

Occupied Bandwidth

Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 30 kHz Delta 1 [T1] 0.79 dB          *VSW 100 kHz *VMW 100 kHz          SWT 30 ms 3.036000000 MHz          OBSW 2.888000000 MHz          Marker 1 [T1] 1.47 dBm          D1 13.21 dBm          D2 -12.77 dBm          Temp 1 [T1 OSW] 1.849980000 GHz          Temp 2 [T1 OSW] 1.850150000 GHz          Temp 3 [T1 OSW] 1.852840000 GHz          Center 1.8515 GHz 600 kHz/ Span 6 MHz          Date: 26.JUL.2023 14:26:25</p>	<p>Ref 30 dBm *Att 25 dB *RBW 30 kHz Delta 1 [T1] -0.33 dB          *VSW 100 kHz *VMW 100 kHz          SWT 30 ms 3.060000000 MHz          OBSW 2.712000000 MHz          Marker 1 [T1] 1.38 dBm          D1 14.11 dBm          D2 -11.38 dBm          Temp 1 [T1 OSW] 1.849970000 GHz          Temp 2 [T1 OSW] 1.850140000 GHz          Temp 3 [T1 OSW] 1.852850000 GHz          Center 1.8515 GHz 600 kHz/ Span 6 MHz          Date: 26.JUL.2023 14:26:54</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 30 kHz Delta 1 [T1] 0.52 dB          *VSW 100 kHz *VMW 100 kHz          SWT 30 ms 3.012000000 MHz          OBSW 2.700000000 MHz          Marker 1 [T1] 1.62 dBm          D1 14.6 dBm          D2 -11.6 dBm          Temp 1 [T1 OSW] 1.881000000 GHz          Temp 2 [T1 OSW] 1.883850000 GHz          Center 1.8825 GHz 600 kHz/ Span 6 MHz          Date: 26.JUL.2023 14:27:13</p>	<p>Ref 30 dBm *Att 25 dB *RBW 30 kHz Delta 1 [T1] 1.16 dB          *VSW 100 kHz *VMW 100 kHz          SWT 30 ms 3.012000000 MHz          OBSW 2.700000000 MHz          Marker 1 [T1] 1.05 dBm          D1 13.24 dBm          D2 -12.3 dBm          Temp 1 [T1 OSW] 1.880980000 GHz          Temp 2 [T1 OSW] 1.881150000 GHz          Temp 3 [T1 OSW] 1.883850000 GHz          Center 1.8825 GHz 600 kHz/ Span 6 MHz          Date: 26.JUL.2023 14:27:31</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 30 kHz Delta 1 [T1] 1.92 dB          *VSW 100 kHz *VMW 100 kHz          SWT 30 ms 3.028923077 MHz          OBSW 2.700000000 MHz          Marker 1 [T1] 1.74 dBm          D1 15.31 dBm          D2 -10.60 dBm          Temp 1 [T1 OSW] 1.911980000 GHz          Temp 2 [T1 OSW] 1.912150000 GHz          Temp 3 [T1 OSW] 1.914850000 GHz          Center 1.9135 GHz 600 kHz/ Span 6 MHz          Date: 1.AUG.2023 10:51:18</p>	<p>Ref 30 dBm *Att 25 dB *RBW 30 kHz Delta 1 [T1] 2.13 dB          *VSW 100 kHz *VMW 100 kHz          SWT 30 ms 3.048076923 MHz          OBSW 2.700000000 MHz          Marker 1 [T1] 1.82 dBm          D1 13.99 dBm          D2 -12.00 dBm          Temp 1 [T1 OSW] 1.911970000 GHz          Temp 2 [T1 OSW] 1.912150000 GHz          Temp 3 [T1 OSW] 1.914850000 GHz          Center 1.9135 GHz 600 kHz/ Span 6 MHz          Date: 1.AUG.2023 10:49:05</p>

Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Delta 1 (T1) 0.65 dB            VBW 300 kHz    SWT 5 ms    OBSW 4.52000000 MHz    Marker 1 (T1) -14.43 dBm            D1 16.51 dBm    Temp 1 (T1 OSW) 1.85024000 GHz    -14.43 dBm            Temp 2 (T1 OSW) 1.85476000 GHz    -14.43 dBm            Center 1.8525 GHz    1 MHz/    Span 10 MHz            Date: 26.JUL.2023 14:29:14</p>	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Delta 1 (T1) -0.09 dB            VBW 300 kHz    SWT 5 ms    OBSW 4.56000000 MHz    Marker 1 (T1) -14.13 dBm            D1 15.79 dBm    Temp 1 (T1 OSW) 1.84980000 GHz    -14.13 dBm            Temp 2 (T1 OSW) 1.85478000 GHz    -14.13 dBm            Center 1.8525 GHz    1 MHz/    Span 10 MHz            Date: 26.JUL.2023 14:29:45</p>
Middle	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Delta 1 (T1) -0.03 dB            VBW 300 kHz    SWT 5 ms    OBSW 4.54000000 MHz    Marker 1 (T1) -14.87 dBm            D1 15.87 dBm    Temp 1 (T1 OSW) 1.88022000 GHz    -14.87 dBm            Temp 2 (T1 OSW) 1.88476000 GHz    -14.87 dBm            Center 1.8825 GHz    1 MHz/    Span 10 MHz            Date: 26.JUL.2023 14:30:15</p>	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Delta 1 (T1) -0.79 dB            VBW 300 kHz    SWT 5 ms    OBSW 4.56000000 MHz    Marker 1 (T1) -13.72 dBm            D1 16.58 dBm    Temp 1 (T1 OSW) 1.87938000 GHz    -13.72 dBm            Temp 2 (T1 OSW) 1.88478000 GHz    -13.72 dBm            Center 1.8825 GHz    1 MHz/    Span 10 MHz            Date: 26.JUL.2023 14:30:40</p>
Highest	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Delta 1 (T1) -0.07 dB            VBW 300 kHz    SWT 5 ms    OBSW 4.52000000 MHz    Marker 1 (T1) -14.02 dBm            D1 16.11 dBm    Temp 1 (T1 OSW) 1.91024000 GHz    -14.02 dBm            Temp 2 (T1 OSW) 1.91476000 GHz    -14.02 dBm            Center 1.9125 GHz    1 MHz/    Span 10 MHz            Date: 1.AUG.2023 10:38:43</p>	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Delta 1 (T1) -1.57 dB            VBW 300 kHz    SWT 5 ms    OBSW 4.54000000 MHz    Marker 1 (T1) -13.76 dBm            D1 15.88 dBm    Temp 1 (T1 OSW) 1.90932000 GHz    -13.76 dBm            Temp 2 (T1 OSW) 1.91478000 GHz    -13.76 dBm            Center 1.9125 GHz    1 MHz/    Span 10 MHz            Date: 1.AUG.2023 10:36:47</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.57 dB *VSW 300 kHz *SWT 10 ms 10.000000000 MHz                      OSW 8.960000000 MHz Marker 1 [T1] -11.82 dBm                      1.850120000 GHz                      1.850520000 GHz                      Temp 2 [T1 OSW]                      Center 1.855 GHz 2 MHz/ Span 20 MHz                      Date: 26.JUL.2023 14:31:54</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.49 dB *VSW 300 kHz *SWT 10 ms 10.000000000 MHz                      OSW 8.960000000 MHz Marker 1 [T1] -11.53 dBm                      1.849960000 GHz                      1.850360000 GHz                      Temp 2 [T1 OSW]                      Center 1.855 GHz 2 MHz/ Span 20 MHz                      Date: 26.JUL.2023 14:32:16</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.12 dB *VSW 300 kHz *SWT 10 ms 9.800000000 MHz                      OSW 8.960000000 MHz Marker 1 [T1] -11.79 dBm                      1.877580000 GHz                      1.878180000 GHz                      Temp 2 [T1 OSW]                      Center 1.8825 GHz 2 MHz/ Span 20 MHz                      Date: 26.JUL.2023 14:32:35</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -1.17 dB *VSW 300 kHz *SWT 10 ms 9.840000000 MHz                      OSW 8.960000000 MHz Marker 1 [T1] -11.32 dBm                      1.877580000 GHz                      1.878180000 GHz                      Temp 2 [T1 OSW]                      Center 1.8825 GHz 2 MHz/ Span 20 MHz                      Date: 26.JUL.2023 14:32:54</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.92 dB *VSW 300 kHz *SWT 10 ms 9.760000000 MHz                      OSW 8.960000000 MHz Marker 1 [T1] -11.41 dBm                      1.905120000 GHz                      1.905520000 GHz                      Temp 2 [T1 OSW]                      Center 1.91 GHz 2 MHz/ Span 20 MHz                      Date: 26.JUL.2023 14:33:13</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -1.43 dB *VSW 300 kHz *SWT 10 ms 9.800000000 MHz                      OSW 8.000000000 MHz Marker 1 [T1] -10.88 dBm                      1.905120000 GHz                      1.905520000 GHz                      Temp 2 [T1 OSW]                      Center 1.91 GHz 2 MHz/ Span 20 MHz                      Date: 26.JUL.2023 14:33:32</p>

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VMW 1 MHz 2.04 dB SWT 2.5 ms 15.84000000 MHz Marker 1 [T1] -16.74 dBm OSW 15.84000000 MHz Temp 1 [T1 OSW] -16.74 dBm Temp 2 [T1 OSW] 1.85072000 GHz Temp 1 [T1 OSW] -16.74 dBm Temp 2 [T1 OSW] 1.86428000 GHz Center 1.8575 GHz 3 MHz/ Span 30 MHz Date: 26.JUL.2023 14:34:12</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VMW 1 MHz 1.15 dB SWT 2.5 ms 15.06000000 MHz Marker 1 [T1] -16.9 dBm OSW 15.06000000 MHz Temp 1 [T1 OSW] -16.9 dBm Temp 2 [T1 OSW] 1.85072000 GHz Temp 1 [T1 OSW] -16.9 dBm Temp 2 [T1 OSW] 1.86434000 GHz Center 1.8575 GHz 3 MHz/ Span 30 MHz Date: 26.JUL.2023 14:34:34</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VMW 1 MHz 0.06 dB SWT 2.5 ms 15.66000000 MHz Marker 1 [T1] -16.44 dBm OSW 15.66000000 MHz Temp 1 [T1 OSW] -16.44 dBm Temp 2 [T1 OSW] 1.87572000 GHz Temp 1 [T1 OSW] -16.44 dBm Temp 2 [T1 OSW] 1.88928000 GHz Center 1.8825 GHz 3 MHz/ Span 30 MHz Date: 26.JUL.2023 14:35:00</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VMW 1 MHz 1.12 dB SWT 2.5 ms 15.06000000 MHz Marker 1 [T1] -16.38 dBm OSW 15.06000000 MHz Temp 1 [T1 OSW] -16.38 dBm Temp 2 [T1 OSW] 1.87572000 GHz Temp 1 [T1 OSW] -16.38 dBm Temp 2 [T1 OSW] 1.88928000 GHz Center 1.8825 GHz 3 MHz/ Span 30 MHz Date: 26.JUL.2023 14:35:22</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VMW 1 MHz -1.48 dB SWT 2.5 ms 15.30000000 MHz Marker 1 [T1] -16.59 dBm OSW 15.30000000 MHz Temp 1 [T1 OSW] -16.59 dBm Temp 2 [T1 OSW] 1.90078000 GHz Temp 1 [T1 OSW] -16.59 dBm Temp 2 [T1 OSW] 1.91428000 GHz Center 1.9075 GHz 3 MHz/ Span 30 MHz Date: 26.JUL.2023 14:35:42</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VMW 1 MHz 0.04 dB SWT 2.5 ms 15.62000000 MHz Marker 1 [T1] -16.31 dBm OSW 15.62000000 MHz Temp 1 [T1 OSW] -16.31 dBm Temp 2 [T1 OSW] 1.90066000 GHz Temp 1 [T1 OSW] -16.31 dBm Temp 2 [T1 OSW] 1.91428000 GHz Center 1.9075 GHz 3 MHz/ Span 30 MHz Date: 26.JUL.2023 14:36:04</p>

### Occupied Bandwidth

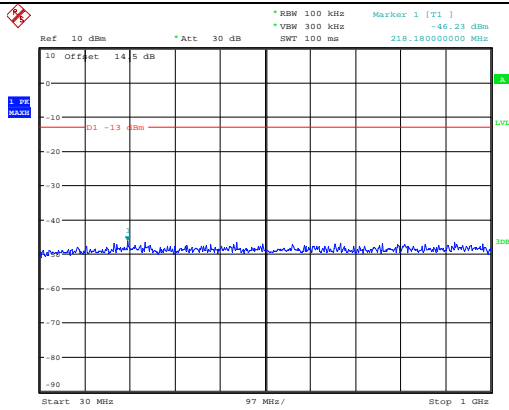
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>                     *RBW 300 kHz Delta 1 [T1] 1.84 dB                      *VSW 1 MHz                      *Att 25 dB                      *SWT 2.5 ms                      Ref 30 dBm                      Offset 14.5 dB                      OSW 19.92000000 MHz                      Marker 1 [T1] 16.55 dBm                      Temp 1 [T1 OSW] 1.85104000 GHz                      Temp 2 [T1 OSW] 1.86904000 GHz                      Center 1.86 GHz 4 MHz/ Span 40 MHz                      Date: 26.JUL.2023 14:36:28                 </p>	<p>                     *RBW 300 kHz Delta 1 [T1] -0.53 dB                      *VSW 1 MHz                      *Att 25 dB                      *SWT 2.5 ms                      Ref 30 dBm                      Offset 14.5 dB                      OSW 19.76000000 MHz                      Marker 1 [T1] 16.1 dBm                      Temp 1 [T1 OSW] 1.85096000 GHz                      Temp 2 [T1 OSW] 1.86904000 GHz                      Center 1.86 GHz 4 MHz/ Span 40 MHz                      Date: 26.JUL.2023 14:36:50                 </p>
Middle	<p>                     *RBW 300 kHz Delta 1 [T1] 0.76 dB                      *VSW 1 MHz                      *Att 25 dB                      *SWT 2.5 ms                      Ref 30 dBm                      Offset 14.5 dB                      OSW 20.32000000 MHz                      Marker 1 [T1] 15.4 dBm                      Temp 1 [T1 OSW] 1.87242000 GHz                      Temp 2 [T1 OSW] 1.89154000 GHz                      Center 1.8825 GHz 4 MHz/ Span 40 MHz                      Date: 26.JUL.2023 14:37:16                 </p>	<p>                     *RBW 300 kHz Delta 1 [T1] 0.20 dB                      *VSW 1 MHz                      *Att 25 dB                      *SWT 2.5 ms                      Ref 30 dBm                      Offset 14.5 dB                      OSW 19.76000000 MHz                      Marker 1 [T1] 15.33 dBm                      Temp 1 [T1 OSW] 1.87266000 GHz                      Temp 2 [T1 OSW] 1.89154000 GHz                      Center 1.8825 GHz 4 MHz/ Span 40 MHz                      Date: 26.JUL.2023 14:37:34                 </p>
Highest	<p>                     *RBW 300 kHz Delta 1 [T1] 1.49 dB                      *VSW 1 MHz                      *Att 25 dB                      *SWT 2.5 ms                      Ref 30 dBm                      Offset 14.5 dB                      OSW 19.76000000 MHz                      Marker 1 [T1] 15.9 dBm                      Temp 1 [T1 OSW] 1.89508000 GHz                      Temp 2 [T1 OSW] 1.91404000 GHz                      Center 1.905 GHz 4 MHz/ Span 40 MHz                      Date: 26.JUL.2023 14:37:57                 </p>	<p>                     *RBW 300 kHz Delta 1 [T1] 1.52 dB                      *VSW 1 MHz                      *Att 25 dB                      *SWT 2.5 ms                      Ref 30 dBm                      Offset 14.5 dB                      OSW 20.00000000 MHz                      Marker 1 [T1] 14.9 dBm                      Temp 1 [T1 OSW] 1.89492000 GHz                      Temp 2 [T1 OSW] 1.91404000 GHz                      Center 1.905 GHz 4 MHz/ Span 40 MHz                      Date: 26.JUL.2023 14:38:16                 </p>

Spurious Emissions at Antenna Terminal

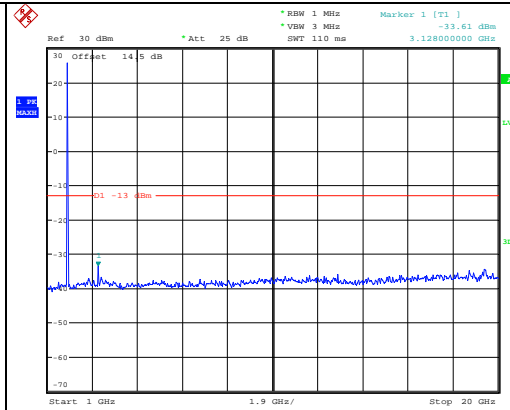
Channel

1.4MHz Bandwidth QPSK

Lowest

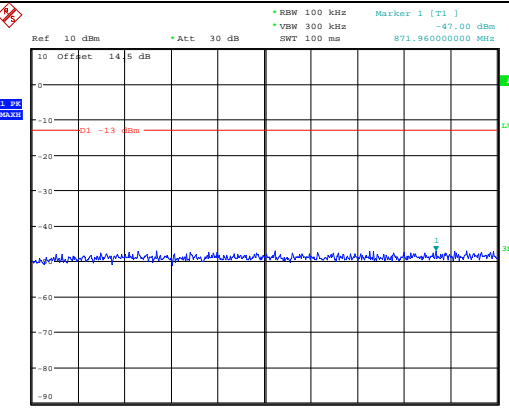


Date: 27.JUL.2023 13:43:35

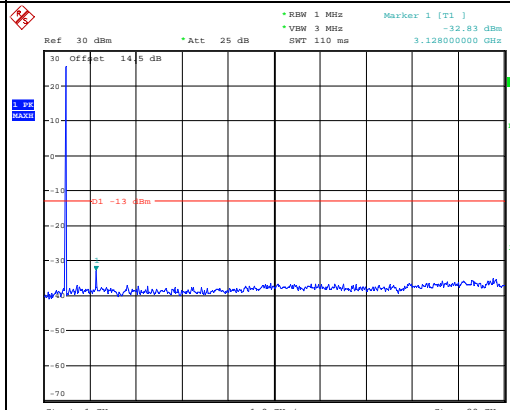


Date: 27.JUL.2023 13:43:46

Middle

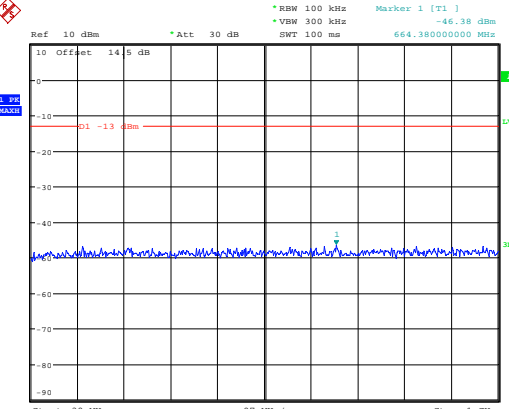


Date: 27.JUL.2023 13:44:00

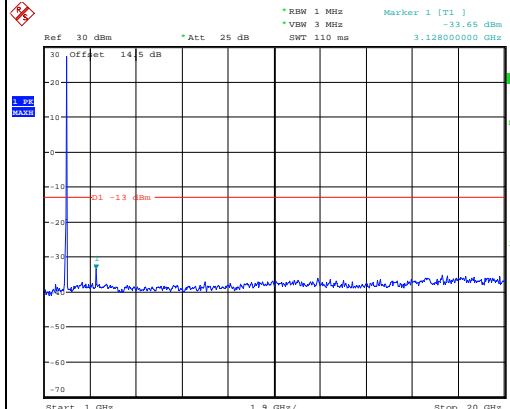


Date: 27.JUL.2023 13:44:11

Highest



Date: 27.JUL.2023 13:44:32



Date: 27.JUL.2023 13:44:43

### Spurious Emissions at Antenna Terminal

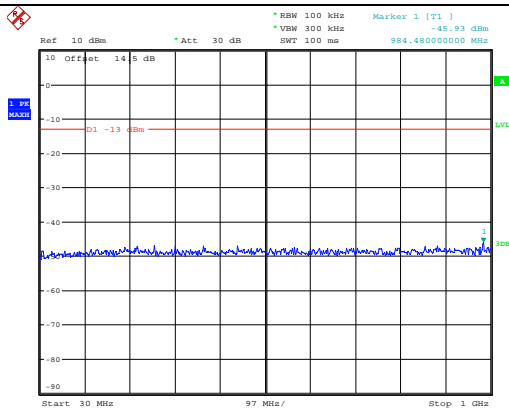
Channel	3MHz Bandwidth QPSK	
Lowest	<p>Ref 10 dBm    *Att 30 dB            *RBW 100 kHz    Marker 1 [T1]    -46.42 dBm            *VBW 300 kHz            *SWT 100 ms    840.920000000 MHz</p> <p>Date: 27.JUL.2023 13:45:00</p>	<p>Ref 30 dBm    *Att 25 dB            *RBW 1 MHz    Marker 1 [T1]    -33.99 dBm            *VBW 3 MHz            *SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 13:45:11</p>
Middle	<p>Ref 10 dBm    *Att 30 dB            *RBW 100 kHz    Marker 1 [T1]    -46.05 dBm            *VBW 300 kHz            *SWT 100 ms    324.880000000 MHz</p> <p>Date: 27.JUL.2023 13:45:28</p>	<p>Ref 30 dBm    *Att 25 dB            *RBW 1 MHz    Marker 1 [T1]    -33.31 dBm            *VBW 3 MHz            *SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 13:45:39</p>
Highest	<p>Ref 10 dBm    *Att 30 dB            *RBW 100 kHz    Marker 1 [T1]    -45.94 dBm            *VBW 300 kHz            *SWT 100 ms    633.340000000 MHz</p> <p>Date: 27.JUL.2023 13:45:53</p>	<p>Ref 30 dBm    *Att 25 dB            *RBW 1 MHz    Marker 1 [T1]    -34.18 dBm            *VBW 3 MHz            *SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 13:46:04</p>

Spurious Emissions at Antenna Terminal

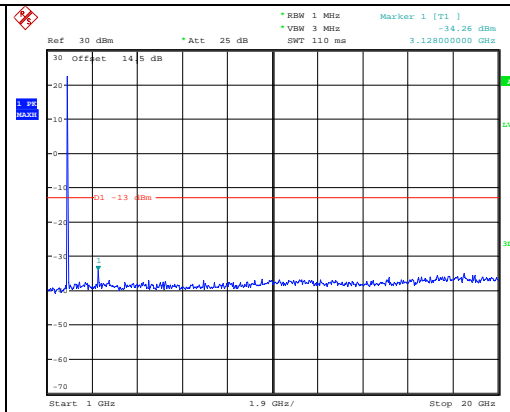
Channel

5MHz Bandwidth QPSK

Lowest

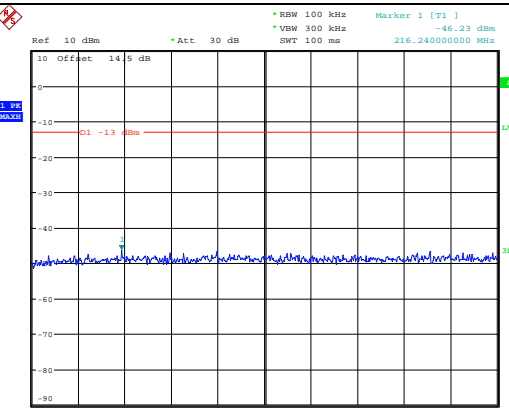


Date: 27.JUL.2023 13:46:25

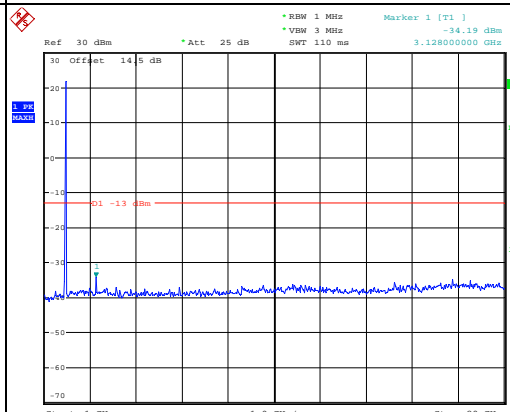


Date: 27.JUL.2023 13:46:36

Middle

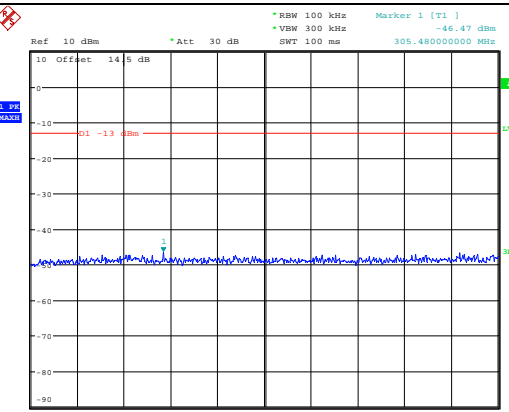


Date: 27.JUL.2023 13:46:49

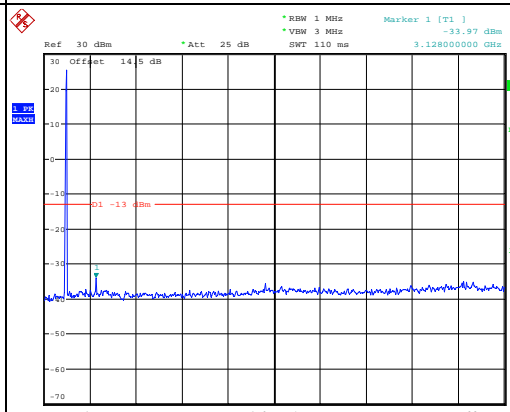


Date: 27.JUL.2023 13:47:01

Highest



Date: 27.JUL.2023 13:47:17



Date: 27.JUL.2023 13:47:29



Spurious Emissions at Antenna Terminal

Channel	10MHz Bandwidth QPSK	
Lowest	<p>Ref 10 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.96 dBm                      VSW 300 kHz    SWT 100 ms    577.08800000 MHz</p> <p>Start 30 MHz    97 MHz/    Stop 1 GHz</p> <p>Date: 27.JUL.2023 13:47:49</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -34.83 dBm                      VSW 3 MHz    SWT 110 ms    3.128000000 GHz</p> <p>Start 1 GHz    1.9 GHz/    Stop 20 GHz</p> <p>Date: 27.JUL.2023 13:48:00</p>
	Middle	<p>Ref 10 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -47.93 dBm                      VSW 300 kHz    SWT 100 ms    953.44000000 MHz</p> <p>Start 30 MHz    97 MHz/    Stop 1 GHz</p> <p>Date: 27.JUL.2023 13:48:13</p>
Highest		<p>Ref 10 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -47.08 dBm                      VSW 300 kHz    SWT 100 ms    956.88000000 MHz</p> <p>Start 30 MHz    97 MHz/    Stop 1 GHz</p> <p>Date: 27.JUL.2023 13:48:38</p>

Spurious Emissions at Antenna Terminal

Channel	15MHz Bandwidth QPSK	
Lowest	<p>Ref 10 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.48 dBm            VSW 300 kHz    SWT 100 ms    860.32000000 MHz</p> <p>Date: 27.JUL.2023 13:49:10</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -34.91 dBm            VSW 3 MHz    SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 13:49:21</p>
Middle	<p>Ref 10 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.68 dBm            VSW 300 kHz    SWT 100 ms    220.120000000 MHz</p> <p>Date: 27.JUL.2023 13:49:34</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -34.43 dBm            VSW 3 MHz    SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 13:49:46</p>
Highest	<p>Ref 10 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.68 dBm            VSW 300 kHz    SWT 100 ms    926.280000000 MHz</p> <p>Date: 27.JUL.2023 13:49:59</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -35.43 dBm            VSW 3 MHz    SWT 110 ms    18.024000000 GHz</p> <p>Date: 27.JUL.2023 13:50:10</p>

Spurious Emissions at Antenna Terminal

Channel	20MHz Bandwidth QPSK	
Lowest	<p>Ref 10 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.67 dBm            VSW 300 kHz    SWT 100 ms    937.92000000 GHz</p> <p>Date: 27.JUL.2023 13:50:31</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -33.72 dBm            VSW 3 MHz    SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 13:50:45</p>
Middle	<p>Ref 10 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -47.01 dBm            VSW 300 kHz    SWT 100 ms    856.440000000 GHz</p> <p>Date: 27.JUL.2023 13:50:59</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -33.65 dBm            VSW 3 MHz    SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 13:51:10</p>
Highest	<p>Ref 10 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.56 dBm            VSW 300 kHz    SWT 100 ms    1.000000000 GHz</p> <p>Date: 27.JUL.2023 13:51:24</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -33.15 dBm            VSW 3 MHz    SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 13:51:35</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
<p>QPSK 1.4MHz</p>		
<p>QPSK 3MHz</p>		

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 5MHz	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Marker 1 [T1]    -25.87 dBm  VSW 300 kHz    SWT 35 ms    1.850000000 GHz</p> <p>Center: 1.85 GHz    1 MHz/    Span 10 MHz</p> <p>Date: 27.JUL.2023 11:41:21</p>	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Marker 1 [T1]    -31.38 dBm  VSW 300 kHz    SWT 35 ms    1.915000000 GHz</p> <p>Center: 1.915 GHz    1 MHz/    Span 10 MHz</p> <p>Date: 1.AUG.2023 10:31:08</p>
QPSK 10MHz	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Marker 1 [T1]    -34.05 dBm  VSW 300 kHz    SWT 35 ms    1.850000000 GHz</p> <p>Center: 1.85 GHz    2 MHz/    Span 20 MHz</p> <p>Date: 27.JUL.2023 11:42:52</p>	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Marker 1 [T1]    -30.40 dBm  VSW 300 kHz    SWT 35 ms    1.915000000 GHz</p> <p>Center: 1.915 GHz    2 MHz/    Span 20 MHz</p> <p>Date: 27.JUL.2023 11:43:10</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 15MHz		
QPSK 20MHz		

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz		
16QAM 3MHz		

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 5MHz	<p>Ref 30 dBm *Act 25 dB *RBW 100 kHz *VBW 300 kHz *SWT 35 ms Marker 1 [T1] -27.01 dBm 1.85000000 GHz</p> <p>Center 1.85 GHz 1 MHz/ Span 10 MHz</p> <p>Date: 27.JUL.2023 11:41:29</p>	<p>Ref 30 dBm *Act 25 dB *RBW 100 kHz *VBW 300 kHz *SWT 5 ms Marker 1 [T1] -32.42 dBm 1.91500000 GHz</p> <p>Center 1.915 GHz 1 MHz/ Span 10 MHz</p> <p>Date: 1.AUG.2023 10:31:39</p>
16QAM 10MHz	<p>Ref 30 dBm *Act 25 dB *RBW 100 kHz *VBW 300 kHz *SWT 35 ms Marker 1 [T1] -33.84 dBm 1.84990000 GHz</p> <p>Center 1.85 GHz 2 MHz/ Span 20 MHz</p> <p>Date: 27.JUL.2023 11:43:01</p>	<p>Ref 30 dBm *Act 25 dB *RBW 100 kHz *VBW 300 kHz *SWT 35 ms Marker 1 [T1] -26.29 dBm 1.91500000 GHz</p> <p>Center 1.915 GHz 2 MHz/ Span 20 MHz</p> <p>Date: 27.JUL.2023 11:43:19</p>



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 15MHz	<p>Ref 30 dBm    Att 25 dB    RBW 300 kHz    Marker 1 [T1]    -28.23 dBm            VBW 1 MHz    SWT 35 ms    1.85000000 GHz</p> <p>Center: 1.85 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 27.JUL.2023 11:44:10</p>	<p>Ref 30 dBm    Att 25 dB    RBW 300 kHz    Marker 1 [T1]    -28.67 dBm            VBW 1 MHz    SWT 35 ms    1.91500000 GHz</p> <p>Center: 1.915 GHz    3 MHz/    Span 30 MHz</p> <p>Date: 27.JUL.2023 11:44:25</p>
16QAM 20MHz	<p>Ref 30 dBm    Att 25 dB    RBW 300 kHz    Marker 1 [T1]    -31.21 dBm            VBW 1 MHz    SWT 35 ms    1.85000000 GHz</p> <p>Center: 1.85 GHz    4 MHz/    Span 40 MHz</p> <p>Date: 27.JUL.2023 11:44:43</p>	<p>Ref 30 dBm    Att 25 dB    RBW 300 kHz    Marker 1 [T1]    -31.61 dBm            VBW 1 MHz    SWT 35 ms    1.91500000 GHz</p> <p>Center: 1.915 GHz    4 MHz/    Span 40 MHz</p> <p>Date: 27.JUL.2023 11:44:58</p>

**4.13 Antenna Port Test Data and Results for LTE Band 26**

Serial Number:	27BI-1	Test Date:	2023/7/24-2023/7/28
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	24.5-26.3	Relative Humidity: (%)	46-62	ATM Pressure: (kPa)	99.7-100.6
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	/
Weinschel	Power splitter	1515	RA915	Each time	/
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	/
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30

\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Frequency for Each Mode:**

Operation Bandwidth	Lowest Frequency For 90S (MHz)	Highest Frequency For 90S (MHz)	Channel Cross 90S and 22H	Lowest Frequency For 22H (MHz)	Middle Frequency For 22H (MHz)	Highest Frequency For 22H (MHz)
1.4MHz	814.7	823.3	824	824.7	831.5	848.3
3MHz	815.5	822.5	824	825.5	831.5	847.5
5MHz	816.5	821.5	824	826.5	831.5	846.5
10MHz	819	/	824	829	831.5	844
15MHz	821.5	/	824	831.5	836.5	841.5

Note: 15MHz bandwidth 821.5MHz cross Rules 90S and 22H.

**Test Data:****FCC§2.1046; § 22.913 (a), § 90.635****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)						Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel For 90S	Highest Channel For 90S	Cross Channel	Lowest Frequency For 22H	Middle Frequency For 22H	Highest Frequency For 22H		
1.4MHz QPSK	RB1#0	23.5	23.51	23.18	23.11	23.75	23.51	22.41	38.45
	RB1#3	23.47	23.98	23.80	23.68	23.62	23.57		
	RB1#5	23.38	23.89	23.83	23.65	23.65	23.54		
	RB3#0	23.57	24.08	24.07	23.76	23.89	23.65		
	RB3#3	23.45	23.96	24.08	23.72	23.9	23.61		
	RB6#0	22.42	22.93	23.00	22.72	22.82	22.61		
1.4MHz 16QAM	RB1#0	23.25	23.76	22.59	23.56	22.41	23.45	22.12	38.45
	RB1#3	23.22	23.73	22.58	23.62	22.4	23.51		
	RB1#5	23.28	23.79	22.59	23.50	22.41	23.39		
	RB3#0	22.42	22.93	23.08	22.52	22.9	22.41		
	RB3#3	22.37	22.88	23.02	22.46	22.84	22.35		
	RB6#0	21.6	22.11	22.12	21.80	21.94	21.69		
3MHz QPSK	RB1#0	23.75	24.26	23.91	24.58	23.73	24.4	22.91	38.45
	RB1#8	23.68	24.19	24.01	24.43	23.83	24.25		
	RB1#14	23.85	24.36	24.05	24.38	23.87	24.2		
	RB6#0	22.8	24.26	23.91	24.51	22.91	23.42		
	RB6#9	22.83	24.19	24.01	24.36	23.01	23.19		
	RB15#0	22.81	24.36	24.05	24.31	22.94	23.27		
3MHz 16QAM	RB1#0	23.69	23.31	23.09	23.53	22.53	23.7	22.53	38.45
	RB1#8	23.54	23.34	23.19	23.30	22.45	23.61		
	RB1#14	23.62	23.32	23.12	23.38	22.6	23.44		
	RB6#0	21.86	24.20	22.71	23.81	22.11	22.37		
	RB6#9	21.9	24.05	22.63	23.72	22.14	22.37		
	RB15#0	21.88	24.13	22.78	23.55	21.96	22.42		
5MHz QPSK	RB1#0	23.45	22.37	22.29	22.48	23.59	24.35	22.68	38.45
	RB1#13	23.56	22.41	22.32	22.48	23.65	24.24		
	RB1#24	23.5	22.39	22.14	22.53	23.71	24.21		
	RB15#0	22.52	23.03	22.82	23.51	22.64	23.33		
	RB15#10	22.57	23.08	23.02	23.58	22.84	23.4		
	RB25#0	22.58	23.09	22.79	23.62	22.61	23.44		
5MHz 16QAM	RB1#0	22.56	23.96	23.77	24.46	22.4	22.49	22.79	38.45
	RB1#13	22.51	24.07	23.83	24.35	22.33	22.43		
	RB1#24	22.59	24.01	23.89	24.32	22.43	22.34		
	RB15#0	21.54	23.03	22.82	23.44	21.85	22.36		
	RB15#10	21.57	23.08	23.02	23.51	21.82	22.45		
	RB25#0	21.71	23.09	22.79	23.55	21.68	22.54		
10MHz QPSK	RB1#0	24.06	/	22.58	22.60	23.86	24.26	22.59	38.45
	RB1#25	23.92	/	22.51	22.54	23.77	24.18		
	RB1#49	23.99	/	22.61	22.45	23.9	24.21		
	RB25#0	22.92	/	22.03	22.47	22.81	23.44		
	RB25#25	22.94	/	22.00	22.56	22.99	23.48		
	RB50#0	23	/	21.86	22.65	22.8	23.33		
10MHz 16QAM	RB1#0	23.05	/	22.54	23.69	22.36	23.51	22.7	38.45

	RB1#25	23.07	/	22.46	23.72	22.28	23.54		
	RB1#49	23	/	22.68	23.66	22.5	23.48		
	RB25#0	22.2	/	24.04	24.37	21.97	22.44		
	RB25#25	22.16	/	23.95	24.29	22.09	22.49		
	RB50#0	22.14	/	24.08	24.32	21.92	22.57		
15MHz QPSK	RB1#0	24.1	/	22.99	23.55	24.28	23.96	22.61	38.45
	RB1#38	24.12	/	23.17	23.59	24.22	24.04		
	RB1#74	24.09	/	22.98	23.44	24.24	23.99		
	RB36#0	23.15	/	22.54	23.62	23.32	23.17		
	RB36#39	23	/	22.46	23.65	23.49	23.16		
	RB75#0	23.01	/	22.68	23.59	23.37	23.17		
15MHz 16QAM	RB1#0	23.11	/	22.15	22.55	23.76	23.32	22.09	38.45
	RB1#38	23.08	/	22.27	22.60	23.59	23.28		
	RB1#74	23.03	/	22.10	22.68	23.61	23.17		
	RB36#0	22.2	/	22.63	22.34	22.45	22.16		
	RB36#39	22.19	/	22.63	22.36	22.45	22.18		
	RB75#0	22.04	/	22.66	22.35	22.48	22.17		

Note:

ERP= Conducted Power(dBm) - Lc(dB) + Gr(dBd)

Gr(dBd)=Gr(dBi)-2.15

The limit of 90S is 50dBm(100W) for conducted. Limit of 22H is 38.45dBm for ERP. The stricter limit was listed in the table.

