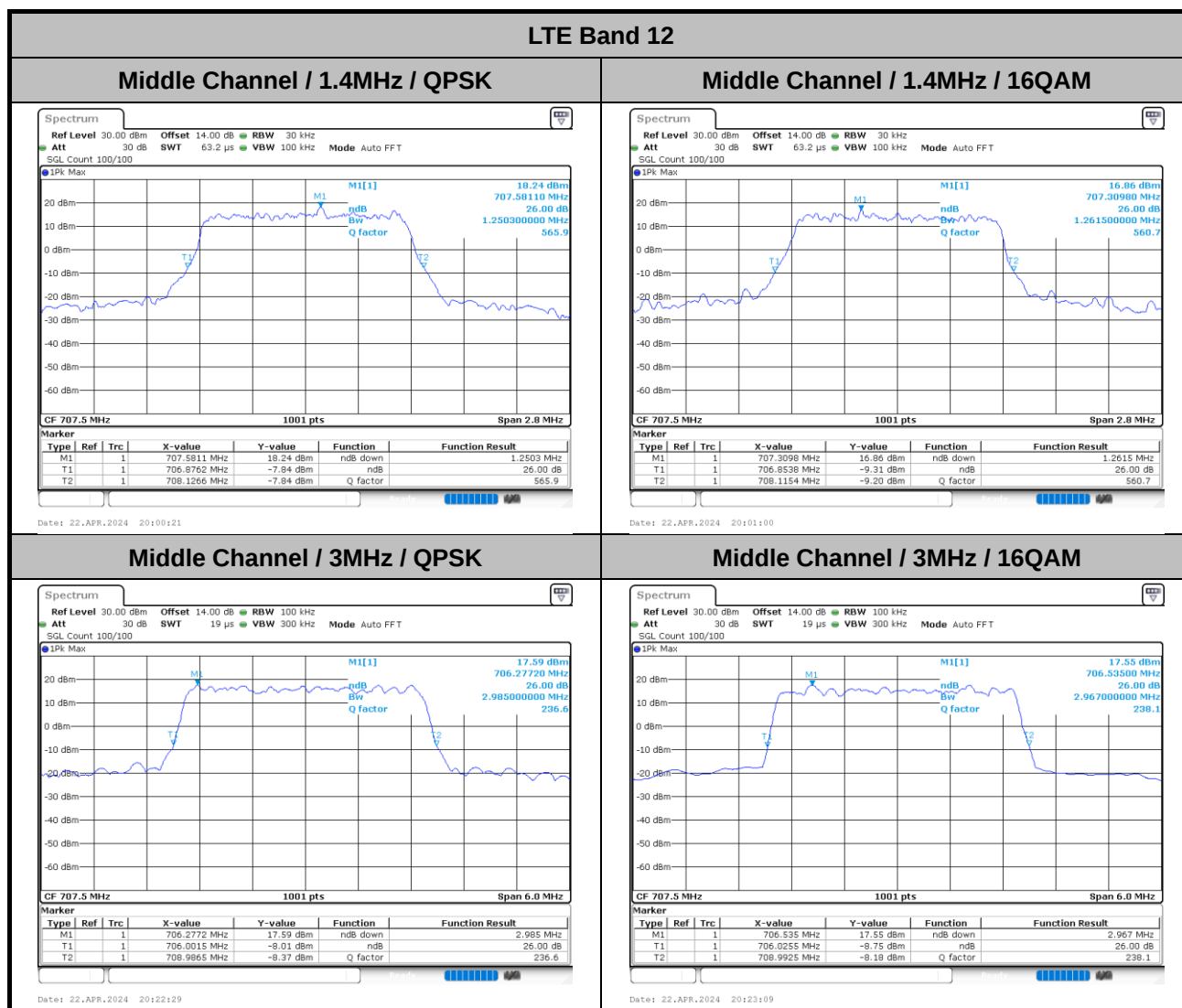




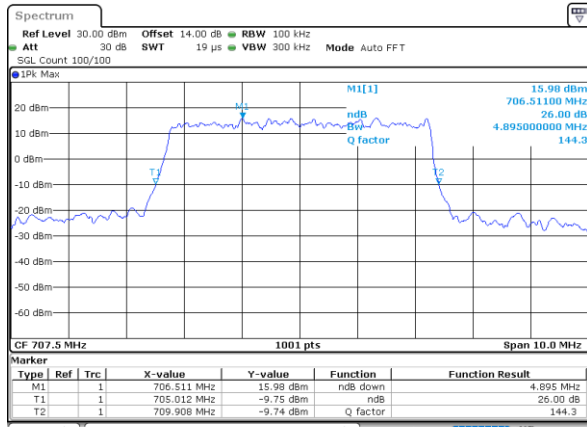
## 26dB Bandwidth

| Mode      | LTE Band 12 : 26dB BW(MHz) |       |      |       |      |       |       |       |
|-----------|----------------------------|-------|------|-------|------|-------|-------|-------|
| BW        | 1.4MHz                     |       | 3MHz |       | 5MHz |       | 10MHz |       |
| Mod.      | QPSK                       | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK  | 16QAM |
| Middle CH | 1.25                       | 1.26  | 2.99 | 2.97  | 4.90 | 4.91  | 9.73  | 9.75  |



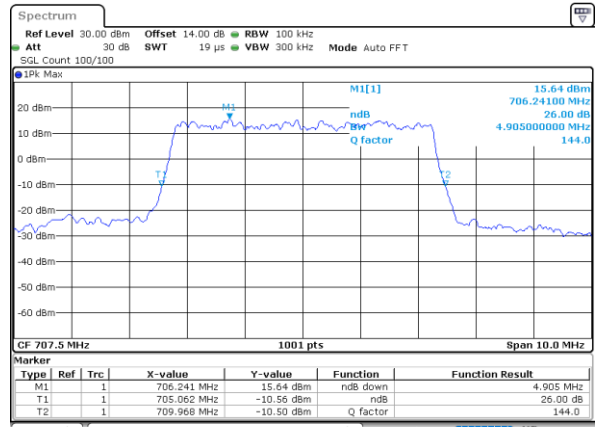


## Middle Channel / 5MHz / QPSK



Date: 22.APR.2024 20:44:38

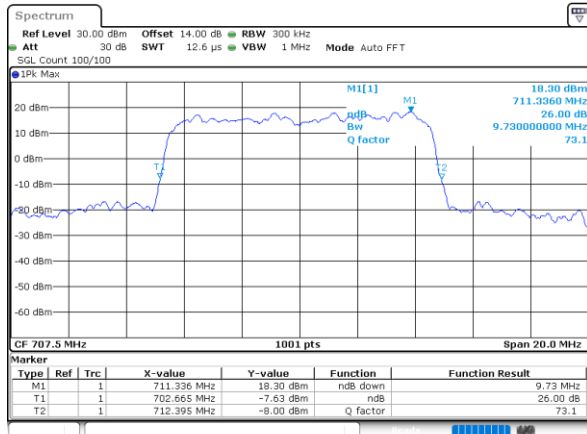
## Middle Channel / 5MHz / 16QAM



Date: 22.APR.2024 20:45:17

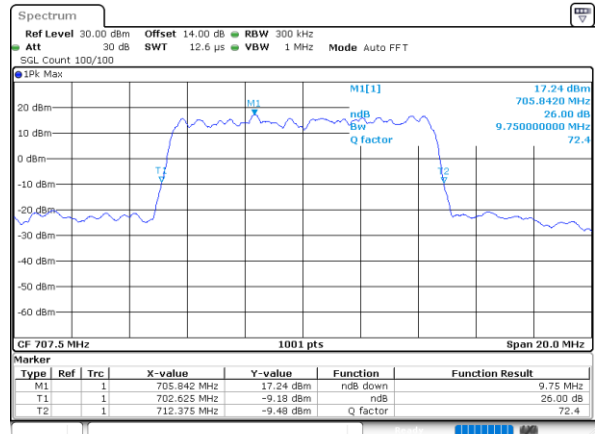
## LTE Band 12

## Middle Channel / 10MHz / QPSK



Date: 22.APR.2024 21:06:46

## Middle Channel / 10MHz / 16QAM

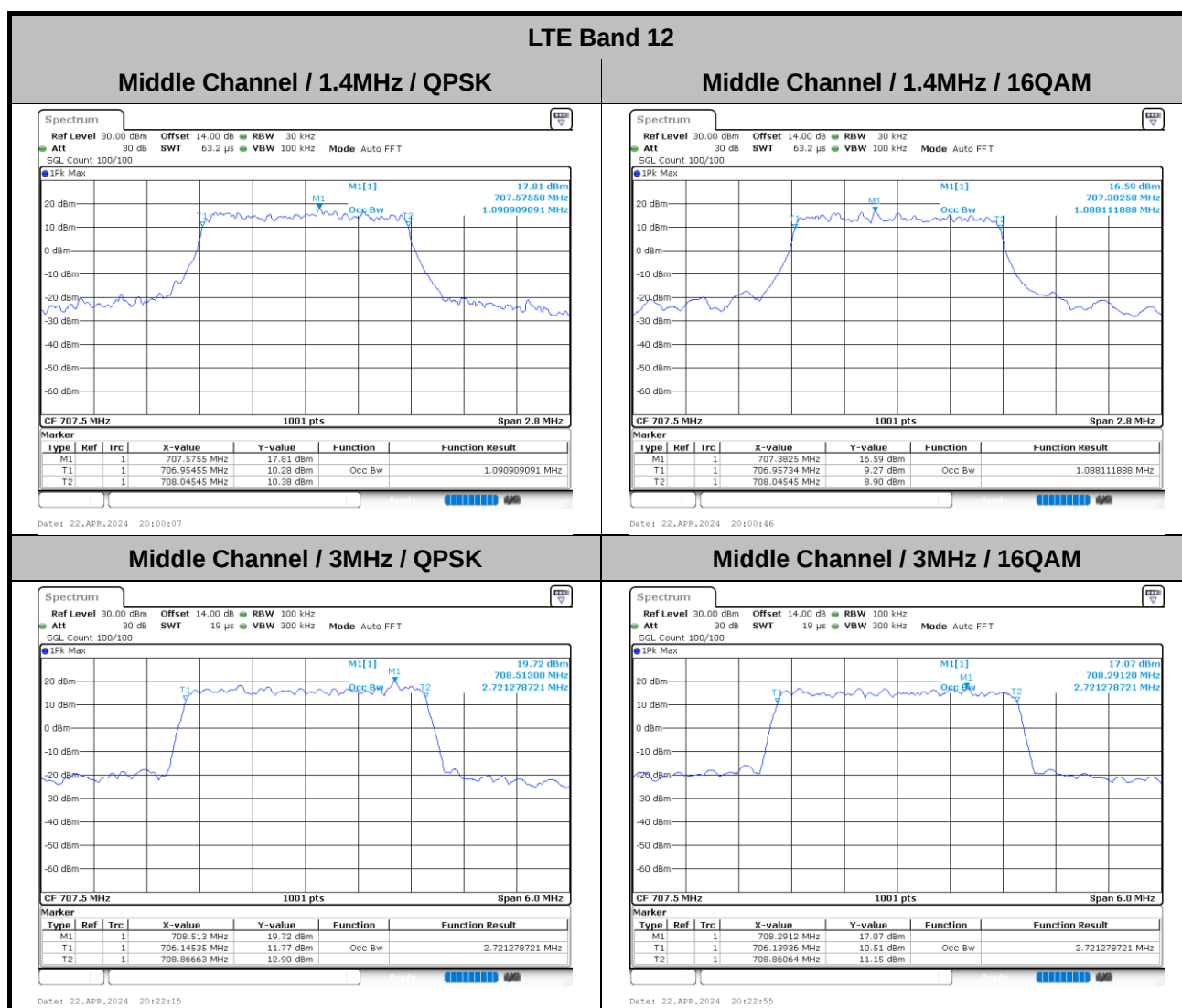


Date: 22.APR.2024 21:07:25



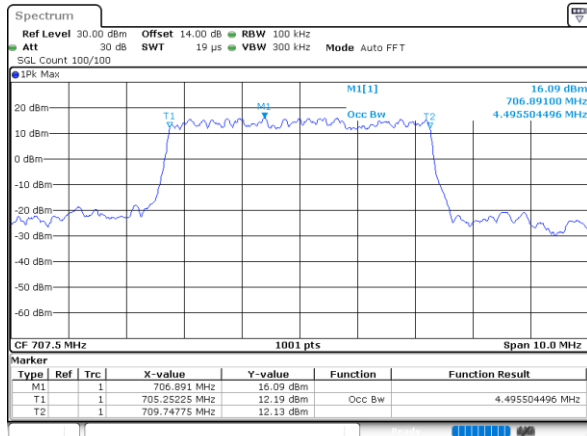
## Occupied Bandwidth

| Mode      | LTE Band 12 : 99%OBW(MHz) |       |      |       |      |       |       |       |
|-----------|---------------------------|-------|------|-------|------|-------|-------|-------|
| BW        | 1.4MHz                    |       | 3MHz |       | 5MHz |       | 10MHz |       |
| Mod.      | QPSK                      | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK  | 16QAM |
| Middle CH | 1.09                      | 1.09  | 2.72 | 2.72  | 4.50 | 4.47  | 8.99  | 9.07  |



