



**LTE Band 66 / 20MHz**

### Lowest Channel / QPSK

Spectrum  
Ref Level 0.00 dBm Offset 5.60 dB Mode Auto Sweep  
SGL Count 100/100

Start 30.0 MHz 39006 pts Stop 18.0 GHz

| Range Low  | Range Up   | RBW       | Frequency     | Power Abs  | ΔLimit    |
|------------|------------|-----------|---------------|------------|-----------|
| 30.000 MHz | 1.000 GHz  | 1.000 MHz | 965.33983 MHz | -52.62 dBm | -39.62 dB |
| 1.000 GHz  | 1.700 GHz  | 1.000 MHz | 1.69353 GHz   | -50.23 dBm | -37.23 dB |
| 1.790 GHz  | 3.000 GHz  | 1.000 MHz | 2.99940 GHz   | -52.82 dBm | -39.82 dB |
| 3.000 GHz  | 9.000 GHz  | 1.000 MHz | 6.88193 GHz   | -47.99 dBm | -34.99 dB |
| 9.000 GHz  | 13.000 GHz | 1.000 MHz | 12.85177 GHz  | -49.64 dBm | -36.64 dB |
| 13.000 GHz | 18.000 GHz | 1.000 MHz | 16.71698 GHz  | -46.93 dBm | -33.93 dB |

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### Middle Channel / QPSK

Spectrum  
Ref Level 0.00 dBm Offset 5.60 dB Mode Auto Sweep  
SGL Count 100/100

Start 30.0 MHz 39006 pts Stop 18.0 GHz

| Range Low  | Range Up   | RBW       | Frequency     | Power Abs  | ΔLimit    |
|------------|------------|-----------|---------------|------------|-----------|
| 30.000 MHz | 1.000 GHz  | 1.000 MHz | 991.03198 MHz | -52.57 dBm | -39.57 dB |
| 1.000 GHz  | 1.700 GHz  | 1.000 MHz | 1.69843 GHz   | -53.13 dBm | -40.13 dB |
| 1.790 GHz  | 3.000 GHz  | 1.000 MHz | 2.97157 GHz   | -52.92 dBm | -39.92 dB |
| 3.000 GHz  | 9.000 GHz  | 1.000 MHz | 3.47221 GHz   | -46.68 dBm | -33.68 dB |
| 9.000 GHz  | 13.000 GHz | 1.000 MHz | 12.83727 GHz  | -49.58 dBm | -36.58 dB |
| 13.000 GHz | 18.000 GHz | 1.000 MHz | 16.72781 GHz  | -46.76 dBm | -33.76 dB |

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**Highest Channel / QPSK**

Spectrum  
Ref Level 0.00 dBm Offset 5.60 dB Mode Auto Sweep  
SGL Count 100/100

Start 30.0 MHz 39006 pts Stop 18.0 GHz

| Range Low  | Range Up   | RBW       | Frequency     | Power Abs  | ΔLimit    |
|------------|------------|-----------|---------------|------------|-----------|
| 30.000 MHz | 1.000 GHz  | 1.000 MHz | 945.94953 MHz | -52.61 dBm | -39.61 dB |
| 1.000 GHz  | 1.700 GHz  | 1.000 MHz | 1.67744 GHz   | -53.62 dBm | -40.62 dB |
| 1.790 GHz  | 3.000 GHz  | 1.000 MHz | 2.97803 GHz   | -52.60 dBm | -39.60 dB |
| 3.000 GHz  | 9.000 GHz  | 1.000 MHz | 3.52221 GHz   | -46.73 dBm | -33.73 dB |
| 9.000 GHz  | 13.000 GHz | 1.000 MHz | 12.35833 GHz  | -49.84 dBm | -36.84 dB |
| 13.000 GHz | 18.000 GHz | 1.000 MHz | 16.76281 GHz  | -46.89 dBm | -33.89 dB |

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Frequency Stability

| Test Conditions  |                   | LTE Band 66 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|-------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                            | Note 2. |
|                  |                   | Deviation (ppm)                     | Result  |
| 50               | Normal Voltage    | 0.0024                              | PASS    |
| 40               | Normal Voltage    | 0.0021                              |         |
| 30               | Normal Voltage    | 0.0014                              |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                              |         |
| 10               | Normal Voltage    | 0.0024                              |         |
| 0                | Normal Voltage    | 0.0015                              |         |
| -10              | Normal Voltage    | 0.0012                              |         |
| -20              | Normal Voltage    | 0.0027                              |         |
| -30              | Normal Voltage    | 0.0005                              |         |
| 20               | Maximum Voltage   | 0.0015                              |         |
| 20               | Normal Voltage    | 0.0017                              |         |
| 20               | Battery End Point | 0.0006                              |         |

Note:

1. Normal Voltage =3.89 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.48 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

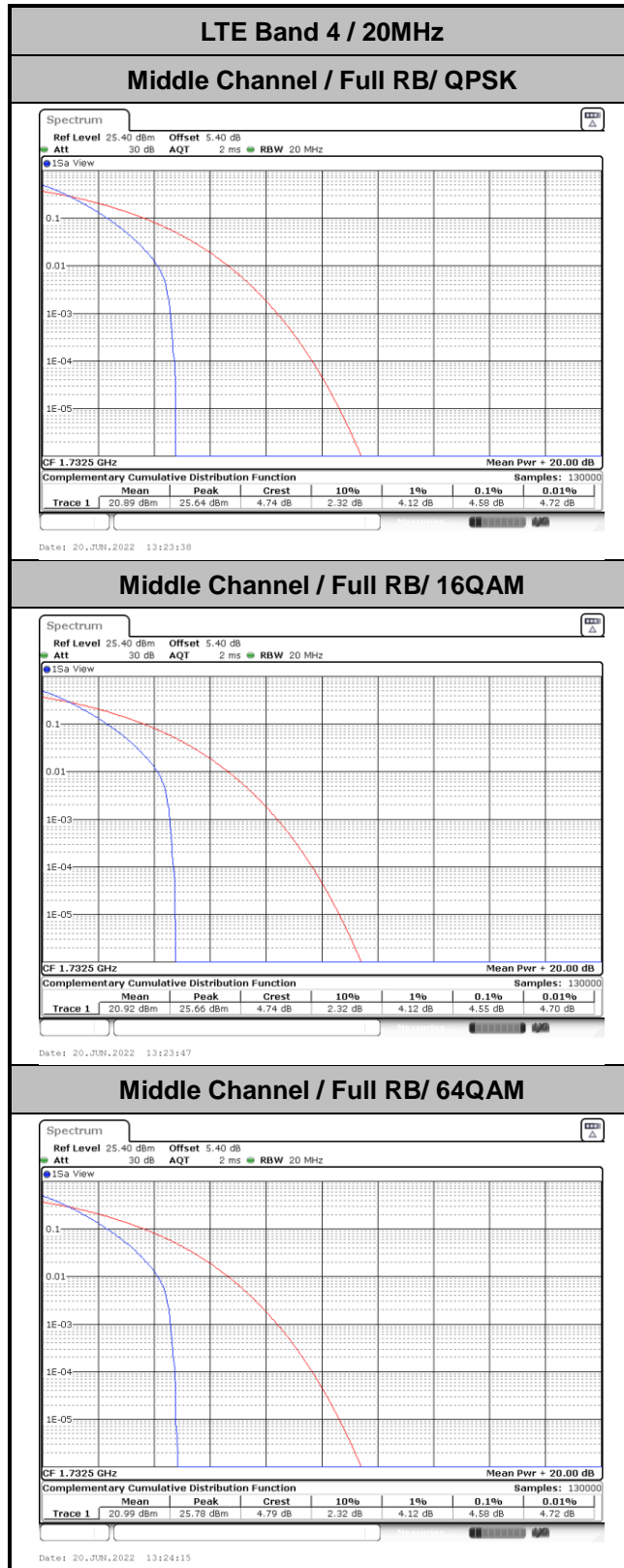


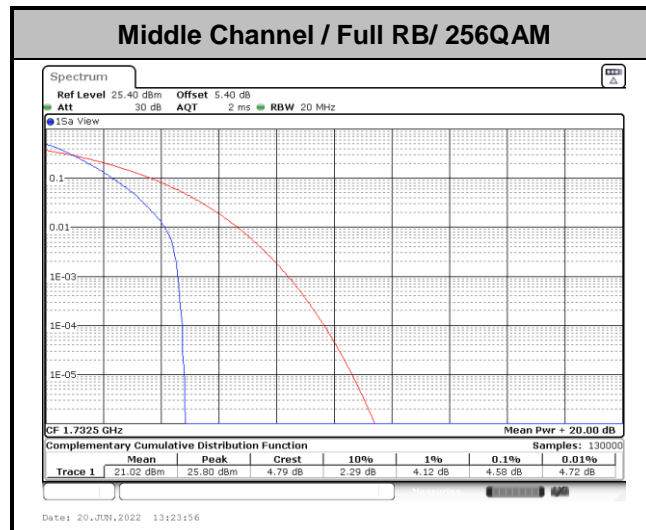
For Other PA:

### LTE Band 4

#### Peak-to-Average Ratio

| Mode      | LTE Band 4 / 20MHz |         |         |         |             |
|-----------|--------------------|---------|---------|---------|-------------|
| Mod.      | QPSK               | 16QAM   | 64QAM   | 256QAM  | Limit: 13dB |
| RB Size   | Full RB            | Full RB | Full RB | Full RB | Result      |
| Middle CH | 4.58               | 4.55    | 4.58    | 4.58    | PASS        |

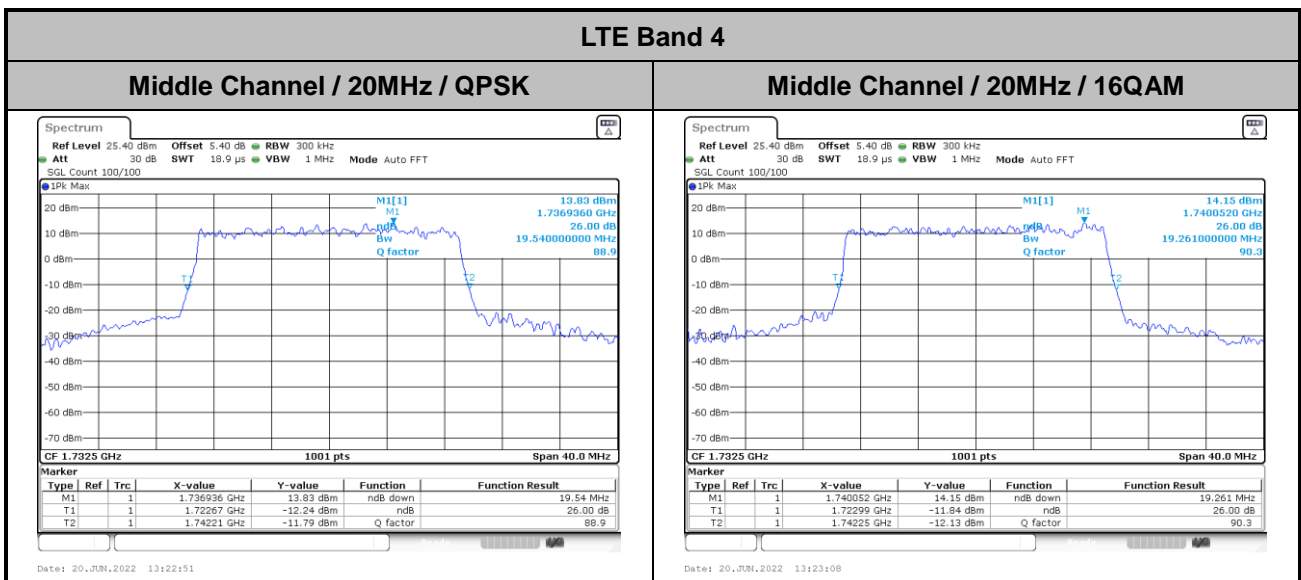






**26dB Bandwidth**

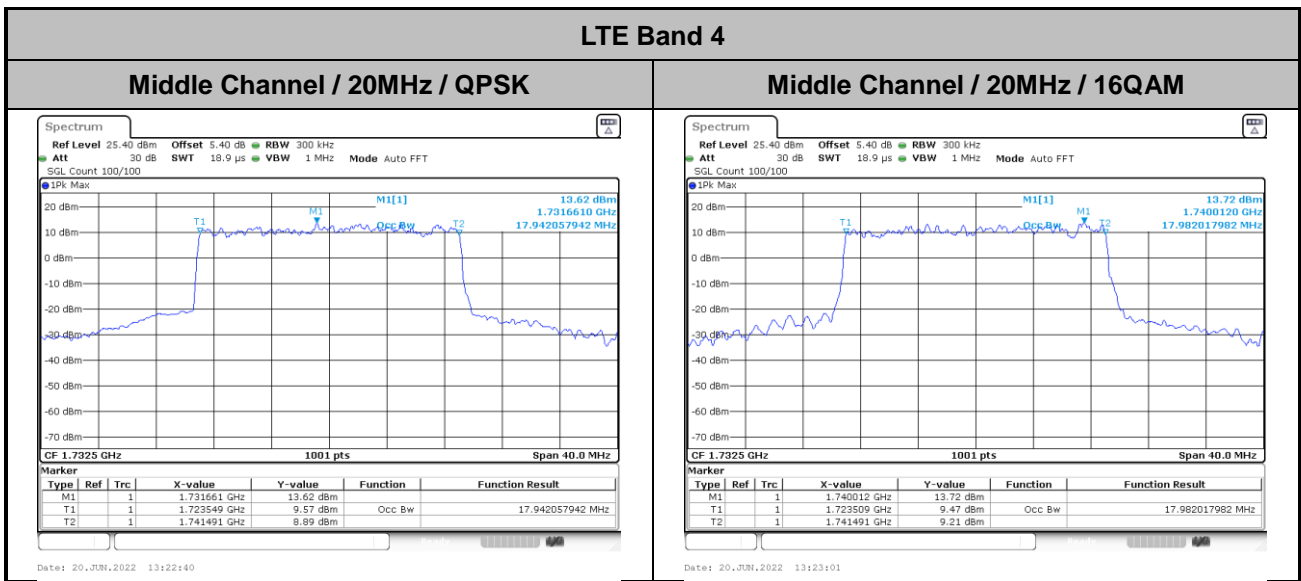
|                  |                                  |              |
|------------------|----------------------------------|--------------|
| <b>Mode</b>      | <b>LTE Band 4 : 26dB BW(MHz)</b> |              |
| <b>BW</b>        | <b>20MHz</b>                     |              |
| <b>Mod.</b>      | <b>QPSK</b>                      | <b>16QAM</b> |
| <b>Middle CH</b> | 19.54                            | 19.26        |





