**LAT EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 1.4MHz Band QPSK | 6/0 | 1850.7 | 25.46 | 351.56 |
| | | 1880.0 | **26.44** | 440.55 |
| | | 1909.3 | 26.12 | 409.26 |
| 1.4MHz Band 16QAM | 6/0 | 1850.7 | 24.56 | 285.76 |
| | | 1880.0 | **25.44** | 349.95 |
| | | 1909.3 | 25.12 | 325.09 |

**LAT EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 3.0MHz Band QPSK | 15/0 | 1851.5 | 25.46 | 351.56 |
| | | 1880.0 | **26.64** | 461.32 |
| | | 1908.5 | 26.22 | 418.79 |
| 3.0MHz Band 16QAM | 15/0 | 1851.5 | 24.56 | 285.76 |
| | | 1880.0 | **25.54** | 358.10 |
| | | 1908.5 | 25.12 | 325.09 |

**LAT EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5.0MHz Band QPSK | 25/0 | 1852.5 | 25.56 | 359.75 |
| | | 1880.0 | **26.34** | 430.53 |
| | | 1907.5 | 26.22 | 418.79 |
| 5.0MHz Band 16QAM | 25/0 | 1852.5 | 24.46 | 279.25 |
| | | 1880.0 | **25.54** | 358.10 |
| | | 1907.5 | 25.42 | 348.34 |

**LAT EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0MHz Band QPSK | 50/0 | 1855.0 | 25.46 | 351.56 |
| | | 1880.0 | **26.54** | 450.82 |
| | | 1905.0 | 26.42 | 438.53 |
| 10.0MHz Band 16QAM | 50/0 | 1855.0 | 24.66 | 292.42 |
| | | 1880.0 | **25.64** | 366.44 |
| | | 1905.0 | 25.62 | 364.75 |

**LAT EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 15MHz Band QPSK | 75/0 | 1857.5 | 26.16 | 413.05 |
| | | 1880.0 | 26.34 | 430.53 |
| | | 1902.5 | **26.82** | 480.84 |
| 15MHz Band 16QAM | 75/0 | 1857.5 | 25.26 | 335.74 |
| | | 1880.0 | 25.84 | 383.71 |
| | | 1902.5 | **26.02** | 399.94 |


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**LAT EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 20.0MHz Band QPSK | 100/0 | 1860.0 | 25.26 | 335.74 |
| | | 1880.0 | 25.54 | 358.10 |
| | | 1900.0 | **27.02** | 503.50 |
| 20MHz Band 16QAM | 100/0 | 1860.0 | 24.26 | 266.69 |
| | | 1880.0 | 24.24 | 265.46 |
| | | 1900.0 | **26.32** | 428.55 |

**UAT EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 1.4MHz Band QPSK | 6/0 | 1850.7 | 19.83 | 96.16 |
| | | 1880.0 | 19.40 | 87.10 |
| | | 1909.3 | **21.04** | 127.06 |
| 1.4MHz Band 16QAM | 6/0 | 1850.7 | 19.03 | 79.98 |
| | | 1880.0 | 18.30 | 67.61 |
| | | 1909.3 | **20.17** | 103.99 |

**UAT EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 3.0MHz Band QPSK | 15/0 | 1851.5 | 19.63 | 91.83 |
| | | 1880.0 | 20.60 | 114.82 |
| | | 1908.5 | **21.30** | 134.90 |
| 3.0MHz Band 16QAM | 15/0 | 1851.5 | 19.23 | 83.75 |
| | | 1880.0 | 19.80 | 95.50 |
| | | 1908.5 | **20.36** | 108.64 |

**UAT EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5.0MHz Band QPSK | 25/0 | 1852.5 | 19.73 | 93.97 |
| | | 1880.0 | 20.40 | 109.65 |
| | | 1907.5 | **20.68** | 116.95 |
| 5.0MHz Band 16QAM | 25/0 | 1852.5 | 19.43 | 87.70 |
| | | 1880.0 | 19.50 | 89.13 |
| | | 1907.5 | **20.36** | 108.64 |

**UAT EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0MHz Band QPSK | 50/0 | 1855.0 | 20.53 | 112.98 |
| | | 1880.0 | 20.50 | 112.20 |
| | | 1905.0 | **21.33** | 135.83 |
| 10.0MHz Band 16QAM | 50/0 | 1855.0 | 19.73 | 93.97 |
| | | 1880.0 | 20.00 | 100.00 |
| | | 1905.0 | **20.63** | 115.61 |


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**UAT EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 15MHz Band QPSK | 75/0 | 1857.5 | 20.03 | 100.69 |
| | | 1880.0 | 20.20 | 104.71 |
| | | 1902.5 | **21.01** | 126.18 |
| 15MHz Band 16QAM | 75/0 | 1857.5 | 20.09 | 102.09 |
| | | 1880.0 | **20.43** | 110.41 |
| | | 1902.5 | 19.83 | 96.16 |

**UAT EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 20.0MHz Band QPSK | 100/0 | 1860.0 | 19.73 | 93.97 |
| | | 1880.0 | 20.20 | 104.71 |
| | | 1900.0 | **20.86** | 121.90 |
| 20MHz Band 16QAM | 100/0 | 1860.0 | 18.83 | 76.38 |
| | | 1880.0 | 19.40 | 87.10 |
| | | 1900.0 | **19.84** | 96.38 |

**LAT EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 1.4 MHZ BAND QPSK | 6/0 | 1710.7 | **24.46** | 279.25 |
| | | 1732.5 | 24.42 | 276.69 |
| | | 1754.3 | 24.37 | 273.53 |
| 1.4 MHZ BAND 16QAM | 6/0 | 1710.7 | **23.56** | 226.99 |
| | | 1732.5 | 23.42 | 219.79 |
| | | 1754.3 | 23.47 | 222.33 |

**LAT EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 3.0 MHZ BAND QPSK | 15/0 | 1711.5 | **24.86** | 306.20 |
| | | 1732.5 | 24.22 | 264.24 |
| | | 1753.5 | 24.67 | 293.09 |
| 3.0 MHZ BAND 16QAM | 15/0 | 1711.5 | **23.76** | 237.68 |
| | | 1732.5 | 23.60 | 229.09 |
| | | 1753.5 | 23.56 | 226.99 |

**LAT EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5.0 MHZ BAND QPSK | 25/0 | 1712.5 | 24.61 | 289.07 |
| | | 1732.5 | 24.22 | 264.24 |
| | | 1752.5 | **24.89** | 308.32 |
| 5.0 MHZ BAND 16QAM | 25/0 | 1712.5 | 23.63 | 230.67 |
| | | 1732.5 | 23.72 | 235.50 |
| | | 1752.5 | **24.07** | 255.27 |


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**LAT EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0 MHZ BAND QPSK | 50/0 | 1715.0 | **25.01** | 316.96 |
| | | 1732.5 | 24.22 | 264.24 |
| | | 1750.0 | 24.37 | 273.53 |
| 10.0 MHZ BAND 16QAM | 50/0 | 1715.0 | 23.86 | 243.22 |
| | | 1732.5 | 23.02 | 200.45 |
| | | 1750.0 | **23.87** | 243.78 |

**LAT EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 15.0 MHZ BAND QPSK | 75/0 | 1717.5 | **25.38** | 345.14 |
| | | 1732.5 | 24.42 | 276.69 |
| | | 1747.5 | 24.87 | 306.90 |
| 15.0 MHZ BAND 16QAM | 75/0 | 1717.5 | **24.49** | 281.19 |
| | | 1732.5 | 23.52 | 224.91 |
| | | 1747.5 | 23.90 | 245.47 |

**LAT EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 20.0 MHZ BAND QPSK | 100/0 | 1720.0 | **25.23** | 333.43 |
| | | 1732.5 | 24.42 | 276.69 |
| | | 1745.0 | 24.37 | 273.53 |
| 20.0 MHZ BAND 16QAM | 100/0 | 1720.0 | **24.26** | 266.69 |
| | | 1732.5 | 23.62 | 230.14 |
| | | 1745.0 | 23.57 | 227.51 |

**UAT EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 1.4 MHZ BAND QPSK | 6/0 | 1710.7 | 20.05 | 101.16 |
| | | 1732.5 | 19.71 | 93.54 |
| | | 1754.3 | **20.13** | 103.04 |
| 1.4 MHZ BAND 16QAM | 6/0 | 1710.7 | 19.08 | 80.91 |
| | | 1732.5 | 18.80 | 75.86 |
| | | 1754.3 | **19.33** | 85.70 |

**UAT EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 3.0 MHZ BAND QPSK | 15/0 | 1711.5 | 20.11 | 102.57 |
| | | 1732.5 | 19.35 | 86.10 |
| | | 1753.5 | **20.13** | 103.04 |
| 3.0 MHZ BAND 16QAM | 15/0 | 1711.5 | 19.18 | 82.79 |
| | | 1732.5 | 18.41 | 69.34 |
| | | 1753.5 | **19.43** | 87.70 |


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**UAT EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5.0 MHZ BAND QPSK | 25/0 | 1712.5 | 19.91 | 97.95 |
| | | 1732.5 | 19.06 | 80.54 |
| | | 1752.5 | **20.63** | 115.61 |
| 5.0 MHZ BAND 16QAM | 25/0 | 1712.5 | 19.04 | 80.17 |
| | | 1732.5 | 18.11 | 64.71 |
| | | 1752.5 | **19.75** | 94.41 |

**UAT EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0 MHZ BAND QPSK | 50/0 | 1715.0 | 20.36 | 108.64 |
| | | 1732.5 | 20.09 | 102.09 |
| | | 1750.0 | **20.83** | 121.06 |
| 10.0 MHZ BAND 16QAM | 50/0 | 1715.0 | 19.32 | 85.51 |
| | | 1732.5 | 19.20 | 83.18 |
| | | 1750.0 | **19.90** | 97.72 |

**UAT EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 15.0 MHZ BAND QPSK | 75/0 | 1717.5 | 21.03 | 126.77 |
| | | 1732.5 | 19.88 | 97.27 |
| | | 1747.5 | **21.23** | 132.74 |
| 15.0 MHZ BAND 16QAM | 75/0 | 1717.5 | 20.12 | 102.80 |
| | | 1732.5 | 19.51 | 89.33 |
| | | 1747.5 | **20.53** | 112.98 |

**UAT EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 20.0 MHZ BAND QPSK | 100/0 | 1720.0 | 20.28 | 106.66 |
| | | 1732.5 | 20.01 | 100.23 |
| | | 1745.0 | **20.85** | 121.62 |
| 20.0 MHZ BAND 16QAM | 100/0 | 1720.0 | 19.45 | 88.10 |
| | | 1732.5 | 19.14 | 82.04 |
| | | 1745.0 | **19.95** | 98.86 |

**LAT EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 1.4MHz Band QPSK | 1/0 | 824.7 | 22.01 | 158.85 |
| | | 836.5 | **21.58** | 143.88 |
| | | 848.3 | 21.52 | 141.91 |
| 1.4MHz Band 16QAM | 1/0 | 824.7 | 20.59 | 114.55 |
| | | 836.5 | **20.62** | 115.35 |
| | | 848.3 | 20.59 | 114.55 |


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**LAT EIRP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 3.0 MHZ BAND QPSK | 1/0 | 825.5 | **22.04** | 159.96 |
| | | 836.5 | 21.61 | 144.88 |
| | | 847.5 | 21.72 | 148.59 |
| 3.0 MHZ BAND 16QAM | 1/0 | 825.5 | **21.02** | 126.47 |
| | | 836.5 | 20.47 | 111.43 |
| | | 847.5 | 20.81 | 120.50 |

