# Frequency Mixer SIMA-5MH

## *Typical Performance Data*

| RF (IN) (MHz) | LO (MHz) | CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB) @LO (dBm) | | |
|---|---|---|---|---|
| | | +10 | +13 | +16 |
| 2.0 | 32.0 | 7.44 | 7.16 | 6.98 |
| 4.0 | 34.0 | 7.15 | 6.84 | 6.67 |
| 5.0 | 35.0 | 7.12 | 6.80 | 6.62 |
| 10.0 | 40.0 | 6.90 | 6.67 | 6.45 |
| 50.8 | 80.8 | 6.87 | 6.57 | 6.32 |
| 91.5 | 121.5 | 6.93 | 6.58 | 6.35 |
| 132.3 | 162.3 | 7.02 | 6.68 | 6.43 |
| 173.0 | 203.0 | 7.09 | 6.74 | 6.46 |
| 213.7 | 243.7 | 7.24 | 6.86 | 6.51 |
| 254.4 | 284.4 | 7.43 | 6.93 | 6.58 |
| 295.2 | 325.2 | 7.44 | 6.93 | 6.57 |
| 376.6 | 406.6 | 7.76 | 7.08 | 6.64 |
| 417.3 | 447.3 | 7.77 | 7.07 | 6.66 |
| 458.1 | 488.1 | 8.10 | 7.28 | 6.82 |
| 498.8 | 528.8 | 8.52 | 7.58 | 6.99 |
| 539.5 | 569.5 | 8.64 | 7.63 | 7.00 |
| 580.2 | 610.2 | 8.35 | 7.43 | 6.88 |
| 620.9 | 650.9 | 7.98 | 7.13 | 6.65 |
| 661.7 | 691.7 | 7.73 | 6.94 | 6.51 |
| 702.4 | 732.4 | 7.59 | 6.81 | 6.41 |
| 743.1 | 773.1 | 7.43 | 6.73 | 6.33 |
| 783.8 | 813.8 | 7.28 | 6.71 | 6.33 |
| 824.6 | 854.6 | 7.11 | 6.63 | 6.31 |
| 865.3 | 895.3 | 7.07 | 6.65 | 6.38 |
| 906.0 | 936.0 | 7.03 | 6.66 | 6.44 |
| 987.4 | 1017.4 | 7.12 | 6.76 | 6.60 |
| 1028.2 | 1058.2 | 7.19 | 6.80 | 6.64 |
| 1068.9 | 1098.9 | 7.39 | 6.94 | 6.78 |
| 1109.6 | 1139.6 | 7.52 | 7.08 | 6.91 |
| 1150.3 | 1180.3 | 7.64 | 7.23 | 7.05 |
| 1191.1 | 1221.1 | 7.80 | 7.36 | 7.18 |
| 1231.8 | 1261.8 | 7.97 | 7.51 | 7.33 |
| 1292.9 | 1322.9 | 8.18 | 7.72 | 7.54 |
| 1333.6 | 1363.6 | 8.42 | 7.84 | 7.63 |
| 1394.7 | 1424.7 | 8.62 | 8.02 | 7.76 |
| 1435.4 | 1465.4 | 8.87 | 8.18 | 7.85 |
| 1496.5 | 1526.5 | 9.19 | 8.43 | 8.05 |
| 1598.3 | 1628.3 | 9.91 | 9.07 | 8.59 |
| 1639.0 | 1669.0 | 10.29 | 9.44 | 8.93 |
| 1700.1 | 1730.1 | 10.71 | 10.01 | 9.59 |