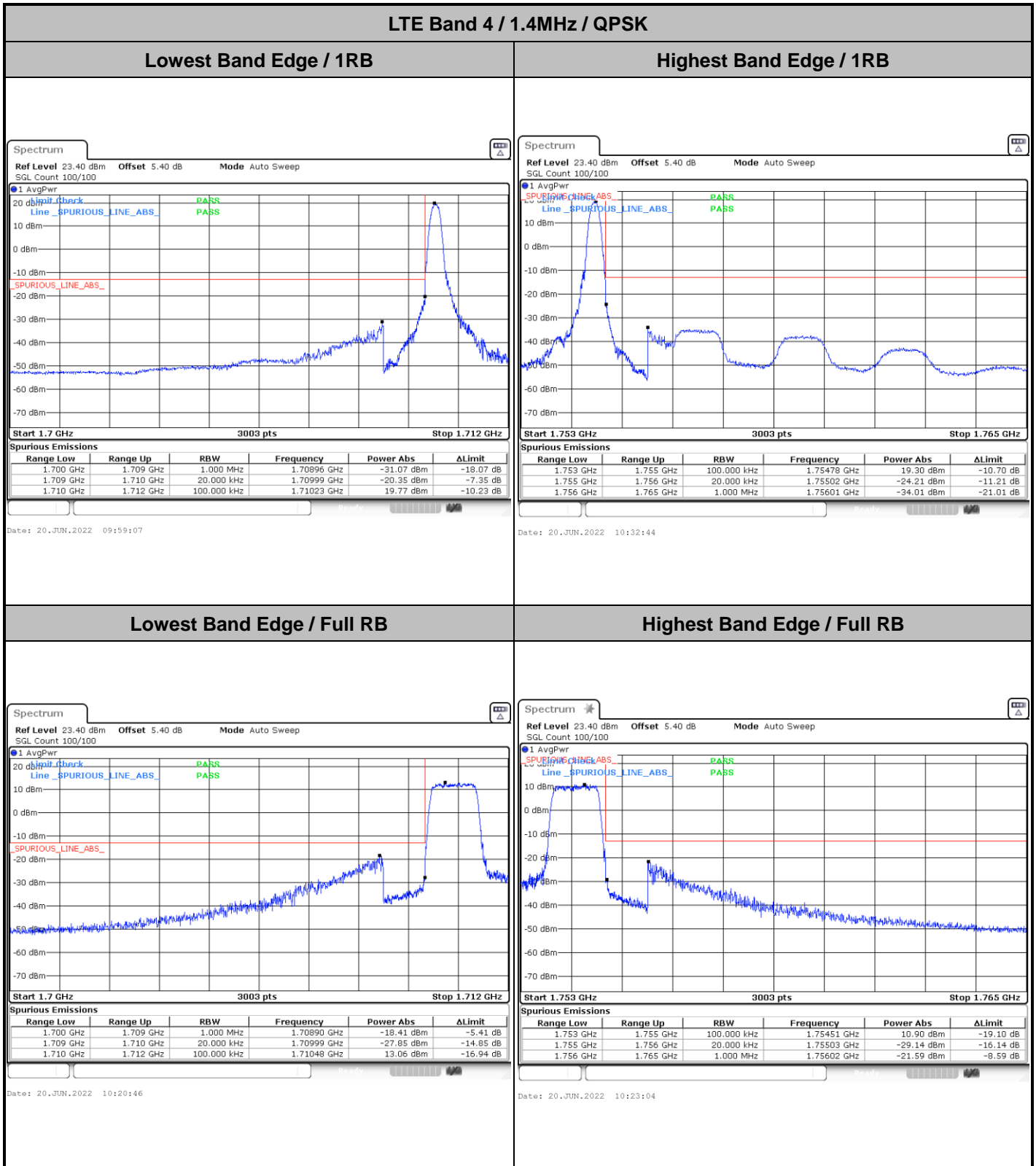
## Occupied Bandwidth

|                  |                                 |              |
|------------------|---------------------------------|--------------|
| <b>Mode</b>      | <b>LTE Band 4 : 99%OBW(MHz)</b> |              |
| <b>BW</b>        | <b>20MHz</b>                    |              |
| <b>Mod.</b>      | <b>QPSK</b>                     | <b>16QAM</b> |
| <b>Middle CH</b> | 17.94                           | 17.98        |





# Conducted Band Edge

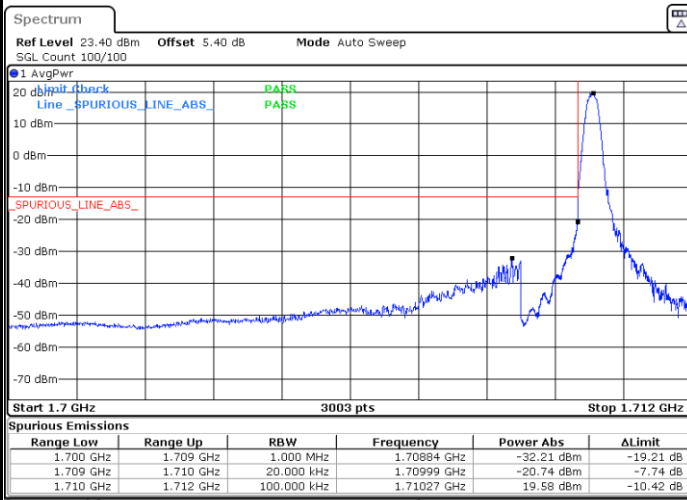






LTE Band 4 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB



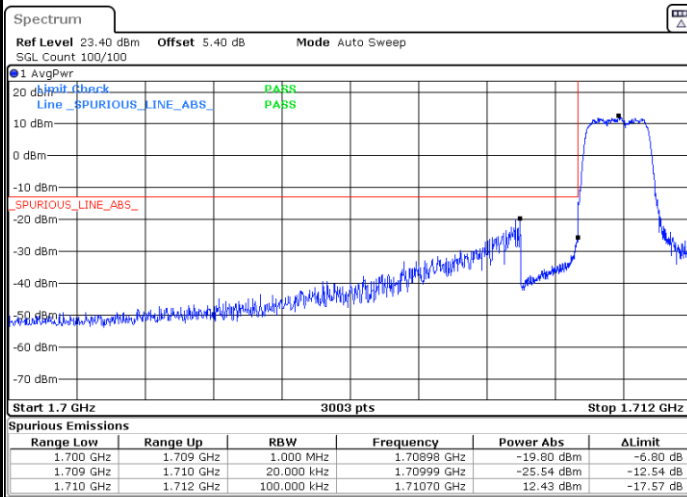
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Highest Band Edge / 1 RB



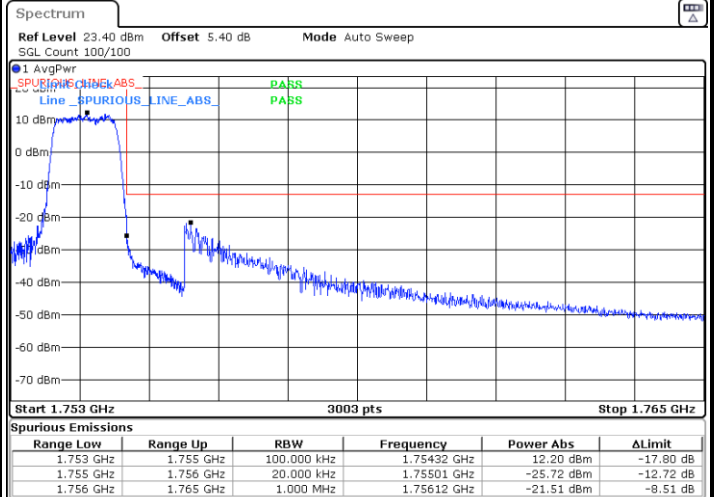
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Lowest Band Edge / Full RB



Date: 20 JUN.2022 10:19:32

Highest Band Edge / Full RB

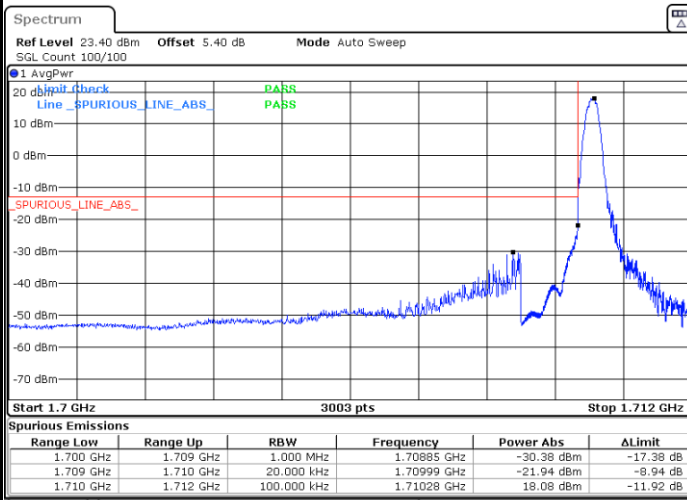


Date: 20 JUN.2022 10:24:20



LTE Band 4 / 1.4MHz / 64QAM

Lowest Band Edge / 1 RB



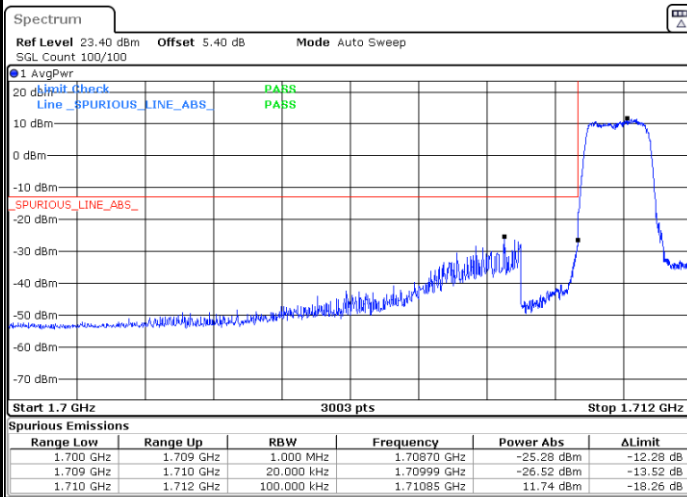
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Highest Band Edge / 1 RB



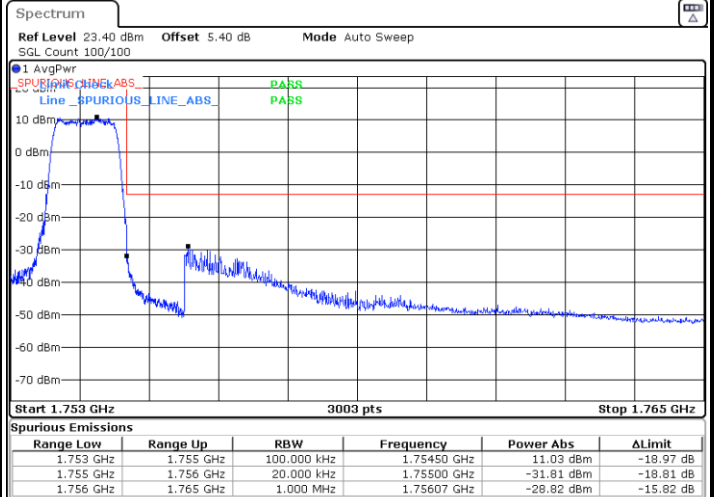
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Lowest Band Edge / Full RB



