



## LTE Band 7

## Peak-to-Average Ratio

| Mode       | LTE Band 7 / 20MHz |         |       |         |             |
|------------|--------------------|---------|-------|---------|-------------|
| Mod.       | QPSK               |         | 16QAM |         | Limit: 13dB |
| RB Size    | 1RB                | Full RB | 1RB   | Full RB | Result      |
| Lowest CH  | 3.42               | 4.7     | 3.91  | 5.74    | PASS        |
| Middle CH  | 2.84               | 4.12    | 3.48  | 5.13    |             |
| Highest CH | 3.33               | 4.14    | 4.09  | 5.04    |             |



## LTE Band 7 / 20MHz / QPSK

## Lowest Channel / 1RB



Date: 1 AUG 2015 08:43:02

## Lowest Channel / Full RB



Date: 1 AUG 2015 08:43:13

## Middle Channel / 1RB



Date: 1 AUG 2015 08:43:23

## Middle Channel / Full RB



Date: 1 AUG 2015 08:43:33

## Highest Channel / 1RB



Date: 1 AUG 2015 08:43:43

## Highest Channel / Full RB

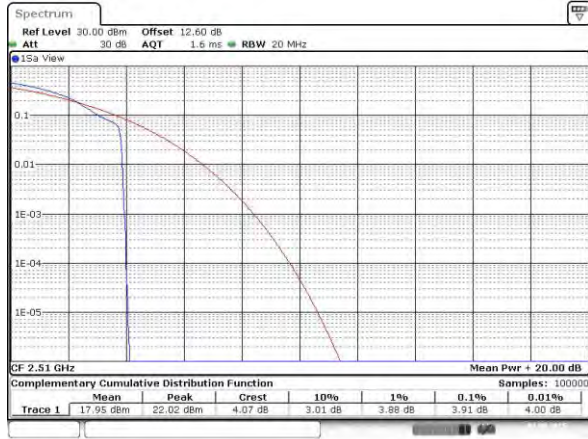


Date: 1 AUG 2015 08:43:55

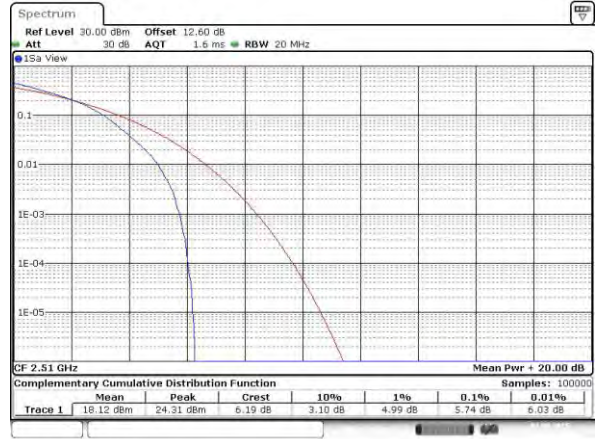


## LTE Band 7 / 20MHz / 16QAM

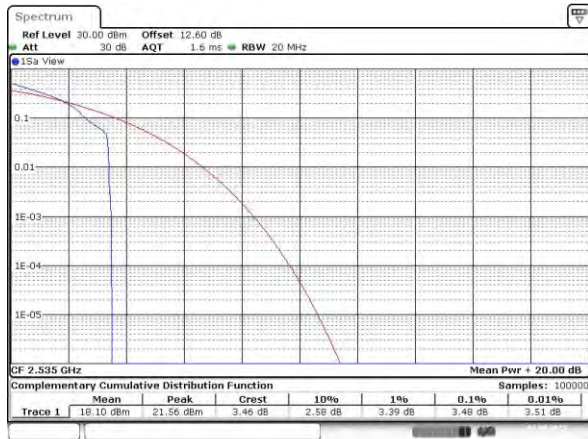
## Lowest Channel / 1RB



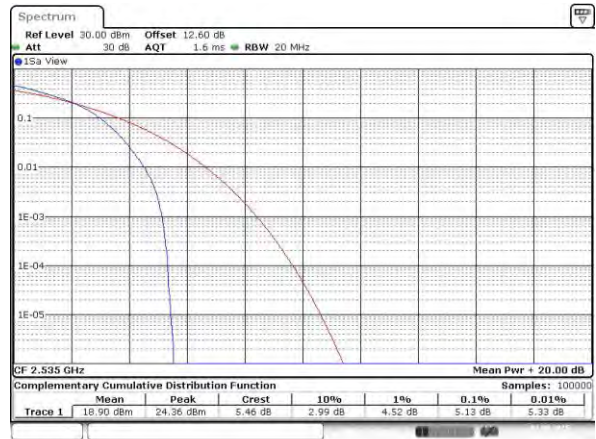
## Lowest Channel / Full RB



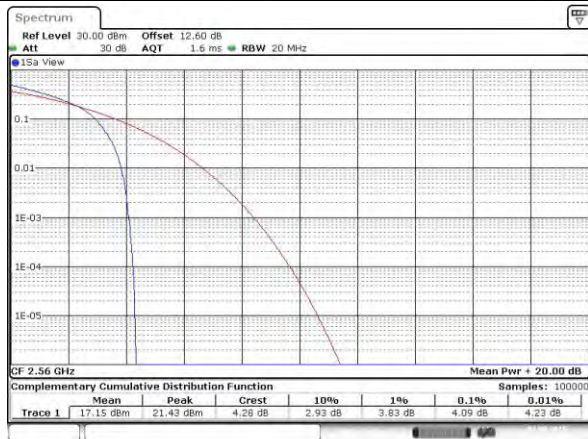
## Middle Channel / 1RB



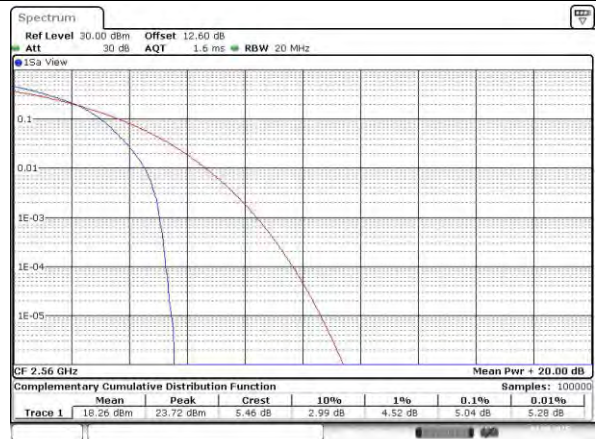
## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB





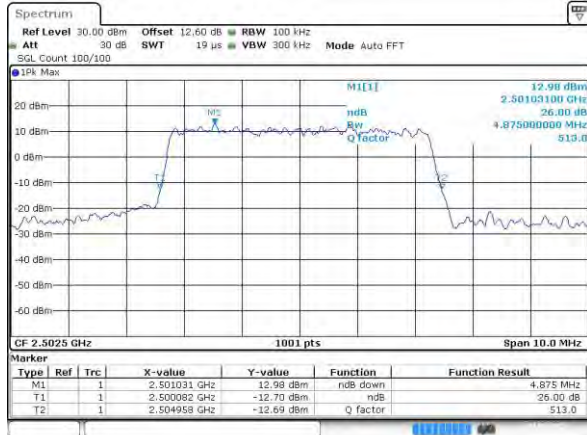
**26dB Bandwidth**

| Mode       | LTE Band 7 : 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  | -                         | -     | -    | -     | 4.88 | 4.86  | 9.81  | 9.87  | 14.45 | 14.48 | 20.38 | 20.18 |
| Middle CH  | -                         | -     | -    | -     | 4.92 | 4.88  | 9.97  | 9.93  | 14.42 | 14.63 | 20.3  | 20.34 |
| Highest CH | -                         | -     | -    | -     | 4.97 | 4.86  | 9.79  | 9.95  | 14.72 | 14.45 | 20.46 | 20.22 |

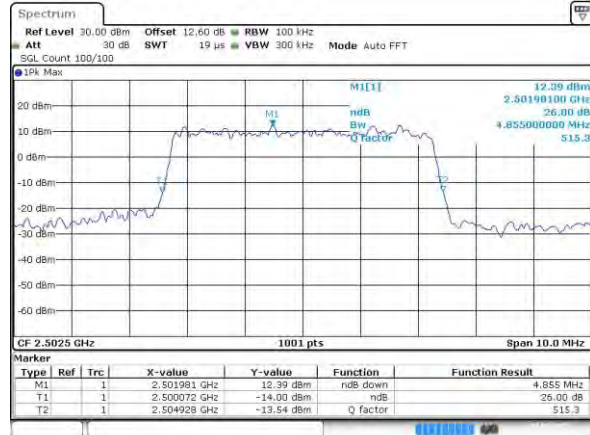


## LTE Band 7

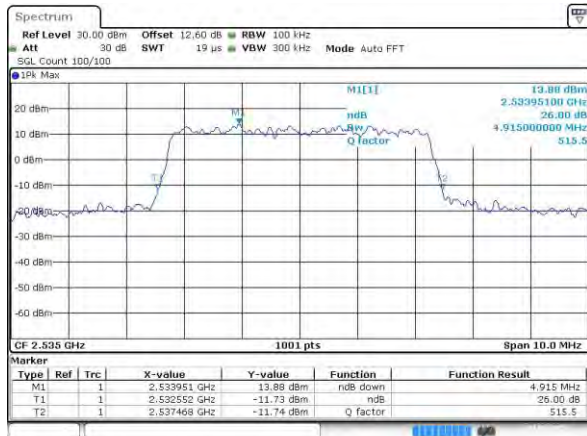
## Lowest Channel / 5MHz / QPSK



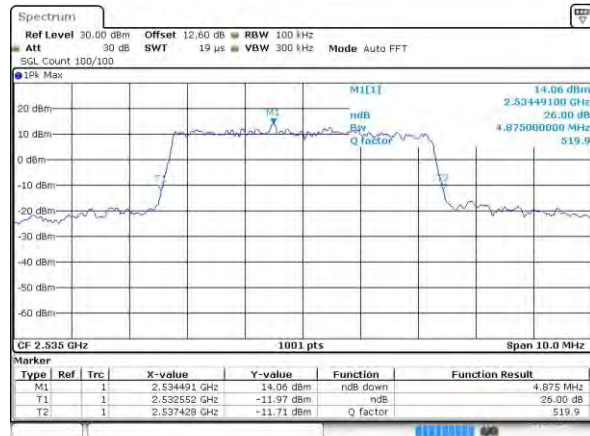
## Lowest Channel / 5MHz / 16QAM



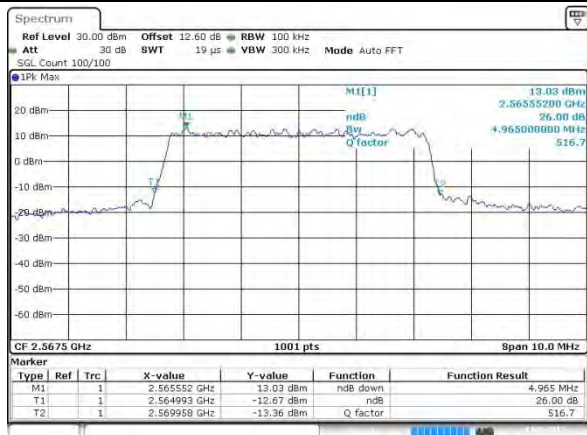
## Middle Channel / 5MHz / QPSK



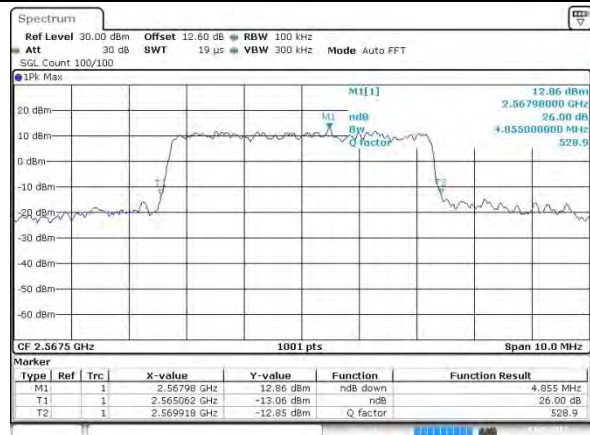
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



