

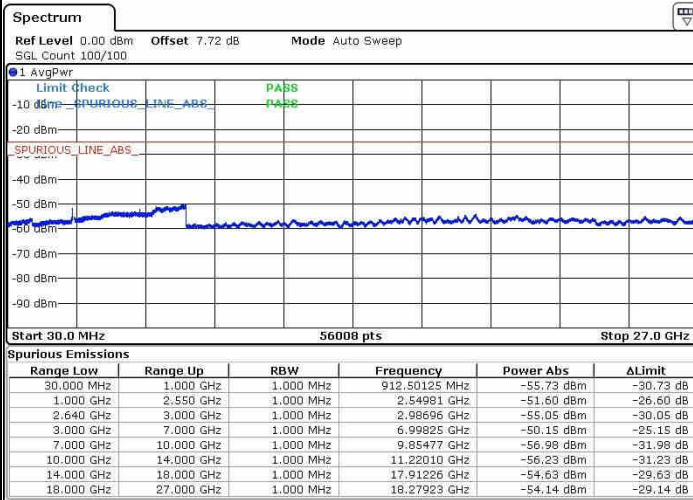


## LTE Band 38 / 20MHz+20MHz

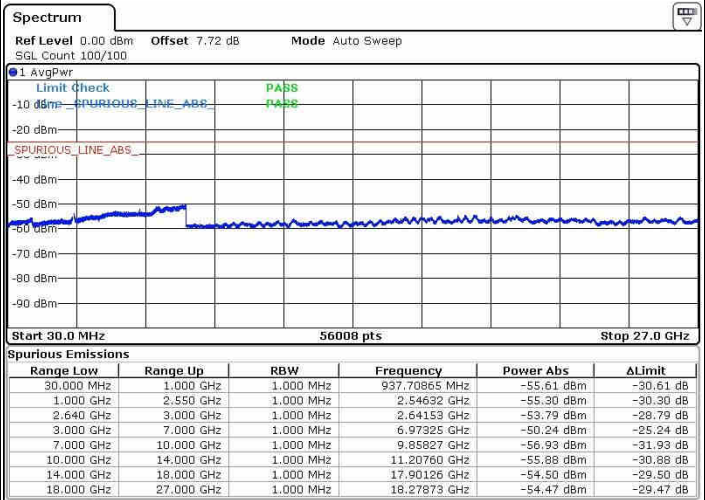
## QPSK

## Lowest Channel

## Middle Channel



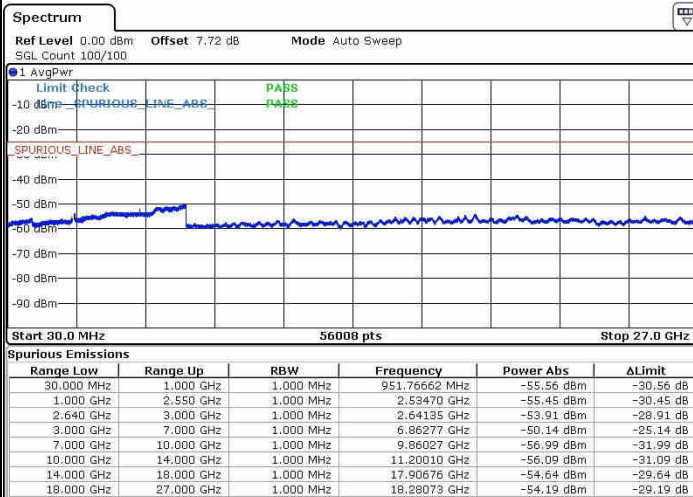
Date: 8 JAN 2019 09:22:40



Date: 8 JAN 2019 09:27:51

## Highest Channel

## N/A



Date: 8 JAN 2019 09:29:00

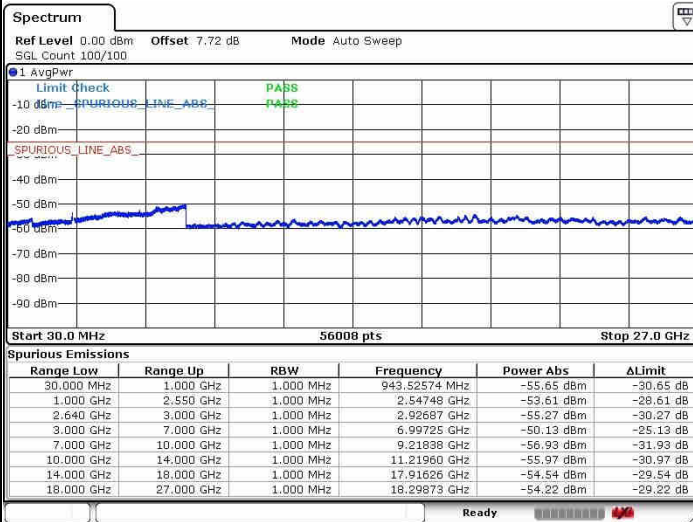


## LTE Band 38 / 20MHz+20MHz

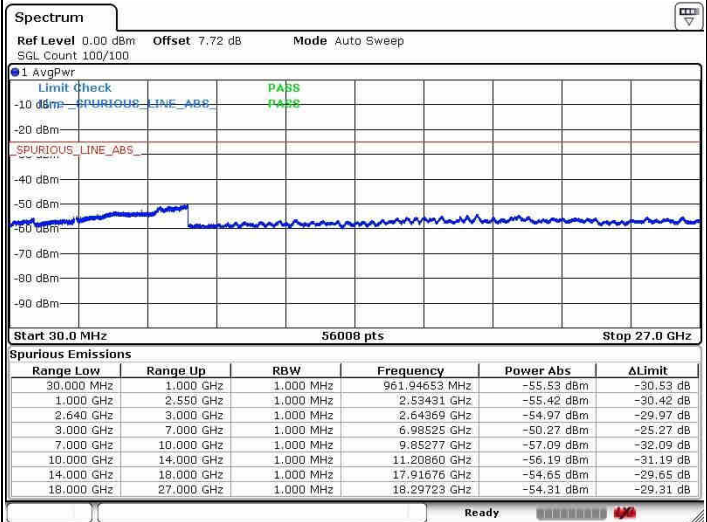
## 16QAM

## Lowest Channel

## Middle Channel



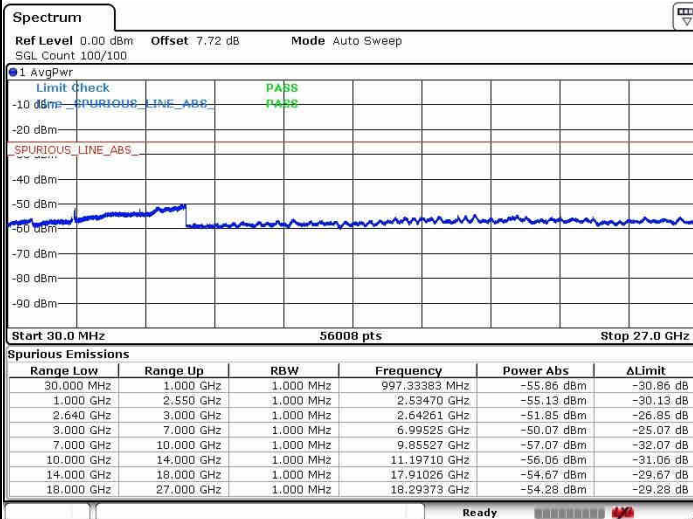
Date: 8 JAN 2019 09:23:44



Date: 8 JAN 2019 09:26:56

## Highest Channel

## N/A



Date: 8 JAN 2019 09:29:55

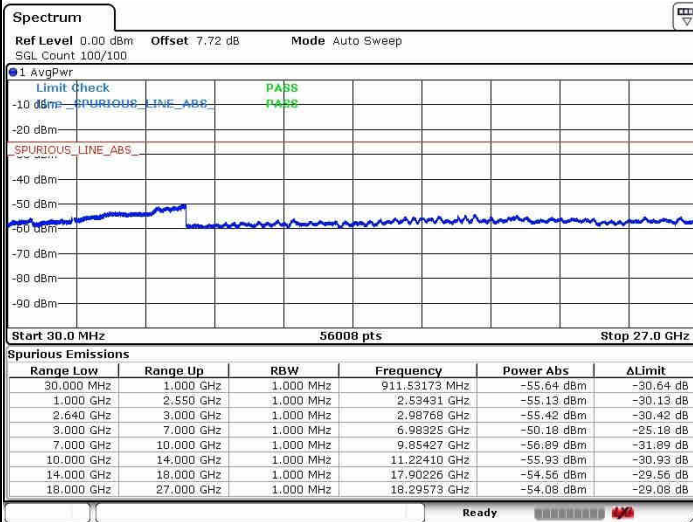


## LTE Band 38 / 20MHz+20MHz

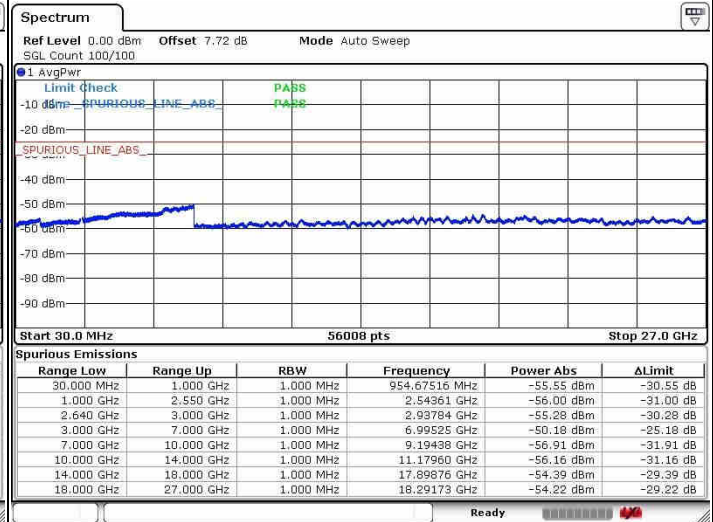
## 64QAM

## Lowest Channel

## Middle Channel



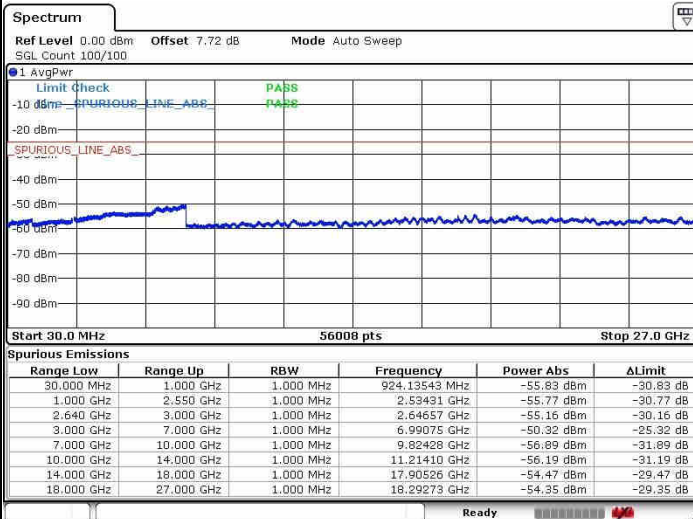
Date: 8 JAN 2019 09:24:42



Date: 8 JAN 2019 09:26:01

## Highest Channel

## N/A



Date: 8 JAN 2019 09:30:47

