

Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Id=65mA, Vd = 4.43V @Temperature = +25degC

| FREQ | Gain | Isolation | Input Return Loss | Output Return Loss | Stability | | IP-3 Output | 1dB Comp. Output | Noise Figure |
|---------|-------|-----------|-------------------|--------------------|-----------|-------|-------------|------------------|--------------|
| | | | | | K | Delta | | | |
| (MHz) | (dB) | (dB) | (dB) | (dB) | K | Delta | (dBm) | (dBm) | (dB) |
| 10.00 | 14.40 | 19.25 | 37.18 | 41.43 | 1.16 | 0.67 | 36.22 | 17.20 | 4.14 |
| 50.00 | 14.43 | 19.03 | 36.69 | 46.36 | 1.14 | 0.65 | 36.22 | 17.86 | 4.14 |
| 100.00 | 14.39 | 19.05 | 36.16 | 46.38 | 1.15 | 0.66 | 36.24 | 17.79 | 4.12 |
| 200.00 | 14.36 | 19.04 | 35.72 | 41.57 | 1.15 | 0.66 | 35.94 | 17.65 | 4.11 |
| 300.00 | 14.31 | 19.00 | 37.35 | 39.24 | 1.15 | 0.66 | 35.97 | 17.59 | 4.23 |
| 400.00 | 14.27 | 19.06 | 38.28 | 36.48 | 1.16 | 0.67 | 35.30 | 17.74 | 4.29 |
| 500.00 | 14.22 | 19.06 | 38.35 | 34.16 | 1.16 | 0.67 | 35.09 | 17.79 | 4.25 |
| 600.00 | 14.18 | 19.01 | 37.72 | 32.02 | 1.16 | 0.67 | 34.70 | 17.56 | 4.27 |
| 700.00 | 14.13 | 19.05 | 35.95 | 30.18 | 1.16 | 0.68 | 34.34 | 17.54 | 4.22 |
| 800.00 | 14.08 | 19.06 | 34.38 | 28.51 | 1.17 | 0.68 | 34.26 | 17.51 | 4.18 |
| 900.00 | 14.03 | 19.07 | 32.37 | 27.13 | 1.17 | 0.69 | 34.04 | 17.69 | 4.24 |
| 1000.00 | 13.97 | 19.09 | 30.85 | 26.09 | 1.18 | 0.69 | 33.56 | 17.25 | 4.27 |
| 1100.00 | 13.91 | 19.09 | 29.60 | 25.04 | 1.18 | 0.69 | 33.53 | 17.40 | 4.22 |
| 1200.00 | 13.86 | 19.12 | 28.62 | 24.23 | 1.18 | 0.70 | 33.45 | 17.38 | 4.23 |
| 1300.00 | 13.80 | 19.15 | 27.56 | 23.50 | 1.19 | 0.70 | 33.22 | 17.33 | 4.26 |
| 1400.00 | 13.73 | 19.16 | 26.74 | 22.75 | 1.20 | 0.71 | 32.86 | 16.95 | 4.23 |
| 1500.00 | 13.67 | 19.22 | 25.94 | 22.27 | 1.20 | 0.72 | 32.43 | 16.82 | 4.23 |
| 1600.00 | 13.61 | 19.22 | 25.45 | 21.78 | 1.21 | 0.72 | 32.35 | 16.75 | 4.32 |
| 1700.00 | 13.54 | 19.25 | 24.80 | 21.30 | 1.22 | 0.72 | 32.12 | 16.72 | 4.23 |
| 1800.00 | 13.47 | 19.29 | 24.51 | 21.02 | 1.22 | 0.73 | 31.59 | 16.39 | 4.33 |
| 1900.00 | 13.40 | 19.32 | 23.98 | 20.69 | 1.23 | 0.74 | 31.58 | 16.27 | 4.33 |
| 2000.00 | 13.33 | 19.35 | 23.62 | 20.42 | 1.24 | 0.74 | 31.38 | 16.20 | 4.27 |
| 2250.00 | 13.15 | 19.44 | 22.98 | 20.00 | 1.26 | 0.75 | 30.01 | 15.35 | 4.29 |
| 2500.00 | 12.97 | 19.56 | 22.38 | 19.72 | 1.29 | 0.77 | 29.17 | 15.11 | 4.35 |
| 2750.00 | 12.77 | 19.66 | 21.92 | 19.64 | 1.32 | 0.78 | 28.63 | 14.72 | 4.32 |
| 3000.00 | 12.57 | 19.82 | 21.33 | 19.87 | 1.39 | 0.82 | 27.68 | 14.00 | 4.33 |
| 3250.00 | 12.38 | 19.96 | 20.80 | 19.79 | 1.44 | 0.83 | 26.63 | 13.28 | 4.40 |
| 3500.00 | 12.15 | 20.13 | 20.46 | 20.27 | 1.48 | 0.84 | 26.14 | 12.83 | 4.48 |
| 3750.00 | 11.97 | 20.27 | 19.68 | 20.47 | 1.53 | 0.86 | 25.76 | 12.24 | 4.58 |
| 4000.00 | 11.77 | 20.45 | 18.80 | 20.39 | 1.58 | 0.87 | 24.81 | 11.81 | 4.56 |
| 4250.00 | 11.56 | 20.64 | 18.37 | 20.47 | 1.66 | 0.89 | 24.09 | 11.26 | 4.57 |
| 4500.00 | 11.31 | 20.99 | 16.59 | 20.05 | 1.68 | 0.90 | 23.79 | 11.04 | 4.64 |
| 4750.00 | 11.11 | 21.00 | 15.62 | 19.81 | 1.75 | 0.92 | 23.31 | 10.59 | 4.72 |
| 5000.00 | 10.87 | 21.23 | 15.35 | 19.93 | 1.89 | 0.93 | 22.18 | 9.96 | 4.81 |
| 5250.00 | 10.59 | 21.78 | 13.99 | 19.99 | 1.90 | 0.95 | 21.92 | 9.38 | 4.95 |
| 5500.00 | 10.48 | 21.79 | 13.92 | 20.75 | 2.10 | 0.97 | 22.14 | 9.31 | 5.12 |
| 5750.00 | 10.25 | 22.60 | 12.61 | 19.96 | 2.10 | 0.99 | 21.14 | 8.79 | 5.15 |
| 6000.00 | 10.09 | 22.61 | 11.98 | 19.28 | 2.15 | 1.00 | 20.49 | 8.31 | 5.41 |
| 6250.00 | 9.85 | 22.74 | 11.36 | 18.56 | 2.20 | 1.01 | 20.64 | 8.24 | 5.45 |
| 6500.00 | 9.58 | 22.82 | 10.85 | 18.33 | 2.33 | 1.03 | 20.49 | 8.32 | 5.57 |
| 6750.00 | 9.52 | 23.42 | 10.41 | 17.21 | 2.32 | 1.04 | 19.52 | 8.03 | 5.63 |
| 7000.00 | 9.29 | 23.32 | 10.08 | 16.52 | 2.40 | 1.05 | 19.14 | 7.36 | 5.90 |

