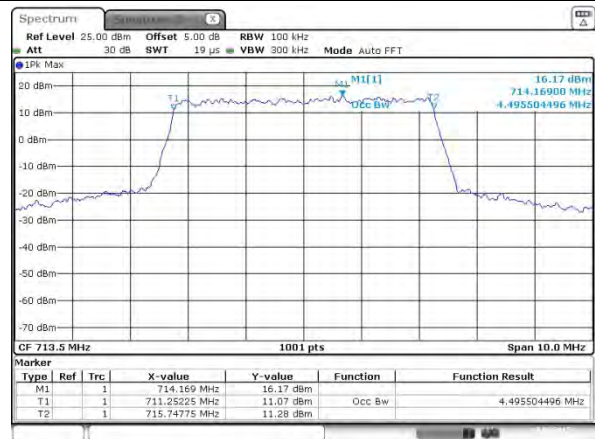
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



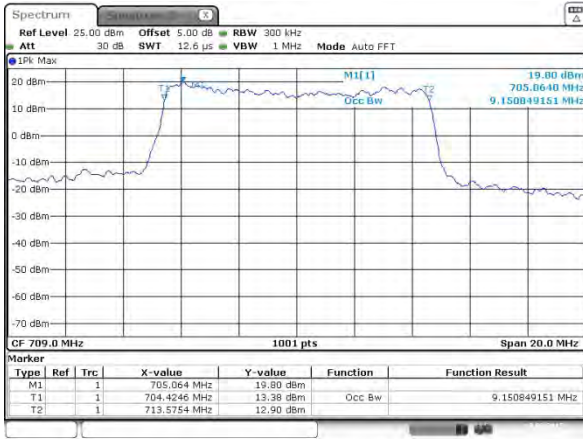
## Highest Channel / 5MHz / 16QAM



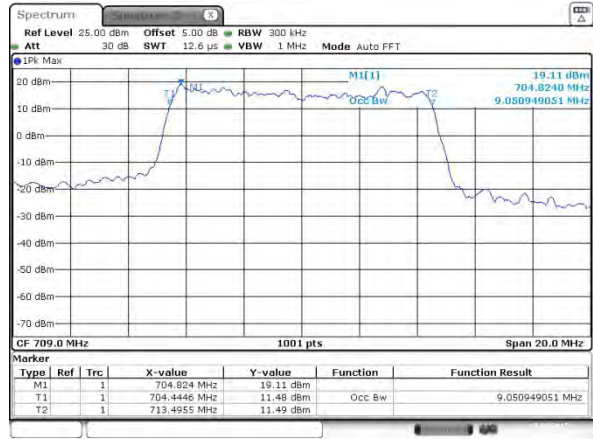


## LTE Band 17

## Lowest Channel / 10MHz / QPSK



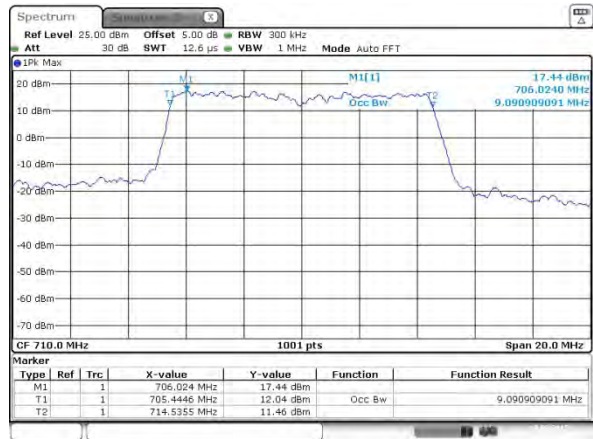
## Lowest Channel / 10MHz / 16QAM



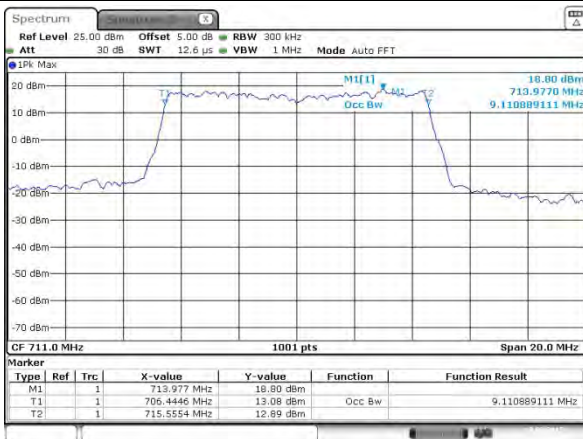
## Middle Channel / 10MHz / QPSK



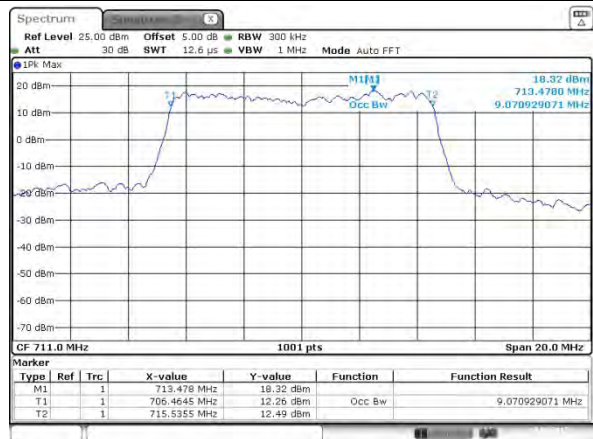
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



