

# Frequency Mixer

# ZX05-C60MH+

## 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<br>(MHz) | RF<br>(MHz) | IP3<br>Input<br>(dBm) |
|-------------|-------------|-------------------------|------|------|-------------|-------------------------|-------|-------|-------------------------|-------|-------|-------------|-------------|-----------------------|
|             |             | @LO (dBm)               |      |      |             | @LO (dBm)               |       |       | @LO (dBm)               |       |       |             |             |                       |
|             |             | +10                     | +13  | +16  |             | +10                     | +13   | +16   | +10                     | +13   | +16   |             |             | +13                   |
| 1600.0      | 1630.0      | 6.37                    | 5.80 | 5.40 | 1630.0      | 36.22                   | 34.40 | 33.52 | 15.52                   | 18.22 | 21.11 | 3030.0      | 3000.0      | 19.77                 |
| 1650.0      | 1680.0      | 6.45                    | 6.00 | 5.66 | 1680.0      | 38.65                   | 37.08 | 36.29 | 16.05                   | 18.78 | 21.70 | 3080.0      | 3050.0      | 20.56                 |
| 1700.0      | 1730.0      | 5.91                    | 5.55 | 5.34 | 1730.0      | 41.50                   | 39.52 | 38.30 | 16.75                   | 19.47 | 22.06 | 3130.0      | 3100.0      | 17.61                 |
| 1800.0      | 1830.0      | 5.95                    | 5.69 | 5.53 | 1830.0      | 39.31                   | 40.40 | 40.28 | 17.89                   | 20.40 | 22.43 | 3180.0      | 3150.0      | 19.54                 |
| 1850.0      | 1880.0      | 5.86                    | 5.63 | 5.49 | 1880.0      | 37.44                   | 38.90 | 39.36 | 18.39                   | 20.57 | 22.20 | 3230.0      | 3200.0      | 18.54                 |
| 1900.0      | 1930.0      | 5.72                    | 5.51 | 5.42 | 1930.0      | 35.77                   | 36.66 | 37.07 | 18.78                   | 20.73 | 21.70 | 3280.0      | 3250.0      | 19.89                 |
| 1950.0      | 1980.0      | 5.89                    | 5.71 | 5.64 | 1980.0      | 34.80                   | 35.34 | 35.46 | 19.28                   | 20.79 | 21.13 | 3330.0      | 3300.0      | 17.72                 |
| 2000.0      | 2030.0      | 5.91                    | 5.71 | 5.66 | 2030.0      | 33.93                   | 34.08 | 33.85 | 19.53                   | 20.59 | 20.39 | 3380.0      | 3350.0      | 18.23                 |
| 2050.0      | 2080.0      | 5.88                    | 5.64 | 5.55 | 2080.0      | 33.72                   | 34.21 | 33.43 | 19.76                   | 20.58 | 20.12 | 3430.0      | 3400.0      | 16.39                 |
| 2100.0      | 2130.0      | 6.06                    | 5.82 | 5.78 | 2130.0      | 32.58                   | 32.73 | 32.24 | 19.63                   | 20.09 | 19.43 | 3530.0      | 3500.0      | 15.55                 |
| 2150.0      | 2180.0      | 6.13                    | 5.91 | 5.89 | 2180.0      | 31.27                   | 31.02 | 30.50 | 19.66                   | 19.54 | 18.53 | 3580.0      | 3550.0      | 13.82                 |
| 2200.0      | 2230.0      | 5.85                    | 5.68 | 5.70 | 2230.0      | 29.94                   | 29.91 | 29.60 | 20.39                   | 19.29 | 17.93 | 3630.0      | 3600.0      | 14.09                 |
| 2250.0      | 2280.0      | 5.66                    | 5.49 | 5.48 | 2280.0      | 29.69                   | 29.47 | 29.01 | 20.50                   | 18.62 | 17.09 | 3680.0      | 3650.0      | 15.38                 |
| 2300.0      | 2330.0      | 5.92                    | 5.75 | 5.72 | 2330.0      | 29.63                   | 29.38 | 29.00 | 19.84                   | 17.94 | 16.57 | 3730.0      | 3700.0      | 14.18                 |
| 2350.0      | 2380.0      | 6.08                    | 5.93 | 5.90 | 2380.0      | 29.99                   | 29.56 | 29.03 | 19.47                   | 17.44 | 16.07 | 3780.0      | 3750.0      | 15.11                 |
| 2400.0      | 2430.0      | 5.80                    | 5.71 | 5.71 | 2430.0      | 30.24                   | 29.81 | 29.32 | 19.40                   | 17.48 | 16.29 | 3830.0      | 3800.0      | 15.58                 |
| 2450.0      | 2480.0      | 5.79                    | 5.75 | 5.77 | 2480.0      | 30.23                   | 29.87 | 29.37 | 19.58                   | 17.39 | 15.94 | 3880.0      | 3850.0      | 14.62                 |
| 2500.0      | 2530.0      | 5.98                    | 5.88 | 5.90 | 2530.0      | 30.77                   | 30.30 | 29.89 | 19.36                   | 17.35 | 16.12 | 3930.0      | 3900.0      | 16.02                 |