**LAT EIRP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5MHz Band QPSK | 1/0 | 826.5 | 21.09 | 128.53 |
| | | 836.5 | 21.43 | 139.00 |
| | | 846.5 | **21.70** | 147.91 |
| 5MHz Band 16QAM | 1/0 | 826.5 | 20.09 | 102.09 |
| | | 836.5 | 20.52 | 112.72 |
| | | 846.5 | **20.78** | 119.67 |

**LAT EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0 MHZ BAND QPSK | 1/0 | 829.0 | 21.59 | 144.21 |
| | | 836.5 | **21.75** | 149.62 |
| | | 844.0 | 21.42 | 138.68 |
| 10.0 MHZ BAND 16QAM | 1/0 | 829.0 | **20.69** | 117.22 |
| | | 836.5 | 20.55 | 113.50 |
| | | 844.0 | 20.56 | 113.76 |

**UAT EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 1.4MHz Band QPSK | 1/0 | 824.7 | 20.29 | 106.91 |
| | | 836.5 | 20.25 | 105.93 |
| | | 848.3 | **20.42** | 110.15 |
| 1.4MHz Band 16QAM | 1/0 | 824.7 | 19.29 | 84.92 |
| | | 836.5 | 19.32 | 85.51 |
| | | 848.3 | **19.53** | 89.74 |

**UAT EIRP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 3.0 MHZ BAND QPSK | 1/0 | 825.5 | 20.39 | 109.40 |
| | | 836.5 | 20.50 | 112.20 |
| | | 847.5 | **20.67** | 116.68 |
| 3.0 MHZ BAND 16QAM | 1/0 | 825.5 | 19.49 | 88.92 |
| | | 836.5 | 19.38 | 86.70 |
| | | 847.5 | **19.92** | 98.17 |


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**UAT EIRP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5MHz Band QPSK | 1/0 | 826.5 | 20.58 | 114.29 |
| | | 836.5 | 20.28 | 106.66 |
| | | 846.5 | **20.83** | 121.06 |
| 5MHz Band 16QAM | 1/0 | 826.5 | 19.48 | 88.72 |
| | | 836.5 | 19.14 | 82.04 |
| | | 846.5 | **19.52** | 89.54 |

**UAT EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0 MHZ BAND QPSK | 1/0 | 829.0 | **20.85** | 121.62 |
| | | 836.5 | 20.20 | 104.71 |
| | | 844.0 | 20.64 | 115.88 |
| 10.0 MHZ BAND 16QAM | 1/0 | 829.0 | **19.39** | 86.90 |
| | | 836.5 | 19.14 | 82.04 |
| | | 844.0 | 19.22 | 83.56 |

**LAT EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP ( Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5.0 MHZ BAND QPSK | 1/0 | 779.5 | 20.28 | 106.66 |
| | | 782.0 | 19.77 | 94.84 |
| | | 784.5 | **20.33** | 107.89 |
| 5.0 MHZ BAND 16QAM | 1/0 | 779.5 | **19.28** | 84.72 |
| | | 782.0 | 19.02 | 79.80 |
| | | 784.5 | 19.22 | 83.56 |

**LAT EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10 MHZ BAND QPSK | 1/0 | 782.0 | **20.06** | 101.39 |
| 10 MHz BAND 16QAM | 1/0 | | **19.02** | 79.80 |

**UAT EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP ( Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5.0 MHZ BAND QPSK | 1/0 | 779.5 | 17.78 | 59.98 |
| | | 782.0 | 19.57 | 90.57 |
| | | 784.5 | **19.84** | 96.38 |
| 5.0 MHZ BAND 16QAM | 1/0 | 779.5 | 16.88 | 48.75 |
| | | 782.0 | **18.37** | 68.71 |
| | | 784.5 | 18.04 | 63.68 |


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**UAT EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10 MHZ BAND QPSK | 1/0 | 782.0 | **19.37** | 86.50 |
| 10 MHz BAND 16QAM | 1/0 | | **18.37** | 68.71 |

**LAT EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5MHz Band QPSK | 1/0 | 706.5 | **20.63** | 115.61 |
| | | 710.0 | 20.47 | 111.43 |
| | | 713.5 | 20.01 | 100.23 |
| 5MHz Band 16QAM | 1/0 | 706.5 | **19.60** | 91.20 |
| | | 710.0 | 19.47 | 88.51 |
| | | 713.5 | 19.41 | 87.30 |

**LAT EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0 MHZ BAND QPSK | 1/0 | 709.0 | **20.83** | 121.06 |
| | | 710.0 | 20.57 | 114.02 |
| | | 711.0 | 20.41 | 109.90 |
| 10.0 MHZ BAND 16QAM | 1/0 | 709.0 | **19.63** | 91.83 |
| | | 710.0 | 19.57 | 90.57 |
| | | 711.0 | 18.91 | 77.80 |

**UAT EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5MHz Band QPSK | 1/0 | 706.5 | 16.13 | 41.02 |
| | | 710.0 | 16.27 | 42.36 |
| | | 713.5 | **16.71** | 46.88 |
| 5MHz Band 16QAM | 1/0 | 706.5 | 15.23 | 33.34 |
| | | 710.0 | 15.27 | 33.65 |
| | | 713.5 | **15.41** | 34.75 |

**UAT EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP (Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0 MHZ BAND QPSK | 1/0 | 709.0 | 16.35 | 43.15 |
| | | 710.0 | 16.47 | 44.36 |
| | | 711.0 | **16.85** | 48.42 |
| 10.0 MHZ BAND 16QAM | 1/0 | 709.0 | 15.13 | 32.58 |
| | | 710.0 | 15.17 | 32.89 |
| | | 711.0 | **15.76** | 37.67 |


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**LAT EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 1.4 MHZ BAND QPSK | 6/0 | 1850.7 | 25.76 | 376.70 |
| | | 1880.0 | 25.64 | 366.44 |
| | | 1914.3 | **26.22** | 418.79 |
| 1.4 MHZ BAND 16QAM | 6/0 | 1850.7 | 24.66 | 292.42 |
| | | 1880.0 | 24.34 | 271.64 |
| | | 1914.3 | **25.22** | 332.66 |

**LAT EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 3.0 MHZ BAND QPSK | 15/0 | 1851.5 | 25.49 | 354.00 |
| | | 1880.0 | 25.54 | 358.10 |
| | | 1913.5 | **26.42** | 438.53 |
| 3.0 MHZ BAND 16QAM | 15/0 | 1851.5 | 24.39 | 274.79 |
| | | 1880.0 | 24.44 | 277.97 |
| | | 1913.5 | **25.42** | 348.34 |

**LAT EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5.0 MHZ BAND QPSK | 25/0 | 1852.5 | 25.49 | 354.00 |
| | | 1880.0 | **26.34** | 430.53 |
| | | 1912.5 | 26.12 | 409.26 |
| 5.0 MHZ BAND 16QAM | 25/0 | 1852.5 | 24.49 | 281.19 |
| | | 1880.0 | **25.44** | 349.95 |
| | | 1912.5 | 25.32 | 340.41 |

**LAT EIRP POWER FOR LTE BAND 25 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0 MHZ BAND QPSK | 50/0 | 1855.0 | **26.59** | 456.04 |
| | | 1880.0 | 26.44 | 440.55 |
| | | 1910.0 | 26.42 | 438.53 |
| 10.0 MHZ BAND 16QAM | 50/0 | 1855.0 | 25.59 | 362.24 |
| | | 1880.0 | **25.64** | 366.44 |
| | | 1910.0 | 25.52 | 356.45 |

**LAT EIRP POWER FOR LTE BAND 25 (15.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 15.0 MHZ BAND QPSK | 75/0 | 1857.5 | **26.59** | 456.04 |
| | | 1880.0 | 26.02 | 399.94 |
| | | 1907.5 | 26.42 | 438.53 |
| 15.0 MHZ BAND 16QAM | 75/0 | 1857.5 | **25.84** | 383.71 |
| | | 1880.0 | 25.32 | 340.41 |
| | | 1907.5 | 25.36 | 343.56 |


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**LAT EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 20.0 MHZ BAND QPSK | 100/0 | 1860.0 | 26.49 | 445.66 |
| | | 1880.0 | 26.00 | 398.11 |
| | | 1905.0 | **26.59** | 456.04 |
| 20.0 MHZ BAND 16QAM | 100/0 | 1860.0 | **25.77** | 377.57 |
| | | 1880.0 | 25.04 | 319.15 |
| | | 1905.0 | 25.59 | 362.24 |

**UAT EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 1.4 MHZ BAND QPSK | 6/0 | 1850.7 | 21.12 | 129.42 |
| | | 1880.0 | **21.57** | 143.55 |
| | | 1914.3 | 21.47 | 140.28 |
| 1.4 MHZ BAND 16QAM | 6/0 | 1850.7 | 20.11 | 102.57 |
| | | 1880.0 | **20.78** | 119.67 |
| | | 1914.3 | 20.57 | 114.02 |

**UAT EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 3.0 MHZ BAND QPSK | 15/0 | 1851.5 | 21.25 | 133.35 |
| | | 1880.0 | **21.52** | 141.91 |
| | | 1913.5 | 21.17 | 130.92 |
| 3.0 MHZ BAND 16QAM | 15/0 | 1851.5 | 20.30 | 107.15 |
| | | 1880.0 | **20.56** | 113.76 |
| | | 1913.5 | 20.27 | 106.41 |

**UAT EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5.0 MHZ BAND QPSK | 25/0 | 1852.5 | 19.88 | 97.27 |
| | | 1880.0 | **20.67** | 116.68 |
| | | 1912.5 | 20.40 | 109.65 |
| 5.0 MHZ BAND 16QAM | 25/0 | 1852.5 | 19.58 | 90.78 |
| | | 1880.0 | **19.77** | 94.84 |
| | | 1912.5 | 19.64 | 92.04 |

**UAT EIRP POWER FOR LTE BAND 25 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0 MHZ BAND QPSK | 50/0 | 1855.0 | 20.21 | 104.95 |
| | | 1880.0 | 20.67 | 116.68 |
| | | 1910.0 | **21.46** | 139.96 |
| 10.0 MHZ BAND 16QAM | 50/0 | 1855.0 | 19.31 | 85.31 |
| | | 1880.0 | 19.77 | 94.84 |
| | | 1910.0 | **20.49** | 111.94 |


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**UAT EIRP POWER FOR LTE BAND 25 (15.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 15.0 MHZ BAND QPSK | 75/0 | 1857.5 | 19.81 | 95.72 |
| | | 1880.0 | 20.57 | 114.02 |
| | | 1907.5 | **20.67** | 116.68 |
| 15.0 MHZ BAND 16QAM | 75/0 | 1857.5 | 18.51 | 70.96 |
| | | 1880.0 | 19.57 | 90.57 |
| | | 1907.5 | **19.86** | 96.83 |

**UAT EIRP POWER FOR LTE BAND 25 (20.MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 20.0 MHZ BAND QPSK | 100/0 | 1860.0 | 20.60 | 114.82 |
| | | 1880.0 | **21.77** | 150.31 |
| | | 1905.0 | 20.72 | 118.03 |
| 20.0 MHZ BAND 16QAM | 100/0 | 1860.0 | 19.73 | 93.97 |
| | | 1880.0 | **20.69** | 117.22 |
| | | 1905.0 | 19.71 | 93.54 |

**LAT EIRP POWER FOR LTE BAND 26 (3.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 3.0 MHZ BAND QPSK | 1/0 | 820.3 | 20.30 | 107.15 |
| | | 821.3 | 20.33 | 107.89 |
| | | 822.3 | **20.61** | 115.08 |
| 3.0 MHZ BAND 16QAM | 1/0 | 820.3 | 19.37 | 86.50 |
| | | 821.3 | 19.32 | 85.51 |
| | | 822.3 | **19.68** | 92.90 |