**Result: Pass**

Peak-to-average Ratio(PAR)					
Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Frequency For 22H	Middle Frequency For 22H	Highest Frequency For 22H	
15MHz QPSK	RB1#0	5.38	5.42	5.99	13
	RB75#0	5.61	6.12	6.06	13
15MHz 16QAM	RB1#0	5.87	6.15	7.15	13
	RB75#0	6.63	7.02	6.99	13
<b>Result:</b>					<b>Pass</b>

FCC §2.1049, §22.905, §90.209:Occupied Bandwidth						
Operation Mode	99% Occupied Bandwidth (MHz)					
	Lowest For 90S	Highest For 90S	Cross	Lowest For 22H	Middle For 22H	Highest For 22H
1.4MHz QPSK	1.104	1.110	1.110	1.104	1.110	1.110
1.4MHz 16QAM	1.098	1.110	1.110	1.116	1.110	1.110
3MHz QPSK	2.700	2.712	2.712	2.700	2.700	2.700
3MHz 16QAM	2.700	2.700	2.712	2.700	2.700	2.687
5MHz QPSK	4.540	4.540	4.540	4.560	4.540	4.540
5MHz 16QAM	4.560	4.580	4.540	4.580	4.560	4.520
10MHz QPSK	8.960	/	9.000	9.000	8.960	8.960
10MHz 16QAM	8.960	/	9.000	9.000	9.000	8.960
15MHz QPSK	13.500	/	13.680	13.500	13.500	13.560
15MHz 16QAM	13.560	/	13.620	13.560	13.560	13.560

Operation Mode	26 dB Occupied Bandwidth (MHz)					
	Lowest For 90S	Highest For 90S	Cross	Lowest For 22H	Middle For 22H	Highest For 22H
1.4MHz QPSK	1.290	1.319	1.296	1.326	1.284	1.302
1.4MHz 16QAM	1.308	1.351	1.271	1.274	1.272	1.302
3MHz QPSK	3.012	3.036	3.019	3.019	3.024	3.012
3MHz 16QAM	3.048	3.110	3.038	3.099	3.084	3.000
5MHz QPSK	5.160	5.420	5.469	5.344	5.560	5.300
5MHz 16QAM	5.320	5.467	5.338	5.455	5.360	5.200
10MHz QPSK	9.840	/	9.992	9.907	9.760	9.800
10MHz 16QAM	9.680	/	9.962	10.083	9.920	9.840
15MHz QPSK	15.180	/	15.604	15.660	15.424	15.180
15MHz 16QAM	15.240	/	15.324	15.120	15.207	14.940

Note: The test plots please refer to the Plots of Occupied Bandwidth

**FCC §2.1051, §22.917(a),§90.543:Spurious Emissions at Antenna Terminal**

**Result:** Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.

**FCC §2.1051, §22.917(a),§90.543:Out of band emission, Band Edge**

**Result:** Pass, Please refer to the test plots of Out of band emission, Band Edge.

**FCC §2.1055, §22.355,§90.213: Frequency Stability**

Test Modulation:	15 MHz QPSK		Test Channel:	821.5	MHz
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.8	-0.37	0.000	2.5
	-20	3.8	8.87	0.011	2.5
	-10	3.8	8.69	0.010	2.5
	0	3.8	10.74	0.013	2.5
	10	3.8	-4.37	-0.005	2.5
	20	3.8	-4.54	-0.005	2.5
	30	3.8	9.83	0.012	2.5
	40	3.8	-5.95	-0.007	2.5
	50	3.8	-2.76	-0.003	2.5
Frequency Stability vs. Voltage	20	3.5	-5.06	-0.006	2.5
	20	4.35	8.89	0.011	2.5
<b>Result:</b>				<b>Pass</b>	

<b>FCC §2.1055, §22.355, §90.213: Frequency Stability</b>					
Test Modulation:	15 MHz 16QAM		Test Channel:	821.5	MHz
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.8	0.62	0.001	2.5
	-20	3.8	-4.42	-0.005	2.5
	-10	3.8	8.82	0.011	2.5
	0	3.8	9.70	0.012	2.5
	10	3.8	9.71	0.012	2.5
	20	3.8	-6.98	-0.008	2.5
	30	3.8	-5.09	-0.006	2.5
	40	3.8	-3.16	-0.004	2.5
Frequency Stability vs. Voltage	20	3.5	-4.05	-0.005	2.5
	20	4.35	8.50	0.010	2.5
				<b>Result:</b>	<b>Pass</b>

<b>FCC §2.1055, §22.355, §90.213: Frequency Stability</b>					
Test Modulation:	15 MHz QPSK		Test Channel:	831.5	MHz
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.8	-1.28	-0.002	2.5
	-20	3.8	8.28	0.010	2.5
	-10	3.8	7.96	0.010	2.5
	0	3.8	10.07	0.012	2.5
	10	3.8	-5.21	-0.006	2.5
	20	3.8	-5.63	-0.007	2.5
	30	3.8	9.52	0.011	2.5
	40	3.8	-6.52	-0.008	2.5
Frequency Stability vs. Voltage	20	3.5	-5.52	-0.007	2.5
	20	4.35	8.34	0.010	2.5
				<b>Result:</b>	<b>Pass</b>

<b>FCC §2.1055, §22.355, §90.213: Frequency Stability</b>					
Test Modulation:	15 MHz 16QAM		Test Channel:	831.5	MHz
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.8	0.63	0.001	2.5
	-20	3.8	-4.82	-0.006	2.5
	-10	3.8	9.49	0.011	2.5
	0	3.8	9.84	0.012	2.5
	10	3.8	9.63	0.012	2.5
	20	3.8	-7.16	-0.009	2.5
	30	3.8	-4.92	-0.006	2.5
	40	3.8	-3.10	-0.004	2.5
Frequency Stability vs. Voltage	20	3.5	-4.07	-0.005	2.5
	20	4.35	8.60	0.010	2.5
				<b>Result:</b>	<b>Pass</b>

**Test Plots** (Note: The 14.5dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):

<b>Occupied Bandwidth</b>		
<b>Channel</b>	<b>1.4MHz Bandwidth QPSK</b>	<b>1.4MHz Bandwidth 16QAM</b>
Lowest For 90S	<p style="text-align: center;">Date: 26.JUL.2023 14:38:36</p>	<p style="text-align: center;">Date: 26.JUL.2023 14:38:52</p>
Highest For 90S	<p style="text-align: center;">Date: 27.JUL.2023 15:50:11</p>	<p style="text-align: center;">Date: 27.JUL.2023 15:47:03</p>
Cross Channel	<p style="text-align: center;">Date: 27.JUL.2023 15:52:37</p>	<p style="text-align: center;">Date: 27.JUL.2023 15:53:49</p>



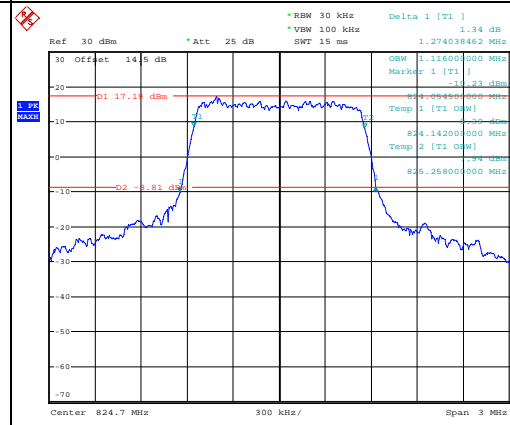
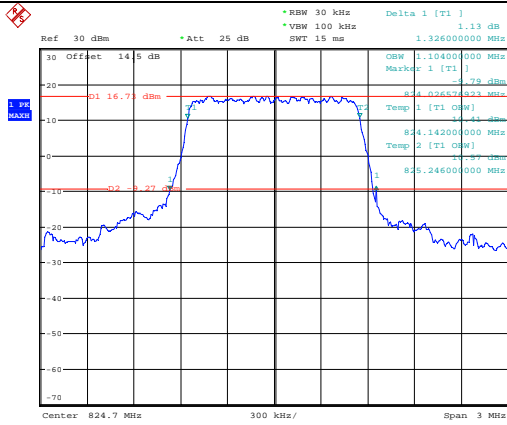
**Occupied Bandwidth**

**Channel**

**1.4MHz Bandwidth QPSK**

**1.4MHz Bandwidth 16QAM**

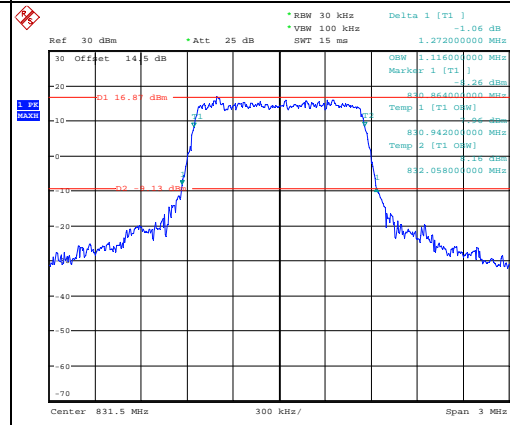
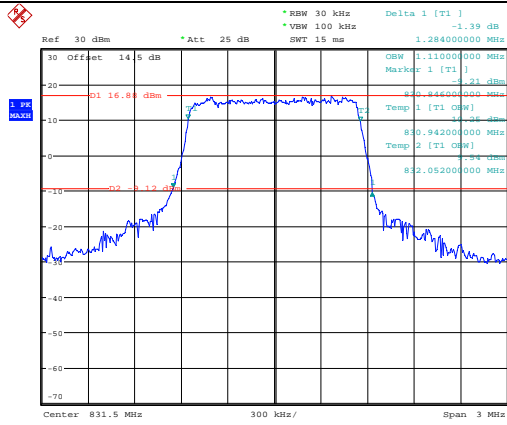
Lowest  
For 22H



Date: 27.JUL.2023 15:34:13

Date: 27.JUL.2023 15:44:11

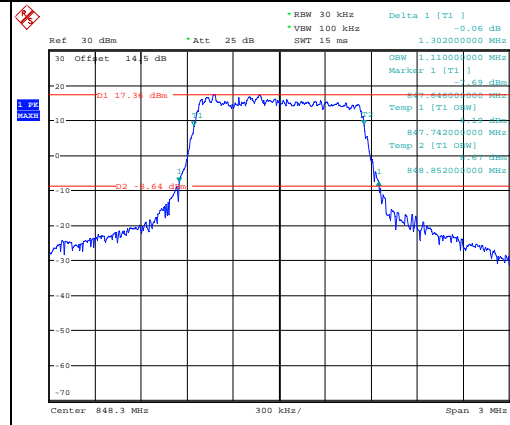
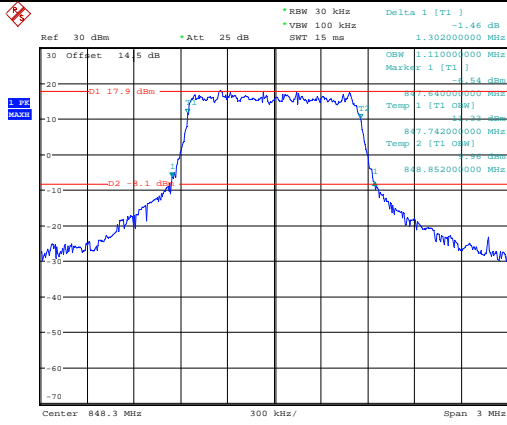
Middle  
For 22H



Date: 26.JUL.2023 14:39:14

Date: 26.JUL.2023 14:39:32

Highest  
For 22H



Date: 26.JUL.2023 14:39:56

Date: 26.JUL.2023 14:40:14

### Occupied Bandwidth

Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest For 90S	<p>Ref 30 dBm *Att 25 dB *RBW 30 kHz *VBW 100 kHz SWT 30 ms Delta 1 [T1] 0.23 dB              Center 815.5 MHz 600 kHz/ Span 6 MHz              Date: 26.JUL.2023 14:40:41</p>	<p>Ref 30 dBm *Att 25 dB *RBW 30 kHz *VBW 100 kHz SWT 30 ms Delta 1 [T1] 1.65 dB              Center 815.5 MHz 600 kHz/ Span 6 MHz              Date: 26.JUL.2023 14:40:56</p>
Highest For 90S	<p>Ref 30 dBm *Att 25 dB *RBW 30 kHz *VBW 100 kHz SWT 30 ms Delta 1 [T1] -12.36 dBm              Center 822.5 MHz 600 kHz/ Span 6 MHz              Date: 27.JUL.2023 16:53:51</p>	<p>Ref 30 dBm *Att 25 dB *RBW 30 kHz *VBW 100 kHz SWT 30 ms Delta 1 [T1] -12.36 dBm              Center 822.5 MHz 600 kHz/ Span 6 MHz              Date: 27.JUL.2023 16:53:51</p>
Cross Channel	<p>Ref 30 dBm *Att 25 dB *RBW 30 kHz *VBW 100 kHz SWT 30 ms Delta 1 [T1] -12.05 dBm              Center 824 MHz 600 kHz/ Span 6 MHz              Date: 27.JUL.2023 15:58:17</p>	<p>Ref 30 dBm *Att 25 dB *RBW 30 kHz *VBW 100 kHz SWT 30 ms Delta 1 [T1] 0.64 dB              Center 824 MHz 600 kHz/ Span 6 MHz              Date: 27.JUL.2023 15:56:46</p>

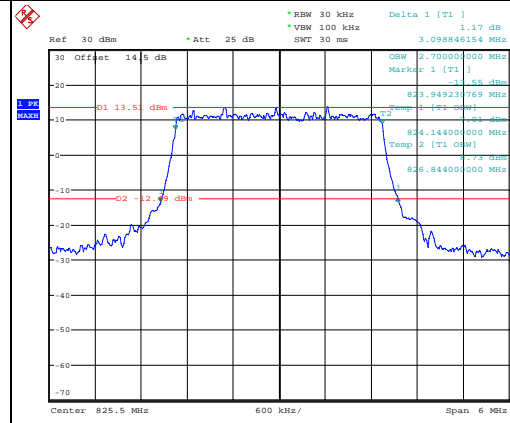
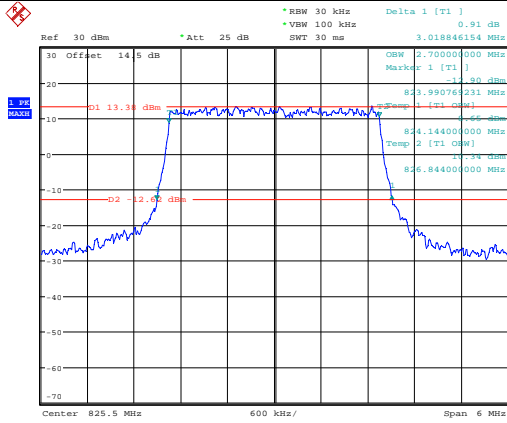
**Occupied Bandwidth**

**Channel**

**3MHz Bandwidth QPSK**

**3MHz Bandwidth 16QAM**

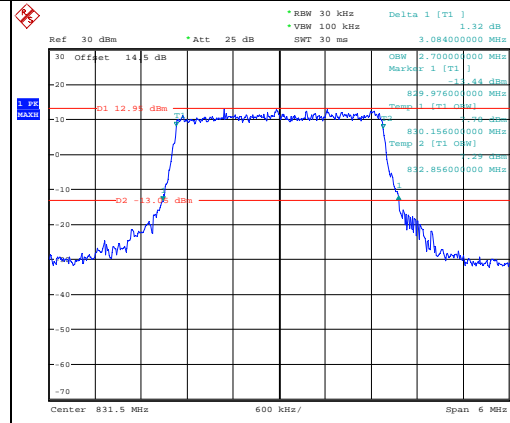
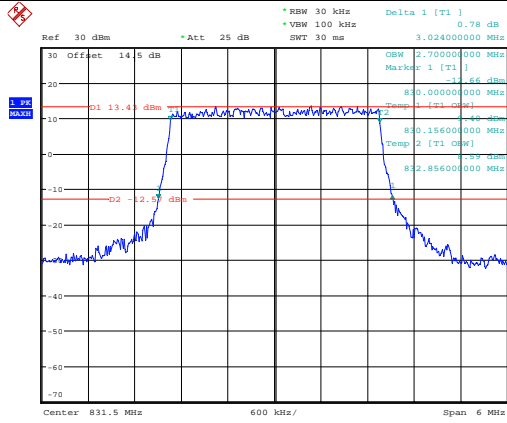
Lowest  
For 22H



Date: 27.JUL.2023 16:59:43

Date: 27.JUL.2023 16:58:33

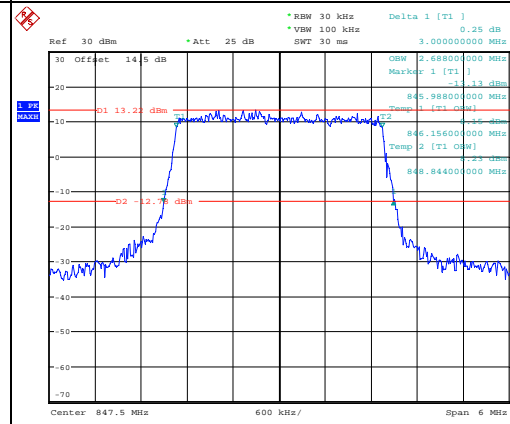
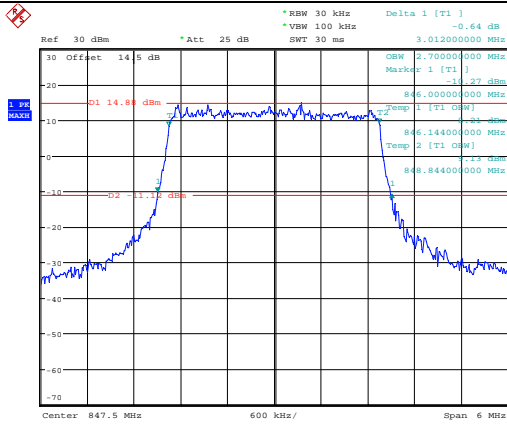
Middle  
For 22H



Date: 26.JUL.2023 14:41:16

Date: 26.JUL.2023 14:41:35

Highest  
For 22H



Date: 26.JUL.2023 14:41:51

Date: 26.JUL.2023 14:42:06

Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest For 90S	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.27 dB *VSW 300 kHz *VSW 300 kHz SWT 5 ms 5.16000000 MHz</p> <p>OSW 4.54000000 MHz Marker 1 [T1] -16.31 dBm Temp 1 [T1 OSW] Temp 2 [T1 OSW]</p> <p>Center 816.5 MHz 1 MHz/ Span 10 MHz</p> <p>Date: 26.JUL.2023 14:42:41</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.67 dB *VSW 300 kHz *VSW 300 kHz SWT 5 ms 5.32000000 MHz</p> <p>OSW 4.58000000 MHz Marker 1 [T1] -15.04 dBm Temp 1 [T1 OSW] Temp 2 [T1 OSW]</p> <p>Center 816.5 MHz 1 MHz/ Span 10 MHz</p> <p>Date: 26.JUL.2023 14:43:06</p>
Highest For 90S	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.31 dB *VSW 300 kHz *VSW 300 kHz SWT 5 ms 5.420126205 MHz</p> <p>OSW 4.54000000 MHz Marker 1 [T1] -17.16 dBm Temp 1 [T1 OSW] Temp 2 [T1 OSW]</p> <p>Center 821.5 MHz 1 MHz/ Span 10 MHz</p> <p>Date: 27.JUL.2023 16:51:33</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Marker 1 [T1] -10.46 dBm *VSW 300 kHz *VSW 300 kHz SWT 5 ms 5.46304590 MHz</p> <p>OSW 4.58000000 MHz Delta 1 [T1] -15.63 dBm Temp 1 [T1 OSW] Temp 2 [T1 OSW]</p> <p>Center 821.5 MHz 1 MHz/ Span 10 MHz</p> <p>Date: 27.JUL.2023 16:47:25</p>
Cross Channel	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.45 dB *VSW 300 kHz *VSW 300 kHz SWT 5 ms 5.469076923 MHz</p> <p>OSW 4.54000000 MHz Marker 1 [T1] -16.54 dBm Temp 1 [T1 OSW] Temp 2 [T1 OSW]</p> <p>Center 824 MHz 1 MHz/ Span 10 MHz</p> <p>Date: 27.JUL.2023 16:00:15</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.50 dB *VSW 300 kHz *VSW 300 kHz SWT 5 ms 5.271328462 MHz</p> <p>OSW 4.58000000 MHz Marker 1 [T1] -16.43 dBm Temp 1 [T1 OSW] Temp 2 [T1 OSW]</p> <p>Center 824 MHz 1 MHz/ Span 10 MHz</p> <p>Date: 27.JUL.2023 16:01:30</p>

Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest For 22H	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Delta 1 [T1] -0.32 dB                      VSW 300 kHz    SWT 5 ms    Center 5.343974319 MHz</p> <p>OSW 4.56000000 MHz    Marker 1 [T1] -36 dBm                      Temp 1 [T1 OSW] 826.81924000 MHz                      Temp 2 [T1 OSW] 826.22000000 MHz                      Temp 1 [T1 OSW] 826.78000000 MHz</p> <p>Center 826.5 MHz    1 MHz/    Span 10 MHz</p> <p>Date: 27.JUL.2023 16:36:09</p>	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Delta 1 [T1] 0.07 dB                      VSW 300 kHz    SWT 5 ms    Center 5.455256410 MHz</p> <p>OSW 4.58000000 MHz    Marker 1 [T1] -37 dBm                      Temp 1 [T1 OSW] 826.80435974 MHz                      Temp 2 [T1 OSW] 826.20000000 MHz                      Temp 1 [T1 OSW] 826.78000000 MHz</p> <p>Center 826.5 MHz    1 MHz/    Span 10 MHz</p> <p>Date: 27.JUL.2023 16:37:45</p>
Middle For 22H	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Delta 1 [T1] -0.64 dB                      VSW 300 kHz    SWT 5 ms    Center 5.560000000 MHz</p> <p>OSW 4.54000000 MHz    Marker 1 [T1] -52 dBm                      Temp 1 [T1 OSW] 831.83000000 MHz                      Temp 2 [T1 OSW] 831.24000000 MHz                      Temp 1 [T1 OSW] 831.78000000 MHz</p> <p>Center 831.5 MHz    1 MHz/    Span 10 MHz</p> <p>Date: 26.JUL.2023 14:43:47</p>	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Delta 1 [T1] 0.91 dB                      VSW 300 kHz    SWT 5 ms    Center 5.360000000 MHz</p> <p>OSW 4.56000000 MHz    Marker 1 [T1] -34 dBm                      Temp 1 [T1 OSW] 831.96000000 MHz                      Temp 2 [T1 OSW] 831.24000000 MHz                      Temp 1 [T1 OSW] 831.80000000 MHz</p> <p>Center 831.5 MHz    1 MHz/    Span 10 MHz</p> <p>Date: 26.JUL.2023 14:44:06</p>
Highest For 22H	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Delta 1 [T1] -0.64 dB                      VSW 300 kHz    SWT 5 ms    Center 5.300000000 MHz</p> <p>OSW 4.54000000 MHz    Marker 1 [T1] -69 dBm                      Temp 1 [T1 OSW] 846.83000000 MHz                      Temp 2 [T1 OSW] 844.22000000 MHz                      Temp 1 [T1 OSW] 846.76000000 MHz</p> <p>Center 846.5 MHz    1 MHz/    Span 10 MHz</p> <p>Date: 26.JUL.2023 14:44:32</p>	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Delta 1 [T1] 0.24 dB                      VSW 300 kHz    SWT 5 ms    Center 5.200000000 MHz</p> <p>OSW 4.52000000 MHz    Marker 1 [T1] -61 dBm                      Temp 1 [T1 OSW] 846.94000000 MHz                      Temp 2 [T1 OSW] 844.24000000 MHz                      Temp 1 [T1 OSW] 846.76000000 MHz</p> <p>Center 846.5 MHz    1 MHz/    Span 10 MHz</p> <p>Date: 26.JUL.2023 14:45:00</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest For 90S	<p>Ref 30 dBm *Att 25 dB *VSW 300 kHz Delta 1 [T1] -0.51 dB SWT 10 ms OSW 9.840000000 MHz Marker 1 [T1] -1.61 dBm OSW 9.840000000 MHz Temp 1 [T1 OSW] 814.120000000 MHz 823.480000000 MHz -01 -13.4 dBm -02 -12.57 dBm</p> <p>Center 819 MHz 2 MHz/ Span 20 MHz</p> <p>Date: 26.JUL.2023 14:45:23</p>	<p>Ref 30 dBm *Att 25 dB *VSW 300 kHz Delta 1 [T1] 0.63 dB SWT 10 ms OSW 9.680000000 MHz Marker 1 [T1] -1.96 dBm OSW 9.680000000 MHz Temp 1 [T1 OSW] 814.160000000 MHz 823.480000000 MHz -01 -13.2 dBm -02 -12.73 dBm</p> <p>Center 819 MHz 2 MHz/ Span 20 MHz</p> <p>Date: 26.JUL.2023 14:45:42</p>
Cross Channel	<p>Ref 30 dBm *Att 25 dB *VSW 300 kHz Delta 1 [T1] 1.60 dB SWT 10 ms OSW 9.991769231 MHz Marker 1 [T1] -1.86 dBm OSW 9.991769231 MHz Temp 1 [T1 OSW] 819.480000000 MHz 828.800000000 MHz -01 -14.33 dBm -02 -11.68 dBm</p> <p>Center 824 MHz 2 MHz/ Span 20 MHz</p> <p>Date: 27.JUL.2023 16:03:15</p>	<p>Ref 30 dBm *Att 25 dB *VSW 300 kHz Delta 1 [T1] 1.95 dB SWT 10 ms OSW 9.962025641 MHz Marker 1 [T1] -1.70 dBm OSW 9.962025641 MHz Temp 1 [T1 OSW] 819.91531462 MHz 829.235641462 MHz -01 -13.9 dBm -02 -12.0 dBm</p> <p>Center 824 MHz 2 MHz/ Span 20 MHz</p> <p>Date: 27.JUL.2023 16:05:20</p>

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest For 22H		
Middle For 22H		
Highest For 22H		

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Middle For 90S		
Cross Channel		



Occupied Bandwidth

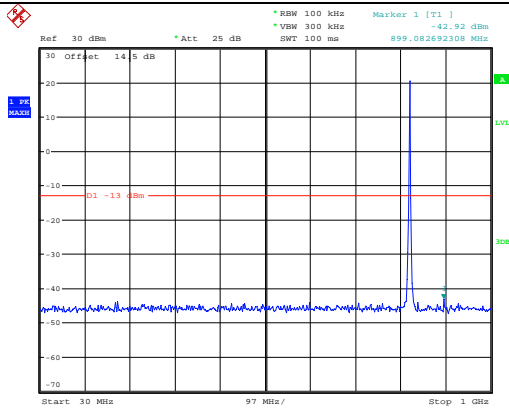
Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest For 22H	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] 3.07 dB            *VBW 1 MHz *SWT 2.5 ms 15.668000000 MHz            Marker 1 [T1] 15.668000000 MHz            D1 17.4 dBm            D2 -8.6 dBm            LVL 1 [T1 OSW] 15.668000000 MHz            Temp 1 [T1 OSW] 15.668000000 MHz            LVL 2 [T1 OSW] 15.668000000 MHz            Temp 2 [T1 OSW] 15.668000000 MHz            Center 831.5 MHz 3 MHz/ Span 30 MHz            Date: 26.JUL.2023 14:48:24</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] -0.61 dB            *VBW 1 MHz *SWT 2.5 ms 15.120000000 MHz            Marker 1 [T1] 15.120000000 MHz            D1 16.6 dBm            D2 -8.2 dBm            LVL 1 [T1 OSW] 15.120000000 MHz            Temp 1 [T1 OSW] 15.120000000 MHz            LVL 2 [T1 OSW] 15.120000000 MHz            Temp 2 [T1 OSW] 15.120000000 MHz            Center 831.5 MHz 3 MHz/ Span 30 MHz            Date: 26.JUL.2023 14:48:46</p>
Middle For 22H	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] 0.96 dB            *VBW 1 MHz *SWT 2.5 ms 15.423333333 MHz            Marker 1 [T1] 15.423333333 MHz            D1 18.1 dBm            D2 -8.8 dBm            LVL 1 [T1 OSW] 15.423333333 MHz            Temp 1 [T1 OSW] 15.423333333 MHz            LVL 2 [T1 OSW] 15.423333333 MHz            Temp 2 [T1 OSW] 15.423333333 MHz            Center 836.5 MHz 3 MHz/ Span 30 MHz            Date: 27.JUL.2023 16:15:26</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Marker 1 [T1] -11.60 dBm            *VBW 1 MHz *SWT 2.5 ms 838.842692308 MHz            Delta 1 [T1] 838.842692308 MHz            D1 16.6 dBm            D2 -8.1 dBm            LVL 1 [T1 OSW] 838.842692308 MHz            Temp 1 [T1 OSW] 838.842692308 MHz            LVL 2 [T1 OSW] 838.842692308 MHz            Temp 2 [T1 OSW] 838.842692308 MHz            Center 836.5 MHz 3 MHz/ Span 30 MHz            Date: 27.JUL.2023 16:17:32</p>
Highest For 22H	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] 0.04 dB            *VBW 1 MHz *SWT 2.5 ms 15.180000000 MHz            Marker 1 [T1] 15.180000000 MHz            D1 17.6 dBm            D2 -8.3 dBm            LVL 1 [T1 OSW] 15.180000000 MHz            Temp 1 [T1 OSW] 15.180000000 MHz            LVL 2 [T1 OSW] 15.180000000 MHz            Temp 2 [T1 OSW] 15.180000000 MHz            Center 841.5 MHz 3 MHz/ Span 30 MHz            Date: 26.JUL.2023 14:49:05</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] -0.28 dB            *VBW 1 MHz *SWT 2.5 ms 14.940000000 MHz            Marker 1 [T1] 14.940000000 MHz            D1 17.4 dBm            D2 -8.6 dBm            LVL 1 [T1 OSW] 14.940000000 MHz            Temp 1 [T1 OSW] 14.940000000 MHz            LVL 2 [T1 OSW] 14.940000000 MHz            Temp 2 [T1 OSW] 14.940000000 MHz            Center 841.5 MHz 3 MHz/ Span 30 MHz            Date: 26.JUL.2023 14:49:24</p>