| RF (IN) (MHz) | LO (MHz) | IP3 INPUT (dBm) @LO (dBm) | | |
|---|---|---|---|---|
| | | +10 | +13 | +16 |
| 10.1 | 40.1 | 24.66 | 26.05 | 26.49 |
| 50.8 | 80.8 | 20.53 | 22.34 | 22.94 |
| 91.5 | 121.5 | 19.92 | 20.77 | 20.28 |
| 132.3 | 162.3 | 18.20 | 17.94 | 19.71 |
| 173.0 | 203.0 | 17.25 | 18.58 | 22.69 |
| 213.7 | 243.7 | 15.97 | 17.94 | 22.34 |
| 254.4 | 284.4 | 15.46 | 19.00 | 22.75 |
| 295.2 | 325.2 | 16.45 | 20.15 | 24.12 |
| 335.9 | 365.9 | 16.55 | 20.02 | 24.37 |
| 376.6 | 406.6 | 15.87 | 20.18 | 23.24 |
| 417.3 | 447.3 | 16.25 | 20.16 | 20.73 |
| 458.1 | 488.1 | 15.77 | 18.85 | 20.22 |
| 498.8 | 528.8 | 14.82 | 17.93 | 20.27 |
| 539.5 | 569.5 | 14.68 | 18.00 | 21.44 |
| 580.2 | 610.2 | 15.35 | 18.64 | 21.67 |
| 620.9 | 650.9 | 14.91 | 18.32 | 19.87 |
| 661.7 | 691.7 | 14.59 | 18.46 | 19.33 |
| 702.4 | 732.4 | 13.58 | 17.27 | 18.26 |
| 743.1 | 773.1 | 13.04 | 16.36 | 18.55 |
| 783.8 | 813.8 | 13.18 | 16.03 | 18.46 |
| 824.6 | 854.6 | 13.77 | 16.34 | 18.62 |
| 865.3 | 895.3 | 14.66 | 17.09 | 19.16 |
| 906.0 | 936.0 | 15.72 | 17.70 | 19.90 |
| 946.7 | 976.7 | 17.25 | 18.60 | 20.46 |
| 987.4 | 1017.4 | 19.44 | 19.50 | 20.23 |
| 1028.2 | 1058.2 | 19.68 | 20.54 | 21.17 |
| 1068.9 | 1098.9 | 20.61 | 22.88 | 23.95 |
| 1109.6 | 1139.6 | 22.25 | 23.48 | 24.78 |
| 1150.3 | 1180.3 | 27.20 | 26.10 | 26.35 |
| 1191.1 | 1221.1 | 20.97 | 27.92 | 27.37 |
| 1231.8 | 1261.8 | 17.94 | 23.67 | 32.18 |
| 1292.9 | 1322.9 | 15.78 | 21.24 | 29.06 |
| 1333.6 | 1363.6 | 14.87 | 20.08 | 26.85 |
| 1394.7 | 1424.7 | 15.20 | 20.18 | 25.41 |
| 1435.4 | 1465.4 | 15.07 | 20.47 | 27.85 |
| 1496.5 | 1526.5 | 16.10 | 21.27 | 33.76 |
| 1537.2 | 1567.2 | 16.62 | 22.27 | 28.07 |
| 1598.3 | 1628.3 | 17.66 | 25.09 | 24.62 |
| 1639.0 | 1669.0 | 18.29 | 25.15 | 22.36 |
| 1700.1 | 1730.1 | 19.25 | 23.94 | 22.36 |

| RF (IN) (MHz) | LO (MHz) | COMPRESSION @RF IN=+9dBm (dB) @LO (dBm) | | |
|---|---|---|---|---|
| | | +10 | +13 | +16 |
| 10.1 | 40.1 | 0.46 | 0.28 | 0.17 |
| 50.8 | 80.8 | 0.37 | 0.25 | 0.16 |
| 91.5 | 121.5 | 0.35 | 0.20 | 0.12 |
| 132.3 | 162.3 | 0.33 | 0.18 | 0.14 |
| 173.0 | 203.0 | 0.26 | 0.15 | 0.11 |
| 213.7 | 243.7 | 0.22 | 0.16 | 0.16 |
| 254.4 | 284.4 | 0.19 | 0.15 | 0.16 |
| 295.2 | 325.2 | 0.21 | 0.17 | 0.18 |
| 335.9 | 365.9 | 0.29 | 0.27 | 0.28 |
| 376.6 | 406.6 | 0.27 | 0.34 | 0.33 |
| 417.3 | 447.3 | 0.41 | 0.48 | 0.46 |
| 458.1 | 488.1 | 0.42 | 0.54 | 0.56 |
| 498.8 | 528.8 | 0.28 | 0.54 | 0.63 |
| 539.5 | 569.5 | 0.37 | 0.66 | 0.78 |
| 580.2 | 610.2 | 0.71 | 0.89 | 0.96 |
| 620.9 | 650.9 | 1.08 | 1.14 | 1.11 |
| 661.7 | 691.7 | 1.20 | 1.17 | 1.06 |
| 702.4 | 732.4 | 1.17 | 1.12 | 0.97 |
| 743.1 | 773.1 | 1.10 | 0.98 | 0.84 |
| 783.8 | 813.8 | 1.02 | 0.85 | 0.72 |
| 824.6 | 854.6 | 1.03 | 0.77 | 0.68 |
| 865.3 | 895.3 | 0.90 | 0.65 | 0.57 |
| 906.0 | 936.0 | 0.84 | 0.56 | 0.50 |
| 946.7 | 976.7 | 0.80 | 0.47 | 0.43 |
| 987.4 | 1017.4 | 0.68 | 0.39 | 0.33 |
| 1028.2 | 1058.2 | 0.69 | 0.39 | 0.32 |
| 1068.9 | 1098.9 | 0.60 | 0.30 | 0.26 |
| 1109.6 | 1139.6 | 0.49 | 0.25 | 0.21 |
| 1150.3 | 1180.3 | 0.47 | 0.22 | 0.17 |
| 1191.1 | 1221.1 | 0.42 | 0.18 | 0.15 |
| 1231.8 | 1261.8 | 0.45 | 0.17 | 0.13 |
| 1292.9 | 1322.9 | 0.42 | 0.18 | 0.11 |
| 1333.6 | 1363.6 | 0.44 | 0.17 | 0.10 |
| 1394.7 | 1424.7 | 0.36 | 0.15 | 0.08 |
| 1435.4 | 1465.4 | 0.36 | 0.15 | 0.09 |
| 1496.5 | 1526.5 | 0.29 | 0.15 | 0.09 |
| 1537.2 | 1567.2 | 0.20 | 0.11 | 0.09 |
| 1598.3 | 1628.3 | 0.07 | 0.04 | 0.08 |
| 1639.0 | 1669.0 | -0.01 | -0.01 | 0.07 |
| 1700.1 | 1730.1 | -0.10 | -0.06 | 0.03 |