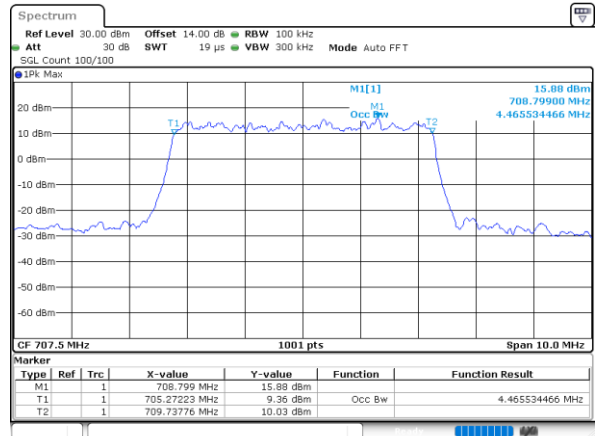


## Middle Channel / 5MHz / QPSK



Date: 22.APR.2024 20:44:24

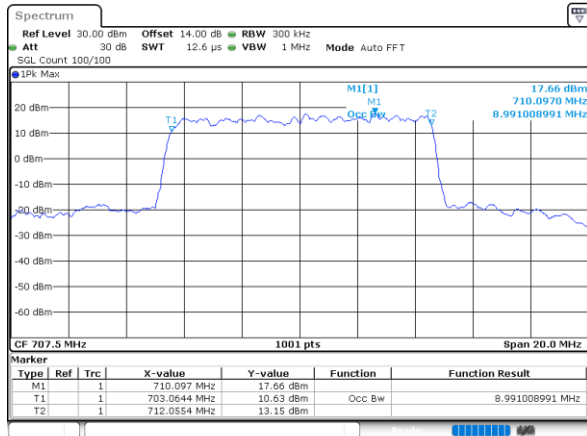
## Middle Channel / 5MHz / 16QAM



Date: 22.APR.2024 20:45:03

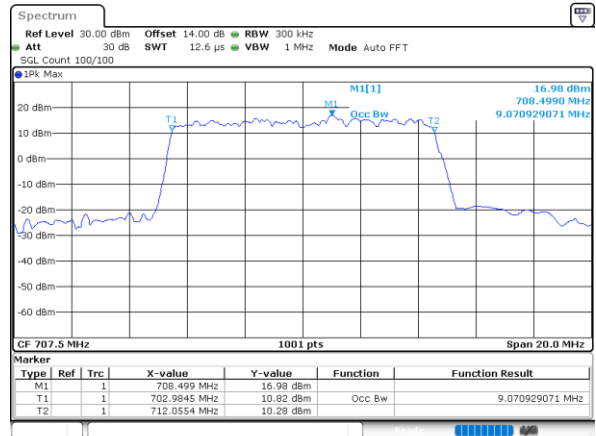
## LTE Band 12

## Middle Channel / 10MHz / QPSK



Date: 22.APR.2024 21:06:32

## Middle Channel / 10MHz / 16QAM



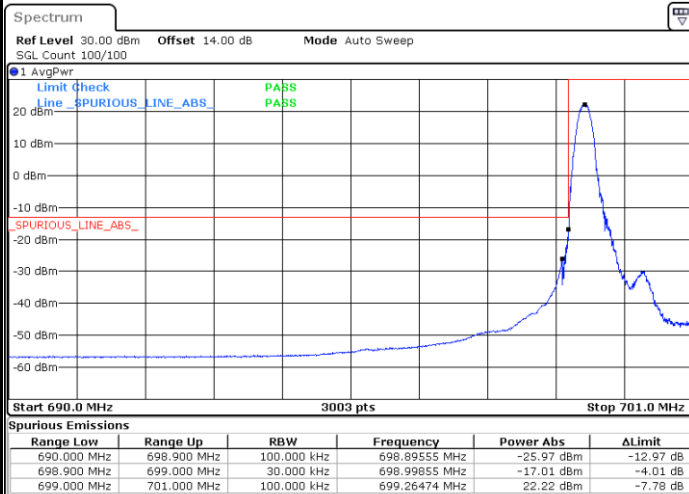
Date: 22.APR.2024 21:07:11



# Conducted Band Edge

## LTE Band 12 / 1.4MHz / QPSK

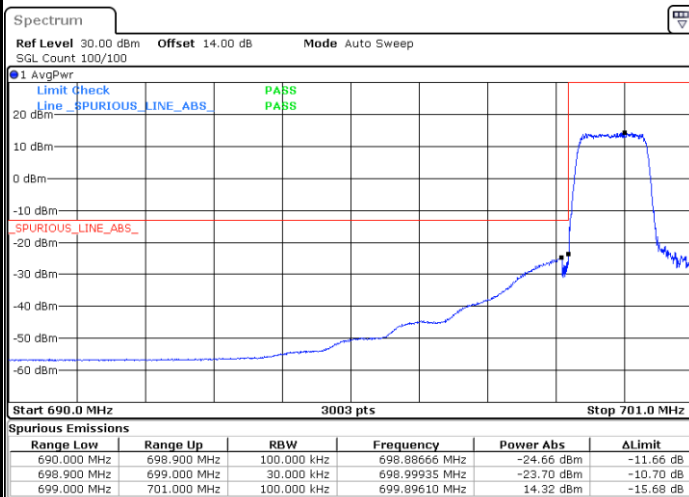
### Lowest Band Edge / 1RB



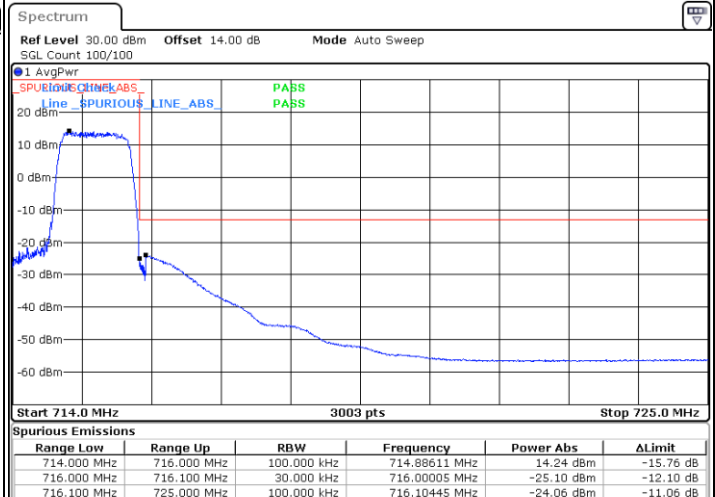
### Highest Band Edge / 1RB



### Lowest Band Edge / Full RB



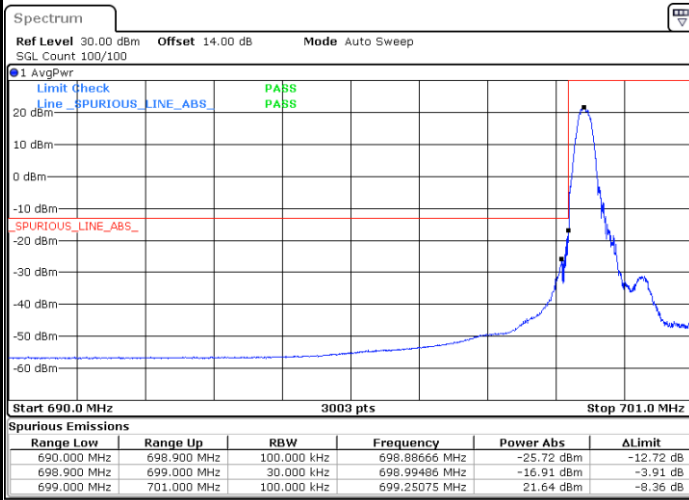
### Highest Band Edge / Full RB



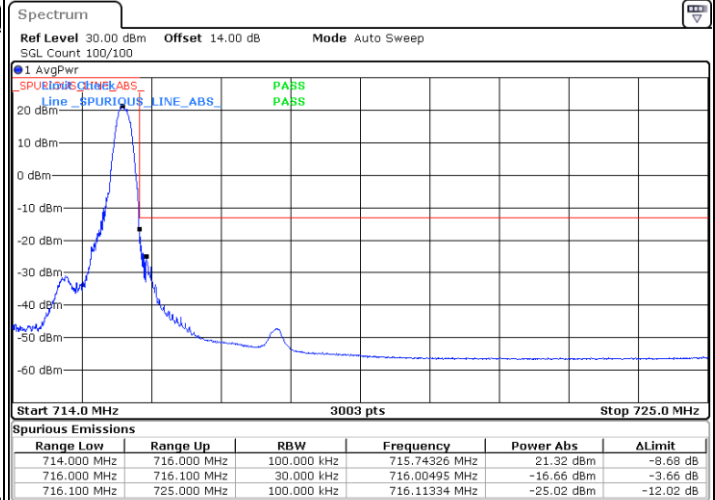


## LTE Band 12 / 1.4MHz / 16QAM

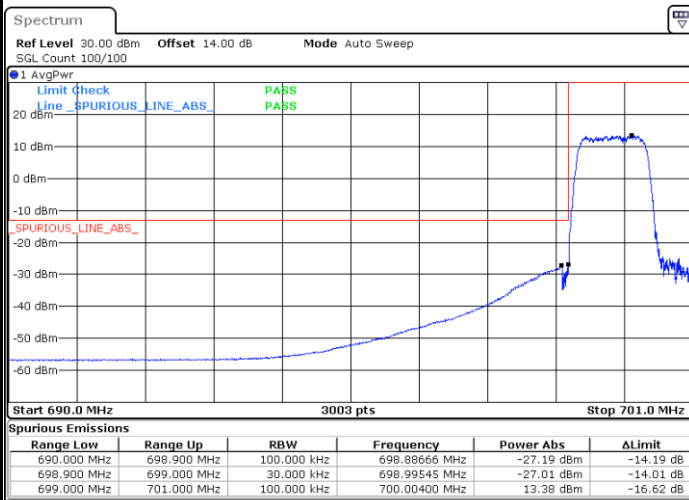
## Lowest Band Edge / 1 RB



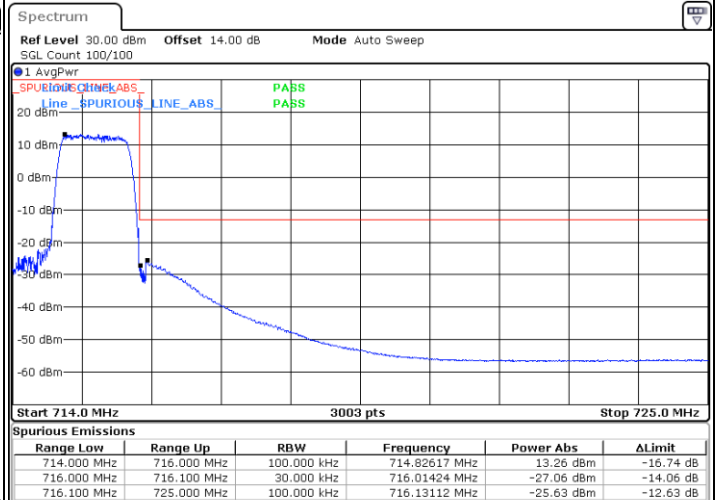
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



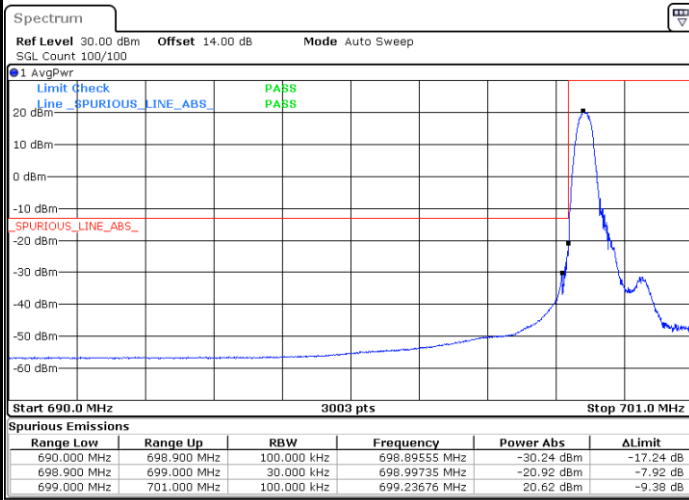
## Highest Band Edge / Full RB



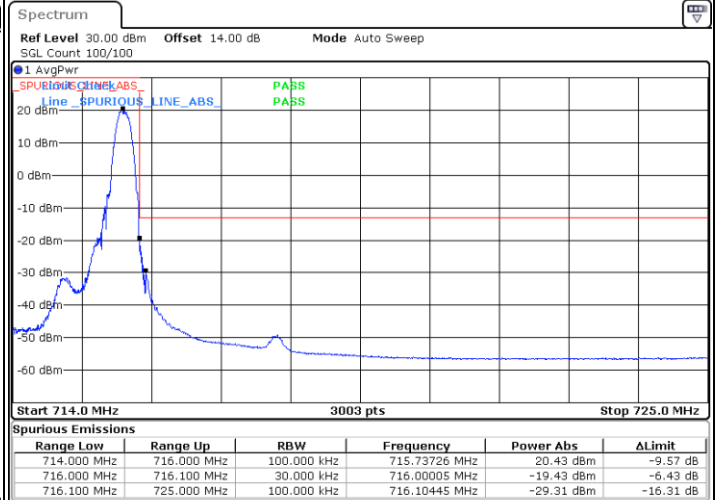


## LTE Band 12 / 1.4MHz / 64QAM

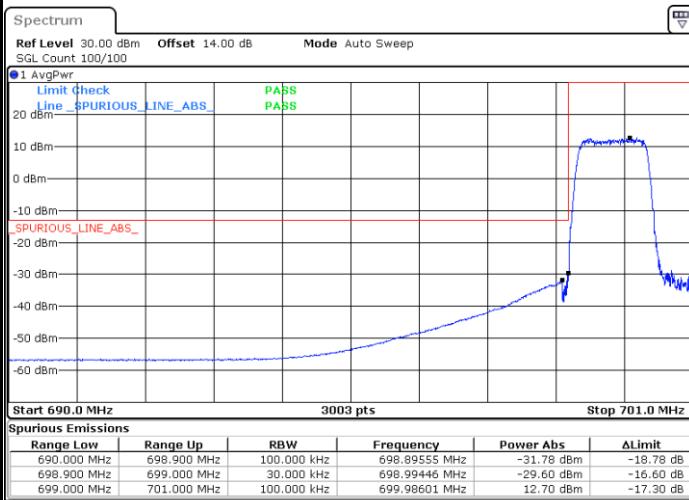
## Lowest Band Edge / 1 RB



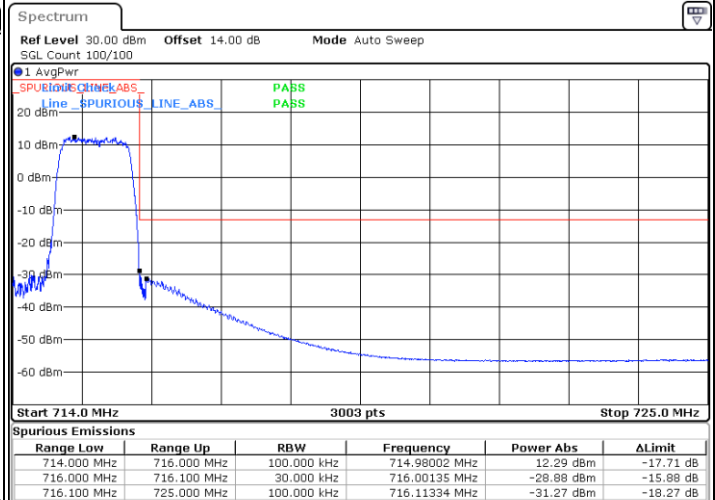
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



