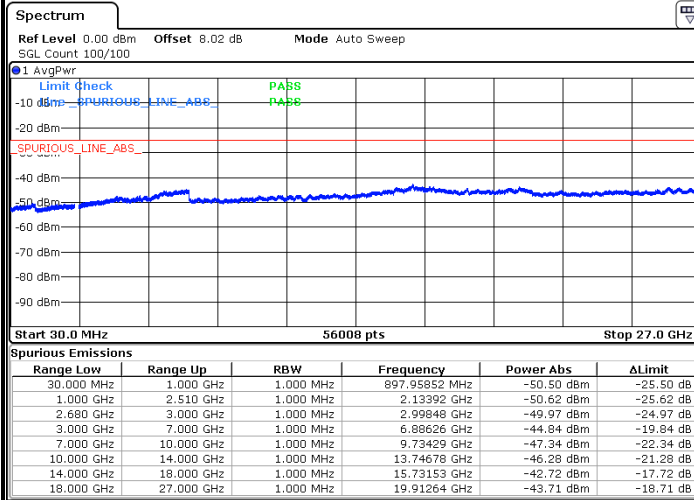




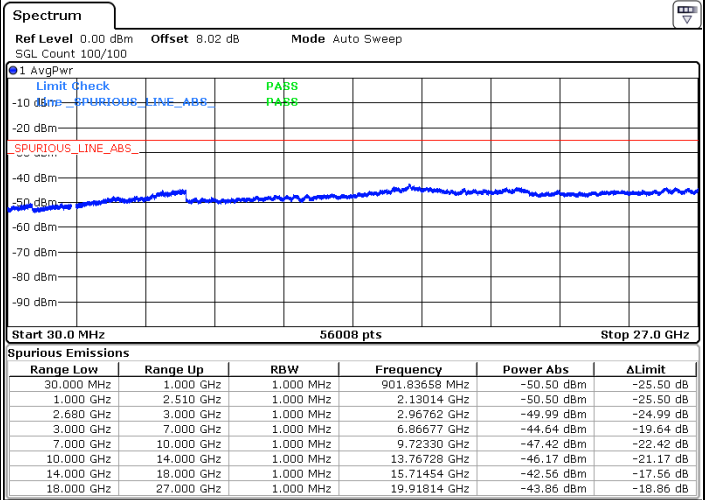
## LTE Band 41 / 15MHz

## Lowest Channel / QPSK



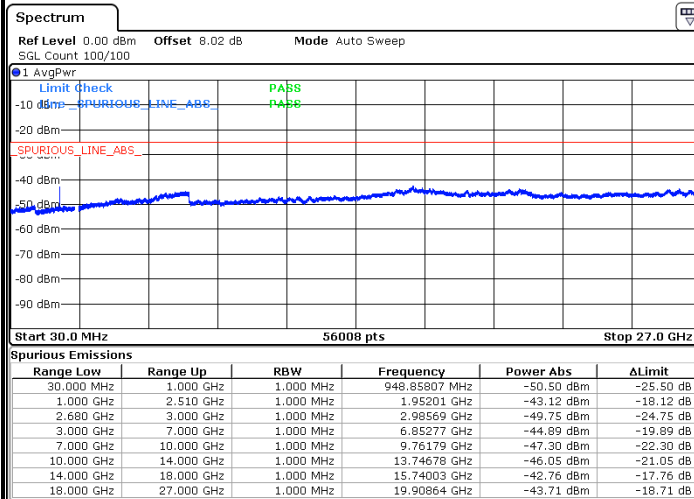
Date: 5 OCT 2019 23:30:26

## Lowest Channel / 16QAM



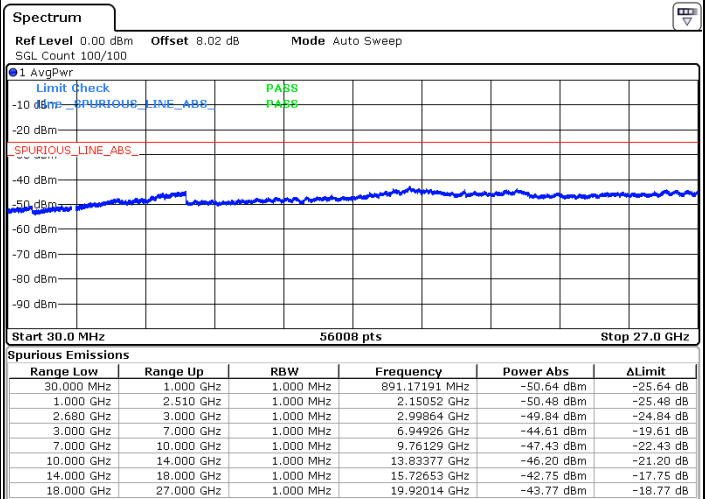
Date: 5 OCT 2019 23:31:26

## Middle Channel / QPSK



Date: 5 OCT 2019 23:35:30

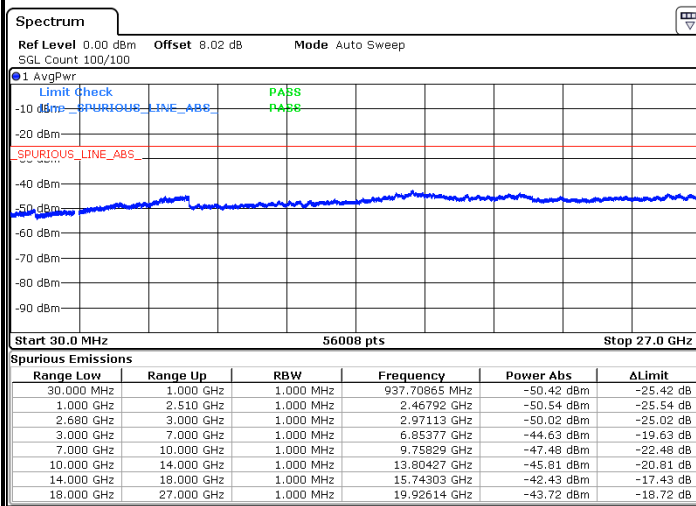
## Middle Channel / 16QAM



Date: 5 OCT 2019 23:34:21

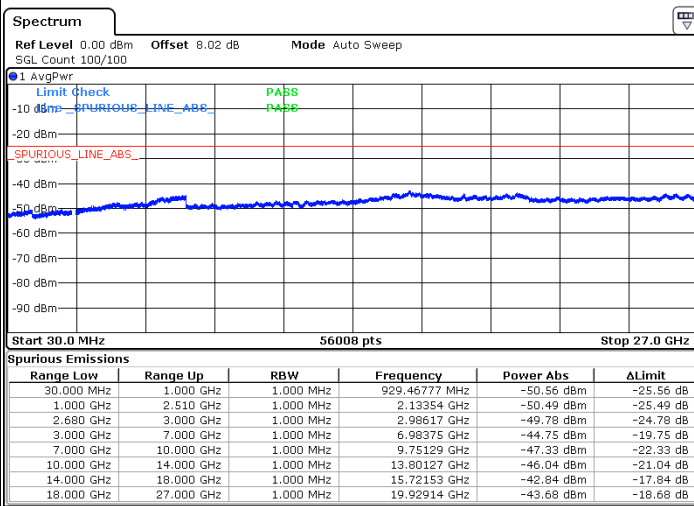


## Highest Channel / QPSK



Date: 5 OCT 2019 23:37:12

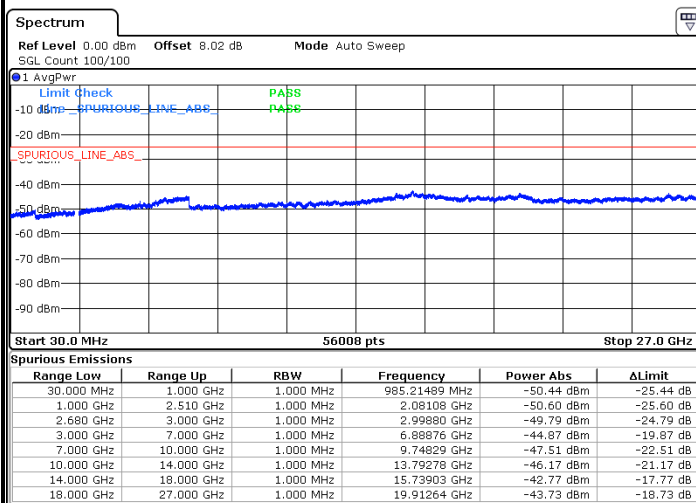
## Highest Channel / 16QAM



Date: 5 OCT 2019 23:38:24

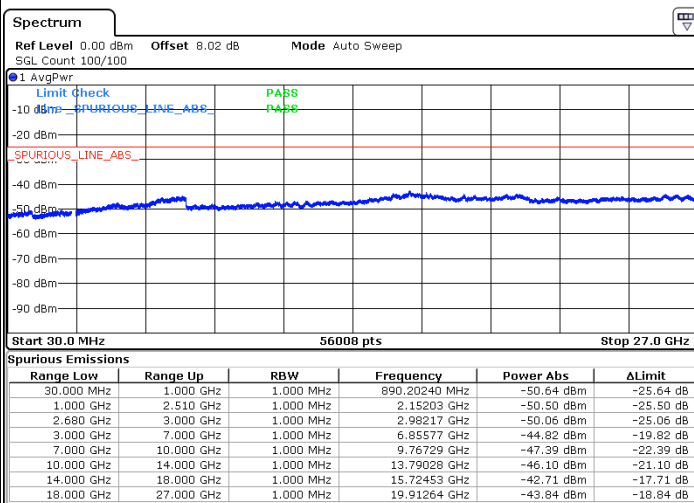
## LTE Band 41 / 20MHz

## Lowest Channel / QPSK



Date: 5 OCT 2019 23:42:59

## Lowest Channel / 16QAM

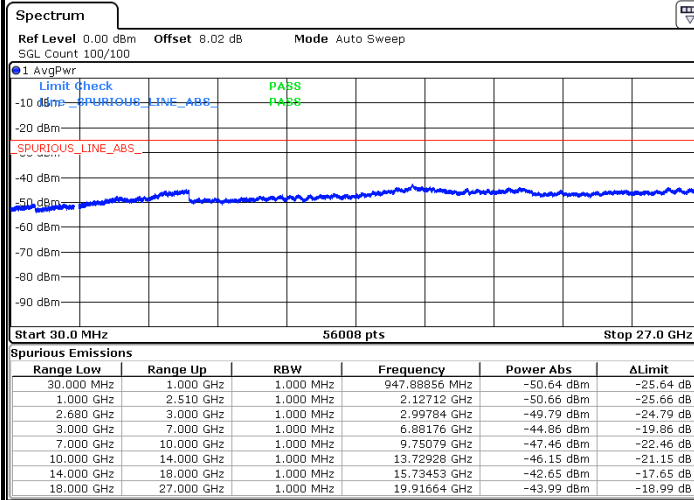


Date: 5 OCT 2019 23:42:03



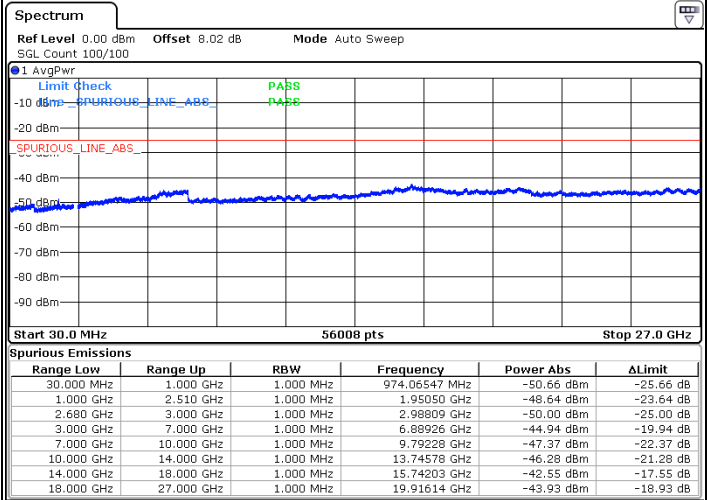
## LTE Band 41 / 20MHz

## Middle Channel / QPSK



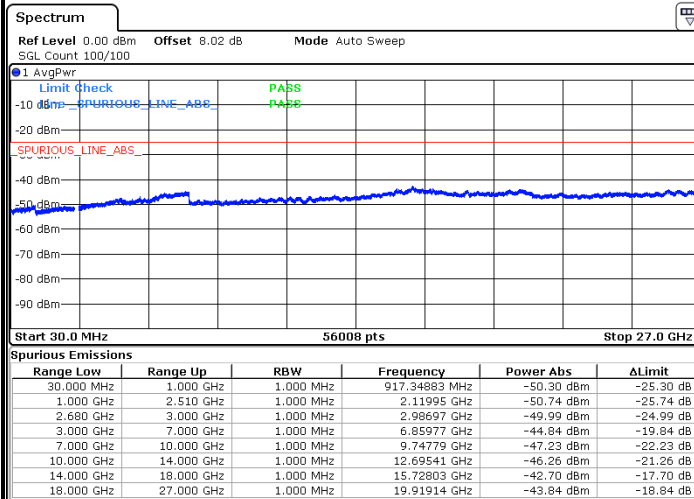
Date: 5 OCT 2019 23:44:04

## Middle Channel / 16QAM



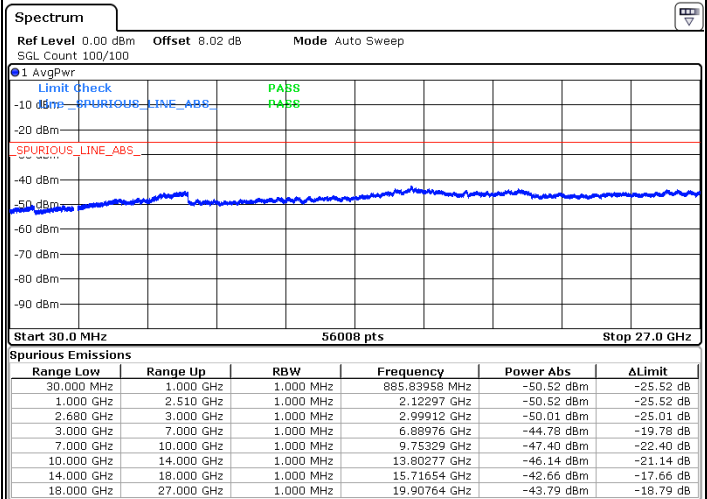
Date: 5 OCT 2019 23:45:14