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## *Typical Performance Data*

| IF (OUT) (MHz) | LO (MHz) | CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=750.1MHz (dB) @LO (dBm) +13 |
|---|---|---|
| 730.0 | 20.1 | 7.46 |
| 711.5 | 38.6 | 7.37 |
| 693.1 | 57.0 | 7.41 |
| 674.6 | 75.5 | 7.50 |
| 656.2 | 93.9 | 7.58 |
| 637.7 | 112.4 | 7.60 |
| 619.2 | 130.9 | 7.56 |
| 600.8 | 149.3 | 7.54 |
| 582.3 | 167.8 | 7.58 |
| 563.8 | 186.3 | 7.61 |
| 545.4 | 204.7 | 7.62 |
| 526.9 | 223.2 | 7.55 |
| 508.5 | 241.6 | 7.51 |
| 490.0 | 260.1 | 7.50 |
| 471.5 | 278.6 | 7.54 |
| 453.1 | 297.0 | 7.56 |
| 434.6 | 315.5 | 7.46 |
| 416.2 | 333.9 | 7.43 |
| 397.7 | 352.4 | 7.41 |
| 379.2 | 370.9 | 7.49 |
| 360.8 | 389.3 | 7.54 |
| 342.3 | 407.8 | 7.55 |
| 323.8 | 426.3 | 7.58 |
| 305.4 | 444.7 | 7.57 |
| 286.9 | 463.2 | 7.67 |
| 268.5 | 481.6 | 7.73 |
| 250.0 | 500.1 | 7.75 |
| 231.5 | 518.6 | 7.72 |
| 213.1 | 537.0 | 7.69 |
| 194.6 | 555.5 | 7.72 |
| 176.2 | 573.9 | 7.69 |
| 157.7 | 592.4 | 7.62 |
| 139.2 | 610.9 | 7.47 |
| 120.8 | 629.3 | 7.42 |
| 102.3 | 647.8 | 7.35 |
| 83.8 | 666.3 | 7.30 |
| 65.4 | 684.7 | 7.22 |
| 46.9 | 703.2 | 7.12 |
| 28.5 | 721.6 | 7.07 |
| 10.0 | 740.1 | 7.30 |

| IF (OUT) (MHz) | LO (MHz) | CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=10.1MHz (dB) @LO (dBm) +13 |
|---|---|---|
| 10.0 | 20.1 | 6.78 |
| 30.2 | 40.3 | 6.55 |
| 50.4 | 60.5 | 6.58 |
| 70.6 | 80.7 | 6.63 |
| 90.8 | 100.9 | 6.67 |
| 111.0 | 121.1 | 6.66 |
| 131.2 | 141.3 | 6.67 |
| 151.4 | 161.5 | 6.71 |
| 171.6 | 181.7 | 6.78 |
| 191.8 | 201.9 | 6.74 |
| 212.0 | 222.1 | 6.78 |
| 232.2 | 242.3 | 6.84 |
| 252.4 | 262.5 | 6.97 |
| 272.7 | 282.8 | 6.98 |
| 292.9 | 303.0 | 6.90 |
| 313.1 | 323.2 | 6.94 |
| 333.3 | 343.4 | 7.03 |
| 353.5 | 363.6 | 7.07 |
| 373.7 | 383.8 | 7.15 |
| 393.9 | 404.0 | 7.07 |
| 434.3 | 444.4 | 7.19 |
| 454.5 | 464.6 | 7.27 |
| 494.9 | 505.0 | 7.27 |
| 515.1 | 525.2 | 7.36 |
| 555.5 | 565.6 | 7.48 |
| 575.7 | 585.8 | 7.37 |
| 616.1 | 626.2 | 7.37 |
| 636.3 | 646.4 | 7.42 |
| 676.7 | 686.8 | 7.40 |
| 696.9 | 707.0 | 7.32 |
| 737.3 | 747.4 | 7.39 |
| 757.6 | 767.7 | 7.34 |
| 798.0 | 808.1 | 7.31 |
| 818.2 | 828.3 | 7.37 |
| 858.6 | 868.7 | 7.47 |
| 878.8 | 888.9 | 7.45 |
| 919.2 | 929.3 | 7.73 |
| 939.4 | 949.5 | 7.90 |
| 979.8 | 989.9 | 8.04 |
| 1000.0 | 1010.1 | 8.00 |