MMIC Amplifier

ERA-4+

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Id=52mA, Vd = 4.32V @ Temperature = +25degC

| FREQ | Gain | Isolation | Input Return Loss | Output Return Loss | Stability | | IP-3 Output | 1dB Comp. Output | Noise Figure |
|---------|-------|-----------|-------------------|--------------------|-----------|-------|-------------|------------------|--------------|
| | | | | | K | Delta | | | |
| (MHz) | (dB) | (dB) | (dB) | (dB) | K | Delta | (dBm) | (dBm) | (dB) |
| 10.00 | 14.28 | 18.78 | 38.26 | 39.52 | 1.14 | 0.64 | 32.76 | 15.94 | 4.04 |
| 50.00 | 14.31 | 18.96 | 32.85 | 36.65 | 1.15 | 0.66 | 32.60 | 16.33 | 4.04 |
| 100.00 | 14.28 | 18.95 | 32.60 | 37.13 | 1.15 | 0.66 | 32.61 | 16.16 | 4.06 |
| 200.00 | 14.24 | 18.94 | 32.08 | 35.80 | 1.15 | 0.66 | 32.35 | 16.06 | 4.08 |
| 300.00 | 14.20 | 18.94 | 33.42 | 36.41 | 1.15 | 0.66 | 32.55 | 16.00 | 4.13 |
| 400.00 | 14.16 | 18.95 | 34.64 | 35.86 | 1.16 | 0.67 | 32.24 | 16.14 | 4.20 |
| 500.00 | 14.11 | 18.95 | 35.55 | 34.80 | 1.16 | 0.67 | 32.32 | 16.28 | 4.20 |
| 600.00 | 14.07 | 18.95 | 36.85 | 33.12 | 1.16 | 0.68 | 32.30 | 16.10 | 4.17 |
| 700.00 | 14.02 | 18.96 | 37.14 | 31.45 | 1.17 | 0.68 | 32.15 | 16.01 | 4.14 |
| 800.00 | 13.97 | 18.97 | 36.82 | 29.75 | 1.17 | 0.68 | 32.04 | 16.10 | 4.12 |
| 900.00 | 13.92 | 18.98 | 35.01 | 28.26 | 1.17 | 0.69 | 31.92 | 16.18 | 4.15 |
| 1000.00 | 13.87 | 19.00 | 33.19 | 27.14 | 1.18 | 0.69 | 31.48 | 15.65 | 4.17 |
| 1100.00 | 13.81 | 19.01 | 31.94 | 26.04 | 1.18 | 0.70 | 31.62 | 15.94 | 4.11 |
| 1200.00 | 13.75 | 19.03 | 30.70 | 25.16 | 1.19 | 0.70 | 31.77 | 15.97 | 4.12 |
| 1300.00 | 13.70 | 19.05 | 29.46 | 24.39 | 1.19 | 0.71 | 31.51 | 15.95 | 4.20 |
| 1400.00 | 13.63 | 19.07 | 28.47 | 23.59 | 1.20 | 0.71 | 31.22 | 15.75 | 4.13 |
| 1500.00 | 13.57 | 19.13 | 27.50 | 23.03 | 1.21 | 0.72 | 31.22 | 15.93 | 4.13 |
| 1600.00 | 13.51 | 19.14 | 26.96 | 22.53 | 1.21 | 0.72 | 30.97 | 15.86 | 4.17 |
| 1700.00 | 13.44 | 19.16 | 26.14 | 21.99 | 1.22 | 0.73 | 30.82 | 15.85 | 4.14 |
| 1800.00 | 13.37 | 19.19 | 25.83 | 21.68 | 1.23 | 0.73 | 30.45 | 15.66 | 4.24 |
| 1900.00 | 13.30 | 19.25 | 25.19 | 21.34 | 1.24 | 0.74 | 30.40 | 15.48 | 4.19 |
| 2000.00 | 13.23 | 19.24 | 24.68 | 21.00 | 1.24 | 0.74 | 29.96 | 15.29 | 4.20 |
| 2250.00 | 13.05 | 19.36 | 23.88 | 20.58 | 1.27 | 0.76 | 28.84 | 14.66 | 4.16 |
| 2500.00 | 12.87 | 19.46 | 23.10 | 20.29 | 1.29 | 0.77 | 28.10 | 14.37 | 4.22 |
| 2750.00 | 12.67 | 19.56 | 22.53 | 20.19 | 1.32 | 0.79 | 27.53 | 13.91 | 4.24 |
| 3000.00 | 12.47 | 19.74 | 21.65 | 20.40 | 1.40 | 0.82 | 26.63 | 13.20 | 4.16 |
| 3250.00 | 12.28 | 19.89 | 21.03 | 20.34 | 1.44 | 0.83 | 25.62 | 12.48 | 4.29 |
| 3500.00 | 12.05 | 20.07 | 20.56 | 20.82 | 1.48 | 0.85 | 25.12 | 12.03 | 4.36 |
| 3750.00 | 11.87 | 20.20 | 19.69 | 21.05 | 1.53 | 0.86 | 24.74 | 11.46 | 4.43 |
| 4000.00 | 11.67 | 20.41 | 18.80 | 20.95 | 1.59 | 0.88 | 23.90 | 11.03 | 4.38 |
| 4250.00 | 11.45 | 20.60 | 18.30 | 21.03 | 1.68 | 0.89 | 23.16 | 10.49 | 4.45 |
| 4500.00 | 11.20 | 20.98 | 16.50 | 20.62 | 1.70 | 0.91 | 22.81 | 10.23 | 4.45 |
| 4750.00 | 11.00 | 20.99 | 15.49 | 20.36 | 1.78 | 0.92 | 22.29 | 9.79 | 4.57 |
| 5000.00 | 10.74 | 21.24 | 15.19 | 20.49 | 1.91 | 0.94 | 21.23 | 9.15 | 4.67 |
| 5250.00 | 10.47 | 21.76 | 13.80 | 20.47 | 1.92 | 0.95 | 20.96 | 8.58 | 4.71 |
| 5500.00 | 10.34 | 21.79 | 13.66 | 21.21 | 2.12 | 0.97 | 21.07 | 8.46 | 4.94 |
| 5750.00 | 10.11 | 22.59 | 12.34 | 20.24 | 2.14 | 0.99 | 20.11 | 7.98 | 4.99 |
| 6000.00 | 9.94 | 22.68 | 11.70 | 19.42 | 2.18 | 1.01 | 19.38 | 7.49 | 5.21 |
| 6250.00 | 9.69 | 22.76 | 11.08 | 18.63 | 2.25 | 1.02 | 19.57 | 7.43 | 5.24 |
| 6500.00 | 9.41 | 22.91 | 10.54 | 18.23 | 2.37 | 1.04 | 19.42 | 7.50 | 5.35 |
| 6750.00 | 9.33 | 23.50 | 10.10 | 17.03 | 2.38 | 1.05 | 18.37 | 7.24 | 5.44 |
| 7000.00 | 9.09 | 23.45 | 9.74 | 16.28 | 2.45 | 1.06 | 17.96 | 6.57 | 5.72 |

MMIC Amplifier

ERA-4+

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Id=78mA, Vd = 4.55V @ Temperature = +25degC

