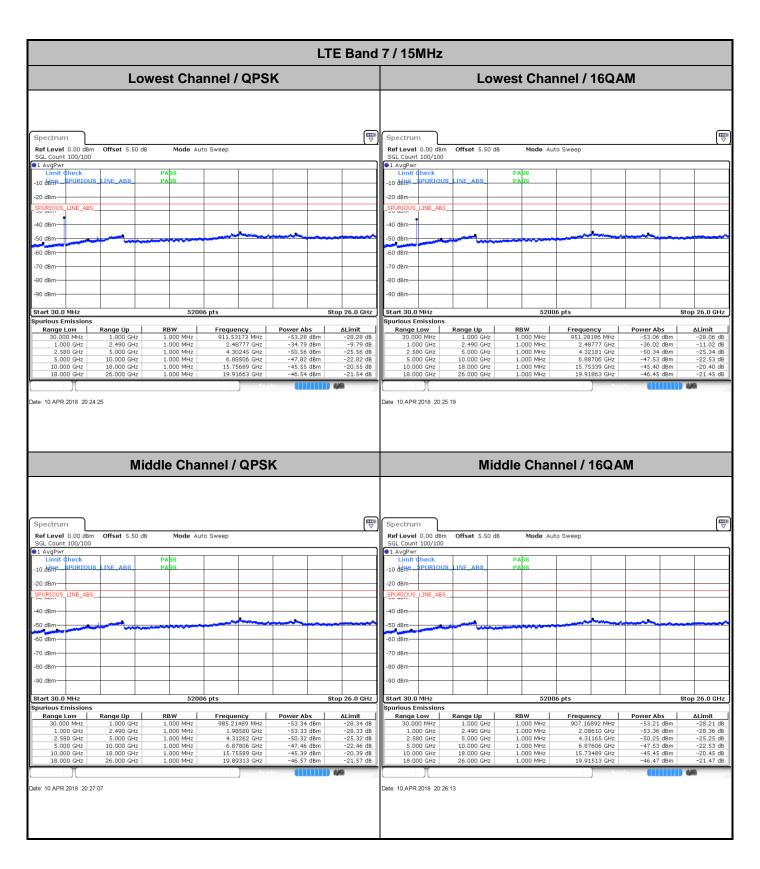


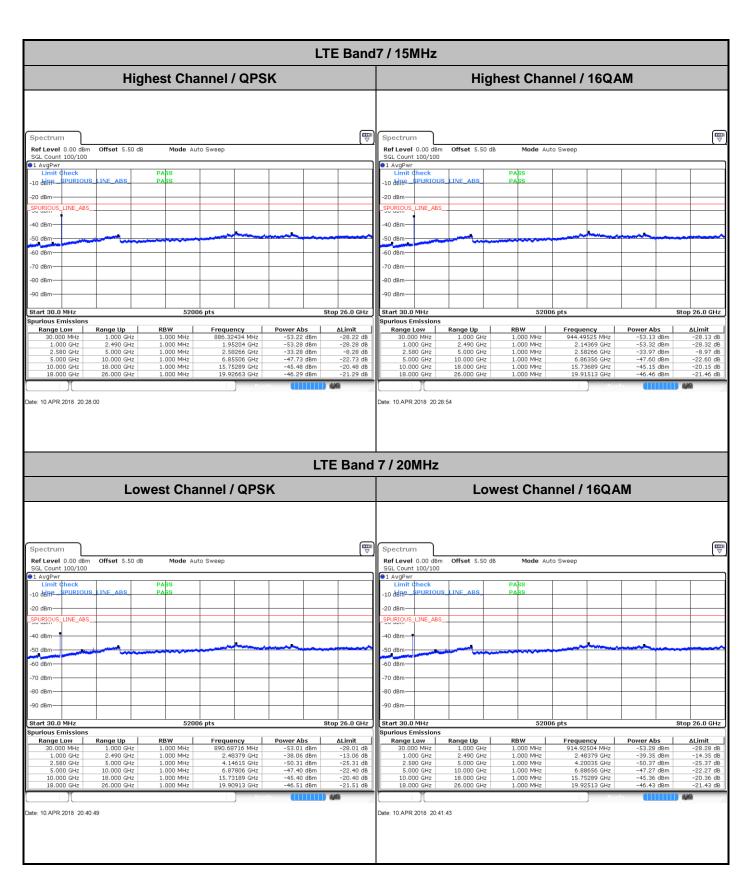
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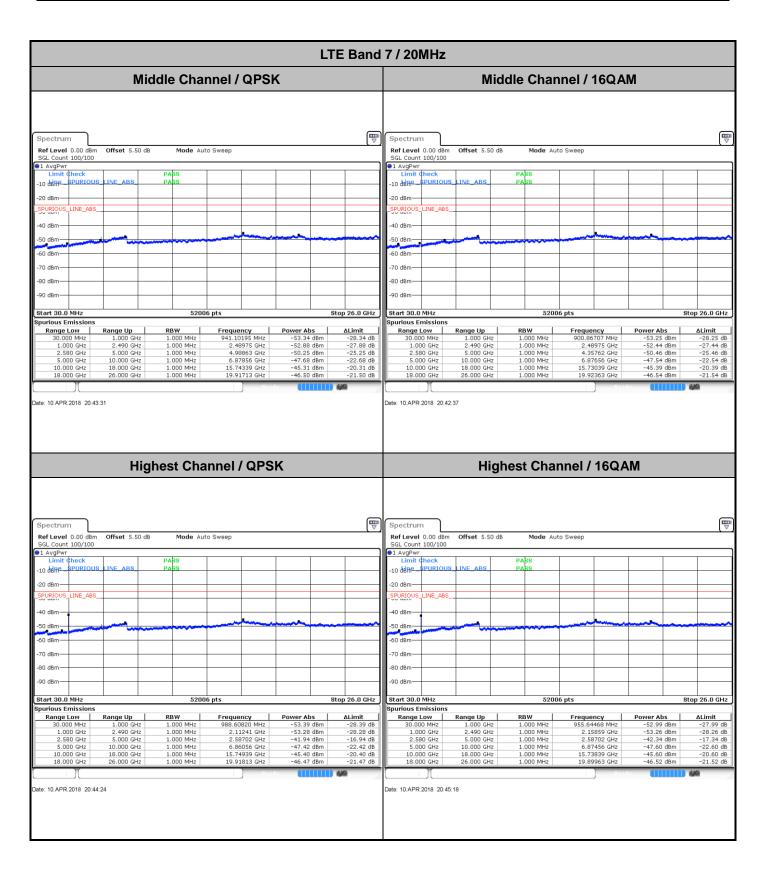
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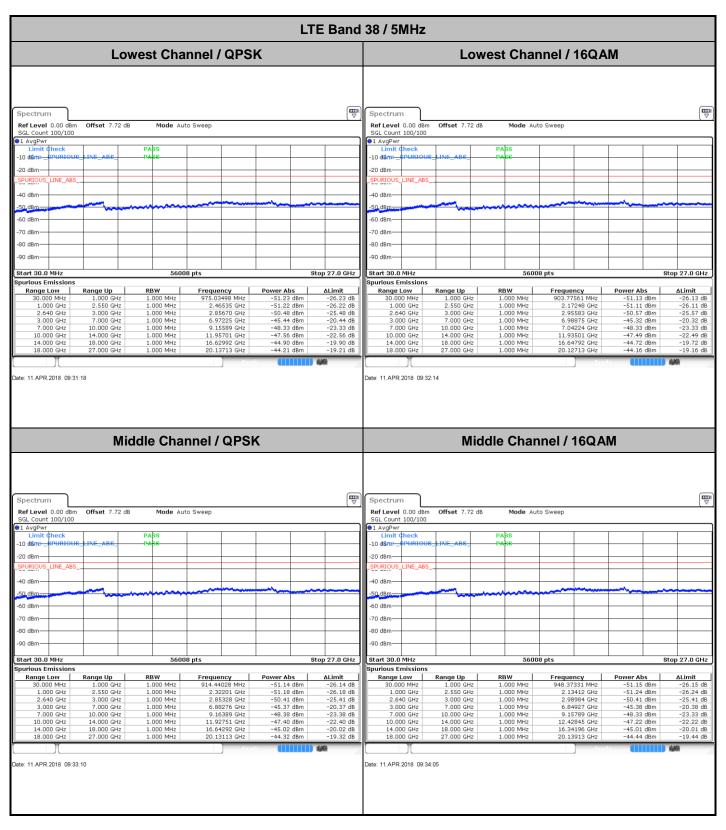
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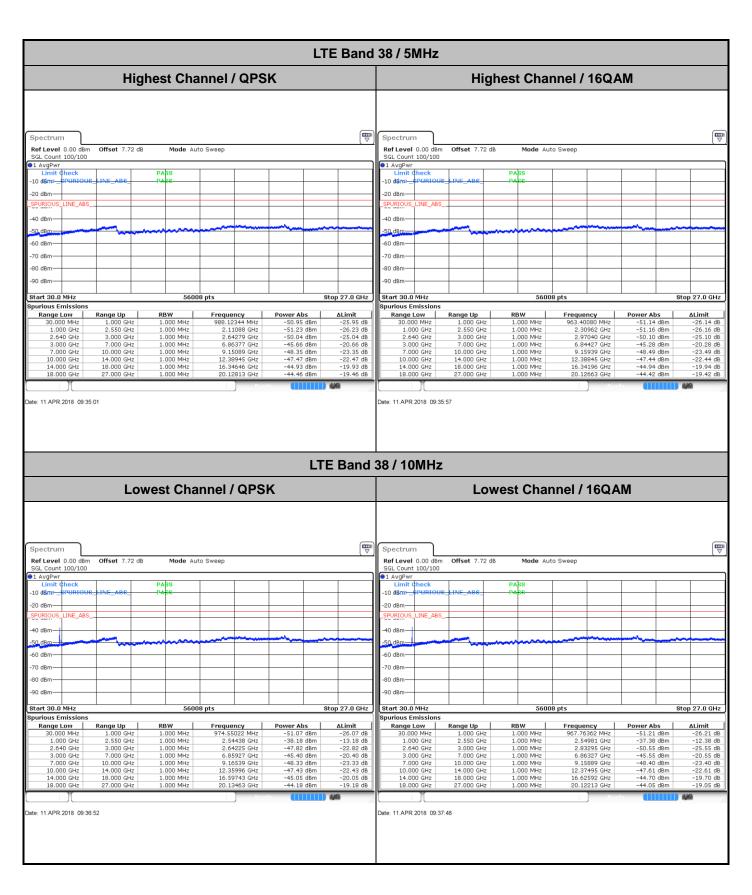
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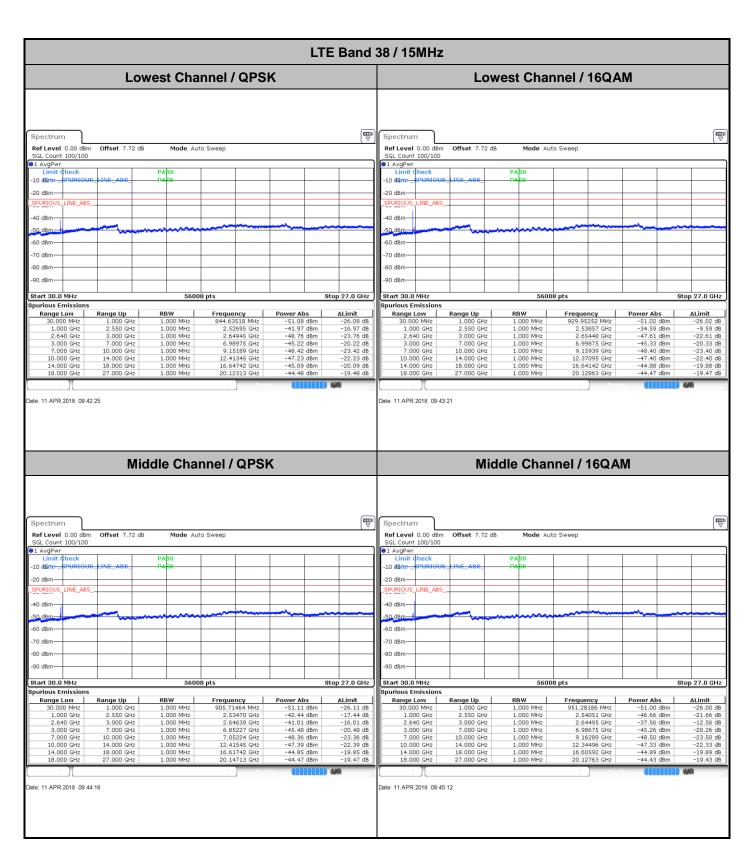
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LTE Band 38 / 10MHz Middle Channel / QPSK Middle Channel / 16QAM Spectrum Spectrum Ref Level 0.00 dBm Offset 7.72 dB Mode Auto Sweep Ref Level 0.00 dBm Offset 