| IF (OUT) (MHz) | LO (MHz) | CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1500.1MHz (dB) @LO (dBm) +13 |
|---|---|---|
| 1000.0 | 500.1 | 8.41 |
| 979.8 | 520.3 | 8.35 |
| 959.6 | 540.5 | 8.30 |
| 939.4 | 560.7 | 8.23 |
| 919.2 | 580.9 | 8.22 |
| 899.0 | 601.1 | 8.14 |
| 878.8 | 621.3 | 8.08 |
| 858.6 | 641.5 | 8.07 |
| 838.4 | 661.7 | 8.04 |
| 818.2 | 681.9 | 8.01 |
| 798.0 | 702.1 | 7.99 |
| 777.8 | 722.3 | 7.97 |
| 757.6 | 742.5 | 7.97 |
| 737.3 | 762.8 | 7.95 |
| 717.1 | 783.0 | 7.90 |
| 696.9 | 803.2 | 7.88 |
| 676.7 | 823.4 | 7.84 |
| 656.5 | 843.6 | 7.81 |
| 636.3 | 863.8 | 7.78 |
| 616.1 | 884.0 | 7.72 |
| 575.7 | 924.4 | 7.57 |
| 555.5 | 944.6 | 7.54 |
| 515.1 | 985.0 | 7.50 |
| 494.9 | 1005.2 | 7.48 |
| 454.5 | 1045.6 | 7.50 |
| 434.3 | 1065.8 | 7.57 |
| 393.9 | 1106.2 | 7.69 |
| 373.7 | 1126.4 | 7.79 |
| 333.3 | 1166.8 | 7.99 |
| 313.1 | 1187.0 | 8.09 |
| 272.7 | 1227.4 | 8.16 |
| 252.4 | 1247.7 | 8.16 |
| 212.0 | 1288.1 | 8.14 |
| 191.8 | 1308.3 | 8.14 |
| 151.4 | 1348.7 | 8.16 |
| 131.2 | 1368.9 | 8.16 |
| 90.8 | 1409.3 | 8.18 |
| 70.6 | 1429.5 | 8.19 |
| 30.2 | 1469.9 | 8.21 |
| 10.0 | 1490.1 | 8.53 |




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## *Typical Performance Data*