| FREQ | Gain | Isolation | Input Return Loss | Output Return Loss | Stability | | IP-3 Output | 1dB Comp. Output | Noise Figure |
|---------|-------|-----------|-------------------|--------------------|-----------|-------|-------------|------------------|--------------|
| | | | | | K | Delta | | | |
| (MHz) | (dB) | (dB) | (dB) | (dB) | K | Delta | (dBm) | (dBm) | (dB) |
| 10.00 | 14.45 | 18.78 | 46.11 | 40.97 | 1.13 | 0.63 | 38.38 | 17.72 | 4.27 |
| 50.00 | 14.50 | 19.10 | 41.33 | 50.48 | 1.14 | 0.65 | 39.09 | 18.41 | 4.23 |
| 100.00 | 14.47 | 19.07 | 40.04 | 47.52 | 1.14 | 0.65 | 38.99 | 18.30 | 4.24 |
| 200.00 | 14.43 | 19.10 | 39.11 | 42.76 | 1.15 | 0.66 | 38.54 | 18.20 | 4.19 |
| 300.00 | 14.39 | 19.07 | 40.77 | 38.38 | 1.15 | 0.66 | 38.64 | 18.28 | 4.28 |
| 400.00 | 14.34 | 19.10 | 40.41 | 34.97 | 1.15 | 0.67 | 37.27 | 18.54 | 4.40 |
| 500.00 | 14.29 | 19.09 | 38.42 | 32.96 | 1.16 | 0.67 | 36.67 | 18.63 | 4.45 |
| 600.00 | 14.25 | 19.10 | 36.75 | 30.88 | 1.16 | 0.67 | 35.27 | 18.41 | 4.31 |
| 700.00 | 14.20 | 19.10 | 34.25 | 29.18 | 1.16 | 0.68 | 35.39 | 18.40 | 4.34 |
| 800.00 | 14.15 | 19.11 | 32.70 | 27.64 | 1.17 | 0.68 | 35.47 | 18.30 | 4.29 |
| 900.00 | 14.10 | 19.13 | 30.83 | 26.35 | 1.17 | 0.68 | 35.01 | 18.50 | 4.32 |
| 1000.00 | 14.04 | 19.15 | 29.44 | 25.36 | 1.17 | 0.69 | 34.66 | 18.19 | 4.37 |
| 1100.00 | 13.98 | 19.17 | 28.34 | 24.40 | 1.18 | 0.69 | 34.62 | 18.18 | 4.31 |
| 1200.00 | 13.93 | 19.19 | 27.39 | 23.63 | 1.18 | 0.70 | 34.35 | 18.08 | 4.38 |
| 1300.00 | 13.87 | 19.19 | 26.54 | 22.97 | 1.19 | 0.70 | 33.97 | 18.00 | 4.36 |
| 1400.00 | 13.80 | 19.22 | 25.75 | 22.24 | 1.19 | 0.71 | 33.54 | 17.49 | 4.29 |
| 1500.00 | 13.74 | 19.27 | 25.02 | 21.78 | 1.20 | 0.71 | 33.04 | 17.26 | 4.31 |
| 1600.00 | 13.67 | 19.28 | 24.58 | 21.32 | 1.21 | 0.72 | 32.82 | 17.20 | 4.39 |
| 1700.00 | 13.61 | 19.31 | 24.00 | 20.86 | 1.21 | 0.72 | 32.82 | 17.17 | 4.32 |
| 1800.00 | 13.53 | 19.34 | 23.70 | 20.61 | 1.22 | 0.73 | 32.44 | 16.79 | 4.42 |
| 1900.00 | 13.46 | 19.39 | 23.27 | 20.28 | 1.23 | 0.74 | 32.26 | 16.69 | 4.40 |
| 2000.00 | 13.40 | 19.39 | 22.89 | 20.01 | 1.24 | 0.74 | 32.14 | 16.68 | 4.39 |
| 2250.00 | 13.22 | 19.50 | 22.35 | 19.60 | 1.26 | 0.75 | 30.61 | 15.80 | 4.38 |
| 2500.00 | 13.03 | 19.60 | 21.81 | 19.36 | 1.29 | 0.77 | 29.84 | 15.63 | 4.40 |
| 2750.00 | 12.84 | 19.70 | 21.45 | 19.28 | 1.32 | 0.78 | 29.41 | 15.24 | 4.45 |
| 3000.00 | 12.63 | 19.85 | 21.03 | 19.51 | 1.39 | 0.81 | 28.34 | 14.58 | 4.34 |
| 3250.00 | 12.45 | 19.99 | 20.55 | 19.43 | 1.44 | 0.83 | 27.40 | 13.93 | 4.54 |
| 3500.00 | 12.22 | 20.20 | 20.32 | 19.88 | 1.47 | 0.84 | 26.86 | 13.50 | 4.63 |
| 3750.00 | 12.05 | 20.28 | 19.61 | 20.08 | 1.52 | 0.86 | 26.43 | 12.94 | 4.73 |
| 4000.00 | 11.85 | 20.49 | 18.80 | 19.98 | 1.57 | 0.87 | 25.60 | 12.52 | 4.64 |
| 4250.00 | 11.64 | 20.68 | 18.38 | 20.08 | 1.66 | 0.89 | 24.88 | 11.93 | 4.73 |
| 4500.00 | 11.40 | 21.03 | 16.63 | 19.69 | 1.68 | 0.90 | 24.59 | 11.73 | 4.72 |
| 4750.00 | 11.21 | 21.03 | 15.68 | 19.45 | 1.74 | 0.91 | 24.01 | 11.27 | 4.86 |
| 5000.00 | 10.96 | 21.24 | 15.45 | 19.56 | 1.87 | 0.93 | 22.92 | 10.62 | 5.00 |
| 5250.00 | 10.69 | 21.74 | 14.13 | 19.70 | 1.87 | 0.94 | 22.72 | 10.07 | 5.08 |
| 5500.00 | 10.59 | 21.77 | 14.13 | 20.40 | 2.08 | 0.96 | 22.93 | 10.00 | 5.25 |
| 5750.00 | 10.37 | 22.57 | 12.83 | 19.81 | 2.07 | 0.98 | 22.00 | 9.52 | 5.36 |
| 6000.00 | 10.22 | 22.57 | 12.20 | 19.20 | 2.12 | 0.99 | 21.31 | 9.03 | 5.57 |
| 6250.00 | 9.99 | 22.67 | 11.59 | 18.55 | 2.18 | 1.01 | 21.55 | 8.95 | 5.58 |
| 6500.00 | 9.73 | 22.81 | 11.13 | 18.47 | 2.29 | 1.02 | 21.41 | 9.05 | 5.79 |
| 6750.00 | 9.67 | 23.35 | 10.69 | 17.40 | 2.29 | 1.03 | 20.39 | 8.75 | 5.87 |
| 7000.00 | 9.45 | 23.28 | 10.40 | 16.79 | 2.35 | 1.04 | 20.04 | 8.06 | 6.12 |

MMIC Amplifier

ERA-4+

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Id=65mA, Vd = 4.64V @Temperature = -45degC