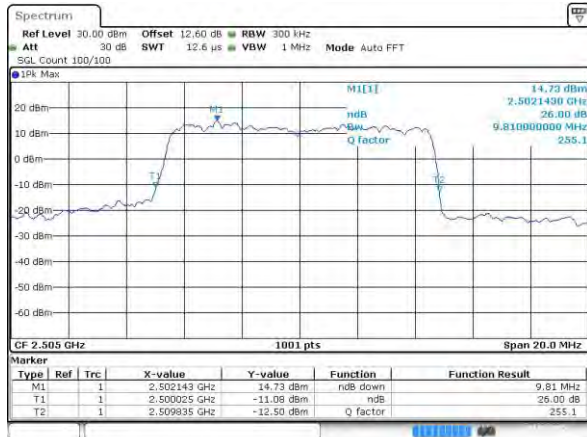
## Highest Channel / 5MHz / 16QAM



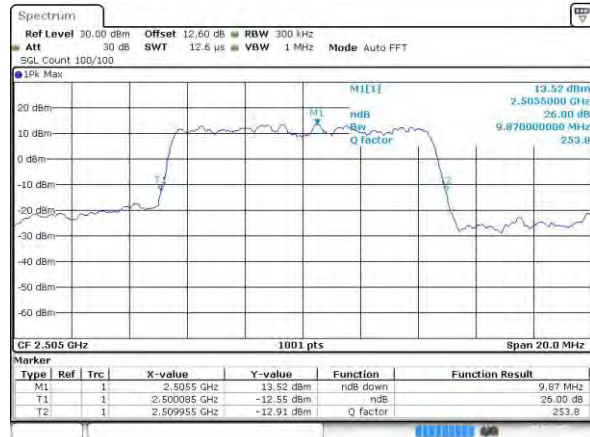


## LTE Band 7

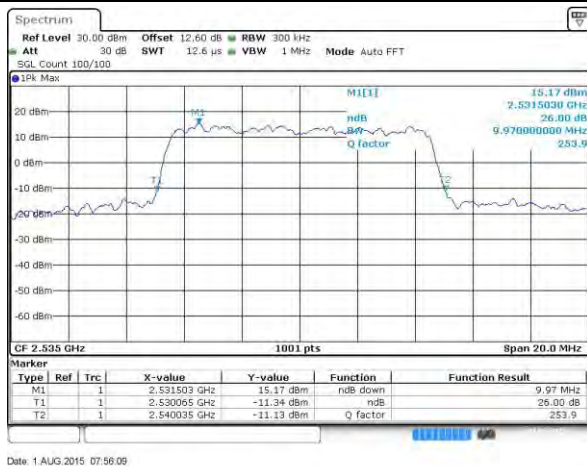
## Lowest Channel / 10MHz / QPSK



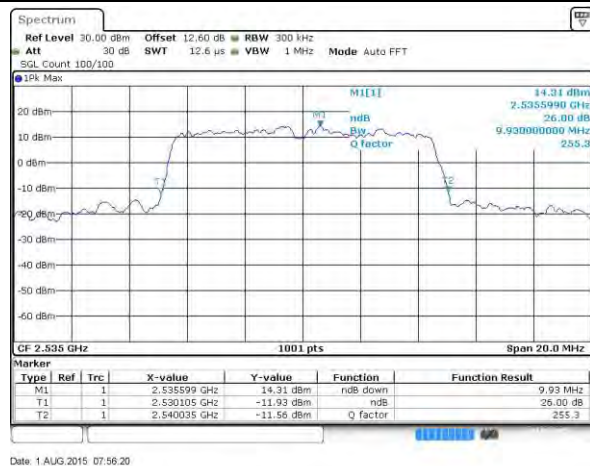
## Lowest Channel / 10MHz / 16QAM



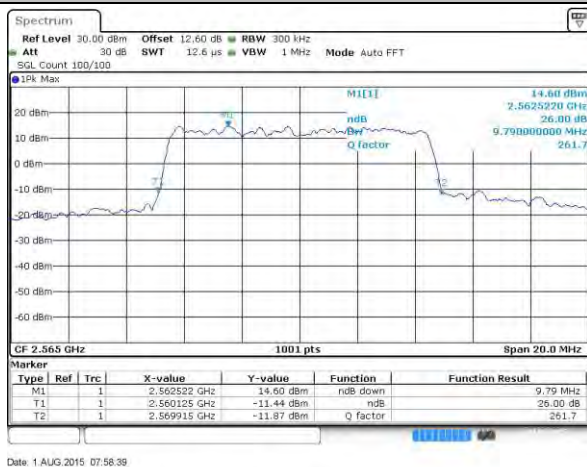
## Middle Channel / 10MHz / QPSK



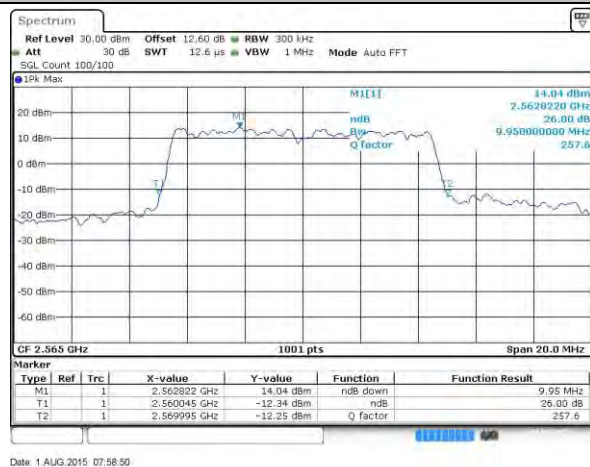
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



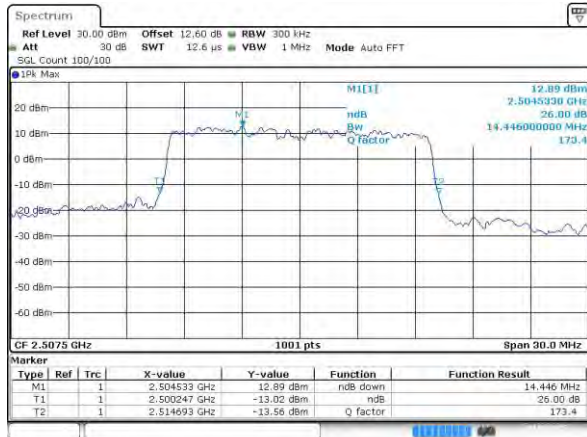
## Highest Channel / 10MHz / 16QAM





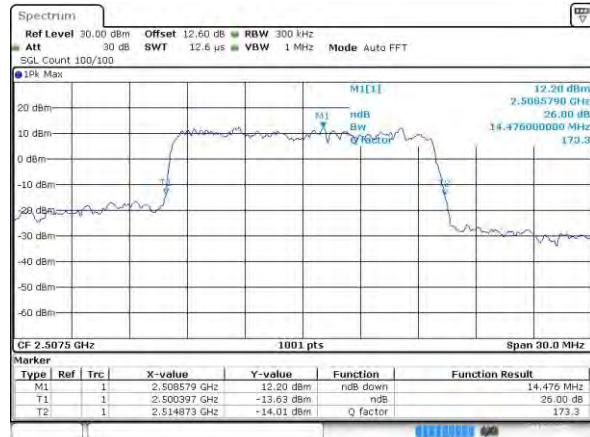
## LTE Band 7

## Lowest Channel / 15MHz / QPSK



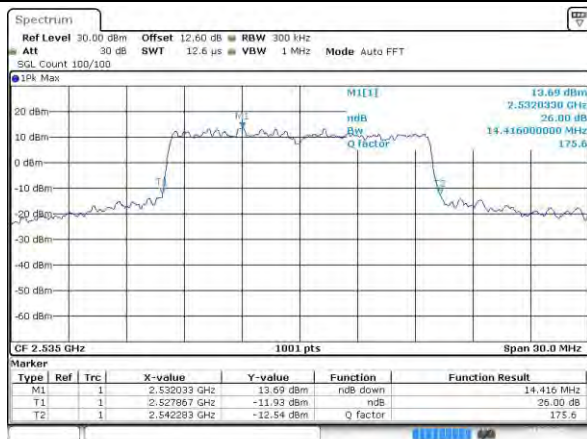
Date: 1 AUG 2015 08:05:49

## Lowest Channel / 15MHz / 16QAM



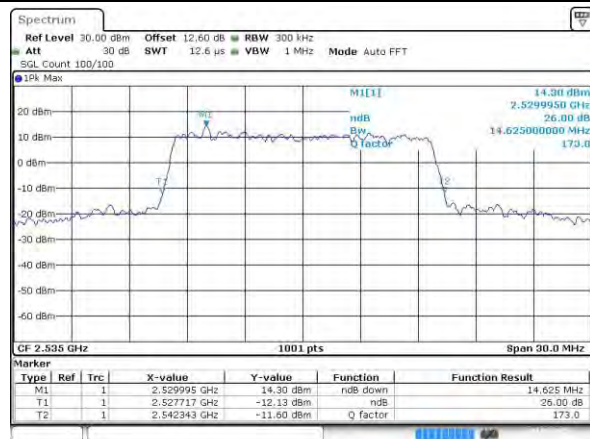
Date: 1 AUG 2015 08:05:59

## Middle Channel / 15MHz / QPSK



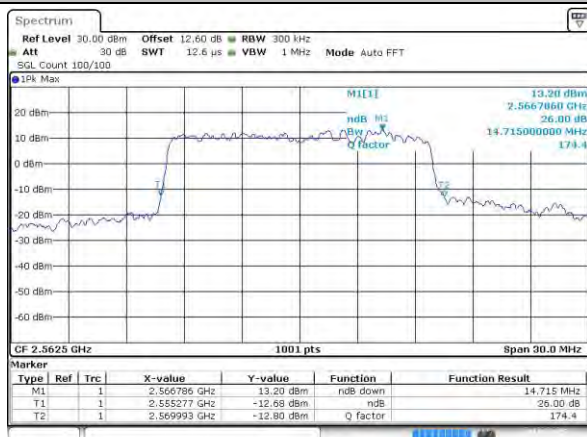
Date: 1 AUG 2015 08:12:58

## Middle Channel / 15MHz / 16QAM



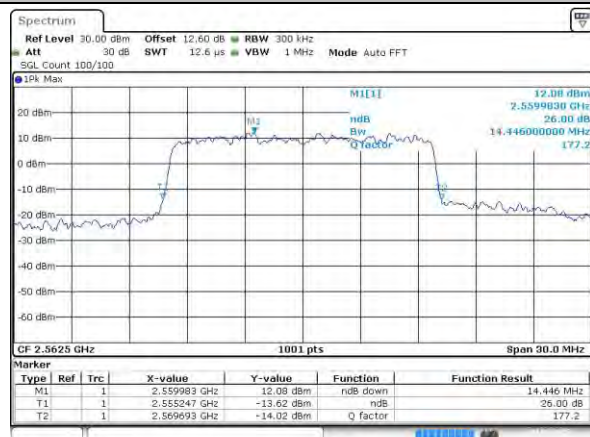
Date: 1 AUG 2015 08:13:08

## Highest Channel / 15MHz / QPSK



Date: 1 AUG 2015 08:15:28

## Highest Channel / 15MHz / 16QAM

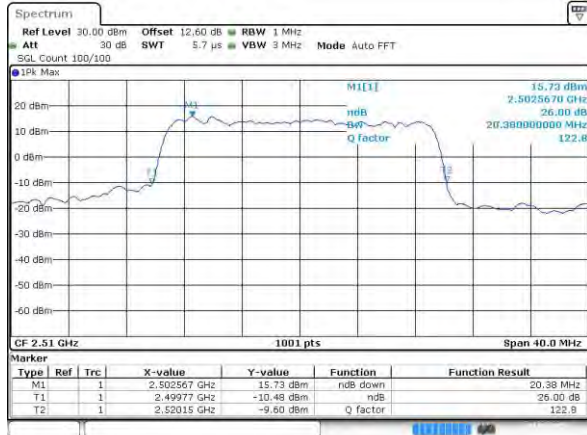


Date: 1 AUG 2015 08:15:38

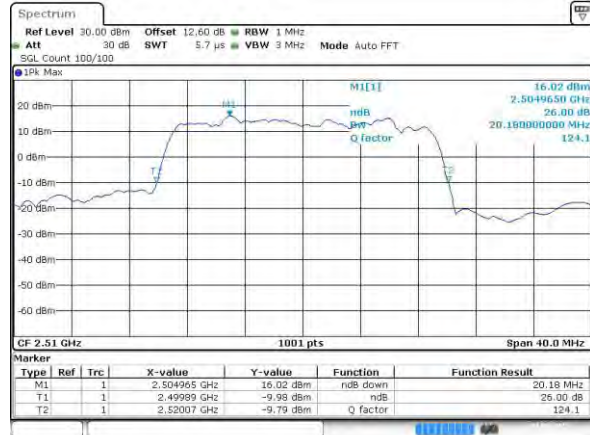


## LTE Band 7

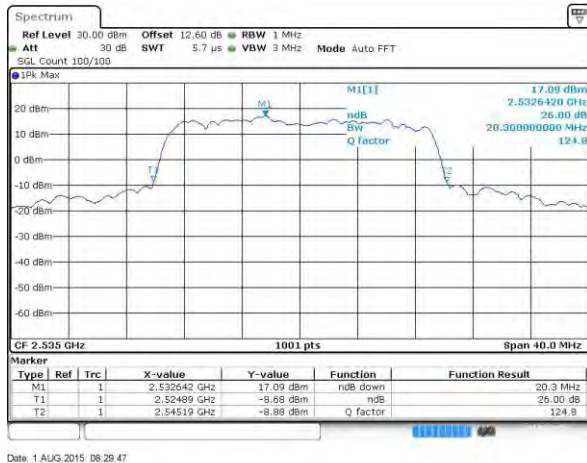
## Lowest Channel / 20MHz / QPSK



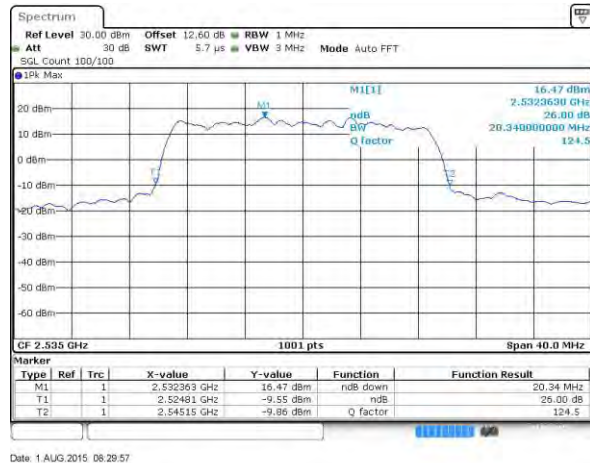
## Lowest Channel / 20MHz / 16QAM



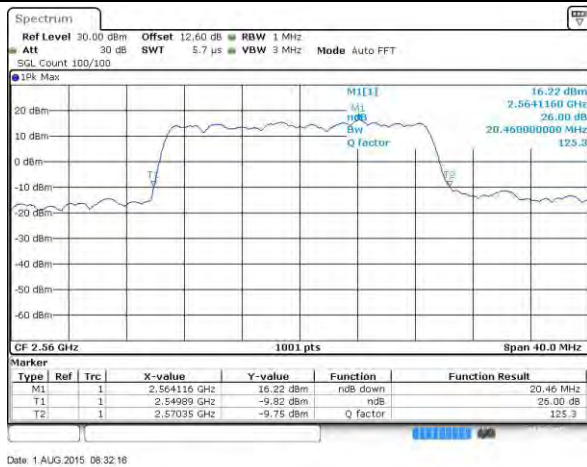
## Middle Channel / 20MHz / QPSK



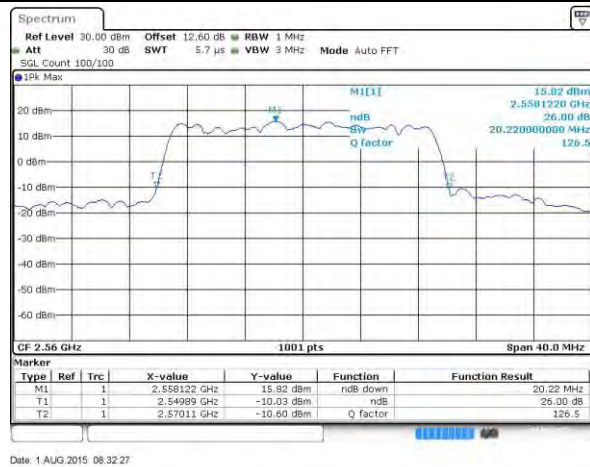
## Middle Channel / 20MHz / 16QAM



## Highest Channel / 20MHz / QPSK



## Highest Channel / 20MHz / 16QAM





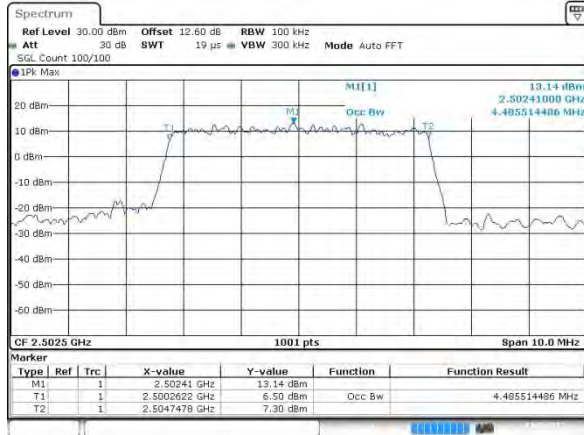
## Occupied Bandwidth

| Mode       | LTE Band 7 : 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  | -                        | -     | -    | -     | 4.49 | 4.51  | 9.03  | 9.03  | 13.52 | 13.49 | 18.22 | 18.5  |
| Middle CH  | -                        | -     | -    | -     | 4.5  | 4.51  | 9.01  | 8.97  | 13.49 | 13.49 | 18.34 | 18.46 |
| Highest CH | -                        | -     | -    | -     | 4.52 | 4.47  | 9.03  | 9.03  | 13.49 | 13.46 | 18.42 | 18.3  |