| LO (MHz) | LO-RF ISOLATION (dB) @LO (dBm) | | | LO-IF ISOLATION (dB) @LO (dBm) | | |
|---|---|---|---|---|---|---|
| | +10 | +13 | +16 | +10 | +13 | +16 |
| 2.0 | 67.33 | 67.57 | 67.96 | 74.93 | 70.97 | 69.36 |
| 4.0 | 66.85 | 66.81 | 67.11 | 73.75 | 70.21 | 68.31 |
| 5.0 | 66.85 | 66.99 | 67.24 | 73.45 | 69.69 | 68.14 |
| 10.0 | 66.17 | 66.21 | 66.09 | 70.37 | 67.01 | 64.94 |
| 50.8 | 62.88 | 61.56 | 60.29 | 57.51 | 54.41 | 53.31 |
| 91.5 | 59.71 | 57.77 | 56.43 | 52.62 | 50.41 | 48.71 |
| 132.3 | 57.46 | 54.95 | 53.72 | 49.11 | 47.04 | 45.86 |
| 173.0 | 55.61 | 53.50 | 52.12 | 47.64 | 45.49 | 44.09 |
| 213.7 | 54.77 | 52.14 | 50.88 | 46.34 | 43.93 | 42.52 |
| 254.4 | 53.52 | 51.08 | 49.70 | 44.30 | 42.50 | 41.12 |
| 295.2 | 53.66 | 50.92 | 49.24 | 42.41 | 40.89 | 39.59 |
| 376.6 | 53.04 | 49.94 | 47.94 | 39.49 | 38.19 | 37.09 |
| 417.3 | 53.02 | 49.71 | 47.47 | 37.10 | 36.50 | 35.71 |
| 458.1 | 54.59 | 50.55 | 47.70 | 35.61 | 35.74 | 35.06 |
| 498.8 | 53.18 | 49.53 | 46.92 | 34.21 | 34.41 | 33.84 |
| 539.5 | 50.07 | 47.52 | 45.60 | 32.94 | 33.14 | 32.80 |
| 580.2 | 47.61 | 44.95 | 43.26 | 32.12 | 32.34 | 31.98 |
| 620.9 | 46.13 | 43.02 | 41.21 | 30.87 | 31.09 | 30.79 |
| 661.7 | 45.58 | 41.90 | 39.47 | 29.73 | 30.18 | 29.76 |
| 702.4 | 44.75 | 41.06 | 38.47 | 28.41 | 28.97 | 28.74 |
| 743.1 | 44.22 | 40.63 | 38.14 | 27.43 | 28.10 | 28.14 |
| 783.8 | 43.36 | 39.89 | 37.38 | 26.31 | 27.13 | 27.19 |
| 824.6 | 42.97 | 39.31 | 36.96 | 25.29 | 26.12 | 26.43 |
| 865.3 | 42.89 | 38.84 | 36.37 | 24.52 | 25.44 | 25.68 |
| 906.0 | 42.70 | 38.35 | 35.97 | 23.77 | 24.73 | 25.00 |
| 987.4 | 41.83 | 37.34 | 34.63 | 22.68 | 23.65 | 23.81 |
| 1028.2 | 41.16 | 36.80 | 34.09 | 22.35 | 23.36 | 23.60 |
| 1068.9 | 40.58 | 36.33 | 33.69 | 22.02 | 23.00 | 23.21 |
| 1109.6 | 40.10 | 35.82 | 33.10 | 22.11 | 23.08 | 23.14 |
| 1150.3 | 39.56 | 35.25 | 32.51 | 22.24 | 23.09 | 23.12 |
| 1191.1 | 39.02 | 34.77 | 32.03 | 22.50 | 23.28 | 23.31 |
| 1231.8 | 38.26 | 34.29 | 31.64 | 22.85 | 23.48 | 23.47 |
| 1292.9 | 37.60 | 33.33 | 30.99 | 23.46 | 23.69 | 23.82 |
| 1333.6 | 37.06 | 32.89 | 30.65 | 23.91 | 23.88 | 23.98 |
| 1394.7 | 36.54 | 32.54 | 30.18 | 24.61 | 24.27 | 24.27 |
| 1435.4 | 35.92 | 32.21 | 29.91 | 25.02 | 24.46 | 24.40 |
| 1496.5 | 35.84 | 31.81 | 29.47 | 25.73 | 24.78 | 24.65 |
| 1598.3 | 35.07 | 31.38 | 29.13 | 26.70 | 25.54 | 25.28 |
| 1639.0 | 34.72 | 31.32 | 29.06 | 27.07 | 25.82 | 25.47 |
| 1700.1 | 33.94 | 31.09 | 28.94 | 27.52 | 26.18 | 25.86 |

| RF (IN) (MHz) | LO (MHz) | RF-IF ISOLATION (dB) @LO (dBm) | | |
|---|---|---|---|---|
| | | +10 | +13 | +16 |
| 10.1 | 40.1 | 46.12 | 49.73 | 48.57 |
| 50.8 | 80.8 | 36.96 | 36.89 | 36.87 |
| 91.5 | 121.5 | 32.31 | 32.61 | 32.55 |
| 132.3 | 162.3 | 29.61 | 29.76 | 29.77 |
| 173.0 | 203.0 | 27.85 | 27.96 | 28.01 |
| 213.7 | 243.7 | 26.55 | 26.72 | 26.85 |
| 254.4 | 284.4 | 25.73 | 26.03 | 26.25 |
| 295.2 | 325.2 | 25.41 | 25.68 | 25.86 |
| 335.9 | 365.9 | 24.77 | 25.09 | 25.30 |
| 376.6 | 406.6 | 24.00 | 24.62 | 25.19 |
| 417.3 | 447.3 | 23.80 | 24.68 | 25.31 |
| 458.1 | 488.1 | 24.25 | 25.30 | 25.95 |
| 498.8 | 528.8 | 24.11 | 25.05 | 25.39 |
| 539.5 | 569.5 | 23.27 | 23.87 | 23.82 |
| 580.2 | 610.2 | 21.97 | 22.30 | 22.33 |
| 620.9 | 650.9 | 21.03 | 21.24 | 21.28 |
| 661.7 | 691.7 | 20.75 | 20.70 | 20.68 |
| 702.4 | 732.4 | 21.02 | 20.66 | 20.36 |
| 743.1 | 773.1 | 21.41 | 20.85 | 20.39 |
| 783.8 | 813.8 | 21.72 | 21.35 | 20.83 |
| 824.6 | 854.6 | 21.64 | 21.58 | 21.41 |
| 865.3 | 895.3 | 21.09 | 21.13 | 21.18 |
| 906.0 | 936.0 | 20.10 | 20.24 | 20.30 |
| 946.7 | 976.7 | 18.98 | 19.06 | 19.14 |
| 987.4 | 1017.4 | 17.98 | 17.94 | 17.90 |
| 1028.2 | 1058.2 | 17.14 | 17.04 | 16.88 |
| 1068.9 | 1098.9 | 16.29 | 16.03 | 15.85 |
| 1109.6 | 1139.6 | 15.51 | 15.15 | 14.93 |
| 1150.3 | 1180.3 | 14.80 | 14.40 | 14.16 |
| 1191.1 | 1221.1 | 14.19 | 13.73 | 13.50 |
| 1231.8 | 1261.8 | 13.71 | 13.23 | 13.05 |
| 1292.9 | 1322.9 | 13.10 | 12.67 | 12.49 |
| 1333.6 | 1363.6 | 12.84 | 12.46 | 12.27 |
| 1394.7 | 1424.7 | 12.44 | 12.16 | 12.03 |
| 1435.4 | 1465.4 | 12.15 | 11.93 | 11.80 |
| 1496.5 | 1526.5 | 11.76 | 11.60 | 11.53 |
| 1537.2 | 1567.2 | 11.48 | 11.40 | 11.37 |
| 1598.3 | 1628.3 | 11.13 | 11.10 | 11.09 |
| 1639.0 | 1669.0 | 10.99 | 10.94 | 10.96 |
| 1700.1 | 1730.1 | 10.82 | 10.83 | 10.83 |