7.72 dB Mode Auto Sweep Count 100/100 GL Count 100/100 20 dBm -20 dBm -60 dBm -60 dBm 70 dBr 80 dBm -80 dBm 90 dBm 90 dBm-Start 30.0 MH; 560 Stop 27.0 GHz Start 30.0 MHz 56008 Stop 27.0 GHz rious Emissio Spurious Emissions ΔLimit
-25.87 dB
-21.34 dB
-25.60 dB
-20.27 dB
-23.49 dB
-22.45 dB
-20.02 dB
-19.40 dB 1.000 MHz 1.000 MHz 1.000 MHz 1.000 MHz 1.000 MHz 1.000 MHz 940.61719 MHz 2.54709 GHz 2.64711 GHz 6.99275 GHz 9.16039 GHz 12.39895 GHz Range Low 30,000 MH Range Up ΔLimit
-25.97 dB
-20.61 dB
-23.64 dB
-20.19 dB
-23.29 dB
-22.43 dB
-20.10 dB
-19.44 dB -50.87 dBm -46.34 dBm -50.60 dBm -45.27 dBm -48.49 dBm -47.45 dBm -45.02 dBm 1.000 GHz 2.550 GHz 3.000 GHz 7.000 GHz 10.000 GHz 14.000 GHz 18.000 GHz 27.000 GHz 1.000 MHz 90.06247 MHz 2.53431 GHz 2.96681 GHz 6.87627 GHz 9.16989 GHz 11.94201 GHz 16.65142 GHz 20.11463 GHz -50.97 dBm -45.61 dBm -48.64 dBm 1.000 GHZ 2.550 GHZ 3.000 GHZ 2.640 GHz 3.000 GHz 7.000 GHz 10.000 GHz 14.000 GHz 18.000 GHz -48.64 dBm -45.19 dBm -48.29 dBm -47.43 dBm -45.10 dBm -44.44 dBm 7.000 GHz 10.000 GHz 14.000 GHz .000 GHz 10.000 GHz .000 MHz ate: 11.APR.2018 09:38:43 ate: 11.APR.2018 09:39:39 **Highest Channel / QPSK Highest Channel / 16QAM** Spectrum Spectrum Ref Level 0.00 dBm Offset 7.72 dB Mode Auto Sweep Ref Level 0.00 dBm Offset 7.72 dB Mode Auto Sweep Count 100/100 GL Count 100/100 1 AvgPwr 'imit Check 1 AvgPı 20 dBm -20 dBm SPURIOU 40 dBm 40 dBm 50 dBm 60 dBm -60 dBm 70 dBm -70 dBm 80 dBm -80 dBm 90 dBm -90 dBm Stop 27.0 GHz Start 30.0 MHz Stop 27.0 GHz Start 30.0 MHz 56008 pts 56008 pts rious Emissio Spurious Emissions -50.92 dBm -50.92 dBm -51.18 dBm -36.88 dBm -45.58 dBm -48.03 dBm -47.41 dBm -44.97 dBm -44.27 dBm Range Low ange Up 1.000 GHz 2.550 GHz 3.000 GHz 7.000 GHz 10.000 GHz 14.000 GHz 27.000 GHz Power Abs
-51.27 dBm
-51.09 dBm
-50.38 dBm
-45.35 dBm
-48.19 dBm
-45.15 dBm
-44.23 dBm Range Low 30.000 MH 1.000 GHz 2.550 GHz 3.000 GHz 7.000 GHz 10.000 GHz 14.000 GHz 27.000 GHz ite: 11.APR.2018 09:40:34 ate: 11.APR.2018 09:41:30