Spurious Emissions at Antenna Terminal

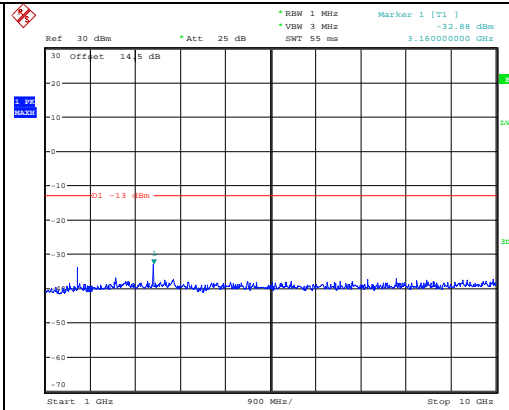
Channel

1.4MHz Bandwidth QPSK

Lowest For 90S

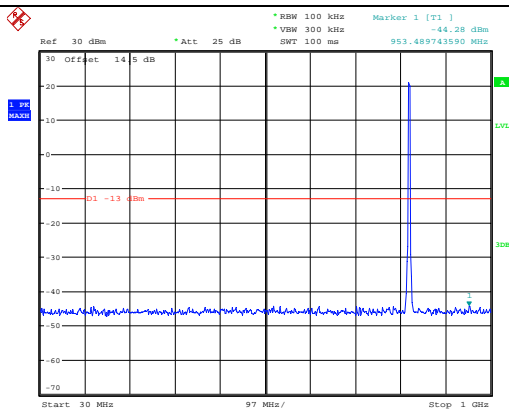


Date: 28.JUL.2023 08:54:55

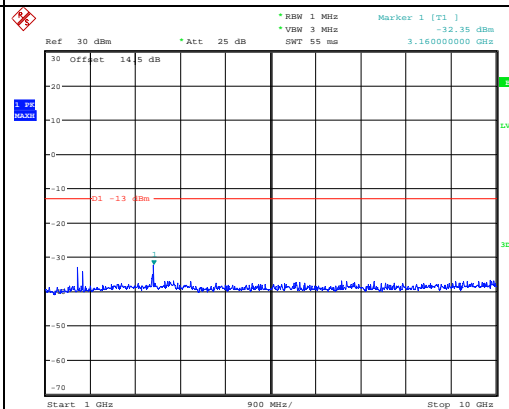


Date: 28.JUL.2023 08:56:20

Highest For 90S

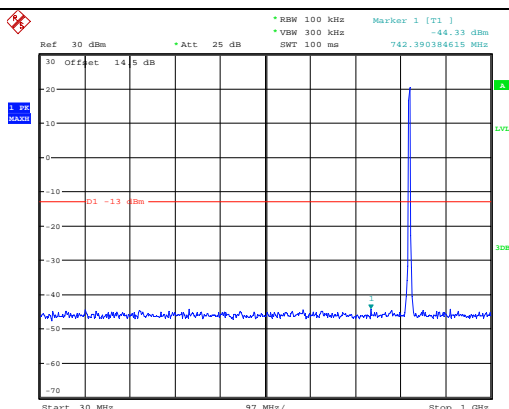


Date: 28.JUL.2023 08:58:50

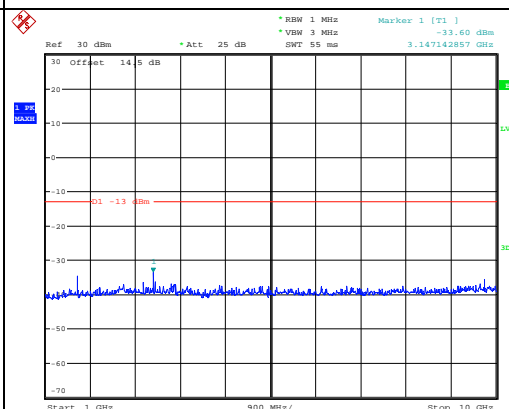


Date: 28.JUL.2023 08:59:20

Cross Channel



Date: 28.JUL.2023 10:13:25



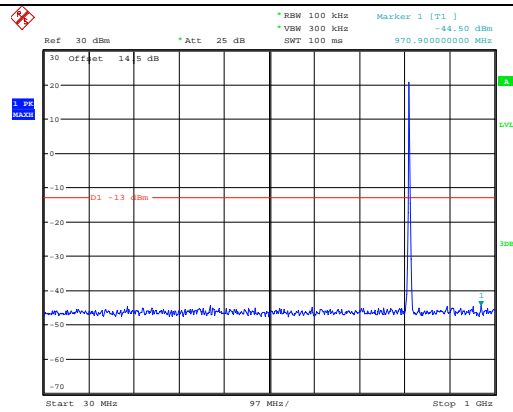
Date: 28.JUL.2023 10:13:39

Spurious Emissions at Antenna Terminal

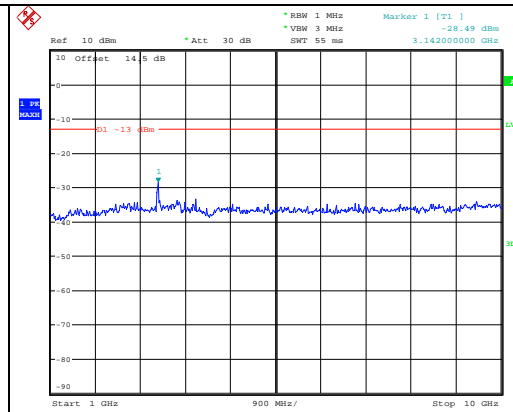
Channel

1.4MHz Bandwidth QPSK

Lowest For 22H

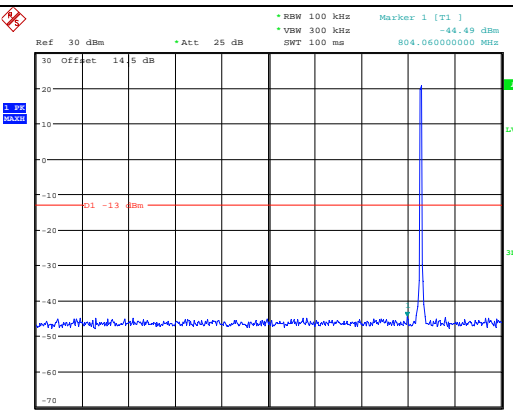


Date: 27.JUL.2023 13:52:00

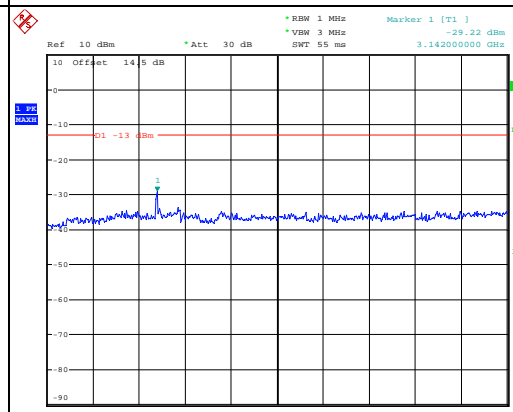


Date: 27.JUL.2023 13:52:11

Middle For 22H

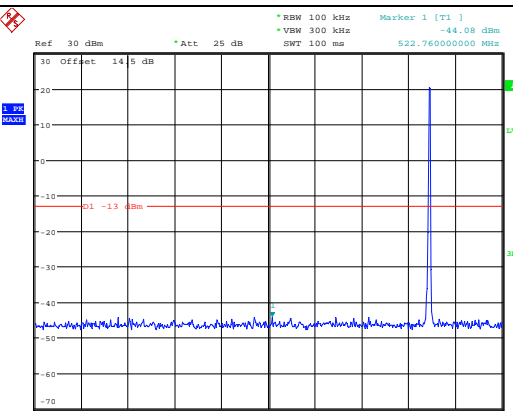


Date: 27.JUL.2023 13:52:28

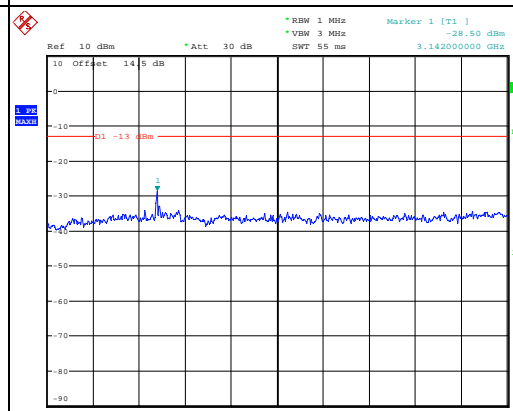


Date: 27.JUL.2023 13:52:39

Highest For 22H



Date: 27.JUL.2023 13:52:56

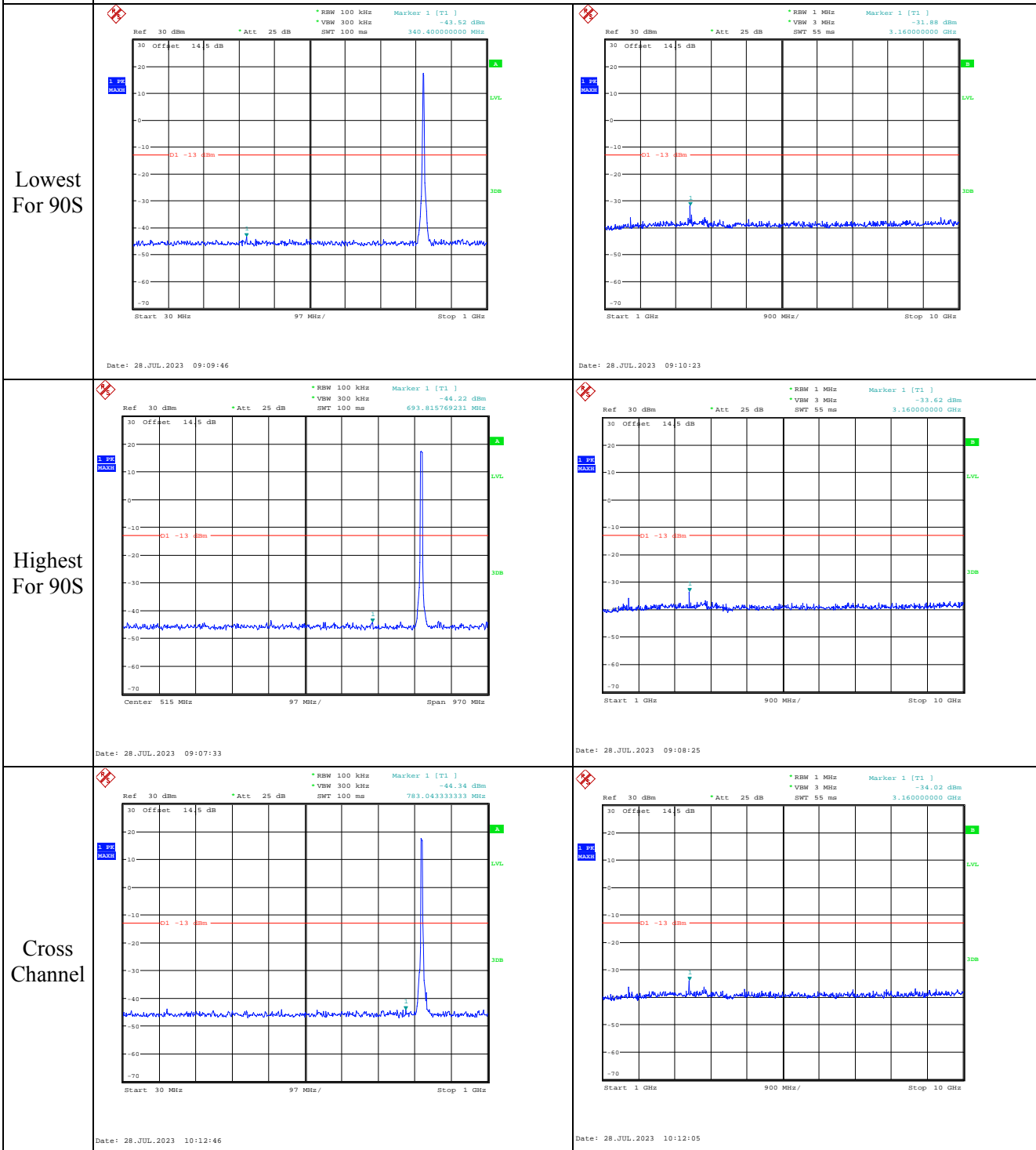


Date: 27.JUL.2023 13:53:07

### Spurious Emissions at Antenna Terminal

Channel

3MHz Bandwidth QPSK

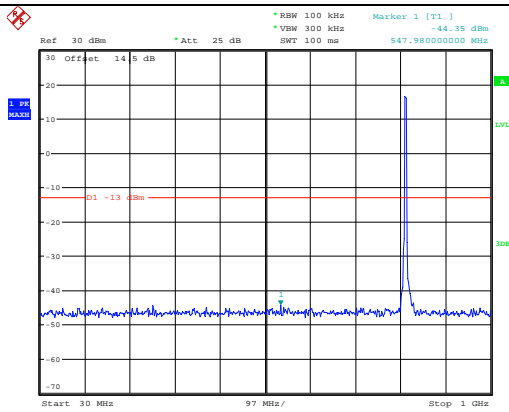


Spurious Emissions at Antenna Terminal

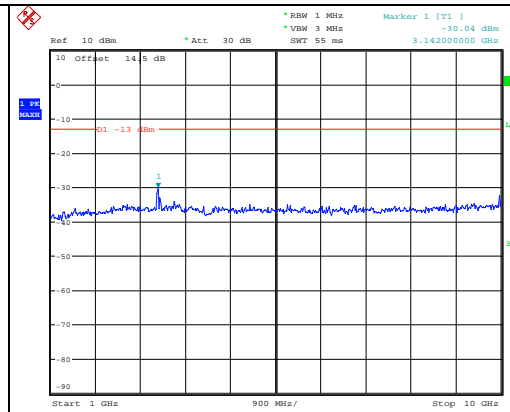
Channel

3MHz Bandwidth QPSK

Lowest For 22H

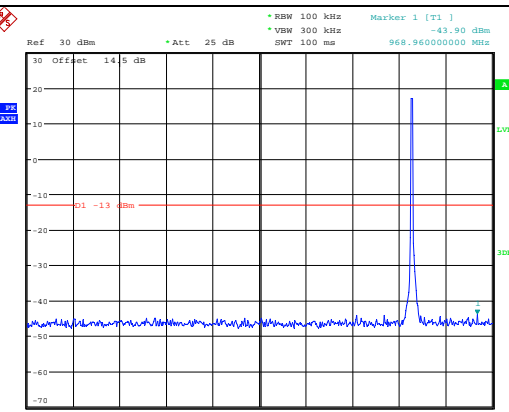


Date: 27.JUL.2023 13:53:23

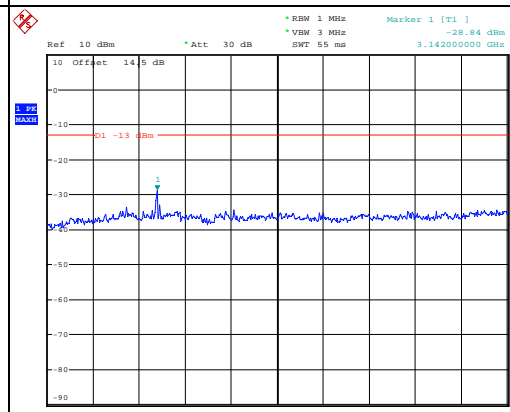


Date: 27.JUL.2023 13:53:35

Middle For 22H

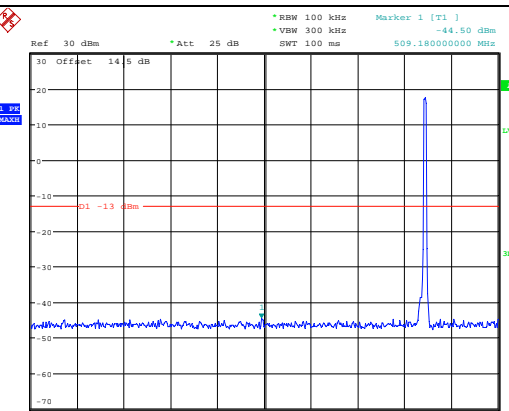


Date: 27.JUL.2023 13:53:51

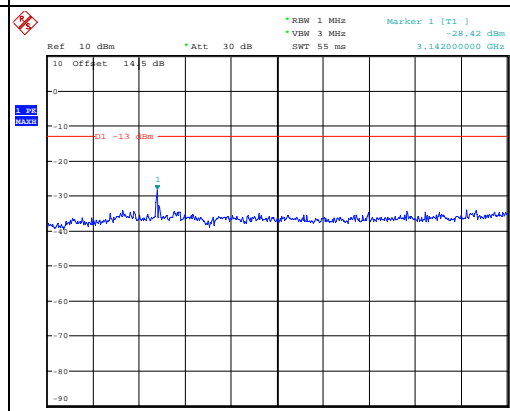


Date: 27.JUL.2023 13:54:03

Highest For 22H



Date: 27.JUL.2023 13:54:19



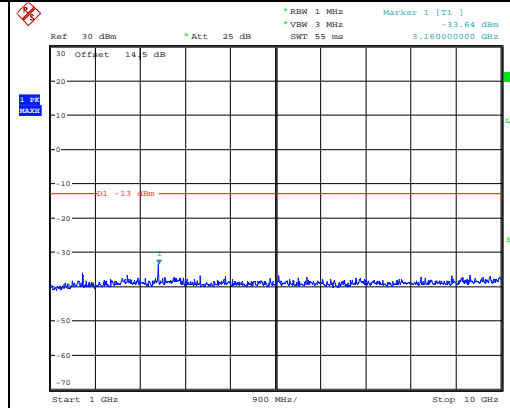
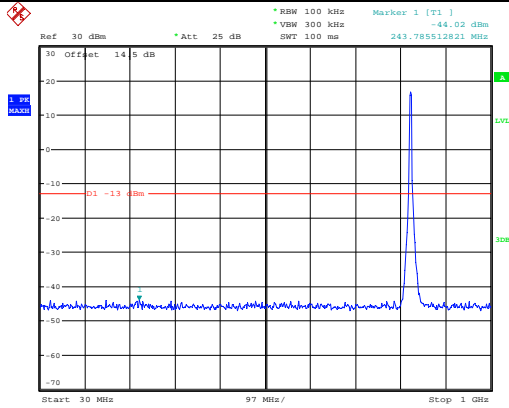
Date: 27.JUL.2023 13:54:31

Spurious Emissions at Antenna Terminal

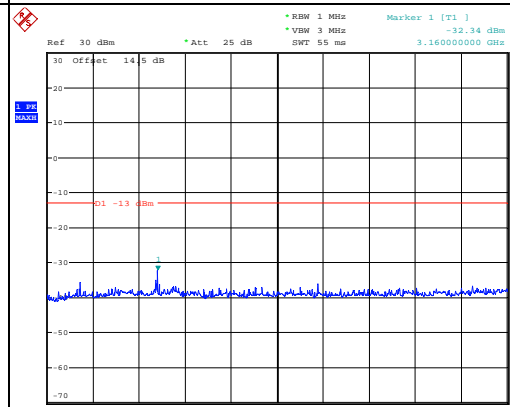
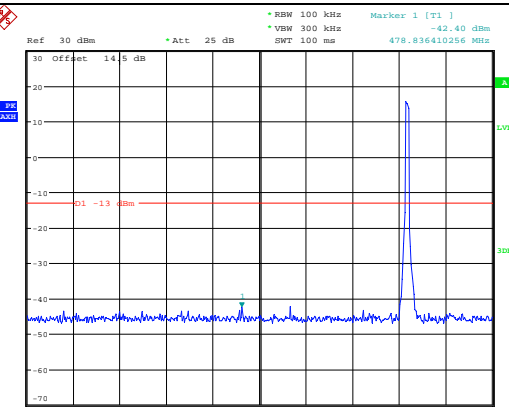
Channel

5MHz Bandwidth QPSK

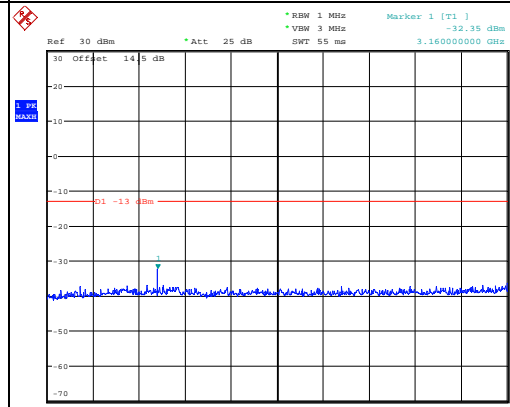
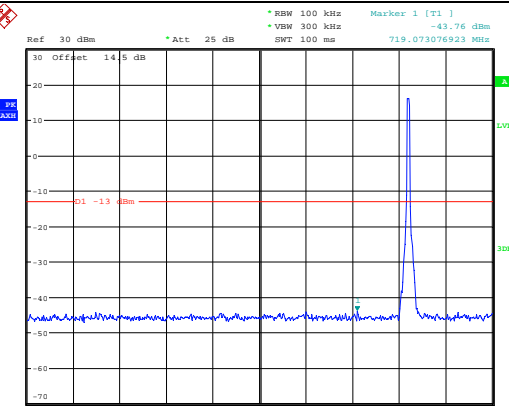
Lowest For 90S



Highest For 90S



Cross Channel



**Spurious Emissions at Antenna Terminal**

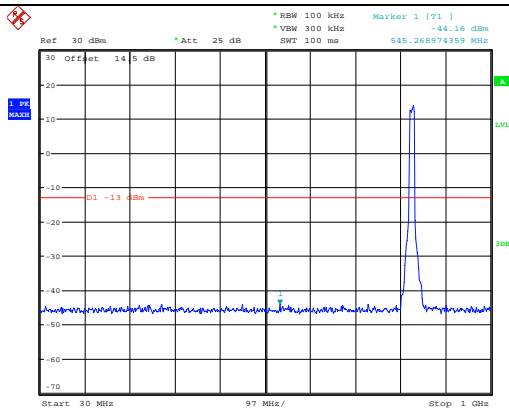
Channel	5MHz Bandwidth QPSK	
Lowest For 22H	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Marker 1 [T1] -44.26 dBm            *VSW 300 kHz *SWT 100 ms 760.788000000 MHz</p> <p>Date: 27.JUL.2023 13:54:50</p>	<p>Ref 10 dBm *Att 30 dB *RBW 1 MHz Marker 1 [T1] -30.02 dBm            *VSW 3 MHz *SWT 55 ms 3.142000000 GHz</p> <p>Date: 27.JUL.2023 13:55:02</p>
	Middle For 22H	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Marker 1 [T1] -44.14 dBm            *VSW 300 kHz *SWT 100 ms 604.240000000 MHz</p> <p>Date: 27.JUL.2023 13:55:19</p>
Highest For 22H		<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Marker 1 [T1] -43.90 dBm            *VSW 300 kHz *SWT 100 ms 400.540000000 MHz</p> <p>Date: 27.JUL.2023 13:55:44</p>

Spurious Emissions at Antenna Terminal

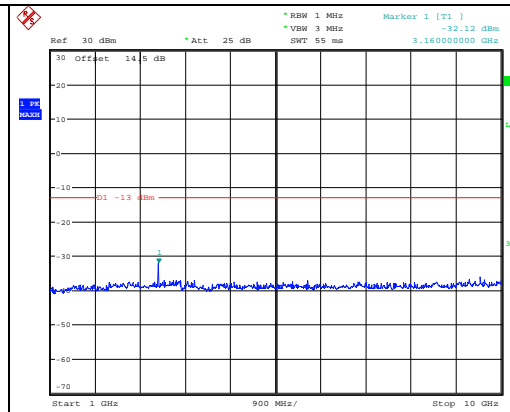
Channel

10MHz Bandwidth QPSK

Lowest For 90S

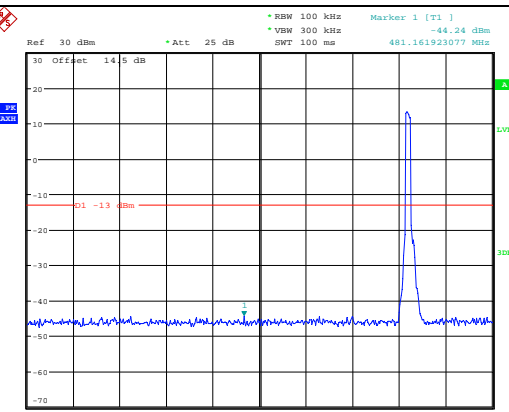


Date: 28.JUL.2023 09:15:50

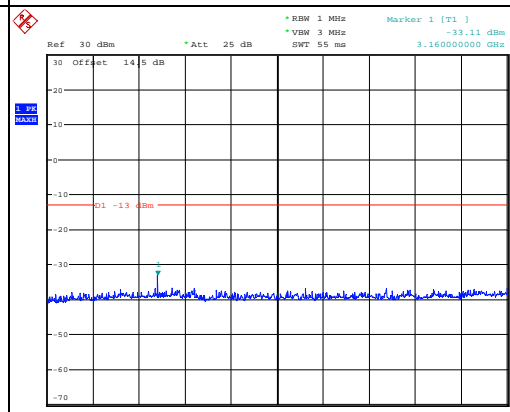


Date: 28.JUL.2023 09:16:32

Cross Channel



Date: 28.JUL.2023 10:14:40



Date: 28.JUL.2023 10:14:10

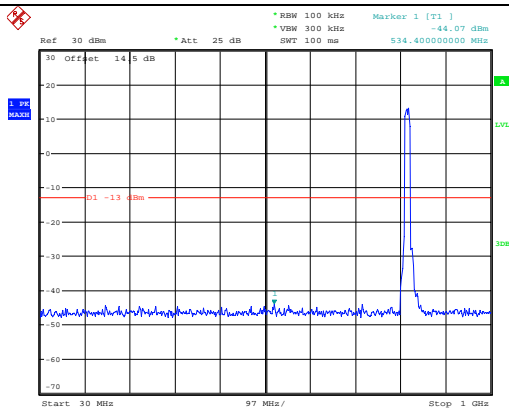


Spurious Emissions at Antenna Terminal

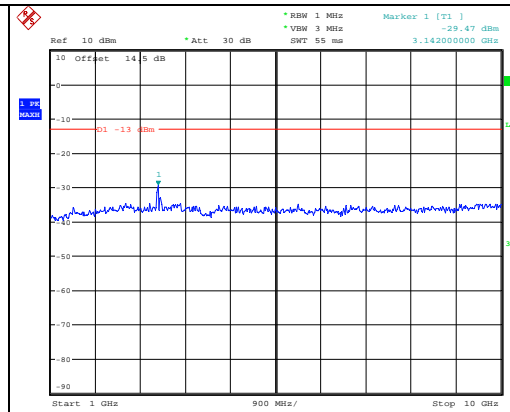
Channel

10MHz Bandwidth QPSK

Lowest For 22H

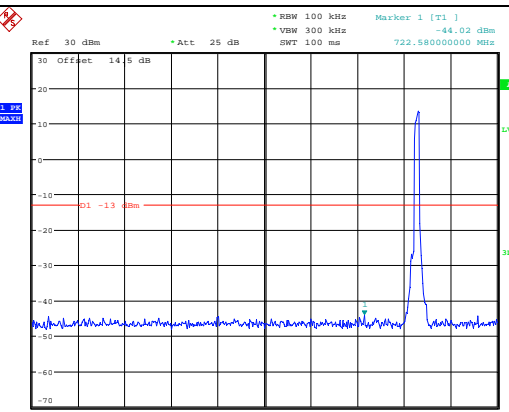


Date: 27.JUL.2023 13:56:11

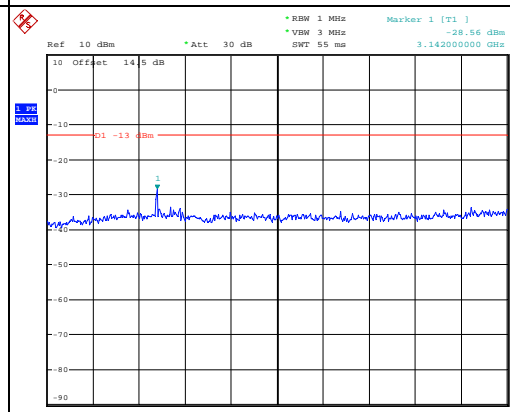


Date: 27.JUL.2023 13:56:22

Middle For 22H

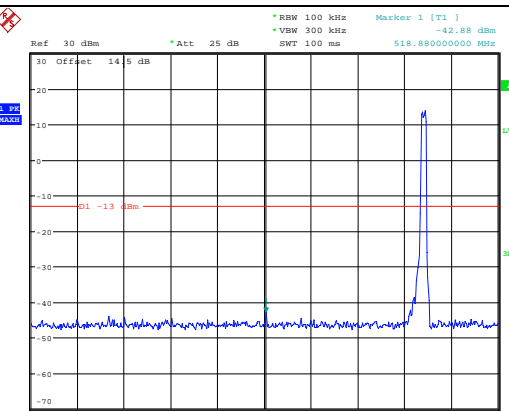


Date: 27.JUL.2023 13:56:36

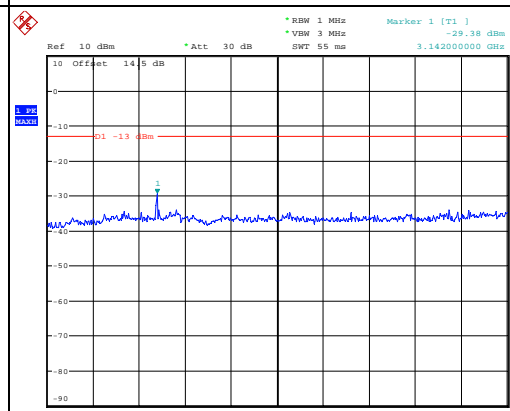


Date: 27.JUL.2023 13:56:47

Highest For 22H



Date: 27.JUL.2023 13:57:04



Date: 27.JUL.2023 13:57:15

**Spurious Emissions at Antenna Terminal**

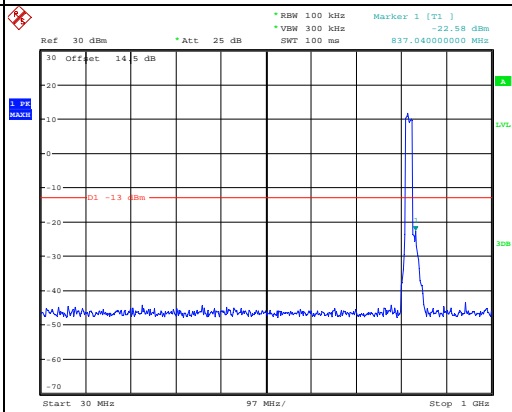
Channel	15MHz Bandwidth QPSK	
Lowest For 90S	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Marker 1 [T1] -44.16 dBm *VBW 300 kHz 586.45666667 MHz SWT 100 ms</p> <p>30 Offset 14.5 dB -10 -20 -30 -40 -50 -60 -70</p> <p>30 21 -13 dBm</p> <p>Center 515 MHz 97 MHz/ Span 970 MHz</p> <p>Date: 28.JUL.2023 09:51:41</p>	<p>Ref 30 dBm *Att 25 dB *RBW 1 MHz Marker 1 [T1] -33.88 dBm *VBW 3 MHz 3.147142857 GHz SWT 55 ms</p> <p>30 Offset 14.5 dB -10 -20 -30 -40 -50 -60 -70</p> <p>30 21 -13 dBm</p> <p>Start 1 GHz 900 MHz/ Stop 10 GHz</p> <p>Date: 28.JUL.2023 09:56:56</p>
	Cross Channel	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Marker 1 [T1] -44.16 dBm *VBW 300 kHz 448.67938976 MHz SWT 100 ms</p> <p>30 Offset 14.5 dB -10 -20 -30 -40 -50 -60 -70</p> <p>30 21 -13 dBm</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>Date: 28.JUL.2023 10:15:26</p>

### Spurious Emissions at Antenna Terminal

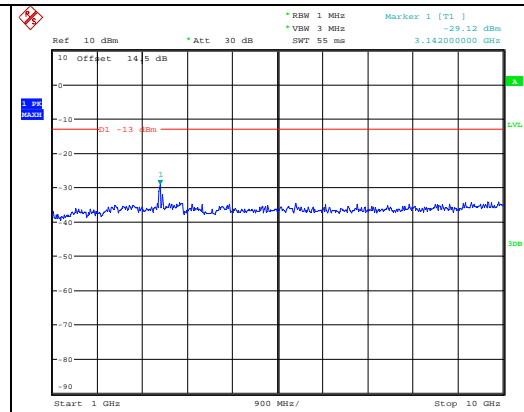
Channel

15MHz Bandwidth QPSK

Lowest  
For 22H

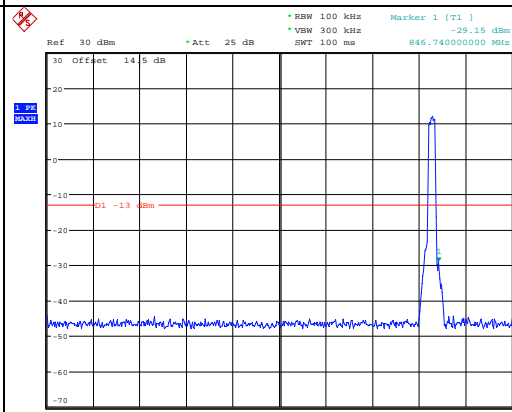


Date: 27.JUL.2023 13:57:31

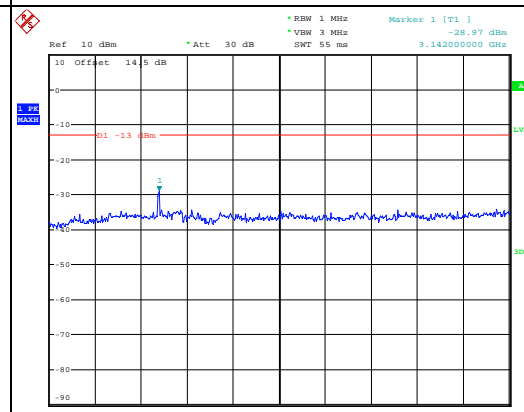


Date: 27.JUL.2023 13:57:45

Middle  
For 22H

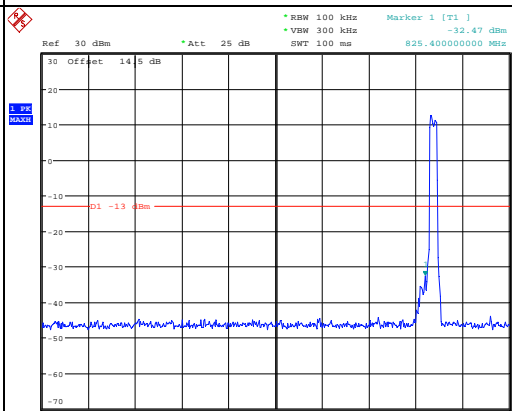


Date: 27.JUL.2023 13:57:59

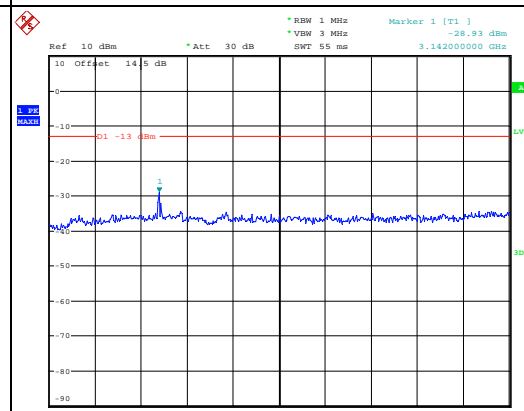


Date: 27.JUL.2023 13:58:10

Highest  
For 22H



Date: 27.JUL.2023 13:58:27

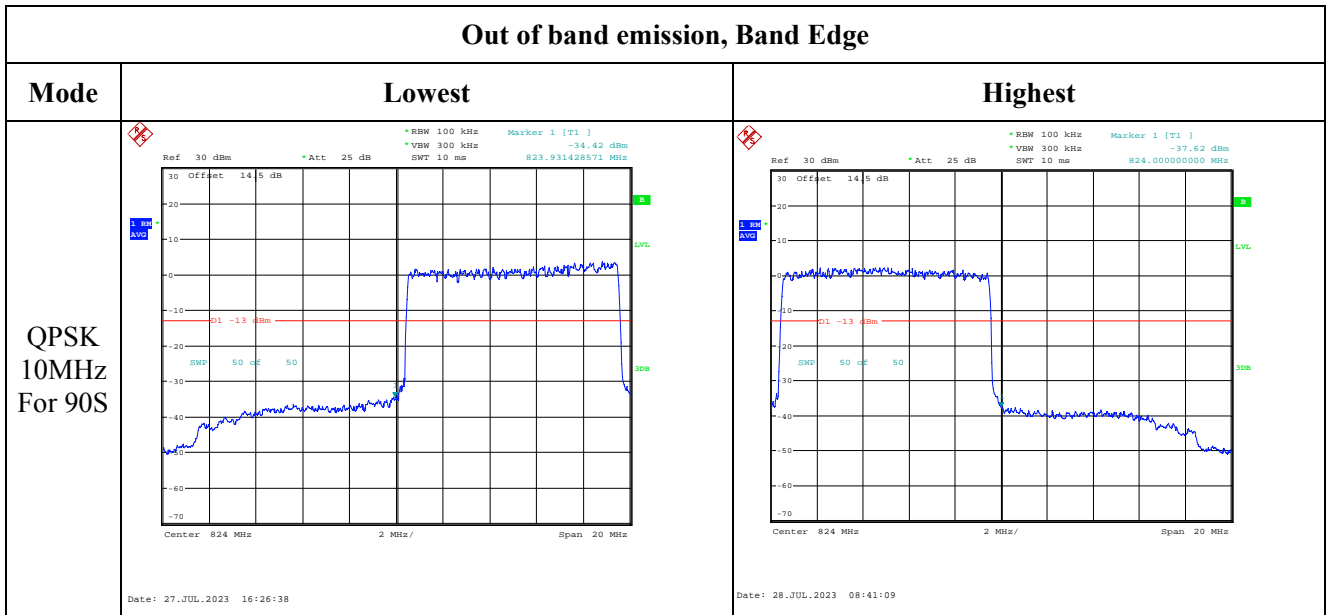


Date: 27.JUL.2023 13:58:38

Out of band emission, Band Edge

Mode	Lowest	Highest
<p>QPSK 1.4MHz For 90S</p>	<p>Date: 27.JUL.2023 15:41:27</p>	<p>Date: 27.JUL.2023 15:48:52</p>
<p>QPSK 3MHz For 90S</p>	<p>Date: 27.JUL.2023 16:56:44</p>	<p>Date: 27.JUL.2023 16:56:02</p>
<p>QPSK 5MHz For 90S</p>	<p>Date: 27.JUL.2023 16:38:56</p>	<p>Date: 27.JUL.2023 16:43:05</p>

Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
<p>QPSK 1.4MHz For 22H</p>	<p>Date: 27.JUL.2023 11:45:14</p>	<p>Date: 27.JUL.2023 11:45:29</p>
<p>QPSK 3MHz For 22H</p>	<p>Date: 27.JUL.2023 11:45:48</p>	<p>Date: 27.JUL.2023 11:46:03</p>
<p>QPSK 5MHz For 22H</p>	<p>Date: 27.JUL.2023 11:46:22</p>	<p>Date: 27.JUL.2023 11:46:38</p>

Out of band emission, Band Edge

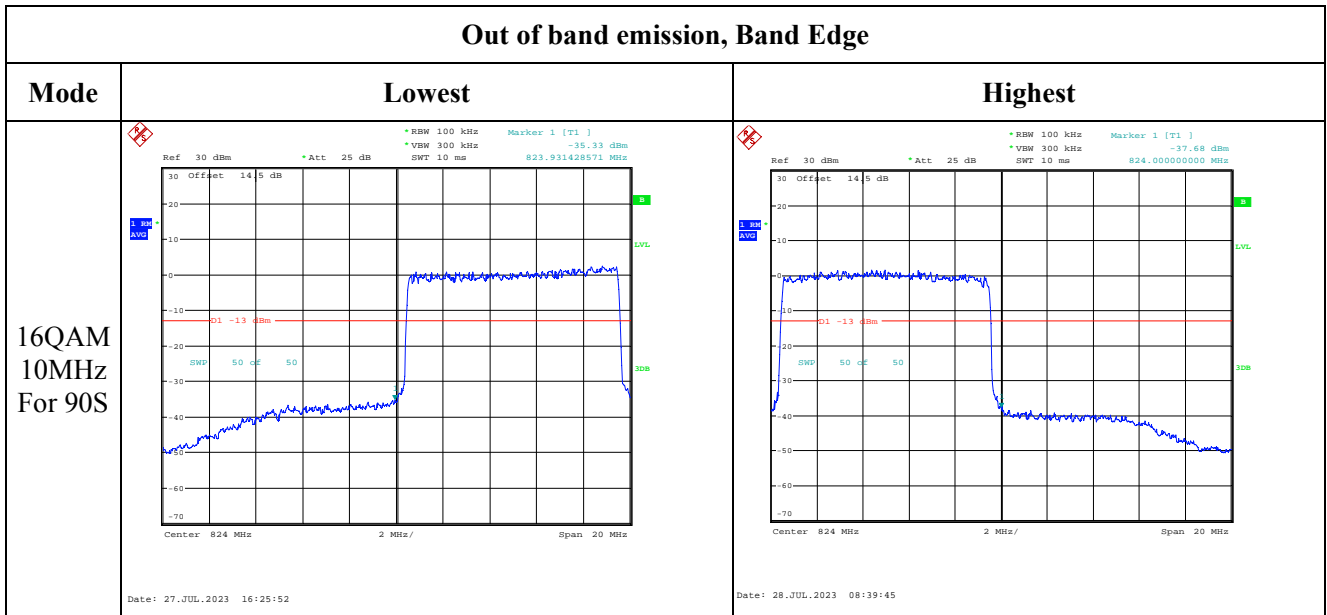
Mode	Lowest	Highest
<p>QPSK 10MHz For 22H</p>		
<p>QPSK 15MHz For 22H</p>		
<p>QPSK 15MHz Across 90S and 22H</p>		

Out of band emission, Band Edge

Mode	Lowest	Highest
<p>16QAM 1.4MHz For 90S</p>	<p>Date: 27.JUL.2023 15:42:29</p>	<p>Date: 27.JUL.2023 15:48:02</p>
<p>16QAM 3MHz For 90S</p>	<p>Date: 27.JUL.2023 16:57:09</p>	<p>Date: 27.JUL.2023 16:55:33</p>
<p>16QAM 5MHz For 90S</p>	<p>Date: 27.JUL.2023 16:38:15</p>	<p>Date: 27.JUL.2023 16:43:48</p>



Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz For 22H		
16QAM 3MHz For 22H		
16QAM 5MHz For 22H		

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 10MHz For 22H	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Marker 1 [T1] -29.37 dBm *VSW 1 MHz *SWT 35 ms 814.00000000 MHz</p> <p>Center: 814 MHz 2 MHz/ Span 20 MHz</p> <p>Date: 27.JUL.2023 11:47:06</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Marker 1 [T1] -34.01 dBm *VSW 1 MHz *SWT 35 ms 849.00000000 MHz</p> <p>Center: 849 MHz 2 MHz/ Span 20 MHz</p> <p>Date: 27.JUL.2023 11:47:25</p>
16QAM 15MHz For 22H	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Marker 1 [T1] -29.51 dBm *VSW 1 MHz *SWT 35 ms 814.00000000 MHz</p> <p>Center: 814 MHz 3 MHz/ Span 30 MHz</p> <p>Date: 27.JUL.2023 11:47:44</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Marker 1 [T1] -28.80 dBm *VSW 1 MHz *SWT 35 ms 849.00000000 MHz</p> <p>Center: 849 MHz 3 MHz/ Span 30 MHz</p> <p>Date: 27.JUL.2023 11:47:58</p>
16QAM 15MHz Across 90S and 22H	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Marker 1 [T1] -37.83 dBm *VSW 300 kHz *SWT 15 ms 824.017142857 MHz</p> <p>Center: 824 MHz 3 MHz/ Span 30 MHz</p> <p>Date: 27.JUL.2023 16:20:58</p>	

**4.14 Antenna Port Test Data and Results for LTE Band 38**

Serial Number:	27BI-1	Test Date:	2023/7/24-2023/7/28
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	<b>Pass</b>

**Environmental Conditions:**

Temperature: (°C)	24.5-26.3	Relative Humidity: (%)	46-62	ATM Pressure: (kPa)	99.7-100.6
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Weinschel	Power splitter	1515	RA915	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30

*\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

**Test Frequency for Each Mode:**

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2572.5	2595	2617.5
10MHz	2575	2595	2615
15MHz	2577.5	2595	2612.5
20MHz	2580	2595	2610

**Test Data:**

<b>FCC§2.1046;§ 27.50(h)(2)</b>						
<b>RF Output Power:</b>						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	18.98	18.89	18.87	22.71	33
	RB1#13	18.97	18.82	18.98		
	RB1#24	19.12	18.88	18.94		
	RB15#0	17.99	17.79	18.09		
	RB15#10	18.01	17.78	18.02		
	RB25#0	17.96	17.73	18.04		
5MHz 16QAM	RB1#0	18.29	18.16	18.03	21.88	33
	RB1#13	17.86	18.05	18.01		
	RB1#24	17.92	18.21	17.94		
	RB15#0	17.1	16.96	17.25		
	RB15#10	17.04	17.07	17.26		
	RB25#0	17.09	16.94	16.92		
10MHz QPSK	RB1#0	18.7	18.31	18.69	22.37	33
	RB1#25	18.56	18.29	18.72		
	RB1#49	18.7	18.34	18.78		
	RB25#0	17.26	17.26	17.69		
	RB25#25	17.41	17.44	17.8		
	RB50#0	17.28	17.35	17.75		
10MHz 16QAM	RB1#0	18.21	17.54	17.69	21.80	33
	RB1#25	18.01	17.69	17.64		
	RB1#49	17.72	17.83	17.7		
	RB25#0	16.51	16.55	16.7		
	RB25#25	16.48	16.63	16.81		
	RB50#0	16.46	16.38	16.88		
15MHz QPSK	RB1#0	18.82	18.78	19.15	22.74	33
	RB1#38	18.76	18.78	19.13		
	RB1#74	18.79	18.72	19.1		
	RB36#0	17.6	18.02	18.17		
	RB36#39	17.59	17.9	17.97		
	RB75#0	17.59	17.96	18.08		
15MHz 16QAM	RB1#0	18.44	18.18	17.97	22.03	33
	RB1#38	18.38	18.07	18.04		
	RB1#74	18.26	18.1	17.99		
	RB36#0	16.78	17.05	17.13		
	RB36#39	16.77	17.01	17.11		
	RB75#0	16.65	16.97	17.24		
20MHz QPSK	RB1#0	18.48	19.21	19.19	22.84	33
	RB1#50	18.49	19.19	19.07		
	RB1#99	18.54	19.25	19.19		

	RB50#0	17.5	18.01	18.02		
	RB50#50	17.44	18.14	18.1		
	RB100#0	17.43	17.93	18.06		
20MHz 16QAM	RB1#0	17.12	18.77	18.45	22.36	33
	RB1#50	17.12	18.77	18.51		
	RB1#99	17.03	18.72	18.34		
	RB50#0	16.67	17.27	17.34		
	RB50#50	16.68	17.27	17.26		
	RB100#0	16.47	17.15	17.21		

Note: EIRP=Conducted Power(dBm) - Lc(dB) + Gr(dBi)

**Result:** **Pass**

### Peak-to-average Ratio(PAR)

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	4.87	5.12	4.97	13
	RB100#0	5.74	5.61	5.32	13
20MHz 16QAM	RB1#0	5.48	6.03	5.99	13
	RB100#0	6.47	6.44	6.31	13

**Result:** **Pass**

### FCC §2.1049, §27.53: Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.520	4.540	4.520	4.920	5.440	5.080
5MHz 16QAM	4.520	4.520	4.520	5.160	5.420	5.380
10MHz QPSK	8.960	8.960	8.960	9.840	9.840	9.760
10MHz 16QAM	8.960	8.960	8.960	9.680	10.080	9.760
15MHz QPSK	13.500	13.560	13.620	15.000	15.900	16.560
15MHz 16QAM	13.560	13.560	13.560	15.300	15.120	15.120
20MHz QPSK	18.000	18.000	18.080	19.440	19.840	19.600
20MHz 16QAM	18.000	18.000	17.920	19.680	19.920	19.600

Note: The test plots please refer to the Plots of Occupied Bandwidth

### FCC §2.1051, § 27.53: Spurious Emissions at Antenna Terminal

**Result:** **Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

### FCC §2.1051, § 27.53: Out of band emission, Band Edge

**Result:** **Pass, Please refer to the test plots of Out of band emission, Band Edge.**

<b>FCC §2.1055, §27.54: Frequency Stability</b>						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	2571.054	2570.00	2619.028	2620
	-20	3.8	2571.051	2570.00	2619.019	2620
	-10	3.8	2571.055	2570.00	2619.039	2620
	0	3.8	2571.064	2570.00	2619.023	2620
	10	3.8	2571.057	2570.00	2619.022	2620
	20	3.8	2571.040	2570.00	2619.040	2620
	30	3.8	2571.051	2570.00	2619.028	2620
	40	3.8	2571.053	2570.00	2619.027	2620
Frequency Stability vs. Voltage	20	3.5	2571.074	2570.00	2619.026	2620
	20	4.35	2571.084	2570.00	2619.028	2620
					<b>Result:</b>	<b>Pass</b>

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	2571.053	2570.00	2618.928	2620
	-20	3.8	2571.052	2570.00	2618.919	2620
	-10	3.8	2571.059	2570.00	2618.939	2620
	0	3.8	2571.071	2570.00	2618.923	2620
	10	3.8	2571.061	2570.00	2618.922	2620
	20	3.8	2571.040	2570.00	2618.960	2620
	30	3.8	2571.056	2570.00	2618.928	2620
	40	3.8	2571.057	2570.00	2618.927	2620
	50	3.8	2571.100	2570.00	2618.923	2620
Frequency Stability vs. Voltage	20	3.5	2571.047	2570.00	2618.926	2620
	20	4.35	2571.044	2570.00	2618.928	2620
					<b>Result:</b>	<b>Pass</b>