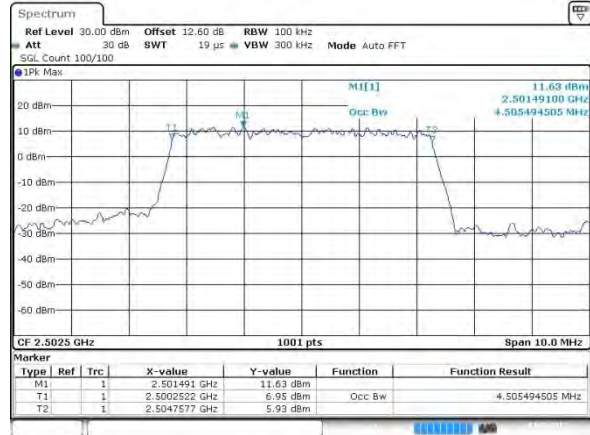


## LTE Band 7

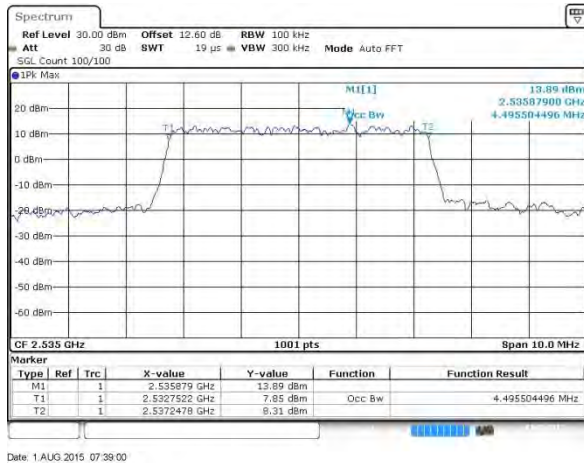
## Lowest Channel / 5MHz / QPSK



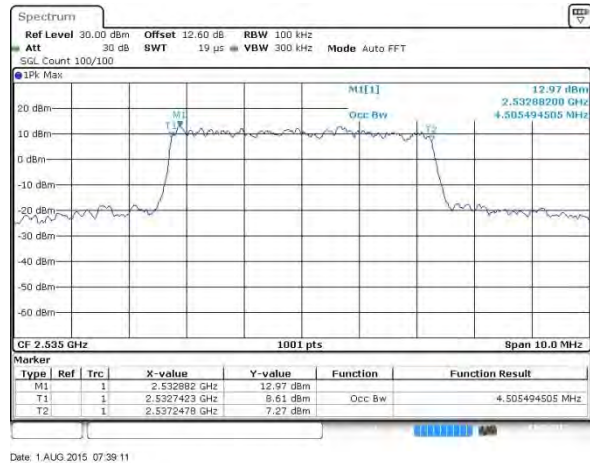
## Lowest Channel / 5MHz / 16QAM



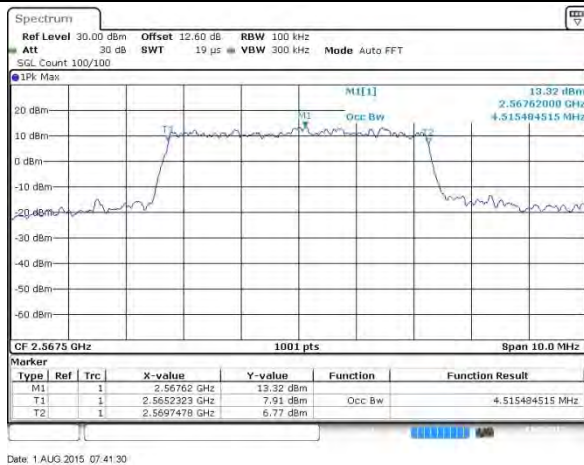
## Middle Channel / 5MHz / QPSK



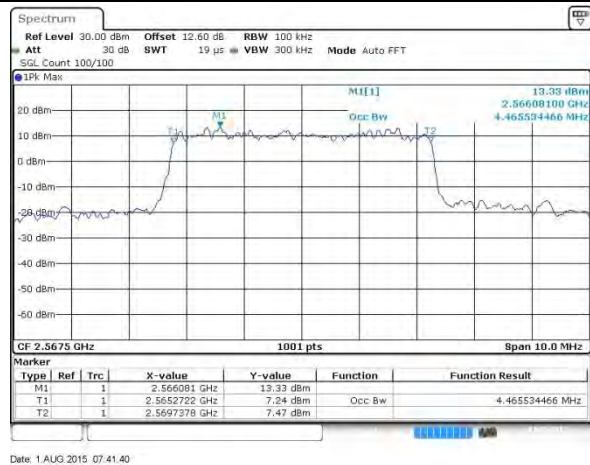
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



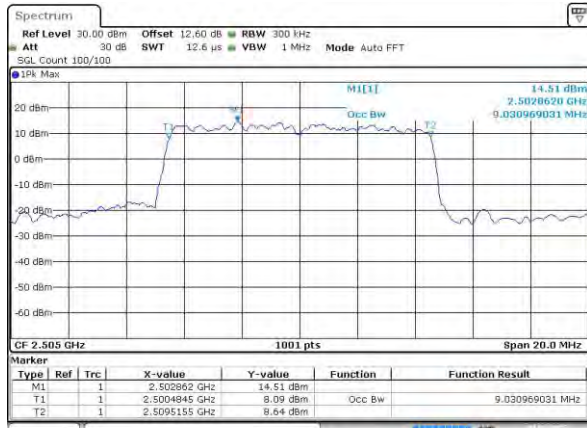
## Highest Channel / 5MHz / 16QAM





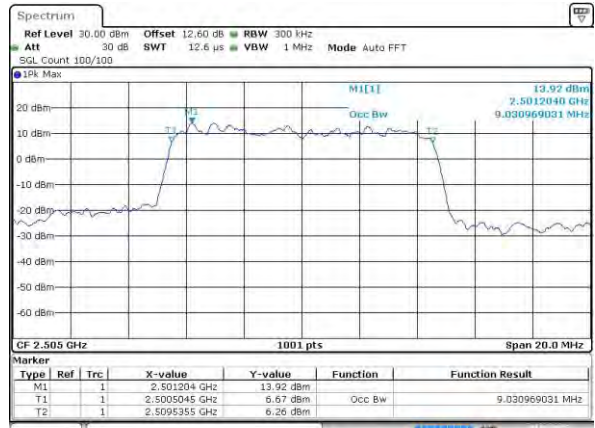
## LTE Band 7

## Lowest Channel / 10MHz / QPSK



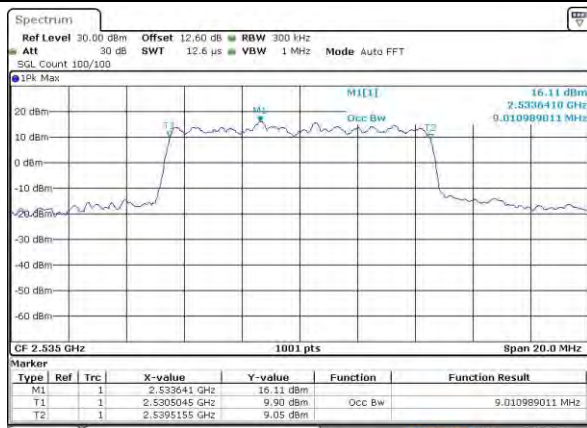
Date: 1 AUG 2015 07:48:39

## Lowest Channel / 10MHz / 16QAM



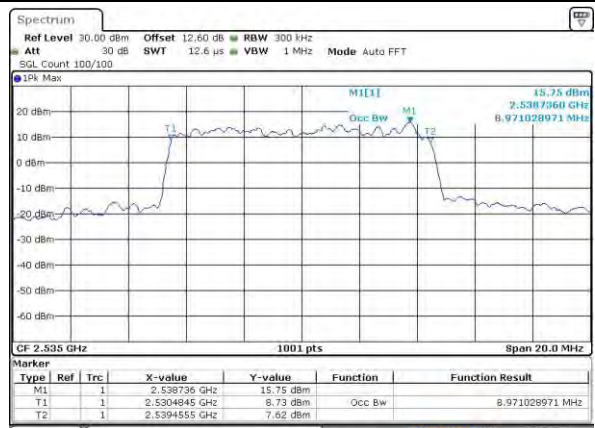
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## Middle Channel / 10MHz / QPSK