| 2550.0      | 2580.0      | 5.81                    | 5.78 | 5.80 | 2580.0      | 31.04                   | 30.59 | 30.10 | 19.31                   | 17.29 | 16.11 | 3980.0      | 3950.0      | 15.78                 |
| 2600.0      | 2630.0      | 5.75                    | 5.66 | 5.66 | 2630.0      | 31.24                   | 31.17 | 31.06 | 19.13                   | 17.47 | 16.39 | 4030.0      | 4000.0      | 15.96                 |
| 2650.0      | 2680.0      | 6.02                    | 5.90 | 5.85 | 2680.0      | 31.45                   | 31.55 | 31.58 | 18.98                   | 17.46 | 16.56 | 4080.0      | 4050.0      | 16.10                 |
| 2700.0      | 2730.0      | 6.13                    | 5.93 | 5.84 | 2730.0      | 32.36                   | 32.72 | 33.02 | 18.70                   | 17.59 | 16.86 | 4130.0      | 4100.0      | 15.69                 |
| 2750.0      | 2780.0      | 6.39                    | 6.13 | 6.00 | 2780.0      | 33.26                   | 33.61 | 33.91 | 18.31                   | 17.43 | 16.84 | 4180.0      | 4150.0      | 17.55                 |
| 2800.0      | 2830.0      | 6.74                    | 6.40 | 6.23 | 2830.0      | 33.38                   | 33.79 | 34.18 | 17.96                   | 17.35 | 17.00 | 4230.0      | 4200.0      | 16.57                 |
| 3000.0      | 3030.0      | 7.53                    | 7.00 | 6.72 | 3030.0      | 32.04                   | 32.33 | 32.44 | 16.79                   | 17.15 | 17.31 | 4280.0      | 4250.0      | 15.78                 |
| 4000.0      | 4030.0      | 7.14                    | 6.35 | 6.01 | 4030.0      | 36.22                   | 32.97 | 30.72 | 24.11                   | 18.41 | 15.89 | 4330.0      | 4300.0      | 15.17                 |
| 4400.0      | 4430.0      | 7.03                    | 6.15 | 6.14 | 4430.0      | 33.15                   | 30.70 | 29.04 | 21.81                   | 18.49 | 16.02 | 4380.0      | 4350.0      | 16.09                 |
| 4450.0      | 4480.0      | 6.48                    | 5.88 | 5.92 | 4480.0      | 31.95                   | 29.47 | 27.88 | 20.68                   | 17.81 | 15.59 | 4430.0      | 4400.0      | 15.20                 |
| 4500.0      | 4530.0      | 6.91                    | 6.03 | 5.94 | 4530.0      | 31.83                   | 29.35 | 27.39 | 20.88                   | 18.24 | 16.10 | 4480.0      | 4450.0      | 16.17                 |
| 4550.0      | 4580.0      | 6.34                    | 5.76 | 5.85 | 4580.0      | 30.63                   | 28.32 | 26.55 | 19.90                   | 17.69 | 15.95 | 4530.0      | 4500.0      | 15.93                 |
| 4600.0      | 4630.0      | 6.70                    | 5.89 | 5.89 | 4630.0      | 30.65                   | 28.56 | 26.40 | 20.15                   | 18.16 | 16.43 |             |             |                       |
| 4650.0      | 4680.0      | 6.38                    | 5.72 | 5.81 | 4680.0      | 29.75                   | 28.06 | 26.37 | 19.61                   | 17.99 | 16.64 |             |             |                       |
| 4700.0      | 4730.0      | 6.88                    | 6.11 | 6.12 | 4730.0      | 30.27                   | 28.82 | 27.55 | 19.83                   | 18.22 | 16.94 |             |             |                       |
| 4750.0      | 4780.0      | 7.04                    | 6.23 | 5.97 | 4780.0      | 29.90                   | 28.67 | 27.81 | 19.23                   | 17.98 | 17.10 |             |             |                       |
| 4800.0      | 4830.0      | 7.59                    | 6.68 | 6.33 | 4830.0      | 29.28                   | 28.20 | 27.42 | 19.43                   | 18.36 | 17.58 |             |             |                       |
| 4850.0      | 4880.0      | 6.67                    | 6.06 | 5.92 | 4880.0      | 28.05                   | 27.19 | 26.79 | 19.03                   | 18.38 | 18.11 |             |             |                       |
| 4900.0      | 4930.0      | 6.87                    | 6.21 | 6.03 | 4930.0      | 27.46                   | 26.39 | 25.87 | 18.94                   | 18.50 | 18.47 |             |             |                       |
| 4950.0      | 4980.0      | 6.37                    | 5.91 | 5.83 | 4980.0      | 26.59                   | 25.77 | 25.33 | 18.61                   | 18.65 | 19.03 |             |             |                       |
| 5000.0      | 5030.0      | 6.44                    | 5.94 | 5.83 | 5030.0      | 26.01                   | 25.23 | 24.71 | 18.42                   | 18.75 | 19.44 |             |             |                       |
| 6000.0      | 6030.0      | 11.42                   | 7.10 | 6.30 | 6030.0      | 20.97                   | 23.11 | 24.85 | 11.19                   | 12.81 | 14.84 |             |             |                       |