**Test Plots**(Note: The 14.5dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):

**Occupied Bandwidth**

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.91 dB *VBW 300 kHz SWT 5 ms 4.92000000 MHz</p> <p>OSW 4.92000000 MHz Marker 1 [T1] -16.19 dBm Temp 1 [T1 OSW] 2.57024000 GHz Temp 2 [T1 OSW] 2.57024000 GHz Temp 3 [T1 OSW] 2.57476000 GHz</p> <p>Center 2.5725 GHz 1 MHz/ Span 10 MHz</p> <p>Date: 26.JUL.2023 14:50:08</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.78 dB *VBW 300 kHz SWT 5 ms 5.16000000 MHz</p> <p>OSW 5.16000000 MHz Marker 1 [T1] -14.24 dBm Temp 1 [T1 OSW] 2.56998000 GHz Temp 2 [T1 OSW] 2.57024000 GHz Temp 3 [T1 OSW] 2.57476000 GHz</p> <p>Center 2.5725 GHz 1 MHz/ Span 10 MHz</p> <p>Date: 26.JUL.2023 14:50:37</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.95 dB *VBW 300 kHz SWT 5 ms 5.44000000 MHz</p> <p>OSW 5.44000000 MHz Marker 1 [T1] -15.94 dBm Temp 1 [T1 OSW] 2.59224000 GHz Temp 2 [T1 OSW] 2.59272000 GHz Temp 3 [T1 OSW] 2.59726000 GHz</p> <p>Center 2.595 GHz 1 MHz/ Span 10 MHz</p> <p>Date: 26.JUL.2023 14:51:15</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.60 dB *VBW 300 kHz SWT 5 ms 5.42000000 MHz</p> <p>OSW 5.42000000 MHz Marker 1 [T1] -14.14 dBm Temp 1 [T1 OSW] 2.59226000 GHz Temp 2 [T1 OSW] 2.59274000 GHz Temp 3 [T1 OSW] 2.59726000 GHz</p> <p>Center 2.595 GHz 1 MHz/ Span 10 MHz</p> <p>Date: 26.JUL.2023 14:51:42</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.34 dB *VBW 300 kHz SWT 5 ms 5.08000000 MHz</p> <p>OSW 5.08000000 MHz Marker 1 [T1] -14.39 dBm Temp 1 [T1 OSW] 2.61502000 GHz Temp 2 [T1 OSW] 2.61524000 GHz Temp 3 [T1 OSW] 2.61976000 GHz</p> <p>Center 2.6175 GHz 1 MHz/ Span 10 MHz</p> <p>Date: 26.JUL.2023 14:52:11</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.15 dB *VBW 300 kHz SWT 5 ms 5.38000000 MHz</p> <p>OSW 5.38000000 MHz Marker 1 [T1] -14.01 dBm Temp 1 [T1 OSW] 2.61480000 GHz Temp 2 [T1 OSW] 2.61524000 GHz Temp 3 [T1 OSW] 2.61976000 GHz</p> <p>Center 2.6175 GHz 1 MHz/ Span 10 MHz</p> <p>Date: 26.JUL.2023 14:52:48</p>



Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 2.12 dB *VMW 300 kHz SWT 10 ms 9.840000000 MHz</p> <p>30 Offset 14.5 dB Marker 1 [T1] 2.570120000 GHz -1.12 dBm Temp 1 [T1 OSW] Temp 2 [T1 OSW] 2.570520000 GHz -13.44 dBm Temp 3 [T1 OSW] 2.579480000 GHz -13.67 dBm</p> <p>Center 2.575 GHz 2 MHz/ Span 20 MHz</p> <p>Date: 26.JUL.2023 14:53:14</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 1.62 dB *VMW 300 kHz SWT 10 ms 9.680000000 MHz</p> <p>30 Offset 14.5 dB Marker 1 [T1] 2.570120000 GHz -1.62 dBm Temp 1 [T1 OSW] Temp 2 [T1 OSW] 2.570520000 GHz -13.44 dBm Temp 3 [T1 OSW] 2.579480000 GHz -13.47 dBm</p> <p>Center 2.575 GHz 2 MHz/ Span 20 MHz</p> <p>Date: 26.JUL.2023 14:53:35</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -1.69 dB *VMW 300 kHz SWT 10 ms 9.840000000 MHz</p> <p>30 Offset 14.5 dB Marker 1 [T1] 2.590040000 GHz -1.69 dBm Temp 1 [T1 OSW] Temp 2 [T1 OSW] 2.590520000 GHz -13.44 dBm Temp 3 [T1 OSW] 2.599480000 GHz -13.47 dBm</p> <p>Center 2.595 GHz 2 MHz/ Span 20 MHz</p> <p>Date: 26.JUL.2023 14:53:58</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.29 dB *VMW 300 kHz SWT 10 ms 10.080000000 MHz</p> <p>30 Offset 14.5 dB Marker 1 [T1] 2.589880000 GHz -0.29 dBm Temp 1 [T1 OSW] Temp 2 [T1 OSW] 2.590520000 GHz -13.44 dBm Temp 3 [T1 OSW] 2.599480000 GHz -15.07 dBm</p> <p>Center 2.595 GHz 2 MHz/ Span 20 MHz</p> <p>Date: 26.JUL.2023 14:54:16</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.91 dB *VMW 300 kHz SWT 10 ms 9.760000000 MHz</p> <p>30 Offset 14.5 dB Marker 1 [T1] 2.610080000 GHz -0.91 dBm Temp 1 [T1 OSW] Temp 2 [T1 OSW] 2.610520000 GHz -13.44 dBm Temp 3 [T1 OSW] 2.619480000 GHz -13.67 dBm</p> <p>Center 2.615 GHz 2 MHz/ Span 20 MHz</p> <p>Date: 26.JUL.2023 14:54:42</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.33 dB *VMW 300 kHz SWT 10 ms 9.760000000 MHz</p> <p>30 Offset 14.5 dB Marker 1 [T1] 2.610080000 GHz -0.33 dBm Temp 1 [T1 OSW] Temp 2 [T1 OSW] 2.610520000 GHz -13.44 dBm Temp 3 [T1 OSW] 2.619480000 GHz -13.17 dBm</p> <p>Center 2.615 GHz 2 MHz/ Span 20 MHz</p> <p>Date: 26.JUL.2023 14:55:06</p>

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] -0.14 dB *VMW 1 MHz *SWT 2.5 ms 15.00000000 MHz                      Marker 1 [T1] 15.66 dBm                      OSW 15.00000000 MHz                      Temp 1 [T1 OSW] 2.57000000 GHz                      Temp 2 [T1 OSW] 2.57078000 GHz                      Temp 3 [T1 OSW] 2.58428000 GHz                      Center 2.5775 GHz 3 MHz/ Span 30 MHz                      Date: 26.JUL.2023 14:55:35</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] 0.04 dB *VMW 1 MHz *SWT 2.5 ms 15.00000000 MHz                      Marker 1 [T1] 14.74 dBm                      OSW 15.00000000 MHz                      Temp 1 [T1 OSW] 2.56970000 GHz                      Temp 2 [T1 OSW] 2.57072000 GHz                      Temp 3 [T1 OSW] 2.58428000 GHz                      Center 2.5775 GHz 3 MHz/ Span 30 MHz                      Date: 26.JUL.2023 14:55:57</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] 0.45 dB *VMW 1 MHz *SWT 2.5 ms 15.96000000 MHz                      Marker 1 [T1] 16.04 dBm                      OSW 15.96000000 MHz                      Temp 1 [T1 OSW] 2.59884000 GHz                      Temp 2 [T1 OSW] 2.59822000 GHz                      Temp 3 [T1 OSW] 2.60178000 GHz                      Center 2.595 GHz 3 MHz/ Span 30 MHz                      Date: 26.JUL.2023 14:56:25</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] 0.34 dB *VMW 1 MHz *SWT 2.5 ms 15.12000000 MHz                      Marker 1 [T1] 15.11 dBm                      OSW 15.12000000 MHz                      Temp 1 [T1 OSW] 2.58750000 GHz                      Temp 2 [T1 OSW] 2.58822000 GHz                      Temp 3 [T1 OSW] 2.60178000 GHz                      Center 2.595 GHz 3 MHz/ Span 30 MHz                      Date: 26.JUL.2023 14:56:53</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] -0.74 dB *VMW 1 MHz *SWT 2.5 ms 16.56000000 MHz                      Marker 1 [T1] 15.84 dBm                      OSW 16.56000000 MHz                      Temp 1 [T1 OSW] 2.60834000 GHz                      Temp 2 [T1 OSW] 2.60572000 GHz                      Temp 3 [T1 OSW] 2.61934000 GHz                      Center 2.6125 GHz 3 MHz/ Span 30 MHz                      Date: 26.JUL.2023 14:57:32</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] -0.73 dB *VMW 1 MHz *SWT 2.5 ms 15.56000000 MHz                      Marker 1 [T1] 14.71 dBm                      OSW 15.56000000 MHz                      Temp 1 [T1 OSW] 2.60508000 GHz                      Temp 2 [T1 OSW] 2.60572000 GHz                      Temp 3 [T1 OSW] 2.61934000 GHz                      Center 2.6125 GHz 3 MHz/ Span 30 MHz                      Date: 26.JUL.2023 14:57:54</p>

Occupied Bandwidth

Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

Spurious Emissions at Antenna Terminal

Channel	5MHz Bandwidth QPSK	
Lowest	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz Marker 1 [T1] -46.89 dBm            *VSW 300 kHz *SWT 100 ms 825.400000000 MHz</p> <p>Date: 27.JUL.2023 13:59:15</p>	<p>Ref 30 dBm *Att 25 dB *RBW 1 MHz Marker 1 [T1] -32.77 dBm            *VSW 3 MHz *SWT 150 ms 24.817000000 GHz</p> <p>Date: 27.JUL.2023 13:59:26</p>
Middle	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz Marker 1 [T1] -46.80 dBm            *VSW 300 kHz *SWT 100 ms 837.040000000 MHz</p> <p>Date: 27.JUL.2023 13:59:40</p>	<p>Ref 30 dBm *Att 25 dB *RBW 1 MHz Marker 1 [T1] -31.38 dBm            *VSW 3 MHz *SWT 150 ms 24.817000000 GHz</p> <p>Date: 27.JUL.2023 13:59:51</p>
Highest	<p>Ref 0 dBm *Att 30 dB *RBW 100 kHz Marker 1 [T1] -45.07 dBm            *VSW 300 kHz *SWT 100 ms 305.480000000 MHz</p> <p>Date: 27.JUL.2023 14:00:08</p>	<p>Ref 30 dBm *Att 25 dB *RBW 1 MHz Marker 1 [T1] -31.84 dBm            *VSW 3 MHz *SWT 150 ms 26.398000000 GHz</p> <p>Date: 27.JUL.2023 14:00:19</p>

Spurious Emissions at Antenna Terminal

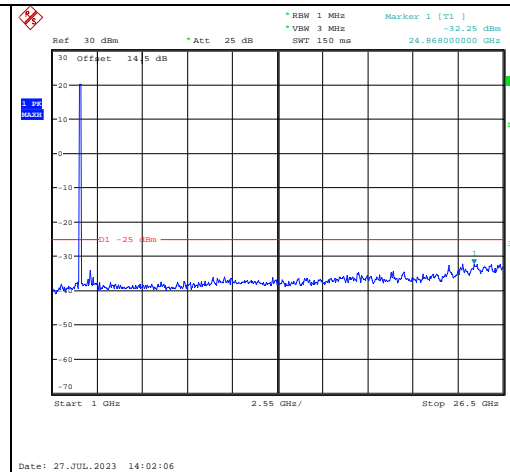
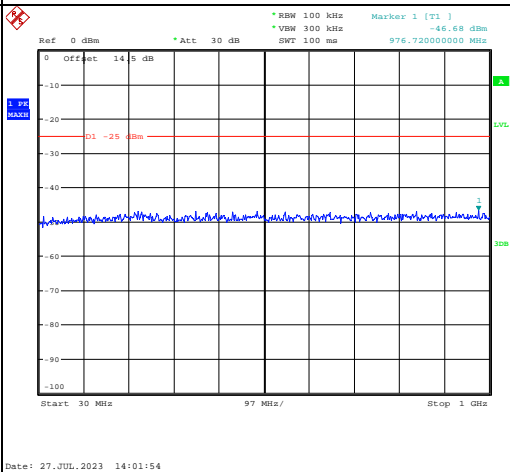
Channel	10MHz Bandwidth QPSK	
Lowest	<p>Ref 0 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.43 dBm            VSW 300 kHz    SWT 100 ms    225.648000000 MHz</p> <p>Start 30 MHz    97 MHz/    Stop 1 GHz</p> <p>Date: 27.JUL.2023 14:00:35</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -32.71 dBm            VSW 3 MHz    SWT 150 ms    24.868000000 GHz</p> <p>Start 1 GHz    2.55 GHz/    Stop 26.5 GHz</p> <p>Date: 27.JUL.2023 14:00:47</p>
Middle	<p>Ref 0 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.06 dBm            VSW 300 kHz    SWT 100 ms    959.260000000 MHz</p> <p>Start 30 MHz    97 MHz/    Stop 1 GHz</p> <p>Date: 27.JUL.2023 14:01:00</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -31.90 dBm            VSW 3 MHz    SWT 150 ms    24.868000000 GHz</p> <p>Start 1 GHz    2.55 GHz/    Stop 26.5 GHz</p> <p>Date: 27.JUL.2023 14:01:12</p>
Highest	<p>Ref 0 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.20 dBm            VSW 300 kHz    SWT 100 ms    229.820000000 MHz</p> <p>Start 30 MHz    97 MHz/    Stop 1 GHz</p> <p>Date: 27.JUL.2023 14:01:25</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -32.30 dBm            VSW 3 MHz    SWT 150 ms    25.276000000 GHz</p> <p>Start 1 GHz    2.55 GHz/    Stop 26.5 GHz</p> <p>Date: 27.JUL.2023 14:01:37</p>

### Spurious Emissions at Antenna Terminal

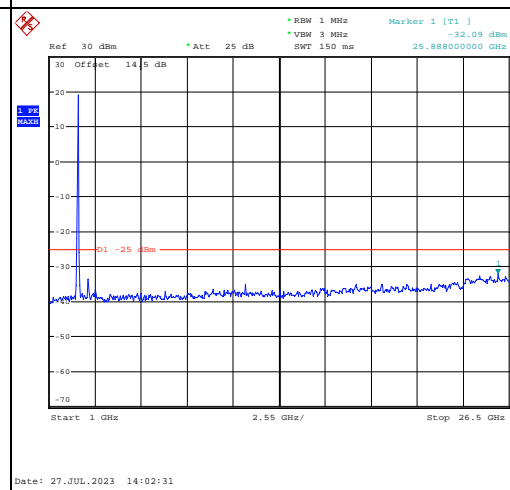
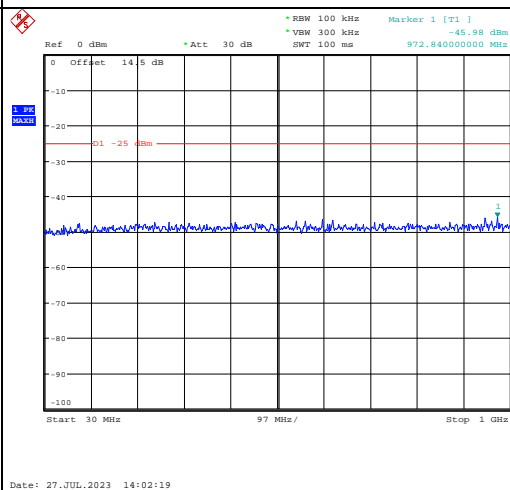
Channel

15MHz Bandwidth QPSK

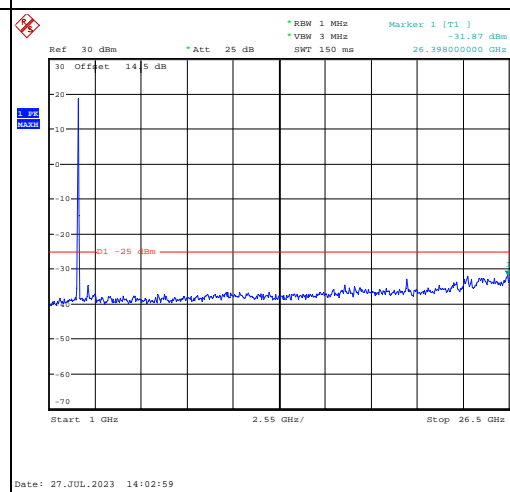
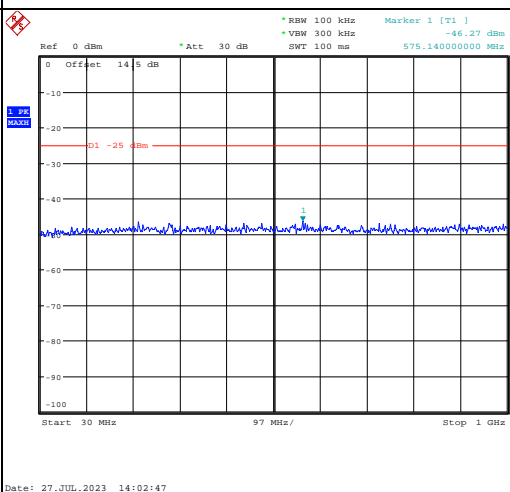
Lowest



Middle



Highest

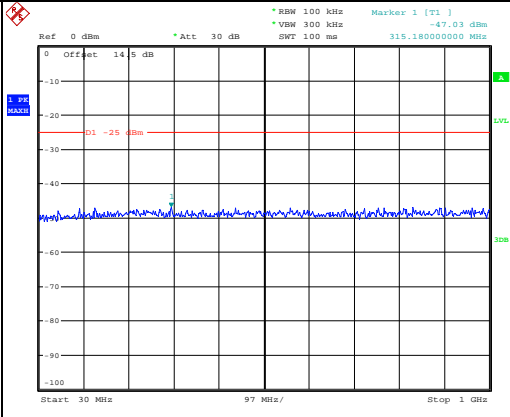


Spurious Emissions at Antenna Terminal

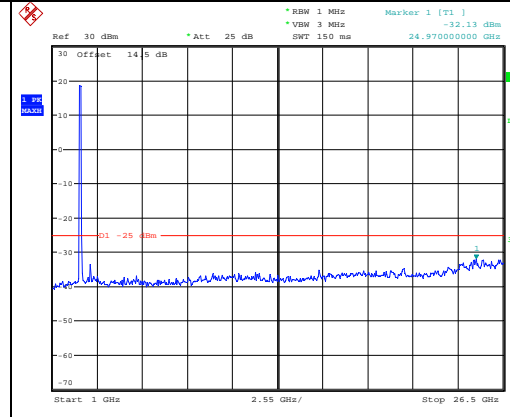
Channel

20MHz Bandwidth QPSK

Lowest

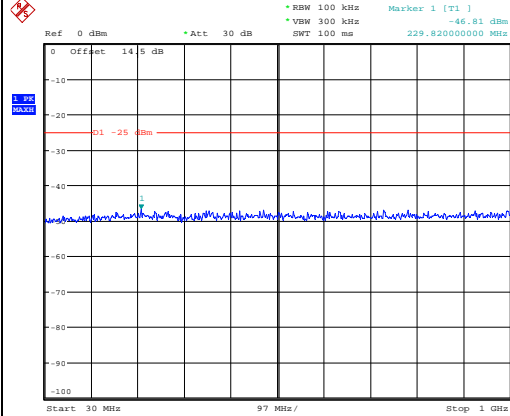


Date: 27.JUL.2023 14:03:15

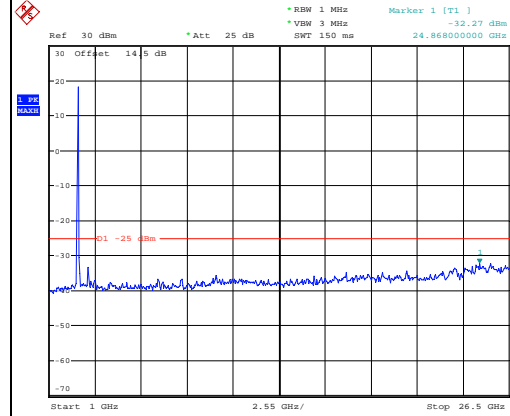


Date: 27.JUL.2023 14:03:27

Middle

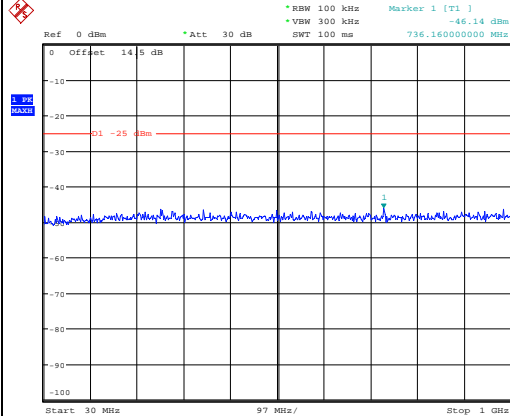


Date: 27.JUL.2023 14:03:44

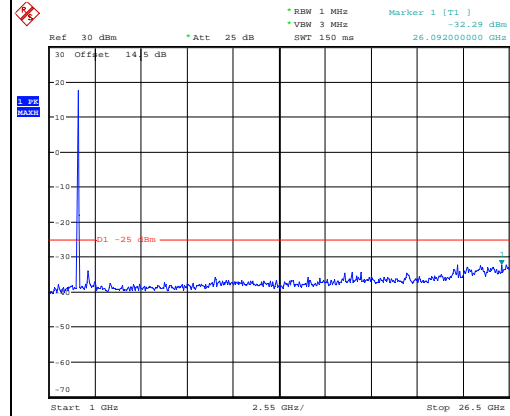


Date: 27.JUL.2023 14:03:55

Highest



Date: 27.JUL.2023 14:04:12



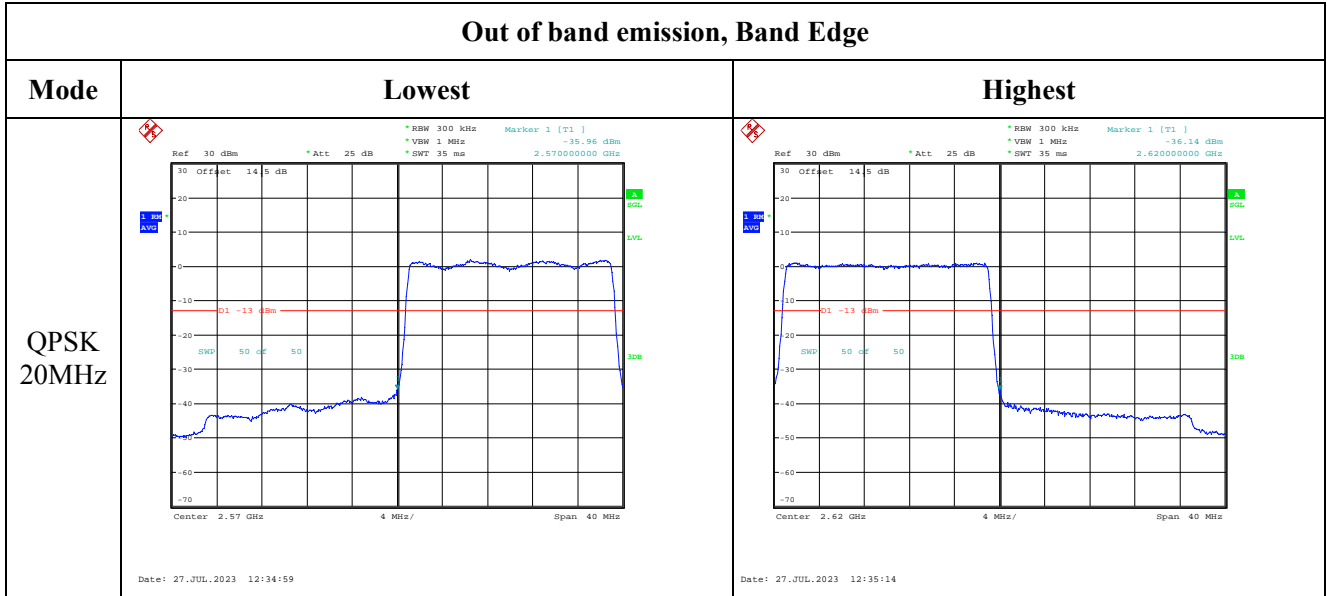
Date: 27.JUL.2023 14:04:23

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 5MHz	<p>Date: 27.JUL.2023 12:33:12</p>	<p>Date: 27.JUL.2023 12:33:29</p>
QPSK 10MHz	<p>Date: 27.JUL.2023 12:33:49</p>	<p>Date: 27.JUL.2023 12:34:07</p>
QPSK 15MHz	<p>Date: 27.JUL.2023 12:34:27</p>	<p>Date: 27.JUL.2023 12:34:42</p>



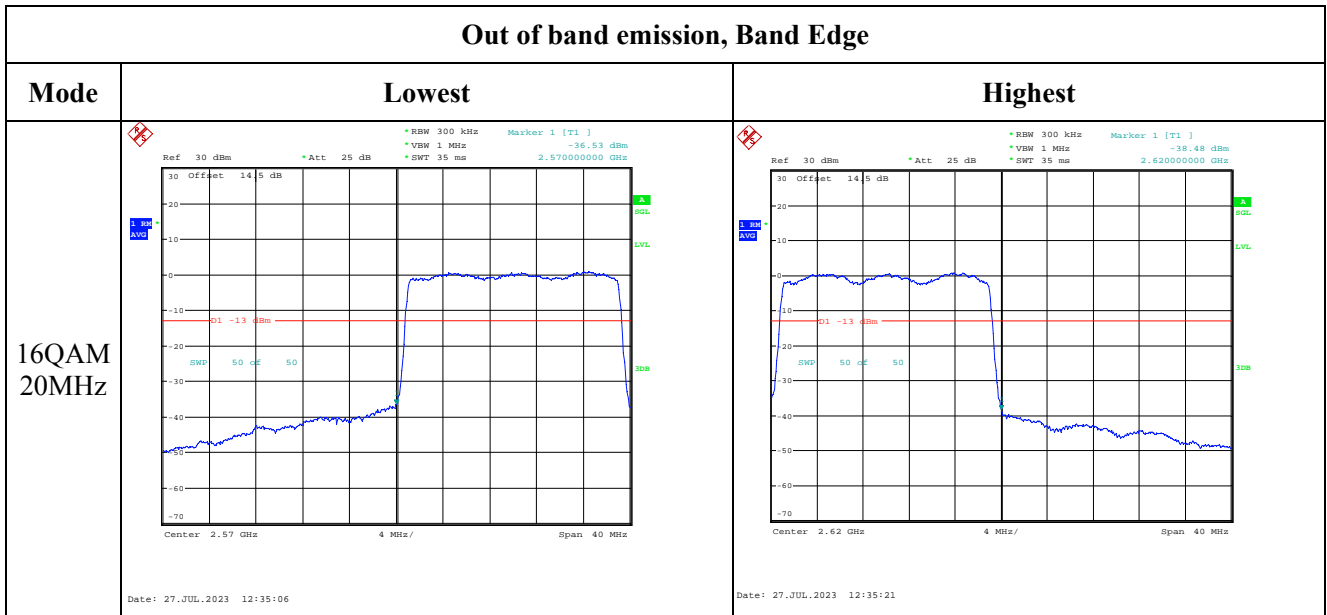
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 5MHz	<p>Date: 27.JUL.2023 12:33:20</p>	<p>Date: 27.JUL.2023 12:33:36</p>
16QAM 10MHz	<p>Date: 27.JUL.2023 12:33:58</p>	<p>Date: 27.JUL.2023 12:34:15</p>
16QAM 15MHz	<p>Date: 27.JUL.2023 12:34:34</p>	<p>Date: 27.JUL.2023 12:34:49</p>

Out of band emission, Band Edge



**4.15 Antenna Port Test Data and Results for LTE Band 40**

Serial Number:	27BI-1	Test Date:	2023/8/1-2023/8/3
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	23.6-24.7	Relative Humidity: (%)	49-54	ATM Pressure: (kPa)	99.7-99.8
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Weinschel	Power splitter	1515	RA915	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30

\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Frequency for Each Mode:**

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2307.5	/	2312.5
10MHz	/	2310	/
5MHz	2352.5	/	2357.5
10MHz	/	2355	/

**Test Data:**

(Note: Uplink Downlink configuration 3 was tested)

<b>FCC§2.1046; § 27.50(a)(3)</b>						
<b>LTE Band 40 Lower:</b>						
<b>RF Output Power:</b>						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	18.5	/	18.4	20.76	24
	RB1#13	18.37	/	18.43		
	RB1#24	18.32	/	18.42		
	RB15#0	18.00	/	17.79		
	RB15#10	18.02	/	17.99		
	RB25#0	17.98	/	17.91		
5MHz 16QAM	RB1#0	18.45	/	18.77	21.03	24
	RB1#13	18.46	/	18.65		
	RB1#24	18.41	/	18.75		
	RB15#0	17.89	/	17.68		
	RB15#10	17.77	/	17.73		
	RB25#0	17.44	/	17.76		
10MHz QPSK	RB1#0	/	18.28	/	20.54	24
	RB1#25	/	18.20	/		
	RB1#49	/	18.14	/		
	RB25#0	/	17.58	/		
	RB25#25	/	17.48	/		
	RB50#0	/	17.54	/		
10MHz 16QAM	RB1#0	/	18.20	/	21.1	24
	RB1#25	/	18.84	/		
	RB1#49	/	18.74	/		
	RB25#0	/	17.25	/		
	RB25#25	/	17.16	/		
	RB50#0	/	17.2	/		
<b>EIRP PSD in 5MHz:</b>						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted PSD (dBm/5MHz)			Maximum EIRP PSD (dBm/5MHz)	Limit (dBm/5MHz)
		Lowest Channel	Middle Channel	Highest Channel		
10MHz QPSK	RB1#0	/	18.28	/	20.54	24
	RB1#25	/	18.20	/		
	RB1#49	/	17.26	/		
	RB25#0	/	17.58	/		
	RB25#25	/	17.48	/		
	RB50#0	/	15.49	/		
10MHz 16QAM	RB1#0	/	18.20	/	21.1	24
	RB1#25	/	18.84	/		

	RB1#49	/	17.61	/		
	RB25#0	/	17.25	/		
	RB25#25	/	17.16	/		
	RB50#0	/	15.33	/		

Note:

For 5MHz mode, the channel power is equal to the test result in dBm/5MHz.

EIRP=Conducted Power(dBm) - Lc(dB) + Gt(dBi)

EIRP PSD=Conducted PSD(dBm/5MHz) - Lc(dB) + Gt(dBi)

**LTE Band 40 Upper:****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	18.42	/	17.54	20.68	24
	RB1#13	18.41	/	17.54		
	RB1#24	18.39	/	17.43		
	RB15#0	17.78	/	17.09		
	RB15#10	17.7	/	17.05		
	RB25#0	17.71	/	17.04		
5MHz 16QAM	RB1#0	18.49	/	17.63	20.75	24
	RB1#13	18.27	/	17.41		
	RB1#24	18.26	/	17.71		
	RB15#0	17.46	/	16.9		
	RB15#10	17.52	/	16.91		
	RB25#0	17.5	/	16.49		
10MHz QPSK	RB1#0	/	18.56	/	20.82	24
	RB1#25	/	18.51	/		
	RB1#49	/	18.56	/		
	RB25#0	/	17.87	/		
	RB25#25	/	17.91	/		
	RB50#0	/	17.9	/		
10MHz 16QAM	RB1#0	/	18.63	/	21.33	24
	RB1#25	/	18.67	/		
	RB1#49	/	19.07	/		
	RB25#0	/	17.74	/		
	RB25#25	/	17.61	/		
	RB50#0	/	17.54	/		

**EIRP PSD in 5MHz:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted PSD(dBm/5MHz)			Maximum EIRP PSD (dBm/5MHz)	Limit (dBm/5MHz)
		Lowest Channel	Middle Channel	Highest Channel		
10MHz QPSK	RB1#0	/	18.56	/	20.82	24
	RB1#25	/	18.51	/		
	RB1#49	/	17.31	/		

	RB25#0	/	17.87	/		
	RB25#25	/	17.91	/		
	RB50#0	/	15.69	/		
10MHz 16QAM	RB1#0	/	18.63	/	20.93	24
	RB1#25	/	18.67	/		
	RB1#49	/	17.46	/		
	RB25#0	/	17.74	/		
	RB25#25	/	17.61	/		
	RB50#0	/	15.39	/		

Note:

For 5MHz mode, the channel power is equal to the test result in dBm/5MHz.

EIRP=Conducted Power(dBm) - Lc(dB) + Gt(dBi)

EIRP PSD=Conducted PSD(dBm/5MHz) - Lc(dB) + Gt(dBi)

**Result:****Pass****Duty Cycle**

Operation Band	Modulation	Bandwidth	Ton (ms)	Ton+off (ms)	Duty Cycle (%)	Limit (%)
LTE Band 40 Lower	QPSK	5M	3.186	10.032	31.76	38
		10M	3.25	10.16	31.99	38
	16QAM	5M	3.186	10.096	31.56	38
		10M	3.122	10.032	31.12	38
LTE Band 40 Upper	QPSK	5M	3.122	10.032	31.12	38
		10M	3.122	9.968	31.32	38
	16QAM	5M	3.186	10.096	31.56	38
		10M	3.122	9.968	31.32	38
					<b>Result:</b>	<b>Pass</b>

**FCC §2.1049, §27.53: Occupied Bandwidth****LTE Band 40 Lower:**

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle channel	High Channel
5MHz QPSK	4.50	/	4.50	5.00	/	5.08
5MHz 16QAM	4.50	/	4.50	5.22	/	5.24
10MHz QPSK	/	8.96	/	/	9.80	/
10MHz 16QAM	/	8.96	/	/	9.76	/

**LTE Band 40 Upper:**

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle channel	High Channel
5MHz QPSK	4.54	/	4.5	5.56	/	5.0

5MHz 16QAM	4.52	/	4.52	5.34	/	5.04
10MHz QPSK	/	8.96	/	/	9.84	/
10MHz 16QAM	/	8.96	/	/	9.76	/

Note: The test plots please refer to the Plots of Occupied Bandwidth

**FCC §2.1051, § 27.53: Spurious Emissions at Antenna Terminal**

**Result: Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

**FCC §2.1051, § 27.53: Out of band emission, Band Edge**

**Result: Pass, Please refer to the test plots of Out of band emission, Band Edge.**

**FCC §2.1055, §27.54: Frequency Stability**

**LTE Band 40 Lower:**

Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	2305.040	2305.000	2314.240	2315.000
	-20	3.8	2305.030	2305.000	2314.190	2315.000
	-10	3.8	2305.530	2305.000	2314.480	2315.000
	0	3.8	2305.150	2305.000	2314.230	2315.000
	10	3.8	2305.930	2305.000	2314.190	2315.000
	20	3.8	2305.560	2305.000	2314.520	2315.000
	30	3.8	2305.650	2305.000	2314.160	2315.000
	40	3.8	2305.130	2305.000	2314.680	2315.000
Frequency Stability vs. Voltage	20	3.5	2305.070	2305.000	2314.490	2315.000
	20	4.35	2305.960	2305.000	2314.670	2315.000
					<b>Result:</b>	<b>Pass</b>

Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	2305.430	2305.000	2314.470	2315.000
	-20	3.8	2305.670	2305.000	2314.220	2315.000
	-10	3.8	2305.280	2305.000	2314.310	2315.000
	0	3.8	2305.990	2305.000	2314.400	2315.000
	10	3.8	2305.190	2305.000	2314.720	2315.000
	20	3.8	2305.560	2305.000	2314.520	2315.000
	30	3.8	2305.940	2305.000	2314.430	2315.000
	40	3.8	2305.300	2305.000	2314.740	2315.000
Frequency	50	3.8	2305.080	2305.000	2314.570	2315.000
	20	3.5	2305.180	2305.000	2314.300	2315.000



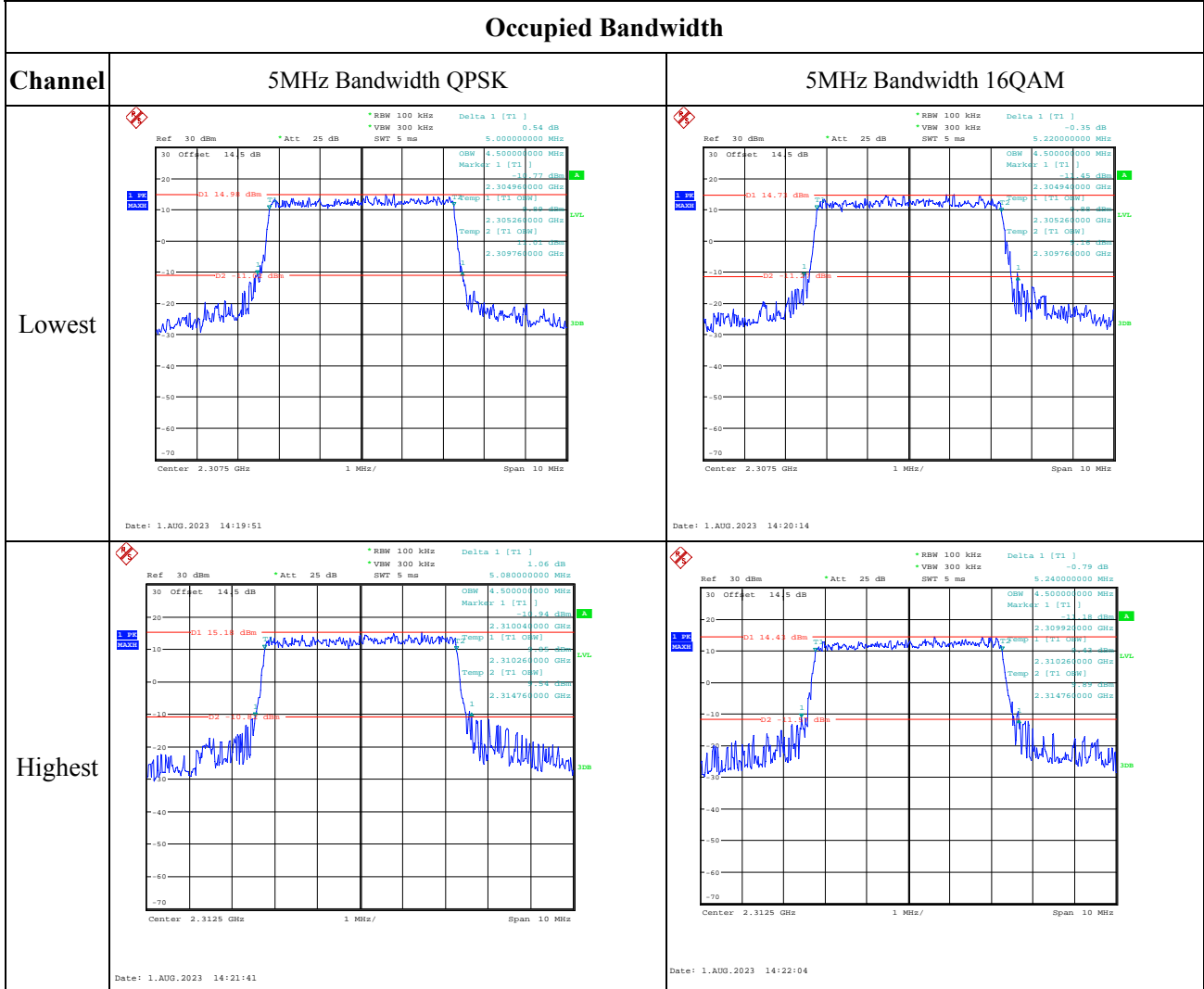
Stability vs. Voltage	20	4.35	2305.370	2305.000	2314.050	2315.000
					<b>Result:</b>	<b>Pass</b>

**LTE Band 40 Upper:**

Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	2350.930	2350.000	2359.160	2360.000
	-20	3.8	2350.630	2350.000	2359.260	2360.000
	-10	3.8	2350.330	2350.000	2359.370	2360.000
	0	3.8	2350.020	2350.000	2359.020	2360.000
	10	3.8	2350.100	2350.000	2359.140	2360.000
	20	3.8	2350.520	2350.000	2359.480	2360.000
	30	3.8	2350.500	2350.000	2359.330	2360.000
	40	3.8	2350.250	2350.000	2359.260	2360.000
	50	3.8	2350.380	2350.000	2359.390	2360.000
Frequency Stability vs. Voltage	20	3.5	2350.960	2350.000	2359.250	2360.000
	20	4.35	2350.690	2350.000	2359.990	2360.000
					<b>Result:</b>	<b>Pass</b>

Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	2350.830	2350.000	2359.750	2360.000
	-20	3.8	2350.650	2350.000	2359.170	2360.000
	-10	3.8	2350.160	2350.000	2359.930	2360.000
	0	3.8	2350.710	2350.000	2359.890	2360.000
	10	3.8	2350.580	2350.000	2359.510	2360.000
	20	3.8	2350.520	2350.000	2359.480	2360.000
	30	3.8	2350.050	2350.000	2359.920	2360.000
	40	3.8	2350.070	2350.000	2359.630	2360.000
	50	3.8	2350.590	2350.000	2359.310	2360.000
Frequency Stability vs. Voltage	20	3.5	2350.040	2350.000	2359.700	2360.000
	20	4.35	2350.370	2350.000	2359.680	2360.000
					<b>Result:</b>	<b>Pass</b>

**Test Plots** (Note: The 14.5 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):  
2305-2315 MHz:



Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.79 dB          *VBW 300 kHz *SWT 10 ms 9.800000000 MHz          Center 2.31 GHz 2 MHz/ Span 20 MHz          Date: 1.AUG.2023 14:22:31</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 2.55 dB          *VBW 300 kHz *SWT 10 ms 9.760000000 MHz          Center 2.31 GHz 2 MHz/ Span 20 MHz          Date: 1.AUG.2023 14:22:55</p>

2350-2360 MHz:

Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.58 dB              *VBW 300 kHz *SWT 5 ms 5.560000000 MHz              Marker 1 [T1] 14.24 dBm              D1 15.8 dBm              Center: 2.3525 GHz 1 MHz/ Span 10 MHz</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.24 dB              *VBW 300 kHz *SWT 5 ms 5.340000000 MHz              Marker 1 [T1] 14.22 dBm              D1 14.8 dBm              Center: 2.3525 GHz 1 MHz/ Span 10 MHz</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -3.04 dB              *VBW 300 kHz *SWT 5 ms 5.020000000 MHz              Marker 1 [T1] 14.89 dBm              D1 14.8 dBm              Center: 2.359 GHz 1 MHz/ Span 10 MHz</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.01 dB              *VBW 300 kHz *SWT 5 ms 5.380000000 MHz              Marker 1 [T1] 14.83 dBm              D1 14.8 dBm              Center: 2.355 GHz 1 MHz/ Span 10 MHz</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -1.10 dB              *VBW 300 kHz *SWT 5 ms 4.960000000 MHz              Marker 1 [T1] 14.87 dBm              D1 15.6 dBm              Center: 2.3575 GHz 1 MHz/ Span 10 MHz</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -3.03 dB              *VBW 300 kHz *SWT 5 ms 5.040000000 MHz              Marker 1 [T1] 14.84 dBm              D1 14.9 dBm              Center: 2.3575 GHz 1 MHz/ Span 10 MHz</p>

Occupied Bandwidth

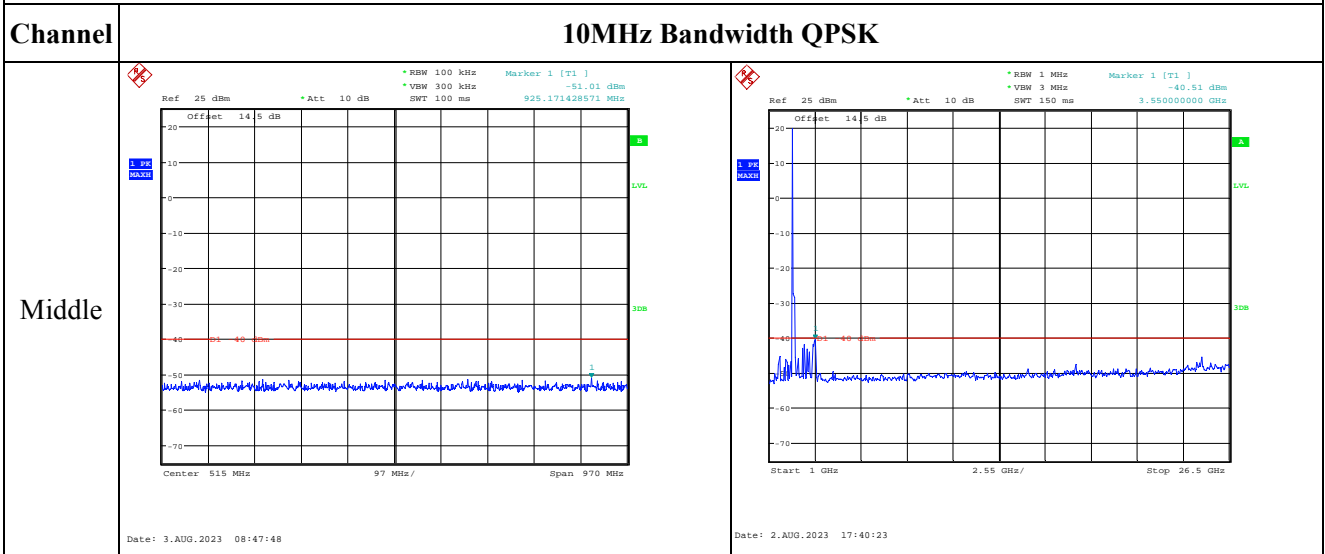
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Middle	<p>                     *RBW 100 kHz Delta 1 [T1] 3.61 dB                      *VBW 300 kHz                      Ref 30 dBm *Att 25 dB SWT 10 ms 9.84000000 MHz                      CW 2.35000000 MHz                      Marker 1 [T1] -11.81 dBm                      2.35004000 GHz                      Temp 1 [T1 CW]                      2.35052000 GHz                      Temp 2 [T1 CW] -13.27 dBm                      2.35948000 GHz                      -13.27 dBm                      Center 2.355 GHz 2 MHz/ Span 20 MHz                      Date: 1.AUG.2023 14:13:39                 </p>	<p>                     *RBW 100 kHz Delta 1 [T1] -2.28 dB                      *VBW 300 kHz                      Ref 30 dBm *Att 25 dB SWT 10 ms 9.76000000 MHz                      CW 2.35000000 MHz                      Marker 1 [T1] -11.67 dBm                      2.35012000 GHz                      Temp 1 [T1 CW]                      2.35052000 GHz                      Temp 2 [T1 CW] -13.81 dBm                      2.35948000 GHz                      -13.81 dBm                      Center 2.355 GHz 2 MHz/ Span 20 MHz                      Date: 1.AUG.2023 14:13:59                 </p>

2305-2315 MHz:

Spurious Emissions at Antenna Terminal

Channel	5MHz Bandwidth QPSK	
Lowest	<p>Ref 25 dBm    Offset 14.5 dB    Att 10 dB                      *RBW 100 kHz    Marker 1 [T1]    -50.66 dBm                      *VBW 300 kHz                      SWT 100 ms    254.485714286 MHz</p> <p>Center 515 MHz    97 MHz/    Span 970 MHz</p> <p>Date: 3.AUG.2023 08:46:15</p>	<p>Ref 25 dBm    Offset 14.5 dB    Att 10 dB                      *RBW 1 MHz    Marker 1 [T1]    -42.05 dBm                      *VBW 3 MHz                      SWT 150 ms    3.499000000 GHz</p> <p>Start 1 GHz    2.55 GHz/    Stop 26.5 GHz</p> <p>Date: 2.AUG.2023 17:41:53</p>
Middle	<p>Ref 25 dBm    Offset 14.5 dB    Att 10 dB                      *RBW 100 kHz    Marker 1 [T1]    -51.11 dBm                      *VBW 300 kHz                      SWT 100 ms    273.885714286 MHz</p> <p>Center 515 MHz    97 MHz/    Span 970 MHz</p> <p>Date: 3.AUG.2023 08:47:04</p>	<p>Ref 25 dBm    Offset 14.5 dB    Att 10 dB                      *RBW 1 MHz    Marker 1 [T1]    -40.36 dBm                      *VBW 3 MHz                      SWT 150 ms    3.499000000 GHz</p> <p>Start 1 GHz    2.55 GHz/    Stop 26.5 GHz</p> <p>Date: 2.AUG.2023 17:41:06</p>
Highest	<p>Ref 25 dBm    Offset 14.5 dB    Att 10 dB                      *RBW 100 kHz    Marker 1 [T1]    -50.66 dBm                      *VBW 300 kHz                      SWT 100 ms    254.485714286 MHz</p> <p>Center 515 MHz    97 MHz/    Span 970 MHz</p> <p>Date: 3.AUG.2023 08:46:15</p>	<p>Ref 25 dBm    Offset 14.5 dB    Att 10 dB                      *RBW 1 MHz    Marker 1 [T1]    -42.05 dBm                      *VBW 3 MHz                      SWT 150 ms    3.499000000 GHz</p> <p>Start 1 GHz    2.55 GHz/    Stop 26.5 GHz</p> <p>Date: 2.AUG.2023 17:41:53</p>

Spurious Emissions at Antenna Terminal

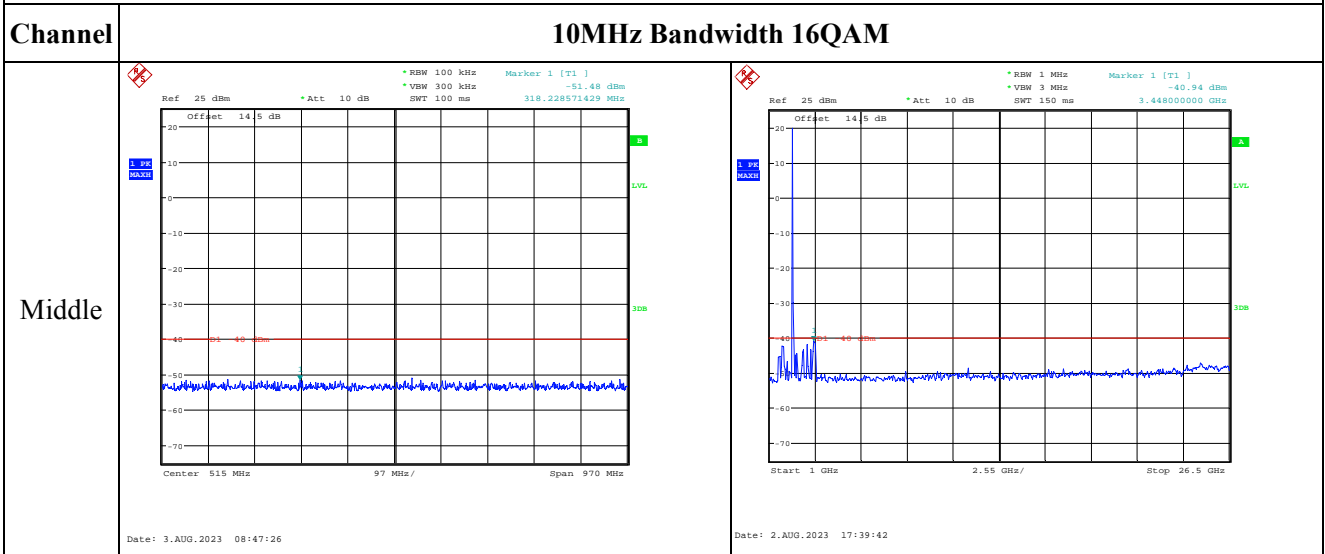


### Spurious Emissions at Antenna Terminal

Channel	5MHz Bandwidth 16QAM	
Lowest		
Middle		
Highest		



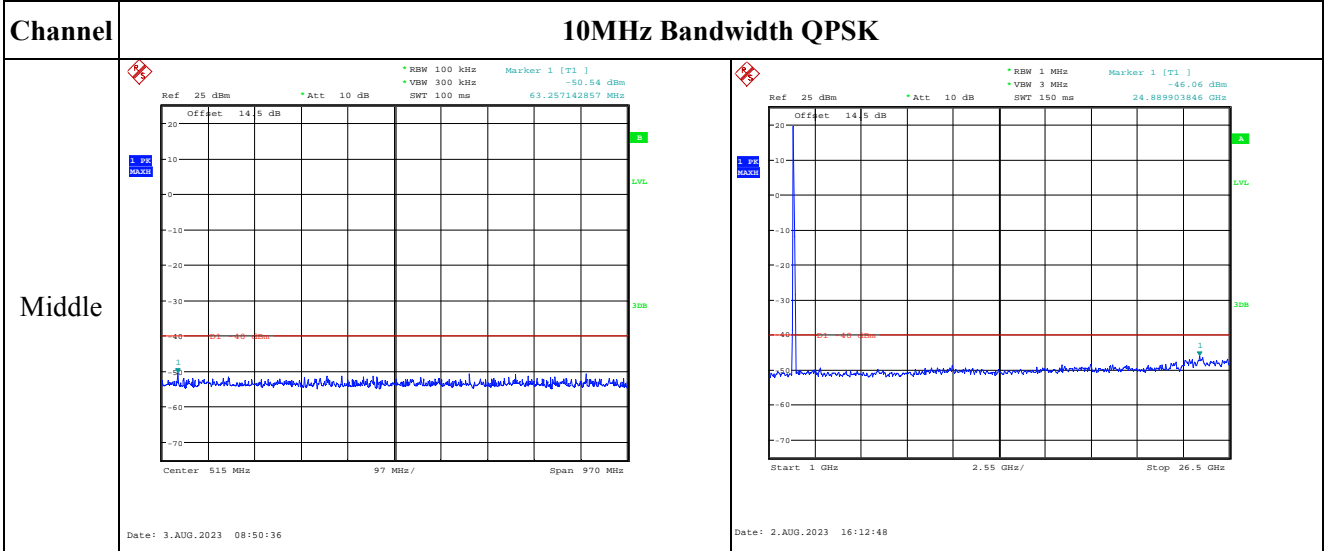
**Spurious Emissions at Antenna Terminal**



2350-2360 MHz:

<b>Spurious Emissions at Antenna Terminal</b>	
<b>Channel</b>	<b>5MHz Bandwidth QPSK</b>
<b>Lowest</b>	<p>Ref: 25 dBm, Att: 10 dB, RBW: 100 kHz, VSW: 300 kHz, SWT: 100 ms. Marker 1 [T1]: 609.228571429 MHz, -50.64 dBm.</p> <p>Center: 515 MHz, Span: 970 MHz.</p> <p>Date: 3.AUG.2023 08:49:42</p>
	<p>Ref: 25 dBm, Att: 10 dB, RBW: 1 MHz, VSW: 3 MHz, SWT: 150 ms. Marker 1 [T1]: 25.012500000 GHz, -45.76 dBm.</p> <p>Start: 1 GHz, Stop: 26.5 GHz.</p> <p>Date: 2.AUG.2023 16:07:17</p>
<b>Middle</b>	<p>Ref: 25 dBm, Att: 10 dB, RBW: 100 kHz, VSW: 300 kHz, SWT: 100 ms. Marker 1 [T1]: 839.257142857 MHz, -50.15 dBm.</p> <p>Center: 515 MHz, Span: 970 MHz.</p> <p>Date: 3.AUG.2023 08:49:56</p>
	<p>Ref: 25 dBm, Att: 10 dB, RBW: 1 MHz, VSW: 3 MHz, SWT: 150 ms. Marker 1 [T1]: 25.052365385 GHz, -46.85 dBm.</p> <p>Start: 1 GHz, Stop: 26.5 GHz.</p> <p>Date: 2.AUG.2023 16:10:51</p>
<b>Highest</b>	<p>Ref: 25 dBm, Att: 10 dB, RBW: 100 kHz, VSW: 300 kHz, SWT: 100 ms. Marker 1 [T1]: 800.457142857 MHz, -50.69 dBm.</p> <p>Center: 515 MHz, Span: 970 MHz.</p> <p>Date: 3.AUG.2023 08:49:14</p>
	<p>Ref: 25 dBm, Att: 10 dB, RBW: 1 MHz, VSW: 3 MHz, SWT: 150 ms. Marker 1 [T1]: 25.952303846 GHz, -46.64 dBm.</p> <p>Start: 1 GHz, Stop: 26.5 GHz.</p> <p>Date: 2.AUG.2023 16:11:47</p>

**Spurious Emissions at Antenna Terminal**

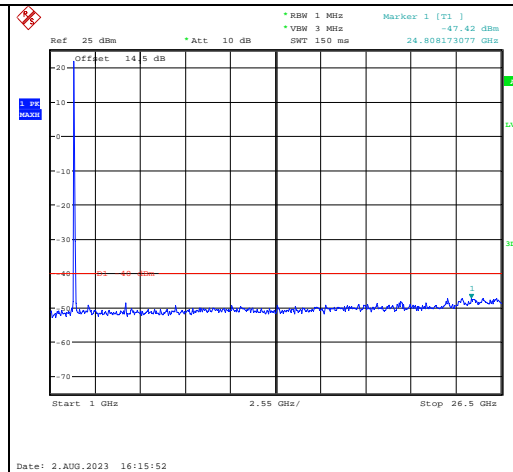
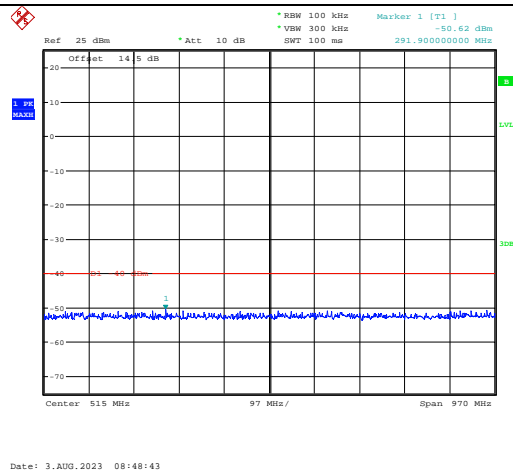


Spurious Emissions at Antenna Terminal

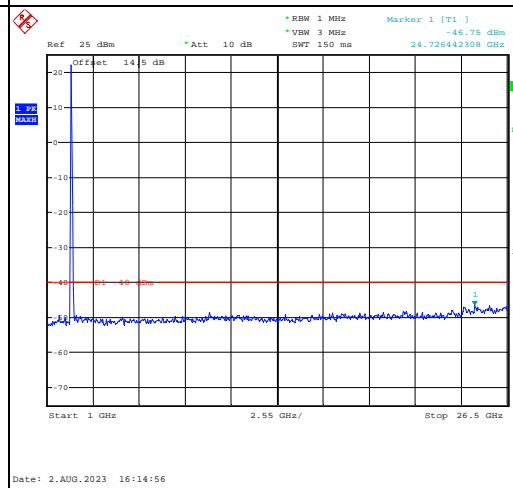
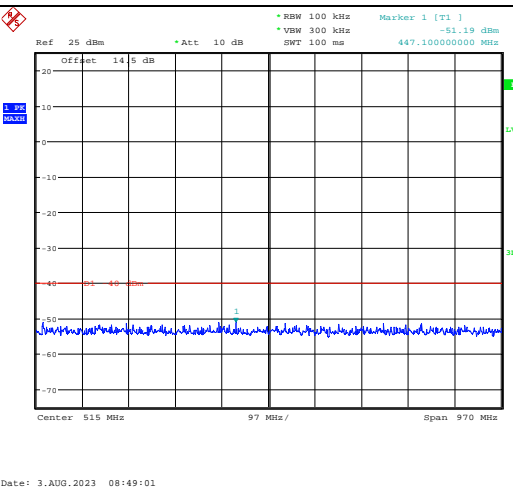
Channel

5MHz Bandwidth 16QAM

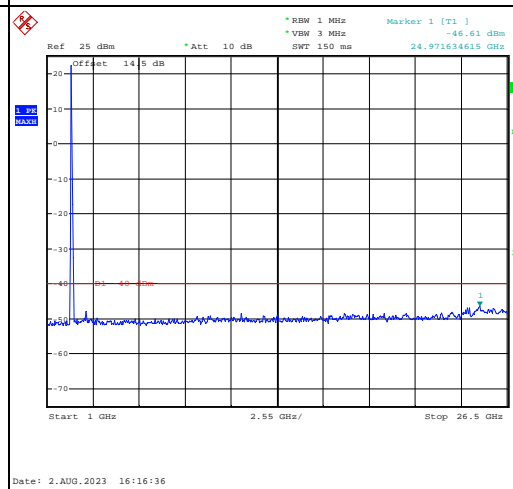
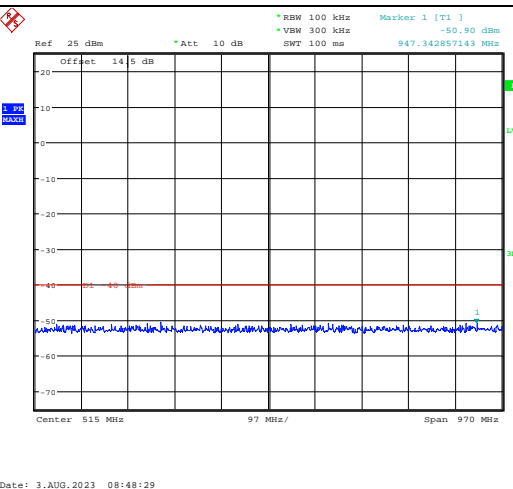
Lowest



Middle



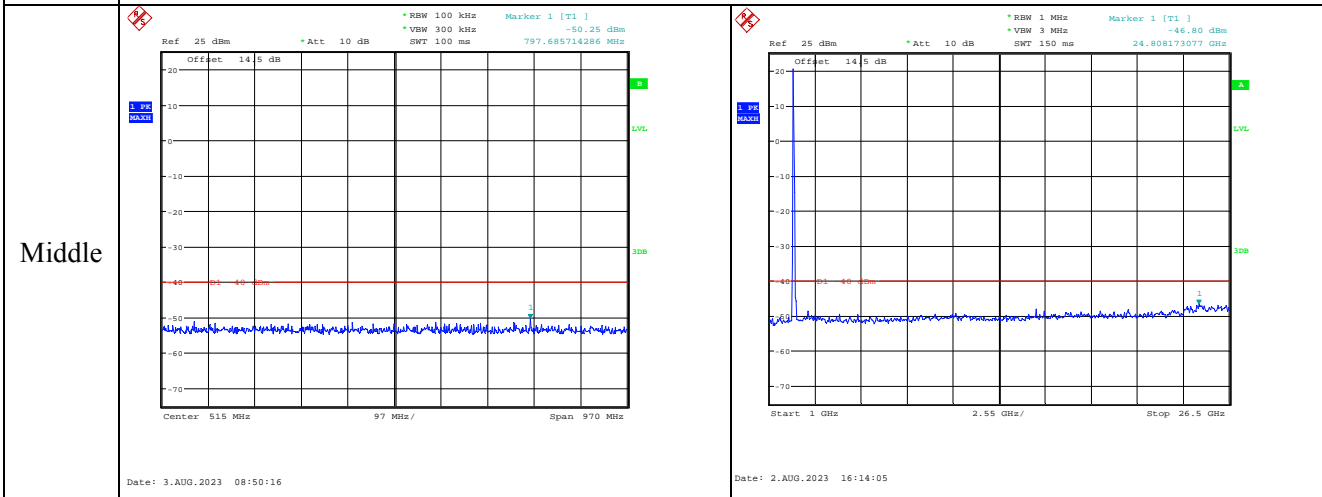
Highest



**Spurious Emissions at Antenna Terminal**

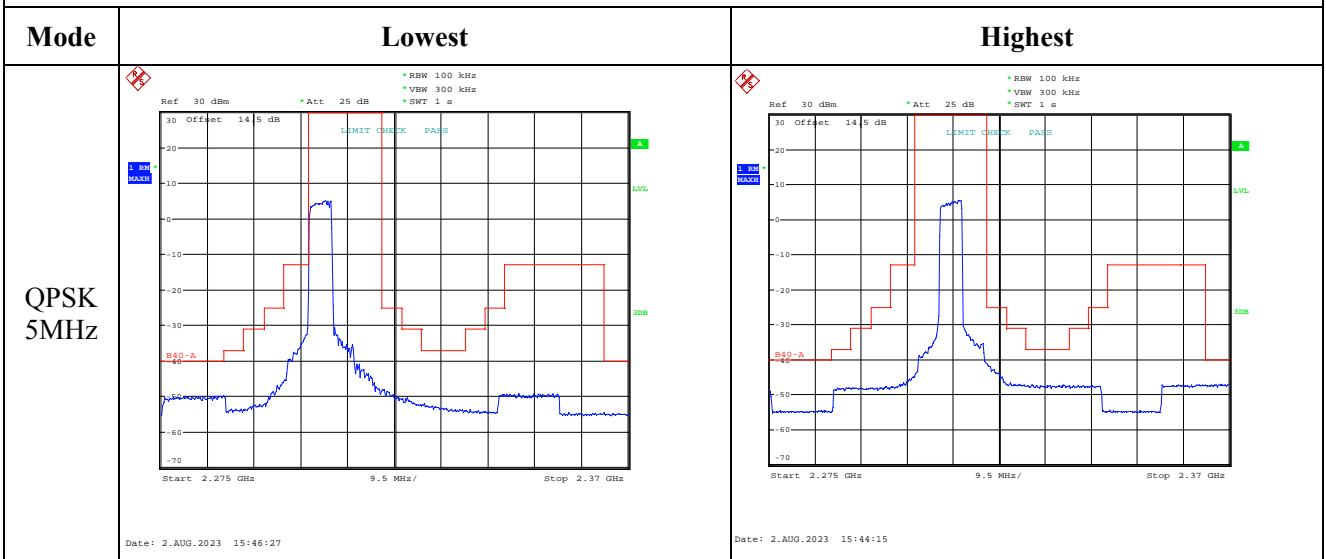
**Channel**

**10MHz Bandwidth 16QAM**

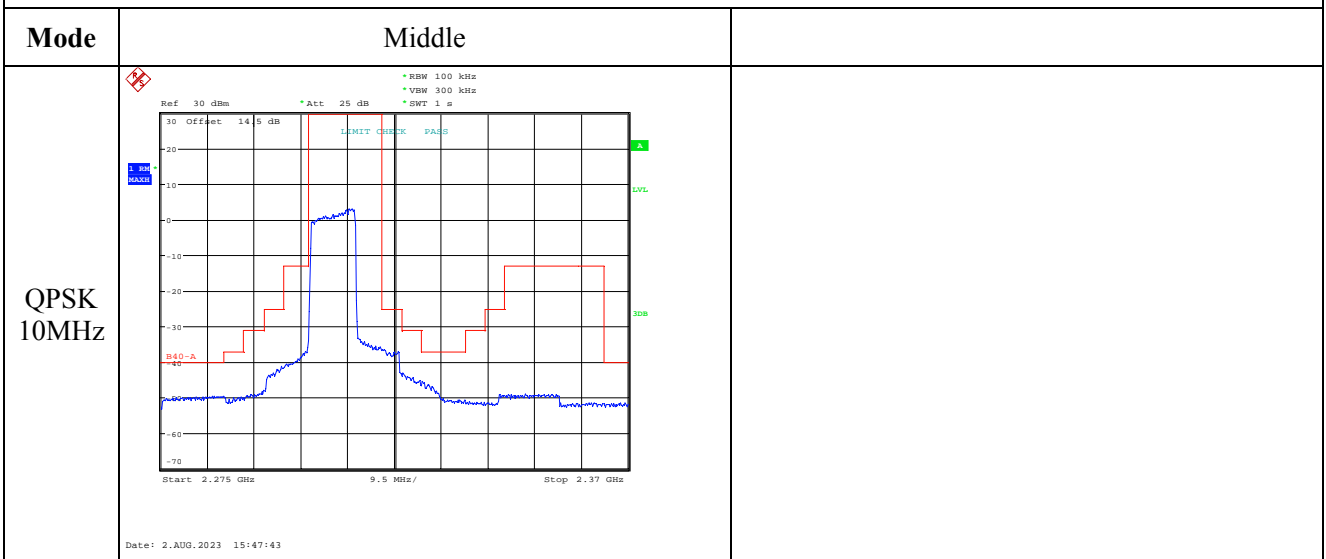


2305-2315 MHz:

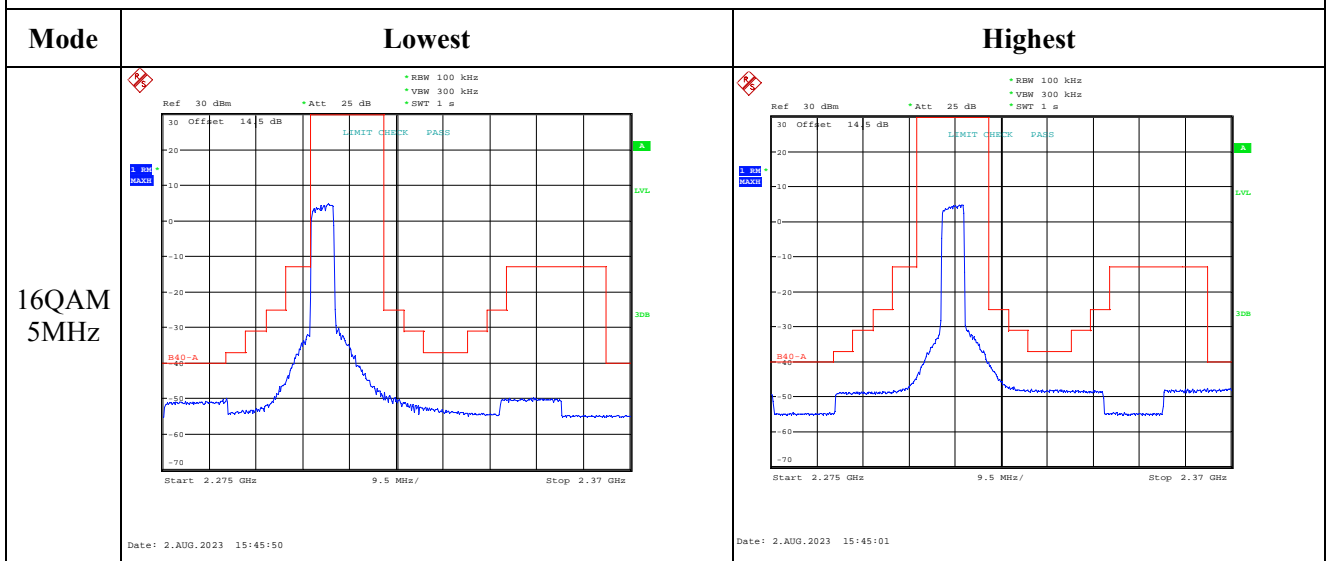
Out of band emission, Band Edge



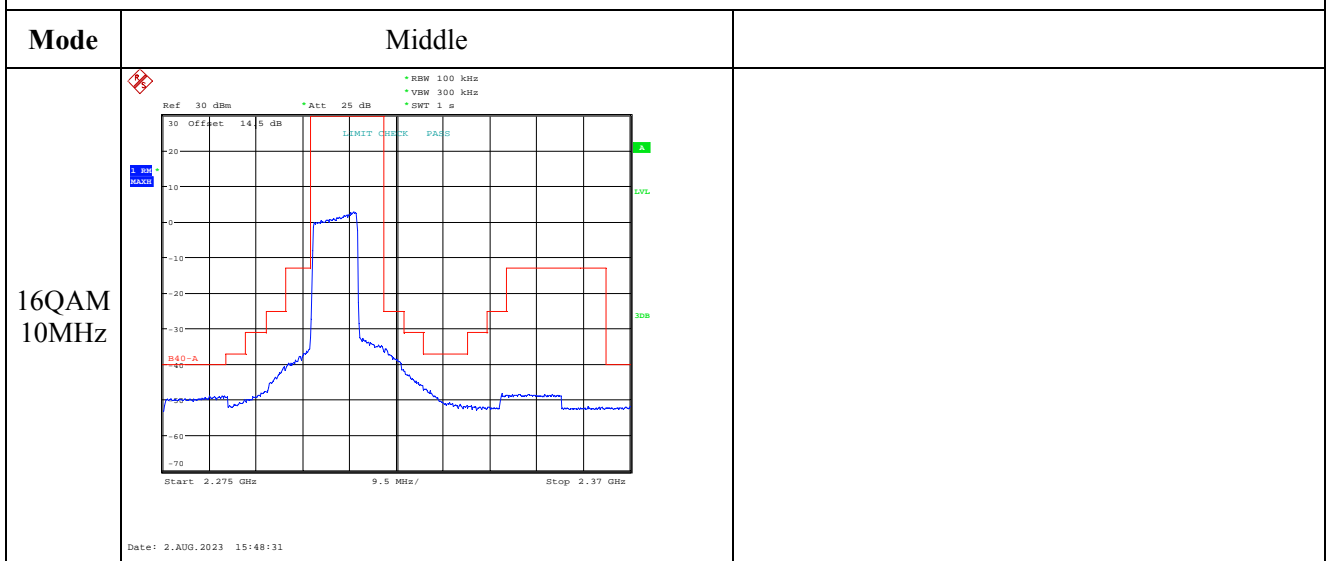
Out of band emission, Band Edge



Out of band emission, Band Edge

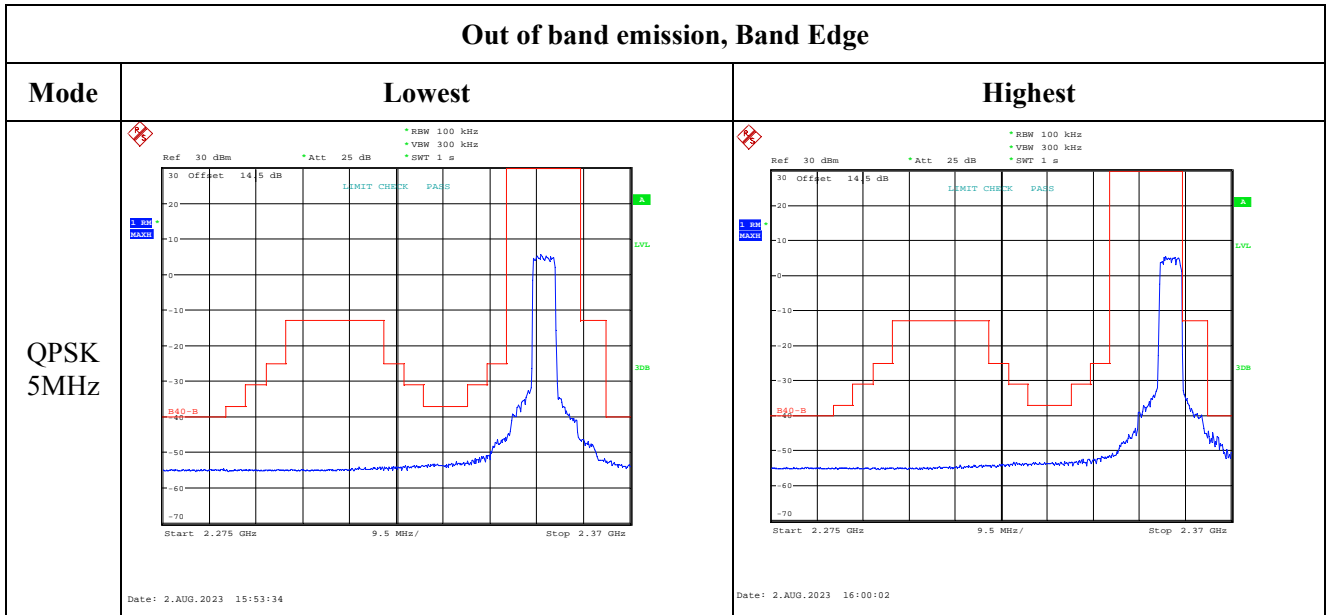


Out of band emission, Band Edge

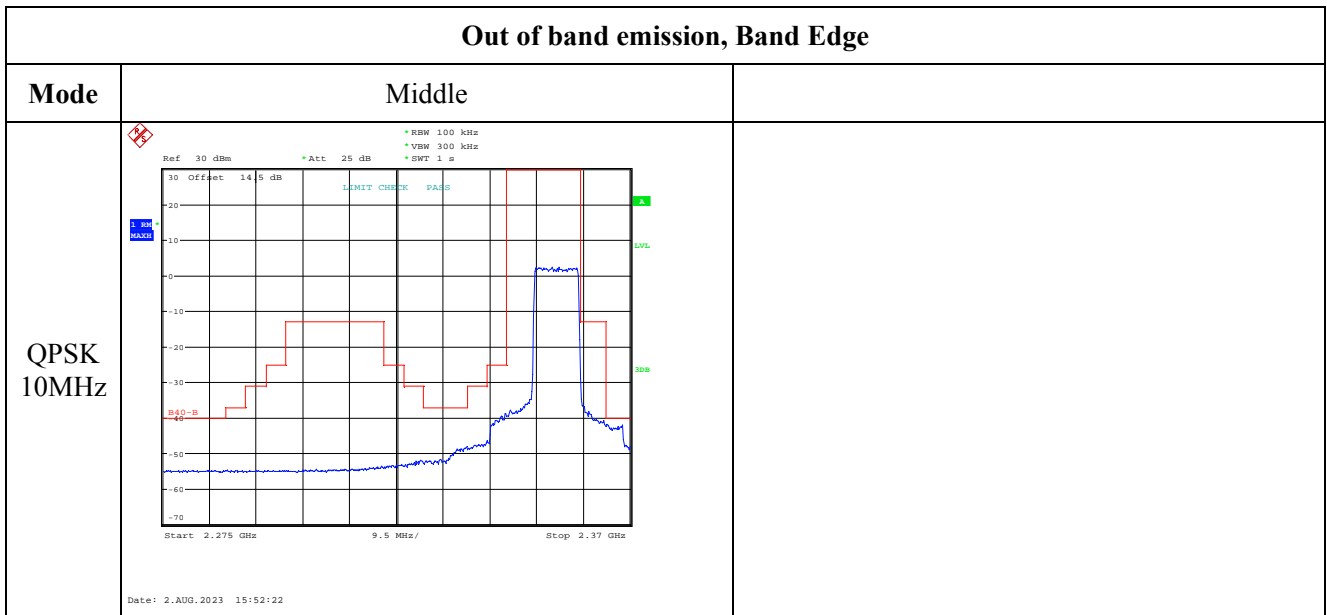


2350-2360 MHz:

Out of band emission, Band Edge

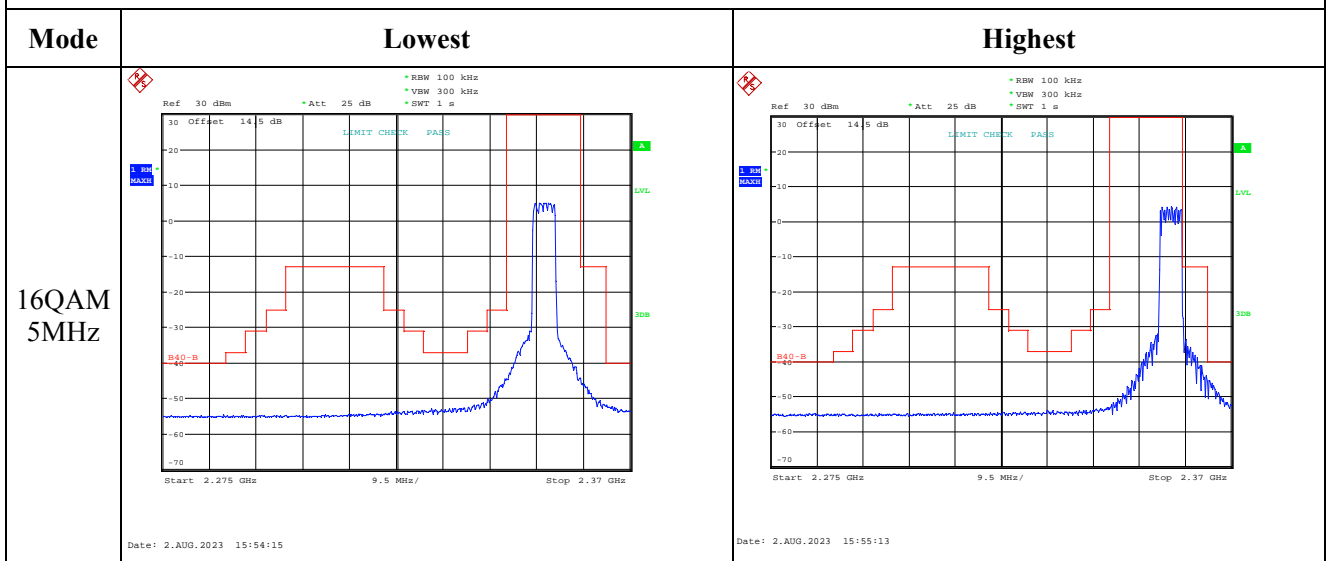


Out of band emission, Band Edge

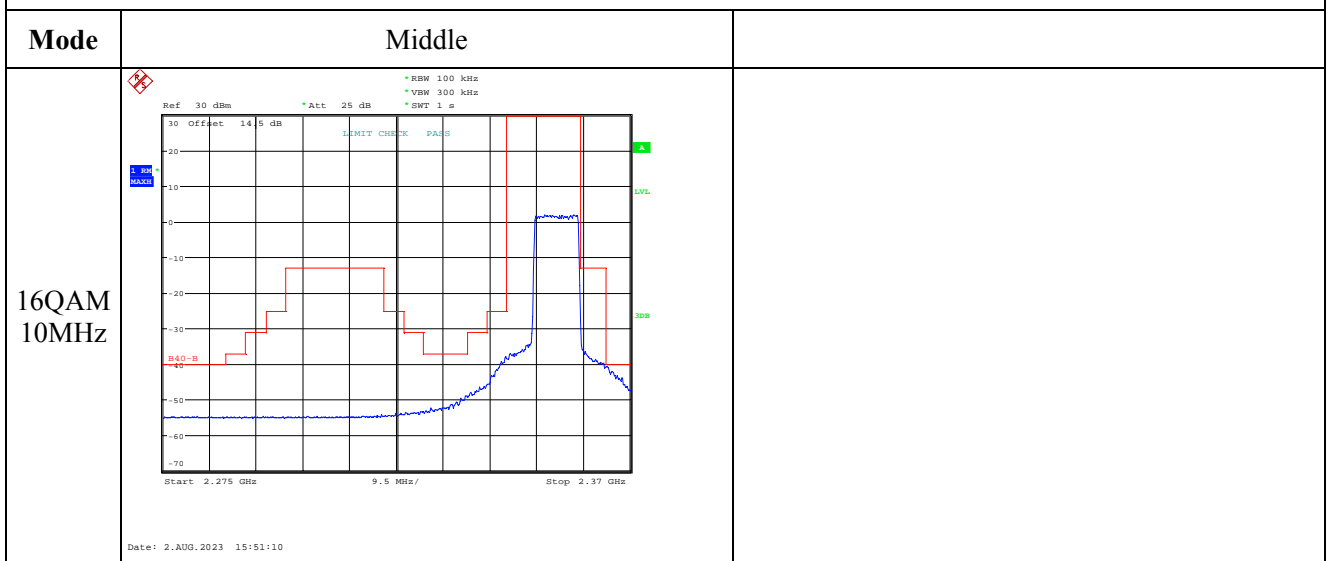




Out of band emission, Band Edge



Out of band emission, Band Edge



**4.16 Antenna Port Test Data and Results for LTE Band 41**

Serial Number:	27BI-1	Test Date:	2023/7/24-2023/7/28
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	24.5-26.3	Relative Humidity: (%)	46-62	ATM Pressure: (kPa)	99.7-100.6
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Weinschel	Power splitter	1515	RA915	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30

\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Frequency for Each Mode:**

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2537.5	2595	2652.5
10MHz	2540	2595	2650
15MHz	2542.5	2595	2647.5
20MHz	2545	2595	2645

**Test Data:**

<b>FCC§2.1046;§ 27.50(h)(2)</b>						
<b>RF Output Power:</b>						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	19.13	18.68	18.98	23.35	33
	RB1#13	19.03	18.66	19.05		
	RB1#24	19.08	18.6	19.06		
	RB15#0	17.99	17.8	17.88		
	RB15#10	18.04	17.76	17.83		
	RB25#0	17.98	17.75	17.96		
5MHz 16QAM	RB1#0	18.35	17.7	18.18	22.66	33
	RB1#13	18.44	17.66	17.86		
	RB1#24	18.43	17.73	17.97		
	RB15#0	17.2	17.01	17.16		
	RB15#10	17.23	16.97	17.09		
	RB25#0	17.2	16.6	17.18		
10MHz QPSK	RB1#0	18.93	18.63	18.78	23.15	33
	RB1#25	18.88	18.61	18.82		
	RB1#49	18.92	18.72	18.84		
	RB25#0	17.6	17.64	17.77		
	RB25#25	17.71	17.69	17.89		
	RB50#0	17.65	17.61	17.82		
10MHz 16QAM	RB1#0	17.96	17.85	17.75	22.28	33
	RB1#25	18.04	17.91	17.79		
	RB1#49	17.95	18.06	17.69		
	RB25#0	16.86	16.88	16.98		
	RB25#25	16.88	16.87	16.98		
	RB50#0	16.94	16.78	16.98		
15MHz QPSK	RB1#0	18.74	18.83	19.24	23.59	33
	RB1#38	18.84	18.87	19.37		
	RB1#74	18.76	18.77	19.33		
	RB36#0	17.62	18.07	18.24		
	RB36#39	17.59	17.94	18.06		
	RB75#0	17.55	18	18.19		
15MHz 16QAM	RB1#0	17.94	18.13	17.92	22.35	33
	RB1#38	18.01	18.12	18.06		
	RB1#74	17.84	18.08	17.79		
	RB36#0	16.66	17.05	17.19		
	RB36#39	16.61	17.06	17.27		
	RB75#0	16.74	17.07	17.37		
20MHz QPSK	RB1#0	18.35	18.55	19.04	23.31	33
	RB1#50	18.48	18.46	18.98		
	RB1#99	18.42	18.49	19.09		

	RB50#0	17.43	17.36	18.03		
	RB50#50	17.37	17.41	17.98		
	RB100#0	17.41	17.32	18		
20MHz 16QAM	RB1#0	17.14	18.11	18.44	22.85	33
	RB1#50	17.14	18.01	18.63		
	RB1#99	17.11	18.05	18.45		
	RB50#0	16.6	16.43	17.36		
	RB50#50	16.7	16.45	17.3		
	RB100#0	16.45	16.49	17.16		

Note: EIRP=Conducted Power(dBm) - Lc(dB) + Gr(dBi)

**Result:**

**Pass**

### Peak-to-average Ratio(PAR)

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	8.75	9.11	8.93	13
	RB100#0	8.29	9.36	9.19	13
20MHz 16QAM	RB1#0	9.59	10.04	9.77	13
	RB100#0	9.83	10.14	10.03	13
<b>Result:</b>					<b>Pass</b>

### FCC §2.1049, §27.53: Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.52	4.52	4.54	5.08	4.94	5.44
5MHz 16QAM	4.52	4.50	4.52	5.16	5.14	5.44
10MHz QPSK	8.96	8.96	8.96	9.84	9.96	9.80
10MHz 16QAM	8.96	8.96	8.96	9.72	10.08	9.88
15MHz QPSK	13.50	13.56	13.56	15.06	15.78	15.30
15MHz 16QAM	13.62	13.56	13.56	15.60	15.06	15.30
20MHz QPSK	18.00	17.92	18.00	19.84	19.76	19.76
20MHz 16QAM	18.00	17.92	18.00	20.32	19.84	19.68

Note: The test plots please refer to the Plots of Occupied Bandwidth

### FCC §2.1051, § 27.53: Spurious Emissions at Antenna Terminal

**Result:** Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.

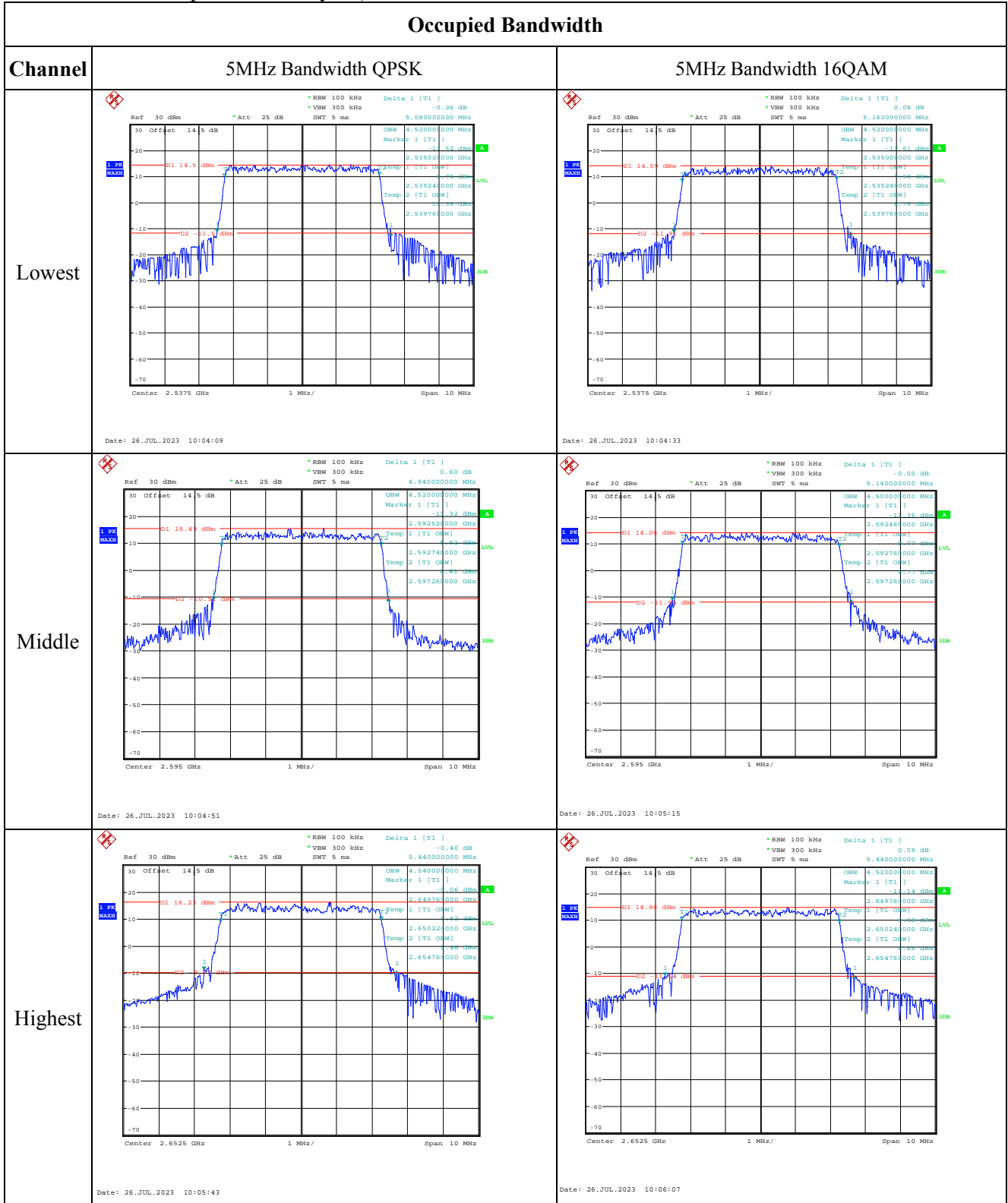
### FCC §2.1051, § 27.53: Out of band emission, Band Edge

**Result:** Pass, Please refer to the test plots of Out of band emission, Band Edge.

<b>FCC §2.1055, §27.54: Frequency Stability</b>						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	2536.097	2535.00	2654.028	2655
	-20	3.8	2536.086	2535.00	2654.019	2655
	-10	3.8	2536.083	2535.00	2654.039	2655
	0	3.8	2536.006	2535.00	2654.023	2655
	10	3.8	2536.060	2535.00	2654.022	2655
	20	3.8	2536.040	2535.00	2654.040	2655
	30	3.8	2536.061	2535.00	2654.028	2655
	40	3.8	2536.059	2535.00	2654.027	2655
	50	3.8	2536.079	2535.00	2654.023	2655
Frequency Stability vs. Voltage	20	3.5	2536.064	2535.00	2654.026	2655
	20	4.35	2536.041	2535.00	2654.028	2655
					<b>Result:</b>	<b>Pass</b>

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	2536.017	2535.00	2654.053	2655
	-20	3.8	2536.000	2535.00	2654.052	2655
	-10	3.8	2536.014	2535.00	2654.059	2655
	0	3.8	2536.029	2535.00	2654.071	2655
	10	3.8	2536.077	2535.00	2654.061	2655
	20	3.8	2536.040	2535.00	2654.040	2655
	30	3.8	2536.023	2535.00	2654.056	2655
	40	3.8	2536.056	2535.00	2654.057	2655
	50	3.8	2536.099	2535.00	2654.100	2655
Frequency Stability vs. Voltage	20	3.5	2536.068	2535.00	2654.047	2655
	20	4.35	2536.025	2535.00	2654.044	2655
					<b>Result:</b>	<b>Pass</b>

**Test Plots** (Note: The 14.5 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):



Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VMW 1 MHz *SWT 2.5 ms 15.96000000 MHz              30 Offset 14.5 dB              D1 15.71 dBm              OSW 15.96000000 MHz              Marker 1 [T1]              Temp 1 [T1 OSW]              Temp 2 [T1 OSW]              Center 2.5425 GHz 3 MHz/ Span 30 MHz              Date: 26.JUL.2023 10:08:52</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VMW 1 MHz *SWT 2.5 ms 15.60000000 MHz              30 Offset 14.5 dB              D1 14.5 dBm              OSW 15.60000000 MHz              Marker 1 [T1]              Temp 1 [T1 OSW]              Temp 2 [T1 OSW]              Center 2.5425 GHz 3 MHz/ Span 30 MHz              Date: 26.JUL.2023 10:09:25</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VMW 1 MHz *SWT 2.5 ms 15.78000000 MHz              30 Offset 14.5 dB              D1 15.8 dBm              OSW 15.78000000 MHz              Marker 1 [T1]              Temp 1 [T1 OSW]              Temp 2 [T1 OSW]              Center 2.595 GHz 3 MHz/ Span 30 MHz              Date: 26.JUL.2023 10:09:53</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VMW 1 MHz *SWT 2.5 ms 15.06000000 MHz              30 Offset 14.5 dB              D1 15.27 dBm              OSW 15.06000000 MHz              Marker 1 [T1]              Temp 1 [T1 OSW]              Temp 2 [T1 OSW]              Center 2.595 GHz 3 MHz/ Span 30 MHz              Date: 26.JUL.2023 10:10:14</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VMW 1 MHz *SWT 2.5 ms 15.30000000 MHz              30 Offset 14.5 dB              D1 16.39 dBm              OSW 15.30000000 MHz              Marker 1 [T1]              Temp 1 [T1 OSW]              Temp 2 [T1 OSW]              Center 2.6475 GHz 3 MHz/ Span 30 MHz              Date: 26.JUL.2023 10:10:36</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1] *VMW 1 MHz *SWT 2.5 ms 15.30000000 MHz              30 Offset 14.5 dB              D1 15.87 dBm              OSW 15.30000000 MHz              Marker 1 [T1]              Temp 1 [T1 OSW]              Temp 2 [T1 OSW]              Center 2.6475 GHz 3 MHz/ Span 30 MHz              Date: 26.JUL.2023 10:11:00</p>



Occupied Bandwidth

Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1]            *VSW 1 MHz *SWT 2.5 ms 19.840000000 MHz            Center 2.545 GHz 4 MHz/ Span 40 MHz            Date: 26.JUL.2023 10:11:34</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1]            *VSW 1 MHz *SWT 2.5 ms 20.320000000 MHz            Center 2.545 GHz 4 MHz/ Span 40 MHz            Date: 26.JUL.2023 10:11:58</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1]            *VSW 1 MHz *SWT 2.5 ms 19.760000000 MHz            Center 2.595 GHz 4 MHz/ Span 40 MHz            Date: 26.JUL.2023 10:12:16</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1]            *VSW 1 MHz *SWT 2.5 ms 19.840000000 MHz            Center 2.595 GHz 4 MHz/ Span 40 MHz            Date: 26.JUL.2023 10:12:37</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1]            *VSW 1 MHz *SWT 2.5 ms 19.760000000 MHz            Center 2.645 GHz 4 MHz/ Span 40 MHz            Date: 26.JUL.2023 10:12:59</p>	<p>Ref 30 dBm *Att 25 dB *RBW 300 kHz Delta 1 [T1]            *VSW 1 MHz *SWT 2.5 ms 19.840000000 MHz            Center 2.645 GHz 4 MHz/ Span 40 MHz            Date: 26.JUL.2023 10:13:20</p>

Spurious Emissions at Antenna Terminal

Channel	5MHz Bandwidth QPSK	
Lowest	<p>Ref 0 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.88 dBm            VSW 300 kHz    SWT 100 ms    231.760000000 MHz</p> <p>Date: 26.JUL.2023 10:36:49</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -32.40 dBm            VSW 3 MHz    SWT 150 ms    2.428000000 GHz</p> <p>Date: 26.JUL.2023 10:37:00</p>
Middle	<p>Ref 0 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.18 dBm            VSW 300 kHz    SWT 100 ms    400.540000000 MHz</p> <p>Date: 26.JUL.2023 10:37:17</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -32.16 dBm            VSW 3 MHz    SWT 150 ms    24.919000000 GHz</p> <p>Date: 26.JUL.2023 10:37:28</p>
Highest	<p>Ref 0 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -31.50 dBm            VSW 300 kHz    SWT 100 ms    705.120000000 MHz</p> <p>Date: 26.JUL.2023 10:37:45</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -31.11 dBm            VSW 3 MHz    SWT 150 ms    2.377000000 GHz</p> <p>Date: 26.JUL.2023 10:37:56</p>

Spurious Emissions at Antenna Terminal

Channel	10MHz Bandwidth QPSK	
Lowest	<p>Ref: 0 dBm, Att: 30 dB, RBW: 100 kHz, VSW: 300 kHz, SWT: 100 ms. Marker 1 [T1]: 447.10000000 MHz, -45.79 dBm.</p> <p>Date: 26.JUL.2023 10:38:15</p>	<p>Ref: 30 dBm, Att: 25 dB, RBW: 1 MHz, VSW: 3 MHz, SWT: 150 ms. Marker 1 [T1]: 2.428000000 GHz, -28.26 dBm.</p> <p>Date: 26.JUL.2023 10:38:26</p>
Middle	<p>Ref: 0 dBm, Att: 30 dB, RBW: 100 kHz, VSW: 300 kHz, SWT: 100 ms. Marker 1 [T1]: 794.36000000 MHz, -46.30 dBm.</p> <p>Date: 26.JUL.2023 10:38:40</p>	<p>Ref: 30 dBm, Att: 25 dB, RBW: 1 MHz, VSW: 3 MHz, SWT: 150 ms. Marker 1 [T1]: 2.428000000 GHz, -30.15 dBm.</p> <p>Date: 26.JUL.2023 10:38:51</p>
Highest	<p>Ref: 0 dBm, Att: 30 dB, RBW: 100 kHz, VSW: 300 kHz, SWT: 100 ms. Marker 1 [T1]: 31.940000000 MHz, -45.98 dBm.</p> <p>Date: 26.JUL.2023 10:39:05</p>	<p>Ref: 30 dBm, Att: 25 dB, RBW: 1 MHz, VSW: 3 MHz, SWT: 150 ms. Marker 1 [T1]: 2.428000000 GHz, -30.97 dBm.</p> <p>Date: 26.JUL.2023 10:39:16</p>

### Spurious Emissions at Antenna Terminal

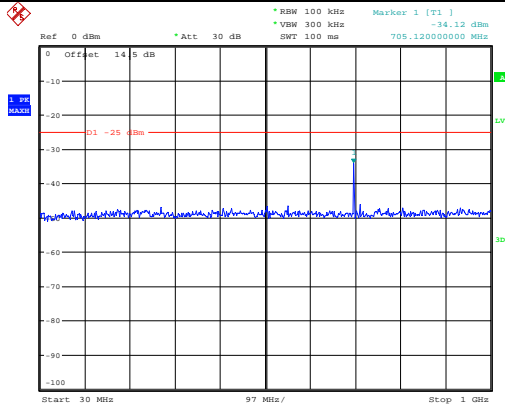
Channel	15MHz Bandwidth QPSK	
Lowest	<p>Ref 0 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.83 dBm            VSW 300 kHz    SWT 100 ms    992.240000000 MHz</p> <p>Date: 26.JUL.2023 10:39:36</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -31.58 dBm            VSW 3 MHz    SWT 150 ms    2.377000000 GHz</p> <p>Date: 26.JUL.2023 10:39:47</p>
Middle	<p>Ref 0 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.92 dBm            VSW 300 kHz    SWT 100 ms    30.000000000 MHz</p> <p>Date: 26.JUL.2023 10:40:01</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -32.22 dBm            VSW 3 MHz    SWT 150 ms    2.428000000 GHz</p> <p>Date: 26.JUL.2023 10:40:12</p>
Highest	<p>Ref 0 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -46.45 dBm            VSW 300 kHz    SWT 100 ms    330.700000000 MHz</p> <p>Date: 26.JUL.2023 10:40:26</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1]    -32.16 dBm            VSW 3 MHz    SWT 150 ms    26.347000000 GHz</p> <p>Date: 26.JUL.2023 10:40:38</p>

Spurious Emissions at Antenna Terminal

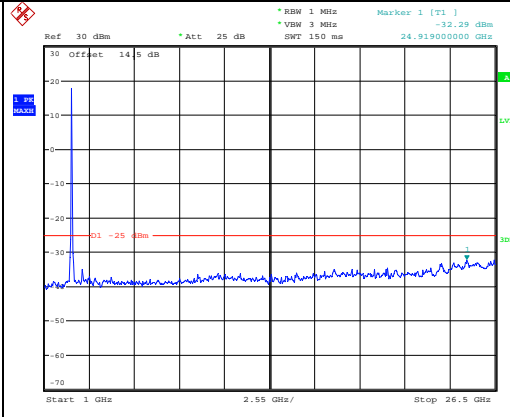
Channel

20MHz Bandwidth QPSK

Lowest

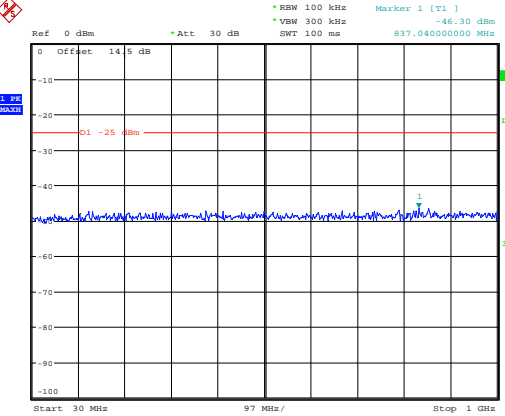


Date: 26.JUL.2023 10:40:54

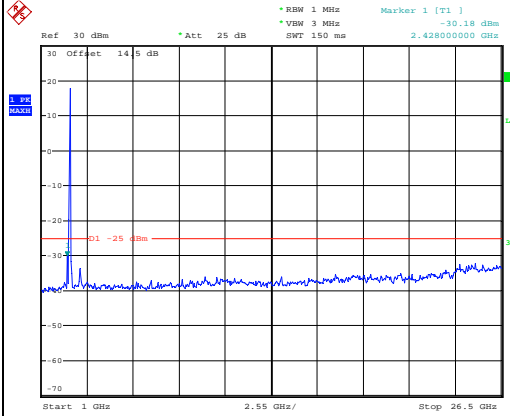


Date: 26.JUL.2023 10:41:05

Middle

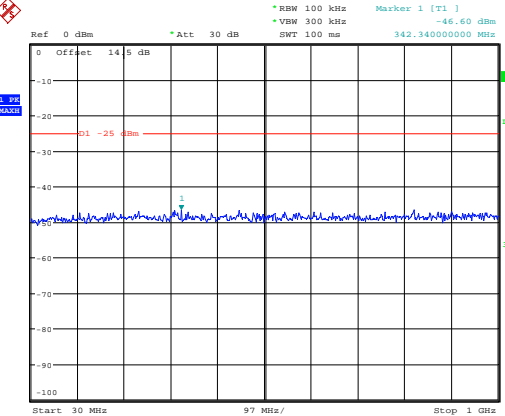


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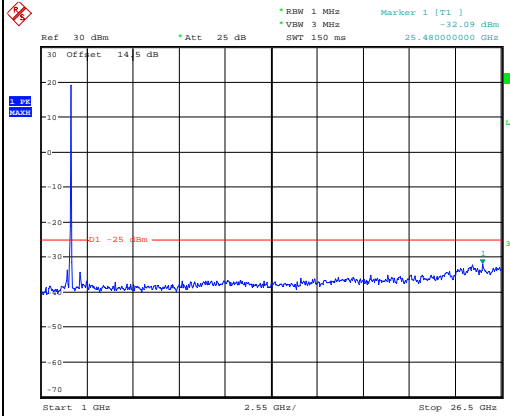


Date: 26.JUL.2023 10:41:34

Highest

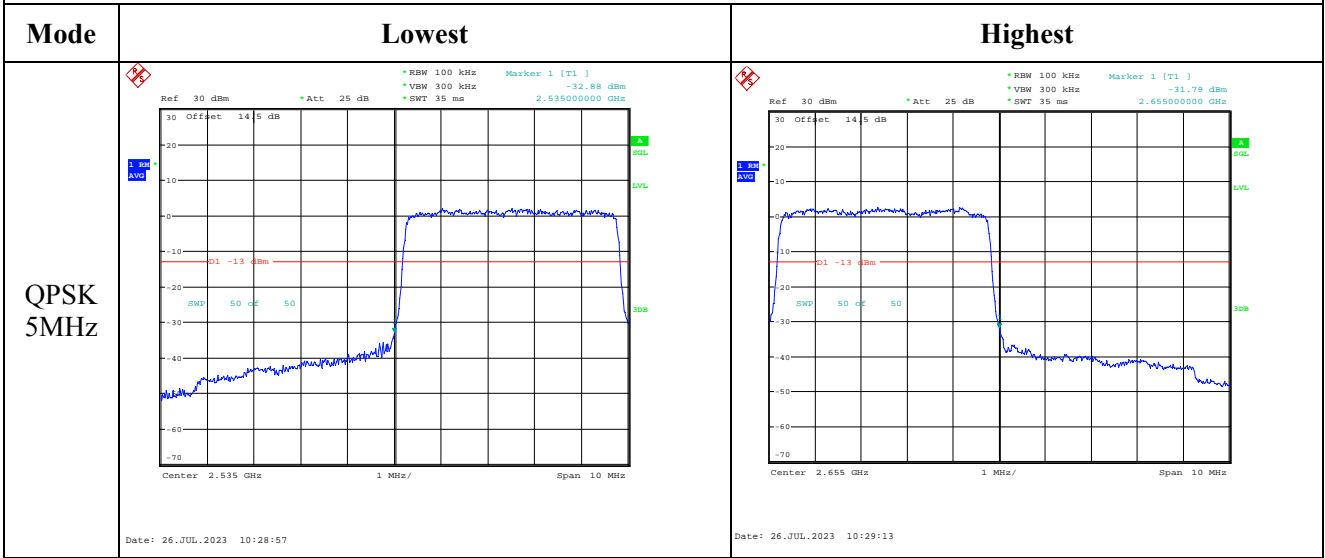


Date: 26.JUL.2023 10:41:51

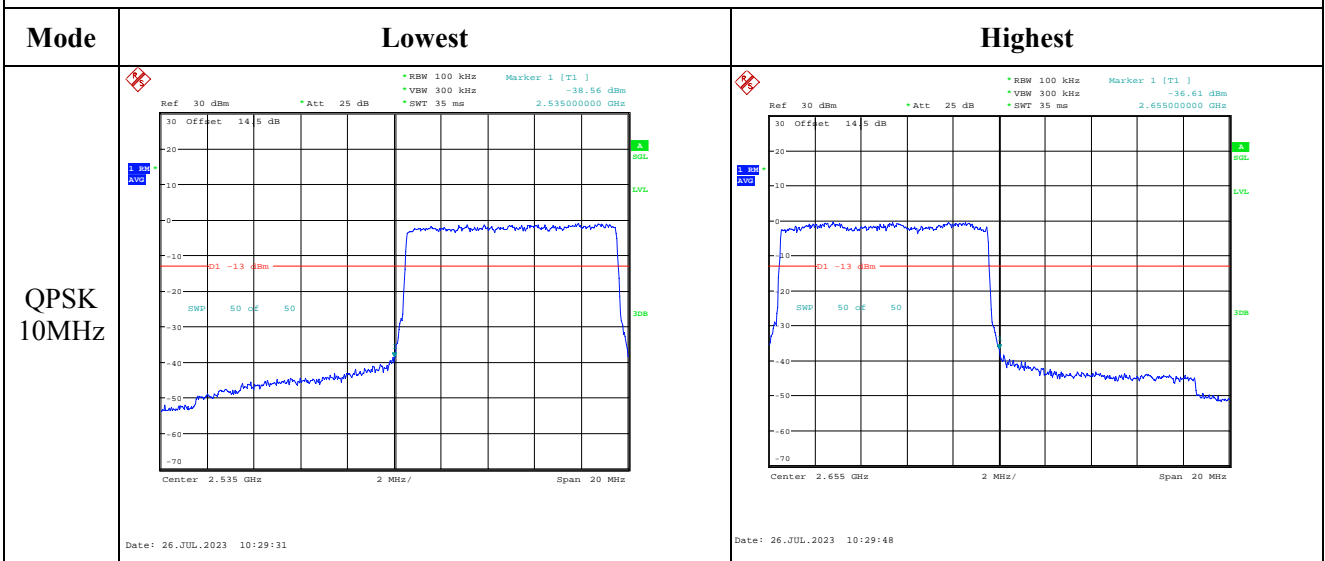


Date: 26.JUL.2023 10:42:02

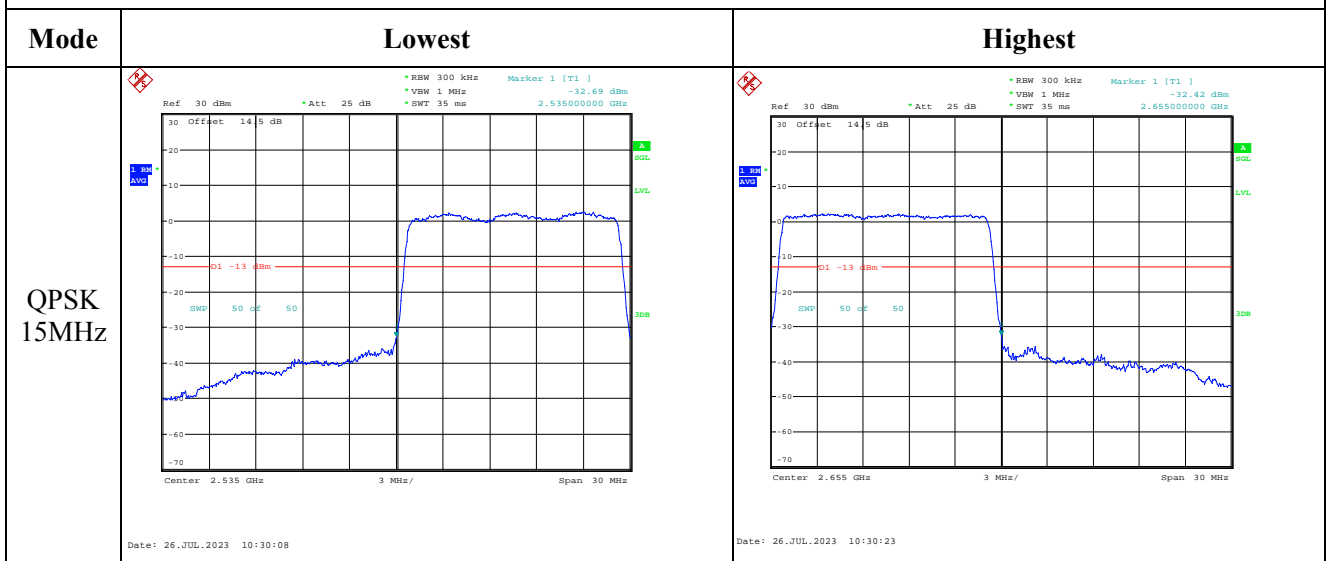
Out of band emission, Band Edge



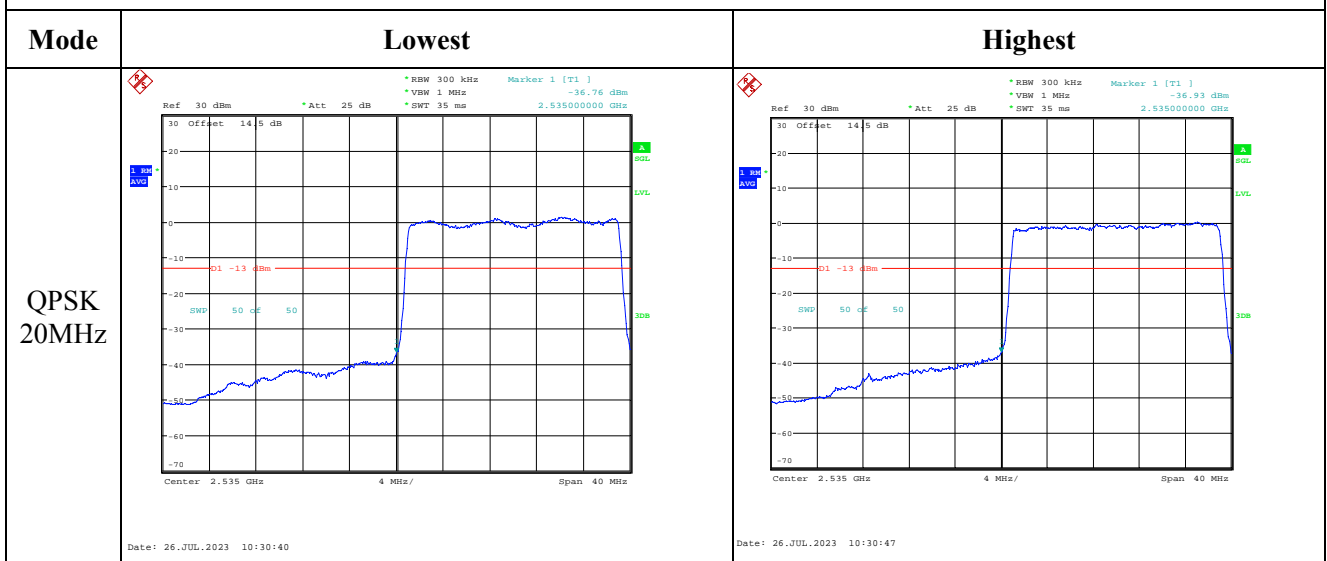
Out of band emission, Band Edge



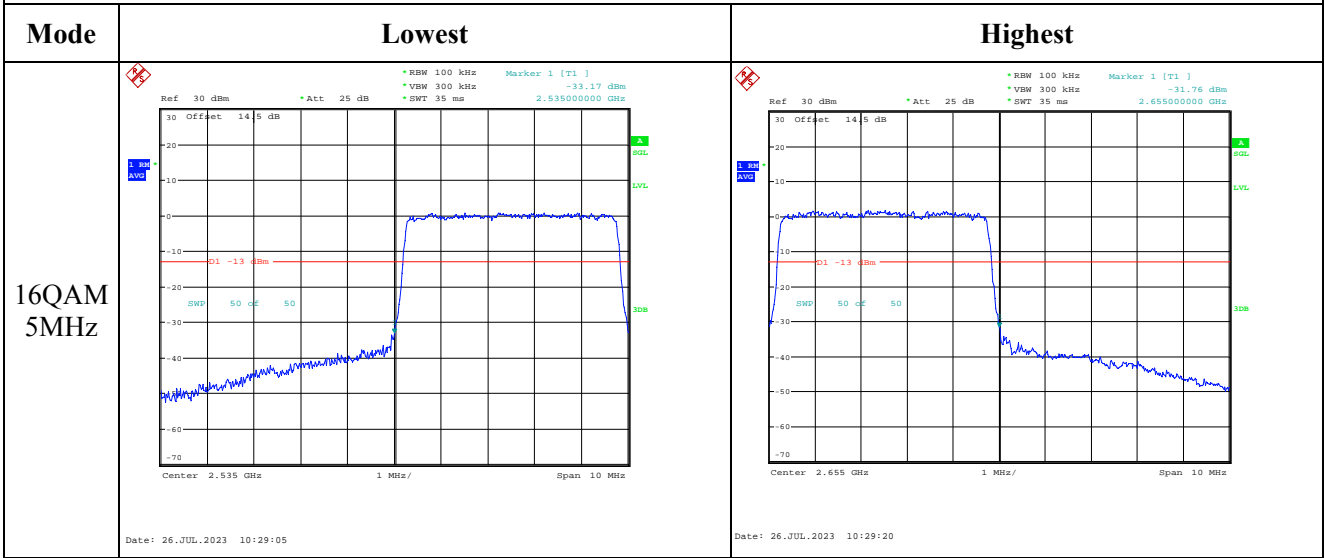
Out of band emission, Band Edge



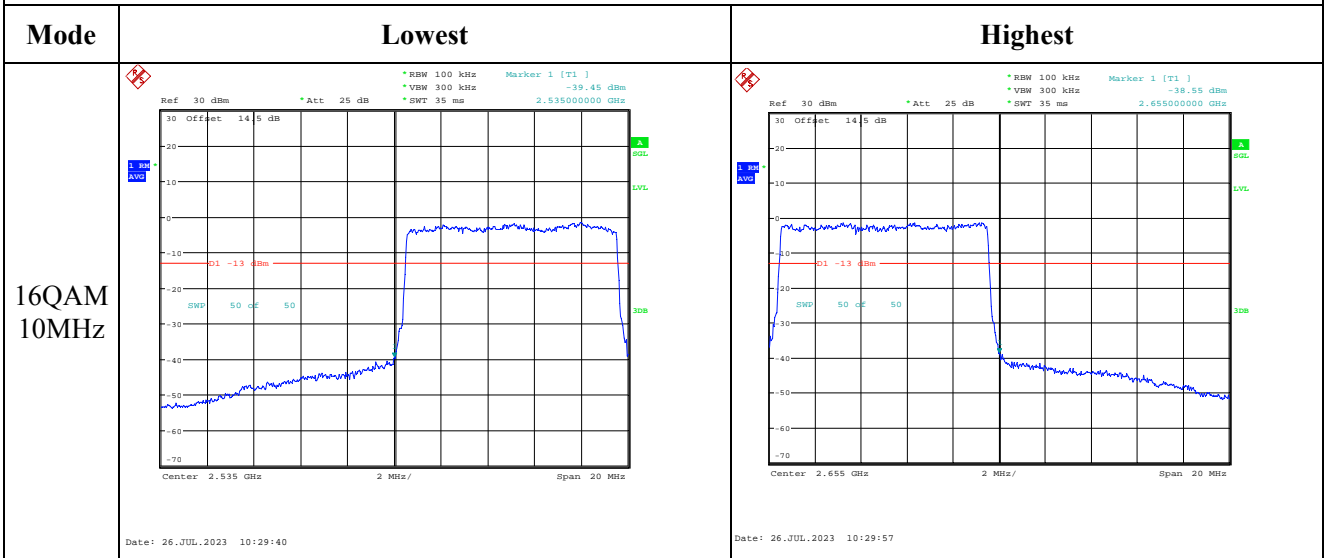
Out of band emission, Band Edge



Out of band emission, Band Edge

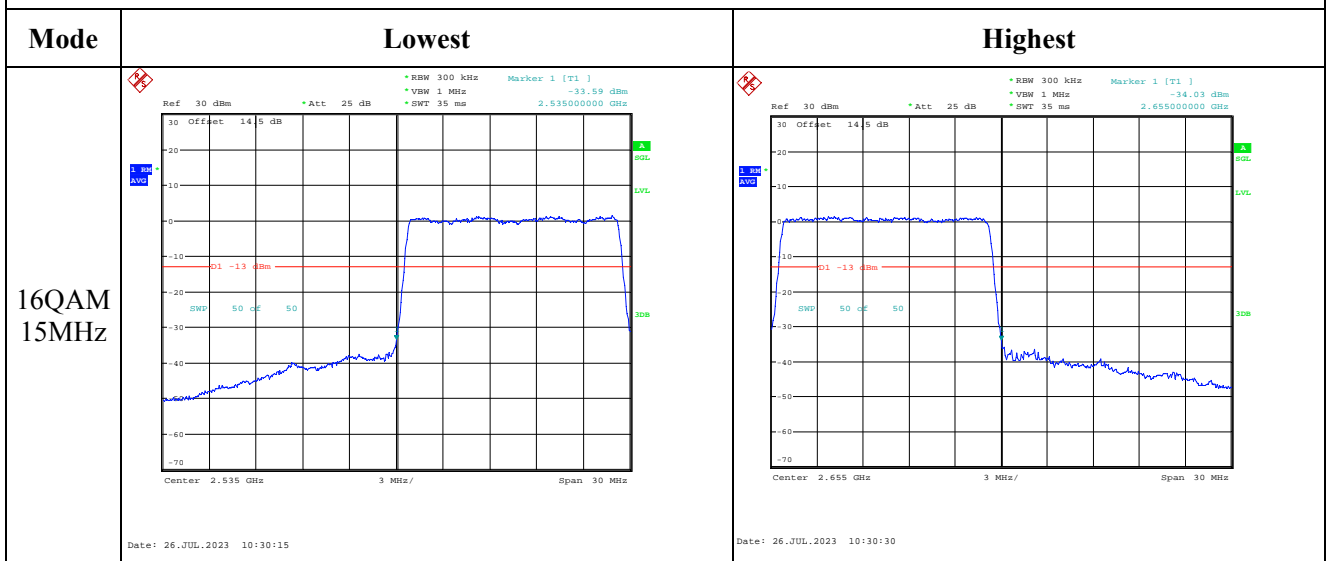


Out of band emission, Band Edge

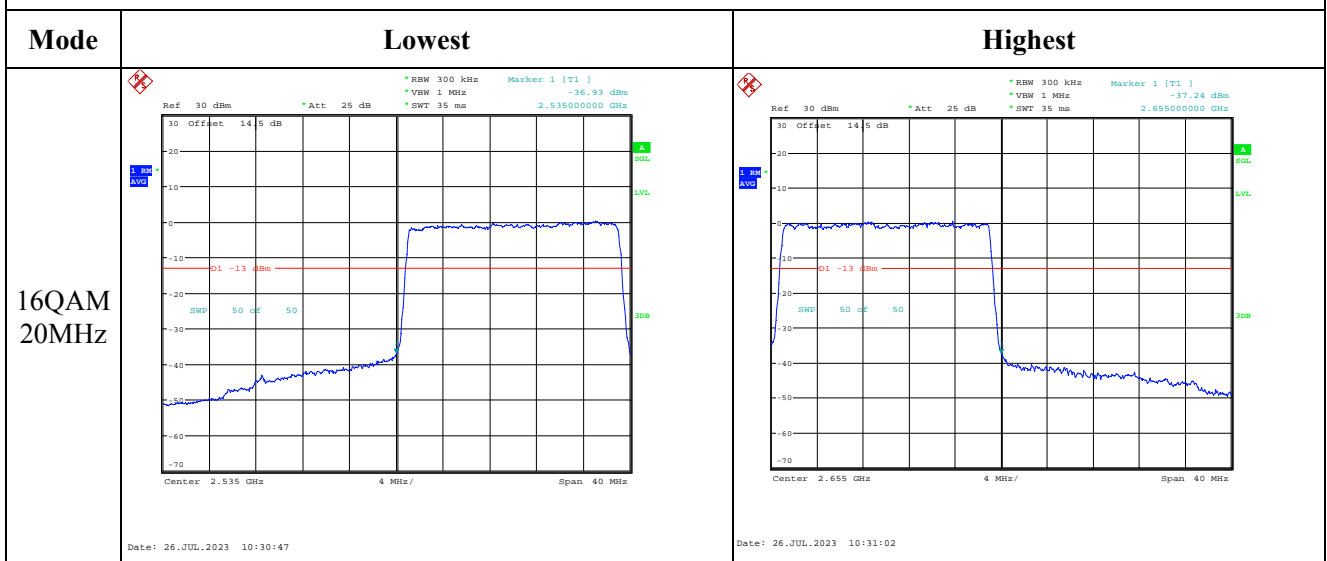




Out of band emission, Band Edge



Out of band emission, Band Edge



**4.17 Antenna Port Test Data and Results for LTE Band 66**

Serial Number:	27BI-1	Test Date:	2023/7/24-2023/7/28
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	24.5-26.3	Relative Humidity: (%)	46-62	ATM Pressure: (kPa)	99.7-100.6
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Weinschel	Power splitter	1515	RA915	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30