## Highest Channel / QPSK



Date: 5 OCT 2019 23:49:42

## Highest Channel / 16QAM



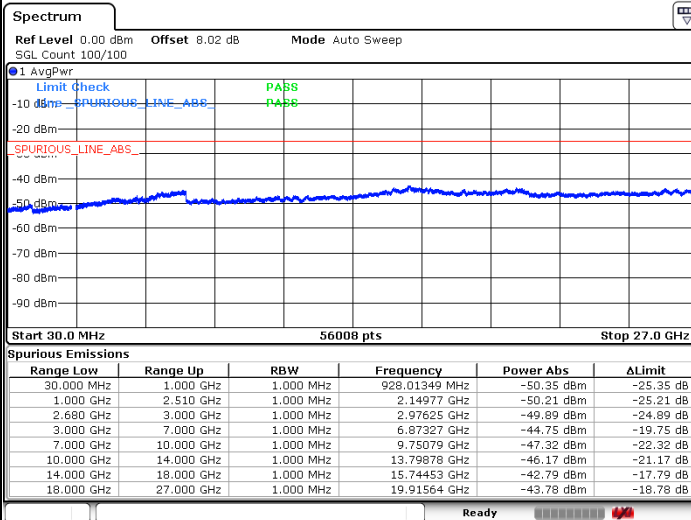
Date: 5 OCT 2019 23:48:42



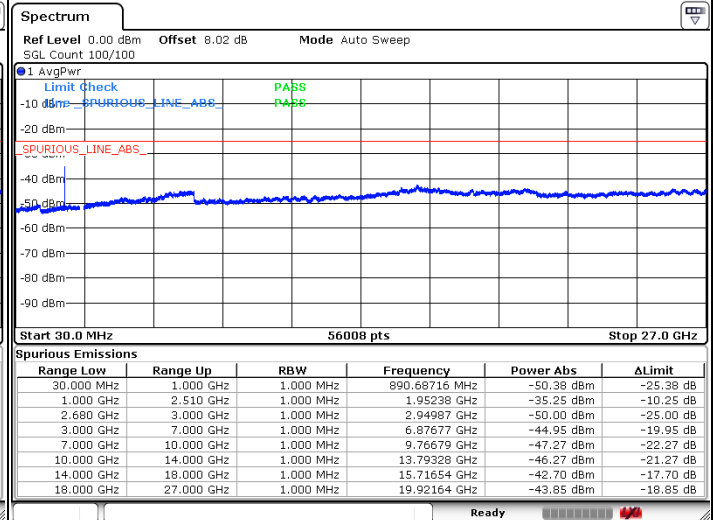
## LTE Band 41 / 5MHz

## Lowest Channel / 64QAM

## Middle Channel / 64QAM

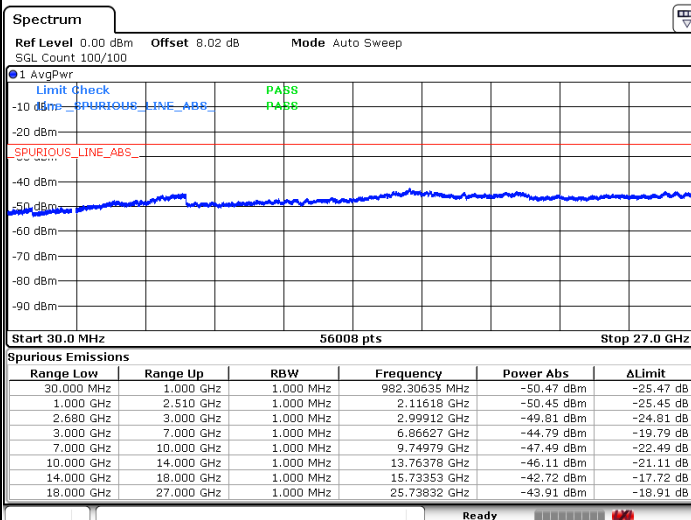


Date: 5 OCT 2019 23:13:58



Date: 5 OCT 2019 23:15:04

## Highest Channel / 64QAM

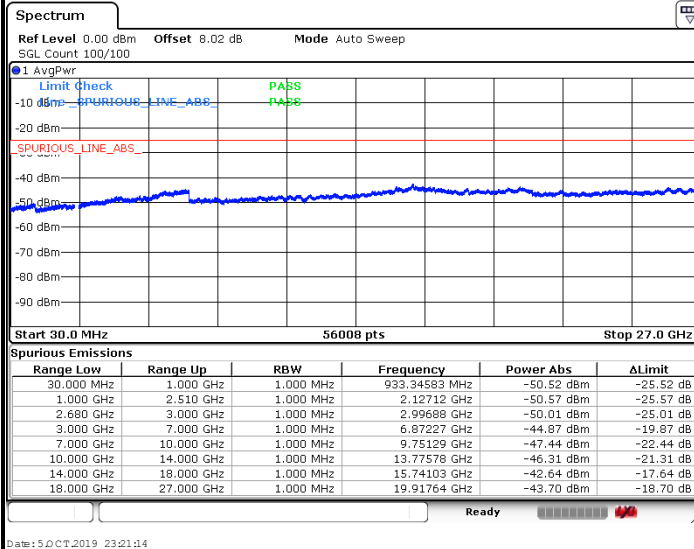


Date: 5 OCT 2019 23:19:43

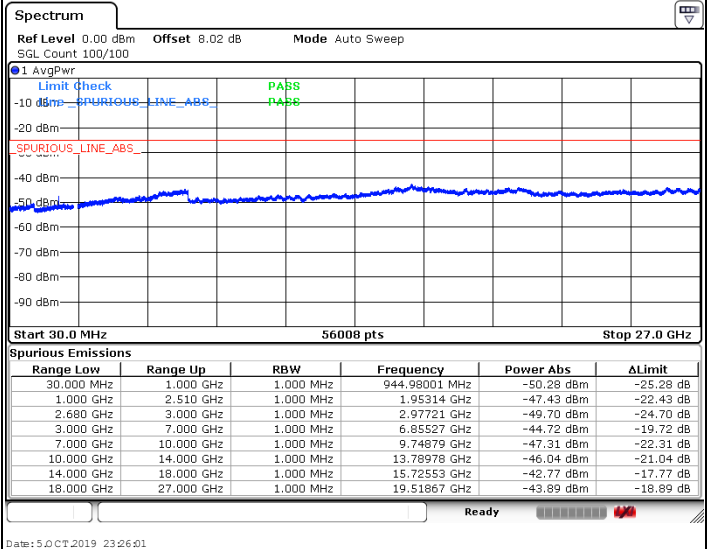


## LTE Band 41 / 10MHz

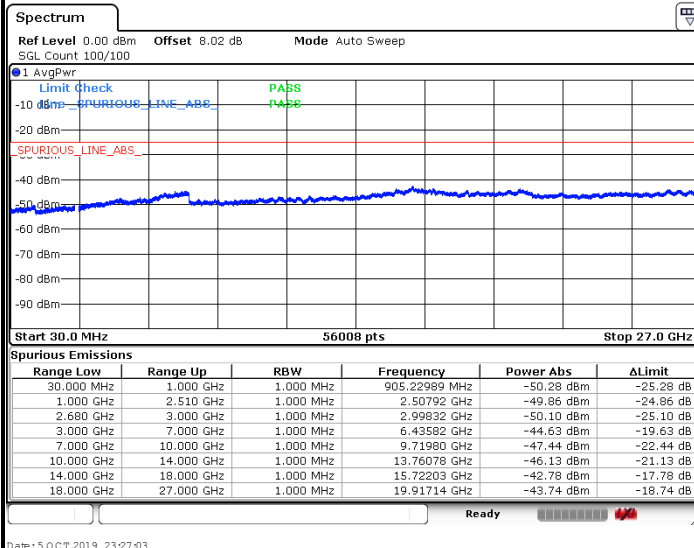
## Lowest Channel / 64QAM



## Middle Channel / 64QAM



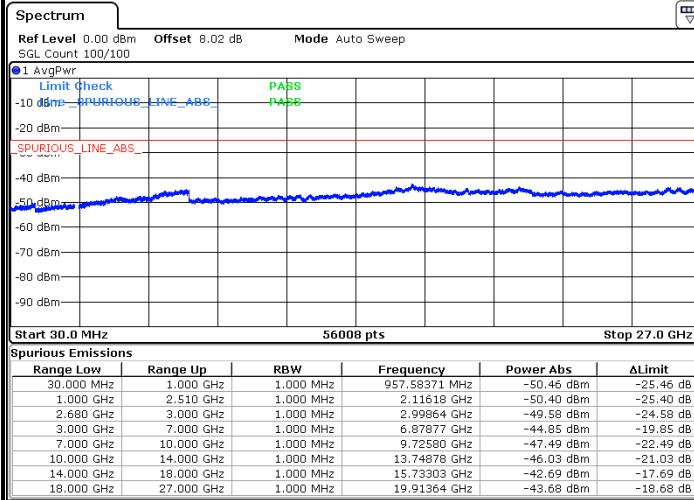
## Highest Channel / 64QAM





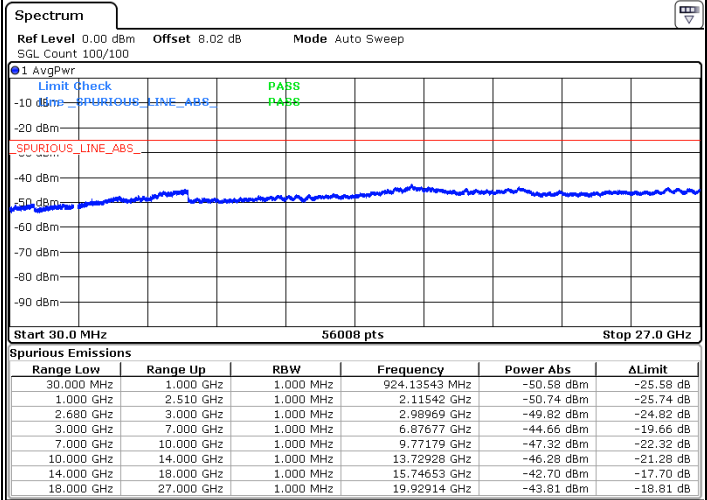
## LTE Band 41 / 15MHz

## Lowest Channel / 64QAM



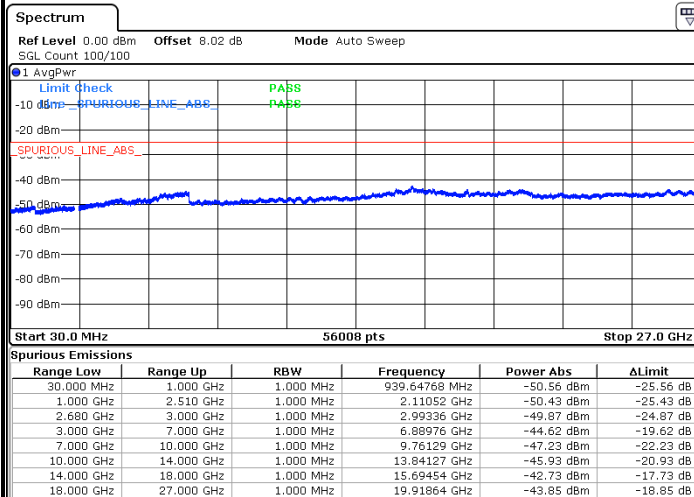
Date: 5 OCT 2019 23:32:17

## Middle Channel / 64QAM



Date: 5 OCT 2019 23:33:27

## Highest Channel / 64QAM

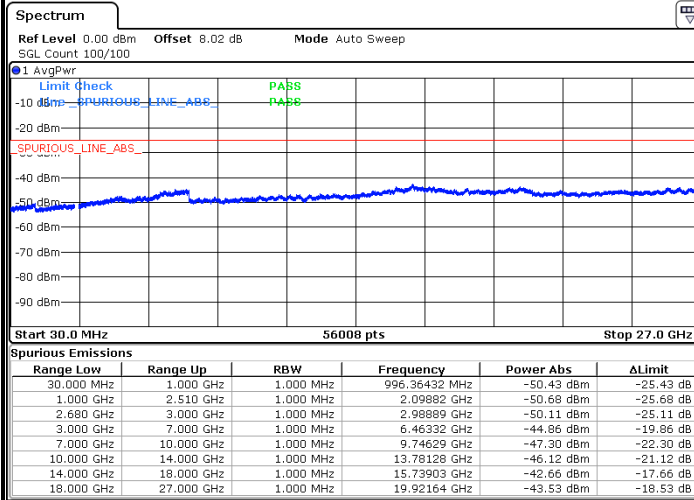


Date: 5 OCT 2019 23:39:27



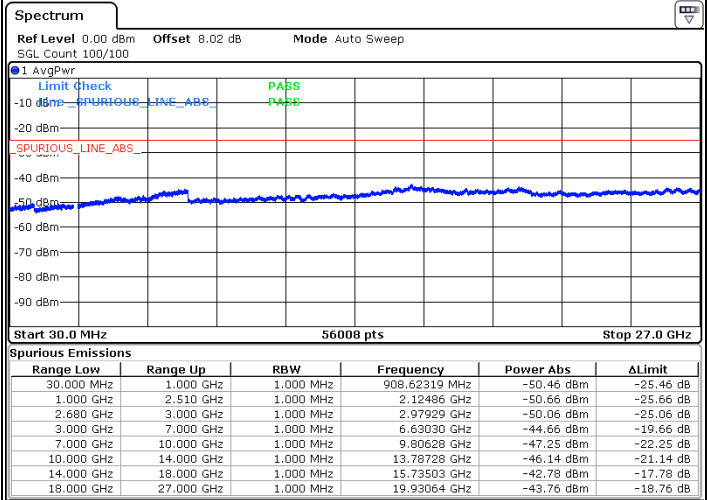
## LTE Band 41 / 20MHz

## Lowest Channel / 64QAM



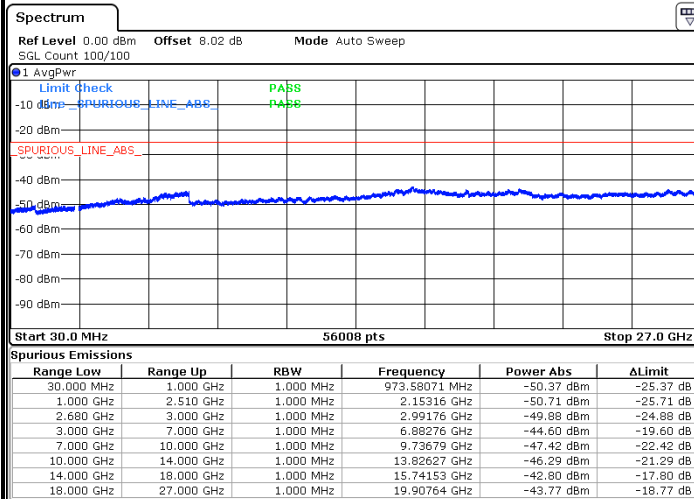
