

# Frequency Mixer

ADE-ED7347/1

## Typical Performance Data

| RF<br>(MHz) | LO<br>(MHz) | CONVERSION LOSS<br>(dB) |      |      | LO<br>(MHz) | LO-RF ISOLATION<br>(dB) |      |      | LO-IF ISOLATION<br>(dB) |      |      |
|-------------|-------------|-------------------------|------|------|-------------|-------------------------|------|------|-------------------------|------|------|
|             |             | @LO (dBm)               |      |      |             | @LO (dBm)               |      |      | @LO (dBm)               |      |      |
|             |             | +14                     | +17  | +20  |             | +14                     | +17  | +20  | +14                     | +17  | +20  |
| 5.0         | 35.0        | 7.37                    | 6.27 | 5.77 | 35.0        | 63.0                    | 64.6 | 66.0 | 67.1                    | 70.3 | 62.6 |
| 10.0        | 40.0        | 7.17                    | 5.97 | 5.57 | 40.0        | 61.8                    | 63.6 | 64.9 | 66.2                    | 68.8 | 61.3 |
| 50.0        | 80.0        | 6.59                    | 5.39 | 4.99 | 80.0        | 56.2                    | 57.8 | 59.1 | 61.3                    | 64.4 | 55.7 |
| 75.2        | 105.2       | 6.81                    | 5.61 | 5.21 | 105.2       | 53.8                    | 55.7 | 57.2 | 58.3                    | 63.6 | 53.7 |
| 100.0       | 130.0       | 6.75                    | 5.65 | 5.25 | 130.0       | 52.0                    | 53.8 | 55.4 | 57.1                    | 62.9 | 52.2 |
| 150.2       | 180.2       | 7.05                    | 5.75 | 5.25 | 180.2       | 49.4                    | 51.1 | 52.4 | 53.9                    | 59.6 | 50.7 |
| 225.2       | 255.2       | 6.73                    | 5.53 | 5.23 | 255.2       | 46.5                    | 47.9 | 50.4 | 50.4                    | 65.2 | 49.8 |
| 250.0       | 280.0       | 6.77                    | 5.57 | 5.17 | 280.0       | 45.6                    | 47.3 | 49.8 | 49.0                    | 58.1 | 49.0 |
| 300.2       | 330.2       | 6.53                    | 5.43 | 5.13 | 330.2       | 43.8                    | 46.3 | 48.8 | 47.2                    | 52.8 | 47.9 |
| 375.2       | 405.2       | 6.54                    | 5.54 | 5.34 | 405.2       | 42.0                    | 44.7 | 47.0 | 41.6                    | 46.9 | 45.4 |
| 450.1       | 480.1       | 6.38                    | 5.58 | 5.18 | 480.1       | 41.2                    | 43.7 | 46.0 | 38.8                    | 43.4 | 42.5 |
| 500.0       | 530.0       | 6.32                    | 5.52 | 5.32 | 530.0       | 40.8                    | 43.9 | 46.3 | 37.5                    | 41.6 | 42.3 |
| 525.1       | 555.1       | 6.22                    | 5.52 | 5.32 | 555.1       | 40.3                    | 43.7 | 46.1 | 36.8                    | 40.8 | 41.8 |
| 600.1       | 630.1       | 6.54                    | 5.94 | 5.54 | 630.1       | 40.2                    | 44.4 | 49.7 | 34.9                    | 39.6 | 40.1 |
| 675.1       | 705.1       | 6.52                    | 5.92 | 5.72 | 705.1       | 40.2                    | 42.6 | 45.7 | 33.3                    | 36.6 | 38.0 |
| 750.0       | 780.0       | 6.75                    | 6.35 | 6.05 | 780.0       | 39.7                    | 41.8 | 44.3 | 31.4                    | 33.7 | 35.7 |
| 825.1       | 855.1       | 6.84                    | 6.04 | 5.64 | 855.1       | 39.4                    | 42.3 | 48.0 | 29.4                    | 31.1 | 33.4 |
| 900.1       | 930.1       | 7.39                    | 6.09 | 5.49 | 930.1       | 39.0                    | 44.6 | 50.8 | 29.1                    | 29.4 | 31.2 |
| 975.1       | 1005.1      | 8.40                    | 6.50 | 5.60 | 1005.1      | 37.1                    | 42.8 | 47.1 | 29.6                    | 29.7 | 30.8 |
| 1000.0      | 1030.0      | 8.45                    | 6.65 | 5.65 | 1030.0      | 36.5                    | 41.3 | 45.4 | 29.5                    | 30.0 | 30.9 |