**LAT EIRP POWER FOR LTE BAND 26 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5.0 MHZ BAND QPSK | 1/0 | 821.3 | **20.53** | 112.98 |
| 5.0 MHZ BAND 16QAM | 1/0 | 821.3 | **19.61** | 91.41 |


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**LAT EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0 MHZ BAND QPSK | 1/0 | 819.0 | **20.57** | 114.02 |
| 10.0 MHZ BAND 16QAM | 1/0 | 819.0 | **19.31** | 85.31 |

**UAT EIRP POWER FOR LTE BAND 26 (3.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 3.0 MHZ BAND QPSK | 1/0 | 820.3 | **18.59** | 72.28 |
| | | 821.3 | 18.35 | 68.39 |
| | | 822.3 | 18.42 | 69.50 |
| 3.0 MHZ BAND 16QAM | 1/0 | 820.3 | **17.62** | 57.81 |
| | | 821.3 | 17.38 | 54.70 |
| | | 822.3 | 17.53 | 56.62 |

**UAT EIRP POWER FOR LTE BAND 26 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5.0 MHZ BAND QPSK | 1/0 | 821.3 | **18.23** | 66.53 |
| 5.0 MHZ BAND 16QAM | 1/0 | 821.3 | **17.31** | 53.83 |

**UAT EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Average) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0 MHZ BAND QPSK | 1/0 | 819.0 | **18.45** | 69.98 |
| 10.0 MHZ BAND 16QAM | 1/0 | 819.0 | **17.54** | 56.75 |

**LAT EIRP POWER FOR LTE BAND 41 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Peak) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5.0 MHZ BAND QPSK | 25/0 | 2498.5 | **31.44** | 1393.16 |
| | | 2593.0 | 31.01 | 1261.83 |
| | | 2687.5 | 29.07 | 807.24 |
| 5.0 MHZ BAND 16QAM | 25/0 | 24.98.5 | **30.54** | 1132.40 |
| | | 2593.0 | 30.11 | 1025.65 |
| | | 2687.5 | 28.17 | 656.15 |


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**LAT EIRP POWER FOR LTE BAND 41 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Peak) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0 MHZ BAND QPSK | 50/0 | 2501.0 | **31.01** | 1261.83 |
| | | 2593.0 | 30.79 | 1199.50 |
| | | 2685.0 | 28.77 | 753.36 |
| 10.0 MHZ BAND 16QAM | 50/0 | 2501.0 | **30.11** | 1025.65 |
| | | 2593.0 | 29.89 | 974.99 |
| | | 2685.0 | 27.87 | 612.35 |

**LAT EIRP POWER FOR LTE BAND 41(15.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Peak) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 15.0 MHZ BAND QPSK | 75/0 | 2503.5 | **31.17** | 1309.18 |
| | | 2593.0 | 30.70 | 1174.90 |
| | | 2682.5 | 28.77 | 753.36 |
| 15.0 MHZ BAND 16QAM | 75/0 | 2503.5 | **30.17** | 1039.92 |
| | | 2593.0 | 29.70 | 933.25 |
| | | 2682.5 | 27.77 | 598.41 |

**LAT EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Peak) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 20.0 MHZ BAND QPSK | 100/0 | 2506.0 | **31.27** | 1339.68 |
| | | 2593.0 | 31.13 | 1297.18 |
| | | 2680.0 | 28.97 | 788.86 |
| 20.0 MHZ BAND 16QAM | 100/0 | 2506.0 | **30.27** | 1064.14 |
| | | 2593.0 | 30.13 | 1030.39 |
| | | 2680.0 | 27.97 | 626.61 |

**UAT EIRP POWER FOR LTE BAND 41 (5.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Peak) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 5.0 MHZ BAND QPSK | 25/0 | 2498.5 | **26.65** | 462.38 |
| | | 2593.0 | 26.23 | 419.76 |
| | | 2687.5 | 25.24 | 334.20 |
| 5.0 MHZ BAND 16QAM | 25/0 | 24.98.5 | **25.85** | 384.59 |
| | | 2593.0 | 25.43 | 349.14 |
| | | 2687.5 | 24.24 | 265.46 |


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**UAT EIRP POWER FOR LTE BAND 41 (10.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Peak) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 10.0 MHZ BAND QPSK | 50/0 | 2501.0 | **26.65** | 462.38 |
| | | 2593.0 | 26.43 | 439.54 |
| | | 2685.0 | 26.15 | 412.10 |
| 10.0 MHZ BAND 16QAM | 50/0 | 2501.0 | **25.75** | 375.84 |
| | | 2593.0 | 25.53 | 357.27 |
| | | 2685.0 | 25.25 | 334.97 |

**UAT EIRP POWER FOR LTE BAND 41 (15.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Peak) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 15.0 MHZ BAND QPSK | 75/0 | 2503.5 | 26.45 | 441.57 |
| | | 2593.0 | **26.58** | 454.99 |
| | | 2682.5 | 26.14 | 411.15 |
| 15.0 MHZ BAND 16QAM | 75/0 | 2503.5 | 25.60 | 363.08 |
| | | 2593.0 | **25.73** | 374.11 |
| | | 2682.5 | 25.29 | 338.06 |

**UAT EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)**

| Mode | RB/RB SIZE | f (MHz) | EIRP(Peak) | |
|---|---|---|---|---|
| | | | dBm | mW |
| 20.0 MHZ BAND QPSK | 100/0 | 2506.0 | 26.29 | 425.60 |
| | | 2593.0 | **26.39** | 435.51 |
| | | 2680.0 | 25.74 | 374.97 |
| 20.0 MHZ BAND 16QAM | 100/0 | 2506.0 | 25.39 | 345.94 |
| | | 2593.0 | **25.49** | 354.00 |
| | | 2680.0 | 24.84 | 304.79 |