Date: 20 JUN.2022 10:18:24

Highest Band Edge / Full RB

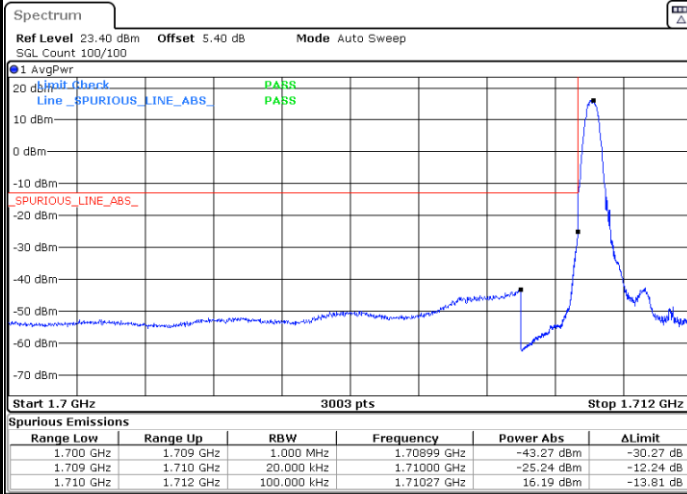


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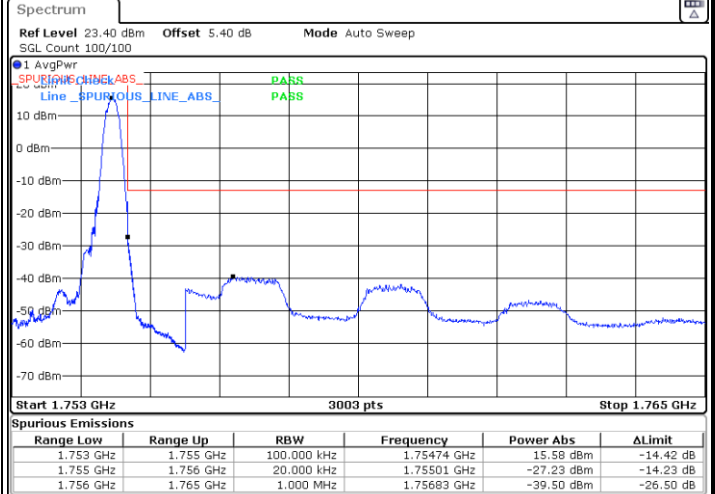
LTE Band 4 / 1.4MHz / 256QAM

Lowest Band Edge / 1 RB



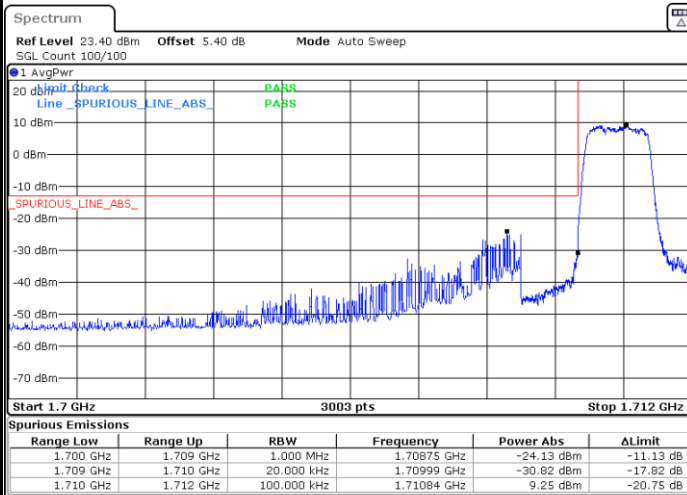
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Highest Band Edge / 1 RB



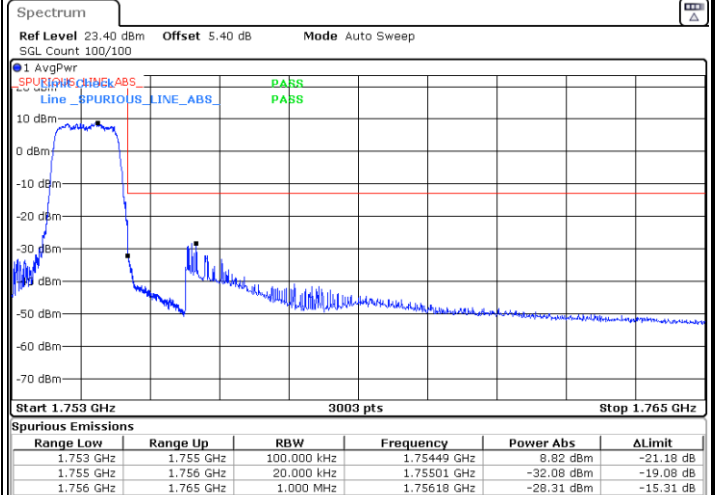
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Lowest Band Edge / Full RB



Date: 20 JUN.2022 10:17:07

Highest Band Edge / Full RB

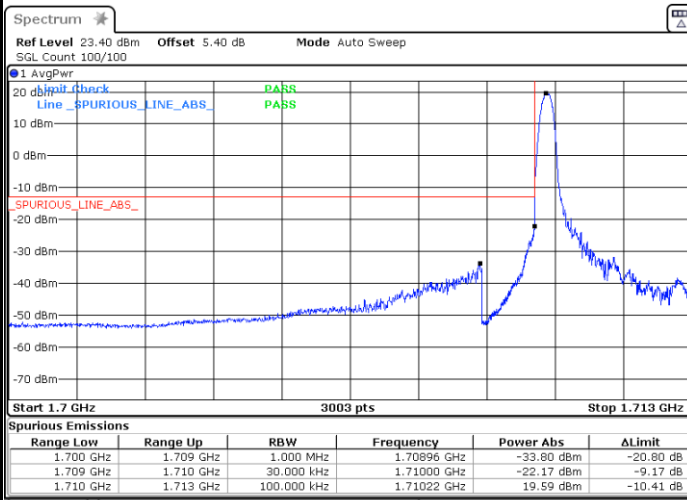


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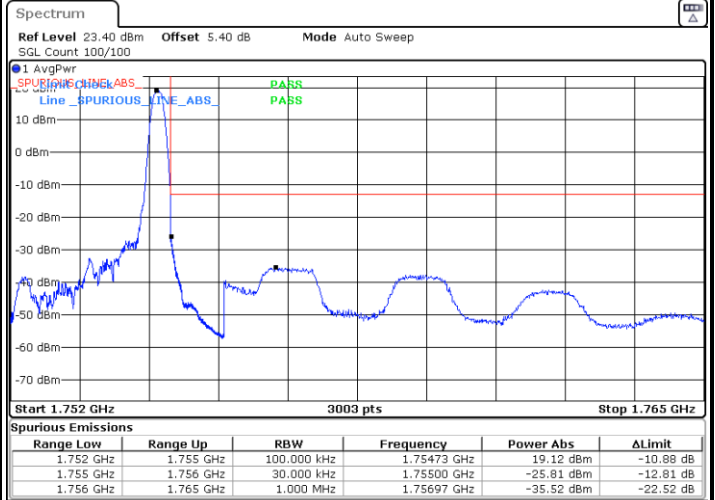
LTE Band 4 / 3MHz / QPSK

Lowest Band Edge / 1RB



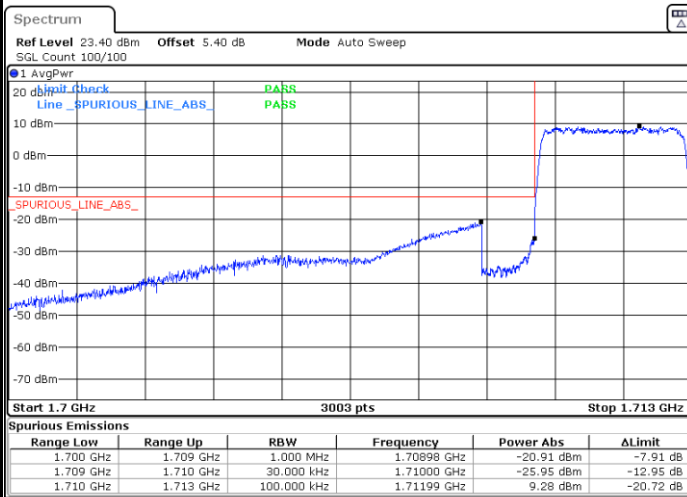
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Highest Band Edge / 1 RB



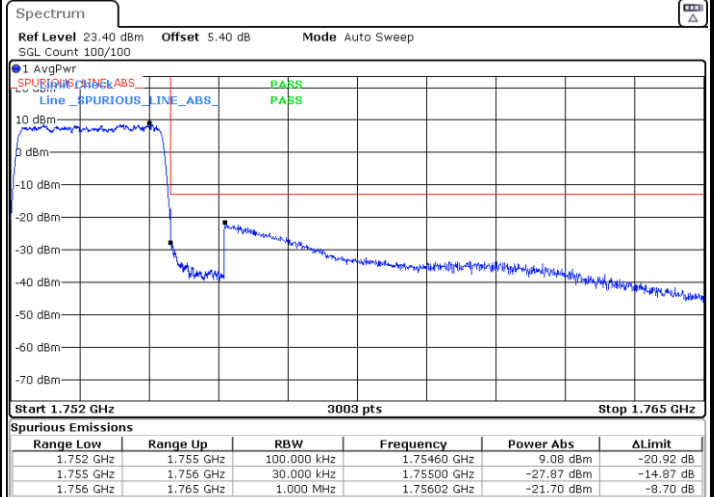
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Lowest Band Edge / Full RB



Date: 20 JUN.2022 10:50:52

Highest Band Edge / Full RB

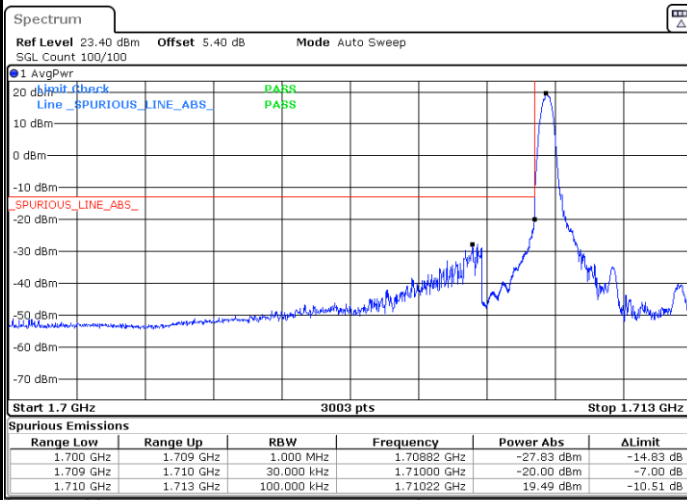


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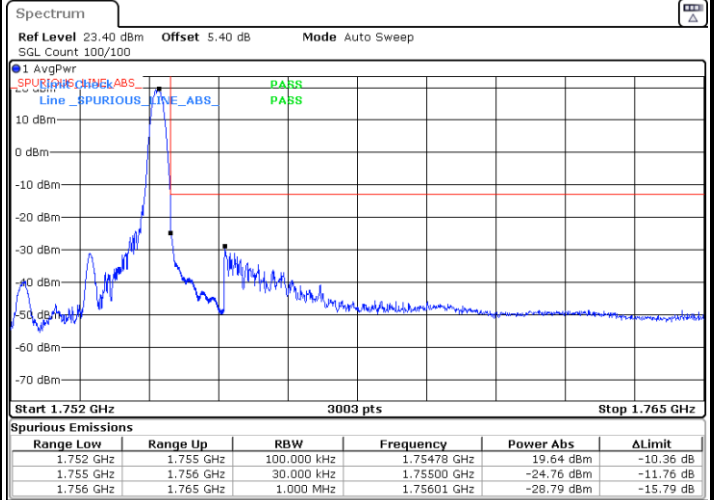


LTE Band 4 / 3MHz / 16QAM

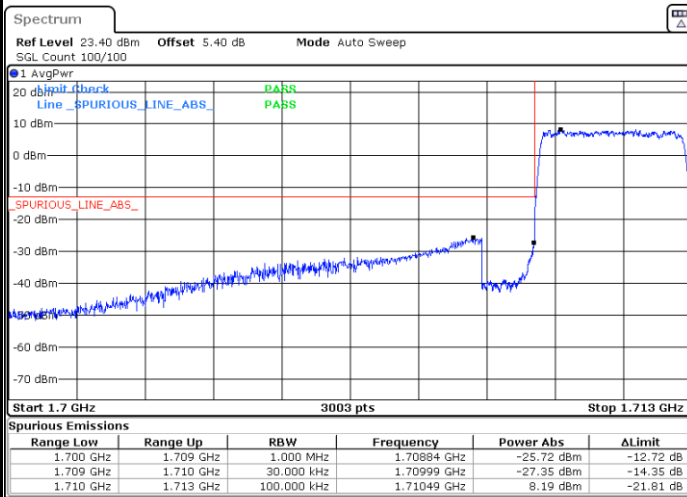
Lowest Band Edge / 1 RB



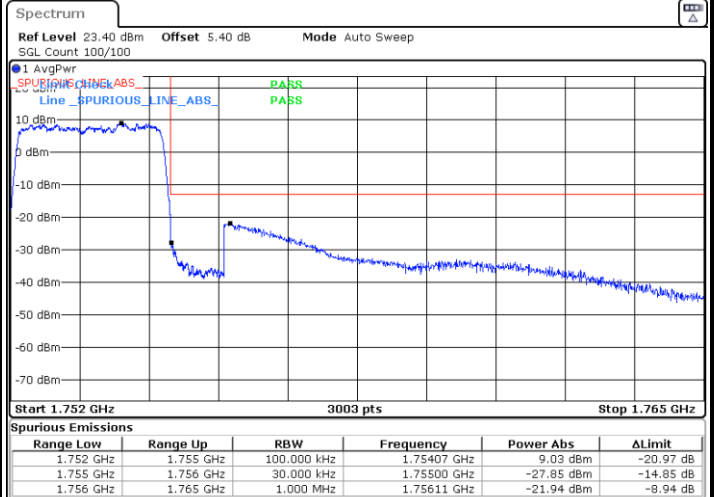
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