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## Typical Performance Data

| RF/LO<br>(MHz) | RF VSWR<br>(:1) |      |      | LO VSWR<br>(:1) |      |      | IF<br>(MHz) | IF VSWR<br>(:1) |      |      |
|----------------|-----------------|------|------|-----------------|------|------|-------------|-----------------|------|------|
|                | @LO (dBm)       |      |      | @LO (dBm)       |      |      |             | @LO (dBm)       |      |      |
|                | +14             | +17  | +20  | +14             | +17  | +20  |             | +14             | +17  | +20  |
| 35.0           | 1.54            | 1.43 | 1.40 | 1.75            | 1.11 | 1.55 | 0.2         | 2.92            | 1.96 | 1.51 |
| 40.0           | 1.44            | 1.26 | 1.21 | 1.77            | 1.11 | 1.57 | 0.5         | 3.06            | 2.04 | 1.59 |
| 80.0           | 1.35            | 1.13 | 1.03 | 1.75            | 1.11 | 1.56 | 1.0         | 3.21            | 2.12 | 1.62 |
| 105.2          | 1.34            | 1.12 | 1.02 | 1.76            | 1.14 | 1.61 | 5.0         | 3.06            | 2.08 | 1.59 |
| 130.0          | 1.31            | 1.10 | 1.03 | 1.75            | 1.19 | 1.64 | 10.0        | 3.16            | 2.10 | 1.60 |
| 180.2          | 1.34            | 1.12 | 1.06 | 1.78            | 1.24 | 1.66 | 30.0        | 3.01            | 2.04 | 1.58 |
| 255.2          | 1.31            | 1.07 | 1.07 | 1.81            | 1.29 | 1.68 | 50.0        | 2.96            | 2.03 | 1.58 |
| 280.0          | 1.31            | 1.05 | 1.09 | 1.84            | 1.30 | 1.67 | 100.0       | 2.92            | 2.04 | 1.59 |
| 330.2          | 1.26            | 1.00 | 1.11 | 1.91            | 1.37 | 1.81 | 150.1       | 2.80            | 1.99 | 1.58 |
| 405.2          | 1.24            | 1.00 | 1.08 | 1.94            | 1.37 | 1.85 | 200.1       | 2.72            | 1.99 | 1.58 |
| 480.1          | 1.15            | 1.06 | 1.13 | 2.03            | 1.38 | 1.89 | 250.1       | 2.68            | 1.97 | 1.58 |
| 530.0          | 1.12            | 1.09 | 1.15 | 2.10            | 1.41 | 1.94 | 300.1       | 2.65            | 1.96 | 1.59 |
| 555.1          | 1.11            | 1.09 | 1.15 | 1.94            | 1.37 | 1.80 | 300.1       | 2.68            | 1.96 | 1.58 |
| 630.1          | 1.12            | 1.06 | 1.14 | 1.74            | 1.34 | 1.85 | 400.1       | 2.76            | 2.01 | 1.61 |
| 705.1          | 1.10            | 1.05 | 1.09 | 1.57            | 1.41 | 1.99 | 450.1       | 2.76            | 2.01 | 1.63 |
| 780.0          | 1.16            | 1.08 | 1.07 | 1.48            | 1.48 | 2.10 | 500.0       | 2.72            | 1.99 | 1.64 |
| 855.1          | 1.27            | 1.19 | 1.17 | 1.37            | 1.47 | 2.04 | 550.0       | 2.55            | 1.96 | 1.62 |
| 930.1          | 1.51            | 1.39 | 1.37 | 1.28            | 1.41 | 1.96 | 600.0       | 2.43            | 1.89 | 1.59 |
| 1005.1         | 1.94            | 1.74 | 1.66 | 1.25            | 1.47 | 1.97 | 650.0       | 2.32            | 1.81 | 1.54 |
| 1030.0         | 2.06            | 1.87 | 1.75 | 1.23            | 1.52 | 2.12 | 700.0       | 2.20            | 1.74 | 1.49 |