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## 9.1.1. LTE BAND 2

**LAT QPSK EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)**

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 2 QPSK 1.4MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.851 | 18.5 | V | 0.98 | 7.88 | 25.39 | 33.0 | -7.6 | |
| 1.851 | 18.6 | H | 0.98 | 7.88 | 25.46 | 33.0 | -7.5 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 17.8 | V | 0.98 | 7.86 | 24.72 | 33.0 | -8.3 | |
| 1.880 | 19.6 | H | 0.98 | 7.86 | 26.44 | 33.0 | -6.6 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.909 | 17.8 | V | 0.98 | 7.84 | 24.64 | 33.0 | -8.4 | |
| 1.909 | 19.3 | H | 0.98 | 7.84 | 26.12 | 33.0 | -6.9 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 2 16QAM 1.4MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.851 | 17.6 | V | 0.98 | 7.88 | 24.49 | 33.0 | -8.5 | |
| 1.851 | 17.7 | H | 0.98 | 7.88 | 24.56 | 33.0 | -8.4 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 16.7 | V | 0.98 | 7.86 | 23.62 | 33.0 | -9.4 | |
| 1.880 | 18.6 | H | 0.98 | 7.86 | 25.44 | 33.0 | -7.6 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.909 | 16.8 | V | 0.98 | 7.84 | 23.64 | 33.0 | -9.4 | |
| 1.909 | 18.3 | H | 0.98 | 7.84 | 25.12 | 33.0 | -7.9 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 2 QPSK 3MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.852 | 18.5 | V | 0.98 | 7.88 | 25.39 | 33.0 | -7.6 | |
| 1.852 | 18.6 | H | 0.98 | 7.88 | 25.46 | 33.0 | -7.5 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 17.9 | V | 0.98 | 7.86 | 24.82 | 33.0 | -8.2 | |
| 1.880 | 19.8 | H | 0.98 | 7.86 | 26.64 | 33.0 | -6.4 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.909 | 17.9 | V | 0.98 | 7.84 | 24.74 | 33.0 | -8.3 | |
| 1.909 | 19.4 | H | 0.98 | 7.84 | 26.22 | 33.0 | -6.8 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 2 16QAM 3MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.852 | 17.6 | V | 0.98 | 7.88 | 24.49 | 33.0 | -8.5 | |
| 1.852 | 17.7 | H | 0.98 | 7.88 | 24.56 | 33.0 | -8.4 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 16.8 | V | 0.98 | 7.86 | 23.72 | 33.0 | -9.3 | |
| 1.880 | 18.7 | H | 0.98 | 7.86 | 25.54 | 33.0 | -7.5 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.909 | 16.9 | V | 0.98 | 7.84 | 23.74 | 33.0 | -9.3 | |
| 1.909 | 18.3 | H | 0.98 | 7.84 | 25.12 | 33.0 | -7.9 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 2 QPSK 5MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.853 | 18.2 | V | 0.98 | 7.88 | 25.09 | 33.0 | -7.9 | |
| 1.853 | 18.7 | H | 0.98 | 7.88 | 25.56 | 33.0 | -7.4 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 17.4 | V | 0.98 | 7.86 | 24.32 | 33.0 | -8.7 | |
| 1.880 | 19.5 | H | 0.98 | 7.86 | 26.34 | 33.0 | -6.7 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.908 | 17.7 | V | 0.98 | 7.84 | 24.54 | 33.0 | -8.5 | |
| 1.908 | 19.4 | H | 0.98 | 7.84 | 26.22 | 33.0 | -6.8 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 2 16QAM 5MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.853 | 17.2 | V | 0.98 | 7.88 | 24.09 | 33.0 | -8.9 | |
| 1.853 | 17.6 | H | 0.98 | 7.88 | 24.46 | 33.0 | -8.5 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 16.5 | V | 0.98 | 7.86 | 23.42 | 33.0 | -9.6 | |
| 1.880 | 18.7 | H | 0.98 | 7.86 | 25.54 | 33.0 | -7.5 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.908 | 16.7 | V | 0.98 | 7.84 | 23.54 | 33.0 | -9.5 | |
| 1.908 | 18.6 | H | 0.98 | 7.84 | 25.42 | 33.0 | -7.6 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 2 QPSK 10MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.855 | 18.5 | V | 0.98 | 7.88 | 25.39 | 33.0 | -7.6 | |
| 1.855 | 18.6 | H | 0.98 | 7.88 | 25.46 | 33.0 | -7.5 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 17.6 | V | 0.98 | 7.86 | 24.52 | 33.0 | -8.5 | |
| 1.880 | 19.7 | H | 0.98 | 7.86 | 26.54 | 33.0 | -6.5 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.905 | 18.4 | V | 0.98 | 7.84 | 25.24 | 33.0 | -7.8 | |
| 1.905 | 19.6 | H | 0.98 | 7.84 | 26.42 | 33.0 | -6.6 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 2 16QAM 10MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.855 | 17.6 | V | 0.98 | 7.88 | 24.49 | 33.0 | -8.5 | |
| 1.855 | 17.8 | H | 0.98 | 7.88 | 24.66 | 33.0 | -8.3 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 16.6 | V | 0.98 | 7.86 | 23.52 | 33.0 | -9.5 | |
| 1.880 | 18.8 | H | 0.98 | 7.86 | 25.64 | 33.0 | -7.4 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.905 | 17.4 | V | 0.98 | 7.84 | 24.24 | 33.0 | -8.8 | |
| 1.905 | 18.8 | H | 0.98 | 7.84 | 25.62 | 33.0 | -7.4 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 2 QPSK 15MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.858 | 18.7 | V | 0.98 | 7.88 | 25.59 | 33.0 | -7.4 | |
| 1.858 | 19.3 | H | 0.98 | 7.88 | 26.16 | 33.0 | -6.8 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 17.7 | V | 0.98 | 7.86 | 24.62 | 33.0 | -8.4 | |
| 1.880 | 19.5 | H | 0.98 | 7.86 | 26.34 | 33.0 | -6.7 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.903 | 18.3 | V | 0.98 | 7.84 | 25.14 | 33.0 | -7.9 | |
| 1.903 | 20.0 | H | 0.98 | 7.84 | 26.82 | 33.0 | -6.2 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 2 16QAM 15MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.858 | 17.8 | V | 0.98 | 7.88 | 24.69 | 33.0 | -8.3 | |
| 1.858 | 18.4 | H | 0.98 | 7.88 | 25.26 | 33.0 | -7.7 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 17.0 | V | 0.98 | 7.86 | 23.92 | 33.0 | -9.1 | |
| 1.880 | 19.0 | H | 0.98 | 7.86 | 25.84 | 33.0 | -7.2 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.903 | 17.5 | V | 0.98 | 7.84 | 24.34 | 33.0 | -8.7 | |
| 1.903 | 19.2 | H | 0.98 | 7.84 | 26.02 | 33.0 | -7.0 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 2 QPSK 20MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.860 | 17.4 | V | 0.98 | 7.88 | 24.26 | 33.0 | -8.7 | |
| 1.860 | 18.4 | H | 0.98 | 7.88 | 25.26 | 33.0 | -7.7 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 17.1 | V | 0.98 | 7.86 | 24.00 | 33.0 | -9.0 | |
| 1.880 | 18.7 | H | 0.98 | 7.86 | 25.54 | 33.0 | -7.5 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.900 | 17.5 | V | 0.98 | 7.84 | 24.37 | 33.0 | -8.6 | |
| 1.900 | 20.2 | H | 0.98 | 7.84 | 27.02 | 33.0 | -6.0 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 2 16QAM 20MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.860 | 16.9 | V | 0.98 | 7.88 | 23.79 | 33.0 | -9.2 | |
| 1.860 | 17.4 | H | 0.98 | 7.88 | 24.26 | 33.0 | -8.7 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 16.5 | V | 0.98 | 7.86 | 23.42 | 33.0 | -9.6 | |
| 1.880 | 17.4 | H | 0.98 | 7.86 | 24.24 | 33.0 | -8.8 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.900 | 16.6 | V | 0.98 | 7.84 | 23.43 | 33.0 | -9.6 | |
| 1.900 | 19.5 | H | 0.98 | 7.84 | 26.32 | 33.0 | -6.7 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 2 QPSK 1.4MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.851 | 10.9 | V | 0.98 | 8.61 | 18.49 | 33.0 | -14.5 | |
| 1.851 | 12.0 | H | 0.98 | 8.81 | 19.83 | 33.0 | -13.2 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 10.7 | V | 0.98 | 8.53 | 18.23 | 33.0 | -14.8 | |
| 1.880 | 11.7 | H | 0.98 | 8.68 | 19.40 | 33.0 | -13.6 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.909 | 11.7 | V | 0.98 | 8.45 | 19.18 | 33.0 | -13.8 | |
| 1.909 | 13.5 | H | 0.98 | 8.55 | 21.04 | 33.0 | -12.0 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 2 16QAM 1.4MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.851 | 10.0 | V | 0.98 | 8.61 | 17.59 | 33.0 | -15.4 | |
| 1.851 | 11.2 | H | 0.98 | 8.81 | 19.03 | 33.0 | -14.0 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 10.0 | V | 0.98 | 8.53 | 17.53 | 33.0 | -15.5 | |
| 1.880 | 10.6 | H | 0.98 | 8.68 | 18.30 | 33.0 | -14.7 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.909 | 10.5 | V | 0.98 | 8.45 | 17.98 | 33.0 | -15.0 | |
| 1.909 | 12.6 | H | 0.98 | 8.55 | 20.17 | 33.0 | -12.8 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 2 QPSK 3MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.852 | 11.0 | V | 0.98 | 8.61 | 18.59 | 33.0 | -14.4 | |
| 1.852 | 11.8 | H | 0.98 | 8.81 | 19.63 | 33.0 | -13.4 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 10.6 | V | 0.98 | 8.53 | 18.13 | 33.0 | -14.9 | |
| 1.880 | 12.9 | H | 0.98 | 8.68 | 20.60 | 33.0 | -12.4 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.909 | 11.1 | V | 0.98 | 8.45 | 18.58 | 33.0 | -14.4 | |
| 1.909 | 13.7 | H | 0.98 | 8.55 | 21.30 | 33.0 | -11.7 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 2 16QAM 3MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.852 | 11.0 | V | 0.98 | 8.61 | 18.59 | 33.0 | -14.4 | |
| 1.852 | 11.4 | H | 0.98 | 8.81 | 19.23 | 33.0 | -13.8 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 10.0 | V | 0.98 | 8.53 | 17.53 | 33.0 | -15.5 | |
| 1.880 | 12.1 | H | 0.98 | 8.68 | 19.80 | 33.0 | -13.2 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.909 | 10.2 | V | 0.98 | 8.45 | 17.68 | 33.0 | -15.3 | |
| 1.909 | 12.8 | H | 0.98 | 8.55 | 20.36 | 33.0 | -12.6 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 2 QPSK 5MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.853 | 10.8 | V | 0.98 | 8.61 | 18.39 | 33.0 | -14.6 | |
| 1.853 | 11.9 | H | 0.98 | 8.81 | 19.73 | 33.0 | -13.3 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 10.9 | V | 0.98 | 8.53 | 18.43 | 33.0 | -14.6 | |
| 1.880 | 12.7 | H | 0.98 | 8.68 | 20.40 | 33.0 | -12.6 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.908 | 11.0 | V | 0.98 | 8.45 | 18.48 | 33.0 | -14.5 | |
| 1.908 | 13.1 | H | 0.98 | 8.55 | 20.68 | 33.0 | -12.3 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 2 16QAM 5MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.853 | 10.5 | V | 0.98 | 8.61 | 18.09 | 33.0 | -14.9 | |
| 1.853 | 11.6 | H | 0.98 | 8.81 | 19.43 | 33.0 | -13.6 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 9.9 | V | 0.98 | 8.53 | 17.43 | 33.0 | -15.6 | |
| 1.880 | 11.8 | H | 0.98 | 8.68 | 19.50 | 33.0 | -13.5 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.908 | 10.1 | V | 0.98 | 8.45 | 17.58 | 33.0 | -15.4 | |
| 1.908 | 12.8 | H | 0.98 | 8.55 | 20.36 | 33.0 | -12.6 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 2 QPSK 10MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.855 | 11.9 | V | 0.98 | 8.61 | 19.48 | 33.0 | -13.5 | |
| 1.855 | 12.7 | H | 0.98 | 8.81 | 20.53 | 33.0 | -12.5 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 11.0 | V | 0.98 | 8.53 | 18.53 | 33.0 | -14.5 | |
| 1.880 | 12.8 | H | 0.98 | 8.68 | 20.50 | 33.0 | -12.5 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.905 | 11.2 | V | 0.98 | 8.45 | 18.67 | 33.0 | -14.3 | |
| 1.905 | 13.8 | H | 0.98 | 8.55 | 21.33 | 33.0 | -11.7 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 2 16QAM 10MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.855 | 10.8 | V | 0.98 | 8.61 | 18.38 | 33.0 | -14.6 | |
| 1.855 | 11.9 | H | 0.98 | 8.81 | 19.73 | 33.0 | -13.3 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 10.1 | V | 0.98 | 8.53 | 17.63 | 33.0 | -15.4 | |
| 1.880 | 12.3 | H | 0.98 | 8.68 | 20.00 | 33.0 | -13.0 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.905 | 10.2 | V | 0.98 | 8.45 | 17.67 | 33.0 | -15.3 | |
| 1.905 | 13.1 | H | 0.98 | 8.55 | 20.63 | 33.0 | -12.4 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 2 QPSK 15MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.858 | 11.3 | V | 0.98 | 8.61 | 18.88 | 33.0 | -14.1 | |
| 1.858 | 12.2 | H | 0.98 | 8.81 | 20.03 | 33.0 | -13.0 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 11.2 | V | 0.98 | 8.53 | 18.73 | 33.0 | -14.3 | |
| 1.880 | 12.5 | H | 0.98 | 8.68 | 20.20 | 33.0 | -12.8 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.903 | 11.5 | V | 0.98 | 8.45 | 18.97 | 33.0 | -14.0 | |
| 1.903 | 13.4 | H | 0.98 | 8.55 | 21.01 | 33.0 | -12.0 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 2 16QAM 15MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.858 | 10.3 | V | 0.98 | 8.61 | 17.88 | 33.0 | -15.1 | |
| 1.858 | 12.3 | H | 0.98 | 8.81 | 20.09 | 33.0 | -12.9 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 10.1 | V | 0.98 | 8.53 | 17.63 | 33.0 | -15.4 | |
| 1.880 | 12.7 | H | 0.98 | 8.68 | 20.43 | 33.0 | -12.6 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.903 | 10.4 | V | 0.98 | 8.45 | 17.87 | 33.0 | -15.1 | |
| 1.903 | 12.3 | H | 0.98 | 8.55 | 19.83 | 33.0 | -13.2 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 2 QPSK 20MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.860 | 10.5 | V | 0.98 | 8.61 | 18.11 | 33.0 | -14.9 | |
| 1.860 | 11.9 | H | 0.98 | 8.81 | 19.73 | 33.0 | -13.3 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 10.6 | V | 0.98 | 8.53 | 18.13 | 33.0 | -14.9 | |
| 1.880 | 12.5 | H | 0.98 | 8.68 | 20.20 | 33.0 | -12.8 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.900 | 11.2 | V | 0.98 | 8.45 | 18.62 | 33.0 | -14.4 | |
| 1.900 | 13.3 | H | 0.98 | 8.55 | 20.86 | 33.0 | -12.1 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 2 16QAM 20MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.860 | 9.5 | V | 0.98 | 8.61 | 17.11 | 33.0 | -15.9 | |
| 1.860 | 11.0 | H | 0.98 | 8.81 | 18.83 | 33.0 | -14.2 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.880 | 9.6 | V | 0.98 | 8.53 | 17.13 | 33.0 | -15.9 | |
| 1.880 | 11.7 | H | 0.98 | 8.68 | 19.40 | 33.0 | -13.6 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.900 | 10.2 | V | 0.98 | 8.45 | 17.62 | 33.0 | -15.4 | |
| 1.900 | 12.3 | H | 0.98 | 8.55 | 19.84 | 33.0 | -13.2 | |