| FREQ | Gain | Isolation | Input Return Loss | Output Return Loss | Stability | | IP-3 Output | 1dB Comp. Output | Noise Figure |
|---------|-------|-----------|-------------------|--------------------|-----------|-------|-------------|------------------|--------------|
| | | | | | K | Delta | | | |
| (MHz) | (dB) | (dB) | (dB) | (dB) | K | Delta | (dBm) | (dBm) | (dB) |
| 10.00 | 14.49 | 18.94 | 36.65 | 41.53 | 1.13 | 0.64 | 37.28 | 17.74 | 3.55 |
| 50.00 | 14.52 | 19.05 | 31.82 | 38.95 | 1.14 | 0.65 | 37.27 | 18.20 | 3.52 |
| 100.00 | 14.49 | 19.02 | 30.82 | 37.17 | 1.14 | 0.65 | 37.22 | 18.06 | 3.51 |
| 200.00 | 14.46 | 19.04 | 30.60 | 34.34 | 1.14 | 0.65 | 36.76 | 17.89 | 3.45 |
| 300.00 | 14.43 | 19.07 | 36.91 | 35.98 | 1.15 | 0.66 | 36.71 | 17.83 | 3.54 |
| 400.00 | 14.40 | 19.05 | 37.88 | 35.26 | 1.15 | 0.66 | 36.14 | 17.98 | 3.60 |
| 500.00 | 14.36 | 19.04 | 37.61 | 33.43 | 1.15 | 0.66 | 35.77 | 18.07 | 3.58 |
| 600.00 | 14.32 | 19.05 | 38.08 | 31.23 | 1.15 | 0.66 | 35.27 | 17.87 | 3.56 |
| 700.00 | 14.27 | 19.04 | 34.92 | 30.03 | 1.15 | 0.67 | 34.88 | 17.82 | 3.53 |
| 800.00 | 14.23 | 19.02 | 35.21 | 28.46 | 1.15 | 0.67 | 34.78 | 17.84 | 3.51 |
| 900.00 | 14.19 | 19.04 | 32.90 | 27.39 | 1.16 | 0.67 | 34.60 | 18.00 | 3.50 |
| 1000.00 | 14.14 | 19.06 | 30.80 | 26.42 | 1.16 | 0.68 | 34.37 | 17.53 | 3.54 |
| 1100.00 | 14.08 | 19.05 | 29.83 | 25.35 | 1.16 | 0.68 | 34.45 | 17.74 | 3.47 |
| 1200.00 | 14.03 | 19.06 | 28.15 | 24.29 | 1.17 | 0.68 | 34.16 | 17.79 | 3.53 |
| 1300.00 | 13.98 | 19.08 | 27.18 | 23.32 | 1.17 | 0.69 | 34.07 | 17.75 | 3.51 |
| 1400.00 | 13.92 | 19.11 | 25.94 | 22.66 | 1.18 | 0.69 | 33.70 | 17.50 | 3.44 |
| 1500.00 | 13.86 | 19.13 | 24.99 | 21.88 | 1.18 | 0.70 | 33.54 | 17.48 | 3.52 |
| 1600.00 | 13.80 | 19.15 | 24.18 | 21.31 | 1.19 | 0.70 | 33.47 | 17.38 | 3.52 |
| 1700.00 | 13.74 | 19.17 | 23.70 | 20.74 | 1.19 | 0.71 | 33.19 | 17.37 | 3.48 |
| 1800.00 | 13.67 | 19.21 | 23.34 | 20.32 | 1.20 | 0.71 | 32.88 | 16.99 | 3.57 |
| 1900.00 | 13.60 | 19.23 | 22.84 | 19.96 | 1.21 | 0.72 | 32.74 | 16.87 | 3.55 |
| 2000.00 | 13.53 | 19.28 | 22.18 | 19.33 | 1.22 | 0.72 | 32.48 | 16.79 | 3.52 |
| 2250.00 | 13.37 | 19.34 | 21.18 | 18.79 | 1.23 | 0.73 | 31.34 | 16.09 | 3.48 |
| 2500.00 | 13.20 | 19.45 | 21.08 | 18.86 | 1.26 | 0.75 | 30.63 | 15.89 | 3.57 |
| 2750.00 | 13.01 | 19.54 | 21.12 | 19.28 | 1.28 | 0.77 | 30.07 | 15.43 | 3.50 |
| 3000.00 | 12.84 | 19.63 | 21.95 | 19.75 | 1.34 | 0.80 | 29.22 | 14.79 | 3.42 |
| 3250.00 | 12.64 | 19.78 | 21.12 | 19.96 | 1.38 | 0.81 | 28.12 | 14.04 | 3.60 |
| 3500.00 | 12.46 | 19.90 | 21.00 | 20.04 | 1.42 | 0.83 | 27.58 | 13.59 | 3.62 |
| 3750.00 | 12.26 | 20.09 | 19.94 | 19.79 | 1.46 | 0.84 | 27.30 | 12.97 | 3.72 |
| 4000.00 | 12.06 | 20.25 | 19.04 | 19.74 | 1.50 | 0.85 | 26.34 | 12.61 | 3.71 |
| 4250.00 | 11.91 | 20.39 | 17.61 | 19.83 | 1.55 | 0.87 | 25.49 | 12.02 | 3.71 |
| 4500.00 | 11.73 | 20.64 | 16.77 | 19.32 | 1.60 | 0.88 | 25.49 | 11.82 | 3.74 |
| 4750.00 | 11.51 | 20.80 | 15.48 | 18.55 | 1.70 | 0.90 | 24.80 | 11.39 | 3.84 |
| 5000.00 | 11.15 | 21.19 | 14.39 | 17.92 | 1.73 | 0.91 | 23.47 | 10.70 | 3.88 |
| 5250.00 | 10.96 | 21.30 | 13.26 | 17.83 | 1.75 | 0.93 | 23.45 | 10.19 | 4.03 |
| 5500.00 | 10.79 | 21.33 | 12.78 | 18.89 | 1.86 | 0.95 | 23.61 | 10.11 | 4.08 |
| 5750.00 | 10.68 | 21.93 | 12.36 | 19.20 | 1.94 | 0.97 | 22.41 | 9.62 | 4.16 |
| 6000.00 | 10.56 | 22.27 | 11.24 | 18.02 | 1.91 | 0.99 | 21.78 | 9.11 | 4.37 |
| 6250.00 | 10.24 | 22.07 | 11.27 | 18.18 | 2.03 | 1.00 | 22.22 | 9.20 | 4.41 |
| 6500.00 | 10.00 | 22.45 | 11.54 | 18.84 | 2.17 | 1.01 | 22.05 | 9.29 | 4.59 |
| 6750.00 | 9.82 | 22.88 | 10.95 | 17.73 | 2.11 | 1.02 | 20.61 | 9.07 | 4.58 |
| 7000.00 | 10.06 | 23.08 | 11.05 | 17.22 | 2.20 | 1.02 | 20.49 | 8.44 | 4.85 |

MMIC Amplifier

ERA-4+

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Id= 52mA; Vd= 4.52V; @ Temperature = -45 deg C