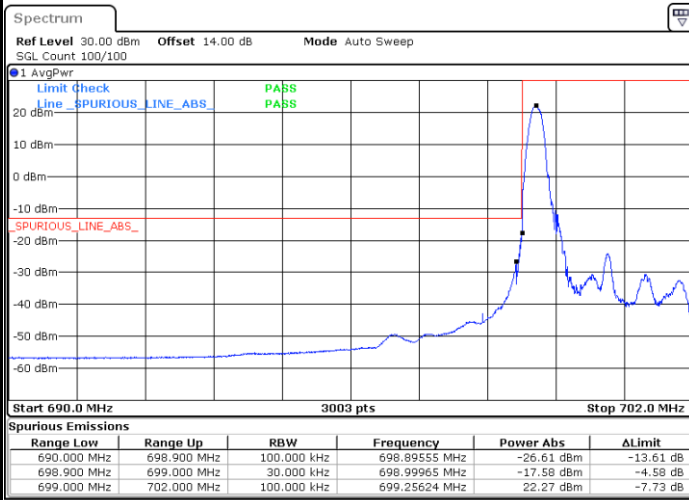
## Highest Band Edge / Full RB



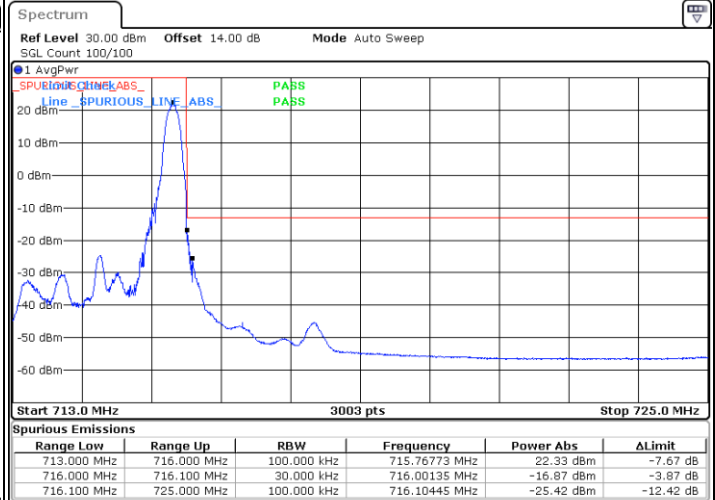


## LTE Band 12 / 3MHz / QPSK

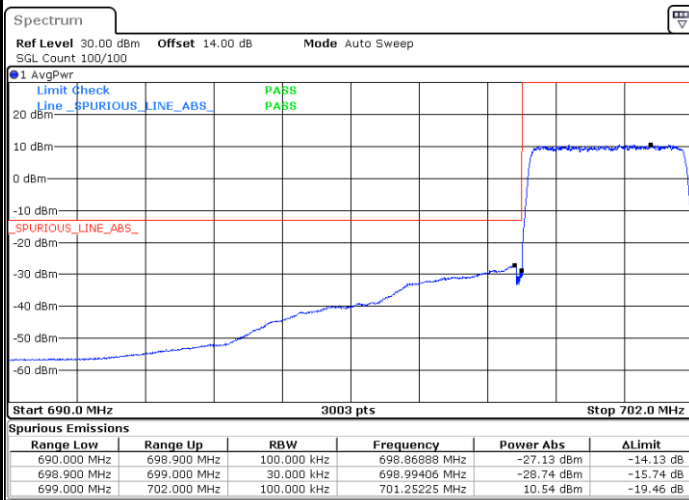
## Lowest Band Edge / 1RB



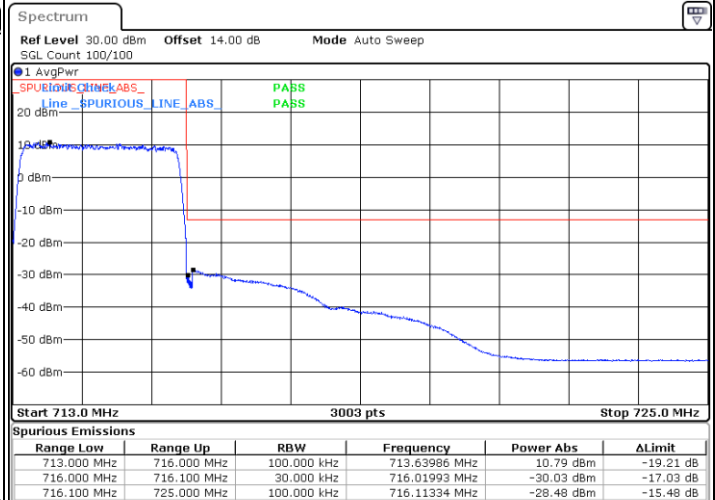
## Highest Band Edge / 1RB



## Lowest Band Edge / Full RB



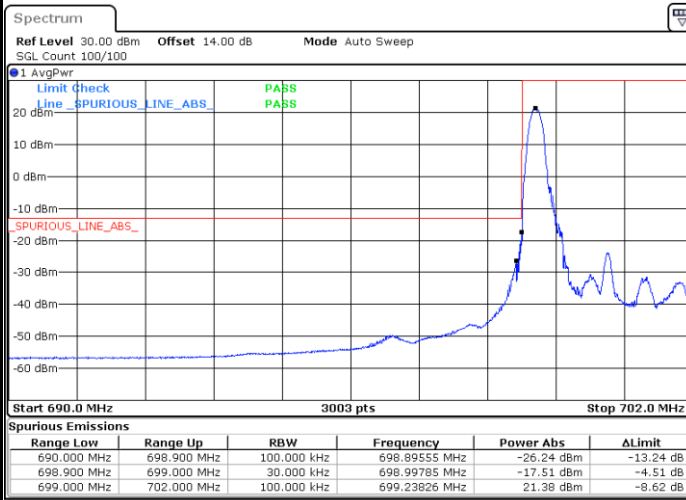
## Highest Band Edge / Full RB



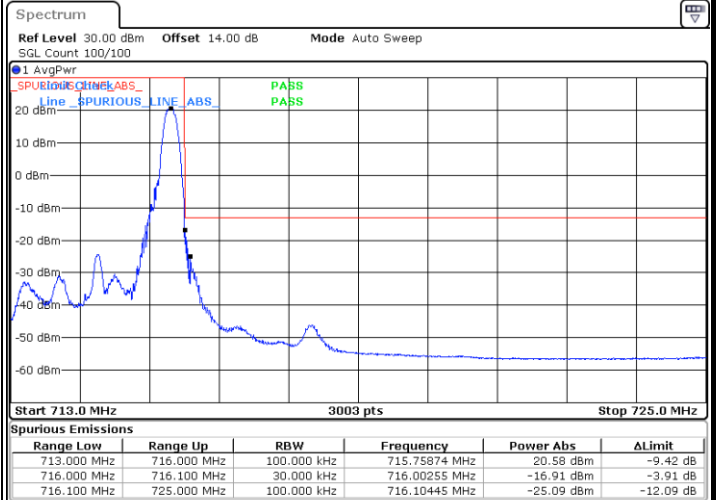


## LTE Band 12 / 3MHz / 16QAM

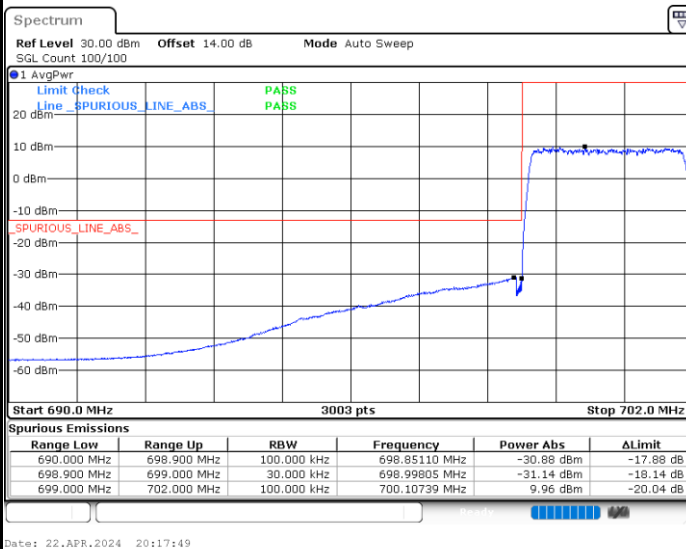
## Lowest Band Edge / 1 RB



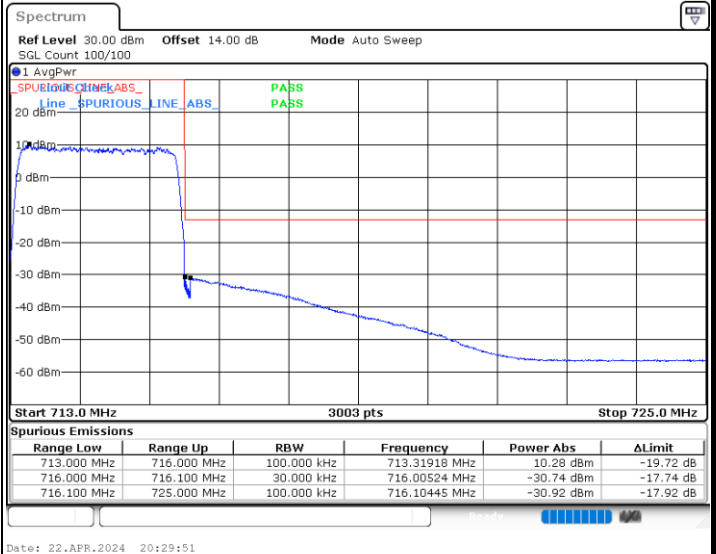
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



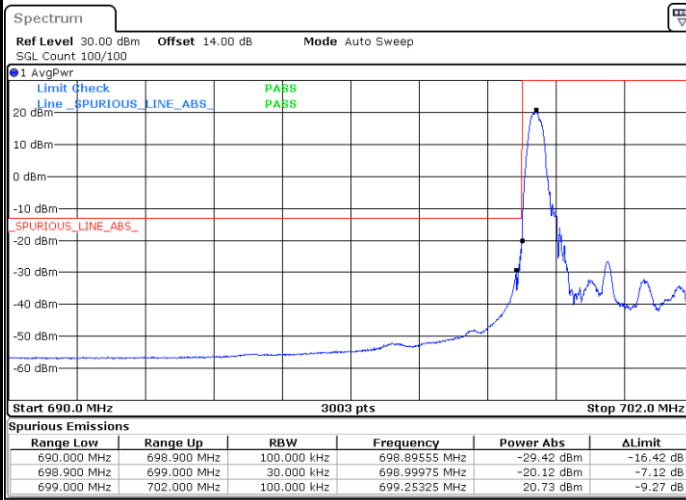
## Highest Band Edge / Full RB



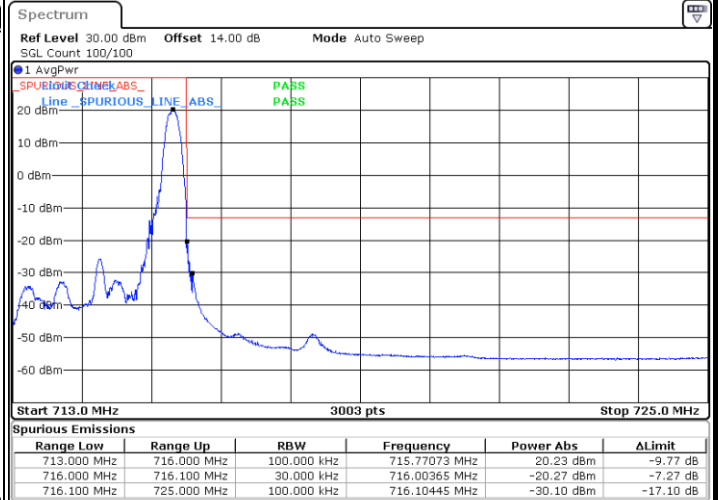


## LTE Band 12 / 3MHz / 64QAM

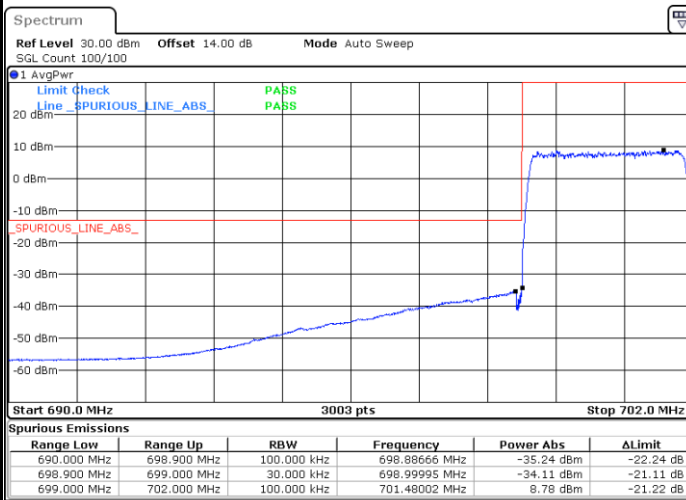
## Lowest Band Edge / 1 RB



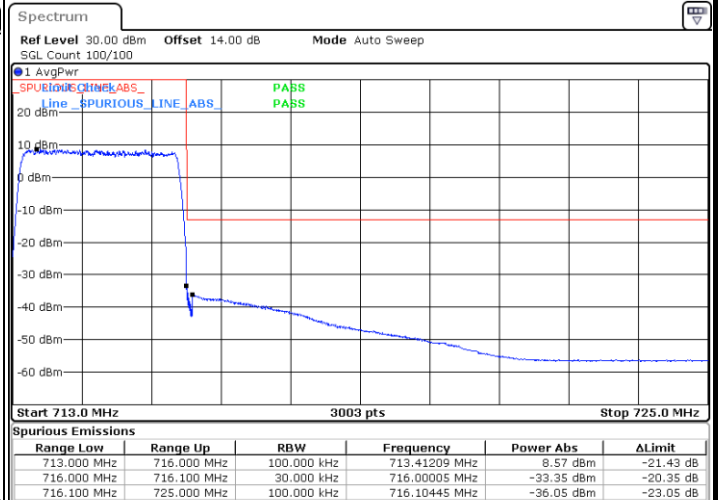
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



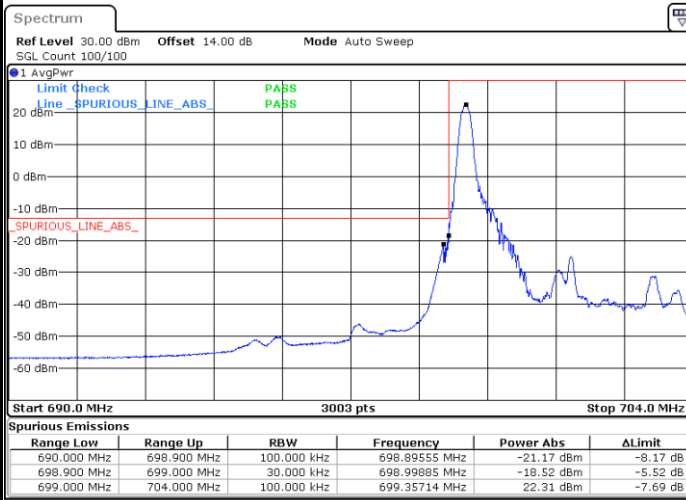
## Highest Band Edge / Full RB





## LTE Band 12 / 5MHz / QPSK

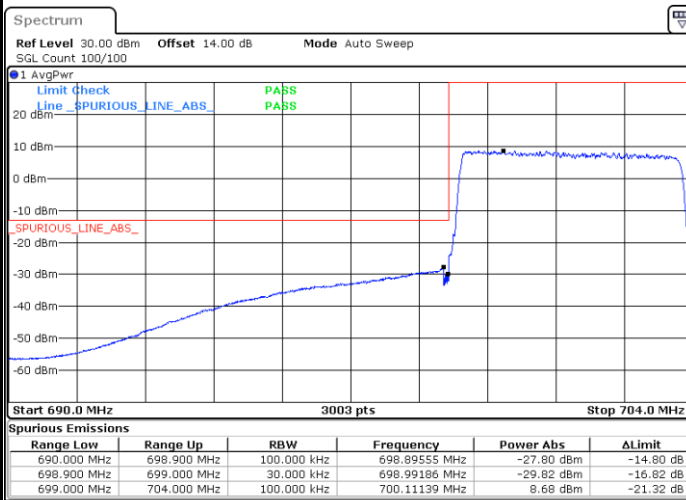
## Lowest Band Edge / 1RB



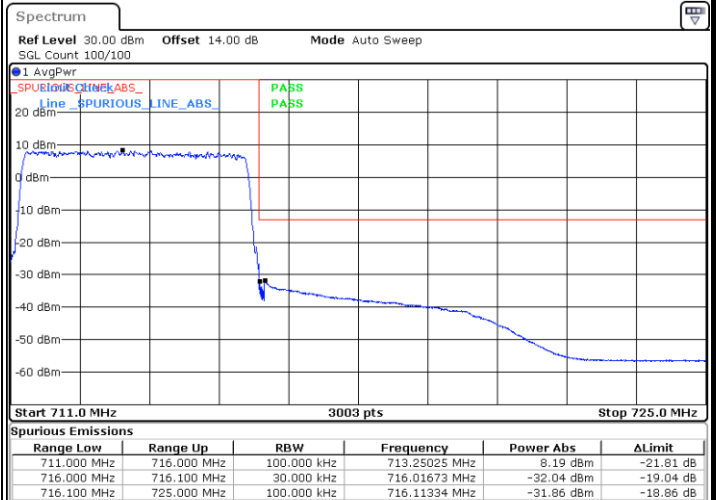
## Highest Band Edge / 1RB



## Lowest Band Edge / Full RB



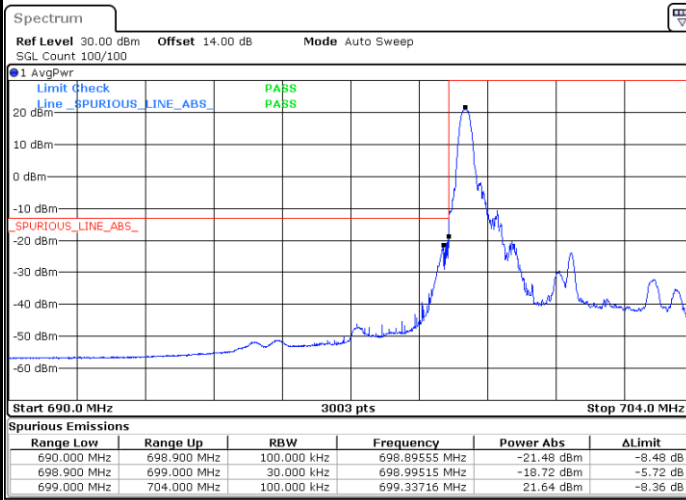
## Highest Band Edge / Full RB





## LTE Band 12 / 5MHz / 16QAM

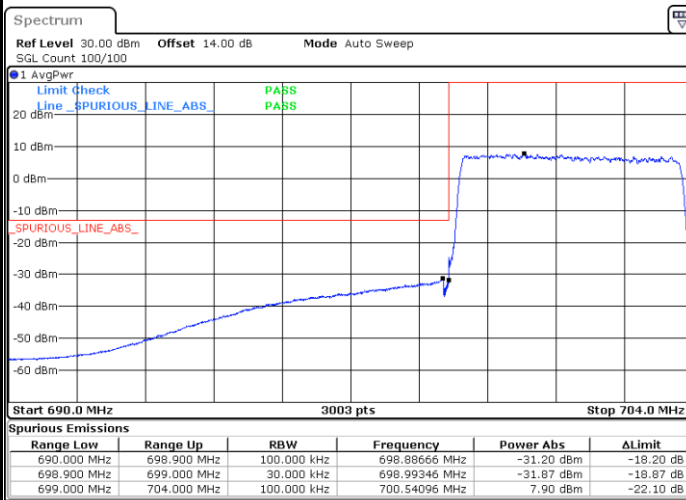
## Lowest Band Edge / 1 RB



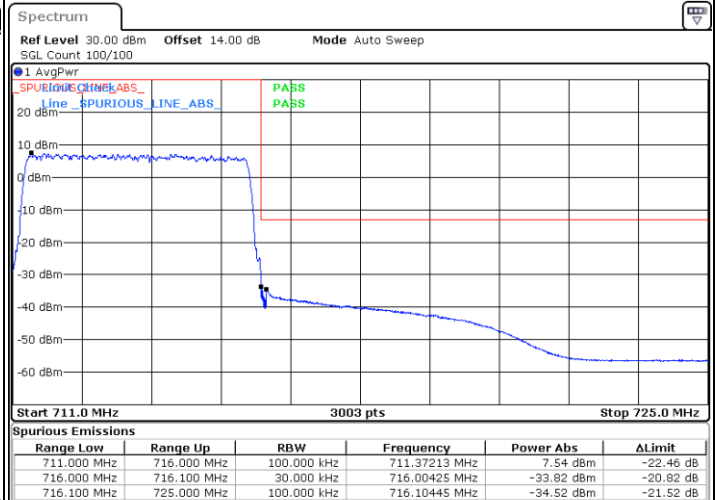
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