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## *Typical Performance Data*

| RF (IN) (MHz) | LO (MHz) | RF VSWR (:1) @LO (dBm) | | |
|---|---|---|---|---|
| | | +10 | +13 | +16 |
| 5.0 | 35.0 | 1.62 | 1.30 | 1.33 |
| 10.0 | 40.0 | 1.64 | 1.20 | 1.25 |
| 50.8 | 80.8 | 1.11 | 1.18 | 1.24 |
| 91.5 | 121.5 | 1.08 | 1.16 | 1.22 |
| 132.3 | 162.3 | 1.07 | 1.14 | 1.19 |
| 173.0 | 203.0 | 1.07 | 1.14 | 1.19 |
| 213.7 | 243.7 | 1.05 | 1.11 | 1.17 |
| 254.4 | 284.4 | 1.05 | 1.11 | 1.17 |
| 295.2 | 325.2 | 1.06 | 1.12 | 1.18 |
| 335.9 | 365.9 | 1.07 | 1.12 | 1.18 |
| 376.6 | 406.6 | 1.09 | 1.12 | 1.18 |
| 417.3 | 447.3 | 1.12 | 1.12 | 1.17 |
| 458.1 | 488.1 | 1.15 | 1.12 | 1.15 |
| 498.8 | 528.8 | 1.22 | 1.17 | 1.16 |
| 539.5 | 569.5 | 1.32 | 1.26 | 1.25 |
| 580.2 | 610.2 | 1.43 | 1.40 | 1.38 |
| 620.9 | 650.9 | 1.55 | 1.53 | 1.53 |
| 661.7 | 691.7 | 1.66 | 1.64 | 1.65 |
| 702.4 | 732.4 | 1.78 | 1.75 | 1.76 |
| 743.1 | 773.1 | 1.89 | 1.87 | 1.87 |
| 783.8 | 813.8 | 1.98 | 1.98 | 1.98 |
| 824.6 | 854.6 | 2.03 | 2.07 | 2.07 |
| 865.3 | 895.3 | 2.06 | 2.13 | 2.14 |
| 906.0 | 936.0 | 2.07 | 2.16 | 2.20 |
| 946.7 | 976.7 | 2.06 | 2.18 | 2.25 |
| 987.4 | 1017.4 | 2.05 | 2.17 | 2.26 |
| 1028.2 | 1058.2 | 2.08 | 2.18 | 2.28 |
| 1068.9 | 1098.9 | 2.12 | 2.22 | 2.31 |
| 1109.6 | 1139.6 | 2.15 | 2.25 | 2.33 |
| 1150.3 | 1180.3 | 2.15 | 2.26 | 2.33 |
| 1191.1 | 1221.1 | 2.13 | 2.24 | 2.31 |
| 1231.8 | 1261.8 | 2.11 | 2.21 | 2.27 |
| 1292.9 | 1322.9 | 2.08 | 2.15 | 2.22 |
| 1333.6 | 1363.6 | 2.06 | 2.12 | 2.17 |
| 1394.7 | 1424.7 | 2.10 | 2.14 | 2.19 |
| 1435.4 | 1465.4 | 2.18 | 2.22 | 2.27 |
| 1496.5 | 1526.5 | 2.37 | 2.39 | 2.43 |
| 1537.2 | 1567.2 | 2.53 | 2.55 | 2.57 |
| 1598.3 | 1628.3 | 2.78 | 2.78 | 2.77 |
| 1639.0 | 1669.0 | 2.92 | 2.92 | 2.90 |
| 1700.1 | 1730.1 | 3.11 | 3.10 | 3.09 |