| FREQ | Gain | Isolation | Input Return Loss | Output Return Loss | Stability | | IP-3 Output | 1dB Comp. Output | Noise Figure |
|---------|-------|-----------|-------------------|--------------------|-----------|-------|-------------|------------------|--------------|
| | | | | | K | Delta | | | |
| (MHz) | (dB) | (dB) | (dB) | (dB) | | | (dBm) | (dBm) | (dB) |
| 10.00 | 14.40 | 19.40 | 34.71 | 35.79 | 1.17 | 0.68 | 33.64 | 16.33 | 3.45 |
| 50.00 | 14.42 | 18.97 | 29.71 | 34.32 | 1.14 | 0.65 | 33.35 | 16.46 | 3.45 |
| 100.00 | 14.39 | 19.04 | 28.86 | 33.18 | 1.15 | 0.66 | 33.28 | 16.26 | 3.44 |
| 200.00 | 14.36 | 18.96 | 28.70 | 31.46 | 1.14 | 0.65 | 33.05 | 16.10 | 3.40 |
| 300.00 | 14.33 | 18.96 | 33.44 | 34.65 | 1.14 | 0.66 | 33.27 | 16.09 | 3.50 |
| 400.00 | 14.30 | 18.96 | 35.27 | 36.02 | 1.15 | 0.66 | 32.97 | 16.24 | 3.53 |
| 500.00 | 14.26 | 18.97 | 35.95 | 34.70 | 1.15 | 0.66 | 33.05 | 16.43 | 3.55 |
| 600.00 | 14.23 | 18.93 | 38.17 | 32.42 | 1.15 | 0.66 | 32.97 | 16.25 | 3.47 |
| 700.00 | 14.18 | 18.94 | 36.88 | 31.33 | 1.15 | 0.67 | 32.74 | 16.15 | 3.41 |
| 800.00 | 14.14 | 18.96 | 37.47 | 29.65 | 1.16 | 0.67 | 32.69 | 16.27 | 3.37 |
| 900.00 | 14.10 | 18.95 | 34.86 | 28.39 | 1.16 | 0.67 | 32.71 | 16.32 | 3.42 |
| 1000.00 | 14.05 | 18.96 | 32.66 | 27.40 | 1.16 | 0.68 | 32.32 | 15.73 | 3.44 |
| 1100.00 | 14.00 | 18.99 | 31.74 | 26.19 | 1.17 | 0.68 | 32.20 | 16.05 | 3.41 |
| 1200.00 | 13.95 | 19.00 | 29.75 | 25.08 | 1.17 | 0.69 | 32.45 | 16.15 | 3.46 |
| 1300.00 | 13.89 | 19.00 | 28.80 | 24.04 | 1.17 | 0.69 | 32.31 | 16.15 | 3.42 |
| 1400.00 | 13.83 | 19.05 | 27.26 | 23.38 | 1.18 | 0.70 | 32.20 | 16.03 | 3.34 |
| 1500.00 | 13.78 | 19.06 | 26.18 | 22.52 | 1.18 | 0.70 | 32.24 | 16.34 | 3.37 |
| 1600.00 | 13.71 | 19.08 | 25.28 | 21.90 | 1.19 | 0.70 | 32.04 | 16.21 | 3.38 |
| 1700.00 | 13.66 | 19.09 | 24.73 | 21.29 | 1.19 | 0.71 | 31.91 | 16.26 | 3.38 |
| 1800.00 | 13.59 | 19.13 | 24.33 | 20.83 | 1.20 | 0.71 | 31.60 | 16.10 | 3.50 |
| 1900.00 | 13.52 | 19.17 | 23.67 | 20.47 | 1.21 | 0.72 | 31.49 | 15.91 | 3.44 |
| 2000.00 | 13.45 | 19.21 | 22.97 | 19.79 | 1.22 | 0.72 | 30.99 | 15.67 | 3.42 |
| 2250.00 | 13.29 | 19.29 | 21.83 | 19.24 | 1.24 | 0.74 | 30.29 | 15.31 | 3.37 |
| 2500.00 | 13.12 | 19.37 | 21.58 | 19.30 | 1.26 | 0.75 | 29.56 | 15.03 | 3.47 |
| 2750.00 | 12.94 | 19.45 | 21.60 | 19.76 | 1.28 | 0.77 | 29.01 | 14.59 | 3.45 |
| 3000.00 | 12.77 | 19.57 | 22.24 | 20.24 | 1.35 | 0.80 | 28.19 | 13.95 | 3.37 |
| 3250.00 | 12.56 | 19.75 | 21.31 | 20.44 | 1.38 | 0.81 | 27.11 | 13.24 | 3.46 |
| 3500.00 | 12.38 | 19.86 | 21.13 | 20.52 | 1.42 | 0.83 | 26.64 | 12.77 | 3.52 |
| 3750.00 | 12.19 | 20.04 | 20.08 | 20.28 | 1.47 | 0.84 | 26.36 | 12.13 | 3.58 |
| 4000.00 | 11.98 | 20.23 | 19.09 | 20.19 | 1.50 | 0.85 | 25.47 | 11.78 | 3.54 |
| 4250.00 | 11.82 | 20.35 | 17.64 | 20.22 | 1.55 | 0.87 | 24.62 | 11.21 | 3.61 |
| 4500.00 | 11.64 | 20.58 | 16.69 | 19.79 | 1.61 | 0.88 | 24.53 | 11.08 | 3.60 |
| 4750.00 | 11.41 | 20.78 | 15.53 | 18.97 | 1.71 | 0.91 | 23.90 | 10.56 | 3.69 |
| 5000.00 | 11.08 | 21.16 | 14.37 | 18.46 | 1.74 | 0.92 | 22.60 | 9.92 | 3.75 |
| 5250.00 | 10.90 | 21.29 | 13.26 | 17.95 | 1.78 | 0.93 | 22.57 | 9.34 | 3.84 |
| 5500.00 | 10.65 | 21.35 | 12.62 | 19.33 | 1.88 | 0.96 | 22.80 | 9.27 | 3.94 |
| 5750.00 | 10.59 | 21.92 | 12.14 | 19.64 | 1.96 | 0.98 | 21.53 | 8.80 | 4.11 |
| 6000.00 | 10.43 | 22.31 | 11.05 | 18.23 | 1.95 | 1.00 | 20.76 | 8.30 | 4.23 |
| 6250.00 | 10.13 | 22.18 | 11.02 | 18.57 | 2.05 | 1.01 | 21.22 | 8.45 | 4.25 |
| 6500.00 | 9.88 | 22.44 | 11.42 | 18.79 | 2.15 | 1.01 | 20.96 | 8.49 | 4.46 |
| 6750.00 | 9.80 | 22.81 | 10.56 | 17.45 | 2.15 | 1.03 | 19.60 | 8.25 | 4.36 |
| 7000.00 | 9.88 | 23.17 | 10.65 | 17.13 | 2.26 | 1.04 | 19.38 | 7.80 | 4.53 |

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Id=78mA, Vd = 4.74V @Temperature = -45degC

| FREQ | Gain | Isolation | Input Return Loss | Output Return Loss | Stability | | IP-3 Output | 1dB Comp. Output | Noise Figure |
|---------|-------|-----------|-------------------|--------------------|-----------|-------|-------------|------------------|--------------|
| | | | | | K | Delta | | | |
| (MHz) | (dB) | (dB) | (dB) | (dB) | K | Delta | (dBm) | (dBm) | (dB) |
| 10.00 | 14.53 | 18.76 | 50.30 | 40.98 | 1.12 | 0.62 | 39.04 | 18.29 | 3.68 |
| 50.00 | 14.58 | 19.13 | 33.72 | 45.70 | 1.14 | 0.65 | 39.90 | 18.99 | 3.64 |
| 100.00 | 14.55 | 19.07 | 32.02 | 41.55 | 1.14 | 0.65 | 39.87 | 18.88 | 3.59 |
| 200.00 | 14.52 | 19.11 | 32.14 | 36.57 | 1.14 | 0.65 | 39.41 | 18.75 | 3.58 |
| 300.00 | 14.49 | 19.09 | 40.22 | 35.40 | 1.14 | 0.65 | 39.41 | 18.78 | 3.67 |
| 400.00 | 14.46 | 19.11 | 38.67 | 34.04 | 1.15 | 0.66 | 38.07 | 19.02 | 3.72 |
| 500.00 | 14.42 | 19.07 | 37.13 | 32.17 | 1.15 | 0.66 | 37.37 | 19.10 | 3.77 |
| 600.00 | 14.38 | 19.08 | 36.76 | 30.06 | 1.15 | 0.66 | 35.89 | 18.87 | 3.63 |
| 700.00 | 14.33 | 19.09 | 33.51 | 29.06 | 1.15 | 0.66 | 36.22 | 18.86 | 3.62 |
| 800.00 | 14.29 | 19.09 | 33.43 | 27.68 | 1.15 | 0.67 | 35.95 | 18.79 | 3.68 |
| 900.00 | 14.25 | 19.08 | 31.38 | 26.65 | 1.16 | 0.67 | 35.58 | 19.03 | 3.63 |
| 1000.00 | 14.20 | 19.08 | 29.57 | 25.80 | 1.16 | 0.67 | 35.52 | 18.65 | 3.71 |
| 1100.00 | 14.14 | 19.10 | 28.76 | 24.77 | 1.16 | 0.68 | 35.63 | 18.73 | 3.58 |
| 1200.00 | 14.09 | 19.12 | 27.06 | 23.77 | 1.17 | 0.68 | 35.04 | 18.70 | 3.67 |
| 1300.00 | 14.04 | 19.13 | 26.24 | 22.83 | 1.17 | 0.69 | 35.04 | 18.61 | 3.62 |
| 1400.00 | 13.98 | 19.16 | 25.09 | 22.21 | 1.18 | 0.69 | 34.66 | 18.22 | 3.55 |
| 1500.00 | 13.92 | 19.19 | 24.26 | 21.48 | 1.18 | 0.70 | 34.22 | 17.99 | 3.58 |
| 1600.00 | 13.85 | 19.19 | 23.49 | 20.92 | 1.19 | 0.70 | 34.31 | 17.91 | 3.64 |
| 1700.00 | 13.80 | 19.23 | 23.04 | 20.37 | 1.19 | 0.71 | 33.99 | 17.88 | 3.61 |
| 1800.00 | 13.72 | 19.24 | 22.72 | 19.96 | 1.20 | 0.71 | 33.53 | 17.48 | 3.66 |
| 1900.00 | 13.66 | 19.29 | 22.26 | 19.64 | 1.21 | 0.72 | 33.65 | 17.35 | 3.60 |
| 2000.00 | 13.59 | 19.34 | 21.64 | 18.99 | 1.21 | 0.72 | 33.14 | 17.38 | 3.61 |
| 2250.00 | 13.42 | 19.39 | 20.77 | 18.51 | 1.23 | 0.73 | 31.91 | 16.58 | 3.61 |
| 2500.00 | 13.25 | 19.49 | 20.65 | 18.57 | 1.26 | 0.75 | 31.31 | 16.43 | 3.69 |
| 2750.00 | 13.07 | 19.57 | 20.76 | 19.02 | 1.28 | 0.76 | 30.73 | 16.01 | 3.66 |
| 3000.00 | 12.90 | 19.69 | 21.70 | 19.53 | 1.34 | 0.80 | 29.83 | 15.42 | 3.59 |
| 3250.00 | 12.71 | 19.84 | 20.90 | 19.70 | 1.37 | 0.81 | 28.90 | 14.73 | 3.73 |
| 3500.00 | 12.52 | 19.95 | 20.84 | 19.73 | 1.42 | 0.83 | 28.26 | 14.30 | 3.79 |
| 3750.00 | 12.32 | 20.15 | 19.80 | 19.52 | 1.46 | 0.84 | 27.97 | 13.70 | 3.81 |
| 4000.00 | 12.13 | 20.30 | 18.92 | 19.48 | 1.49 | 0.85 | 27.13 | 13.34 | 3.78 |
| 4250.00 | 11.97 | 20.42 | 17.56 | 19.43 | 1.54 | 0.87 | 26.33 | 12.72 | 3.83 |
| 4500.00 | 11.79 | 20.65 | 16.66 | 19.02 | 1.59 | 0.88 | 26.10 | 12.57 | 3.87 |
| 4750.00 | 11.57 | 20.81 | 15.52 | 17.98 | 1.69 | 0.90 | 25.48 | 12.12 | 4.01 |
| 5000.00 | 11.24 | 21.21 | 14.46 | 17.80 | 1.72 | 0.91 | 24.17 | 11.40 | 4.07 |
| 5250.00 | 11.03 | 21.30 | 13.17 | 17.39 | 1.73 | 0.92 | 24.19 | 10.92 | 4.17 |
| 5500.00 | 10.88 | 21.29 | 12.89 | 18.67 | 1.83 | 0.95 | 24.53 | 10.86 | 4.29 |
| 5750.00 | 10.77 | 21.84 | 12.64 | 18.82 | 1.93 | 0.96 | 23.28 | 10.35 | 4.35 |
| 6000.00 | 10.66 | 22.30 | 11.37 | 17.81 | 1.88 | 0.98 | 22.63 | 9.90 | 4.52 |
| 6250.00 | 10.38 | 22.02 | 11.58 | 18.05 | 2.00 | 0.99 | 23.14 | 9.95 | 4.57 |
| 6500.00 | 10.14 | 22.36 | 11.85 | 18.57 | 2.13 | 1.00 | 22.86 | 10.05 | 4.74 |
| 6750.00 | 9.97 | 22.79 | 11.10 | 17.98 | 2.09 | 1.02 | 21.56 | 9.80 | 4.68 |
| 7000.00 | 10.15 | 23.02 | 11.16 | 17.80 | 2.17 | 1.02 | 21.35 | 9.28 | 4.99 |