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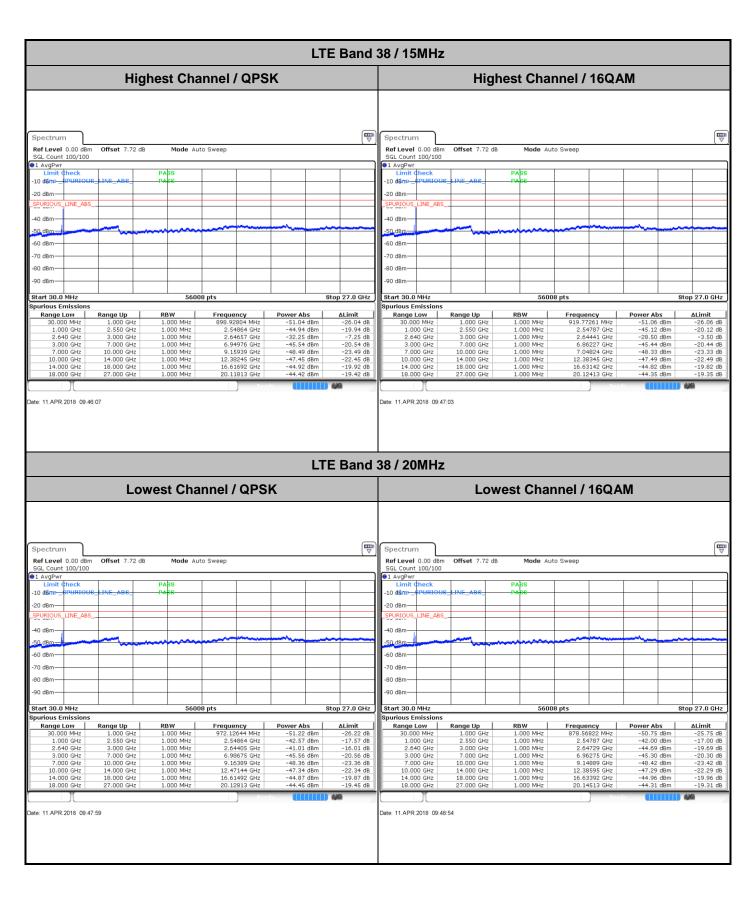
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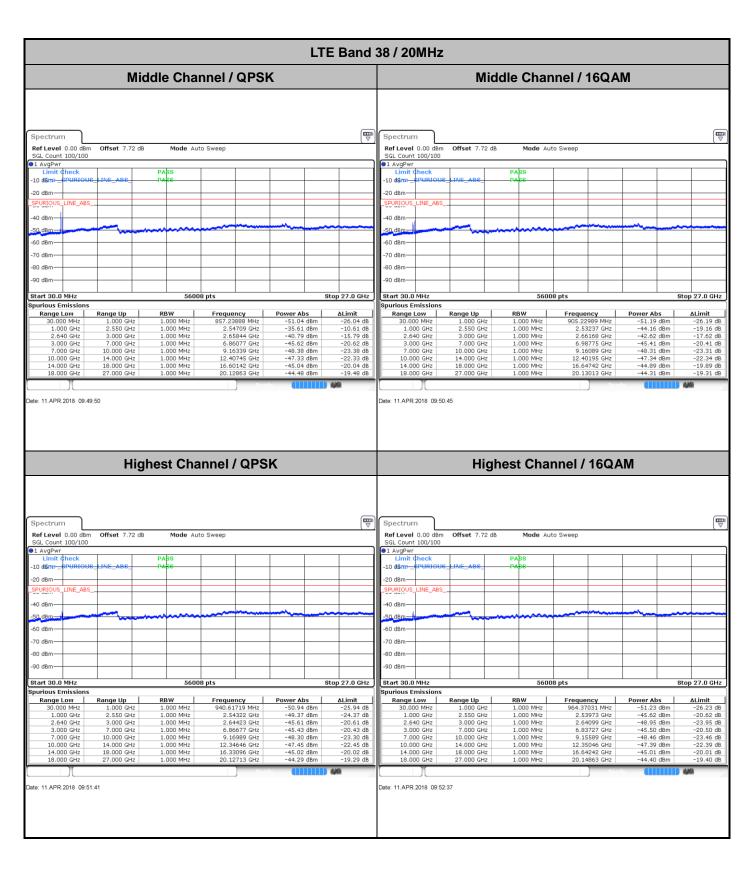
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# Frequency Stability