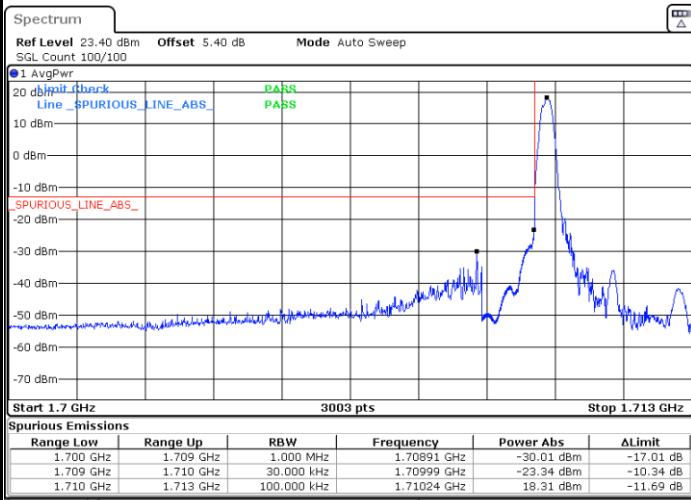
Highest Band Edge / Full RB





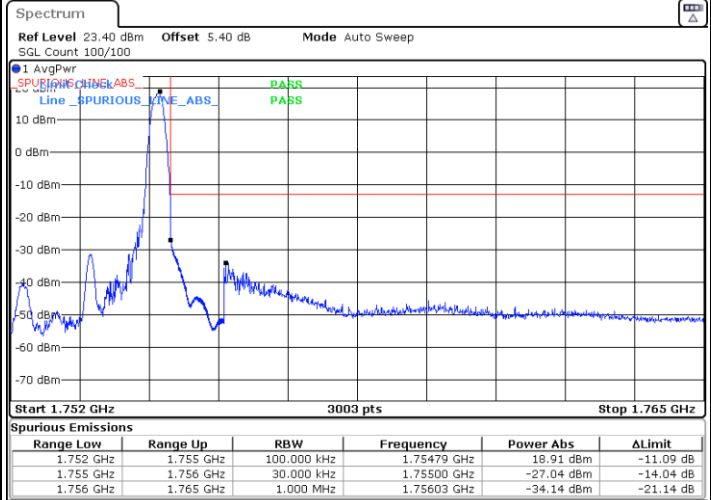
LTE Band 4 / 3MHz / 64QAM

Lowest Band Edge / 1 RB



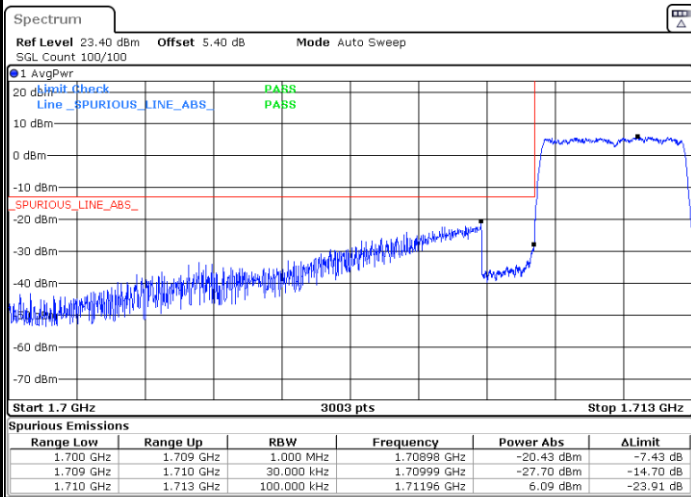
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Highest Band Edge / 1 RB



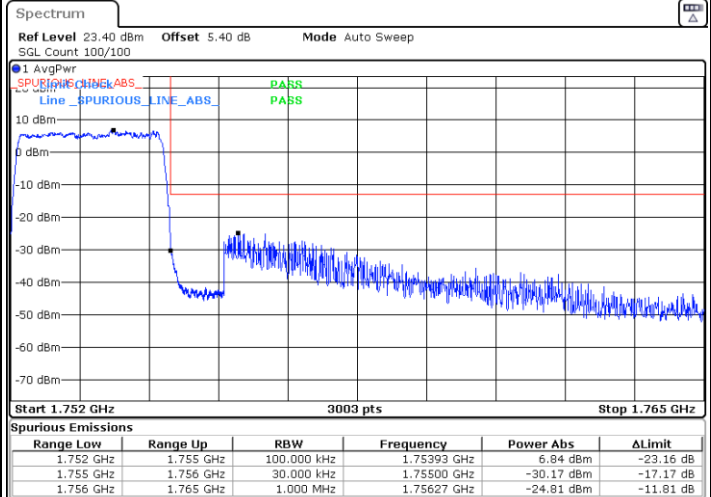
Date: 20 JUN.2022 11:01:30

Lowest Band Edge / Full RB



Date: 20 JUN.2022 10:48:17

Highest Band Edge / Full RB

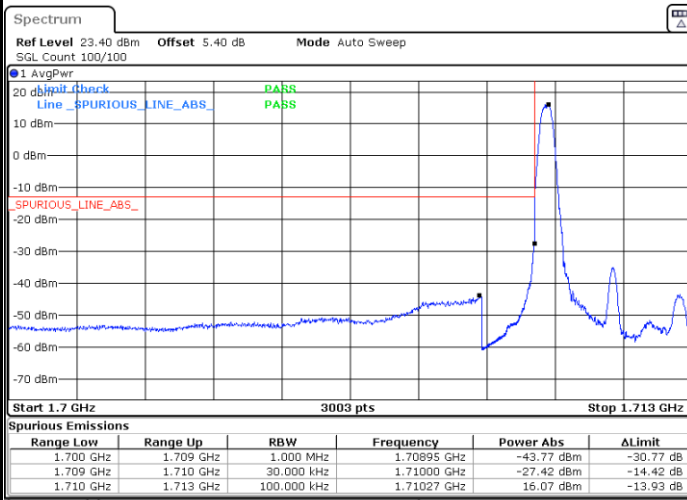


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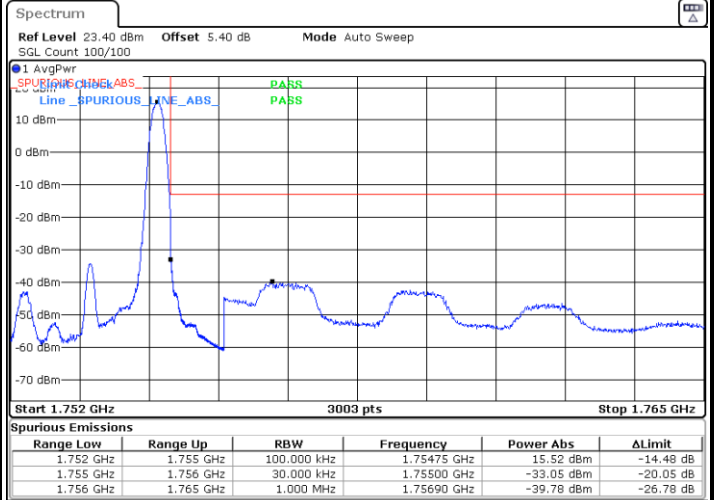
LTE Band 4 / 3MHz / 256QAM

Lowest Band Edge / 1 RB



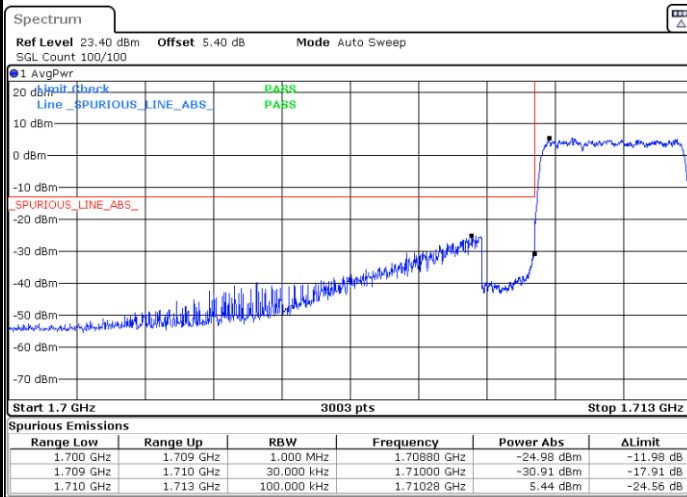
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Highest Band Edge / 1 RB



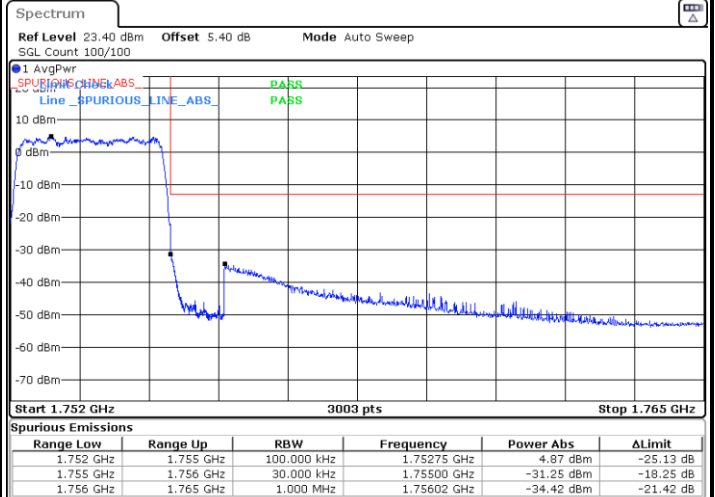
Date: 20 JUN.2022 11:00:22

Lowest Band Edge / Full RB



Date: 20 JUN.2022 10:47:23

Highest Band Edge / Full RB



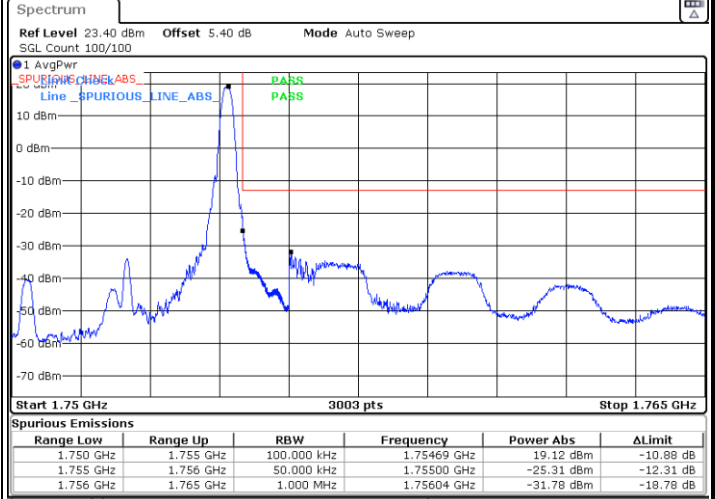
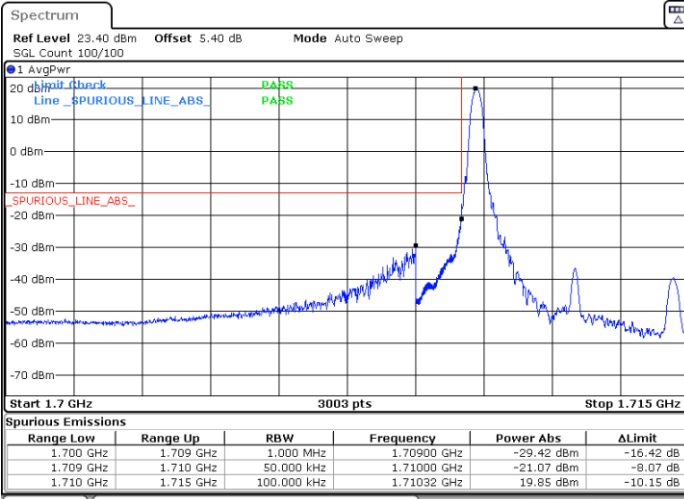
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LTE Band 4 / 5MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

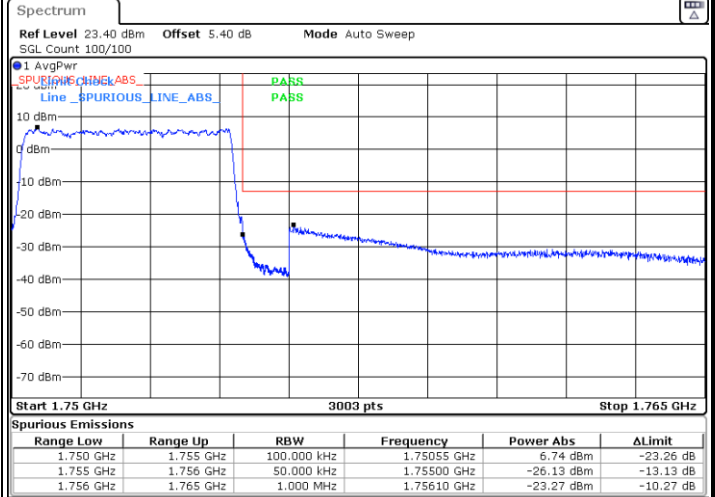
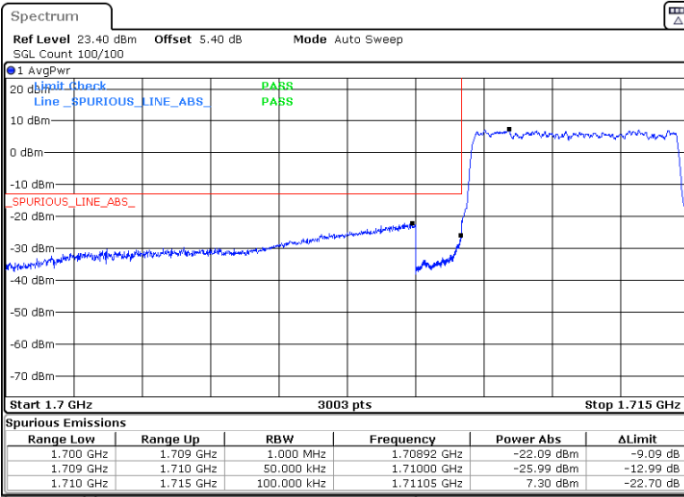