MMIC Amplifier

ERA-4+

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Id=65mA, Vd = 4.26V @Temperature = +85degC

| FREQ | Gain | Isolation | Input Return Loss | Output Return Loss | Stability | | IP-3 Output | 1dB Comp. Output | Noise Figure |
|---------|-------|-----------|-------------------|--------------------|-----------|-------|-------------|------------------|--------------|
| | | | | | K | Delta | | | |
| (MHz) | (dB) | (dB) | (dB) | (dB) | K | Delta | (dBm) | (dBm) | (dB) |
| 10.00 | 14.31 | 18.80 | 38.62 | 44.01 | 1.14 | 0.64 | 36.04 | 17.17 | 4.60 |
| 50.00 | 14.34 | 18.97 | 41.76 | 51.25 | 1.15 | 0.66 | 35.79 | 17.53 | 4.63 |
| 100.00 | 14.31 | 18.98 | 44.26 | 39.80 | 1.15 | 0.66 | 35.71 | 17.41 | 4.61 |
| 200.00 | 14.27 | 18.98 | 41.59 | 42.05 | 1.15 | 0.66 | 35.41 | 17.29 | 4.58 |
| 300.00 | 14.22 | 19.00 | 42.05 | 39.31 | 1.16 | 0.67 | 35.40 | 17.24 | 4.70 |
| 400.00 | 14.17 | 19.00 | 41.50 | 37.62 | 1.16 | 0.67 | 34.84 | 17.42 | 4.79 |
| 500.00 | 14.12 | 19.00 | 38.39 | 35.85 | 1.16 | 0.67 | 34.54 | 17.44 | 4.81 |
| 600.00 | 14.08 | 19.04 | 40.39 | 32.47 | 1.17 | 0.68 | 34.25 | 17.19 | 4.83 |
| 700.00 | 14.02 | 19.01 | 37.63 | 30.79 | 1.17 | 0.68 | 33.43 | 17.17 | 4.82 |
| 800.00 | 13.97 | 19.06 | 36.36 | 29.43 | 1.17 | 0.69 | 33.44 | 17.10 | 4.78 |
| 900.00 | 13.92 | 19.05 | 34.28 | 28.09 | 1.18 | 0.69 | 33.28 | 17.29 | 4.82 |
| 1000.00 | 13.86 | 19.07 | 33.19 | 27.07 | 1.18 | 0.70 | 32.95 | 16.89 | 4.81 |
| 1100.00 | 13.80 | 19.08 | 32.14 | 25.94 | 1.19 | 0.70 | 32.74 | 16.97 | 4.80 |
| 1200.00 | 13.74 | 19.11 | 30.84 | 25.05 | 1.19 | 0.71 | 32.41 | 16.91 | 4.87 |
| 1300.00 | 13.67 | 19.16 | 29.80 | 24.27 | 1.20 | 0.71 | 32.24 | 16.84 | 4.87 |
| 1400.00 | 13.61 | 19.16 | 28.72 | 23.55 | 1.21 | 0.72 | 31.77 | 16.40 | 4.82 |
| 1500.00 | 13.54 | 19.20 | 28.02 | 22.98 | 1.21 | 0.72 | 31.38 | 16.23 | 4.83 |
| 1600.00 | 13.47 | 19.21 | 27.30 | 22.44 | 1.22 | 0.73 | 31.24 | 16.12 | 4.86 |
| 1700.00 | 13.40 | 19.26 | 26.37 | 21.87 | 1.23 | 0.73 | 31.07 | 16.09 | 4.84 |
| 1800.00 | 13.33 | 19.28 | 25.89 | 21.52 | 1.24 | 0.74 | 30.61 | 15.71 | 4.87 |
| 1900.00 | 13.25 | 19.33 | 25.34 | 21.19 | 1.25 | 0.75 | 30.43 | 15.54 | 4.93 |
| 2000.00 | 13.17 | 19.38 | 25.03 | 20.82 | 1.26 | 0.75 | 30.21 | 15.49 | 4.90 |
| 2250.00 | 12.99 | 19.49 | 23.89 | 20.36 | 1.28 | 0.77 | 28.70 | 14.59 | 4.89 |
| 2500.00 | 12.79 | 19.60 | 23.48 | 20.22 | 1.31 | 0.78 | 27.98 | 14.39 | 5.07 |
| 2750.00 | 12.58 | 19.73 | 22.95 | 20.08 | 1.35 | 0.80 | 27.41 | 13.98 | 4.99 |
| 3000.00 | 12.38 | 19.88 | 21.97 | 20.34 | 1.43 | 0.83 | 26.49 | 13.26 | 4.94 |
| 3250.00 | 12.15 | 20.03 | 21.29 | 20.45 | 1.48 | 0.84 | 25.51 | 12.58 | 5.09 |
| 3500.00 | 11.94 | 20.24 | 20.62 | 20.83 | 1.53 | 0.86 | 25.01 | 12.11 | 5.16 |
| 3750.00 | 11.71 | 20.43 | 19.25 | 20.53 | 1.59 | 0.87 | 24.52 | 11.53 | 5.28 |
| 4000.00 | 11.48 | 20.62 | 18.15 | 20.67 | 1.64 | 0.89 | 23.75 | 11.16 | 5.22 |
| 4250.00 | 11.26 | 20.81 | 17.57 | 20.95 | 1.74 | 0.91 | 23.03 | 10.56 | 5.37 |
| 4500.00 | 11.02 | 21.18 | 16.02 | 20.90 | 1.77 | 0.92 | 22.56 | 10.27 | 5.37 |
| 4750.00 | 10.79 | 21.24 | 15.52 | 20.02 | 1.91 | 0.93 | 22.16 | 9.84 | 5.51 |
| 5000.00 | 10.40 | 21.66 | 14.81 | 20.84 | 2.02 | 0.95 | 21.37 | 9.26 | 5.61 |
| 5250.00 | 10.23 | 22.08 | 13.60 | 20.39 | 2.04 | 0.97 | 20.79 | 8.54 | 5.74 |
| 5500.00 | 9.99 | 22.08 | 12.83 | 20.43 | 2.11 | 0.99 | 20.69 | 8.31 | 5.87 |
| 5750.00 | 9.83 | 22.38 | 12.73 | 20.99 | 2.35 | 1.00 | 20.13 | 7.93 | 6.01 |
| 6000.00 | 9.64 | 23.27 | 11.82 | 18.89 | 2.32 | 1.01 | 19.54 | 7.35 | 6.18 |
| 6250.00 | 9.44 | 23.11 | 11.29 | 17.62 | 2.36 | 1.02 | 19.44 | 7.36 | 6.25 |
| 6500.00 | 9.14 | 23.12 | 11.29 | 18.47 | 2.77 | 1.04 | 19.28 | 7.50 | 6.34 |
| 6750.00 | 9.07 | 24.55 | 10.06 | 15.82 | 2.50 | 1.05 | 18.52 | 7.26 | 6.52 |
| 7000.00 | 8.90 | 23.83 | 9.66 | 15.24 | 2.51 | 1.06 | 18.11 | 6.57 | 6.79 |