Date: 5 OCT 2019 23:41:10

## Middle Channel / 64QAM



Date: 5 OCT 2019 23:46:25

## Highest Channel / 64QAM



Date: 5 OCT 2019 23:47:45

**Frequency Stability**

| Test Conditions  |                   | LTE Band 2 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                           | Note 2. |
|                  |                   | Deviation (ppm)                    | Result  |
| 50               | Normal Voltage    | 0.0006                             | PASS    |
| 40               | Normal Voltage    | 0.0033                             |         |
| 30               | Normal Voltage    | 0.0007                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0018                             |         |
| 0                | Normal Voltage    | 0.0007                             |         |
| -10              | Normal Voltage    | 0.0016                             |         |
| -20              | Normal Voltage    | 0.0024                             |         |
| -30              | Normal Voltage    | 0.0032                             |         |
| 20               | Maximum Voltage   | 0.0002                             |         |
| 20               | Normal Voltage    | 0.0007                             |         |
| 20               | Battery End Point | 0.0012                             |         |

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.





| Test Conditions  |                   | LTE Band 4 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                           | Note 2. |
|                  |                   | Deviation (ppm)                    | Result  |
| 50               | Normal Voltage    | 0.0050                             | PASS    |
| 40               | Normal Voltage    | 0.0046                             |         |
| 30               | Normal Voltage    | 0.0043                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0035                             |         |
| 0                | Normal Voltage    | 0.0041                             |         |
| -10              | Normal Voltage    | 0.0004                             |         |
| -20              | Normal Voltage    | 0.0040                             |         |