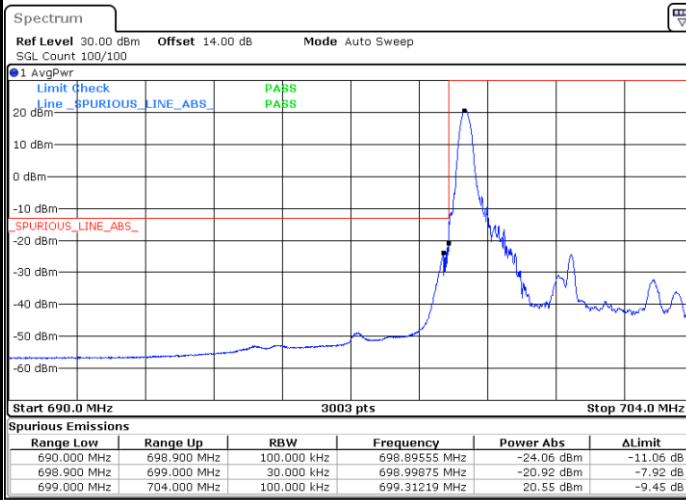
## Highest Band Edge / Full RB





## LTE Band 12 / 5MHz / 64QAM

## Lowest Band Edge / 1 RB



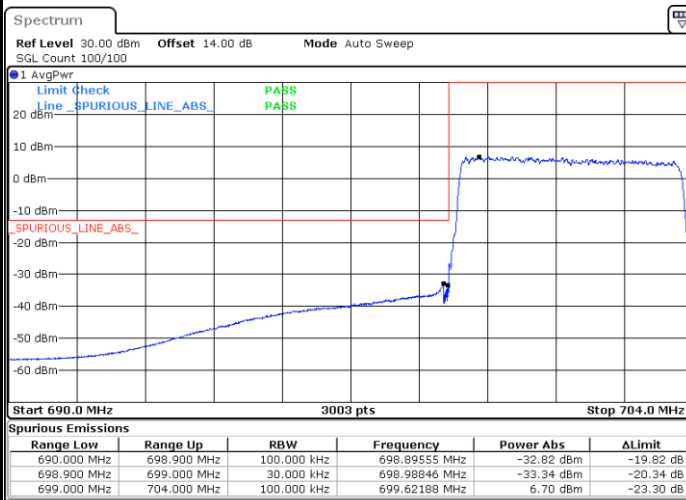
Date: 22.APR.2024 20:37:16

## Highest Band Edge / 1 RB



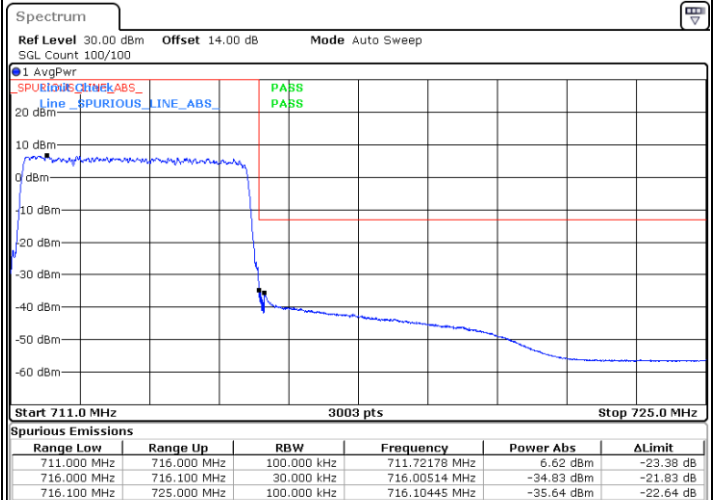
Date: 22.APR.2024 20:49:18

## Lowest Band Edge / Full RB



Date: 22.APR.2024 20:41:18

## Highest Band Edge / Full RB

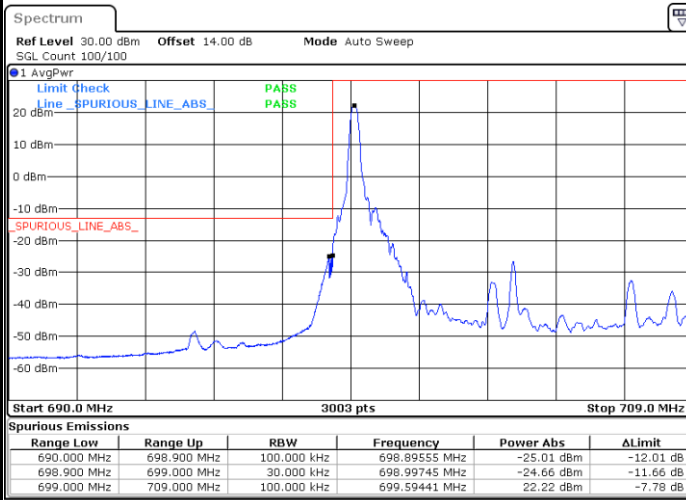


Date: 22.APR.2024 20:53:20

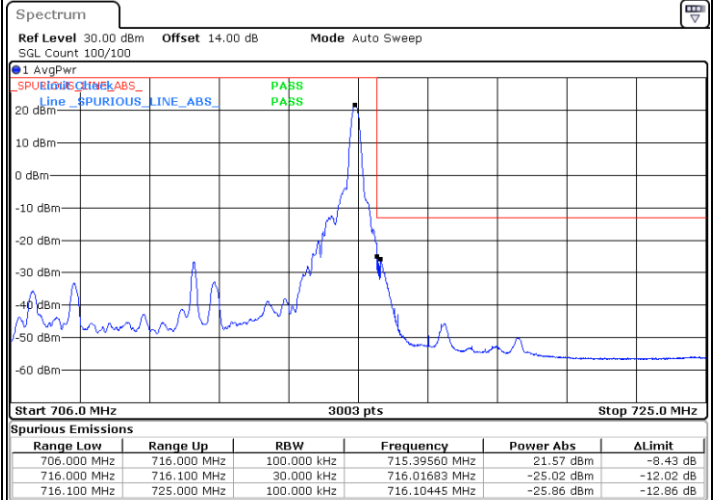


## LTE Band 12 / 10MHz / QPSK

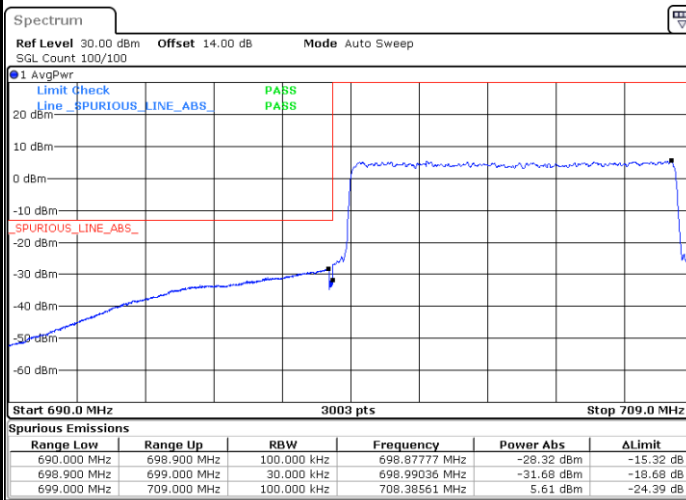
## Lowest Band Edge / 1RB



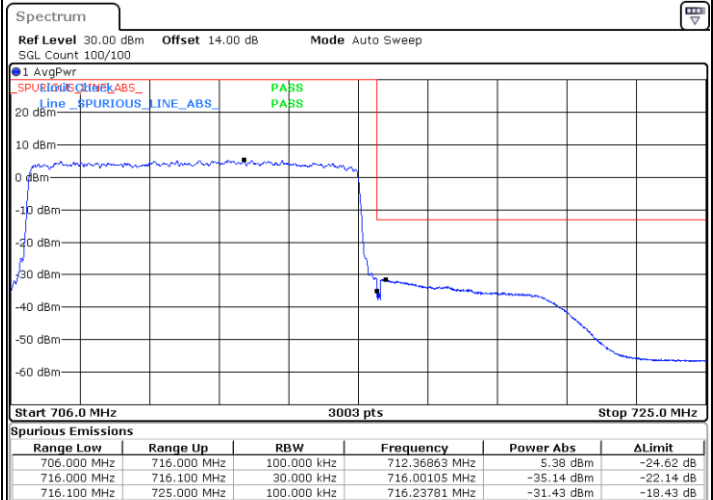
## Highest Band Edge / 1RB



## Lowest Band Edge / Full RB



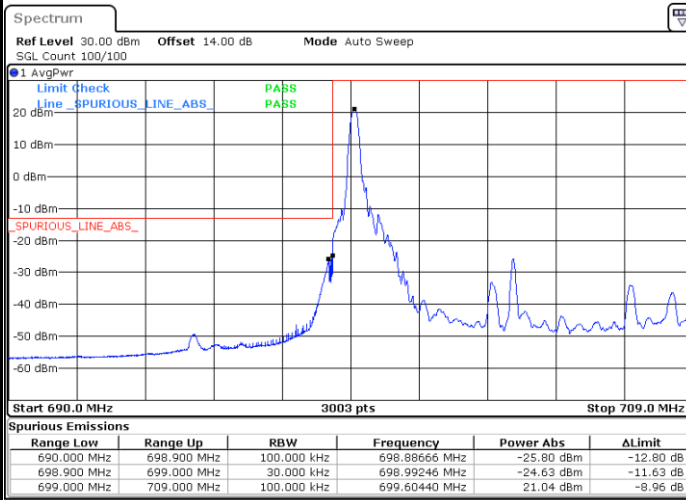
## Highest Band Edge / Full RB



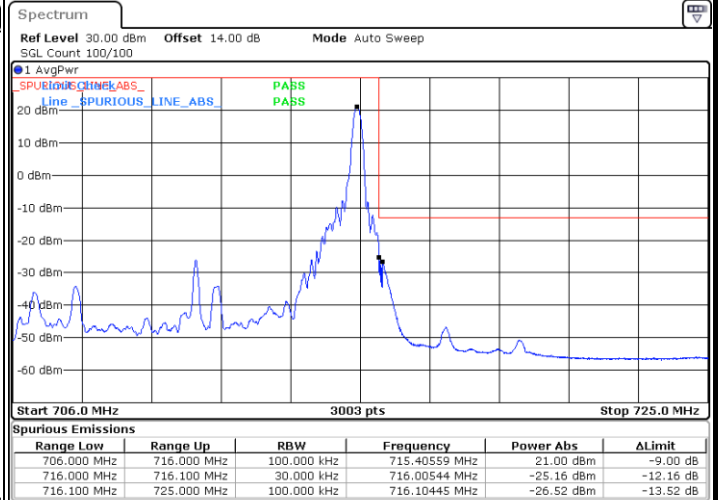


## LTE Band 12 / 10MHz / 16QAM

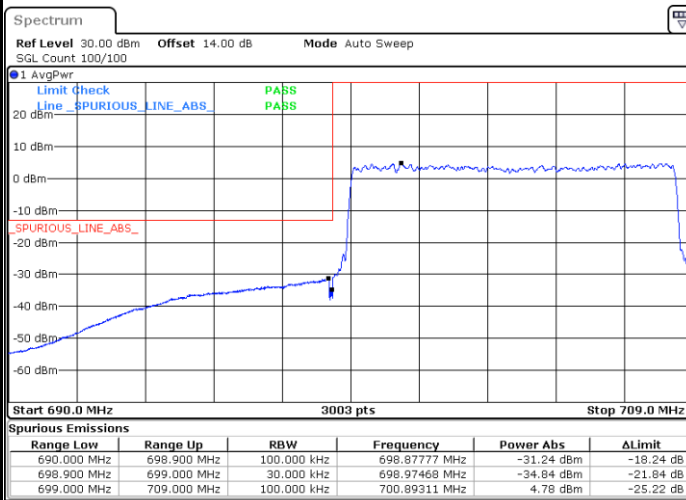
## Lowest Band Edge / 1 RB



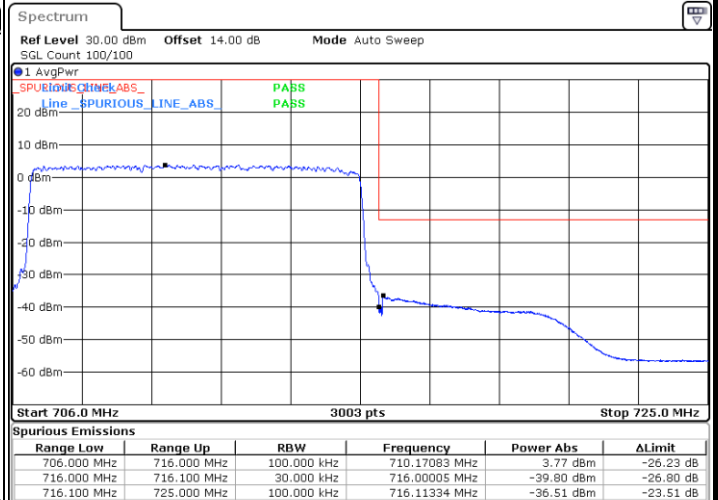
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