## Highest Channel / 10MHz / 16QAM

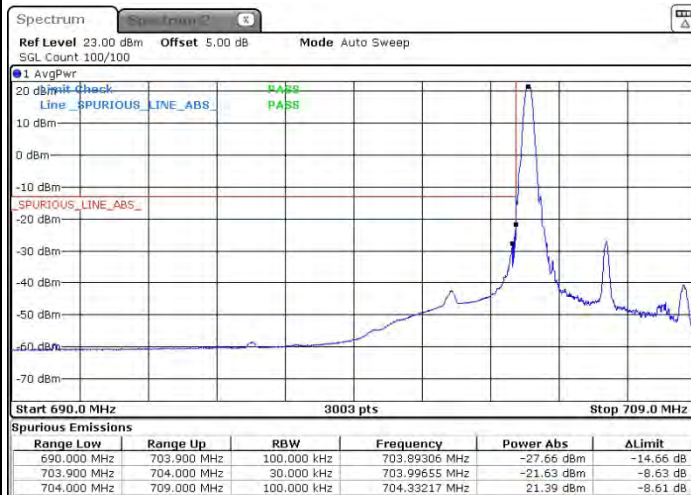




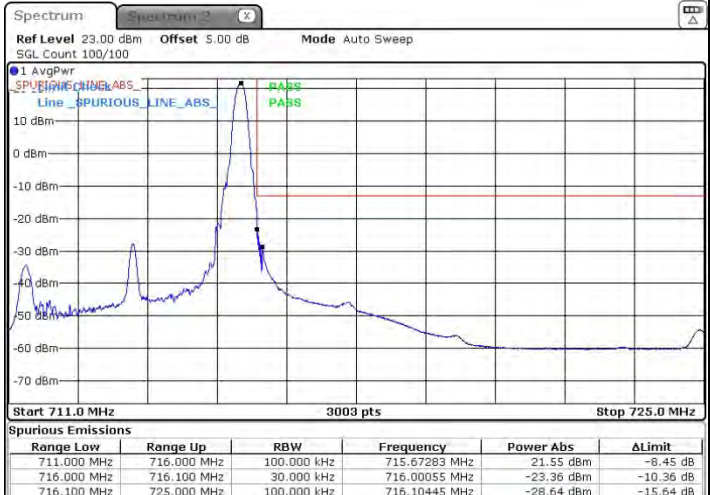
## Conducted Band Edge

### LTE Band 17 / 5MHz / QPSK

#### Lowest Band Edge / 1 RB



#### Highest Band Edge / 1 RB



#### Lowest Band Edge / Full RB



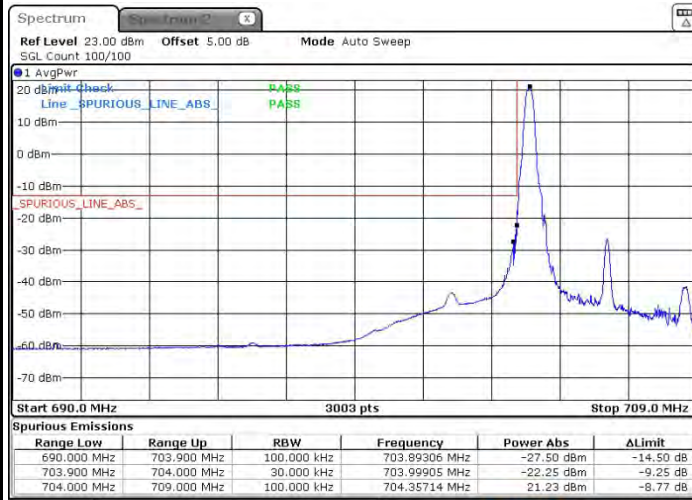
#### Highest Band Edge / Full RB



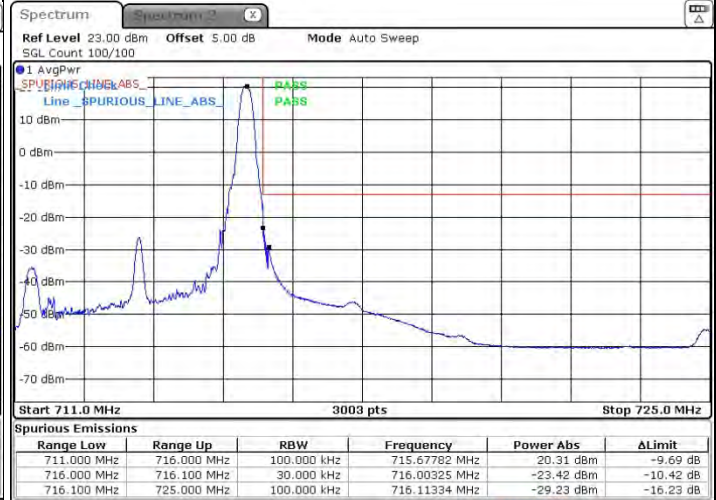