## 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    | 0.0003                             | PASS    |
| 40               | Normal Voltage    | 0.0028                             |         |
| 30               | Normal Voltage    | 0.0006                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0033                             |         |
| 0                | Normal Voltage    | 0.0007                             |         |
| -10              | Normal Voltage    | 0.0013                             |         |
| -20              | Normal Voltage    | 0.0003                             |         |
| -30              | Normal Voltage    | 0.0030                             |         |
| 20               | Maximum Voltage   | 0.0002                             |         |
| 20               | Normal Voltage    | 0.0000                             |         |
| 20               | Battery End Point | 0.0001                             |         |

**Note:**

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 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    | 0.0032                             | PASS    |
| 40               | Normal Voltage    | 0.0029                             |         |
| 30               | Normal Voltage    | 0.0006                             |         |
| 20(Ref.)         | Normal Voltage    | 0.0000                             |         |
| 10               | Normal Voltage    | 0.0023                             |         |
| 0                | Normal Voltage    | 0.0021                             |         |
| -10              | Normal Voltage    | 0.0009                             |         |
| -20              | Normal Voltage    | 0.0011                             |         |
| -30              | Normal Voltage    | 0.0028                             |         |
| 20               | Maximum Voltage   | 0.0024                             |         |
| 20               | Normal Voltage    | 0.0000                             |         |
| 20               | Battery End Point | 0.0023                             |         |