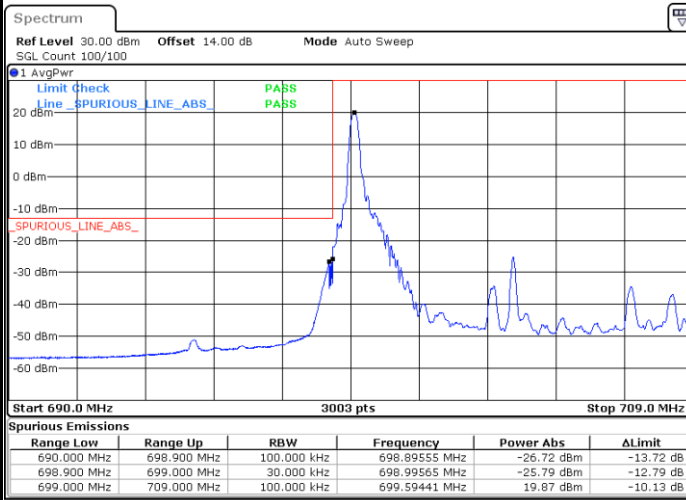
## Highest Band Edge / Full RB





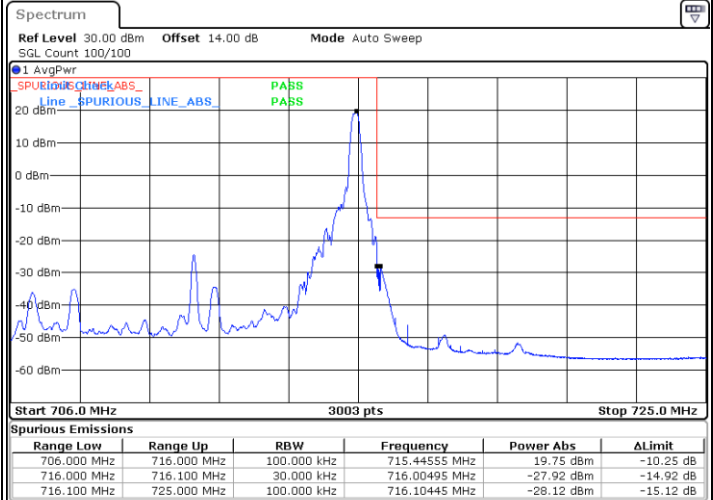
## LTE Band 12 / 10MHz / 64QAM

## Lowest Band Edge / 1 RB



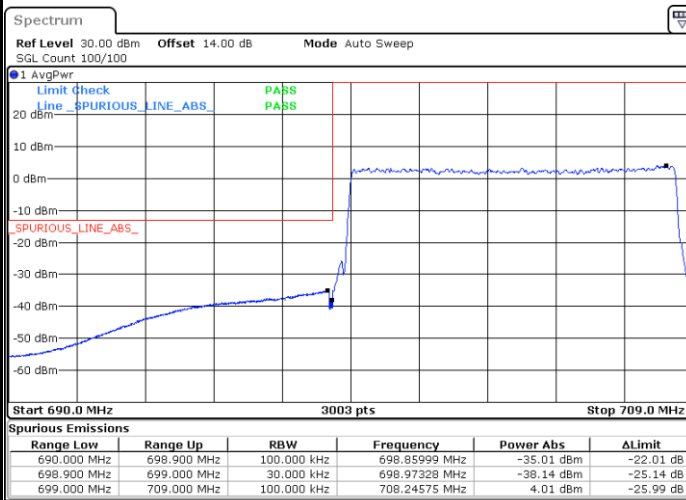
Date: 22.APR.2024 20:59:24

## Highest Band Edge / 1 RB



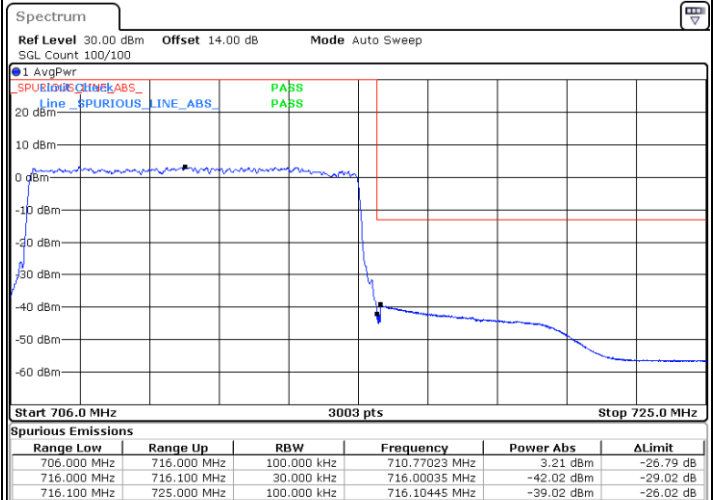
Date: 22.APR.2024 21:11:26

## Lowest Band Edge / Full RB



Date: 22.APR.2024 21:03:26

## Highest Band Edge / Full RB



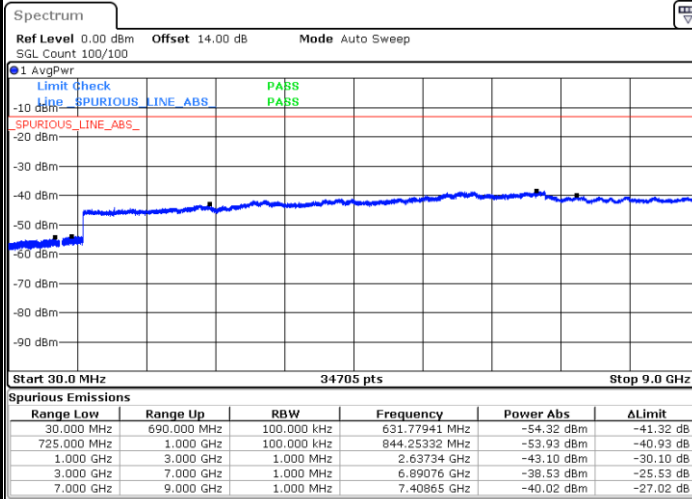
Date: 22.APR.2024 21:15:28



# Conducted Spurious Emission

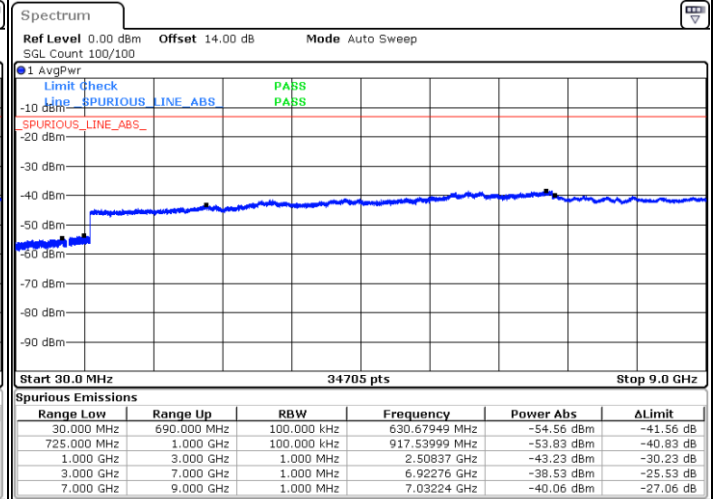
## LTE Band 12 / 1.4MHz

### Lowest Channel / QPSK



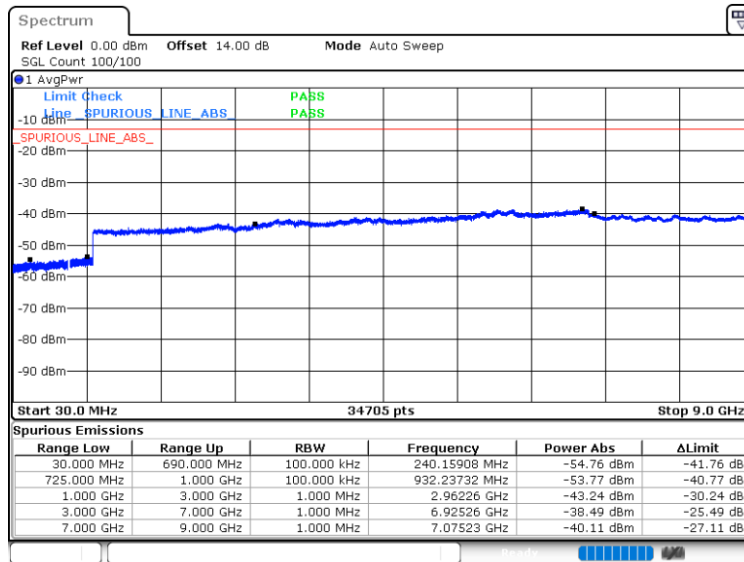
Date: 22.APR.2024 19:58:22

### Middle Channel / QPSK



Date: 22.APR.2024 19:59:41

### Highest Channel / QPSK

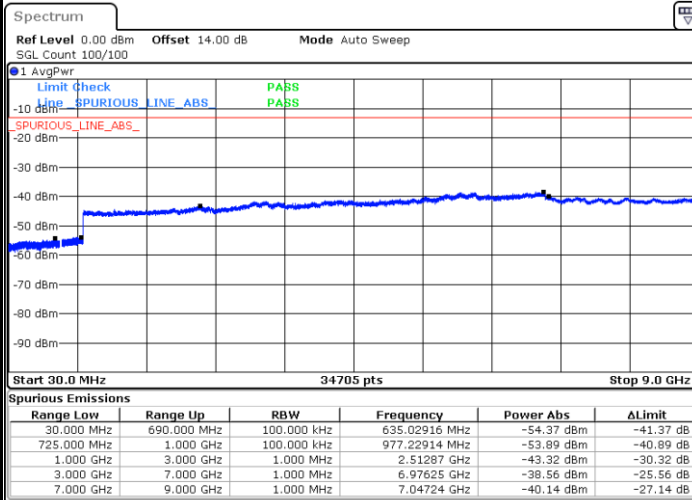


Date: 22.APR.2024 20:10:24



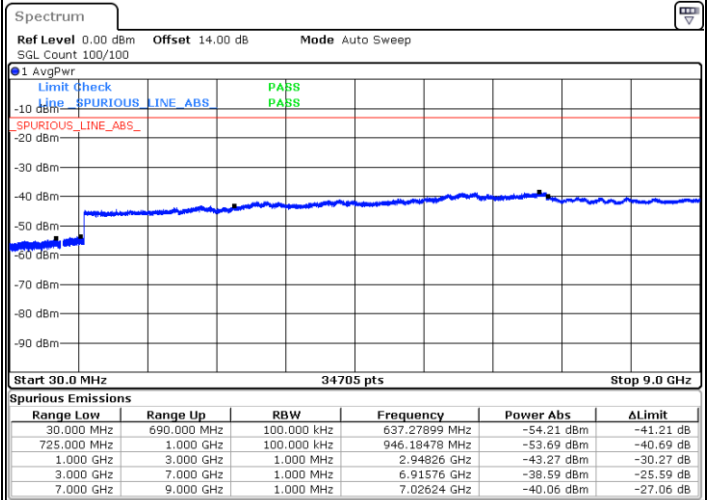
## LTE Band 12 / 3MHz

## Lowest Channel / QPSK



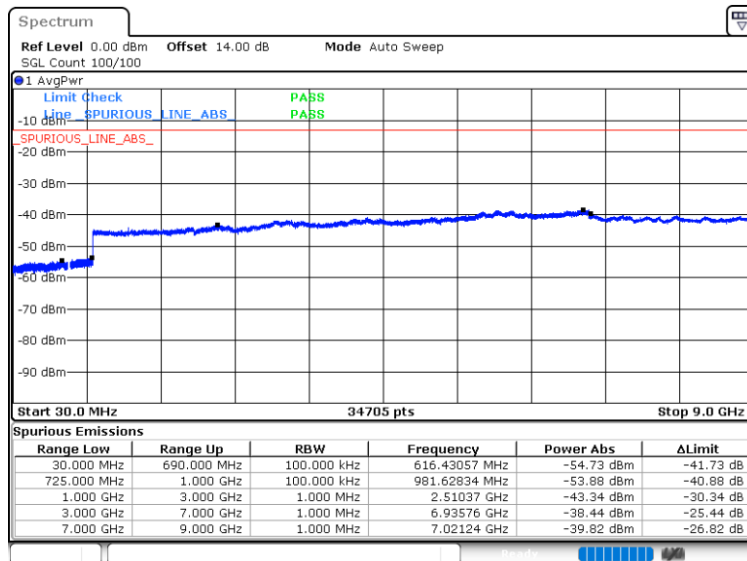
Date: 22.APR.2024 20:20:30

## Middle Channel / QPSK



Date: 22.APR.2024 20:21:49

## Highest Channel / QPSK

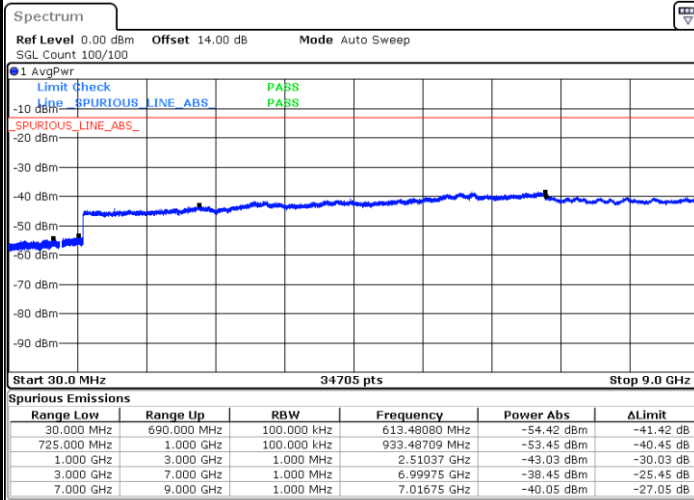


Date: 22.APR.2024 20:32:32



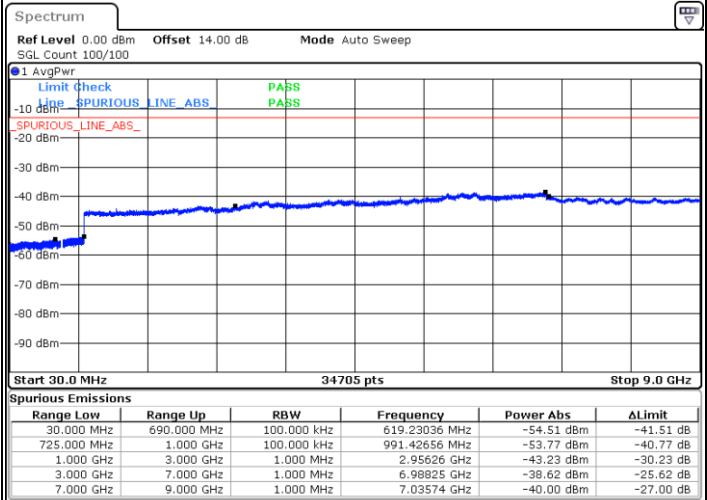
## LTE Band 12 / 5MHz

## Lowest Channel / QPSK



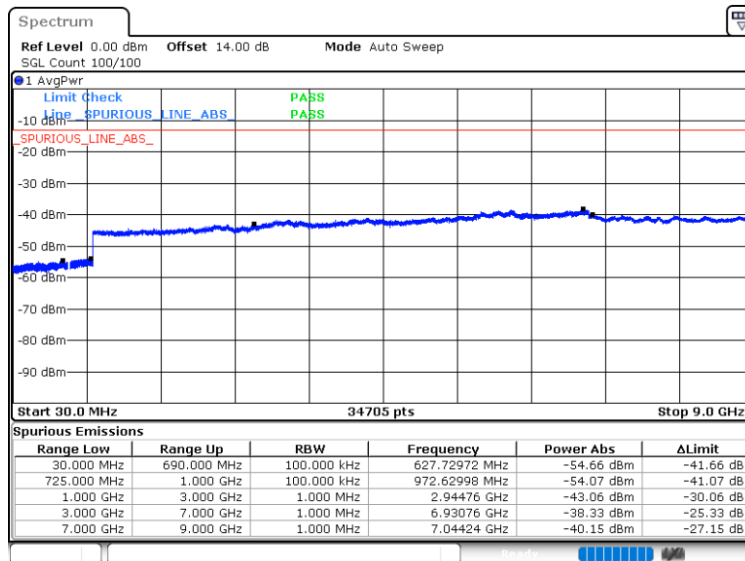
Date: 22.APR.2024 20:42:39

## Middle Channel / QPSK



Date: 22.APR.2024 20:43:58

## Highest Channel / QPSK

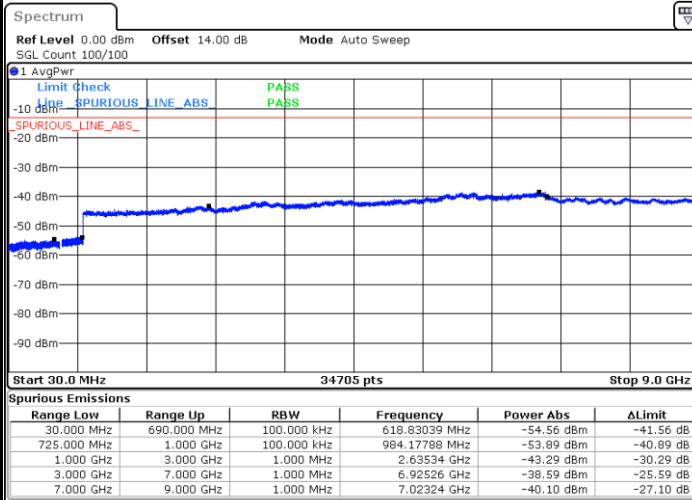


Date: 22.APR.2024 20:54:40



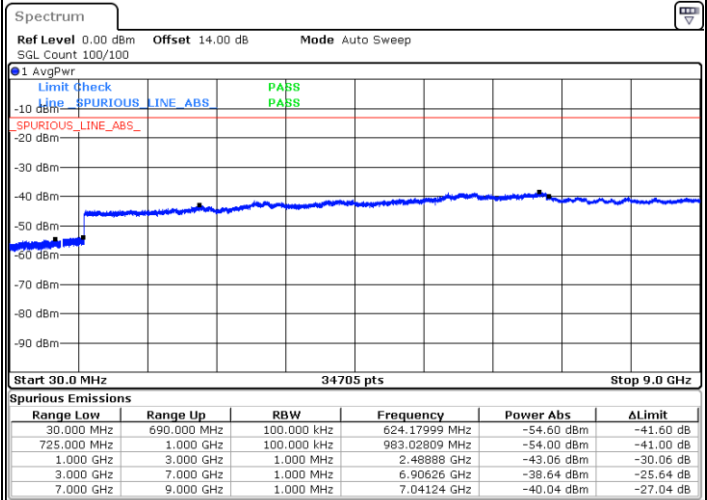
## LTE Band 12 / 10MHz

## Lowest Channel / QPSK



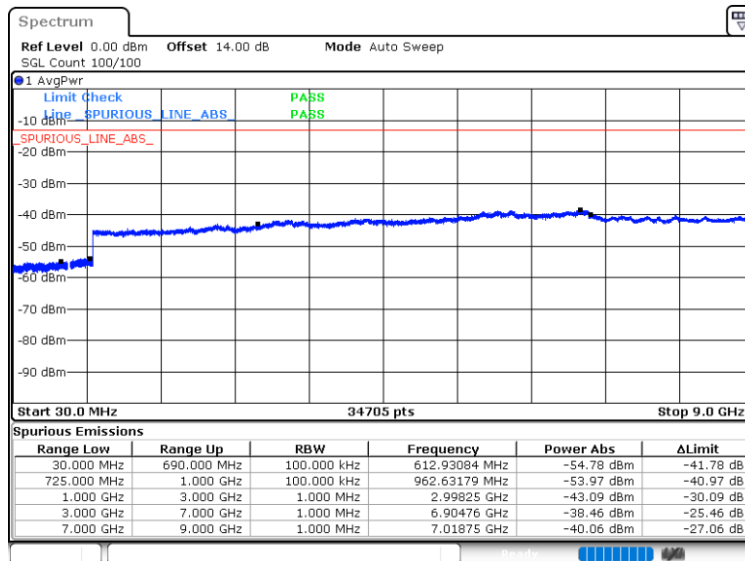
Date: 22.APR.2024 21:04:46

## Middle Channel / QPSK



Date: 22.APR.2024 21:06:06

## Highest Channel / QPSK



Date: 22.APR.2024 21:16:48

## Frequency Stability

| Test Conditions  |                   | LTE Band 12 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|-------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                            | Note 2. |
|                  |                   | Deviation (ppm)                     | Result  |
| 50               | Normal Voltage    | 0.0013                              | PASS    |