| -30              | Normal Voltage    | 0.0037                             |         |
| 20               | Maximum Voltage   | 0.0003                             |         |
| 20               | Normal Voltage    | 0.0039                             |         |
| 20               | Battery End Point | 0.0018                             |         |

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



| Test Conditions  |                   | LTE Band 26 (QPSK) / Middle Channel | Limit   |
|------------------|-------------------|-------------------------------------|---------|
| Temperature (°C) | Voltage (Volt)    | BW 10MHz                            | Note 2. |
|                  |                   | Deviation (ppm)                     | Result  |
| 50               | Normal Voltage    | 0.0106                              | PASS    |
| 40               | Normal Voltage    | 0.0007                              |         |
| 30               | Normal Voltage    | 0.0016                              |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                              |         |
| 10               | Normal Voltage    | 0.0084                              |         |
| 0                | Normal Voltage    | 0.0005                              |         |
| -10              | Normal Voltage    | 0.0019                              |         |
| -20              | Normal Voltage    | 0.0006                              |         |
| -30              | Normal Voltage    | 0.0080                              |         |
| 20               | Maximum Voltage   | 0.0077                              |         |
| 20               | Normal Voltage    | 0.0011                              |         |
| 20               | Battery End Point | 0.0084                              |         |

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



| Test Conditions     |                   | LTE Band 41 (QPSK) / Middle Channel | Limit   |
|---------------------|-------------------|-------------------------------------|---------|
| Temperature<br>(°C) | Voltage<br>(Volt) | BW 10MHz                            | Note 2. |
|                     |                   | Deviation<br>(ppm)                  | Result  |
| 50                  | Normal Voltage    | 0.0020                              | PASS    |
| 40                  | Normal Voltage    | 0.0004                              |         |
| 30                  | Normal Voltage    | 0.0023                              |         |
| 20(Ref.)            | Normal Voltage    | 0.0000                              |         |
| 10                  | Normal Voltage    | 0.0013                              |         |
| 0                   | Normal Voltage    | 0.0020                              |         |
| -10                 | Normal Voltage    | 0.0026                              |         |
| -20                 | Normal Voltage    | 0.0001                              |         |
| -30                 | Normal Voltage    | 0.0002                              |         |
| 20                  | Maximum Voltage   | 0.0012                              |         |
| 20                  | Normal Voltage    | 0.0005                              |         |
| 20                  | Battery End Point | 0.0004                              |         |