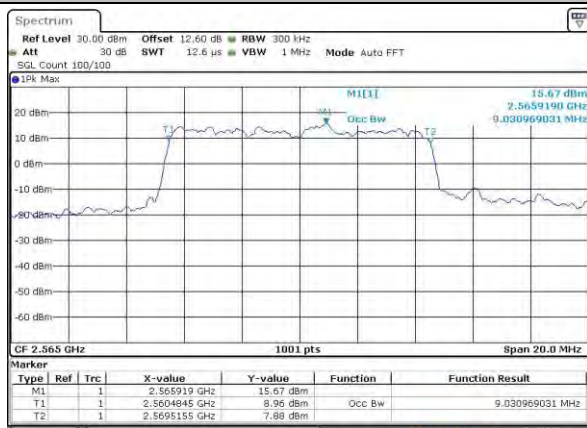
Date: 1 AUG 2015 07:55:48

## Middle Channel / 10MHz / 16QAM



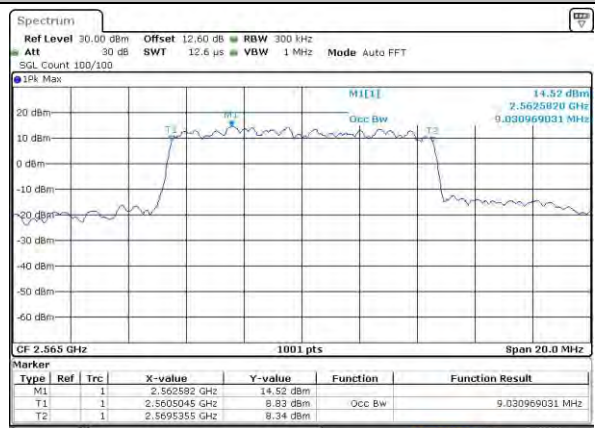
Date: 1 AUG 2015 07:55:56

## Highest Channel / 10MHz / QPSK



Date: 1 AUG 2015 07:58:18

## Highest Channel / 10MHz / 16QAM

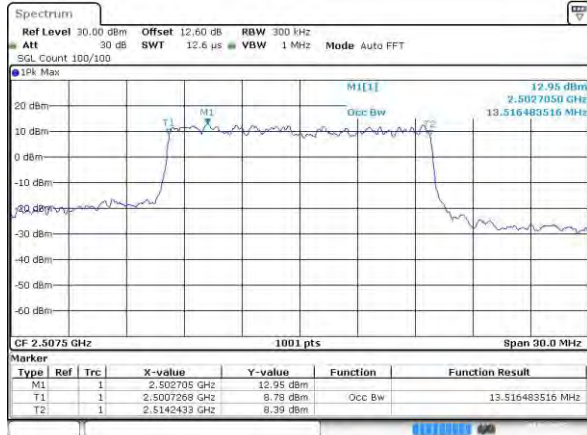


Date: 1 AUG 2015 07:58:29

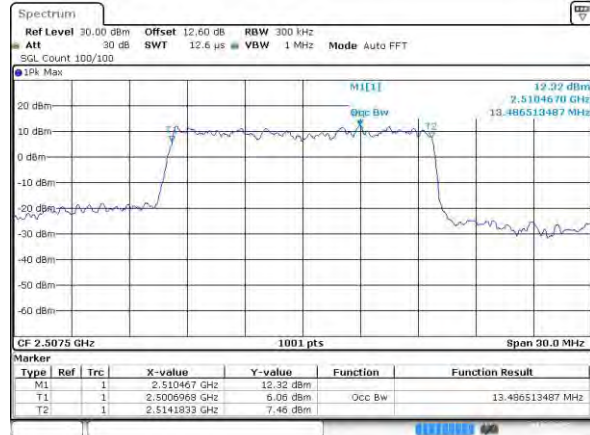


## LTE Band 7

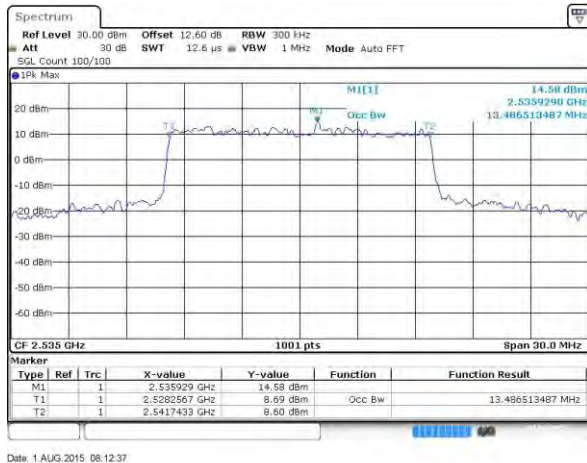
## Lowest Channel / 15MHz / QPSK



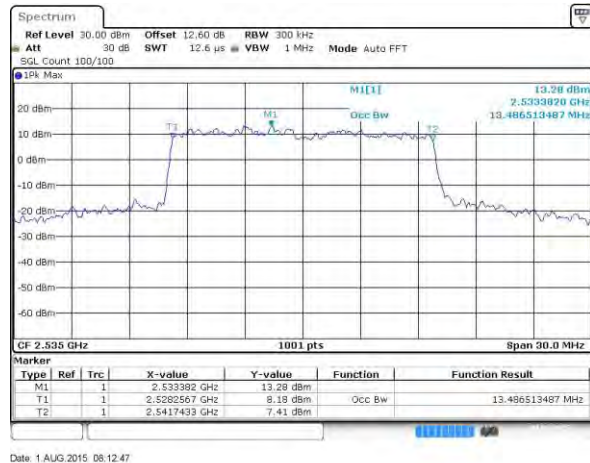
## Lowest Channel / 15MHz / 16QAM



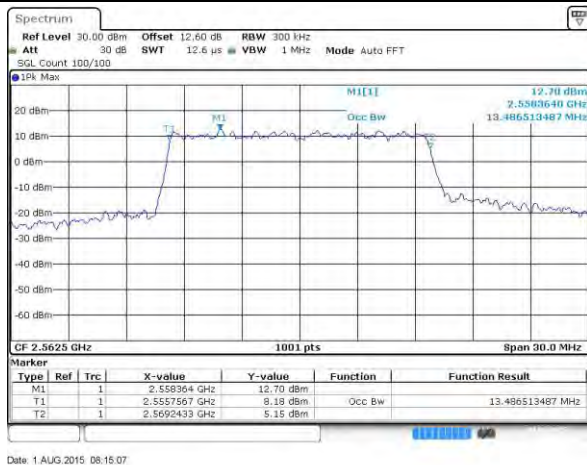
## Middle Channel / 15MHz / QPSK



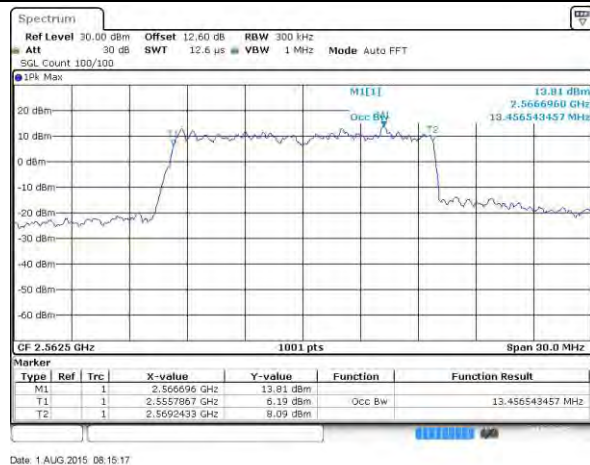
## Middle Channel / 15MHz / 16QAM



## Highest Channel / 15MHz / QPSK



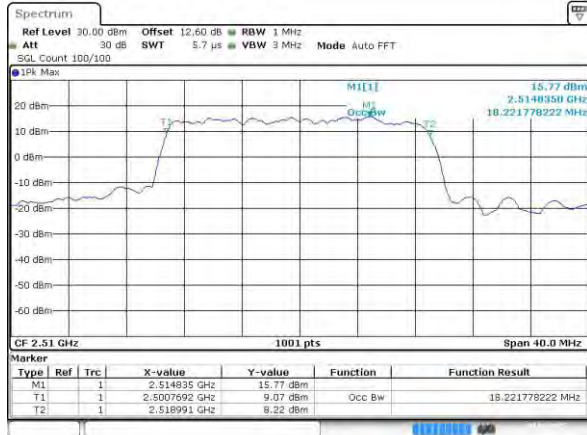
## Highest Channel / 15MHz / 16QAM





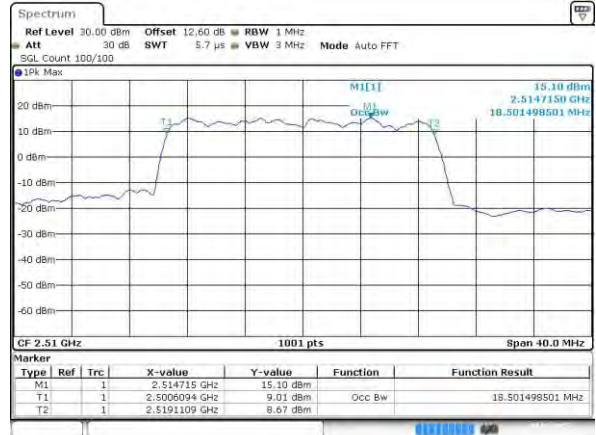
## LTE Band 7

## Lowest Channel / 20MHz / QPSK



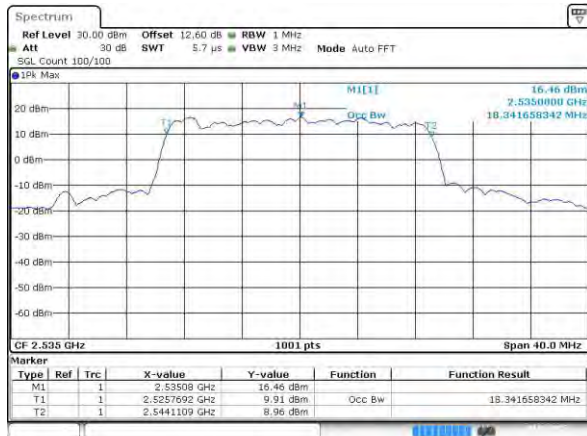
Date: 1 AUG 2015 08:22:17

## Lowest Channel / 20MHz / 16QAM



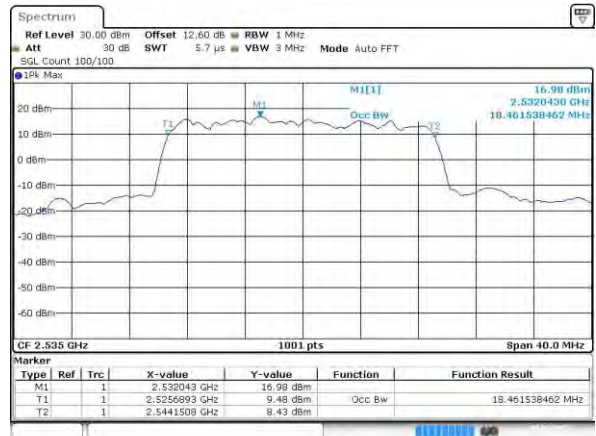
Date: 1 AUG 2015 08:22:27

## Middle Channel / 20MHz / QPSK



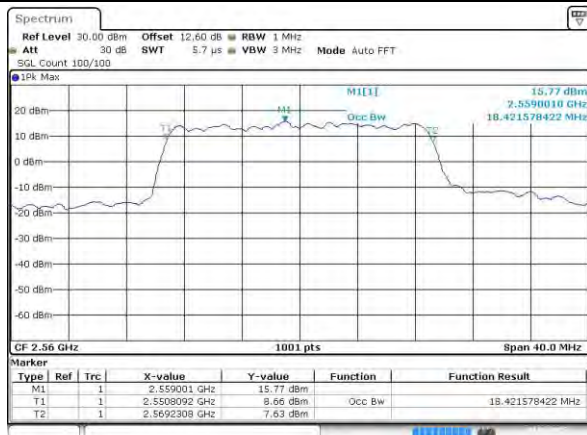
Date: 1 AUG 2015 08:28:26

## Middle Channel / 20MHz / 16QAM



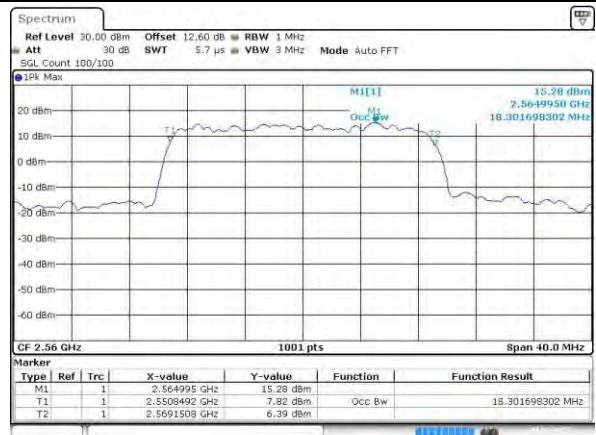
Date: 1 AUG 2015 08:28:36

## Highest Channel / 20MHz / QPSK



Date: 1 AUG 2015 08:31:58

## Highest Channel / 20MHz / 16QAM



Date: 1 AUG 2015 08:32:06

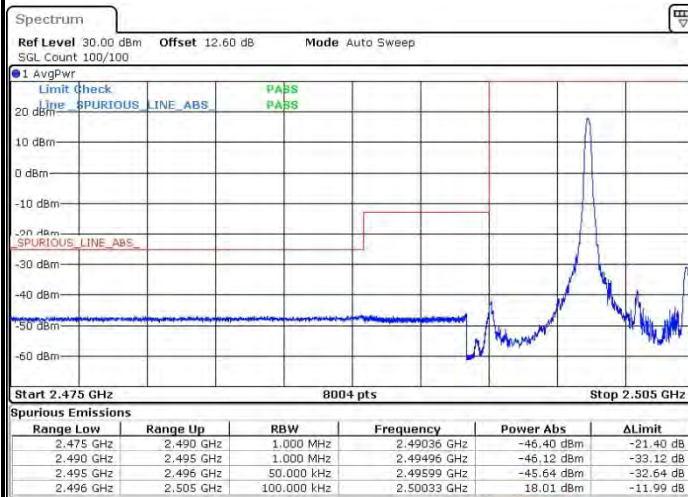


## **Conducted Band Edge**

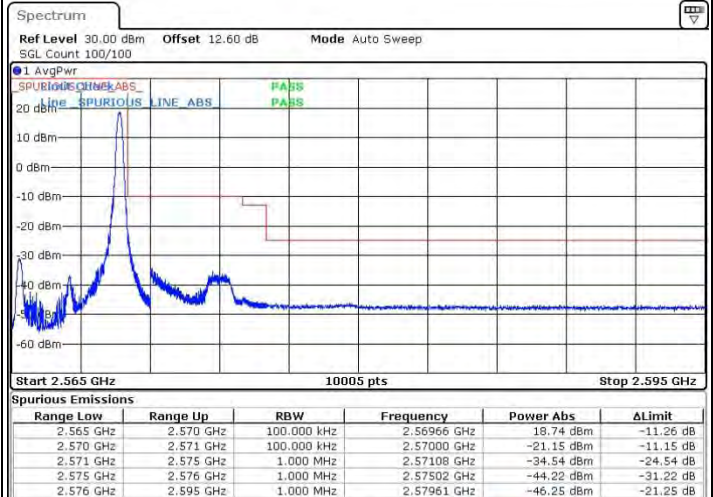


## LTE Band 7 / 5MHz / QPSK

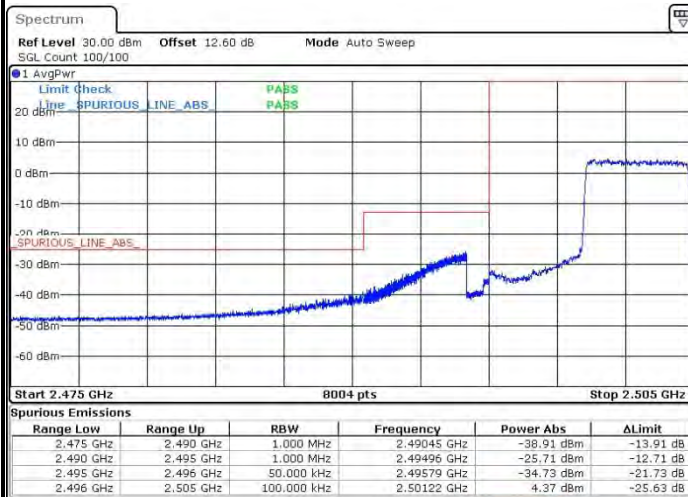
## Lowest Band Edge / 1 RB



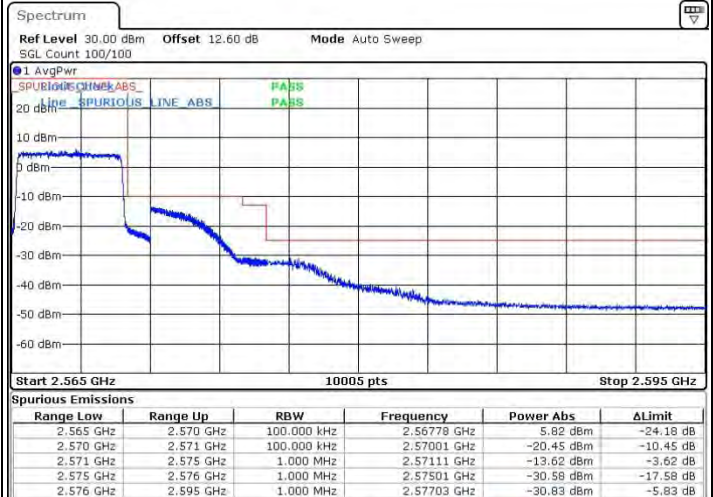
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