| LO (MHz) | LO VSWR (:1) @LO (dBm) | | |
|---|---|---|---|
| | +10 | +13 | +16 |
| 5.0 | 1.39 | 2.06 | 2.89 |
| 10.0 | 1.37 | 2.01 | 2.83 |
| 50.8 | 1.33 | 2.11 | 3.13 |
| 91.5 | 1.30 | 1.96 | 2.84 |
| 132.3 | 1.41 | 2.11 | 3.07 |
| 173.0 | 1.37 | 1.98 | 2.81 |
| 213.7 | 1.41 | 2.05 | 2.94 |
| 254.4 | 1.49 | 2.03 | 2.83 |
| 295.2 | 1.49 | 2.01 | 2.81 |
| 335.9 | 1.50 | 2.01 | 2.79 |
| 376.6 | 1.57 | 1.99 | 2.71 |
| 417.3 | 1.62 | 2.02 | 2.75 |
| 458.1 | 1.57 | 1.92 | 2.59 |
| 498.8 | 1.59 | 1.92 | 2.60 |
| 539.5 | 1.63 | 1.89 | 2.50 |
| 580.2 | 1.64 | 1.84 | 2.46 |
| 620.9 | 1.64 | 1.81 | 2.38 |
| 661.7 | 1.73 | 1.80 | 2.33 |
| 702.4 | 1.78 | 1.80 | 2.29 |
| 743.1 | 1.84 | 1.78 | 2.21 |
| 783.8 | 1.90 | 1.77 | 2.17 |
| 824.6 | 1.97 | 1.76 | 2.10 |
| 865.3 | 2.05 | 1.75 | 2.05 |
| 906.0 | 2.09 | 1.73 | 1.97 |
| 946.7 | 2.17 | 1.72 | 1.91 |
| 987.4 | 2.23 | 1.70 | 1.84 |
| 1028.2 | 2.29 | 1.68 | 1.77 |
| 1068.9 | 2.33 | 1.67 | 1.71 |
| 1109.6 | 2.36 | 1.66 | 1.65 |
| 1150.3 | 2.36 | 1.63 | 1.59 |
| 1191.1 | 2.39 | 1.61 | 1.52 |
| 1231.8 | 2.34 | 1.57 | 1.46 |
| 1292.9 | 2.34 | 1.52 | 1.37 |
| 1333.6 | 2.26 | 1.47 | 1.31 |
| 1394.7 | 2.22 | 1.41 | 1.23 |
| 1435.4 | 2.13 | 1.36 | 1.18 |
| 1496.5 | 2.06 | 1.30 | 1.14 |
| 1537.2 | 1.99 | 1.26 | 1.14 |
| 1598.3 | 1.88 | 1.21 | 1.18 |
| 1639.0 | 1.82 | 1.19 | 1.22 |
| 1700.1 | 1.69 | 1.15 | 1.28 |

| IF (OUT) (MHz) | IF VSWR @LO=1500.1MHz (:1) @LO (dBm) | | |
|---|---|---|---|
| | +10 | +13 | +16 |
| 5.0 | 1.62 | 1.36 | 1.23 |
| 10.0 | 1.64 | 1.36 | 1.23 |
| 30.2 | 2.10 | 1.61 | 1.37 |
| 50.4 | 2.19 | 1.64 | 1.40 |
| 70.6 | 2.21 | 1.65 | 1.40 |
| 90.8 | 2.16 | 1.62 | 1.39 |
| 111.0 | 2.14 | 1.62 | 1.38 |
| 131.2 | 2.14 | 1.61 | 1.37 |
| 151.4 | 2.14 | 1.61 | 1.37 |
| 171.6 | 2.13 | 1.61 | 1.36 |
| 191.8 | 2.10 | 1.58 | 1.33 |
| 212.0 | 2.03 | 1.53 | 1.30 |
| 232.2 | 2.03 | 1.53 | 1.29 |
| 252.4 | 2.03 | 1.53 | 1.29 |
| 272.7 | 2.00 | 1.50 | 1.26 |
| 292.9 | 1.94 | 1.47 | 1.24 |
| 313.1 | 1.94 | 1.47 | 1.24 |
| 333.3 | 1.92 | 1.45 | 1.22 |
| 353.5 | 1.87 | 1.42 | 1.20 |
| 373.7 | 1.86 | 1.41 | 1.19 |
| 393.9 | 1.83 | 1.40 | 1.18 |
| 434.3 | 1.78 | 1.36 | 1.15 |
| 454.5 | 1.79 | 1.37 | 1.16 |
| 494.9 | 1.70 | 1.32 | 1.11 |
| 515.1 | 1.70 | 1.31 | 1.12 |
| 555.5 | 1.64 | 1.27 | 1.09 |
| 575.7 | 1.62 | 1.27 | 1.08 |
| 616.1 | 1.55 | 1.23 | 1.06 |
| 636.3 | 1.54 | 1.22 | 1.05 |
| 676.7 | 1.47 | 1.18 | 1.03 |
| 696.9 | 1.42 | 1.14 | 1.01 |
| 737.3 | 1.35 | 1.10 | 1.05 |
| 757.6 | 1.31 | 1.07 | 1.08 |
| 798.0 | 1.25 | 1.05 | 1.14 |
| 818.2 | 1.20 | 1.08 | 1.20 |
| 858.6 | 1.18 | 1.15 | 1.27 |
| 878.8 | 1.17 | 1.22 | 1.34 |
| 919.2 | 1.26 | 1.35 | 1.48 |
| 939.4 | 1.30 | 1.43 | 1.57 |
| 979.8 | 1.51 | 1.66 | 1.81 |
| 1000.0 | 1.60 | 1.77 | 1.93 |