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# Frequency Mixer

# ZX05-C60MH+

## 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)       |      |      |
|                | +10             | +13  | +16  | +10             | +13   | +16   |             | +10             | +13  | +16  |
| 1630.0         | 2.57            | 2.36 | 2.20 | 3.96            | 4.29  | 5.21  | 10.0        | 2.41            | 1.27 | 1.13 |
| 1680.0         | 2.40            | 2.46 | 2.33 | 3.20            | 3.80  | 4.76  | 20.0        | 2.38            | 1.27 | 1.13 |
| 1730.0         | 2.57            | 2.43 | 2.35 | 2.76            | 3.64  | 4.82  | 30.0        | 2.35            | 1.26 | 1.14 |
| 1830.0         | 2.59            | 2.50 | 2.43 | 2.36            | 3.33  | 4.77  | 40.0        | 2.33            | 1.27 | 1.14 |
| 1880.0         | 2.72            | 2.63 | 2.57 | 2.08            | 3.06  | 4.44  | 50.0        | 2.37            | 1.28 | 1.14 |
| 1930.0         | 2.74            | 2.62 | 2.54 | 1.84            | 2.79  | 4.07  | 60.0        | 2.42            | 1.30 | 1.15 |
| 1980.0         | 2.83            | 2.67 | 2.57 | 1.68            | 2.53  | 3.55  | 70.0        | 2.44            | 1.31 | 1.17 |
| 2030.0         | 3.02            | 2.85 | 2.73 | 1.58            | 2.33  | 3.26  | 80.0        | 2.48            | 1.33 | 1.18 |
| 2080.0         | 2.90            | 2.75 | 2.61 | 1.51            | 2.20  | 3.02  | 90.0        | 2.53            | 1.34 | 1.20 |
| 2130.0         | 3.12            | 2.93 | 2.78 | 1.44            | 2.01  | 2.65  | 150.0       | 2.63            | 1.44 | 1.29 |
| 2180.0         | 2.98            | 2.75 | 2.61 | 1.38            | 1.99  | 2.67  | 200.0       | 2.80            | 1.54 | 1.38 |
| 2230.0         | 2.88            | 2.69 | 2.57 | 1.21            | 1.70  | 2.24  | 250.0       | 2.87            | 1.63 | 1.45 |
| 2280.0         | 3.00            | 2.80 | 2.64 | 1.14            | 1.64  | 2.21  | 300.0       | 3.16            | 1.75 | 1.55 |
| 2330.0         | 2.87            | 2.64 | 2.48 | 1.14            | 1.59  | 2.14  | 350.0       | 3.30            | 1.86 | 1.62 |
| 2380.0         | 2.97            | 2.79 | 2.66 | 1.07            | 1.51  | 2.00  | 400.0       | 3.48            | 1.95 | 1.69 |
| 2430.0         | 2.69            | 2.56 | 2.45 | 1.03            | 1.52  | 2.17  | 450.0       | 3.72            | 2.06 | 1.75 |
| 2480.0         | 2.82            | 2.64 | 2.53 | 1.05            | 1.48  | 2.06  | 500.0       | 3.95            | 2.18 | 1.83 |
| 2530.0         | 2.57            | 2.42 | 2.33 | 1.09            | 1.55  | 2.24  | 550.0       | 4.11            | 2.27 | 1.91 |
| 2580.0         | 2.65            | 2.48 | 2.36 | 1.06            | 1.54  | 2.24  | 600.0       | 4.70            | 2.46 | 2.04 |