| Test Conditions     |                   | LTE Band 2 (QPSK) / Middle Channel | Limit   |
|---------------------|-------------------|------------------------------------|---------|
| _ ,                 |                   | BW 10MHz                           | Note 2. |
| Temperature<br>(°C) | Voltage<br>(Volt) | Deviation<br>(ppm)                 | Result  |
| 50                  | Normal Voltage    | 0.0011                             |         |
| 40                  | Normal Voltage    | 0.0005                             |         |
| 30                  | Normal Voltage    | 0.0019                             |         |
| 20(Ref.)            | Normal Voltage    | 0.0000                             |         |
| 10                  | Normal Voltage    | 0.0003                             |         |
| 0                   | Normal Voltage    | 0.0022                             |         |
| -10                 | Normal Voltage    | 0.0026                             | PASS    |
| -20                 | Normal Voltage    | 0.0003                             |         |
| -30                 | Normal Voltage    | 0.0027                             |         |
| 20                  | Maximum Voltage   | 0.0003                             |         |
| 20                  | Normal Voltage    | 0.0001                             |         |
| 20                  | Battery End Point | 0.0022                             |         |

#### Note:

- 1. Normal Voltage =3.85 V.; Battery End Point (BEP) =3.6 V.; Maximum Voltage =4.4 V.
- 2. Note: The frequency fundamental emissions stay within the authorized frequency block.

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| Test (              | Conditions        | LTE Band 4 (QPSK) / Middle Channel | Limit   |
|---------------------|-------------------|------------------------------------|---------|
| _                   |                   | BW 10MHz                           | Note 2. |
| Temperature<br>(°C) | Voltage<br>(Volt) | Deviation<br>(ppm)                 | Result  |
| 50                  | Normal Voltage    | 0.0029                             |         |
| 40                  | Normal Voltage    | 0.0024                             |         |
| 30                  | Normal Voltage    | 0.0013                             |         |
| 20(Ref.)            | Normal Voltage    | 0.0000                             |         |
| 10                  | Normal Voltage    | 0.0031                             |         |
| 0                   | Normal Voltage    | 0.0018                             |         |
| -10                 | Normal Voltage    | 0.0006                             | PASS    |
| -20                 | Normal Voltage    | 0.0020                             |         |
| -30                 | Normal Voltage    | 0.0021                             |         |
| 20                  | Maximum Voltage   | 0.0010                             |         |
| 20                  | Normal Voltage    | 0.0026                             |         |
| 20                  | Battery End Point | 0.0005                             |         |

#### Note:

- 1. Normal Voltage =3.85 V.; Battery End Point (BEP) =3.6 V.; Maximum Voltage =4.4 V.
- 2. Note: The frequency fundamental emissions stay within the authorized frequency block.

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| Test (              | Conditions        | LTE Band 5 (QPSK) / Middle Channel | Limit  |
|---------------------|-------------------|------------------------------------|--------|
| <b>T</b>            | W-16              | BW 10MHz                           | 2.5ppm |
| Temperature<br>(°C) | Voltage<br>(Volt) | Deviation<br>(ppm)                 | Result |
| 50                  | Normal Voltage    | 0.0051                             |        |
| 40                  | Normal Voltage    | 0.0061                             |        |
| 30                  | Normal Voltage    | 0.0032                             |        |
| 20(Ref.)            | Normal Voltage    | 0.0000                             |        |
| 10                  | Normal Voltage    | 0.0048                             |        |
| 0                   | Normal Voltage    | 0.0059                             |        |
| -10                 | Normal Voltage    | 0.0047                             | PASS   |
| -20                 | Normal Voltage    | 0.0018                             |        |
| -30                 | Normal Voltage    | 0.0054                             |        |
| 20                  | Maximum Voltage   | 0.0023                             |        |
| 20                  | Normal Voltage    | 0.0050                             |        |
| 20                  | Battery End Point | 0.0005                             |        |

Note: Normal Voltage =3.85 V.; Battery End Point (BEP) =3.6 V.; Maximum Voltage =4.4 V.

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| Test (              | Conditions        | LTE Band 7 (QPSK) / Middle Channel | Limit   |
|---------------------|-------------------|------------------------------------|---------|
| _ ,                 | V 1               | BW 10MHz                           | Note 2. |
| Temperature<br>(°C) | Voltage<br>(Volt) | Deviation (ppm)                    | Result  |
| 50                  | Normal Voltage    | 0.0027                             |         |
| 40                  | Normal Voltage    | 0.0024                             |         |
| 30                  | Normal Voltage    | 0.0004                             |         |
| 20(Ref.)            | Normal Voltage    | 0.0000                             |         |
| 10                  | Normal Voltage    | 0.0020                             |         |
| 0                   | Normal Voltage    | 0.0027                             |         |
| -10                 | Normal Voltage    | 0.0002                             | PASS    |
| -20                 | Normal Voltage    | 0.0004                             |         |
| -30                 | Normal Voltage    | 0.0007                             |         |
| 20                  | Maximum Voltage   | 0.0005                             |         |
| 20                  | Normal Voltage    | 0.0024                             |         |
| 20                  | Battery End Point | 0.0028                             |         |