Date: 20 JUN.2022 11:09:43

Date: 20 JUN.2022 11:22:33

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 20 JUN.2022 11:15:47

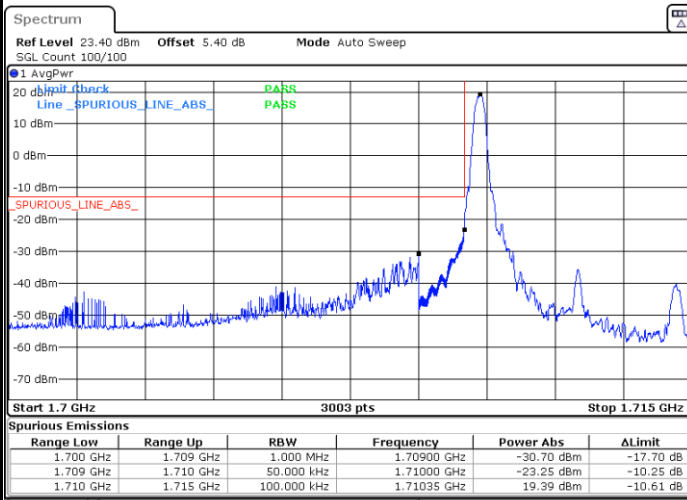
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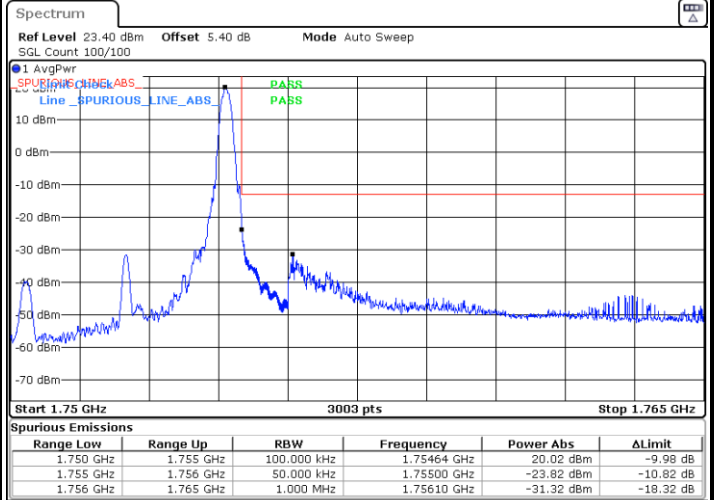


LTE Band 4 / 5MHz / 16QAM

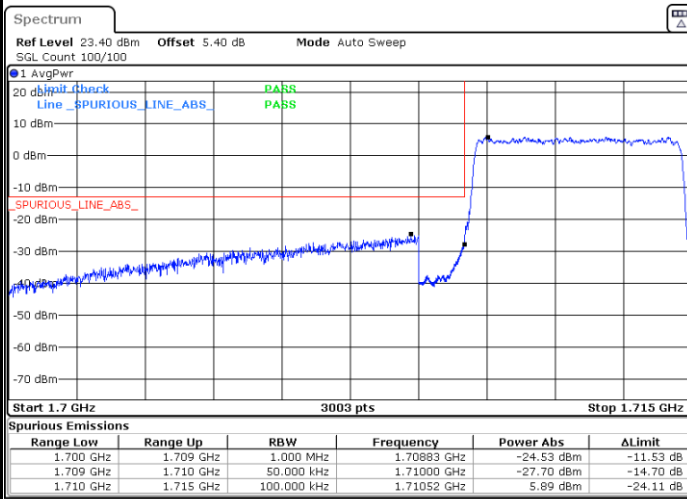
Lowest Band Edge / 1RB



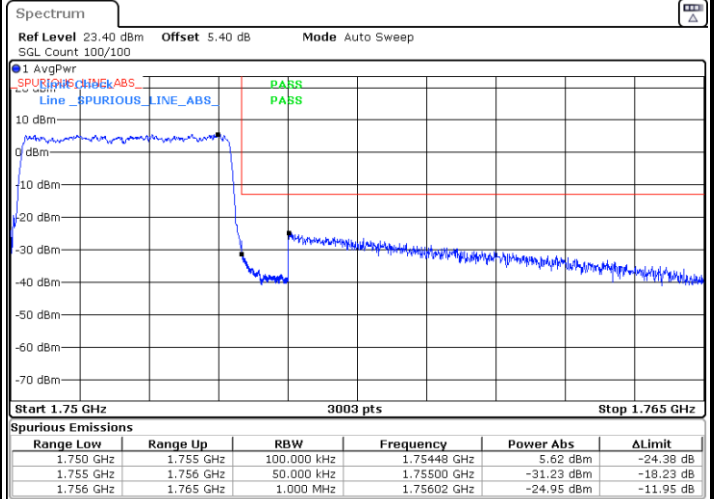
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



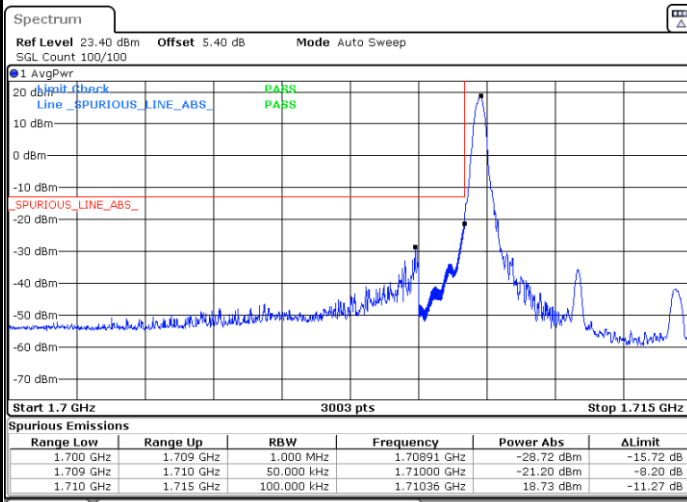
Highest Band Edge / Full RB



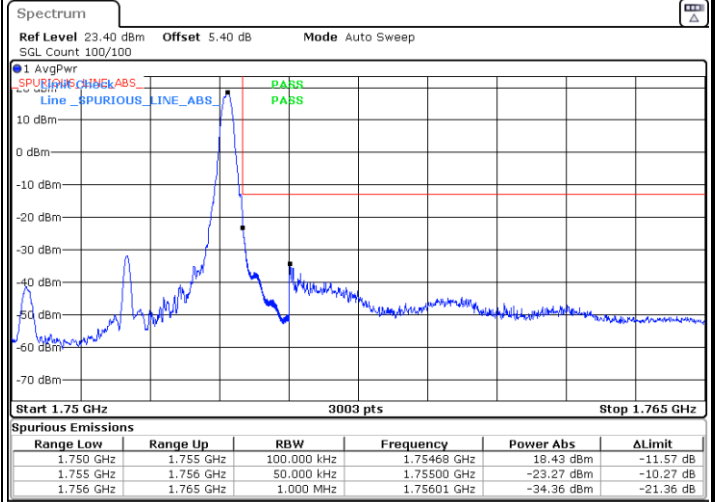


LTE Band 4 / 5MHz / 64QAM

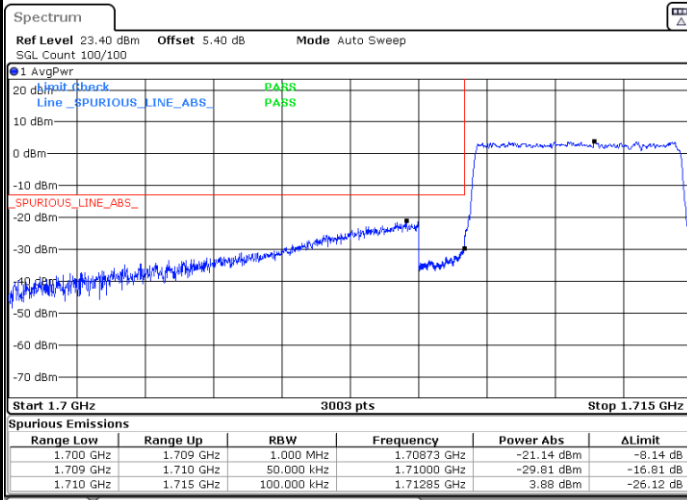
Lowest Band Edge / 1RB



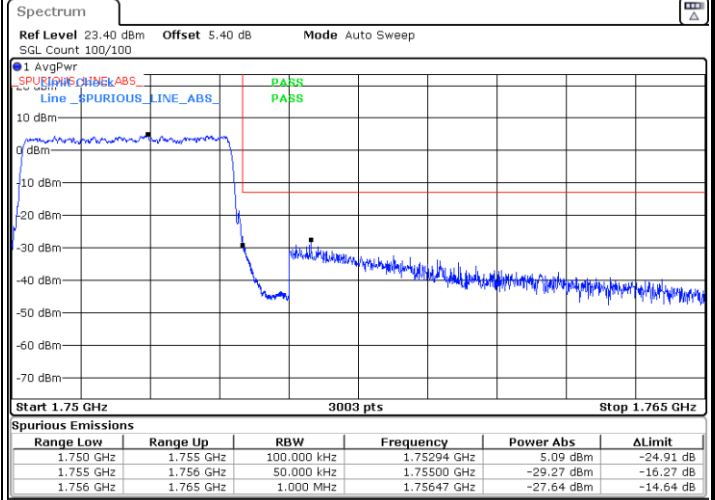
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



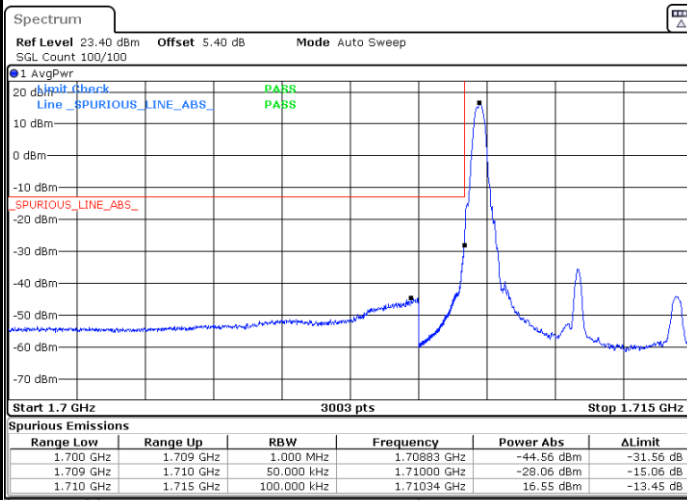
Highest Band Edge / Full RB



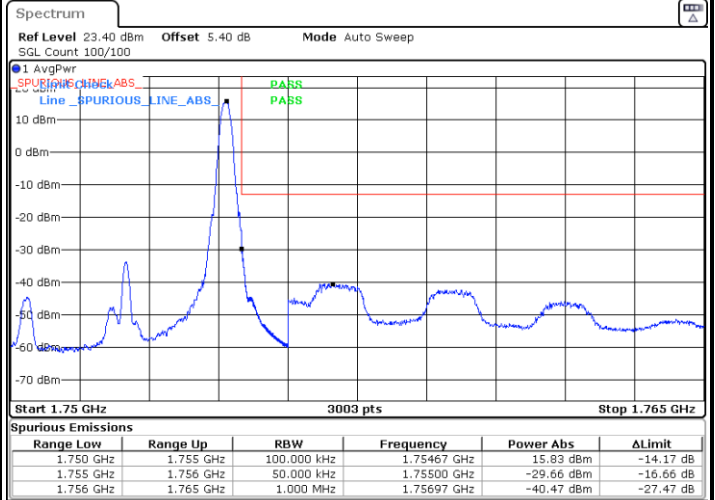


LTE Band 4 / 5MHz / 256QAM

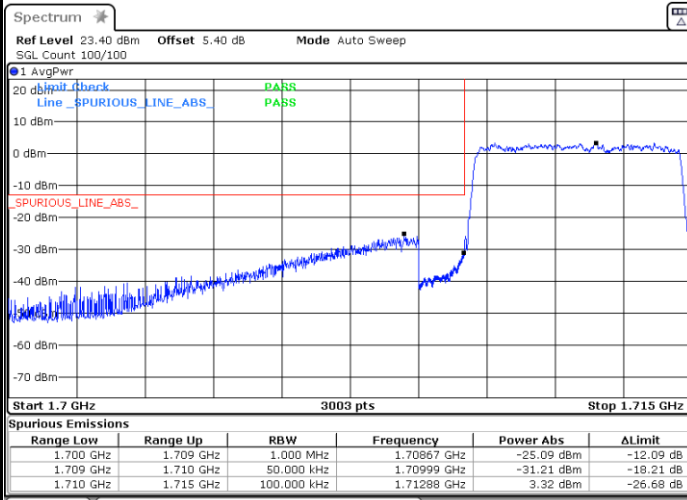
Lowest Band Edge / 1RB



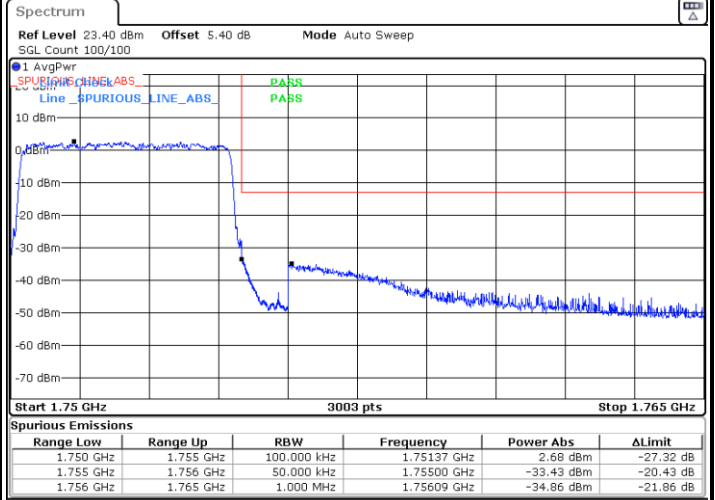
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