**Note:**

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



| Test Conditions     |                   | LTE Band 5 (QPSK) / Middle Channel | Limit  |
|---------------------|-------------------|------------------------------------|--------|
| Temperature<br>(°C) | Voltage<br>(Volt) | BW 10MHz                           | 2.5ppm |
|                     |                   | Deviation<br>(ppm)                 | Result |
| 50                  | Normal Voltage    | 0.0084                             | PASS   |
| 40                  | Normal Voltage    | 0.0075                             |        |
| 30                  | Normal Voltage    | 0.0013                             |        |
| 20(Ref.)            | Normal Voltage    | 0.0000                             |        |
| 10                  | Normal Voltage    | 0.0071                             |        |
| 0                   | Normal Voltage    | 0.0085                             |        |
| -10                 | Normal Voltage    | 0.0096                             |        |
| -20                 | Normal Voltage    | 0.0004                             |        |
| -30                 | Normal Voltage    | 0.0082                             |        |
| 20                  | Maximum Voltage   | 0.0031                             |        |
| 20                  | Normal Voltage    | 0.0000                             |        |
| 20                  | Battery End Point | 0.0066                             |        |

**Note:** Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.4 V.



| Test Conditions     |                   | LTE Band 7 (QPSK) / Middle Channel | Limit   |
|---------------------|-------------------|------------------------------------|---------|
| Temperature<br>(°C) | Voltage<br>(Volt) | BW 10MHz                           | Note 2. |
|                     |                   | Deviation<br>(ppm)                 | Result  |
| 50                  | Normal Voltage    | 0.0011                             | PASS    |
| 40                  | Normal Voltage    | 0.0005                             |         |
| 30                  | Normal Voltage    | 0.0017                             |         |
| 20(Ref.)            | Normal Voltage    | 0.0000                             |         |
| 10                  | Normal Voltage    | 0.0020                             |         |
| 0                   | Normal Voltage    | 0.0016                             |         |
| -10                 | Normal Voltage    | 0.0009                             |         |
| -20                 | Normal Voltage    | 0.0022                             |         |
| -30                 | Normal Voltage    | 0.0004                             |         |
| 20                  | Maximum Voltage   | 0.0013                             |         |
| 20                  | Normal Voltage    | 0.0000                             |         |
| 20                  | Battery End Point | 0.0012                             |         |

**Note:**

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



| Test Conditions     |                   | LTE Band 38 (QPSK) / Middle Channel | Limit   |
|---------------------|-------------------|-------------------------------------|---------|
| Temperature<br>(°C) | Voltage<br>(Volt) | BW 10MHz                            | Note 2. |
|                     |                   | Deviation<br>(ppm)                  | Result  |
| 50                  | Normal Voltage    | 0.0002                              | PASS    |
| 40                  | Normal Voltage    | 0.0013                              |         |
| 30                  | Normal Voltage    | 0.0006                              |         |
| 20(Ref.)            | Normal Voltage    | 0.0000                              |         |
| 10                  | Normal Voltage    | 0.0012                              |         |
| 0                   | Normal Voltage    | 0.0019                              |         |
| -10                 | Normal Voltage    | 0.0020                              |         |
| -20                 | Normal Voltage    | 0.0000                              |         |
| -30                 | Normal Voltage    | 0.0014                              |         |
| 20                  | Maximum Voltage   | 0.0006                              |         |
| 20                  | Normal Voltage    | 0.0000                              |         |
| 20                  | Battery End Point | 0.0018                              |         |

**Note:**

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 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                 | -63.70          | -13              | -50.70                  | -68.57                   | 3.55                       | 8.42                        | H                     |
|                           | 5613                 | -59.87          | -13              | -46.87                  | -66.21                   | 4.34                       | 10.68                       | H                     |
|                           | 7485                 | -54.55          | -13              | -41.55                  | -61.35                   | 5.14                       | 11.94                       | H                     |
|                           | 3741                 | -63.42          | -13              | -50.42                  | -68.29                   | 3.55                       | 8.42                        | V                     |
|                           | 5613                 | -60.46          | -13              | -47.46                  | -66.80                   | 4.34                       | 10.68                       | V                     |
|                           | 7485                 | -54.37          | -13              | -41.37                  | -61.17                   | 5.14                       | 11.94                       | 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                 | -63.14          | -13              | -50.14                  | -67.86                   | 3.41                       | 8.13                        | H                     |
|                           | 5172                 | -59.90          | -13              | -46.90                  | -65.91                   | 4.195                      | 10.20                       | H                     |
|                           | 6894                 | -56.08          | -13              | -43.08                  | -62.53                   | 4.91                       | 11.36                       | H                     |
|                           | 3447                 | -64.12          | -13              | -51.12                  | -68.84                   | 3.413                      | 8.13                        | V                     |
|                           | 5172                 | -59.12          | -13              | -46.12                  | -65.13                   | 4.195                      | 10.20                       | V                     |
|                           | 6894                 | -56.21          | -13              | -43.21                  | -62.66                   | 4.911                      | 11.36                       | V                     |