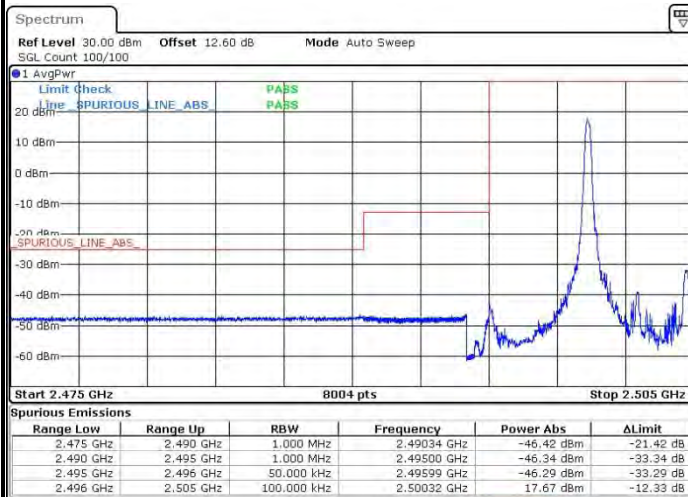
## Highest Band Edge / Full RB



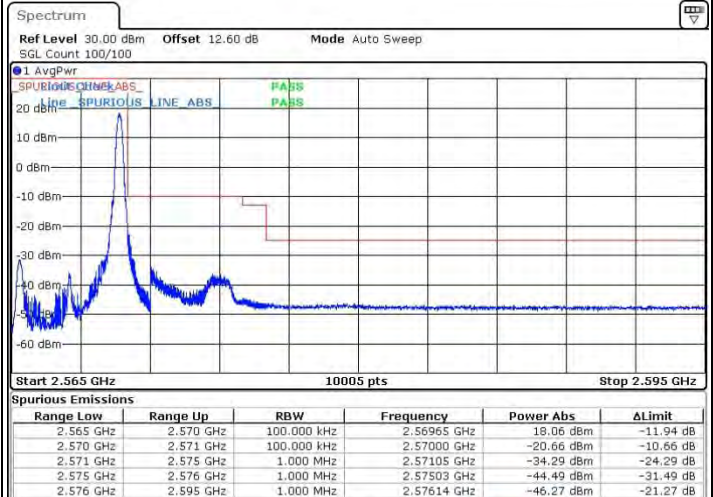


## LTE Band 7 / 5MHz / 16QAM

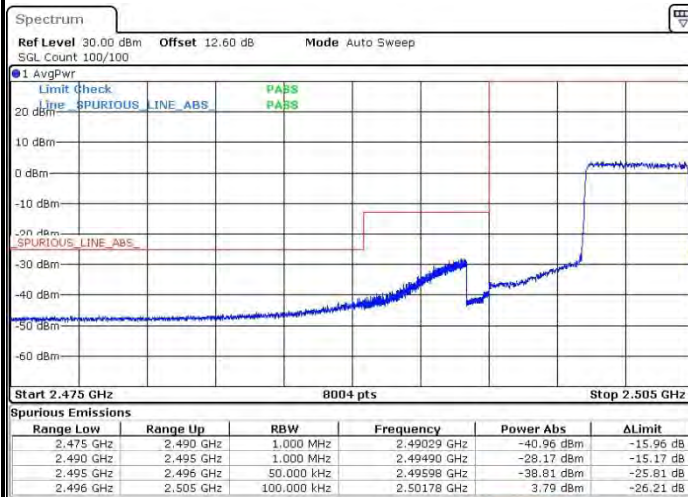
## Lowest Band Edge / 1 RB



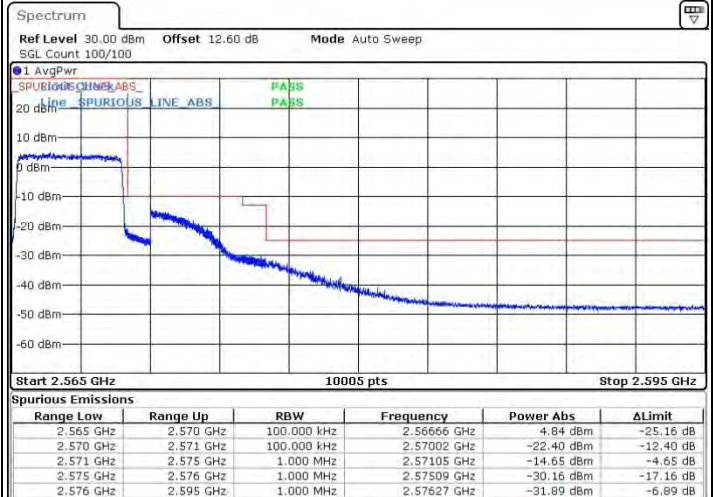
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



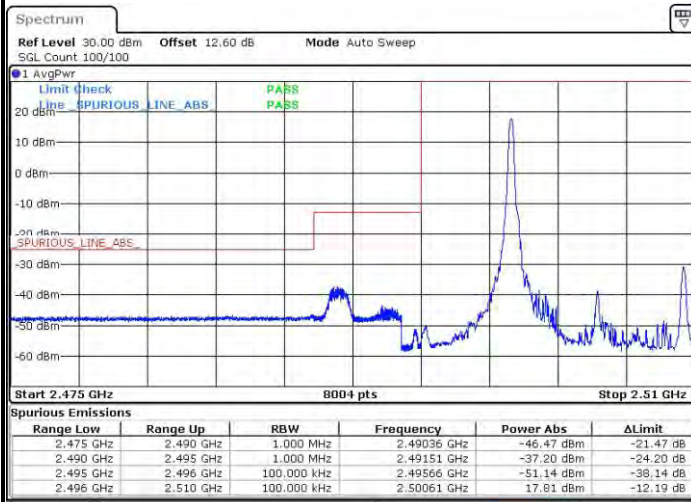
## Highest Band Edge / Full RB



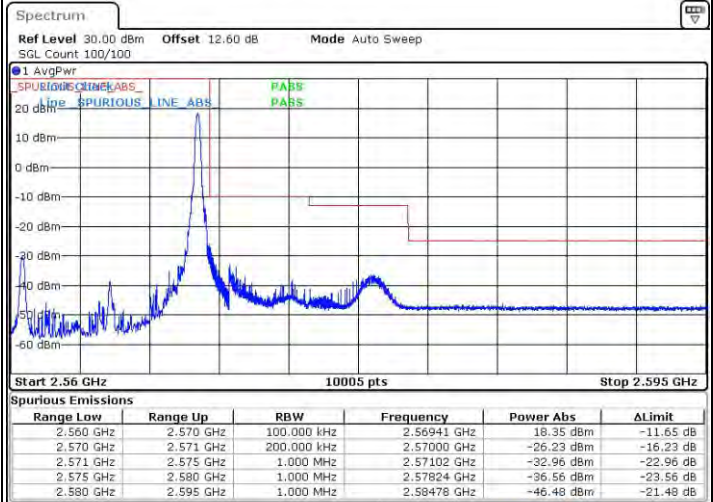


## LTE Band 7 / 10MHz / QPSK

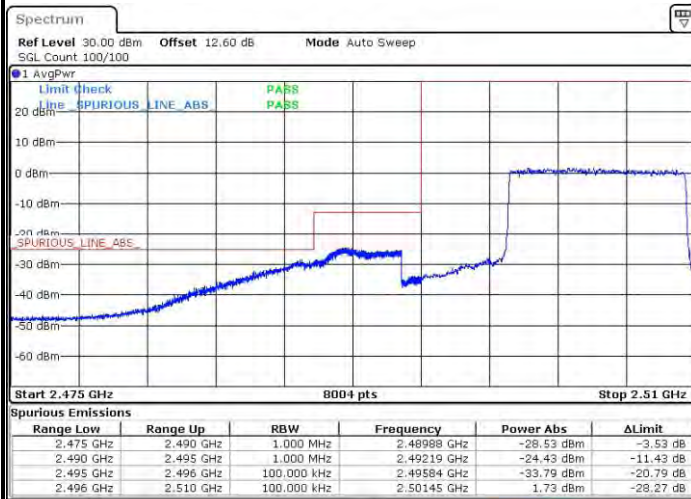
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



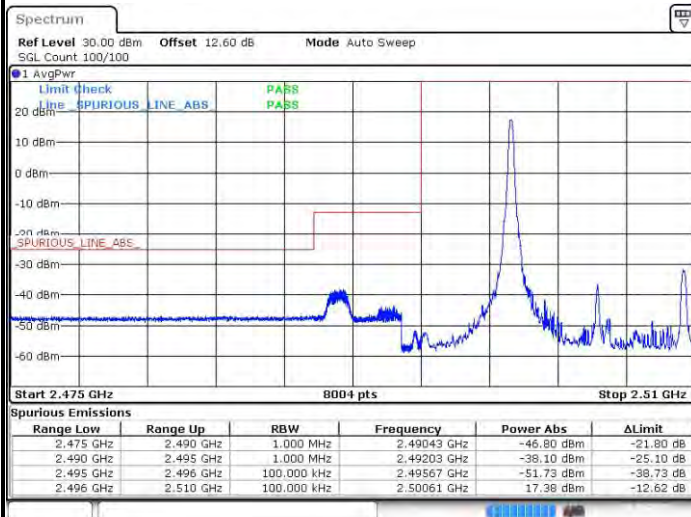
## Highest Band Edge / Full RB





## LTE Band 7 / 10MHz / 16QAM

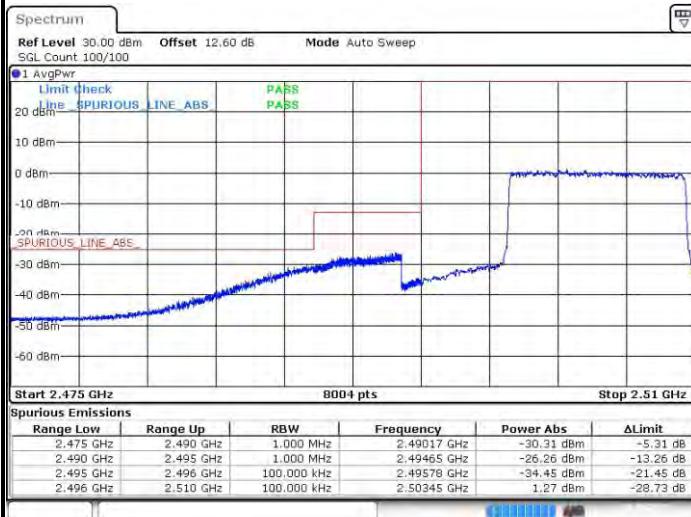
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



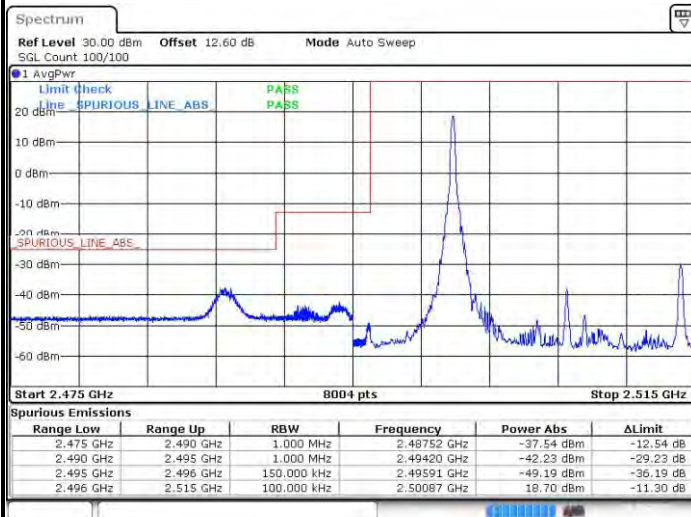
## Highest Band Edge / Full RB



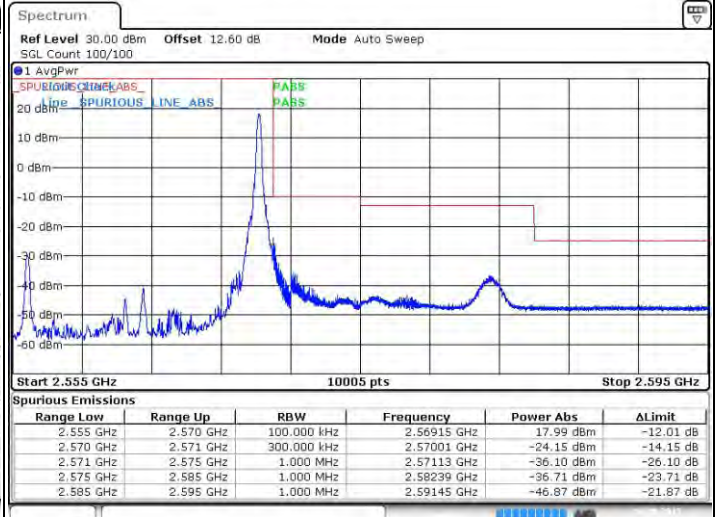


## LTE Band 7 / 15MHz / QPSK

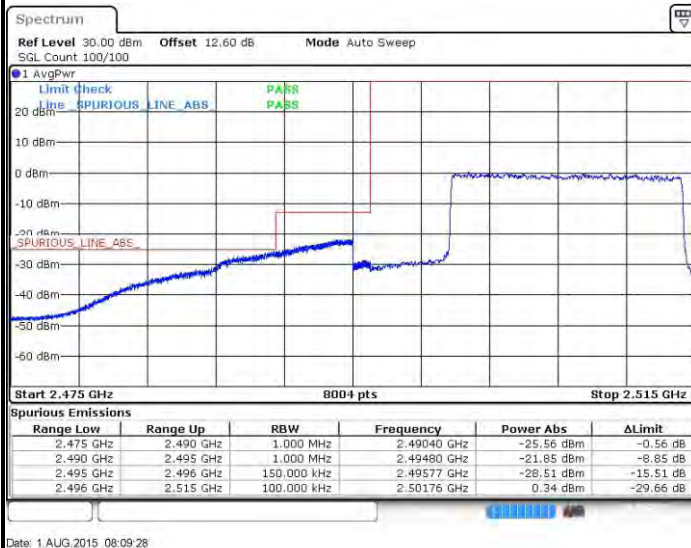
## Lowest Band Edge / 1 RB



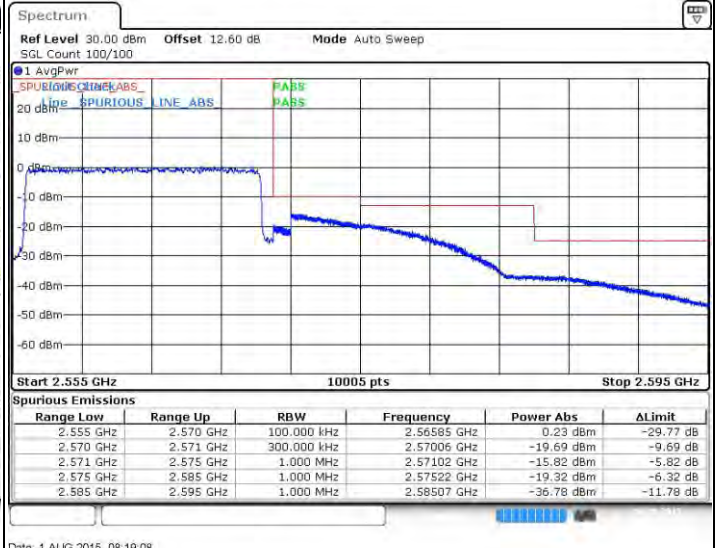
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