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## 9.1.2. LTE BAND 4

**LAT QPSK EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)**

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 4 QPSK 1.4MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.711 | 14.9 | V | 0.95 | 8.25 | 22.18 | 30.0 | -7.8 | |
| 1.711 | 17.2 | H | 0.95 | 8.25 | 24.46 | 30.0 | -5.5 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 16.5 | V | 0.95 | 8.17 | 23.71 | 30.0 | -6.3 | |
| 1.733 | 17.2 | H | 0.95 | 8.17 | 24.42 | 30.0 | -5.6 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.754 | 17.1 | V | 0.95 | 8.09 | 24.21 | 30.0 | -5.8 | |
| 1.754 | 17.2 | H | 0.95 | 8.09 | 24.37 | 30.0 | -5.6 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 4 16QAM 1.4MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.711 | 14.3 | V | 0.95 | 8.25 | 21.58 | 30.0 | -8.4 | |
| 1.711 | 16.3 | H | 0.95 | 8.25 | 23.56 | 30.0 | -6.4 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 15.5 | V | 0.95 | 8.17 | 22.71 | 30.0 | -7.3 | |
| 1.733 | 16.2 | H | 0.95 | 8.17 | 23.42 | 30.0 | -6.6 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.754 | 16.1 | V | 0.95 | 8.09 | 23.21 | 30.0 | -6.8 | |
| 1.754 | 16.3 | H | 0.95 | 8.09 | 23.47 | 30.0 | -6.5 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 4 QPSK 3MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.712 | 15.3 | V | 0.95 | 8.25 | 22.58 | 30.0 | -7.4 | |
| 1.712 | 17.6 | H | 0.95 | 8.25 | 24.86 | 30.0 | -5.1 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 15.4 | V | 0.95 | 8.17 | 22.61 | 30.0 | -7.4 | |
| 1.733 | 17.0 | H | 0.95 | 8.17 | 24.22 | 30.0 | -5.8 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.754 | 16.9 | V | 0.95 | 8.09 | 24.01 | 30.0 | -6.0 | |
| 1.754 | 17.5 | H | 0.95 | 8.09 | 24.67 | 30.0 | -5.3 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 4 16QAM 3MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.712 | 14.4 | V | 0.95 | 8.25 | 21.68 | 30.0 | -8.3 | |
| 1.712 | 16.5 | H | 0.95 | 8.25 | 23.76 | 30.0 | -6.2 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 15.9 | V | 0.95 | 8.17 | 23.11 | 30.0 | -6.9 | |
| 1.733 | 16.4 | H | 0.95 | 8.17 | 23.60 | 30.0 | -6.4 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.754 | 16.2 | V | 0.95 | 8.09 | 23.31 | 30.0 | -6.7 | |
| 1.754 | 16.4 | H | 0.95 | 8.09 | 23.56 | 30.0 | -6.4 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 4 QPSK 5MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.713 | 14.9 | V | 0.95 | 8.25 | 22.18 | 30.0 | -7.8 | |
| 1.713 | 17.3 | H | 0.95 | 8.25 | 24.61 | 30.0 | -5.4 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 16.3 | V | 0.95 | 8.17 | 23.51 | 30.0 | -6.5 | |
| 1.733 | 17.0 | H | 0.95 | 8.17 | 24.22 | 30.0 | -5.8 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.753 | 16.9 | V | 0.95 | 8.09 | 24.01 | 30.0 | -6.0 | |
| 1.753 | 17.7 | H | 0.95 | 8.09 | 24.89 | 30.0 | -5.1 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 4 16QAM 5MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.713 | 14.0 | V | 0.95 | 8.25 | 21.28 | 30.0 | -8.7 | |
| 1.713 | 16.3 | H | 0.95 | 8.25 | 23.63 | 30.0 | -6.4 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 15.3 | V | 0.95 | 8.17 | 22.55 | 30.0 | -7.5 | |
| 1.733 | 16.5 | H | 0.95 | 8.17 | 23.72 | 30.0 | -6.3 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.753 | 16.0 | V | 0.95 | 8.09 | 23.11 | 30.0 | -6.9 | |
| 1.753 | 16.9 | H | 0.95 | 8.09 | 24.07 | 30.0 | -5.9 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 4 QPSK 10MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.715 | 15.5 | V | 0.95 | 8.25 | 22.78 | 30.0 | -7.2 | |
| 1.715 | 17.7 | H | 0.95 | 8.25 | 25.01 | 30.0 | -5.0 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 15.9 | V | 0.95 | 8.17 | 23.11 | 30.0 | -6.9 | |
| 1.733 | 17.0 | H | 0.95 | 8.17 | 24.22 | 30.0 | -5.8 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.750 | 16.5 | V | 0.95 | 8.09 | 23.61 | 30.0 | -6.4 | |
| 1.750 | 17.2 | H | 0.95 | 8.09 | 24.37 | 30.0 | -5.6 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 4 16QAM 10MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.715 | 14.5 | V | 0.95 | 8.25 | 21.78 | 30.0 | -8.2 | |
| 1.715 | 16.6 | H | 0.95 | 8.25 | 23.86 | 30.0 | -6.1 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 15.0 | V | 0.95 | 8.17 | 22.21 | 30.0 | -7.8 | |
| 1.733 | 15.8 | H | 0.95 | 8.17 | 23.02 | 30.0 | -7.0 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.750 | 15.5 | V | 0.95 | 8.09 | 22.61 | 30.0 | -7.4 | |
| 1.750 | 16.7 | H | 0.95 | 8.09 | 23.87 | 30.0 | -6.1 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 4 QPSK 15MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.718 | 15.5 | V | 0.95 | 8.25 | 22.77 | 30.0 | -7.2 | |
| 1.718 | 18.1 | H | 0.95 | 8.25 | 25.38 | 30.0 | -4.6 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 15.0 | V | 0.95 | 8.17 | 22.22 | 30.0 | -7.8 | |
| 1.733 | 17.2 | H | 0.95 | 8.17 | 24.42 | 30.0 | -5.6 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.748 | 15.9 | V | 0.95 | 8.09 | 23.01 | 30.0 | -7.0 | |
| 1.748 | 17.7 | H | 0.95 | 8.09 | 24.87 | 30.0 | -5.1 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 4 16QAM 15MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.718 | 14.7 | V | 0.95 | 8.25 | 21.98 | 30.0 | -8.0 | |
| 1.718 | 17.2 | H | 0.95 | 8.25 | 24.49 | 30.0 | -5.5 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 14.7 | V | 0.95 | 8.17 | 21.91 | 30.0 | -8.1 | |
| 1.733 | 16.3 | H | 0.95 | 8.17 | 23.52 | 30.0 | -6.5 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.748 | 16.2 | V | 0.95 | 8.09 | 23.31 | 30.0 | -6.7 | |
| 1.748 | 16.8 | H | 0.95 | 8.09 | 23.90 | 30.0 | -6.1 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 4 QPSK 20MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.720 | 15.4 | V | 0.95 | 8.25 | 22.74 | 30.0 | -7.3 | |
| 1.720 | 17.9 | H | 0.95 | 8.25 | 25.23 | 30.0 | -4.8 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 15.9 | V | 0.95 | 8.17 | 23.10 | 30.0 | -6.9 | |
| 1.733 | 17.2 | H | 0.95 | 8.17 | 24.42 | 30.0 | -5.6 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.745 | 16.3 | V | 0.95 | 8.09 | 23.41 | 30.0 | -6.6 | |
| 1.745 | 17.2 | H | 0.95 | 8.09 | 24.37 | 30.0 | -5.6 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 4 16QAM 20MHz BW

**Test Equipment:**
**Receiving: Horn T344 and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.720 | 14.4 | V | 0.95 | 8.25 | 21.73 | 30.0 | -8.3 | |
| 1.720 | 17.0 | H | 0.95 | 8.25 | 24.26 | 30.0 | -5.7 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 15.2 | V | 0.95 | 8.17 | 22.41 | 30.0 | -7.6 | |
| 1.733 | 16.4 | H | 0.95 | 8.17 | 23.62 | 30.0 | -6.4 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.745 | 15.1 | V | 0.95 | 8.09 | 22.21 | 30.0 | -7.8 | |
| 1.745 | 16.4 | H | 0.95 | 8.09 | 23.57 | 30.0 | -6.4 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 4 QPSK 1.4MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.711 | 11.9 | V | 0.95 | 8.42 | 19.33 | 30.0 | -10.7 | |
| 1.711 | 12.4 | H | 0.95 | 8.60 | 20.05 | 30.0 | -10.0 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 11.4 | V | 0.95 | 8.50 | 18.95 | 30.0 | -11.1 | |
| 1.733 | 12.0 | H | 0.95 | 8.70 | 19.71 | 30.0 | -10.3 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.754 | 12.4 | V | 0.95 | 8.57 | 20.02 | 30.0 | -10.0 | |
| 1.754 | 12.3 | H | 0.95 | 8.80 | 20.13 | 30.0 | -9.9 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 4 16QAM 1.4MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.711 | 10.9 | V | 0.95 | 8.42 | 18.38 | 30.0 | -11.6 | |
| 1.711 | 11.4 | H | 0.95 | 8.60 | 19.08 | 30.0 | -10.9 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 10.5 | V | 0.95 | 8.50 | 18.07 | 30.0 | -11.9 | |
| 1.733 | 11.1 | H | 0.95 | 8.70 | 18.80 | 30.0 | -11.2 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.754 | 11.6 | V | 0.95 | 8.57 | 19.17 | 30.0 | -10.8 | |
| 1.754 | 11.5 | H | 0.95 | 8.80 | 19.33 | 30.0 | -10.7 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 4 QPSK 3MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin EIRP (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.712 | 12.4 | V | 0.95 | 8.42 | 19.83 | 30.0 | -10.2 | |
| 1.712 | 12.5 | H | 0.95 | 8.60 | 20.11 | 30.0 | -9.9 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 11.5 | V | 0.95 | 8.50 | 19.05 | 30.0 | -11.0 | |
| 1.733 | 11.6 | H | 0.95 | 8.70 | 19.35 | 30.0 | -10.7 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.754 | 11.9 | V | 0.95 | 8.57 | 19.52 | 30.0 | -10.5 | |
| 1.754 | 12.3 | H | 0.95 | 8.80 | 20.13 | 30.0 | -9.9 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 4 16QAM 3MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.712 | 11.5 | V | 0.95 | 8.42 | 18.96 | 30.0 | -11.0 | |
| 1.712 | 11.5 | H | 0.95 | 8.60 | 19.18 | 30.0 | -10.8 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 10.6 | V | 0.95 | 8.50 | 18.17 | 30.0 | -11.8 | |
| 1.733 | 10.7 | H | 0.95 | 8.70 | 18.41 | 30.0 | -11.6 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.754 | 11.3 | V | 0.95 | 8.57 | 18.88 | 30.0 | -11.1 | |
| 1.754 | 11.6 | H | 0.95 | 8.80 | 19.43 | 30.0 | -10.6 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 4 QPSK 5MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.713 | 12.1 | V | 0.95 | 8.42 | 19.57 | 30.0 | -10.4 | |
| 1.713 | 12.3 | H | 0.95 | 8.60 | 19.91 | 30.0 | -10.1 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 11.2 | V | 0.95 | 8.50 | 18.75 | 30.0 | -11.3 | |
| 1.733 | 11.3 | H | 0.95 | 8.70 | 19.06 | 30.0 | -10.9 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.753 | 10.7 | V | 0.95 | 8.57 | 18.32 | 30.0 | -11.7 | |
| 1.753 | 12.8 | H | 0.95 | 8.80 | 20.63 | 30.0 | -9.4 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 4 16QAM 5MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.713 | 11.1 | V | 0.95 | 8.42 | 18.55 | 30.0 | -11.5 | |
| 1.713 | 11.4 | H | 0.95 | 8.60 | 19.04 | 30.0 | -11.0 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 10.4 | V | 0.95 | 8.50 | 17.91 | 30.0 | -12.1 | |
| 1.733 | 10.4 | H | 0.95 | 8.70 | 18.11 | 30.0 | -11.9 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.753 | 9.8 | V | 0.95 | 8.57 | 17.41 | 30.0 | -12.6 | |
| 1.753 | 11.9 | H | 0.95 | 8.80 | 19.75 | 30.0 | -10.2 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 4 QPSK 10MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin EIRP (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.715 | 11.8 | V | 0.95 | 8.42 | 19.24 | 30.0 | -10.8 | |
| 1.715 | 12.7 | H | 0.95 | 8.60 | 20.36 | 30.0 | -9.6 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 11.3 | V | 0.95 | 8.50 | 18.85 | 30.0 | -11.2 | |
| 1.733 | 12.3 | H | 0.95 | 8.70 | 20.09 | 30.0 | -9.9 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.750 | 10.7 | V | 0.95 | 8.57 | 18.32 | 30.0 | -11.7 | |
| 1.750 | 13.0 | H | 0.95 | 8.80 | 20.83 | 30.0 | -9.2 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 4 16QAM 10MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.715 | 10.7 | V | 0.95 | 8.42 | 18.16 | 30.0 | -11.8 | |
| 1.715 | 11.7 | H | 0.95 | 8.60 | 19.32 | 30.0 | -10.7 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 10.4 | V | 0.95 | 8.50 | 17.93 | 30.0 | -12.1 | |
| 1.733 | 11.5 | H | 0.95 | 8.70 | 19.20 | 30.0 | -10.8 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.750 | 9.8 | V | 0.95 | 8.57 | 17.41 | 30.0 | -12.6 | |
| 1.750 | 12.1 | H | 0.95 | 8.80 | 19.90 | 30.0 | -10.1 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 4 QPSK 15MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin EIRP (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.718 | 12.1 | V | 0.95 | 8.42 | 19.54 | 30.0 | -10.5 | |
| 1.718 | 13.4 | H | 0.95 | 8.60 | 21.03 | 30.0 | -9.0 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 11.5 | V | 0.95 | 8.50 | 19.05 | 30.0 | -11.0 | |
| 1.733 | 12.1 | H | 0.95 | 8.70 | 19.88 | 30.0 | -10.1 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.748 | 10.7 | V | 0.95 | 8.57 | 18.32 | 30.0 | -11.7 | |
| 1.748 | 13.4 | H | 0.95 | 8.80 | 21.23 | 30.0 | -8.8 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 4 QPSK 15MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.718 | 11.2 | V | 0.95 | 8.42 | 18.65 | 30.0 | -11.4 | |
| 1.718 | 12.5 | H | 0.95 | 8.60 | 20.12 | 30.0 | -9.9 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 10.6 | V | 0.95 | 8.50 | 18.12 | 30.0 | -11.9 | |
| 1.733 | 11.8 | H | 0.95 | 8.70 | 19.51 | 30.0 | -10.5 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.748 | 9.8 | V | 0.95 | 8.57 | 17.44 | 30.0 | -12.6 | |
| 1.748 | 12.7 | H | 0.95 | 8.80 | 20.53 | 30.0 | -9.5 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 4 QPSK 20MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin EIRP (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.720 | 11.7 | V | 0.95 | 8.42 | 19.17 | 30.0 | -10.8 | |
| 1.720 | 12.6 | H | 0.95 | 8.60 | 20.28 | 30.0 | -9.7 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 11.1 | V | 0.95 | 8.50 | 18.65 | 30.0 | -11.4 | |
| 1.733 | 12.3 | H | 0.95 | 8.70 | 20.01 | 30.0 | -10.0 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.745 | 10.9 | V | 0.95 | 8.57 | 18.50 | 30.0 | -11.5 | |
| 1.745 | 13.0 | H | 0.95 | 8.80 | 20.85 | 30.0 | -9.2 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber F**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/09/14
**Test Engineer:** R.Zheng
**Configuration:** EUT only
**Mode:** LTE Band 4 16QAM 20MHz BW