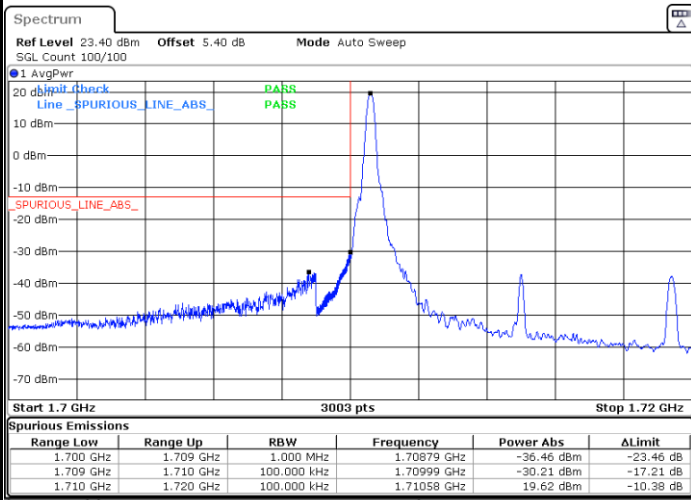
Highest Band Edge / Full RB





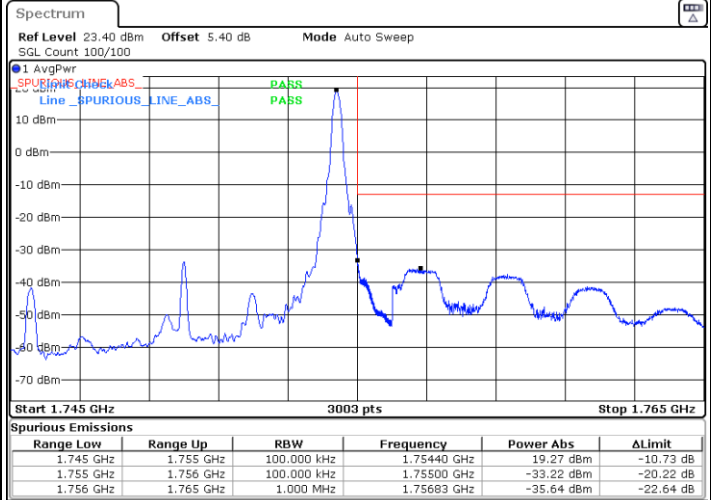
LTE Band 4 / 10MHz / QPSK

Lowest Band Edge / 1 RB



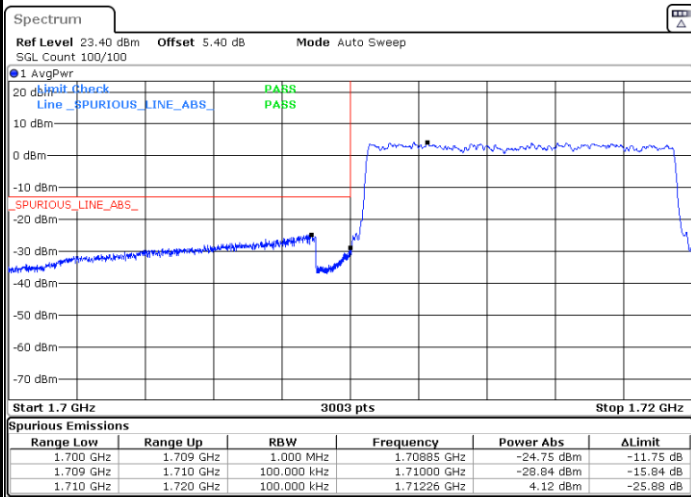
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Highest Band Edge / 1 RB



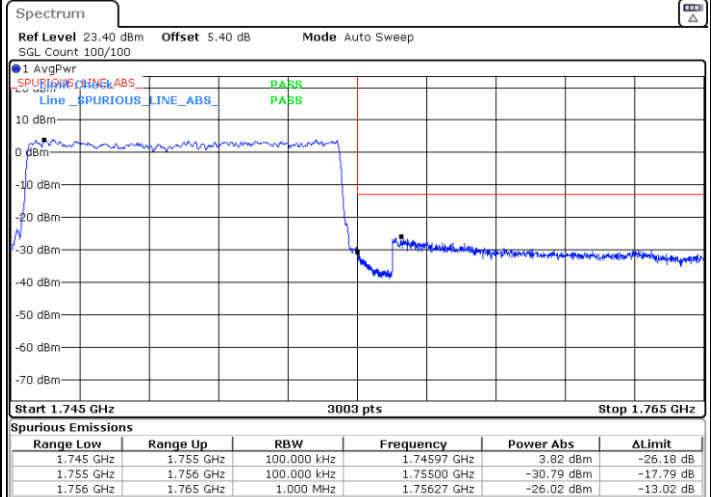
Date: 20 JUN.2022 11:37:22

Lowest Band Edge / Full RB



Date: 20 JUN.2022 11:31:46

Highest Band Edge / Full RB

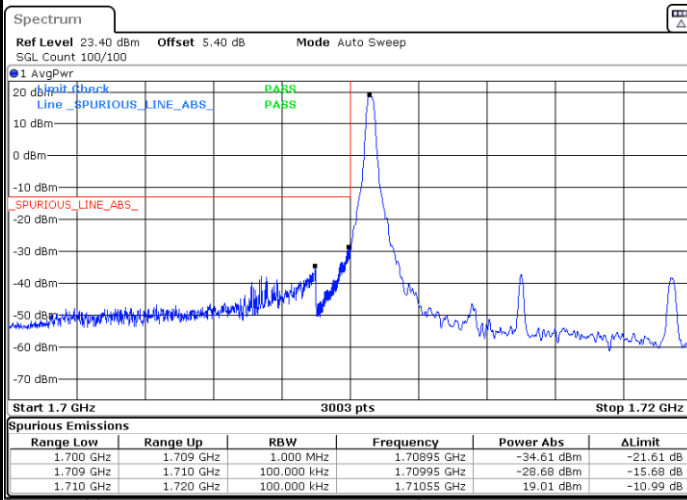


Date: 20 JUN.2022 11:32:28



LTE Band 4 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



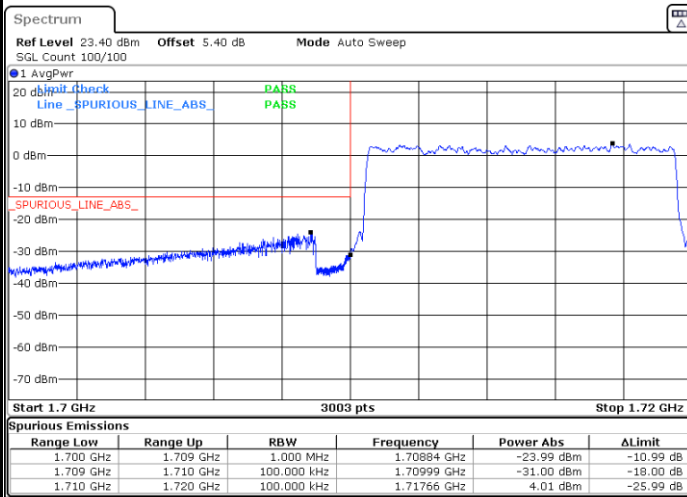
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Highest Band Edge / 1 RB



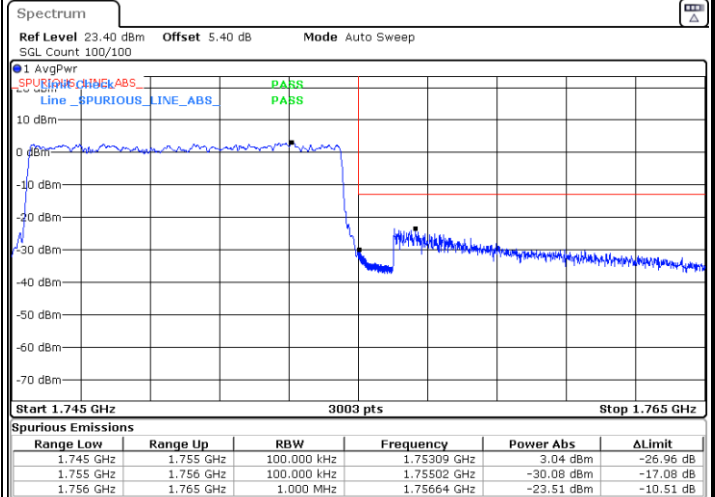
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Lowest Band Edge / Full RB



Date: 20 JUN.2022 11:31:23

Highest Band Edge / Full RB

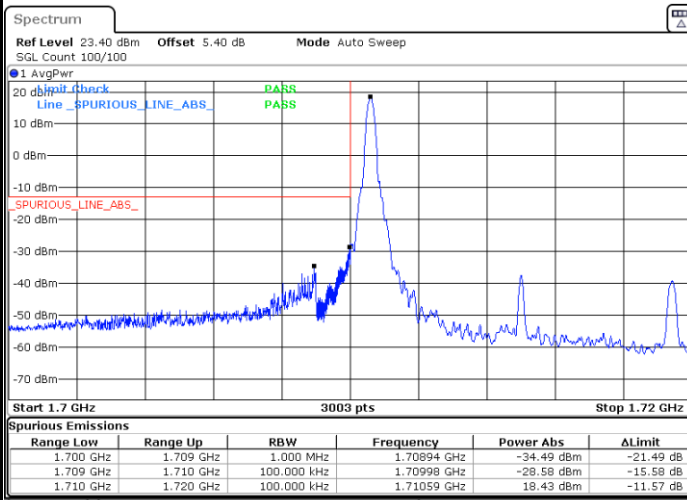


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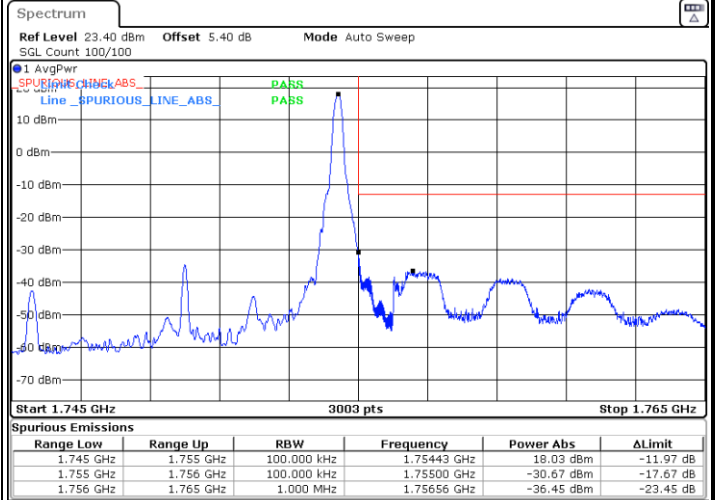
LTE Band 4 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



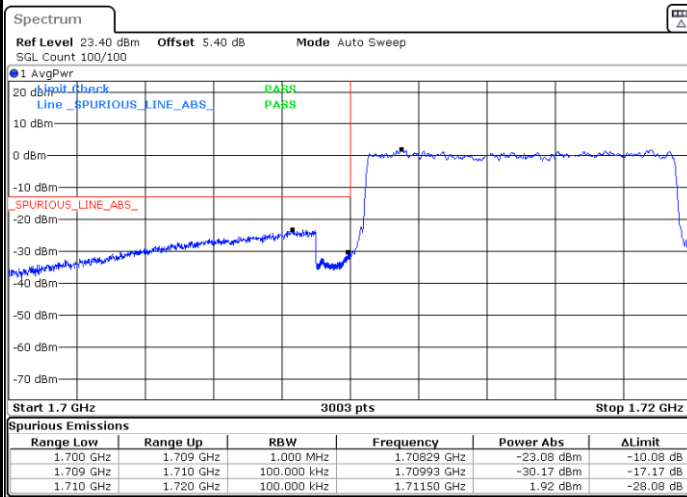
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Highest Band Edge / 1 RB