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## *Harmonics Tables*

| RF HARMONICS ORDER | (-dBm) | (-dBc) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | - | - | 1 | 20 | 36 | 28 | 21 | 31 | 32 | 45 | 49 | 51 |
| 1 | - | 14 | +0 | 33 | 21 | 32 | 23 | 34 | 39 | 33 | 54 | 51 |
| 2 | 99 | 61 | 42 | 51 | 43 | 60 | 44 | 56 | 55 | 46 | 59 | 56 |
| 3 | >100 | 66 | 69 | 76 | 53 | 66 | 62 | 62 | 55 | 73 | 66 | 63 |
| 4 | >100 | 75 | 70 | 86 | 66 | 76 | 66 | 83 | 65 | 77 | 73 | 68 |
| 5 | >100 | >87 | >87 | 85 | >87 | 82 | 87 | 84 | >87 | 82 | >87 | >87 |
| 6 | >100 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 |
| 7 | >100 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 |
| 8 | >100 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 |
| 9 | >100 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 |
| 10 | >100 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 | >87 |
| | RF CAL | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

**LO HARMONICS ORDER**

**Test conditions:**
**RF IN: 750.1 MHz; -6.00 dBm.**
**LO IN: 780.01 MHz; +13.00 dBm**
**IF OUT: 29.91 MHz; -12.94 dBm**

| RF HARMONICS ORDER | (-dBm) | (-dBc) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | - | - | 11 | 30 | 36 | 41 | 32 | 48 | 47 | 63 | 66 | 69 |
| 1 | - | 13 | +0 | 42 | 21 | 31 | 25 | 39 | 46 | 42 | 56 | 71 |
| 2 | 83 | 58 | 38 | 54 | 36 | 65 | 41 | 58 | 52 | 49 | 64 | 66 |
| 3 | >100 | 51 | 51 | 47 | 35 | 52 | 48 | 60 | 41 | 51 | 59 | 53 |
| 4 | >100 | 62 | 55 | 69 | 50 | 58 | 50 | 63 | 50 | 61 | 58 | 51 |
| 5 | >100 | 67 | 55 | 68 | 68 | 69 | 49 | 75 | 56 | 58 | 52 | 63 |
| 6 | >100 | 70 | 70 | 70 | 65 | 79 | 59 | 68 | 58 | 77 | 56 | 69 |
| 7 | >100 | 76 | 81 | 81 | 70 | 78 | 79 | 80 | 61 | 77 | 67 | 69 |
| 8 | >100 | 86 | 84 | 78 | 76 | 78 | 72 | 90 | 66 | 77 | 67 | 80 |
| 9 | >100 | >97 | 94 | 90 | 93 | 85 | 83 | 86 | 93 | 80 | 74 | 83 |
| 10 | >100 | >97 | >97 | 94 | 90 | 88 | 85 | 84 | 82 | 91 | 75 | 84 |
| | RF CAL | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

**LO HARMONICS ORDER**

**Test conditions:**
**RF IN: 750.1 MHz; 4.00 dBm.**
**LO IN: 780.01 MHz; +13.00 dBm**
**IF OUT: 29.91 MHz; -3.02 dBm**

**Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.**
**2. + entry denotes harmonics are in (dBc) above IF OUTPUT.**
**3. RF Cal represent the Harmonics level of the RF input signal to the mixer.**




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