*\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

**Test Frequency for Each Mode:**

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	1710.7	1745	1779.3
3MHz	1711.5	1745	1778.5
5MHz	1712.5	1745	1777.5
10MHz	1715	1745	1775
15MHz	1717.5	1745	1772.5
20MHz	1720	1745	1770

**Test Data:**

<b>FCC§2.1046;§ 27.50(d)(4)</b>						
<b>RF Output Power:</b>						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	21.7	22.96	22.48	24.89	30
	RB1#3	21.76	22.88	22.53		
	RB1#5	21.71	22.88	22.43		
	RB3#0	21.74	22.82	22.68		
	RB3#3	21.78	22.81	22.7		
	RB6#0	21.32	21.81	21.7		
1.4MHz 16QAM	RB1#0	22.48	22.81	21.36	24.83	30
	RB1#3	22.59	22.9	21.46		
	RB1#5	22.47	22.83	21.43		
	RB3#0	21.66	22	21.8		
	RB3#3	21.71	22.13	21.79		
	RB6#0	20.96	21.02	20.93		
3MHz QPSK	RB1#0	21.82	22.61	22.18	24.54	30
	RB1#8	21.78	22.47	22.1		
	RB1#14	21.84	22.5	22.15		
	RB6#0	21.31	21.41	21.2		
	RB6#9	21.28	21.39	21.19		
	RB15#0	21.28	21.42	21.28		
3MHz 16QAM	RB1#0	22.53	21.47	21.68	24.54	30
	RB1#8	22.59	21.4	21.64		
	RB1#14	22.61	21.42	21.68		
	RB6#0	20.92	20.8	20.21		
	RB6#9	21	20.75	20.2		
	RB15#0	20.91	20.51	20.44		
5MHz QPSK	RB1#0	21.85	22.8	22.67	24.77	30
	RB1#13	21.8	22.82	22.71		
	RB1#24	21.91	22.84	22.68		
	RB15#0	21.31	21.81	21.71		
	RB15#10	21.27	21.78	21.75		
	RB25#0	21.31	21.88	21.69		
5MHz 16QAM	RB1#0	22.02	21.53	20.89	24.00	30
	RB1#13	22.06	21.5	20.84		
	RB1#24	22.07	21.59	20.9		
	RB15#0	20.83	21	20.9		
	RB15#10	20.8	20.96	20.89		
	RB25#0	20.92	20.82	20.93		
10MHz QPSK	RB1#0	21.12	22.85	22.4	24.81	30
	RB1#25	21.1	22.86	22.29		
	RB1#49	21.16	22.88	22.34		

	RB25#0	20.49	21.79	21.53		
	RB25#25	20.52	21.71	21.43		
	RB50#0	20.61	21.76	21.42		
10MHz 16QAM	RB1#0	21.22	21.38	21.76	23.69	30
	RB1#25	21.21	21.34	21.68		
	RB1#49	21.22	21.37	21.7		
	RB25#0	20.24	21	20.56		
	RB25#25	20.23	20.96	20.55		
	RB50#0	20.22	20.89	20.62		
15MHz QPSK	RB1#0	21.88	22.63	22.53	24.59	30
	RB1#38	21.85	22.66	22.48		
	RB1#74	21.86	22.63	22.44		
	RB36#0	21.3	21.65	21.63		
	RB36#39	21.19	21.53	21.54		
	RB75#0	21.32	21.58	21.65		
15MHz 16QAM	RB1#0	21.92	22	21.89	23.98	30
	RB1#38	21.88	22.03	21.86		
	RB1#74	21.89	22.05	21.77		
	RB36#0	20.96	20.76	20.85		
	RB36#39	20.92	20.7	20.76		
	RB75#0	20.92	20.68	20.75		
20MHz QPSK	RB1#0	20.86	22.08	22.46	24.39	30
	RB1#50	20.86	22.08	22.39		
	RB1#99	18.92	22.06	22.39		
	RB50#0	20.18	21.02	21.39		
	RB50#50	20.2	21.01	21.3		
	RB100#0	20.06	21.13	21.33		
20MHz 16QAM	RB1#0	21.05	21.69	21.66	23.63	30
	RB1#50	21.07	21.7	21.52		
	RB1#99	21.05	21.67	21.52		
	RB50#0	19.89	20.12	20.53		
	RB50#50	19.89	20.13	20.52		
	RB100#0	19.8	20.22	20.45		

Note: EIRP=Conducted Power(dBm) - Lc(dB) + G<sub>T</sub>(dBi)**Result:****Pass****Peak-to-average Ratio(PAR)**

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	5.61	4.13	4.42	13
	RB100#0	6.54	6.54	6.38	13
20MHz 16QAM	RB1#0	6.25	5.29	5.54	13
	RB100#0	7.28	7.24	7.18	13
				<b>Result:</b>	<b>Pass</b>

<b>FCC §2.1049, §27.53:Occupied Bandwidth</b>						
Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
1.4MHz QPSK	1.104	1.110	1.104	1.326	1.290	1.320
1.4MHz 16QAM	1.110	1.116	1.104	1.326	1.266	1.278
3MHz QPSK	2.700	2.687	2.700	3.012	3.036	3.000
3MHz 16QAM	2.687	2.700	2.700	3.072	3.048	3.024
5MHz QPSK	4.520	4.520	4.560	5.240	5.400	5.360
5MHz 16QAM	4.540	4.560	4.540	5.560	5.380	5.420
10MHz QPSK	8.960	8.960	8.960	9.800	9.960	9.800
10MHz 16QAM	8.960	8.960	8.960	9.880	10.080	9.640
15MHz QPSK	13.560	13.620	13.620	15.420	16.260	15.420
15MHz 16QAM	13.560	13.560	13.560	15.180	15.060	15.240
20MHz QPSK	17.920	18.080	18.080	19.680	19.920	19.760
20MHz 16QAM	17.920	18.160	18.080	19.680	20.320	20.080

Note: The test plots please refer to the Plots of Occupied Bandwidth

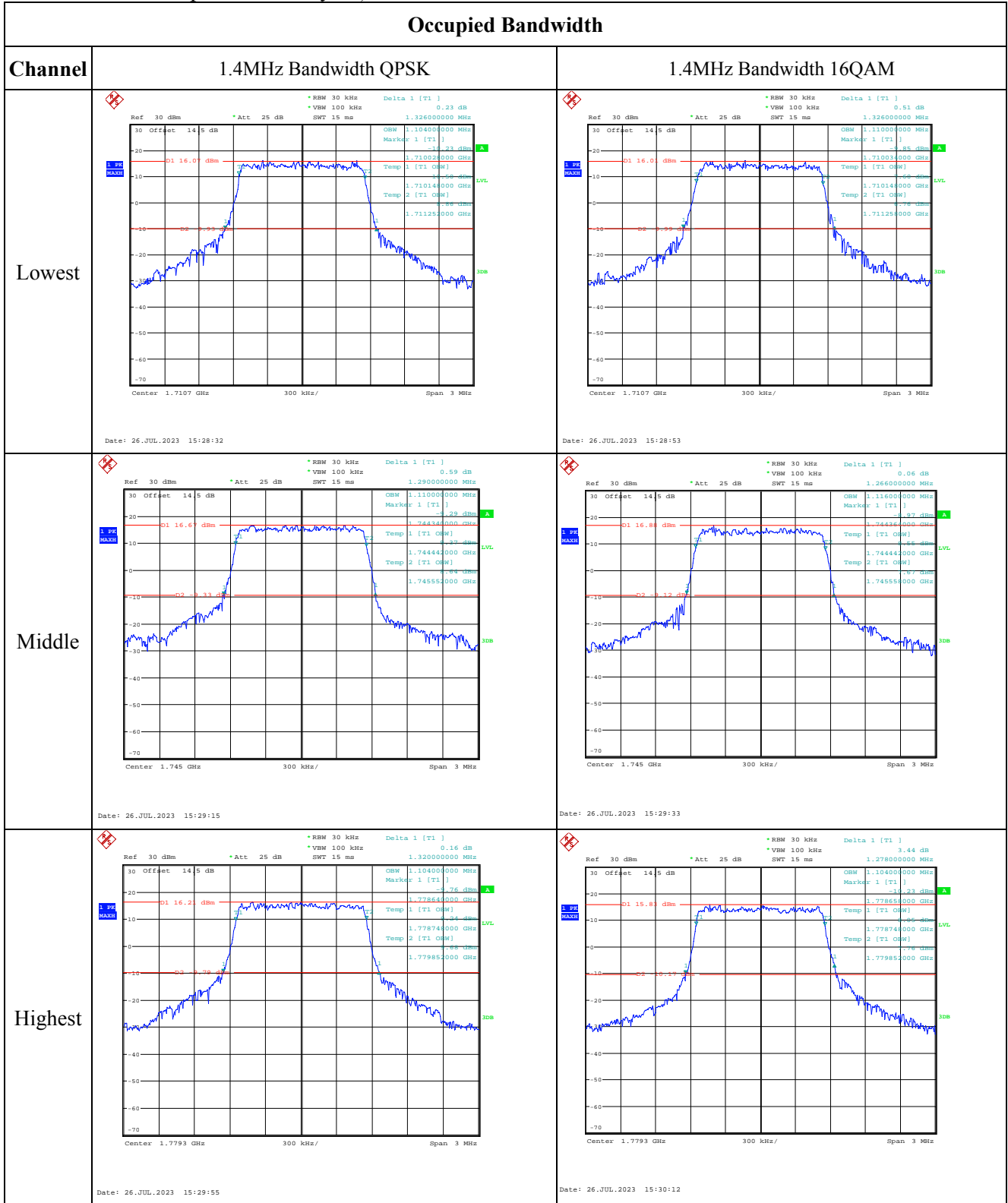
<b>FCC §2.1051, § 27.53:Spurious Emissions at Antenna Terminal</b>	
<b>Result:</b>	<b>Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.</b>

<b>FCC §2.1051, § 27.53:Out of band emission, Band Edge</b>	
<b>Result:</b>	<b>Pass, Please refer to the test plots of Out of band emission, Band Edge.</b>

<b>FCC §2.1055, §27.54: Frequency Stability</b>						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	1711.133	1710.00	1779.028	1780
	-20	3.8	1711.132	1710.00	1779.019	1780
	-10	3.8	1711.139	1710.00	1779.039	1780
	0	3.8	1711.151	1710.00	1779.023	1780
	10	3.8	1711.141	1710.00	1779.022	1780
	20	3.8	1711.120	1710.00	1779.040	1780
	30	3.8	1711.136	1710.00	1779.028	1780
	40	3.8	1711.137	1710.00	1779.027	1780
	50	3.8	1711.180	1710.00	1779.023	1780
Frequency Stability vs. Voltage	20	3.5	1711.127	1710.00	1779.026	1780
	20	4.35	1711.124	1710.00	1779.028	1780
					<b>Result:</b>	<b>Pass</b>

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (Vdc)	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	1711.108	1710.00	1779.053	1780
	-20	3.8	1711.099	1710.00	1779.052	1780
	-10	3.8	1711.119	1710.00	1779.059	1780
	0	3.8	1711.103	1710.00	1779.071	1780
	10	3.8	1711.102	1710.00	1779.061	1780
	20	3.8	1711.120	1710.00	1779.040	1780
	30	3.8	1711.108	1710.00	1779.056	1780
	40	3.8	1711.107	1710.00	1779.057	1780
	50	3.8	1711.103	1710.00	1779.100	1780
Frequency Stability vs. Voltage	20	3.5	1711.106	1710.00	1779.047	1780
	20	4.35	1711.108	1710.00	1779.044	1780
					<b>Result:</b>	<b>Pass</b>

**Test Plots** (Note: The 14.5 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):



Occupied Bandwidth

Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm Att 25 dB RBW 30 kHz VBW 100 kHz SWT 30 ms Delta 1 [T1] -0.22 dB OSW 3.012000000 MHz</p> <p>Center 1.7115 GHz 600 kHz/ Span 6 MHz</p> <p>Date: 26.JUL.2023 15:30:17</p>	<p>Ref 30 dBm Att 25 dB RBW 30 kHz VBW 100 kHz SWT 30 ms Delta 1 [T1] 0.17 dB OSW 3.072000000 MHz</p> <p>Center 1.7115 GHz 600 kHz/ Span 6 MHz</p> <p>Date: 26.JUL.2023 15:30:58</p>
Middle	<p>Ref 30 dBm Att 25 dB RBW 30 kHz VBW 100 kHz SWT 30 ms Delta 1 [T1] 0.01 dB OSW 3.036000000 MHz</p> <p>Center 1.745 GHz 600 kHz/ Span 6 MHz</p> <p>Date: 26.JUL.2023 15:31:17</p>	<p>Ref 30 dBm Att 25 dB RBW 30 kHz VBW 100 kHz SWT 30 ms Delta 1 [T1] -0.84 dB OSW 3.048000000 MHz</p> <p>Center 1.745 GHz 600 kHz/ Span 6 MHz</p> <p>Date: 26.JUL.2023 15:31:35</p>
Highest	<p>Ref 30 dBm Att 25 dB RBW 30 kHz VBW 100 kHz SWT 30 ms Delta 1 [T1] 1.75 dB OSW 3.000000000 MHz</p> <p>Center 1.7785 GHz 600 kHz/ Span 6 MHz</p> <p>Date: 26.JUL.2023 15:31:56</p>	<p>Ref 30 dBm Att 25 dB RBW 30 kHz VBW 100 kHz SWT 30 ms Delta 1 [T1] -1.13 dB OSW 3.024000000 MHz</p> <p>Center 1.7785 GHz 600 kHz/ Span 6 MHz</p> <p>Date: 26.JUL.2023 15:32:14</p>



Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

### Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 2.09 dB            *VBW 300 kHz *OSW 9.800000000 MHz            Marker 1 [T1] -1.65 dBm            1.710120000 GHz            1.710520000 GHz            1.719480000 GHz            Temp 2 [T1 OSW]            Center 1.715 GHz 2 MHz/ Span 20 MHz            Date: 26.JUL.2023 15:35:30</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.75 dB            *VBW 300 kHz *OSW 9.880000000 MHz            Marker 1 [T1] -1.22 dBm            1.710120000 GHz            1.710520000 GHz            1.719480000 GHz            Temp 2 [T1 OSW]            Center 1.715 GHz 2 MHz/ Span 20 MHz            Date: 26.JUL.2023 15:35:51</p>
Middle	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.53 dB            *VBW 300 kHz *OSW 9.960000000 MHz            Marker 1 [T1] -1.58 dBm            1.740120000 GHz            1.740520000 GHz            1.749480000 GHz            Temp 2 [T1 OSW]            Center 1.745 GHz 2 MHz/ Span 20 MHz            Date: 26.JUL.2023 15:36:10</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] -0.77 dB            *VBW 300 kHz *OSW 10.080000000 MHz            Marker 1 [T1] -1.64 dBm            1.740120000 GHz            1.740520000 GHz            1.749480000 GHz            Temp 2 [T1 OSW]            Center 1.745 GHz 2 MHz/ Span 20 MHz            Date: 26.JUL.2023 15:36:30</p>
Highest	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.59 dB            *VBW 300 kHz *OSW 9.800000000 MHz            Marker 1 [T1] -1.22 dBm            1.770080000 GHz            1.770520000 GHz            1.779480000 GHz            Temp 2 [T1 OSW]            Center 1.775 GHz 2 MHz/ Span 20 MHz            Date: 26.JUL.2023 15:36:52</p>	<p>Ref 30 dBm *Att 25 dB *RBW 100 kHz Delta 1 [T1] 0.59 dB            *VBW 300 kHz *OSW 9.640000000 MHz            Marker 1 [T1] -1.24 dBm            1.770080000 GHz            1.770520000 GHz            1.779480000 GHz            Temp 2 [T1 OSW]            Center 1.775 GHz 2 MHz/ Span 20 MHz            Date: 26.JUL.2023 15:37:13</p>

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

Occupied Bandwidth

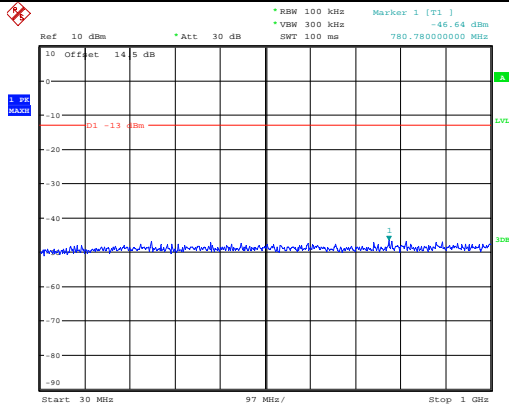
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

Spurious Emissions at Antenna Terminal

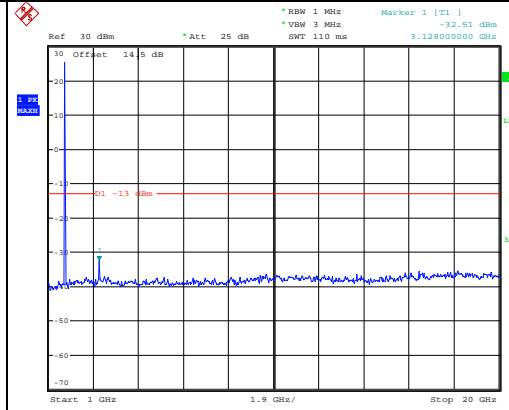
Channel

1.4MHz Bandwidth QPSK

Lowest

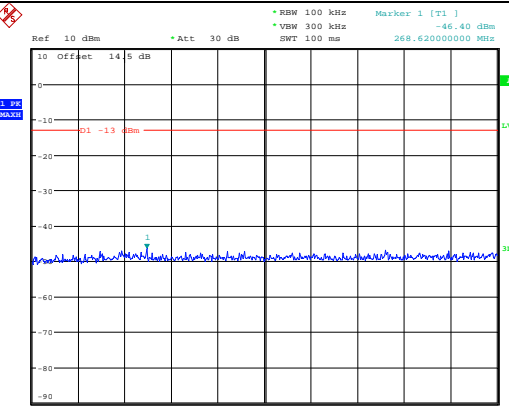


Date: 27.JUL.2023 14:14:28

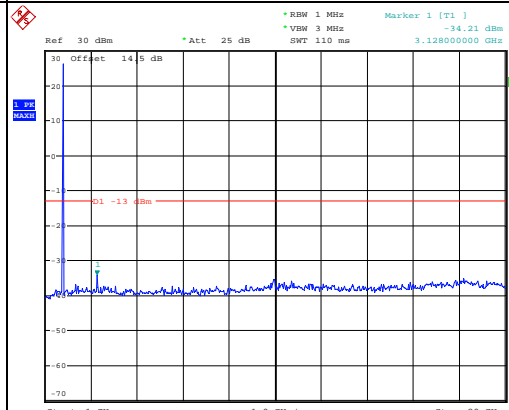


Date: 27.JUL.2023 14:14:40

Middle

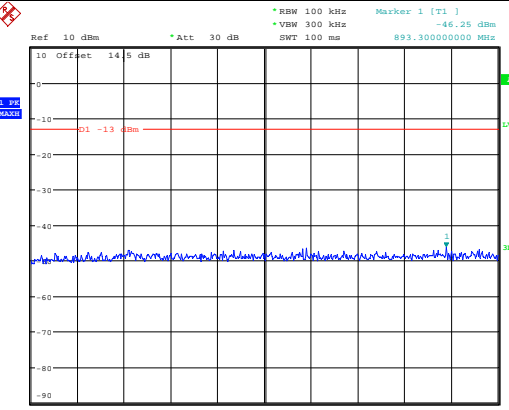


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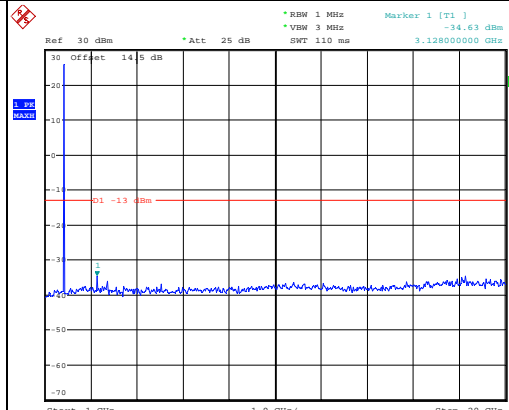


Date: 27.JUL.2023 14:15:04

Highest



Date: 27.JUL.2023 14:15:18



Date: 27.JUL.2023 14:15:29

Spurious Emissions at Antenna Terminal

Channel	3MHz Bandwidth QPSK	
Lowest	<p>Ref 10 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1] -46.85 dBm            VBW 300 kHz    SWT 100 ms    967.020000000 MHz</p> <p>Date: 27.JUL.2023 14:15:49</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1] -34.07 dBm            VBW 3 MHz    SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 14:16:01</p>
Middle	<p>Ref 10 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1] -46.34 dBm            VBW 300 kHz    SWT 100 ms    930.160000000 MHz</p> <p>Date: 27.JUL.2023 14:16:14</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1] -33.44 dBm            VBW 3 MHz    SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 14:16:25</p>
Highest	<p>Ref 10 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1] -46.44 dBm            VBW 300 kHz    SWT 100 ms    427.700000000 MHz</p> <p>Date: 27.JUL.2023 14:16:42</p>	<p>Ref 30 dBm    Att 25 dB    RBW 1 MHz    Marker 1 [T1] -34.89 dBm            VBW 3 MHz    SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 14:16:53</p>

### Spurious Emissions at Antenna Terminal

Channel	5MHz Bandwidth QPSK	
Lowest	<p>Ref 10 dBm    *Att 30 dB            *RBW 100 kHz    Marker 1 [T1]    -46.25 dBm            *VBW 300 kHz            *SWT 100 ms    648.86000000 MHz</p> <p>Date: 27.JUL.2023 14:17:10</p>	<p>Ref 30 dBm    *Att 25 dB            *RBW 1 MHz    Marker 1 [T1]    -34.88 dBm            *VBW 3 MHz            *SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 14:17:22</p>
Middle	<p>Ref 10 dBm    *Att 30 dB            *RBW 100 kHz    Marker 1 [T1]    -46.63 dBm            *VBW 300 kHz            *SWT 100 ms    953.44000000 MHz</p> <p>Date: 27.JUL.2023 14:17:38</p>	<p>Ref 30 dBm    *Att 25 dB            *RBW 1 MHz    Marker 1 [T1]    -34.74 dBm            *VBW 3 MHz            *SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 14:17:50</p>
Highest	<p>Ref 10 dBm    *Att 30 dB            *RBW 100 kHz    Marker 1 [T1]    -46.70 dBm            *VBW 300 kHz            *SWT 100 ms    571.26000000 MHz</p> <p>Date: 27.JUL.2023 14:18:03</p>	<p>Ref 30 dBm    *Att 25 dB            *RBW 1 MHz    Marker 1 [T1]    -34.75 dBm            *VBW 3 MHz            *SWT 110 ms    3.128000000 GHz</p> <p>Date: 27.JUL.2023 14:18:14</p>

Spurious Emissions at Antenna Terminal

Channel	10MHz Bandwidth QPSK	
Lowest	<p>Ref 10 dBm Att 30 dB RBW 100 kHz Marker 1 [T1] -44.73 dBm                      VSW 300 kHz SWT 100 ms 349.16000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>Date: 27.JUL.2023 14:18:32</p>	<p>Ref 30 dBm Att 25 dB RBW 1 MHz Marker 1 [T1] -34.68 dBm                      VSW 3 MHz SWT 110 ms 3.128000000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>Date: 27.JUL.2023 14:18:43</p>
Middle	<p>Ref 10 dBm Att 30 dB RBW 100 kHz Marker 1 [T1] -46.49 dBm                      VSW 300 kHz SWT 100 ms 988.36000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>Date: 27.JUL.2023 14:19:00</p>	<p>Ref 30 dBm Att 25 dB RBW 1 MHz Marker 1 [T1] -34.15 dBm                      VSW 3 MHz SWT 110 ms 3.128000000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>Date: 27.JUL.2023 14:19:12</p>
Highest	<p>Ref 10 dBm Att 30 dB RBW 100 kHz Marker 1 [T1] -46.46 dBm                      VSW 300 kHz SWT 100 ms 586.78000000 MHz</p> <p>Start 30 MHz 97 MHz/ Stop 1 GHz</p> <p>Date: 27.JUL.2023 14:19:25</p>	<p>Ref 30 dBm Att 25 dB RBW 1 MHz Marker 1 [T1] -35.28 dBm                      VSW 3 MHz SWT 110 ms 3.024000000 GHz</p> <p>Start 1 GHz 1.9 GHz/ Stop 20 GHz</p> <p>Date: 27.JUL.2023 14:19:36</p>

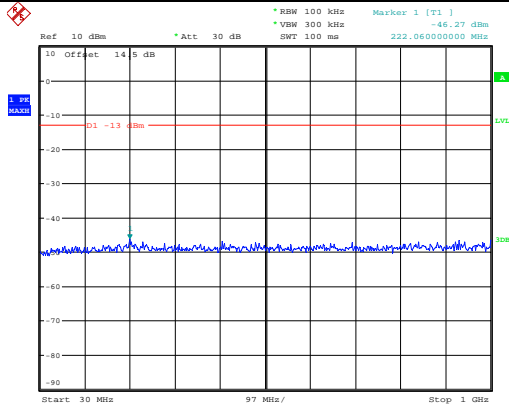


Spurious Emissions at Antenna Terminal

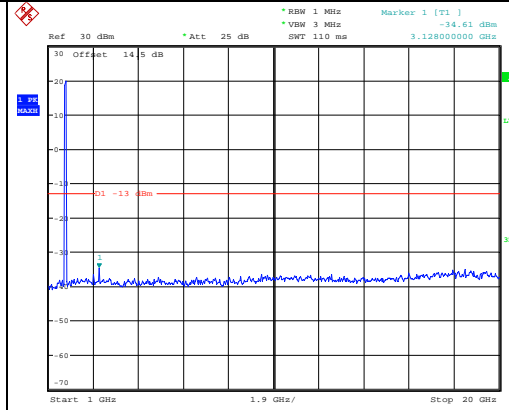
Channel

15MHz Bandwidth QPSK

Lowest

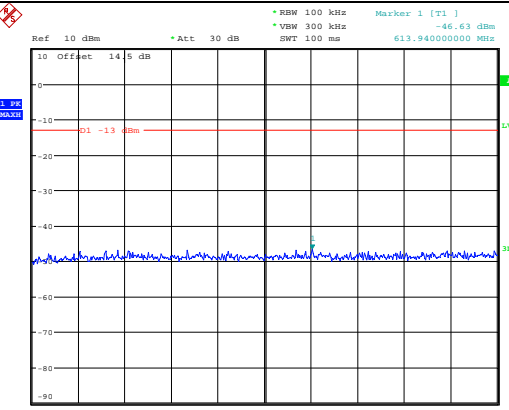


Date: 27.JUL.2023 14:19:53

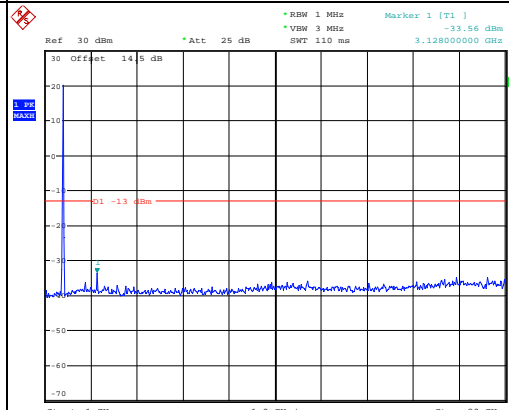


Date: 27.JUL.2023 14:20:04

Middle

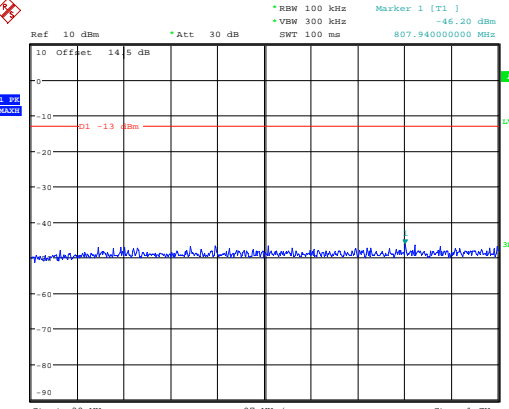


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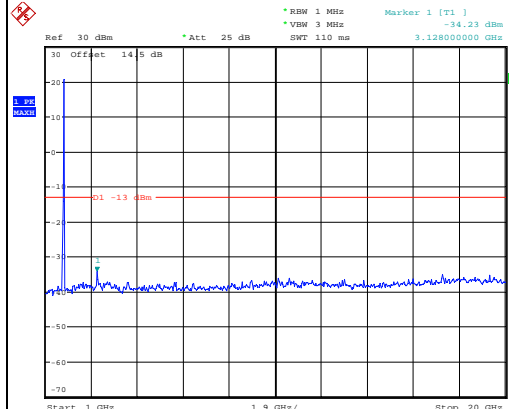


Date: 27.JUL.2023 14:20:32

Highest



Date: 27.JUL.2023 14:20:46



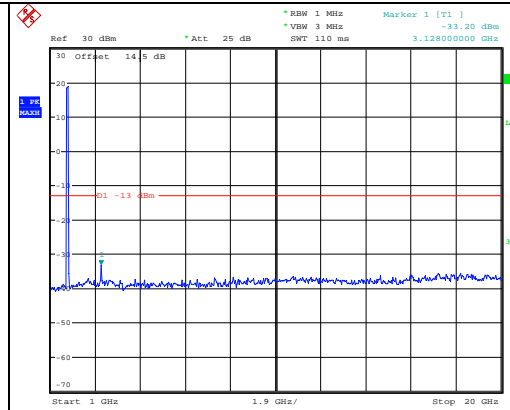
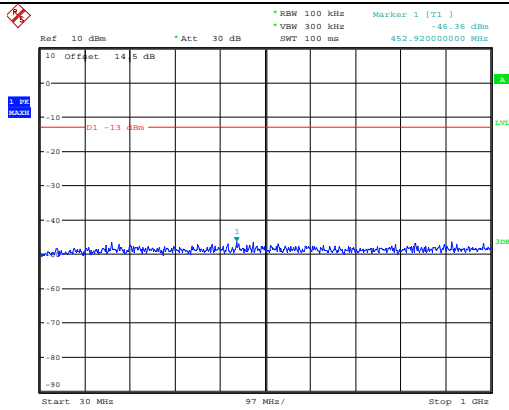
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### Spurious Emissions at Antenna Terminal

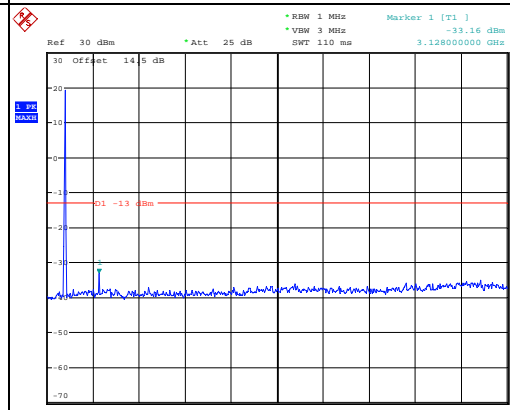
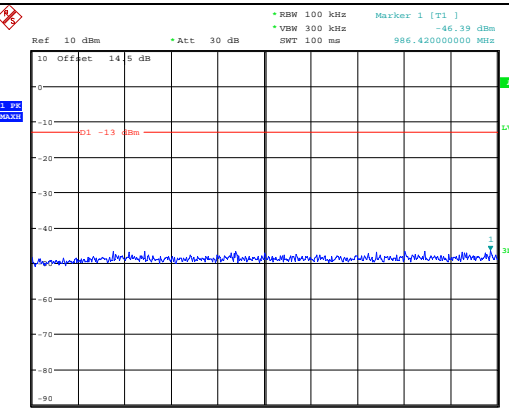
Channel

20MHz Bandwidth QPSK

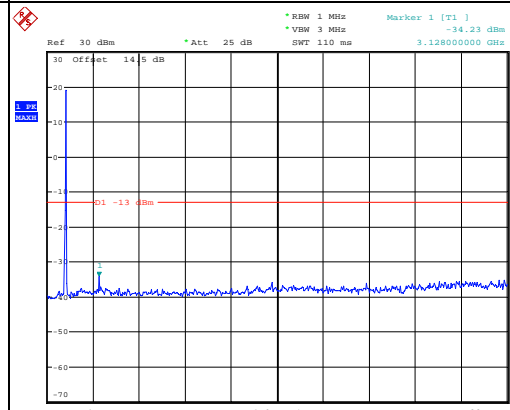
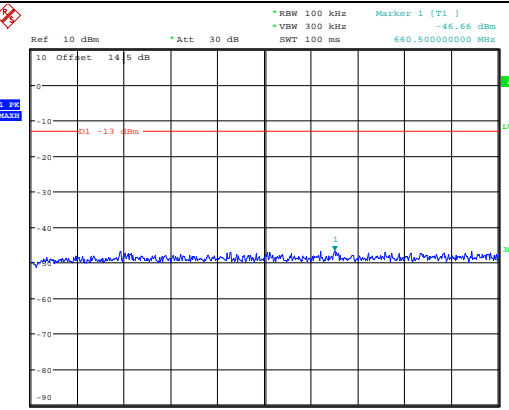
Lowest



Middle



Highest



Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 1.4MHz	<p>Ref 30 dBm    Att 25 dB    RBW 30 kHz    Marker 1 [T1]    -31.10 dBm            VSW 100 kHz    SWT 35 ms    1.709988000 GHz</p> <p>30 Offset 14.5 dB            -10 D1 -13 dBm            SWP 50 OF 50</p> <p>Center 1.71 GHz    300 kHz/    Span 3 MHz</p> <p>Date: 27.JUL.2023 12:37:58</p>	<p>Ref 30 dBm    Att 25 dB    RBW 30 kHz    Marker 1 [T1]    -32.46 dBm            VSW 100 kHz    SWT 35 ms    1.780006000 GHz</p> <p>30 Offset 14.5 dB            -10 D1 -13 dBm            SWP 50 OF 50</p> <p>Center 1.78 GHz    300 kHz/    Span 3 MHz</p> <p>Date: 27.JUL.2023 12:38:18</p>
QPSK 3MHz	<p>Ref 30 dBm    Att 25 dB    RBW 30 kHz    Marker 1 [T1]    -28.78 dBm            VSW 100 kHz    SWT 35 ms    1.710000000 GHz</p> <p>30 Offset 14.5 dB            -10 D1 -13 dBm            SWP 50 OF 50</p> <p>Center 1.71 GHz    600 kHz/    Span 6 MHz</p> <p>Date: 27.JUL.2023 12:38:38</p>	<p>Ref 30 dBm    Att 25 dB    RBW 30 kHz    Marker 1 [T1]    -24.60 dBm            VSW 100 kHz    SWT 35 ms    1.780000000 GHz</p> <p>30 Offset 14.5 dB            -10 D1 -13 dBm            SWP 50 OF 50</p> <p>Center 1.78 GHz    600 kHz/    Span 6 MHz</p> <p>Date: 27.JUL.2023 12:38:55</p>
QPSK 5MHz	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Marker 1 [T1]    -28.67 dBm            VSW 500 kHz    SWT 35 ms    1.710000000 GHz</p> <p>30 Offset 14.5 dB            -10 D1 -13 dBm            SWP 50 OF 50</p> <p>Center 1.71 GHz    1 MHz/    Span 10 MHz</p> <p>Date: 27.JUL.2023 12:41:25</p>	<p>Ref 30 dBm    Att 25 dB    RBW 100 kHz    Marker 1 [T1]    -27.89 dBm            VSW 500 kHz    SWT 35 ms    1.780000000 GHz</p> <p>30 Offset 14.5 dB            -10 D1 -13 dBm            SWP 50 OF 50</p> <p>Center 1.78 GHz    1 MHz/    Span 10 MHz</p> <p>Date: 27.JUL.2023 12:41:43</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 10MHz	<p>Date: 27.JUL.2023 12:42:03</p>	<p>Date: 27.JUL.2023 12:42:22</p>
QPSK 15MHz	<p>Date: 27.JUL.2023 12:42:41</p>	<p>Date: 27.JUL.2023 12:42:56</p>
QPSK 20MHz	<p>Date: 27.JUL.2023 12:43:14</p>	<p>Date: 27.JUL.2023 12:43:29</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz	<p>Date: 27.JUL.2023 12:38:26</p>	<p>Date: 27.JUL.2023 12:38:26</p>
16QAM 3MHz	<p>Date: 27.JUL.2023 12:38:46</p>	<p>Date: 27.JUL.2023 12:39:03</p>
16QAM 5MHz	<p>Date: 27.JUL.2023 12:41:33</p>	<p>Date: 27.JUL.2023 12:41:51</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 10MHz	<p>Date: 27.JUL.2023 12:42:12</p>	<p>Date: 27.JUL.2023 12:42:31</p>
16QAM 15MH	<p>Date: 27.JUL.2023 12:42:48</p>	<p>Date: 27.JUL.2023 12:43:03</p>
16QAM 20MH	<p>Date: 27.JUL.2023 12:43:21</p>	<p>Date: 27.JUL.2023 12:43:36</p>

**4.17 Radiated Spurious Emissions**

Serial Number:	27BI-2	Test Date:	2023/7/7(below 1GHz) 2023/8/1(above 1GHz)
Test Site:	966-2,966-1	Test Mode:	Transmitting
Tester:	Carl Xue, Tao Zhu	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	25.7-27.2	Relative Humidity: (%)	59-69	ATM Pressure: (kPa)	99.9-100.2
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-5	2020/10/19	2023/10/18
R&S	EMI Test Receiver	ESR3	102724	2022/7/15	2023/7/14
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2022/7/17	2023/7/16
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2022/7/17	2023/7/16
Sonoma	Amplifier	310N	186165	2022/7/17	2023/7/16
EMCO	Adjustable Dipole Antenna	3121C	9109-756	N/A	N/A
MICRO-COAX	Coaxial Cable	UFA210B-0-0720-300300	99G1448	2022/7/17	2023/7/16
Agilent	Signal Generator	E8247C	MY43321352	2022/11/18	2023/11/17
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020/10/13	2023/10/12
R&S	Spectrum Analyzer	FSV40	101591	2022/7/15	2023/8/14
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2022/8/7	2023/8/6
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2022/8/7	2023/8/6
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2022/11/9	2023/11/8
AH	Double Ridge Guide Horn Antenna	SAS-571	1396	2021/10/18	2024/10/17
MICRO-COAX	Coaxial Cable	UFA210B-0-0720-300300	99G1448	2022/7/17	2023/8/16
PASTERNAK	Horn Antenna	PE9852/2F-20	112002	2021/2/5	2024/2/4
PASTERNAK	Horn Antenna	PE9852/2F-20	112001	2021/2/5	2024/2/4
Quinstar	Preamplifier	QLW-18405536-JO	15964001005	2022/9/16	2023/9/15
PASTERNAK	Horn Antenna	PE9850/2F-20	072001	2021/2/5	2024/2/4
PASTERNAK	Horn Antenna	PE9850/2F-20	072002	2021/2/5	2024/2/4
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2022/8/7	2023/8/6

\* **Statement of Traceability:** China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Data:**

Please refer to the below table and plots.