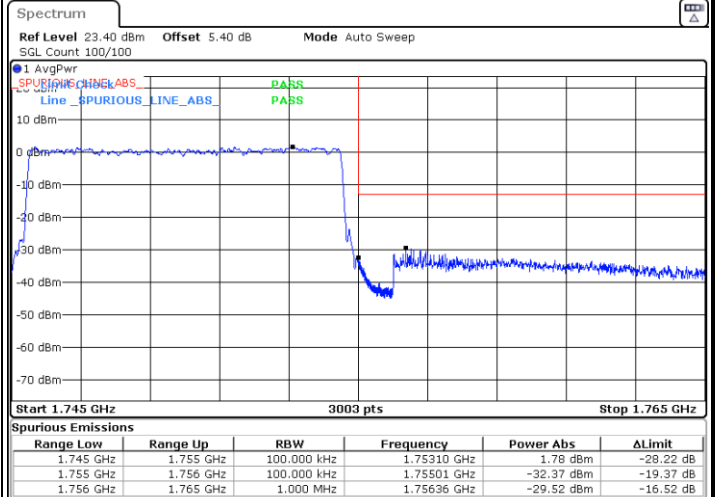
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Lowest Band Edge / Full RB



Date: 20 JUN.2022 11:30:49

Highest Band Edge / Full RB

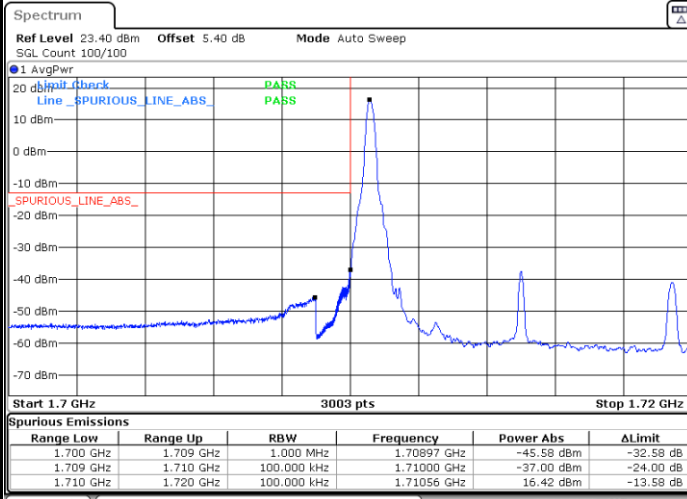


Date: 20 JUN.2022 11:33:58



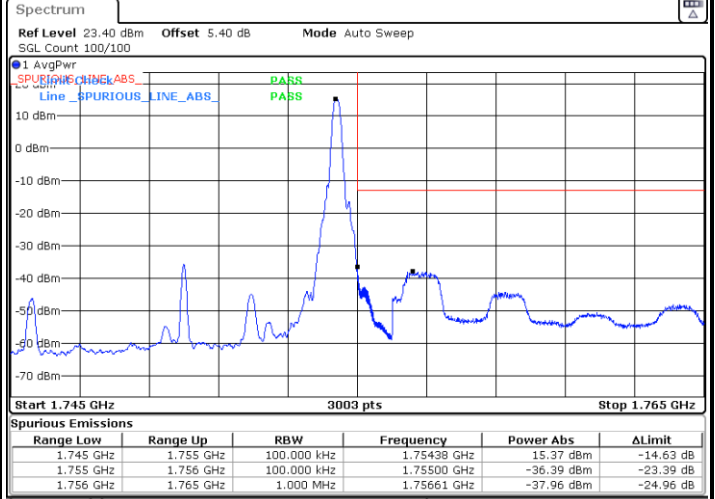
LTE Band 4 / 10MHz / 256QAM

Lowest Band Edge / 1 RB



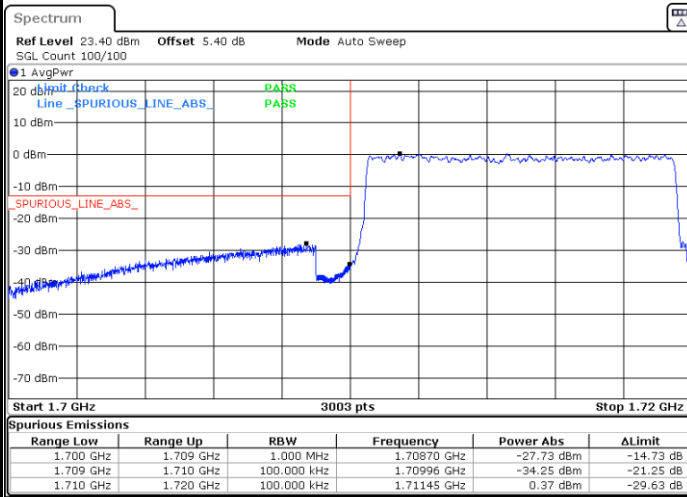
Date: 20 JUN.2022 11:28:00

Highest Band Edge / 1 RB



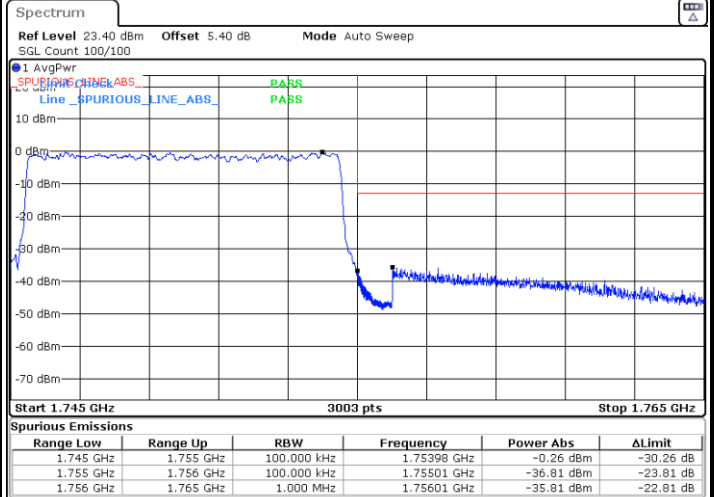
Date: 20 JUN.2022 11:35:39

Lowest Band Edge / Full RB



Date: 20 JUN.2022 11:30:24

Highest Band Edge / Full RB

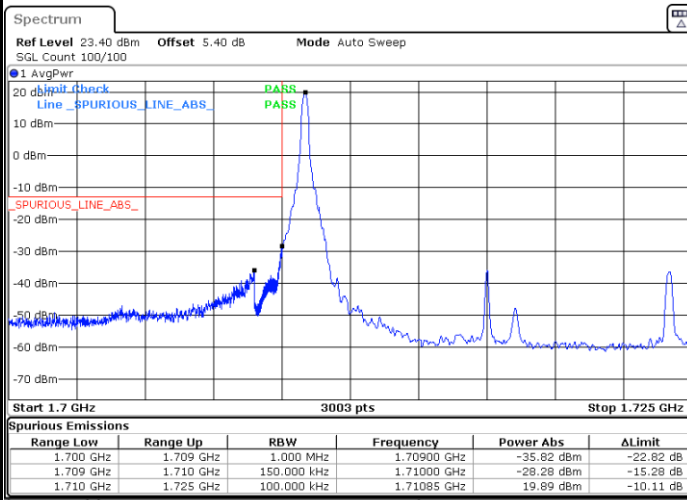


Date: 20 JUN.2022 11:33:30



LTE Band 4 / 15MHz / QPSK

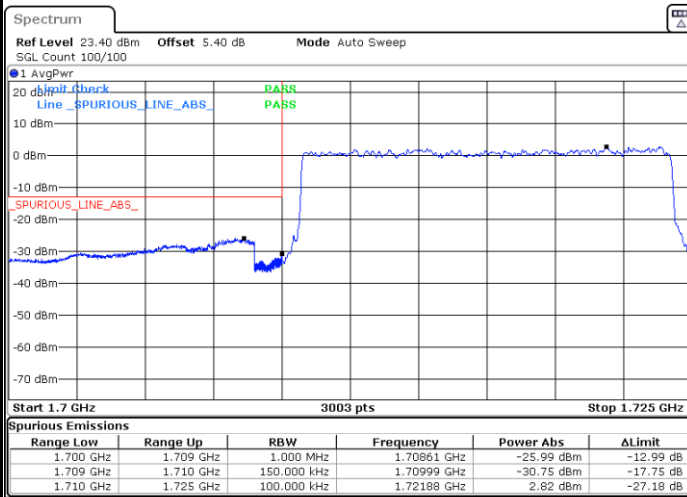
Lowest Band Edge / 1 RB



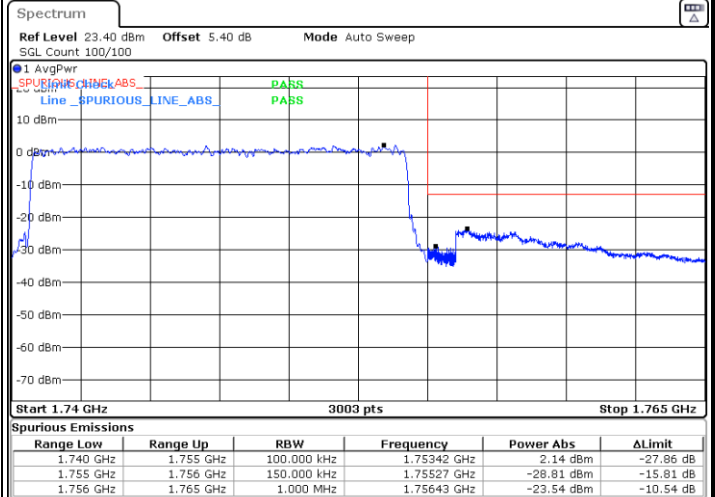
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