#### Note:

- 1. Normal Voltage =3.85 V.; Battery End Point (BEP) =3.6 V.; Maximum Voltage =4.4 V.
- 2. Note: The frequency fundamental emissions stay within the authorized frequency block.

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| Test (              | Conditions        | LTE Band 38 (QPSK) / Middle Channel | Limit   |
|---------------------|-------------------|-------------------------------------|---------|
| - ,                 | V 1               | BW 10MHz                            | Note 2. |
| Temperature<br>(°C) | Voltage<br>(Volt) | Deviation (ppm)                     | Result  |
| 50                  | Normal Voltage    | 0.0004                              |         |
| 40                  | Normal Voltage    | 0.0019                              |         |
| 30                  | Normal Voltage    | 0.0005                              |         |
| 20(Ref.)            | Normal Voltage    | 0.0000                              |         |
| 10                  | Normal Voltage    | 0.0011                              |         |
| 0                   | Normal Voltage    | 0.0015                              |         |
| -10                 | Normal Voltage    | 0.0003                              | PASS    |
| -20                 | Normal Voltage    | 0.0014                              |         |
| -30                 | Normal Voltage    | 0.0001                              |         |
| 20                  | Maximum Voltage   | 0.0020                              |         |
| 20                  | Normal Voltage    | 0.0003                              |         |
| 20                  | Battery End Point | 0.0011                              |         |

#### Note:

- 1. Normal Voltage =3.85V.; Battery End Point (BEP) =3.6 V.; Maximum Voltage =4.4 V.
- 2. Note: The frequency fundamental emissions stay within the authorized frequency block.

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### **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 ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable loss ( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |  |  |  |
|               | 3742.18                   | -43.58        | -13              | -30.58                  | -67.02                  | -50.33                   | 5.85                 | 12.60                       | Н                     |  |  |  |
|               | 5613.27                   | -39.41        | -13              | -26.41                  | -66.75                  | -45.21                   | 7.30                 | 13.10                       | Н                     |  |  |  |
| N 4: -l -ll - | 7484.36                   | -44.16        | -13              | -31.16                  | -75.60                  | -47.31                   | 8.35                 | 11.50                       | Н                     |  |  |  |
| Middle        | 3742.18                   | -46.65        | -13              | -33.65                  | -69.36                  | -53.40                   | 5.85                 | 12.60                       | V                     |  |  |  |
|               | 5613.27                   | -44.22        | -13              | -31.22                  | -70.91                  | -50.02                   | 7.30                 | 13.10                       | V                     |  |  |  |
|               | 7484.36                   | -42.05        | -13              | -29.05                  | -72.85                  | -45.20                   | 8.35                 | 11.50                       | 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 ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>(dBm) | TX Cable loss ( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |  |  |
|            | 3447.18                   | -51.48          | -13              | -38.48                  | -72.22                  | -58.33                 | 5.65                 | 12.50                       | Н                     |  |  |
|            | 5170.77                   | -38.73          | -13              | -25.73                  | -65.82                  | -44.40                 | 7.13                 | 12.80                       | Н                     |  |  |
|            | 6894.36                   | -47.33          | -13              | -34.33                  | -76.45                  | -50.73                 | 8.40                 | 11.80                       | Н                     |  |  |
| NA: alalla | 8617.5                    | -40.71          | -13              | -27.71                  | -73.92                  | -43.56                 | 8.75                 | 11.60                       | Н                     |  |  |
| Middle     | 3447.18                   | -56.11          | -13              | -43.11                  | -76.36                  | -62.96                 | 5.65                 | 12.50                       | V                     |  |  |
|            | 5170.77                   | -43.32          | -13              | -30.32                  | -69.48                  | -48.99                 | 7.13                 | 12.80                       | V                     |  |  |
|            | 6894.36                   | -46.74          | -13              | -33.74                  | -75.27                  | -50.14                 | 8.40                 | 11.80                       | V                     |  |  |
|            | 8617.5                    | -42.42          | -13              | -29.42                  | -75.43                  | -45.27                 | 8.75                 | 11.60                       | V                     |  |  |