| 40               | Normal Voltage    | 0.0007                              |         |
| 30               | Normal Voltage    | 0.0014                              |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                              |         |
| 10               | Normal Voltage    | 0.0004                              |         |
| 0                | Normal Voltage    | 0.0004                              |         |
| -10              | Normal Voltage    | 0.0005                              |         |
| -20              | Normal Voltage    | 0.0010                              |         |
| -30              | Normal Voltage    | 0.0005                              |         |
| 20               | Maximum Voltage   | 0.0007                              |         |
| 20               | Normal Voltage    | 0.0000                              |         |
| 20               | Battery End Point | 0.0002                              |         |

**Note:**

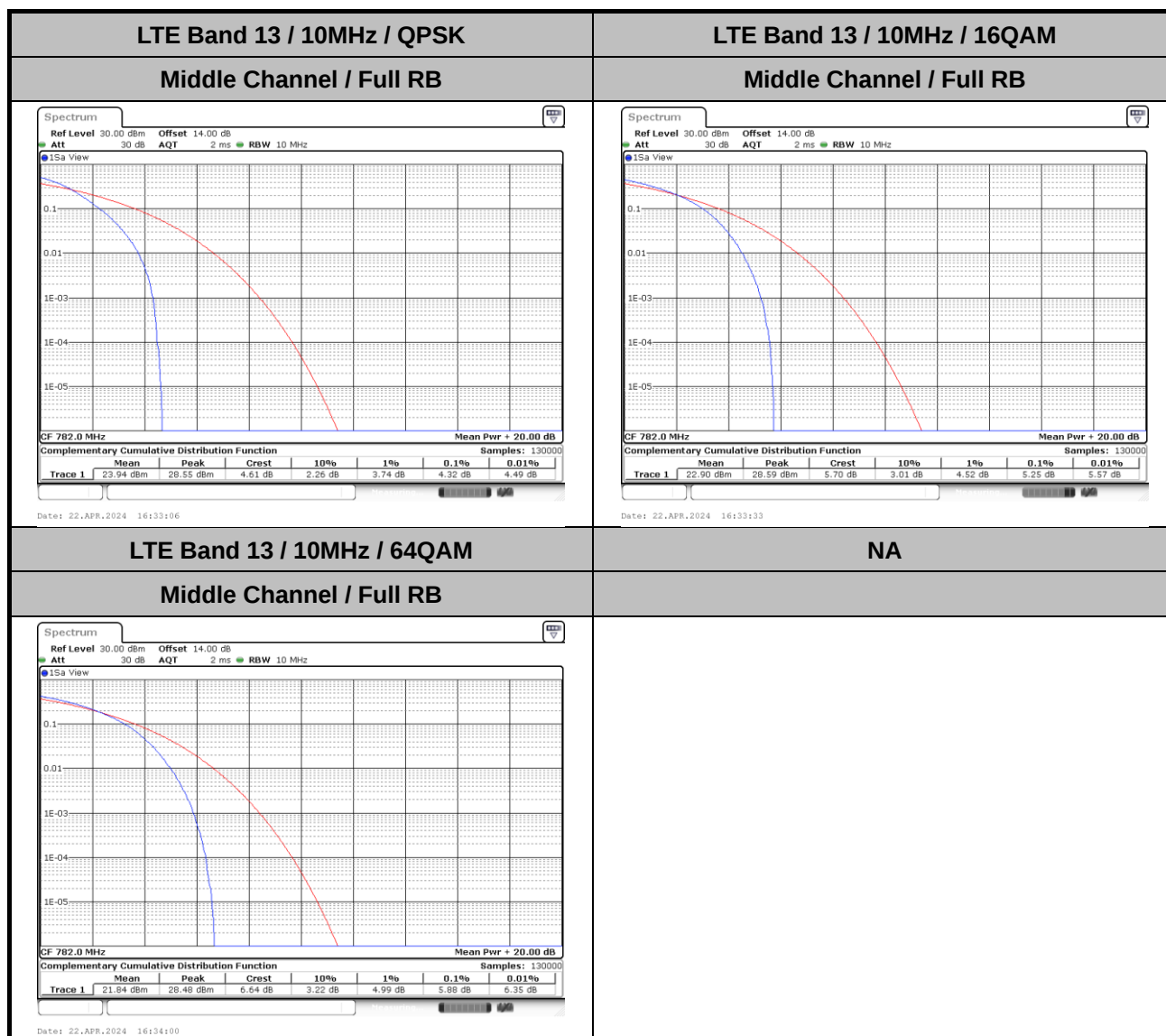
1. Normal Voltage = 3.89 V. ; Battery End Point (BEP) = 3.5 V. ; Maximum Voltage = 4.3 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



## LTE Band 13

## Peak-to-Average Ratio

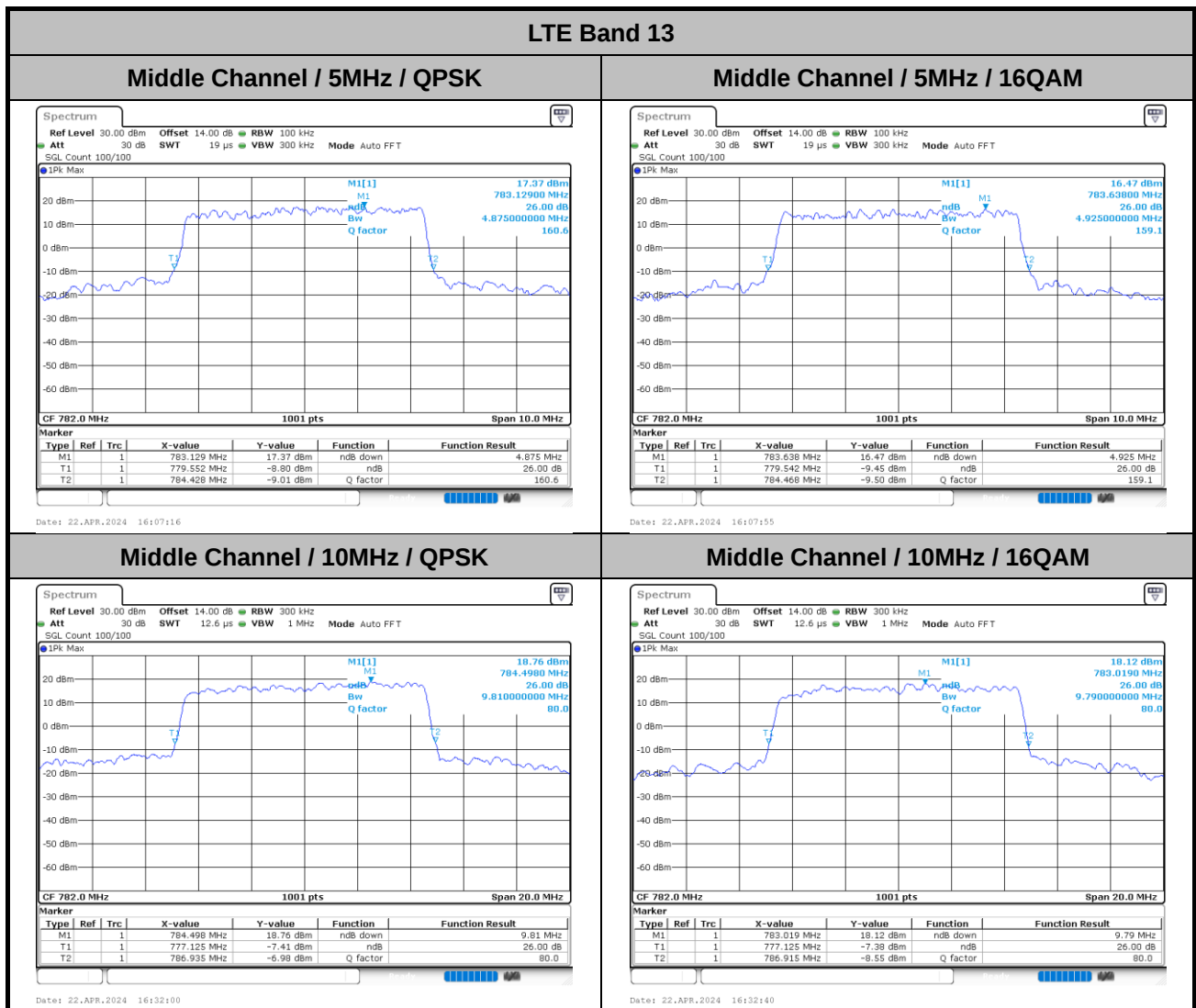
| Mode      | LTE Band 13 / 10MHz |         |         |             |
|-----------|---------------------|---------|---------|-------------|
| Mod.      | QPSK                | 16QAM   | 64QAM   | Limit: 13dB |
| RB Size   | Full RB             | Full RB | Full RB | Result      |
| Middle CH | 4.32                | 5.25    | 5.88    | PASS        |





## 26dB Bandwidth

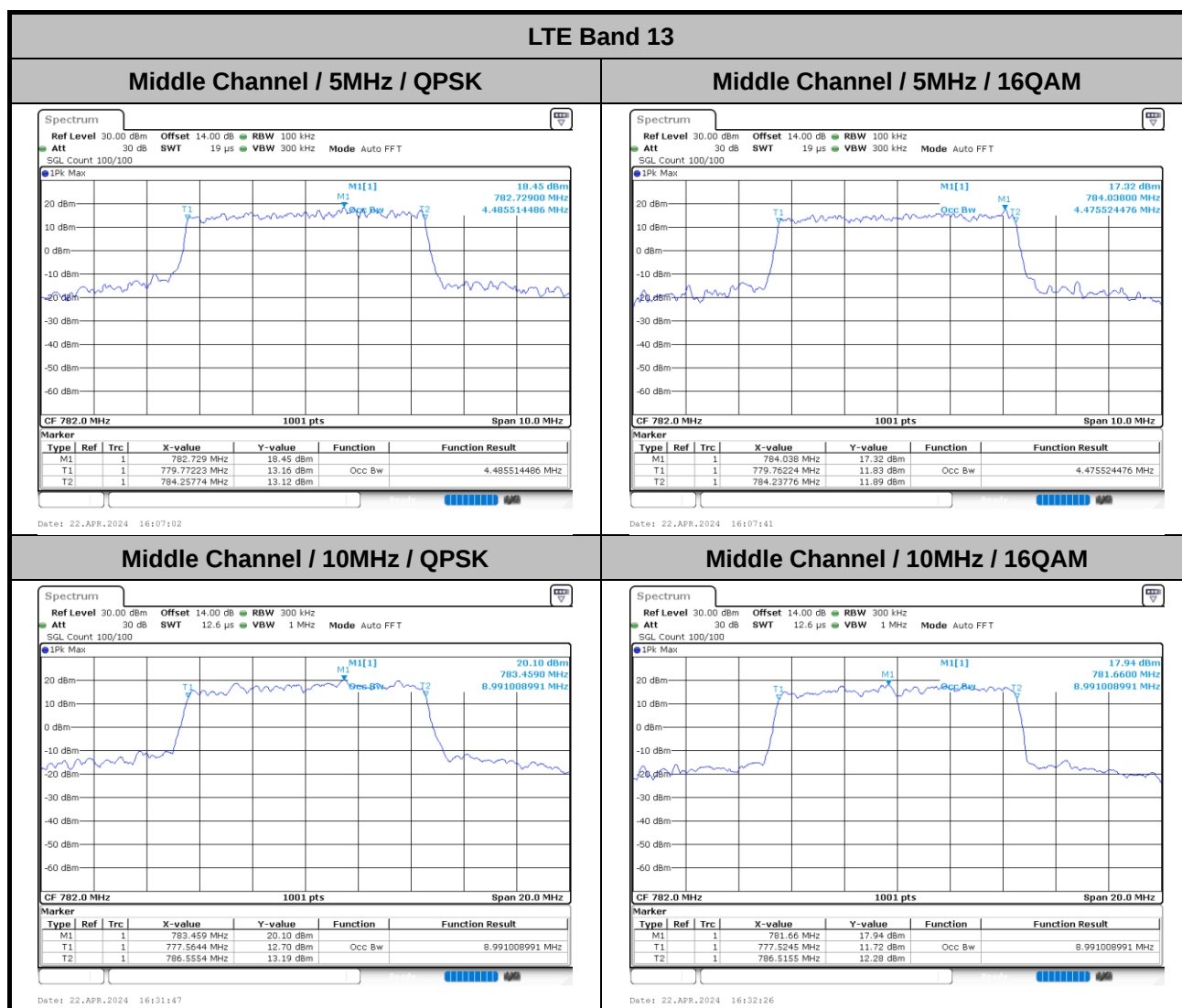
| Mode      | LTE Band 13 : 26dB BW(MHz) |   |   |      |   |   |       |       |      |       |   |   |
|-----------|----------------------------|---|---|------|---|---|-------|-------|------|-------|---|---|
| BW        | -                          |   |   | 5MHz |   |   | 10MHz |       |      | -     |   |   |
| Mod.      | -                          | - | - | -    | - | - | QPSK  | 16QAM | QPSK | 16QAM | - | - |
| Middle CH | -                          | - | - | -    | - | - | 4.88  | 4.93  | 9.81 | 9.79  | - | - |