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



| LTE Band 5 / 10MHz / 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                    | 1664              | -44.01       | -13           | -31.01            | -45.22             | 2.32                 | 5.68                  | H                  |
|                           | 2496              | -59.76       | -13           | -46.76            | -60.39             | 3.02                 | 5.80                  | H                  |
|                           | 3327              | -61.73       | -13           | -48.73            | -64.19             | 3.27                 | 7.88                  | H                  |
|                           | 1664              | -43.48       | -13           | -30.48            | -44.69             | 2.32                 | 5.68                  | V                  |
|                           | 2496              | -58.93       | -13           | -45.93            | -59.56             | 3.02                 | 5.80                  | V                  |
|                           | 3327              | -61.40       | -13           | -48.40            | -63.86             | 3.27                 | 7.88                  | 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              | -67.91       | -25           | -42.91            | -73.92             | 4.20                 | 10.21                 | H                  |
|                           | 7580              | -57.58       | -25           | -32.58            | -64.44             | 5.12                 | 11.98                 | H                  |
|                           | 10104             | -57.88       | -25           | -32.88            | -64.92             | 5.86                 | 12.90                 | H                  |
|                           | 5052              | -67.82       | -25           | -42.82            | -73.83             | 4.20                 | 10.21                 | V                  |
|                           | 7580              | -50.40       | -25           | -25.40            | -57.26             | 5.12                 | 11.98                 | V                  |
|                           | 10104             | -59.12       | -25           | -34.12            | -66.16             | 5.86                 | 12.90                 | V                  |

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

| LTE Band 38 / 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              | -67.04       | -25           | -42.04            | -75.07             | 2.18                 | 10.21                 | H                  |
|                            | 7760              | -58.49       | -25           | -33.49            | -67.80             | 2.69                 | 12.00                 | H                  |
|                            | 10344             | -58.55       | -25           | -33.55            | -68.26             | 3.19                 | 12.90                 | H                  |
|                            | 5172              | -67.41       | -25           | -42.41            | -75.44             | 2.18                 | 10.21                 | V                  |
|                            | 7760              | -52.76       | -25           | -27.76            | -62.07             | 2.69                 | 12.00                 | V                  |
|                            | 10344             | -58.68       | -25           | -33.68            | -68.39             | 3.19                 | 12.90                 | V                  |

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

**For CA**

| LTE Band 7 CA / 20M+10M / 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                         | 5080                 | -66.43          | -25              | -41.43                  | -72.44                   | 4.20                       | 10.21                       | H                     |
|                                | 7616                 | -62.13          | -25              | -37.13                  | -68.99                   | 5.12                       | 11.98                       | H                     |
|                                | 10160                | -59.00          | -25              | -34.00                  | -66.04                   | 5.86                       | 12.90                       | H                     |
|                                | 5080                 | -66.08          | -25              | -41.08                  | -72.09                   | 4.20                       | 10.21                       | V                     |
|                                | 7616                 | -60.73          | -25              | -35.73                  | -67.59                   | 5.12                       | 11.98                       | V                     |
|                                | 10160                | -60.32          | -25              | -35.32                  | -67.36                   | 5.86                       | 12.90                       | V                     |

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

| LTE Band 38 CA / 15M+15M / 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                          | 5192                 | -66.21          | -25              | -41.21                  | -74.24                   | 2.18                       | 10.21                       | H                     |
|                                 | 7788                 | -61.78          | -25              | -36.78                  | -71.09                   | 2.69                       | 12.00                       | H                     |
|                                 | 10384                | -59.20          | -25              | -34.20                  | -68.91                   | 3.19                       | 12.90                       | H                     |
|                                 | 5192                 | -65.40          | -25              | -40.40                  | -73.43                   | 2.18                       | 10.21                       | V                     |
|                                 | 7784                 | -56.20          | -25              | -31.20                  | -65.51                   | 2.69                       | 12.00                       | V                     |
|                                 | 10384                | -59.63          | -25              | -34.63                  | -69.34                   | 3.19                       | 12.90                       | V                     |

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