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



## Appendix B. Test Results of Radiated Test

### Radiated Spurious Emission

| LTE Band 2 / 20MHz / QPSK |                      |                 |                  |                         |                          |                            |                             |                       |
|---------------------------|----------------------|-----------------|------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel                   | Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |
| Middle                    | 3741                 | -56.14          | -13              | -43.14                  | -68.40                   | 2.641                      | 14.90                       | H                     |
|                           | 5613                 | -50.92          | -13              | -37.92                  | -62.78                   | 2.94                       | 14.80                       | H                     |
|                           | 7488                 | -50.22          | -13              | -37.22                  | -59.99                   | 3.39                       | 13.16                       | H                     |
|                           | 3741                 | -55.45          | -13              | -42.45                  | -67.71                   | 2.64                       | 14.90                       | V                     |
|                           | 5613                 | -45.65          | -13              | -32.65                  | -57.51                   | 2.94                       | 14.80                       | V                     |
|                           | 7488                 | -46.73          | -13              | -33.73                  | -56.50                   | 3.39                       | 13.16                       | V                     |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| LTE Band 4 / 20MHz / QPSK |                      |                 |                  |                         |                          |                            |                             |                       |
|---------------------------|----------------------|-----------------|------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel                   | Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |
| Middle                    | 3447                 | -59.63          | -13              | -46.63                  | -70.37                   | 2.604                      | 13.34                       | H                     |
|                           | 5172                 | -45.22          | -13              | -32.22                  | -55.73                   | 3.011                      | 13.52                       | H                     |
|                           | 6900                 | -51.55          | -13              | -38.55                  | -61.75                   | 3.271                      | 13.47                       | H                     |
|                           | 3447                 | -60.57          | -13              | -47.57                  | -71.31                   | 2.604                      | 13.34                       | V                     |
|                           | 5172                 | -50.12          | -13              | -37.12                  | -60.63                   | 3.011                      | 13.52                       | V                     |
|                           | 6900                 | -52.23          | -13              | -39.23                  | -62.43                   | 3.271                      | 13.47                       | V                     |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 7 / 20MHz / QPSK |                   |              |               |                   |                    |                      |                       |                    |
|---------------------------|-------------------|--------------|---------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                   | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle                    | 5052              | -32.63       | -25           | -7.63             | -42.84             | 3.03                 | 13.24                 | H                  |
|                           | 7580              | -37.89       | -25           | -12.89            | -47.34             | 3.56                 | 13.01                 | H                  |
|                           | 10100             | -39.99       | -25           | -14.99            | -49.51             | 3.92                 | 13.44                 | H                  |
|                           | 12630             | -45.99       | -25           | -20.99            | -55.91             | 4.44                 | 14.36                 | H                  |
|                           | 15160             | -45.57       | -25           | -20.57            | -55.94             | 4.77                 | 15.14                 | H                  |
|                           | 5052              | -38.47       | -25           | -13.47            | -48.68             | 3.03                 | 13.24                 | V                  |
|                           | 7580              | -44.57       | -25           | -19.57            | -54.02             | 3.56                 | 13.01                 | V                  |
|                           | 10100             | -47.80       | -25           | -22.80            | -57.32             | 3.92                 | 13.44                 | V                  |
|                           | 12630             | -49.32       | -25           | -24.32            | -59.24             | 4.44                 | 14.36                 | V                  |
|                           | 15160             | -50.62       | -25           | -25.62            | -60.99             | 4.77                 | 15.14                 | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| LTE Band 26 / 15MHz / QPSK |                   |              |               |                   |                    |                      |                       |                    |
|----------------------------|-------------------|--------------|---------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                    | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle                     | 1660              | -68.01       | -13           | -55.01            | -74.98             | 1.58                 | 10.70                 | H                  |
|                            | 2490              | -58.48       | -13           | -45.48            | -66.73             | 2.102                | 12.50                 | H                  |
|                            | 3318              | -64.36       | -13           | -51.36            | -73.25             | 2.856                | 13.90                 | H                  |
|                            | 1660              | -68.12       | -13           | -55.12            | -75.09             | 1.58                 | 10.70                 | V                  |
|                            | 2490              | -56.61       | -13           | -43.61            | -64.86             | 2.10                 | 12.50                 | V                  |
|                            | 3318              | -64.02       | -13           | -51.02            | -72.91             | 2.86                 | 13.90                 | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| LTE Band 41 / 20MHz / QPSK |                   |              |               |                   |                    |                      |                       |                    |
|----------------------------|-------------------|--------------|---------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                    | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle                     | 5172              | -32.39       | -25           | -7.39             | -42.60             | 3.03                 | 13.24                 | H                  |
|                            | 7760              | -40.01       | -25           | -15.01            | -49.46             | 3.56                 | 13.01                 | H                  |
|                            | 10340             | -54.57       | -25           | -29.57            | -64.09             | 3.92                 | 13.44                 | H                  |
|                            | 12930             | -54.06       | -25           | -29.06            | -63.98             | 4.44                 | 14.36                 | H                  |
|                            | 15520             | -54.76       | -25           | -29.76            | -65.13             | 4.77                 | 15.14                 | H                  |
|                            | 5172              | -38.69       | -25           | -13.69            | -48.90             | 3.03                 | 13.24                 | V                  |
|                            | 7760              | -44.44       | -25           | -19.44            | -53.89             | 3.56                 | 13.01                 | V                  |
|                            | 10340             | -58.25       | -25           | -33.25            | -67.77             | 3.92                 | 13.44                 | V                  |
|                            | 12930.45          | -57.60       | -25           | -32.60            | -67.52             | 4.44                 | 14.36                 | V                  |
|                            | 15516.54          | -57.90       | -25           | -32.90            | -68.27             | 4.77                 | 15.14                 | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



## **Appendix D. Reference Report**

Please refer to Sporton report number FG9815171B which is issued separately.