Note: The device can be mounted in multiple orientations, test was performed with X, Y, Z Axis according to C63.26 figure 5, the worst orientation was photographed and it's data was recorded.

**Cellular Band (30MHz-10GHz)**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 850 Frequency:824.2MHz								
719.29	H	20.78	-52.15	0.00	0.49	-52.64	-13.00	39.64
687.27	V	20.73	-49.42	0.00	0.53	-49.95	-13.00	36.95
1648.400	H	47.36	-56.97	8.68	0.80	-49.09	-13.00	36.09
1648.400	V	47.63	-56.78	8.68	0.80	-48.90	-13.00	35.90
2472.600	H	42.25	-58.53	9.38	1.00	-50.15	-13.00	37.15
2472.600	V	41.39	-59.34	9.38	1.00	-50.96	-13.00	37.96
3296.800	H	38.21	-58.47	10.32	1.15	-49.30	-13.00	36.30
3296.800	V	37.28	-59.16	10.32	1.15	-49.99	-13.00	36.99
GSM 850 Frequency:836.6MHz								
709.28	H	21.05	-52.08	0.00	0.52	-52.60	-13.00	39.60
729.44	V	20.52	-48.76	0.00	0.53	-49.29	-13.00	36.29
1673.200	H	48.69	-55.62	8.71	0.85	-47.76	-13.00	34.76
1673.200	V	49.32	-55.09	8.71	0.85	-47.23	-13.00	34.23
2509.800	H	43.69	-56.92	9.42	1.01	-48.51	-13.00	35.51
2509.800	V	42.50	-58.12	9.42	1.01	-49.71	-13.00	36.71
3346.400	H	36.52	-60.65	10.34	1.16	-51.47	-13.00	38.47
3346.400	V	35.74	-61.29	10.34	1.16	-52.11	-13.00	39.11
GSM 850 Frequency:848.8MHz								
701.87	H	20.62	-52.66	0.00	0.55	-53.21	-13.00	40.21
726.98	V	20.59	-48.74	0.00	0.52	-49.26	-13.00	36.26
1697.600	H	45.62	-58.67	8.74	0.90	-50.83	-13.00	37.83
1697.600	V	43.25	-61.17	8.74	0.90	-53.33	-13.00	40.33
2546.400	H	40.58	-59.75	9.47	1.01	-51.29	-13.00	38.29
2546.400	V	41.39	-58.89	9.47	1.01	-50.43	-13.00	37.43
3395.200	H	37.20	-60.49	10.36	1.19	-51.32	-13.00	38.32
3395.200	V	38.17	-59.49	10.36	1.19	-50.32	-13.00	37.32



**PCS Band (30MHz-20GHz)**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 1900 Frequency:1850.2MHz								
340.78	H	40.71	-69.39	0.00	0.36	-69.75	-13.00	56.75
80.36	V	39.06	-69.55	0.00	0.16	-69.71	-13.00	56.71
3700.400	H	46.82	-50.50	10.60	1.25	-41.15	-13.00	28.15
3700.400	V	43.52	-53.78	10.60	1.25	-44.43	-13.00	31.43
5550.600	H	42.12	-51.14	11.44	1.49	-41.19	-13.00	28.19
5550.600	V	39.83	-53.27	11.44	1.49	-43.32	-13.00	30.32
GSM 1900 Frequency:1880MHz								
341.97	H	40.60	-69.49	0.00	0.36	-69.85	-13.00	56.85
80.08	V	38.83	-69.76	0.00	0.16	-69.92	-13.00	56.92
3760.000	H	49.68	-46.73	10.66	1.24	-37.31	-13.00	24.31
3760.000	V	46.38	-49.91	10.66	1.24	-40.49	-13.00	27.49
5640.000	H	46.20	-47.25	11.33	1.54	-37.46	-13.00	24.46
5640.000	V	43.55	-49.78	11.33	1.54	-39.99	-13.00	26.99
GSM 1900 Frequency:1909.8MHz								
80.92	H	40.72	-69.36	0.00	0.16	-69.52	-13.00	56.52
66.26	V	39.17	-64.71	-6.98	0.15	-71.84	-13.00	58.84
3819.600	H	50.12	-45.74	10.72	1.29	-36.31	-13.00	23.31
3819.600	V	48.36	-47.36	10.72	1.29	-37.93	-13.00	24.93
5729.400	H	39.58	-53.90	11.22	1.59	-44.27	-13.00	31.27
5729.400	V	37.41	-55.95	11.22	1.59	-46.32	-13.00	33.32

**WCDMA Band 2(30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA Band II, Frequency:1852.4 MHz								
327.88	H	38.90	-71.40	0.00	0.34	-71.74	-13.00	58.74
80.08	V	38.76	-69.83	0.00	0.16	-69.99	-13.00	56.99
3704.800	H	49.60	-47.66	10.60	1.25	-38.31	-13.00	25.31
3704.800	V	46.40	-50.83	10.60	1.25	-41.48	-13.00	28.48
5557.200	H	42.89	-50.39	11.43	1.49	-40.45	-13.00	27.45
5557.200	V	39.92	-53.21	11.43	1.49	-43.27	-13.00	30.27
WCDMA Band II, Frequency:1880 MHz								
334.85	H	38.98	-71.21	0.00	0.35	-71.56	-13.00	58.56
80.36	V	38.74	-69.87	0.00	0.16	-70.03	-13.00	57.03
3760.000	H	50.73	-45.68	10.66	1.24	-36.26	-13.00	23.26
3760.000	V	48.57	-47.72	10.66	1.24	-38.30	-13.00	25.30
5640.000	H	45.16	-48.29	11.33	1.54	-38.50	-13.00	25.50
5640.000	V	44.29	-49.04	11.33	1.54	-39.25	-13.00	26.25
WCDMA Band II, Frequency:1907.6MHz								
330.19	H	39.15	-71.11	0.00	0.34	-71.45	-13.00	58.45
329.03	V	39.68	-68.38	0.00	0.34	-68.72	-13.00	55.72
3815.200	H	50.47	-45.38	10.72	1.29	-35.95	-13.00	22.95
3815.200	V	50.32	-45.37	10.72	1.29	-35.94	-13.00	22.94
5722.800	H	43.85	-49.64	11.23	1.58	-39.99	-13.00	26.99
5722.800	V	43.11	-50.24	11.23	1.58	-40.59	-13.00	27.59

**WCDMA Band 4(30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency: 1712.4 MHz								
307.83	H	39.74	-70.86	0.00	0.34	-71.20	-13.00	58.20
83.52	V	37.46	-71.38	0.00	0.17	-71.55	-13.00	58.55
3424.800	H	49.08	-48.69	10.37	1.17	-39.49	-13.00	26.49
3424.800	V	45.71	-52.03	10.37	1.17	-42.83	-13.00	29.83
5137.200	H	45.84	-47.78	11.28	1.46	-37.96	-13.00	24.96
5137.200	V	42.25	-51.25	11.28	1.46	-41.43	-13.00	28.43
Frequency: 1732.6 MHz								
305.68	H	38.64	-71.99	0.00	0.34	-72.33	-13.00	59.33
84.40	V	37.74	-71.17	0.00	0.17	-71.34	-13.00	58.34
3465.200	H	52.61	-45.20	10.39	1.15	-35.96	-13.00	22.96
3465.200	V	49.88	-47.89	10.39	1.15	-38.65	-13.00	25.65
5197.800	H	47.07	-47.06	11.32	1.44	-37.18	-13.00	24.18
5197.800	V	43.48	-50.50	11.32	1.44	-40.62	-13.00	27.62
Frequency: 1752.6 MHz								
306.75	H	38.85	-71.77	0.00	0.34	-72.11	-13.00	59.11
84.51	V	37.31	-71.61	0.00	0.17	-71.78	-13.00	58.78
3505.200	H	51.11	-46.72	10.41	1.18	-37.49	-13.00	24.49
3505.200	V	47.65	-50.12	10.41	1.18	-40.89	-13.00	27.89
5257.800	H	45.67	-48.06	11.35	1.47	-38.18	-13.00	25.18
5257.800	V	42.47	-51.04	11.35	1.47	-41.16	-13.00	28.16

**WCDMA Band 5(30MHz-10GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA Band 5 Frequency:826.4 MHz								
721.82	H	20.77	-52.11	0.00	0.50	-52.61	-13.00	39.61
719.30	V	21.29	-48.21	0.00	0.49	-48.70	-13.00	35.70
1652.800	H	43.36	-60.97	8.68	0.81	-53.10	-13.00	40.10
1652.800	V	44.87	-59.54	8.68	0.81	-51.67	-13.00	38.67
2479.200	H	41.74	-59.02	9.39	1.01	-50.64	-13.00	37.64
2479.200	V	41.87	-58.86	9.39	1.01	-50.48	-13.00	37.48
3305.600	H	36.73	-60.00	10.32	1.15	-50.83	-13.00	37.83
3305.600	V	40.63	-55.87	10.32	1.15	-46.70	-13.00	33.70
WCDMA Band 5 Frequency:836.6MHz								
446.68	H	21.36	-55.56	0.00	0.43	-55.99	-13.00	42.99
470.78	V	20.60	-52.14	0.00	0.43	-52.57	-13.00	39.57
1673.200	H	43.74	-60.57	8.71	0.85	-52.71	-13.00	39.71
1673.200	V	46.55	-57.86	8.71	0.85	-50.00	-13.00	37.00
2509.800	H	44.61	-56.00	9.42	1.01	-47.59	-13.00	34.59
2509.800	V	38.29	-62.33	9.42	1.01	-53.92	-13.00	40.92
3346.400	H	42.16	-55.01	10.34	1.16	-45.83	-13.00	32.83
3346.400	V	44.88	-52.15	10.34	1.16	-42.97	-13.00	29.97
WCDMA Band 5 Frequency:846.6MHz								
724.35	H	21.47	-51.36	0.00	0.51	-51.87	-13.00	38.87
729.45	V	20.99	-48.29	0.00	0.53	-48.82	-13.00	35.82
1693.200	H	44.25	-60.05	8.73	0.89	-52.21	-13.00	39.21
1693.200	V	45.67	-58.75	8.73	0.89	-50.91	-13.00	37.91
2539.800	H	45.23	-55.15	9.46	1.01	-46.70	-13.00	33.70
2539.800	V	41.29	-59.05	9.46	1.01	-50.60	-13.00	37.60
3386.400	H	41.19	-56.40	10.35	1.18	-47.23	-13.00	34.23
3386.400	V	45.88	-51.66	10.35	1.18	-42.49	-13.00	29.49

**LTE Bands:**

(The Worst modulation and bandwidth were below)

**LTE Band 2(30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, 1.4MHz, Frequency:1850.7 MHz								
321.19	H	40.89	-69.51	0.00	0.34	-69.85	-13.00	56.85
82.81	V	41.02	-67.77	0.00	0.17	-67.94	-13.00	54.94
3701.400	H	45.25	-52.06	10.60	1.25	-42.71	-13.00	29.71
3701.400	V	43.37	-53.92	10.60	1.25	-44.57	-13.00	31.57
5552.100	H	42.28	-50.99	11.44	1.49	-41.04	-13.00	28.04
5552.100	V	39.95	-53.15	11.44	1.49	-43.20	-13.00	30.20
QPSK, 1.4MHz, Frequency:1880 MHz								
321.19	H	41.16	-69.24	0.00	0.34	-69.58	-13.00	56.58
85.72	V	40.95	-68.06	0.00	0.17	-68.23	-13.00	55.23
3760.000	H	47.25	-49.16	10.66	1.24	-39.74	-13.00	26.74
3760.000	V	44.69	-51.60	10.66	1.24	-42.18	-13.00	29.18
5640.000	H	46.25	-47.20	11.33	1.54	-37.41	-13.00	24.41
5640.000	V	40.41	-52.92	11.33	1.54	-43.13	-13.00	30.13
QPSK, 1.4MHz, Frequency:1909.3 MHz								
322.16	H	41.09	-69.30	0.00	0.34	-69.64	-13.00	56.64
83.78	V	41.41	-67.45	0.00	0.17	-67.62	-13.00	54.62
3818.600	H	46.52	-49.34	10.72	1.29	-39.91	-13.00	26.91
3818.600	V	43.63	-52.08	10.72	1.29	-42.65	-13.00	29.65
5727.900	H	41.47	-52.01	11.23	1.59	-42.37	-13.00	29.37
5727.900	V	40.38	-52.98	11.23	1.59	-43.34	-13.00	30.34

**LTE Band 4(30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
1.4MHz QPSK, Frequency:			1710.7	MHz				
315.38	H	40.41	-70.08	0.00	0.34	-70.42	-13.00	57.42
85.72	V	40.54	-68.47	0.00	0.17	-68.64	-13.00	55.64
3421.400	H	45.68	-52.08	10.37	1.17	-42.88	-13.00	29.88
3421.400	V	44.13	-53.60	10.37	1.17	-44.40	-13.00	31.40
5132.100	H	43.28	-50.29	11.28	1.47	-40.48	-13.00	27.48
5132.100	V	40.68	-52.78	11.28	1.47	-42.97	-13.00	29.97
1.4MHz QPSK, Frequency:			1732.5	MHz				
316.35	H	40.61	-69.86	0.00	0.34	-70.20	-13.00	57.20
83.78	V	41.83	-67.03	0.00	0.17	-67.20	-13.00	54.20
3465.000	H	45.37	-52.44	10.39	1.15	-43.20	-13.00	30.20
3465.000	V	42.94	-54.83	10.39	1.15	-45.59	-13.00	32.59
5197.500	H	43.47	-50.66	11.32	1.44	-40.78	-13.00	27.78
5197.500	V	40.79	-53.19	11.32	1.44	-43.31	-13.00	30.31
1.4MHz QPSK, Frequency:			1754.3	MHz				
323.13	H	40.60	-69.77	0.00	0.34	-70.11	-13.00	57.11
85.72	V	41.07	-67.94	0.00	0.17	-68.11	-13.00	55.11
3508.600	H	56.82	-41.00	10.41	1.19	-31.78	-13.00	18.78
3508.600	V	43.63	-54.13	10.41	1.19	-44.91	-13.00	31.91
5262.900	H	42.11	-51.59	11.36	1.47	-41.70	-13.00	28.70
5262.900	V	37.66	-55.81	11.36	1.47	-45.92	-13.00	32.92

**LTE Band 5(30MHz-10GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, 1.4MHz, Frequency: 824.7 MHz								
726.92	H	20.77	-52.01	0.00	0.52	-52.53	-13.00	39.53
726.92	V	20.73	-48.60	0.00	0.52	-49.12	-13.00	36.12
1649.400	H	42.28	-62.05	8.68	0.80	-54.17	-13.00	41.17
1649.400	V	42.14	-62.27	8.68	0.80	-54.39	-13.00	41.39
2474.100	H	39.92	-60.86	9.38	1.00	-52.48	-13.00	39.48
2474.100	V	37.68	-63.05	9.38	1.00	-54.67	-13.00	41.67
3298.800	H	38.52	-58.16	10.32	1.15	-48.99	-13.00	35.99
3298.800	V	39.57	-56.87	10.32	1.15	-47.70	-13.00	34.70
QPSK, 1.4MHz, Frequency: 836.5 MHz								
564.87	H	20.59	-53.96	0.00	0.46	-54.42	-13.00	41.42
721.83	V	20.88	-48.56	0.00	0.50	-49.06	-13.00	36.06
1673.000	H	41.00	-63.31	8.71	0.85	-55.45	-13.00	42.45
1673.000	V	43.04	-61.37	8.71	0.85	-53.51	-13.00	40.51
2509.500	H	40.31	-60.30	9.42	1.01	-51.89	-13.00	38.89
2509.500	V	36.21	-64.41	9.42	1.01	-56.00	-13.00	43.00
3346.000	H	39.30	-57.86	10.34	1.16	-48.68	-13.00	35.68
3346.000	V	42.08	-54.94	10.34	1.16	-45.76	-13.00	32.76
QPSK, 1.4MHz, Frequency: 848.3 MHz								
512.09	H	20.50	-55.09	0.00	0.45	-55.54	-13.00	42.54
692.11	V	21.07	-48.99	0.00	0.54	-49.53	-13.00	36.53
1696.600	H	40.61	-63.68	8.74	0.89	-55.83	-13.00	42.83
1696.600	V	41.37	-63.05	8.74	0.89	-55.20	-13.00	42.20
2544.900	H	42.88	-57.46	9.47	1.01	-49.00	-13.00	36.00
2544.900	V	37.62	-62.68	9.47	1.01	-54.22	-13.00	41.22
3393.200	H	38.86	-58.81	10.36	1.19	-49.64	-13.00	36.64
3393.200	V	42.87	-54.76	10.36	1.19	-45.59	-13.00	32.59

**LTE Band 7:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, 1.4MHz, Frequency: 2502.5 MHz								
324.10	H	40.53	-69.83	0.00	0.34	-70.17	-25.00	45.17
83.78	V	41.03	-67.83	0.00	0.17	-68.00	-25.00	43.00
5005.000	H	52.66	-40.30	11.20	1.47	-30.57	-25.00	5.57
5005.000	V	46.18	-46.64	11.20	1.47	-36.91	-25.00	11.91
7507.500	H	34.69	-55.10	10.90	1.95	-46.15	-25.00	21.15
7507.500	V	34.58	-55.71	10.90	1.95	-46.76	-25.00	21.76
QPSK, 1.4MHz, Frequency: 2535 MHz								
322.16	H	40.63	-69.76	0.00	0.34	-70.10	-25.00	45.10
83.78	V	40.94	-67.92	0.00	0.17	-68.09	-25.00	43.09
5070.000	H	52.15	-41.04	11.24	1.47	-31.27	-25.00	6.27
5070.000	V	46.40	-46.69	11.24	1.47	-36.92	-25.00	11.92
7605.000	H	34.66	-54.81	10.88	2.01	-45.94	-25.00	20.94
7605.000	V	34.27	-55.92	10.88	2.01	-47.05	-25.00	22.05
QPSK, 1.4MHz, Frequency: 2567.5 MHz								
324.10	H	39.96	-70.40	0.00	0.34	-70.74	-25.00	45.74
84.75	V	41.08	-67.86	0.00	0.17	-68.03	-25.00	43.03
5135.000	H	49.81	-43.79	11.28	1.47	-33.98	-25.00	8.98
5135.000	V	47.35	-46.14	11.28	1.47	-36.33	-25.00	11.33
7702.500	H	35.20	-54.32	10.86	1.97	-45.43	-25.00	20.43
7702.500	V	35.37	-54.81	10.86	1.97	-45.92	-25.00	20.92



**LTE Band 12(30MHz-10GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, 1.4MHz, Frequency: 699.7 MHz								
556.01	H	20.83	-53.90	0.00	0.49	-54.39	-13.00	41.39
577.85	V	20.45	-51.25	0.00	0.46	-51.71	-13.00	38.71
1399.400	H	47.37	-56.33	8.22	0.71	-48.82	-13.00	35.82
1399.400	V	46.07	-57.68	8.22	0.71	-50.17	-13.00	37.17
2099.100	H	38.91	-62.97	9.16	0.91	-54.72	-13.00	41.72
2099.100	V	34.89	-66.94	9.16	0.91	-58.69	-13.00	45.69
2798.800	H	42.03	-57.90	9.88	1.04	-49.06	-13.00	36.06
2798.800	V	41.60	-58.20	9.88	1.04	-49.36	-13.00	36.36
QPSK, 1.4MHz, Frequency: 707.5 MHz								
569.81	H	20.73	-53.72	0.00	0.46	-54.18	-13.00	41.18
548.27	V	20.15	-51.50	0.00	0.47	-51.97	-13.00	38.97
1415.000	H	47.43	-56.24	8.26	0.72	-48.70	-13.00	35.70
1415.000	V	45.93	-57.79	8.26	0.72	-50.25	-13.00	37.25
2122.500	H	40.47	-61.52	9.17	0.92	-53.27	-13.00	40.27
2122.500	V	35.16	-66.81	9.17	0.92	-58.56	-13.00	45.56
2830.000	H	40.80	-59.00	9.93	1.06	-50.13	-13.00	37.13
2830.000	V	41.42	-58.31	9.93	1.06	-49.44	-13.00	36.44
QPSK, 1.4MHz, Frequency: 715.3 MHz								
536.89	H	20.52	-54.58	0.00	0.46	-55.04	-13.00	42.04
582.86	V	20.69	-51.01	0.00	0.46	-51.47	-13.00	38.47
1430.600	H	47.54	-56.09	8.31	0.73	-48.51	-13.00	35.51
1430.600	V	47.36	-56.33	8.31	0.73	-48.75	-13.00	35.75
2145.900	H	39.56	-62.54	9.19	0.93	-54.28	-13.00	41.28
2145.900	V	35.34	-66.77	9.19	0.93	-58.51	-13.00	45.51
2861.200	H	41.46	-58.19	9.98	1.07	-49.28	-13.00	36.28
2861.200	V	42.95	-56.72	9.98	1.07	-47.81	-13.00	34.81

**LTE Band 17(30MHz-10GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, 5MHz, Frequency: 706.5 MHz								
599.42	H	20.19	-53.68	0.00	0.51	-54.19	-13.00	41.19
515.60	V	20.36	-51.24	0.00	0.44	-51.68	-13.00	38.68
1413.000	H	45.89	-57.78	8.26	0.72	-50.24	-13.00	37.24
1413.000	V	45.72	-58.00	8.26	0.72	-50.46	-13.00	37.46
2119.500	H	37.66	-64.31	9.17	0.92	-56.06	-13.00	43.06
2119.500	V	35.37	-66.58	9.17	0.92	-58.33	-13.00	45.33
2826.000	H	37.70	-62.11	9.92	1.06	-53.25	-13.00	40.25
2826.000	V	38.52	-61.22	9.92	1.06	-52.36	-13.00	39.36
QPSK, 5MHz, Frequency:710 MHz								
572.74	H	20.85	-53.55	0.00	0.46	-54.01	-13.00	41.01
582.85	V	21.17	-50.53	0.00	0.46	-50.99	-13.00	37.99
1420.000	H	46.20	-57.46	8.28	0.73	-49.91	-13.00	36.91
1420.000	V	47.59	-56.12	8.28	0.73	-48.57	-13.00	35.57
2130.000	H	35.73	-66.29	9.18	0.92	-58.03	-13.00	45.03
2130.000	V	37.02	-64.99	9.18	0.92	-56.73	-13.00	43.73
2840.000	H	39.13	-60.62	9.94	1.06	-51.74	-13.00	38.74
2840.000	V	37.81	-61.90	9.94	1.06	-53.02	-13.00	40.02
QPSK, 5MHz, Frequency: 713.5 MHz								
622.97	H	20.38	-53.36	0.00	0.48	-53.84	-13.00	40.84
625.15	V	20.76	-50.51	0.00	0.48	-50.99	-13.00	37.99
1427.000	H	46.81	-56.83	8.30	0.73	-49.26	-13.00	36.26
1427.000	V	45.30	-58.39	8.30	0.73	-50.82	-13.00	37.82
2140.500	H	39.65	-62.42	9.18	0.93	-54.17	-13.00	41.17
2140.500	V	35.66	-66.42	9.18	0.93	-58.17	-13.00	45.17
2854.000	H	40.22	-59.47	9.97	1.07	-50.57	-13.00	37.57
2854.000	V	37.50	-62.18	9.97	1.07	-53.28	-13.00	40.28

**LTE Band 25 (30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, 1.4MHz, Frequency: 1850.7 MHz								
325.07	H	40.63	-69.71	0.00	0.34	-70.05	-13.00	57.05
84.75	V	41.10	-67.84	0.00	0.17	-68.01	-13.00	55.01
3700.800	H	45.36	-51.96	10.60	1.25	-42.61	-13.00	29.61
3700.800	V	44.28	-53.02	10.60	1.25	-43.67	-13.00	30.67
5551.200	H	35.36	-57.90	11.44	1.49	-47.95	-13.00	34.95
5551.200	V	34.28	-58.82	11.44	1.49	-48.87	-13.00	35.87
QPSK, 1.4MHz, Frequency: 1882.5 MHz								
317.32	H	40.44	-70.02	0.00	0.34	-70.36	-13.00	57.36
83.78	V	41.41	-67.45	0.00	0.17	-67.62	-13.00	54.62
3765.000	H	46.39	-49.94	10.67	1.25	-40.52	-13.00	27.52
3765.000	V	47.20	-49.01	10.67	1.25	-39.59	-13.00	26.59
5647.500	H	38.33	-55.12	11.32	1.55	-45.35	-13.00	32.35
5647.500	V	38.37	-54.96	11.32	1.55	-45.19	-13.00	32.19
QPSK, 1.4MHz, Frequency: 1914.3 MHz								
322.16	H	40.31	-70.08	0.00	0.34	-70.42	-13.00	57.42
85.72	V	40.99	-68.02	0.00	0.17	-68.19	-13.00	55.19
3828.600	H	48.20	-47.70	10.73	1.28	-38.25	-13.00	25.25
3828.600	V	46.39	-49.38	10.73	1.28	-39.93	-13.00	26.93
5742.900	H	38.66	-54.82	11.21	1.60	-45.21	-13.00	32.21
5742.900	V	37.64	-55.72	11.21	1.60	-46.11	-13.00	33.11

**LTE Band 26 (30MHz-10GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, 1.4MHz, Frequency: 814.7MHz								
729.45	H	20.83	-51.90	0.00	0.53	-52.43	-13.00	39.43
696.98	V	21.23	-48.74	0.00	0.55	-49.29	-13.00	36.29
1629.400	H	44.36	-59.99	8.66	0.81	-52.14	-13.00	39.14
1629.400	V	45.28	-59.13	8.66	0.81	-51.28	-13.00	38.28
2444.100	H	40.25	-60.64	9.37	1.00	-52.27	-13.00	39.27
2444.100	V	39.39	-61.36	9.37	1.00	-52.99	-13.00	39.99
3258.800	H	35.82	-61.04	10.30	1.17	-51.91	-13.00	38.91
3258.800	V	24.39	-72.22	10.30	1.17	-63.09	-13.00	50.09
QPSK, 1.4MHz, Frequency:831.5 MHz								
724.36	H	20.90	-51.93	0.00	0.51	-52.44	-13.00	39.44
726.90	V	21.56	-47.77	0.00	0.52	-48.29	-13.00	35.29
1663.000	H	47.25	-57.07	8.70	0.83	-49.20	-13.00	36.20
1663.000	V	48.36	-56.05	8.70	0.83	-48.18	-13.00	35.18
2494.500	H	38.66	-62.04	9.40	1.01	-53.65	-13.00	40.65
2494.500	V	37.48	-63.23	9.40	1.01	-54.84	-13.00	41.84
3326.000	H	36.23	-60.72	10.33	1.16	-51.55	-13.00	38.55
3326.000	V	36.44	-60.33	10.33	1.16	-51.16	-13.00	38.16
QPSK, 1.4MHz, Frequency: 848.3 MHz								
582.96	H	20.77	-53.43	0.00	0.46	-53.89	-13.00	40.89
661.30	V	20.86	-49.76	0.00	0.51	-50.27	-13.00	37.27
1696.600	H	46.30	-57.99	8.74	0.89	-50.14	-13.00	37.14
1696.600	V	45.74	-58.68	8.74	0.89	-50.83	-13.00	37.83
2544.900	H	45.20	-55.14	9.47	1.01	-46.68	-13.00	33.68
2544.900	V	44.78	-55.52	9.47	1.01	-47.06	-13.00	34.06
3393.200	H	35.20	-62.47	10.36	1.19	-53.30	-13.00	40.30
3393.200	V	34.92	-62.71	10.36	1.19	-53.54	-13.00	40.54

**LTE Band 38 (30MHz-10GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, 1.4MHz, Frequency: 2572.5MHz								
327.01	H	40.30	-70.01	0.00	0.34	-70.35	-25.00	45.35
82.81	V	41.09	-67.70	0.00	0.17	-67.87	-25.00	42.87
5145.000	H	42.31	-51.37	11.29	1.44	-41.52	-25.00	16.52
5145.000	V	39.66	-53.91	11.29	1.44	-44.06	-25.00	19.06
7717.500	H	37.67	-51.84	10.86	1.99	-42.97	-25.00	17.97
7717.500	V	35.29	-54.84	10.86	1.99	-45.97	-25.00	20.97
QPSK, 1.4MHz, Frequency:2595MHz								
281.46	H	39.28	-71.88	0.00	0.32	-72.20	-25.00	47.20
83.78	V	41.73	-67.13	0.00	0.17	-67.30	-25.00	42.30
5190.000	H	39.88	-54.19	11.31	1.44	-44.32	-25.00	19.32
5190.000	V	40.28	-53.64	11.31	1.44	-43.77	-25.00	18.77
7785.000	H	37.40	-52.09	10.84	1.99	-43.24	-25.00	18.24
7785.000	V	36.32	-53.60	10.84	1.99	-44.75	-25.00	19.75
QPSK, 1.4MHz, Frequency: 2617.5MHz								
321.19	H	38.86	-71.54	0.00	0.34	-71.88	-25.00	46.88
82.81	V	41.26	-67.53	0.00	0.17	-67.70	-25.00	42.70
5235.000	H	40.45	-53.45	11.34	1.46	-43.57	-25.00	18.57
5235.000	V	41.29	-52.42	11.34	1.46	-42.54	-25.00	17.54
7852.500	H	36.65	-52.54	10.83	2.03	-43.74	-25.00	18.74
7852.500	V	35.67	-53.91	10.83	2.03	-45.11	-25.00	20.11

**LTE Band 40 Lower:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
5MHz QPSK, Frequency: 2307.5 MHz								
314.41	H	39.74	-70.76	0.00	0.34	-71.10	-40.00	31.10
82.81	V	41.13	-67.66	0.00	0.17	-67.83	-40.00	27.83
4615.000	H	38.62	-56.74	10.74	1.41	-47.41	-40.00	7.41
4615.000	V	38.12	-57.10	10.74	1.41	-47.77	-40.00	7.77
6922.500	H	39.64	-51.38	11.22	1.88	-42.04	-40.00	2.04
6922.500	V	38.48	-52.41	11.22	1.88	-43.07	-40.00	3.07
5MHz QPSK, Frequency: 2312.5 MHz								
318.29	H	40.13	-70.31	0.00	0.34	-70.65	-40.00	30.65
83.78	V	41.17	-67.69	0.00	0.17	-67.86	-40.00	27.86
4625.000	H	39.20	-56.09	10.75	1.41	-46.75	-40.00	6.75
4625.000	V	38.17	-57.00	10.75	1.41	-47.66	-40.00	7.66
6937.500	H	35.25	-55.73	11.21	1.90	-46.42	-40.00	6.42
6937.500	V	36.20	-54.64	11.21	1.90	-45.33	-40.00	5.33

**LTE Band 40 Upper:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
5MHz QPSK, Frequency: 2352.5 MHz								
291.15	H	39.57	-71.36	0.00	0.33	-71.69	-40.00	31.69
82.81	V	41.68	-67.11	0.00	0.17	-67.28	-40.00	27.28
4705.000	H	37.28	-57.50	10.85	1.41	-48.06	-40.00	8.06
4705.000	V	36.19	-58.61	10.85	1.41	-49.17	-40.00	9.17
7057.500	H	34.55	-55.46	11.17	1.92	-46.21	-40.00	6.21
7057.500	V	35.51	-54.39	11.17	1.92	-45.14	-40.00	5.14
5MHz QPSK, Frequency: 2357.5 MHz								
315.38	H	40.02	-70.47	0.00	0.34	-70.81	-40.00	30.81
83.78	V	41.34	-67.52	0.00	0.17	-67.69	-40.00	27.69
4715.000	H	40.12	-54.59	10.86	1.41	-45.14	-40.00	5.14
4715.000	V	40.33	-54.38	10.86	1.41	-44.93	-40.00	4.93
7072.500	H	35.82	-53.98	11.16	1.91	-44.73	-40.00	4.73
7072.500	V	36.43	-53.28	11.16	1.91	-44.03	-40.00	4.03

**LTE Band 41(2535MHz-2655MHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, 5MHz, Frequency: 2537.5 MHz								
309.57	H	39.85	-70.73	0.00	0.34	-71.07	-25.00	46.07
82.81	V	40.89	-67.90	0.00	0.17	-68.07	-25.00	43.07
4997.000	H	42.58	-50.36	11.20	1.48	-40.64	-25.00	15.64
4997.000	V	43.66	-49.14	11.20	1.48	-39.42	-25.00	14.42
7495.500	H	38.30	-51.49	10.90	1.94	-42.53	-25.00	17.53
7495.500	V	36.77	-53.52	10.90	1.94	-44.56	-25.00	19.56
QPSK, 5MHz, Frequency:2595 MHz								
317.32	H	40.21	-70.25	0.00	0.34	-70.59	-25.00	45.59
79.91	V	41.40	-67.13	-0.05	0.16	-67.34	-25.00	42.34
5186.000	H	38.69	-55.34	11.31	1.44	-45.47	-25.00	20.47
5186.000	V	39.78	-54.11	11.31	1.44	-44.24	-25.00	19.24
7779.000	H	35.41	-54.08	10.84	1.99	-45.23	-25.00	20.23
7779.000	V	35.43	-54.51	10.84	1.99	-45.66	-25.00	20.66
QPSK, 5MHz, Frequency: 2652.5 MHz								
308.60	H	39.88	-70.71	0.00	0.34	-71.05	-25.00	46.05
82.81	V	41.11	-67.68	0.00	0.17	-67.85	-25.00	42.85
5375.000	H	40.39	-53.12	11.43	1.49	-43.18	-25.00	18.18
5375.000	V	39.82	-53.68	11.43	1.49	-43.74	-25.00	18.74
8062.500	H	37.64	-50.58	10.81	2.12	-41.89	-25.00	16.89
8062.500	V	35.28	-53.44	10.81	2.12	-44.75	-25.00	19.75



**LTE Band 66(30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
1.4MHz QPSK, Frequency:			1710.7	MHz				
312.47	H	41.15	-69.38	0.00	0.34	-69.72	-13.00	56.72
83.78	V	42.08	-66.78	0.00	0.17	-66.95	-13.00	53.95
3421.400	H	47.36	-50.40	10.37	1.17	-41.20	-13.00	28.20
3421.400	V	45.30	-52.43	10.37	1.17	-43.23	-13.00	30.23
5132.100	H	40.10	-53.47	11.28	1.47	-43.66	-13.00	30.66
5132.100	V	41.28	-52.18	11.28	1.47	-42.37	-13.00	29.37
1.4MHz QPSK, Frequency:			1745	MHz				
316.35	H	41.28	-69.19	0.00	0.34	-69.53	-13.00	56.53
84.75	V	42.13	-66.81	0.00	0.17	-66.98	-13.00	53.98
3490.000	H	47.36	-50.48	10.40	1.17	-41.25	-13.00	28.25
3490.000	V	48.36	-49.42	10.40	1.17	-40.19	-13.00	27.19
5235.000	H	38.33	-55.57	11.34	1.46	-45.69	-13.00	32.69
5235.000	V	36.58	-57.13	11.34	1.46	-47.25	-13.00	34.25
1.4MHz QPSK, Frequency:			1779.3	MHz				
317.32	H	41.40	-69.06	0.00	0.34	-69.40	-13.00	56.40
79.91	V	41.65	-66.88	-0.05	0.16	-67.09	-13.00	54.09
3558.600	H	48.68	-48.99	10.46	1.22	-39.75	-13.00	26.75
3558.600	V	45.62	-51.95	10.46	1.22	-42.71	-13.00	29.71
5337.900	H	40.36	-53.11	11.40	1.47	-43.18	-13.00	30.18
5337.900	V	41.23	-52.10	11.40	1.47	-42.17	-13.00	29.17

## Note:

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Absolute Level = Substituted Level - Cable loss + Antenna Gain
- 3) Margin = Limit-Absolute Level

## **5. EUT PHOTOGRAPHS**

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Please refer to the attachment CR230636432-EXP EUT EXTERNAL PHOTOGRAPHS and CR230636432-INP EUT INTERNAL PHOTOGRAPHS

## **6. TEST SETUP PHOTOGRAPHS**

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Please refer to the attachment CR230636432-00H-TSP TEST SETUP PHOTOGRAPHS.

**==== END OF REPORT =====**