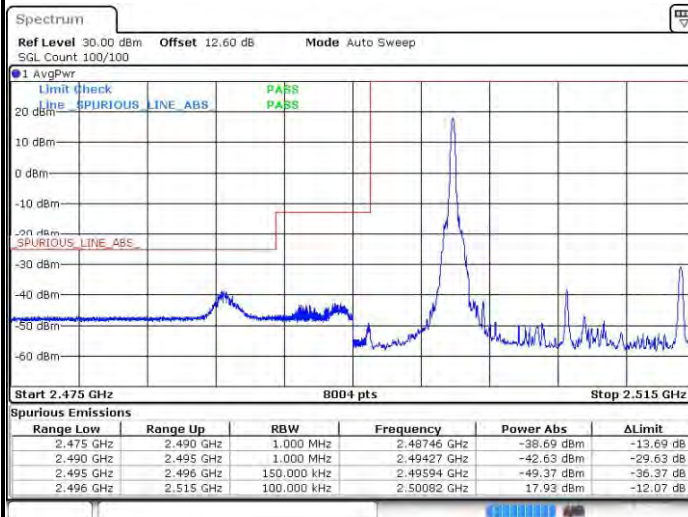
## Highest Band Edge / Full RB





## LTE Band 7 / 15MHz / 16QAM

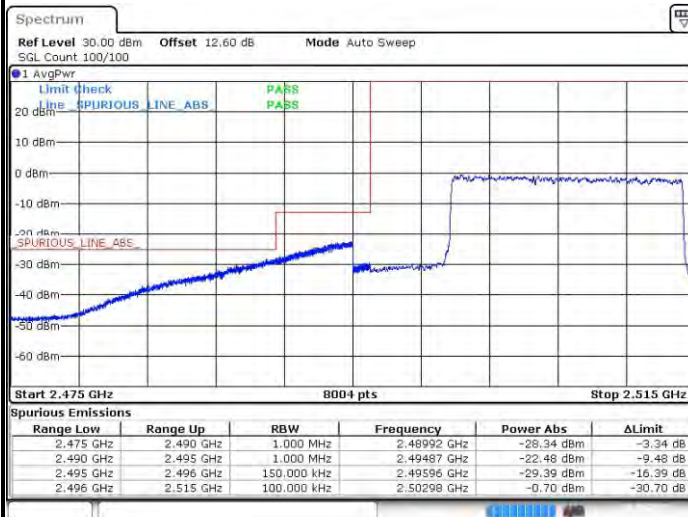
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



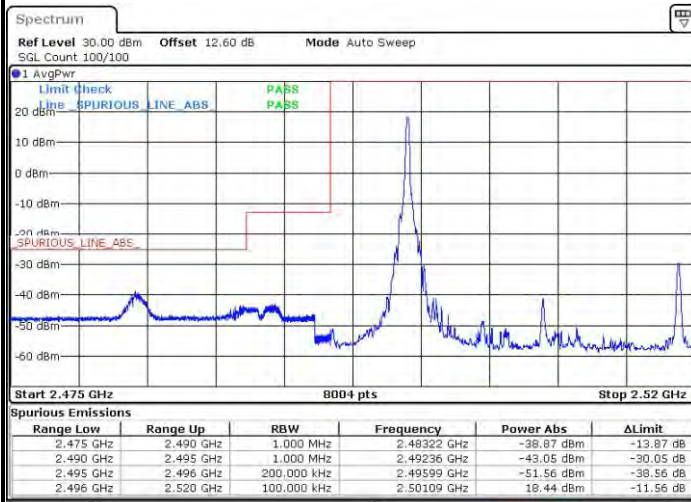
## Highest Band Edge / Full RB



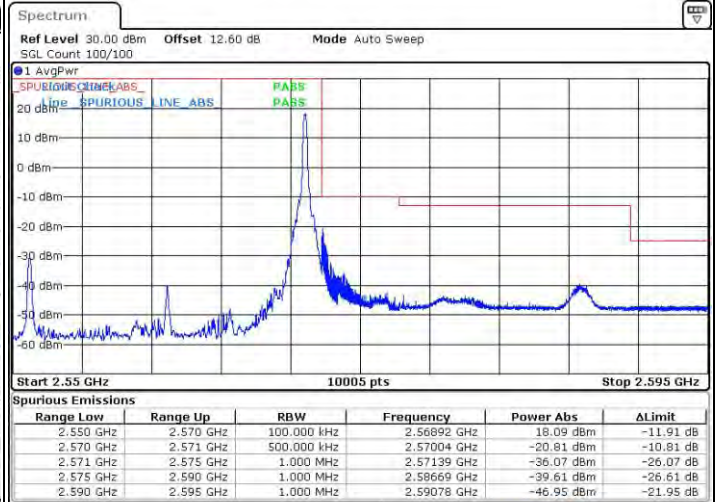


## LTE Band 7 / 20MHz / QPSK

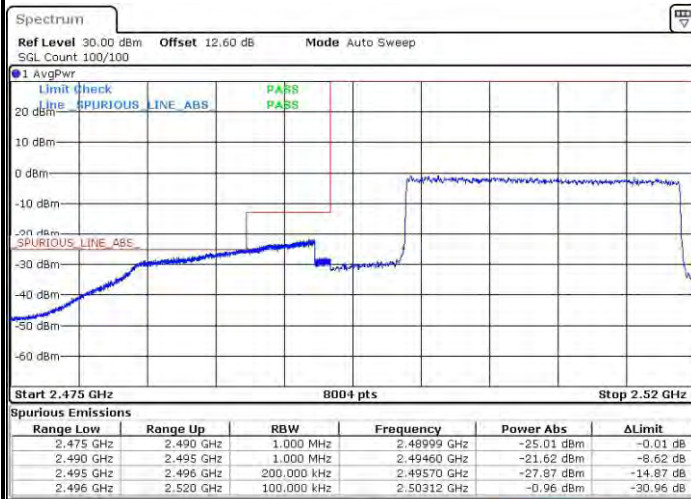
## Lowest Band Edge / 1 RB



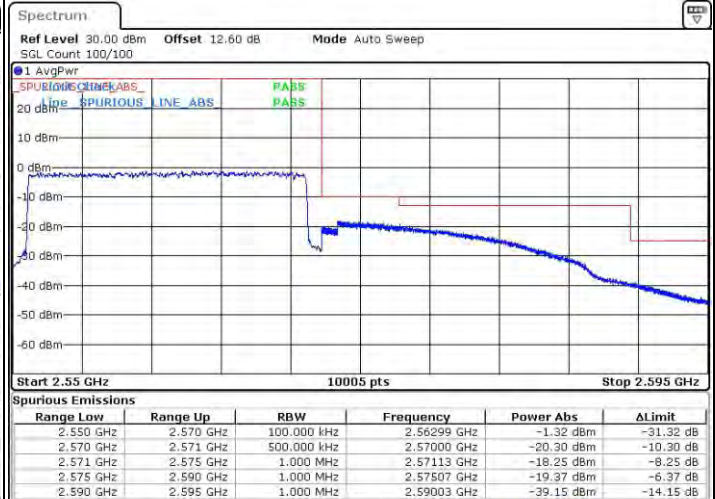
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