## Occupied Bandwidth

| Mode      | LTE Band 13 : 99%OBW(MHz) |   |   |      |      |       |       |       |   |   |   |   |
|-----------|---------------------------|---|---|------|------|-------|-------|-------|---|---|---|---|
| BW        | -                         |   |   | 5MHz |      |       | 10MHz |       |   | - |   |   |
| Mod.      | -                         | - | - | -    | QPSK | 16QAM | QPSK  | 16QAM | - | - | - | - |
| Middle CH | -                         | - | - | -    | 4.49 | 4.48  | 8.99  | 8.99  | - | - | - | - |

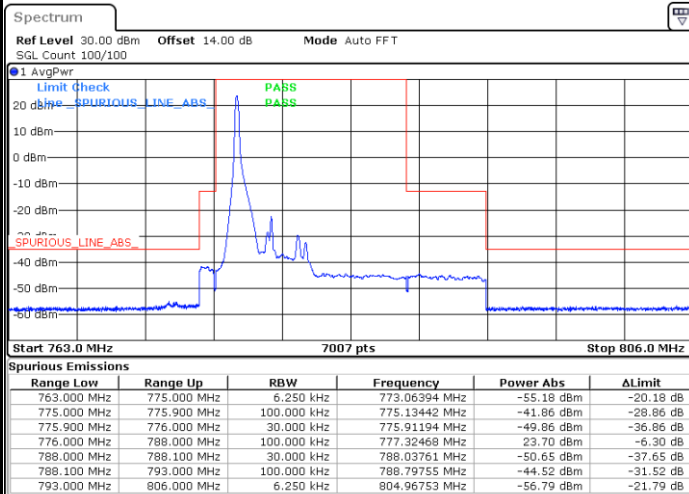




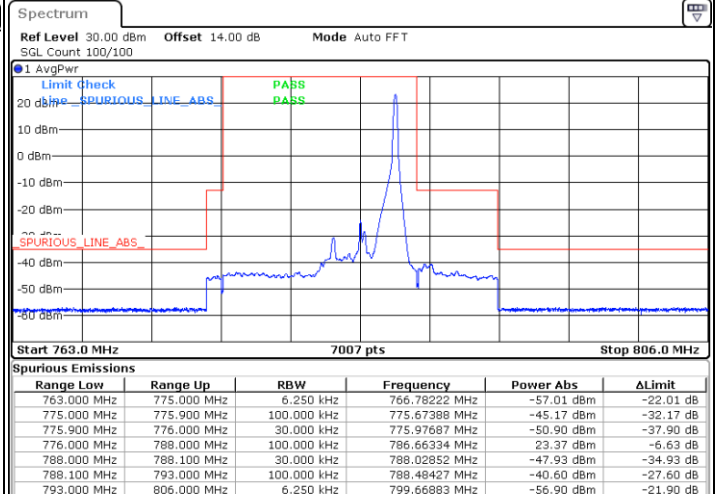
# Conducted Band Edge

## LTE Band 13 / 5MHz / QPSK

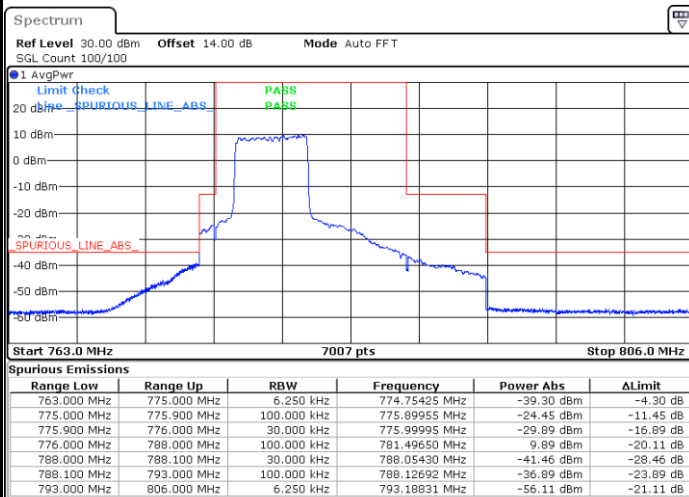
### Lowest Band Edge / 1 RB



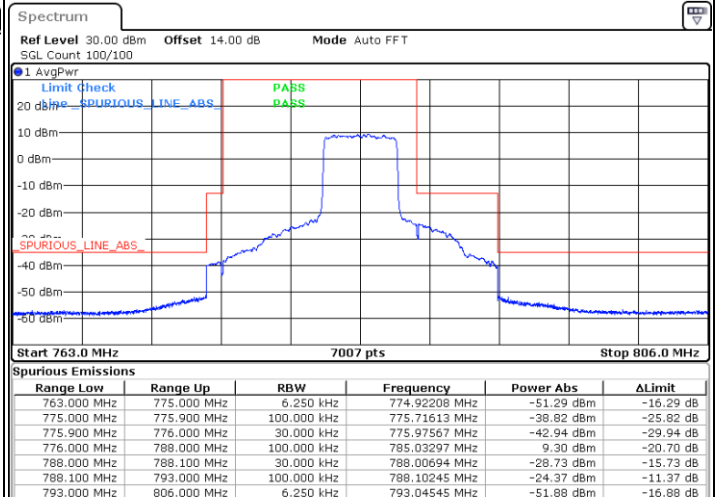
### Highest Band Edge / 1 RB



### Lowest Band Edge / Full RB



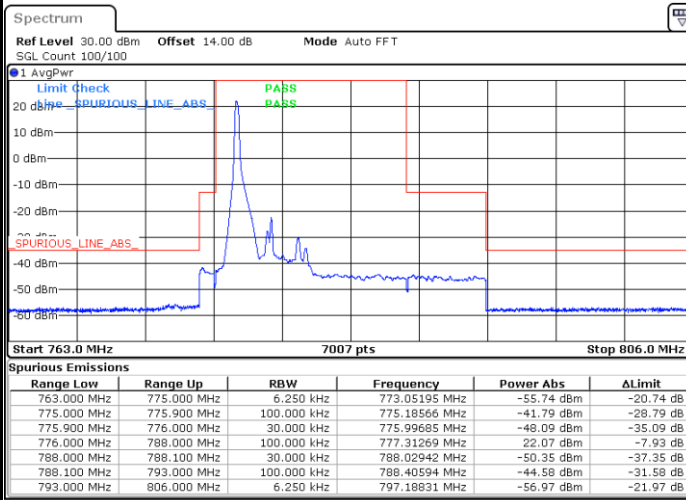
### Highest Band Edge / Full RB





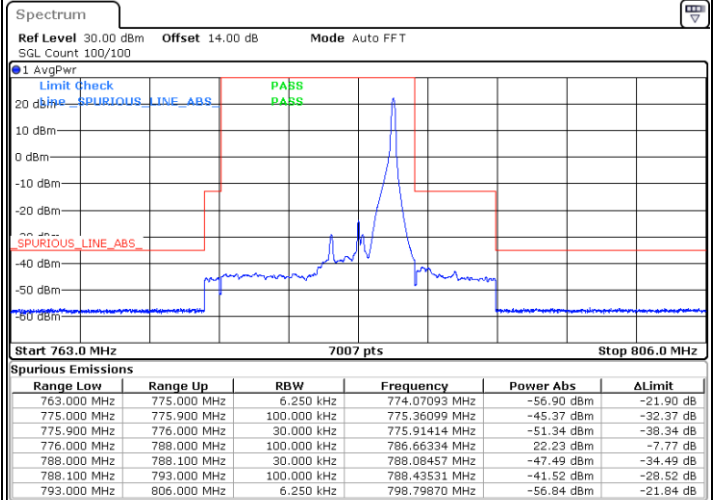
## LTE Band 13 / 5MHz / 16QAM

## Lowest Band Edge / 1 RB



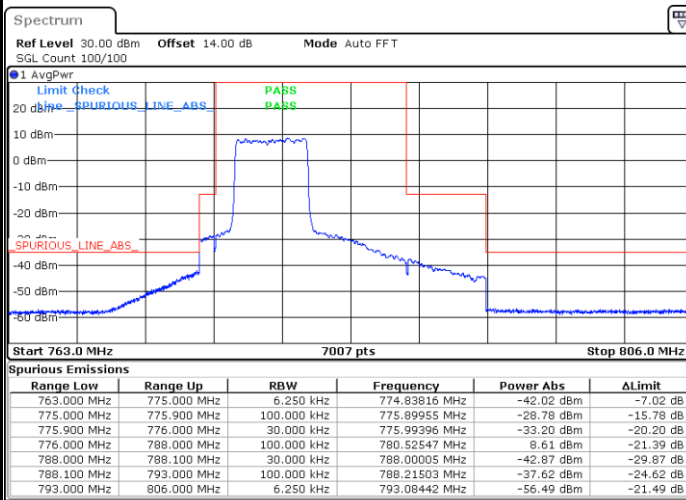
Date: 22.APR.2024 15:58:34

## Highest Band Edge / 1 RB



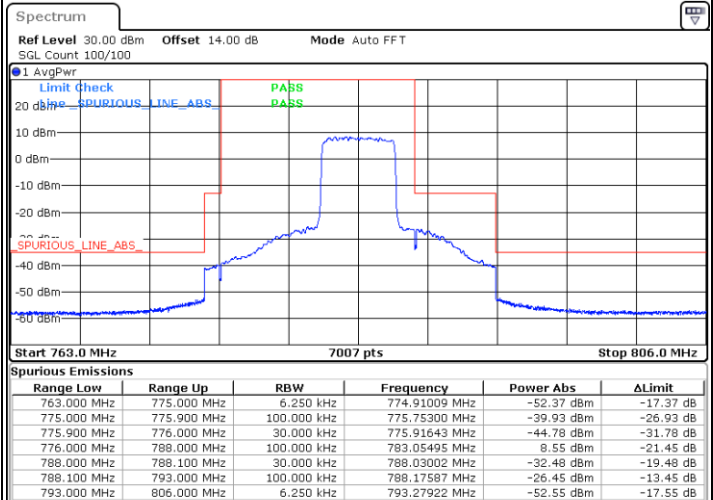
Date: 22.APR.2024 16:10:35

## Lowest Band Edge / Full RB



Date: 22.APR.2024 16:02:36

## Highest Band Edge / Full RB

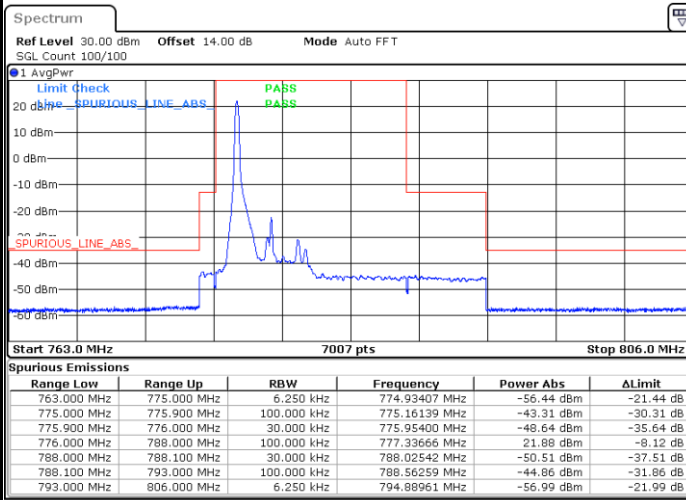


Date: 22.APR.2024 16:14:37



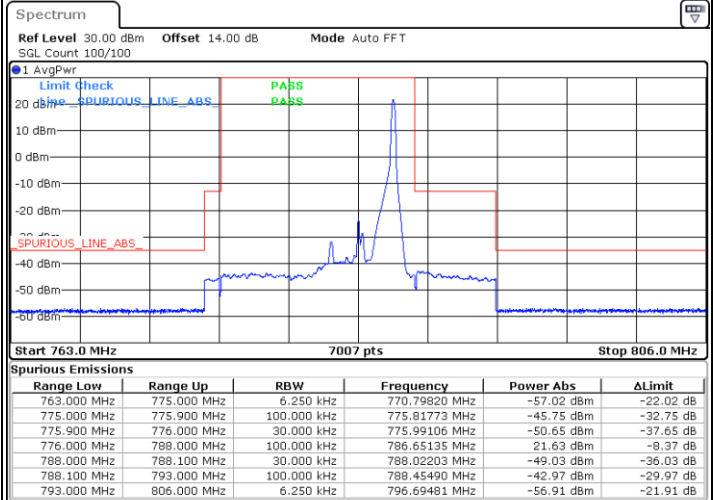
## LTE Band 13 / 5MHz / 64QAM

## Lowest Band Edge / 1 RB



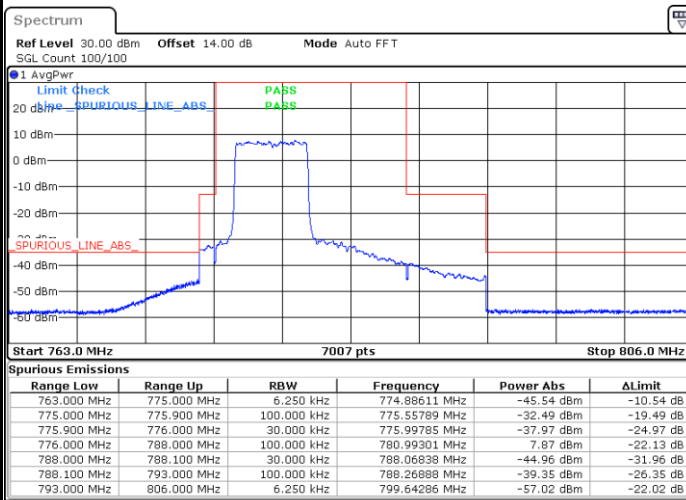
Date: 22.APR.2024 15:59:55

## Highest Band Edge / 1 RB



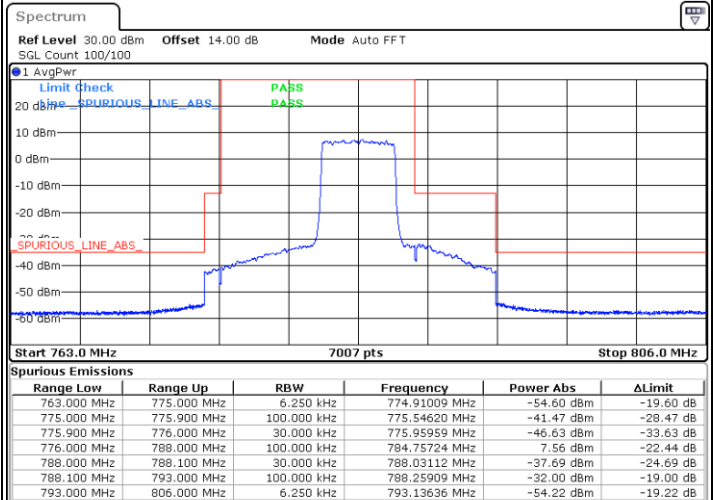
Date: 22.APR.2024 16:11:55

## Lowest Band Edge / Full RB



Date: 22.APR.2024 16:03:57

## Highest Band Edge / Full RB

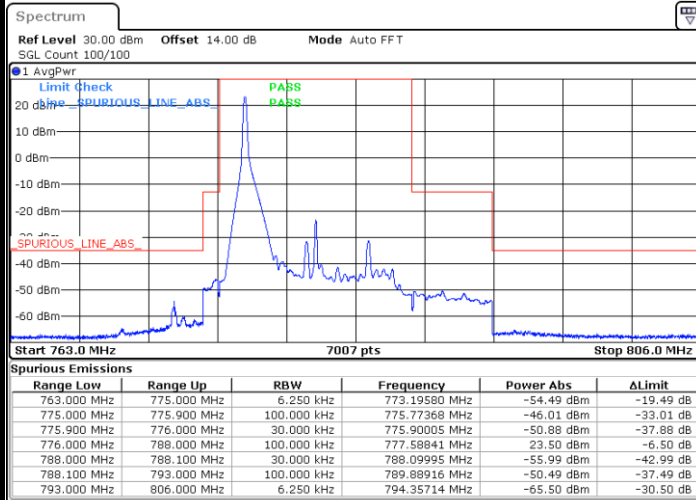


Date: 22.APR.2024 16:15:57



## LTE Band 13 / 10MHz / QPSK

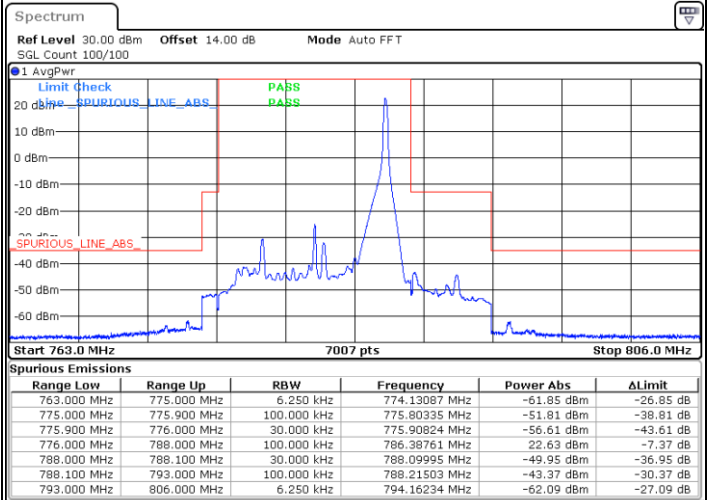
## Band Edge / 1 RB



Date: 22.APR.2024 16:19:20

## LTE Band 13 / 10MHz / QPSK

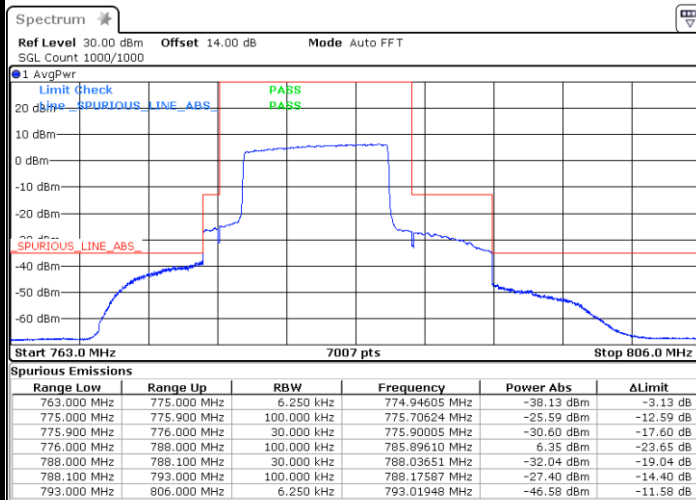
## Band Edge / 1 RB



Date: 22.APR.2024 16:23:21

## LTE Band 13 / 10MHz / QPSK

## Band Edge / Full RB



Date: 23.APR.2024 09:51:50

NA



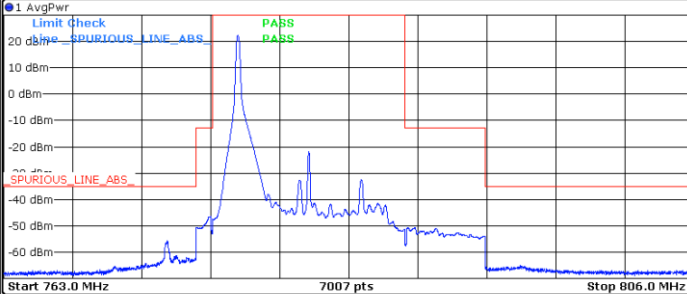
## LTE Band 13 / 10MHz / 16QAM

## Band Edge / 1 RB

## LTE Band 13 / 10MHz / 16QAM

## Band Edge / 1 RB

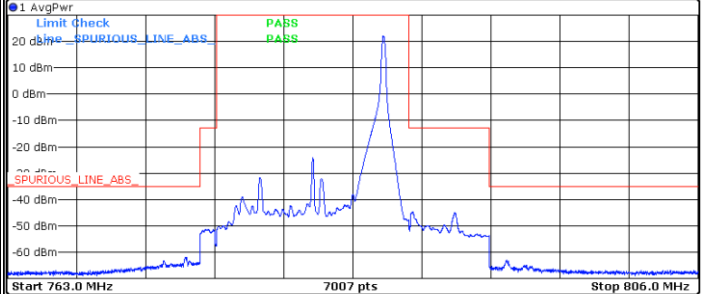
Spectrum

Ref Level 30.00 dBm Offset 14.00 dB Mode Auto FFT  
SGL Count 100/100

| Range Low   | Range Up    | RBW         | Frequency     | Power Abs  | ΔLimit    |
|-------------|-------------|-------------|---------------|------------|-----------|
| 763.000 MHz | 775.000 MHz | 6.250 kHz   | 773.18382 MHz | -55.69 dBm | -20.69 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.89955 MHz | -46.54 dBm | -33.54 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz  | 775.90005 MHz | -50.92 dBm | -37.92 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 777.58841 MHz | 22.30 dBm  | -7.70 dB  |
| 788.000 MHz | 788.100 MHz | 30.000 kHz  | 788.09675 MHz | -55.83 dBm | -42.83 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.18566 MHz | -50.79 dBm | -37.79 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz   | 795.16234 MHz | -65.12 dBm | -30.12 dB |

Date: 22.APR.2024 16:20:40

Spectrum

Ref Level 30.00 dBm Offset 14.00 dB Mode Auto FFT  
SGL Count 100/100

| Range Low   | Range Up    | RBW         | Frequency     | Power Abs  | ΔLimit    |
|-------------|-------------|-------------|---------------|------------|-----------|
| 763.000 MHz | 775.000 MHz | 6.250 kHz   | 774.07093 MHz | -61.90 dBm | -26.90 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.50574 MHz | -51.36 dBm | -38.36 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz  | 775.90724 MHz | -56.53 dBm | -43.53 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 786.38761 MHz | 22.08 dBm  | -7.92 dB  |
| 788.000 MHz | 788.100 MHz | 30.000 kHz  | 788.06439 MHz | -49.91 dBm | -36.91 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.21993 MHz | -44.77 dBm | -31.77 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz   | 794.07143 MHz | -62.94 dBm | -27.94 dB |

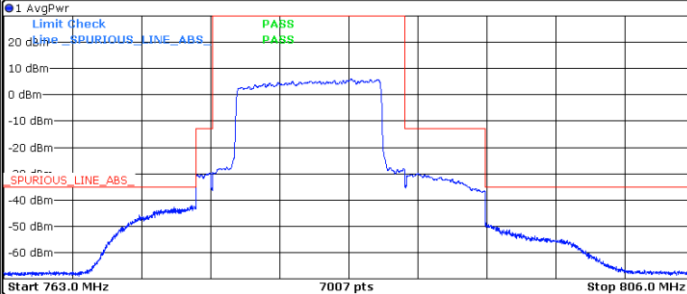
Date: 22.APR.2024 16:24:41

## LTE Band 13 / 10MHz / 16QAM

## Band Edge / Full RB

NA

Spectrum

Ref Level 30.00 dBm Offset 14.00 dB Mode Auto FFT  