MMIC Amplifier

ERA-4+

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Id=52mA, Vd = 4.13V @Temperature = +85degC

| FREQ | Gain | Isolation | Input Return Loss | Output Return Loss | Stability | | IP-3 Output | 1dB Comp. Output | Noise Figure |
|---------|-------|-----------|-------------------|--------------------|-----------|-------|-------------|------------------|--------------|
| | | | | | K | Delta | | | |
| (MHz) | (dB) | (dB) | (dB) | (dB) | K | Delta | (dBm) | (dBm) | (dB) |
| 10.00 | 14.19 | 18.65 | 34.30 | 32.36 | 1.13 | 0.64 | 32.42 | 15.89 | 4.52 |
| 50.00 | 14.21 | 18.88 | 35.59 | 37.75 | 1.15 | 0.66 | 32.18 | 16.14 | 4.52 |
| 100.00 | 14.18 | 18.91 | 36.46 | 37.42 | 1.15 | 0.66 | 32.28 | 16.08 | 4.52 |
| 200.00 | 14.14 | 18.90 | 35.75 | 39.83 | 1.15 | 0.67 | 32.09 | 15.91 | 4.53 |
| 300.00 | 14.10 | 18.90 | 35.35 | 37.98 | 1.16 | 0.67 | 32.16 | 15.83 | 4.62 |
| 400.00 | 14.05 | 18.90 | 36.49 | 37.32 | 1.16 | 0.67 | 31.84 | 15.95 | 4.76 |
| 500.00 | 14.00 | 18.90 | 35.33 | 35.64 | 1.16 | 0.68 | 31.90 | 16.06 | 4.66 |
| 600.00 | 13.96 | 18.91 | 37.46 | 33.12 | 1.17 | 0.68 | 31.87 | 15.86 | 4.75 |
| 700.00 | 13.90 | 18.92 | 38.33 | 31.89 | 1.17 | 0.69 | 31.56 | 15.78 | 4.72 |
| 800.00 | 13.85 | 18.93 | 38.26 | 30.65 | 1.17 | 0.69 | 31.44 | 15.82 | 4.68 |
| 900.00 | 13.80 | 18.96 | 37.44 | 29.19 | 1.18 | 0.69 | 31.30 | 15.92 | 4.70 |
| 1000.00 | 13.74 | 18.98 | 36.16 | 28.18 | 1.19 | 0.70 | 30.91 | 15.43 | 4.73 |
| 1100.00 | 13.68 | 19.01 | 35.50 | 27.01 | 1.19 | 0.71 | 30.89 | 15.67 | 4.71 |
| 1200.00 | 13.62 | 19.01 | 34.00 | 26.07 | 1.20 | 0.71 | 30.85 | 15.68 | 4.74 |
| 1300.00 | 13.56 | 19.03 | 32.56 | 25.24 | 1.20 | 0.71 | 30.64 | 15.66 | 4.75 |
| 1400.00 | 13.50 | 19.06 | 31.18 | 24.49 | 1.21 | 0.72 | 30.42 | 15.40 | 4.69 |
| 1500.00 | 13.43 | 19.10 | 30.35 | 23.89 | 1.22 | 0.73 | 30.13 | 15.45 | 4.74 |
| 1600.00 | 13.36 | 19.12 | 29.40 | 23.27 | 1.22 | 0.73 | 30.00 | 15.34 | 4.78 |
| 1700.00 | 13.29 | 19.16 | 28.22 | 22.72 | 1.23 | 0.74 | 29.76 | 15.29 | 4.73 |
| 1800.00 | 13.22 | 19.18 | 27.60 | 22.33 | 1.24 | 0.74 | 29.48 | 15.01 | 4.85 |
| 1900.00 | 13.15 | 19.22 | 26.89 | 21.94 | 1.25 | 0.75 | 29.26 | 14.83 | 4.82 |
| 2000.00 | 13.06 | 19.29 | 26.53 | 21.51 | 1.26 | 0.75 | 28.79 | 14.68 | 4.75 |
| 2250.00 | 12.89 | 19.40 | 25.05 | 21.06 | 1.29 | 0.77 | 27.60 | 13.93 | 4.79 |
| 2500.00 | 12.69 | 19.50 | 24.36 | 20.87 | 1.32 | 0.78 | 26.84 | 13.62 | 4.88 |
| 2750.00 | 12.48 | 19.65 | 23.70 | 20.75 | 1.35 | 0.80 | 26.42 | 13.21 | 4.86 |
| 3000.00 | 12.27 | 19.81 | 22.36 | 20.94 | 1.43 | 0.83 | 25.46 | 12.47 | 4.83 |
| 3250.00 | 12.06 | 19.97 | 21.53 | 21.21 | 1.49 | 0.85 | 24.53 | 11.79 | 4.93 |
| 3500.00 | 11.81 | 20.17 | 20.77 | 21.39 | 1.54 | 0.86 | 23.94 | 11.29 | 5.00 |
| 3750.00 | 11.61 | 20.38 | 19.33 | 21.19 | 1.60 | 0.88 | 23.43 | 10.69 | 5.09 |
| 4000.00 | 11.36 | 20.56 | 18.14 | 21.26 | 1.66 | 0.89 | 22.72 | 10.35 | 5.09 |
| 4250.00 | 11.14 | 20.77 | 17.50 | 21.69 | 1.75 | 0.91 | 22.11 | 9.77 | 5.18 |
| 4500.00 | 10.89 | 21.11 | 15.88 | 21.47 | 1.79 | 0.92 | 21.57 | 9.41 | 5.18 |
| 4750.00 | 10.65 | 21.19 | 15.53 | 20.95 | 1.94 | 0.94 | 21.14 | 9.03 | 5.30 |
| 5000.00 | 10.25 | 21.64 | 14.50 | 21.71 | 2.04 | 0.96 | 20.33 | 8.40 | 5.49 |
| 5250.00 | 10.09 | 22.09 | 13.31 | 20.50 | 2.06 | 0.97 | 19.76 | 7.66 | 5.55 |
| 5500.00 | 9.87 | 22.09 | 12.60 | 20.55 | 2.16 | 0.99 | 19.70 | 7.47 | 5.65 |
| 5750.00 | 9.68 | 22.47 | 12.59 | 21.51 | 2.38 | 1.01 | 19.08 | 7.10 | 5.86 |
| 6000.00 | 9.52 | 23.28 | 11.60 | 18.90 | 2.35 | 1.02 | 18.47 | 6.57 | 5.96 |
| 6250.00 | 9.27 | 23.13 | 10.93 | 17.58 | 2.39 | 1.03 | 18.31 | 6.56 | 6.08 |
| 6500.00 | 8.92 | 23.11 | 11.21 | 18.46 | 2.84 | 1.04 | 18.20 | 6.65 | 6.19 |
| 6750.00 | 8.89 | 24.61 | 9.83 | 15.87 | 2.55 | 1.06 | 17.44 | 6.53 | 6.28 |
| 7000.00 | 8.68 | 23.87 | 9.54 | 15.23 | 2.62 | 1.07 | 17.01 | 5.81 | 6.56 |