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

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|              | LTE Band 5 / 10MHz / QPSK |              |                  |                         |                         |                          |                      |                             |                       |  |  |
|--------------|---------------------------|--------------|------------------|-------------------------|-------------------------|--------------------------|----------------------|-----------------------------|-----------------------|--|--|
| Channel      | Frequency<br>(MHz)        | ERP<br>(dBm) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable loss ( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |  |  |
|              | 1664.18                   | -61.93       | -13              | -48.93                  | -75.36                  | -65.18                   | 4.00                 | 9.40                        | Н                     |  |  |
|              | 2496.27                   | -52.63       | -13              | -39.63                  | -71.44                  | -56.20                   | 4.88                 | 10.60                       | Н                     |  |  |
| NA: al all a | 3328.36                   | -56.56       | -13              | -43.56                  | -77.60                  | -61.49                   | 5.52                 | 12.60                       | Н                     |  |  |
| Middle       | 1664.18                   | -62.76       | -13              | -49.76                  | -75.68                  | -66.01                   | 4.00                 | 9.40                        | V                     |  |  |
|              | 2496.27                   | -56.36       | -13              | -43.36                  | -74.99                  | -59.93                   | 4.88                 | 10.60                       | V                     |  |  |
|              | 3328.36                   | -56.87       | -13              | -43.87                  | -77.49                  | -61.80                   | 5.52                 | 12.60                       | V                     |  |  |

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

|              | LTE Band 7 / 15MHz / QPSK |                 |                  |                         |                         |                          |                      |                             |                       |  |  |
|--------------|---------------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------|-----------------------------|-----------------------|--|--|
| Channel      | Frequency<br>(MHz)        | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable loss ( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |  |  |
|              | 5056.68                   | -50.83          | -25              | -25.83                  | -77.52                  | -56.39                   | 7.14                 | 12.70                       | Н                     |  |  |
|              | 7585.02                   | -46.63          | -25              | -21.63                  | -77.38                  | -49.93                   | 8.30                 | 11.60                       | Н                     |  |  |
| NA: al all a | 10113.36                  | -44.37          | -25              | -19.37                  | -78.70                  | -45.89                   | 10.48                | 12.00                       | Н                     |  |  |
| Middle       | 5056.68                   | -51.99          | -25              | -26.99                  | -78.19                  | -57.55                   | 7.14                 | 12.70                       | V                     |  |  |
|              | 7585.02                   | -46.75          | -25              | -21.75                  | -76.98                  | -50.05                   | 8.30                 | 11.60                       | V                     |  |  |
|              | 10113.36                  | -43.12          | -25              | -18.12                  | -78.55                  | -44.64                   | 10.48                | 12.00                       | V                     |  |  |

 $Remark: Spurious\ emissions\ within\ 30\text{-}1000MHz\ were\ found\ more\ than\ 20dB\ below\ limit\ line.$ 

|         | LTE Band 38 / 15MHz / QPSK |                 |                  |                         |                         |                          |                      |                             |                       |  |  |
|---------|----------------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------|-----------------------------|-----------------------|--|--|
| Channel | Frequency<br>(MHz)         | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable loss ( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |  |  |
|         | 5176.50                    | -46.29          | -25              | -21.29                  | -73.41                  | -51.85                   | 7.14                 | 12.70                       | Н                     |  |  |
|         | 7764.75                    | -47.72          | -25              | -22.72                  | -78.70                  | -51.02                   | 8.30                 | 11.60                       | Н                     |  |  |
| Middle  | 10353.00                   | -44.02          | -25              | -19.02                  | -79.17                  | -45.54                   | 10.48                | 12.00                       | Н                     |  |  |
| Middle  | 5176.50                    | -48.96          | -25              | -23.96                  | -75.08                  | -54.52                   | 7.14                 | 12.70                       | V                     |  |  |
|         | 7764.75                    | -43.92          | -25              | -18.92                  | -74.36                  | -47.22                   | 8.30                 | 11.60                       | V                     |  |  |
|         | 10353.00                   | -43.14          | -25              | -18.14                  | -78.82                  | -44.66                   | 10.48                | 12.00                       | V                     |  |  |

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

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