SGL Count 100/100

| Range Low   | Range Up    | RBW         | Frequency     | Power Abs  | ΔLimit    |
|-------------|-------------|-------------|---------------|------------|-----------|
| 763.000 MHz | 775.000 MHz | 6.250 kHz   | 774.71828 MHz | -42.06 dBm | -7.06 dB  |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.85010 MHz | -29.69 dBm | -16.69 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz  | 775.90015 MHz | -35.16 dBm | -22.16 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 784.63736 MHz | 6.01 dBm   | -23.99 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz  | 788.06548 MHz | -34.55 dBm | -21.55 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.79755 MHz | -29.96 dBm | -16.96 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz   | 793.04545 MHz | -48.69 dBm | -13.69 dB |

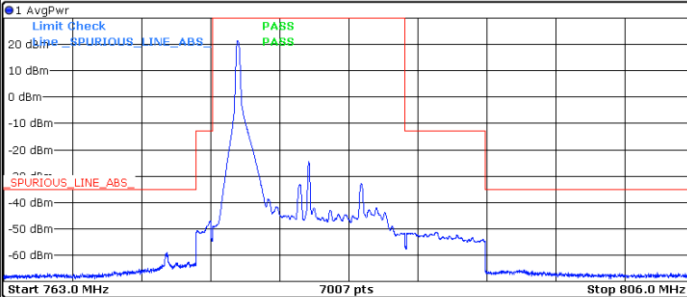
Date: 22.APR.2024 16:28:41



## LTE Band 13 / 10MHz / 64QAM

## Band Edge / 1 RB

Spectrum

Ref Level 30.00 dBm Offset 14.00 dB Mode Auto FFT  
SGL Count 100/100

Start 763.0 MHz 7007 pts Stop 806.0 MHz

Spurious Emissions

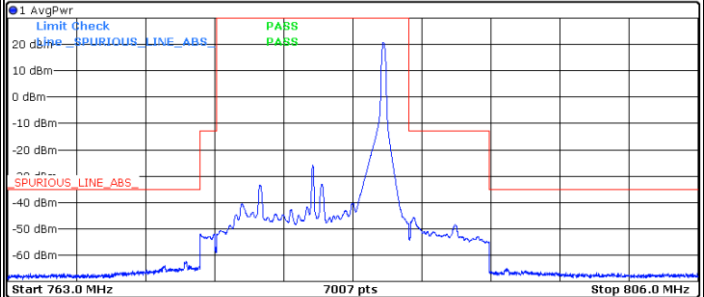
| Range Low   | Range Up    | RBW         | Frequency     | Power Abs  | ΔLimit    |
|-------------|-------------|-------------|---------------|------------|-----------|
| 763.000 MHz | 775.000 MHz | 6.250 kHz   | 773.19580 MHz | -59.11 dBm | -24.11 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.86898 MHz | -46.93 dBm | -33.93 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz  | 775.91054 MHz | -53.56 dBm | -40.56 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 777.56444 MHz | 21.47 dBm  | -9.53 dB  |
| 788.000 MHz | 788.100 MHz | 30.000 kHz  | 788.01154 MHz | -56.83 dBm | -43.83 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 789.97238 MHz | -51.39 dBm | -38.39 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz   | 795.37013 MHz | -65.63 dBm | -30.63 dB |

Date: 22.APR.2024 16:22:01

## LTE Band 13 / 10MHz / 64QAM

## Band Edge / 1 RB

Spectrum

Ref Level 30.00 dBm Offset 14.00 dB Mode Auto FFT  
SGL Count 100/100

Start 763.0 MHz 7007 pts Stop 806.0 MHz

Spurious Emissions

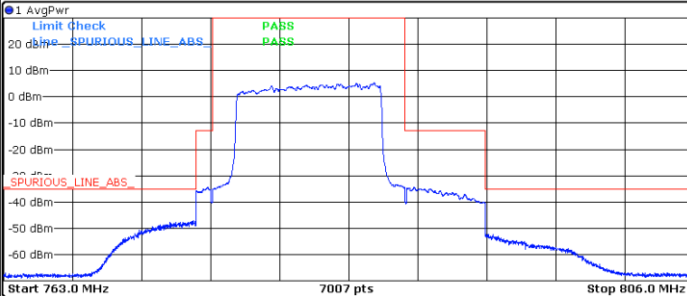
| Range Low   | Range Up    | RBW         | Frequency     | Power Abs  | ΔLimit    |
|-------------|-------------|-------------|---------------|------------|-----------|
| 763.000 MHz | 775.000 MHz | 6.250 kHz   | 774.13087 MHz | -62.23 dBm | -27.23 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.87617 MHz | -52.11 dBm | -39.11 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz  | 775.93302 MHz | -57.01 dBm | -44.01 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 786.38761 MHz | 20.81 dBm  | -9.19 dB  |
| 788.000 MHz | 788.100 MHz | 30.000 kHz  | 788.09426 MHz | -52.25 dBm | -39.25 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.29336 MHz | -45.78 dBm | -32.78 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz   | 794.07143 MHz | -65.07 dBm | -30.07 dB |

Date: 22.APR.2024 16:26:01

## LTE Band 13 / 10MHz / 64QAM

## Band Edge / Full RB

Spectrum

Ref Level 30.00 dBm Offset 14.00 dB Mode Auto FFT  
SGL Count 100/100

Start 763.0 MHz 7007 pts Stop 806.0 MHz

Spurious Emissions

| Range Low   | Range Up    | RBW         | Frequency     | Power Abs  | ΔLimit    |
|-------------|-------------|-------------|---------------|------------|-----------|
| 763.000 MHz | 775.000 MHz | 6.250 kHz   | 774.69816 MHz | -46.93 dBm | -11.93 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.69366 MHz | -34.57 dBm | -21.57 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz  | 775.90534 MHz | -39.65 dBm | -26.65 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 786.08791 MHz | 5.27 dBm   | -24.73 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz  | 788.09925 MHz | -39.59 dBm | -26.59 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.56259 MHz | -34.53 dBm | -21.53 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz   | 793.14935 MHz | -52.29 dBm | -17.29 dB |

Date: 22.APR.2024 16:30:01

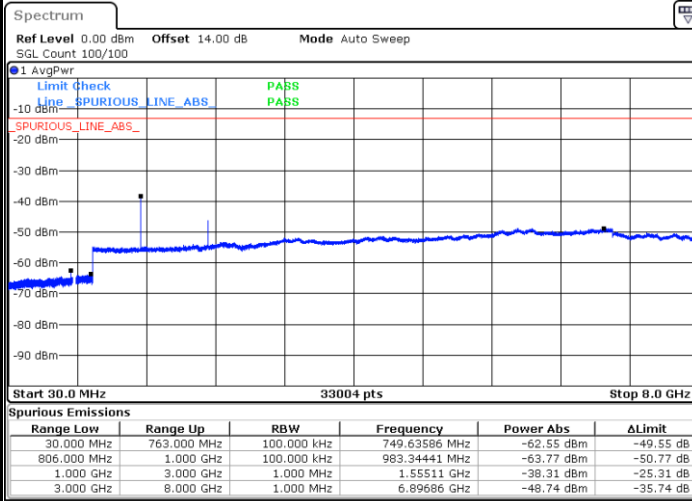
NA



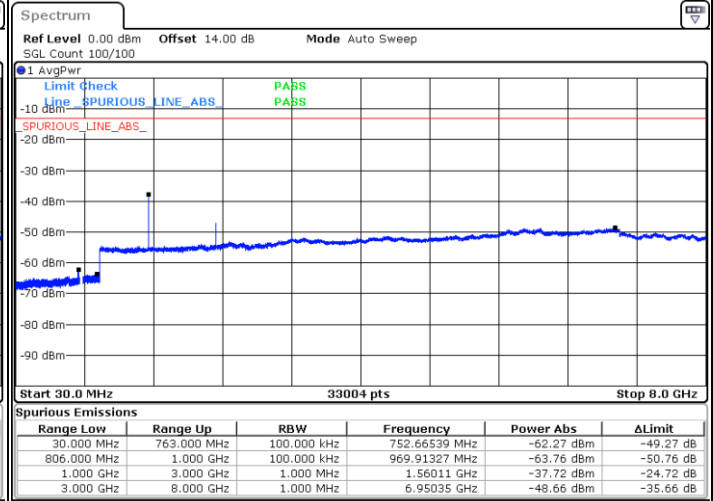
# Conducted Spurious Emission

## LTE Band 13 / 5MHz

### Lowest Channel / QPSK



### Middle Channel / QPSK



### Highest Channel / QPSK