MMIC Amplifier

ERA-4+

Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Id=78mA, Vd = 4.40V @Temperature = +85degC

| FREQ | Gain | Isolation | Input Return Loss | Output Return Loss | Stability | | IP-3 Output | 1dB Comp. Output | Noise Figure |
|---------|-------|-----------|-------------------|--------------------|-----------|-------|-------------|------------------|--------------|
| | | | | | K | Delta | | | |
| (MHz) | (dB) | (dB) | (dB) | (dB) | K | Delta | (dBm) | (dBm) | (dB) |
| 10.00 | 14.41 | 19.01 | 39.31 | 40.90 | 1.14 | 0.65 | 38.29 | 17.30 | 4.74 |
| 50.00 | 14.42 | 19.04 | 47.21 | 45.42 | 1.15 | 0.66 | 38.93 | 17.85 | 4.76 |
| 100.00 | 14.39 | 19.10 | 50.80 | 37.79 | 1.15 | 0.66 | 39.20 | 17.79 | 4.78 |
| 200.00 | 14.34 | 19.06 | 43.72 | 38.02 | 1.15 | 0.66 | 38.59 | 17.67 | 4.73 |
| 300.00 | 14.30 | 19.07 | 49.08 | 36.71 | 1.15 | 0.67 | 38.10 | 17.74 | 4.95 |
| 400.00 | 14.25 | 19.07 | 41.47 | 35.31 | 1.16 | 0.67 | 37.29 | 18.02 | 4.94 |
| 500.00 | 14.20 | 19.08 | 38.48 | 34.03 | 1.16 | 0.68 | 36.35 | 18.13 | 5.03 |
| 600.00 | 14.15 | 19.07 | 38.69 | 31.24 | 1.16 | 0.68 | 35.32 | 17.88 | 4.98 |
| 700.00 | 14.09 | 19.10 | 35.47 | 29.63 | 1.17 | 0.68 | 35.27 | 17.85 | 4.93 |
| 800.00 | 14.04 | 19.11 | 34.11 | 28.40 | 1.17 | 0.69 | 34.86 | 17.76 | 4.88 |
| 900.00 | 13.99 | 19.11 | 32.24 | 27.14 | 1.18 | 0.69 | 34.60 | 17.95 | 4.94 |
| 1000.00 | 13.93 | 19.13 | 31.22 | 26.17 | 1.18 | 0.70 | 34.11 | 17.69 | 4.98 |
| 1100.00 | 13.87 | 19.15 | 30.30 | 25.12 | 1.19 | 0.70 | 33.72 | 17.62 | 4.95 |
| 1200.00 | 13.81 | 19.18 | 29.16 | 24.32 | 1.19 | 0.71 | 33.42 | 17.50 | 4.92 |
| 1300.00 | 13.74 | 19.20 | 28.29 | 23.60 | 1.20 | 0.71 | 33.14 | 17.40 | 4.97 |
| 1400.00 | 13.68 | 19.22 | 27.27 | 22.87 | 1.20 | 0.72 | 32.60 | 16.86 | 4.96 |
| 1500.00 | 13.61 | 19.25 | 26.72 | 22.39 | 1.21 | 0.72 | 31.87 | 16.65 | 4.97 |
| 1600.00 | 13.54 | 19.28 | 26.13 | 21.86 | 1.22 | 0.73 | 31.83 | 16.55 | 4.98 |
| 1700.00 | 13.47 | 19.30 | 25.27 | 21.31 | 1.23 | 0.73 | 31.75 | 16.51 | 4.99 |
| 1800.00 | 13.40 | 19.36 | 24.87 | 20.99 | 1.24 | 0.74 | 31.22 | 16.13 | 5.10 |
| 1900.00 | 13.32 | 19.37 | 24.40 | 20.69 | 1.24 | 0.74 | 31.06 | 15.97 | 5.07 |
| 2000.00 | 13.24 | 19.44 | 24.15 | 20.32 | 1.26 | 0.75 | 30.82 | 15.94 | 5.06 |
| 2250.00 | 13.06 | 19.53 | 23.19 | 19.91 | 1.28 | 0.76 | 29.39 | 15.04 | 5.04 |
| 2500.00 | 12.86 | 19.65 | 22.80 | 19.76 | 1.31 | 0.78 | 28.63 | 14.89 | 5.34 |
| 2750.00 | 12.65 | 19.78 | 22.42 | 19.65 | 1.34 | 0.79 | 27.99 | 14.53 | 5.14 |
| 3000.00 | 12.45 | 19.91 | 21.57 | 19.92 | 1.42 | 0.83 | 27.13 | 13.82 | 5.11 |
| 3250.00 | 12.23 | 20.07 | 20.95 | 20.04 | 1.47 | 0.84 | 26.18 | 13.20 | 5.25 |
| 3500.00 | 12.00 | 20.26 | 20.44 | 20.36 | 1.52 | 0.86 | 25.61 | 12.74 | 5.34 |
| 3750.00 | 11.79 | 20.45 | 19.11 | 20.18 | 1.58 | 0.87 | 25.12 | 12.18 | 5.47 |
| 4000.00 | 11.57 | 20.65 | 18.13 | 20.29 | 1.64 | 0.89 | 24.35 | 11.76 | 5.40 |
| 4250.00 | 11.34 | 20.84 | 17.44 | 20.67 | 1.72 | 0.90 | 23.71 | 11.19 | 5.53 |
| 4500.00 | 11.12 | 21.20 | 16.01 | 20.55 | 1.76 | 0.92 | 23.28 | 10.90 | 5.55 |
| 4750.00 | 10.89 | 21.25 | 15.50 | 19.87 | 1.89 | 0.93 | 22.84 | 10.52 | 5.78 |
| 5000.00 | 10.48 | 21.63 | 14.91 | 20.68 | 2.01 | 0.95 | 22.00 | 9.87 | 5.88 |
| 5250.00 | 10.32 | 22.15 | 13.75 | 20.24 | 2.02 | 0.96 | 21.55 | 9.18 | 5.97 |
| 5500.00 | 10.10 | 22.06 | 13.08 | 20.18 | 2.10 | 0.98 | 21.47 | 8.97 | 6.10 |
| 5750.00 | 9.95 | 22.39 | 12.85 | 21.53 | 2.29 | 1.00 | 20.86 | 8.59 | 6.24 |
| 6000.00 | 9.78 | 23.11 | 11.99 | 19.45 | 2.27 | 1.01 | 20.27 | 8.07 | 6.39 |
| 6250.00 | 9.57 | 22.98 | 11.36 | 17.98 | 2.31 | 1.02 | 20.20 | 8.06 | 6.48 |
| 6500.00 | 9.26 | 23.02 | 11.60 | 18.98 | 2.71 | 1.03 | 20.13 | 8.18 | 6.61 |
| 6750.00 | 9.21 | 24.41 | 10.14 | 16.12 | 2.42 | 1.05 | 19.31 | 7.94 | 6.74 |
| 7000.00 | 9.08 | 23.68 | 9.83 | 15.38 | 2.46 | 1.05 | 18.90 | 7.29 | 6.99 |