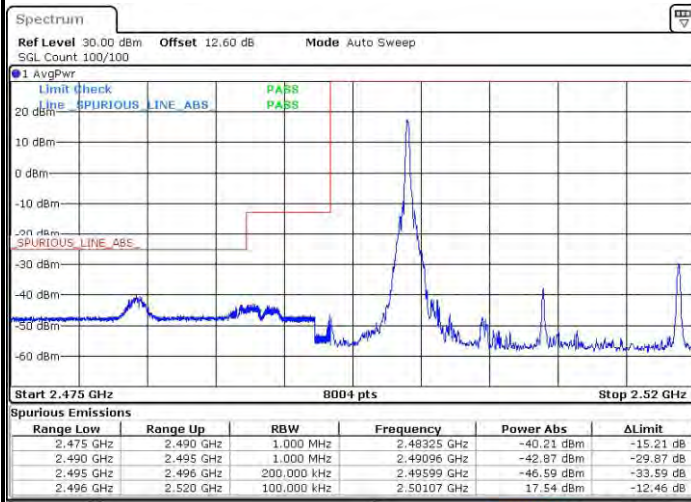
## Highest Band Edge / Full RB





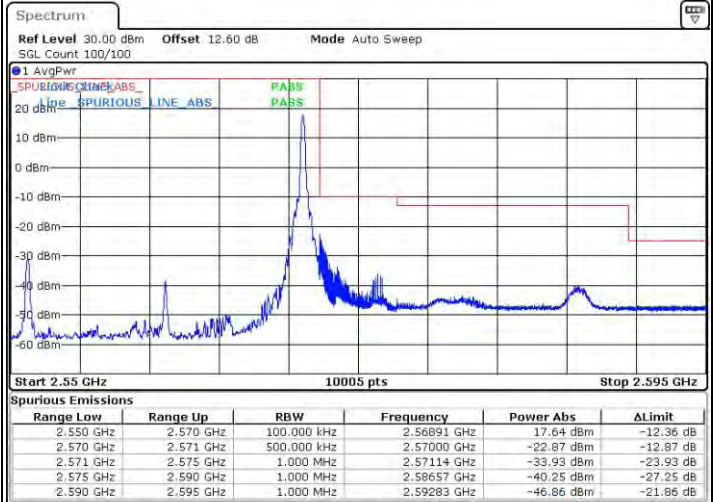
## LTE Band 7 / 20MHz / 16QAM

## Lowest Band Edge / 1 RB



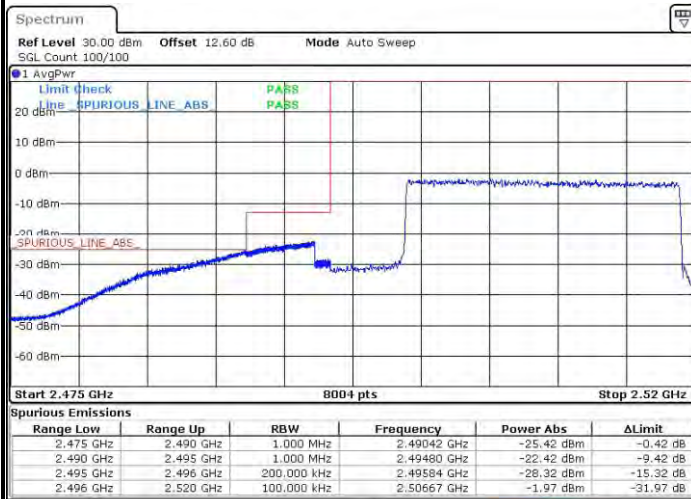
Date: 1 AUG.2015 08:25:07

## Highest Band Edge / 1RB



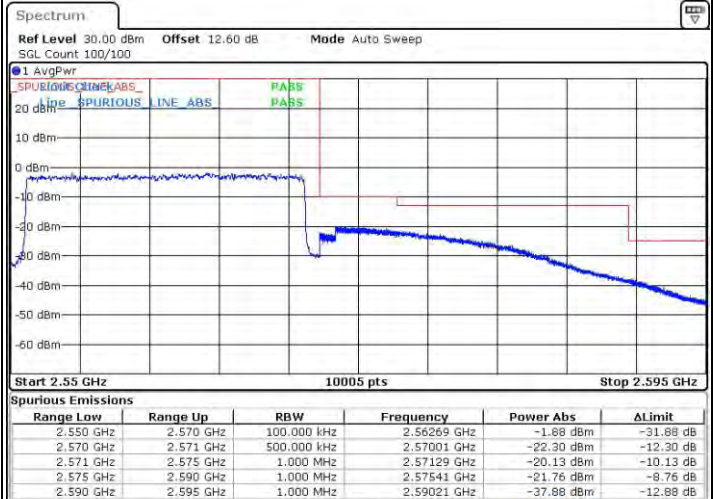
Date: 1 AUG.2015 08:34:46

## Lowest Band Edge / Full RB



Date: 1 AUG.2015 08:27:27

## Highest Band Edge / Full RB



Date: 1 AUG.2015 08:35:56

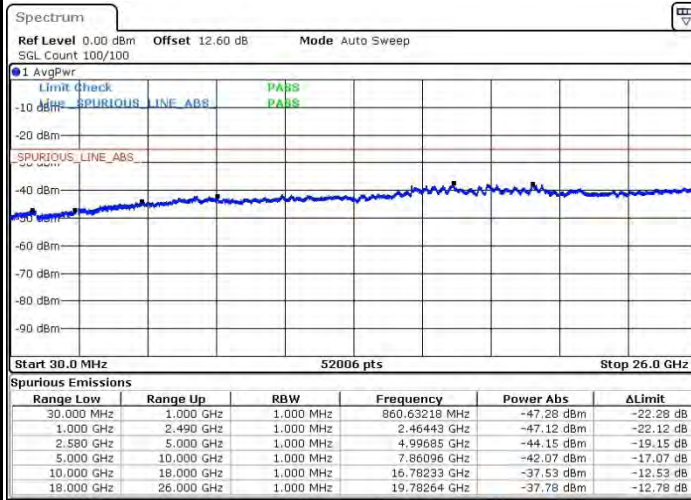


## **Conducted Spurious Emission**



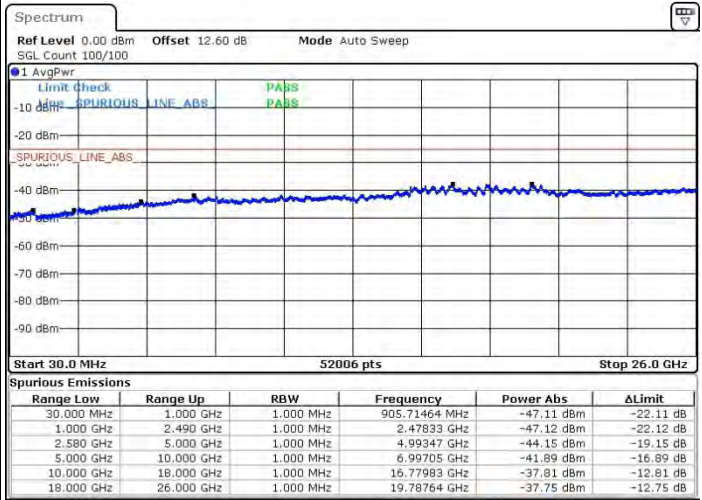
## LTE Band 7 / 5MHz

## Lowest Channel / QPSK



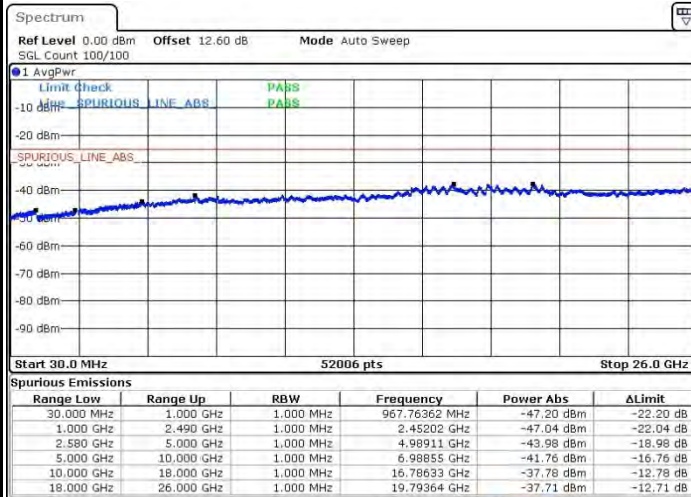
Date: 1 AUG.2015 07:37:55

## Lowest Channel / 16QAM



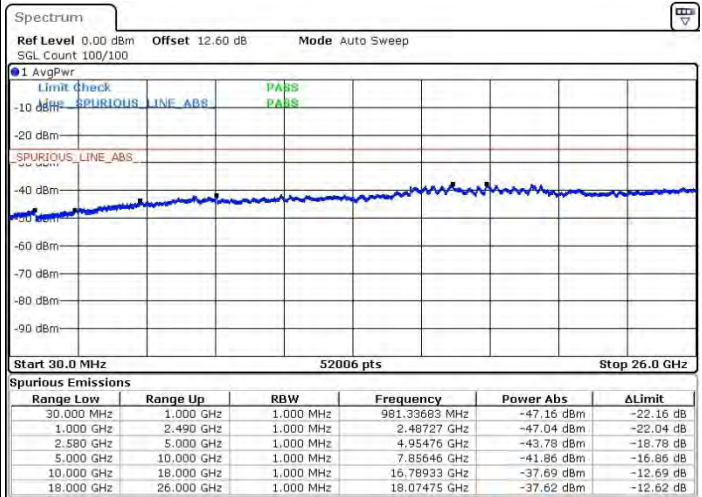
Date: 1 AUG.2015 07:38:49

## Middle Channel / QPSK



Date: 1 AUG.2015 07:40:25

## Middle Channel / 16QAM

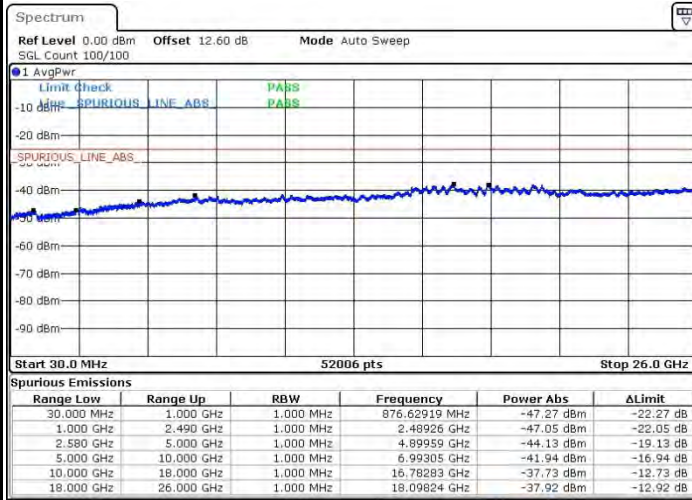


Date: 1 AUG.2015 07:41:19



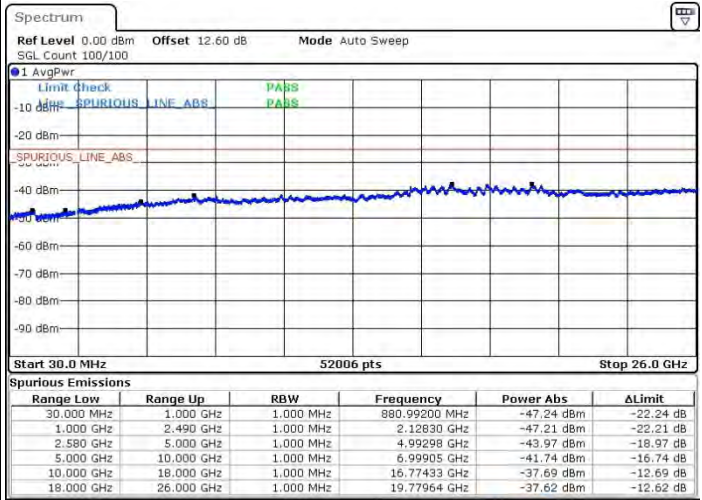
## LTE Band 7 / 5MHz

## Highest Channel / QPSK



Date: 1 AUG.2015 07:47:35

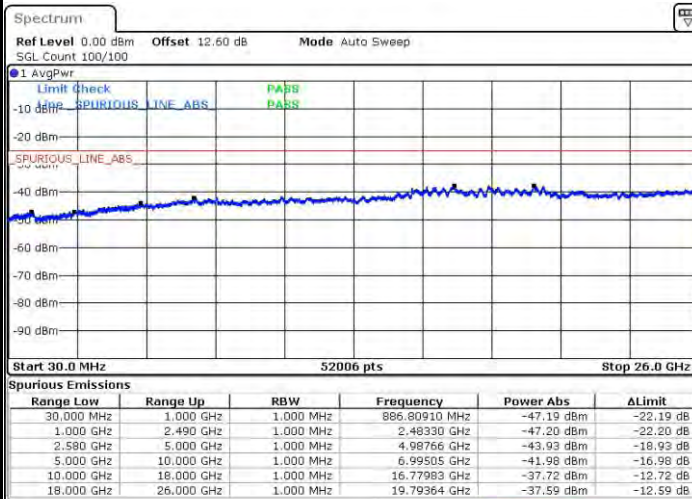
## Highest Channel / 16QAM



Date: 1 AUG.2015 07:48:29

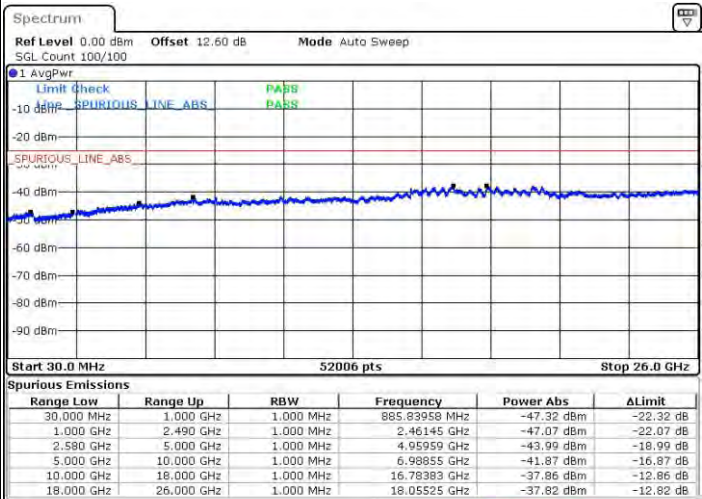
## LTE Band 7 / 10MHz

## Lowest Channel / QPSK



Date: 1 AUG.2015 07:54:44

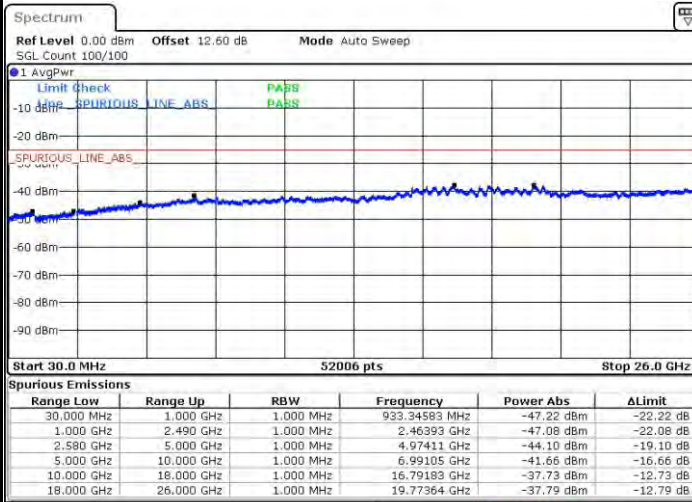
## Lowest Channel / 16QAM



Date: 1 AUG.2015 07:55:37

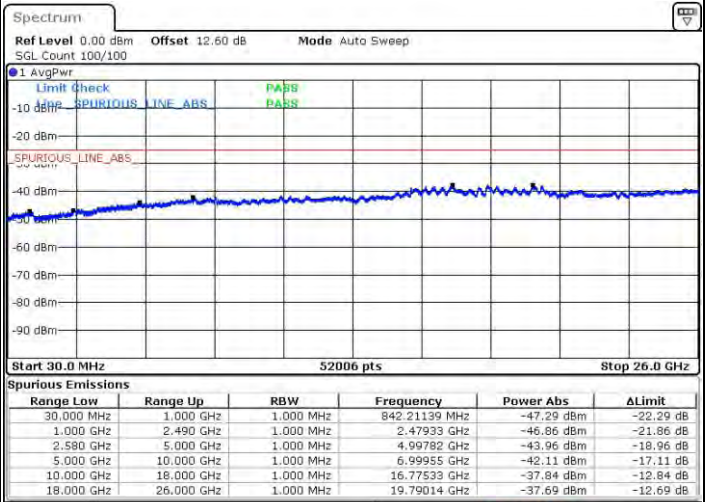
## LTE Band 7 / 10MHz

### Middle Channel / QPSK



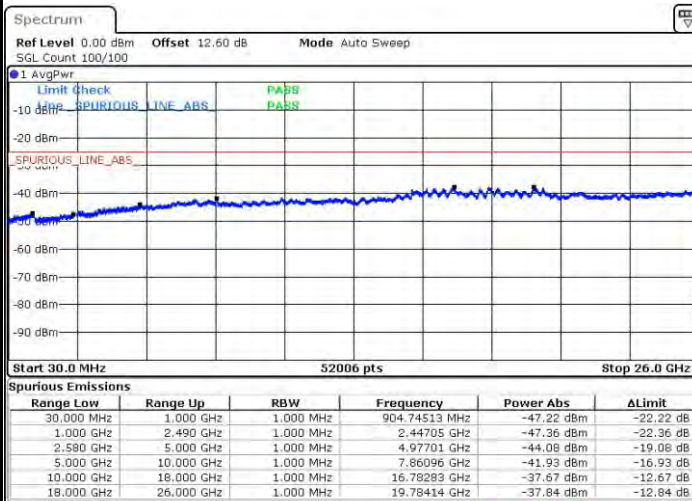
Date: 1.AUG.2015 07:57:13

### Middle Channel / 16QAM



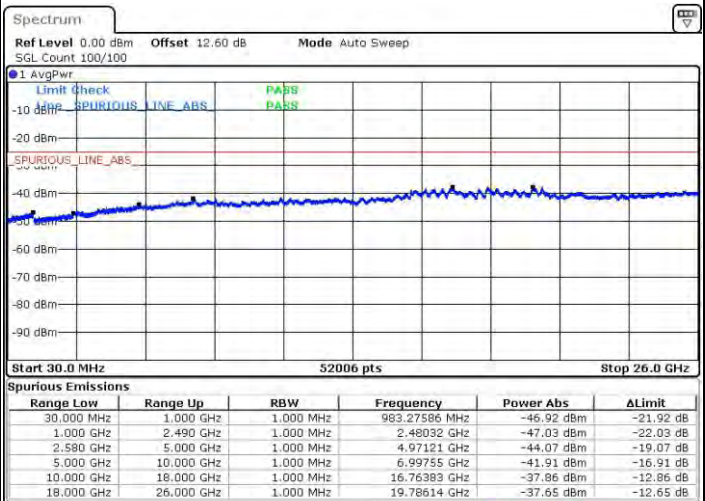
Date: 1.AUG.2015 07:58:07

### Highest Channel / QPSK



Date: 1.AUG.2015 08:04:23

### Highest Channel / 16QAM

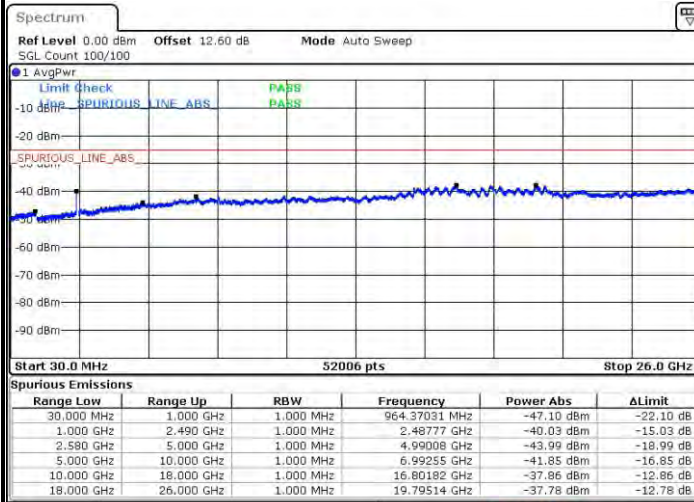


Date: 1.AUG.2015 08:05:17



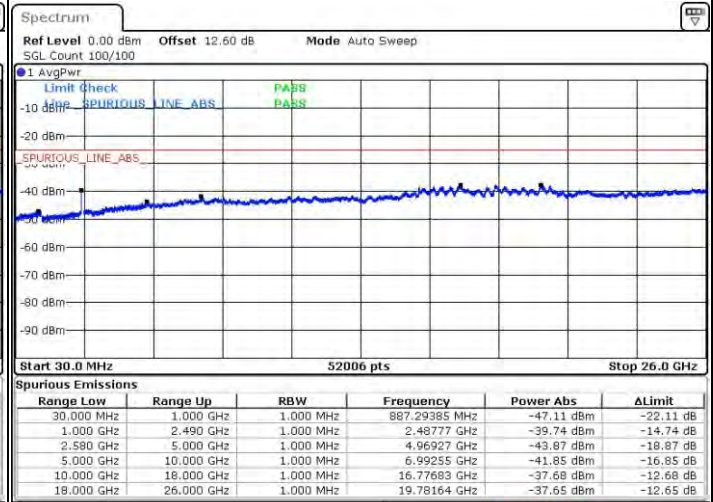
## LTE Band 7 / 15MHz

## Lowest Channel / QPSK



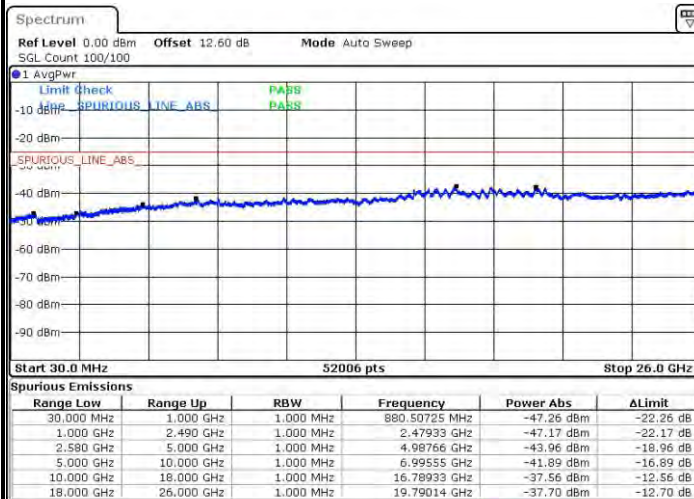
Date: 1.AUG.2015 08:11:32

## Lowest Channel / 16QAM



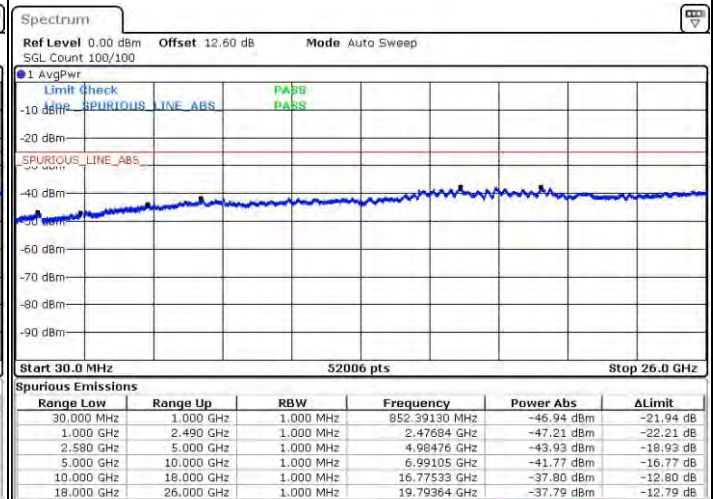
Date: 1.AUG.2015 08:12:26

## Middle Channel / QPSK



Date: 1.AUG.2015 08:14:02

## Middle Channel / 16QAM

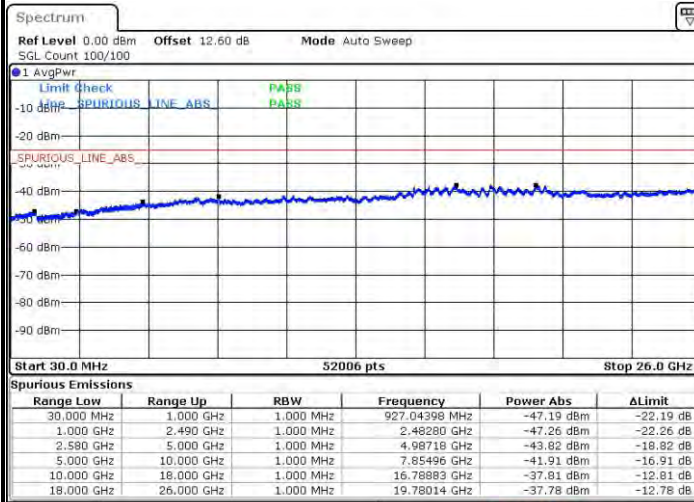


Date: 1.AUG.2015 08:14:56