**Test Equipment:**
**Receiving: Horn T120 and Chamber F SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.720 | 10.8 | V | 0.95 | 8.42 | 18.22 | 30.0 | -11.8 | |
| 1.720 | 11.8 | H | 0.95 | 8.60 | 19.45 | 30.0 | -10.6 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.733 | 10.3 | V | 0.95 | 8.50 | 17.82 | 30.0 | -12.2 | |
| 1.733 | 11.4 | H | 0.95 | 8.70 | 19.14 | 30.0 | -10.9 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.745 | 10.0 | V | 0.95 | 8.57 | 17.62 | 30.0 | -12.4 | |
| 1.745 | 12.1 | H | 0.95 | 8.80 | 19.95 | 30.0 | -10.1 | |

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## 9.1.3. LTE BAND 5

**LAT QPSK EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)**

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 5 QPSK 1.4MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | ERIP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 824.70 | 14.87 | V | 0.6 | 0.0 | 14.25 | 16.40 | 38.45 | 40.60 | -24.2 | |
| 824.70 | 20.48 | H | 0.6 | 0.0 | 19.86 | 22.01 | 38.45 | 40.60 | -18.6 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 13.55 | V | 0.6 | 0.0 | 12.93 | 15.08 | 38.45 | 40.60 | -25.5 | |
| 836.50 | 20.05 | H | 0.6 | 0.0 | 19.43 | 21.58 | 38.45 | 40.60 | -19.0 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 848.30 | 13.25 | V | 0.6 | 0.0 | 12.63 | 14.78 | 38.45 | 40.60 | -25.8 | |
| 848.30 | 19.99 | H | 0.6 | 0.0 | 19.37 | 21.52 | 38.45 | 40.60 | -19.1 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 5 16QAM 1.4MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 824.70 | 13.88 | V | 0.6 | 0.0 | 13.26 | 15.41 | 38.45 | 40.60 | -25.2 | |
| 824.70 | 19.06 | H | 0.6 | 0.0 | 18.44 | 20.59 | 38.45 | 40.60 | -20.0 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 12.58 | V | 0.6 | 0.0 | 11.96 | 14.11 | 38.45 | 40.60 | -26.5 | |
| 836.50 | 19.09 | H | 0.6 | 0.0 | 18.47 | 20.62 | 38.45 | 40.60 | -20.0 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 848.30 | 12.34 | V | 0.6 | 0.0 | 11.72 | 13.87 | 38.45 | 40.60 | -26.7 | |
| 848.30 | 19.06 | H | 0.6 | 0.0 | 18.44 | 20.59 | 38.45 | 40.60 | -20.0 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 5 QPSK 3MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 825.50 | 15.30 | V | 0.6 | 0.0 | 14.68 | 16.83 | 38.45 | 40.60 | -23.8 | |
| 825.50 | 20.51 | H | 0.6 | 0.0 | 19.89 | 22.04 | 38.45 | 40.60 | -18.6 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 13.83 | V | 0.6 | 0.0 | 13.21 | 15.36 | 38.45 | 40.60 | -25.2 | |
| 836.50 | 20.08 | H | 0.6 | 0.0 | 19.46 | 21.61 | 38.45 | 40.60 | -19.0 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 847.50 | 13.15 | V | 0.6 | 0.0 | 12.53 | 14.68 | 38.45 | 40.60 | -25.9 | |
| 847.50 | 20.19 | H | 0.6 | 0.0 | 19.57 | 21.72 | 38.45 | 40.60 | -18.9 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 5 16QAM 3MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 825.50 | 14.40 | V | 0.6 | 0.0 | 13.78 | 15.93 | 38.45 | 40.60 | -24.7 | |
| 825.50 | 19.49 | H | 0.6 | 0.0 | 18.87 | 21.02 | 38.45 | 40.60 | -19.6 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 12.97 | V | 0.6 | 0.0 | 12.35 | 14.50 | 38.45 | 40.60 | -26.1 | |
| 836.50 | 19.21 | H | 0.6 | 0.0 | 18.59 | 20.74 | 38.45 | 40.60 | -19.9 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 847.50 | 12.18 | V | 0.6 | 0.0 | 11.56 | 13.71 | 38.45 | 40.60 | -26.9 | |
| 847.50 | 19.28 | H | 0.6 | 0.0 | 18.66 | 20.81 | 38.45 | 40.60 | -19.8 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 5 QPSK 5MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 826.50 | 14.33 | V | 0.6 | 0.0 | 13.71 | 15.86 | 38.45 | 40.60 | -24.7 | |
| 826.50 | 19.56 | H | 0.6 | 0.0 | 18.94 | 21.09 | 38.45 | 40.60 | -19.5 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 14.05 | V | 0.6 | 0.0 | 13.43 | 15.58 | 38.45 | 40.60 | -25.0 | |
| 836.50 | 19.90 | H | 0.6 | 0.0 | 19.28 | 21.43 | 38.45 | 40.60 | -19.2 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 846.50 | 13.95 | V | 0.6 | 0.0 | 13.33 | 15.48 | 38.45 | 40.60 | -25.1 | |
| 846.50 | 20.17 | H | 0.6 | 0.0 | 19.55 | 21.70 | 38.45 | 40.60 | -18.9 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 5 16QAM 5MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 826.50 | 13.33 | V | 0.6 | 0.0 | 12.71 | 14.86 | 38.45 | 40.60 | -25.7 | |
| 826.50 | 18.56 | H | 0.6 | 0.0 | 17.94 | 20.09 | 38.45 | 40.60 | -20.5 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 13.21 | V | 0.6 | 0.0 | 12.59 | 14.74 | 38.45 | 40.60 | -25.9 | |
| 836.50 | 18.99 | H | 0.6 | 0.0 | 18.37 | 20.52 | 38.45 | 40.60 | -20.1 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 846.50 | 12.54 | V | 0.6 | 0.0 | 11.92 | 14.07 | 38.45 | 40.60 | -26.5 | |
| 846.50 | 19.25 | H | 0.6 | 0.0 | 18.63 | 20.78 | 38.45 | 40.60 | -19.8 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 5 QPSK 10MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 829.00 | 14.33 | V | 0.6 | 0.0 | 13.71 | 15.86 | 38.45 | 40.60 | -24.7 | |
| 829.00 | 20.06 | H | 0.6 | 0.0 | 19.44 | 21.59 | 38.45 | 40.60 | -19.0 | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 14.19 | V | 0.6 | 0.0 | 13.57 | 15.72 | 38.45 | 40.60 | -24.9 | |
| 836.50 | 20.22 | H | 0.6 | 0.0 | 19.60 | 21.75 | 38.45 | 40.60 | -18.8 | |
| High Ch | | | | | | | | | | |
| 844.00 | 13.65 | V | 0.6 | 0.0 | 13.03 | 15.18 | 38.45 | 40.60 | -25.4 | |
| 844.00 | 19.89 | H | 0.6 | 0.0 | 19.27 | 21.42 | 38.45 | 40.60 | -19.2 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 5 16QAM 10MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 829.00 | 12.83 | V | 0.6 | 0.0 | 12.21 | 14.36 | 38.45 | 40.60 | -26.2 | |
| 829.00 | 19.16 | H | 0.6 | 0.0 | 18.54 | 20.69 | 38.45 | 40.60 | -19.9 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 13.18 | V | 0.6 | 0.0 | 12.56 | 14.71 | 38.45 | 40.60 | -25.9 | |
| 836.50 | 19.02 | H | 0.6 | 0.0 | 18.40 | 20.55 | 38.45 | 40.60 | -20.0 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 844.00 | 12.71 | V | 0.6 | 0.0 | 12.09 | 14.24 | 38.45 | 40.60 | -26.4 | |
| 844.00 | 19.03 | H | 0.6 | 0.0 | 18.41 | 20.56 | 38.45 | 40.60 | -20.0 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 5 QPSK 1.4MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | ERIP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 824.70 | 11.33 | V | 0.6 | 0.0 | 10.71 | 12.86 | 38.45 | 40.60 | -27.7 | |
| 824.70 | 18.76 | H | 0.6 | 0.0 | 18.14 | 20.29 | 38.45 | 40.60 | -20.3 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 10.25 | V | 0.6 | 0.0 | 9.63 | 11.78 | 38.45 | 40.60 | -28.8 | |
| 836.50 | 18.72 | H | 0.6 | 0.0 | 18.10 | 20.25 | 38.45 | 40.60 | -20.3 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 848.30 | 10.45 | V | 0.6 | 0.0 | 9.83 | 11.98 | 38.45 | 40.60 | -28.6 | |
| 848.30 | 18.89 | H | 0.6 | 0.0 | 18.27 | 20.42 | 38.45 | 40.60 | -20.2 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 5 16QAM 1.4MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 824.70 | 10.43 | V | 0.6 | 0.0 | 9.81 | 11.96 | 38.45 | 40.60 | -28.6 | |
| 824.70 | 17.76 | H | 0.6 | 0.0 | 17.14 | 19.29 | 38.45 | 40.60 | -21.3 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 9.25 | V | 0.6 | 0.0 | 8.63 | 10.78 | 38.45 | 40.60 | -29.8 | |
| 836.50 | 17.79 | H | 0.6 | 0.0 | 17.17 | 19.32 | 38.45 | 40.60 | -21.3 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 848.30 | 9.35 | V | 0.6 | 0.0 | 8.73 | 10.88 | 38.45 | 40.60 | -29.7 | |
| 848.30 | 18.00 | H | 0.6 | 0.0 | 17.38 | 19.53 | 38.45 | 40.60 | -21.1 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 5 QPSK 3MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 825.50 | 8.83 | V | 0.6 | 0.0 | 8.21 | 10.36 | 38.45 | 40.60 | -30.2 | |
| 825.50 | 18.86 | H | 0.6 | 0.0 | 18.24 | 20.39 | 38.45 | 40.60 | -20.2 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 9.55 | V | 0.6 | 0.0 | 8.93 | 11.08 | 38.45 | 40.60 | -29.5 | |
| 836.50 | 18.97 | H | 0.6 | 0.0 | 18.35 | 20.50 | 38.45 | 40.60 | -20.1 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 847.50 | 9.95 | V | 0.6 | 0.0 | 9.33 | 11.48 | 38.45 | 40.60 | -29.1 | |
| 847.50 | 19.14 | H | 0.6 | 0.0 | 18.52 | 20.67 | 38.45 | 40.60 | -19.9 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 5 16QAM 3MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 825.50 | 9.23 | V | 0.6 | 0.0 | 8.61 | 10.76 | 38.45 | 40.60 | -29.8 | |
| 825.50 | 17.96 | H | 0.6 | 0.0 | 17.34 | 19.49 | 38.45 | 40.60 | -21.1 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 9.35 | V | 0.6 | 0.0 | 8.73 | 10.88 | 38.45 | 40.60 | -29.7 | |
| 836.50 | 17.85 | H | 0.6 | 0.0 | 17.23 | 19.38 | 38.45 | 40.60 | -21.2 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 847.50 | 9.55 | V | 0.6 | 0.0 | 8.93 | 11.08 | 38.45 | 40.60 | -29.5 | |
| 847.50 | 18.39 | H | 0.6 | 0.0 | 17.77 | 19.92 | 38.45 | 40.60 | -20.7 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 5 QPSK 5MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 826.50 | 10.33 | V | 0.6 | 0.0 | 9.71 | 11.86 | 38.45 | 40.60 | -28.7 | |
| 826.50 | 19.05 | H | 0.6 | 0.0 | 18.43 | 20.58 | 38.45 | 40.60 | -20.0 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 10.15 | V | 0.6 | 0.0 | 9.53 | 11.68 | 38.45 | 40.60 | -28.9 | |
| 836.50 | 18.75 | H | 0.6 | 0.0 | 18.13 | 20.28 | 38.45 | 40.60 | -20.3 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 846.50 | 9.65 | V | 0.6 | 0.0 | 9.03 | 11.18 | 38.45 | 40.60 | -29.4 | |
| 846.50 | 19.30 | H | 0.6 | 0.0 | 18.68 | 20.83 | 38.45 | 40.60 | -19.8 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 5 16QAM 5MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 826.50 | 10.13 | V | 0.6 | 0.0 | 9.51 | 11.66 | 38.45 | 40.60 | -28.9 | |
| 826.50 | 17.95 | H | 0.6 | 0.0 | 17.33 | 19.48 | 38.45 | 40.60 | -21.1 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 10.15 | V | 0.6 | 0.0 | 9.53 | 11.68 | 38.45 | 40.60 | -28.9 | |
| 836.50 | 17.61 | H | 0.6 | 0.0 | 16.99 | 19.14 | 38.45 | 40.60 | -21.5 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 846.50 | 9.55 | V | 0.6 | 0.0 | 8.93 | 11.08 | 38.45 | 40.60 | -29.5 | |
| 846.50 | 17.99 | H | 0.6 | 0.0 | 17.37 | 19.52 | 38.45 | 40.60 | -21.1 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 5 QPSK 10MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 829.00 | 10.53 | V | 0.6 | 0.0 | 9.91 | 12.06 | 38.45 | 40.60 | -28.5 | |
| 829.00 | 19.26 | H | 0.6 | 0.0 | 18.64 | 20.79 | 38.45 | 40.60 | -19.8 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 10.15 | V | 0.6 | 0.0 | 9.53 | 11.68 | 38.45 | 40.60 | -28.9 | |
| 836.50 | 18.72 | H | 0.6 | 0.0 | 18.10 | 20.25 | 38.45 | 40.60 | -20.3 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 844.00 | 10.05 | V | 0.6 | 0.0 | 9.43 | 11.58 | 38.45 | 40.60 | -29.0 | |
| 844.00 | 19.11 | H | 0.6 | 0.0 | 18.49 | 20.64 | 38.45 | 40.60 | -20.0 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 5 16QAM 10MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 829.00 | 10.43 | V | 0.6 | 0.0 | 9.81 | 11.96 | 38.45 | 40.60 | -28.6 | |
| 829.00 | 17.86 | H | 0.6 | 0.0 | 17.24 | 19.39 | 38.45 | 40.60 | -21.2 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 836.50 | 8.15 | V | 0.6 | 0.0 | 7.53 | 9.68 | 38.45 | 40.60 | -30.9 | |
| 836.50 | 17.61 | H | 0.6 | 0.0 | 16.99 | 19.14 | 38.45 | 40.60 | -21.5 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 844.00 | 8.95 | V | 0.6 | 0.0 | 8.33 | 10.48 | 38.45 | 40.60 | -30.1 | |
| 844.00 | 17.69 | H | 0.6 | 0.0 | 17.07 | 19.22 | 38.45 | 40.60 | -21.4 | |