## LTE Band 17 / 5MHz / 16QAM

## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



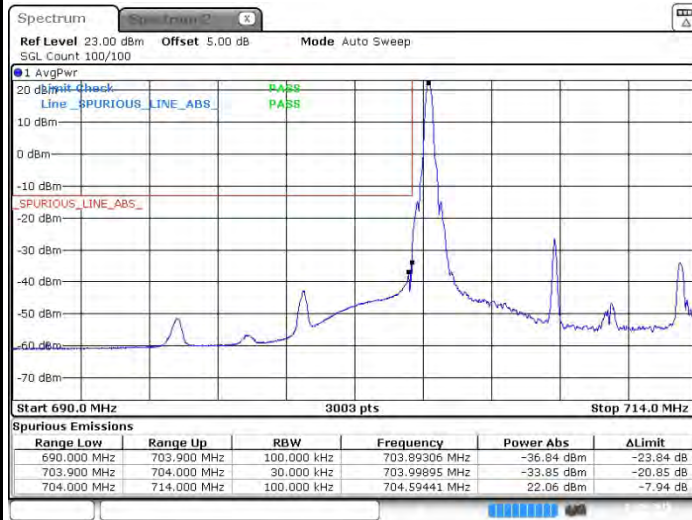
## Highest Band Edge / Full RB



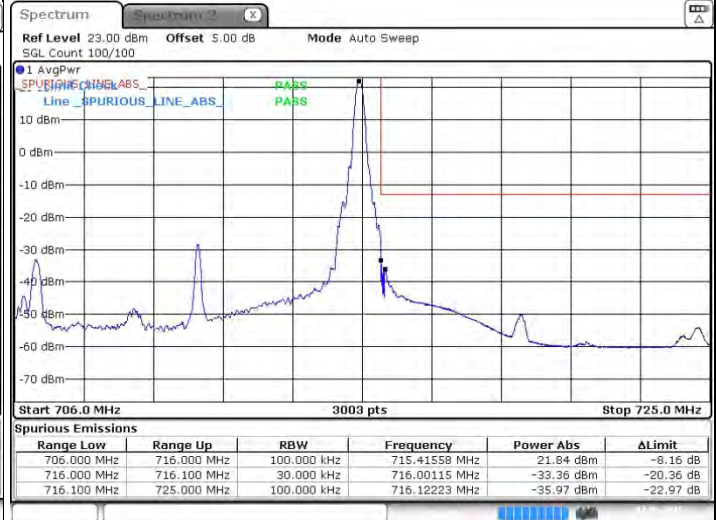


## LTE Band 17 / 10MHz / QPSK

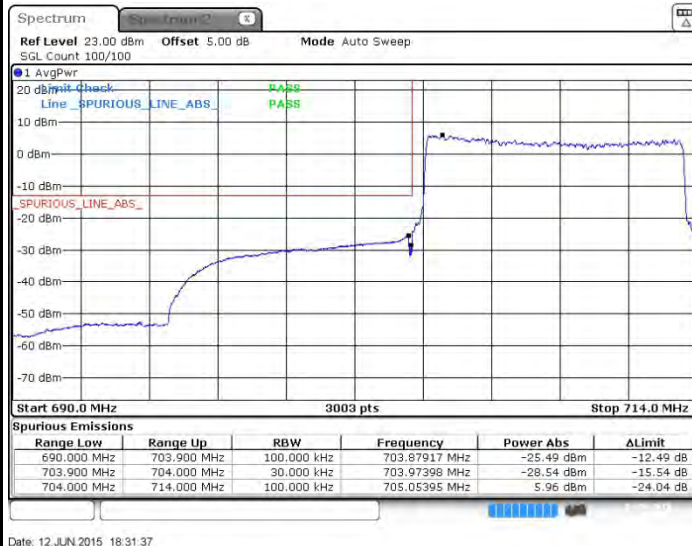
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