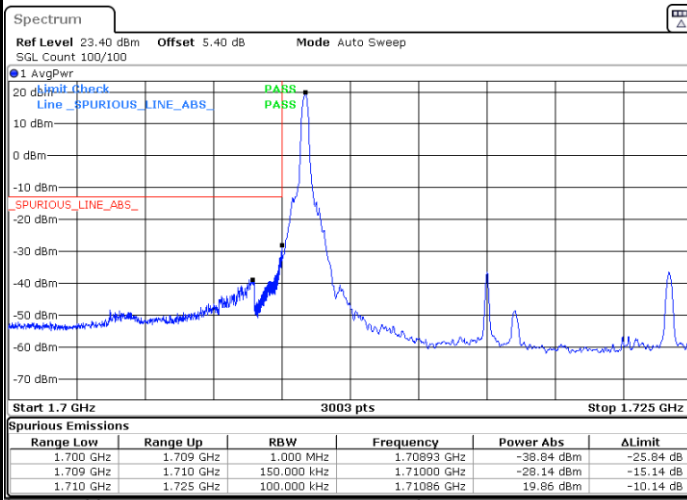






LTE Band 4 / 15MHz / 16QAM

Lowest Band Edge / 1 RB



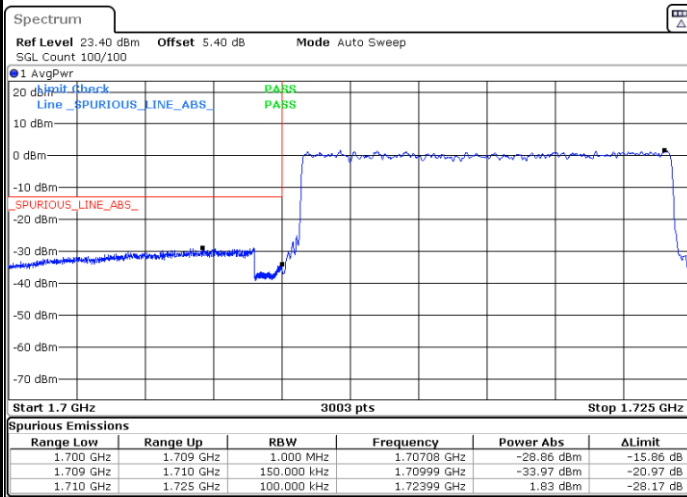
Date: 20 JUN.2022 11:44:23

Highest Band Edge / 1 RB



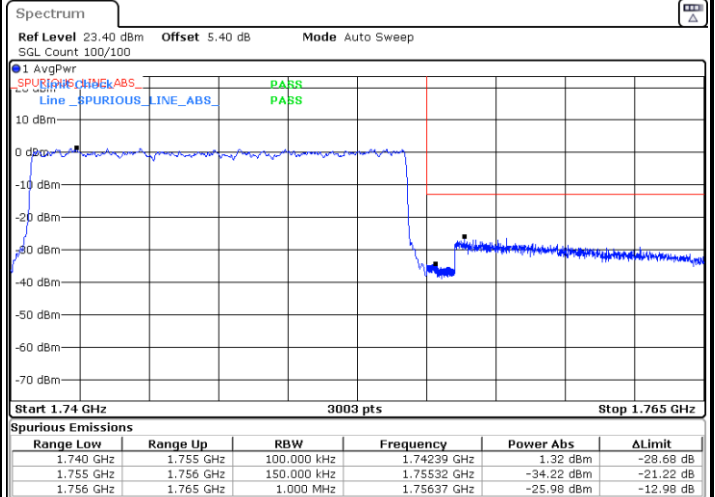
Date: 20 JUN.2022 11:55:07

Lowest Band Edge / Full RB



Date: 20 JUN.2022 11:48:30

Highest Band Edge / Full RB

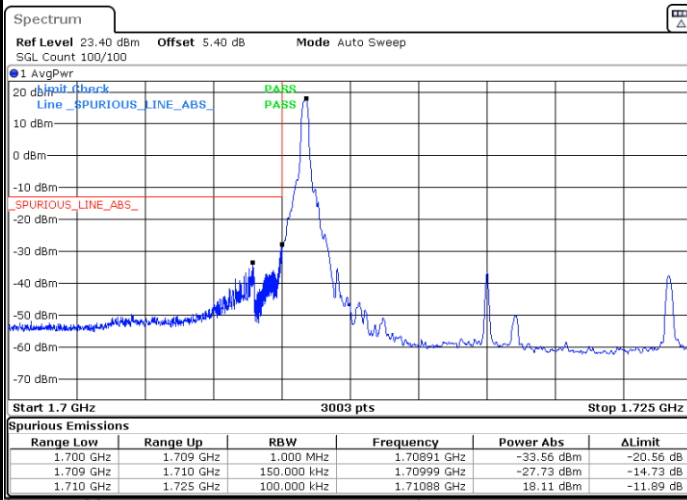


Date: 20 JUN.2022 11:52:46

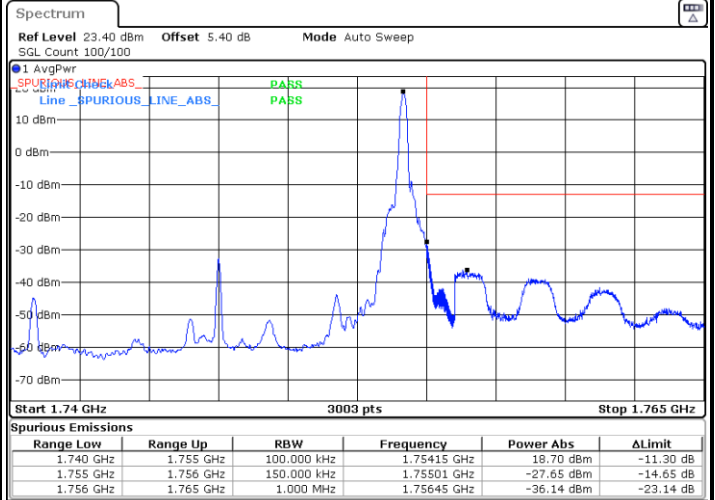


LTE Band 4 / 15MHz / 64QAM

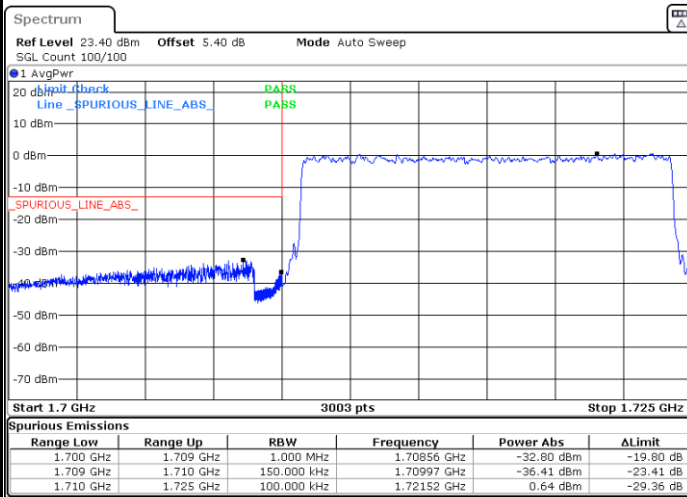
Lowest Band Edge / 1 RB



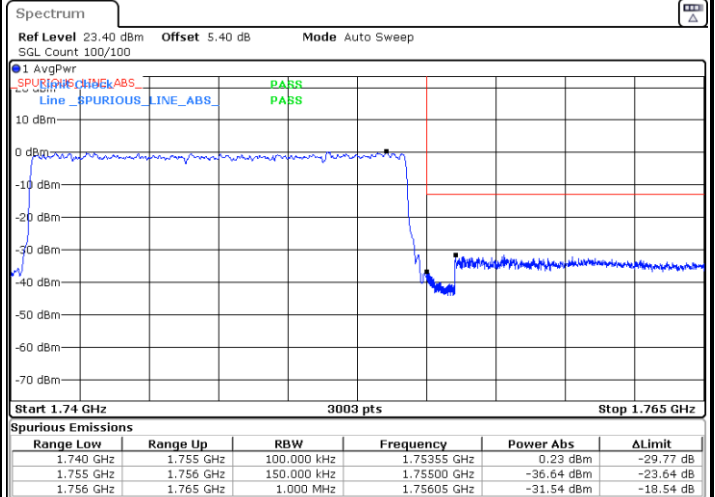
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



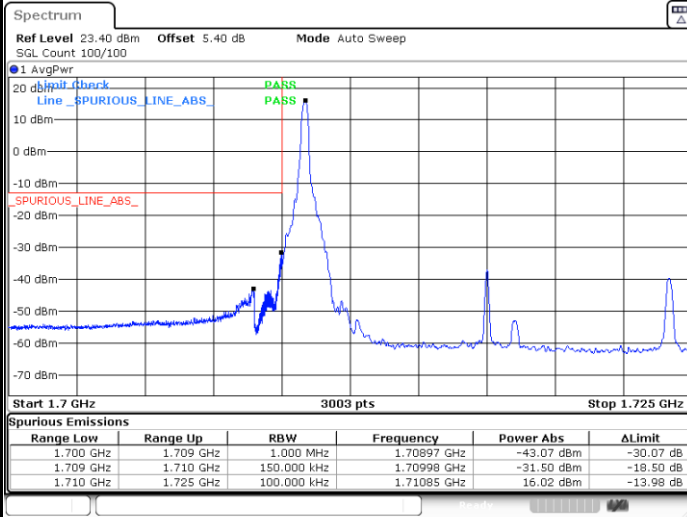
Highest Band Edge / Full RB





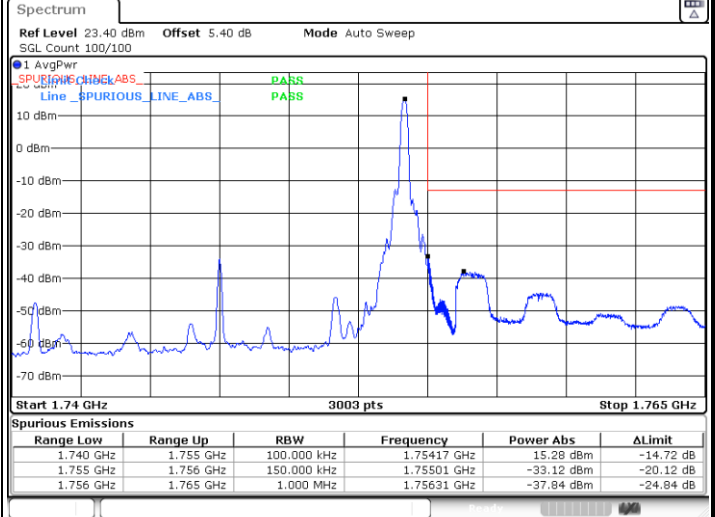
LTE Band 4 / 15MHz / 256QAM

Lowest Band Edge / 1 RB



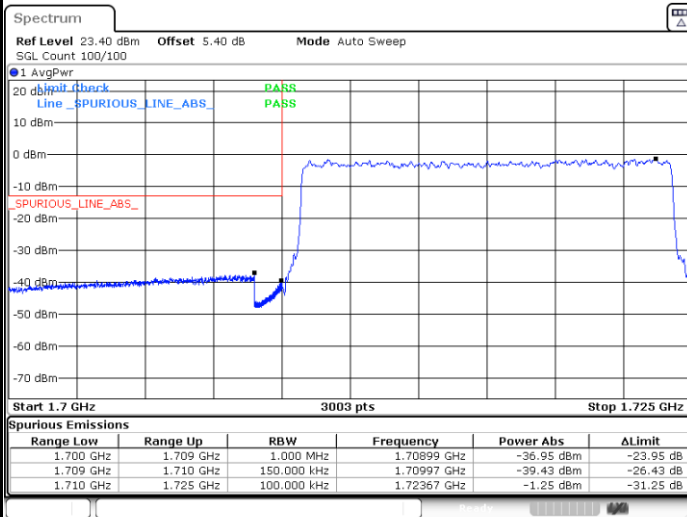
Date: 20 JUN.2022 11:42:26

Highest Band Edge / 1 RB



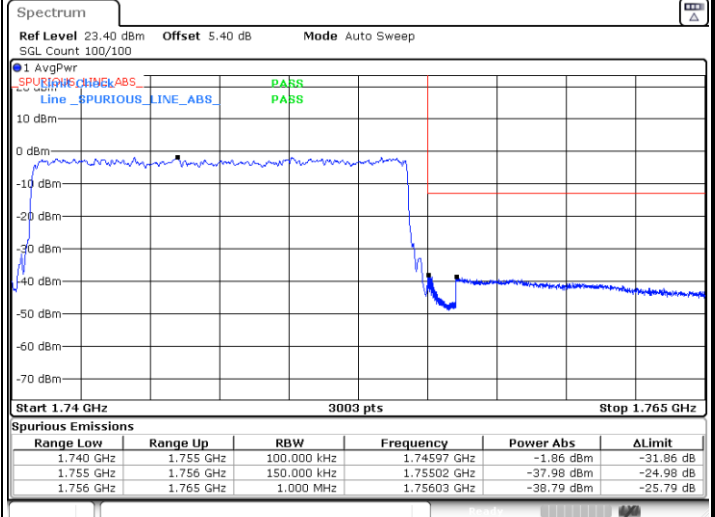
Date: 20 JUN.2022 11:55:28

Lowest Band Edge / Full RB



Date: 20 JUN.2022 11:49:08

Highest Band Edge / Full RB

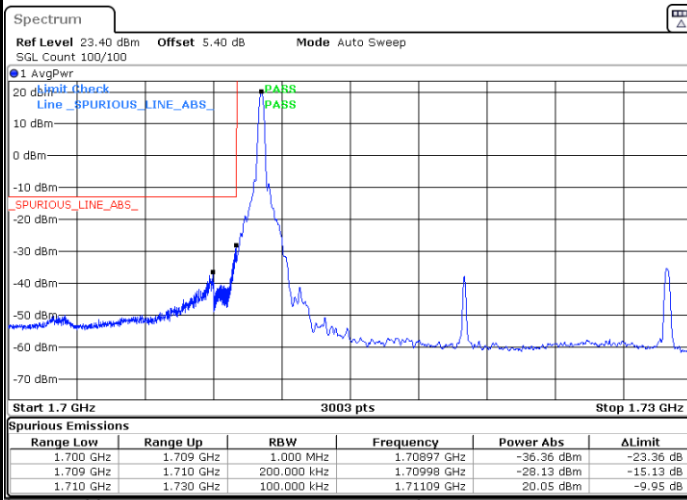


Date: 20 JUN.2022 11:51:30



LTE Band 4 / 20MHz / QPSK

Lowest Band Edge / 1 RB



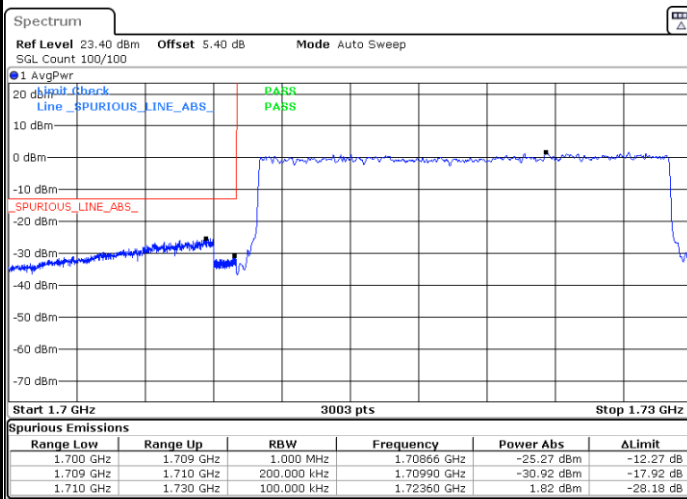
Date: 20 JUN.2022 12:03:05

Highest Band Edge / 1 RB



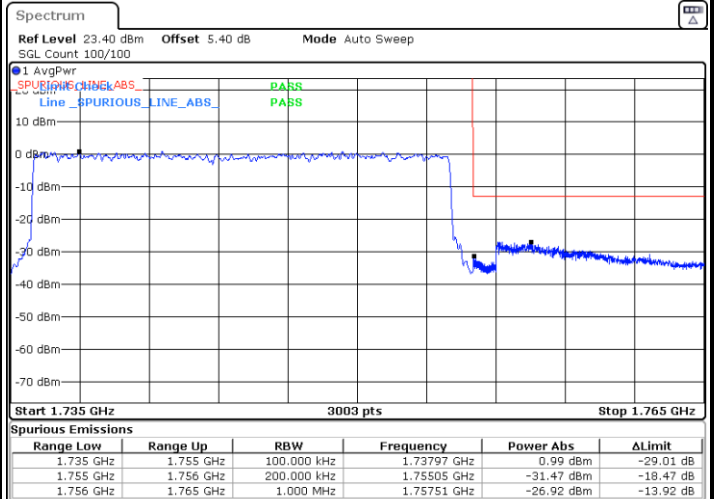
Date: 20 JUN.2022 12:09:03

Lowest Band Edge / Full RB



Date: 20 JUN.2022 12:03:39

Highest Band Edge / Full RB



Date: 20 JUN.2022 12:07:40