| 2630.0         | 2.72            | 2.51 | 2.37 | 1.00            | 1.59  | 2.32  | 650.0       | 4.64            | 2.47 | 2.04 |
| 2680.0         | 2.78            | 2.58 | 2.43 | 1.08            | 1.68  | 2.46  | 700.0       | 5.44            | 2.69 | 2.18 |
| 2730.0         | 3.01            | 2.75 | 2.59 | 1.14            | 1.76  | 2.45  | 750.0       | 6.14            | 2.93 | 2.36 |
| 2780.0         | 3.37            | 3.15 | 2.96 | 1.24            | 1.85  | 2.71  | 800.0       | 5.69            | 2.85 | 2.31 |
| 2830.0         | 3.80            | 3.54 | 3.33 | 1.46            | 2.07  | 2.75  | 850.0       | 6.43            | 3.05 | 2.41 |
| 3030.0         | 5.44            | 4.90 | 4.50 | 2.15            | 2.75  | 3.62  | 900.0       | 7.75            | 3.39 | 2.63 |
| 4030.0         | 2.59            | 2.23 | 2.01 | 6.97            | 4.62  | 4.01  | 950.0       | 6.83            | 3.29 | 2.59 |
| 4430.0         | 3.32            | 2.54 | 2.31 | 9.27            | 4.58  | 3.12  | 1000.0      | 6.03            | 3.03 | 2.40 |
| 4480.0         | 3.27            | 2.57 | 2.30 | 8.58            | 4.41  | 3.02  | 1050.0      | 6.24            | 3.15 | 2.47 |
| 4530.0         | 3.47            | 2.64 | 2.32 | 9.99            | 4.68  | 3.10  | 1100.0      | 5.81            | 3.06 | 2.41 |
| 4580.0         | 3.34            | 2.58 | 2.23 | 8.00            | 4.07  | 2.76  | 1150.0      | 6.40            | 3.21 | 2.47 |
| 4630.0         | 3.08            | 2.31 | 1.98 | 10.08           | 4.46  | 2.81  | 1200.0      | 6.28            | 3.17 | 2.44 |
| 4680.0         | 2.92            | 2.12 | 1.75 | 7.02            | 3.64  | 2.34  | 1250.0      | 7.76            | 3.46 | 2.50 |
| 4730.0         | 2.53            | 1.87 | 1.53 | 7.41            | 3.55  | 2.16  | 1300.0      | 7.82            | 3.45 | 2.46 |
| 4780.0         | 3.16            | 2.41 | 1.96 | 5.33            | 2.84  | 1.80  | 1350.0      | 8.56            | 3.55 | 2.45 |
| 4830.0         | 3.17            | 2.52 | 2.11 | 4.88            | 2.50  | 1.55  | 1400.0      | 8.36            | 3.57 | 2.41 |
| 4880.0         | 3.11            | 2.55 | 2.19 | 3.68            | 1.99  | 1.28  | 1450.0      | 6.63            | 3.33 | 2.30 |
| 4930.0         | 2.84            | 2.40 | 2.14 | 2.91            | 1.65  | 1.12  | 1500.0      | 5.89            | 3.10 | 2.21 |
| 4980.0         | 2.72            | 2.38 | 2.15 | 2.31            | 1.37  | 1.16  | 1550.0      | 4.65            | 2.84 | 2.08 |
| 5030.0         | 2.79            | 2.46 | 2.25 | 1.85            | 1.19  | 1.31  | 1600.0      | 4.01            | 2.63 | 1.98 |
| 6030.0         | 6.75            | 4.37 | 3.59 | 14.77           | 13.10 | 10.04 | 2000.0      | 5.03            | 2.39 | 2.33 |

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