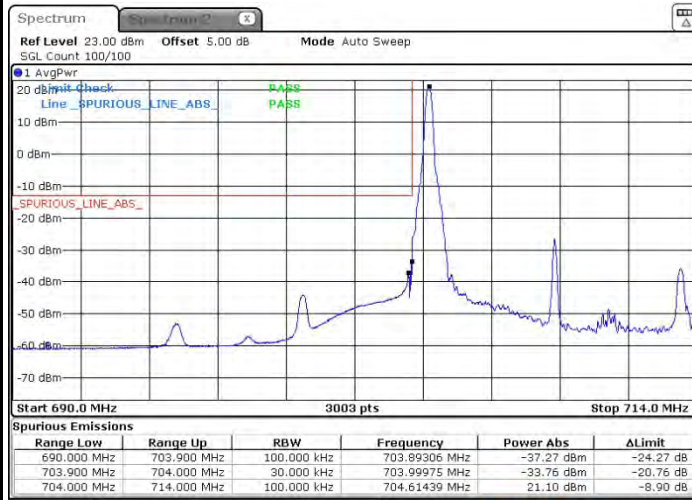
## Highest Band Edge / Full RB



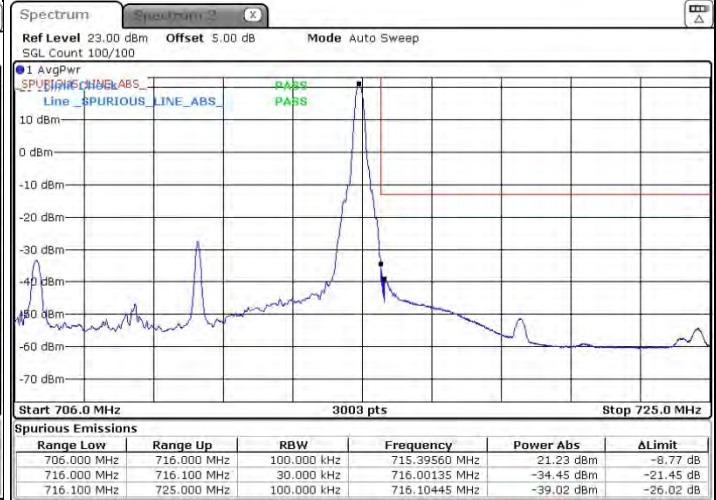


## LTE Band 17 / 10MHz / 16QAM

## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



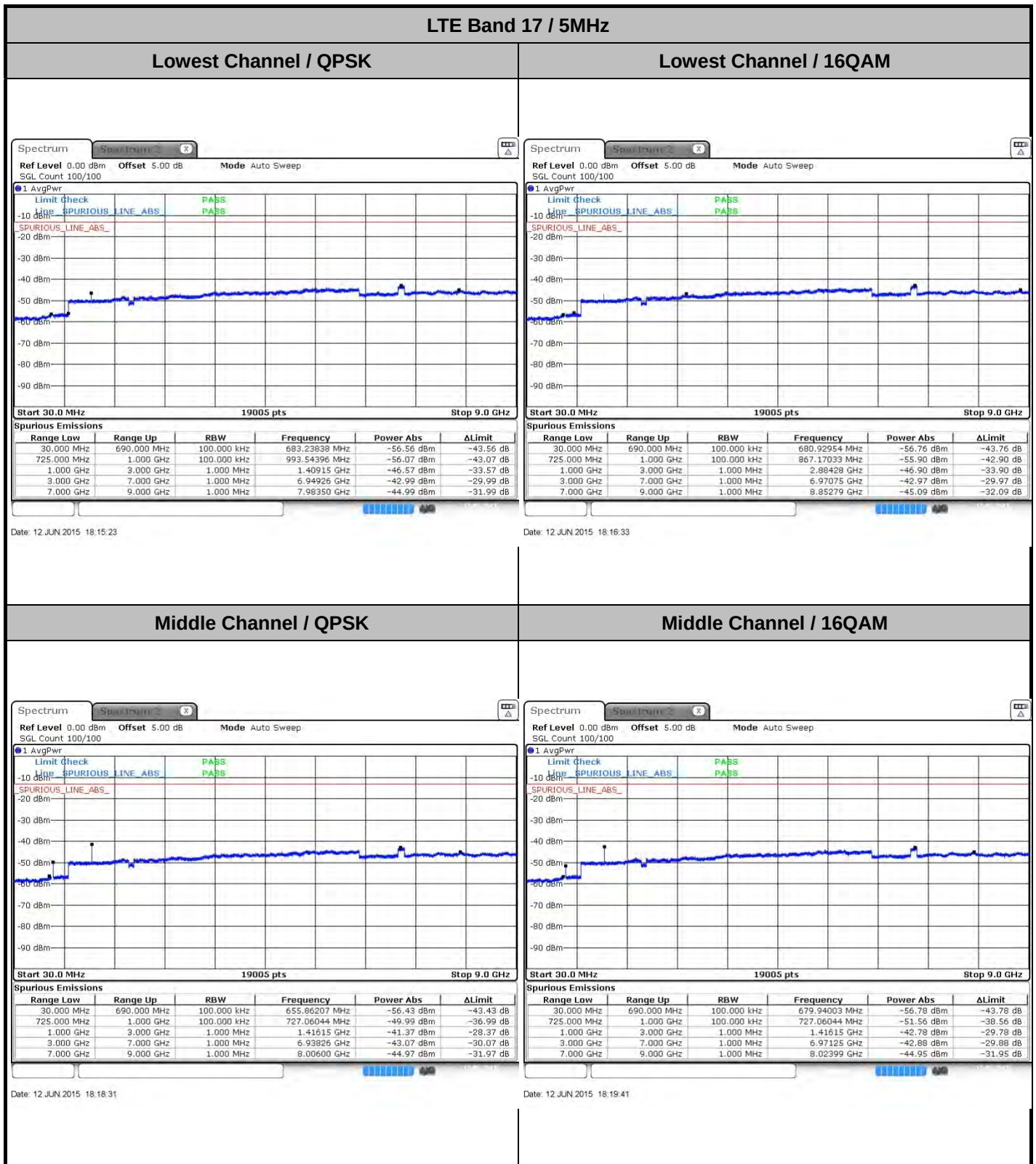
## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB