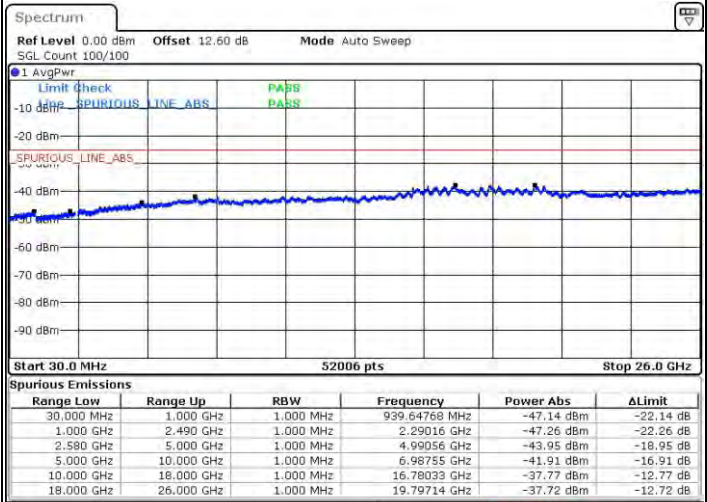
## LTE Band7 / 15MHz

## Highest Channel / QPSK



Date: 1.AUG.2015 08:21:12

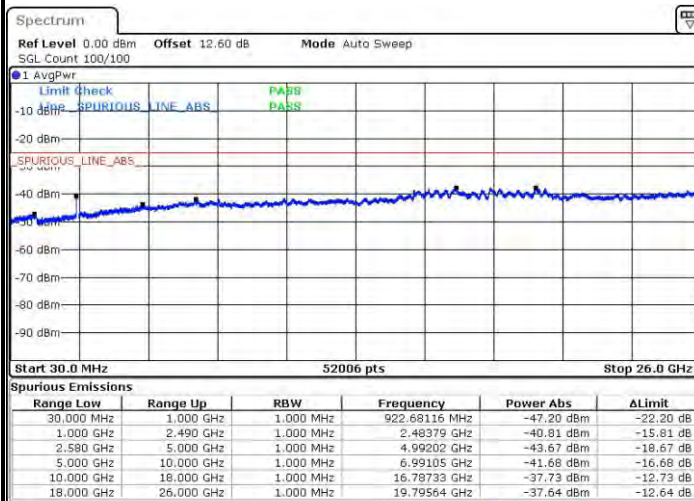
## Highest Channel / 16QAM



Date: 1.AUG.2015 08:22:06

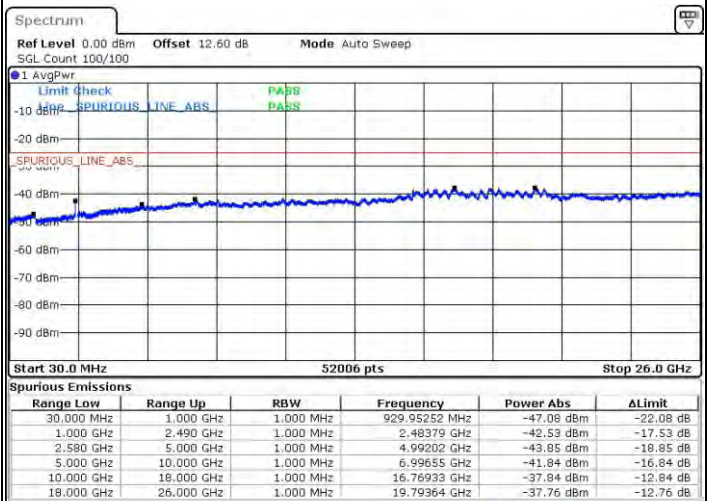
## LTE Band 7 / 20MHz

## Lowest Channel / QPSK



Date: 1.AUG.2015 08:28:21

## Lowest Channel / 16QAM

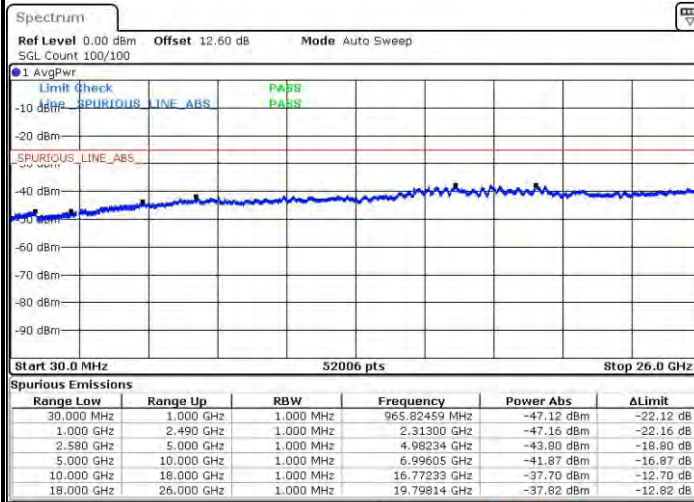


Date: 1.AUG.2015 08:29:15



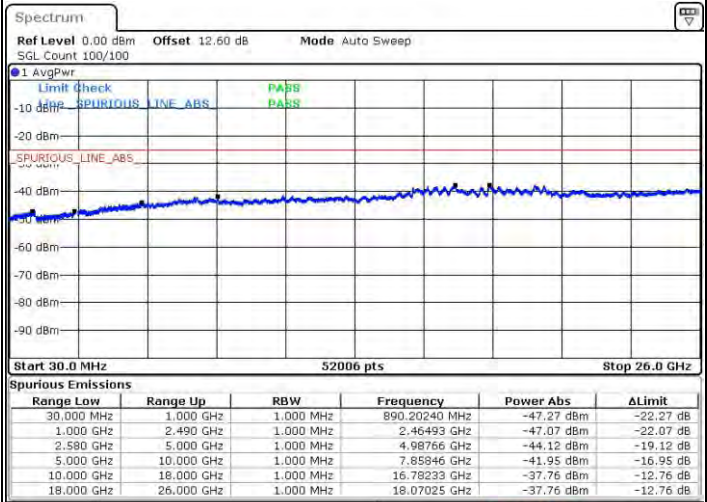
## LTE Band 7 / 20MHz

## Middle Channel / QPSK



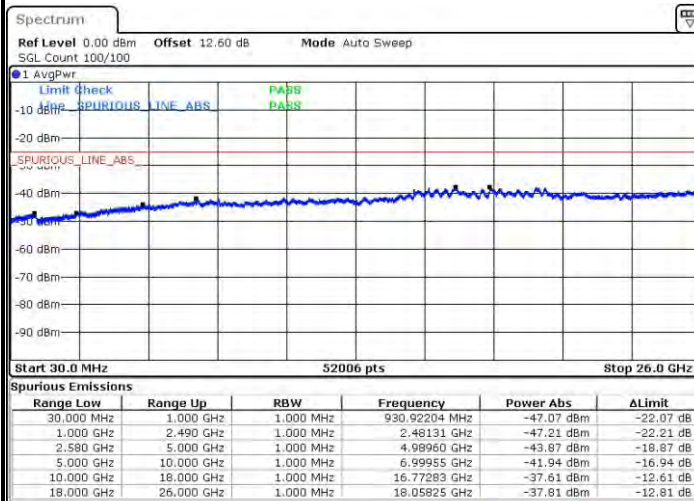
Date: 1.AUG.2015 08:30:51

## Middle Channel / 16QAM



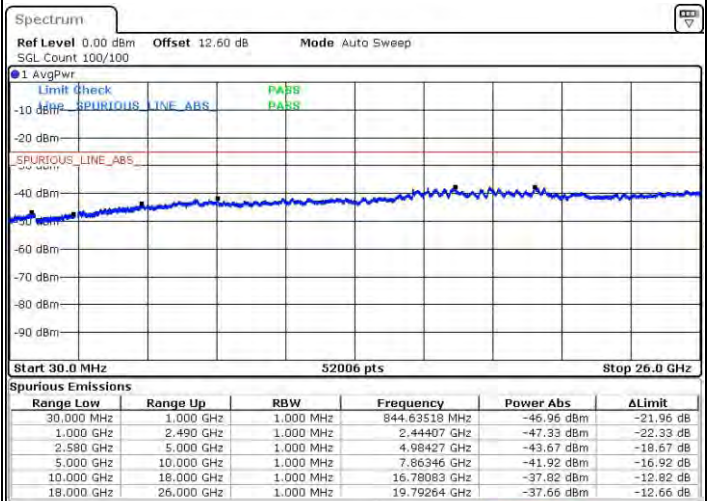
Date: 1.AUG.2015 08:31:45

## Highest Channel / QPSK



Date: 1.AUG.2015 08:38:00

## Highest Channel / 16QAM



Date: 1.AUG.2015 08:38:54

## Frequency Stability

| Test Conditions  |                   | LTE Band 7 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                           | Note 2. |
|                  |                   | Deviation (ppm)                    | Result  |
| 50               | Normal Voltage    | 0.0075                             | PASS    |
| 40               | Normal Voltage    | 0.0018                             |         |
| 30               | Normal Voltage    | 0.0101                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0011                             |         |
| 0                | Normal Voltage    | 0.0017                             |         |
| -10              | Normal Voltage    | 0.0013                             |         |
| -20              | Normal Voltage    | 0.0012                             |         |
| -30              | Normal Voltage    | 0.0098                             |         |
| 20               | Maximum Voltage   | 0.0010                             |         |
| 20               | Normal Voltage    | 0.0000                             |         |
| 20               | Battery End Point | 0.0101                             |         |

**Note:**

1. Normal Voltage = 4.0V. ; Battery End Point (BEP) = 3.5 V. ; Maximum Voltage =4.35V
2. The frequency fundamental emissions stay within the authorized frequency block.