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## 9.1.4. LTE BAND 13

**LAT QPSK EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)**

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 13 QPSK 5MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 779.50 | 11.73 | V | 0.55 | 0.0 | 11.18 | 13.33 | 34.77 | 36.99 | -23.7 | |
| 779.50 | 18.68 | H | 0.55 | 0.0 | 18.13 | 20.28 | 34.77 | 36.99 | -16.7 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 782.00 | 13.70 | V | 0.55 | 0.0 | 13.15 | 15.30 | 34.77 | 36.99 | -21.7 | |
| 782.00 | 18.17 | H | 0.55 | 0.0 | 17.62 | 19.77 | 34.77 | 36.99 | -17.2 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 784.50 | 14.24 | V | 0.55 | 0.0 | 13.69 | 15.84 | 34.77 | 36.99 | -21.2 | |
| 784.50 | 18.73 | H | 0.55 | 0.0 | 18.18 | 20.33 | 34.77 | 36.99 | -16.7 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 13 16QAM 5MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 779.50 | 13.99 | V | 0.55 | 0.0 | 13.44 | 15.59 | 34.77 | 36.99 | -21.4 | |
| 779.50 | 17.68 | H | 0.55 | 0.0 | 17.13 | 19.28 | 34.77 | 36.99 | -17.7 | |
| Mid Ch | | | | | | | | | | |
| 782.00 | 13.80 | V | 0.55 | 0.0 | 13.25 | 15.40 | 34.77 | 36.99 | -21.6 | |
| 782.00 | 17.42 | H | 0.55 | 0.0 | 16.87 | 19.02 | 34.77 | 36.99 | -18.0 | |
| High Ch | | | | | | | | | | |
| 784.50 | 13.29 | V | 0.55 | 0.0 | 12.74 | 14.89 | 34.77 | 36.99 | -22.1 | |
| 784.50 | 17.62 | H | 0.55 | 0.0 | 17.07 | 19.22 | 34.77 | 36.99 | -17.8 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 13 QPSK 10MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 782.00 | 14.69 | V | 0.55 | 0.0 | 14.14 | 16.29 | 34.77 | 36.99 | -20.7 | |
| 782.00 | 18.46 | H | 0.55 | 0.0 | 17.91 | 20.06 | 34.77 | 36.99 | -16.9 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 13 16QAM 10MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 782.00 | 13.78 | V | 0.55 | 0.0 | 13.23 | 15.38 | 34.77 | 36.99 | -21.6 | |
| 782.00 | 17.42 | H | 0.55 | 0.0 | 16.87 | 19.02 | 34.77 | 36.99 | -18.0 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 13 QPSK 5MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 779.50 | 9.93 | V | 0.55 | 0.0 | 9.38 | 11.53 | 34.77 | 36.99 | -25.5 | |
| 779.50 | 16.18 | H | 0.55 | 0.0 | 15.63 | 17.78 | 34.77 | 36.99 | -19.2 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 782.00 | 9.61 | V | 0.55 | 0.0 | 9.06 | 11.21 | 34.77 | 36.99 | -25.8 | |
| 782.00 | 17.97 | H | 0.55 | 0.0 | 17.42 | 19.57 | 34.77 | 36.99 | -17.4 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 784.50 | 9.99 | V | 0.55 | 0.0 | 9.44 | 11.59 | 34.77 | 36.99 | -25.4 | |
| 784.50 | 18.24 | H | 0.55 | 0.0 | 17.69 | 19.84 | 34.77 | 36.99 | -17.2 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 13 16QAM 5MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 779.50 | 8.73 | V | 0.55 | 0.0 | 8.18 | 10.33 | 34.77 | 36.99 | -26.7 | |
| 779.50 | 15.28 | H | 0.55 | 0.0 | 14.73 | 16.88 | 34.77 | 36.99 | -20.1 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 782.00 | 7.61 | V | 0.55 | 0.0 | 7.06 | 9.21 | 34.77 | 36.99 | -27.8 | |
| 782.00 | 16.77 | H | 0.55 | 0.0 | 16.22 | 18.37 | 34.77 | 36.99 | -18.6 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 784.50 | 8.89 | V | 0.55 | 0.0 | 8.34 | 10.49 | 34.77 | 36.99 | -26.5 | |
| 784.50 | 16.44 | H | 0.55 | 0.0 | 15.89 | 18.04 | 34.77 | 36.99 | -19.0 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 13 QPSK 10MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| 782.00 | 8.51 | V | 0.55 | 0.0 | 7.96 | 10.11 | 34.77 | 36.99 | -26.9 | |
| 782.00 | 17.77 | H | 0.55 | 0.0 | 17.22 | 19.37 | 34.77 | 36.99 | -17.6 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 13 16QAM 10MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | ERP Limit (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| 782.00 | 8.51 | V | 0.55 | 0.0 | 7.96 | 10.11 | 34.77 | 36.99 | -26.9 | |
| 782.00 | 16.77 | H | 0.55 | 0.0 | 16.22 | 18.37 | 34.77 | 36.99 | -18.6 | |

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UL VERIFICATION SERVICES INC.
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
FORM NO: CCSUP4031B
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## 9.1.5. LTE BAND 17