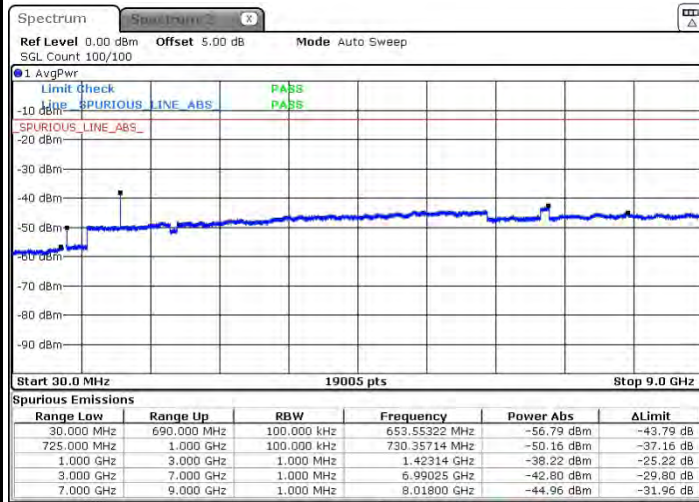
## Conducted Spurious Emission





## LTE Band 17 / 5MHz

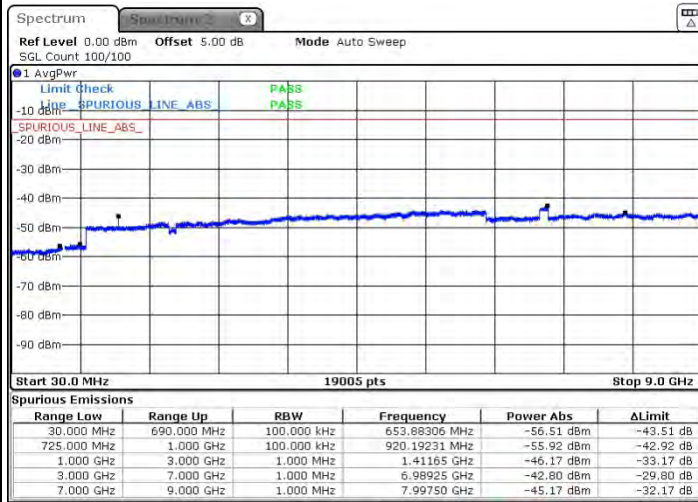
## Highest Channel / QPSK





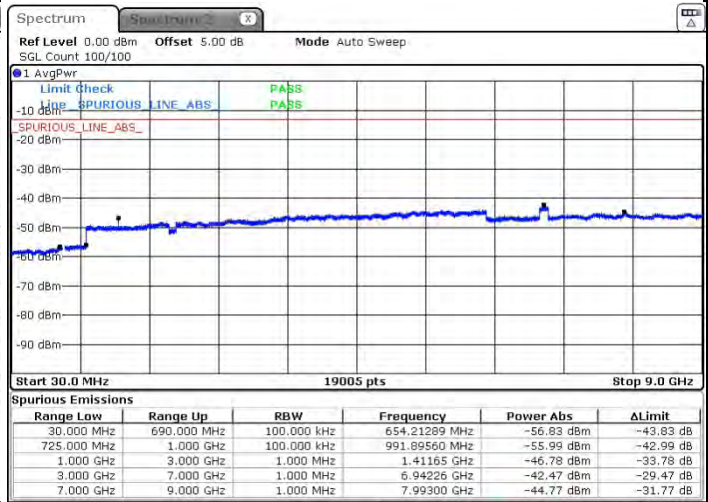
## LTE Band 17 / 10MHz

## Middle Channel / QPSK



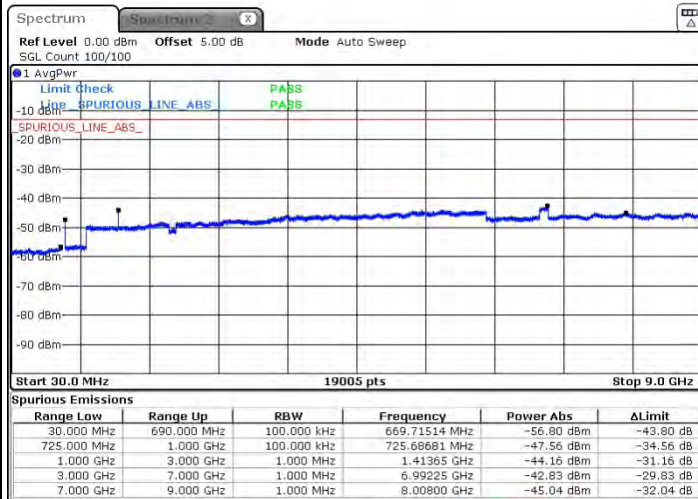
Date: 12 JUN 2015 18:37:03

## Middle Channel / 16QAM



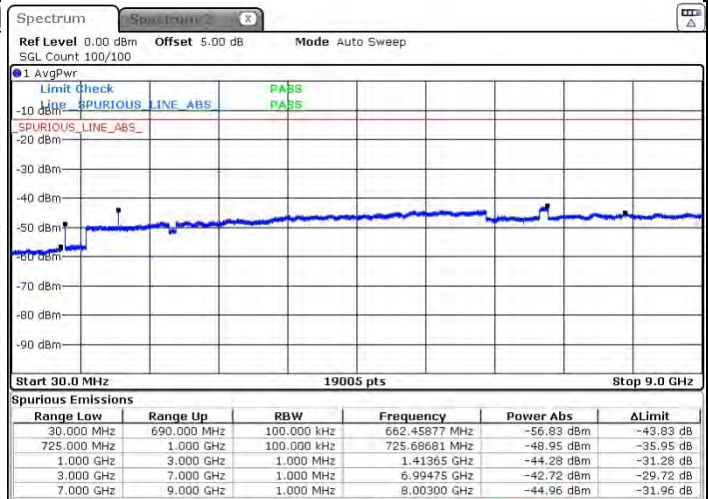
Date: 12 JUN 2015 18:38:13

## Highest Channel / QPSK



Date: 12 JUN 2015 18:44:45

## Highest Channel / 16QAM



Date: 12 JUN 2015 18:45:55

**Frequency Stability**

| Test Conditions  |                   | LTE Band 17 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|-------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                            | Note 2. |
|                  |                   | Deviation (ppm)                     | Result  |
| 50               | Normal Voltage    | 0.0011                              | PASS    |
| 40               | Normal Voltage    | 0.0010                              |         |
| 30               | Normal Voltage    | 0.0007                              |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                              |         |
| 10               | Normal Voltage    | 0.0025                              |         |
| 0                | Normal Voltage    | 0.0006                              |         |
| -10              | Normal Voltage    | 0.0000                              |         |
| -20              | Normal Voltage    | 0.0024                              |         |
| -30              | Normal Voltage    | 0.0003                              |         |
| 20               | Maximum Voltage   | 0.0027                              |         |
| 20               | Normal Voltage    | 0.0013                              |         |
| 20               | Battery End Point | 0.0041                              |         |

**Note:**

1. Normal Voltage = 3.8V. ; Battery End Point (BEP) = 3.6 V. ; Maximum Voltage =4.2 V
2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.