**LAT QPSK EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)**

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 17 QPSK 5MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 706.50 | 10.52 | V | 0.55 | 0.0 | 9.97 | 12.12 | 34.77 | 36.99 | -24.9 | |
| 706.50 | 19.03 | H | 0.55 | 0.0 | 18.48 | 20.63 | 34.77 | 36.99 | -16.4 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 710.00 | 10.47 | V | 0.55 | 0.0 | 9.92 | 12.07 | 34.77 | 36.99 | -24.9 | |
| 710.00 | 18.87 | H | 0.55 | 0.0 | 18.32 | 20.47 | 34.77 | 36.99 | -16.5 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 713.50 | 11.42 | V | 0.55 | 0.0 | 10.87 | 13.02 | 34.77 | 36.99 | -24.0 | |
| 713.50 | 18.41 | H | 0.55 | 0.0 | 17.86 | 20.01 | 34.77 | 36.99 | -17.0 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 17 16QAM 5MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 706.50 | 9.57 | V | 0.55 | 0.0 | 9.02 | 11.17 | 34.77 | 36.99 | -25.8 | |
| 706.50 | 18.00 | H | 0.55 | 0.0 | 17.45 | 19.60 | 34.77 | 36.99 | -17.4 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 710.00 | 9.53 | V | 0.55 | 0.0 | 8.98 | 11.13 | 34.77 | 36.99 | -25.9 | |
| 710.00 | 17.87 | H | 0.55 | 0.0 | 17.32 | 19.47 | 34.77 | 36.99 | -17.5 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 713.50 | 9.82 | V | 0.55 | 0.0 | 9.27 | 11.42 | 34.77 | 36.99 | -25.6 | |
| 713.50 | 17.81 | H | 0.55 | 0.0 | 17.26 | 19.41 | 34.77 | 36.99 | -17.6 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 17 QPSK 10MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 709.00 | 10.82 | V | 0.55 | 0.0 | 10.27 | 12.42 | 34.77 | 36.99 | -24.6 | |
| 709.00 | 19.23 | H | 0.55 | 0.0 | 18.68 | 20.83 | 34.77 | 36.99 | -16.2 | |
| Mid Ch | | | | | | | | | | |
| 710.00 | 10.85 | V | 0.55 | 0.0 | 10.30 | 12.45 | 34.77 | 36.99 | -24.5 | |
| 710.00 | 18.97 | H | 0.55 | 0.0 | 18.42 | 20.57 | 34.77 | 36.99 | -16.4 | |
| High Ch | | | | | | | | | | |
| 711.00 | 10.62 | V | 0.55 | 0.0 | 10.07 | 12.22 | 34.77 | 36.99 | -24.8 | |
| 711.00 | 18.81 | H | 0.55 | 0.0 | 18.26 | 20.41 | 34.77 | 36.99 | -16.6 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** R.Zheng
**Configuration:** EUT Only
**Mode:** LTE Band 17 16QAM 10MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 709.00 | 9.89 | V | 0.55 | 0.0 | 9.34 | 11.49 | 34.77 | 36.99 | -25.5 | |
| 709.00 | 18.03 | H | 0.55 | 0.0 | 17.48 | 19.63 | 34.77 | 36.99 | -17.4 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 710.00 | 9.83 | V | 0.55 | 0.0 | 9.28 | 11.43 | 34.77 | 36.99 | -25.6 | |
| 710.00 | 17.97 | H | 0.55 | 0.0 | 17.42 | 19.57 | 34.77 | 36.99 | -17.4 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 711.00 | 9.72 | V | 0.55 | 0.0 | 9.17 | 11.32 | 34.77 | 36.99 | -25.7 | |
| 711.00 | 17.31 | H | 0.55 | 0.0 | 16.76 | 18.91 | 34.77 | 36.99 | -18.1 | |

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## UAT QPSK EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 17 QPSK 5MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 706.50 | 6.50 | V | 0.55 | 0.0 | 5.95 | 8.10 | 34.77 | 36.99 | -28.9 | |
| 706.50 | 14.53 | H | 0.55 | 0.0 | 13.98 | 16.13 | 34.77 | 36.99 | -20.9 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 710.00 | 8.11 | V | 0.55 | 0.0 | 7.56 | 9.71 | 34.77 | 36.99 | -27.3 | |
| 710.00 | 14.67 | H | 0.55 | 0.0 | 14.12 | 16.27 | 34.77 | 36.99 | -20.7 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 713.50 | 8.27 | V | 0.55 | 0.0 | 7.72 | 9.87 | 34.77 | 36.99 | -27.1 | |
| 713.50 | 15.11 | H | 0.55 | 0.0 | 14.56 | 16.71 | 34.77 | 36.99 | -20.3 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 17 16QAM 5MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 706.50 | 6.30 | V | 0.55 | 0.0 | 5.75 | 7.90 | 34.77 | 36.99 | -29.1 | |
| 706.50 | 13.63 | H | 0.55 | 0.0 | 13.08 | 15.23 | 34.77 | 36.99 | -21.8 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 710.00 | 6.81 | V | 0.55 | 0.0 | 6.26 | 8.41 | 34.77 | 36.99 | -28.6 | |
| 710.00 | 13.67 | H | 0.55 | 0.0 | 13.12 | 15.27 | 34.77 | 36.99 | -21.7 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 713.50 | 8.22 | V | 0.55 | 0.0 | 7.67 | 9.82 | 34.77 | 36.99 | -27.2 | |
| 713.50 | 13.81 | H | 0.55 | 0.0 | 13.26 | 15.41 | 34.77 | 36.99 | -21.6 | |

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UL VERIFICATION SERVICES INC. FORM NO: CCSUP4031B
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
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## UAT QPSK EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 17 QPSK 10MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 709.00 | 7.30 | V | 0.55 | 0.0 | 6.75 | 8.90 | 34.77 | 36.99 | -28.1 | |
| 709.00 | 14.75 | H | 0.55 | 0.0 | 14.20 | 16.35 | 34.77 | 36.99 | -20.6 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 710.00 | 7.49 | V | 0.55 | 0.0 | 6.94 | 9.09 | 34.77 | 36.99 | -27.9 | |
| 710.00 | 14.87 | H | 0.55 | 0.0 | 14.32 | 16.47 | 34.77 | 36.99 | -20.5 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 711.00 | 7.59 | V | 0.55 | 0.0 | 7.04 | 9.19 | 34.77 | 36.99 | -27.8 | |
| 711.00 | 15.25 | H | 0.55 | 0.0 | 14.70 | 16.85 | 34.77 | 36.99 | -20.1 | |

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## UAT 16QAM EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/10/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 17 16QAM 10MHz BW

**Test Equipment:**
**Receiving: Sunol T407, and Chamber D Cable**
**Substitution: Dipole S/N: 00022117, and 8ft SMA Cable**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | EIRP (dBm) | ERP Limit (dBm) | EIRP Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | | | |
| 709.00 | 6.60 | V | 0.55 | 0.0 | 6.05 | 8.20 | 34.77 | 36.99 | -28.8 | |
| 709.00 | 13.53 | H | 0.55 | 0.0 | 12.98 | 15.13 | 34.77 | 36.99 | -21.9 | |
| | | | | | | | | | | |
| Mid Ch | | | | | | | | | | |
| 710.00 | 6.91 | V | 0.55 | 0.0 | 6.36 | 8.51 | 34.77 | 36.99 | -28.5 | |
| 710.00 | 13.57 | H | 0.55 | 0.0 | 13.02 | 15.17 | 34.77 | 36.99 | -21.8 | |
| | | | | | | | | | | |
| High Ch | | | | | | | | | | |
| 711.00 | 6.44 | V | 0.55 | 0.0 | 5.89 | 8.04 | 34.77 | 36.99 | -29.0 | |
| 711.00 | 14.16 | H | 0.55 | 0.0 | 13.61 | 15.76 | 34.77 | 36.99 | -21.2 | |

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## 9.1.6. LTE BAND 25

**LAT QPSK EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)**

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 25 QPSK 1.4MHz BW

**Test Equipment:**
**Receiving: Horn T344, and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.851 | 18.5 | V | 0.98 | 7.88 | 25.39 | 33.0 | -7.6 | |
| 1.851 | 18.9 | H | 0.98 | 7.88 | 25.76 | 33.0 | -7.2 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.883 | 18.3 | V | 0.98 | 7.86 | 25.22 | 33.0 | -7.8 | |
| 1.883 | 18.8 | H | 0.98 | 7.86 | 25.64 | 33.0 | -7.4 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.914 | 18.3 | V | 0.98 | 7.84 | 25.14 | 33.0 | -7.9 | |
| 1.914 | 19.4 | H | 0.98 | 7.84 | 26.22 | 33.0 | -6.8 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 25 16QAM 1.4MHz BW

**Test Equipment:**
**Receiving: Horn T344, and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.851 | 17.5 | V | 0.98 | 7.88 | 24.39 | 33.0 | -8.6 | |
| 1.851 | 17.8 | H | 0.98 | 7.88 | 24.66 | 33.0 | -8.3 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.883 | 17.9 | V | 0.98 | 7.86 | 24.82 | 33.0 | -8.2 | |
| 1.883 | 17.5 | H | 0.98 | 7.86 | 24.34 | 33.0 | -8.7 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.914 | 17.2 | V | 0.98 | 7.84 | 24.04 | 33.0 | -9.0 | |
| 1.914 | 18.4 | H | 0.98 | 7.84 | 25.22 | 33.0 | -7.8 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 25 QPSK 3MHz BW

**Test Equipment:**
**Receiving: Horn T344, and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.852 | 18.6 | V | 0.98 | 7.88 | 25.49 | 33.0 | -7.5 | |
| 1.852 | 18.3 | H | 0.98 | 7.88 | 25.16 | 33.0 | -7.8 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.883 | 18.3 | V | 0.98 | 7.86 | 25.22 | 33.0 | -7.8 | |
| 1.883 | 18.7 | H | 0.98 | 7.86 | 25.54 | 33.0 | -7.5 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.914 | 18.3 | V | 0.98 | 7.84 | 25.14 | 33.0 | -7.9 | |
| 1.914 | 19.6 | H | 0.98 | 7.84 | 26.42 | 33.0 | -6.6 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 25 16QAM 3MHz BW

**Test Equipment:**
**Receiving: Horn T344, and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.852 | 17.5 | V | 0.98 | 7.88 | 24.39 | 33.0 | -8.6 | |
| 1.852 | 17.4 | H | 0.98 | 7.88 | 24.26 | 33.0 | -8.7 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.883 | 17.3 | V | 0.98 | 7.86 | 24.22 | 33.0 | -8.8 | |
| 1.883 | 17.6 | H | 0.98 | 7.86 | 24.44 | 33.0 | -8.6 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.914 | 17.4 | V | 0.98 | 7.84 | 24.24 | 33.0 | -8.8 | |
| 1.914 | 18.6 | H | 0.98 | 7.84 | 25.42 | 33.0 | -7.6 | |

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## LAT QPSK EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 25 QPSK 5MHz BW

**Test Equipment:**
**Receiving: Horn T344, and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.853 | 18.6 | V | 0.98 | 7.88 | 25.49 | 33.0 | -7.5 | |
| 1.853 | 18.3 | H | 0.98 | 7.88 | 25.25 | 33.0 | -7.8 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.883 | 18.4 | V | 0.98 | 7.86 | 25.32 | 33.0 | -7.7 | |
| 1.883 | 19.5 | H | 0.98 | 7.86 | 26.34 | 33.0 | -6.7 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.913 | 18.4 | V | 0.98 | 7.84 | 25.24 | 33.0 | -7.8 | |
| 1.913 | 19.3 | H | 0.98 | 7.84 | 26.12 | 33.0 | -6.9 | |

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## LAT 16QAM EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)

**High Frequency Substitution Measurement**
**UL Fremont Radiated Chamber D**

**Company:** Apple
**Project #:** 14U17673
**Date:** 06/07/14
**Test Engineer:** M. Hua
**Configuration:** EUT Only
**Mode:** LTE Band 25 16QAM 5MHz BW

**Test Equipment:**
**Receiving: Horn T344, and Chamber D SMA Cables**
**Substitution: Horn T60 Substitution, and 8ft SMA Cable**

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1.853 | 17.6 | V | 0.98 | 7.88 | 24.49 | 33.0 | -8.5 | |
| 1.853 | 17.4 | H | 0.98 | 7.88 | 24.31 | 33.0 | -8.7 | |
| | | | | | | | | |
| Mid Ch | | | | | | | | |
| 1.883 | 17.6 | V | 0.98 | 7.86 | 24.52 | 33.0 | -8.5 | |
| 1.883 | 18.6 | H | 0.98 | 7.86 | 25.44 | 33.0 | -7.6 | |
| | | | | | | | | |
| High Ch | | | | | | | | |
| 1.913 | 17.8 | V | 0.98 | 7.84 | 24.64 | 33.0 | -8.4 | |
| 1.913 | 18.5 | H | 0.98 | 7.84 | 25.32 | 33.0 | -7.7 | |

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